

# NAVAIR 01-E2AAA-2-18.2

1 December 2000

Change 5 - 15 March 2005

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TECHNICAL MANUAL

## ORGANIZATIONAL MAINTENANCE

## ELECTRONIC SYSTEMS MAINTENANCE

### NAVY MODEL E-2C AIRCRAFT

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#### CHANGE

#### NOTICE

LATEST REVISED WORK PACKAGES AND CHANGED PAGES SUPERSEDE THOSE OF EARLIER DATE. INSERT REVISED OR ADDED WORK PACKAGES AND CHANGED PAGES IN MANUAL. DESTROY SUPERSEDED DATA.

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**This manual is incomplete without NAVAIR 01-E2AAA-2-18.1.**

**This manual covers work packages 201 00 through 401 00. Refer to NAVAIR 01-E2AAA-2-18.1, WP001 00, for the alphabetical index of all work packages of this set of manuals.**

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NATEC ELECTRONIC MANUAL

## NUMERICAL INDEX OF EFFECTIVE WORK PACKAGES

### List of Current Changes

Original 0 . . . . .	1 December 2000 (Includes incorporated IRAC 7, and previously incorporated IRAC's 1 through 6)	Change 1 . . . . .	1 August 2002
		Change 2 . . . . .	1 November 2002
		Change 3 . . . . .	1 April 2003
		Change 4 . . . . .	15 May 2004
		Change 5 . . . . .	15 March 2005

Only those work packages assigned to the manual are listed in this index. Insert Change 5, dated 15 March 2005. Dispose of superseded and deleted work packages/pages. If changed pages are issued to a work package, insert the changed pages in the applicable work package. The portion of text affected in a changed or revised work package is indicated by change bars or the change symbol "R" in the outer margin of each column of text. Changes to illustrations are indicated by pointing hands or change bars, as applicable.

WP Number	Title	WP Number	Title
Page A	Numerical Index of Effective Work Packages	218 00	Receiver-Converter R-1829/ALR-59
TPDR	List of Technical Publications Deficiency Reports Incorporated	219 00	Receiver-Converter R-1830/ALR-59 Aircraft Serial NO. 158638 Through 158648, 159105 Through 159112, 159494 Through 159502, 160007 Through 160012, 160415 Through 160420, 160697 Through 160703, 160987 Through 160992, 161094 through 161099, 161224 Through 163848, and 163850 through 165813
201 00	Microwave Acoustic Delay Line		
202 00	Matching Attenuator		
203 00	Coaxial Termination		
204 00	Mount MT-4578/U		
205 00	Coaxial Attenuator (44A7)	219 01	Receiver-Amplifier R-2610/ALQ-217
206 00	Radar Receiver-Transmitter RT-859/APX-72 and Mount MT-3809/APX-72	220 00	Signal Pulse Analyzer MX-9384/ALR-59 and Signal Pulse Analyzer Mount MT-4547/ALR-59
207 00	Transponder Test Set TS-1843A/APX and Mount MT-3513A/APX	221 00	Signal Control-Processor C-9281/ALR-59 and Signal-Processor Mount MT-4548/ALR-59
208 00	Control Transponder Set C-6280(P)/APX	222 00	Digital Computer CP-1134/ALR-59 and Computer Mount MT-4549/ALR-59
209 00	Antenna Transponder		
210 00	Not Used	223 00	Signal Generator SG-1029/ALR-59 and Signal Generator Mount MT-4550/ALR-59
211 00	Not Used		
212 00	Coder-Decoder KY-744/AP	224 00	Radio Frequency Amplifier AM-6575/ALR-59 and Amplifier Mount MT-4551/ALR-59
213 00	Signal Processor Computer CP-1083/AP		
214 00	Data Storage Memory-Buffer MU-573/AP	225 00	Test Signal Generator SG-1030/ALR-59 and Generator Mount MT-4552/ALR-59
215 00	Electrical Equipment Cabinet CY-7134/AP	226 00	Radio Frequency Power Divider CU-2075/ALR-59
216 00	Not Used		
217 00	Not Used	227 00	Antenna Assembly AS-2881/ALR-59

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WP Number	Title	WP Number	Title
228 00	Antenna Assembly AS-2880/ALR-59	250 00	RO Junction Box
229 00	Antenna Assembly AS-2882/ALR-59	251 00	CICO Junction Box
230 00	Antenna Assembly AS-2883/ALR-59	252 00	ACO Junction Box
231 00	Power Supply PP-6896/ALR-59 and Power Supply Mount MT-4553/ALR-59	253 00	Cable Assembly Set OK-153/APA-172
232 00	Delay Line	254 00	Ownship Heading Marker Switch
233 00	PDS Waveguides and LO-Lines	255 00	Antenna Simulator Panel
234 00	Radar Blanking Box Assembly	256 00	Not Used
235 00	Not Used	257 00	Not Used
236 00	Receiver Processor R-1672/ALQ-108 and Equipment Rack MS91405-AID	258 00	Bearing Distance Heading Indicator, ID-663C/U
237 00	Transmitter T-1164/ALQ-108 and Equipment Rack MS91405-AID	259 00	Course Indicator ID-2314()/ARN or ID-387()/ARN or ID-351B()/ARN
238 00	Control Indicator C-8490/ALQ	260 00	Course Indicator ID-48/ARN
239 00	ECM Multiplexer	260 01	Course Indicator ID-2314()/ARN
240 00	Interconnecting Box J-3168/A	261 00	Processor Power Control Panel Assembly
241 00	Not Used	262 00	Navigation Control Panel Assembly
242 00	Not Used	263 00	Not Used
243 00	Indicator Display Power Supply-Control PP-6525/APA-172 and PP-8286/APQ-179	264 00	Receiver-Converter R-2239/APS-138
243 01	Control Indicator C-12514/ASQ-225 (ACIS) and Control Indicator Set AN/ASQ-225 Cable Assemblies	265 00	Receiver-Converter R-2015/APS-125
244 00	Azimuth-Range Indicator IP-1040/APA-172	266 00	Control Voltage Simulator SM-726/APS-125 and SM-842/APS-145
244 01	Azimuth-Range Indicator IP-1625/APQ-179	267 00	Pulse Generator O-1720/APS-125, O-1827/APS-139, and O-1835/APS-145
244 02	Processor Display Assembly CP-2371/ASQ-225	268 00	Radar Set Control C-10024/APS-125, C-11475/APS-139, and C-11621/APS-145
245 00	Digital Display Indicator IP-1039/APA-172	269 00	Performance Indicator ID-2067/APS-125, ID-2307/APS-138, ID-2355/APS-139, and ID-2383/APS-145
245 01	Keyboard-Trackball Assembly CA-103/ASQ-225	270 00	Electrical Equipment Rack MT-4824/APS-125 and MT-6249/APS-138 Aircraft not incorporating AVC 2956)
246 00	Electrical Equipment Cabinet CY-6941/APA-172 and Cable Assembly Set	271 00	Dual Pulse Attenuator-Compressor CN-1471/APS-125 and CN-1641/APS-139
247 00	Power Supply PP-6524/APA-172	272 00	Demultiplexer TD-1202/APS-125
248 00	Electrical Equipment Cabinet CY-6942/APA-172 and Cable Assembly Set	273 00	Comparator-Filter CM-460/APS-125 and CM-496/APS-138
249 00	Indicator Group Control C-8589/APA-172 and C-12120/APQ-178		

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275 00	Multiplexer TD-1203/APS-125	294 00	Antenna Assembly AS-3497/ALR-73
276 00	Detector-Processor DT-581/APS-125 and DT-631/APS-139	294 01	Antenna Assembly AS-4524/ALQ-217 (49A4)
276 01	Detector-Processor DT-638/APS-145	295 00	Remote Attitude-Director Indicator ID-1329A/A
277 00	Digital Signal Converter CV-3353/APS-125 and CV-3954/APS-145	296 00	Transmitter Rate Gyroscope TRU-2A/A
278 00	Electrical Equipment Rack MT-4823/APS-125	297 00	Processor Unit AOA/ACLS Electrical Assembly
279 00	Radio Frequency Rotary Coupler CU-2287/A	298 00	Control Indicator C-11156/AMH-3
280 00	Not Used	299 00	Recorder/Processor RO-549/AMH-3
281 00	Half-Loop Antenna Assembly	300 00	Sampling Cavity/Fairing Assembly TN-600/AMH-3
282 00	Power Splitter Network Assemblies and Cable Assemblies	301 00	KY-75 Rack Assembly
283 00	16K Memory Power Supply	302 00	KY-75 Switching Unit
284 00	16K Core Memory Assembly	303 00	IAD Gate Generator
285 00	Receiver-Transmitter RT-1159/A	304 00	ICS Select and KY Mode Select Control Panel
286 00	Receiver-Transmitter Adapter MX-9577/A	305 00	Radio Set Controls C-10319A/ ARC-182, C-11128/ARC, and C-11984/ARC
287 00	Mounting Base MT-4682/A	306 00	VHF/UHF Radio Set AN/ARC-182
288 00	Receiver-Transmitter Control C-10056/A	307 00	UHF Guard Receiver, Type 515F-1
289 00	Signal Control Processor C-10942/ALR-73 and Signal Processor Mount MT-6175/ALR-73	308 00	Radio Set Coupler CU-2353/A
289 01	Receiver/Processor CP-2471A/ ALQ-217 (49A1A1) and Electronic Equipment Mounting Base MT-7247/ALQ-217A (49A1)	309 00	RF Coaxial Switches and VHF/UHF Fil- ters
290 00	Digital Data Computer CP-1501/AYK-14(V) and Electrical Equipment Mounting Base MT-6176/ALR-73	310 00	UHF Guard Bandpass Filter
291 00	Antenna Assembly AS-3494/ALR-73	311 00	Antennas Associated With Radio Set AN/ARC-182
291 01	Antenna Assembly AS-4521/ALQ-217 (49A6)	312 00	Receiver Filter Comparator R-2284/APS-139
292 00	Antenna Assembly AS-3495/ALR-73	313 00	Signal Analysis Receiver R-2285/APS-139
292 01	Antenna Assembly AS-4522/ALQ-217 (49A7)	314 00	Electrical Equipment Rack MT-6376/APS-139 and MT-6441/APS-145
293 00	Antenna Assembly AS-3496/ALR-73	315 00	Anti-Jam Select Panel Assembly
		316 00	Anti-Jam Coaxial Switches SA-521A/A
		317 00	Anti-Jam Coaxial Transfer Switches GS839JF1
		318 00	Anti-Jam Diplexers
		319 00	UHF No. 3/JTIDS ANT A51A9005-7

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321 00	Radio Receiver R-1379B/ARA-63	346 00	Strain Gage Electronic Assemblies
322 00	Pulse Decoder KY-651B/ARA-63	347 00	Motional Pickup Transducer TR-354/ASH-37
323 00	Receiver Control C-7949B/ARA-63	348 00	Signal Data Converter CV-4157/ASH-37
324 00	Antenna Part No. 123AVC56826-1, Flexible Waveguide Part No. 123SCAV5836-1, and Waveguide Part No. 123SCAV6041-11	349 00	Recorder-Converter RO-601/ASH-37 and Memory Unit MU-983/ASH-37
325 00	Radar Receiver-Transmitter RT-1501A/AP	350 00	Signal Data Converter CV-4138/A and Mount MT-6802/A
326 00	Signal Processor Computer CP-2022/AP	351 00	GPS Approach Lights Panel Assembly
327 00	Radar Interrogator-Transponder RT-1645/AP	352 00	SINS Alignment Bandpass Filter
328 00	Electrical Equipment Cabinet CY-8624/AP	353 00	Digital Data Set AN/ASQ-215
329 00	Radar Receiver R-2318/AP	354 00	CAINS II Inertial Navigation Unit CN-1649/ASN-139
330 00	High Band Antenna AS-2835/ALQ	355 00	Standard Automatic Flight Control System Computer CP-1780/ASW-50 and Mount
331 00	COMM/PM/PD Converter Assembly DDBC	356 00	Digital Data Communication Set RT-1379A/ASW
332 00	JTIDS Audio Select Panel	357 00	Synchro Amplifier 5702M
333 00	Multifunction Control Display Unit Control Panel	358 00	Triaxial Multiport Data Bus Couplers
334 00	JTIDS/KY Mode Select Panel	359 00	Antenna AS-4529/AMS-2
335 00	JTIDS Functional Control Panel	360 00	Analog to Digital Converter CV-4182/AMS-2 and Electrical Equipment Mounting Base MT-6811/AMS-2
336 00	Multifunction Control Display Unit C-12075/A and C-12390/A	361 00	Azimuth-Range Indicator IP-1658/AMS-2
337 00	Global Positioning System Antenna AS-3822/URN	362 00	Transponder Control C-10009/APX-100
338 00	Global Positioning System Receiver R-2332J/AR and Mount MT-6587/A	363 00	Radar Receiver-Transmitter RT-1157B/APX-100
339 00	Global Positioning System Antenna Electronics AM-7314/URN	364 00	Communications Set Modem MD-1294/USC-42(V)
340 00	NAV Control Global Positioning System and Multifunction Control Display Unit Pilot's Panel	365 00	Radio Frequency Amplifier AM-7544/USC-42(V)
341 00	Transmitter Selector Switch Control C-12156/AIC-14A	366 00	Receiver Transmitter Controller C-12226/USC-42(V)
342 00	High Power Amplifier Group and Electrical Equipment Mounting Base MT-6683/A	367 00	SATCOM Control Panel Aircraft Serial NO. 160992, 161097, 161229, 161341, 161346, 161782, 161783, 161785, 162414 through 162616, 162618, 162619, 162797, 162798, 162800 through 162802, 163028, 163538, 162539, 163694, 163849, 163850, 164109, 164110, 164496, 165293, 165296
343 00	JTIDS Rechargeable Battery BB-721/URC-107(V)		
344 00	JTIDS Receiver/Transmitter		

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368 00	Diplexer, RF Preamplifier AM-212AB, RF Blanker	384 00	Transceiver RT-1794(C)/ARC and Smart Mount
368 01	Diplexer/Low Noise Amplifier TD1466/A, Radio Frequency Blanker CV-4323/A	385 00	Radio Frequency Preamplifier
369 00	SATCOM Antenna	386 00	SATCOM Multi-mission Advanced Tactical Terminal OZ-72(V)2(C)/A and Mount
369 01	SATCOM Antenna AS-4447/A (83A7) and Lightning Diverter Strips	387 00	UHF Bandpass Filter F-1671/A
370 00	RESERVED	388 00	Combiner CV-4324/A
371 00	RESERVED	389 00	SATCOM Interface Unit J-6344/A (83A4)
372 00	RESERVED	390 00	Attenuator
373 00	RESERVED	391 00	5-Way Divider CV-4325/A
374 00	RESERVED	392 00	DELETED (CEC)
375 00	RESERVED	393 00	DELETED (CEC)
376 00	RESERVED	394 00	DELETED (CEC)
377 00	RESERVED	395 00	DELETED (CEC)
378 00	RESERVED	396 00	DELETED (CEC)
379 00	RESERVED	397 00	DELETED (CEC)
380 00	CAINS II Backup Battery	398 00	DELETED (CEC)
381 00	Electrical Battery Back-up Box Assembly	399 00	DELETED (CEC)
382 00	High Power Amplifier AM-7526/ARC and High Power Amplifier Mount MT-7006/ARC	400 00	DELETED (CEC)
		401 00	DELETED (CEC)

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A	5	I	5	4 Blank	0
B	2	TPDR-1	5	203 00	0
C	4	TPDR-2 Blank	5	1 - 3	0
D	3	201 00	0	4 Blank	0
E	5	1 - 3	0	204 00	0
F	4	4 Blank	0	1 - 3	0
G	4	202 00	0	4 Blank	0

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WP/Page Number	Change No.	WP/Page Number	Change No.	WP/Page Number	Change No.
205 00	0	1 - 4	0	4 Blank	0
1 - 3	0	226 00	0	244 01	0
4 Blank	0	1 - 4	0	1 - 10	0
206 00	0	227 00	0	244 02	3
1 - 3	0	1 - 4	0	1 - 21	3
4 Blank	0	228 00	0	22 Blank	3
207 00	0	1 - 4	0	245 00	0
1 - 3	0	229 00	0	1 - 3	0
4 Blank	0	1 - 5	0	4 Blank	0
208 00	0	6 Blank	0	245 01	3
1 - 3	0	230 00	0	1	3
4 Blank	0	1 - 4	0	2	0
209 00	0	231 00	0	3	3
1 - 3	0	1 - 5	0	4 - 8	0
4 Blank	0	6 Blank	0	9 - 10	3
212 00	0	232 00	0	246 00	0
1 - 3	0	1 - 3	0	1 - 10	0
4 Blank	0	4 Blank	0	247 00	0
213 00	0	233 00	0	1 - 3	0
1 - 3	0	1 - 19	0	4 Blank	0
4 Blank	0	20 Blank	0	248 00	0
214 00	3	234 00	0	1 - 9	0
1 - 3	3	1 - 3	0	10 Blank	0
4 Blank	3	4 Blank	0	249 00	0
215 00	0	236 00	0	1 - 4	0
1 - 3	0	1 - 3	0	250 00	0
4 Blank	0	4 Blank	0	1 - 3	0
218 00	0	237 00	0	4 Blank	0
1 - 4	0	1 - 3	0	251 00	0
219 00	2	4 Blank	0	1 - 4	0
1 - 4	2	238 00	0	252 00	0
219 01	4	1 - 3	0	1 - 4	0
1 - 3	4	4 Blank	0	253 00	0
4 Blank	4	239 00	0	1 - 8	0
220 00	0	1 - 3	0	254 00	0
1 - 4	0	4 Blank	0	1 - 6	0
221 00	0	240 00	0	255 00	0
1 - 4	0	1 - 3	0	1 - 3	0
222 00	0	4 Blank	0	4 Blank	0
1 - 3	0	243 00	0	258 00	0
4 Blank	0	1 - 4	0	1 - 3	0
223 00	0	243 01	0	4 Blank	0
1 - 4	0	1 - 36	0	259 00	0
224 00	0	244 00	0	1 - 3	0
1 - 4	0	1 - 3	0	4 Blank	0
225 00	0				

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Page G

WP/Page Number	Change No.	WP/Page Number	Change No.	WP/Page Number	Change No.
260 00	0	4 Blank	0	6 Blank	4
1 – 3	0	274 00	0	290 00	0
4 Blank	0	1 – 4	0	1 – 4	0
260 01	0	275 00	0	291 00	2
1 – 3	0	1 – 6	0	1 – 4	2
4 Blank	0	276 00	0	291 01	4
261 00	0	1 – 3	0	1 – 5	4
1 – 3	0	276 01	0	6 Blank	4
4 Blank	0	1 – 3	0	292 00	2
262 00	0	4 Blank	0	1 – 5	2
1 – 3	0	277 00	0	6 Blank	2
4 Blank	0	1 – 3	0	292 01	4
264 00	0	4 Blank	0	1 – 7	4
1 – 3	0	278 00	0	8 Blank	4
4 Blank	0	1 – 3	0	293 00	2
265 00	0	4 Blank	0	1 – 5	2
1 – 3	0	279 00	0	6 Blank	2
4 Blank	0	1 – 11	0	293 01	4
266 00	0	12 Blank	0	1 – 5	4
1 – 3	0	281 00	0	6 Blank	4
4 Blank	0	1 – 4	0	294 00	2
267 00	0	282 00	0	1 – 5	2
1 – 3	0	1 – 11	0	6 Blank	2
4 Blank	0	12 Blank	0	294 01	4
268 00	0	283 00	0	1 – 5	4
1 – 3	0	1 – 3	0	6 Blank	4
4 Blank	0	4 Blank	0	295 00	0
269 00	0	284 00	0	1 – 3	0
1 – 3	0	1 – 4	0	4 Blank	0
4 Blank	0	285 00	0	296 00	0
270 00	0	1 – 3	0	1 – 3	0
1 – 7	0	4 Blank	0	4 Blank	0
8 Blank	0	286 00	0	297 00	0
270 01	0	1 – 3	0	1 – 3	0
1 – 8	0	4 Blank	0	4 Blank	0
271 00	0	287 00	0	298 00	0
1 – 3	0	1 – 2	0	1 – 3	0
4 Blank	0	288 00	0	4 Blank	0
272 00	0	1 – 2	0	299 00	0
1 – 3	0	289 00	2	1 – 4	0
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273 00	0	289 01	4	1 – 3	0
1 – 3	0	1 – 5	4	4 Blank	0



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WP/Page Number	Change No.	WP/Page Number	Change No.	WP/Page Number	Change No.
301 00	0	1 – 3	0	1 – 2	0
1 – 2	0	4 Blank	0	336 00	0
302 00	0	320 00	0	1 – 5	0
1 – 2	0	1 – 3	0	6 Blank	0
303 00	0	4 Blank	0	337 00	0
1 – 3	0	321 00	0	1 – 4	0
4 Blank	0	1 – 3	0	338 00	0
304 00	0	4 Blank	0	1 – 5	0
1 – 2	0	322 00	0	6 Blank	0
305 00	0	1 – 2	0	339 00	0
1 – 4	0	323 00	0	1 – 3	0
306 00	3	1 – 2	0	4 Blank	0
1 – 3	3	324 00	3	340 00	0
4 Blank	3	1 – 4	3	1 – 4	0
307 00	0	325 00	0	341 00	0
1 – 3	0	1 – 3	0	1 – 3	0
4 Blank	0	4 Blank	0	4 Blank	0
308 00	0	326 00	0	342 00	0
1 – 2	0	1 – 3	0	1 – 3	0
309 00	0	4 Blank	0	4 Blank	0
1 – 8	0	327 00	0	343 00	3
310 00	0	1 – 3	0	1 – 3	3
1 – 2	0	4 Blank	0	4 Blank	3
311 00	0	328 00	0	344 00	0
1 – 2	0	1 – 4	0	1 – 3	0
3 – 8	0	329 00	0	4 Blank	0
312 00	0	1 – 4	0	345 00	0
1 – 3	0	5 – 9	0	1 – 3	0
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313 00	0	1	0	346 00	0
1 – 3	0	2 – 9	0	1 – 5	0
4 Blank	0	10 Blank	0	6 Blank	0
314 00	0	331 00	0	347 00	0
1 – 7	0	1 – 3	0	1 – 2	0
8 Blank	0	4 Blank	0	348 00	0
315 00	0	332 00	0	1 – 2	0
1 – 2	0	1 – 3	0	349 00	0
316 00	0	4 Blank	0	1 – 3	0
1 – 3	0	333 00	0	4 Blank	0
4 Blank	0	1 – 3	0	350 00	0
317 00	0	4 Blank	0	1 – 3	0
1 – 3	0	334 00	0	4 Blank	0
4 Blank	0	1 – 3	0	351 00	0
318 00	0	4 Blank	0	1 – 3	0
1 – 4	0	335 00	0	4 Blank	0
319 00	0				

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WP/Page Number	Change No.	WP/Page Number	Change No.	WP/Page Number	Change No.
352 00	0	1 – 8	3	384 00	3
1 – 3	0	365 00	3	1 – 5	3
4 Blank	0	1 – 4	3	6 Blank	3
353 00	0	366 00	3	385 00	0
1 – 4	0	1 – 3	3	1 – 3	0
354 00	0	4 Blank	3	4 Blank	0
1 – 3	0	367 00	3	386 00	0
4 Blank	0	1 – 3	3	1 – 5	0
355 00	0	4 Blank	3	6 Blank	0
1 – 3	0	367 01	0	387 00	0
4 Blank	0	1 – 3	0	1 – 3	0
356 00	0	4 Blank	0	4 Blank	0
1 – 3	0	368 00	3	388 00	0
4 Blank	0	1 – 5	3	1 – 3	0
357 00	0	6 Blank	3	4 Blank	0
1 – 4	0	368 01	0	389 00	3
358 00	0	1 – 5	0	1 – 3	3
1 – 5	0	6 Blank	0	4 Blank	3
6 Blank	0	369 00	3	390 00	0
359 00	0	1 – 3	3	1 – 3	0
1 – 3	0	4 Blank	3	4 Blank	0
4 Blank	0	369 01	3	391 00	0
360 00	0	1 – 6	3	1 – 3	0
1 – 4	0	380 00	0	4 Blank	0
361 00	0	1 – 3	0	392 00	Deleted 5
1 – 3	0	4 Blank	0	393 00	Deleted 5
4 Blank	0	381 00	0	394 00	Deleted 5
362 00	0	1 – 3	0	395 00	Deleted 5
1 – 3	0	4 Blank	0	396 00	Deleted 5
4 Blank	0	382 00	0	397 00	Deleted 5
363 00	0	1 – 4	0	398 00	Deleted 5
1 – 3	0	383 00	0	399 00	Deleted 5
4 Blank	0	1 – 3	0	400 00	Deleted 5
364 00	3	4 Blank	0	401 00	Deleted 5



R 171027Z NOV 04 E-2C INTERIM RAPID ACTION CHANGE (IRAC) NO. 9 TO  
TECHNICAL

TO AIG 165  
AIG 7774  
NATEC SAN DIEGO CA  
INFO COMNAVAIRFOR SAN DIEGO CA  
COMNAVAIRFOR SAN DIEGO CA  
COMNAVRESFOR NEW ORLEANS LA  
//N341/N421/N421D/N421G/N301/N3011//  
PEOTACAIR PATUXENT RIVER MD  
COMNAVAIRSYSCOM PATUXENT RIVER MD  
//3.1.1F/3.1.8.2/3.1.8.3/4.1.1/  
5.0D4302  
COMNAVAILANT NORFOLK VA  
COMNAVIRPAC SAN DIEGO CA  
NAVTESTWINGLANT PATUXENT RIVER MD  
//55TW90A/55FA91A/55TW93A/55IM90A//  
COMAEWWINGLANT NORFOLK VA  
COMAEWWINGPAC POINT MUGU CA  
COMCARAIRWINGRES TWO ZERO  
COMNAVSAFECEN NORFOLK VA  
AIRTEVRON TWO ZERO PATUXENT RIVER MD  
//55FA90A/55FA91A/55FA10A-C2/  
55FA10A-E-2  
DCMA NORTHROP GRUMMAN BETHPAGE NY  
DCMA NORTHROP GRUMMAN SAINT AUGUSTINE FL  
NAVAIRDEPOT NORTH ISLAND CA

ATTENTION INVITED TO ADMINISTRATIVE MESSAGE  
ROUTINE

R 171027Z NOV 04 ZYB PSN 550867H31  
FM NAVAIRDEPOT NORTH ISLAND CA  
TO AIG 165  
AIG 7774  
NATEC SAN DIEGO CA//3.3A16/3.3A24/3.3A36/3.3A40/3.7/IRAC//  
INFO COMNAVAIRFOR SAN DIEGO CA//N41/N42/N421G//  
COMNAVAIRFOR SAN DIEGO CA//N41/N42/N421G//  
COMNAVRESFOR NEW ORLEANS LA  
//N341/N421/N421D/N421G/N301/N3011//  
PEOTACAIR PATUXENT RIVER MD//PMA231/PMA231F/PMA231G//  
COMNAVAIRSYSCOM PATUXENT RIVER MD  
//3.1.1F/3.1.8.2/3.1.8.3/4.1.1/  
5.0D4302//  
COMNAVAILANT NORFOLK VA//N421/N421D/N421G//  
COMNAVIRPAC SAN DIEGO CA//N421/N421D/N421G//  
NAVTESTWINGLANT PATUXENT RIVER MD  
//55TW90A/55FA91A/55TW93A/55IM90A//  
COMAEWWINGLANT NORFOLK VA//N42/N421E//  
COMAEWWINGPAC POINT MUGU CA//N42/N421/N421G/N422/N423//  
COMCARAIRWINGRES TWO ZERO//N40//  
COMNAVSAFECEN NORFOLK VA//112/112D/112G//  
AIRTEVRON TWO ZERO PATUXENT RIVER MD  
//55FA90A/55FA91A/55FA10A-C2/  
55FA10A-E-2//  
DCMA NORTHROP GRUMMAN BETHPAGE NY//RGDD/RGTC//  
DCMA NORTHROP GRUMMAN SAINT AUGUSTINE FL//RGOA//  
NAVAIRDEPOT NORTH ISLAND CA//4.1.1.0.2/6.2.1.3/E2C2FST.2//  
BT

UNCLAS //N13052//  
MSGID/GENADMIN/NADEP NI E2C2FST.2/RCB//

SUBJ/E-2C INTERIM RAPID ACTION CHANGE (IRAC) NO. 9 TO TECHNICAL  
/MANUAL NAVAIR 01-E2AAA-2-18.2, ORGANIZATIONAL MAINTENANCE,  
/ELECTRONIC SYSTEMS MAINTENANCE, NAVY MODEL E-2C AIRCRAFT,  
/DATED 01DEC2000, WITH CHANGE 4 DATED 15MAY2004. //  
REF/A/DOC/NAVAIR/01DEC2000//  
AMPN/REF A IS 01-E2AAA-2-18.2, ORGANIZATIONAL MAINTENANCE,  
ELECTRONIC SYSTEMS MAINTENANCE, NAVY MODEL E-2C AIRCRAFT, DATED  
01DEC2000, WITH CHANGE 4 DATED 15MAY2004. //  
POC/RO-ANNE BERMIO/CIV/E2C2FST.2/LOC: NADEP NORTH ISLAND  
/TEL:(619) 545-4602/TEL: DSN 735-4602/TEL: FAX (619) 545-7314//  
RMKS/

1. RESPONSIBLE CODE:

- A. ENGINEERING: RO-ANNE BERMIO, ELECTRONICS ENGINEER,  
NAVAIRDEPOT NORTH ISLAND CA, E2C2FST.2,  
TEL: DSN 735-4602, COMM (619) 545-4602, FAX: (619) 545-7314,  
EMAIL: RO-ANNE.BERMIO (AT) NAVY.MIL
- B. PUBLICATIONS MANAGER: RICK GIORGIS, NAVAIRDEPOT NORTH ISLAND  
CA, E2C2FST.9, TEL: DSN 735-3906, COMM (619) 545-3906,  
FAX: (619) 545-4625, EMAIL: RICHARD.GIORGIS (AT) NAVY.MIL

2. PURPOSE OF CHANGE: TO ENHANCE MISSION CAPABILITY, IMPROVE SAFETY  
AND INCREASE FLEET READINESS BY:

- A. UPDATING THE SEALING COMPOUND PART NUMBER.
- B. ADDING A CAUTION NOTE TO EMPHASIZE THAT THE CAGE NUMBER FOR  
ANTENNA AS-3822/URN DETERMINES THE SCREWS USED TO SECURE THE  
ANTENNA.

3. DETAILED INFORMATION:

- A. PEN AND INK CHANGES TO THE TECHNICAL CONTENT OF A MANUAL ARE  
NOT AUTHORIZED. THE FOLLOWING TECHNICAL CONTENT CHANGE  
INFORMATION APPLIES TO THE FOLLOWING REFERENCED PAGES AND  
PARAGRAPHS OF THE SUBJECT MANUAL UNTIL THE FORMAL CHANGE IS  
RELEASED.
- B. REF A, WP 337 00, REPLACE PART NUMBER MIL-S-83430 WITH PART  
NUMBER AM53276 IN THE FOLLOWING SECTIONS:
  - (1) PAGE 3, PARAGRAPH 4 (INSTALLATION) - MATERIALS  
REQUIRED TABLE.
  - (2) PAGE 3, PARAGRAPH 4A - WARNING NOTE.
  - (3) PAGE 4, PARAGRAPH 4I - WARNING NOTE.
- C. REF A, WP 337 00, PAGE 4, ADD THE FOLLOWING CAUTION NOTE AT  
END OF PARAGRAPH 4I:

CAUTION  
ANTENNA AS-3822/URN (CAGE 00724) IS  
SECURED BY SCREWS MS24694S55 AND  
ANTENNA AS-3822/URN (CAGE 59926) IS  
SECURED BY SCREWS MS24694S56.

- 4. VALIDATED BY: VICKY QUACH, ELECTRONICS ENGINEER,  
NAVAIRDEPOT NORTH ISLAND CA, E2C2FST.2,  
TEL: DSN 735-7733, COMM (619) 545-7733,  
FAX: (619) 545-7314, EMAIL: VICKY.QUACH(AT)NAVY.MIL

5. RELATED INSTRUCTIONS:

- A. FOR PAPER COPY - MAINTAIN THIS IRAC WITH THE APPLICABLE MANUAL BY PLACING OR ATTACHING IT DIRECTLY BEHIND THE TITLE PAGE. MARK THE SPECIFIC CHANGE AREA IN THE MARGIN OF EACH PAGE AFFECTED WITH A VERTICAL LINE AND INCLUDE THE IRAC NUMBER AND DATE TIME GROUP (DTG) OF THE IRAC MESSAGE. THIS IRAC SHALL NOT BE REMOVED UNTIL THE RECEIPT OF THE FORMAL CHANGE PAGES.
- B. FOR IRACS AFFECTING MANUALS ON CD-ROM - AFFIX AN ADHESIVE LABEL TO THE CD-ROM CASE, ANNOTATED WITH THE APPLICABLE PUBLICATION NUMBER, IRAC NUMBER AND DTG OF THE IRAC MESSAGE. THE LABELS SHOULD BE POSITIONED TO ALLOW FOR ADDITIONAL UPDATES AS THEY OCCUR. MAINTAIN THE IRAC ON FILE UNTIL RECEIPT OF THE SUPERSEDING CD-ROM.
- C. NAVAIRDEPOT NORTH ISLAND, CODE E2C2FST.9 WILL TAKE ACTION TO INCORPORATE THIS CHANGE INTO THE APPLICABLE MANUAL NO LATER THAN 12 MONTHS FROM IRAC ISSUE DATE. //

BT  
#0001

NNNN



# INTERIM RAPID ACTION CHANGE



Date: 10 August 2004

**Category:** Routine

**From:** Northrop Grumman Corporation (NGC) – AEW Product Support.

**To:** E-2C ADRL for NAVAIR 01-E2AAA-2-18.2.

**POC:** Andy Bisso, AEW Publications Product Support;  
Phone: 516.346.7217; e-mail: andrew.bisso@ngc.com

**Subject:** Interim Rapid Action Change (IRAC) No. 8 to technical manual NAVAIR 01-E2AAA-2-18.2 dated 1 December 2000 through Change 4 dated 15 May 2004.

**Enclosure:** (1) WP 355 00, pages 1 through 3/(4 blank).

**Reference:** (A) E-mail between Mazzone, Brian D., CIV COMNAVAIRSYSCOMPATUXENTRIVERMD 3.1.5.3 and Settles, Willie, NAVAIR Logistics Manager, dated Monday, August 02, 2004.

1. **Purpose of Change:** To enhance fleet readiness/mission capability by including a note, in general accordance with reference (A), to check software load prior to installing the SAFCS/PASAS/ASW-50 Flight Control Computer (SAFCS computer), and updating references within the work package.
2. **Detailed Information:**
  - a. Pen and ink changes to the technical content of a manual are not authorized. The following technical content change information (enclosure) applies until the formal update is released.
  - b. Replace existing corresponding work package pages in their entirety with enclosure (1) .
3. **Validated By:** John Del Grosso, NGC Publications Product Support;  
Phone: 516.346.4969; e-mail: john.delgrosso@ngc.com

# ***INTERIM RAPID ACTION CHANGE***

## **4. Related Instructions:**

- a. For IRACs affecting manuals in paper copy – Maintain this IRAC with the applicable manual by placing or attaching it directly behind the title page. Replacement pages (enclosure 1) shall be added to the manual. This IRAC shall not be removed until receipt of the formal update.
- b. For IRACs affecting manuals on CD-ROM – Affix an adhesive label to the CD-ROM case, annotated with the applicable publication number, IRAC number, and DTG of the IRAC message. The label should be positioned to allow for additional updates as they occur. Maintain the IRAC on file until receipt of the superseding CD-ROM.

Richard K. Wood  
Northrop Grumman Corporation  
AEW Publications Manager



**ORGANIZATIONAL MAINTENANCE**

**STANDARD AUTOMATIC FLIGHT CONTROL SYSTEM COMPUTER CP-1780/ASW-50 AND MOUNT**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163535 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Standard Automatic Flight Control System AN/ASW-50 .....	033 03
Standard Automatic Flight Control System AN/ASW-50 .....	033 08

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Removal .....	3
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Installation .....	3
Removal .....	1

**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

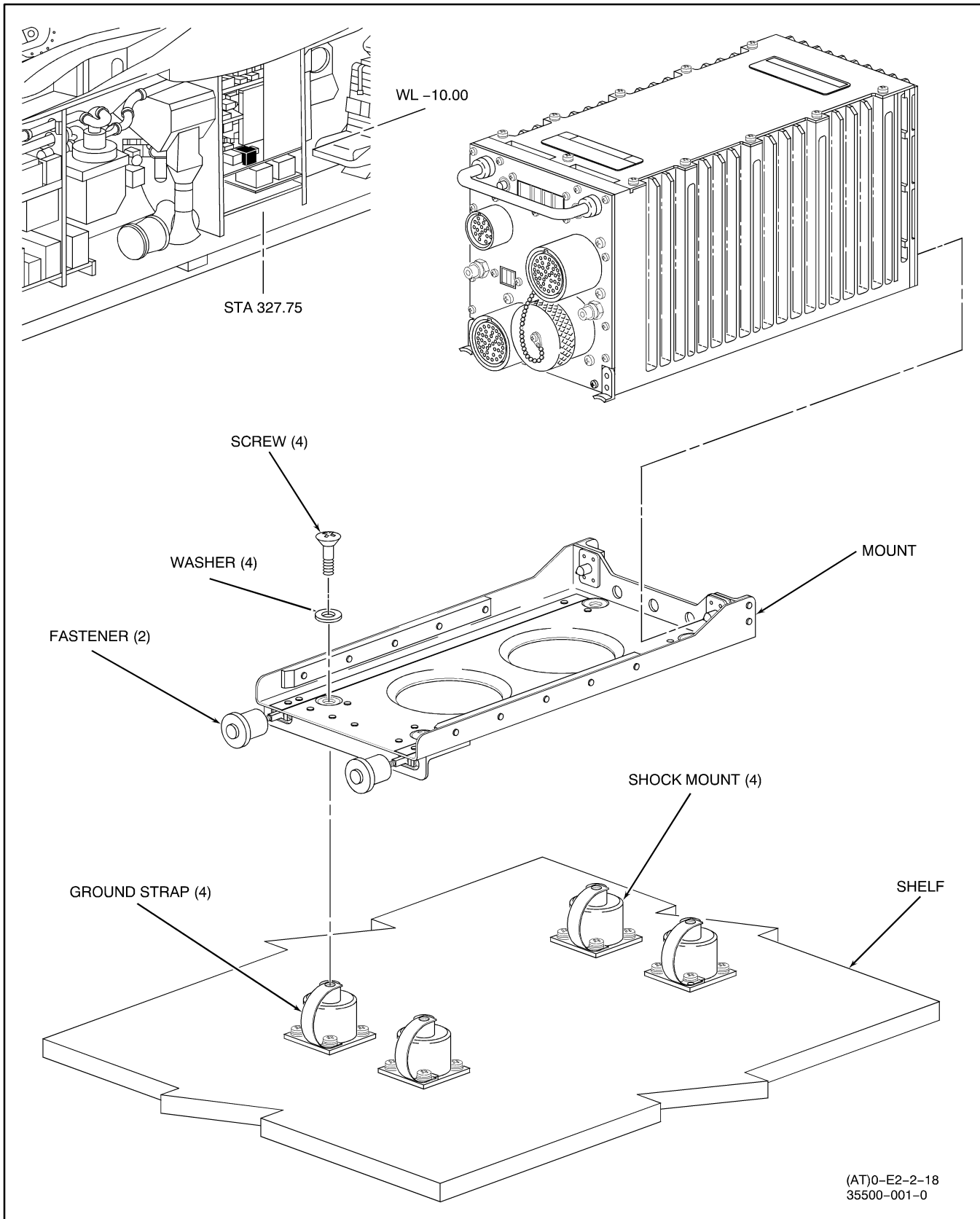
2. The Standard Automatic Flight Control System (SAFCS) Computer CP-1780/ASW-50 (35A3), Part No. 103E4060G13, and Mount, Part No. 128AB80406-7 (SAFCS computer and mount, respectively), are part of the Standard Automatic Flight Control System. The SAFCS computer and mount are on the right side of the equipment compartment at station 321, WL -11.125, just forward of the crew compartment and above the forward Inertial Navigation Unit (INU).

**3. STANDARD AUTOMATIC FLIGHT CONTROL SYSTEM COMPUTER CP-1780/ASW-50.**

4. REMOVAL. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



(AT)0-E2-2-18  
35500-001-0

Figure 1. Removal and Installation of SAFCS Computer and Mount

a. Disconnect cable electrical connectors P1, P3, and P4, and cable coaxial connectors P6 and P7, from their respective mating receptacle connectors on SAFCS computer.

b. Place protective caps on all connectors and receptacles.

c. On mount, loosen two knurled nuts on self-locking fasteners and disengage fasteners that secure SAFCS computer to mount.

d. Carefully pull SAFCS computer forward on mount until unit disengages from guide pin on mount. Remove computer.

5. INSTALLATION. (Figure 1.)

**Support Equipment Required**

Part or Model No.	Nomenclature
—	Torque Wrench (0 to 75 inch-pounds)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Inspect connectors and receptacles for damage and bent pins before connecting.

**Note**

Upon receipt of SAFCS computer from supply and prior to installation in aircraft, ensure the computer is loaded with the applicable SAFCS/PASAS software by reviewing the Ready For Issue (RFI) tag and/or associated documentation. If software load cannot be determined, forward SAFCS computer to local AIMD, via Work Request, to load the applicable SAFCS/PASAS software.

a. Remove protective caps from all connectors and receptacles.

b. Install SAFCS computer on mount.

c. Carefully push SAFCS computer on mount until unit engages guide pins. (QUALITY ASSURANCE)

d. Engage two self-locking fasteners that secure SAFCS computer to mount. Using torque wrench, tighten knurled nuts on fasteners to 20 to 25 inch-pounds. (QUALITY ASSURANCE)

e. Connect cable electrical connectors P1, P3, and P4 and cable coaxial connectors P6 and P7 to their respective mating receptacle connectors on SAFCS computer. (QUALITY ASSURANCE)

f. Perform operational checkout of Standard Automatic Flight Control System (NAVAIR 01-E2AAA-2-17.3.1, WP033 03 [aircraft serial numbers 163535 thru 165647 incorporating AFC 399] or WP033 08 [aircraft serial numbers 163849, 165648 and subsequent]).

6. MOUNT.

7. REMOVAL. (Figure 1.)

a. Remove SAFCS computer from mount. Refer to Standard Automatic Flight Control System Computer CP-1780/ASW-50 removal paragraph, this work package.

b. Remove four screws and washers that secure mount to grounding straps and shock mounts. Remove mount.

8. INSTALLATION. (Figure 1.)

a. Install mount on grounding straps and shock mounts.

b. Secure mount with four screws and washers. (QUALITY ASSURANCE)

c. Install SAFCS computer on mount. Refer to Standard Automatic Flight Control System Computer CP-1780/ASW-50 installation paragraph, this work package.



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**LIST OF TECHNICAL PUBLICATIONS DEFICIENCY REPORTS INCORPORATED**

**ORGANIZATIONAL MAINTENANCE**

**ELECTRONIC SYSTEMS MAINTENANCE**

**This TPDR page supersedes TPDR page dated 15 May 2004.**

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<b>Identification No./QA Sequence No.</b>	<b>Location</b> <b>[work package (WP), page (Pg), paragraph (P),</b> <b>figure (F), table (T) number]</b>
None	



ORGANIZATIONAL MAINTENANCE

MICROWAVE ACOUSTIC DELAY LINE

EFFECTIVITY: Aircraft Serial No. 158638 Through 158648, 159105 Through 159112, 159494 Through 159502, 160007 Through 160012, 160415 Through 160420, 160697 Through 160703, 160987 Through 160992, 161094 Through 161099, 161224 Through 161229, and 161341 Through 161346

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
IFF Interrogator RT-988/A .....	026 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Matching Attenuator .....	202 00
Signal Control-Processor C-9281/ALR-59 .....	221 00

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Record of Applicable Technical Directives

None

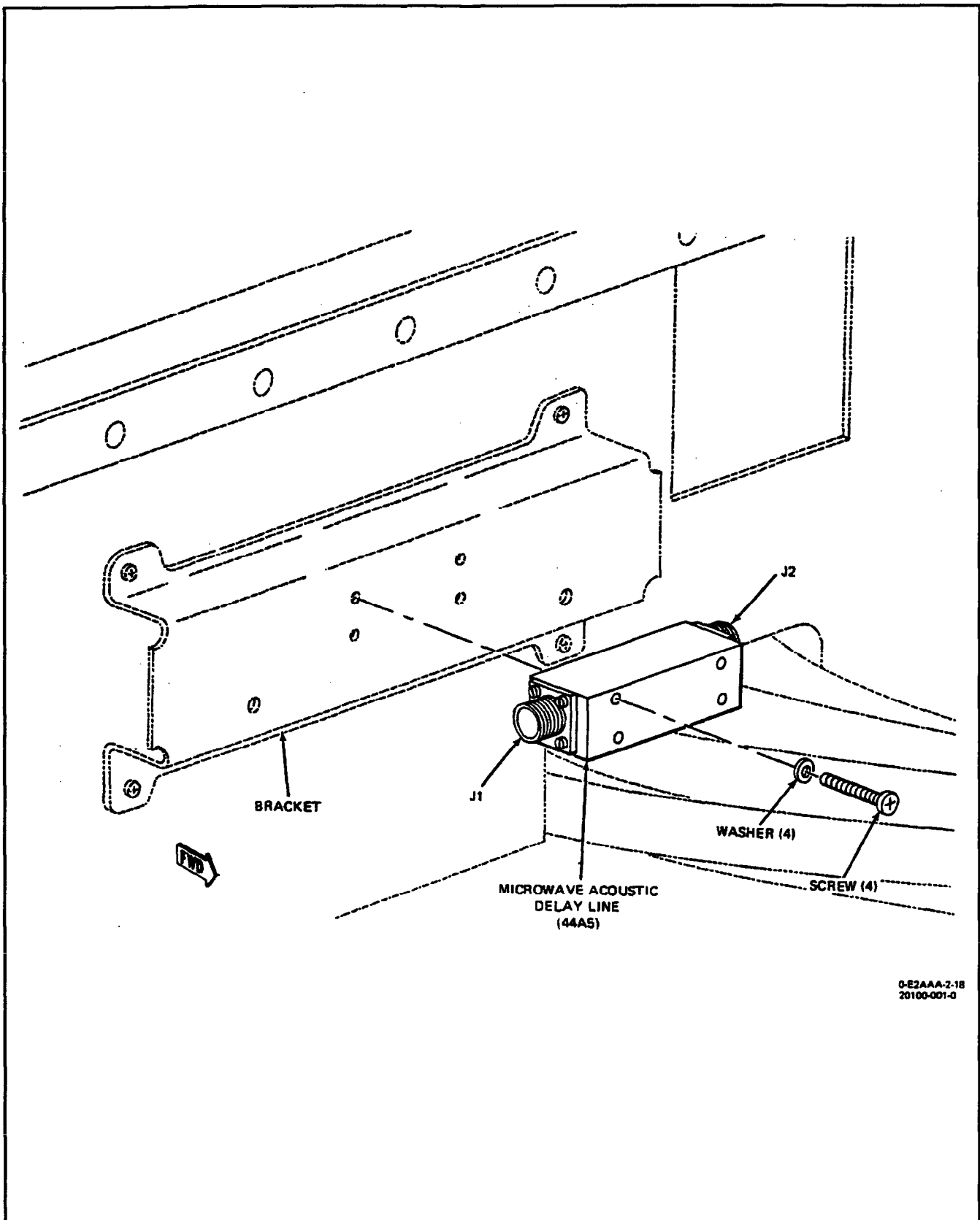
1. GENERAL.

2. The Microwave Acoustic Delay Line (hereinafter referred to as the delay line) (44A5) is part of the IFF Interrogator RT-988/A. The delay line is in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 64) for location of the delay line.

3. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



0-E2AAA-2-18  
20100-001-0

Figure 1. Removal and Installation of Microwave Acoustic Delay Line



a. Provide access to delay line by raising cockpit entry steps. This is accomplished by disengaging two fasteners (at bottom of steps) and then raising steps.

b. Remove Signal Control-Processor C-9281/ALR-59 (WP221 00).

c. Remove matching attenuator 44A7 from delay line (WP202 00).

d. Remove cable connector from delay line connector J1.

e. Supporting delay line, remove four screws and four washers securing delay line to bracket.

f. Cap delay line receptacles J1 and J2.

#### 4. INSTALLATION. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from delay line receptacles J1 and J2.



Inspect receptacles for damage and bent pins prior to installation.

b. Secure delay line to bracket with four screws and four washers. (QUALITY ASSURANCE)

c. Install cable connector 44A5P1 to delay line connector J1. (QUALITY ASSURANCE)

d. Install attenuator 44A7 to delay line (WP 202 00). (QUALITY ASSURANCE)

e. Install Signal Control-Processor C-9281/ALR-59 (WP221 00).

f. Perform an operational check of IFF Interrogator RT-988/A (NAVAIR 01-E2AAA-2-17.3, WP026 00).

g. Lower cockpit entry steps and secure with two fasteners.



**ORGANIZATIONAL MAINTENANCE**

**MATCHING ATTENUATOR**

**EFFECTIVITY: Aircraft Serial No. 158638 Through 158648, 159105 Through 159112, 159494 Through 159502, 160007 Through 160012, 160415 Through 160420, 160697 Through 160703, 160987 Through 160992, 161094 Through 161099, 161224 Through 161229, and 161341 Through 161346**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
IFF Interrogator RT-988/A .....	026 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Signal Control-Processor C-9281/ALR-59 .....	221 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
VG 1044	1/7/74	IFF Closed-Loop-Test R.F. Leakage Signal Effect, Elimination of, (Fail Safe) (ECP051E)	7/1/74	ECP Coverage Only

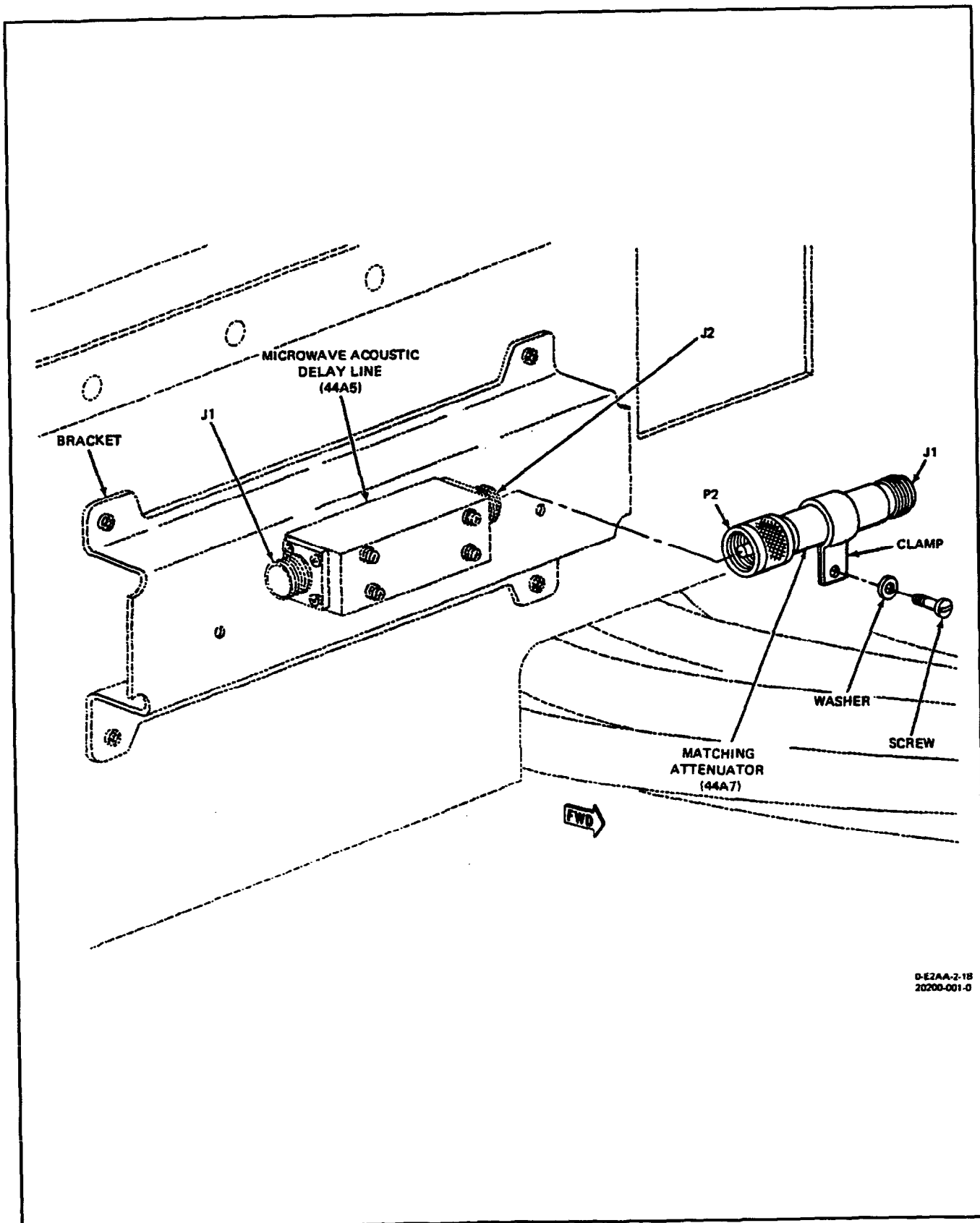
**1. GENERAL.**

2. The Matching Attenuator (hereinafter referred to as the attenuator) (44A7) is part of the IFF Interrogator RT-988/A. The attenuator is installed on the Microwave Acoustic Delay Line in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 63) for location of the attenuator.

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



D-E2AA-2-18  
20200-001-0

Figure 1. Removal and Installation of Matching Attenuator

a. Provide access to attenuator by raising cockpit entry steps. This is accomplished by disengaging two fasteners (at bottom of steps) and then raising steps.

b. Remove Signal Control-Processor C-9281/ALR-59 (WP221 00).

c. Remove cable connector from attenuator receptacle J1.

d. Remove one screw and one washer which secure clamp to bracket.

e. Disconnect attenuator from microwave acoustic delay line receptacle.

f. Remove clamp from attenuator and retain for installation.

g. Cap connectors and receptacles.

4. **INSTALLATION.** (See figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors and receptacles.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins prior to installation.

b. Install clamp over attenuator.

c. Connect attenuator to receptacle J2 of microwave acoustic delay line. (QUALITY ASSURANCE)

d. Connect cable connector 44A7P1 to attenuator. (QUALITY ASSURANCE)

e. Secure clamp to bracket with one screw and one washer. (QUALITY ASSURANCE)

f. Install Signal Control-Processor C-9281/ALR-159 (WP221 00).

g. Perform an operational check on OFF Interrogator RT-988/A (NAVAIR 01-E2AAA-2-17.3, WP026 00).

h. Lower cockpit entry steps and secure with two fasteners.



ORGANIZATIONAL MAINTENANCE

COAXIAL TERMINATION

EFFECTIVITY: Aircraft Serial No. 158638 and Subsequent

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
IFF Interrogator RT-988/A .....	026 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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Record of Applicable Technical Directives

None

1. GENERAL.

2. The Coaxial Termination (hereinafter referred to as the termination) (44A9) is part of the IFF Interrogator RT-988/A. The termination is in the crew compartment, left side, on the ceiling (see figure 1).

3. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disassemble appropriate section of panel (in crew compartment) for access to termination. Refer to WP003 00 (figure 5, item 3) for location of panel.

b. Disconnect cable connector from termination receptacle J1.

c. Remove two screws securing two clamps (used to mount termination) to bracket.

d. Remove two clamps from termination and retain for installation.

e. Cap connector and receptacle.

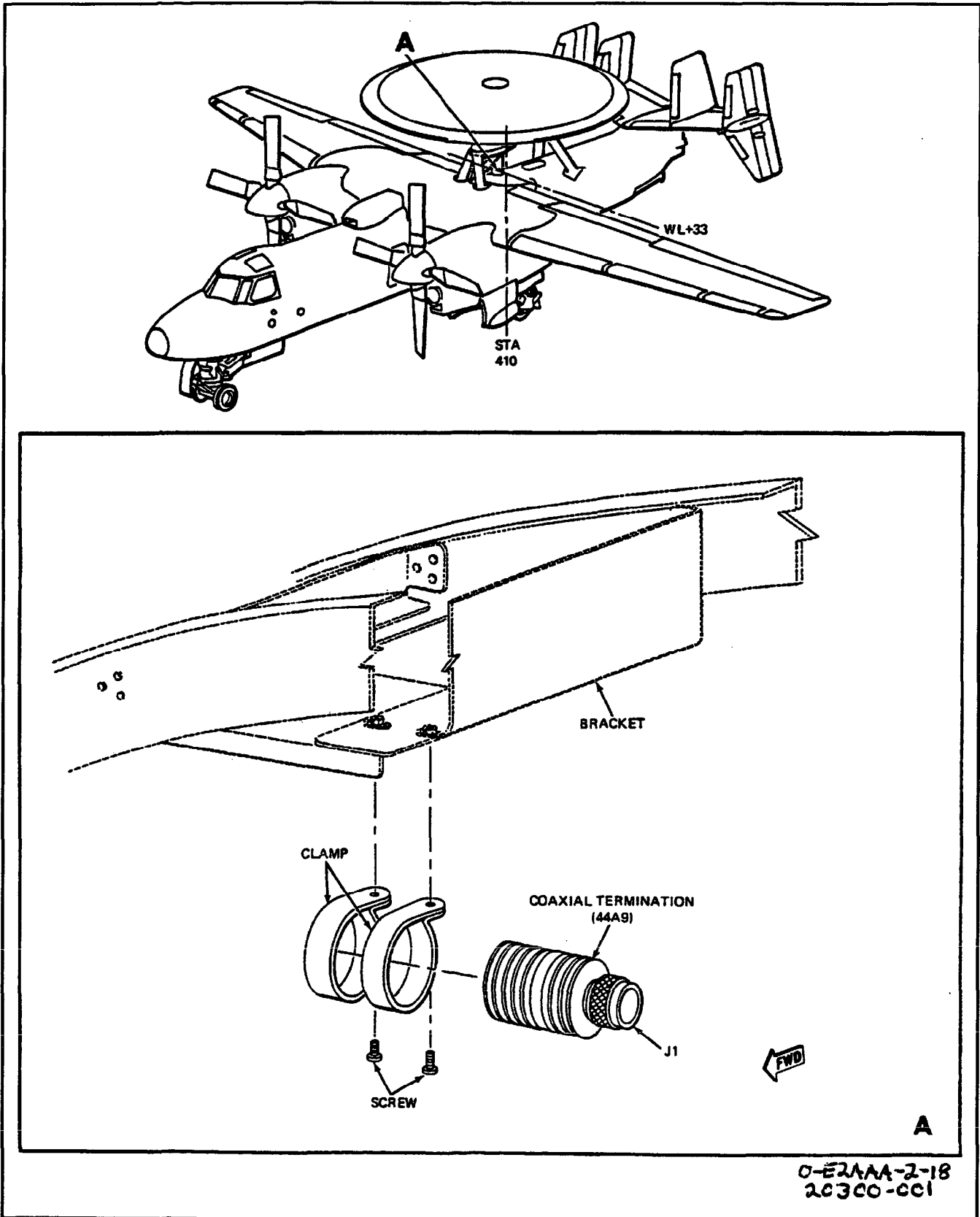


Figure 1. Removal and Installation of Coaxial Termination

0-E2AAA-2-18  
20300-CCI



**4. INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove cap from connector and receptacle.



Inspect connector and receptacle for damage and bent pins prior to installation.

- b. Install two clamps on termination.

- c. Secure two clamps (used to mount termination) to bracket with two screws. (QUALITY ASSURANCE)

- d. Connect cable connector 44A9P1 to termination receptacle J1. (QUALITY ASSURANCE)

- e. Perform an operational check of the IFF Interrogator RT-988/A (NAVAIR 01-E2AAA-2-17.3, WP026 00).

- f. Install panel removed in step 3a.



ORGANIZATIONAL MAINTENANCE

MOUNT MT-4578/U

EFFECTIVITY: Aircraft Serial No. 158638 Through 158648, 159105 Through 159112, 159494 Through 159502, 160007 Through 160011, and 160012 and Subsequent

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1 027 00
External Electrical Power Connections .....	
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1 003 00
Location of Electronic System Components .....	
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2 221 00
Signal Control-Processor C-9281/ALR-59 .....	

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Record of Applicable Technical Directives

None

1. GENERAL.

Note

Mount is installed in production aircraft (aircraft serial no. 159105 and subsequent) and installed by Navy on aircraft serial no. 158638 through 158648.

2. Two Mounts MT-4578/U (hereinafter referred to as mount) are installed in the equipment compartment. One mount is used to retain the Computer KIT-1A/TSEC and the other mount is used to retain the Computer KIR-1A/TSEC. Refer to WP033 00 (figure 2, items 60B) for location of mounts.

3. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

Note

The following procedure applies to each mount. Computer KIT-1A/TSEC and KIR-1A/TSEC are installed by Navy.

- a. Remove Signal Control-Processor C-9281/ALR-59 (49A11) (WP221 00) for access to mounting hardware (lockwashers and nuts) under shelf.

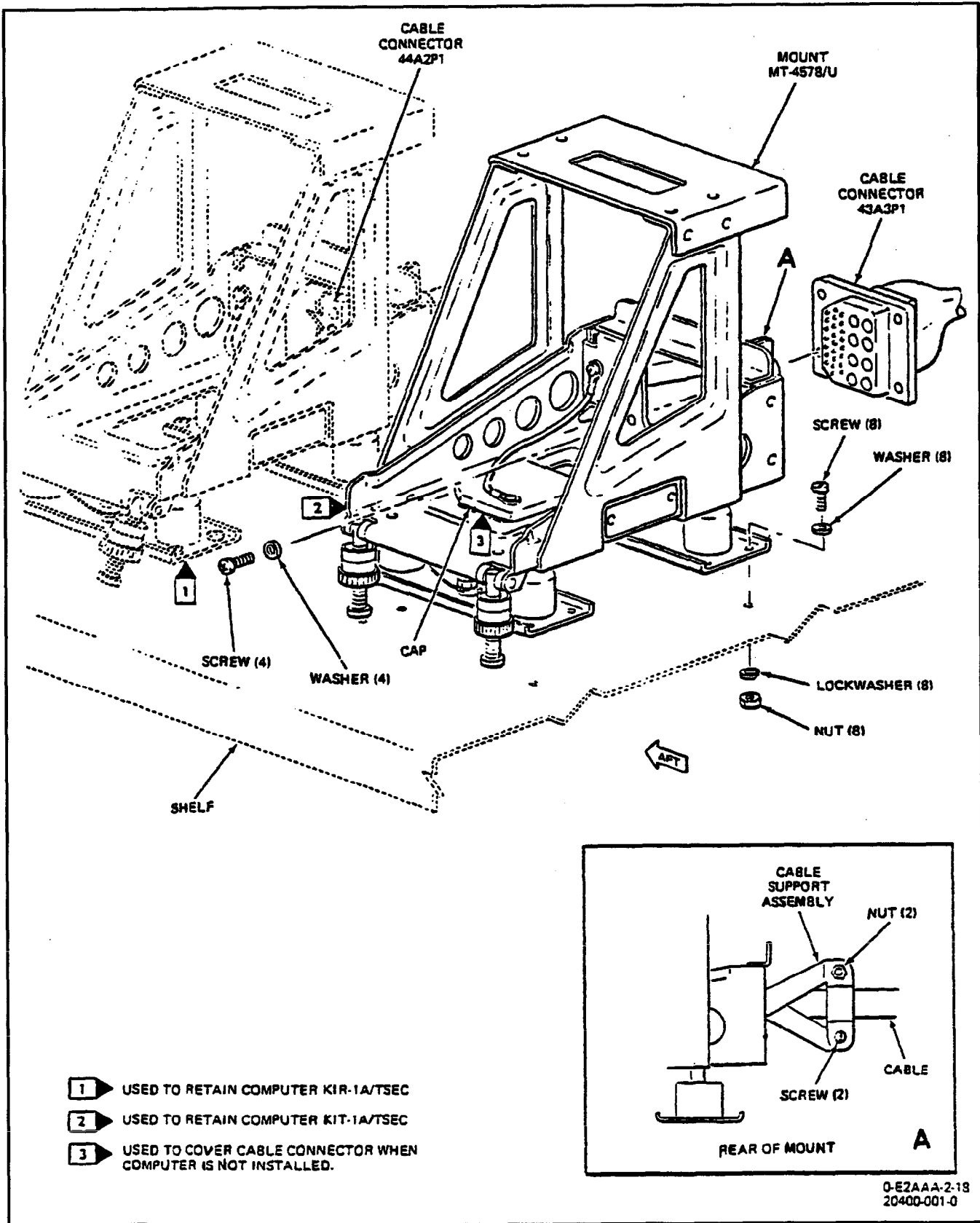


Figure 1. Removal and Installation of Mount MT-4578/U

- b. Remove eight nuts, eight lockwashers, eight screws and eight washers securing mount to shelf.
  - c. Remove cap from cable connector and then remove four screws and four washers securing cable connector to mount.
  - d. Remove two screws and two nuts from cable support assembly. (See figure 1, view A.)
  - e. Sufficiently separate cable support assembly so that cable connector can be removed from mount.
  - f. Remove mount from shelf.
  - g. Cap all connectors.
4. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following procedure applies to each mount.

- a. Remove caps from connectors.



- Inspect connectors for damage and bent pins prior to installation.
- b. Place mount on shelf.
- c. Sufficiently separate cable support assembly so that cable connector can be inserted into cutout in mount. (QUALITY ASSURANCE)
- d. Secure cable connector to mount with four screws and four washers. Install cap on cable connector. (QUALITY ASSURANCE)

**Note**

Install hardware as shown in figure 1, view A.

- e. Close cable support around cable and secure with two screws and two nuts. (QUALITY ASSURANCE)
- f. Secure mount to shelf with eight screws, eight washers, eight lockwashers, and eight nuts.
- g. Install Signal Control-Processor C-9281/ALR-59 (49A11) (WP221 00).



**ORGANIZATIONAL MAINTENANCE**

**COAXIAL ATTENUATOR (44A7)**

**EFFECTIVITY: Aircraft Serial No. 161547 and Subsequent**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
IFF Interrogator RT-988/A .....	026 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Signal Control-Processor C-9281/ALR-59 .....	221 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	10/22/81	Deletion of Microwave Acoustic Delay Line and Matching Attenuator From IFF Interrogator (ECP GR-E-2C-309(P))	6/1/82	Effectivity: Aircraft serial no. 161547 and subsequent and those aircraft incorporating ECP-GR-E-2C-309(P)

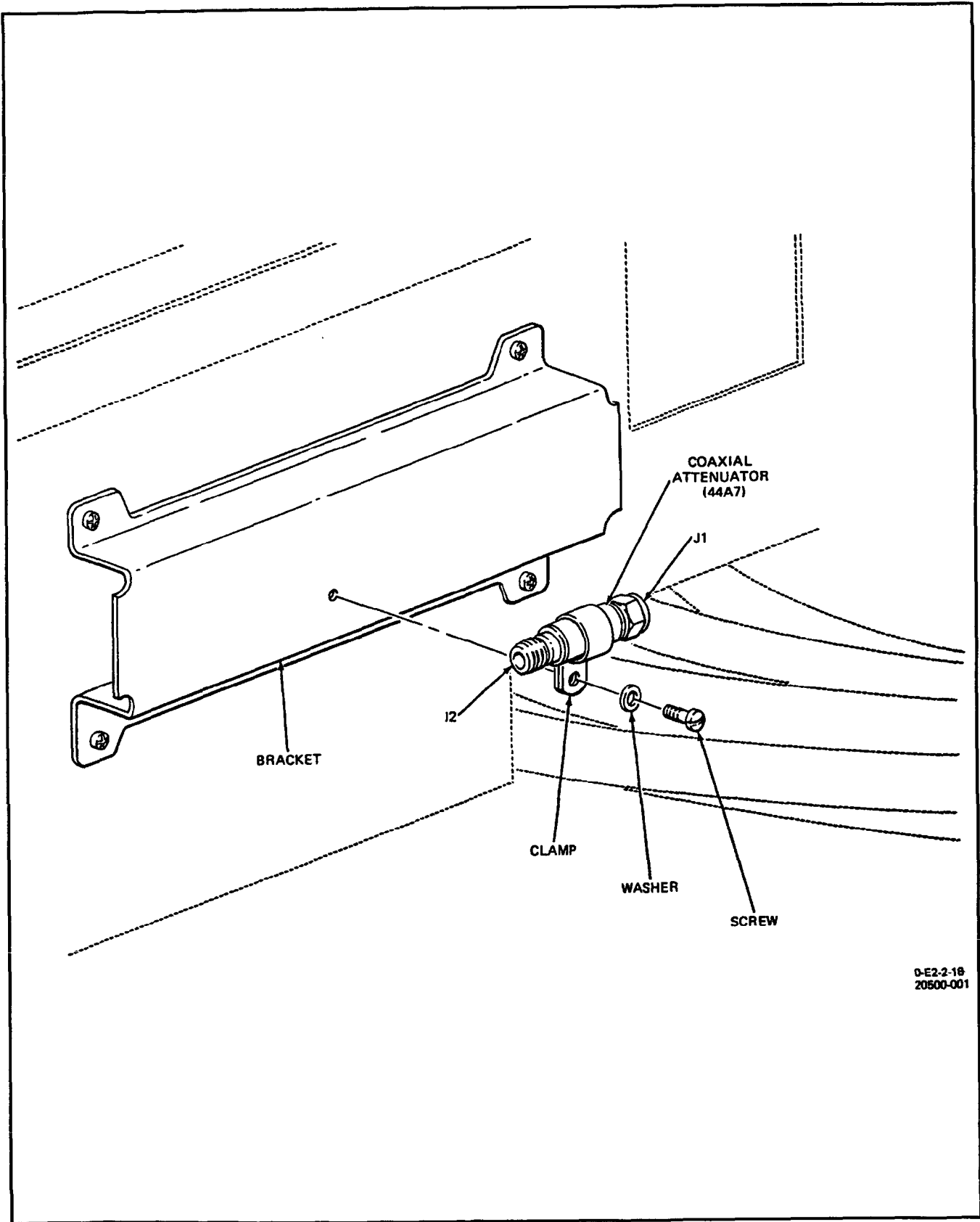
**1. GENERAL.**

2. The Coaxial Attenuator (44A7) (hereinafter referred to as the attenuator) is part of the IFF Interrogator RT-988/A. The attenuator is installed in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 124) for location of the attenuator.

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



0-E2-2-18  
20500-001

Figure 1. Removal and Installation of Coaxial Attenuator



a. Provide access to attenuator by raising cockpit entry steps. This is accomplished by disengaging two fasteners (at bottom of steps) and then raising steps.

b. Remove Signal Control-Processor C-9281/ALR-59 (WP221 00).

c. Remove cable connector 44A7P1 from attenuator connector J1 and cable connector 44A7P2 from attenuator connector J2.

d. Remove one screw and one washer securing clamp to bracket and remove attenuator from bracket.

e. Remove clamp from attenuator and retain for installation.

f. Cap all connectors.

4. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors.



Inspect connectors for damage and bent pins prior to installation.

b. Install clamp over attenuator.

c. Secure clamp to bracket using one screw and one washer. (QUALITY ASSURANCE)

d. Connect cable connector 44A7P1 to attenuator connector J1 and cable connector 44A7P2 to attenuator connector J2. (QUALITY ASSURANCE)

e. Install Signal Control-Processor C-9281/ALR-59 (WP221 00).

f. Perform an operational check of IFF Interrogator RT-988/A (NAVAIR 01-E2AAA-2-17.3, WP026 00).

g. Lower cockpit entry steps and secure with two fasteners.



**ORGANIZATIONAL MAINTENANCE**

**RADAR RECEIVER-TRANSMITTER RT-859/APX-72 AND MOUNT MT-3809/APX-72**

**EFFECTIVITY: Aircraft Serial No. 158638 and Subsequent**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
IFF Transponder Set AN/APX-72 .....	027 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Radar Receiver-Transmitter RT-859/APX-72 (43A1) and Mount MT-3809/AP-72 (hereinafter referred to as the receiver-transmitter and mount) are part of the IFF Transponder Set AN/APX-72. The receiver-transmitter and mount are in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 60A) for location of the receiver-transmitter and mount.

**3. RADAR RECEIVER-TRANSMITTER RT-859/APX-72.**

4. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

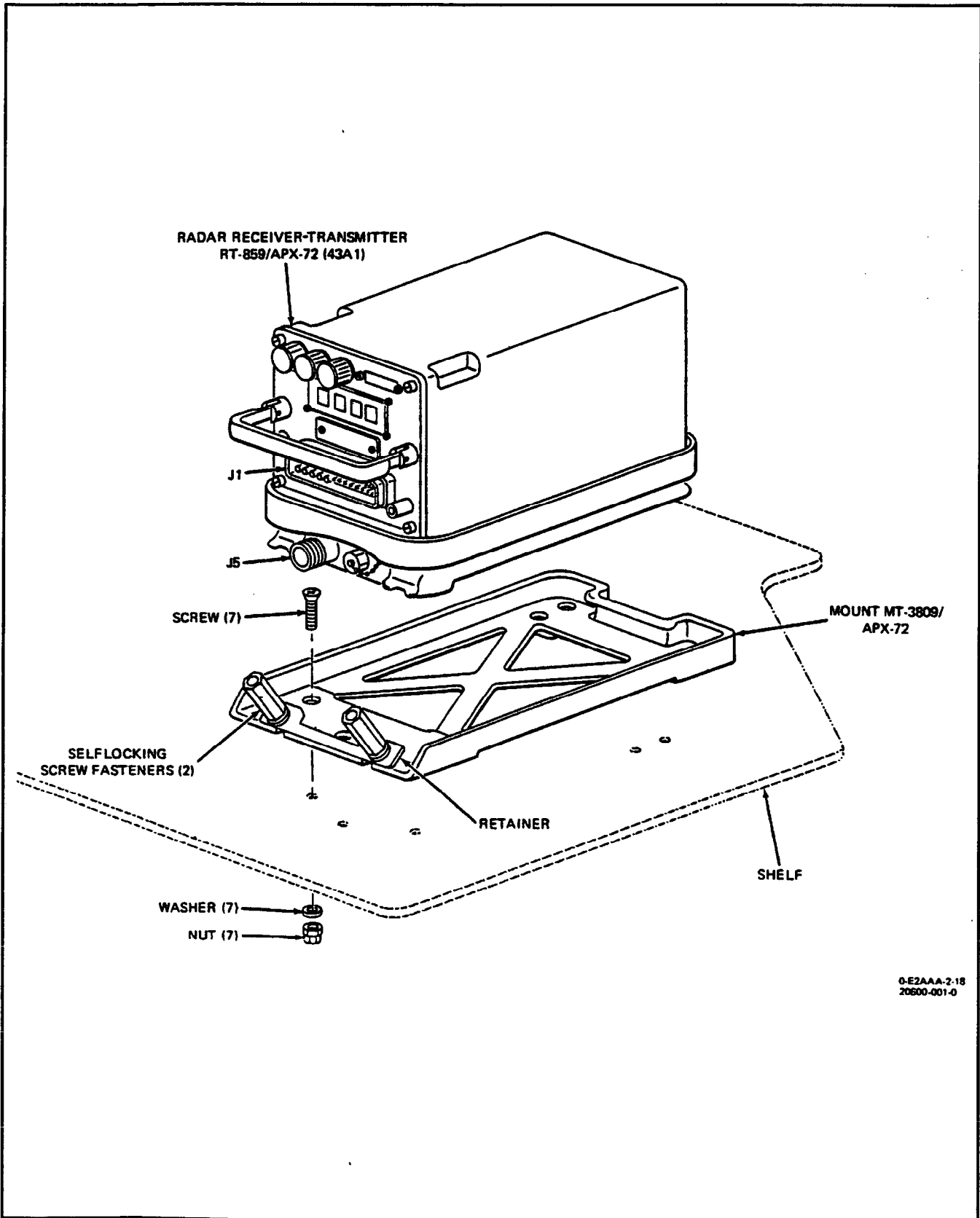


Figure 1. Removal and Installation of Radar Receiver-Transmitter RT-859/APX-72 and Mount MT-3809/APX-72

- a. Disconnect two cable connectors from receptacles J1 and J5.
- b. Loosen two self-locking screw fasteners and disengage retainer securing receiver-transmitter to mount.
- c. Using handle, pull receiver-transmitter out of mount until lip, at rear of mount, is disengaged.
- d. Remove receiver-transmitter from mount.
- e. Cap all connectors and receptacles.

5. INSTALLATION. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from all connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Place receiver-transmitter on mount. Slide receiver-transmitter into mount until flange at rear of

receiver-transmitter engages lip at rear of mount. (QUALITY ASSURANCE)

- c. Secure receiver-transmitter to mount by tightening two self-locking screw fasteners until retainer is fully engaged. (QUALITY ASSURANCE)

- d. Connect cable connectors 43A1P1 and 43A1P5 to receptacles J1 and J5, respectively. (QUALITY ASSURANCE)

- e. Perform an operational check of IFF Transponder Set AN/APX-72 (NAVAIR 01-E2AAA-2-17.3, WP027 00).

6. MOUNT MT-3809/APX-72.

7. REMOVAL. (See figure 1.)

- a. Remove receiver-transmitter (refer to paragraph 4).

- b. Remove seven screws, seven nuts and seven washers securing mount to shelf.

- c. Remove mount from shelf.

8. INSTALLATION. (See figure 1.)

- a. Place mount on shelf.

- b. Secure mount to shelf with seven screws, seven washers and seven nuts. (QUALITY ASSURANCE)

- c. Install receiver-transmitter (refer to paragraph 5).



ORGANIZATIONAL MAINTENANCE

TRANSPONDER TEST SET TS-1843A/APX AND MOUNT MT-3513A/APX

EFFECTIVITY: Aircraft Serial No. 158638 and Subsequent

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
IFF Transponder SET AN/APX-72 .....	027 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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Record of Applicable Technical Directives

None

1. GENERAL.

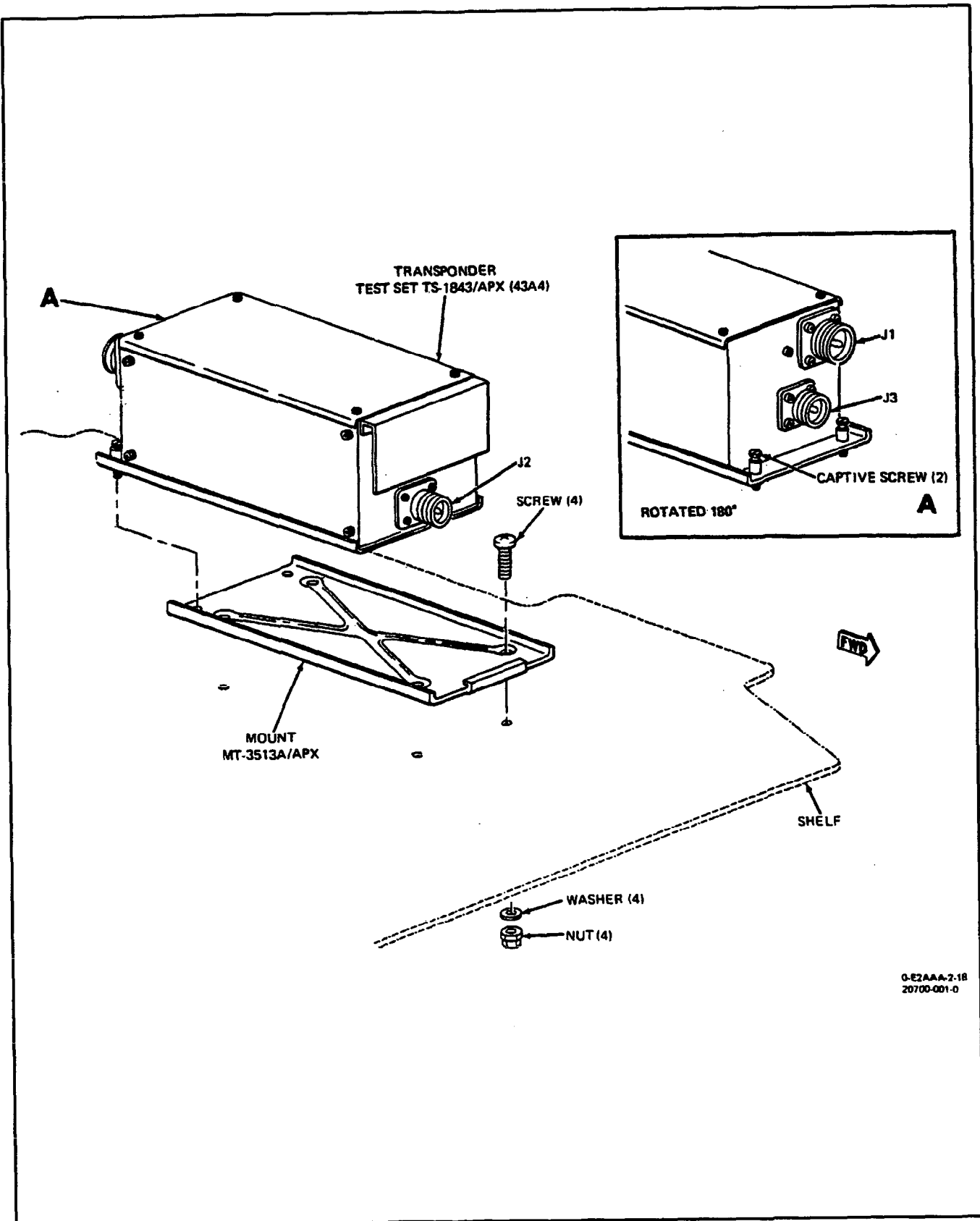
2. The Transponder Test Set TS-1843A/APX (43A4) and Mount MT-3513A/APX (hereinafter referred to as the test set and mount) are part of the IFF Transponder Set AN/APX-72. The test set and mount are in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 59) for location of the test set and mount.

3. TRANSPONDER TEST SET TS-1843A/APX.

4. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



0-E2AAA-2-18  
20700-001-0

Figure 1. Removal and Installation of Transponder Test Set TS-1843A/APX and Mount MT-3513A/APX



**Note**

Removal and installation procedures are not provided for the Computer KIT-1A/TSEC and the Computer KIR-1A/TSEC, since they are installed by the Navy.

- a. Remove Computer KIT-1A/TSEC and Computer KIR-1A/TSEC from the shelf. Refer to WP003 00 (figure 2, items 58 and 60) for location of computers.
- b. Disconnect three cable connectors from test set receptacles J1, J2 and J3.
- c. Loosen two captive screws securing test set to mount.
- d. Slowly slide test set aft until it is clear of mount guide rails.
- e. Cap all connectors and receptacles.

5. INSTALLATION. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Slowly slide test set into mount guide rails and push forward until test set engages lip on mount. (QUALITY ASSURANCE)

- c. Secure test set to mount by tightening two captive screws. (QUALITY ASSURANCE)

- d. Connect cable connectors 43A4P1, 43A4P2, and 43A4P3 to test set receptacles J1, J2 and J3, respectively. (QUALITY ASSURANCE)

- e. Perform an operational check of IFF Transponder Set AN/APX-72 (NAVAIR 01-E2AAA-2-17.3, WP027 00).

- f. Install the Computer KIT-1A/TSEC and the Computer KIR-1A/TSEC.

6. MOUNT MT-3513A/APX.

7. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove test set (refer to paragraph 4).
- b. Remove four screws, four washers and four nuts securing mount to shelf.
- c. Remove mount from shelf.

8. INSTALLATION. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Secure mount to shelf using four screws, four washers and four nuts. (QUALITY ASSURANCE)
- b. Install test set (refer to paragraph 5).



ORGANIZATIONAL MAINTENANCE

CONTROL TRANSPONDER SET C-6280(P)/APX

EFFECTIVITY: Aircraft Serial No. 158638 Through 158648, 159105 Through 159112, and 159494 Through 159502

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
IFF Transponder Set AN/APX-72 .....	027 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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Record of Applicable Technical Directives

None

1. GENERAL.

2. The Control Transponder Set C-6280(P)/APX (hereinafter referred to as the control) (43A2) is part of the IFF Transponder Set AN/APX-72. The control is in the cockpit control pedestal. Refer to WP003 00 (figure 1, item 18) for location of the control.

3. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove protective cover secured to right side of control pedestal after disengaging nine fasteners.

b. Remove two screws (on right side of control pedestal) securing access door to frame and open access door.



To prevent damage to aircraft and injury to personnel, do not retract wing fold handle (on control pedestal) if wing fold handle is down (wing fold position).

c. Disengage six fasteners and carefully lift control from control pedestal until cable connector is accessible.

d. Disconnect cable connector from control receptacle J1.

e. Cap connector and receptacle.

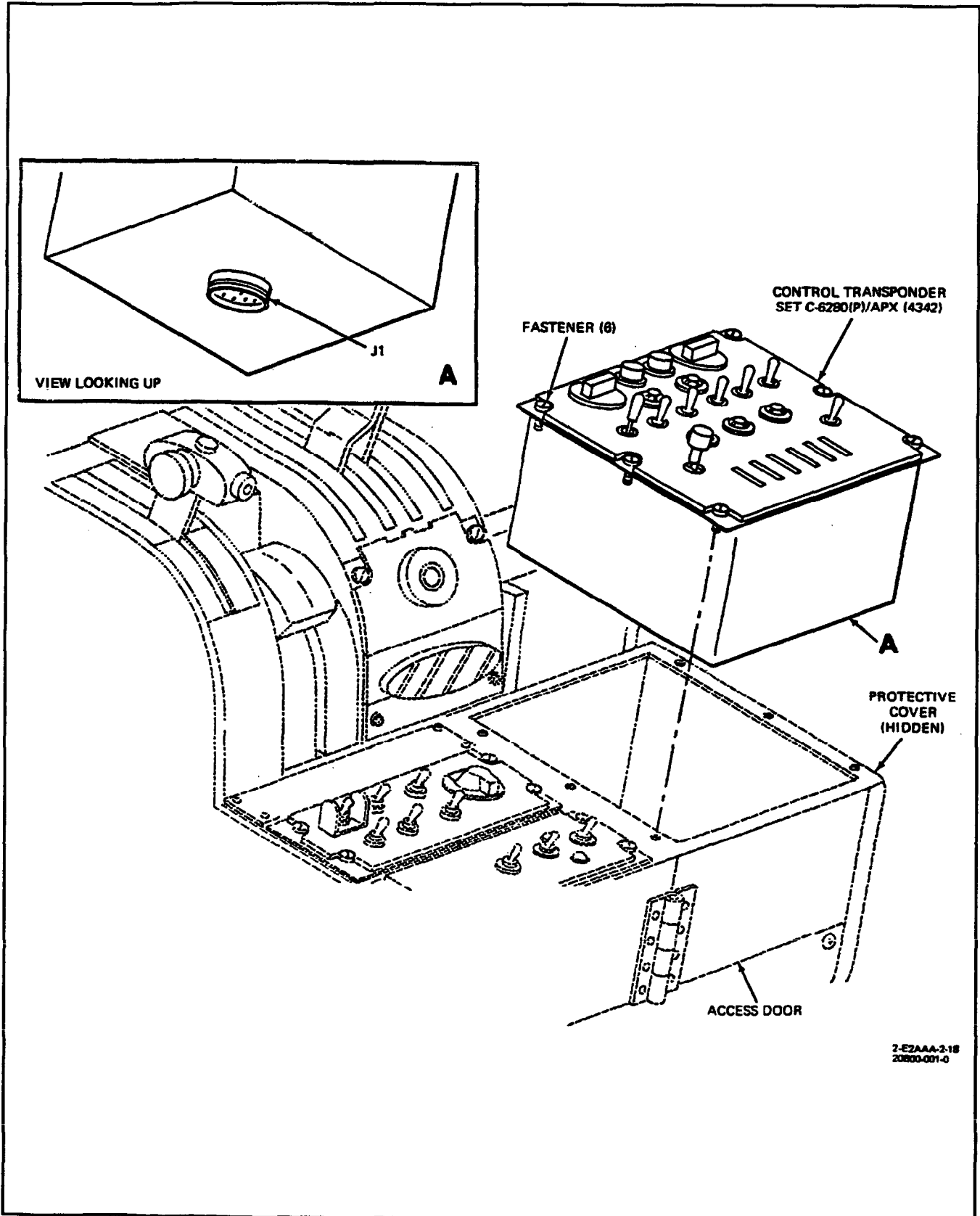


Figure 1. Removal and Installation of Control Transponder Set C-6280(P)/APX

4. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove cap from connector and receptacle.



Inspect connector and receptacle for damage and bent pins prior to installation.

- b. Connect cable connector 43A2P1 to control receptacle J1. (QUALITY ASSURANCE)



To prevent damage to aircraft and injury to personnel, do not retract wing fold handle (on control pedestal) if wing fold handle is down (wing fold position).

- c. Carefully insert control into control pedestal. (QUALITY ASSURANCE)
- d. Secure control to control pedestal by engaging six fasteners. (QUALITY ASSURANCE)
- e. Close access door and secure to frame with two screws.
- f. Secure protective cover to right side of control pedestal by engaging nine fasteners.
- g. Perform an operational check of IFF Transponder Set AN/APX-72 (NAVAIR 01-E2AAA-2-17.3, WP027 00).



**ORGANIZATIONAL MAINTENANCE**

**ANTENNA TRANSPONDER**

**EFFECTIVITY: Aircraft Serial No. 158638 and Subsequent**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
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**Record of Applicable Technical Directives**

None

1. **GENERAL.**
  - c. Lower antenna away from aircraft until cable connector is exposed.
  - d. Disconnect cable connector from antenna receptacle J1.
  - e. Cap connector and receptacle.
2. The Antenna Transponder (hereinafter referred to as the antenna) (43E4) is part of the IFF Transponder Set AN/APX-72. The antenna is on the bottom of the aircraft (see figure 1).
3. **REMOVAL.** (See figure 1.)
4. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove eight screws that secure antenna.
- b. Grasp antenna blade firmly and carefully rock from side to side until sealant is broken.

**Materials Required**

<b>Specification or Part Number</b>	<b>Nomenclature</b>
Federal Specification TT-M-261	Methyl Ethyl Ketone
MIL-S-7502C-2 (ASG), Class B	Sealing Compound

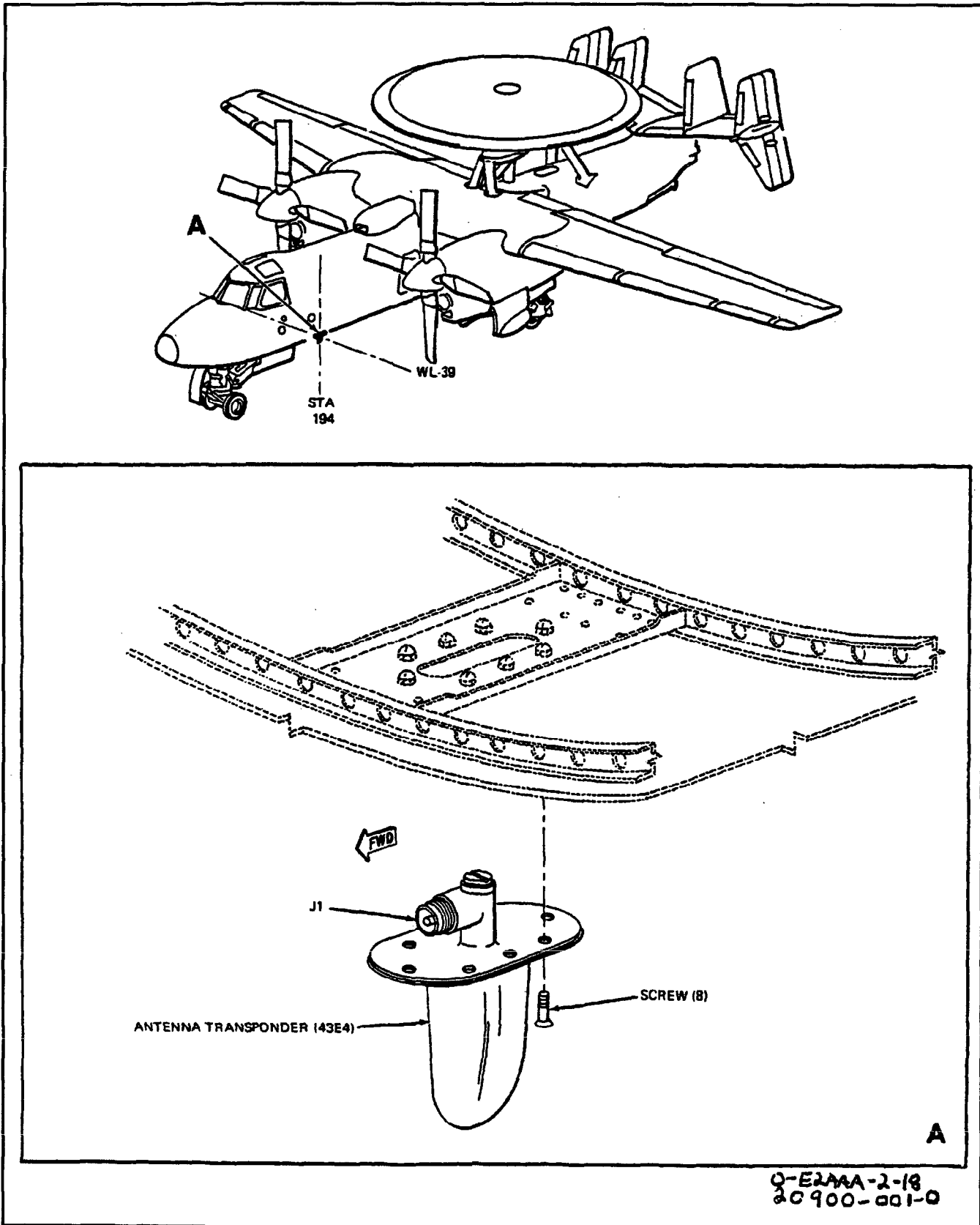


Figure 1. Removal and Installation of Antenna Transponder

0-E2AAA-2-18  
20900-001-0



**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

Methyl ethyl ketone, TT-M-261, is toxic, flammable, and highly irritating to eyes. Protection: chemical splashproof goggles and good ventilation; keep container closed; keep sparks, flames, and heat away. Keep methyl ethyl ketone off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

- a. Carefully clean sealant residue from aircraft surface with solvent.
- b. Apply a 3/16-inch bead of sealant compound around antenna receptacle and around hole in aircraft mounting surface.

- c. Remove cap from connector and receptacle.

**CAUTION**

Inspect connector and receptacle for damage and bent pins prior to installation.

- d. Connect cable connector 43E4P1 to antenna receptacle J1. (QUALITY ASSURANCE)
- e. Seat antenna mounting flange against aircraft mounting surface and secure with eight screws. (QUALITY ASSURANCE)
- f. Perform an operational check of IFF Transponder Set AN/APX-72 (NAVAIR 01-E2AAA-2-17.3, WP027 00).



**ORGANIZATIONAL MAINTENANCE**

**CODER-DECODER KY-744/AP**

**EFFECTIVITY: Aircraft Serial No. 158638 and Subsequent**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Detector-Processor Group OL-76/AP .....	028 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Coder-Decoder KY-744/AP (hereinafter referred to as the coder-decoder unit) (42A1A3) is part of the Detector-Processor Group OL-76/AP. The coder-decoder is in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 20) for location of the coder-decoder unit. Support equipment required for maintenance is listed below.

**Support Equipment Required**

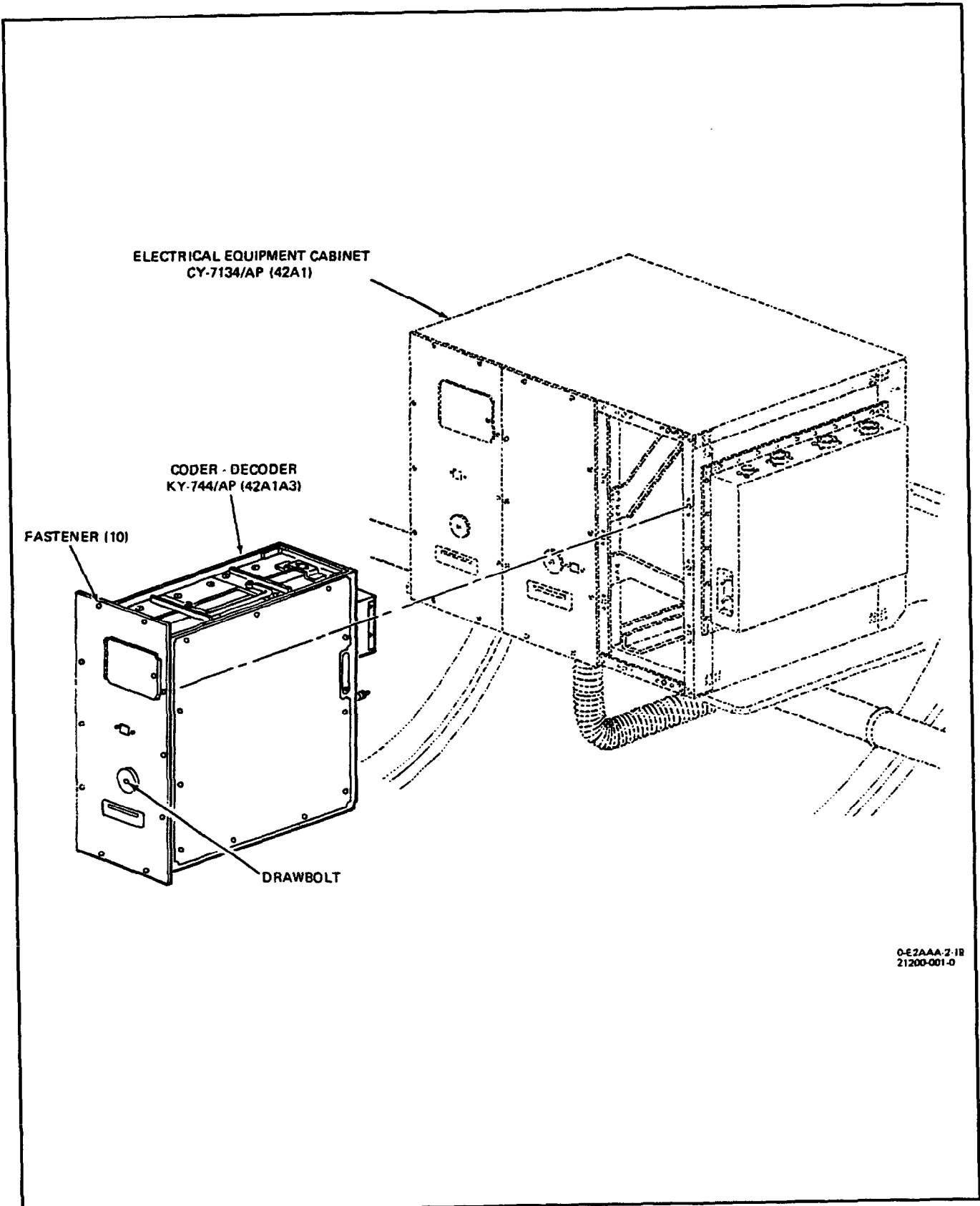
<b>Part or Model No.</b>	<b>Nomenclature</b>
—	5/32-inch Hex Key

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft. (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using a 5/32-inch hex key, disengage 10 fasteners securing coder-decoder unit to cabinet.
- b. Using a 5/32-inch hex key, rotate drawbolt counterclockwise until connectors at rear of coder-decoder unit disengage from cabinet connectors and drawbolt is fully disengaged from cabinet.



0-E2AAA-2-18  
21200-001-0

Figure 1. Removal and Installation of Coder-Decoder KY-744/AP



If resistance is experienced during coder-decoder unit removal, check that drawbolt is completely disengaged. Support bottom of coder-decoder unit with one hand during removal.

- c. Slowly pull coder-decoder unit out of cabinet.
- d. Cap all connectors and receptacles.

4. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Slowly slide coder-decoder unit into cabinet until connector guide pins mate with cabinet connectors. (QUALITY ASSURANCE)

- c. Using a 5/32-inch hex key, rotate drawbolt clockwise until it engages. Continue tightening drawbolt until coder-decoder unit front panel is flush with cabinet. (QUALITY ASSURANCE)

- d. Using a 5/32-inch hex key, engage 10 fasteners to secure coder-decoder unit to cabinet. (QUALITY ASSURANCE)

- e. Perform operational check of Detector-Processor Group OL-76/AP (NAVAIR 01-E2AAA-2-17.3, WP028 00).



ORGANIZATIONAL MAINTENANCE

SIGNAL PROCESSOR COMPUTER CP-1083/AP

EFFECTIVITY: Aircraft Serial No. 158638 and Subsequent

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Detector-Processor Group OL-76/AP .....	028 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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Record of Applicable Technical Directives

None

1. GENERAL.

2. The Signal Processor Computer CP-1083/AP (hereinafter referred to as the signal processor unit) (42A1A1) is part of the Detector-Processor Group OL-76/AP. The signal processor unit is in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 18) for location of the signal processor unit. Support equipment required for maintenance is listed below.

Support Equipment Required

Part or Model No.	Nomenclature
—	5/32-inch Hex Key

3. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using 5/32-inch hex key, disengage 10 fasteners securing signal processor unit to cabinet.
- b. Using a 5/32-inch hex key, rotate drawbolt counterclockwise until connectors at rear of signal processor unit disengage from cabinet connectors and drawbolt is fully disengaged from cabinet.

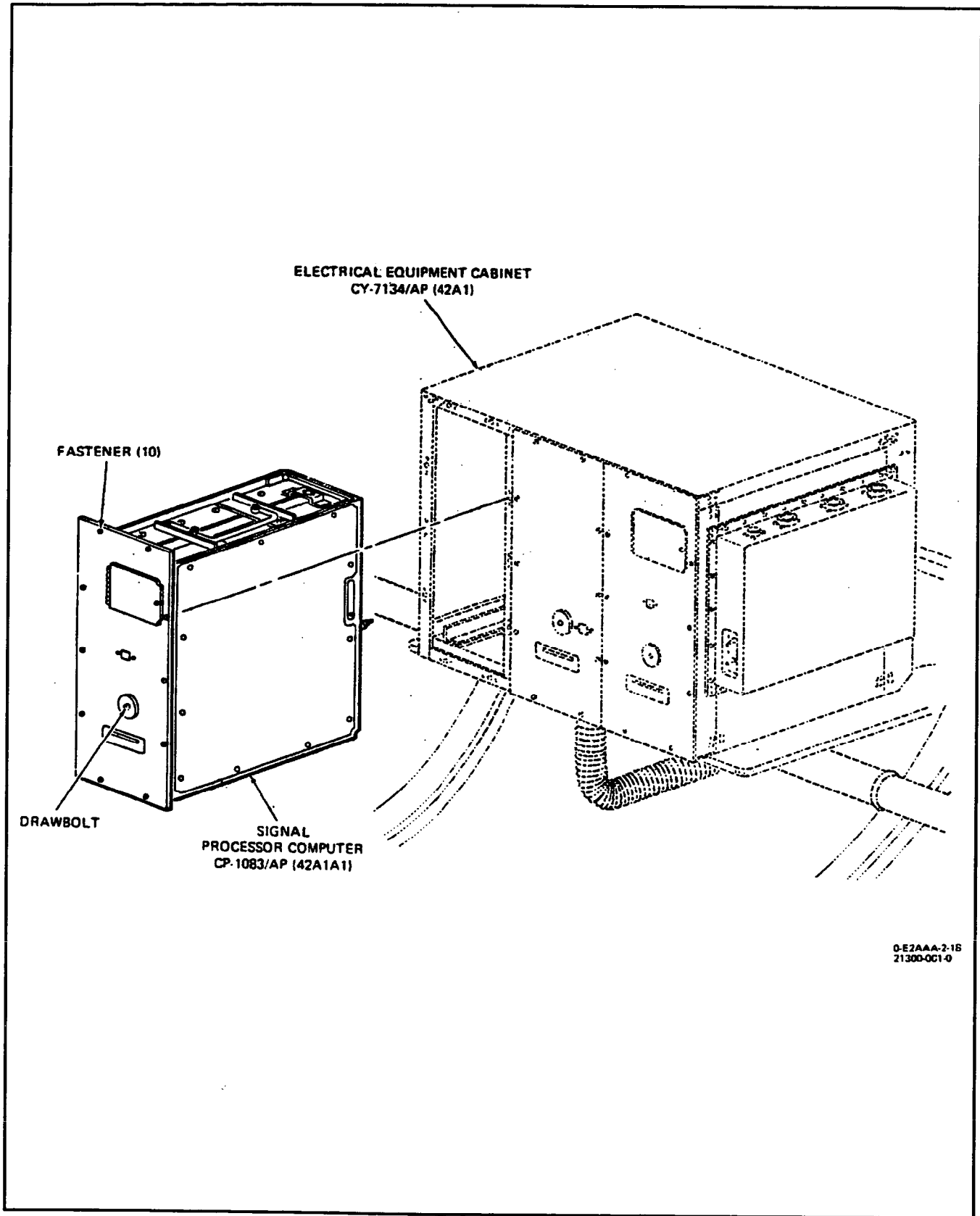


Figure 1. Removal and Installation of Signal Processor Computer CP-1083/AP



**CAUTION**

If resistance is experienced during signal processor unit removal, check that drawbolt has completely disengaged. Support bottom of signal processor unit with one hand during removal.

- c. Slowly pull signal processor unit out of cabinet.
- d. Cap all connectors and receptacles.

4. **INSTALLATION.** (See figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Slowly slide signal processor unit into cabinet until connector guide pins mate with cabinet connectors. (QUALITY ASSURANCE)

- c. Using a 5/32-inch hex key, rotate drawbolt clockwise until it engages. Continue tightening drawbolt until signal processor unit front panel is flush with cabinet. (QUALITY ASSURANCE)

- d. Using a 5/32-inch hex key, engage 10 fasteners to secure signal processor unit to cabinet. (QUALITY ASSURANCE)

- e. Perform operational check of Detector-Processor Group OL-76/AP (NAVAIR 01-E2AAA-2-17.3, WP028 00).



ORGANIZATIONAL MAINTENANCE

DATA STORAGE MEMORY-BUFFER MU-573/AP

EFFECTIVITY: Aircraft Serial No. 158638 and Subsequent

This work package (WP) supersedes WP214 00, dated 1 December 2000.

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Detector-Processor Group OL-76/AP .....	028 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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Record of Applicable Technical Directives

None

1. GENERAL.

2. The Data Storage Memory-Buffer MU-573/AP (hereinafter referred to as the memory buffer unit) (42A1A2) is part of the Detector-Processor Group OL-76/AP. The memory buffer unit is in the equipment compartment, left side. Refer to WP003 00 (figure 3, item 19) for location of the memory buffer unit. Support equipment required for maintenance is listed below.

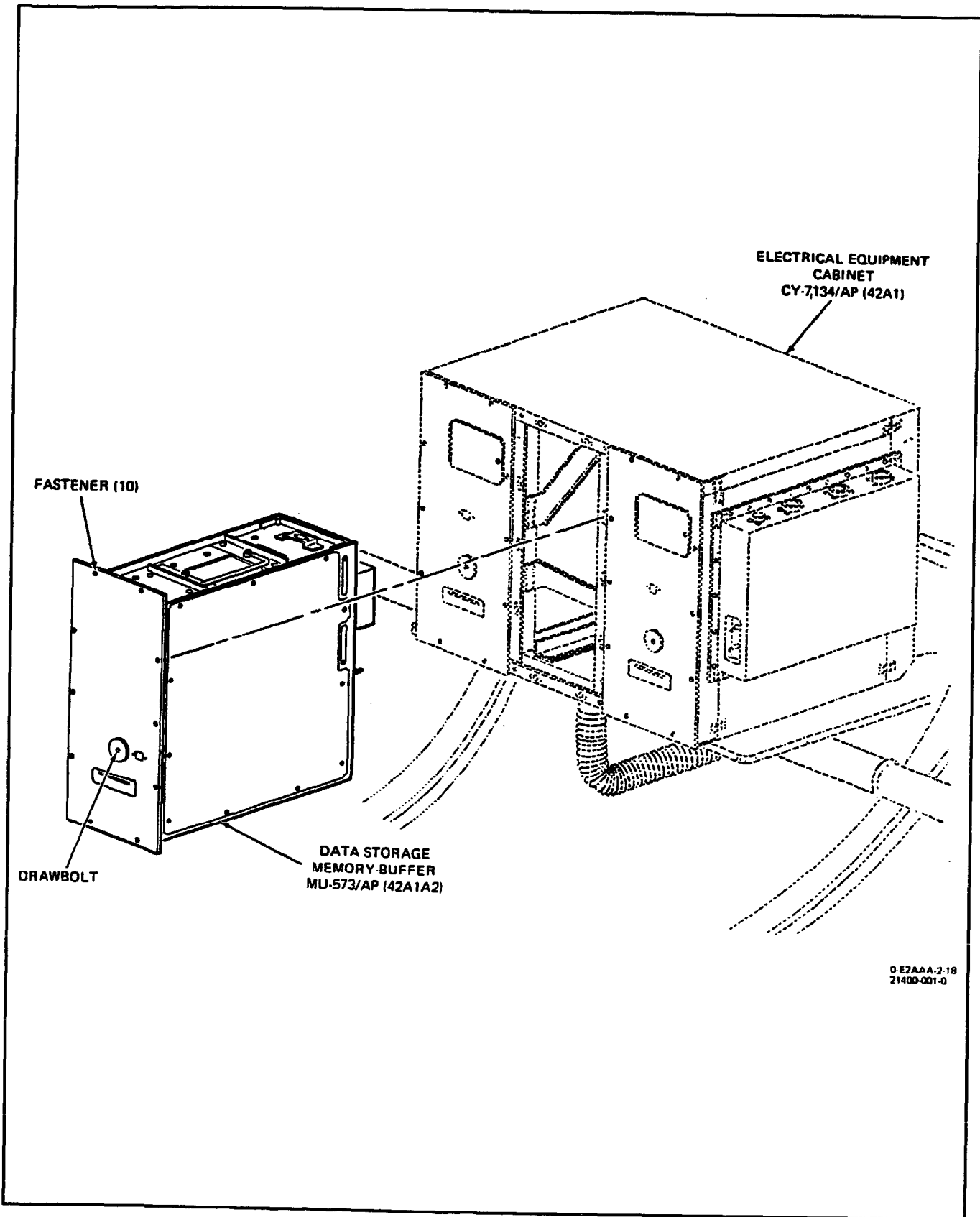
Support Equipment Required	
Part or Model No.	Nomenclature
—	5/32-inch Hex Key

3. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using a 5/32-inch hex key, disengage 10 fasteners securing memory buffer unit to cabinet.
- b. Using a 5/32-inch hex key, rotate drawbolt counterclockwise until connectors at rear of memory buffer unit disengage from cabinet connectors and drawbolt is fully disengaged from cabinet.



0 E2AAA-2-18  
21400-001-0

Figure 1. Removal and Installation of Data Storage Memory-Buffer MU-573/AP

**CAUTION**

If resistance is experienced during memory buffer unit removal, check that drawbolt has completely disengaged. Support bottom of memory buffer unit with one hand during removal.

- c. Slowly pull memory buffer unit out of cabinet.
- d. Cap all connectors and receptacles.

**4. INSTALLATION.** (See figure 1.)**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Slowly slide memory buffer unit into cabinet until connector guide pins mate with cabinet connectors. (QUALITY ASSURANCE)

- c. Using a 5/32-inch hex key, rotate drawbolt clockwise until it engages. Continue tightening drawbolt until memory buffer unit front panel is flush with cabinet. (QUALITY ASSURANCE)

- d. Using a 5/32-inch hex key, engage 10 fasteners to secure memory buffer unit to cabinet. (QUALITY ASSURANCE)

- e. Perform operational check of Detector-Processor Group OL-76/AP (NAVAIR 01-E2AAA-2-17.3, WP028 00).



ORGANIZATIONAL MAINTENANCE

ELECTRICAL EQUIPMENT CABINET CY-7134/AP

EFFECTIVITY: Aircraft Serial No. 158638 and Subsequent

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Detector-Processor Group OL-76/AP .....	028 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
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Record of Applicable Technical Directives

None

1. GENERAL.

2. The Electrical Equipment Cabinet CY-7134/AP (hereinafter referred to as the cabinet) (42A1) is part of the Detector Processor Group OL-76/AP. The cabinet is in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 21) for location of the cabinet. Support equipment required for maintenance is listed below.

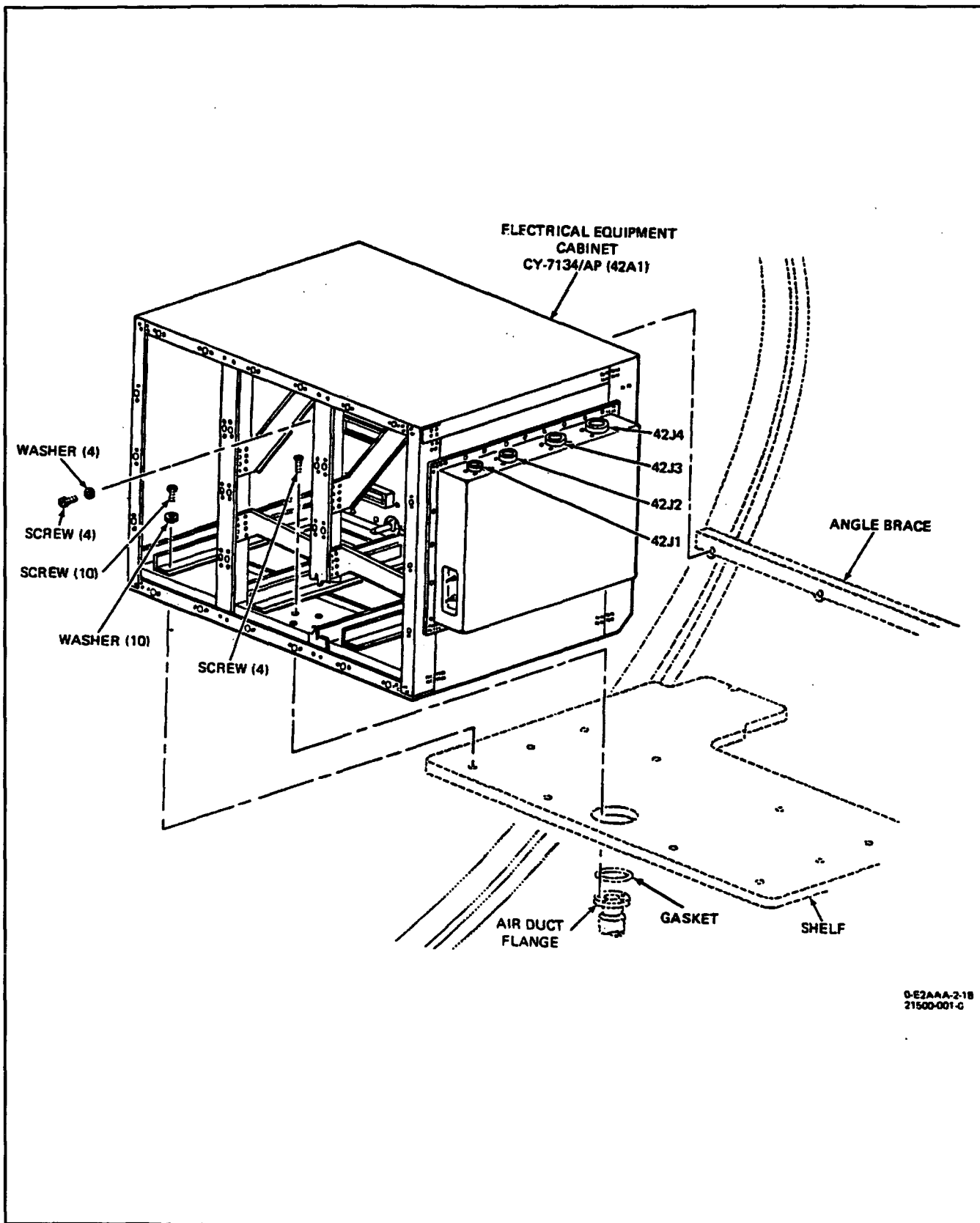
3. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

Support Equipment Required	
Part or Model No.	Nomenclature
—	5/32-Inch Hex Key

a. Remove Coder-Decoder KY-774/AP, Signal Processor Computer CP-1083/AP, and Data Storage Memory-Buffer MU-573/AR (refer to WP212 00 through WP214 00, respectively).



0-E2AAA-2-18  
21500-001-C

Figure 1. Removal and Installation of Electrical Equipment Cabinet CY-7134/AP



- b. Disconnect four cable connectors from cabinet connectors 42J1 through 42J4.
- c. Cap all connectors and receptacles.
- d. Remove four screws securing air duct flange to bottom of cabinet.
- e. Remove four screws and four washers securing cabinet to angle brace.
- f. Remove 10 screws and 10 washers securing cabinet to shelf.
- g. Remove cabinet.

4. **INSTALLATION.** (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
Federal Specification TT-T-456	Toluene
Part No. EC1357 (Minnesota Manufacturing and Mining Corp.), or equivalent	Rubber Cement, Type II

- a. Using suitable method, remove gasket from air duct flange.
- b. Install new gasket as follows:



Toluene (toluol), TT-T-548, is toxic and extremely flammable. Vapor may collect and flow to ignition source, causing flame flashback. Protection: chemical splashproof goggles, impervious protective clothing, and good ventilation. Keep container closed; keep sparks, flames, and heat away. Keep toluene off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

(1) Thoroughly clean air duct flange with a clean cloth saturated with toluene. Wipe off toluene with a clean, dry cloth. Do not allow toluene to dry on surface.

(2) Apply uniform coat of rubber cement to gasket and to air duct flange. Allow sufficient drying for

rubber cement to become tacky, but not transferable to the finger tips when touched.

(3) Join the gasket to the air duct flange and allow the bonded assembly to air-dry for a minimum of 24 hours at room temperature.



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- c. Remove caps from connectors and receptacles.



Inspect cabinet connectors and cable connectors for damage and bent pins prior to installation.

- d. Slide cabinet into position on shelf.
- e. Secure cabinet to shelf with 10 screws and 10 washers. (QUALITY ASSURANCE)
- f. Secure cabinet to angle brace with four screws and four washers. (QUALITY ASSURANCE)



Carefully install air duct so as not to damage gasket bonded to flange.

- g. Secure air duct flange to bottom of cabinet with four screws. (QUALITY ASSURANCE)
- h. Connect cable connectors 42A1P1 through 42A1P4 to cabinet receptacles 42J1 through 42J4, respectively. (QUALITY ASSURANCE)
- i. Install Coder-Decoder KY-744/AP, Signal Processor Computer CP-1083/AP, and Data Storage Memory-Buffer MU-573/AP. (Refer to WP212 00 through WP214 00, respectively.)
- j. Perform operational check of Detector-Processor Group OL-76/AP (NAVAIR 01-E2AAA-2-17.3, WP028 00).



**ORGANIZATIONAL MAINTENANCE**

**RECEIVER-CONVERTER R-1829/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161228, AND 161229 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	029 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Countermeasures Receiving Set AN/ALR-73 .....	029 01

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

**1. GENERAL.**

18. (See figure 1.) Support equipment required for maintenance is listed below.

2. The Receiver-Converter R-1829/ALR-59 (hereinafter referred to as the receiver-converter) (49A1, 49A2, 49A3 and 49A4) is part of the Countermeasures Receiving Set AN/ALR-59 and Countermeasures Receiving Set AN/ALR-73. There are four receiver-converters. One receiver-converter (49A2) is in the tail section, near station 591; one receiver-converter (49A3) is in the left stabilizer; one receiver-converter (49A4) is in the right stabilizer, near station 644; and one receiver-converter (49A1) is in the nose, near station

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
10C2385 (Amecon)	Torque Wrench (Open End) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecon)	Torque Wrench (Off-Set) (9.0, +1.0, -0 inch-pounds)

3. **REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Gain access to receiver-converter as listed below.

Receiver-Converter	Access
49A1	Open nose cap.
49A2	Open access door on bottom of aircraft and forward of arresting hook.
49A3	Disengage fasteners and open hinged access panel on top of left stabilator.
49A4	Disengage fasteners and open hinged access panel on top of right stabilator.

b. Remove three cable connectors from receiver-converter receptacles J1, J8, and A1J11.

c. Remove four bolts, four lockwashers and four washers securing receiver-converter to aircraft structure.

d. Remove lockwire securing semi-rigid LO-lines.



In the following procedure, it is mandatory not to flex, bend, or distort the semi-rigid LO-lines attached to the receiver-converter.

**Note**

If it is necessary to loosen semi-rigid LO-lines when disconnecting nuts, remove clamps or open blocks, or both, supporting semi-rigid LO-lines.

e. Loosen nuts on each semi-rigid LO-line (one turn at a time) so that receiver-converter is very slowly moved away from these lines.

f. Continue to loosen all nuts on semi-rigid LO-lines (one turn at a time, in succession) until the receiver-converter has been separated from eight semi-rigid LO-lines.

er-converter has been separated from eight semi-rigid LO-lines.

g. Carefully back the receiver-converter away from semi-rigid LO-lines, and remove from aircraft structure.

h. Cap all connectors, receptacles, fittings and semi-rigid LO-lines.

4. **INSTALLATION.** (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC32	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from all connectors, receptacles, fittings and semi-rigid LO-lines.



Inspect connectors and receptacles for damage and bent pins prior to installation.

b. Place receiver-converter onto aircraft structure, taking great care to avoid damaging semi-rigid LO-lines.



In the following procedures, it is mandatory not to flex, bend, or distort the semi-rigid LO-lines during installation. Therefore, the receiver-converter must be carefully and slowly moved toward the lines as the nuts on semi-rigid LO-lines are tightened.

c. Very carefully move the receiver-converter so that semi-rigid LO-lines are alined with fittings on receiver-converter. Secure semi-rigid LO-lines P2 through P7, P9 and P10 to receiver-converter fittings J2 through J7, J9 and J10, respectively. (QUALITY ASSURANCE)

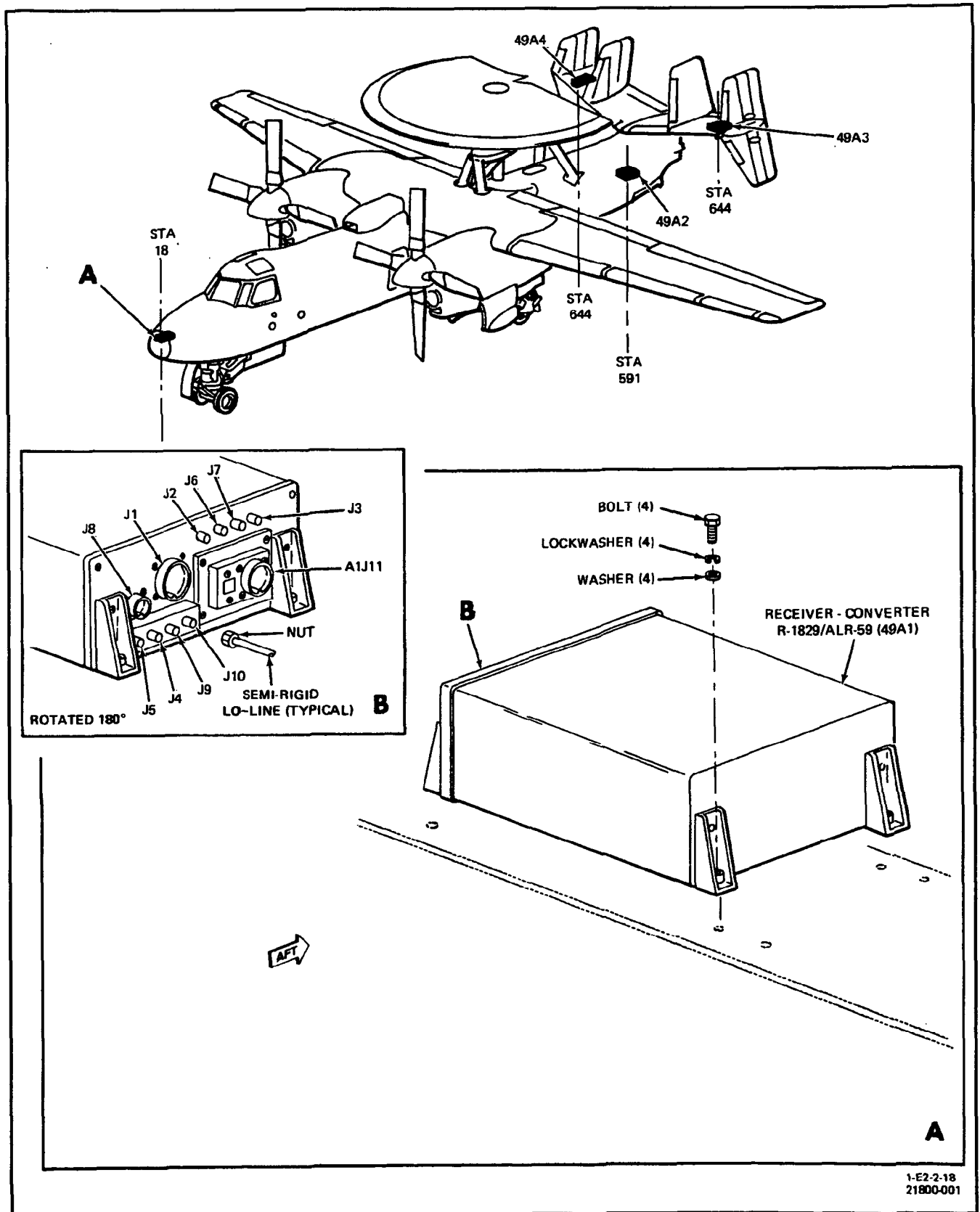


Figure 1. Removal and Installation of Receiver-Converter R-1829/ALR-59

d. Using appropriate torque wrench, tighten semi-rigid LO-line nuts (one turn at a time) so that receiver-converter is very slowly moved toward these lines. If necessary, move the receiver-converter (by hand) towards semi-rigid LO-lines. (QUALITY ASSURANCE)

e. Continue to tighten all semi-rigid LO-line nuts (one turn at a time, in succession) until the receiver-converter has been completely connected to semi-rigid lines and each nut is torqued 9.0, +1, -0 inch-pounds. (QUALITY ASSURANCE)

f. Secure receiver-converter to aircraft structure with four bolts, four lockwashers and four washers. (QUALITY ASSURANCE)

**Note**

Semi-rigid LO-lines P9 and P10 nuts are not safetied.

g. Secure semi-rigid LO-line nuts with lockwire.

h. If required, install clamps or close blocks, or both, supporting semi-rigid LO-lines.

i. Connect cable connectors P1, P8 and A1P11 to receiver converter receptacle J1, J8 and A1J11, respectively.

j. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00) or Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

ORGANIZATIONAL MAINTENANCE

RECEIVER-CONVERTER R-1830/ALR-59

EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 163848, AND 163850 THROUGH 165813

This work package (WP) supersedes WP219 00, dated 1 December 2000.

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Countermeasures Receiving Set AN/ALR-73 .....	029 01

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Record of Applicable Technical Directives

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

1. GENERAL.

2. The Receiver-Converter R-1830/ALR-59 (hereinafter referred to as the receiver-converter) (49A5, 49A6, 49A7, 49A8) is part of the Countermeasures Receiving Set AN/ALR-59 and Countermeasures Receiving Set AN/ALR-73. There are four receiver-

converters. One receiver-converter (49A6) is in the tail section near station 632; one receiver-converter (49A7) is in the left stabilizer, near station 644; one receiver-converter (49A8) is in the right stabilizer near station 644; and one receiver-converter (49A5) is in the nose, near station 18. (See figure 1.) Support equipment required for maintenance is listed below.

### Support Equipment Required

Part or Model No.	Nomenclature
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0 inch-pounds)

### 3. REMOVAL. (See figure 1.)

#### WARNING

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- Gain access to receiver-converter as listed below.

#### Receiver-Converter

#### Access

49A5	Open nose cap.
49A6	Open access door on bottom of aircraft, forward of arresting hook. Then lift protective cover directly over receiver-converter after disengaging fastener.
49A7	Open access panel on top of left stabilator.
49A8	Open access panel on top of right stabilator.

- Remove two cable connectors from receiver-converter receptacles J1 and A1J11.
- Remove four bolts, four lockwashers and four washers securing receiver-converter to aircraft structure.
- Remove lockwire from semi-rigid LO-line nuts.

#### CAUTION

In the following procedure, it is mandatory not to flex, bend, or distort the semi-rigid LO-lines attached to the receiver-converter.

- Loosen nuts on each semi-rigid LO-line one turn at a time so that receiver-converter is very slowly moved away from these lines.

- Continue to loosen all nuts on semi-rigid LO-lines (one turn at a time, in succession) until the receiver-converter has been separated from eight semi-rigid LO-lines.

- Carefully back the receiver-converter away from semi-rigid LO-lines, and remove from aircraft structure.

- Cap all connectors, receptacles, fittings and semi-rigid LO-lines.

### 4. INSTALLATION. (See figure 1.)

#### Materials Required

#### Specification or

#### Part Number

#### Nomenclature

MS20995NC32	Lockwire
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#### WARNING

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- Remove caps from all connectors, receptacles, fittings and semi-rigid LO-lines.

#### CAUTION

Inspect connectors and receptacles for damage and bent pins prior to installation.

- Place receiver-converter onto aircraft structure, taking great care to avoid damaging semi-rigid LO-lines.

#### CAUTION

In the following procedures, it is mandatory not to flex, bend, or distort the semi-rigid LO-lines during installation. Therefore, the receiver-converter must be carefully and slowly moved toward the lines as the nuts on semi-rigid LO-lines are tightened.

- Very carefully move the receiver-converter so that semi-rigid LO-lines are aligned with fittings on receiver-converter. Insure that semi-rigid LO-lines P2 through P9 align with the receiver-converter fittings J2 through J9, respectively.



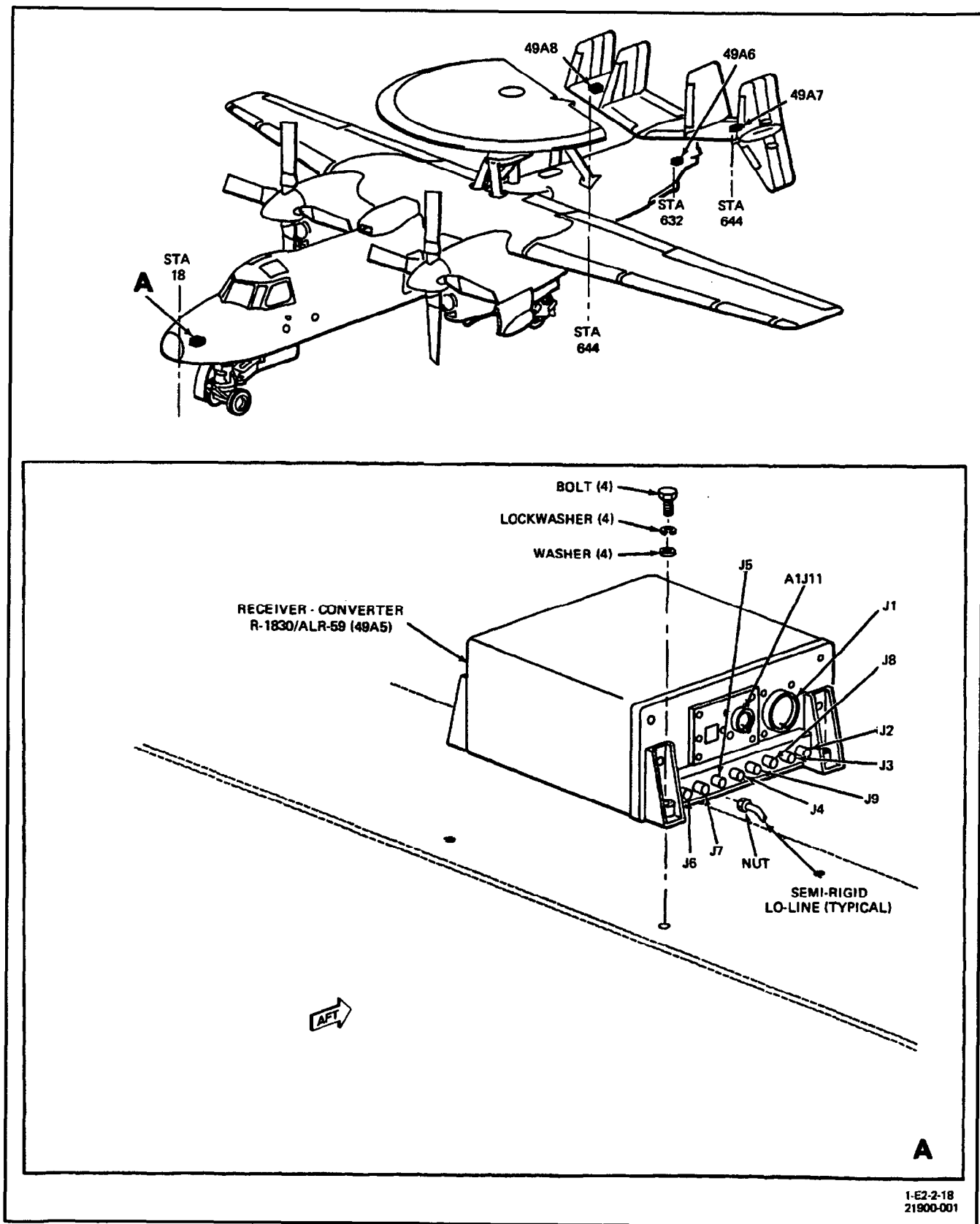


Figure 1. Removal and Installation of Receiver-Converter R-1830/ALR-59

## Note

Do not fully tighten nuts.

d. Continue to tighten all semi-rigid LO-line nuts (one turn at a time, in succession) until the receiver-converter has been completely connected to semi-rigid LO-lines. (QUALITY ASSURANCE)

e. Secure receiver-converter to aircraft structure with four bolts, four lockwashers, and four washers. (QUALITY ASSURANCE)

f. Using appropriate torque wrench, torque each semi-rigid LO-line nut to 9.0, +1.0, -0 inch-pounds. (QUALITY ASSURANCE)

## Note

Semi-rigid LO-line nuts P4 and P5 are not secured with lockwire.

g. Using torque wrench, tighten semi-rigid LO-line nuts (one turn at a time) so that receiver-converter is very slowly moved toward these lines. If necessary, move the receiver-converter (by hand) towards semi-rigid LO-lines. (QUALITY ASSURANCE)

h. Secure semi-rigid LO-line nuts with lockwire. (QUALITY ASSURANCE)

i. Connect cable connectors P1 and A1P11 to receiver-converter receptacles J1 and J11, respectively. (QUALITY ASSURANCE)

j. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00) or Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

**ORGANIZATIONAL MAINTENANCE**

**RECEIVER–AMPLIFIER R–2610/ALQ–217**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 165814 AND SUBSEQUENT**

**This work package (WP) supersedes WP219 01, dated 1 November 2002.**

**Reference Material**

General Aircraft Information . . . . .	NAVAIR 01–E2AAA–2–1
External Electrical Power Connections . . . . .	027 00
Safety Checks Before Maintenance . . . . .	040 00
Integrated Electronic Systems Testing and Troubleshooting . . . . .	NAVAIR 01–E2AAA–2–17.3.1
Radio Frequency Signal Detecting Set AN/ALQ–217A, Testing and Troubleshooting (Aircraft Serial No. 165814 and Subsequent). . . . .	029 04
Avionics Cleaning and Corrosion Prevention/Control . . . . .	NAVAIR 16–1–540
Standard Maintenance Practices, Electronic Assembly Repair . . . . .	NAVAIR 01–1A–23

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
–	—	Electronic Support Measures (ESM) Replacement Program (ECP 432R1)	11/1/02	ECP Coverage Only.

1. **REMOVAL.** (See figure 1.)
  - a. Perform safety checks before maintenance (NAVAIR 01–E2AAA–2–1, WP040 00).
  - b. Disconnect external electrical power from aircraft (NAVAIR 01–E2AAA–2–1, WP027 00), and place NO POWER placard over external electrical power receptacle.
  - c. Gain access to Receiver–Amplifier as listed below:



The Receiver–Amplifier being removed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01–1A–23.

**Receiver–  
Amplifier**

**Access**

49A2	Open access panel on top of right stabilizer.
49A3	Open access panel on top of left stabilizer.

- d. Remove three electrical connectors P1, P2 and P7 from receptacles J1, J2 and J7 on Receiver–Amplifier R–2610/ALQ–217 (amplifier).

- e. Inspect electrical connectors for damage, corrosion, recessed pins, grease and dirt. Clean connectors in accordance with NAVAIR 16–1–540. Cap connectors and receptacles.

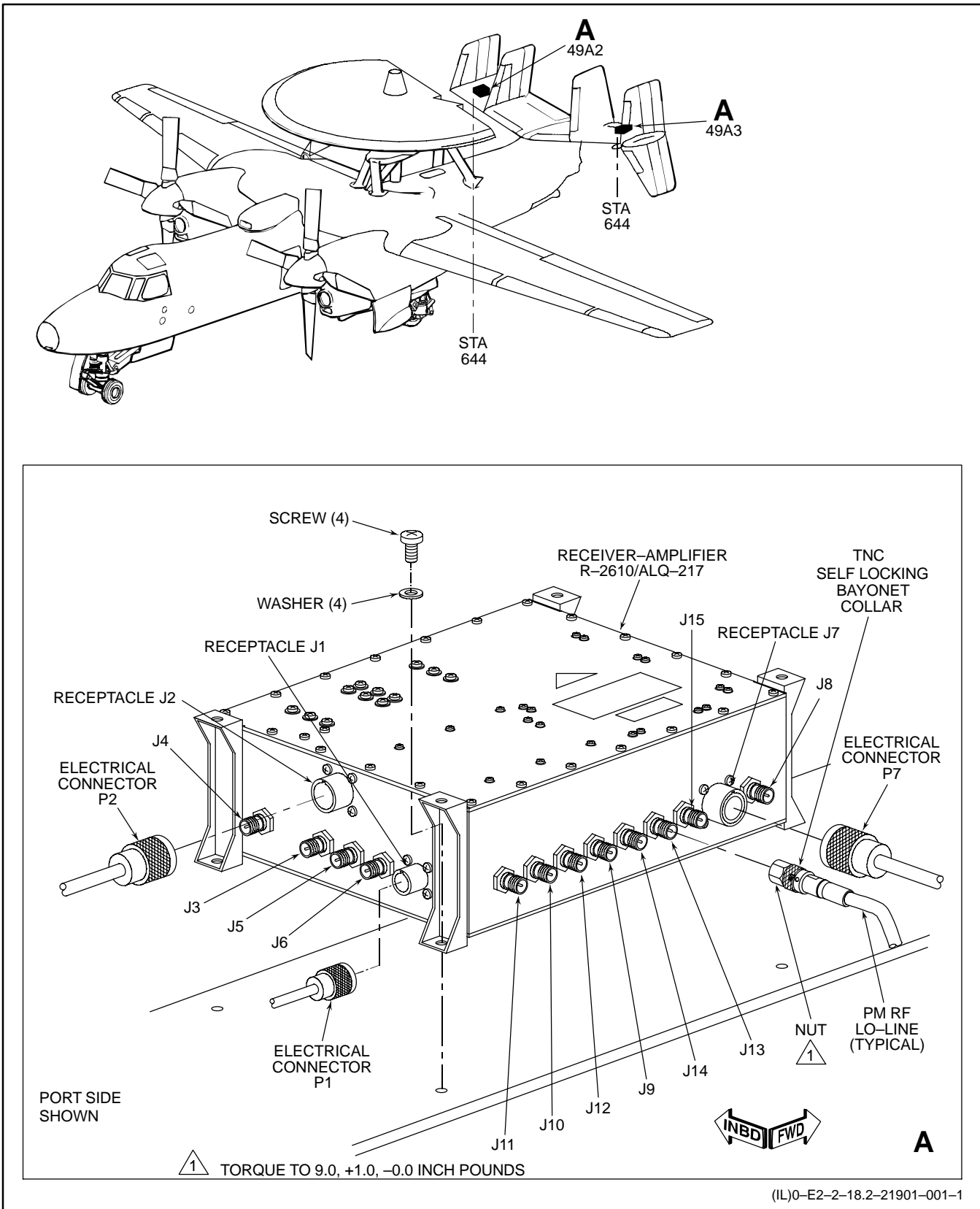


Figure 1. Removal and Installation of Receiver-Amplifier R-2610/ALQ-217



In the following procedure, it is mandatory not to flex, bend, or distort the phased matched (PM) RF LO-lines attached to the amplifier.

f. Disengage twelve TNC self locking bayonet collars on PM RF LO-lines P3 thru P6 and P8 thru P15.



Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

g. Remove torque seal from twelve nuts on PM RF LO-lines.

h. Loosen all nuts on PM RF LO-lines P3 thru P6 and P8 thru P14. Carefully remove PM RF LO-lines from amplifier.

i. Remove four screws and four washers securing amplifier to aircraft structure, remove amplifier from aircraft.

j. Inspect electrical connectors for damage, corrosion, recessed pins, grease and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

2. **INSTALLATION.** (See figure 1.)

**Support Equipment Required**

Part or Model No.	Nomenclature
0 to 25 inch-pound	Torque Wrench

**Materials Required**

Specification or Part Number	Nomenclature
F-900	Torque Seal

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027

00) and NO POWER placard is placed over external electrical power receptacle.

c. Remove caps from all connectors, receptacles and phased matched (PM) RF LO-lines.



The Receiver-Amplifier being installed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01-1A-23.

d. Place amplifier onto aircraft structure, taking great care to avoid damaging PM RF LO-lines.

e. Secure amplifier to aircraft structure with four screws and four washers. (QUALITY ASSURANCE)



In the following procedures, it is mandatory not to flex, bend, or distort the PM RF LO-lines during installation.

**Note**

Do not fully tighten nuts.

f. Install PM RF LO-lines P3 through P6 and P8 through P15 nuts on J3 through J6 and J8 through J15 receptacles on amplifier.

g. Torque nuts on PM RF LO-lines to 9.0, +1.0, -0.0 inch-pounds. (QUALITY ASSURANCE)



Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

h. Apply torque seal to twelve nuts on PM RF LO-lines P3 through P6 and P8 through P15. (QUALITY ASSURANCE)

i. Engage twelve TNC self locking bayonet collars on PM RF LO-lines. (QUALITY ASSURANCE)

j. Connect electrical connectors P1, P2 and P7 to receptacles J1, J2 and J7 on amplifier. (QUALITY ASSURANCE)

k. Perform an operational check of Radio Frequency Signal Detecting Set AN/ALQ-217A (NAVAIR 01-E2AAA-2-17.3.1, WP029 04).



**ORGANIZATIONAL MAINTENANCE**

**SIGNAL PULSE ANALYZER MX-9384/ALR-59 AND SIGNAL PULSE ANALYZER MOUNT  
MT-4547/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161228, AND 161229 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Countermeasures Receiving Set AN/ALR-73 .....	029 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

1. **GENERAL.**
2. The Signal Pulse Analyzer MX-9384/ALR-59 (49A9) and Signal Pulse Analyzer Mount MT-4547/ALR-59 (hereinafter referred to as the analyzer and mount) are part of the Countermeasures Receiving Set AN/ALR-59 and Countermeasures Receiving Set AN/ALR-73. The analyzer and mount are in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 75) for location of the analyzer and mount.

- 3. **SIGNAL PULSE ANALYZER MX-9384/ALR-59.**
- 4. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disconnect nine cable connectors from analyzer receptacles J1 through J7, J11 and J12.
- b. Remove lockwire securing three wing nuts.
- c. Loosen three wing nuts and then disengage three swing bolts securing analyzer to mount.
- d. Using handles, pull analyzer out of mount until it is clear of three spring-loaded guide pins on mount, and remove analyzer.
- e. Cap all connectors and receptacles.

- 5. **INSTALLATION.** (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC40	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

- To insure that analyzer engages air gasket seal, use sufficient force to firmly seat analyzer against spring-loaded guide pins.
- b. Place analyzer onto mount and push backward until analyzer engages three spring-loaded guide pins

and analyzer is firmly seated against mount air gasket seal. (QUALITY ASSURANCE)

- c. Secure analyzer to mount by engaging three swing bolts and tightening three wing nuts. (QUALITY ASSURANCE)
- d. Secure three wing nuts with lockwire. (QUALITY ASSURANCE)
- e. Connect cable connectors to analyzer receptacles as listed below:

Analyzer Receptacle	Cable Connector
J1	49A9P1
J2	49A9P2
J3	49A9P3
J4	49A9P4
J5	49A9P5
J6	49A9P6
J7	49A9P7
J8	(capped)
J9	(capped)
J11	49A9P11
J12	49A9P12

- f. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00) or Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

**6. SIGNAL PULSE ANALYZER MOUNT MT-4547/ALR-59.**

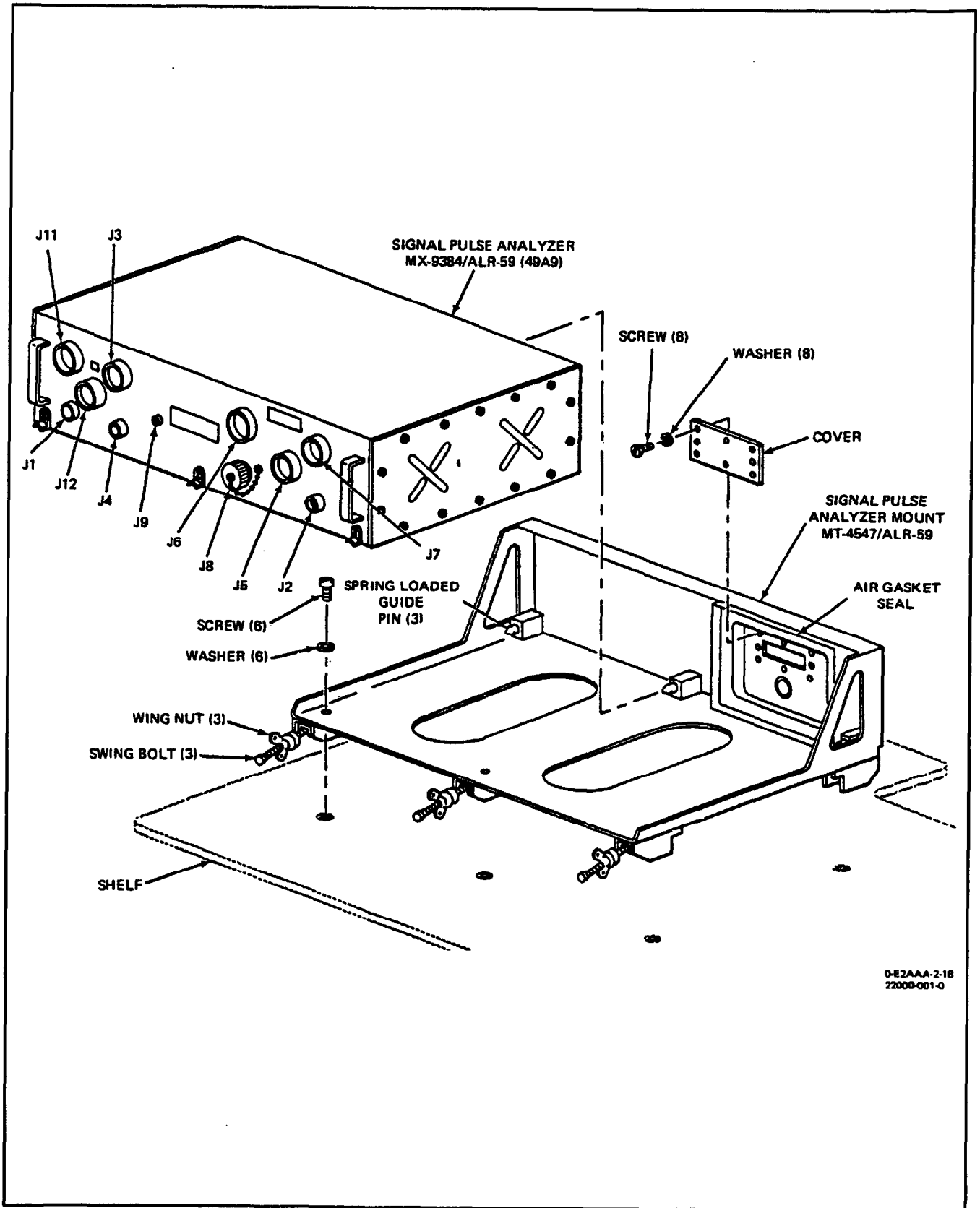
- 7. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove analyzer from mount (refer to paragraph 4).
- b. Gain access to hose attached to rear of mount by removing cover secured with eight screws and eight washers.
- c. Loosen hose clamp, and then remove airhose from plenum on rear of mount.





0-E2AAA-2-18  
22000-001-0

Figure 1. Removal and Installation of Signal Pulse Analyzer MX-9384/ALR-59 and Signal Pulse Analyzer Mount MT-4547/ALR-59

d. Compress spring-loaded guide pins (to expose mounting screws) and then remove three screws and three washers securing rear of mount to shelf.

e. Remove three screws and three washers securing forward portion of mount to shelf.

f. Remove mount from shelf.

**8. INSTALLATION. (See figure 1.)**



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Place mount on shelf.

b. Secure forward portion of mount to shelf with three screws and three washers. (QUALITY ASSURANCE)

c. Compress two spring-loaded guide pins (for access to mounting holes) and then secure rear of mount to shelf with three screws and three washers. (QUALITY ASSURANCE)

d. Attach airhose to plenum at rear of mount with hose clamp. (QUALITY ASSURANCE)

e. Install cover (removed for access to airhose) to mount with eight screws and eight washers. (QUALITY ASSURANCE)

f. Install analyzer on mount (refer to paragraph 5).

**ORGANIZATIONAL MAINTENANCE**

**SIGNAL CONTROL-PROCESSOR C-9281/ALR-59 AND SIGNAL PROCESSOR MOUNT MT-4548/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, AND 161224 THROUGH 161228.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

None

1. **GENERAL.**

2. The Signal Control-Processor C-9281/ALR-59 (49A11) and Signal Processor Mount MT-4548/ALR-59 (hereinafter referred to as the processor and mount) are part of the Countermeasures Receiving Set AN/ALR-59. The processor and mount are in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 61) for location of processor and mount. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
MS-90387-1	Cable Strap Securing Tool

3. **SIGNAL CONTROL-PROCESSOR C-9281/ALR-59.**

4. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Provide access to processor by raising cockpit entry steps. This is accomplished by disengaging two fasteners (at bottom of steps) and then raising steps.
- b. Disconnect nine cable connectors from processor receptacles J1 through J4 and J6 through J10.
- c. Remove lockwire securing three wing nuts.
- d. Loosen three wing nuts and then disengage three swing bolts securing processor to mount.



To prevent damage to cables, insure that cables do not interfere when removing processor.

e. Using handle, pull processor out of mount until it is clear of three spring-loaded guide pins on mount. Remove processor from mount.

f. Cap all connectors and receptacles.

5. INSTALLATION. (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC40	Lockwire
MS3367	Tiedown Strap (use appropriate size)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

To insure that processor engages air gasket seal, use sufficient force to firmly seat processor against spring-loaded guide pins.

b. Place processor onto mount and push backward until processor engages three spring-loaded guide pins and processor is firmly seated against mount air gasket seal. (QUALITY ASSURANCE)

c. Secure processor to mount by engaging three swing bolts and tightening three wing nuts. (QUALITY ASSURANCE)

d. Secure three wing nuts with lockwire. (QUALITY ASSURANCE)

e. Connect cable connectors to processor receptacles as listed below. (QUALITY ASSURANCE)

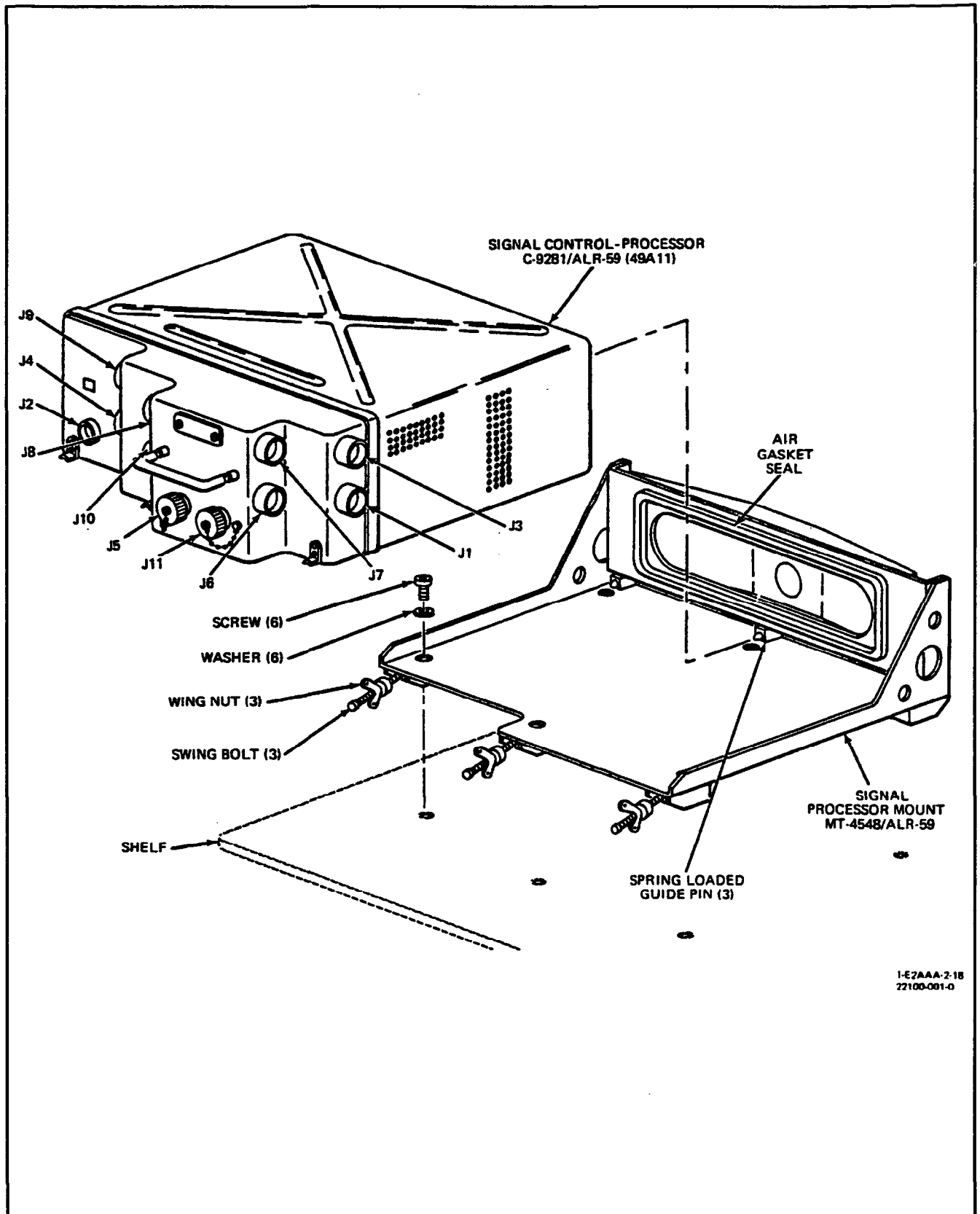


Figure 1. Removal and Installation of Signal Control-Processor C-9281/ALR-59 and Signal Processor Mount MT-4548/ALR-59

Processor Receptacle	Cable Connector
J1	49A11P1
J2	49A11P2
J3	49A11P3
J4	49A11P4
J5	(capped)
J6	49A11P6
J7	49A11P7
J8	49A11P8
J9	49A11P9
J10	49A11P10
J11	(capped)

f. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00).

g. Lower cockpit entry steps and secure with two fasteners.

**6. SIGNAL PROCESSOR MOUNT MT-4548/ALR-59.**

7. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove processor from mount (refer to paragraph 4).

b. Compress spring-loaded guide pins (to expose mounting screws) and then remove three screws and three washers securing rear of mount to shelf rack.

c. Remove three screws and three washers securing forward portion of mount to shelf.

d. Remove tiedown strap securing airhose to back of mount and remove airhose from mount.

e. Remove mount from shelf.

8. INSTALLATION. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Install airhose to rear of mount and secure with tiedown strap.

b. Secure forward portion of mount to shelf with three screws and three washers. (QUALITY ASSURANCE)

c. Compress spring-loaded guide pins (for access to mounting holes) and then secure rear of mount to shelf with three screws and three washers. (QUALITY ASSURANCE)

d. Install processor on mount (refer to paragraph 5).

e. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00).

ORGANIZATIONAL MAINTENANCE

DIGITAL COMPUTER CP-1134/ALR-59 AND COMPUTER MOUNT MT-4549/ALR-59

EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, AND 161224 THROUGH 161228.

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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Record of Applicable Technical Directives

None

1. GENERAL.

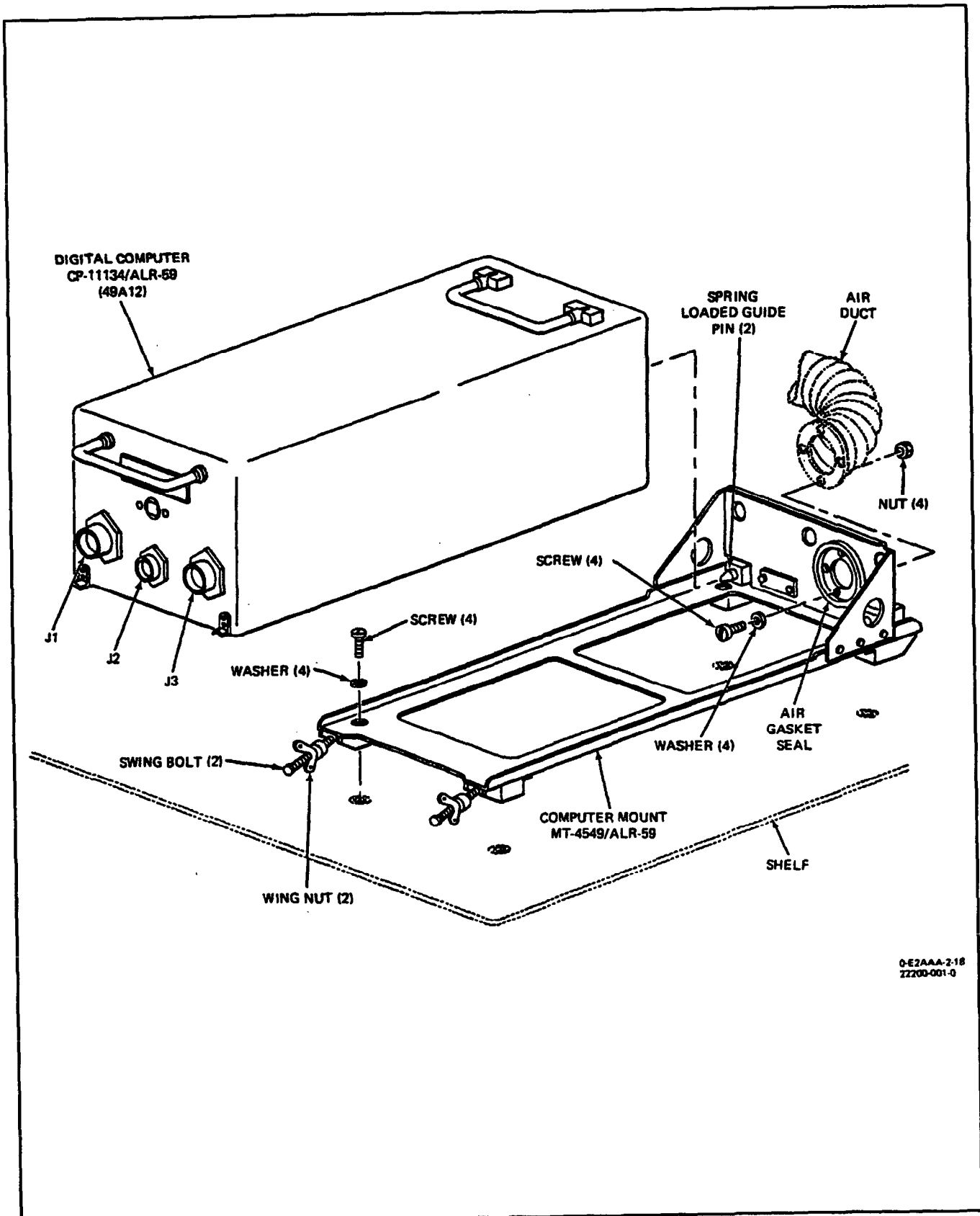
2. The Digital Computer CP-1134/ALR-59 (49A12) and the Computer Mount MT-4549/ALR-59 (hereinafter referred to as the computer and mount) are part of the Countermeasures Receiving Set AN/ALR-59. The computer and mount are in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 68) for location of computer and mount.

3. DIGITAL COMPUTER CP-1134/ALR-59.

4. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft. (NAVAIR 01-E2AAA-2-1, WP027 00).



0-E2AAA-2-18  
22200-001-0

Figure 1. Removal and Installation of Digital Computer CP-1134/ALR-59 and Computer Mount MT-4549/ALR-59



- a. Disconnect three cable connectors from computer receptacles J1 through J3.
- b. Remove lockwire securing two wing nuts.
- c. Loosen two wing nuts and then disengage two swing bolts securing computer to mount.
- d. Using handles, pull computer out of mount until it is clear of two spring-loaded guide pins on mount and remove computer.
- e. Cap all connectors and receptacles.

5. INSTALLATION. (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC40	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

To insure that computer engages air gasket seal, use sufficient force to firmly seat computer against spring-loaded guide pins.

- b. Place computer onto mount and push backward until computer engages two spring-loaded guide pins and computer is firmly seated against air gasket seal. (QUALITY ASSURANCE)
- c. Secure computer to mount by engaging two swing bolts and tightening two wing nuts. (QUALITY ASSURANCE)
- d. Secure two wing nuts with lockwire. (QUALITY ASSURANCE)
- e. Connect cable connectors 49A12P1 through 49A12P3 to computer receptacles J1 through J3, respectively. (QUALITY ASSURANCE)

- f. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00).

6. **COMPUTER MOUNT MT-4549/ALR-59.**

7. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove computer from mount (refer to paragraph 4).
- b. Disconnect air duct from aircraft manifold.
- c. Compress spring-loaded guide pins (to expose mounting screws) and then remove two screws and two washers securing rear of mount to shelf.
- d. Remove two screws and two washers securing forward portion of mount to shelf.
- e. Remove mount from shelf.
- f. Remove air duct from rear of mount after removing four nuts, four washers and four screws. Retain air duct for installation.

8. INSTALLATION. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Install air duct to rear of mount with four screws, four washers and four nuts. (QUALITY ASSURANCE)
- b. Secure forward portion of mount to shelf with two screws and two washers. (QUALITY ASSURANCE)
- c. Compress two spring-loaded guide pins (for access to mounting holes) and then secure rear of mount to shelf with two screws and two washers. (QUALITY ASSURANCE)
- d. Attach air duct to aircraft manifold. (QUALITY ASSURANCE)
- e. Install computer on mount (refer to paragraph 5).



**ORGANIZATIONAL MAINTENANCE**

**SIGNAL GENERATOR SG-1029/ALR-59 AND SIGNAL GENERATOR MOUNT MT-4550/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, AND 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 160199, 161224 THROUGH 161228, AND 161229 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
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Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

**1. GENERAL.**

2. The Signal Generator SG-1029/ALR-59 (49A13) and Signal Generator Mount MT-4550/ALR-59 (hereinafter referred to as the signal generator and mount) are part of the Countermeasures Receiving Set AN/

ALR-59 and Countermeasures Receiving Set AN/ALR-73. The signal generator and mount are in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 83) for location of signal generator and mount. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
10C2385 (Amecom)	Torque Wrench (Open End) (9.0 +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Offset) (9.0 +1.0, -0 inch-pounds)

3. **SIGNAL GENERATOR SG-1029/ALR-59.**
4. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

Receptacles J2, J11 through J13, J15, and J16 are capped with terminations.

- a. Disconnect seven cable connectors from signal generator receptacles J1, J3 through J5, J10, J14, and J17.
- b. Remove lockwire securing three wing nuts.
- c. Loosen three wing nuts and then disengage three swing bolts securing signal generator to mount.
- d. Using handles, pull signal generator out of mount until it is clear of two spring-loaded guide pins on mount. Remove signal generator from mount.
- e. Cap all connectors and receptacles.

5. INSTALLATION. (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC40	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

To insure that an air seal is formed between signal generator and mount, use sufficient force to firmly seat signal generator against spring-loaded guide pins.

b. Place signal generator onto mount and push backward until signal generator engages three spring-loaded guide pins and signal generator is firmly seated against gasket seal. (QUALITY ASSURANCE)

c. Secure signal generator to mount by engaging three swing bolts and then tightening three wing nuts. (QUALITY ASSURANCE)

d. Secure three wing nuts with specified lockwire. (QUALITY ASSURANCE)

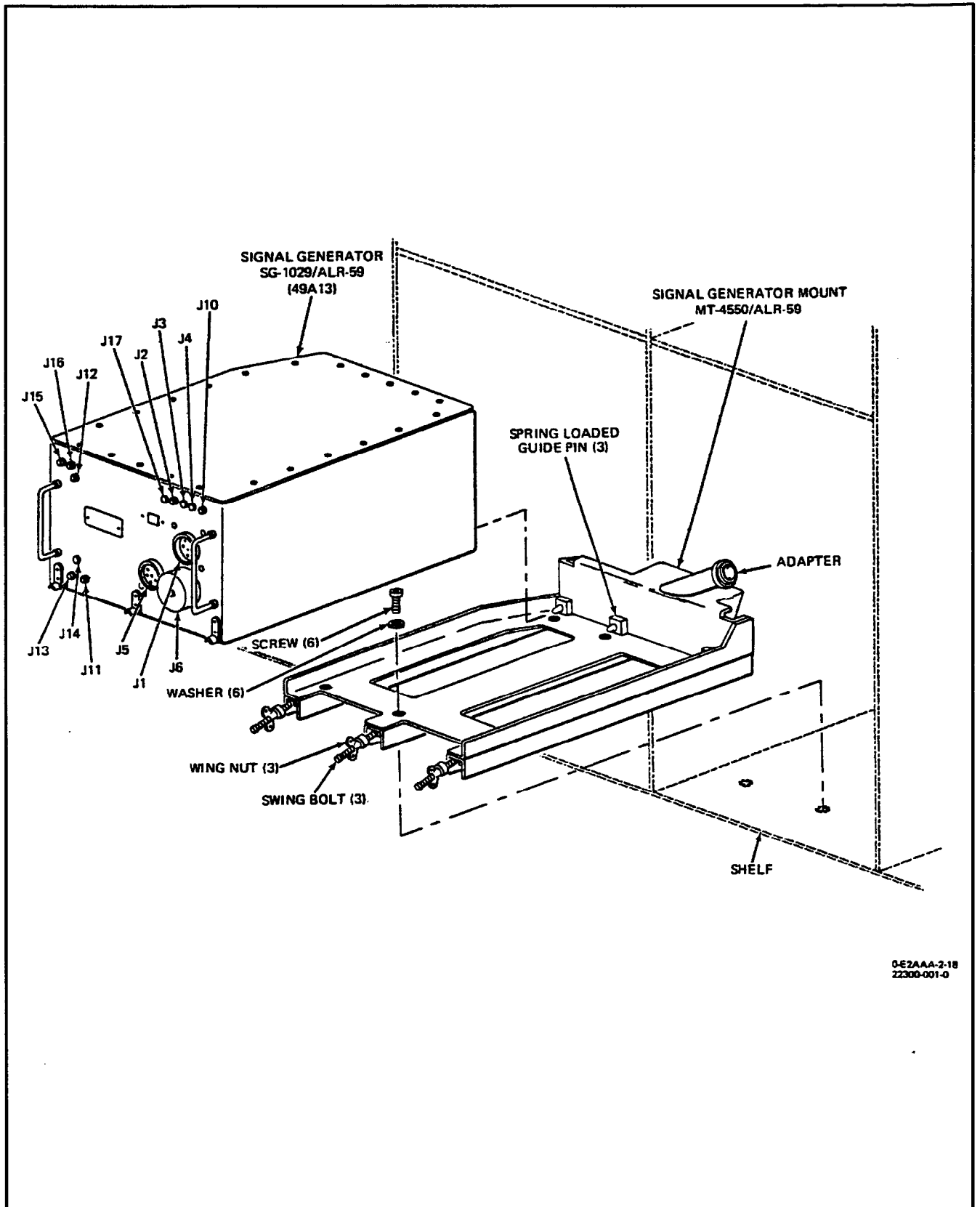
**Note**

Insure that appropriate receptacles are capped with terminations.

e. Connect cable connectors to signal generator receptacles and then torque specified cable connectors as listed below. (QUALITY ASSURANCE)

Signal Generator Receptacle	Cable Connector
J1	49A13P1
J2 (capped with termination AT4)	-
J3	49A13P3*
J4	49A13P4*
J5	49A13P5
J6 (capped)	-
J10	49A13P10*
J11 (capped with termination AT5)	-
J12 (capped with termination AT1)	-
J13 (capped with termination AT2)	-
J14	49A13P14*
J15 (capped with termination AT3)	-
J16 (capped with termination AT6)	-
J17	49A13P17*

\* Torque cable connector to 9, +1, -0 inch-pounds using appropriate torque wrench.



0E2AAA-2-18  
22300-001-0

Figure 1. Removal and Installation of Signal Generator SG-1029/ALR-59 and Signal Generator Mount MT-4550/ALR-59

f. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00) or Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

**6. SIGNAL GENERATOR MOUNT  
MT-4550/ALR-59.**

7. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove signal generator (refer to paragraph 4).
- b. Remove air hose from adapter at rear of mount.
- c. Compress spring-loaded guide pins (to expose mounting screws) and then remove three screws and three washers securing rear of mount to shelf.

d. Remove three screws and three washers securing forward portion of mount to shelf.

e. Remove mount from shelf.

8. INSTALLATION. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Secure forward portion of mount to shelf with three screws and three washers. (QUALITY ASSURANCE)
- b. Compress two spring-loaded guide pins (for access to mounting holes) and then secure rear of mount to shelf with three screws and three washers. (QUALITY ASSURANCE)
- c. Attach air hose to adapter at rear of mount. (QUALITY ASSURANCE)
- d. Install signal generator (refer to paragraph 5).

**ORGANIZATIONAL MAINTENANCE**

**RADIO FREQUENCY AMPLIFIER AM-6575/ALR-59 AND AMPLIFIER MOUNT MT-4551/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161228, AND 161229 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Countermeasures Receiving Set AN/ALR-73 .....	029 01
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

**1. GENERAL.**

2. The Radio Frequency Amplifier AM-6575/ALR-59 (49A14) and Amplifier Mount MT-455/ALR-59 (hereinafter referred to as the amplifier and mount) are part of the Countermeasures Receiving Set AN/ALR-59 and

Countermeasures Receiving Set AN/ALR-73. The amplifier and mount are in the left side of the equipment compartment. Refer to WP003 00 (figure 2, item 23) for location of amplifier and mount. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0 inch-pounds)
MS-90387-1	Cable Strap Securing Tool



Inspect connectors and receptacles for damage and bent pins prior to installation.

b. Place amplifier onto mount and push backward until amplifier firmly engages two spring-loaded guide pins and amplifier is firmly seated against air gasket seal. (QUALITY ASSURANCE)

c. Secure amplifier to mount by engaging two swing bolts and tightening two wing nuts. (QUALITY ASSURANCE)

d. Secure two wing nuts with lockwire. (QUALITY ASSURANCE)

e. Connect cable connectors 49A14P1 through 49A14P9 to amplifier receptacles J1 through J9, respectively. Using appropriate torque wrench, torque cable connectors to 9, +1, -0 inch-pounds. (QUALITY ASSURANCE)

f. Connect cable connectors 49A14A4P1 and 49A14A4P2 to receptacles A4J1 and A4J2, respectively. (QUALITY ASSURANCE)

g. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00) or Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

**3. RADIO FREQUENCY AMPLIFIER AM-6575/ALR-59.**

**4. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disconnect 11 cable connectors from amplifier receptacles J1 through J9, and A4J1 and A4J2.

b. Remove lockwire securing two wing nuts.

c. Loosen two wing nuts and then disengage two swing bolts securing amplifier to mount.

d. Using handles, pull amplifier out of mount until it is clear of two spring-loaded guide pins on mount and remove amplifier.

e. Cap all connectors and receptacles.

**5. INSTALLATION.** (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC40	Lockwire
MS3367	Tiedown Strap (use appropriate size)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors and receptacles.



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove amplifier from mount (refer to paragraph 4).

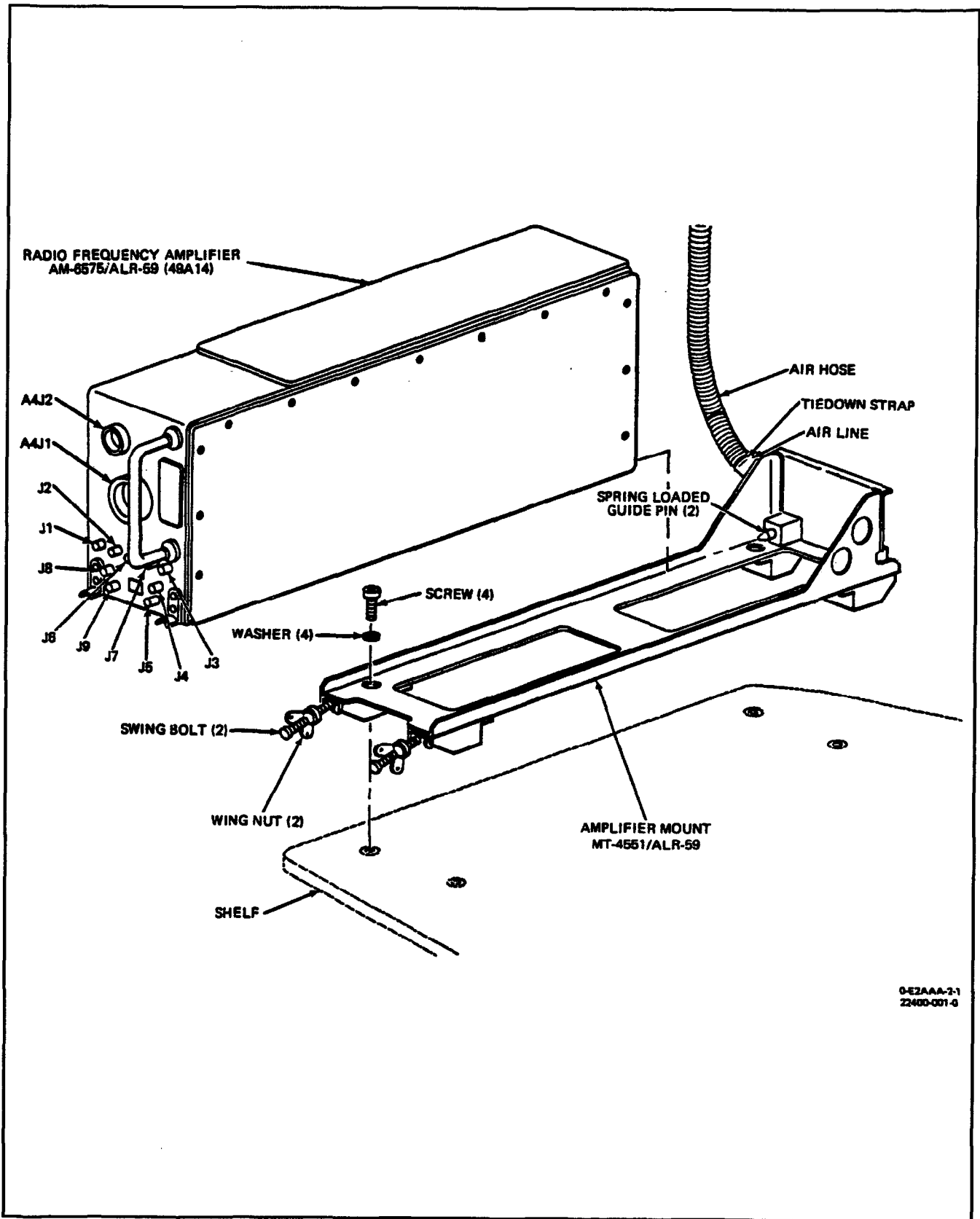
b. Compress spring-loaded guide pins (to expose mounting screws) and then remove two screws and two washers securing rear of mount to shelf.

c. Remove two screws and two washers securing forward portion of mount to shelf.

d. Remove tiedown strap securing air hose to air line at rear of mount and remove air hose.

e. Remove mount from shelf.





0-E2AAA-2-1  
22400-001-0

Figure 1. Removal and Installation of Radio Frequency Amplifier AM-6575/ALR-59 and Amplifier Mount MT-4551/ALR-59

8. INSTALLATION.



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Install airhose on air line at rear of mount and

secure with tiedown strap. (QUALITY ASSURANCE)

b. Secure forward portion of mount to shelf with two screws and two washers. (QUALITY ASSURANCE)

c. Compress two spring-loaded guide pins (for access to mounting holes) and then secure rear of mount to shelf with two screws and two washers. (QUALITY ASSURANCE)

d. Install amplifier on mount (refer to paragraph 5).

**ORGANIZATIONAL MAINTENANCE**

**TEST SIGNAL GENERATOR SG-1030/ALR-59 AND GENERATOR MOUNT MT-4552/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161228, AND 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, AND 162614 THROUGH 162619, 162797 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

**1. GENERAL.**

2. The Test Signal Generator SG-1030/ALR-59 (49A15) and Generator Mount MT-4552/ALR-59 (hereinafter referred to as the signal generator and mount) are part of the Countermeasures Receiving Set AN/ALR-59 and Countermeasures Receiving Set AN/

ALR-73. The signal generator and mount are in the aft bay, right side. (See figure 1.) Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
--------------------------	---------------------

- 10C2385 (Amecom) Torque Wrench (Open End)  
(9.0, + 1.0, -0 inch-pounds)
- 10C2386 (Amecom) Torque Wrench (Off-Set)  
(9.0, + 1.0, -0 inch-pounds)

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Place signal generator onto mount and push backward until signal generator engages two spring-loaded guide pins.

- c. Secure signal generator to mount by engaging two swing bolts and then tightening two wing nuts. Secure two wing nuts with lockwire. (QUALITY ASSURANCE)

- d. Connect cable connectors to signal generator receptacles and then torque specified cable connectors as listed below. (QUALITY ASSURANCE)

- 3. TEST SIGNAL GENERATOR SG-1030/ALR-59.
- 4. REMOVAL. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

Receptacles AT2J2 and AT3J3 contain 50-ohm terminations.

- a. Disconnect eight cable connectors from eight signal generator receptacles.
- b. Remove lockwire securing two wing nuts.
- c. Loosen two wing nuts and then disengage two swing bolts securing signal generator to mount.
- d. Using handle, pull signal generator out of mount until it is clear of two spring-loaded guide pins on mount. Remove signal generator from mount.
- e. Cap all connectors and receptacles.

- 5. INSTALLATION. (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC40	Lockwire

Signal Generator Receptacle	Cable Connector
J1	49A15P1
J5	49A15P5*
J6	49A15P6*
A4J3	49A15A4P3*
A4J4	49A15A4P4*
A4J5	49A15A4P5*
PS1J1	49A15PS1P1
PS1J2	49A15PS1P2
AT2J2	(50-ohm termination)
AT3J3	(50-ohm termination)

\* Torque cable connector to 9, +1, -0 inch-pounds using appropriate torque wrench.



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- e. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00) or Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

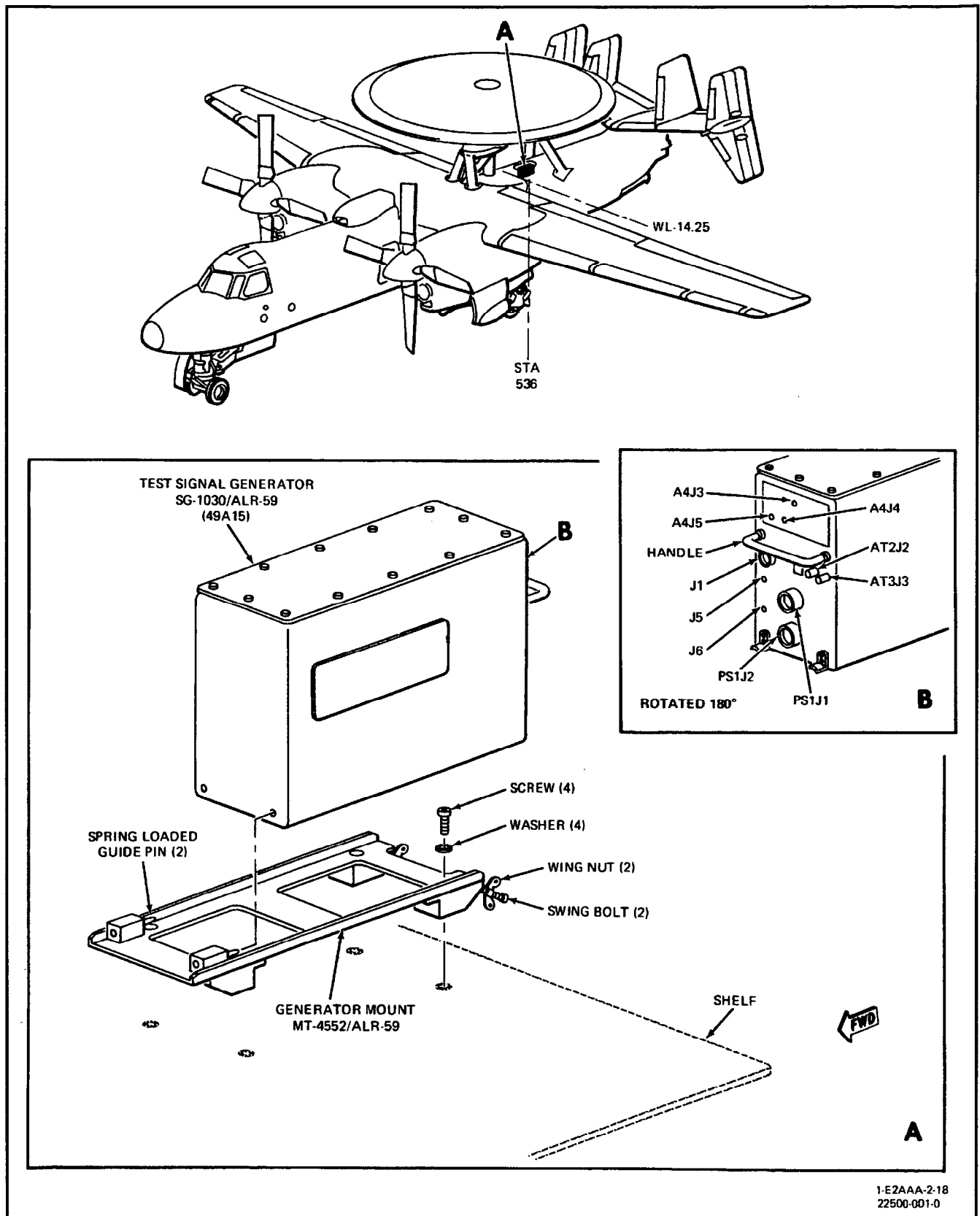


Figure 1. Removal and Installation of Test Signal Generator SG-1030/ALR-59 and Generator Mount MT-4552/ALR-59

**6. GENERATOR MOUNT MT-4552/ALR-59.**

**7. REMOVAL. (Figure 1.)**

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove signal generator from mount (refer to paragraph 4).
- b. Compress spring-loaded guide pins (to expose mounting screws) and then remove two screws and two washers securing rear of mount to shelf.
- c. Remove two screws and two washers securing forward portion of mount to shelf.

- d. Remove mount from shelf.

**8. INSTALLATION. (Figure 1.)**

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Place mount on shelf and then secure forward portion of mount to shelf with two screws and two washers.
- b. Compress two spring-loaded guide pins (for access to mounting holes) and then secure rear of mount to shelf with two screws and two washers.
- c. Install signal generator (refer to paragraph 5).

**ORGANIZATIONAL MAINTENANCE**

**RADIO FREQUENCY POWER DIVIDER CU-2075/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161228, AND 161229 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Countermeasures Receiving Set AN/ALR-73 .....	029 01

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

1. GENERAL.

2. The Radio Frequency Power Divider CU-2075/ALR-59 (hereinafter referred to as the power divider) (49A16) is part of the Countermeasures Receiving Set AN/ALR-59 and Countermeasures Receiving Set AN/ALR-73. (See figure 1.) The power divider is in the right side of the tail section. Support equipment required for maintenance is listed below:

**Support Equipment Required**

Part or Model No.	Nomenclature
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0 inch-pounds)

3. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Gain access to power divider through tail section access door (on bottom of aircraft).
- b. Disconnect 21 connectors from power divider receptacles J1 through J4, A1J1 through A1J5, A2U1J2 through A2U1J4, A2U2J2 through A2U2J4, A2U3J2 through A2U3J4, and A2U4J2 through A2U4J4.
- c. Remove lockwire securing two wing nuts.
- d. Loosen two wing nuts and then disengage two swing bolts securing power divider to mounting bracket.



Check that all cables are clear of area before removal of power divider.

- e. Using handle provided, pull power divider forward until guide pins are disengaged. Remove power divider from mounting bracket.
- f. Cap all connectors and receptacles.

4. INSTALLATION. (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC40	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

Check that all cables are clear of area before installation of power divider.

- b. Place power divider onto mounting bracket and slide backward until two guide pins engage power divider. (QUALITY ASSURANCE)
- c. Secure power divider to mounting bracket by engaging two swing bolts and tightening two wing nuts. (QUALITY ASSURANCE)
- d. Secure wing nuts with lockwire. (QUALITY ASSURANCE)
- e. Connect cable connectors to power divider receptacles as listed in table 1. (QUALITY ASSURANCE)
- f. Using appropriate torque wrench, torque each cable connector to 9, +1, -0 inch-pounds. (QUALITY ASSURANCE)
- g. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00) or Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).



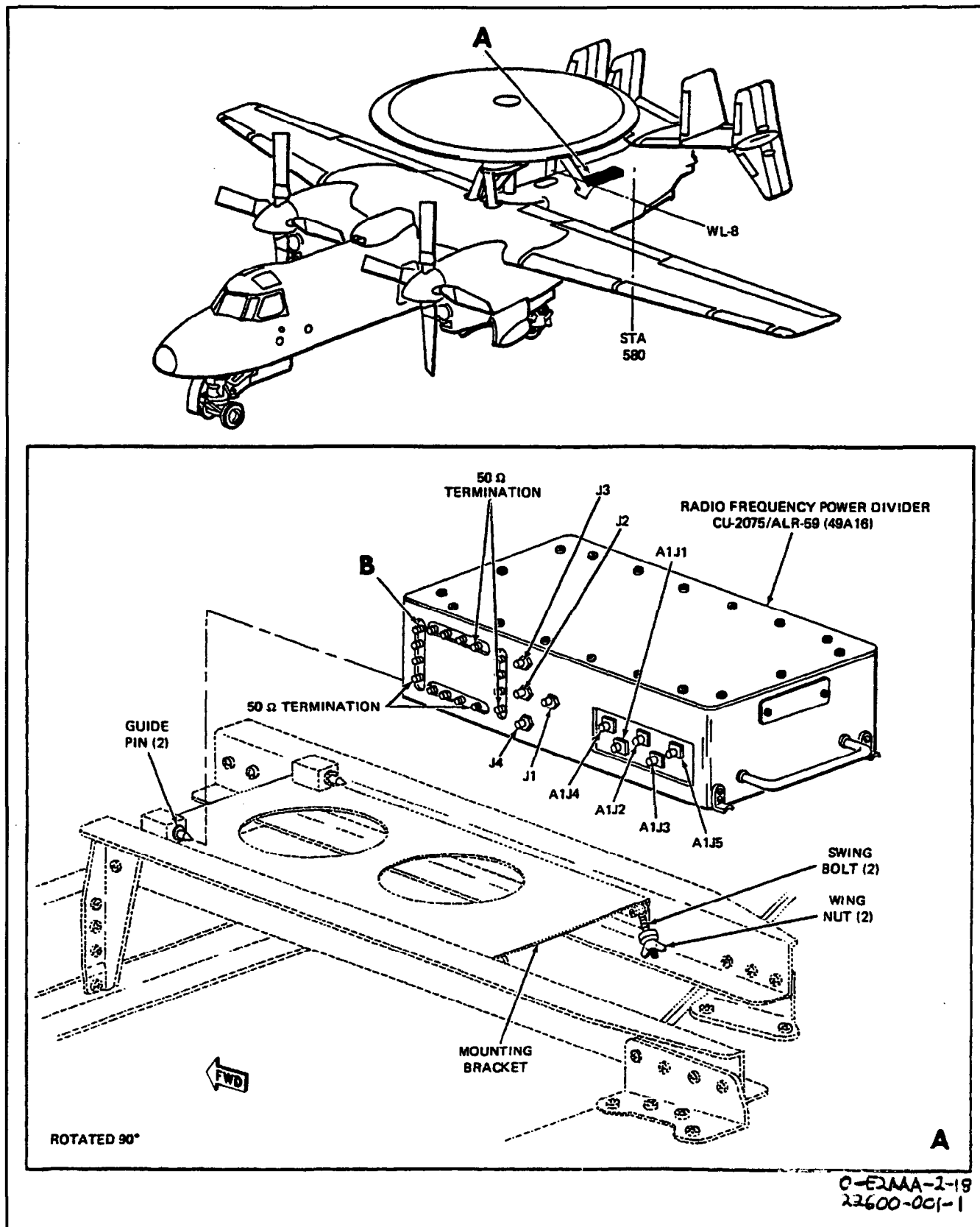


Figure 1. Removal and Installation of Radio Frequency Power Divider CU-2075/ALR-59 (Sheet 1 of 2)

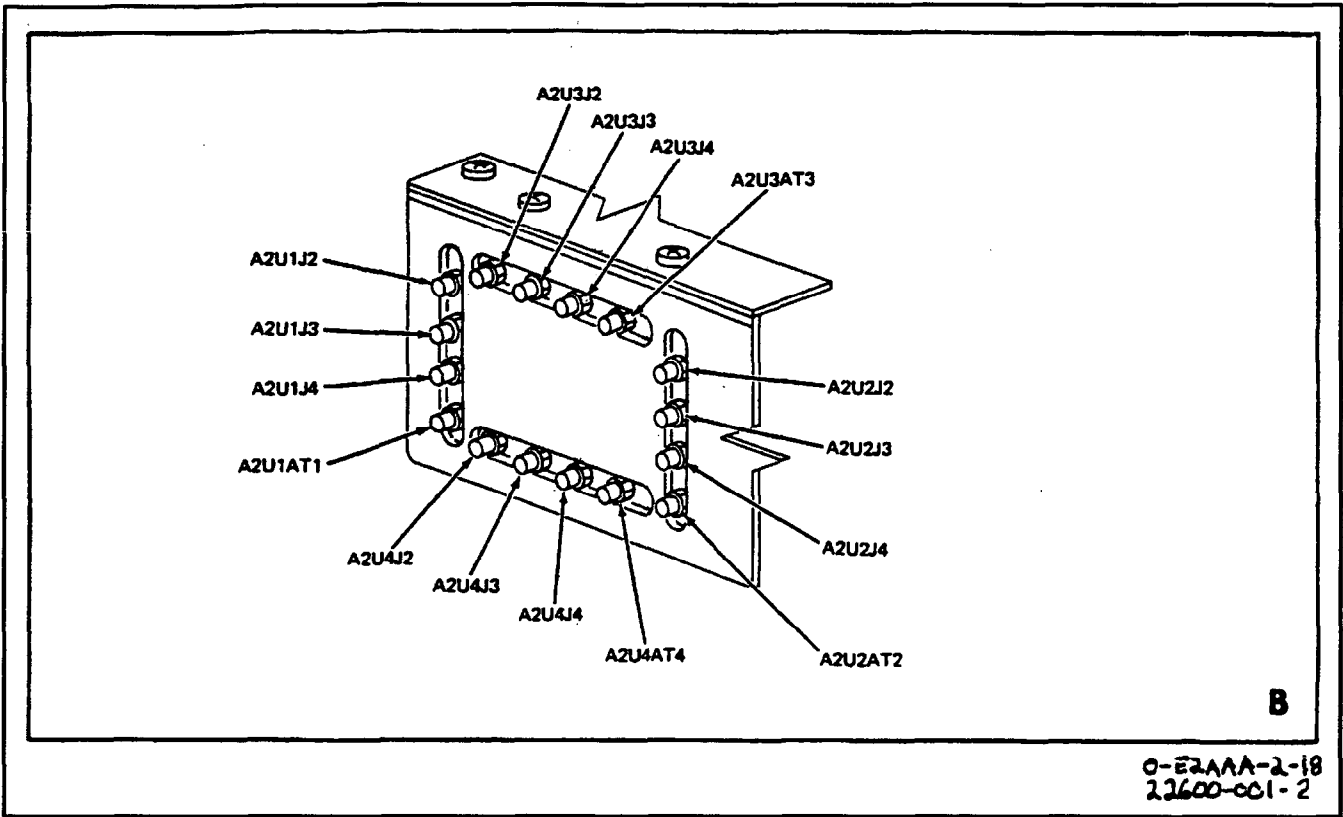


Figure 1. Removal and Installation of Radio Frequency Power Divider CU2075/ALR59 (Sheet 2)

TABLE 1. CABLE CONNECTIONS

Power Divider Receptacle	Cable Connector
J1	49A16P1
J2	49A16P2
J3	49A16P3
J4	49A16P4
A1J1	49A16A1P1
A1J2	49A16A1P2
A1J3	49A16A1P3
A1J4	49A16A1P4
A1J5	49A16A1P5
A2U1AT1	(50 Ω Termination)
A2U1J2	49A16A2U1P2
A2U1J3	49A16A2U1P3

TABLE 1. CABLE CONNECTIONS (cont)

Power Divider Receptacle	Cable Connector
A2U1J4	49A16A2U1P4
A2U2AT2	(50 Ω Termination)
A2U2J2	49A16A2U2P2
A2U2J3	49A16A2U2P3
A2U2J4	49A16A2U2P4
A2U3AT3	(50 Ω Termination)
A2U3J2	49A16A2U3P2
A2U3J3	49A16A2U3P3
A2U3J4	49A16A2U3P4
A2U4AT4	(50 Ω Termination)
A2U4J2	49A16A2U4P2
A2U4J3	49A16A2U4P3
A2U4J4	49A16A2U4P4

**ORGANIZATIONAL MAINTENANCE**

**ANTENNA ASSEMBLY AS-2881/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, AND 161224 THROUGH 161228.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1 027 00
External Electrical Power Connections .....	
Environmental Control and Utility Systems .....	NAVAIR 01-E2AAA-2-12 058 00
Liquid Oxygen Converter .....	
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3 029 00
Countermeasures Receiving Set AN/ALR-59 .....	

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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Antenna Assembly AS-2881/ALR-59 (hereinafter referred to as the antenna) (49A17) is part of the Countermeasures Receiving Set AN/ALR-59. The antenna is in the nose section. (See figure 1.) Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, + 1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, + 1.0, -0 inch-pounds)

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Gain access to antenna by releasing two latches (located on the bottom section of the nose cap) and lifting nose cap up. Secure nose cap in the up position with two struts.

b. Remove liquid oxygen converter (NAVAIR 01-E2AAA-2-12, WP058 00).

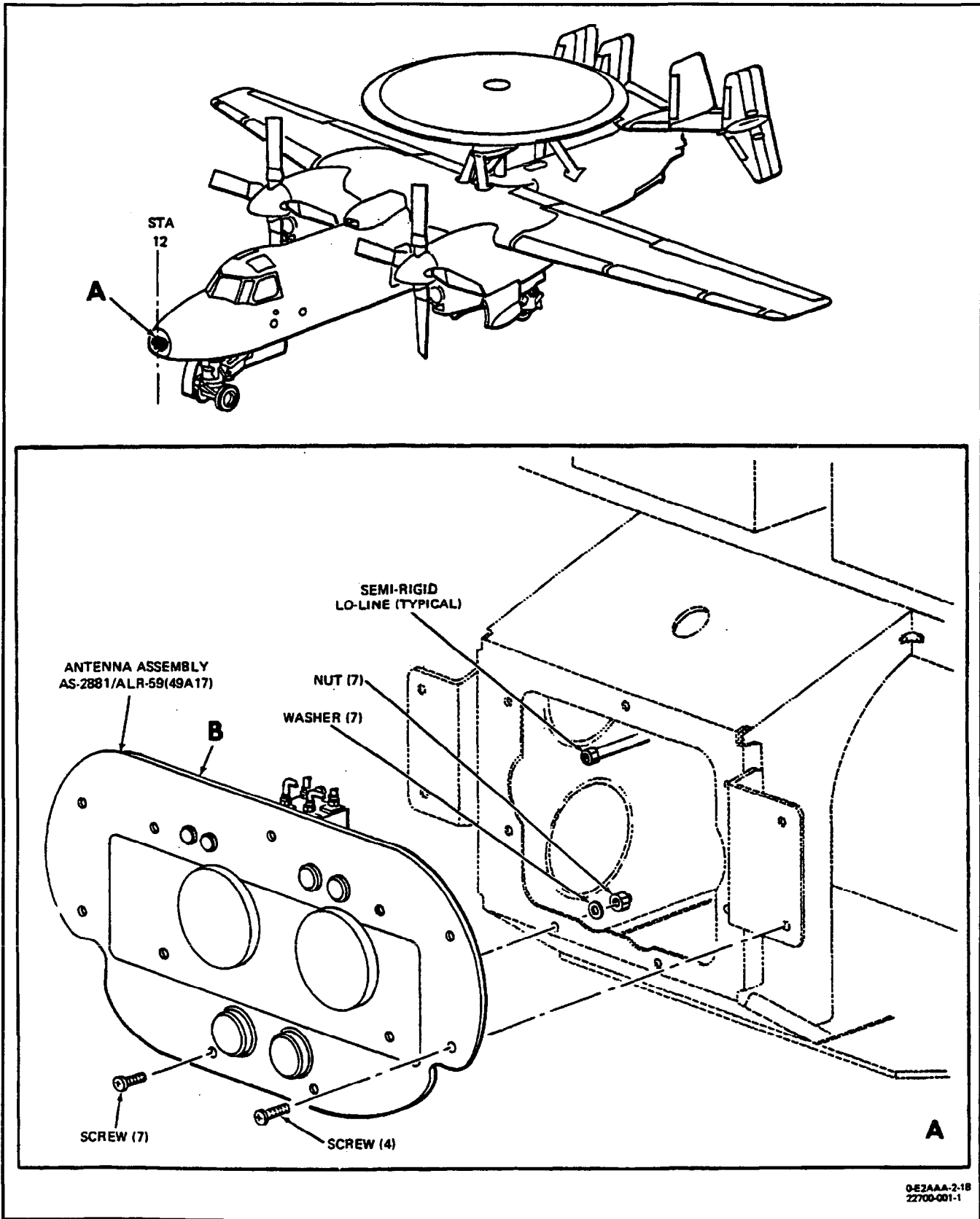


Figure 1. Removal and Installation of Antenna Assembly AS-2881/ALR-59 (Sheet 1 of 2)

0E2AAA-2-18  
22700-001-1

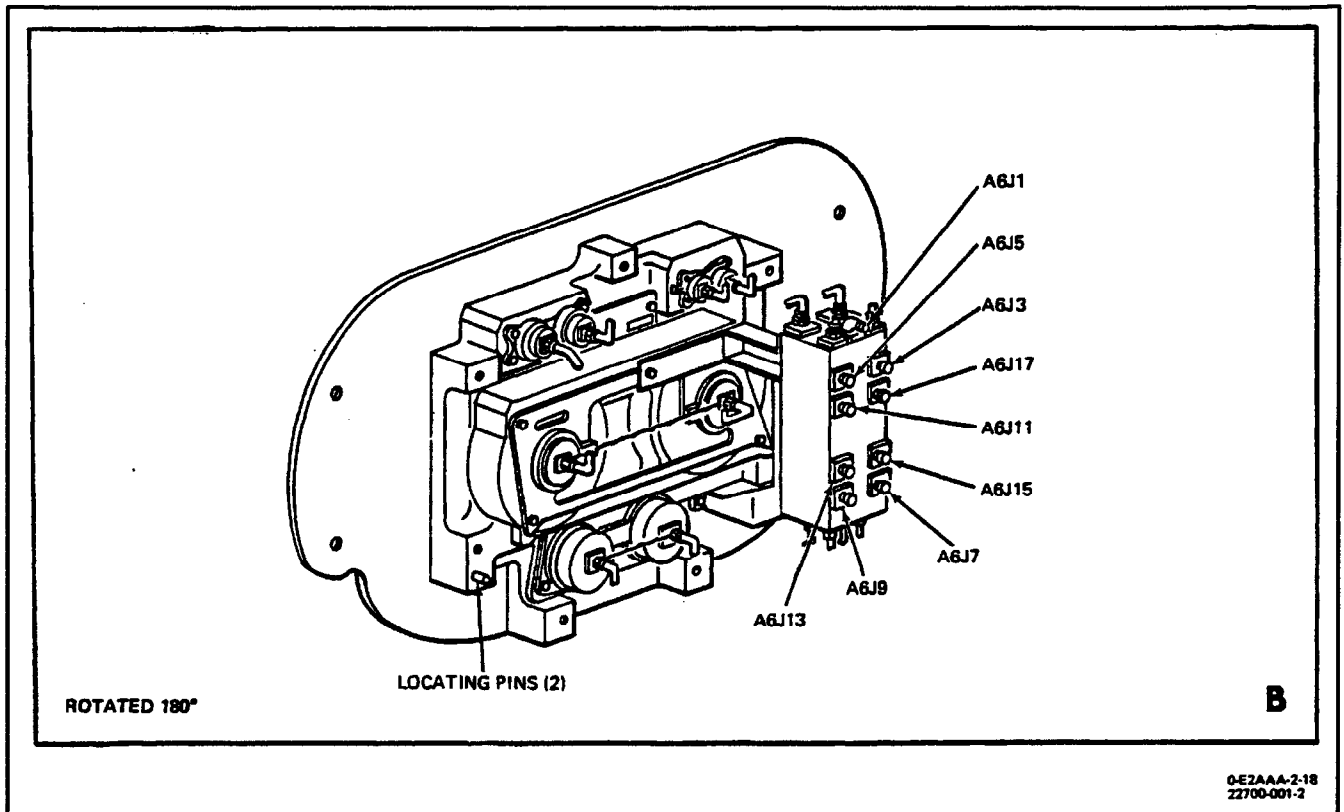


Figure 1. Removal and Installation of Antenna Assembly AS-2881/ALR-59 (Sheet 2)

**Note**

It is recommended that one man supports antenna as other man performs the following procedures.

- c. Remove lockwire securing semi-rigid LO-line nuts.
- d. Remove 11 screws, 7 washers and 7 nuts securing antenna to aircraft structure.



In the following procedure, it is mandatory not to flex, bend, or distort semi-rigid LO-lines attached to the antenna.

- e. Loosen nuts (one turn at a time, in succession) on each of nine semi-rigid LO-lines so that antenna slowly moves away from these lines.
- f. Continue to loosen all nuts on semi-rigid LO-lines (one turn at a time, in succession) until the antenna has been separated from nine semi-rigid LO-lines.

- g. Carefully back the antenna away from semi-rigid LO-lines and remove from aircraft structure.
- h. Cap all connectors and receptacles.

4. **INSTALLATION.** (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC32	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from all connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

It is recommended that one man supports antenna as other man performs the following procedures.

- b. Place antenna against aircraft structure taking care not to damage semi-rigid LO-lines.



In the following procedures, it is mandatory not to flex, bend, or distort the semi-rigid LO-lines during installation. Therefore, the antenna must be carefully and slowly moved toward the lines as nuts on semi-rigid LO-lines are tightened.

- c. Very carefully move the antenna so that semi-rigid LO-lines are alined with fittings on antenna as listed below.

Receptacle	Connector
A6J1	49A17A6P1
A6J3	49A17A6P3
A6J5	49A17A6P5
A6J7	49A17A6P7
A6J9	49A17A6P9

Receptacle	Connector
A6J11	49A17A6P11
A6J13	49A17A6P13
A6J15	49A17A6P15
A6J17	49A17A6P17

- d. Using torque wrench, tighten semi-rigid LO-line nuts (one turn at a time, in succession) so that antenna is very slowly moved toward these lines. If necessary, move the antenna toward semi-rigid LO-lines. (QUALITY ASSURANCE)

- e. Continue to tighten all semi-rigid LO-line nuts (one turn at a time, in succession) until the antenna has been completely connected to semi-rigid LO-lines, and each nut is torqued to 9.0, +1, -0 inch-pounds. (QUALITY ASSURANCE)

**Note**

Do not secure semi-rigid LO-line nut on connector 49A17A6P1 with lockwire.

- f. Secure semi-rigid LO-line nuts with lockwire.
- g. Secure antenna to aircraft structure with 11 screws, 7 washers and 7 nuts. (QUALITY ASSURANCE)
- h. Perform operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00).
- i. Install liquid oxygen converter (NAVAIR 01-E2AAA-2-12, WP058 00).
- j. Close nose cap and secure with two latches.

**ORGANIZATIONAL MAINTENANCE**

**ANTENNA ASSEMBLY AS-2880/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, AND 161224 THROUGH 161228.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00

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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Antenna Assembly AS-2880/ALR-59 (hereinafter referred to as the antenna) (49A18) is part of the Countermeasures Receiving Set AN/ALR-59. The antenna is located in the tail section. (See figure 1.) Support equipment required for maintenance is listed below.

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove two access plates from tail section after removing 18 screws.

**Note**

It is recommended that one man supports antenna as other man performs the following procedures.

b. Remove lockwire from screws and then remove 11 screws and 11 washers securing antenna to aircraft structure.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0 inch-pounds)

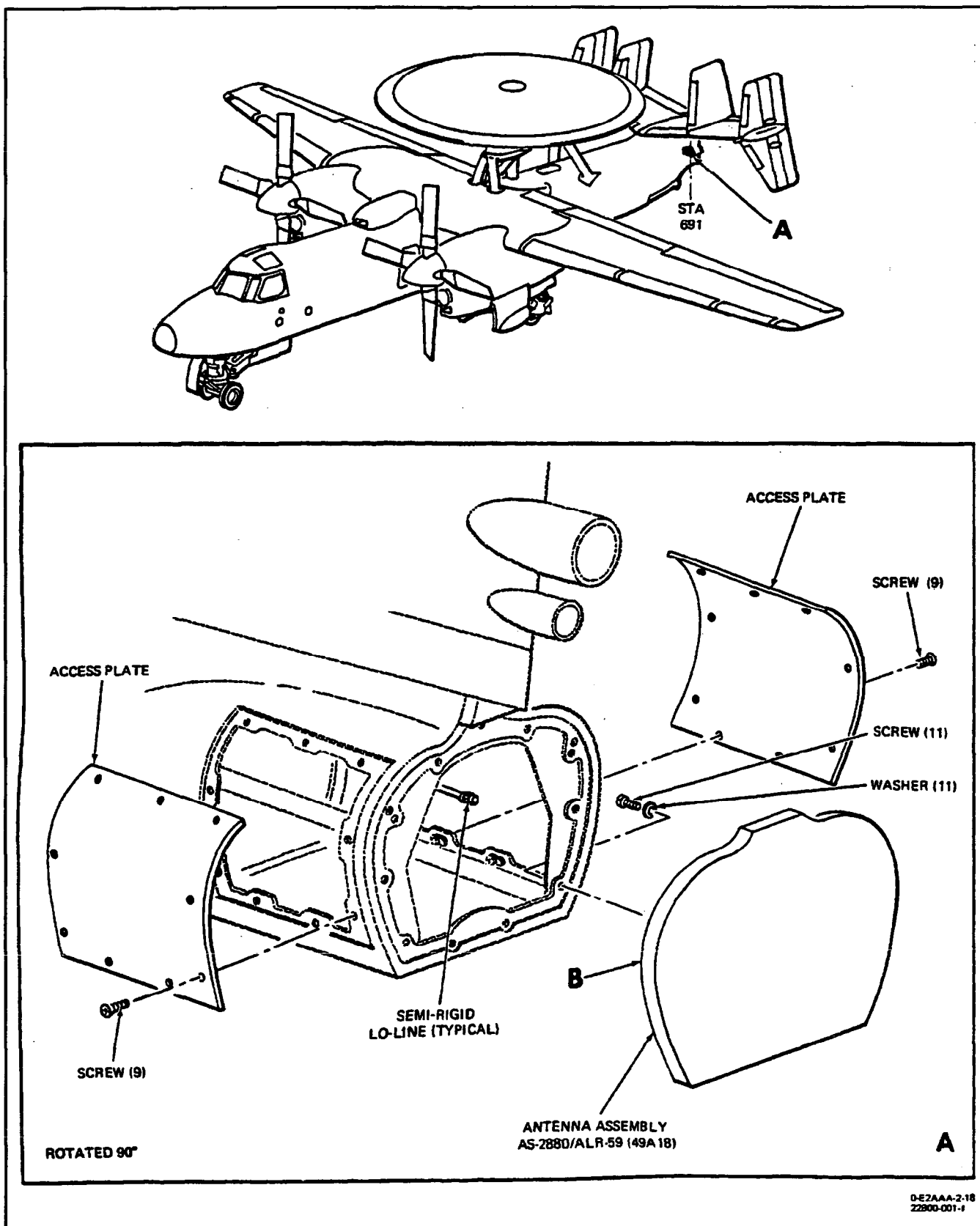


Figure 1. Removal and Installation of Antenna Assembly AS-2880/ALR-59 (Sheet 1 of 2)



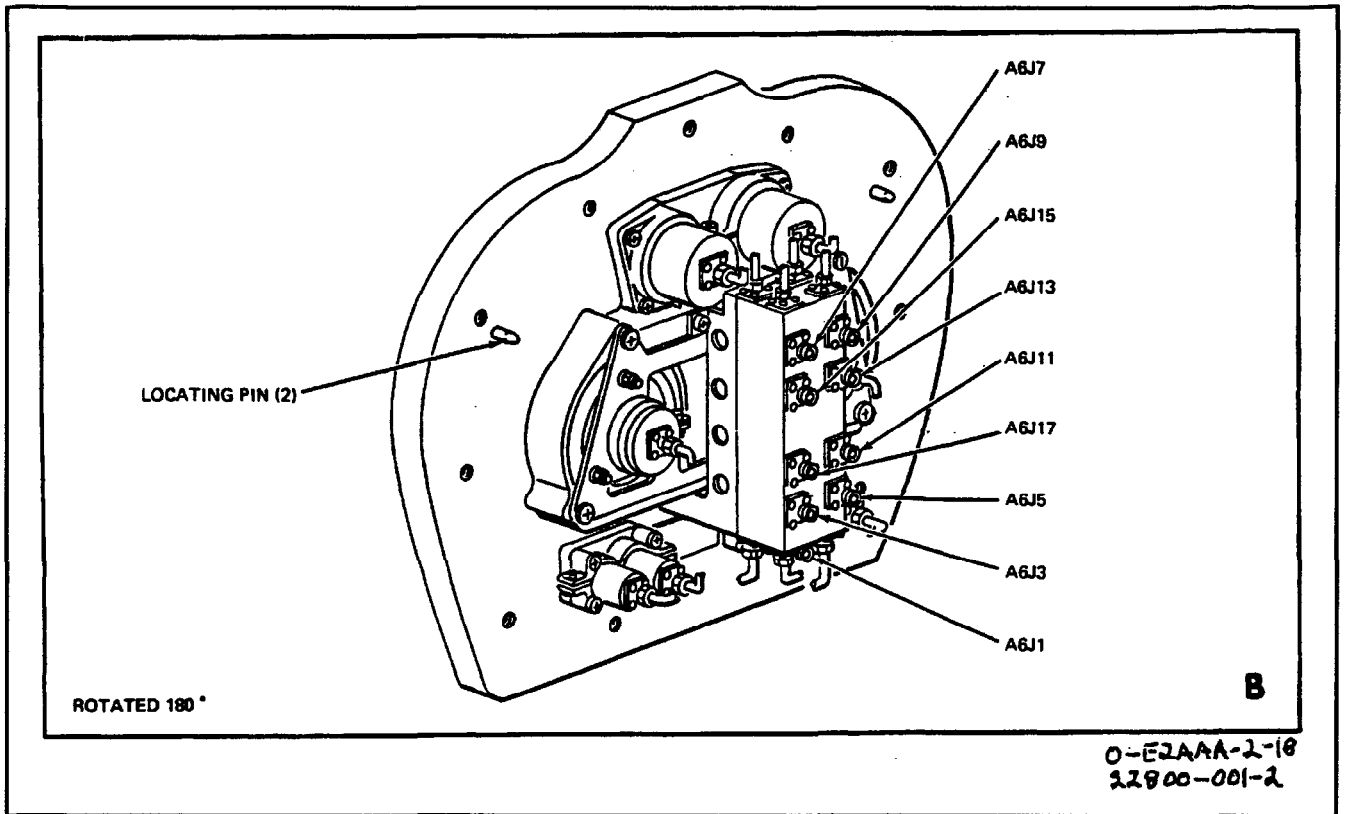


Figure 1. Removal and Installation of Antenna Assembly AS-2880/ALR-59 (Sheet 2)

**CAUTION**

In the following procedure, it is mandatory not to flex, bind, or distort the semi-rigid LO-lines attached to the antenna.

c. Remove lockwire from semi-rigid LO-line nuts.

d. Loosen nuts (one turn at a time, in succession) on each of nine semi-rigid LO-lines so that antenna is very slowly moved away from these lines.

e. Continue to loosen all nuts on semi-rigid LO-lines (one turn at a time, in succession) until the antenna has been separated from nine semi-rigid LO-lines.

f. Carefully back the antenna away from semi-rigid LO-lines and remove from aircraft structure.

g. Cap all connectors and receptacles.

4. INSTALLATION. (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC40	Lockwire
MS20995NC32	Lockwire

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from all connectors and receptacles.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

It is recommended that one man supports antenna as the other man performs the following procedures.

b. Very carefully place antenna against structure insuring that semi-rigid LO-lines are alined with fittings on antenna as listed below.



In the following procedures, it is mandatory not to flex, bend, or distort the semi-rigid LO-lines during installation. Therefore, the antenna shall be carefully and slowly moved toward the lines as nuts on semi-rigid LO-lines are tightened.

<b>Receptacle</b>	<b>Connector</b>
A6J1	49A18A6P1
A6J3	49A18A6P3
A6J5	49A18A6P5
A6J7	49A18A6P7
A6J9	49A18A6P9
A6J11	49A18A6P11
A6J13	49A18A6P13
A6J15	49A18A6P15
A6J17	49A18A6P17

c. Using torque wrench, tighten semi-rigid LO-line nuts (one turn at a time, in succession) so that antenna is very slowly moved toward these lines. If necessary, move the antenna toward semi-rigid LO-lines. (QUALITY ASSURANCE)

d. Continue to tighten all semi-rigid LO-line nuts (one turn at a time, in succession) until the antenna has been completely connected to semi-rigid LO-lines and each nut is torqued to 9, +1.0, -0 inch-pounds. (QUALITY ASSURANCE)

e. Secure antenna to aircraft structure with 11 screws and 11 washers. Secure 11 screws with lockwire (MS20995NC40). (QUALITY ASSURANCE)

**Note**

Do not secure semi-rigid LO-line nut 49A18A6P1 with lockwire.

f. Secure semi-rigid LO-line nuts with lockwire (MS20995NC32).

g. Perform operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00).

h. Secure two access plates to tail section with 18 screws.

**ORGANIZATIONAL MAINTENANCE**

**ANTENNA ASSEMBLY AS-2882/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, AND 161224 THROUGH 161228.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00

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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Antenna Assembly AS-2882/ALR-59 (hereinafter referred to as the antenna) (49A19) is part of the Countermeasures Receiving Set AN/ALR-59. The antenna is on the outboard section of the left stabilizer. (See figure 1.) Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0 inch-pounds)

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove two access plates from stabilizer after removing 28 screws from the upper access plate, and 26 screws from the lower access plate.

**Note**

Have one man support antenna as other man performs the following procedures.  
Loosen two bolts so that they still support antenna.

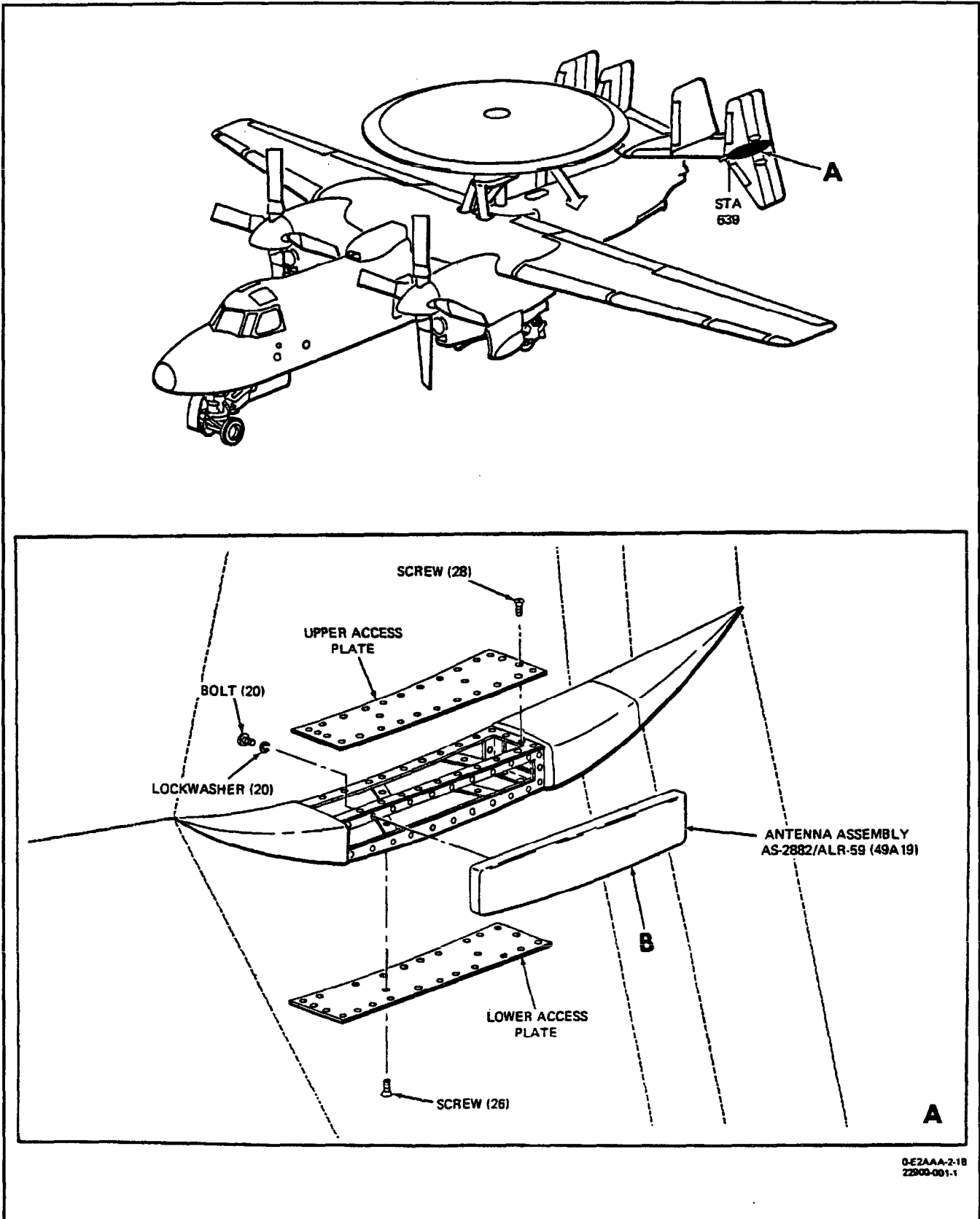
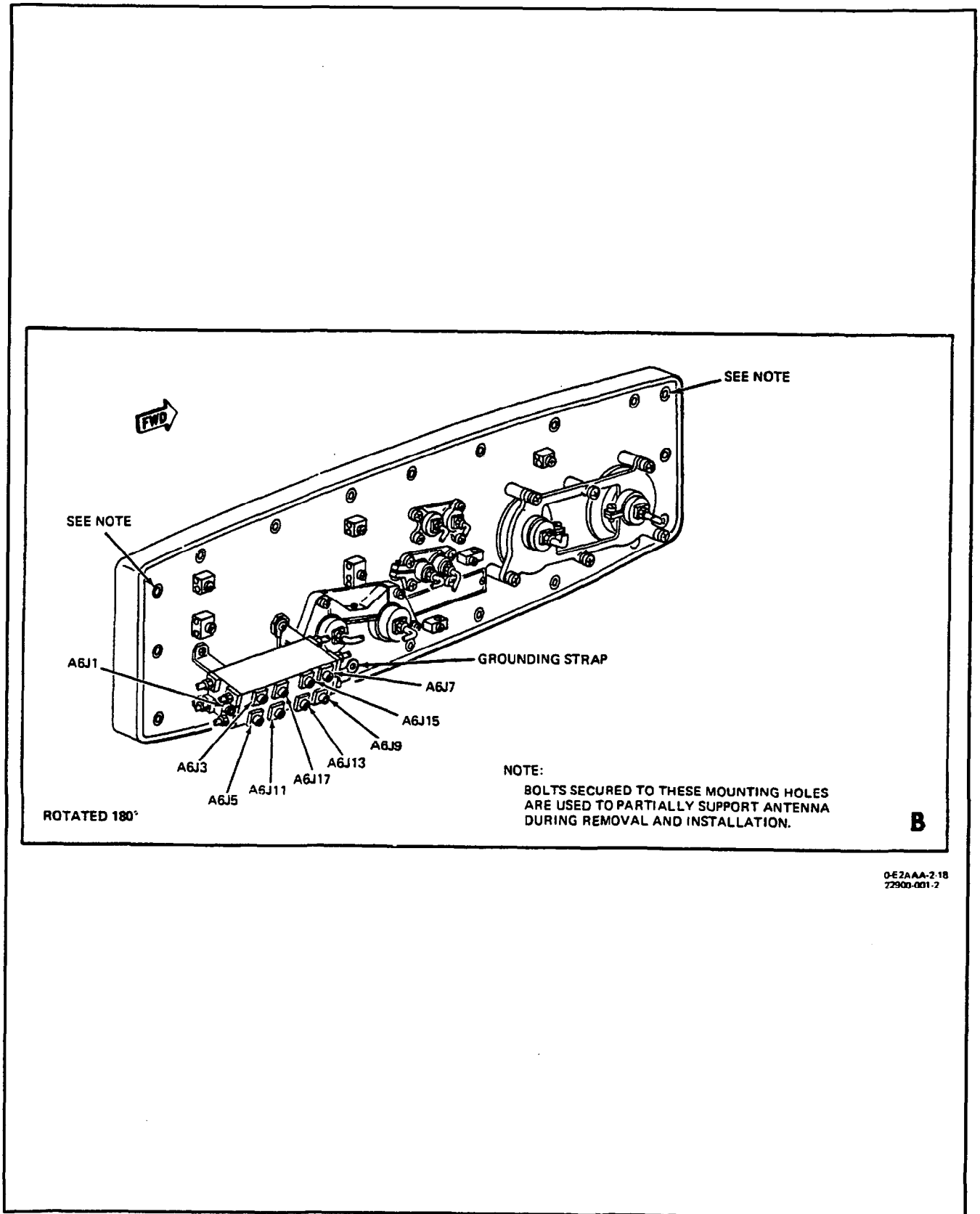


Figure 1. Removal and Installation of Antenna Assembly AS-2882/ALR-59 (Sheet 1 of 2)



0-E2AAA-2.18  
72900-001-2

Figure 1. Removal and Installation of Antenna Assembly AS-2882/ALR-59 (Sheet 2)

b. For access to semi-rigid LO-lines, loosen two bolts (mounting holes are located in view B) and then remove 18 bolts and 18 lockwashers securing antenna to aircraft structure.



In the following procedure, it is mandatory not to flex, bend, or distort the semi-rigid LO-lines attached to the antenna.

c. Remove lockwire securing semi-rigid LO-line nuts.

d. Loosen nuts (one turn at a time, in succession) on each of nine semi-rigid LO-lines so that antenna is very slowly moved away from these lines.

e. Continue to loosen all nuts on semi-rigid LO-lines (one turn at a time, in succession) until the antenna has been separated from nine semi-rigid LO-lines.

f. Carefully back the antenna away from semi-rigid LO-lines and remove from aircraft structure.

g. Cap all connectors and receptacles.

4. **INSTALLATION.** (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC32	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from all connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

Have one man support antenna as the other man performs the following procedures.

b. Place antenna against aircraft structure taking great care to avoid damaging semi-rigid LO-lines.



In the following procedures, it is mandatory not to flex, bend, or distort semi-rigid LO-lines during installation. Therefore, the antenna must be carefully and slowly moved toward the lines as nuts on semi-rigid LO-lines are tightened.

c. To aid in supporting antenna, partially install two bolts and two lockwashers (mounting holes are located in view B).

d. Very carefully move the antenna so that semi-rigid LO-lines are alined with fittings on antenna as listed below.

Receptacle	Connector
A6J1	49A19A6P1
A6J3	49A19A6P3
A6J5	49A19A6P5
A6J7	49A19A6P7
A6J9	49A19A6P9
A6J11	49A19A6P11
A6J13	49A19A6P13
A6J15	49A19A6P15
A6J17	49A19A6P17

e. Using torque wrench, tighten semi-rigid LO-line nuts (one turn at a time, in succession) so that antenna is very slowly moved toward these lines. If necessary, move the antenna toward semi-rigid LO-lines. (QUALITY ASSURANCE)

**Note**

Semi-rigid LO-line nut 49A19A6P1 is not secured with lockwire.

f. Continue to tighten all semi-rigid LO-line nuts (one turn at a time, in succession) until the antenna has been completely connected to semi-rigid LO-lines, and each nut is torqued to 9.0, +1.0, -0 inch-pounds. Secure nuts with lockwire. (QUALITY ASSURANCE)

**Note**

Insure that grounding strap is alined with appropriate antenna mounting hole.

g. Secure antenna to aircraft structure with 20 bolts and 20 lockwashers. (QUALITY ASSURANCE)

h. Secure lower access plate to aircraft structure with 26 screws and upper access plate to aircraft structure with 28 screws.

i. Perform operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00).





**ORGANIZATIONAL MAINTENANCE**

**ANTENNA ASSEMBLY AS-2883/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, AND 161224 THROUGH 161228.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00

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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Antenna Assembly AS-2883/ALR-59 (hereinafter referred to as the antenna) (49A20) is part of the Countermeasures Receiving Set AN/ALR-59. The antenna is on the outboard section of the right stabilizer. (See figure 1.) Support equipment required for maintenance is listed below.

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove two access plates from stabilizer after removing 28 screws from the upper access plate and 26 screws from the lower access plate.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off Set) (9.0, +1.0, -0 inch-pounds)

**Note**

Have one man support antenna as other man performs the following procedures.

Loosen two bolts so that they still support antenna.

