

***TM 1-1270-476-20**

TECHNICAL MANUAL

AVIATION UNIT MAINTENANCE MANUAL

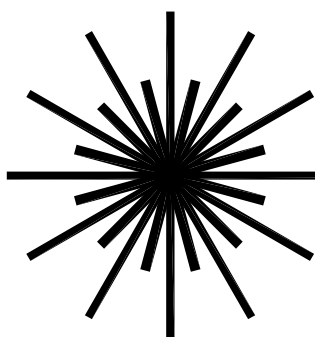
**TARGET ACQUISITION DESIGNATION
SIGHT (TADS) ASSEMBLY
AN/ASQ-170
(NSN 1270-01-142-2855)**

*This manual supersedes TM 1-1270-476-20, dated 31 July 1992, including all changes.

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

AH-64A ATTACK HELICOPTER

**HEADQUARTERS, DEPARTMENT OF THE ARMY
30 AUGUST 2001**



INVISIBLE LASER RADIATION
AVOID EYE EXPOSURE TO DIRECT RADIATION

NEODYMIUM LASER
WAVELENGTH - 1064 NANOMETERS
CLASS IV LASER

02712

The laser associated with the TADS system is very hazardous. Exposure to the invisible beam or reflections from the beam could cause blindness or serious eye injury.

Procedures in this manual do not require any firing of the laser into open space while on the ground. Boresighting is accomplished in a protective enclosure which prevents exposure to the potentially dangerous laser radiation.

Your supervisor will have laser safety goggles available if any problem presents a possible exposure to the laser radiation. A standard laser safety goggle, NSN 4240-00-258-2054, will provide adequate protection if required. Other laser safety goggles can be used, but should be specific for and labelled with the 1064 nanometer wavelength, and with a neutral density of ND6 or greater.

If you routinely work with rangefinder/designator lasers, you will be included in an occupational vision program in accordance with AR 40-46 and TB MED 524.

WARNING HIGH VOLTAGE

is used in the operation of this equipment

DEATH ON CONTACT

May result if personnel fail to observe safety precautions. Learn the areas containing high voltage in each piece of equipment. Be careful not to contact high-voltage connections when installing or operating this equipment. Before working inside the equipment, turn power off and ground points of high potential before touching them.

For artificial respiration, refer to FM 21-11.

WARNING RADIATION HAZARD

The anti-reflective coating on all infrared optics contains thorium fluoride which is slightly radioactive. The only potential hazard involves ingestion (swallowing or inhaling) of this coating material. Dispose of broken lenses, etc., in accordance with AR 385-11.

WARNING HAZARDOUS SOLVENTS

When you use solvents, be sure that the place you work in is well-ventilated. WEAR GLOVES AND EYE PROTECTION. If you don't have good ventilation, read TB MED 223 and use the recommended respiratory (breathing) protection.

DON'T USE FLAMMABLE SOLVENTS AROUND HEAT, OPEN FLAME, OR SPARKS.

IF YOU GET SOLVENT IN YOUR EYES OR ON YOUR SKIN, FLUSH THE SOLVENT AWAY WITH WATER FOR 15 MINUTES; THEN GET MEDICAL HELP.

Freon reacts with highly active free metals such as sodium, barium, or potassium, and may produce toxic byproducts, fires, or explosions. Do not use Freon near highly active free metals.

TOXIC AND FLAMMABLE CHEMICALS

Use the same care for toxic and flammable chemicals as you would for hazardous solvents.

CHEMICAL, BIOLOGICAL, AND RADIOLOGICAL CONTAMINATION

Notify your supervisor if you think you have been exposed to chemical, biological, or radiological contamination. TM 9-1300-275/2 gives procedures for decontamination.

WARNING NOISE

Sound of running engines (helicopter main engines, APU, AGPU) can exceed U.S. Surgeon General's Noise Limits (TB MED 251). Ear plugs or aviation helmet must be worn when working on helicopter at these times.

LIST OF EFFECTIVE PAGES

INSERT LATEST CHANGE PAGES. DESTROY SUPERSEDED PAGES.

NOTE: The portion of the text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by miniature pointing hands. Changes to wiring diagrams are indicated by shaded areas.

Dates of issue for original and change pages are:

Original 0 30 August 2001

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 415, CONSISTING OF THE FOLLOWING:

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TECHNICAL MANUAL

No. 1-1270-476-20

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 30 AUGUST 2001

AVIATION UNIT MAINTENANCE MANUAL
TARGET ACQUISITION DESIGNATION
SIGHT (TADS) ASSEMBLY
AN/ASQ-170
(NSN 1270-01-142-2855) (AH-64A ATTACK HELICOPTER)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any errors 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 the back of this manual directly to: Commander, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also send in your comments electronically to our e-mail address: 2028@redstone.army.mil or FAX us at (256) 842-6546/DSN 788-6546. Instructions for sending an electronic 2028 may be found at the end of this TM immediately preceding the hard copy 2028.

Distribution Statement A: Approved for public release; distribution is unlimited.

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*This manual supersedes TM 1-1270-476-20, 31 July 1992, including all changes.

HOW TO USE THIS MANUAL

If you cannot find the information you are looking for, you cannot properly do your job. Take a few minutes to look through this manual. You will find it easier to use once you have become familiar with it.

Each chapter and section is set up to lead you through it step by step. For example:

1. On the chapter page, you will see a listing of the sections in that chapter. Listed under the section titles is a listing of the tasks for that section. Find the task (by title) that you have been assigned. Now, look across from the task title and you will find the paragraph and page number for the task. Notice that the chapter number forms part of the page number.
2. Now that you have located the page number, turn to that page and review the task requirements before starting the procedures.
3. Did you notice that each task or job begins with an initial setup?
 - a. INITIAL SETUP lists the configuration, test equipment, tools and special tools, materials/parts, military occupational specialty (MOS), references, safety instructions, condition equipment should be in, and general instructions for you to complete the task. FOLLOWUP lists the procedures to be performed after you have completed the basic task.
 - b. Now, what exactly does INITIAL SETUP mean to you? The term "INITIAL SETUP" means, "DO THIS FIRST BEFORE STARTING THE TASK." Review one of the initial setup tables and become familiar with the requirements.
4. An explanation of the initial setup headings is presented below.
 - a. Tools and Special Tools. Special tools needed to perform the task. Be sure to acquire all the tools before you start the task.
 - b. Materials/Parts. Materials and parts needed to perform the task. Materials can be found in Appendix C. Next to the name of the material listed in the initial setup you will find an item number. This number matches the item number in column (1) of Appendix C. Be sure to acquire all the materials and parts before you start the task.
 - c. Personnel Required. MOS required to do the task. This will also tell you the number of persons needed to perform the task.
5. You can also use the table of contents on page i of this manual to locate page number for chapters, sections, and the appendixes.
6. Let's see if you understand how to find a specific task. Suppose your supervisor wants you to replace the humidity indicator.

Here's how you would find it:

- a. Obtain the correct TM for this task: TM 1-8145-476-23. Aviation Unit and Intermediate Maintenance Manual, Target Acquisition Designation Sight Assembly and Pilot Night Vision Sensor Assembly (TADS/PNVS) Shipping and Storage Containers is the correct manual. Look up this task.
- b. Did you find the chapter title on the cover or did you use the table of contents? Remember replacement is an aviation intermediate maintenance task. So, if you located the Aviation Intermediate Maintenance Chapter, you are correct.

HOW TO USE THIS MANUAL (cont)

- c. Looking at the section titles listed in the maintenance chapter index, you should have located the page number for the maintenance procedures. Going to that page you found the section index and located the paragraph and page number of the replacement task.
7. Another approach would be to look in the alphabetical index in the rear of the manual. You would find the information listed in several places: "Humidity Indicator Replacement;" or "Replacement, Humidity Indicator."

CHAPTER 1

INTRODUCTION

Subject	Para	Page
Scope.....	1-1	1-1
Consolidated Index of Army Publications and Blank Forms	1-2	1-1
Maintenance Forms, Records, and Reports	1-3	1-1
Destruction of Army Materiel to Prevent Enemy Use	1-4	1-1
Preparation for Storage or Shipment	1-5	1-2
Quality Assurance/Quality Control (QA/QC)	1-6	1-2

1-1. SCOPE

- a. Type of Manual.** Aviation Unit Maintenance (AVUM)
- b. Model Number and Equipment Name.** AN/AAQ-170, Target Acquisition Designation Assembly
- c. Purpose of Equipment**

(1) The TADS assembly is an electro-optical (EO) system used by the helicopter copilot gunner (CPG) to acquire and track surface targets in either day or night operations.

(2) The CPG uses the TADS assembly laser to internally boresight the day television (DTV) and forward looking infrared (FLIR), determine range of and designate the desired target.

(3) The night sensor assembly (NSA) is the infrared sensor part of the TADS assembly and can be used as a backup to the pilot night vision sensor (PNVS) (TM 1-5855-265-20).

1-2. 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 this equipment.

1-3. MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-751, The Army Maintenance Management System - Aviation (TAMMS-A).

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

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2. Priority destruction of TADS assembly units is:

1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE (cont)

- a. Day sensor assembly
 - Laser transceiver unit assembly
 - Laser tracker receiver unit
 - Television (TV) sensor assembly
 - Field-of-view selector and all optics
- b. Night sensor assembly
 - Focusing assembly
 - Scanner module
 - LED array
 - Visual collimator
 - IR imager
 - Cooler/Dewar assembly
 - Wide field-of-view lens and mirror assembly
 - Narrow field-of-view mirror
 - Visual multiplexer
- c. Laser electronics unit assembly
- d. TADS electronic unit assembly
- e. Optical relay tube assembly
 - Optical relay column assembly
 - Alphanumeric display assembly
 - Heads out display
 - Heads down display
 - Handgrip assemblies
- f. Power supply assembly
- g. All other assemblies

1-5. PREPARATION FOR STORAGE OR SHIPMENT

Refer to chapter 4 for applicable information.

1-6. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

For QA/QC requirements, refer to FM 1-511.

CHAPTER 2

GENERAL MAINTENANCE INSTRUCTIONS

	Section	Page
Repair Parts; Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE); and Support Equipment	I	2-1
Service Upon Receipt	II	2-2
Preventive Maintenance Checks and Services (PMCS)	III	2-16
Standard Maintenance Procedures	IV	2-35

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

Subject	Para	Page
Common Tools and Equipment	2-1	2-1
Special Tools, TMDE, and Support Equipment	2-2	2-1
Repair Parts	2-3	2-1

2-1. COMMON TOOLS AND EQUIPMENT

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

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

For authorized special tools, TMDE, and support equipment pertaining to aviation unit maintenance, refer to TM 1-1270-476-23P, Repair Parts and Special Tools List (RPSTL) and Appendix B, Maintenance Allocation Chart.

2-3. REPAIR PARTS

Repair parts are listed and illustrated in the RPSTL (TM 1-1270-476-23P) covering aviation unit maintenance for this equipment.

Section II. SERVICE UPON RECEIPT

Subject	Para	Page
Reusable Shipping and Storage Container Unpacking Instructions	2-4	2-3
Reusable Shipping and Storage Container Packing Instructions	2-5	2-6
Turret Assembly Shipping Crate Unpacking Instructions	2-6	2-8
Turret Assembly Shipping Crate Packing Instructions	2-7	2-12

OVERVIEW

This section contains instructions for unpacking and packing TADS turret assembly shipping crate and TADS AVUM replacement assemblies from reusable shipping and storage containers. The following is a listing of TADS AVUM replacement assemblies and the type of containers in which they are packed. There are four types of containers. Types I, II, and III are metal, reusable, waterproof containers with precut foam inserts. Type IV is a cardboard reusable container with prescribed packing material.

Containers

<u>Replaceable Assembly</u>	<u>Type</u>	<u>Part No.</u>
Alphanumeric display assembly (AND)	IV	
Boresight assembly	I	13083613
Boresight assembly	I	13083613-019
Control panel assembly	I	13083624
Day sensor subassembly (DSSA)	III	13082387
Electronic control amplifier assembly (ECA)	I	13083622
Environmental control system assembly (ECS)	IV	
Eyepiece assembly	IV	
Gyro circuit card assemblies (3)	IV	
Handgrip assemblies (2)	IV	
Indirect view display electronics assembly (IVD)	III	13083625
Laser electronics unit assembly (LEU)	I	13083615
Laser tracker/receiver unit (LT/R)	I	13083621
Laser transceiver unit assembly (LTU)	I	13083619
Night sensor assembly (NSA)	III	13082385
Optical relay column assembly (ORC)	II	13083617
Day sensor shroud assembly	III	13083611
TADS electronic unit assembly (TEU)	I	13083618
Night sensor shroud assembly	III	13083610
Power supply assembly (TPS)	I	13083614
TV sensor assembly	I	13083620

2-4. REUSABLE SHIPPING AND STORAGE CONTAINER UNPACKING INSTRUCTIONS

This task covers unpacking a replacement component from a reusable shipping and storage container.

INITIAL SETUP

Personnel Required

68X Aircraft Armament/Electrical Repairer

Equipment Conditions

Replacement task in progress

NOTE

One or more assistants are required to handle the container depending upon loaded weight stamped on container ID plate.

WARNING

HEAVY OBJECT

- Excessive strain can cause serious injury.
- Don't: Attempt to lift or carry heavy objects alone.
- Do: Get help for lifting or carrying objects weighing more than 35 pounds.
- If you experience a sudden pain while lifting or discomfort after lifting, get medical help at once.

NOTE

Type I container for power supply assembly shown. Other containers are similar.

1. Get loaded container from storage.
2. Position container near helicopter.
3. Equalize pressure in container.

2-4. REUSABLE SHIPPING AND STORAGE CONTAINER UNPACKING INSTRUCTIONS (cont)

a. Find relief valve. See listing below:

<u>Container</u>	<u>Valve Location</u>
Box type I	Lid
Box type II	Lower half
Box type III	Lower half

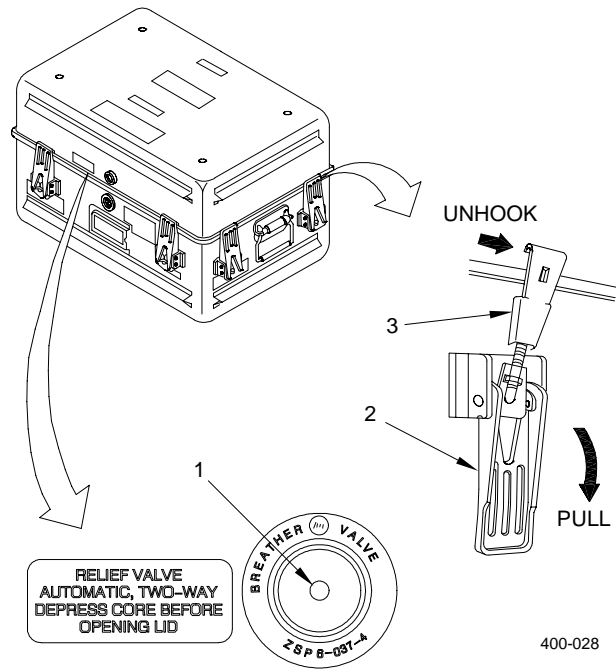
b. Depress core (1) and hold for at least 2 seconds.

4. Open latches.

- a. Grasp latch handle (2) and pull out and down from container.
- b. Unhook catch (3) from rim of lid.

NOTE

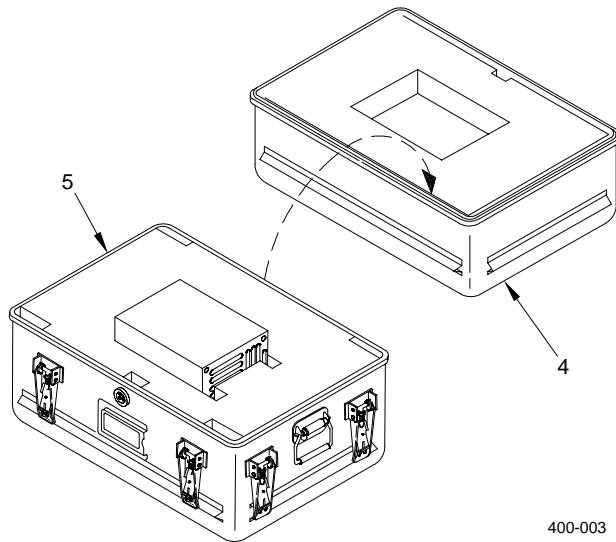
Keep the time that container is open to a minimum. This reduces the amount of moisture absorbed by the foam rubber inserts.



