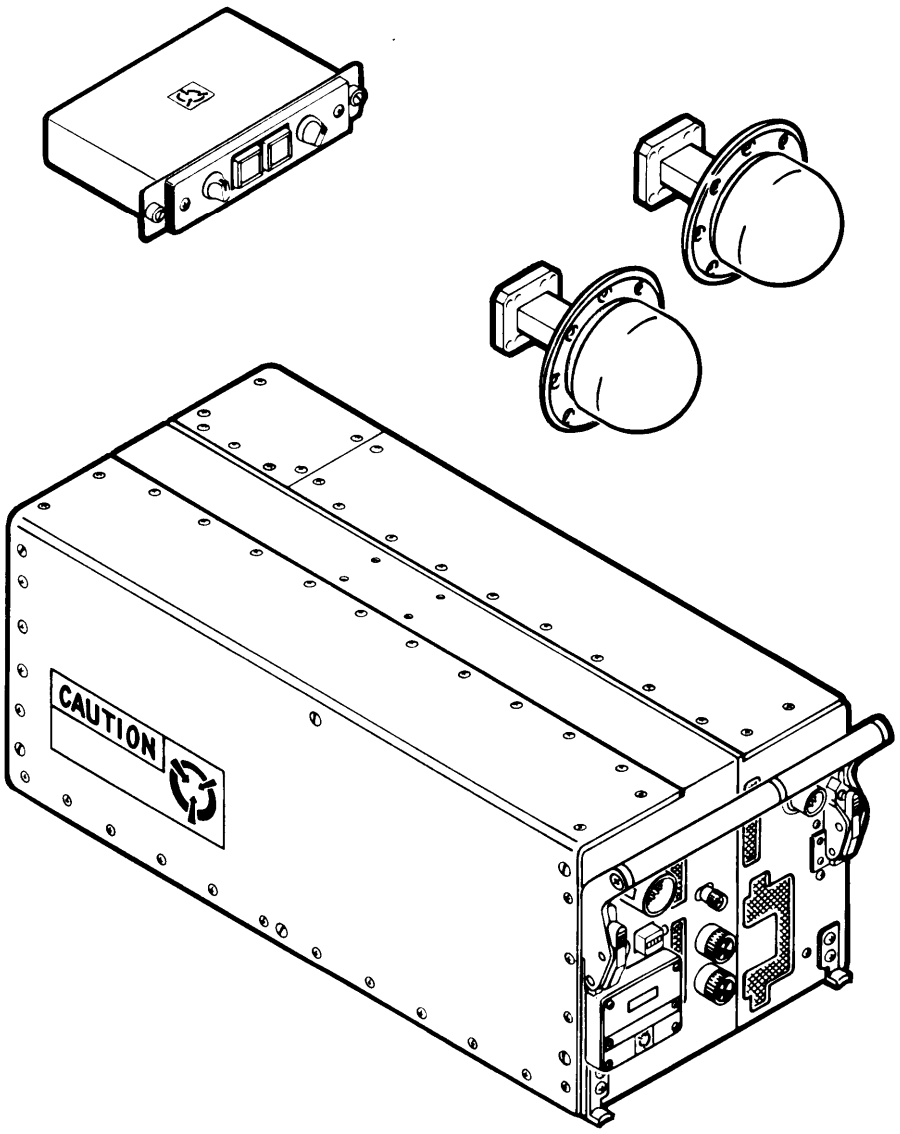
OPERATOR'S AND AVIATION UNIT MAINTENANCE MANUAL



COUNTERMEASURES SET AN/ALQ-162(V)2

(NSN 5865-01-187-4729)

HEADQUARTERS, DEPARTMENT OF THE ARMY

WARNING

HIGH VOLTAGE IS USED IN THE OPERATION OF THIS EQUIPMENT. DEATH ON CONTACT MAY RESULT IF PERSONNEL FAIL TO OBSERVE SAFETY PRECAUTIONS.

- NEVER WORK ON ELECTRONIC EQUIPMENT UNLESS THERE IS ANOTHER PERSON NEARBY WHO IS FAMILIAR WITH THE OPERATION AND HAZARDS OF THE EQUIPMENT AND WHO IS COMPETENT IN ADMINISTERING FIRST AID. WHEN THE TECHNICIAN IS AIDED BY OPERATORS, HE MUST WARN THEM ABOUT DANGEROUS AREAS.
- WHENEVER POSSIBLE, THE POWER SUPPLY TO THE EQUIPMENT MUST BE SHUT OFF BEFORE BEGINNING WORK ON THE EQUIPMENT.
- BE CAREFUL NOT TO CONTACT HIGH-VOLTAGE CONNECTIONS OR 115 VOLT AC INPUT CONNECTIONS WHEN INSTALLING OR OPERATING THIS EQUIPMENT.
- WHENEVER THE NATURE OF THE OPERATION PERMITS, KEEP ONE HAND AWAY FROM THE EQUIPMENT TO REDUCE THE HAZARD OF CURRENT FLOWING THROUGH THE BODY.
- DO NOT BE MISLED BY THE TERM "LOW VOLTAGE." POTENTIALS AS LOW AS 50 VOLTS MAY CAUSE DEATH UNDER ADVERSE CONDITIONS.
- FOR ARTIFICIAL RESPIRATION, REFER TO FM 21-11.

WARNING

ELECTROMAGNETIC RADIATION IS PRESENT!

- DO NOT STAND WITHIN 6 FEET OF THE FRONT OF EITHER ANTENNA WHEN THE EQUIPMENT IS TURNED ON. HIGH FREQUENCY ELECTROMAGNETIC RADIATION CAN CAUSE INTERNAL BURNS WITHOUT CAUSING ANY SENSATION OF HEAT! IF YOU DO FEEL THE SLIGHTEST WARMING EFFECT WHILE NEAR THE ANTENNA MOVE AWAY QUICKLY!

5 SAFETY STEPS TO FOLLOW IF SOMEONE IS THE VICTIM OF ELECTRICAL SHOCK.

1. DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL.

2. IF POSSIBLE, TURN OFF THE ELECTRICAL POWER.

3. IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH, OR LIFT THE PERSON TO SAFETY USING A DRY WOODEN POLE OR A DRY ROPE OR SOME OTHER INSULATING MATERIAL.

4. SEND FOR HELP AS SOON AS POSSIBLE.

5. AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION.

CAUTION


THIS EQUIPMENT CONTAINS PARTS AND ASSEMBLIES SENSITIVE TO DAMAGE BY ELECTROSTATIC DISCHARGE (ESD). USE ESD PRECAUTIONARY PROCEDURES WHEN TOUCHING, REMOVING OR INSERTING PRINTED CIRCUIT BOARDS.

ESD
CLASS 1

GENERAL HANDLING PROCEDURES FOR ESDS ITEMS

- USE WRIST GROUND STRAPS OR MANUAL GROUNDING PROCEDURES.
- KEEP ESDS ITEMS IN PROTECTIVE COVERING WHEN NOT IN USE.
- GROUND ALL ELECTRICAL TOOLS AND TEST EQUIPMENT.
- PERIODICALLY CHECK CONTINUITY AND RESISTANCE OF GROUNDING SYSTEM.
- USE METALIZED SOLDER SUCKERS ONLY.
- HANDLE ESDS ITEMS ONLY IN PROTECTED AREAS.

MANUAL GROUNDING PROCEDURES

- MAKE CERTAIN EQUIPMENT IS POWERED DOWN.
- TOUCH GROUND PRIOR TO REMOVING ESDS ITEMS.
- TOUCH PACKAGE OF REPLACEMENT ESDS ITEM TO GROUND BEFORE OPENING.
- TOUCH GROUND PRIOR TO INSERTING REPLACEMENT ESDS ITEMS.

PACKAGING AND LABELING OF ESDS ITEMS

- PROTECT THE PROGRAM MODULE ASSEMBLY FROM ESD DAMAGE BY KEEPING IT IN AN ANTISTATIC BARRIER BAG.
- SEAL ANTISTATIC BARRIER BAG WITH A STATIC CAUTION LABEL.

Technical Manual
No. 11-5865-229-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 30 November 1990

Operator's and Aviation Unit Maintenance Manual

COUNTERMEASURES SET AN/ALQ-162(V)2 (NSN 5865-01-187-4729)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028–2 (located in back of this manual) direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, Fort Monmouth, New Jersey 07703–5000, ATTN: AMSEL-LC-LM-LT. A reply will be furnished to you.

HOW TO USE THIS MANUAL

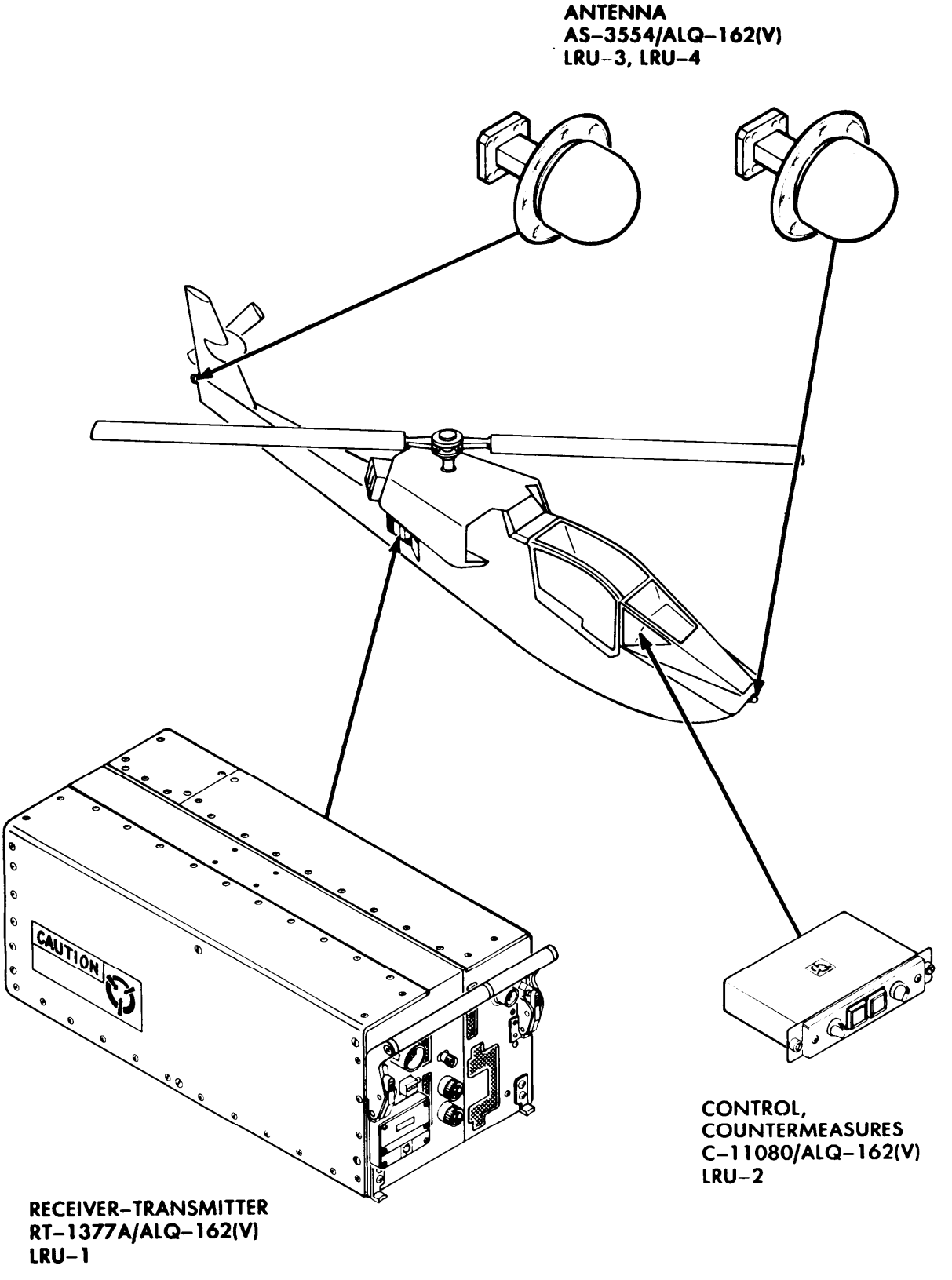
This manual provides instructions for operating and maintaining the AN/ALQ-162(V)2 Countermeasures (CM) Set at the Operator and Aviation Unit Maintenance (AVUM) Level.

The CM Set can be installed in several types of aircraft. Maintenance instructions and aircraft illustrations contained in this manual are generic and do not relate to a specific aircraft. When removing or replacing any of the CM Set equipment, refer to the applicable aircraft manual listed in Appendix A for specific equipment locations and safety precautions.

Before you begin operation or maintenance, READ THE MANUAL. You must familiarize yourself with the entire manual before you begin the operation or maintenance tasks.

Use the front cover index, and corresponding black tabs on the side of the manual, to quickly find the parts of the manual that are used most often. For example, suppose you want to know how to remove the CM Set's receiver-transmitter unit. On the front cover, the section most likely to contain this information is "Maintenance Procedures".

1. Find the tab on the side of the manual that lines up with "Maintenance Procedures" and open the manual to that page.
2. In the SECTION CONTENTS on page 3-13, you see that a paragraph titled "RT Removal and Installation" begins on page 3-18.
3. Turn to page 3-18 to find the procedure.



TYPICAL LOCATION OF CM SET LRUs

CHAPTER 1
INTRODUCTION

SECTION I
GENERAL INFORMATION

SECTION CONTENTS

1-1 SCOPE.

This technical manual covers the operation and maintenance of the AN/ALQ-162(V)2. It is used by operator and aviation unit maintenance (AVUM) personnel responsible for maintaining the AN/ALQ-162(V)2.

1-2 MAINTENANCE FORMS, RECORDS, AND REPORTS.

a. Reports of Maintenance and Unsatisfactory Equipment. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738–750, as contained in Maintenance Management Update.

b. Reporting of Item and Packaging Discrepancies. Fill out and forward SF364 (Report of Discrepancy (ROD)) as prescribed in AR 735–1 l–2/DLAR 4140.55 /SECNAWNST 4355. 18/AFR 400-54/MCO 4430.3J.

c. Transportation Discrepancy Report (TDR) (SF361). Fill out and forward Transportation Discrepancy Report (TDR) (SF 361) as presribed in AR 55-38/NAVSUPINST 4610.33 C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

1-3 CONSOLIDATED INDEX OF ARMY PUBLICATIONS AND BLANK FORMS.

Refer to the latest issue of DA Pam 25-30 to determine whether there are new editions, changes or additional publications pertaining to the equipment.

1-4 DESTRUCTION OF ARMY ELECTRONICS MATERIEL TO PREVENT ENEMY USE.

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

1-5 ADMINISTRATIVE STORAGE.

Administrative storage of equipment issued to and used by Army activities will have preventive maintenance performed in accordance with the PMCS procedures before storing. When removing the equipment from administrative storage, the PMCS should be performed to assure operational readiness. Disassembly and repacking of equipment for shipment or limited storage is covered in the maintenance chapter.

1-6 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

If your equipment needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ED-PH, Fort Monmouth, New Jersey 07703-5000. We'll send you a reply.

1-7 NOMENCLATURE CROSS-REFERENCE LIST.

OFFICIAL NAME	COMMON NAME	LRU NUMBER
Countermeasures Set AN/ALQ-162(V)2	CM Set	—
Receiver-Transmitter RT-1377A/ALQ-162(V)	RT	1
Control, Countermeasures C-11080/ALQ-162(V)	CCU	2
Antenna AS-3554/ALQ-162(V)	Antenna	3, 4

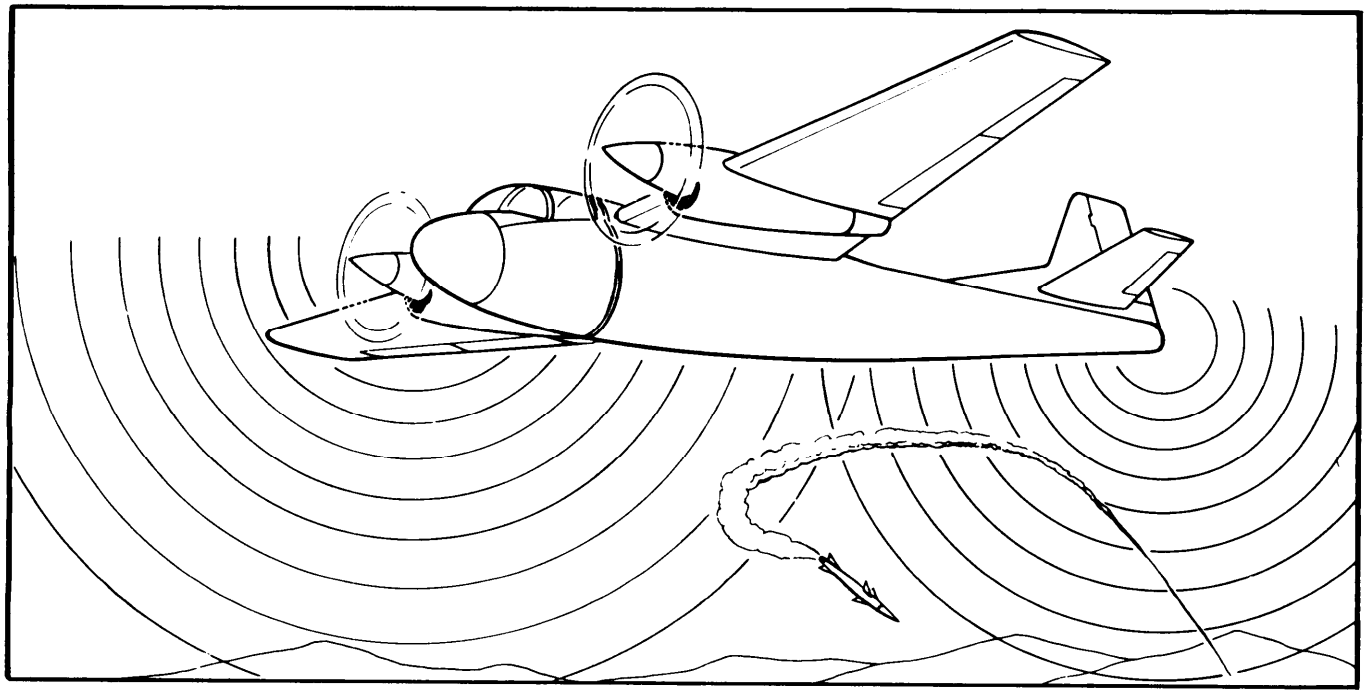
SECTION II
EQUIPMENT DESCRIPTION

SECTION CONTENTS

1-8 EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

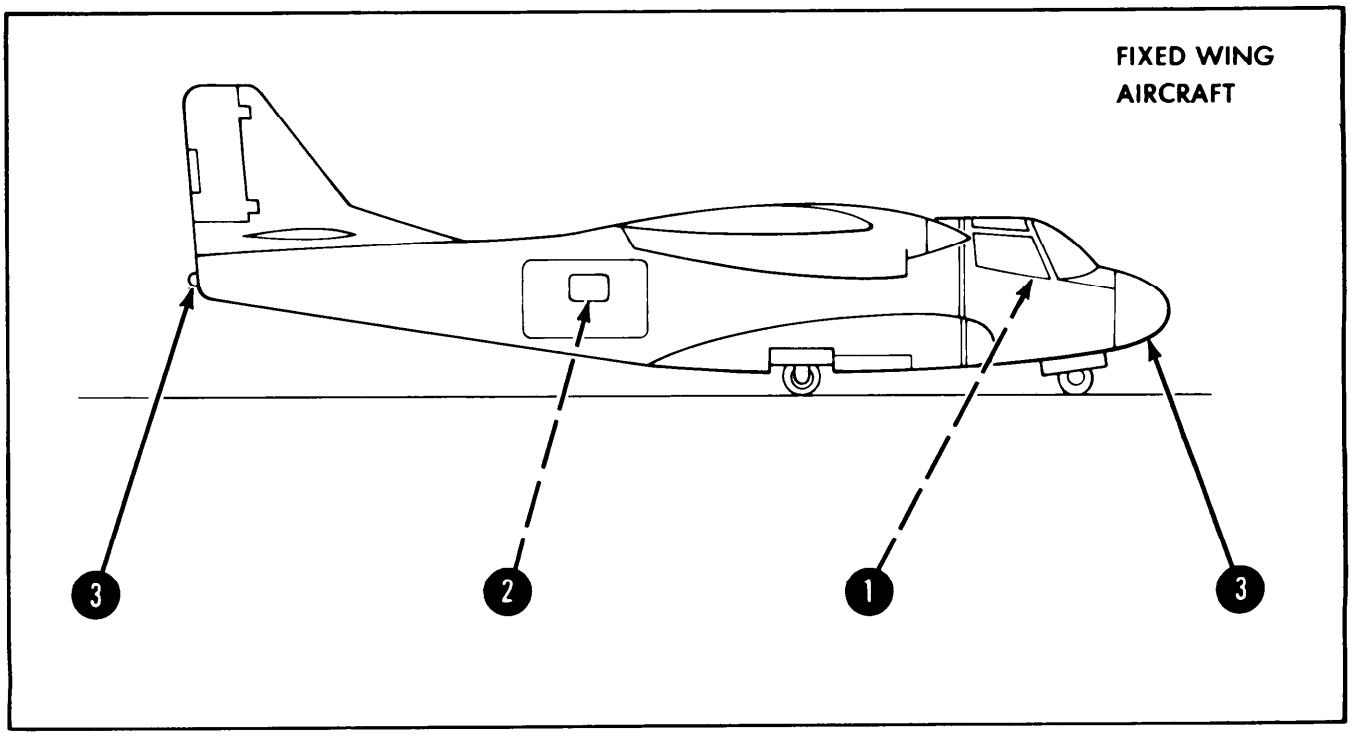
The Countermeasures (CM) Set protects an aircraft against unfriendly fire control radar by means of electronic countermeasures. The CM Set:

- Receives and identifies threat radar signals, modulates these signals, and retransmits them back to the unfriendly radar locations.
- Contains a removable program module assembly that enables the mission profile to be easily changed.
- Can be tested on the aircraft.

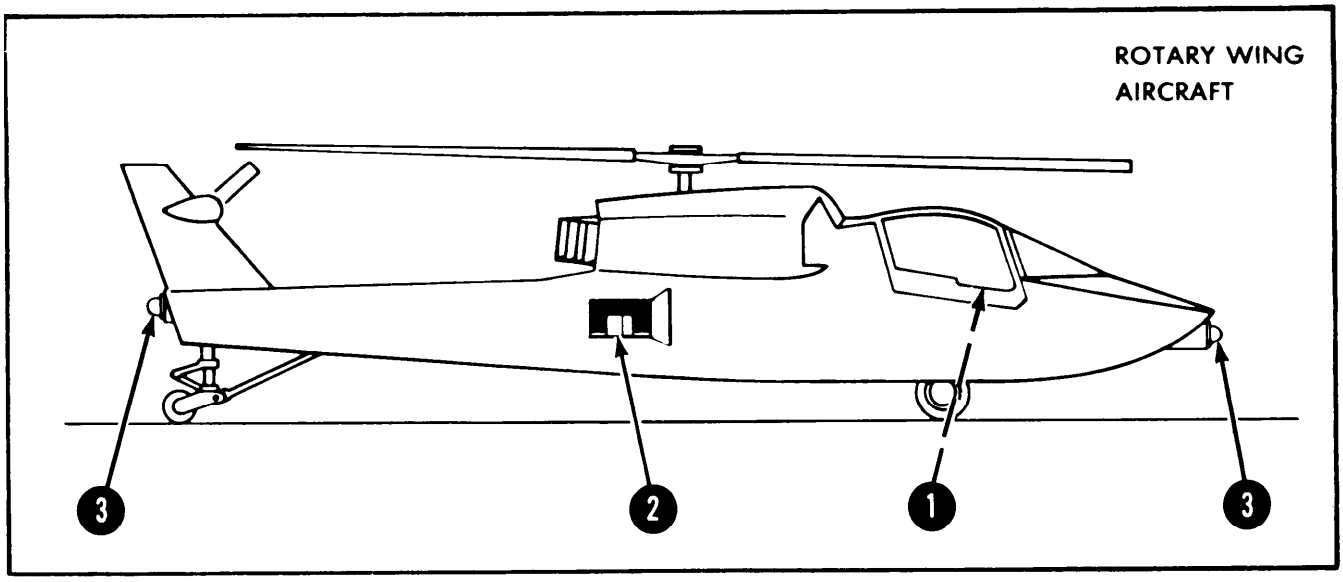


1-9 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

The typical location of each line replaceable Unit (LRU) of the CM Set is shown below. Refer to aircraft manual for exact location.



1. CCU ..... Enables operator to control the CM Set.
2. RT ..... Receives threat signals, analyzes them, and generates jamming signals.
3. ANTENNAS ..... Receive threat signals and transmit jamming signals.

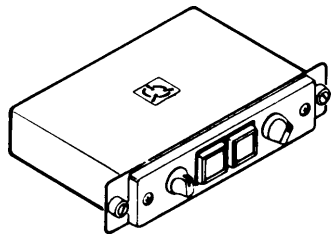


TYPICAL LOCATION OF CM SET LRUs

1-10 EQUIPMENT DATA.