- b. For access to semi-rigid LO-lines, loosen two bolts (mounting holes are located in view B) and then

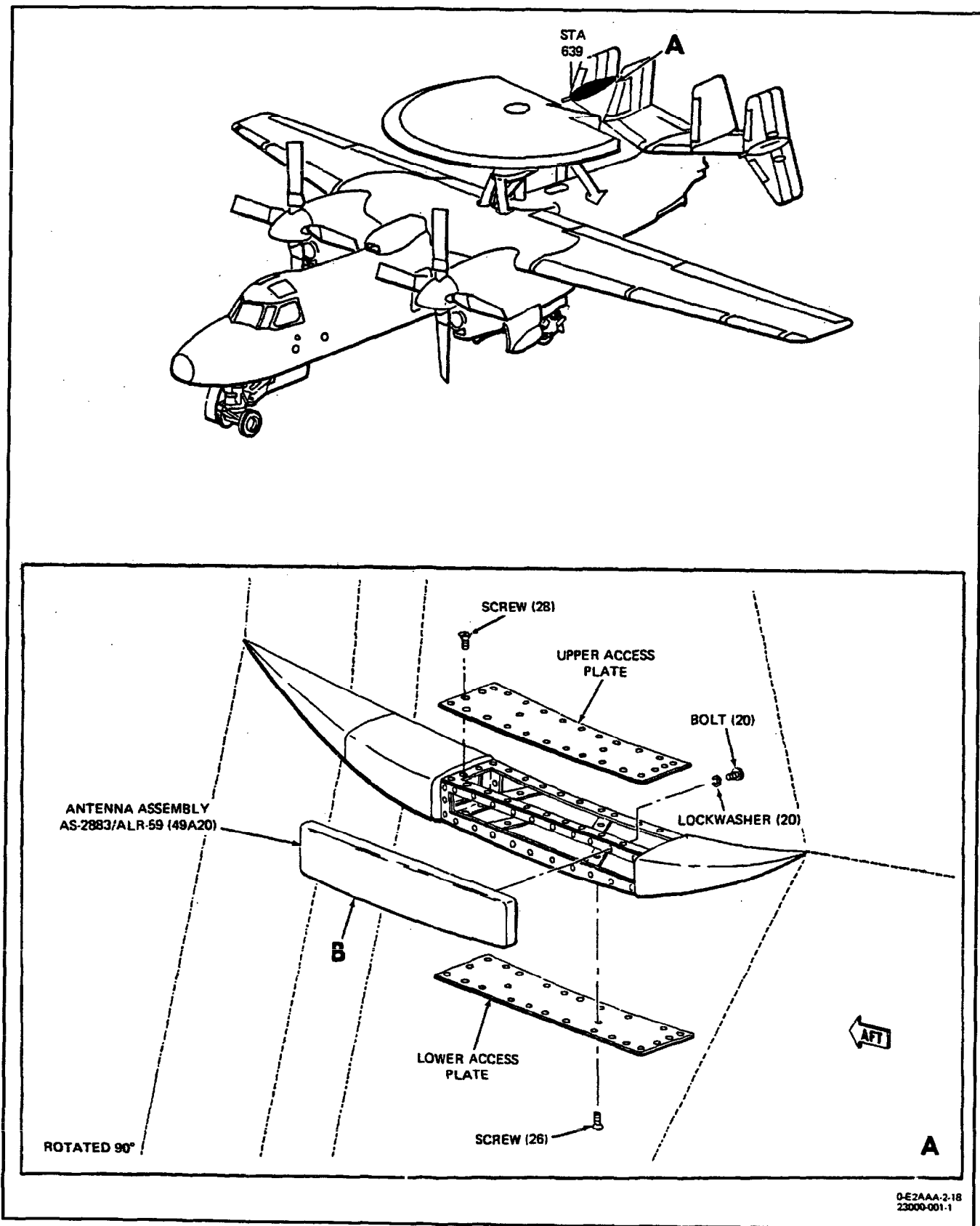


Figure 1. Removal and Installation of Antenna Assembly AS-2883/ALR-59 (Sheet 1 of 2)

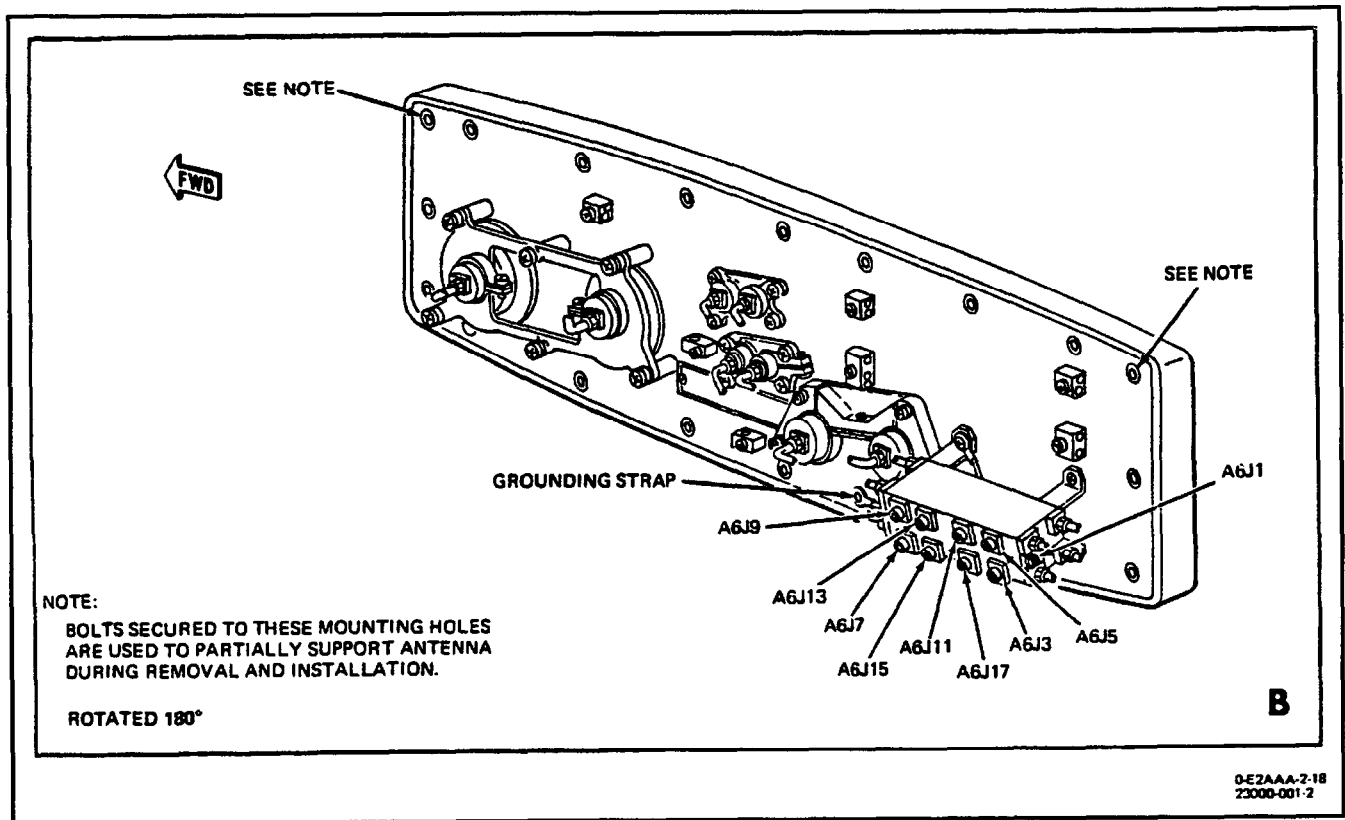


Figure 1. Removal and Installation of Antenna Assembly AS-2883/ALR-59 (Sheet 2)

remove 18 bolts and 18 lockwashers securing antenna to aircraft structure.

4. **INSTALLATION.** (See figure 1.)

**CAUTION**

In the following procedure, it is mandatory not to flex, bend, or distort the semi-rigid LO-lines attached to the antenna.

- c. Remove lockwire securing semi-rigid LO-line nuts.
- d. Loosen nuts (one turn at a time, in succession) on each of nine semi-rigid LO-lines so that antenna is very slowly moved away from these lines.
- e. Continue to loosen all nuts on semi-rigid LO-lines (one turn at a time, in succession) until the antenna has been separated from nine semi-rigid LO-lines.
- f. Carefully back the antenna away from semi-rigid LO-lines, and remove from aircraft structure.
- g. Cap all connectors and receptacles.

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC32	Lockwire

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from all connectors and receptacles.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

Have one man support antenna as the other man performs the following procedures.

b. Place antenna against aircraft structure taking great care to avoid damaging semi-rigid LO-lines.



In the following procedures, it is mandatory not to flex, bend, or distort the semi-rigid LO-lines during installation. Therefore, the antenna must be carefully and slowly moved toward the lines as nuts on semi-rigid LO-lines are tightened.

c. To aid in supporting antenna, partially install two bolts and two lockwashers (mounting holes are located in view B).

d. Very carefully move the antenna so that semi-rigid LO-lines are alined with fittings on antenna as listed below.

<b>Receptacle</b>	<b>Connector</b>
A6J1	49A20A6P1
A6J3	49A20A6P3
A6J5	49A20A6P5
A6J7	49A20A6P7
A6J9	49A20A6P9
A6J11	49A20A6P11
A6J13	49A20A6P13
A6J15	49A20A6P15
A6J17	49A20A6P17

e. Using torque wrench, tighten semi-rigid LO-line nuts (one turn at a time, in succession) so that antenna is very slowly moved toward these lines. If necessary, move antenna toward semi-rigid LO-lines. (QUALITY ASSURANCE)

**Note**

Semi-rigid LO-line nut 49A20A6P1 is not secured with lockwire.

f. Continue to tighten all semi-rigid LO-line nuts (one turn at a time, in succession) until the antenna has been completely connected to semi-rigid LO-lines and each nut is torqued to 9.0, +1.0, -0 inch-pounds. Secure nuts with lockwire. (QUALITY ASSURANCE)

**Note**

Insure that grounding strap is alined with appropriate antenna mounting hole.

g. Secure antenna to aircraft structure with 20 bolts and 20 lockwashers. (QUALITY ASSURANCE)

h. Secure lower access plate to aircraft structure with 26 screws and upper access plate to aircraft structure with 28 screws.

i. Perform operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00).

**ORGANIZATIONAL MAINTENANCE**

**POWER SUPPLY PP-6896/ALR-59 AND POWER SUPPLY MOUNT MT-4553/ALR-59**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161228, AND 161229 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Countermeasures Receiving Set AN/ALR-73 .....	029 01

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

**1. GENERAL.**

2. There is one Power Supply PP-6896/ALR-59 (49A21) and one Power Supply Mount MT-4553/ALR-59 used in the Countermeasures Receiving Set AN/ALR-59. There are two Power Sup-

plies PP-6896/ALR-59 (49A21 and 49A22) and two Power Supply Mounts MT-4553/ALR-59 (hereinafter referred to as the power supply and mount) used in the Countermeasures Receiving Set AN/ALR-73. Power supplies and mounts are located in the aft bay. (See figures 1 and 2.)

- 3. **POWER SUPPLY PP-6896/ALR-59.**
- 4. **REMOVAL.** (See figures 1 and 2.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following procedure applies to both power supplies (49A21 and 49A22).

- a. Disconnect three cable connectors from power supply receptacles J1 through J3.
- b. Remove lockwire securing two wing nuts.
- c. Loosen two wing nuts and then disengage two swing bolts securing power supply to mount.
- d. Using handle, pull power supply out of mount until it is clear of two spring-loaded guide pins on mount. Remove power supply from mount.
- e. Cap all connectors and receptacles.

- 5. **INSTALLATION.** (See figures 1 and 2.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995N40	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following procedure applies to both power supplies (49A21 and 49A22).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Place power supply on mount and push backward until power supply engages two spring-loaded guide pins. (QUALITY ASSURANCE)

- c. Secure power supply to mount by engaging two swing bolts and then tightening two wing nuts. (QUALITY ASSURANCE)

- d. Secure two wing nuts with specified lockwire. (QUALITY ASSURANCE)

- e. On power supply 49A21, connect cable connectors 49A21P1 through 49A21P3 to receptacles J1 through J3, respectively. On power supply 49A22, connect cable connectors 49A22P1 through 49A22P3 to receptacles J1 through J3, respectively. (QUALITY ASSURANCE)

- f. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00) or Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

- 6. **POWER SUPPLY MOUNT MT-4553/ALR-59.**

- 7. **REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following procedure applies to both mounts.

- a. Remove power supply from mount (refer to paragraph 4).

- b. Compress spring-loaded guide pins (to expose mounting screws) and then remove two screws and two washers securing rear of mount to shelf.

- c. Remove two screws and two washers securing forward portion of mount to shelf.

- d. Remove mount from shelf.

- 8. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

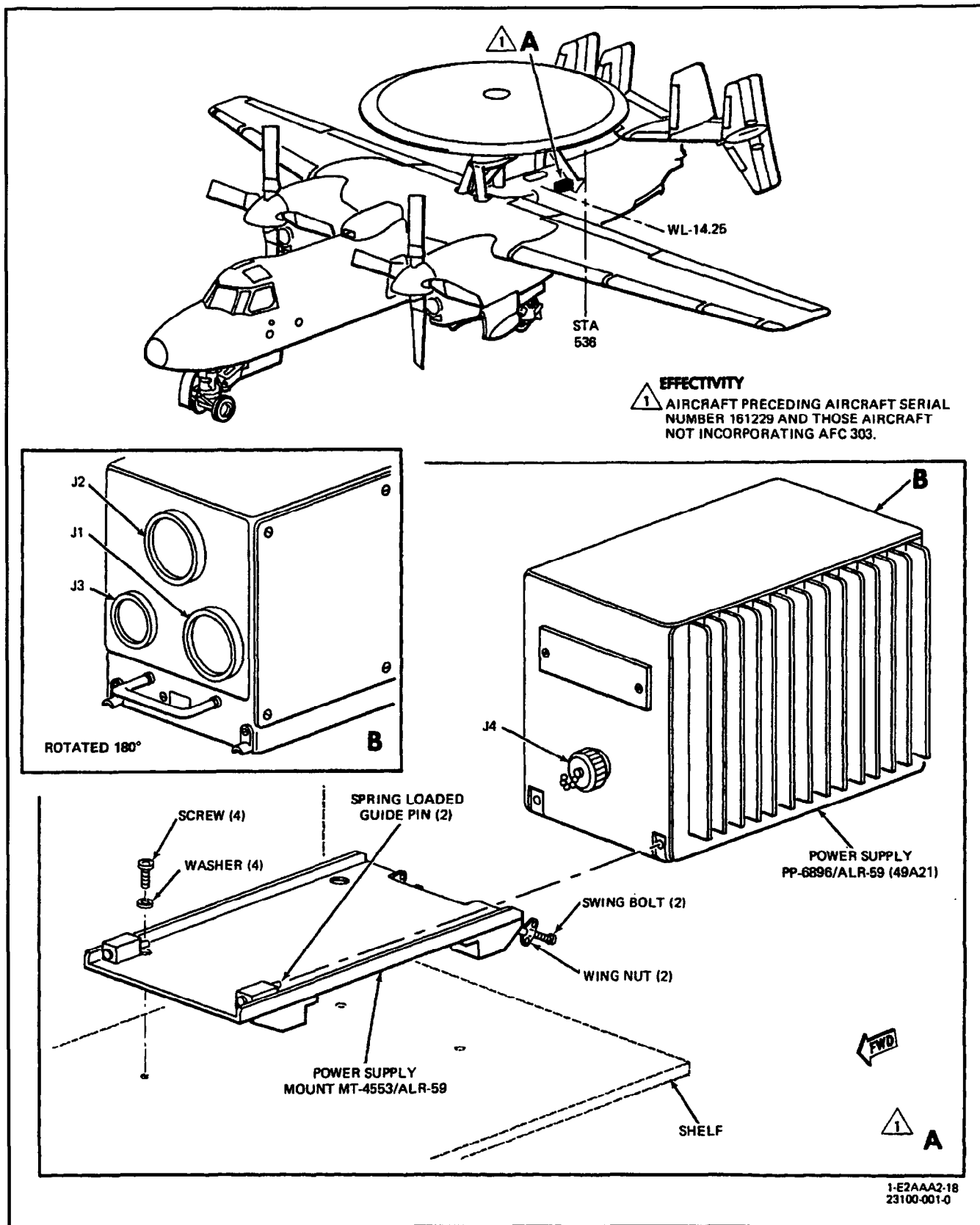


Figure 1. Removal and Installation of Power Supply PP-6896/ALR-59 (49A21) and Power Supply Mount MT-4553/ALR-59

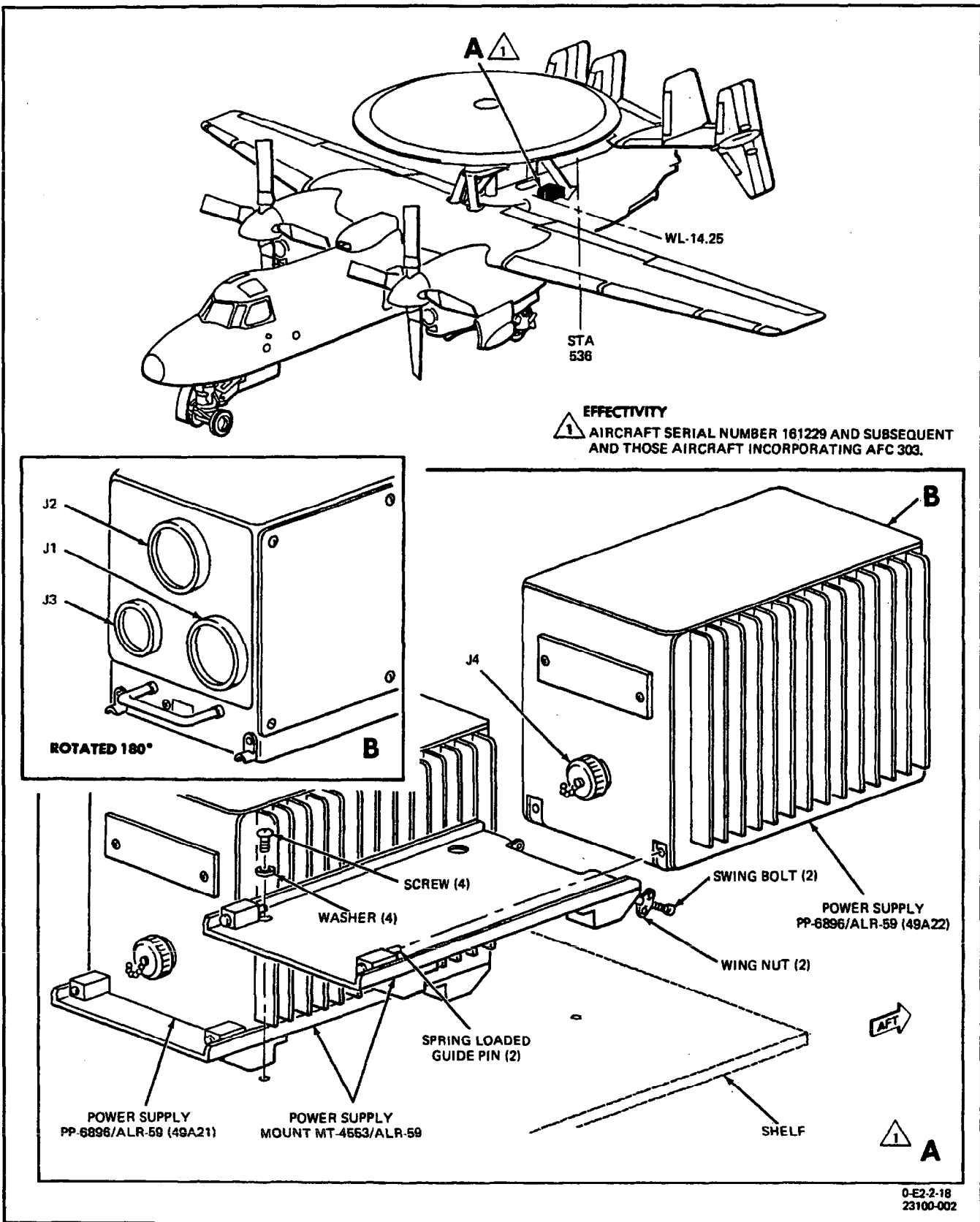


Figure 2. Removal and Installation of Power Supplies PP-6896/ALR-59 (49A21 and 49A22) and Power Supply Mounts MT-4553/ALR-59



**Note**

The following procedure applies to both mounts.

a. Place mount on shelf and then secure forward portion of mount to shelf with two screws and two washers.

b. Compress two spring-loaded guide pins (for access to mounting holes) and then secure rear of mount to shelf with two screws and two washers. (QUALITY ASSURANCE)

c. Install power supply on mount (refer to paragraph 5).



**ORGANIZATIONAL MAINTENANCE**

**DELAY LINE**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161228, AND 161229 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Countermeasures Receiving Set AN/ALR-73 .....	029 01

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

**1. GENERAL.**

2. The Delay Line (hereinafter referred to as the delay line) (49DL1 through 49DL5) is part of the Countermeasures Receiving Set AN/ALR-59 and Countermeasures Receiving Set AN/ALR-73. There are five delay lines located in the nose compartment. See figure 1 for location of delay lines.

**3. REMOVAL. (See figure 1.)**



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

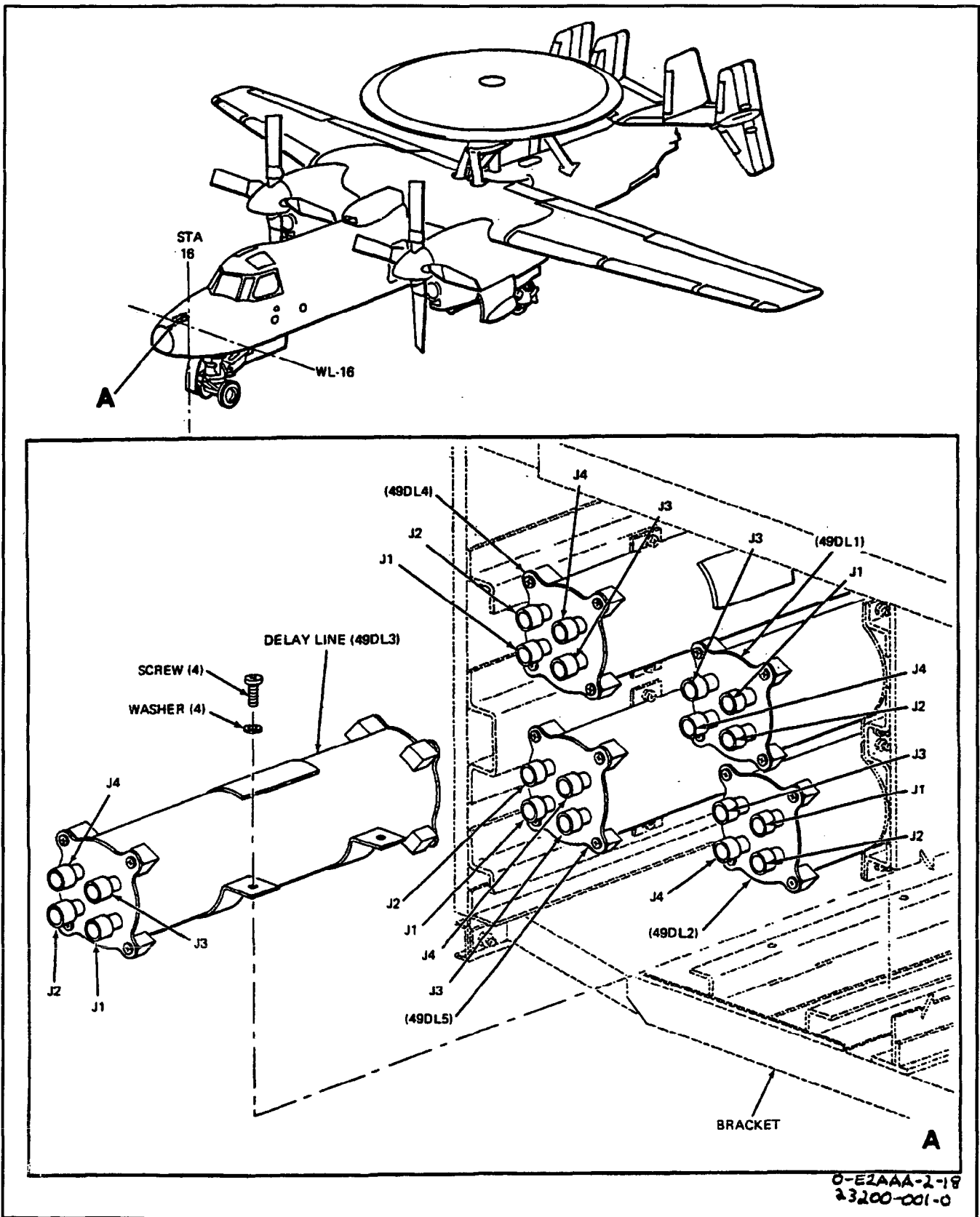


Figure 1. Removal and Installation of Delay Line

a. Disengage two latches at bottom of nose cap and swing nose cap up. Secure nose cap in up position with two struts.

b. Disconnect four cable connectors from delay line receptacles J1 through J4. Tag each cable to identify from which receptacle it was removed.

c. Remove four screws and four washers securing delay line to bracket and remove delay line.

d. Cap all connectors and receptacles.

4. **INSTALLATION.** (See figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from all connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

b. Secure delay line to bracket with four screws and four washers. (QUALITY ASSURANCE)

c. Connect appropriate cable connectors to delay line receptacles J1 through J4. (QUALITY ASSURANCE)

d. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00) or Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

e. Disengage nose cap supporting struts and close nose cap. Secure nose cap with two latches.



**ORGANIZATIONAL MAINTENANCE**

**PDS WAVEGUIDES AND LO-LINES**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028, AND 163029 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Countermeasures Receiving Set AN/ALR-73 .....	029 01
Organizational Illustrated Parts Breakdown .....	NAVAIR 01-E2AAA-4

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	E-2C PDS Waveguide Transition Product Improvement (ECP 278R1)	4/1/81	Effectivity: Aircraft Serial No. 161229 and Subsequent. ECP Coverage Only.

1. GENERAL.

2. Waveguides and LO-lines are located throughout the aircraft. This work package covers two aircraft configurations as described below.

a. Configuration 1: Applies to Countermeasures Receiving Set AN/ALR-59. (Aircraft preceding aircraft serial no. 161229 and those aircraft not incorporating ECP 278R1. Refer to paragraph 3.)

b. Configuration 2: Applies to Countermeasures Receiving Set AN/ALR-73. (Aircraft serial numbers 161229 and subsequent and those aircraft incorporating ECP 278R1. Refer to paragraph 11.)

3. CONFIGURATION 1.

4. Support equipment required for maintenance is listed below.

Support Equipment Required

Part or Model No.	Nomenclature
BUAER 55A47G1	Air-Nitrogen Trailer (containing nitrogen MIL-P-27401, Type I, or BB-N-411b, Type I, Class 2, Grade A)
10C2385 (Amecom)	Torque Wrench (open end) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecon)	Torque Wrench (offset) (9.0, +1.0, -0 inch-pounds)

5. REMOVAL. (See figures 1 and 3.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



In order to prevent damage, it is mandatory not to flex, bend, or distort the LO-lines during removal.

Note

The following removal procedures apply to each waveguide and LO-line.

a. Remove covers, components, and panels as required to gain access to waveguides and/or LO-lines to be removed. Refer to applicable work package in this manual for removal of electronic components.

Note

Before removing a waveguide, disconnect cables connected to transitions.

b. Remove waveguides and/or LO-lines from aircraft. For type and quantity of attaching hardware and gaskets to be removed, refer to NAVAIR 01-E2AAA-4.

c. After removing waveguides and/or LO-lines, cap all openings.

6. INSTALLATION. (Refer to paragraph 7 and 8.)

7. Installing LO-Line.

Materials Required

Specification or Part Number	Nomenclature
MS20995NC20	Lockwire
MS20995NC32	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



In order to prevent damage, it is mandatory not to flex, bend, or distort LO-lines during installation.

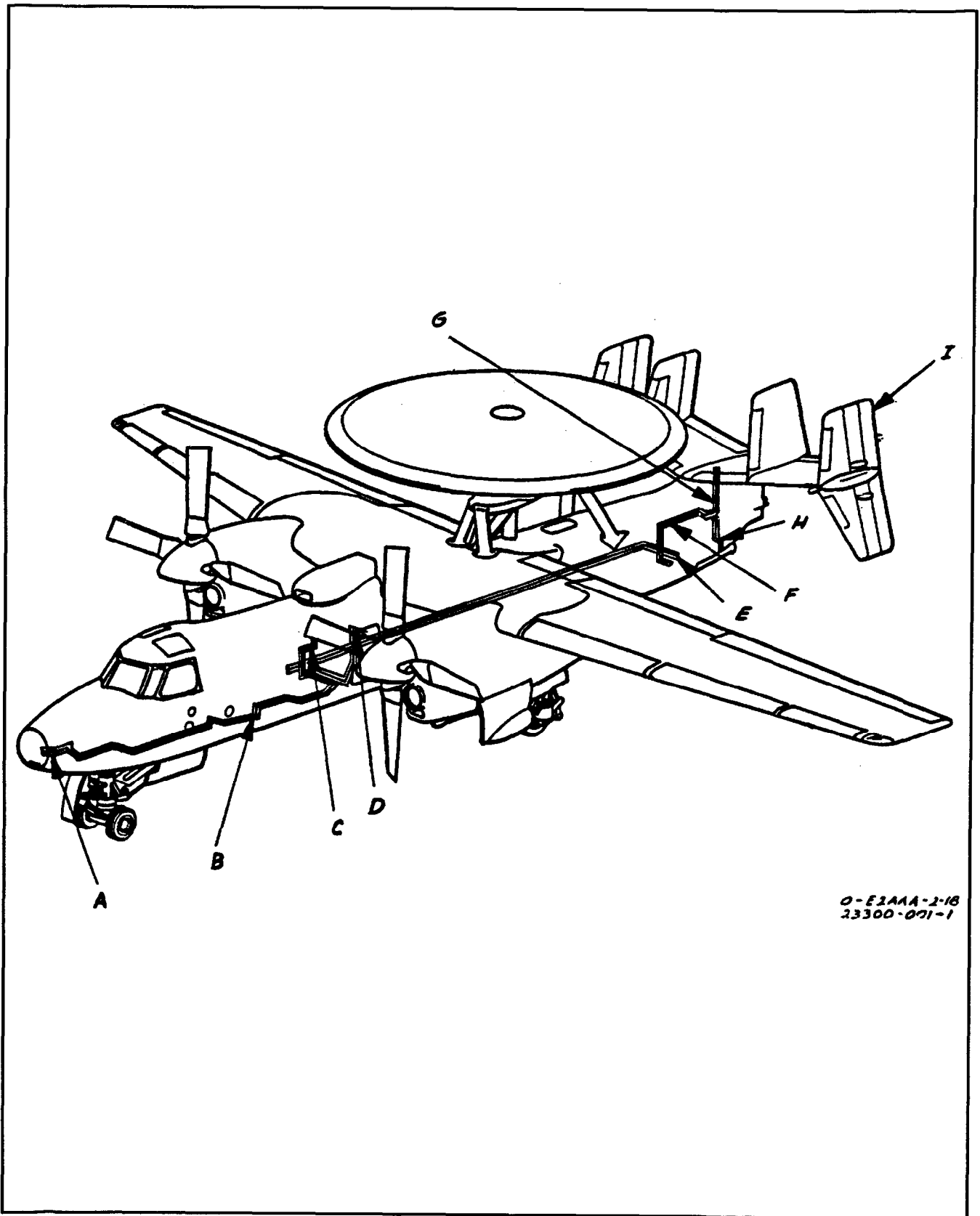
a. Remove all caps from LO-lines.

b. Install LO-line section in aircraft. For type and quantity of attaching hardware and gaskets to be installed, refer to NAVAIR 01-E2AAA-4.

c. Connect cable connectors to their respective transitions. Torque and secure connectors with appropriate lockwire except those specified in table 1.

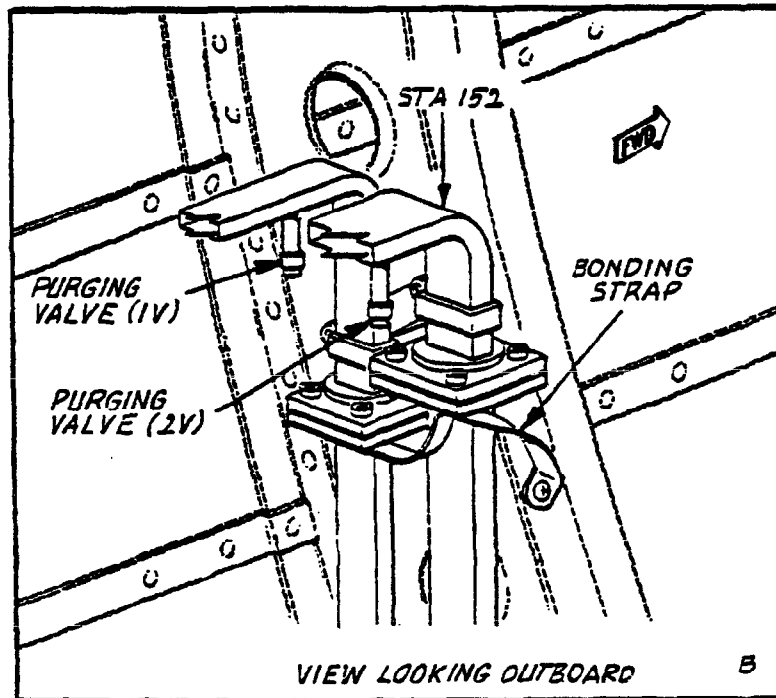
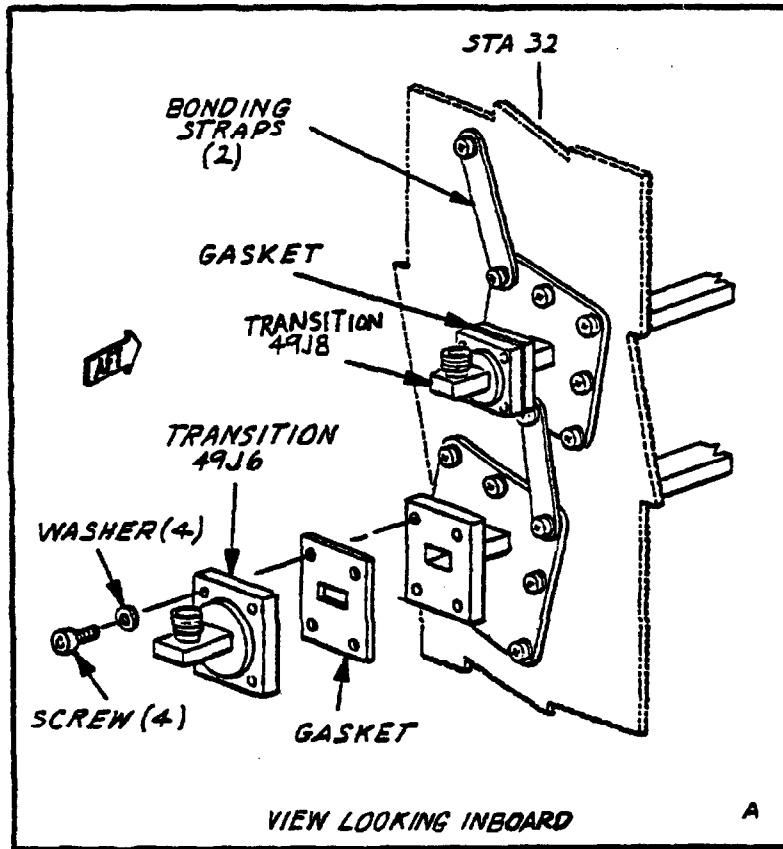
d. Perform operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3.1, WP029 00).





0-E2AAA-2-18  
23300-001-1

Figure 1. Configuration 1 - Location of Purging Valves, Desiccators, and Transitions Used for Waveguide Purging (Sheet 1 of 7)



0-E2AAA-2-18  
23300-001-2

Figure 1. Configuration 1 - Location of Purging Valves, Desiccators, and Transitions Used for Waveguide Purging (Sheet 2)

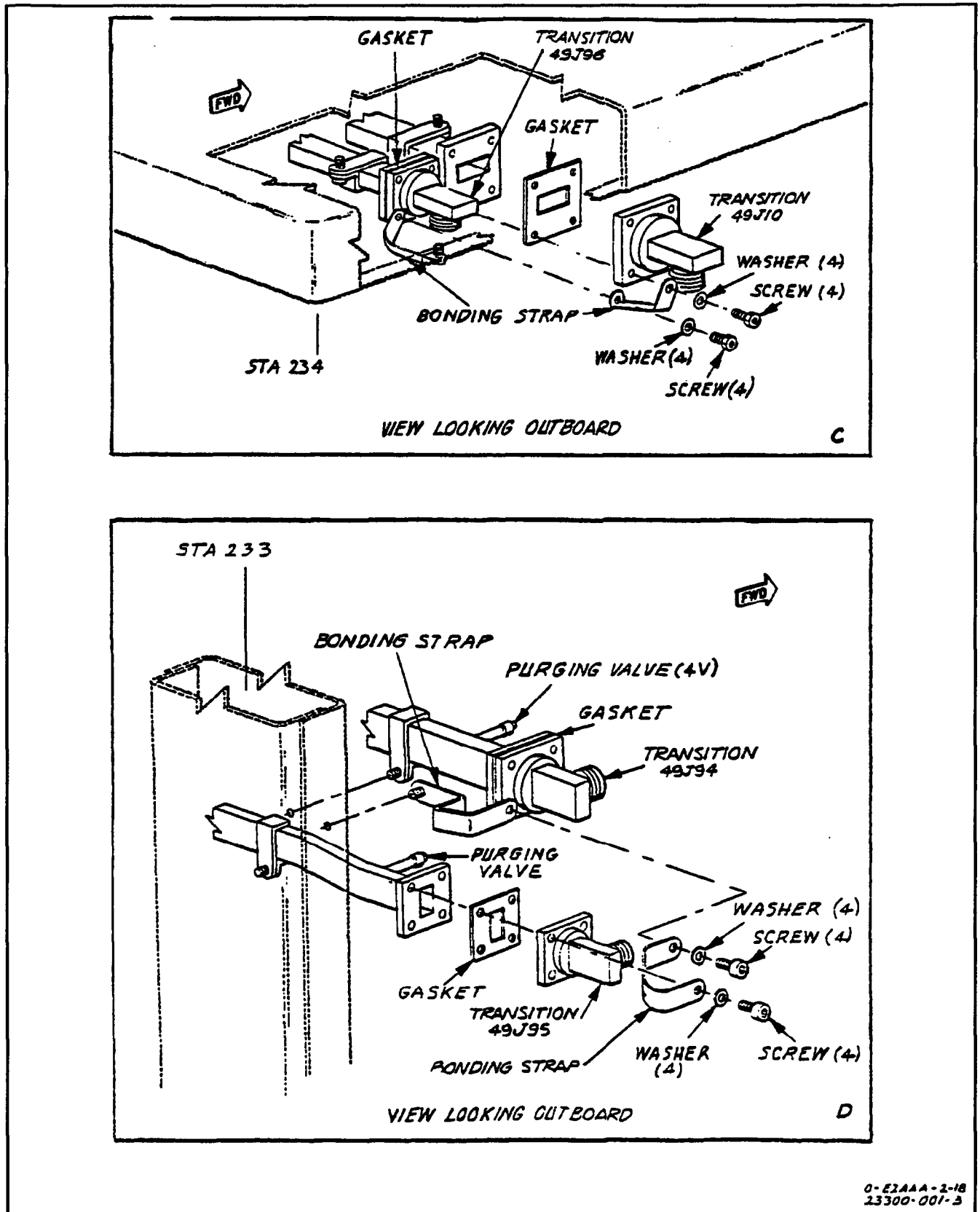
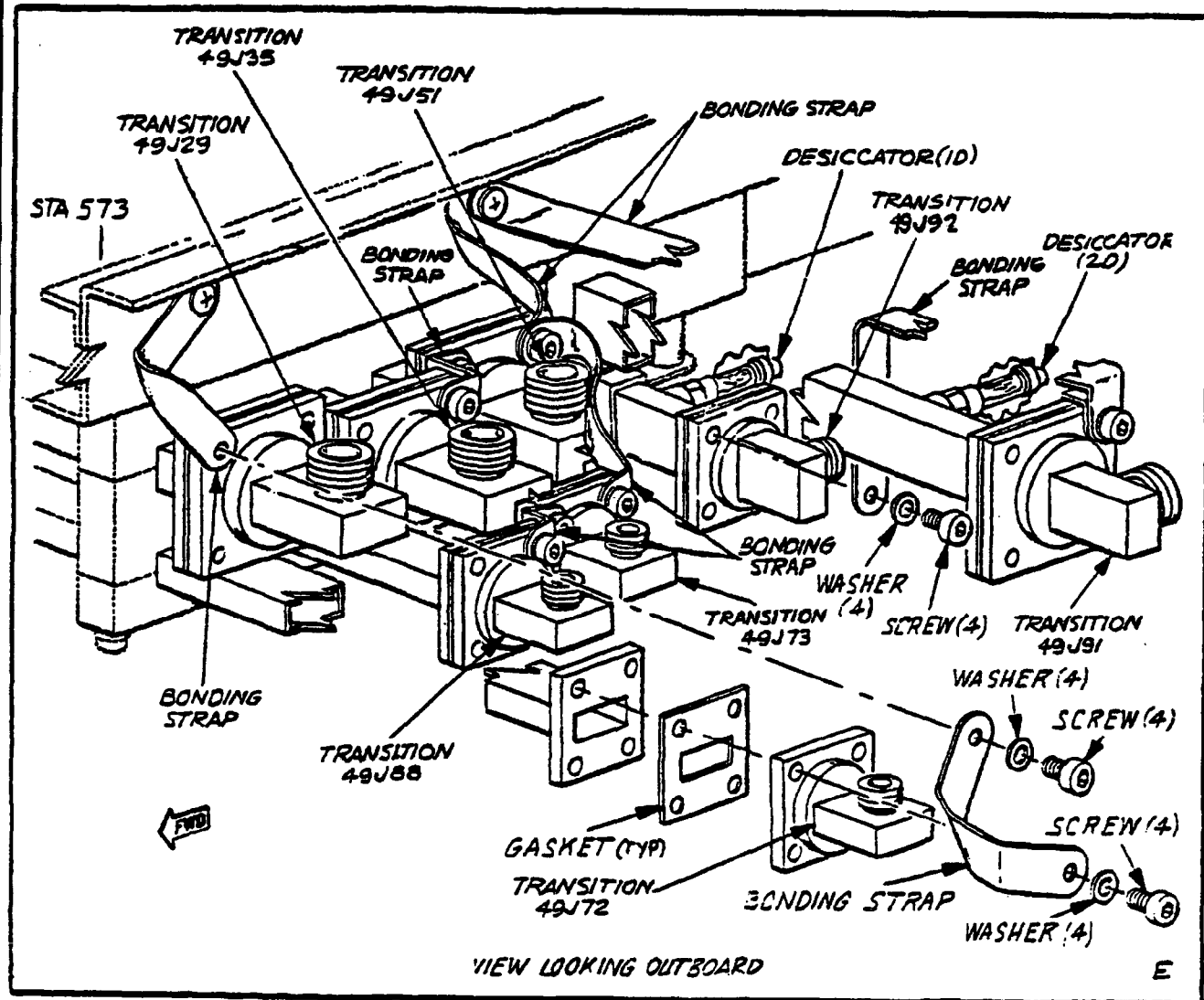
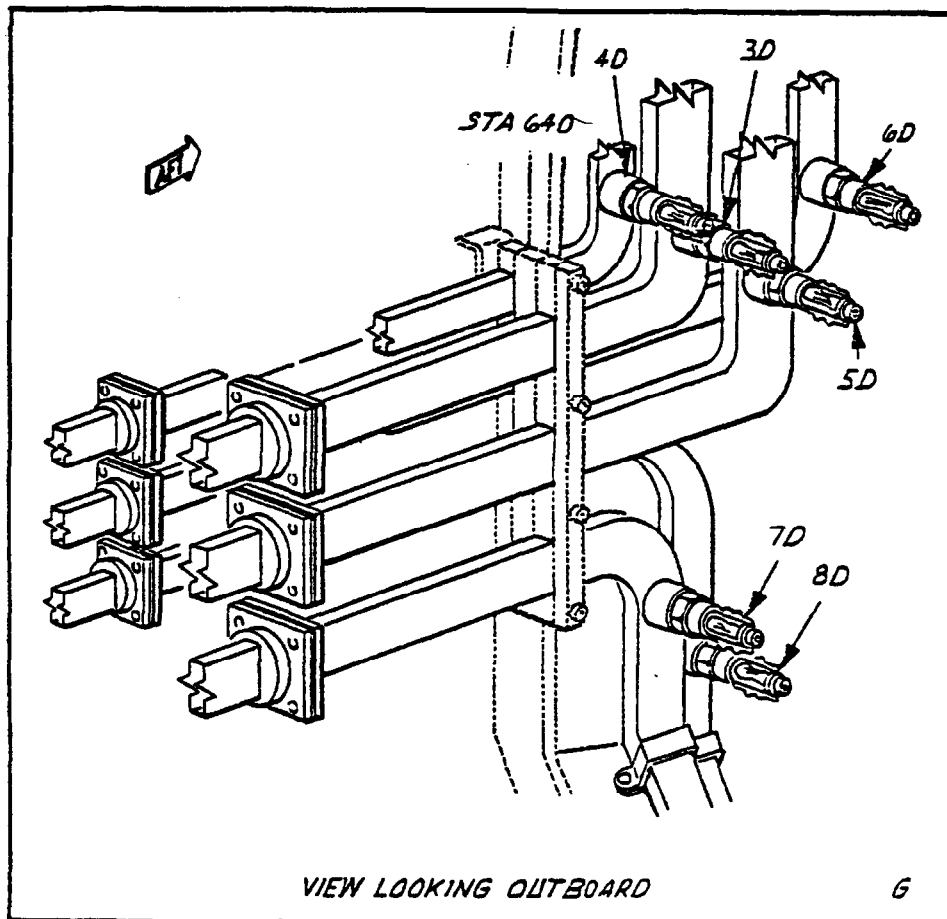
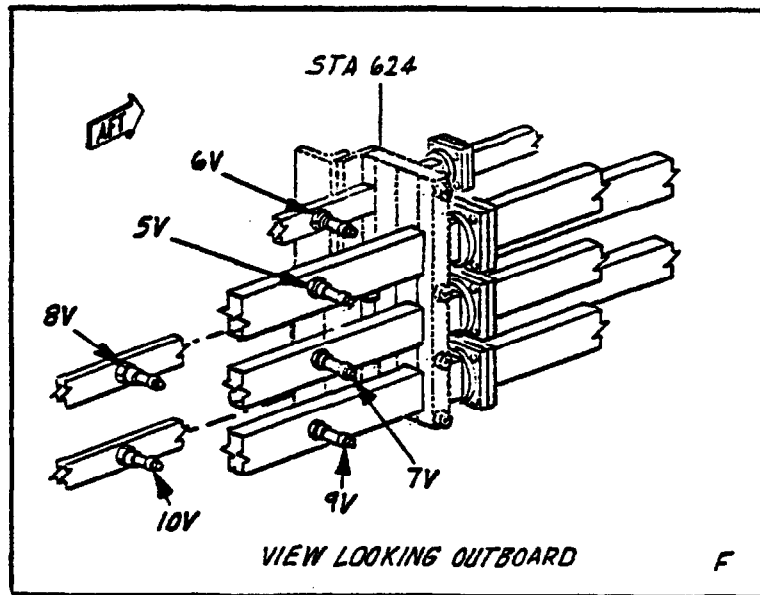


Figure 1. Configuration 1 - Location of Purging Valves, Desiccators, and Transitions Used for Waveguide Purging (Sheet 3)



0-E2AAA-2-18  
23300-001-4

Figure 1. Configuration 1 - Location of Purging Valves, Desiccators, and Transitions Used for Waveguide Purging (Sheet 4)



0-22AAA-1-18  
23300-CC-5

Figure 1. Configuration 1 - Location of Purging Valves, Desiccators, and Transitions Used for Waveguide Purging (Sheet 5)

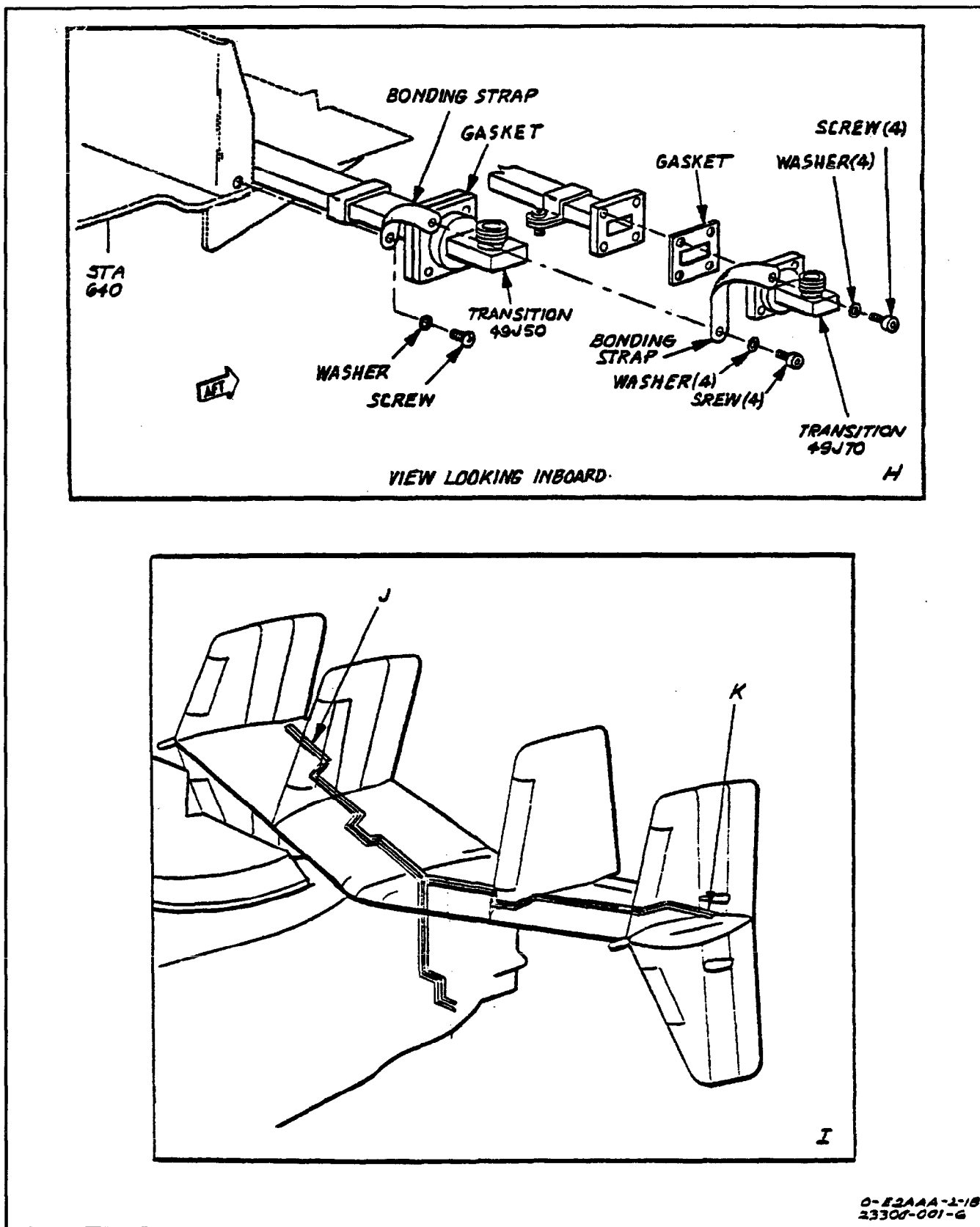


Figure 1. Configuration 1 - Location of Purging Valves, Desiccators, and Transitions Used for Waveguide Purging (Sheet 6)

0-E2AAA-2-18  
23300-001-G

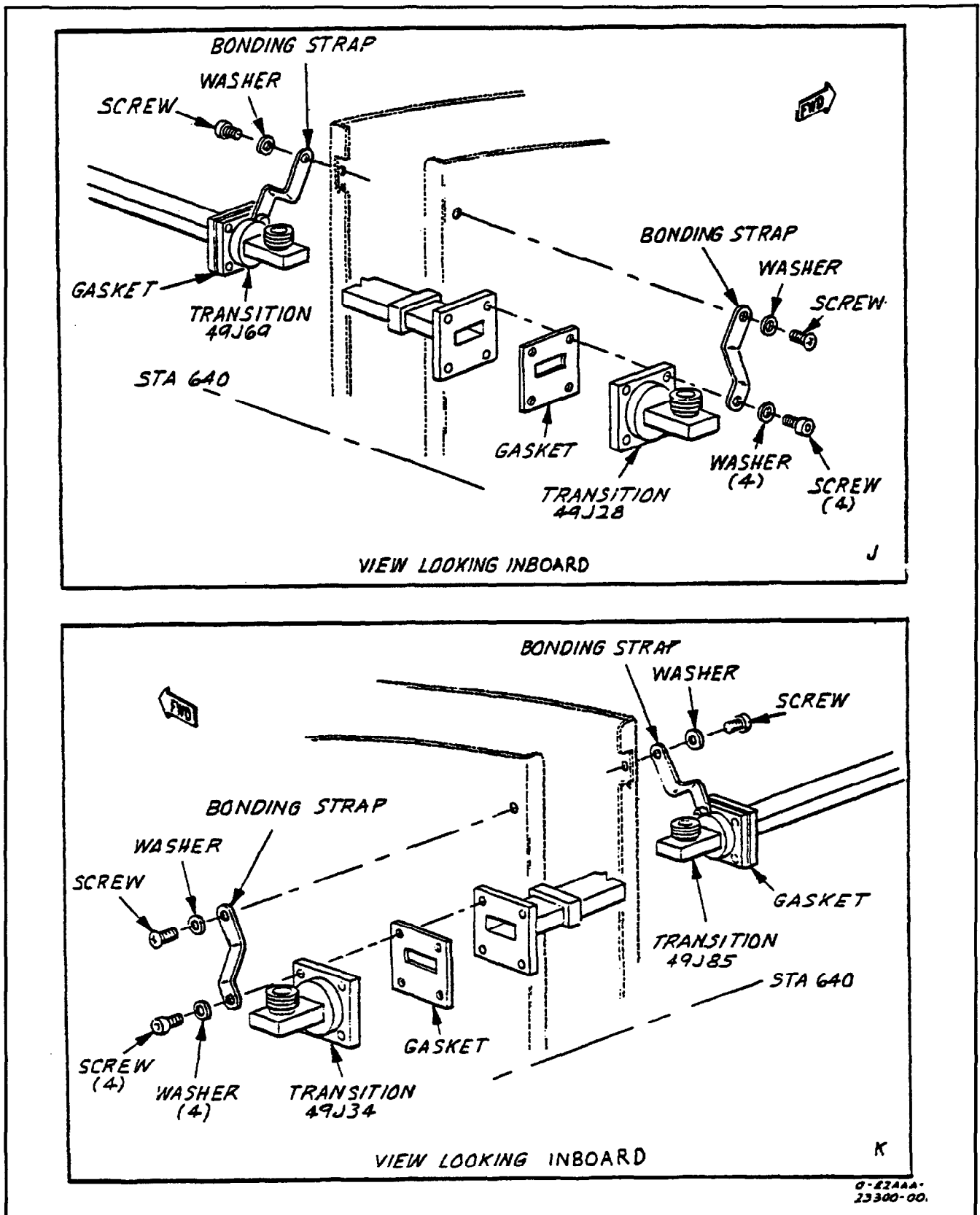


Figure 1. Configuration 1 - Location of Purging Valves, Desiccators, and Transitions Used for Waveguide Purging (Sheet 7)

8. Installing Waveguide.



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Prior to installation of waveguide section, clean waveguide flanges to bare metal 0.12 inch min. beyond profile of bonding strap (refer to figure 2) on flat area, similar to the defective waveguide section removed.

b. Remove all caps.

c. Install waveguide section in aircraft. For type and quantity of attaching hardware and gaskets used during installation, refer to NAVAIR 01-E2AAA-4. Figure 2 shows a typical installation of bonding straps on waveguide flanges.

d. Purge waveguides, using waveguide purging procedure (refer to paragraph 9).

e. Perform operational check of Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3.1, WP029 00).

9. WAVEGUIDE PURGING. Waveguide purging shall be accomplished as follows:

a. When desiccators indicate moisture (50% or more of desiccant crystals changed color toward whitish pink). The desiccant shall be dark blue.

**Note**

Desiccant is a moisture indicator only. Changing desiccant does not result in eliminating moisture within waveguide. The waveguide must be purged and then desiccant replaced.

b. Upon removal or replacement of waveguide.

10. To purge a waveguide, proceed as follows, using figure 1 for location, and figure 4 for time sequence:

- a. Locate purging valve and remove cap.
- b. Attach source of nitrogen to purging valve.
- c. Adjust nitrogen source to 25 PSI (gauge reading).

TABLE 1. LO-LINE CONNECTORS NOT SECURED WITH LOCKWIRE

Connector	Location
49P8	LH Side, Fus. (Sta. 32.0)
49P49	RH Side, Stab. (Sta. 20.0)
49P69	RH Side, Stab. (Sta. 147.4)
49P77	LH Side, Stab. (Sta. 20.0)
49P85	LH Side, Stab. (Sta. 147.4)
49P44	RH Side, Fus. (Sta. 591.0)
49P70	RH Side, Fus. (Sta. 632.0)
49P72	RH Side, Fus. (Sta. 580.0)
49P73	RH Side, Fus. (Sta. 580.0)
49P88	RH Side, Fus. (Sta. 580.0)
49P92	RH Side, Fus. (Sta. 580.0)

NOTE: Connectors listed above are torqued (using appropriate torque wrench) to 9.0 + 1.0, -0 inch-pounds and not secured with lockwire.



To prevent damage to waveguide, do not re-adjust nitrogen source when waveguide-to-coax transition is disconnected.

d. Locate and remove waveguide-to-coax transition at one end of waveguide line and allow nitrogen to flow for the time period specified in figure 4.

e. Replace waveguide-to-coax transition removed in step d.

f. Locate and remove waveguide-to-coax transition at opposite end of the same waveguide line and allow nitrogen to flow for the time period specified in figure 4.

g. Replace waveguide-to-coax transition removed in step f.

h. Decrease nitrogen pressure and remove nitrogen source (connected in step b) from purging valve.



- i. Replace purging valve cap.
- j. Replace desiccant as described in paragraph 21.

11. **CONFIGURATION 2.**

12. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
Bauer 55A47G1	*Air-Nitrogen Trailer (containing nitrogen MIL-P-27401, Type I, or BB-N-411b, Type I, Class 2, Grade A)
—	*Regulator (suitable for controlling nitrogen pressure to 100±25 PSIG)
—	*Pressure Gage (capable of reading 0 to 200 PSIG)
—	*Air Hose (capable of operating at a minimum of 125 PSIG)
2755 (Schrader) (or equivalent)	*Adapter
10C2385 (Amecom)	Torque Wrench (open end) (9.0 +1.0, -0.0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (offset) (9.0 +1.0, -0.0 inch-pounds)

\*Equipment used for purging.

13. **REMOVAL.** To remove waveguides and LO-lines, proceed as follows:



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



In order to prevent damage, it is mandatory not to flex, bend, or distort the LO-lines during removal.

**Note**

The following removal procedures apply to each waveguide and LO-line.

a. Remove covers, components, and panels as required to gain access to waveguides and/or LO-lines to be removed. Refer to applicable work packages in this manual for removal of electronic components.

**Note**

Before removing a waveguide, disconnect cables, manifold feeder line, or both, connected to transitions.

b. Remove waveguides and/or LO-lines from aircraft. For type and quantity of attaching hardware and gaskets to be removed, refer to NAVAIR 01-E2AAA-4.

c. After removing waveguides and/or LO-lines, cap all openings.

14. **INSTALLATION.** (Refer to paragraphs 15 and 16.)

15. **Installing LO-Line.**

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC20	Lockwire
MS20995NC32	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



In order to prevent damage, it is mandatory not to flex, bend, or distort LO-lines during installation.

a. Remove all caps from LO-lines.

b. Install LO-line section in aircraft. For type and quantity of attaching hardware and gaskets to be installed, refer to NAVAIR 01-E2AAA-4.

c. Connect cable connectors to their respective transitions. Where required, torque connectors to 9.0 + 1.0, -0.0 inch-pounds (using appropriate torque wrench) and then secure appropriate connectors with appropriate lockwire, except those specified in table 1.

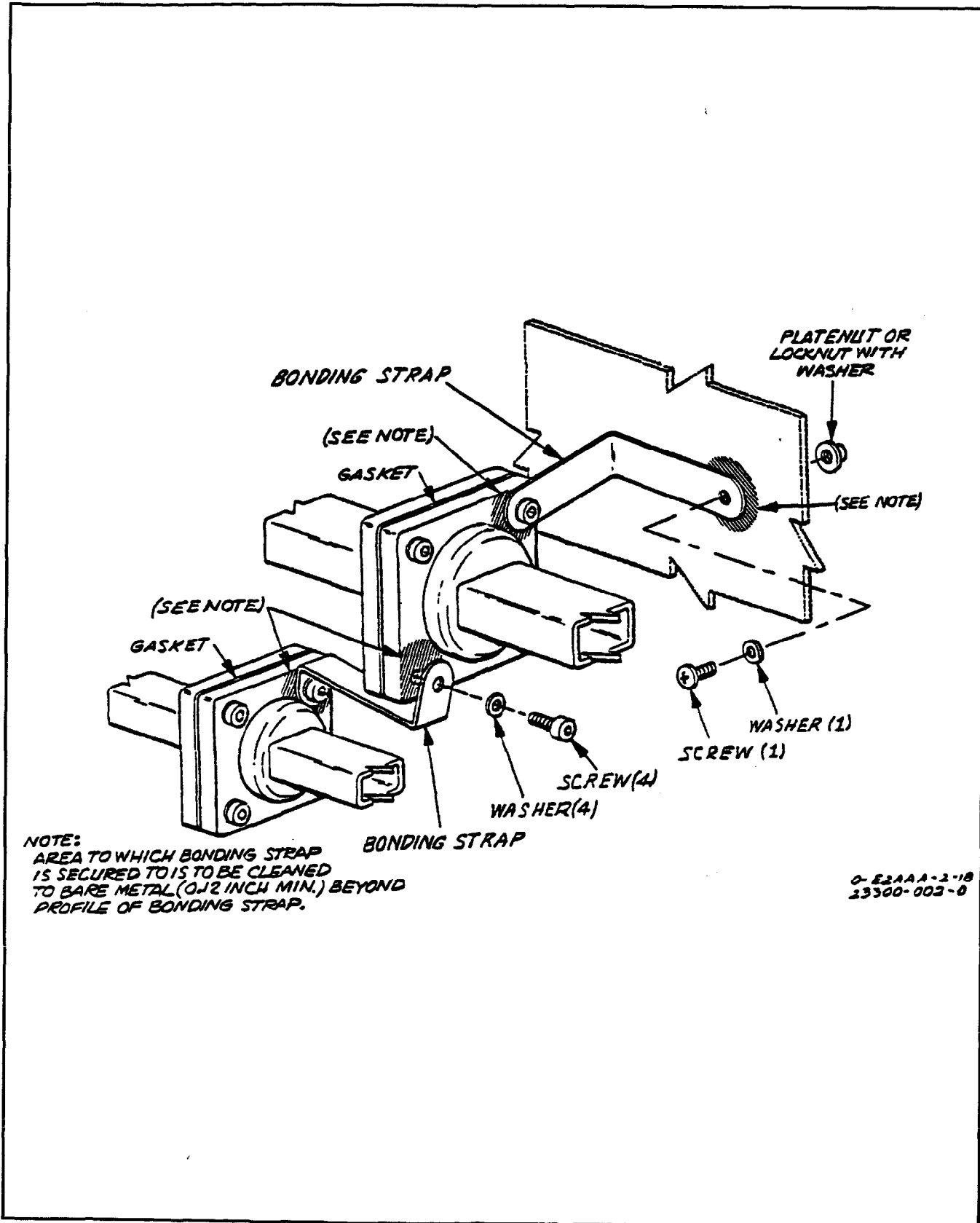
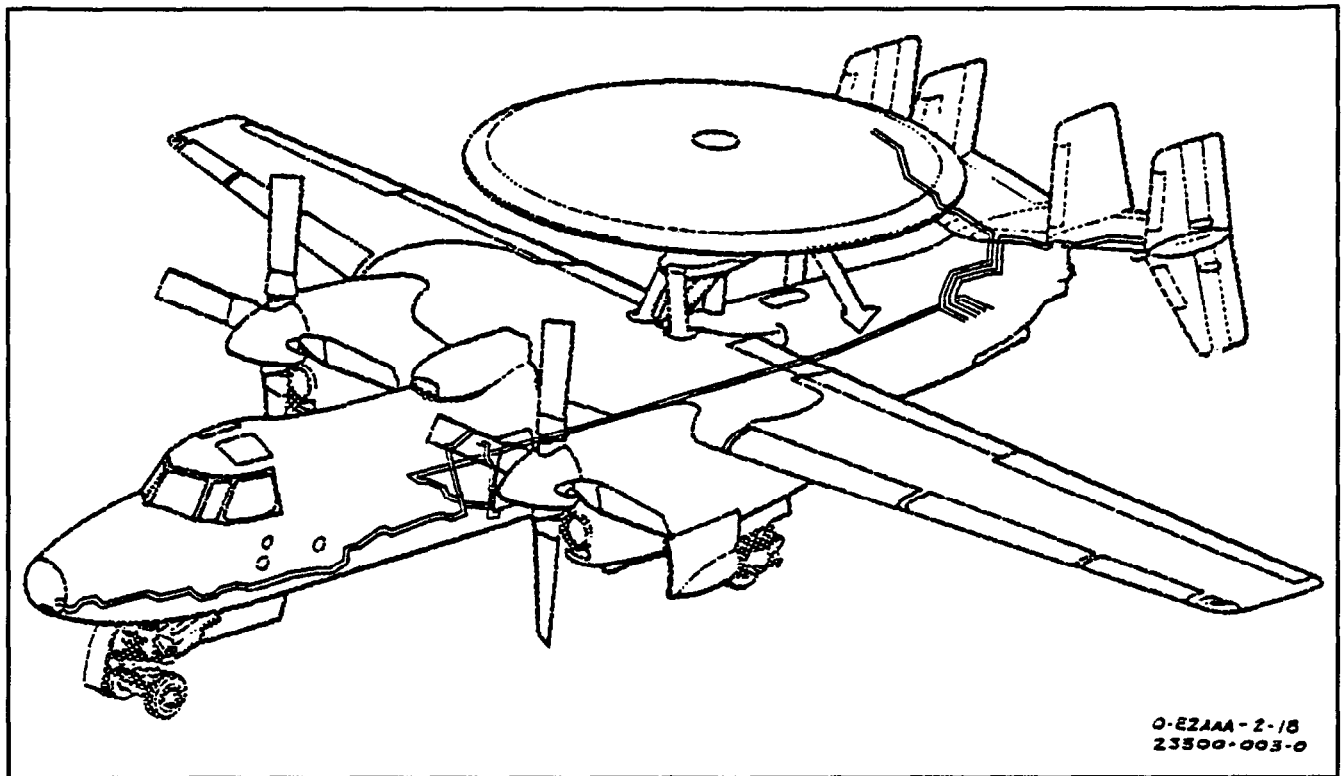


Figure 2. Configuration 1 - Typical Installation of Bonding Straps on Waveguide Flanges



0-E2AAA-2-18  
23300-003-0

**Figure 3. Configuration 1 - Location of LO-Lines in Aircraft**

d. Perform operational check of Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3.1, WP029 01).

**16. Installing Waveguide.**

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Prior to installation of waveguide section, clean waveguide flanges to bare metal 0.12 inch min. beyond profile of bonding strap on flat area, similar to the defective waveguide section removed.

b. Remove all caps.

c. Install waveguide section in aircraft. For type and quantity of attaching hardware and gaskets used during installation, refer to NAVAIR 01-E2AAA-4.

d. Purge waveguides, using purging procedure. (Refer to paragraph 17.)

e. Perform operational check of Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3.1, WP029 01).

17. **WAVEGUIDE PURGING.** Waveguides are purged by attaching a nitrogen supply to two manifolds in the aircraft (one manifold is located in the equipment compartment and one manifold is located in the tail section). The nitrogen (under pressure) flows through feeder lines (from each manifold) into waveguides and exists through vent valves located on transitions at the end of waveguides. After purging, the nitrogen supply is then disconnected and the waveguides are left with dry nitrogen in them.

18. Waveguide purging shall be accomplished:

**Note**

Desiccant is a moisture indicator only. Changing desiccant does not result in eliminating moisture within waveguide. The waveguide must be purged and then desiccant replaced.

a. When desiccators indicate moisture (50% or more of desiccant crystals changed color toward whitish pink). The desiccant shall be dark blue.

b. Upon removal or replacement of a waveguide.

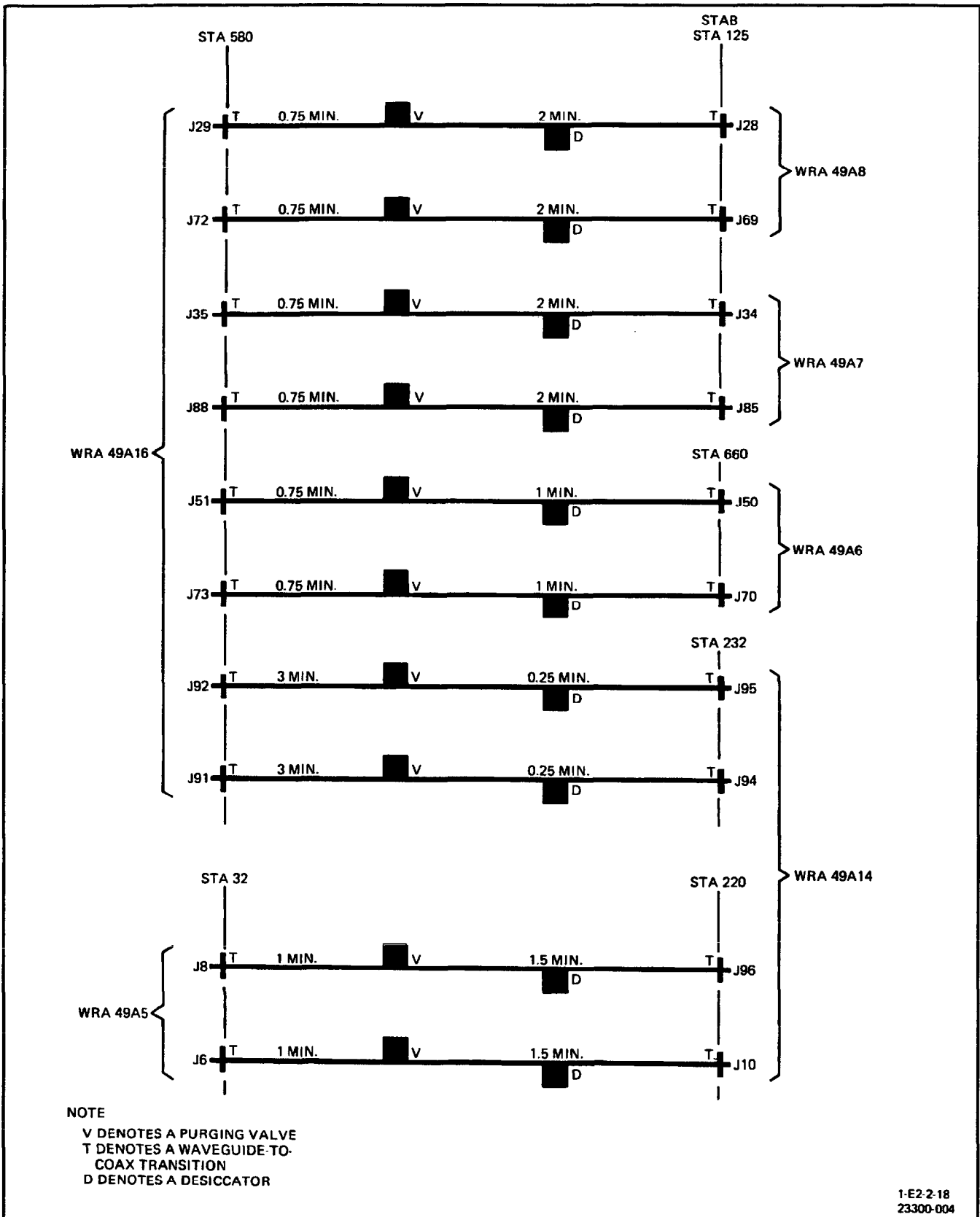


Figure 4. Configuration 1 - Time Sequence for Waveguide Purging

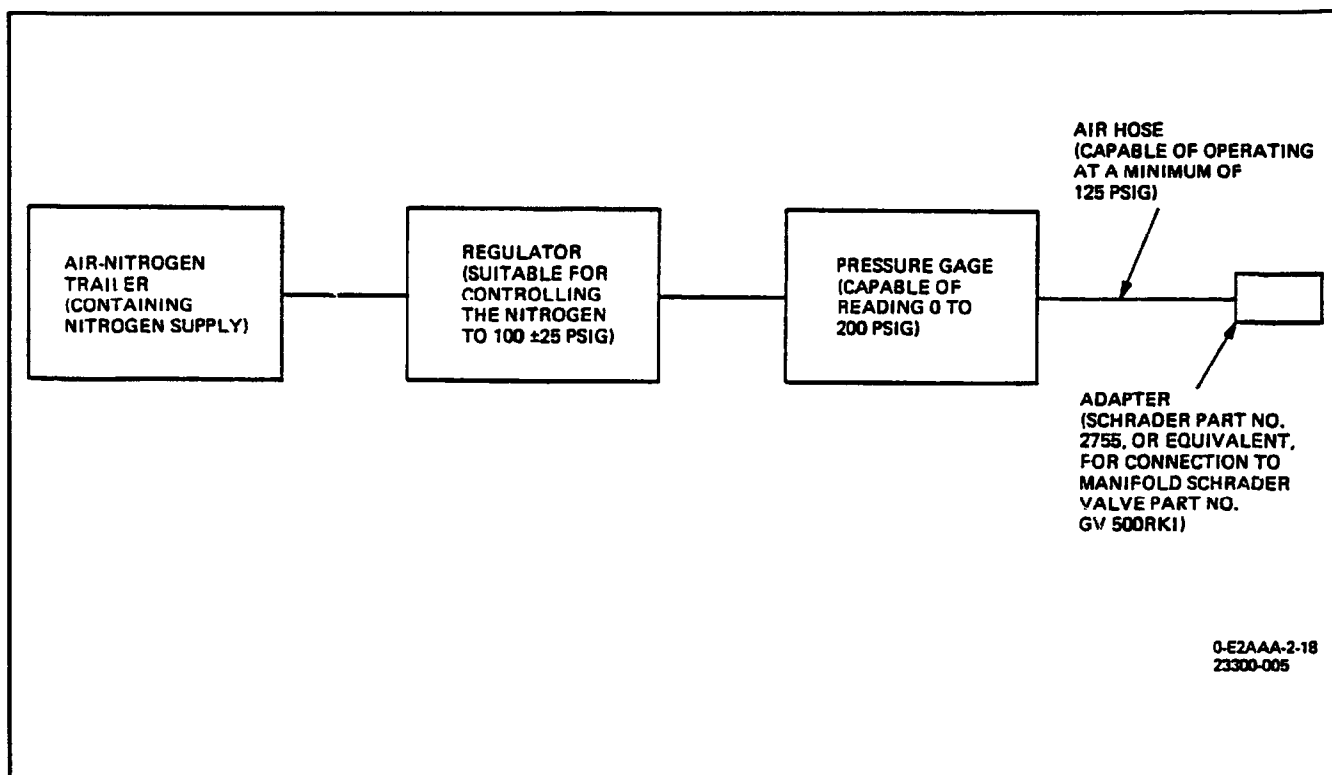


Figure 5. Configuration 2 - Purging Equipment Setup Diagram

19. Purge waveguides as follows:

**CAUTION**

Check that waveguide installation is complete and correct before performing the following procedure.

a. Set up purging equipment as shown in figure 5.

**CAUTION**

Do not remove Schrader valve on manifold and attempt to bypass it. Use only an adapter that will attach to Schrader valve and will depress air valve pin inside the Schrader valve.

**Note**

There are two manifolds used for purging. One is in the equipment compartment and one is in the tail section. (See figures 6 and 7.)

b. Connect adapter (attached to air hose) to Schrader valve on a manifold.

**Note**

It is recommended that two men perform the following procedures.

c. While one man applies nitrogen supply pressure of approximately 25 PSIG to manifold, have other man check that nitrogen is flowing out of vent valves (figure 8) located at transition ends of waveguides associated with that manifold. (See figure 6.)

**WARNING**

Ensure that all personnel working on aircraft are aware that purge is being performed. Alert personnel in areas of vent valves not to put finger on vent valves or to restrict flow.

d. Regulate nitrogen supply pressure so that  $100 \pm 25$  PSIG is supplied to manifold and maintain flow for a minimum of 30 minutes.

e. Operate regulator so that nitrogen pressure is applied at approximately 25 PSIG.

f. Replace desiccant in desiccators installed on waveguides associated with manifold (figures 6 and 8) as described in paragraph 21.

g. Operate regulator so that nitrogen pressure is depleted from air hose and then disconnect air hose adapter from manifold.

h. Verify that waveguides have not been over-pressurized by checking that waveguides haven't bulged from their rectangular shape. Waveguide sections close to the manifold can be considered typical of the entire waveguide.

i. After a short period, check if 50% or more of desiccant (in desiccators) have changed color toward whitish pink. If so, it is an indication that liquid water is in waveguides. This liquid water must be evaporated before the purge procedure can be effective. Perform procedure described in paragraph 22 and then repeat waveguide purging procedure (paragraph 19).

j. Repeat waveguide purging procedure (paragraph 19) for the other manifold.

**20. ADDITIONAL MAINTENANCE.**

**21. REPLACING DESICCANT IN DESICCATOR.**

**Materials Required**

<b>Specification or Part Number</b>	<b>Nomenclature</b>
MIL-D-3716, Type IV, Grade H	Desiccant

**Note**

The following procedure applies to configurations 1 and 2.

- a. Remove desiccator from waveguide or transition.
- b. On desiccator, release spring that retains barrel (containing desiccant) to desiccator plug.
- c. Remove barrel from desiccator plug, being careful not to spill desiccant.

d. Discard old desiccant and then refill the barrel with a minimum of 5 grams of new desiccant.

e. Replace barrel (containing new desiccant) on desiccator plug and secure with spring. Check that barrel is properly seated.

f. Install desiccator on waveguide or transition.

**22. REMOVING LIQUID WATER FROM WAVEGUIDES.**

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
Navy Stock Number 3655-01-004-7371	Oxygen System Purge Set

**Materials Required**

<b>Specification or Part Number</b>	<b>Nomenclature</b>
MIL-P-27401, Type I, or BB-N-411b, Type I, Class 2, Grade A	Nitrogen

**Note**

The following procedure is a suggested method of removing liquid water from waveguides and only applies to configuration 2.

The oxygen system purge set is capable of supplying heated nitrogen (225°F±25°F) at 50 PSIG.

- a. Connect oxygen system purge set (containing nitrogen) to the manifold.
- b. Allow nitrogen to flow through waveguides for a minimum of 2 hours so that liquid water is evaporated.
- c. Repeat waveguide purging procedure (paragraph 19).

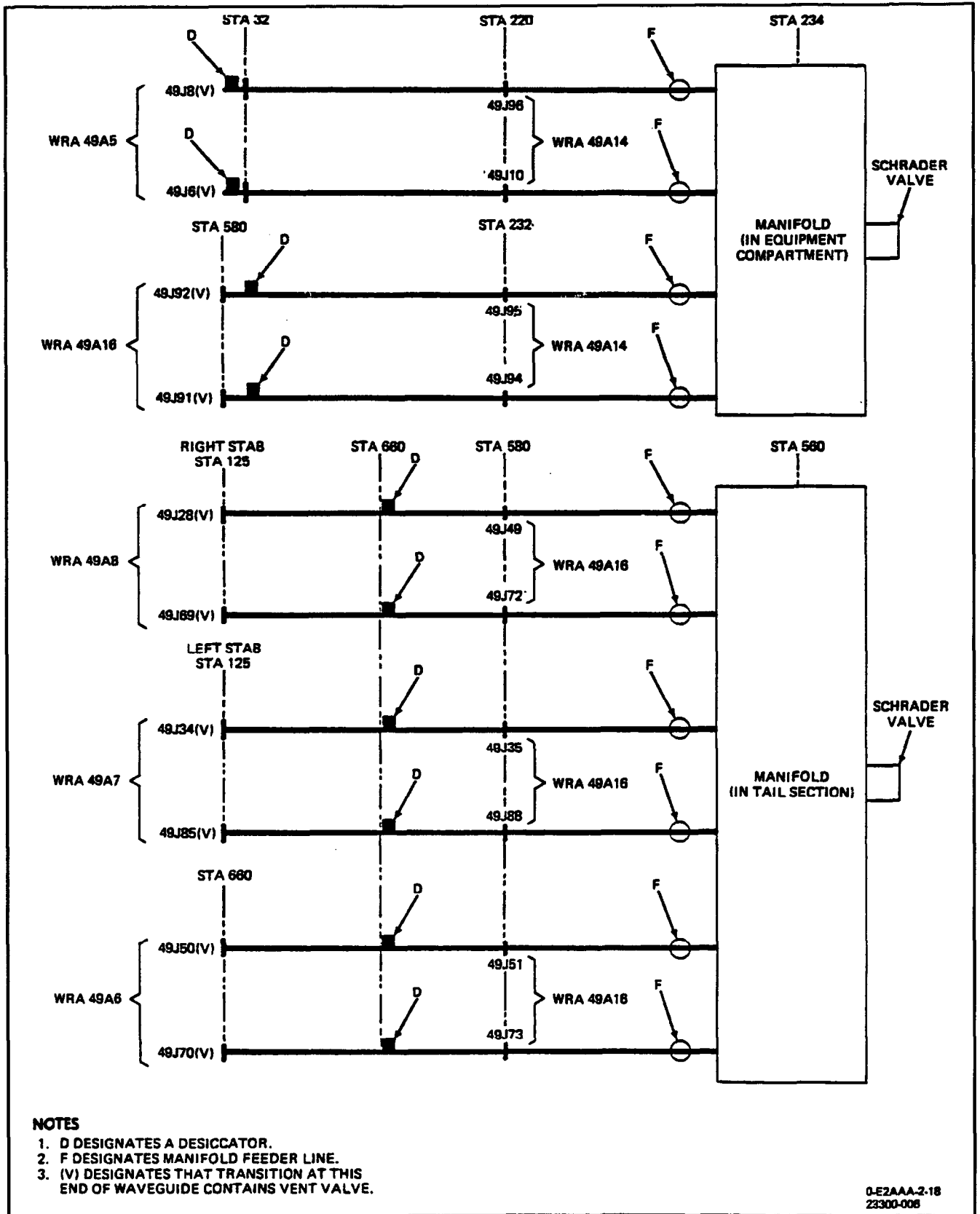


Figure 6. Configuration 2 - Purging Diagram

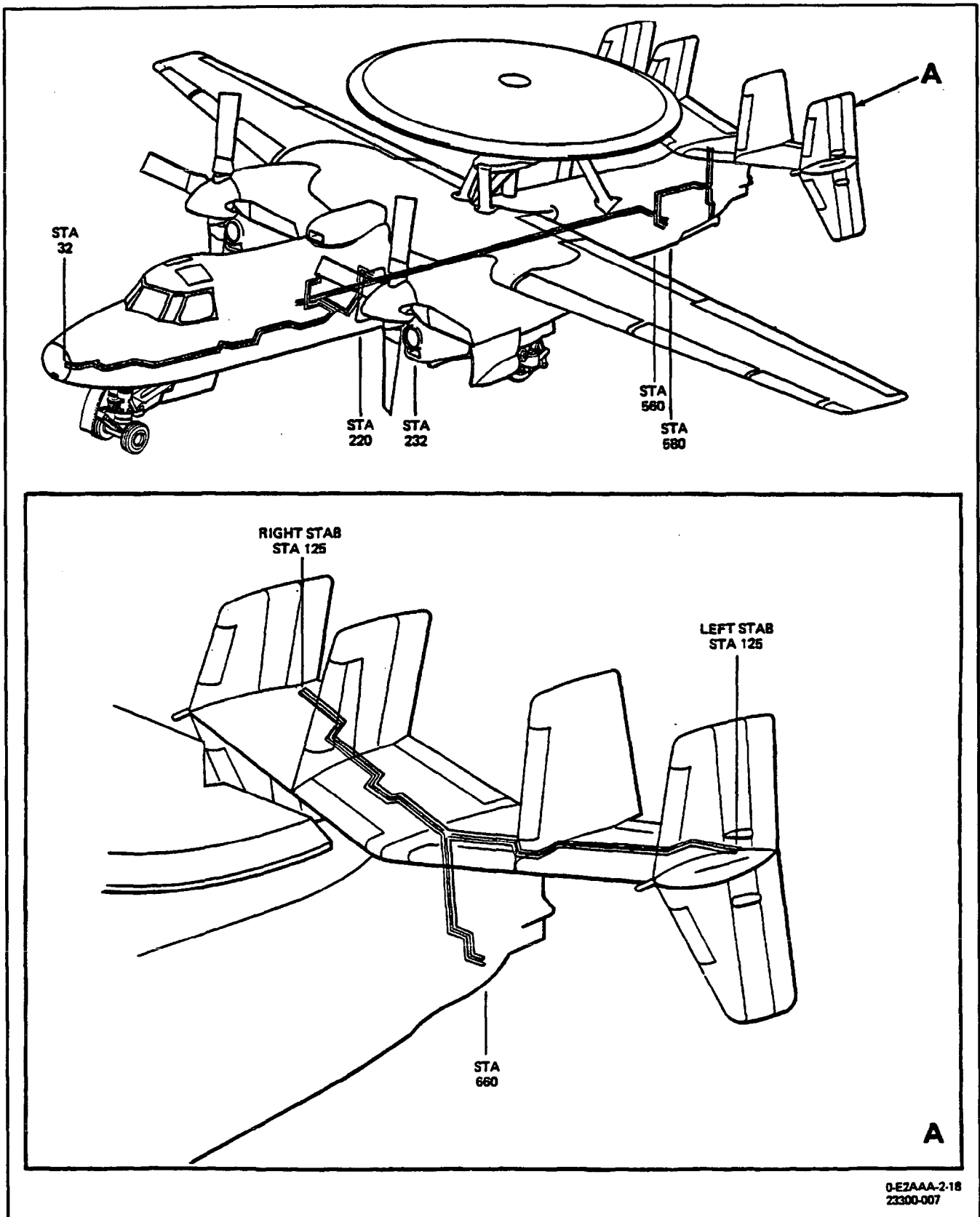


Figure 7. Configuration 2 - Location of Stations



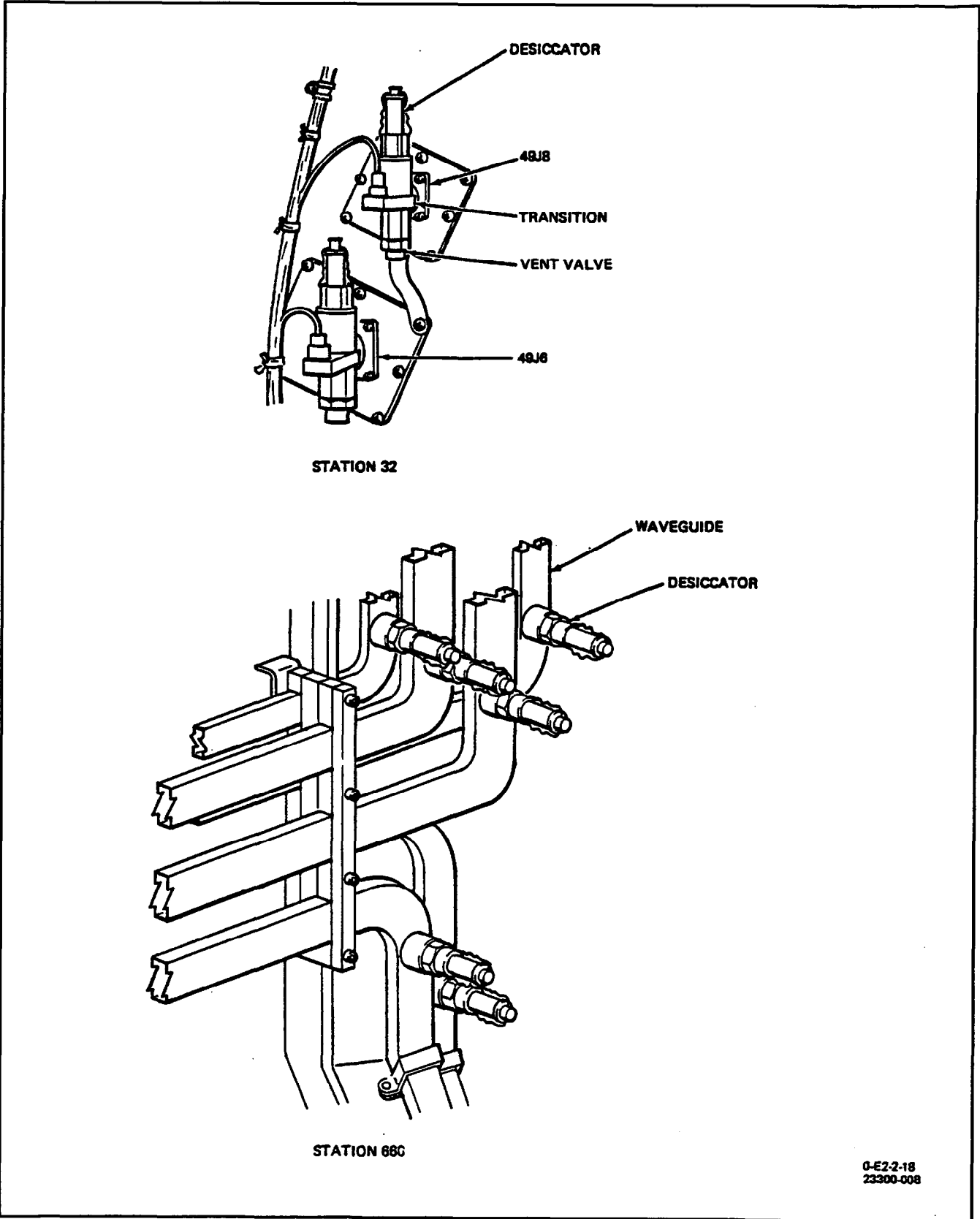


Figure 8. Configuration 2 - Identification of Desiccators and Vent Valve



**ORGANIZATIONAL MAINTENANCE**

**RADAR BLANKING BOX ASSEMBLY**

**PART NUMBER 123PE50700-1**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 258	—	Installation of logic card to provide radar blanking provisions of POS band 1 (ECP 173)	7/1/77	Effectivity: Aircraft serial no. 160012 and subsequent/Retrofit aircraft serial no. 158638 thru 158641, 158643 thru 158648, 159105 thru 159112, 159494 thru 159502, 160007 thru 160011

**1. GENERAL.**

2. The Radar Blanking Box Assembly (hereinafter referred to as the box assembly) (86A16) is associated with Radar Set AN/APS-125, and Countermeasures Receiving Set AN/ALR-59. The box assembly is installed within the main electronics junction box

(MEJB) located in the equipment compartment. (See figure 1.)

3. The following procedures apply to aircraft serial no. 160012 and subsequent, and aircraft incorporating AFC 258.

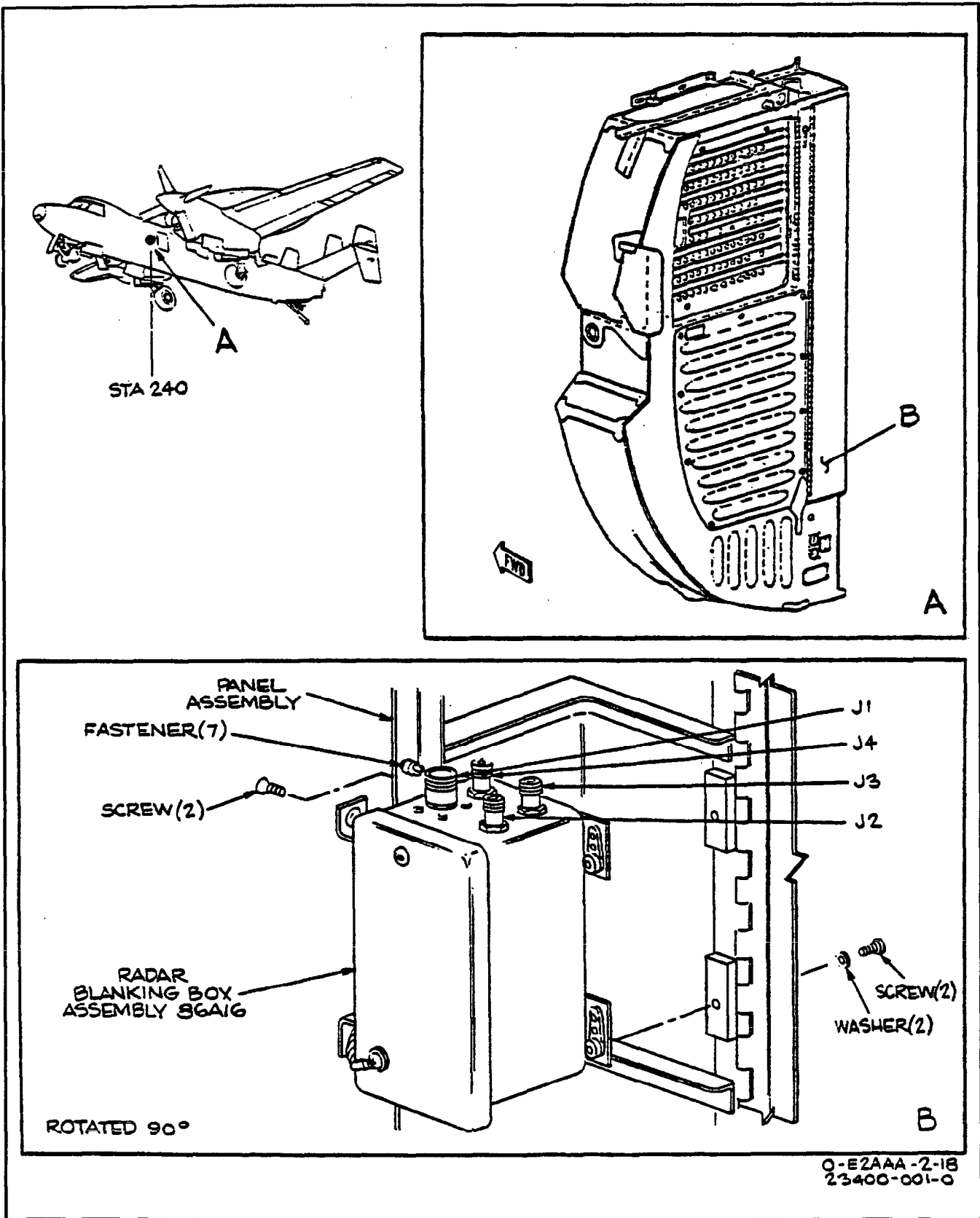


Figure 1. Removal and Installation of Radar Blanking Box Assembly

4. **REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disengage seven fasteners securing panel assembly to MEJB.
- b. Carefully open panel assembly until box assembly is accessible.

**Note**

Receptacles J2 through J4 (on box assembly) and cable connectors 86A16P2 through 86A16P4 are only used when Radar Set AN/APS-125 is installed in aircraft.

- c. Remove cable connector(s) from receptacle(s) on box assembly.
- d. Remove four screws and two washers securing box assembly to panel assembly. Remove box assembly.
- e. Cap cable connector(s) and receptacle(s).

5. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from cable connector(s) and receptacle(s).



Inspect cable connector(s) and receptacle(s) for damage and bent pins prior to installation.

- b. Attach box assembly to panel assembly with four screws and two washers. (QUALITY ASSURANCE)

**Note**

Receptacles J2 through J4 (on box assembly) and cable connectors 86A16P2 through 86A16P4 are only used when Radar Set AN/APS-125 is installed in aircraft.

- c. Connect appropriate cable connector(s) to receptacle(s) on box assembly. (QUALITY ASSURANCE)
- d. Carefully close panel assembly and secure with seven fasteners.
- e. Perform an operational check of Countermeasures Receiving Set AN/ALR-59 (WP029 00) and Radar Set AN/APS-125 (WP034 00) located in NAVAIR 01-E2AAA-2-17.



**ORGANIZATIONAL MAINTENANCE**

**RECEIVER PROCESSOR R-1672/ALQ-108 AND EQUIPMENT RACK MS91405-AID**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, AND 159494 THROUGH 159502**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Set AN/ALQ-108 .....	030 00

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**Record of Applicable Technical Directives**

None

**1. GENERAL**

2. The Receiver Processor R-1672/ALQ-108 (62A2) and Equipment Rack MS91405-AID (hereinafter referred to as the receiver processor and mount) are part of the Countermeasures Set AN/ALQ-108. The receiver processor and mount are in the cockpit, left side (see figure 1).

3. Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
10C2385 (Amecom)	Torque Wrench (open end) (9.0 +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (offset) (9.0 +1.0, -0 inch-pounds)

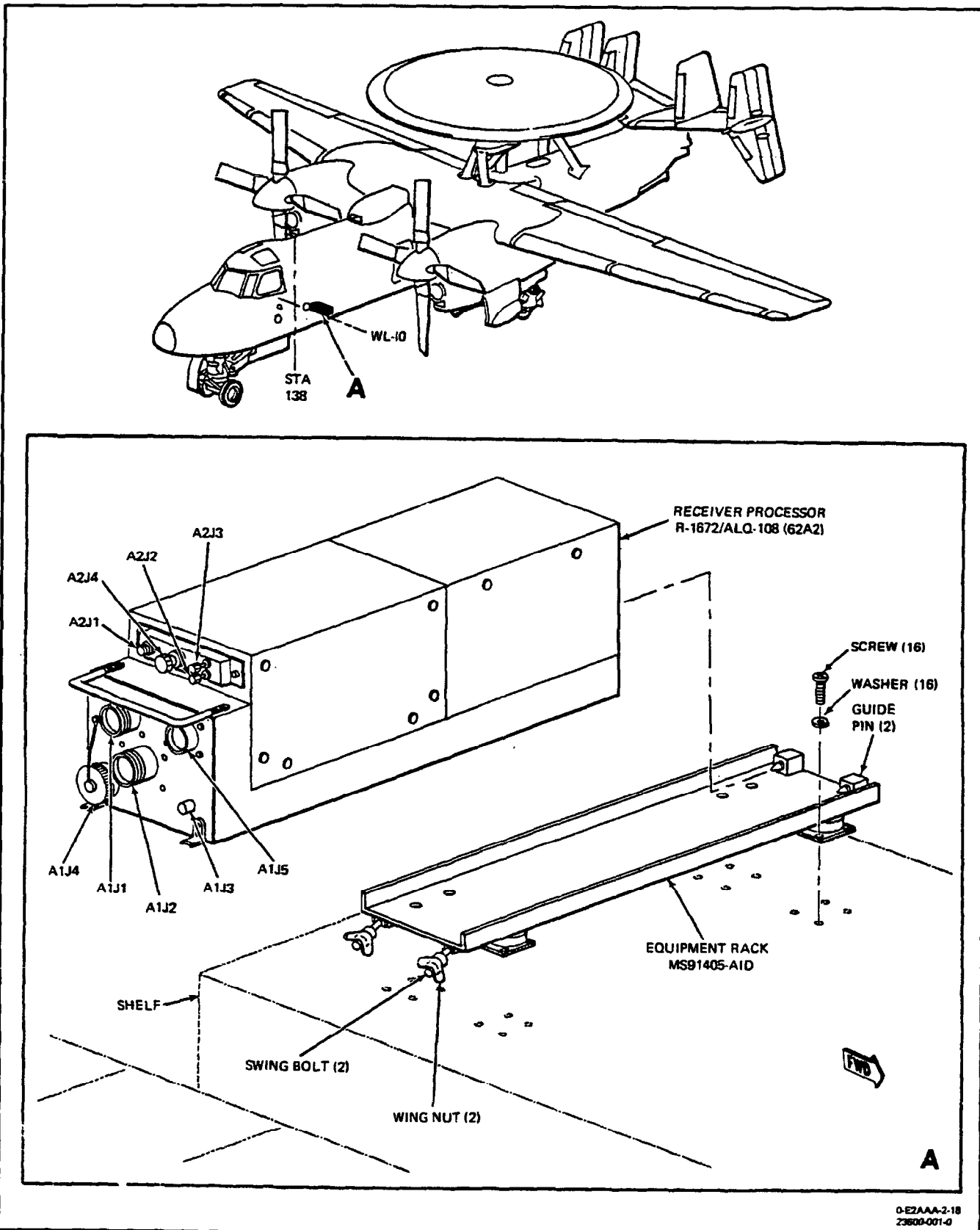
**4. RECEIVER PROCESSOR R-1672/ALQ-108.**

**5. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disconnect four cable connectors from receptacles A1J1, A1J2, A1J5, and A2J2.
- b. Remove lockwire securing wing nuts.
- c. Loosen two wing nuts and disengage two swing bolts securing receiver processor to mount.
- d. Remove receiver processor from mount.
- e. Cap connectors and receptacles.



0-E2AAA-2-18  
23600-001-0

Figure 1. Removal and Installation of Receiver Processor R-1672/ALQ-108 and Equipment Rack MS91405-AID



6. INSTALLATION. (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC40	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

Receptacles A2J4 and A1J4 shall be capped.

- b. Place receiver processor on mount and slide to the rear until guide pins are engaged. (QUALITY ASSURANCE)
- c. Secure receiver processor to mount by engaging two swing bolts and tightening two wing nuts. Secure two wing nuts using specified lockwire. (QUALITY ASSURANCE)
- d. Connect appropriate cable connector to receiver processor receptacles as follows: (QUALITY ASSURANCE)

**Note**

The following cable connectors are torqued (using appropriate torque wrench) to 9.0 +1.0, -0 inch-pounds.

Receiver Processor Receptacle	Cable Connectors
A1J1	62A2P6
A1J2	62A2P7
A1J3	(Not used)
A1J4	(Capped)
A1J5	62A2P1
A2J1	(Not used)
A2J2	62A2P5
A2J3	(Not used)
A2J4	(Capped)

- e. Perform an operational check on Countermeasures Set AN/ALQ-108 (NAVAIR 01-E2AAA- 2-17.3, WP030 00).

7. **EQUIPMENT RACK MS91405-AID.**

8. REMOVAL. (See figure 1.)

- a. Remove the receiver processor (refer to paragraph 4).
- b. Remove 16 screws and 16 washers securing mount to shelf.
- c. Remove mount from shelf.

9. INSTALLATION. (See figure 1.)

- a. Secure mount to shelf with 16 screws and 16 washers. (QUALITY ASSURANCE)
- b. Install receiver processor (refer to paragraph 6).



**ORGANIZATIONAL MAINTENANCE**

**TRANSMITTER T-1164/ALQ-108 AND EQUIPMENT RACK MS91405-AID**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, AND 159494 THROUGH 159502**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Set AN/ALQ-108 .....	030 00

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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Transmitter T-1164/ALQ-108 (62A3) and Equipment Rack MS91405-AID (hereinafter referred to as the transmitter and mount) are part of the Countermeasures Set AN/ALQ-108. The transmitter and mount are in the cockpit (see figure 1).

3. Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
10C2385 (Amecom)	Torque Wrench (open end) (9.0 +1.0, -1 inch-pounds)
10C2386 (Amecom)	Torque Wrench (offset) (9.0 +1.0, -0 inch-pounds)

**4. TRANSMITTER T-1164/ALQ-108.**

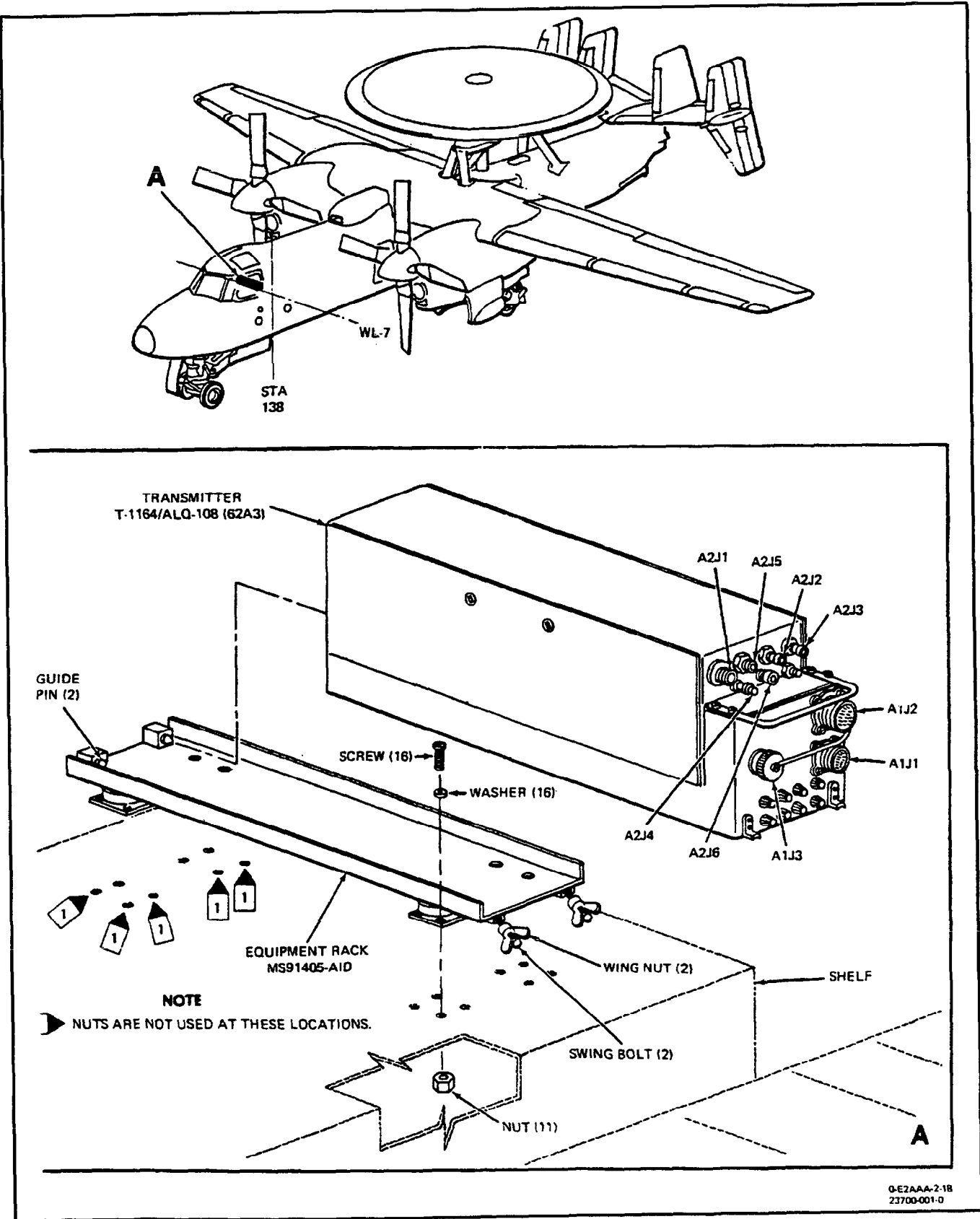
5. REMOVAL. (See figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disconnect four cable connectors from receptacles A1J1, A1J2, A2J1 and A2J4.

b. Remove lockwire securing wing nuts.



0-E2AAA-2-18  
23700-001-0

Figure 1. Removal and Installation of Transmitter T-1164/ALQ-108 and Equipment Rack MS91405-AID

- c. Loosen two wing nuts and disengage two swing bolts securing transmitter to mount.
  - d. Remove transmitter from mount.
  - e. Cap all connectors and receptacles.
6. INSTALLATION. (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC40	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Place transmitter on mount and slide to the rear until guide pins are engaged. (QUALITY ASSURANCE)
- c. Secure transmitter to mount by engaging two swing bolts and tightening two wing nuts. Secure two wing nuts using specified lockwire. (QUALITY ASSURANCE)
- d. Connect appropriate cable connector to transmitter receptacles as listed below. (QUALITY ASSURANCE)

**Note**

The following cable connectors are torqued (using appropriate torque wrench) to 9.0 +1.0, -0 inch-pounds.

Transmitter Receptacle	Cable Connectors
A1J1	62A3P1
A1J2	62A3P2
A1J3	(Capped)
A2J1	62A3P9
A2J2	(Not Used)
A2J3	(Not used)
A2J4	62A3P5
A2J5	(Capped)
A2J6	(Not used)

- e. Perform an operational check on Countermeasures Set AN/ALQ-108 (NAVAIR 01-E2AAA-2-17.3, WP030 00).

**7. EQUIPMENT RACK MS91405-AID.**

**8. REMOVAL.** (See figure 1.)

- a. Remove the transmitter (refer to paragraph 4).
- b. Remove 16 screws, 16 washers, and 11 nuts securing mount to shelf.
- c. Remove mount from shelf.

**9. INSTALLATION.** (See figure 1.)

- a. Secure mount to shelf with 16 screws, 16 washers, and 11 nuts. (QUALITY ASSURANCE)
- b. Install transmitter (refer to paragraph 5).



**ORGANIZATIONAL MAINTENANCE**

**CONTROL INDICATOR C-8490/ALQ**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Set AN/ALQ-108 .....	030 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Control Indicator C-8490/ALQ (hereinafter referred to as the control) (62A1) is part of the Countermeasures Set AN/ALQ-108. The control is in the crew compartment, left side. Refer to WP003 00 (figure 4, item 6) for location of the control.

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disengage four fasteners securing control to panel.

b. Pull control out of panel until cable connectors are accessible.

c. Holding control, disconnect two cable connectors from control receptacles J1 and J2.

d. Cap connectors and receptacles.

**4. INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors and receptacles.

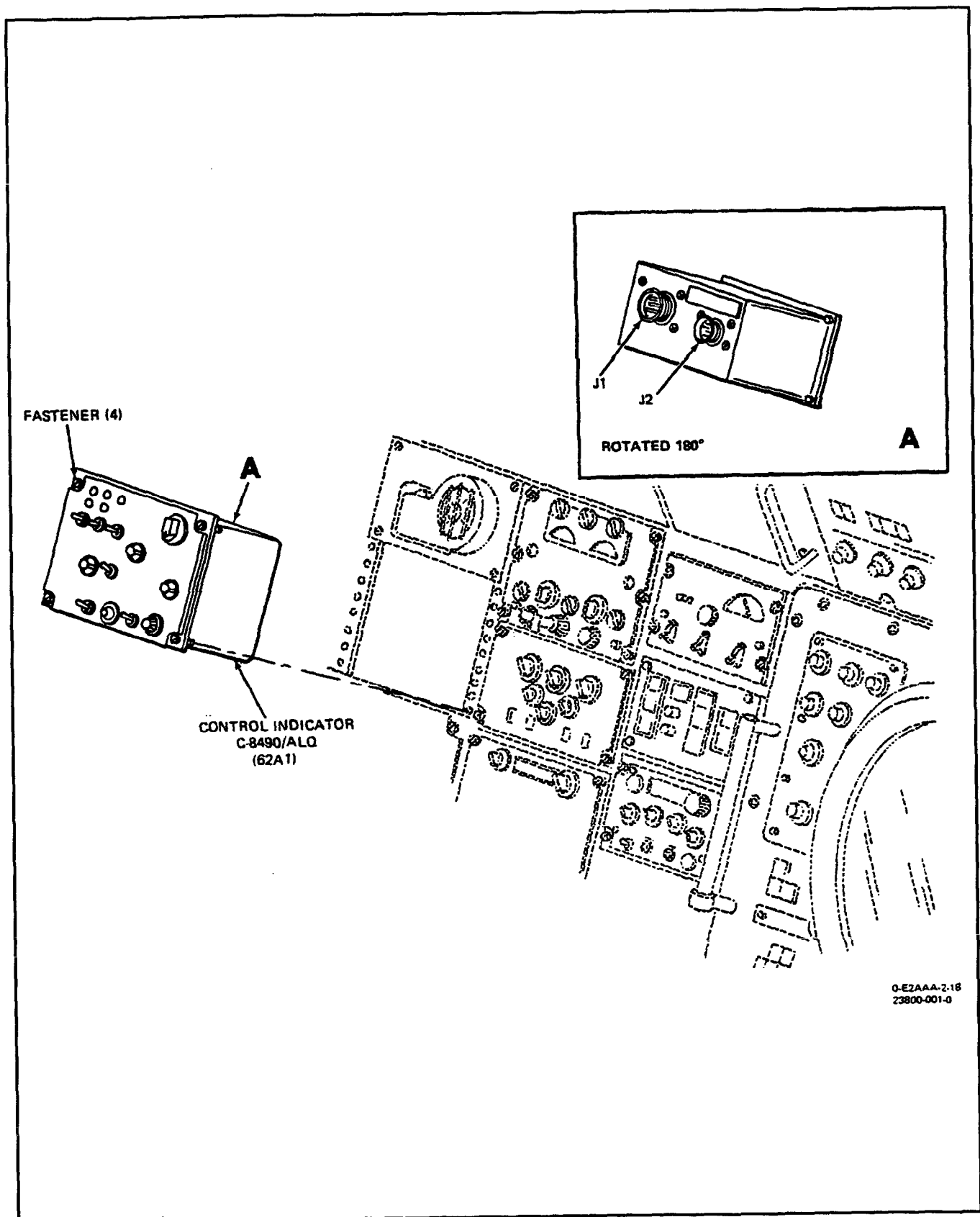


Figure 1. Removal and Installation of Control Indicator C-8490/ALQ





Inspect connectors and receptacles for damage and bent pins prior to installation.

b. Connect cable connectors 62A1P1 and 62A1P2 to control receptacles J1 and J2, respectively. (QUALITY ASSURANCE)

c. Insert control into panel and secure with four fasteners. (QUALITY ASSURANCE)

d. Perform an operational check on Countermeasures Set AN/ALQ-108 (NAVAIR 01-E2AAA-2-17.3, WP030 00).



**ORGANIZATIONAL MAINTENANCE**

**ECM MULTIPLEXER**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, AND 159494 THROUGH 159502**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1 027 00
External Electrical Power Connections .....	
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3 030 00
Countermeasures Set AN/ALQ-108 .....	
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1 003 00
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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The ECM Multiplexer (hereinafter referred to as the multiplexer) (62A5) is part of the Countermeasures Set AN/ALQ-108. The multiplexer is in the crew compartment, right side. (See figure 1.)

3. Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
10C2385 (Amecom)	Torque Wrench (open end) (9.0 +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (offset) (9.0 +1.0, -0 inch-pounds)

**4. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disassemble appropriate section of panel (in crew compartment) for access to multiplexer. Refer to WP003 00 (figure 5, item 12) for location panel.

b. Remove three cable connectors from multiplexer receptacles J1 through J3.

c. Remove termination (50 ohms) from multiplexer receptacle J4 and retain for installation.

d. Holding multiplexer, loosen four captive screws securing multiplexer to mounting bracket.

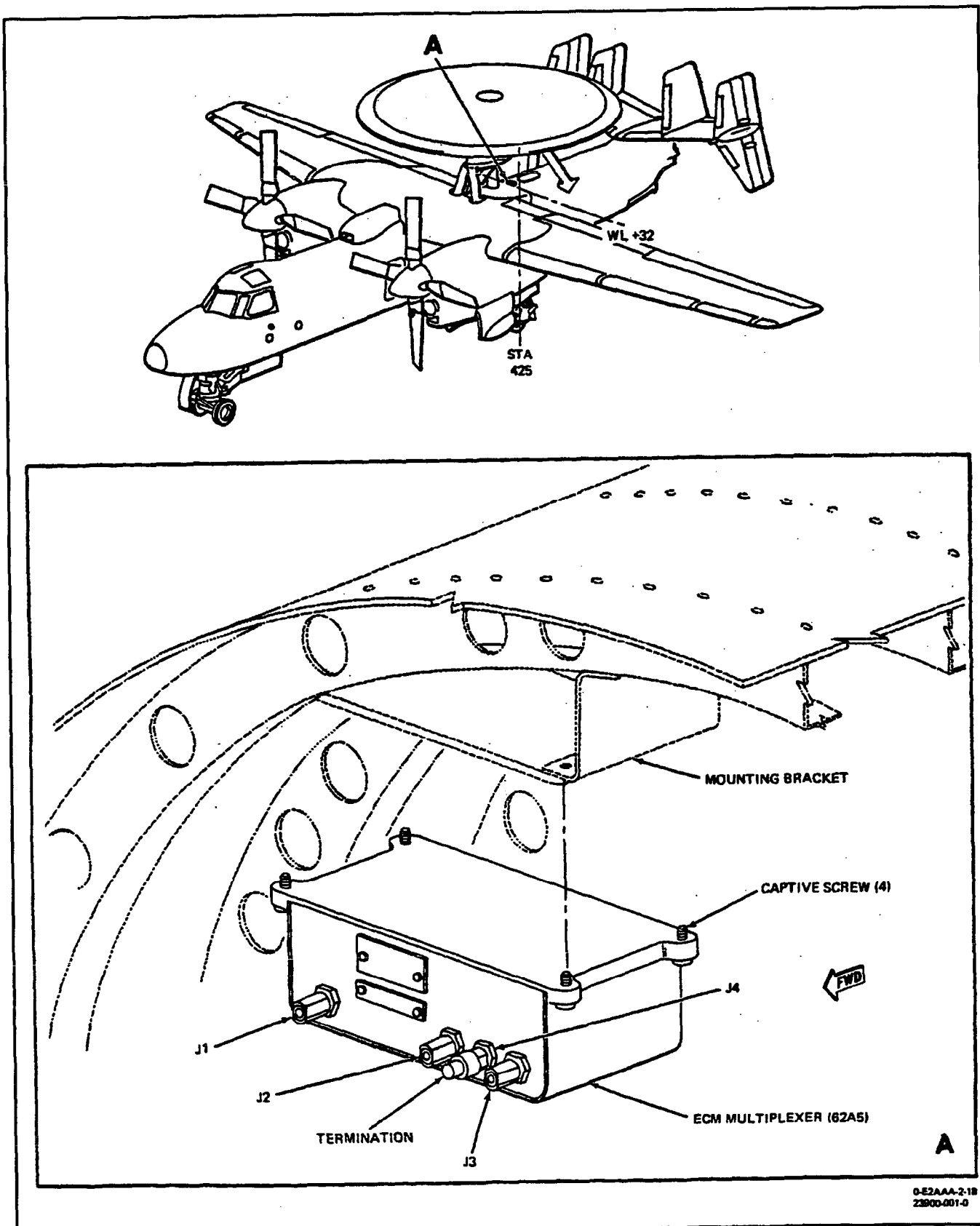


Figure 1. Removal and Installation of ECM Multiplexer

e. Cap termination and all connectors and receptacles.

5. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors, receptacles and termination.



Inspect connectors and receptacles for dam-

age and bent pins prior to installation.

b. Secure multiplexer to mounting bracket with four captive screws. (QUALITY ASSURANCE)

c. Connect cable connectors 62A5P1, 62A5P2 and 62A5P3 to multiplexer receptacles J1 through J3, respectively. (QUALITY ASSURANCE)

d. Using appropriate torque wrench, torque connectors to 9.0, +1.0, -0 inch-pounds. (QUALITY ASSURANCE)

e. Connect termination (50 ohms) to multiplexer receptacle J4. (QUALITY ASSURANCE)

f. Perform an operational check of Countermeasures Set AN/ALQ-108 (NAVAIR 01-E2AAA-2-17.3, WP030 00).

g. Install panel removed in step 4a.



**ORGANIZATIONAL MAINTENANCE**

**INTERCONNECTING BOX J-3168/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, AND 162614 THROUGH 162619, 162797 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Set AN/ALQ-108 .....	030 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Interconnecting Box J-3168/A (hereinafter referred to as the junction box) (62A4) is used in conjunction with the Countermeasures Set AN/ALQ-108. The junction box is in the cockpit, right side (see figure 1). Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
3/8-inch socket (3/8-inch drive)	Socket
5 to 150 inch-pounds	Torque Wrench

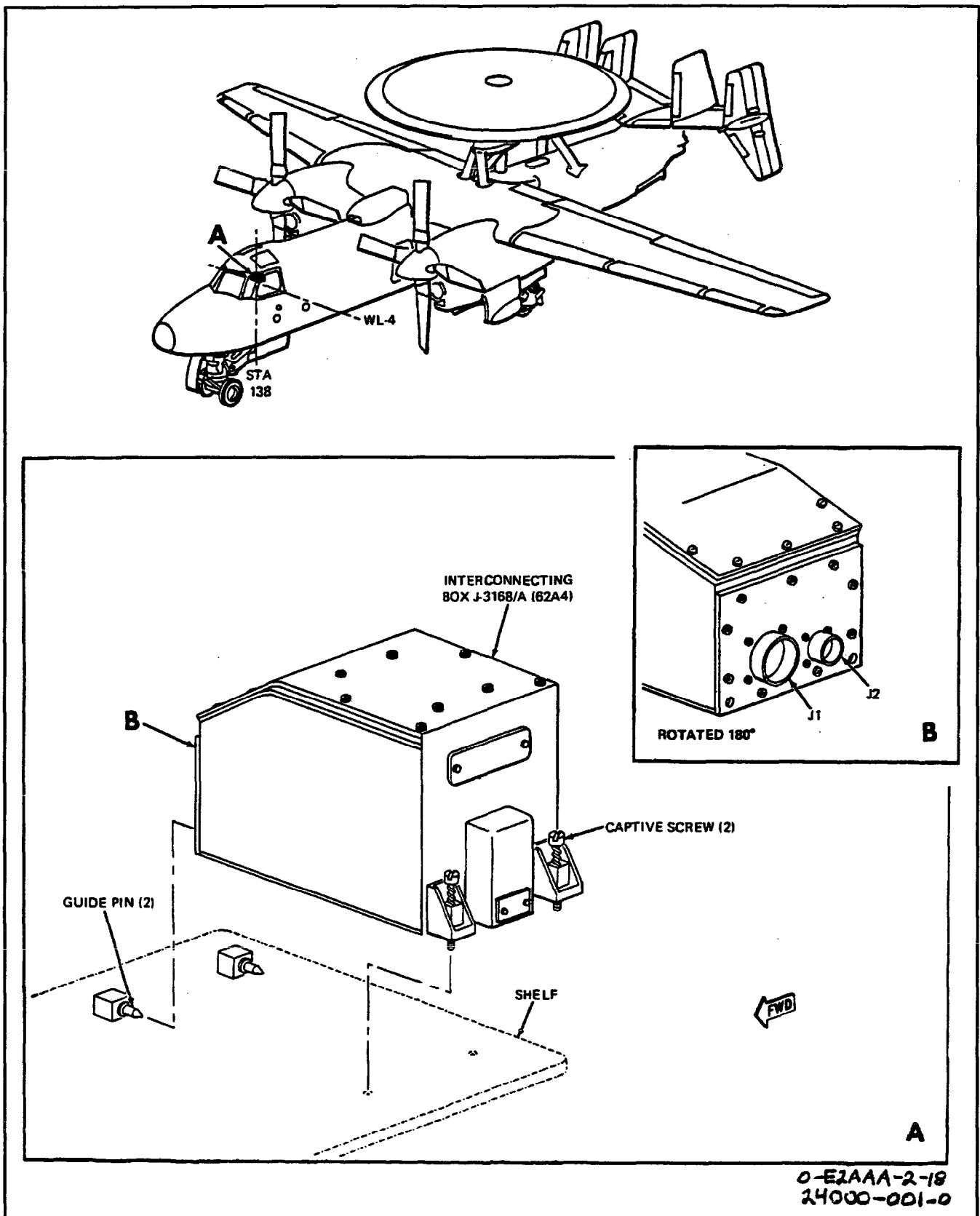


Figure 1. Removal and Installation of Interconnecting Box J-3168/A



3. **REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove Transmitter T-1164/ALQ-108 (WP237 00).
- b. Disengage two captive screws securing junction box to shelf.
- c. Carefully pull junction box forward until two guide pins are disengaged and cable connectors are accessible.
- d. Disconnect two cable connectors from junction box receptacles J1 and J2.
- e. Remove junction box from shelf.
- f. Cap connectors and receptacles.

4. **INSTALLATION.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from cable connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Place junction box on shelf and connect cable connectors 62A4P1 and 62A4P2 to junction box receptacles J1 and J2, respectively.
- c. Carefully push junction box backward until two guide pins (on shelf) engage two bushings on rear of junction box.
- d. Using torque wrench and socket, secure junction box to shelf by torquing two captive screws to  $100 \pm 5$  inch-pounds. (QUALITY ASSURANCE)
- e. Install Transmitter T-1164/ALQ-108 (WP237 00).
- f. Perform an operational check of Countermeasures Set AN/ALQ-108 (NAVAIR 01-E2AAA-2-17.3, WP030 00).



**ORGANIZATIONAL MAINTENANCE**

**INDICATOR DISPLAY POWER SUPPLY-CONTROL PP-6525/APA-172 AND PP-8286/APQ-179**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Display System .....	031 00
Display System .....	031 04
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of Enhanced Main Display Unit (EMDU) (ECP 382R1)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. Aircraft preceding serial number 164108 contain Indicator Display Power Supply-Control PP-6525/APA-172 (hereinafter referred to as the control), part of Indicator Group OD-48/APA-172, which is a unit of the Control Indicator Group AN/APA-172 (CIG). Aircraft serial number 164108 and subsequent contain Indicator Display Power Supply-Control PP-8286/APQ-179

(hereinafter referred to as the control), part of Indicator Group OD-214/APQ-179, which is a unit of the Control Indicator Set AN/APQ-179 (CIS). There are three controls (45A1A1, 45A2A1, and 45A3A1) in the left side of the crew compartment. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, items 3, 12, and 19, or 3A, 12A, and 19A) for location of the respective controls.

**Support Equipment Required**

Part or Model No.	Nomenclature
—	5/32-Inch Hex Key

3. **REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using 5/32-inch hex key, disengage 12 panel fasteners securing control to panel.
- b. Using handles provided, slowly pull control forward until slide latches lock control in position.
- c. Disconnect four cable connectors from control receptacles J1 through J4.
- d. Release slide latches and slowly pull control forward (supporting control on bottom) until control is fully removed from cabinet.
- e. Cap all connectors and receptacles.

4. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins before to installation.

- b. Extend slides from console until locked in position.
- c. Install control on slides and push control into cabinet until slide latches lock in position.
- d. Connect cable connectors to control receptacles J1 through J4 as listed below. (QUALITY ASSURANCE)

Control Receptacle	Cable Connectors
<b>45A1A1</b>	
J1	45A1P1
J2	45A1P2
J3	45A1P3
J4	45A1P4
<b>45A2A1</b>	
J1	45A2P1
J2	45A2P2
J3	45A2P3
J4	45A2P4
<b>45A3A1</b>	
J1	45A3P1
J2	45A3P2
J3	45A3P3
J4	45A3P4

- e. Release slide latches and slowly push control into cabinet until front panel is flush with console.
- f. Using 5/32-inch hex key, engage 12 panel fasteners to secure control to console. (QUALITY ASSURANCE)
- g. Perform an operational check of the Indicator Group OD-48/APA-172, or Indicator Group OD-214/APQ-179, contained within respective Display System test (NAVAIR 01-E2AAA-2-17.3, WP031 00 or WP031 04).

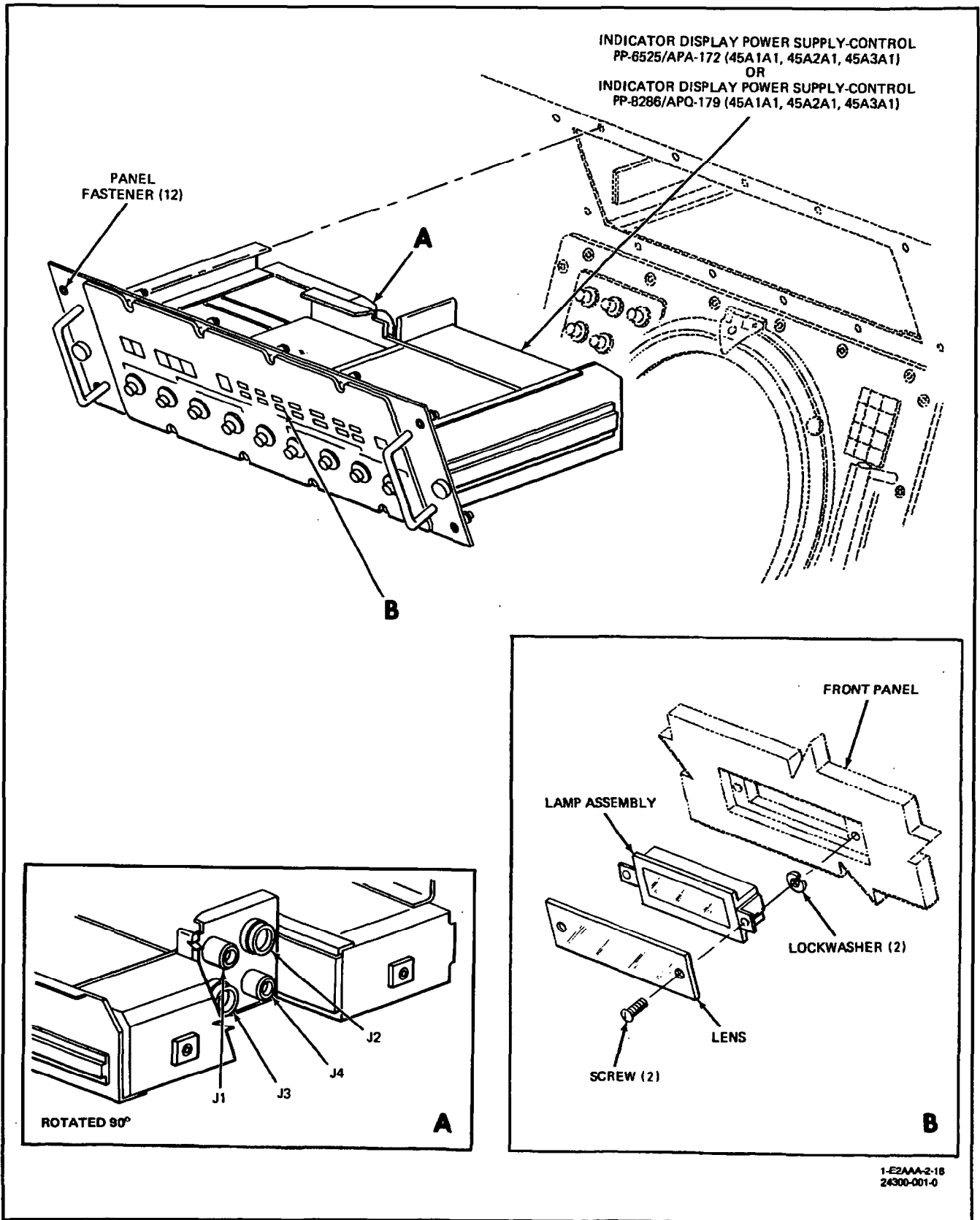


Figure 1. Removal and Installation of Indicator Display Power Supply-Control PP-6525/APA-172 and PP-8286/APQ-179

5. REPLACING FAILURE INDICATING LAMP ASSEMBLY.



Extreme care must be taken in removing and replacing screws. The screws are made of nylon.

**Note**

Due to angle of front panel and size of attaching hardware, it is recommended that control be removed from console and placed on a flat surface when replacing lamp assembly.

- a. (See detail B.) Remove two screws and two lockwashers that secure lens and lamp assembly to front panel.
- b. Using two screws and two lockwashers secure lens and replacement lamp assembly to front panel.

**ORGANIZATIONAL MAINTENANCE**

**MAINTENANCE**

**CONTROL INDICATOR C-12514/ASQ-225 (ACIS) AND CONTROL INDICATOR SET AN/ASQ-225 CABLE ASSEMBLIES**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

Location of Electronic System Components .....	003 01
Processor-Display Assembly CP-2371/ASQ-225 .....	244 02
Keyboard-Trackball Assembly CA-103/ASQ-225 .....	245 01
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Control Indicator Set AN/ASQ-225 .....	031 05
Electronic Assembly Repair .....	NAVAIR 01-1A-23
Standard Maintenance Practices Miniature/Microminiature (2M)	
Electronic Assembly Repair Electrostatic Discharge Control .....	005 00

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Record of Applicable Technical Directives

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
None				
1.		<b>INTRODUCTION.</b>		
2.		The Control Indicator Set AN/ASQ-225 (ACIS) consists of the Control-Indicator Assembly C-12514/ASQ-225, Processor-Display Assembly CP-2371/ASQ-225, Keyboard-Trackball Assembly CA-103/ASQ-225 (Bullnose), and associated interface cabling.		installation procedures for ACIS cable assemblies. Figure 2 illustrates the cable assemblies that interconnect major subassemblies and their layout on the cable sheaths. The cable sheaths are displayed oriented to the rear of the Processor-Display Assembly as viewed looking into the ACIS enclosure.
3.		The three ACIS workstations are located on the left side of the CIC compartment, one each at the ACO, CICO, and RO stations. Refer to WP003 01, Figure 4, Detail E for location of the ACIS workstations. Table 1 lists the circuit breakers on the main electronics junction box that control power for each ACIS workstation.		<b>Note</b> Refer to Figure 1 for locations of ACIS components. All components in the following procedures are referenced to Figure 1 with indexes shown in parenthesis.
4.		This subordinate work package (SWP) covers the removal and installation procedures for the Control-Indicator Assembly C-12514/ASQ-225 and Removable Media Cartridge (RMC). Figure 1 displays the locations of ACIS components. Also included are removal and		
<b>Support Equipment Required</b>				
		<b>Part or Model No.</b>		<b>Nomenclature</b>
		40170		ESD Wrist Strap
		2100		Static Shield Bag
		123SAV51001-9		ACIS CCA Carrying Case



**TABLE 1. CONTROL INDICATOR SET AN/ASQ-225 STATION CIRCUIT BREAKERS**

Station	MEJB 86 Circuit Breaker
RO	DISPLAY RO (CB36) DISPLAY RO (CB37) DISPLAY RO (CB38) DISPLAY RO (CB84)
CICO	DISPLAY CICO (CB39) DISPLAY CICO (CB40) DISPLAY CICO (CB41) DISPLAY CICO (CB85)
ACO	DISPLAY ACO (CB42) DISPLAY ACO (CB43) DISPLAY ACO (CB44) DISPLAY ACO (CB86)

**5. CONTROL-INDICATOR ASSEMBLY C-12514/ASQ-225.**

6. REMOVAL. The Control-Indicator Assembly (1, Figure 1) is located in the top of each ACIS enclosure (14).



Energized equipment can cause severe shock or death on contact.



The ACIS Operating System (OS) requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

a. Open and tag four appropriate circuit breakers on Main Electronics Junction Box for ACIS workstation requiring maintenance (Table 1).

**Note**

When the RMC is loaded with the Operational Flight Program (OFF), the RMC becomes classified to the same level as the OFF. The RMC shall be safeguarded in accordance with approved DOD storage, handling and shipping regulations and procedures.

b. Remove and retain RMC (5) (Removable Media Cartridge Removal).

c. Loosen 12 captive fasteners (4) to detach Control-Indicator Assembly (1) from ACIS enclosure (14).

d. Slowly withdraw Control-Indicator Assembly from ACIS enclosure (14) until control-indicator mounting rails (13) lock in extended position.



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

e. Disconnect following connectors from Control-Indicator Assembly (1) receptacles:

Connector	Receptacle	Port	Index
W7P1	J1	A/C OUT	(8)
W10P1	J2	SCSI	(9)
W8P1	J3	LOW POWER OUT	(10)
W1P2	J4	A/C IN	(11)
W9P1	J5	SCSI POWER	(12)

f. Depress two slide release clips and remove Control-Indicator Assembly.

g. Place Control-Indicator Assembly on an ESD protective surface.

h. Retract both control-indicator mounting rails (13) into ACIS enclosure (14).

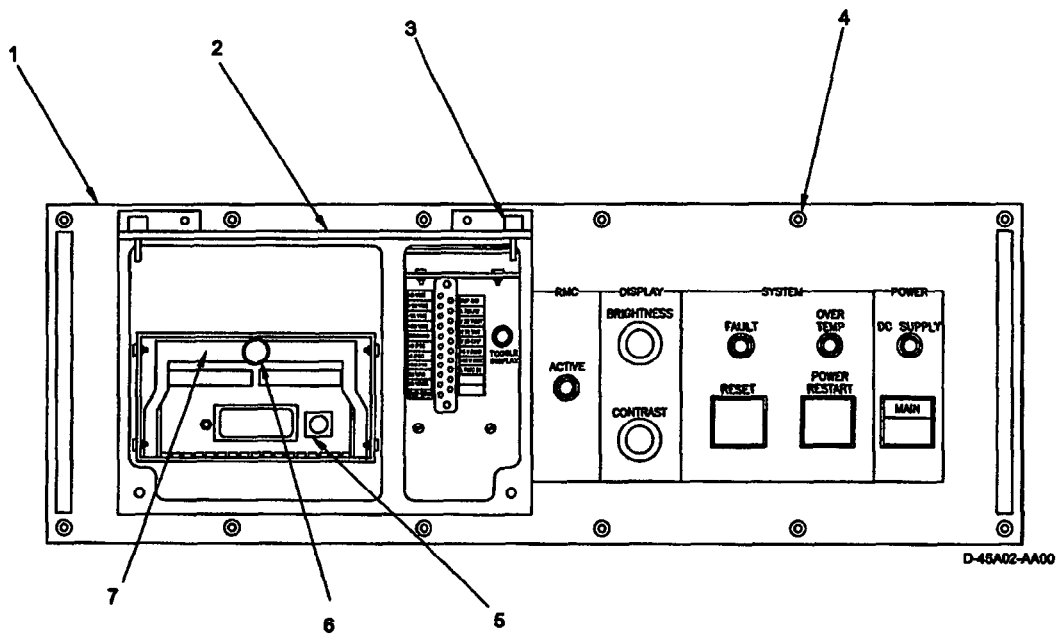
7. INSTALLATION. The Control-Indicator Assembly (1, Figure 1) is located in the top of each ACIS enclosure (14).



Energized equipment can cause severe shock or death on contact.

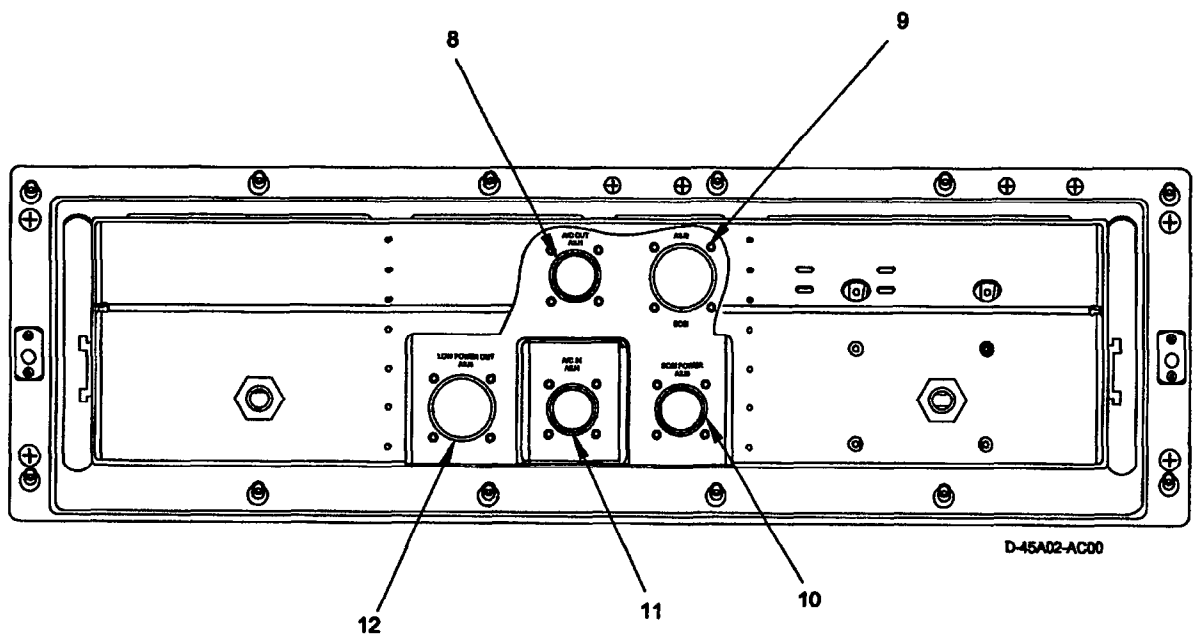
a. Ensure four appropriate circuit breakers on Main Electronic Junction Box for faulty ACIS workstation requiring maintenance are opened and tagged (Table 1).

b. Extend control-indicator mounting rails (13) from ACIS enclosure (14) until control-indicator mounting rails (13) lock in place.



- 1. Control-Indicator Assembly
- 2. RMC Cavity Door
- 3. Door Retaining Screw
- 4. Captive Fastener
- 5. RMC
- 6. Inserter/Extractor Retaining Screw
- 7. Inserter/Extractor Lever

Figure 1. Control-Indicator Assembly C-12514/ASQ-225 and Control Indicator Set AN/ASQ-225 Components (Sheet 1 of 10)



- 8. Control-Indicator - J1 A/C OUT
- 9. Control-Indicator - J2 SCSI
- 10. Control-Indicator - J5 SCSI POWER
- 11. Control-Indicator - J4 A/C IN
- 12. Control-Indicator - J3 LOW PWR OUT

Figure 1. Control-Indicator Assembly C-12514/ASQ-225 and Control Indicator Set AN/ASQ-225 Components (Sheet 2)

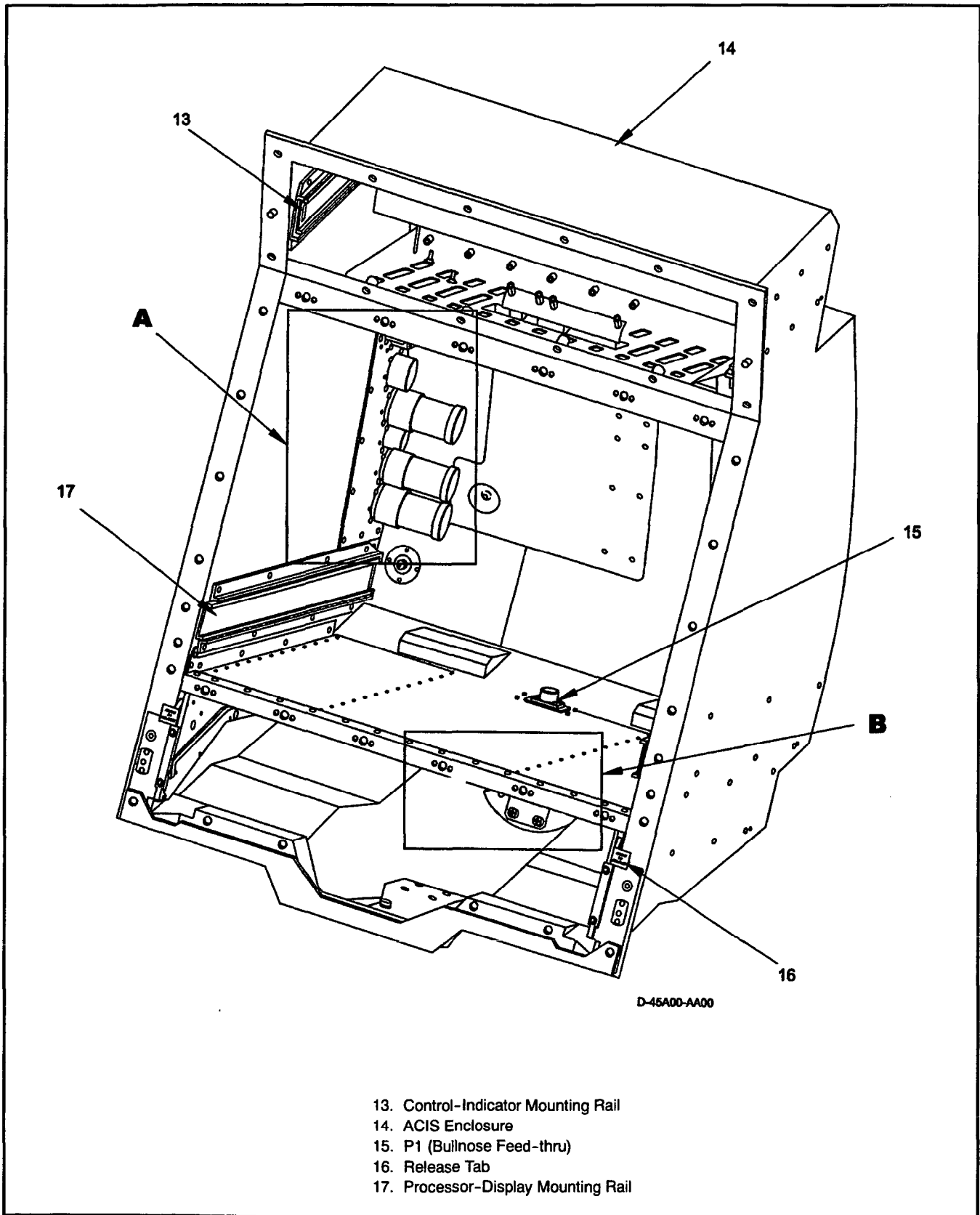
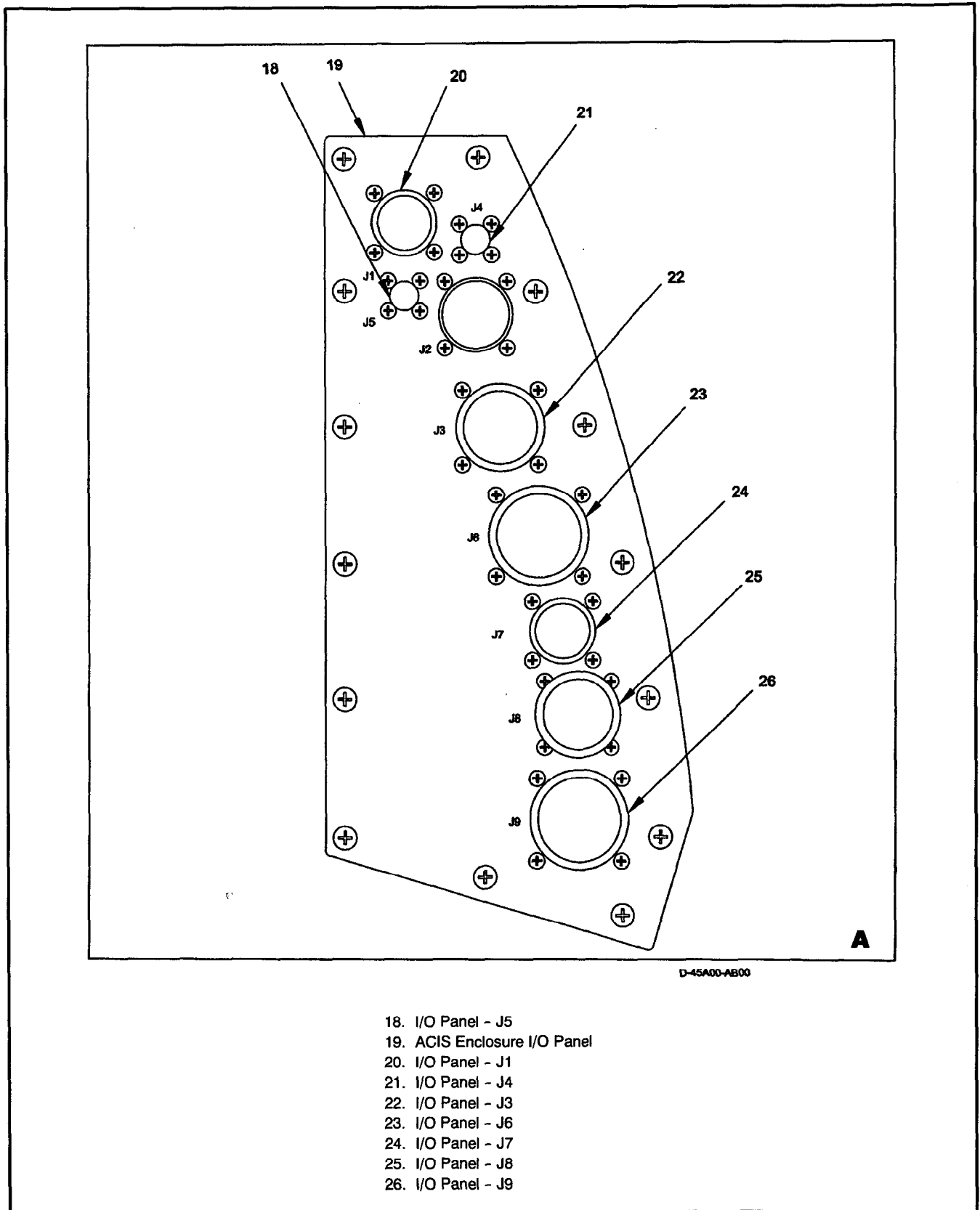


Figure 1. Control-Indicator Assembly C-12514/ASQ-225 and Control Indicator Set AN/ASQ-225 Components (Sheet 3)



- 18. I/O Panel - J5
- 19. ACIS Enclosure I/O Panel
- 20. I/O Panel - J1
- 21. I/O Panel - J4
- 22. I/O Panel - J3
- 23. I/O Panel - J6
- 24. I/O Panel - J7
- 25. I/O Panel - J8
- 26. I/O Panel - J9

Figure 1. Control-Indicator Assembly C-12514/ASQ-225 and Control Indicator Set AN/ASQ-225 Components (Sheet 4)

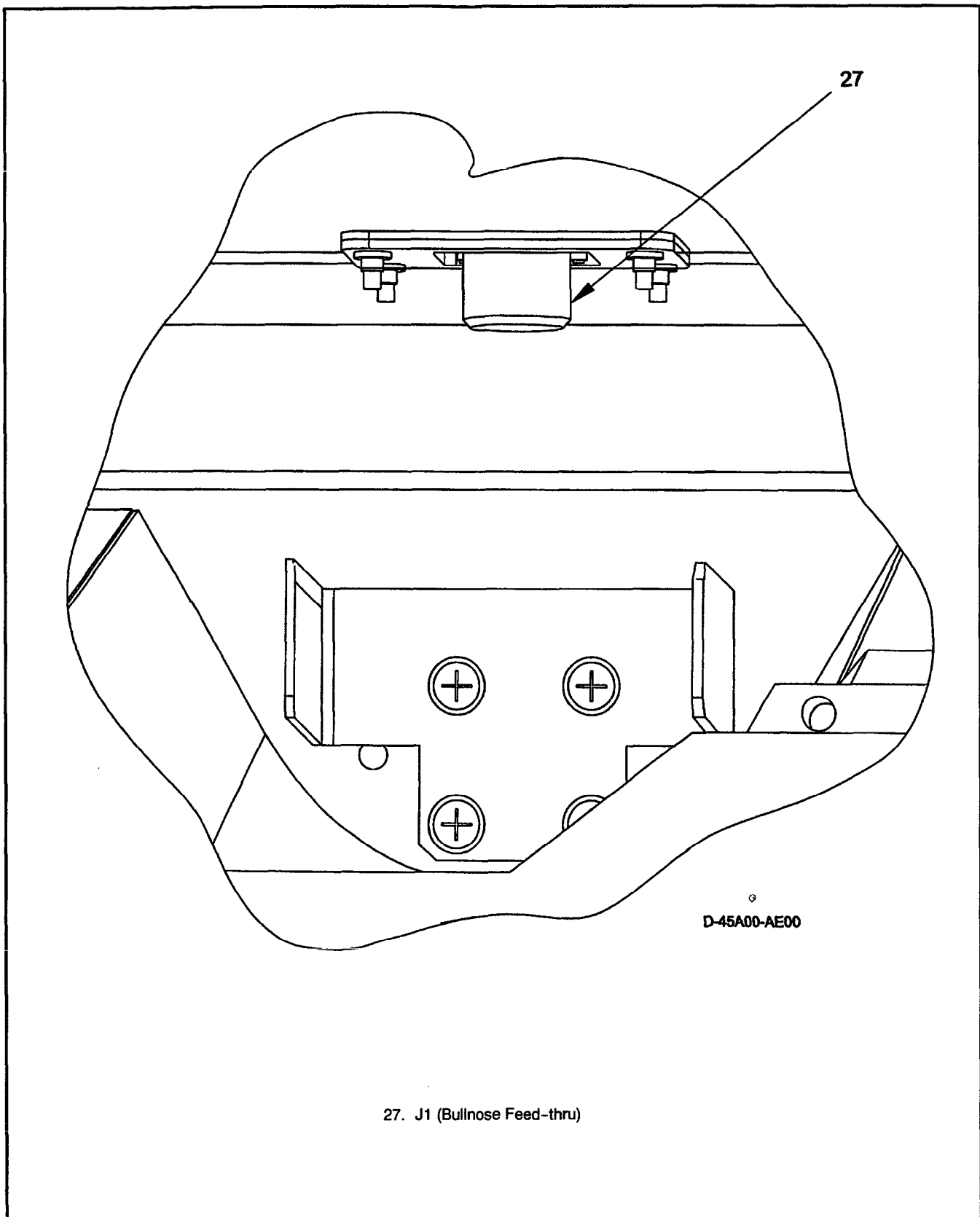
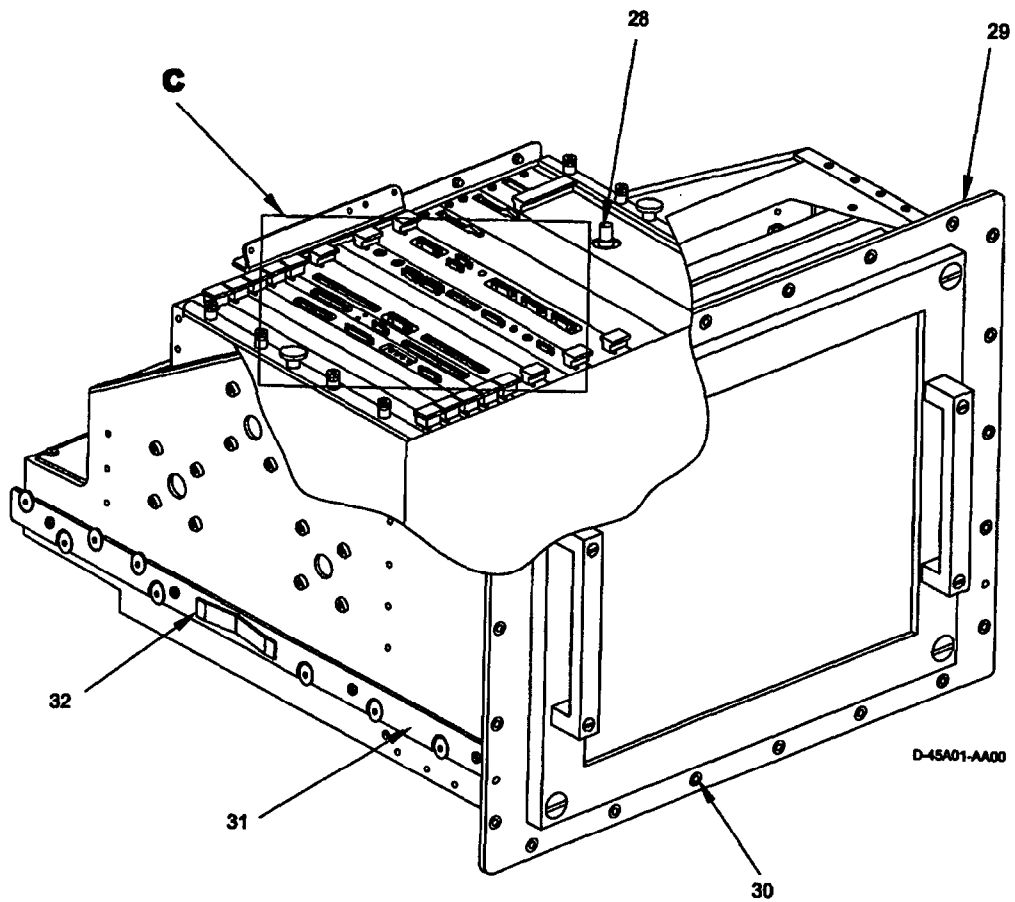
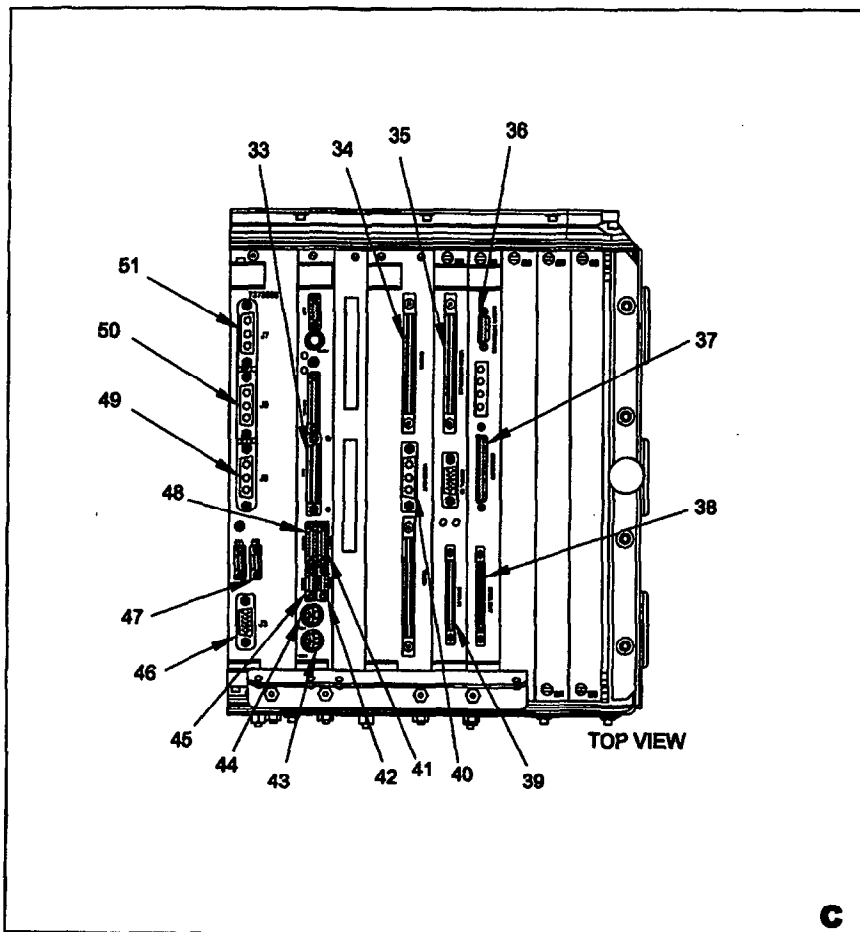


Figure 1. Control-Indicator Assembly C-12514/ASQ-225 and Control Indicator Set AN/ASQ-225 Components (Sheet 5)



- 28. Ethernet Transceiver CCA - J1
- 29. Processor-Display Assembly
- 30. Captive Fastener
- 31. Processor-Display Roller Rail
- 32. Release Latch

Figure 1. Control-Indicator Assembly C-12514/ASQ-225 and Control Indicator Set AN/ASQ-225 Components (Sheet 6)

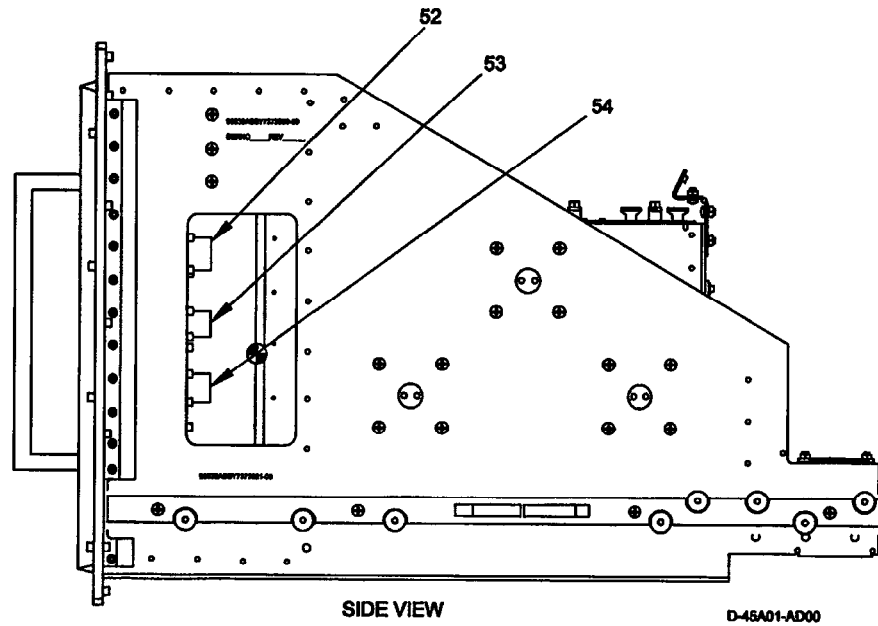


D-45A01-AC00

- 33. Processor CCA - SCSI Port
- 34. Graphics CCA - RADAR Port
- 35. Radar Scan Converter CCA - VIDEO INTER-FACE Port
- 36. Radar Interface CCA - RADAR INTERFACE Port
- 37. Radar Interface CCA - RADAR/IFF Port
- 38. Radar Interface CCA - DATA OUT Port
- 39. Radar Scan Converter CCA - DATA IN Port
- 40. Graphics CCA - RGB-VIDEO OUT Port
- 41. Processor CCA - AUI/VID V port
- 42. Processor CCA - RS232A Port
- 43. Processor CCA - PS/2 0 KBD Port
- 44. Processor CCA - PS/2 1 MOUSE Port
- 45. Processor CCA - RS232B Port
- 46. Power/Temperature Control (PTC) CCA - J3
- 47. PTC CCA - J4B
- 48. Processor CCA - AUI/VID A Port
- 49. PTC CCA - J5
- 50. PTC CCA - J6
- 51. PTC CCA - J7

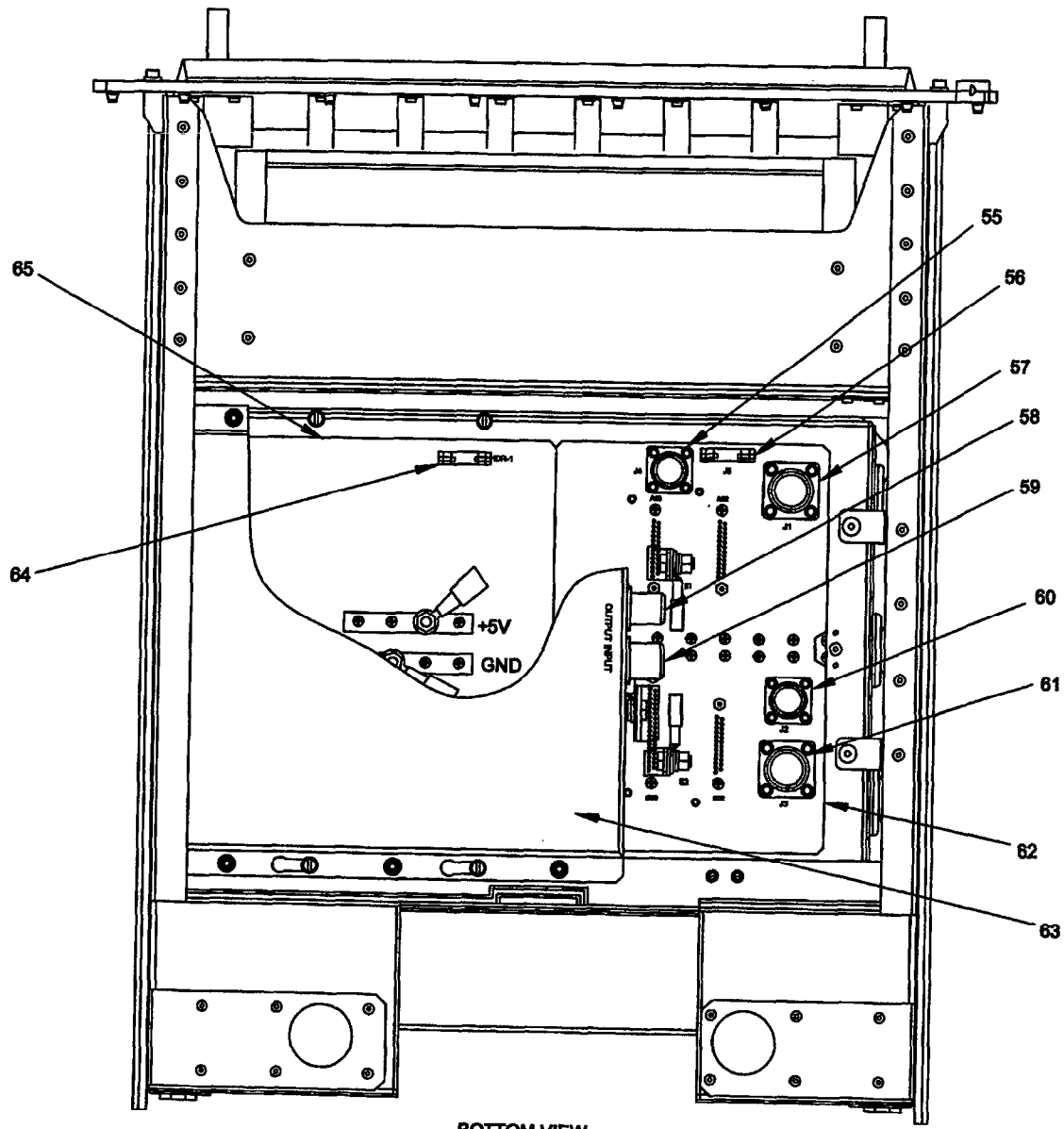
Figure 1. Control-Indicator Assembly C-12514/ASQ-225 and Control Indicator Set AN/ASQ-225 Components (Sheet 7)





- 52. Flat Panel Module - J1 RGB IN
- 53. Flat Panel Module - J2 RS232
- 54. Flat Panel Module - J3 PWR

Figure 1. Control-Indicator Assembly C-12514/ASQ-225 and Control Indicator Set AN/ASQ-225 Components (Sheet 8)

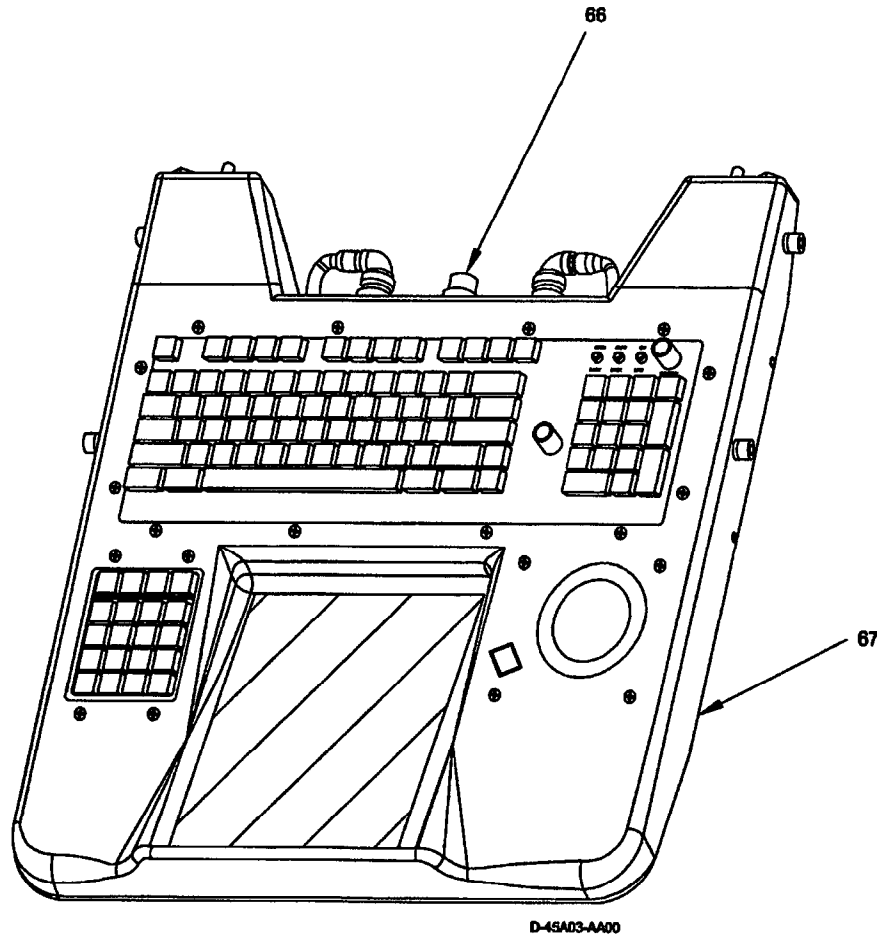


BOTTOM VIEW

D-45A01-AF00

- 55. Power Backplane - J4
- 56. Power Backplane - J5
- 57. Power Backplane - J1
- 58. Power Conditioner - J2 OUTPUT
- 59. Power Conditioner - J2 INPUT
- 60. Power Backplane - J2
- 61. Power Backplane - J3
- 62. Power Backplane
- 63. Power Conditioner CCA
- 64. VME Backplane HDR-1
- 65. VME Backplane

Figure 1. Control-Indicator Assembly C-12514/ASQ-225 and Control Indicator Set AN/ASQ-225 Components (Sheet 9)



- 66. Keyboard-Trackball Assembly - J2
- 67. Keyboard-Trackball Assembly (Bullnose)

Figure 1. Control-Indicator Assembly C-12514/ASQ-225 and Control Indicator Set AN/ASQ-225 Components (Sheet 10)

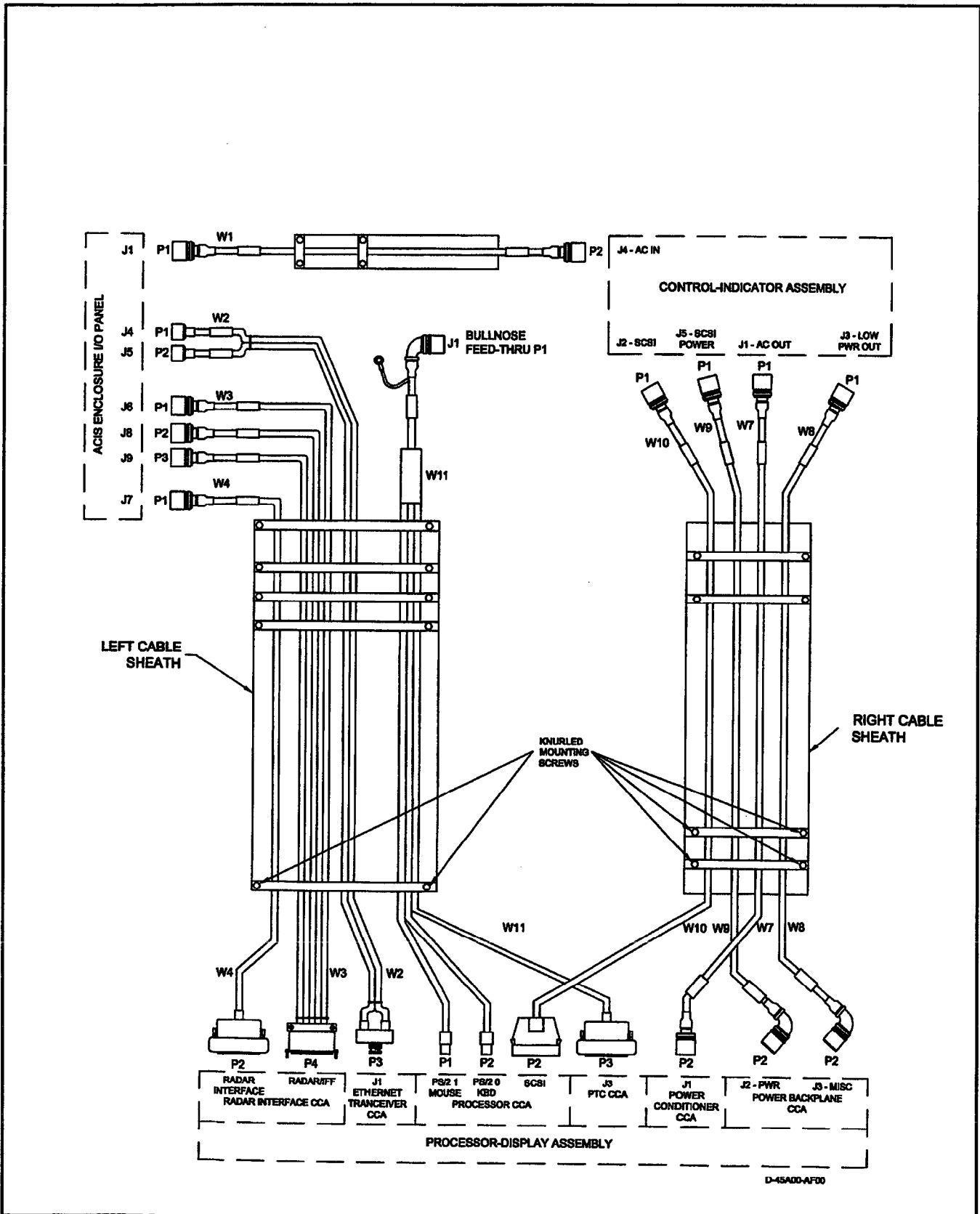


Figure 2. ACIS Subassembly Interconnection And Cable Sheath Layout



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Lift Control-Indicator Assembly (1) up to control-indicator mounting rails (13).

d. Slowly seat side slide rollers into mounting rail tracks and push Control-Indicator Assembly (1) until locked in extended position before releasing grip on unit.

e. Connect following connectors to Control-Indicator Assembly receptacles: (QA)

Connector	Receptacle	Port	Index
W7P1	J1	A/C OUT	(8)
W10P1	J2	SCSI	(9)
W8P1	J3	LOW POWER OUT	(10)
W1P2	J4	A/C IN	(11)
W9P1	J5	SCSI POWER	(12)

f. Depress release latches on control-indicator mounting rails (13) and slowly guide Control-Indicator Assembly in ACIS enclosure.

g. Tighten 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure. (QA)

h. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

i. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

8. **REMOVABLE MEDIA CARTRIDGE.**

9. **REMOVAL.** The RMC (5, Figure 1) is located in the CIC compartment, left-hand side internal of the Control-Indicator Assembly (1).



Energized equipment can cause severe shock or death on contact.



ACIS Operating System (OS) requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). A disorderly shutdown can cause destructive writes to RMC.

a. Power down ACIS (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

b. Loosen two knurled door retaining screws (3) and open RMC cavity door (2).

**Note**

When the RMC is loaded with the Operational Flight Program (OFP), the RMC becomes classified to the same level as the OFP. The RMC shall be safeguarded in accordance with approved DOD storage, handling and shipping regulations and procedures.

c. Loosen inserter/extractor retaining screw (6) by hand and pull down on inserter/extractor lever (7) to unseat RMC connector pins. Extract RMC (5).

d. Withdraw RMC (5) from Control-Indicator Assembly (1) and secure inserter/extractor lever (7).

e. Place RMC (5) into a static shield bag and place unit in an ESD protective carrying case.

f. Close RMC cavity door (2) and tighten two knurled door retaining screws (3).

10. **INSTALLATION** . The RMC (5, Figure 1) is located in the CIC compartment, left-hand side internal of the Control-Indicator Assembly (1).



Energized equipment can cause severe shock or death on contact.

- a. Ensure ACIS is powered down (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).
- b. Loosen two knurled door retaining screws (3) and open RMC cavity door (2).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

When the RMC is loaded with the Operational Flight Program (OFP), the RMC becomes classified to the same level as the OFP. The RMC shall be safeguarded in accordance with approved DOD storage, handling and shipping regulations and procedures.

- c. Remove RMC from ESD protective carrying case and static shield bag.
- d. Loosen inserter/extractor retaining screw (6) by hand and pull down on inserter/extractor lever (7).
- e. Install RMC (5) into RMC cavity. (QA)
- f. Close inserter/extractor lever (7) to seat RMC connectors.
- g. Tighten inserter/extractor retaining screw (6) hand-tight.
- h. Close RMC cavity door (2) and tighten two knurled door retaining screws (3). (QA)
- i. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

11. **ACIS CABLE ASSEMBLIES.**

12. **INPUT POWER CABLE ASSEMBLY (W1) REMOVAL.**



Energized equipment can cause severe shock or death on contact.



The ACIS Operating System (OS) requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

- a. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).
- b. Loosen 12 captive fasteners (4, Figure 1) securing Control-Indicator Assembly to ACIS enclosure.
- c. Slowly withdraw Control-Indicator Assembly from ACIS enclosure until control-indicator mounting rails (13) lock in extended position.



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

- d. Disconnect W1P2 from J4 receptacle (11) on Control-Indicator Assembly and feed W1P2 through opening in ACIS enclosure.
- e. Depress release latches on control-indicator mounting rails (13) and slowly guide Control-Indicator Assembly in ACIS enclosure.
- f. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).
- g. Disconnect W1P1 from J1 receptacle (20) on ACIS enclosure I/O panel (19).
- h. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

i. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

j. Remove faulty Input Power Cable Assembly (W1).

k. Tighten 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure. (QA)

l. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

**13. INPUT POWER CABLE ASSEMBLY (W1) INSTALLATION.**

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

W1 is routed through the ACIS enclosure separately from the cable sheaths shown in Figure 2.

c. Position Input Power Cable Assembly and replace and/or reconnect any cable clamps, straps, or ties as recorded during cable removal.

d. Connect W1P1 to J1 receptacle (20) on ACIS enclosure I/O panel (19).

e. Feed W1P1 through opening in top of ACIS enclosure.

f. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

g. Loosen 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure.

h. Slowly withdraw Control-Indicator Assembly from ACIS enclosure until control-indicator mounting rails (13) lock in extended position.

i. Connect W1P2 to J4 receptacle (11) on Control-Indicator Assembly (1). (QA)

j. Replace and/or reconnect any remaining cable clamps, straps, or ties as recorded during cable removal.

k. Depress release latches on control-indicator mounting rails (13) and slowly guide Control-Indicator Assembly in ACIS enclosure.

l. Tighten 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure. (QA)

m. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

n. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**14. MISSION COMPUTER CABLE ASSEMBLY (W2) REMOVAL.**

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W2P1	I/O Panel	J4	(21)
W2P2	I/O Panel	J5	(18)
W2P3	Ethernet Transceiver CCA	J1	(28)

d. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

e. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

f. Remove faulty Mission Computer Cable Assembly (W2).

g. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

15. MISSION COMPUTER CABLE ASSEMBLY (W2) INSTALLATION.

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

W2 is routed through the ACIS enclosure via the cable sheath shown in Figure 2.

c. Position Mission Computer Cable Assembly (W2) and replace and/or reconnect any cable clamps, straps, or ties as recorded during cable removal.

d. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W2P1	I/O Panel	J4	(21)
W2P2	I/O Panel	J5	(18)
W2P3	Ethernet Transceiver CCA	J1	(28)

e. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

f. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

g. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

16. RADAR VIDEO CABLE ASSEMBLY (W3) REMOVAL.

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).



c. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W3P1	I/O Panel	J6	(23)
W3P2	I/O Panel	J8	(25)
W3P3	I/O Panel	J9	(26)
W3P4	Radar Interface CCA	Radar/IFF	(37)

d. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

e. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

f. Remove faulty Radar Video Cable Assembly (W3).

g. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

**17. RADAR VIDEO CABLE ASSEMBLY (W3) INSTALLATION.**

a. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

W3 is routed through the ACIS enclosure via the cable sheath shown in Figure 2.

c. Position Radar Video Cable Assembly (W3) and replace and/or reconnect any cable clamps, straps, or ties as recorded during cable removal.

d. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W3P1	I/O Panel	J6	(23)
W3P2	I/O Panel	J8	(25)
W3P3	I/O Panel	J9	(26)
W3P4	Radar Interface CCA	Radar/IFF	(37)

e. Replace and/or reconnect any cable clamps, straps, or ties removed to facilitate cable assembly removal. (QA)

f. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

g. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

h. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**18. ANTENNA AZIMUTH CABLE ASSEMBLY (W4) REMOVAL.**

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W4P1	I/O Panel	J7	(24)
W4P2	Radar Interface CCA	Radar Interface	(36)

d. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

e. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

f. Remove faulty Antenna Azimuth Cable Assembly (W4).

g. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

**19. ANTENNA AZIMUTH CABLE ASSEMBLY (W4) INSTALLATION.**

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

W4 is routed through the ACIS enclosure via the cable sheath shown in Figure 2.

c. Position Antenna Azimuth Cable Assembly (W4) and replace and/or reconnect any cable clamps, straps, or ties as recorded during cable removal.

d. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W4P1	I/O Panel	J7	(24)
W4P2	Radar Interface CCA	Radar Interface	(36)

e. Replace and/or reconnect any cable clamps, straps, or ties removed to facilitate cable assembly removal. (QA)

f. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

g. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

h. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**20. IAVI GRAPHICS CABLE ASSEMBLY (W6) REMOVAL.**

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or insert-

ing ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W6P1	Graphics CCA	RADAR	(34)
W6P2	Radar Scan Converter CCA	VIDEO INTERFACE	(35)

d. Remove faulty IAVI Graphics Cable Assembly (W6).

e. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

21. IAVI GRAPHICS CABLE ASSEMBLY (W6) INSTALLATION.

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W6P1	Graphics CCA	RADAR	(34)
W6P2	Radar Scan Converter CCA	VIDEO INTERFACE	(35)

d. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

e. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

f. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

22. POWER CONDITIONER INPUT CABLE ASSEMBLY (W7) REMOVAL.

a. Stow Keyboard-Trackball Assembly (67, Figure 1), if necessary, by lifting front edge and sliding it inward to the locked position.



Energized equipment can cause severe shock or death on contact.



The ACIS Operating System (OS) requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

c. Loosen 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure.

d. Slowly withdraw Control-Indicator Assembly from ACIS enclosure until control-indicator mounting rails (13) lock in extended position.



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

e. Disconnect W7P1 from J1 - AC OUT receptacle (8) on Control-Indicator Assembly and feed W7P1 through opening in ACIS enclosure.

f. Depress release latches on control-indicator mounting rails (13) and slowly guide Control-Indicator Assembly in ACIS enclosure.

g. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).

h. Disconnect W7P2 from J1 - INPUT receptacle (59) on Power Conditioner CCA (63).

i. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

j. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

k. Remove faulty Power Conditioner Input Cable Assembly (W7).

l. Tighten 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure. (QA)

m. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

**23. POWER CONDITIONER INPUT CABLE ASSEMBLY (W7) INSTALLATION.**

a. Stow Keyboard-Trackball Assembly (Figure 1, Index 67), if necessary, by lifting front edge and sliding it inward to the locked position.

b. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

c. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

W7 is routed through the ACIS enclosure via the cable sheath shown in Figure 2.

d. Position Power Conditioner Input Cable Assembly (W7) and replace and/or reconnect any cable clamps, straps, or ties as recorded during cable removal.

e. Connect W7P2 to J1 - INPUT receptacle (59) on Power Conditioner CCA (63). (QA)

f. Feed W7P1 through opening in top of ACIS enclosure.

g. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

h. Loosen 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure.

i. Slowly withdraw Control-Indicator Assembly from ACIS enclosure until control-indicator mounting rails (13) lock in extended position.

j. Connect W7P1 to J1 - AC OUT receptacle (8) on Control-Indicator Assembly (1). (QA)

k. Replace and/or reconnect any remaining cable clamps, straps, or ties as recorded during cable removal. (QA)

l. Depress release latches on control-indicator mounting rails (13) and slowly guide Control-Indicator Assembly in ACIS enclosure.

m. Tighten 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure. (QA)

n. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

o. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**24. INDICATOR MISC CABLE ASSEMBLY (W8) REMOVAL.**

a. Stow Keyboard-Trackball Assembly (67, Figure 1), if necessary, by lifting front edge and sliding it inward to the locked position.



Energized equipment can cause severe shock or death on contact.

**CAUTION**

The ACIS Operating System (OS) requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

- b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).
- c. Loosen 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure.
- d. Slowly withdraw Control-Indicator Assembly from ACIS enclosure until control-indicator mounting rails (13) lock in extended position.

**CAUTION**

ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

- e. Disconnect W8P1 from J3 - LOW PWR OUT receptacle (10) on Control-Indicator Assembly and feed W8P1 through opening in ACIS enclosure.
- f. Depress release latches on control-indicator mounting rails (13) and slowly guide Control-Indicator Assembly in ACIS enclosure.
- g. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).
- h. Disconnect W8P2 from J3 - MISC receptacle (61) on power backplane (62).
- i. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

- j. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.
- k. Remove Indicator MISC Cable Assembly (W8).

- l. Tighten 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure. (QA)

m. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

**25. INDICATOR MISC CABLE ASSEMBLY (W8) INSTALLATION.**

- a. Stow Keyboard-Trackball Assembly (67, Figure 1), if necessary, by lifting front edge and sliding it inward to the locked position.

b. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).

**WARNING**

Energized equipment can cause severe shock or death on contact.

- c. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).

**CAUTION**

ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

W8 is routed through the ACIS enclosure via the cable sheath shown in Figure 2.

- d. Position Indicator MISC Cable Assembly (W8) and replace and/or reconnect any cable clamps, straps, or ties as recorded during cable removal.

e. Connect W8P2 to J3 - MISC receptacle (61) on power backplane (62). (QA)

f. Feed W8P1 through opening in top of ACIS enclosure.

g. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

h. Loosen 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure.

i. Slowly withdraw Control-Indicator Assembly from ACIS enclosure until control-indicator mounting rails (13) lock in extended position.

j. Connect W8P1 to J3 - LOW PWR OUT receptacle (10) on Control-Indicator Assembly (1). (QA)

k. Replace and/or reconnect any remaining cable clamps, straps, or ties as recorded during cable removal.

l. Depress release latches on control-indicator mounting rails (13) and slowly guide Control-Indicator Assembly in ACIS enclosure.

m. Tighten 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure. (QA)

n. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

o. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**26. SCSI POWER CABLE ASSEMBLY (W9) REMOVAL.**

a. Stow Keyboard-Trackball Assembly (67, Figure 1), if necessary, by lifting front edge and sliding it inward to the locked position.



Energized equipment can cause severe shock or death on contact.



The ACIS Operating System (OS) requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

c. Loosen 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure.

d. Slowly withdraw Control-Indicator Assembly from ACIS enclosure until control-indicator mounting rails (13) lock in extended position.



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

e. Disconnect W9P1 from J5 - SCSI POWER receptacle (12) on Control-Indicator Assembly and feed W9P1 through opening in ACIS enclosure.

f. Depress release latches on control-indicator mounting rails (13) and slowly guide Control-Indicator Assembly in ACIS enclosure.

g. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).

h. Disconnect W9P2 from J2 receptacle (60) on power backplane (62).

i. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

j. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

k. Remove SCSI Power Cable Assembly (W9).

l. Tighten 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure. (QA)

m. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

**27. SCSI POWER CABLE ASSEMBLY (W9) INSTALLATION.**

a. Stow Keyboard-Trackball Assembly (67, Figure 1), if necessary, by lifting front edge and sliding it inward to the locked position.

b. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

c. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

W9 is routed through the ACIS enclosure via the cable sheath shown in Figure 2.

d. Position SCSI Power Cable Assembly (W9) and replace and/or reconnect any cable clamps, straps, or ties as recorded during cable removal.

e. Connect W9P2 to J2 receptacle (60) on power backplane (62). (QA)

f. Feed W9P1 through opening in top of ACIS enclosure.

g. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

h. Loosen 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure.

i. Slowly withdraw Control-Indicator Assembly from ACIS enclosure until control-indicator mounting rails (13) lock in extended position.

j. Connect W9P1 to J5 - SCSI POWER receptacle (12) on Control-Indicator Assembly (1). (QA)

k. Replace and/or reconnect any remaining cable clamps, straps, or ties as recorded during cable removal.

l. Depress release latches on control-indicator mounting rails (13) and slowly guide Control-Indicator Assembly in ACIS enclosure.

m. Tighten 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure. (QA)

n. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

o. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**28. INDICATOR SCSI CABLE ASSEMBLY (W10) REMOVAL.**

a. Stow Keyboard-Trackball Assembly (67, Figure 1), if necessary, by lifting front edge and sliding it inward to the locked position.



Energized equipment can cause severe shock or death on contact.



The ACIS Operating System (OS) requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

c. Loosen 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure.

d. Slowly withdraw Control-Indicator Assembly from ACIS enclosure until control-indicator mounting rails (13) lock in extended position.



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

e. Disconnect W10P1 from J2 - SCSI receptacle (9) on Control-Indicator Assembly (1) and feed W10P1 through opening in top of ACIS enclosure.

f. Depress release latches on control-indicator mounting rails (13) and slowly guide Control-Indicator Assembly in ACIS enclosure.

g. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).

h. Disconnect W10P2 from SCSI receptacle (33) on Processor CCA.

i. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

j. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

k. Remove faulty Indicator SCSI Cable Assembly (W10).

l. Tighten 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure. (QA)

m. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

**29. INDICATOR SCSI CABLE ASSEMBLY (W10) INSTALLATION.**

a. Stow Keyboard-Trackball Assembly (Figure 1, Index 67), if necessary, by lifting front edge and sliding it inward to the locked position.

b. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

c. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

W10 is routed through the ACIS enclosure via the cable sheath shown in Figure 2.

d. Position Indicator SCSI Cable Assembly (W10) and replace and/or reconnect any cable clamps, straps, or ties as recorded during cable removal.

e. Connect W10P2 to SCSI receptacle (33) on Processor CCA. (QA)

f. Feed W10P1 through opening in top of ACIS enclosure.

g. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

h. Loosen 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure.

i. Slowly withdraw Control-Indicator Assembly from ACIS enclosure until control-indicator mounting rails (13) lock in extended position.

j. Connect W10P1 to J2 receptacle (9) on Control-Indicator Assembly (1). (QA)

k. Replace and/or reconnect any remaining cable clamps, straps, or ties as recorded during cable removal. (QA)

l. Depress release latches on control-indicator mounting rails (13) and slowly guide Control-Indicator Assembly in ACIS enclosure.

m. Tighten 12 captive fasteners (4) securing Control-Indicator Assembly to ACIS enclosure. (QA)

n. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

o. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**30. BULLNOSE/PS2 CABLE ASSEMBLY (W11) REMOVAL.**

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).



c. Remove screw and washers to disconnect W11J1 shield ground wire from bottom of ACIS enclosure. Retain hardware.

d. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W11P1	Processor CCA	PS/2 0 KBD	(43)
W11P2	Processor CCA	PS/2 1 MOUSE	(44)
W11P3	Power/Temp CCA	J3 – KB PWR	(46)
W11J1	ACIS Enclosure Bullnose feed- thru	P1	(15)

e. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

f. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

g. Remove faulty Bullnose/PS2 Cable Assembly (W11).

h. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

**31. BULLNOSE/PS2 CABLE ASSEMBLY (W11) INSTALLATION.**

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD pre-

cautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

W11 is routed through the ACIS enclosure separately via the cable sheath shown in Figure 2.

c. Position Bullnose/PS2 Cable Assembly (W11) and replace and/or reconnect any cable clamps, straps, or ties as recorded during cable removal.

d. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W11P1	Processor CCA	PS/2 0 KBD	(43)
W11P2	Processor CCA	PS/2 1 MOUSE	(44)
W11P3	Power/Temp CCA	J3 – KB PWR	(46)
W11J1	ACIS Enclosure Bullnose feed- thru	P1	(15)

e. Install screw and washers to connect W11J1 shield ground wire to bottom of ACIS enclosure. Retain hardware. (QA)

f. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

g. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

h. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**32. BULLNOSE CABLE ASSEMBLY (W12) REMOVAL.**



Energized equipment can cause severe shock or death on contact.



The ACIS Operating System (OS) requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-

17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

a. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

b. Depress release tabs (16, Figure 1) and withdraw Keyboard-Trackball Assembly (67) from ACIS enclosure until it locks in extended position.

c. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W12P1	Bullnose feed-thru	J1	(27)
W12P2	Bullnose Assembly	J2	(66)

d. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

e. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

f. Remove faulty Bullnose Cable Assembly (W12).

g. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

33. BULLNOSE CABLE ASSEMBLY (W12) INSTALLATION.



Energized equipment can cause severe shock or death on contact.



The ACIS Operating System (OS) requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

a. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

W12 is the only cable assembly in the lower section of the ACIS enclosure and is routed via a cable sheath.

b. Position Bullnose Cable Assembly (W12) and replace and/or reconnect any cable clamps, straps, or ties as recorded during cable removal.

c. Connect following connectors to listed component receptacles (indexed to Figure 1): (QA)

Connector	Component	Receptacle	Index
W12P1	Bullnose feed-thru	J1	(27)
W12P2	Bullnose Assembly	J2	(66)

d. Stow Keyboard-Trackball Assembly (67), if necessary, by lifting front edge and sliding it inward to the locked position.

e. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

f. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

34. VME UTILITY BUS CABLE ASSEMBLY (W13) REMOVAL.

a. Stow Keyboard-Trackball Assembly (67, Figure 1), if necessary, by lifting front edge and sliding it inward to the locked position.

b. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

c. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

d. Remove Power Conditioner CCA (63) (SWP244 02) to gain access to VME Backplane (65).

e. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W13P1	Power Backplane	J5	(56)
W13P2	VME Backplane	HDR1	(64)

f. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

g. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

h. Remove faulty VME Utility Bus Cable Assembly (W13).

i. Install Power Conditioner CCA (63) (SWP244 02). (QA)

j. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

35. VME UTILITY BUS CABLE ASSEMBLY (W13) INSTALLATION.

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Remove Power Conditioner CCA (63) (SWP244 02).

d. Position VME Utility Bus Cable Assembly (W13) and replace and/or reconnect any cable clamps, straps, or ties as recorded during cable removal.

e. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W13P1	Power Backplane	J5	(56)
W13P2	VME Backplane	HDR1	(64)

f. Replace and/or reconnect any cable clamps, straps, or ties removed to facilitate cable assembly removal. (QA)

g. Install Power Conditioner CCA (63) (SWP244 02). (QA)

h. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

i. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

j. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

36. HP-744 ETHERNET CABLE ASSEMBLY (W16) REMOVAL.

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect W16P2 from AUI/VID A receptacle (48) on Processor CCA.

d. Remove Ethernet Transceiver CCA (SWP244 02).

e. Disconnect W16P1 from J2 receptacle located on the backside of Ethernet Transceiver CCA.

f. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

g. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

h. Remove faulty HP-744 Ethernet Cable Assembly (W16).

i. Install Ethernet Transceiver CCA (SWP244 02). (QA)

j. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

37. HP-744 ETHERNET CABLE ASSEMBLY (W16) INSTALLATION

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Remove Ethernet Transceiver CCA (SWP244 02).

d. Connect W16P1 to J2 receptacle located on the backside of Ethernet Transceiver CCA. (QA)

e. Install Ethernet Transceiver CCA (SWP244 02). (QA)

f. Replace and/or reconnect any cable clamps, straps, or ties removed to facilitate cable assembly removal. (QA)

g. Connect W16P2 to AUI/VID A receptacle (48) on Processor CCA. (QA)

h. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

i. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

j. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

38. RS232 HP-744 CABLE ASSEMBLY (W17) REMOVAL.

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W17P1	Power/Temp CCA	J4B – RS232	(47)
W17P2	Processor CCA	RS232A	(42)

d. Remove faulty RS232 HP-744 Cable Assembly (W17).

e. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

39. RS232 HP-744 CABLE ASSEMBLY (W17) INSTALLATION.

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W17P1	Power/Temp CCA	J4B – RS232	(47)
W17P2	Processor CCA	RS232A	(42)

d. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

e. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

f. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

40. 270 VDC CABLE ASSEMBLY (W18) REMOVAL.

a. Stow Keyboard-Trackball Assembly (67, Figure 1), if necessary, by lifting front edge and sliding it inward to the locked position.

b. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

c. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

d. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W18P1	Power Conditioner CCA	J2 DC OUT	(58)
W18P2	Power Backplane	J4 DC IN	(55)

e. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

f. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

g. Remove faulty 270 VDC Cable Assembly (W18).

h. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

**41. 270 VDC CABLE ASSEMBLY (W18) INSTALLATION.**

a. Stow Keyboard-Trackball Assembly (67, Figure 1), if necessary, by lifting front edge and sliding it inward to the locked position.

b. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

c. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

d. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W18P1	Power Conditioner CCA	J2 DC OUT	(58)
W18P2	Power Backplane	J4 DC IN	(55)

e. Replace and/or reconnect any cable clamps, straps, or ties removed to facilitate cable assembly removal. (QA)

f. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

g. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

h. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**42. RS232 DISPLAY CABLE ASSEMBLY (W19) REMOVAL**

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W19P1	Processor CCA	RS232B	(45)
W19P2	Flat Panel Module	J1-RS232	(53)

d. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

e. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

f. Remove faulty RS232 Display Cable Assembly (W19).

g. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

**43. RS232 DISPLAY CABLE ASSEMBLY (W19) INSTALLATION.**

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W19P1	Processor CCA	RS232B	(45)
W19P2	Flat Panel Module	J1-RS232	(53)

d. Replace and/or reconnect any cable clamps, straps, or ties removed to facilitate cable assembly removal. (QA)

e. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

f. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

g. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**44. DISPLAY POWER CABLE ASSEMBLY (W20) REMOVAL.**

a. Stow Keyboard-Trackball Assembly (67, Figure 1), if necessary, by lifting front edge and sliding it inward to the locked position.

b. Extend Processor-Display Assembly (29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

c. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

d. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W20P1	Power Back-plane	J1-PWR	(57)
W20P2	Flat Panel Module	J3-PWR	(54)

e. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

f. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

g. Remove faulty Display Power Cable Assembly (W20).

h. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

45. DISPLAY POWER CABLE ASSEMBLY (W20) INSTALLATION.

a. Extend Processor-Display Assembly (Figure 1, Index 29) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W20P1	Power Back-plane	J1-PWR	(57)
W20P2	Flat Panel Module	J3-PWR	(54)

d. Replace and/or reconnect any cable clamps, straps, or ties removed to facilitate cable assembly removal. (QA)

e. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

f. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

g. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

46. GRAPHICS CONTROLLER VIDEO CABLE (W21) REMOVAL.

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W21P1	Graphics CCA	RGB - VID-EO OUT	(40)
W21P2	Power/Temp CCA	J7 - RGB IN	(51)

d. Remove faulty Graphics Controller Video Cable Assembly (W21).

e. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

47. GRAPHICS CONTROLLER VIDEO CABLE (W21) INSTALLATION.

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).





ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W21P1	Graphics CCA	RGB – VID-EO OUT	(40)
W21P2	Power/Temp CCA	J7 – RGB IN	(51)

d. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

e. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

f. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

48. DISPLAY GRAPHICS CABLE ASSEMBLY (W22) REMOVAL.

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W22P1	Power/Temp CCA	J6 – RGB OUT	(50)
W22P2	Flat Panel Module	J1 – RGB IN	(52)

d. Inspect cable assemblies for cable clamps, straps, or ties that may hinder removal of cable assembly. Record type and location.

**Note**

Cable clamp and cable strap screws are not captive.

e. Remove any cable clamps, straps, or ties necessary to facilitate removal of cable assembly. Retain any hardware removed.

f. Remove faulty Display Graphics Video Cable Assembly (W22).

g. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

h. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

49. DISPLAY GRAPHICS CABLE ASSEMBLY (W22) INSTALLATION.

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W22P1	Power/Temp CCA	J6 – RGB OUT	(50)
W22P2	Flat Panel Module	J1-RGB IN	(52)

d. Replace and/or reconnect any cable clamps, straps, or ties removed to facilitate cable assembly removal. (QA)

e. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

f. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

g. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

50. HP-744 SYSTEM CONSOLE CABLE ASSEMBLY (W23) REMOVAL.

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect following connectors from listed component receptacles:

Connector	Component	Receptacle	Index
W23P1	Power/Temp CCA	J5 – SYS CON IN	(49)
W23P2	Processor CCA	AUI/VID V	(41)

d. Remove faulty HP-744 System Console Cable Assembly (W23).

e. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

51. HP-744 SYSTEM CONSOLE CABLE ASSEMBLY (W23) INSTALLATION.

a. Extend Processor-Display Assembly (29, Figure 1) from ACIS enclosure (SWP244 02).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Connect following connectors to listed component receptacles: (QA)

Connector	Component	Receptacle	Index
W23P1	Power/Temp CCA	J5 – SYS CON IN	(49)
W23P2	Processor CCA	AUI/VID V	(41)

d. Retract Processor-Display Assembly (2) into ACIS enclosure (SWP244 02).

e. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

f. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**ORGANIZATIONAL MAINTENANCE**

**AZIMUTH-RANGE INDICATOR IP-1040/APA-172**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 164107**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Display System .....	031 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

**Alphabetical Index**

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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Azimuth-Range Indicator IP-1040/APA-172 (hereinafter referred to as the indicator) (45A1A2, 45A2A2, and 45A3A2) is part of the Indicator Group OD-48/APA-172, which is associated with the Control Indicator Group AN/APA-172. There are three indicators in the left side of the crew compartment. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, items 2, 13 and 20) for location of indicators.

**Note**

- It is recommended that two men perform the following procedure.
- b. Withdraw indicator from cabinet until slides are fully extended and locked.
- c. Disconnect six cable connectors from indicator receptacles J1 through J6.
- d. (See view B.) Release latches on indicator mounted slides. Slowly push indicator back into cabinet until intermediate slides start retracting into cabinet mounted slides.
- e. Retaining indicator in this position, push intermediate slides into cabinet until indicator latches engage.
- f. Continue sliding indicator into cabinet until intermediate slides touch rear stop.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
—	5/32-Inch Hex Key

**3. REMOVAL.** (See figure 1.)

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using 5/32-inch hex key, disengage 20 panel fasteners securing indicator to panel.

**CAUTION**

Due to weight of indicator, support indicator (from underneath) when removing from intermediate slides.

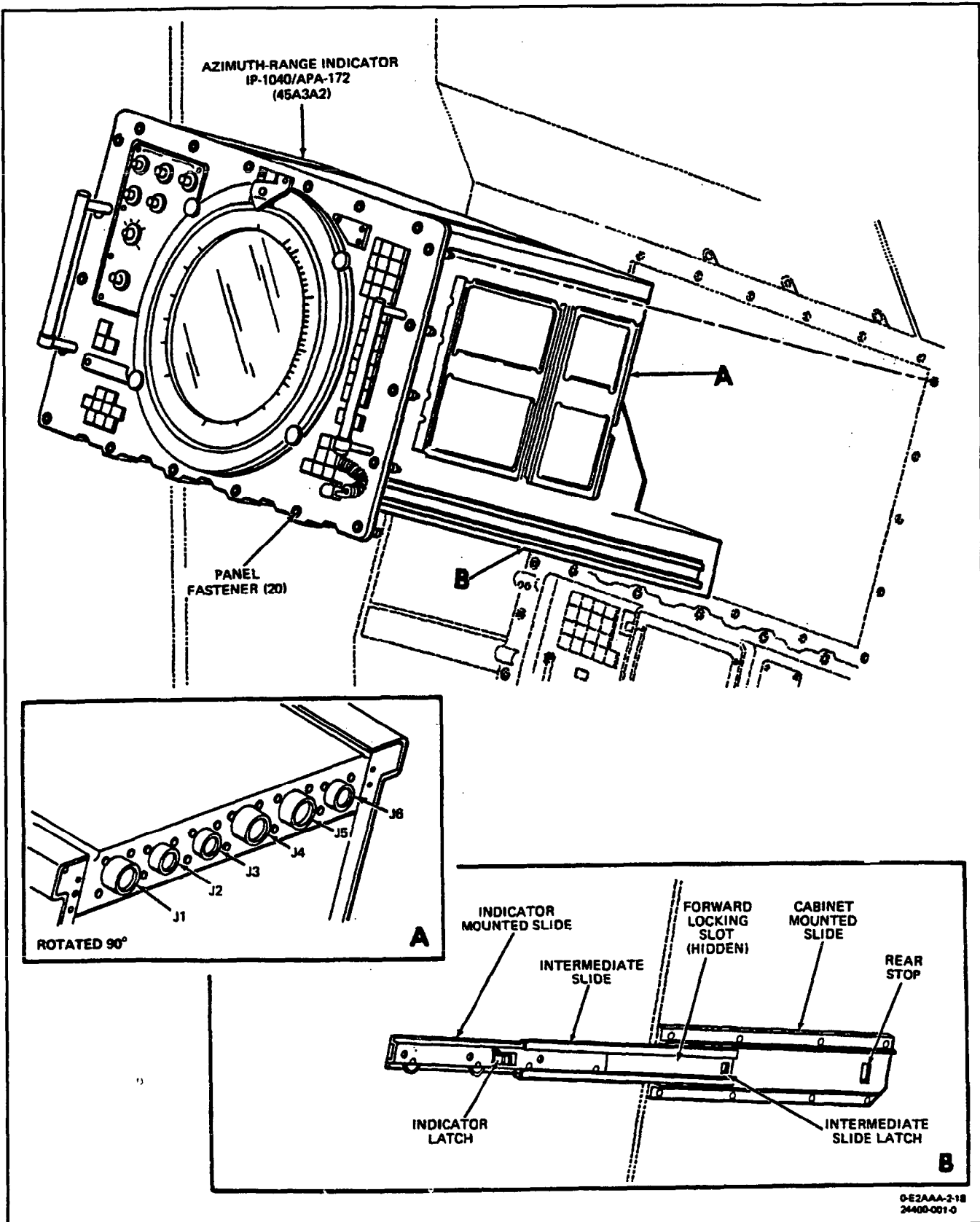


Figure 1. Removal and Installation of Azimuth-Range Indicator IP-1040/APA-172

g. Holding intermediate slides in this position, release indicator latches and slowly withdraw indicator from intermediate slides.

h. Cap all connectors and receptacles.

4. **INSTALLATION.** (See figure 1.)

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors and receptacles.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins prior to installation.

b. (See view B.) Insure that intermediate slides are touching rear stops on cabinet mounted slides.

**CAUTION**

Due to weight of indicator, support indicator (from underneath) when installing into intermediate slides.

**Note**

It is recommended that two men perform the following procedures.

c. Holding intermediate slides in this position, slowly insert indicator mounted slides into intermediate slides until indicator mounted slides latch.

d. Slowly remove indicator from cabinet until intermediate and indicator mounted slides are fully extended and latched.

e. Connect cable connectors to indicator receptacles J1 through J6. (See table 1). (QUALITY ASSURANCE)

f. Slowly insert indicator into cabinet (releasing latches as indicator is guided into cabinet) until indicator front panel is flush with cabinet.

g. Using 5/32-inch hex key, engage 20 panel fasteners to secure indicator to console. (QUALITY ASSURANCE)

h. Clean face of indicator, using a clean, lint-free cloth moistened with water.

i. Perform an operational check of Control Indicator Group AN/APA-172 contained within the Display System test (NAVAIR 01-E2AAA-2-17.3, WP031 00).

**TABLE 1. CABLE CONNECTIONS**

Indicator Receptacle	Cable Connector
<b>45A1A2</b>	
J1	45A1A2P1
J2	45A1A2P2
J3	45A1A2P3
J4	45A1A2P4
J5	45A1A2P5
J6	45A1A2P6
<b>45A2A2</b>	
J1	45A2A2P1
J2	45A2A2P2
J3	45A2A2P3
J4	45A2A2P4
J5	45A2A2P5
J6	45A2A2P6
<b>45A3A2</b>	
J1	45A3A2P1
J2	45A3A2P2
J3	45A3A2P3
J4	45A3A2P4
J5	45A3A2P5
J6	45A3A2P6



**ORGANIZATIONAL MAINTENANCE**

**AZIMUTH-RANGE INDICATOR IP-1625/APQ-179**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Control Indicator Set AN/APQ-179 (CIS) .....	031 04
Azimuth-Range Indicator IP-1625/APQ-179 (EMDU) .....	031 06
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electrostatic Discharge Control Handbook .....	DOD-HBK-263

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of Enhanced Main Display Unit (EMDU) (ECP 382R1)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP coverage only.

**1. GENERAL.**

2. The Azimuth-Range Indicator IP-1625/APQ-179 (hereinafter referred to as the indicator) (45A1A2, 45A2A2, and 45A3A2) is part of the Indicator Group

OD-214/APQ-179, which is associated with the Control Indicator Set AN/APQ-179 (CIS). There are three indicators in the left side of the crew compartment. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, items 2A, 13A, and 20A) for location of indicators.

**Support Equipment Required**

Part or Model No.	Nomenclature
MCX	Torque Screwdriver
4225	Card Extractor
4230	Card Extractor
4235	Card Extractor
4245	Card Extractor
4250	Card Extractor
600x800	ESD Field Kit
—	5/32-Inch Hex Key

**Materials Required**

Specification or Part Number	Nomenclature
MIL-C-85043	Cloth, Lint-Free

**3. INDICATOR REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using 5/32-inch hex key, disengage 20 panel fasteners securing indicator to cabinet.

**Note**

Two persons are required to perform the following procedure.

- b. Withdraw indicator from cabinet until slides are fully extended and locked.
- c. Disconnect eight cable connectors from indicator receptacles 1J1 through 1J5, 1J10, 1A29J6, and 1A29J7. (Refer to table 1.)



Due to weight of indicator, support indicator (from underneath) when removing from intermediate slides.

- d. Release indicator latch rear tab on indicator mounted slides and slowly withdraw indicator from intermediate slides. (See details B and C.)



To avoid possible injury from contact with extended slides, do not leave intermediate slides extended after indicator is removed.

- e. Release intermediate spring latches on cabinet mounted slides and retract intermediate slides into cabinet until contact is made with rear stops.
- f. Cap all connectors and receptacles.

**4. INDICATOR INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins before installation.

- b. Withdraw intermediate slides from cabinet until slides are fully extended and locked.



Due to weight of indicator, support indicator (from underneath) when installing into intermediate slides. Two persons are required to perform the following procedures.

- c. Lift the indicator then slowly insert indicator mounted slides into intermediate slides until latches are locked. (Slides should be fully extended to position the indicator outside the cabinet).



Align master connector key with its mate before attaching any connectors.

- d. Connect cable connectors to indicator receptacles in the following order: 1J5, 1J4, 1A29J6, 1A29J7, 1J10, 1J3, 1J1, and 1J2. (Refer to table 1.) (QA)



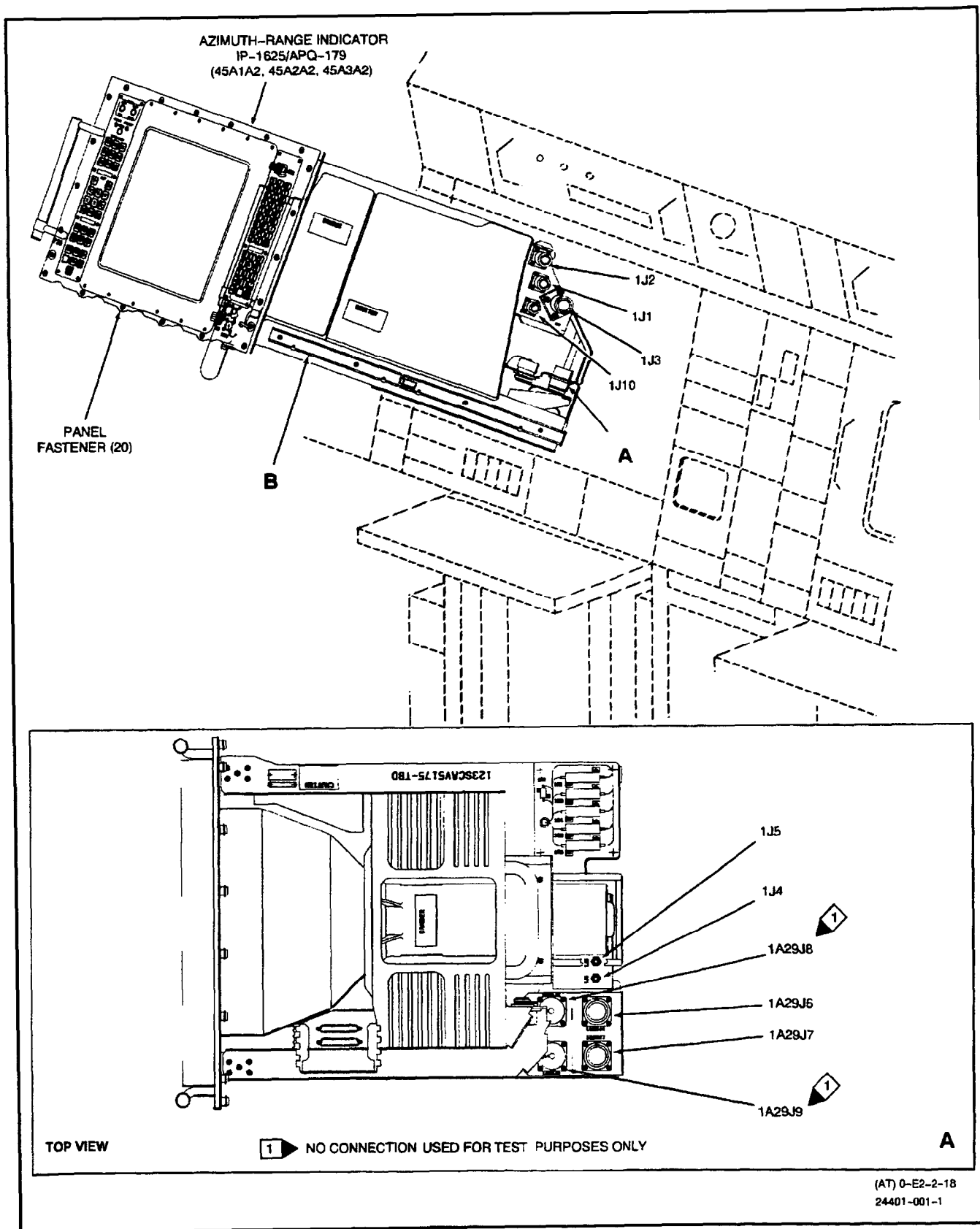
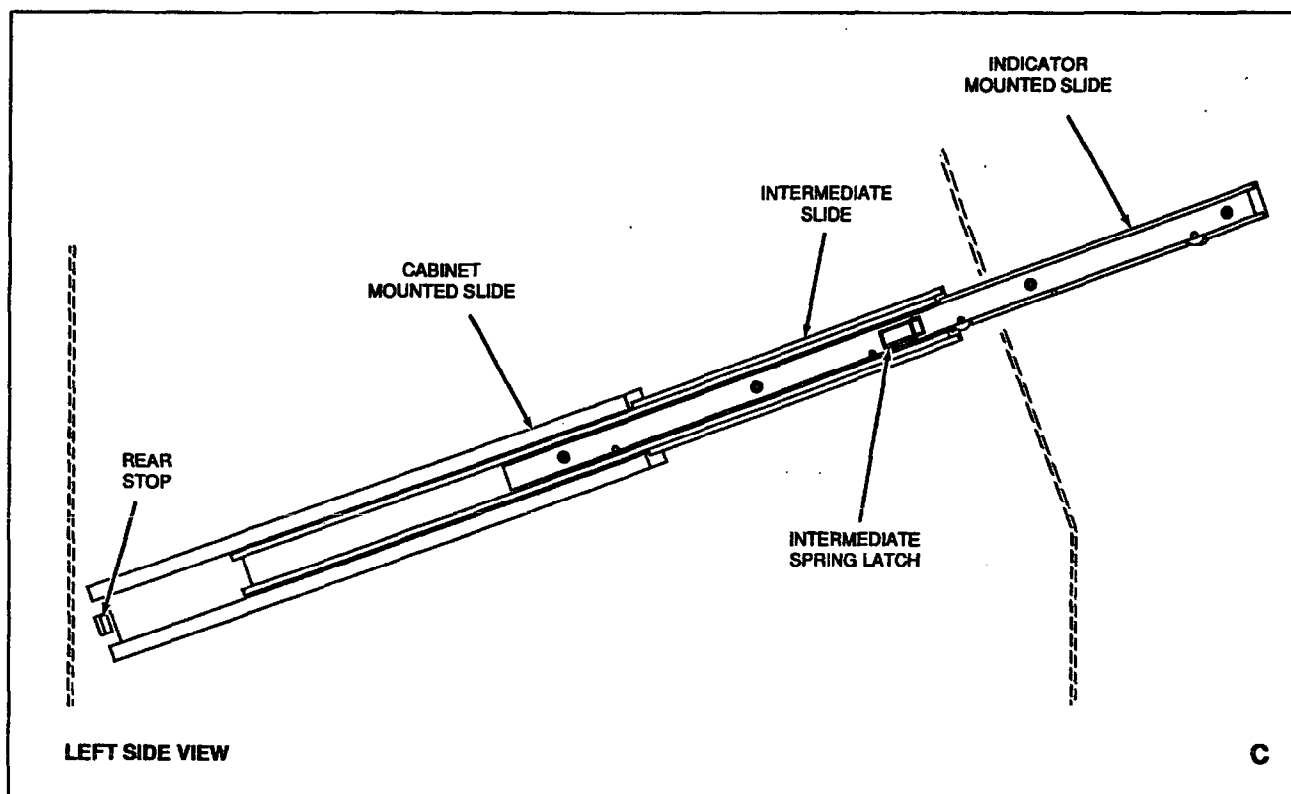
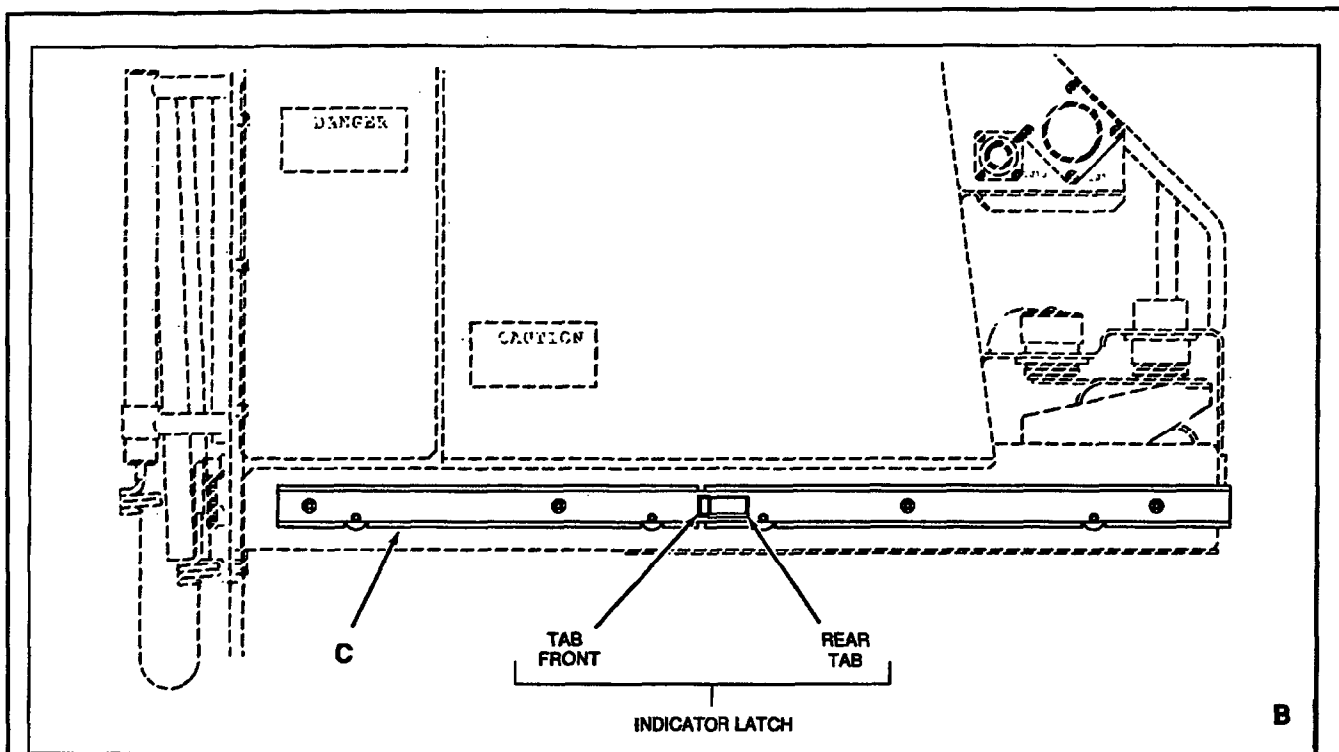


Figure 1. Removal and Installation of Azimuth-Range Indicator IP-1625/APQ-179 (Sheet 1 of 2)



(AT) 0-E2-2-18  
24401-001-2L

Figure 1. Removal and Installation of Azimuth-Range Indicator IP-1625/APQ-179 (Sheet 2)

TABLE 1. CABLE CONNECTIONS

Indicator Receptacle	Cable Connector
<b>45A1A2</b>	
1J1	45A1A2P1
1J2	45A1A2P2
1J3	45A1A2P3
1J4	1P4 (45A1A2)
1J5	1P5 (45A1A2)
1J10	45A1A2P10
1A29J6	45A1A2P6
1A29J7	45A1A2P7
<b>45A2A2</b>	
1J1	45A2A2P1
1J2	45A2A2P2
1J3	45A2A2P3
1J4	1P4 (45A2A2)
1J5	1P5 (45A2A2)
1J10	45A2A2P10
1A29J6	45A2A2P6
1A29J7	45A2A2P7
<b>45A3A2</b>	
1J1	45A3A2P1
1J2	45A3A2P2
1J3	45A3A2P3
1J4	1P4 (45A3A2)
1J5	1P5 (45A3A2)
1J10	45A3A2P10
1A29J6	45A3A2P6
1A29J7	45A3A2P7

e. Remove indicator display power supply-control PP-8286/APQ-179 (UMD) from cabinet to gain access for guiding the harness when sliding indicator into cabinet (WP243 00).

**WARNING**

Use extreme care when guiding harness with hand into cabinet.

**CAUTION**

Be extremely careful with the harness.

**Note**

In the following step, the right side of harness should move along the wall of cabinet (right side, towards the back) as EMDU is pushed into cabinet. If positioning is not correct, re-adjust the harness (WP246 00).

f. Release indicator latch tabs on indicator mounted slides, then carefully guide the harness (through UMD opening) as the indicator is slowly pushed into cabinet until front panel is flush with cabinet. (See details b and c.) (While slowly pushing indicator into cabinet, ensure the harness does not swing or droop where it can get crushed, chafed, or pinched behind the indicator).

g. Visually inspect (through UMD opening) and verify that the harness is not damaged and its right side is positioned along the right side wall of cabinet. If positioning is not correct, re-adjust the harness (WP246 00). (QA)

h. Using 5/32-inch hex key, engage 20 panel fasteners to secure indicator to cabinet. (QA)

i. Re-install UMD (WP243 00).

j. Clean face of indicator, using a clean, lint-free cloth moistened with water.

k. Perform an operational check of Indicator Group OD-214/APQ-179 contained within CIS Display System test (NAVAIR 01-E2AAA-2-17.3.1, WP031 04).

**5. CIRCUIT CARD ASSEMBLIES A1 THROUGH A4, AND A8 THROUGH A10 REPLACEMENT.** (Figures 1 and 2.)

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Using 5/32-inch hex key, disengage 20 panel fasteners securing indicator to cabinet (figure 1).

**Note**

Two persons are required to perform the following procedure.

b. Slowly and carefully withdraw indicator from cabinet until slides are fully extended and locked.

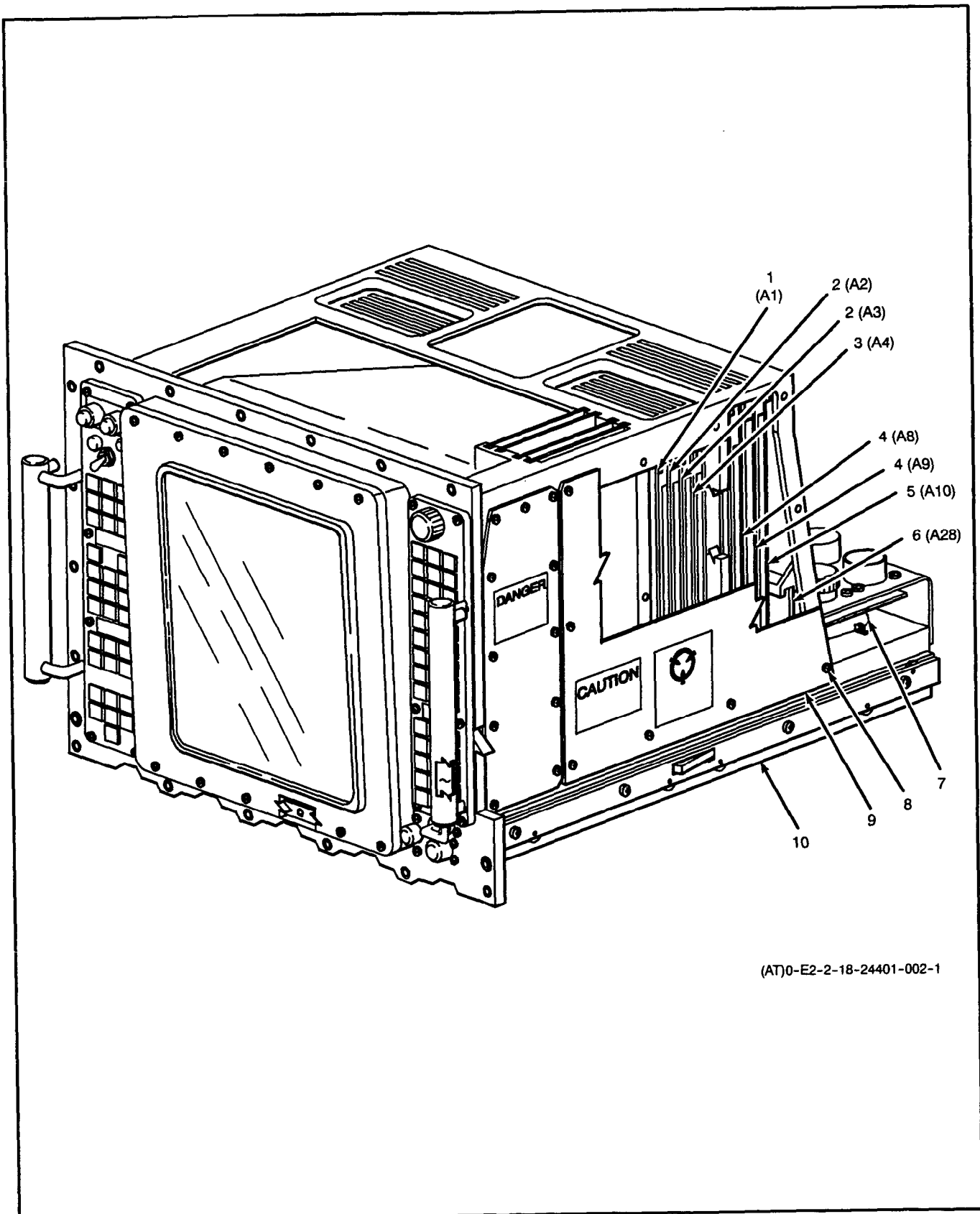
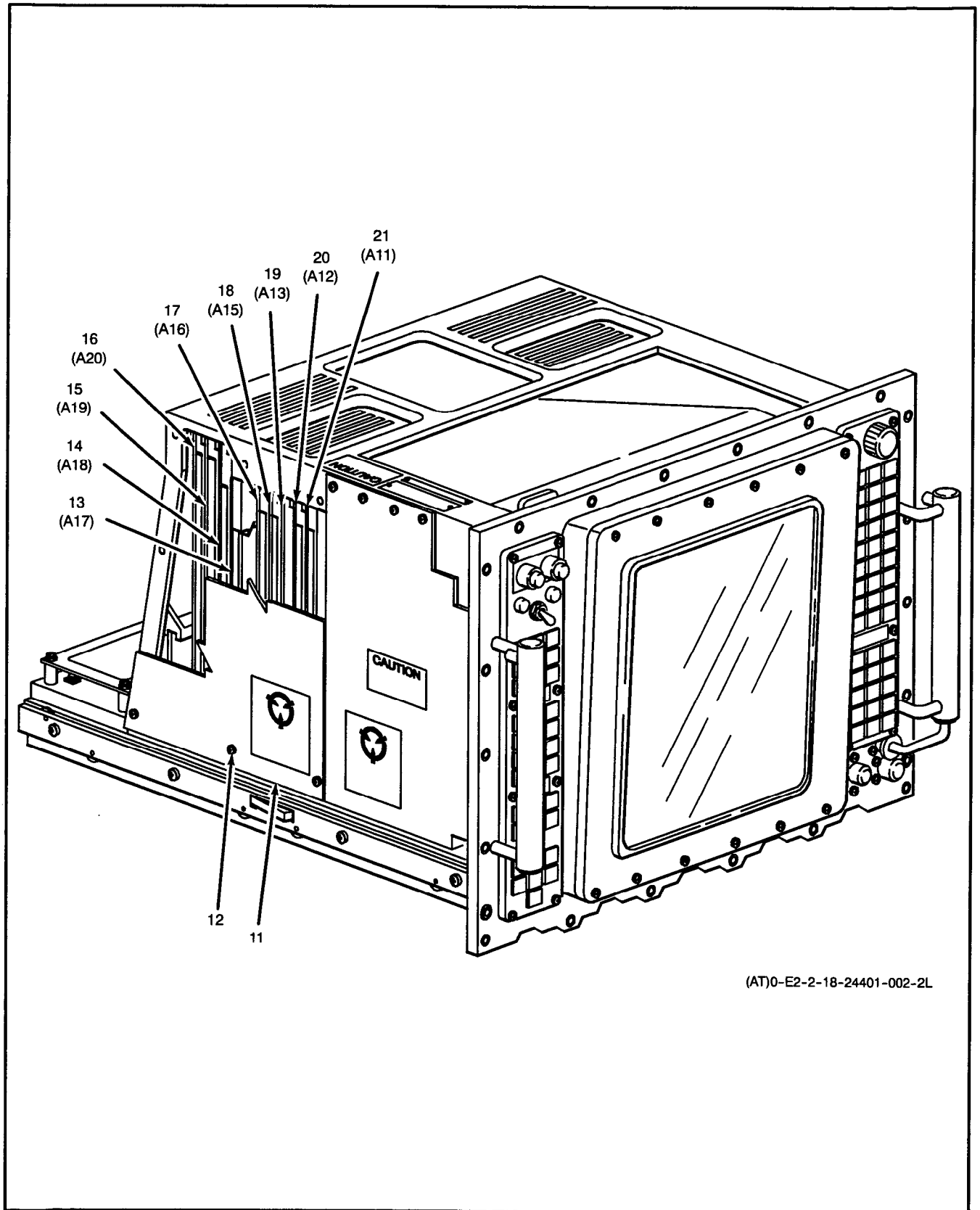


Figure 2. Replacement of Circuit Card Assemblies (Sheet 1 of 2)



(AT)0-E2-2-18-24401-002-2L

Figure 2. Replacement of Circuit Card Assemblies (Sheet 2)

**CAUTION**

Circuit card assemblies are susceptible to damage by electrostatic discharge (ESD). Use precautionary procedures in accordance with DOD-HBK-263 when handling these circuit card assemblies. Use ESD wrist strap (P/O ESD field kit) and floor mat when removing, handling, or inserting circuit card assemblies.

c. Loosen 11 captive screws (8, figure 2, sheet 1) that secure right card cage cover (9) to EMDU chassis assembly (10). Remove right card cage cover.

d. Remove circuit card assembly (1, 2, 3, 4, 8, 9, or 10) using circuit card assembly extractor. Refer to table 2 for part number for extractor. Place circuit card assemblies in ESD protective bags.

e. Install replacement circuit card assembly (1, 2, 3, 4, 8, 9, or 10) into appropriate card slot and check SRA alignment with motherboard connector. Press circuit card assembly firmly into place.

f. Secure right card cage cover (9) to EMDU chassis assembly (10) by tightening 11 captive screws (8). Torque captive screws to 10 inch-pounds. (QA)

**WARNING**

Use extreme care when guiding harness with hand into cabinet.