400-028

5. Remove lid (4).

- a. Grasp lid (4) with both hands and lift straight up.
- b. Place lid upside down next to lower half of container (5).

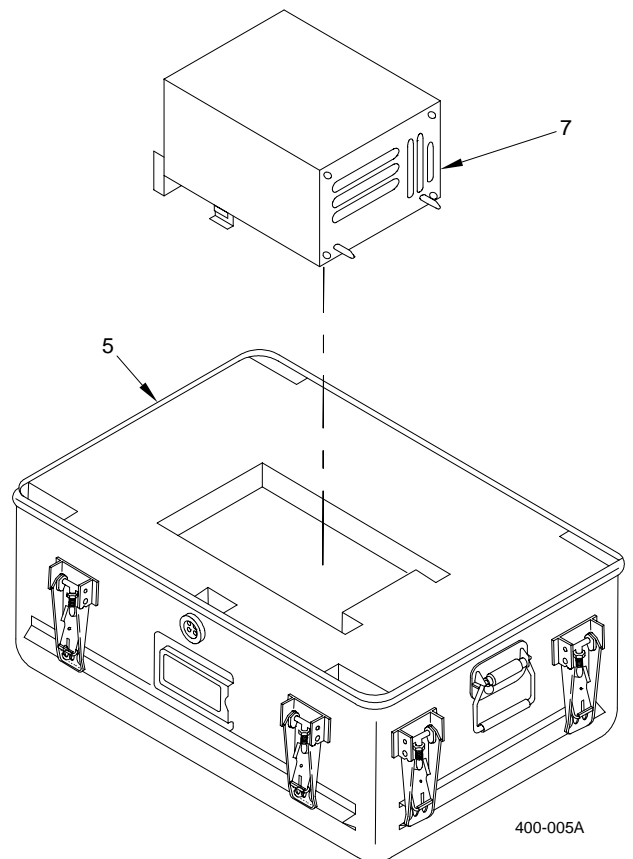
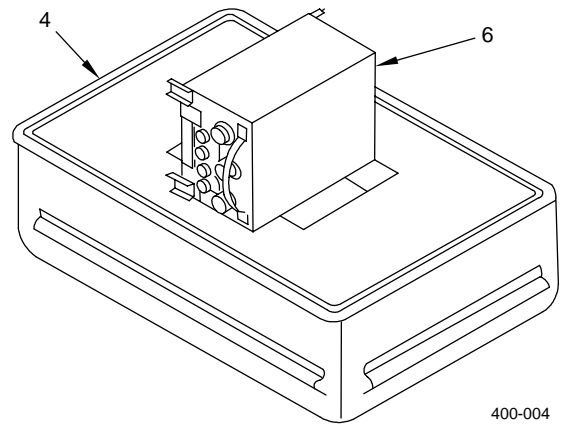


400-003

2-4. REUSABLE SHIPPING AND STORAGE CONTAINER UNPACKING INSTRUCTIONS (cont)

6. Put faulty component (6) on lid (4).
7. Remove replacement component (7) from shaped cutout in lower half of container (5).
8. Proceed with replacement task.

END OF TASK



2-5. REUSABLE SHIPPING AND STORAGE CONTAINER PACKING INSTRUCTIONS

This task covers packing a faulty component in a reusable shipping and storage container.

INITIAL SETUP

Materials (appendix D)

LRU identification plate (Item 41)

Personnel Required

68X Aircraft Armament/Electrical Repairer

References

TM 1-8145-476-23

Equipment Conditions

Replacement task in progress

NOTE

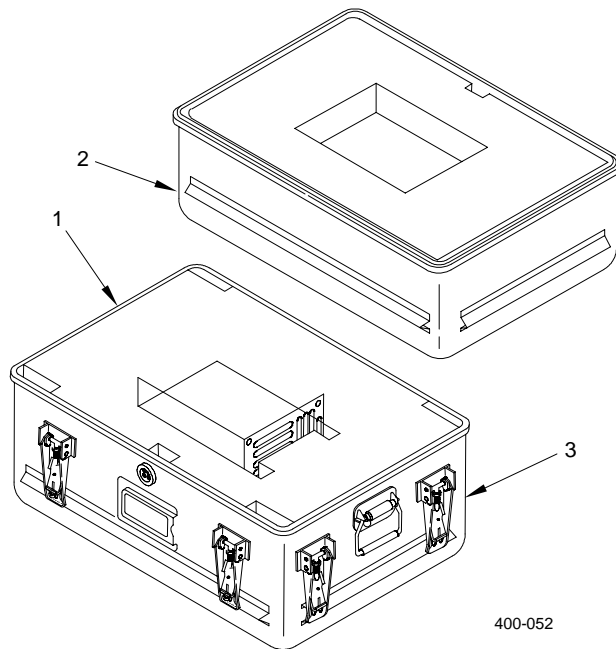
- One or more assistants are required to handle the container depending upon loaded weight stamped on container ID plate.
- When packing the boresight or day sensor/ night sensor shroud assemblies, ensure the window cover assembly is installed.

WARNING

HEAVY OBJECT

- Excessive strain can cause serious injury.
- Don't: Attempt to lift or carry heavy objects alone.
- Do: Get help for lifting or carrying objects weighing more than 35 pounds.
- If you experience a sudden pain while lifting or discomfort after lifting, get medical help at once.

1. Record part number and nomenclature of faulty unit.
 - a. Obtain part number (including dash number, if applicable) and nomenclature from faulty unit or old LRU ID plate.
 - b. Mark data (a above) on a new LRU ID plate.



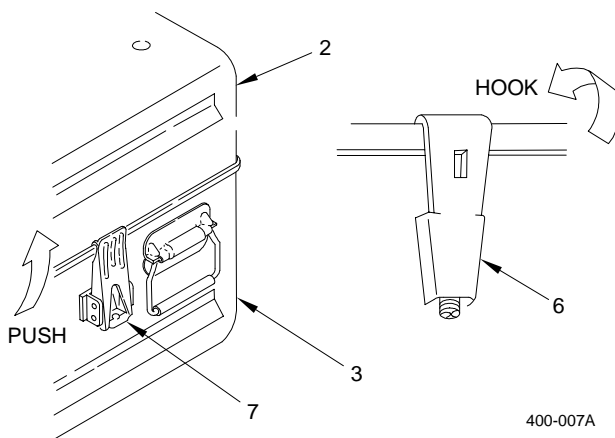
2. Remove faulty component (1) from lid (2) and place in shaped cutout in lower half of container (3).

2-5. REUSABLE SHIPPING AND STORAGE CONTAINER PACKING INSTRUCTIONS (cont)

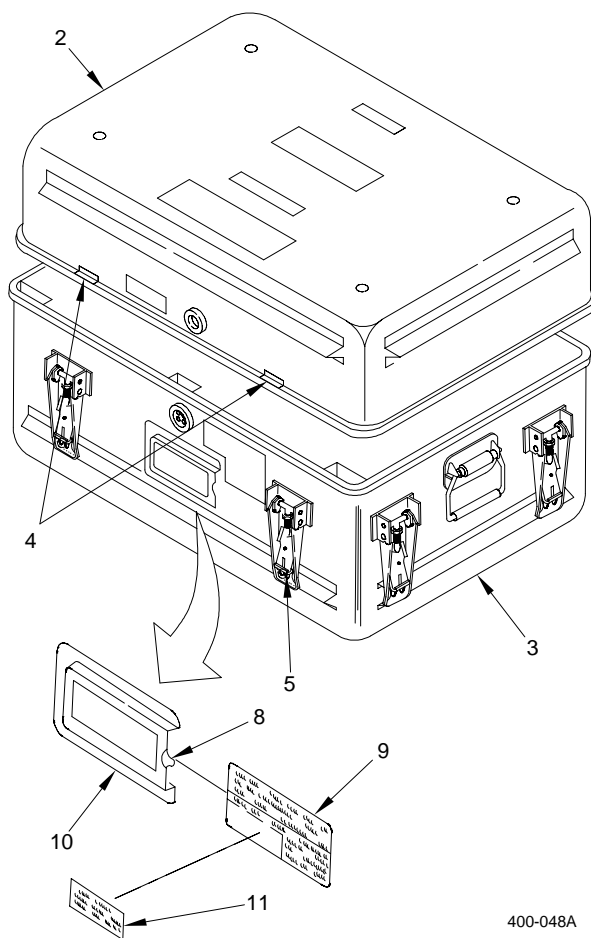
CAUTION

The container can be damaged if lid is improperly installed. The lid is keyed to the lower half of container. Several weld beads are located in rim of lid to prevent engagement of latches.

3. Install lid (2).
 - a. Position lid (2) above lower half of container (3) so that weld beads (4) are not lined up with latches (5).
 - b. Put lid (2) on lower half of container (3).



4. Secure latches (5).
 - a. Hook catch (6) onto rim of lid.
 - b. Grasp latch handle (7) and push up and in toward container.
5. Install new LRU identification plate (8).
 - a. Lift retainer spring (9), remove container ID plate (10) from plate holder (11), and release spring.
 - b. Remove and discard old LRU ID plate (8) from container ID plate (10).
 - c. Remove paper backing from new LRU ID plate (8) marked in step 1 above and install plate where old LRU ID plate was removed.
 - d. Lift retainer spring (9), install container ID plate (10) in plate holder (11), release spring.



END OF TASK

2-6. TURRET ASSEMBLY SHIPPING CRATE UNPACKING INSTRUCTIONS

This task covers unpacking TADS turret assembly from a reusable shipping crate.

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Dolly truck assembly
Lifting device
Universal sling assembly
Bolt (AN6-30A)
Nut (MS21042-6)
Washer (AN960KD616)

Personnel Required

68X Aircraft Armament/Electrical Repairer

NOTE

One or more assistants are required to unpack turret assembly from shipping crate.

2-6. TURRET ASSEMBLY SHIPPING CRATE UNPACKING INSTRUCTIONS (cont)

WARNING

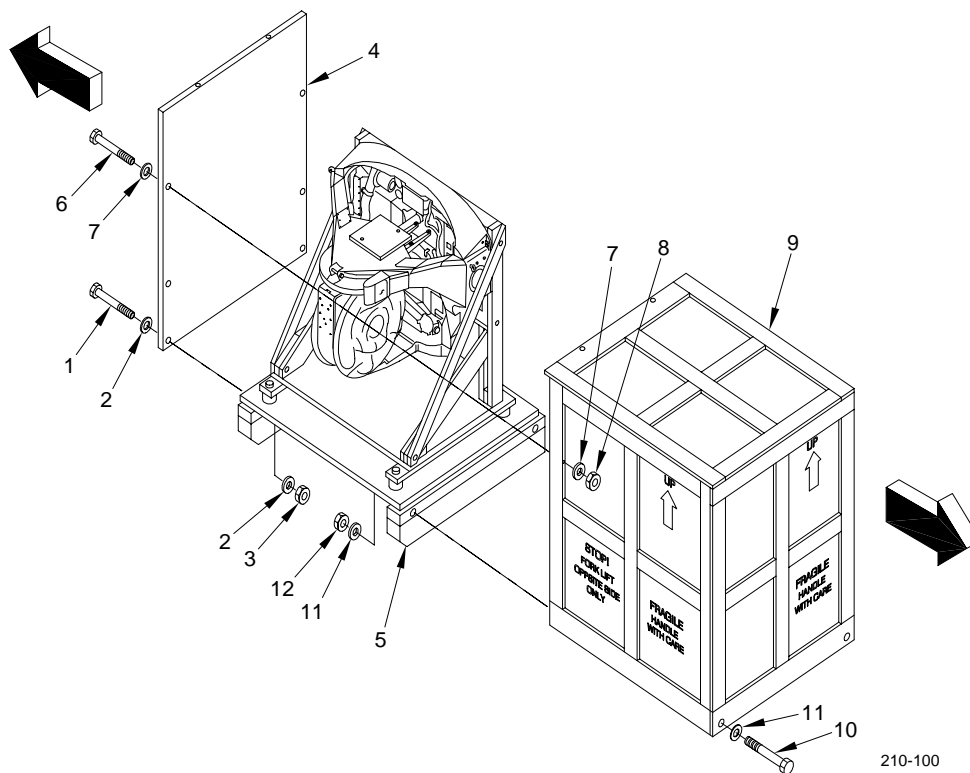
HEAVY OBJECT

- Excessive strain can cause serious injury.
- Don't: Attempt to lift or carry heavy objects alone.
- Do: Get help for lifting or carrying objects weighing more than 35 pounds.
- If you experience a sudden pain while lifting or discomfort after lifting, get medical help at once.

NOTE

Retain all shipping crate mounting hardware. This hardware is required for shipping crate reassembly.

1. Open shipping crate.
 - a. Remove two bolts (1), four washers (2), and two nuts (3) from side panel (4) and shipping base (5).
 - b. Remove six bolts (6), 12 washers (7), and six nuts (8) holding panel (4) to shipping crate shroud (9).
 - c. Set panel (4) aside.
 - d. Remove two bolts (10), four washers (11), and two nuts (12) holding shroud (9) to base (5).
 - e. Slide shroud (9) off base (5) and set aside.



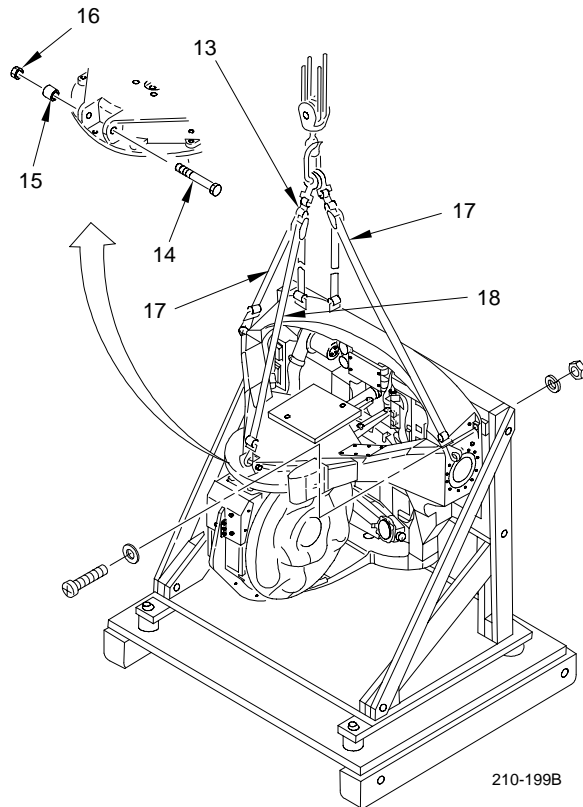
2-6. TURRET ASSEMBLY SHIPPING CRATE UNPACKING INSTRUCTIONS (cont)

2. Install universal sling assembly (13).

NOTE

If wire strike protection is not installed, go to step d.

- a. Remove PNVS cutter assembly (para 3-10).
- b. Place PNVS cutter assembly and mounting hardware in safe place.
- c. Install bolt (14) AN6-30A, washer (15) AN960KD616, and nut (16) MS21042-6.
- d. Hang universal sling assembly (13) from lifting device. Adjust the two outside straps (17) so they are equal in length and the center strap (18) to approximately 4 inches longer than the two outside straps.
- e. Install universal sling assembly (13) as shown.
- f. Using lifting device take a slight strain on universal sling assembly (13) and take out slack in the center strap (18).



WARNING

HEAVY LOAD

- Danger: Heavy load suspended above work area.
- Don't: Walk, stand, or work under objects suspended by the crane.
- Don't use universal sling assemblies that have been in use for more than 3 years.
- Slippage of suspended objects can cause serious injury or death.

CAUTION

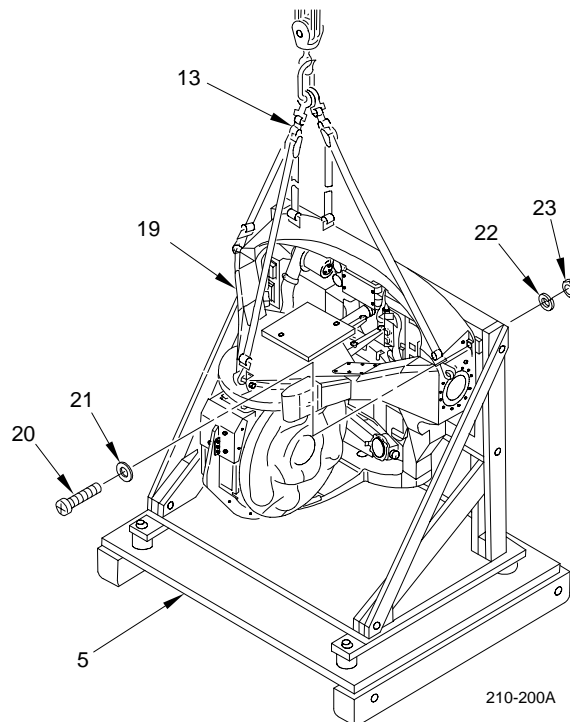
- Careless handling of turret assembly during unpacking can damage the turret assembly.
- Ensure that assistant steadies the turret assembly and controls its travel at all times during unpacking.