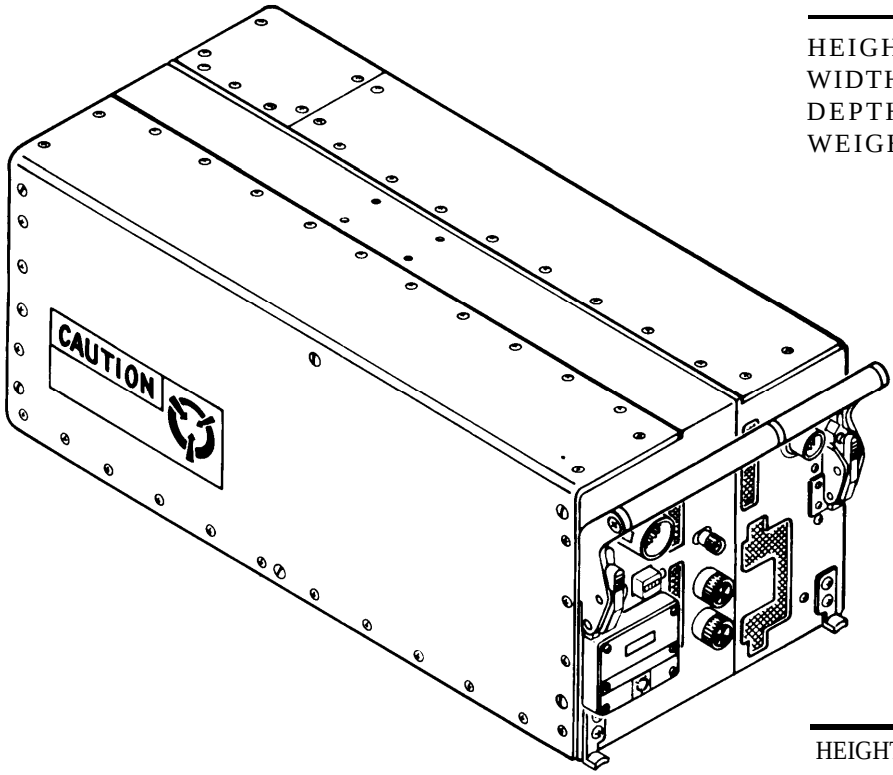
POWER SOURCE . . . . . 115 Vac, 400 Hz, 3-phase
28 Vdc

DISSIPATED POWER . . . . 426 watts



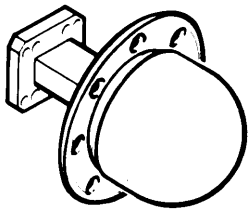
CCU

HEIGHT . . . . . 1.0 in (2.54 cm)
WIDTH . . . . . 5.5 in (13.97 cm)
DEPTH . . . . . 3.5 in (8.89 cm)
WEIGHT . . . . . 1.0 lb (0.45 kg)



R T

HEIGHT . . . . . 6.3 in (16.0 cm)
WIDTH . . . . . 7.2 in (18.28 cm)
DEPTH . . . . . 17.69 in (44.93 cm)
WEIGHT . . . . . 40.0 lb (18.0 kg)



ANTENNA

DEPTH . . . . . 6.5 in (16.51 cm)
DIAMETER . . . . . 4.5 in (11.43 cm)
WEIGHT . . . . . 0.87 lb (0.39 kg)

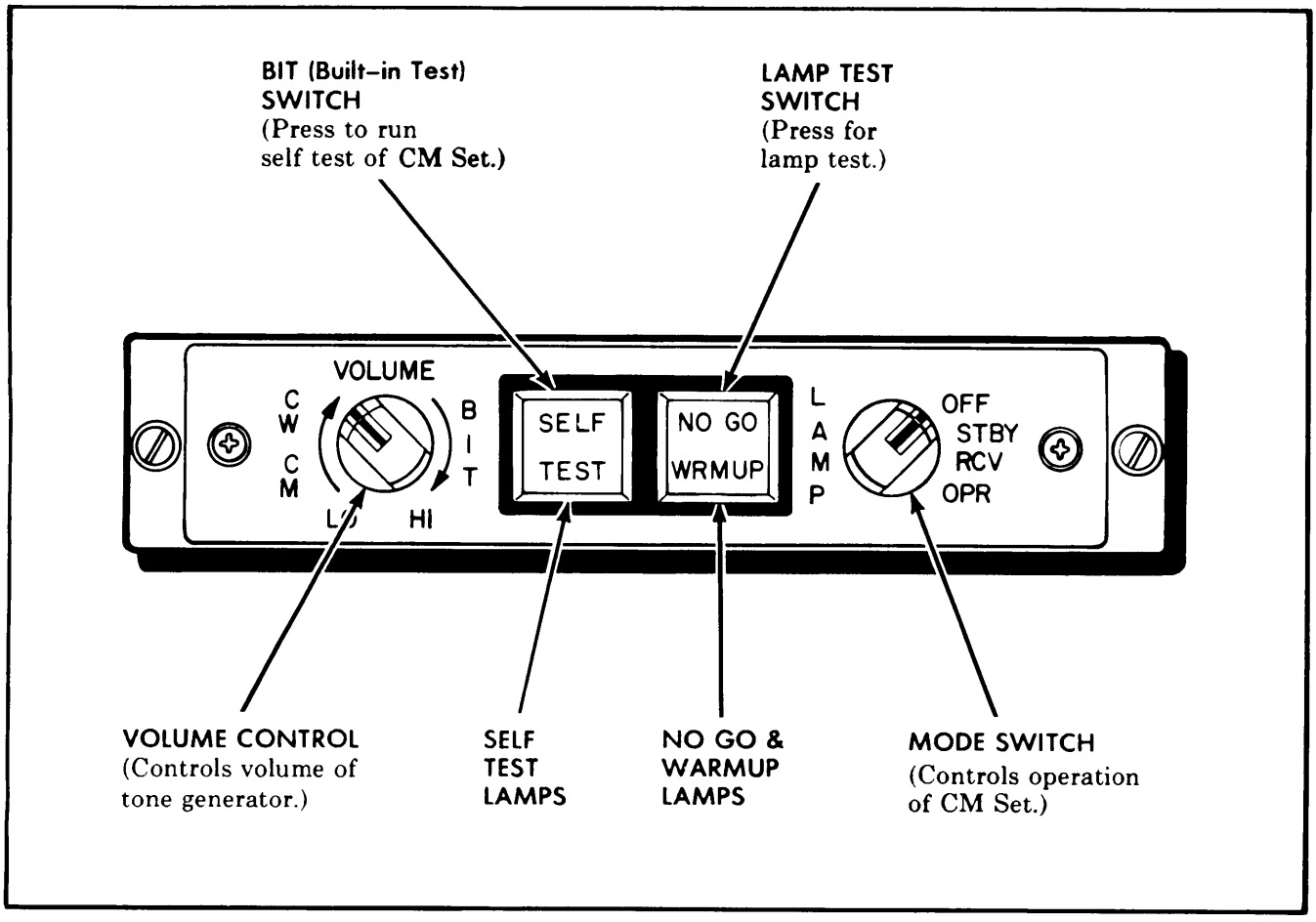
CHAPTER 2
OPERATING INSTRUCTIONS

SECTION I
DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

SECTION CONTENTS

2-1 CCU CONTROLS AND INDICATORS.

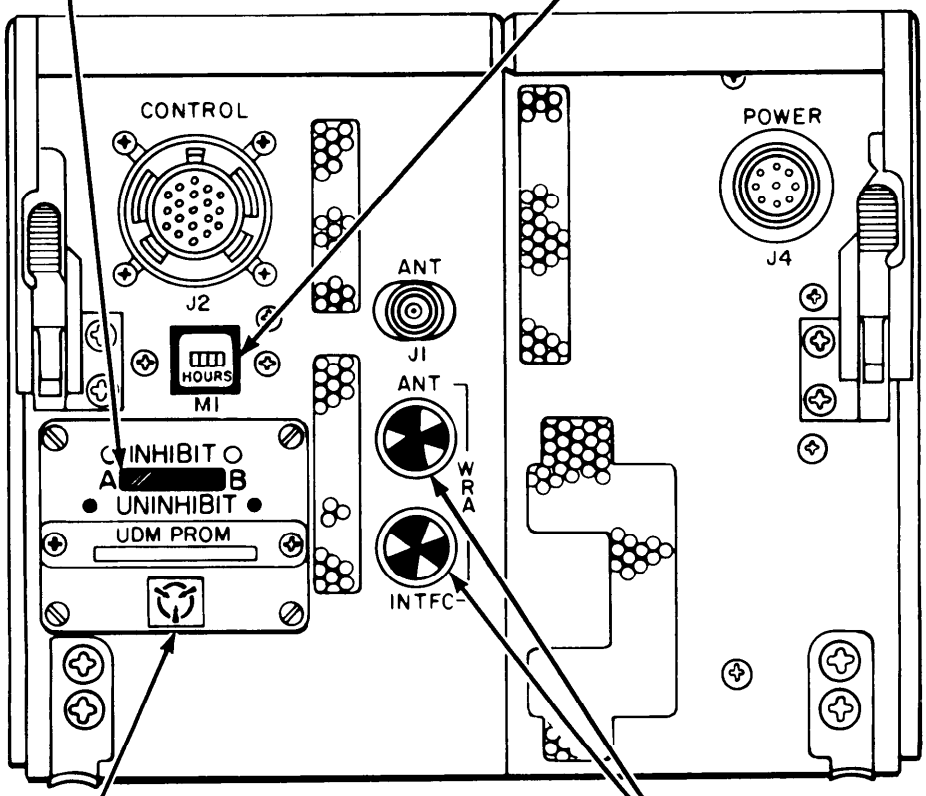
CCU controls and indicators are shown below.



2-2 RT CONNECTORS AND INDICATORS.

BAND INHIBIT JUMPERS
Used to set RT for specific mission requirements. Jumper positions are visible through window in Program Module Assembly cover.

M1 (Elapsed Time Indicator)
Records operating time of RT.



PROGRAM MODULE ASSEMBLY
Contains threat program memory. Enables mission profile to be easily changed.

BIT INDICATORS
Indicate normal operation and failure conditions for CM Set LRUs. The antenna (ANT) BIT indicator is shown in the normal position. The interface (INTFC) BIT indicator is shown in the failure position.

SECTION II

OPERATION UNDER USUAL CONDITIONS

SECTION CONTENTS

2-3 GENERAL.

a. Weather Conditions. The CM Set can be operated in all types of weather. There are no special instructions to be followed in case of bad weather.

b. Built-in Test. CM Set LRUs are automatically tested during operation by the Built-in Test (BIT) function. BIT alerts the operator to LRU failures by lighting the NO GO lamp on the CCU. The operator can manually initiate BIT to verify CM Set operation by depressing the BIT switch on the CCU. Operator-initiated BIT is indicated by the SELF TEST lamp on the CCU. If the NO GO lamp remains lit during operation for more than 15 seconds, perform the operational test (paragraph 3–9).

c. Warning Tone. The CCU generates an audio warning tone and sends it to aircraft headsets whenever the CM Set receives a threat radar signal. The loudness of the warning tone can be adjusted with the VOLUME control on the CCU.

d. Aircraft Survivability Equipment (ASE) Panel. The ASE panel provides CM Set status indicators in addition to those provided by the CCU. Refer to the applicable aircraft manual listed in Appendix A for specific ASE panel information.

2-4 OPERATING INSTRUCTIONS.

Operating instructions for the CM Set are described in the following steps. If there are any problems during operation, perform the operational test (paragraph 3-9).

WARNING

Initiating BIT causes the CM Set to suspend jamming for a minimum period of five seconds. Do not initiate BIT during a mission when the threat and/or jam indicators are illuminated and/or the audio warning tone is heard. Failure to observe this precaution may result in the loss of crucial jamming time.

CAUTION

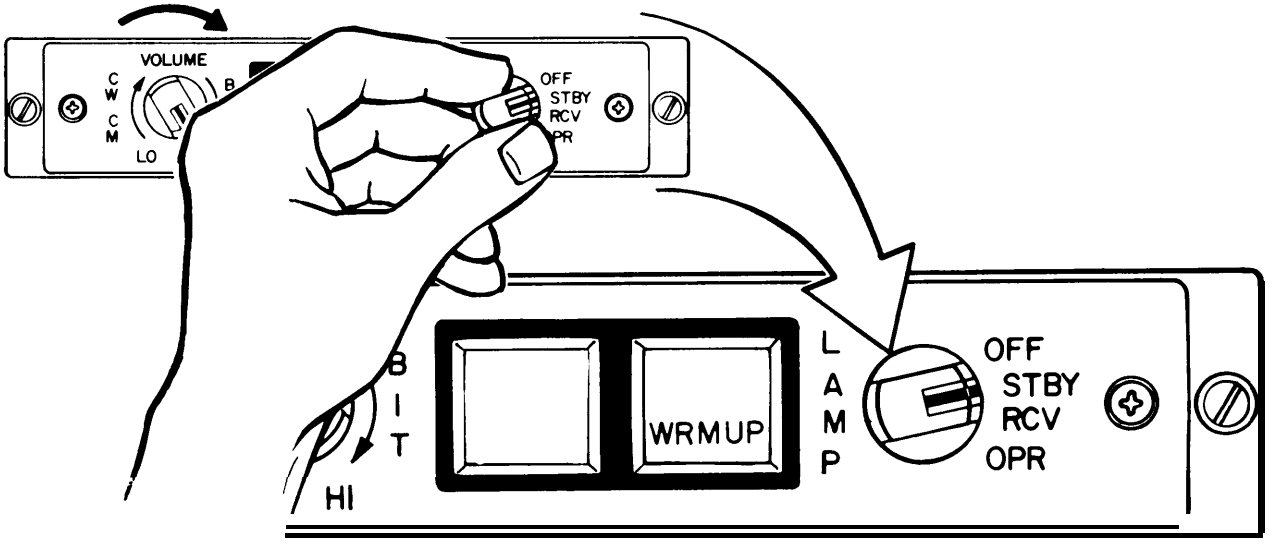
If the CM Set has not been operated for six months or you are uncertain when it was last operated, set the CCU mode switch to the STBY position for a minimum of 30 minutes to season (stabilize) the TWT. Failure to do so may destroy the TWT.

NOTE

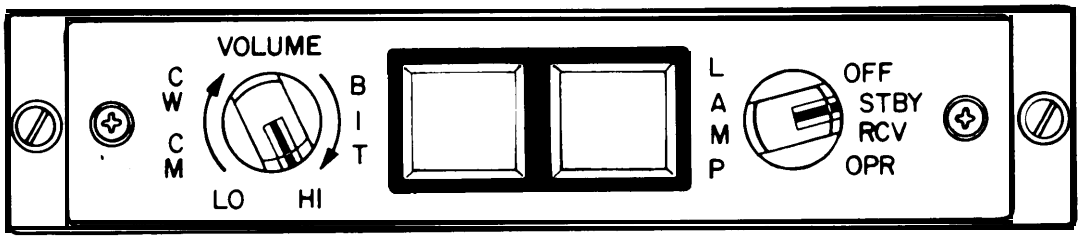
- Make sure aircraft power is on before beginning operation. Refer to aircraft manual for instructions.
- If the CM Set is turned off for 30 seconds or longer, operation cannot start without a 3-minute warmup period.
- If the CM Set is turned off during operation for less than 30 seconds, the warmup period will be less than 3 minutes.
- Always turn the CM Set off when it is not in use.

1. Turn aircraft console light control fully clockwise. Refer to aircraft manual for control location.
2. Put on aircraft headset and turn CCU VOLUME control fully clockwise.
3. Turn CCU mode switch clockwise from OFF to STBY.

- The WRMUP lamp will light for 3 minutes.



- After a 3-minute warmup time, all lamps light, tone is heard briefly in headset, then all lamps turn off.



NOTE

The NO GO lamp may remain lit briefly after all other lamps have turned off. If the NO GO lamp remains lit for more than 15 seconds, perform the operational test (paragraph 3–9).

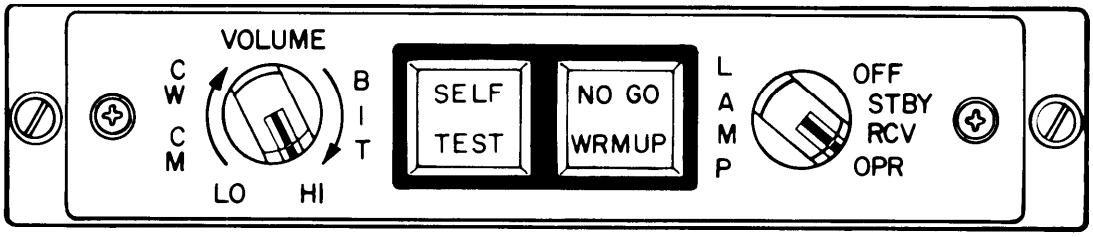
WARNING

When the CCU mode switch is in the OPR position, the system is radiating RF energy. All personnel shall stay at least 6 feet away from either antenna.

4 Turn CCU mode switch clockwise from STBY to OPR.

NOTE

If NO GO lamp lights when the CCU mode switch is placed in OPR position, turn mode switch counterclockwise to OFF and immediately clockwise to OPR once or twice. If NO CTO lamp remains lit, perform the operational test (paragraph 3-9).



5 Momentarily depress BIT switch.

- All lamps light, tone is heard briefly in headset, then all lamps turn off.

The CM Set is now ready for use.

NOTE

- The NO GO lamp may remain lit briefly after all other lamps have turned off. If the NO GO lamp remains lit for more than 15 seconds, perform the operations test (paragraph (3-9).
- The CM Set automatically runs BIT during operation. If a failure occurs, the NO GO lamp will light.

CHAPTER 3
AVIATION UNIT MAINTENANCE INSTRUCTIONS

SECTION I
REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

SECTION CONTENTS

3-1 COMMON TOOLS AND EQUIPMENT.

Refer to the Modified Table of Organization and Equipment (MTOE) for authorized common tools and equipment applicable to your unit.

3-2 SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

Refer to Appendix B for TMDE items required for the CM Set. No special tools are required to maintain the CM Set.

3-3 REPAIR PARTS.

Refer to TM 11-5865-229-20P for a listing of CM Set repair parts.

SECTION II
SERVICE UPON RECEIPT

3-4 SERVICE UPON RECEIPT.

Service upon receipt of the CM Set requires that you unpack, inventory, and inspect the equipment. Check the equipment against the packing slip to see if the shipment is complete. The CM Set consists of:

- 1 RT
- 1 CCU
- 2 Antennas

Inspect the equipment for damage. Report any damage on SF 364, Report of Discrepancy.

3-5 INSTALLATION INSTRUCTIONS.

Initial installation of the CM Set is done by the aircraft manufacturer. No action is required at the AVIM level.

SECTION III
AVIATION UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES

SECTION CONTENTS — **PAGE**

3-6 GENERAL.

If your equipment fails to operate, remove the faulty LRU (CCU, RT, or Antenna) and request depot maintenance. Troubleshoot with proper equipment. Report any deficiencies using the proper forms. See DA Pam 738–750. Routine cleaning, dusting, checking for frayed cables and/or loose hardware, storing of items not in use, and covering of unused receptacles are not scheduled and should be done whenever necessary.

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

For use of this form, see TM 38 750 the proponent agency is the Office of the Deputy Chief of Staff for Logistics

1. ORGANIZATION					2. NOMENCLATURE AND MODEL	
2ND SIGNAL BRIGADE					COUNTERMEASURES SET AN/ALQ-162(V)2	
3. REGISTRATION/SERIAL/NSN	4a. MILES	b. HOURS	c. ROUNDS FIRED	d. HOT STARTS	5. DATE	6. TYPE INSPECTION
					13 JUN	PMCS

7. APPLICABLE REFERENCE			
TM NUMBER	TM DATE	TM NUMBER	TM DATE
TM 11-5865-229-12			

COLUMN a — Enter TM item number.

COLUMN b — Enter the applicable condition status symbol.

COLUMN c — Enter deficiencies and shortcomings.

COLUMN d — Show corrective action for deficiency or shortcoming listed in Column c.

COLUMN e — Individual ascertaining completed corrective action initial in this column.

STATUS SYMBOLS

"X"—Indicates a deficiency in the equipment that places it in an inoperable status.

CIRCLED "X"—Indicates a deficiency, however, the equipment may be operated under specific limitations as directed by higher authority or as prescribed locally, until corrective action can be accomplished.

HORIZONTAL DASH "(-)"—Indicates that a required inspection, component replacement, maintenance operation check, or test [illegible] but [illegible] ed, or an [illegible]

DIAGONAL "(/)"—Indicates a materiel defect other than a deficiency which must be corrected to increase efficiency or to make the item completely serviceable.

LAST NAME INITIAL IN BLACK, BLUE-BLACK INK, OR PENCIL-Indicates that a completely satisfactory condition exists.

[illegible] mbols will be recorded in red.

SAMPLE

3-7 PMCS PROCEDURES.

Perform the Lamp, Operator-Initiated BIT, and Signal tests (paragraph 3-9, tests 1, 2, and 3) prior to flying any mission requiring the use of the CM Set. These tests will ensure that the CM Set is working properly. There are no other PMCS procedures for the CM Set.

SECTION IV
TROUBLESHOOTING PROCEDURES

SECTION CONTENTS	PAGE

3-8 GENERAL.

Troubleshooting at the AVUM level is limited to procedures that can be performed while the CM Set is installed in the aircraft. These procedures include:

- inspection of BIT indicators
- checking cable connections
- replacing faulty LRUs
- performing the operational test

3-9 OPERATIONAL TEST.

Perform the operational test prior to flying any mission requiring the use of the CM Set, after any LRU replacement or whenever a problem is observed during CM Set operation. This test is designed to verify the correct operation of the CM Set LRUs. Always begin with test number 1 (LAMP TEST).

WARNING

Never begin any test unless you are sure the aircraft is safe for maintenance. Refer to the aircraft manual for specific instructions and safety precautions.

a. Tools and Materials Required.

Radar Signal Simulator, SM-756/APR-44(V)
Torque Wrench, Preset CHA-5
Wrench, Open End Standard, 9/16"
Flashlight
Cable, TNC-to-TNC
Coaxial Termination, 374BNM
Aircraft Headset (Refer to aircraft manual for type required.)

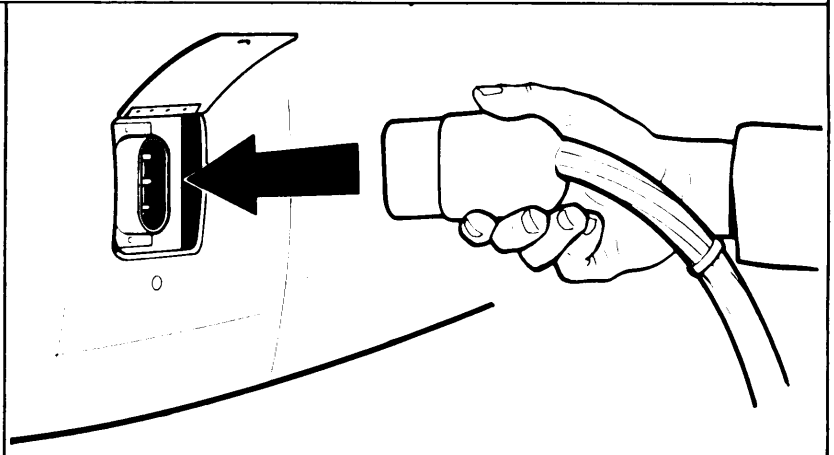
b. Test Procedure. The columns in the test procedure are explained below.

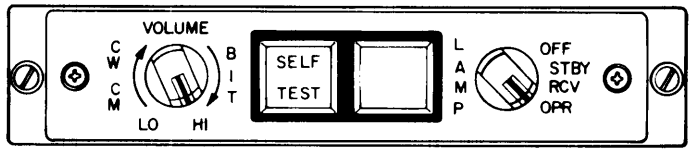
ITEM . . . . . This column lists the test number and step letters under that column.

ACTION . . . . . This column tells you what to do to test the CM Set.

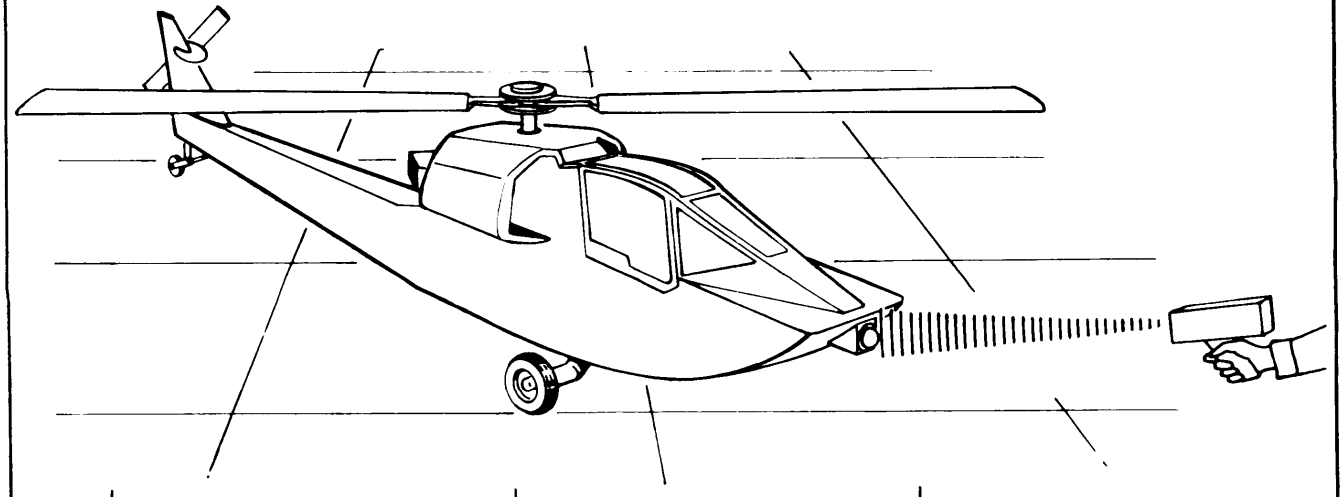
NORMAL INDICATION . . . This column specifies the CM Set's normal indications. If the CM Set gives the normal indication, it is working properly. Go on to the next step.

CORRECTIVE ACTION . . . This column lists the corrective actions you should take if the CM Set does not give normal indications. Remember, whenever you replace a part of the CM Set, restart the operational test at test number 1, step a.

ITEM	ACTION	NORMAL INDICATION	CORRECTIVE ACTION
1	**LAMP TEST**		
a.	Apply power to aircraft.(Refer to aircraft manual for instructions.)		
b.	Turn aircraft console light control fully clockwise. (Refer to aircraft manual for control location.)		
c.	Turn CCU mode switch clockwise from OFF to STBY.	CCU front panel lights; WRMUP lamp lights.	Check aircraft circuit breakers. If tripped, reset and repeat test number 1c. If circuit breakers trip again, there is a fault in aircraft wiring. Repair in accordance with aircraft manual. If circuit breakers are not tripped, replace CCU (para 3-11).
d.	Press LAMP test switch (on right).	All eight pushbutton lamps light. **NOTE** Each pushbutton switch contains 4 individual lamps for a total of 8 lamps.	If lamps fail to light, replace CCU (para 3-11). If individual lamps fail to light, replace them (para 3-15).
e.	Turn CCU mode switch counterclockwise to OFF.	All lamps turn off.	

ITEM	ACTION	NORMAL INDICATION	CORRECTIVE ACTION
	NOTE Before beginning test number 2, make sure the CCU VOLUME control is turned fully clockwise.		
2	**OPERATOR–INITIATED BIT**		
	CAUTION If the CM Set has not been operated for six months or you are uncertain when it was last operated, set the CCU mode switch to the STBY position for a minimum of 30 minutes to season (stabilize) the TWT. Failure to do so may destroy the TWT.		
a.	Put on aircraft headset.		
b.	Turn CCU mode switch clockwise from OFF to STBY.	Panel lights; WRMUP lamp lights for 3 minutes. After a 3–minute warmup, all lamps light, tone is heard briefly in headset, then all lamps turn off. **NOTE** The NO GO lamp may remain lit briefly after all other lamps have turned off.	If NO GO lamp remains lit, go to test number 4.
	WARNING The CM Set will radiate RF energy in test number 2, step c. All personnel shall stay at least 6 feet from either antenna while the CCU mode switch is in the OPR position.		
c.	Turn CCU mode switch clockwise to OPR. Momentarily depress BIT switch (on left). 	All lamps light. Tone is heard briefly in headset.	If NO GO lamp remains lit, turn CCU mode switch counterclockwise to OFF and immediately clockwise to OPR once or twice. Repeat test number 2c. If NO GO lamp remains lit, go to test number 4.
d.	Turn CCU mode switch counterclockwise from OPR to RCV. Go to test number 3.		

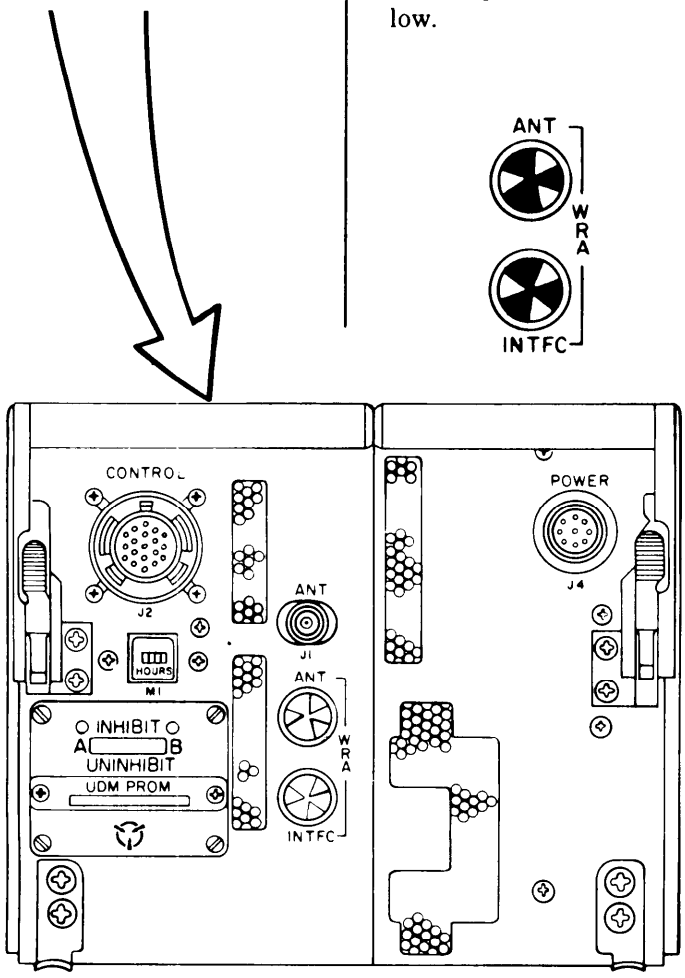
ITEM	ACTION	NORMAL INDICATION	CORRECTIVE ACTION
	NOTE Test number 3 requires two technicians, one in the cockpit wearing the aircraft headset and the other outside the aircraft using the SM-756/APR-44(V) Radar Signal Simulator.		
3	SIGNAL TEST		
a.	With the CCU mode switch in the RCV position, set the radar signal simulator gun for the HIGH band. Refer to TM 11-6940-214-12 for instructions.		
b.	Aim gun at forward antenna and squeeze trigger. Repeat for aft antenna.	Tone heard in headset for as long as the trigger is squeezed.	If one or both antennas fail to produce a tone, go to test number 4. **NOTE** Record which antenna failed to produce a tone.