**CAUTION**

Be extremely careful with harness. When installing EMDU, guide the harness (through UMD) opening) to ensure it moves along the right side wall, towards the back of cabinet, as EMDU is pushed into cabinet. Visually inspect harness (through UMD opening) to verify it is not crushed or pinched by the EMDU.

g. Re-install Indicator (paragraph 4 of this WP).

h. Perform an operational check of Indicator Group OD-214/APQ-179 contained within CIS Display System test (NAVAIR 01-E2AAA-2-17.3.1, WP031 04).

TABLE 2. CIRCUIT CARD ASSEMBLY (CCA) EXTRACTORS

CCA Ref Des	Name	Extractor P/N
A1	CPU	4250
A2	Global Memory	4230
A3	Global Memory	4230
A4	ADU Interface	4230
A5	Horizontal Linearity Correction	4250
A8	Graphics Processor	4225
A9	Graphics Processor	4225
A10	Radar Digitizer	4225
A11	Front Panel Interface	4250
A12	L-304 Interface	4250
A13	1553 Interface	4250
A15	Synchro	4250
A16	Scan Converter	4250
A17	Radar Processor	4225
A18	Radar Processor	4225
A19	Radar Memory	4225
A20	Radar Memory Controller	4225

6. CIRCUIT CARD ASSEMBLIES A11 THROUGH A13 AND A15 THROUGH A20 REPLACEMENT. (Figures 1 and 2.)

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Using 5/32-inch hex key, disengage 20 panel fasteners securing indicator to cabinet (figure 1).

**Note**

Two persons are required to perform the following procedure.

b. Slowly and carefully withdraw indicator from cabinet until slides are fully extended and locked.

**CAUTION**

Circuit card assemblies are susceptible to damage by electrostatic discharge (ESD). Use precautionary procedures in accordance with DOD-HBK-263 when handling these circuit card assemblies. Use ESD wrist strap (P/O ESD field kit) and floor mat when removing, handling, or inserting circuit card assemblies.

c. Loosen eight captive screws (12, figure 2, sheet 2) that secure left card cage cover (11) to EMDU chassis assembly (10, sheet 1). Remove left card cage cover.

d. Remove circuit card assembly (11, 12, 13, 15, 16, 17, 18, 19, or 20,) using circuit card assembly extractor. Refer to table 2 for appropriate part number for circuit card assembly extractor.

e. Install replacement circuit card assembly (11, 12, 13, 15, 16, 17, 18, 19, or 20) into appropriate card slot and check alignment of connector. Press circuit card assembly firmly into place.

f. Secure left card cage cover (11) to EMDU chassis assembly (10, sheet 1) by tightening eight captive screws (12, sheet 2). Torque captive screws to 10 inch-pounds. (QA)

g. Re-install Indicator (paragraph 4 of this WP).

h. Perform an operational check of Indicator Group OD-214/APQ-179 contained within CIS Display System test (NAVAIR 01-E2AAA-2-17.3.1, WP031 04).

### 7. LEXAN BRIGHTNESS CONTROL CIRCUIT CARD ASSEMBLY A28 REPLACEMENT. (Figures 1 and 2.)

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Using 5/32-inch hex key, disengage 20 panel fasteners securing indicator to cabinet (figure 1).

**Note**

Two persons are required to perform the following procedure.

b. Withdraw indicator from cabinet until slides are fully extended and locked.

**CAUTION**

Circuit card assemblies are susceptible to damage by electrostatic discharge (ESD). Use precautionary procedures in accordance with DOD-HBK-263 when handling these circuit card assemblies. Use ESD wrist strap (P/O ESD field kit) and floor mat when removing, handling, or inserting circuit card assemblies.

c. Loosen 11 captive screws (8, figure 2, sheet 1) that secure right card cage cover (9) to EMDU chassis assembly (10). Remove right card cage cover.

d. Cut nylon tiedown strap (7) that secures service loop of cable, and note position for assembly.

e. Loosen card retainers (wedge-locks) using a 3/32-inch hex wrench.

f. Slowly remove Lexan brightness control circuit card assembly A28 (6) while feeding cable through hole in EMDU chassis assembly (10).

g. Alternately loosen jackscrews on cable connector 1A28P1 and disconnect 1A28P1 from receptacle connector on Lexan brightness control circuit card assembly A28 (6). Remove Lexan brightness control circuit card assembly A28.

h. Engage connector 1A28P1 with receptacle connector on replacement Lexan brightness control circuit card assembly A28 (6) and secure connector by alternately tightening jackscrews.

i. Slowly install Lexan brightness control circuit card assembly A28 (6) into card slot while feeding cable through hole in EMDU chassis assembly (10).

j. Secure Lexan brightness control circuit card assembly A28 (6) in EMDU chassis assembly (10) by tightening card retainers (wedge-locks) using a 3/32-inch hex wrench.

k. Gather excess cable to Lexan brightness control circuit card assembly A28 (6) into a service loop and secure with tiedown strap (7). Dress cable away from all sharp edges.

l. Secure right card cage cover (9) to EMDU chassis assembly (10) by tightening 11 captive screws (8). Torque captive screws to 10 inch-pounds. (QA)

**WARNING**

Use extreme care when guiding harness with hand into cabinet.

**CAUTION**

Be extremely careful with the harness. When installing EMDU, guide the harness

(through UMD opening) to ensure it moves along the right side wall, towards the back of the cabinet, as EMDU is pushed into cabinet. Visually inspect harness (through UMD opening) to verify it is not crushed or pinched by EMDU.

m. Re-install Indicator (paragraph 4 of this WP).

n. Perform an operational check of Indicator Group OD-214/APQ-179 contained within CIS Display System test (NAVAIR 01-E2AAA-2-17.3.1, WP031 04).



**ORGANIZATIONAL MAINTENANCE**

**MAINTENANCE**

**PROCESSOR-DISPLAY ASSEMBLY CP-2371/ASQ-225**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**This work package (WP) supersedes WP244 02, dated 1 December 2000.**

**Reference Material**

Location of Electronic System Components .....	003 01
Control-Indicator Assembly C-12514/ASQ-225 .....	243 02
Keyboard-Trackball Assembly CA-103/ASQ-225 .....	245 01
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Control Indicator Set AN/ASQ-225 .....	031 07
Electronic Assembly Repair .....	NAVAIR 01-1A-23
Standard Maintenance Practices Miniature/Microminiature (2M)	
Electronic Assembly Repair Electrostatic Discharge Control .....	005 00

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Power/Temperature Control CCA Removal .....	12
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Radar Interface CCA Installation .....	16
Radar Interface CCA Removal .....	16
Radar Scan Converter CCA Installation .....	15
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Record of Applicable Technical Directives

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
	-	Incorporation of Mission Computer Upgrade and Advanced Control Indicator Set (ECP 417)		ECP Coverage Only
PMA231-E2C-3-02	-	AN/UYQ-70 IVS-4100P Graphics Obsolescence	-	ECP Coverage Only

1. INTRODUCTION.

2. The Control Indicator Set AN/ASQ-225 (ACIS) consists of the Control-Indicator Assembly C-12514/ASQ-225, Processor-Display Assembly CP-2371/ASQ-225, Keyboard-Trackball Assembly CA-103/ASQ-225 (Bullnose), and associated interface cabling.

3. The three ACIS workstations are located on the left side of the CIC compartment, one each at the ACO, CICO, and RO stations. Refer to WP003 01, Figure 4, items 94, 95 and 96 for location of the ACIS workstations.

4. This subordinate work package (SWP) covers the removal and installation procedures for the Processor-Display Assembly CP-2371/ASQ-225 and components. Table 1 lists the circuit breakers on the main electronics junction box that control power for each ACIS workstation. Figure 1 displays the locations of ACIS components. Figure 2 illustrates the cable assemblies that interconnect major subassemblies and their layout on the cable sheaths. The cable sheaths are displayed oriented to the rear of the Processor-Display Assembly as viewed looking into the ACIS enclosure.

TABLE 1. CONTROL INDICATOR SET AN/ASQ-225 STATION CIRCUIT BREAKERS

Station	MEJB Circuit Breaker
RO	DISPLAY RO (CB36) DISPLAY RO (CB37) DISPLAY RO (CB38) DISPLAY RO (CB84)
CICO	DISPLAY CICO (CB39) DISPLAY CICO (CB40) DISPLAY CICO (CB41) DISPLAY CICO (CB85)
ACO	DISPLAY ACO (CB42) DISPLAY ACO (CB43) DISPLAY ACO (CB44) DISPLAY ACO (CB86)

Note

Refer to figure 1 for locations of ACIS components. All components in the following procedures are referenced to figure 1 with indexes shown in parenthesis.

Support Equipment Required

Part or Model No.	Nomenclature
40170	ESD Wrist Strap
2100	Static Shield Bag
123SAV51001-9	ACIS CCA Carrying Case

5. PROCESSOR-DISPLAY ASSEMBLY.

6. EXTENSION. The Processor-Display Assembly (2) is located in the center of the ACIS enclosure.



ACIS OS requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

a. Ensure ACIS workstation requiring maintenance is powered down (Refer to NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

b. Loosen 22 captive fasteners (4) securing Processor-Display Assembly (2) to ACIS enclosure.

c. Slowly withdraw Processor-Display Assembly (2) from ACIS enclosure until processor-display mounting rails lock in extended position.

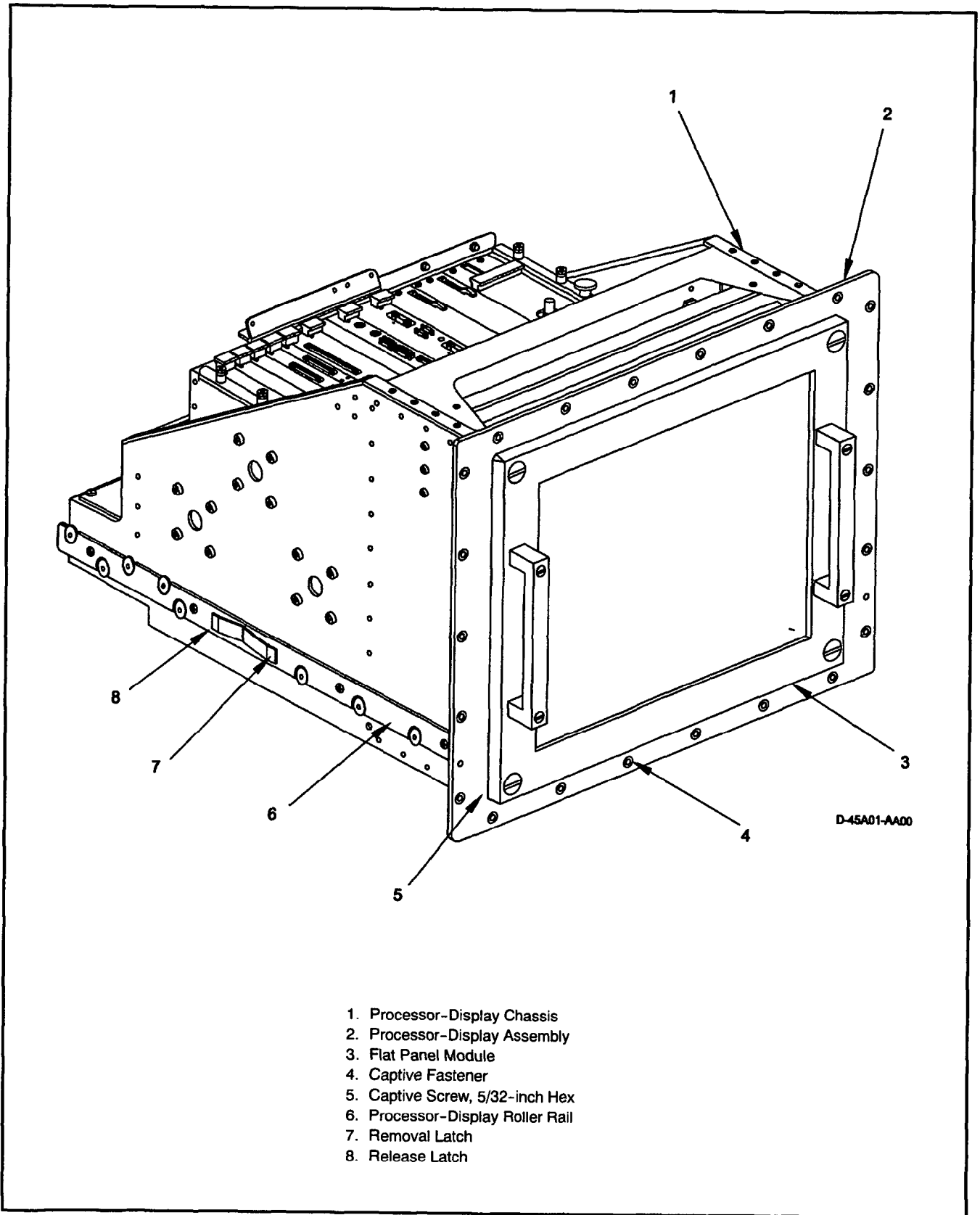
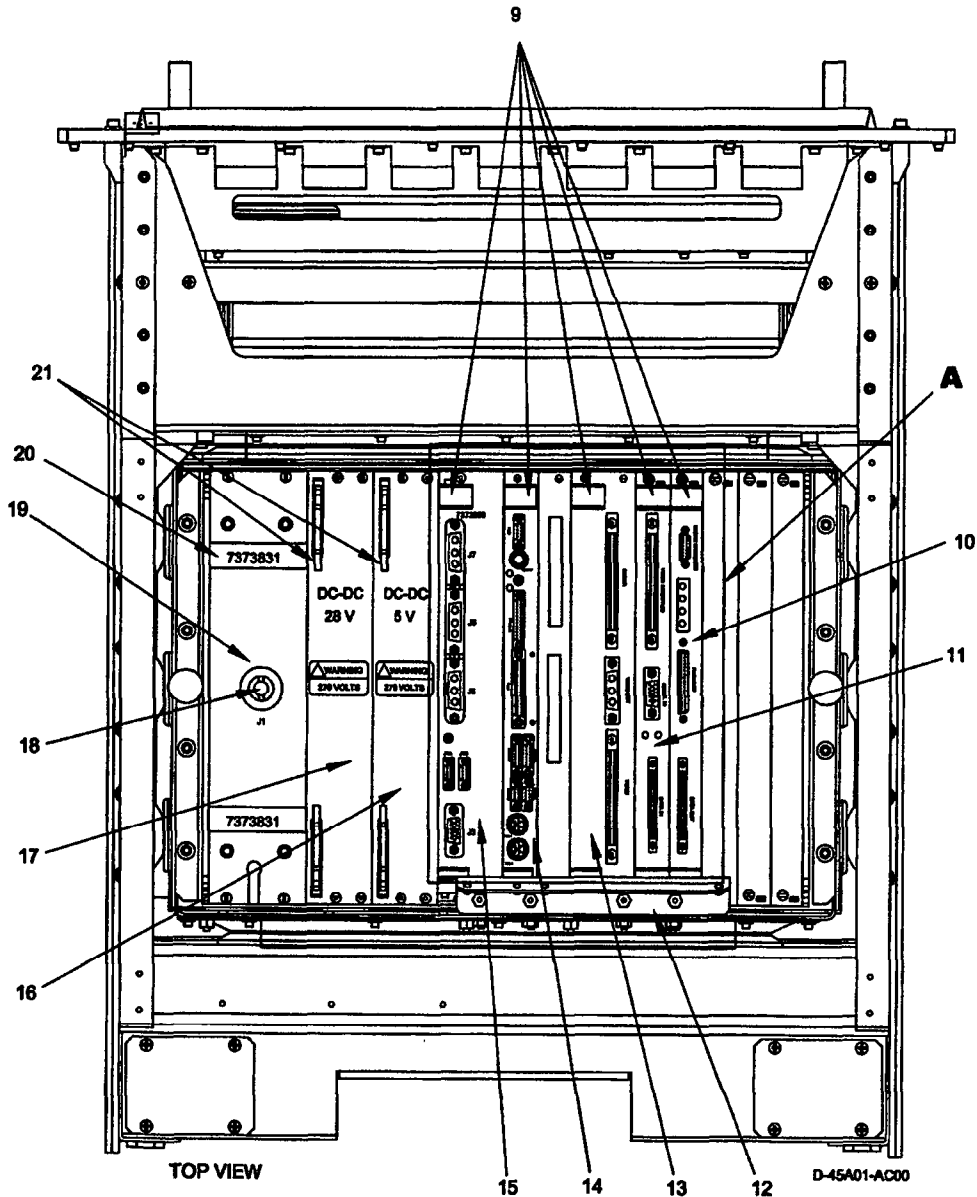
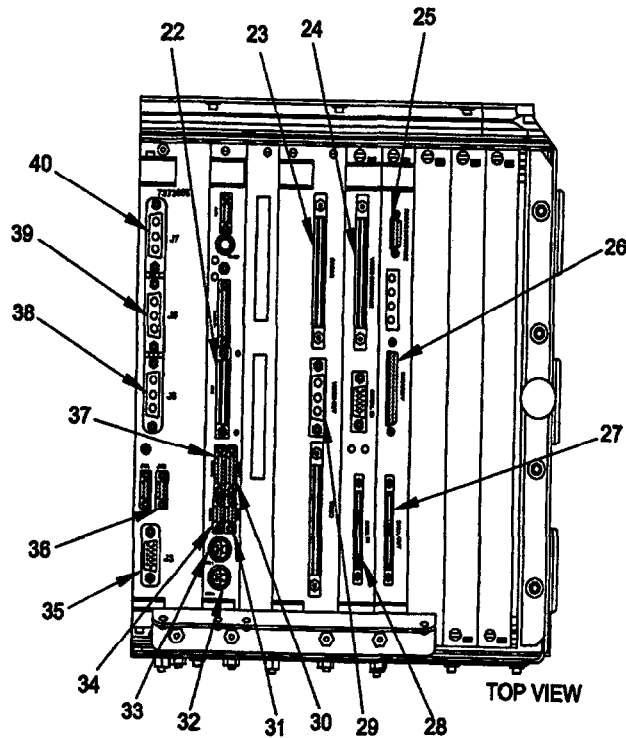


Figure 1. Processor-Display Assembly CP-2371/ASQ-225 and Components (Sheet 1 of 5)



- 9. Ejector Handles
- 10. Radar Interface CCA
- 11. Radar Scan Converter CCA
- 12. Harness Mounting Hinge
- 13. Graphics CCA
- 14. Processor CCA
- 15. Power/Temperature Control CCA
- 16. 5V Power Regulator CCA
- 17. 28V Power Regulator CCA
- 18. Ethernet Transceiver CCA J1
- 19. Ethernet Transceiver CCA
- 20. Extraction Handles
- 21. Extraction Levers

Figure 1. Processor-Display Assembly CP-2371/ASQ-225 and Components (Sheet 2)

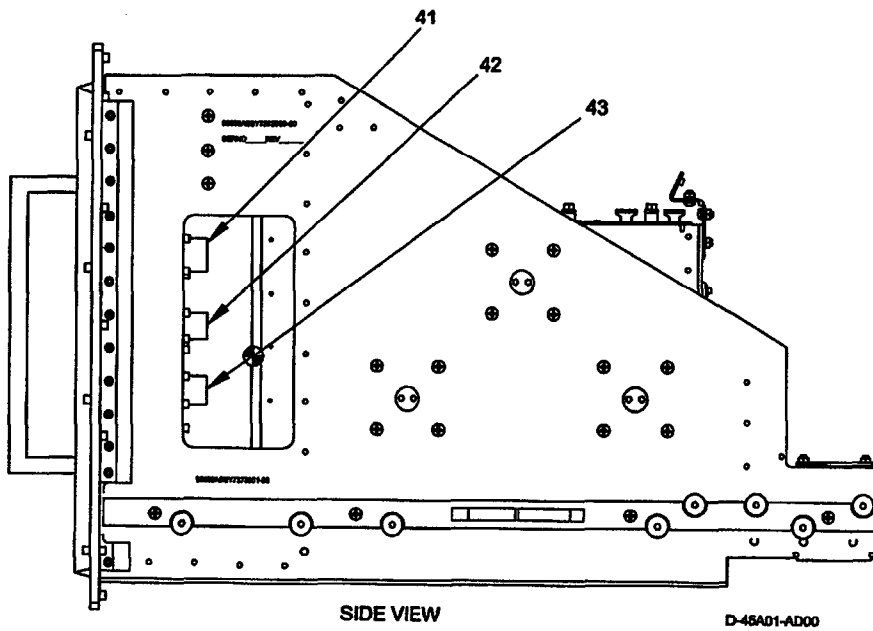


- 22. Processor CCA SCSI Port
- 23. Graphics CCA RADAR Port
- 24. Radar Scan Converter CCA VIDEO INTER-FACE Port
- 25. Radar Interface CCA RADAR INTERFACE Port
- 26. Radar Interface CCA RADAR/IFF Port
- 27. Radar Interface CCA DATA OUT Port
- 28. Radar Scan Converter CCA DATA IN Port
- 29. Graphics CCA RGB - VIDEO OUT Port
- 30. Processor CCA AUI/VID V Port
- 31. Processor CCA RS232A Port
- 32. Processor CCA PS/2 0 KBD Port
- 33. Processor CCA PS/2 1 MOUSE Port
- 34. Processor CCA RS232B Port
- 35. Power/Temperature Control (PTC) CCA J3
- 36. PTC CCA J4B
- 37. Processor CCA AUI/VID A Port
- 38. PTC CCA J5
- 39. PTC CCA J6
- 40. PTC CCA J7

**A**

D-45A01-AC00

Figure 1. Processor-Display Assembly CP-2371/ASQ-225 and Components (Sheet 3)



- 41. Flat Panel Module J3 PWR
- 42. Flat Panel Module J2 RS232
- 43. Flat Panel Module J1 RGB IN

Figure 1. Processor-Display Assembly CP-2371/ASQ-225 and Components (Sheet 4)

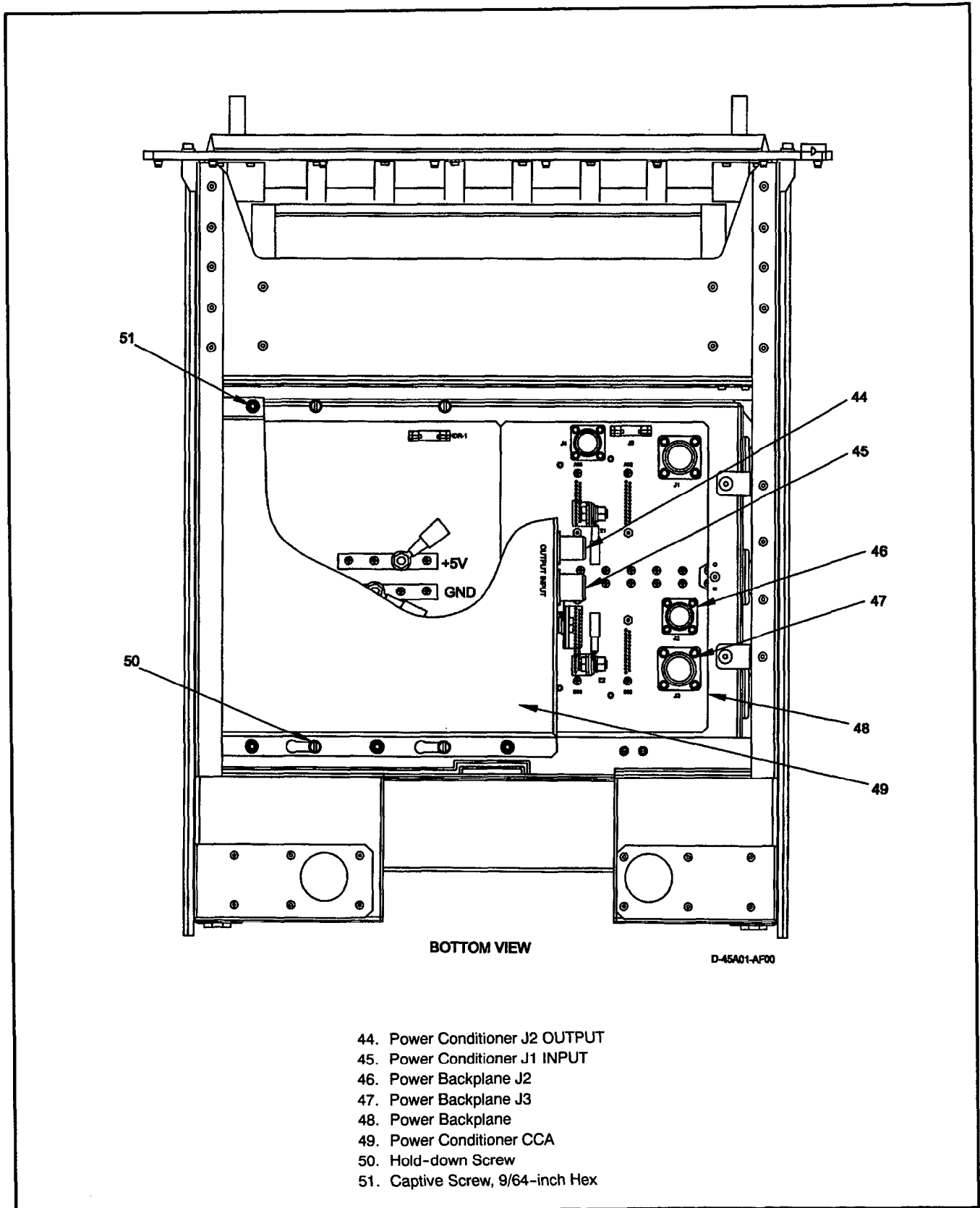


Figure 1. Processor-Display Assembly CP-2371/ASQ-225 and Components (Sheet 5)

7. RETRACTION. The Processor-Display Assembly (2) is located in the center of the ACIS enclosure.



ACIS OS requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

- a. Ensure ACIS workstation requiring maintenance is powered down (SWP031 07).
- b. Depress release latches (8) on processor-display roller rails (6) and slowly guide Processor-Display Assembly (2) in ACIS enclosure.
- c. Tighten 22 captive fasteners (4) securing Processor-Display Assembly (2) to ACIS enclosure. (QA)

8. REMOVAL. The Processor-Display Assembly (2) is located in the center of the ACIS enclosure.

- a. Stow Keyboard-Trackball Assembly, if necessary, by lifting front edge and guiding unit inward until fully retracted.
- b. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

- c. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).



ACIS workstations contain devices and assemblies that are sensitive to Electrostatic Discharge (ESD). ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

d. Disconnect following cables from Processor-Display Assembly (2) components:

Component	Jack/Port	Index	Connector
Power Conditioner CCA	J1 - INPUT	(45)	W7P2
Power Backplane	J3 - MISC	(47)	W8P2
	J2 - PWR	(46)	W9P2
Ethernet Transceiver CCA	J1	(18)	W2P3
Processor CCA	PS/2 0 KBD	(32)	W11P1
	PS/2 1 MOUSE	(33)	W11P2
	SCSI	(22)	W10P2
PTC CCA	J3 - KB PWR	(35)	W11P3
	Radar/IFF	(26)	W3P4
Radar Interface CCA	Radar Interface	(25)	W4P2
	Blank VME Slot		W24P2

e. Inspect cable assemblies for cable clamps, straps, or ties mounted to processor-display chassis (1) that may hinder removal of the unit. Record type and location.

**Note**

Cable clamp screws are not captive.

- f. Loosen four knurled screws to remove right cable sheath from rear edge of processor-display chassis (1).
- g. Loosen two knurled screws to remove left cable sheath from harness mounting hinge (12) on rear of processor-display chassis (1).
- h. Secure loose cable sheaths out of the way.



The Processor-Display Assembly weighs 90 lbs. To avoid personal injury, the Processor-Display Assembly requires a two-person lift.

- i. Press removal latches (7) on processor-display roller rails (6), and slide Processor-Display Assembly (2) out until free from mounting rails.
- j. Place Processor-Display Assembly (2) on an ESD protective surface.
- k. Ensure both mounting rails are retracted into ACIS enclosure.



9. INSTALLATION. The Processor-Display Assembly (2) is located in the center of the ACIS enclosure.

a. Stow Keyboard-Trackball Assembly, if necessary, by lifting front edge and guiding unit inward until fully retracted.



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (table 1).

c. Extend processor-display mounting rails from ACIS enclosure until they lock in place.



The Processor-Display Assembly weighs 90 lbs. To avoid personal injury, the Processor-Display Assembly requires a two-person lift.

d. Lift Processor-Display Assembly (2) up to processor-display mounting rails, slowly seat processor-display roller rails (6) into mounting rail tracks, and lower Processor-Display Assembly (2) to the outward locked position.



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

e. Position right cable sheath to rear edge of processor-display chassis (1) and tighten four knurled screws to mount.

f. Position left cable sheath on harness mounting hinge (12) on rear of processor-display chassis (1) and tighten two knurled screws to mount.

g. Connect the following connectors to Processor-Display Assembly (2) components: (QA)

Component	Jack/Port	Index	Connector
Power Conditioner CCA	J1 - INPUT	(45)	W7P2
Power Backplane	J3 - MISC	(47)	W8P2
	J2 - PWR	(46)	W9P2
Ethernet Transceiver CCA	J1	(18)	W2P3
Processor CCA	PS/2 0 KBD	(32)	W11P1
	PS/2 1 MOUSE	(33)	W11P2
	SCSI	(22)	W10P2
PTC CCA	J3 - KB	(35)	W11P3
	PWR		
Radar Interface CCA	Radar/IFF	(26)	W3P4
	Radar Interface	(25)	W4P2
Blank VME Slot			W24P2

h. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

i. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

j. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

10. PROCESSOR-DISPLAY ASSEMBLY COMPONENTS.

11. ETHERNET TRANSCEIVER REMOVAL. The Ethernet Transceiver (19) is located in the Power backplane (48) of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

**CAUTION**

ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

- c. Disconnect W2P3 from J1 receptacle (18) on Ethernet Transceiver CCA (19).
- d. Loosen four captive screws securing Ethernet Transceiver CCA (19) to power backplane.
- e. Lift Ethernet Transceiver CCA until W16P1 can be accessed and disconnect W16P1 from J2 receptacle.
- f. Remove bracketry from Ethernet Transceiver and retain bracketry for Ethernet Transceiver CCA installation.
- g. Remove Ethernet Transceiver CCA (19) and place in ESD shielded bag.
- h. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

**12. ETHERNET TRANSCEIVER CCA INSTALLATION.** The Ethernet Transceiver CCA (19) is located in the power backplane (48) of the processor-display chassis (1).

- a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).

**WARNING**

Energized equipment can cause severe shock or death on contact.

- b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (table 1).

**CAUTION**

ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

- c. Remove Ethernet Transceiver CCA (19) from ESD shielded bag and position over correct power backplane slot.

- d. Connect W16P2 to J2 receptacle on Ethernet Transceiver CCA (19). (QA)

- e. Tighten four captive screws to secure Ethernet Transceiver CCA (19). (QA)

- f. Connect W2P3 to J1 receptacle (18) on Ethernet Transceiver CCA (19). (QA)

- g. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

- h. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

- i. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

**13. 28V POWER REGULATOR CCA REMOVAL.** The 28V Power Regulator CCA (17) is located in the power backplane (48) of the processor-display chassis (1).

- a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).

**WARNING**

Energized equipment can cause severe shock or death on contact.

- b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

**CAUTION**

ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

- c. Disconnect cables W2P3, W22P1, and W16P2 to permit access to 28V Power Regulator CCA slot in power backplane.

- d. Loosen four captive screws securing 28V Power Regulator CCA (17) to power backplane.

- e. Lift extraction levers (21) with even pressure to unseat 28V Power Regulator CCA (17) backplane connectors.

f. Remove 28V Power Regulator CCA (17) and place in ESD shielded bag.

g. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

**14. 28V POWER REGULATOR CCA INSTALLATION.** The 28V Power Regulator CCA (17) is located in the power backplane (48) of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Remove 28V Power Regulator CCA (17) from ESD shielded bag and place in correct power backplane slot.

d. Apply even pressure to top of CCA to seat connectors in power backplane.

e. Tighten four captive screws to secure 28V Power Regulator CCA (17). (QA)

f. Connect cables W2P3, W22P1, and W16P2 that were disconnected to permit access to 28V Power Regulator CCA slot in power backplane. (QA)

g. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

h. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

i. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

**15. 5V POWER REGULATOR CCA REMOVAL.** The 5V Power Regulator CCA (16) is located in the power backplane (48) of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect cables W2P3, W22P1, and W16P2 to permit access to 5V Power Regulator CCA slot in power backplane.

d. Loosen four captive screws securing 5V Power Regulator CCA (16) to power backplane.

e. Lift extraction levers (21) with even pressure to unseat 5V Power Regulator CCA (16) backplane connectors.

f. Remove 5V Power Regulator CCA (16) and place in ESD shielded bag.

g. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

**16. 5V POWER REGULATOR CCA INSTALLATION.** The 5V Power Regulator CCA (16) is located in the power backplane (48) of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Remove 5V Power Regulator CCA (16) from ESD shielded bag and place in correct power backplane slot.

d. Apply even pressure to top of CCA to seat backplane connectors.

e. Tighten four captive screws to secure 5V Power Regulator CCA (16). (QA)

f. Connect cables W2P3, W22P1, and W16P2 that were disconnected to permit access to 5V Power Regulator CCA slot in power backplane.

g. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

h. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

i. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

17. POWER/TEMPERATURE CONTROL CCA REMOVAL. The Power/Temperature Control (PTC) CCA (15) is located in the power backplane (48) of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD pre-

cautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect cables W2P3, W10P2, and W16P2 to permit access to PTC CCA slot in power backplane.

d. Disconnect following connectors from receptacles on PTC CCA (15).

Connector	Receptacle	Port	Index
W11P3	J3	KB PWR	(35)
W17P1	J4B	RS232	(36)
W21P2	J7	RGB IN	(38)
W22P1	J6	RGB OUT	(39)
W23P1	J5	SYS CON IN	(40)

e. Loosen two captive screws securing PTC CCA (15) to power backplane.

f. Lift ejector handles (9) with even pressure to unseat PTC CCA (15) backplane connectors.

g. Remove PTC CCA (15) and place in ESD shielded bag.

h. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

18. POWER/TEMPERATURE CONTROL CCA INSTALLATION. The Power/Temperature Control (PTC) CCA (15) is located in the power backplane (48) of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Remove PTC CCA (15) from ESD shielded bag and place in correct power backplane slot.

d. Apply even pressure to top of CCA to seat connectors in power backplane.

e. Tighten two captive screws to secure PTC CCA (15). (QA)

f. Connect following connectors to receptacles on PTC CCA (15). (QA)

Connector	Receptacle	Port	Index
W11P3	J3	KB PWR	(35)
W17P1	J4B	RS232	(36)
W21P2	J7	RGB IN	(38)
W22P1	J6	RGB OUT	(39)
W23P2	J5	SYS CON IN	(40)

g. Connect cables W2P3, W10P2, and W16P2 that were disconnected to permit access to PTC CCA slot in power backplane. (QA)

h. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

i. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

j. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

19. PROCESSOR CCA REMOVAL. The Processor CCA (14) is located in the VME backplane of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be

required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect following connectors from ports on Processor CCA (14).

Connector	Port	Index
W16P2	AUI/VID A	(37)
W23P2	AUI/VID V	(30)
W11P1	PS/2 0 KBD	(32)
W11P2	PS/2 1 MOUSE	(33)
W17P2	RS232A	(31)
W10P2	SCSI	(22)
W19P1	RS232B	(34)

Bus Cable (If AVS PMC CCA is installed) AVS PMC CCA to BCXPCI

d. Loosen four captive screws securing Processor CCA (14) to VME backplane.

e. Lift ejector handles (9) with even pressure to unseat Processor CCA backplane connectors.

f. Remove Processor CCA (14) and place in ESD shielded bag.

g. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

**Note**

For Processor CCA (14) configured to support the AVS5100 Graphics CCA, use the following steps to remove the AVS PMC CCA:

The AVS PMC CCA (mounted on the Processor CCA), AVS5100 Graphics CCA, and interconnecting BCXPCI bus cable are replaced as a single part set.

h. Remove Processor CCA (14) from the ESD shielded bag and place on an ESD work surface.

i. Remove and retain four faceplate screws and four connector screws securing PMC Bridge Adapter to the Processor CCA (14).

j. Remove and retain four screws from the underside of the PMC Bridge Adapter that secures the AVS PMC CCA to the PMC Bridge Adapter.

k. Gently rock the AVS PMC CCA top-to-bottom until the connectors to the PMC Bridge Adapter separate.

l. Place PMC Bridge Adapter in ESD shielded bag and retain.

m. Place AVS PMC CCA in ESD shielded bag.

n. Place Processor CCA (14) and place in ESD shielded bag.

20. PROCESSOR CCA INSTALLATION. The Processor CCA (14) is located in the VME backplane of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

For a Processor CCA (14) that is not configured to support the AVS5100 Graphics CCA perform steps i through step o.

For Processor CCA (14) configured to support the AVS5100 Graphics CCA, use the following steps to install the AVS PMC CCA to the Processor CCA (14):

c. Remove Processor CCA (14) from ESD shielded bag and place on an ESD work surface.

d. Remove AVS PMC CCA from ESD shielded bag.

e. Remove retained PMC Bridge Adapter and retained screws from ESD shielded bag.

f. Connect AVS PMC CCA to PMC Bridge Adapter.

g. Use four screws to secure the AVS PMC CCA to the PMC Bridge Adapter.

h. Mount PMC Bridge Adapter to the Processor CCA (14) using four connector screws and four face-plate screws.

i. Place Processor CCA (14) in correct VME backplane slot.

j. Apply even pressure to top of CCA to seat connectors in VME backplane.

k. Tighten four captive screws to secure Processor CCA (14). (QA)

l. Connect following connectors to ports on Processor CCA (14). (QA)

Connector	Port	Index
W16P2	AUI/VID A	(37)
W23P2	AUI/VID V	(30)
W11P1	PS/2 0 KBD	(32)
W11P2	PS/2 1 MOUSE	(33)
W17P2	RS232A	(31)
W10P2	SCSI	(22)
W19P1	RS232B	(34)
Bus Cable (If AVS PMC CCA is installed)	AVS PMC CCA to BCXPCI	

m. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

n. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

o. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

21. GRAPHICS CCA REMOVAL. The Graphics CCA (13) is located in the VME backplane of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

c. Disconnect cables W11P1 and W11P2 to permit access to Graphics CCA slot in VME backplane.



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

**Note**

For IVS4100P (double CCA) Graphics CCA removal, perform the following steps:

d. Disconnect following connectors from ports on Graphics CCA (13):

Connector	Port	Index
R1P1(Ribbon Cable)	RADAR	(23)
W21P1	RGB – VIDEO OUT	(29)

e. Loosen four captive screws securing Graphics CCA (13) to VME backplane.

f. Lift ejector handles (9) with even pressure to unseat Graphics CCA (13) backplane connectors.

g. Remove Graphics CCA (13) and place in ESD shielded bag.

h. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

**Note**

For AVS5100 (single CCA) Graphics CCA removal, perform the following steps:

i. Disconnect following connectors from ports on Graphics CCA (13):

Connector	Port	Index
R1P1(Ribbon Cable)	RADAR	(23)
W21P1	RGB – VIDEO OUT	(29)
P4	BCXPCI bus to PMC Bridge Adapter	

j. Loosen two captive screws securing Graphics CCA (13) to VME backplane.

k. Lift ejector handles (9) with even pressure to unseat Graphics CCA (13) backplane connectors.

l. Remove Graphics CCA (13) and place in ESD shielded bag.

**Note**

The AVS5100 Graphics CCA, AVS PMC CCA (mounted on the Processor CCA), and interconnecting BCXPCI bus cable are replaced as a single part set.

m. Remove BCXPCI bus cable and place in ESD shielded bag.

n. Remove AVS PMC CCA from Processor CCA (paragraph 19) and place in ESD shielded bag.

o. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

22. GRAPHICS CCA INSTALLATION. The Graphics CCA (13) is located in the VME backplane of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Remove Graphics CCA (13) from ESD shielded bag and place in correct VME backplane slot.

d. Apply even pressure to top of CCA to seat connectors in VME backplane.

**Note**

For IVS4100P (double CCA) Graphics CCA installation, perform the following steps:

e. Tighten four captive screws to secure Graphics CCA (13). (QA)

f. Connect following connectors to ports on Graphics CCA (13). (QA)

Connector	Port	Index
R1P1 (Ribbon Cable)	RADAR	(23)
W21P1	RGB - VIDEO OUT	(29)

g. Reconnect W11P1 and W11P2 that was disconnected to permit access Graphics CCA slot in VME backplane. (QA)

h. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

i. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

j. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07):

For AVS5100 (single CCA) Graphics CCA installation, perform the following steps:

k. Tighten two captive screws to secure Graphics CCA (13). (QA)

**Note**

The AVS5100 Graphics CCA, AVS PMC CCA (mounted on the Processor CCA), and interconnecting BCXPCI bus cable are replaced as a single part set.

l. Remove AVS PMC CCA from the ESD shielded bag and install on Processor CCA (paragraph 20).

m. Remove BCXPCI bus cable from the ESD shielded bag and connect to the AVS PMC CCA on the Processor CCA (14). (QA)

n. Connect following connectors to ports on Graphics CCA (13). (QA)

Connector	Port	Index
R1P1(Ribbon Cable)	RADAR	(23)
W21P1	RGB – VIDEO OUT	(29)
P4	BCXPCI bus to AVS PMC Adapter	

o. Reconnect W11P1 and W11P2 that was disconnected to permit access Graphics CCA slot in VME backplane. (QA)

p. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

q. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

r. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

**23. RADAR SCAN CONVERTER CCA REMOVAL.** The Radar Scan Converter CCA (11) is located in the VME backplane of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

c. Disconnect W24P2 to permit access to Radar Scan Converter CCA slot in VME backplane.



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

d. Disconnect following connectors from ports on Radar Scan Converter CCA (11).

Connector	Port	Index
R1P2	VIDEO INTERFACE	(24)
W4P2	RADAR INTERFACE	(25)
W24P2	Blank VME Slot	
W3P4	RADAR/IFF	(26)
Ribbon Cable	DATA OUT	(27)
Ribbon Cable	DATA IN	(28)

e. Loosen two captive screws securing Radar Scan Converter CCA (11) to VME backplane.

f. Lift ejector handles (9) with even pressure to unseat Radar Scan Converter CCA (11) backplane connectors.



g. Remove Radar Scan Converter CCA (11) and place in ESD shielded bag.

h. Reconnect W24P2 to permit access to Radar Scan Converter CCA slot in VME backplane.

i. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

24. RADAR SCAN CONVERTER CCA INSTALLATION. The Radar Scan Converter CCA (11) is located in the VME backplane of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect W24P2 to permit access to Radar Scan Converter CCA slot in VME backplane.

d. Remove Radar Scan Converter CCA (11) from ESD shielded bag and place in correct VME backplane slot.

e. Apply even pressure to top of CCA to seat connectors in VME backplane.

f. Tighten two captive screws to secure Radar Scan Converter CCA (11). (QA)

g. Connect following connectors to ports on Radar Scan Converter CCA (11). (QA)

Connector	Port	Index
R1P2	VIDEO INTERFACE	(24)
W4P2	RADAR INTERFACE	(25)
W24P2	Blank VME Slot	
W3P4	RADAR/IFF	(26)
Ribbon Cable	DATA OUT	(27)
Ribbon Cable	DATA IN	(28)

h. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

i. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

j. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

25. RADAR INTERFACE CCA REMOVAL. The Radar Interface CCA (10) is located in the VME backplane of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect following connectors from ports on Radar Interface CCA (10).

Connector	Port	Index
W4P2	RADAR INTERFACE	(25)
W24P2	Blank VME Slot	
W3P4	RADAR/IFF	(26)
Ribbon Cable	DATA OUT	(27)

d. Loosen two captive screws securing Radar Interface CCA (10) to VME backplane.

e. Lift ejector handles (9) with even pressure to unseat Radar Interface CCA (10) backplane connectors.

f. Remove Radar Interface CCA (10) and place in ESD shielded bag.

g. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

**26. RADAR INTERFACE CCA INSTALLATION.** The Radar Interface CCA (10) is located in the VME backplane of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies during test and/or repair (NAVAIR 01-1A-23, WP005 00).

c. Disconnect W24P2 to permit access to Radar Interface CCA slot in VME backplane.

d. Remove Radar Interface CCA (10) from ESD shielded bag and place in correct VME backplane slot.

f. Tighten two captive screws to secure Radar Interface CCA (10). (QA)

g. Connect following connectors to ports on Radar Interface CCA (10). (QA)

Connector	Port	Index
W4P2	RADAR INTERFACE	(25)
W24P2	Blank VME Slot	
W3P4	RADAR/IFF	(26)
Ribbon Cable	DATA OUT	(27)

h. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

i. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

j. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

**27. FLAT PANEL MODULE REMOVAL.** The Flat Panel Module (3) is located in the front of the processor-display chassis (1).

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Disconnect following connectors from ports on Flat Panel Module (3).

Connector	Receptacle	Port	Index
W20P2	J3	POWER	(41)
W19P2	J2	REMOTE	(42)
W22P2	J1	RGB IN	(43)



The Flat Panel Module (3) is suspended only by the captive screws and may fall out when all screws are loosened.

- d. Loosen four screws securing the Flat Panel Module (3) to the Processor-Display Assembly (2), but do not fully loosen last screw.
- e. Support the Flat Panel Module (3) with one hand and remove remaining screw.
- f. Remove the Flat Panel Module (3) and place in ESD protective carrying case.
- g. Move loose cable harness out of the way.
- h. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

28. FLAT PANEL MODULE INSTALLATION. The Flat Panel Module (3) is located in the front of the processor-display chassis (1).

- a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

- b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

- c. Remove Flat Panel Module (3) from ESD protective carrying case and position in Processor-Display Assembly (2) with receptacles J1, J2, and J3 visible on the right (forward) side of chassis.

- c. Remove Flat Panel Module (3) from ESD protective carrying case and position in Processor-Display

Assembly (2) with receptacles J1, J2, and J3 visible on the right (forward) side of chassis.

- d. Tighten four screws to attach the Flat Panel Module (3) to the Processor-Display Assembly (2). (QA)

- e. Connect following connectors to the receptacles on the Flat Panel Module (3). (QA)

Connector	Receptacle	Port	Index
W20P2	J3	POWER	(43)
W19P2	J2	REMOTE	(42)
W22P2	J1	RGB IN	(41)

- f. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).
- g. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

- h. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

29. POWER CONDITIONER CCA REMOVAL. The Power Conditioner CCA (49) is located on the Processor-Display Assembly (2) attached beneath the processor-display chassis (1).

- a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

- b. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

- c. Stow Keyboard-Trackball Assembly, if necessary, by lifting front edge and guiding unit inward until fully retracted.

d. Disconnect following connectors from the receptacles on the Power Conditioner CCA (49).

Connector	Receptacle	Port	Index
W7P2	J1	INPUT	(45)
W18P1	J2	OUTPUT	(44)

e. Loosen six 9/64-inch hex driver captive screws (51) securing the Power Conditioner CCA (49) underneath processor-display chassis (1).

f. Loosen four hold-down screws (50) slightly to disengage Power Conditioner CCA (49).

g. Slide the Power Conditioner CCA (49) to right and then down to remove unit from four hold-down screws (50).

h. Place Power Conditioner CCA (49) in ESD protective carrying case.

i. Move and secure, if necessary, any loose cable(s) out of the way.

j. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

**30. POWER CONDITIONER CCA INSTALLATION.** The Power Conditioner CCA (49) is located beneath the Processor-Display Assembly (2) attached to the chassis.

a. Extend Processor-Display Assembly (2) from ACIS enclosure (paragraph 6).



Energized equipment can cause severe shock or death on contact.

b. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (table 1).



ACIS workstations contain devices and assemblies that are sensitive to ESD. ESD precautionary procedures and equipment will be required when touching, removing or inserting ESD sensitive assemblies (NAVAIR 01-1A-23, WP005 00).

c. Stow Keyboard-Trackball Assembly, if necessary, by lifting front edge and guiding unit inward until fully retracted.

d. Remove Power Conditioner CCA (49) from ESD protective carrying case.

e. Position Power Conditioner CCA (49) underneath processor-display chassis (1) with four hold-down screws (50) passing through appropriate slots.

f. Slide Power Conditioner (49) to left (aft) to mount unit.

g. Tighten four hold-down screws (50) to engage Power Conditioner CCA (49) to processor-display chassis (1). (QA)

h. Tighten six 9/64-inch hex driver captive screws (51) to secure the Power Conditioner CCA (49). (QA)

i. Connect following connectors to the receptacles on the Power Conditioner CCA (49). (QA)

Connector	Receptacle	Port	Index
W7P2	J1	INPUT	(45)
W18P1	J2	OUTPUT	(44)

j. Retract Processor-Display Assembly (2) into ACIS enclosure (paragraph 7).

k. Remove tags from four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (table 1).

l. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 07).

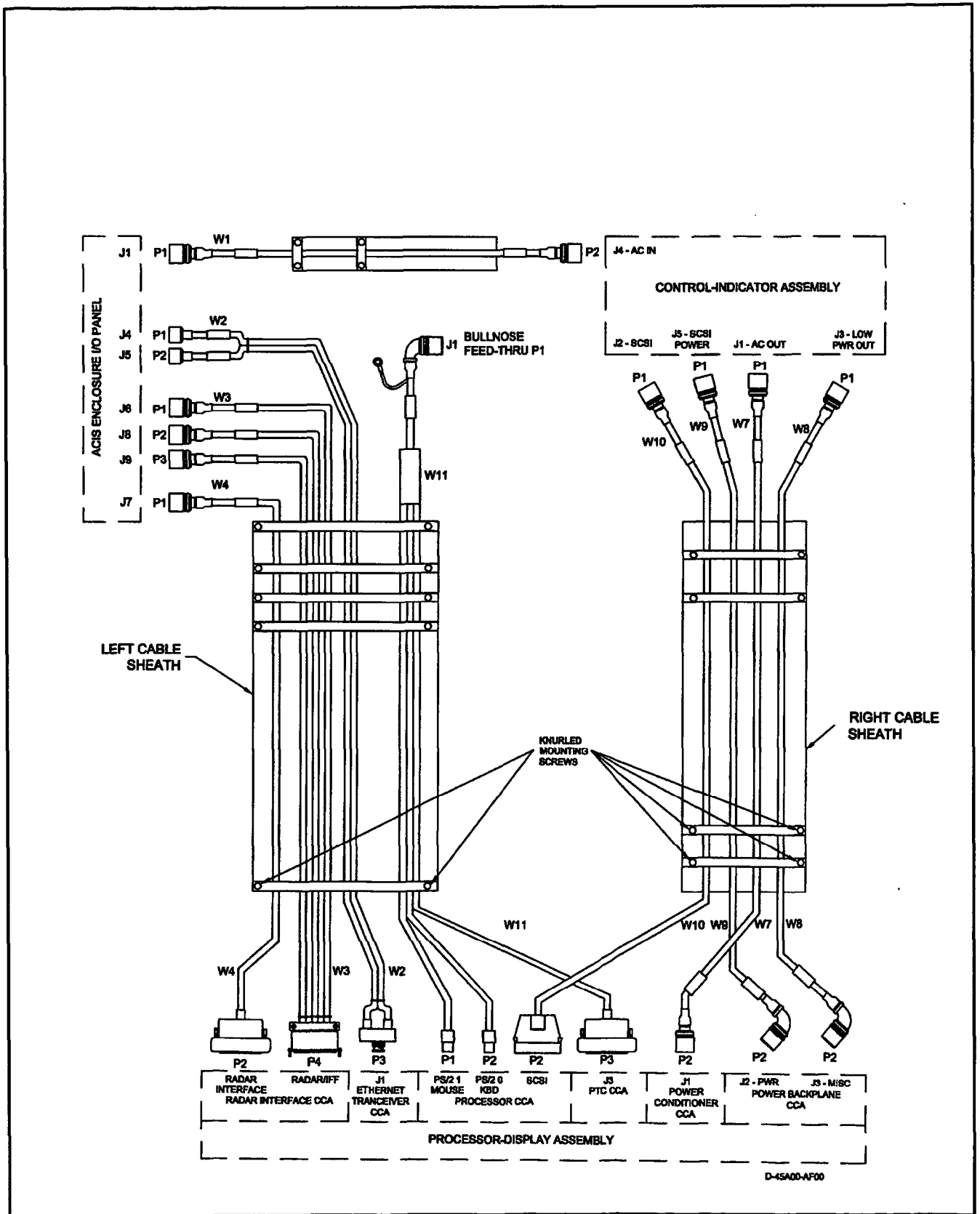


Figure 2. ACIS Subassembly Interconnection And Cable Sheath Layout



ORGANIZATIONAL MAINTENANCE

DIGITAL DISPLAY INDICATOR IP-1039/APA-172

EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Display System .....	031 00
Display System .....	031 04
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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Record of Applicable Technical Directives

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
—	—	Production Incorporation of Enhanced Main Display Unit (EMDU) (ECP 382R1)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

1. GENERAL.

2. The Digital Display Indicator IP-1039/APA-172 (hereinafter referred to as the indicator) is part of the Indicator Group OD-48/APA-172, which is a unit of the Control Indicator Group AN/APA-172 (CIG) in aircraft preceding serial number 164108. In aircraft serial number 164108 and subsequent, the indicator is part of the Indicator Group OD-214/APQ-179, which is a unit of the Control Indicator Set AN/APQ-179 (CIS). There are

three indicators (45A1A3, 45A2A3, and 45A3A3) located in the crew compartment, left side. Refer to NAV-AIR 01-E2AAA-2-18.1, WP003 00 (figure 4, items 31, 38, and 49) for location of indicators.

Support Equipment Required

Part or Model No.	Nomenclature
—	5/32-Inch Hex Key

3. **REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using 5/32-inch hex key, disengage 17 panel fasteners securing indicator to panel.
- b. Using handles provided, slowly pull indicator forward until slide latches lock indicator in position.
- c. Disconnect three cable connectors from indicator receptacles J1, J2, and J3.
- d. Release slide latches and carefully remove indicator from cabinet.
- e. Cap all connectors and receptacles.

4. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins before to installation.

- b. Extend slides from cabinet until locked in position.
- c. Install indicator on slides and slowly push indicator into cabinet until slide latches lock indicator in place.
- d. Connect cable connectors to indicator receptacles J1, J2, and J3 as follows: (QUALITY ASSURANCE)

Indicator Receptacle	Cable Connector
----------------------	-----------------

**45A1A3**

- |    |          |
|----|----------|
| J1 | 45A1A3P1 |
| J2 | 45A1A3P2 |
| J3 | 45A1A3P3 |

**45A2A3**

- |    |          |
|----|----------|
| J1 | 45A2A3P1 |
| J2 | 45A2A3P2 |
| J3 | 45A2A3P3 |

**45A3A3**

- |    |          |
|----|----------|
| J1 | 45A3A3P1 |
| J2 | 45A3A3P2 |
| J3 | 45A3A3P3 |

- e. Release slide latches and slowly push indicator into cabinet until front panel is flush with console.
- f. Using 5/32-inch hex key, engage 17 panel fasteners to secure indicator to console. (QUALITY ASSURANCE)

- g. Perform an operational check of the Indicator Group OD-48/APA-172, or Indicator Group OD-214/APQ-179, contained within respective Display System test (NAVAIR 01-E2AAA-2-17.3, WP031 00 or WP031 04).

5. **CLEANING GRATICULE.** (Figure 1.)

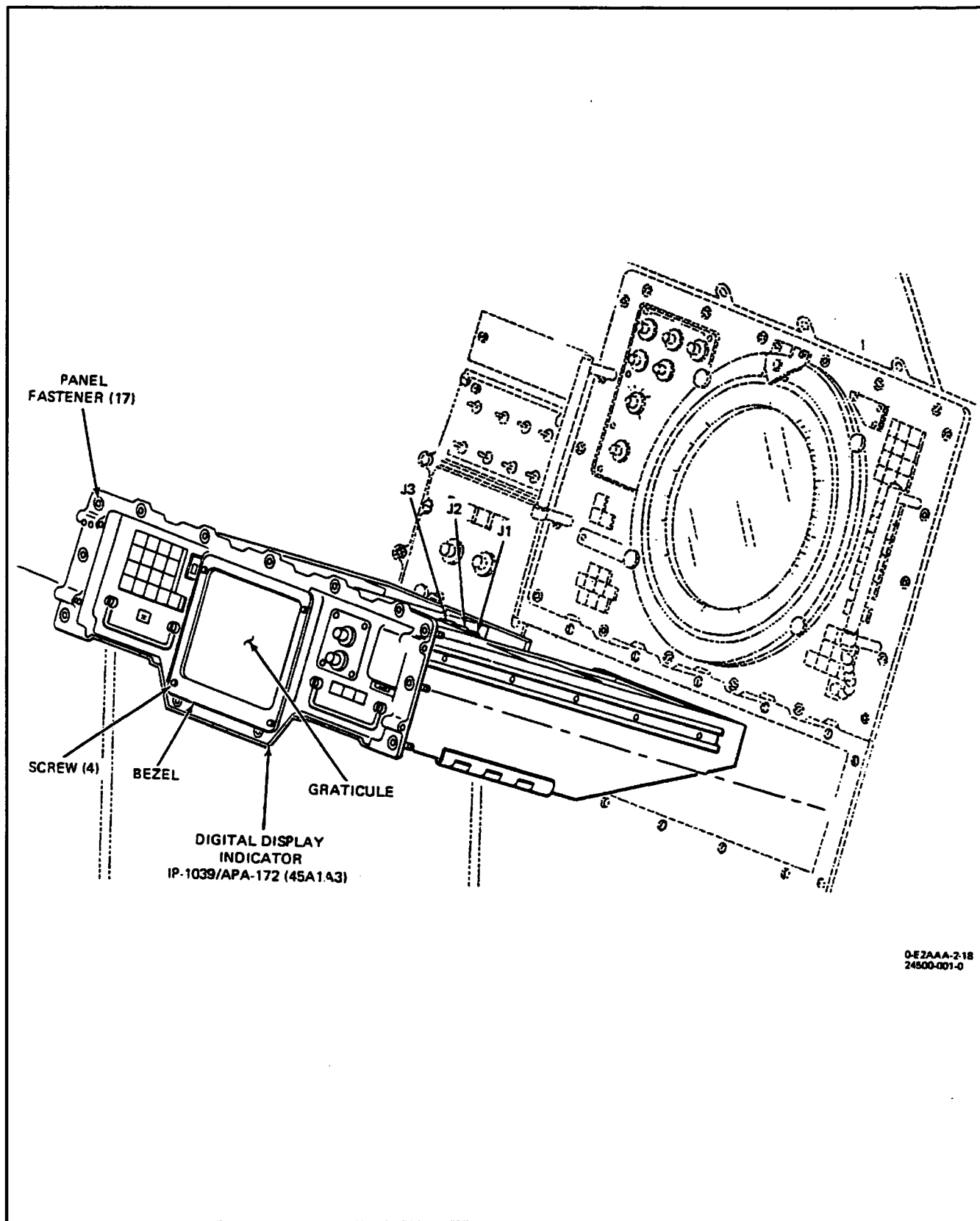
- a. Supporting bezel, remove four screws securing bezel to indicator.



Edge lighting wires are secured to the bezel.

- b. Carefully lift bezel away from indicator and tilt so that rear of graticule faces up.
- c. Clean rear of graticule using a clean, lint-free cloth moistened with water.
- d. Carefully install bezel to indicator with four screws.
- e. Clean face of graticule using a clean, lint-free cloth moistened with water.





0-E2AAA-2-18  
24500-001-0

Figure 1. Removal and Installation of Digital Display Indicator IP-1039/APA-172



**ORGANIZATIONAL MAINTENANCE**

**MAINTENANCE**

**KEYBOARD-TRACKBALL ASSEMBLY CA-103/ASQ-225**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

Location of Electronic System Components .....	003 01
Control-Indicator Assembly C-12514/ASQ-225 .....	243 02
Processor-Display Assembly CP-2371/ASQ-225 .....	244 01
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Control Indicator Set AN/ASQ-225 .....	031 05
Electronic Assembly Repair .....	NAVAIR 01-1A-23
Standard Maintenance Practices Miniature/Microminiature (2M)	
Electronic Assembly Repair Electrostatic Discharge Control .....	005 00

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**Record of Applicable Technical Directives**

None

**1. INTRODUCTION.**

2. This subordinate work package (SWP) covers the removal and installation procedures for the Keyboard-Trackball Assembly CA-103/ASQ-225 and components. Table 1 lists the circuit breakers on the main electronics junction box that control power for each ACIS workstation. Refer to WP003 01, Figure 4, items 94, 95 and 96 for location of the ACIS workstations.

3. The Control Indicator Set AN/ASQ-225 (ACIS) consists of the Control-Indicator Assembly C-12514/ASQ-225, Processor-Display Assembly CP-2371/ASQ-225, Keyboard-Trackball Assembly CA-103/ASQ-225 (Bullnose), and associated interface cabling.

**TABLE 1. CONTROL INDICATOR SET AN/ASQ-225 STATION CIRCUIT BREAKERS**

Station	MEJB Circuit Breaker
RO	DISPLAY RO (CB36) DISPLAY RO (CB37) DISPLAY RO (CB38) DISPLAY RO (CB84)
CICO	DISPLAY CICO (CB39) DISPLAY CICO (CB40) DISPLAY CICO (CB41) DISPLAY CICO (CB85)
ACO	DISPLAY ACO (CB42) DISPLAY ACO (CB43) DISPLAY ACO (CB44) DISPLAY ACO (CB86)

4. The three ACIS workstations are located on the left side of the CIC compartment, one each at the ACO, CICO, and RO stations. Refer to WP003 01, Figure 4, Detail E for location of the ACIS workstations.

**Note**

Refer to Figure 1 for locations of ACIS components. All components in the following procedures are referenced to Figure 1 with indexes shown in parenthesis.

**Support Equipment Required**

Part or Model No.	Nomenclature
40170	ESD Wrist Strap
2100	Static Shield Bag
123SAV51001-9	ACIS CCA Carrying Case

**5. KEYBOARD-TRACKBALL ASSEMBLY.**

6. REMOVAL. The Keyboard-Trackball Assembly (1) is located in the bottom of the ACIS enclosure (15).



Energized equipment can cause severe shock or death on contact.



ACIS Operating System (OS) requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1,

SWP031 05). A disorderly shutdown can cause destructive writes to RMC.

a. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

b. Depress release tabs (16) and withdraw Keyboard-Trackball Assembly (1) from ACIS enclosure (15) and until fully extended.

c. Disconnect W12P2 from J2 receptacle (2) on rear of Keyboard-Trackball Assembly (1).

d. Loosen two 9/64 inch hex captive screws (19) on each retaining latch (17) and lower the latches.

e. Remove Keyboard-Trackball Assembly (1) from ACIS enclosure (15).

f. Raise retaining latches (17) and tighten two captive screws (19) on each.

7. INSTALLATION. The Keyboard-Trackball Assembly (1) is located in the bottom of the ACIS enclosure (15).



Energized equipment can cause severe shock or death on contact.



The ACIS OS requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

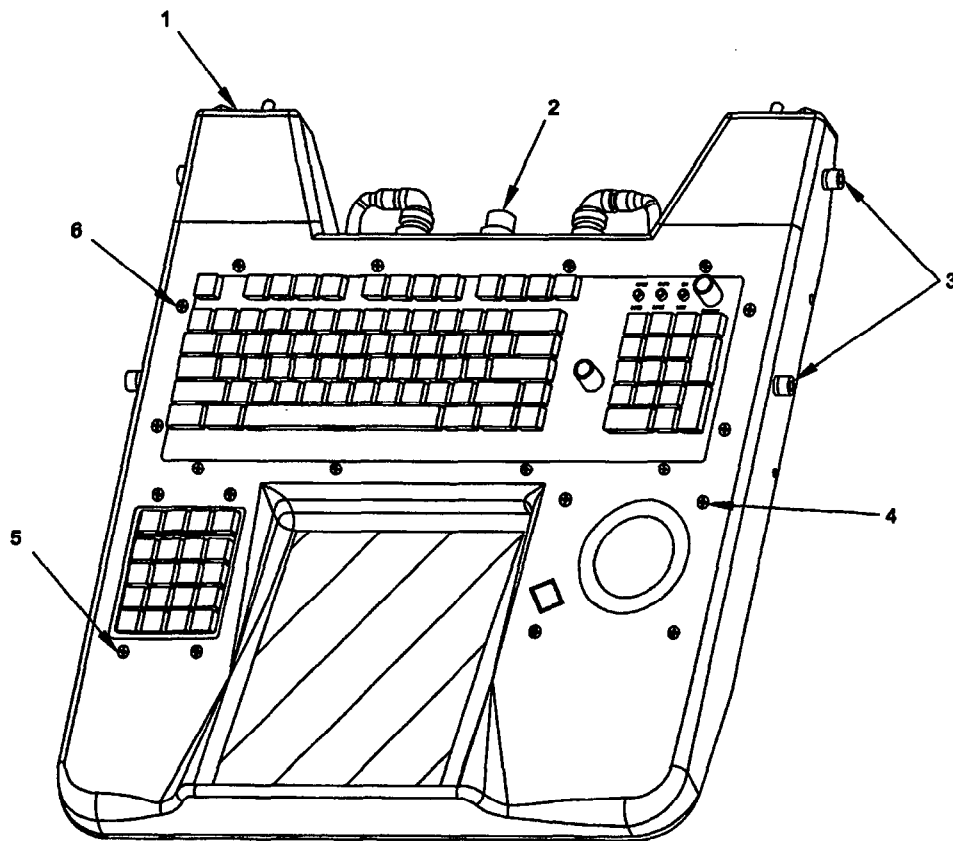
a. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).

b. Loosen two captive screws (19) on each retaining latch (17) and lower the latches.

c. Insert four Keyboard-Trackball rollers (3) in roller guides (18).

d. Raise retaining latches (17) and tighten two captive screws (19) to secure each retaining latch to ACIS enclosure (15). (QA)

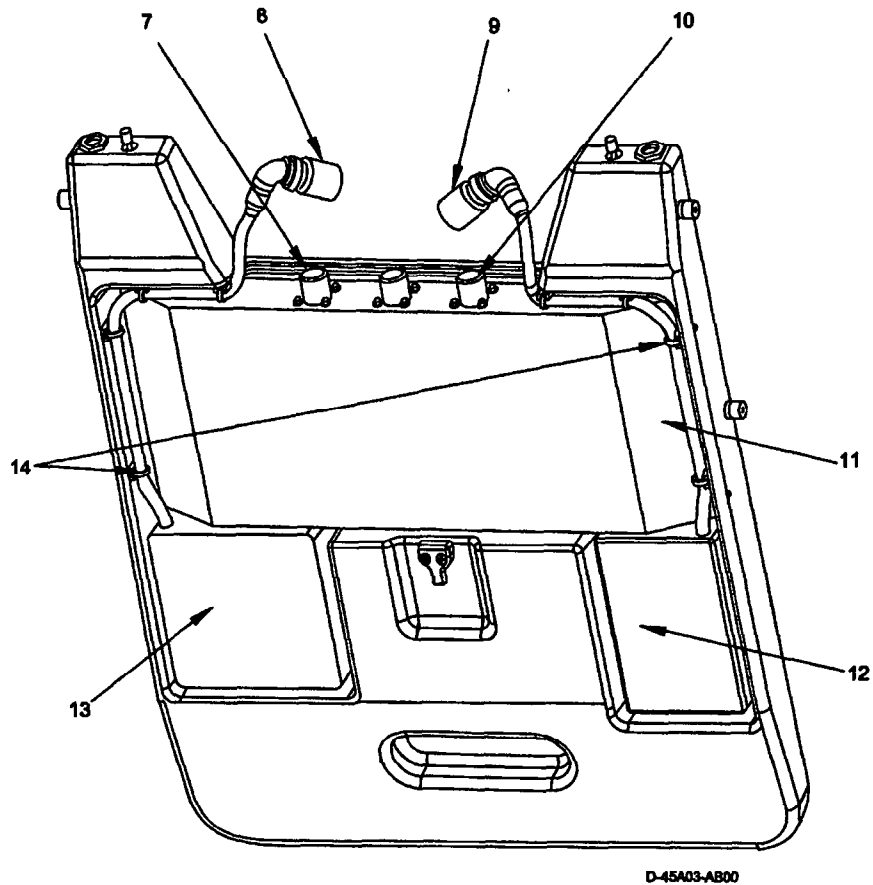
e. Withdraw Keyboard-Trackball Assembly (1) to fully extended position and connect W12P2 connector to J2 receptacle (2) on rear of unit.



D-45A03-AAD0

- 1. Keyboard-Trackball Assembly (Bullnose)
- 2. Keyboard Module J2
- 3. Keyboard-Trackball rollers (Cam Followers)
- 4. Trackball Module Captive Screw
- 5. Function Keypad Captive Screw
- 6. Keyboard Module Captive Screw

Figure 1. Keyboard-Trackball Assembly CA-103/ASQ-225 (Bullnose) and Control Indicator Set AN/ASQ-225 Components (Sheet 1 of 4)



- 7. Keyboard Module J1
- 8. Trackball Module Connector
- 9. Function Keypad Connector
- 10. Keyboard Module J3
- 11. Keyboard Module
- 12. Function Keypad
- 13. Trackball Module
- 14. Cable Straps

Figure 1. Keyboard-Trackball Assembly CA-103/ASQ-225 (Bullnose) and Control Indicator Set AN/ASQ-225 Components (Sheet 2)

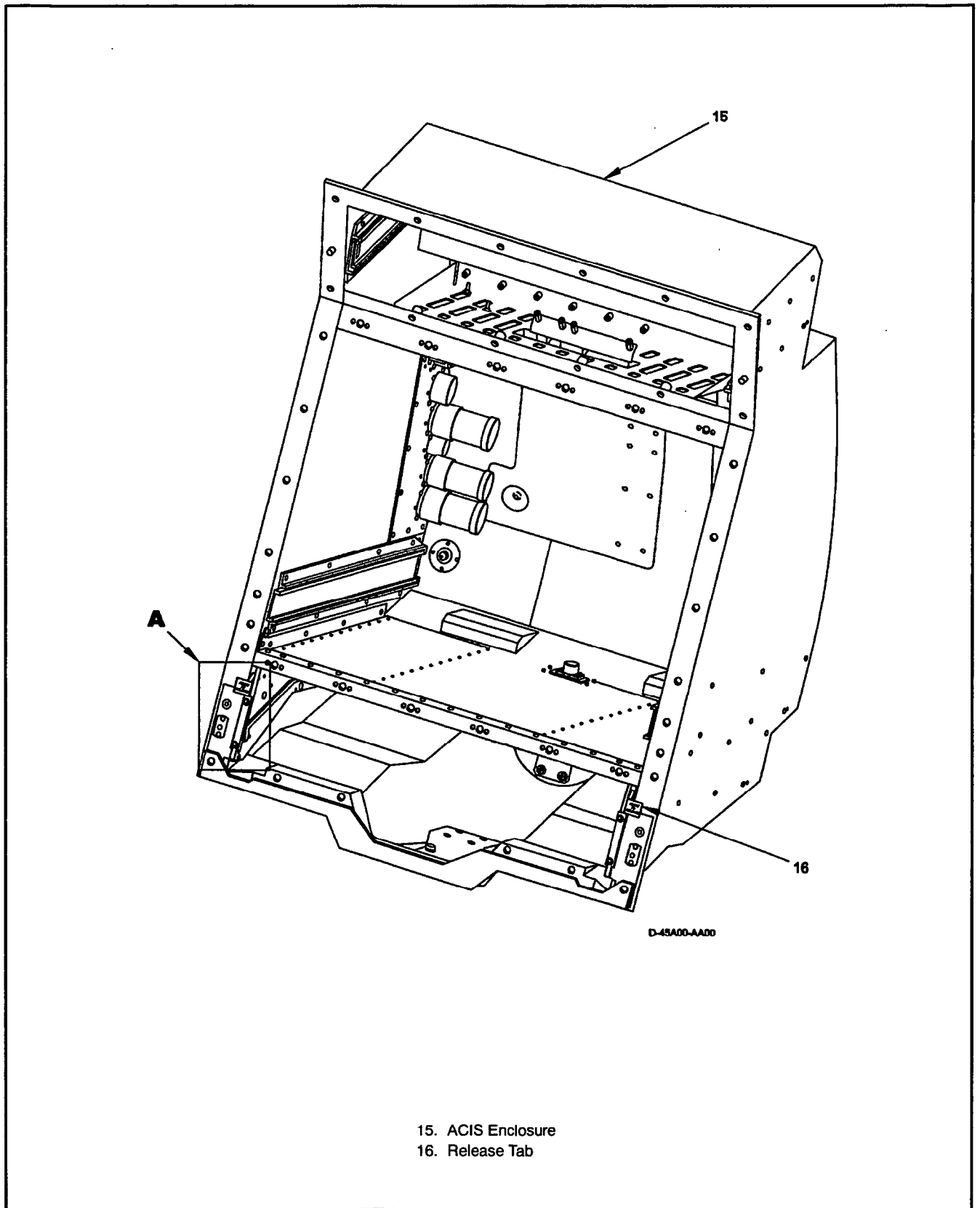
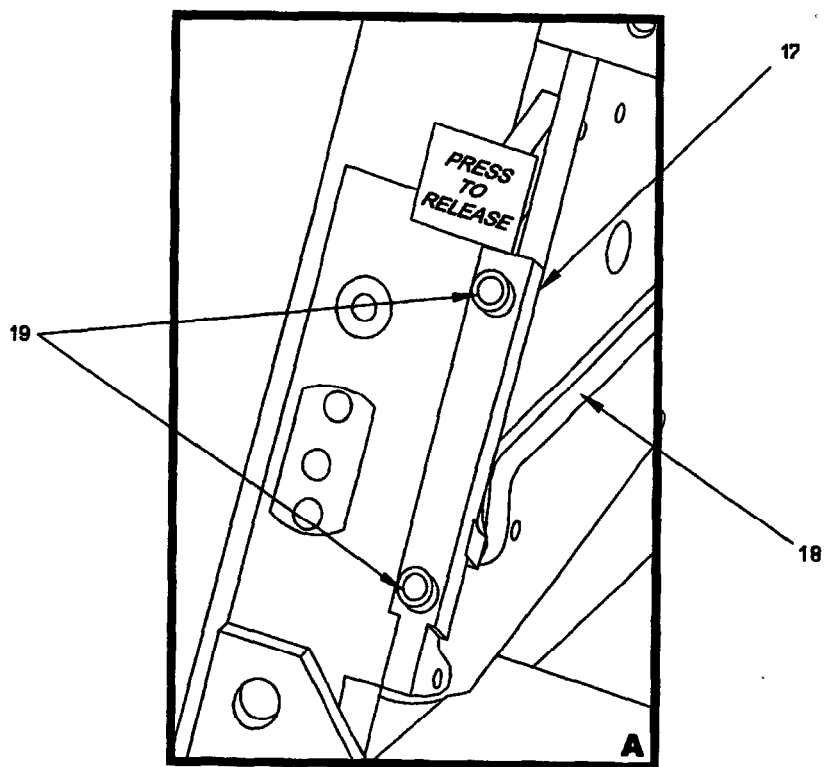


Figure 1. Keyboard-Trackball Assembly CA-103/ASQ-225 (Bullnose) and Control Indicator Set AN/ASQ-225 Components (Sheet 3)



- 17. Retaining Latch
- 18. Roller Guide
- 19. Retaining Latch Screws

Figure 1. Keyboard-Trackball Assembly CA-103/ASQ-225 (Bullnose) and Control Indicator Set AN/ASQ-225 Components (Sheet 4)



f. Stow Keyboard-Trackball Assembly (1) by lifting front edge and guiding unit inward until fully retracted.

g. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

h. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

## 8. KEYBOARD-TRACKBALL ASSEMBLY COMPONENTS

9. KEYBOARD/NUMERIC KEYPAD AND FORCETICK REMOVAL. The Keyboard/Numeric Keypad and Forcystick (keyboard module) (11) is located inside the Keyboard-Trackball Assembly (1).

### WARNING

Energized equipment can cause severe shock or death on contact.

### CAUTION

The ACIS OS requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

a. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

b. Remove Keyboard-Trackball Assembly (1) from ACIS enclosure (15) (Keyboard-Trackball Assembly Removal procedures).

c. Disconnect trackball module connector (8) from J1 receptacle (7) on keyboard module (11).

d. Unhook four cable straps (14) securing trackball module connector (8) and cable to frame.

e. Disconnect function keypad connector (9) from J3 receptacle (10) on keyboard module (11).

f. Unhook four cable straps (14) securing function keypad connector (9) and cable to frame.

g. Loosen 12 fasteners (6) securing keyboard module (11) to Keyboard-Trackball Assembly (1).

h. Remove keyboard module (11) and place in ACIS CCA Carrying Case.

i. Hook four cable straps (14) to secure trackball module connector (8) and cable to frame.

j. Hook four cable straps (14) to secure function keypad connector (9) and cable to frame. (QA)

k. Install Keyboard-Trackball Assembly (1) in ACIS enclosure (15) (Keyboard-Trackball Assembly Installation procedures). (QA)

10. KEYBOARD/NUMERIC KEYPAD AND FORCETICK INSTALLATION. The Keyboard/Numeric Keypad and Forcystick (keyboard module) (11) is located inside the Keyboard-Trackball Assembly (1).

### WARNING

Energized equipment can cause severe shock or death on contact.

### CAUTION

The ACIS OS requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

a. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).

b. Remove Keyboard-Trackball Assembly (1) from ACIS enclosure (15) (Keyboard-Trackball Assembly Removal procedures).

c. Remove keyboard module (11) from ACIS CCA carrying case and position in Keyboard-Trackball Assembly (1).

d. Tighten 12 fasteners (6) securing keyboard module (11) to Keyboard-Trackball Assembly (1). (QA)

e. Connect trackball module connector (8) to J1 receptacle (7) on keyboard module (11). (QA)

f. Fasten four cable straps (14) securing trackball module connector (8) and cable to frame. (QA)

g. Connect function keypad connector (9) to J3 receptacle (10) on keyboard module (11). (QA)

h. Fasten four cable straps (14) securing function keypad connector (9) and cable to frame. (QA)

i. Install Keyboard-Trackball Assembly in ACIS enclosure (15) (Keyboard-Trackball Assembly Installation procedures).

j. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

k. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

11. TRACKBALL MODULE REMOVAL. The trackball module (13) is located inside the Keyboard-Trackball Assembly (1).

**WARNING**

Energized equipment can cause severe shock or death on contact.

**CAUTION**

The ACIS OS requires an orderly shutdown prior to interrupting/removing power (01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

a. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

b. Remove Keyboard-Trackball Assembly (1) from ACIS enclosure (15) (Keyboard-Trackball Assembly Removal procedures).

c. Disconnect trackball module connector (8) from J1 receptacle (7) on keyboard module (11).

d. Unhook four cable straps (14) securing trackball module connector (8) and cable to frame.

e. Loosen four fasteners (4) securing trackball module (13) to Keyboard-Trackball Assembly (1).

f. Remove trackball module (13) and place in ACIS CCA carrying case.

g. Install Keyboard-Trackball Assembly (1) in ACIS enclosure (15) (Keyboard-Trackball Assembly Installation procedures).

12. TRACKBALL MODULE INSTALLATION. The trackball module (13) is located inside the Keyboard-Trackball Assembly (1).

**WARNING**

Energized equipment can cause severe shock or death on contact.

**CAUTION**

The ACIS OS requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

a. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).

b. Remove Keyboard-Trackball Assembly (1) from ACIS enclosure (15) (Keyboard-Trackball Assembly Removal procedures).

c. Remove trackball module (13) from ACIS CCA carrying case and position in Keyboard-Trackball Assembly (1).

d. Tighten four fasteners (4) to secure trackball module (13) to Keyboard-Trackball Assembly (1).

e. Fasten four cable straps (14) securing trackball module connector (8) and cable to frame.

f. Connect trackball module connector (8) to J1 receptacle (7) on keyboard module (11).

g. Install Keyboard-Trackball Assembly in ACIS enclosure (15) (Keyboard-Trackball Assembly Installation procedures).

h. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

i. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

13. FUNCTION KEYPAD REMOVAL. The function keypad (12) is located inside the Keyboard-Trackball Assembly (1).

**WARNING**

Energized equipment can cause severe shock or death on contact.



The ACIS OS requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

- a. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).
- b. Remove Keyboard-Trackball Assembly (1) from ACIS enclosure (15) (Keyboard-Trackball Assembly Removal procedures).
- c. Disconnect function keypad connector (9) from J3 receptacle (10) on keyboard module (11).
- d. Unhook four cable straps (14) securing function keypad connector (9) and cable to frame.
- e. Loosen four fasteners (5) securing function keypad (12) to Keyboard-Trackball Assembly (1).
- f. Remove function keypad (12) and place in ACIS CCA carrying case.
- g. Install Keyboard-Trackball Assembly (1) in ACIS enclosure (15) (Keyboard-Trackball Assembly Installation procedures).

14. FUNCTION KEYPAD INSTALLATION. The function keypad (12) is located inside the Keyboard-Trackball Assembly (1).



Energized equipment can cause severe shock or death on contact.



The ACIS OS requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

- a. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).

- b. Remove Keyboard-Trackball Assembly (1) from ACIS enclosure (15) (Keyboard-Trackball Assembly Removal procedures).

- c. Remove function keypad (12) from ACIS CCA carrying case and position in Keyboard-Trackball Assembly (1).

- d. Tighten four fasteners (5) to secure function keypad (12) to Keyboard-Trackball Assembly (1). (QA)

- e. Fasten four cable straps (14) securing function keypad connector (9) and cable to frame. (QA)

- f. Connect function keypad connector (9) to J3 receptacle (10) on keyboard module (11). (QA)

- g. Install Keyboard-Trackball Assembly in ACIS enclosure (15) (Keyboard-Trackball Assembly Installation procedures).

- h. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

- i. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

15. KEYBOARD-TRACKBALL ROLLERS (CAM FOLLOWERS) REMOVAL. The Keyboard-Trackball rollers (3) are located on each side of the Keyboard-Trackball Assembly (1).



Energized equipment can cause severe shock or death on contact.



The ACIS OS requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing OS can cause incomplete writes that may render RMC disk unusable.

- a. Open and tag four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

- b. Remove Keyboard-Trackball Assembly (1) from ACIS enclosure (15) (Keyboard-Trackball Assembly Removal procedures).

- c. Loosen and remove torx screw and washer securing keyboard-trackball roller (3) to Keyboard-Track-

ball Assembly (1). Remove Keyboard-Trackball Roller (3).

16. KEYBOARD-TRACKBALL ROLLERS (CAM FOLLOWERS) INSTALLATION The Keyboard-Trackball rollers (3) are located on each side the Keyboard-Trackball Assembly (1).

**WARNING**

Energized equipment can cause severe shock or death on contact.

**CAUTION**

The ACIS OS requires an orderly shutdown prior to interrupting/removing power (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05). Interrupting/removing power prior to closing

OS can cause incomplete writes that may render RMC disk unusable.

a. Ensure four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance are opened and tagged (Table 1).

b. Tighten washer and torx screw to secure Keyboard-Trackball roller (3) to Keyboard-Trackball Assembly (1).

c. Install Keyboard-Trackball Assembly (1) in ACIS enclosure (15) (Keyboard-Trackball Assembly Installation procedures). (QA)

d. Remove tags from and close four appropriate circuit breakers on Main Electronic Junction Box for ACIS workstation requiring maintenance (Table 1).

e. Perform an operational checkout Control Indicator Set AN/ASQ-225 (NAVAIR 01-E2AAA-2-17.3.1, SWP031 05).

**ORGANIZATIONAL MAINTENANCE**

**ELECTRICAL EQUIPMENT CABINET CY-6941/APA-172 AND CABLE ASSEMBLY SET**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT**

**Reference Material**

Indicator Display Power Supply-Control PP-6525/APA-172 and PP-8286/APQ-179 .....	243 00
Azimuth-Range Indicator IP-1040/APA-172 .....	244 00
Azimuth-Range Indicator IP-1625/APQ-179 .....	244 01
Digital Display Indicator IP-1039/APA-172 .....	245 00
General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Control Indicator Group AN/APA-172 .....	031 00
Control Indicator Set AN/APQ-179 (CIS) .....	031 04

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of Enhanced Main Display Unit (EMDU) (ECP 382R1)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. Electronic Equipment Cabinet CY-6941/APA-172 (hereinafter referred to as the cabinet) contains one of two cable assembly set configurations for interface with either Azimuth-Range Indicator IP-1040/APA-172 or IP-1625/APQ-179. On aircraft preceding serial number 164108, the cabinet contains Cable Assembly Set

OD-48/APA-172 (hereinafter referred to as the harness), part of Indicator Group OD-48/APA-172, which is associated with the Computer Indicator Group AN/APA-172 (CIG). On aircraft serial number 164108 and subsequent, the cabinet contains Cable Assembly Set OD-214/APQ-179 (hereinafter referred to as the harness), part of Indicator Group OD-214/APQ-179, which is associated with the Computer Indicator Set AN/

APQ-179 (CIS). There are three cabinets and three cable assemblies (45A1W1, 45A2W1, and 45A3W1) in the left side of the crew compartment. (See figure 1 for location of cable assembly 45A1W1.)

### 3. CABLE ASSEMBLY SET OD-48/APA-172.

### 4. REMOVAL OF CABLE ASSEMBLY SET (45A1W1). (Figure 1.)

#### WARNING

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove Indicator Display Power Supply-Control PP-6525/APA-172 (UMD) (WP243 00), Azimuth-Range Indicator IP-1040/APA-172 (MDU) (WP244 00), and Digital Display Indicator IP-1039/APA-172 (ADU) (WP245 00) from cabinet.

b. Disconnect cable connectors P1 through P8 from bulkhead receptacles J1 through J8.

c. Cap connectors and receptacles.

d. Remove three screws securing cable channel assembly to cabinet at center, rear enclosure wall, and remove from cabinet.

e. Remove four upper trough cable brackets.

f. Remove two under trough cable brackets.

g. Remove upper phenolic cover from front portion of upper surface of ADU/MDU cable trough by lifting rear edge of upper phenolic cover approximately 1 inch and then rotating cover clockwise until upper phenolic cover has disengaged.

h. Remove lower phenolic cover from under surface of ADU/MDU cable trough by grasping lower phenolic cover along right rear edge, lowering approximately 1 inch, and then rotating clockwise until disengaged.

i. Release harness from two bulkhead mounted cable clamps located at left rear of cabinet.

j. Loosen four screws (identified as screw no. 1, 2, 3, and 4).

k. Remove three screws (identified as screw no. 5, 6, and 7) and three spacers.

l. Rotate cable brackets (identified as bracket A, B, C, and D) to allow release of cable harness.

#### CAUTION

ADU connectors must be pulled one at a time through the ADU trough hole to prevent chafing of wires or excess strain upon connector pins.

m. Remove harness from cabinet.

### 5. INSTALLATION OF CABLE ASSEMBLY SET (45A1W1). (Figure 1.)

#### WARNING

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors and receptacles.

#### CAUTION

Inspect connectors and receptacles for damaged and bent pins before installation.

b. Carefully feed ADU connectors down through front hole of ADU/MDU trough.

c. Feed UMD connectors through UMD feed hole while supporting harness.

d. Holding harness in position beneath UMD air inlet, rotate cable brackets (identified as bracket A, B, C and D) until they support cable harness.

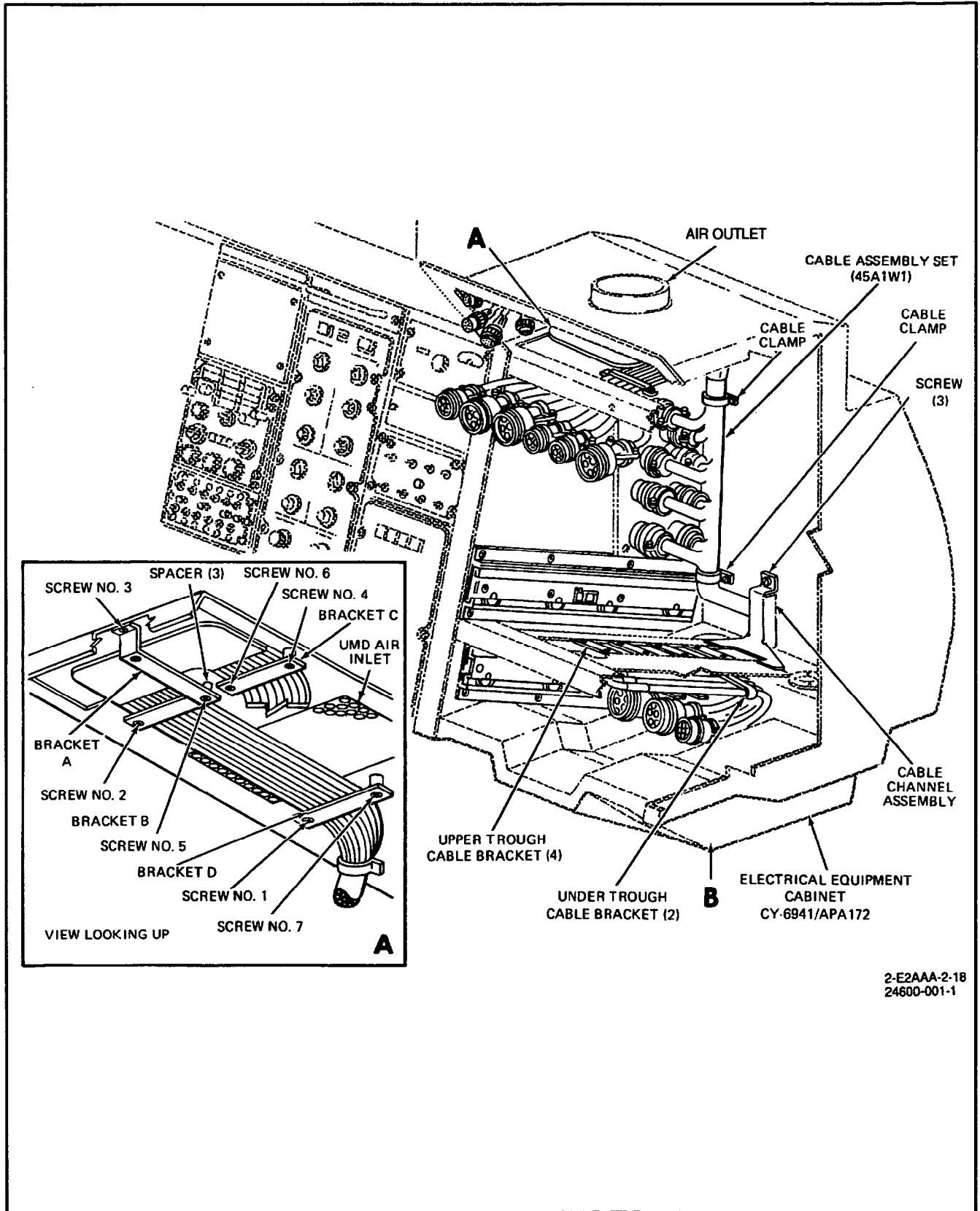
e. Position main harness branch into upper rear bulkhead mounted cable clamps and lock clamp into position. (QA)

f. Install three screws (identified as screw no. 5, 6 and 7) and three spacers and tighten. (QA)

g. Tighten four screws (identified as screw no. 1, 2, 3, and 4). (QA)

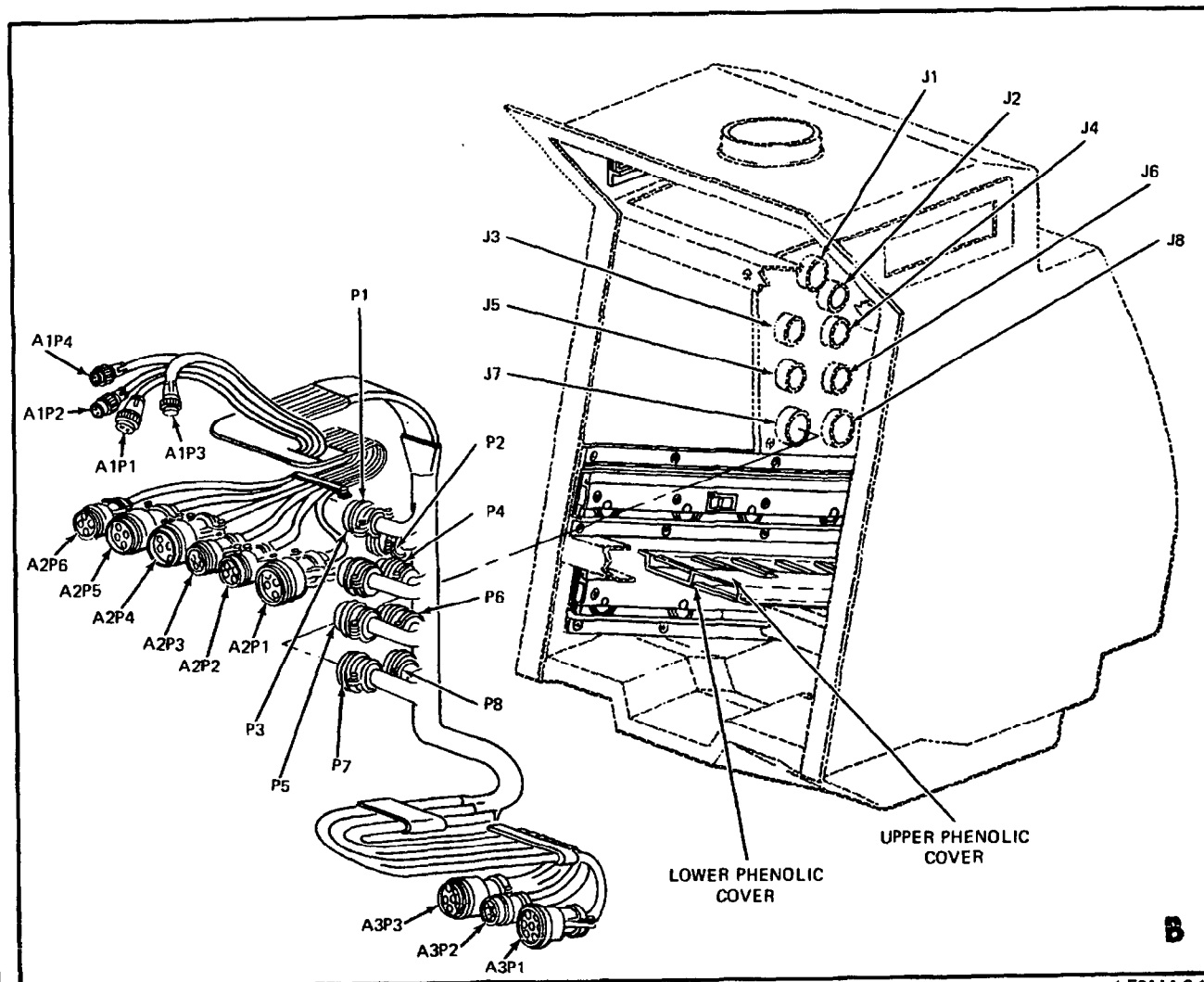
h. Connect bulkhead cable connectors P1 through P8 to bulkhead receptacles 1 through J8, respectively. (QA)

i. Lock lower bulkhead mounted cable clamp in position, noting that branch to P8 is also included within clamp. (QA)



2-E2AAA-2-18  
24600-001-1

Figure 1. Removal and Installation of Cable Assembly Set OD-48/APA-172 (Sheet 1 of 2)



1-E2AAA-2-18  
24600-001-2L

Figure 1. Removal and Installation of Cable Assembly Set OD-48/APA-172 (Sheet 2)



j. Install four upper through cable brackets and two under through cable brackets. (QA)

k. Carefully install cable channel assembly to avoid chafing or pinching of wires.

l. Install Indicator Display Power Supply-Control PP-6525/APA-172 (WP243 00), Azimuth-Range Indicator IP-1040/APA-172 (WP244 00) and Digital Display Indicator IP-1039/APA-172 (WP245 00).

m. Perform an operational check of Indicator Group OD-48/APA-172 contained within CIG Display System test (NAVAIR 01-E2AAA-2-17.3.1, WP031 00).

## 6. CABLE ASSEMBLY SET OD-214/APQ-179.

## 7. REMOVAL OF CABLE ASSEMBLY SET (45A1W1). (Figure 2.)

### WARNING

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

### CAUTION

Use extreme care when removing harness to prevent further damage to the harness.

#### Note

In the following procedure, retain hardware for use during installation.

a. On MEJB, disengage the following circuit breakers:

- (1) AC DISPLAYS RO (3 each)
- (2) AC DISPLAYS CICO (3 each)
- (3) AC DISPLAYS ACO (3 each)
- (4) DC DISPLAYS RO
- (5) DC DISPLAYS CICO
- (6) DC DISPLAYS ACO
- (7) DC DISPLAYS AUX CONT

b. Remove Indicator Display Power Supply-Control PP-8286/APQ-179 (UMD) (WP243 00), Azimuth-Range Indicator IP-1625/APQ-179 (EMDU) (WP244 01), and Digital Display Indicator IP-1039/APA-172 (ADU) (WP245 00) from cabinet.

### WARNING

To avoid possible injury from contact with extended slides, retract all slides after removing EMDU, UMD, and ADU.

c. Remove eight screws (identified as screw no. 1 through screw no. 8, detail B) and four clamps (identified as clamp no. 1 through clamp no. 4) from upper phenolic cover on upper ADU/EMDU channel.

d. Remove four screws (identified as screw no. 9 through screw no. 12, detail C) and two clamps (identified as clamp no. 5 and clamp no. 6) from lower phenolic cover on lower ADU/EMDU channel.

e. Grasp rear edge of upper phenolic cover and lift approximately 1 inch, then rotate cover clockwise until cover is disengaged from upper ADU/EMDU channel. Remove upper phenolic cover.

f. Grasp right rear edge of lower phenolic cover and pull down approximately 1 inch, then rotate cover counterclockwise until cover is disengaged from lower ADU/EMDU channel. Remove lower phenolic cover.

g. Remove two screws (identified as screw no. 13 and screw no. 14, detail A) and two spacers (identified as spacer no. 1 and spacer no. 2) from upper left clamp no. 1 and upper left clamp no. 2.

h. Loosen two screws (identified as screw no. 15 and screw no. 16) on upper left clamps.

i. Remove screw (identified as screw no. 17), flat washer (identified as flat washer no. 1), lockwasher (identified as lockwasher no. 1), and spacer (identified as spacer no. 3) from clamp (identified as clamp no. 7) on CIS harness accessory kit bracket.

j. Loosen screw (identified as screw no. 18), flat washer (identified as flat washer no. 3), lockwasher (identified as lockwasher no. 3), spacer (identified as spacer no. 4), and clamp (identified as clamp no. 7) on CIS harness accessory kit bracket.

k. Remove screw (identified as screw no. 19, detail B), flat washer (identified as flat washer no. 5), and two screws (identified as screw no. 20 and screw no. 21), and remove bottom rear channel cover assembly from cabinet.

l. Disconnect 10 bulkhead connectors (W1).

m. Open two cable clamps (identified as cable clamp no. 1, detail A, and cable clamp no. 2, detail B).

n. Remove screw (identified as screw no. 22, detail A), flat washer (identified as flat washer no. 2), and lockwasher (identified as lockwasher no. 2).

o. Loosen screw (identified as screw no. 23), flat washer (identified as flat washer no. 4), and lockwasher (identified as lockwasher no. 4) on CIS harness accessory kit bracket.

p. Position previously-loosened clamps (identified as upper left clamp no. 1, upper left clamp no. 2, and clamp no. 7 and cable clamps (identified as cable clamp no.1 and cable clamp no. 2, detail B), as necessary, to allow for removal of cable assembly set.

q. Remove screw (identified as screw no. 24, detail A), and remove L-shaped bracket from upper left clamp no. 1.

r. Remove cable assembly set from cabinet.

8. INSTALLATION OF CABLE ASSEMBLY SET (45A1W1, 45A2W1, AND 45A3W1 AS REQUIRED). (Figure 2.)



This procedure must be performed under experienced supervision to ensure proper installation of cable assembly (harness).

Due to minimum spacing between EMDU and cabinet, the harness must be installed flush against the cabinet walls and completely clear of EMDU's path to prevent getting torn or chafed when the EMDU slides in during EMDU installation.

**Note**

The cable assembly set (hereinafter referred to as the harness) will be installed mainly in EMDU opening of cabinet (hereinafter referred to as the cabinet).

a. Ensure that the following are removed from cabinet:

(1) Indicator Display Power Supply-Control PP-8286/APQ-179 (UMD) (WP243 00).

(2) Azimuth-Range Indicator IP-1625/APQ-179 (EMDU) (WP244 01).

(3) Digital Display Indicator IP-1039/APA-172 (ADU) (WP245 00).



To avoid possible injury from contact with extended slides, retract all slides after removing EMDU, UMD, and ADU.

b. Visually inspect cabinet bulkhead connectors (W1) and harness (cable) connectors for damage.

c. Place harness loosely inside cabinet with UMD connectors (A1) on top of harness.



Ensure that cable clamps No. 1 and No. 2 have sleeving to protect the harness. Do not tighten clamps on unprotected wires.

**Note**

The wires runs (10) connected to bulkhead connectors (W1) will be placed in between cable clamp No. 1 (Detail A) and cable clamp No. 2 (detail B). Ensure that nose of these wire runs are inside the cable clamps.

d. Carefully mount harness on cable clamps No. 1 and No. 2 with UMD connectors (A1) side on top and ten bulkhead connectors (W1) breakout in between the two cable clamps. (Do not tighten cables clamps until harness is adjusted).

e. Dress bulkhead connectors (W1) near their mating connectors and flush against the back wall of cabinet.



Before attaching any connector, ensure the master connector key is aligned with the mating connector. Be very careful with Data Bus connectors (P9 and P10) on blue wires, do not force-in or wiggle when connecting.

**Note**

Before connecting the bulkhead connectors (W1), the side of the harness, where the bulkhead connectors breakout, should be facing the left rear corner of cabinet so the wiring is turned away from EMDU's path. If necessary, adjust the harness while carefully connecting the bulkhead connectors.

f. Carefully connect bulkhead connectors (W1) to their mating connectors in the following sequence: W1P8, W1P6, W1P4, W1P2, W1P7, W1P5, W1P3, W1P10, W1P1, and W1P9.

g. Route flat portion of harness (above cable clamp No.1, detail A) upward then turn 90 degrees forward (horizontally). Mount harness on upper left clamps No. 1 and No. 2 using screws No. 15 and No. 16. (Do not install screws No. 13 and No. 14 until harness is adjusted).

h. Carefully move UMD connectors (A1) (through EMDU opening) up into UMD opening and centered. Lay connectors hanging outward of UMD opening, approximately 2 inches.

i. Install L-shaped bracket using inboard screw No. 24 (detail A) (leave screw loose until harness is adjusted).

j. Carefully position right side of harness (EMDU connectors (A2) side) over CIS harness accessory kit bracket (detail A) then install CIS harness accessory kit bracket in cabinet using screw No. 22 (with flat washer No. 2 and lockwasher No. 2) and screw No. 23 (with flat washer No. 4 and lockwasher No. 4). Leave screws loose until harness is adjusted).

#### Note

Ensure that the long leg of clamp No. 7 (Detail A) is on the left side of harness (closest to middle of cabinet).

k. Position clamp No. 7 over harness and loosely attach to CIS harness accessory kit bracket using screw NO. 17 (with spacer No. 3, flat washer No. 1, and lockwasher No. 1 and screw No. 18 (with flat washer No. 3, lockwasher No. 3, and spacer No. 4). (Leave screws loose until harness is adjusted).

l. Carefully position S-section of cable (below cable clamp No. 2, detail B) through the area where the rear channel cover assembly will be installed.

m. Route ADU connectors (A3) and harness along the upper EMDU/ADU channel (cable trough beneath the upper phenolic cover, detail B) towards the front of the cabinet. Lay the harness flat within the EMDU/ADU channel (not twisted).

n. Without twisting the harness, carefully feed ADU connectors (A3) (one or two at a time) and harness through EMDU/ADU opening (hole) down into ADU opening until the U-shaped ported of harness is laid flat inside upper EMDU/ADU channel, at the front end (next to EMDU/ADU opening).

o. Route ADU connectors (A3) and harness along the lower EMDU/ADU channel then turn 180 degrees towards the front of ADU opening (detail C).

p. Tighten screws No. 22 and No. 23 on CIS harness accessory kit bracket.

q. Adjust the harness so that UMD connectors (A1) are centered in UMD opening and that the protective sleeving for the harness is positioned within the two upper left clamps (No. 1 and No. 2) and clamp No. 7.

#### CAUTION

Ensure proper alignment of the right side of harness (EMDU connectors (A2) side) to prevent tearing, chafing, or pinching EMDU's edges and corners.

Ensure the harness protective sleeving is positioned within and held firmly when clamp No. 7 is secured. Do not tighten clamp on unprotected wires.

Ensure that harness is completely inside clamp No. 7 so that wiring can not be pinched when clamp is tightened.

#### Note

Before tightening clamp No. 7, the section of the harness that bends 180 degrees (between clamp No. 7 and EMDU connectors (A2) must be aligned so that the harness will move along the right side wall (towards the back) of the cabinet when EMDU is pushed into the cabinet.

r. Carefully position the harness, as far as possible, to the right inside clamp No. 7 (detail A) and align the harness so that it will move along the right side wall of cabinet when the EMDU is pushed in, during EMDU installation. Tighten clamp No. 7 with screws No. 17 and No. 18. (QA)

#### CAUTION

Ensure harness is not drooping or sagging beneath UMD connectors (A1) breakout. Damage to the harness will result if this section protrudes downward and gets in the path of EMDU during installation.

Ensure that harness protective sleeving is positioned within and held firmly when upper left clamps No. 1 and No. 2 are secured. Do not tighten clamps on unprotected wires.

Ensure the harness is completely inside the clamps and that wiring can not be pinched when clamps are tightened..

s. Secure upper left clamp No. 1 and L-shaped bracket (detail A) to cabinet using screws No. 13 (with spacer No. 1), No. 15, and No. 24.

t. Secure upper left clamp No. 2 to cabinet using screw No. 14 (with spacer No. 2) and screw No. 16.

u. Verify and ensure that the flat portion of harness is routed from upper left clamp No. 2 (detail A) to the

back wall of cabinet (horizontally) and turns 90 degrees down towards cable clamp No. 1. It must be flush against the back wall of cabinet to avoid getting crushed/chafed by EMDU's left rear corner.



Ensure proper length (service loop) of the wire runs to all ten bulkhead connectors (W1). excessive length will cause the wiring to protrude and get crushed or chafed by EMDU.

**Note**

If the wiring on bulkhead connectors (W1) is protruding, twist the harness slightly (between cable clamps No. 1 and No. 2) and turn the wiring towards the back wall of cabinet before tightening cable clamp No. 1.

v. Secure cable clamp No. 1 (detail A) around the round portion of the harness (below the flat portion of harness).

w. Secure cable clamp No. 2 (detail B) above the S-section of cable.



Ensure the protective chafe material is in the upper opening of rear channel cover assembly (detail B).

Ensure the harness is completely inside the rear channel cover assembly, and that wiring can not be pinched when screws are tightened.

x. Install rear channel cover assembly in the bottom back wall of cabinet using screw No. 19 (with flat washer No. 5) and screws No. 20 and No. 21 (detail B), tighten screws.

**Note**

In the following step, ensure that the end of lower phenolic cover with two screw notches is positioned towards the rear of ADU opening.

y. Install lower phenolic cover (detail C) over the under surface of EMDU/ADU channel. Grasp right rear edge of lower phenolic cover and pull down approxi-

mately 1 inch from surface, then insert into left side front opening of lower EMDU/ADU channel by rotating counter-clockwise until engaged.

z. Install upper phenolic cover (detail B) over front of upper surface of EMDU/ADU channel. Grasp middle of upper phenolic cover and raise rear end approximately 1 inch above surface, then insert into right side front opening of EMDU/ADU channel by rotating cover counterclockwise until engaged.



Ensure the harness is completely inside the upper and lower EMDU/ADU channels and that no wiring is pinched before securing phenolic covers.

aa. Secure upper phenolic cover to upper EMDU/ADU channel using eight screws, No. 1 through No. 8 (detail B) and four clamps, No. 1 through No. 4 (detail B), tighten screws.

ab. Secure lower phenolic cover to lower EMDU/ADU channel using four screws, No. 9 through No. 12 (detail C) and two clamps, No. 5 and No. 6 (detail C), tighten screws.

**Note**

When installing EMDU, guide the harness (through UMD opening) to ensure it move along the right side wall, towards the back of cabinet as EMDU is pushed into cabinet. Visually inspect harness (through UMD opening) to verify it is positioned correctly and not crushed or pinched by the EMDU. If positioning is not correct, loosen clam No. 7 (detail A) then reposition harness (step r.)

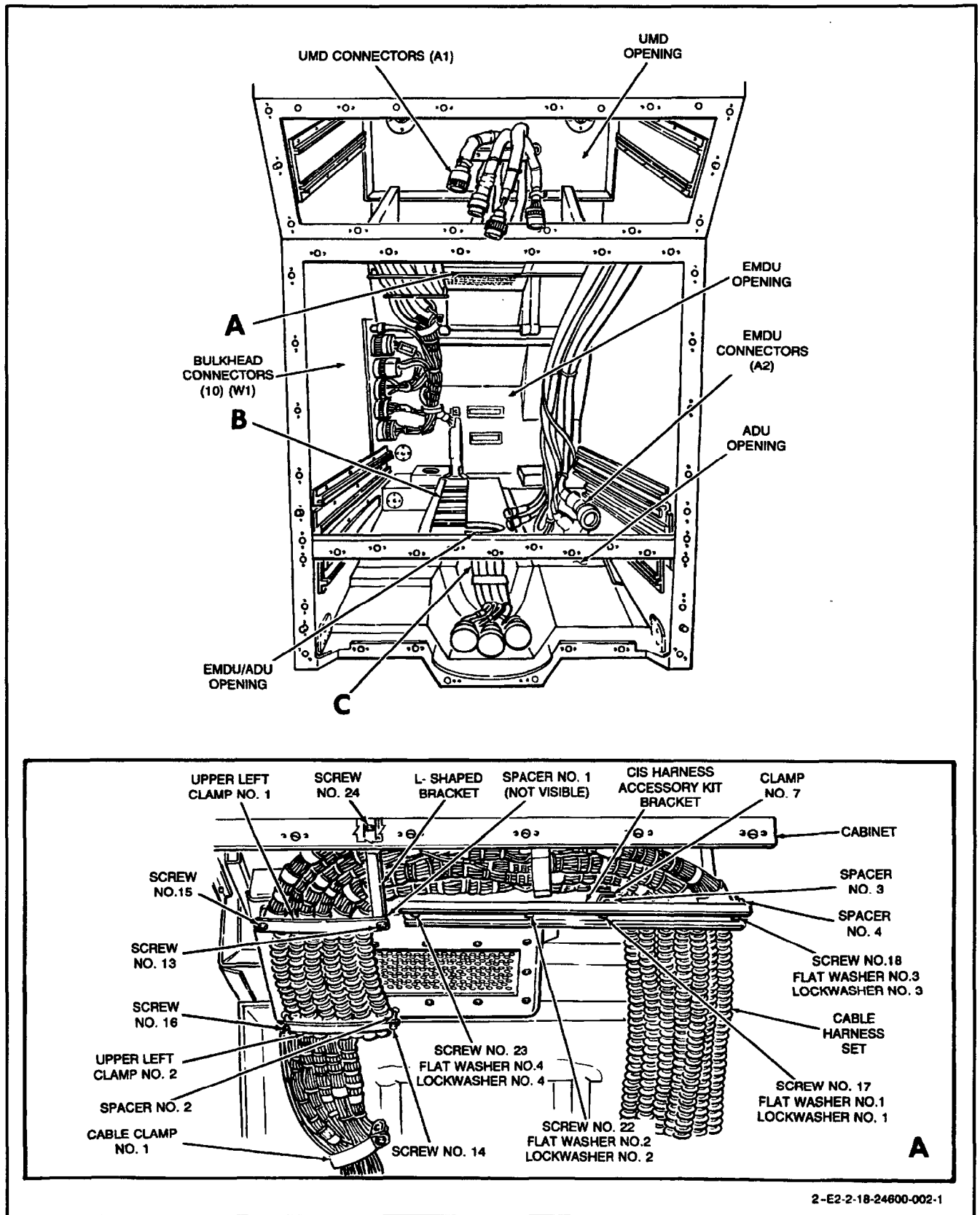
ac. Re-install Azimuth-Range Indicator IP-1625/APQ-179 (EMDU) (WP244 01),

ad. Re-install Indicator Display Power Supply-Control PP-8286/APQ-179 (UMD) (WP243 00).

ae. Re-install Digital Display Indicator IP-1039/APA-172 (ADU) (WP245 00),

af. Clean face of indicator, using a clean, lint-free cloth moistened with water.

ag. Perform an operational check of indicator group OD-214/APQ-179 contained within CIS display system test (navair 01-e2aaa-2-17.3.1, WP031 04).



2-E2-2-18-24600-002-1

Figure 2. Removal and Installation of Cable Assembly Set OD-214/APQ-179 (Sheet 1 of 2)

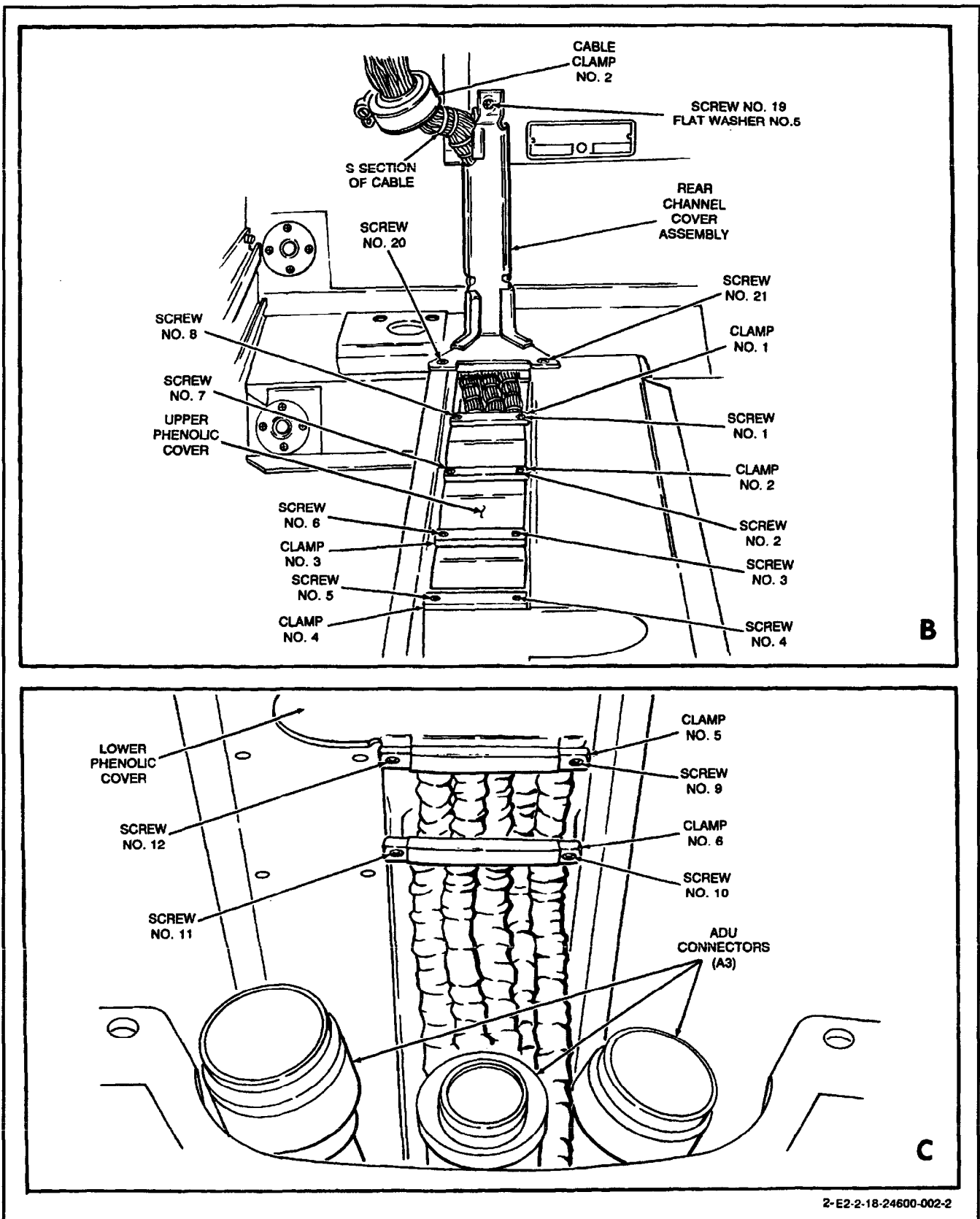


Figure 2. Removal and Installation of Cable Assembly Set OD-214/APQ-179 (Sheet 2)

ORGANIZATIONAL MAINTENANCE

POWER SUPPLY PP-6524/APA-172

EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Display System .....	031 00
Display System .....	031 04
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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Record of Applicable Technical Directives

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
—	—	Production Incorporation of Enhanced Main Display Unit (EMDU) (ECP 382R1)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

1. GENERAL.

2. The Power Supply PP-6524/APA-172 (hereinafter referred to as the power supply) is part of the Power Supply Group OP-67/APA-172, which is a unit of the Control Indicator Group AN/APA-172 (CIG) in aircraft preceding aircraft serial number 164108, and a unit of

the Control Indicator Set AN/APQ-179 (CIS) in aircraft serial number 164108 and subsequent. There are three power supplies (45A5A1, 45A5A2, and 45A5A3) in the crew compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, items 27, 28, and 29) for location of power supply.

**Support Equipment Required**

Part or Model No.	Nomenclature
—	5/32-Inch Hex Key

3. **REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Using 5/32-inch hex key, disengage 12 panel fasteners securing power supply to cabinet.

b. Using handles provided slowly pull power supply forward until slide latch (on right side of power supply) locks in position.

c. Remove cable secured to chassis of power supply after loosening captive screw on cable retaining bracket.

**Note**

Four cable connectors are connected to the lower power supply (45A5A3) receptacles J1 through J4.

d. Disconnect cable connectors from power supply.

e. Release slide latch and slowly remove power supply from cabinet guide rails while holding cable connectors clear of power supply.

f. Cap all connectors and receptacles.

4. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins before installation.

b. Holding cable connectors clear, install power supply on guide rails and slowly push power supply backward until slide latch locks power supply in position.

c. Connect cable connectors to power supply receptacles as follows: (QUALITY ASSURANCE)

**Power Supply Receptacle**

**Cable Connector**

**45A5A1**

J1	45A5A1P1
J2	45A5A1P2
J3	45A5A1P3
J4	45A5A1P4
J5	45A5A1P5

**45A5A2**

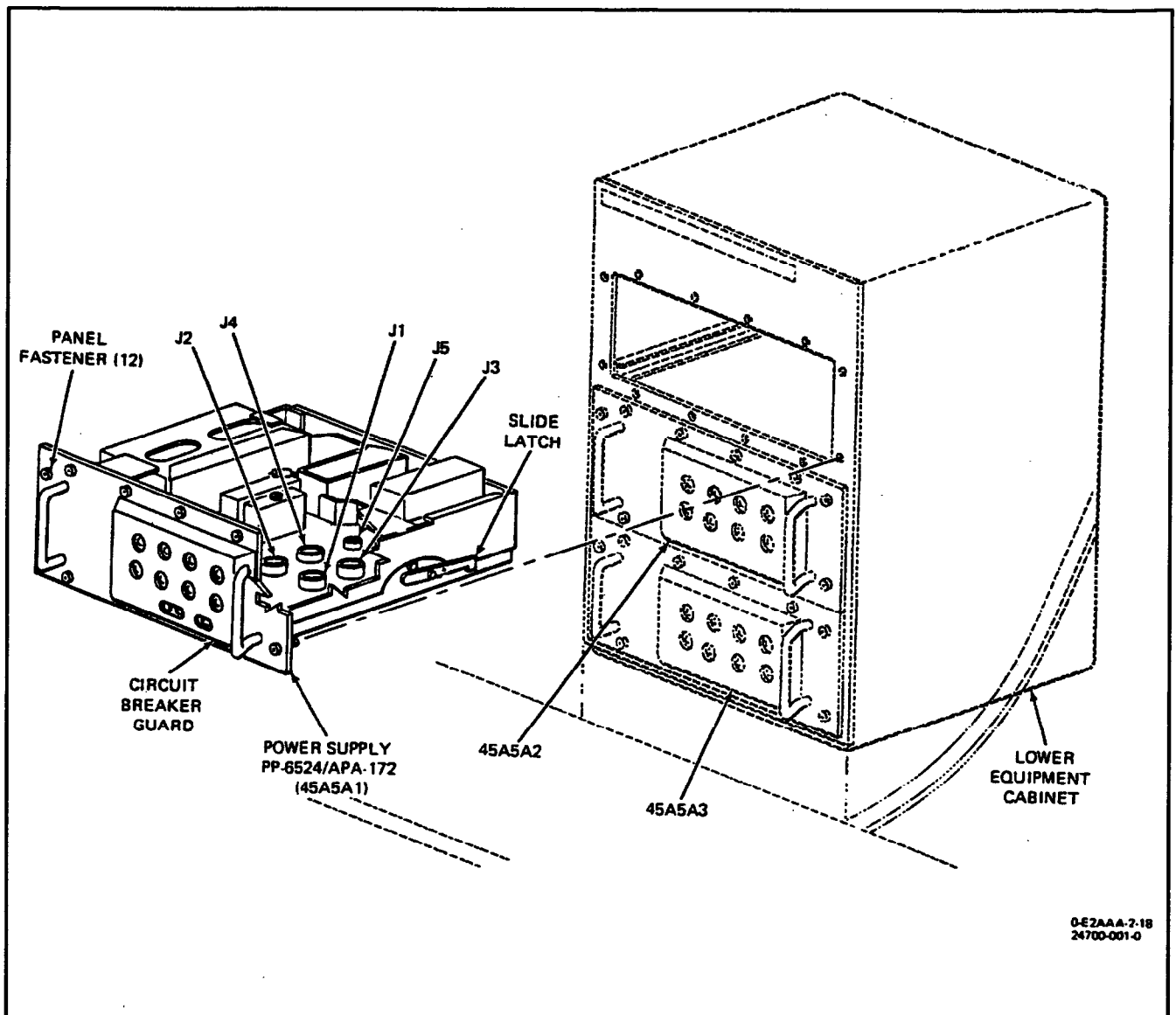
J1	45A5A2P1
J2	45A5A2P2
J3	45A5A2P3
J4	45A5A2P4
J5	45A5A2P5

**45A5A3**

J1	45A5A3P1
J2	45A5A3P2
J3	45A5A3P3
J4	45A5A3P4

d. Secure cable retaining bracket to chassis of power supply with captive screw. (QUALITY ASSURANCE)





**Figure 1. Removal and Installation of Power Supply PP-6524/APA-172**

e. Release slide latch and slowly push power supply backward until front panel is flush with cabinet.

f. Using 5/32-inch hex key, secure power supply to cabinet by engaging 12 panel fasteners. (QUALITY ASSURANCE)

g. Perform an operational check of the Power Supply Group OP-67/APA-172 contained within respective CIG or CIS Display System test (NAVAIR 01-E2AAA-2-17.3, WP031 00 or WP031 04).

#### 5. REPLACING FAIL INDICATOR LAMP.

a. Using 5/32-inch hex key, disengage two panel fasteners securing circuit breaker guard to front panel and lift circuit breaker guard.

b. Using thin-bladed screwdriver, gently push exposed edge of retainer catch, on bottom of cap, to the right until indicator cap is released. Remove indicator cap from front panel.

c. Remove lamp from indicator cap.

d. Insert new lamp into indicator cap.

e. Install indicator cap into front panel by pushing indicator cap into front panel until retainer catch locks into position. (QUALITY ASSURANCE)

f. Using 5/32-inch hex key, secure circuit breaker guard to front panel with two panel fasteners. (QUALITY ASSURANCE)



**ORGANIZATIONAL MAINTENANCE**

**ELECTRICAL EQUIPMENT CABINET CY-6942/APA-172 AND CABLE ASSEMBLY SET**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, AND 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Display System .....	031 00
Display System .....	031 04
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of Enhanced Main Display Unit (EMDU) (ECP 382R1)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Electrical Equipment Cabinet CY-6942/APA-172 and Cable Assembly Set (hereinafter referred to as the cabinet and cable assembly) is part of the Power Supply Group OP-67/APA-172 which is associated with the Control Indicator Group AN/

APA-172 (CIG) in aircraft preceding aircraft serial number 164108, and associated with the Control Indicator Set AN/APQ-179 (CIS) in aircraft serial number 164108 and subsequent. The cabinet and cable assembly (45A5W1) is located in the left side of the crew compartment. (See figure 1 for location of cable assembly 45A5W1).

**Note**

The following equipment is used with connectors P8, P9 and P11.

The following equipment is used with connectors A1P1, A1P2, A2P1, A2P2, and A3P1.

**Support Equipment Required**

Part or Model No.	Nomenclature
FBCT (Falcon)	Collet Plier
GSC-156 (Thomas & Betts)	Die (for outer conductor crimping tool)
M15513-20 (Deutsch)	Insertion Tool (for standard contacts)
M15513-25 (Deutsch)	Insertion Tool (for coax contacts)
M15515-16 (Deutsch)	Extraction Tool (for standard contacts)
M15515-25 (Deutsch)	Removal Tool (for coax contacts)
MS24256A12	Contact Insertion Tool
MS24256R12	Contact Removal Tool
WT-230 (Thomas & Betts)	Crimping Tool (for outer conductor)
15500-20 (Deutsch)	Crimping Tool (for size 20 contacts)
15500-25-1 (Deutsch)	Crimping Tool (for inner conductor)
20052 (Deutsch)	Crimping Tool (for outer conductor)
612118-G24 (Buchanan)	Crimping Tool (for inner conductor)

**3. CABLE ASSEMBLY SET.**

**4. REMOVAL OF CABLE ASSEMBLY SET.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove three Power Supplies PP-6524/APA-172 (power supply) from the cabinet (WP247 00).

b. Disconnect 11 cable connectors from receptacles J1 through J11 located on rear connector plates (inside the cabinet) and cap connectors and receptacles.

c. Remove six screws, standoffs, and small cable clamps (located at clamp positions 1 through 6).

d. Remove four screws and large cable clamps (located at clamp positions 7 through 10).

e. Remove five screws and washers securing filter assembly to cabinet.

f. Remove cable assembly.

**5. INSTALLATION OF CABLE ASSEMBLY SET.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Insure that gasket bonded to cabinet is not damaged. If necessary, replace gasket. (Refer to paragraph 11.)

b. Remove caps from connectors and receptacles.



Inspect connectors for damage and bent pins before installation.

c. Secure filter assembly to cabinet using five screws and washers. (QUALITY ASSURANCE)

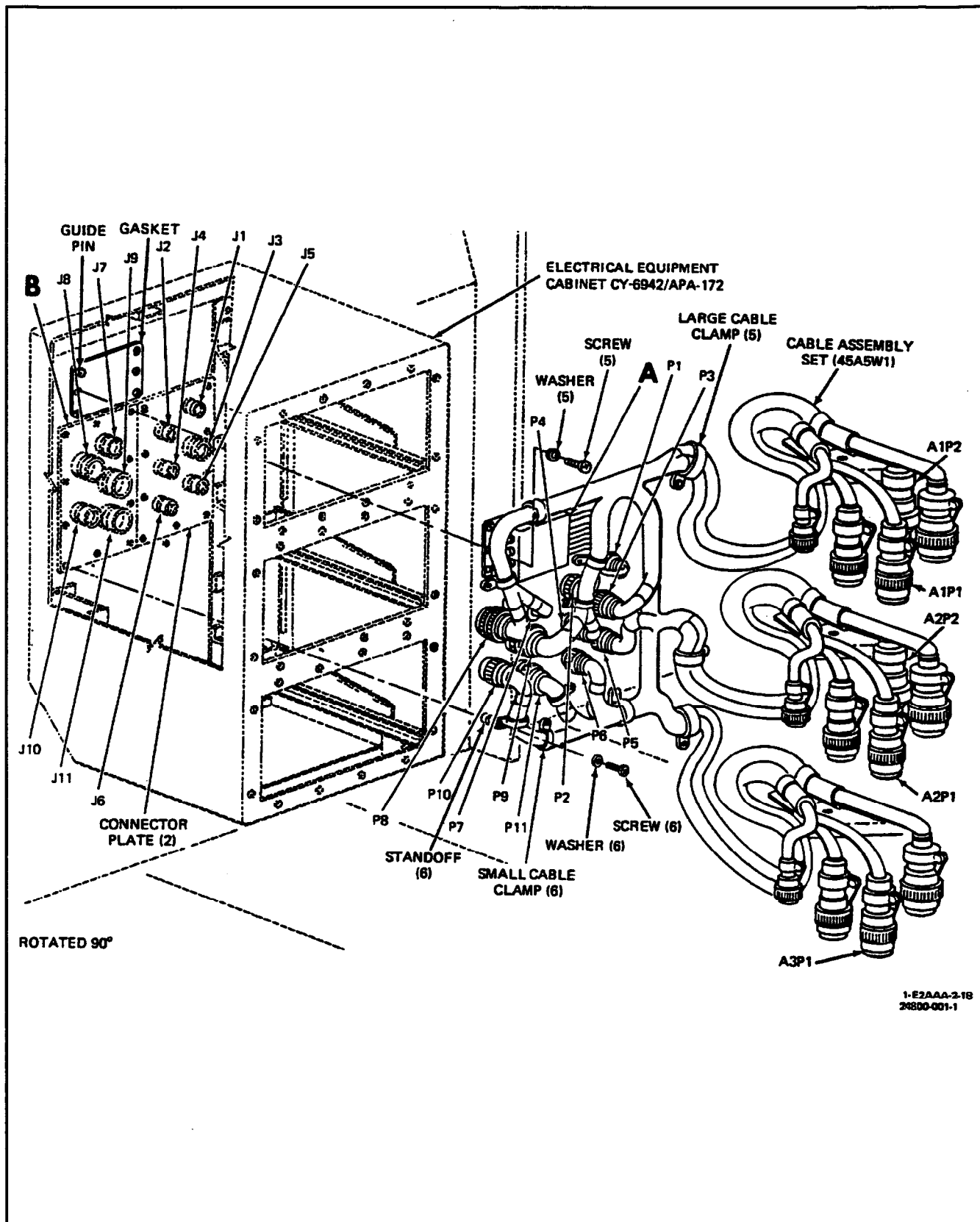
d. Secure cable assembly to cabinet using four screws and large cable clamps (located at clamp positions 7 through 10). (QUALITY ASSURANCE)

e. Secure cable assembly to cabinet using six small cable clamps and standoffs (located at clamp positions 1 through 6). (QUALITY ASSURANCE)

f. Install cable connectors P1 through P11 to receptacles J1 through J11, respectively, located on rear connector plate inside the cabinet. (QUALITY ASSURANCE)

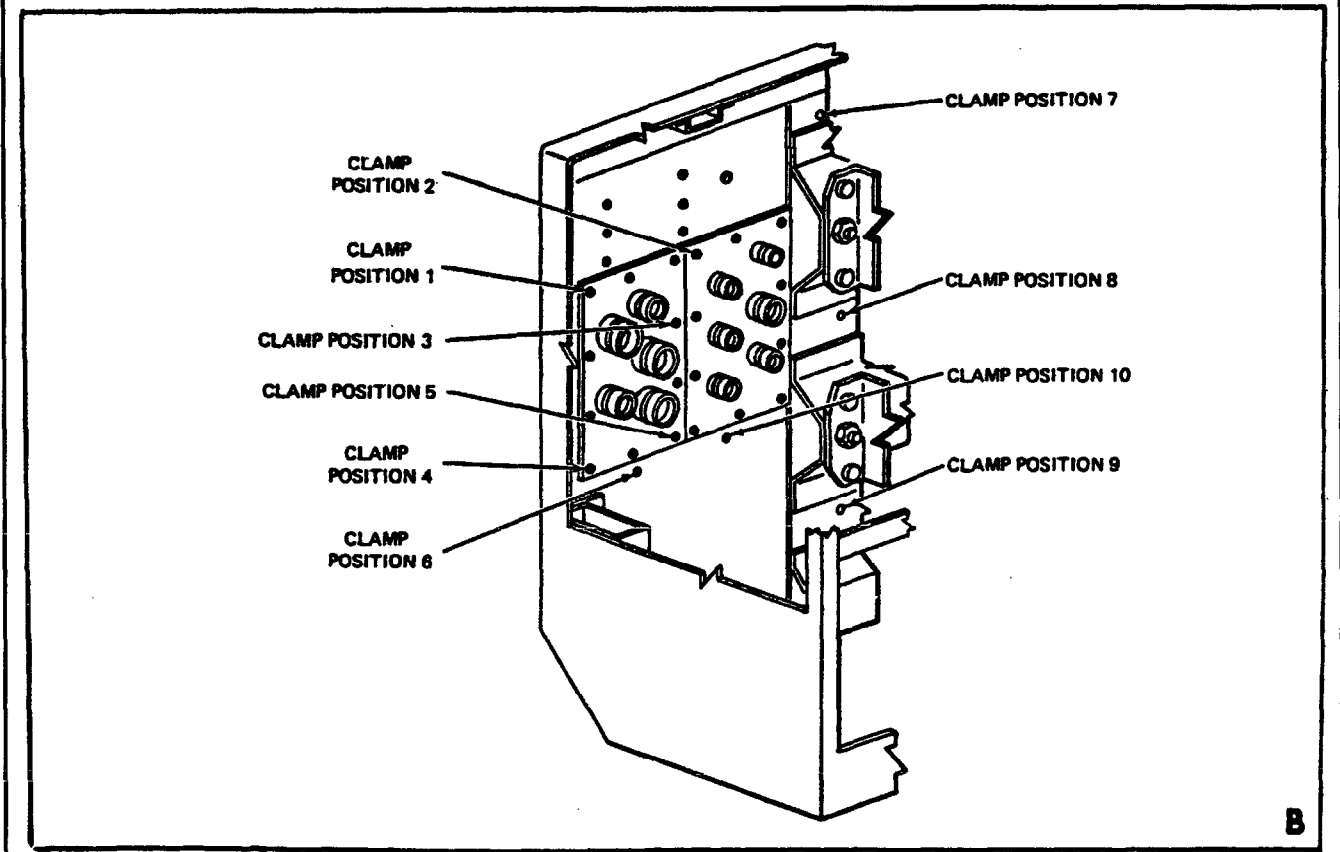
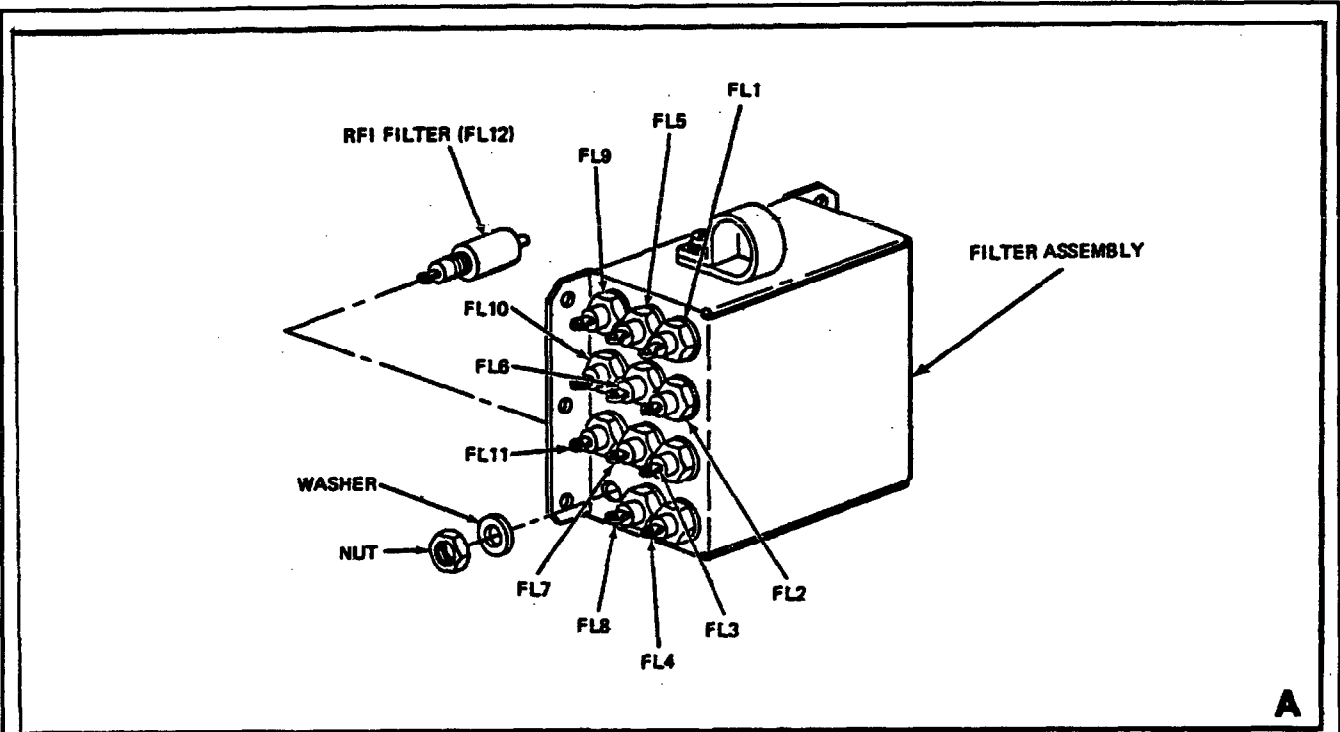
g. Install three Power Supplies PP-6524/APA-172 into cabinet (WP247 00).

h. Perform an operational check of the Power Supply Group OP-67/APA-172 contained within respective CIG or CIS Display System test (NAVAIR 01-E2AAA-2-17.3, WP031 00 or WP031 04).



1-E2AAA-2-18  
24800-001-1

Figure 1. Removal and Installation of Cable Assembly Set and RFI Filter (Sheet 1 of 2)



0-E2AAA-2-18  
24800-001.2

Figure 1. Removal and Installation of Cable Assembly Set and RFI Filter (Sheet 2)

6. REPAIR.

7. REPLACING RFI FILTER (FL1 THROUGH FL12).  
(See figure 1.)

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove cable assembly from cabinet (refer to paragraph 4).

**WARNING**

Soldering and unsoldering operations can present burn, inhalation, and eye hazards to personnel. Protection: long-sleeved clothing, safety glasses, and good ventilation. Avoid breathing fumes generated by soldering or unsoldering operations.

- b. Tag and unsolder wire from external terminal of faulty RFI filter mounted on filter assembly.
- c. Tag and unsolder wire from internal terminal of faulty RFI filter mounted on filter assembly.
- d. Remove nut and washer securing RFI filter to filter assembly, and remove RFI filter.
- e. Secure replacement RFI filter to filter assembly using nut and washer. (QUALITY ASSURANCE)

**WARNING**

Soldering and unsoldering operations can present burn, inhalation, and eye hazards to personnel. Protection: long-sleeved clothing, safety glasses, and good ventilation. Avoid breathing fumes generated by soldering or unsoldering operations.

- f. Remove tag and solder wire to internal terminal of the RFI filter. (QUALITY ASSURANCE)
- g. Remove tag and solder wire to external terminal of the RFI filter. (QUALITY ASSURANCE)
- h. Install cable assembly into cabinet (refer to paragraph 5).

8. REPAIR OF COAXIAL CONTACTS OF CONNECTORS P8, P9 AND P11. (See figure 2.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

It may be necessary to remove cable assembly set before repairing connectors (refer to paragraph 4).

- a. Pull back removal tool plunger handle. On mating face of connector, slide tube tip (of removal tube) over contact to be removed.
- b. Maintain axial alignment and slide tube tip into connector until it bottoms.
- c. Apply pressure on plunger handle to eject contact, and remove from rear of connector.
- d. Remove damaged contact from wire or cable by cutting as close as possible to contact body.

**Note**

Cut end of coaxial cable square.

- e. (See view A.) Strip outer jacket 7/16-inch from end. Cut braid shield and inner insulation 1/8-inch from end.
- f. Slide crimp sleeve onto coaxial cable.
- g. (See view B.) Using inner conductor crimping tool, crimp center contact to inner conductor. Contact must be tight against inner insulation and inner conductor must be visible in inspection hole.

**Note**

Omit step h if the washer is sealed in the sleeve.

- h. (See view C.) Insert silicone washer in crimp support sleeve.
- i. (See view D.) Slide crimp support sleeve between braided shield and inner insulation until braided shield is touching crimp support sleeve shoulder.
- j. Push Teflon bushing over center contact until flare on contact is exposed.
- k. (See view E.) Screw outer body handtight onto crimp support sleeve. Crimping sleeve must be at least 1-inch back on cable to properly aline internal components. Leave protective plug in socket outer body to protect it from damage.

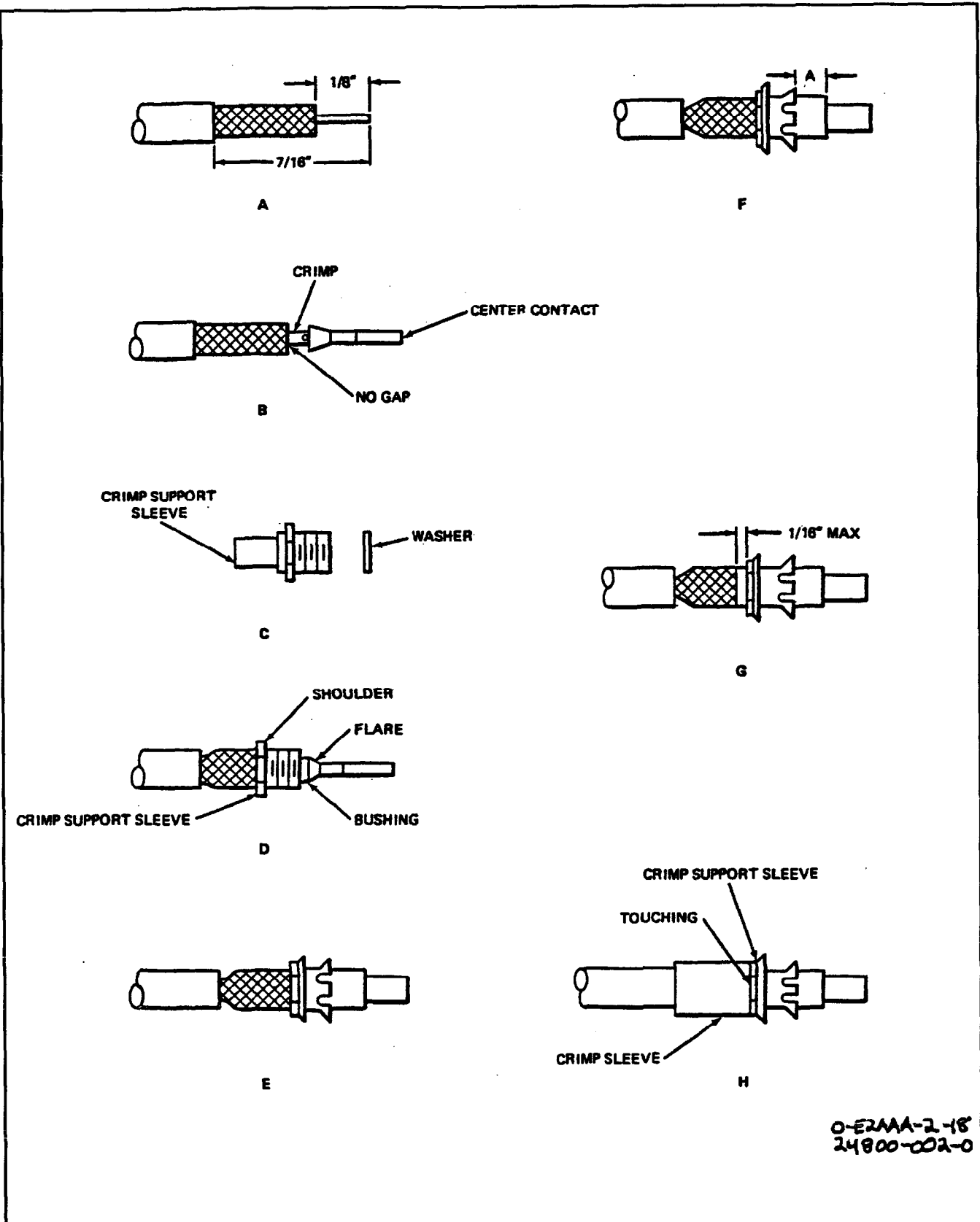


Figure 2. Coaxial Contact Repair of Connectors P8, P9, and P11



l. Insert assembly into collet plier. (Collet must be carefully adjusted to protect plating, retaining device, and socket engaging end.) Collet must grip the solid area A (as shown in view F). Protective plug may be removed if necessary during this operation.

m. Tighten assembly by hand. If contact slips during this operation, collet is improperly adjusted.

n. (See view G.) Remove assembly from collet. At this point braided shield must be inspected for proper length. Maximum allowable gap between end of braid and crimp support sleeve shoulder is 1/6-inch.

o. (See view H.) Slide crimp sleeve over shield until it touches crimp support sleeve shoulder.

p. Using outer conductor crimping tool, crimp sleeve and contact.

q. Insert the contact into the proper contact cavity by hand, from the rear of the connector.

r. Position the insertion tool around the crimped barrel/sleeve and against the back shoulder of the contact.

s. Maintain axial alignment while pushing into the contact cavity until the contact snaps into its retained position.

t. A slight pull on the cable ascertains that the contact has locked in place.

## 9. REPAIR OF STANDARD CONTACTS OF CONNECTORS P8, P9 AND P11.

### Note

It may be necessary to remove cable assembly before repairing connectors (refer to paragraph 4).

a. Move contact spring depressor to front of extraction tool as far as it will go. Holding tool in this position, place at front of connector and locate over contact.

b. Push only spring depressor portion of tool into connector until it bottoms. Apply twisting pressure to relax contact retention spring.

c. Push contact ejector portion of tool to eject contact, then remove contact from rear of connector.

d. Cut off removed contact as close to contact body as possible.

e. Repeat steps a through d for each contact requiring removal.

f. Strip insulation 3/16-inch from end of conductor.

### CAUTION

Do not nick the strands of wire.

g. Insert stripped wire into crimp barrel of contact until seated. Check this visually through inspection hole in contact.

h. Insert contact and wire into crimp jaw opening of crimping tool and seat contact fully into crimping die.

i. Using crimping tool, squeeze handles until full crimping cycle has been performed.

j. Release handles and remove crimped contact.

### CAUTION

The tool must be fully closed before the handles will open. Never force the handles in either closing or opening.

k. Start inserting contact by hand at rear of connector.

### CAUTION

To ease insertion and avoid damage to insertion material, keep tool parallel to contact during insertion.

l. Place insertion tool against contact flange and push contact through rear of connector until contact retention spring snaps into position.

m. Insure that all unused contact positions contain sealing plugs.

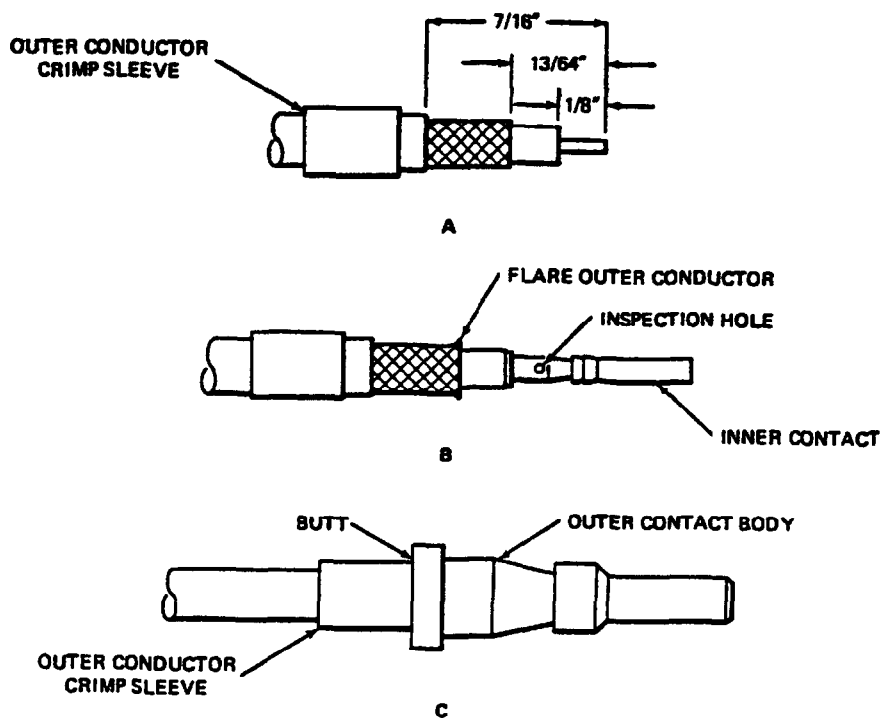
## 10. REPAIR OF COAXIAL CONTACTS OF CONNECTORS A1P1, A1P2, A2P1, A2P2 AND A3P1. (See figure 3.)

### WARNING

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

### Note

It may be necessary to remove cable assembly before repairing connectors (refer to paragraph 4).



0-E2AAA-2-18  
24800-003-0

Figure 3. Coaxial Contact Repair of Connectors A1P1, A1P2, A2P1, A2P2 and A3P1

- a. From the front of the connector, slide the probe of the contact removal tool over contact and into connector insert until applicable indicator band enters the connector insert.
- b. Slide the plunger knob forward to partially eject the contact from the rear of the connector, and remove contact.
- c. Remove damaged contact from cable by cutting as close as possible to contact body.



Take care not to nick or cut strands of wire.

- d. (See view A.) Strip outer jacket of cable 7/16-inch from end.
- e. Cut braided outer conductor 13/64-inch from end.
- f. Cut inner insulation 18-inch from end.
- g. Slide outer conductor crimp sleeve over cable and out of the way.
- h. (See view B.) Using inner conductor crimping tool, crimp center contact to inner conductor. Contact must be tight against inner insulation and inner conductor must be visible through inspection hole in contact.
- i. Flare the outer conductor sufficiently to accept the support sleeve of the contact body.
- j. Insert the inner contact into the contact body until it locks in place. The support sleeve shall be under the outer conductor. Give the cable a slight pull to assure that the inner contact is locked in place.

k. (See view C.) Slide the outer conductor crimp sleeve over the outer conductor until the sleeve butts against the shoulder of the contact body.

l. Using outer conductor crimping tool, crimp outer conductor crimping sleeve.

m. Place cable in slot of contact insertion tool so that tip of probe butts against shoulder of contact.

n. From rear of connector, insert contact into connector insert until a positive stop is felt, and remove insertion tool.

11. REPLACING FILTER ASSEMBLY GASKET. (See figure 1.)

**Note**

Gasket is cemented to cabinet.

- a. Carefully remove gasket from cabinet.

A rectangular warning symbol with a thick black border. The word "WARNING" is written in bold, uppercase letters in the center.

**WARNING**

Silicone RTV adhesive-sealant, MIL-A-46146, is combustible. Protection: chemical splashproof goggles and/or face shield and gloves. Use material in a well-ventilated area. Keep container closed; keep sparks, flames, and heat away. Keep adhesive/sealant off skin, eyes, and clothes.

b. Apply silicone adhesive, or equivalent, to one side of gasket.

c. With side of gasket containing silicone adhesive facing cabinet, carefully place gasket over guide pin. Insuring that holes in gasket align with holes in cabinet, carefully press gasket against cabinet.



**ORGANIZATIONAL MAINTENANCE**

**INDICATOR GROUP CONTROL C-8589/APA-172 AND C-12120/APQ-178**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160011 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Display System .....	031 00
Display System .....	031 04
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AVC 1741	—	Indicator Group Control C-8589/APA-172, Cable Clamping, Modification of (ECP 106)	5/1/77	Effectivity: Aircraft Serial No. 160011 and subsequent/ Retrofit aircraft Serial No. 158638 through 160010.
—	—	Production Incorporation of Enhanced Main Display Unit (EMDU) (ECP 382R1)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. Aircraft preceding serial number 164108 contain Indicator Group Control C-8589/APA-172 (hereinafter referred to as the control), part of Control Group OK-153/APA-172, which is a unit of Control Indicator Group AN/APA-172 (CIG). Aircraft serial number 164108 and subsequent contain Indicator Group Con-

trol C-12120/APQ-178 (hereinafter referred to as the control), part of Control Group OK-599/APQ-178, which is a unit of Control Indicator Set AN/APQ-179 (CIS). The control (45A4A1) is in the crew compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, item 17 or 17A) for location of the respective controls.

**Support Equipment Required**

Part or Model No.	Nomenclature
—	5/32-Inch Hex Key

3. **REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using 5/32-inch hex key, disengage 12 panel fasteners securing control to console.
- b. Using handles provided, slowly pull control forward until latch (on top of control) locks control in position.
- c. On aircraft serial no. 158638 through 160010, and aircraft not incorporating AVC 1741:
  - (1) Disengage fastener securing cable retainer to control. Remove cable retainer from control and retain for installation.
  - (2) Disconnect four cable assembly connectors from receptacles J1 through J4 on control.
  - (3) Release top latch and slowly remove control from cabinet.
  - (4) Cap all connectors and receptacles.
- d. On aircraft serial no. 160011 and subsequent, and aircraft incorporating AVC 1741:
  - (1) Holding control on bottom, release latch (on top of control) and carefully withdraw control from cabinet until cable restraint is accessible.
  - (2) Disengage fastener securing cable restraint to control.
  - (3) Disconnect four cable assembly connectors from receptacles J1 through J4 on control.
  - (4) Carefully move cable restraint outboard until lips on cable restraint are disengaged from brackets on control.
  - (5) Carefully remove control from cabinet.
  - (6) Cap all connectors and receptacles.

4. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins before installation.

- b. On aircraft serial no. 158638 through 160010, and aircraft not incorporating AVC 1741:
  - (1) Holding cable assembly away from cabinet, install control on guide rails in cabinet and slowly push into cabinet until latch locks control in position.
  - (2) Connect cable assembly connectors A1P1 through A1P4 to control receptacles J1 through J4, respectively. (QUALITY ASSURANCE)

**Note**

Ensure that longer side of cable retainer faces aft.

- (3) Ensure that cable assembly is properly aligned on top of control, position cable retainer over cable assembly, and then secure cable retainer with fastener. (QUALITY ASSURANCE)
- c. On aircraft serial no. 160011 and subsequent, and aircraft incorporating AVC 1741:
  - (1) Holding cable assembly away from cabinet, install control on guide rails in cabinet.
  - (2) Carefully push control into cabinet until lips on cable restraint engage brackets on control.
  - (3) Continue pushing control into cabinet (simultaneously inserting cable restraint into brackets) until fastener in cable restraint aligns with receptacle in control.
  - (4) Connect cable assembly connectors A1P1 through A1P4 to control receptacles J1 through J4, respectively. (QUALITY ASSURANCE)

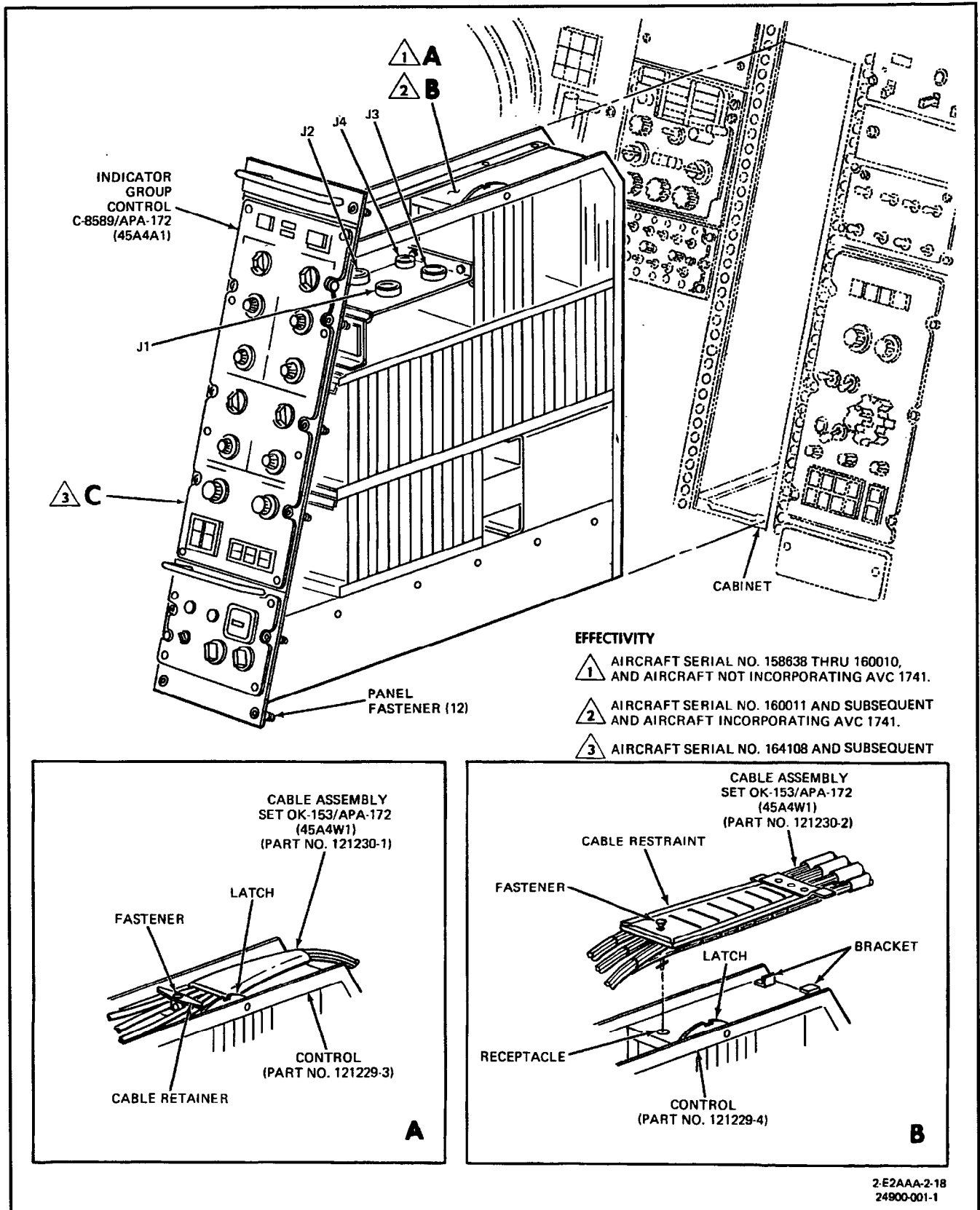


Figure 1. Removal and Installation of Indicator Group Control C-8589/APA-172 and C-12120/APQ-178 (Sheet 1 of 2)

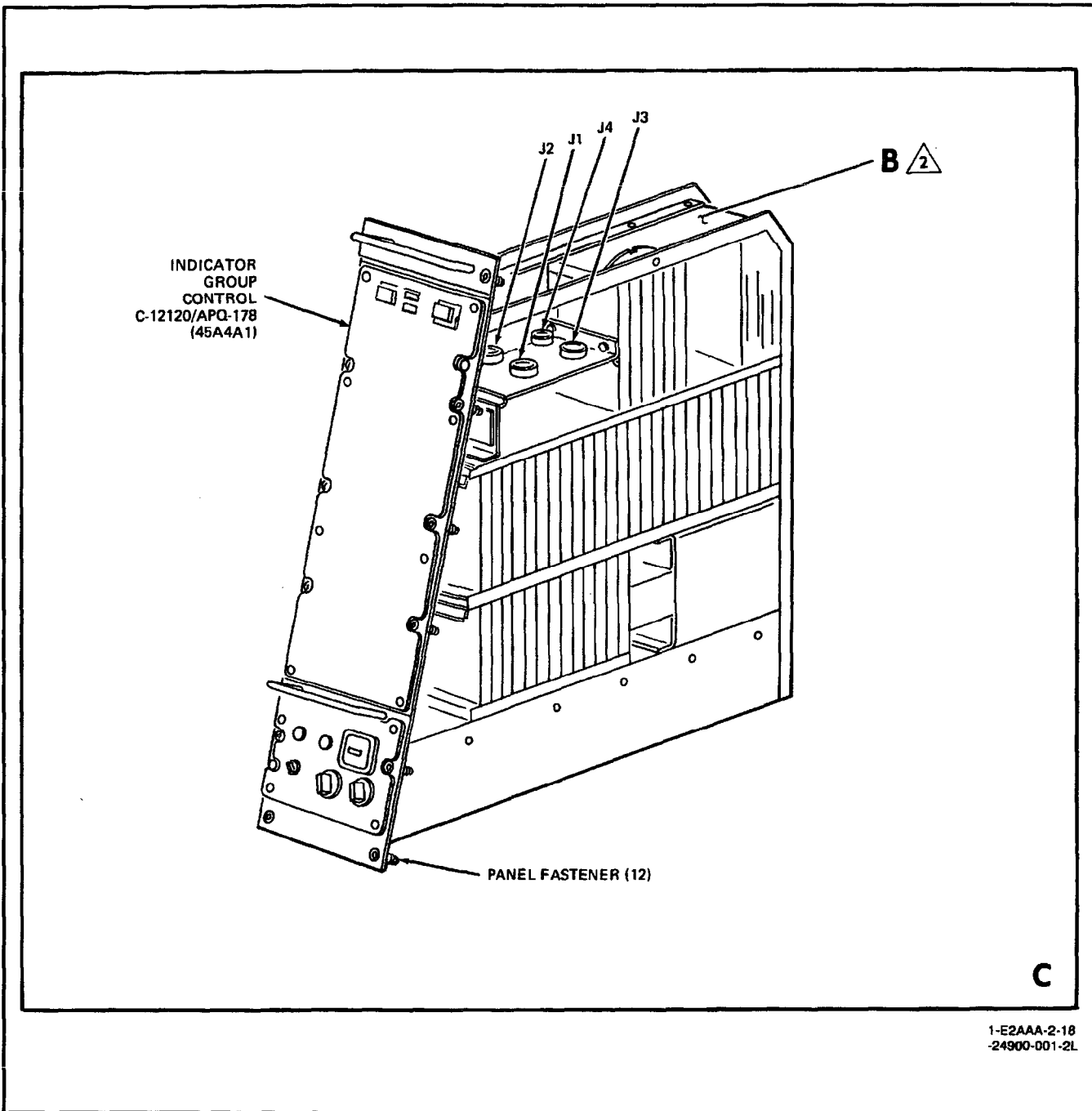


Figure 1. Removal and Installation of Indicator Group Control C-8589/APA-172 and C-12120/APQ-178 (Sheet 2)

(5) Secure cable restraint to control with fastener. (QUALITY ASSURANCE)

(6) Slowly push control into cabinet until top latch locks control in position.

d. Release top latch and slowly push control into cabinet until front panel is flush with console.

e. Using 5/32-inch hex key, engage 12 panel fasteners to secure control to console. (QUALITY ASSURANCE)

f. Perform an operational check of Control Group OK-153/APA-172, or Control Group OK-599/APQ-178, contained within respective Display System test (NAVAIR 01-E2AAA-2-17.3, WP031 00 or WP031 04).



ORGANIZATIONAL MAINTENANCE

RO JUNCTION BOX

EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Organizational Illustrated Parts Breakdown .....	NAVAIR 01-E2AAA-4
Wiring Diagrams .....	NAVAIR 01-E2AAA-2-15
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1, .3,
	and .4
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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Record of Applicable Technical Directives

None

1. **GENERAL.**
2. The RO Junction Box (hereinafter referred to as the junction box) (Unit 90) is used in conjunction with many aircraft subsystems. The junction box is in the crew compartment, left side. Refer to WP003 00 (figure 4, item 33) for location of junction box.
3. **REPAIR.** (See figure 1.)

4. The following general instructions are provided for gaining access to and for repair (and, if necessary, replacement) of components mounted in the junction box:



Insure that external power is disconnected from the aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

<b>Materials Required</b>	
<b>Specification or Part Number</b>	<b>Nomenclature</b>
Federal Specification TT-I-735	Isopropyl Alcohol

- a. To gain access to components mounted in the junction box, disengage 12 fasteners securing front cover to junction box and remove cover.

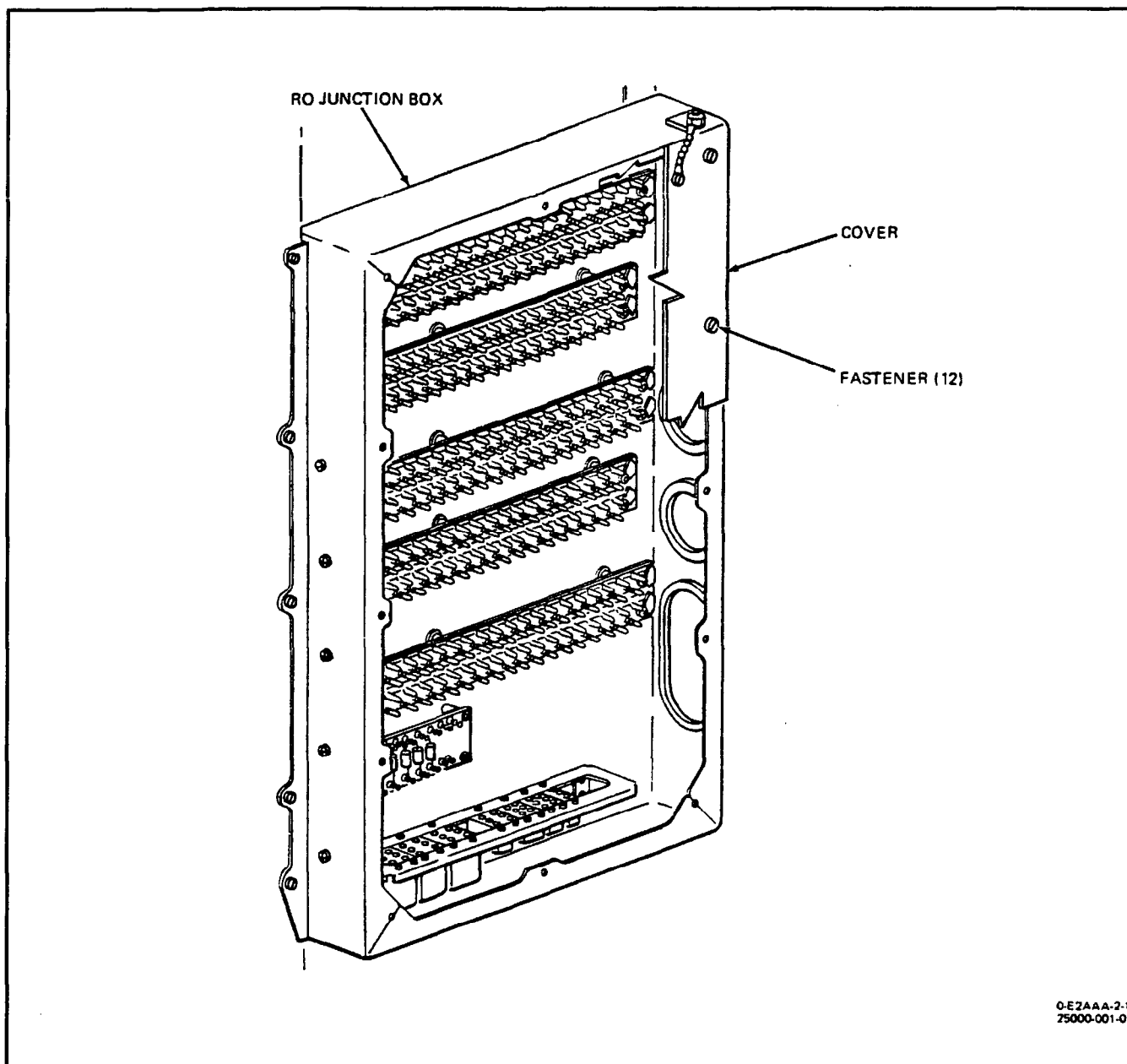


Figure 1. RO Junction Box

b. For location, identification and mounting of components in the junction box, refer to NAVAIR 01-E2AAA-4.

c. Use standard shop procedures when repairing or replacing components mounted in the junction box.

proof goggles and forced ventilation (or respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

**WARNING**

Isopropyl alcohol, TT-I-735, is toxic and flammable. Protection: chemical splash-

**CAUTION**

Electrical components shall not be immersed in isopropyl alcohol, but shall be wiped clean.

d. If necessary, clean components using a clean, lint-free cloth moistened with isopropyl alcohol.

e. Disassemble the junction box only enough to make required repair or replacement, taking care to note the specific order in which components are removed with respect to their details. It is recommended that wiring be tagged to facilitate installation. If necessary, ref-

erence can be made to wiring diagram associated with subsystem (NAVAIR 01-E2AAA-2-15).

f. After a component is repaired or replaced, perform an operational check of the subsystem associated with component (NAVAIR 01-E2AAA-2-17.1, .3, and .4).



ORGANIZATIONAL MAINTENANCE

CICO JUNCTION BOX

EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Organizational Illustrated Parts Breakdown .....	NAVAIR 01-E2AAA-4
Wiring Diagrams .....	NAVAIR 01-E2AAA-2-15
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1, .3,
	and .4
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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Record of Applicable Technical Directives

None

1. GENERAL.

2. The CICO Junction Box (hereinafter referred to as the junction box) (Unit 91) is used in conjunction with many aircraft subsystems. The junction box is in the crew compartment, left side. Refer to WP003 00 (figure 4, item 40) for location of the junction box. Support equipment required for maintenance is listed below.

3. REPAIR. (See figure 1.)

Materials Required

Specification or Part Number	Nomenclature
Federal Specification TT-I-735	Isopropyl Alcohol

Support Equipment Required

Part or Model No.	Nomenclature
MIL-C-83723/31-20	Wire Contact Removal Tool

4. The following general instructions are provided for gaining access to and for repair (and, if necessary, replacement) of components mounted in the junction box.

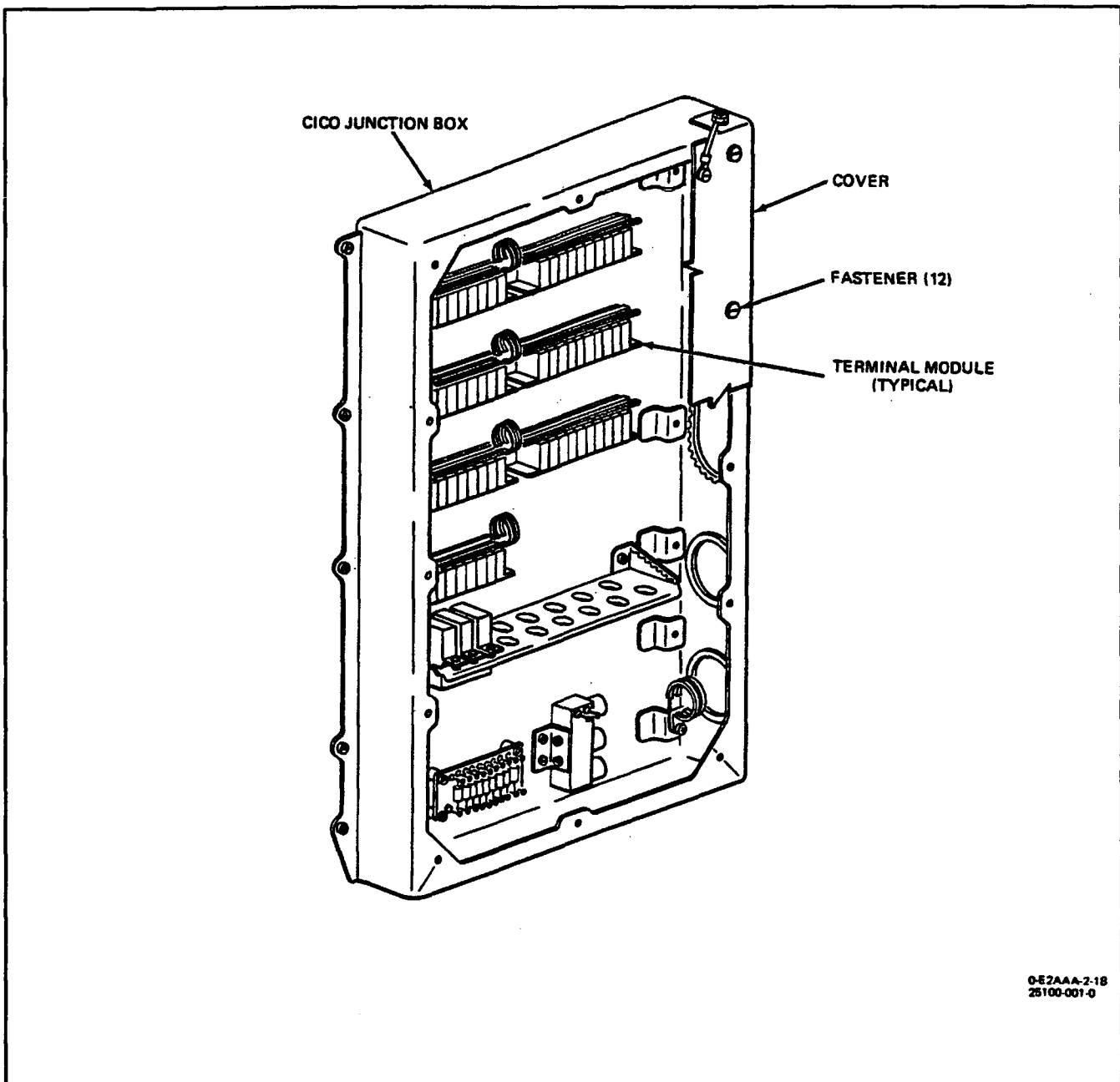


Figure 1. CICO Junction Box

**WARNING**

Insure that external power is disconnected from the aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. To gain access to the components mounted in the junction box, disengage 12 fasteners securing front cover to junction box and remove cover.

b. For location, identification and mounting of components in the junction box, refer to NAVAIR 01-E2AAA-4.

c. Use standard shop procedures when repairing or replacing components mounted in the junction box.

### WARNING

Isopropyl alcohol, TT-I-735, is toxic and flammable. Protection: chemical splash-proof goggles and forced ventilation (or respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

### CAUTION

Electrical components shall not be immersed in isopropyl alcohol, but shall be wiped clean.

d. If necessary, clean components using a clean, lint-free cloth moistened with isopropyl alcohol.

e. Disassemble the junction box only enough to make required repair or replacement, taking care to note the specific order in which components are removed with respect to their details. It is recommended that wiring be tagged to facilitate installation. If necessary, reference can be made to wiring diagram associated with subsystem (NAVAIR 01-E2AAA-2-15).

f. After component is repaired or replaced, perform an operational check of the subsystem associated with the component (NAVAIR 01-E2AAA-2-17.1, .3, and .4).

#### 5. ADDITIONAL MAINTENANCE.

6. Additional maintenance instructions are provided for replacing terminal modules and terminal module wires.

7. REPLACING TERMINAL MODULE. (See figure 2.)

### WARNING

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Loosen screw securing clamp to track and slide clamp out of track.

b. Remove two screws securing track to junction box.

c. Hold terminal modules in position and slide track away from block of terminal modules.

d. Remove wires from terminal module and insert into replacement terminal module (refer to paragraph 8).

e. Place terminal module in position in the block of modules (interlocking rails are provided on terminal modules for this purpose).

f. Holding the block of modules in position, slide track onto modules.

g. Attach track to junction box with two screws.

h. Slide clamp into track and tighten clamp screw.

8. REPLACING WIRE IN TERMINAL MODULE. (See figure 2.)

### WARNING

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

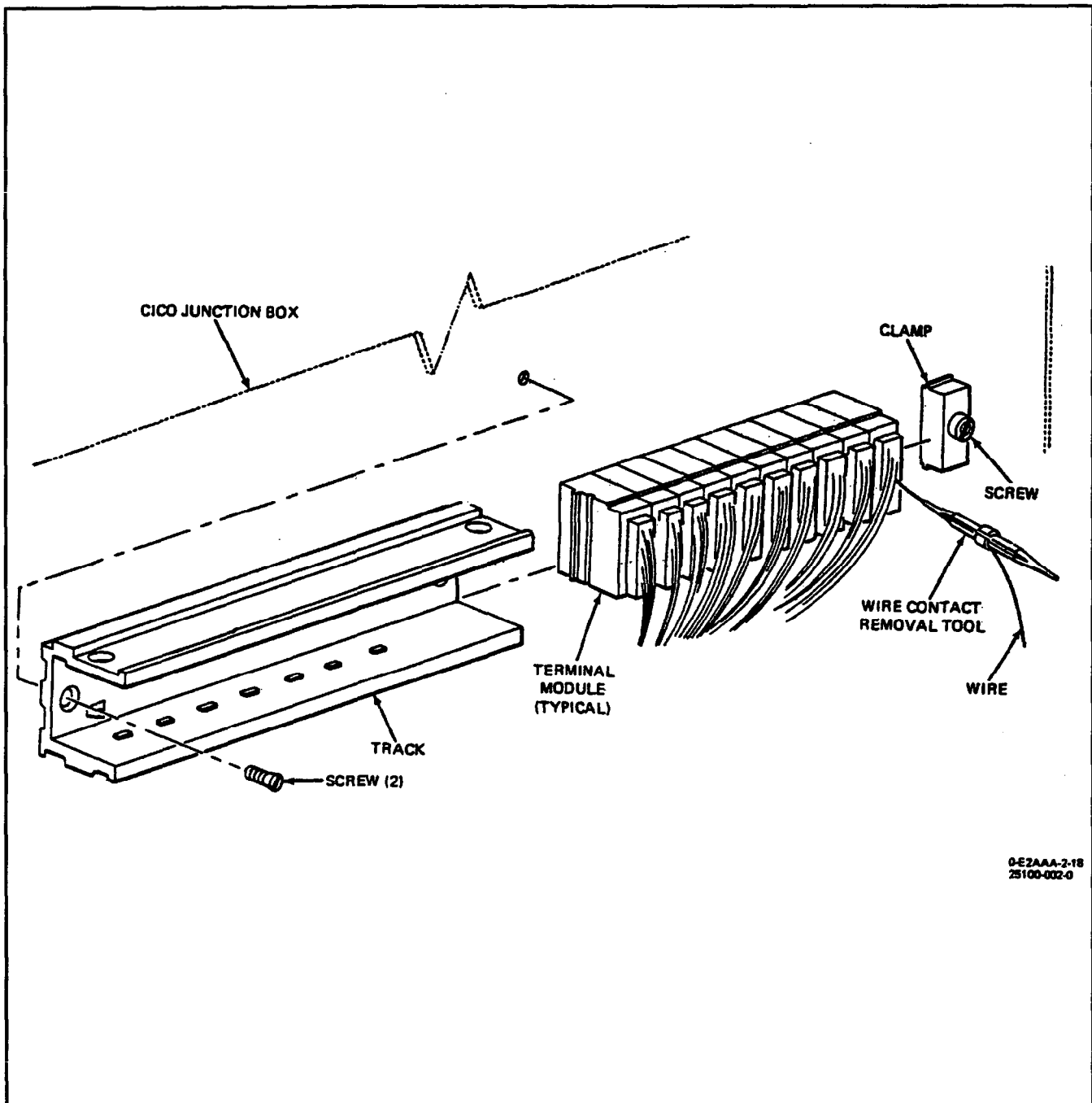
a. Remove terminal module (refer to paragraph 7).

b. Position wire contact removal tool parallel to wire being removed with extraction tip pointing toward the module.

c. Press wire into the split in the extraction tip.

d. Slide extraction tip down the wire length into module hole. Press tip firmly into the hole to release wire, and withdraw wire while maintaining pressure on wire contact removal tool.

e. Position wire contact removal tool parallel to wire being replaced with insertion tip pointing toward module.



0-E2AAA-2-18  
25100-002-0

**Figure 2. Removal and Installation of Terminal Modules and Wires**

- f. Press wire into split in insertion tip.
- g. Slide insertion tip down the wire length until end of wire is flush with end of insertion tip. Lock the wire in place at the toothed center section of tool.
- h. Press insertion tip into the terminal module hole to release internal locking device (to accept the wire).
- i. Release wire, and withdraw wire contact removal tool.



ORGANIZATIONAL MAINTENANCE

ACO JUNCTION BOX

EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Organizational Illustrated Parts Breakdown .....	NAVAIR 01-E2AAA-4
Wiring Diagrams .....	NAVAIR 01-E2AAA-2-15
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1, .3,
	and .4
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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Record of Applicable Technical Directives

None

1. GENERAL.

2. The ACO Junction Box (hereinafter referred to as the junction box (Unit 92) is used in conjunction with many aircraft subsystems. The junction box is in the crew compartment, left side. Refer to WP003 00 (figure 4, item 51) for location of the junction box. Support equipment required for maintenance is listed below.

3. REPAIR. (See figure 1.)

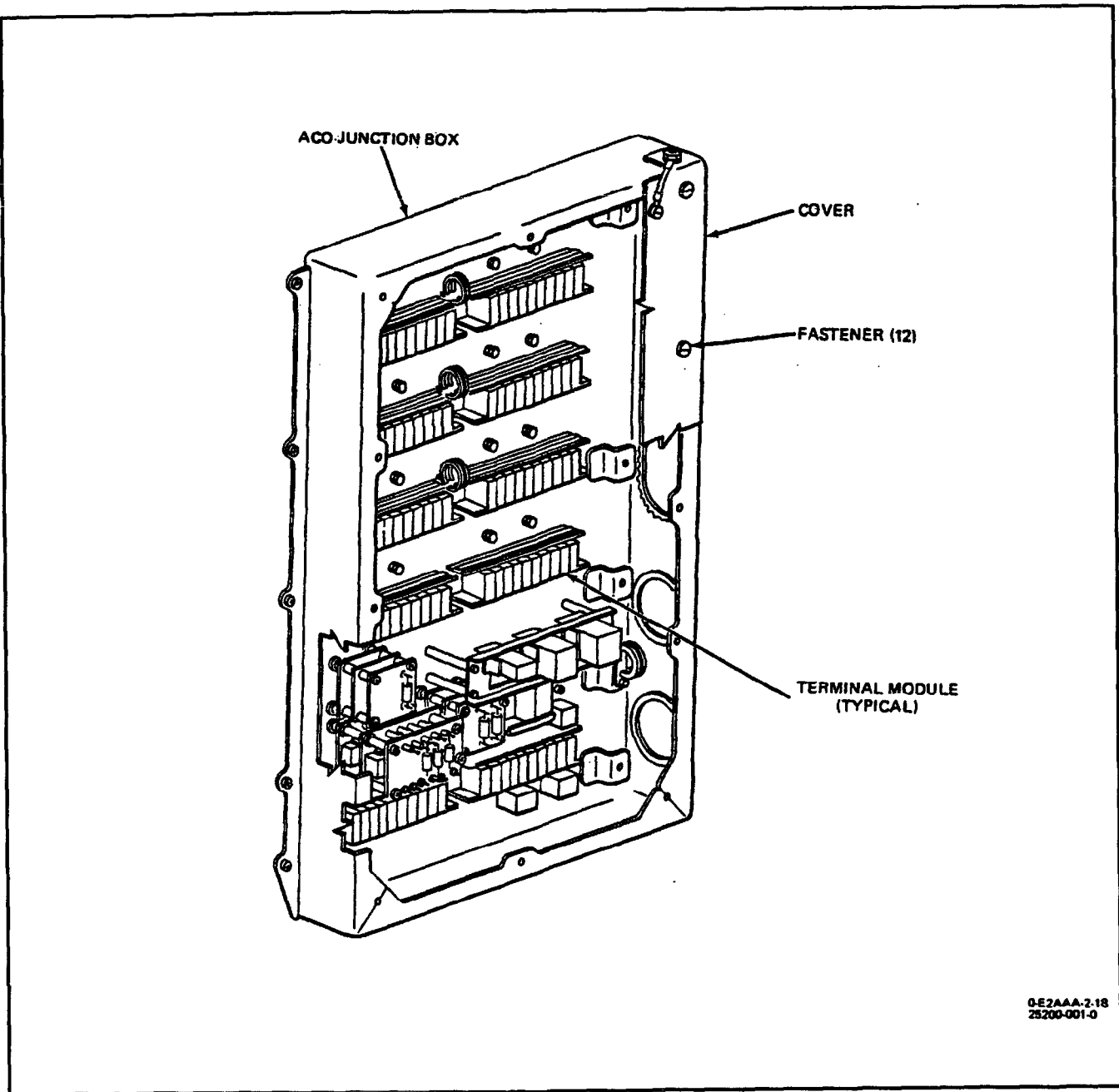
Materials Required

Specification or Part Number	Nomenclature
Federal Specification TT-1-735	Isopropyl Alcohol

Support Equipment Required

Part or Model No.	Nomenclature
MIL-C-83723/31-20	Wire Contact Removal Tool

4. The following general instructions are provided for gaining access to and for repair (and, if necessary, replacement) of components mounted in the junction box.



0-E2AAA-2-18  
25200-001-0

Figure 1. ACO Junction Box

**WARNING**

Insure that external power is disconnected from the aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. To gain access to the components mounted in the junction box, disengage 12 fasteners securing front cover to junction box and remove cover.

b. For location, identification and mounting of components in the junction box, refer to NAVAIR 01-E2AAA-4.

c. Use standard shop procedures when repairing or replacing components mounted in the junction box.

**WARNING**

Isopropyl alcohol, TT-I-735, is toxic and flammable. Protection: chemical splash-proof goggles and forced ventilation (or respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

**CAUTION**

Electrical components shall not be immersed in isopropyl alcohol, but shall be wiped clean.

d. If necessary, clean components using a clean, lint-free cloth moistened with isopropyl alcohol.

e. Disassemble the junction box only enough to make required repair or replacement, taking care to note the specific order in which components are removed with respect to their details. It is recommended that wiring be tagged to facilitate installation. If necessary, reference can be made to wiring diagram associated with subsystem (NAVAIR 01-E2AAA-2-15).

f. After component is repaired or replaced, perform an operational check of the subsystem associated with the component (NAVAIR 01-E2AAA-2-17.1, .3, and .4).

**5. ADDITIONAL MAINTENANCE.**

6. Additional maintenance instructions are provided for replacing terminal modules and terminal module wires.

7. REPLACING TERMINAL MODULE. (See figure 2.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Loosen screw securing clamp to track and slide clamp out of track.

b. Remove two screws securing track to junction box.

c. Hold terminal modules in position and slide track away from block of terminal modules.

d. Remove wires from terminal module and insert into replacement terminal module (refer to paragraph 8).

e. Place terminal module in position in the block of modules (interlocking rails are provided on terminal modules for this purpose).

f. Holding the block of modules in position, slide track onto modules.

g. Attach track to junction box with two screws.

h. Slide clamp into track and tighten clamp screw.

8. REPLACING WIRE IN TERMINAL MODULE. (See figure 2.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

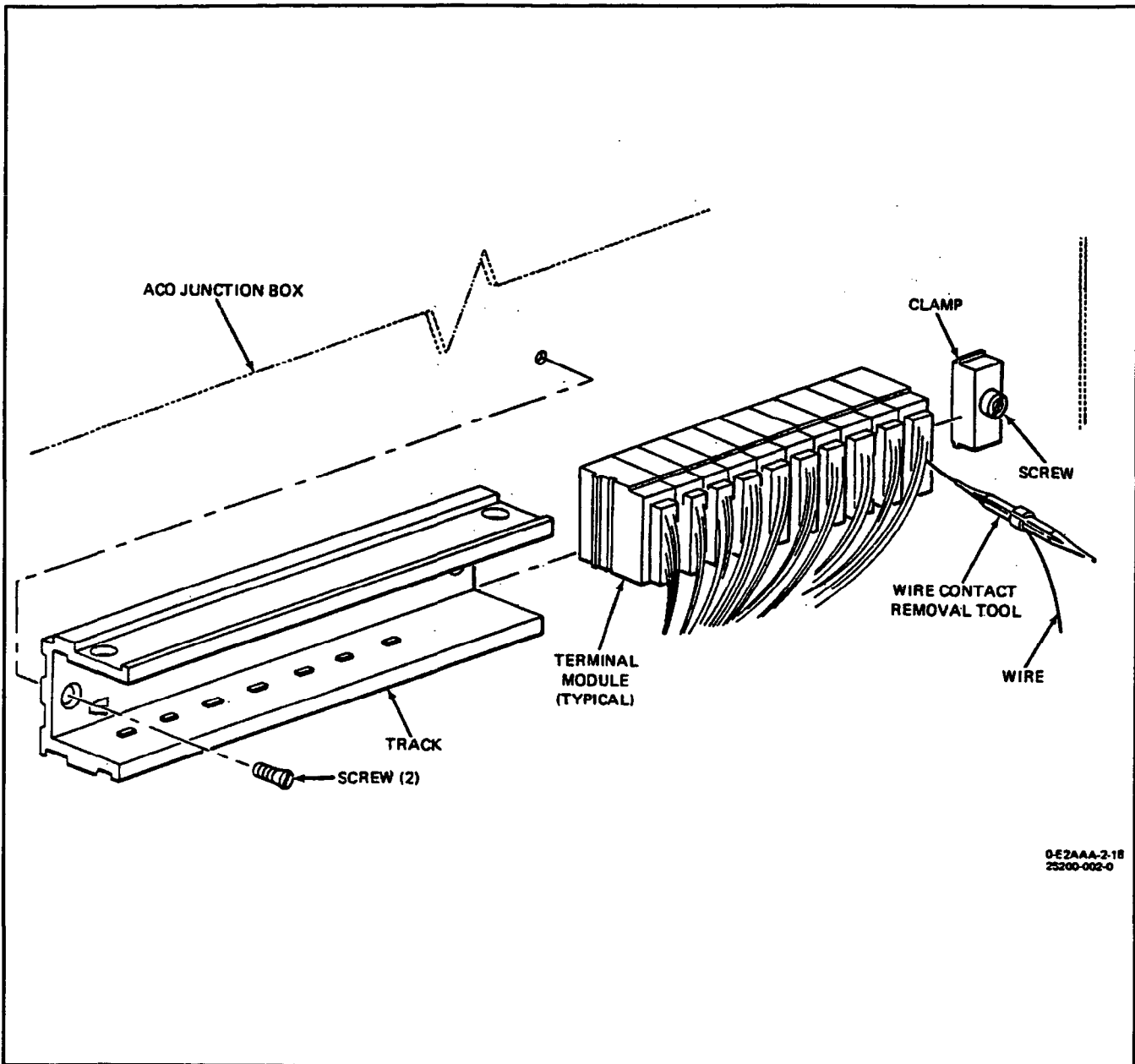
a. Remove terminal module (refer to paragraph 7).

b. Position wire contact removal tool parallel to wire being removed with extraction tip pointing toward module.

c. Press wire into split in extraction tip.

d. Slide extraction tip down the wire length into module hole. Press tip firmly into hole to release wire, and withdraw wire while maintaining pressure on wire contact removal tool.

e. Position wire contact removal tool parallel to wire being replaced with insertion tip pointing toward module.



**Figure 2. Removal and Installation of Terminal Modules and Wires**

- f. Press wire into split in insertion tip.
- g. Slide insertion tip down the wire length until end of wire is flush with end of insertion tip. Lock the wire in place at the toothed center section of tool.
- h. Press insertion tip into terminal module hole to release internal locking device (to accept the wire).
- i. Release wire, and withdraw wire contact removal tool.

**ORGANIZATIONAL MAINTENANCE**

**CABLE ASSEMBLY SET OK-153/APA-172**

**PART NUMBERS 121230-1 AND 2**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159592, 160007 THROUGH 160011, AND 160012 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Display System .....	031 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Indicator Group Control C-8589/APA-172 .....	249 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AVC 1741	—	Indicator Group Control C-8589/APA-172, Cable Clamping, Modification of (ECP 106)	1/5/77	Effectivity: Aircraft serial no. 160011 and subsequent/ Retrofit aircraft serial no. 158638 through 160010.

**1. GENERAL.**

2. The Cable Assembly Set OK-153/APA-172 (45A4W1) (hereinafter referred to as the cable assembly) is part of the Control Group OK-153/APA-172 which is associated with the Control Indicator Group AN/ APA-172. The cable assembly is installed within a cabinet and is located in the left side of the crew compartment. (See figure 1 for location of cable assembly 45A4W1). Support equipment required for maintenance is listed below.

**Note**

The following equipment is used with connectors P3 and P4.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
FBCT (Falcon)	Collet Plier
15500-25-1 (Deutsch)	Crimping Tool (for inner conductor)
20052 (Deutsch)	Crimping Tool (for outer conductor)
M15513-25 (Deutsch)	Insertion Tool (for coax contacts)
M15515-25 (Deutsch)	Removal Tool (for coax contacts)
15500-20 (Deutsch)	Crimping Tool (for size 20 contacts)
M15515-16 (Deutsch)	Extraction Tool (for standard contacts)
M15513-20 (Deutsch)	Insertion Tool (for standard contacts)

**Note**

The following equipment is used with connectors A1P1 and A1P3.

MS24256R12	Contact Removal Tool
MS24256A12	Contact Insertion Tool
612118-G24 (Buchanan)	Crimping Tool (for inner conductor)
WT-230 (Thomas & Betts)	Crimping Tool (for outer conductor)
GSC-156 (Thomas & Betts)	Die (for outer conductor crimping tool)

**3. CABLE ASSEMBLY.**

**4. REMOVAL OF CABLE ASSEMBLY. (See figure 1.)**

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove Indicator Group Control C-8589/APA-172 from cabinet (WP249 00).

b. Disconnect four cable connectors from cabinet receptacles J1 through J4.

c. Cap all connectors and receptacles.

d. Loosen two captive screws securing filter assembly to cabinet.

e. On aircraft serial no. 158638 through 160010, and aircraft not incorporating AVC 1741:

(1) Carefully guide cable assembly through cable support, and remove cable assembly from cabinet.

f. On aircraft serial no. 160011 and subsequent, and aircraft incorporating AVC 1741:

(1) Remove two screws and two washers securing support assembly (consisting of support and clamp) to cabinet.

(2) Carefully remove cable assembly (with support assembly) from cabinet.

(3) Remove two screws and two washers and separate clamp from support.

**5. INSTALLATION OF CABLE ASSEMBLY. (See figure 1.)**

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Insure that RFI gasket on back of filter assembly is not damaged.

b. Remove caps from all connectors and receptacles.

c. On aircraft serial no. 158638 through 160010, and aircraft not incorporating AVC 1741:

(1) Pass cable assembly under and over cable support, and secure filter assembly to cabinet using two captive screws. (QUALITY ASSURANCE)

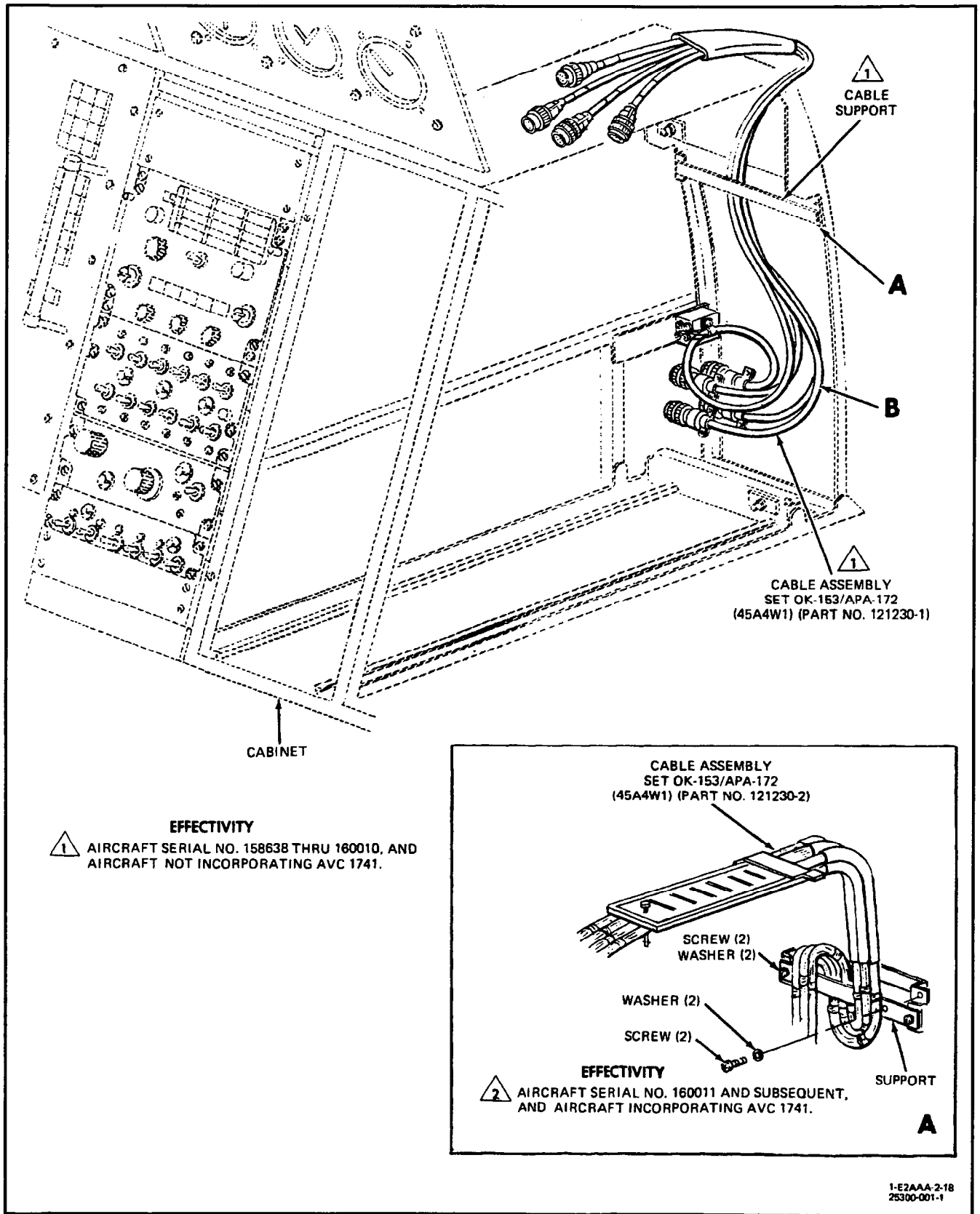


Figure 1. Removal and Installation of Cable Assembly Set and RFI Filter (Sheet 1 of 2)

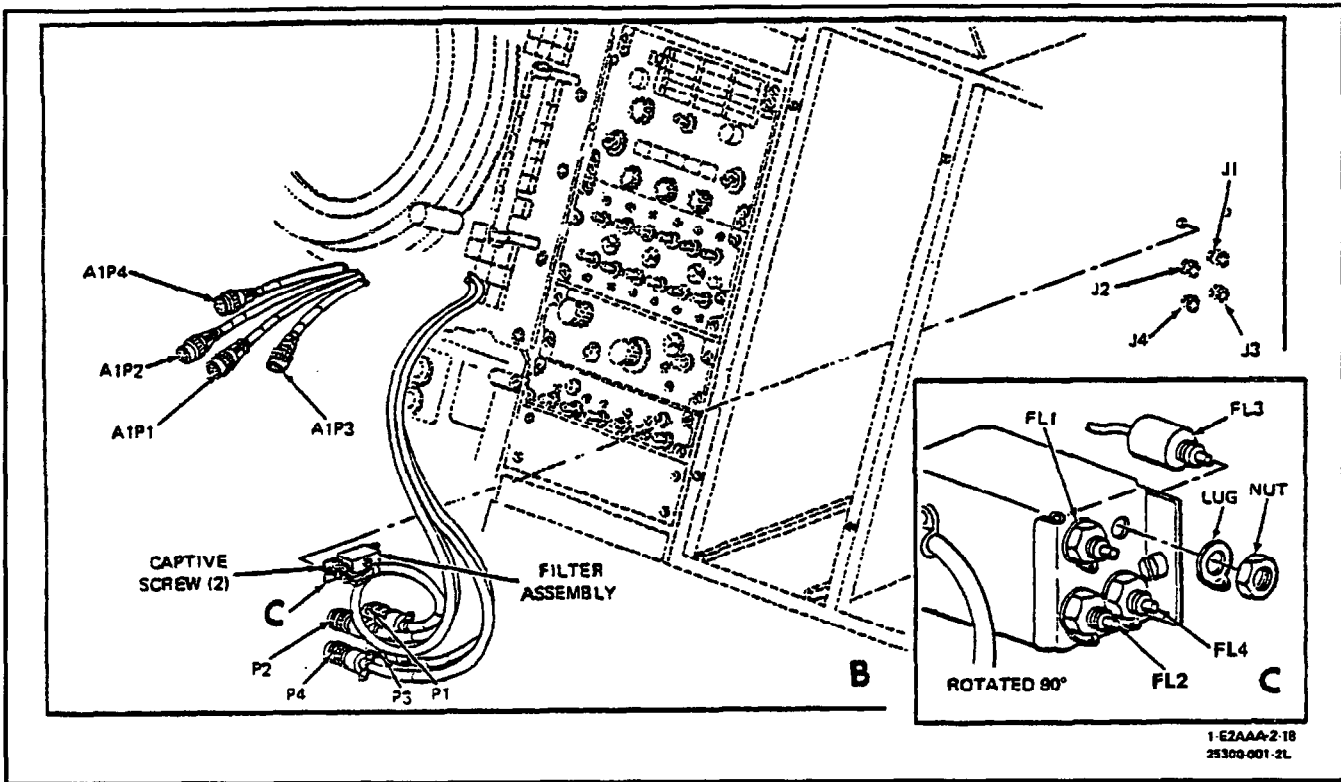


Figure 1. Removal and Installation of Cable Assembly Set and RFI Filter (Sheet 2)

d. On aircraft serial no. 160011 and subsequent, and aircraft incorporating AVC 1741:

(1) Assemble support assembly (consisting of support and clamp to cable assembly with two screws and two washers.

(2) Carefully insert cable assembly (with support assembly) into cabinet. (QUALITY ASSURANCE)

(3) Secure filter assembly to cabinet using two captive screws. (QUALITY ASSURANCE)

**CAUTION**

Inspect connectors for damage and bent pins prior to installation.

e. Connect cable connectors P1 through P4 to cabinet receptacles J1 through J4, respectively. (QUALITY ASSURANCE)

f. Install Indicator Group Control C-8589/APA-172 in cabinet (WP249 00).

g. Perform operational check of Control Indicator Group AN/APA-172 contained within the Display System Tests (NAVAIR 01-E2AAA-2-17.3, WP031 00).

6. REPAIR.

7. REPLACING RFI FILTER (FL1 THROUGH FL4). (See figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove cable assembly from cabinet (refer to paragraph 4).

b. Tag and unsolder wire from the external terminal of the faulty RFI filter mounted on the filter assembly.

c. Tag and unsolder wire from the internal terminal of the faulty RFI filter mounted on the filter assembly.

d. Remove nut and lug securing the RFI filter to the filter assembly, and remove RFI filter.

e. Secure replacement RFI filter to filter assembly using nut and lug.

f. Remove tag and solder wire to internal terminal of the RFI filter. (QUALITY ASSURANCE)

g. Remove tag and solder wire to lug securing the RFI filter. (QUALITY ASSURANCE)



h. Install cable assembly into cabinet (refer to paragraph 5).

#### 8. REPAIR OF COAXIAL CONTACTS OF CONNECTORS P3 AND P4. (See figure 2.)

### WARNING

Insure that external power is removed from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

#### Note

It may be necessary to remove cable assembly before repairing connectors (refer to paragraph 4).

a. Pull back removal tool plunger handle. On mating face of connector, slide tube tip (of removal tube) over contact to be removed.

b. Maintain axial alignment and slide tube tip into connector until it bottoms.

c. Apply pressure on plunger handle to eject contact, and remove from rear of connector.

d. Remove damaged contact from wire or cable by cutting as close as possible to contact body.

#### Note

Cut end of coaxial cable square.

e. (See view A.) Strip outer jacket 7/16-inch from end. Cut braided shield and inner insulation 1/8-inch from end.

f. Slide crimp sleeve onto coaxial cable.

g. (See view B.) Using inner conductor crimping tool, crimp center contact to inner conductor. Contact shall be tight against inner insulation and inner conductor shall be visible in inspection hole.

#### Note

Omit step h if the washer is sealed in the sleeve.

h. (See view C.) Insert silicone washer in crimp support sleeve.

i. (See view D.) Slide crimp support sleeve between braided shield and inner insulation until braided shield is touching crimp support sleeve shoulder.

j. Push Teflon bushing over center contact until flare on contact is exposed.

k. (See view E.) Screw outer body handtight onto crimp support sleeve. Crimping sleeve shall be at least 1-inch back on cable to properly align internal components. Leave protective plug in socket outer body to protect it from damage.

l. Insert assembly into collet plier. (Collet shall be carefully adjusted to protect plating, retaining device, and socket engaging end.) Collet shall grip the solid area A (as shown in view F). Protective plug may be removed if necessary during this operation.

m. Handtighten assembly. If contact slips during this operation, collet is improperly adjusted.

n. (See view G.) Remove assembly from collet. At this point braided shield shall be inspected for proper length. Maximum allowable gap between end of braid and crimp support sleeve shoulder is 1/6-inch.

o. (See view H.) Slide crimp sleeve over shield until it touches crimp support sleeve shoulder.

p. Using outer conductor crimping tool, crimp sleeve and contact.

q. Insert contact into proper contact cavity by hand, from rear of connector.

r. Position insertion tool around crimped barrel/sleeve and against back shoulder of contact.

s. Maintain axial alignment while pushing into contact cavity until contact snaps into its retained position.

t. A slight pull on cable ensures that contact has backed in place.

#### 9. REPAIR OF STANDARD CONTACTS OF CONNECTORS P3 AND P4.

#### Note

It may be necessary to remove cable assembly before repairing connectors (refer to paragraph 4).

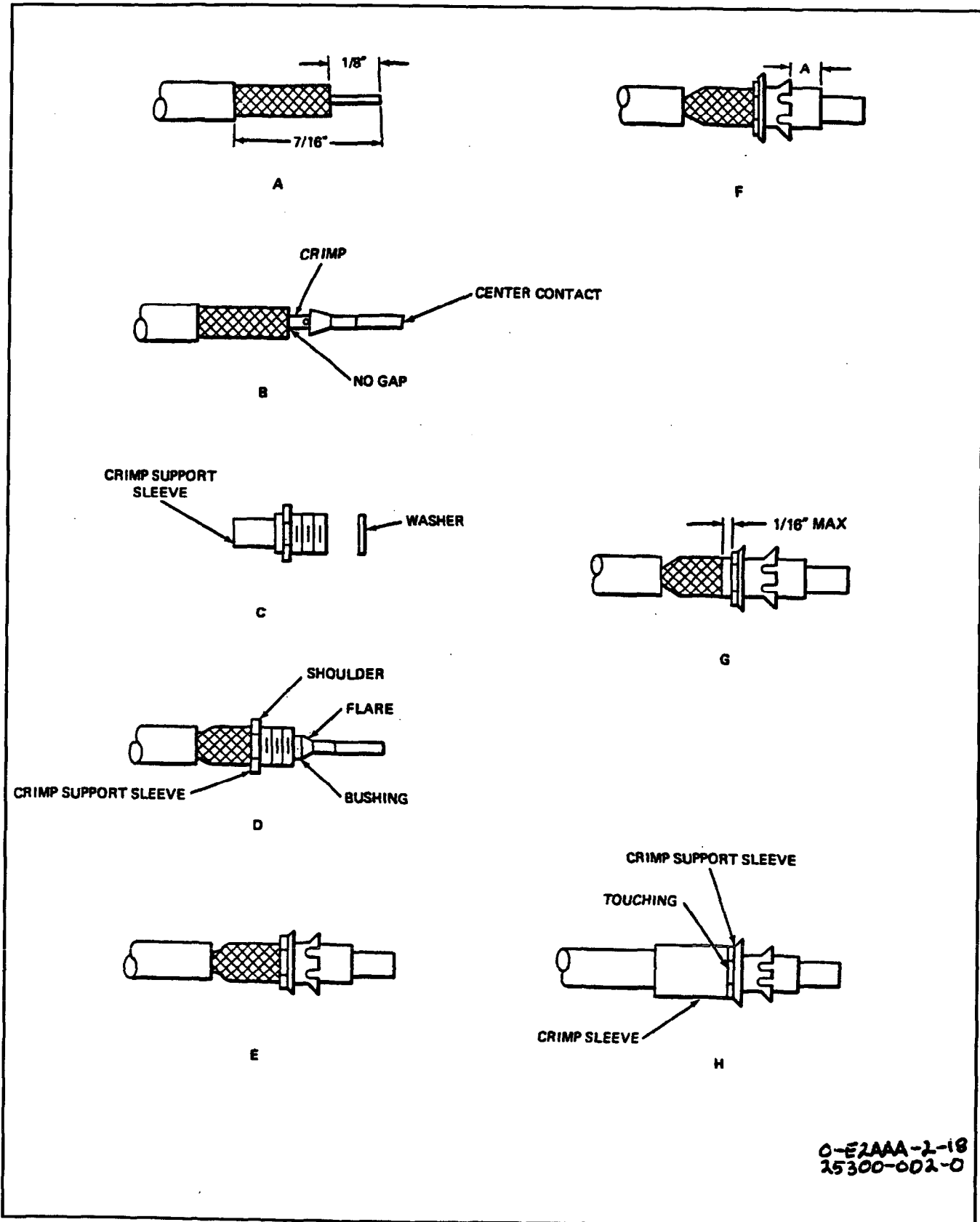
a. Move contact spring depressor to front of extraction tool as far as it will go. Holding tool in this position, place at front of connector and locate over contact.

b. Push only spring depressor portion of tool into connector until it bottoms. Apply twisting pressure to relax contact retention spring.

c. Push contact ejector portion of tool to eject contact, then remove contact from rear of connector.

d. Cut off removed contact as close to contact body as possible.

e. Repeat steps a through d for each contact requiring removal.



0-E2AAA-2-18  
25300-002-0

Figure 2. Coaxial Contact Repair of Connectors P3 and P4

f. Strip insulation from end of conductor 3/16 inch.



Do not nick the strands of wire.

g. Insert stripped wire into crimp barrel of contact until seated. Check this visually through inspection hole in contact.

h. Insert contact and wire into crimp jaw opening of crimping tool and seat contact fully into crimping die.

i. Using crimping tool, squeeze handles until full crimping cycle has been performed.



The tool shall be fully closed before the handles will open. Never force the handles in either closing or opening.

j. Release handles and remove crimped contact.

k. Start inserting contact by hand at rear of connector.



To ease insertion and avoid damage to insertion material, keep tool parallel to contact during insertion.

l. Place insertion tool against contact flange, and push contact through rear of connector until contact retention spring snaps into position.

m. Insure that all unused contact positions contain sealing plugs.

10. REPAIR OF COAXIAL CONTACTS OF CONNECTORS A1P1 AND A1P3. (See figure 3.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

#### Note

It may be necessary to remove cable assembly before repairing connectors (refer to paragraph 4).

a. From front of connector, slide probe of contact removal tool over contact and into connector insert, until applicable indicator band enters connector insert.

b. Slide plunger knob forward to partially eject contact from rear of connector, and remove contact.

c. Remove damaged contact from cable by cutting as close as possible to contact body.



Take care not to nick or cut strands of wire.

d. (See view A.) Strip outer jacket of cable 7/16-inch from end.

e. Cut braided outer conductor 13/64-inch from end.

f. Cut inner insulation 1/8-inch from end.

g. Slide outer conductor crimp sleeve over cable and out of the way.

h. (See view B.) Using inner conductor crimping tool, crimp center contact to inner conductor. Contact shall be tight against inner insulation and inner conductor shall be visible through inspection hole in contact.

i. Flare outer conductor sufficiently to accept support sleeve of contact body.

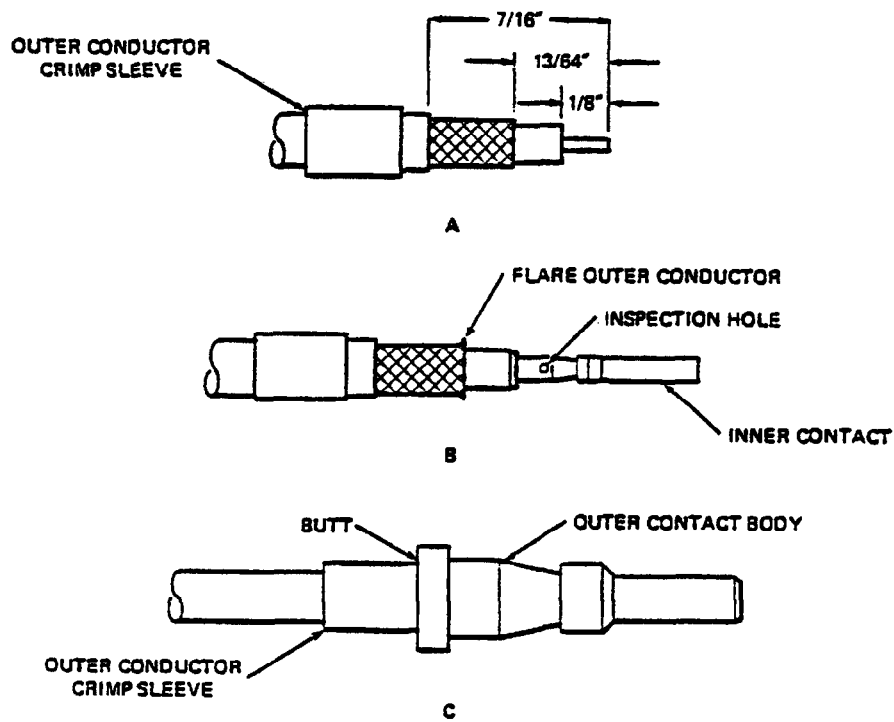
j. Insert inner contact into contact body until it locks in place. The support sleeve shall be under the outer conductor. Give cable a slight pull to ensure that inner contact is locked in place.

k. (See view C.) Slide outer conductor crimp sleeve over outer conductor until sleeve butts against shoulder of contact body.

l. Using outer conductor crimping tool, crimp outer conductor crimping sleeve.

m. Place cable in slot of contact insertion tool so that tip of probe butts against shoulder of contact.

n. From rear of connector, insert contact into connector insert until a positive stop is felt, and remove insertion tool.



0-E2AAA-2-18  
25300-003-0

Figure 3. Coaxial Contact Repair of Connectors A1P1 and A1P3

**ORGANIZATIONAL MAINTENANCE**

**OWNSHIP HEADING MARKER SWITCH**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161009, AND 161224 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
External Hydraulic Power Connections .....	028 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Ownship Heading Marker Switch Alinement .....	031 02

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Serviceability/Maintainability of Rotodome Drive System (ECP 295R1)	4/1/81	Aircraft Serial No. 161229 and Subsequent, and those aircraft Incorporating ECP 295R1.

**1. GENERAL.**

2. The Ownship Heading Marker Switch (hereinafter referred to as the switch) (45W19S1) is associated with the Control Indicator Group AN/APA-172. Refer to figure 1 for location of switch. Support equipment required for maintenance is listed below.

3. There are two procedures provided in this WP for replacing the switch. Paragraph 4 covers replacement of switch if rotodome can be extended and retracted (aircraft preceding aircraft serial no. 161229, and those aircraft not incorporating ECP295R1). Paragraph 7 covers replacement of switch if rotodome is fixed in the

extended position (aircraft serial no. 161229 and subsequent, and those aircraft incorporating ECP295R1).

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
AN/PSM-4 (or equivalent)	Multimeter
D21929 (Meriam Instrument)	Hydraulic Check and Fill Stand

4. **REPLACEMENT OF SWITCH IF ROTODOME CAN BE EXTENDED AND RETRACTED.**

5. **REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Connect external hydraulic power to aircraft (NAVAIR 01-E2AAA-2-1, WP028 00).

**Note**

If rotodome is already extended (up position), proceed to step e.

- b. Open ROTODOME MANUAL OPERATION door (on floor of crew compartment next to radar operator's seat) to gain access to rotodome elevation selector valve.



Rotodome rises approximately two feet. Check overhead clearance before elevating.

- c. Press DOME RAISE button on rotodome elevation selector valve and raise rotodome until fully extended and locked.

- d. Disconnect external hydraulic power from aircraft (NAVAIR 01-E2AAA-2-1, WP028 00).

- e. Deplete pressure in combined hydraulic system reservoir by operating rudder pedals.

- f. Remove access panel (right side of pylon) to expose pylon fairing doors actuating cylinder.

- g. Disconnect two hydraulic lines from pylon fairing doors actuating cylinder. Using hydraulic check and fill stand, connect pressure line to aft fitting of cylinder and return line to forward fitting of cylinder.

- h. Operate hand pump on hydraulic check and fill stand until pylon fairing doors are fully open.

- i. Remove two screws and two washers that secure terminal board cover to pylon fairing door.

- j. Remove switch leads and aircraft wires from terminal board 45TB3 (terminals 1, 2 and 3).

- k. Remove three screws and three washers that secure cover plate (on which switch is mounted) to pylon fairing door and remove cover plate.

- l. Remove lockring from roller guide, and remove roller guide.

- m. Remove lockwire securing hex nut and then remove hex nut and lockwasher securing switch to cover plate.

- n. Remove terminal lug (with wire number APA172-374A20N attached) from switch.

6. **INSTALLATION.** (See figure 1.)

**Note**

Use appropriate caps and terminal lugs for 20-gage wire.

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC20	Lockwire
(See note)	Cap
(See note)	Terminal Lug



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

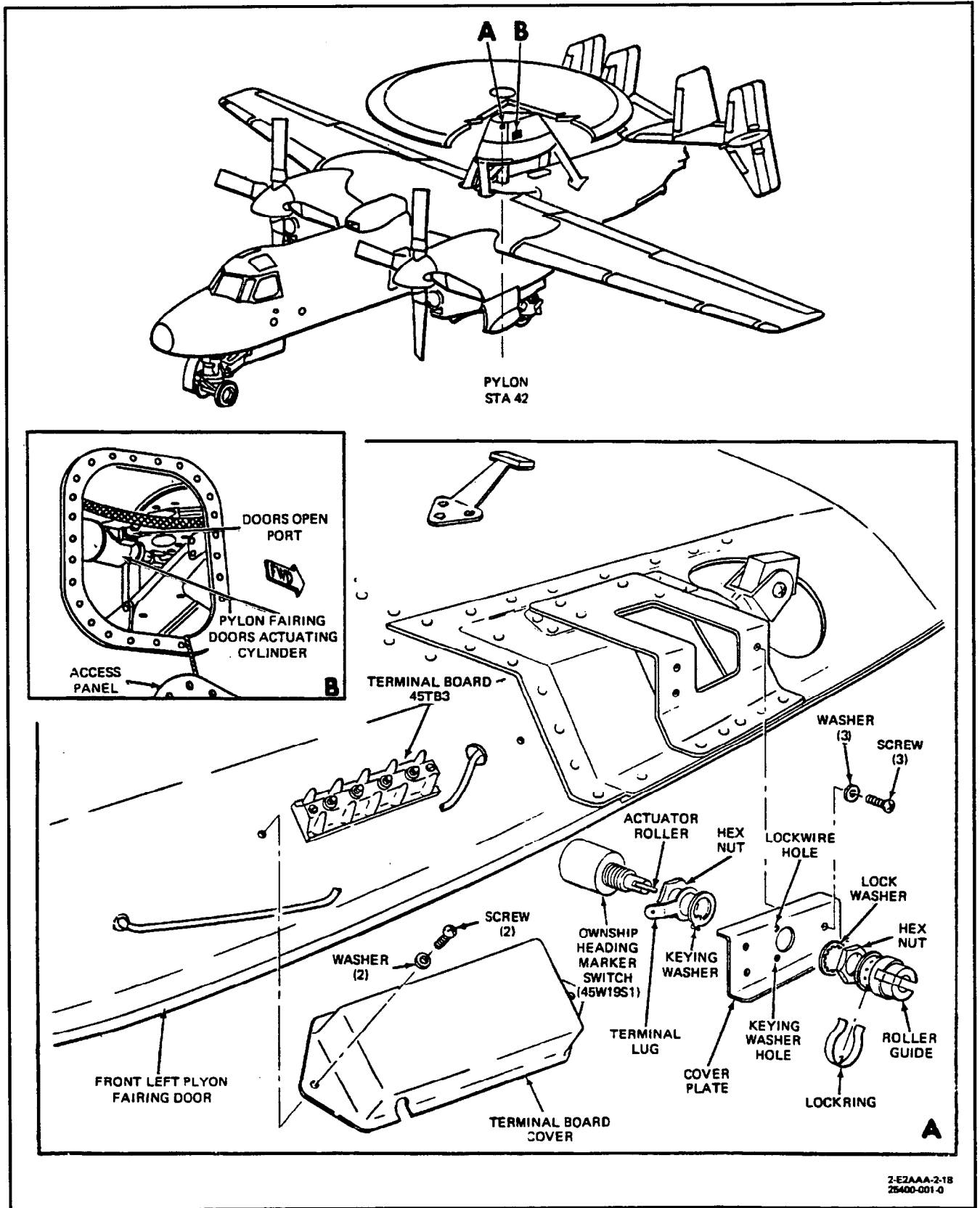
**Note**

For initial setting, adjust hex nuts to expose 1/4-inch of thread on switch barrel, then tighten.

Before tightening hex nuts, check that tab on keying washer is located in hole provided in cover plate.

- a. Install hex nut, terminal lug (with wire number APA172-374A20N attached), and keying washer on switch barrel, and secure switch to cover plate using lockwasher and hex nut. Lug on terminal shall be alined with switch leads, and 1/4-inch of thread on switch barrel shall protrude through cover plate. (QUALITY ASSURANCE)

- b. Pass wire leads of switch through access hole in pylon fairing door to terminal board 45TB3.



2-E2AAA-2-18  
25400-001-0

Figure 1. Removal and Installation of Ownship Heading Marker Switch on Moveable Fairing Door

**TABLE 1. TERMINAL BOARD 45TB3 CONNECTIONS**

Switch Lead Number	Aircraft Wire Number	46TB3 Terminal No.
-	APA172-374B20N	1
-	APA172-374A20N	1
2-20	-	1
3-20	APA172-222P20	2
1-20	APA172-16E20	3
4-20 (cap and stow)	-	-
5-20 (cap and stow)	-	-
6-20 (cap and stow)	-	-

c. Secure cover plate (with switch attached) to pylon fairing door with three screws and three washers.

d. Route the switch leads around outboard side of terminal board 45TB3 and cut leads to length for connection to terminals (on terminal board 45TB3) as listed in table 1. (QUALITY ASSURANCE)

e. Install terminal lugs on switch leads being used and secure leads to terminal board as listed in table 1. Cap unused leads. (QUALITY ASSURANCE)

f. Install roller guide on switch so that top of roller guide is in line with center (pin securing roller to switch shaft) of actuator roller. Continue to turn clockwise (not more than 1/2 turn) until the actuator roller is aligned with lockwire hole in cover plate (perpendicular to the direction of rotation of the rotodome when the pylon fairing doors are closed).

g. Install lockring to secure roller guide in position. Check that pin on lockring is engaged in slot of threaded switch barrel. (QUALITY ASSURANCE)

h. Operate hydraulic check and fill stand until pylon fairing doors are completely closed.

i. Check orientation of switch. Axis of Actuator roller shall be perpendicular to the direction of rotation of the rotodome. (QUALITY ASSURANCE)

j. Operate hydraulic check and fill stand until pylon fairing doors are open.

k. Secure two hex nuts using specified lockwire. (QUALITY ASSURANCE)

l. Install terminal board cover to pylon fairing door with two screws and two washers. (QUALITY ASSURANCE)

m. Operate hydraulic check and fill stand until pylon fairing doors are closed.

n. Disconnect hydraulic check and fill stand hydraulic lines from pylon fairing doors actuating cylinder, and connect aircraft hydraulic lines to cylinder.

o. Connect external hydraulic power to aircraft (NAVAIR 01-E2AAA-2-1, WP028 00).

**Note**

If access to rotodome elevation selector valve was not previously accomplished, open ROTODOME MANUAL OPERATION door on floor of crew compartment.

p. Using rotodome elevation selector valve, raise (press DOME RAISE button) and lower (press DOME LOWER button) rotodome a few times. (QUALITY ASSURANCE)

q. Check hydraulic lines on pylon fairing doors actuating cylinder for leaks. If no leaks are detected, secure access panel to pylon.

r. Close ROTODOME MANUAL OPERATION door in crew compartment.

s. Perform alignment of Ownship Heading Marker Switch (NAVAIR 01-E2AAA-2-17.3, WP031 02).

**7. REPLACEMENT OF SWITCH IF ROTODOME IS FIXED IN EXTENDED POSITION.**

**8. REMOVAL. (See figure 2.)**

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove 62 screws securing forward fairing to pylon and cover plate. (See view A).



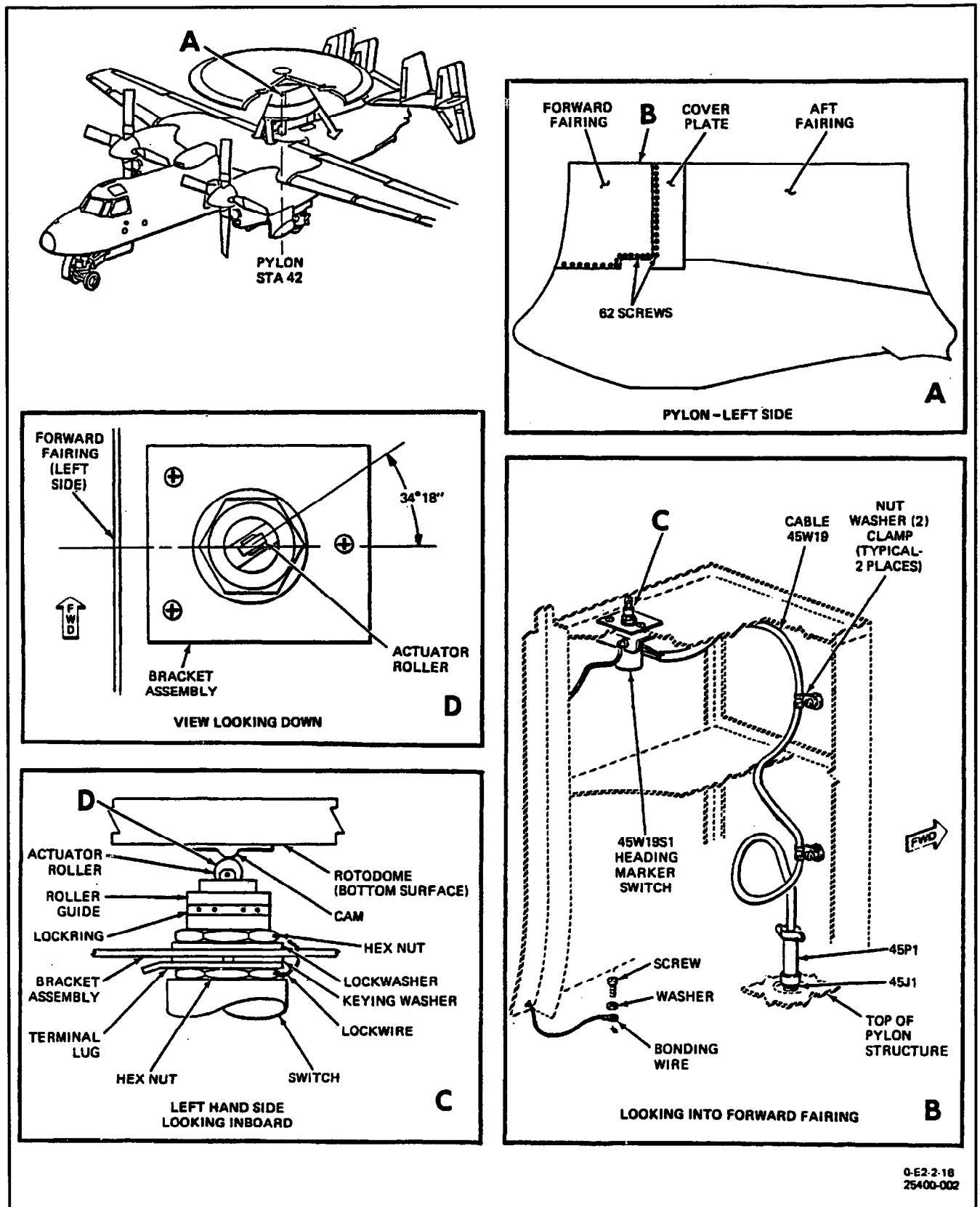


Figure 2. Removal and Installation of Ownship Heading Marker Switch on Fixed Fairing Door



Carefully move forward fairing away from cover plate to prevent damage to cable connector and bonding wire.

b. Carefully move forward fairing away from cover plate (approximately 6 inches) until bonding wire and cable connector 45P1 are accessible. (See view B).

c. Remove screw and washer securing bonding wire to pylon structure and disconnect plug 45P1 from receptacle 45J1. Remove forward fairing from pylon structure.

d. Remove two nuts and four washers securing two clamps to forward fairing. Remove two clamps from cable from 45W19.

e. Remove lockring from roller guide, and remove roller guide. (See view C.)

f. Remove lockwire securing two hex nuts. On top of forward fairing, remove hex nut and lockwasher securing switch to bracket assembly.

g. Remove switch (including keying washer, terminal lug, and hex nut) from forward fairing.

h. Remove keying washer, terminal lug (with shielding braid attached), and hex nut from switch barrel.