2-6. TURRET ASSEMBLY SHIPPING CRATE UNPACKING INSTRUCTIONS (cont)

3. Remove turret assembly (19).
 - a. Remove four bolts (20), washers (21), lockwashers (22), and nuts (23) attaching turret assembly (19) to shipping base (5).
 - b. Grasp turret assembly (19) and work it forward until clear of shipping base (5).
 - c. Install four bolts (20), washers (21), lockwashers (22), and nuts (23) in mounting holes in shipping base (5).
4. Mount turret assembly (19) on dolly truck assembly (24).
 - a. Operate lifting device and aline turret assembly (19) alignment pins with dolly truck assembly (24) alignment holes.

NOTE

There are four mounting bolts (part of dolly truck assembly). The two short bolts mount to top.

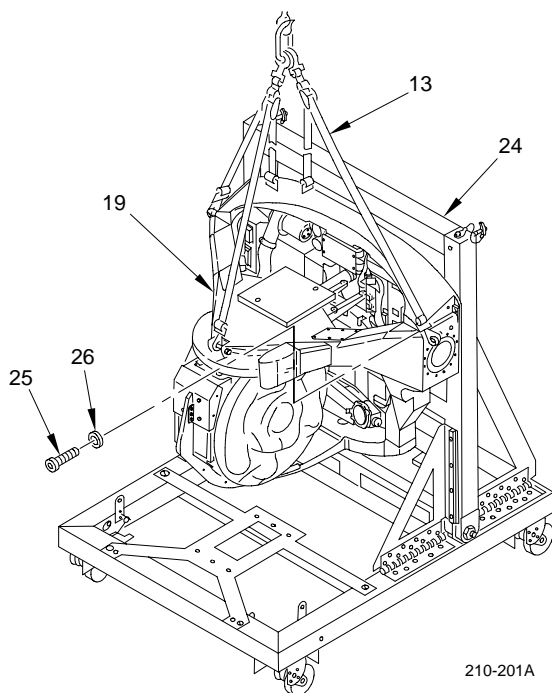


- b. Attach turret assembly (19) to dolly truck assembly (24) by installing four bolts (25) and washers (26).
- c. Lower lifting device and remove universal sling assembly (13) from turret assembly (19).

NOTE

The right side fairing, the left side fairing and, if wirestrike protection is incorporated, the PNVS cutter assembly are not installed on the replacement turret assembly. They are wrapped separately within the shipping crate. Ensure the right side fairing, the left side fairing and, if wirestrike protection is incorporated, the PNVS cutter assembly accompanies the turret assembly to the work area for later installation.

- d. Move turret assembly to work area.



END OF TASK

2-7. TURRET ASSEMBLY SHIPPING CRATE PACKING INSTRUCTIONS

This task covers packing TADS turret assembly in a reusable shipping crate.

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set
Lifting device
Universal sling assembly
Wrench, torque, 30-200 in-lb

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

NOTE

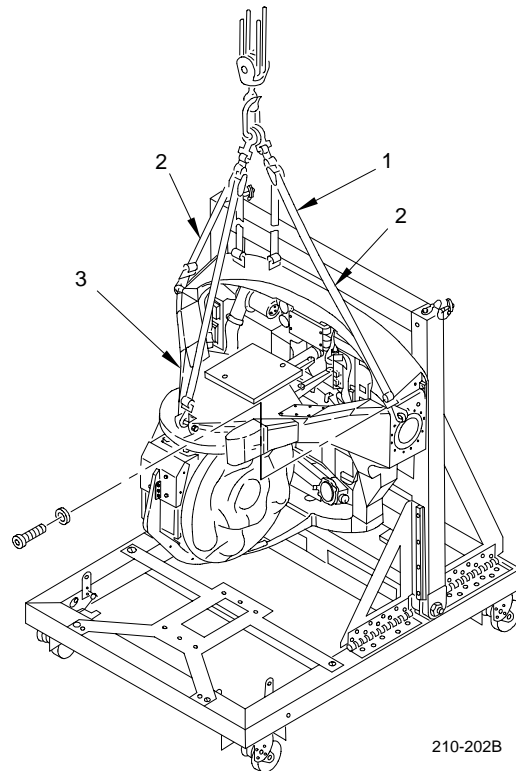
One or more assistants are required to pack turret assembly in shipping crate.

WARNING

HEAVY OBJECT

- Excessive strain can cause serious injury.
- Don't: Attempt to lift or carry heavy objects alone.
- Do: Get help for lifting or carrying objects weighing more than 35 pounds.
- If you experience a sudden pain while lifting or discomfort after lifting, get medical help at once.

1. Install universal sling assembly (1).
 - a. Hang universal sling assembly (1) from lifting device. Adjust two outside straps (2) so they are equal in length. Adjust center strap (3) to approximately 4 inches longer than the two outside straps.
 - b. Install universal sling assembly (1) as shown.
 - c. Using lifting device take a slight strain on universal sling assembly (1) and take out slack in the center strap (3).



210-202B

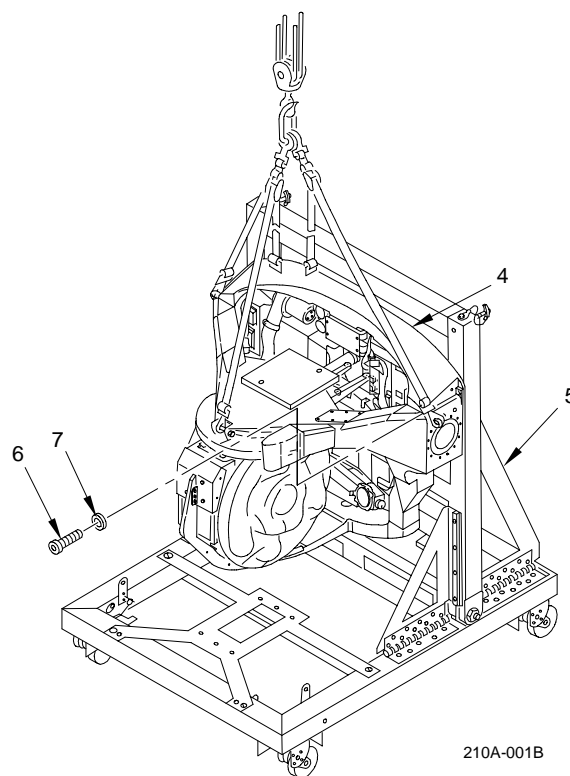
2-7. TURRET ASSEMBLY SHIPPING CRATE PACKING INSTRUCTIONS (cont)**WARNING****HEAVY LOAD**

- Danger: Heavy load suspended above work area.
- Don't: Walk, stand, or work under objects suspended by the crane.
- Don't use universal sling assemblies that have been in use for more than 3 years.
- Slippage of suspended objects can cause serious injury or death.

CAUTION

- Careless handling of turret assembly during packing can damage the turret assembly.
- Ensure that assistant steadies the turret assembly and controls its travel at all times during packing.

2. Remove turret assembly (4) from dolly truck assembly (5).
 - a. Remove four bolts (6) and washers (7) holding turret assembly (4) to dolly truck assembly (5).
 - b. Grasp turret assembly (4) and work it forward until two alignment pins are clear of dolly truck assembly (5).
 - c. Install bolts (6) and washers (7) in mounting holes in dolly truck assembly (5).



2-7. TURRET ASSEMBLY SHIPPING CRATE PACKING INSTRUCTIONS (cont)

3. Mount turret assembly (4) on shipping base (8).
 - a. Operate lifting device and align mounting holes of turret assembly (4) with shipping base (8) mounting holes.
 - b. Install four bolts (9), washers (10), lockwashers (11), and nuts (12) to attach turret assembly (4) to shipping base (8). Torque to 120 in-lb.
 - c. Lower lifting device and remove universal sling assembly (1) from turret assembly (4).

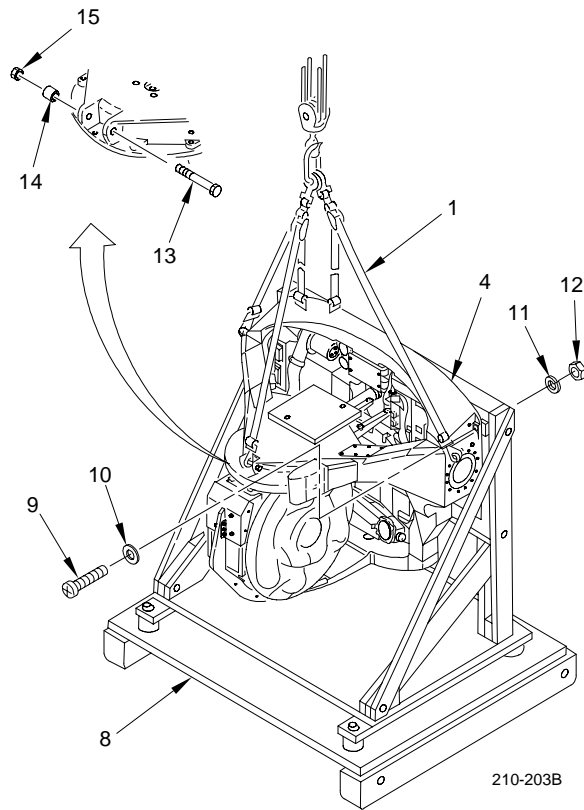
NOTE

If wire strike protection is not installed proceed to step 4 below.

- d. Remove bolt (13), washer (14), and nut (15) from turret assembly.

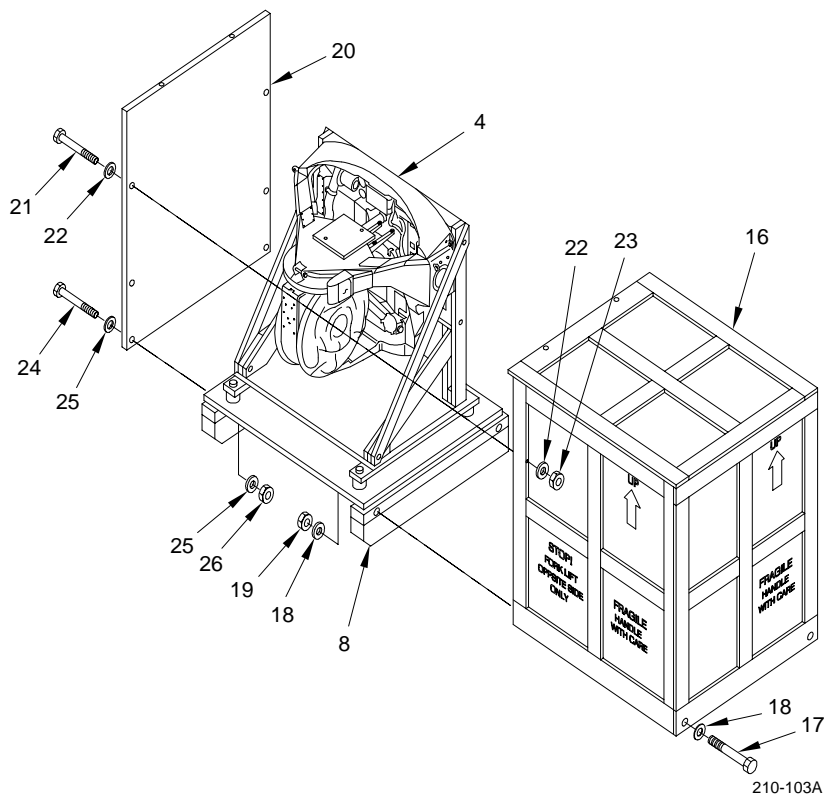
NOTE

Ensure the right side fairing, the left side fairing and if wirestrike protection is incorporated, the PNVS cutter are secured inside the shipping crate prior to closing.



2-7. TURRET ASSEMBLY SHIPPING CRATE PACKING INSTRUCTIONS (cont)

4. Close shipping crate.
 - a. Lift up and slide shipping crate shroud (16) around turret assembly (4) and shipping base (8).
 - b. Install two bolts (17), four washers (18), and two nuts (19) to attach shroud (16) to shipping base (8).
 - c. Lift side panel (20) in position on shroud (16).
 - d. Install six bolts (21), 12 washers (22), and six nuts (23) to attach panel to shroud (16).
 - e. Install two bolts (24), four washers (25), and two nuts (26) on shipping base (8).



Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Subject	Para	Page
General	2-8	2-16
PMCS Procedures	2-9	2-16

2-8. GENERAL

To ensure that the TADS is ready for operation at all times, it must be checked at regular intervals. These checks may uncover defects that must be corrected before they cause serious damage or failure.

2-9. PMCS PROCEDURES

PMCS information is contained in Table 2-1. The checks listed in the table are performed by AVUM ground maintenance personnel in accordance with standard operating procedures. The following is an explanation of the column headings in the table.

- a. Item Number.** Contains the item number in logical order of performance regardless of interval. This column shall be used as a source of item numbers for the TM number column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, in recording results of PMCS.
- b. Interval.** Tells you, in flight hours, when to perform the PMCS.
- c. Item to be Inspected/Procedure.** Identifies the equipment and gives the procedures.

INITIAL SETUP

Tools

- Aircraft armament repairman tool set
- Aircraft armament technical inspector tool set
- Maintenance platform (Optional)
- Vacuum cleaner

Personnel Required

- 68X Aircraft Armament/Electrical Repairer
- 66J30 Aircraft Armament Technical Inspector

References

TM 1-1520-238-23

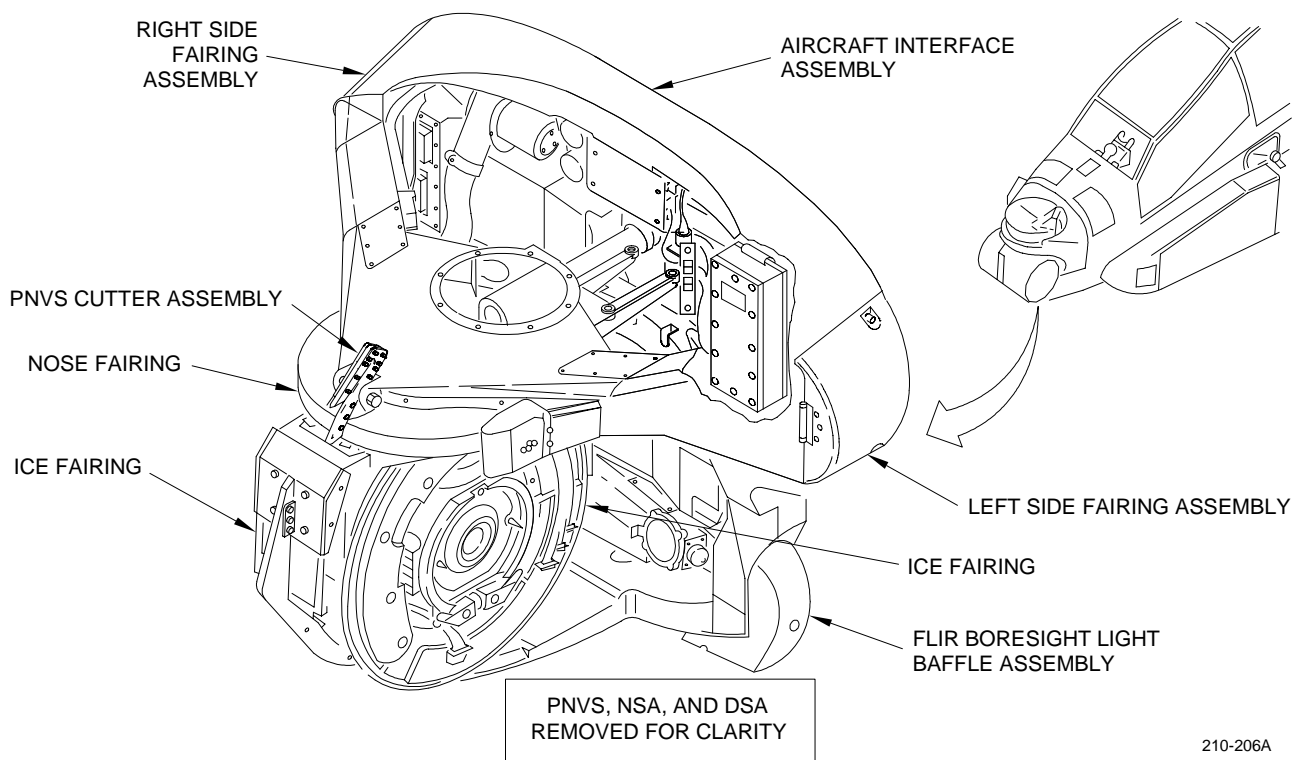
Equipment Condition

<u>Ref</u>	<u>Condition</u>
Para 3-1	Premaintenance procedures performed

2-9. PMCS PROCEDURES (cont)

Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Item No.	Interval (hours)		Item to be Inspected Procedure												
	100	250													
1			TADS TURRET ASSEMBLY												
1.1		X	<p>Inspect aircraft interface assembly and fairings. Check for cracks, distortion, missing fasteners, etc. If the structure has been damaged to where it may hinder normal system operation or cracked, replace the damaged assembly. See the following for a list of assemblies and replacement references:</p> <table border="0" style="width: 100%; margin-left: 40px;"> <thead> <tr> <th style="text-align: center;"><u>Assembly</u></th> <th style="text-align: center;"><u>Paragraph</u></th> </tr> </thead> <tbody> <tr> <td>FLIR Boresight Light Baffle Assembly</td> <td style="text-align: right;">3-23</td> </tr> <tr> <td>Ice Fairings</td> <td style="text-align: right;">3-9</td> </tr> <tr> <td>Left/Right Side Fairing Assembly</td> <td style="text-align: right;">3-28</td> </tr> <tr> <td>Nose Fairing</td> <td style="text-align: right;">3-31</td> </tr> <tr> <td>PNVS Cutter Assembly</td> <td style="text-align: right;">3-10</td> </tr> </tbody> </table>	<u>Assembly</u>	<u>Paragraph</u>	FLIR Boresight Light Baffle Assembly	3-23	Ice Fairings	3-9	Left/Right Side Fairing Assembly	3-28	Nose Fairing	3-31	PNVS Cutter Assembly	3-10
<u>Assembly</u>	<u>Paragraph</u>														
FLIR Boresight Light Baffle Assembly	3-23														
Ice Fairings	3-9														
Left/Right Side Fairing Assembly	3-28														
Nose Fairing	3-31														
PNVS Cutter Assembly	3-10														



210-206A

Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
1			TADS TURRET ASSEMBLY (cont)
1.2		X	Check turret assembly stencils/decals for extensive wear pitting, legibility, peeling edges, etc. If damage is seen, replace stencil/decals (para 2-12).
1.3		X	Check aircraft cables that connect within the TADS turret assembly for chafed or broken wires and loose, bent, burned, or broken pins or sockets. If damage is seen, notify your supervisor.
1.4	X		Inspect the area around the boresight assembly for cracked, broken, or peeling paint. If damaged paint is seen, touch up paint (para 2-11).
1.5	X		Inspect the area around the lower support laser safety shield for cracked or peeling paint. If damaged paint is seen, touch up paint (para 2-11).

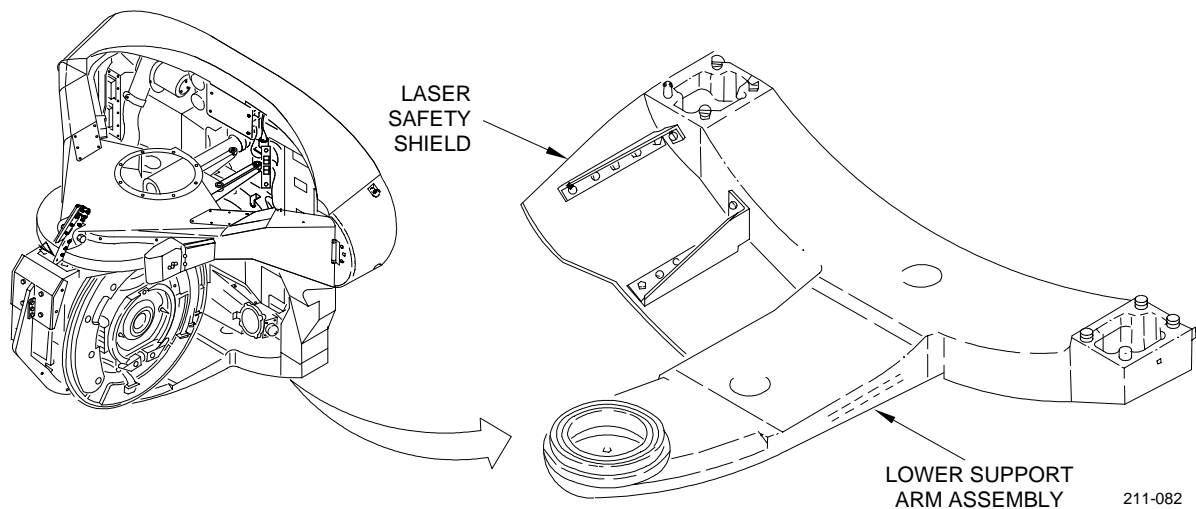


Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
1 1.6		X	TADS TURRET ASSEMBLY (cont) Inspect gasket on both dayside and nightside sensor assemblies for damage. If damage is seen replacement of shroud support is necessary. Refer to next higher level of maintenance.

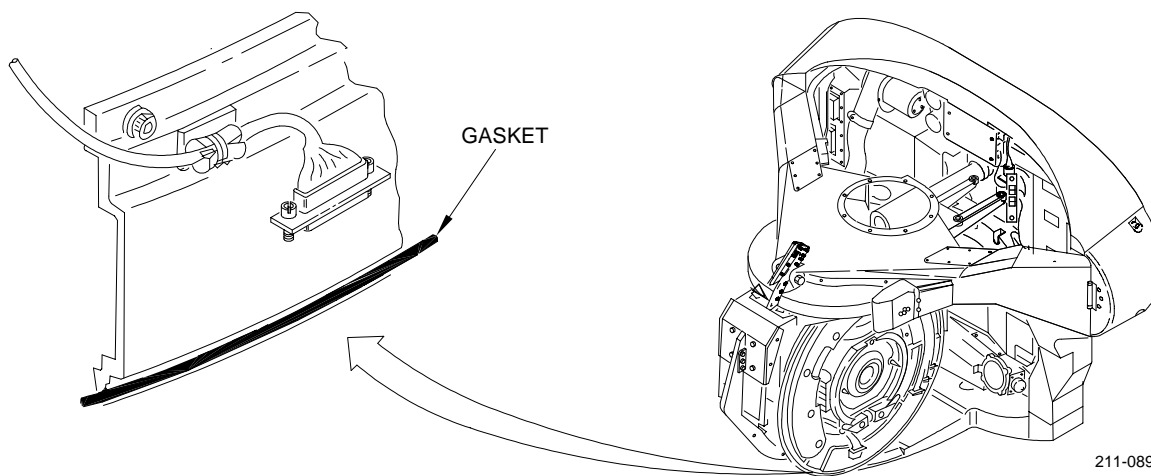


Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
1 1.7		X	TADS TURRET ASSEMBLY (cont) Inspect bonding strap assembly for loose, damaged and frayed wires. Check bonding strap assembly mounting hardware for security and damage. If damage is seen replace bonding strap assembly and attaching hardware (para 3-35).

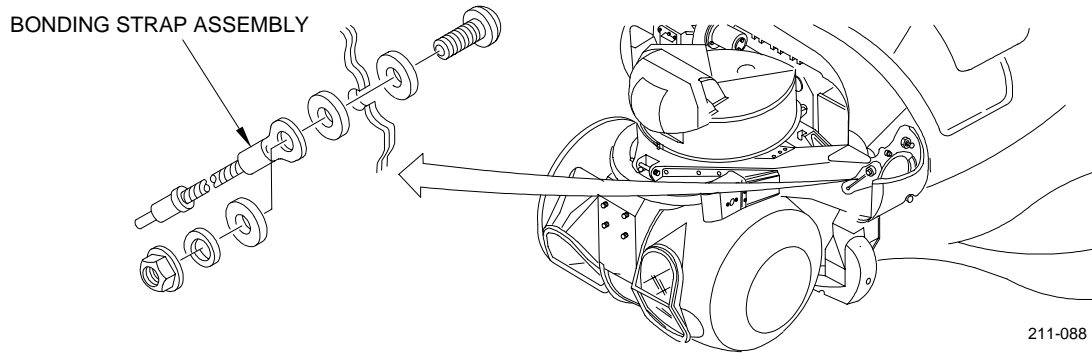


Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
1 1.8		X	TADS TURRET ASSEMBLY (cont) Inspect gaskets on both Aircraft Interface Assembly and Electronic Control Amplifier connectors P1 and P2 for damage. If damage is seen, replacement of gasket is necessary (para 3-17 or 3-18).

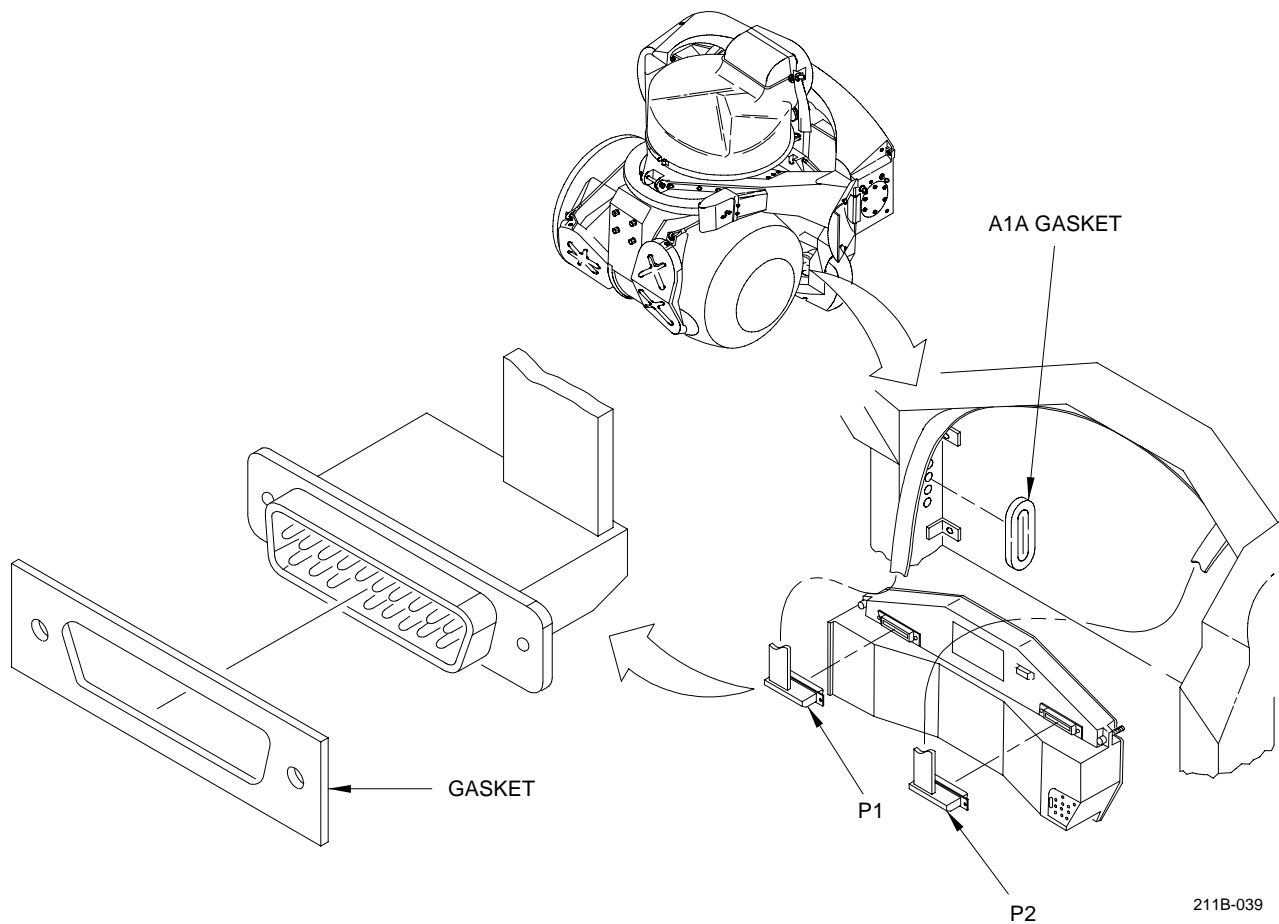


Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
2			BORESIGHT ASSEMBLY
2.1		X	Have boresight assembly optics inspected for contamination. If directed, clean optics (para 3-6).
2.2	X		Inspect area within 2.8-in. radius of center of boresight window for cracked, broken, or peeling paint. Check that all hardware is also painted. If damaged paint is seen or hardware appears shiny, touch up paint area (para 2-11).
2.3	X		Replace boresight assembly desiccant (para 3-20).

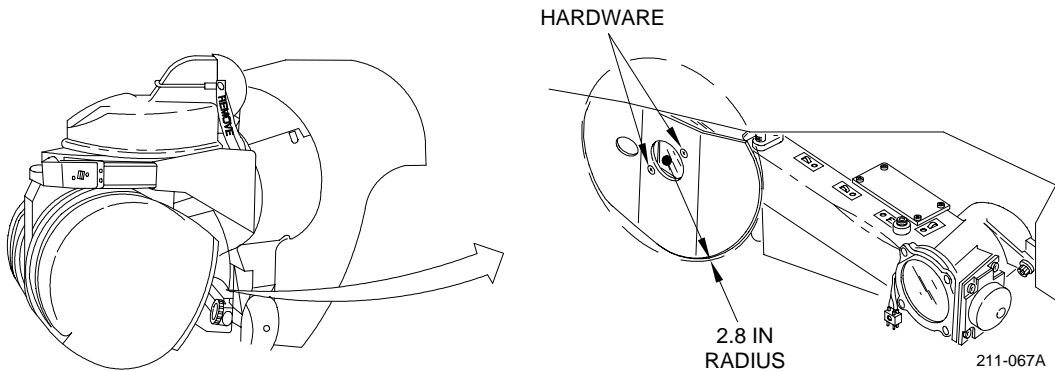
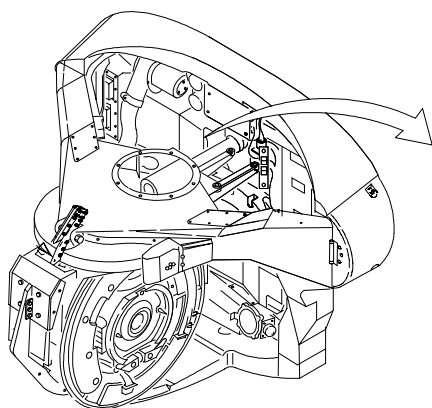
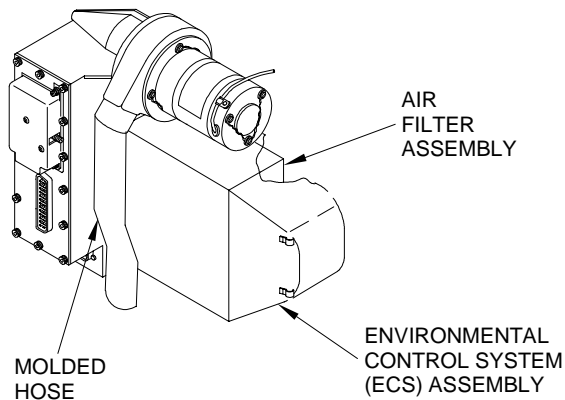


Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
3			ENVIRONMENTAL CONTROL SYSTEM ASSEMBLY
3.1		X	Remove and replace air filter assembly (para 3-15).
3.2		X	Check ECS molded hose for cracks, cuts, deterioration, and loose fit. If damaged, replace ECS molded hose (para 3-14). If loose, tighten clamps (para 3-14).