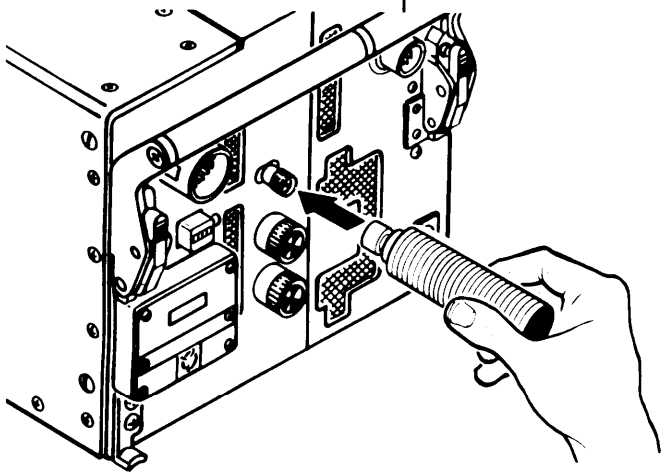


c.	Turn CCU mode switch counterclockwise to OFF. Refer to aircraft manual for instructions on securing the aircraft. End of test.		

NOTE

The rest of the tests in this procedure are for troubleshooting the CM Set. You will not have to use them unless you had a problem with test number 1, 2, or 3.

ITEM	ACTION	NORMAL INDICATION	CORRECTIVE ACTION
4	BIT INDICATOR CHECK		
a.	Make sure that CCU mode switch is in the OFF position.		
b.	Gain access to the RT.		
c.	Check BIT indicators using a flashlight, if necessary. 	Both BIT indicators set to the normal position as shown below.	If both BIT indicators are set to the failure position as shown below, replace RT (para 3-12). Reset BIT indicators by turning them clockwise ¼ turn. Restart at test number 1a.  If only the interface (INTFC) BIT indicator is set to the failure position as shown below, reset BIT indicator by turning it clockwise ¼ turn and perform one of the following corrective actions: • If CCU was not replaced in test number 1, replace it (para 3-11). • If CCU was replaced, troubleshoot RT-to-CCU interface cables in accordance with aircraft manual.  If only the antenna (ANT) BIT indicator is set to the failure position as shown below, reset BIT indicator by turning it clockwise ¼ turn. Go to test number 5. 

ITEM	ACTION	NORMAL INDICATION	CORRECTIVE ACTION
5	**ANTENNA SYSTEM TEST**		
	NOTE Refer to the aircraft manual for instructions when troubleshooting the antenna system.		
a.	Make sure that CCU mode switch is in the OFF position.		
b.	Remove antenna cable from RT and attach coaxial termination. (Use TNC-to-TNC cable if necessary.) 		
c.	Perform operator-initiated BIT (test number 2, steps a, b, and c).	Refer to normal indication column in test number 2.	If NO GO lamp remains lit, turn CCU mode switch counterclockwise to OFF. Replace RT (para 3-12).
d.	Turn CCU mode switch counterclockwise to OFF.		
e.	Remove coaxial termination from RT and connect coaxial antenna cable using preset torque wrench.		
f.	Replace antenna which failed to produce a tone in test 3b. Replace antenna in accordance with para 3-13.		

ITEM	ACTION	NORMAL INDICATION	CORRECTIVE ACTION
g.	Turn CCU mode switch clockwise to RCV.	WRMUP lamp lights for 3 minutes. After a 3-minute warmup, all lamps light, tone is heard briefly in headset, then all lamps turn off. **NOTE** The NO GO lamp may remain lit briefly after all other lamps have turned off.	
h.	Test the replacement antenna using radar signal simulator gun (test number 3b).	Tone heard in headset for as long as trigger is squeezed.	Troubleshoot antenna system in accordance with aircraft manual. Restart at test number 1a.
i.	Turn CCU mode switch counterclockwise to OFF. Refer to aircraft manual for instructions on securing the aircraft. End of test.		

SECTION V
MAINTENANCE PROCEDURES

3-10 INTRODUCTION.

This section contains general removal and installation instructions for the CM Set LRUs. Refer to the applicable aircraft manual listed in Appendix A for specific removal and installation instructions.

3-11 CCU REMOVAL AND INSTALLATION.

a. Tools and Materials Required.

Tool Kit, Electronic Equipment TK-101/G

Screwdriver, .032 x 11/64 x 3 in

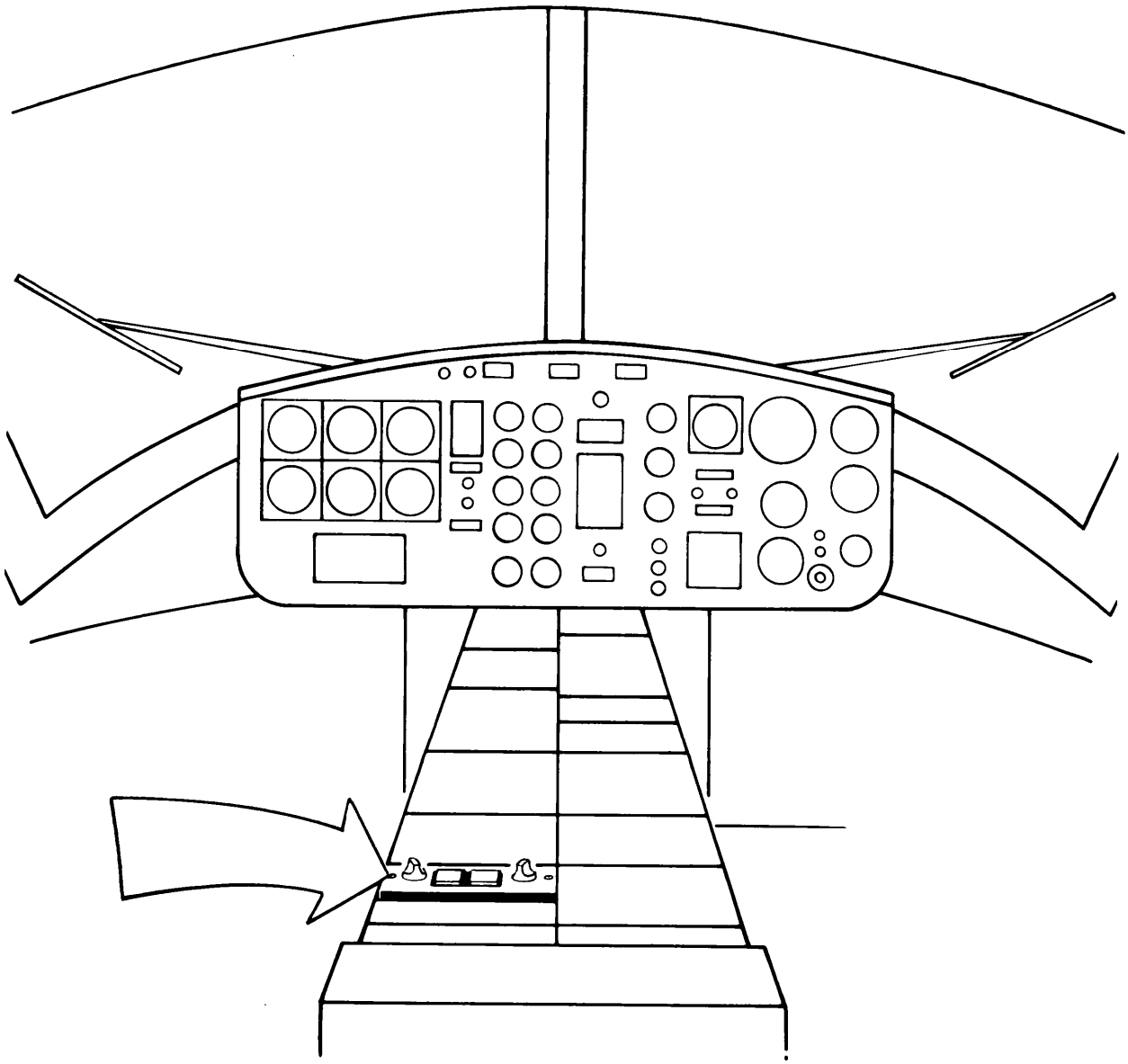
Screwdriver, #1 common-tip

b. CCU Removal. Perform the following procedure to remove the CCU from the aircraft crew compartment.

WARNING

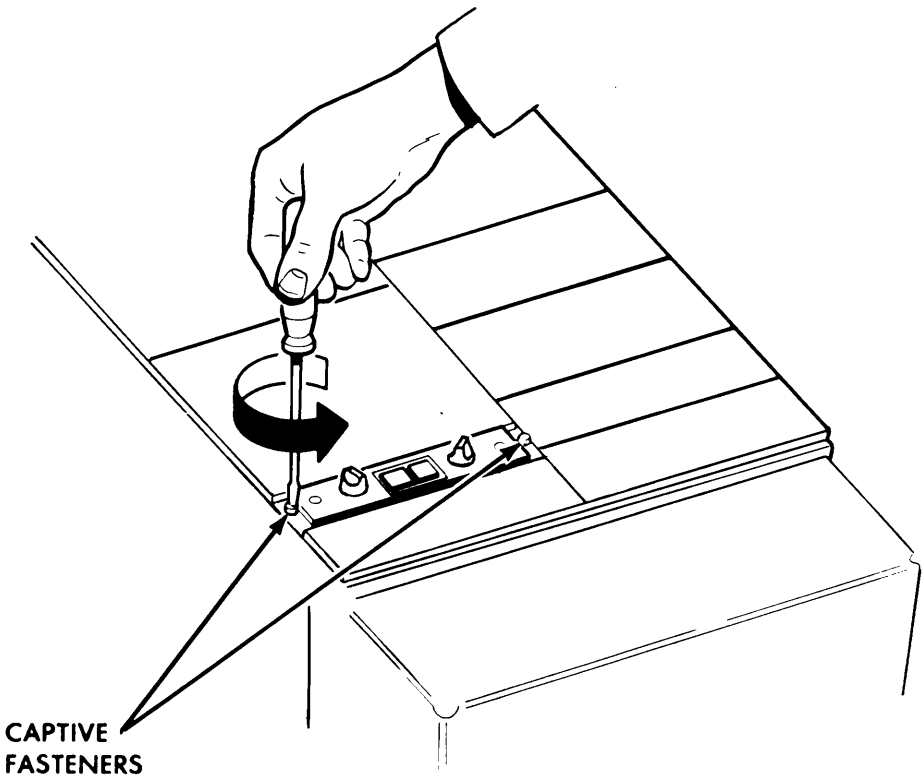
High voltage present in this equipment is sufficient to cause injury. Make sure system power is off before beginning procedure.

1. Locate CCU in crew compartment. Refer to aircraft manual for location.
2. Make sure system power is off. Refer to aircraft manual for instructions.



TYPICAL LOCATION OF CCU

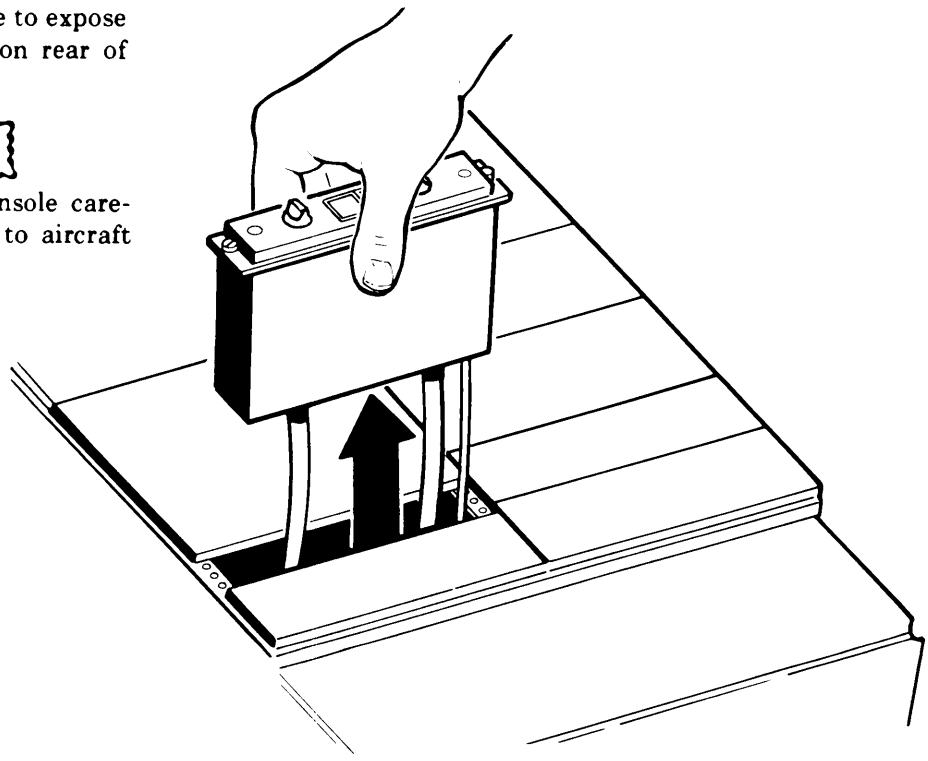
3 Loosen two captive fasteners on CCU front panel.



4 Lift CCU out of console to expose connectors J1 and J2 on rear of CCU.

CAUTION

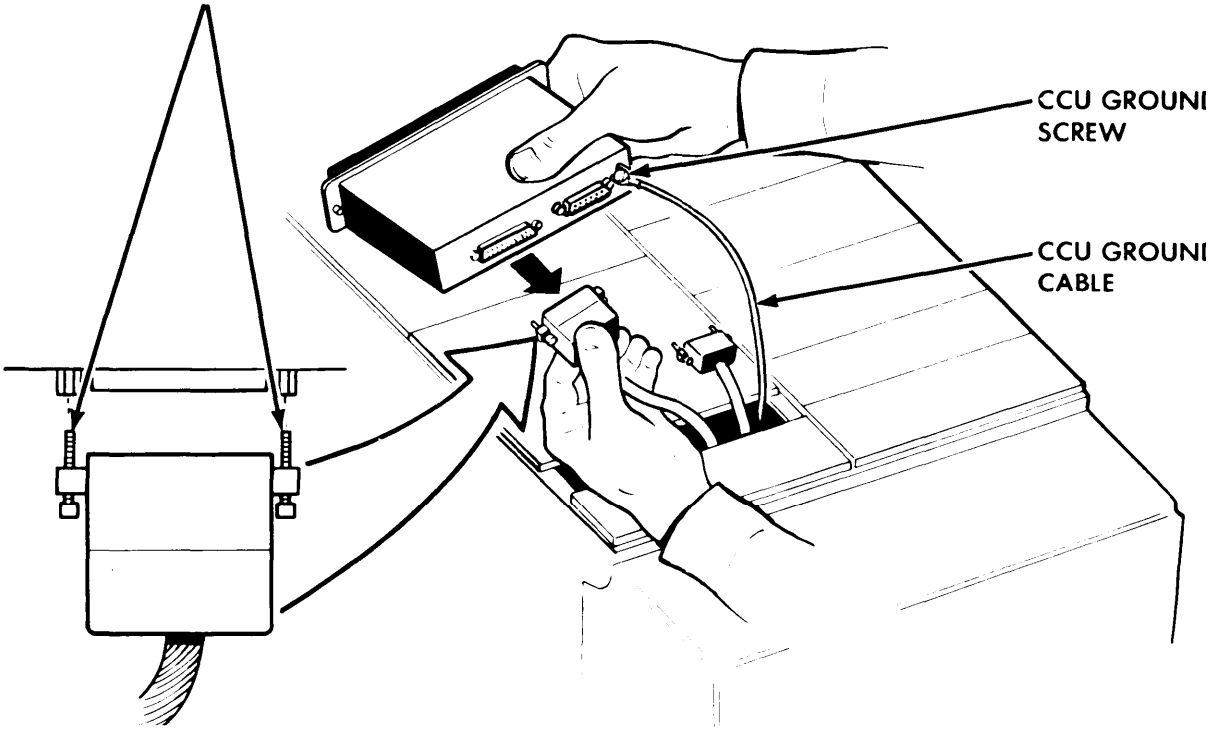
Remove CCU from console carefully to avoid damage to aircraft wiring.



WARNING

Do not disconnect CCU ground cable before disconnecting J1 and J2 on the CCU. An ungrounded CCU can present a shock hazard if the system power is switched on during CCU removal.

5 Disconnect J1 and J2 by removing securing screws.



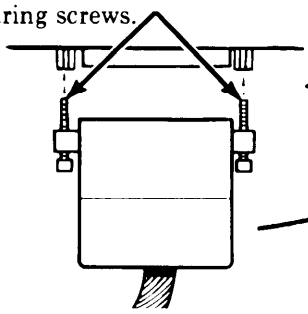
6 Disconnect CCU ground cable by loosening CCU ground screw.

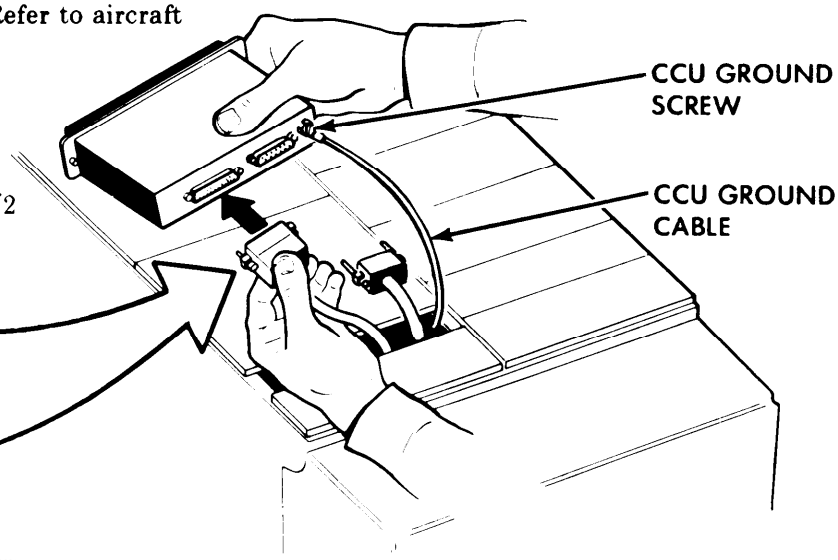
c. CCU Installation. Perform the following procedure to install the CCU in the aircraft crew compartment.

WARNING

- High voltage present in this equipment is sufficient to cause injury. Make sure system power is off before beginning procedure.
- Connect CCU ground cable before connecting J1 and J2 on the CCU. An ungrounded CCU can present a shock hazard if the system power is switched on during CCU installation.
- The CCU front panel display is powered by high voltage and can present a shock hazard if it becomes cracked. Check panel for cracks before installing CCU.

1. Make sure system power is off. Refer to aircraft manual for instructions.
2. Position the CCU as shown.
3. Connect CCU ground cable and tighten CCU ground screw.
4. Connect console cables to J1 and J2 on CCU and secure cables with securing screws.

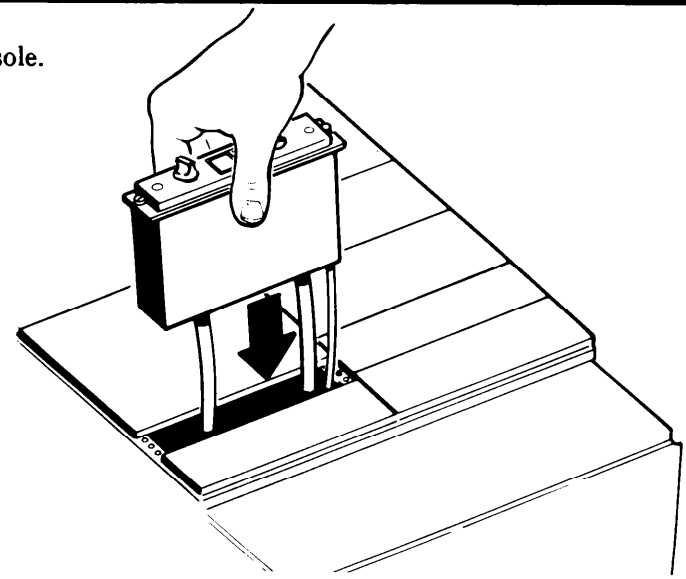




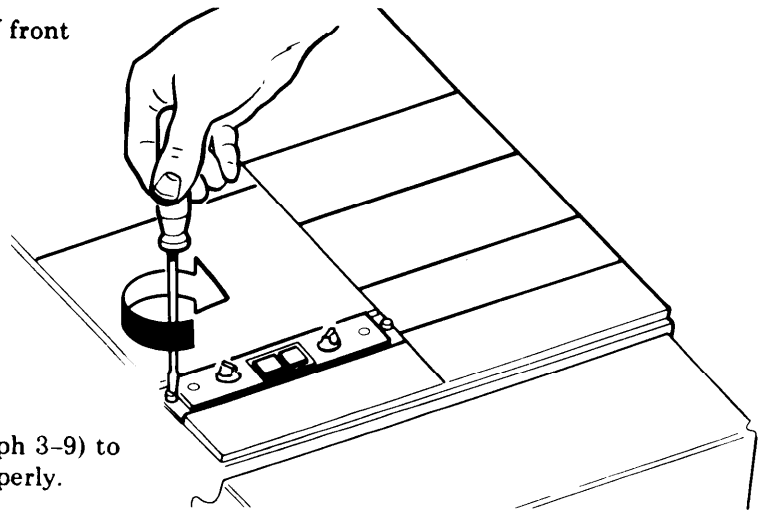
5. Carefully slide CCU into console.

CAUTION

Do not pound on CCU front panel during installation.



6. Tighten two captive fasteners on CCU front panel.



7. Perform the operational test (paragraph 3-9) to make sure the CM Set is working properly.

3-12 RT REMOVAL AND INSTALLATION.

a. Tools and Materials Required.

Tool Kit, Electronic Equipment TK-101/G
Flashlight

Torque Wrench, Preset CHA-5

Wrench, Open End Standard, 9/16 in

Slip Joint Pliers, Padded AT-5O8K

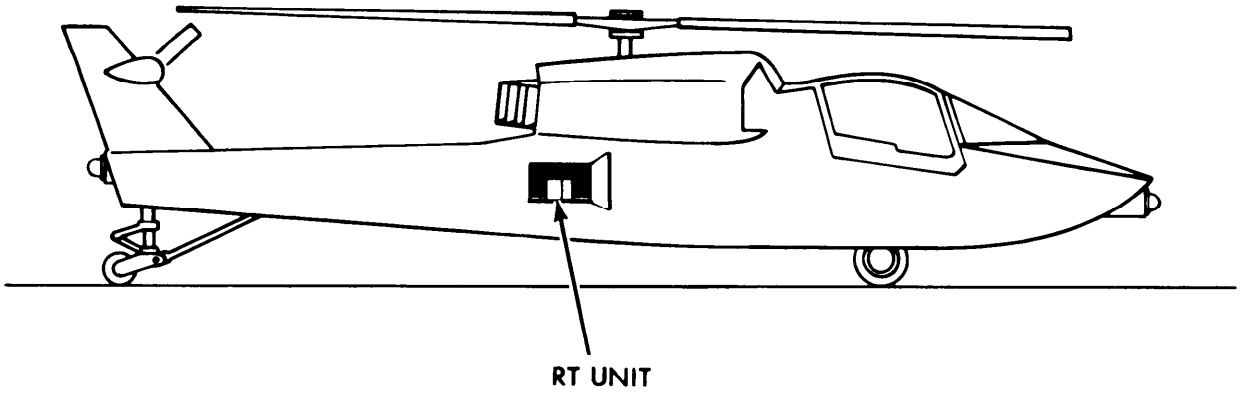
b. RT Removal. Perform the following procedure to remove the RT from the aircraft.

1. Turn system power off. Refer to aircraft manual for instructions.

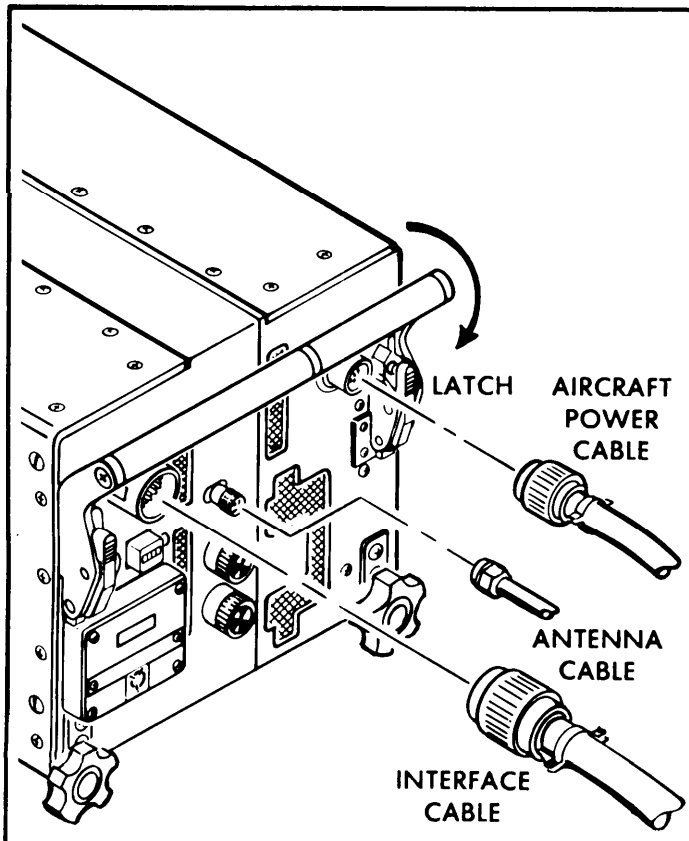
2. Locate the RT. Refer to aircraft manual for location.

NOTE

The RT and program module assembly are classified CONFIDENTIAL. Always keep the RT and program module assembly in a closed area at a secure facility when storage is required.



TYPICAL LOCATION OF RT



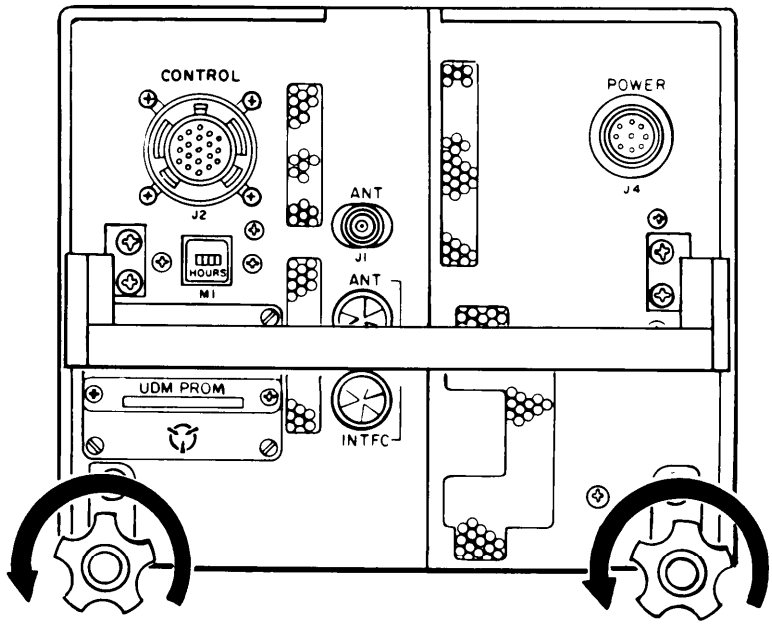
WARNING

Always turn system power off before disconnecting RT cables. If power is left on, you could be injured or killed by high voltage in the power cable.