9. INSTALLATION. (See figure 2.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC20	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Install hex nut, terminal lug (with shielding braid attached), and keying washer on switch barrel as shown in view C. (QUALITY ASSURANCE)



Before tightening hex nuts, check that tab on keying washer is located in hole provided in bracket assembly.

b. Insert barrel of switch through bracket assembly and temporarily secure switch to bracket assembly with lockwasher and hex nut.

c. Orient actuator roller in direction of rotodome rotation as shown in view D. (QUALITY ASSURANCE)

d. Connect multimeter leads to cable 45W19 plug 45P1, pins B and C and set multimeter to indicate continuity.

e. (See view C.) Using two hex nuts, adjust switch actuator roller height so that switch is just activated electrically (multimeter indicates continuity) when actuator roller rides on flat of cam (on bottom of rotodome). At the same time, insure that actuator roller is oriented correctly as described in step c. (QUALITY ASSURANCE)

f. Tighten two hex nuts and then safety wire using specified lockwire. (QUALITY ASSURANCE)

g. Remove multimeter leads from plug 45P1.

h. Install roller guide on switch so that cutout in top of roller guide aligns with actuator roller. Insure that actuator roller can be depressed without binding. (QUALITY ASSURANCE)

i. Install lockring to secure roller guide in position. Check that pin on lockring is engaged in slot of threaded switch barrel. (QUALITY ASSURANCE)

j. Install two clamps on cable 45W19 as shown in view B. Attach clamps to studs on forward fairing with fairing with four washers and two nuts. (QUALITY ASSURANCE)

k. Carefully move forward fairing toward cover plate (view A).

l. (See view B.) Connect plug 45P1 to receptacle 45J1 and then attach bonding wire to pylon structure with screw and washer. (QUALITY ASSURANCE)

m. Attach forward fairing to pylon and cover plate with 62 screws.

n. Perform Alinement of Ownship Heading Marker Switch (NAVAIR 01-E2AAA-2-17.3, WP031 02).

ORGANIZATIONAL MAINTENANCE

ANTENNA SIMULATOR PANEL

EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, AND 159494 THROUGH 159502

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1 027 00
External Electrical Power Connections .....	
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3 031 00
Display System .....	
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1 003 00
Location of Electronic System Components .....	

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Record of Applicable Technical Directives

None

1. GENERAL.

2. The Antenna Simulator Panel (hereinafter referred to as the simulator) (45A6) is part of the Control Indicator Group AN/APA-172. The simulator is in the crew compartment, left side. Refer to WP003 00 (figure 4, item 26A) for location of simulator.

3. REMOVAL. (See figure 1.)

a. For access to cable connectors, remove blank panel directly above simulator.

b. Disengage two panel fasteners securing simulator to console.

c. Remove cable connector 45A6P1 from cable receptacle through access in console.

d. Slowly pull simulator out of console.

e. Cap connector and receptacle.



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

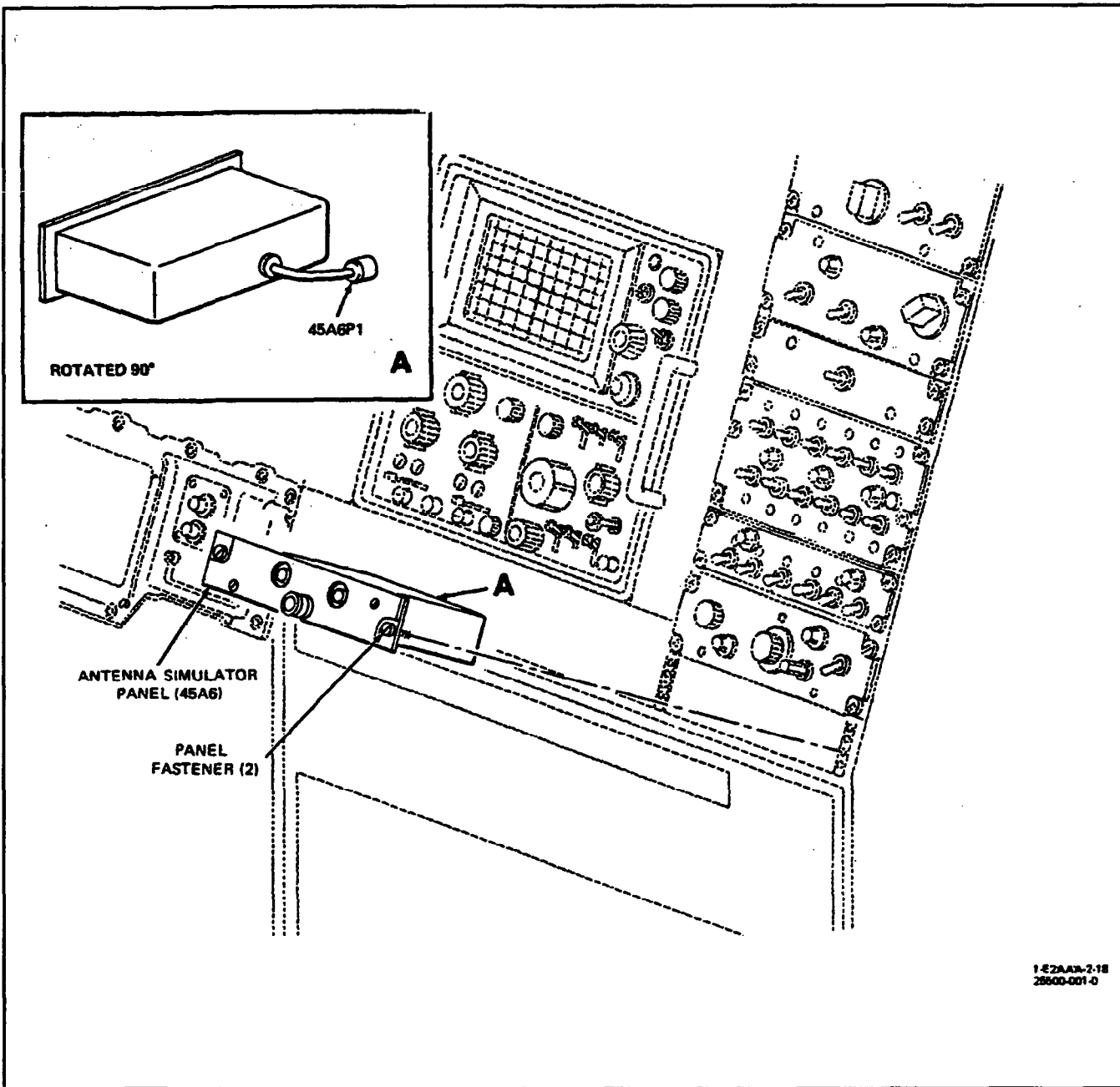


Figure 1. Removal and Installation of Antenna Simulator Panel

4. **INSTALLATION.** (See figure 1.)

- a. Remove cap from connector and receptacle.

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**CAUTION**

- Inspect connector and receptacle for damage and bent pins prior to installation.
- b. Slowly insert simulator into console.

c. Secure simulator to console by engaging two panel fasteners. (QUALITY ASSURANCE)

d. Connect simulator cable connector 45A6P1 to cable receptacle through access in console. (QUALITY ASSURANCE)

e. Install blank panel removed in step 3a.

f. Perform an operational check of Antenna Simulator Panel contained within the Display System test (NAVAIR 01-E2AAA-2-17.3, WP031 00).



**ORGANIZATIONAL MAINTENANCE**

**BEARING DISTANCE HEADING INDICATOR, ID-663C/U**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Carrier Aircraft Inertial Navigation System AN/ASN-92(V) .....	008 00
Attitude Heading Reference System AN/ASN-50 .....	009 00
Tacan Navigation Set AN/APN-52(V) .....	014 00
Direction Finder Set AN/ARA-50 .....	016 00
Radio Set AN/ARC-51A .....	019 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Bearing Distance Heading Indicator ID-663C/U (hereinafter referred to as the BDHI) (07A3M1, 95M16 and 96M12) is used in conjunction with aircraft subsystems. There are three BDHI's. One BDHI (95M16) is installed in the pilot's instrument panel, one BDHI (95M12) is installed in the co-pilot's instrument panel, and one BDHI (07A3M1) is installed in the crew compartment. Refer to WP003 00 (figure 1, items 3 and 10) for location of BDHI's installed in cockpit, and WP003 00 (figure 4, item 15) for BDHI installed in crew compartment.

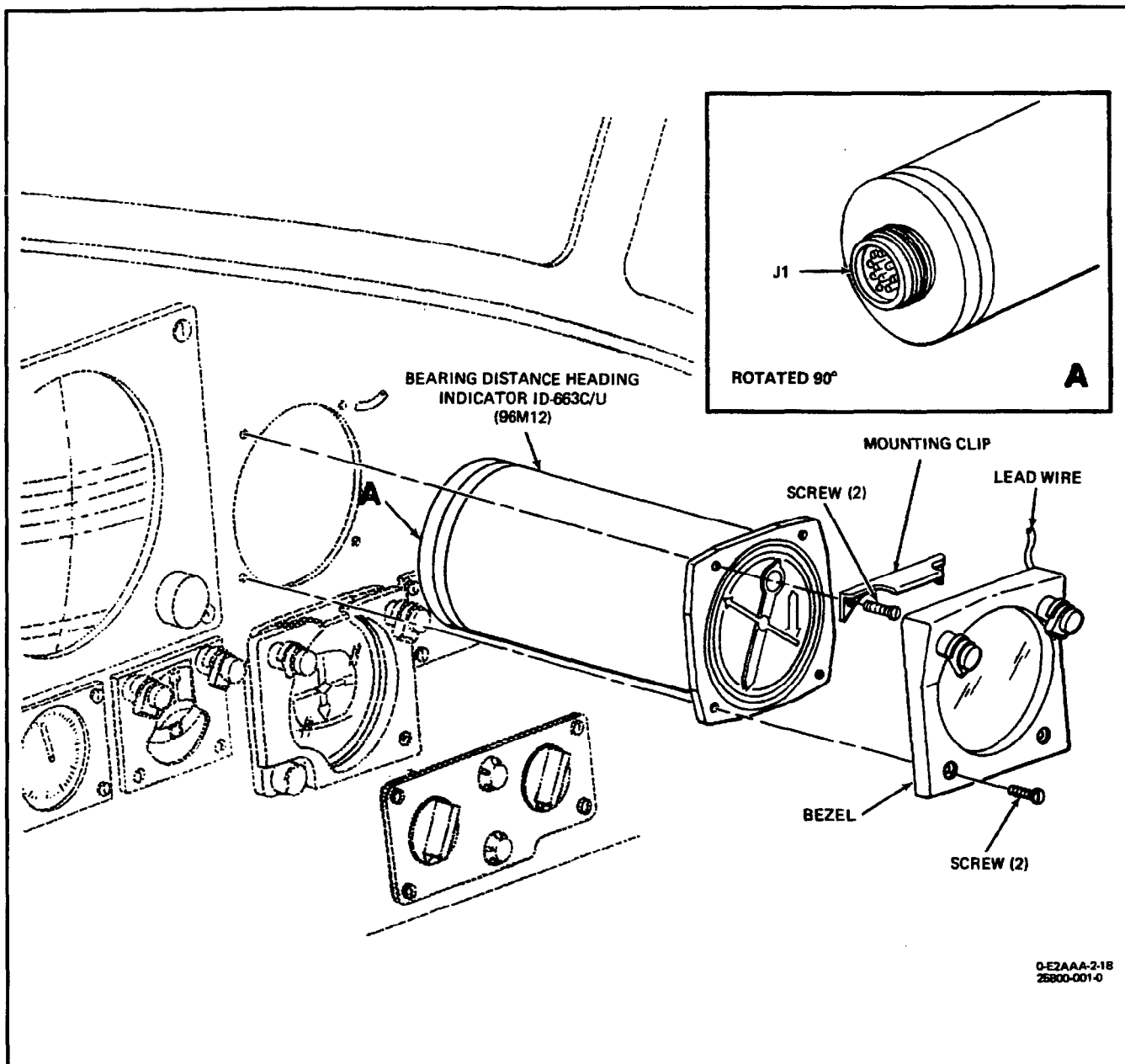
**3. REMOVAL.** (See figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following removal procedure applies to each BDHI.



0-E2AAA-2-18  
25800-001-0

Figure 1. Removal and Installation of Bearing Distance Heading Indicator ID-663C/U

a. Remove two bottom screws which secure bezel (and bottom of BDHI) to panel.



Carefully remove bezel to prevent damage to bezel lead wire.

b. Gently pull bezel down and away from mounting clip.

c. Remove two top screws securing mounting clip (and top of BDHI) to panel.

d. Slowly pull BDHI out of panel until cable connector is accessible.

e. Support BDHI and remove cable connector from receptacle J1.

f. Cap cable connector and BDHI receptacle.



4. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following installation procedure applies to each BDHI.

- a. Remove cap from cable connector and BDHI receptacle.



Inspect connector and receptacle for damage and bent pins prior to interconnection.

**Note**

Cable connector 07A3M1P1, 95M16P1 and 96M12P1 are connected to BDHI 07A3M1, 95M16 and 96M12, respectively.

- b. Support BDHI and connect appropriate cable connector to BDHI receptacle J1. (QUALITY ASSURANCE)

- c. Insert BDHI into panel.

- d. Place mounting clip over two top holes in BDHI and secure mounting clip (and top of BDHI to panel) with two screws. (QUALITY ASSURANCE)



Carefully install bezel to prevent damage to bezel lead wire.

- e. Gently insert top of bezel into mounting clip.
- f. Secure bezel (and bottom of BDHI to panel) with two screws. (QUALITY ASSURANCE)
- g. Check operation of the Bearing Distance Heading Indicator ID-663C/U by performing the appropriate procedures contained within the following subsystem tests:

- (1) Carrier Aircraft Inertial Navigation System AN/ASN-92(V) (NAVAIR 01-E2AAA-2-17.1, WP008 00).

- (2) Attitude Heading Reference System AN/ASN-50 (NAVAIR 01-E2AAA-2-17.1, WP009 00).

- (3) Tacan Navigation Set AN/APN-52(V) (NAVAIR 01-E2AAA-2-17.1, WP014 00).

- (4) Direction Finder Set AN/ARA-50 (NAVAIR 01-E2AAA-2-17.1, WP016 00).

- (5) Radio Set AN/ARC-51A (NAVAIR 01-E2AAA-2-17.1, WP019 00).



**ORGANIZATIONAL MAINTENANCE**

**COURSE INDICATOR ID-2314( )/ARN OR ID-387( )/ARN OR ID-351B( )/ARN**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Carrier Aircraft Inertial Navigation System AN/ASN-92 (V) .....	008 00
Attitude Heading Reference System AN/ASN-50 .....	009 00
TACAN Navigation Set AN/ARN-52 (V) .....	014 00
TACAN Navigation Set AN/ARN-118 (V) .....	014 01
Global Positioning System AN/ARN-151(V)2 .....	014 02
Automatic Carrier Landing System ASW-25B .....	015 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Improved Cockpit Lighting and Instruments (ECP 349)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.

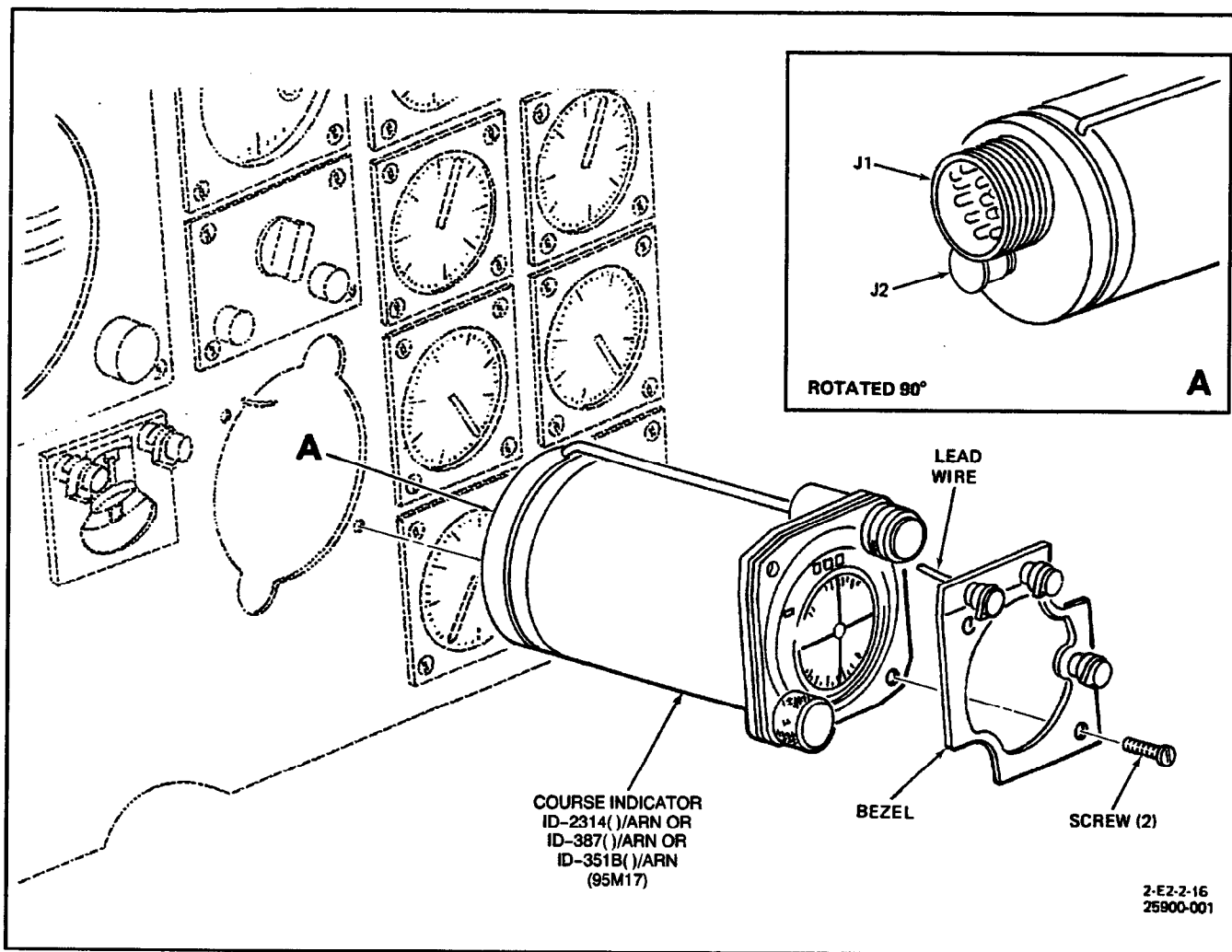
**1. GENERAL.**

2. The Course Indicator ID-2314( )/ARN, ID-387( )/ARN and ID-351B( )/ARN (hereinafter referred to as the indicator) (95M17) are interchangeable and are used in conjunction with aircraft sub-systems. The indicator is in the pilot's instrument panel. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 1, item 2), for location of indicator.

**3. REMOVAL.** (Figures 1 and 2.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



**Figure 1. Removal and Installation of Course Indicator ID-2314( )/ARN or ID-387( )/ARN or ID-351B( )/ARN (Aircraft Serial No. 158638 and Subsequent)**

**CAUTION**

Carefully remove bezel to prevent damage to bezel lead wire.

- a. Remove two screws that secure bezel and indicator to panel. Gently pull bezel down and away from indicator insuring that lead wire clears indicator.
- b. Slowly pull indicator out of panel until cable connector is accessible.
- c. Disconnect cable connector 95M17P1 from indicator receptacle J1.
- d. Cap cable connector and indicator receptacle J1.

**4. INSTALLATION.** (Figures 1 and 2.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

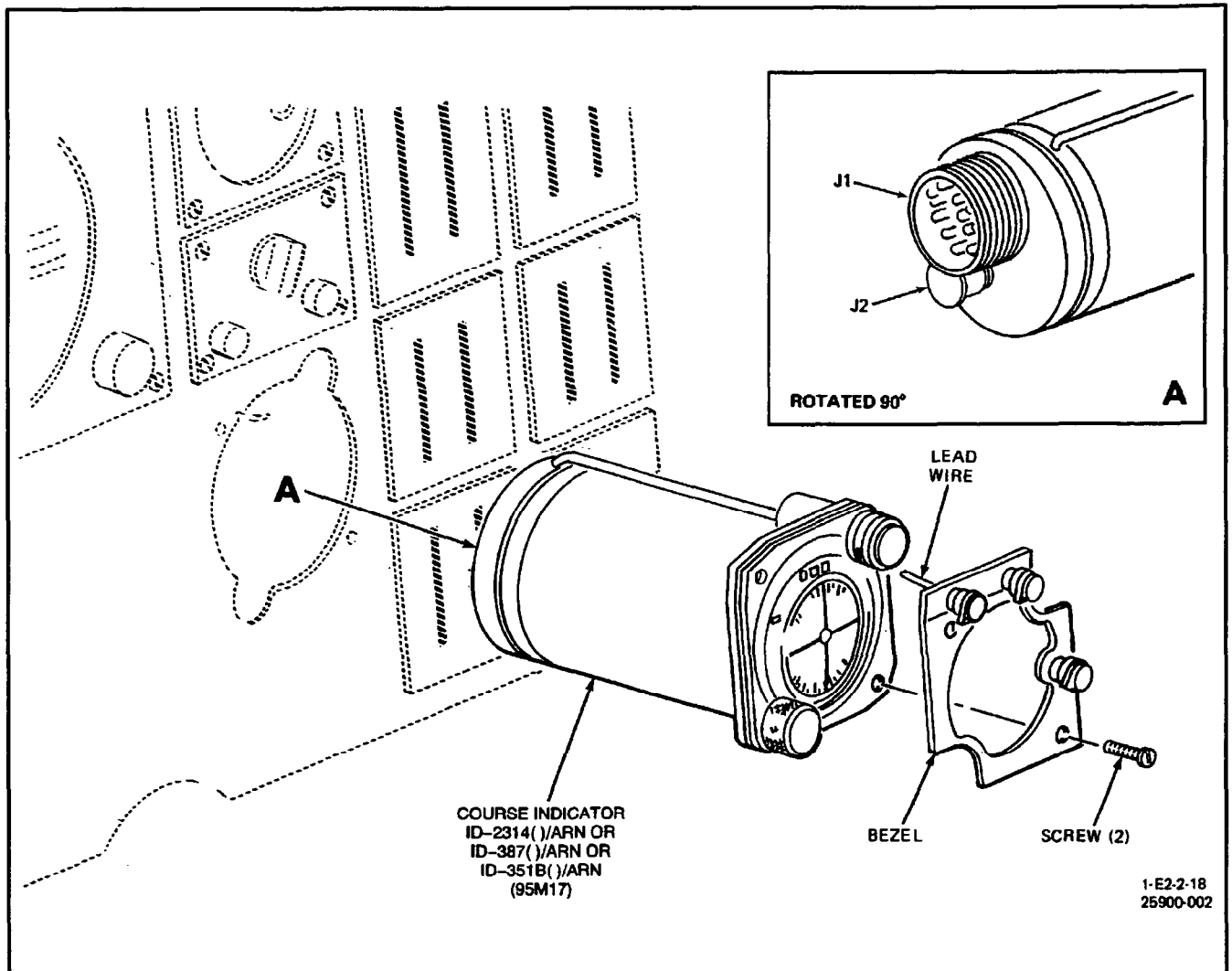
- a. Remove cap from cable connector and indicator receptacle J1.

**CAUTION**

Inspect connector and receptacles for damage and bent pins prior to interconnection.

**Note**

Receptacle J2 shall be capped.



**Figure 2. Removal and Installation of Course Indicator ID-2314( )/ARN or ID-387( )/ARN or ID-351B( )/ARN (Aircraft Serial No. 158638 and Subsequent)**

- b. Connect cable connector 95M17P1 to indicator receptacle J1.
- c. Insert indicator into panel.



Carefully install bezel to prevent damage to bezel lead wire.

- d. Place bezel over face of indicator and secure bezel and indicator (as one assembly) to panel with two screws.
- e. Check operation of the indicator by performing the appropriate procedures contained within the following subsystem tests:

- (1) Carrier Aircraft inertial Navigation System AN/ASN-92(V) (NAVAIR 01-E2AAA- 2-17.1, WP008 00).
- (2) Attitude Heading Reference System AN/ASN-50 (NAVAIR 01-E2AAA-2-17.1, WP009 00).
- (3) TACAN Navigation Set AN/ARN- 52(V) (NAVAIR 01-E2AAA-2-17.1, WP014 00) and TACAN Navigation Set AN/ARN-118(V) (NAVAIR 01-E2AAA-2-17.1, WP014 01).
- (4) Global Positioning System AN/ARN-151(V)2 (NAVAIR 01-E2AAA-2-17.1, WP014 02).
- (5) Automatic Carrier Landing System ASW-25B (NAVAIR 01-E2AAA-2-17.1, WP015 00).



ORGANIZATIONAL MAINTENANCE

COURSE INDICATOR ID-48/ARN

EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 164497

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Tacan Navigation Set AN/APN-52(V) .....	014 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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Record of Applicable Technical Directives

None

1. GENERAL.

2. The Course Indicator ID-48/ARN (hereinafter referred to as the indicator) (96M11) is used in conjunction with aircraft subsystems. The indicator is located in the co-pilot's instrument panel. Refer to WP003 00 (figure 1, item 11) for location of indicator.

3. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove bottom right screw that secures bezel (and bottom of indicator) to panel.



A lead wire is connected to bezel.

b. Gently pull bezel down and away from mounting clip.

c. Remove two top screws securing mounting clip (and top of indicator) to panel.

d. Slowly pull indicator out of panel until cable connector is accessible.

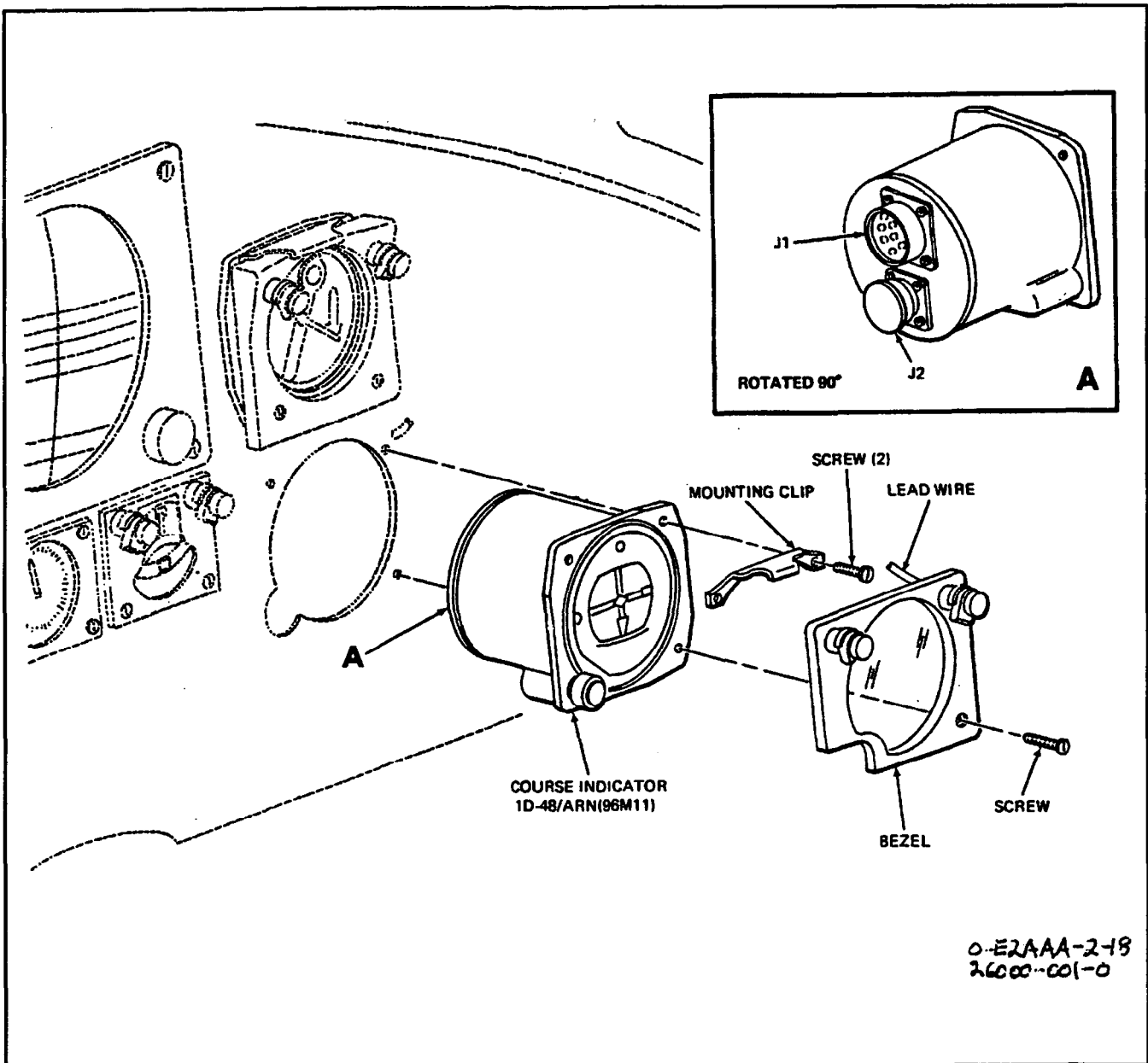


Figure 1. Removal and Installation of Course Indicator ID-48/ARN

- e. Support indicator and remove cable connector from receptacle J1.
- f. Cap connector and receptacle.

4. **INSTALLATION.** (See figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove cap from connector and receptacle.

**CAUTION**

Inspect connector and receptacle for damage and bent pins prior to interconnection.

**Note**

Receptacle J2 shall be capped.

- b. Support indicator and connect cable connector 96M11P1 to receptacle J1. (QUALITY ASSURANCE)



- c. Insert indicator into panel.
- d. Place mounting clip over two top holes in indicator and secure mounting clip (and top of indicator to panel) with two screws: (QUALITY ASSURANCE)



A lead wire is connected to the bezel.

- e. Gently insert top of bezel into mounting clip.
- f. Secure bezel (and bottom of indicator to panel) with a screw. (QUALITY ASSURANCE)
- g. Check operation of the Course Indicator ID-48/ARN by performing the appropriate procedures contained within the Tacan Navigation Set AN/ARN-52(V) test (NAVAIR 01-E2AAA-2-17.1, WP014 00).



ORGANIZATIONAL MAINTENANCE

COURSE INDICATOR ID-2314( )/ARN

EFFECTIVITY: AIRCRAFT SERIAL NO. 165293 AND SUBSEQUENT

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
TACAN Navigation Set AN/ARN-118(V) .....	014 01
Global Positioning System AN/ARN-151(V)2 .....	014 02
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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Record of Applicable Technical Directives

None

1. GENERAL.

2. The Course Indicator ID-2314( )/ARN (hereinafter referred to as the indicator) (96M11) is used in conjunction with aircraft subsystems. The indicator is located in the co-pilot's instrument panel. Refer to WP003 00 (figure 1, item 11) for location of indicator.

3. REMOVAL. (See figure 1.)

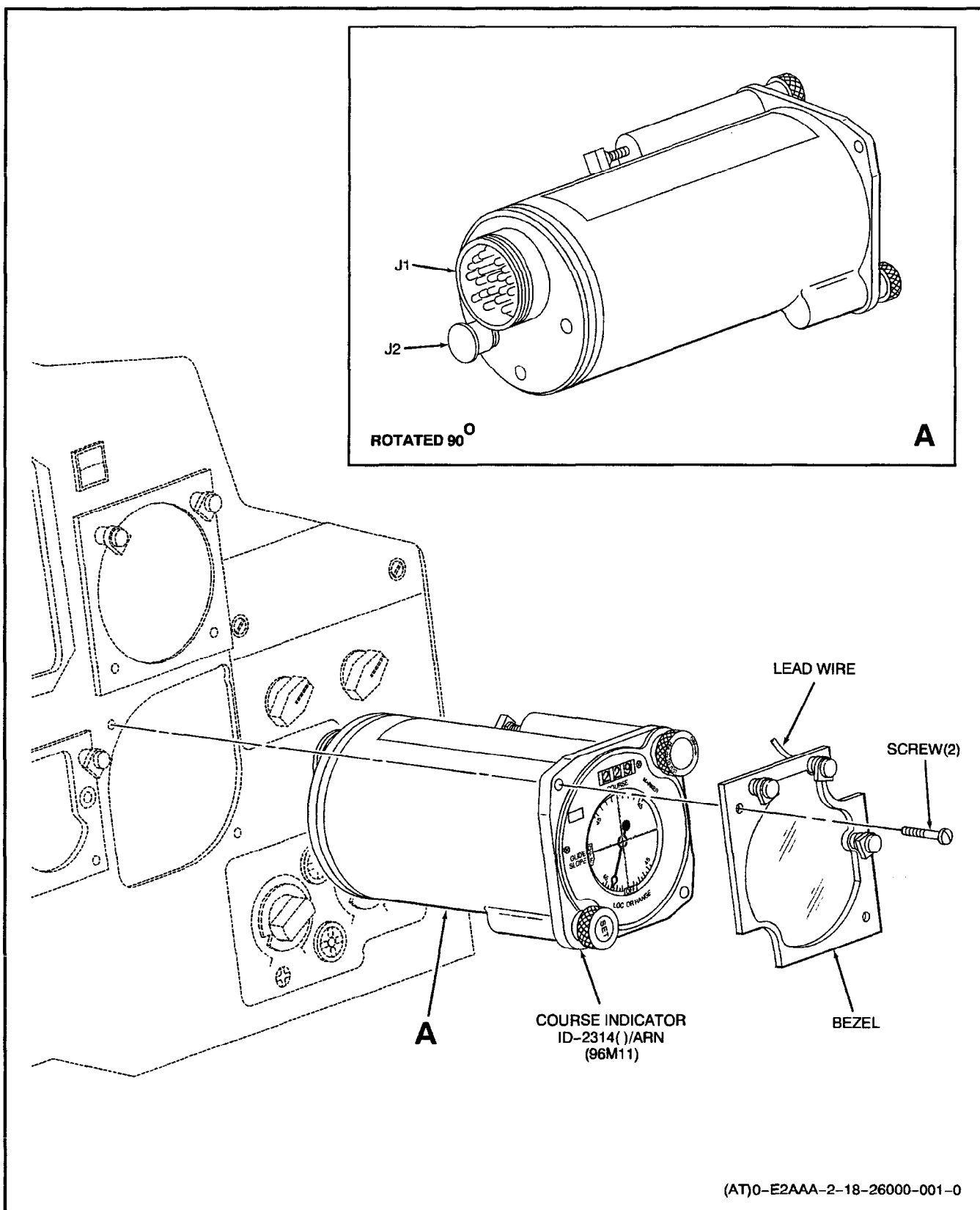


Carefully remove bezel to prevent damage to bezel lead wire.

- a. Remove two screws that secure bezel and indicator to panel. Gently pull bezel down and away from indicator insuring that lead wire clears indicator.
- b. Slowly pull indicator out of panel until cable connector is accessible.
- c. Disconnect cable connector 96M11P1 from indicator receptacle J1.
- d. Cap cable connector and indicator receptacle J1.



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



(AT)0-E2AAA-2-18-26000-001-0

Figure 1. Removal and Installation of Course Indicator ID-2314( )/ARN (Aircraft Serial No. 165293 and Subsequent)

4. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove cap from cable connector and indicator receptacle J1.



Inspect connector and receptacle for damage and bent pins prior to interconnection.

**Note**

Receptacle J2 shall be capped.

- b. Connect cable connector 96M11P1 to indicator receptacle J1.

- c. Insert indicator into panel.



Carefully install bezel to prevent damage to bezel lead wire.

- d. Place bezel over face of indicator and secure bezel and indicator (as one assembly) to panel with two screws. (QUALITY ASSURANCE)

- e. Check operation of the indicator by performing the appropriate procedures contained within the following subsystem tests: (QUALITY ASSURANCE)

(1) TACAN Navigation Set AN/ARN-118(V)  
(NAVAIR 01-E2AAA-2-17.1, WP014 01).

(2) Global Positioning System AN/  
ARN-151(V)2 (NAVAIR 01-E2AAA-2-17.1, WP014  
02).



**ORGANIZATIONAL MAINTENANCE**

**PROCESSOR POWER CONTROL PANEL ASSEMBLY**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Computer Programmer Group OL-77/ASQ .....	006 00
Inflight Performance Test Set-Monitor AN/ASM-440 .....	007 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Radar Detector-Processor Group OL-93/AP .....	025 00
IFF Interrogator RT-988/A .....	026 00
Detector-Processor Group OL-76/AP .....	028 00
Countermeasures Receiving Set AN/ALR-59 .....	029 00
Control Indicator Group AN/APA-172 .....	031 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

None

**1. GENERAL.**

2. The Processor Power Control Panel Assembly (hereinafter referred to as the control panel) (44A3) is used in conjunction with many subsystems. The control panel is in the crew compartment, left side. Refer to WP003 00 (figure 4, item 18) for location of control panel.

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disengage four fasteners securing control panel to console.
- b. Slowly pull control panel forward until cable connector is accessible.

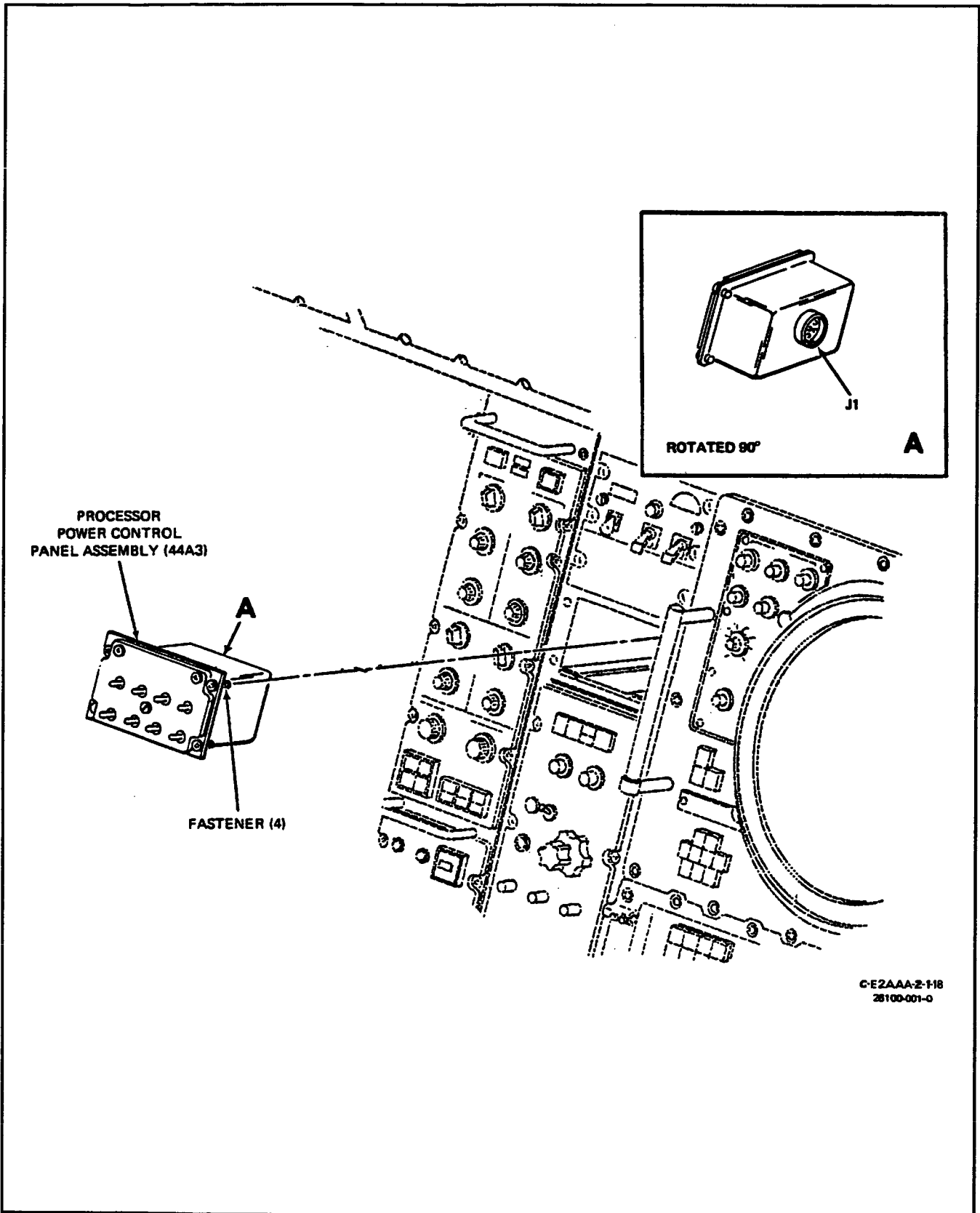


Figure 1. Removal and Installation of Processor Power Control Panel Assembly



c. Remove cable connector from control panel receptacle J1.

d. Cap connector and receptacle.

**4. INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove cap from connector and receptacle.



Inspect connector and receptacle for damage and bent pins prior to interconnection.

b. Connect cable connector 44A3P1 to control panel receptacle J1. (QUALITY ASSURANCE)

c. Insert control panel into console.

d. Engage four fasteners to secure control panel to console. (QUALITY ASSURANCE)

e. Check operation of Processor Power Control Panel Assembly by performing the appropriate procedures contained within subsystem tests (steps (1) through (7)) and then checking operation of DVOM/SCOPE switch on front panel (step (8)):

(1) Computer Programmer Group OL-77/ASQ (NAVAIR 01-E2AAA-2-17.1, WP006 00).

(2) Inflight Performance Test Set-Monitor AN/ASM-440 (NAVAIR 01-E2AAA-2-17.1, WP007 00).

(3) Radar Detector-Processor Group OL-93/AP (NAVAIR 01-E2AAA-2-17.3, WP025 00).

(4) IFF Interrogator RT-988/A (NAVAIR 01-E2AAA-2-17.3, WP026 00).

(5) Detector-Processor Group OL-76/AP (NAVAIR-01-E2AAA-2-17.3, WP028 00).

(6) Countermeasures Receiving Set AN/ALR-59 (NAVAIR 01-E2AAA-2-17.3, WP029 00).

(7) Control Indicator Group AN/ APA-172 (NAVAIR 01-E2AAA-2-17.3, WP031 00).

(8) Set DVOM/SCOPE switch to ON and check that Digital Multimeter ME-252/ASM-33A and Oscilloscope OS-255/ASM-440 (in crew compartment) are operational.



**ORGANIZATIONAL MAINTENANCE**

**NAVIGATION CONTROL PANEL ASSEMBLY**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Organizational Illustrated Parts Breakdown .....	NAVAIR 01-E2AAA-4
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Carrier Aircraft Inertial Navigation System AN/ASN-92(V) .....	008 00
Attitude Heading Reference System AN/ASN-50 .....	009 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**1. GENERAL.**

2. The Navigation Control Panel Assembly (hereinafter referred to as the control panel) (37A9 and 37A10) is used in conjunction with aircraft subsystems. There are two control panels located in the cockpit: one in the pilot's console (37AA9), and one in the co-pilot's console (37A10). Refer to WP003 00 (figure 1, items 25 and 13) for location of control panels.

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following removal procedure applies to each control panel.

- a. Disengage four fasteners securing control panel to console.
- b. Pull control panel out of console until cable connector is accessible.
- c. Support control panel and disconnect cable connector from control panel receptacle J1.
- d. Cap connector and receptacle.

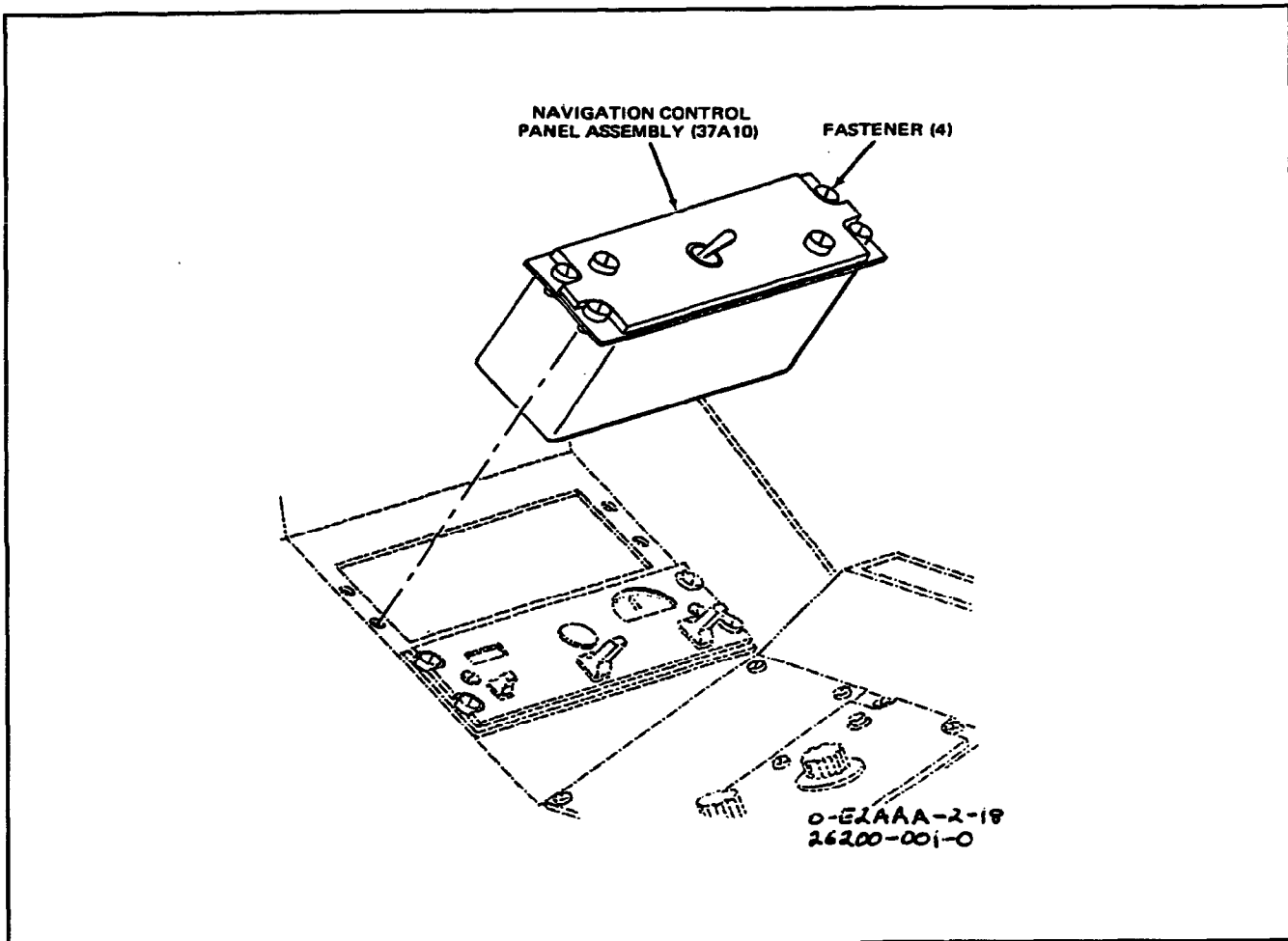
**4. INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following installation procedure applies to each control panel.



**Figure 1. Removal and Installation of Navigation Control Panel Assembly**

a. Remove cap from connector and receptacle.



Inspect connector and receptacle for damage and bent pins prior to interconnection.

**Note**

Cable connectors 37A9P1 and 37A10P1 are connected to control panels 37A9 and 37A10, respectively.

b. Support control panel and connect appropriate cable connector to control panel receptacle J1. (QUALITY ASSURANCE)

c. Insert control panel into console and engage four fasteners to secure control panel to console. (QUALITY ASSURANCE)

d. Check operation of the Navigation Control Panel Assembly by performing the appropriate procedures contained within the following subsystems tests:

(1) Carrier Aircraft Inertial Navigation System AN/ASN-92(V) (NAVAIR 01-E2AAA-2-17.1, WP008 00).

(2) Altitude Heading Reference System AN/AS-50 (NAVAIR 01-E2AAA-2-17.1, WP009 00).

**5. REPAIR.**

**Materials Required**

Specification or Part Number	Nomenclature
Federal Specification TT-1-735, Grade A	Isopropyl Alcohol

6. The following general instructions are provided for gaining access to and for repair (and, if necessary,

replacement) of components mounted in the control panel:

**WARNING**

Insure that external power is disconnected from the aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. To gain access to the components mounted in the control panel, disengage two fasteners securing cover assembly to control panel and remove cover assembly.
- b. For location, identification and mounting of components in the control panel, refer to NAVAIR 01-E2AAA-4.
- c. Use standard shop procedures when repairing/replacing components mounted in the control panel.

**WARNING**

Isopropyl alcohol, TT-I-735, is toxic and flammable. Protection: chemical splash-

proof goggles and forced ventilation (or respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

**CAUTION**

Electrical components shall not be immersed in isopropyl alcohol, but shall be wiped clean.

- d. If necessary, clean components using a clean, lint-free cloth moistened with isopropyl alcohol.
- e. Disassemble the control panel only enough to make required repair/replacement, taking care to note the specific order in which components are removed with respect to their details. It is recommended that wiring be tagged to facilitate installation. If necessary, reference can be made to wiring diagram associated with subsystem (refer to paragraph 4d).
- f. After a component is repaired/replaced, perform an operational check of subsystem associated with the component (refer to paragraph 4d).



**ORGANIZATIONAL MAINTENANCE**

**RECEIVER-CONVERTER R-2239/APS-138**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161345, 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-138 .....	034 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	TRAC "A" Prime APS-138 (ECP 306)	6/1/82	Effectivity: Aircraft Serial No. 161346 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP 329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Receiver-Converter R-2239/APS-138 (hereinafter referred to as the receiver) (39A1) is part of the Radar Set AN/APS-138. The receiver is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 50A) for location of receiver. Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
5-150 inch-pounds	Torque Wrench

**3. REMOVAL.** (See figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Move protective cover away from receiver and secure (using suitable method).
- b. Remove 14 cable plugs from receiver receptacles 1J1 through 1J4 and 1J6 through 1J15.
- c. Loosen four locknuts and disengage two swing bolts securing receiver to electrical equipment rack.

**CAUTION**

Carefully remove receiver to prevent damage to electrical equipment rack plenum gasket.

- d. Slowly pull receiver forward until two guide pins are disengaged. Lift front of receiver and slide forward until rear handle is accessible. Using both handles, lift receiver from electrical rack insuring that receiver does not touch plenum gasket.

- e. Cap all plugs and receptacles.

4. **INSTALLATION.** (See figure 1.)**WARNING**

Insure that electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from plugs and receptacles.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins prior to installation.

Carefully install receiver to prevent damage to electrical equipment rack plenum gasket.

- b. Using both handles, carefully place receiver in electrical equipment rack. Lift front of receiver and push backward (insuring that receiver does not touch plenum gasket) until two guide pins engage receiver.
- c. Secure receiver to electrical equipment rack by engaging two swing bolts. Using torque wrench, torque two inner locknuts to  $50 \pm 5$  inch-pounds. Secure inner locknuts with outer locknuts. (QUALITY ASSURANCE)
- d. Connect cable plugs 1P1 through 1P4 and 1P6 through 1P15 to receiver receptacles 1J1 through 1J4 and 1J6 through 1J15, respectively. Insure that receiver receptacles 1J5 and 1J16 are capped.
- e. Allow protective cover to return to closed position.
- f. Perform operational check of Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00).



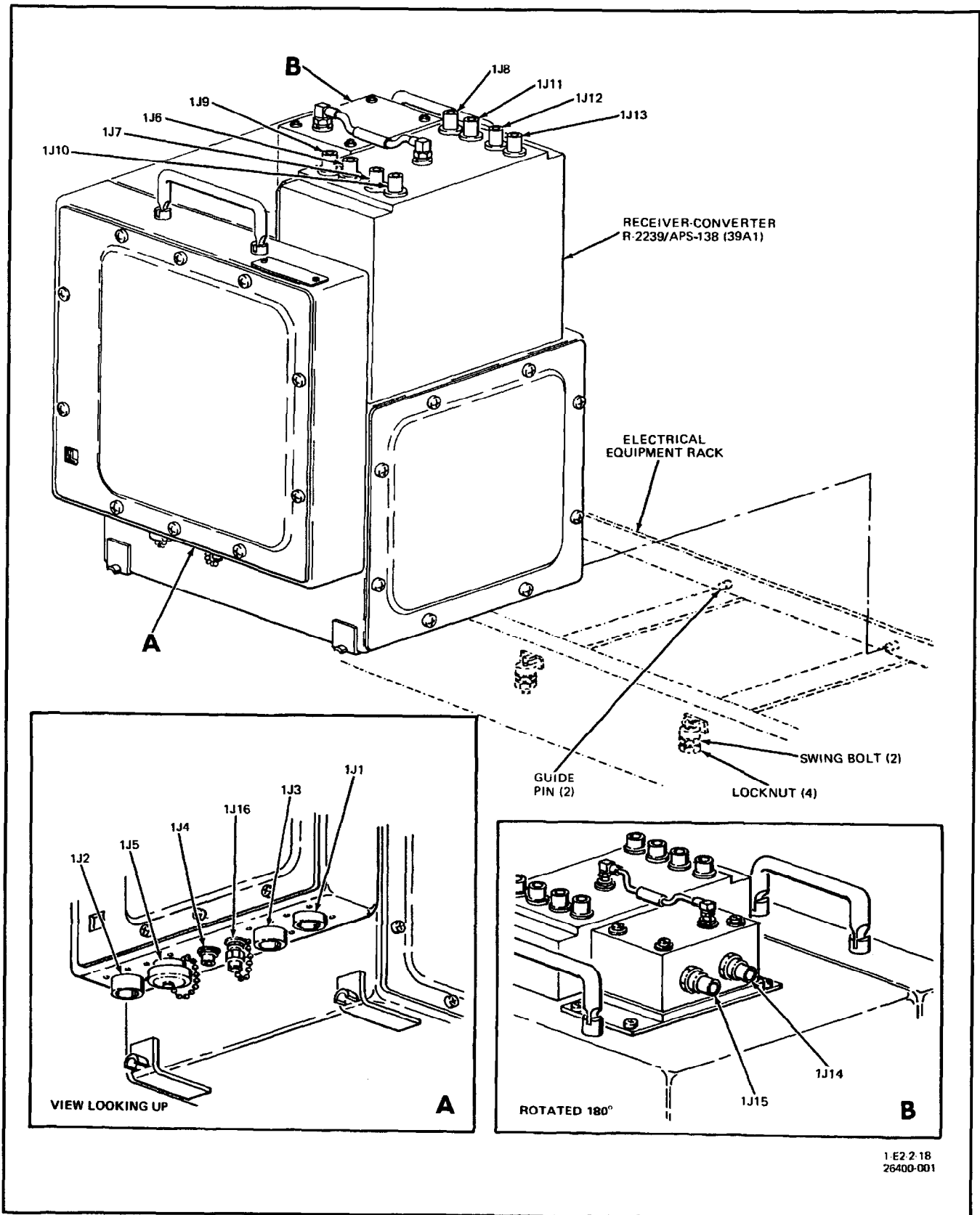


Figure 1. Removal and Installation of Receiver-Converter R-2239/APS-138



**ORGANIZATIONAL MAINTENANCE**

**RECEIVER-CONVERTER R-2015/APS-125**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, AND 161341 THROUGH 161344**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 .....	034 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	10/20/80	TRAC "A" Prime (ECP-GR-E-2C-306)	6/1/82	Effectivity: Aircraft preceding aircraft serial no. 161345 and those aircraft incorporating ECP-GR-E-2C-306.

1. **GENERAL.**

2. The Receiver-Converter R-2015/APS-125 (hereinafter referred to as the receiver) (39A1) is part of the Radar Set AN/APS-125. The receiver is in the equipment compartment, right side. Refer to WP003 00 (figure 3, item 50) for location of receiver. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
FSN 9Q5120-542-4489	Torque Wrench (5-150 inch-pounds)

3. **REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Move protective cover away from receiver and secure (using suitable method).
- b. Remove ten cable plugs from receiver receptacles 1J1 through 1J4 and 1J6 through 1J11.
- c. Loosen four locknuts and disengage two swing bolts securing receiver to electrical equipment rack.



Carefully remove receiver to prevent damage to electrical equipment rack plenum gasket.

- d. Slowly pull receiver forward until two guide pins are disengaged. Lift front of receiver and slide forward until rear handle is accessible. Using both handles, lift receiver from electrical equipment rack insuring that receiver does not touch plenum gasket.

- e. Cap all plugs and receptacles.

4. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from plugs and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

Carefully install receiver to prevent damage to electrical equipment rack plenum gasket.

- b. Using both handles, carefully place receiver in electrical equipment rack. Lift front of receiver and push backward (ensuring that receiver does not touch plenum gasket) until two guide pins engage receiver. (QUALITY ASSURANCE)

- c. Secure receiver to electrical equipment rack by engaging two swing bolts and torquing two inner locknuts to 50±5 inch-pounds. Secure inner locknuts with outer locknuts. (QUALITY ASSURANCE)

- d. Connect cable plugs 39A1P1 through 39A1P4 and 39A1P6 through 39A1P11 to receiver receptacles 1J1 through 1J4 and 1J6 to 1J11, respectively. Insure that receiver receptacle 1J12 has special cap 1AT1 installed and that receptacle 1J5 is capped. (QUALITY ASSURANCE)

- e. Allow protective cover to return to closed position.

- f. Perform operational check of Radar Set AN/APS-125 (NAVAIR 01-E2AAA-2-17.4, WP034 00).

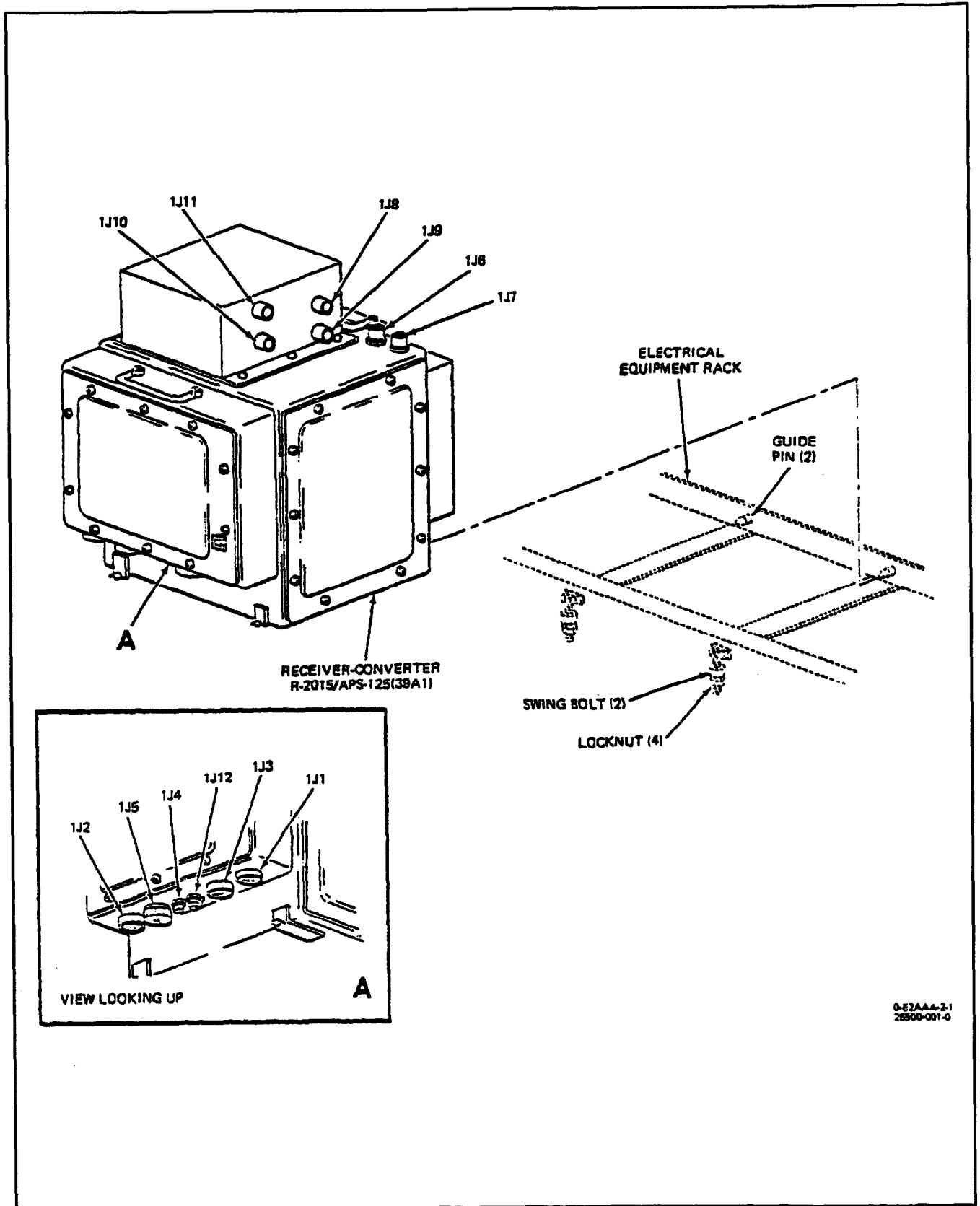


Figure 1. Removal and Installation of Receiver-Converter R-2015/APS-125



**ORGANIZATIONAL MAINTENANCE**

**CONTROL VOLTAGE SIMULATOR SM-726/APS-125 AND SM-842/APS-145**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028, 163029 THROUGH 164107, AND 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1 027 00
External Electrical Power Connections .....	
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4 034 00
Radar Set AN/APS-125 and AN/APS-138 .....	
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6 035 00
Radar Set AN/APS-139 .....	
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.7 036 00
Radar Set AN/APS-145 .....	
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1 003 00
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	TRAC "A" Prime APS-138 (ECP 306)	6/1/82	Effectivity: Aircraft Serial No. 161346 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP 329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. Removal and installation procedures described in this work package (WP) apply to each of the following units:

a. The Control Voltage Simulator SM-726/APS-125 (hereinafter referred to as the simulator) (39A5) is part of Radar Set AN/APS-125, Radar Set AN/APS-138, and Radar Set AN/APS-139 and used in aircraft preceding aircraft serial number 164108. The simulator is in the equipment compartment right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 52) for location of simulator. Support equipment required for maintenance is listed below.

b. The Control Voltage Simulator SM-842/APS-145 (hereinafter referred to as the simulator) (39A5) is part of Radar Set AN/APS-145 and used in aircraft serial number 164108 and subsequent. The simulator is in the equipment compartment right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 58A) for location of the simulator. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
5 to 150 inch-pounds	Torque Wrench

**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Move protective cover away from simulator and secure (using suitable method).
- b. Remove four cable plugs from simulator receptacles 5J1 through 5J4.
- c. Loosen four locknuts and disengage two swing bolts securing simulator to electrical equipment rack.



Carefully remove simulator to prevent damage to electrical equipment rack plenum gasket.

d. Slowly pull simulator forward until two guide pins are disengaged. Lift front of simulator and slide forward until handle on back of simulator is accessible. Using both handles, lift simulator and remove from electrical equipment rack, ensuring that simulator down to touch plenum gasket.

e. Cap all plugs, receptacles and holes in electrical equipment rack air vent.

**4. INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from plugs, receptacles and holes in electrical equipment rack air vent.



Inspect connectors and receptacles for damage and bent pins prior to installation.

Carefully install simulator to prevent damage to electrical equipment rack plenum gasket.

b. Using both handles, carefully place simulator in electrical equipment rack. Lift front of simulator and push backward (ensuring that simulator does not touch plenum gasket) until two guide pins engage simulator.

c. Secure simulator to electrical equipment rack by engaging two swing bolts and, using torque wrench, torque two inner locknuts to 50±5 inch-pounds. Secure inner locknuts with outer locknuts. (QUALITY ASSURANCE)

d. Connect cable plugs 39A5P1 through 39A5P4 to receptacles 5J1 through 5J4, respectively, and ensure that receptacle 5J5 is capped.

e. Allow protective cover to return to closed position.

f. Perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00) or Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00), or Radar Set AN/APS-145 (NAVAIR 01-E2AAA-2-17.7, WP036 00).



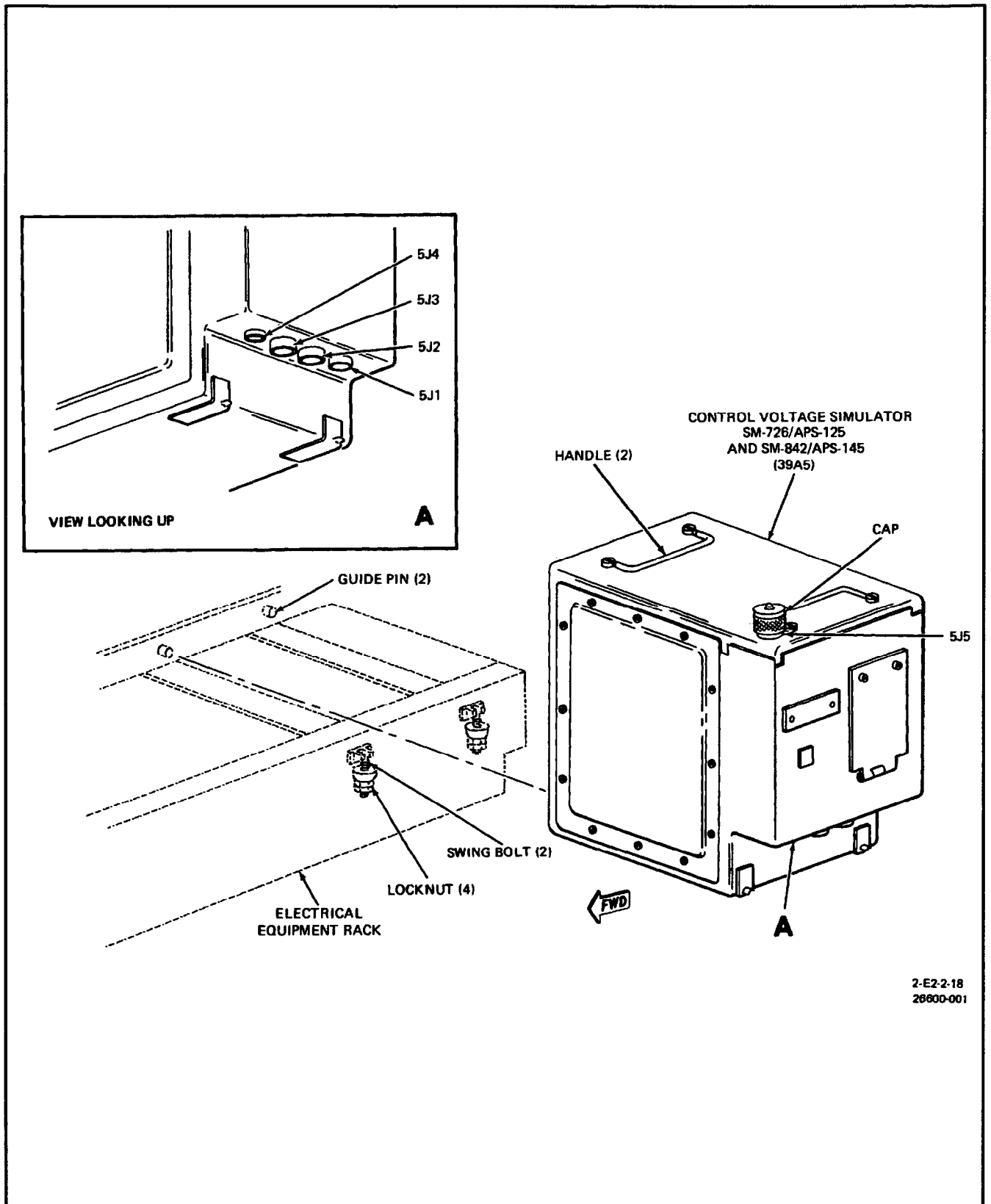


Figure 1. Removal and Installation of Control Voltage Simulator SM-726/APS-125 and SM-842/APS-145



**ORGANIZATIONAL MAINTENANCE**

**PULSE GENERATOR O-1720/APS-125, O-1827/APS-139, AND O-1835/APS-145**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028, 163029 THROUGH 164107, AND 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6
Radar Set AN/APS-139 .....	035 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.7
Radar Set AN/APS-145 .....	036 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	TRAC "A" Prime APS-138 (ECP 306)	6/1/82	Effectivity: Aircraft Serial No. 161346 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP 329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

1. **GENERAL.**

2. Removal and installation procedures described in this work package (WP) apply to each of the following units:

a. The Pulse Generator O-1720/APS-125 (hereinafter referred to as the generator) (39A9) is part of Radar Set AN/APS-125 and Radar Set AN/APS-138 and used in aircraft preceding aircraft serial number 163029. The generator is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 49) for location of generator.

b. The Pulse Generator O-1827/APS-139 (hereinafter referred to as the generator) (39A9) is part of Radar Set AN/APS-139 and used in aircraft serial numbers 163029 through 164107. The generator is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 56) for location of generator.

c. The Pulse Generator O-1835/APS-145 (hereinafter referred to as the generator) (39A9) is part of Radar Set AN/APS-145 and used in aircraft serial number 164108 and subsequent. The generator is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 56A) for location of generator.

3. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
5-150 inch-pounds	Torque Wrench

4. **REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Move protective cover away from generator and secure (using suitable method).

b. Remove 13 cable connectors from generator receptacles 9J1 through 9J4 and 9J6 through 9J14.

c. Loosen four locknuts and then disengage two swing bolts securing generator to electrical equipment rack.



Carefully remove generator to prevent damage to electrical equipment rack plenum gasket.

d. Slowly pull generator forward until two guide pins are disengaged. Lift front of generator and slide forward until handle at rear of generator is accessible. Using both handles, lift generator and remove from electrical equipment rack, ensuring that generator does not touch plenum gasket.

e. Cap all connectors, receptacles and holes in electrical equipment rack air vent.

5. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors, receptacles and holes in electrical equipment rack air vent.

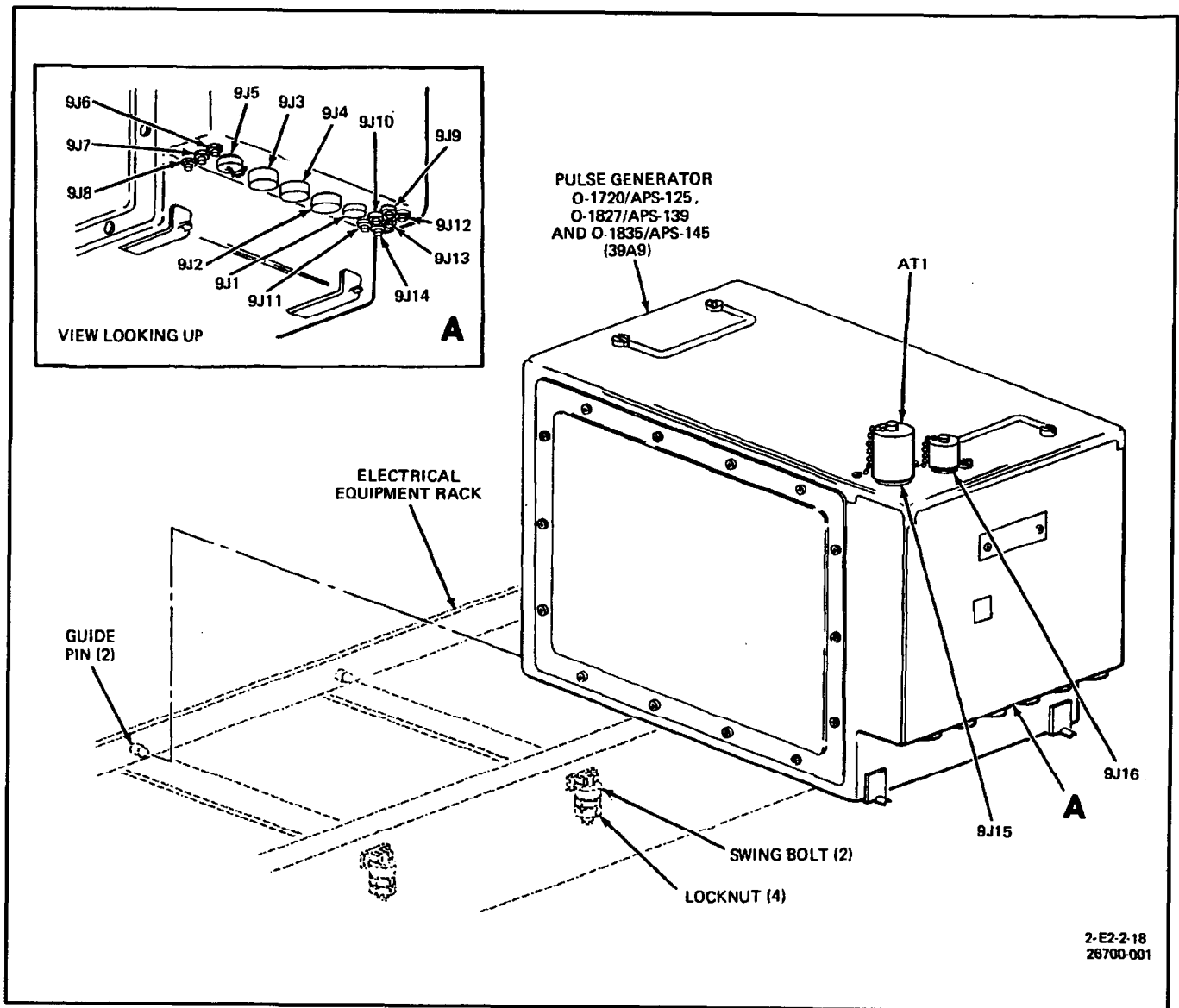


Inspect connectors and receptacles for damage and bent pins prior to installation.

Carefully install generator to prevent damage to electrical equipment rack plenum gasket.

b. Using both handles, carefully place generator in electrical equipment rack. Lift front of generator and push backward until two guide pins engage generator, ensuring that generator does not touch plenum gasket.

c. Secure generator to electrical equipment rack by engaging two swing bolts. Using torque wrench, torque inner locknuts to 50±5 inch-pounds. Secure inner locknuts with outer locknuts. (QUALITY ASSURANCE



**Figure 1. Removal and Installation of Pulse Generator O-1720/APS-125, O-1827/APS-139, and O-1835/APS-145**

d. Connect cable connectors 39A9P1 through 39A9P4 and 39A9P6 through 39A9P14 to generator receptacles 9J1 through 9J4 and 9J6 through 9J14, respectively.

e. Check that receptacles 9J5 and 9J16 are capped, and that special cap AT1 is installed on receptacle 9J15.

f. Allow protective cover to return to its closed position.

g. Perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00), Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00), or Radar Set AN/APS-145 (NAVAIR 01-E2AAA-2-17.7, WP036 00).



**ORGANIZATIONAL MAINTENANCE**

**RADAR SET CONTROL C-10024/APS-125, C-11475/APS-139, AND C-11621/APS-145**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028, 163029 THROUGH 164107, AND 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1 027 00
External Electrical Power Connections .....	
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4 034 00
Radar Set AN/APS-125 and AN/APS-138 .....	
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6 035 00
Radar Set AN/APS-139 .....	
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.7 036 00
Radar Set AN/APS-145 .....	
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1 003 00
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	TRAC "A" Prime (ECP-GR-E-2C-306)	6/1/82	Effectivity: Aircraft Serial No. 161345 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP 329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

1. GENERAL.

2. Removal and installation procedures described in this work package (WP) apply to each of the following units:

a. The Radar Set Control C-10024/APS-125 and C-11475/APS-139 (hereinafter referred to as the control) (39A11) is part of Radar Set AN/APS-125, Radar Set AN/APS-138, and Radar Set AN/APS-139 and used in aircraft preceding aircraft serial number 164108. The control is in the crew compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, item 34A) for location of control.

b. The Radar Set Control C-11621/APS-145 (hereinafter referred to as the control) (39A11) is part of the Radar Set AN/APS-145 and used in aircraft serial number 164108 and subsequent. The control is in the crew compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, item 34B) for location of the control.

3. REMOVAL. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disengage six fasteners that secure control to console.

b. Slowly pull control out of console until cable connectors are accessible.

c. Remove five cable connectors from control receptacles 11J1 through 11J5.

d. Cap all connectors and receptacles.

4. INSTALLATION. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to interconnection.

b. Connect cable connectors 39A11P1 through 39A11P5 to control receptacles 11J1 through 11J5, respectively.

c. Insert control into console and secure by engaging six fasteners.

d. Perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00), Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00), or Radar Set AN/APS-145 (NAVAIR 01-E2AAA-2-17.7, WP036 00).



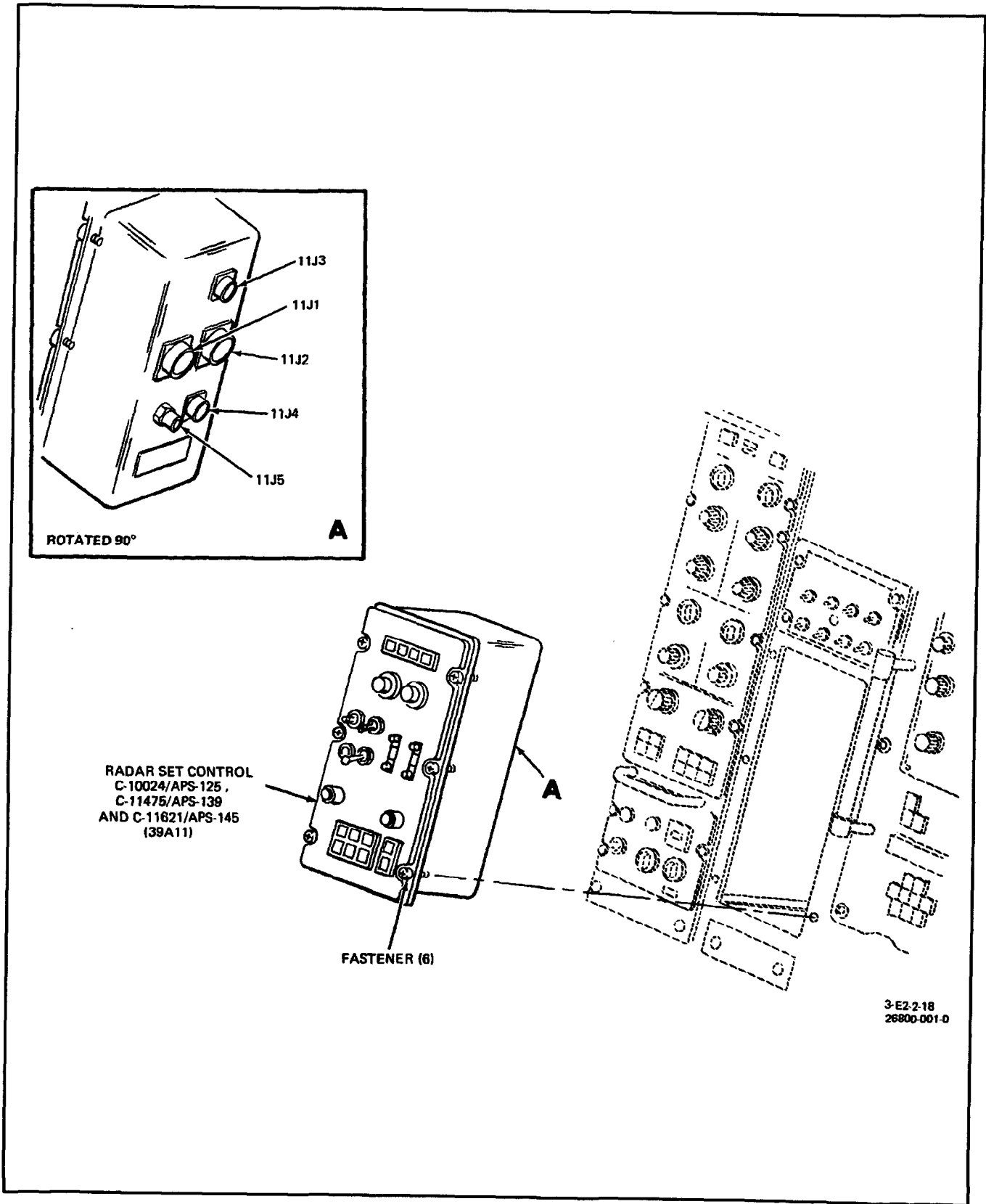


Figure 1. Removal and Installation of Radar Set Control C-10024/APS-125, C-11475/APS-139, and C-11621/APS-145



**ORGANIZATIONAL MAINTENANCE**

**PERFORMANCE INDICATOR ID-2067/APS-125, ID-2307/APS-138, ID-2355/APS-139, AND ID-2383/APS-145**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341, 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028, 163029 THROUGH 164107, AND 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6
Radar Set AN/APS-139 .....	035 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.7
Radar Set AN/APS-145 .....	036 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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—	—	TRAC "A" Prime (ECP-GR-E-2C-306)	6/1/82	Effectivity: Aircraft Serial No. 161345 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP 329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. Removal and installation procedures described in this work package (WP) apply to each of the following units:

a. Performance Indicator ID-2067/APS-125 (hereinafter referred to as the performance indicator) (39A12), is part of Radar Set AN/APS-125 and used in aircraft preceding aircraft serial number 161345. The performance indicator is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 51) for location of the performance indicator.

b. Performance Indicator ID-2307/APS-138 (hereinafter referred to as the performance indicator) (39A12), is part of Radar Set AN/APS-138 and used in aircraft serial numbers 161345 through 163029. The performance indicator is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 51A) for location of the performance indicator.

c. Performance Indicator ID-2355/APS-139 (hereinafter referred to as the performance indicator) (39A12), is part of Radar Set AN/APS-139 and used in aircraft serial numbers 163029 through 164107. The performance indicator is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 51B) for location of the performance indicator.

d. Performance Indicator ID-2383/APS-145 (hereinafter referred to as the performance indicator) (39A12), is part of Radar Set AN/APS-145 and used in aircraft serial number 164108 and subsequent. The performance indicator is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 51C) for location of the performance indicator.

**3. REMOVAL. (Figure 1.)**



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disengage 10 panel fasteners that secure performance indicator to frame.

b. Slowly pull performance indicator away from frame until cable connectors are accessible.

c. Disconnect six cable connectors from receptacles 12J1 through 12J4, 12J7 and 12J9.

d. Remove performance indicator from shelf.

e. Cap all connectors and receptacles.

**4. INSTALLATION. (Figure 1.)**



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to interconnection.

b. Place performance indicator on shelf and connect cable connectors 39A12P1 through 39A12P4, 39A12P7, and 39A12P9 to receptacles 12J1 through 12J4, 12J7, and 12J9, respectively.

c. Slowly slide performance indicator against frame.

d. Engage 10 panel fasteners to secure performance indicator to frame.

e. Perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00), Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00), or Radar Set AN/APS-145 (NAVAIR 01-E2AAA-2-17.7, WP03600)

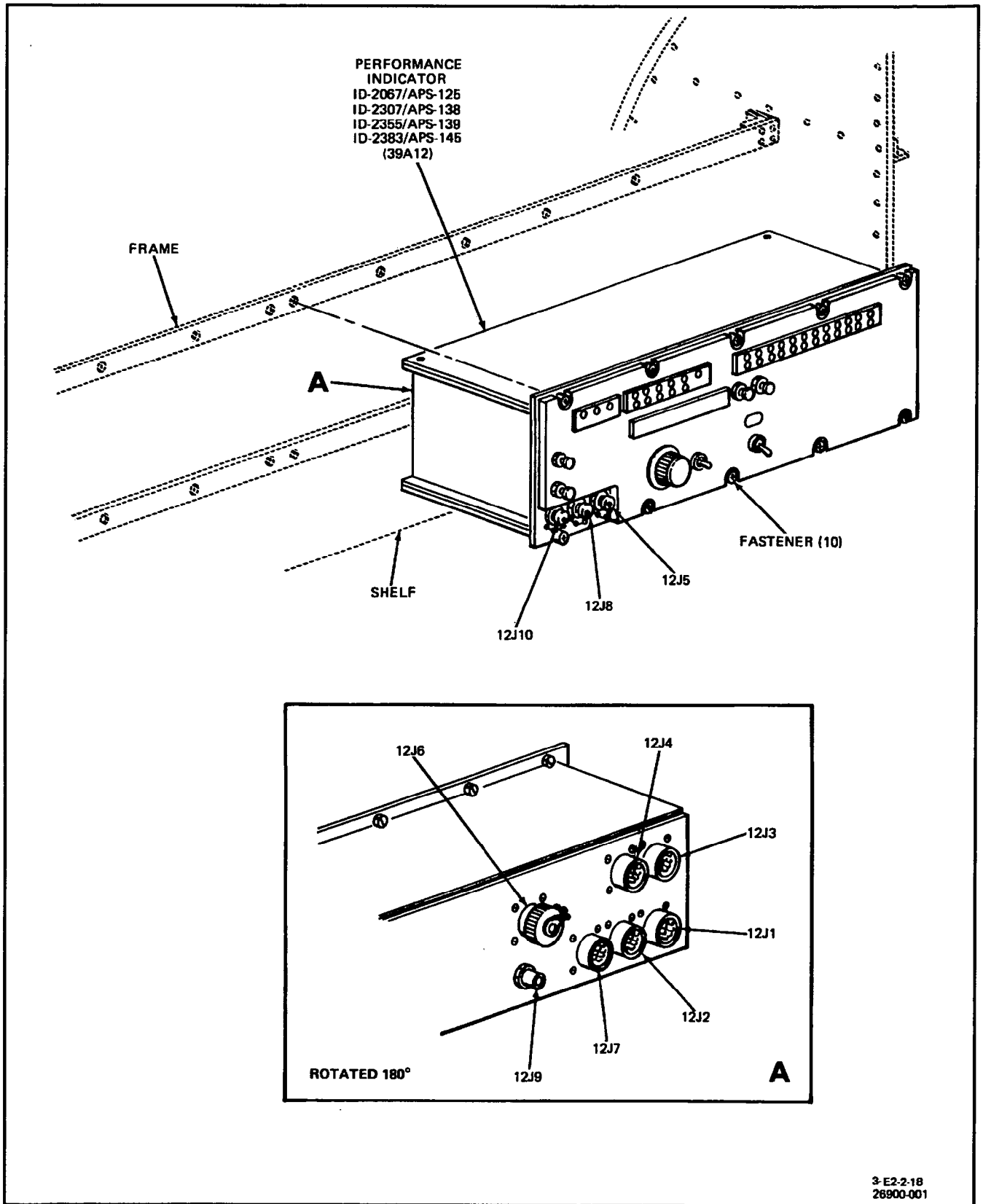


Figure 1. Removal and Installation of Performance Indicators ID-2067/APS-125, ID-2307/APS-138, ID-2355/APS-139, and ID-2383/APS-145



**ORGANIZATIONAL MAINTENANCE**

**ELECTRICAL EQUIPMENT RACK MT-4824/APS-125 AND MT-6249/APS-138**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161344, AND 161345 THROUGH 163028 (AIRCRAFT NOT INCORPORATING AVC 2956)**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Radar Modulator MD-854/APS-120 .....	149 00
Trigger Pulse Amplifier AM-6413/APS-120 .....	150 00
Radar Modulator MD-853/APS-120 .....	151 00
Power Supply PP-6619/APS-120 .....	178 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Receiver-Converter R-2239/APS-138 .....	264 00
Receiver-Converter R-2015/APS-125 .....	265 00
Control Voltage Simulator SM-726/APS-125 .....	266 00
Pulse Generator O-1720/APS-125 .....	267 00
Dual Pulse Attenuator-Compressor CN-1471/APS-125 .....	271 00
Comparator-Filter CM-460/APS-125 and CM-496/APS-138 .....	273 00
Digital Data Comparator CM-459/APS-125 .....	274 00
Electrical Equipment Rack MT-4823/APS-125 .....	278 00
Organizational Illustrated Parts Breakdown .....	NAVAIR 01-E2AAA-4

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Record of Applicable Technical Directives

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
—	—	Production Incorporation of Radar AN/APS-139 Group I Radar Changes (ECP 329)	4/1/88	Effectivity: Serial No. 163028 and Subsequent. ECP Coverage Only.
AVC 2956	3/27/86	Modification of AN/APS-120/125 Radar Equip Rack (WRA-13) A-1 Interlock Assembly P/N 7586228G1 In E-2C Aircraft (RAMEC L-11-85)	9/15/88	—

1. GENERAL

2. Removal and installation procedures described in this work package (WP) apply to each of the following units:

a. Electrical Equipment Rack MT-4824/APS-125 (hereinafter referred to as the rack) (39A13), which is part of Radar Set AN/APS-125 and used in aircraft preceding aircraft serial no. 161345. The rack is in the equipment compartment, right side. Refer to NAV-AIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 46) for location of the rack.

b. Electrical Equipment Rack MT-6249/APS-138 (hereinafter referred to as the rack) (39A13), which is part of Radar Set AN/APS-138 and used in aircraft serial no. 161345 through 163028. The rack is in the equipment compartment, right side. Refer to NAV-AIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 46A) for location of the rack. Support equipment required for maintenance is listed below.

Support Equipment Required

Part or Model No.	Nomenclature
5 to 150 inch-pounds	Torque Wrench

3. ELECTRICAL EQUIPMENT RACK MT-4824/APS-125 AND MT-6249/APS-138.

4. REMOVAL. (Figure 1.)



Insure that external power is removed from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove six screws and washers and remove protective cover assembly (directly in front of rack) secured to equipment compartment structure.

b. Remove the following units from rack:

(1) Radar Modulator MD-854/APS-120 (NAV-AIR 01-E2AAA-2-18.1, WP149 00).

(2) Trigger Pulse Amplifier AM-6413/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP150 00).

(3) Radar Modulator MD-853/APS-120 (NAV-AIR 01-E2AAA-2-18.1, WP151 00).

(4) Dual Pulse Attenuator-Compressor CN-1471/APS-125 (WP271 00).

(5) Pulse Generator O-1720/APS-125 (WP267 00).

(6) Control Voltage Simulator SM-726/APS-125 (WP266 00).

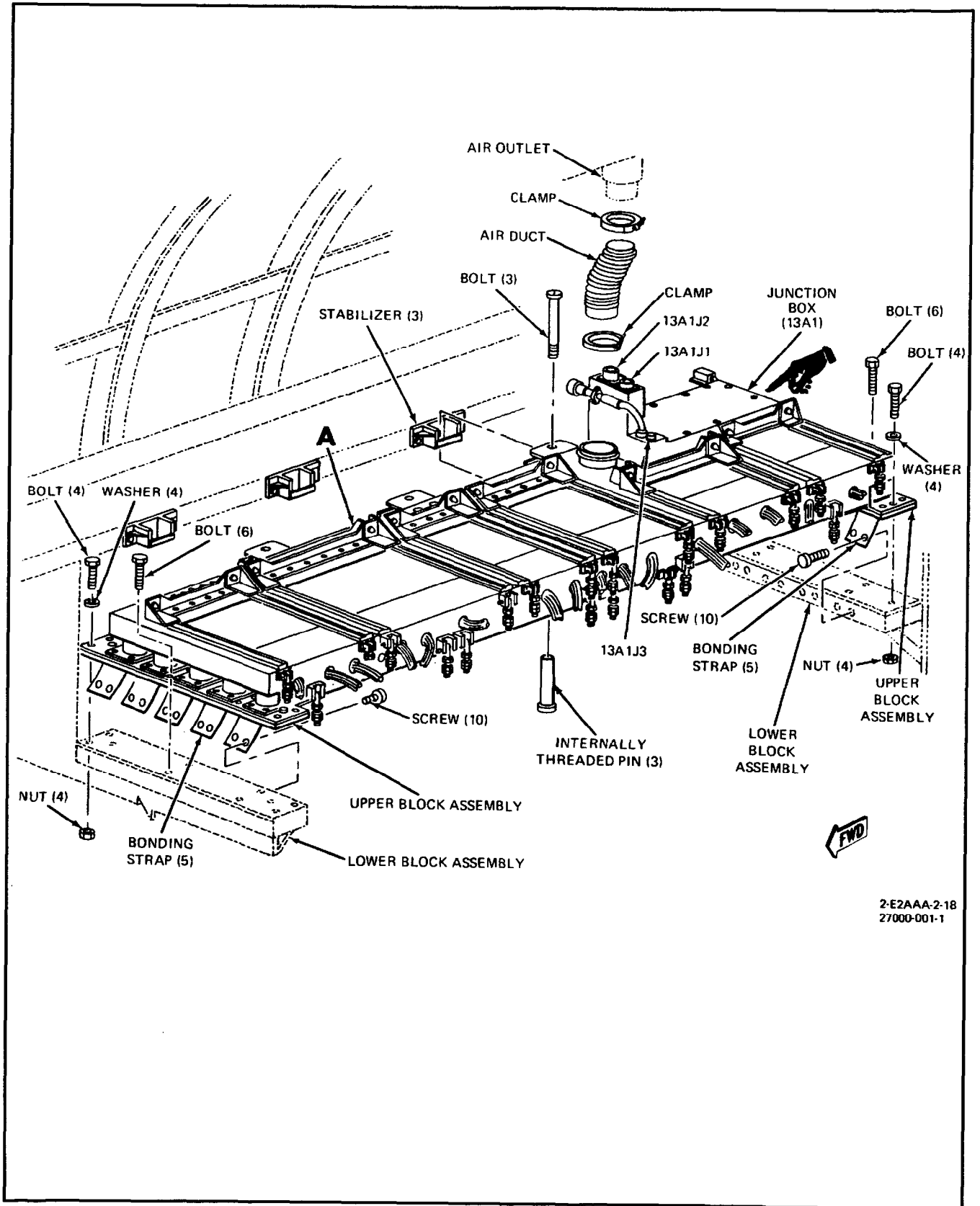
(7) On aircraft preceding aircraft serial no. 161345, remove Comparator-Filter CM-460/APS-125. On aircraft serial no. 161345 through 163028, remove Comparator-Filter CM-496/APS-138. (Refer to WP273 00.)

(8) Digital Data Comparator CM-459/APS-125 (WP274 00).

(9) On aircraft preceding aircraft serial no. 161345, remove Receiver-Converter R-2015/APS-125 (WP265 00). On aircraft serial number 161345 through 163028, remove Receiver-Converter R-2239/APS-138 (WP264 00).

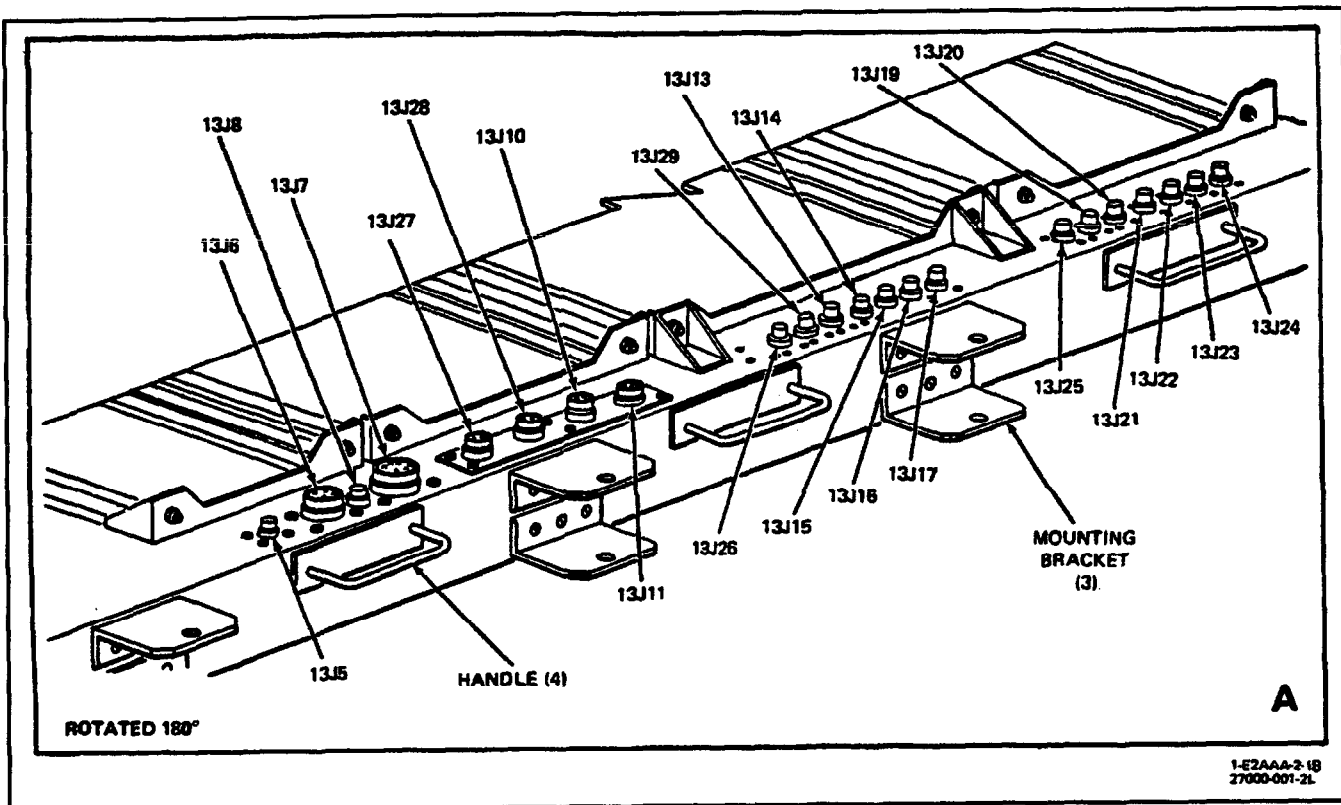
(10) Power Supply PP-6619/APS-120 (NAV-AIR 01-E2AAA-2-18.1, WP178 00).





2-E2AAA-2-18  
27000-001-1

Figure 1. Removal and Installation of Electrical Equipment Rack MT-4824/APS-125 and MT-6249/APS-138 (Sheet 1 of 2)



**Figure 1. Removal and Installation of Electrical Equipment Rack MT-4824/APS-125 and MT-6249/APS-138 (Sheet 2)**

c. To remove rack from aircraft, remove Electrical Equipment Rack MT-4823/APS-125 and associated units (WP278 00).

d. Disconnect 25 cable plugs from rack receptacles 13A1J1, 13A1J2, 13A1J3, 13J5 through 13J8, 13J10, 13J11, 13J13 through 13J17, and 13J19 through 13J29. Cap all plugs and receptacles.

e. Remove two clamps and remove air duct interconnecting air inlet on rack and aircraft air outlet. Cap air inlet on rack.

f. Remove three bolts from three internally threaded pins and then remove three internally threaded pins that secure rack to stabilizers on bulkhead.

g. Remove 20 screws (10 screws from each side of rack) that secure 10 bonding straps to lower block assemblies.

h. Remove 12 bolts (hex head) (6 bolts from each side of rack) that secure upper block assemblies to lower block assemblies.

i. Remove eight bolts (hex head), nuts, and washers (four from each side of rack) that secure upper

block assemblies to lower block assemblies and aircraft structure.

j. Lash dangling cables to rack structure to prevent snagging cables as rack is removed from aircraft.

### WARNING

Before removing rack from aircraft structure, insure that man on forward end of rack is aware of steps that lead to cockpit.

### CAUTION

Rack weighs approximately 205 pounds. There is room in the passageway for two men; both men should have the capability to lift and sustain this weight.

k. Remove rack from aircraft structure and carry to rear of aircraft beyond door, reverse direction, and remove rack through aircraft door (forward end of rack leading).

## 5. INSTALLATION. (Figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**CAUTION**

Inspect connectors and receptacles for damage and bent pins prior to installation and then replace caps.

- a. Lash dangling cables to rack to prevent snagging cables as rack is carried in.

**WARNING**

When carrying rack to its location in aircraft, insure that man on forward end of rack is aware of steps that lead to cockpit.

**CAUTION**

Rack weighs approximately 205 pounds. There is room in the passageway for two men; both men should have the capability to lift and sustain this weight.

- b. Position rack so that aft end of rack enters aircraft first and carrying handles are facing up. Lift rack into aircraft, make a right turn, and carry aft until entire rack is in the passageway. Reverse direction carrying rack to its location in aircraft, and lift onto structure.
- c. Push rack outboard to engage mounting brackets with stabilizers and then align mounting holes in upper block assemblies with holes in lower block assemblies.
- d. Using eight bolts (hex head), nuts, and washers, secure upper block assemblies to lower block assemblies and aircraft structure.
- e. Using three internally threaded pins and three bolts secure rack to stabilizers on bulkhead. Torque three bolts to  $67.5 \pm 7.5$  inch-pounds. (QUALITY ASSURANCE)
- f. Using 12 bolts (hex head), secure upper block assemblies to lower block assemblies.

- g. Using 20 screws secure 10 bonding straps to lower block assemblies.

h. Remove cap from air inlet and install air duct between air inlet on rack and air outlet. Using two clamps, secure air duct.

- i. Remove caps from plugs and receptacles.

j. Connect cable connectors 13A1P1, 13A1P2, 13A1P3, and 13P5 through 13P8, 13P10, 13P11, 13P13 through 13P17, and 13P19 through 13P29 to rack receptacles 13A1J1, 13A1J2, 13A1J3, 13J5 through 13J8, 13J10, 13J11, 13J13 through 13J17, and 13J19 through 13J29, respectively.

k. Install Electrical Equipment Rack MT-4823/APS-125 and associated units installed on rack (WP278 00).

- l. Install the following units into rack:

(1) Radar Modulator MD-854/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP149 00).

(2) Trigger Pulse Amplifier AM-6413/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP150 00).

(3) Radar Modulator MD-853/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP151 00).

(4) Dual Pulse Attenuator-Compressor CN-1471/APS-125 (WP271 00).

(5) Pulse Generator O-1720/APS-125 (WP267 00).

(6) Control Voltage Simulator SM-726/APS-125 (WP266 00).

(7) On aircraft preceding aircraft serial no. 161345, install Comparator-Filter CM-460/APS-125. On aircraft serial no. 161345 through 163028, install Comparator-Filter CM-496/APS-138. (Refer to WP273 00.)

(8) Digital Data Comparator CM-459/APS-125 (WP274 00).

(9) On aircraft preceding aircraft serial no. 161345, install Receiver-Converter R-2015/APS-125 (WP265 00). On aircraft serial number 161345 through 163028, install Receiver-Converter R-2239/APS-138 (WP264 00).

(10) Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

- m. Perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00).

n. Using six screws and washers, secure protective cover assembly to equipment compartment structure.

## 6. ADDITIONAL MAINTENANCE. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

## 7. LOW PRESSURE SENSOR ASSEMBLY.

8. **Removal.** The low pressure sensor assembly is installed on the junction box. The following paragraphs describe removal and installation of the low pressure sensor assembly.

a. Remove Control Voltage Simulator SM-726/APS-125 (WP266 00), applicable Receiver-Converter R-2015/APS-125 (WP265 00) or R-2239/APS-138 (WP264 00) and Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

b. Remove 11 screws and cover to gain access to interior of junction box.

c. Remove 9 screws and 18 washers that secure junction box to rack.

d. Lift front of junction box to access four screws.

e. Remove four screws, eight washers, and four nuts that secure low pressure sensor assembly to junction box.

f. Remove two straps that secure air hose to switch S1 on low pressure sensor assembly. Remove air hose.

g. Disconnect wires connected to low pressure sensor assembly following criteria specified in paragraph 13.

h. Remove low pressure sensor assembly.

## 9. Installation.

a. Connect wires to low pressure sensor assembly.

b. Connect air hose to switch S1 on low pressure sensor assembly and secure with two straps.

c. Using four screws, eight washers, and four nuts, attach low pressure sensor assembly to junction box.

d. Using 9 screws and 18 washers, secure junction box to rack.

e. Using 11 screws, attach cover to junction box.

f. Install Control Voltage Simulator SM-726/APS-125 (WP266 00), applicable Receiver-Converter R-2015/APS-125 (WP265 00) or R-2239/APS-138 (WP264 00), and Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

## 10. JUNCTION BOX.



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

## 11. Removal.

a. Remove Control Voltage Simulator SM-726/APS-125 (WP266 00), applicable Receiver-Converter R-2015/APS-125 (WP265 00) or R-2239/APS-138 (WP264 00) and Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

b. Remove 11 screws and cover to gain access to interior of junction box.

c. Remove two straps that secure air hose to switch S1 on low pressure sensor assembly. Remove air hose.

d. Remove 9 screws and 18 washers that secure junction box to rack.

e. Disconnect cable wires connected to components and assemblies in junction box following criteria specified in paragraph 13.

f. Remove junction box.

## 12. Installation.

a. Connect cable wires to components and assemblies in junction box.

b. Using 9 screws and 18 washers, attach junction box to rack.

c. Using two straps, connect air hose to switch S1 on low pressure sensor assembly.

d. Using 11 screws, attach cover to junction box.

e. Install Control Voltage Simulator SM-726/APS-125 (WP266 00), applicable Receiver-Converter R-2015/APS-125 (WP265 00) or R-2239/APS-138 (WP264 00), and Power Supply

PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00.)

13. REPAIR AND REPLACEMENT OF COMPONENTS.

**Materials Required**

Specification or Part Number	Nomenclature
MIL-C-81302, Type I or II	Trichlorotrifluoroethane (Freon)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. For location, identification and mounting of components, refer to NAVAIR 01-E2AAA-4.
- b. Use standard shop procedures when repairing/replacing components.
- c. Disassemble the rack only enough to make required repair/replacement, taking care to note the specific order in which components are removed with respect to their details. Tag wiring to facilitate installation.



Trichlorotrifluoroethane (Freon) MIL-C-81302, Type I or II, is toxic and displaces oxygen in confined spaces. At high temperatures, it may decompose into toxic substances. Protection: chemical splashproof goggles, gloves, and good ventilation. Keep trichlorotrifluoroethane (Freon) off skin, eyes, and clothes; do not breathe vapors. Smoking will not be permitted in area where material is being handled. Wash hands thoroughly after handling.



Electrical components shall not be immersed in trichlorotrifluoroethane (Freon), but shall be wiped clean.

- d. If necessary, clean components using a clean, lint-free cloth moistened with trichlorotrifluoroethane (Freon).
- e. After repair/replacement of component, perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00).



**ORGANIZATIONAL MAINTENANCE**

**ELECTRICAL EQUIPMENT RACK MT-4824/APS-125 AND MT-6249/APS-138**

**EFFECTIVITY: AIRCRAFT INCORPORATING AVC 2956**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Radar Modulator MD-854/APS-120 .....	149 00
Trigger Pulse Amplifier AM-6413/APS-120 .....	150 00
Radar Modulator MD-853/APS-120 .....	151 00
Power Supply PP-6619/APS-120 .....	178 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Receiver-Converter R-2239/APS-138 .....	264 00
Receiver-Converter R-2015/APS-125 .....	265 00
Control Voltage Simulator SM-726/APS-125 .....	266 00
Pulse Generator O-1720/APS-125 .....	267 00
Dual Pulse Attenuator-Compressor CN-1471/APS-125 .....	271 00
Comparator-Filter CM-460/APS-125 and CM-496/APS-138 .....	273 00
Digital Data Comparator CM-459/APS-125 .....	274 00
Electrical Equipment Rack MT-4823/APS-125 .....	278 00
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Record of Applicable Technical Directives

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
AVC 2956	3/27/86	Modification of AN/APS-120/125 Radar Equip Rack (WRA-13) A-1 Interlock Assembly P/N 7586228G1 In E-2C Aircraft (RAMEC L-11-85)	9/15/88	—
—	—	Production Incorporation of Radar AN/APS-139 Group I Radar Changes (ECP 329)	4/1/88	Effectivity: Serial No. 163028 and Subsequent. ECP Coverage Only.

1. GENERAL.

2. Removal and installation procedures described in this work package (WP) apply to each of the following units:

a. Electrical Equipment Rack MT-4824/APS-125 (hereinafter referred to as the rack) (39A13), which is part of Radar Set AN/APS-125 and used in aircraft preceding aircraft serial no. 161345. The rack is in the equipment compartment, right side. Refer to NAV-AIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 46) for location of the rack.

b. Electrical Equipment Rack MT-6249/APS-138 (hereinafter referred to as the rack) (39A13), which is part of Radar Set AN/APS-138 and used in aircraft serial no. 161345 through 163028. The rack is in the equipment compartment, right side. Refer to NAV-AIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 46A) for location of the rack. Support equipment required for maintenance is listed below.

Support Equipment Required

Part or Model No.	Nomenclature
0 to 50 inch-pounds	Torque Wrench
5 to 150 inch-pounds	Torque Wrench

3. ELECTRICAL EQUIPMENT RACK  
MT-4824/APS-125 AND MT-6249/APS-138.

4. REMOVAL. (Figure 1.)



Insure that external power is removed from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove six screws and washers and remove protective cover assembly (directly in front of rack) secured to equipment compartment structure.

b. Remove the following units from rack:

(1) Radar Modulator MD-854/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP149 00).

(2) Trigger Pulse Amplifier AM-6413/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP150 00).

(3) Radar Modulator MD-853/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP151 00).

(4) Dual Pulse Attenuator-Compressor CN-1471/APS-125 (WP271 00).

(5) Pulse Generator O-1720/APS-125 (WP267 00).

(6) Control Voltage Simulator SM-726/APS-125 (WP266 00).

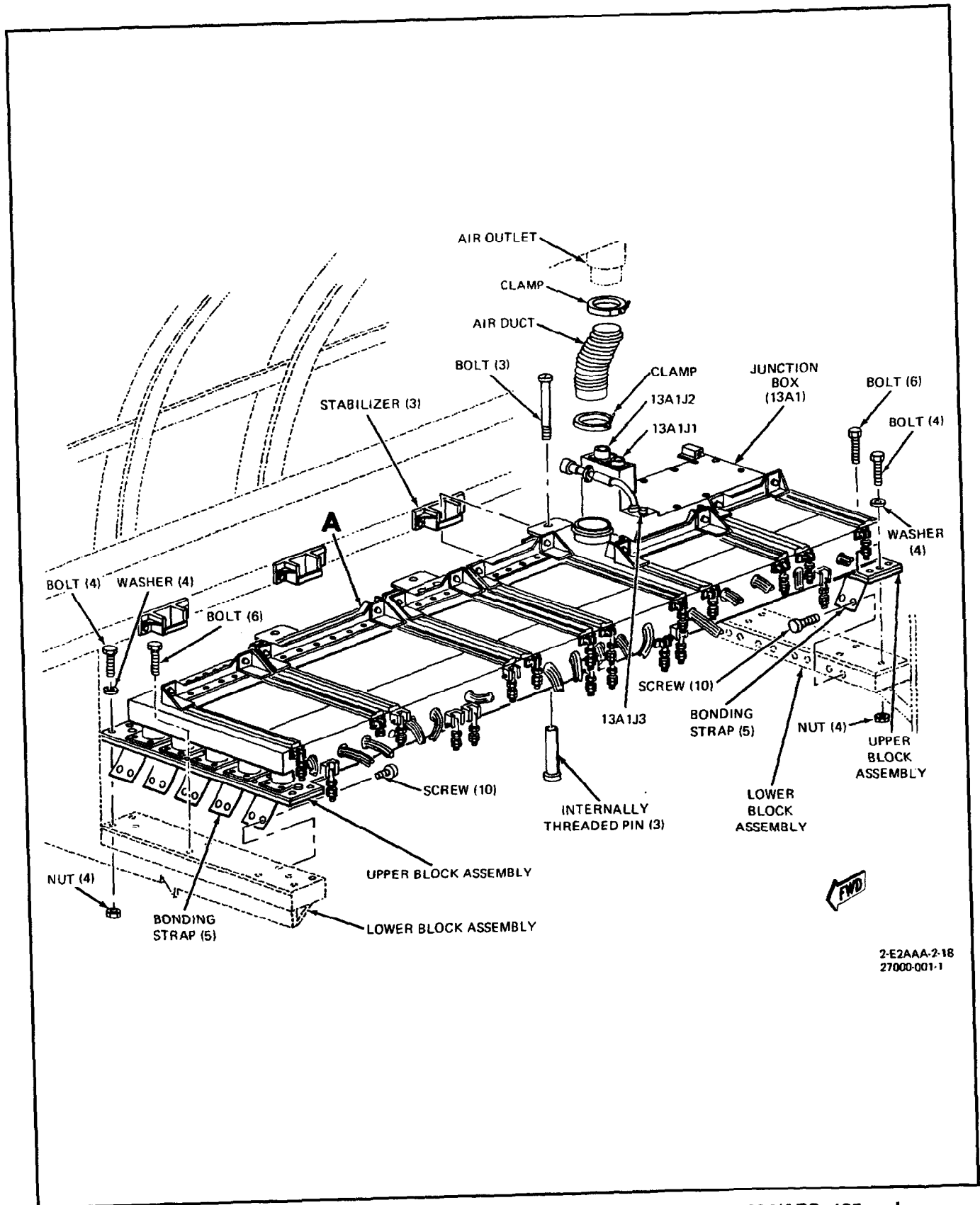
(7) On aircraft preceding aircraft serial no. 161345, remove Comparator-Filter CM-460/APS-125. On aircraft serial no. 161345 through 163028, remove Comparator-Filter CM-496/APS-138. (Refer to WP273 00.)

(8) Digital Data Comparator CM-459/APS-125 (WP274 00).

(9) On aircraft preceding aircraft serial no. 161345, remove Receiver-Converter R-2015/APS-125 (WP265 00). On aircraft serial number 161345 through 163028, remove Receiver-Converter R-2239/APS-138 (WP264 00).

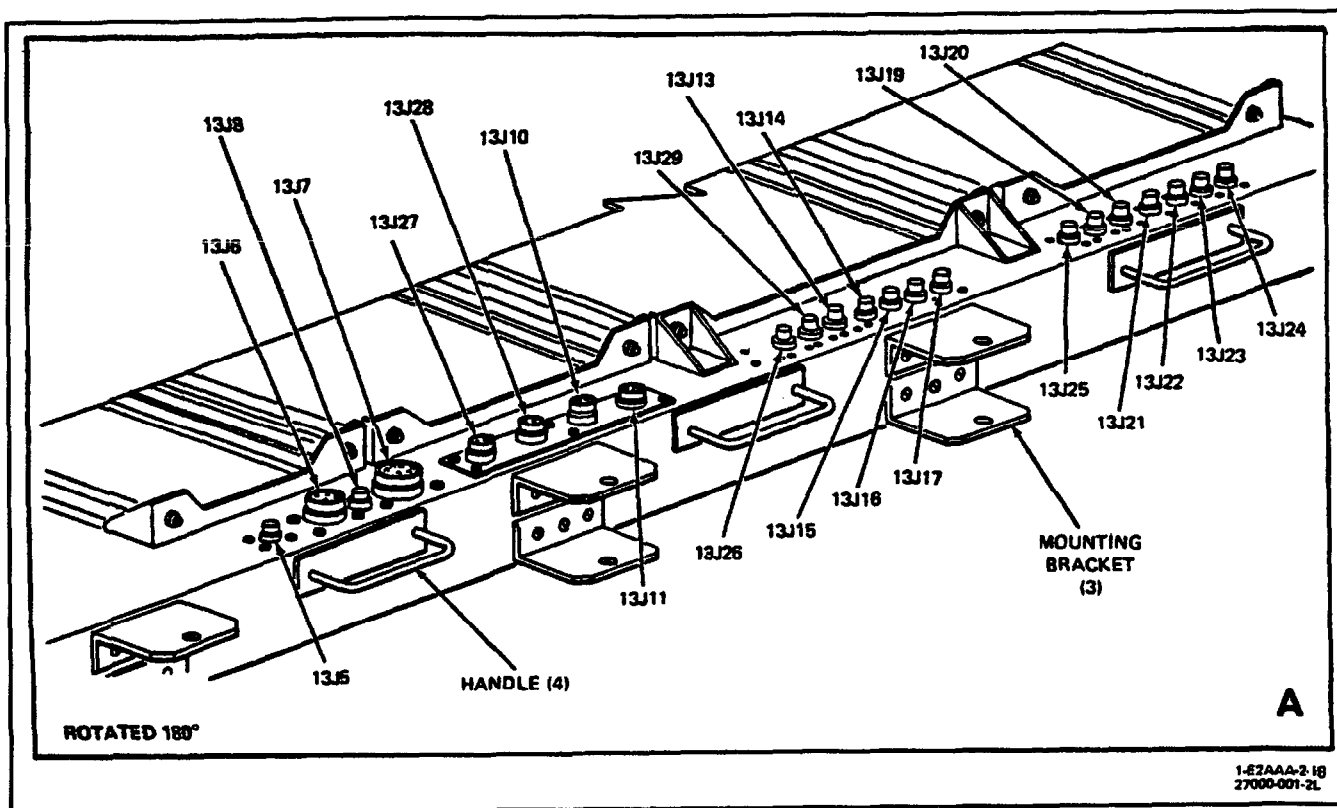
(10) Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).





2-E2AAA-2-18  
27000-001-1

Figure 1. Removal and Installation of Electrical Equipment Rack MT-4824/APS-125 and MT-6249/APS-138 (Sheet 1 of 2)



**Figure 1. Removal and Installation of Electrical Equipment Rack MT-4824/APS-125 and MT-6249/APS-138 (Sheet 2)**

c. To remove rack from aircraft, remove Electrical Equipment Rack MT-4823/APS-125 and associated units (WP278 00).

d. Disconnect 25 cable plugs from rack receptacles 13A1J1, 13A1J2, 13A1J3, 13J5 through 13J8, 13J10, 13J11, 13J13 through 13J17, and 13J19 through 13J29. Cap all plugs and receptacles.

e. Remove two clamps and remove air duct interconnecting air inlet on rack and aircraft air outlet. Cap air inlet on rack.

f. Remove three bolts from three internally threaded pins and then remove three internally threaded pins that secure rack to stabilizers on bulkhead.

g. Remove 20 screws (10 screws from each side of rack) that secure 10 bonding straps to lower block assemblies.

h. Remove 12 bolts (hex head) (6 bolts from each side of rack) that secure upper block assemblies to lower block assemblies.

i. Remove eight bolts (hex head), nuts, and washers (four from each side of rack) that secure upper

block assemblies to lower block assemblies and aircraft structure.

j. Lash dangling cables to rack structure to prevent snagging cables as rack is removed from aircraft.

**WARNING**

Before removing rack from aircraft structure, insure that man on forward end of rack is aware of steps that lead to cockpit.

**CAUTION**

Rack weighs approximately 205 pounds. There is room in the passageway for two men; both men should have the capability to lift and sustain this weight.

k. Remove rack from aircraft structure and carry to rear of aircraft beyond door, reverse direction, and remove rack through aircraft door (forward end of rack leading).

5. INSTALLATION. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Inspect connectors and receptacles for damage and bent pins prior to installation and then replace caps.

- a. Lash dangling cables to rack to prevent snagging cables as rack is carried in.



When carrying rack to its location in aircraft, insure that man on forward end of rack is aware of steps that lead to cockpit.



Rack weighs approximately 205 pounds. There is room in the passageway for two men; both men should have the capability to lift and sustain this weight.

- b. Position rack so that aft end of rack enters aircraft first and carrying handles are facing up. Lift rack into aircraft, make a right turn, and carry aft until entire rack is in the passageway. Reverse direction carrying rack to its location in aircraft, and lift onto structure.
- c. Push rack outboard to engage mounting brackets with stabilizers and then align mounting holes in upper block assemblies with holes in lower block assemblies.
- d. Using eight bolts (hex head), nuts, and washers, secure upper block assemblies to lower block assemblies and aircraft structure.
- e. Using three internally threaded pins and three bolts secure rack to stabilizers on bulkhead. Torque three bolts to  $67.5 \pm 7.5$  inch-pounds. (QUALITY ASSURANCE)
- f. Using 12 bolts (hex head), secure upper block assemblies to lower block assemblies.

- g. Using 20 screws secure 10 bonding straps to lower block assemblies.

- h. Remove cap from air inlet and install air duct between air inlet on rack and air outlet. Using two clamps, secure air duct.

- i. Remove caps from plugs and receptacles.

- j. Connect cable connectors 13A1P1, 13A1P2, 13A1P3, and 13P5 through 13P8, 13P10, 13P11, 13P13 through 13P17, and 13P19 through 13P29 to rack receptacles 13A1J1, 13A1J2, 13A1J3, 13J5 through 13J8, 13J10, 13J11, 13J13 through 13J17, and 13J19 through 13J29, respectively.

- k. Install Electrical Equipment Rack MT-4823/APS-125 and associated units installed on rack (WP278 00).

- l. Install the following units into rack:

- (1) Radar Modulator MD-854/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP149 00).

- (2) Trigger Pulse Amplifier AM-6413/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP150 00).

- (3) Radar Modulator MD-853/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP151 00).

- (4) Dual Pulse Attenuator-Compressor CN-1471/APS-125 (WP271 00).

- (5) Pulse Generator O-1720/APS-125 (WP267 00).

- (6) Control Voltage Simulator SM-726/APS-125 (WP266 00).

- (7) On aircraft preceding aircraft serial no. 161345, install Comparator-Filter CM-460/APS-125. On aircraft serial no. 161345 through 163028, install Comparator-Filter CM-496/APS-138. (Refer to WP273 00.)

- (8) Digital Data Comparator CM-459/APS-125 (WP274 00).

- (9) On aircraft preceding aircraft serial no. 161345, install Receiver-Converter R-2015/APS-125 (WP265 00). On aircraft serial number 161345 through 163028, install Receiver-Converter R-2239/APS-138 (WP264 00).

- (10) Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

- m. Perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00).

n. Using six screws and washers, secure protective cover assembly to equipment compartment structure.

**6. ADDITIONAL MAINTENANCE.** (Figure 2.)

7. **JUNCTION BOX.** The following paragraphs detail the method of removal and installation of the junction box.

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**8. Removal.**

a. Remove Control Voltage Simulator SM-726/APS-125 (WP266 00), applicable Receiver-Converter R-2015/APS-125 (WP265 00), or R-2239/APS-138 (WP264 00), and Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

b. Remove 11 screws that secure cover to junction box. Remove cover.

c. Remove two straps that secure air hose to switch S1 on low pressure sensor assembly. Remove air hose.

d. Remove nine screws, lockwashers, and flat washers that secure junction box to rack.

e. Disconnect cable wires connected to components and assemblies in junction box following criteria specified in REPAIR AND REPLACEMENT OF COMPONENTS, this WP.

f. Remove junction box.

**9. Installation.**

a. Connect cable wires to components and assemblies in junction box.

b. Secure junction box to rack with nine screws, lockwashers, and flat washers.

c. Connect air hose to HIGH pressure side of switch S1 on low pressure sensor assembly. Secure air hose with two straps.

d. Secure cover to junction box with 11 screws.

e. Install Control Voltage Simulator SM-726/APS-125 (WP266 00), applicable Receiver-Converter R-2015/APS-125 (WP265 00), or R-2239/APS-138 (WP264 00), and Power Supply

PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

10. **LOW PRESSURE SENSOR ASSEMBLY.** The following paragraphs detail the removal and installation of the low pressure pressure assembly.

**11. Removal.**

a. Remove Control Voltage Simulator SM-726/APS-125 (WP266 00), applicable Receiver-Converter R-2015/APS-125 (WP265 00), or R-2239/APS-138 (WP264 00), and Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

b. Remove 11 screws that secure cover to junction box. Remove cover.

c. Remove four nuts, lockwashers, and flat washers that secure low pressure sensor assembly to junction box.

d. Remove two straps that secure air hose to switch S1 on low pressure sensor assembly. Remove air hose.

e. Tag and disconnect two wires connected to low pressure sensor assembly stud terminals TERM 1 and TERM 2.

f. Remove low pressure sensor assembly.

**12. Installation.**

a. Install low pressure sensor assembly into captive studs in base of junction box.

b. Connect wires to low pressure sensor assembly stud terminals TERM 1 and TERM 2. Remove tags from wires.

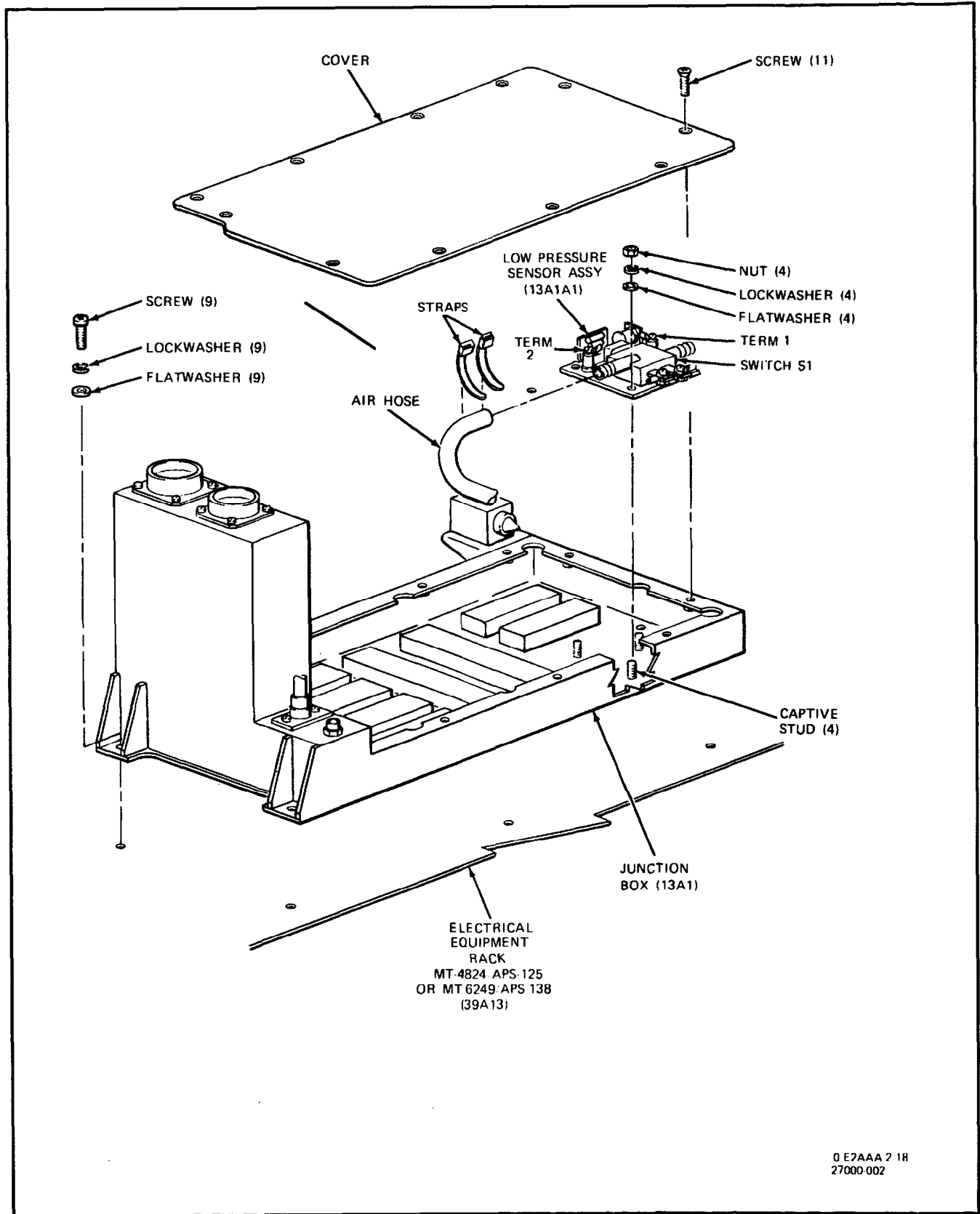
c. Connect air hose to HIGH pressure side of switch S1 on low pressure sensor assembly and secure with two straps.

**CAUTION**

In following step, do not apply more than 2.5 inch-pounds of tightening torque to nuts. This could dislodge stud from base of junction box.

d. Secure low pressure sensor assembly to junction box with four flat washers, lockwashers, and nuts. Torque nuts between 1 and 2 inch-pounds. (QUALITY ASSURANCE)

e. Attach cover to junction box with 11 screws.



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27000-002

Figure 2. Removal and Installation of Junction Box and Low Pressure Sensor Assembly

f. Install Control Voltage Simulator SM-726/APS-125 (WP266 00), applicable Receiver-Converter R-2015/APS-125 (WP265 00), or R-2239/APS-138 (WP264 00), and Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

13. REPAIR AND REPLACEMENT OF COMPONENTS.

Materials Required

Specification or Part Number	Nomenclature
MIL-C-81302, Type I or II	Trichlorotrifluoroethane (Freon)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. For location, identification and mounting of components, refer to NAVAIR 01-E2AAA-4.
- b. Use standard shop procedures when repairing/replacing components.
- c. Disassemble the rack only enough to make required repair/replacement, taking care to note the specific order in which components are removed with

respect to their details. Tag wiring to facilitate installation.



Trichlorotrifluoroethane (Freon) MIL-C-81302, Type I or II, is toxic and displaces oxygen in confined spaces. At high temperatures, it may decompose into toxic substances. Protection: chemical splashproof goggles, gloves, and good ventilation. Keep trichlorotrifluoroethane (Freon) off skin, eyes, and clothes; do not breathe vapors. Smoking will not be permitted in area where material is being handled. Wash hands thoroughly after handling.



Electrical components shall not be immersed in trichlorotrifluoroethane (Freon), but shall be wiped clean.

- d. If necessary, clean components using a clean, lint-free cloth moistened with trichlorotrifluoroethane (Freon).
- e. After repair/replacement of component, perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00).

**ORGANIZATIONAL MAINTENANCE**

**DUAL PULSE ATTENUATOR-COMPRESSOR CN-1471/APS-125 AND CN-1641/APS-139**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6
Radar Set AN/APS-139 .....	035 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.7
Radar Set AN/APS-145 .....	036 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	TRAC "A" Prime APS-138 (ECP 306)	6/1/82	Effectivity: Aircraft Serial No. 161346 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP 329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

1. **GENERAL.**

2. Removal and installation procedures described in this work package (WP) apply to each of the following units:

a. The Dual Pulse Attenuator-Compressor CN-1471/APS-125 (hereinafter referred to as the compressor) (39A15) is part of Radar Set AN/APS-125 and Radar Set AN/APS-138 and used in aircraft preceding aircraft serial number 163029. The compressor is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 53) for location of compressor.

b. The Dual Pulse Attenuator-Compressor CN-1641/APS-139 (hereinafter referred to as the compressor) (39A15) is part of Radar Set AN/APS-139 used in aircraft serial numbers 163029 through 164107 and part of Radar Set AN/APS-145 used in aircraft serial number 164108 and subsequent. The compressor is in the equipment compartment, right side. Refer to NAV-AIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 60) for location of compressor.

3. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
5 to 150 inch-pounds	Torque Wrench

4. **REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Move protective cover away from compressor and secure (using suitable method).
- b. Remove five cable connectors from compressor receptacles 15J1 and 15J3 through 15J6.
- c. Loosen four locknuts and disengage two swing bolts securing compressor to electrical equipment rack mounting rails.

- d. Slowly pull compressor forward and remove from electrical equipment rack.
- e. Cap all connectors and receptacles.

5. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft.

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

Check the air vent rubber seals (in mounting surface of electrical equipment rack) for damage before installation.

- b. Install compressor in electrical equipment rack mounting rails and push backward until seated.

c. Secure compressor to electrical equipment rack by engaging two swing bolts and, using torque wrench, torque two inner locknuts to 50±5 inch-pounds. Secure inner locknuts with outer locknuts. (QUALITY ASSURANCE)

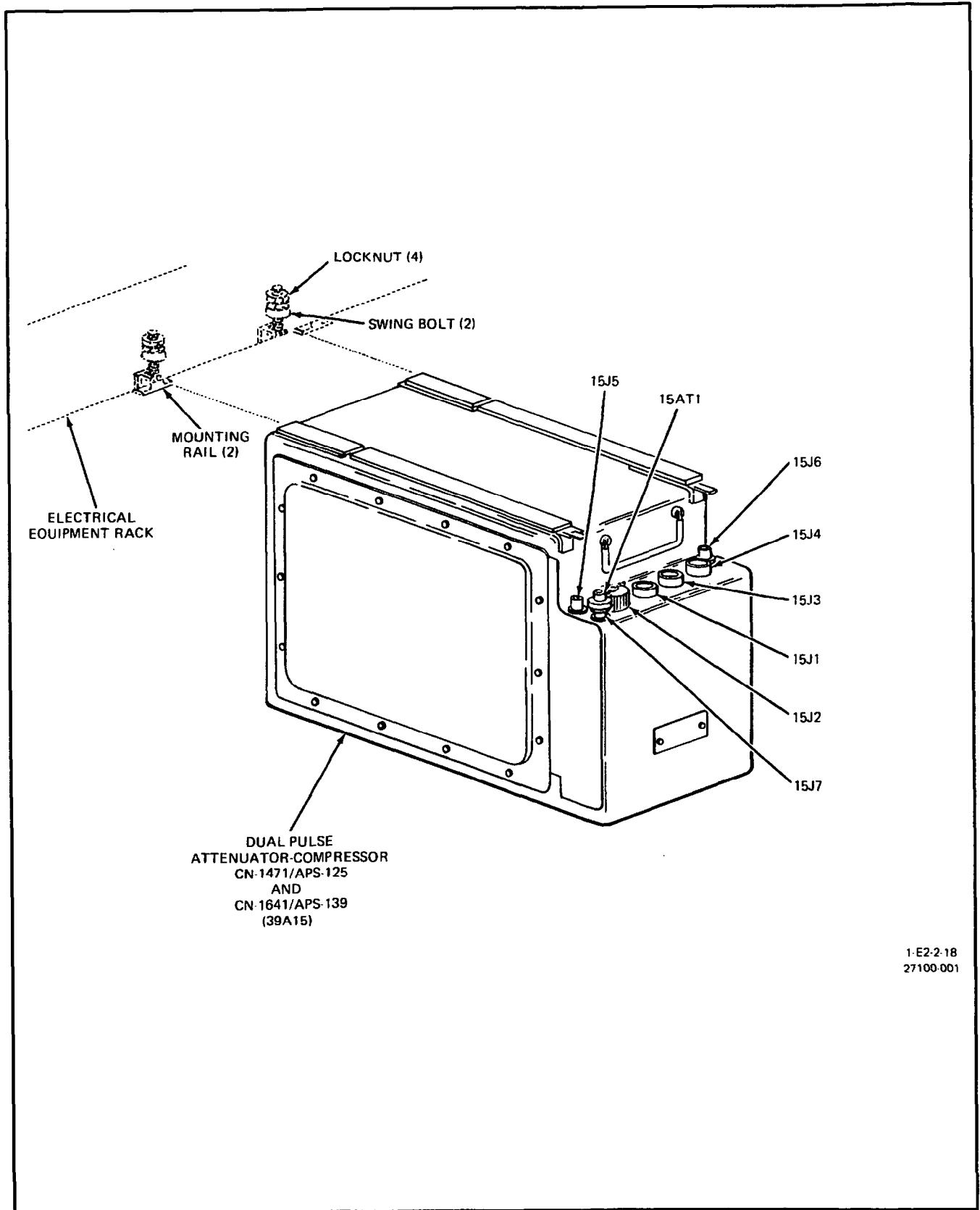
d. Connect cable connectors 39A15P1 and 39A15P3 through 39A15P6 to compressor receptacles 15J1 and 15J3 through 15J6, respectively.

e. Ensure that cap is installed on receptacle 15J2 and that special cap 15AT1 is installed on receptacle 15J7.

f. Allow protective cover to return to its closed position.

g. Perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00), Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00), or Radar Set AN/APS-145 (NAVAIR 01-E2AAA-2-17.7, WP036 00).





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Figure 1. Removal and Installation of Dual Pulse Attenuator-Compressor CN-1471/APS-125 and CN-1641/APS-139



**ORGANIZATIONAL MAINTENANCE**

**DEMULTIPLEXER TD-1202/APS-125**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, AND 161341 THROUGH 161344**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 .....	034 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	10/20/80	TRAC "A" Prime (ECP-GR-E-2C-306)	6/1/82	Effectivity: Aircraft preceding aircraft serial no. 161345 and those aircraft incorporating ECP-GR-E-2C-306.

1. **GENERAL.**

2. The Demultiplexer TF-1202/APS-125 (hereinafter referred to as the demultiplexer) (39A44) is part of the Radar Set AN/APS-125. The multiplexer is in the crew compartment, right side (overhead). (See figure 1.)

3. **REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, 027 00).

- a. Disassemble appropriate section of panel (in crew compartment) for access to demultiplexer. Refer to WP003 00 (figure 5, item 12) for location of panel.
- b. Disconnect six cable plugs from demultiplexer receptacles 44J1 through 44J6.
- c. Loosen four captive screws securing demultiplexer to aircraft structure and remove demultiplexer.
- d. Cap all plugs and receptacles.

4. **INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove all caps from plugs and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Attach demultiplexer to aircraft structure with four captive screws. (QUALITY ASSURANCE)
- c. Connect cable plugs 39A44A1P1 and 39A44A1P2 to receptacles 44J1 and 44J2 respectively, and cable plugs 39A44P3 through 39A44P6 to receptacles 44J3 through 44J6, respectively.
- d. Perform an operational check of Radar Set AN/APS-125 (NAVAIR 01-E2AAA-2-17.4, WP034 00).
- e. Install panels removed in step 3a.

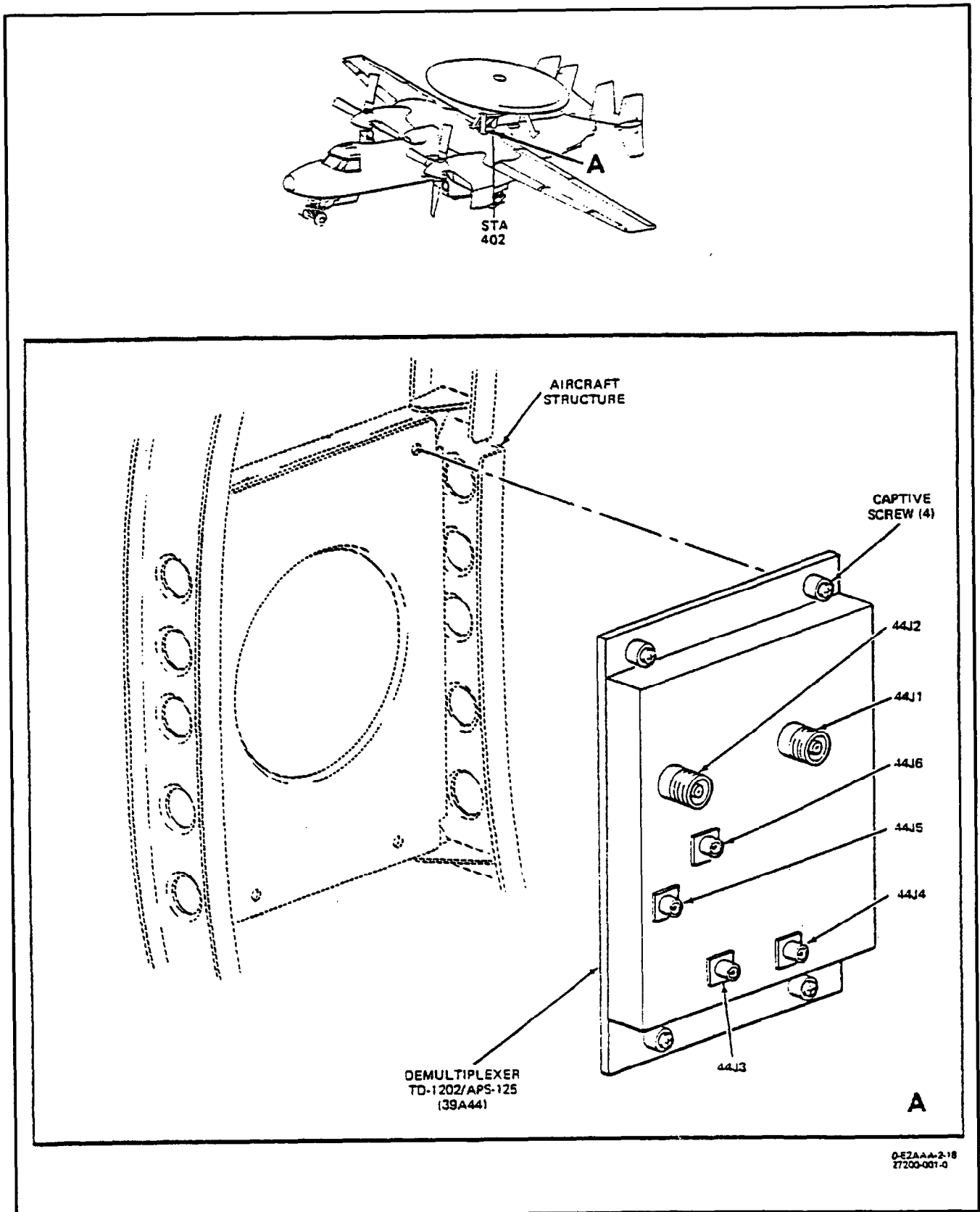


Figure 1. Removal and Installation of Demultiplexer TD-1202/APS-125



**ORGANIZATIONAL MAINTENANCE**

**COMPARATOR-FILTER CM-460/APS-125 AND CM-496/APS-138**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, AND 163024 THROUGH 163028**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	TRAC "A" Prime APS-138 (ECP 306)	6/1/82	Effectivity: Aircraft Serial No. 161346 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP 329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.

1. GENERAL.

2. Removal and installation procedures described in this WP apply to each of the following units:

a. Comparator-Filter CM-460/APS-125 (hereinafter referred to as the comparator) (39A45), which is part of the Radar Set AN/APS-125 and used in aircraft preceding aircraft serial number 161345. The comparator is in the equipment compartment, right side. Refer to (NAVAIR 01-E2AAA-2-18.1 WP0031 00) figure 3, item 47 for location of the comparator.

b. Comparator-Filter CM-496/APS-138 (hereinafter referred to as the comparator) (39A45), which is part of Radar Set AN/APS-138 and used in aircraft serial number 161345 through 163028. The comparator is in the equipment compartment, right side. Refer to (NAVAIR 01-E2AAA-2-18.1, WP003 00) figure 3, item 47A for location of the comparator.

c. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
5 to 150 inch-pounds	Torque Wrench

3. REMOVAL. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Move protective cover away from comparator and secure (using suitable method).

b. Remove cable connectors from comparator receptacles 45J1 through 45J4.

c. Loosen four locknuts and disengage two swing bolts securing comparator to electrical equipment rack.



Carefully remove comparator to prevent damage to electrical equipment rack plenum gasket.

d. Slowly pull comparator forward until two guide pins are disengaged. Lift front of comparator and slide forward until rear handle is accessible. Using both handles, lift comparator and remove from electrical equipment rack, insuring that comparator does not touch plenum gasket.

e. Cap all plugs, receptacles and holes in electrical equipment rack air vent.

4. INSTALLATION. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from plugs, receptacles and holes in electrical equipment rack air vent.



Inspect connectors and receptacles for damage and bent pins prior to installation.

Carefully install comparator to prevent damage to electrical equipment rack plenum gasket.

b. Using both handles, carefully, place comparator on electrical equipment rack. Lift front of comparator and push backward (insuring that comparator does not touch plenum gasket) until rear guide pins engage comparator.

c. Secure comparator to electrical equipment rack by engaging two swing bolts and, using torque wrench, torque two inner locknuts to 50±5 inch-pounds. Secure inner locknuts with outer locknuts. (QUALITY ASSURANCE)

d. Connect cable connectors 45P1 through 45P4 to comparator receptacles 45J1 through 45J4, respectively.

e. Insure that receptacle 45J5 is capped and that special cap 45AT1 is installed on receptacle 45J6.

f. Allow protective cover to return to closed position.

g. Perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00).



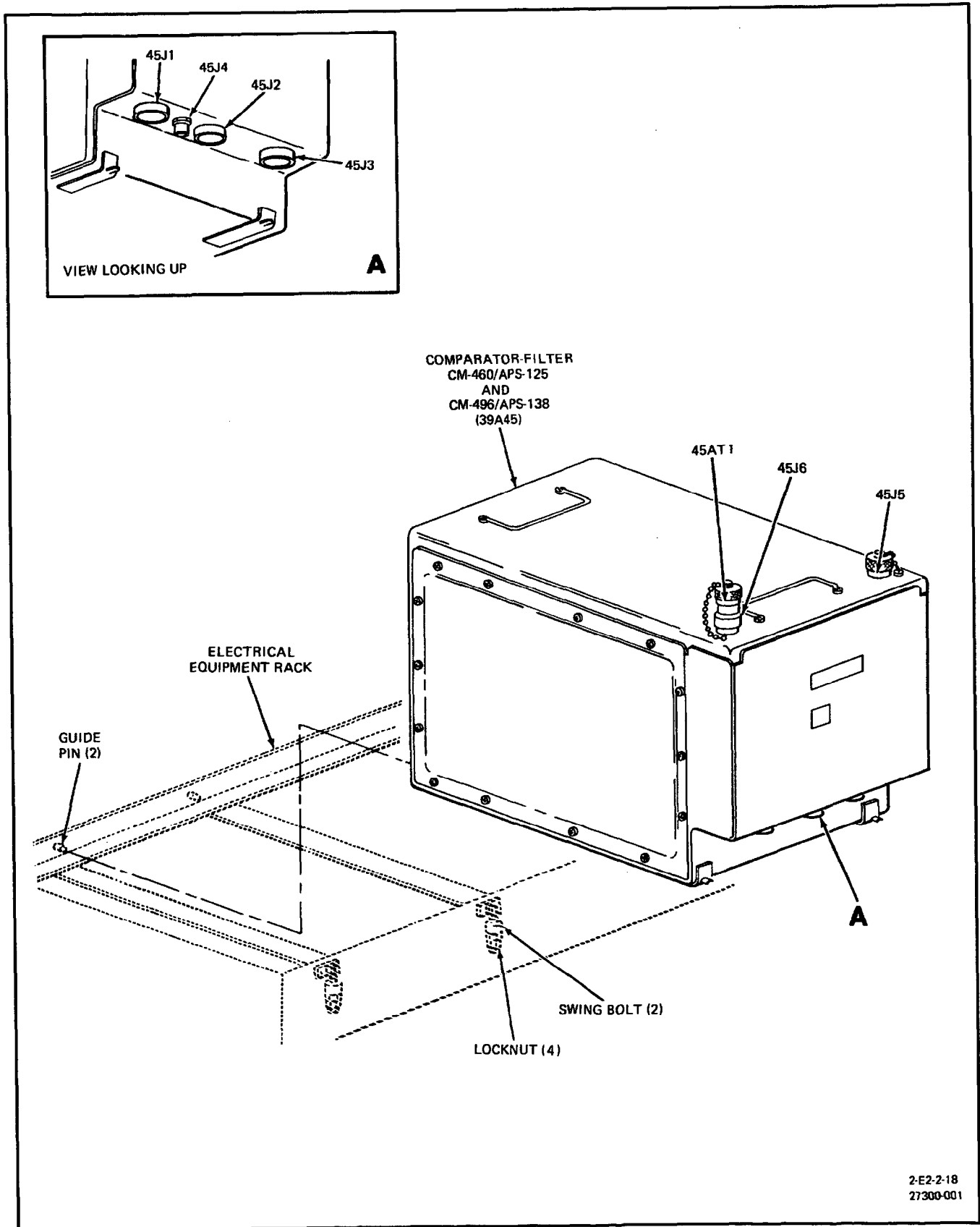


Figure 1. Removal and Installation of Comparator-Filter CM-460/APS-125 and CM-496/APS-138



**ORGANIZATIONAL MAINTENANCE**

**DIGITAL DATA COMPARATOR CM-459/APS-125, CM-503/APS-139, AND CM-505/APS-145**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028, 163029 THROUGH 164107, AND 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6
Radar Set AN/APS-139 .....	035 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.7
Radar Set AN/APS-145 .....	036 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
ECP 306	10/20/80	TRAC "A" Prime APS-138 (ECP 306)	6/1/82	Effectivity: Aircraft Serial No. 161346 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP 329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

1. GENERAL

2. Removal and installation procedures described in this work package (WP) apply to each of the following units:

a. The Digital Data Comparator CM-459/APS-125 (hereinafter referred to as the comparator) (39A47) is part of Radar Set AN/APS-125 and Radar Set AN/APS-138 and used in aircraft preceding aircraft serial number 163029. The comparator is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 48) for location of comparator.

b. The Digital Data Comparator CM-503/APS-139 (hereinafter referred to as the comparator) (39A47) is part of Radar Set AN/APS-139 and used in aircraft serial numbers 163029 through 164107. The comparator is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 55) for location of comparator.

c. The Digital Data Comparator CM-505/APS-145 (hereinafter referred to as the comparator) (39A47) is part of Radar Set AN/APS-145 and used in aircraft serial number 164108 and subsequent. The comparator is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 55A) for location of the comparator.

3. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
5 to 150 inch-pounds	Torque Wrench

4. REMOVAL. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Move protective cover away from comparator and secure (using suitable method).
- b. Remove seven cable plugs from comparator receptacles 47J1 through 47J7.
- c. Loosen four locknuts and disengage two swing bolts securing comparator to electrical equipment rack.



Carefully remove comparator to prevent damage to electrical equipment rack plenum gasket.

d. Slowly pull comparator forward on mounting rails until two guide pins are disengaged. Lift front of comparator and slide forward until rear handles are accessible. Using front and rear handles, lift comparator and remove from electrical equipment rack, ensuring that comparator does not touch plenum gasket.

e. Cap all plugs and receptacles.

5. INSTALLATION. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from plugs and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

Carefully install comparator to prevent damage to electrical equipment rack plenum gasket.

b. Using front and rear handles, carefully place comparator on electrical equipment rack mounting rails. Lift front of comparator and push backward (ensuring that comparator does not touch plenum gasket) until two guide pins engage comparator.

c. Secure comparator to electrical equipment rack by engaging two swing bolts and, using torque wrench, torque two inner locknuts to 140±10 inch-pounds. Secure inner locknuts with outer locknuts. (QUALITY ASSURANCE)

d. Connect cable plugs 39A47P1 through 39A47P7 to comparator receptacles 47J1 through 47J7, respectively. Ensure that receptacles 47J12 and 47J13 are capped and that special caps 47AT1 through 47AT4 are installed on receptacles 47J8 through 47J11, respectively.

e. Allow protective cover to return to closed position.

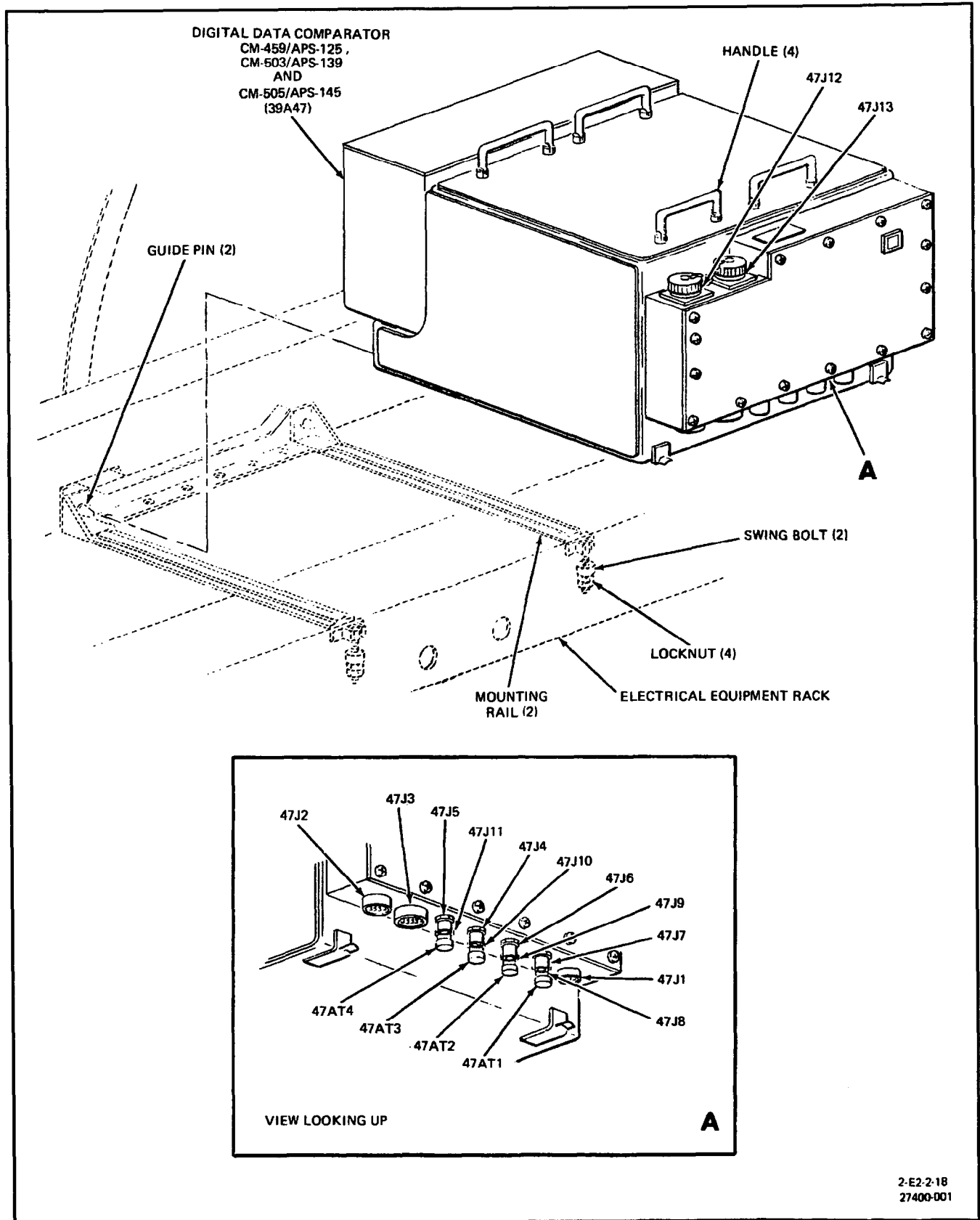


Figure 1. Removal and Installation of Digital Data Comparator CM-459/APS-125, CM-503/APS-139, and CM-505/APS-145

f. Perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00), Radar Set AN/

APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00), or Radar Set AN/APS-145 (NAVAIR 01-E2AAA-2-17.7, WP036 00).

ORGANIZATIONAL MAINTENANCE

MULTIPLEXER TD-1203/APS-125

EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, AND 161341 THROUGH 161344

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 .....	034 00

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Record of Applicable Technical Directives

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
AVC 2149	—	Antenna Assembly Modification of (ECP 253)	3/1/79	Aircraft Serial No. 160987 and subsequent, and those aircraft incorporating AVC 2149.
—	10/20/80	TRAC "A" Prime (ECP-GR-E-2C-306)	6/1/82	Effectivity: Aircraft preceding aircraft serial no. 161345 and those aircraft incorporating ECP-GR-E-2C-306.

1. GENERAL.

2. The Multiplexer TD-1203/APS-125 (hereinafter referred to as the multiplexer) (39A48) is part of the Radar Set AN/APS-125. The multiplexer is in the aft section of the rotodome (see figure 1). Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
223544-1 (Randtron Systems)	7/8-Inch Torque Wrench (305 inch-pounds)
75395-401 (Randtron Systems)	1 1/4-inch Torque Wrench (8010 inch-pounds)
FSN 9Q5120-542-4489	Torque Wrench (5-150 inch pounds)

3. REMOVAL. (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove cover for access to multiplexer.
- b. Remove two clamps securing two 1/2-inch lines, and two clamps securing two 7/8-inch lines.
- c. To allow lines to pivot, loosen four nuts on 1/2-inch line (identified by numbers 1 through 4) and two nuts on 7/8-inch line (identified by numbers 5 and 6).
- d. Disconnect two adapters (connected to 7/8-inch lines) from multiplexer receptacles 48J1 and 48J2.
- e. Disconnect two adapters (connected to 1/2-inch lines) from multiplexer receptacles 48J3 and 48J4.

**Note**

Step f only applies to aircraft not incorporating AVC 2149.

f. Loosen two captive screws securing multiplexer to mount.

**Note**

Step g only applies to aircraft incorporating AVC 2149.

g. Remove two screws, two lockwashers, and four washers securing multiplexer to mount. (See figure 1, views C and D.)

h. Carefully lift multiplexer off mount guide pins and remove multiplexer through access hole being careful not to damage any lines.

i. Cap all adapter ends and receptacles.

4. INSTALLATION. (See figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
Penetrox A (Burndy Corp.)	Conductive Lubricant
EC-1239 (3M Company)	Sealer
MS20995NC40	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove all caps from all adapter ends and receptacles.

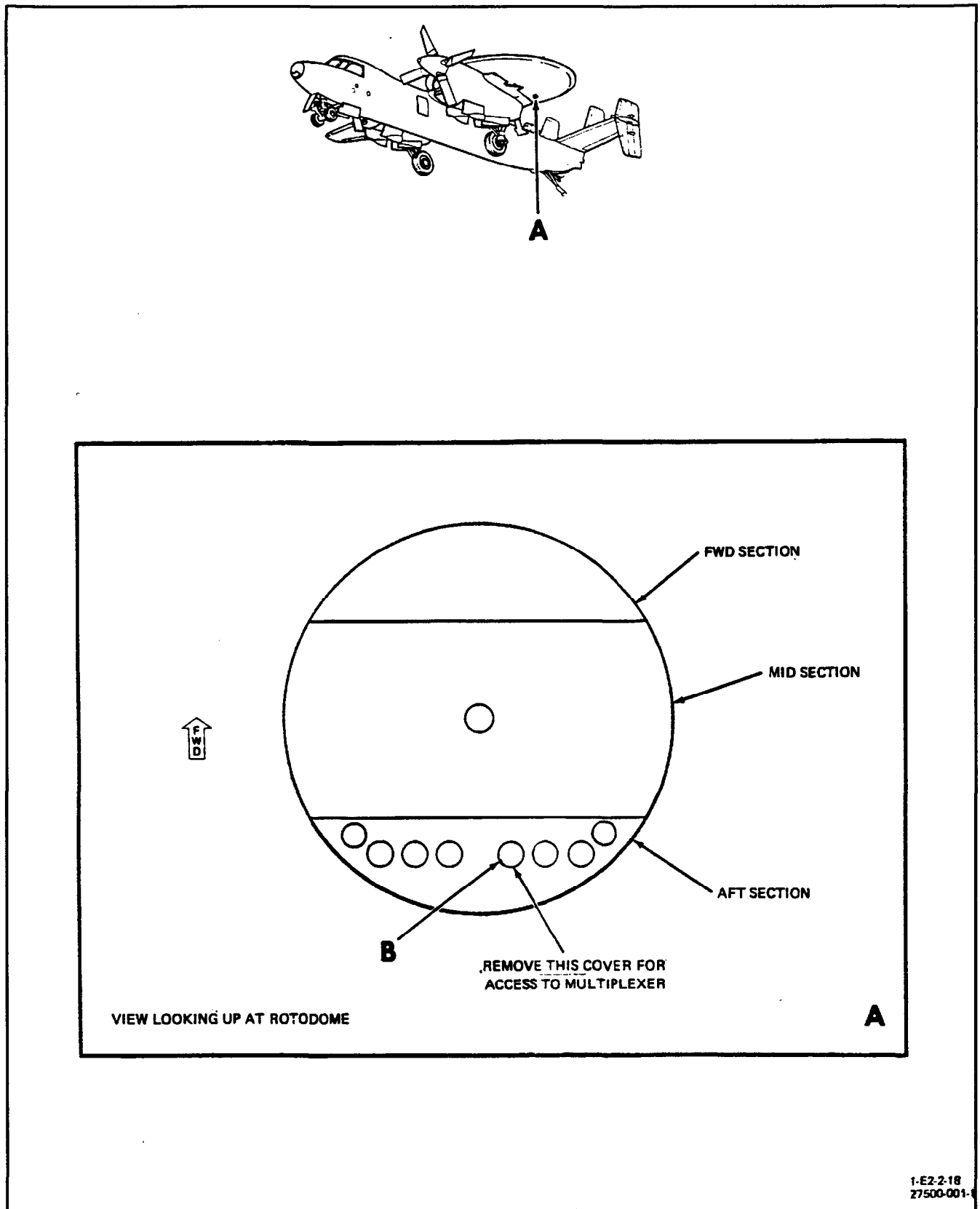


Inspect all adapters and receptacles for damage before installation.

b. Raise multiplexer through access hole in rotodome being careful not to damage any of the lines. (QUALITY ASSURANCE)

c. Plate multiplexer on mount insuring that two guide pins (on top of mount) engage two holes on top of multiplexer. (QUALITY ASSURANCE)





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27500-001-4

Figure 1. Removal and Installation of Multiplexer TD-1203/APS-125 (Sheet 1 of 3)

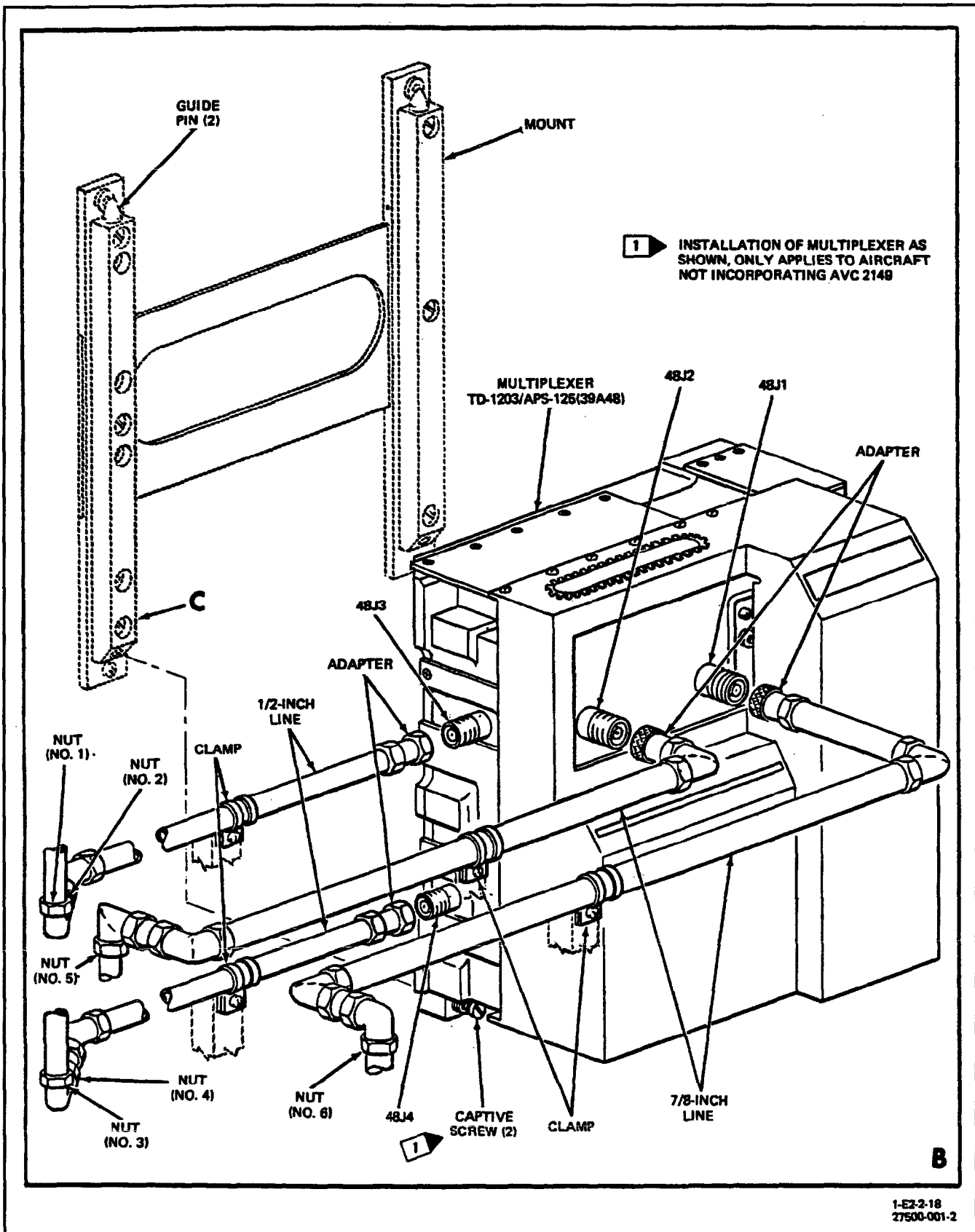


Figure 1. Removal and Installation of Multiplexer TD-1203/APS-125 (Sheet 2)

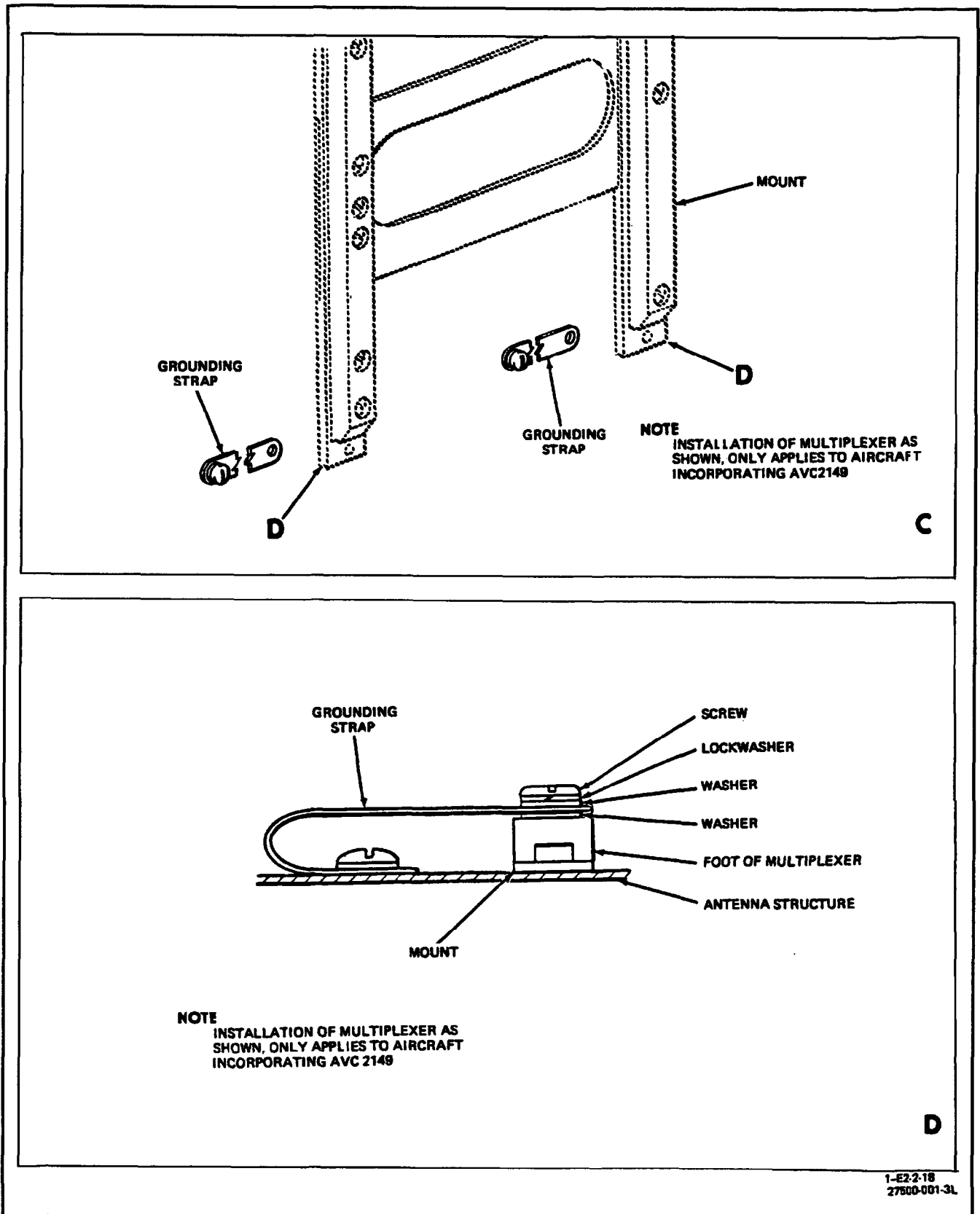


Figure 1. Removal and Installation of Multiplexer TD-1203/APS-125 (Sheet 3)

**Note**

Step d only applies to aircraft not incorporating AVC 2149.

d. Secure bottom of multiplexer to mount with two captive screws. Torque two captive screws to  $60\pm 5$  inch-pounds. (QUALITY ASSURANCE)

**Note**

Step e only applies to aircraft incorporating AVC 2149.

e. Using two screws, two lockwashers, and four washers, secure grounding straps to feet of multiplexer and multiplexer to mount. (See figure 1, views C and D.) Torque two screws to  $60\pm 5$  inch-pounds. (QUALITY ASSURANCE)

f. Apply conductive lubricant to threads of four receptacles 48J1 through 48J4. (QUALITY ASSURANCE)

g. Pivot two 1/2-inch lines until adapter nuts (at end of lines) are aligned with receptacles 48J3 and 48J4 on multiplexer.

h. Connect adapter nuts to receptacles 48J3 and 48J4 and then safety-wire each nut with lockwire. (QUALITY ASSURANCE)

i. Secure two 1/2-inch lines with two clamps. (QUALITY ASSURANCE)

j. Using 7/8-inch torque wrench, torque four nuts (identified by numbers 1 through 4) to  $30\pm 5$  inch-pounds. Stake four nuts with spot of sealer. (QUALITY ASSURANCE)

k. Pivot two 7/8-inch lines until adapter nuts (at end of lines) are aligned with receptacles 48J1 and 48J2 on multiplexer.

l. Connect adapter nuts to receptacle 48J1 and 48J2 and then safety-wire each nut with lockwire. (QUALITY ASSURANCE)

m. Secure two 7/8-inch lines with two clamps. (QUALITY ASSURANCE)

n. Using 1 1/4-inch torque wrench, torque two nuts (identified by numbers 5 and 6) to  $80\pm 10$  inch-pounds. Stake two nuts with spot of sealer. (QUALITY ASSURANCE)

o. Perform an operational check of Radar Set AN/APS-125 (NAVAIR 01-E2AAA-2-17.4, WP034 00).

p. Replace cover removed for access to multiplexer.

**ORGANIZATIONAL MAINTENANCE**

**DETECTOR-PROCESSOR DT-581/APS-125 AND DT-631/APS-139**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028, AND 163029 THROUGH 164107**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6
Radar Set AN/APS-139 .....	035 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	TRAC "A" Prime APS-138 (ECP 306)	6/1/82	Effectivity: Aircraft Serial No. 161346 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP 329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. Removal and installation procedures described in this work package (WP) apply to each of the following units:

a. The Detector-Processor DT-581/APS-125 (hereinafter referred to as the processor) (39A46) is part of Radar Set AN/APS-125 and Radar Set AN/APS-138 and used in aircraft preceding aircraft serial number 163029. The processor is located in the equipment com-

partment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 111) for location of processor.

b. The Detector-Processor DT-631/APS-139 (hereinafter referred to as the processor) (39A46) is part of Radar Set AN/APS-139 and used in aircraft serial numbers 163029 through 164107. The processor is in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 111) for location of processor.

3. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
100-600 inch-pounds	Torque Wrench

4. **REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove 17 cable plugs from processor receptacles 46J1 through 46J16, and 46J20.
- b. Loosen four locknuts and disengage two swing bolts securing processor to electrical equipment rack.
- c. Slowly pull processor forward until two guide pins are disengaged. Lift front of receiver and slide forward until rear handles are accessible. Using handles, lift processor from electrical equipment rack.
- d. Cap all plugs and receptacles.

5. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from plugs and receptacles.



Inspect plugs and receptacles for damage and bent pins prior to installation.

- b. Using handles, carefully place processor on electrical equipment rack. Push processor backward until two guide pins engage processor and processor rests against air supply duct.
- c. Secure processor to electrical equipment rack by engaging two swing bolts. Using torque wrench torque two inner locknuts to  $140 \pm 10$  inch-pounds. Secure inner locknuts with outer locknuts. (QUALITY ASSURANCE)
- d. Connect cable plugs 39A46P1 through 39A46P16, and 39A46P20 to processor receptacles 46J1 through 46J16, and 46J20, respectively. Ensure that receptacles 46J17 through 46J19 are capped.
- e. Perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00) or Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00).

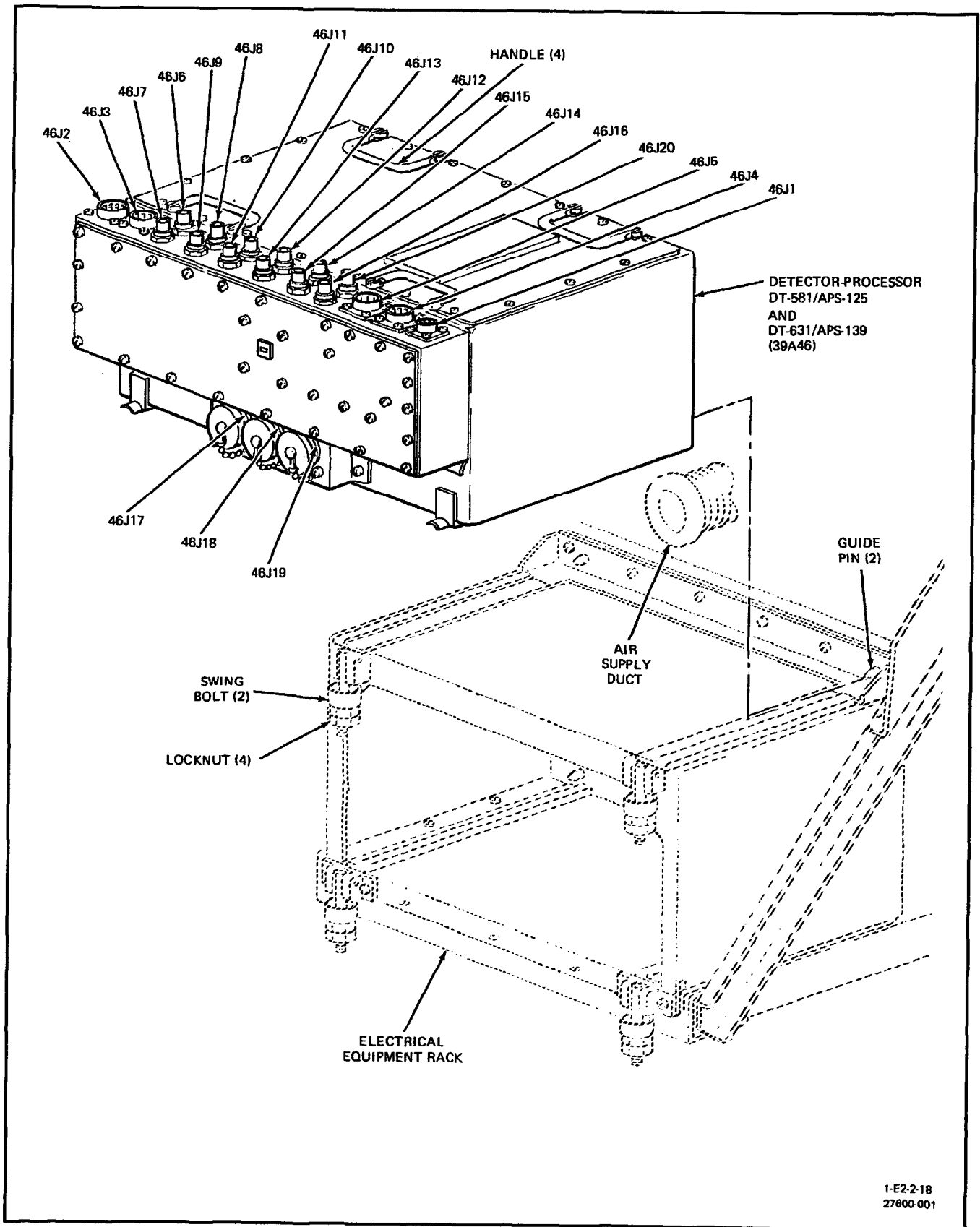


Figure 1. Removal and Installation of Detector-Processor DT-581/APS-125 and DT-631/APS-138





**ORGANIZATIONAL MAINTENANCE**

**DETECTOR-PROCESSOR DT-638/APS-145**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.7
Radar Set AN/APS-145 .....	036 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Detector-Processor DT-638/APS-145 (hereinafter referred to as the processor) (39A53) is part of Radar Set AN/APS-145. The processor is in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 111A) for location of the processor.

**3. REMOVAL. (Figure 1.)**



Ensure that external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove 17 cable plugs from processor receptacles 53J1 through 53J16, and 53J20.
- b. Loosen four locknuts and disengage two swing bolts that secure processor to electrical equipment rack.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
100-600 inch-pounds	Torque Wrench

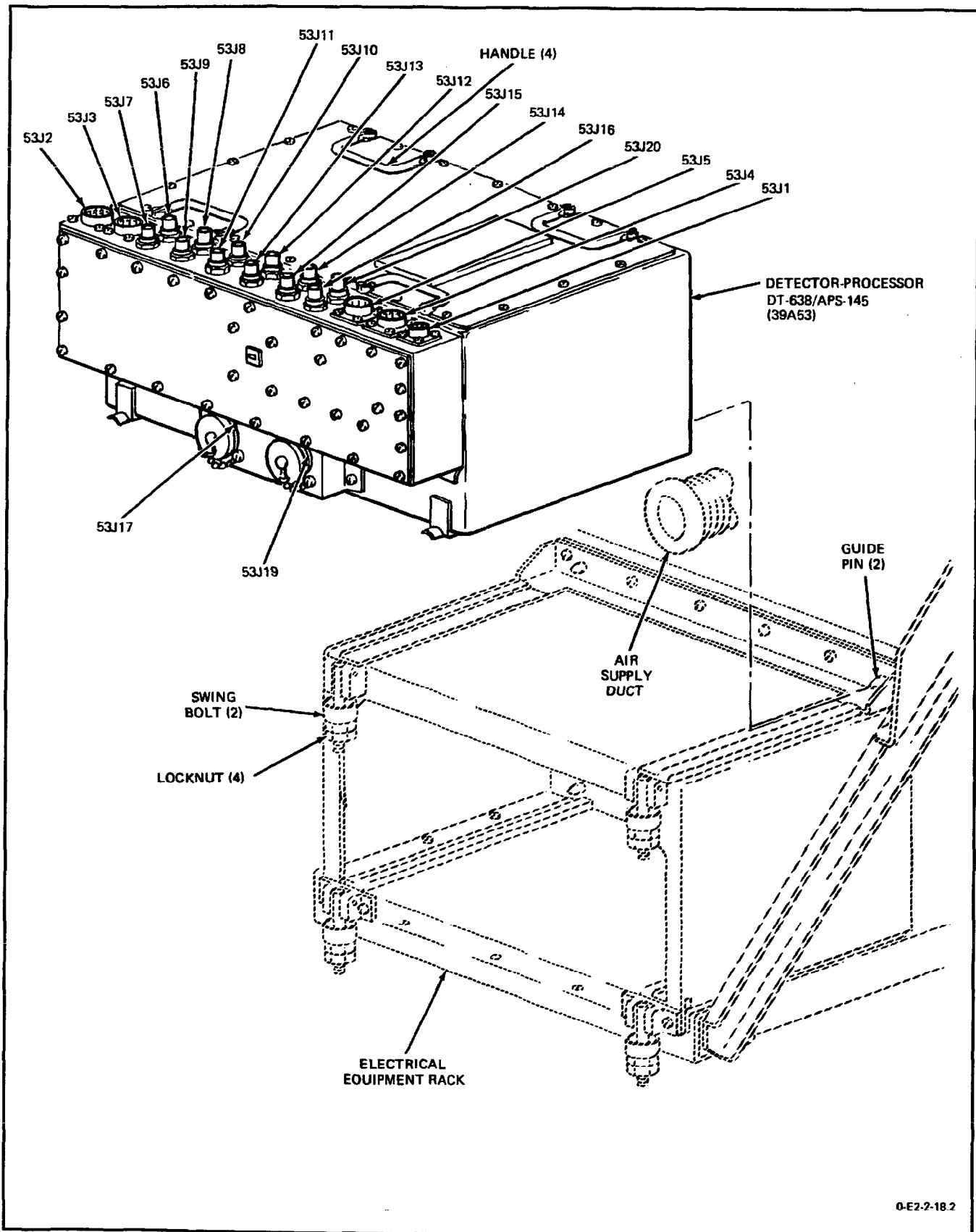


Figure 1. Removal and Installation of Detector-Processor DT-638/APS-145

c. Slowly pull processor forward until two guide pins are disengaged. Lift front of receiver and slide forward until rear handles are accessible. Using handles, lift processor from electrical equipment rack.

d. Cap all connectors and receptacles.

**4. INSTALLATION.** (Figure 1.)



Ensure that external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors and receptacles.

b. Inspect all connectors and receptacles for damage and bent pins prior to component installation.

c. Using handles, carefully place processor on electrical equipment rack. Push processor backward until two guide pins engage processor and processor rests against air supply duct.

d. Secure processor to electrical equipment rack by engaging two swing bolts. Torque inner locknuts to 130 to 150 inch-pounds. Secure inner locknuts with outer locknuts. (QUALITY ASSURANCE)

e. Connect cable connectors 39A53P1 through 39A53P16, and 39A53P20 to processor receptacles 53J1 through 53J16, and 53J20, respectively. Ensure receptacles 53J17 and 53J19 are capped.

f. Perform operational check of Radar Set AN/APS-145 (NAVAIR 01-E2AAA-2-17.7, WP036 00).



**ORGANIZATIONAL MAINTENANCE**

**DIGITAL SIGNAL CONVERTER CV-3353/APS-125 AND CV-3954/APS-145**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028, 163029 THROUGH 164107, AND 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6
Radar Set AN/APS-139 .....	035 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.7
Radar Set AN/APS-145 .....	036 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	TRAC "A" Prime APS-138 (ECP 306)	6/1/82	Effectivity: Aircraft Serial No. 161346 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP 329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

1. **GENERAL.**

2. Removal and installation procedures described in this work package (WP) apply to each of the following units:

a. The Digital Signal Converter CV-3353/APS-125 (hereinafter referred to as the converter) (39A49) is part of Radar Set AN/APS-125, Radar Set AN/APS-138 and Radar Set AN/APS-139 and used in aircraft serial numbers 160012 through 164107. The converter is in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 112) for location of converter.

b. The Digital Signal Converter CV-3954/APS-145 (hereinafter referred to as the converter) (39A49) is part of Radar Set AN/APS-145 and used in aircraft serial number 164108 and subsequent. The converter is in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 112A) for location of the converter.

c. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
100 to 600 inch-pounds	Torque Wrench

3. **REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove three cable plugs from converter receptacles 49J1 through 49J3.

b. Loosen four locknuts and disengage two swing bolts securing converter to electrical equipment rack.

c. Slowly pull converter forward until two guide pins are disengaged. Using handles, remove converter from electrical equipment rack.

d. Cap all plugs and receptacles.

4. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from plugs and receptacles.



Inspect plugs and receptacles for damage and bent pins prior to installation.

b. Using handles, carefully insert converter into electrical equipment rack. Push converter backward until two guide pins engage converter.

c. Secure converter to electrical equipment rack by engaging two swing bolts and, using torque wrench, torque two inner locknuts to 140±10 inch-pounds. Secure inner locknuts with outer locknuts. (QUALITY ASSURANCE)

d. Connect cable plugs 39A49P1 through 39A49P3 to converter receptacles 49J1 through 49J3, respectively. Ensure that receptacle 49J4 is capped.

e. Perform appropriate operational check: Radar Set AN/APS-125, Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00), Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00), or Radar Set AN/APS-145 (NAVAIR 01-E2AAA-2-17.7, WP036 00).

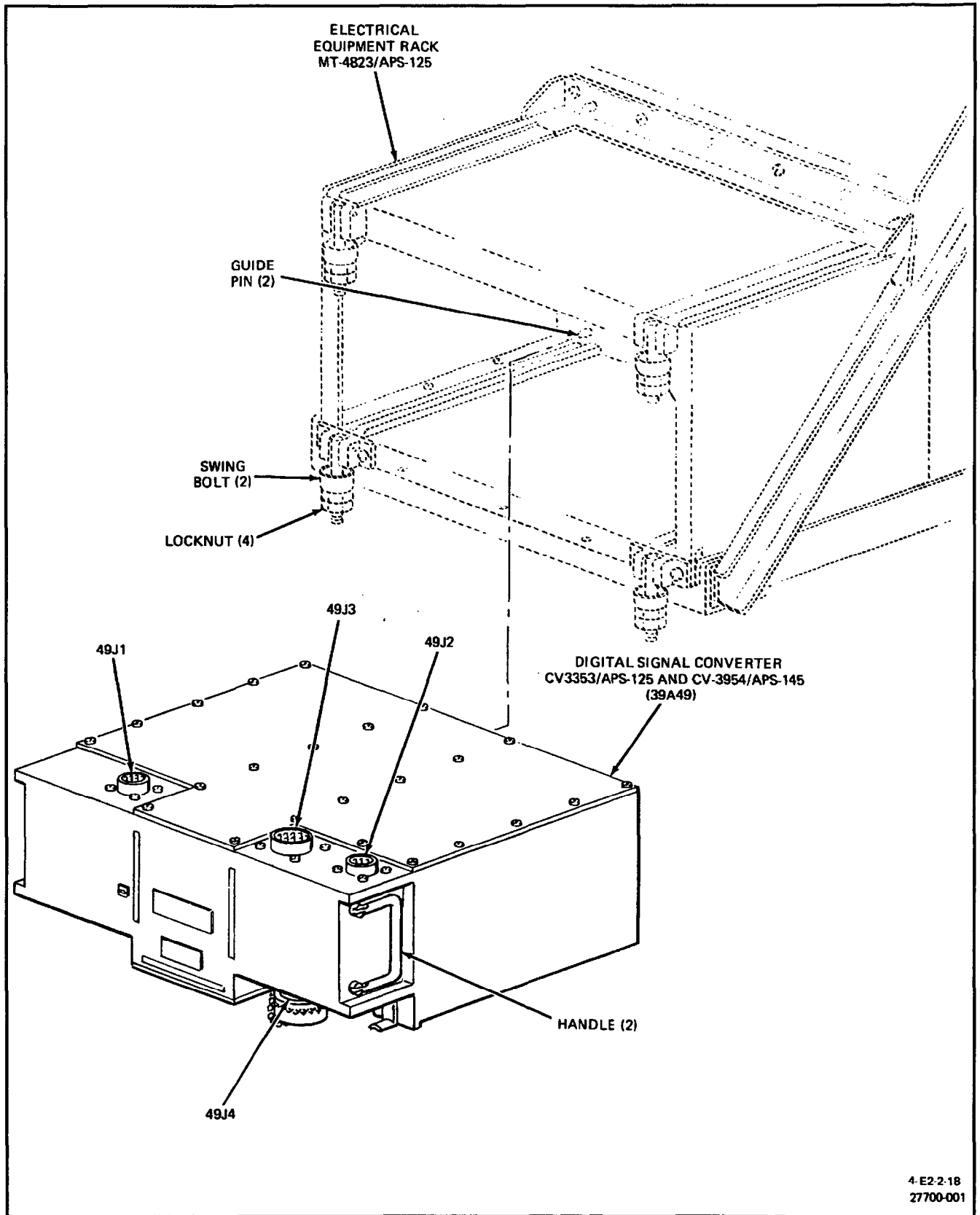


Figure 1. Removal and Installation of Digital Signal Converter CV-3353/APS-125 and CV-3954/APS-145





**ORGANIZATIONAL MAINTENANCE**

**ELECTRICAL EQUIPMENT RACK MT-4823/APS-125**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028 AND 163029 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6
Radar Set AN/APS-139 .....	035 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Detector-Processor DT-581/APS-125 .....	276 00
Digital Signal Converter CV-3353/APS-125 .....	277 00

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—	—	TRAC "A" Prime APS-138 (ECP 306)	6/1/82	Effectivity: Aircraft Serial No. 161346 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Electrical Equipment Rack MT-4823/APS-125 (hereinafter referred to as the rack) (39A50) is part of Radar Set AN/APS-125, Radar Set

AN/APS-138, and Radar Set AN/APS-139. The rack is in the equipment compartment, left side. Refer to NAV-AIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 114) for location of rack.

## 3. REMOVAL. (Figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove Detector-Processor DT-581/APS-125 or DT-631/APS-139 and Digital Signal Converter CV-3353/APS-125 (WP276 00 and WP277 00) from rack.
- b. Remove six screws (4) securing air duct (6) to rack (1).
- c. Remove six screws (2) and six washers (3) securing rear of rack (1) to brace (5).
- d. Remove four screws (11) and four washers (12) securing front of rack (1) to front of shelf (7).
- e. Remove 14 screws (8 and 10) and 6 washers (9) securing bottom of rack (1) to shelf (7).
- f. Remove four pins (13), washers (14), lockwashers (15) and nuts (16) securing rear of rack (1) to brace (5).
- g. Remove rack (1) from shelf (7).
- h. Cap air duct (6) opening.

## 4. INSTALLATION. (Figure 1.)

**WARNING**

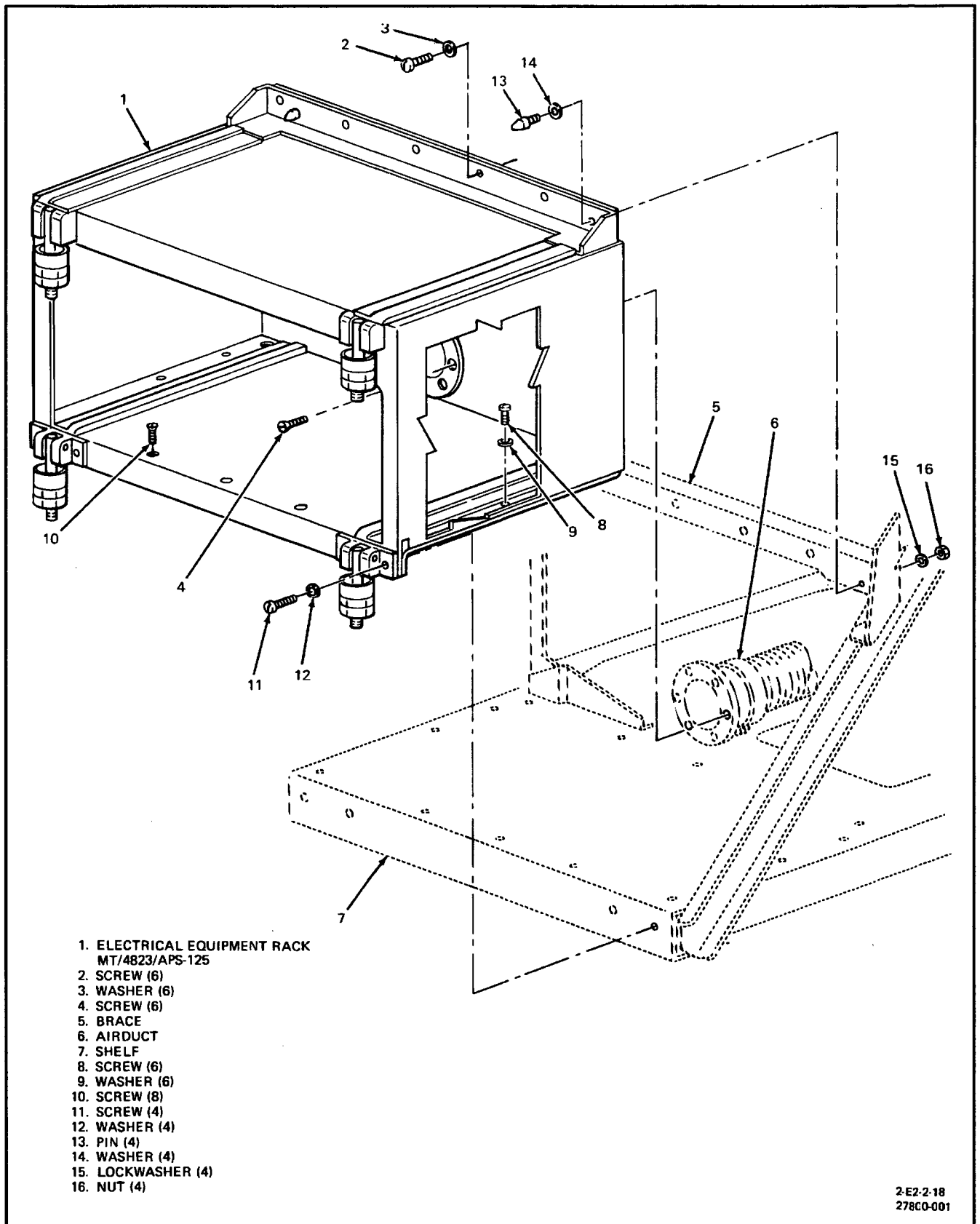
Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove cap from air duct (6).
- b. Place rack (1) on shelf (7) insuring that holes at rear of rack (1) align with holes in air duct (6).

**Note**

Do not tighten screws until all screws have been started.

- c. Attach rear of rack (1) to brace (5) with four pins (13), washers (14), lockwashers (15), and nuts (16).
- d. Attach air duct (6) to rear of rack with six screws (4).
- e. Attach bottom of rack (1) to shelf (7) with 14 screws (8 and 10) and 6 washers (9).
- f. Attach front of rack (1) to front of shelf (7) with four screws (11) and four washers (12).
- g. Attach rear of rack (1) to brace (5) with six screws (2) and washers (3).
- h. Tighten all screws.
- i. Install Detector-Processor DT-581/APS-125 or DT-631/APS-139 and Digital Signal Converter CV-3353/APS-125 (WP276 00 and WP277 00) into rack.
- j. Perform appropriate operational check: Radar Set AN/APS-125 or Radar Set AN/APS-138 (NAVAIR 01-E2AAA-2-17.4, WP034 00) or Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00).



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Figure 1. Removal and Installation of Electrical Equipment Rack MT-4823/APS-125



**ORGANIZATIONAL MAINTENANCE**

**RADIO FREQUENCY ROTARY COUPLER CU-2287/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161345, 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
External Hydraulic Power Connections .....	028 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Antenna Groups OE-243/A .....	032 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Sets AN/APS-125 and AN/APS-138 .....	034 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Directional Coupler CU-2000/APS-120 .....	167 00
Directional Coupler CU-1997/APS-120 .....	171 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	10/20/80	TRAC-A-Rotodome and 8 Channel Rotary Coupler (ECP GR-E-2C-300(0))	6/1/82	Effectivity: Aircraft Serial No. 161345 and subsequent and those aircraft incorporating ECP GR-E-2C-300(0).
—	6/30/83	Modification to the Air Leakage Test Set and Consolidation of Adapter Sets (ECP 313SE)	10/1/83	—

1. GENERAL.

2. The Radio Frequency Rotary Coupler CU-2287/A (48A2) (hereinafter referred to as the rotary coupler) (figure 1) and Antenna Assembly AS-3547/A (hereinafter referred to as the rotodome) are parts of Antenna Group OE-335/A.

3. The rotary coupler is removed from the aircraft by splitting the rotary coupler into two sections (top and bottom sections) and removing the bottom section through the fuselage and the top section through the top of the rotodome shaft.

4. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
MIL-H-24460A(SH)	Safety Harness and Lanyard
28458-1 (Randtron) *	1/2-inch Nut Reduced Wrench
28901-406 (Randtron) *	T-Handle Wrench Assembly (Allen-head)
28901-408 (Randtron) *	2 3/4-inch Wrench
28901-409 (Randtron) *	1 1/4-inch Wrench
28901-420 (Randtron) *	T-Handle Socket Wrench (7/16-inch socket)
28901-421 (Randtron) *	Lifting Hook Assembly
28901-422 (Randtron) *	2 7/8-inch Wrench Assembly
3/8-inch	Open End Wrench
5 to 150 Inch-Pounds	Torque Wrench
100 to 750 Inch-Pounds	Torque Wrench

\* Part of Rotary Coupler Installation Toolset(Part No. 28901-1) (Randtron)

5. REMOVAL. (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS-122DF	Lubricant, Dry Film

**WARNING**

Insure that external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00). Insure that hydraulic power is removed from aircraft (NAVAIR 01-E2AAA-2-1, WP028 00).

Personnel shall not work on top of rotodome while aircraft is on carrier flight deck or in any other area where recommended safety equipment cannot be used.

**CAUTION**

To prevent damage to the rotary coupler, make certain that rotodome is in extended position and that fixed fairings (on pylon) are installed. Rotodome shall not be lowered at anytime with the rotary coupler partially attached to aircraft.

Removal procedures require walking on top of rotodome. Three men (maximum) shall work on top of rotodome and shall use footwear that will prevent damage to rotodome surface.

**Note**

It is recommended that a minimum of three men be used to remove rotary coupler.

a. Remove fairing and support assembly (10) from aircraft pylon station 50.00 as follows:

(1) Remove 32 screws (3) that secure fairing and support assembly (10) to cover (4).

(2) Remove 12 screws (2) that secure collar (1) to bottom of pylon drive mechanism fairing.

(3) Remove 11 screws (9) that secure flange (8) to both bracket (6) and top of fuselage (7). Remove fairing and support assembly (10).

(4) Remove three screws (5) that secure cover (3) to bracket (6).

b. In crew compartment, proceed as follows:

(1) Remove protective covers, ceiling light, and support brackets to gain access to bottom of rotary coupler and attaching lines and cables.

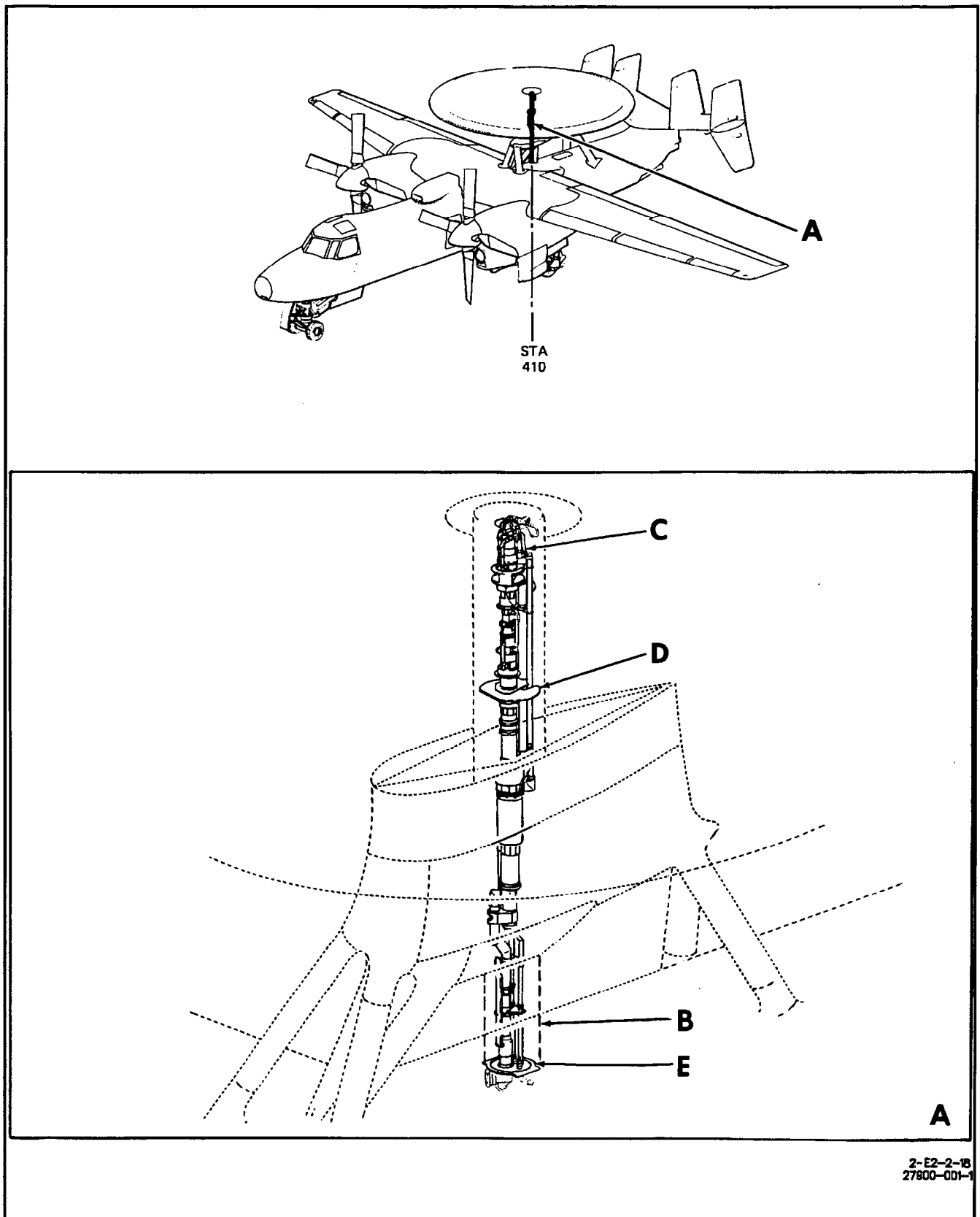
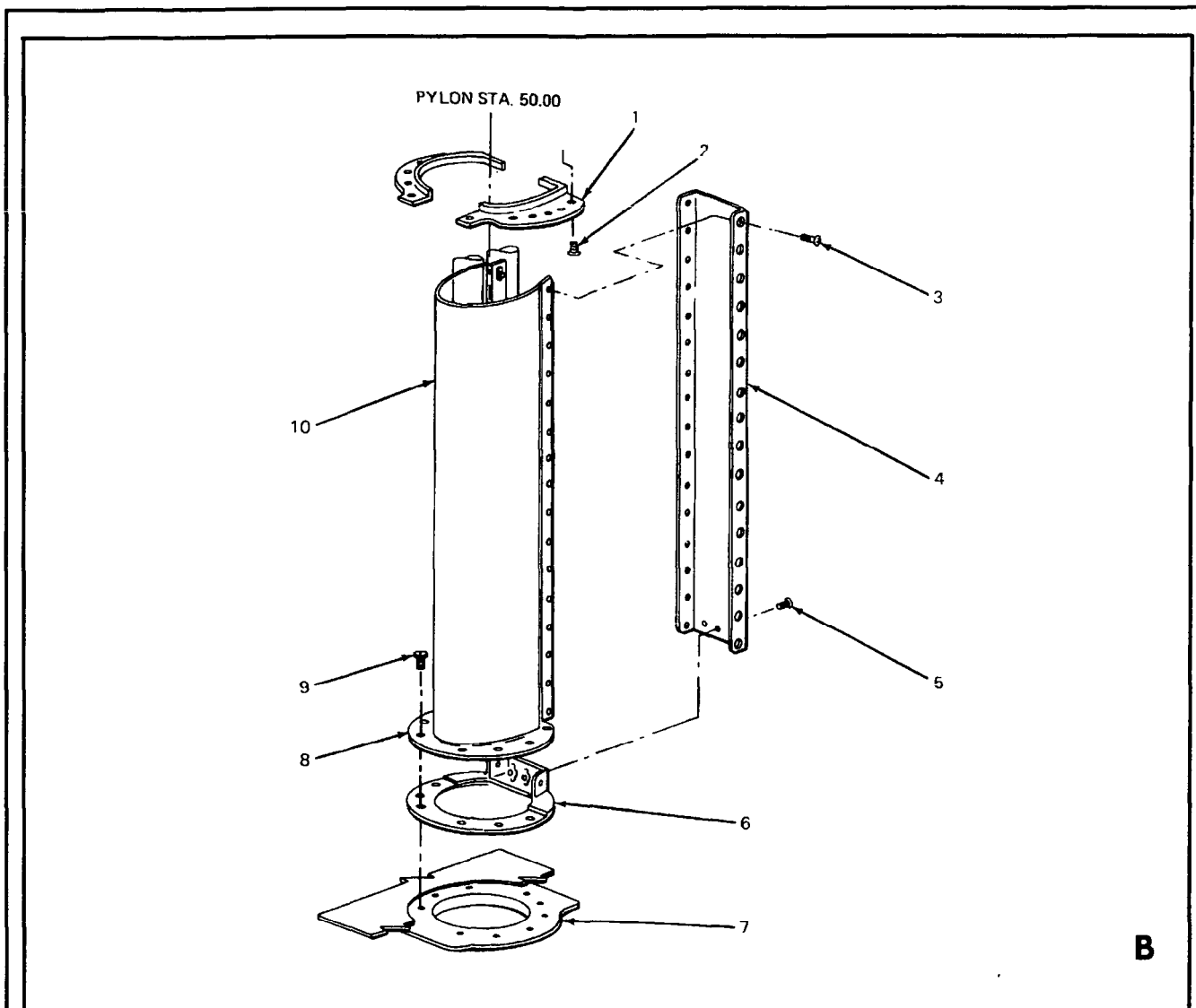


Figure 1. Removal and Installation of Radio Frequency Rotary Coupler CU-2287/A (Sheet 1 of 4)



- 1. COLLAR (PYLON DRIVE MECHANISM FAIRING)
- 2. SCREW (12)
- 3. SCREW (32)
- 4. COVER
- 5. SCREW (3)
- 6. BRACKET
- 7. TOP OF FUSELAGE
- 8. FLANGE
- 9. SCREW (11)
- 10. FAIRING AND SUPPORT ASSEMBLY

3-E2-2-18  
27900 001-2

Figure 1. Removal and Installation of Radio Frequency Rotary Coupler CU-2287/A (Sheet 2)



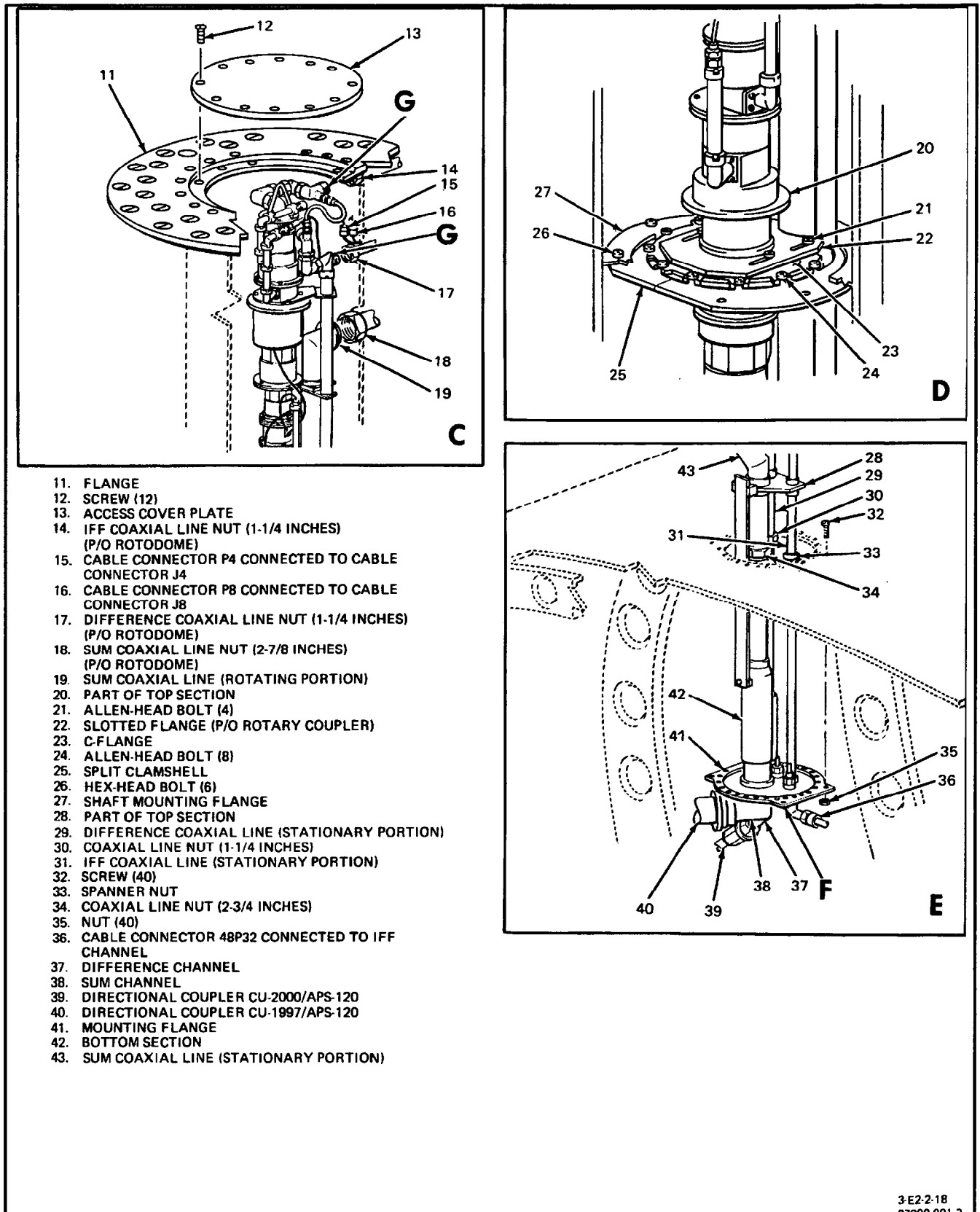


Figure 1. Removal and Installation of Radio Frequency Rotary Coupler CU-2287/A (Sheet 3)

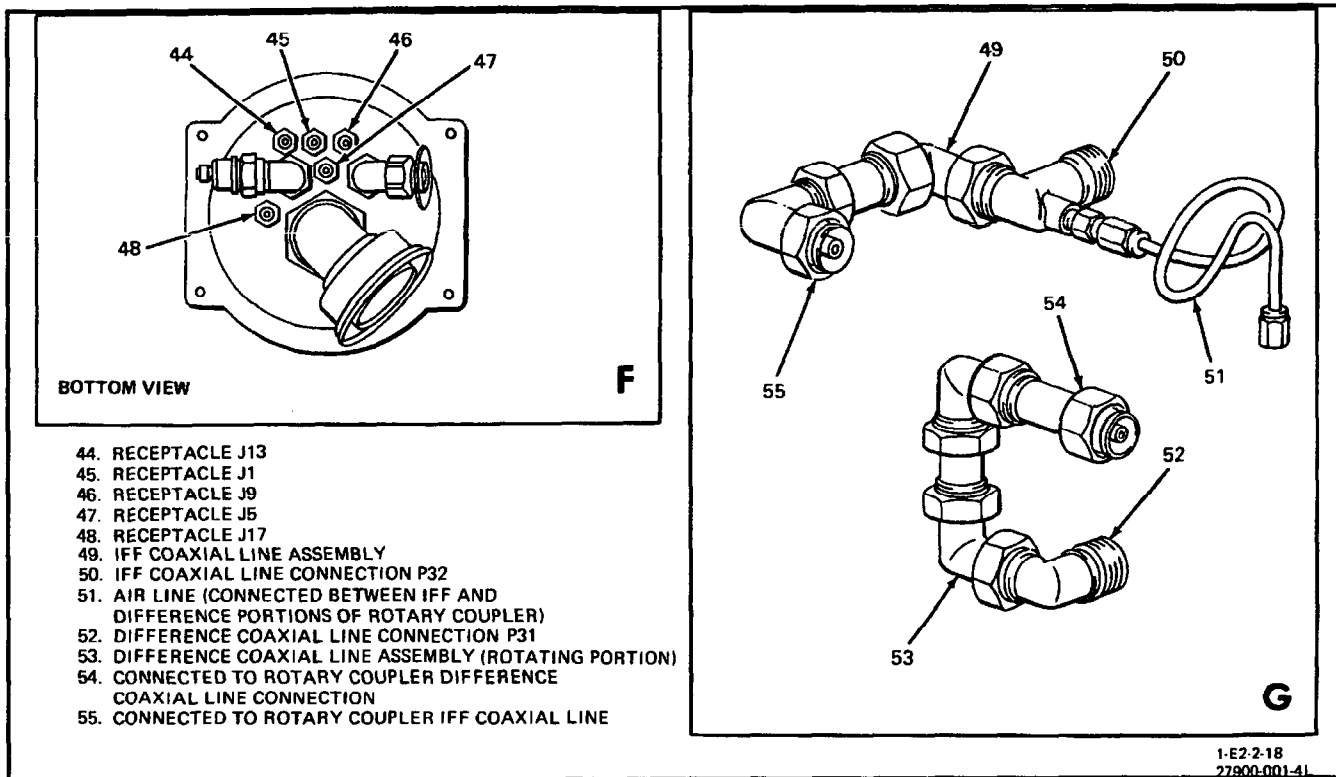


Figure 1. Removal and Installation of Radio Frequency Rotary Coupler CU-2287/A (Sheet 4)

**WARNING**

When handling known or suspected burned transmission lines, protective goggles, respirator mask, head covering, gloves and long-sleeved garment shall be worn. If any powder from burned transmission lines comes in contact with skin, flush skin thoroughly with water and seek medical assistance.

(2) Remove Directional Couplers CU-1997/APS-120 (40) and CU-2000/APS-120 (39) (NAVAIR 01-E2AAA-2-18.1, WPs 171 00 and 167 00, respectively) from bottom of rotary coupler.

**Note**

Tag cables to facilitate installation.

(3) Remove two coaxial cable connectors 48P1 and 48P5 from receptacles J1 (45) and J5 (47) on bottom of rotary coupler mounting flange (41).

(4) Remove cable connector 48P32 (36) from receptacle (IFF channel) on bottom of rotary coupler mounting flange (41).

c. Remove bottom section (42) of rotary coupler as follows:

**Note**

The following procedure is performed on top of fuselage unless otherwise specified.

Receptacles on both sides of mounting flange (41) are identified with the same reference designations.

Remove and discard lockwire before disconnecting nuts.

(1) Disconnect five coaxial cable connectors P1, P5, P9, P13, and P17 from receptacles J1 (45), J5 (47), J9 (46), J13 (44), and J17 (48), respectively, on top of mounting flange (41).

(2) Disconnect lower clamp securing coaxial cables to bottom section.

**Note**

The next three substeps will disconnect the lines which couple the bottom section (42) of rotary coupler to top section (28) of rotary coupler.

(3) Using 1/2-inch nut reduced wrench (28458-1), disconnect spanner nut (33) on IFF line (31).

(4) Using 1 1/4-inch wrench (28901-409), disconnect coaxial line nut (30) on difference line (29).

(5) Using 2 3/4-inch wrench (28901-408), disconnect coaxial line nut (34) on sum line (43).

(6) While one man holds bottom section (42) of rotary coupler, have two men remove 40 screws (32) and 40 nuts (35) securing rotary coupler mounting flange (41) to fuselage structure. (Access to nuts must be gained via crew compartment.)

(7) Carefully remove bottom section (42) of rotary coupler through mounting hole in fuselage structure.

(8) Cap all cable and rotary coupler connectors and bag all hardware.

### WARNING

Dry film lubricant, MS-122DF, can release poison gas when heated; excessive inhalation during normal use can cause dizziness, suffocation, and eye irritation. It can also contaminate smoking tobacco exposed to the lubricant. Do not breathe vapors. Use fresh water to flush eyes if they burn. Wash hands after leaving work area, particularly before smoking. No smoking in area where dry film lubricant is used.

(9) Apply dry film lubricant, MS-122DF, to sealant prior to cleaning. This will facilitate removal of sealant.

(10) Clean sealant from fuselage using non-abrasive scraper.

d. Remove top section of rotary coupler as follows:

### WARNING

Use specified safety equipment to prevent personnel from falling from top of rotodome.

(1) Using safety harness, and lanyard (MIL-H-24460A(SH)), have men working on top of rotodome secure themselves to a substantial overhead structure.

(2) Remove 12 screws (12) securing access cover plate (13) to flange (11) on top of rotodome, and remove access cover plate.

### Note

Mating coaxial cable connectors P4 and J4 (15) are color coded with black sleeves. Mating coaxial cable connectors P8 and J8 (16) are color coded with white sleeves. Observe

this color coding when performing next sub-step.

(3) Disconnect two coaxial cable connectors P4 and P8 (15 and 16) (from rotary coupler) from two coaxial cable connectors J4 and J8 (from rotodome), respectively.

### CAUTION

Assemblies removed in substeps (4) and (5) are phase adjusted to the rotary coupler from which they were removed. Therefore, assemblies shall not be interchanged with similar assemblies of other rotary couplers.

### Note

Removal of assemblies described in substeps (4) and (5) is accomplished in order to obtain easier access to coaxial lines and mounting hardware within shaft.

(4) Using 1 1/4-inch wrench (28901-409) and 3/8-inch wrench, disconnect (as one assembly) IFF coaxial lines (55) and air line (51) connecting top section of rotary coupler. Using 1 1/4-inch wrench (28901-409), disconnect rotodome IFF coaxial line nut (14) from IFF coaxial line connection P32 (50).

(5) Using 1 1/4-inch wrench (28901-409), disconnect (as one assembly) difference coaxial line connection P31 (52) connecting top section of rotary coupler to rotodome difference coaxial line nut (17). Using 1 1/4-inch wrench (28901-409), disconnect difference coaxial line connection (54) from difference coaxial line (stationary portion) (29).

(6) Disconnect rotodome sum line (18) from rotary coupler sum line (19) as follows:

(a) On top of rotodome (using T-handle wrench assembly (28901-406)), loosen four Allen-head bolts (21) securing top section slotted flange (22) to the C-flange (23).

(b) Using 2 7/8-inch wrench assembly (28901-422), disconnect sum coaxial line nut (18) from sum coaxial line (19) on top section.

(c) Move sum coaxial line nut (18) away from rotary coupler top section sum coaxial line (19).

(7) Connect lifting hook assembly (28901-421) to lifting ring on top section.

(8) Using T-handle wrench assembly (28901-406), remove eight Allen-head bolts (24) securing C-flange (23) to split clamshell (25).

**WARNING**

Top section of rotary coupler weighs approximately 60 pounds.

(9) While two men restrain top section, another man, using T-handle socket wrench (28901-420), shall remove four of the six hex-head bolts (26) securing split clamshell (25) to shaft mounting flange (27). Loosen the remaining two hex-head bolts (26).

(10) Open split clamshell (25) fully and then, using T-handle socket wrench (28901-420), tighten two hex-head bolts (26) (loosened in substep (9) to maintain split clamshell in open position.

(11) Carefully remove top section through top of shaft.

(12) Install IFF coaxial line assembly (49) and difference coaxial line assembly (53) to top section of rotary coupler.

(13) Cap all cable and rotary coupler connectors.

**6. INSTALLATION.** (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MIL-S-8802	Sealant
MS20995NC40	Lockwire
Penetrox A	Conductive Lubricant
DV6227-075-450SS (Delmo-Victor)	O-Ring (1/2-inch)
DV6227-075-812SS (Delmo-Victor)	O-Ring (7/8-inch)
MS9068-137	O-Ring (2 1/4-inch)

**WARNING**

Insure that external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00). Insure that

hydraulic power is removed from aircraft (NAVAIR 01-E2AAA-2-1, WP028 00).

Personnel shall not work on top of rotodome while aircraft is on the carrier flight deck or in any other area where recommended safety equipment cannot be used.

**CAUTION**

To prevent damage to the rotary coupler, make certain that rotodome is in extended position and that fixed fairings (on pylon) are installed. Rotodome shall not be lowered at anytime with the rotary coupler partially attached to aircraft.

Installation procedures require walking on top of rotodome. Three men (maximum) shall work on top of rotodome and shall use footwear that will prevent damage to rotodome surface.

**Note**

It is recommended that a minimum of three men be used to install the rotary coupler.

a. Install top section of rotary coupler as follows:

**WARNING**

Use specified safety equipment to prevent personnel from falling from top of rotodome.

**Note**

Before mating coaxial hardline joints, inspect O-rings for indication of wear or damage. Replace O-rings as required.

(1) Using safety harness, and lanyard (MIL-H-24460A(SH)), men working on top of rotodome shall secure themselves to a substantial overhead structure.

(2) Remove all caps from top section of rotary coupler. Remove IFF coaxial line assembly (49) and difference coaxial line assembly (53) from top section of rotary coupler in accordance with paragraph 5, step d, substeps (4) and (5).

(3) Insure that split clamshell (25) (within shaft) is fully opened.

(4) Insure that slotted flange (22) on top section is loose.

**WARNING**

Top section of rotary coupler weighs approximately 60 pounds.

- (5) Secure lifting hook assembly (28901-421) to lifting ring on top section.

**Note**

It is recommended that one man position himself at bottom of pylon to guide top section through shaft while two men on top of rotodome lower and install top section.

- (6) Carefully lower top section through top of shaft until lower end of top section starts to protrude through bottom of pylon.

- (7) While two men restrain top section, another man, using T-handle socket wrench (28901-420), shall loosen two hex-head bolts (26) maintaining split clamshell (25) in full open position. Close split clamshell, and then install the other four hex-head bolts (26) that secure split clamshell to shaft mounting flange (27). Tighten all six hex-head bolts.

- (8) Lower top section until C-flange (23) rests on split clamshell (25). Using T-handle wrench assembly (28901-406), secure C-flange to split clamshell with eight Allen-head bolts (24).

- (9) Connect rotodome sum coaxial line nut (18) to rotary coupler sum coaxial line (19) as follows:

**CAUTION**

Do not apply conductive lubricant to any internal conductive surfaces.

- (a) Apply conductive lubricant sparingly to threads of sum coaxial line nut (18) (protruding from shaft) and threads of rotary coupler sum coaxial line (19). (QUALITY ASSURANCE)

**WARNING**

Sealant, MIL-S-8802, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed; keep sparks, flames, and heat away; keep sealant off skin, eyes, and clothes; do not breathe vapors.

**CAUTION**

Insure that sum coaxial line mating parts are fully seated to obtain good electrical contact which will prevent arcing.

- (b) Connect sum coaxial line nut (18) to rotary coupler sum coaxial line (19). Using 2 7/8-inch wrench assembly (28901-422), tighten sum coaxial line nut to  $450 \pm 90$  inch-pounds. Stake nut by applying a spot of sealant. (QUALITY ASSURANCE)

**CAUTION**

To insure rotation of rotary coupler about center of rotodome and minimize rotational stress on rotary coupler, hold rotary coupler aft (as far as it can go in direction of coaxial lines) before tightening four Allen-head bolts (21).

- (10) Using T-handle wrench assembly (28901-406), tighten four Allen-head bolts (21) to secure top section slotted flange (22) to the C-flange (23).

- (11) Remove lifting hook assembly (28901-421) from lifting ring on top section.

**CAUTION**

Do not apply conductive lubricant to any internal conductive surfaces.

- (12) Apply conductive lubricant sparingly to threads of difference coaxial line connection P31 (52) and difference coaxial line connection (54) that connects top section of rotary coupler to rotodome difference coaxial line nut (17). (QUALITY ASSURANCE)

- (13) Connect difference coaxial line connection P31 (52) and difference coaxial line connection (54). Using 1 1/4-inch wrench (28901-409) and appropriate torque wrench, torque coaxial line nuts (1 1/4-inches) to  $80 \pm 5$  inch-pounds. Stake nuts with spot of sealant. (QUALITY ASSURANCE)

- (14) Apply conductive lubricant sparingly to threads of IFF coaxial line assembly (49) that connects upper section of rotary coupler to rotodome IFF coaxial line nut (14). (QUALITY ASSURANCE)

**WARNING**

Sealant, MIL-S-8802, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed; keep sparks, flames, and heat away; keep sealant off skin, eyes, and clothes; do not breathe vapors.

(15) Connect IFF coaxial line assembly (49) and then, using 1 1/4-inch wrench (28901-409) and appropriate torque wrench, torque coaxial line nuts (1 1/4-inches) to  $80 \pm 5$  inch-pounds. Using 3/8-inch wrench, connect small air line (51) to top section of rotary coupler. Stake nuts with spot of sealant. (QUALITY ASSURANCE)

**Note**

Mating coaxial cable connectors P4 and J4 (15) are color coded with black sleeves. Mating coaxial cable connectors P8 and J8 (16) are color coded with white sleeves. Observe this color coding when performing next sub-step.

(16) Connect two coaxial cable connectors P4 and P8 (15, and 16) (from rotary coupler) to two coaxial cable connectors J4 and J8 (from rotodome), respectively. Install lockwire. (QUALITY ASSURANCE)

(17) Using 12 screws (12), attach access cover plate (13) to flange (11) on top of rotodome.

**WARNING**

Sealant, MIL-S-8802, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed; keep sparks, flames, and heat away; keep sealant off skin, eyes, and clothes; do not breathe vapors.

(18) Apply sealant around edge of access cover plate (13) and to 12 screw (12) heads. (QUALITY ASSURANCE)

b. Install bottom section (42) of rotary coupler as follows:

**Note**

Before mating coaxial hardline joints, inspect O-rings for indication of wear or damage. Replace O-rings as required.

(1) Remove all caps from bottom section of rotary coupler.

**CAUTION**

Movable lines in bottom section of rotary coupler shall be in low position in order to clear portions of top section during installation.

(2) Retract (put in low position) all movable lines (sum, difference, IFF) on bottom section of rotary coupler.

(3) On bottom section of rotary coupler, apply sealant to surface of mounting flange (41) that will contact fuselage.

**CAUTION**

Insure that alignment bar retainer on top section (28) of rotary coupler is facing toward nose of aircraft.

Insure that alignment bar on bottom section (42) of rotary coupler is properly engaged with channel on alignment bar retainer.

(4) Carefully insert bottom section of rotary coupler through mounting hole in fuselage until mounting flange (41) contacts fuselage.

(5) While one man holds bottom section of rotary coupler, two men shall secure mounting flange (41) to fuselage structure with 40 screws (32) and 40 nuts (35).

**CAUTION**

Do not apply conductive lubricant to any internal conductive surfaces.

(6) Apply conductive lubricant sparingly to two coaxial nuts (30 and 34) on top section (28) of rotary coupler and to spanner nut (33) on bottom section (42) of rotary coupler. (QUALITY ASSURANCE)

**CAUTION**

Insure that sum, difference and IFF coaxial line mating parts are fully seated to obtain good electrical contact which will prevent arcing.

**Note**

The next three substeps will connect the lines which couple the bottom section (42) of

rotary coupler to top section (28) of rotary coupler.

(7) Connect sum coaxial line nut (34) to stationary portion of sum coaxial line (43). Using 2 3/4-inch wrench (28901-408) and appropriate torque wrench, torque sum coaxial line nut (34) to  $450 \pm 90$  inch-pounds. Install lockwire. (QUALITY ASSURANCE)

(8) Connect difference coaxial line nut (30) to stationary portion of difference coaxial line (29). Using 1 1/4-inch wrench (28901-409) and appropriate torque wrench, torque difference coaxial line nut (30) to  $80 \pm 5$  inch-pounds. Install lockwire. (QUALITY ASSURANCE)

### CAUTION

Man on top of fuselage shall connect IFF line to insure proper alignment of key to keyway at spanner nut (33).

(9) Connect spanner nut (33) to stationary portion of IFF coaxial line (31). Using 1/2-inch nut reduced wrench (28458-1) and appropriate torque wrench, torque spanner nut (33) to  $30 \pm 5$  inch-pounds. Install lockwire. (QUALITY ASSURANCE)

(10) Connect five coaxial cable connectors P1, P5, P9, P13, and P17 (from top section) to receptacles J1 (45), J5 (47), J9 (46), J13 (44), and J17 (48) respectively, on top of mounting flange (41). Install lockwire. (QUALITY ASSURANCE)

(11) Using lower clamp, secure coaxial cables (from top section) to bottom section of rotary coupler.

c. In crew compartment, proceed as follows:

#### Note

Before mating coaxial hardline joints, inspect O-rings for indication of wear or damage. Replace O-rings as required.

(1) Connect cable connector 48P32 (36) to receptacle (IFF channel) on bottom of rotary coupler mounting flange (41).

(2) Connect two coaxial cable connectors 48P1 and 48P5 to receptacles J1 (45) and J5 (47), respectively, on bottom of rotary coupler mounting flange (41).

### WARNING

When handling known or suspected burned transmission lines, protective goggles, respirator mask, head covering, gloves and long-sleeved garment shall be worn. If any powder from burned transmission lines comes in contact with skin, flush skin thoroughly with water and seek medical assistance.

(3) Install Directional Couplers CU-1997/APS-120 (40) and CU-2000/APS-120 (39) (NAVAIR 01-E2AAA-2-18.1, WPs 171 00 and 167 00, respectively) to rotary coupler. If sum channel (38) elbow on rotary coupler does not align with flange on Directional Coupler CU-1997/APS-120 (40), proceed as follows:

(a) Loosen nut securing sum channel (38) elbow to mounting flange (41) of rotary coupler.

(b) Connect Directional Coupler CU-1997/APS-120 (40) to sum channel (38) elbow on rotary coupler.

(c) Using appropriate torque wrench, tighten sum channel (38) elbow nut to  $400 \pm 50$  inch-pounds. (QUALITY ASSURANCE)

d. Perform pressurization check (NAVAIR 01-E2AAA-2-17.3, WP032 00).

e. Install protective covers, ceiling light, and support brackets removed to gain access to bottom of rotary coupler and attaching lines and cables.

f. Install fairing and support assembly (10) on aircraft pylon station 50.00, as follows:

(1) Using three screws (5), install cover (4) on bracket (6).