PNVS, NSA, AND DSA
REMOVED FOR CLARITY



211-066

4			NIGHT SENSOR SHROUD ASSEMBLY
4.1		X	Move TADS turret assembly (para 3-2) as required and check external surfaces of night sensor shroud assembly for dents, cracks, or punctures. If dented, check for interference (para 3-60). If cracks or punctures are seen, replace night sensor shroud assembly (para 3-24).
4.2		X	Remove night sensor shroud assembly window cover. Check window surface for major chips or cracks. Install window cover. If damage is seen, replace night sensor shroud assembly (para 3-24).

Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
4			NIGHT SENSOR SHROUD ASSEMBLY (cont)
4.3		X	Check night sensor shroud assembly stencils/decals for peeling edges, extensive wear, pitting, legibility, etc. If damage is seen, replace stencils/decals (para 2-12).
4.4		X	Remove night sensor shroud assembly (para 3-24). Have inner surface of window inspected for contamination. If directed, clean window (para 3-6).
4.5		X	Check inner surface of window for pitting, nicks, and scratches. Also check for peeling of coating. If damage is seen replace night sensor shroud assembly (para 3-24).
4.6		X	Check internal painted surfaces for scratched, chipped, or peeled paint. Note location of scratches and chips and relate them to possible points of contact with NSA components. Check for any damage to components. If damage is seen, replace NSA (para 3-25) and night sensor shroud assembly (para 3-24). If peeled paint is seen, replace night sensor shroud assembly (para 3-24).

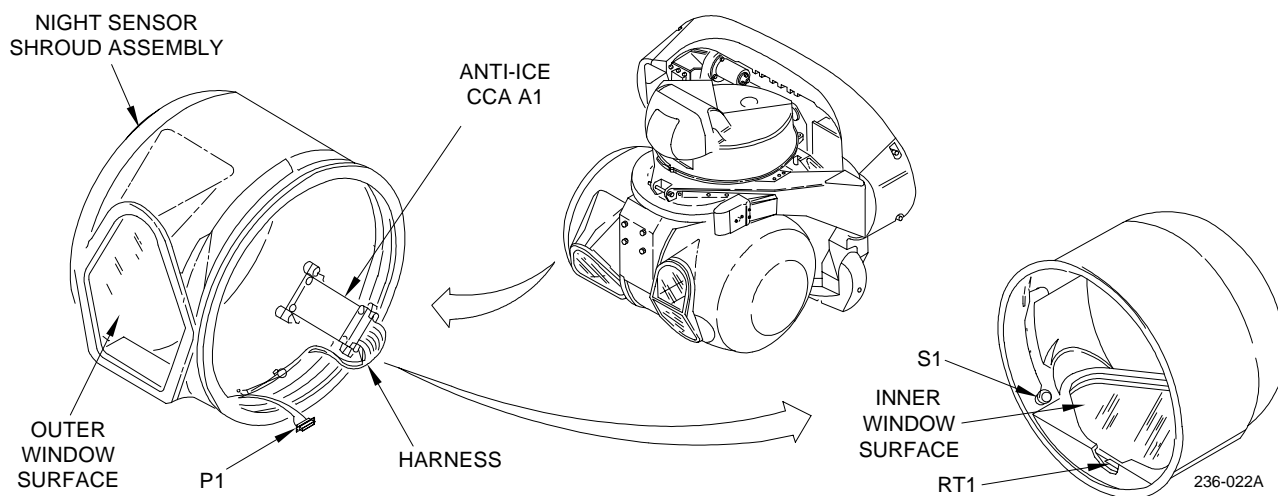


Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
4			NIGHT SENSOR SHROUD ASSEMBLY (cont)
4.7		X	Check harness for chafed or broken wires and loose or corroded connections. Check anti-ice CCA A1 and connector P1 for loose mounting hardware. Check window temperature sensor RT1 and thermostat S1 for bonding separation. Tighten a loose connector. If other discrepancies are noted, replace night sensor shroud assembly (para 3-24).
5			NIGHT SENSOR ASSEMBLY (NSA)
			<u>CAUTION</u>
			Optics are exposed during PMCS. Do not touch or bump optics. Contact with the optical surfaces will cause damage or unwanted cleaning tasks. Cleaning too often will wear away coating on optical surfaces.
5.1		X	Have NSA optics inspected for contamination. If directed, clean optics (para 3-6).
5.2		X	Check NSA optics for cracks. None allowed. Pitting, nicks, scratches and peeling of coating is allowed if the functionality of the NSA optics is not impacted.

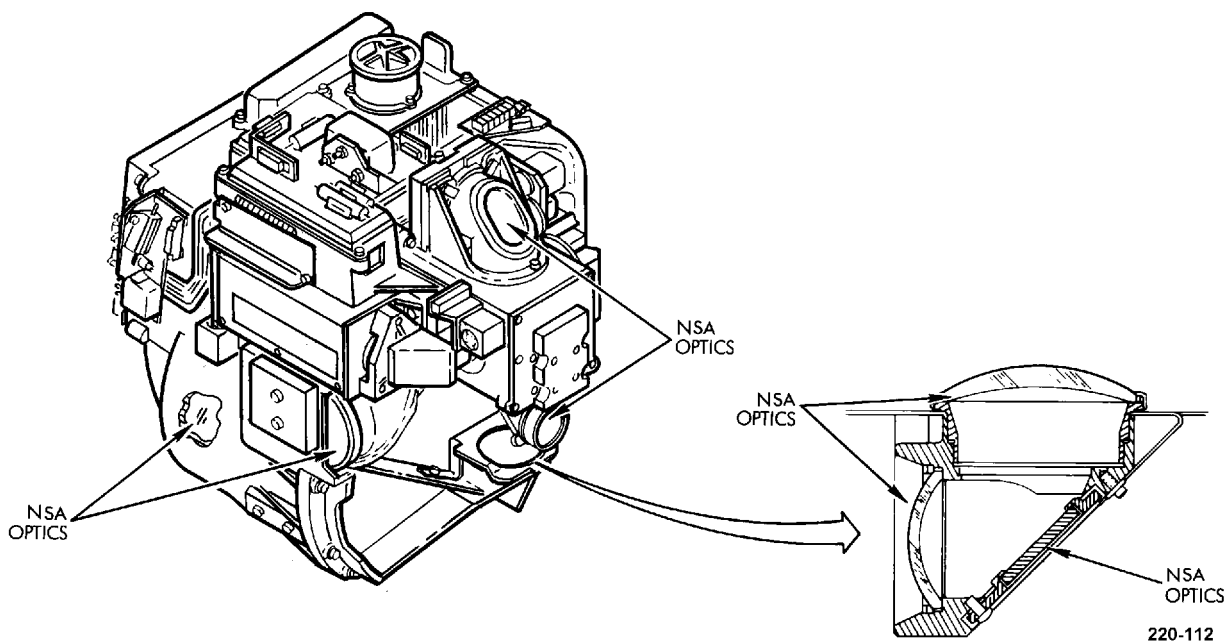


Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
6			DAY SENSOR SHROUD ASSEMBLY
6.1		X	Move TADS turret assembly (para 3-2) as required and check external surfaces of day sensor shroud assembly for any dents, crack's, or punctures. If dented, check for interference (para 3-60). If cracks or punctures are seen, replace day sensor shroud assembly (para 3-22).
6.2		X	Remove DSA window cover. Check window for major chips or cracks. Install window cover. If damage is seen replace day sensor shroud assembly (para 3-22).

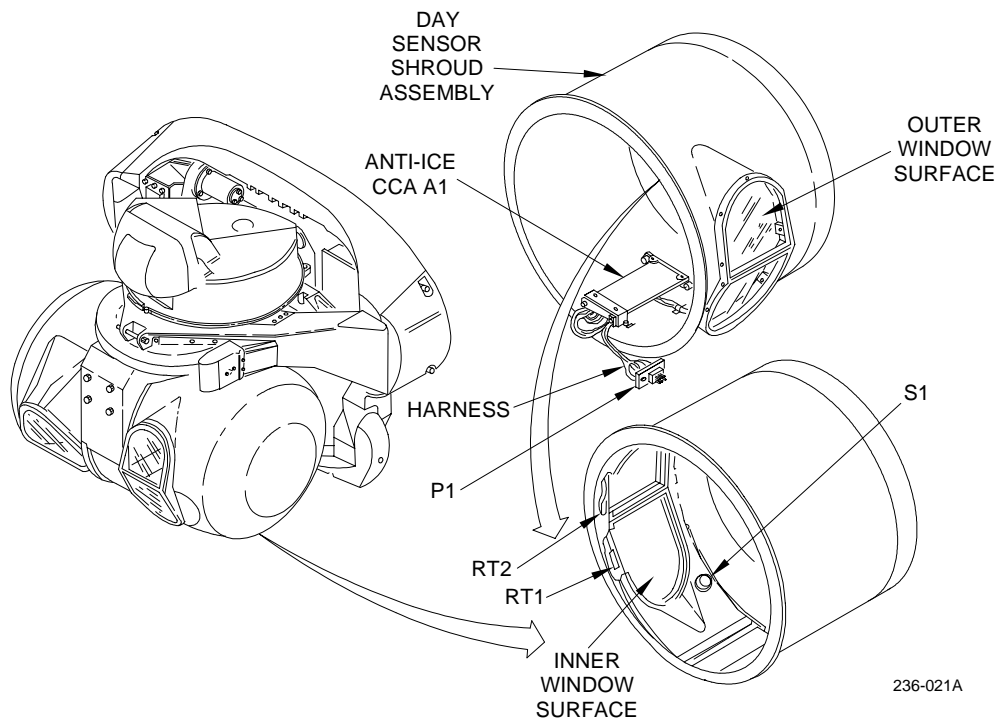


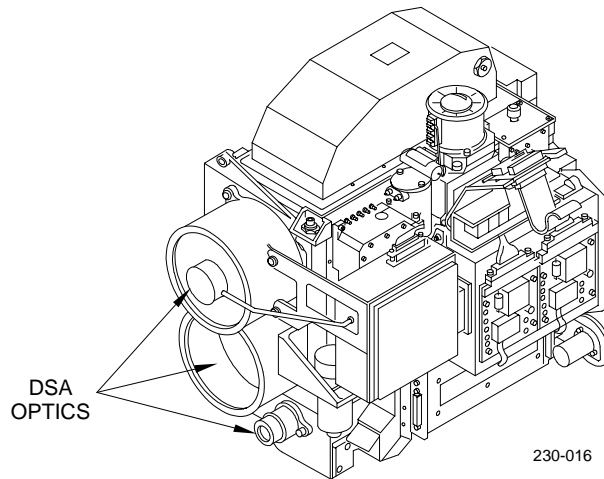
Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
6			DAY SENSOR SHROUD ASSEMBLY (cont)
6.3		X	Check day sensor shroud assembly stencil/decals for peeling edges, extensive wear, pitting, legibility, etc. If damage is seen, replace stencil/decals (para 2-12).
6.4		X	Remove day sensor shroud assembly (para 3-22). Have inner surface of window inspected for contamination. If directed, clean window (para 3-6).
6.5		X	Check inner surface of window for pitting, nicks, and scratches. Also check for peeling of coating. If damage is seen, replace day sensor shroud assembly (para 3-22).
6.6		X	Check internal painted surfaces for scratched, chipped, or peeled paint. Note location of scratches and chips and relate them to possible points of contact with DSA components. Check for any damage to components. If damage is seen, replace day sensor subassembly (para 3-36) and day sensor shroud assembly (para 3-22). If peeled paint is seen, replace day sensor shroud assembly (para 3-22).
6.7		X	Check harness for chafed or broken wires and loose or corroded connections. Check anti-ice CCA A1 and connector P1 for loose mounting hardware. Check window temperature sensors RT1 and RT2 and thermostat S1 for bonding separation. Tighten a loose connector. If other discrepancies are noted, replace day sensor shroud assembly (para 3-22).

Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
7			<p>DAY SENSOR ASSEMBLY (DSA)</p> <p style="text-align: center;"><u>CAUTION</u></p> <p>Optics are exposed during PMCS. Do not touch or bump optics. Contact with the optical surfaces will cause damage and an unwanted cleaning task. Cleaning too often will wear away coating on optical surfaces.</p>
7.1		X	Have DSA optics (three lenses) inspected for contamination. If directed, clean optics (para 3-6).
7.2		X	Check DSA optics for pitting, nicks, and scratches. Also check for peeling of optical coating. If damage is seen, replace the assembly affected.

Laser Tracker/Receiver Unit (para 3-40)
Day Sensor Subassembly (para 3-36)



230-016

Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
8			TADS ELECTRONIC UNIT (TEU) ASSEMBLY
8.1		X	Check connectors J1 thru J9 for corrosion, damage, and loose mounting. If damaged or corroded, replace TEU (para 3-52).
8.2		X	Check TEU assembly for loose, missing, or stripped hardware. If discrepancies are noted, replace TEU (para 3-52).
8.3		X	Check air holes in air flow adapters for build-up of dust. If dust is present, lightly vacuum the air flow adapters.
8.4		X	Check TEU assembly stencil/decals pulling edges, extensive wear, pitting, legibility, etc. If damage is seen, replace stencil/decals (para 2-12).

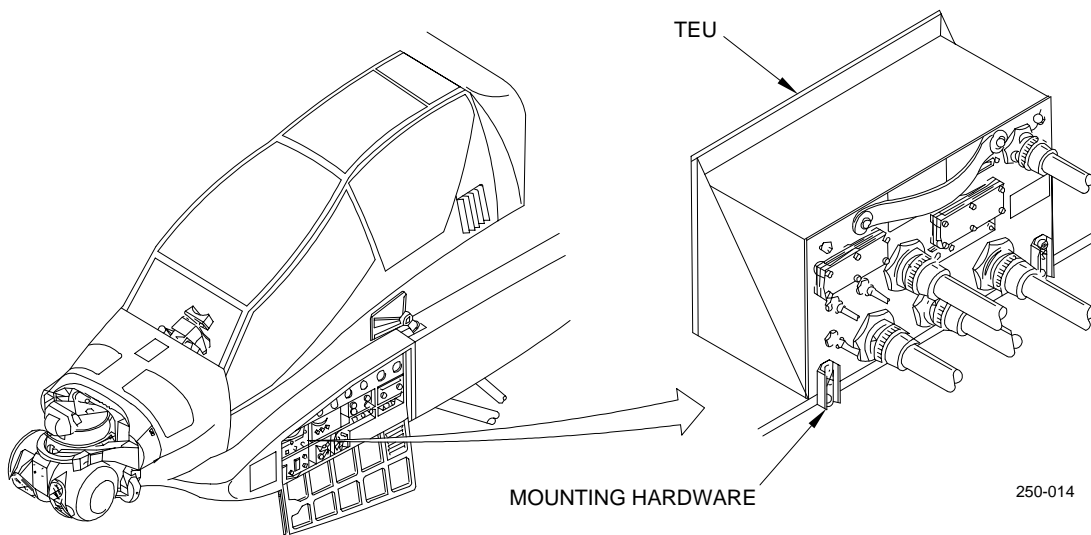


Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
9			POWER SUPPLY ASSEMBLY
9.1		X	Remove power supply assembly (para 3-53). Check power supply assembly for loose, missing, or stripped mounting hardware. If discrepancies are noted, replace power supply assembly (para 3-53).
9.2		X	Check connectors J1 and J2 for corrosion and loose mounting and for loose, bent, or broken pins or sockets. If damage is seen, replace power supply assembly (para 3-53).
9.3		X	Check F1, F2, and F3 for missing, blown, or incorrect fuses. All three fuses are 2 amp, 250v, fast blow. Replace as necessary.