3 Disconnect three cables from front panel of RT. Use padded slip joint pliers, if necessary, to remove connectors.

4 Release RT handle by depressing latches and lock it in full down position.

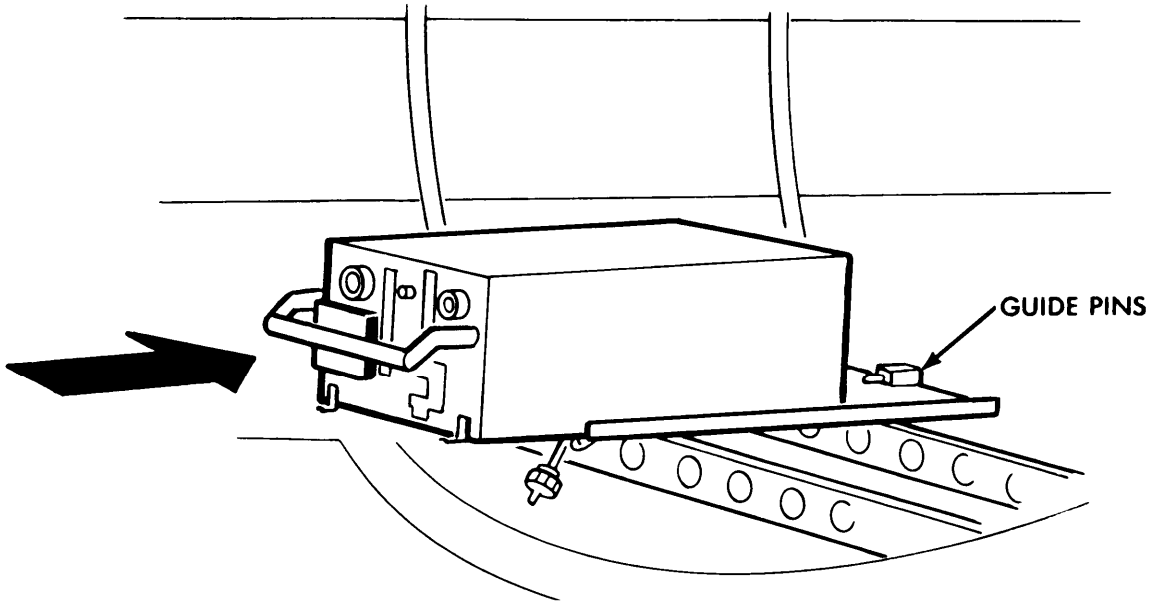
Release RT hold-down fasteners by unscrewing knurled knobs. Swing fasteners away from RT.



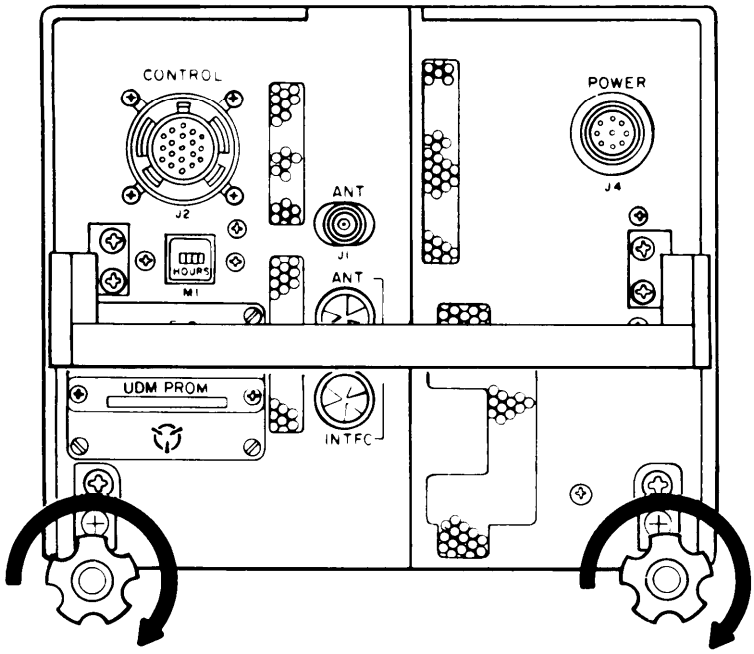
6 Carefully pull RT out of mounting rack using RT handle.

c. RT Installation. Perform the following procedure to install the RT in the aircraft.

1. Carefully slide RT into mounting rack. Align guide pins on rack with holes in rear of RT.

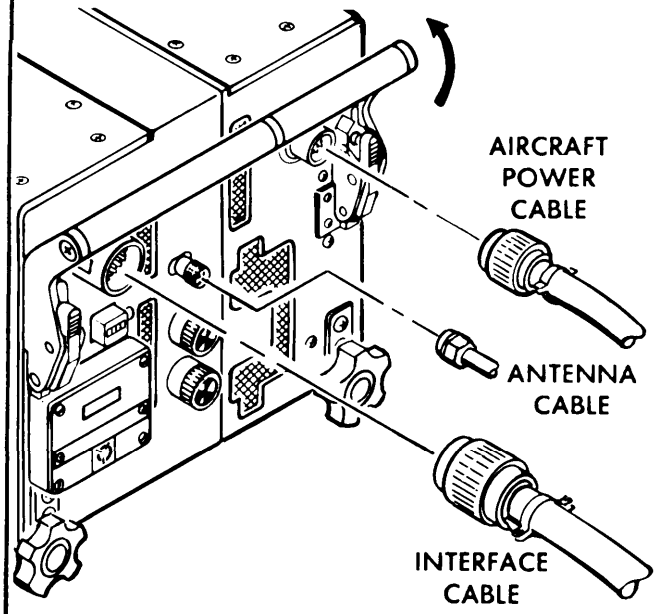


2. Swing RT hold-down fasteners up and tighten knurled knobs.



WARNING

Always turn system power off before connecting RT cables. If power is left on, you could be injured or killed by high voltage in the power cable.

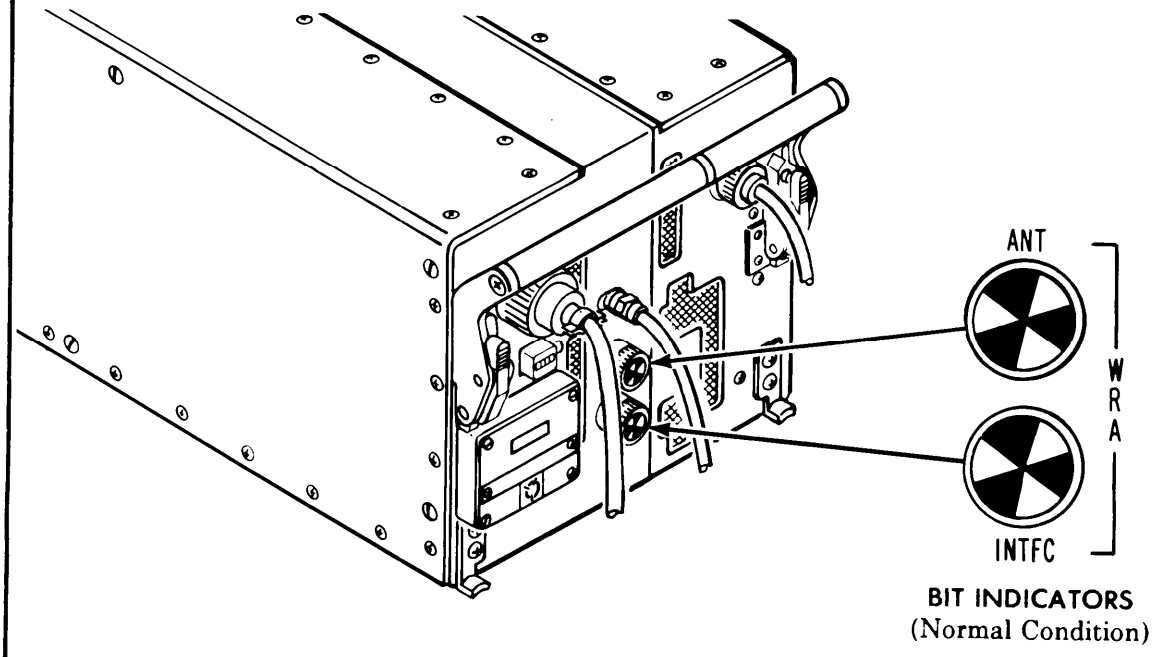


3. Release RT handle by depressing latches and lock it in full up position.

4. Connect interface cable to CONTROL connector J2 and aircraft power cable to POWER connector J4. (Use slip joint pliers, if necessary.)

5. Connect antenna cable to ANT connector J1 and tighten connector with preset torque wrench.

6. If necessary, reset BIT indicators on replacement RT to indicate normal condition as shown below. BIT indicators are reset by turning them clockwise 1/4 turn.



BIT INDICATORS
(Normal Condition)

7. Perform the operational test (paragraph 3-9) to make sure the CM Set is working properly.

3-13 ANTENNA REMOVAL AND INSTALLATION.

This paragraph contains removal and installation instructions for antennas installed with flexible coaxial cable and antennas installed in EH-60A aircraft that use rigid waveguide. For antenna installations that use rigid coaxial cable or flexible waveguide, refer to the applicable aircraft manual listed in appendix A.

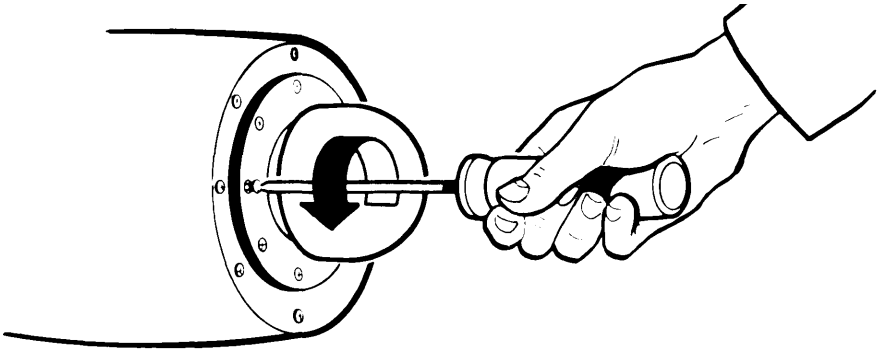
a. Tools and Materials Required.

Tool Kit, Electronic Equipment TK-101/G
Hex Driver, Ball Point 7/64 in
Screwdriver, #2 cross-tip
Waveguide Caps (as required)
Preformed Gaskets (as required)
Clean Rags
Freon TMS

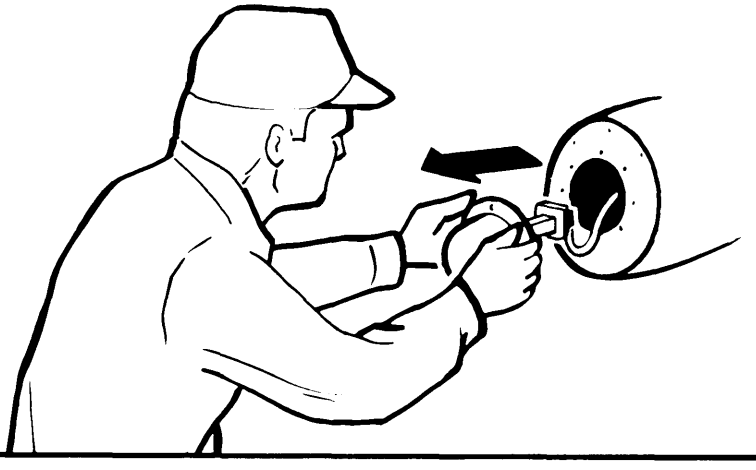
b. Antenna Removal (Flexible Coaxial Cable Installations). Perform the following procedure to remove antenna from the aircraft.

1. Turn system power off. Refer to aircraft manual for instructions.

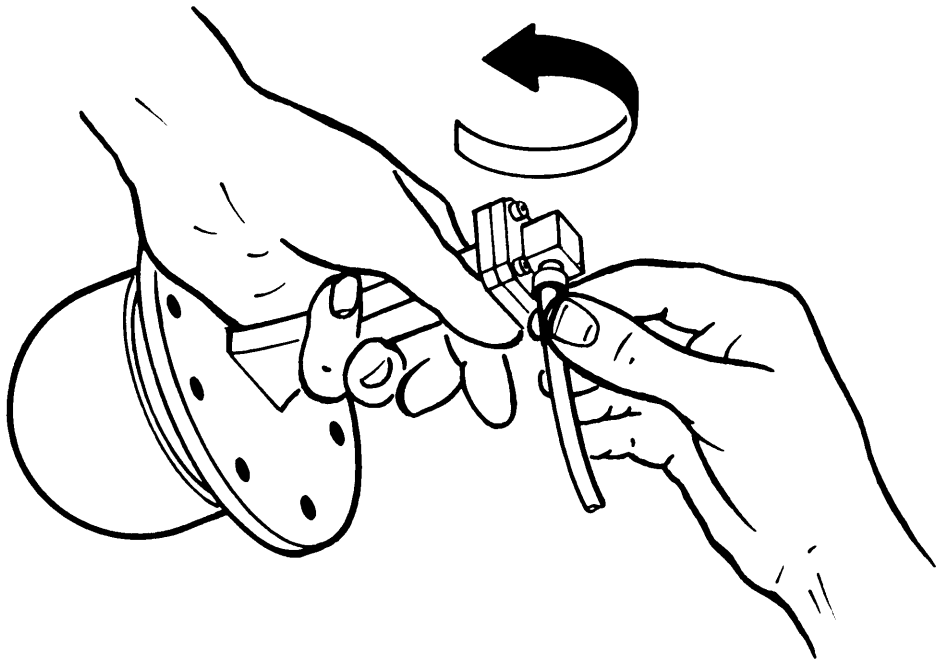
2. Remove eight screws from antenna mounting flange.



3. Carefully pull antenna and coaxial cable out of aircraft.

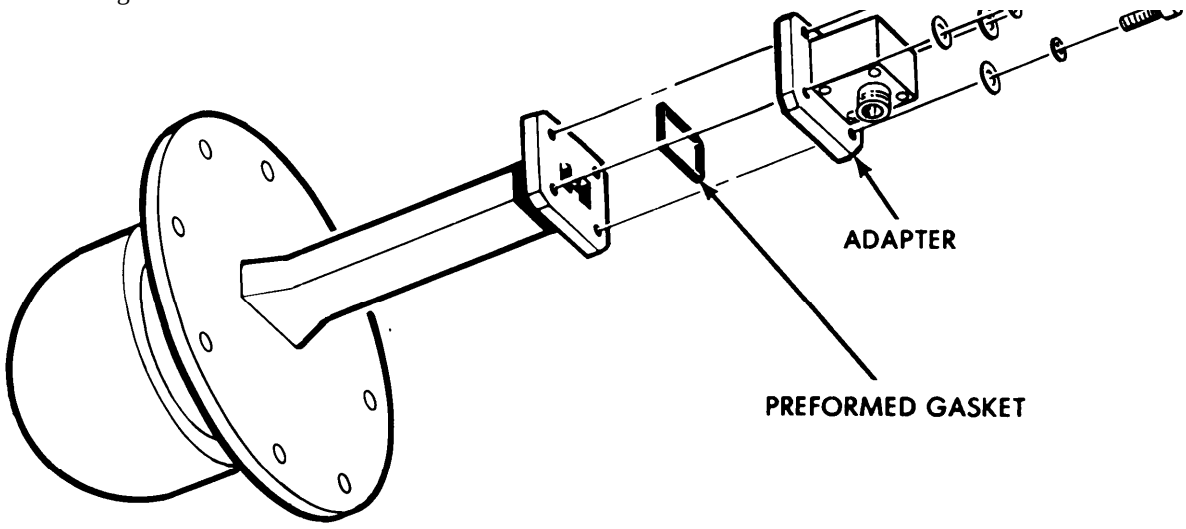


4 Remove coaxial cable from adapter by turning connector counterclockwise and removing cable.

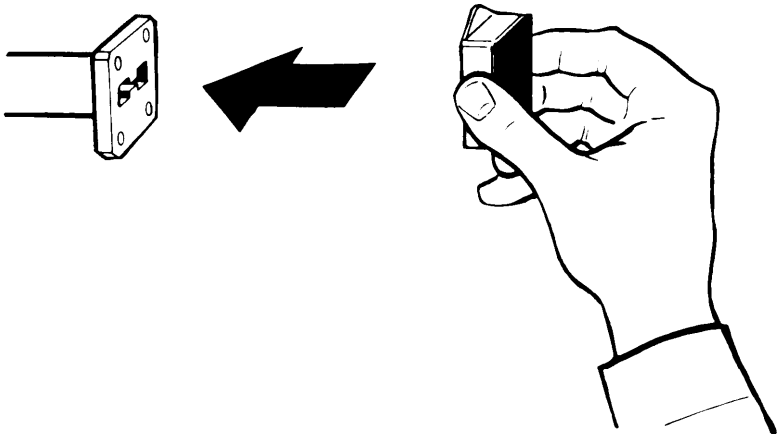


5 Remove adapter from antenna by removing four internal hex cap screws.

6 If preformed gasket separates from adapter, store gasket in a safe clean area.



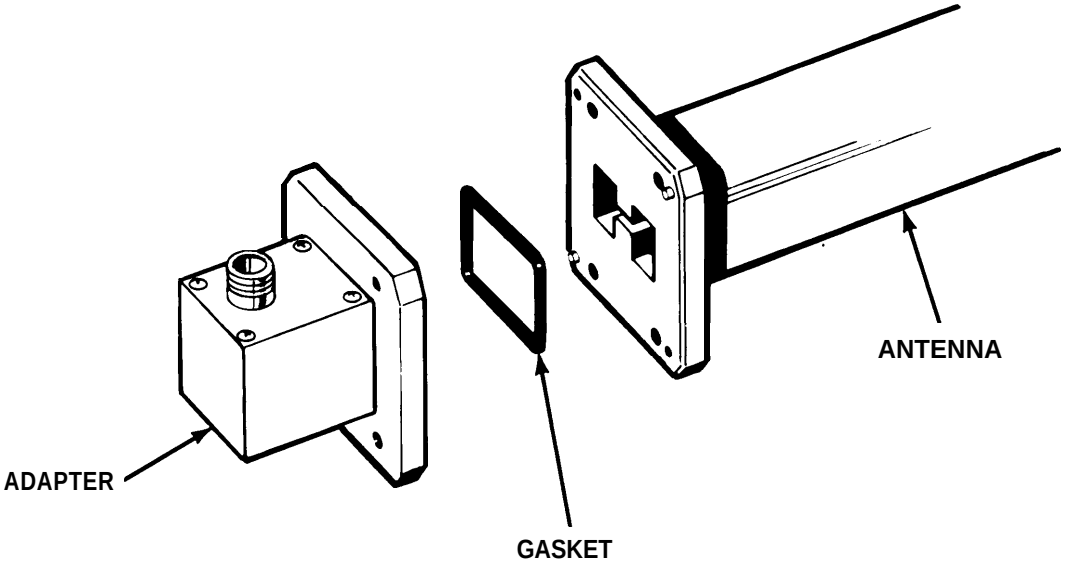
7 Cap open waveguide sections to prevent foreign particles from entering.



c. Antenna Installation (Flexible Coaxial Cable Installations). Perform the following procedure to install antenna in the aircraft.

1 Clean mating surfaces of antenna and adapter with freon solvent using a clean rag.

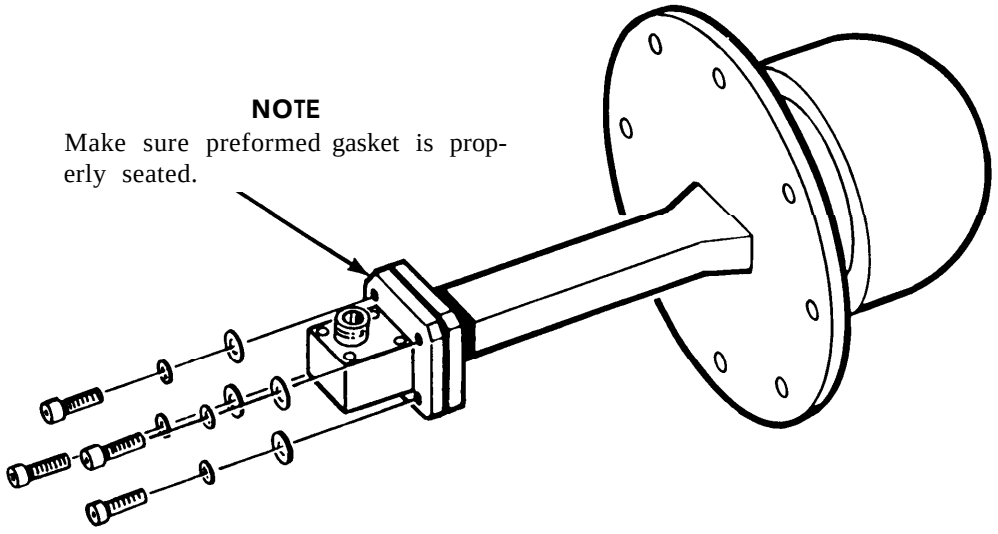
2 Replace preformed gasket if damaged or dirty.



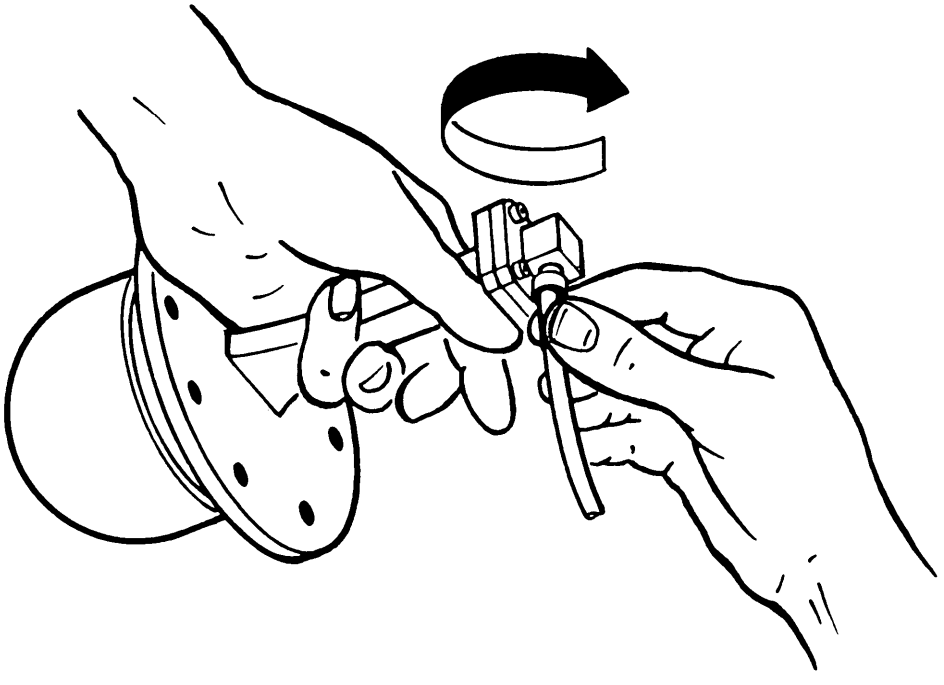
3 Attach adapter to replacement antenna by securing four internal hex cap screws.

NOTE

Make sure preformed gasket is properly seated.

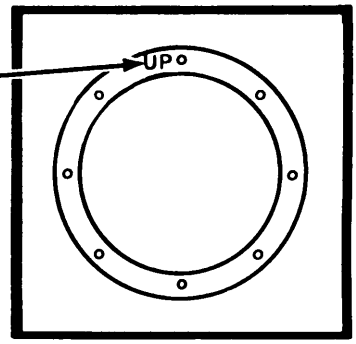


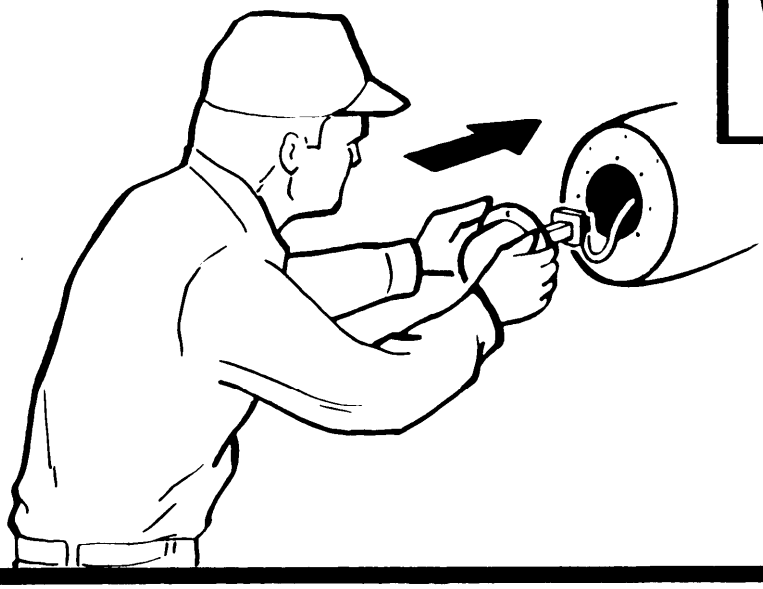
4 Attach coaxial cable to adapter by inserting cable into connector and turning connector clockwise.



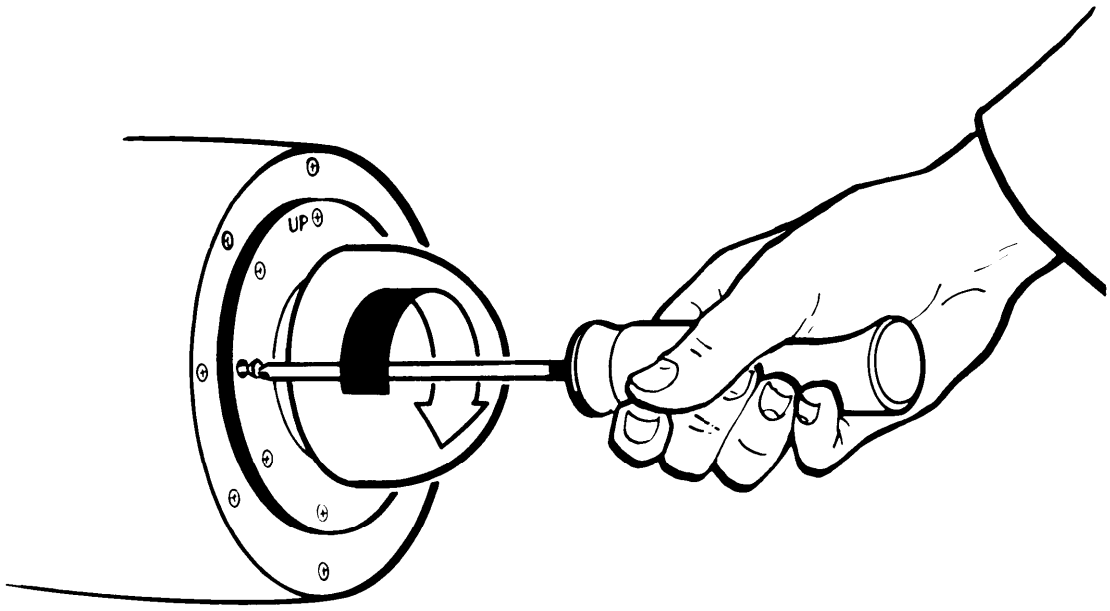
5 Carefully insert replacement antenna, with coaxial cable attached, into the aircraft.

NOTE
Make sure the UP label on antenna mounting flange is at the top.