(2) Align bracket (6) with top of fuselage (7). Mount fairing and support assembly (10) over bracket.

(3) Using 11 screws (9), secure flange (8) to both bracket (6) and top of fuselage (7).

(4) Using 12 screws (2), install collar (1) on bottom of pylon drive mechanism fairing.

(5) Using 32 screws (3), install cover (4) on fairing and support assembly (10).

g. Perform operational check of Antenna Group OE-335/A (NAVAIR 01-E2AAA-2-17.4, WP034 00).





**ORGANIZATIONAL MAINTENANCE**

**HALF-LOOP ANTENNA ASSEMBLY**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161344, AND 161345 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	10/20/80	TRAC "A" Prime (ECP-GR-E-2C-306)	6/1/82	Effectivity: Aircraft serial no. 161345 and subsequent and those aircraft incorporating ECP-GR-E-2C-306.

**1. GENERAL.**

2. The Half-Loop Antenna Assembly (hereinafter referred to as the antenna) (39E41 through 39E48) is part of Antenna Group OE-246/A. The eight antennas are mounted on the pylon, four on each side.

3. There are two configurations: Radar Set AN/APS-125 (figure 1) (aircraft serial numbers 160012 through 161344, and those aircraft not incorporating ECP-GR-E-2C-306) and Radar Set AN/APS-138 (figure 2) (aircraft serial numbers 161345 and subsequent, and those aircraft incorporating ECP-GR-E-2C-306). The following procedures apply to both configurations, except where otherwise specified.

**4. REMOVAL.** (See figures 1 and 2.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



To prevent damage to an antenna, do not use antennas as a grip.

- a. Remove screws securing antenna to pylon.
- b. Carefully lift antenna away from pylon until cable connector is accessible. If necessary, remove appropriate access panel from pylon (specified in table 1) to reach cable connector.
- c. Disconnect cable connector from antenna.

**Note**

Washers are used between antenna base and skin to compensate for contour. Record amount of washers under each screw.

- d. Carefully move antenna away from pylon and remove washers.
- e. Cap connector and plug.

5. **INSTALLATION.** (See figures 1 and 2.)

**Materials Required**

**Specification or**

**Part Number**

**Nomenclature**

MIL-S-7502C (ASG), Sealing compound  
Class B



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



To prevent damage to an antenna, do not use antennas as a grip.

- a. Remove cap from connector and receptacle.

- b. Apply sealing compound to base of antenna. (QUALITY ASSURANCE)

**Note**

Washers are used between antenna base and skin to compensate for contour.

- c. Place appropriate amount of washers (recorded in paragraph 4, step d) under mounting holes at base of antenna. (QUALITY ASSURANCE)
- d. Secure cable connector to antenna receptacle.
- e. Attach antenna to pylon with screws.
- f. Fill in unused mounting holes in antenna with sealing compound. (QUALITY ASSURANCE)
- g. Perform appropriate operational check: Radar Set AN/APS-125 (WP034 00) or Radar Set AN/APS-138 (WP034 00) located in NAVAIR 01-E2AAA-2-17.4.
- h. If necessary, replace access panel removed to reach cable connector. (See table 1.)

**TABLE 1. ACCESS PANEL REMOVED TO REACH CABLE CONNECTOR**

Antenna	Access Panel (See figure 1 for AN/APS-125 Radar Set configuration.)	Access Panel (See figure 2 for AN/APS-138 Radar Set configuration.)
39E41	No. 5	No. 5
39E42	No. 7 and 8	No. 7 and 8
39E43	No. 2	No. 2
39E44	No. 3 and 4	No. 3 and 4
39E45	No. 6	No. 6
39E46	No. 6	No. 6
39E47	No. 1	No. 1
39E48	No. 1	No. 1

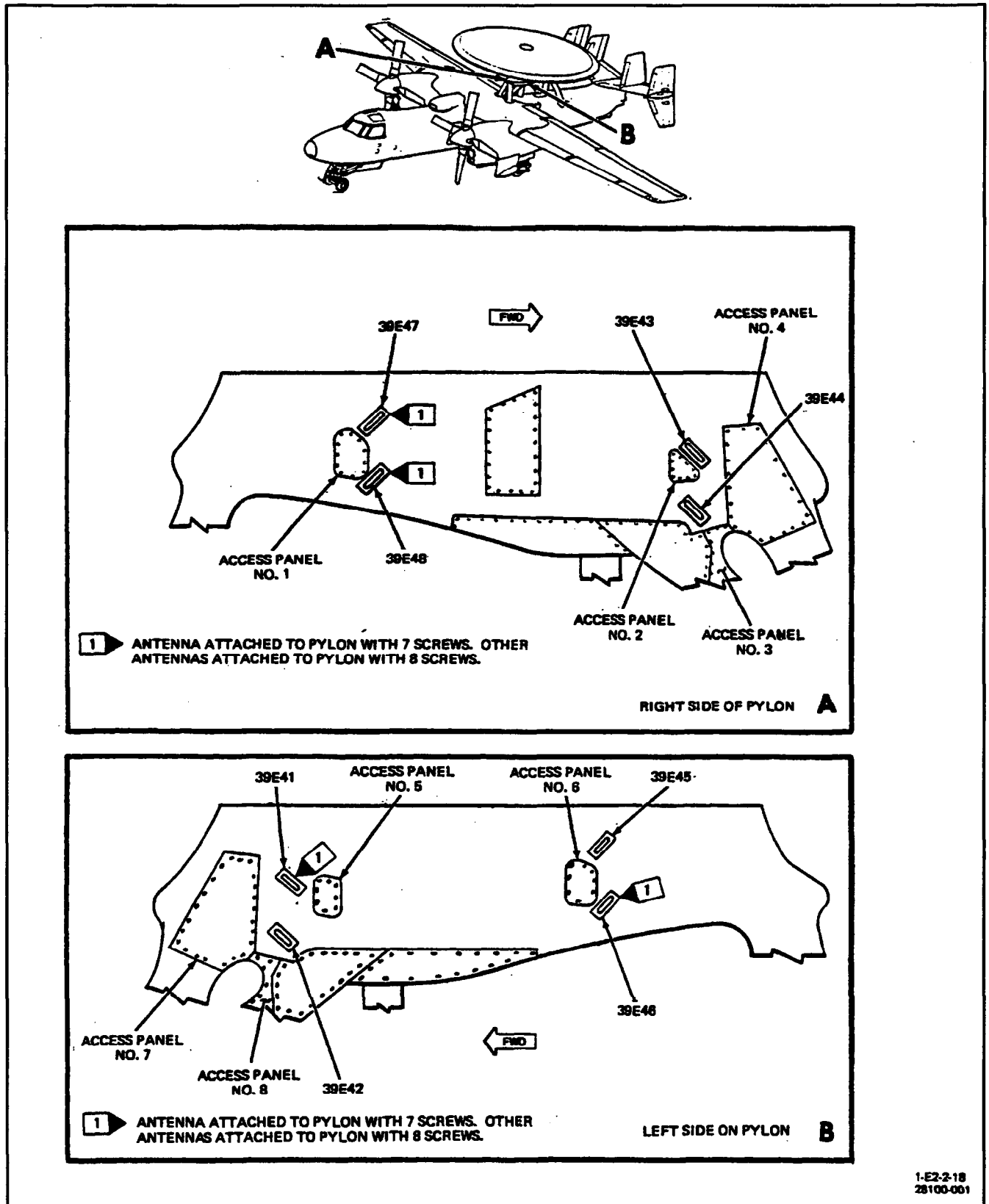


Figure 1. Removal and Installation of Half-Loop Antenna Assembly (Radar Set AN/APS-125 Configuration)

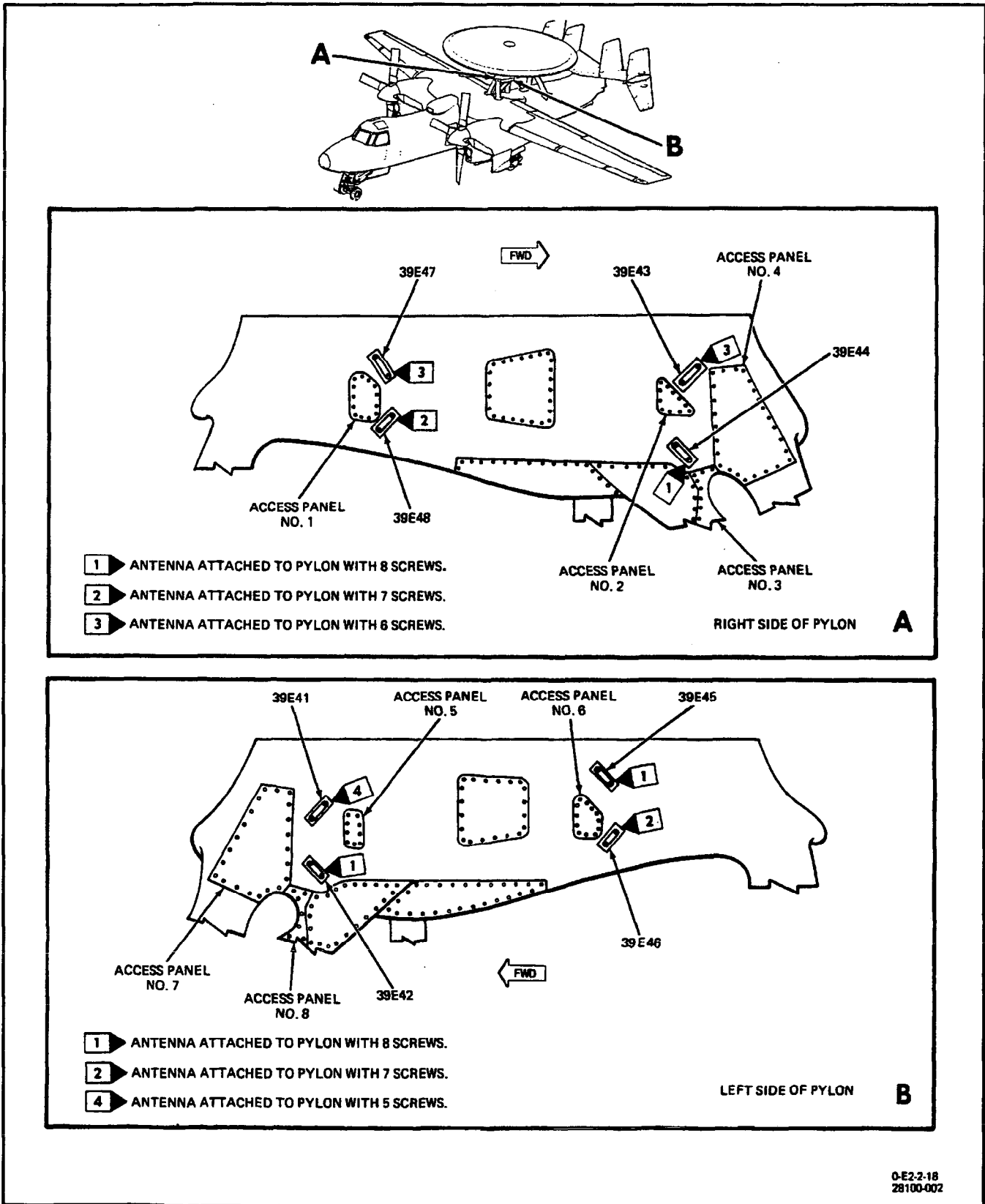


Figure 2. Removal and Installation of Half-Loop Antenna Assembly (Radar Set AN/APS-138 Configuration)

**ORGANIZATIONAL MAINTENANCE**

**POWER SPLITTER NETWORK ASSEMBLIES AND CABLE ASSEMBLIES**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161344, AND 161345 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Radar Set AN/APS-125 and AN/APS-138 .....	034 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	10/20/80	TRAC "A" Prime (ECP-GR-E-2C-306)	6/1/82	Effectivity: Aircraft serial no. 161345 and subsequent and those aircraft incorporating ECP-GR-E-2C-306.

**1. GENERAL.**

2. Power Splitter Assemblies and Cable Assemblies (hereinafter referred to as power splitters and cable assemblies, respectively) are part of Antenna Group OE-246/A. Power splitters and cable assemblies are mounted within the pylon. There are two configurations of power splitters and cable assemblies as described below.

a. Configuration 1 applies to Radar Set AN/APS-125 (aircraft serial numbers 160012 through 161344 and those aircraft not incorporating ECP-GR-E-2C-306).

b. Configuration 2 applies to Radar Set AN/APS-138 (aircraft serial numbers 161345 and subsequent and those aircraft incorporating ECP-GR-E-2C-306).

3. REPLACING POWER SPLITTERS.

4. REMOVAL. (See figures 1 and 2.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following procedure applies to both configurations, unless otherwise specified.

- a. Locate power splitter to be removed. (See figures 1 and 2, views C and D.)
  - b. Remove appropriate access panel from pylon (specified in table 1) to reach power splitter.
  - c. Remove lockwire from cable connectors and then disconnect cable connectors from power splitter receptacles J1, J2A, and J2B.
  - d. Remove clamps securing power splitter to pylon structure. Remove power splitter from pylon.
  - e. Cap all connectors and receptacles.
5. INSTALLATION. (See figures 1 and 2.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC20	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following procedure applies to both configurations, unless otherwise specified.

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Mount power splitter to pylon structure with clamps removed in paragraph 4, step d.
- c. Connect appropriate cable connector to power splitter receptacles as specified in table 2 for configuration 1 and table 3 for configuration 2. (QUALITY ASSURANCE)
- d. Using lockwire, safety-wire cable connectors to appropriate area (drilled head screws or drilled holes in power splitter receptacles). (QUALITY ASSURANCE)
- e. Perform appropriate operational check: Radar Set AN/APS-125 (WP034 00) or Radar Set AN/APS-138 (WP034 00) located in NAVAIR 01-E2AAA-2-17.4.
- f. Replace access panel(s) (removed in paragraph 4, step b).

- 6. REPLACING CABLE ASSEMBLIES.
- 7. REMOVAL. (See figure 1 and 2.)

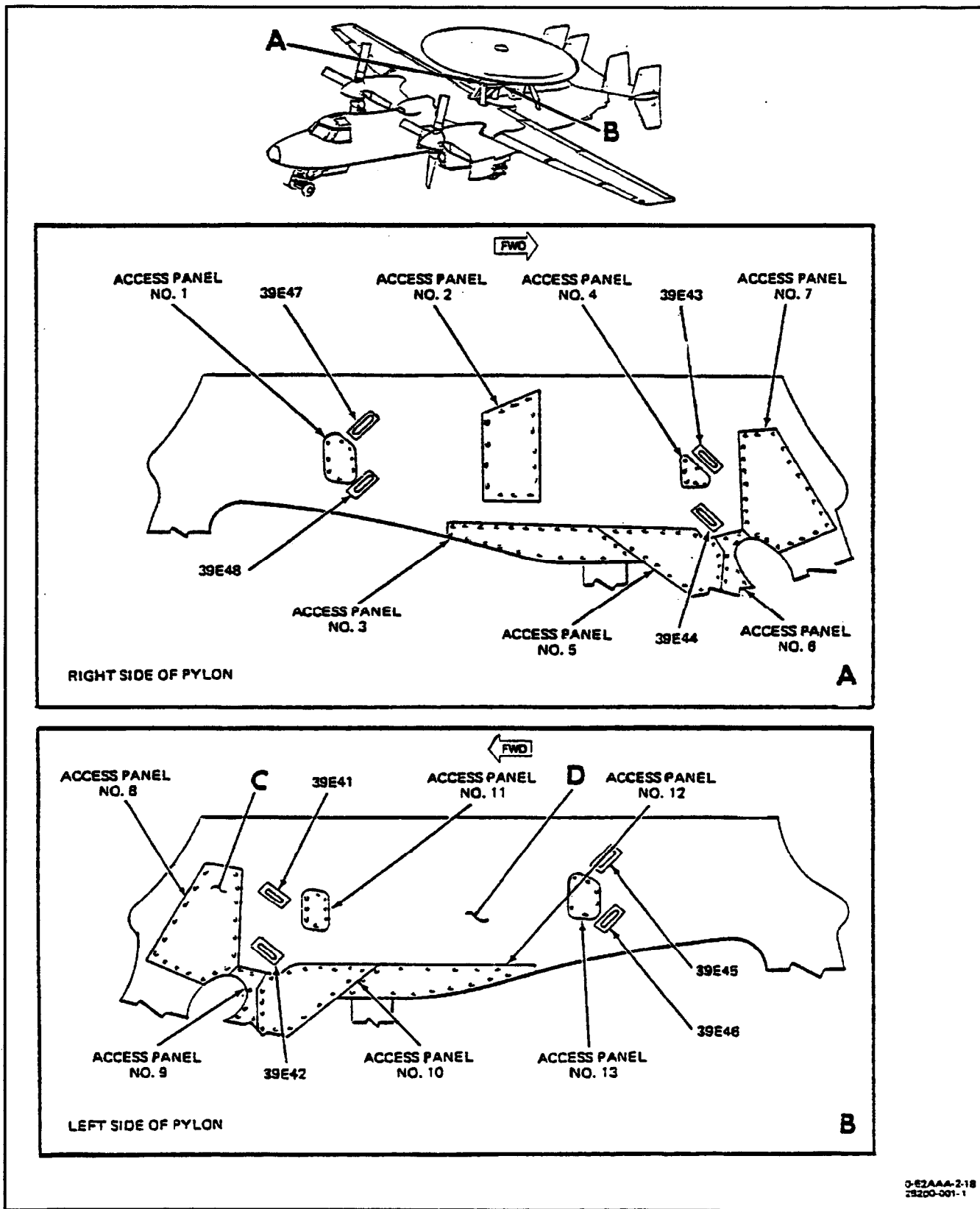


Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following procedure applies to both configurations, unless otherwise specified.

- a. Refer to figures 1 and 2 (views C and D) and locate cable assembly to be removed.
- b. Remove appropriate access panel(s) from pylon (specified in table 4 for configuration 1 and table 5 for configuration 2) to reach cable assembly.
- c. Determine cable assembly termination points. (See tables 4 and 5.)
- d. Remove lockwire from cable assembly connectors and then disconnect cable connectors from terminations (power splitters or antenna)
- e. Remove clamps securing cable assembly to pylon structure. Remove cable assembly from pylon.
- f. Cap all connectors and receptacles.



0-E2AAA-2-18  
28200-001-1

Figure 1. Removal and Installation of Configuration 1 Power Splitters and Cable Assemblies (Sheet 1 of 3)

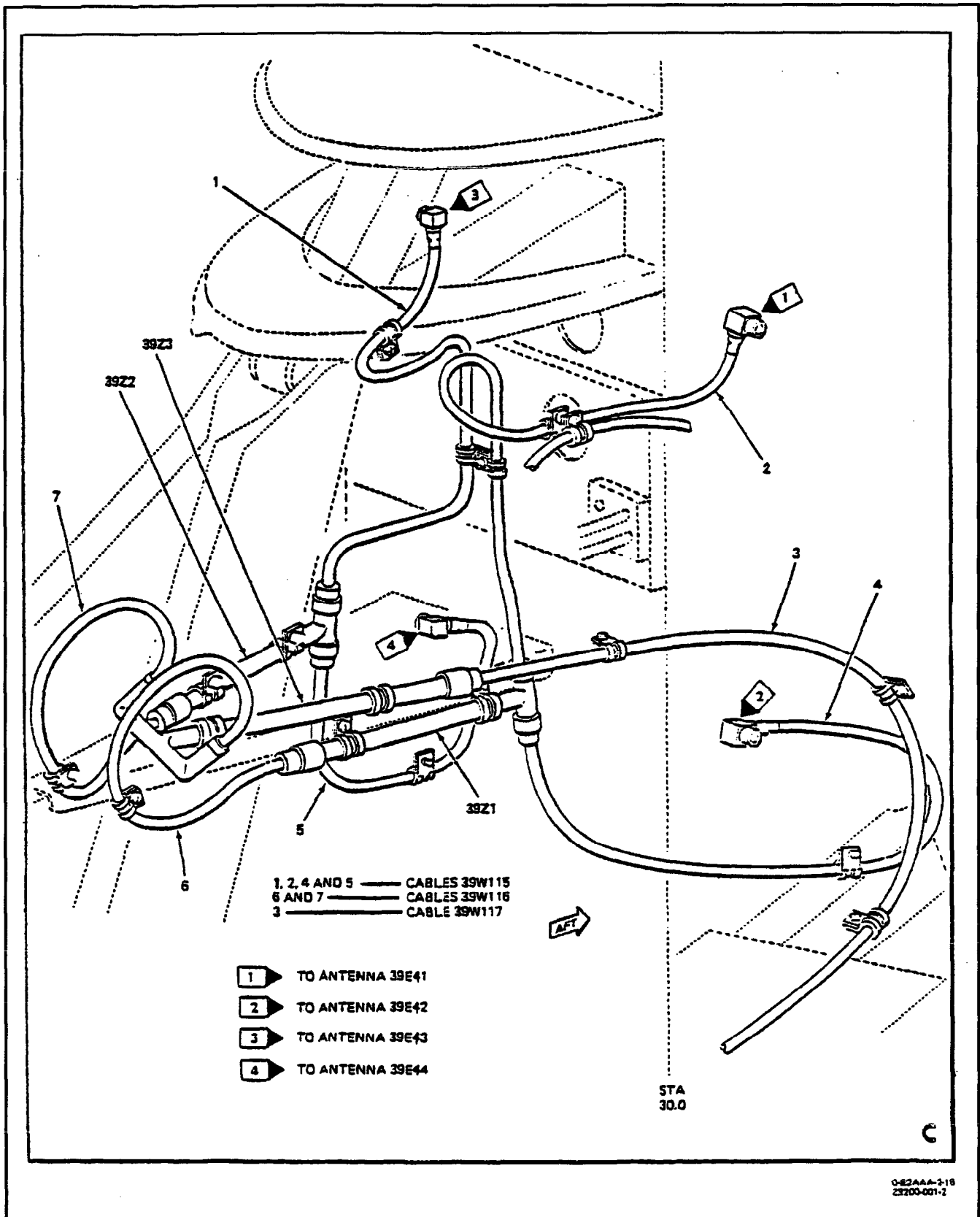


Figure 1. Removal and Installation of Configuration 1 Power Splitters and Cable Assemblies (Sheet 2)



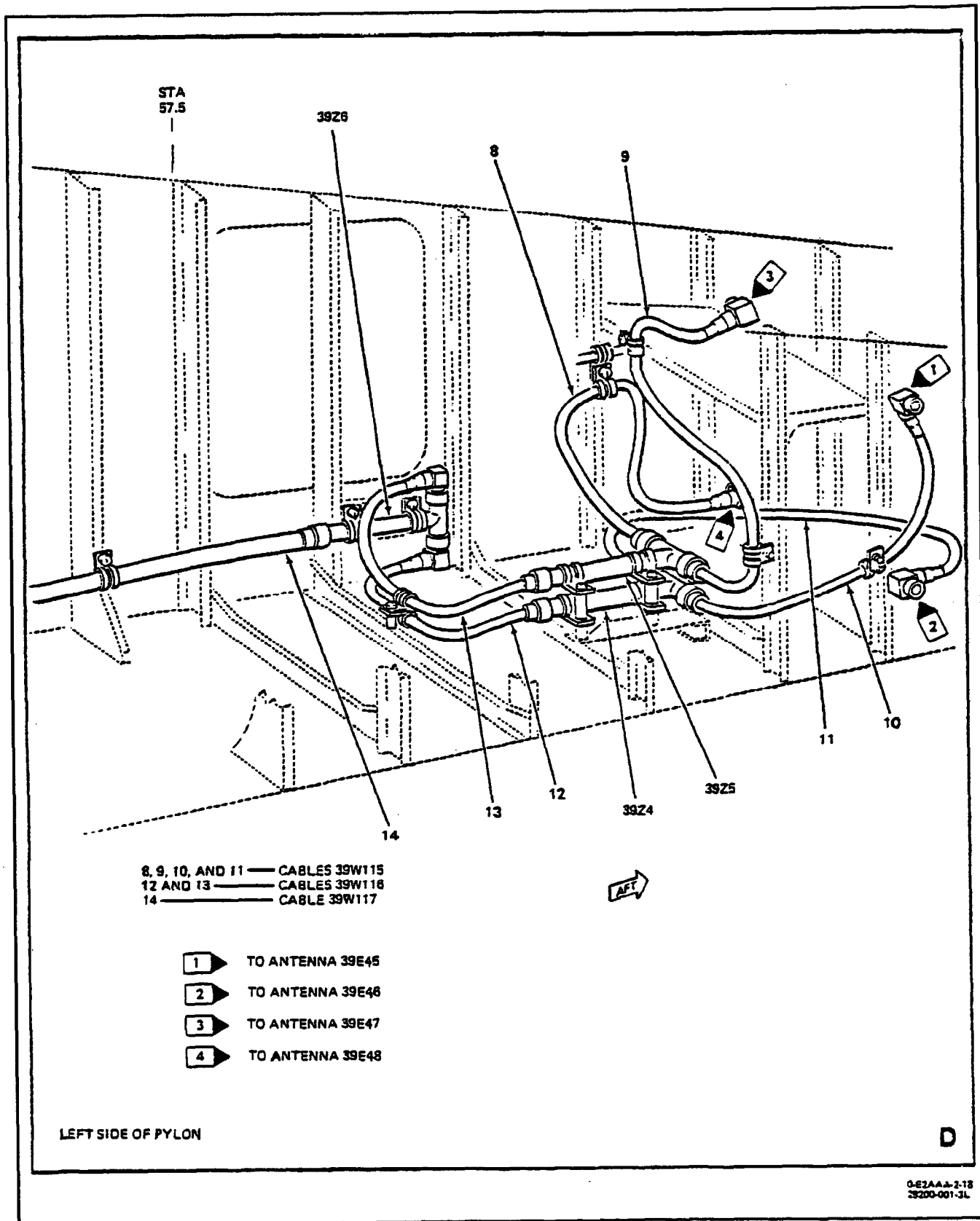


Figure 1. Removal and Installation of Configuration 1 Power Splitters and Cable Assemblies (Sheet 3)

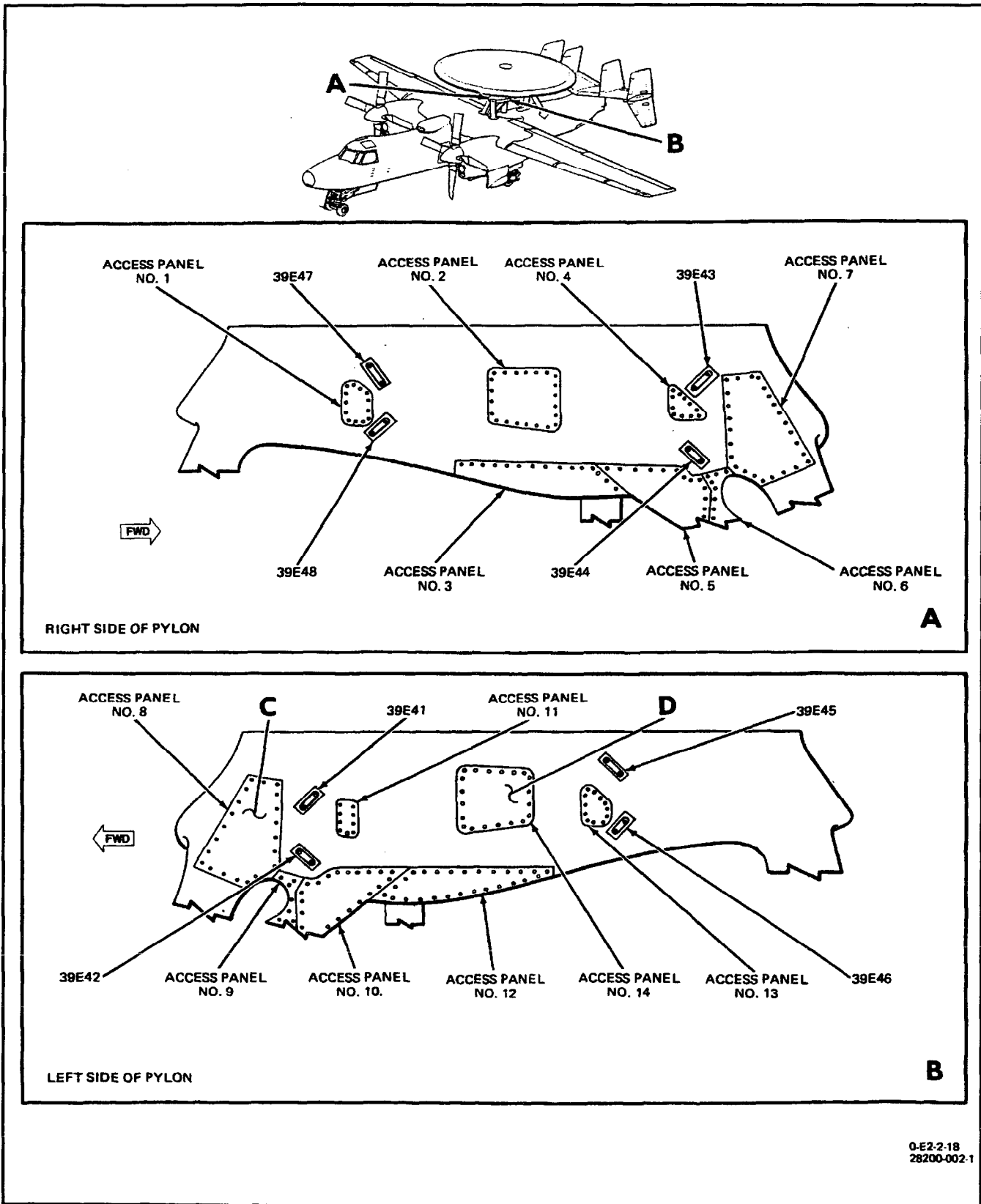


Figure 2. Removal and Installation of Configuration 2 Power Splitters and Cable Assemblies (Sheet 1 of 3)

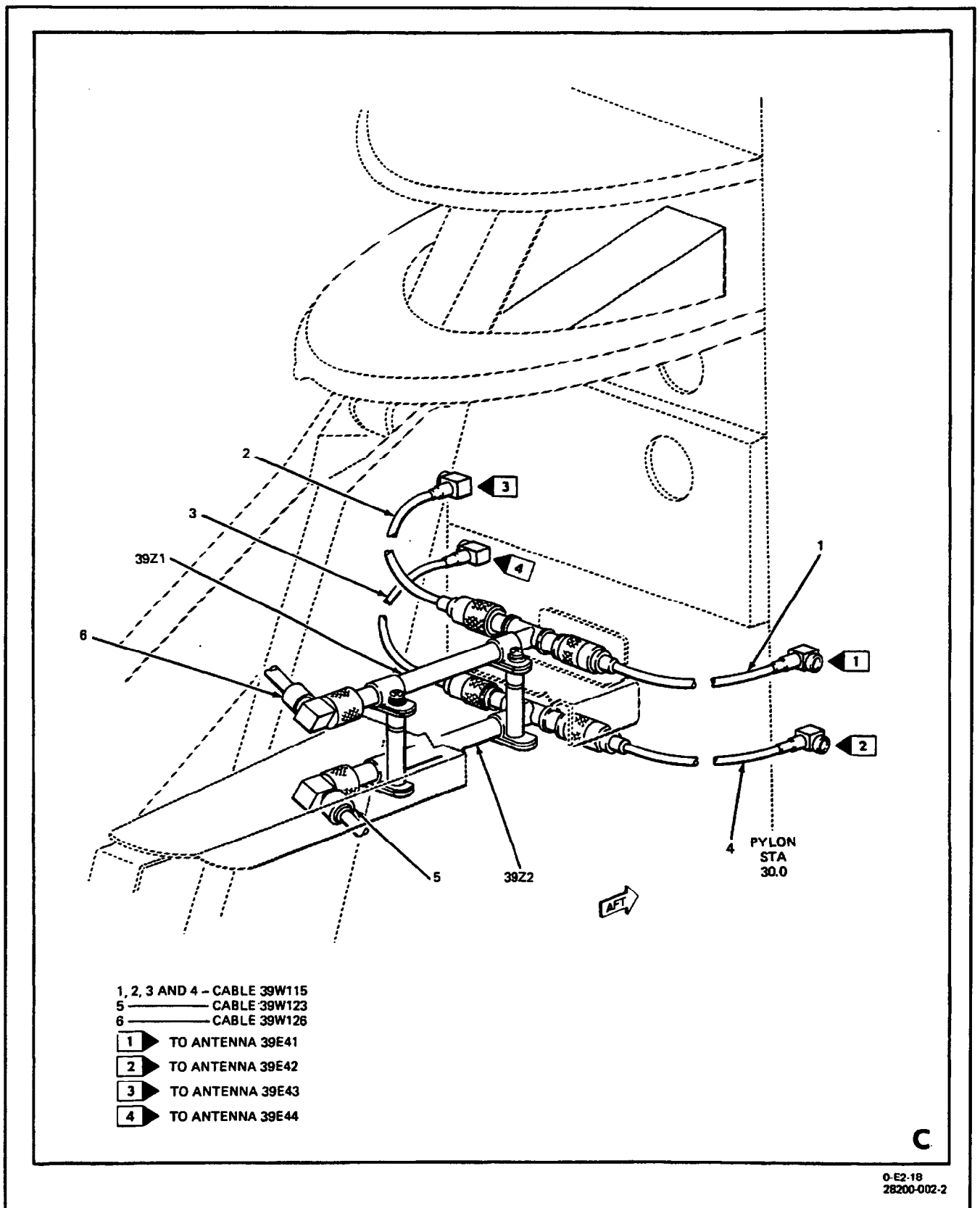


Figure 2. Removal and Installation of Configuration 2 Power Splitters and Cable Assemblies (Sheet 2)

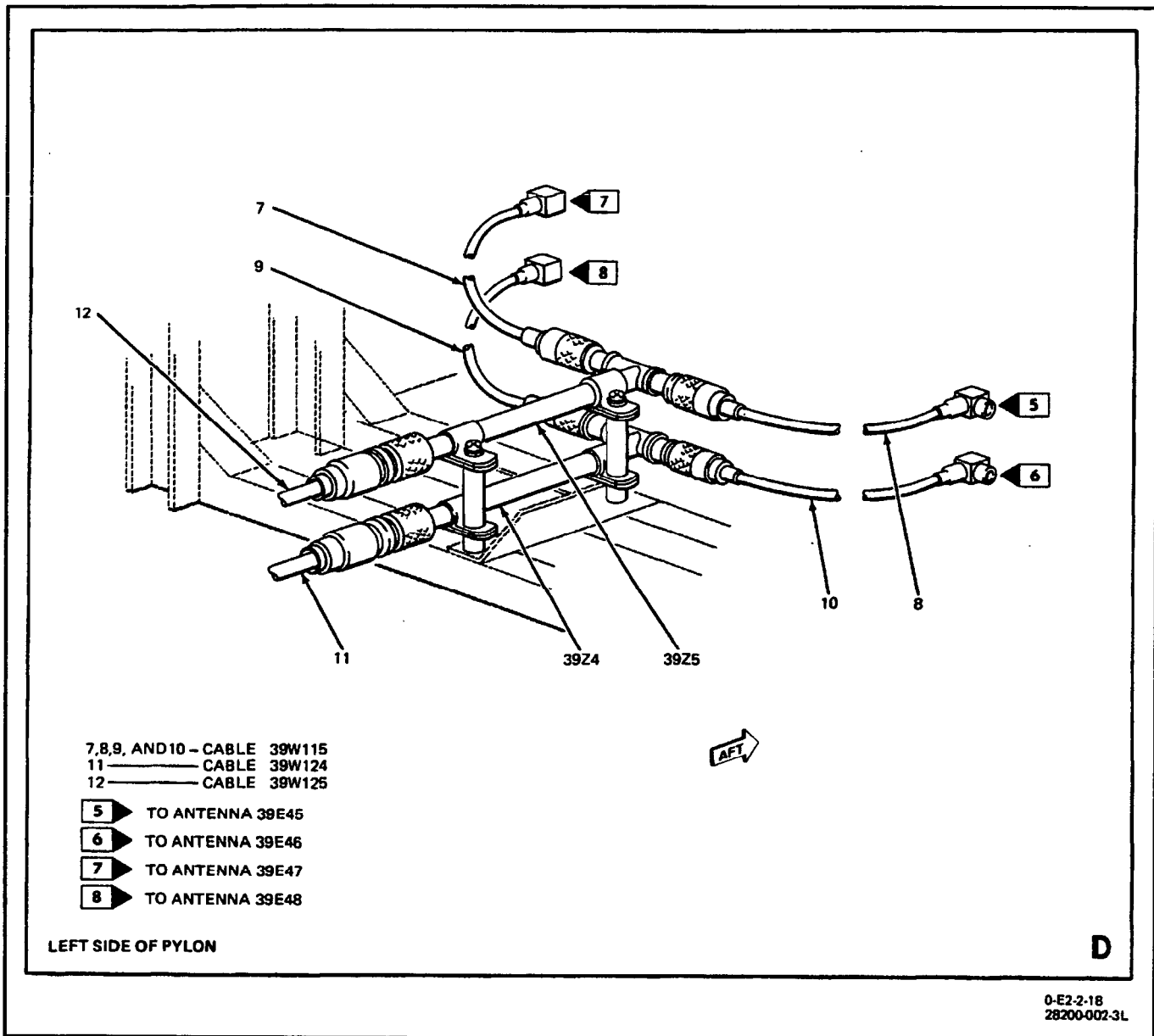


Figure 2. Removal and Installation of Configuration 2 Power Splitters and Cable Assemblies (Sheet 3)

8. INSTALLATION. (See figures 1 and 2.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC20	Lockwire

**Note**

The following procedure applies to both configurations, unless otherwise specified.

**TABLE 1. ACCESS PANEL REMOVED TO REACH POWER SPLITTERS**

Power Splitter	Configuration 1 Access Panel (See figure 1, Views A and B.)	Configuration 2 Access Panel (See figure 2, Views A and B.)
39Z1	Numbers 7 and 8	Numbers 7 and 8
39Z2	Numbers 7 and 8	Numbers 7 and 8
39Z3	Numbers 7	N/A
39Z4	Numbers 1, 2, and 13	Numbers 1, 2, 13, and 14
39Z5	Numbers 1, 2, and 13	Numbers 1, 2, 13, and 14
39Z6	Numbers 2	N/A

**TABLE 2. CONFIGURATION 1 POWER SPLITTER CABLE CONNECTIONS**

Power Splitter		Cable Assembly	
Unit	Receptacle	Cable	Connector
39Z1	J1	39W116	P1
	J2A	39W115	P2
	J2B	39W115	P2
39Z2	J1	39W116	P1
	J2A	39W115	P2
	J2B	39W115	P2
39Z3	J1	39W117	P1
	J2A	39W116	P2
	J2B	39W116	P2
39Z4	J1	39W116	P1
	J2A	39W115	P2
	J2B	39W115	P2
39Z5	J1	39W116	P1
	J2A	39W115	P2
	J2B	39W115	P2
39Z6	J1	39W117	P1
	J2A	39W116	P2
	K2B	39W116	P2

**TABLE 3. CONFIGURATION 2 POWER SPLITTER CABLE CONNECTIONS**

Power Splitter		Cable Assembly	
Unit	Receptacle	Unit	Receptacle
39Z1	J1	39W126	39Z1P1
	J2A	39W115	P2
	J2B	39W115	P2
39Z2	J1	39W123	39Z2P1
	J2A	39W115	P2
	J2B	39W115	P2
39Z4	J1	39W124	39Z4P1
	J2A	39W115	P2
	J2B	39W115	P2
39Z5	J1	39W125	39Z5P1
	J2A	39W115	P2
	J2B	39W115	P2

a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

b. Mount cable assembly to pylon structure with clamps removed in paragraph 7, step e.

c. Connect cable assembly connectors to appropriate terminations. (See table 4 for configuration 1 and table 5 for configuration 2.)

d. Using Lockwire, safety-wire cable connectors. (QUALITY ASSURANCE)

e. Perform appropriate operational check: Radar Set AN/APS-125 (WP034 00) or Radar Set AN/APS-138 (WP034 00) located in NAVAIR 01-E2AAA-2-17.4.

f. Replace access panel(s) (removed in paragraph 7, step b).

TABLE 4. CONFIGURATION 1 LOCATION AND TERMINATION OF CABLE ASSEMBLIES

Interconnection		Cable Assembly		Panel Removed For Access To Cable Assembly (See Figure 2, View A and B)
From	To	Cable	Location (See Figure 2, Views C and D)	
39Z1J1	39Z3J2A	39W116	Item 6	Access panel 8
39Z1J2A	39E41 (Note 1)	39W115	Item 2	Access panels 8 and 11
39Z1J2B	39E42 (Note 1)	39W115	Item 4	Access panels 8 and 9
39Z2J1	39Z3J2B	39W116	Item 7	Access panel 7
39Z3J2A	39E43 (Note 1)	39W115	Item 1	Access panels 4 and 7
39Z2J2B	39E44 (Note 1)	39W115	Item 5	Access panels 6 and 7
39Z3J1	39P1 (Note 2)	39W117 (Note 2)	Item 3	Access panel 7
39Z3J2A	39Z1J1	39W116	Item 6	Access panels 7 and 8
39Z3J2B	39Z2J1	39W116	Item 7	Access panel 7
39Z4J1	39Z6J2A	39W116	Item 12	Access panels 2 and 13
39Z4J2A	39E45 (Note 1)	39W115	Item 10	Access panels 2 and 13
39Z4J2B	39E46 (Note 1)	39W115	Item 11	Access panels 2 and 13
39Z5J1	39Z6J2B	39W116	Item 12	Access panels 2 and 13
39Z5J2A	39E47 (Note 1)	39W115	Item 9	Access panels 1 and 13
39Z5J2B	39E48 (Note 1)	39W115	Item 8	Access panels 1 and 13
39Z6J1	39P1 (Note 2)	39W117 (Note 2)	Item 14	Access panel 2
39Z6J2A	39Z4J1	39W116	Item 12	Access panels 2 and 13
39Z6J2B	39Z5J1	39W116	Item 13	Access panels 2 and 13

- Note 1. 39E41 through 39E48 are half-loop antenna assemblies. See figure 1, views A and B for location.
2. Replacement of cable assembly 39W117 is not covered. Therefore, only cable connector attached to receptacle is provided.

TABLE 5. CONFIGURATION 2 LOCATION AND TERMINATION OF CABLE ASSEMBLIES

Interconnection		Cable Assembly		Panel Removed For Access To Cable Assembly (See Figure 2, View A and B)
From	To	Cable	Location (See Figure 2, Views C and D)	
39Z1J1	39J12 (Note 2)	39W126	Item 6	Access panels 7 and 8
39Z1J2A	39E43 (Note 1)	39W115	Item 2	Access panels 4 and 7
39Z1J2B	39E41 (Note 1)	39W115	Item 1	Access panels 7 and 11
39Z2J1	39J3 (Note 2)	39W123	Item 5	Access panels 7 and 8
39Z2J2A	39E44 (Note 1)	39W115	Item 3	Access panels 7 and 8
39Z2J2B	39E42 (Note 1)	39W115	Item 4	Access panels 7 and 8
39Z4J1	39J2 (Note 2)	39W124	Item 11	Access panels 2 and 14
39Z4J2A	39E46 (Note 1)	39W115	Item 10	Access panels 2, 13, and 14
39Z4J2B	39E48 (Note 1)	39W115	Item 9	Access panels 1, 2, and 14
39Z5J1	39J13 (Note 2)	39W125	Item 12	Access panels 2 and 14
39Z5J2A	39E45 (Note 1)	39W115	Item 8	Access panels 2, 13, and 14
39Z5J2B	39E47 (Note 1)	39W115	Item 7	Access panels 1, 2, and 14

Note 1. 39E41 through 39E48 are half-loop antenna assemblies. See figure 2, views A and B for location.

2. Receptacle is located at the aft wing pressure seal.





**ORGANIZATIONAL MAINTENANCE**

**16K MEMORY POWER SUPPLY**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161099 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Computer Programmer Group OL-77/ASQ and OL-424/ASQ .....	006 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AVC 2274	—	Computer Programmer Group OL-77/ASQ-Double Density Core 16K Memory Assemblies, Installation of (ECP GR-E-2C-238R1)	9/1/80	Effectivity: Aircraft serial no. 161099 and subsequent and those aircraft incorporating AVC 2274.
AVC 2767	—	Incorporation of Computer-Verifier CP-1469/A (ECP 328)	10/1/90	Effectivity: Aircraft serial no. 163029 and subsequent and those aircraft incorporating AVC 2767.
AVC 365	—	Incorporation of Enhanced Computer-Verifier CP-1469A/A (ECP GR-E-2C-369C1)	10/1/90	Effectivity: Aircraft serial no. 163694 and subsequent and those aircraft incorporating AFC 365.

1. **GENERAL.**

2. The 16K Memory Power Supply (hereinafter referred to as the 16K power supply) is part of the Computer Programmer Group OL-77/ASQ and Computer Programmer Group OL-424/ASQ. On aircraft serial no. 161099 and subsequent, five 16K power supplies (46A1PS4, 46A1PS6, 46A1PS7, 46A1PS8, and 46A1PS9) are installed in the Digital Data Computer CP-1084/ASQ (DDC) section when delivered to the Navy. On aircraft incorporating AVC 2274, the amount of 16K power supplies that remain in the DDC section is determined by the memory capacity established by the Navy. On aircraft serial no. 163029 and subsequent, and those aircraft incorporating AVC 2767 or AFC 365, four 16K memory power supplies are installed in the DDC section. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, detail D, item 119) for location of 16K power supplies. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
FSN9Q5120-542-4489	Torque Wrench (5-100 inch-pounds)
TW244BP002 (Hughes Aircraft)	Indicating Tool
WS22Y22C035 (Hughes Aircraft)	Female Contact
1033046S (Hughes Aircraft)	Protective Cover
—	5/32-Inch Hex Key

3. **REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Follow correct sequence for loosening panel fasteners and drawbolt. When loosening drawbolt, keep turning ccw until it is certain that drawbolt is completely disengaged. When completely disengaged, a click will be felt, with every full turn (thread tripping). Do not allow thread to trip more than twice.

a. Loosen 16K power supply drawbolt using 5/32-inch hex key.

b. Loosen two panel fasteners using 5/32-inch hex key.



Do not forcibly remove 16K power supply from cabinet. If resistance is felt, retighten panel fasteners to put tension on drawbolt, and repeat step a.

c. Remove 16K power supply from cabinet.

d. Install protective cover on 16K power supply connector P1 and cap cabinet connector.

4. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove protective cover from 16K power supply connector P1 and cap from cabinet connector.

b. Check contacts of 16K power supply connector P1 for straightness using indicating tool. If tool does not fit freely (without binding), refer to paragraph 5.



Inspect cabinet connector for damage and bent pins prior to installation.

c. Slide 16K power supply into cabinet.



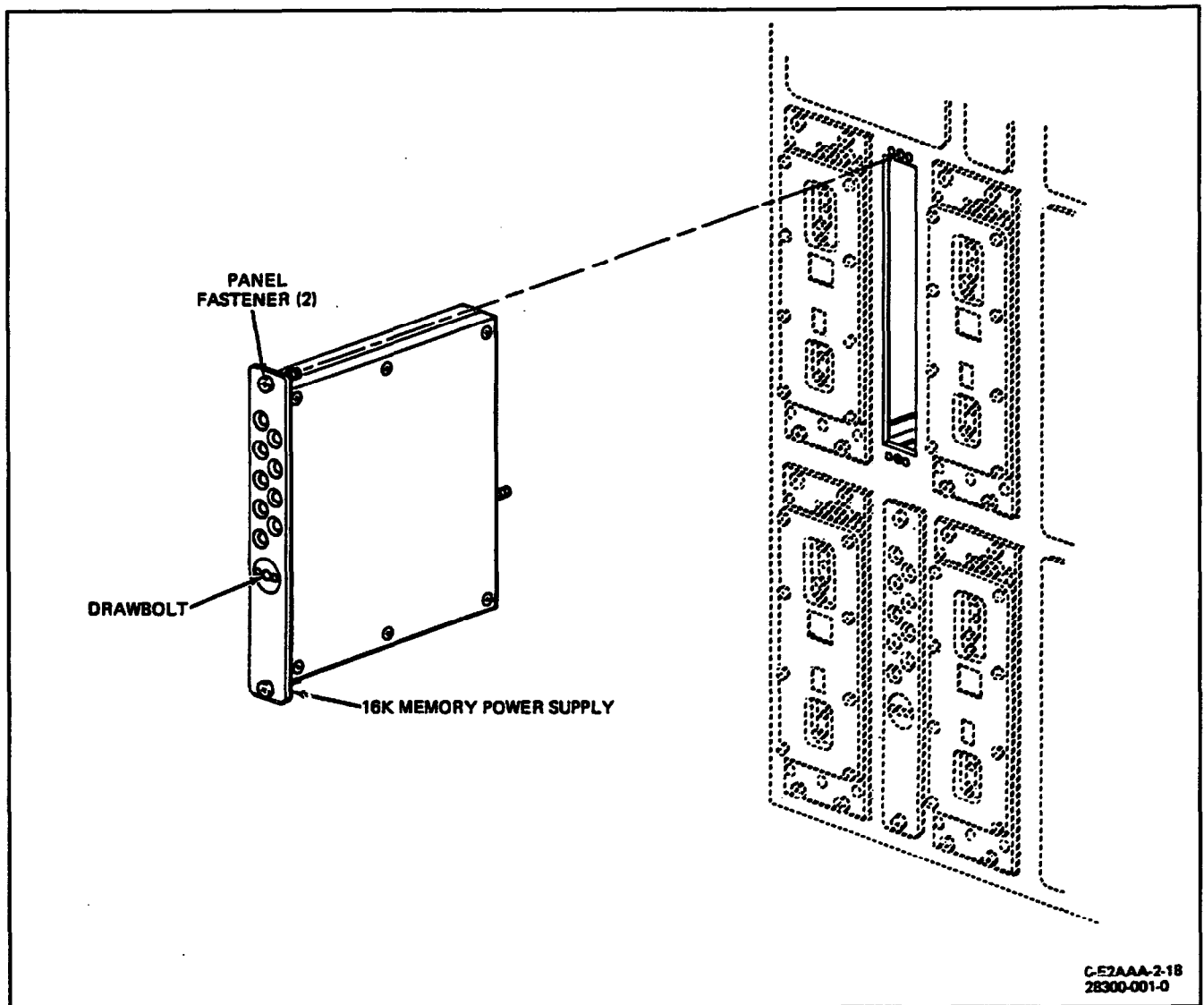
Follow correct sequence for tightening panel fasteners and drawbolt.

d. Tighten two panel fasteners using a 5/32-inch hex key. (QUALITY ASSURANCE)



Before tightening drawbolt, back off (ccw) one full turn to assure thread alignment, then tighten (cw).

e. Insert 5/32-inch hex key into drawbolt socket. Secure 16K power supply to cabinet by tightening drawbolt to between 9 and 10 inch-pounds torque. (QUALITY ASSURANCE)



C-E2AAA-2-18  
28300-001-0

**Figure 1. Removal and Installation of 16K Memory Power Supply**

f. Perform operational check of Computer Programmer Group OL-77/ASQ or OL-424/ASQ (NAVAIR 01-E2AAA-2-17.1, WP006 00).

**5. REPAIR.**

6. Repair consists of straightening bent contacts of interface connector.



The following contact straightening procedures shall be used under emergency circumstances only. Contact straightening may

cause fractures that decrease conductivity or cause breaks in contact plating that increase susceptibility to corrosion.

- a. Determine contact straightness using indicating tool. Tool must fit freely, without binding.
- b. Place female contact over bent contact until end of female contact is at center of bend.
- c. Push female contact toward centerline of bent contact.
- d. Remove female contact and inspect bent contact for straightness, using indicating tool. If necessary, repeat steps b, c, and d until bent contact is straight.



**ORGANIZATIONAL MAINTENANCE**

**16K CORE MEMORY ASSEMBLY**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161099 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Computer Programmer Group OL-77/ASQ and OL-424/ASQ .....	006 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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AVC 2274	—	Computer Programmer Group OL-77/ASQ-Double Density Core 16K Memory Assemblies, Installation of (ECP GR-E-2C-238R1)	9/1/80	Effectivity: Aircraft serial no. 161099 and subsequent and those aircraft incorporating AVC 2274.
AVC 2767	—	Incorporation of Computer-Verifier CP-1469/A (ECP 328)	10/1/90	Effectivity: Aircraft serial no. 163029 and subsequent and those aircraft incorporating AVC 2767.
AFC 365	—	Incorporation of Enhanced Computer-Verifier CP-1469A/A (ECP GR-E-2C-369C1)	10/1/90	Effectivity: Aircraft serial no. 163694 and subsequent and those aircraft incorporating AFC 365.

1. GENERAL

2. The 16K Core Memory Assembly (hereinafter referred to as the 16K core memory) is part of the Computer Programmer Group OL-77/ASQ and OL-424/ASQ. On aircraft serial no. 161099 and subsequent, ten 16K core memories (46A1A5, 46A1A6, and 46A1A14 through 46A1A21) are installed in the Digital Data Computer CP-1084/ASQ (DDC) section when delivered to the Navy. On aircraft incorporating AVC 2274, the amount of 16K core memories that remain in the DDC section is determined by the memory capacity established by the Navy. On aircraft serial no. 163029 and subsequent and those aircraft incorporating AVC 2767 or AFC 365 eight 16K core memories are installed in the DDC section. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, detail D, item 118) for location of 16K core memories. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
FSN9Q5120-542-4489	Torque Wrench (5-100 inch-pounds)
TW244BP002 (Hughes Aircraft)	Indicating Tool
WS22Y22C035 (Hughes Aircraft)	Female Contact
10330465 (Hughes Aircraft)	Protective Cover
—	5/32-Inch Hex Key

3. REMOVAL. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Follow correct sequence for loosening panel fasteners and drawbolt. When loosening drawbolt, keep turning ccw until it is certain that drawbolt is completely disengaged. When completely disengaged, a click will be felt with every full turn (thread tripping). Do not allow thread to trip more than twice.

a. Insert 5/32-inch hex key in drawbolt hole on 16K core memory front panel and engage recessed drawbolt socket. Rotate hex key ccw to separate connector at rear of 16K core memory from cabinet connector.

b. Disengage four panel fasteners using 5/32-inch hex key.



Do not forcibly remove 16K core memory from cabinet. If resistance is felt, retighten a few panel fasteners to put tension on drawbolt, and repeat step a.

c. Slide 16K core memory out of cabinet.

d. Install protective cover on connector P2.

e. Cap cabinet connector.

4. INSTALLATION. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove protective cover from 16K core memory connector P2 and cap from cabinet connector.

b. Check contacts of connector P2 straightness, using indicating tool. If tool does not fit freely (without binding), refer to paragraph 5.



Inspect cabinet connector for damage and bent pins prior to installation.

c. Slide 16K core memory into cabinet until guide pin at rear engages cabinet guide pin hole.



Follow correct sequence for tightening panel fasteners and drawbolt.

d. Tighten four panel fasteners using 5/32-inch hex key. (QUALITY ASSURANCE)

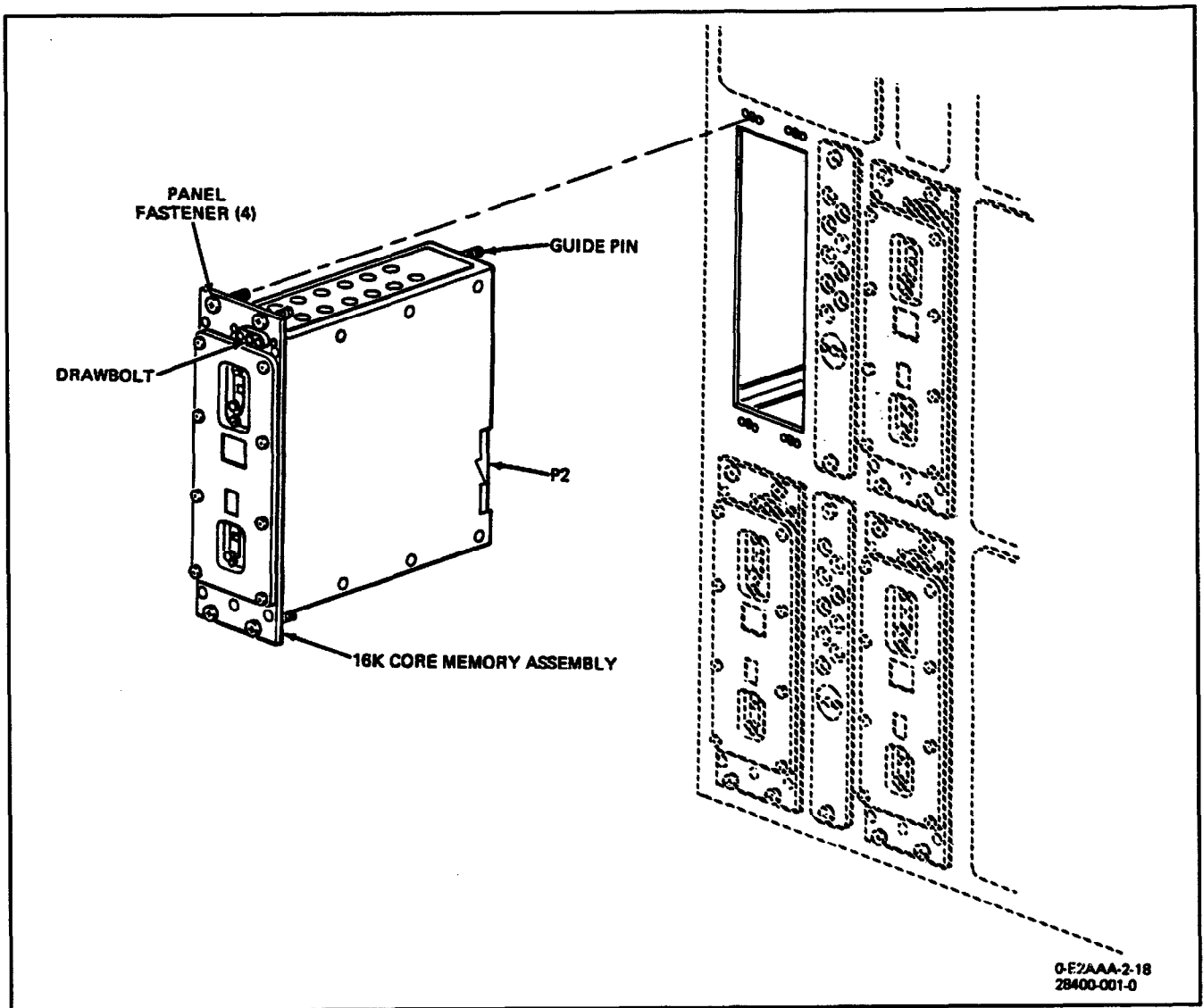


Figure 1. Removal and Installation of 16K Core Memory Assembly

**CAUTION**

Before tightening drawbolt, back off (ccw) one full turn to insure thread alinement, then tighten (cw).

e. Insert 5/32-inch hex key into drawbolt hole on 16K core memory front panel and engage recessed drawbolt socket. Using torque wrench, tighten drawbolt to between 11 and 12 inch-pounds. (QUALITY ASSURANCE)

f. Perform an operational check of Computer Programmer Group OL-77/ASQ or OL-424/ASQ (NAVAIR 01-E2AAA-2-17.1, WP006 00).

5. REPAIR.

6. Repair consists of straightening bent contacts on 16K core memory connector P2.

**CAUTION**

The following contact straightening procedures shall be used under emergency circumstances only. Contact straightening may cause fractures that decrease conductivity or cause breaks in contact plating, that increase susceptibility to corrosion.

a. Determine contact straightness using indicating tool. Tool shall fit freely, without binding.

b. Place female contact over bent contact until end of female contact is at center of bend.

c. Push female contact toward centerline of bent contact.

d. Remove female contact and inspect bent contact for straightness, using indicating tool. If necessary, repeat steps b, c, and d until contact is straight.



**ORGANIZATIONAL MAINTENANCE**

**RECEIVER-TRANSMITTER RT-1159/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, 161547 THROUGH 161552, 161780 THROUGH 161785, AND 162614 THROUGH 162619, 162797 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
TACAN Navigational Set AN/ARN-118(V) .....	014 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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AFC 299	7/28/80	TACAN Navigation Set AN/ARN-52(V), Replacement with TACAN Navigation Set AN/ARN-118(V). (ECP GR-E-2C-274)	9/1/80	Effectivity: Aircraft serial no. 161224 and subsequent and those aircraft incorporating AFC 299.

**1. GENERAL.**

2. The Receiver-Transmitter RT-1159/A (hereinafter referred to as the receiver-transmitter) (32A1) is part of the TACAN Navigational Set AN/ARN-118(V). The receiver-transmitter is on the left side of the equipment compartment. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 84B) for location of receiver-transmitter.

**3. REMOVAL. (Figure 1.)**



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-1-2, WP027 00).

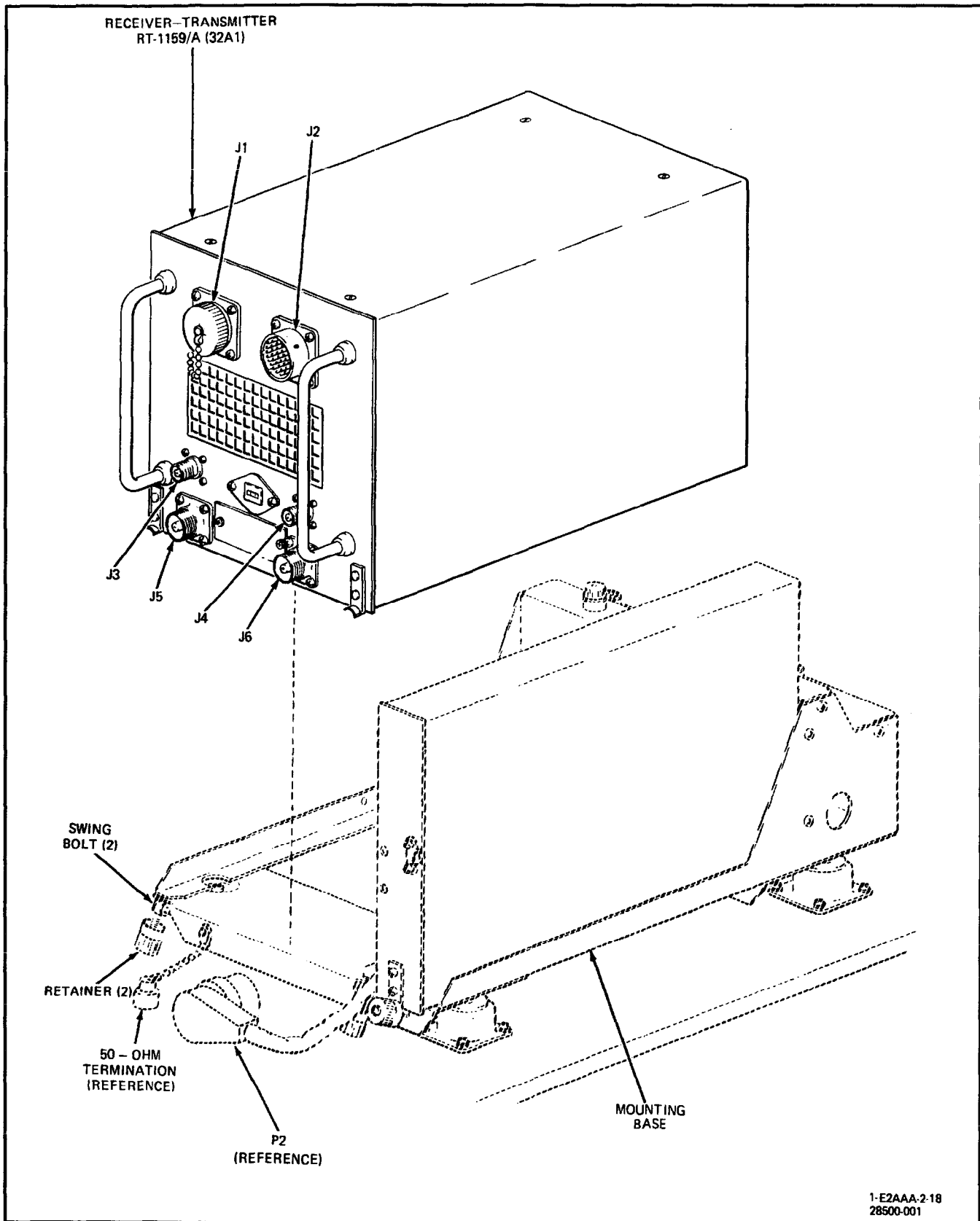


Figure 1. Removal and Installation of Receiver-Transmitter RT-1159/A

- a. Disconnect 50-ohm termination from receptacle J5.
- b. Disconnect three cable connectors from receiver-transmitter receptacles J2, J4, and J6.
- c. Remove T adapter (to which aircraft cable connectors 32A1P3A and 32A1P3B are attached) from receiver-transmitter receptacle J3.
- d. Loosen two retainers and disengage two swing bolts securing receiver-transmitter to mounting base.
- e. Slowly pull receiver-transmitter forward until two guide pins at rear of mounting base are disengaged. Remove receiver-transmitter from mounting base.
- f. Cap all connectors and receptacles.

#### 4. INSTALLATION. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Place receiver-transmitter on mounting base and slide backward until two guide pins are fully engaged.
- c. Secure receiver-transmitter to mounting base by engaging two swing bolts and tightening two retainers.
- d. Connect T adapter (containing aircraft cable connectors) to receiver-transmitter receptacle J3.
- e. Connect mounting base cable connectors P2, and aircraft cable connectors 32A1P4, and 32A1P6 to receiver-transmitter receptacles J2, J4, and J6, respectively.

#### Note

Termination is attached to mounting base with a chain.

- f. Connect 50-ohm termination to receiver-transmitter receptacle J5. (QUALITY ASSURANCE)
- g. Perform operational check of TACAN Navigation Set AN/ARN-118(V) (NAVAIR 01-E2AAA-2-17.1, WP014 01).



**ORGANIZATIONAL MAINTENANCE**

**RECEIVER-TRANSMITTER ADAPTER MX-9577/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161224 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
TACAN Navigational Set AN/ARN-118(V) .....	014 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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AFC 299	—	TACAN Navigational Set AN/ARN-54(V), Replacement With TACAN Navigation Set AN/ARN-118(V). (ECP GR-E-2C-274)	9/1/80	Effectivity: Aircraft serial no.161224 and subsequent and those aircraft incorporating AFC 299.

**1. GENERAL.**

2. The Receiver-Transmitter Adapter MX-9577/A (hereinafter referred to as the adapter) is part of the TACAN Navigational Set AN/ARN-118(V). The adapter is in the left side of the equipment compartment. Refer to WP003 00 (figure 2, item 84B) for location of adapter.

**3. REMOVAL.** (See figure 1.)

a. Loosen retainer and then disengage swing bolt securing adapter to mounting base.

b. Slowly pull adapter forward until connector at rear of adapter disengages mounting base connector. Remove adapter from mounting base.

c. Cap all connectors.

**4. INSTALLATION.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

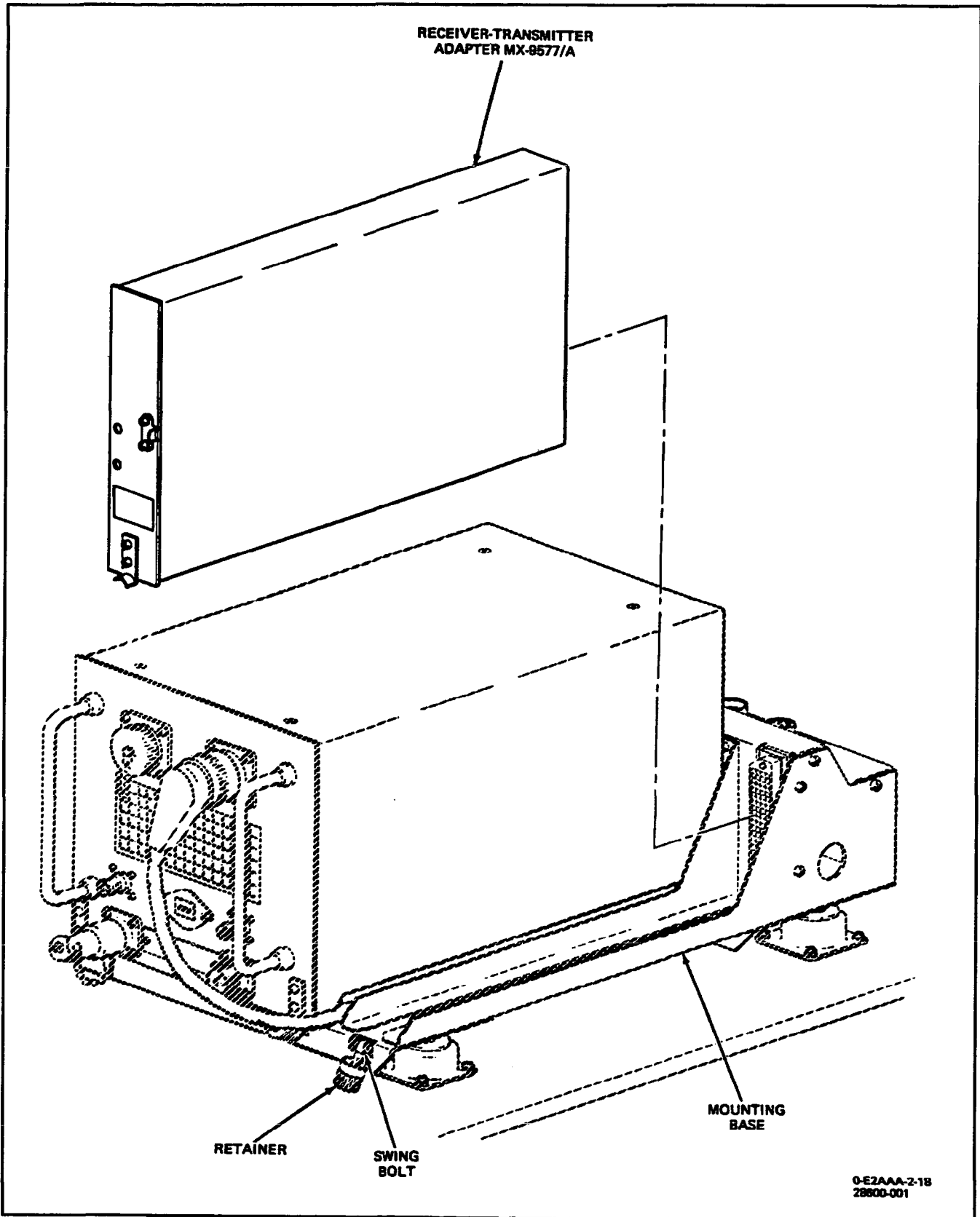


Figure 1. Removal and Installation of Receiver-Transmitter Adapter MX-9577/A

- a. Remove caps from connectors.



Inspect connectors for damage and bent pins prior to installation.

- b. Place adapter on mounting base and slowly slide backward until connector on adapter and connec-

tor on mounting base are fully engaged. (QUALITY ASSURANCE)

- c. Secure adapter to mounting base by engaging swing bolt and then tightening retainer. (QUALITY ASSURANCE)

- d. Perform operational check TACAN Navigational Set AN/ARN-118(V) (NAVAIR 01-E2AAA-2-17.1, WP014 01).





**ORGANIZATIONAL MAINTENANCE**

**MOUNTING BASE MT-4682/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161224 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
TACAN Navigational Set AN/ARN-118(V) .....	014 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Receiver-Transmitter RT-1159/A .....	285 00
Receiver-Transmitter Adapter MX-9577/A .....	286 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 299	—	TACAN Navigation Set AN/ARN-52(V), Replacement With TACAN Navigation Set AN/ARN-118(V). (ECP GR-E-2C-274)	9/1/80	Effectivity: Aircraft serial no. 161224 and subsequent and those aircraft incorporating AFC 299.

**1. GENERAL.**

2. The Mounting Base MT-4682/A (hereinafter referred to as the mounting base) is part of the TACAN Navigational Set AN/ARN-118(V). The mounting base is located in the left side of the equipment compartment. Refer to WP003 00 (figure 2, item 84B) for location of mounting base.

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove Receiver-Transmitter RT-1159/A from mounting base (WP285 00).

b. Remove Receiver-Transmitter Adapter MX-9577/A from mounting base (WP286 00).

c. Disconnect four cable connectors from mounting base receptacles J1901, J1902, J1905, and J1906.

d. Remove 16 screws, 32 washers, and 16 nuts securing mounting base to shelf. Remove mounting base from shelf.

e. Cap all connectors, receptacles, and the opening in mounting base.

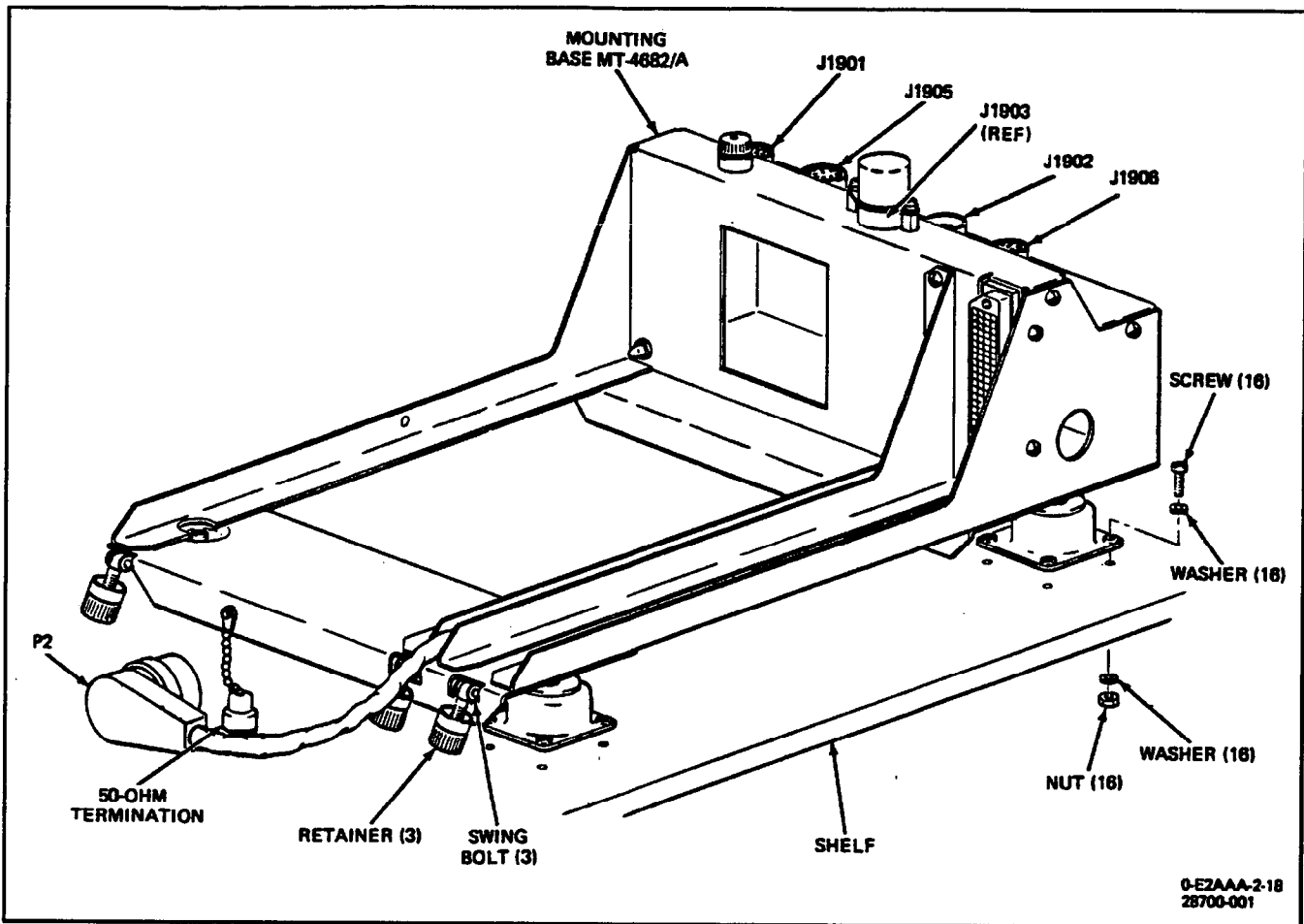


Figure 1. Removal and Installation of Mounting Base MT-4682/A

4. **INSTALLATION.** (See figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors, receptacles, and the opening in mounting base.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins prior to interconnection.

b. Place mounting base on shelf and then secure mounting base to shelf with 16 screws, 32 washers, and 16 nuts. (QUALITY ASSURANCE)

c. Connect cable connectors 32A1P1901, 32A1P1902, 32A1P1905, and 32A1P1906 to mounting base receptacles J1901, J1902, J1905, and J1906, respectively. (QUALITY ASSURANCE)

d. Install Receiver-Transmitter Adapter MX-9577/A into mounting base (WP286 00).

e. Install Receiver-Transmitter RT-1159/A into mounting base (WP285 00).

f. Perform operational check of TACAN Navigational Set AN/ARN-118(V) (NAVAIR 01-E2AAA-2-17.1, WP014 01).

**ORGANIZATIONAL MAINTENANCE**

**RECEIVER-TRANSMITTER CONTROL C-10056/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161224 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
TACAN Navigational Set AN/ARN-118(V) .....	014 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 299	—	TACAN Navigational Set AN/ARN-52(V), Replacement with TACAN Navigation Set AN/ARN-118(V). (ECP GR-E-2C-274)	9/1/80	Effectivity: Aircraft serial no. 161224 and subsequent and those aircraft incorporating AFC 299.

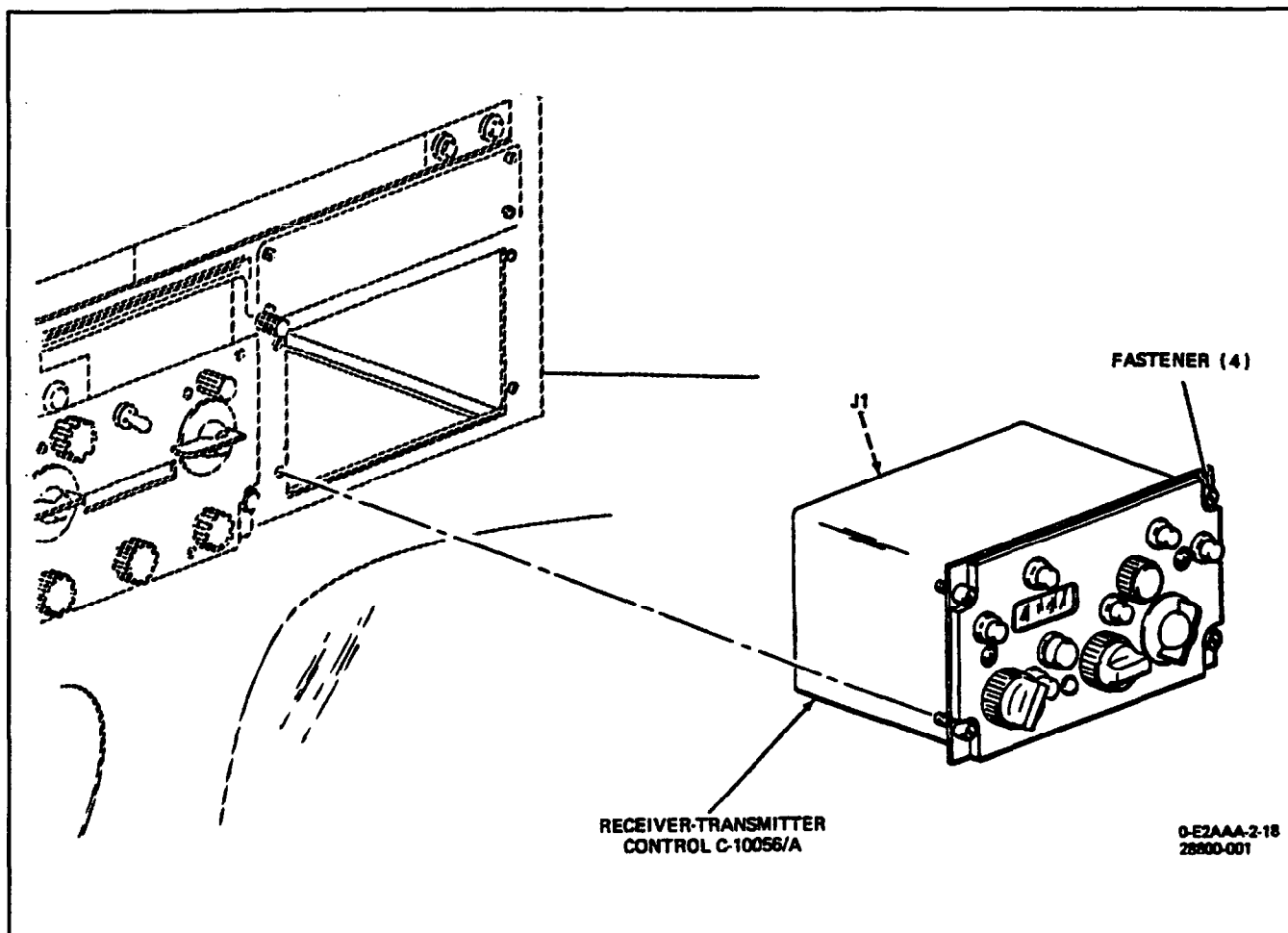
**1. GENERAL.**

2. The Receiver-Transmitter Control C-10056/A (hereinafter referred to as the control) (32A2) is part of the TACAN Navigational Set AN/ARN-118(V). The control is in the cockpit overhead console. Refer to WP003 00 (figure 1, item 8A) for location of the control.

**3. REMOVAL.** (See figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1. WP027 00).



**Figure 1. Removal and Installation of Receiver-Transmitter Control C-10056/A**

- a. Disengage four fasteners securing control to overhead console.
- b. Slowly pull control out of overhead console until cable connector is accessible.
- c. Supporting control, disconnect cable connector from control receptacle J1.
- d. Cap connector and receptacle.

**4. INSTALLATION.** (See figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove cap from connector and receptacle.

**CAUTION**

Inspect connector and receptacle for damage and bent pins prior to interconnection.

- b. Connect cable connector 32A2P1 to control receptacle J1. (QUALITY ASSURANCE)
- c. Insert control into overhead console and secure with four fasteners. (QUALITY ASSURANCE)
- d. Perform an operational check on TACAN Navigational Set AN/ARN-118(V) (NAVAIR 01-E2AAA-2-17.1, WP014 01).

**ORGANIZATIONAL MAINTENANCE**

**SIGNAL CONTROL PROCESSOR C-10942/ALR-73 AND SIGNAL PROCESSOR MOUNT  
MT-6175/ALR-73**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161229 THROUGH 163848, AND 163850 THROUGH 165813**

**This work package (WP) supersedes WP289 00, dated 1 December 2000.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-73 .....	029 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial No. 161229 and subsequent and those aircraft incorporating AFC 303.

**1. GENERAL.**

2. The Signal Control-Processor C-10942/ALR-73 (49A11) and Signal Processor Mount MT-6175/ALR-73 (hereinafter referred to as the processor and mount) are part of the Countermeasures Receiving Set AN/ALR-73. The processor and mount are in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 123) for location of processor and mount. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
MS-90387-1	Cable Strap Securing Tool
FSN 9Q5120-542-4489	Torque Wrench (5-150 inch-pounds)

**3. SIGNAL CONTROL-PROCESSOR C-10942/ALR-73.**

**4. REMOVAL. (Figure 1.)**



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Provide access to processor by raising cockpit entry steps. This is accomplished by disengaging two fasteners (at bottom of steps) and then raising steps.
- b. Disconnect 10 cable connectors from processor receptacles J1 through J4, J6 through J10, and J12.
- c. Loosen and then disengage three self-locking clamp assemblies securing processor to mount.



To prevent damage to cables, insure that cables do not interfere with processor when removing.

- d. Using handles, pull processor out of mount until it is clear of two spring-loaded guide pins on mount. Remove processor from mount.

- e. Cap all connectors and receptacles.

**5. INSTALLATION. (Figure 1.)**



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Place processor onto mount and push backward until processor engages two spring-loaded guide pins. (QUALITY ASSURANCE)

- c. Secure processor to mount by engaging three self-locking clamp assemblies and then torquing self-locking clamp assemblies to 30±3 inch-pounds. (QUALITY ASSURANCE)

- d. Connect cable connectors to processor receptacles as listed in table 1. (QUALITY ASSURANCE)

- e. Perform an operational check of Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

- f. Lower cockpit entry steps and secure with two fasteners.

**6. SIGNAL PROCESSOR MOUNT MT-6175/ALR-73.**

**7. REMOVAL. (Figure 1.)**



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove processor from mount (paragraph 4).
- b. Remove six screws and washers securing mount to shelf.

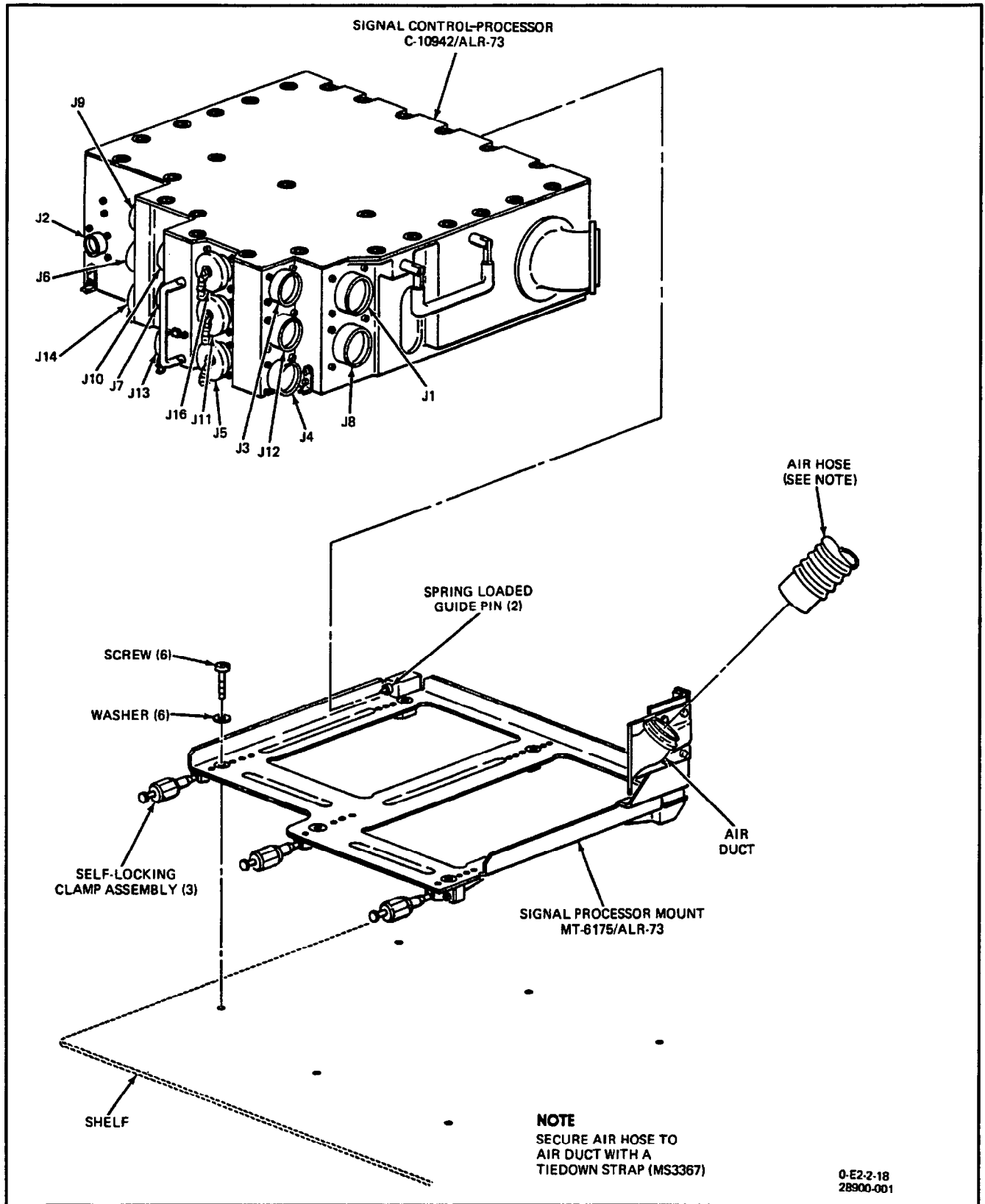


Figure 1. Removal and Installation of Signal Control-Processor C-10942/ALR-73 and Signal Processor Mount MT-6175/ALR-73

**TABLE 1. PROCESSOR CABLE CONNECTIONS**

Processor Receptacle	Cable Connector
J1	49A11P1
J2	49A11P2
J3	49A11P3
J4	49A11P4
J5	(capped)
J6	49A11P6
J7	49A11P7
J8	49A11P8
J9	49A11P9
J10	49A11P10
J11	(capped)
J12	49A11P12
J13	(capped)
J14	(capped)
J16	(capped)

c. Remove tiedown strap securing airhose to mount and remove airhose from mount.

d. Remove mount from shelf.

8. **INSTALLATION.** (Figure 1.)

**Materials Required**

**Specification or**

**Part Number**

**Nomenclature**

MS3367

Tiedown Strap (use appropriate size)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Install airhose to mount and secure with tiedown strap. (QUALITY ASSURANCE)

b. Secure mount to shelf with six screws and six washers. (QUALITY ASSURANCE)

c. Install processor on mount (refer to paragraph 5).



**ORGANIZATIONAL MAINTENANCE**

**RECEIVER/PROCESSOR CP–2471A/ALQ–217 (49A1A1) AND  
ELECTRONIC EQUIPMENT MOUNTING BASE MT–7247/ALQ–217A (49A1)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 165814 AND SUBSEQUENT**

**This work package (WP) supersedes WP289 01, dated 1 November 2002.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01–E2AAA–2–1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01–E2AAA–2–17.3.1
Radio Frequency Signal Detecting Set AN/ALQ–217A, Testing and Troubleshooting (Aircraft Serial No. 165814 and Subsequent) .....	029 04
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16–1–540
Standard Maintenance Practices, Electronic Assembly Repair .....	NAVAIR 01–1A–23

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
–	—	Electronic Support Measures (ESM) Replacement Program (ECP 432R1)	11/1/02	ECP Coverage Only.
1. <b>RECEIVER/PROCESSOR CP–2471A/ALQ–217 (49A1A1).</b>				NO POWER placard over external electrical power receptacle.
2. REMOVAL. (Figure 1.)				
a. Perform safety checks before maintenance (NAVAIR 01–E2AAA–2–1, WP040 00).				
b. Disconnect external electrical power from aircraft (NAVAIR 01–E2AAA–2–1, WP027 00), and place				



The Receiver/Processor being removed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01–1A–23.

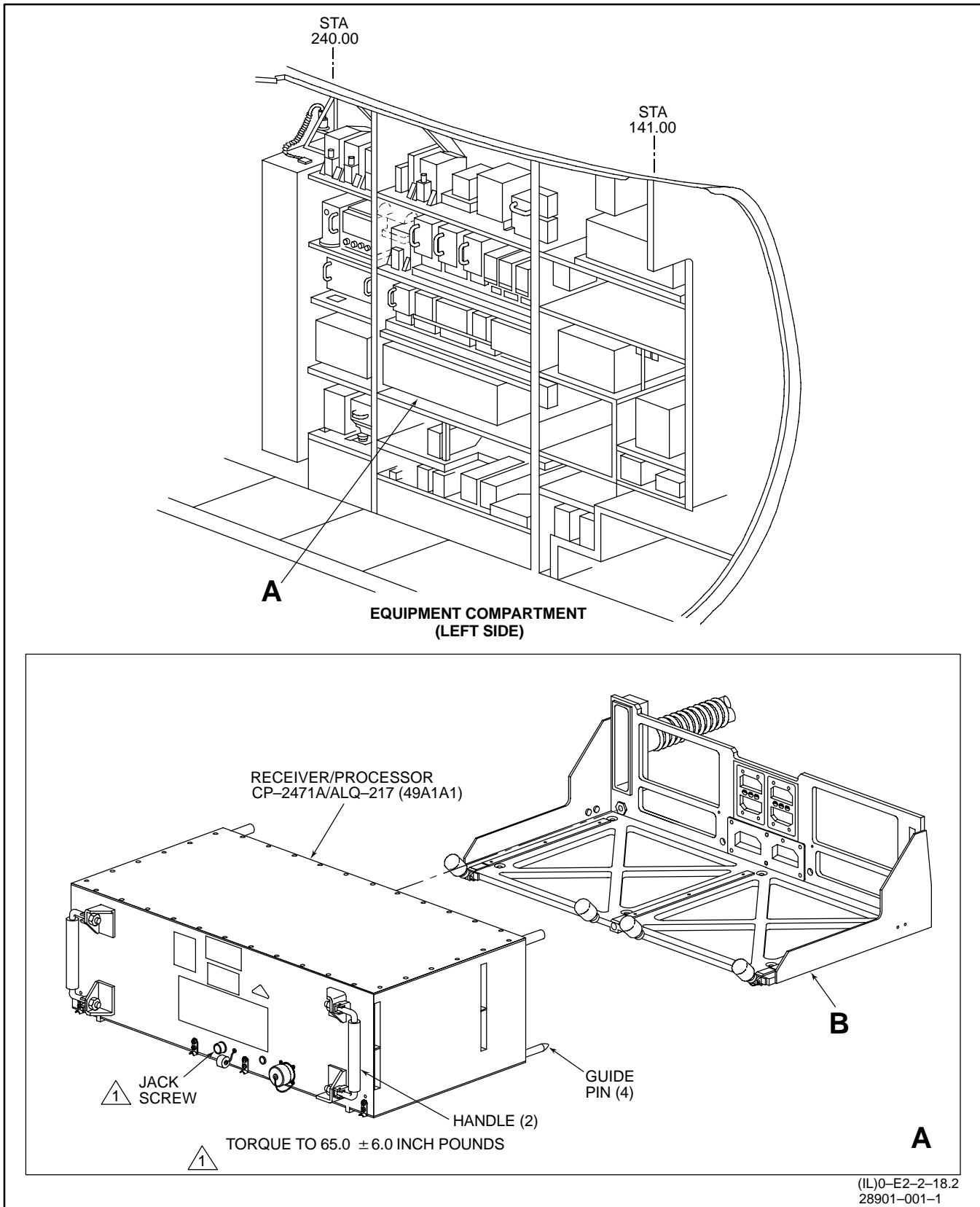


Figure 1. Removal and Installation of Receiver/Processor CP-2471A/ALQ-217 (49A1A1) and Electronic Equipment Mounting Base MT-7247/ALQ-217A (49A1) (Sheet 1 of 2)

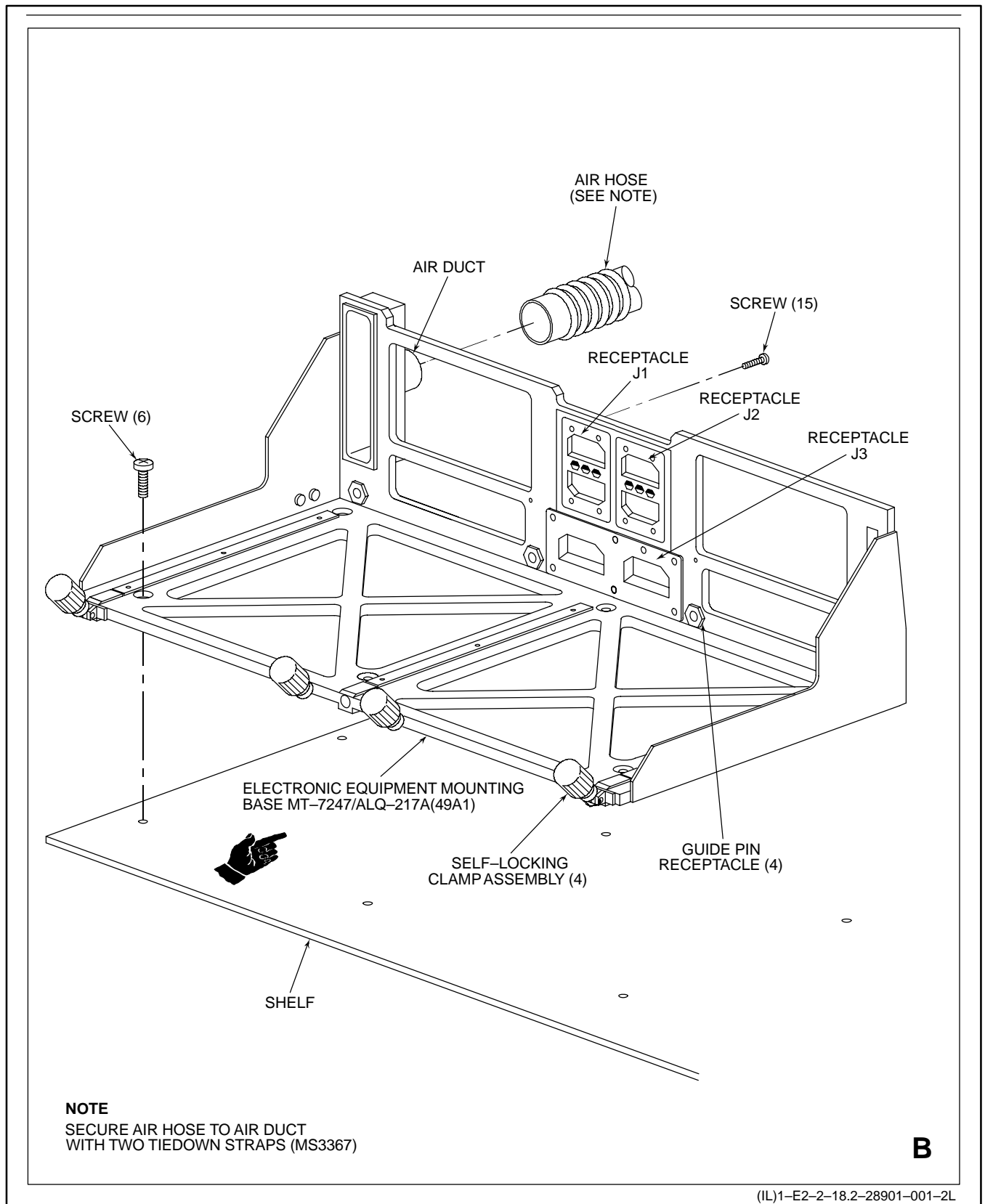


Figure 1. Removal and Installation of Receiver/Processor CP-2471A/ALQ-217 (49A1A1) and Electronic Equipment Mounting Base MT-7247/ALQ-217A (49A1) (Sheet 2)

c. Remove protective cap, turn jack screw counter-clockwise to loosen Receiver/Processor CP-2471A/ALQ-217 (49A1A1) (processor) from Electronic Equipment Mounting Base MT-7247/ALQ-217A (49A1) (mount).

d. Loosen and then disengage four self-locking clamp assemblies securing processor to mount. Disengage receptacles J1, J2 and J3 from connectors on processor.



The processor weighs over 74–102 pounds. To avoid injury, use two people to move and lift this unit. Two handles are provided.



Ensure the processor is pulled straight out of its mount assembly. Damage to electrical connectors may result if side-to-side movement is used to remove the processor from its mount assembly.

e. Using two handles, pull processor out of mount until it is clear of four guide pin receptacles on mount. Remove processor from mount.

f. Inspect electrical connectors for damage, corrosion, recessed pins, grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

**3. INSTALLATION. (Figure 1.)**

**Support Equipment Required**

Part or Model No.	Nomenclature
0 to 100 inch-pounds	Torque Wrench

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Remove caps from all connectors and receptacles.



The receiver/processor CP-2471A/ALQ-217 (49A1A1) (processor) weighs over 74–102 pounds. To avoid injury, use two people to move and lift this unit. Two handles are provided.



The Receiver/Processor being installed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01-1A-23.

Ensure the processor is pushed straight into electronic equipment mounting base MT-7247/ALQ-217A (49A1) (mount). Damage to electrical connectors may result if side-to-side movement is used to install the processor into its mount.

d. Carefully slide processor on its mount until processor connectors P1, P2, P3 and four guide pins engages receptacles J1, J2 and J3 and four guide pin receptacles.

e. Gently push on processor to ensure that connectors P1, P2 and P3 on processor and receptacles J1, J2 and J3 on mount are seated together properly. (QUALITY ASSURANCE)

f. Secure processor to mount by engaging four self-locking clamp assemblies.

g. Turn jack screw clockwise to secure processor to mount. Torque jack screw to 65.0 ± 6.0 inch-pounds. Install protective cover. (QUALITY ASSURANCE)

h. Perform an operational check of Radio Frequency Signal Detecting Set AN/ALQ-217A (NAVAIR 01-E2AAA-2-17.3.1, WP029 04).

**4. ELECTRONIC EQUIPMENT MOUNTING BASE MT-7247/ ALQ-217A (49A1).**

**5. REMOVAL. (Figure 1.)**

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Remove receiver/processor CP-2471A/ALQ-217 (49A1A1). (Refer to paragraph 2).

d. Remove six screws securing electronic equipment mounting base MT-7247/ALQ-217A (49A1) (mount) to shelf.

e. Remove two tiedown straps securing air hose to mount. Discard tiedown strap.

f. Remove air hose from mount.

g. Remove fifteen screws securing receptacles J1, J2 and J3 to mount.

h. Remove receptacles J1, J2 and J3 from mount and remove mount from aircraft.

6. INSTALLATION. (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS3367	Tiedown Strap (2) (use appropriate size)
MS-90387-1	Cable Strap Securing Tool

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Position receptacles J1, J2 and J3 to electronic equipment mounting base MT-7247/ALQ-217A (49A1) (mount), secure with fifteen screws.

d. Position mount on shelf, secure with six screws. (QUALITY ASSURANCE)

e. Install air hose on mount and secure with two tiedown straps. (QUALITY ASSURANCE)

f. Install receiver/processor CP-2471A/ALQ-217 (49A1A1). (Refer to paragraph 3).

g. Perform operational check of Radio Frequency Signal Detecting Set AN/ALQ-217A (NAVAIR 01-E2AAA-2-17.3.1, WP029 04).



**ORGANIZATIONAL MAINTENANCE**

**DIGITAL DATA COMPUTER CP-1501/AYK-14(V) AND ELECTRICAL EQUIPMENT MOUNTING BASE  
MT-6176/ALR-73**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161229 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-73 .....	029 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

1. GENERAL.

2. The Digital Data Computer CP-1501/AYK-14(V) (49A12) and Electrical Equipment Mounting Base MT-6176/ALR-73 (hereinafter referred to as the computer and mounting base) are part of the Countermeasures Receiving Set AN/ALR-73. The computer and mounting base are in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 122) for location of the computer and mounting base.

3. DIGITAL DATA COMPUTER CP-1501/AYK-14(V).

4. REMOVAL. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disconnect five cable connectors from computer receptacles J2, J5 through J7, and J9.

b. Loosen two clevis bolts (on mounting base) until two mounting fittings can be disconnected from two mounting lips on computer.

c. Using handles, pull computer out of mounting base until it is clear of two guide pins on mounting base. Remove computer.

d. Cap all connectors and receptacles.

5. INSTALLATION. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

To insure that cooling air plate on computer engages air gasket seal on mounting base,

use sufficient force to firmly seat computer against guide pins on mounting base.

b. Place computer onto mounting base and push backward until two guide pin holes in computer engage two guide pins on mounting base and computer is firmly seated against mounting base air gasket seal. (QUALITY ASSURANCE)

c. Secure computer to mounting base by engaging two mounting fittings and then tightening two clevis bolts. (QUALITY ASSURANCE)

d. Connect cable connectors to computer receptacles as listed below.

Computer Receptacle	Cable Connector
J2	49A12P2
J5	49A12P5
J6	49A12P6
J7	49A12P7
J9	49A12P9

e. Perform an operational check of Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

6. ELECTRICAL EQUIPMENT MOUNTING BASE MT-6176/ALR-73.

7. REMOVAL. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove computer from mounting base (paragraph 4).

b. Remove four screws securing mounting base to four mounting brackets on shelf.

c. Remove four screws securing air duct to mounting base.

d. Remove mounting base from shelf.



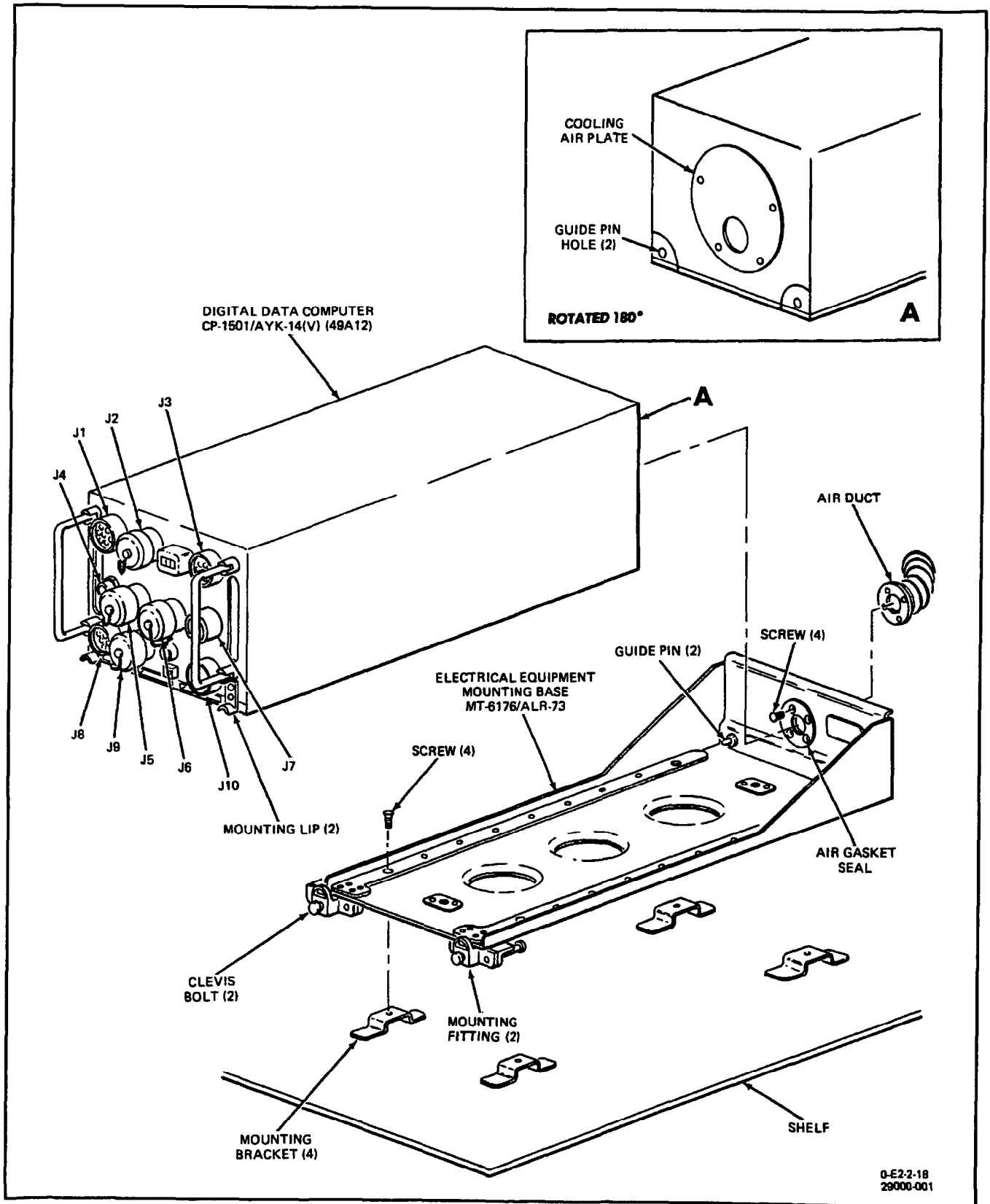


Figure 1. Removal and Installation of Digital Data Computer CP-1501/AYK-14(V) and Electrical Equipment Mounting Base MT-6176/ALR-73

8. INSTALLATION. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using four screws, secure air duct to mounting base. (QUALITY ASSURANCE)
- b. Place mounting base on four mounting brackets on shelf.
- c. Using four screws, secure mounting base to mounting brackets. (QUALITY ASSURANCE)
- d. Install computer on mounting base (refer to paragraph 5).

**ORGANIZATIONAL MAINTENANCE**

**ANTENNA ASSEMBLY AS-3494/ALR-73**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161229 THROUGH 163848, AND 163850 THROUGH 165813**

**This work package (WP) supersedes WP291 00, dated 1 December 2000.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Environmental Control and Utility Systems .....	NAVAIR 01-E2AAA-2-12
Liquid Oxygen Converter .....	058 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

**1. GENERAL.**

2. The Antenna Assembly AS-3494/ALR-73 (hereinafter referred to as the antenna) (49A17) is part of the Countermeasures Receiving Set AN/ALR-73. The antenna is in the nose section. (See figure 1.) Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0 inch-pounds)

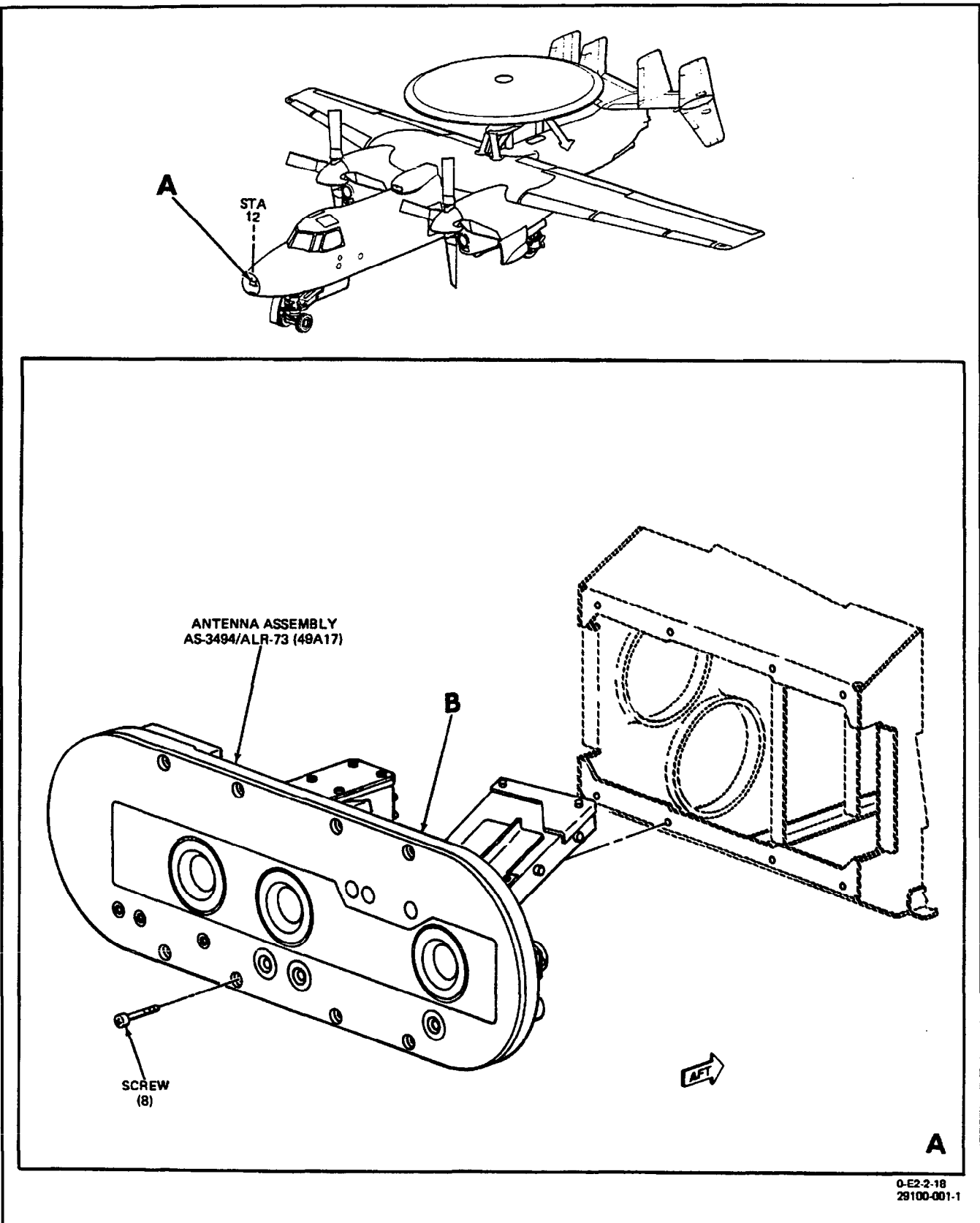


Figure 1. Removal and Installation of Antenna Assembly AS-3494/ALR-73 (Sheet 1 of 2)

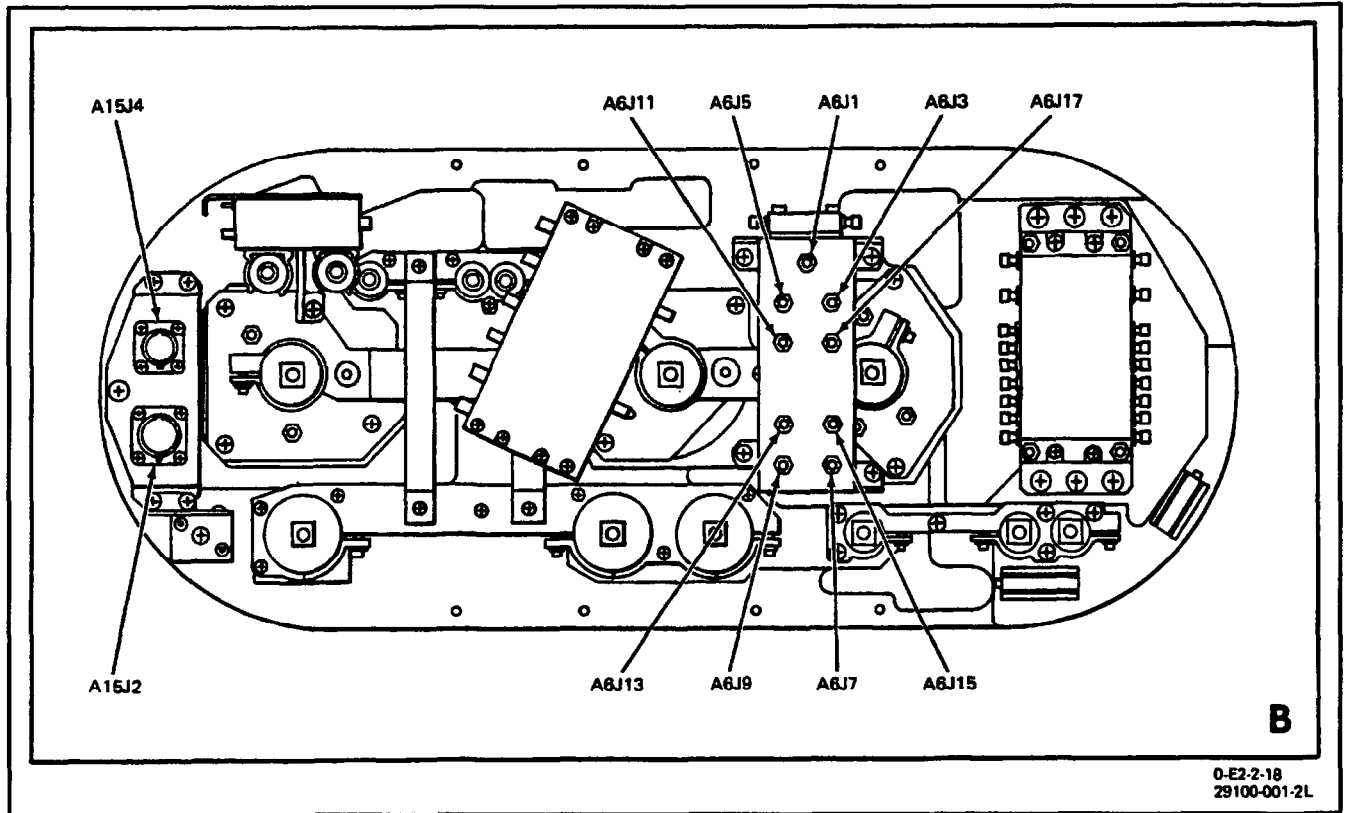


Figure 1. Removal and Installation of Antenna Assembly AS-3494/ALR-73 (Sheet 2)

3. REMOVAL. (See figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Gain access to antenna by releasing two latches (located on the bottom section of the nose cap) and lifting nose cap up. Secure nose cap in the up position with two struts.

b. Remove liquid oxygen converter (NAVAIR 01-E2AAA-2-12, WP058 00).

**Note**

It is recommended that one man supports antenna while other man performs the following procedures.

c. Remove two grounding straps.

d. Remove three cables from receptacles A6J1, A15J2, and A15J4.

e. Remove torque seal securing nuts on semi-rigid lines.

f. Remove eight screws securing antenna to aircraft structure.

**CAUTION**

In the following procedure, it is mandatory not to flex, bend, or distort semi-rigid lines attached to the antenna.

g. Loosen nuts (one turn at a time, in succession) on each of eight semi-rigid lines so that antenna slowly moves away from these lines.

h. Continue to loosen all nuts on semi-rigid lines (one turn at a time, in succession) until the antenna has been separated from nine semi-rigid lines.

i. Carefully back the antenna away from semi-rigid lines and remove from aircraft structure.

j. Cap all connectors and receptacles.

4. **INSTALLATION.** (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
F-900	Torque Seal



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from all connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

It is recommended that one man supports antenna while other man performs the following procedures.

- b. Place antenna against aircraft structure taking care not to damage semi-rigid lines.



In the following procedures, it is mandatory not to flex, bend, or distort the semi-rigid lines during installation. Therefore, the antenna must be carefully and slowly moved toward the lines as nuts on semi-rigid lines are tightened.

- c. Very carefully move the antenna so that semi-rigid lines are alined with fittings on antenna as listed below.

- d. Using torque wrench, tighten nuts on semi-rigid lines (one turn at a time, in succession) so that antenna is very slowly moved toward these lines. If necessary, move the antenna toward semi-rigid lines. (QUALITY ASSURANCE)

- e. Continue to tighten all nuts on semi-rigid lines (one turn at a time, in succession) until antenna has been completely connected to semi-rigid lines, and

each nut is torqued to 9.0, +1.0, -0 inch-pounds. (QUALITY ASSURANCE)

- f. Secure antenna to aircraft structure with eight screws. (QUALITY ASSURANCE)



Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

- g. Secure nuts on semi-rigid lines with torque seal.

- h. Connect cable connectors to antenna receptacles as listed below.

Receptacle	Cable Connectors
A6J3	49A17A6P3
A6J5	49A17A6P5
A6J7	49A17A6P7
A6J9	49A17A6P9
A6J11	49A17A6P11
A6J13	49A17A6P13
A6J15	49A17A6P15
A6J17	49A17A6P17
A6J1	49A17A6P1
A15J2	49A17A15P2
A15J4	49A17A15P4

- i. Connect two grounding straps.

- j. Perform operational check of Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

- k. Install liquid oxygen converter (NAVAIR 01-E2AAA-2-12, WP058 00).

- l. Close nose cap and secure with two latches.

**ORGANIZATIONAL MAINTENANCE**

**ANTENNA ASSEMBLY AS–4521/ALQ–217 (49A6)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 165814 AND SUBSEQUENT**

**This work package (WP) supersedes WP291 01, dated 1 November 2002.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01–E2AAA–2–1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Environmental Control and Utility Systems .....	NAVAIR 01–E2AAA–2–12
Liquid Oxygen Converter .....	058 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01–E2AAA–2–17.3.1
Radio Frequency Signal Detecting Set AN/ALQ–217A, Testing and Troubleshooting (Aircraft Serial No. 165814 and Subsequent) .....	029 04
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16–1–540
Standard Maintenance Practices, Electronic Assembly Repair .....	NAVAIR 01–1A–23

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
–	—	Electronic Support Measures (ESM) Replacement Program (ECP 432R1)	11/1/02	ECP Coverage Only.

**1. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01–E2AAA–2–1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01–E2AAA–2–1, WP027 00), and place NO POWER placard over external electrical power receptacle.

**Note**

It is recommended that one person support antenna assembly AS–4521/ALQ–217 (49A6) (antenna) while another person performs the following procedures.

c. Gain access to antenna by releasing two latches, located on the bottom section of the nose cap. Lift the nose cap up and secure in the up position with two struts.

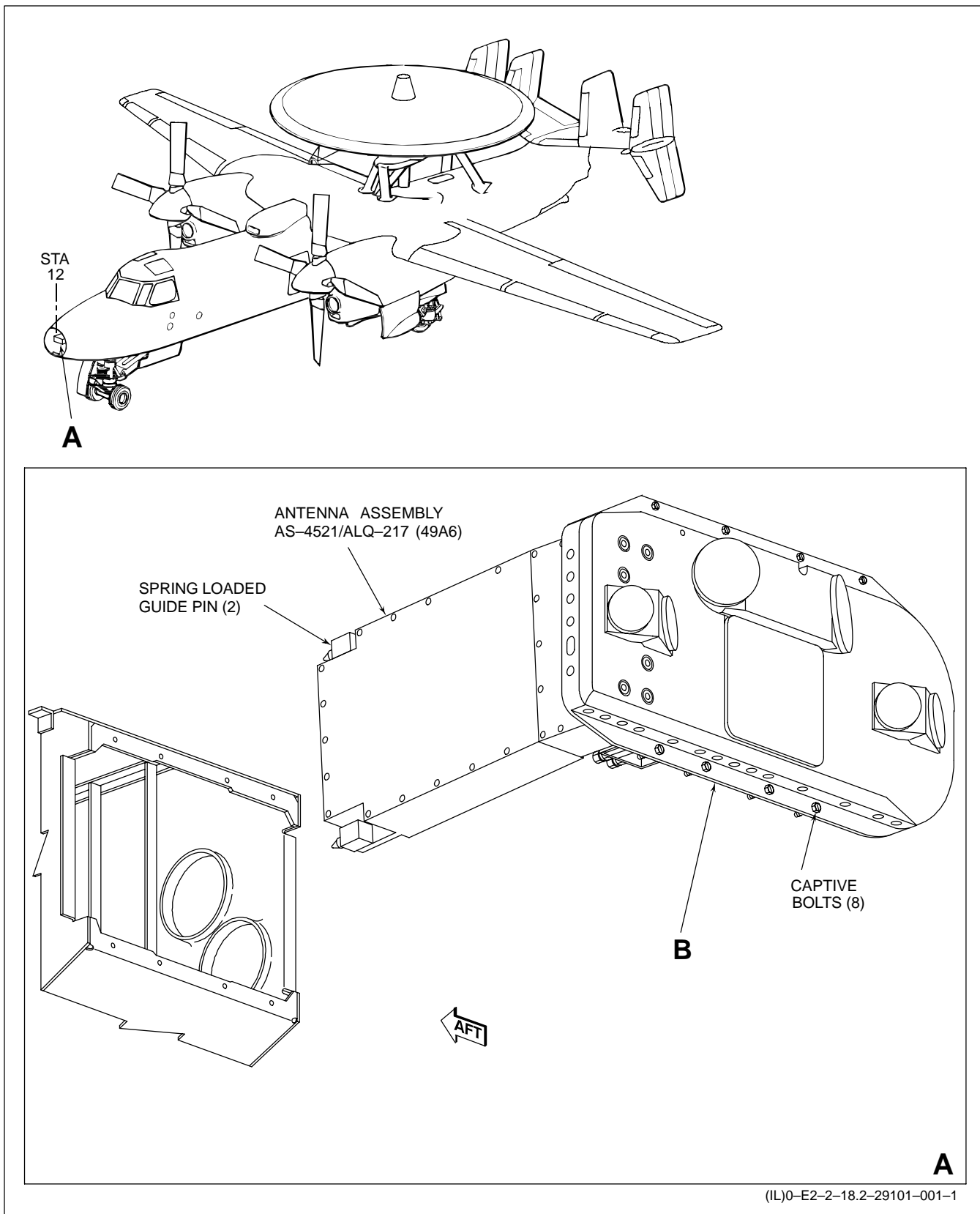


Figure 1. Removal and Installation of Antenna Assembly AS-4521/ALQ-217 (Sheet 1 of 2)



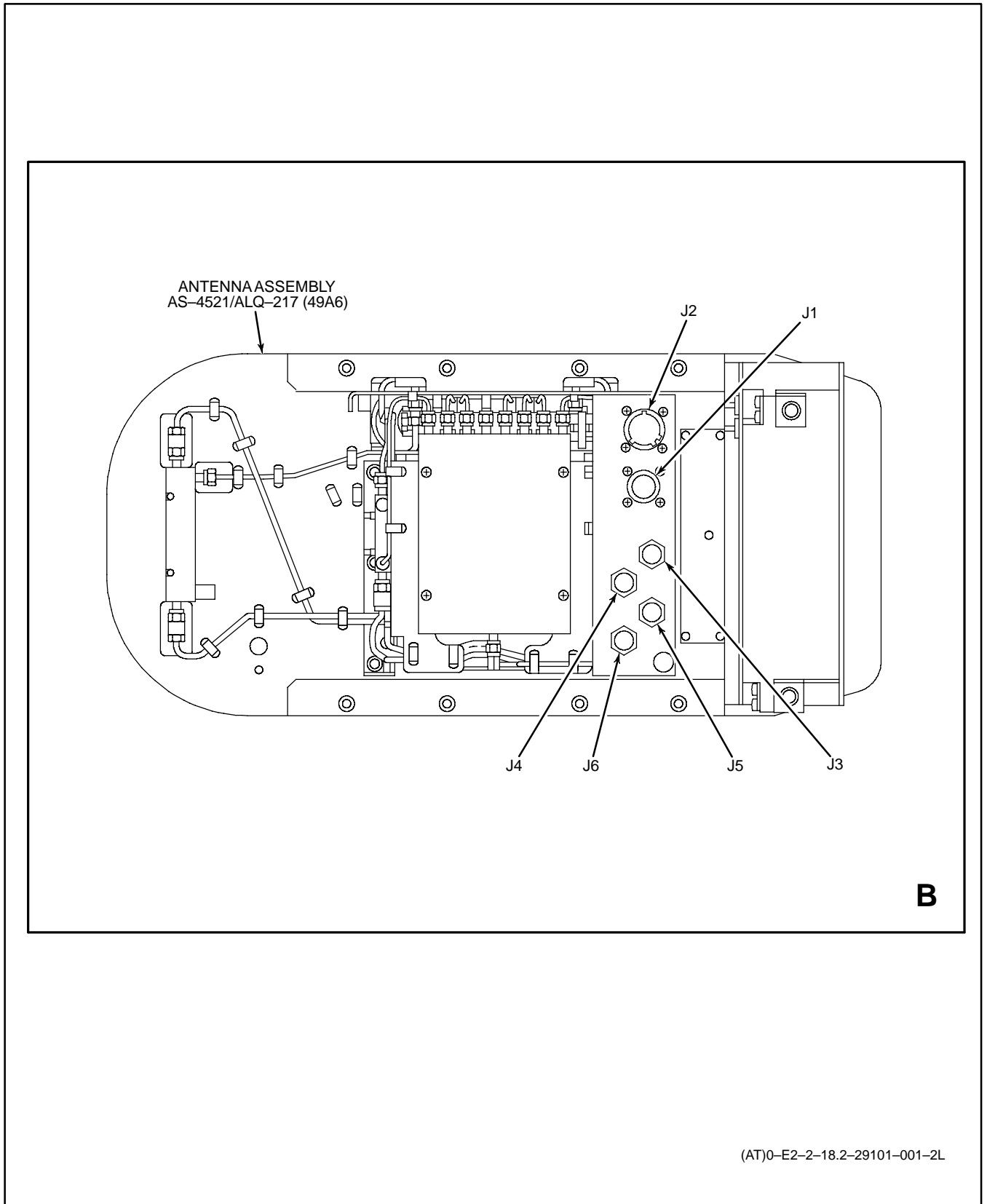


Figure 1. Removal and Installation of Antenna Assembly AS-4521/ALQ-217 (Sheet 2)

d. Remove liquid oxygen converter (NAVAIR 01-E2AAA-2-12, WP058 00).



The Antenna being removed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01-1A-23.

e. Disconnect two electrical connectors P1 and P2 from receptacles J1 and J2 on antenna.

f. Inspect electrical connectors for damage, corrosion, recessed pins, grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.



Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.



In the following procedure, it is mandatory not to flex, bend, or distort the phased matched (PM) RF LO-lines attached to the antenna.

g. Remove torque seal securing four nuts on PM RF LO-lines.

h. Disengage four TNC self locking bayonet collars on PM RF LO-lines P3, P4, P5 and P6.

i. Loosen four nuts securing four PM RF LO-lines P3, P4, P5 and P6 to receptacles J3, J4, J5 and J6 on antenna.

j. Loosen eight captive bolts securing antenna to aircraft structure.

k. Carefully remove antenna until its clear of two spring loaded guide pins. Remove antenna from aircraft structure.

l. Inspect electrical connectors for damage, corrosion, recessed pins, grease and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

**2. INSTALLATION.** (Figure 1.)

**Support Equipment Required**

Part or Model No.	Nomenclature
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0.0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0.0 inch-pounds)

**Materials Required**

Specification or Part Number	Nomenclature
F-900	Torque Seal

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Remove caps from all connectors and receptacles.



The Antenna being installed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01-1A-23.

**Note**

It is recommended that one person support antenna while the other person performs the following procedures.

d. Place antenna against aircraft structure taking great care to avoid damaging phased matched (PM) RF LO-lines.

**CAUTION**

In the following procedures, it is mandatory not to flex, bend, or distort phased PM RF LO-lines during installation. Therefore, the antenna must be carefully and slowly moved toward the lines as nuts on PM RF LO-lines are tightened.

e. Very carefully install antenna while engaging two spring loaded guide pins.

**Note**

Ensure eight captive bolts are free of paint.

f. Secure antenna to aircraft structure with eight captive bolts. (QUALITY ASSURANCE)

g. Tighten nuts on PM RF LO-lines P3, P4, P5 and P6 with receptacles J3, J4, J5 and P6 on antenna.

**WARNING**

Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an

irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

h. Torque nuts on PM RF LO-lines P3, P4, P5 and P6 to 9.0, +1.0, -0.0 inch-pounds. (QUALITY ASSURANCE)

i. Apply torque seal to nuts on PM RF LO-lines P3, P4, P5 and P6. (QUALITY ASSURANCE)

j. Engage four TNC self locking bayonet collars on PM RF LO-lines P3, P4, P5 and P6.

k. Connect cable connectors P1 and P2 to antenna receptacles J1 and J2.

l. Perform an operational check of Radio Frequency Signal Detecting Set AN/ALQ-217A (NAVAIR 01-E2AAA-2-17.3.1, WP029 04).

m. Install liquid oxygen converter (NAVAIR 01-E2AAA-2-12, WP058 00).

n. Close nose cap and secure with two latches.



**ORGANIZATIONAL MAINTENANCE**

**ANTENNA ASSEMBLY AS-3495/ALR-73**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161229 THROUGH 163848, AND 163850 THROUGH 165813**

**This work package (WP) supersedes WP292 00, dated 1 December 2000.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-73 .....	029 01

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

**1. GENERAL.**

2. The Antenna Assembly AS-3495/ALR-73 (hereinafter referred to as the antenna) (49A18) is part of the Countermeasures Receiving Set AN/ALR-73. The antenna is located in the tail section. (See figure 1.) Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0 inch pounds)

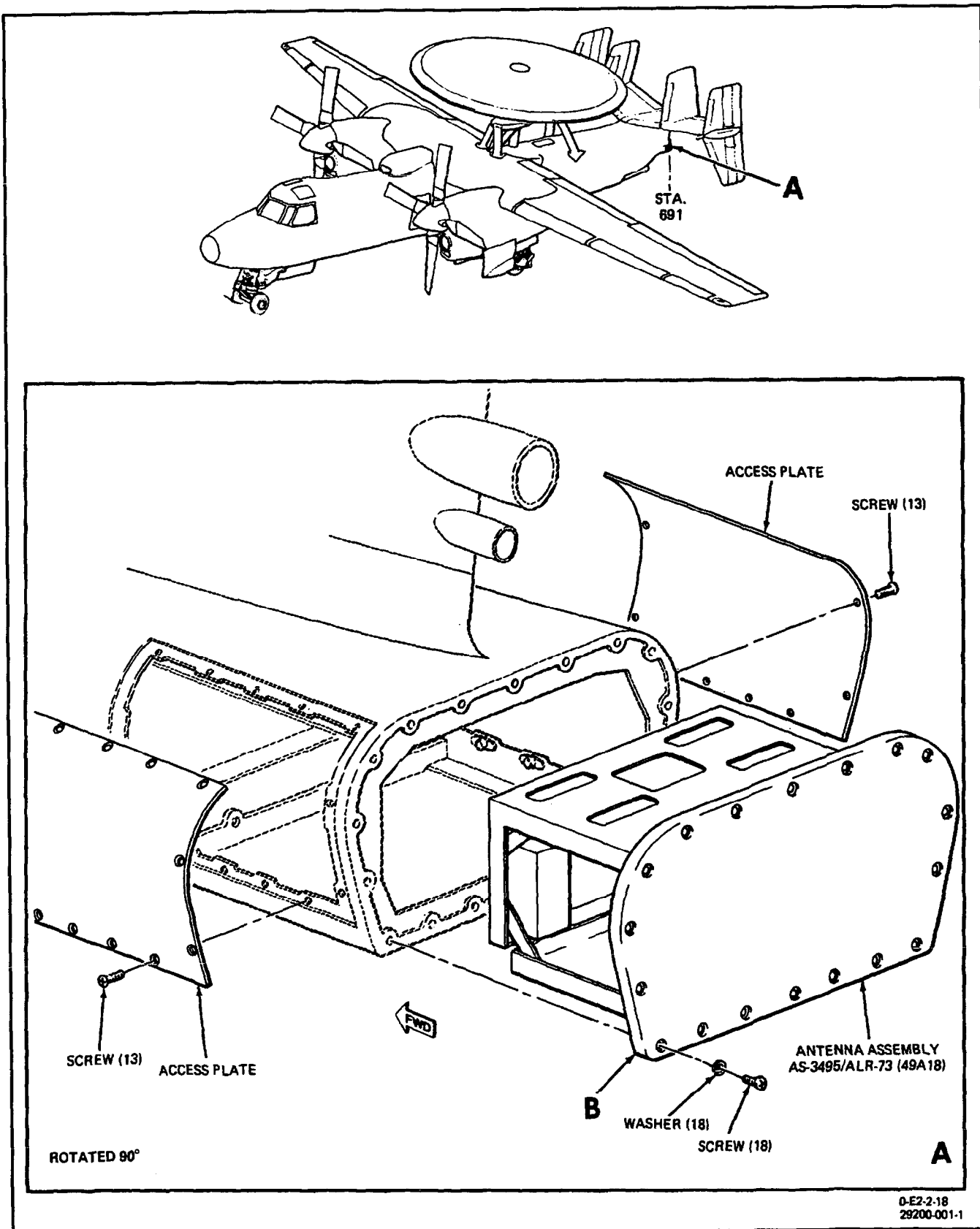


Figure 1. Removal and Installation of Antenna Assembly AS-3495/ALR-73 (Sheet 1 of 2)

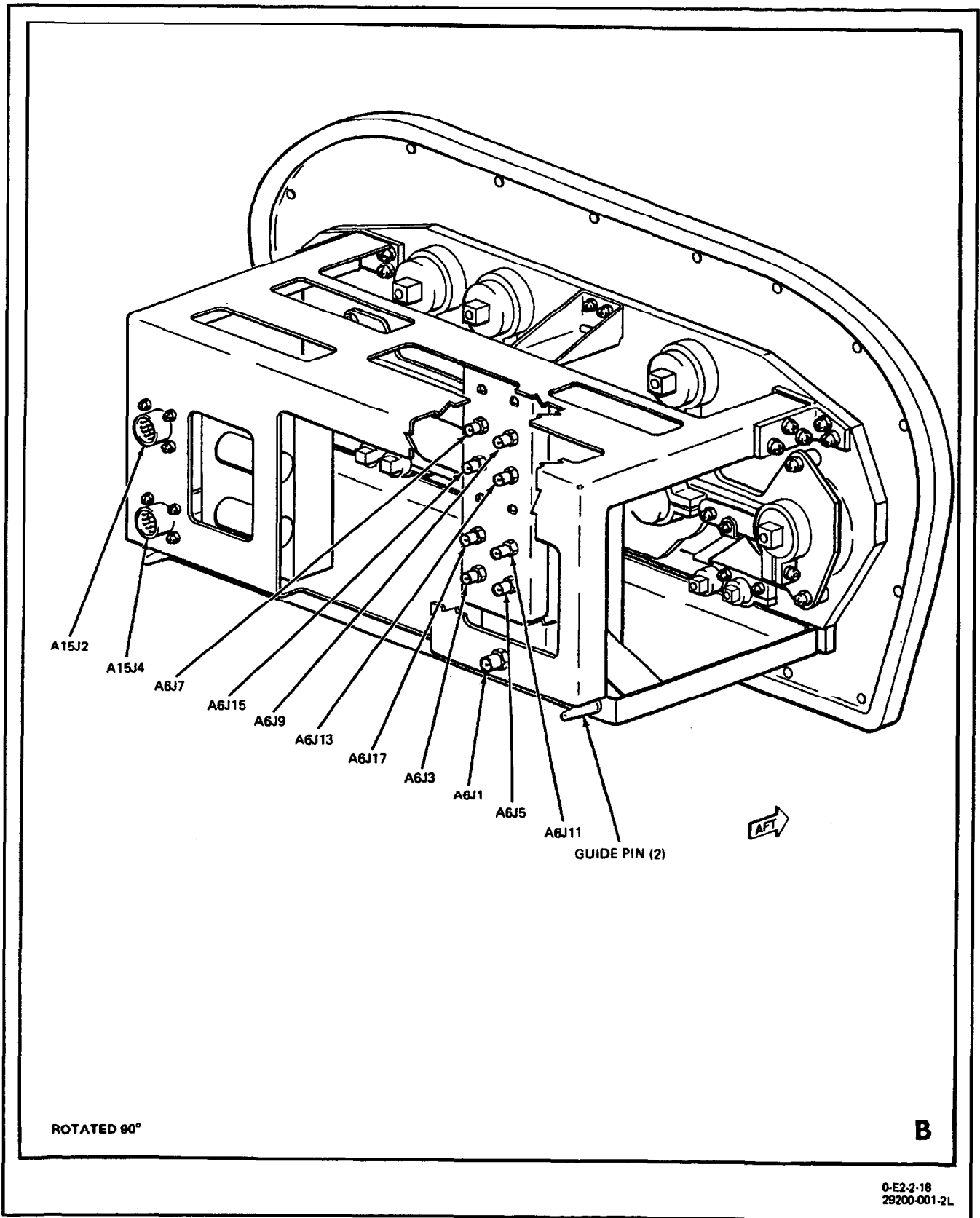


Figure 1. Removal and Installation of Antenna Assembly AS-3495/ALR-73 (Sheet 2)

3. REMOVAL. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove 2 access plates from tail section after removing 26 screws.

Note

It is recommended that one man supports antenna while other man performs the following procedures.

- b. Disconnect cable connectors from receptacles A6J1, A15J2, and A15J4.

- c. Remove 2 grounding straps, then remove 18 screws and 18 washers securing antenna to aircraft structure.



In the following procedure, it is mandatory not to flex, bind, or distort the semi-rigid lines attached to the antenna.

- d. Remove torque seal from nuts on semi-rigid lines.

- e. Loosen nuts (one turn at a time, in succession) on each of eight semi-rigid lines so that antenna is very slowly moved away from these lines.

- f. Continue to loosen all nuts on semi-rigid lines (one turn at a time, in succession) until the antenna has been separated from eight semi-rigid lines.

- g. Carefully back the antenna away from semi-rigid lines and remove from aircraft structure.

- h. Cap all connectors and receptacles.

4. INSTALLATION. (Figure 1.)

Materials Required

Specification or Part Number	Nomenclature
F-900	Torque Seal



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from all connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation. In the following procedures, it is mandatory not to flex, bend, or distort the semi-rigid lines during installation. Therefore, the antenna shall be carefully and slowly moved toward the lines as nuts on semi-rigid lines are tightened.

Note

It is recommended that one man supports antenna while the other man performs the following procedures.

- b. Very carefully place antenna against structure insuring that guide pins on antenna are inserted into mounting holes in structure bracket and that semi-rigid lines are aligned with fittings on antenna as listed below.

Receptacle	Cable Connector
A6J3	49A18A6P3
A6J5	49A18A6P5
A6J7	49A18A6P7
A6J9	49A18A6P9
A6J11	49A18A6P11
A6J13	49A18A6P13
A6J15	49A18A6P15
A6J17	49A18A6P1

- c. Using torque wrench, tighten nuts on semi-rigid lines (one turn at a time, in succession) so that antenna is very slowly moved toward these lines. If necessary, move the antenna toward semi-rigid lines. (QUALITY ASSURANCE)

- d. Continue to tighten all nuts on semi-rigid lines (one turn at a time, in succession) until the antenna has been completely connected to semi-rigid lines and each



nut is torqued to 9, +1, -0 inch pounds. (QUALITY ASSURANCE)

e. Secure antenna to aircraft structure with 18 screws and 18 washers. (QUALITY ASSURANCE)

f. Install two grounding straps.



Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

g. Secure nuts on semi-rigid lines with torque seal.

h. Connect cable connectors to antenna receptacles as listed below.

<b>Receptacle</b>	<b>Cable Connector</b>
A15J2	49A18A15P2
A15J4	49A18A15P4
A6J1	49A18A6P1

i. Perform operational check of Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).

j. Secure 2 access plates to tail section with 26 screws.



**ORGANIZATIONAL MAINTENANCE**

**ANTENNA ASSEMBLY AS-4522/ALQ-217 (49A7)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 165814 AND SUBSEQUENT**

**This work package (WP) supersedes WP292 01, dated 1 November 2002.**

**Reference Material**

General Aircraft Information . . . . .	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections . . . . .	027 00
Safety Checks Before Maintenance . . . . .	040 00
Integrated Electronic Systems Testing and Troubleshooting . . . . .	NAVAIR 01-E2AAA-2-17.3.1
Radio Frequency Signal Detecting Set AN/ALQ-217A, Testing and Troubleshooting (Aircraft Serial No. 165814 and Subsequent). . . . .	029 04
Avionics Cleaning and Corrosion Prevention/Control . . . . .	NAVAIR 16-1-540
Standard Maintenance Practices, Electronic Assembly Repair . . . . .	NAVAIR 01-1A-23

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
-	—	Electronic Support Measures (ESM) Replacement Program (ECP 432R1)	11/1/02	ECP Coverage Only.

**1. REMOVAL.** (Figure 1.)



Active front end assembly and LH and RH antenna assemblies are a matched set. Serial number of all three items must be the same. If one unit requires replacement, then all three are to be replaced.

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.



The Antennas being removed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01-1A-23.

c. Remove 13 screws securing LH antenna in place. Gently pull LH antenna partially out to allow access to PM RF LO-lines.



In the following procedures, it is mandatory not to flex, bend, or distort the PM RF LO-lines attached to the antenna.

**Note**

It is recommended that one person support LH antenna while another person performs the following procedures.

**WARNING**

Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

- d. Remove torque seal from nuts on PM RF LO-lines.
- e. Loosen nuts securing PM RF lines 49A7P19 and 49A7P20 from receptacles J19 and J20.
- f. Remove nut and washer securing ground strap to stud on LH antenna assembly. Remove ground strap.
- g. Remove LH antenna assembly from aircraft structure.
- h. Inspect electrical connectors for damage, corrosion, recessed pins, grease and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.
- i. Remove 13 screws securing RH antenna assembly in place. Gently pull RH antenna assembly partially out to allow access to PM RF LO-lines.

**CAUTION**

In the following procedures, it is mandatory not to flex, bend, or distort the PM RF lines attached to the antenna.

**Note**

It is recommended that one person support RH antenna assembly while another person performs the following procedures.

**WARNING**

Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors;

keep off skin; keep container closed; keep sparks, flames, and heat away.

- j. Remove torque seal from nuts on PM RF LO-lines.
- k. Loosen nuts securing PM RF lines 49A7P21 and 49A7P22 from receptacles J21 and J22.
- l. Remove nut and washer securing ground strap to stud on RH antenna assembly. Remove ground strap.
- m. Remove RH antenna assembly from aircraft structure.
- n. Inspect electrical connectors for damage, corrosion, recessed pins, grease and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.
- o. Disconnect electrical connectors 49A7P1 and 49A7P2 from receptacles J1 and J2.
- p. Inspect electrical connectors for damage, corrosion, recessed pins, grease and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.
- q. Remove nut and washer securing ground strap to stud on Active Front End Assembly. Remove ground strap.

**CAUTION**

In the following procedures, it is mandatory not to flex, bend, or distort the PM RF LO-lines attached to the Active Front End Assembly.

**WARNING**

Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

- r. Remove torque seal from nuts on PM RF LO-lines.
- s. Disengage TNC self locking bayonet collars and loosen nuts securing PM RF LO-lines 49A7P3, 49A7P4, 49A7P5, and 49A7P6 from receptacles J3, J4, J5, and J6.
- t. Remove 18 captive screws securing Active Front End Assembly. Gently pull Active Front End Assembly from aircraft structure.

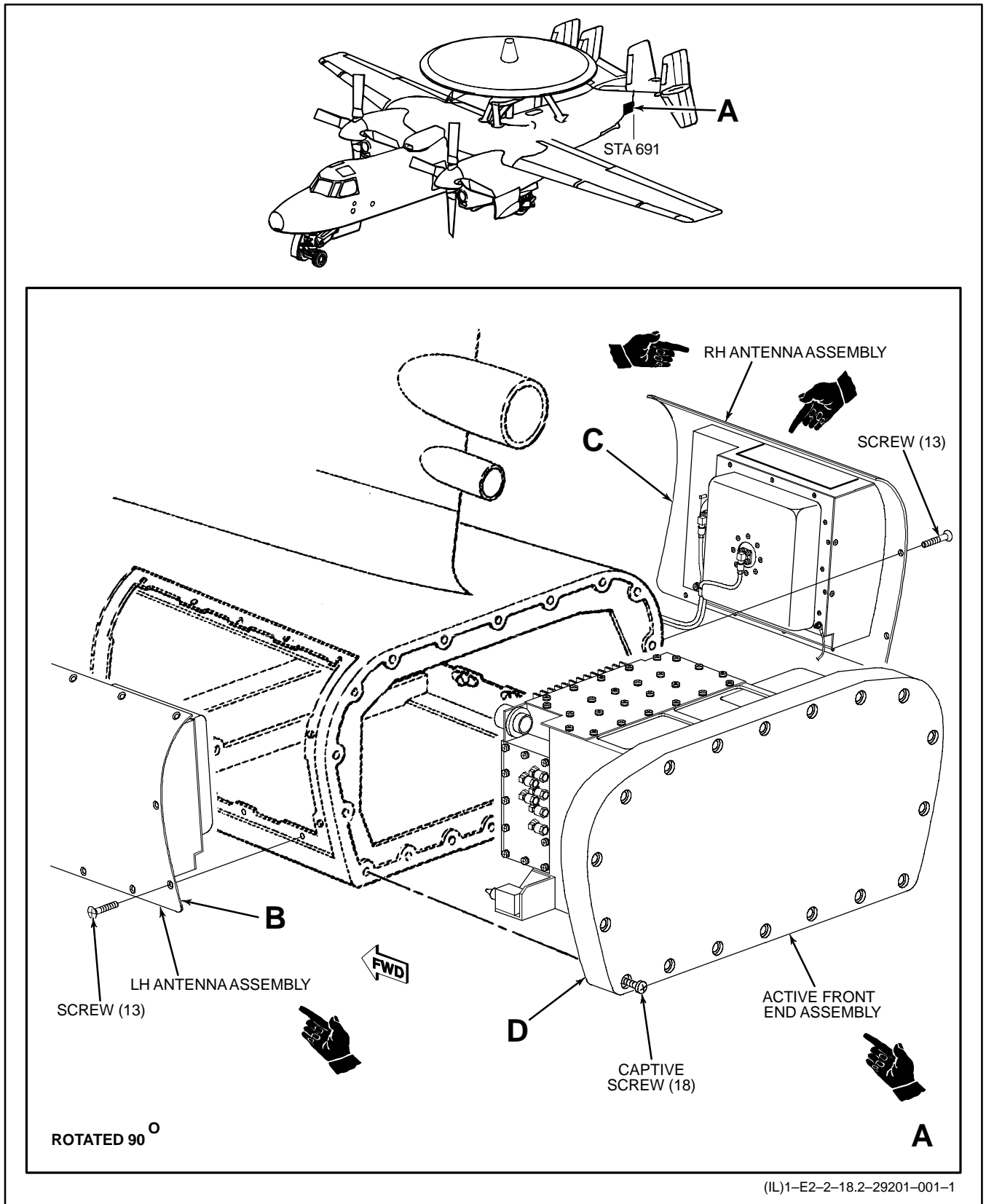


Figure 1. Removal and Installation of Antenna Assembly AS-4522/ALQ-217 (Sheet 1 of 3)

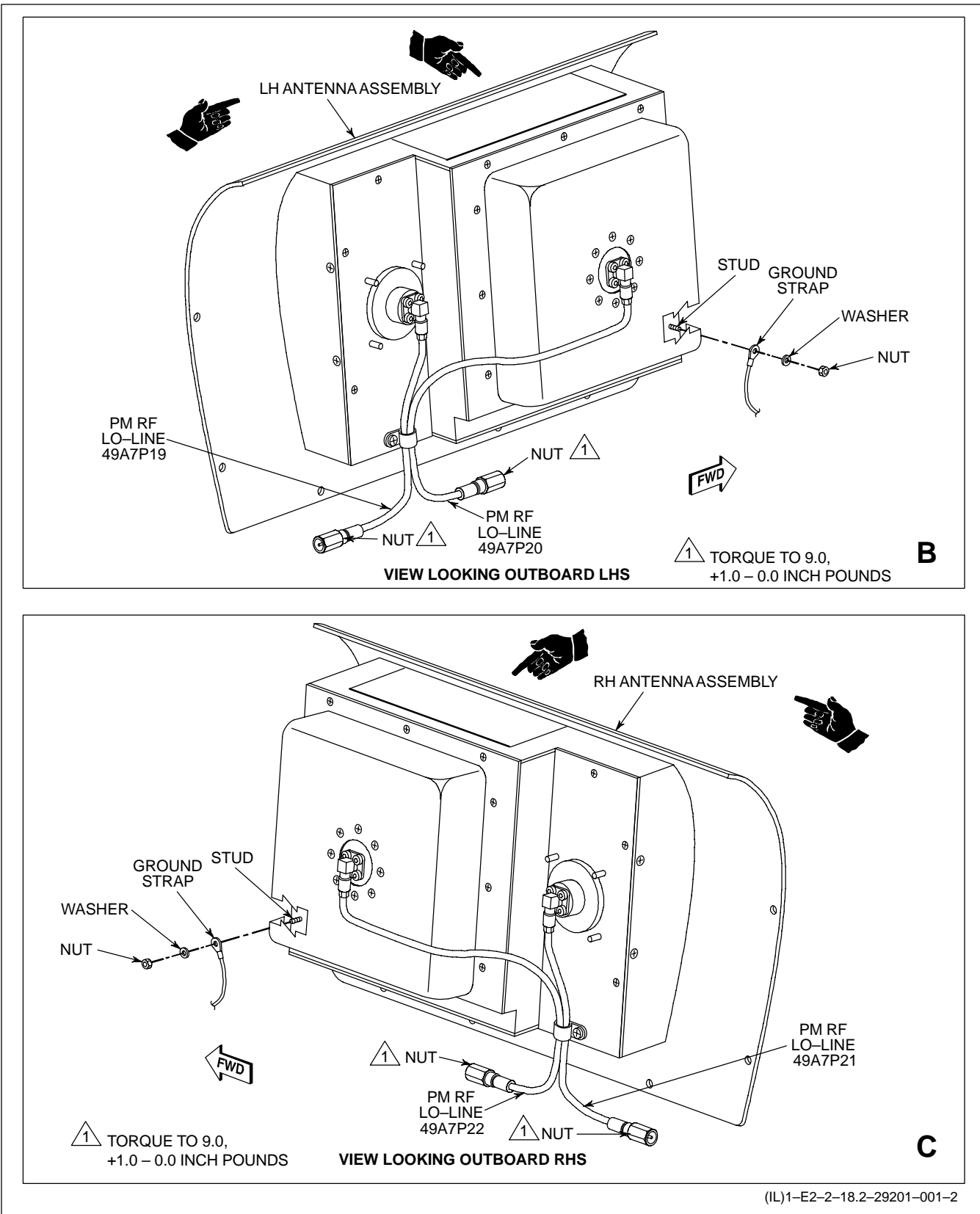


Figure 1. Removal and Installation of Antenna Assembly AS-4522/ALQ-217 (Sheet 2)

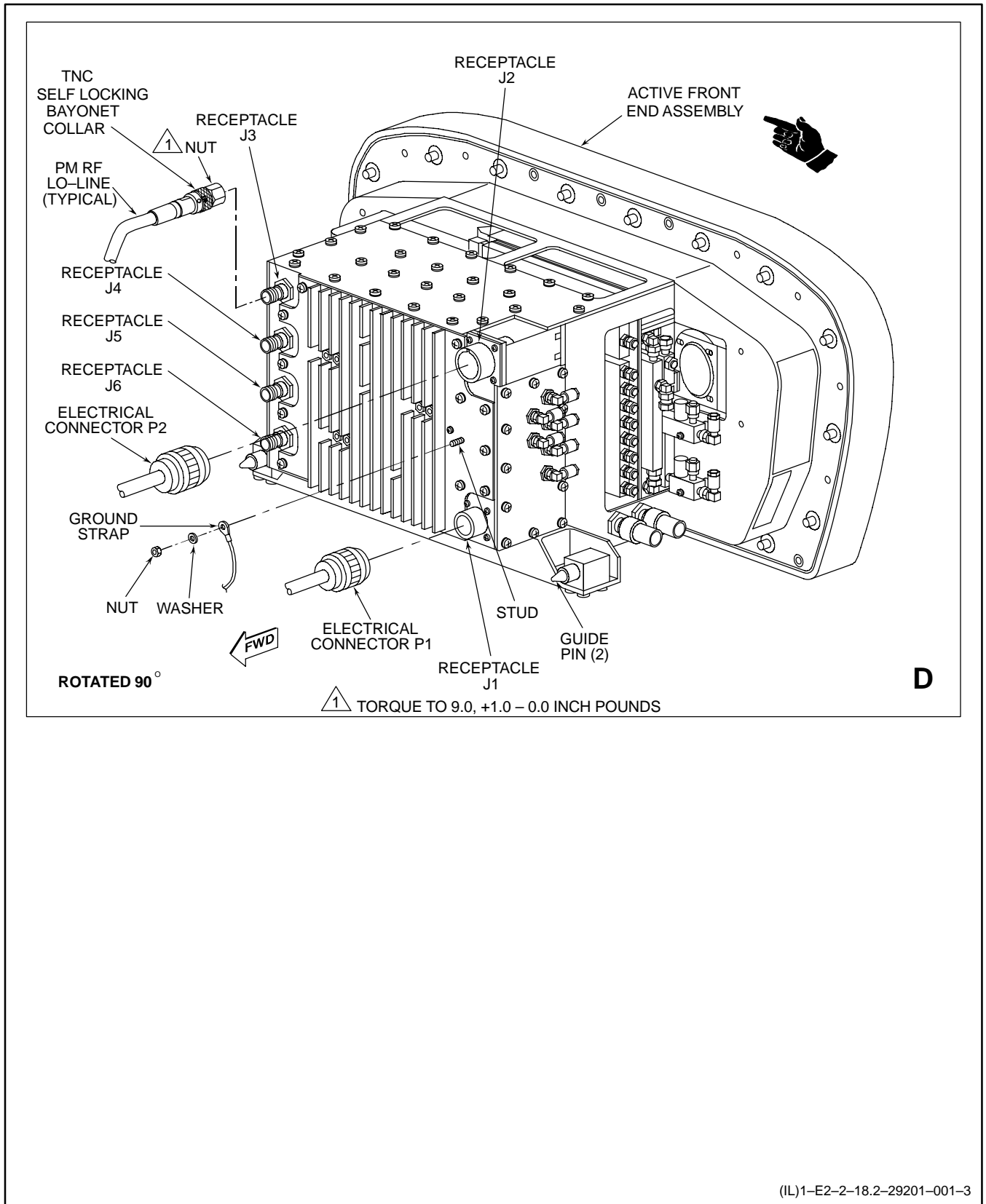


Figure 1. Removal and Installation of Antenna Assembly AS-4522/ALQ-217 (Sheet 3)

u. Inspect cable connectors for damage, corrosion, recessed pins, grease and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

2. **INSTALLATION.** (Figure 1.)

**Support Equipment Required**

Part or Model No.	Nomenclature
0 to 25 inch-pounds	Torque Wrench

**Materials Required**

Specification or Part Number	Nomenclature
F-900	Torque Seal



Active front end assembly and LH and RH antenna assemblies are a matched set. Serial number of all three items must be the same. If one unit requires installation, then all three are to be installed.

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.



The Antennas being installed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01-1A-23.

c. Remove caps from all connectors and receptacles on Active Front End Assembly.

d. Very carefully place Active Front End Assembly against structure insuring that guide pins are inserted into mounting holes in structure bracket and that PM RF LO-lines 49A7P3, 49A7P4, 49A7P5, and 49A7P6 are aligned with receptacles J3, J4, J5, and J6.

e. Secure Active Front End Assembly to aircraft structure with 18 captive screws. (QUALITY ASSURANCE)

f. Install ground strap to stud on Active Front End Assembly, secure with washer and nut.

g. Secure electrical connectors 49A7P1 and 49A7P2 to receptacles J1 and J2.



In the following procedures, it is mandatory not to flex, bend, or distort the PM RF LO-lines during installation.

h. Install PM RF LO-lines 49A7P3, 49A7P4, 49A7P5, and 49A7P6 on receptacles J3, J4, J5, J6.

i. Tighten all nuts on PM RF LO-lines 49A7P3, 49A7P4, 49A7P5, and 49A7P6. Torque nuts to 9.0, +1.0, -0.0 inch pounds. (QUALITY ASSURANCE)



Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

j. Apply torque seal to PM RF LO-lines P3, P4, P5, and P6 nuts. (QUALITY ASSURANCE)

k. Engage TNC self locking bayonet collars on PM RF LO-lines P3, P4, P5, and P6. (QUALITY ASSURANCE)

l. Remove caps from all connectors and receptacles on RH antenna assembly.

m. Install ground strap to stud on RH antenna assembly, secure with nut and washer.



In the following procedures, it is mandatory not to flex, bend, or distort the PM RF lines during installation.

**Note**

It is recommended that one person supports antenna while the another person performs the following procedures.

n. Very carefully install PM RF LO-lines 49A7P21 and 49A7P22 on receptacles J21 and J22.

o. Tighten nuts on PM RF LO-lines 49A7P21 and 49A7P22. Torque each nut to 9.0, +1.0, -0 inch pounds. (QUALITY ASSURANCE)



**WARNING**

Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

p. Apply torque seal to PM RF lines 49A7P21 and 49A7P22 nuts. (QUALITY ASSURANCE)

q. Tighten locking TNC connectors on PM RF LO–lines 49A7P21 and 49A7P22.

r. Secure RH antenna assembly to aircraft structure with 13 screws and washers. (QUALITY ASSURANCE)

s. Remove caps from all connectors and receptacles on LH antenna assembly.

t. Install ground strap to stud on LH antenna assembly, secure with nut and washer.

**CAUTION**

In the following procedures, it is mandatory not to flex, bend, or distort the PM RF LO–lines during installation.

**Note**

It is recommended that one person supports

antenna while the another person performs the following procedures.

u. Very carefully install PM RF LO–lines 49A7P19 and 49A7P20 on receptacles J19 and J20.

v. Tighten nuts on PM RF lines 49A7P19 and 49A7P20. Torque nuts to 9.0, +1.0, –0 inch pounds. (QUALITY ASSURANCE)

**WARNING**

Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

w. Apply torque seal to PM RF LO–lines 49A7P19 and 49A7P20 nuts. (QUALITY ASSURANCE)

x. Tighten locking TNC connectors on PM RF LO–lines 49A7P19 and 49A7P20.

y. Secure LH antenna assembly to aircraft structure with 13 screws and washers. (QUALITY ASSURANCE)

z. Perform an operational check of Radio Frequency Signal Detecting Set AN/ALQ–217A (NAVAIR 01–E2AAA–2–17.3.1, WP029 04).



**ORGANIZATIONAL MAINTENANCE**

**ANTENNA ASSEMBLY AS-3496/ALR-73**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161229 THROUGH 163848, AND 163850 THROUGH 165813**

**This work package (WP) supersedes WP293 00, dated 1 December 2000.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-73 .....	029 01

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

**1. GENERAL.**

2. The Antenna Assembly AS-3496/ALR-73 (hereinafter referred to as the antenna) (49A19) is part of the Countermeasures Receiving Set AN/ALR-73. The antenna is on the outboard section of the left stabilizer. (See figure 1.) Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0 inch-pounds)

**3. REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove 2 access plates from stabilizer after removing 28 screws from the upper access plate, and 26 screws from the lower access plate.
- b. Disconnect cable connectors from receptacles A15J2 and A15J4.
- c. Remove grounding strap.

**Note**

Have one man support antenna while other man performs the following procedures.

Loosen two screws so that they still support antenna.

- d. To aid in supporting antenna, loosen 2 screws (mounting holes are located in view B) and then remove 18 screws and 18 lockwashers securing antenna to aircraft structure.



In the following procedure, it is mandatory not to flex, bend, or distort the semi-rigid lines attached to the antenna.

- e. Remove torque seal securing nuts on semi-rigid lines.
- f. Loosen nuts (one turn at a time, in succession) on each of nine semi-rigid lines so that antenna is very slowly moved away from these lines.
- g. Continue to loosen all nuts on semi-rigid lines (one turn at a time, in succession) until antenna has been separated from nine semi-rigid lines.
- h. Remove two screws and lockwashers loosened in step d.
- i. Carefully back the antenna away from semi-rigid lines and remove from aircraft structure.
- j. Cap all connectors and receptacles.

**4. INSTALLATION.** (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
F-900	Torque Seal
MIL-S-8802E	Sealing Compound
MIL-C-81302, Type I or II	Trichlorotrifluoroethane



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

Trichlorotrifluoroethane (Freon) MIL-C-81302, Type I or II, is toxic. At high temperatures, it may decompose into toxic substances. Protection: chemical splashproof goggles, gloves, and good ventilation. Keep trichlorotrifluoroethane (Freon) off skin, eyes, and clothes; do not breathe vapors. Smoking will not be permitted in area where material is being handled. Wash hands thoroughly after handling.

- a. Clean sealing compound residue from antenna mounting surface and from stabilizer structure using trichlorotrifluoroethane.
- b. Apply new sealing compound to surface of antenna (that will contact stabilizer structure) and to stabilizer structure.
- c. Remove caps from all connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

Have one man support antenna while the other man performs the following procedures.

- d. Place antenna against aircraft structure taking great care to avoid damaging semi-rigid lines.

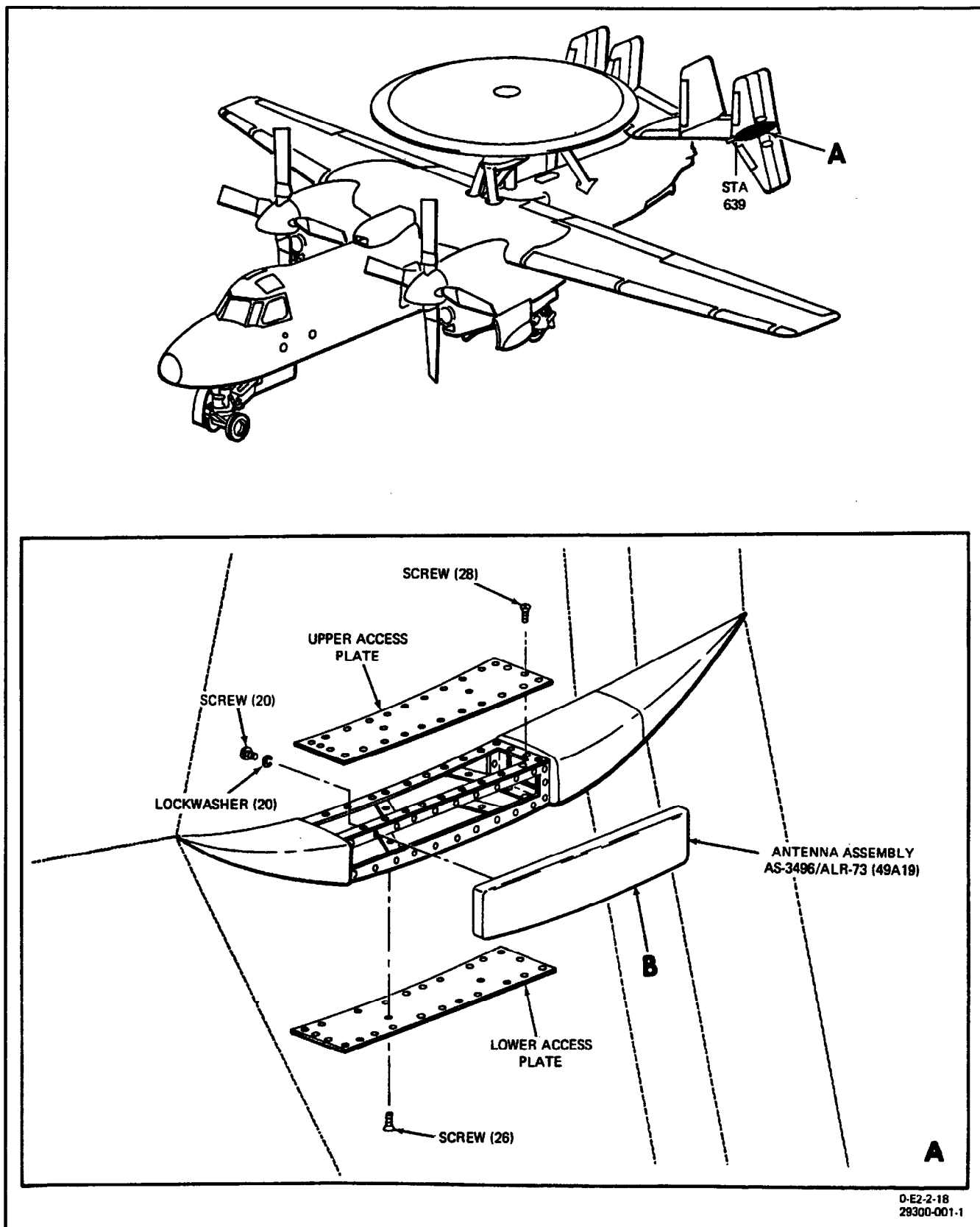


Figure 1. Removal and Installation of Antenna Assembly AS-3496/ALR-73 (Sheet 1 of 2)

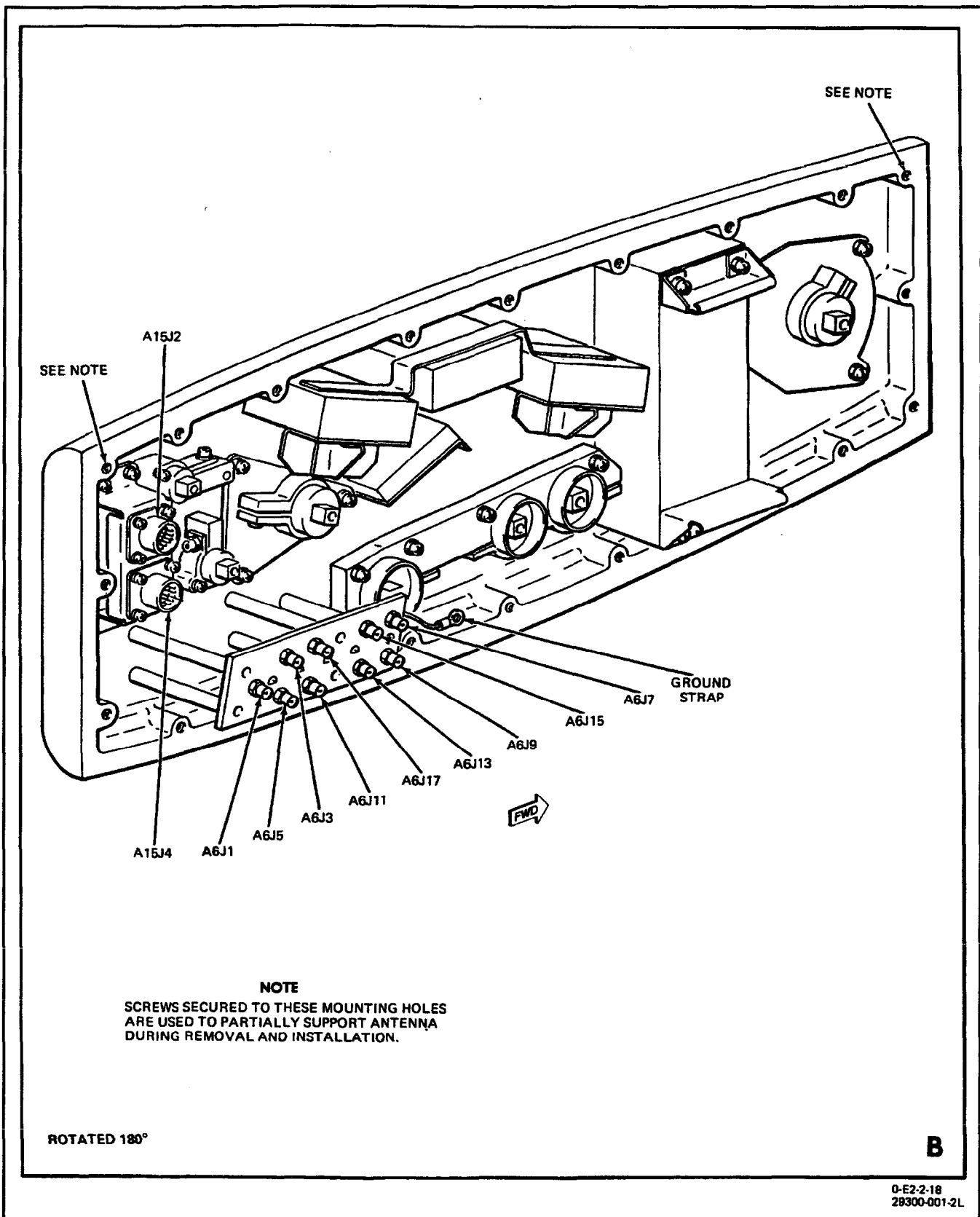


Figure 1. Removal and Installation of Antenna Assembly AS-3496/ALR-73 (Sheet 2)



In the following procedures, it is mandatory not to flex, bend, or distort semi-rigid lines during installation. Therefore, the antenna must be carefully and slowly moved toward the lines as nuts on semi-rigid lines are tightened.

e. To aid in supporting antenna, partially install two screws and lockwashers (mounting holes are located in view B).

f. Very carefully move the antenna so that semi-rigid lines are aligned with receptacles on antenna as listed below.

Receptacle	Cable Connector
A6J1	49A19A6P1
A6J3	49A19A6P3
A6J5	49A19A6P5
A6J7	49A19A6P7
A6J9	49A19A6P9
A6J11	49A19A6P11
A6J13	49A19A6P13
A6J15	49A19A6P15
A6J17	49A19A6P17

g. Using torque wrench, tighten nuts on semi-rigid lines (one turn at a time, in succession) so that antenna is very slowly moved toward these lines. If necessary, move the antenna toward semi-rigid lines. (QUALITY ASSURANCE)



Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

**Note**

Nut on semi-rigid line 49A19A6P1 is not secured with lockwire.

h. Continue to tighten all nuts on semi-rigid lines (one turn at a time, in succession) until the antenna has been completely connected to semi-rigid lines, and each nut is torqued to 9.0, +1.0, -0 inch-pounds. Secure nuts with torque seal. (QUALITY ASSURANCE)

**Note**

Insure that grounding strap is aligned with appropriate antenna mounting hole.

i. Install remainder of hardware (18 screws and 18 lockwashers) securing antenna to aircraft structure. Tighten all screws. (QUALITY ASSURANCE)

j. Install grounding strap.

k. Connect cable connectors 49A19A15P2 and 49A19A15P4 to antenna receptacles A15J2 and A15J4, respectively.

l. Secure lower access plate to aircraft structure with 26 screws and upper access plate to aircraft structure with 28 screws.

m. Perform operational check of Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).





**ORGANIZATIONAL MAINTENANCE**

**ANTENNA ASSEMBLY AS-4523/ALQ-217 (49A5)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 165814 AND SUBSEQUENT**

**This work package (WP) supersedes WP293 01, dated 1 November 2002.**

**Reference Material**

General Aircraft Information . . . . .	NAVAIR 01-E2AAA-2-1
Access and Inspection Provisions . . . . .	011 00
External Electrical Power Connections . . . . .	027 00
Safety Checks Before Maintenance . . . . .	040 00
Integrated Electronic Systems Testing and Troubleshooting . . . . .	NAVAIR 01-E2AAA-2-17.3.1
Radio Frequency Signal Detecting Set AN/ALQ-217A, Testing and Troubleshooting (Aircraft Serial No. 165814 and Subsequent). . . . .	029 04
Avionics Cleaning and Corrosion Prevention/Control . . . . .	NAVAIR 16-1-540
Standard Maintenance Practices, Electronic Assembly Repair . . . . .	NAVAIR 01-1A-23

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
-	—	Electronic Support Measures (ESM) Replacement Program (ECP 432R1)	11/1/02	ECP Coverage Only.

1. **REMOVAL.**(Figure 1.)
  - a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
  - b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.
  - c. Remove 2 access plates from stabilizer by removing 28 screws from the upper access plate, and 26 screws from the lower access plate.



- The Antenna being removed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01-1A-23.
- d. Disconnect electrical connector P7 from receptacle J7 on antenna assembly AS-4523/ALQ-217 (49A5) (antenna).

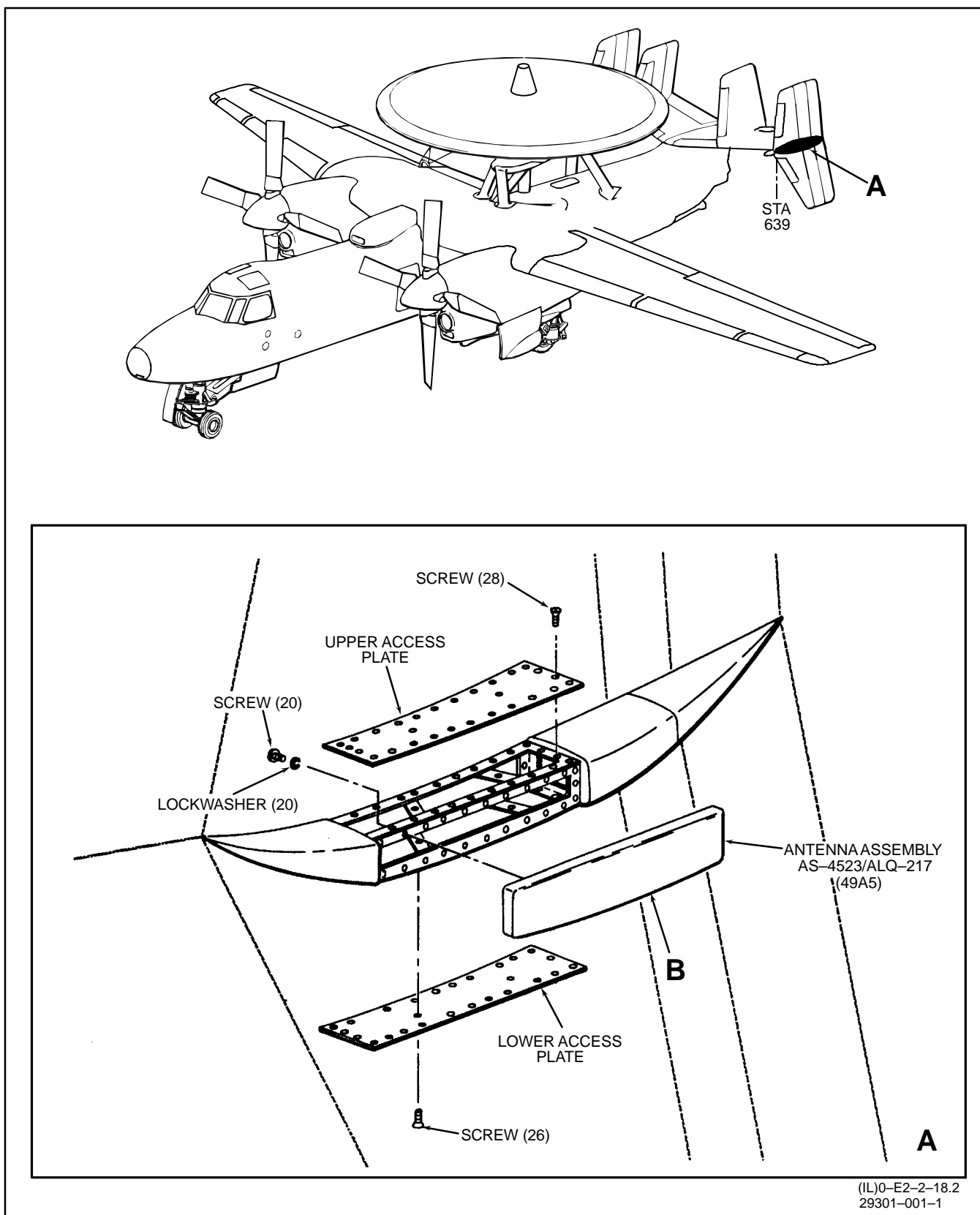


Figure 1. Removal and Installation of Antenna Assembly AS-4523/ALQ-217 (49A5) (Sheet 1 of 2)

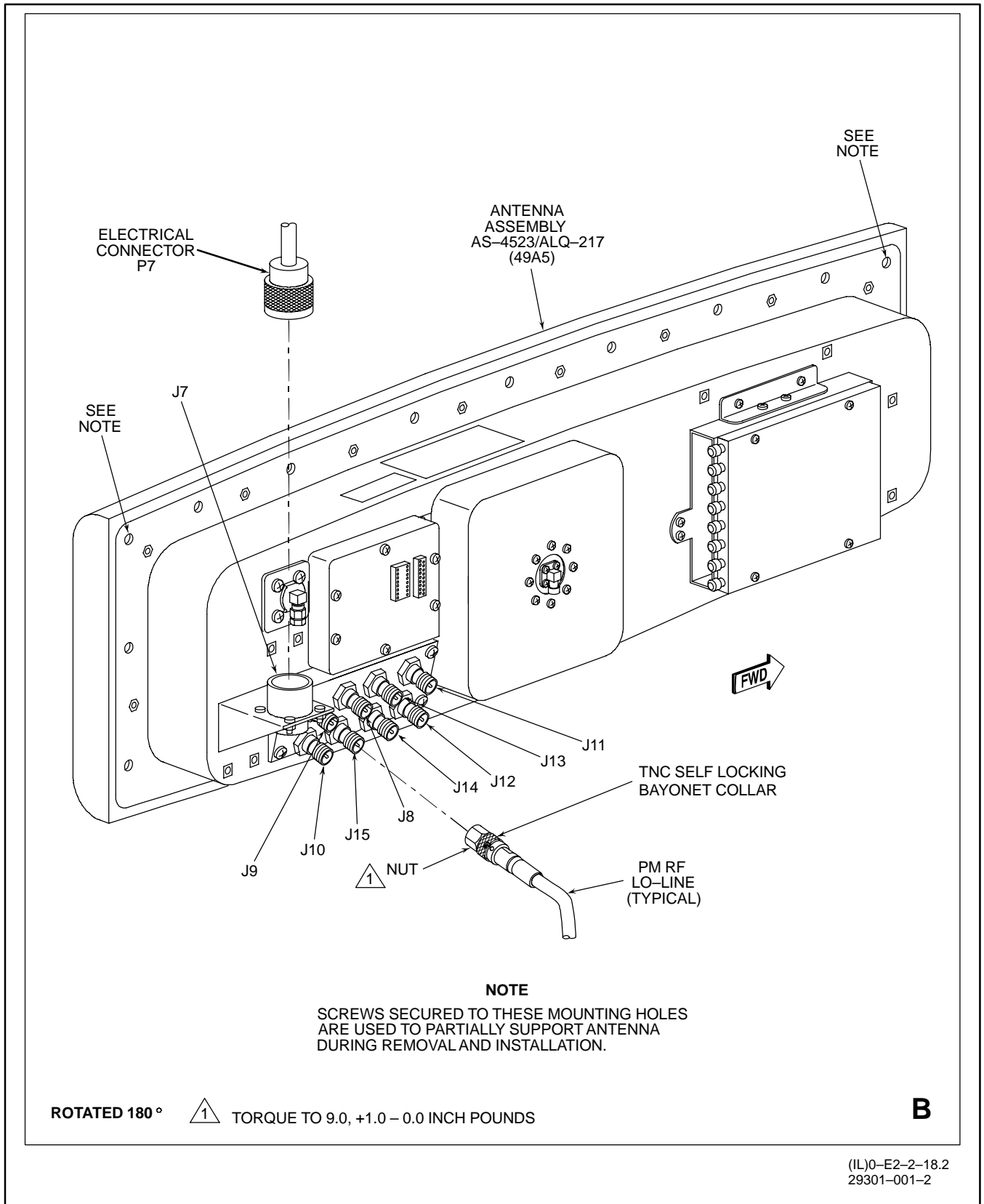


Figure 1. Removal and Installation of Antenna Assembly AS-4523/ALQ-217 (49A5) (Sheet 2)

e. Inspect electrical connector for damage, corrosion, recessed pins, grease and dirt. Clean connector in accordance with NAVAIR 16-1-540. Cap connector and receptacle.

**Note**

It is recommended that one person support antenna assembly while another person performs the following procedures.

Upper forward and aft screws are used to support antenna in the following steps. Loosen but do not remove these screws until directed.

f. To aid in supporting antenna, loosen 2 screws (mounting holes are located in detail B), then remove remaining 18 screws and 18 lockwashers securing antenna to aircraft structure.

g. Open access panel 198 for receiver-amplifier R-2610/ALQ-217 (49A3) NAVAIR 01-E2AAA-2-1, WP011 00, FO-1).

h. Loosen screw securing clamp on phased matched (PM) RF LO-lines.

i. Remove two screws and lockwashers loosened in step f.

**Note**

Move antenna just enough away from stabilizer structure to gain access to PM RF LO-lines.

j. Gently slide slack in PM RF LO-lines outboard while simultaneously moving antenna outboard away from stabilizer structure.



In the following procedure, it is mandatory not to flex, bend, or distort PM RF LO-lines attached to the antenna.

k. Disengage eight TNC self locking bayonet col-lars on PM RF LO-lines P8 thru P15.



Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection:

chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

l. Remove torque seal securing nuts on PM RF LO-lines.

m. Loosen nuts PM RF LO-lines P8 thru P15. Carefully remove PM RF LO-lines From antenna.

n. Carefully move the antenna away from PM RF LO-lines. Remove antenna from stabilizer structure.

o. Inspect electrical connectors for damage, corrosion, recessed pins, grease and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

**2. INSTALLATION.** (Figure 1.)

**Support Equipment Required**

Part or Model No.	Nomenclature
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0.0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0.0 inch-pounds)

**Materials Required**

Specification or Part Number	Nomenclature
F-900	Torque Seal
MIL-S-8802	Sealant
MIL-C-81302, Type I or II	Trichlorotrifluorethane (Freon TF)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

**WARNING**

Trichlorotrifluoroethane (Freon TF) MIL-C-81302, Type I, II, or IIA, is toxic and displaces oxygen in confined spaces. At high temperatures, it may decompose into toxic substances. Protection: chemical splashproof goggles, gloves, and good ventilation. Keep trichlorotrifluoroethane (Freon TF) off skin, eyes, and clothes; do not breathe vapors. Smoking will not be permitted in area where material is being handled. Wash hands thoroughly after handling.

**CAUTION**

The Antenna being installed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01-1A-23.

c. Clean sealing compound residue from AS-4523/ALQ-217 (49A5) (antenna) mounting surface and from stabilizer structure using trichlorotrifluoroethane.

**CAUTION**

In the following procedures, it is mandatory not to flex, bend, or distort phased matched (PM) RF LO-lines during installation.

d. Remove caps from all connectors and receptacles.

**Note**

It is recommended that one person support antenna while another person performs the following procedures.

e. Install PM RF LO-lines P8 thru P15 nuts on J8 thru J15 receptacles on antenna.

f. Torque nuts on PM RF LO-lines to 9.0, +1.0, -0.0 inch-pounds. (QUALITY ASSURANCE)

**WARNING**

Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection:

chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

g. Apply torque seal to eight nuts on PM RF LO-lines P8 thru P15. (QUALITY ASSURANCE)

h. Engage eight TNC self locking bayonet collars on PM RF LO-lines. (QUALITY ASSURANCE)

**WARNING**

Sealant, MIL-S-8802, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed; keep sparks, flames, and heat away; keep sealant off skin, eyes, and clothes; do not breathe vapors.

i. Apply new sealing compound to surface of antenna (that will contact stabilizer structure) and to stabilizer structure.

j. Gently pull PM RF LO-lines toward receiver-amplifier while simultaneously moving antenna toward stabilizer structure.

k. Place antenna against aircraft structure taking great care to avoid damaging phased matched PM RF LO-lines.

l. To aid in supporting antenna, partially install two screws and lockwashers (mounting holes are located in view B).

m. Tighten two screws partially installed and install remainder of hardware (18 screws and 18 lockwashers-washers) securing antenna to aircraft structure. Tighten all screws. (QUALITY ASSURANCE)

n. Connect electrical connector P7 to antenna receptacle J7.

o. Secure lower access plate to aircraft structure with 26 screws and upper access plate to aircraft structure with 28 screws.

p. Tighten screw on clamp securing phased matched (PM) RF LO-lines.

q. Close access panel 198 for receiver-amplifier R-2610/ALQ-217 (49A3) NAVAIR 01-E2AAA-2-1, WP011 00, FO-1).

r. Perform an operational check of Radio Frequency Signal Detecting Set AN/ALQ-217A (NAVAIR 01-E2AAA-2-17.3.1, WP029 04).



ORGANIZATIONAL MAINTENANCE

ANTENNA ASSEMBLY AS-3497/ALR-73

EFFECTIVITY: AIRCRAFT SERIAL NO. 161229 THROUGH 163848, AND 163850 THROUGH 165813

This work package (WP) supersedes WP294 00, dated 1 December 2000.

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Countermeasures Receiving Set AN/ALR-73 .....	029 01

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Record of Applicable Technical Directives

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
AFC 303	—	PDS Level 1 Modification (ECP GR-E-2C-292)	8/1/81	Effectivity: Aircraft serial no. 161229 and subsequent and those aircraft incorporating AFC 303.

1. GENERAL.

2. The Antenna Assembly AS-3497/ALR-73 (hereinafter referred to as the antenna) (49A20) is part of the Countermeasures Receiving Set AN/ALR-73. The antenna is on the outboard section of the right stabilizer. (See figure 1.) Support equipment required for maintenance is listed below.

Support Equipment Required

Part or Model No.	Nomenclature
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0 inch-pounds)

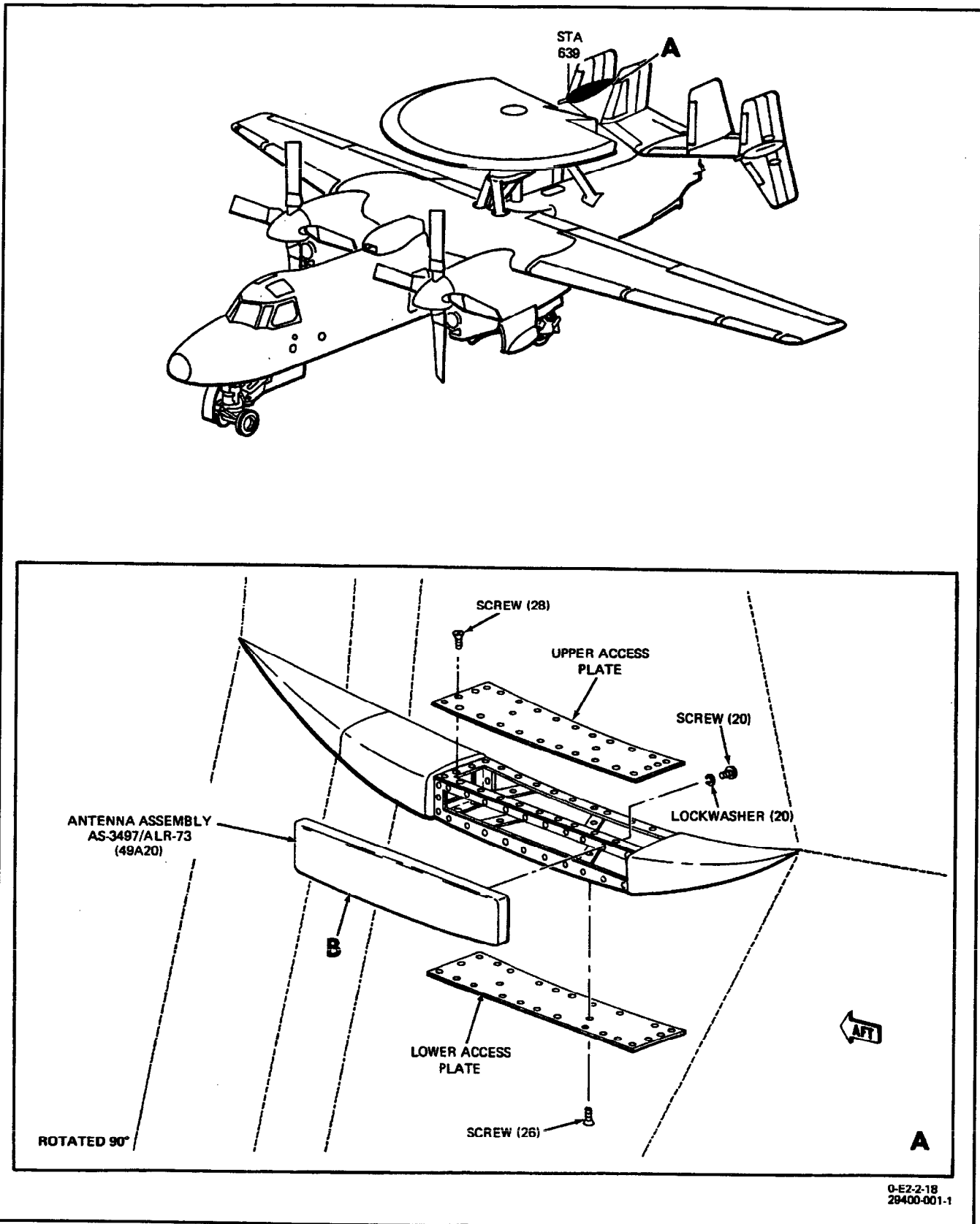


Figure 1. Removal and Installation of Antenna Assembly AS-3497/ALR-73 (Sheet 1 of 2)



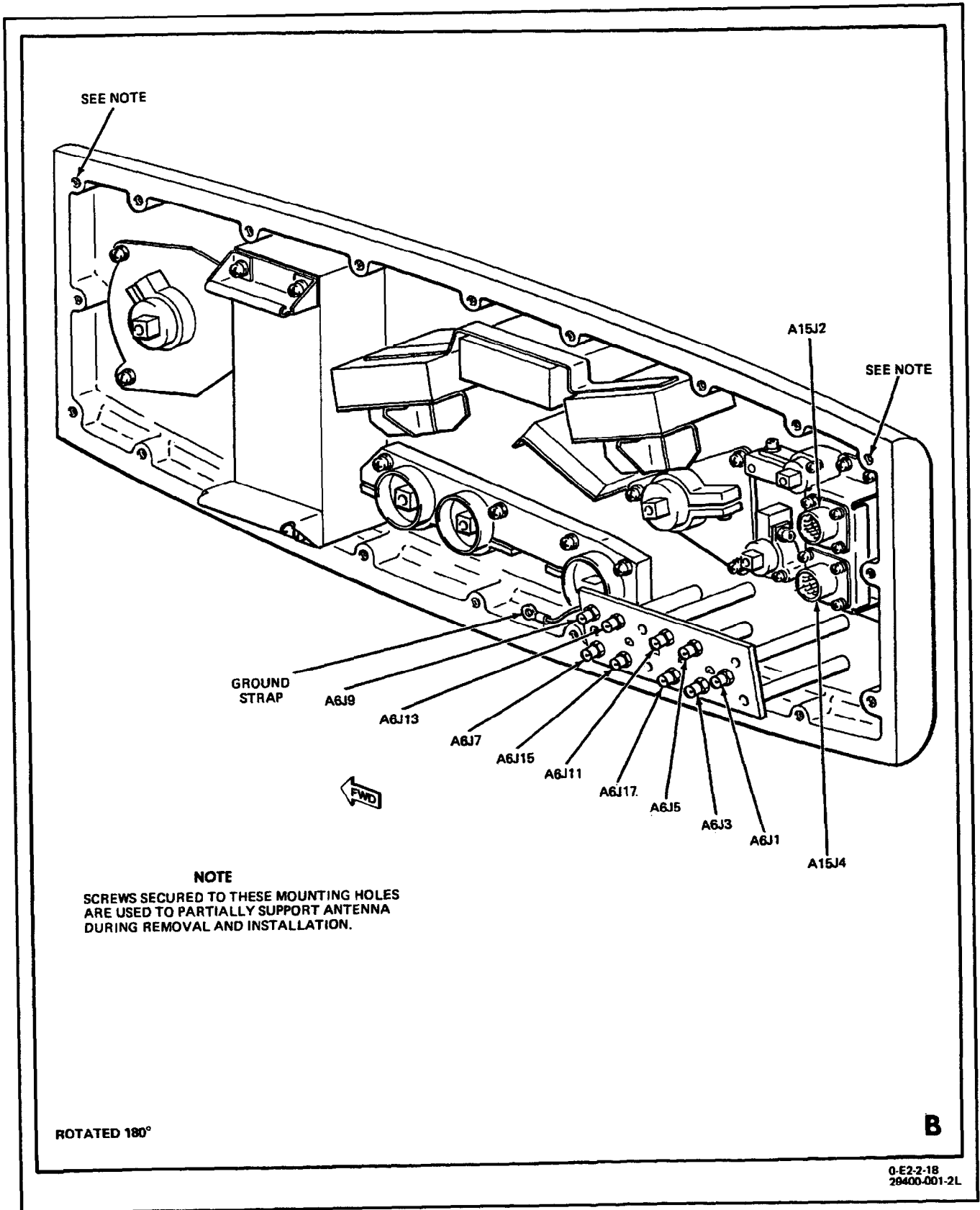


Figure 1. Removal and Installation of Antenna Assembly AS-3497/ALR-73 (Sheet 2)

**3. REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove 2 access plates from stabilizer after removing 28 screws from the upper access plate and 26 screws from the lower access plate.
- b. Disconnect cable connectors from receptacles A15J2 and A15J4.
- c. Remove grounding strap.

**Note**

Have one man support antenna while other man performs the following procedures.

Loosen two screws so that they still support antenna.

- d. To aid in supporting antenna, loosen 2 screws (mounting holes are located in view B), then remove 18 screws and 18 lockwashers securing antenna to aircraft structure.



In the following procedure, it is mandatory not to flex, bend, or distort the semi-rigid lines attached to the antenna.

- e. Remove torque seal securing nuts on semi-rigid lines.
- f. Loosen nuts (one turn at a time, in succession) on each of nine semi-rigid lines so that antenna is very slowly moved away from these lines.
- g. Continue to loosen all nuts on semi-rigid lines (one turn at a time, in succession) until the antenna has been separated from nine semi-rigid lines.
- h. Remove two screws and lockwashers loosened in step d.
- i. Carefully back the antenna away from semi-rigid lines, and remove from aircraft structure.
- j. Cap all connectors and receptacles.

**4. INSTALLATION.** (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
F-900	Torque Seal
MIL-S-8802E	Sealing Compound
MIL-C-81302, Type I or II	Trichlorotrifluoroethane



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

Trichlorotrifluoroethane (Freon) MIL-C-81302, Type I or II, is toxic. At high temperatures, it may decompose into toxic substances. Protection: chemical splashproof goggles, gloves, and good ventilation. Keep trichlorotrifluoroethane (Freon) off skin, eyes, and clothes; do not breathe vapors. Smoking will not be permitted in area where material is being handled. Wash hands thoroughly after handling.

- a. Clean sealing compound residue from antenna mounting surface and from stabilizer structure using trichlorotrifluoroethane.
- b. Apply new sealing compound to surface of antenna (that will contact stabilizer structure) and to stabilizer structure.
- c. Remove caps from all connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

Have one man support antenna while the other man performs the following procedures.

d. Place antenna against aircraft structure taking great care to avoid damaging semi-rigid lines.

**CAUTION**

In the following procedures, it is mandatory not to flex, bend, or distort the semi-rigid lines during installation. Therefore, the antenna must be carefully and slowly moved toward the lines as nuts on semi-rigid lines are tightened.

e. To aid in supporting antenna, partially install two screws and two lockwashers (mounting holes are located in view B).

f. Very carefully move the antenna so that semi-rigid lines are alined with receptacles on antenna as listed below.

Receptacle	Cable Connector
A6J1	49A20A6P1
A6J3	49A20A6P3
A6J5	49A20A6P5
A6J7	49A20A6P7
A6J9	49A20A6P9
A6J11	49A20A6P11
A6J13	49A20A6P13
A6J15	49A20A6P15
A6J17	49A20A6P17

g. Using torque wrench, tighten nuts on semi-rigid lines (one turn at a time, in succession) so that antenna is very slowly moved toward these lines. If necessary, move antenna toward semi-rigid lines. (QUALITY ASSURANCE)

**WARNING**

Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

**Note**

Nut on semi-rigid line 49A20A6P1 is not secured with lockwire.

h. Continue to tighten all nuts on semi-rigid lines (one turn at a time, in succession) until the antenna has been completely connected to semi-rigid lines and each nut is torqued to 9.0, +1.0, -0 inch-pounds. Secure nuts with torque seal. (QUALITY ASSURANCE)

**Note**

Insure that grounding strap is alined with appropriate antenna mounting hole.

i. Install remainder of hardware (18 screws and 18 lockwashers) securing antenna to aircraft structure. Tighten all screws. (QUALITY ASSURANCE)

j. Install grounding strap.

k. Connect cable connectors 49A20A15P2 and 49A20A15P4 to antenna receptacles A15J2 and A15J4, respectively.

l. Secure lower access plate to aircraft structure with 26 screws and upper access plate to aircraft structure with 28 screws.

m. Perform operational check of Countermeasures Receiving Set AN/ALR-73 (NAVAIR 01-E2AAA-2-17.3, WP029 01).



**ORGANIZATIONAL MAINTENANCE**

**ANTENNA ASSEMBLY AS–4524/ALQ–217 (49A4)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 165814 AND SUBSEQUENT**

**This work package (WP) supersedes WP294 01, dated 1 November 2002.**

**Reference Material**

General Aircraft Information . . . . .	NAVAIR 01–E2AAA–2–1
Access and Inspection Provisions . . . . .	011 00
External Electrical Power Connections . . . . .	027 00
Safety Checks Before Maintenance . . . . .	040 00
Integrated Electronic Systems Testing and Troubleshooting . . . . .	NAVAIR 01–E2AAA–2–17.3.1
Radio Frequency Signal Detecting Set AN/ALQ–217A, Testing and Troubleshooting (Aircraft Serial No. 165814 and Subsequent). . . . .	029 04
Avionics Cleaning and Corrosion Prevention/Control . . . . .	NAVAIR 16–1–540
Standard Maintenance Practices, Electronic Assembly Repair . . . . .	NAVAIR 01–1A–23

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
–	—	Electronic Support Measures (ESM) Replacement Program (ECP 432R1)	11/1/02	ECP Coverage Only.

1. **REMOVAL.**(Figure 1.)
  - a. Perform safety checks before maintenance (NAVAIR 01–E2AAA–2–1, WP040 00).
  - b. Disconnect external electrical power from aircraft (NAVAIR 01–E2AAA–2–1, WP027 00), and place NO POWER placard over external electrical power receptacle.
  - c. Remove 2 access plates from stabilizer after removing 28 screws from the upper access plate and 26 screws from the lower access plate.



- The Antenna being removed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01–1A–23.
- d. Disconnect electrical connector P7 from receptacles J7 on antenna assembly AS–4524/ALQ–217 (49A4) (antenna).

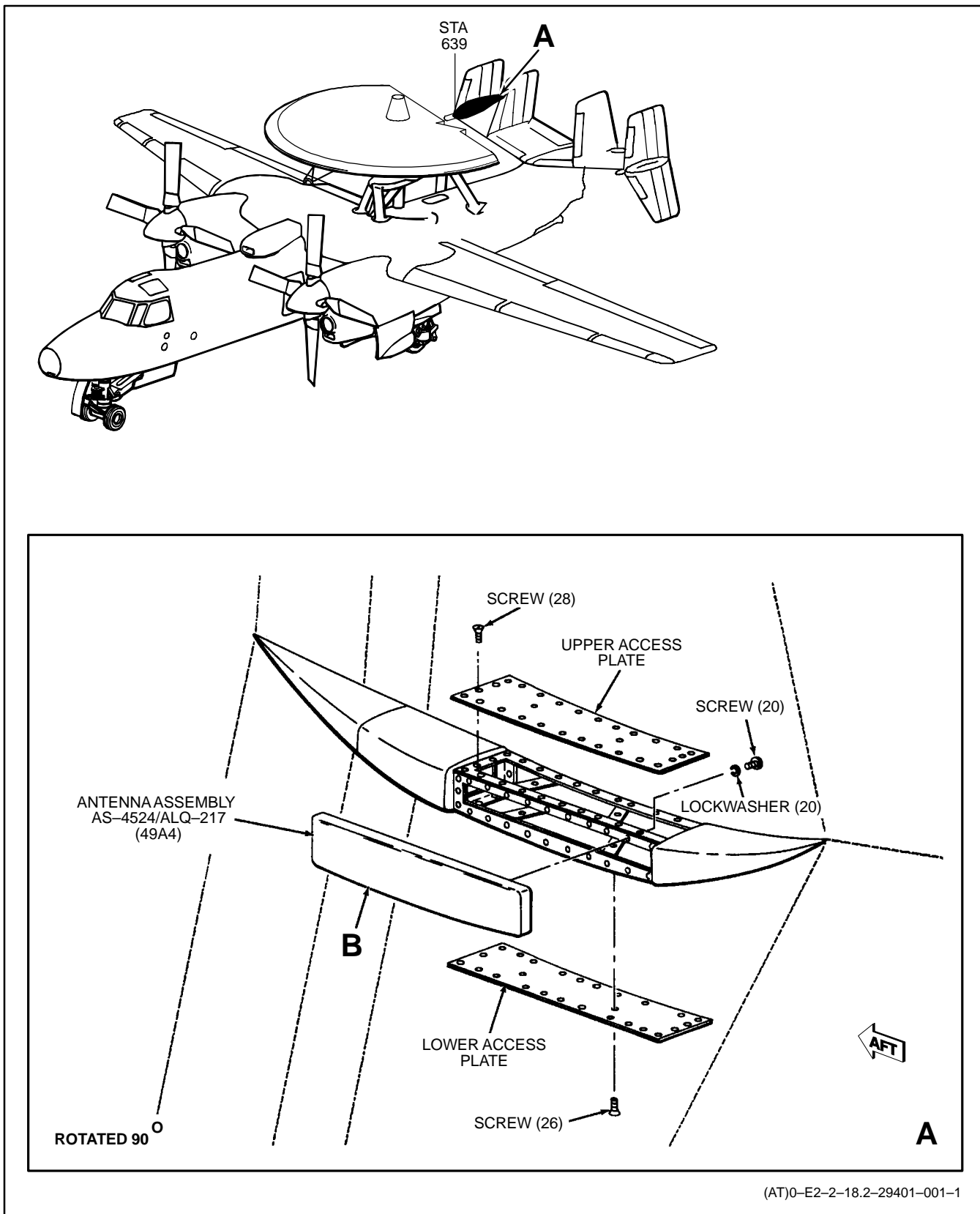


Figure 1. Removal and Installation of Antenna Assembly AS-4524/ALQ-217 (Sheet 1 of 2)

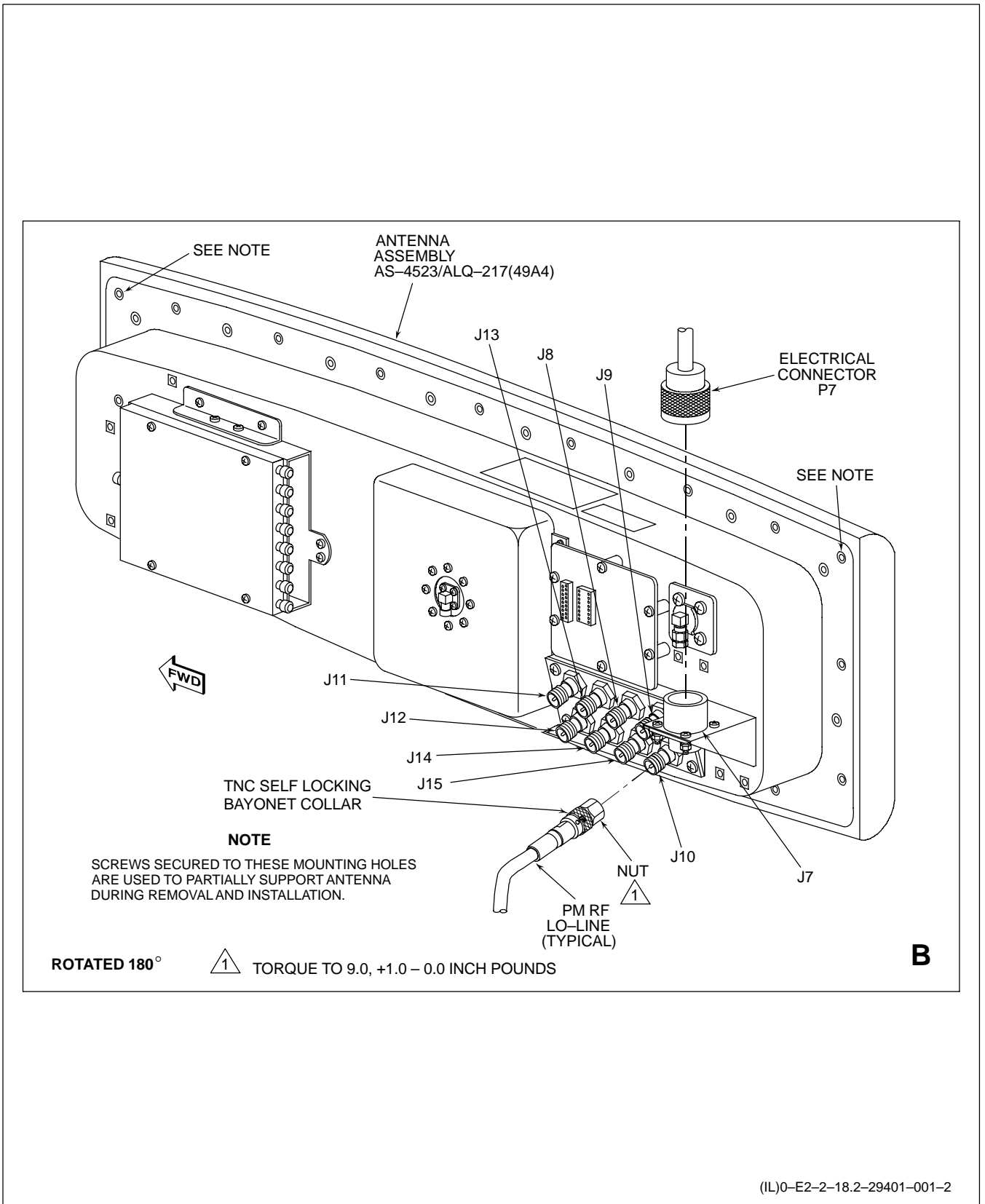


Figure 1. Removal and Installation of Antenna Assembly AS-4524/ALQ-217 (Sheet 2)

e. Inspect electrical connector for damage, corrosion, recessed pins, grease and dirt. Clean connector in accordance with NAVAIR 16-1-540. Cap connector and receptacle.

**Note**

Have one person support antenna while another person performs the following procedures.

Upper forward and aft screws are used to support antenna in the following steps. Loosen but do not remove the screws until directed.

f. To aid in supporting antenna, loosen 2 screws (mounting holes are located in detail B), then remove remaining 18 screws and 18 lockwashers securing antenna to aircraft structure.

g. Open access panel 175 for receiver-amplifier R-2610/ALQ-217 (49A2) NAVAIR 01-E2AAA-2-1, WP011 00, FO-1).

h. Loosen screw securing clamp on phased matched (PM) RF LO-lines.

i. Remove two screws and lockwashers loosened in step f.

**Note**

Move antenna just enough away from stabilizer structure to gain access to PM RF LO-lines.

j. Gently slide slack in PM RF LO-lines outboard while simultaneously moving antenna outboard away from stabilizer structure.



In the following procedure, it is mandatory not to flex, bend, or distort the phased PM RF LO-lines attached to the antenna.

k. Disengage eight TNC self locking bayonet collars on PM RF LO-lines P8 thru P15.



Torque seal F900 (orange), (sealing compound) is toxic and flammable, and is an irritant to the eyes and skin. Protection:

chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

l. Remove torque seal securing nuts on PM RF LO-lines.

m. Loosen nuts PM RF LO-lines P8 thru P15. Carefully remove PM RF LO-lines From antenna.

n. Carefully move the antenna away from PM RF LO-lines. Remove antenna from stabilizer structure.

o. Carefully back the antenna away from PM RF LO-lines. Remove antenna from stabilizer structure.

p. Inspect electrical connectors for damage, corrosion, recessed pins, grease and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

**2. INSTALLATION.** (Figure 1.)

**Support Equipment Required**

Part or Model No.	Nomenclature
10C2385 (Amecom)	Torque Wrench (Open End) (9.0, +1.0, -0.0 inch-pounds)
10C2386 (Amecom)	Torque Wrench (Off-Set) (9.0, +1.0, -0.0 inch-pounds)

**Materials Required**

Specification or Part Number	Nomenclature
F-900	Torque Seal
MIL-S-8802	Sealant
MIL-C-81302, Type I or II	Trichlorotrifluorethane (Freon TF)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.



**WARNING**

Trichlorotrifluoroethane (Freon TF) MIL-C-81302, Type I, II, or IIA, is toxic and displaces oxygen in confined spaces. At high temperatures, it may decompose into toxic substances. Protection: chemical splashproof goggles, gloves, and good ventilation. Keep trichlorotrifluoroethane (Freon TF) off skin, eyes, and clothes; do not breathe vapors. Smoking will not be permitted in area where material is being handled. Wash hands thoroughly after handling.

**CAUTION**

The Antenna being installed is ESD Sensitive. Improper handling may cause damage to components. Handle in accordance with NAVAIR 01-1A-23.

c. Clean sealing compound residue from AS-4523/ALQ-217 (49A5) (antenna) mounting surface and from stabilizer structure using trichlorotrifluoroethane.

**CAUTION**

In the following procedures, it is mandatory not to flex, bend, or distort the phased matched (PM) RF LO-lines during installation.

d. Remove caps from all connectors and receptacles.

**Note**

It is recommended that one person support antenna while another person performs the following procedures.

e. Install PM RF LO-lines P8 thru P15 nuts on J8 thru J15 receptacles on antenna.

f. Torque nuts on PM RF LO-lines to 9.0, +1.0, -0.0 inch-pounds. (QUALITY ASSURANCE)

**WARNING**

Torque seal F-900, (sealing compound) is toxic and flammable, and is an irritant to the

eyes and skin. Protection: chemical splashproof goggles, neoprene gloves, and good ventilation. Do not breathe vapors; keep off skin; keep container closed; keep sparks, flames, and heat away.

g. Apply torque seal to eight nuts on PM RF LO-lines P8 through P15. (QUALITY ASSURANCE)

h. Engage eight TNC self locking bayonet collars on PM RF LO-lines. (QUALITY ASSURANCE)

**WARNING**

Sealant, MIL-S-8802, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed; keep sparks, flames, and heat away; keep sealant off skin, eyes, and clothes; do not breathe vapors.

i. Apply new sealing compound to surface of antenna (that will contact stabilizer structure) and to stabilizer structure.

j. Gently pull PM RF LO-lines toward receiver-amplifier while simultaneously moving antenna toward stabilizer structure.

k. Place antenna against aircraft structure taking great care to avoid damaging PM RF LO-lines.

l. To aid in supporting antenna, partially install two screws and two lockwashers (mounting holes are located in detail B).

m. Tighten two screws partially installed and install remainder of hardware (18 screws and 18 lockwashers) securing antenna to aircraft structure. Tighten all screws. (QUALITY ASSURANCE)

n. Connect electrical connector P7 on antenna receptacle J7.

o. Secure lower access plate to aircraft structure with 26 screws and upper access plate to aircraft structure with 28 screws.

p. Tighten screw on clamp securing phased matched (PM) RF LO-lines.

q. Close access panel 175 for receiver-amplifier R-2610/ALQ-217 (49A2) (NAVAIR 01-E2AAA-2-1, WP011 00, FO-1).

r. Perform an operational check of Radio Frequency Signal Detecting Set AN/ALQ-217A (NAVAIR 01-E2AAA-2-17.3.1, WP029 04).



**ORGANIZATIONAL MAINTENANCE**

**REMOTE ATTITUDE-DIRECTOR INDICATOR ID-1329A/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161552 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrate Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Carrier Aircraft Inertial Navigation System AN/ASN-92(v) .....	008 00
Attitude HEading Reference System AN/ASN-50 .....	009 00
TACAN Navigational Set AN/ARN-118(v) .....	014 01
Automatic Carrier Landing System ASW-25B .....	015 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 310	—	Flight Attitude Display System - ARU-31/A Attitude Direction Indicators and TRU-2A/A Rate Gyro Transmitter, Instal- lation of (ECP 166R4(0))	4/1/83	Effectivity: Aircraft serial no. 161552 and subsequent and those aircraft incorporating AFC 310.

**1. GENERAL.**

2. The Remote Attitude-Director Indicator ID-1329A/A (hereinafter referred to as the indicator) is used in conjunction with aircraft subsystems. One indicator (95M23) is located in the pilot's instrument panel (WP003 00, figure 1, item 1C) and one indicator (96M13) is located in the copilot's instrument panel (WP003 00, figure 1, item 8C).

**3. REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

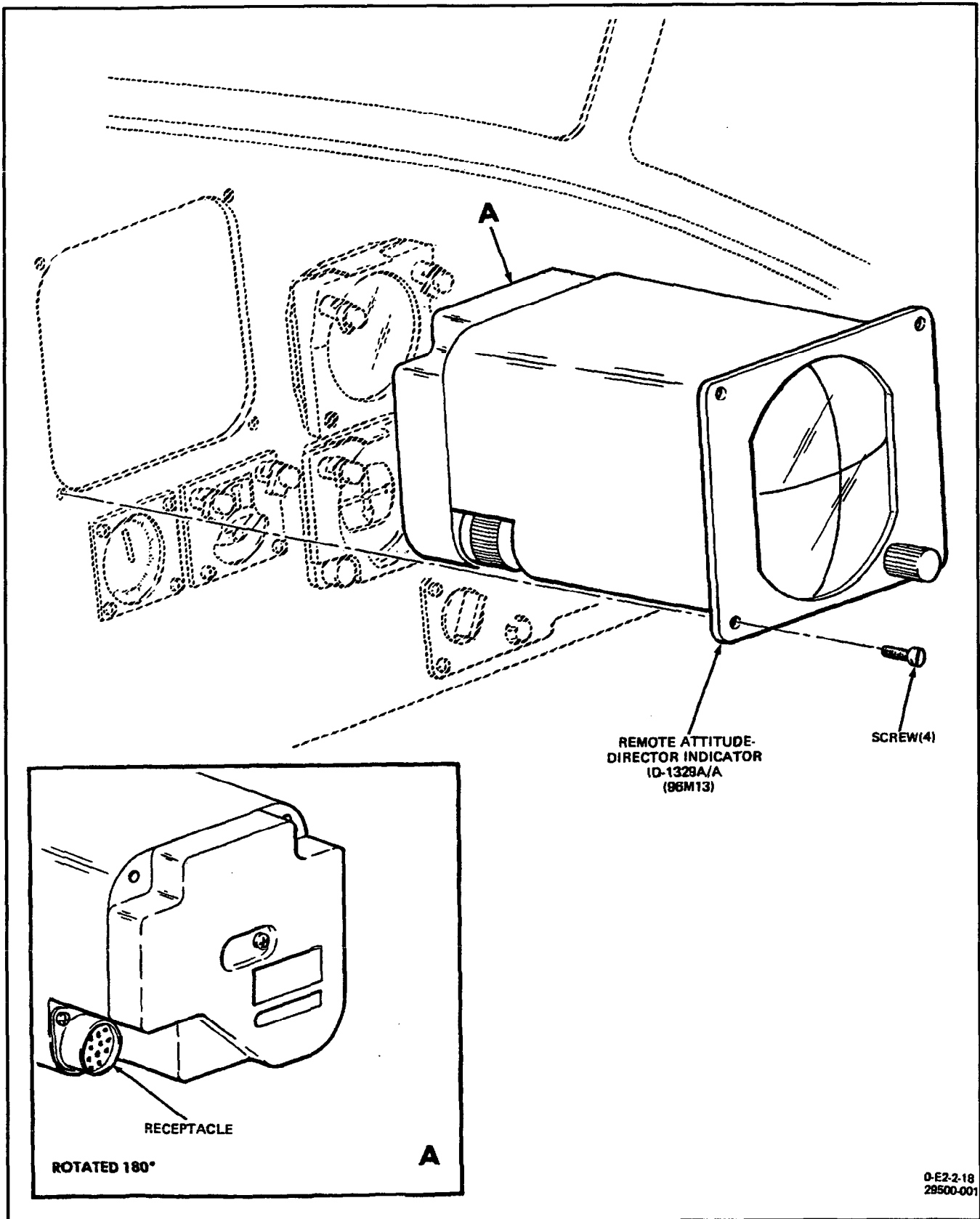


Figure 1. Removal and Installation of Remote Attitude-Director Indicator ID-1329A/A

**Note**

The following procedure applies to each indicator.

- a. Remove four screws securing indicator to instrument panel.
- b. Slowly pull indicator out of instrument panel until cable connector is accessible.
- c. Disconnect cable connector from receptacle at rear of indicator.
- d. Cap cable connector and indicator receptacle.

**4. INSTALLATION.** (Figure 1.)**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove cap from cable connector and indicator receptacle.

**CAUTION**

Inspect connector and receptacle for damage and bent pins prior to interconnection.

- b. Connect cable connector to receptacle at rear of indicator. (QUALITY ASSURANCE)
- c. Insert indicator into instrument panel.
- d. Using four screws, secure indicator to instrument panel.
- e. Check operation of the indicator by performing the appropriate procedures contained within the following subsystem tests:

(1) Carrier Aircraft Inertial Navigation System AN/ASN-92(v) (NAVAIR 01-E2AAA-2-17.1, WP008 00).

(2) Attitude Heading Reference System AN/ASN-50 (NAVAIR 01-E2AAA-2-17.1, WP009 00).

(3) TACAN Navigational Set AN/ARN-118(v) (NAVAIR 01-E2AAA-2-17.1, WP014 01).

(4) Automatic Carrier Landing System ASW-25B (NAVAIR 01-E2AAA-2-17.1, WP015 00).



**ORGANIZATIONAL MAINTENANCE**

**TRANSMITTER RATE GYROSCOPE TRU-2A/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161552 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Carrier Aircraft Inertial Navigation System AN/ASN-92(v) .....	008 00
Attitude Heading Reference System AN/ASN-50 .....	009 00
TACAN Navigational Set AN/ARN-118(v) .....	014 01
Automatic Carrier Landing System ASW-25B .....	015 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 310	—	Flight Attitude Display System - ARU-31/A Attitude Direction Indicators and TRU-2A/A Rate Gyro Transmitter, Instal- lation of (ECP 166R4(0))	4/1/83	Effectivity: Aircraft serial no. 161552 and subsequent and those aircraft incorporating AFC 310.

**1. GENERAL.**

2. The Transmitter Rate Gyroscope TRU-2A/A (hereinafter referred to as the gyroscope) (55A5) is used in conjunction with aircraft subsystems. The gyroscope is in the equipment compartment, left side. Refer to WP003 00, (figure 2, item 76A) for location of gyroscope.

**3. REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

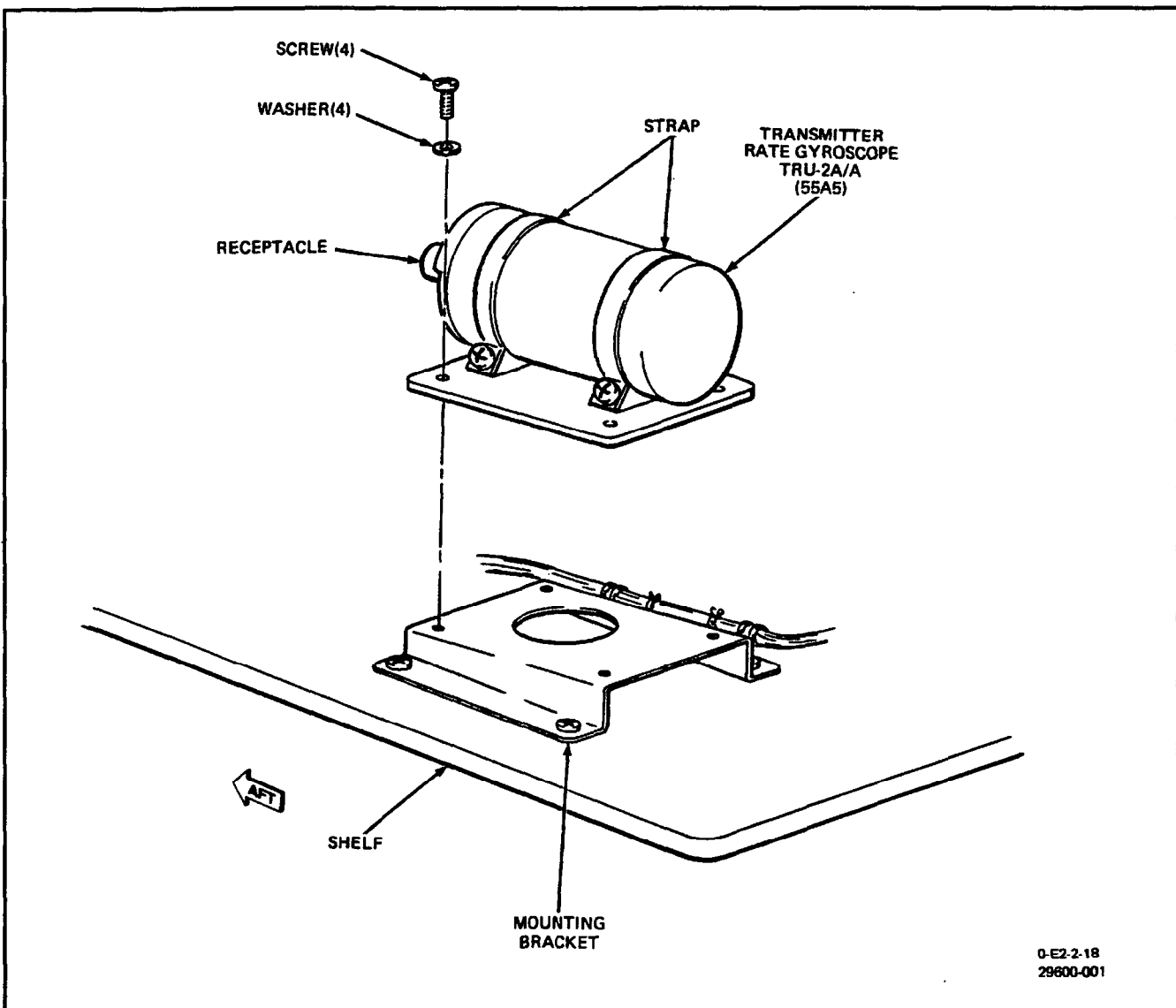


Figure 1. Removal and Installation of Transmitter Rate Gyroscope TRU-2A/A

**CAUTION**

Do not remove two straps which encircle gyroscope. Straps are part of gyroscope.

- a. Disconnect cable connector 55A5P1 from receptacle at rear of gyroscope.
- b. Remove four screws and washers securing gyroscope to mounting bracket. Remove gyroscope from mounting bracket.
- c. Cap cable connector and gyroscope receptacle.

4. **INSTALLATION.** (Figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove cap from cable connector and gyroscope receptacle.





Inspect connector and receptacle for damage and bent pins prior to interconnection.

- b. Using four screws and washers, secure gyroscope to mounting bracket.
- c. Connect cable connector 55A5P1 to receptacle at rear of gyroscope. (QUALITY ASSURANCE)
- d. Check operation of the gyroscope by performing the appropriate procedures contained within the following subsystem tests:

(1) Carrier Aircraft Inertial Navigation System AN/ASN-92(v) (NAVAIR 01-E2AAA-2-17.1, WP008 00).

(2) Attitude Heading Reference System AN/ASN-50 (NAVAIR 01-E2AAA-2-17.1, WP009 00).

(3) TACAN Navigational Set AN/ ARN-118(v) (NAVAIR 01-E2AAA-2-17.1, WP014 01).

(4) Automatic Carrier Landing System ASW-25B (NAVAIR 01-E2AAA-2-17.1, WP015 00).



**ORGANIZATIONAL MAINTENANCE**

**PROCESSOR UNIT AOA/ACLS ELECTRICAL ASSEMBLY**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161552 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Carrier Aircraft Inertial Navigation System AN/ASN-92(v) .....	008 00
Attitude Heading Reference System AN/ASN-50 .....	009 00
TACAN Navigational Set AN/ARN-118(v) .....	014 01
Automatic Carrier Landing System ASW-25B .....	015 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 310	—	Flight Attitude Display System-ARU-31/A Attitude Direction Indicators and TRU-2A/A Rate Gyro Transmitter, Installation of (ECP 166R4(0))	4/1/83	Effectivity: Aircraft serial no. 161552 and subsequent and those aircraft incorporating AFC 310.

**1. GENERAL.**

2. The Processor Unit AOA/ACLS Electrical Assembly (hereinafter referred to as the processor) (86A22) is used in conjunction with aircraft subsystems. The processor is located within the main electronics junction box (MEJB).

**3. REMOVAL.** (Figure 1.)**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disengage seven fasteners securing panel assembly to MEJB.
- b. Carefully open panel assembly until processor is accessible.
- c. Disconnect cable connector 86A22P1 from processor receptacle J1.
- d. Remove four screws securing processor to panel assembly. Remove processor from panel assembly.
- e. Cap cable connector and processor receptacle.

**4. INSTALLATION.** (Figure 1.)**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove cap from cable connector and processor receptacle.

**CAUTION**

Inspect connector and receptacle for damage and bent pins prior to interconnection.

- b. Using four screws, secure processor to panel assembly.
- c. Connect cable connector 86A22P1 to receptacle J1 on processor. (QUALITY ASSURANCE)
- d. Carefully close panel assembly and then secure panel assembly to the MEJB by engaging seven fasteners.
- e. Check operation of the processor by performing the appropriate procedures contained within the following subsystem tests:
  - (1) Carrier Aircraft Inertial Navigation System AN/ASN-92(v) (NAVAIR 01-E2AAA-2-17.1, WP008 00).
  - (2) Attitude Heading Reference System AN/ASN-50 (NAVAIR 01-E2AAA-2-17.1, WP009 00).
  - (3) TACAN Navigational Set AN/ARN-118(v) (NAVAIR 01-E2AAA-2-17.1, WP014 01).
  - (4) Automatic Carrier Landing System ASW-25B (NAVAIR 01-E2AAA-2-17.1, WP015 00).