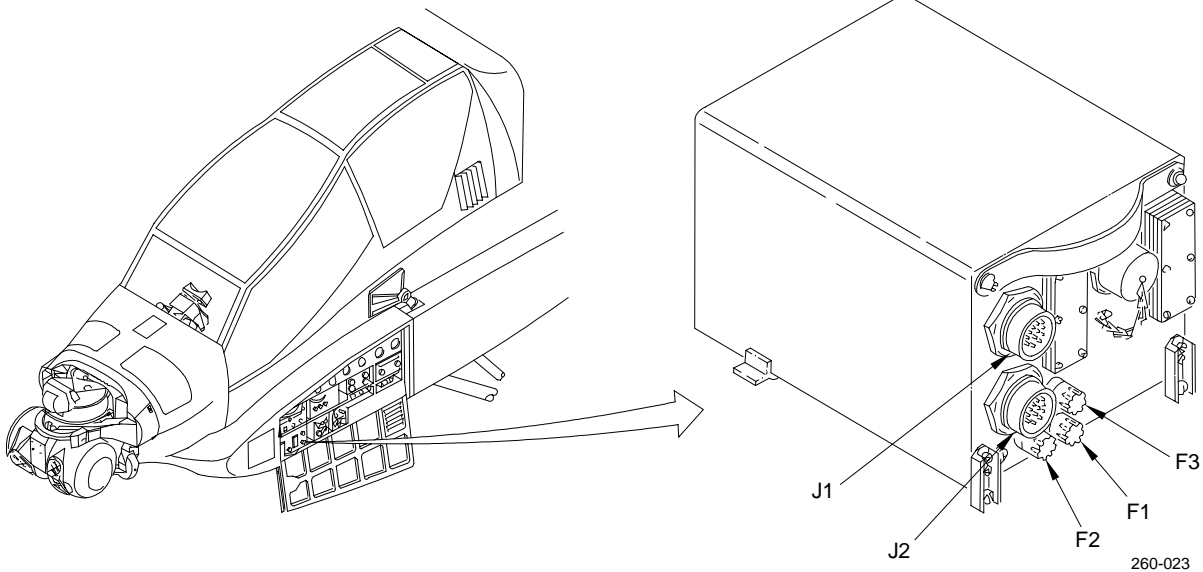
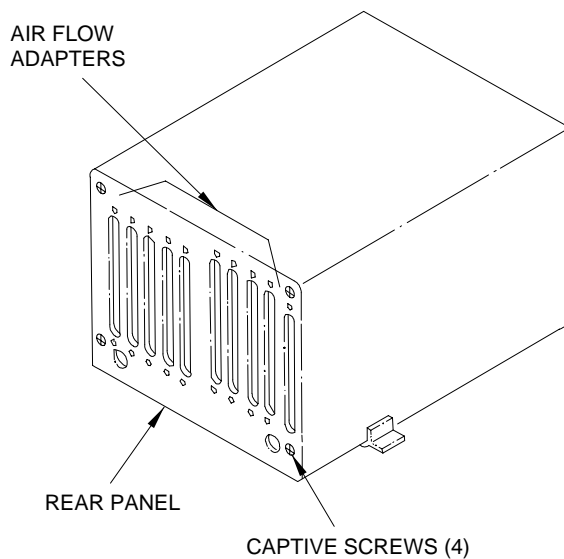


Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

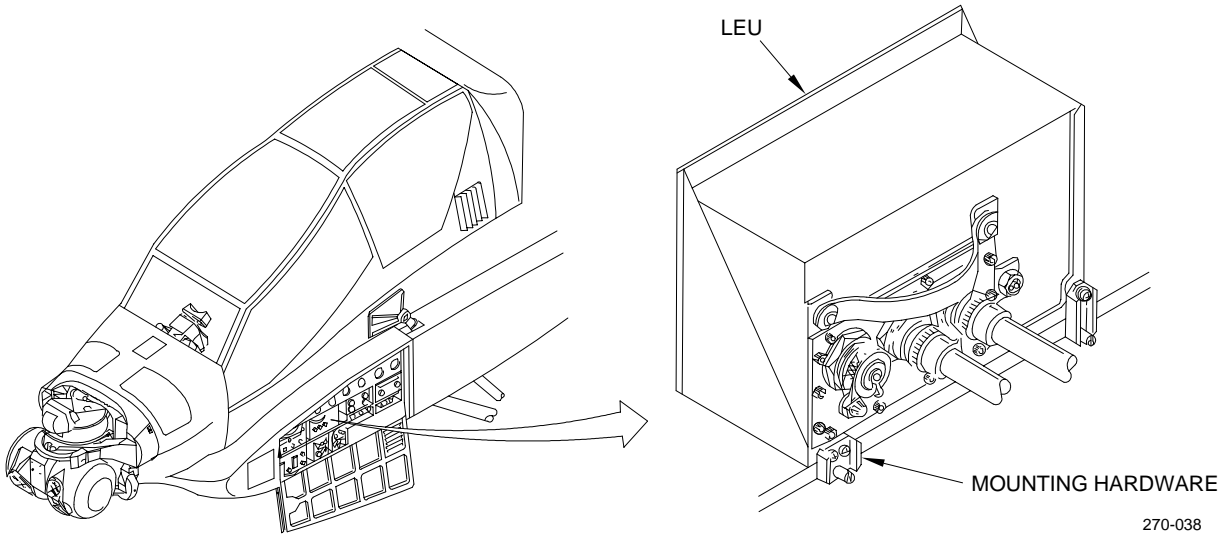
Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
9			POWER SUPPLY ASSEMBLY (cont)
9.4		X	Check air holes in air flow adapters on rear of power supply assembly for build-up of dust. If dust is present, lightly vacuum clean the air flow adapters.
9.5		X	Check power supply assembly stencils/decals for peeling edges, extensive wear, pitting, legibility, etc. If damage is seen, replace stencil/ decal (para 2-12).



260-024

Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
10			LASER ELECTRONICS UNIT (LEU) ASSEMBLY
10.1		X	Check connectors J2 and J3 for corrosion, damage, and loose mounting. If loose, tighten connectors. If damaged or corroded, replace LEU assembly (para 3-54).
10.2		X	Check LEU assembly for loose, missing, or stripped hardware. If discrepancies are noted, replace LEU (para 3-54).
10.3		X	Check LEU assembly stencil/decals for peeling edges, extensive wear, pitting, Legibility, etc. If damage is seen, replace stencil/decals (para 2-12).



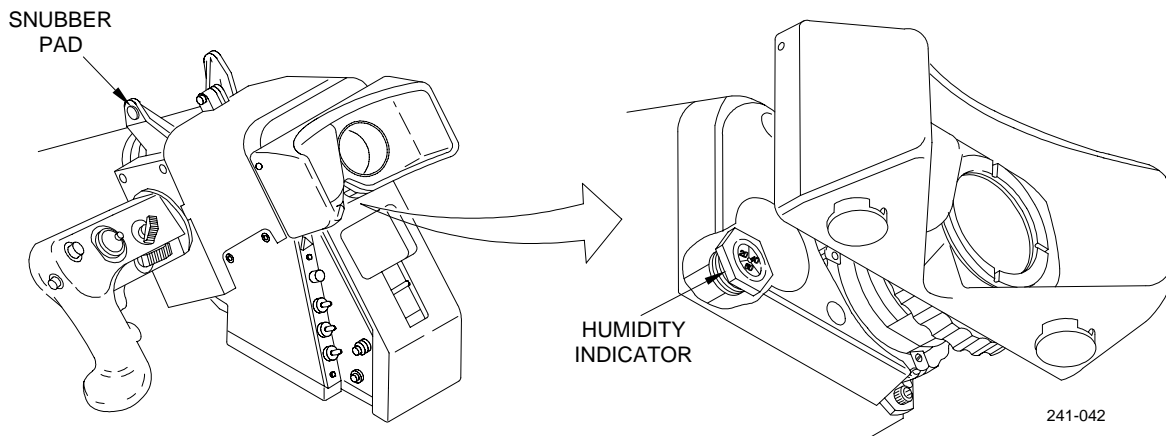
270-038

Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure						
	100	250							
11			OPTICAL RELAY TUBE (ORT) ASSEMBLY						
11.1		X	Check ORT assembly painted surface for cracked, broken, or peeling paint. If damaged paint is seen, touch up paint (para 2-11).						
11.2		X	Have ORT assembly optics Inspected for contamination. If directed, clean optics (para 3-6).						
11.3		X	Check ORT assembly optics for pitting, nicks, and scratches. If damage is seen, replace the assembly affected.						
			<table style="width: 100%; border: none;"> <tr> <td style="text-align: left;"><u>Assembly</u></td> <td style="text-align: right;"><u>Paragraph</u></td> </tr> <tr> <td>Eyepiece Assembly</td> <td style="text-align: right;">3-44</td> </tr> <tr> <td>Control Panel Assembly</td> <td style="text-align: right;">3-46</td> </tr> </table>	<u>Assembly</u>	<u>Paragraph</u>	Eyepiece Assembly	3-44	Control Panel Assembly	3-46
<u>Assembly</u>	<u>Paragraph</u>								
Eyepiece Assembly	3-44								
Control Panel Assembly	3-46								

Table 2-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (cont)

Item No.	Interval (hours)		Item to be Inspected Procedure
	100	250	
11			OPTICAL RELAY TUBE (ORT) ASSEMBLY (cont)
11.4		X	Check ORT assembly humidity indicator. If the center dot indicates pink or white, replace desiccant (para 3-50). After replacing desiccant, verify that the center dot turns blue within approximately 15 minutes. If dot does not turn blue, replace desiccant container and desiccant (para 3-50).
11.5		X	Check control panel filter assembly for unrestricted movement and security in the up position. If movement is restricted or the filter assembly does not stay in the up position, perform filter assembly adjustment (para 3-60).
11.6		X	Check ORT assembly stencil/decals for peeling edges, extensive wear, pitting, legibility, etc. If damage is seen, replace stencil/decals (para 2-12).
11.7		X	Check for deteriorated or missing snubber pads. If missing, or damage is seen, replace pads (para 3-51).



Section IV. STANDARD MAINTENANCE PRACTICES

Subject	Para	Page
Disconnecting and Connecting Screwlock-type Connectors	2-10	2-35
Touch Up Painting	2-11	2-35
Decals and Stenciling	2-12	2-35
Environmental Dust Cover Kit	2-13	2-48

This section contains general information on certain procedures that apply, as required, during maintenance. Prior to performing maintenance on the TADS system, inspect all LRUs attaching hardware for security and damage. Damaged hardware must be repaired or replaced.

2-10. DISCONNECTING AND CONNECTING SCREWLOCK-TYPE CONNECTORS

Turn screwlocks alternately one to two turns when disconnecting and connecting screwlock-type connectors. Failure to follow this procedure can result in bending connector contacts when loosening or tightening screwlocks.

2-11. TOUCH UP PAINTING

NOTE

On the boresight laser safety shield and hardware, use only solar absorber coating (Item 16, appendix D).

Refer to TM 55-1500-345-23 for touch up painting instructions.

2-12. DECALS AND STENCILING

1. GENERAL

Decals and stencils are located throughout the TADS assembly. Seven stencils are exposed during flight and should be checked regularly. All other decals and stencils are exposed during maintenance and should be checked at that time. Refer to TM 1-1270-476-23P for decal part numbers. Refer to 2 below for decal replacement and 3 below for stenciling instructions.

2-12. DECALS AND STENCILING (cont)

2. DECAL REPLACEMENT

- a. Scrape old decal off assembly.
- b. If replacing decals on LEU assembly, TV sensor assembly and EO Mux assembly proceed with step c; otherwise, proceed with step e.

WARNING

ISOPROPYL ALCOHOL

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
 - Don't: Use near flames or sparks, let it get in eyes, or breathe vapors.
 - Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
 - If it contacts eyes, wash eyes with running water. Get medical help at once.
 - If you experience any breathing problems, get to fresh air at once.
- c. Wet wiping cloth (item 12, appendix D) with isopropyl alcohol (item 7, appendix D) and remove all traces of old adhesive.

WARNING

TRICHLOROTRIFLUOROETHANE

- Toxic, irritating. Can cause breathing problems, eye damage.
 - Don't: Let it get on skin, or breathe vapors.
 - Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
 - If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
 - If you experience any breathing problems, get to fresh air at once.
- d. Wet wiping cloth (item 12, appendix D) with trichlorotrifluoroethane (item 51, appendix D) and clean decal mounting area. Proceed with step g.
 - e. Lightly sand with abrasive paper (item 39, appendix D) and remove all traces of old adhesive.

2-12. DECALS AND STENCILING (cont)

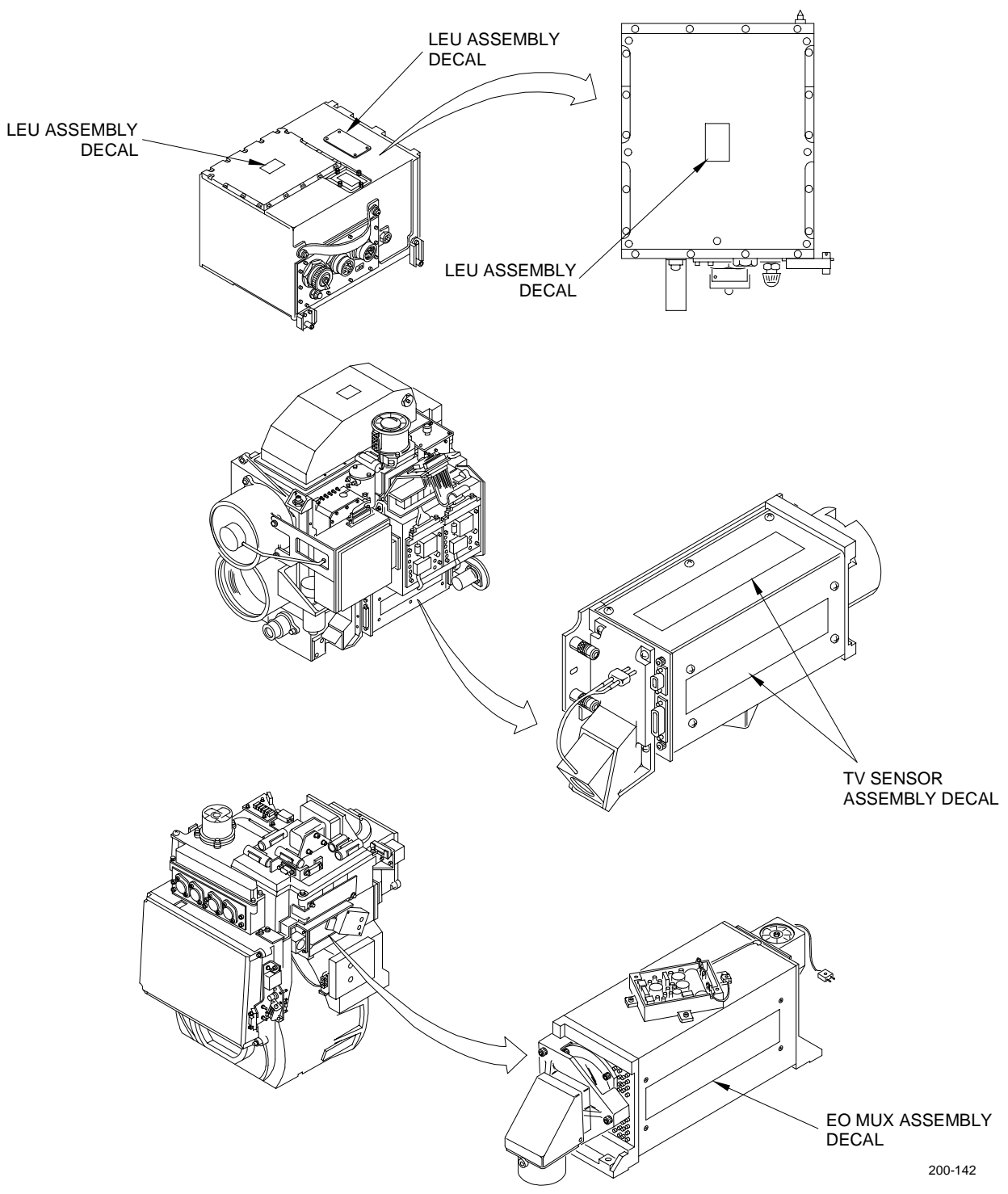
- f. Clean sanded area using a clean, white, lint free cloth (item 13, appendix D).
- g. If necessary, touch up paint area where decal was removed (para 2-9).
- h. If replacing PNVS system decal perform steps m through q below; otherwise, perform steps i through l below.
- i. Peel backing off decal and install at location shown in illustration. Press decal onto assembly surface avoiding wrinkles and trapped air under decal. If replacing the TADS turret assembly, ORT, TEU, or TADS power supply decals go to step j; otherwise, go to step l.
- j. Stamp decal in 1/16 inch characters (TADS turret assembly and ORT), or 3/32 inch characters (TEU and TADS power supply).
- k. Using artist brush (item 11, appendix D) and engraving filler (item 28, appendix D) fill in stamped characters.
- l. Using artist brush (item 11, appendix D) and adhesive decal edge sealer (item 2, appendix D) completely seal edge of decal.