6 Secure the antenna using eight screws.

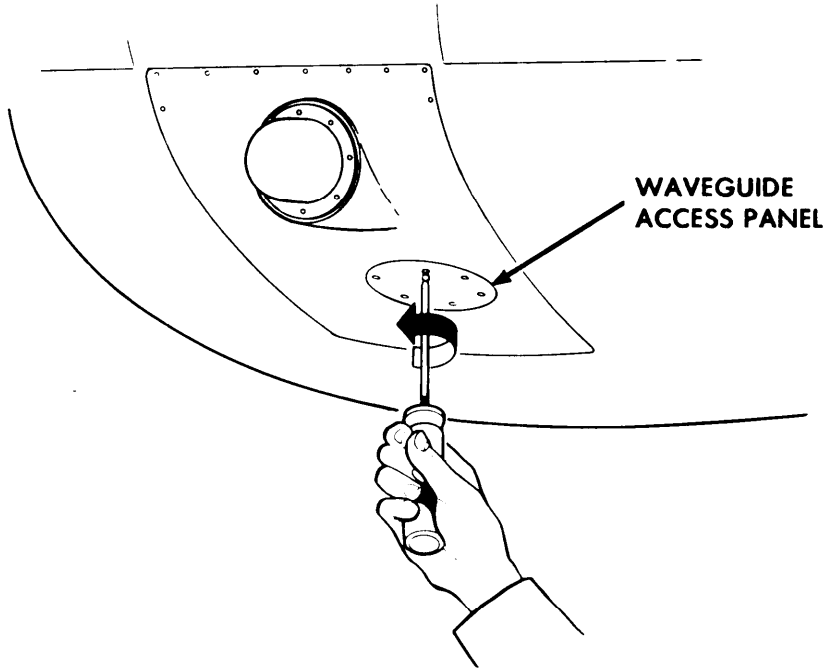


7 Perform the operational test (paragraph 3-9) to make sure the CM Set is working properly.

d. Forward Antenna Removal (EH-60A). Perform the following procedure to remove forward antenna from the aircraft.

1. Turn system power off. Refer to aircraft manual for instructions.

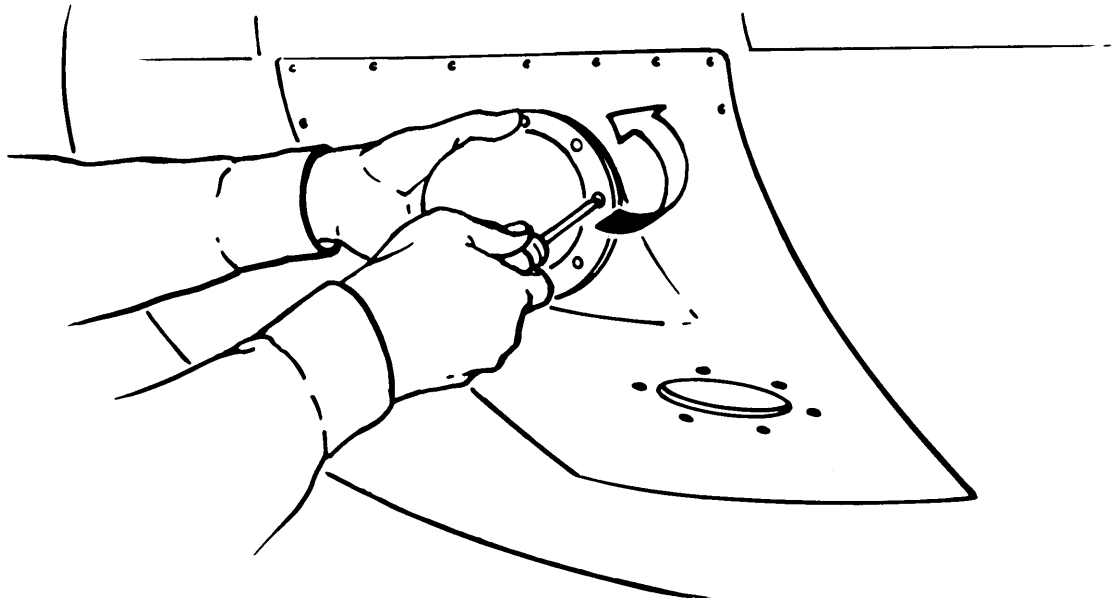
2. Remove six screws from waveguide access panel and remove panel.



CAUTION

Carefully support antenna to avoid waveguide damage.

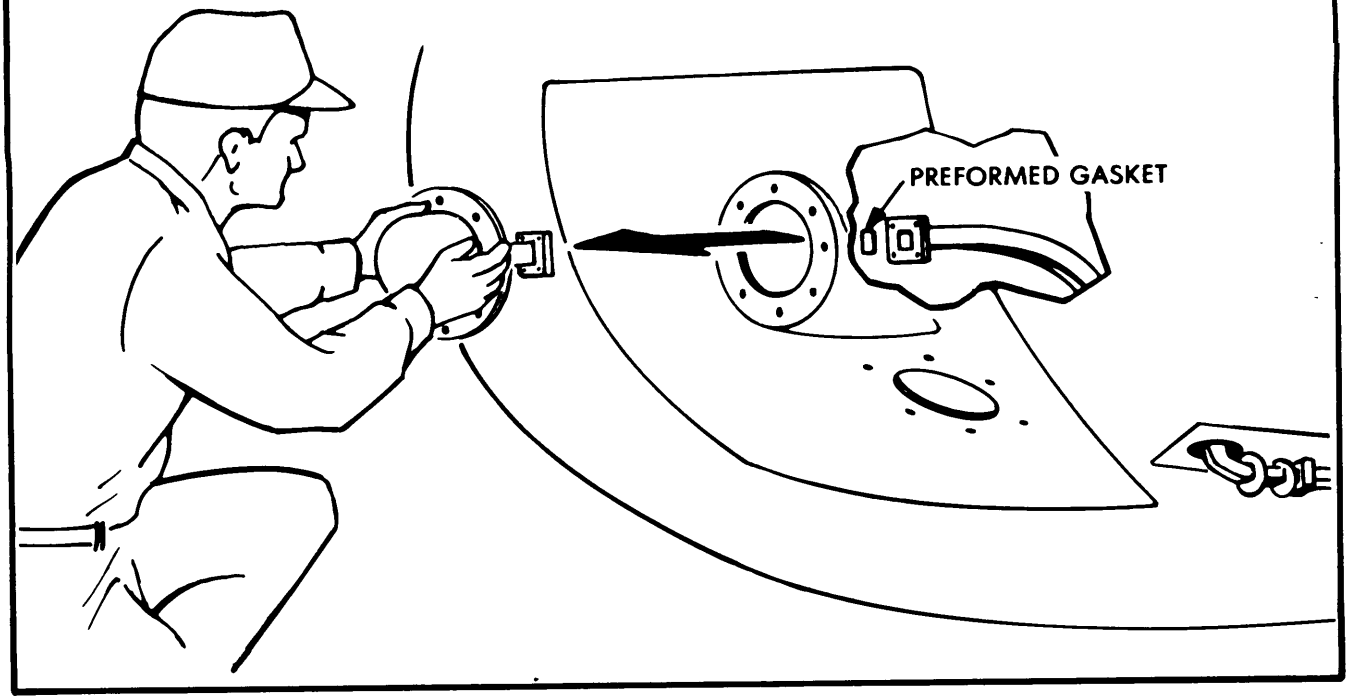
3. Remove eight screws from antenna mounting flange.



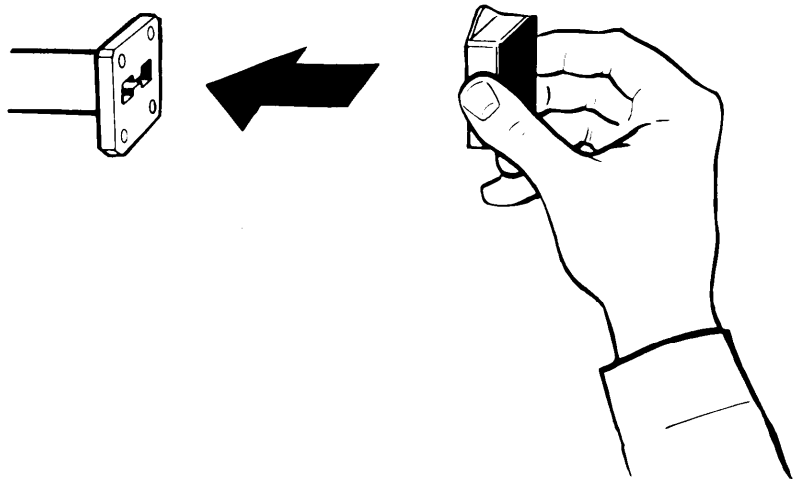
Using ball point hex driver, remove four internal hex cap screws from waveguide flange.

5 Carefully remove antenna from aircraft.

6 If preformed gasket separates from waveguide, store gasket in a safe clean area.



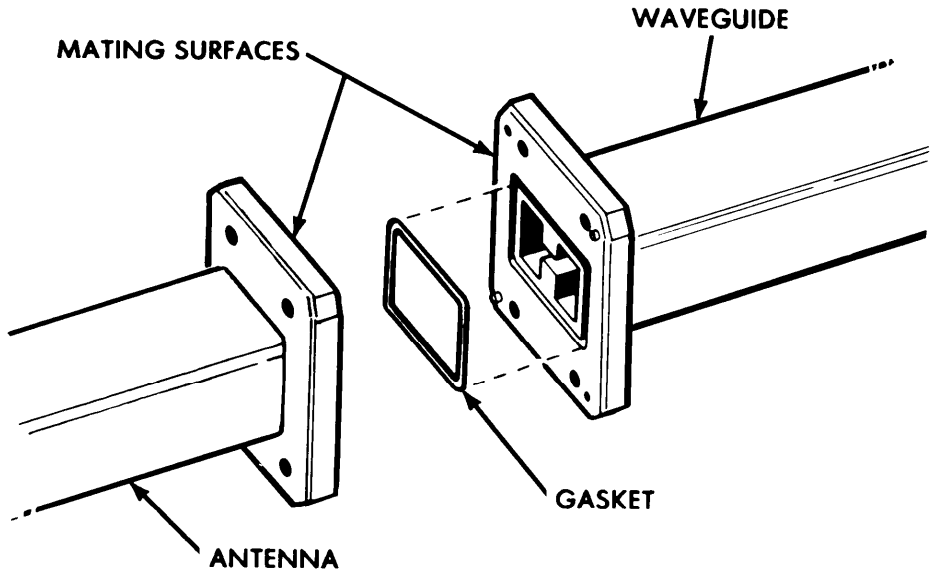
7 Cap open waveguide sections to prevent foreign particles from entering.



e. Forward Antenna Installation (EH-60A). Perform the following procedure to install forward antenna in the aircraft.

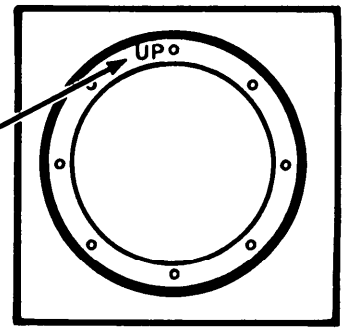
1 Clean mating surfaces of antenna and waveguide with freon solvent using a clean rag.

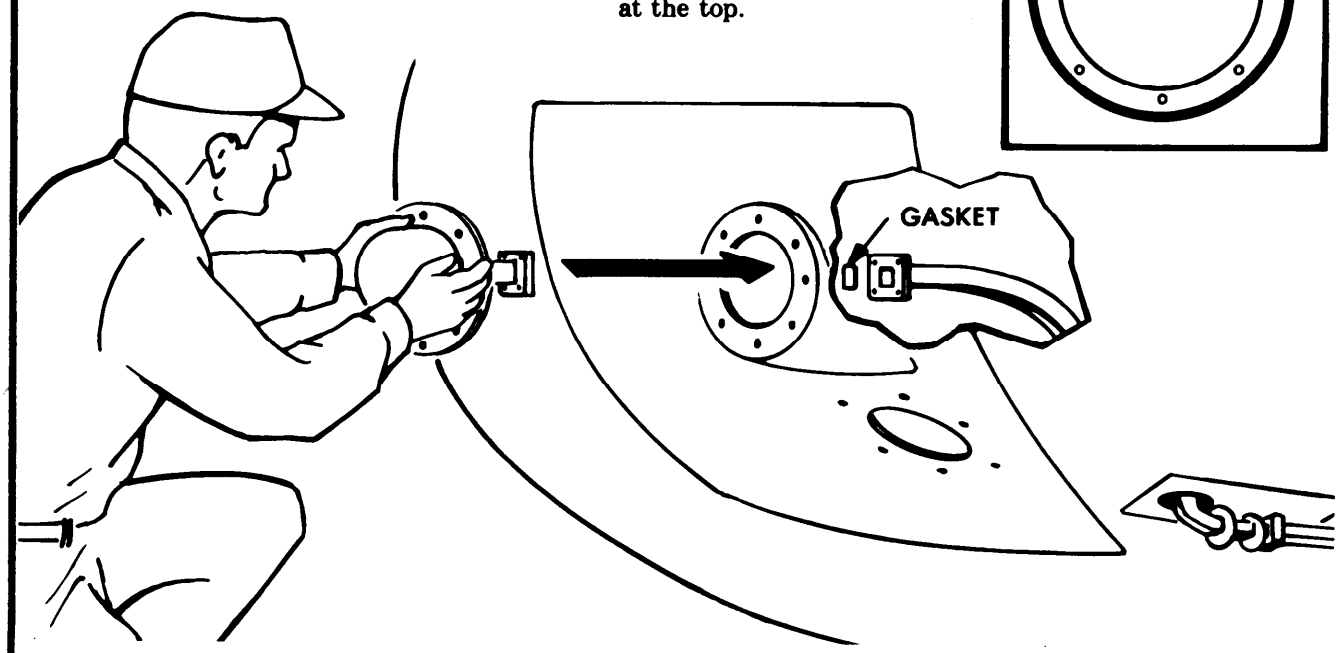
2 Replace preformed gasket if damaged or dirty.



3 Carefully insert replacement antenna into the aircraft.

NOTE
Make sure the UP label on antenna mounting flange is at the top.

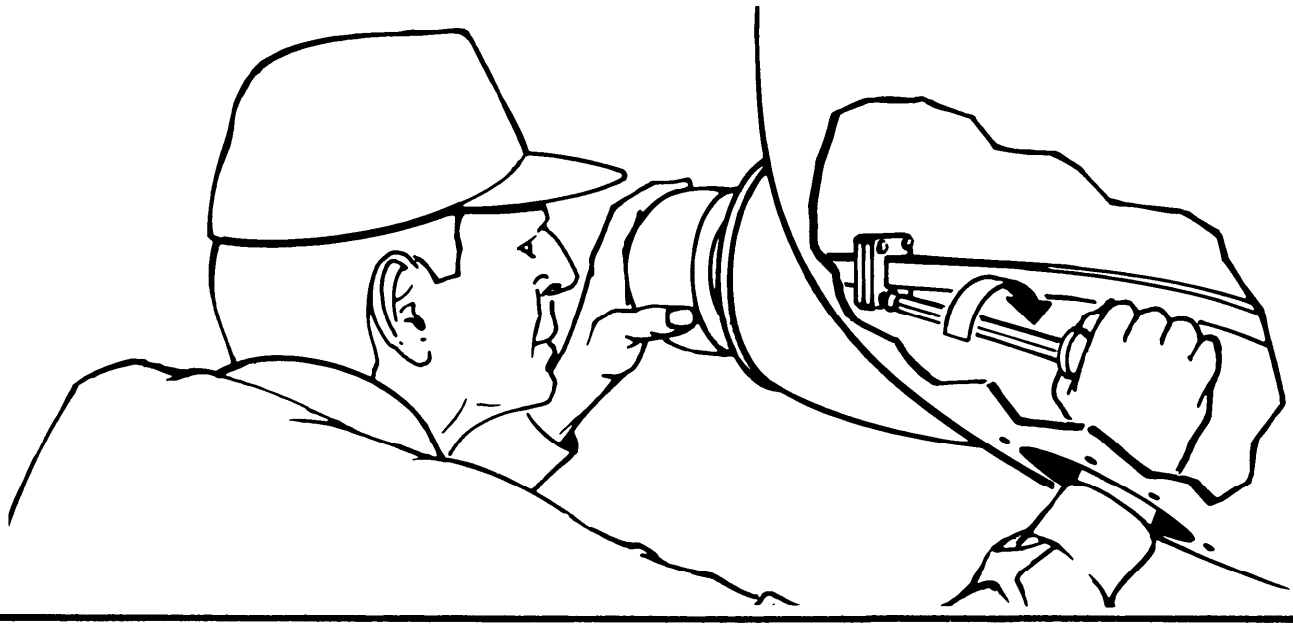




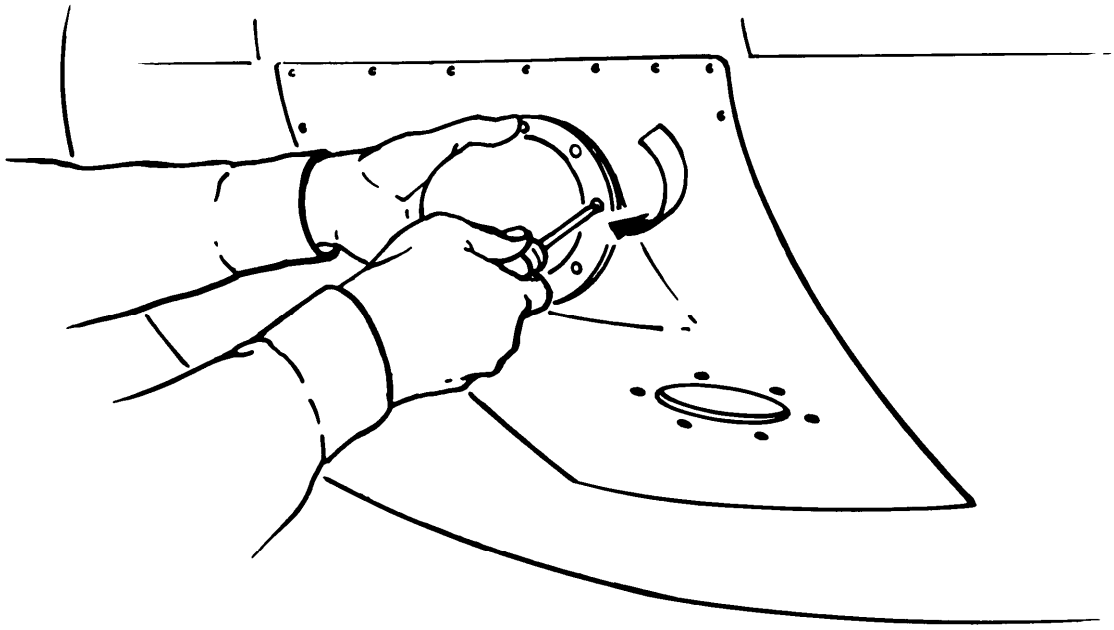
CAUTION

Carefully support antenna to avoid waveguide damage.

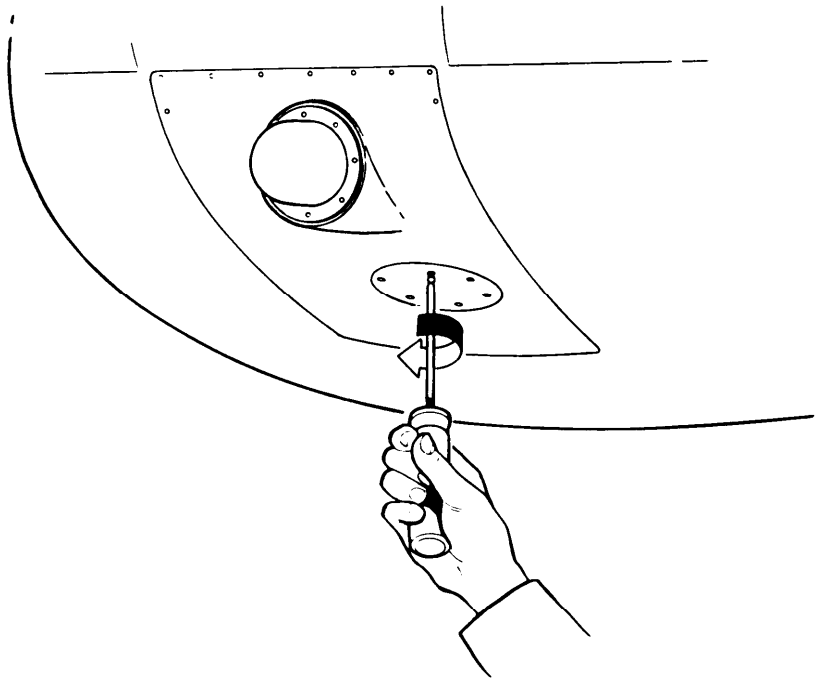
4 Using ball point hex driver, secure antenna to waveguide flange using four internal hex cap screws.



5 Secure the antenna using eight screws.



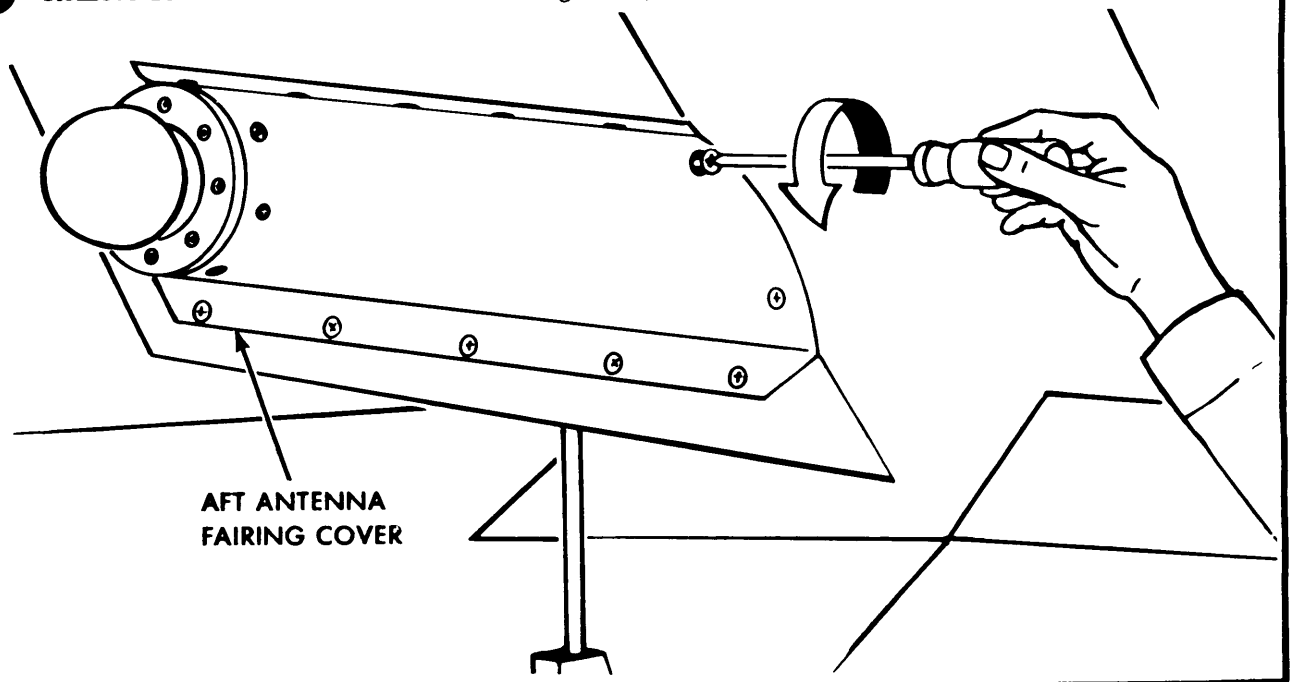
6 Install waveguide access panel using six screws.



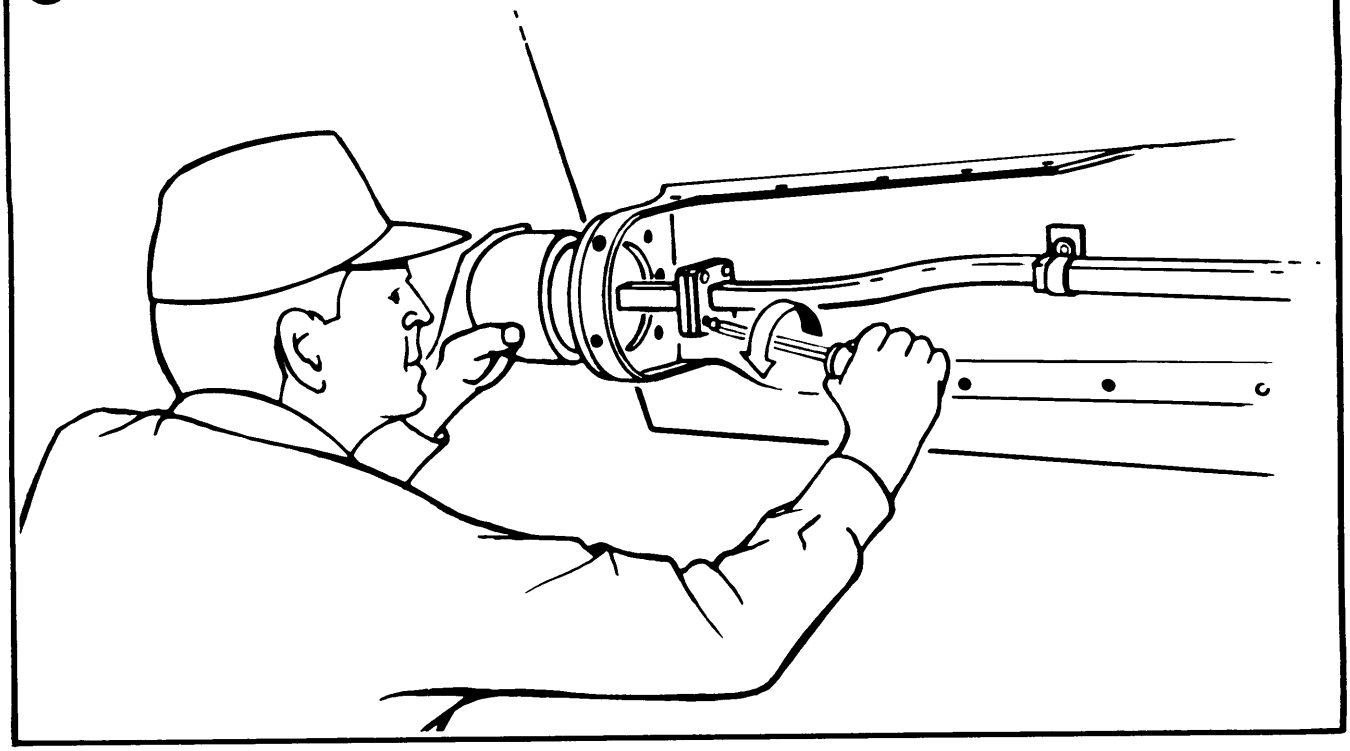
7 Perform the operational test (paragraph 3-9) to make sure the CM Set is working properly.

f. Aft Antenna Removal (EH–60A). Perform the following procedure to remove aft antenna from the aircraft.