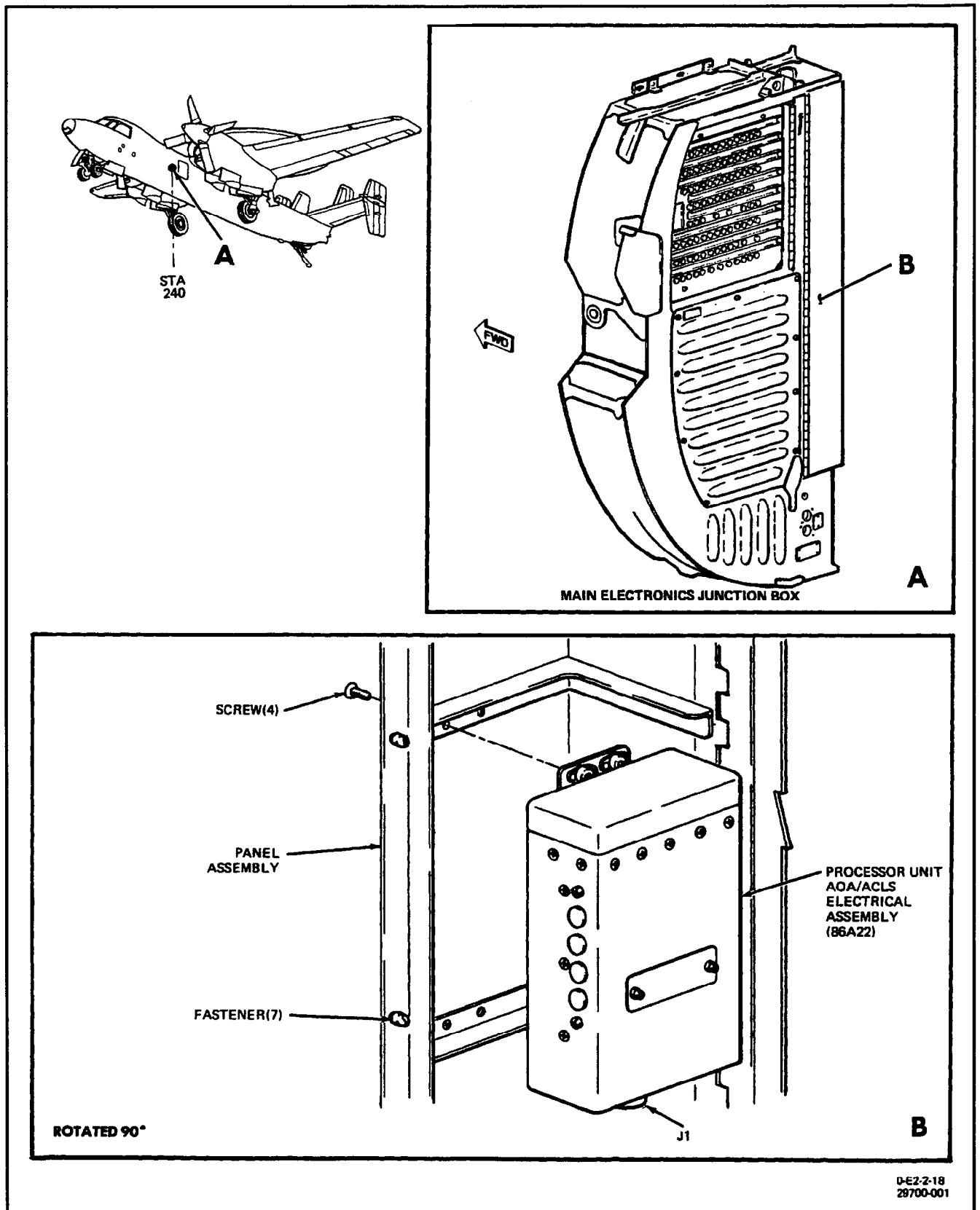


Figure 1. Removal and Installation of Processor Unit AOA/ACLS Electrical Assembly



**ORGANIZATIONAL MAINTENANCE**

**CONTROL INDICATOR C-11156/AMH-3**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028, AND 163029 THROUGH 164497**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Airborne Microwave Refractometer AN/AMH-3 .....	034 22
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electrostatic Discharge Control Handbook For Protection of Electrical an Electronic Parts, Assemblies and Equipment .....	DOD-HDBK-263

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AFC 308	4/30/81	Title and ECP No. Avionics - Airborne Microwave Refractometer AN/AMH-3, Installation of (ECP 284(0))	4/1/83	Effectivity: Aircraft Serial No. 161552 and Subsequent.

**1. GENERAL.**

2. The Control Indicator C-11156/AMH-3 (hereinafter referred to as the control) (67A1) is part of the Airborne Microwave Refractometer AN/AMH-3 system. The control is in the cockpit (copilot's side). Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 1, view C, item 31) for location of control.

**3. REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

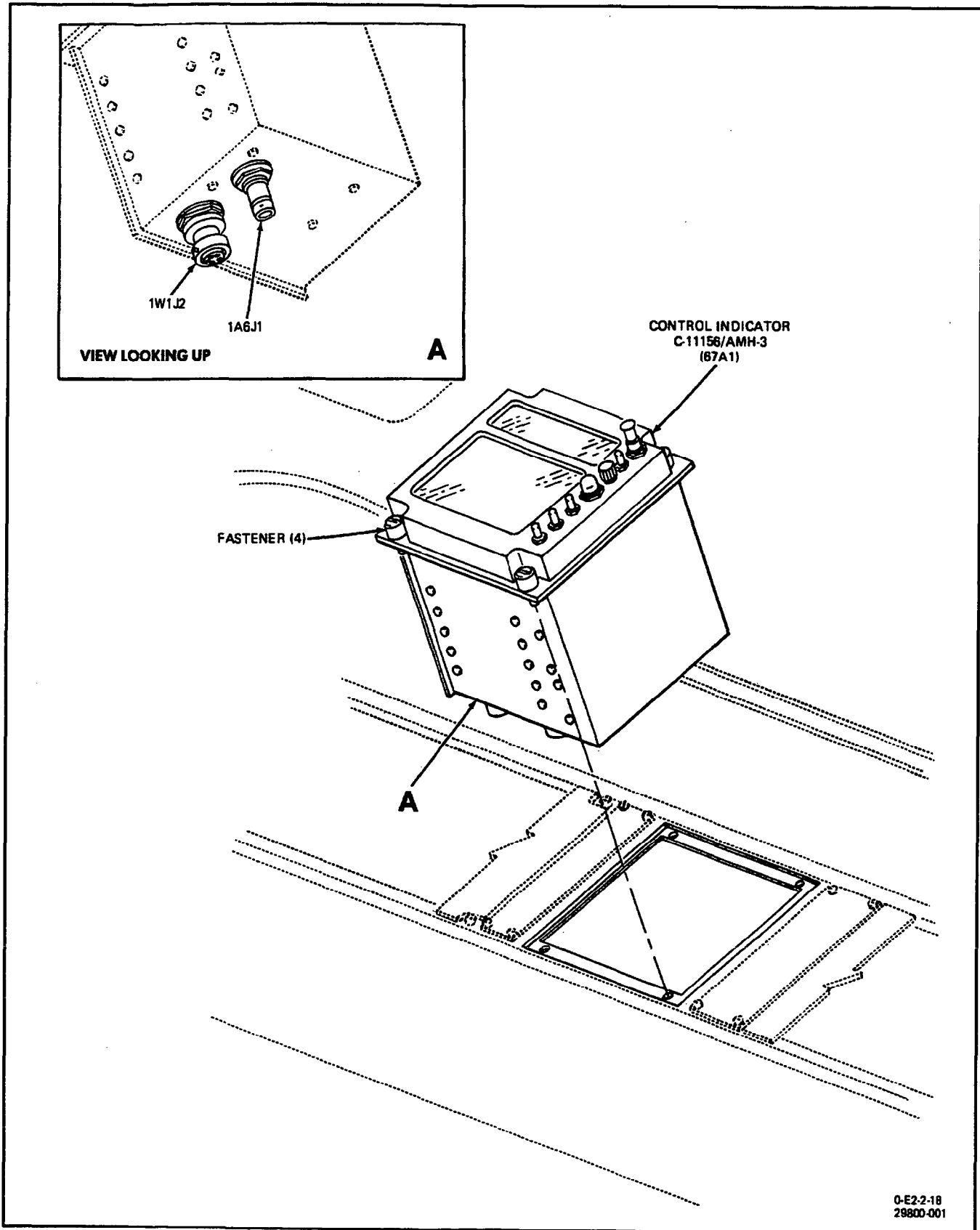


Figure 1. Removal and Installation of Control Indicator C-11156/AMH-3





Equipment is electrostatic discharge (ESD) sensitive and special handling is required. Refer to DOD-HDBK-263.

- a. Disengage four fasteners that secure control to panel.
- b. Slowly pull control out of panel until cable connectors (at rear of control) are accessible.
- c. Supporting control, disconnect cable connectors from control receptacles 1A6J1 and 1W1J2.
- d. Cap connectors and receptacles.

4. **INSTALLATION.** (Figure 1.)



Insure that external power is disconnected

from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Equipment is electrostatic discharge (ESD) sensitive and special handling is required. Refer to DOD-HDBK-263.

Inspect connectors and receptacles for damage and bent pins prior to interconnection.

- b. Supporting control, connect cable connectors 67A1P1 and 67A1P2 to control receptacles 1A6J1 and 1W1J2, respectively.
- c. Insert control into panel and secure control by engaging four fasteners.
- d. Perform operational check of Airborne Microwave Refractometer AN/AMH-3 (NAVAIR 01-E2AAA-2-17.4, WP034 22).



**ORGANIZATIONAL MAINTENANCE**

**RECORDER/PROCESSOR RO-549/AMH-3**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028, AND 163029 THROUGH 164497**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Airborne Microwave Refractometer AN/AMH-3 .....	034 22
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Instrument Systems .....	NAVAIR 01-E2AAA-2-8
Pitot and Static Pressure System .....	010 00
Electrostatic Discharge Control Handbook For Protection of Electrical and Electronic Parts, Assemblies and Equipment .....	DOD-HDBK-263

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AFC 308	4/30/81	Avionics-Airborne Microwave Refractometer AN/AMH-3, Installation of (ECP 284(0))	4/1/83	Effectivity: Aircraft Serial No. 161552 and Subsequent.

1. **GENERAL.**

2. The Recorder/Processor RO-549/AMH-3 (hereinafter referred to as the recorder/processor) (67A2) is part of the Airborne Microwave Refractometer AN/AMH-3 system. The recorder/processor is in the left side of the equipment compartment. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 68A) for location of recorder/processor. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
AN806D4	Plug (Used on pitot air line)
AN806D5	Plug (used on static air line)

3. **REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Equipment is electrostatic discharge (ESD) sensitive and special handling is required. Refer to DOD-HDBK-263.

- a. Disconnect two cable connectors from recorder/processor receptacles J1 and J2.
- b. Disconnect two INSTRUMENT AIR lines from recorder/processor PITOT and STATIC fittings.
- c. Remove lockwire securing two wing nuts. Loosen two wing nuts and then disengage two swing bolts securing recorder/processor to mounting base.
- d. Slowly pull recorder/processor forward until two guide pins at rear of mounting base are disengaged.
- e. Remove recorder/processor from mounting base.



Failure to securely cap off air lines will result in erroneous pitot and static inputs.

The air data computer, impact pressure transmitter, recorder processor, barometric altimeter, two servo altimeters, two rate of climb indicators and three airspeed indicators are affected by loose pitot/static lines.

- f. Insure pitot and static lines are capped off with appropriate plugs (AN806D4 and AN806D5). Also insure that fittings and electrical receptacles and connectors are capped.



If the recorder/processor is to be left out and aircraft is needed for flight, a pitot and static pressure system check (NAVAIR 01-E2AAA-2-8, WP010 00) is required to insure integrity of pitot/static system.

- g. If necessary, remove cassette as directed in paragraph 5.

4. **INSTALLATION.** (Figure 1.)

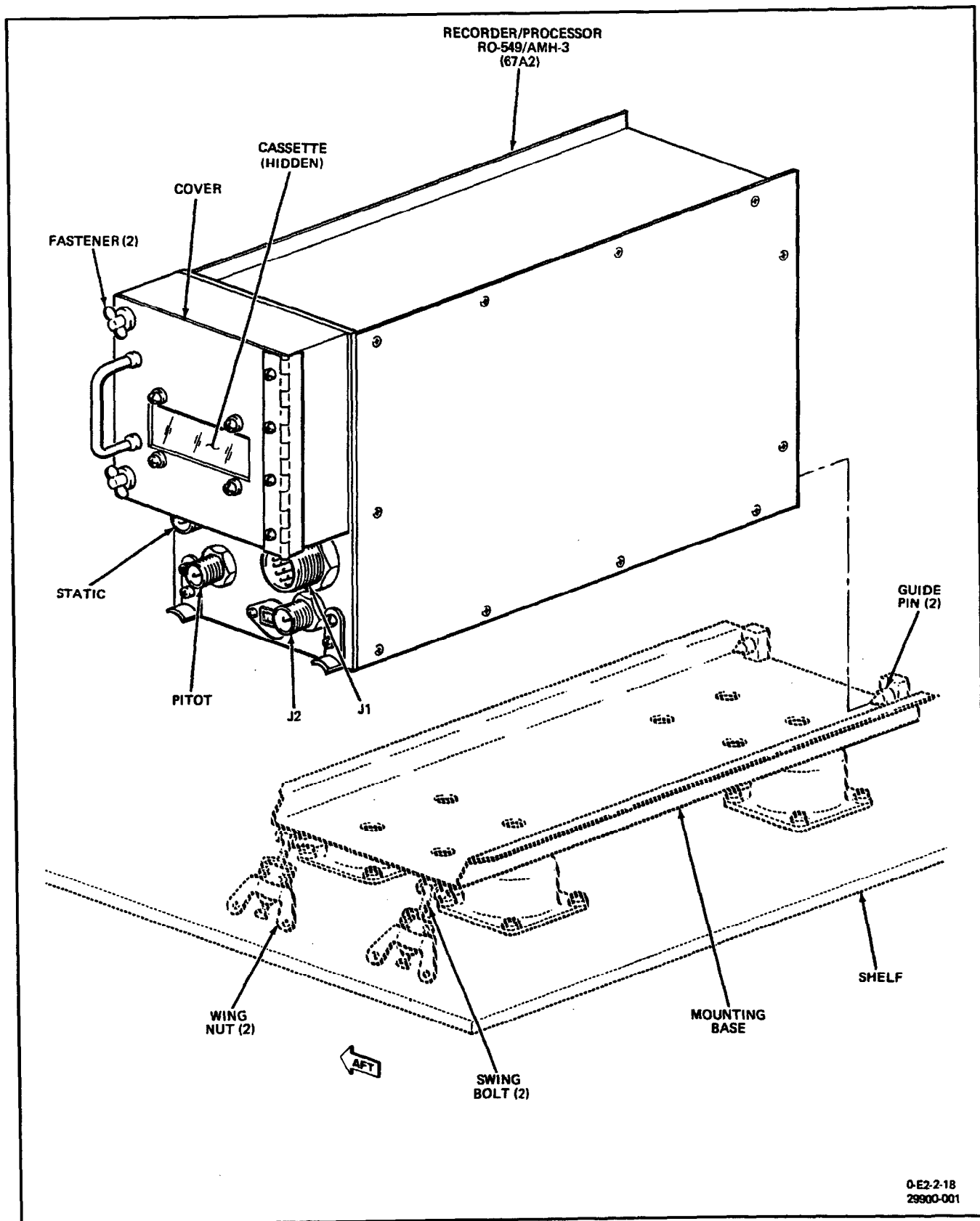
**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC32	Lockwire



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors, receptacles, and fittings.



0-E2-2-18  
29900-001

Figure 1. Removal and Installation of Recorder/Processor RO-549/AMH-3



Equipment is electrostatic discharge (ESD) sensitive and special handling is required. Refer to DOD-HDBK-263.

Inspect connectors and receptacles for damage and bent pins prior to installation.

b. Slowly slide recorder/processor onto mounting base until guide pins are fully engaged.

c. Secure recorder/processor to mounting base by engaging two swing bolts and then tightening two wing nuts.

d. Secure two wing nuts using specified lockwire. (QUALITY ASSURANCE)

e. Remove plugs from pitot and static lines, and connect INSTRUMENT AIR lines to recorder/processor PITOT and STATIC fittings.

f. Connect cable connectors 67A2P1 and 67A2P2 to recorder/processor receptacles J1 and J2, respectively.

g. Perform operational check of Airborne Microwave Refractometer AN/AMH-3 (NAVAIR 01-E2AAA-2-17.4, WP034 22) and a pitot and static pressure system check (NAVAIR 01-E2AAA-2-8, WP010 00).

5. **REPLACING CASSETTE.** (Figure 1.)

6. **REMOVING CASSETTE.**

a. Disengage two fasteners securing cover. Open cover fully for access to cassette.

b. Depress RELEASE button on bottom retainer. Retainer will move away from cassette.

c. Remove cassette from recorder/processor.

7. **INSTALLING CASSETTE.**

a. Insure that bottom retainer is released.

b. Insert cassette into recorder/processor.

c. Lock cassette in place by depressing bottom retainer.

d. Close cover and secure by engaging two fasteners.

**ORGANIZATIONAL MAINTENANCE**

**SAMPLING CAVITY/FAIRING ASSEMBLY TN-600/AMH-3**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161552, 161780 THROUGH 161785, 162614 THROUGH 162619, 162797 THROUGH 162802, 163024 THROUGH 163028, AND 163029 THROUGH 164497**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.4
Airborne Microwave Refractometer AN/AMH-3 .....	034 22
Electrostatic Discharge Control Handbook For Protection of Electrical and Electronic Parts, Assemblies and Equipment .....	DOD-HDBK-263

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AFC 308	4/30/81	Avionics-Airborne Microwave Refractometer AN/AMH-3, Installation of (ECP 284(0))	4/1/83	Effectivity: Aircraft Serial No. 161552 and Subsequent.

**1. GENERAL.**

2. The Sampling Cavity/Fairing Assembly TN-600/AMH-3 (hereinafter referred to as the refractometer) (67A3) is part of the Airborne Microwave Refractometer AN/AMH-3 system. The refractometer is located on the top left side of the aircraft. (See figure 1.)

**3. REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Equipment is electrostatic discharge (ESD) sensitive and special handling is required. Refer to DOD-HDBK-263.

Do not remove four screws (noted in figure 1) which are part of refractometer.

a. Remove 16 screws and 16 washers securing refractometer to aircraft mount.

b. Slowly lift refractometer away from aircraft mount until two cable plugs are accessible.

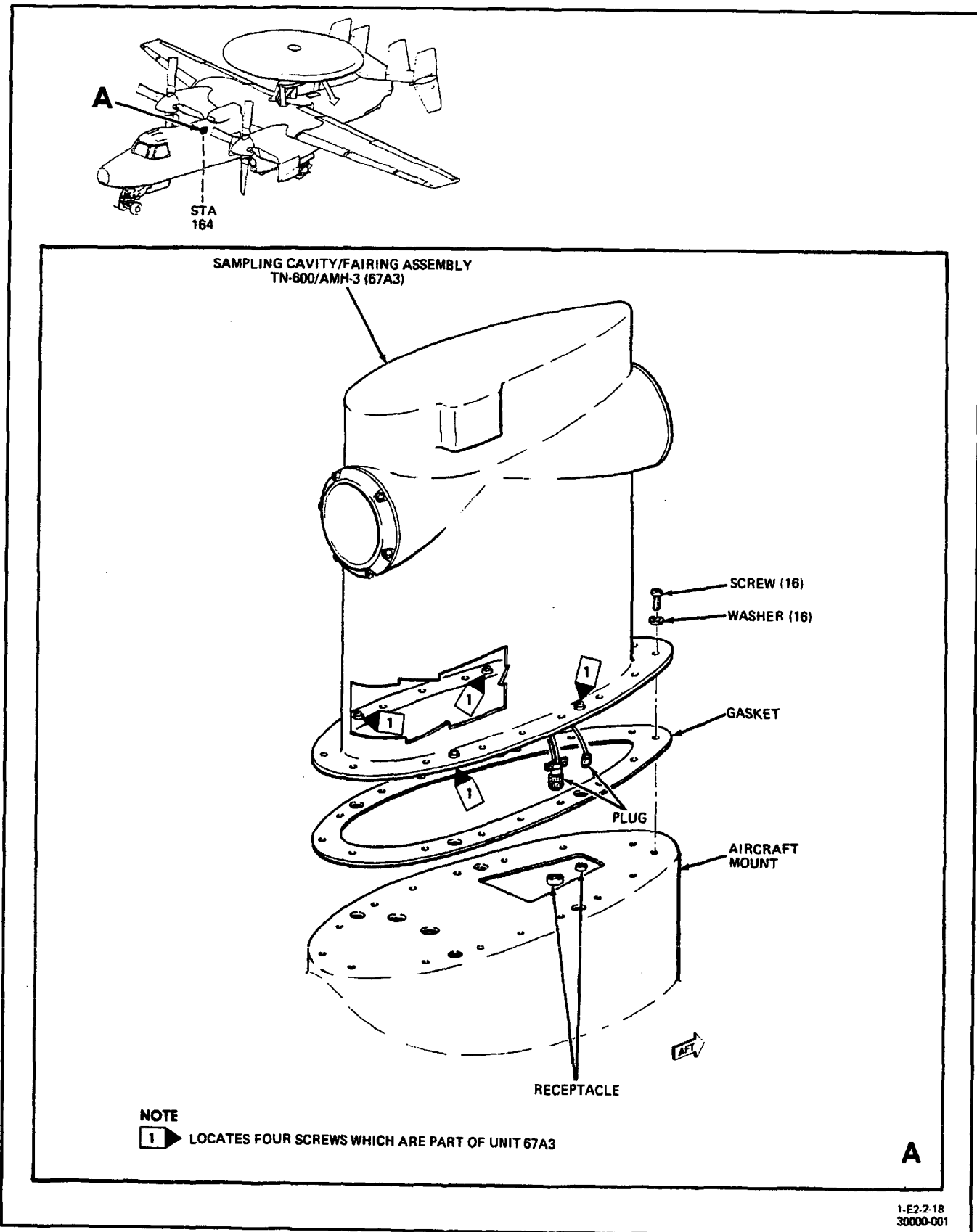


Figure 1. Removal and Installation of Sampling Cavity/Fairing Assembly TN-600/AMH-3



c. While supporting refractometer, disconnect two cable plugs from two receptacles.

d. Cap plugs and receptacles.

e. Remove refractometer, including gasket, from aircraft.

4. **INSTALLATION.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from plugs and receptacles.



Equipment is electrostatic discharge (ESD) sensitive and special handling is required. Refer to DOD-HDBK-263.

Inspect plugs and receptacles for damage and bent pins prior to interconnection.

b. Place gasket on aircraft mount.

c. Supporting refractometer, connect two cable plugs to appropriate receptacles.

d. Insuring that holes in gasket are aligned with holes in aircraft mount, place refractometer on gasket.

e. Using 16 screws and 16 washers, secure refractometer to aircraft mount.

f. Perform operational check of Airborne Microwave Refractometer AN/AMH-3 (NAVAIR 01-E2AAA-2-17.4, WP034 22).



**ORGANIZATIONAL MAINTENANCE**

**KY-75 RACK ASSEMBLY**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161552 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
ECP 301(0)	10/6/81	KY-75 Parkhill Secure Voice Equipment Installation (Basic) (ECP 301(0))	4/1/83	Effectivity: Aircraft Serial No. 161552 and Subsequent and Those Aircraft Incorporating AFC 301(0).

**1. GENERAL.**

2. The KY-75 Rack Assembly (hereinafter referred to as the rack) is in the crew compartment, left side. On aircraft serial no. 161552 through 164497, it is used to mount the KY-75A Processor (processor). On aircraft serial no. 165293 and subsequent, it is used to mount Signal Data Converter CV-3591 (P)/U or basic terminal unit (BTU), with the TSEC/KYV-5 COMSEC Module (CM). (The CM is secured on the front face of the BTU.) Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, view B, item 57 or 93) for location of the rack.

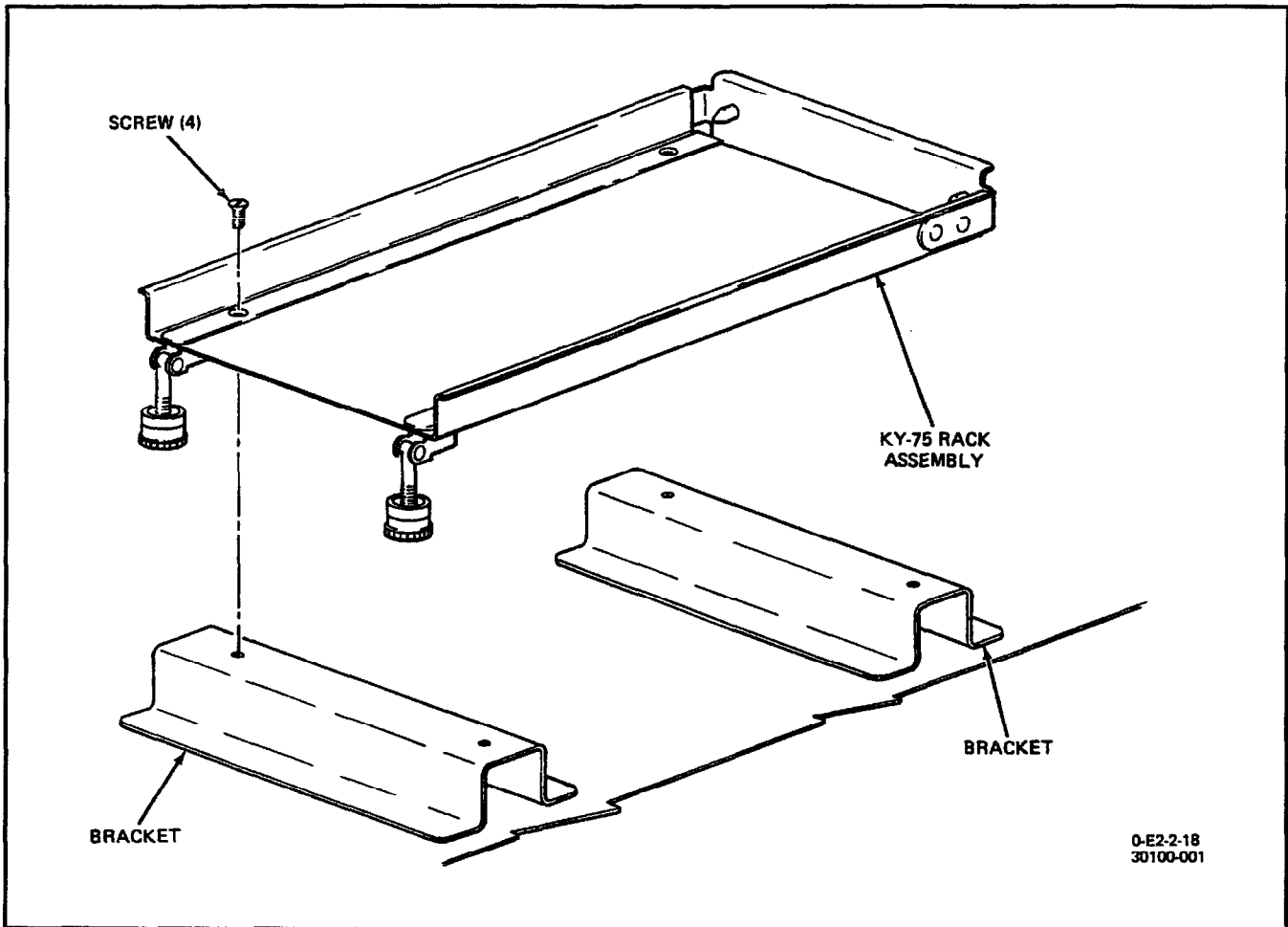
**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The processor and BTU are government furnished equipment (GFE); they are removed and installed by the Navy.



**Figure 1. Removal and Installation of KY-75 Rack Assembly**

- a. For access to rack mounting screws, remove processor or BTU from rack.
- b. Cap cable connectors and processor or BTU receptacles.
- c. Remove four screws securing rack to brackets. Remove rack from brackets.

**4. INSTALLATION.** (Figure 1.)

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using four screws, secure rack to brackets. (QUALITY ASSURANCE)
- b. Remove caps from cable connectors and processor or BTU receptacles.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins prior to installation.

**Note**

The processor and BTU are government furnished equipment (GFE); they are removed and installed by the Navy.

- c. Install processor or BTU on rack and connect cable connectors to processor or BTU receptacles.

**ORGANIZATIONAL MAINTENANCE**

**KY-75 SWITCHING UNIT**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 161552 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Communication Set AN/ARQ-34 .....	022 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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ECP 301(O)	10/6/81	KY-75 Parkhill Secure Voice Equipment Installation (Basic) (ECP 301(0))	4/1/83	Effectivity: Aircraft se- rial no. 161552 and subsequent and those aircraft incorporating ECP 301(0).

**1. GENERAL.**

2. The KY-75 Switching Unit (hereinafter referred to as the switching unit) (59A4) is used in conjunction with the Communication Set AN/ARQ-34. The switching unit is in the crew compartment, left side. Refer to WP003 00 (figure 4, view C, item 58) for location of switching unit.

**3. REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

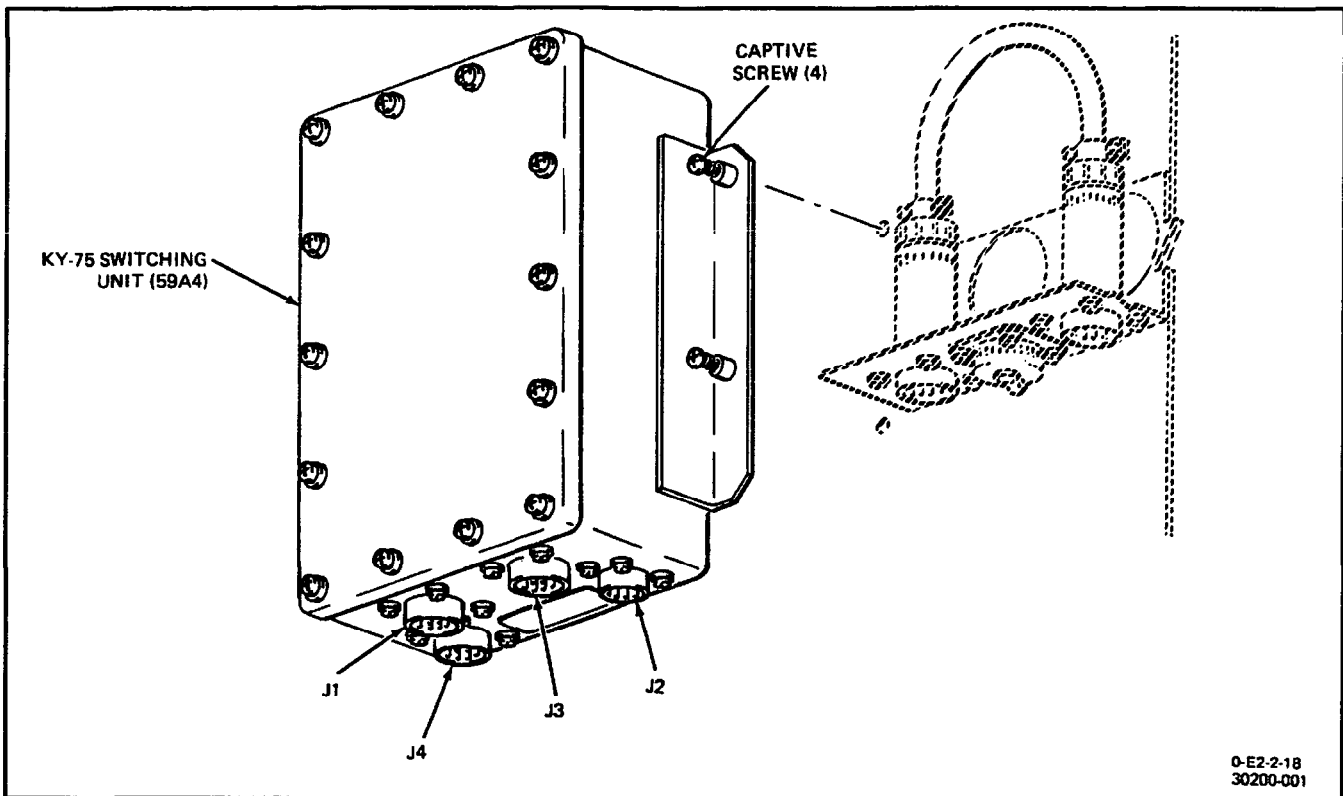


Figure 1. Removal and Installation of KY-75 Switching Unit

- a. Remove four cable connectors from switching unit receptacles J1 through J4.
- b. Disengage four captive screws securing switching unit to aircraft structure and remove switching unit.
- c. Cap cable connectors and switching unit receptacles.

4. **INSTALLATION.** (Figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from cable connectors and switching unit receptacles.

**CAUTION**

Inspect cable connector and switching unit receptacles for damage and bent pins prior to installation.

- b. Secure switching unit to aircraft structure by engaging four captive screws. (QUALITY ASSURANCE)

- c. Connect cable connectors 59A4P1 through 59A4P4 to switching unit receptacles J1 through J4, respectively. (QUALITY ASSURANCE)

- d. Perform an operational check on Communication Set AN/ARQ-34 (NAVAIR 01-E2AAA-2-17.1, WP022 00).

ORGANIZATIONAL MAINTENANCE

IAD GATE GENERATOR

EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 158648, 159105 THROUGH 159112, 159494 THROUGH 159502, 160007 THROUGH 160012, 160415 THROUGH 160420, 160697 THROUGH 160703, 160987 THROUGH 160992, 161094 THROUGH 161099, 161224 THROUGH 161229, 161341 THROUGH 161346, AND 161547 THROUGH 161552, 161780 THROUGH 161785, AND 162614 AND SUBSEQUENT

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
IFF Interrogator RT-988/A .....	026 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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Record of Applicable Technical Directives

None

1. GENERAL.

2. The IAD Gate Generator (hereinafter referred to as the generator) (44A10) is part of the IFF Interrogator RT-988/A. The generator is in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 113) for location of generator.

3. REMOVAL. (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove the Electrical Equipment Rack MT-4823/APS-125 (WP278 00) for access to generator.

b. Disconnect three cable connectors from generator receptacles J1 through J3.

c. Remove generator from shelf after disengaging two captive screws and removing two screws and two washers.

d. Cap all connectors and receptacles.

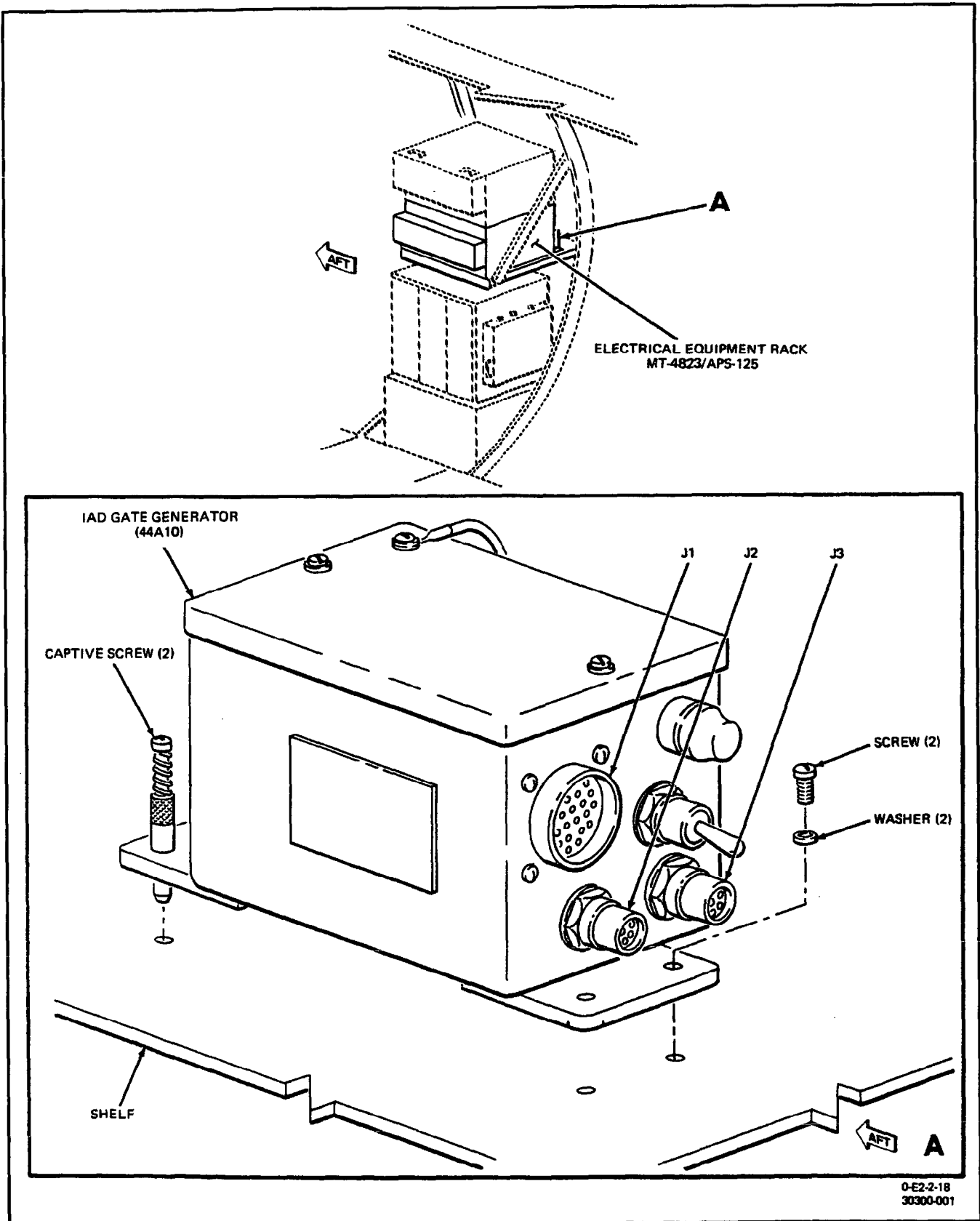


Figure 1. Removal and Installation of IAD Gate Generator



4. **INSTALLATION.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins prior to installation.

- b. Secure generator to shelf by engaging two captive screws and installing two screws and two washers. (QUALITY ASSURANCE)

- c. Connect cable connectors 44A10P1 through 44A10P3 to generator receptacles J1 through J3, respectively. (QUALITY ASSURANCE)

- d. Install the Electrical Equipment Rack MT-4823/APS-125 (WP278 00).

- e. Perform an operational check on IFF Interrogator RT-988/A (NAVAIR 01-E2AAA-2-17.3, WP026 00).



**ORGANIZATIONAL MAINTENANCE**

**ICS SELECT AND KY MODE SELECT CONTROL PANEL**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 162619 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Radio Set AN/ARC-182 .....	019 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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AFC 330	—	AN/ARC-182 UHF/VHF Radio Sets - Installation With "Mobile Sea Range Transponder" Provisions, Incorporation of (ECP 331R1(0))	6/1/85	Effectivity: Aircraft serial no. 162619 and subsequent and those aircraft incorporating AFC 330.

**1. GENERAL.**

2. The ICS Select and KY Mode Select Control Panel (hereinafter referred to as control) (50A17) is part of Radio Set AN/ARC-182. The control is in the crew compartment, left side. Refer to WP003 00 (figure 4, item 68) for location of control.

**3. REMOVAL.** (Figure 1.)

- a. Disengage two turnlock fasteners securing control to panel.
- b. Slowly pull control out of panel until cable connector is accessible.
- c. Disconnect cable plug from control receptacle J1.
- d. Cap cable plug and receptacle on control.

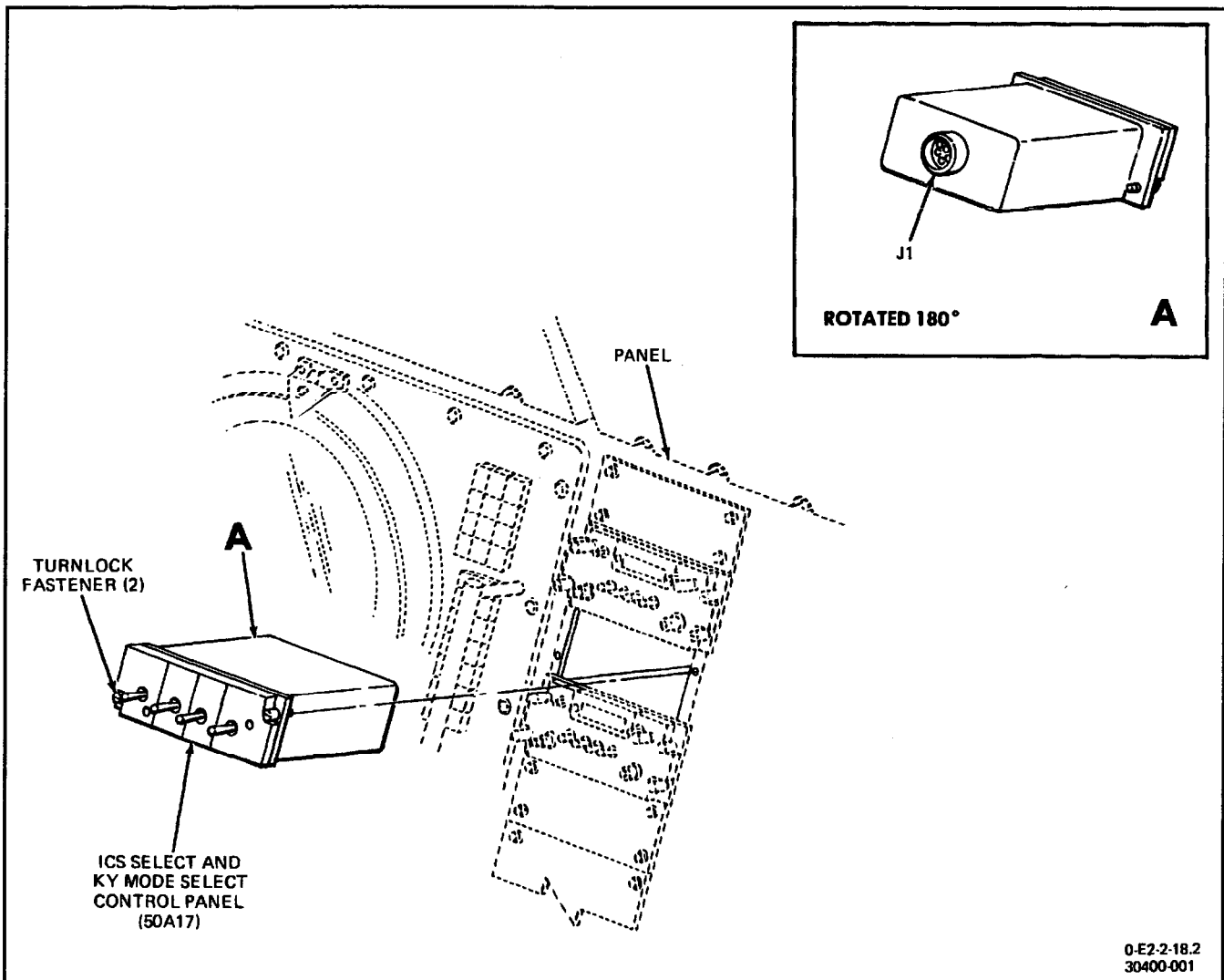
**4. INSTALLATION.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



**Figure 1. Removal and Installation of ICS Select and KY Mode Select Control Panel**

a. Remove cap from cable plug and receptacle.

b. Supporting control, connect cable plug 50A17P1 to control receptacle J1. (QUALITY ASSURANCE)

c. Insert control into panel and secure with its two turnlock fasteners. (QUALITY ASSURANCE)

d. Perform an operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01). (QUALITY ASSURANCE)

**CAUTION**

Inspect plug and receptacle for damage and bent pins prior to installation.

0-E2-2-18.2  
30400-001

**ORGANIZATIONAL MAINTENANCE**

**RADIO SET CONTROLS C-10319A/ARC-182, C-11128/ARC, AND C-11984/ARC**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 162619 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Radio Set AN/ARC-182 .....	019 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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AFC 330	—	AN/ARC-182 UHF/VHF Radio Sets - Installation With "Mobile Sea Range Transponder" Provisions, Incorporation of (ECP 331R1(0))	6/1/85	Effectivity: Aircraft serial no. 162619 and subsequent and those aircraft incorporating AFC 330.

**1. GENERAL.**

2. The Radio Set Control C-10319A/ARC-182, C-11128/ARC, or C-11984/ARC (hereinafter referred to as control) (50A16, 50A21, and 50A22) is part of Radio Set AN/ARC-182. There are three identical controls: One control (50A21) is located in cockpit (refer to WP003 00, figure 1, item 7A, 7B, or 7C) and two controls (50A16 and 50A22) are located in crew compartment (refer to WP003 00, figure 4, items 67, 67A, or 67B and 69, 69A, or 69B).

**3. REMOVAL. (Figures 1 and 2.)**



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following procedure applies to each of the three controls.

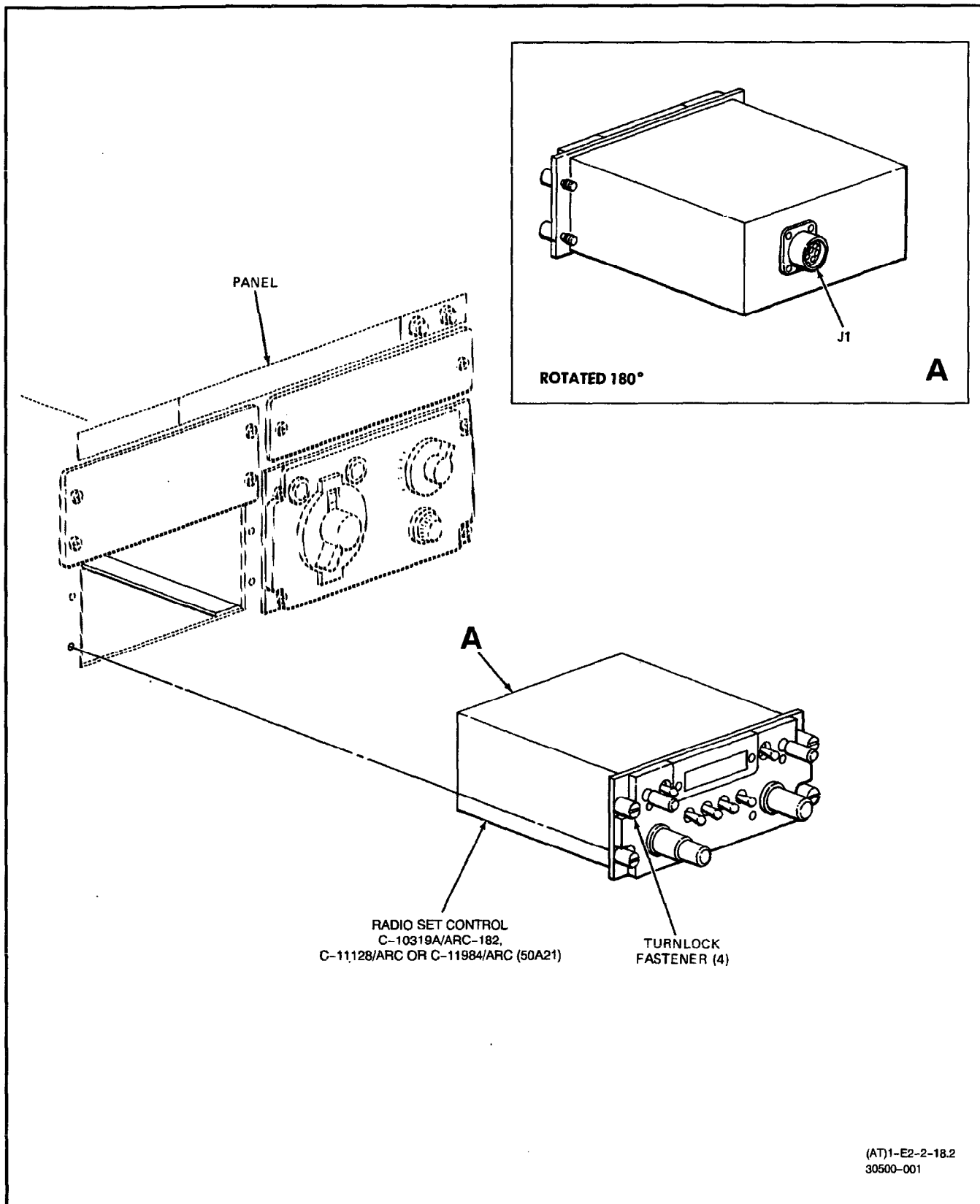


Figure 1. Removal and Installation of Radio Set Control C-10319A/ARC-182, C-11128/ARC, or C-11984/ARC in Cockpit

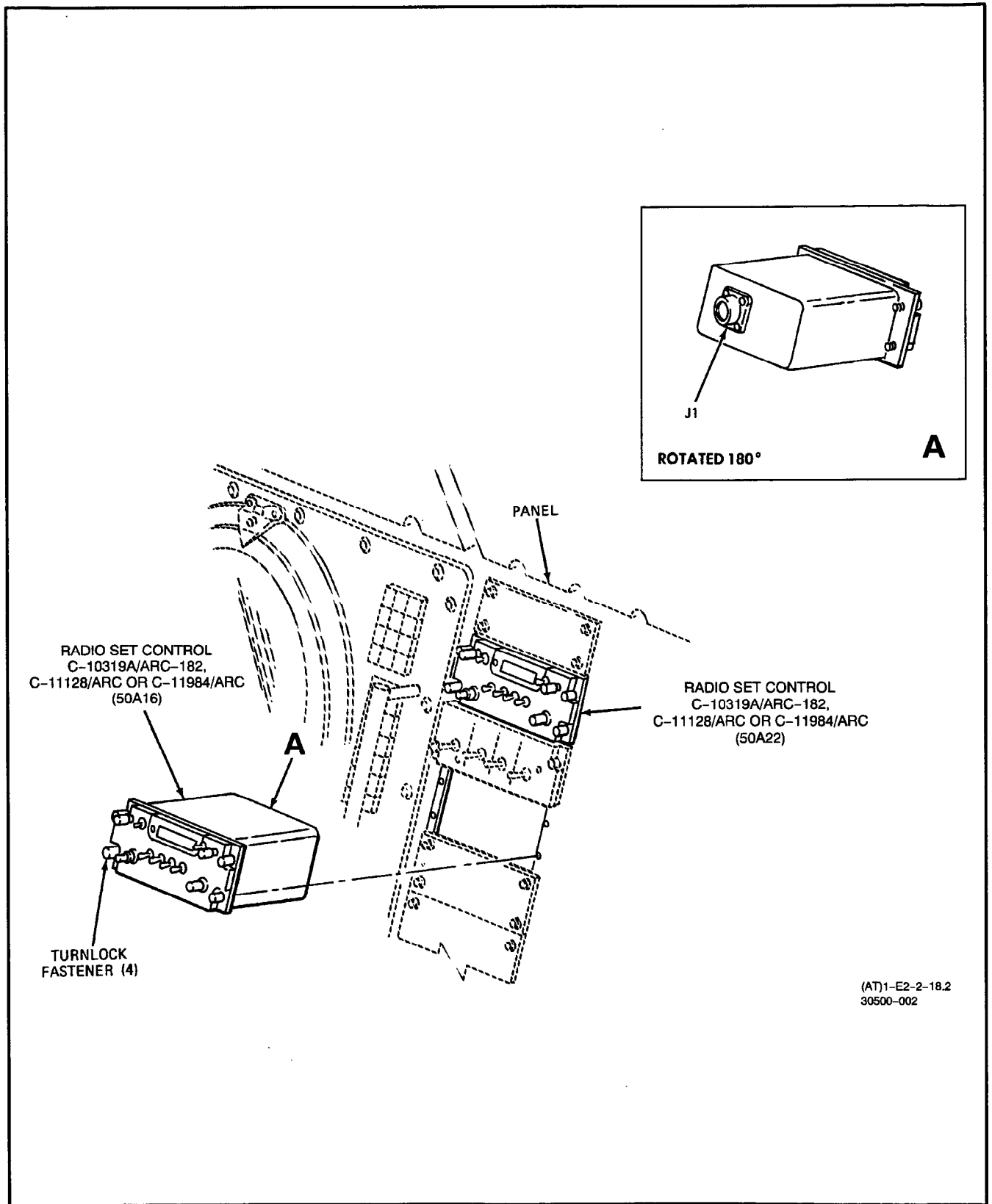


Figure 2. Removal and Installation of Radio Set Control C-10319A/ARC-182, C-11128/ARC, or C-11984/ARC in Crew Compartment

(AT)1-E2-2-18.2  
30500-002

- a. Disengage four turnlock fasteners securing control to panel.
- b. Slowly pull control out of panel until cable connector is accessible.
- c. Disconnect cable plug from control receptacle J1.
- d. Cap cable plug and receptacle on control.

4. **INSTALLATION.** (Figures 1 and 2.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Inspect plugs and receptacles for damage and bent pins prior to installation.

**Note**

The following procedure applies to each of the three controls.

- a. Supporting control, connect appropriate cable plug to control receptacle J1, as specified in table 1. (QUALITY ASSURANCE)
- b. Insert control into panel and secure with four turnlock fasteners. (QUALITY ASSURANCE)
- c. Perform an operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1.1, WP019 01). (QUALITY ASSURANCE)

**TABLE 1. CABLE PLUG CONNECTIONS**

Cable Plug	Control/Receptacle
50A16P1	50A16/J1
50A21P1	50A21/J1
50A22P1	50A22/J1



**ORGANIZATIONAL MAINTENANCE**

**VHF/UHF RADIO SET AN/ARC-182**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 162619 AND SUBSEQUENT**

**This work package (WP) supersedes WP306 00, dated 1 December 2000.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Radio Set AN/ARC-182 .....	019 01
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AFC 330	—	AN/ARC-182 UHF/VHF Radio Sets - Installation With "Mobile Sea Range Transponder" Provisions, Incorporation of (ECP 331R1(0))	6/1/85	Effectivity: Aircraft serial no. 162619 and subsequent and those aircraft incorporating AFC 330.

**1. GENERAL.**

2. The VHF/UHF Radio Set AN/ARC-182 (hereinafter referred to as radio set) (50A15, 50A19, and 50A20) is part of Radio Set AN/ARC-182. There are three identical radio sets: two radio sets (50A19 and 50A20) are located in the left side of the equipment compartment (refer to WP003 00, figure 3, items 131 and 137) and one radio set (50A15) is located in the crew compartment (refer to WP003 00, figure 5, item 61).

3. Each radio set consists of the following listed units and are replaced as one assembly.

- a. UHF/VHF Receiver Transmitter  
RT-1250A/ARC
- b. Tunable UHF Filter F-1556/ARC
- c. UHF Power Amplifier AM-7177A/ARC
- d. Radio Set Mount MT-6330/ARC

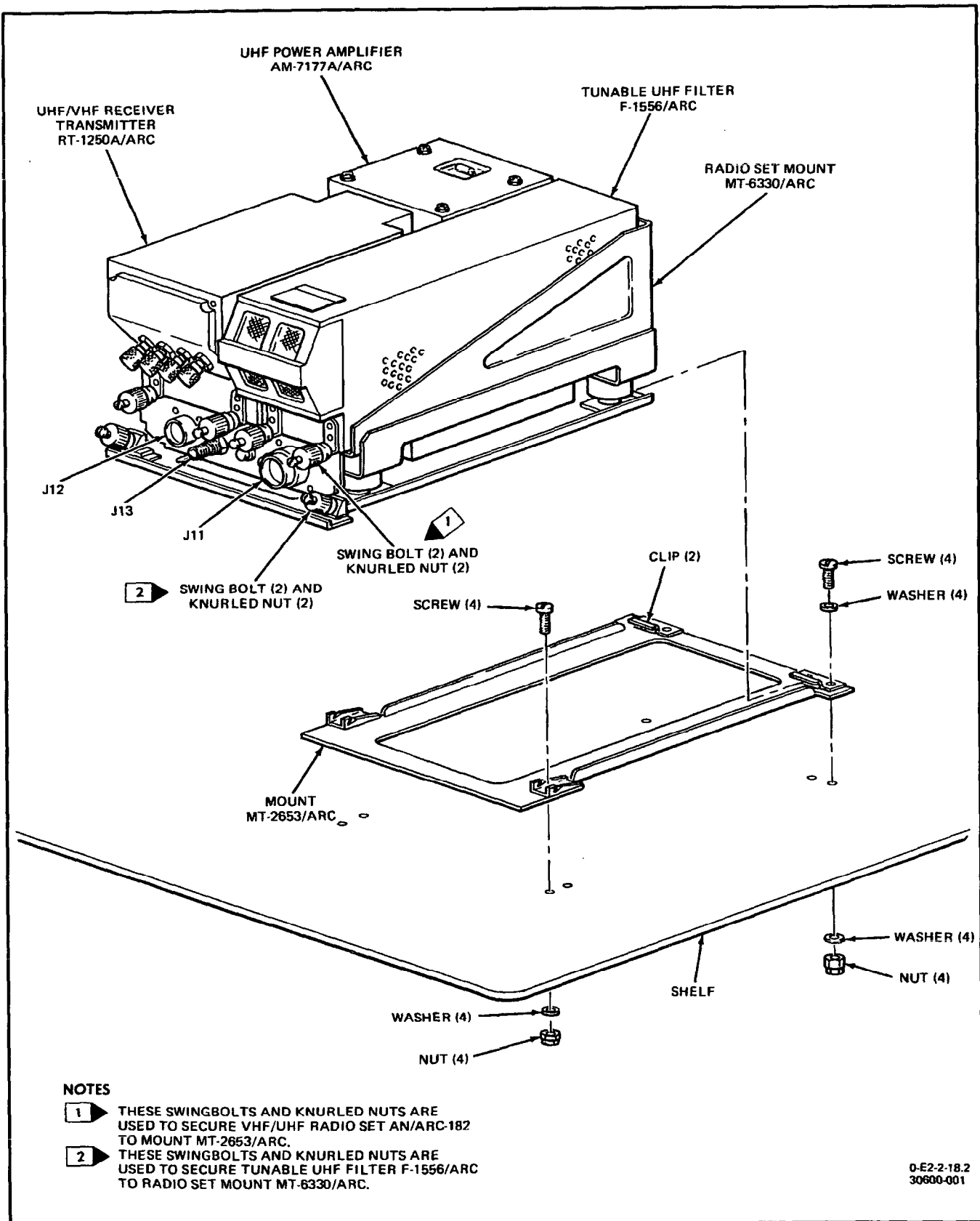


Figure 1. Removal and Installation of VHF/UHF Radio Set AN/ARC-182

**4. REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The following procedure applies to each of the three radio sets.

a. Disconnect three cable plugs from Radio Set Mount MT-6330/ARC (radio set mount) receptacles J11, J12, and J13. Tag cable plugs to facilitate installation.

b. Loosen two knurled nuts and disengage two swing bolts securing radio set to Mounting Plate MT-2653 (mounting plate).

c. Slowly pull radio set forward and remove from mounting plate.

d. Cap all cable plugs and radio set mount receptacles.

e. If it is necessary to remove Tunable UHF Filter F-1556/ARC (tunable UHF filter), proceed as follows:

(1) Loosen two knurled nuts and disengage two swing bolts from tunable UHF filter.

(2) Carefully remove tunable UHF filter from radio set mount.

f. If it is necessary to remove mounting plate, proceed as follows:



Four of the eight screws are different in length. Tag screws to facilitate installation.

(1) Remove 8 nuts, 8 screws, and 12 washers securing mounting plate to shelf.

(2) Carefully remove mounting plate from shelf.

**5. INSTALLATION.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Inspect plugs and receptacles for damage and bent pins prior to installation.

**Note**

The following procedure applies to each of the three radio sets.

a. If it is necessary to install mounting plate, proceed as follows:

(1) Place mounting plate on shelf.



Four of the eight screws are different in length. Insure that proper length screws are used.

(2) Using 8 nuts, 8 screws, and 12 washers, secure mounting plate to shelf. (QUALITY ASSURANCE)

b. If it is necessary to install tunable UHF filter, proceed as follows:

(1) Place tunable UHF filter on radio set mount.

(2) Carefully slide tunable UHF filter into radio set mount until guide pins and connector (at rear of radio set mount) are engaged.

(3) Secure tunable UHF filter to radio set mount by engaging two swing bolts and then tightening two knurled nuts. (QUALITY ASSURANCE)

c. Remove caps from cable plugs and radio set mount receptacles.

d. Carefully slide radio set fully into mounting plate.

e. Secure radio set to mounting plate by engaging two swing bolts and then tightening two knurled nuts. (QUALITY ASSURANCE)

f. Remove tags and then connect three cable plugs to receptacles J11, J12, and J13 on radio set mount. (QUALITY ASSURANCE)

g. Perform an operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01. (QUALITY ASSURANCE)



**ORGANIZATIONAL MAINTENANCE**

**UHF GUARD RECEIVER**

**TYPE 515F1-1**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 162619 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Radio Set AN/ARC-182 .....	019 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 330	—	AN/ARC-182 UHF/VHF Radio Sets - Installation With "Mobile Sea Range Transponder" Provisions, Incorporation of (ECP 331R1(0))	6/1/85	Effectivity: Aircraft serial no. 162619 and subsequent and those aircraft incorporating AFC 330.

**1. GENERAL.**

2. The UHF Guard Receiver, Type 515F-1 (hereinafter referred to as receiver) (50A10) is associated with Radio Set AN/ARC-182. The receiver is in the equipment compartment, left side. Refer to WP003 00 (figure 2, item 139) for location of receiver.

**3. REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

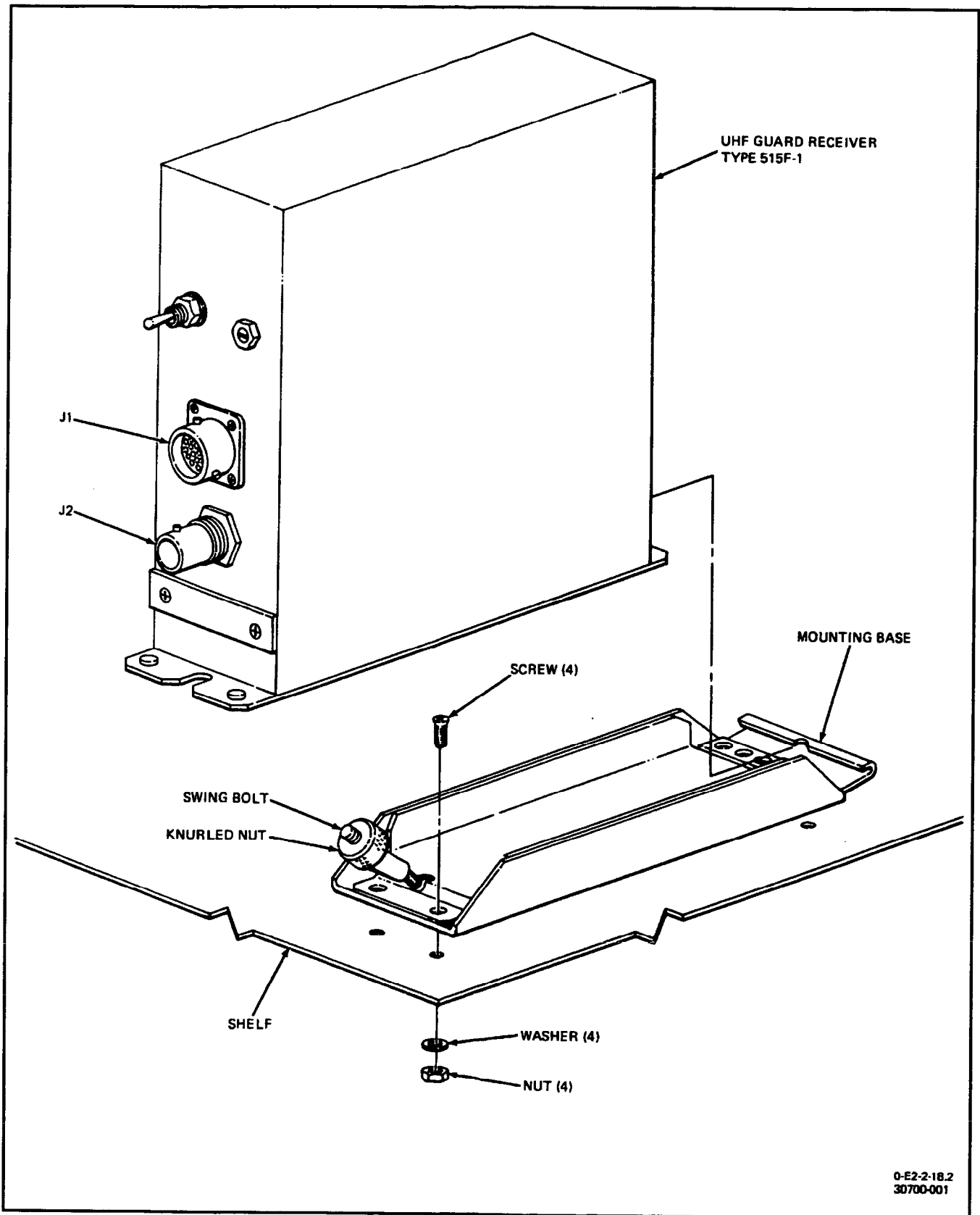


Figure 1. Removal and Installation of UHF Guard Receiver

a. Disconnect two cable plugs from receiver receptacles J1 and J2.

b. Loosen knurled nut and disengage swing bolt securing receiver to mounting base.

c. Carefully remove receiver from mounting base.

d. Cap all cable plugs and receiver receptacles.

e. If it is necessary to remove mounting base, proceed as follows:

(1) Remove four screws, four washers and four nuts, securing mounting base to shelf.

(2) Carefully remove mounting base from shelf.

#### 4. **INSTALLATION.** (Figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**CAUTION**

Inspect plugs and receptacles for damage and bent pins prior to installation.

a. If it is necessary to install mounting base, proceed as follows:

(1) Place mounting base on shelf.

(2) Using four screws, four washers, and four nuts, secure mounting base to shelf.

b. Remove caps from cable plugs and receiver receptacles.

c. Carefully slide receiver fully into mounting base.

d. Secure receiver to mounting base by engaging swing bolt and then tightening knurled nut. (QUALITY ASSURANCE)

e. Connect two cable plugs 50A10P1 and 50A10P2 to receptacles J1 and J2 on receiver. (QUALITY ASSURANCE)

f. Perform an operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01). (QUALITY ASSURANCE)





**ORGANIZATIONAL MAINTENANCE**

**RADIO SET COUPLER CU-2353/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 162619 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Radio Set AN/ARC-182 .....	019 01
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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 330	—	AN/ARC-182 UHF/VHF Radio Sets - Installation With "Mobile Sea Range Transponder" Provisions, Incorporation of (ECP 331R1(0))	6/1/85	Effectivity: Aircraft serial no. 162619 and subsequent and those aircraft incorporating AFC 330.

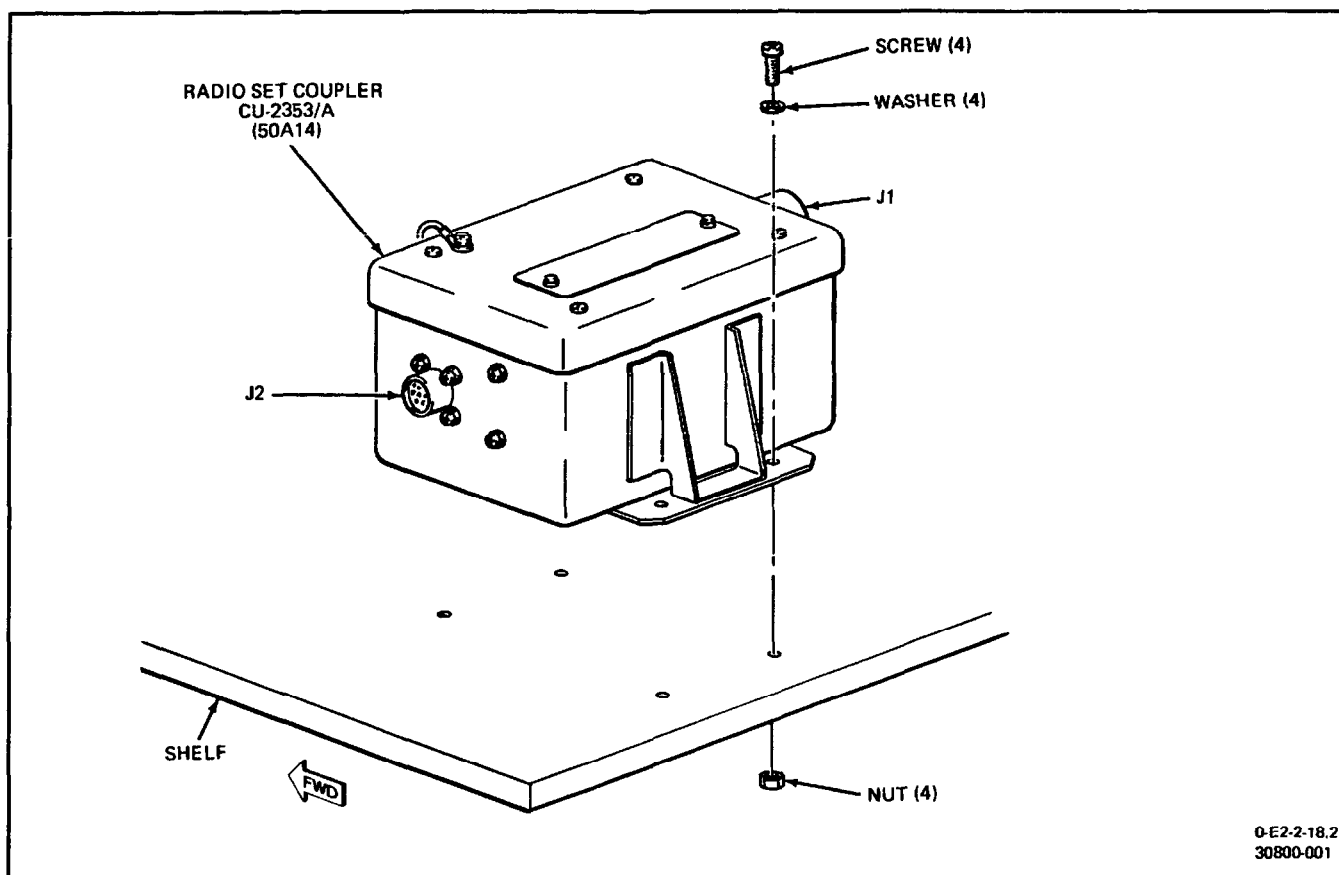
**1. GENERAL.**

2. The Radio Set Coupler CU-2353A (hereinafter referred to as coupler) (50A14) is associated with Radio Set AN/ARC-182. The coupler is in the equipment compartment, right side. Refer to WP003 00 (Figure 3, item 3A) for location of coupler.

**3. REMOVAL. (Figure 1.)**



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



0-E2-2-18.2  
30800-001

**Figure 1. Removal and Installation of Radio Set Coupler CU-2353/A**

a. Disconnect two cable plugs from coupler receptacles J1 and J2.

b. Remove four screws, four washers, and four nuts securing coupler to shelf. Remove coupler.

c. Cap all cable plugs and coupler receptacles.

4. **INSTALLATION.** (Figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**CAUTION**

Inspect plugs and receptacles for damage and bent pins prior to installation.

a. Remove caps from cable plugs and coupler receptacles.

b. Using four screws, four washers, and four nuts, secure coupler to shelf. (QUALITY ASSURANCE)

c. Connect two cable plugs 50A14P1 and 50A14P2 to receptacles J1 and J2 on coupler. (QUALITY ASSURANCE)

d. Perform an operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01). (QUALITY ASSURANCE)

**ORGANIZATIONAL MAINTENANCE**

**RF COAXIAL SWITCHES AND VHF/UHF FILTERS**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 162619 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 330	—	AN/ARC-182 UHF/VHF Radio Sets - Installation With "Mobile Sea Range Transponder" Provisions, Incorporation of (ECP 331R1(0))	6/1/85	Effectivity: Aircraft serial no. 162619 and subsequent and those aircraft incorporating AFC 330.

**1. GENERAL**

2. RF coaxial switches and VHF/UHF filters removed and installed in following procedures, are associated with Radio Set AN/ARC-182. Components associated with each subsystem radio set are located in steps a through c.

a. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, items 126 through 130) for location of radio set VHF/UHF-1 auxiliary RF components.

b. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, items 132 through 136) for location of radio set VHF/UHF-2 auxiliary RF components.

c. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, items 62 through 66) for location of radio set VHF/UHF-6 auxiliary RF components.

3. Support equipment required for maintenance is listed below.

**Support Equipment Required**

Part or Model No.	Nomenclature
CIET-20	Wire Contact Tool

4. **REMOVAL.**



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

5. **RADIO SET VHF/UHF-1 AUXILIARY RF COMPONENTS.** Components associated with radio set VHF/UHF-1 are listed below. To remove components, perform procedures provided in paragraphs 6 through 9. If it is necessary to remove tray assembly for access to a component, perform procedure provided in paragraph 10.

Nomenclature	Reference Designation
RF Coaxial Switch	50A23S1
RF Coaxial Switch	50A23S2
VHF Bandpass Filter	50A23FL1
UHF Band Reject Filter	50A23FL2
UHF Low Pass Filter	50A23FL3

6. **RF Coaxial Switches.** (Figure 1, detail A.) Perform procedures provided in paragraphs 7 and 8.

7. **RF Coaxial Switch 50A23S2.** To remove upper RF coaxial switch (50A23S2), proceed as follows:

a. Remove RF coaxial cable plugs and power cable plug connected to RF coaxial switch. Tag cables to facilitate installation.

b. Disengage four captive fasteners securing RF coaxial switch to support assembly. Remove RF coaxial switch.

c. Cap all cable plugs and receptacles.

8. **RF Coaxial Switch 50A23S1.** To remove lower RF coaxial switch (50A23S1), proceed as follows:

a. Remove tray assembly as described in paragraph 10.

b. Remove the RF coaxial and power cable plugs from both RF coaxial switches. Tag cables to facilitate installation.

c. Remove two screws and two washers securing the overall switch bracket assembly to tray assembly.

d. Remove switch bracket assembly and support assembly (containing RF coaxial switches) as one assembly.

e. Remove four screws and four washers securing the upper support assembly to the lower switch bracket assembly.

f. Disengage four captive fasteners securing RF coaxial switch to switch bracket assembly. Remove RF coaxial switch.

g. Cap all cable plugs and receptacles.

9. **VHF/UHF Filters.** (Figure 1, detail A.)

**Note**

The following procedure applies to each VHF/UHF filter (filter).

a. Remove tray assembly as described in paragraph 10.

b. Remove two cable plugs connected to filter receptacles J1 and J2. Tag cables to facilitate installation.

c. Remove four screws and four washers securing filter to tray assembly. Remove filter.

d. Cap all cable plugs and receptacles.

10. **Tray Assembly.** (Figure 1, detail A.) To remove tray assembly for access to certain VHF/UHF-1 components, proceed as follows:

a. Using wire contact tool (white extraction side), disconnect aircraft side of the wire from terminal junction (module) clamped to the tray assembly.

b. Disconnect RF coaxial cable plug from the IN receptacle on both the lower RF coaxial switch (50A23S1) and upper RF coaxial switch (50A23S1).

c. Tag wire and RF coaxial cables to facilitate installation.

d. Remove three screws securing tray assembly to aircraft structure. Remove tray assembly.

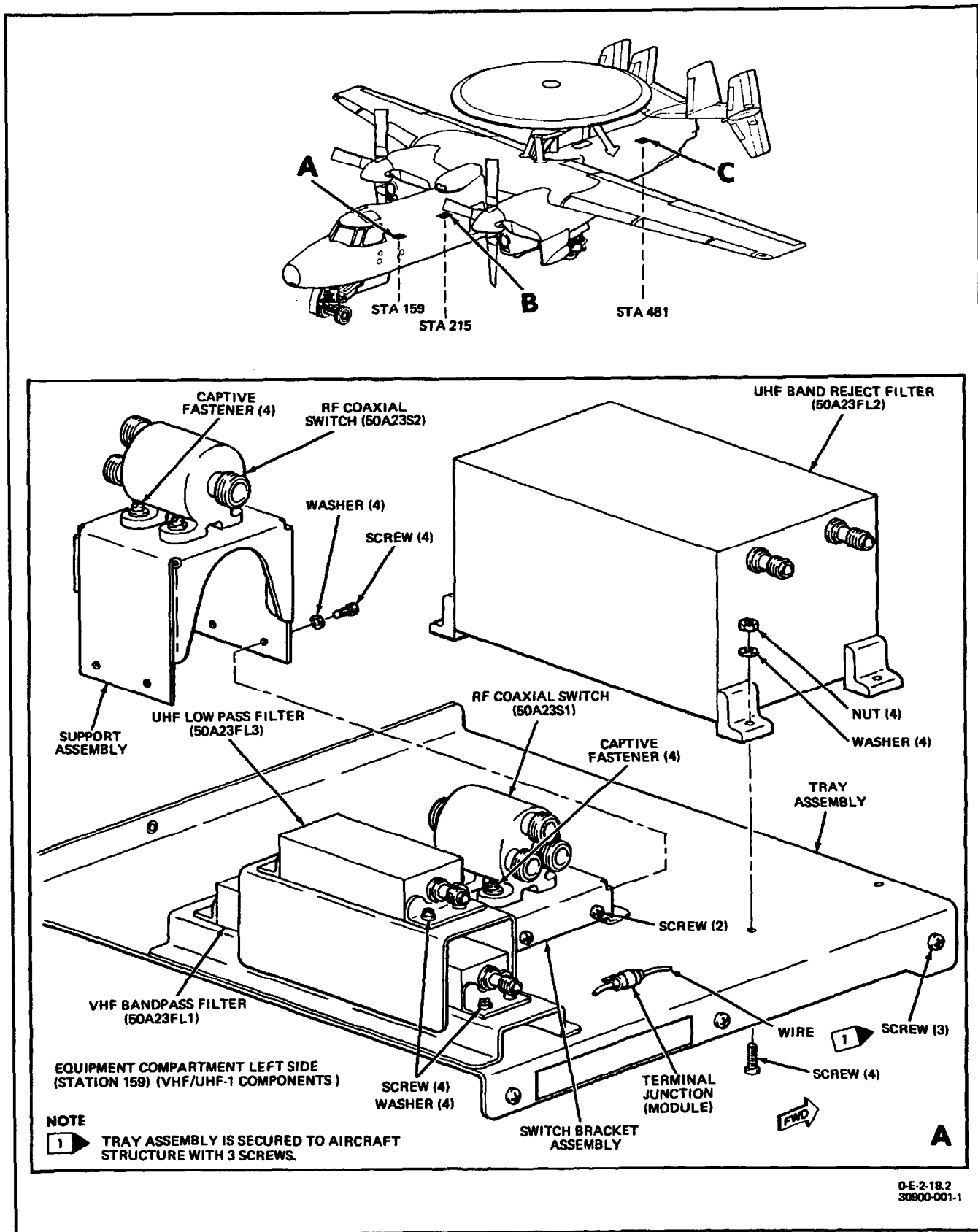


Figure 1. Removal and Installation of Switch and Filters Associated With Radio Set (Sheet 1 of 3)

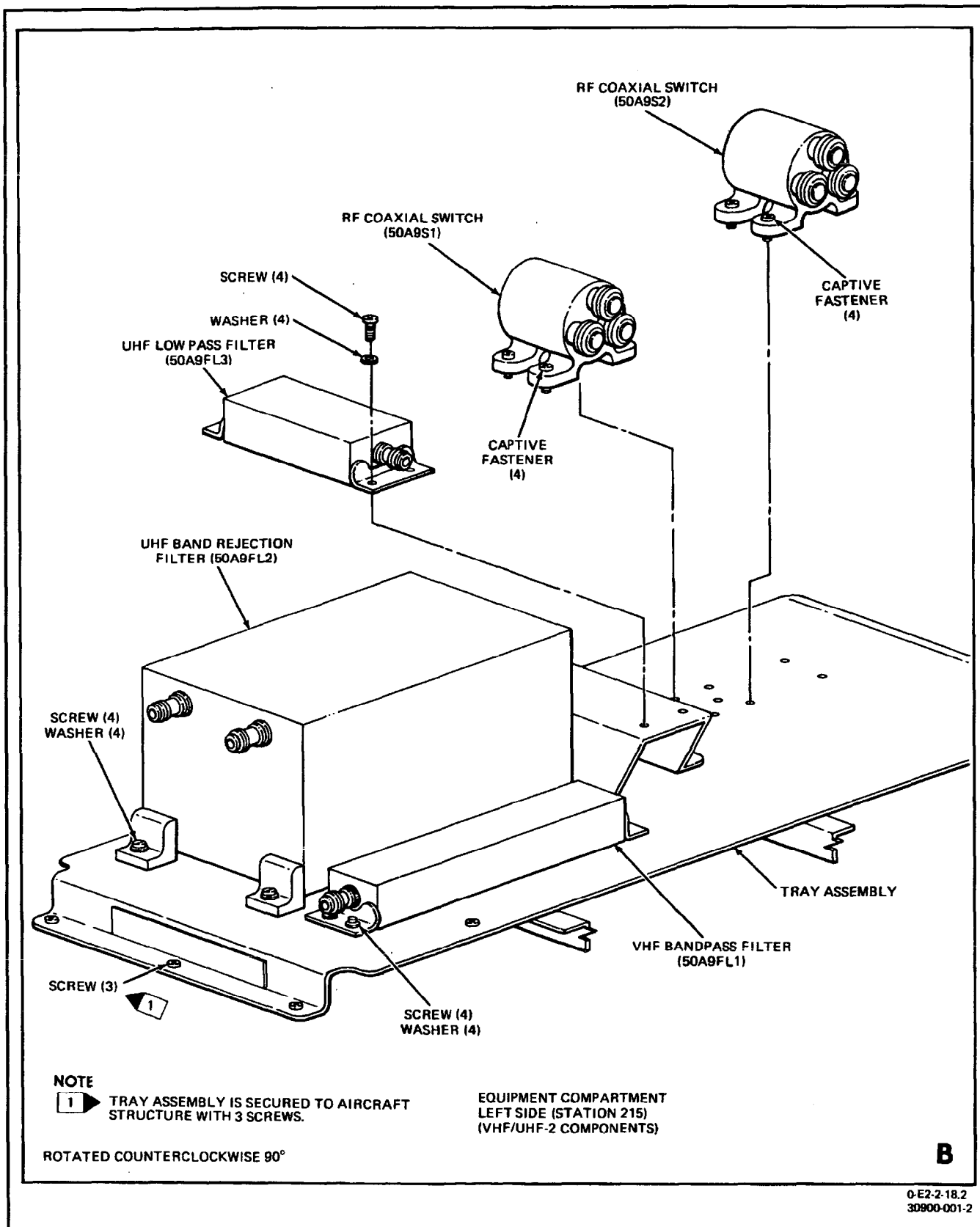


Figure 1. Removal and Installation of Switch and Filters Associated With Radio Set (Sheet 2)

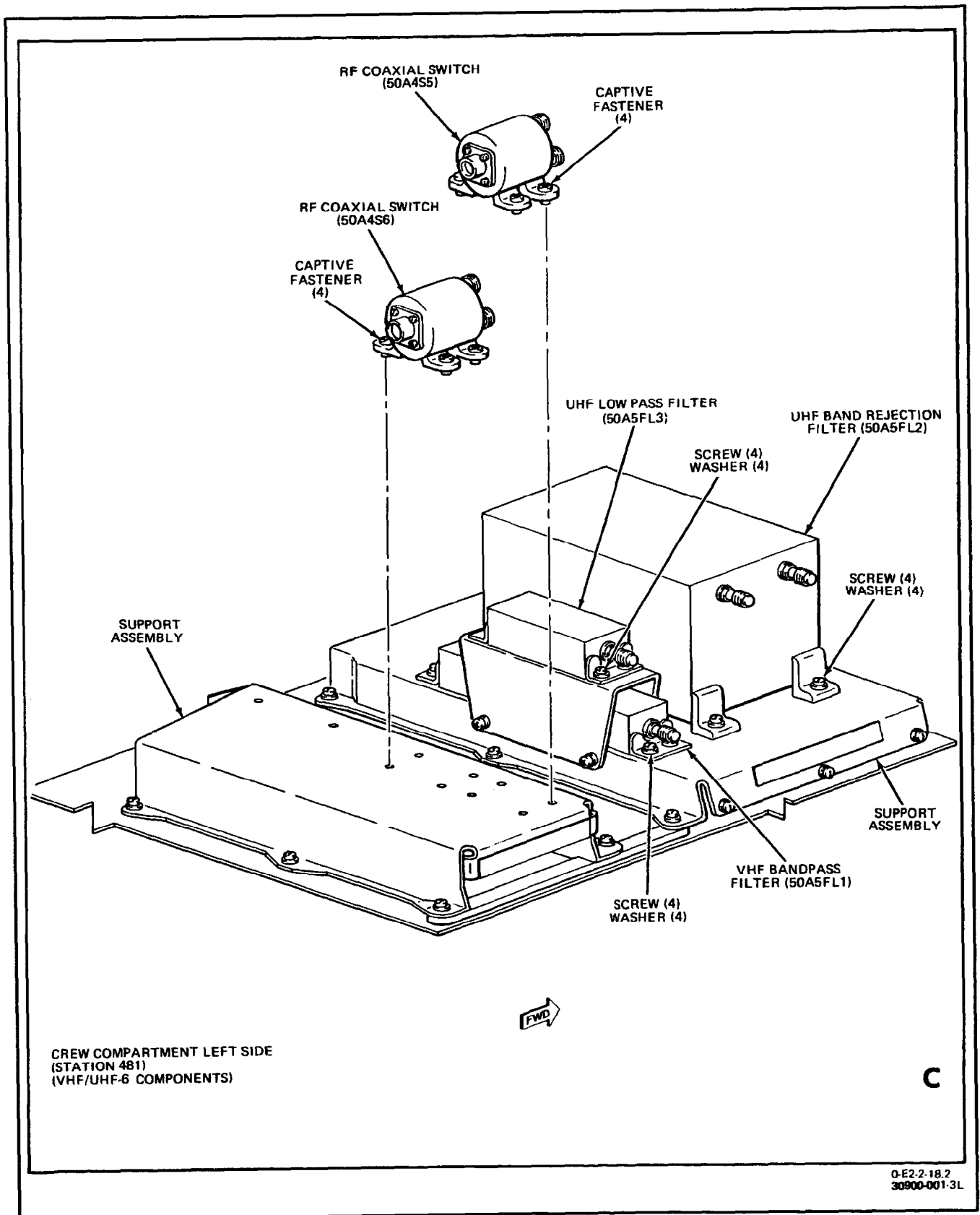


Figure 1. Removal and Installation of Switch and Filters Associated With Radio Set (Sheet 3)

11. **RADIO SET VHF/UHF-2 AUXILIARY RF COMPONENTS.** Components associated with radio set VHF/UHF-2 are listed below. To remove components, perform procedures provided in paragraphs 12 and 13. If it is necessary to remove tray assembly for access to a component, perform procedure provided in paragraph 14.

Nomenclature	Reference Designation
RF Coaxial Switch	50A9S1
RF Coaxial Switch	50A9S2
VHF Bandpass Filter	50A9FL1
UHF Band Reject Filter	50A9FL2
UHF Low Pass Filter	50A9FL3

12. **RF COAXIAL SWITCHES.** (Figure 1, detail B.)

**Note**

The following procedure applies to each RF coaxial switch.

- a. Remove tray assembly as described in paragraph 14.
- b. Remove RF coaxial cable plugs and power cable plug connected to RF coaxial switch. Tag cables to facilitate installation.
- c. Disengage four captive fasteners securing RF coaxial switch to tray assembly. Remove RF coaxial switch.
- d. Cap all cable plugs and receptacles.

13. **VHF/UHF FILTERS.** (Figure 1, detail B.)

**Note**

The following procedure applies to each VHF/UHF filter (filter).

- a. Remove tray assembly as described in paragraph 14.
- b. Remove two cable plugs connected to filter receptacles J1 and J2. Tag cables to facilitate installation.
- c. Remove four screws and four washers securing filter to tray assembly. Remove filter.
- d. Cap all cable plugs and receptacles.

14. **Tray Assembly.** (Figure 1, detail B.) To remove tray assembly for access to certain VHF/UHF-2 components, proceed as follows:

- a. Using wire contact tool (white extraction side), disconnect aircraft side of the power wire from terminal junction (module) clamped to tray assembly.
- b. Disconnect RF coaxial cable plug from the IN receptacle on both RF coaxial switches (50A9S1 and 50A9S2).
- c. Tag wire and RF coaxial cables to facilitate installation.
- d. Remove three screws securing tray assembly to aircraft structure. Slide tray assembly (inboard) out of aircraft structure.

15. **RADIO SET VHF/UHF-6 AUXILIARY RF COMPONENTS.** Components associated with radio set VHF/UHF-6 are listed below. To remove components, perform procedures provided in paragraphs 16 and 17.

Nomenclature	Reference Designation
RF Coaxial Switch	50A4S5
RF Coaxial Switch	50A4S6
VHF Bandpass Filter	50A5FL1
UHF Band Reject Filter	50A5FL2
UHF Low Pass Filter	50A5FL3

16. **RF COAXIAL SWITCHES.** (Figure 1, detail C.)

**Note**

The following procedure applies to each RF coaxial switch.

- a. Remove three RF coaxial cable plugs and power cable plug connected to RF coaxial switch. Tag wires to facilitate installation.
- b. Disengage four captive fasteners securing RF coaxial switch to support assembly. Remove RF coaxial switch.
- c. Cap all cable plugs and receptacles.

17. **VHF/UHF FILTERS.** (Figure 1, detail C.)

**Note**

The following procedure applies to each VHF/UHF filter (filter).

- a. Remove two RF cable plugs connected to filter receptacles J1 and J2. Tag cables to facilitate installation.
- b. Remove four screws and four washers securing filter to support assembly. Remove filter.



- c. Cap all cable plugs and receptacles.

## 18. INSTALLATION.

### WARNING

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

### CAUTION

Inspect cable plugs and component receptacles for damage and bent pins prior to installation.

19. **RADIO SET VHF/UHF-1 AUXILIARY RF COMPONENTS.** To install components associated with radio set VHF/UHF-1, perform procedures provided in paragraphs 20 through 23. If it was necessary to have removed tray assembly for access to a component, perform procedure provided in paragraph 24.

20. **RF Coaxial Switches.** (Figure 1, detail A.) Perform procedures provided in paragraphs 21 and 22.

21. **RF Coaxial Switch 50A23S1.** To install lower RF coaxial switch (50A23S1), proceed as follows:

- a. Remove caps from cable plugs and receptacles.

- b. Install RF coaxial switch to switch bracket assembly by engaging four captive fasteners.

- c. Using four screws and four washers, secure the upper support assembly to the lower switch bracket assembly.

- d. Using two screws and two washers, secure the overall switch bracket assembly to tray assembly.

- e. Connect tray assembly RF coaxial and power cable plugs to both RF coaxial switches and then remove tags.

- f. Install tray assembly as described in paragraph 24.

- g. Perform appropriate operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01).

22. **RF Coaxial Switch 50A23S2.** To install upper RF coaxial switch (50A23S2), proceed as follows:

- a. Remove caps from cable plugs and receptacles.

- b. Install RF coaxial switch to support assembly by engaging four captive screws.

- c. Connect RF coaxial and power cable plugs to RF coaxial switch and then remove tags.

- d. Perform appropriate operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01).

23. **VHF/UHF Filters.** (Figure 1, detail A.)

#### Note

The following procedure applies to each VHF/UHF filter (filter).

- a. Remove caps from cable plugs and receptacles.

- b. Using four screws and four washers, install filter to tray assembly.

- c. Connect appropriate cable plugs to filter receptacles J1 and J2 and then remove tags.

- d. Install tray assembly as described in paragraph 24.

- e. Perform appropriate operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01).

24. **Tray Assembly.** (Figure 1, detail A.) To install tray assembly, proceed as follows:

- a. Using three screws, install tray assembly to aircraft structure.

- b. Connect appropriate RF cable plug to IN receptacle on both the lower RF coaxial switch (50A23S1) and upper RF coaxial switch (50A23S2).

- c. Using wire contact tool (red insertion side), install aircraft side of wire to terminal junction (module) clamped to tray assembly.

- d. Remove tags from wire and RF coaxial cables.

25. **RADIO SET VHF/UHF-2 AUXILIARY RF COMPONENTS.** To install components associated with radio set VHF/UHF-2, perform procedures provided in paragraphs 26 and 27. If it was necessary to remove tray assembly for access to a component, perform procedure provided in paragraph 28.

**26. RF COAXIAL SWITCHES.** (Figure 1, detail B.)**Note**

The following procedure applies to each RF coaxial switch.

- a. Remove caps from cable plugs and receptacles.
- b. Install RF coaxial switch to tray assembly by engaging four captive fasteners.
- c. Connect RF coaxial and power cable plugs to RF coaxial switch and then remove tags.
- d. Install tray assembly as described in paragraph 28.
- e. Perform appropriate operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01).

**27. VHF/UHF FILTERS.** (Figure 1, detail B.)**Note**

The following procedure applies to each VHF/UHF filter (filter).

- a. Remove caps from cable plugs and receptacles.
- b. Using four screws and four washers, install filter to tray assembly.
- c. Connect appropriate cable plugs to filter receptacles J1 and J2 and then remove tags.
- d. Install tray assembly as described in paragraph 28.
- e. Perform appropriate operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01).

**28. Tray Assembly.** (Figure 1, detail B.) To install tray assembly, proceed as follows:

- a. Slide tray assembly into aircraft structure. Secure tray assembly to aircraft structure with three screws.

- b. Connect appropriate RF cable plug to IN receptacle on each RF coaxial switch (50A9S1 and 50A9S2).

- c. Using wire contact tool (red insertion side), install aircraft side of wire to terminal junction (module) clamped to tray assembly.

- d. Remove tags from wire and RF coaxial cables.

**29. RADIO SET VHF/UHF-6 AUXILIARY RF COMPONENTS.** To install components associated with radio set VHF/UHF-6, perform procedures provided in paragraphs 30 and 31.**30. RF COAXIAL SWITCHES.** (Figure 1, detail C.)**Note**

The following procedure applies to each RF coaxial switch.

- a. Remove caps from cable plugs and receptacles.

- b. Install RF coaxial switch to support assembly by engaging four captive fasteners.

- c. Connect RF coaxial and power cable plugs to RF coaxial switch and then remove tags.

- d. Perform appropriate operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01).

**31. VHF/UHF FILTERS.** (Figure 1, detail C.)**Note**

The following procedure applies to each VHF/UHF filter (filter).

- a. Remove caps from cable plugs and receptacles.

- b. Using four screws and four washers, install filter to support assembly.

- c. Connect appropriate cable plugs to filter receptacles J1 and J2 and then remove tags.

- d. Perform appropriate operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01).

**ORGANIZATIONAL MAINTENANCE**

**UHF GUARD BANDPASS FILTER**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 162619 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Radio Set AN/ARC-182 .....	019 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 330	—	AN/ARC-182 UHF/VHF Radio Sets - Installation With "Mobile Sea Range Transponder" Provisions, Incorporation of (ECP 331R1(0))	6/1/85	Effectivity: Aircraft serial no. 162619 and subsequent and those aircraft incorporating AFC 330.

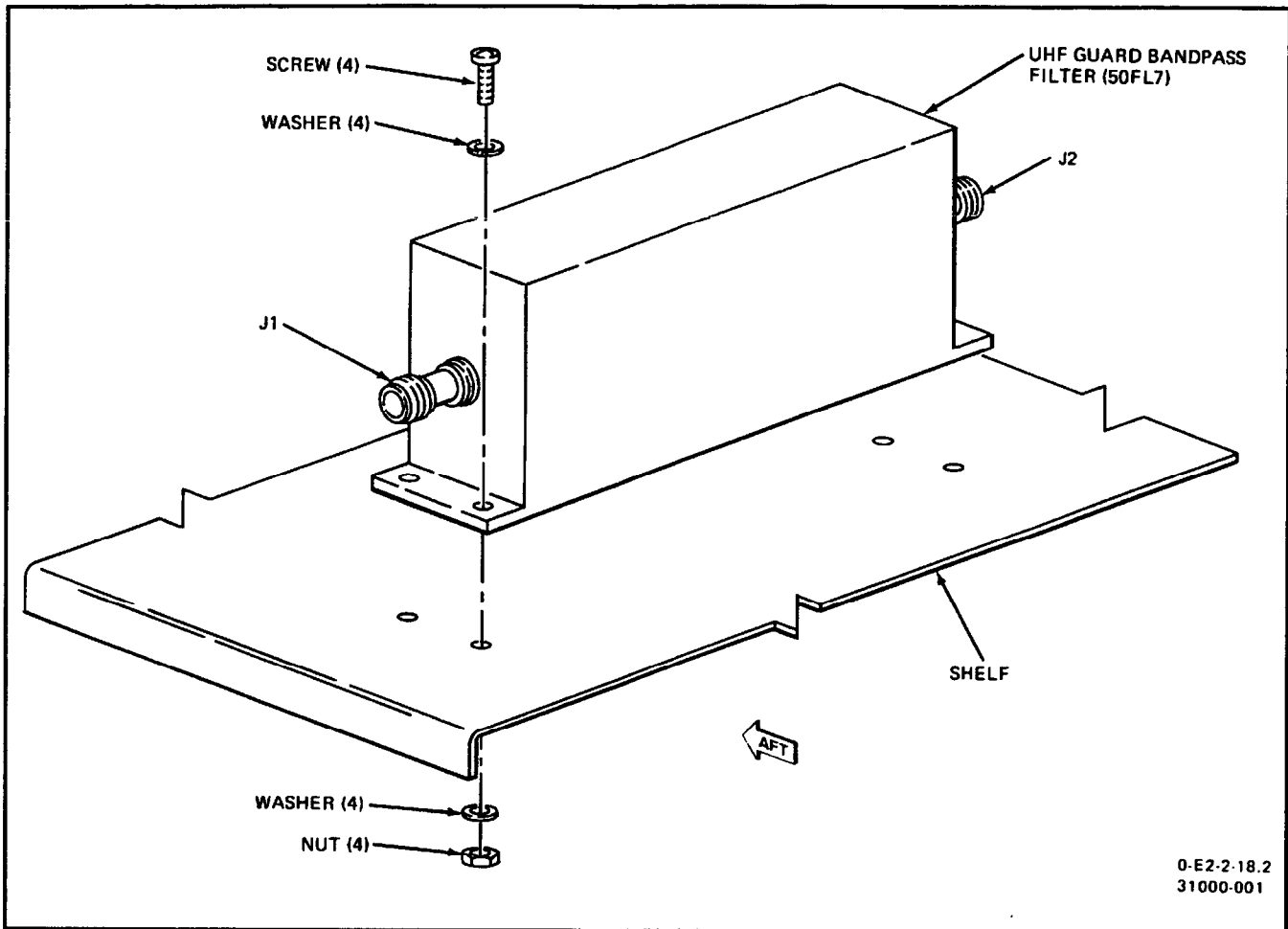
**1. GENERAL.**

2. The UHF Guard Bandpass Filter (hereinafter referred to as filter) (50FL7) is used in conjunction with the UHF Guard Receiver, Type 515F-1 (associated with Radio Set AN/ARC-182). The filter is in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 138) for location of filter.

**3. REMOVAL.** (Figure 1.)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



**Figure 1. Removal and Installation of UHF Guard Bandpass Filter**

a. Disconnect two RF coaxial cable plugs from filter receptacles J1 and J2.

b. Remove four screws, eight washers, and four nuts securing filter to support. Remove filter.

c. Cap two cable plugs and filter receptacles J1 and J2.

**4. INSTALLATION.** (Figure 1.)

**WARNING**

Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**CAUTION**

Inspect cable plugs and component receptacles for damage and bent pins prior to installation.

a. Remove caps from cable plugs and filter receptacles.

b. Using four screws, eight washers, and four nuts, install filter to support.

c. Connect RF coaxial cable plugs 50FL7P1 and 50FL7P2 to filter receptacles J1 and J2, respectively.

d. Perform the appropriate operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1, WP019 01).

**ORGANIZATIONAL MAINTENANCE**

**ANTENNAS ASSOCIATED WITH RADIO SET AN/ARC-182**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 162619 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Radio Set AN/ARC-182 .....	019 01
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 330	—	AN/ARC-182 UHF/VHF Radio Sets - Installation With "Mobile Sea Range Transponder" Provisions, Incorporation of (ECP 331R1(0))	6/1/85	Effectivity: Aircraft Serial No. 162619 and Subsequent and Those Aircraft Incorporating AFC 330.

1. GENERAL.

2. Four Antennas (50E1,50E2, 50E3 and 50E4), associated with Radio Set AN/ARC-182, are located on the bottom of the aircraft. Antenna associated with each radio set is identified and located in steps a through d.

a. Refer to figure 1, detail A for location of UHF Guard Antenna 50E4.

b. Refer to figure 1, detail B for location of VHF/UHF-1 Antenna 50E1.

c. Refer to figure 1, detail C for location of VHF/UHF-2 Antenna 50E2.

d. Refer to figure 1, detail D for location of VHF/UHF-6 Antenna 50E3.

3. REMOVAL.

4. Support equipment required for maintenance is listed below.

Support Equipment Required

Part or Model No.	Nomenclature
—	Plastic Tool (containing a knife edge)



Insure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2AAA-2-1, WP027 00).



Flat washers are used between the antenna base and aircraft skin to compensate for contour. As an aid to installation, record amount and location of flat washers.

5. UHF GUARD ANTENNA 50E4. (Figure 1, detail A.)

a. Remove lockwire securing cable plug to antenna receptacle J1.

b. Disconnect cable plug from antenna receptacle J1.

c. Remove 8 screws, 8 nuts, and 16 washers securing antenna to aircraft.

d. Using the knife edge of plastic tool, carefully cut away sealant at the antenna base.

e. Remove antenna from aircraft.

f. Cap cable plug and receptacle.

6. VHF/UHF-1 ANTENNA 50E1. (Figure 1, detail B.)

a. For access to cable plug, remove floorboard directly above antenna (approximate station 444).

b. Remove lockwire securing cable plug.

c. Disconnect cable plug from antenna receptacle J1.

d. Remove six screws securing antenna to aircraft.

e. Using the knife edge of plastic tool, carefully cut away sealant at the antenna base.

f. Remove antenna from aircraft.

g. Cap cable plug and receptacle.

7. VHF/UHF-2 ANTENNA 50E2. (Figure 1, detail C.)

a. For access to cable plug, remove floorboard directly above antenna (approximate station 241).

b. Remove lockwire securing cable plug.

c. Disconnect cable plug from antenna receptacle J1.

d. Remove six screws securing antenna to aircraft.

e. Using the knife edge of plastic tool, carefully cut away sealant at the antenna base.

f. Remove antenna from aircraft.

g. Cap cable plug and receptacle.

8. VHF/UHF-6 ANTENNA 50E3. (Figure 1, detail D.)

a. For access to cable plug, remove floorboard directly above antenna (approximate station 376).

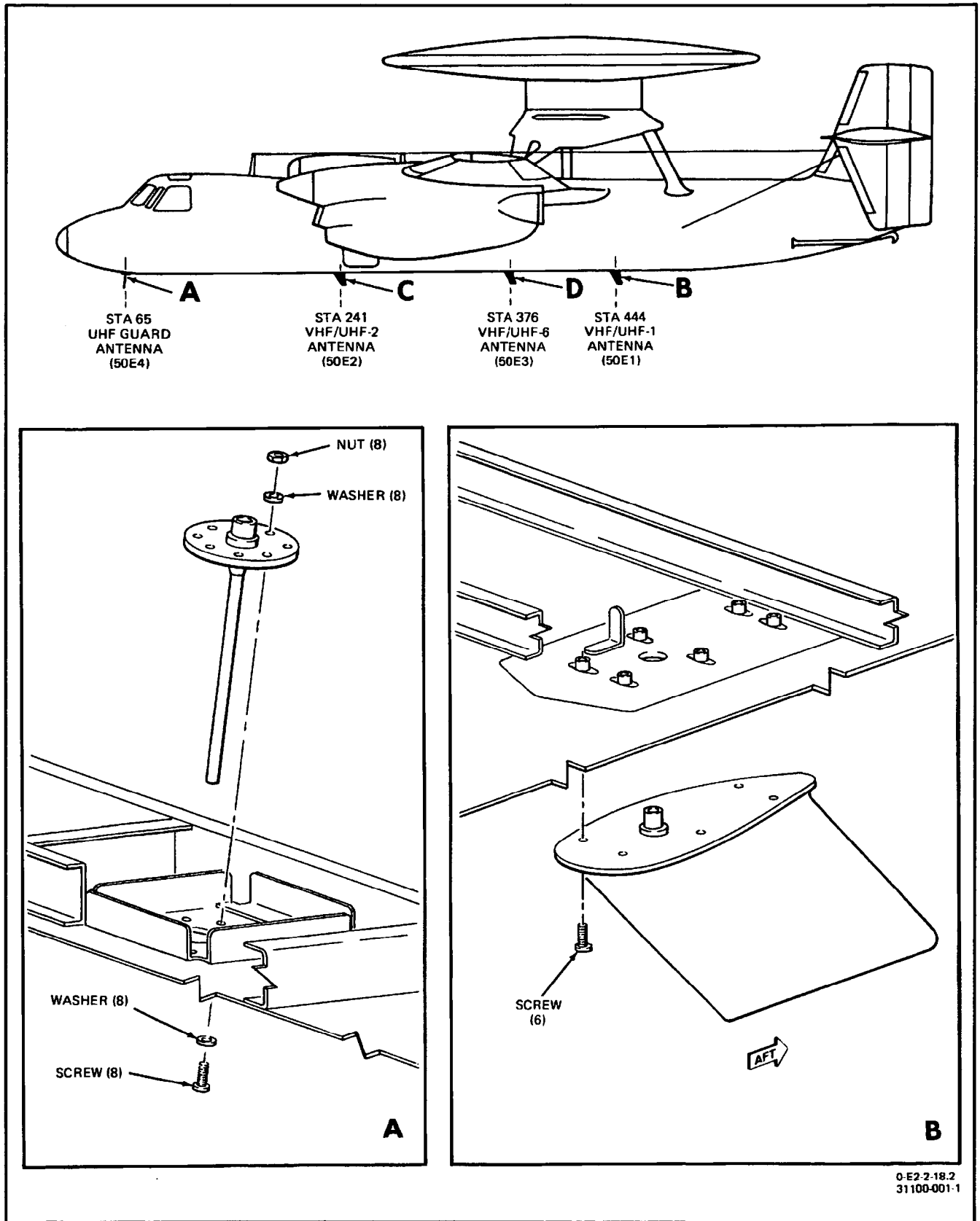


Figure 1. Removal and Installation of Antennas (Sheet 1 of 2)

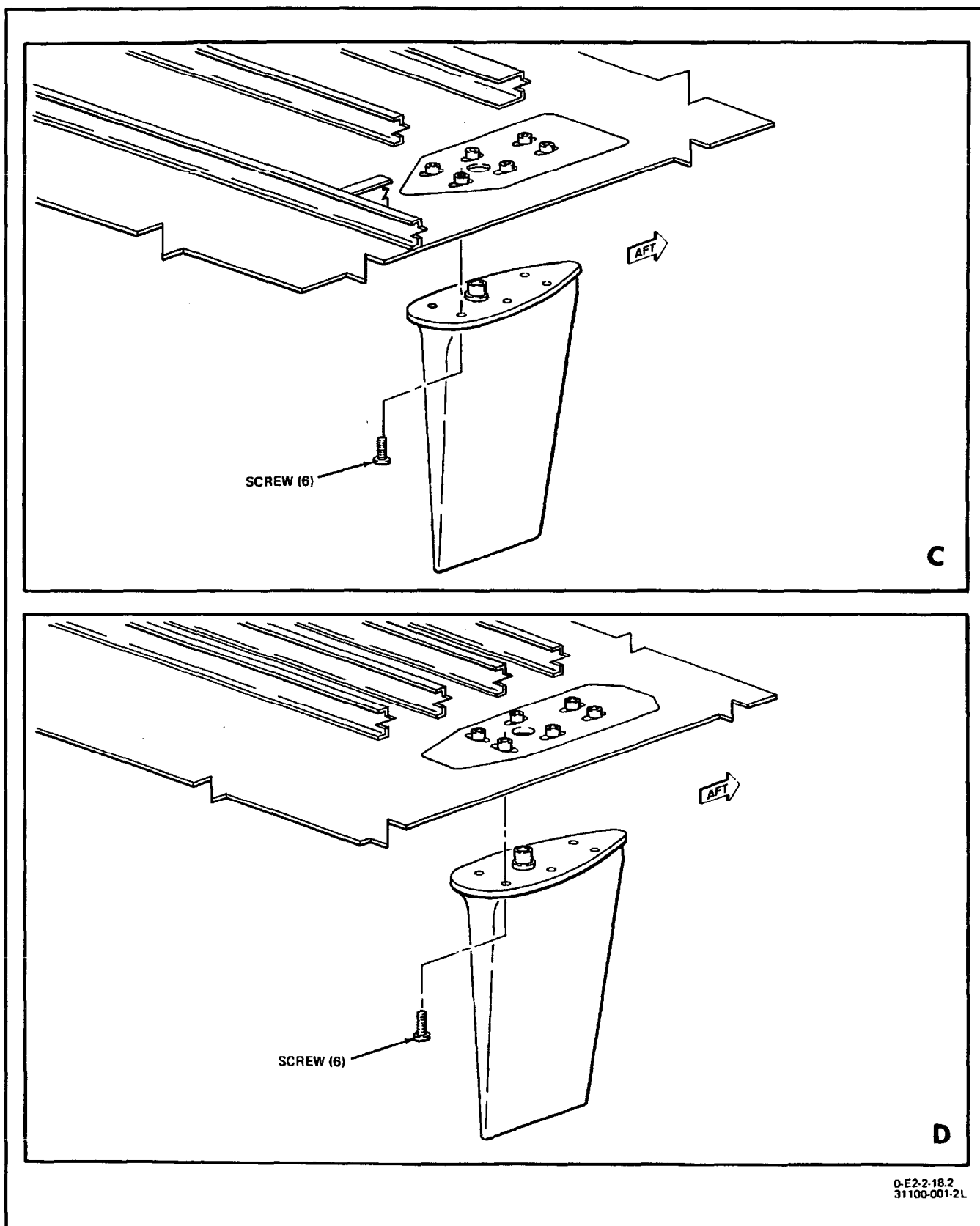


Figure 1. Removal and Installation of Antennas (Sheet 2)



- b. Remove lockwire securing cable plug.
- c. Disconnect cable plug from antenna receptacle J1.
- d. Remove six screws securing antenna to aircraft.
- e. Using the knife edge of plastic tool, carefully cut away sealant at the antenna base.
- f. Remove antenna from aircraft.
- g. Cap cable plug and receptacle.

9. INSTALLATION.

**Materials Required**

Specification or Part Number	Nomenclature
MIL-S-8802E	Sealing Compound (Sealant)
TT-I-735	Isopropyl Alcohol
AN960D10L	Flat Washers (A/R)
MS20995NC32	Lockwire

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

10. UHF GUARD ANTENNA 50E4. (Figure 1, detail A.)

**WARNING**

Isopropyl alcohol, TT-I-735, is toxic and flammable. Protection: chemical splashproof goggles and forced ventilation (or respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

- a. Carefully clean sealant residue from aircraft antenna mounting surface with isopropyl alcohol.

**WARNING**

Sealant, MIL-S-8802, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed; keep sparks, flames, and heat away; keep sealant off skin, eyes, and clothes; do not breathe vapors.

- b. Apply a 3/16-inch bead of sealant around base of antenna receptacle and around hole in aircraft antenna mounting surface. (QUALITY ASSURANCE)

- c. Apply a 3/16-inch bead of sealant around junction of antenna element and base of antenna. (QUALITY ASSURANCE)

- d. Remove caps from cable plug and antenna receptacle.

- e. Using 8 screws, 8 nuts, and 16 washers (and appropriate amount of flat washers (AN960D10L) used to obtain contour), install antenna to aircraft. (QUALITY ASSURANCE)

**CAUTION**

Inspect cable plug and receptacle for damage and bent pins prior to installation.

- f. Connect cable plug 50E4P1 to antenna receptacle J1 and secure with lockwire. (QUALITY ASSURANCE)

**WARNING**

Sealant, MIL-S-8802, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed; keep sparks, flames, and heat away; keep sealant off skin, eyes, and clothes; do not breathe vapors.

- g. Fill in space between aircraft skin and antenna base with sealant. (QUALITY ASSURANCE)

- h. Perform an operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1.1, WP019 01).

11. VHF/UHF-1 ANTENNA 50E1. (Figure 1, detail B.)

**WARNING**

Isopropyl alcohol, TT-I-735, is toxic and flammable. Protection: chemical splash-proof goggles and forced ventilation (or respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

- a. Carefully clean sealant residue from aircraft antenna mounting surface with isopropyl alcohol.
- b. Apply a 3/16-inch bead of sealant around base of antenna receptacle and around hole in aircraft mounting surface. (QUALITY ASSURANCE)
- c. Using six screws (and appropriate amount of flat washers (AN960D10L) used to obtain contour) install antenna to aircraft. (QUALITY ASSURANCE)
- d. Fill in space between aircraft skin and antenna base with sealant. (QUALITY ASSURANCE)
- e. Remove caps from cable plug and antenna receptacle.

**CAUTION**

Inspect cable plug and antenna receptacle for damage and bent pins prior to installation.

- f. Connect cable plug 50E1P1 to antenna receptacle J1 and secure with lockwire. (QUALITY ASSURANCE)
- g. Perform an operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1.1, WP019 01).
- h. Install floorboard.

12. VHF/UHF-2 ANTENNA 50E2. (Figure 1, detail C.)

**WARNING**

Isopropyl alcohol, TT-I-735, is toxic and flammable. Protection: chemical splash-proof goggles and forced ventilation (or respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

a. Carefully clean sealant residue from aircraft antenna mounting surface with isopropyl alcohol.

b. Apply a 3/16-inch bead of sealant around base of antenna receptacle and around hole in aircraft mounting surface. (QUALITY ASSURANCE)

c. Using six screws (and appropriate amount of flat washers (AN960D10L) used to obtain contour) install antenna to aircraft. (QUALITY ASSURANCE)

d. Fill in space between aircraft skin and antenna base with sealant. (QUALITY ASSURANCE)

e. Remove caps from cable plug and antenna receptacle.

**CAUTION**

Inspect cable plug and antenna receptacle for damage and bent pins prior to installation.

f. Connect cable plug 50E2P1 to antenna receptacle J1 and secure with lockwire. (QUALITY ASSURANCE)

g. Perform an operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1.1, WP019 01).

h. Install floorboard.

13. VHF/UHF-6 ANTENNA 50E3. (Figure 1, detail D.)

**WARNING**

Isopropyl alcohol, TT-I-735, is toxic and flammable. Protection: chemical splash-proof goggles and forced ventilation (or respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

a. Carefully clean sealant residue from aircraft antenna mounting surface with isopropyl alcohol.

b. Apply a 3/16-inch bead of sealant around base of antenna receptacle and around hole in aircraft mounting surface. (QUALITY ASSURANCE)

c. Using six screws (and appropriate amount of flat washers (AN960D10L) used to obtain contour) install antenna to aircraft. (QUALITY ASSURANCE)

d. Fill in space between aircraft skin and antenna base with sealant. (QUALITY ASSURANCE)

e. Remove caps from cable plug and antenna receptacle.

**CAUTION**

Inspect cable plug and antenna receptacle for damage and bent pins prior to installation.

f. Connect cable plug 50E3P1 to antenna receptacle J1 and secure with lockwire. (QUALITY ASSURANCE)

g. Perform an operational check of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1.1, WP019 01).

h. Install floorboard.

**14. REPAIR OF VHF/UHF-2 (50E2) OR VHF/UHF-6 (50E3) ANTENNA.**

15. This procedure is provided for repair of a delaminated VHF/UHF-2 (50E2) or VHF/UHF-6 (50E3) antenna.

**Materials Required**

Specification or Part Number	Nomenclature
MIL-C-43616C	Cleaning Compound
TT-1-735	Isopropyl Alcohol
39-80055-31 (Syon)	Fiberglass Adhesive Kit
—	Fiberglass Strands
—	Plastic Sheet
—	Sand Paper

**WARNING**

Cleaning compound, MIL-C-43616C, is combustible. Avoid contact with all ignition sources (heat, sparks, flames). Mix and apply cleaning compound under local exhaust ventilation and/or wear proper respiratory protection (half-facepiece respirator mask with organic vapor cartridges). Prevent eye and skin contact. Wear neoprene or nitrile gloves, apron, boots, and chemical splashproof goggles with faceshield. Practice good personal hygiene. Provide emergency eyewash station in immediate area for first aid purposes. Do not contact or store with strong bases or acids. Do not add nitrite based materials to cleaning compound. Store in closed container between 32°F and 120°F away from strong oxidizers.

**WARNING**

Isopropyl alcohol, TT-1-735, is toxic and flammable. Protection: chemical splash-proof goggles and forced ventilation (or respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

a. Clean entire surface of antenna to be repaired with MIL-C-43616C cleaning compound. Follow with a thorough wiping with isopropyl alcohol and allow to dry completely.

**CAUTION**

Use caution when tightening the vise to prevent further damage to the antenna.

b. Clamp blade antenna between two pieces of wood to protect the surface. Place in a vise and clamp down. Do not clamp the delaminated areas.

**WARNING**

Fiberglass adhesive kit, Syon 039-80055-031, is toxic. Mix, apply and sand under local exhaust ventilation and/or wear proper respiratory protection (half-facepiece respirator mask with dust pre-filters and organic vapor cartridges). Prevent eye and skin contact. Wear chemical resistant gloves and chemical splash-proof goggles. Practice good personal hygiene. Provide emergency eyewash station in immediate area for first aid purposes. Do not contact or store adhesive kit with strong oxidizing agents and strong Lewis or mineral acids.

c. Mix fiberglass adhesive kit thoroughly in tube and bag assembly. Read instructions on card provided to ensure this is done correctly.

(1) Allow resin to set in bag approximately 15 to 30 minutes.

(2) After resin has reached the proper consistency, cut a small opening in the corner of the bag.

(3) Using a non-metallic scraper, gently open delaminated area and pour 1/4 to 1/2 of the resin into it.

(4) Cut fiberglass strands into small lengths and mix with remaining resin.

(5) Again using non-metallic scraper, work the mixture into the delaminated area until it is completely filled.

(6) Allow mixture to set until the resin becomes tacky.

d. The antenna must be clamped down to hold it in its original shape during the resin curing process.

(1) Prepare the plastic sheet by applying a thin film of hand cleaner to the side that will be in contact with the antenna and resin. This will prevent the plastic sheet from adhering to the resin.

(2) Place the plastic sheet over the delaminated area and clamp down using a C clamp and two

pieces of wood. Adjust the plastic sheet to properly form the resin into the shape of the antenna.

(3) Ensure the delaminated area is clamped so that it is completely closed.

(4) Allow the antenna to cure for 72 hours.

(5) Remove the C-clamp and plastic sheet.

(6) Carefully file and sand the excess resin from the antenna to form it into its original shape.

e. The antenna is ready for painting. Paint in accordance with NAVAIR 01-E2AAA-3-1.1, WP007 00 or WP007 50.

f. Perform procedure for testing delaminated VHF/UHF-2 or VHF/UHF-6 blade antenna (NAVAIR 01-E2AAA-2-17.1.1, WP019 01).

ORGANIZATIONAL MAINTENANCE

RECEIVER FILTER COMPARATOR R-2284/APS-139

EFFECTIVITY: AIRCRAFT SERIAL NO. 163029 AND SUBSEQUENT

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6
Radar Set AN/APS-139 .....	035 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Pars, Assemblies and Equipment .....	DOD-HDBK-263

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—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP329)	4/1/88	Effectivity: Aircraft serial no. 163029 and subsequent. ECP Coverage Only.

1. GENERAL.

2. The Receiver Filter Comparator R-2284/APS-139 (hereinafter referred to as the comparator) (39A52) is part of Radar Set AN/APS-139. The comparator is in the equipment compartment, right side. Refer to (NAVAIR 01-E2AAA-2-18.1, WP003 00) figure 3, item 54 for location of comparator. Support equipment required for maintenance is listed below.

Support Equipment Required

Part or Model No.	Nomenclature
5 to 150 inch-pounds	Torque Wrench

3. REMOVAL. (Figure 1.)

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.



Equipment is electrostatic discharge (ESD) sensitive and special handling is required. Refer to DOD-HDBK-263.

c. Move protective cover away from comparator and secure (using suitable method).

d. Remove cable connectors from comparator receptacles 52J1, 52J2, 52J4 through 52J15, 52J18 and 52J20.

e. Loosen six locknuts and disengage three swing bolts securing comparator to electrical equipment rack.



Carefully remove comparator to prevent damage to electrical equipment rack plenum gasket.

f. Slowly pull comparator forward until three guide pins are disengaged. Remove comparator from electrical equipment rack mounting rails.

g. Cap all connectors, receptacles and holes in electrical equipment rack air vent.

4. **INSTALLATION.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.



Equipment is electrostatic discharge (ESD) sensitive and special handling is required. Refer to DOD-HDBK-263.

c. Remove caps from connectors, receptacles and holes in electrical equipment rack air vent.



Inspect connectors and receptacles for damage and bent pins prior to installation.

Carefully install comparator to prevent damage to electrical equipment rack plenum gasket.

d. Carefully place comparator on electrical equipment rack mounting rails and push backward (insuring

that comparator does not touch plenum gasket) until three guide pins engage comparator.

e. Secure comparator to electrical equipment rack by engaging three swing bolts and, using torque wrench, torque three inner locknuts to 140±10 inch-pounds. Secure inner locknuts with outer locknuts. (QUALITY ASSURANCE)

f. Connect cable connectors to comparator receptacles as listed in table 1, insuring that they are fully seated before proceeding:

g. Allow protective cover to return to closed position.

h. Perform operational check of Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00).

TABLE 1. CABLE CONNECTIONS

Comparator Receptacle	Cable Connector (and existing connections)
52J1	52P1
52J2	52P2
52J3	(Capped)
52J4	52P4
52J5	52P5
52J6	39A52P6
52J7	39A52P7
52J8	39A52P8
52J9	39A52P9
52J10	39A52P10
52J11	39A52P11
52J12	39A52P12
52J13	39A52P13
52J14	39A52P14
52J15	39A52P15
52J16	(Capped)
52J17	(Attenuator 52AT4)
52J18	52P18
52J19	(Attenuator 52AT3)
52J20	52P20

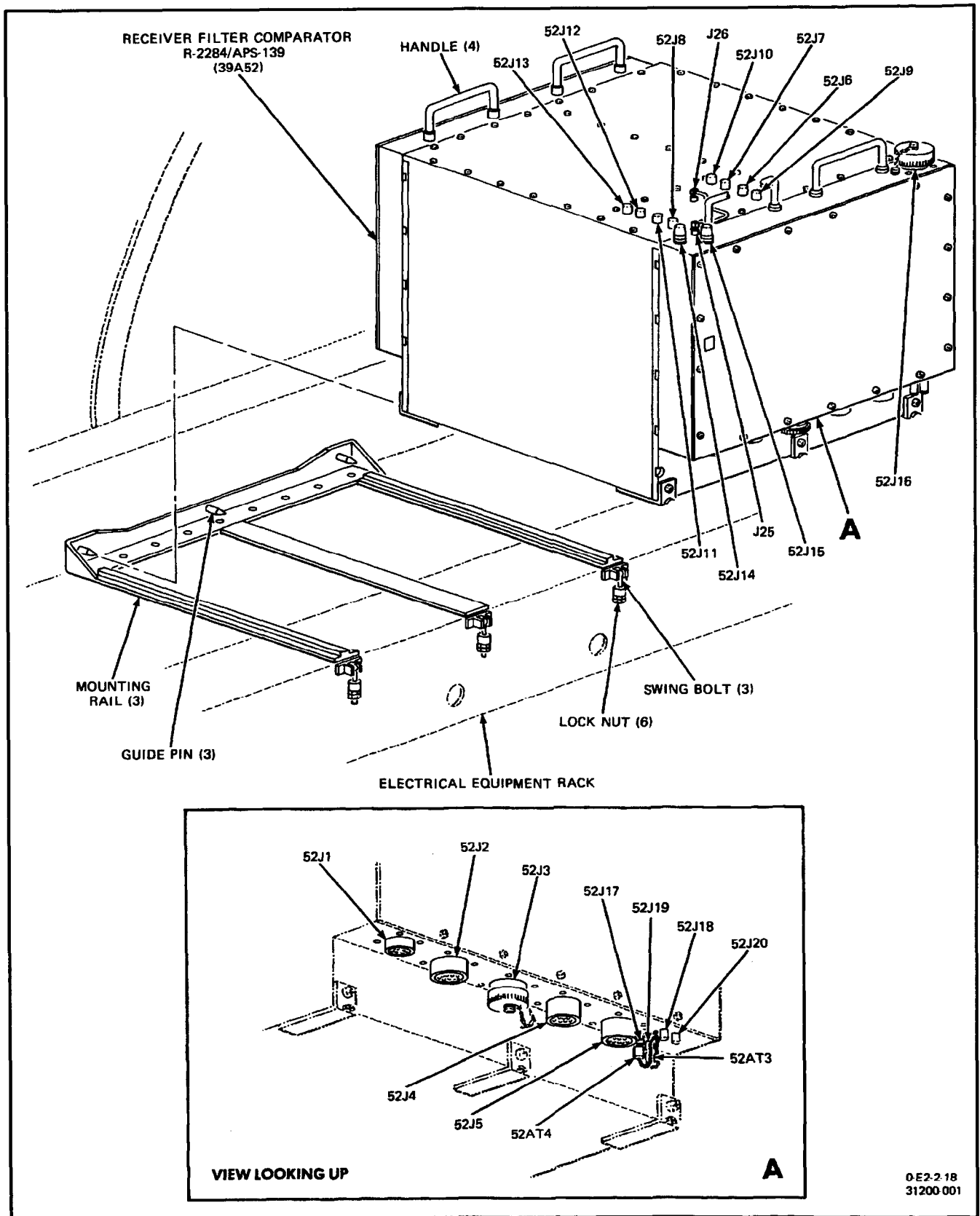


Figure 1. Removal and Installation of Receiver Filter Comparator R-2284/APS-139





**ORGANIZATIONAL MAINTENANCE**

**SIGNAL ANALYSIS RECEIVER R-2285/APS-139**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163029 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6
Radar Set AN/APS-139 .....	035 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment .....	DOD-HDBK-263

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP329)	4/1/88	Effectivity: Aircraft serial no. 163029 and subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Signal Analysis Receiver R-2285/APS-139 (hereinafter referred to as the receiver) (39A51) is part of Radar Set AN/APS-139. The receiver is in the equipment compartment, right side. Refer to (NAVAIR 01-E2AAA-2-18.1, WP003 00) figure 3, item 57 for location of receiver. Support equipment required for maintenance is listed below.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
5 to 150 inch-pounds	Torque Wrench

**3. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

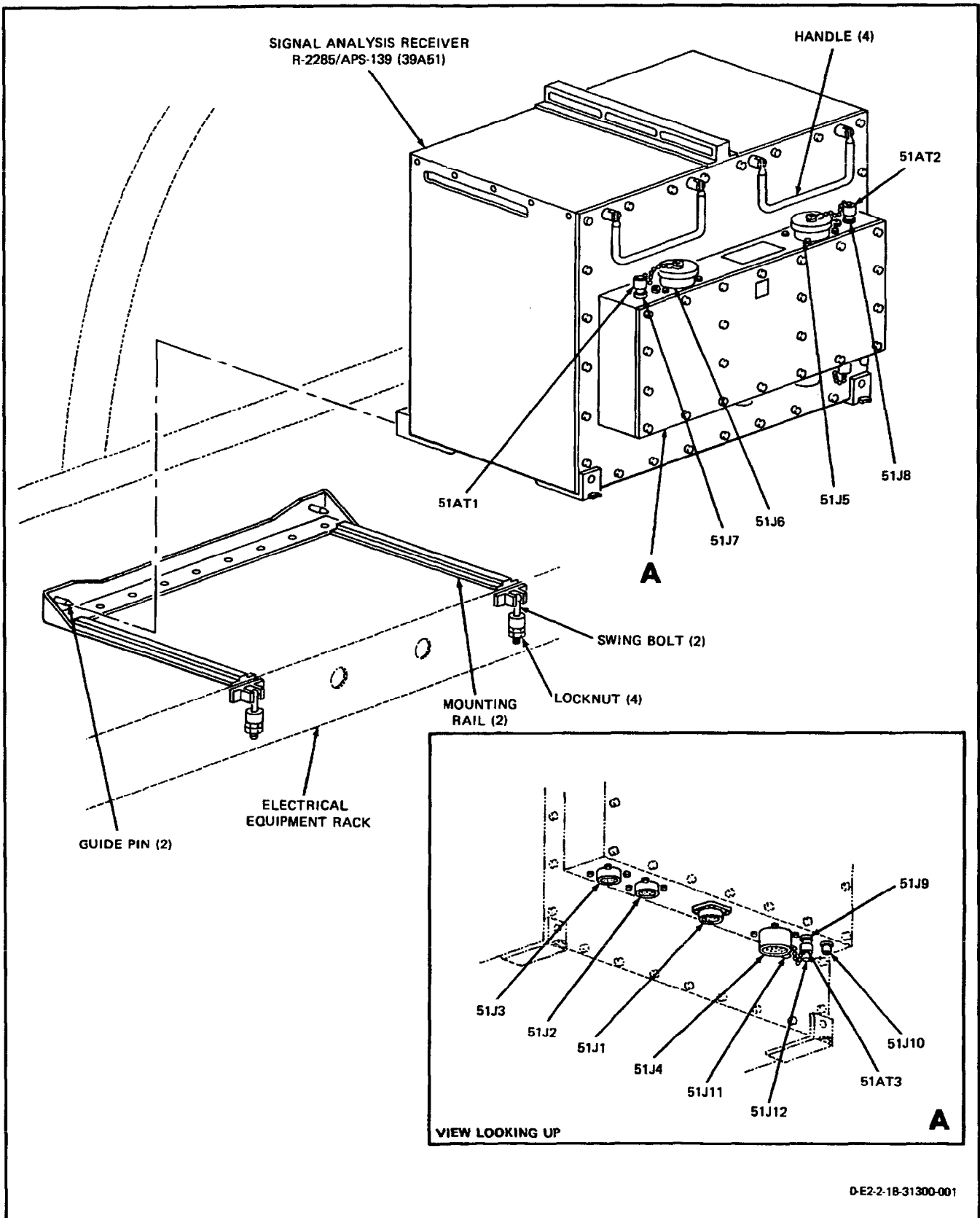


Figure 1. Removal and Installation of Signal Analysis Receiver R-2285/APS-139

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.



Equipment is electrostatic discharge (ESD) sensitive and special handling is required. Refer to DOD-HDBK-263.

c. Move protective cover away from receiver and secure (using suitable method).

d. Remove cable connectors from receiver receptacles 51J1 through 51J4 and 51J10 through 51J12.

e. Loosen four locknuts and disengage two swing bolts securing receiver to electrical equipment rack.



Carefully remove receiver to prevent damage to electrical equipment rack plenum gasket.

f. Slowly pull receiver forward until two guide pins are disengaged. Remove receiver from electrical equipment rack mounting rails.

g. Cap all connectors, receptacles and holes in electrical equipment rack air vent.

#### 4. INSTALLATION. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.



Equipment is electrostatic discharge (ESD) sensitive and special handling is required. Refer to DOD-HDBK-263.

c. Remove caps from connectors, receptacles and holes in electrical equipment rack air vent.



Inspect connectors and receptacles for damage and bent pins prior to installation.

Carefully install receiver to prevent damage to electrical equipment rack plenum gasket.

d. Carefully place receiver on electrical equipment rack mounting rails and push backward (insuring that receiver does not touch plenum gasket) until two guide pins engage receiver.

e. Secure receiver to electrical equipment rack by engaging two swing bolts and, using torque wrench, torque two inner locknuts to  $140 \pm 10$  inch-pounds. Secure inner locknuts with outer locknuts (QUALITY ASSURANCE)

f. Connect cable connectors 51P1 through 51P4 and 51P10 through 51P12 to receiver receptacles 51J1 through 51J4 and 51J10 through 51J12, respectively, insuring that they are fully seated before proceeding.

g. Allow protective cover to return to closed position.

h. Perform operational check of Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00).



**ORGANIZATIONAL MAINTENANCE**

**ELECTRICAL EQUIPMENT RACK MT-6376/APS-139 AND MT-6441/APS-145**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163029 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.6
Radar Set AN/APS-139 .....	035 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.7
Radar Set AN/APS-145 .....	036 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Radar Modulator MD-854/APS-120 and MD-1170/APS-139 .....	149 00
Trigger Pulse Amplifier AM-6413/APS-120 .....	150 00
Radar Modulator MD-853/APS-120 and MD-1169/APS-139 .....	151 00
Power Supply PP-6619/APS-120 .....	178 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Control Voltage Simulator SM-726/APS-125 and SM-842/APS-145 .....	266 00
Pulse Generator O-1720/APS-125, O-1827/APS-139 and O-1835/APS-145 .....	267 00
Dual Pulse Attenuator-Compressor CN-1471/APS-125 and CN-1641/APS-139 .....	271 00
Digital Data Comparator CM-459/APS-125, CM-503/APS-139, and CM-505/APS-145 .....	274 00
Electrical Equipment Rack MT-4823/APS-125 .....	278 00
Receiver Filter Comparator R-2284/APS-139 .....	312 00
Signal Analysis Receiver R-2285/APS-139 .....	313 00
Organizational Illustrated Parts Breakdown .....	NAVAIR 01-E2AAA-4

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**Record of Applicable Technical Directives**

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
—	—	Production Incorporation of Radar AN/APS-139 Group 1 Radar Changes (ECP 329)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. Removal and installation procedures described in this work package (WP) apply to each of the following units:

a. Electrical Equipment Rack MT-6376/APS-139 (hereinafter referred to as the rack) (39A13), is part of Radar Set AN/APS-139 and used in aircraft preceding aircraft serial number 164108. The rack is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 63) for location of the rack.

b. Electrical Equipment Rack MT-6441/APS-145 (hereinafter referred to as the rack) (39A13), is part of Radar Set AN/APS-145 and used in aircraft serial number 164108 and subsequent. The rack is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 63A) for location of the rack.

**Support Equipment Required**

Part or Model No.	Nomenclature
5 to 150 inch-pounds	Torque Wrench

**3. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. Remove protective cover assembly (directly in front of rack) secured to equipment compartment structure. Remove six screws and six washers.

d. Remove the following units from rack:

(1) Receiver Filter Comparator R-2284/APS-139 (WP312 00).

(2) Digital Data Comparator CM-503/APS-139 or CM-505/APS-145 (WP274 00).

(3) Pulse Generator O-1827/APS-139 or O-1835/APS-145 (WP267 00).

(4) Signal Analysis Receiver R-2285/APS-139 (WP313 00).

(5) Control Voltage Simulator SM-726/APS-125 or SM-842/APS-145 (WP266 00).

(6) Radar Modulator MD-1170/ APS-139 (NAVAIR 01-E2AAA-2-18.1, WP149 00).

(7) Trigger Pulse Amplifier AM-1641/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP150 00).

(8) Dual Pulse Attenuator-Compressor CN-1641/APS-139 (WP271 00).

(9) Radar Modulator MD-1169/ APS-139 (NAVAIR 01-E2AAA-2-18.1, WP151 00).

(10) Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

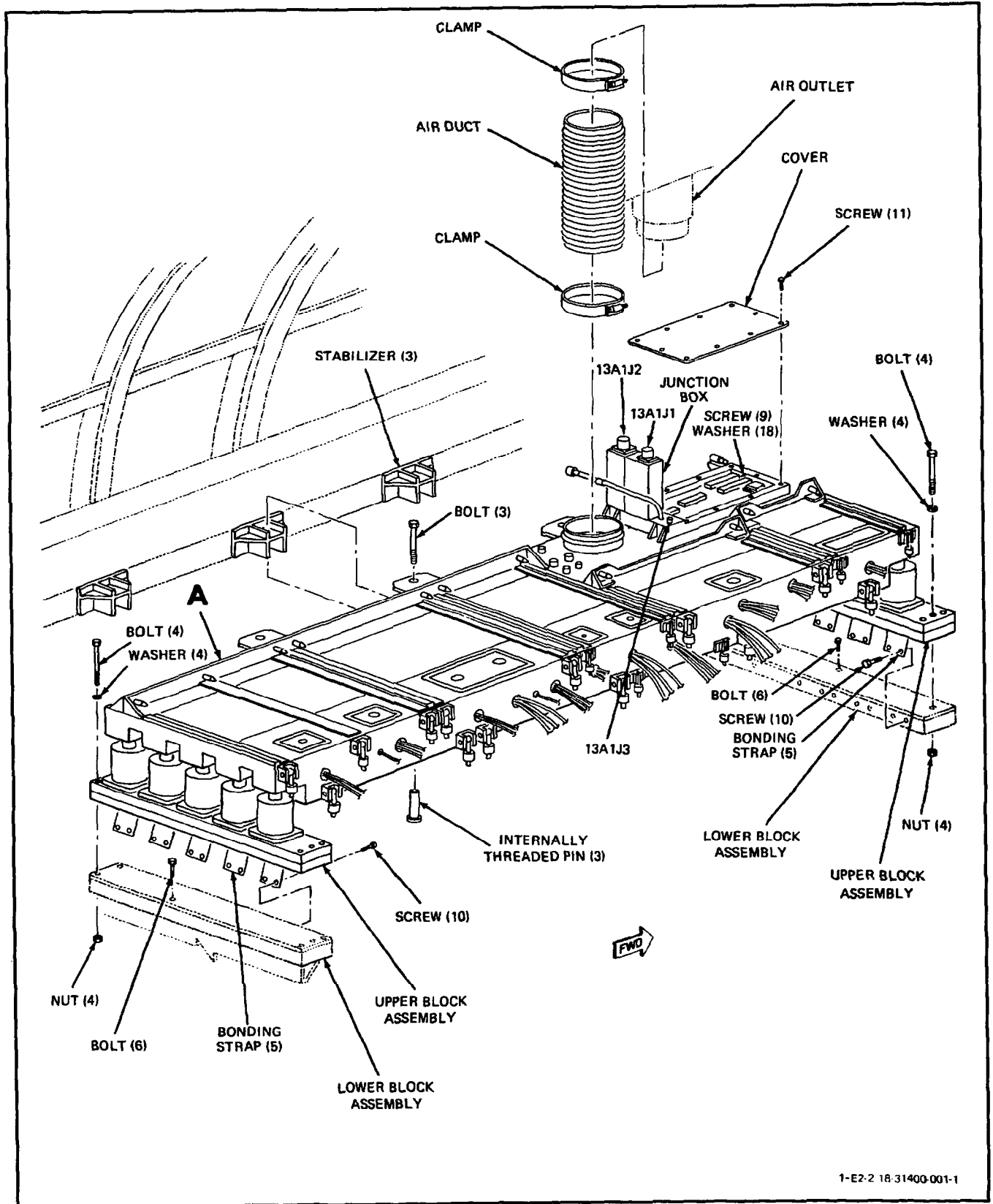


Figure 1. Removal and Installation of Electrical Equipment Rack MT-6376/APS-139 and MT-6441/APS-145 (Sheet 1 of 2)

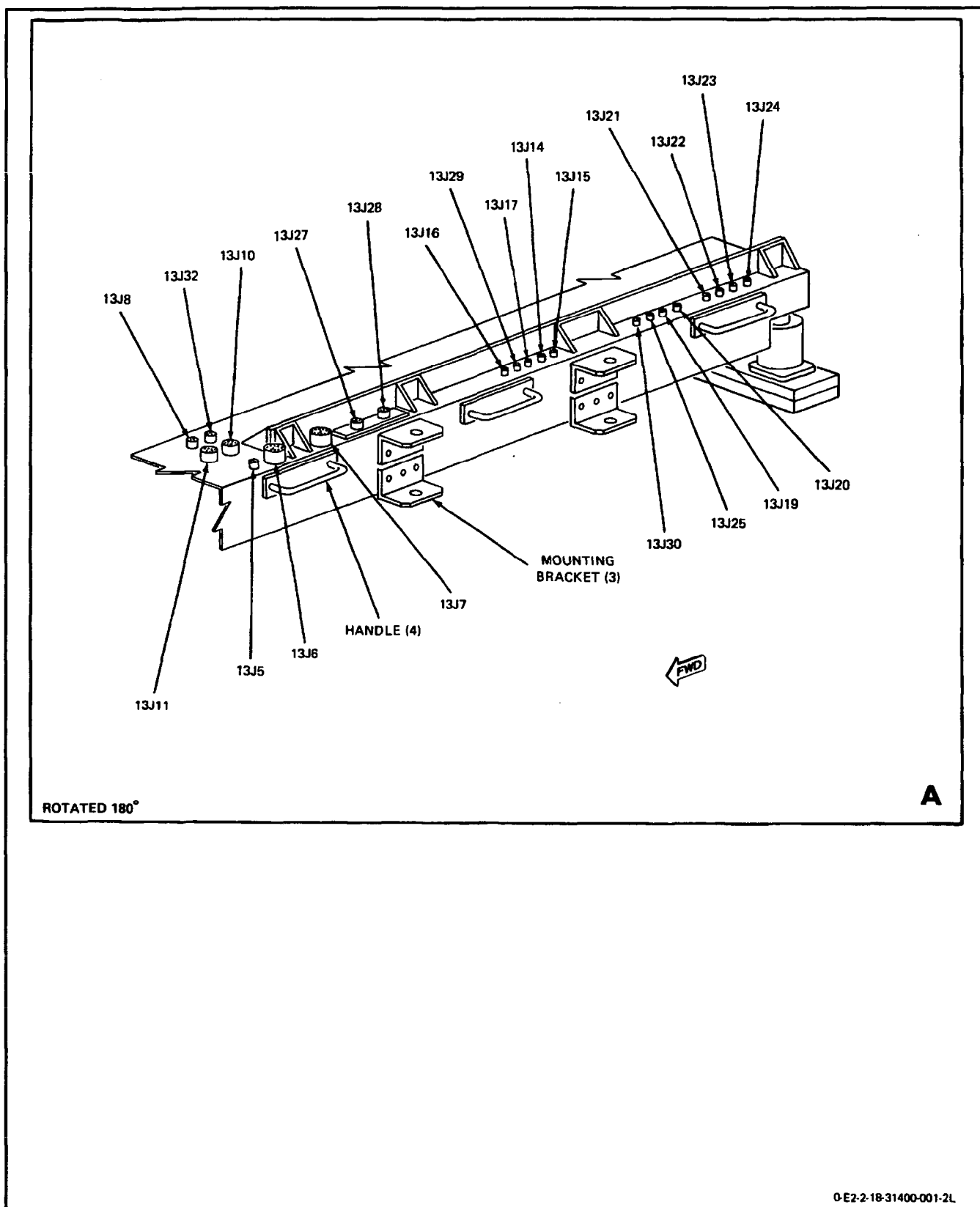


Figure 1. Removal and Installation of Electrical Equipment Rack MT-6376/APS-139 and MT-6441/APS-145 (Sheet 2)



e. To allow removal of rack from aircraft, remove Electrical Equipment Rack MT-4823/APS-125 (WP278 00).

f. Disconnect 25 cable plugs from rack receptacles 13A1J1, 13A1J2, 13A1J3, 13J5 through 13J8, 13J10, 13J11, 13J14 through 13J17, 13J19 through 13J25, 13J27 through 13J30, and 13J32. Cap all plugs and receptacles.

g. Remove two clamps and remove air duct interconnecting air inlet on rack and aircraft air outlet. Cap air inlet on rack.

h. Remove three bolts from three internally threaded pins and then remove three internally threaded pins that secure rack to stabilizers on bulkhead.

i. Remove 20 screws (10 screws from each side of rack) that secure 10 bonding straps to lower block assemblies.

j. Remove 12 bolts (hex head) (6 bolts from each side of rack) that secure upper block assemblies to lower block assemblies.

k. Remove eight bolts (hex head), nuts, and washers (four from each side of rack) that secure upper block assemblies to lower block assemblies and aircraft structure.

l. Lash dangling cables to rack structure to prevent snagging cables as rack is removed from aircraft.



Before removing rack from aircraft structure, ensure that man on forward end of rack is aware of steps that lead to cockpit.



Rack weighs approximately 205 pounds. There is room in the passageway for two persons; both persons should have the capability to lift and sustain this weight.

m. Remove rack from aircraft structure and carry to rear of aircraft beyond door, reverse direction and remove rack through aircraft door (forward end of rack leading).

4. **INSTALLATION.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.



Inspect connectors and receptacles for damage and bent pins prior to installation and then replace caps.

c. Lash dangling cables to rack to prevent snagging cables as rack is carried in.



When carrying rack to its location in aircraft, ensure that man on forward end of rack is aware of steps that lead to cockpit.



Rack weighs approximately 205 pounds. There is room in the passageway for persons; both persons should have the capability to lift and sustain this weight.

d. Position rack so that aft end of rack enters aircraft first and carrying handles are facing up. Lift rack into aircraft, make a right turn, and carry aft until entire rack is in the passageway. Reverse direction carrying rack to its location in aircraft, and lift onto structure.

e. Push rack outboard to engage mounting brackets with stabilizers and then align mounting holes in upper block assemblies with holes in lower block assemblies.

f. Using eight bolts (hex head), nuts, and washers, secure upper block assemblies to lower block assemblies and aircraft structure.

g. Using three internally threaded pins and three bolts, secure rack to stabilizers on bulkhead. Torque three bolts to 67.5±7.5 inch-pounds. (QUALITY ASSURANCE)

h. Using 12 bolts (hex head), secure upper block assemblies to lower block assemblies.

i. Using 20 bolts, secure 10 bonding straps to lower block assemblies.

j. Remove cap from air inlet and then install air duct between air inlet on rack and air outlet. Using two clamps, secure air duct.

k. Remove caps from plugs and receptacles.

l. Connect cable connectors 13A1P1, 13A1P2, 13A1P3, 13P5 through 13P8, 13P10, 13P11, 13P14 through 13P17, 13P19 through 13P25, 13P27 through 13P30 and 13P32 to rack receptacles 13A1J1, 13A1J2, 13A1J3, 13J5 through 13J8, 13J10, 13J11, 13J14 through 13J17, 13J19 through 13J25, 13J27 through 13J30, and 13J22.

m. Install Electrical Equipment Rack MT-4823/APS-125 and associated units installed on rack (WP278 00).

n. Install the following units into rack:

(1) Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

(2) Receiver Filter Comparator R-2284/APS-139 (WP312 00).

(3) Digital Data Comparator CM-503/APS-139 or CM-505/APS-145 (WP274 00).

(4) Pulse Generator O-1827/APS-139 or O-1835/APS-145 (WP267 00).

(5) Signal Analysis Receiver R-2285/APS-139 (WP313 00).

(6) Control Voltage Simulator SM-726/APS-125 or SM-842/APS-145 (WP266 00).

(7) Radar Modulator MD-1170/ APS-139 (NAVAIR 01-E2AAA-2-18.1, WP149 00).

(8) Trigger Pulse Amplifier AM-6413/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP150 00).

(9) Dual Pulse Attenuator-Compressor CN-1641/APS-139 (WP271 00).

(10) Radar Modulator MD-1169/ APS-139 (NAVAIR 01-E2AAA-2-18.1, WP151 00).

o. Perform operational check of Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP035 00) or Radar Set AN/APS-145 (NAVAIR 01-E2AAA-2-17.7, WP036 00).

p. Using six screws and washers, secure protective cover assembly to equipment compartment structure.

## 5. ADDITIONAL MAINTENANCE. (Figure 1.)

## 6. ACCESS TO JUNCTION BOX COMPONENTS AND ASSEMBLIES.

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. Remove Control Voltage Simulator SM-726/APS-125 or SM-842/APS-145 (WP266 00), Signal Analysis Receiver R-2285/ APS-139 (WP313 00), and Power Supply PP-6619/ APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

d. Remove 11 screws and cover for access to interior of junction box.

## 7. REPLACING JUNCTION BOX.

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

## 8. Removing Junction Box.

a. Remove Control Voltage Simulator SM-726/APS-125 or SM-842/APS-145 (WP266 00), Signal Analysis Receiver R-2285/APS-139 (WP313 00), and Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00).

b. Remove 11 screws and cover to gain access to interior of junction box.

c. Remove 9 screws and 18 washers that secure junction box to rack.

d. Disconnect cable wires connected to components and assemblies in junction box following criteria specified in paragraph 10.

e. Remove junction box.

## 9. Installing Junction Box.

a. Connect cable wires to components and assemblies in junction box.

- b. Using 9 screws and 18 washers, attach junction box to rack.
- c. Using 11 screws, attach cover to junction box.
- d. Install Power Supply PP-6619/APS-120 (NAVAIR 01-E2AAA-2-18.1, WP178 00), Control Voltage Simulator SM-726/APS-125 or SM-842/APS-145 (WP266 00), and Signal Analysis Receiver R-2285/APS-139 (WP313 00) .

**10. REPAIR AND REPLACEMENT OF COMPONENTS.**

**Materials Required**

**Specification or**

**Part Number**

**Nomenclature**

MIL-C-81302, Type I, II, or IIA	Trichlorotrifluoroethane (Freon TF)
---------------------------------	-------------------------------------

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.
- c. For location, identification and mounting of components, refer to NAVAIR 01-E2AAA-4.
- d. Use standard shop procedures when repairing/replacing components.
- e. Disassemble the rack only enough to make required repair/replacement, taking care to note the spe-

cific order in which components are removed with respect to their details. Tag wiring to facilitate installation.



Trichlorotrifluoroethane (Freon) MIL-C-81302, Type I or II, is toxic and displaces oxygen in confined spaces. At high temperatures, it may decompose into toxic substances. Protection: chemical splashproof goggles, gloves, and good ventilation. Keep trichlorotrifluoroethane (Freon) off skin, eyes, and clothes; do not breathe vapors. Smoking will not be permitted in area where material is being handled. Wash hands thoroughly after handling.



Electrical components shall not be immersed in trichlorotrifluoroethane (Freon TF), but shall be wiped clean.

- f. If necessary, clean components using a clean, lint-free cloth moistened with trichlorotrifluoroethane (Freon TF).
- g. After repair/replacement of component, perform operational check of Radar Set AN/APS-139 (NAVAIR 01-E2AAA-2-17.6, WP036 00) or Radar Set AN/APS-145 (NAVAIR 01-E2AAA-2-17.7, WP036 00).



**ORGANIZATIONAL MAINTENANCE**

**ANTI-JAM SELECT PANEL ASSEMBLY**

**EFFECTIVITY: AIRCRAFT SERIAL NO 163029 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Anti-Jam Antenna System Interconnection .....	021 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Addition of Anti-Jam UHF/L-Band Antenna System (ECP 388R2)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Anti-Jam Select Panel Assembly (hereinafter referred to as the AJ SELECT panel) (82A9) is used with the Anti-Jam Antenna System. The AJ SELECT panel is in the crew compartment. Refer to NAVAIR 01-E2AA-2-18.1, WP003 00 (figure 4, item 77) for location of AJ SELECT panel.

**3. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. Disengage two fasteners that secure AJ SELECT panel to console.

d. Slowly pull AJ SELECT panel out of console until cable connector P1 is accessible.

e. Remove cable connector P1 from AJ SELECT panel receptacle J1.

f. Install protective caps on cable connector P1 plug and AJ SELECT panel receptacle J1.

**4. INSTALLATION.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

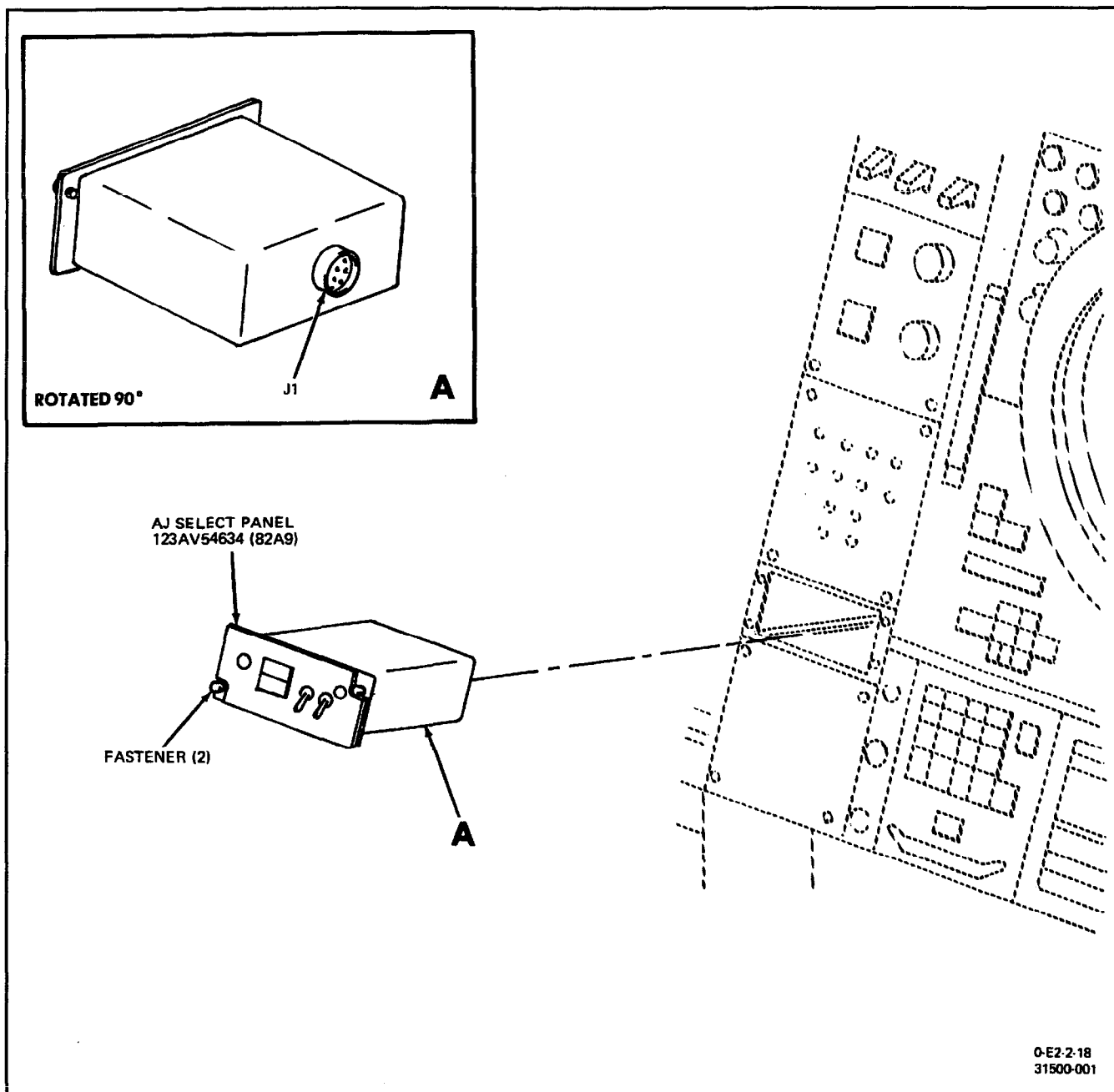


Figure 1. Removal and Installation of AJ SELECT Panel

c. Remove caps from cable connector P1 and receptacle J1.

d. Connect cable connector P1 to AJ SELECT panel receptacle J1.

**CAUTION**

e. Insert AJ SELECT panel into console, and secure by engaging two fasteners.

Inspect cable connector P1 and AJ SELECT panel receptacle J1 for damage and bent pins prior to interconnection.

f. Perform operational check of Anti-Jam Antenna System Interconnection (NAVAIR 01-E2AAA-17.1, WP021 01).

**ORGANIZATIONAL MAINTENANCE**

**ANTI-JAM COAXIAL SWITCHES SA-521A/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163029 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Anti-Jam Antenna System Interconnection .....	021 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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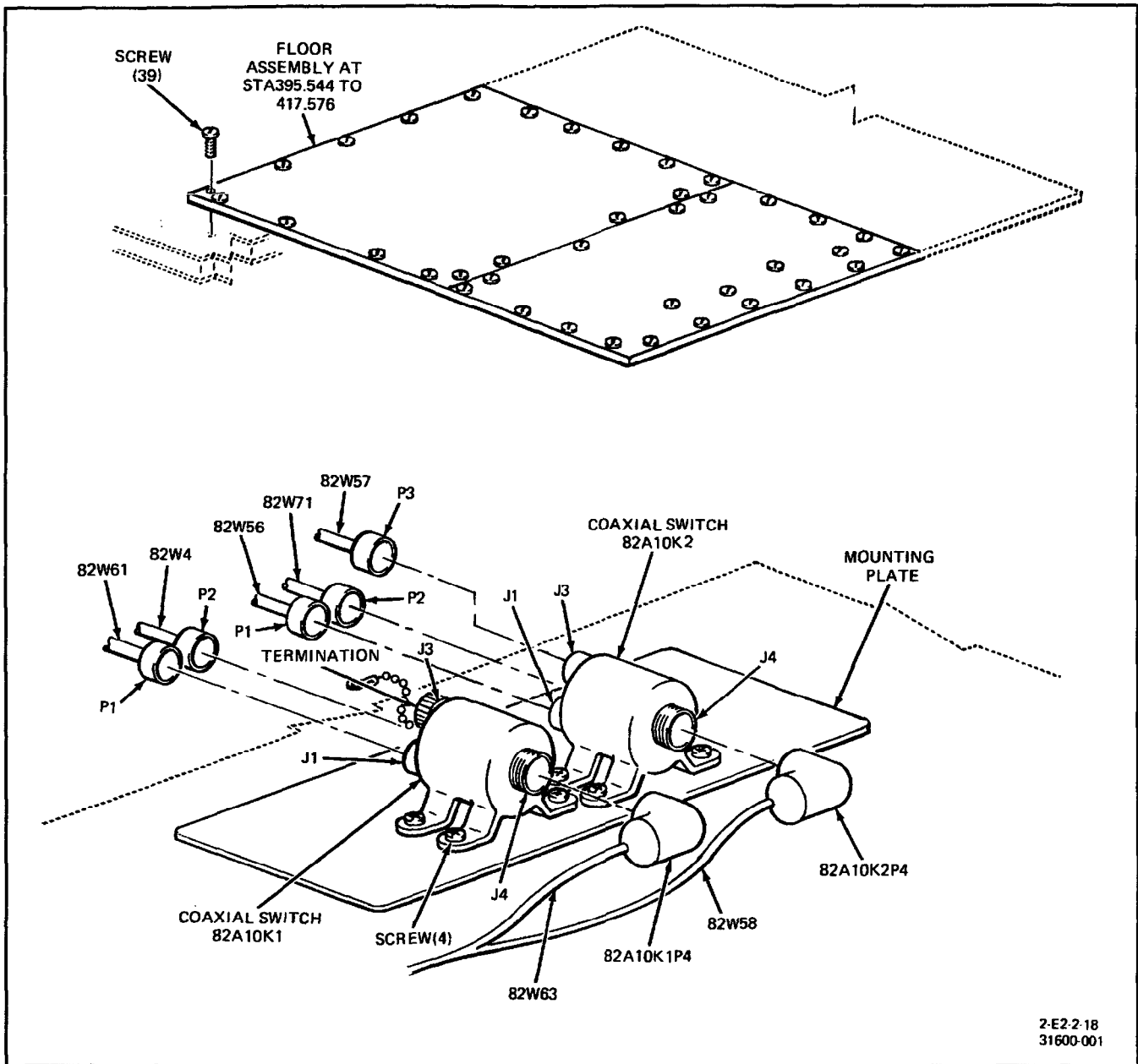
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—	—	Production Incorporation of the Joint Tactical Information Distribution System (JTIDS) Related Communications Cooling System Changes (ECP 338R2)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.

1. **GENERAL.**
  - b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.
  - c. Gain access to coaxial switches by removing 39 screws that secure floor assembly at stations 395.544 to 417.576 and removing floor assembly.
  - d. On coaxial switch 82A10K1:
    - (1) Disconnect wiring harness 82W63 connector 82A10K1P4 from receptacle J4.
    - (2) Disconnect cable 82W61 coaxial connector P1 from receptacle J1.
2. Anti-Jam Coaxial Switches SA-521A/A (hereinafter referred to as coaxial switches 82A10K1 and 82A10K2) are used with the Anti-Jam Antenna System. The coaxial switches are in the crew compartment at station 402.00, WL35.2, under the floorboard assembly. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 5, item 6B).
3. **REMOVAL.** (Figure 1.)
  - a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).



2-E2-18  
31600-001

**Figure 1. Removal and Installation of Anti-Jam Coaxial Switches SA-521A/A**

- (3) Disconnect cable 82W4 coaxial connector P2 from coaxial switch 82A10K1.
- (4) Cap all connectors and receptacles.
- (5) Unscrew termination from coaxial switch 82A10K1J3.
- (6) Remove four screws that secure coaxial switch 82A10K1 to mounting plate and remove coaxial switch.

e. On coaxial switch 82A10K2:

- (1) Disconnect wiring harness 82W58 connector 82A10K2P4, from receptacle J4.
- (2) Disconnect cable 82W56 coaxial connector P1 from receptacle J1.
- (3) Disconnect cable 82W71 coaxial connector P2 from receptacle on coaxial switch 82A10K2.
- (4) Disconnect cable 82W57 coaxial connector P3 from receptacle J3.
- (5) Cap all connectors and receptacles.



f. Remove four screws that secure coaxial switch 82A10K2 to mounting plate and remove coaxial switch.

**4. INSTALLATION.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. Using four screws, install coaxial switch 82A10K2 on mounting plate.

d. On coaxial switch 82A10K2:

(1) Remove caps from connectors and receptacles.

(2) Connect cable 82W57 coaxial connector P3 to receptacle J3.

(3) Connect cable 82W71 coaxial connector P2 to receptacle J2.

(4) Connect cable 82W56 coaxial connector P1 to receptacle J1.

(5) Connect wiring harness 82W58 connector 82A10K2P4 to receptacle J4.

e. Using four screws, install coaxial switch 82A10K1 on mounting plate.

f. On coaxial switch 82A10K1:

(1) Remove caps from connectors and receptacles.

(2) Connect cable 82W4 coaxial connector P2 to receptacle J2.

(3) Connect cable 82W61 coaxial connector P1 to receptacle J1.

(4) Connect wiring harness 82W63 connector 82A10K2P4 to receptacle J4.

(5) Screw termination on coaxial switch 82A10K1J3.

g. Using 39 screws, install floor assembly at stations 395.544 to 417.576.

h. Perform operational check of Antenna Anti-Jam System Interconnection. Refer to NAVAIR 01-E2AAA-2-17.1, WP021 01.



**ORGANIZATIONAL MAINTENANCE**

**ANTI-JAM COAXIAL TRANSFER SWITCHES GS839JF1**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163029 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Anti-Jam Antenna System Interconnection .....	021 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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—	—	Production Incorporation of the Joint Tactical Information Distribution System (JTIDS) Related Communications Cooling System Changes (ECP 33BR2)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Anti-Jam Coaxial Transfer Switches GS839JF1 (hereinafter referred to as transfer switches 82A8K3 and 82A8K4) are used with the Anti-Jam Antenna System. The transfer switches are in the equipment compartment, at station 175.00. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 60D).

**3. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. On transfer switch 82A8K3:

(1) Disconnect power cable 82W64 connector P5 from J5.

(2) Disconnect cable 82W66 coaxial connector P1 from J1.

(3) Disconnect cable 82W65 coaxial connector P2 from J2.

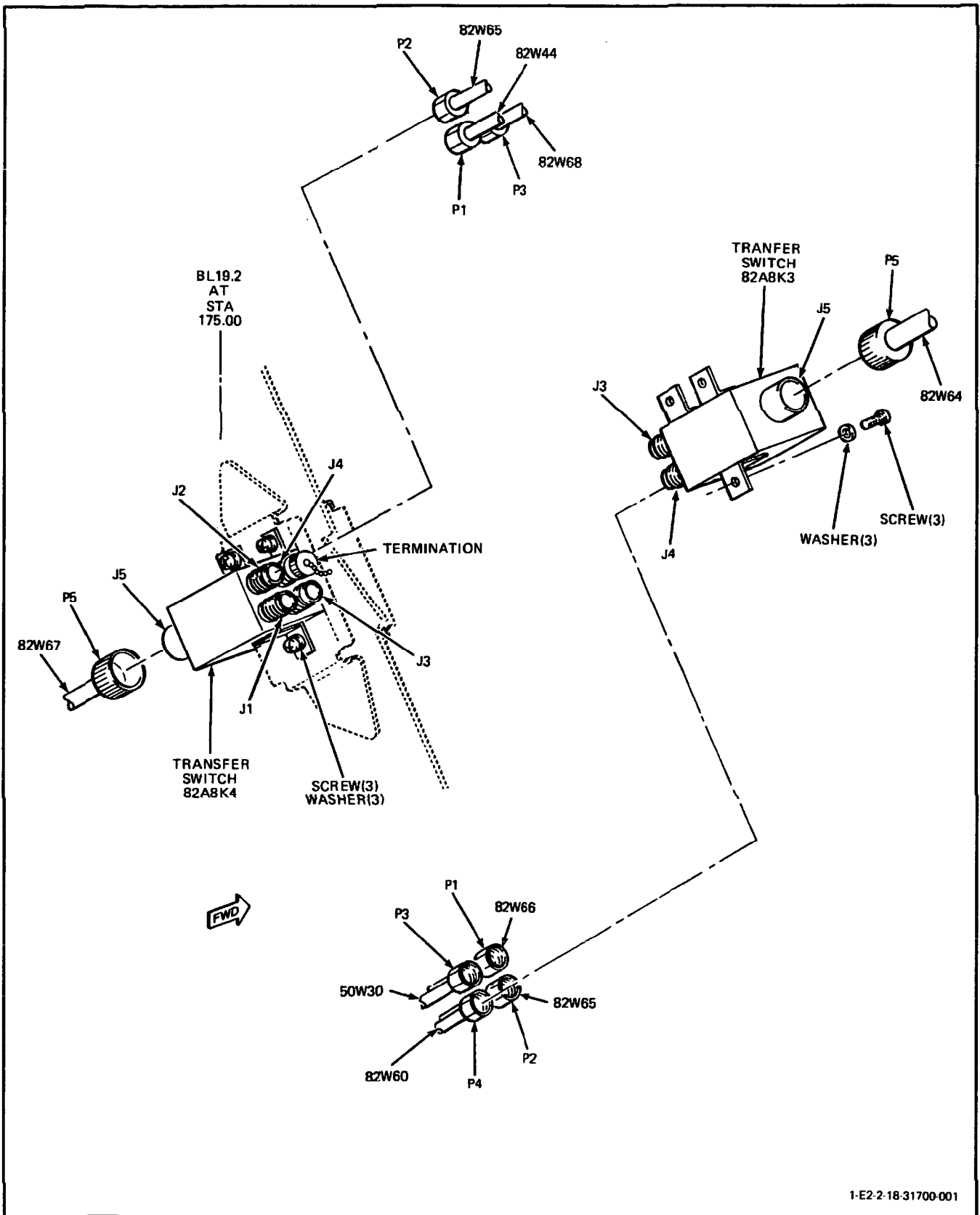


Figure 1. Removal and Installation of Anti-Jam Coaxial Transfer Switches GS839JF1

(4) Disconnect cable 82W60 coaxial connector P4 from J4.

(5) Disconnect aircraft wiring harness 50W30 connector P3 from J3.

(6) Cap all connectors and receptacles.

d. Remove three screws and plain washers that secure transfer switch 82A8K3 to aircraft structure and remove transfer switch.

e. On transfer switch 82A8K4:

(1) Disconnect cable 82W67 connector P5 from J5.

(2) Disconnect cable 82W65 coaxial connector P2 from J2.

(3) Disconnect cable 82W68 coaxial connector P3 from J3.

(4) Disconnect aircraft wiring harness 82W44 coaxial connector P1 from J1.

(5) Cap all connectors and receptacles.

(6) Unscrew termination from J4.

f. Remove three screws and washers that secure transfer switch 82A8K4. Remove transfer switch.

#### 4. INSTALLATION. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. Position transfer switch 82A8K4 on aircraft structure and using three screws and washers, secure transfer switch.

d. On transfer switch 82A8K4:

(1) Screw termination on J4.

(2) Remove caps from connectors and receptacles.

(3) Connect aircraft wiring harness 82W44 coaxial connector P1 to J1.

(4) Connect cable 82W68 coaxial connector P3 to receptacle J3.

(5) Connect cable 82W65 coaxial connector P2 to receptacle J2.

(6) Connect aircraft wiring harness 82W67 connector P5 to receptacle J5.

e. Position transfer switch 82A8K3 on aircraft structure and secure with three screws and washers.

f. On transfer switch 82A8K3:

(1) Remove all caps from connectors and receptacles.

(2) Connect aircraft wiring harness 50W30 coaxial connector P3 to J3.

(3) Connect cable 82W66 coaxial connector P1 to receptacle J1.

(4) Connect cable 82W65 coaxial connector P2 to receptacle J2.

(5) Connect cable 82W60 coaxial connector P4 to receptacle J4.

(6) Connect cable 82W64 connector P5 to receptacle J5.

g. Perform operational check of Anti-Jam Antenna System Interconnection. Refer to NAVAIR 01-E2AAA-2-17.1, WP021 01.



**ORGANIZATIONAL MAINTENANCE**

**ANTI-JAM DIPLEXERS**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163029 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Radio Sets AN/ARC-158 and AN/ARC-158A .....	021 00
Anti-Jam Antenna System Interconnection .....	021 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Digital Data Computer CP-1501/AYK-14(V) and Electrical Equipment	
Mounting Base MT-6176/ALR-73 .....	290 00

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—	—	Production Incorporation of the Joint Tactical Information Distribution System (JTIDS) Related Communications Cooling System Changes (ECP 33BR2)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent. ECP Coverage Only.

1. **GENERAL.** compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, item 60C).
2. The Anti-Jam Diplexers (hereinafter referred to as diplexers 82FL1 and 82FL2) are used with the Anti-Jam Antenna System. Diplexer 82FL1 is in the equipment Diplexer 82FL2 is in the crew compartment under floor-board assemblies at WL2700, Station 418.25. Refer to WP003 00 (figure 5, items 7 and 8).

**3. DIPLEXER 82FL1. (Figure 1.)**

**4. REMOVAL.**

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. Remove Digital Data Computer CP-1501/AYK-14(V) to gain access to diplexer. Refer to WP290 00.

d. Disconnect coaxial connectors P1, P2, and P3 from J1, J2, and J3.

e. Cap all connectors and receptacles.

f. Remove four screws and washers that secure diplexer to mounting surface on aircraft structure. Remove diplexer.

**5. INSTALLATION.**

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. Position diplexer on mounting surface on aircraft structure and secure with four screws and washers.

d. Remove all caps from connectors and receptacles.

e. Connect coaxial connectors P1, P2, and P3 to J1, J2, and J3, respectively.

f. Install Digital Data Computer CP-1501/AYK-14(V). Refer to NAVAIR 01-E2AAA-2-18.1, WP290 00.

g. Perform operational check of Radio Sets AN/ARC-158 and AN/ARC-158A. Refer to NAVAIR 01-E2AAA-2-17.1, WP021 01.

**6. DIPLEXER 82FL2. (Figure 2.)**

**7. REMOVAL.**

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

(1) Remove 39 screws that secure floor assembly at stations 395.544 through 417.576.

(2) Remove 40 screws that secure floor assembly at stations 419.670 through 432.263.

(3) Remove floor assemblies.

c. Remove lockwire and disconnect coaxial connectors P1, P2, and P3 from diplexer receptacles J1, J2, and J3 respectively.

d. Cap all connectors and receptacles.

e. Remove four screws and washers, clamp and standoff that secure diplexer mounting plate to aircraft structure. Remove diplexer.

f. Remove four screws, washers, and nuts that secure diplexer to mounting plate and remove diplexer from mounting plate. Retain mounting plate.

**8. INSTALLATION.**

**Materials Required**

Specification or Part Number	Nomenclature
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MS20995NC20	Lockwire
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a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. Using four screws, washers, and nuts, attach diplexer to mounting plate.

d. Using three screws and three washers, secure diplexer mounting plate to aircraft structure.

e. Remove caps from connectors and receptacles.

f. Secure cable to mounting plate with clamp, screw, washers and standoff.

g. Connect coaxial connectors P1, P2, and P3 to J1, J2, and J3, of diplexer, respectively. Lockwire connectors. (QUALITY ASSURANCE)

h. Using 40 screws install floor assembly at stations 419.670 to 432.263. Using 39 screws, install floor assembly at stations 395.544 to 417.576.

i. Perform operational check of Anti-Jam Antenna System Interconnection. Refer to NAVAIR 01-E2AAA-2-17.1, WP021 01.



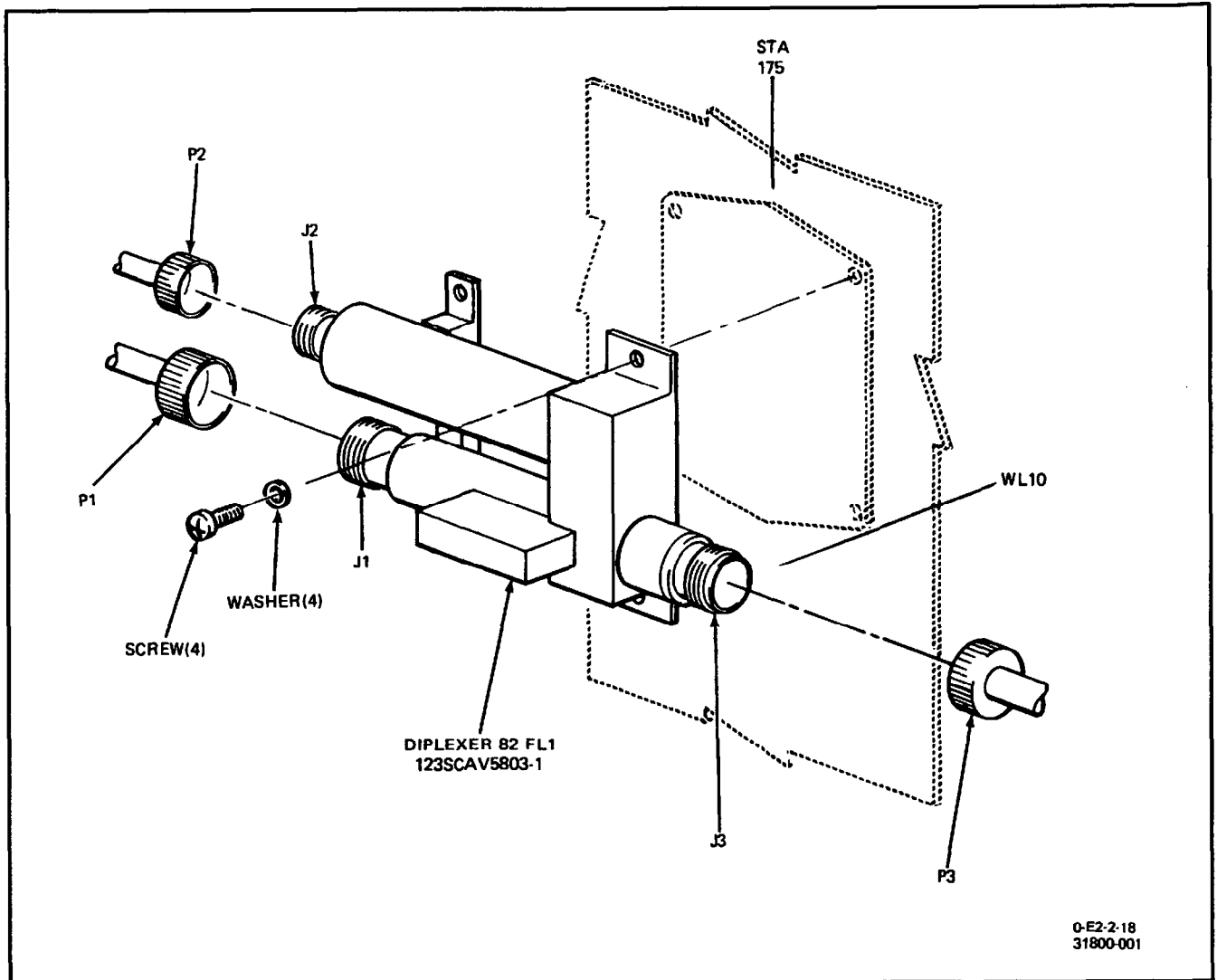
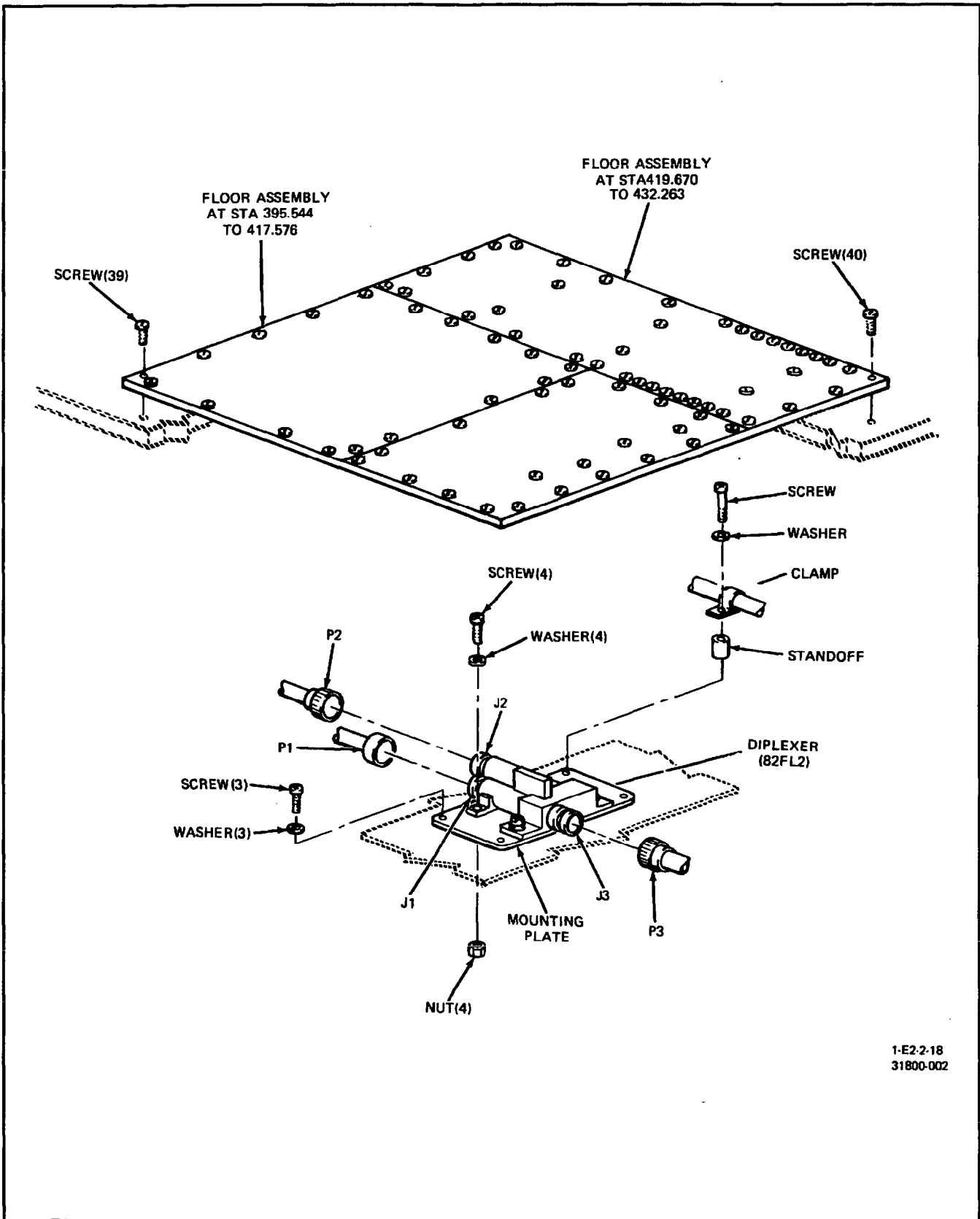


Figure 1. Removal and Installation of Anti-Jam Diplexer 82FL1



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31800-002

Figure 2. Removal and Installation of Anti-Jam Diplexer 82FL2

ORGANIZATIONAL MAINTENANCE

UHF NO. 3/JTIDS A51A9005-7

EFFECTIVITY: AIRCRAFT SERIAL NO. 163029 AND SUBSEQUENT

Reference Material

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
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—	—	Production Incorporation of the Joint Tactical Information Distribution System (JTIDS) Related Communications Cooling System Changes (ECP 33BR2)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent ECP Coverage Only.

1. GENERAL.

2. The UHF No. 3/JTIDS ANT A51A9005-7 (herein-after referred to as antenna) (82E2) is used with the Anti-Jam Antenna System. The antenna is at bottom of fuselage; station 308.50. See figure 1 for location of antenna.

3. REMOVAL. (Figure 1.)

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

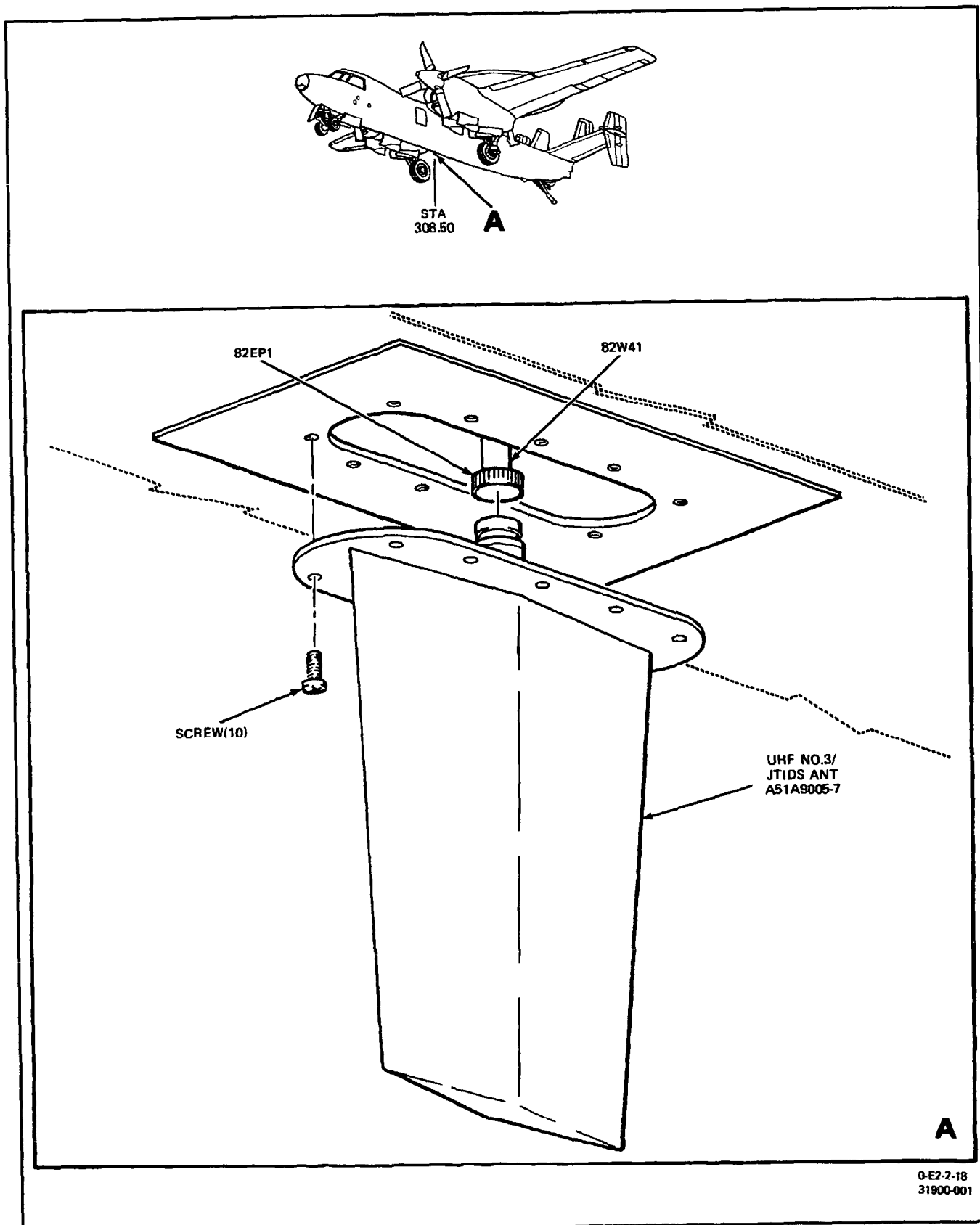


Figure 1. Removal and Installation of UHF No. 3/JTIDS Ant A51A9005-7

- c. Remove 10 screws that secure antenna to aircraft.
- d. Grasp antenna blade firmly, and carefully rock antenna from side to side until seal is broken.
- e. Lower antenna away from aircraft until cable connector 82EP1 is exposed.
- f. Disconnect cable 82W41 connector 82EP1 from antenna receptacle.
- g. Cap connector and receptacle.

4. **INSTALLATION.** (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MIL-S-7502C-2 (ASG), Class B	Sealant Compound
TT-M-261	Methyl Ethyl Ketone

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.



Methyl ethyl ketone, TT-M-261, is toxic, flammable, and highly irritating to eyes. Protection: chemical splashproof goggles and good ventilation; keep container closed; keep sparks, flames, and heat away. Keep methyl ethyl ketone off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

- c. Carefully clean sealant residue from aircraft mounting surface with methyl ethyl ketone.
- d. Apply a 3/16-inch bead of sealant compound around antenna receptacle and around hole in aircraft mounting surface.
- e. Remove caps from connector and receptacle.
- f. Inspect connector and receptacle for damage and bent pins prior to installation.
- g. Connect cable 82W41 connector 82EP1 to antenna receptacle.
- h. Seat antenna mounting flange against aircraft mounting surface and using 10 screws secure antenna.
- i. Perform operational checkout of Antenna Anti-Jam System Interconnection. Refer to NAVAIR 01-E2AAA-2-17.1, WP021 01.



**ORGANIZATIONAL MAINTENANCE**

**ANTI-JAM ANTENNAS A51A9005-7**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163029 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Aircraft Electromechanical Systems Theory .....	NAVAIR 01-E2AAA-2-2.1
Wing Fold and Automatic Jury Strut System .....	008 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Anti-Jam Antenna System Interconnection .....	021 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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—	—	Production Incorporation of the Joint Tactical Information Distribution System (JTIDS) Related Communications Cooling System Changes (ECP 33BR2)	4/1/88	Effectivity: Aircraft Serial No. 163029 and Subsequent ECP Coverage Only.

**1. GENERAL.**

2. The Anti-Jam Antennas A51A9005-7 (hereinafter referred to as antennas 82E3 and 82E4) are used with the Anti-Jam Antenna System. Antennas 82E3 and 82E4 are under the left and right wings, respectively, outboard of the engine nacelles. Refer to figure 1.

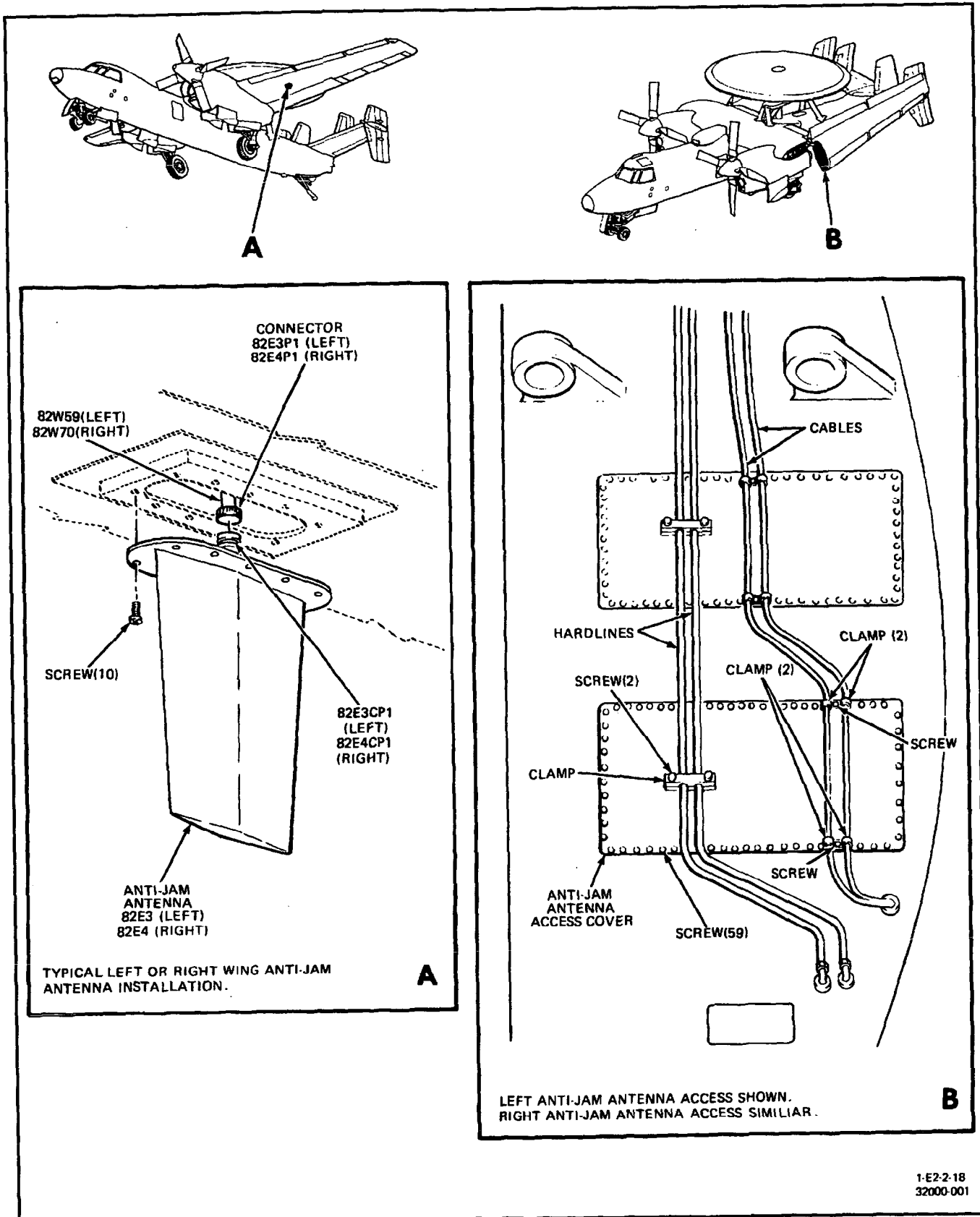
**3. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. If required, fold wings in accordance with NAV-AIR 01-E2AAA-2-2.1, WP008 00.

d. Remove two screws that secure hardline clamp to antenna access cover.



1-E2-2-18  
32000-001

Figure 1. Removal and Installation of Anti-Jam Antennas A51A9005-7



e. Remove attaching screw of antenna access cover for each cable clamp and remove clamps.

f. Remove remaining 58 screws that secure antenna access cover to aircraft. Remove cover by carefully lifting hardlines and cables slightly and sliding cover out from under hardlines and cables.

g. Through antenna access hole, locate cable connector 82E3P1 or 82E4P1 and remove lockwire.

h. Remove 10 screws that secure antenna to aircraft.

i. Grasp antenna blade firmly, and carefully rock antenna from side to side until seal is broken.

j. Lower antenna away from aircraft until cable 82W59 (left) or 82W70 (right) connector 82E3P1 (left) or 82E4P1 (right) is accessible.

k. Disconnect cable connector 82E3P1 or 82E4P1 from antenna receptacle and remove antenna.

l. Cap connector and receptacle.

4. **INSTALLATION.** (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MIL-S-7502C (ASG), Class B	Sealant Compound
TT-M-261	Methyl Ethyl Ketone
MS20995NC20	Lockwire

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

**WARNING**

Methyl ethyl ketone, TT-M-261, is toxic, flammable, and highly irritating to eyes. Protection: chemical splashproof goggles and good ventilation; keep container closed; keep sparks, flames, and heat away. Keep methyl ethyl ketone off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

c. Carefully clean sealant residue from aircraft mounting surface with methyl ethyl ketone.

d. Apply a 3/16-inch bead of sealant compound around antenna receptacle and around hole in aircraft mounting surface.

e. Remove caps from connector and receptacle.

**CAUTION**

Inspect connector and receptacle for for damage and bent pins prior to installation.

f. Connect cable connector 82E3P1 or 82E4P1 to antenna 82E3 or 82E4, respectively.

g. Seat antenna mounting flange against aircraft antenna mounting surface and using 10 screws, secure antenna.

h. Through antenna access hole, lockwire cable connector 82E3P1 or 82E4P1 to aircraft. (QUALITY ASSURANCE)

i. Position antenna access cover under hardlines and cables, and secure cover to aircraft using 58 attaching screws.

j. Using two clamps and two screws secure cables to access cover.

k. Using one clamp and two screws, secure hardlines to access cover.

l. Perform operational checkout of Antenna Anti-Jam System Interconnection. Refer to NAVAIR 01-E2AAA-2-17.1, WP021 01.



**ORGANIZATIONAL MAINTENANCE**

**RADIO RECEIVER R-1379B/ARA-63**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163537 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
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—	—	Incorporation of Receiver/Decoder AN/ARA-63 (ECP 345)	4/1/88	Effectivity: Aircraft Serial No. 163537 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. Radio Receiver R-1379B/ARA-63 (radio receiver) (89A1) is part of Receiving-Decoding Group AN/ARA-63B. The radio receiver is in the nose compartment. See figure 1 for location of radio receiver.

**3. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. Disengage two latches at bottom of nose cap and swing nose cap up. Secure nose cap in up position with two struts.

d. On radio receiver, disconnect power connector P1 and coaxial connectors P2 and P3 from radio receiver connectors J1, J2, and J3, respectively.

e. Install protective caps on radio receiver connectors and mating connectors.

f. Remove four screws, lockwashers, and plain washers that secure waveguide, part no. 123SCAV6041-11, to radio receiver.

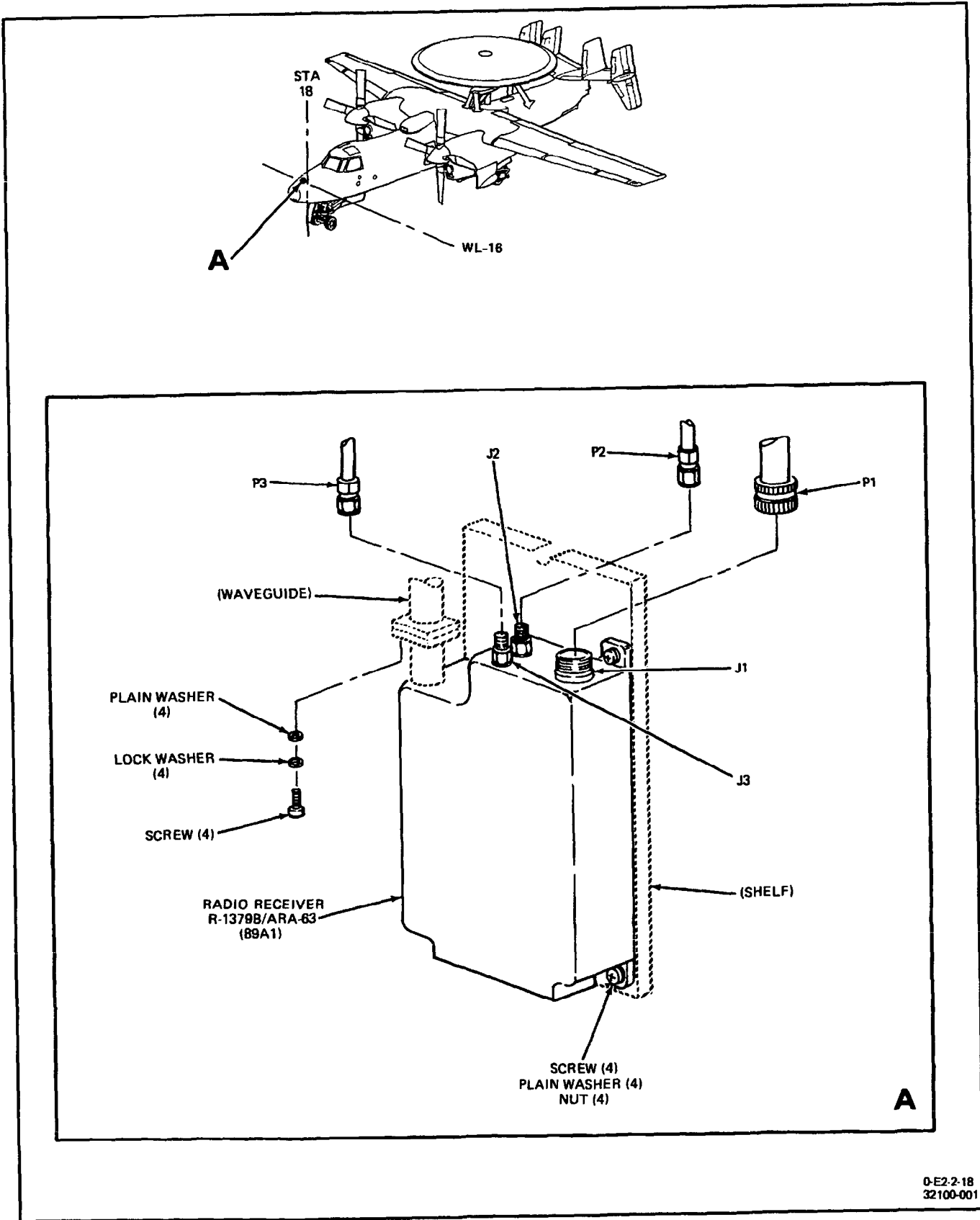


Figure 1. Removal and Installation of Radio Receiver R-1379B/ARA-63

g. Remove four screws, nuts, and plain washers that secure radio receiver to shelf.



Exercise care when removing radio receiver to avoid damaging waveguides.

h. Carefully remove radio receiver from shelf.

#### 4. **INSTALLATION.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.



Exercise care when installing radio receiver on shelf to avoid damaging waveguides.

c. Align radio receiver mounting holes with radio receiver mounting holes on shelf. Using four screws, nuts, and plain washers, secure radio receiver on shelf.

d. Align waveguide, part no. 123SCAV6041- 11, threaded holes with radio receiver port flange holes. Using four screws, lockwashers, and plain washers, secure waveguide to radio receiver port flange.

e. Remove protective caps from all connectors. Connect power connector P1 and coaxial connectors P2 and P3 to radio receiver connectors J1, J2, and J3, respectively.

f. Perform operational check of Receiving-Decoding Group AN/ARA-63B. Refer to NAVAIR 01-E2AAA-2-17.1, WP015 01.

g. Disengage nose cap supporting struts and close nose cap. Secure nose cap with two latches.



**ORGANIZATIONAL MAINTENANCE**

**PULSE DECODER KY-651B/ARA-63**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163537 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Receiving-Decoding Group AN/ARA-63B .....	015 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Incorporation of Receiver/Decoder AN/ARA-63 (ECP 345)	4/1/88	Effectivity: Aircraft Serial No. 163537 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. Pulse Decoder KY-651B/ARA-63 (pulse decoder) (89A2) is part of Receiving-Decoding Group AN/ARA-63B. The pulse decoder is in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00, (figure 3, item 64), for location of pulse decoder.

**3. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

**Note**

Insure that protective caps are installed on test receptacles J3 and J5 of pulse decoder.

c. Disconnect plugs P1, P2, P4, and P6 from pulse decoder. Install caps on all connectors and receptacles.

d. Remove and retain four screws and washers, that secure pulse decoder to shelf.

e. Remove pulse decoder from aircraft shelf.

4. **INSTALLATION.** (Figure 1.)

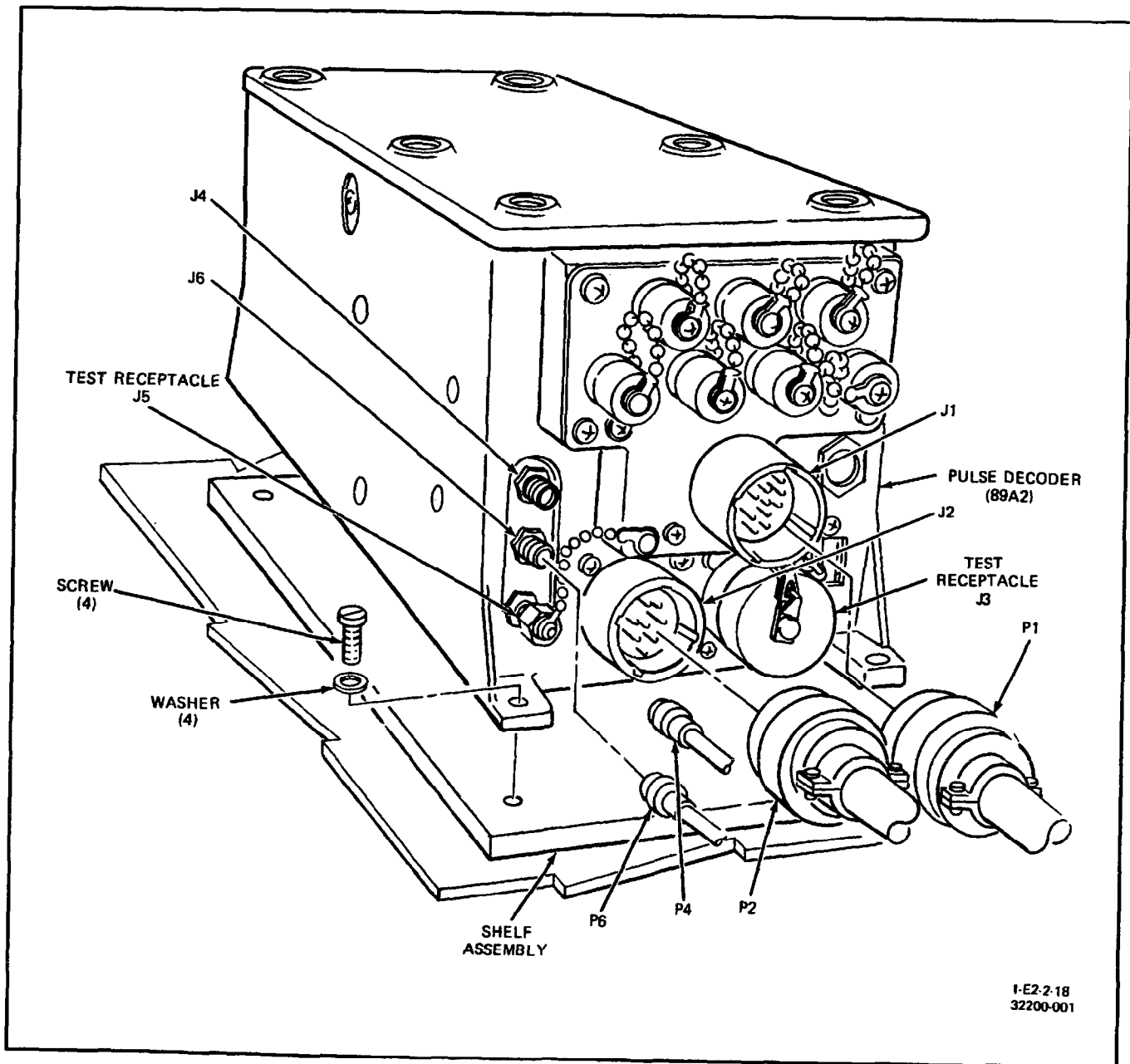
a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. Using four screws and washers, secure pulse decoder to shelf. Tighten all hardware.

d. Remove caps from connectors and receptacles and connect P1, P2, P4, and P6 to pulse decoder J1, J2, J4, and J6, respectively.

e. Perform operational check of Receiving-Decoding Group AN/ARA-63B. Refer to NAVAIR 01-E2AAA-2-17.1, WP015 01.



1-E2-2-18  
32200-001

Figure 1. Removal and Installation of Pulse Decoder KY-651B/ARA-63



**ORGANIZATIONAL MAINTENANCE**

**RECEIVER CONTROL C-7949B/ARA-63**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163537 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Receiving-Decoding Group AN/ARA-63B .....	015 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Incorporation of Receiver/Decoder AN/ARA-63 (ECP 345)	4/1/88	Effectivity: Aircraft Serial No. 163537 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. Receiver Control C-7949B/ARA-63 (receiver control) (89A3) is part of Receiving-Decoding Group AN/ARA-63B. The receiver control is in the cockpit overhead console. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 1, item 5), for location of receiver control.

**3. REMOVAL. (Figure 1.)**

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

- c. Loosen two captive screws that secure receiver control to overhead console.
- d. Pull receiver control out of overhead console until rear-mounted connector P1 is accessible.
- e. Disconnect connector P1 from connector J1 on receiver control.
- f. Remove receiver control from console.
- g. Install caps on connector and receptacle.

4. **INSTALLATION.** (Figure 1.)

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

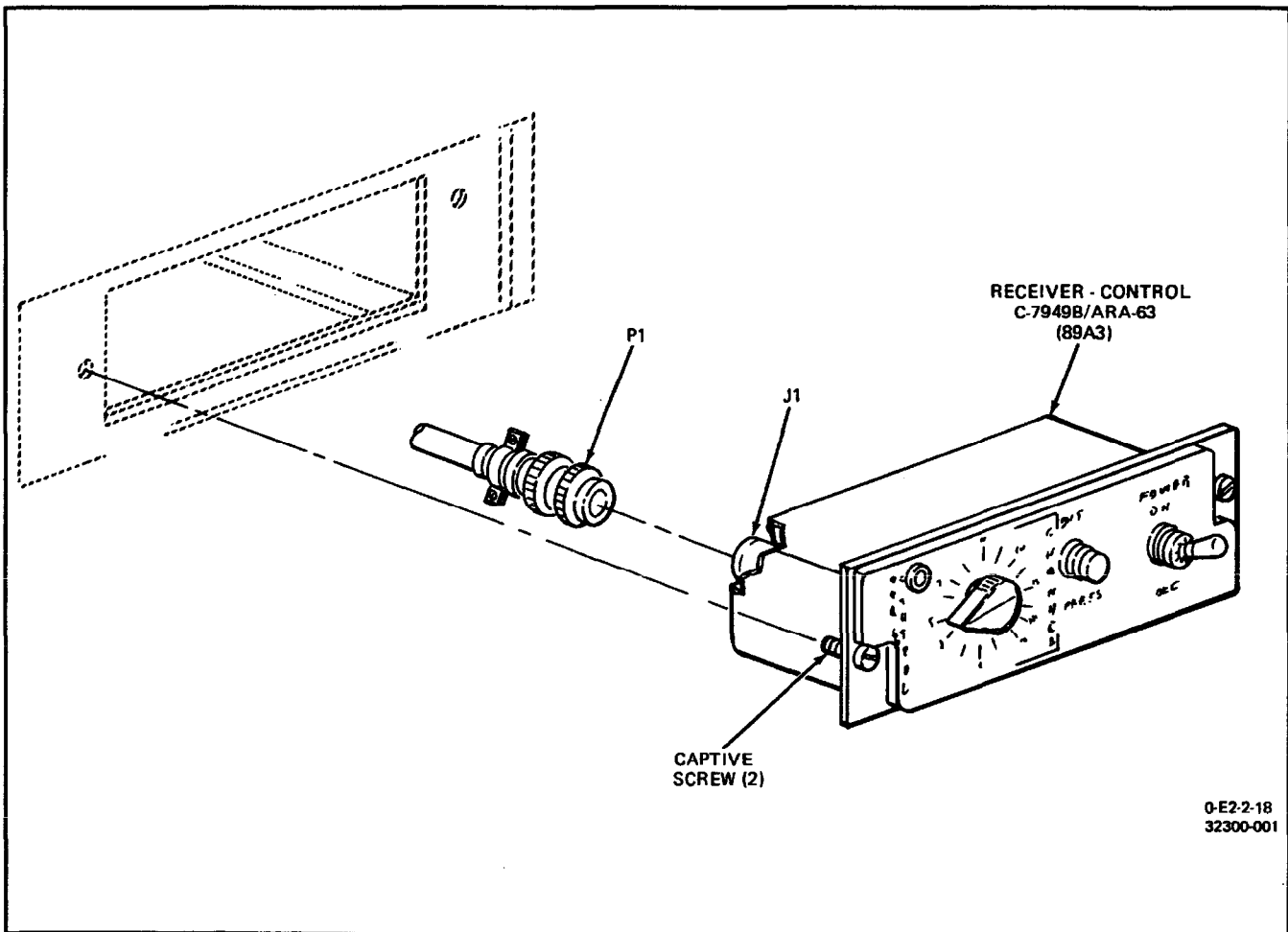
- b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

- c. Remove caps from connector and receptacle.

- d. Connect P1 to receiver control J1.

- e. Position receiver control in place on overhead console and secure by turning two captive screws clockwise.

- f. Perform operational check of Receiving-Decoding Group AN/ARA-63B. Refer to NAVAIR 01-E2AAA-2-17.1, WP015 01.



0-E2-2-18  
32300-001

Figure 1. Removal and Installation of Receiver Control C-7949B/ARA-63

**ORGANIZATIONAL MAINTENANCE**

**ANTENNA PART NO. 123AVC56826-1, FLEXIBLE WAVEGUIDE PART NO. 123SCAV5836-1, AND WAVEGUIDE PART NO. 123SCAV6041-11**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163537 AND SUBSEQUENT**

**This work package (WP) supersedes WP324 00, dated 1 December 2000.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Receiving-Decoding Group AN/ARA-63B .....	015 01

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Incorporation of Receiver/Decoder AN/ARA-63 (ECP 345)	4/1/88	Effectivity: Aircraft Serial No. 163537 and Subsequent. ECP Coverage Only.

1. **GENERAL.**
2. Antenna Part No. 123AVC56826-1 (89E10), Flexible Waveguide Part No. 123SCAV5836-1 (89W15), and Waveguide Part No. 123SCAV6041-11 (126W3) are used with Receiving-Decoding Group AN/ARA-63B. The antenna and waveguides are on a shelf in the nose compartment. See figure 1 for location of antenna.
3. **ANTENNA PART NO. 123AVC56826-1.** (Figure 1.)

**4. REMOVAL.**

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.
- c. Disengage two latches at bottom of nose cap and swing nose cap up. Secure nose cap in up position with two struts.
- d. Remove four screws, plain washers, and lock-washers that secure flange of flexible waveguide, part no. 123SCAV5836-1, to antenna flange.
- e. Remove two screws and plain washers that secure antenna mounting flange to support. Carefully remove antenna.

**5. INSTALLATION.**

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.
- c. Position antenna on support and using two screws and plain washers, secure antenna to support.
- d. Using four screws, plain washers, and lock-washers, secure antenna to flexible waveguide, part no. 123SCAV5836-1, flange.
- e. Perform operational check of Receiving-Decoding Group AN/ARA-63B. Refer to NAVAIR 01-E2AAA-2-17.1, WP015 01.
- f. Disengage nose cap supporting struts and close nose cap. Secure nose cap with two latches.

**6. FLEXIBLE WAVEGUIDE PART NO. 123SCAV5836-1. (Figure 1.)**

**7. REMOVAL.**

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.
- c. Disengage two latches at bottom of nose cap and swing nose cap up. Secure nose cap in up position with two struts.
- d. Remove screw and plain washer that secure clamp to bracket assembly. Remove clamp from flexible waveguide.

e. Remove screw, plain washer and spacer that secure clamp to shelf installation. Remove clamp from flexible waveguide.

f. Loosen four captive screws of waveguide, part no. 123SCAV6041-11, that secure flexible waveguide flange to waveguide flange.

g. Remove four screws, plain washers, and lock-washers that secure other end of flexible waveguide flange to antenna flange.



Use care when removing flexible waveguide to avoid damage to antenna and waveguides.

h. Carefully remove flexible waveguide.

i. Inspect seal gaskets in flexible waveguide flanges for damage. (QUALITY ASSURANCE)

j. Remove and discard damaged seal gasket(s).

**8. INSTALLATION.**

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

c. Replace seal gasket(s) in flexible waveguide flange(s) as required.

d. Using four screws, plain washers, and lock-washers, secure flexible waveguide flange to antenna flange.

e. Using four captive screws of waveguide, part no. 123SCAV6041-11, secure flexible waveguide flange to waveguide flange.

f. Install clamp around flexible waveguide and using screw, washer and spacer secure clamp to shelf installation.

g. Install clamp around flexible waveguide and using screw and washer, secure clamp to bracket assembly.

h. Perform operational check of Receiving-Decoding Group AN/ARA-63 (NAVAIR 01-E2AAA-2-17.1, WP015 01).

i. Disengage nose cap supporting struts and close nose cap. Secure nose cap with two latches.

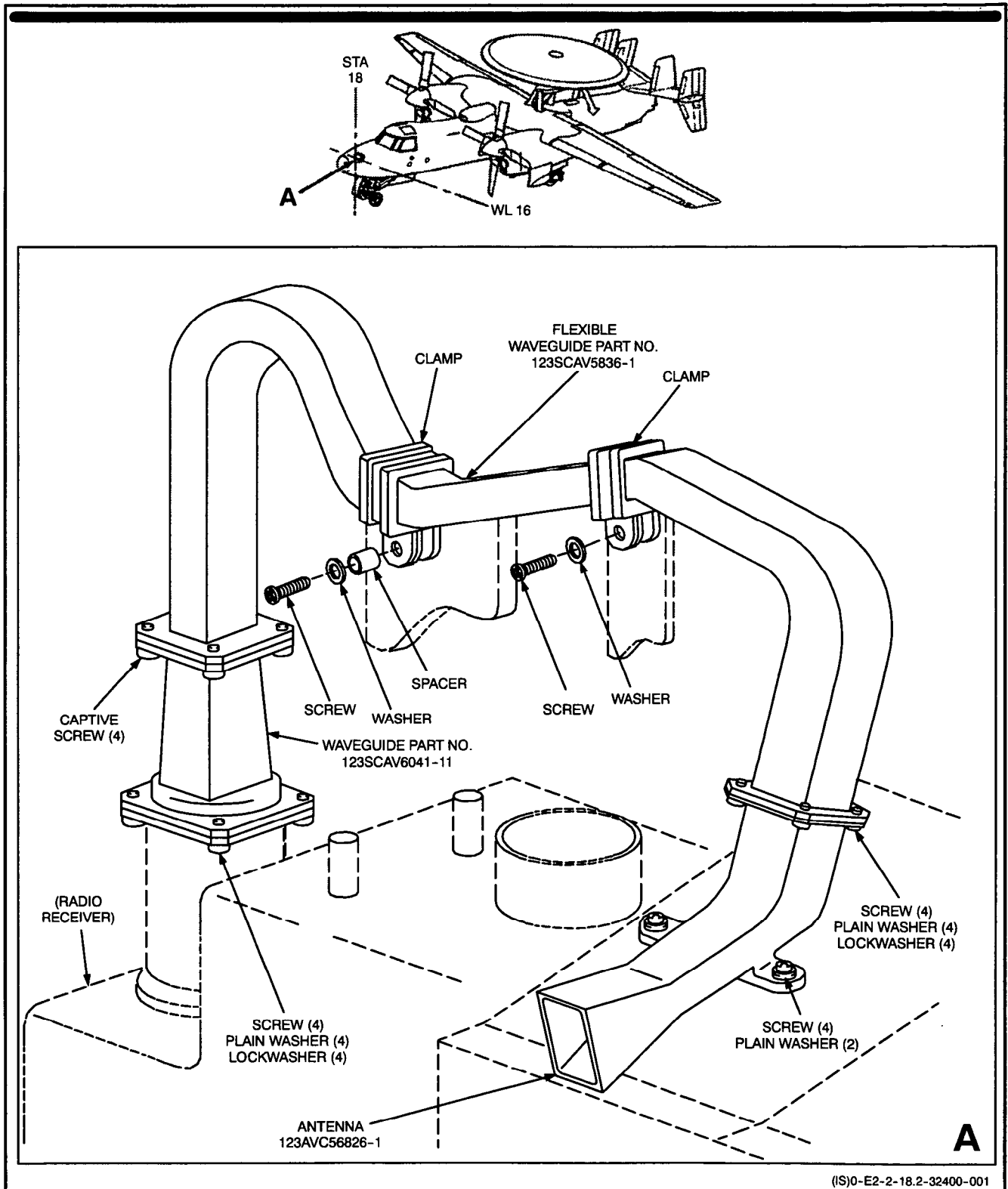


Figure 1. Removal and Installation of Antenna Part No. 123AVC56826-1, Flexible Waveguide Part No. 123SCAV5836-1, and Waveguide Part No. 123SCAV6041-11

**9. WAVEGUIDE PART NO. 123SCAV6041-11.**  
(Figure 1.)**10. REMOVAL.**

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.
- c. Disengage two latches at bottom of nose cap and swing nose cap up. Secure nose cap in up position with two struts.
- d. Loosen four captive screws that secure waveguide flange to flexible waveguide, part no. 123SCAV5836-1, flange.
- e. Remove four screws, plain washers, and lock-washers, that secure waveguide flange to flange of Radio Receiver R-1379B/ARA-63 (radio receiver). Carefully remove waveguide.
- f. Inspect seal gaskets in waveguide flanges for damage. (QUALITY ASSURANCE)
- g. Remove and discard damaged seal gasket(s).

**11. INSTALLATION.**

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.
- c. Replace seal gasket(s) in waveguide flange(s) as required.
- d. Align waveguide threaded holes with Radio Receiver R-1379B/ARA63 flange holes.
- e. Using four screws, plain washers and lock-washers secure waveguide flange to radio receiver flange.
- f. Using four captive screws, secure waveguide flange to flexible waveguide, part no. 123SCAV5836-1 flange.
- g. Perform operational check of Receiving-Decoding Group AN/ARA-63B. Refer to NAVAIR 01-E2AAA-2-17.1, WP015 01.
- h. Disengage nose cap supporting struts and close nose cap. Secure nose cap with two latches.

**ORGANIZATIONAL MAINTENANCE**

**RADAR RECEIVER-TRANSMITTER RT-1501A/AP**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems TEsting and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Detector-Processor Group OL-482/AP .....	028 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Radar Receiver-Transmitter RT-1501A/AP (hereinafter referred to as the receiver-transmitter) (42A1A3), is part of the Detector-Processor Group OL-483/AP. The receiver-transmitter is in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 147) for location of the receiver-transmitter.

**3. REMOVAL.** (Figure 1.)



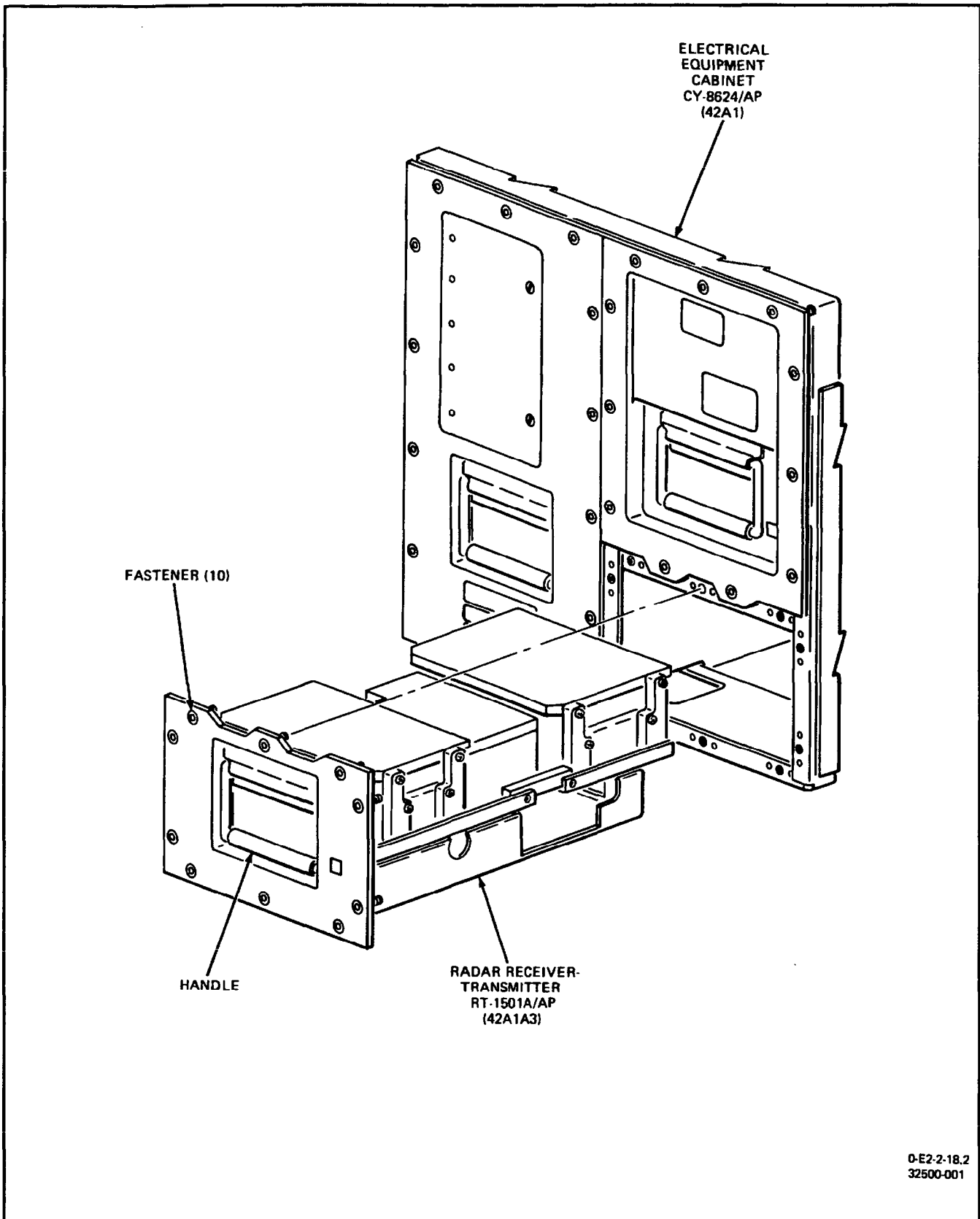
Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Using 5/32-inch hex key, disengage 10 fasteners that secure receiver-transmitter to electrical equipment cabinet (cabinet).

b. Pull handle and slowly slide receiver-transmitter forward out of cabinet.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
—	5/32-Inch Hex Key



0-E2-2-18.2  
32500-001

Figure 1. Removal and Installation of Radar Receiver-Transmitter RT-1501A/AP



c. Cap all connectors and receptacles.

4. **INSTALLATION.** (Figure 1.)



Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove all caps from connectors and receptacles.

b. Inspect connectors and receptacles for damage and bent pins prior to component installation.

c. Slowly slide receiver-transmitter into cabinet and carefully push in until guide pins on cabinet engage receiver-transmitter. (QUALITY ASSURANCE)

d. Using 5/32-inch hex key, engage 10 fasteners to secure receiver-transmitter to cabinet. (QUALITY ASSURANCE)

e. Perform operational check of Detector-Processor Group OL-483/AP (NAVAIR 01-E2AAA-2-17.3, WP028 01).



**ORGANIZATIONAL MAINTENANCE**

**SIGNAL PROCESSOR COMPUTER CP-2022/AP**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Detector-Processor Group OL-483/AP .....	028 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment .....	DOD-HDBK-263

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Signal Processor Computer CP-2022/AP (hereinafter referred to as the signal processor) (42A1A1), is part of the Detector-Processor Group OL-483/AP. The signal processor is in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 148) for location of the signal processor.

**3. ELECTROSTATIC DISCHARGE PRECAUTIONS.**

4. The signal processor contains devices and assemblies that are sensitive to electrostatic discharge (ESD). Equipment marking calls attention to the presence of ESD items. Refer to DOD-HDBK-263 when handling ESD sensitive assemblies and/or piece parts.

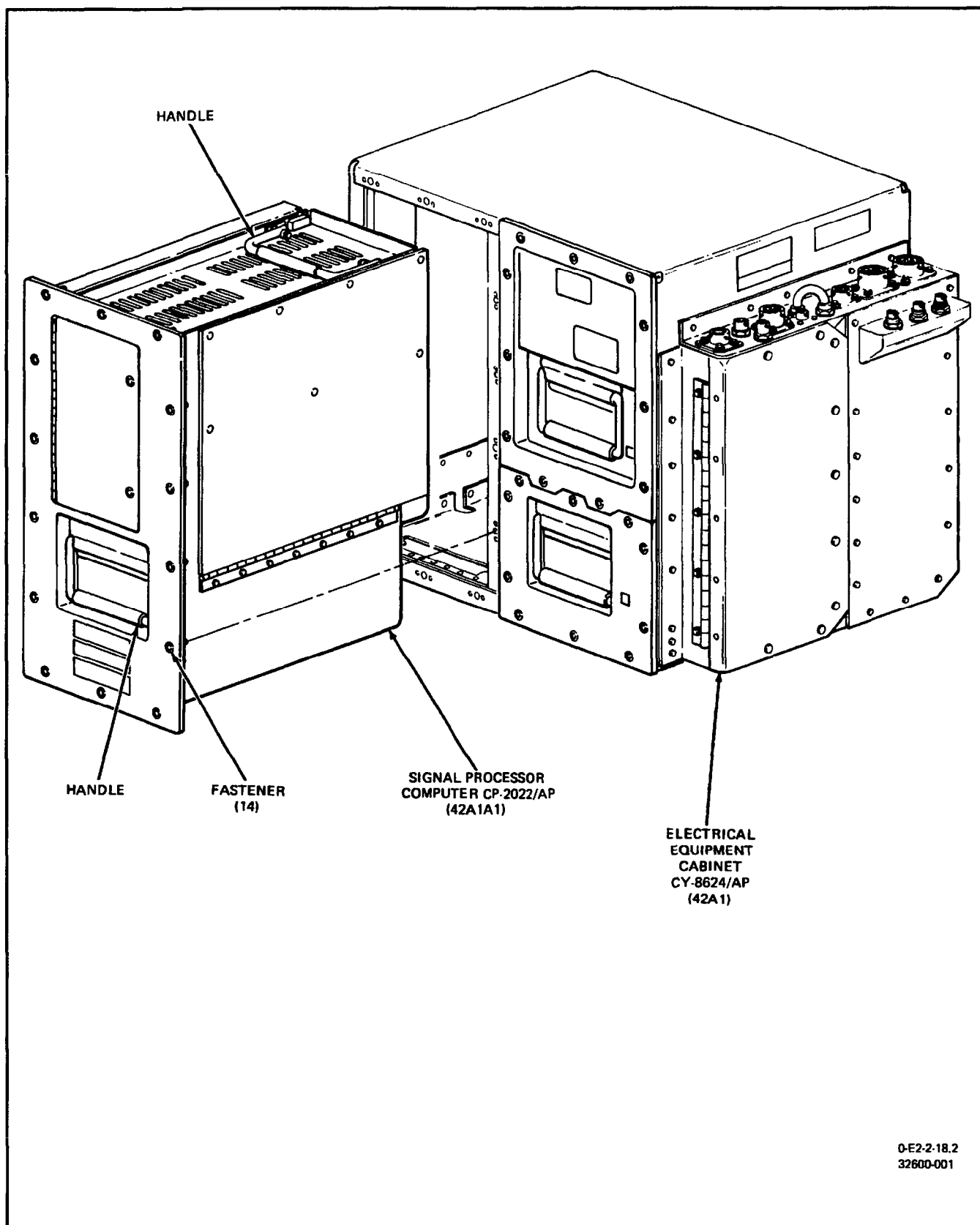


Figure 1. Removal and Installation of Signal Processor Computer CP-2022/AP

**Support Equipment Required**

Part or Model No.	Nomenclature
—	5/32-Inch Hex Key

5. **REMOVAL.** (Figure 1.)



Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using 5/32-inch hex key, disengage 14 fasteners that secures signal processor to electrical equipment cabinet (cabinet).



Ensure that door on front of signal processor is closed before removing.

- b. Pull handle and slowly slide signal processor out of cabinet.
- c. Cap all connectors and receptacles.

6. **INSTALLATION.** (Figure 1.)



Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.
- b. Inspect connectors and receptacles for damage and bent pins prior to component installation. Inspect temperature sensor on top near rear handle for damage.
- c. Verify that signal processor access panel is securely fastened and screws are fully seated.
- d. Slowly slide signal processor into cabinet and carefully push in until guide pins engage signal processor. (QUALITY ASSURANCE)
- e. Using 5/32-inch hex key, engage 14 fasteners to secure signal processor to cabinet. (QUALITY ASSURANCE)
- f. Open front door and verify both toggle switches are in down position.
- g. Perform operational check of Detector-Processor Group OL-483/AP (NAVAIR 01-E2AAA- 2-17.3, WP028 01).



**ORGANIZATIONAL MAINTENANCE**

**RADAR INTERROGATOR-TRANSPONDER RT-1645/AP**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Detector-Processor Group OL-483/AP .....	028 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Pars, Assemblies and Equipment .....	DOD-HDBK-263

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Se- rial No.164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Radar Interrogator-Transponder RT-1645/AP (hereinafter referred to as the interrogator-transponder) (42A1A2), is part of the Detector-Processor Group OL-483/AP. The interrogator-transponder is in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 146) for location of the interrogator-transponder.

**3. ELECTROSTATIC DISCHARGE PRECAUTIONS.**

4. The interrogator-transponder contains devices and assemblies that are sensitive to electrostatic discharge (ESD). Equipment marking calls attention to the presence of ESD items. Refer to DOD-HDBK-263 when handling ESD sensitive assemblies and/or piece parts.

**Support Equipment Required**

Part or Model No.	Nomenclature
—	5/32-Inch Hex Key

Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

5. **REMOVAL.** (Figure 1.)

Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using 5/32-inch hex key, disengage 11 fasteners that secures interrogator-transponder to electrical equipment cabinet (cabinet).
- b. Using handle, slowly pull interrogator-transponder forward out of cabinet.
- c. Cap all connectors and receptacles.

6. **INSTALLATION.** (Figure 1.)

- a. Remove caps from connectors and receptacles.
- b. Inspect connectors and receptacles for damage and bent pins prior to component installation.
- c. Verify that test connectors on side have all protective covers removed before insertion of interrogator-transponder into cabinet.
- d. Slowly slide interrogator-transponder into cabinet and carefully push in until guide pins engage interrogator-transponder. (QUALITY ASSURANCE)
- e. Using 5/32-inch hex key, engage 11 fasteners to secure interrogator-transponder to cabinet. (QUALITY ASSURANCE)
- f. Perform operational check of Detector-Processor Group OL-483/AP (NAVAIR 01-E2AAA-2-17.3, WP028 01).