WARNING

ACETONE

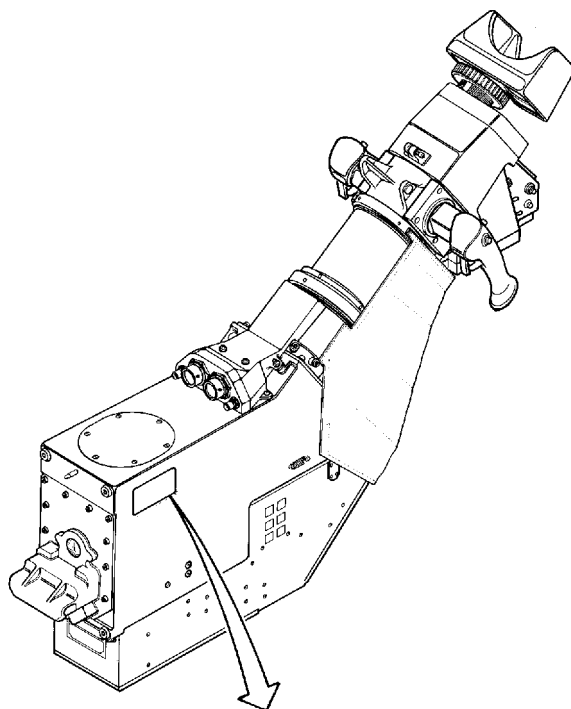
- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
 - Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
 - Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
 - If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
 - If you experience any breathing problems, get to fresh air at once.
- m. Wet wiping cloth (item 12, appendix D) with acetone (item 1, appendix D) and wipe back of decal to activate adhesive.
 - n. Press decal onto assembly avoiding wrinkles and trapped air under decal.
 - o. Stamp PNVS system number on decal.
 - p. Using artist brush (item 11, appendix D) and engraving filler (item 28, appendix D) fill in PNVS system number.
 - q. Using artist brush (item 11, appendix D) and polyurethane coating (item 15, appendix D) completely coat decal and seal edges.

2-12. DECALS AND STENCILING (cont)



200-142

2-12. DECALS AND STENCILING (cont)



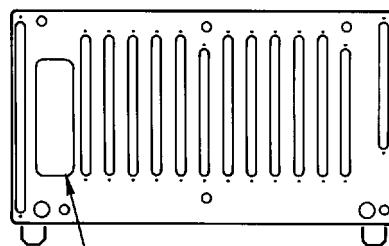
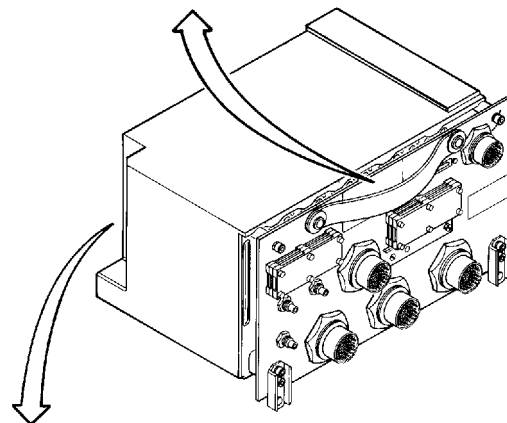
(A)		(A)	
DESIGNATION		DESIGN CODE	(B)
STOCK NO.		SER NO.	(H)
(C) NO.	(D)	MFR CODE	(E)
NEXT ASSY NO.	(F)		
SPEC NO.			
CONTR NO.	(G)		
MARTIN MARIETTA US			

- (A) OPTICAL RELAY TUBE ASSEMBLY
- (B) 58260
- (C) ASSY
- (D) 13074275
- (E) (ENTER THE MANUFACTURER'S IDENTIFICATION NUMBER, NAME, OR TRADEMARK)
- (F) 13076001
- (G) (ENTER APPROPRIATE CONTROL NUMBER)
- (H) (ENTER SERIAL NUMBER)

240-027

- (A) ELECTRONICS UNIT ASSEMBLY-TADS
- (B) 58260
- (C) ASSY
- (D) (ENTER ASSY NUMBER, ie 13076362)
- (E) (ENTER CODE IDENTIFICATION OF MANUFACTURER)
- (F) (ENTER CONTRACT NUMBER)
- (G) (ENTER SERIAL NUMBER)

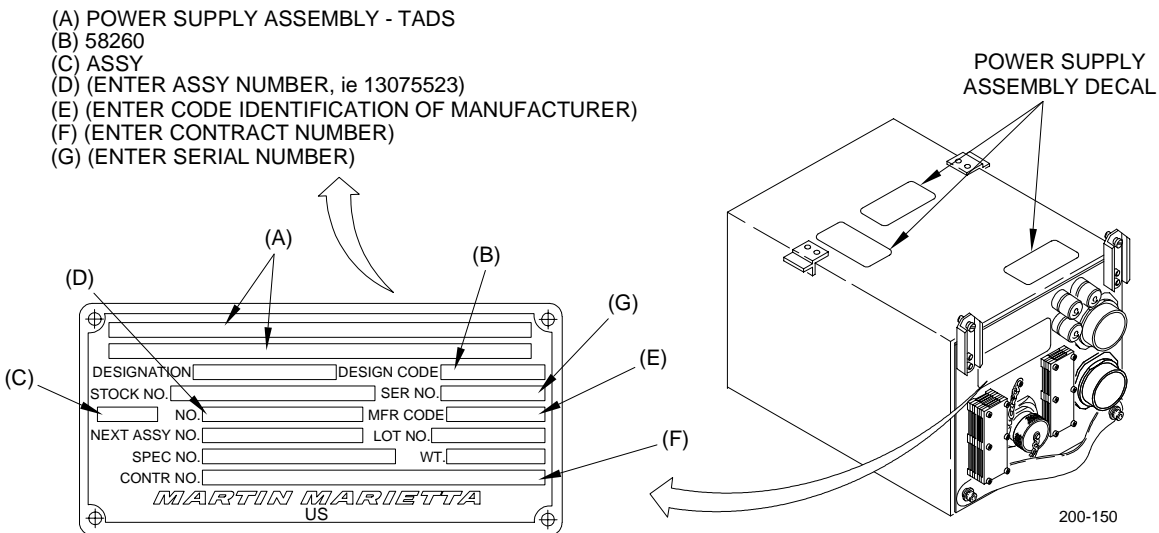
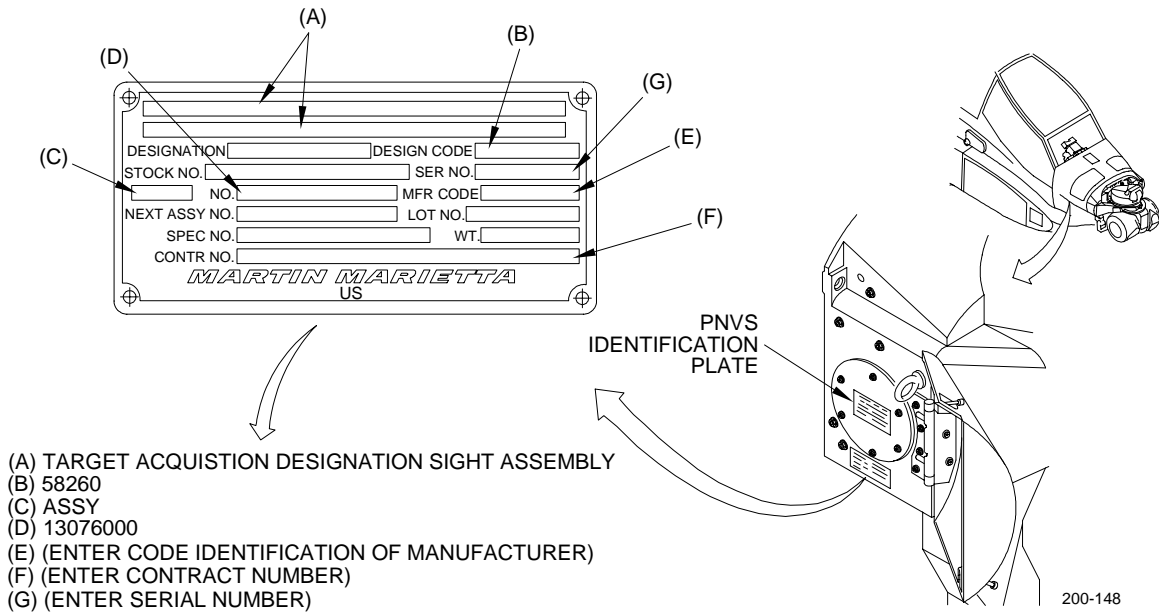
(D)	(A)	(B)	(G)
DESIGNATION		DESIGN CODE	(E)
STOCK NO.		SER NO.	(F)
(C) NO.	(D)	MFR CODE	
NEXT ASSY NO.	(F)		
SPEC NO.			
CONTR NO.	(G)		
MARTIN MARIETTA US			



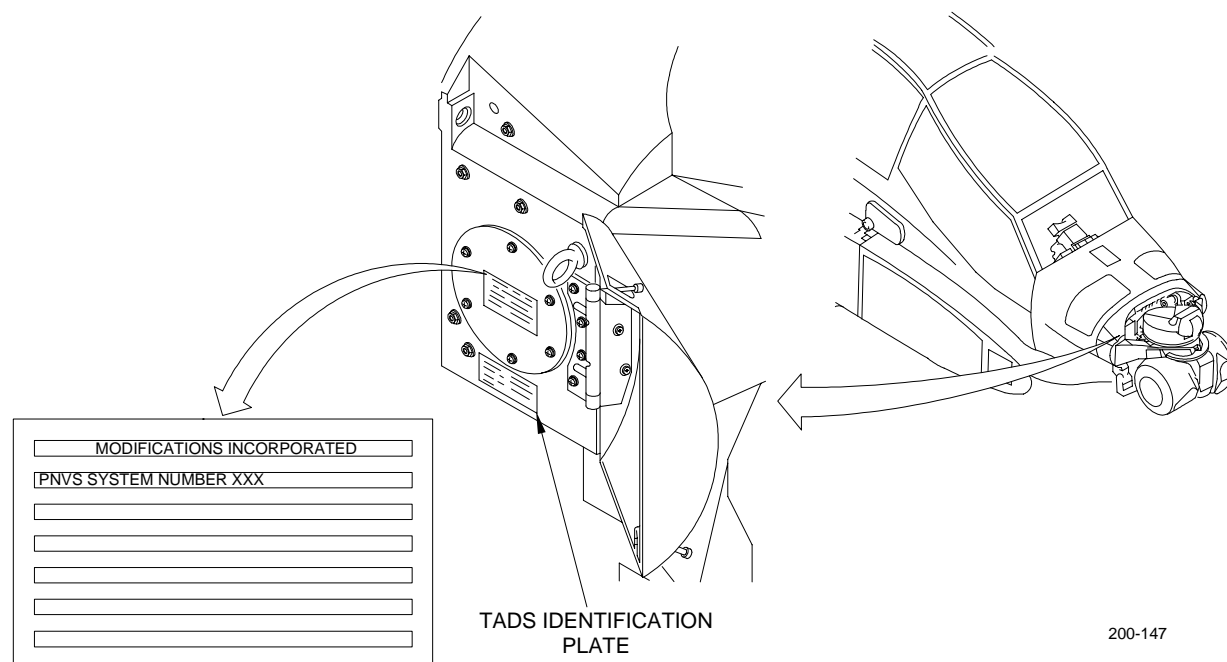
TEU
ASSEMBLY
DECAL

200-149

2-12. DECALS AND STENCILING (cont)



2-12. DECALS AND STENCILING (cont)



3. STENCILING INSTRUCTIONS

NOTE

All dimensions indicated are approximate.

- a. Prepare area to be painted by roughing it with abrasive paper (item 38, appendix D).

WARNING

TRICHLOROETHANE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

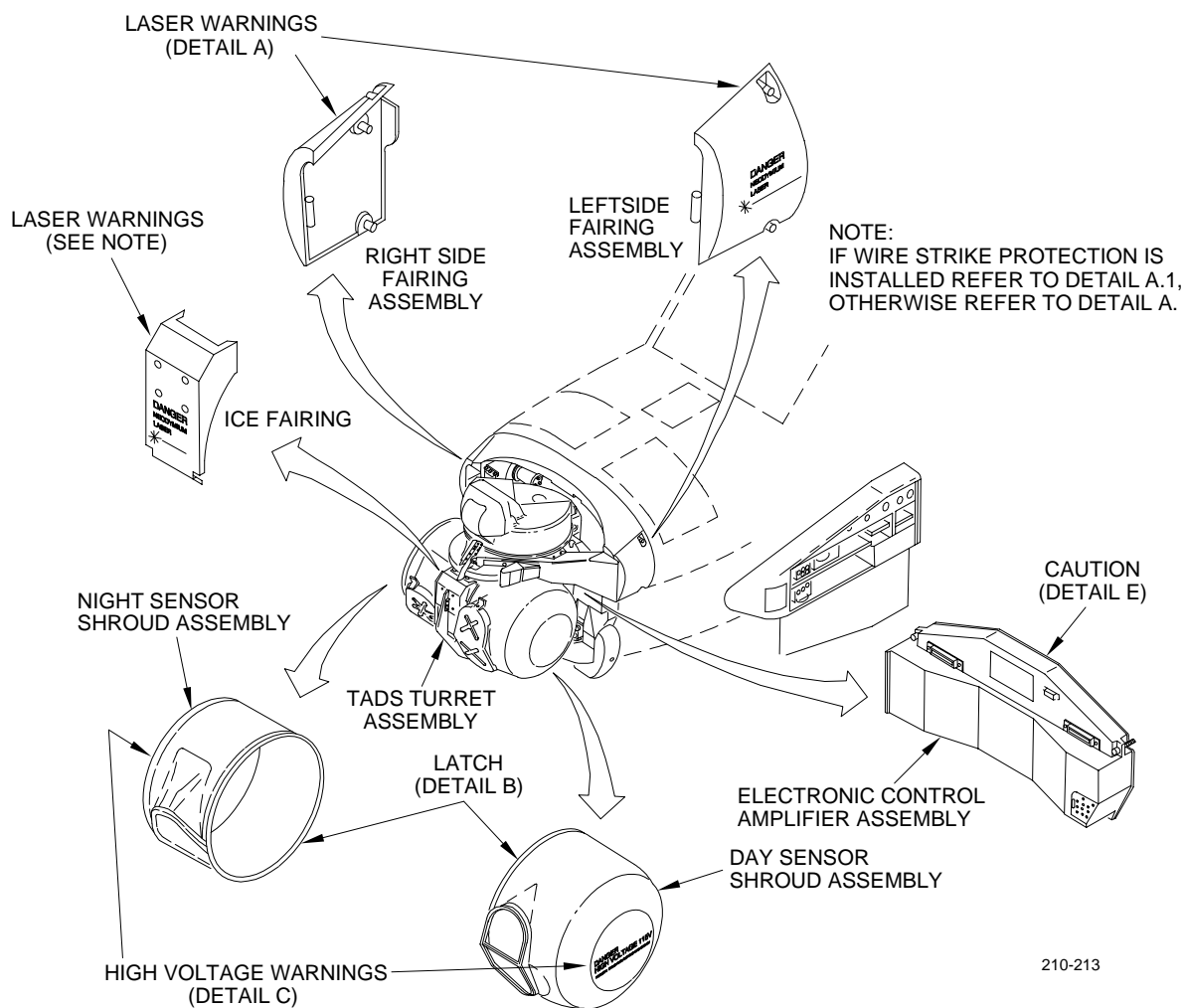
2-12. DECALS AND STENCILING (cont)

- b. Wet wiping cloth (item 12, appendix D) with trichloroethane (item 50, appendix D) clean area to be stenciled and air dry.
- c. If necessary touch up paint area where stenciling is required (para 2-11).
- d. Refer to notes for stenciling instructions associated with equipment to be stenciled.

NOTE

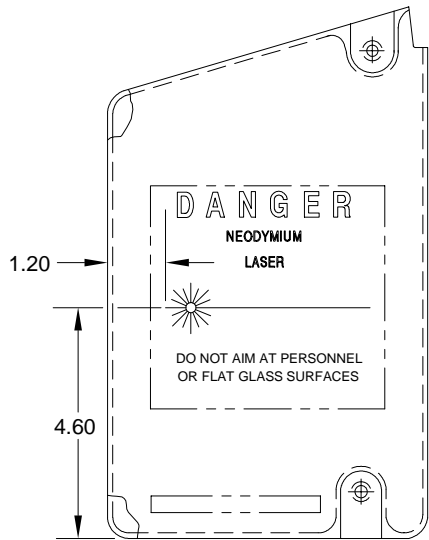
- 1. All dimensions shown are in inches.
- 2. Apply laser warnings as shown with black polyurethane coating (item 14, appendix D).
- 3. Apply shroud high voltage warning as shown with black polyurethane coating (item 14, appendix D).
- 4. Apply shroud latch stencil as shown with black polyurethane coating (item 14, appendix D).