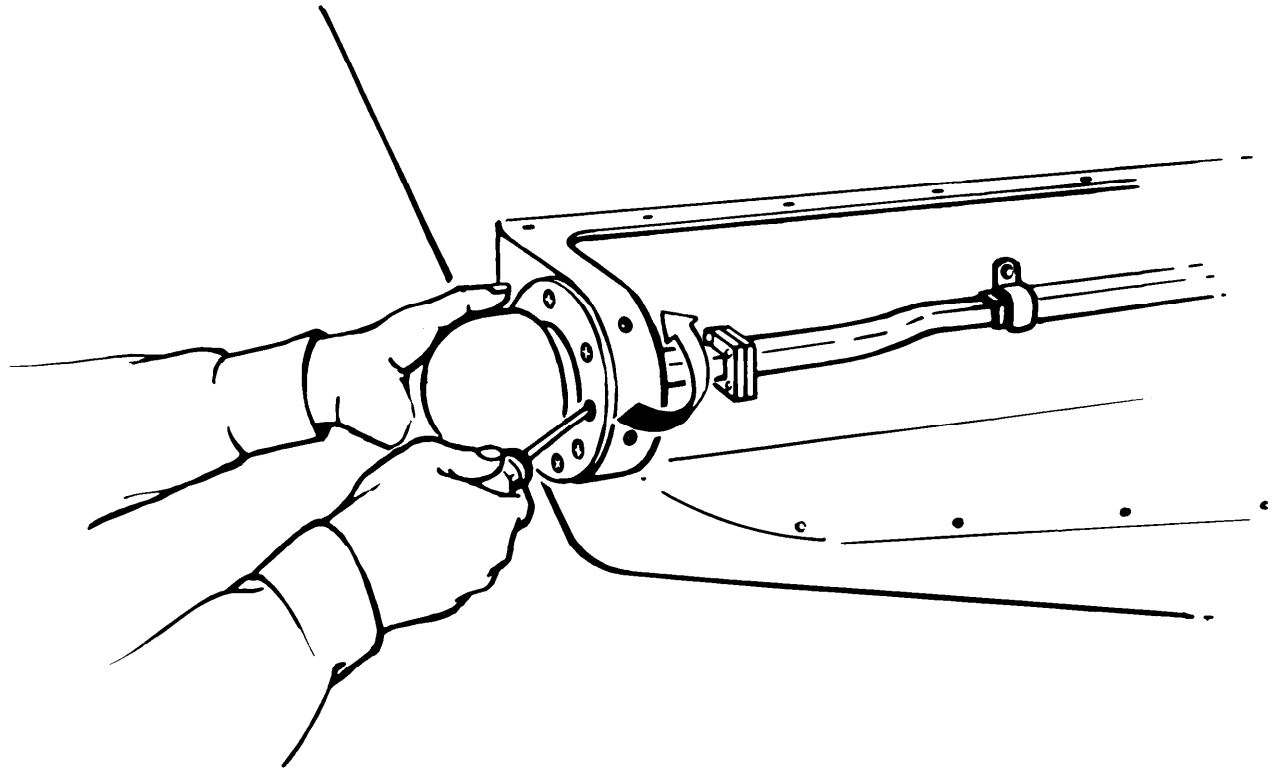
1. Turn system power off. Refer to aircraft manual for instructions.
2. Remove 16 screws from aft antenna fairing cover, and remove cover.



3. Using ball point hex driver, remove four internal hex cap screws from waveguide flange.

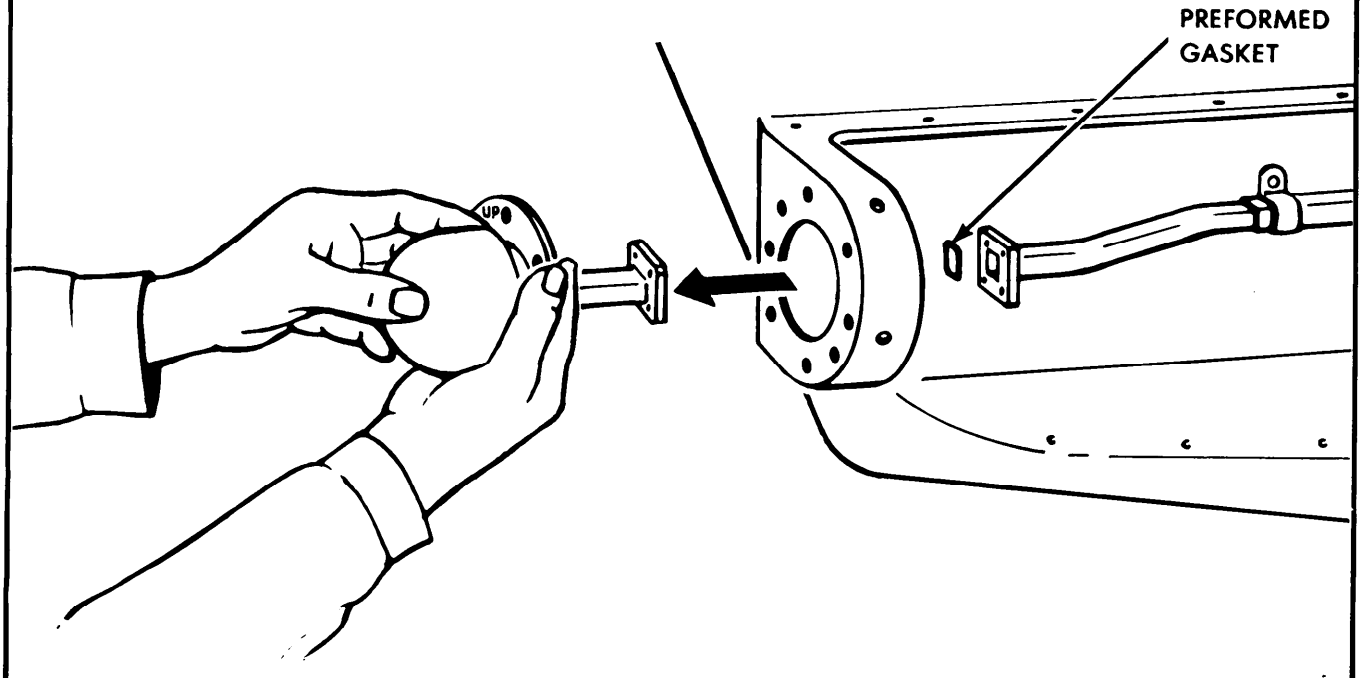


4 Remove eight screws from antenna mounting flange.

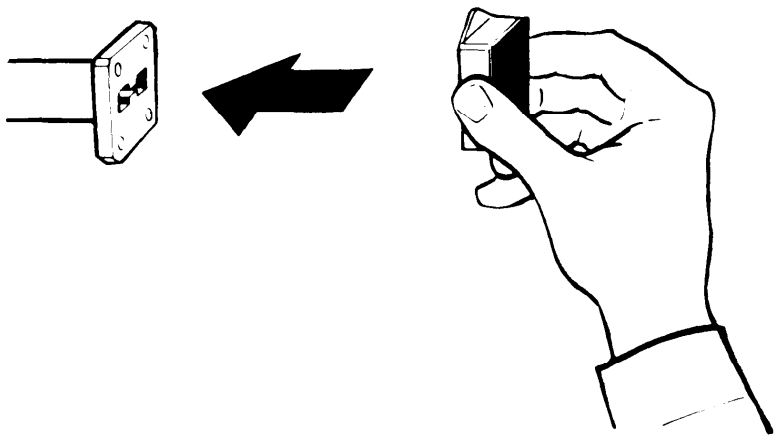


5 Carefully remove antenna from aircraft.

6 If preformed gasket separates from waveguide, store gasket in a safe clean area.



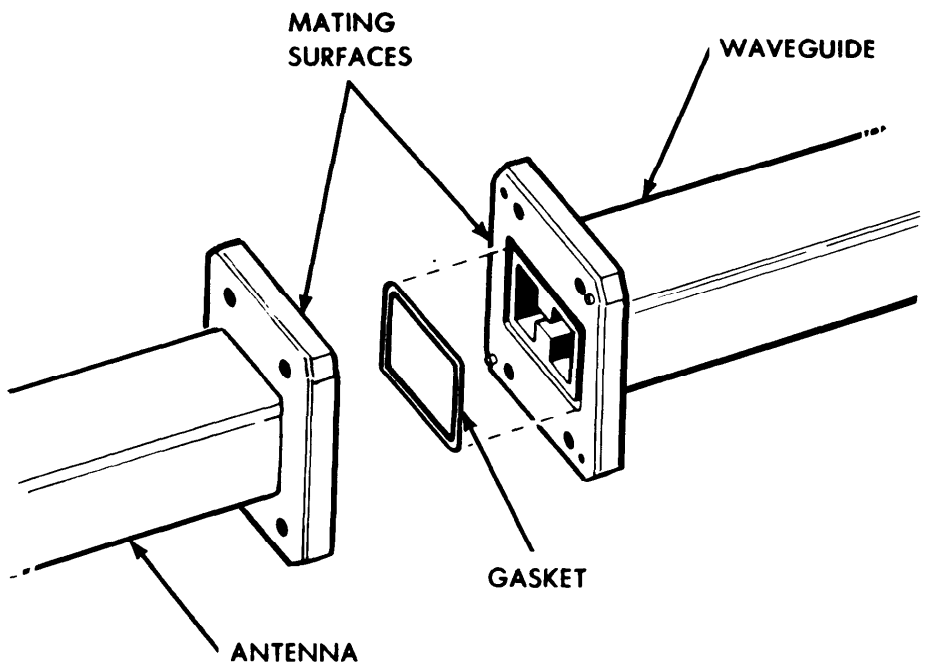
7 Cap open waveguide sections to prevent foreign particles from entering.



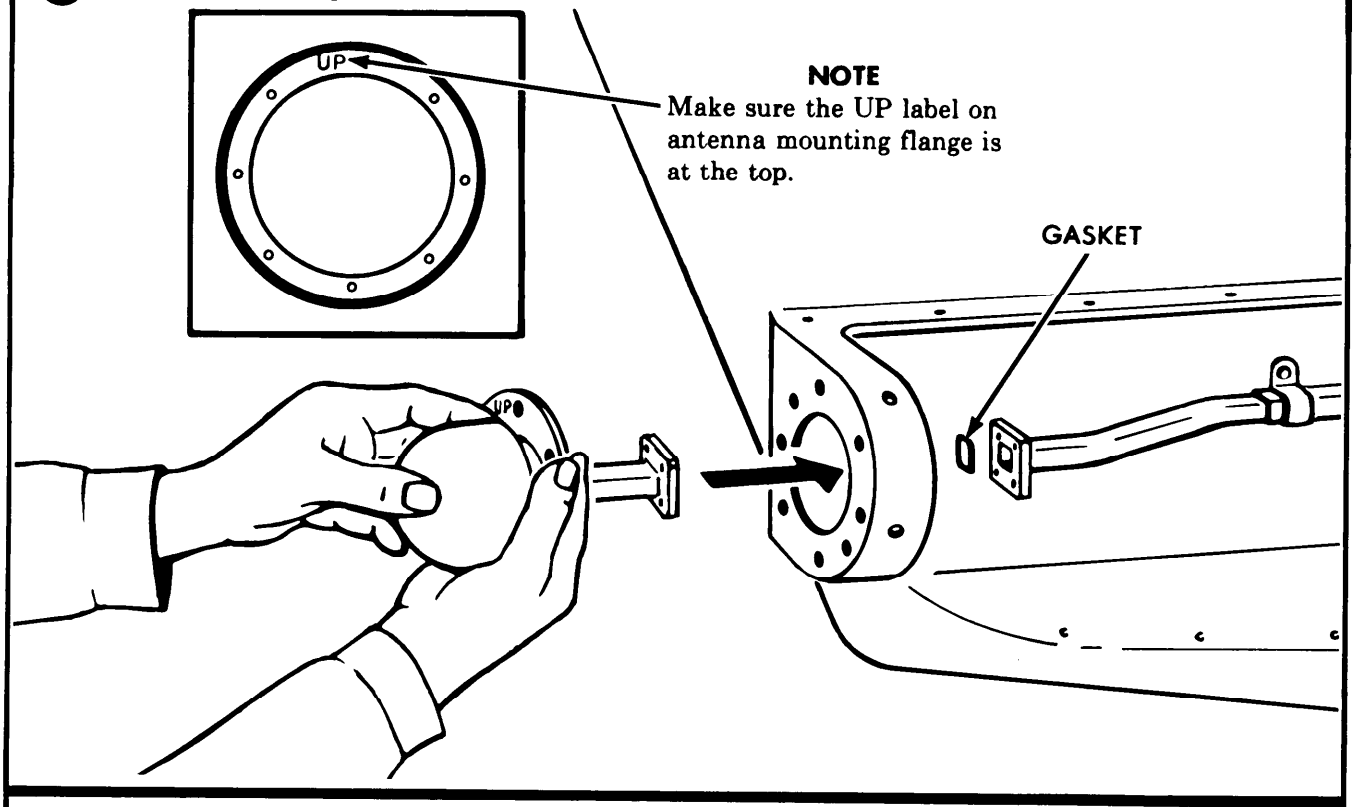
g. Aft Antenna Installation (EH-60A). Perform the following procedure to install aft antenna in the aircraft.

1 Clean mating surfaces of antenna and waveguide with freon solvent using a clean rag.

2 Replace preformed gasket if damaged or dirty.



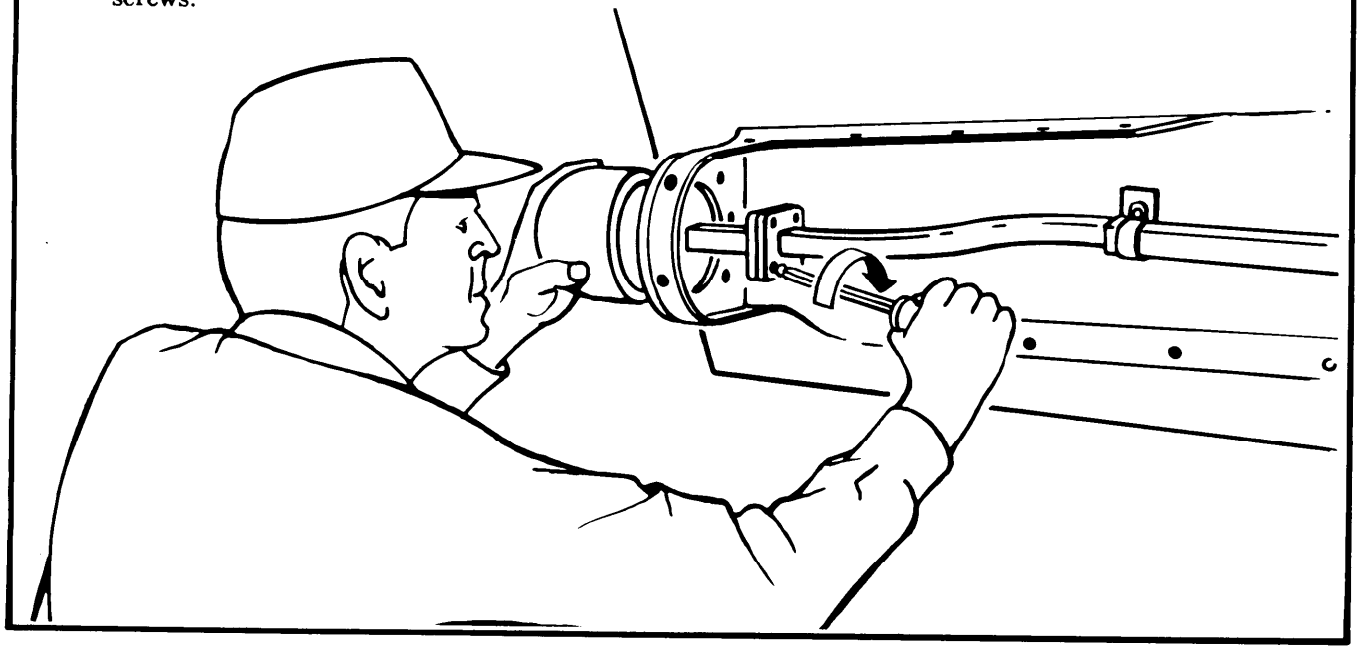
3 Carefully insert replacement antenna into the aircraft.



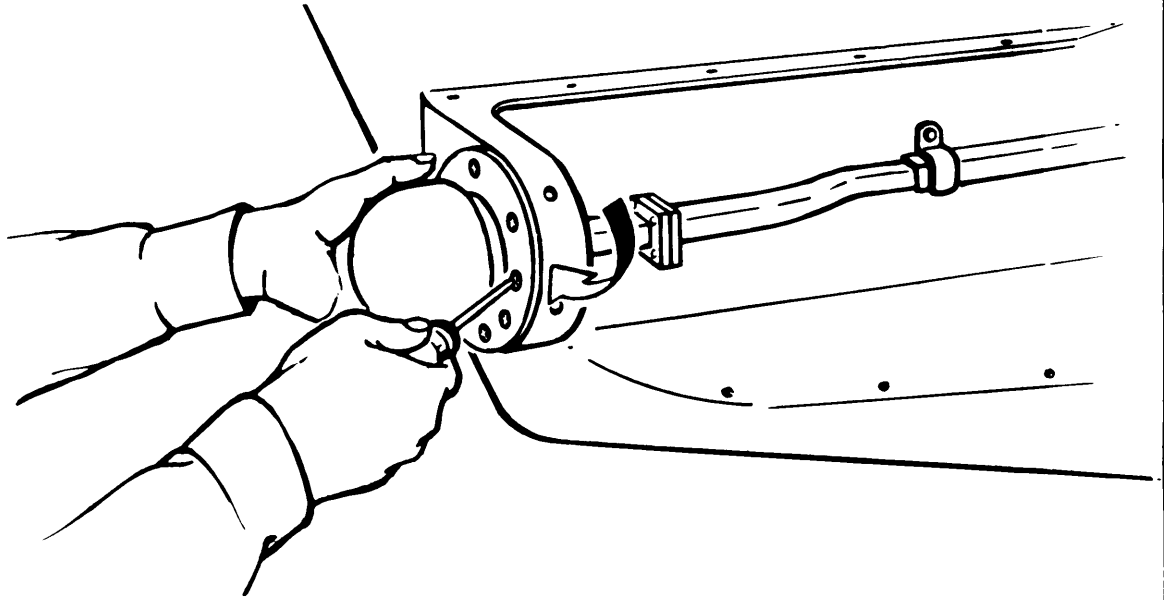
CAUTION

Carefully support antenna to avoid waveguide damage.

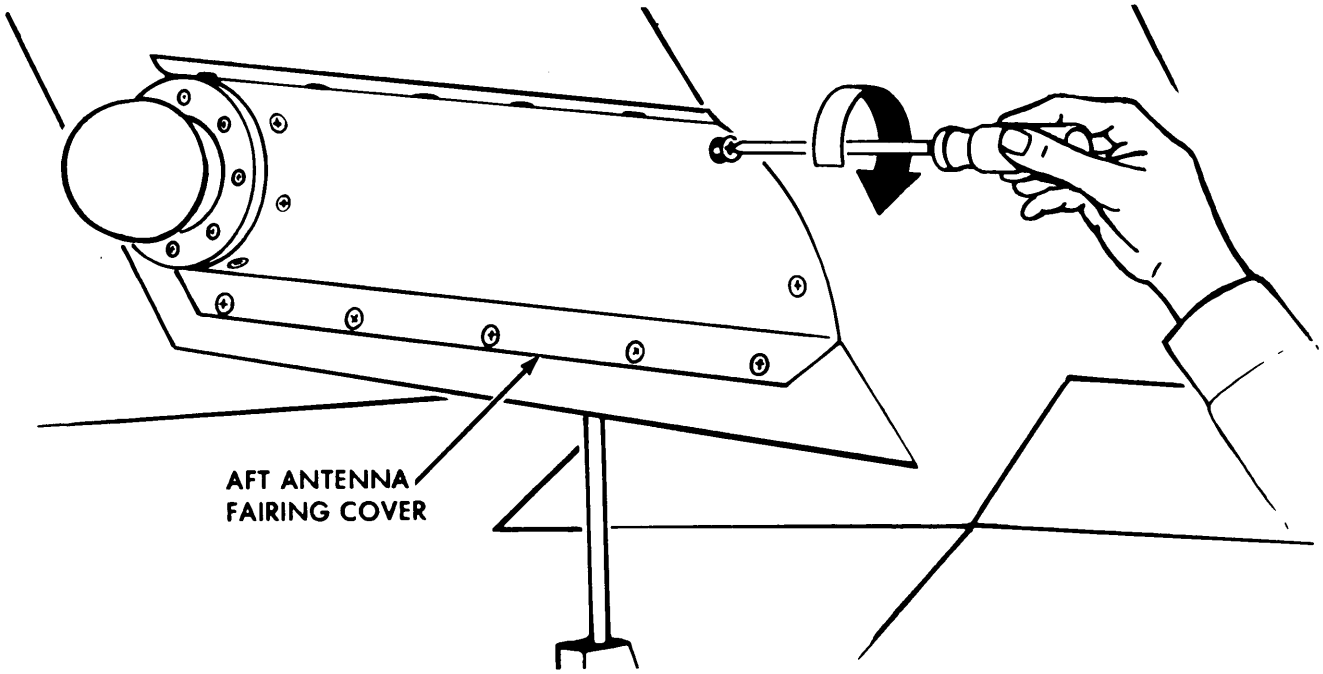
4 Using ball point hex driver, secure antenna to waveguide flange using four internal hex cap screws.



5 Secure the antenna using eight screws.



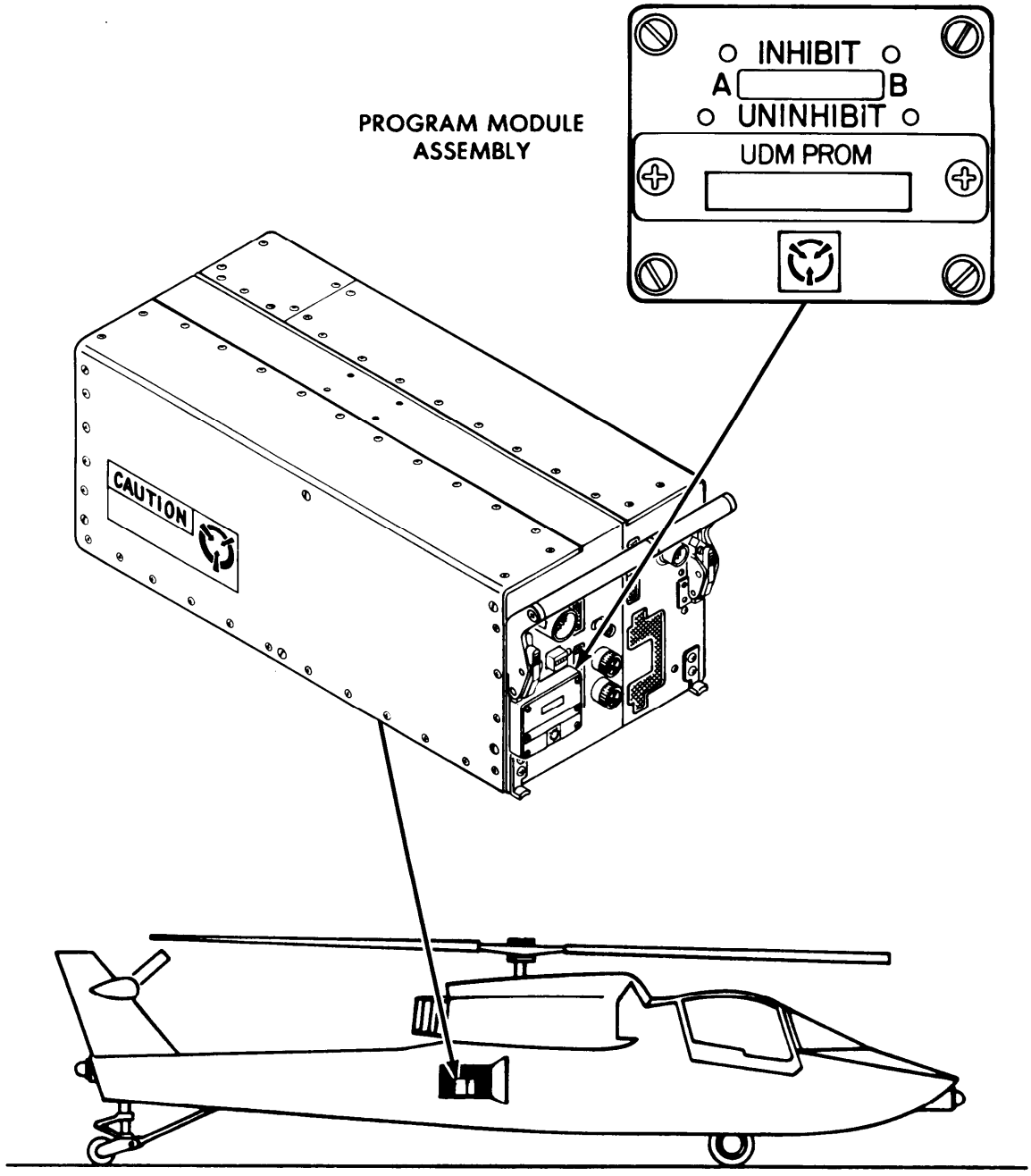
6 Install aft antenna fairing cover using 16 screws.



7 Perform the operational test (paragraph 3-9) to make sure the CM Set is working properly.

3-14 PROGRAM MODULE ASSEMBLY REMOVAL AND INSTALLATION.

The program module assembly, located on the front of the RT, contains a threat program memory that determines the mission profile of the CM Set. The mission profile can be changed by replacing the program module assembly with one that contains a different threat program memory. The mission profile is also controlled by the RT mode setting. The RT mode setting is determined by two band-inhibit jumper plugs located on the RT, behind the program module assembly. Instructions for changing the program module assembly and setting the band-inhibit jumper plugs are provided in the following pages.



TYPICAL LOCATION OF RT

NOTE

The RT and program module assembly are classified CONFIDENTIAL. Control all classified equipment in accordance with appropriate government regulations.

a. Tools and Materials Required.

Tool Kit, Electronic Equipment TK-101/G
Screwdriver, #2 common-tip
Flashlight

Torque Screwdriver, TS-100

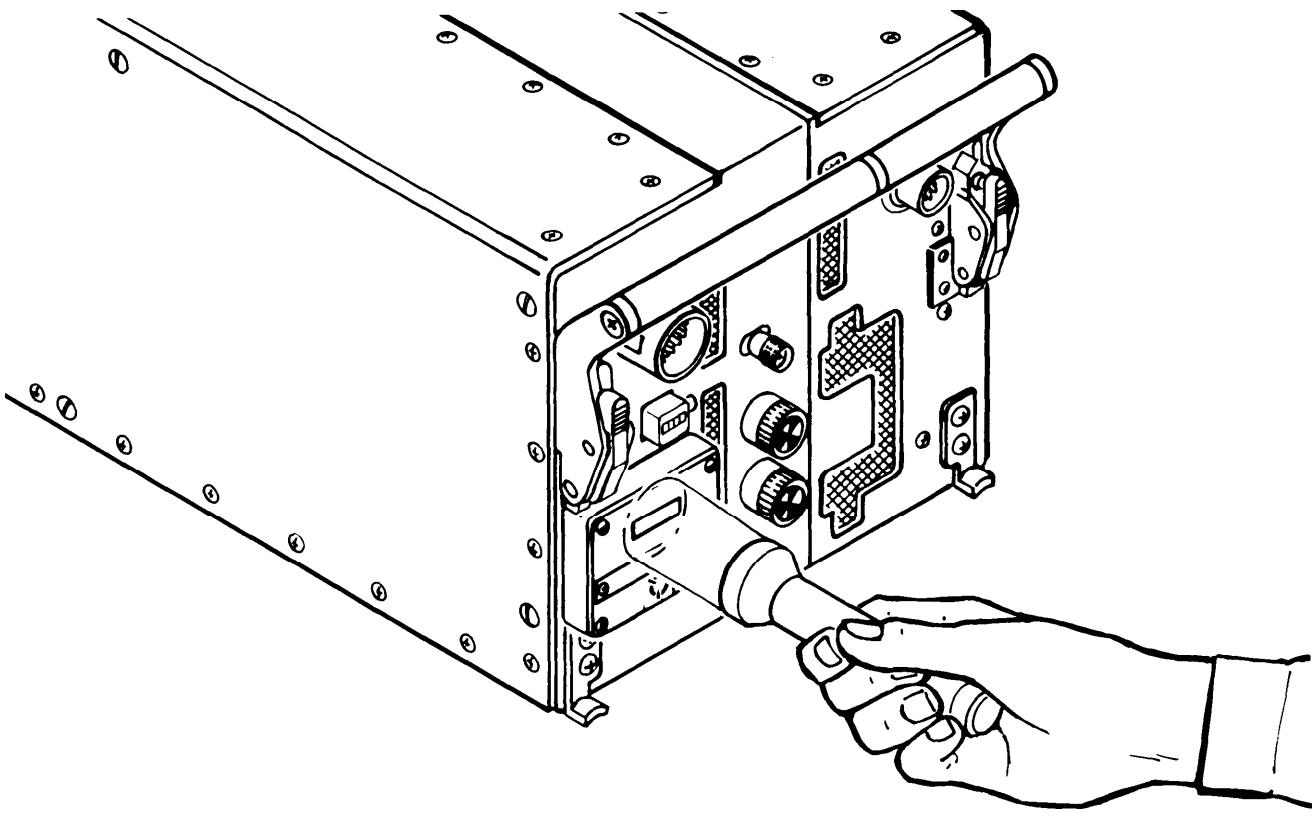
Driver Bit, #2 common-tip, X185-4

Static Barrier Bag

Static Caution Label

b. RT Mode Verification. Perform the following procedure to verify the RT mode setting. Your commander will tell you what mode the RT should be in.