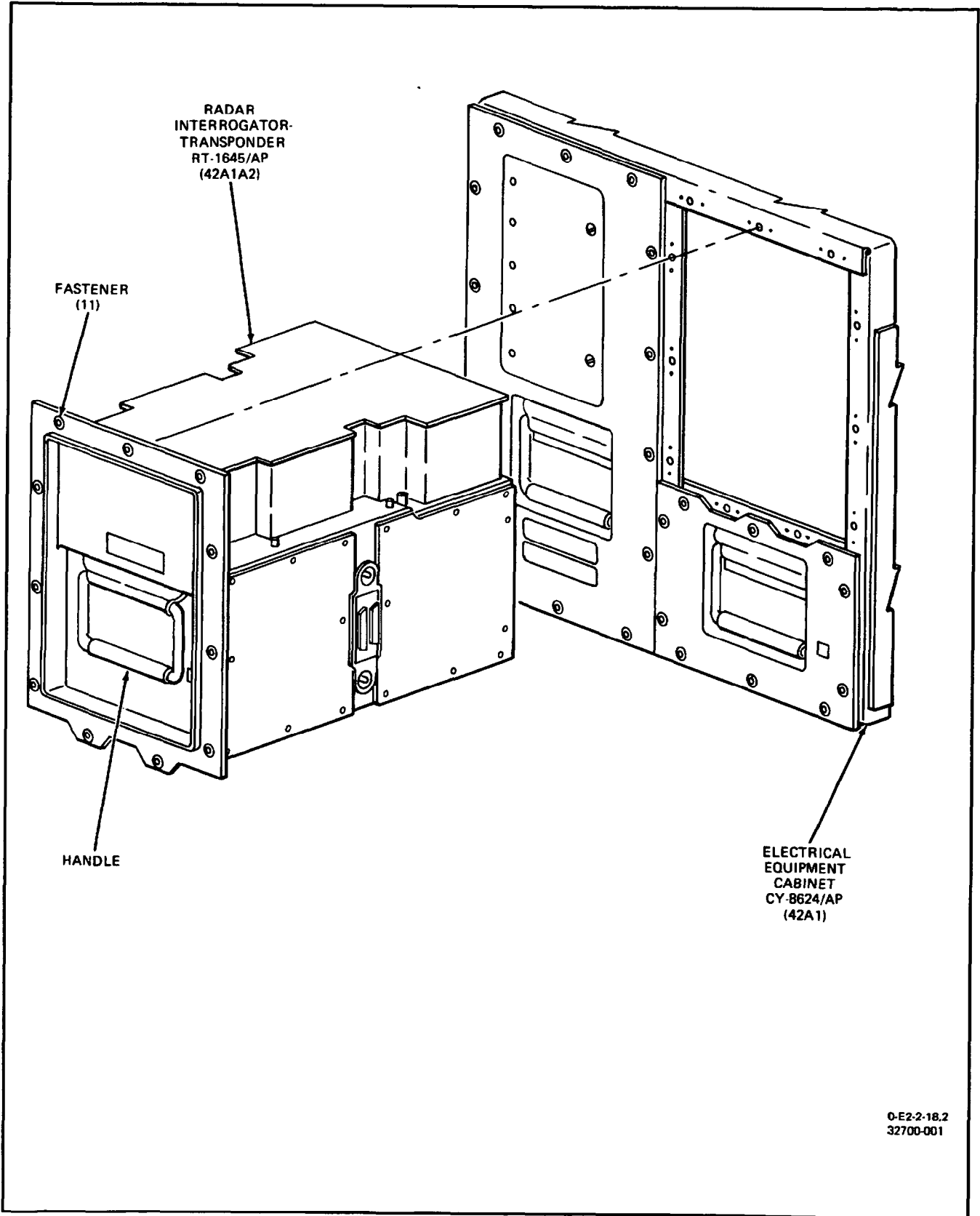


Figure 1. Removal and Installation of Interrogator-Transponder RT-1645/AP



**ORGANIZATIONAL MAINTENANCE**

**ELECTRICAL EQUIPMENT CABINET CY-8624/AP**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Detector-Processor Group OL-483/AP .....	028 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Radar Receiver-Transmitter RT-1501A/AP .....	325 00
Signal Processor Computer CP-2022/AP .....	326 00
Radar Interrogator-Transponder RT-1645/AP .....	327 00
Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment .....	DOD-HDBK-263

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Electrical Equipment Cabinet CY-8624/AP (hereinafter referred to as the cabinet) (42A1), is part of the Detector-Processor Group OL-483/AP. The cabinet is in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 21A) for location of the cabinet.

**3. ELECTROSTATIC DISCHARGE PRECAUTIONS.**

4. The cabinet contains devices and assemblies that are sensitive to electrostatic discharge (ESD). Equipment marking calls attention to the presence of ESD items. Refer to DOD-HDBK-263 when handling ESD sensitive assemblies and/or piece parts.

5. REMOVAL. (Figure 1.)

**WARNING**

Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove Radar Receiver-Transmitter RT-1501A/AP (WP325 00).
- b. Remove Signal Processor Computer CP-2022/AP (WP326 00).
- c. Remove Interrogator-Transponder RT-1645/AP (WP326 00).
- d. Disconnect connectors 42A1P1, 42A1P3 through 42A1P5, and 42A1P7 through 42A1P11 from cabinet receptacles J1, J3 through J5, and J7 through J11, respectively.
- e. Cap all connectors and receptacles.
- f. Remove 17 screws that secure panel below cabinet to aircraft structure. Remove panel.
- g. Loosen six captive screws that secure air duct flange to bottom of cabinet.
- h. Remove four bolts and washers that secure cabinet to angle brace.
- i. Remove 10 screws and washers that secure cabinet to shelf. Remove cabinet.

6. INSTALLATION. (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
EC 1300L (Minnesota Mining and Manufacturing Co.) or equivalent	Rubber Cement
MIL-C-85043	Lint-Free Cloth
MIL-R-6130, Type II, Grade A, Medium	Cellular Rubber Sheet
TT-T-548	Toluene

**WARNING**

Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. If gasket on duct flange is damaged, cut new gasket with old gasket dimensions and holes, using cellular rubber sheet.
- b. Remove old gasket using suitable method.
- c. Install new gasket as follows:

**WARNING**

Toluene (toluol), TT-T-548, is toxic and extremely flammable. Vapor may collect and flow to ignition source, causing flame flashback. Protection: chemical splashproof goggles, impervious protective clothing, and good ventilation. Keep container closed; keep sparks, flames, and heat away. Keep toluene off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

- (1) Thoroughly clean air duct flange with a clean cloth saturated with toluene. Wipe off toluene with a clean, dry, lint-free cloth. Do not allow toluene to dry on surface.

**WARNING**

Rubber cement, EC 1300L, is toxic and flammable. Protection: chemical splashproof goggles and good ventilation; keep container closed; keep sparks, flames, and heat away. Keep cement off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

- (2) Apply uniform coat of rubber cement to gasket and to air duct flange. Allow sufficient drying for rubber cement to become tacky, but not transferable to the fingers when touched.

- (3) Join gasket to air duct flange and allow the bonded assembly to dry for a minimum of 24 hours at room temperature.

- d. Remove caps from connectors and receptacles.
- e. Inspect connectors and receptacles for damage and bent pins prior to component installation.

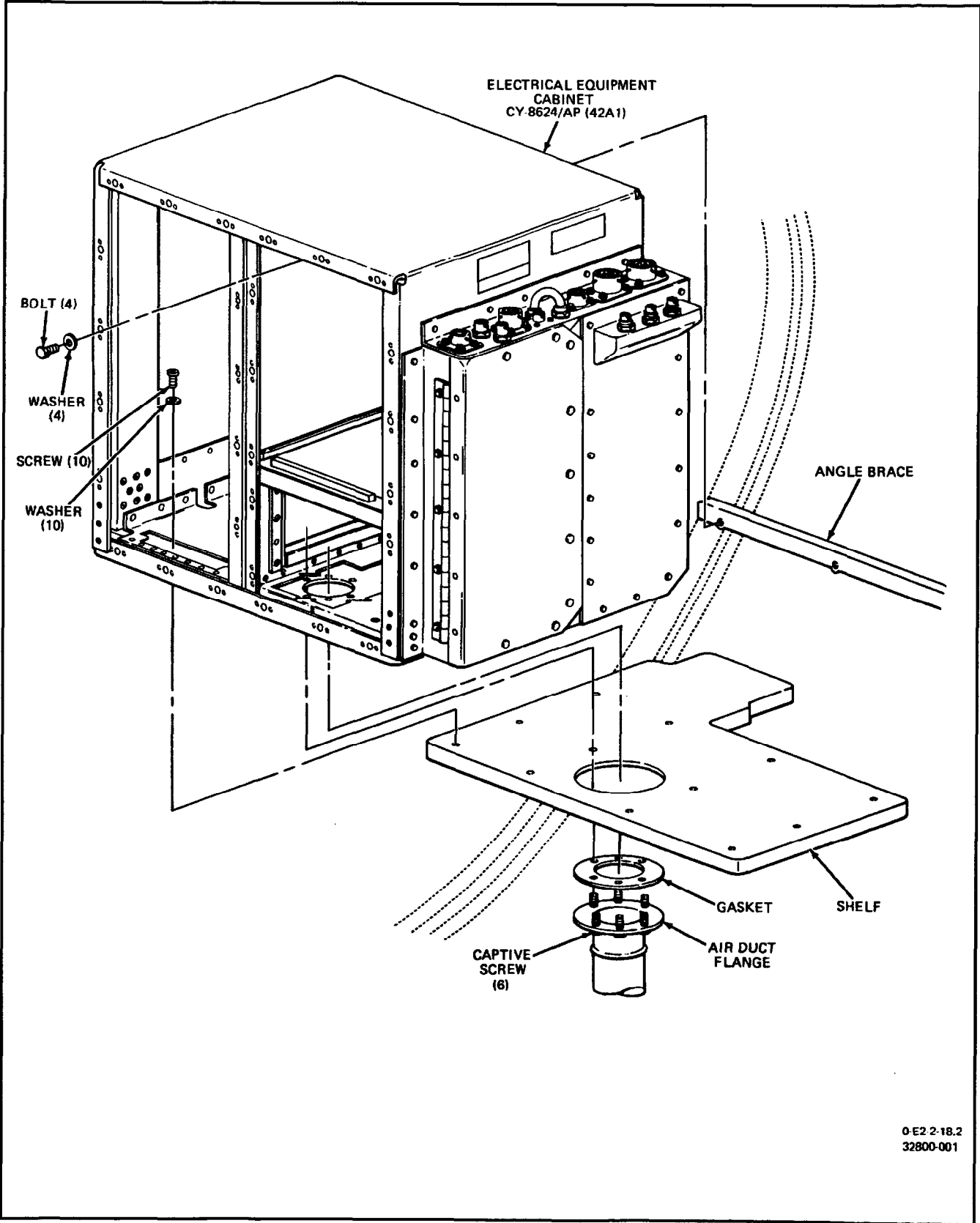


Figure 1. Removal and Installation of Electrical Equipment Cabinet CY-8624/AP

- f. Slide cabinet into position on shelf.
- g. Secure cabinet to shelf with 10 screws and washers.
- h. Secure cabinet to angle brace with four bolts and washers.



Carefully install air duct so as not to damage gasket.

- i. Secure air duct flange to bottom of cabinet with six captive screws.
- j. Install panel below cabinet and secure to aircraft structure with 17 screws.

k. Connect connectors 42A1P1, 42A1P3 through 42A1P5, and 42A1P7 through 42A1P11 to cabinet receptacles J1, J3 through J5, and J7 through J11, respectively.

l. Install Radar Receiver-Transmitter RT-1501A/AP (WP325 00).

m. Install Signal Processor Computer CP-2022/AP (WP326 00).

n. Install Radar Interrogator-Transponder RT-1645/AP (WP327 00).

o. Perform operational check of Detector-Processor Group OL-483/AP (NAVAIR 01-E2AAA-2-17.3, WP028 01).

**ORGANIZATIONAL MAINTENANCE**

**RADAR RECEIVER R-2318/AP**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
Access and Inspection Provisions .....	011 00
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Detector-Processor Group OL-483/AP .....	028 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The Radar Receiver R-2318/AP (hereinafter referred to as the receiver), is part of the Detector-Processor Group OL-483/AP. There are two identical receivers in the E-2C aircraft. One receiver (42A11) is in the front of the equipment compartment, on the right

side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 65) for location of receiver (42A11). The other receiver (42A8) is in the pylon and is secured in a vertical position to the left wall. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 6, item 2) for location of receiver (42A8).

3. **REMOVAL.**

4. RECEIVER 42A11. (Figure 1.)

**WARNING**

Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disengage two fasteners at bottom of cockpit entry steps. Raise steps to gain access to receiver.
- b. Disconnect connectors 42A11P1 and 42A11P2 from receptacles J1 and J2, respectively.
- c. Loosen six captive fasteners that secure receiver to two support assemblies.
- d. Using handle, slowly remove receiver from support assemblies.
- e. Cap all connectors and receptacles.

5. RECEIVER 42A8. (Figure 2.)

**WARNING**

Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

Screws and matching screw holes shall be tagged to facilitate installation.

- a. Remove and tag access panel from right side of pylon. (See Access and Inspection Provisions figure, item 32, NAVAIR 01-E2AAA-2-1, WP011 00.)
- b. Disconnect connectors 42A8P1 and 42A8P2 from receptacles J1 and J2, respectively.
- c. Support receiver and loosen six captive fasteners that secure receiver to support assembly. Remove receiver from pylon.
- d. Cap all connectors and receptacles.

6. **INSTALLATION.**

7. RECEIVER 42A11. (Figure 1.)

**WARNING**

Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.
- b. Inspect connectors and receptacles for damage and bent pins.
- c. Carefully place receiver on support assembly.
- d. Secure receiver to support assembly with six captive fasteners. (QUALITY ASSURANCE)
- e. Connect connectors 42A11P1 and 42A11P2 to receptacles J1 and J2, respectively. (QUALITY ASSURANCE)
- f. Perform operational check of Detector-Processor Group OL-483/AP (NAVAIR 01-E2AAA-2-17.3, WP028 01).
- g. Lower cockpit entry steps and engage two fasteners.

8. RECEIVER 42A8. (Figure 2.)

**WARNING**

Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from connectors and receptacles.
- b. Inspect connectors and receptacles for damage and bent pins.
- c. Hold receiver in place against support assembly and secure with six captive fasteners. (QUALITY ASSURANCE)
- d. Connect connectors 42A8P1 and 42A8P2 to receptacles J1 and J2, respectively. (QUALITY ASSURANCE)
- e. Perform operational check of Detector-Processor Group OL-483/AP (NAVAIR 01-E2AAA-2-17.3, WP028 01).
- f. Install access panel on right side of pylon. (See Access and Inspection Provisions figure, item 32, NAVAIR 01-E2AAA-2-1, WP011 00.) Remove tags.



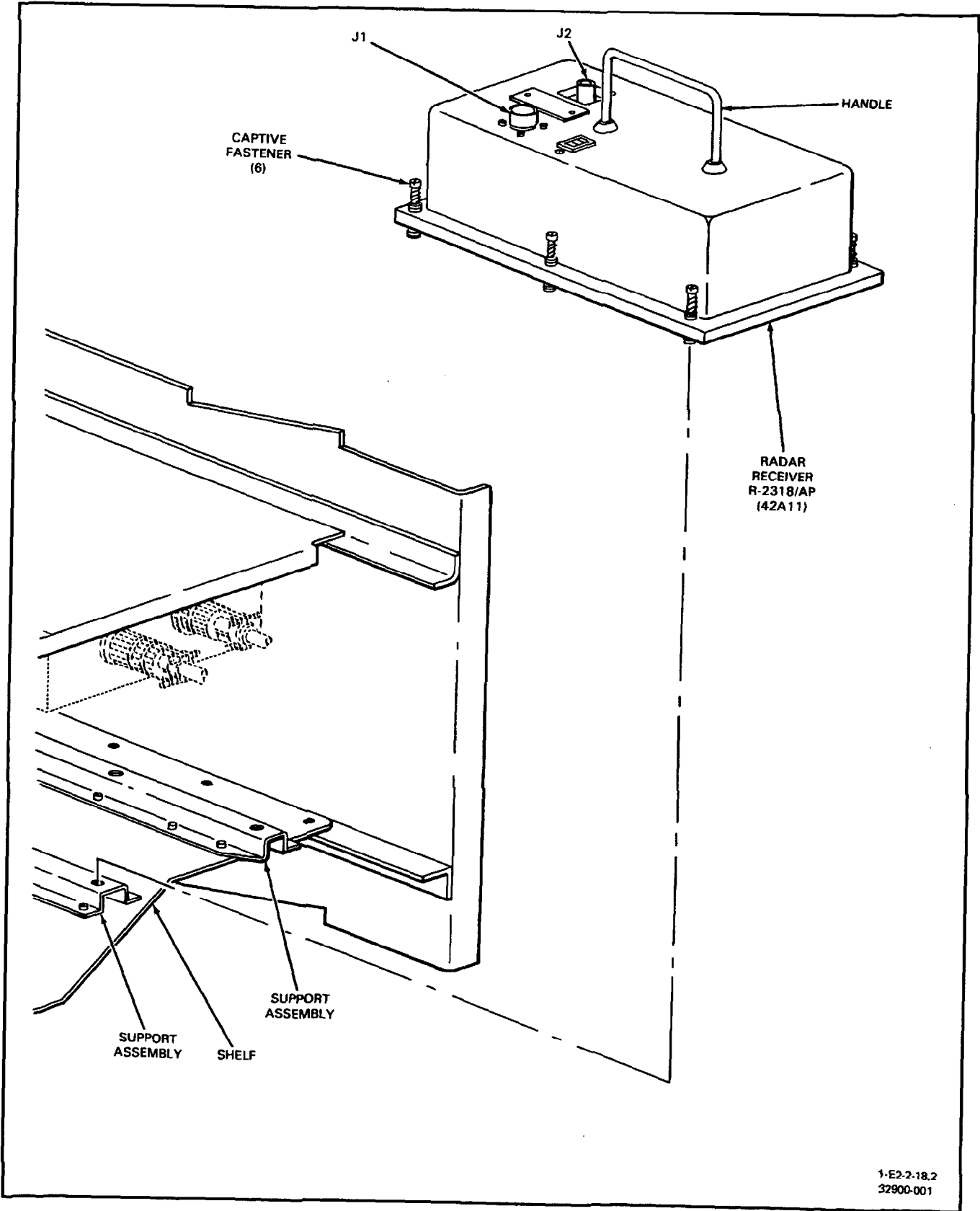


Figure 1. Removal and Installation of Radar Receiver R-2318/AP (42A11)

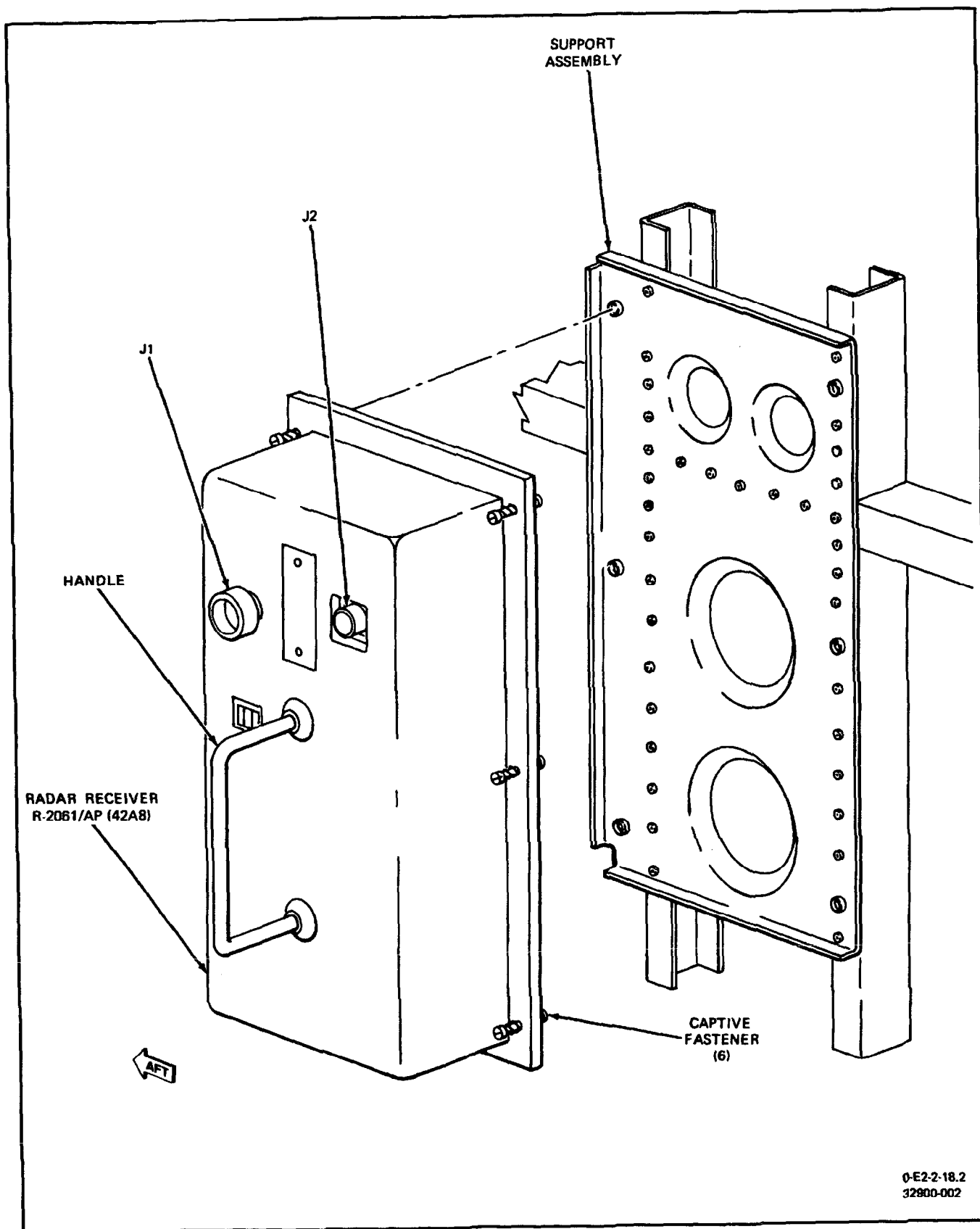


Figure 2. Removal and Installation of Radar Receiver R-2318/AP (42A8)

**ORGANIZATIONAL MAINTENANCE**

**HIGH BAND ANTENNA AS-2835/ALQ**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Detector-Processor Group OL-483/AP .....	028 01

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Production Incorporation of UDP Group II Changes and Improved IFF System (ECP GR-E-2C-360R1)	10/1/90	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. High Band Antenna AS-2835/ALQ (hereinafter referred to as the antenna), is part of the Detector-Processor Group OL-483/AP. There are two identical antennas in the E-2C aircraft. One antenna (42E10) is in the pylon nose cone fairing assembly (hereinafter referred to as the forward fairing). The other antenna (42E11) is in the pylon tail cone fairing assembly (hereinafter referred to as the aft fairing). See figure 1 for location of antennas.

**3. REMOVAL.**

4. ANTENNA 42E10. (Figure 1.)



Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

Screws and matching screw holes shall be tagged to facilitate installation.

- a. Remove and tag 51 screws that secure access panel no. 1 (detail A) to left side of pylon. Remove access panel no. 1.

b. Remove and tag 46 screws that secure access panel no. 2 (detail B) to right side of pylon. Remove access panel no. 2.

c. On right side of pylon, locate antenna cable assembly 42W28 (detail C).

d. Remove lockwire and disconnect connector 42P12 from waveguide transition 42J12.

e. Remove nut, washer, and screw and disconnect ground wire 42E10W1 terminal from ground connection point 42E33 on power splitter network support assembly.

#### Note

Do not separate cable assembly 42W28 from ground wire 42E10W1.

Do not remove clamp from around cable and ground wire combination.

f. Remove screw, washer, nut, and clamp that secure cable assembly 42W28 and ground wire 42E10W1 to power splitter network support assembly. Note location of clamp on support assembly and retain hardware for installation.

g. Remove and tag 10 screws that secure forward fairing (detail B) to pylon. Carefully move forward fairing and attached antenna, cable and ground wire, away from pylon.

h. Move forward fairing to work bench for removal of antenna.

i. Remove lockwire and disconnect connector 42E10P1 from antenna coaxial connector (detail D).

j. Remove screw and washer that secure ground wire terminal to ground point E1 on antenna.

#### Note

Cap connectors on cable assembly 42W28 and retain cable assembly and ground wire for installation of new antenna.

k. Remove remaining three screws and washers that secure antenna to bracket assembly and remove antenna.

l. Cap receptacles on antenna and waveguide transition 42J12.

5. ANTENNA 42E11. (Figure 1.)

### WARNING

Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

#### Note

Screws and matching screw holes shall be tagged to facilitate installation.

a. Remove and tag 24 screws that secure access panel no. 4 (detail B) to right side of pylon. Remove access panel no. 4.

b. Remove 21 and tag screws that secure access panel no. 3 (detail A) to left side of pylon. Remove access panel no. 3.

c. On right side of pylon, locate antenna cable assembly 42W22 (detail E).

d. Remove lockwire and disconnect connector 42P7 from waveguide transition 42J7.

e. Remove nut, washer, and screw and disconnect ground wire 42E11W1 terminal from ground connection point 42E32.

f. Remove and tag 14 screws that secure aft fairing (detail B) to pylon. Carefully move aft fairing and attached antenna, cable and ground wire, away from pylon.

g. Move aft fairing to work bench for removal of antenna.

h. Remove lockwire and disconnect connector 42E11P1 from antenna coaxial connector (detail F).

i. Remove screw and washer that secure ground wire 42E11W1 terminal to ground point E1 on antenna.

j. Remove remaining three screws and washers that secure antenna to bracket assembly. Carefully remove antenna from aft fairing.

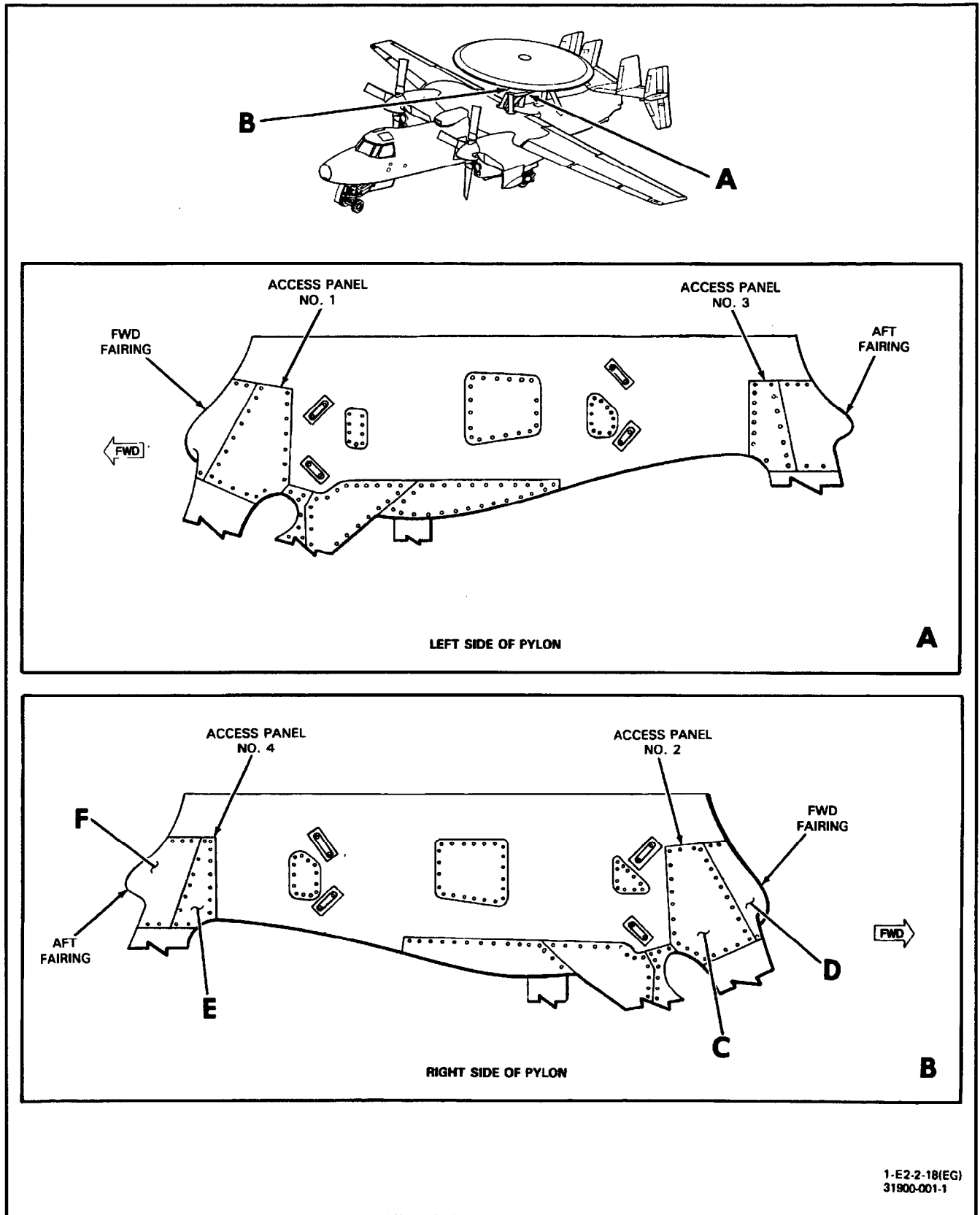
k. Cap receptacle on antenna and waveguide transition 42J7.

6. **INSTALLATION.**

7. ANTENNA 42E10. (Figure 1.)

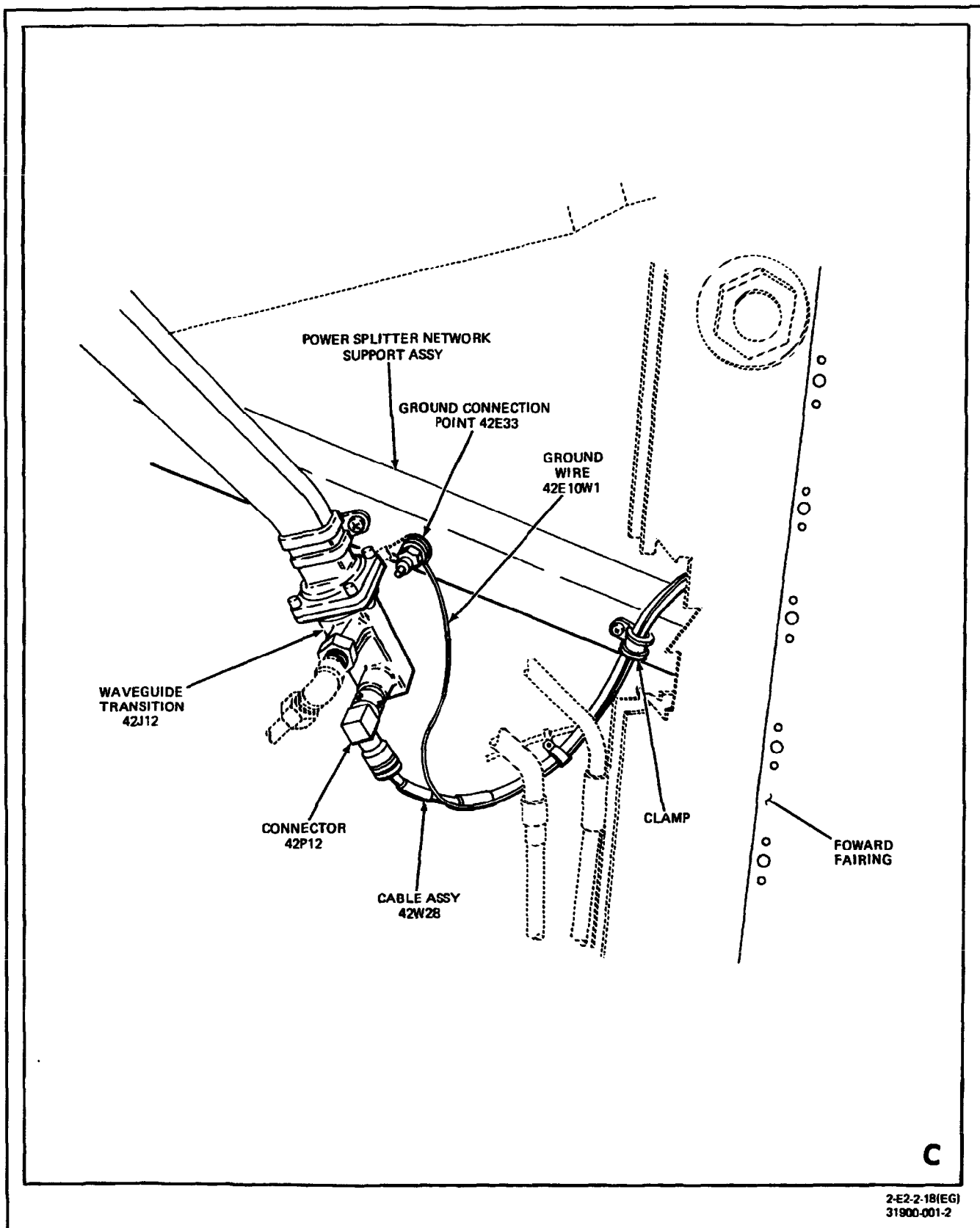
#### Materials Required

Specification or Part Number	Nomenclature
MS20995NC20	Lockwire



1-E2-2-18(EG)  
31900-001-1

Figure 1. Removal and Installation of High Band Antenna AS-2835/ALQ (Sheet 1 of 5)



2-E2-2-18(EG)  
31900-001-2

Figure 1. Removal and Installation of High Band Antenna AS-2835/ALQ (Sheet 2)

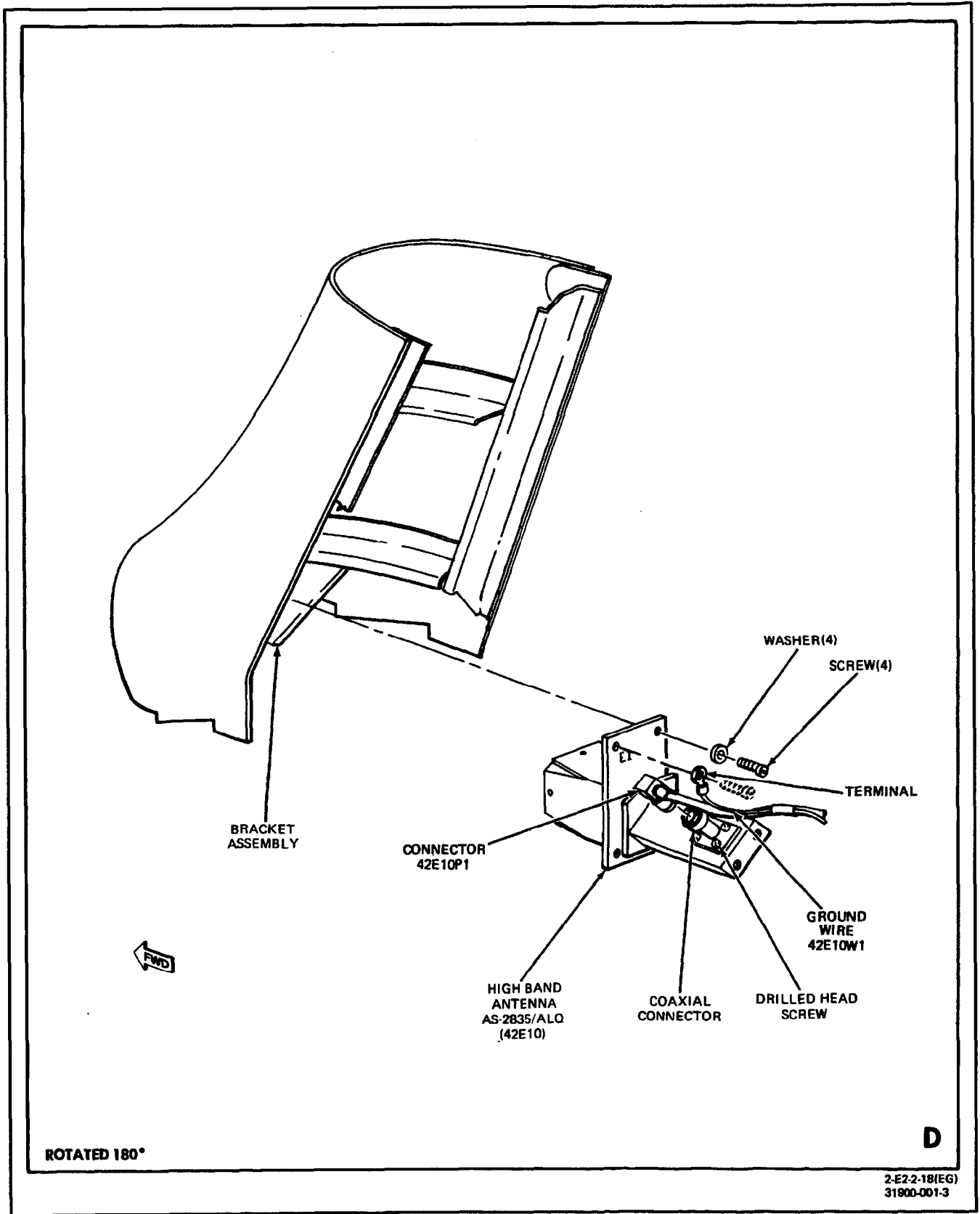
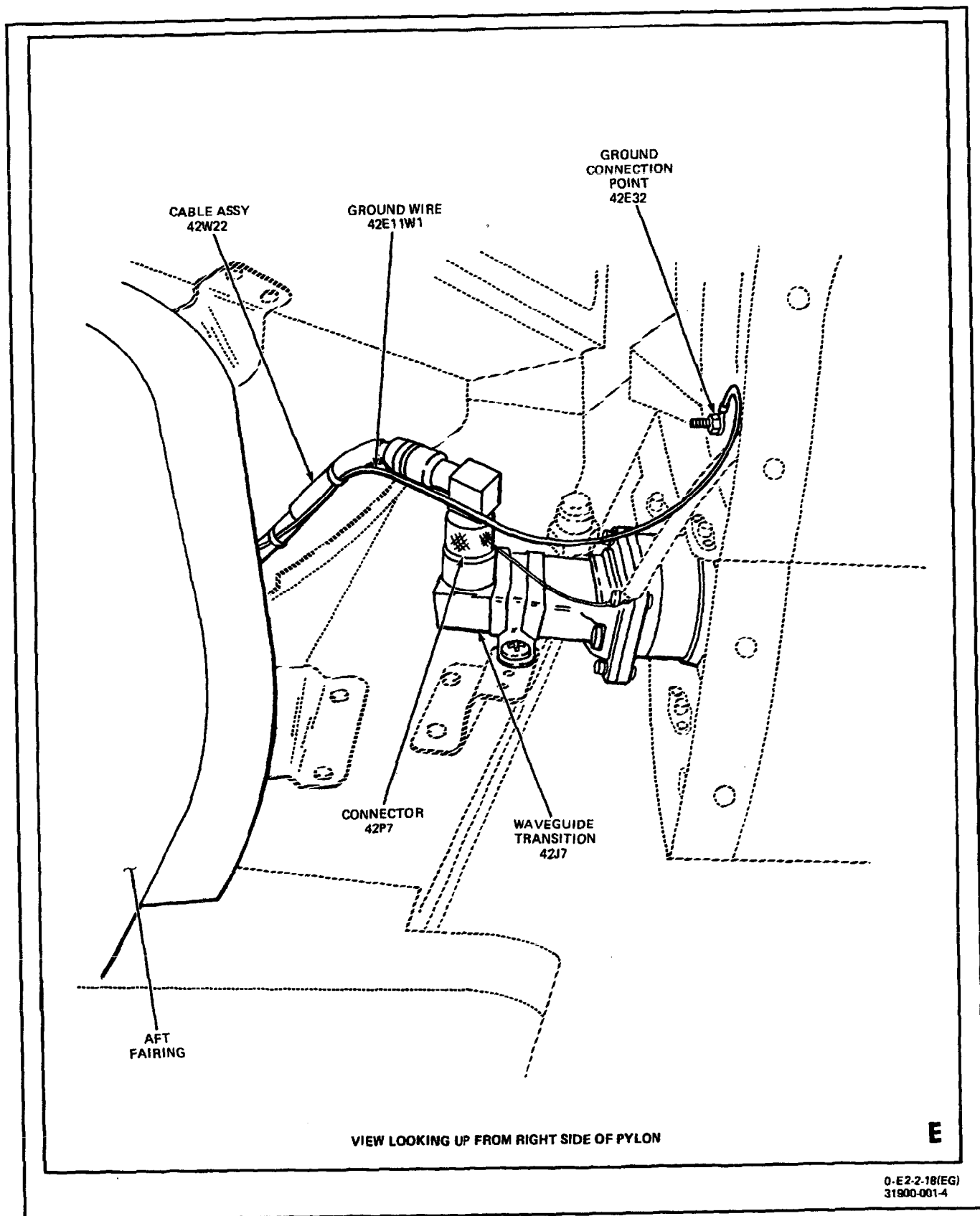


Figure 1. Removal and Installation of High Band Antenna AS-2835/ALQ (Sheet 3)



0-E2-2-18(EG)  
31900-001-4

Figure 1. Removal and Installation of High Band Antenna AS-2835/ALQ (Sheet 4)



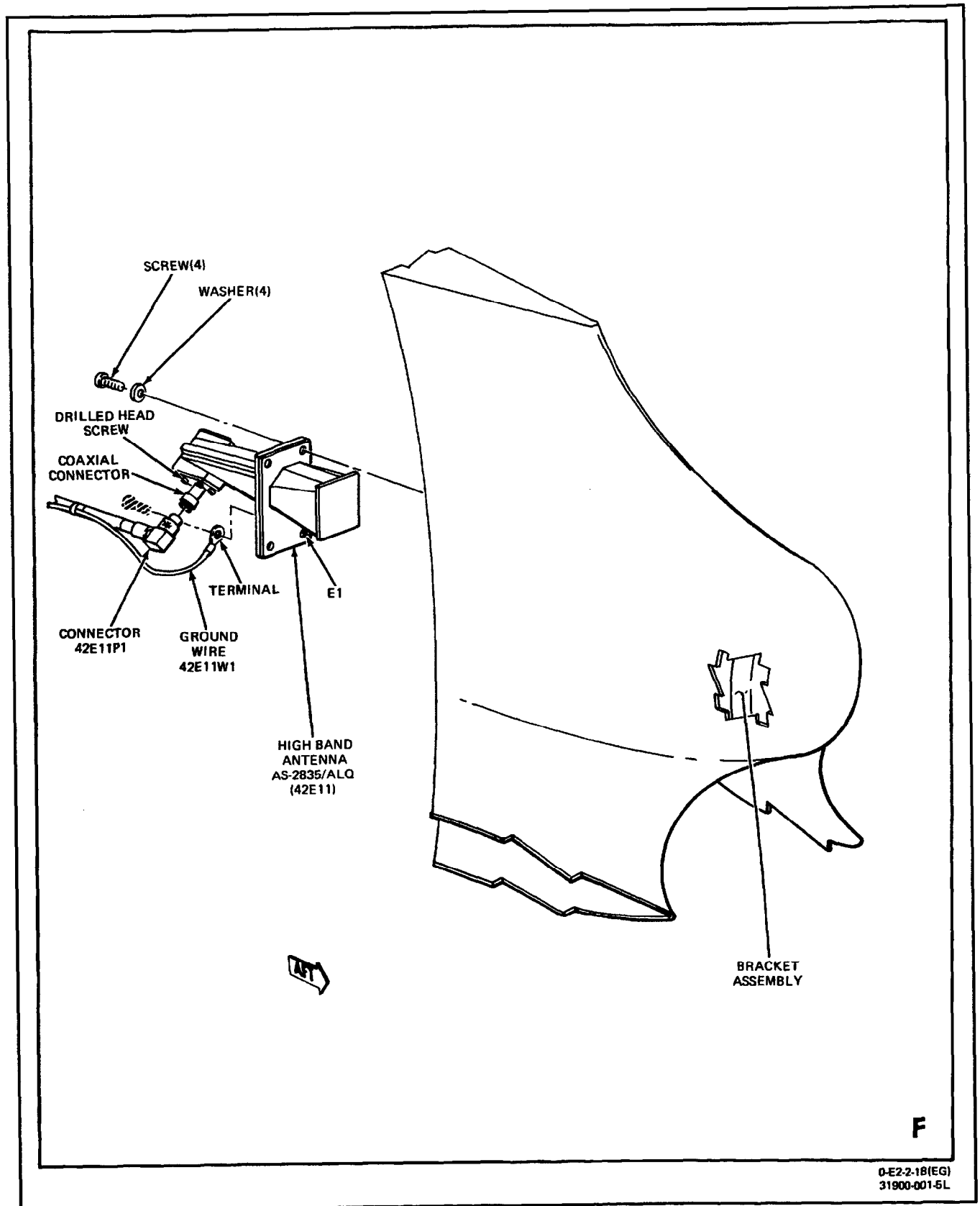


Figure 1. Removal and Installation of High Band Antenna AS-2835/ALQ (Sheet 5)

**WARNING**

Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from receptacles on antenna and waveguide transition 42J12.
- b. Inspect connectors and receptacles for damage and bent pins.
- c. Position antenna four screw holes over four holes in bracket assembly (detail D).
- d. Using screw and washer, install ground wire terminal to ground point E1 on antenna, securing it to bracket assembly.
- e. Install remaining three screws and washers to secure antenna to bracket assembly.
- f. Connect connector 42E10P1 to antenna coaxial connector.
- g. Lockwire connector 42E10P1 to drilled head screw on antenna. (QUALITY ASSURANCE)

**CAUTION**

When installing forward fairing, ensure proper screws are inserted in holes as indicated on tags.

- h. Install forward fairing on pylon and secure using 10 screws (detail B). Remove tags.
- i. At right side of pylon (detail C), secure cable assembly 42W28 and ground wire 42E10W1 to power splitter network support assembly with clamp, screw, washer, and nut.
- j. Connect ground wire 42E10W1 terminal to ground connection point 42E33 on power splitter network support assembly and secure with screw, washer, and nut.
- k. Connect connector 42P12 to waveguide transition 42J12.
- l. Lockwire connector 42P12. (QUALITY ASSURANCE)
- m. Perform operational check of Detector-Processor Group OL-483/AP (NAVAIR 01-E2AAA-2-17.3, WP028 01).

**CAUTION**

When installing access panels, ensure proper screws are inserted in holes as indicated on tags.

- n. Secure access panel no. 2 (detail B) to right side of pylon with 46 screws. Remove tags.
  - o. Secure access panel no.1 (detail A) to left side of pylon with 51 screws. Remove tags.
8. ANTENNA 42E11. (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MS20995NC20	Lockwire

**WARNING**

Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from receptacles on antenna and waveguide transition 42J7.
- b. Inspect connectors and receptacles for damage and bent pins.
- c. Position antenna four screw holes over four holes in bracket assembly (detail F).
- d. Using screw and washer, install ground wire 42E11W1 to ground point E1 on antenna, securing it to bracket assembly.
- e. Install remaining three screws and washers to secure antenna to bracket assembly.
- f. Connect connector 42E11P1 to antenna coaxial connector.
- g. Lockwire connector 42E11P1 to drilled head screw on antenna. (QUALITY ASSURANCE)

**CAUTION**

When installing aft fairing, ensure proper screws are inserted in holes as indicated on tags.

h. Install aft fairing on pylon and secure using 14 screws (detail B). Remove tags.

i. On right side of pylon (detail E), secure antenna ground wire 42E11W1 terminal to ground connection point 42E32 with screw, washer, and nut.

j. Connect connector 42P7 to waveguide transition 42J7.

k. Lockwire connector 42P7. (QUALITY ASSURANCE)

l. Perform operational check of Detector-Processor Group OL-483/AP (NAVAIR 01-E2AAA-2-17.3, WP028 01).



When installing access panels, ensure proper screws are inserted in holes as indicated on tags.

m. Secure access panel no. 3 (detail A) to left side of pylon with 21 screws. Remove tags.

n. Secure access panel no.4 (detail B) to right side of pylon with 24 screws. Remove tags.



**ORGANIZATIONAL MAINTENANCE**

**COMM/PM/PD CONVERTER ASSEMBLY DDBC**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Computer Programmer Group OL-424/ASQ .....	006 02
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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**Record of Applicable Technical Directives**

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
—	—	Incorporation of MIL-STD-1553B Digital Data Bus Controller (DDBC) into (Computer Programmer Group OL-424/ASQ (ECP 371)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. The COMM/PM/PD converter assembly DDBC (hereinafter referred to as the converter assembly) (46A2A4) is part of the Computer Programmer Group OL-424/ASQ, which provides a MIL-STD-1553B digital data bus controller (DDBC). The converter assembly is in the left side of the equipment compartment. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 149) for location of converter assembly.

**3. REMOVAL.** (Figure 1.)

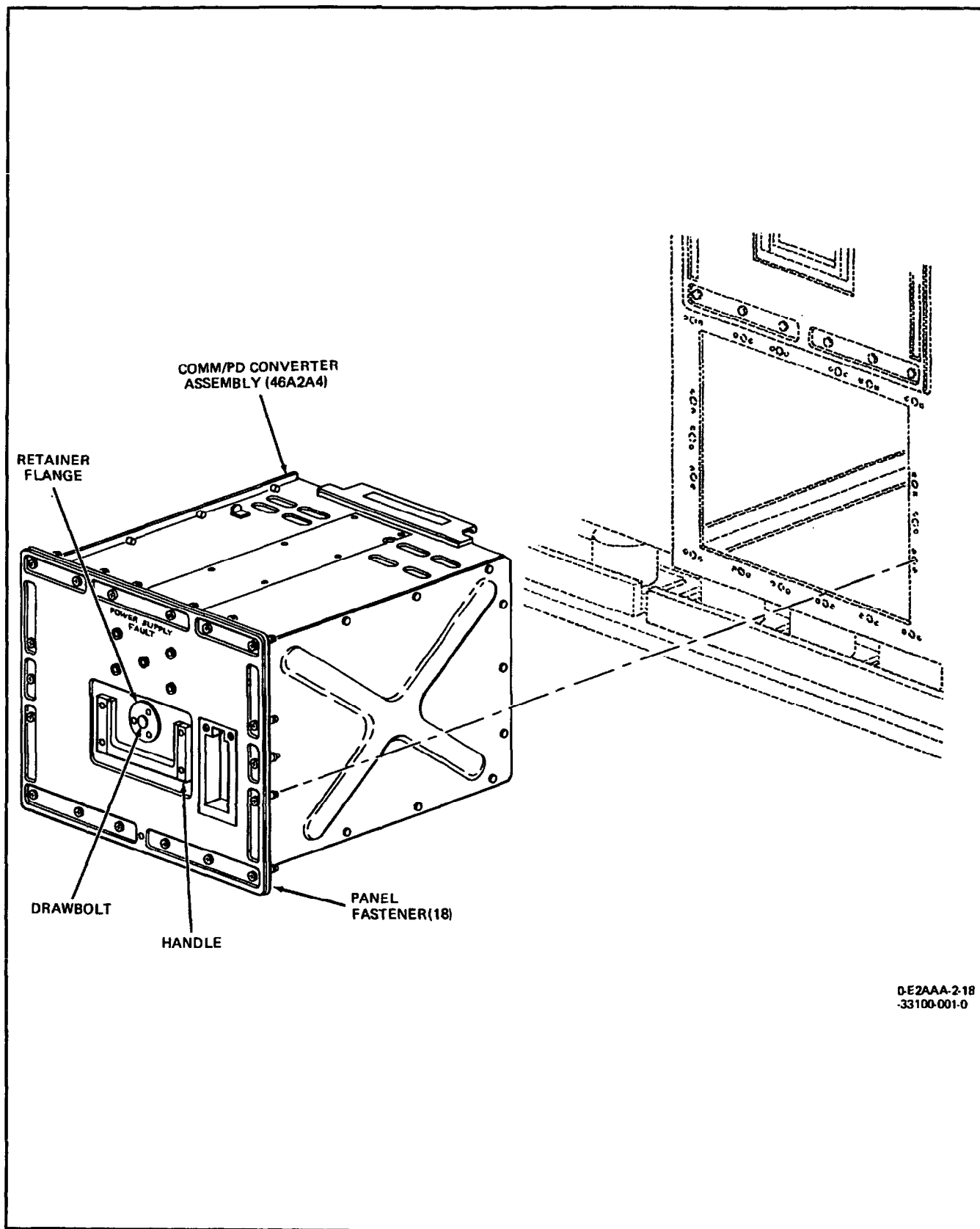


Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Using 3/16-inch hex key, rotate drawbolt counterclockwise until a positive stop is felt.
- b. Using 5/32-inch hex key, disengage 18 panel fasteners securing converter assembly to cabinet.
- c. Carefully pull converter assembly out of cabinet. If resistance is experienced during removal, drawbolt may have jammed. Disengage drawbolt as follows:

**Support Equipment Required**

Part or Model No.	Nomenclature
—	5/32- and 3/16-Inch Hex Keys



D-E2AAA-2-18  
33100-001-0

Figure 1. Removal and Installation of COMM/PM/PD Converter Assembly DDBC

(1) Using 5/32-inch hex key, engage 18 panel fasteners while holding converter assembly flush with cabinet.

(2) Remove three screws holding drawbolt retainer flange, and remove retainer flange. Two lockrings retaining drawbolt can now be removed. If necessary, use a thin-bladed screwdriver to remove locking.

(3) Using 3/16-inch hex key, carefully push drawbolt in until drawbolt coupler disengages (a positive stop will be felt).

(4) Using 5/32-inch hex key, disengage 18 panel fasteners securing converter assembly to cabinet.



More than normal force may be required to remove converter assembly. If so, a sudden release of the cabinet connectors will be felt.

(5) Using handle, carefully pull converter assembly out of cabinet.

(6) Assemble drawbolt assembly.

d. Cap all connectors.

#### 4. INSTALLATION. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connectors.



Inspect connectors for damage and bent pins before installation.

b. Using 3/16-inch hex key, ensure that drawbolt is fully extended by rotating counterclockwise until a positive stop is felt.

c. Carefully slide converter assembly into cabinet until drawbolt and guide pins are partially engaged. (QUALITY ASSURANCE)

d. Using 5/32-inch hex key, engage 18 panel fasteners while holding converter assembly flush with cabinet.

e. Using 3/16-inch hex key, rotate drawbolt clockwise until a positive stop is felt.

f. Perform an operational check of Computer Programmer Group OL-424/ASQ (NAVAIR 01-E2AAA-2-17.1, WP006 02).





**ORGANIZATIONAL MAINTENANCE**

**JTIDS AUDIO SELECT PANEL**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Intercommunication Set AN/AIC-14A .....	018 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Incorporation of Joint Tactical Information Distribution System (JTIDS) (ACD 2331)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent.

**1. GENERAL.**

2. The JTIDS audio select panel (hereinafter referred to as audio select panel) is part of the Intercommunication Set AN/AIC-14A. There are five controls: two controls are in the cockpit (refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 figure 1, items 15A and 23A) and three controls are in the crew compartment (see figure 4, item 89).

**3. REMOVAL.** (Figures 1 and 2.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disengage four fasteners that secure audio select panel to console panel.

**Note**

If cable connectors are inaccessible when removing a cockpit control, remove appropriate access plate on side of console. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 1, items 17 and 21) for location of access plates.

b. Carefully pull audio select panel out of console panel until cable connector at rear of console panel is accessible.

c. Supporting audio select panel, disconnect cable plugs from receptacles J1 and J2.

d. Cap plugs and receptacles.

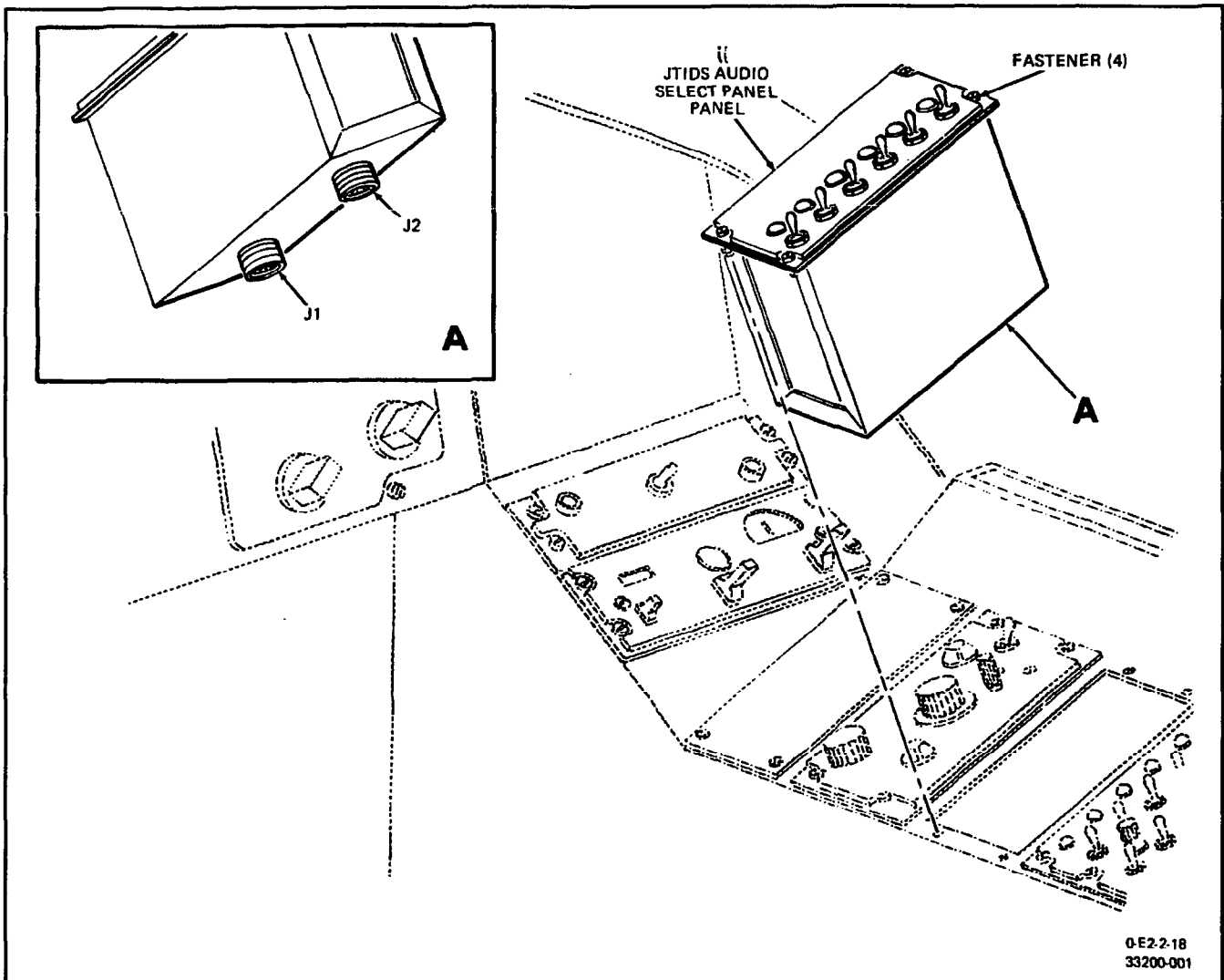


Figure 1. Removal and Installation of JTIDS Audio Select Panel in Cockpit

4. **INSTALLATION.** (Figures 1 and 2.)

b. Support audio select panel and connect appropriate cable plug to receptacles J1 and J2 as follows: (QUALITY ASSURANCE)

**WARNING**

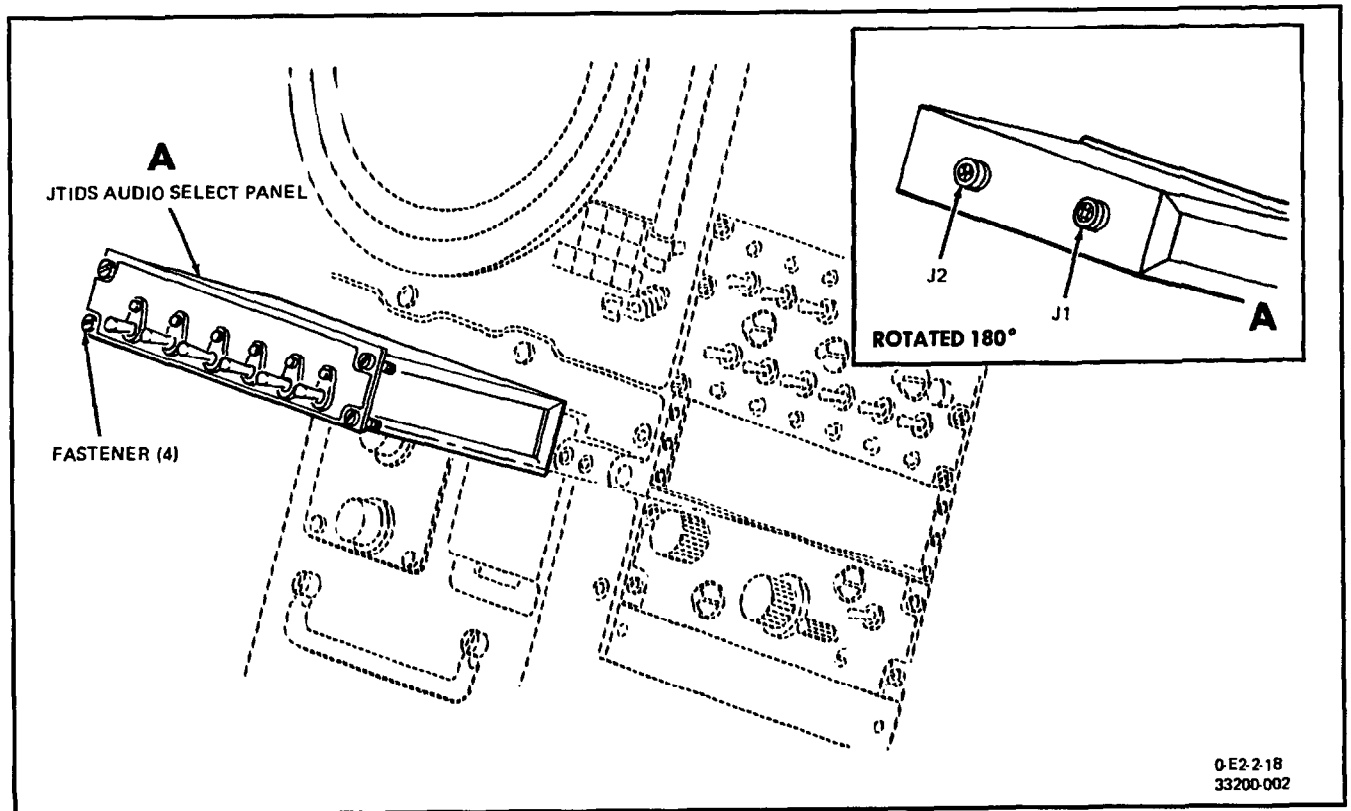
Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from plugs and receptacles.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins before interconnection.

Cable Plug	Receptacle
56A21P1	56A21J1
56A21P2	56A21J2
56A22P1	56A22J1
56A22P2	56A22J2
56A23P1	56A23J1
56A23P2	56A23J2
56A24P1	56A24J1
56A24P2	56A24J2
56A25P1	56A25J1
56A25P2	56A25J2



**Figure 2. Removal and Installation of JTIDS Audio Select Panel in Crew Compartment, Left Side**

- c. Insert audio select panel into console panel and secure by engaging four fasteners. (QUALITY ASSURANCE)
- d. Perform an operational check of Intercommuni-

cation Set AN/AIC-14A (NAVAIR 01-E2AAA-2-17.1, WP018 00).

- e. For control in cockpit, replace access plate if removed in step 3b.



**ORGANIZATIONAL MAINTENANCE**

**MULTIFUNCTION CONTROL DISPLAY UNIT CONTROL PANEL**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Multifunction Control Display Unit .....	031 03
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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—	—	Incorporation of Joint Tactical Information Distribution System (JTIDS) (ACD 2331)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent.
AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. The multifunction control display unit control panel (MFCDU control panel) is used with the multifunction control display unit and is in the crew compartment. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, item 88) for location of MFCDU control panel.

**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disengage two fasteners that secure MFCDU control panel to console panel.

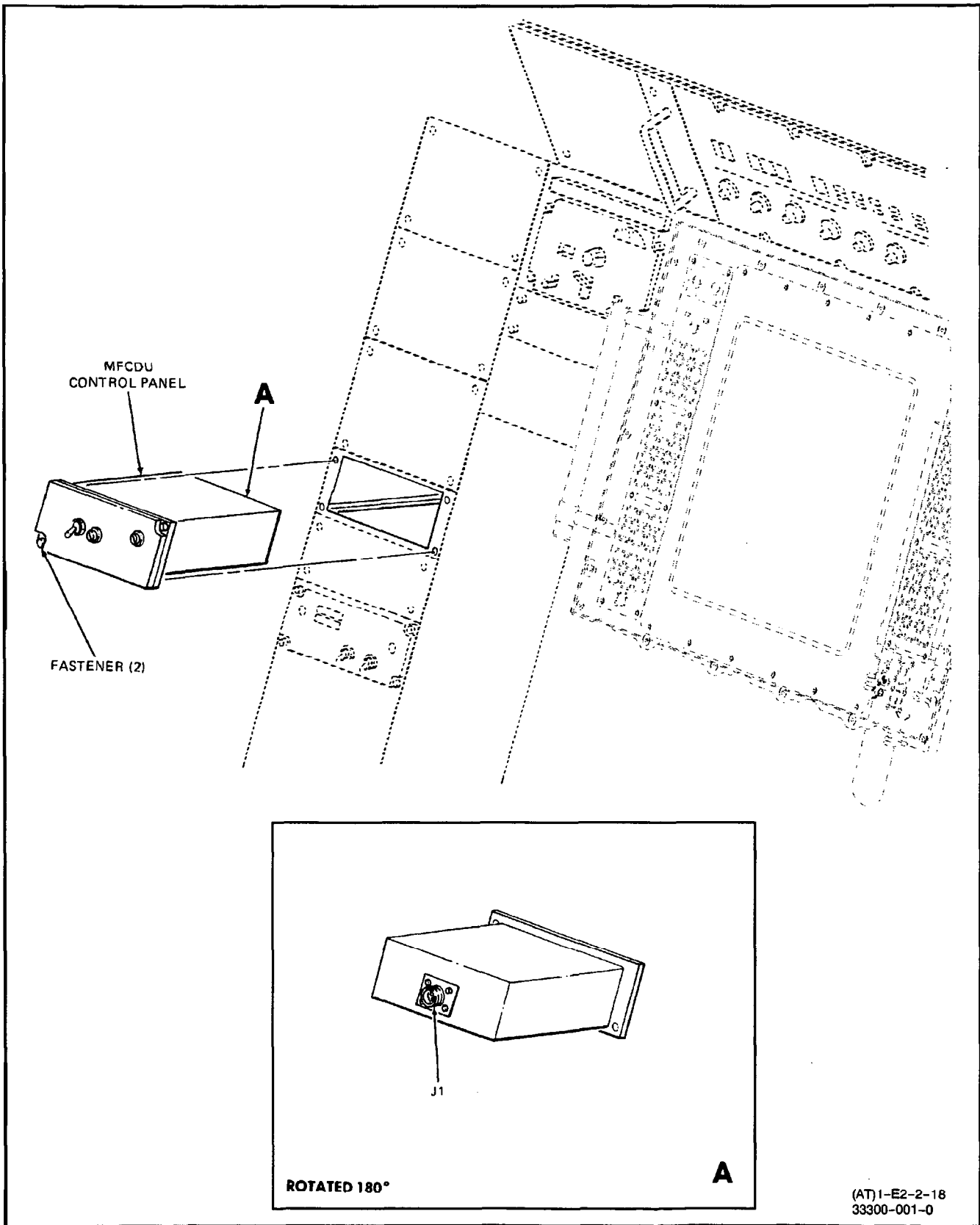


Figure 1. Removal and Installation of Multifunction Control Display Unit Control Panel in Crew Compartment, Left Side

- b. Carefully pull MFCDU control panel out of console panel until cable connector P1 is accessible.
- c. Disconnect cable connector P1 from MFCDU control panel receptacle J1. Remove MFCDU control panel.
- d. Install protective caps on cable connector P1 plug and MFCDU control panel receptacle J1.

4. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from cable connector P1 and MFCDU control panel receptacle J1.



Inspect cable connector P1 and MFCDU control panel receptacle J1 for damage and bent pins before interconnection.

- b. Supporting MFCDU control panel, connect cable connector P1 to MFCDU control panel receptacle J1. (QUALITY ASSURANCE)

- c. Insert MFCDU control panel into console panel, and secure with two fasteners. (QUALITY ASSURANCE)

- d. Perform operational check of Multifunction Control Display Unit (NAVAIR 01-E2AAA-17.3.1, WP031 03).





**ORGANIZATIONAL MAINTENANCE**

**JTIDS/KY MODE SELECT PANEL**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Radio Set AN/ARC-182 .....	019 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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—	—	Incorporation of Joint Tactical Distribution System (JTIDS) (ACD 2331)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent.
AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

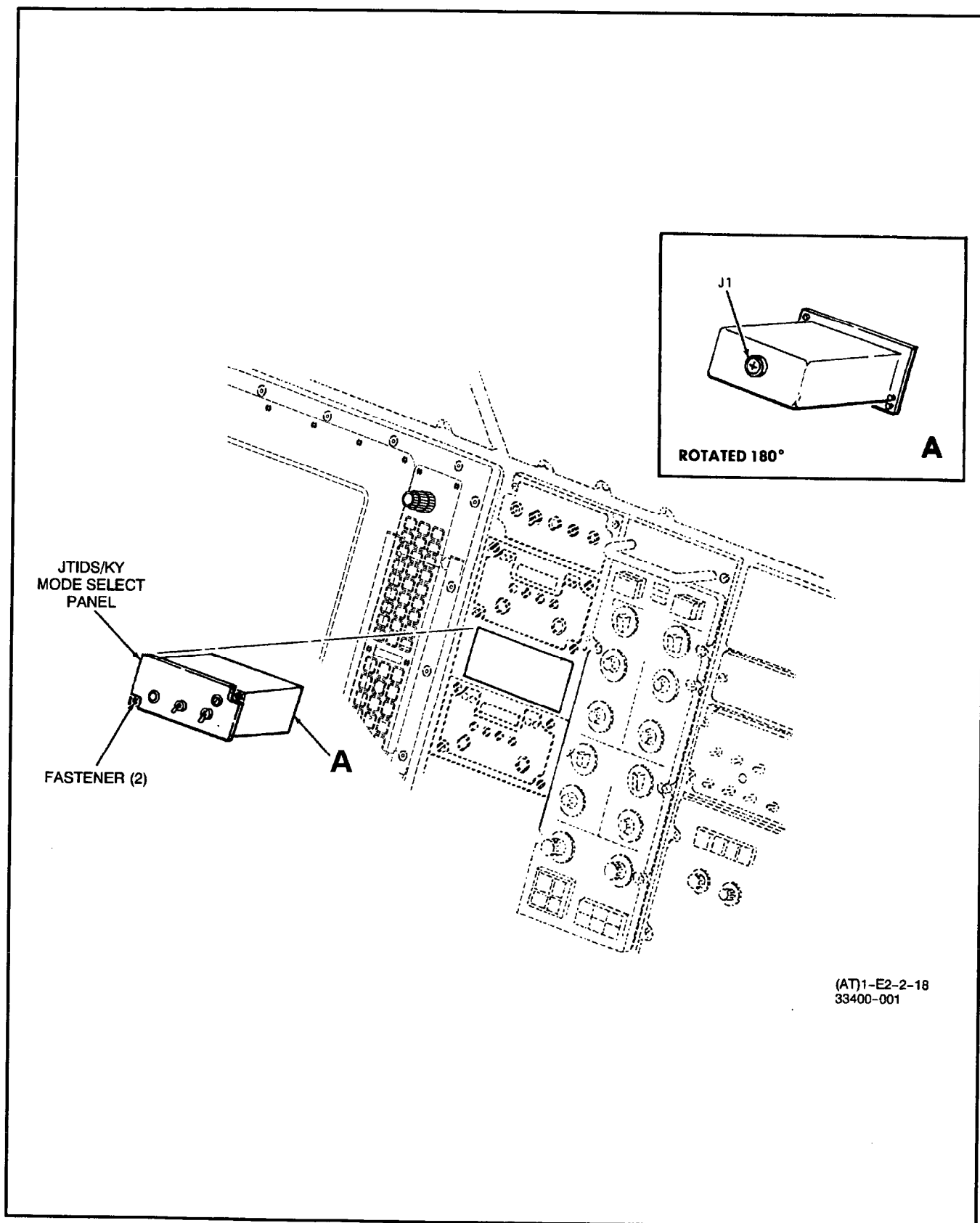
2. The JTIDS/KY mode select panel (mode select) switches KY-1 and KY-2 to baseband or auto mode. The mode select is in the crew compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, item 92) for location of the mode select.

**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disengage two fasteners that secure mode select to console panel.



(AT)1-E2-2-18  
33400-001

Figure 1. Removal and Installation of JTIDS/KY Mode Select Panel in Crew Compartment

- b. Slowly pull mode select out of console panel until cable connector is accessible.
- c. Disconnect cable plug P1 from mode select receptacle J1. Remove mode select.
- d. Cap cable plug P1 and mode select receptacle J1 on mode select.

**4. INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from cable plug P1 and receptacle J1.



Inspect connectors and receptacles for damage and bent pins before installation.

- b. Supporting mode select, connect cable plug P1 to mode select receptacle J1. (QUALITY ASSURANCE)
- c. Insert mode select into console panel and secure with two fasteners. (QUALITY ASSURANCE)
- d. Perform operational checkout of Radio Set AN/ARC-182 (NAVAIR 01-E2AAA-2-17.1.1, WP019 01).



**ORGANIZATIONAL MAINTENANCE**

**JTIDS FUNCTIONAL CONTROL PANEL**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Intercommunication Set AN/AIC-14A .....	018 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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—	—	Incorporation of Joint Tactical Information Distribution System (JTIDS) (ACD 2331)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent.
AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. The JTIDS functional control panel (control) monitors and controls operation of JTIDS equipment. The control is in the crew compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 4, item 87) for location of the control.

**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disengage four fasteners that secure control to console panel.

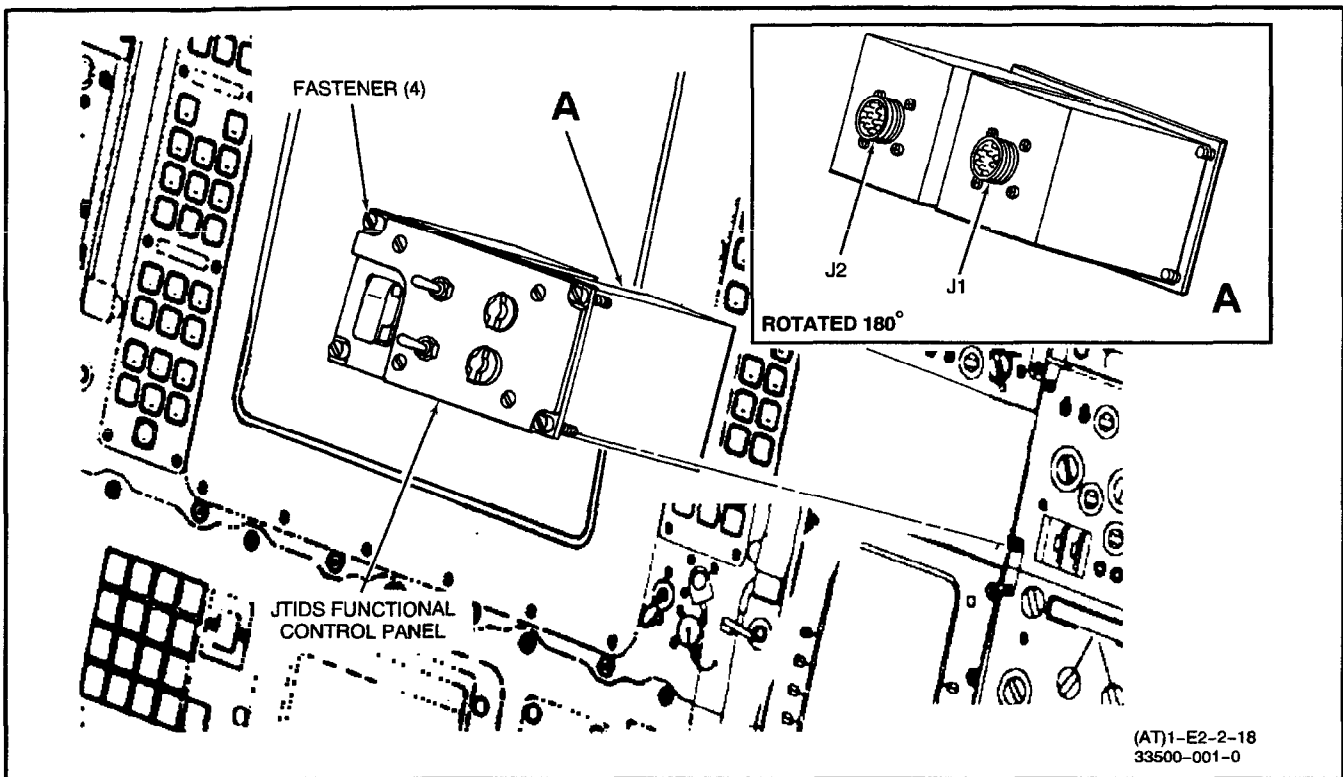


Figure 1. Removal and Installation of JTIDS Functional Control Panel in Crew Compartment, Left Side

- b. Carefully pull control out of console panel until cable connectors are accessible.
- c. Disconnect cable plugs P1 and P2 from control receptacles J1 and J2. Remove control.
- d. Cap cable plugs P1 and P2 and control receptacles J1 and J2.

4. **INSTALLATION.** (Figure 1.)

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from cable plugs P1 and P2 and control receptacles J1 and J2.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins before installation.

- b. Supporting control, connect cable plugs P1 and P2 to control receptacles J1 and J2. (QUALITY ASSURANCE)
- c. Insert control into console panel and secure with four fasteners. (QUALITY ASSURANCE)
- d. Perform operational checkout of Intercommunication Set AN/AIC-14A (NAVAIR 01-E2AAA-2-17.1.1, WP018 00).

**ORGANIZATIONAL MAINTENANCE**

**MULTIFUNCTION CONTROL DISPLAY UNIT C-12075/A AND C-12390/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Multifunction Control Display Unit .....	031 03
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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—	—	Incorporation of Joint Tactical Information Distribution System (JTIDS) (ACD 2331)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent.
AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. The Multifunction Control Display Unit C-12075/A and C-12390/A (MFCDU) provides control and data management of navigation functions in Computer Programmer Group OL-424/ASQ. On aircraft not incorporating AFC 399, two units (C-12075/A) are in the cockpit control pedestal (pilot side) and the crew compartment. On aircraft serial no. 164108 and subsequent, and those aircraft incorporating AFC 399, another unit is added in the cockpit control pedestal for use by the copilot. (All three units are C-12390/A.) Removal and installation

procedures for each unit are identical. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 1A, item 19 and figure 4, item 86) for locations.

**3. REMOVAL.** (Figures 1 and 2.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

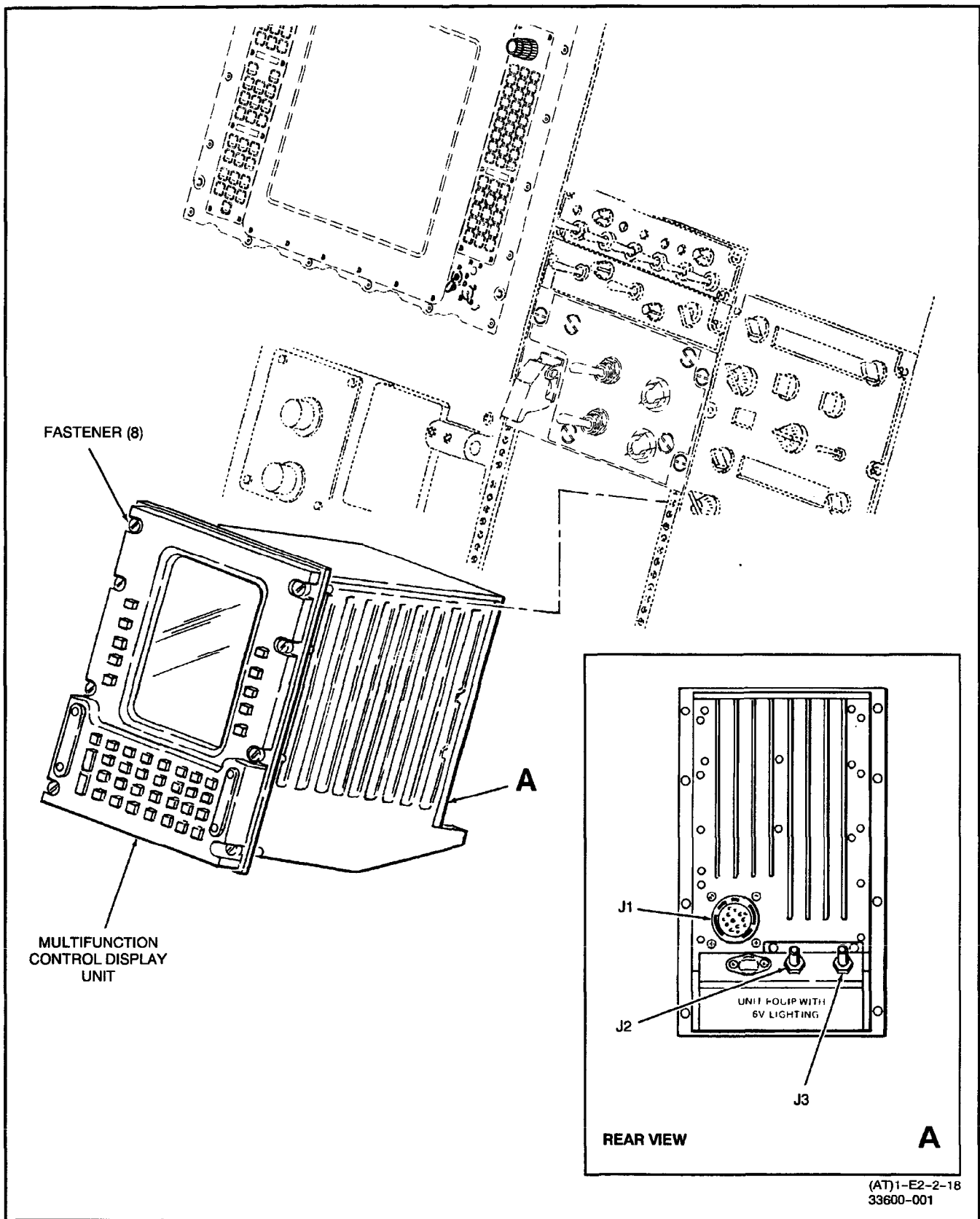


Figure 1. Removal and Installation of Multifunction Control Display Unit C-12075/A and C-12390/A in Crew Compartment, Left Side



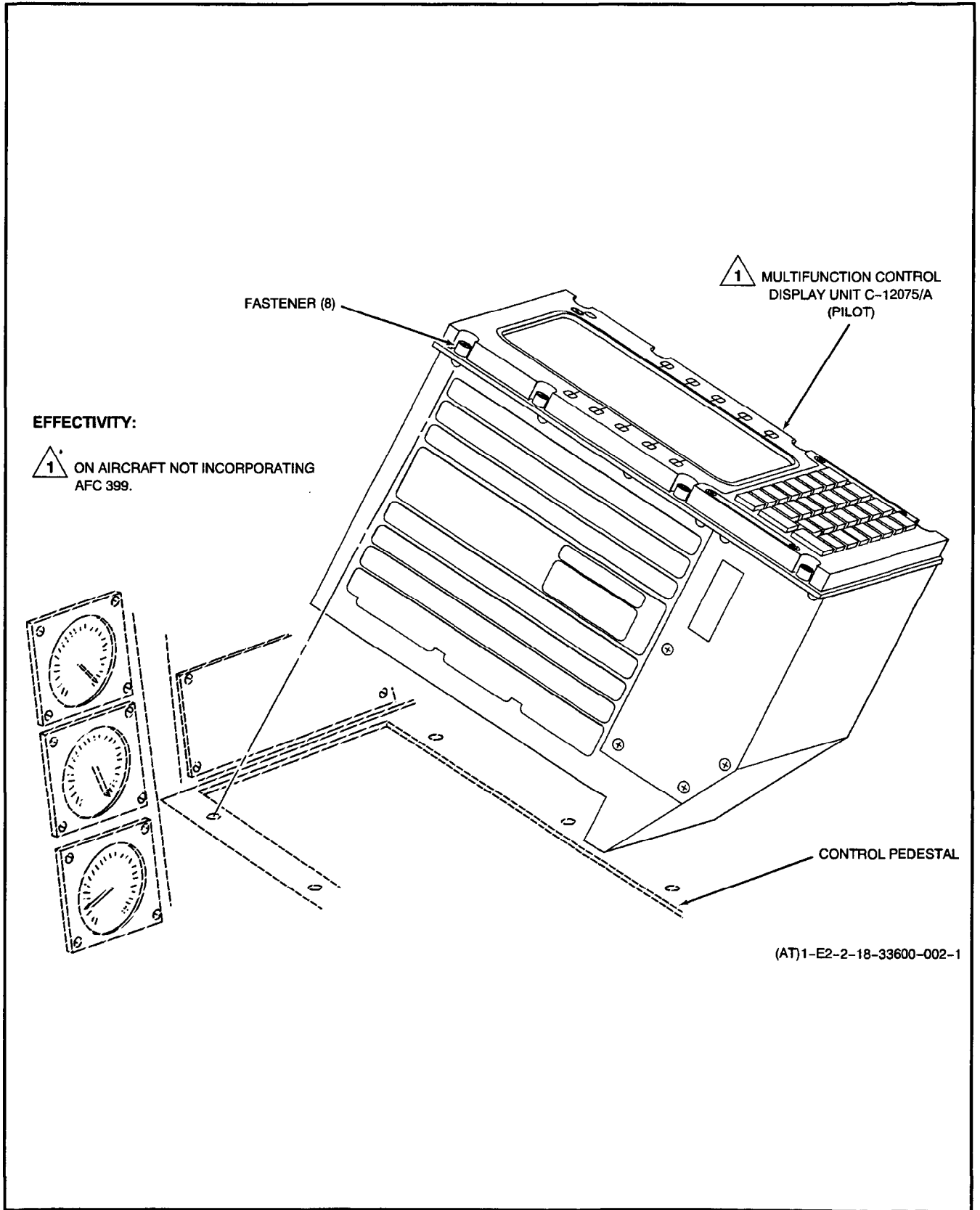


Figure 2. Removal and Installation of Multifunction Control Display Unit C-12075/A and C-12390/A in Cockpit (Sheet 1 of 2)

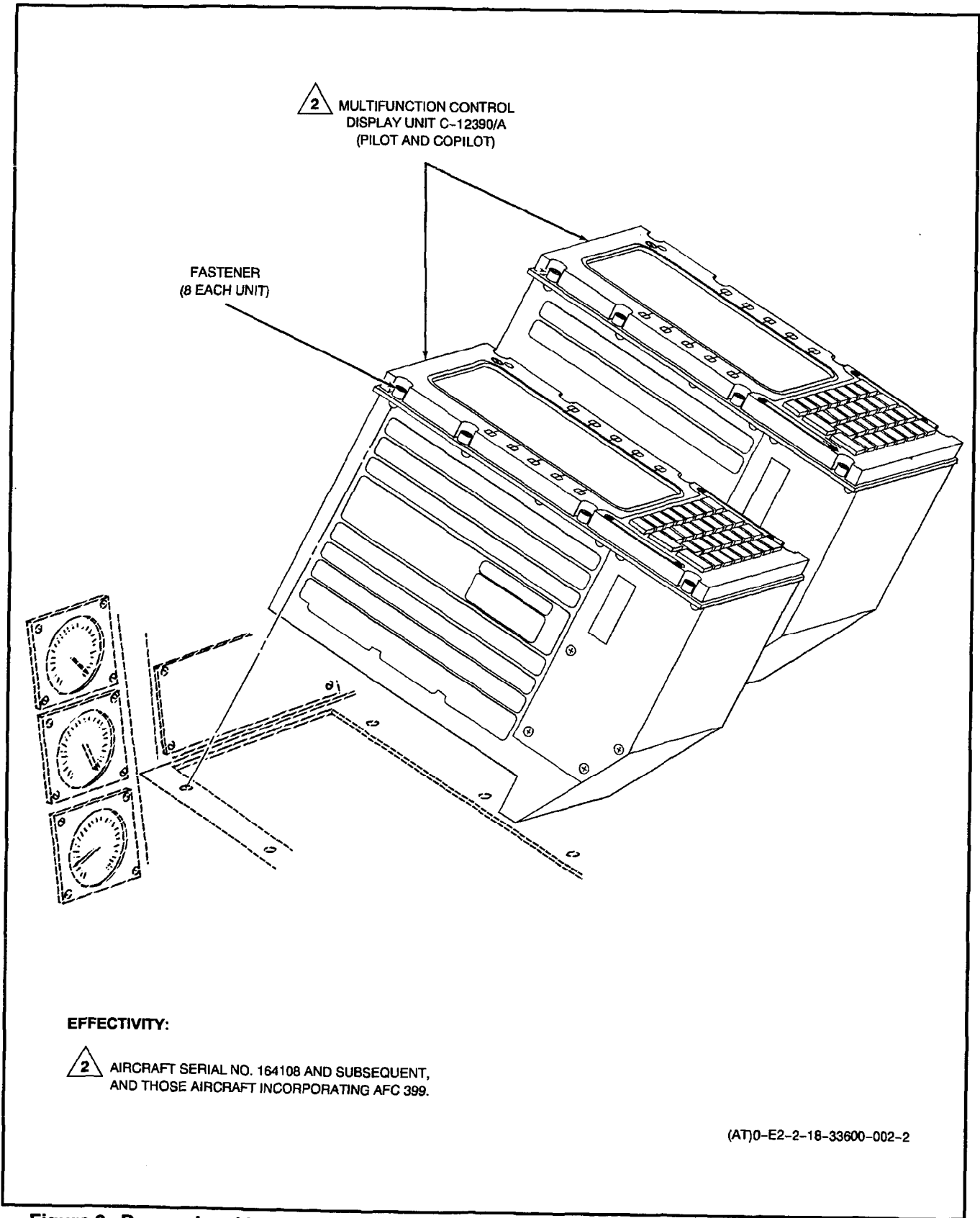


Figure 2. Removal and Installation of Multifunction Control Display Unit C-12075/A and C-12390/A in Cockpit (Sheet 2)

- a. Disengage eight fasteners that secure MFCDU to console panel.
- b. Carefully pull MFCDU out of console panel until cable connectors are accessible.
- c. Disconnect cable plugs P1, P2, and P3 from MFCDU receptacles J1, J2, and J3. Remove MFCDU.
- d. Cap cable plugs P1, P2, and P3 and MFCDU receptacles J1, J2, and J3.

4. **INSTALLATION.** (Figures 1 and 2.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove caps from cable plugs P1, P2, and P3 and MFCDU receptacles J1, J2, and J3.



Inspect connectors and receptacles for damage and bent pins before installation.

- b. Supporting MFCDU, connect cable plugs P1, P2, and P3 to MFCDU receptacles J1, J2, and J3. (QUALITY ASSURANCE)
- c. Insert MFCDU into console panel and secure with eight fasteners. (QUALITY ASSURANCE)
- d. Perform operational checkout of MFCDU (NAVAIR 01-E2AAA-2-17.3.1, WP031 03).



**ORGANIZATIONAL MAINTENANCE**

**GLOBAL POSITIONING SYSTEM ANTENNA AS-3822/URN**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
GPS Antenna AS-3822/URN .....	032 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
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—	—	Global Positioning System (GPS) Provisions, Incorporation of (ECP GR-E-2C-375C2)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.
AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. The Global Positioning System Antenna AS-3822/URN (antenna) (36E30) is part of the global positioning system (GPS). The antenna is on a support fairing, on top of the aircraft, at station 126.00.

**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

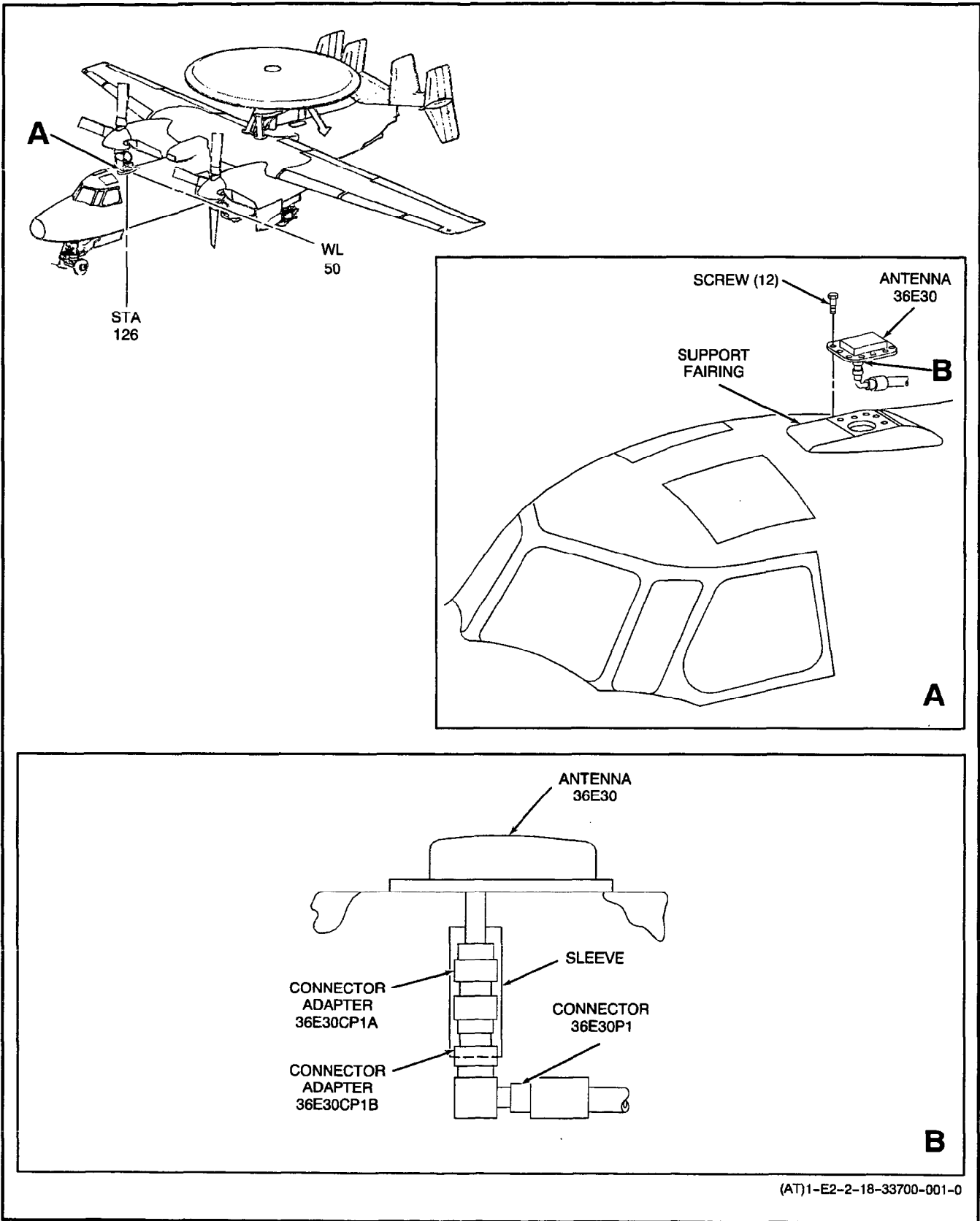


Figure 1. Removal and Installation of Global Positioning System Antenna AS-3822/URN

(AT)1-E2-2-18-33700-001-0

a. Locate GPS antenna electronics in cockpit (WP339 00).

b. On cockpit junction box, remove protective cover shielding GPS antenna electronics assembly 36A6 (WP339 00).

c. On GPS antenna electronics, identify transmission line cable assembly by locating connector 36A6P2.

d. Disconnect right angle connector 36E30P1 from coaxial connector adapter 36E30CP1B.

e. Install protective caps on connectors 36E30P1 and 36E30CP1B.

f. Remove 12 screws that secure antenna to support fairing.

g. Grasp antenna firmly, and carefully rock from side to side until sealant bond is broken.

h. Lift antenna away from support fairing.

i. Remove plastic sleeve between coaxial connector adapters 36E30CP1B and 36E30CP1A.

j. Disconnect coaxial connector adapter 36E30CP1B from coaxial connector adapter 36E30CP1A.

k. Disconnect coaxial connector adapter 36E30CP1A from antenna receptacle.

l. Install protective caps on antenna receptacle and coaxial connector adapters 36E30CP1B and 36E30CP1A.

4. **INSTALLATION.** (Figure 1.)

See IRAC #9

**Materials Required**

Specification or Part Number	Nomenclature
MIL-P-23377	Epoxy Polyamide Primer
MIL-S-83430	Sealing Compound
TT-M-261	Methyl Ethyl Ketone

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

Methyl ethyl ketone, TT-M-261, is toxic, flammable, and highly irritating to eyes. Protection: chemical splashproof goggles and good ventilation; keep container closed; keep sparks, flames, and heat away. Keep methyl ethyl ketone off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

a. Carefully clean sealant residue from antenna support fairing surface with methyl ethyl ketone.

**WARNING**

Sealing compound, MIL-S-83430, is toxic and flammable. Protection: chemical splashproof goggles; good ventilation; keep container closed; keep sparks, flames, and heat away; keep sealing compound off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

b. Apply a continuous 3/16-inch bead of sealing compound around base of antenna receptacle and around hole on mounting surface of antenna support fairing. (QUALITY ASSURANCE)

c. Remove protective caps from antenna receptacle and coaxial connector adapters 36E30CP1A and 36E30CP1B.

**CAUTION**

Inspect right angle connector, connector adapters, and antenna receptacle for damage and bent pins before installation.

d. Connect coaxial connector adapter 36E30CP1A to antenna receptacle.

e. Connect coaxial connector adapter 36E30CP1B to coaxial connector adapter 36E30CP1A.

f. Slip plastic sleeve between coaxial connector adapters 36E30CP1A and 36E30CP1B.

g. Lower antenna into antenna support fairing.

h. Seat antenna mounting flange against support fairing mounting surface.

i. Inspect antenna mounting flange for any sign of overlap on antenna support fairing.

**WARNING**

Sealing compound, MIL-S-83430, is toxic and flammable. Protection: chemical splashproof goggles; good ventilation; keep container closed; keep sparks, flames, and heat away; keep sealing compound off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

Epoxy polyamide primer, MIL-P-23377, is toxic and flammable. Protection: chemical splashproof goggles and forced ventilation (or respirator). Keep container closed; keep sparks, flames, and heat away. Keep primer off skin, eyes, and clothes. Wear gloves.

j. Secure antenna with 12 screws that have been coated with sealing compound or primer. (QUALITY ASSURANCE)

k. Build a fillet between antenna support fairing mounting surface and antenna base with sealing compound.

l. In cockpit, remove protective caps from coaxial connector adapter 36E30CP1A and right angle connector 36E30P1.

m. Secure transmission line to antenna by connecting right angle connector 36E30P1 to coaxial connector adapter 36E30CP1B.

n. On cockpit junction box, install protective shield over antenna electronics assembly 36A6 (WP339 00).

o. Perform operational checkout of GPS Antenna AS-3822/URN (NAVAIR 01-E2AAA-2-17.3.1, WP032 01).



**ORGANIZATIONAL MAINTENANCE**

**GLOBAL POSITIONING SYSTEM RECEIVER R-2332J/AR AND MOUNT MT-6587/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
Damage Prevention .....	016 00
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Global Positioning System AN/ARN-151(V)2 .....	014 02
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.2
Nav Control Global Positioning System and Multifunction	
Control Display Unit Pilot's Panel .....	340 00

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—	—	Global Positioning System (GPS) Provisions, Incorporation of (ECP GR-E-2C-375C2)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.
CSC-19	1/6/97	Commodity Software Change No. 19, GPS Radio Receiver 3A, AN/ARN-151, R2332 ECP 0079FRI Dated 12 September 1996	5/31/98	—

## 1. GENERAL.

2. The Global Positioning System Receiver R-2332J/AR and Mount MT-6587/A (GPS receiver and mount) (36A5) are part of the global positioning system (GPS). The receiver and mount are in the cockpit at aircraft station 126.24 to 134.88 on a placarded shelf (left side, aft of pilot station).

## 3. GPS RECEIVER AND MOUNT.

## 4. REMOVAL. (Figure 1.)

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

When removing the GPS receiver, three memory batteries shall be removed from the faulty receiver. When installing a new GPS receiver, three new memory batteries shall be installed.

a. Remove three memory batteries from GPS receiver. Refer to memory battery removal and replacement paragraph, this work package.

b. Remove GPS receiver as follows:

(1) On mount (9), loosen two self-locking nuts (3) and disengage two swingbolts (4) that secure GPS receiver (8) to mount.

(2) Slowly slide GPS receiver (8) forward until disengaged from connector P1 (12).

(3) Place protective cap on receptacle J1.

(4) Using handle (7), remove GPS receiver (8) from mount (9).

c. At rear of mount, remove 18 screws (10) and lockwashers (11) that secure connector P1 (12).

d. Place protective cap on connector P1 (12).

e. On mount (9), remove six screws (6) and washers (5) on mount that secure isolator (2) mount to shelf (1).

f. On mount (9), remove 10 screws (13), 20 washers (14), and 10 self-locking hex nuts (15) that secure isolator (2) mounts and ground strap (16) to shelf (1).

## 5. INSTALLATION. (Figure 1.)

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. On mount (9), install 10 screws (13), 20 washers (14), and 10 self-locking hex nuts (15) that secure isolator (2) mounts and ground strap (16) to shelf (1).

b. On mount (9), install six screws (6) and washers (5) that secure isolator (2) mount to shelf (1).

c. Remove protective cap from connector P1 (12).

d. At rear of mount, install 18 screws (10) and lockwashers (11) on connector P1 (12).

e. Install GPS receiver as follows:

(1) Remove protective cap from receptacle J1.

(2) Using handle (7), slowly slide GPS receiver (8) forward until seated into mount (9). (QUALITY ASSURANCE)

(3) On mount (9), engage two swingbolts (4) that secure GPS receiver (8) to mount (9), and tighten two self-locking nuts (3).

**Note**

When installing the GPS receiver, three memory batteries shall be removed from the faulty receiver. When installing a new GPS receiver, three new memory batteries shall be installed.

f. Install three new memory batteries in GPS receiver. Refer to memory battery removal and replacement paragraph, this work package.

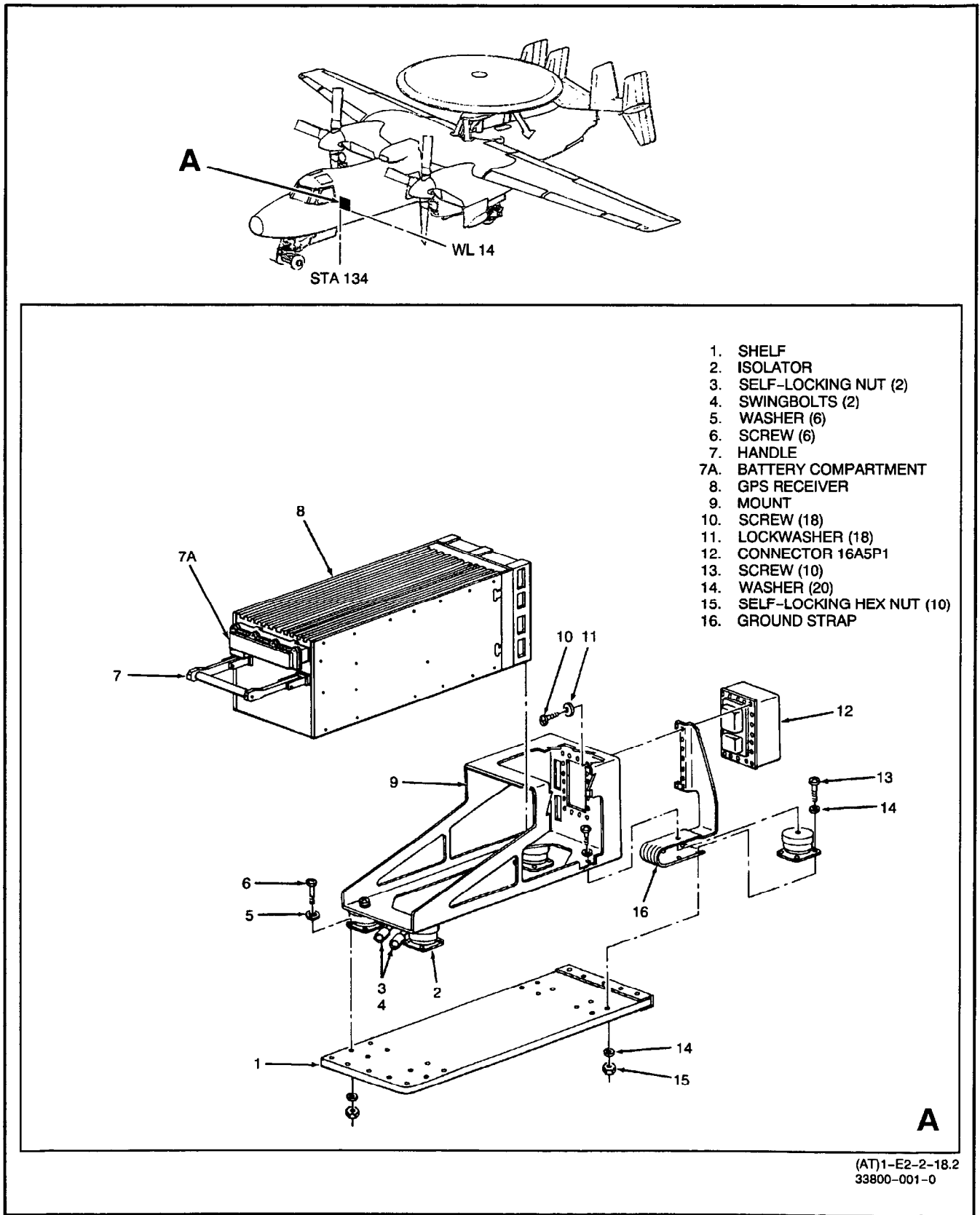
g. Perform operational checkout of Global Positioning System AN/ARN-151(V)2 (NAVAIR 01-E2AAA-2-17.1.1, WP014 02).

## 6. MEMORY BATTERY REMOVAL AND REPLACEMENT. (Figure 2.)

**Note**

Battery removal and replacement require that external power be applied to the GPS receiver to ensure that critical stored data is not lost.

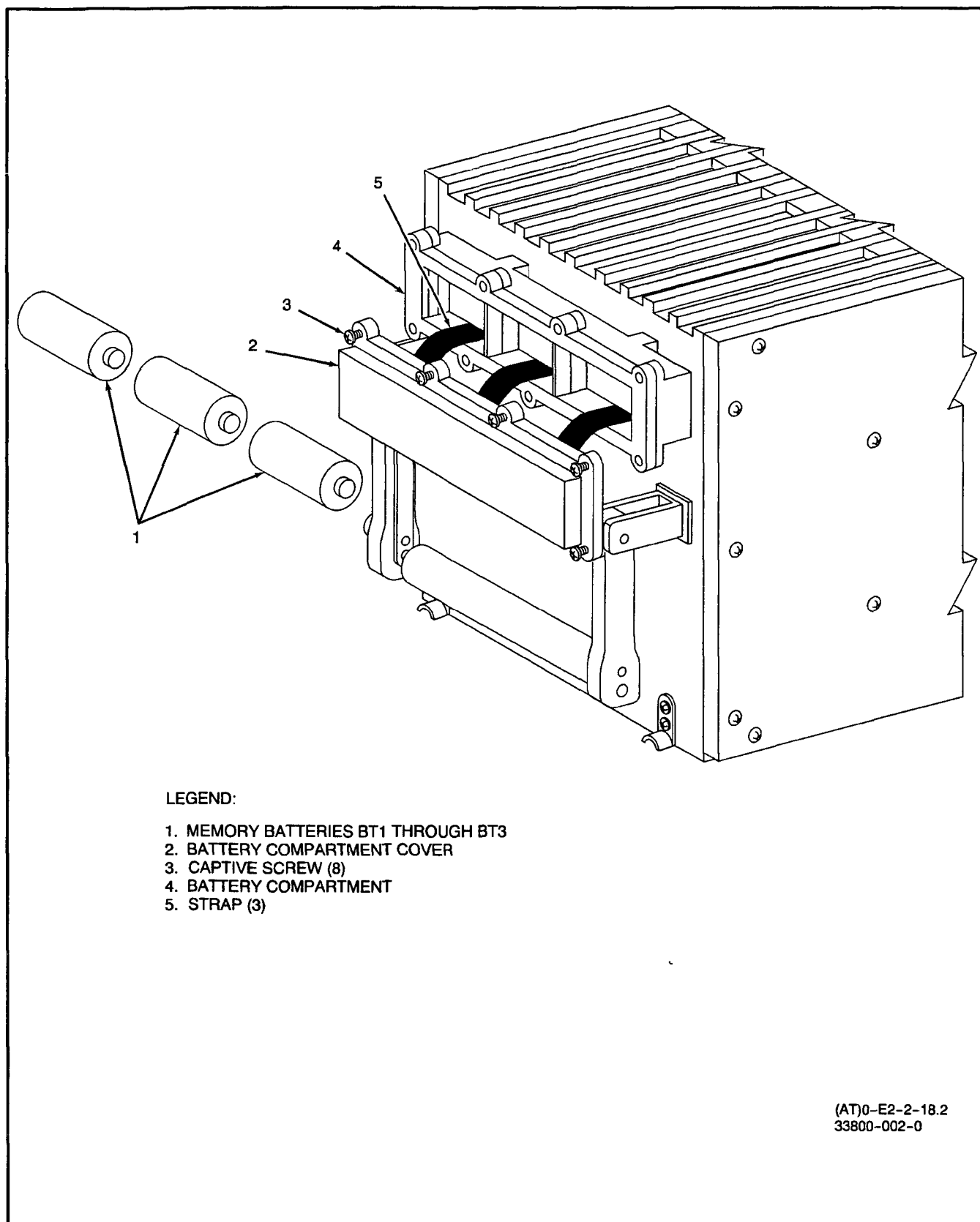
a. Before removing memory batteries BT1 through BT3, observe the following general maintenance procedures and precautions:



- 1. SHELF
- 2. ISOLATOR
- 3. SELF-LOCKING NUT (2)
- 4. SWINGBOLTS (2)
- 5. WASHER (6)
- 6. SCREW (6)
- 7. HANDLE
- 7A. BATTERY COMPARTMENT
- 8. GPS RECEIVER
- 9. MOUNT
- 10. SCREW (18)
- 11. LOCKWASHER (18)
- 12. CONNECTOR 16A5P1
- 13. SCREW (10)
- 14. WASHER (20)
- 15. SELF-LOCKING HEX NUT (10)
- 16. GROUND STRAP

(AT)1-E2-2-18.2  
33800-001-0

Figure 1. Removal and Installation of Global Positioning System Receiver R-2332J/AR and Mount MT-6587/A



(AT)0-E2-2-18.2  
33800-002-0

Figure 2. Removal and Replacement of GPS Receiver Memory Batteries

(1) Ensure that exterior and interior safety checks have been performed (NAVAIR 01-E2AAA-2-1, WP040 00).

(2) Before connecting support equipment, verify that aircraft is properly positioned, secured, chocked, and statically grounded (NAVAIR 01-E2AAA-2-1, WP040 00).

(3) Before connecting external power, remove air scoop and side inlet dust covers (NAVAIR 01-E2AAA-2-1, WP016 00).

(4) Before connecting external power and air conditioning, check for absence of NO POWER placards at external power sources and receptacles, and verify that external power is off.

**WARNING**

Energized equipment can cause severe shock or death on contact. Ensure all aircraft systems are turned off before disconnecting or connecting AC or DC power connectors.

Use extreme care when handling components and electrical connectors if power is applied for testing and troubleshooting or maintenance.

**Note**

If external power is not available, a GPS Cold Start procedure is required after the memory batteries have been removed and replaced.

The Cold Start procedure can take a considerable amount of time (up to 3.5 hours) to acquire the GPS satellites and associated data.

b. Apply external power and set appropriate GPS subsystem circuit breakers to ON. If external power cannot be applied, perform a GPS Cold Start (NAVAIR 01-E2AAA-2-17.1.1, WP014 02).

c. On NAV control GPS panel (WP340 00), set NAV control GPS switch to ON.

d. Remove memory batteries BT1 through BT31 as follows:

(1) Gain access to memory batteries BT1 through BT3 (1) by loosening eight captive screws (3) that secure battery compartment cover (2) to battery compartment (4).

**Note**

Battery compartment straps (5) assist in battery removal. Remove battery compartment cover carefully.

(2) Carefully pull away battery compartment cover (2), and remove memory batteries BT1 through BT3 (1) from battery compartment (4).

**CAUTION**

Memory batteries BT1 through BT3 are alkaline batteries and contain corrosive material. Batteries shall be disposed of in accordance with current Navy procedures.

e. Inspect battery compartment (4) for corrosion. If corrosion is found, remove and replace GPS receiver in accordance with applicable paragraphs, this work package. Do not reinstall batteries. (QUALITY ASSURANCE)

f. Install three replacement memory batteries (1) in battery compartment (4) with positive terminals of each facing to the right. Ensure that battery straps (5) are under replacement batteries to facilitate future battery removal. (QUALITY ASSURANCE)

g. Install battery compartment cover (2) on battery compartment (4). Tighten eight captive screws (3) to secure cover.

h. Perform operational checkout of Global Positioning System AN/ARN-151(V) (NAVAIR 01-E2AAA-2-17.1.1, WP014 02).



**ORGANIZATIONAL MAINTENANCE**

**GLOBAL POSITIONING SYSTEM ANTENNA ELECTRONICS AM-7314/URN**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 165293 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Global Positioning System AN/ARN-151(V)2 .....	014 02

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Global Positioning System (GPS) Provisions, Incorporation of (ECP GR-E-2C-375C2)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.
AFC 463	—	E-2C Airframe Change (AFC) NR. 423, TD Code 50, Caution Labeling for AM-7314/URN GPS Antenna Amplifier (RAMEC NORIS 15-95)	12/15/97	163029, 163535, 163540, 163849, 163851, 163693, 163698, 164107, 164108, 164112, 164352, 164356, 164483, 164486, 164487, 164488, 164492, 164497

1. **GENERAL.**

2. The Global Positioning System Antenna Electronics AM-7314/URN (antenna electronics) (36A6) is part of the global positioning system (GPS). The antenna electronics is in the cockpit, aft of the copilot's seat, and is mounted on the inboard side of the cockpit junction box.

3. **REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. On cockpit junction box, remove protective cover shielding antenna electronics as follows:

(1) Remove three screws that secure protective cover to cockpit junction box.

(2) Remove two screws that secure protective cover to bulkhead at aircraft station 141.00. Remove protective cover.



Receptacle J2 is reverse threaded (i.e., left-hand thread). Use care when removing connector P2 from receptacle J2 to prevent damage to equipment.

b. On antenna electronics, remove connectors P1, P2, and P3 from receptacles J1, J2, and J3, respectively.

c. Install protective caps on antenna electronics receptacles J1, J2, and J3.

d. Install protective caps on connectors P1, P2, and P3.

e. Remove four screws that secure antenna electronics to cockpit junction box. Remove antenna electronics.

4. **INSTALLATION.** (Figure 1.)

**Support Equipment Required**

Part or Model No.	Nomenclature
50-000-4854-120 (Selectro)	Torque Wrench (8.5"0.5 inch-pounds)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Using four screws, secure antenna electronics to cockpit junction box. (QUALITY ASSURANCE)

b. Remove protective caps from connectors and receptacles.



Inspect connectors and receptacles for damage before connection.

Receptacle J2 is reverse threaded. Use care when installing connector P2 on receptacle J2 to prevent damage to equipment.

c. On antenna electronics, connect connectors P1, P2, and P3 to receptacles J1, J2, and J3, respectively. (QUALITY ASSURANCE)

d. Using torque wrench, tighten connectors P1, P2, and P3 to 8.5±0.5 inch-pounds. (QUALITY ASSURANCE)

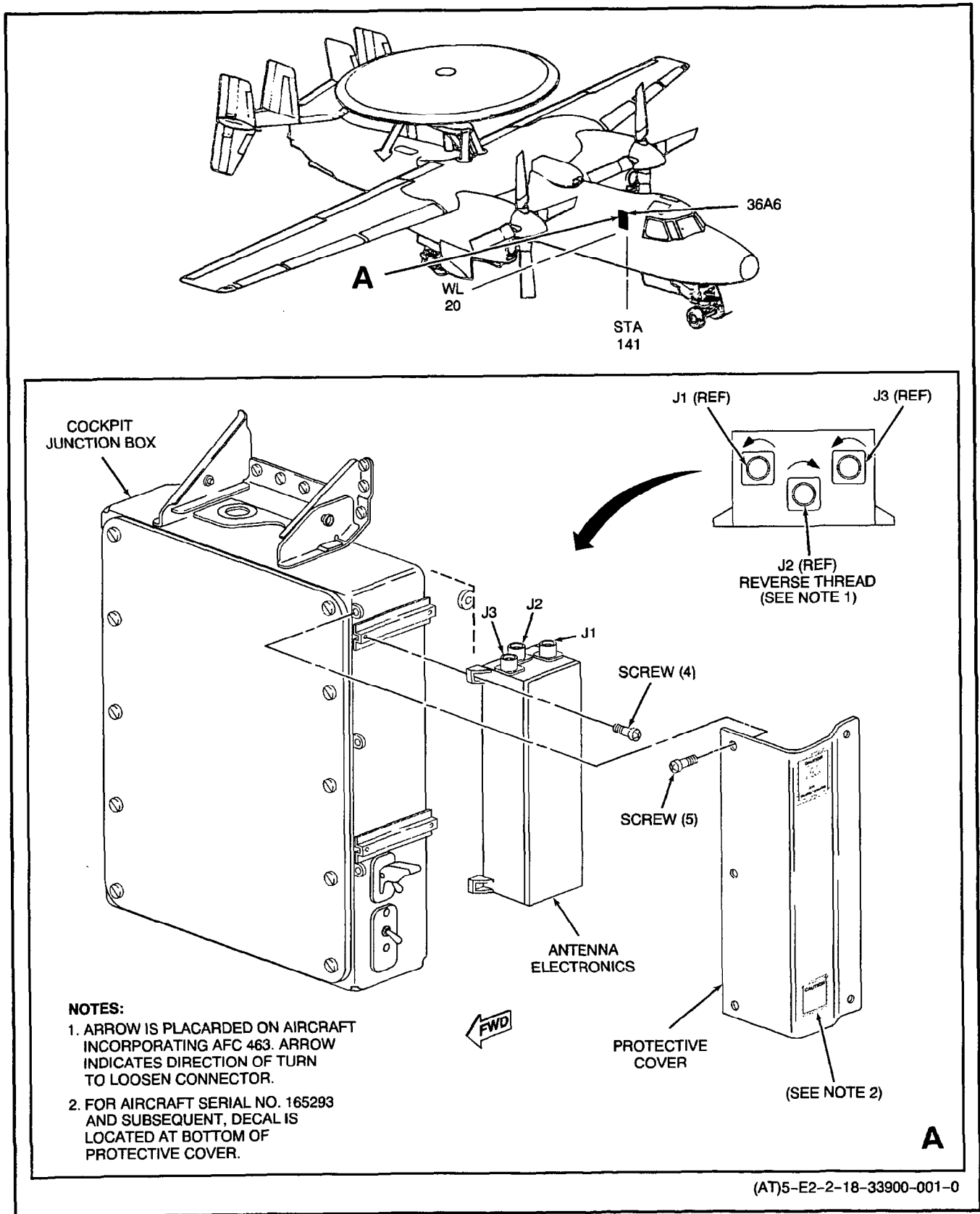
e. Secure protective cover to shield antenna electronics, as follows:

(1) Using three screws, secure protective cover to cockpit junction box. (QUALITY ASSURANCE)

(2) Using two screws, secure protective cover to bulkhead at aircraft station 141.00. (QUALITY ASSURANCE)

f. Perform operational checkout of Global Positioning System AN/ARN-151(V)2 (NAVAIR 01-E2AAA-2-17.1.1, WP014 02).





(AT)5-E2-2-18-33900-001-0

Figure 1. Removal and Installation of Global Positioning System Antenna Electronics AM-7314/URN



**ORGANIZATIONAL MAINTENANCE**

**NAV CONTROL GLOBAL POSITIONING SYSTEM AND MULTIFUNCTION CONTROL  
DISPLAY UNIT PILOT'S PANEL**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Global Positioning System AN/ARN-151(V)2 .....	014 02
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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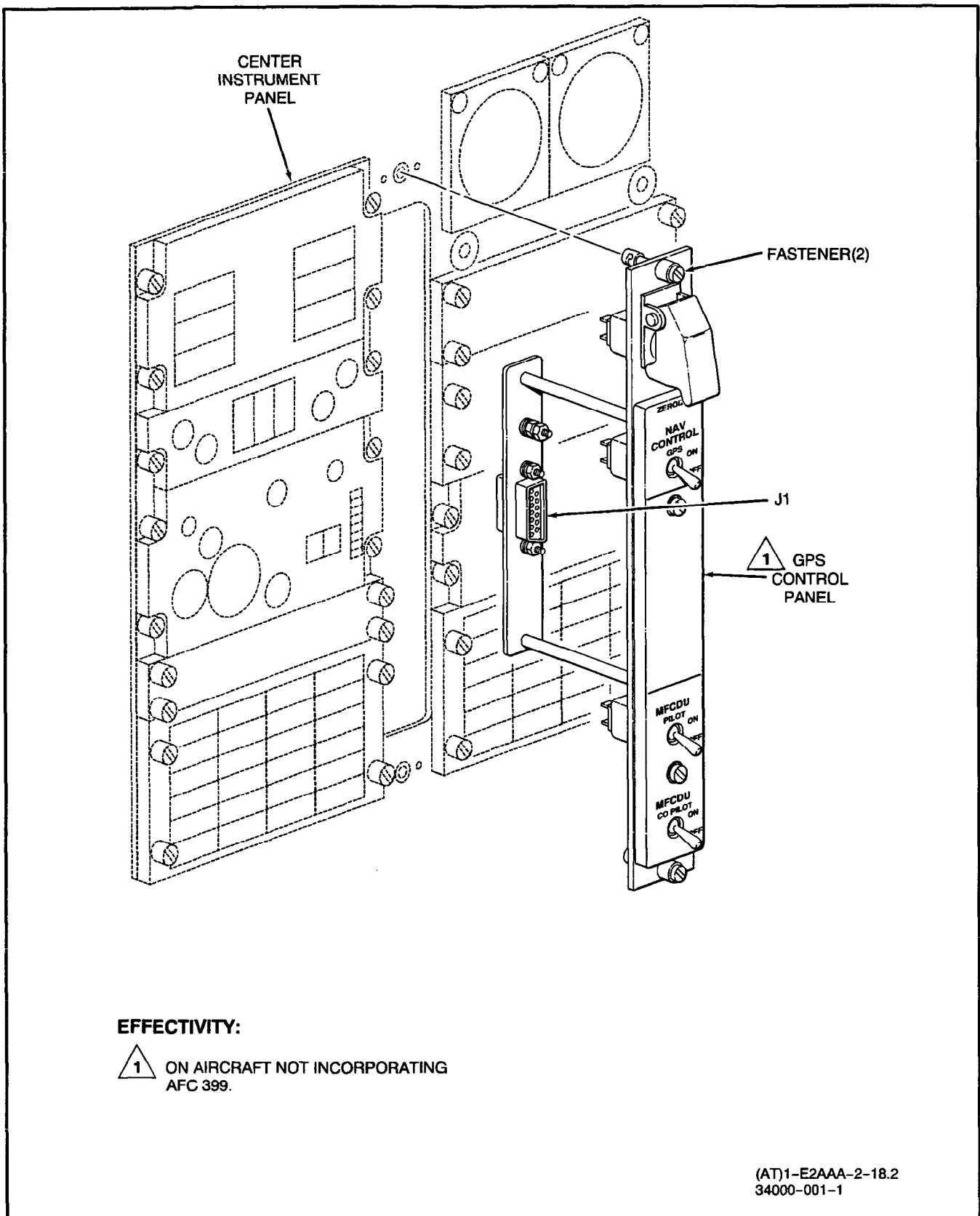
<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Global Positioning System (GPS) Provisions, Incorporation of (ECP GR-E-2C-375C2)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent. ECP Coverage Only.
AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. The NAV control global positioning system and multifunction control display unit pilot's panel (GPS control panel) (82A12) is part of the global positioning system (GPS). The GPS control panel is in the cockpit center instrument panel. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 1A, item 18) for location of GPS control panel.

**3. REMOVAL.** (Figure 1.)

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



**EFFECTIVITY:**

**1** ON AIRCRAFT NOT INCORPORATING AFC 399.

(AT)1-E2AAA-2-18.2  
34000-001-1

**Figure 1. Removal and Installation of NAV Control Global Positioning System and Multifunction Control Display Unit Pilot's Panel (Sheet 1 of 2)**

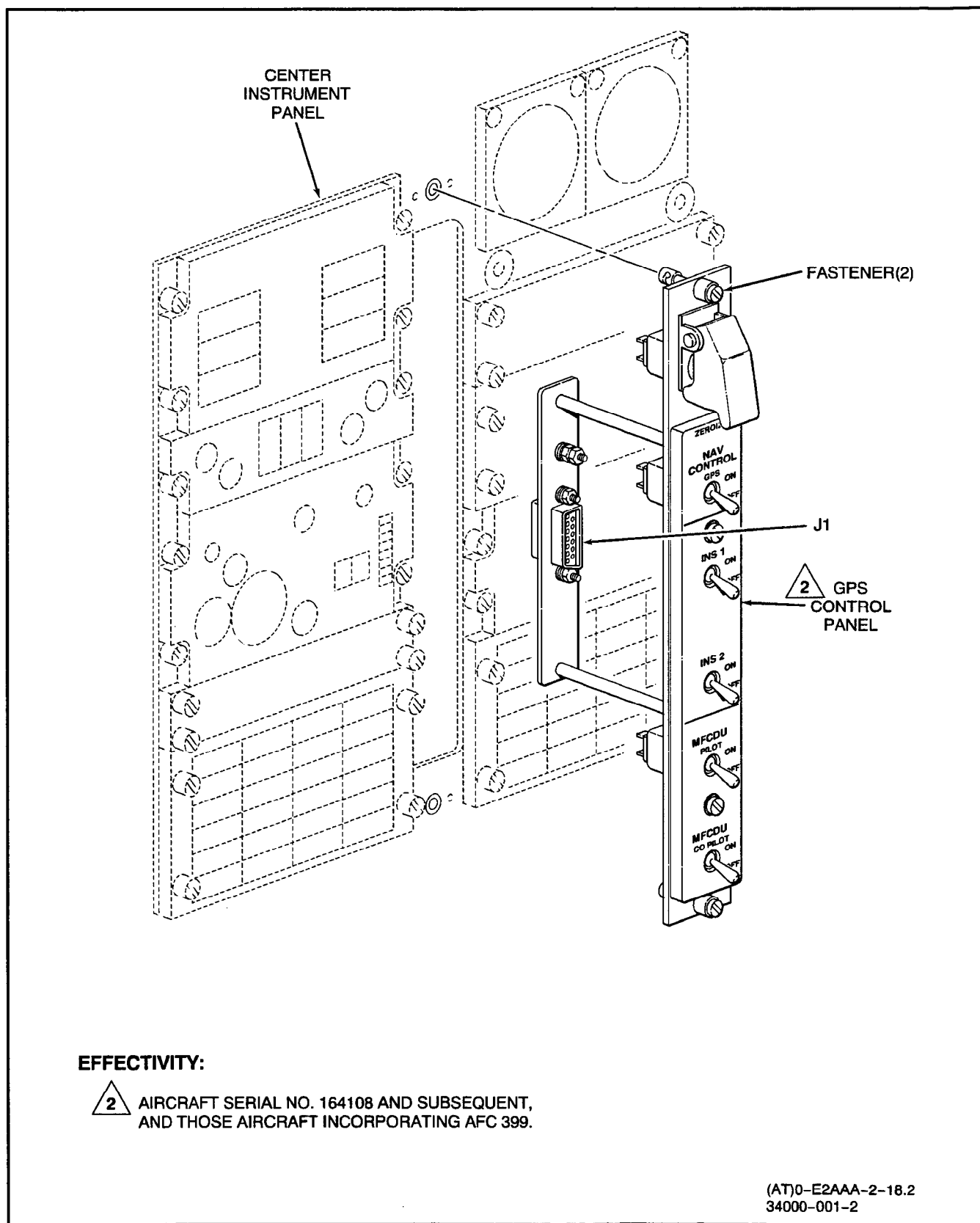


Figure 1. Removal and Installation of NAV Control Global Positioning System and Multifunction Control Display Unit Pilot's Panel (Sheet 2)

a. Disengage two fasteners that secure GPS control panel to cockpit center instrument panel.

b. Slowly pull GPS control panel out of cockpit center instrument panel until cable connector P1 is accessible.

c. While supporting GPS control panel, disconnect cable connector P1 from GPS control panel receptacle J1. Remove GPS control panel.

d. Install protective caps on connector P1 and receptacle J1.

**4. INSTALLATION.** (Figure 1.)

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove caps from connector P1 and receptacle J1.

**CAUTION**

Inspect connector and receptacle for damage and bent pins before connection.

b. While supporting GPS control panel, connect cable connector P1 to GPS control panel receptacle J1. (QUALITY ASSURANCE)

c. Insert GPS control panel into cockpit center instrument panel and secure with two fasteners. (QUALITY ASSURANCE)

d. Perform operational checkout of Global Positioning System AN/ARN-151(V)2 (NAVAIR 01-E2AAA-2-17.1.1, WP014 02).

**ORGANIZATIONAL MAINTENANCE**

**TRANSMITTER SELECTOR SWITCH CONTROL C-12156/AIC-14A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Intercommunication Set AN/AIC-14A .....	018 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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**Record of Applicable Technical Directives**

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
—	—	Incorporation of Joint Tactical Information Distribution System (JTIDS) (ACD 2331)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent.

**1. GENERAL.**

2. The Transmitter Selector Switch Control C-12156/AIC-14A (hereinafter referred to as the control) is part of the Intercommunication Set AN/AIC-14A. There are two controls which are located in the cockpit. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00, figure 1, items 16B and 22A.)

**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disengage six fasteners that secure control panel.

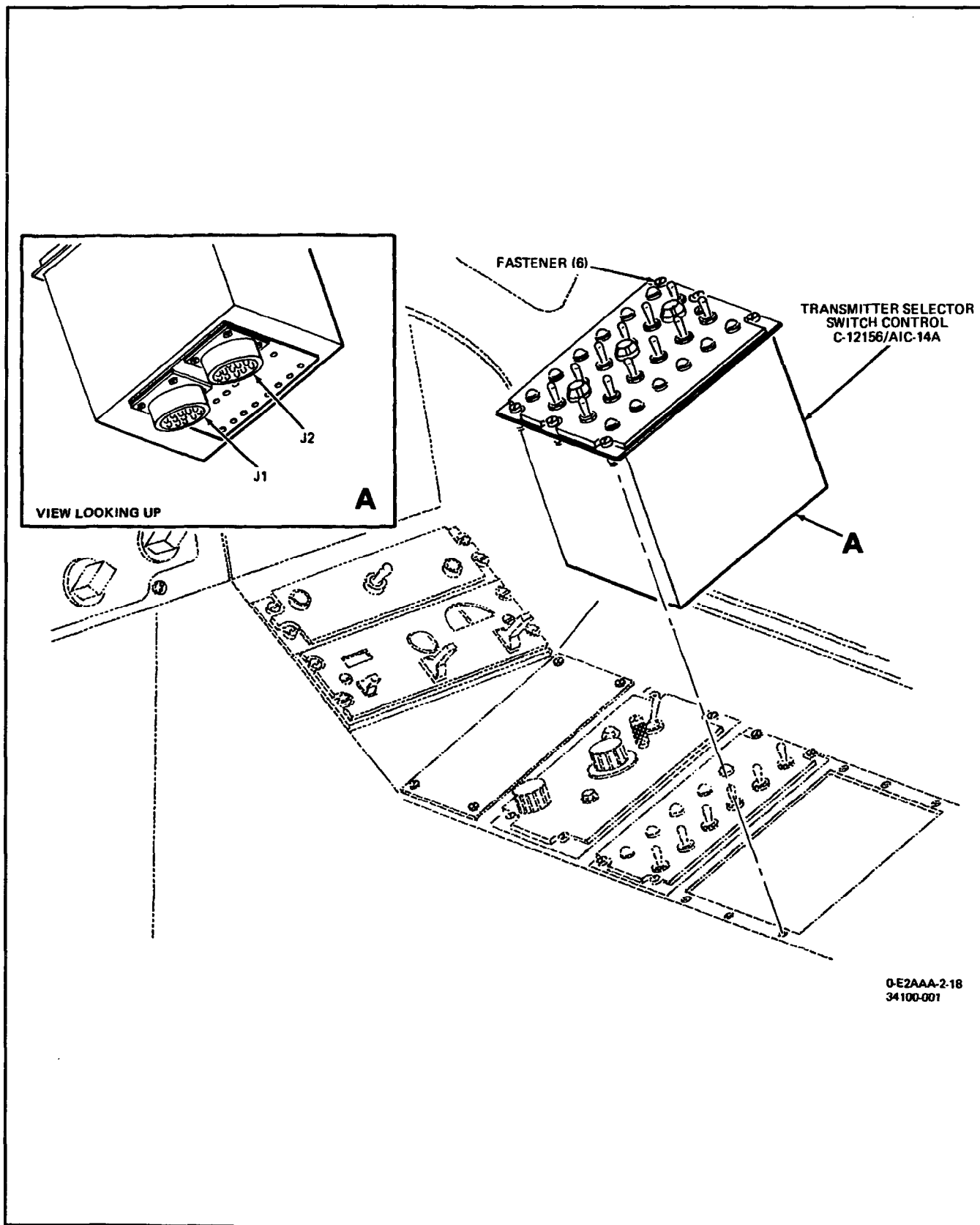
**Note**

If connectors are inaccessible when removing a cockpit control, remove appropriate access plate on side of console. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 1, items 17 and 21) for location of access plates.

b. Carefully pull control out of panel until connectors at rear of control are accessible.

c. Supporting control, disconnect two connectors P1 and P2 from receptacles J1 and J2.

d. Install protective caps on connectors P1 and P2 and on receptacles J1 and J2.



0-E2AAA-2-18  
34100-001

Figure 1. Removal and Installation of Transmitter Selector Switch Control C-12156/AIC-14A in Cockpit



4. **INSTALLATION.** (Figures 1.)



**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove protective caps from connectors P1 and P2, and receptacles J1 and J2.



**CAUTION**

Inspect connectors and receptacles for damage and bent pins before interconnection.

- b. While supporting control, connect two connectors P1 and P2 to receptacles J1 and J2 (P1 to J1, P2 to J2).

c. Carefully insert control into panel and secure control by engaging six fasteners. (QUALITY ASSURANCE)

- d. Perform operational checkout on Intercommunication Set AN/AIC-14A (NAVAIR 01-E2AAA-2-17.1, WP018 00).

- e. If necessary, install access plate removed in step 3b.



**ORGANIZATIONAL MAINTENANCE**

**HIGH POWER AMPLIFIER GROUP AND ELECTRICAL EQUIPMENT MOUNTING BASE MT-6683/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Inflight Performance Monitor AN/ASM-440 .....	007 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00

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—	—	Incorporation of Joint Tactical Distribution System (JTIDS) (ACD 2331)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent.

**1. GENERAL.**

2. The High Power Amplifier Group and Electrical Equipment Mounting Base MT-6683/A (hereinafter referred to as the HPAG and mounting base) are part of Joint Tactical Information Distribution System (JTIDS). The HPAG and mounting base are in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 152) for location of HPAG and mounting base.

**3. HIGH POWER AMPLIFIER GROUP.**

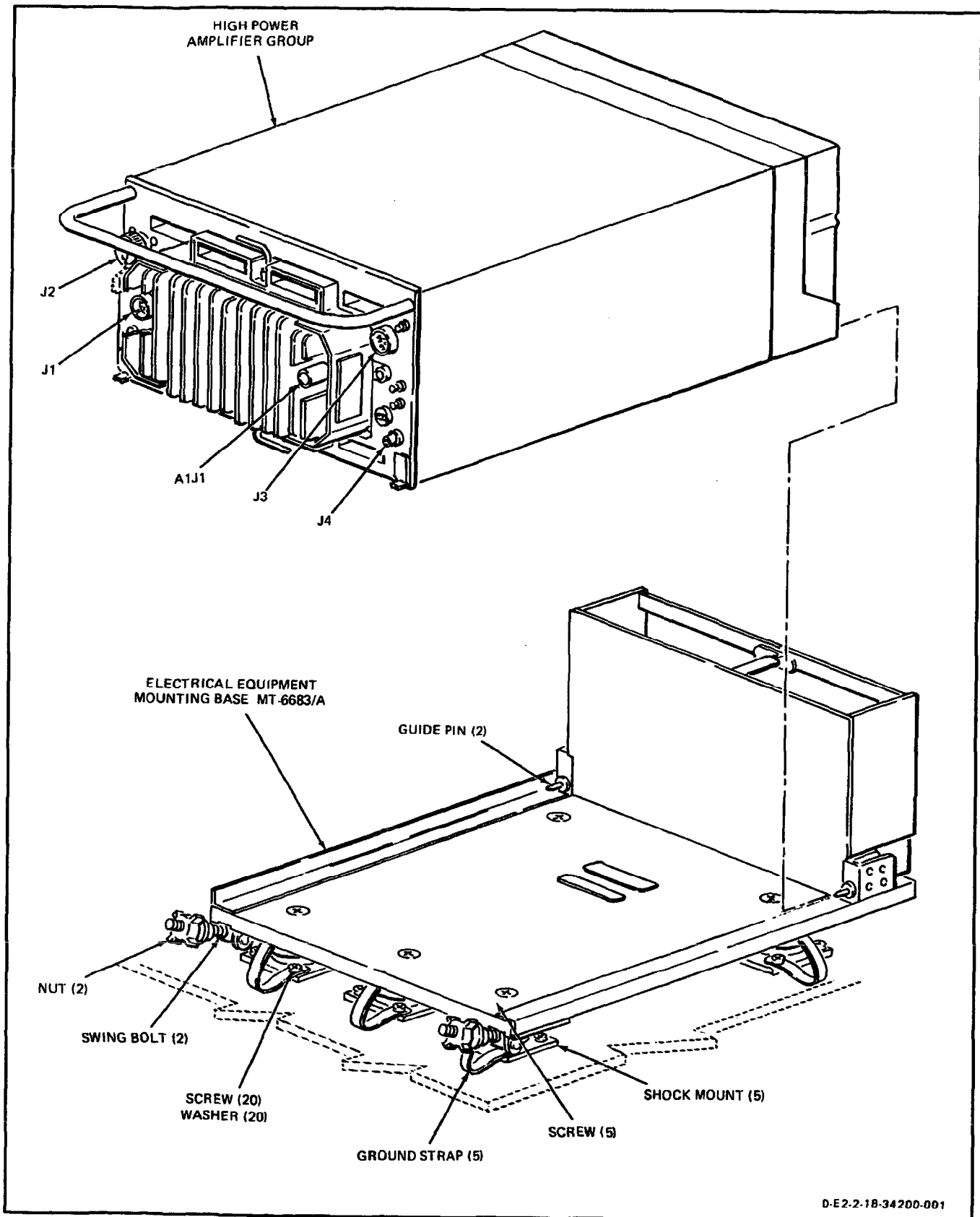
**4. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disconnect five cable connectors P1, P2, P3, P4, and A1P1 from HPAG receptacles J1, J2, J3, J4, and A1J1.

b. Loosen two nuts and then disengage two swing bolts securing HPAG to mounting base.



D-E2-2-18-34200-001

Figure 1. Removal and Installation of High Power Amplifier Group in Equipment Compartment, Left Side

c. Carefully pull HPAG inboard and remove from mounting base.

d. Install protective caps on all connectors and receptacles.

5. INSTALLATION. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove protective caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins before installation.

b. Carefully slide HPAG into mounting base until guide pins are fully engaged. (QUALITY ASSURANCE)

c. Secure HPAG to mounting base by engaging two swing bolts and then tightening two nuts. (QUALITY ASSURANCE)

d. Connect five cable connectors P1 through P4 and A1P1 to HPAG receptacles J1 through J4 and A1J1. (QUALITY ASSURANCE)

e. Perform operational check of Inflight Performance Monitor AN/ASM-440 (NAVAIR 01-E2AAA-2-17.1, WP007 00).

6. ELECTRICAL EQUIPMENT MOUNTING BASE MT-6683/A.

7. REMOVAL. (Figure 1.)

a. Remove HPAG (refer to paragraph 4).

b. Remove five screws securing mounting base to five shock mounts.

c. Remove mounting base from shelf.

**Note**

As an aid to installation, note position of five ground straps in relation to shock mounts.

d. Remove 20 screws and washers securing 5 shock mounts and ground straps to shelf. Remove shock mounts and ground straps from shelf and install on previously removed mounting base using hardware removed in step b.

8. INSTALLATION. (Figure 1.)

a. Remove five screws that secure five shock mounts and five ground straps to mounting base. Remove shock mounts and ground straps.

**Note**

Ensure that ground straps are properly positioned at screws closest to center of mounting base. (See figure 1.)

b. Using 20 screws and washers, secure five shock mounts and five ground straps (as noted during removal) to shelf.

c. Place mounting base on five shock mounts.

d. Place loose ends of five ground straps over shock mounts and under mounting base.

**Note**

If shock mount rotates, hold with wrench.

e. Ensure that ground straps are properly aligned over screw holes in shock mounts. Using five screws (removed in step a), secure mounting base to five shock mounts. (QUALITY ASSURANCE)

f. Install HPAG (refer to paragraph 5).



**ORGANIZATIONAL MAINTENANCE**

**JTIDS RECHARGEABLE BATTERY BB-721/URC-107(V)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**This work package (WP) supersedes WP343 00, dated 1 December 2000.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3
Multifunction Control Display Unit .....	031 03
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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—	—	Incorporation of Joint Tactical Distribution System (JTIDS) (ACD 2331)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent.

**1. GENERAL.**

2. The JTIDS rechargeable battery BB-721/URC-107(V) (hereinafter referred to as the JTIDS rechargeable battery), maintains operating voltages in the aircraft chronometer and the crypto vari-

ables during shutdown. The JTIDS rechargeable battery contains two lithium cells and a Ni-CAD battery brick and is located in the equipment compartment, left side. Refer to WP003 00 (figure 3, item 156) for location of the JTIDS rechargeable battery.

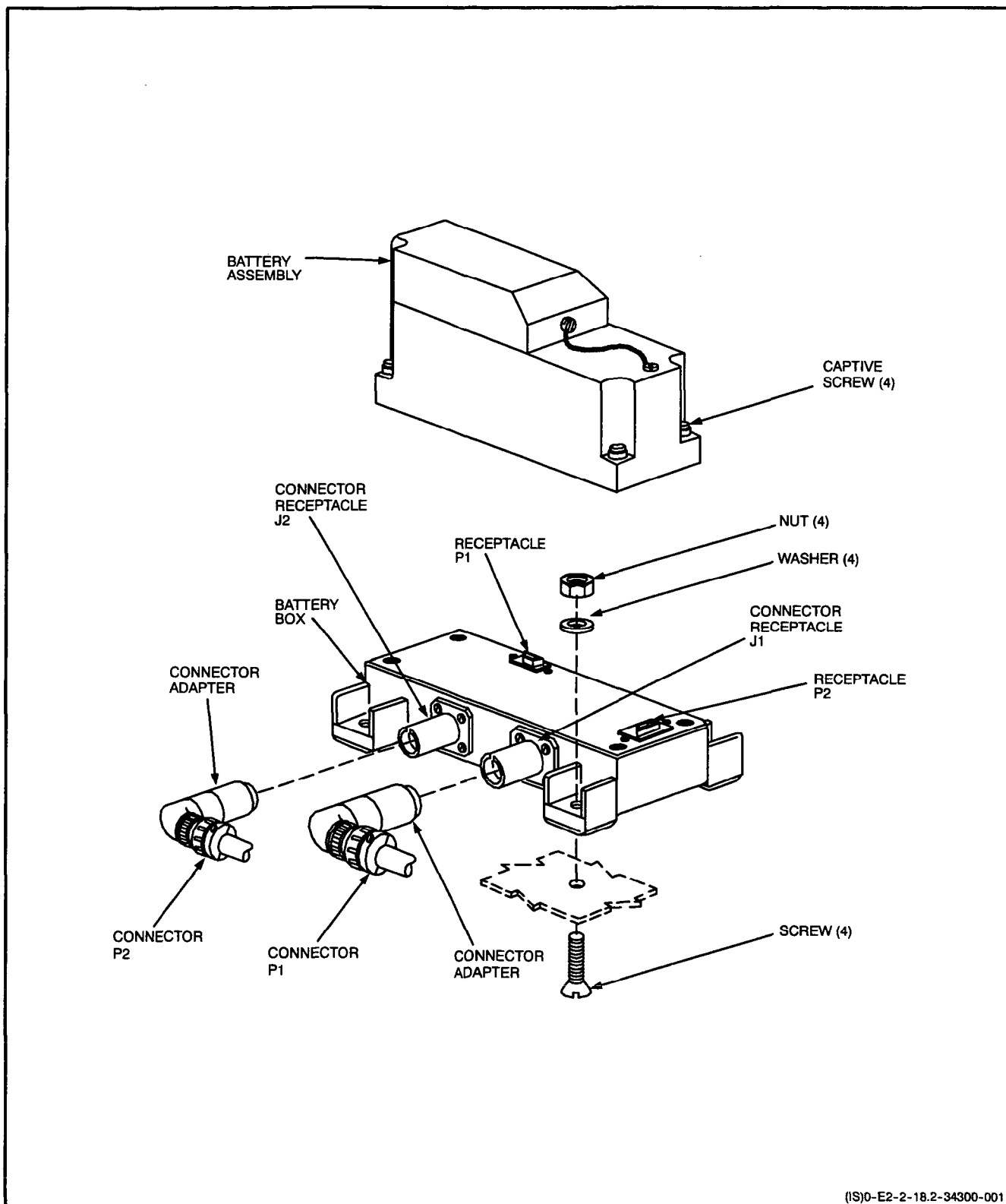


Figure 1. Removal and Installation of JTIDS Rechargeable Battery BB-721/URC-107(V) in Equipment Compartment



**3. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Disconnect connectors P1 and P2 from connector adapters. Remove connector adapters from connector receptacles J1 and J2 on battery box.

d. Remove four screws, washers and nuts securing JTIDS rechargeable battery to shelf.

e. Remove JTIDS rechargeable battery from aircraft.

f. Loosen four captive screws securing battery assembly to battery box.

g. Carefully remove battery assembly, while disengaging receptacles P1 and P2 on battery box.

h. Inspect electrical connectors for damage, corrosion, recessed pins, grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

**4. INSTALLATION.** (Figure 1.)**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
H510A002-110	Battery Assembly

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Remove all caps from receptacles P1 and P2 and connector receptacles J1 and J2.

d. Carefully install battery assembly on battery box, while engaging receptacles P1 and P2.

e. Secure battery assembly to battery box with four captive screws.

f. Secure JTIDS rechargeable battery to shelf with four screws, washers and nuts. (QUALITY ASSURANCE)

g. Install connector adapters on connector receptacles J1 and J2 on battery box. Connect connectors P1 and P2 to connector adapters. (QUALITY ASSURANCE)

h. Perform an operational check of Multifunction Control Display Unit (NAVAIR 01-E2AAA-2-17.3, WP031 03).



**ORGANIZATIONAL MAINTENANCE**

**JTIDS RECEIVER/TRANSMITTER**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Inflight Performance Monitor AN/ASM-440 .....	007 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Incorporation of Joint Tactical Distribution System (JTIDS) (ACD 2331)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent.

**1. GENERAL.**

2. The JTIDS receiver/transmitter (hereinafter referred to as the R/T), is part of the Joint Tactical Information Distribution System (JTIDS). The R/T is located in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 154) for location of R/T.

**3. REMOVAL.** (Figure 1.)

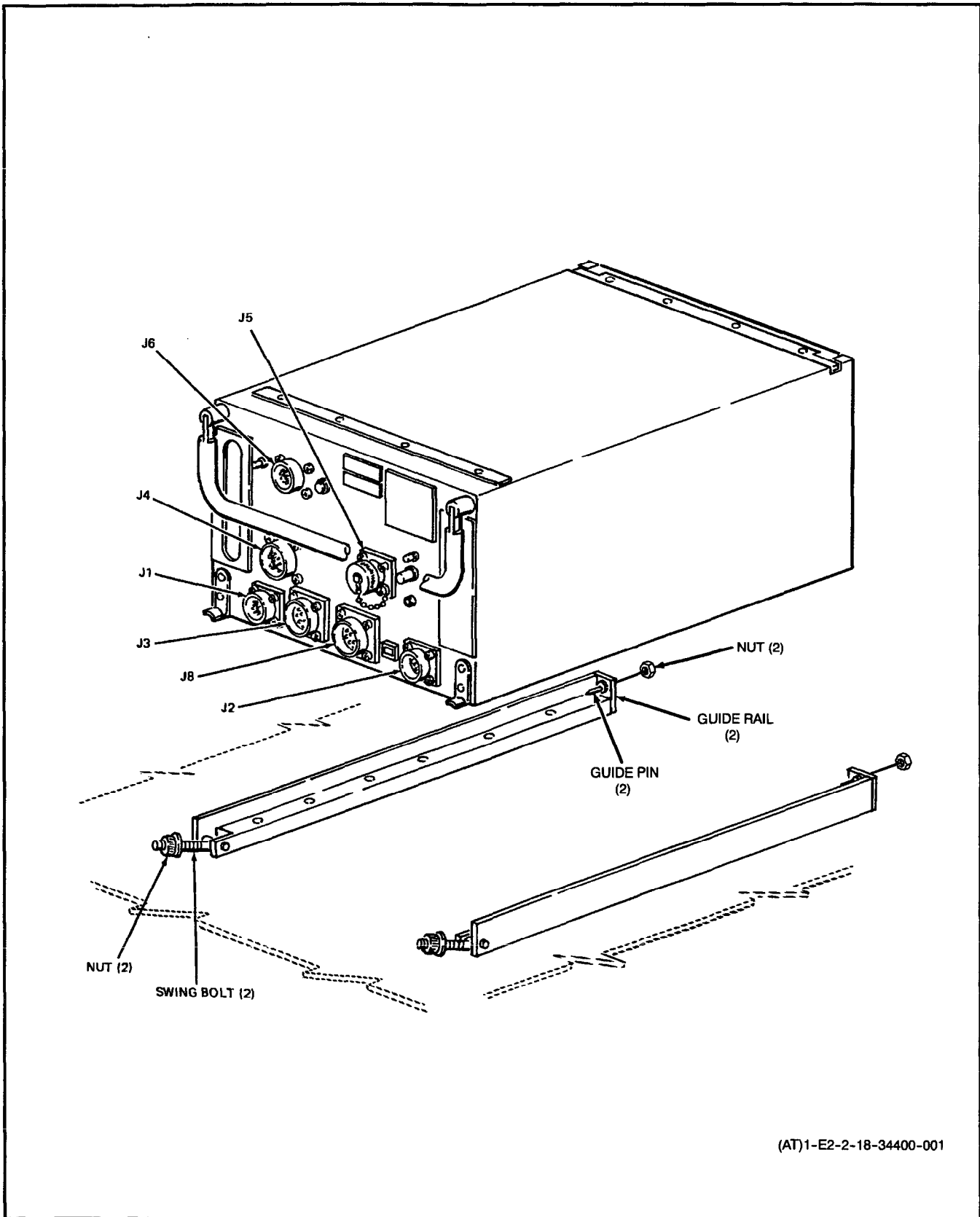


Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disconnect six cable connectors P1 through P4, P6, and P8 from R/T receptacles J1 through J4, J6, and J8.
- b. Loosen two nuts and disengage two swing bolts securing R/T to equipment shelf.
- c. Carefully pull R/T inboard and remove from shelf.
- d. Install protective caps on all connectors and receptacles.

**Materials Required**

<b>Specification or Part Number</b>	<b>Nomenclature</b>
MIL-S-46163, Type II, Grade M	Thread Locking Compound



(AT)1-E2-2-18-34400-001

Figure 1. Removal and Installation of JTIDS Receiver/Transmitter Equipment Compartment, Left Side

e. Inspect two equipment shelf guide pins and nuts at rear of guide pins. Verify that guide pins and nuts are still in place. Inspect guide pin threads for purple-colored thread locking compound.

**WARNING**

Thread locking compound, MIL-S-46163, Type I, II, and III, is irritating to skin and eyes. Protection: chemical splashproof goggles and protective gloves. Avoid eye and skin contact.

f. If not present, apply thread locking compound, type II, grade M, to threads of guide pins after tightening nuts. (QUALITY ASSURANCE)

**4. INSTALLATION.** (Figure 1.)

**WARNING**

Ensure that external power is disconnected

from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove protective caps from connectors and receptacles.

**CAUTION**

Inspect connectors and receptacles for damage and bent pins before interconnection.

b. Carefully slide R/T into two guide rails until two guide pins are fully engaged.

c. Secure R/T to guide rails by engaging two swing bolts and tightening two nuts. (QUALITY ASSURANCE)

d. Connect six cable connectors P1 through P4, P6, and P8 to R/T receptacles J1 through J4, J6, and J8. (QUALITY ASSURANCE)

e. Perform operational check of Inflight Performance Monitor AN/ASM-440 (NAVAIR 01-E2AAA-2-17.1, WP007 00).



**ORGANIZATIONAL MAINTENANCE**

**DATA PROCESSOR GROUP**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Inflight Performance Monitor AN/ASM-440 .....	007 00
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Incorporation of Joint Tactical Distribution System (JTIDS) (ACD 2331)	4/1/91	Effectivity: Aircraft Serial No. 164108 and Subsequent.

**1. GENERAL.**

2. The Data Processor Group (hereinafter referred to as the DPG) is part of the Joint Tactical Information Distribution System (JTIDS). The DPG is located in the equipment compartment, left side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 155) for location of the DPG.

**3. REMOVAL.** (Figure 1.)

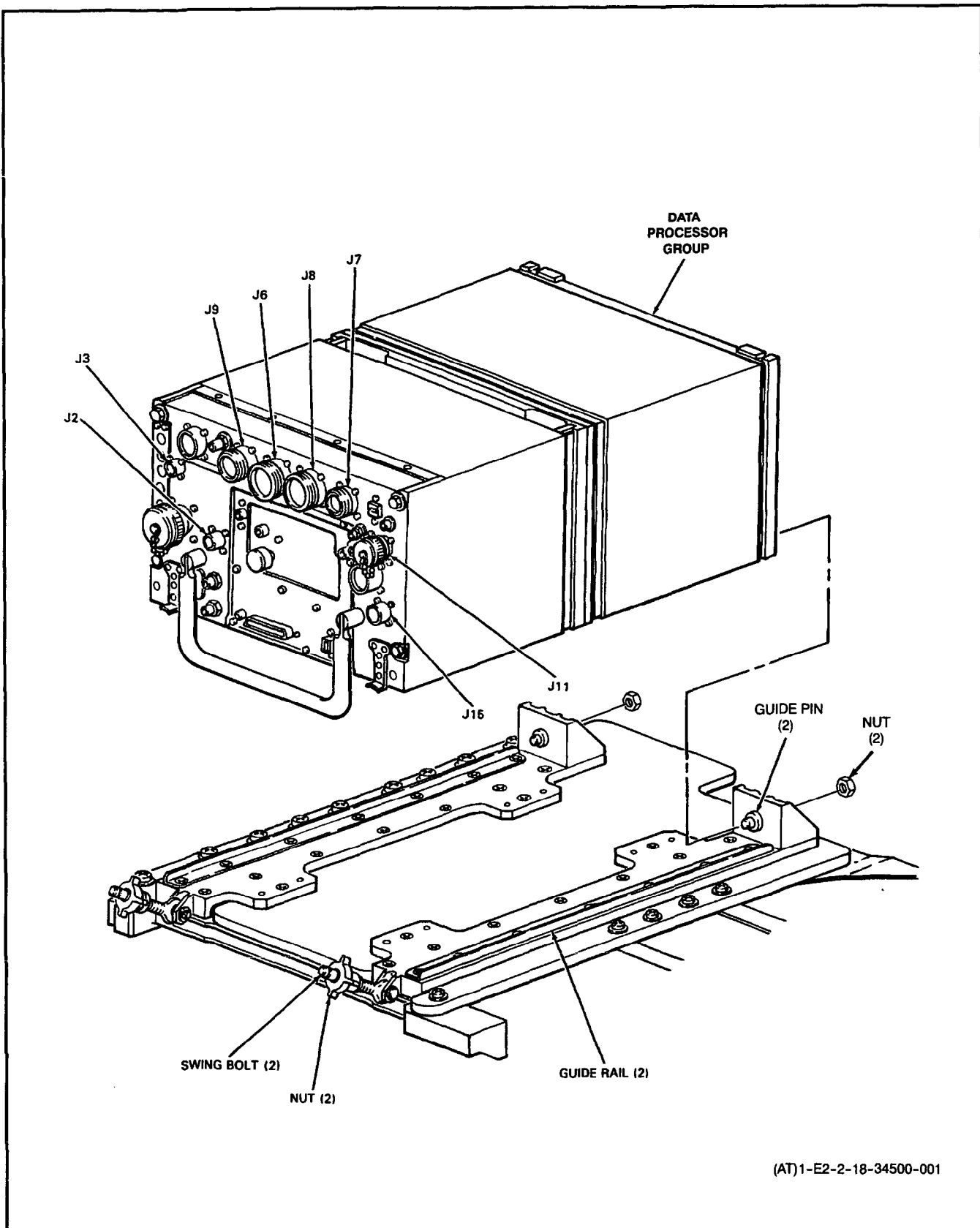


Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disconnect seven cable connectors from DPG receptacles J2, J3, J6 through J9, and J15.
- b. Loosen two nuts and disengage two swing bolts securing DPG to equipment shelf.
- c. Carefully pull DPG inboard and remove from shelf.
- d. Install protective caps on all connectors and receptacles.

**Materials Required**

<b>Specification or Part Number</b>	<b>Nomenclature</b>
MIL-S-46163, Type II, Grade M	Thread Locking Compound



(AT)1-E2-2-18-34500-001

Figure 1. Removal and Installation of Data Processor Group



e. Inspect two equipment shelf guide pins and nuts at rear of guide pins. Verify that guide pins and nuts are still in place. Inspect guide pin threads for purple-colored thread locking compound.



Thread locking compound, MIL-S-46163, Type I, II, and III, is irritating to skin and eyes. Protection: chemical splashproof goggles and protective gloves. Avoid eye and skin contact.

f. If not present, apply thread locking compound, type II, grade M, to threads of guide pins after tightening nuts. (QUALITY ASSURANCE)

4. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected

from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove protective caps from connectors P2, P3, P6 through P9, and P15 and receptacles J2, J3, J6 through J9, and J15.



Inspect connectors and receptacles for damage and bent pins before interconnection.

b. Carefully slide DPG into two guide rails until two guide pins are fully engaged.

c. Secure DPG to guide rails by engaging two swing bolts and tightening two nuts. (QUALITY ASSURANCE)

d. Connect seven cable connectors P2, P3, P6 through P9, and P15 to DPG receptacles J2, J3, J6 through J9, and J15. (QUALITY ASSURANCE)

e. Perform operational check of Inflight Performance Monitor AN/ASM-440 (NAVAIR 01-E2AAA-2-17.1, WP007 00).



**ORGANIZATIONAL MAINTENANCE**

**STRAIN GAGE ELECTRONIC ASSEMBLIES**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164352 THROUGH 165647**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
Access and Inspection Provisions .....	011 00
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Structural Data Recording System AN/ASH-37 .....	033 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	—	Incorporation of Structural Data Recording System (SDRS) (ECP 383R1C1)	6/15/95	Effectivity: Aircraft Serial No. 164352 and Subsequent. ECP Coverage Only.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
AN/PSM-40 (or equivalent)	Multimeter

**Materials Required**

<b>Specification or Part Number</b>	<b>Nomenclature</b>
MIL-S8802	Sealant
EA956A/B	Epoxy Resin

## 1. GENERAL.

2. The Strain Gage Electronic Assemblies, part numbers 123AV58046-1 and 123AV58047-1 (hereinafter referred to as the strain gages), are part of Structural Data Recording System AN/ASH-37 (SDRS). Strain gage, part number 123AV58046-1, is located on the right wing outer panel of the aircraft, at wing station 188. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 7, item 29), for location of the strain gage. Strain gage, part number 123AV58047-1, is located in the right wing center section of the aircraft, at wing station 20. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 7, item 30), for location of the strain gage.

## 3. REMOVAL OF STRAIN GAGE, PART NUMBER 123AV58046-1. (Figure 1.)

4. Strain gage, part number 123AV58046-1, is comprised of two strain gage sensors and a strain gage sensor select switch. Only remove those components required to accomplish the repair.

**WARNING**

Ensure external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

## 5. STRAIN GAGE SENSORS.

a. Locate access panel 316 on underside of right wing outer panel of aircraft, at wing station 188 (NAVAIR 01-E2AAA-2-1, WP011 00).

b. Remove 19 washer head screws and 7 flat head machine screws, and remove access panel from aircraft right wing outer panel.

c. Tag and disconnect all wires associated with desired strain gage sensor.

d. Pull strain gage sensor free from bulkhead.

## 6. STRAIN GAGE SENSOR SELECT SWITCH.

a. Locate access panel 316 on underside of right wing outer panel of aircraft, at wing station 188 (NAVAIR 01-E2AAA-2-1, WP011 00).

b. Remove 19 washer head screws and 7 flat head machine screws, and remove access panel from aircraft right wing outer panel.

c. Tag and disconnect all wires associated with strain gage sensor select switch.

d. Remove locknuts (supplied with strain gage sensor select switch) from strain gage sensor select switch.

e. Remove strain gage sensor select switch from sensor switch bracket assembly.

## 7. REMOVAL OF STRAIN GAGE, PART NUMBER 123AV58047-1. (Figure 1.)

8. Strain gage, part number 123AV58047-1, is comprised of two strain gage sensors and a strain gage sensor select switch. Only remove those components required to accomplish the repair.

**WARNING**

Ensure external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

## 9. STRAIN GAGE SENSORS.

a. Locate access panel 307 on underside of right wing center section of aircraft, at wing station 20 (NAVAIR 01-E2AAA-2-1, WP011 00).

b. Remove 18 washer head screws and remove access panel from aircraft right wing center section.

c. Locate access panel 71 on starboard fuselage of aircraft, at station 379 (NAVAIR 01-E2AAA-2-1, WP011 00).

d. Remove 23 washer head screws and remove access panel 71 from aircraft starboard fuselage.

e. Tag and disconnect all wires associated with desired strain gage sensor.

f. Pull strain gage sensor free from bulkhead.

## 10. STRAIN GAGE SENSOR SELECT SWITCH.

a. Locate access panel 307 on underside of right wing center section of aircraft, at wing station 20 (NAVAIR 01-E2AAA-2-1, WP011 00).

b. Remove 18 washer head screws and remove access panel from aircraft right wing center section.

c. Tag and disconnect all wires associated with strain gage sensor select switch.

d. Remove locknuts (supplied with strain gage sensor select switch) from strain gage sensor select switch.

e. Remove strain gage sensor select switch from sensor switch bracket assembly.

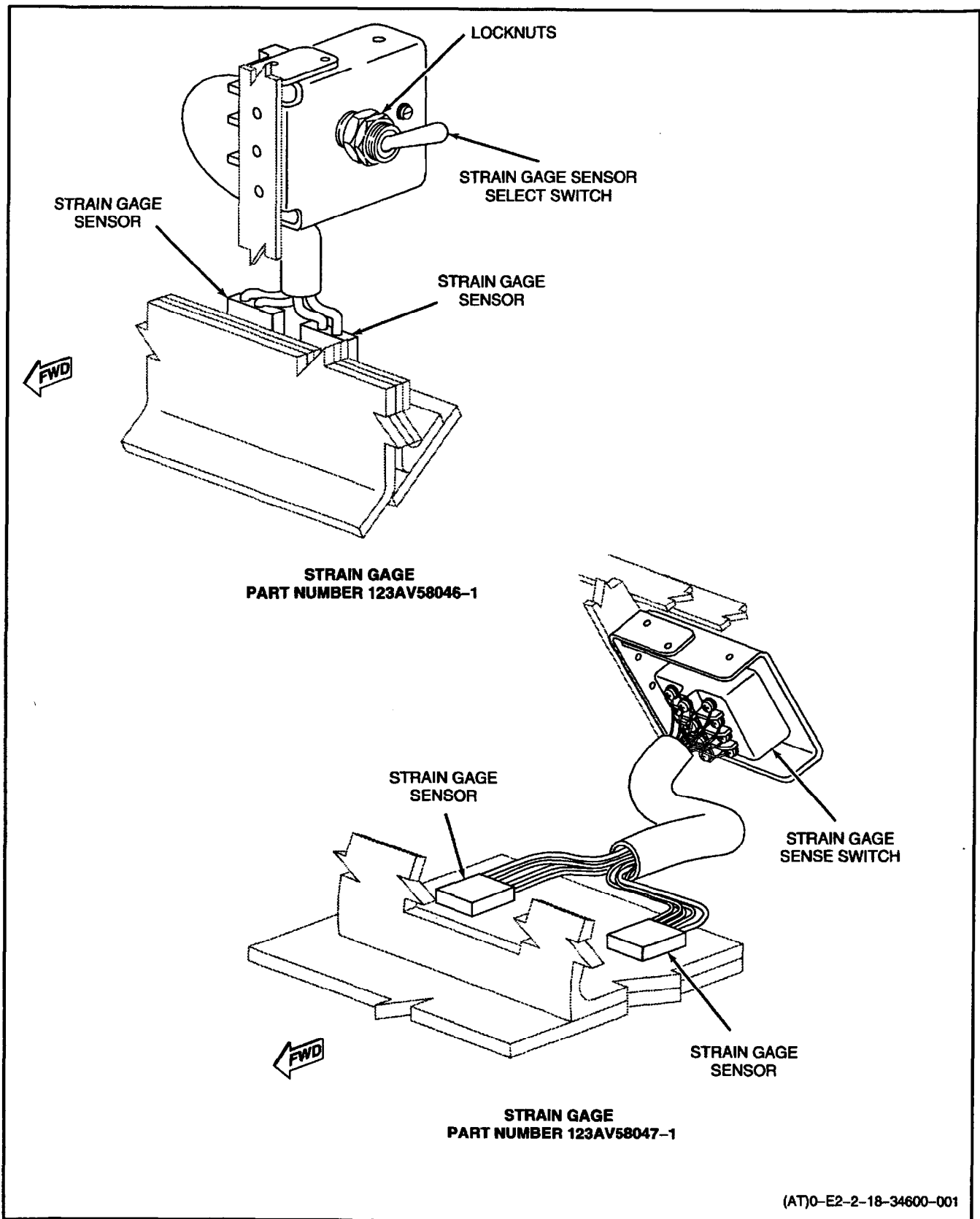


Figure 1. Removal and Installation of Strain Gage Electronic Assemblies 123AV58046-1 and 123AV58047-1

11. INSTALLATION OF STRAIN GAGE, PART NUMBER 123AV58046-1. (Figure 1.)

**WARNING**

Ensure external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

12. STRAIN GAGE SENSORS.

a. Using a multimeter, check for 980 to 1,020 ohms resistance between brown and orange leads, and between red and yellow leads. If resistance is not correct, replace strain gage.

**WARNING**

Epoxy resin, EA956A/B, is toxic. Protection: chemical splashproof goggles and good ventilation. Wear non-permeable gloves. Avoid contact of epoxy resin with skin, eyes, and clothes. In case of contact with epoxy resin, flush skin or eyes with water and seek medical attention.

b. Bond strain gage sensor to bulkhead using epoxy resin.

**WARNING**

Sealant, MIL-S-8802, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed; keep sparks, flames, and heat away; keep sealant off skin, eyes, and clothes; do not breathe vapors.

c. After strain gage sensor bonding has dried, seal the bond using sealant.

d. Connect all wires disconnected during removal, and remove all tags.

e. Position access panel 316 on underside of right wing outer panel of aircraft, at wing station 188, and secure using 19 washer head screws and 7 flat head machine screws (NAVAIR 01-E2AAA-2-1, WP011 00).

f. Perform repair verification procedure for SDRS (NAVAIR 01-E2AAA-2-17.3.1, WP033 01).

13. STRAIN GAGE SENSOR SELECT SWITCH.

a. Position strain gage sensor select switch in sensor switch bracket assembly.

b. Secure strain gage sensor select switch to switch bracket assembly using locknuts (supplied with strain gage sensor select switch).

c. Connect all wires disconnected during removal, and remove all tags.

d. Position access panel 316 on underside of right wing outer panel of aircraft, at wing station 188, and secure using 19 washer head screws and 7 flat head machine screws (NAVAIR 01-E2AAA-2-1, WP011 00).

e. Perform repair verification procedure for SDRS (NAVAIR 01-E2AAA-2-17.3.1, WP033 01).

14. INSTALLATION OF STRAIN GAGE, PART NUMBER 123AV58047-1. (Figure 1.)

**WARNING**

Ensure external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

15. STRAIN GAGE SENSORS.

a. Using a multimeter, check for 980 to 1,020 ohms resistance between brown and orange leads, and between red and yellow leads. If resistance is not correct, replace strain gage.

**WARNING**

Epoxy resin, EA956A/B, is toxic. Protection: chemical splashproof goggles and good ventilation. Wear non-permeable gloves. Avoid contact of epoxy resin with skin, eyes, and clothes. In case of contact with epoxy resin, flush skin or eyes with water and seek medical attention.

b. Bond strain gage sensor to bulkhead using epoxy resin.

**WARNING**

Sealant, MIL-S-8802, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed; keep sparks, flames, and heat away; keep sealant off skin, eyes, and clothes; do not breathe vapors.

c. After strain gage sensor bonding has dried, seal the bond using sealant.

d. Connect all wires disconnected during removal, and remove all tags.

e. Position access panel 71 on starboard fuselage of aircraft, at station 379, and secure using 23 washer head screws (NAVAIR 01-E2AAA-2-1, WP011 00).

f. Position access panel 307 on underside of right wing center section of aircraft, at wing station 20, and secure using 18 washer head screws (NAVAIR 01-E2AAA-2-1, WP011 00).

g. Perform repair verification procedure for SDRS (NAVAIR 01-E2AAA-2-17.3.1, WP033 01).

**16. STRAIN GAGE SENSOR SELECT SWITCH.**

a. Position strain gage sensor select switch in sensor switch bracket assembly.

b. Secure strain gage sensor select switch to sensor switch bracket assembly using locknuts (supplied with strain gage sensor select switch).

c. Connect all wires disconnected during removal, and remove all tags.

d. Position access panel 307 on underside of right wing center section of aircraft, at wing station 20, and secure using 18 washer head screws (NAVAIR 01-E2AAA-2-1, WP011 00).

e. Perform repair verification procedure for SDRS (NAVAIR 01-E2AAA-2-17.3.1, WP033 01).





**ORGANIZATIONAL MAINTENANCE**

**MOTIONAL PICKUP TRANSDUCER TR-354/ASH-37**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164352 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
Interior Doors, Covers, and Panels - Floor .....	011 04
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Structural Data Recording System AN/ASH-37 .....	033 01
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
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—	—	Incorporation of Structural Data Recording System (SDRS) (ECP 83R1C1)	6/15/95	Effectivity: Aircraft Serial No. 164352 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

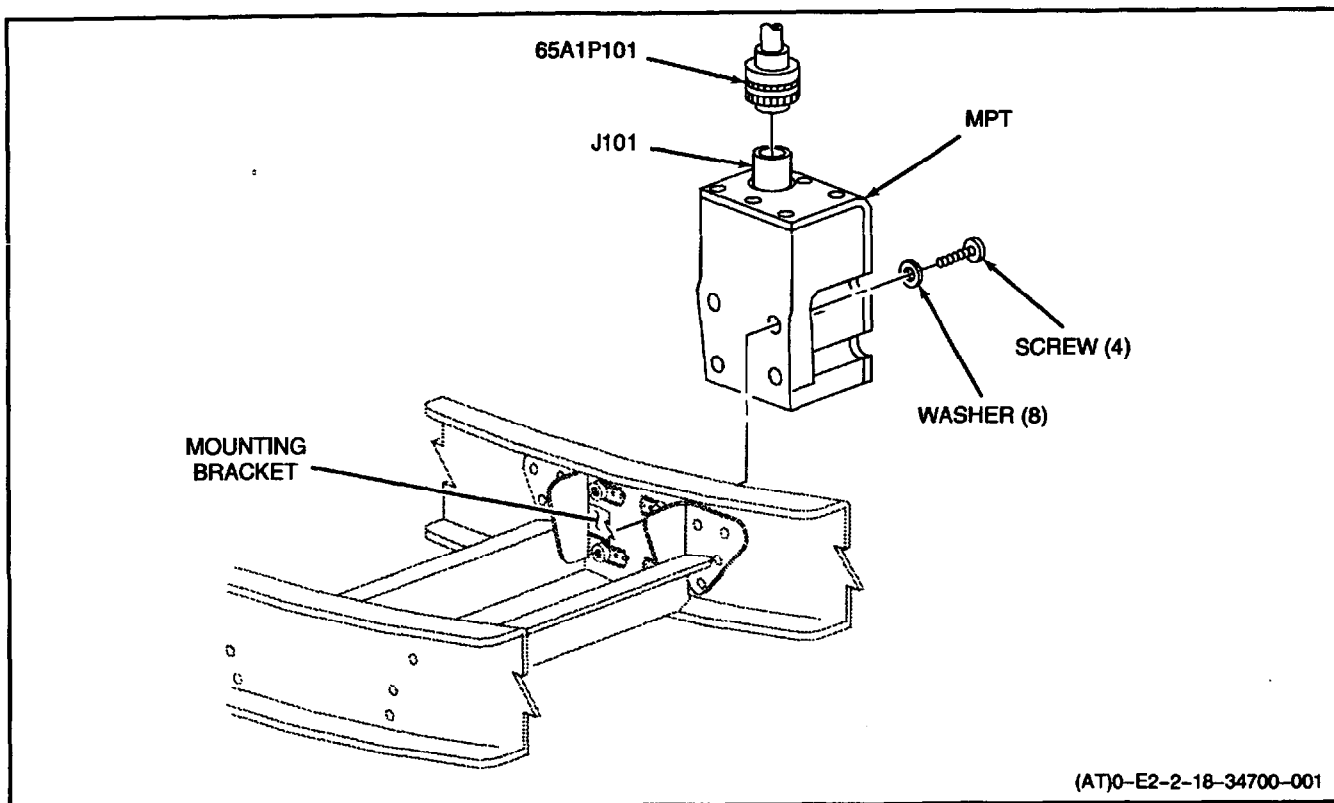
2. Motional Pickup Transducer TR-354/ASH-37 (hereinafter referred to as the MPT) is part of Structural Data Recording System AN/ASH-37 (SDRS). The MPT is located under the floor at station 305. Refer to NAV-AIR 01-E2AAA-2-18.1, WP003 00 (figure 3, item 76), for location of the MPT.

**3. REMOVAL.** (Figure 1.)



Ensure external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Locate floor panel 123BH10001-3 at stations 279 through 320 (NAVAIR 01-E2AAA-2-1, WP011 04).
- b. Remove 16 screws from floor panel, and remove floor panel from aircraft floor.



**Figure 1. Removal and Installation of Motional Pickup Transducer TR-354/ASH-37**

c. At station 305, disconnect cable connector 65A1P101 from MPT receptacle J101.

d. Remove four screws and eight washers that secure MPT to mounting bracket.

e. Remove MPT from mounting bracket.

f. Install protective caps on connector and receptacle.

**4. INSTALLATION.** (Figure 1)

**WARNING**

Ensure external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Position MPT on mounting bracket at station 305.

b. Secure MPT to mounting bracket using four screws and eight washers.

c. Remove protective caps from connector and receptacle.

d. Connect cable connector 65A1P101 to MPT receptacle J101.

e. Position floor panel 123BH10001-3 at stations 279 through 320 on aircraft floor (NAVAIR 01-E2AAA-2-1, WP011 04).

f. Secure floor panel to aircraft floor using 16 screws.

g. Perform repair verification procedure for SDRS (NAVAIR 01-E2AAA-2-17.3.1, WP033 01).

**ORGANIZATIONAL MAINTENANCE**

**SIGNAL DATA CONVERTER CV-4157/ASH-37**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164352 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Structural Data Recording System AN/ASH-37 .....	033 01
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—	—	Incorporation of Structural Data Recording System (SDRS) (ECP 383R1C1)	6/15/95	Effectivity: Aircraft Serial No. 164352 and Subsequent. ECP Coverage Only.

**1. GENERAL.**

2. Signal Data Converter CV-4157/ASH-37 (hereinafter referred to as the SDC) is part of Structural Data Recording System AN/ASH-37 (SDRS). The SDC is located in the equipment compartment, left side, at station 280. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, item 166), for location of the SDC.

**3. REMOVAL.** (Figure 1.)



Ensure external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove four screws and washers securing memory unit mounting panel to structure. Swing open panel.

b. Disconnect three cable connectors 65A2P1, 65A2P2, and 65A2P3 from SDC receptacles J1, J2, and J3.

c. Support SDC, and remove three screws and washers securing SDC to equipment compartment structure. Remove SDC.

d. Install protective caps on all connectors and receptacles.

4. **INSTALLATION.** (Figure 1.)

**WARNING**

Ensure external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Properly position SDC on equipment compartment structure.

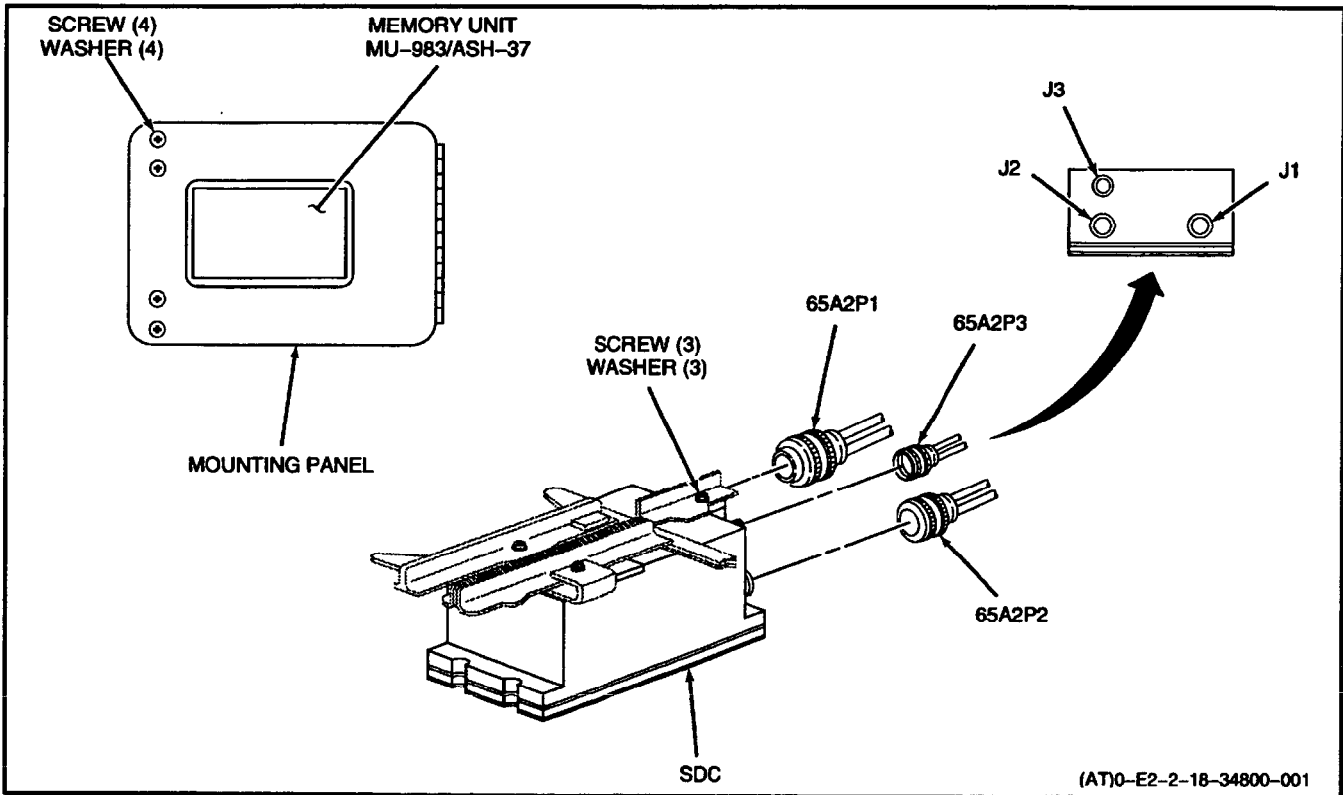
b. Secure SDC to equipment compartment structure using three screws and washers.

c. Remove protective caps from all connectors and receptacles.

d. Connect three cable connectors 65A2P1, 65A2P2, and 65A2P3 to SDC receptacles J1, J2, and J3. (QUALITY ASSURANCE)

e. Swing memory unit mounting panel to closed position against structure, and secure using four screws and washers.

f. Perform repair verification procedure for SDRS (NAVAIR 01-E2AAA-2-17.3.1, WP033 01).



(AT)0-E2-2-18-34800-001

Figure 1. Removal and Installation of Signal Data Converter CV-4157/ASH-37

ORGANIZATIONAL MAINTENANCE

RECORDER-CONVERTER RO-601/ASH-37 AND MEMORY UNIT MU-983/ASH-37

EFFECTIVITY: AIRCRAFT SERIAL NO. 164352 AND SUBSEQUENT

Reference Material

General Aircraft Information ... NAVAIR 01-E2AAA-2-1 027 00
External Electrical Power Connections ...
Integrated Electronic Systems Testing and Troubleshooting ... NAVAIR 01-E2AAA-2-17.3.1 033 01
Structural Data Recording System AN/ASH-37 ...
Electronic Systems Maintenance ... NAVAIR 01-E2AAA-2-18.1 003 00
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Table with 5 columns: Type/No., Date, Title and ECP No., Date Inc., Remarks. Row 1: Incorporation of Structural Data Recording System (SDRS) (ECP 383R1C1) dated 6/15/95.

1. GENERAL.

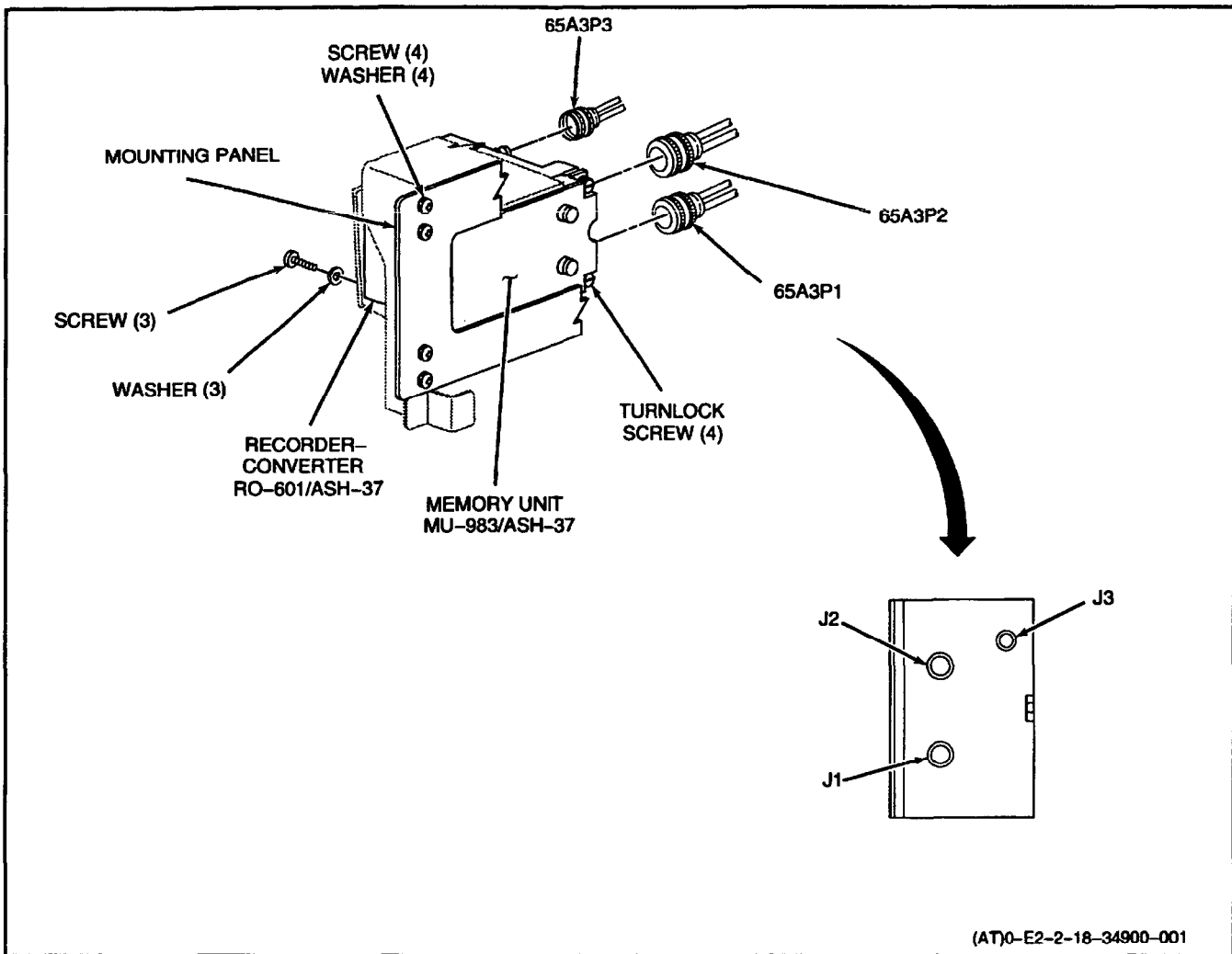
168), for location of the recorder-converter and memory unit.

2. Recorder-Converter RO-601/ASH-37 (hereinafter referred to as the recorder-converter) and Memory Unit MU-983/ASH-37 (hereinafter referred to as the memory unit) are part of Structural Data Recording System AN/ASH-37 (SDRS). The recorder-converter and memory unit are located in the equipment compartment, left side, at station 280. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 (figure 2, items 167 and

3. REMOVAL. (Figure 1.)



Ensure external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



**Figure 1. Removal and Installation of Recorder-Converter RO-601/ASH-37 and Memory Unit MU-983/ASH-37**

**4. MEMORY UNIT.**

a. Loosen four turnlock screws that secure memory unit to recorder-converter.

b. Gently lift memory unit and separate memory unit connectors from recorder-converter connectors. Remove memory unit.

**5. RECORDER-CONVERTER.**

a. Remove memory unit in accordance with Memory Unit removal paragraph.

b. Remove four screws and washers securing memory unit mounting panel to structure. Swing open panel.

c. Disconnect three cable connectors 65A3P1, 65A3P2, and 65A3P3 from recorder-converter receptacles J1, J2, and J3.

d. Support recorder-converter, and remove three screws and washers securing recorder-converter to equipment compartment structure. Remove recorder-converter.

e. Install protective caps on all connectors and receptacles.

**6. INSTALLATION. (Figure 1.)**

**WARNING**

Ensure external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**7. RECORDER-CONVERTER.**

- a. Properly position recorder-converter on equipment compartment structure.
- b. Secure recorder-converter to equipment compartment structure using three screws and washers.
- c. Remove protective caps from all connectors and receptacles.
- d. Connect three cable connectors 65A3P1, 65A3P2, and 65A3P3 to recorder-converter receptacles J1, J2, and J3. (QUALITY ASSURANCE)
- e. Swing memory unit mounting panel to closed position against structure, and secure using four screws and washers.

- f. Install memory unit in accordance with Memory Unit installation paragraph.

- g. Perform repair verification procedure for SDRS (NAVAIR 01-E2AAA-2-17.3.1, WP033 01).

**8. MEMORY UNIT.**

- a. Gently position memory unit connectors properly over recorder-converter connectors, and mate connectors. Remove memory unit.

- b. Secure memory unit to recorder-converter by tightening four turnlock screws.

- c. Perform repair verification procedure for SDRS (NAVAIR 01-E2AAA-2-17.3.1, WP033 01).





**ORGANIZATIONAL MAINTENANCE**

**SIGNAL DATA CONVERTER CV-4138/A AND MOUNT MT-6802/A**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Global Positioning System AN/ARN-151(V)2 .....	014 02

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. The Signal Data Converter CV-4138/A and Mount MT-6802/A (converter and mounting tray, respectively) are part of the global positioning system (GPS). The converter (36A20) and mounting tray are in the left side of the crew compartment, at FS 500.00 and WL -11.03, on a shelf placarded SIGNAL DATA CONVERTER CV-4138/A. The shelf is just aft of the ACO station.

**3. SIGNAL DATA CONVERTER CV-4138/A.**

**4. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. On mounting tray, loosen self-locking fastener and disengage fastener that secures converter to mounting tray.

b. Carefully slide converter out of mounting tray, and disengage converter connectors P2 and A1P1 from mounting tray connectors J4 and J3, respectively. Remove converter from mounting tray.

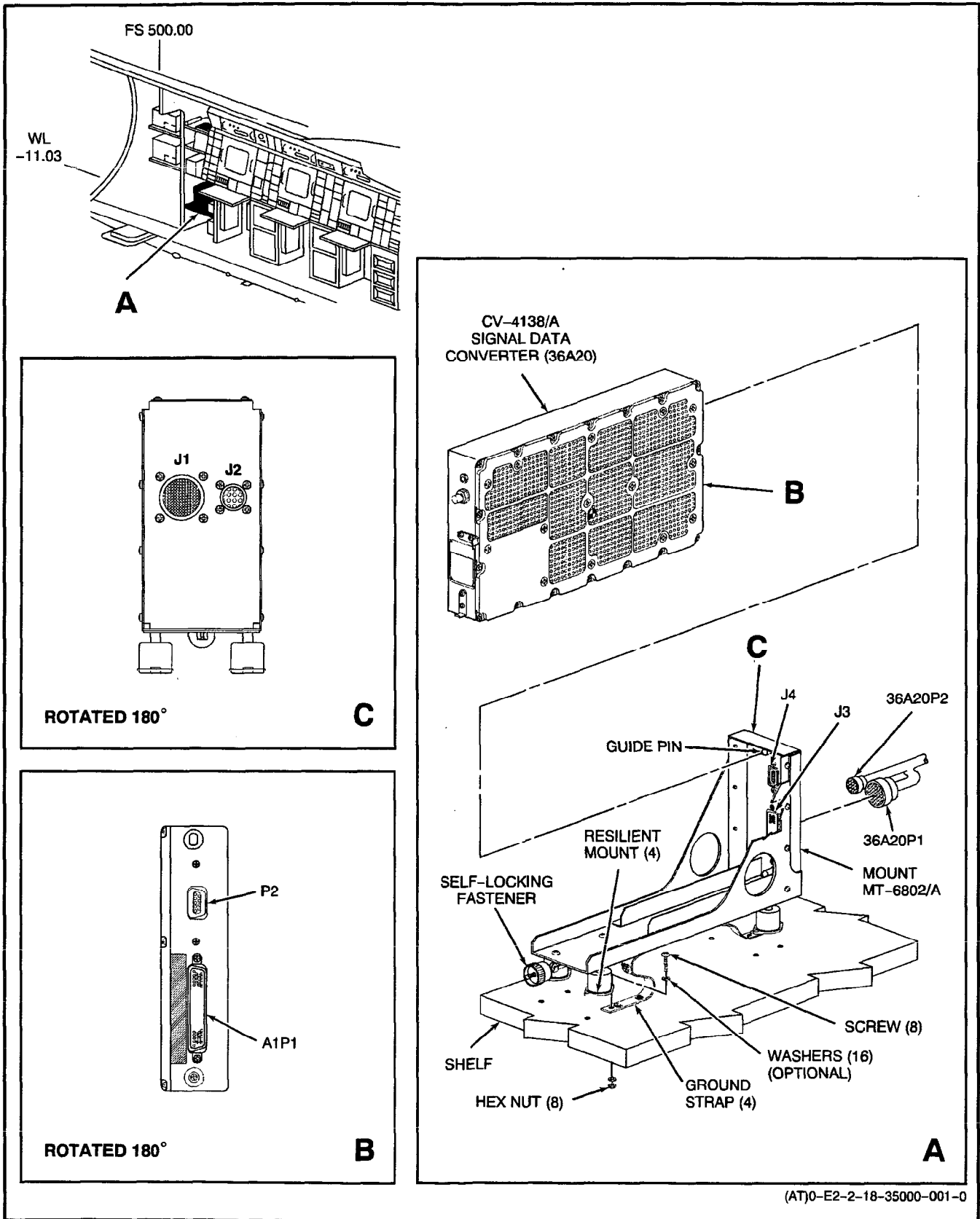


Figure 1. Removal and Installation of Signal Data Converter CV-4138/A and Mount MT-6802/A

c. Place protective caps on all connectors and receptacles.

5. INSTALLATION. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove protective caps from all connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins before connecting.

b. Carefully slide converter into mounting tray until guide pin on mounting tray is properly seated in mating hole in converter.

c. Ensure that converter connectors P2 and A1P1 are properly engaged with mounting tray connectors J4 and J3, respectively. (QUALITY ASSURANCE)

d. Engage self-locking fastener that secures converter to mounting tray. Tighten fastener. (QUALITY ASSURANCE)

e. Perform operational check of Global Positioning System AN/ARN-151(V)2 (NAVAIR 01-E2AAA-2-17.1.1, WP014 02).

6. MOUNT MT-6802/A.

7. REMOVAL. (Figure 1.)

a. Remove converter from mounting tray (refer to Signal Data Converter CV-4138/A, removal paragraph, this work package).

**Note**

The number of installed washers may vary.

b. Remove 8 screws, 16 washers (optional), and 8 hex nuts that secure mounting tray and 4 ground straps to shelf.

c. Swing loosened mount sideways to gain access to connectors 36A20P1 and 36A20P2.

d. Disconnect cable connectors 36A20P1 and 36A20P2 from mating receptacles J1 and J2, respectively, on rear of mounting tray.

e. Remove mounting tray with ground straps.

f. Place protective caps on all connectors and receptacles.

8. INSTALLATION. (Figure 1.)

a. Remove protective caps from all connectors and receptacles.

b. Swing mount sideways to gain access to rear of mounting tray.



Inspect connectors and receptacles for damage and bent pins before connecting.

c. Connect cable connectors 36A20P1 and 36A20P2 to mating receptacles J1 and J2, respectively, on rear of mounting tray.

d. Place mounting tray with ground straps on shelf. Ensure that ground straps are properly aligned under resilient mounts. (QUALITY ASSURANCE)

**Note**

The number of washers used during installation of mounting tray may vary.

e. Secure mounting tray and ground straps to shelf with 8 screws, 16 washers (optional), and 8 hex nuts.

f. Install converter on mounting tray (refer to Signal Data Converter CV-4138/A, installation paragraph, this work package).

g. Perform operational checkout of Global Positioning System AN/ARN-151(V)2 (NAVAIR 01-E2AAA-2-17.1.1, WP014 02).



**ORGANIZATIONAL MAINTENANCE**

**GPS APPROACH LIGHTS PANEL ASSEMBLY**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Global Positioning System AN/ARN-151(V)2 .....	014 02

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AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. The Global Positioning System (GPS) Approach Lights Panel Assembly, Part No. 123AV51128-3 (GPS approach lights) (36A14), is in the aircraft cockpit, pilot side, mounted under the glareshield. (See figure 1, detail B.)

3. The GPS approach lights consists of a housing that contains indicator lights 36A14DS1 and 36A14DS2. Each indicator light contains four T-1 type light bulbs.

**4. GPS APPROACH LIGHTS.**

5. REMOVAL. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

If troubleshooting indicates a defective light bulb, refer to Light Bulb Removal and Installation paragraph, this work package.

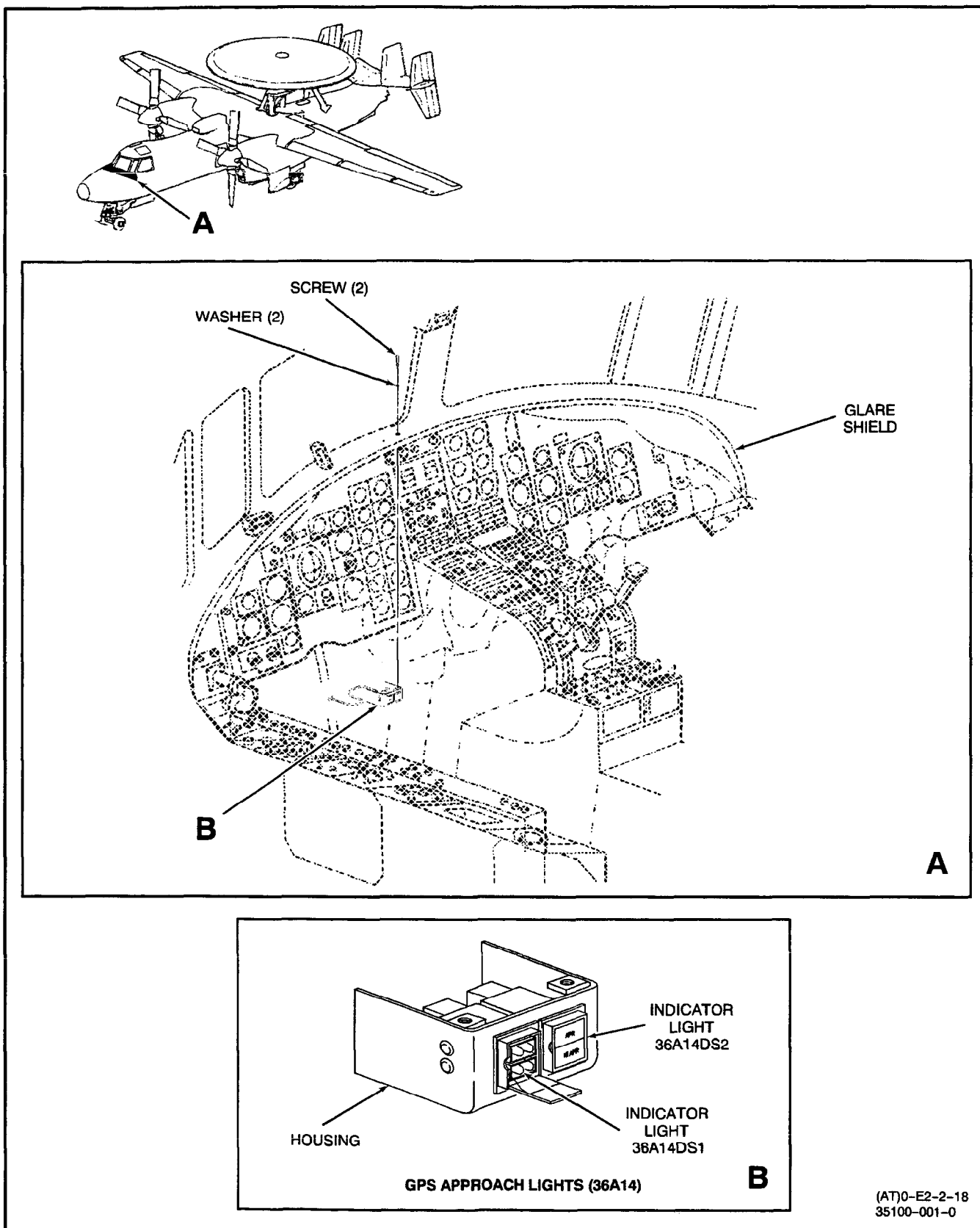


Figure 1. Removal and Installation of GPS Approach Lights Panel Assembly

- a. Remove mounting hardware that secures cable clamp holding GPS approach lights cable assembly.
- b. Support unit and remove two screws and washers that secure GPS approach lights to underside of cockpit glareshield.
- c. Remove two mounting screws that secure indicator light 36A14DS1 or 36A14DS2 to be replaced. Slide defective indicator light from housing.

**WARNING**

Soldering and unsoldering operations can present burn, inhalation, and eye hazards to personnel. Protection: long-sleeved clothing, safety glasses, and good ventilation. Avoid breathing fumes generated by soldering or unsoldering operations.

**Note**

If required, the nomenclature portion (legend) and light bulbs of a defective indicator light may be retained and used.

- d. Tag and unsolder wires from defective indicator light 36A14DS1 or 36A14DS2. Remove indicator light.

6. INSTALLATION. (Figure 1.)

**Support Equipment Required**

Part or Model No.	Nomenclature
—	Torque Wrench (0 to 75 inch-pounds)

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

Soldering and unsoldering operations can present burn, inhalation, and eye hazards to personnel. Protection: long-sleeved clothing, safety glasses, and good ventilation. Avoid breathing fumes generated by soldering or unsoldering operations.

**CAUTION**

Before indicator light installation, inspect cable assembly wire end preparation for damage or FOD. Also inspect indicator light 36A14DS1 or 36A14DS2 for broken legend/display, bent solder terminals, and general damage.

- a. Solder wires to indicator light 36A14DS1 or 36A14DS2. Remove tags. (QUALITY ASSURANCE)

- b. Slide indicator light 36A14DS1 or 36A14DS2 into housing and secure with two mounting screws. Torque mounting screws to 16 ±4 inch-pounds. (QUALITY ASSURANCE)

- c. Install GPS approach lights to underside of cockpit glareshield and secure with two screws and washers.

- d. Install cable clamp holding GPS approach lights cable assembly. Secure clamp with mounting hardware. (QUALITY ASSURANCE)

- e. Perform operational checkout of Global Positioning System AN/ARN-151(V)2 (NAVAIR 01-E2AAA-2-17.1.1, WP014 02).

7. LIGHT BULB REMOVAL AND INSTALLATION.

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove lamp capsule from indicator light 36A14DS1 or 36A14DS2 by gripping fingernail slots on capsule and pulling straight out. Lamp capsule will swing open exposing four T-1 type light bulbs.

- b. Remove defective T-1 type light bulb(s) by grasping base of bulb and pulling bulb out of socket.

- c. Insert replacement bulb(s) in socket. Install lamp capsule into indicator light 36A14DS1 or 36A14DS2. Ensure lamp capsule is properly installed in indicator light. (QUALITY ASSURANCE)





**ORGANIZATIONAL MAINTENANCE**

**SINS ALIGNMENT BANDPASS FILTER**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Carrier Aircraft Inertial Navigation System AN/ASN-139 (CAINS II) .....	033 02

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AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. The SINS Alignment Bandpass Filter, Part No. 123SCAV5877-1 (bandpass filter) (37FL1), is part of the Digital Data Communications System. The bandpass filter is mounted on the underside of an existing placarded shelf, just forward of couplers 46A20, 46A22, and 46A24 (see figure 1). The shelf is on the right side of the equipment compartment, at station 304.75, WL 0.00.

**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disconnect coaxial connectors from bandpass filter receptacle connectors J1 and J2.

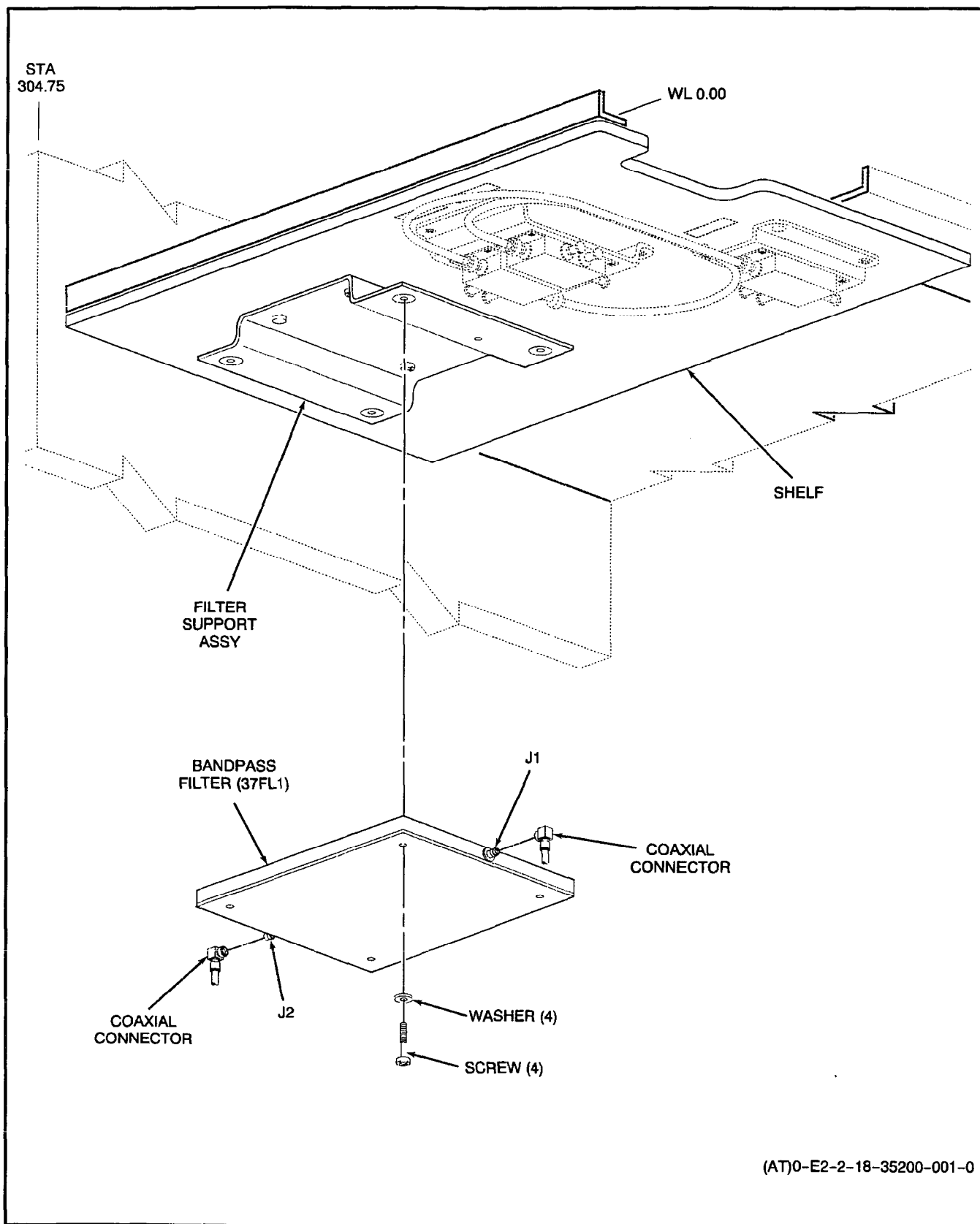


Figure 1. Removal and Installation of SINS Alignment Bandpass Filter

b. Place protective caps on coaxial connectors and bandpass filter receptacle connectors J1 and J2.

c. Supporting bandpass filter, remove four screws and washers that secure bandpass filter to support assembly on underside of shelf. Remove filter.

4. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Supporting bandpass filter, secure filter to support assembly on underside of shelf with four screws and washers. (QUALITY ASSURANCE)

b. Remove protective caps on coaxial connectors and bandpass filter receptacle connectors J1 and J2.



Inspect coaxial connectors and receptacles for damage and bent pins before connecting.

c. Connect coaxial connectors to bandpass filter receptacle connectors J1 and J2. (QUALITY ASSURANCE)

d. Perform operational checkout of Carrier Aircraft Inertial Navigation System AN/ASN-139 (CAINS II) (NAVAIR 01-E2AAA-2-17.3.1, WP033 02).



**ORGANIZATIONAL MAINTENANCE**

**DIGITAL DATA SET AN/ASQ-215**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Digital Data Set AN/ASQ-215 .....	033 04
Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies, and Equipment .....	DOD-HDBK-263

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AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. Digital Data Set AN/ASQ-215, commonly known as the Mission Data Loader (MDL), consists of Interface Receptacle Unit CP-2092(P)/A (46A32) (IRU), and Data Transfer Module MU-1053/A (DTM). The IRU manages and controls data exchange between the DTM and other avionics subsystems via the MIL-

STD-1553 multiplex databus. The DTM is a hand-carried, non-volatile data storage device that stores pre- and post-mission information.

3. The MDL is mounted on a placarded shelf on the left side of the equipment compartment at FS 215, WL -30.0, just aft of two synchro amplifiers (nav buffers).

- 4. IRU.
- 5. REMOVAL. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



The MDL contains components that are susceptible to damage by electrostatic discharge (ESD). Use ESD precautionary procedures and equipment when touching, removing, or inserting parts. Refer to DOD-HDBK-263.

- a. If required, remove DTM. Refer to DTM removal paragraph, this work package (WP).
- b. Disengage two captive fasteners that secure blank panel above IRU to support assembly. Remove blank panel.
- c. Disengage eight captive fasteners that secure IRU to support assembly.
- d. Slowly pull IRU outward to gain access to cable connections at rear of unit. Avoid excessive strain on cable connections.
- e. Through top opening (made available by removal of blank panel), insert hand(s) to rear of IRU and disconnect cable connectors from IRU connector receptacles J1 and J2. Remove IRU.
- f. Place protective caps on all connectors and receptacles.

- 6. INSTALLATION. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



The MDL contains components that are susceptible to damage by ESD. Use ESD pre-

cautionary procedures and equipment when touching, removing, or inserting parts. Refer to DOD-HDBK-263.

- a. Remove protective caps from all connectors and receptacles.
- b. Position IRU at front of support assembly, and locate cable connectors through opening of support assembly.
- c. Connect cable connectors to mating connector receptacles J1 and J2 at rear of IRU.
- d. Slowly install IRU in support assembly. Secure unit in support assembly by engaging eight captive fasteners.
- e. Install blank panel above IRU. Secure panel to support assembly by engaging two captive fasteners.
- f. If removed, install DTM. Refer to DTM installation paragraph, this WP.
- g. Perform operational checkout of Digital Data Set AN/ASQ-215 (NAVAIR 01-E2AAA-2-17.3.1, WP033 04).

- 7. DTM.
- 8. REMOVAL. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



The MDL contains components that are susceptible to damage by ESD. Use ESD precautionary procedures and equipment when touching, removing, or inserting parts. Refer to DOD-HDBK-263.

**Note**

Data stored in the DTM may contain classified information.

- a. Press release button at left front of IRU to disengage DTM from IRU.
- b. Carefully remove DTM from IRU.

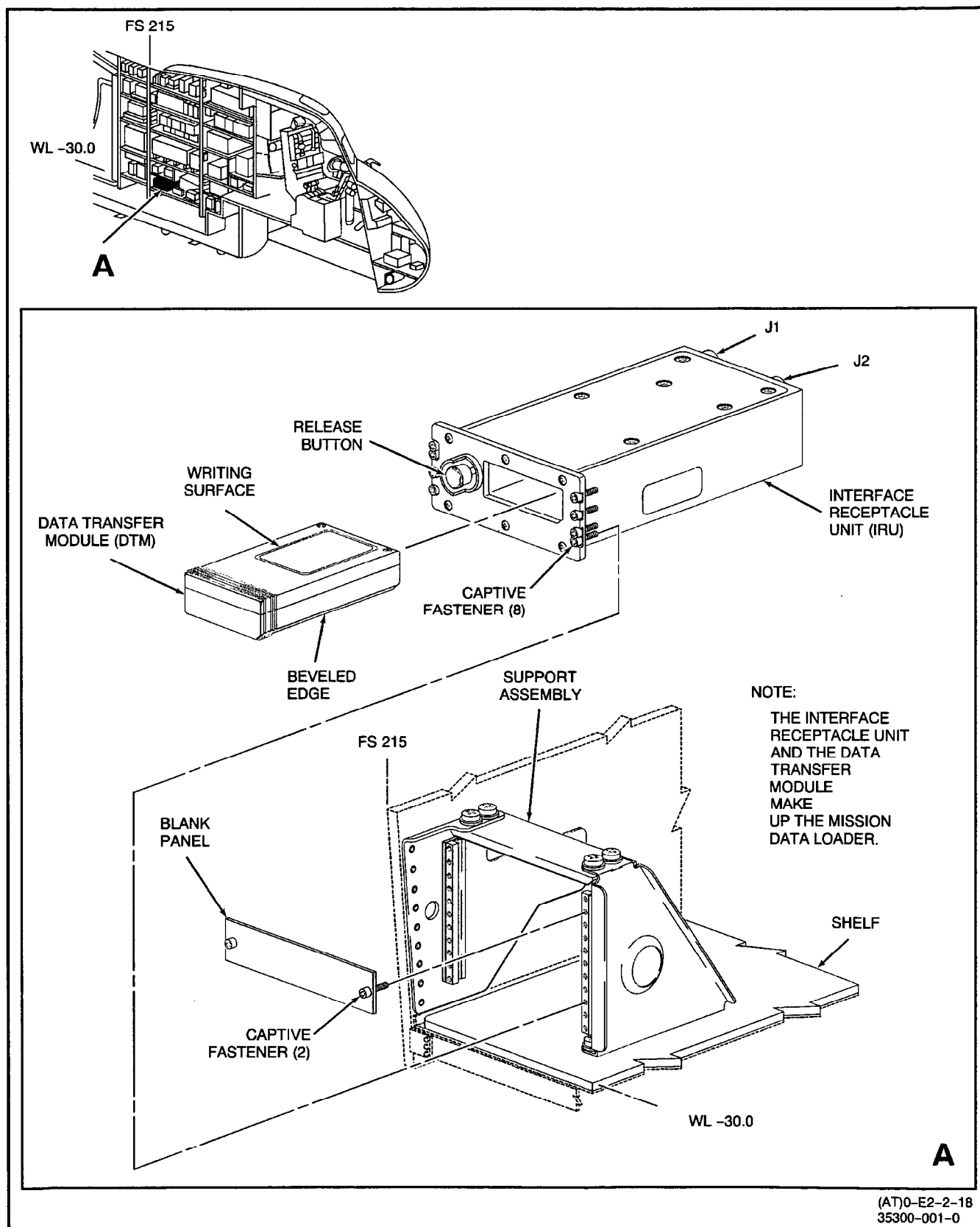


Figure 1. Removal and Installation of Mission Data Loader

9. INSTALLATION. (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



The MDL contains components that are susceptible to damage by ESD. Use ESD precautionary procedures and equipment when touching, removing, or inserting parts. Refer to DOD-HDBK-263.

Before installation, inspect DTM connector for damage and bent pins.

Ensure DTM is properly oriented before it is inserted in the IRU.

**Note**

Data stored in the DTM may contain classified information.

- a. With its beveled edge positioned in lower right corner, and its writing surface facing up, carefully insert DTM into IRU.
- b. Slide DTM into IRU until its connector makes contact with mating receptacle.
- c. Slightly push DTM further until connector and receptacle are properly mated, as indicated by a snapping sound.
- d. Perform operational checkout of Digital Data Set AN/ASQ-215 (NAVAIR 01-E2AAA-2-17.3.1, WP033 04).



**ORGANIZATIONAL MAINTENANCE**

**CAINS II INERTIAL NAVIGATION UNIT  
CN-1649/ASN-139**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Carrier Aircraft Inertial Navigation System AN/ASN-139 (CAINS II) .....	033 02

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AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. Two Inertial Navigation Units CN-1649/ASN-139 (37A11 and 37A12) (INU) are part of the Carrier Aircraft Inertial Navigation System AN/ASN-139 (CAINS II). The INUs are mounted, side-by-side, on the right side of the equipment compartment at WL -21.0, between stations 327 and 341, just forward of the crew compartment. Removal and installation procedures for each unit are identical.

**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disconnect cable connectors 1P1 and 1P3 from INU connector receptacles 1J1 and 1J3, respectively.

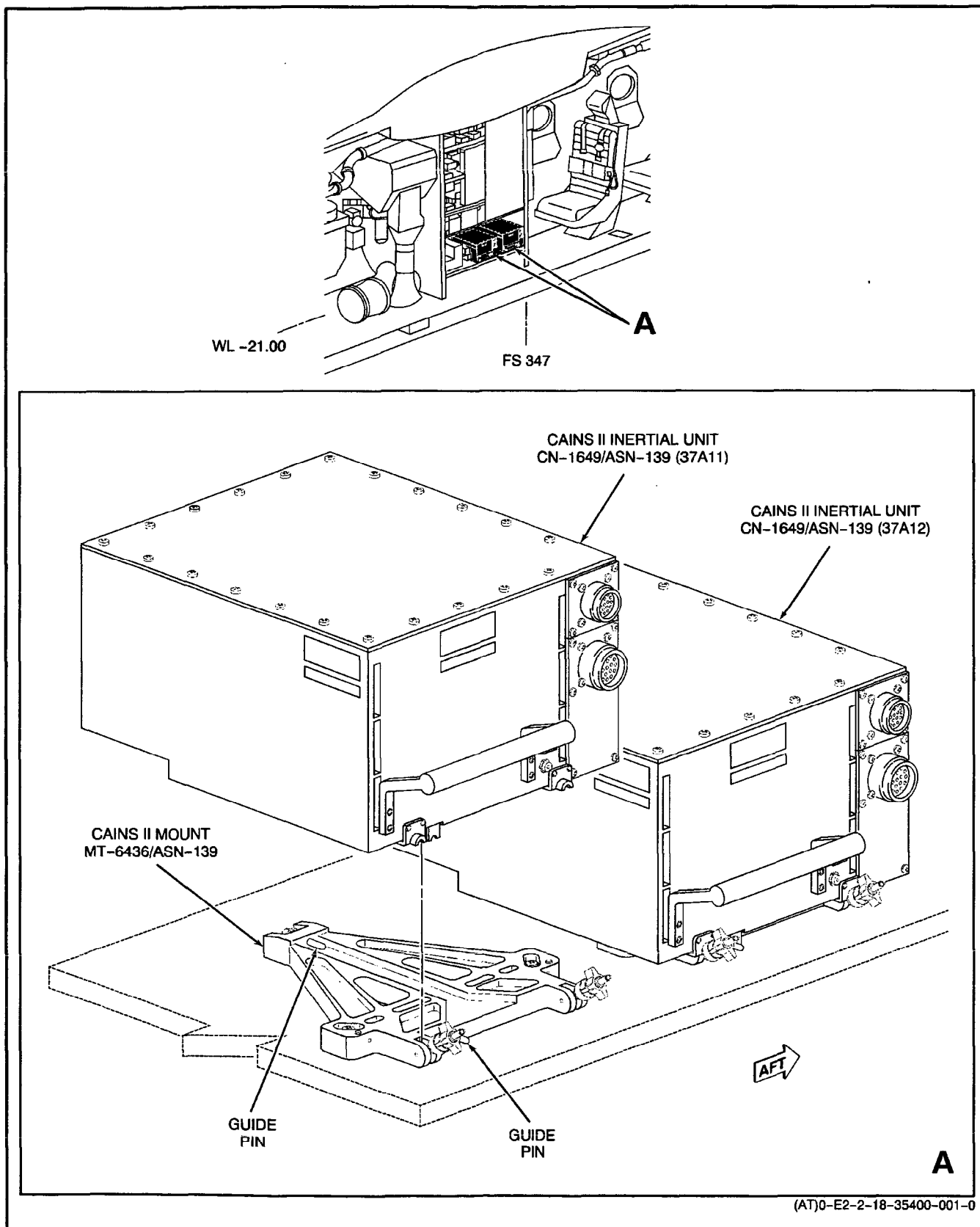


Figure 1. Removal and Installation of CAINS II Inertial Navigation Unit CP-1649/ASN-139

**Note**

Do not loosen or remove the INU mount as it is optically aligned.

b. Loosen two knurled nuts and disengage both swing fasteners that secure INU to its mount.



The INU weighs 45 pounds and can cause personal injury or equipment damage if dropped during removal. Two persons shall be used to perform the following step.

c. Slowly lift up and pull INU out of mount. Remove unit.

d. Cap all connectors and receptacles.

4. **INSTALLATION.** (Figure 1.)

**Support Equipment Required**

Part or Model No.	Nomenclature
—	Torque Wrench (0 to 75 inch-pounds)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove protective caps from connectors and receptacles.



The INU weighs 45 pounds and can cause personal injury or equipment damage if dropped during installation. Two persons shall be used to perform the following step.



Inspect connectors and receptacles for damage and bent pins before installation.

b. Carefully position INU on mount.

c. Slowly slide INU into mount until guide pins (both front and back) are fully engaged. (QUALITY ASSURANCE)

d. Secure INU to mount by engaging two swing fasteners. Handtighten two knurled nuts equally.

e. Using torque wrench, tighten both knurled nuts to 20 to 25 inch-pounds. (QUALITY ASSURANCE)

f. Connect cable connectors 1P1 and 1P3 to INU connector receptacles 1J1 and 1J3, respectively. (QUALITY ASSURANCE)

g. Perform operational checkout of Carrier Aircraft Inertial Navigation System AN/ASN-139 (CAINS II) (NAVAIR 01-E2AAA-2-17.3.1, WP033 02).



**ORGANIZATIONAL MAINTENANCE**

**STANDARD AUTOMATIC FLIGHT CONTROL SYSTEM COMPUTER CP-1780/ASW-50 AND MOUNT**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Standard Automatic Flight Control System .....	033 03

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AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. The Standard Automatic Flight Control System (SAFCS) Computer CP-1780/ASW-50 (35A6), Part No. 103E4060G13, and Mount, Part No. 128AB80406-7 (SAFCS computer and mount, respectively), are part of the Standard Automatic Flight Control System. The SAFCS computer and mount are on the right side of the equipment compartment at station 321, WL -11.125, just forward of the crew compartment and above the forward inertial navigation unit (INU).

**3. STANDARD AUTOMATIC FLIGHT CONTROL SYSTEM COMPUTER CP-1780/ASW-50.**

**4. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

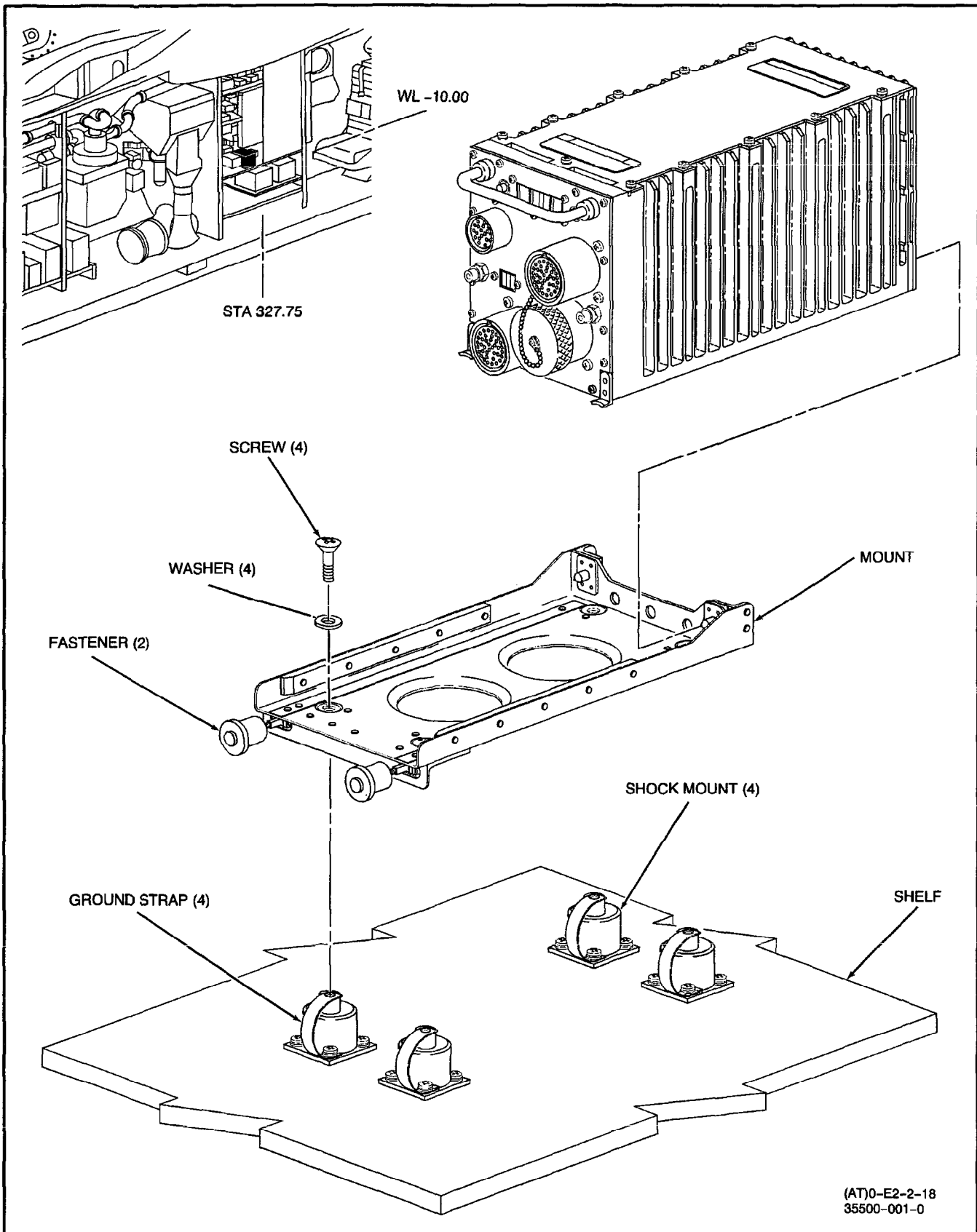


Figure 1. Removal and Installation of SAFCS Computer and Mount

a. Disconnect cable electrical connectors P1, P3, and P4; and cable coaxial connectors P6 and P7 from their respective mating receptacle connectors on SAFCS computer.

b. Place protective caps on all connectors and receptacles.

c. On mount, loosen two knurled nuts on self-locking fasteners and disengage fasteners that secure SAFCS computer to mount.

d. Carefully pull SAFCS computer forward on mount until unit disengages from guide pin on mount. Remove computer.

**5. INSTALLATION. (Figure 1.)**

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
—	Torque Wrench (0 to 75 inch-pounds)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Inspect connectors and receptacles for damage and bent pins before connecting.

a. Remove protective caps from all connectors and receptacles.

b. Install SAFCS computer on mount.

c. Carefully push SAFCS computer on mount until unit engages guide pins. (QUALITY ASSURANCE)

d. Engage two self-locking fasteners that secure SAFCS computer to mount. Using torque wrench, tighten knurled nuts on fasteners to 20 to 25 inch-pounds. (QUALITY ASSURANCE)

e. Connect cable electrical connectors P1, P3, and P4 and cable coaxial connectors P6 and P7 to their respective mating receptacle connectors on SAFCS computer. (QUALITY ASSURANCE)

f. Perform operational checkout of Standard Automatic Flight Control System (NAVAIR 01-E2AAA-2-17.3.1, WP033 03).

**6. MOUNT.**

**7. REMOVAL. (Figure 1.)**

a. Remove SAFCS computer from mount. Refer to Standard Automatic Flight Control System Computer CP-1780/ASW-50 removal paragraph, this work package.

b. Remove four screws and washers that secure mount to grounding straps and shock mounts. Remove mount.

**8. INSTALLATION. (Figure 1.)**

a. Install mount on grounding straps and shock mounts.

b. Secure mount with four screws and washers. (QUALITY ASSURANCE)

c. Install SAFCS computer on mount. Refer to Standard Automatic Flight Control System Computer CP-1780/ASW-50 installation paragraph, this work package.





**ORGANIZATIONAL MAINTENANCE**

**DIGITAL DATA COMMUNICATION SET RT-1379A/ASW**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
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AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. The Digital Data Communication Set RT-1379A/ASW, Part No. 622-5663-002 (37A16)(DDCS), is part of the Digital Data Communication System AN/ASW-25. The DDCS is on the right side of the equipment compartment at station 313, WL -10.00. It shares the same shelf with the SAFCS computer (WP355), and is just forward of this unit.

**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disconnect cable connectors P1, P2, P6, and P8 from their respective mating receptacle connectors on DDCS.
- b. Place protective caps on all connectors and receptacles.

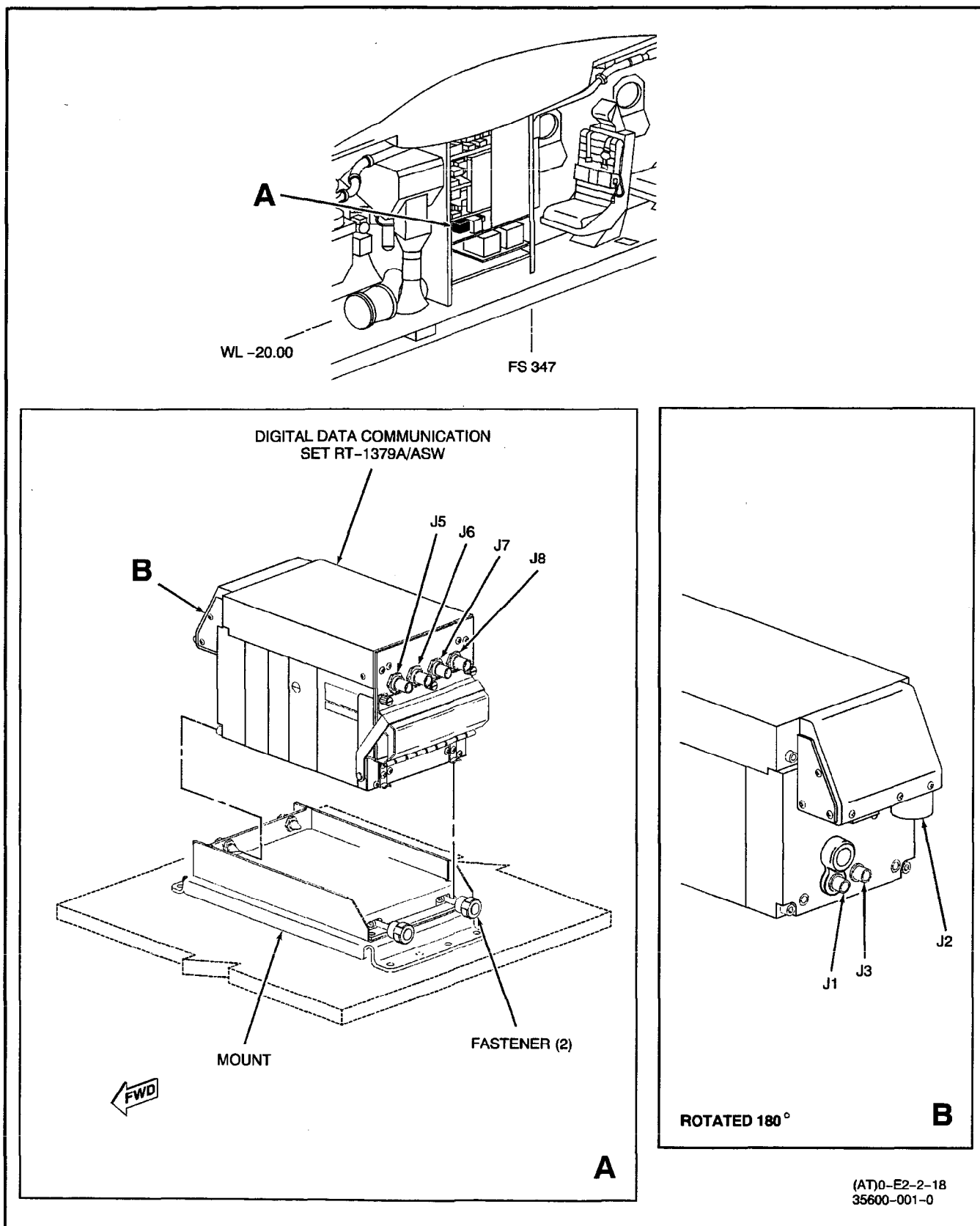


Figure 1. Removal and Installation of Digital Data Communications Set RT-1379A/ASW

(AT)0-E2-2-18  
35600-001-0

c. On mount, loosen two knurled nuts on self-locking fasteners, and disengage fasteners that secure DDCS to mount.

d. Carefully pull DDCS forward on mount until unit disengages from guide pins on mount. Remove DDCS.

4. **INSTALLATION.** (Figure 1.)

**Support Equipment Required**

Part or Model No.	Nomenclature
—	Torque Wrench (0 to 75 inch-pounds)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



Inspect connectors and receptacles for damage and bent pins before connecting.

a. Install DDCS on mount.

b. Carefully push DDCS on mount until unit engages guide pins. (QUALITY ASSURANCE)

c. Engage two self-locking fasteners that secure DDCS to mount. Using torque wrench, tighten knurled nuts on fasteners to 20 to 25 inch-pounds. (QUALITY ASSURANCE)

d. Remove protective caps from all connectors and receptacles.

e. Connect cable connectors P1, P2, P6, and P8 to their respective mating receptacle connectors on DDCS. (QUALITY ASSURANCE)

f. Perform operational checkout of Carrier Aircraft Inertial Navigation System AN/ASN-139 (CAINS II) (NAVAIR 01-E2AAA-2-17.3.1, WP033 02).



**ORGANIZATIONAL MAINTENANCE**

**SYNCHRO AMPLIFIER 5702M**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
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AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

2. Two Synchro Amplifiers 5702M, commonly known as secondary buffer box 2 (37A14) and primary buffer box 1 (37A15) or nav buffers, are part of the Carrier Aircraft Inertial Navigation System AN/ASN-139.

3. The nav buffers are mounted, side-by-side, on a mounting tray. In turn, the mounting tray is secured to a placarded shelf on the left side of the equipment compartment at station 202, WL -30.0, just forward of the mission data loader. The removal and installation procedures for each nav buffer are identical.

**4. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disconnect cable connectors 37A14P1 and 37A15P1 from nav buffer mating connector receptacles 37A14J1 and 37A15J1, respectively.

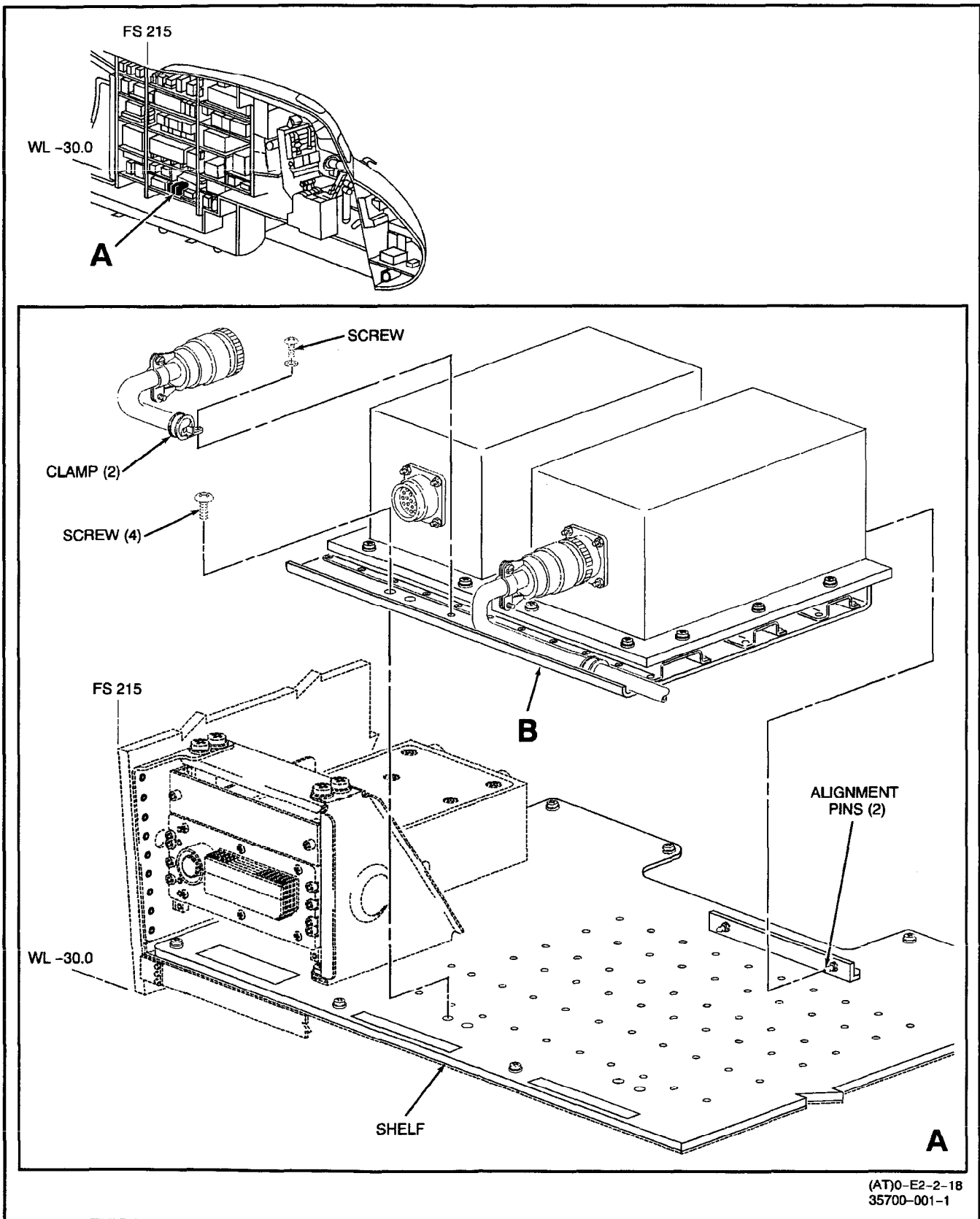


Figure 1. Removal and Installation of Synchro Amplifier 5702M (Sheet 1 of 2)

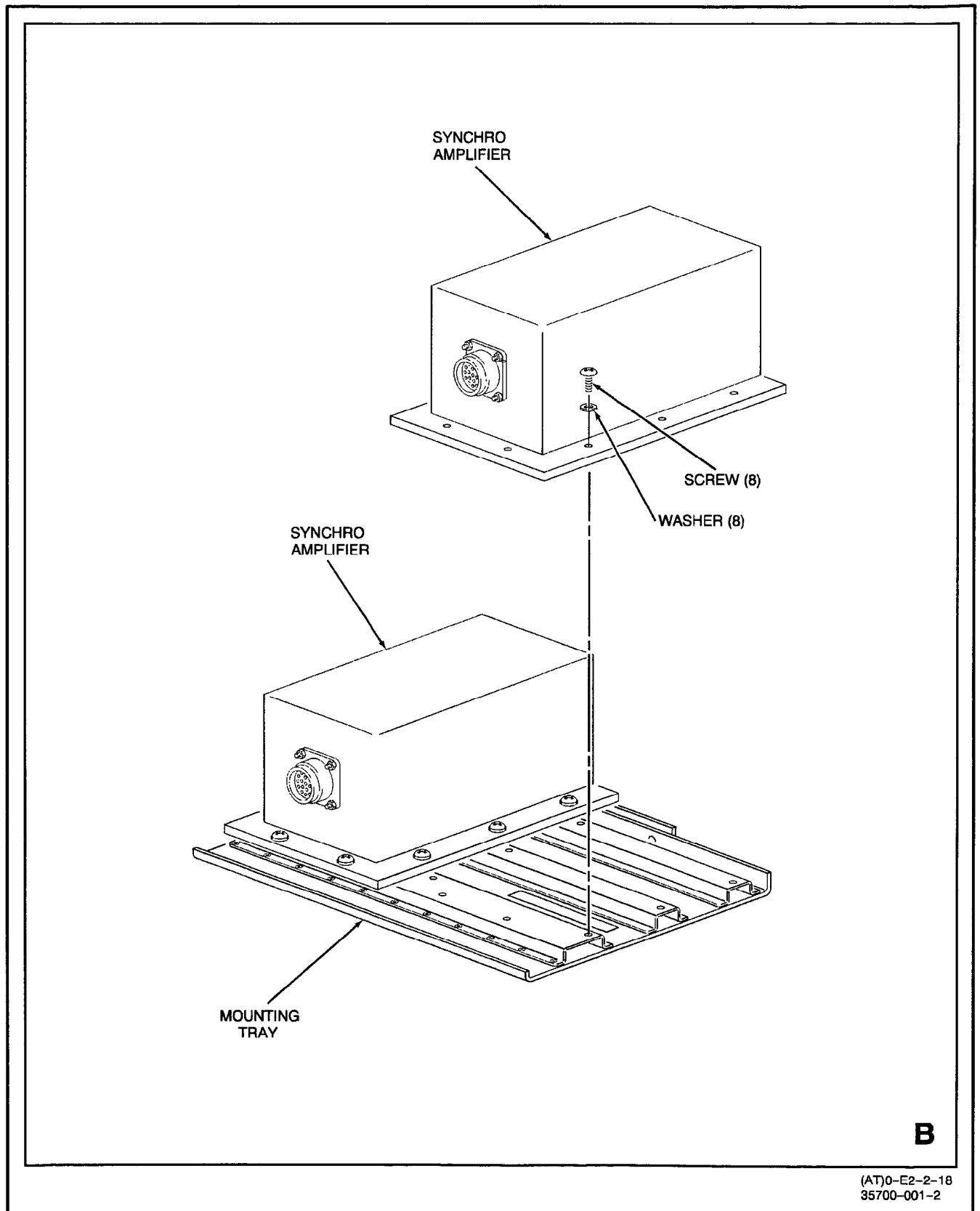


Figure 1. Removal and Installation of Synchro Amplifier 5702M (Sheet 2)

- b. Cap all connectors and receptacles.
- c. Install nav buffer on mounting tray and secure with eight screws and washers (detail B).
- d. Install mounting tray on shelf. Carefully slide tray outboard until alignment pins (detail A) are seated in rear of tray. Ensure that tray is properly engaged with alignment pins. (QUALITY ASSURANCE)
- e. As required, remove mounting hardware that secures cable clamps (detail A) holding both nav buffer cable assemblies. Swing cable assemblies out of way to gain access to mounting tray.
- f. Remove four screws that secure front of mounting tray to shelf.
- g. Carefully slide mounting tray inboard to disengage rear of tray from two alignment pins. Remove mounting tray with nav buffers.
- h. Remove eight screws and washers (detail B) that secure defective nav buffer to mounting tray. Remove nav buffer.

5. **INSTALLATION.** (Figure 1.)

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Secure front of mounting tray to shelf with four screws. (QUALITY ASSURANCE)
- b. Reposition cable assemblies and secure with cable clamps using mounting hardware. Ensure that all clamps removed during removal are installed. (QUALITY ASSURANCE)
- c. Remove protective caps from connectors and receptacles.
- d. Connect cable connector 37A14P1 and 37A15P1 to nav buffer mating connector receptacle 37A14J1 and 37A15J1, respectively. (QUALITY ASSURANCE)
- e. Perform operational checkout of Carrier Aircraft Inertial Navigation System AN/ASN-139 (CAINS II) (NAVAIR 01-E2AAA-2-17.3.1, WP033 02).



**ORGANIZATIONAL MAINTENANCE**

**TRIAxIAL MULTIPORT DATA BUS COUPLERS**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1
Computer Programmer Group OL-424/ASQ .....	006 02
Standard Central Air Data Computer CPU-140/A .....	011 01
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Global Positioning System (GPS) .....	014 02
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Multifunction Control Display Unit C-12390/A .....	031 03
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AFC 399	—	Incorporation of Integrated Navigation System Upgrade (ECP 403 and 403R1)	5/21/97	—

**1. GENERAL.**

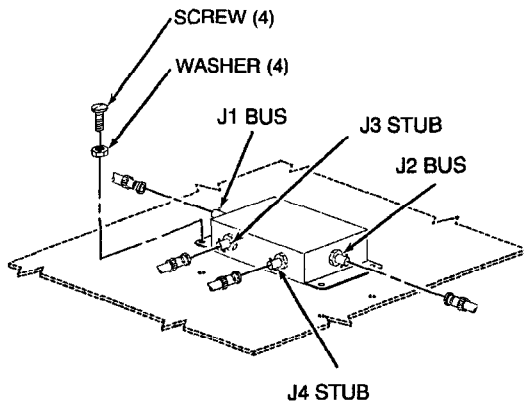
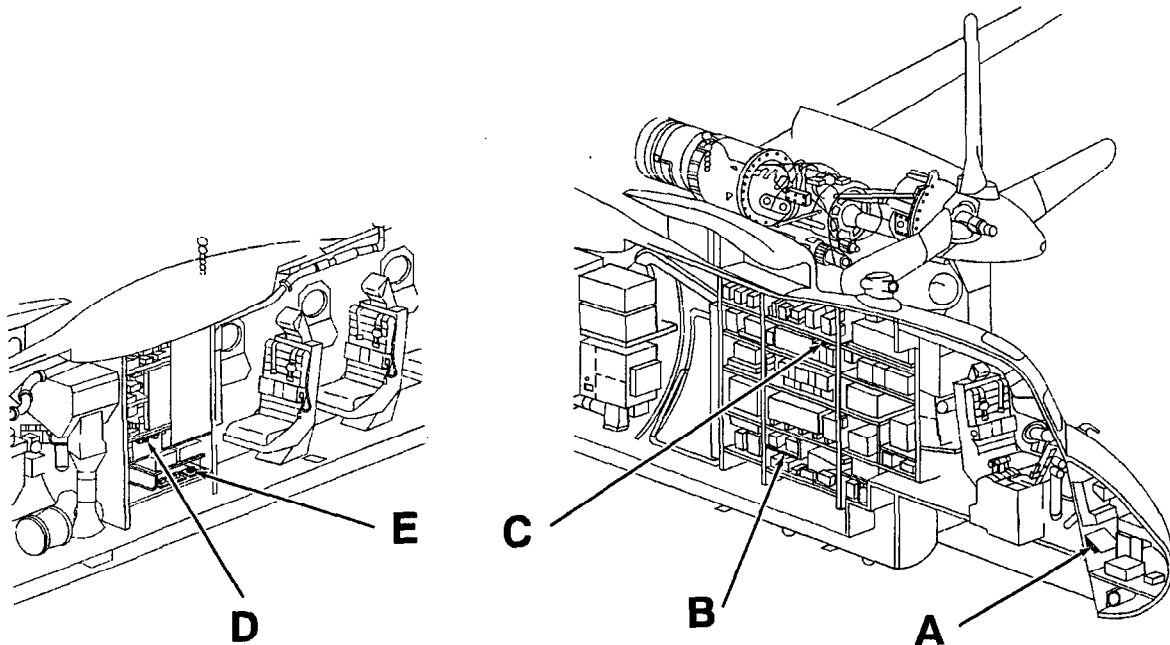
2. The triaxial multiport data bus couplers (couplers) provide interface between various navigational system weapon replaceable assemblies (WRAs) and channels A and B of the navigation system data bus. The removal and installation procedures for each coupler are identical.

**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

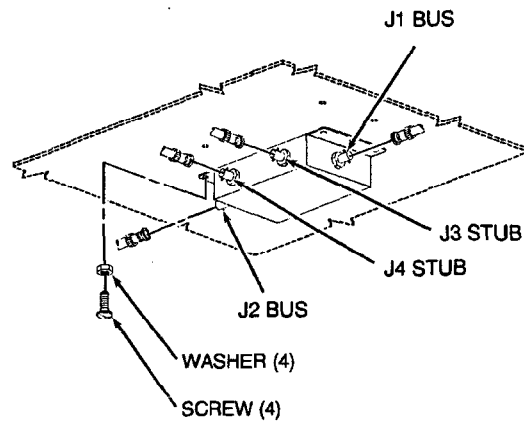
- a. Determine location of defective coupler.



VIEW LOOKING DOWN

**NOTE:**  
TYPICAL INSTALLATION FOR  
COUPLERS 46A21, 46A23, AND 46A25.

**E**



VIEW LOOKING UP

**NOTE:**  
TYPICAL INSTALLATION FOR  
COUPLERS 46A30 AND 46A31  
(DETAIL A); COUPLERS 46A28 AND  
46A29 (DETAIL B); COUPLERS  
46A26 AND 46A27 (DETAIL C);  
COUPLERS 46A20, 46A22, AND  
46A24 (DETAIL D).

**A, B, C, D**

(AT)0-E2-2-18-35800-001-0

**Figure 1. Removal and Installation of Data Bus Couplers**

b. While data bus cable connectors and/or terminations remain connected, remove four screws and washers that secure coupler to shelf or aircraft structure. Separate coupler from shelf or aircraft structure.

c. Tag and disconnect cable connectors and/or termination(s) from coupler connector receptacles. (Refer to table 1.) Remove coupler.

d. Cap all connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins before connecting.

a. Remove protective caps from all connectors and receptacles.

b. Connect cable connectors and/or termination(s) to coupler connector receptacles in accordance with table 1. Remove tags. (QUALITY ASSURANCE)

c. Install coupler on shelf or aircraft structure, and secure with four screws and washers.

d. Perform operational checkout of system associated with coupler replaced in accordance with table 2.

4. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**TABLE 1. DATA BUS COUPLER CONNECTIONS**

Ref Des	Coupler Common Name	Coupler Connector	Connects To
46A20	CAINS INU #1 Ch A	46A20J1	46A20P1 Part of data bus cable 46W100
		46A20J2	46A20P2 Part of data bus cable 46W101
		46A20J3	46A20P3 Termination
		46A20J4	46A20P4 Part of cable 46W110 to CAINS INU #1
46A21	CAINS INU #1 Ch B	46A21J1	46A21P1 Part of data bus cable 46W105
		46A21J2	46A21P2 Part of data bus cable 46W106
		46A21J3	46A21P3 Termination
		46A21J4	46A21P4 Part of cable 46W111 to CAINS INU #1
46A22	CAINS INU #2 Ch A	46A22J1	46A22P1 Part of data bus cable 46W102
		46A22J2	46A22P2 Part of data bus cable 46W101
		46A22J3	46A22P3 Part of cable 37W51 to DDCS RCVR/XMTR
		46A22J4	46A22P4 Part of cable 46W112 to CAINS INU #2
46A23	CAINS INU #2 Ch B	46A23J1	46A23P1 Part of data bus cable 46W106
		46A23J2	46A23P2 Part of data bus cable 46W107
		46A23J3	46A23P3 Part of cable 37W52 to DDCS RCVR/XMTR
		46A23J4	46A23P4 Part of cable 46W113 to CAINS INU #2
46A24	SAFCS Ch A	46A24J1	46A24P1 Part of data bus cable 46W102
		46A24J2	46A24P2 Part of data bus cable 46W103
		46A24J3	46A24P3 Termination
		46A24J4	46A24P4 Part of cable 46W114 to SAFCS

TABLE 1. DATA BUS COUPLER CONNECTIONS (cont)

Ref Des	Coupler Common Name	Coupler Connector	Connects To
46A25	SAFCS Ch B	46A25J1 46A25J2 46A25J3 46A25J4	46A25P1 Part of data bus cable 46W107 46A25P2 Part of data bus cable 46W108 46A25P3 Termination 46A25P4 Part of cable 46W115 to SAFCS
46A26	SCADC Ch A	46A26J1 46A26J2 46A26J3 46A26J4	46A26P1 Part of data bus cable 46W103 46A26P2 Part of data bus cable 46W104 46A26P3 Termination 46A26P4 Part of cable 46W119 to SCADC
46A27	SCADC Ch B	46A27J1 46A27J2 46A27J3 46A27J4	46A27P1 Part of data bus cable 46W108 46A27P2 Part of data bus cable 46W109 46A27P3 Termination 46A27P4 Part of cable 46W120 to SCADC
46A28	DDS (MDL) Ch A	46A28J1 46A28J2 46A28J3 46A28J4	46A28P1 Part of data bus cable 46W104 46A28P2 Part of data bus cable 46W123 46A28P3 Termination 46A28P4 Part of cable 46W117 to DDS (MDL)
46A29	DDS (MDL) Ch B	46A29J1 46A29J2 46A29J3 46A29J4	46A29P1 Part of data bus cable 46W109 46A29P2 Part of data bus cable 46W124 46A29P3 Termination 46A29P4 Part of cable 46W117 to DDS (MDL)
46A30	Copilot MFCDU Ch A	46A30J1 46A30J2 46A30J3 46A30J4	46A30P1 Termination 46A30P2 Part of data bus cable 82W37 46A30P3 Termination 46A30P4 Part of cable 46W121 to copilot MFCDU
46A31	Copilot MFCDU Ch B	46A31J1 46A31J1 46A31J1 46A31J1	46A31P1 Termination 46A31P2 Part of data bus cable 82W72 46A31P3 Termination 46A31P4 Part of cable 46W122 to copilot MFCDU

TABLE 2. DATA BUS COUPLERS - ASSOCIATED SYSTEM TESTING AND TROUBLESHOOTING

Coupler Ref Des	Associated System	Testing and Troubleshooting NAVAIR 01-E2AAA-2-
36A8 or 36A9	Global Positioning System (GPS)	17.1.1, WP014 02
46A16, 46A17, 46A30, or 46A31	Multifunction Control Display Unit C-12390/A	17.3.1, WP031 03

**TABLE 2. DATA BUS COUPLERS - ASSOCIATED SYSTEM TESTING AND TROUBLESHOOTING (cont)**

Coupler Ref Des	Associated System	Testing and Troubleshooting NAVAIR 01-E2AAA-2-
46A18 or 46A19	Computer Programmer Group OL-424/ASQ	17.1, WP006 02
46A20, 46A21, 46A22, or 46A23	Carrier Aircraft Inertial Navigation System AN/ASN-139 (CAINS II)	17.3.1, WP033 02
46A24 or 46A25	Standard Automatic Flight Control System or Carrier Aircraft Inertial Navigation System AN/ASN-139 (CAINS II)	17.3.1, WP033 03 or WP033 02
46A26 or 46A27	Standard Central Air Data Computer CPU-140/A	17.1, WP011 01
46A28 or 46A29	Digital Data Set AN/ASQ-215 (Mission Data Loader)	17.3.1, WP033 04



**ORGANIZATIONAL MAINTENANCE**

**ANTENNA AS-4529/AMS-2**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 159111, 159112, 159495, 159496, 159500, 160008, 160418, 160420, 160699, 160700, 160703, 160987, 160989, 161096, 161097, 161224, 161227, 161228, 161341, 161342, 161344 THROUGH 161346, 161547, 161548, 161550 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162616, 162618, 162619, 162797 THROUGH 162800, 161780 THROUGH 161785, 162614 THROUGH 162616, 162618, 162619, 162797 THROUGH 162800, 162802, 163024 THROUGH 163028, 163535 THROUGH 163540, 163693 THROUGH 163698, 163848 THROUGH 163851, 164107 THROUGH 164109, 164111, 164112, 164352, 164354, 164355, 164483 THROUGH 164488, 164492 THROUGH 164497, 165293 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Panoramic Data Receiving Set AN/ASM-2 .....	033 05

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AFC 411	4/7/95	Installation of Thunderstorm Detection Set AN/AMS-2 Provisions (RAMEC NORIS 11-94)	5/21/97	—

**1. GENERAL.**

2. Antenna AS-4529/AMS-2, Part No. 78-8051-9200-8 (78E2) (stormscope antenna), is part of Panoramic Data Receiving Set AN/ASM-2. The stormscope antenna is on the bottom centerline of the aircraft at station 582. (See figure 1.)

**3. REMOVAL.**

<b>Support Equipment Required</b>	
<b>Part or Model No.</b>	<b>Nomenclature</b>
—	Plastic Tool (with a knife edge)

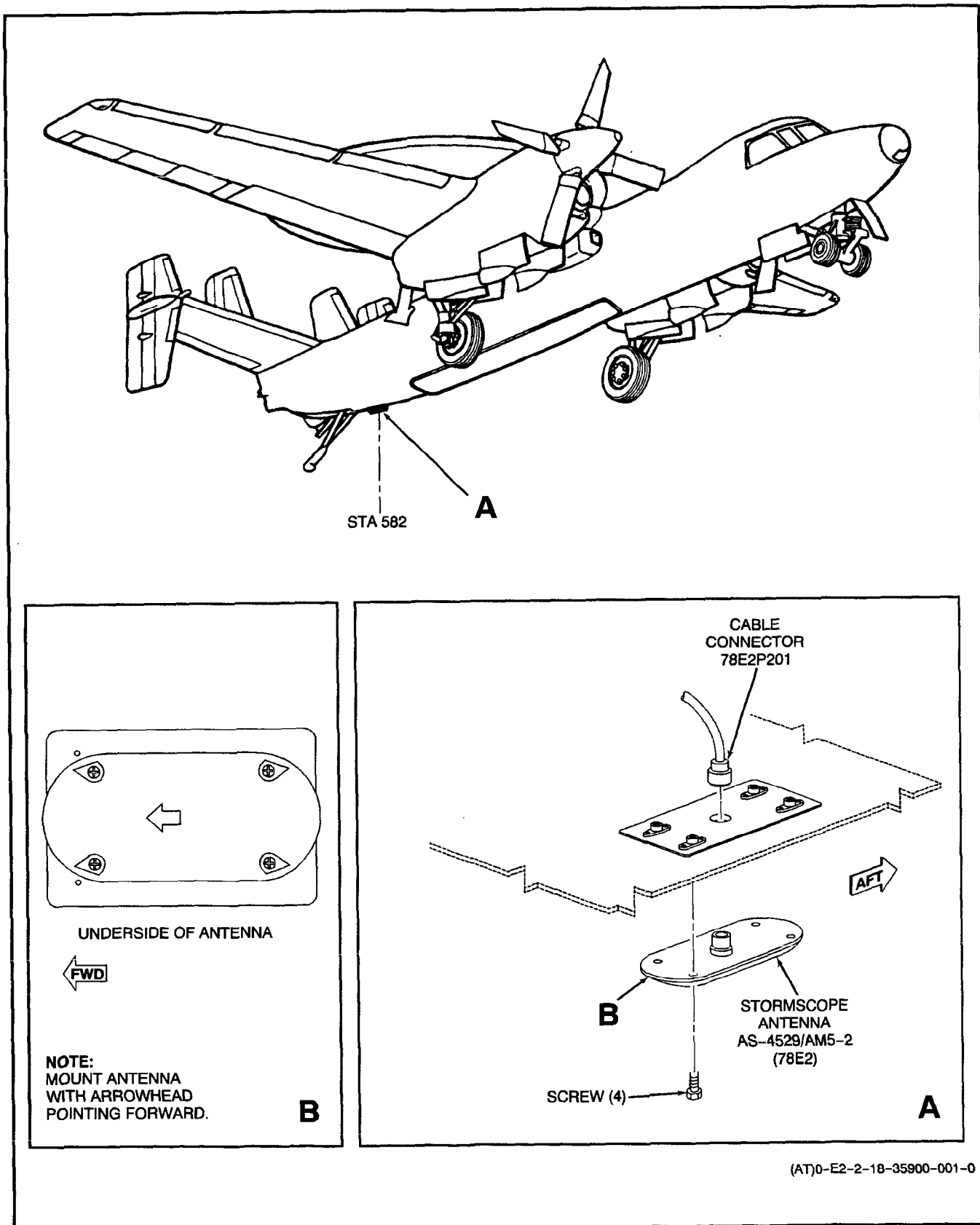


Figure 1. Removal and Installation of Antenna AS-4529/AMS-2



**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Disconnect cable connector 78E2P201 from stormscope antenna receptacle.
- b. Remove four screws that secure stormscope antenna to aircraft.
- c. Using knife edge of plastic tool, carefully cut away sealant around periphery and entire faying surface of stormscope antenna.
- d. Remove stormscope antenna from aircraft.
- e. Cap cable connector and stormscope antenna receptacle.

4. **INSTALLATION.** (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MIL-S-8802, Class B 1/2, Type II	Sealing Compound (sealant)
TT-I-735	Isopropyl Alcohol

**WARNING**

Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

Isopropyl alcohol, TT-I-735, is toxic and flammable. Protection: chemical splash-proof goggles and forced ventilation (or

respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

- a. Carefully clean sealant residue from aircraft antenna mounting surface with isopropyl alcohol.

**WARNING**

Sealant, MIL-S-8802, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed; keep sparks, flames, and heat away; keep sealant off skin, eyes, and clothes; do not breathe vapors.

- b. Apply sealant to entire faying surface of stormscope antenna and fillet around antenna periphery. (QUALITY ASSURANCE)

- c. Remove protective caps from cable connector and stormscope antenna receptacle.

- d. Install stormscope antenna on aircraft. Secure antenna with four screws. Do not overtorque screws. (QUALITY ASSURANCE)

**CAUTION**

Inspect connectors and receptacles for damage and bent pins before connecting.

- e. Connect cable connector 78E2P201 to stormscope antenna receptacle.

- f. Perform operational checkout of Panoramic Data Receiving Set AN/ASM-2 (NAVAIR 01-E2AAA-2-17.3.1, WP033 05).

- g. Cure antenna installation for a minimum of 24 hours. (QUALITY ASSURANCE)



**ORGANIZATIONAL MAINTENANCE**

**ANALOG TO DIGITAL CONVERTER CV-4182/AMS-2 AND ELECTRICAL EQUIPMENT MOUNTING BASE MT-6811/AMS-2**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 159111, 159112, 159495, 159496, 159500, 160008, 160418, 160420, 160699, 160700, 160703, 160987, 160989, 161096, 161097, 161224, 161227, 161228, 161341, 161342, 161344 THROUGH 161346, 161547, 161548, 161550 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162616, 162618, 162619, 162797 THROUGH 162800, 161780 THROUGH 161785, 162614 THROUGH 162616, 162618, 162619, 162797 THROUGH 162800, 162802, 163024 THROUGH 163028, 163535 THROUGH 163540, 163693 THROUGH 163698, 163848 THROUGH 163851, 164107 THROUGH 164109, 164111, 164112, 164352, 164354, 164355, 164483 THROUGH 164488, 164492 THROUGH 164497, 165293 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
Access and Inspection Provisions .....	011 00
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
Panoramic Data Receiving Set AN/ASM-2 .....	033 05

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AFC 411	4/7/95	Installation of Thunderstorm Detection Set AN/AMS-2 Provisions (RAMEC NORIS 11-94)	5/21/97	—

1. **GENERAL.**
2. Analog To Digital Converter CV-4182/AMS-2, Part No. 78-8051-9140-4 (78A3) (processor), and Electrical Equipment Mounting Base MT-6811/AMS-2, Part No. 78-8051-9180-2 (processor tray), are part of Panoramic Data Receiving Set AN/AMS-2 (storm-scope). The processor tray is used to mount the processor in the aft section of the aircraft, between stations 582

and 599, WL -8.0. The processor and tray are accessible through access door 293. (See figure 1.)

3. **PROCESSOR.**

4. **REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The processor is government furnished equipment (GFE); it may be removed and installed by the Navy, as determined by mission requirements.

a. Gain access to processor through access door 293 (NAVAIR 01-E2AAA-2-1, WP011 00).

b. Remove 10 screws, washers, and nuts that secure processor cover to support assembly. Remove cover.

c. Disconnect cable connectors 78A3P301 and 78A3P302 from mating receptacles on rear of processor.

d. On mounting tray, loosen self-locking fastener and disengage fastener that secures processor to processor tray.

e. Remove processor from processor tray.

f. Place protective caps on all connectors and receptacles.

5. **INSTALLATION.** (Figure 1.)

**Note**

The processor is government furnished equipment (GFE); it may be removed and installed by the Navy, as determined by mission requirements.

a. Remove protective caps from all connectors and receptacles.

b. Install processor on processor tray.

c. Engage self-locking fastener that secures processor to processor tray. Tighten fastener. (QUALITY ASSURANCE)



Inspect connectors and receptacles for damage and bent pins before connecting.

d. Connect cable connectors 78A3P301 and 78A3P302 to mating receptacles on rear of processor.

e. Perform operational checkout of Panoramic Data Receiving Set AN/ASM-2 (NAVAIR 01-E2AAA-2-17.3.1, WP033 05).

f. Install processor cover on support assembly. Secure cover with 10 screws, washers, and nuts. (QUALITY ASSURANCE)

g. Ensure access door 293 is closed (NAVAIR 01-E2AAA-2-1, WP011 00). (QUALITY ASSURANCE)

6. **PROCESSOR TRAY.**

7. **REMOVAL.** (Figure 1.)

**Note**

The processor is government furnished equipment (GFE); it may be removed and installed by the Navy, as determined by mission requirements.

a. If required, remove processor. Refer to processor removal paragraph, this work package.

b. Remove four screws and washers that secure processor tray and four grounding straps to four shock mounts. Remove processor tray.

c. Remove four screws and washers that secure each of four shock mounts and grounding straps to support assembly plate. Remove shock mounts and grounding straps.

8. **INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

**Note**

The processor is government furnished equipment (GFE); it may be removed and installed by the Navy, as determined by mission requirements.

As shown in figure 1, ensure grounding straps are properly positioned and secured during next two steps.

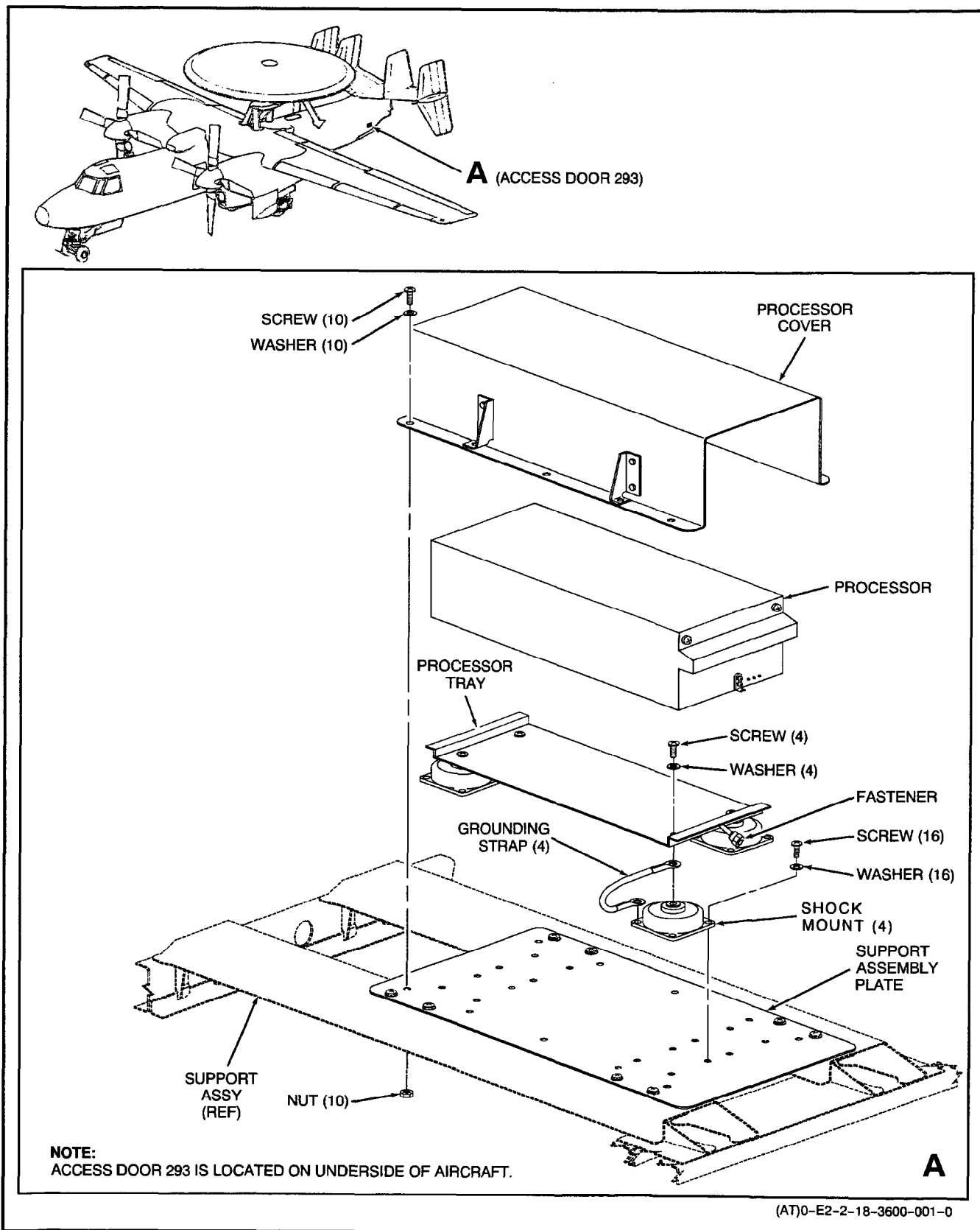


Figure 1. Removal and Installation of Electrical Equipment Mounting Base MT-6811/AMS-2

a. Install four shock mounts and grounding straps on plate assembly. Secure each shock mount and grounding strap with four screws and washers. (QUALITY ASSURANCE)

b. Install processor tray and four grounding straps

on shock mounts. Secure processor tray and four grounding straps with four screws and washers. (QUALITY ASSURANCE)

c. If required, install processor. Refer to processor installation paragraph, this work package.

**ORGANIZATIONAL MAINTENANCE**

**AZIMUTH-RANGE INDICATOR IP-1658/AMS-2**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 159111, 159112, 159495, 159496, 159500, 160008, 160418, 160420, 160699, 160700, 160703, 160987, 160989, 161096, 161097, 161224, 161227, 161228, 161341, 161342, 161344 THROUGH 161346, 161547, 161548, 161550 THROUGH 161552, 161780 THROUGH 161785, 162614 THROUGH 162616, 162618, 162619, 162797 THROUGH 162800, 162802, 163024 THROUGH 163028, 163535 THROUGH 163540, 163693 THROUGH 163698, 163848 THROUGH 163851, 164107 THROUGH 164109, 164111, 164112, 164352, 164354, 164355, 164483 THROUGH 164488, 164492 THROUGH 164497, 165293 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
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AFC 411	4/7/95	Installation of Thunderstorm Detection Set AN/AMS-2 Provisions (RAMEC NORIS 11-94)	5/21/97	—

**1. GENERAL.**

2. Azimuth-Range Indicator IP-1658/AMS-2, Part No. 78-8051-9170-3 (78A1) (indicator), is part of Panoramic Data Receiving Set AN/ASM-2 (stormscope). The indicator is in the pilot's center instrument panel.

**3. REMOVAL. (Figure 1.)**



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disengage four captive fasteners that secure indicator mount panel to pilot's center instrument panel.

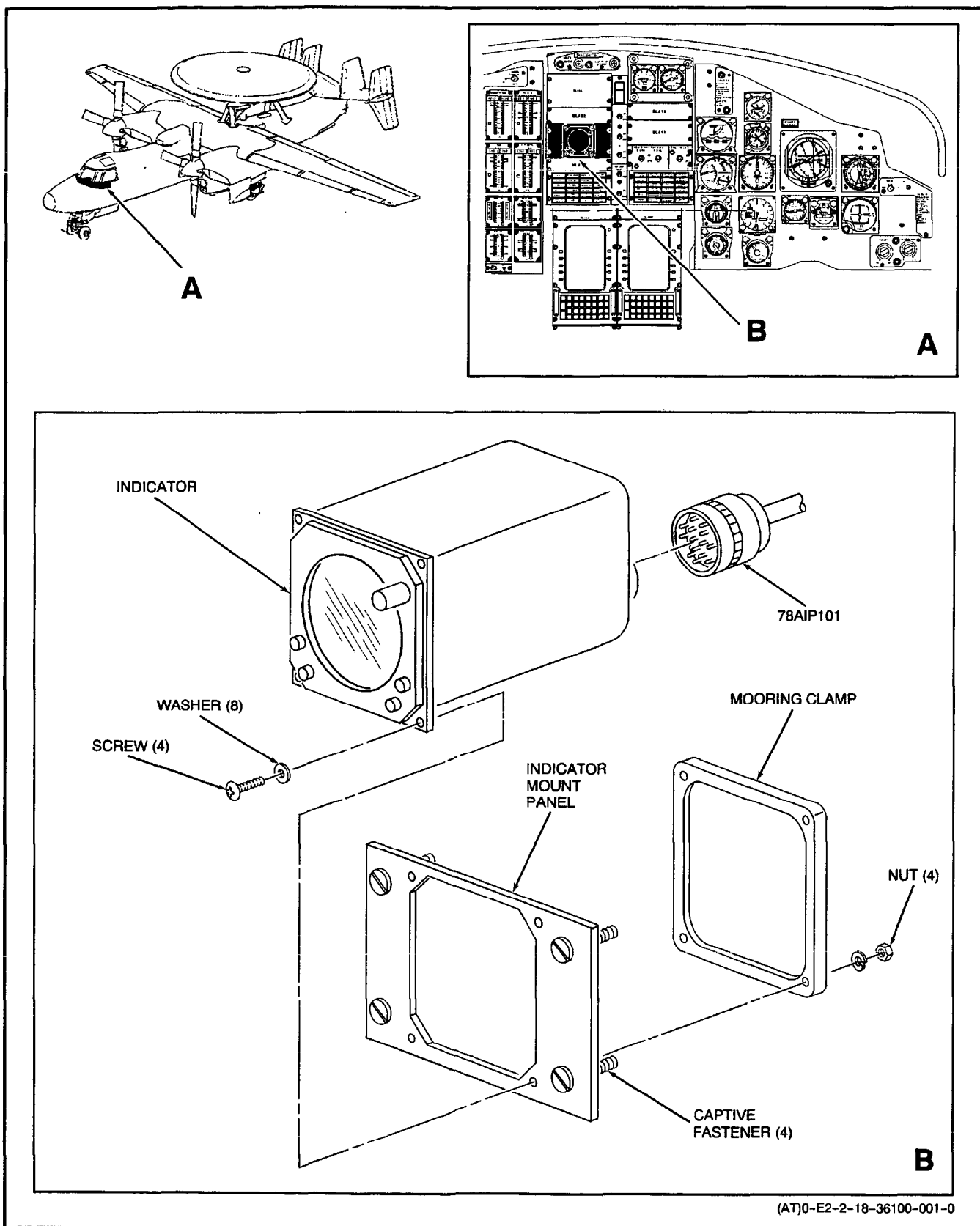


Figure 1. Removal and Installation of Azimuth-Range Indicator IP-1658/AMS-2

(AT)0-E2-2-18-36100-001-0



- b. Carefully separate indicator mount panel (with indicator mounted) from pilot's center instrument panel, to gain access to connector at rear of indicator.
- c. Disconnect cable connector 78A1P101 from mating receptacle at rear of indicator.
- d. Remove four screws, eight washers, and four nuts that secure indicator and mooring clamp to indicator mount panel. Remove indicator and mooring clamp.
- e. Place protective caps on connector and receptacle.

**4. INSTALLATION.** (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
MIL-L-81352COM PG, Color No. 37038, Finish 155	Camouflage Black Acrylic Lacquer Paint



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

- a. Remove protective caps from connector and receptacle.
- b. Install indicator in indicator mount panel. Install mooring clamp over indicator and slide clamp forward

until flush with indicator mount panel. Secure indicator and mooring clamp with four screws, eight washers, and four nuts.



Inspect connectors and receptacles for damage and bent pins before connecting.

- c. Connect cable connector 78A1P101 to mating receptacle at rear of indicator. (QUALITY ASSURANCE)
- d. Install indicator mount panel (with indicator mounted) on pilot's center instrument panel. Secure indicator mount panel using four captive fasteners.
- e. Perform operational checkout of Panoramic Data Receiving Set AN/ASM-2 (NAVAIR 01-E2AAA-2-17.3.1, WP033 05).



Acrylic lacquer, MIL-L-81352, is toxic, flammable, and highly irritating to the eyes. Protection: chemical splashproof goggles, gloves, and good ventilation; keep container closed; keep sparks, flames, and heat away. Keep lacquer off skin, eyes, and clothes; do not breathe vapors.

- f. If necessary, touch up exposed surfaces of hardware with camouflage black acrylic lacquer.



**ORGANIZATIONAL MAINTENANCE**

**TRANSPONDER CONTROL C-10009/APX-100**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 158638 THROUGH 164107 INCORPORATING ECP 360R1, AND 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00

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—	12/15/88	Incorporation of Update Development Program (UDP) Group II & Improved IFF System (ECP 360R1)	5/21/97	—

**1. GENERAL.**

2. Transponder Control C-10009/APX-100 (IFF control panel) (43A12) is part of IFF Transponder Set AN/APX-100. It is in the cockpit on the copilot's side of the center console pedestal.

**3. REMOVAL.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disengage four fasteners that secure IFF control panel to center console pedestal.

b. Carefully pull IFF control panel out of center console pedestal until cable connector P1 is accessible.

c. Disconnect cable connector P1 from IFF control panel receptacle J1.

d. Install protective caps on cable connector P1 and IFF control panel receptacle J1.

**4. INSTALLATION.** (Figure 1.)



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Remove protective caps from cable connector P1 and IFF control panel receptacle J1.

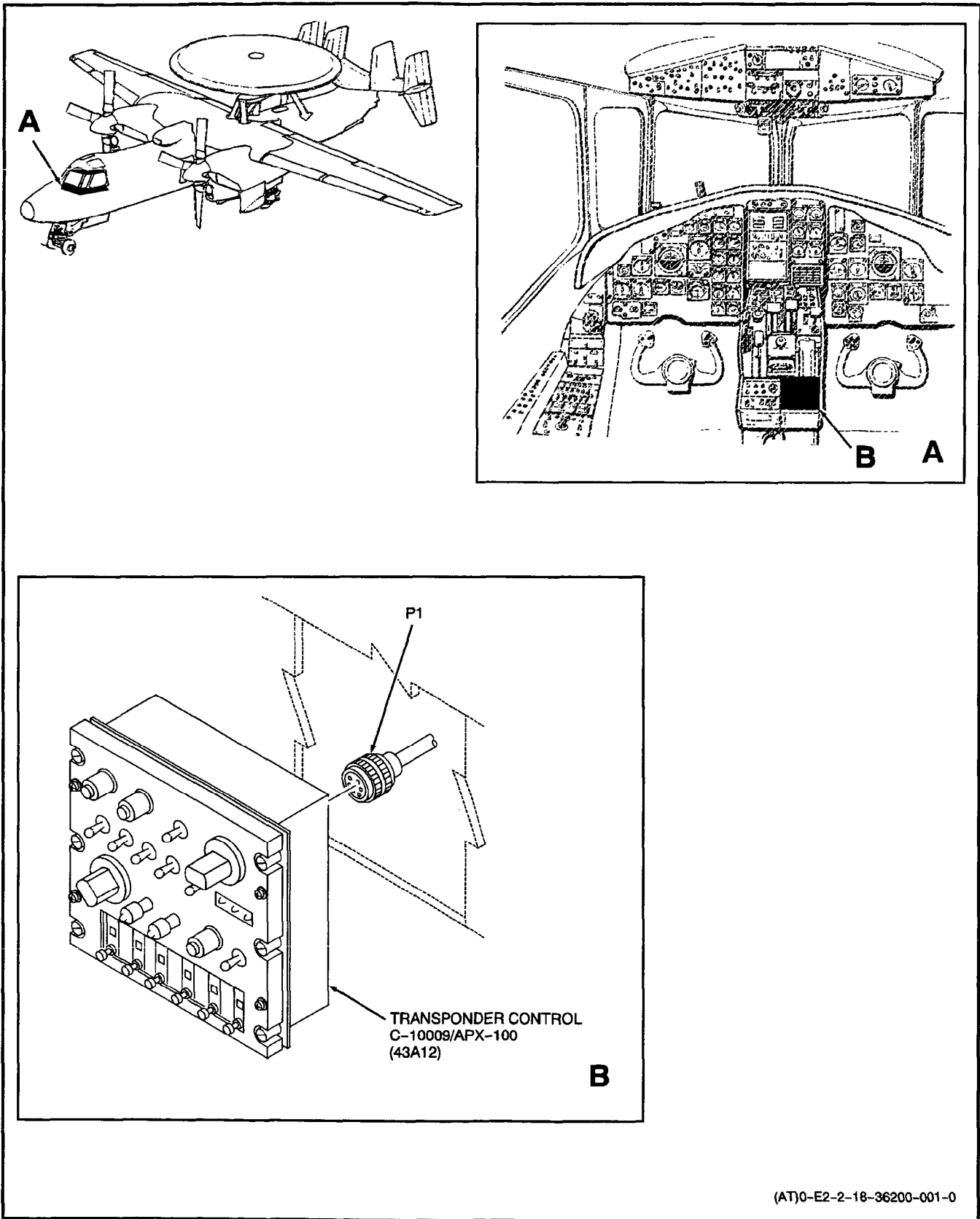


Figure 1. Removal and Installation of Transponder Control C-10009/APX-100



Inspect connectors and receptacles for damage and bent pins before connecting.

b. Supporting IFF control panel, connect cable connector P1 to IFF control panel receptacle J1. (QUALITY ASSURANCE)

c. Install IFF control panel into center console pedestal, and secure with four fasteners. (QUALITY ASSURANCE)



**ORGANIZATIONAL MAINTENANCE**

**RADAR RECEIVER-TRANSMITTER RT-1157B/APX-100**

**EFFECTIVITY: 158638 THROUGH 164107 INCORPORATING ECP 360R1, AND 164108 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00

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—	12/15/88	Incorporation of Update Development Program (UDP) Group II & Improved IFF System (ECP 360R1)	5/21/97	—

**1. GENERAL.**

2. Radar Receiver-Transmitter RT-1157B/APX-100 (receiver-transmitter) (43A10) is part of IFF Transponder Set AN/APX-100. It is in the equipment compartment, left side, at station 200.0, WL -20.00.

**3. REMOVAL.** (Figure 1.)

b. Disconnect three cable connectors P1, P2, and P4 from receiver-transmitter mating receptacles J1, J2, and J4, respectively.

c. Loosen two retainers and disengage two swing bolts that secure receiver-transmitter to mount.

d. Carefully pull receiver-transmitter forward until two guide pins at rear of mount are disengaged. Remove receiver-transmitter from mount.

e. Cap all connectors and receptacles.

**4. INSTALLATION.** (Figure 1.)

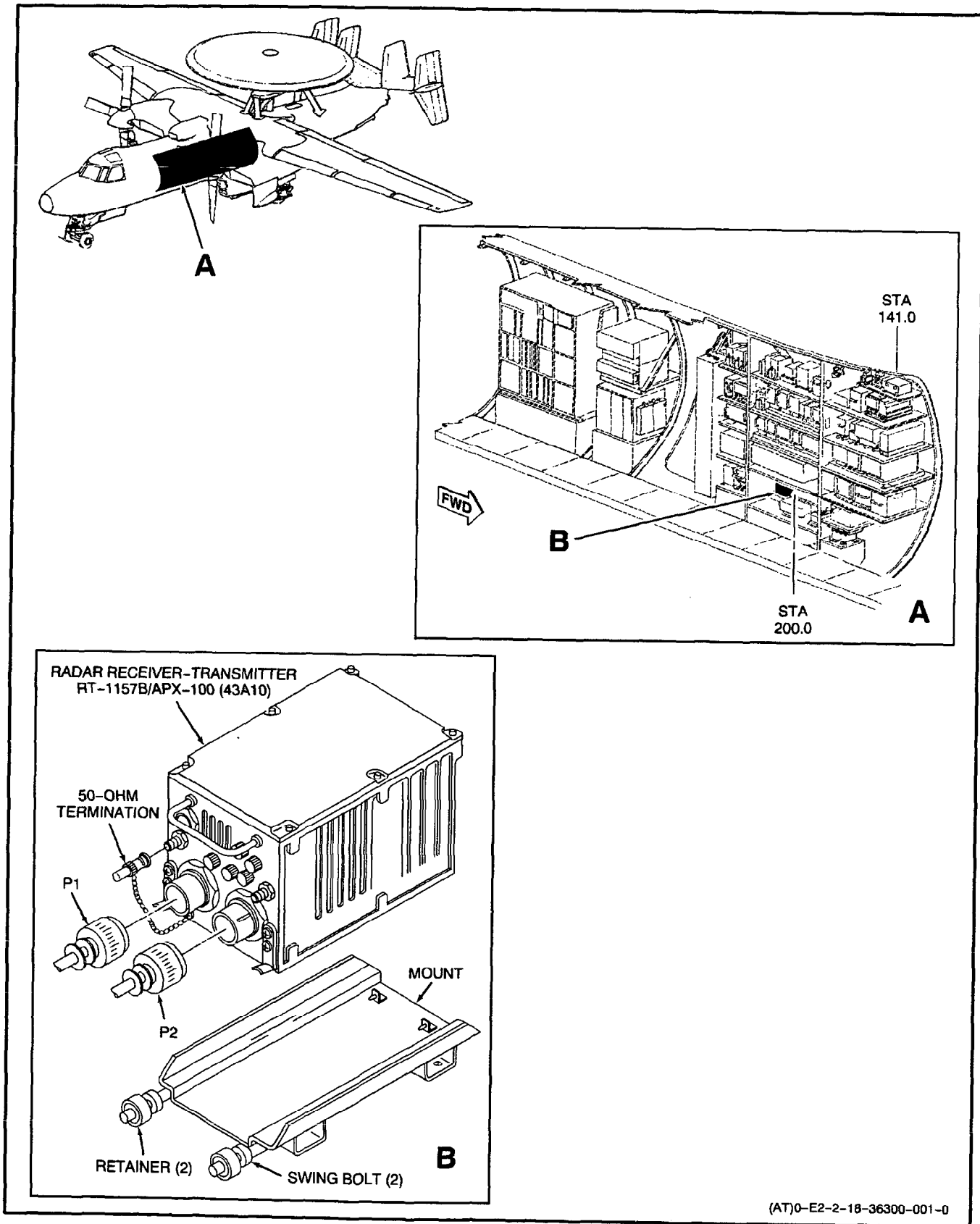


Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).

a. Disconnect 50-ohm termination from receiver-transmitter receptacle J3.



Ensure that external power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00).



(AT)0-E2-2-18-36300-001-0

Figure 1. Removal and Installation of Radar Receiver-Transmitter RT-1157B/APX-100



a. Remove protective caps from connectors and receptacles.



Inspect connectors and receptacles for damage and bent pins before connecting.

b. Install receiver-transmitter on mount and carefully slide it backward until two guide pins at rear of mount are fully engaged. (QUALITY ASSURANCE)

c. Secure receiver-transmitter to mount with two swing bolts and tighten two retainers. (QUALITY ASSURANCE)

d. Connect three cable connectors P1, P2, and P4 to receiver-transmitter mating receptacles J1, J2, and J4, respectively. (QUALITY ASSURANCE)

**Note**

Termination is attached to mount with a chain.

e. Connect 50-ohm termination to receiver-transmitter receptacle J3. (QUALITY ASSURANCE)



**ORGANIZATIONAL MAINTENANCE**

**COMMUNICATIONS SET MODEM MD-1294/USC-42(V)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160992, 161097, 161229, 161341, 161346, 161782, 161783, 161785, 162614 THROUGH 162616, 162618, 162619, 162797, 162798, 162800 THROUGH 162802, 163028, 163538, 163539, 163693, 163694, 163849, 163850, 164109, 164110, 164496, 165293, 165296**

**Reference Material**

Integrated Electronics System Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Mini-DAMA Communications Set AN/USC-42(V)3(C) .....	021 04
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electronic Assembly Repair .....	NAVAIR 01-1A-23
Standard Maintenance Practices Miniature/Microminiature (2M)	
Electronic Assembly Repair Electrostatic Discharge Control .....	005 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 408	8/31/99	Installation of Versa Module European (VME) Model of the Mini-DAMA Communications Set (AN/USC-42(V)3) (ECP-410R3)	4/1/03	ECP Coverage Only.

**1. INTRODUCTION**

2. The Communications Set Modem MD-1294/USC-42(V) (Modem R/T) 64A54 and the Single

Mounting Tray are part of the Mini-DAMA Communications Set AN/USC-42(V)3(C). The Modem R/T is located in the aft equipment compartment of the aircraft on the floor. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 for location of the Modem R/T.

**Support Equipment Required**

Part or Model No.	Nomenclature
	ESD Wrist Strap
2100	Static Shield Bag

3. **COMMUNICATIONS SET MODEM**  
**MD-1294/USC-42(V)**

4. REMOVAL (figure 1.)



Energized equipment can cause severe shock on death on contact.

a. Open and tag the following circuit breakers on the RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

b. Raise the secondary lock (7), then press the locking mechanisms located in the handles on the Modem R/T (6) to unlock the spring-loaded handle levers (8).

c. Push the handle levers (8) down to release the Modem R/T (6) from the single mounting tray (1).

d. Pull the Modem R/T (6) two to four inches from the single mounting tray (1) and return the handle levers (8) to the locked position.



The Modem R/T weighs 42 lbs. To avoid personal injury, the Modem R/T requires a two person lift.



The Modem R/T contains devices and assemblies that are sensitive to Electrostatic Discharge (ESD). Refer to NAVAIR 01-1A-23, WP005 00 for ESD precautionary procedures and practices.

e. Pull the Modem R/T (6) out of the single mounting tray (1).

f. Place protective caps on all connectors and receptacles on the Modem R/T (6).

5. INSTALLATION



Energized equipment can cause severe shock or death on contact.

a. Ensure the following circuit breakers on the RADAR Junction Box 87 are open and tagged:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

b. Remove protective caps from all connectors and receptacles on the Modem R/T (6).

c. Inspect connectors for damage and bent pins prior to installation.



The Modem R/T weighs 42 lbs. To avoid personal injury, the Modem R/T requires a two person lift.



The Modem R/T contains devices and assemblies that are sensitive to Electrostatic Discharge (ESD). Refer to NAVAIR 01-1A-23, WP005 00 for ESD precautionary procedures and practices.

d. Place the Modem R/T (6) into the single mounting tray (1).

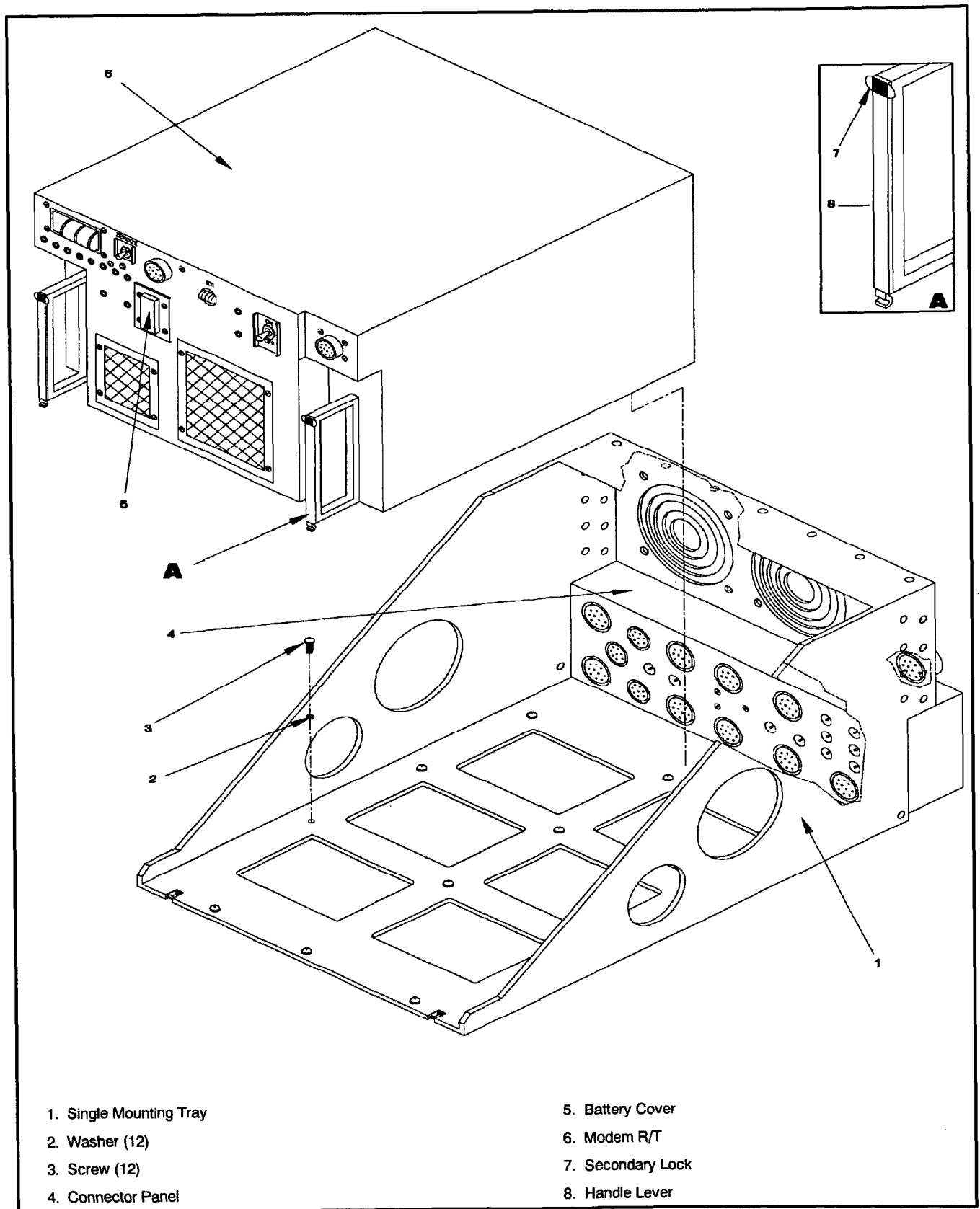


Figure 1. Removal and Installation of Communications Set Modem MD-1294/USC-42(V)

e. Push the Modem R/T (6) into the single mounting tray (1) to engage the mate connectors.

f. Raise the secondary lock (7), then press the locking mechanisms located in the handles on the Modem R/T (6) to unlock the spring loaded handle levers (8).

g. Press the handle levers (8) until they lock into the handles. This locks the Modem R/T (6) into the single mounting tray (1). (QUALITY ASSURANCE)

h. Remove tags and close the following circuit breakers on the RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

i. Perform an operational check of the Mini-DAMA Communication System AN/USC-42(V)3(C) (NAVAIR 01-E2AAA-2-17.1.1, WP021 04).

6. TRANSEC CCA 1A3

7. REMOVAL. (figure 2).

**NOTE**

The TRANSEC CCA 1A3 is a crypto-controlled item and should be handled in accordance with approved DOD storage, handling and shipping regulations and procedures.

Zeroize TRANSEC keys before removing the TRANSEC CCA 1A3. (NAVAIR 01-E2AAA-2-17.1.1, WP021 04).

a. Ensure the Modem R/T is removed (refer to paragraph 4).



The Modem R/T contains devices and assemblies that are sensitive to Electrostatic Discharge (ESD). Refer to NAVAIR 01-1A-23, WP005 00 for ESD precautionary procedures and practices.

b. Loosen 22 screws (2) retaining the Modem R/T top cover (1) to Modem R/T. Remove Modem R/T top cover (1).

c. Connect ESD wrist strap to wrist and to a grounding point.

d. Locate TRANSEC CCA 1A3 (5) within Modem R/T chassis.

e. Press outward on the lever locks to release the connector locking mechanisms and disconnect the flat cable from connector J2 (4) on the TRANSEC CCA 1A3 (5).

f. Loosen two captive fasteners (3) securing the TRANSEC CCA 1A3 (5) to Modem R/T chassis.

g. Press outward on the two card ejector handles on the TRANSEC CCA 1A3 (5) and pull the TRANSEC CCA 1A3 (5) from the Modem R/T chassis.

h. Place the TRANSEC CCA 1A3 (5) into an ESD protective static shield bag.

**NOTE**

The TRANSEC shipping panel assembly is installed by the manufacturer in place of the TRANSEC CCA 1A3 for cable termination within the Modem R/T chassis.

i. Place the shipping panel in the TRANSEC CCA 1A3 slot. Tighten two captive fasteners (3) to secure shipping panel to Modem R/T chassis.

j. Replace Modem R/T top cover (1). Tighten 22 screws (2) to secure top cover to Modem R/T.

k. Remove ESD wrist strap from grounding point and wrist.

8. INSTALLATION. (figure 1).

**NOTE**

The TRANSEC CCA 1A3 is a crypto-controlled item and should be handled in accordance with approved DOD storage, handling and shipping regulations and procedures.

9. Before installing the TRANSEC CCA 1A3 for the first time, ensure jumper W30 is set to the W30 IN position to enable the 30-minute timeout. Crypto keys will be zeroized 30 minutes after Modem R/T power is removed. (figure 3)

a. Ensure the Modem R/T is removed (refer to paragraph 4).

b. Loosen 22 screws retaining top cover (1) to Modem R/T. Remove Modem R/T top cover (1). (figure 2)



The Modem R/T contains devices and assemblies that are sensitive to Electrostatic Discharge (ESD). Refer to NAVAIR 01-1A-23, WP005 00 for ESD precautionary procedures and practices.

c. Connect ESD wrist strap to wrist and to a grounding point.

**NOTE**

The TRANSEC shipping panel assembly is installed by the manufacturer in place of the TRANSEC CCA 1A3 for cable termination within the Modem R/T chassis.

d. Locate TRANSEC shipping panel within Modem R/T chassis.

e. Loosen two captive fasteners (3) holding shipping panel to Modem R/T chassis. Remove and retain shipping panel.

f. Remove TRANSEC CCA 1A3 (5) from ESD protective static shield bag and place into appropriate slot in Modem R/T Chassis.

g. Push TRANSEC CCA 1A3 (5) with steady pressure to properly seat connector pins.

h. Tighten two captive fasteners (3) securing the TRANSEC CCA 1A3 (5) to Modem R/T chassis.

i. Connect the flat cable to connector J2 (4) of the TRANSEC CCA 1A3 (5).

j. Replace Modem R/T top cover (1). Tighten 22 screws (2) to secure top cover (1) to Modem R/T.

k. Remove ESD wrist strap from grounding point and wrist.

l. Install the Modem R/T. (refer to paragraph 5).

**10. BATTERY**

**11. REMOVAL. (figure 1).**

**WARNING**

Energized equipment can cause severe shock or death on contact.

a. Open and tag the following circuit breakers on the RADAR Junction Box:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

b. Remove the four 3/32" hex screws retaining the battery cover (5) to the Modem R/T (6) front panel. Open the battery cover (5).

c. Pull the battery out of the compartment in the front panel of the Modem R/T (6).

**Note**

Stored crypto keys will be lost upon disconnection of the battery.

d. Unsnap the cable connector from the terminals of the battery.

**CAUTION**

Memory batteries are 9 V alkaline batteries and contain corrosive material. Batteries shall be disposed of in accordance with current Navy policy.

**12. INSTALLATION. (figure 1.)**

**WARNING**

Energized equipment can cause severe shock or death on contact.

a. Ensure the following circuit breakers on the RADAR Junction Box 87 are opened and tagged:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

b. Snap the cable connector onto the terminals of the replacement battery.

c. Place the battery inside the compartment in the front panel of the Modem R/T (6).

d. Secure the battery cover (5) to the front panel of the Modem R/T (6) with four 3/32" hex screws. (QUALITY ASSURANCE)

e. Remove tags and close the following circuit breakers on the RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

**13. SINGLE MOUNTING TRAY**

**14. REMOVAL. (figure 1.)**

a. Ensure the Modem R/T (6) is removed (refer to paragraph 4).



Energized equipment can cause severe shock or death on contact.

b. Open and tag the following circuit breakers on the RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

c. Remove the 12 1/4" cap head screws (3) and 12 washers (2) attaching the single mounting tray (1) to the equipment rack.

d. Remove the single mounting tray (1) connector interface panel (4) by removing the 11 mounting screws.

e. Pull the single mounting tray (1) out of the equipment rack.

**15. INSTALLATION. (figure 1.)**



Energized equipment can cause severe shock or death on contact.

a. Ensure the following circuit breakers on the RADAR Junction Box 87 are opened and tagged:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

b. Slide the single mounting tray (1) into the equipment rack and attach the connector interface panel (4) using 11 mounting screws.

c. Secure the single mounting tray (1) the the equipment rack using 12 1/4" cap head screws (3) and 12 washers (2). (QUALITY ASSURANCE)

d. Check the mate connectors on the single mounting tray (1) (inside and to the rear) to be sure that they move freely and are free of foreign material.

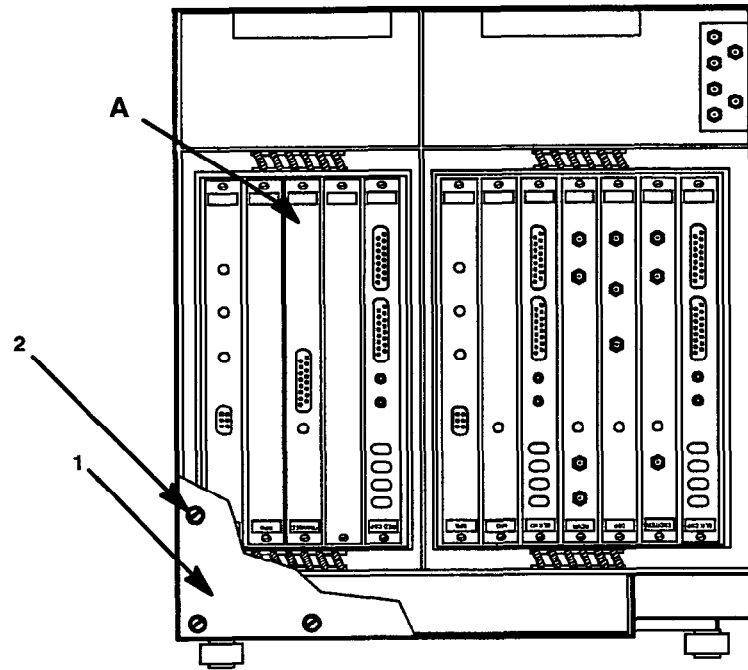
e. Install Modem R/T (6) (refer to paragraph 5).

f. Remove tags and close the following circuit breakers on RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

g. Perform an operational check of the Mini-DAMA Communication System AN/USC-42(V)3(C) (NAVAIR 01-E2AAA-2-17.1.1, WP021 04).





- 1. Modem R/T Cover
- 2. Screw (22)
- 3. Captive Fastener (2)
- 4. Connector J2
- 5. TRANSEC CCA 1A3

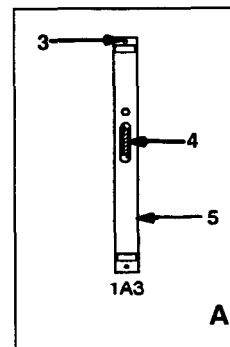


Figure 2. Removal and Installation of TRANSEC CCA 1A3

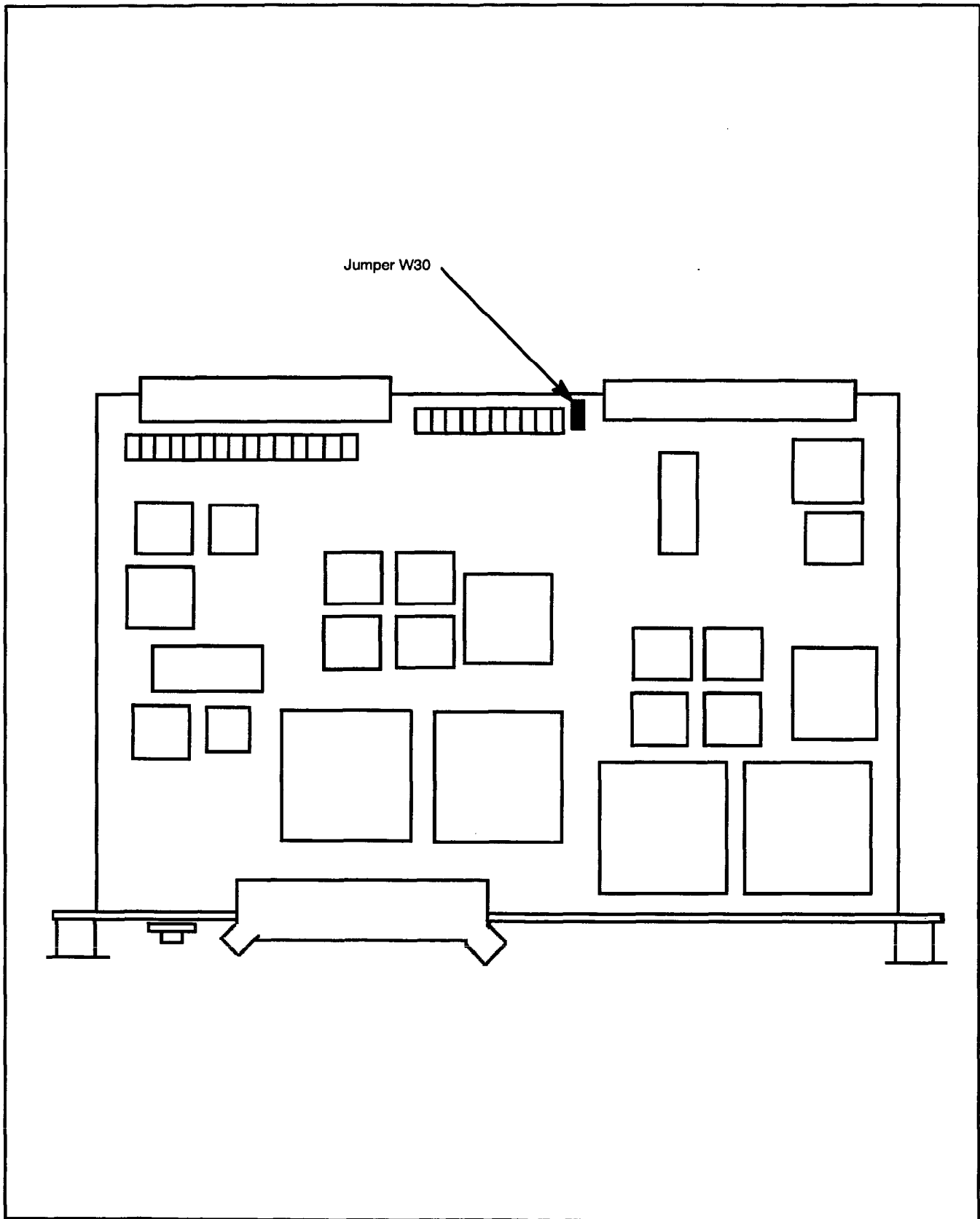


Figure 3. TRANSEC CCA 1A3

**ORGANIZATIONAL MAINTENANCE**

**RADIO FREQUENCY AMPLIFIER AM-7544/USC-42(V)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160992, 161097, 161229, 161341, 161346, 161782, 161783, 161785, 162614 THROUGH 162616, 162618, 162619, 162797, 162798, 162800 THROUGH 162802, 163028, 163538, 163539, 163693, 163694, 163849, 163850, 164109, 164110, 164496, 165293, 165296**

**Reference Material**

Integrated Electronics System Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Mini-DAMA Communications Set AN/USC-42(V)3(C) .....	021 04
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electronic Assembly Repair .....	NAVAIR 01-1A-23
Standard Maintenance Practices Miniature/Microminiature (2M)	
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 408	8/3/199	Installation of Versa Module European (VME) Model of the Mini-DAMA Communications Set (AN/USC-42(V)3) (ECP-410R3)	4/1/03	ECP Coverage Only.

**1. INTRODUCTION**

2. The Radio Frequency Amplifier AM-7544/USC-42 (V) (RF Amplifier) 64A55 and RF Amplifier Single Mounting Tray are part of the Mini-DAMA Communications Set AN/USC-42(V)3. The RF Amplifier is located in the aft equipment compartment of

the aircraft on the floor. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 for location of the RF Amplifier.

**3. RADIO FREQUENCY AMPLIFIER AM-7544/USC-42(V)**

4. REMOVAL. (figure 1.)



Energized equipment can cause severe shock or death on contact.

a. Open and tag the following circuit breakers on the RADAR Junction Box 87:

- PA AC
- MRT/PA AC
- MRT/PA AC

b. Lift and unscrew the two knurled locking knobs (5) that hold the RF Amplifier (1) to the single mounting tray (4).

c. Swing the knurled locking knobs (5) downward and out of the way.



The RF Amplifier contains devices and assemblies that are sensitive to Electrostatic Discharge (ESD). Refer to NAVAIR 01-1A-23, WP005 00 for ESD precautionary procedures and practices.

d. Pull the RF Amplifier (1) out of the single mounting tray (4) and place on a flat, ESD protected surface.

e. Place protective caps on all connectors and receptacles on the RF Amplifier (1).

5. INSTALLATION. (figure 1.)



Energized equipment can cause severe shock or death on contact.

a. Ensure the following circuit breakers on the RADAR Junction Box 87 are opened and tagged:

- PA AC
- MRT/PA AC
- MRT/PA AC

b. Remove protective caps from all connectors and receptacles on the RF Amplifier (1).

c. Inspect connectors for damage and bent pins prior to installation.

d. Place the RF Amplifier (1) into the single mounting tray (4).

e. Push the RF Amplifier (1) into the single mounting tray (4) to engage the mate connectors.

f. Fasten the two knurled locking knobs that hold the RF Amplifier (1) to the single mounting tray (4). (QUALITY ASSURANCE)

g. Remove tags and close the following circuit breakers on the RADAR Junction Box 87:

- PA AC
- MRT/PA AC
- MRT/PA AC

h. Perform an operational check of the Mini-DAMA Communications System AN/USC-42(V)3(C) (NAVAIR 01-E2AAA-2-17.1.1, WP021 04).

6. SINGLE MOUNTING TRAY

7. REMOVAL. (figure 1.)

a. Ensure the RF Amplifier is removed (refer to paragraph 4).



Energized equipment can cause severe shock or death on contact.

b. Open and tag the following circuit breakers on the RADAR Junction Box 87:

- PA AC
- MRT/PA AC
- MRT/PA AC

c. Remove eight 1/4" cap head screws (7) and eight washers (6) attaching single mounting tray (4) to the equipment rack.

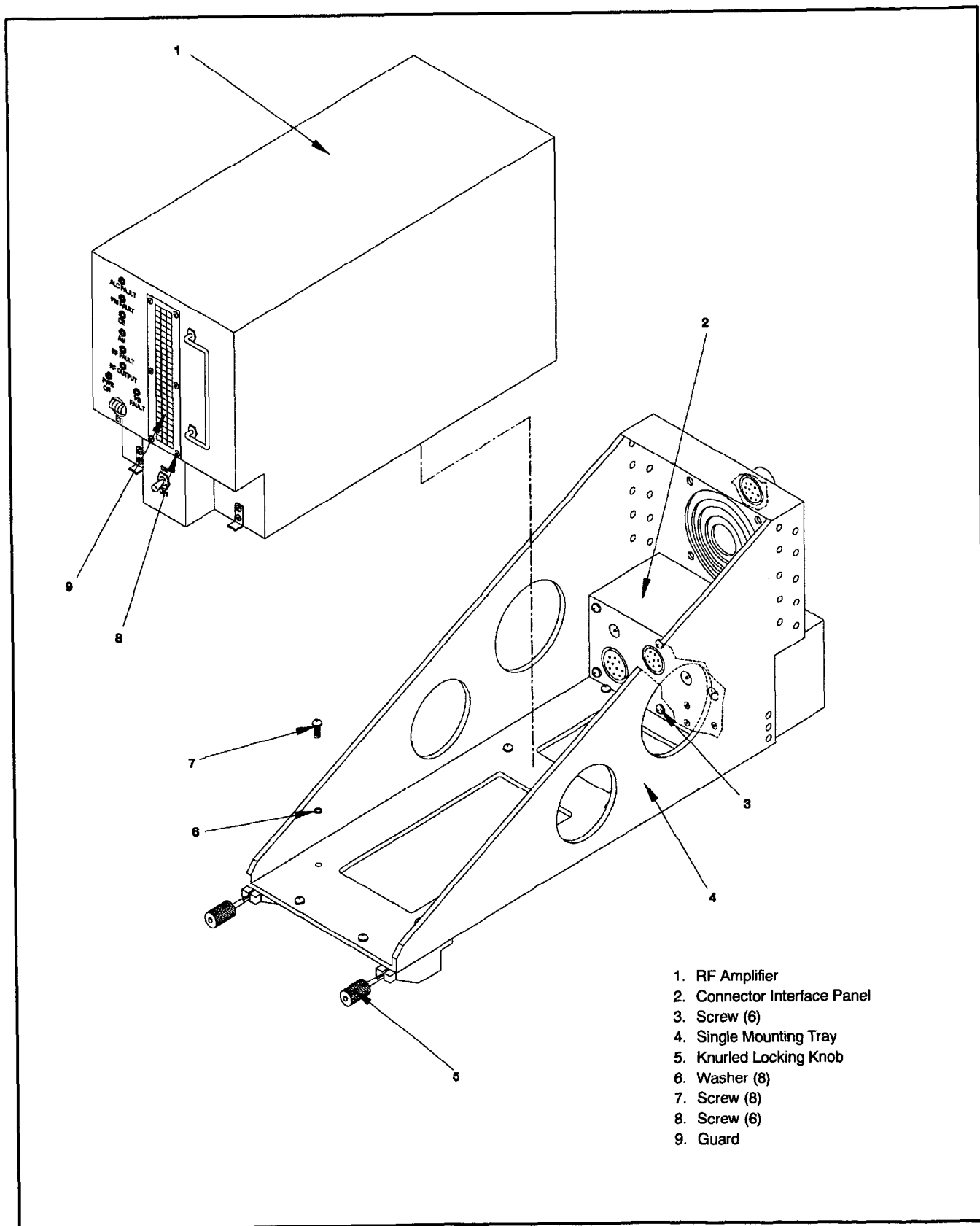


Figure 1. Removal and Installation of Radio Frequency Amplifier AM-7544/USC-42

d. Remove connector interface panel (2) from the single mounting tray by removing the six mounting screws (3).

e. Pull the single mounting tray (4) out of the equipment rack.

8. INSTALLATION. (figure 1.)



Energized equipment can cause severe shock or death on contact.

a. Ensure the following circuit breakers on the RADAR Junction Box 87 are opened and tagged:

- PA AC
- MRT/PA AC
- MRT/PA AC

b. Slide the single mounting tray (4) into the equipment rack and secure the connector interface panel using six mounting screws (3). (QUALITY ASSURANCE)

c. Secure the single mounting tray (4) to the equipment rack using eight 1/4" cap head screws (7) and eight washers (6). (QA)

d. Check the mate connectors on the single mounting tray (4) (inside and to the rear) to be sure they move freely and are free of foreign matter. (QUALITY ASSURANCE)

e. Install the RF Amplifier (1) (refer to paragraph 5).

f. Remove tags and close the following circuit breakers on the RADAR Junction Box 87:

- PA AC
- MRT/PA AC
- MRT/PA AC

g. Perform an operational check of the Mini-DAMA Communications System AN/USC-42(V)3(C) (NAVAIR 01-E2AAA-2-17.1.1, WP021 04).

9. RF AMPLIFIER PIN FIN CLEANING

10. CLEANING. (figure 1.)

a. Ensure the RF Amplifier is removed (refer to paragraph 4).



Energized equipment can cause severe shock or death on contact.

b. Open and tag the following circuit breakers on the RADAR Junction Box 87:

- PA AC
- MRT/PA AC
- MRT/PA AC

c. Remove six screws (8) holding guard (9) to RF Amplifier front panel.

d. Remove guard (9) from RF Amplifier front panel.

e. Clean guard (9) using mild soap and water.

f. Wipe guard dry with a clean, lint-free cloth.

g. Blow compressed air through air passages of guard while using a vacuum at the opposite end to remove dust accumulation.

h. Replace guard (9) on the front panel of the RF Amplifier.

i. Secure guard to RF Amplifier front panel using six screws (8). (QUALITY ASSURANCE)

j. Remove tags and close the following circuit breakers on the RADAR Junction Box 87:

- PA AC
- MRT/PA AC
- MRT/PA AC

**ORGANIZATIONAL MAINTENANCE**

**RECEIVER TRANSMITTER CONTROLLER C-12226/USC-42(V)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160992, 161097, 161229, 161341, 161346, 161782, 161783, 161785, 162614 THROUGH 162616, 162618, 162619, 162797, 162798, 162800 THROUGH 162802, 163028, 163538, 163539, 163693, 163694, 163849, 163850, 164109, 164110, 164496, 165293, 165296**

**Reference Material**

Integrated Electronics System Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Mini-DAMA Communications Set AN/USC-42(V)3(C) .....	021 04
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electronic Assembly Repair .....	NAVAIR 01-1A-23
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 408	8/31/99	Installation of Versa Module European (VME) Model of the Mini-DAMA Communications Set (AN/USC-42(V)3) (ECP-410R3)	4/1/03	ECP Coverage Only.

**1. INTRODUCTION**

2. The Receiver/Transmitter Controller C-12226/USC-42(V) [Display Entry Panel (DEP)] 64A56 is part of the Mini-DAMA Communications Set AN/USC-42(V)3(C). The DEP is located in the CIC to the left of the ACO station. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 for location of the DEP.

**3. RECEIVER/TRANSMITTER CONTROLLER C-12226/USC-42(V)**

**4. REMOVAL. (figure 1.)**



Energized equipment can cause severe shock or death on contact.

a. Open and tag the following circuit breakers on the RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC

b. Loosen four Dzus fasteners (2) retaining the front panel of the DEP (1) to the equipment rack.

c. Pull the DEP (1) from the equipment rack for access to the rear connector J1.



The DEP contains devices and assemblies that are sensitive to Electrostatic Discharge (ESD). Refer to NAVAIR 01-1A-23, WP005 00 for ESD precautionary procedures and practices.

- d. Disconnect connector from J1 on the DEP (1).
- e. Remove the DEP (1).
- f. Place protective caps on all plugs and receptacles on the DEP (1).

**5. INSTALLATION. (figure 1.)**



Energized equipment can cause severe shock or death on contact.

a. Ensure the following circuit breakers on the RADAR Junction Box 87 are opened and tagged:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC

b. Remove protective cap from the connector on the rear of the DEP (1).



The DEP contains devices and assemblies that are sensitive to Electrostatic Discharge (ESD). Refer to NAVAIR 01-1A-23, WP005 00 for ESD precautionary procedures and practices.

- c. Inspect connectors for damage and bent pins prior to installation.
- d. Connect connector to J1 on the rear of the DEP (1).
- e. Insert the DEP (1) into the equipment rack.
- f. Secure the DEP to the equipment rack (1) with four Dzus fasteners (2). (QUALITY ASSURANCE)
- g. Remove tags and close the following circuit breakers on the RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC

h. Perform an operational check of the Mini-DAMA Communications System AN/USC-42 (V)3(C) (NAVAIR 01-E2AAA-2-17.1.1, WP021 04).



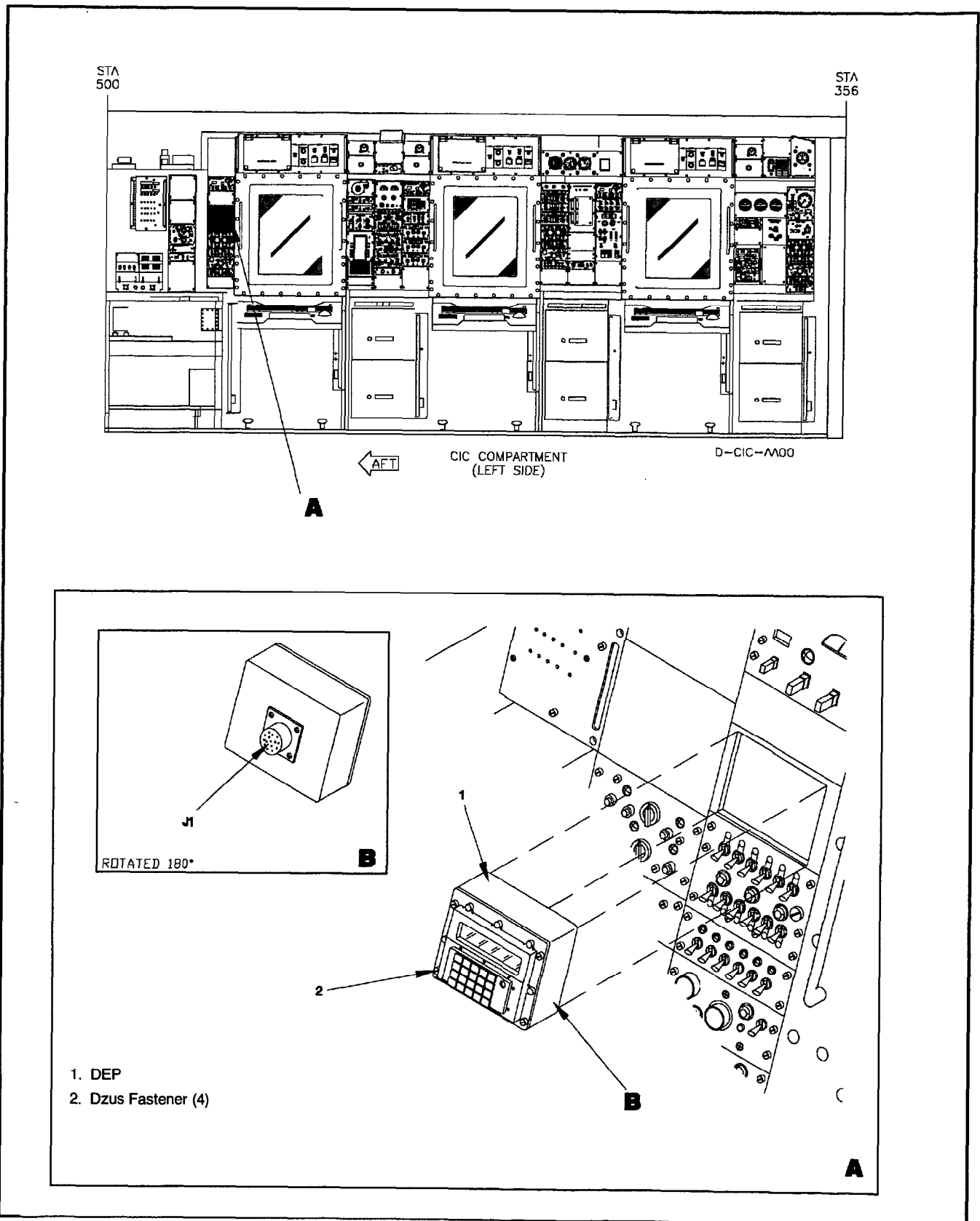


Figure 1. Removal and Installation of Display Entry Panel C-12226/USC-42(V)



**ORGANIZATIONAL MAINTENANCE**

**SATCOM CONTROL PANEL**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160992, 161097, 161229, 161341, 161346, 161782, 161783, 161785, 162614 THROUGH 162616, 162618, 162619, 162797, 162798, 162800 THROUGH 162802, 163028, 163538, 163539, 163693, 163694, 163849, 163850, 164109, 164110, 164496, 165293, 165296**

**Reference Material**

Integrated Electronics System Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Mini-DAMA Communications Set AN/USC-42(V)3(C) .....	021 04
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 408	8/31/99	Installation of Versa Module European (VME) Model of the Mini-DAMA Communications Set (AN/USC-42(V)3) (ECP-410R3)	4/1/03	ECP Coverage Only.

**1. INTRODUCTION**

2. The SATCOM Control Panel 64A50 is part of the Mini-DAMA Communications Set AN/USC-42(V)3. The SATCOM Control Panel is located in the CIC to the left of the CICO station. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 for location of the SATCOM Control Panel.

**3. SATCOM CONTROL PANEL**

**4. REMOVAL. (figure 1.)**



Energized equipment can cause severe shock or death on contact.

a. Open and tag the following circuit breakers on the Main Electrical Junction Box 86:

HF CONTROL DTS      28 V DC

b. Loosen four Dzus fasteners (2) retaining the front panel of the SATCOM Control Panel (1) to the equipment rack.

c. Pull the SATCOM Control Panel (1) from the equipment rack for access to the rear connectors J1, J2, and J3.

d. Disconnect connectors from J1, J2, and J3 from the SATCOM Control Panel (1).

e. Remove the SATCOM Control Panel (1).

f. Place protective caps on all plugs and receptacles on the SATCOM Control Panel (1).

5. INSTALLATION. (figure 1.)



Energized equipment can cause severe shock or death on contact.

a. Ensure the following circuit breakers on the Main Electrical Junction Box 86 are opened and tagged:

HF CONTROL DTS      28 V DC

b. Remove protective caps from all connectors and receptacles on the SATCOM Control Panel (1).

c. Inspect connectors for damage and bent pins prior to installation.

d. Connect connectors to J1, J2, and J3 to the rear of the SATCOM Control Panel (1). (QUALITY ASSURANCE)

e. Insert the SATCOM Control Panel (1) into the equipment rack.

f. Secure the SATCOM Control Panel (1) to the equipment rack with four Dzus fasteners (2). (QUALITY ASSURANCE)

g. Remove tag and close the following circuit breaker on the Main Electrical Junction Box 86:

HF CONTROL DTS      28 V DC

h. Perform an operational check of the Mini-DAMA Communications System AN/USC-42 (V)3(C) (NAVAIR 01-E2AAA-2-17.1.1, WP021 04).

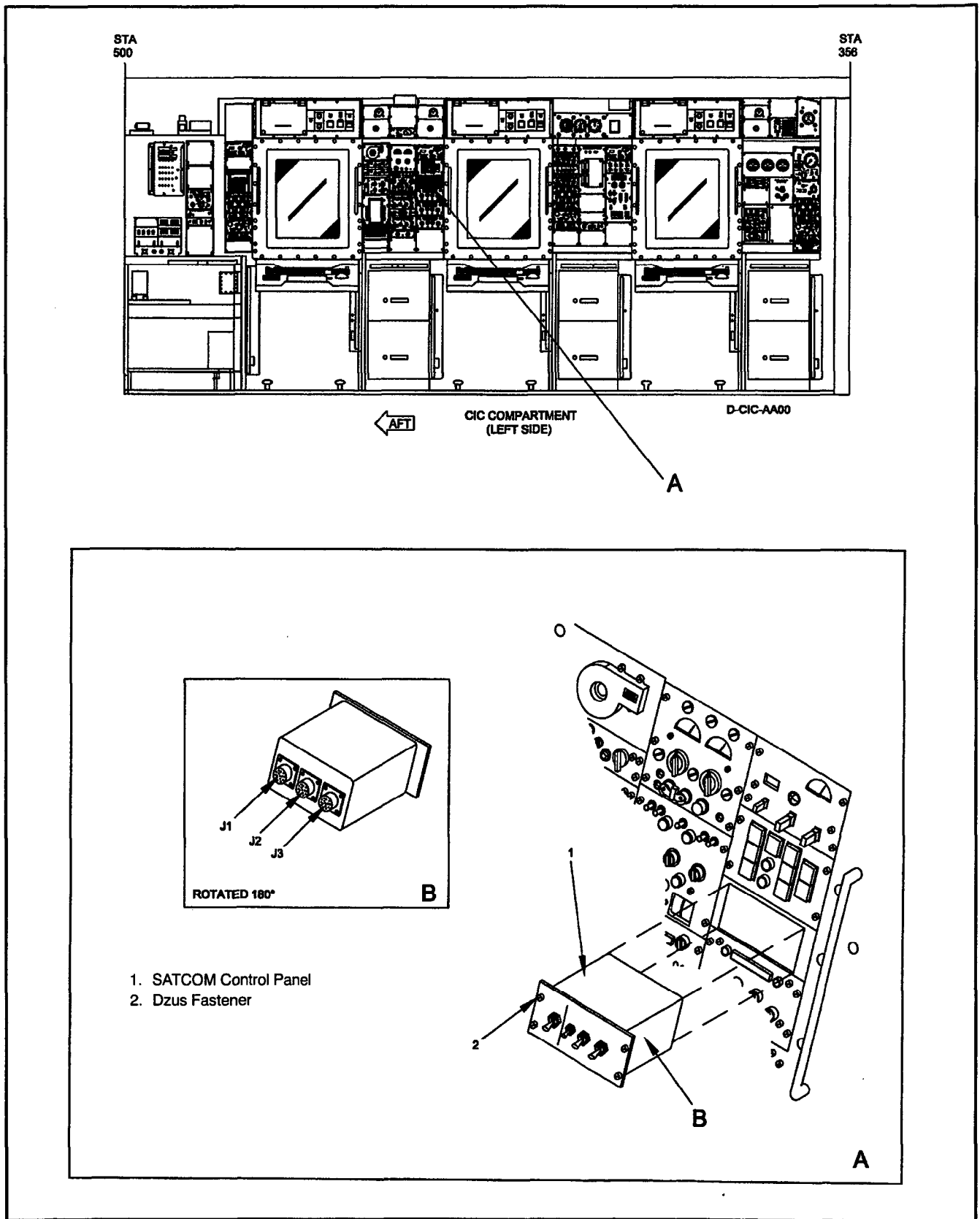


Figure 1. Removal and Installation of SATCOM Control Panel



**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**SATCOM CONTROL PANEL (83A9)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronics System Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

**1. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Loosen four quarter-turn fasteners and carefully pull SATCOM control panel out from structure.

d. Tag and disconnect electrical connector from SATCOM control panel and remove panel from aircraft.

e. Inspect electrical connector for damage, corrosion, recessed pins, grease, and dirt. clean connector in accordance with NAVAIR 16-1-540. Cap connector and receptacle.

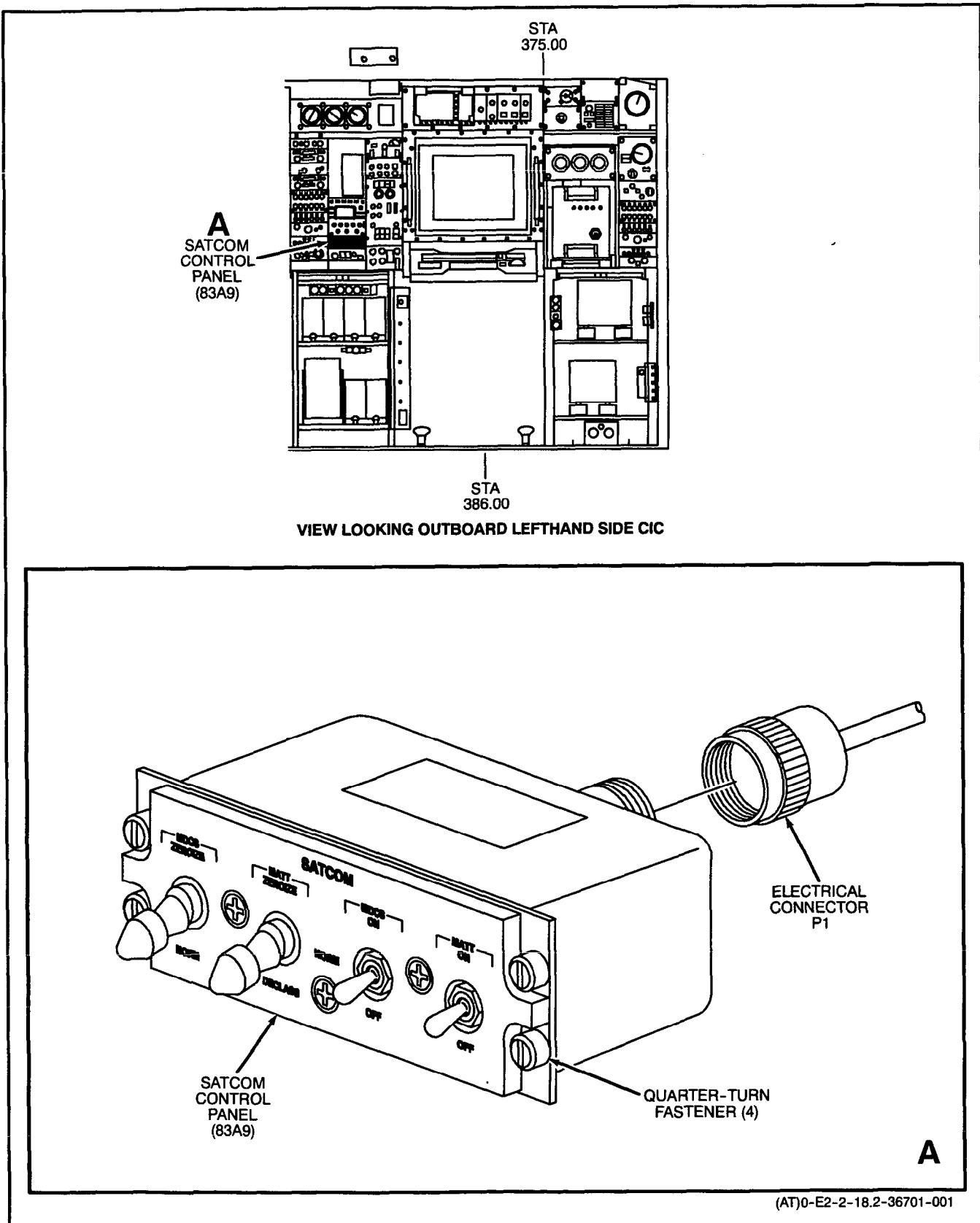


Figure 1. Removal and Installation of SATCOM Control Panel (83A9)



**2. INSTALLATION.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Remove caps and connect electrical connector to SATCOM control panel. (QA)

d. Position SATCOM control panel on structure and secure with four quarter-turn fasteners.

e. Inspect area for proper installation of all components, evidence of corrosion, foreign objects, and any other nonflightworthy condition. (QA)

f. Perform operational check of the Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)



**ORGANIZATIONAL MAINTENANCE**

**DIPLEXER, RF PREAMPLIFIER AM-212AB, RF BLANKER**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160992, 161097, 161229, 161341, 161346, 161782, 161783, 161785, 162614 THROUGH 162616, 162618, 162619, 162797, 162798, 162800 THROUGH 162802, 163028, 163538, 163539, 163693, 163694, 163849, 163850, 164109, 164110, 164496, 165293, 165296**

**Reference Material**

Integrated Electronics System Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Mini-DAMA Communications Set AN/USC-42(V)3(C) .....	021 04
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electronic Assembly Repair .....	NAVAIR 01-1A-23
Standard Maintenance Practices Miniature/Microminiature (2M)	
Electronic Assembly Repair Electrostatic Discharge Control .....	005 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 408	8/31/99	Installation of Versa Module European (VME) Model of the Mini-DAMA Communications Set (AN/USC-42(V)3) (ECP-410R3)	4/1/03	ECP Coverage Only.

**1. INTRODUCTION**

2. The Diplexer 64A51, RF Blanker 64A52, and the RF Preamplifier AM-212AB 64A53 are part of the Mini-DAMA Communications Set AN/USC-42(V)3. The Di-

plexer, RF Blanker, and the RF Preamplifier are located in the Aft Equipment Compartment. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 for location of the Diplexer, RF Blanker, and the RF Preamplifier.

**3. DIPLEXER**

**4. REMOVAL.** (figure 1.)



Energized equipment can cause severe shock or death on contact.

a. Open and tag the following circuit breakers on the RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

b. Disconnect P1, P2, and P3 from Diplexer (5).

c. Remove and retain four screws (2) and four washers (1) securing Diplexer (5) to the equipment rack.

d. Remove Diplexer (5).

e. Place protective caps on all plugs and receptacles on the Diplexer (5).

**5. INSTALLATION.** (figure 1.)



Energized equipment can cause severe shock or death on contact.

a. Ensure the following circuit breakers on the RADAR Junction Box 87 are open and tagged:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

b. Remove protective caps from all connectors and receptacles on the Diplexer (5).

c. Inspect connectors for damage and bent pins prior to installation.

d. Secure the Diplexer to the equipment rack using four screws (2) and four washers (1). (QUALITY ASSURANCE)

e. Connect P1, P2, and P3 to the Diplexer (5).

f. Remove tags and close the following circuit breakers on the RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

g. Perform an operational check of the Mini-DAMA Communications System AN/USC-42 (V)3(C) (NAVAIR 01-E2AAA-2-17.1.1, WP021 04).

**6. RF BLANKER**

**7. REMOVAL.** (figure 1)



Energized equipment can cause severe shock or death.

a. Open and tag the following circuit breakers on the RADAR Junction Box:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

b. Disconnect P1, P2, and P3 from the RF Blanker (3).

c. Remove and retain four screws (2), and four washers (1) securing RF Blanker (3) to the equipment rack.

d. Remove RF Blanker (3).

e. Place protective caps on all plugs and receptacles on the RF Blanker (3).

**8. INSTALLATION.** (figure 1.)



Energized equipment can cause severe shock or death on contact.

a. Ensure the following circuit breakers on the RADAR Junction Box 87 are open and tagged:

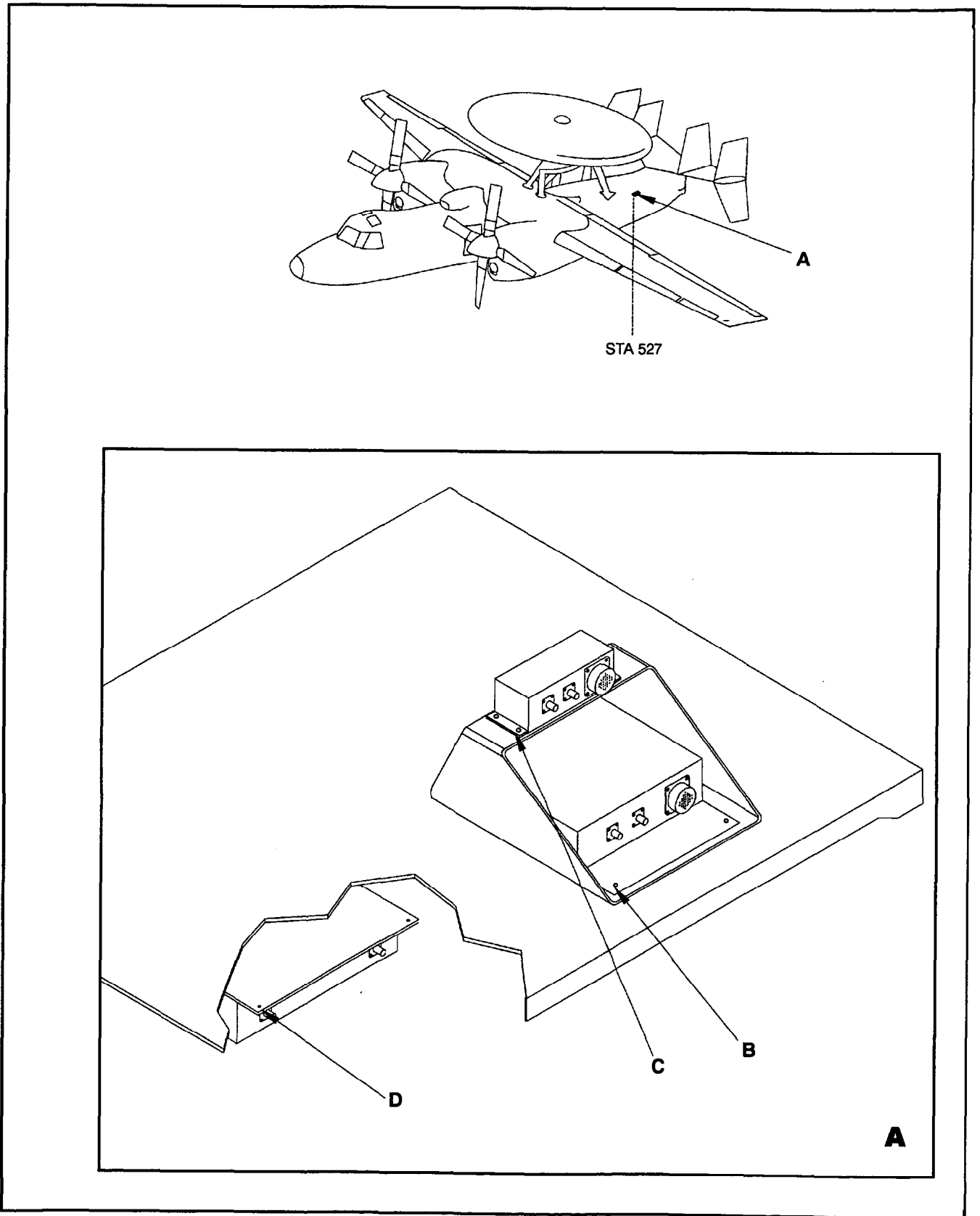
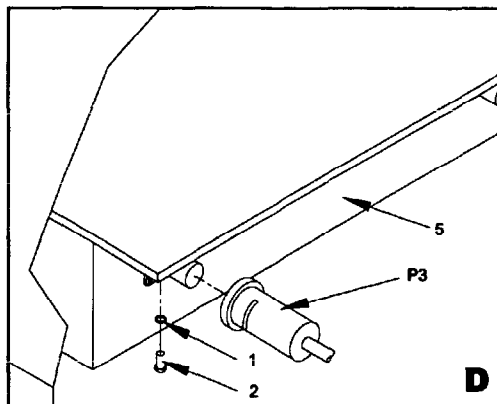
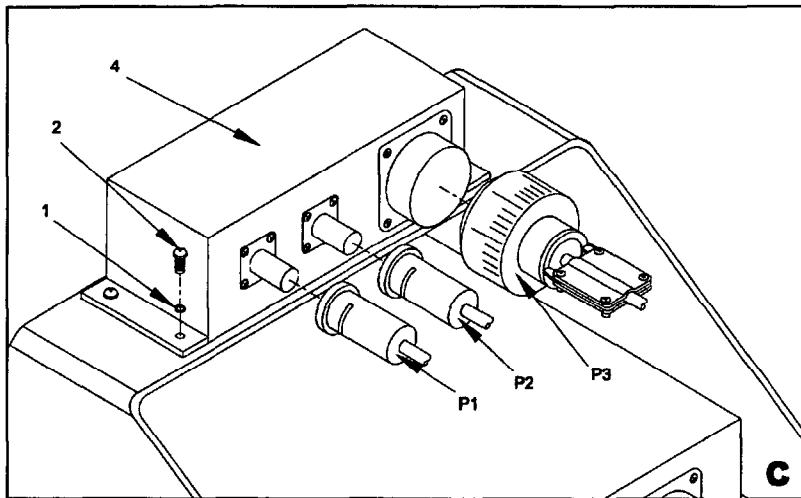
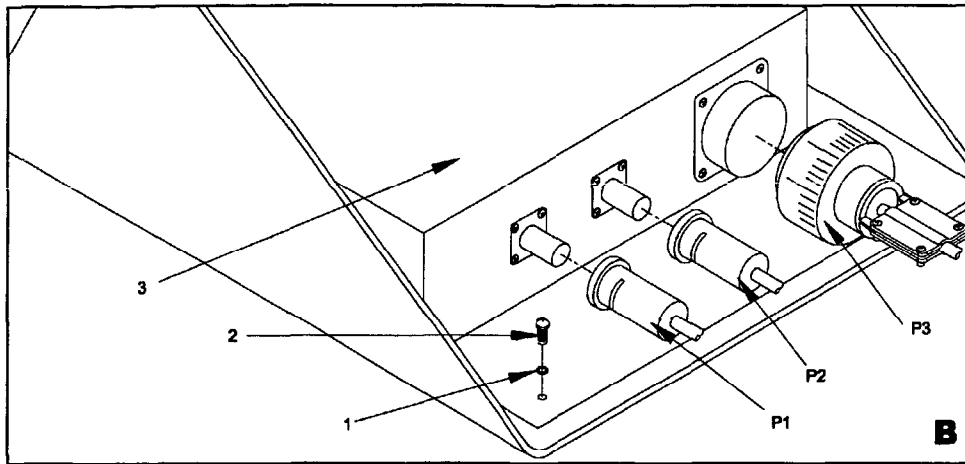


Figure 1. Removal and Installation of Diplexer, RF Preamp, and RF Blanker (Sheet 1 of 2)



- 1. Washer (4)
- 2. Screw (4)
- 3. RF Blanker
- 4. RF Preamplifier
- 5. Diplexer

Figure 1. Removal and Installation of Diplexer, RF Preamplifier, and RF Blanker (Sheet 2)

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

b. Remove all protective caps from all connectors and receptacles on the RF Blanker (3).

c. Inspect connectors for damage and bent pins prior to installation.

d. Secure the RF Blanker (3) to the equipment rack using four screws (2) and four washers (1). (QA)

e. Connect P1, P2, and P3 to the RF Blanker (3).

f. Remove tags and close the following circuit breakers on the RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

g. Perform an operational check of the Mini-DAMA Communication System AN/USC-42(V)3(C) (NAVAIR 01-E2AAA-2-17.1.1, WP021 04).

9. RF PREAMPLIFIER AM-212AB

10. REMOVAL. (figure 1.)



Energized equipment can cause severe shock or death on contact.

a. Open and tag the following circuit breakers on the RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

b. Disconnect P1, P2, and P3 from the RF Preamplifier (4).

c. Remove and retain four screws (2), and four washers (1) securing RF Preamplifier to the equipment rack.

d. Remove RF Preamplifier (4) from the equipment rack.

e. Place protective caps on all plugs and receptacles on the RF Preamplifier (4).

11. INSTALLATION. (figure 1)



Energized equipment can cause severe shock or death on contact.

a. Ensure the following circuit breakers on the RADAR Junction Box 87 are open and tagged:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

b. Remove all protective caps from all connectors and receptacles on the RF Preamplifier (4).

c. Inspect connectors for damage and bent pins prior to installation.

d. Secure the RF Preamplifier (4) to the equipment rack using four screws (2) and four washers (1). (QUALITY ASSURANCE)

e. Connect P1, P2, and P3 to the RF Preamplifier (4).

f. Remove tags and close the following circuit breakers on the RADAR Junction Box 87:

- MRT DC
- MRT AC
- MRT/PA AC
- MRT/PA AC
- PA AC

g. Perform an operational check of the Mini-DAMA Communication System AN/USC-42(V)3(C) (NAVAIR 01-E2AAA-2-17.1.1, WP021 04).





**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**DIPLEXER/LOW NOISE AMPLIFIER TD-1466/A (83A6), RADIO FREQUENCY BLANKER CV-4323/A (83A19, 83A20, AND 83A21)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

UHF Bandpass Filter F-1671/A (83A10 thru 83A14, and 83A16) .....	387 00
General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronics System Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

**1. DIPLEXER/LOW NOISE AMPLIFIER TD-1466/A (83A6).**

**2. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. In crew compartment, remove protective covers to gain access to Diplexer/Low Noise Amplifier TD-1466/A (83A6).

d. Tag and disconnect electrical connectors P1, P2, P3, and P4 from receptacles J1, J2, J3, and J4 on Diplexer/Low Noise amplifier TD-1466/A (83A6).

e. Inspect electrical connectors for damage, corrosion, recessed pins grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

f. Remove six screws and washers that secure Diplexer/Low Noise Amplifier TD-1466/A (83A6) to aircraft structure.

g. Remove Diplexer/Low Noise Amplifier TD-1466/A (83A6) from aircraft.

**3. INSTALLATION. (Figure 1.)**

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP040 00).

c. Position Diplexer/Low Noise Amplifier TD-1466/A (83A6) on aircraft structure and secure with six screws and washers.

d. Remove caps and connect electrical connectors P1, P2, P3, and P4 to receptacles J1, J2, J3, and J4 on Diplexer/Low Noise Amplifier TD-1466/A (83A6). Remove tags.

e. In crew compartment, install protective covers.

f. Perform operational check of the Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 02). (QA)

**4. RADIO FREQUENCY BLANKER CV-4323/A (83A19, 83A20, AND 83A21).**

**Note**

Removal and installation of Radio Frequency Blanker CV-4323/A (83A19, 83A20 or 83A21) are identical except where noted.

**5. REMOVAL. (Figure 2.)**

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

**Note**

Perform step c only for Radio Frequency Blanker 83A19. For Radio Frequency Blankers 83A20 and 83A21, continue with step d.

c. For Radio Frequency Blanker CV-4323/A (83A19) loosen three quarter-turn fasteners and open main power supply area closure panel.

d. For Radio Frequency Blanker CV-4323/A (83A20 and 83A21) loosen ten quarter-turn fasteners, and remove center draw area closure panel.

e. Remove UHF Bandpass Filters as required to gain access to components (WP387 00).

f. Tag and disconnect electrical connectors P1, P2, and P3 from receptacles J1, J2, and J3 on Radio Frequency Blanker CV-4323/A.

g. Inspect electrical connectors for damage, corrosion, recessed pins, grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

h. Remove four screws and washers that secure Radio Frequency Blanker CV-4323/A to shelf and remove from aircraft.

**6. INSTALLATION. (Figure 2.)**

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Position Radio Frequency Blanker CV-4323/A to shelf and secure with four screws and washers.

d. Remove caps and connect electrical connectors P1, P2, and P3 to receptacles J1, J2, and J3 on Radio Frequency Blanker CV-4323/A. Remove tags. (QA)

e. Install UHF Bandpass Filters which were removed for access to components (WP387 00).

**Note**

Perform step f only for Radio Frequency Blanker 83A19. For Radio Frequency Blankers 83A20 and 83A21, continue with step g.

f. For Radio Frequency Blanker CV-4323/A (83A19), close main power supply area closure panel. Secure panel with three quarter-turn fasteners.

g. For Radio Frequency Blanker CV-4323/A (83A20 and 83A21), install center draw area closure panel. Secure with ten quarter-turn fasteners.

h. Perform operational check of the Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)

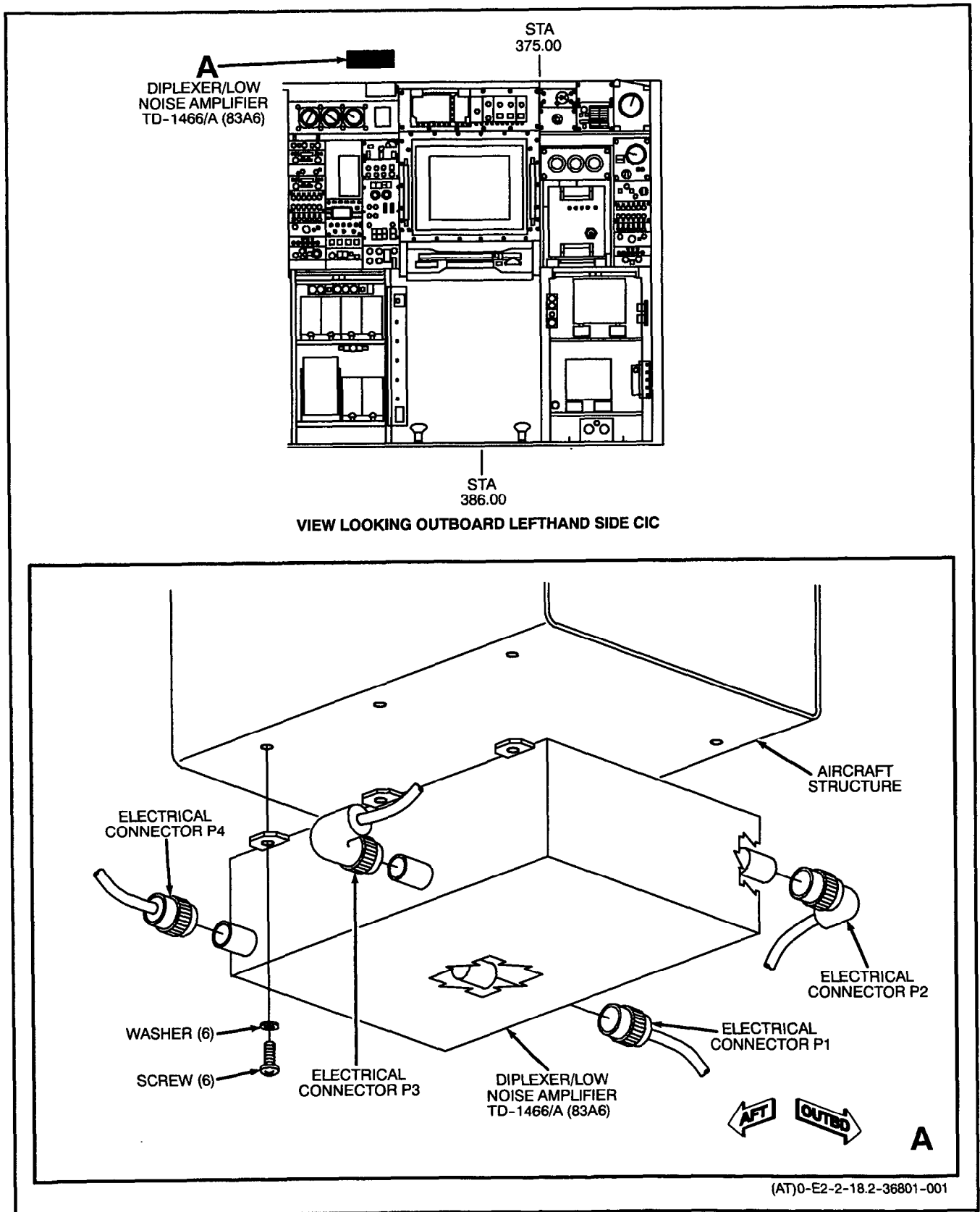


Figure 1. Removal and Installation of Diplexer/Low Noise Amplifier TD-1466/A (83A6)

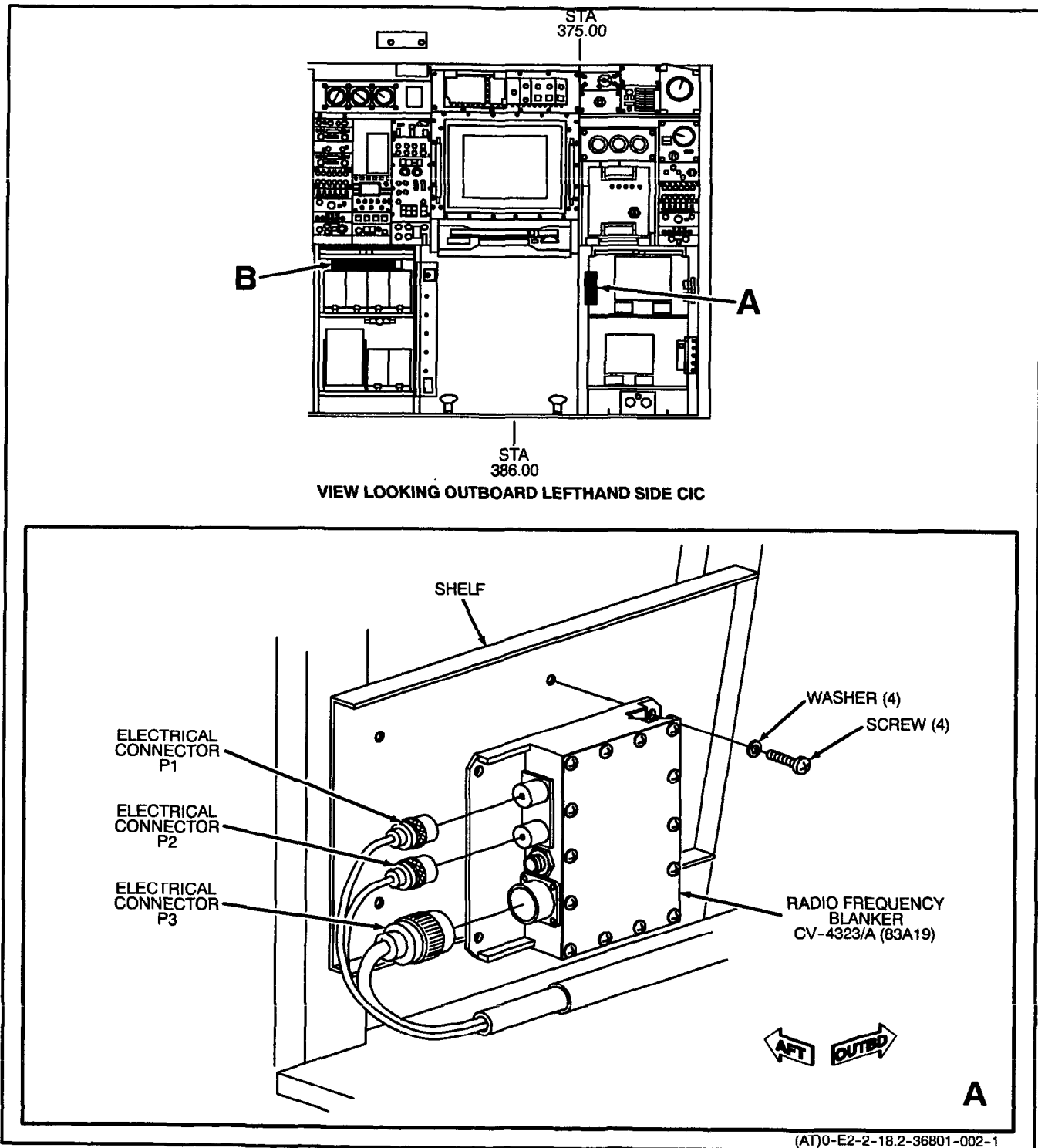


Figure 2. Removal and Installation of Radio Frequency Blanker CV-4323/A (83A19, 83A20, and 83A21) (Sheet 1 of 2)

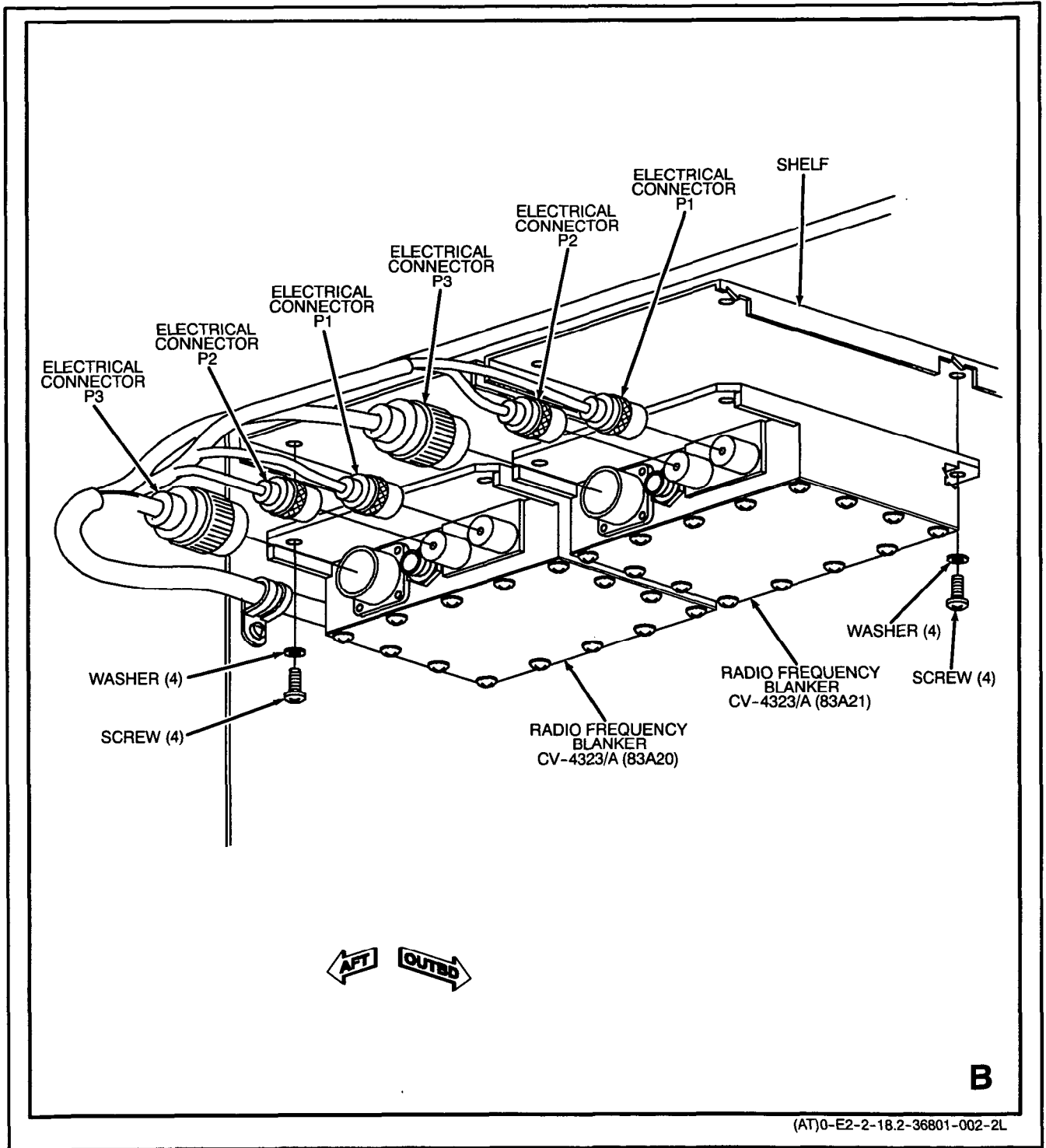


Figure 2. Removal and Installation of Radio Frequency Blanker CV-4323/A (83A19, 83A20, and 83A21) (Sheet 2)



**ORGANIZATIONAL MAINTENANCE**

**SATCOM ANTENNA**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 160992, 161097, 161229, 161341, 161346, 161782, 161783, 161785, 162614 THROUGH 162616, 162618, 162619, 162797, 162798, 162800 THROUGH 162802, 163028, 163538, 163539, 163693, 163694, 163849, 163850, 164109, 164110, 164496, 165293, 165296**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Integrated Electronics System Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Mini-DAMA Communications Set AN/USC-42(V)3(C) .....	021 04
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 00
Electronic Assembly Repair .....	NAVAIR 01-1A-23
Standard Maintenance Practices Miniature/Microminiature (2M)	
Electronic Assembly Repair Electrostatic Discharge Control .....	005 00

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
AFC 408	8/31/99	Installation of Versa Module European (VME) Model of the Mini-DAMA Communications Set (AN/USC-42(V)3) (ECP-410R3)	4/1/03	ECP Coverage Only.

**1. INTRODUCTION**

2. The SATCOM Antenna is part of the Mini-DAMA Communications Set AN/USC-42(V)3. The SATCOM Antenna is located on top of the aircraft rotodome. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 00 for location of the SATCOM Antenna.

**3. SATCOM ANTENNA**

**4. REMOVAL. (figure 1)**

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
	Plastic Tool (with a knife edge)

**WARNING**

Energized equipment can cause severe shock or death on contact.

a. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

**WARNING**

Use specified safety equipment to prevent personnel from falling from the top of the rotodome.

b. Using safety harness, brake and lanyard, the person(s) working on top of the rotodome must secure themselves to a substantial overhead structure.

c. Remove and retain 18 screws and 18 washers (3) securing SATCOM Antenna (2) to the top of the rotodome structure.

d. Using knife edge of plastic tool, carefully cut away sealant (4) around periphery and entire adjoining surface of the SATCOM Antenna.

e. Lift SATCOM Antenna and disconnect cable connector P1 (5) from the SATCOM Antenna (2) receptacle.

f. Remove SATCOM Antenna (2) from the top of the rotodome structure.

g. Place protective caps on cable connector and SATCOM Antenna (2) receptacle.

5. INSTALLATION (figure 1)

**Support Equipment Required**

Part or Model No.	Nomenclature
MIL-S-8802	Sealing Compound (sealant)
TT-I-735	Isopropyl Alcohol

**WARNING**

Energized equipment can cause severe shock or death on contact.

a. Disconnect aircraft external electrical power (NAVAIR 01-E2AAA-2-1, WP027 00). Install NO POWER placard on power receptacle.

**WARNING**

Use specified safety equipment to prevent personnel from falling from the top of the rotodome.

b. Using safety harness, brake and lanyard, the person(s) working on top of the rotodome must secure themselves to a substantial overhead structure.

**WARNING**

Isopropyl alcohol, TT-I-735, is toxic and flammable. Protection: chemical splashproof goggles and forced ventilation (or respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes. Do not breathe vapors. Wear gloves.

c. Carefully clean sealant residue from SATCOM Antenna mounting surface with isopropyl alcohol.

d. Replace gasket (1) if necessary.

e. Remove protective caps from cable connector and SATCOM Antenna (2) receptacle.

f. Inspect connectors for damage and bent pins prior to installation.

g. Connect cable connector P1 (5) to the SATCOM Antenna receptacle. (QUALITY ASSURANCE)

**WARNING**

Sealant, MIL-S-8802, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed. Keep sparks, flames, and heat away. Keep sealant off skin, eyes, and clothes. Do not breathe vapors.

h. Install SATCOM Antenna (2) on the rotodome structure. Secure SATCOM Antenna with 18 screws and 18 washers (3). (QUALITY ASSURANCE)

i. Apply sealant to entire adjoining surface of the SATCOM Antenna (2) and fillet around SATCOM Antenna periphery. (QUALITY ASSURANCE)

j. Perform operational check of the Mini-DAMA Communication System AN/USC-42 (NAVAIR 01-E2AAA-2-17.1.1, WP021 04).

k. Cure SATCOM Antenna installation for a minimum of 24 hours.



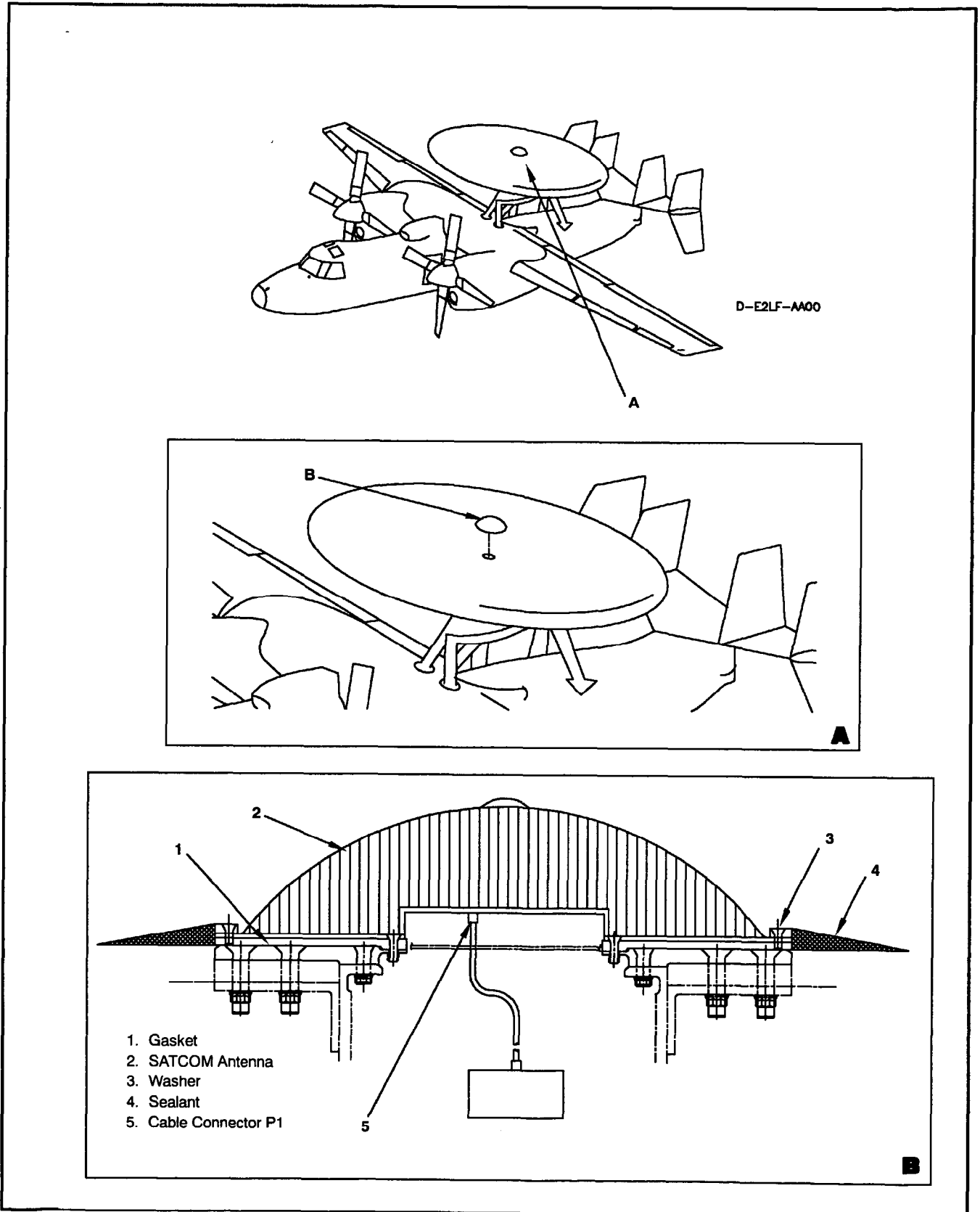


Figure 1. SATCOM Antenna removal and installation



**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**SATCOM ANTENNA AS-4447/A (83A7) AND LIGHTNING DIVERTER STRIPS**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**This work package (WP) supersedes WP369 01 dated 1 December 2000.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
External Hydraulic Power Connections .....	028 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronics System Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

**1. SATCOM ANTENNA AS-4447/A (83A7)**

**2. REMOVAL. (Figure 1.)**

**Note**

Follow local shop practice for safety procedures for usage of safety harness and hoisting.

**Support Equipment Required**

<b>Part or Model No.</b>	<b>Nomenclature</b>
—	Plastic Tool (with a knife edge)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external hydraulic power from aircraft (NAVAIR 01-E2AAA-2-1, WP028 00), and place NO POWER placard over external hydraulic power receptacles.

c. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.



Before performing maintenance on the rotodome, ensure that the Transceiver RT-1794(C)/ARC (83A1) is de-energized and on main power distribution box circuit breaker panel, disengage SATCOM RT circuit breaker (77A6CB64).

Use specified safety equipment to prevent personnel from falling from the top of the rotodome.



Three (3) persons maximum on rotodome. Wear damage preventive footwear while working on rotodome.

d. Using safety harness, brake and lanyard, the person(s) working on top of the rotodome must secure themselves to a substantial overhead structure.

e. Remove 18 screws securing SATCOM Antenna AS-4447/A (83A7) (Antenna) to the top of the rotodome structure.

f. Using knife edge of plastic tool, carefully remove sealant around periphery and entire adjoining surface of the Antenna.

g. Lift Antenna and disconnect RF connector P1 from the Antenna receptacle J1.

h. Inspect RF connector for damage, corrosion, recessed pins, grease, and dirt. Clean connector in accordance with NAVAIR 16-1-540. Cap connector and receptacle.

**Note**

Two (2) persons are required to remove Antenna.

i. Remove Antenna from the top of the rotodome structure.

**3. INSTALLATION. (Figure 1.)**

**Materials Required**

Specification or Part Number	Nomenclature
GM41071B0	Sealing Compound (sealant)
TT-I-735	Isopropyl Alcohol
GA100FB1	Loctite
0 to 100 inch-pounds	Torque Wrench

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and NO POWER placard is placed over external electrical power receptacle.

c. Ensure external hydraulic power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP028 00), and NO POWER placard is placed over external hydraulic power receptacles.



Before performing maintenance on the rotodome, ensure that the Transceiver RT-1794(C)/ARC (83A1) is de-energized and on main power distribution box circuit breaker panel, disengage SATCOM RT circuit breaker (77A6CB64).

Use specified safety equipment to prevent personnel from falling from the top of the rotodome.



Three (3) persons maximum on rotodome. Wear damage preventive footwear while working on rotodome.

d. Using safety harness, brake and lanyard, the person(s) working on top of the rotodome must secure themselves to a substantial overhead structure.

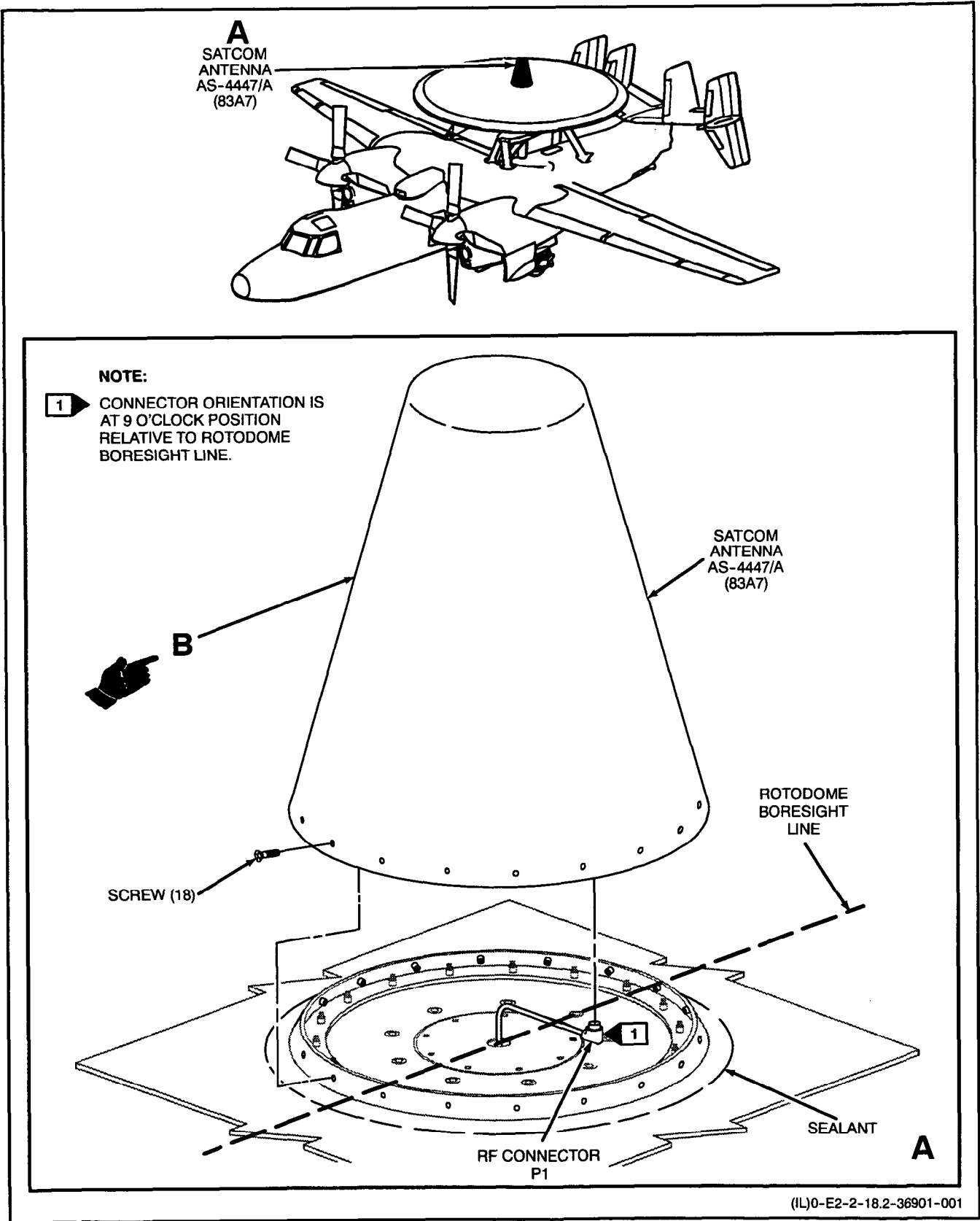
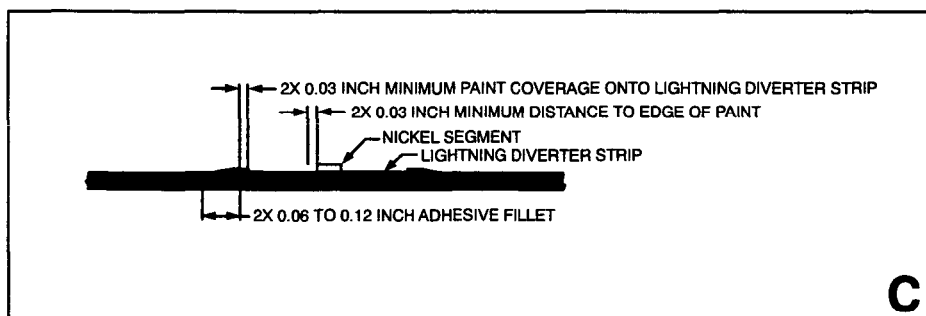
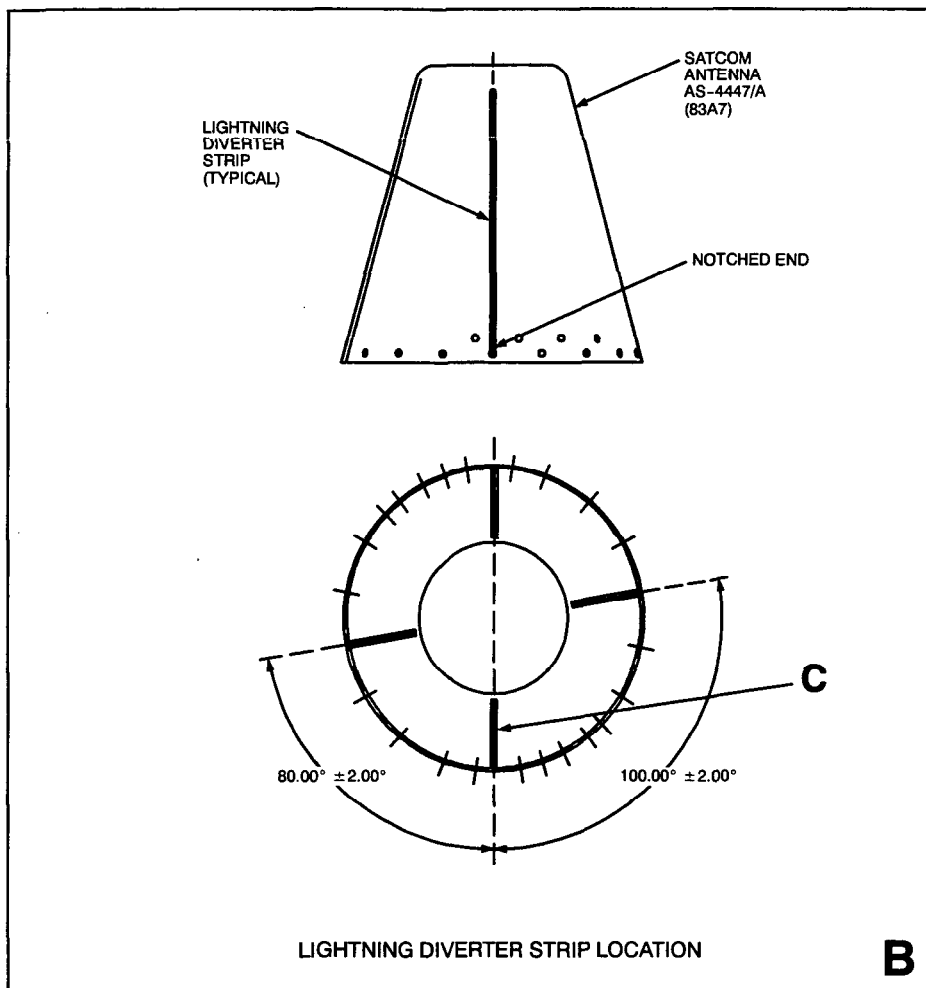


Figure 1. Removal and Installation of SATCOM Antenna AS-4447/A (83A7) and Lightning Diverter Strip (Sheet 1 of 2)



(IS)0-E2-2-18.2-36901-001-2

Figure 1. Removal and Installation of SATCOM Antenna AS-4447/A (83A7) and Lightning Diverter Strip (Sheet 2 of 2)

**WARNING**

Isopropyl alcohol, TT-1-735, is toxic and flammable. Protection: chemical splash-proof goggles and forced ventilation (or respirator); keep container closed; keep sparks, flames, and heat away. Keep isopropyl alcohol off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

e. Carefully clean sealant residue from Antenna mounting surface with isopropyl alcohol.

f. Remove protective caps from RF connector P1 and Antenna receptacle J1.

g. Apply loctite to RF connector P1 threads and connect RF connector P1 to the Antenna receptacle J1. (QA)

**Note**

Two (2) persons are required to install Antenna.

h. Install Antenna on the rotodome structure with connector orientated at the 9 o'clock position in relation to antenna boresight line. Secure with 18 screws. Torque screws to 40 to 44 inch-pounds. (QA)

**WARNING**

Sealant, GM41071B0, is toxic and flammable. Protection: chemical splashproof goggles and gloves. Adequate ventilation required. Keep container closed. Keep sparks, flames, and heat away. Keep sealant off skin, eyes, and clothes. Do not breathe vapors.

i. Apply sealant to entire adjoining surface of the Antenna and fillet around Antenna periphery. (QA)

j. Cure Antenna installation for a minimum of 24 hours.

k. Perform operational check of the Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)

**4. LIGHTNING DIVERTER STRIPS**

**5. REMOVAL (Figure 1.)**

**Note**

The following procedure is typical for the removal of any of the four lightning diverter strips.

**Support Equipment Required**

Part or Model No.	Nomenclature
—	Plastic Tool (with a knife edge)

a. Remove SATCOM Antenna AS-4447/A (83A7). (Refer to paragraph 2.)

b. Using knife edge of plastic tool, carefully remove lightning diverter strip and epoxy adhesive from Antenna.

**6. INSTALLATION. (Figure 1.)**

**Note**

The following procedure is typical for the installation of any of the four lightning diverter strips.

**Materials Required**

Specification or Part Number	Nomenclature
GA100BD04	Epoxy Adhesive
ASTM D740-84	Methyl Ethyl Ketone

**WARNING**

Methyl ethyl ketone, ASTM D740-84, is toxic, flammable and highly irritating to eyes. Protection: chemical splashproof goggles and good ventilation; keep container closed; keep sparks, flames, and heat away. Keep methyl ethyl ketone off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

a. Carefully clean epoxy adhesive residue from SATCOM antenna radome surface with MEK.

b. Mark an outline of the lightning diverter strip location onto the surface of the SATCOM antenna radome.

c. Apply masking tape around marked area.

d. Scuff bond area on SATCOM antenna radome using 220 to 320 oxide paper and a fine scotchbright pad.

e. Scuff the back of the lightning diverter strip using 400 to 600 oxide paper and a fine scotchbright pad.

**WARNING**

Methyl ethyl ketone, ASTM D740-84, is toxic, flammable and highly irritating to eyes. Protection: chemical splashproof goggles and good ventilation; keep container closed; keep sparks, flames, and heat away. Keep methyl ethyl ketone off skin, eyes, and clothes; do not breathe vapors. Wear gloves.

f. Wipe away dust particles and clean bond areas on SATCOM antenna radome and lightning diverter strip prior to bonding, with MEK. Follow by wiping both with a clean lint free cloth and allow to air dry.

**WARNING**

Epoxy adhesive, GA100BD04, is toxic. Protection: chemical splashproof goggles, protective gloves, and forced ventilation (or respirator); Keep epoxy adhesive off skin, eyes, and clothes. Do not eat, drink, or smoke when using epoxy adhesive.

**Note**

Ensure lightning diverter strip is installed with notched end facing down above counter sunk screw hole (eyelet).

g. Bond the lightning diverter strip in place using epoxy adhesive, with the strip vertically aligned and the notched end butted against the eyelet. Bond line to be 0.005 to 0.007 inch thick.

h. After bonding of the lightning diverter strip, apply pressure to the lightning diverter strip and allow the bonded unit to sit undisturbed for 12 hours at room temperature to ensure contact is maintained until epoxy adhesive sets. Do not handle or transport during this time. Using suitable heat source, allow the epoxy adhesive to cure at 160 degrees +/- 10 degrees F for 2 hours.

i. After bonding the lightning diverter strip to the SATCOM antenna radome surface and curing, apply a fillet of epoxy adhesive along the entire perimeter of the lightning diverter strip to the dimension shown in detail C with the exception of the radiused edge butted against the eyelet. The epoxy adhesive may overlap onto the top surface of the lightning diverter strip by 0.03 inch maximum. Using suitable heat source, allow the epoxy adhesive to cure at 160 degrees +/- 10 degrees F for 2 hours.

j. After all curing, using masking tape, mask nickel segments on the lightning diverter strip with 0.125 inch minimum width tape. Paint is not permitted on the nickel segments or nearby vicinity, but is to overlap onto the lightning diverter strip a minimum of 0.03 inch as shown in detail C. The area of the protruding eyelet immediately adjacent to the bottom of the lightning diverter strip is to also be masked to maintain the same paint free width as that along the length of the diverter strip.

k. After painting (Refer to NAVAIR 16-1-540), refer to detail C for range of paint free zone. Remove masking tape and clean residue from surface of nickel segments taking care not to cause damage.

l. Install SATCOM Antenna AS-4447/A (83A7). (Refer to paragraph 3.)



**ORGANIZATIONAL MAINTENANCE**

**CAINS II BACKUP BATTERY (37A18)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.3.1
CAINS II Inertial Navigation Units .....	033 22
Electronic Systems Maintenance .....	NAVAIR 01-E2AAA-2-18.1
Location of Electronic System Components .....	003 01
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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—	—	Incorporation of Dual Carrier A/C Inertial Navigation System ASN-139 (CAINS II). (ECP 430R2)(S)	12/1/00	ECP Coverage Only

**1. GENERAL.**

2. The CAINS II backup battery (37A18) is part of the Dual Carrier A/C Inertial Navigation System AN/ASN-139. The battery is located in the equipment compartment, right side. Refer to NAVAIR 01-E2AAA-2-18.1, WP003 01 (Figure 3, item 3).

**3. REMOVAL.** (Figure 1.)

01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect cable connector P1 from battery receptacle J1.

c. Inspect electrical connector for damage, corrosion, recessed pins, grease, and dirt. Clean connector in accordance with NAVAIR 16-1-540. Cap connector and receptacle.



Ensure that external electrical power is disconnected from aircraft (NAVAIR

d. Remove four screws and washers securing battery to four vibration isolators.

e. Remove backup battery.

f. If required, remove eight screws and washers securing the four vibration isolators to shelf. Remove vibration isolators from aircraft.

**4. INSTALLATION.** (Figure 1.)



Ensure that external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and NO

POWER placard is placed over external electrical power receptacle.

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. If required, position four vibration isolators on shelf, secure with eight screws and washers.

c. Position backup battery on four vibration isolators, secure with four screws and washers. (QA)

d. Remove caps and connect cable connector P1 to battery receptacle J1. (QA)

e. Perform an operational check of CAINS II internal navigation units. (NAVAIR 01-E2AAA-2-17.3.1, WP033 22). (QA)

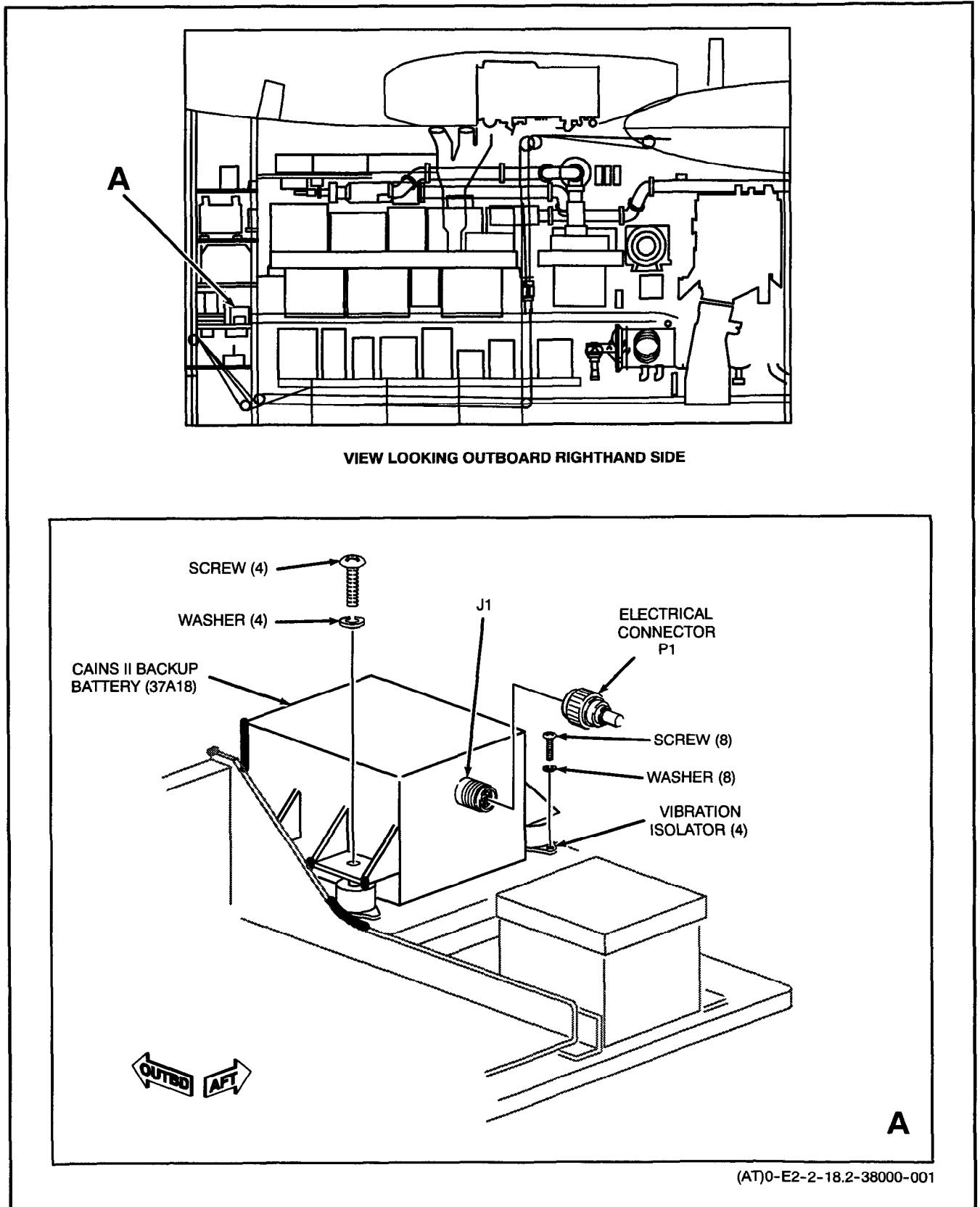


Figure 1. CAINS II Backup Battery Removal and Installation



**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**ELECTRICAL BATTERY BACK-UP BOX ASSEMBLY (37A18)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronics System Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
CAINS II Inertial Navigation Units .....	033 02
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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—	—	Incorporation of Dual Carrier A/C Inertial Navigation System ASN-139 (CAINS II). (ECP-430(S)R2)	12/1/00	ECP coverage only.

**1. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Disconnect electrical connector P1 from Elec-

trical Battery Back-up Box Assembly (37A18) (battery back-up) receptacle J1.

d. Inspect electrical connector for damage, corrosion, recessed pins, grease, and dirt. Clean connector in accordance with NAVAIR 16-1-540. Cap connector and receptacle.

e. Remove four screws and washers securing battery back-up to shelf.

f. Remove battery back-up from equipment shelf at station 150.

## 2. INSTALLATION. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. On right side of aircraft at station 150, position battery back-up on equipment shelf and secure with four screws and washers.

d. Remove caps and connect electrical connector P1 to battery back-up receptacle J1. (QA)

e. Perform an operational check of CAINS II internal navigation units (NAVAIR 01-E2AAA-2-17.3.1, WP033 22). (QA)

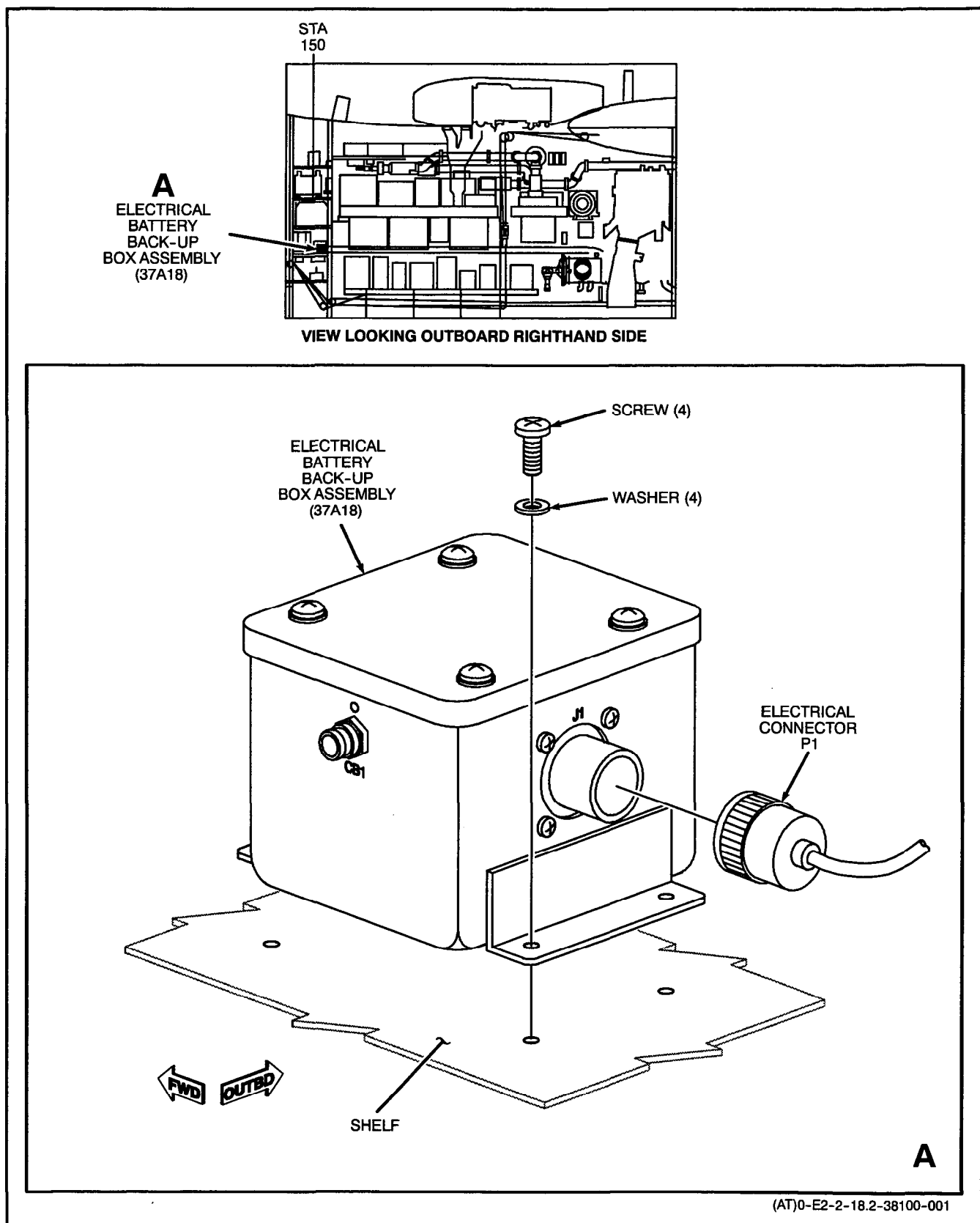


Figure 1. Removal and Installation of Electrical Battery Back-up Box Assembly (37A18)





**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**HIGH POWER AMPLIFIER AM-7526/ARC (83A2) AND HIGH POWER AMPLIFIER MOUNT MT-7006/ARC**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

1. **HIGH POWER AMPLIFIER AM-7526/ARC (83A2).**
2. **REMOVAL.** (Figure 1.)
  - a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).



The high power amplifier AM-7526/ARC (83A2) contains a radio frequency transmitter which, when operated with an antenna may produce electromagnetic fields in close

proximity to the antenna that are in excess of occupational safety and health administration (OSHA) recommended maximum limits.

Do not remove high power amplifier AM-7526/ARC (83A2) with system power applied. Removal of high power amplifier AM-7526/ARC (83A2) with system power applied can cause injury to personnel or damage to equipment.

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place **NO POWER** placard over external electrical power receptacle.

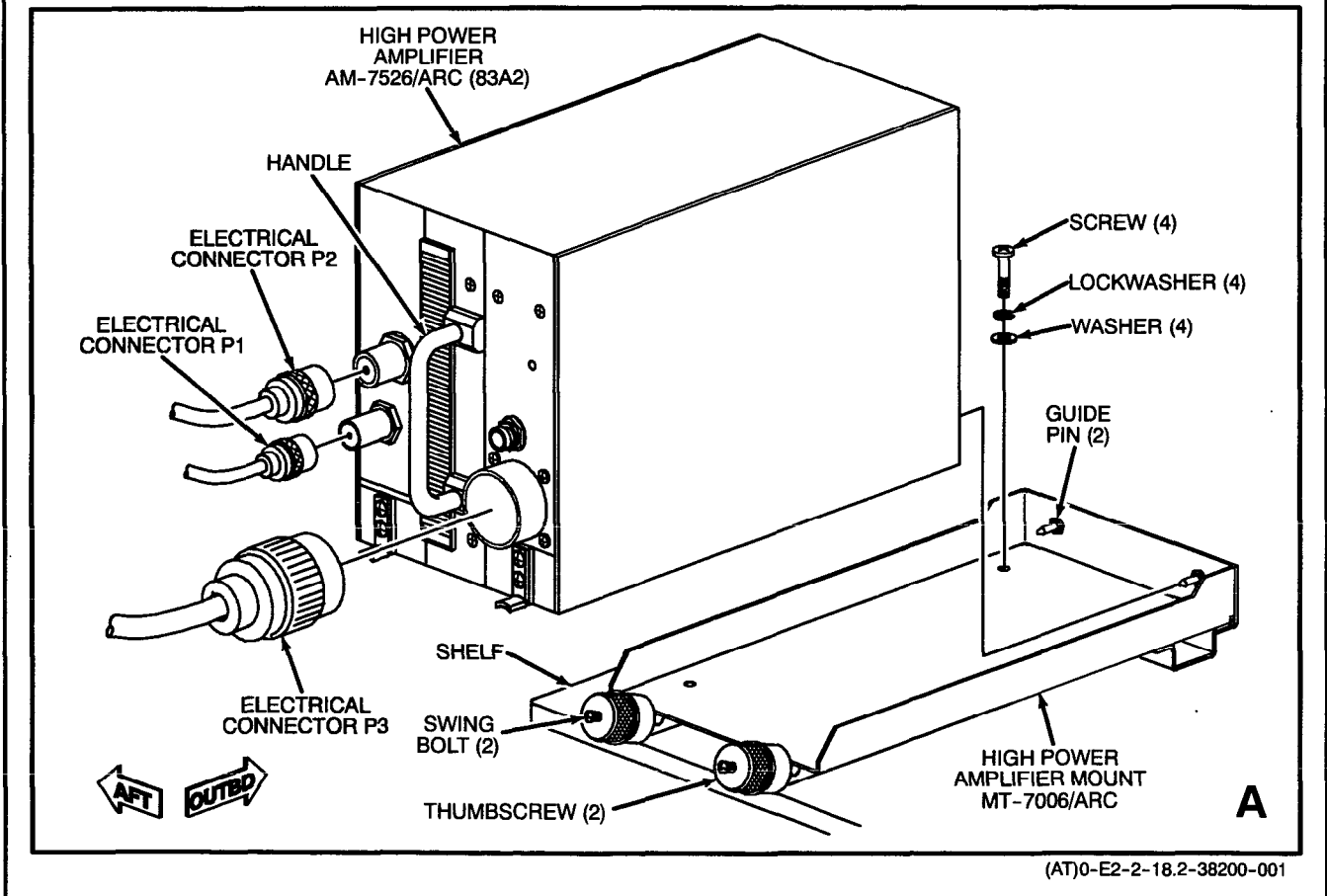
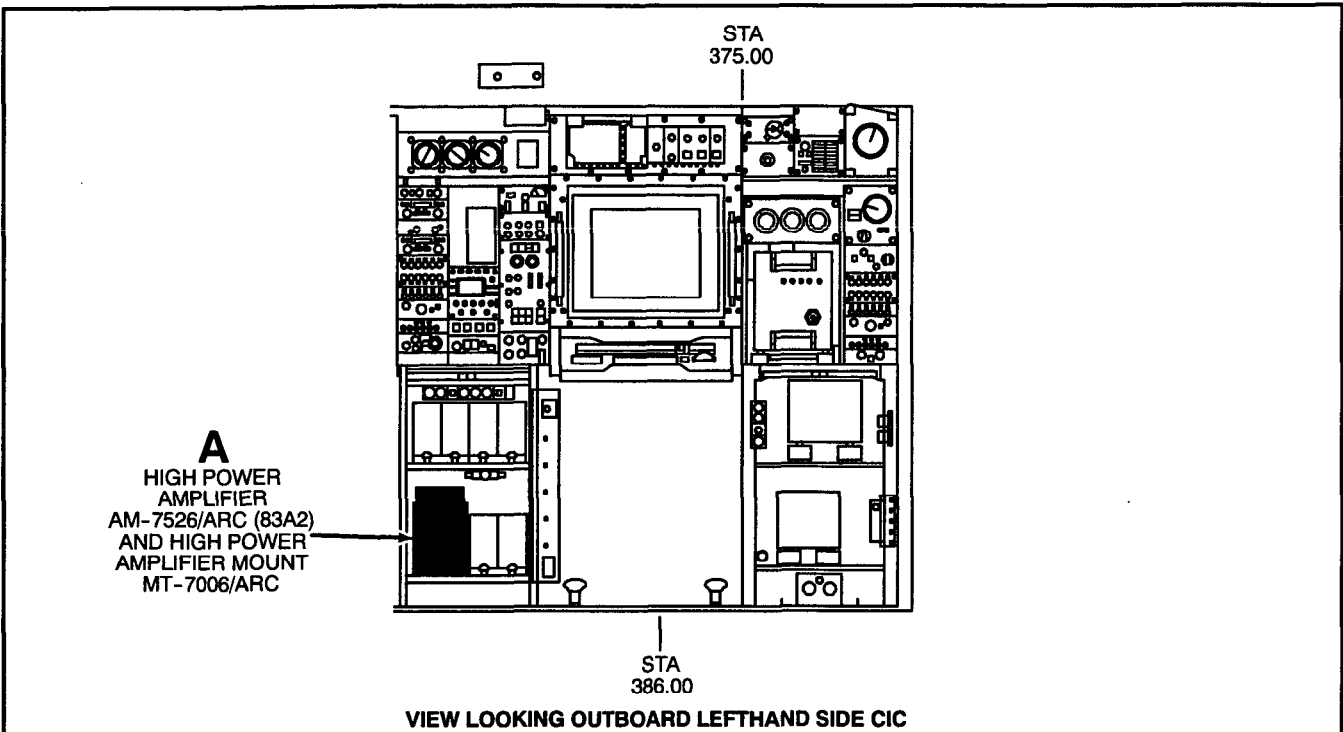


Figure 1. Removal and Installation of High Power Amplifier AM-7526/ARC (83A2) and High Power Amplifier Mount MT-7006/ARC

c. Loosen ten quarter-turn fasteners and remove center draw area closure panel.

d. Tag and disconnect electrical connectors P1, P2, and P3, from receptacles J1, J2, and J3 on high power amplifier AM-7526/ARC (83A2) (amplifier).

e. Inspect electrical connectors for damage, corrosion, recessed pins, grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

f. Loosen two thumbscrews and disengage two swing bolts securing amplifier to high power amplifier mount MT-7006/ARC (mount).

g. Using handle, slowly slide amplifier out until guide pins disengage from mount.

h. Remove amplifier from aircraft.

3. INSTALLATION. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).



The transceiver RT-1794(C)/ARC (83A1) contains a radio frequency transmitter which, when operated with an antenna may produce electromagnetic fields in close proximity to the antenna that are in excess of occupational safety and health administration (OSHA) recommended maximum limits.

Do not install high power amplifier AM-7526/ARC (83A2) with system power applied. Installation of high power amplifier AM-7526/ARC (83A2) with system power applied can cause injury to personnel or damage to equipment.

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Using handle, position amplifier on mount.

d. Slowly slide amplifier into mount until two guide pins engage.

e. Secure amplifier to mount by engaging two swing bolts and tightening two thumbscrews.

f. Connect electrical connectors P1, P2, and P3 to receptacles J1, J2, and J3 on amplifier. Remove tags. (QA)

g. Install center draw area closure panel and secure with ten quarter-turn fasteners.

h. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)

4. HIGH POWER AMPLIFIER MOUNT MT-7006/ARC.

5. REMOVAL. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.



The high power amplifier AM-7526/ARC (83A2) contains a radio frequency transmitter which, when operated with an antenna may produce electromagnetic fields in close proximity to the antenna that are in excess of occupational safety and health administration (OSHA) recommended maximum limits.

Do not remove high power amplifier AM-7526/ARC (83A2) with system power applied. Removal of high power amplifier AM-7526/ARC (83A2) with system power applied can cause injury to personnel or damage to equipment.

c. Remove High Power Amplifier AM-7526/ARC (83A2). (Refer to paragraph 2).

d. Remove four screws, lockwashers, and washers, securing high power amplifier mount MT-7006/ARC (mount) to shelf.

e. Remove mount from aircraft.

6. INSTALLATION. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Position mount on shelf and secure with four screws, lockwashers, and washers. (QA)

**WARNING**

The transceiver RT-1794(C)/ARC (83A1) contains a radio frequency transmitter which, when operated with an antenna may produce electromagnetic fields in close proximity to the antenna that are in excess of occupational safety and health administration (OSHA) recommended maximum limits.

Do not install high power amplifier AM-7526/ARC (83A2) with system power applied. Installation of high power amplifier AM-7526/ARC (83A2) with system power applied can cause injury to personnel or damage to equipment.

d. Install High Power Amplifier AM-7526/ARC (83A2). (Refer to paragraph 3).

e. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)

**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**REMOTE CONTROL UNIT C-12561A/ARC (83A5)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

**1. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Loosen four quarter-turn fasteners and carefully pull Remote Control Unit C-12561A/ARC (83A5) (RCU) out from structure.

d. Tag and disconnect electrical connector from RCU and remove from aircraft.

e. Inspect electrical connector for damage, corrosion, recessed pins, grease, and dirt. Clean connector in accordance with NAVAIR 16-1-540. Cap connector and receptacle.

**2. INSTALLATION.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Remove caps and connect electrical connector to RCU. (QA)

d. Position RCU on structure and secure with four quarter-turn fasteners.

e. Inspect area for proper installation of all components evidence of corrosion, foreign objects, and any other nonflightworthy condition. (QA)

f. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)

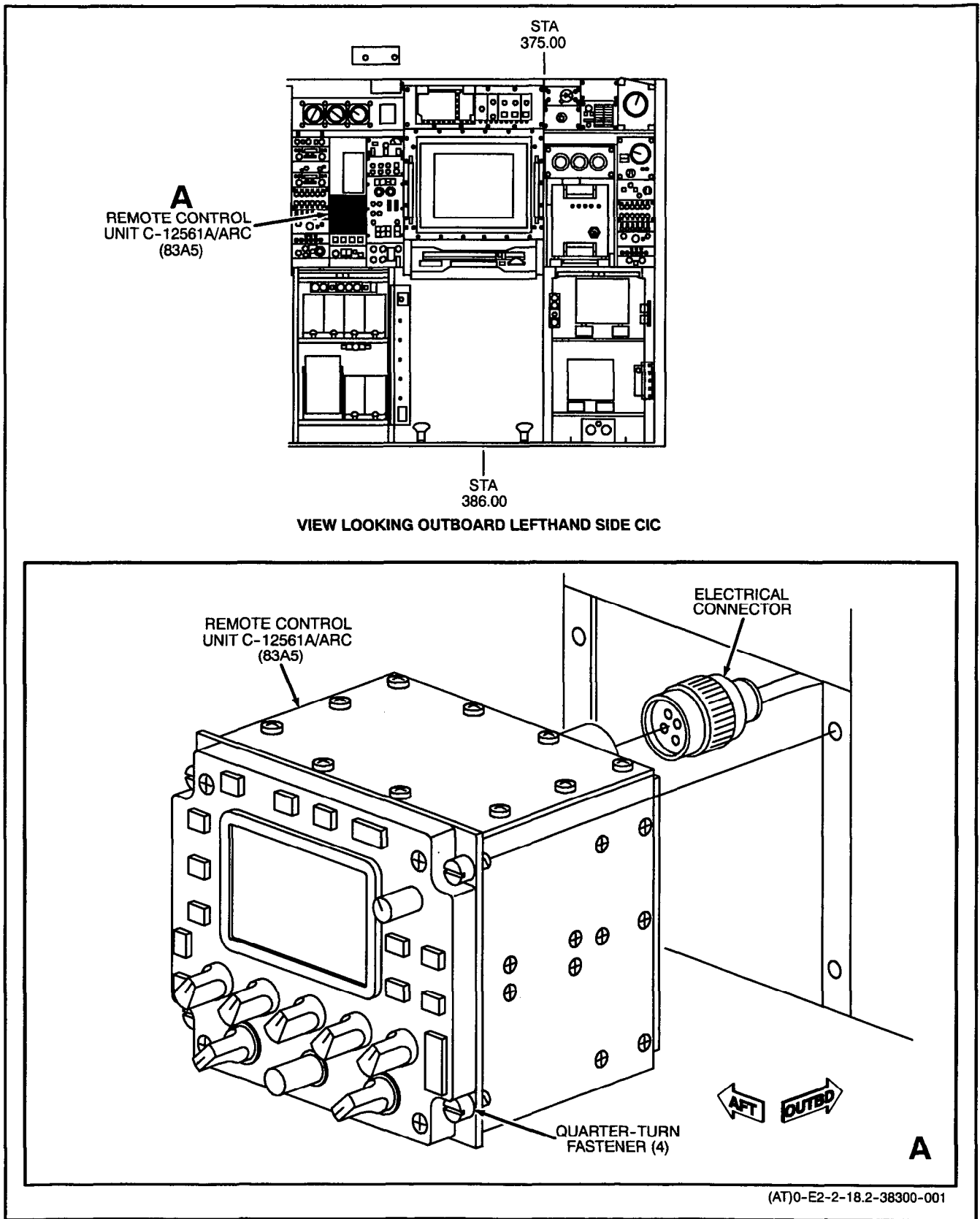


Figure 1. Removal and Installation of Remote Control Unit C-12561A/ARC (83A5)





**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**TRANSCEIVER RT-1794(C)/ARC (83A1) AND SMART MOUNT (83XA1)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**This work package (WP) supersedes WP384 00 dated 1 August 2002.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

1. **TRANSCEIVER RT-1794(C)/ARC (83A1).**
  - a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
2. **REMOVAL.** (Figure 1.)

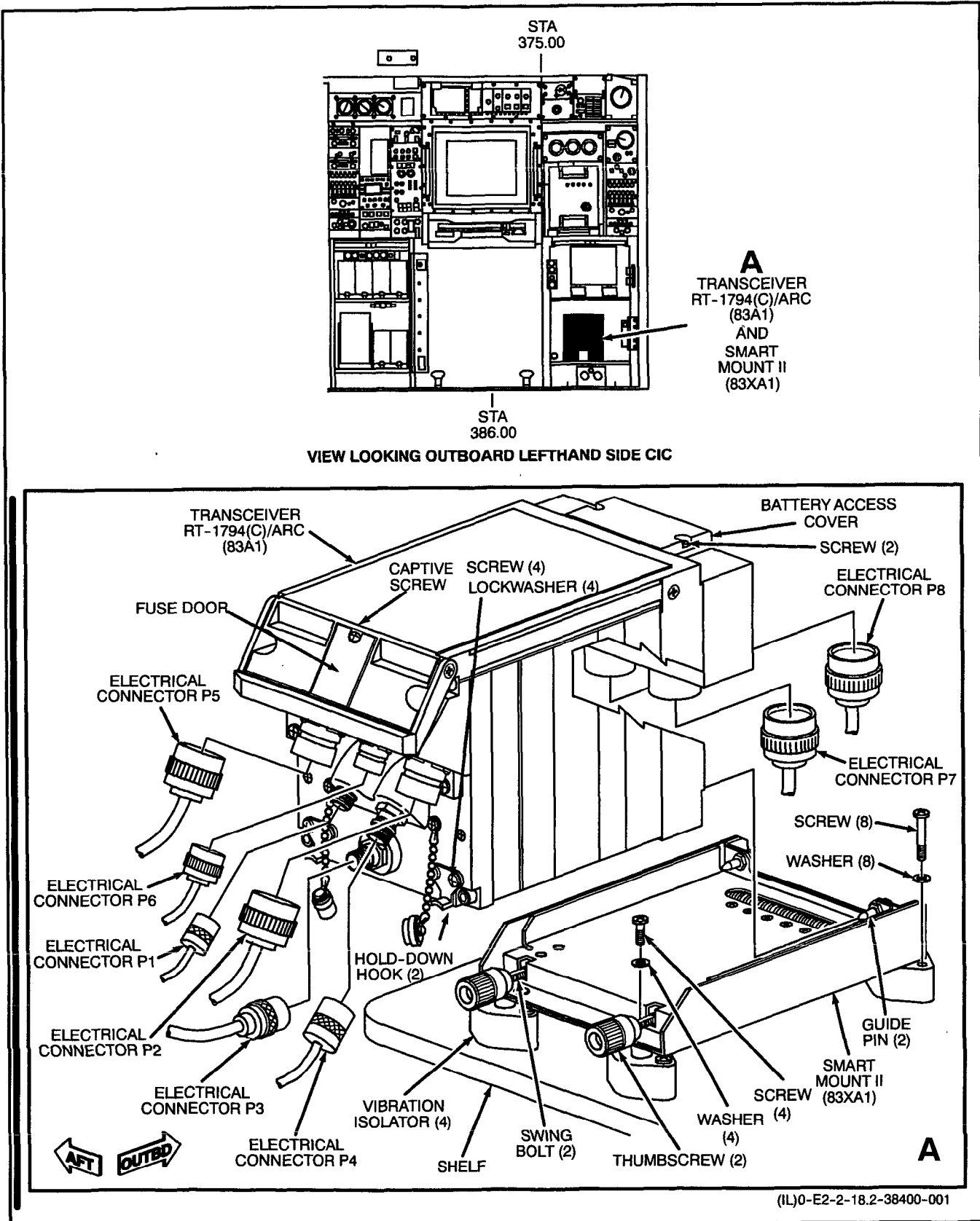


Figure 1. Removal and Installation of Transceiver RT-1794(C)/ARC (83A1) and Smart Mount II (83A1)

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Loosen three quarter-turn fasteners that secure main power supply area closure panel. Open panel.

d. Tag and disconnect electrical connectors P1 through P6 from receptacles J1 through J6 on transceiver RT-1794(C)/ARC (83A1) (transceiver).

e. Loosen two thumbscrews and disengage two swing bolts securing transceiver to Smart Mount II (83XA1) (mount).

f. Slowly slide transceiver on mount until two guide pins disengage. Disconnect P7 and P8 from J7 and J8. Remove transceiver from aircraft.

g. Inspect electrical connectors for damage, corrosion, recessed pins, grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

h. Remove battery from transceiver. (Refer to paragraph 8.)

### 3. INSTALLATION. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Ensure battery is installed prior to installation of transceiver. If required, install battery. (Refer to paragraph 9.)

d. Place transceiver on mount and connect P7 and P8 to J7 and J8. Slowly slide transceiver onto mount until two guide pins engage.

e. Secure transceiver on mount by engaging two swing bolts and tightening two thumbscrews.

f. Remove caps and connect electrical connectors P1 through P6 to transceiver receptacles J1 through J6 respectively. Remove tags. (Quality Assurance)

g. Close main power supply area closure panel, secure with three quarter-turn fasteners.

h. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (Quality Assurance)

### 4. SMART MOUNT II (83XA1).

#### 5. REMOVAL. (Figure 1.)

a. Remove transceiver RT-1794(C)/ARC (83A1). (Refer to paragraph 2.)

b. Disconnect electrical connector 83XA1P1 from mount. Inspect electrical connector for damage, corrosion, recessed pins, grease, and dirt. Clean connector in accordance with NAVAIR 16-1-540. Cap connector and receptacle.

c. Remove four screws and washers securing Smart Mount II (83XA1) (mount) to four vibration isolators. Remove mount from aircraft.

d. Remove eight screws and washers securing vibration isolators to shelf. Remove vibration isolators from aircraft.

#### 6. INSTALLATION. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Position four vibration isolators on shelf, secure with eight screws and washers.

d. Position mount on four vibration isolators, secure with four screws and washers. (Quality Assurance)

e. Remove caps and connect electrical connector 83XA1P1 to mount.

f. Install transceiver RT-1794(C)/ARC (83A1). (Refer to paragraph 3.)

g. Close main power supply area closure panel and secure with three quarter-turn fasteners.

h. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (Quality Assurance)

### 7. BATTERY.

#### 8. REMOVAL. (Figure 1.)

a. Remove transceiver RT-1794(C)/ARC (83A1). (Refer to paragraph 2.)

b. Loosen two screws that secure battery access cover to transceiver RT-1794(C)/ARC (83A1). Remove battery access cover.

**WARNING**

Battery BA-5372/U contains lithium. Operation above the recommended temperature range may cause leakage of flammable gas or shortened battery life. Exceeding the duty cycle of the receiver-transmitter can result in temperatures above recommended range. Operation below the recommended temperature range may also shorten battery life.

- c. Remove battery.

**CAUTION**

Use care when handling the lithium battery. Do not short-circuit, recharge, discharge, puncture, or crush lithium battery. Do not store battery in high humidity environment.

- d. Inspect battery compartment for leakage and corrosion. If leakage and corrosion are observed, clean and repair in accordance with NAVAIR 16-1-540.

9. INSTALLATION. (Figure 1.)

**Materials Required**

Specification or Part Number	Nomenclature
BA-5372/U	Lithium Battery

**Note**

Battery replacement must be with a direct replacement of BA-5372/U or with an authorized replacement.

Observe battery polarity marking when installing battery.

- a. Install battery.
- b. Position battery access cover on transceiver RT-1794(C)/ARC (83A1) and secure with two screws.
- c. Install transceiver RT-1794(C)/ARC (83A1). (Refer to paragraph 3.)
- d. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (Quality Assurance)

10. CARTRIDGE FUSE

11. REMOVAL. (Figure 1.)

- a. Remove transceiver RT-1794(C)/ARC (83A1). (Refer to paragraph 2.)

- b. Loosen captive screw securing fuse door to transceiver. Remove fuse door.

**Note**

The first cartridge fuse (fuse) removed with the fuse puller (under the fuses) is the spare fuse (A1A2F2) on the bottom. The second fuse removed is the fuse (A1A2F1) is the fuse to be replaced.

- c. Using fuse puller remove fuse A1A2F2, spare fuse first, then remove fuse A1A2F1. Discard fuse A1A2F1.

12. INSTALLATION. (Figure 1.)

**Materials Required**

**Specification or**

Part Number	Nomenclature
252010	Cartridge Fuse

**Note**

Ensure fuse puller is positioned under cartridge fuse (fuse) A1A2F1 and A1A2F2 before fuse installation.

The first (fuse) installed is (A1A2F1) on top. The second fuse installed is the spare fuse (A1A2F2) on the bottom.

- a. Position fuse puller, Install fuse A1A2F1 in top fuse holder and fuse A1A2F2 in bottom fuse holder.

- b. Install fuse door on transceiver, secure with captive screw.

- c. Install transceiver RT-1794(C)/ARC (83A1). (Refer to paragraph 3.)

- d. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (Quality Assurance)

13. HOLD-DOWN HOOK

14. REMOVAL. (Figure 1.)

- a. Remove transceiver RT-1794(C)/ARC (83A1). (Refer to paragraph 2.)

- b. Remove four screws and lockwashers two securing hold-down hooks to transceiver.

- c. Remove two hold-down hooks From transceiver.

15. INSTALLATION. (Figure 1.)

a. Position two hold-down hooks on transceiver, secure with four screws and lockwashers.

b. Install transceiver RT-1794(C)/ARC (83A1).

(Refer to paragraph 3.)

c. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (Quality Assurance)



**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**RADIO FREQUENCY PREAMPLIFIER (83A22)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

**1. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Loosen three quarter-turn fasteners that secure main power supply area closure panel. Open panel.

d. Tag and disconnect electrical connectors P1, P2, and P3 from receptacles J1, J2, and J3 on Radio Frequency Preamplifier (83A22).

e. Inspect electrical connectors for damage, corrosion, recessed pins, grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

f. Remove eight screws and washers that secure Radio Frequency Preamplifier (83A22) to aircraft structure.

g. Remove Radio Frequency Preamplifier (83A22) from aircraft.

**2. INSTALLATION.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Position Radio Frequency Preamplicifier Z(83A22) to aircraft structure and secure with eight screws and washers.

d. Remove caps and connect electrical connectors P1, P2, and P3 to receptacles J1, J2, and J3 on Radio Frequency Preamplicifier (83A22). Remove tags. (QA)

e. Close main power supply area closure panel and secure with three quarter-turn fasteners.

f. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)



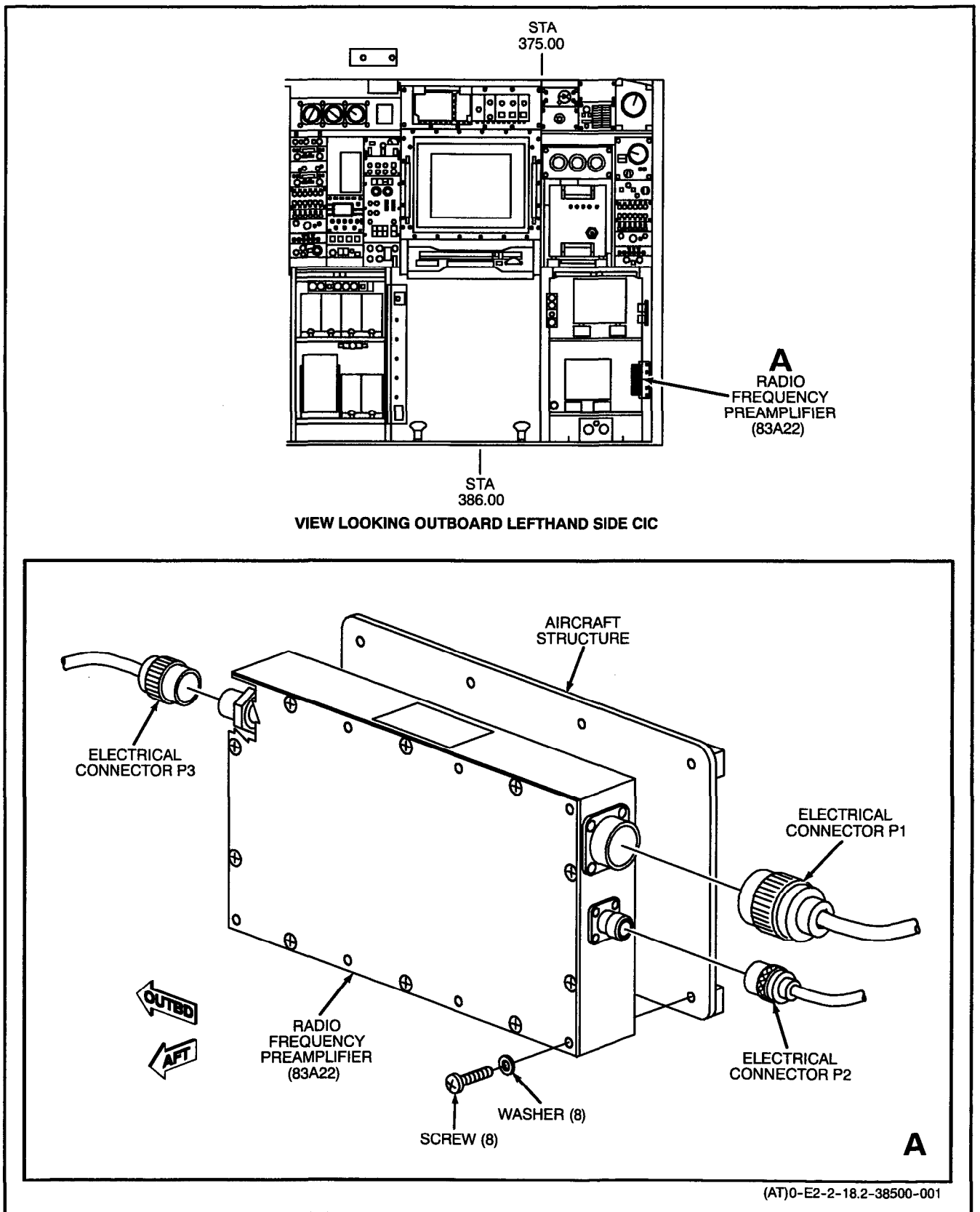


Figure 1. Removal and Installation of Radio Frequency Preamp (83A22)



**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**SATCOM MULTI-MISSION ADVANCED TACTICAL TERMINAL OZ-72(V)2(C)/A (83A3) AND MOUNT**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

**1. MULTI-MISSION ADVANCED TACTICAL TERMINAL OZ-72(V)2(C)/A (83A3).**

**2. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Loosen three quarter-turn fasteners that secure main power supply area closure panel. Open panel.

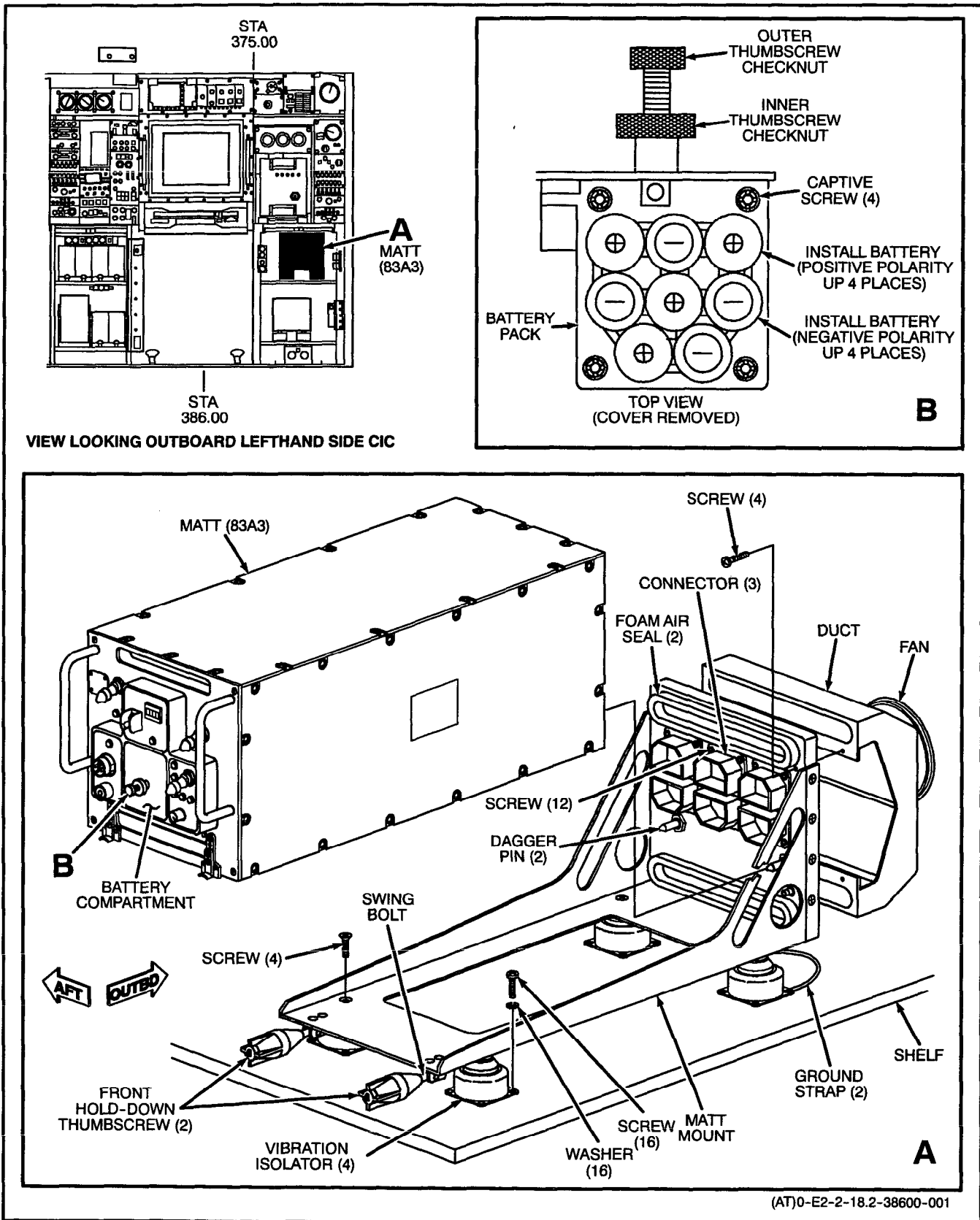


Figure 1. Removal and Installation of SATCOM Multi-Mission Advanced Tactical Terminal OZ-72(V)2(C)A (83A3) and Mount

d. Loosen two front hold down thumbscrews and disengage two swing bolts securing multi-mission advanced tactical terminal OZ-72(V)2(C)A (83A3) (MATT) to multi-mission advanced tactical terminal mount (mount).



Do not rock the MATT when attempting to free MATT receptacles from connectors on mount. Damage to connector pins may result.

e. Pull MATT with even pressure to completely free MATT from mount connectors and dagger pins.

f. Slide MATT out of mount.



Two persons are required to lift and transport MATT.

g. Remove MATT from aircraft.

h. Inspect electrical connectors for damage, corrosion, recessed pins, grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

### 3. INSTALLATION. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.



Two persons are required to move or transport the MATT.

c. Position MATT on mount and slide toward rear receptacles of mount.

d. Align MATT on mount and push MATT firmly until it achieves a positive lock on dagger pins and connectors.

e. Position swing bolts in up position, tighten two front hold down thumbscrews until MATT is secure in mount.

f. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 02). (QA)

g. Close main power supply area closure panel and secure with three quarter-turn fasteners.

### 4. MULTI-MISSION ADVANCED TACTICAL TERMINAL MOUNT.

#### 5. REMOVAL. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Remove multi-mission advanced tactical terminal OZ-72(V)2(C)A (83A3) (MATT) from multi-mission advanced tactical terminal mount (mount). (Refer to paragraph 2.)

d. Remove four screws securing duct to back of mount. Remove duct from mount.

e. Remove 12 screws securing connectors P1, P2, and P3 to mount.

f. Tag and remove connectors P1, P2, and P3 from mount.

g. Inspect electrical connectors for damage, corrosion, recessed pins, grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

h. Remove four screws securing mount to vibration isolators.

i. Remove mount from aircraft.

j. Remove 16 screws and 16 washers securing four vibration isolators to shelf. Remove vibration isolators from aircraft.

#### 6. INSTALLATION. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Position four vibration isolators on shelf, secure with 16 screws and 16 washers.

d. Remove caps and position electrical connectors P1, P2, and P3 to mount. Secure with 12 screws. Remove tags. (QA)

- e. Position duct to mount, secure with four screws. (QA)
- f. Position mount on vibration isolators. Secure with four screws. (QA)
- g. Install Matt on mount. (Refer to paragraph 3).
- h. Close main power supply area closure door, secure with three quarter-turn fasteners.
- i. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)

**7. MULTI-MISSION ADVANCED TACTICAL TERMINAL BATTERY PACK.**

**8. REMOVAL. (Figure 1.)**

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.
- c. Loosen three quarter-turn fasteners that secure main power supply area closure panel. Open panel.
- d. Loosen outer thumbscrew checknut on multi-mission advanced tactical terminal battery pack (battery pack) front panel by turning thumbscrew counterclockwise.
- e. Disengage battery pack retaining pins by turning inner thumbscrew counterclockwise.
- f. Remove battery pack from MATT.
- g. Loosen four captive screws, securing cover on battery pack.
- h. Remove cover from battery pack.



Battery Mil-Std-BB417/U contains lithium. Operation above the recommended temperature range may cause leakage of flammable gas or shortened battery life. Exceeding the duty cycle of the receiver-transmitter can result in temperatures above recommended temperature range. Operation below the recommended temperature range may also shorten battery life.

- i. Turn battery pack upside down so that individual batteries fall out.



Use care when handling the lithium battery. Do not short-circuit, recharge, discharge, puncture, or crush lithium battery. Do not store battery in high humidity environment.

- j. Inspect battery compartment for leakage and corrosion. If leakage and corrosion are observed, clean and repair in accordance with NAVAIR 16-1-540.

**9. INSTALLATION. (Figure 1.)**

**Materials Required**

Specification or Part Number	Nomenclature
MIL-STD-BB417/U	Nickel-Cadmium Battery (8)

- a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).
- b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.



Battery Mil-Std-BB417/U contains lithium. Operation above the recommended temperature range may cause leakage of flammable gas or shortened battery life. Exceeding the duty cycle of the receiver-transmitter can result in temperatures above recommended temperature range. Operation below the recommended temperature range may also shorten battery life.



Use care when handling the lithium battery. Do not short-circuit, recharge, discharge, puncture, or crush lithium battery. Do not store battery in high humidity environment.

- c. Install eight nickel-cadmium batteries in battery pack with terminals oriented as indicated, in battery compartment.

**Note**

Replace batteries with polarity as indicated on the battery holder. Replace with freshly charged nickel-cadmium batteries only. The batteries are not to be changed individually.

- d. Install cover on battery pack and secure with four captive screws. (QA)
- e. Insert battery pack into opening of MATT front panel.

f. Engage battery pack retaining pins by turning battery pack inner thumbscrew checknut fully clockwise until snug.

g. Tighten outer thumbscrew checknut by turning checknut fully clockwise. (QA)

h. Close main power supply area closure panel and secure with three quarter-turn fasteners.

i. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)





**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**UHF BANDPASS FILTER F-1671/A (83A10 THRU 83A14, AND 83A16)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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**Record of Applicable Technical Directives**

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

**1. REMOVAL.** (Figure 1.)

**Note**

Removal of UHF Bandpass filters F-1671/A, 83A10 through 83A14, and 83A16 is identical.

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Loosen ten quarter-turn fasteners and remove center draw area closure panel.

d. Loosen thumbscrew and disengage swing bolt securing UHF Bandpass Filter F-1671/A (filter) to UHF Bandpass Filter mount (mount).

e. Using handle, slowly slide filter out until rear connector disengages from mount connector and guide pins.

f. Remove filter from mount.

g. Inspect electrical connector for damage, corrosion, recessed pins, grease, and dirt. Clean connector in accordance with NAVAIR 16-1-540. Cap connector and receptacle.

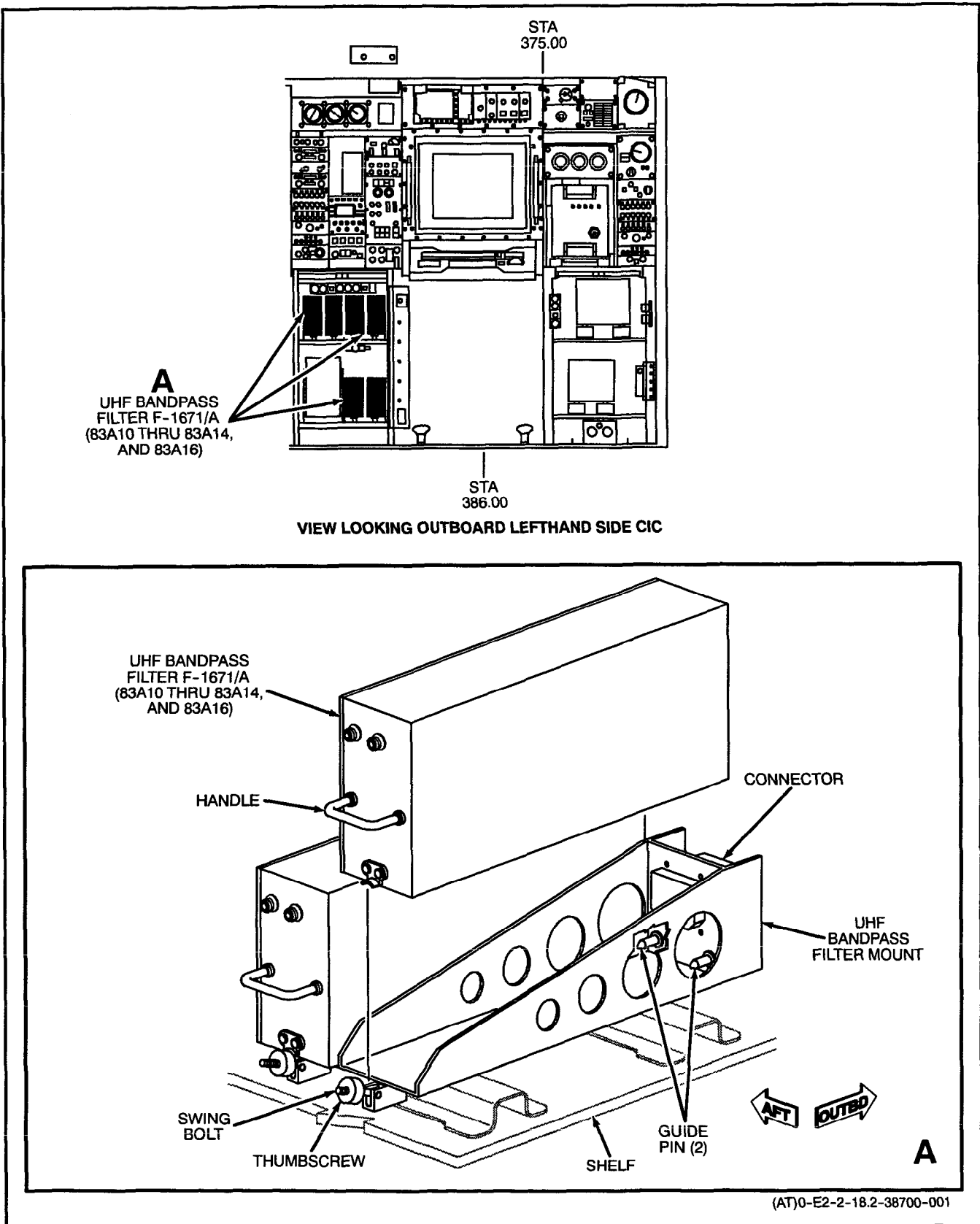


Figure 1. Removal and Installation of UHF Bandpass Filter F-1671/A (83A10 thru 83A14, and 83A16)

## 2. INSTALLATION. (Figure 1.)

### Note

Installation of UHF Bandpass filters F-1671/A, 83A10 through 83A14, and 83A16 is identical.

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Remove caps from connector on filter and mount.

d. Using handle, position filter on mount.



Install filter with a slow even force.

e. Slowly slide filter onto mount until guide pins and connectors engage. (QA)

f. Secure filter to mount by engaging swing bolt and tightening thumbscrew. (QA)

g. Position center draw area closure panel and secure with ten quarter-turn fasteners.

h. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)



**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**COMBINER CV-4324/A (83A17 AND 83A18)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
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—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

**1. REMOVAL. (Figure 1.)**

**Note**

Removal of either Combiner CV-4324/A (83A17 or 83A18) (combiner) are identical.

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Loosen ten quarter-turn fasteners and remove center draw area closure panel.

d. Tag and disconnect electrical connectors P1, P2, and P3 from receptacles J1, J2, and J3 on combiner.

e. Inspect electrical connectors for damage, corrosion, recessed pins, grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

f. Remove two screws and washers securing combiner to shelf and remove from aircraft.

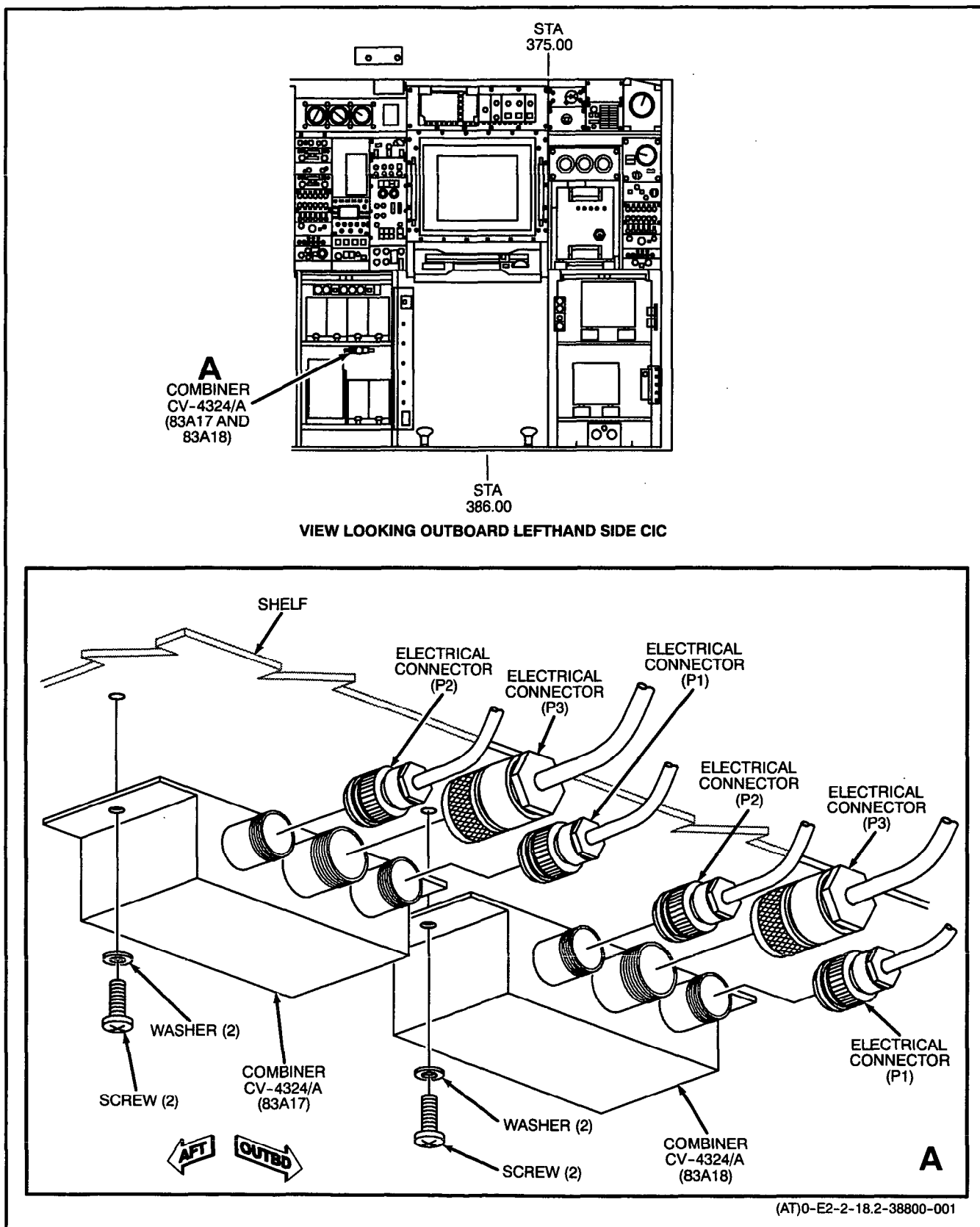


Figure 1. Removal and Installation of Combiner CV-4324/A (83A17 and 83A18)

**2. INSTALLATION.** (Figure 1.)

**Note**

Installation of either combiner (83A17 or 83A18) are identical.

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Position combiner to shelf and secure with two screws and washers.

d. Remove caps and connect electrical connectors P1, P2, and P3 to receptacles J1, J2, and J3 on combiner. Remove tags. (QA)

e. Install center draw area closure panel and secure with ten quarter-turn fasteners.

f. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)





**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**SATCOM INTERFACE UNIT J-6344/A (83A4)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**This work package (WP) supersedes WP389 00 dated 1 December 2000.**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

**1. REMOVAL. (Figure 1.)**

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Loosen three quarter-turn fasteners on main power supply area closure panel. Open panel.

d. Tag and disconnect electrical connectors P1 and P2 from receptacles J1 and J2.

e. Inspect electrical connector for damage, corrosion, recessed pins, grease, and dirt. Clean connector in accordance with NAVAIR 16-1-540. Cap connector and receptacle.

f. Loosen four captive screws that secure SATCOM Interface Unit J-6344/A (83A4) (Interface Unit) to main power supply floor.

g. Remove Interface Unit from aircraft.

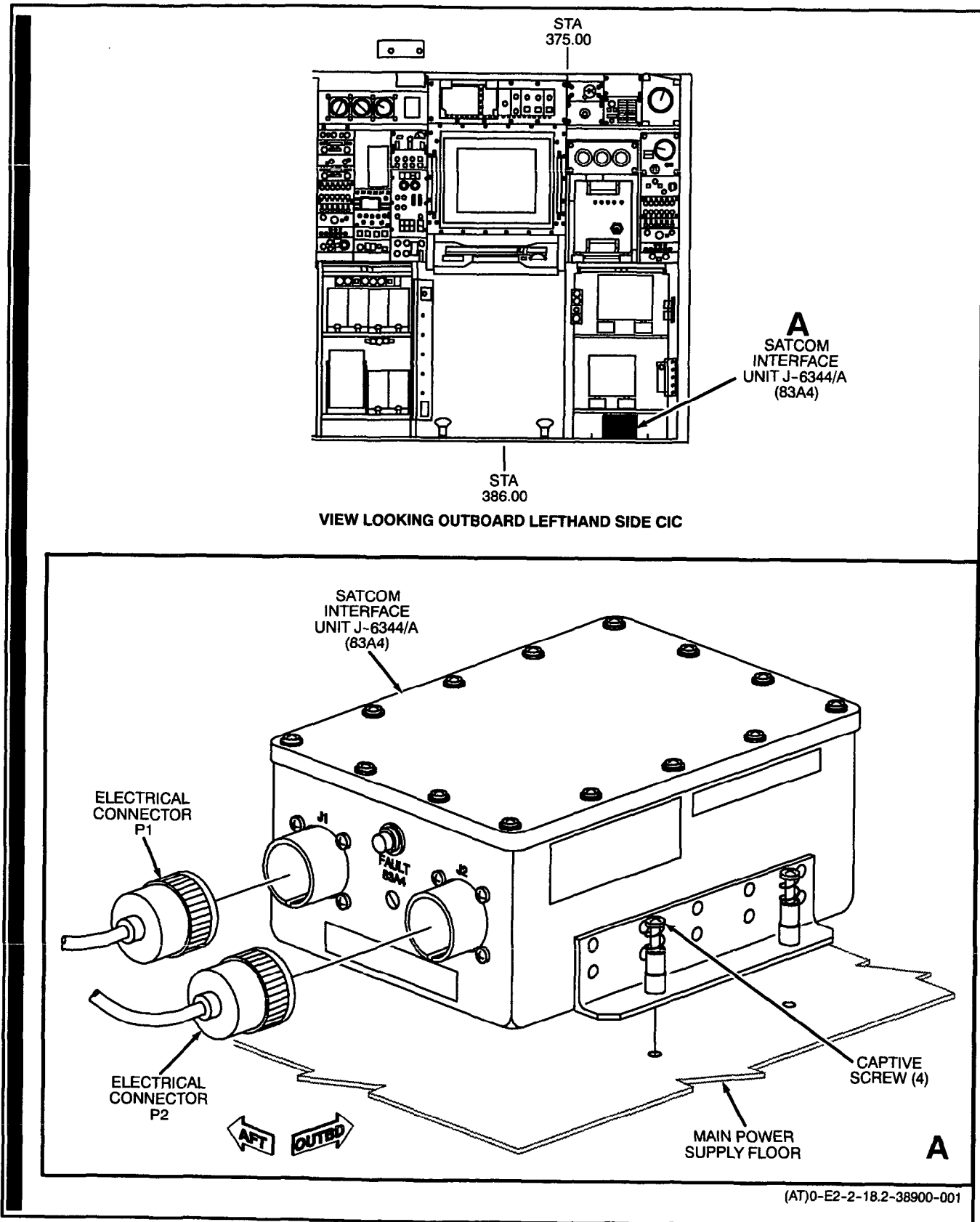


Figure 1. Removal and Installation of SATCOM Interface Unit J-6344/A (83A4)

## 2. INSTALLATION. (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Position Interface Unit on main power supply floor and secure with four captive screws.

d. Remove caps and connect electrical connectors P1 and P2 to receptacles J1 and J2 on Interface Unit.

e. Inspect area for proper installation of all components evidence of corrosion, foreign objects, and any other nonflightworthy condition. (QA)

f. Close main power supply area closure panel, and secure with three quarter-turn fasteners.

g. Perform operational check of Satellite Communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)



**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**ATTENUATOR (83CP1)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
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—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

**1. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Loosen three quarter-turn fasteners on main power supply area closure panel. Open panel.

d. Loosen screw securing clamp on attenuator (83CP1).

e. Tag and disconnect electrical connectors 83CP1A and 83CP1B from attenuator (83CP1).

f. Inspect electrical connectors for damage, corrosion, recessed pins, grease, and dirt. Clean connectors in accordance with NAVAIR 16-1-540. Cap connectors and receptacles.

g. Carefully slide attenuator (83CP1) from clamp, and remove attenuator (83CP1) from aircraft.

**2. INSTALLATION.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Remove caps and connect electrical connectors 83CP1A and 83CP1B to attenuator (83CP1). Remove tags. (QA)

d. Position attenuator (83CP1) in clamp. Secure in place by tightening clamp screw.

e. Close main power supply area closure panel and secure with three quarter-turn fasteners.

f. Perform operational check of Satellite communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)

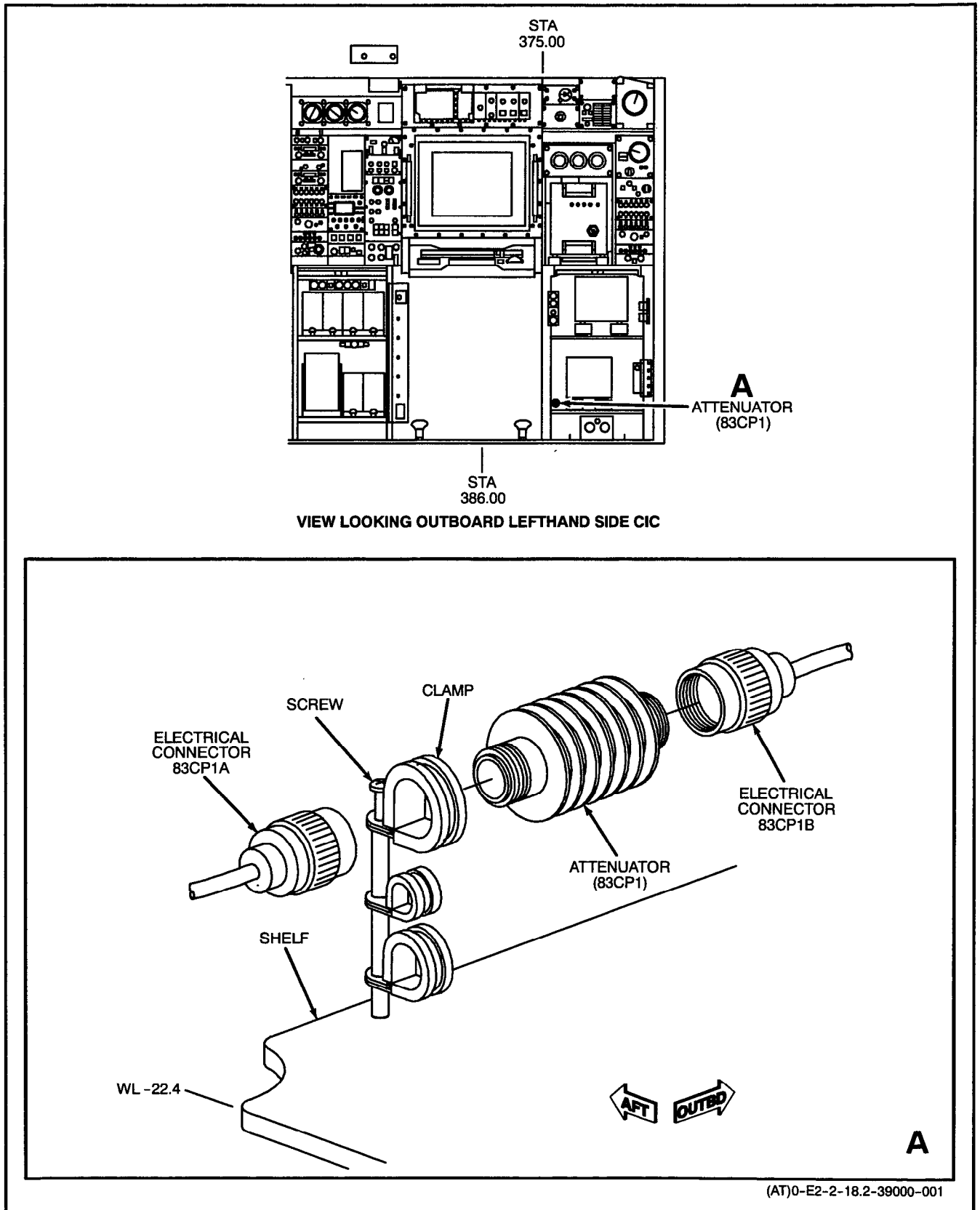


Figure 1. Removal and Installation of Attenuator (83CP1)





**ORGANIZATIONAL MAINTENANCE**

**REMOVAL AND INSTALLATION**

**5-WAY DIVIDER CV-4325/A (83A8)**

**EFFECTIVITY: AIRCRAFT SERIAL NO. 163849, 165648 AND SUBSEQUENT**

**Reference Material**

General Aircraft Information .....	NAVAIR 01-E2AAA-2-1
External Electrical Power Connections .....	027 00
Safety Checks Before Maintenance .....	040 00
Integrated Electronic Systems Testing and Troubleshooting .....	NAVAIR 01-E2AAA-2-17.1.1
Satellite Communications (SATCOM) System .....	021 03
Avionics Cleaning and Corrosion Prevention/Control .....	NAVAIR 16-1-540

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**Record of Applicable Technical Directives**

<b>Type/No.</b>	<b>Date</b>	<b>Title and ECP No.</b>	<b>Date Inc.</b>	<b>Remarks</b>
—	8/4/99	Replacement of MINI-DAMA with ARC-210 (ECP 437)	12/1/00	ECP coverage only.

**1. REMOVAL.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Disconnect external electrical power from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00), and place NO POWER placard over external electrical power receptacle.

c. Loosen ten quarter-turn fasteners and remove center draw area closure panel.

d. Tag and disconnect six electrical connectors P1 through P6 from receptacles J1 through J6 from 5-WAY DIVIDER CV-4325/A (83A8) (divider).

e. Inspect electrical connector for damage, corrosion, recessed pins, grease, and dirt. Clean connector in accordance with NAVAIR 16-1-540. Cap connector and receptacle.

f. Remove two screws and washers securing divider to structure, and remove from aircraft.

**2. INSTALLATION.** (Figure 1.)

a. Perform safety checks before maintenance (NAVAIR 01-E2AAA-2-1, WP040 00).

b. Ensure external electrical power is disconnected from aircraft (NAVAIR 01-E2AAA-2-1, WP027 00) and NO POWER placard is placed over external electrical power receptacle.

c. Position divider on structure and secure with two screws and washers.

d. Remove caps and connect six electrical connectors P1 through P6 to receptacles J1 through J6, respectively, on divider. Remove tags. (QA)

e. Install center draw area closure panel and secure with ten quarter-turn fasteners.

f. Perform operational check of Satellite communications (SATCOM) System (NAVAIR 01-E2AAA-2-17.1.1, WP021 03). (QA)

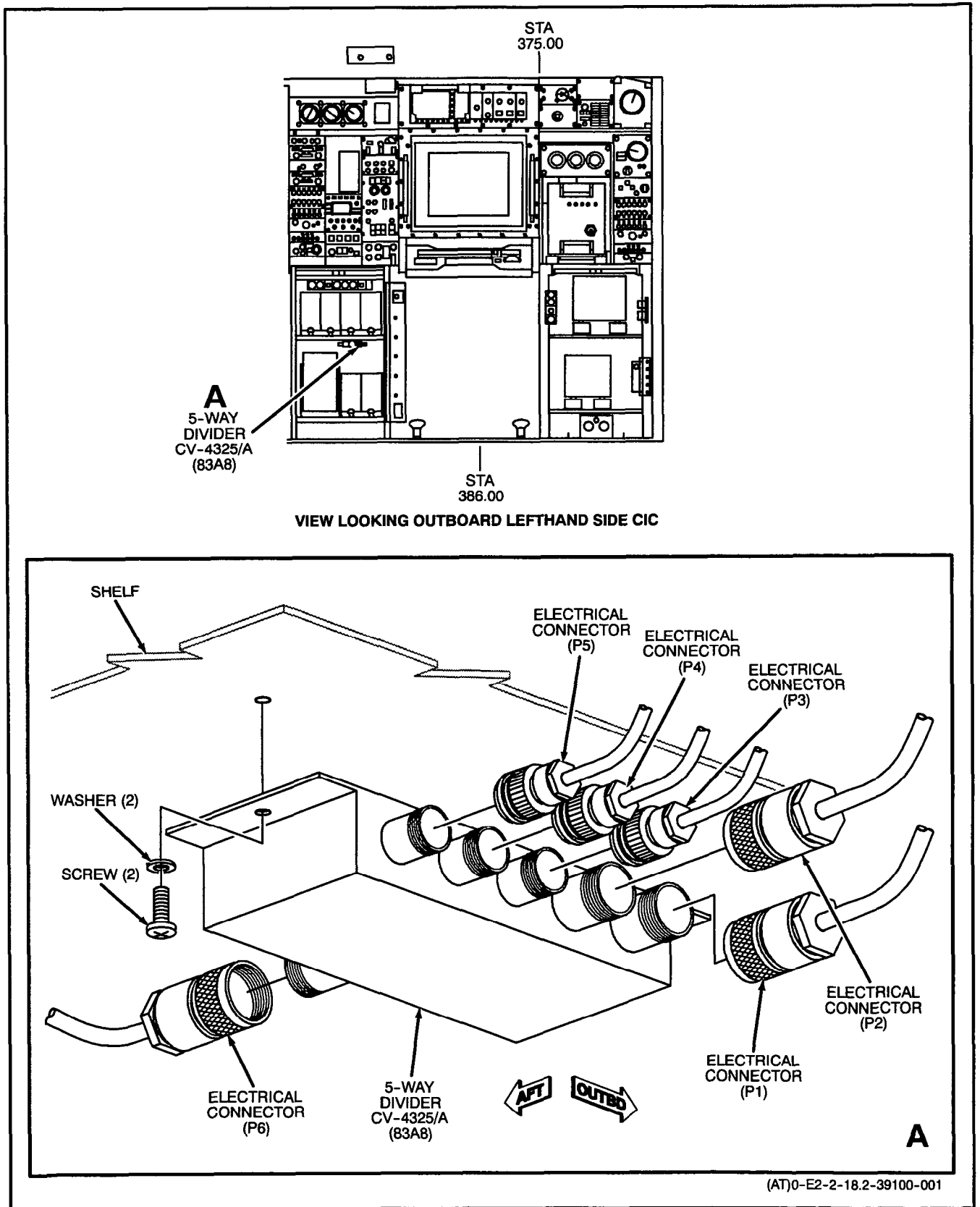


Figure 1. Removal and Installation of 5-Way Divider CV-4325/A (83A8)