1. Use a flashlight to see if the white jumper plugs are visible through the window in the program module assembly cover while viewing the window at eye level.
   - If the white plugs are visible, the RT is in the INHIBIT mode.
   - If the white plugs are not visible, the RT is in the UNINHIBIT mode.
2. If the RT mode setting does not agree with your commander's direction, proceed to the RT mode change procedure (paragraph 3-14d).

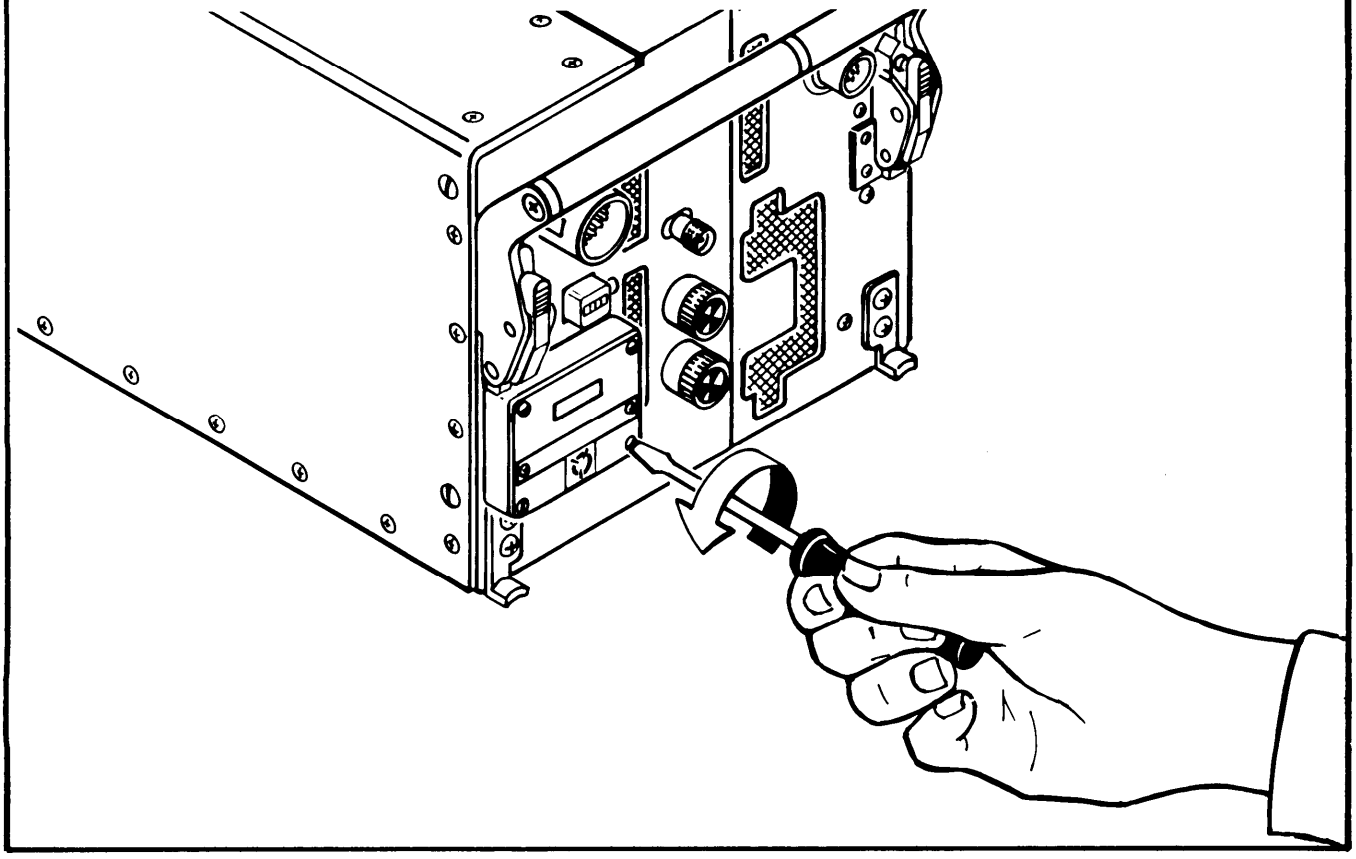


c. Program Module Assembly Removal. Perform the following procedure to remove the program module assembly from the RT.

CAUTION

- The program module assembly contains components that can be damaged by electrostatic discharge (ESD) during handling. To avoid damaging these components, handle the module by the cover only.
- After removing the program module assembly, store it in a static barrier bag to prevent ESD damage.

1. Turn system power off. Refer to aircraft manual for instructions.
2. Loosen four captive screws on program module assembly cover.
3. Carefully slide program module assembly out of the RT.
4. Immediately place the program module assembly into a static barrier bag and seal it with a static caution label.



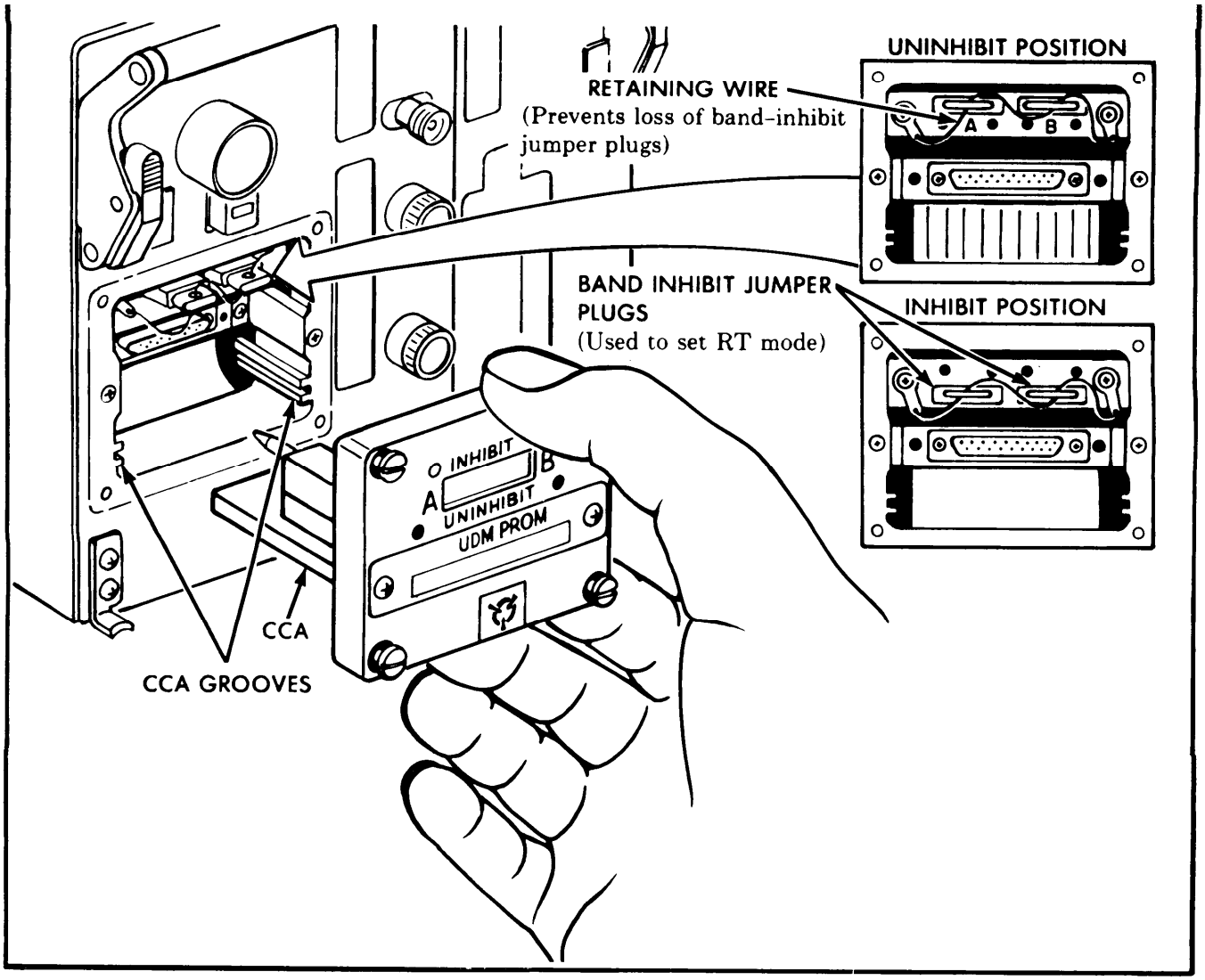
d. Changing RT Mode. Perform the following procedure to change the RT mode.

NOTE

If you have not been directed to change the RT mode, proceed to the program module assembly installation procedure (paragraph 3-14e), if necessary.

Perform the program module assembly removal procedure (paragraph 3-14c) to gain access to the band-inhibit jumper plugs.

Remove the band-inhibit jumper plugs with your fingers or small pliers and insert them in new position. Your commander will tell you what position the plugs should be in.

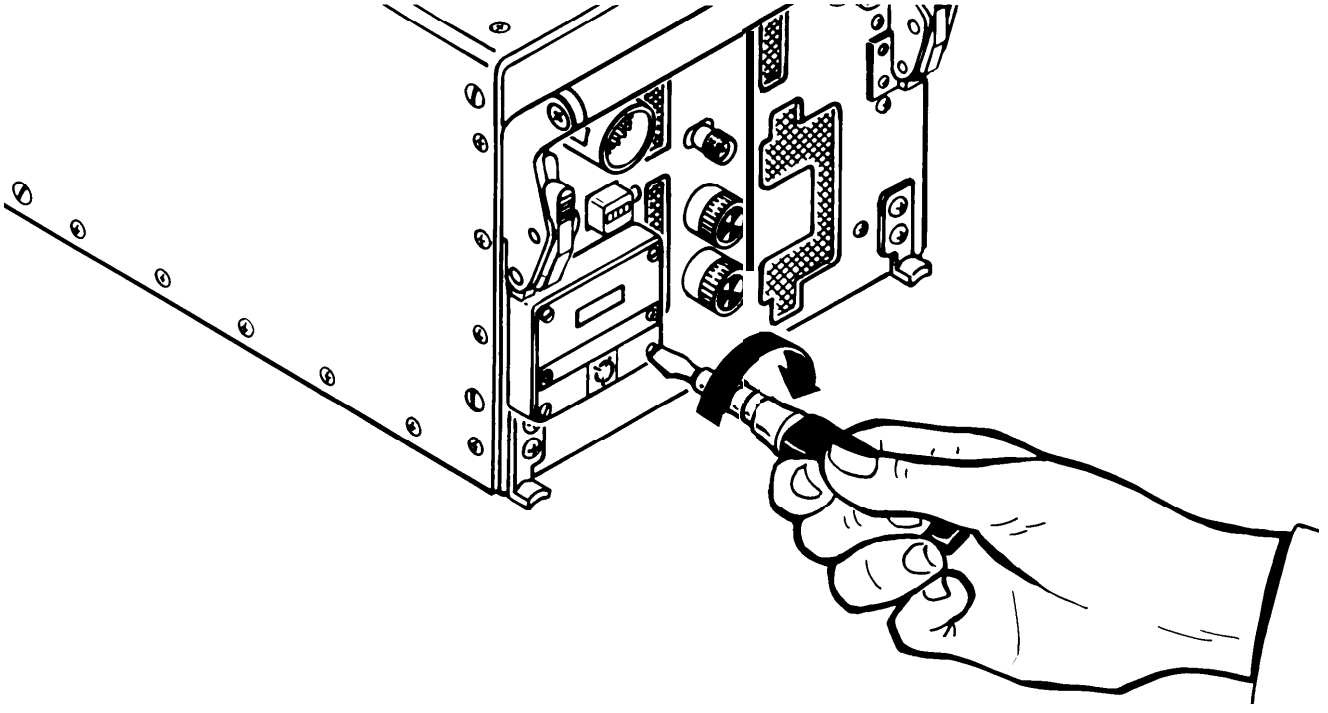


e. Program Module Assembly Installation. Perform the following procedure to install the program module assembly in the RT.

CAUTION

Leave replacement program module assembly in the static barrier bag until you are ready to install it.

1. Carefully remove replacement program module assembly from static barrier bag. Remember to handle it by the cover only.
2. Line up program module assembly CCA with CCA grooves on the RT,
3. Carefully push replacement program module assembly straight into RT until plug on assembly is mated with connector on RT.
4. Tighten four captive screws on program module assembly with torque screwdriver to 5 ±1 in/lb.



Perform the operational test (paragraph 3–9) to make sure the CM Set is working properly.

3-15. CCU KNOB AND LAMP REMOVAL AND INSTALLATION.

a. Tools and Materials Required.

Tool Kit, Electronic Equipment TK-101/G
Screwdriver, .032 x 11/64 x 3 in
L Hex Wrench, .050

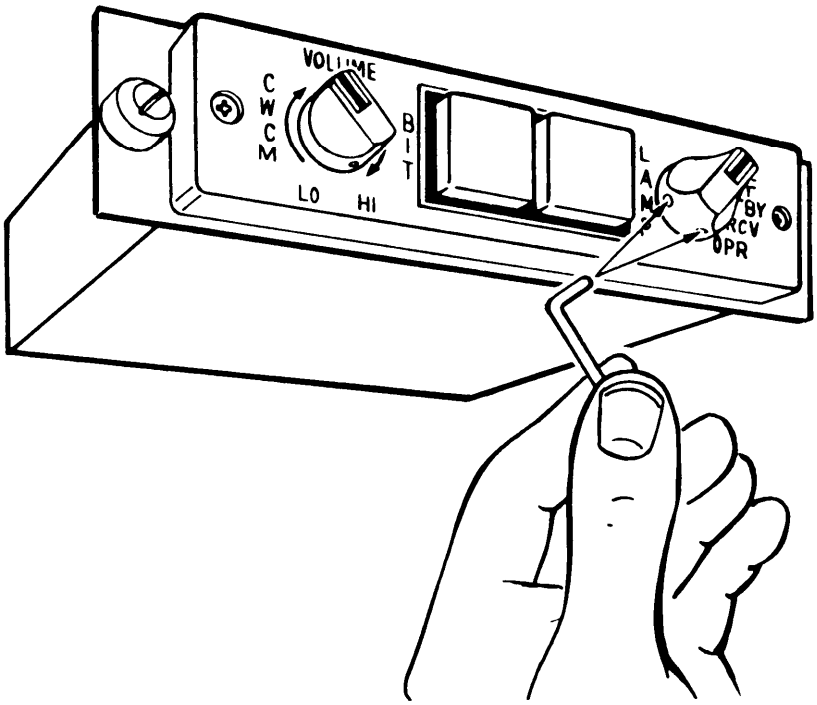
b. Knob Replacement. Perform the following procedure to replace CCU knobs.

1. Make sure system power is off. Refer to aircraft manual for instructions.
2. Note position of knob. This will help you position replacement knob correctly.
3. Loosen two set screws in base of knob with hex wrench and remove knob.

CAUTION

Be sure to dispose of old knob. If left in crew compartment, it may cause flying object damage.

4. Install replacement knob. Make sure knob is in position noted in step 2.
5. Tighten two set screws with hex wrench until snug.



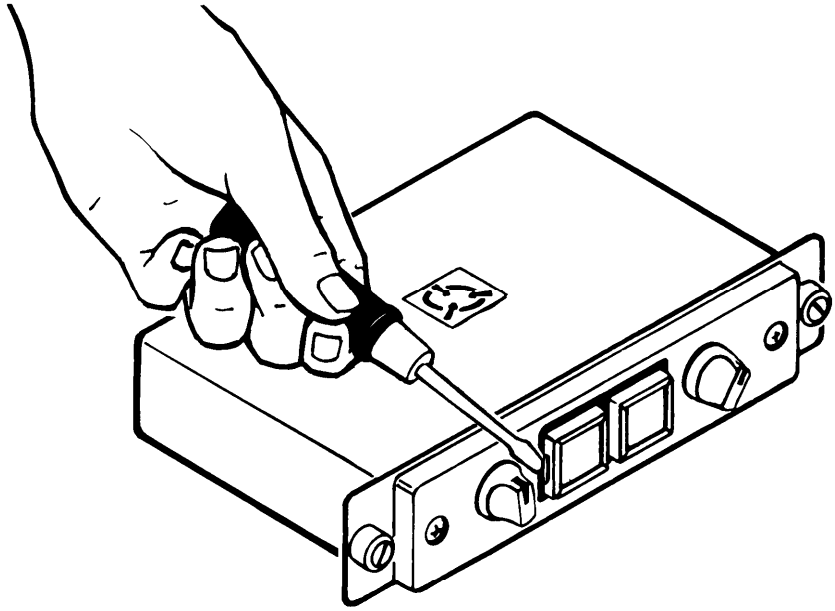
Refer to aircraft manual for instructions on securing the aircraft.

c. Lamp Replacement. Perform the following procedure to replace CCU lamps.

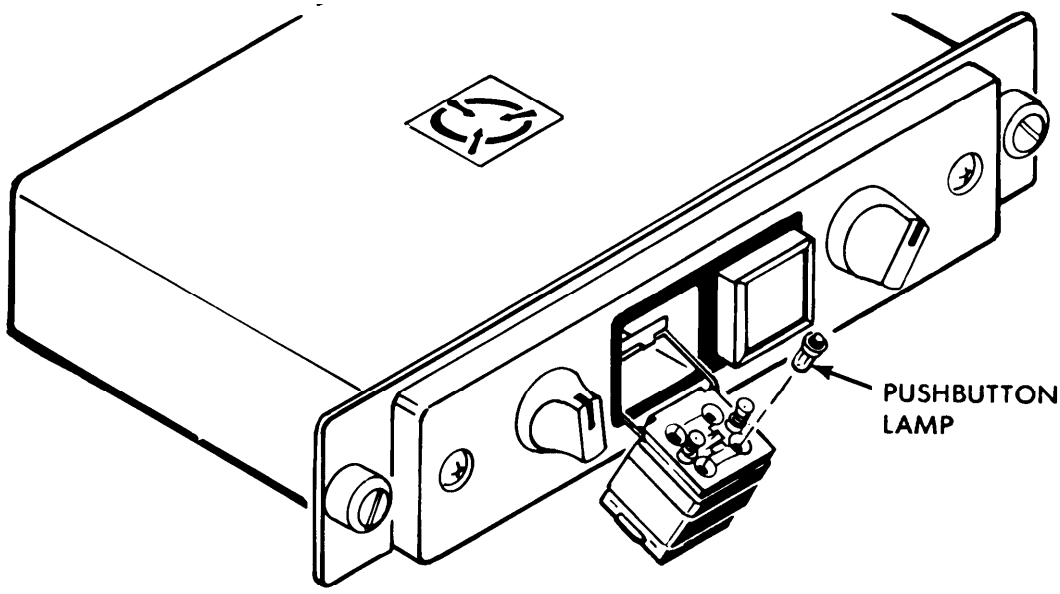
WARNING

The CCU front panel display is powered by high voltage and can present a shock hazard if it becomes cracked. Pry lamp assembly out of the switch carefully to avoid damaging this panel.

1. Make sure system power is off. Refer to aircraft manual for instructions.
2. Gently pry the lamp assembly out of the switch with a common–tip screwdriver.



3. Replace burned out lamp(s).
4. Reinstall lamp assembly by pushing it back into switch until firmly seated.
5. Perform Test No. 1 (Lamp Test) of the operational test paragraph (3-9) to make sure all pushbutton lamps light.



SECTION VI
PREPARATION FOR STORAGE OR SHIPMENT

SECTION CONTENTS	PAGE

3-16 SECURITY PROCEDURES.

The RT and program module assembly are classified CONFIDENTIAL. Always keep the RT and program module assembly in a closed area at a secure facility when storage is required. Make sure that only personnel having proper security clearance and a 'need to know' are allowed access to the RT and the program module assembly.

3-17 ADMINISTRATIVE STORAGE.

When storage of the CM Set is required, it shall be stored in accordance with AR–750–1, Maintenance of Supplies and Equipment, Army Material Maintenance Concepts and Policies.

APPENDIX A

REFERENCES

A-1 SCOPE.

This appendix lists all forms, field manuals, technical manuals and miscellaneous publications referenced in this manual.

A-2 FORMS.

Recommended Changes to Equipment Technical Publications ..... DA Form 2028

Equipment Inspection and Maintenance Worksheet ..... DA Form 2404

Transportation Discrepancy Report (TDR) ..... SF 361

Report of Discrepancy (ROD) ..... SF 364

Product Quality Deficiency Report ..... SF 368

A-3 FIELD MANUALS.

Artificial Respiration ..... FM 21-11

A-4 TECHNICAL MANUALS.

NOTE

Refer to DA Pam 25-30, Consolidated Index of Army Publications and Blank Forms, for the TM series that includes the specific airframe you are responsible for.

Organizational Maintenance Manual for Signal Electronic Equipment Configurations, Army Model OV-1D Aircraft (NSN 1510-00-869-3654) ..... TM 11-1510-204-20-2-1

Organizational Maintenance Manual: Electronic Equipment Configurations, Army Models RU-21B (NSN 1510-00-878-4338) and RU-21C (NSN 1510-00878-4336) Aircraft, Reconnaissance-Utility ..... TM 11-1510-209-20-1

Organizational Maintenance Manual, Signal Electronic Equipment Configuration, Army Model RV-1D Aircraft (NSN 1510-00-366-8440) ..... TM 11-1510-213-20-1

Organizational or Aviation Unit (AVUM) Maintenance Manual for Electronic Equipment Configurations, Army Models UH-lD/H (NSN 1520-00-859-2670), UH-1H (1520-00-087-7637), UH-lV (MEDEVAC) (1520-01-043-4949), EH-1H (1520–00-368-8442) and EH-lX (1520–01-042-9396) Helicopters ..... TM 11–1520–210–20

Aviation Unit and Intermediate Maintenance, Avionics General Information Manual EH-60A Helicopter (NSN 1520-01-062-0686) and UH-60A Helicopter (NSN 1520-01-035-0266) ..... TM 11-1520-237-23-1

Supplement, Aviation Unit and Intermediate Maintenance, Avionics General Information Manual, UH-60A and EH-60A Helicopters ..... TM 11-1520-237-23-1S-1

Supplement, Aviation Unit and Intermediate Maintenance, Avionics Fault Isolation Procedures Manual, UH-60A and EH-60A Helicopters ..... TM 11-1520-23-23-2S-1

Supplement, Aviation Unit and Intermediate Maintenance, Avionics Maintenance Task Manual, UH-60A and EH-60A Helicopters ..... TM 11-1520-237-23-3S-1

Aviation Unit Maintenance Repair Parts and Special Tools List for Countermeasures Set AN/ALQ-162(V)2 ..... TM 11-5865-229-20P

Operator and Organizational Maintenance Manual, Simulator, Radar Signal SM-756/APR-44(V) ..... TM 11-6940-214-12

The Army Maintenance Management System (TAMMS) ..... DA Pam 738–750

Procedures for Destruction of Electronics Materiel to Prevent Enemy Use (Electronics Command) ..... TM 750-244-2

A-5 MISCELLANEOUS PUBLICATIONS.

Transportation and Travel ..... AR 55-38

Property Accountability ..... AR 735-11-2

Maintenance of Supplies and Equipment Army Material Maintenance Concepts and Policies ..... AR 750-1

Maintenance of Supplies and Equipment ..... AR 750-50

Expendable Items ..... CTA 50-970

Consolidated Index of Army Publications and Blank Forms ..... DA Pam 25-30

Reporting of Item and Packaging Discrepancies ..... DLAR 4140.55

Reporting of Transportation Discrepancies in Shipments ..... DLAR 4500.15

APPENDIX B

MAINTENANCE ALLOCATION CHART

SECTION I

INTRODUCTION

B-1 MAINTENANCE ALLOCATION CHART.

a. This Maintenance Allocation Chart (MAC) assigns maintenance functions in accordance with the Three Levels of Maintenance concept for Army aviation. These maintenance levels (categories) – Aviation Unit Maintenance (AVUM), Aviation Intermediate Maintenance (AVIM), and Depot Maintenance - are depicted on the MAC as:

AVUM, which corresponds to the O Code in the Repair Parts and Special Tools List (RPSTL)

AVIM, which corresponds to an F Code in the Repair Parts and Special Tools List (RPSTL)

DEPOT, which corresponds to a D Code in the Repair Parts and Special Tools List (RPSTL)

(1) Aviation Unit Maintenance (AVUM) activities will be staffed and equipped to perform high frequency "On-Aircraft" maintenance tasks required to retain or return aircraft systems to a serviceable condition. The maintenance capability of the AVUM will be governed by the Maintenance Allocation Chart (MAC) and limited by the amount and complexity of ground support equipment (GSE), facilities required, authorized manning strength, and critical skills available. The range and quantity of authorized spare modules/components will be consistent with the mobility requirements dictated by the air mobility concept. (Assignments of maintenance tasks to divisional company size aviation units will consider the overall maintenance capability of the division, the requirement to conserve personnel and equipment resources, and air mobility requirements.

(a) Company Size Aviation Units: Perform those tasks which consist primarily of preventive maintenance and maintenance repair and replacement functions associated with sustaining a high level of aircraft operational readiness. Perform maintenance inspections and servicing to include preflight, daily, intermediate, periodic (or phased), and special inspections as authorized by the MAC or higher headquarters. Identify the cause of equipment/system malfunctions using applicable technical manual troubleshooting instructions, built–in test equipment (BITE), installed aircraft instruments or test, measurement, and diagnostic equipment (TMDE). Replace worn or damaged modules/components that do not require complex adjustments or system alignment and which can be removed/installed with available skills, tools, and ground support equipment. Perform operations and continuity checks and make minor repairs to the electrical system. Inspect, service and make operational, capacity, and pressure checks to hydraulic systems. Perform servicing, functional adjustments, and minor repair/replacement to the flight control, propulsion, power train, and fuel systems. Accomplish airframe repair that does not require extensive disassembly, jigging or alignment. The manufacture of airframe parts will be limited to those items which can be fabricated with tools and equipment found in current air mobile tool and ship sets. Evacuate unserviceable modules/components and end items beyond the repair capability of AVUM to the supporting AVIM.

(b) Less than Company Size Aviation Units: Aviation elements organic to brigade, group, battalion headquarters, and detachment size units are normally small and have less than ten aircraft assigned. Maintenance tasks performed by these units will be those which can be accomplished by the aircraft crew chief or inspections, servicing, spot painting, stop drilling application of nonstress patches, minor adjustments, module/component fault diagnosis, and replacement of selected modules/components. Repair functions will normally be accomplished by the supporting AVIM unit.

(2) Aviation Intermediate Maintenance (AVIM) provides mobile, responsive "One-Stop" maintenance support. (Maintenance functions which are not conducive to sustaining air mobility will be assigned to

depot maintenance.) AVIM may perform all maintenance functions authorized to be done at AVUM. Repair of equipment for return to user will emphasize support or operational readiness requirements. Authorized maintenance includes replacement and repair or modules/components and end items which can be accomplished efficiently with available skills, tools, and equipment. AVIM establishes the Direct Exchange (DX) program for AVUM units by repairing selected items for return to stock when such repairs cannot be accomplished at the AVUM level. The AVIM level inspects troubleshoots performs diagnostic tests, repairs, adjusts, calibrates, and aligns aircraft system modules/components. AVIM units will have capability to determine the serviceability of specified modules/components removed prior to the expiration of the Time Between Overhaul (TBO) or finite life. Module/component disassembly and repair will support the DX program and will normally be limited to tasks requiring cleaning and the repalcement of seals, fittings and items of common hardware. Airframe repair and fabrication of parts will be limited to those maintenance tasks which can be performed with available tools and test equipment. Unserviceable reparable modules/components and end item which are beyond the capability of AVIM to repair will be evacuated to Depot Maintenance. AVIM will perform aircraft weight and balance inspections and other special inspections which exceed AVUM capability. Provides quick response maintenance support, including aircraft recovery and air evacuation, on–the-job training, and technical assistance through the use of mobile maintenance contact teams. Maintains authorized operational readiness float aircraft. Provides collection and classification services for serviceable/unserviceable material. Operates a cannibalization activity in accordance with AR 750–50. (The aircraft maintenance company within the maintenance battalion of a division will perform AVIM functions consistent with the air mobility requirements and conservation of personnel and equipment resources. Additional intermediate maintenance support will be provided by the supporting nondivisional AVIM unit.

(2) Aviation Intermediate Maintenance (AVIM) provides mobile, responsive “One-Stop” maintenance support. (Maintenance functions which are not conducive to sustaining air mobility will be assigned to depot maintenance.) AVIM may perform all maintenance functions authorized to be done at AVUM. Repair of equipment for return to user will emphasize support or operational readiness requirements. Authorized maintenance includes replacement and repair or modules/components and end items which can be accomplished efficiently with available skills, tools, and equipment. AVIM establishes the Direct Exchange (DX) program for AVUM units by repairing selected items for return to stock which such repairs cannot be accomplished at the AVUM level. The AVIM level inspects troubleshoots, performs diagnostic tests, repairs, adjusts, calibrates and aligns aircraft system modules/components. AVIM units will have capability to determine the serviceability of specified modules/components removed prior to the expiration of the Time Between Overhaul (TBO) or finite life. Module/component disassembly and repair will support the DX program and will normally be limited to tasks requiring cleaning and the replacement of seals, fittings, and items of common hardware. Airframe repair and fabrication of parts will be limited to those maintenance tasks which can be performed with available tools and test equipment. Unserviceable reparable modules/components and end items which are beyond the capability of the AVIM to repair will be evacuated to Depot Maintenance. AVIM will perform aircraft weight and balance inspections and other special inspections which exceed AVUM capability. Provides quick response maintenance support, including aircraft recovery and air evacuation, on-the-job training, and authorized operational readiness float aircraft. Provides collection and classification services for serviceable/unserviceable material. Operates a cannibalization activity in accordance with AR 750-50. (The aircraft maintenance company within the maintenance battalion of a division will perform AVIM functions consistent with air mobility requirements and consevation of personnel and equipment resources. Additional intermediate maintenance support will be provided by the supporting nondivisional AVIM unit.

B-2 USE OF THE MAINTENANCE ALLOCATION CHART (SECTION III).

a. The Maintenance Allocation Chart assigns maintenance function to the lowest category of maintenance baaed on past experience and the following consideration

(1) Skills available.

(2) Work time required

(3) Tools and test equipment required and/or available.

b. Only the lowest category of maintenance authorized to perform a maintenance function is indicated. If the lowest maintenance category cannot perform all tasks of any single maintenance function (e.g., test repair), then the higher maintenance level(s) that can accomplish additional tasks will also be indicated.

c. A maintenance function assigned to a maintenance category will automatically be authorized to be performed at any higher maintenance category.

d. A maintenance function that cannot be performed at the assigned category of maintenance for any reason may be evacuated to the next higher maintenance category. Higher maintenance categories will perform the maintenance functions of lower maintenance categories when required or directed by the commander that has the authority to direct such tasking.

e. The assignment of a maintenance function will not be construed as authorization to carry the related repair parts or spares in stock. Information to requisition or otherwise secure the necessary repair parts will be as specified in the associated Repair Parts and Special Tools List (RPSTL).

f. Normally there will be no deviation from the assigned level of maintenance. In cases of operational necessity, maintenance functions assigned to a maintenance level many, on a one-time basis and at the request of the lower maintenance level, be specifically authorized by the maintenance officer of the level of maintenance to which the function is assigned. The special tools, equipment, etc. required by the lower level of maintenance to perform this function will be furnished by the maintenance level to which the function is assigned. This transfer of a maintenance function to a lower maintenance level does not relieve the higher maintenance level of the responsibility for the function. The higher level of maintenance will provide technical supervision and inspection of the function being performed at the lower level.

g. Changes to the Maintenance Allocation Chart will be based on continuing evaluation and analysis by responsible technical personnel and on reports received from field activities.

B-3 MAINTENANCE FUNCTIONS.

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the Serviceability of an item by comping its physical mechanical, and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and to detect potential failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition; i.e., to clean, preserve, paint.

d. Adjust. Maintain within prescribed limits by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

e. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measurement and diagnostic equipment used in precision measurement. Consists of the comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position an item, part, module (component or assembly) in a manner to allow the proper functioning of the equipment/system.

h. Replace. The act of substituting a serviceable like-type part, subassembly, module (component or assembly) for an unserviceable counterpart.

i. Repair. To restore damageed, wornout, or malfunctioning equipment to a serviceable, usable, or operable condition.

j. Overhaul. The act of disassembling equipment units down to all removable parts, cleaning, critically inspecting, repairing, restoring, and replacing where necessary, assembling, adjusting, aligning, recalibrating, and verifying, operational readiness by test or checkout; and packaging for transportation storage.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

B-4 FUNCTIONAL GROUPS (COLUMNS 1 AND 2).

The fictional groupings shown in the sample below identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly.

Number	Description
01	Receiver-Transmitter RT-1377/ALQ-162(V)
0103	Program Module Assembly
02	Control, Countermeasures C-11080/ALQ-162(V)
03	Antenna, AS-3554/ALQ-162 (V)

B-5 MAINTENANCE FUNCTION (COLUMN 3).

Column 3 lists the functions to be performed on the items listed in column 2.

6-6 MAINTENANCE CATEGORIES AND WORK TIME. (COLUMN 4).

The maintenance categories (levels) AWUM, AVIM, and DEPOT are listed on the Maintenance Allocation Chart with individual columns that include the work times for maintenance functions at each maintenance level. Work time presentations such as “0.1” indicate the average time it requires a maintenance level to perform a specified maintenance function. If a work time has not been established, the columnar presentation shall indicate "___ . ___." Maintenance levels higher than the level of maintenance indicated are authorized to perform the indicated function.

B-7 TOOLS AND TEST EQUIPMENT (COLUMN 5 AND SECTION III).

Common tool sets (not individual tools), special tools, tests, and support equipment required to perform maintenance functions are listed alphabetically in Section III with a reference number to permit cross-referencing to column 5 in the MAC. In addition, the maintenance category authorized to use the device is listed along with the item National stock number (NSN) and, if applicable, the tool number to aid in identifying the tool/device.

B-8 REMARKS (COLUMN 6 AND SECTION IV).

Remarks (identified by an alphabetic code in column 6) and other notes (identified by a number in parentheses in the applicable column) are listed in Section IV to provide a ready reference to the definition of the remark/note.

SECTION II

MAINTENANCE ALLOCATION CHART
FOR
COUNTERMEASURES SET AN/ALQ-162(V)2

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Category AVUM	AVIM	Depot	(5) Tool & Equipment	(6) Remarks
00	Countermeasures Set AN/ALQ-162(V)2	Inspect	0.1				
		Test	1.0			8, 18, 30, 63	A
		Repair	1.0			3, 64, 65, 66	B
01	Receiver-Transmitter, Countermeasures RT-1377A/ALQ-162(V) (UNIT 1)	Inspect	0.2				
		Test			1.8		
		Replace	0.4			35, 64, 70	
		Repair			0.6	24, 29, 35, 6	C
0101	Receiver/Processor Assy 1A1	Inspect			0.2		
		Test			1.8		
		Replace			0.1	1, 5, 13, 17	E
		Repair			0.6	23, 26, 61 66-70	C
010101	Oscillator Assy, RF Second Local Osc. lA1A1	Inspect			0.1		
		Test			0.8		
		Replace			0.2	1, 15, 13, 17	
		Repair			1.0	23, 26, 61 66-70	C
01010101	Dual Filter Assy lA1A1A1	Inspect			0.1		
		Test			0.3		
		Replace			0.5	1, 5, 13, 17	
		Repair			1.8	23, 26, 61 66-70	C
01010102	CCA, Fixed RF 1A1A1A2	Inspect			0.1		
		Test			0.3		
		Replace			0.4	1, 5, 13, 17	
		Repair			1.0	23, 26, 61 66-70	C
01010103	CCA, Variable RF 1A1A1A3	Inspect			0.1		
		Test			0.3		
		Replace			0.4	1, 5, 13, 17	
		Repair			1.0	23, 26, 61 66-70	C
01010104	CCA, Digital Synthesizer Control 1A1A1A5	Inspect			0.1		
		Test			0.2		
		Replace			0.3	1, 5, 13, 17	
		Repair			0.3	23, 26, 61 66-70	C

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Category AVUM	AVIM	Depot	(5) Tool & Equipment	(6) Remarks
010102	RF Module Assy 1A1A4	Inspect			0.2		
		Test			2.4		
		Replace			0.6		
		Repair			1.5	1, 4, 26, 23, 61, 70, 13, 68, 67	C
01010201	High Level Mixer Assy 1A1A4A1	Inspect			0.1		
		Test			2.6		
		Replace			0.5	1, 4, 26, 23,	
		Repair			0.8	61, 70, 13, 68, 67	C
01010202	Yig Driver and Frequency Lock Assy 1A1A4A2	Inspect			0.1		
		Test			0.4		
		Replace			0.2		
		Repair			1.0	1, 4, 26, 23, 61, 70, 13, 68, 67	C
0101020201	CCA, Yig Driver IAIA4A2A4	Inspect			0.1		
		Test			0.2		
		Replace			1.0		
		Repair			0.8	1, 4, 26, 23, 61, 70, 13, 68, 67	C
01010203	Wiring Harness, Branched RF Module 1A1A4W1	Inspect			0.2		
		Test			2.0		
		Replace			16.0		
		Repair			8.0	1, 4, 26, 23, 61, 70, 13, 68, 67	C
010103	CCA, Techniques 1A1A5	Inspect			0.1		
		Test			0.3		
		Replace			0.3		
		Repair			1.3	1, 5, 14, 16 26, 66, 68	C
010104	CCA, CPU 1A1A6	Inspect			0.1		
		Test			1.2		
		Replace			0.3		
		Repair			1;3	1, 5, 14, 16 26, 66, 68	C
010105	CCA, Timing 1A1A7	Inspect			0.1		
		Test			1.2		
		Replace			0.3		
		Repair			1.3	1, 5, 23, 26 66 68	C

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Category AVUM	AVIM	Depot	(5) Tool & Equipment	(6) Remarks
010106	CCA, Interface 1A1A8	Inspect			0.1		
		Test			1.2		
		Replace			0.3		
		Repair			1.3	1, 5, 23, 26 66, 68	C
010107	CCA, Video Processor 1A1A9	Inspect			0.1		
		Test			1.2		
		Replace			0.3	1, 5, 23, 26	
		Repair			1.3	66, 68	C
010108	IF Module Assy 1A1A11	Inspect			0.1		
		Test			0.8		
		Replace			0.3		
		Repair			1.0	1, 5, 13, 17, 23, 26, 61, 66-70	C
01010801	CCA, IF Amplifier lAIA1lA1	Inspect			0.1		
		Test			0.8		
		Replace			0.8	1, 5, 13, 17,	
		Repair			0.8	23, 26, 61, 66-70	C
01010802	CCA, Video Amplifier 1A1A11A2	Inspect			0.1		
		Test			1.5		
		Replace			0.5	1, 5, 13, 17,	
		Repair			0.8	23, 26, 61, 66-70	C
010109	Chassis & Wiring Harness 1A1A16	Inspect			0.2		
		Test			0.3		
		Replace			4.0		
		Repair			0.5		C
01010901	Wiring Harness 1A1A18W3	Inspect			0.1		
		Test			0.2		
		Replace			0.8		
		Repair			0.5	1, 5, 13, 17, 23, 26, 61, 66-70	C
010110	4–Port CPLR, Sampler 1A1A19	Inspect			0.1		
		Test			0.5		
		Replace			0.1		
		Repair			1.3	1, 26, 66-70	C
010111	CCA, Post Regulator 1A1A20	Inspect			0.1		
		Test			0.3		
		Replace			0.2		
		Repair			1.5	1, 5, 13, 26 66, 68, 69	C

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Category AVUM	AVIM	Depot	(5) Tool & Equipment	(6) Remarks
010112	CCA, Transformer Driver lAlA21	Inspect			0.1		
		Test			0.3		
		Replace			0.3		
		Repair			1.5	1, 16, 26, 68	C
01020104	CCA, Fuse lA2AlA5	Inspect			0.1		
		Test			0.2		
		Replace			1.5		
		Repair			1.5	2, 19, 44	C
01020105	Low Voltage Output Assy lA2AlA6	Inspect			0.1		
		Test			0.8		
		Replace			0.4		
		Repair			1.5	2, 19, 44	C
0102010501	CCA, Post Regulator and Diode 1A2A1A6A4	Inspect			0.1		
		Test			0.1		
		Replace			2.0		
		Repair			1.5	2, 19, 52	C
01020106	Modulator Assy 1A2A1A8	Inspect			0.1		
		Test			0.5		
		Replace			0.7		
		Repair			1.0	2, 19, 52	C
0102010601	CCA, Logic 1A2A1A8A2	Inspect			0.1		
		Test			0.1		
		Replace			0.3		
		Repair			0.5	2, 19, 52	C
010201060101	Hybrid Network & Insulator Assy 1A2A1A8A2A1	Inspect			0.1		
		Test			0.8		
		Replace			0.1	2, 19, 52	
		Repair			1.0		C
010202	TWT, Equalizer .Assy 1A2A2	Inspect			0.1		
		Test			0.3		
		Replace			0.2	1, 5, 26, 68,	
		Repair			0.5	69	C
01020201	TWT, Equalizer Tube 1A2A2V1	Inspect			0.1		
		Test			2.0		
		Replace			2.0		
		Repair			4.0	1,5,26,68 69	C
0103	Program Module Assy 1A3	Inspect	0.1			64	
		Test	0.3				
		Replace	0.2			5, 13, 23 64, 68	
		Repair			0.5	1, 13, 26, 68	C

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Category AVUM	AVIM	Depot	(5) Tool & Equipment	(6) Remarks
0102	Transmitter Assy 1A2	Inspect			0.2		
		Test			4.0		
		Replace			0.1		E
		Repair			1.8	1, 26, 68, 69	C
010201	Power Supply Modulater Assy lA2A1	Inspect			0.2		
		Test			1.5		
		Replace			0.6		
		Repair			0.8	1, 26, 68, 69	C
01020101	High Voltage Power Supply/Analog Assy 1A2A1A2	Inspect			0.1		
		Test			0.8		
		Replace			0.5		
		Repair			1.5	1, 26, 68, 69	C
0102010101	CCA, Analog 1A2A1A2A3	Inspect			0.1		
		Test			0.2		
		Replace			0.3		
		Repair			1.0	2, 19, 39	C
01020102	Control and Protect Assy 1A2A1A3	Inspect			0.1		
		Test			0.5		
		Replace			0.5		
		Repair			1.5	2, 19, 49	C
0102010201	CCA, Control 1A2A1A3A1	Inspect			0.1		
		Test			0.2		
		Replace			0..5		
		Repair			1.5	2, 19, 49	C
0102010202	CCA, Control and Protect 1A2A1A3A2	Inspect			0.1		
		Test			0.5		
		Replace			0.5		
		Repair			1.5	2, 19, 49	C
01020103	LV & HV Inverter Assy 1A2A1A4	Inspect			0.1		
		Test			6.5		
		Replace			0.5		
		Repair			1.5	2, 19, 44	C
0102010301	CCA, Inverter 1A2A1A4A1	Inspect			0.1		
		Test			0.2		
		Replace			1.5		
		Repair			1.5	2, 19, 44	C
010301	User Data Memory CCA 1A3A1	Inspect			0.1		
		Test			0.3		
		Replace			0.5		
		Repair			0.5	1, 26	C
02	Control, Countermeasures C-11080/ALQ-162(V) (Unit 2)	Inspect	0.2			64	
		Test	0.1			65, 7, 11, 24	
		Replace	0.5			64, 5, 23	
		Repair			1.0	11, 25, 64 65, 66, 76, 7	D

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Category AVUM	AVIM	Depot	(5) Tool & Equipment	(6) Remarks
0201	Countermeasures Control Unit Chassis Assembly	Inspect			0.1		
		Test			0.3	11, 66	
		Repair			0.5	11, 64, 66 73, 74, 75	D
0202	Fuse CCA	Inspect			0.1		
		Test			0.1	11	
		Replace			0.2	65	
		Repair			0.1	65	D
0203	Control CCA	Inspect			0.1		
		Test			0.5		
		Replace			0.1	65	
		Repair			0.5	11, 36, 37	D

SECTION III

TOOLS AND TEST EQUIPMENT REQUIREMENTS

Tool or Test Equipment Reference Code	Maintenance Category	Nomenclature	National/NATO Stock Number	Tool Number
1	D	AN/USM-458B	4920-01-206-0323	304636091
2	D	AN/USM-630		001-007246-001
3	O	Ball Point Hex Driver Set	5120-00-116-7841	88003"'
4	D	Barrier Bag		2100 8 x 10
5	D	Barrier Bag		2100 8 x 8
6	D	Cable, 50-ohm, Type N, to APC -3.5		90-692-012**
7	D	CCU Test Fixture		*
8	O, D	Coaxial Termination	5985-00-111-6260	374 BNM**
9	D	Continuity Checker		
10	D	Oven, 110-115° F (43-46°C)		1330G**
11	D	Digital Multimeter	6625-01-243-6683	Fluke 75**
12	D	Directional Coupler WRD650, 10db		TDR-10002-10**
13	O, D	Drive Bit, Common, Small		X135-4
14	D	Drive Bit, Hex, 3/32		TMA3
15	O	Drive Bit, #2 PHH		TMA234
16	D	Drive Bit, #1 PHH		440-1
17	O	Drive Bit, #2	5120-00-640-6731	X185-4**
18	D	Interface Test Adapter, SRU		150-032706-001
19	D	Interface Test Adapter, SRU		150-032704-001
20	D	Interface Test Adapter, SRU		150-032705-001
21	D	Interface Test Adapter, SRU		150-032707-001
22	D	Label, Static Caution		SC5032

Tool or Test Equipment Reference Code	Maintenance Category	Nomenclature	National/NATO Stock Number	Tool Number
23	O	Open End Wrench Head, 9/16"		OP-104
24	D	Oscilloscope	6625-01-032-6914	AN/USM-425(V)1**
25	D	OTPS (AN/USM-458B) RT-1377A-ALQ-162		001-7538-001
26	D	Power Meter	6625-01-114-0085	HP435B**
27	D	Power Sensor with SMA(M) input	6625-01-178-7627	HP8485A**
28	O	Preset Torque Wrench	5120–00-968-0545	CHA-5**
29	O	Radar Signal Simulator	6940-01-058-1066	SM-756/APR-44(V)
30	D	RCVR/Transmitter		001-007245
31	D	Release Tool		915302-13-13
32	D	RF Console		001-007422-001
33	D	RF Plug-in	6625-01-172-9387	HP83592B**
34	O	Slipjoint Pliers	5120-00-624-8065	AT-508K* *
35	P	Static Workstation	4940-01-087-3458	8007
36	D	Sweep Oscillator		HP6350B**
37	D	Test Adapter, HVPS HYPOT		104-007692-001
38	D	Test Fixture, Analog CCA		104-ANALOG
39	D	Test Fixture, Control & Protect		104-007695-001
40	D	Test Fixture, Coupler DET		104-007285-001
41	D	Test Fixture, DET/ CPLR		104-007903-001
42	D	Test Fixture, Fix, Var, DU		104-007447-001
43	D	Test Fixture, HV & LV OUT		104-007690-001

Tool or Test Equipment Reference Code	Maintenance Category	Nomenclature	National/NATO Stock Number	Tool Number
44	D	Test Fixture, HVPS Load		104-007689-001
45	D	Test Fixture, IF MOD/ AMP		104-007448-001
46	D	Test Fixture, Limiter & Switch		104-007280-001
47	D	Test Fixture, Logic CCA		104-LOGIC
48	D	Test Fixture, LV & HV CONV		104-007693-001
49	D	Test Fixture, Microwave Amp		104-007279-001
50	D	Test Fixture, MOD HY-POT		104-007697-001
51	D	Test Fixture, MOD Switch		104-007694-001
52	D	Test Fixture, Modulator		104-007696-001
53	D	Test Fixture, OSC/DBLR		104-007281-001
54	D	Test Fixture, RF		104-009147-001
55	D	Test Fixture, RF		104-007452-001
56	D	Test Fixture, RF Module		104-007446-001
57	D	Test Fixture, RF Yig Oscillator		104-007283-001
58	D	Test Fixture, Video AMP		104-007449-001
59	D	Test Fixture, Yig Filter		104-007287-001
60	D	Thermal Paste		PQ Heat Sink Co
61	D	Thermos Kit		91503
62	O	TNC-to-TNC Cable, 1 foot		90-081-012**
63	O, D	Tool Kit, Electronic Equipment	5180-00-064-5178	TK-101/G

Tool or Test Equipment Reference Code	Maintenance Category	Nomenclature	National/NATO Stock Number	Tool Number
64	O, D	Tool Kit, Electronic Equipment	5180-00-610-8177	TK-105/G
65	D	Tool Kit, Electronic Equipment	5180-00-605-0079	TK-100/G
66	D	Torque Adapter, 5/16		TMRX10
67	O, D	Torque Screwdriver, 1-100 in-oz	5120-00-943-0941	TS-100**
68	D	Torque Screwdriver, 6-30 in-lb		QTS130A
69	D	Torque Wrench	5120-01-006-3163	TE1A
70	O	Waveguide Cap		020B112
71	D	Waveguide Short WRD650		DF344A**
72	D	Turnlock Fastener Insertion Tool		PT 3 1/2 AHT
73	D	Turnlock Fastener Removal Tool		PT 3 1/2 Tool #2
74	D	Turnlock Fastener Removal Tool		PT 3 1/2 Block #3
75	D	115 VAC, 400 Hz Power Cable		Locally Fabricated

***Locally fabricated**

****Or equivalent**

SECTION IV

REMARKS

Reference Code	Remarks/Notes
A	Operator Initiated Built-In Test (BIT) and System Operational Test.
B	Repair is limited to the replacement of faulty LRU's and items coded as throwaway at the AVUM level such as antenna, knobs, etc.
C	Depot repair will be performed by the Navy under a DMISA.
D	Depot repair to CCU will be performed at Tobyhanna Army Depot.
E	Replace by replacement of next higher assembly (RT-1377A/ALQ-162(V)).

APPENDIX C
EXPENDABLE SUPPLIES AND MATERIALS

SECTION I
INTRODUCTION

C-1 SCOPE.

This appendix lists expendable supplies and materials you will need to operate and maintain the AN/ALQ-162(V)2 system. These items are authorized to you by CTA 50-970, Expendable Items (except Medical, Class V, Repair Parts, and Heraldic Items).

C-2 EXPLANATION OF COLUMNS.

a. Column (1) - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material.

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew

O - Aviation Unit Maintenance

D - Depot

c. Column (3) - National Stock Number. This is the national stock number assigned to the item; use it to request or requisition the item.

d. Column (4) - Description. Indicates the Federal item name and if required, a description to identify the item. The last line for each item indicates the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parenthesis, if applicable.

e. Column (5) - Unit of Measure (U/M). Idicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetic abbreviation (e.g., ea, in., pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

C-3 SPECIAL INFORMATION.

National stock numbers (NSN's) that are missing from section II have been applied for and will be added to this manual by future change/revision when they are entered in the Army Master Data File (AMDF). Until the NSN's are established and published, submit exception requisitions to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-LC-MM, Fort Monmouth, New Jersey 07703–5000 for the part required to support your equipment.

SECTION II

EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	O	8105-01-120-3377	Bag, static shielding, 2100 8 x 8	AIR
2	O, D	Not assigned	Label, static caution, SC5032 (85670)	A/R
3	O, D	7920-00-205-1711	Rags, wiping class 2	A/R
4	O, D	6810-01-120-6694	Freon TMS	A/R
5	O, D	5999-00-002-2607	Gasket, preformed	A/R
6	O, D	Not assigned	Knob, round plastic A3099450 (80063)	A/R
7	O, D	6240-00-143-6558	Lamp, incandescent	A/R
8	O	Not assigned	Cap, waveguide 020B112 (11956)	A/R

GLOSSARY

LIST OF ABBREVIATIONS

ac	Alternating Current
Aft	After
ANT	Antenna
A/R	As Required
ASE	Aircraft Survivability Equipment
AVIM	Aviation Intermediate Maintenance
AVUM	Aviation Unit Maintenance
BIT	Built-in-Test
CCA	Circuit Card Assembly
CCU	Cockpit Control Unit
cm	Centimeter
CM	Countermeasure
CM Set	Countermeasures Set
CW	Continuous Wave
dc	Direct Current
ECM	Electronic Countermeasures
EIR	Equipment Improvement Recommendation
ESD	Electrostatic Discharge
ESDS	Electrostatic Discharge Sensitive
Hz	Hertz (cycles per second)
in	Inch
INTF	Interface
Kg	Kilogram
lb	Pound
LRU	Line Replaceable Unit
MAC	Maintenance Allocation Chart
NSN	National Stock Number
OPR	Operate
PMCS	Preventive Maintenance Checks and Services
PROM	Programmable Read Only Memory
RCV	Receive
RF	Radio Frequency
RT	Receiver/Transmitter
SRA	Special Repair Activity
SRU	Shop Replaceable Unit
STBY	Standby
TM	Technical Manual
TMDE	Test, Measurement, and Diagnostic Equipment
TWT	Traveling-wave Tube
U/M	Unit of Measure
UDM	User Data Memory
V	Volt(s)
Vac	Volts Alternating Current
Vdc	Volts Direct Current
WRA	Weapon Replaceable Assembly
WRMUP	Warmup

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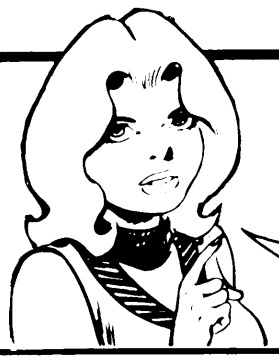
RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



SOMETHING WRONG WITH THIS PUBLICATION?

FROM (PRINT YOUR UNIT'S COMPLETE ADDRESS)
Commander
Stateside Army Depot
ATTN: AMSTA-US
Stateside, N.J. 07703-5007

DATE SENT
10 July 1975

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 11-5840-340-12	23 Jan 74	Radar Set AN/PRC-76

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO	IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:
2-25	2-28			Recommend that the installation antenna alignment procedure be changed throughout to specify a 2^{o} IFF antenna lag rather than 1^{o}. REASON: Experience has shown that with only a 1^{o} lag, the antenna servo system is too sensitive to wind gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting the lag to 2^{o} without degradation of operation.
3-10	3-3		3-1	Item 5, Function column. Change "2 db" to "3db." REASON: The adjustment procedure for the TRANS POWER FAULT indicator calls for a 3 db (500 watts) adjustment to light the TRANS POWER FAULT indicator.
5-6	5-8			Add new step f.1 to read, "Replace cover plate removed in step e.1, above." REASON: To replace the cover plate.
		F03		Zone C 3. On J1-2, change "+24 VDC to "+5 VDC." REASON: This is the output line of the 5 VDC power supply. +24 VDC is the input voltage.

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER
SSG I. M. DeSpiritof 999-1776

SIGN HERE
I. M. DeSpiritof

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS

TEAR ALONG PERFORATED LINE

TEAR ALONG PERFORATED LINE

FILL IN YOUR UNIT'S ADDRESS

FOLD BACK

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Chief of Staff

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USE OF METRIC MEASURING SYSTEM

In this manual, you'll find weights and measurements given in American Standard units with the same measurement in Metric units shown in parentheses.

Tools, or nuts and bolts that have been manufactured in American Standard units are described in those units. For example: 1/2 inch hex unit, 3/4 inch bolt, 1/2 inch wrench.

Use the following Metric/American Standard table as a measurement guide for any conversions you have to make.