2-12. DECALS AND STENCILING (cont)

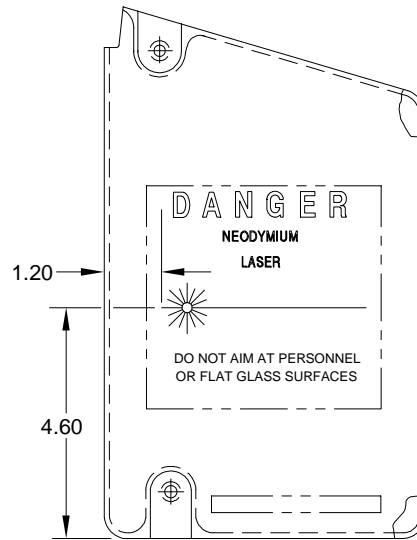


210-213

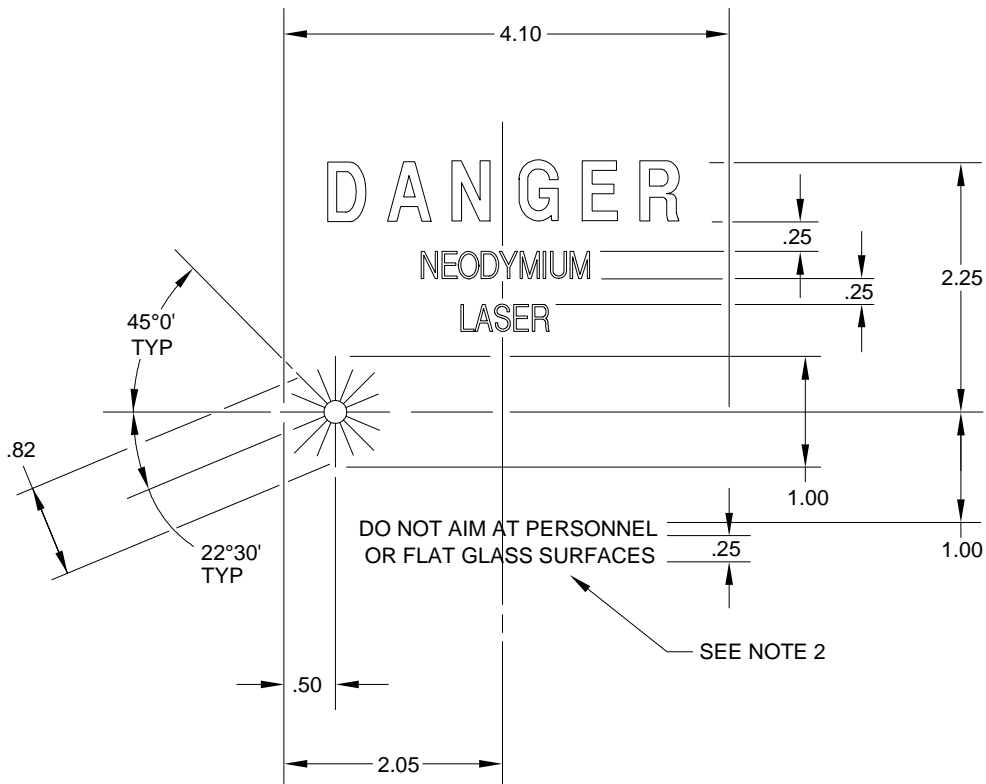
2-12. DECALS AND STENCILING (cont)



RIGHT FAIRING



LEFT FAIRING



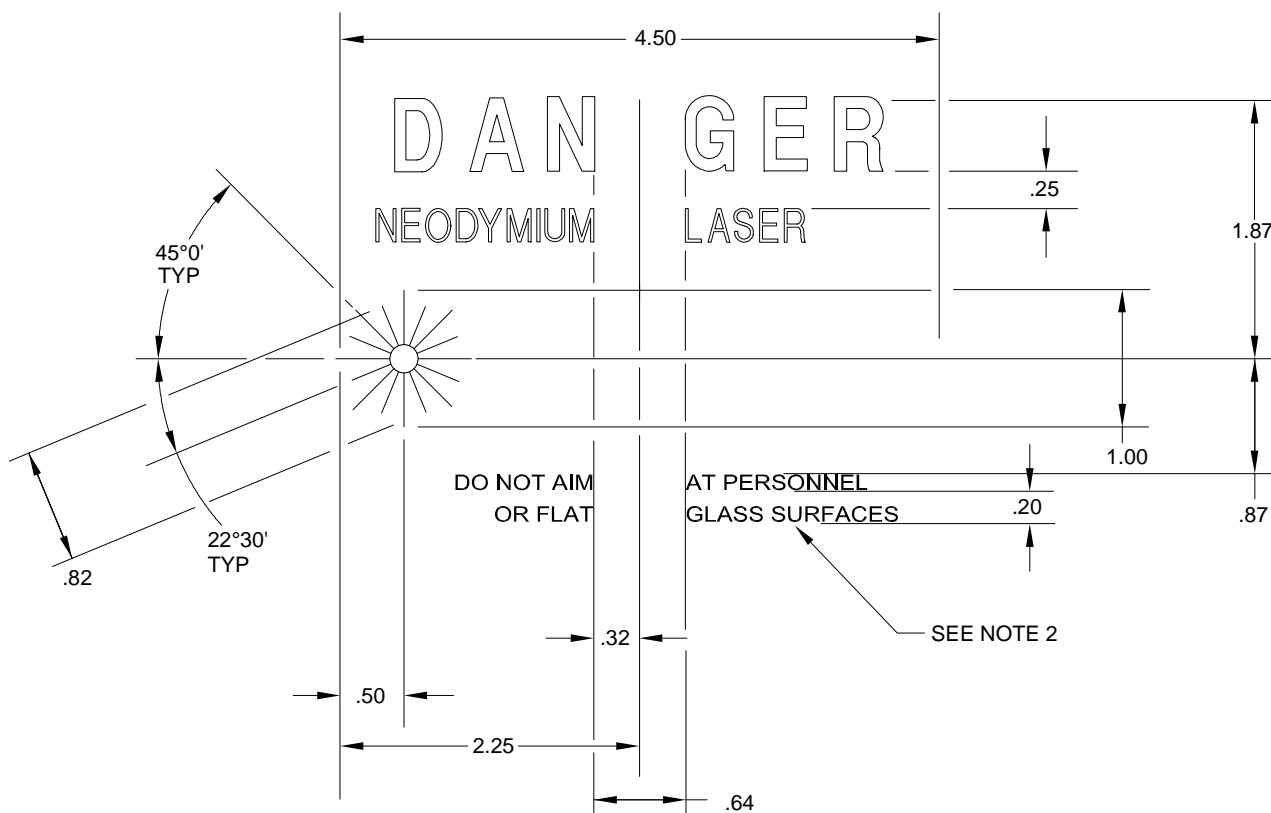
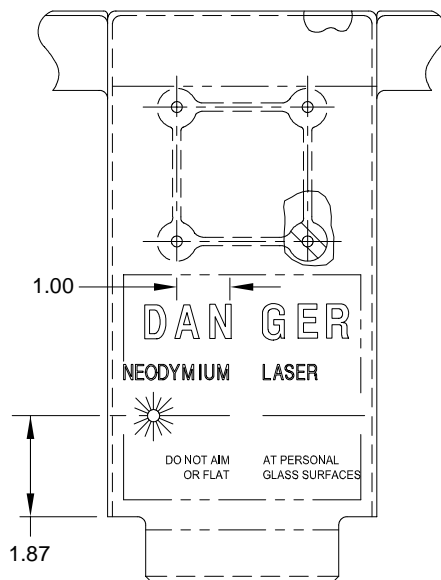
DETAIL A

NOTES:

1. ALL DIMENSIONS SHOWN ARE IN INCHES.
2. APPLY LASER WARNINGS AS SHOWN WITH BLACK POLYURETHANE COATING (ITEM 12 APPENDIX D).

210-207

2-12. DECALS AND STENCILING (cont)

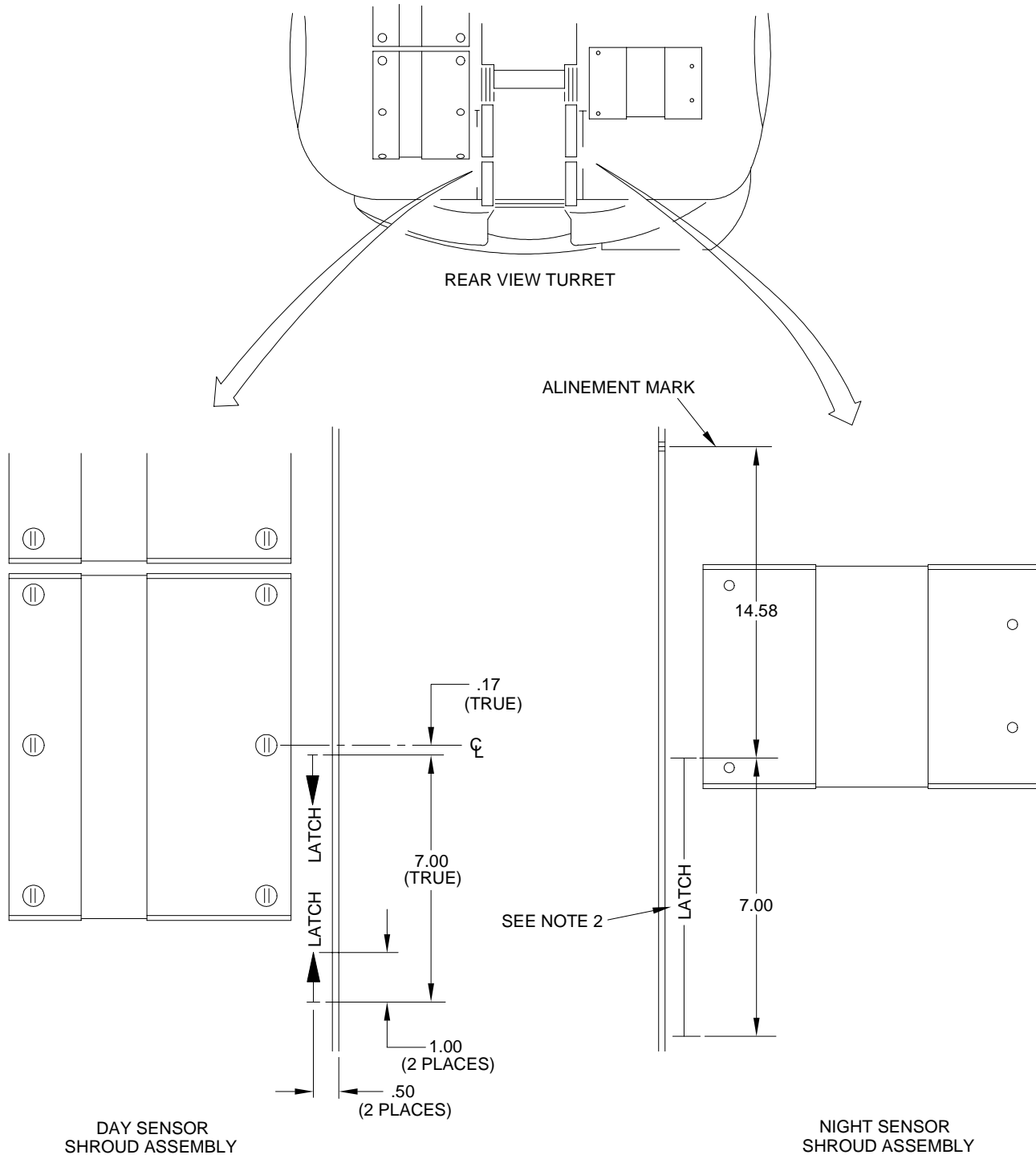


- NOTES:
1. ALL DIMENSIONS SHOWN ARE IN INCHES.
 2. APPLY LASER WARNINGS AS SHOWN WITH BLACK POLYURETHANE COATING (ITEM 12 APPENDIX D).

DETAIL A.1

210-208

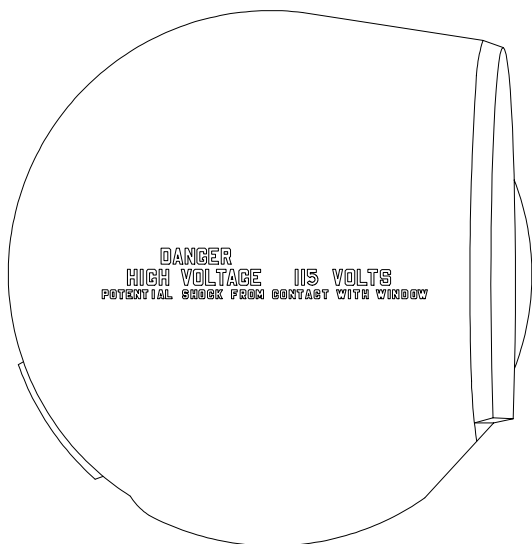
2-12. DECALS AND STENCILING (cont)



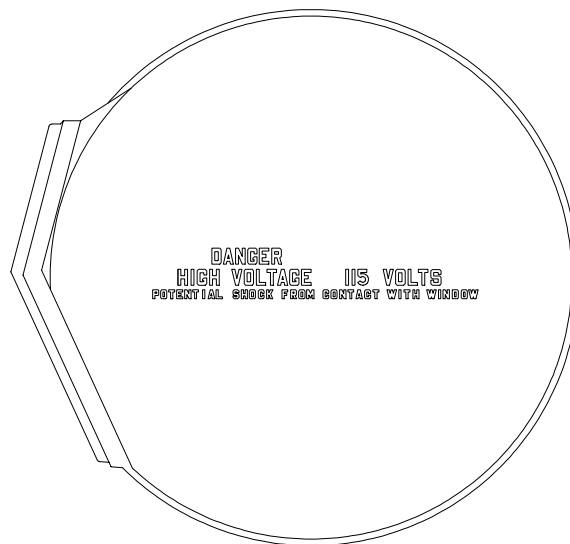
NOTES:

1. ALL DIMENSIONS SHOWN ARE IN INCHES.
2. APPLY LASER WARNINGS AS SHOWN WITH BLACK POLYURETHANE COATING (ITEM 12 APPENDIX C).

2-12. DECALS AND STENCILING (cont)

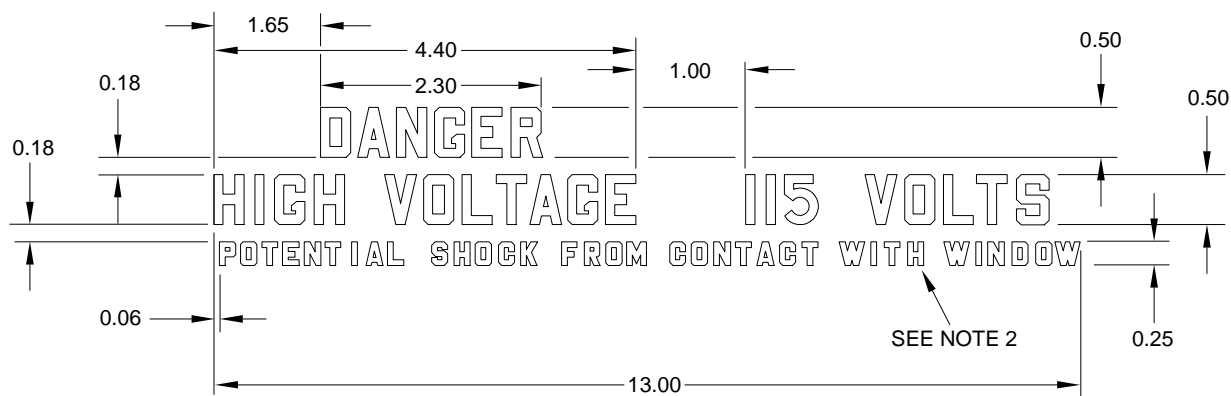


NIGHT SENSOR SHROUD ASSEMBLY



DAY SENSOR SHROUD ASSEMBLY

DETAIL C
HIGH VOLTAGE WARNING



- NOTES:
1. ALL DIMENSIONS SHOWN ARE IN INCHES.
 2. APPLY LASER WARNINGS AS SHOWN WITH BLACK POLYURETHANE COATING (ITEM 12 APPENDIX C).

200-144

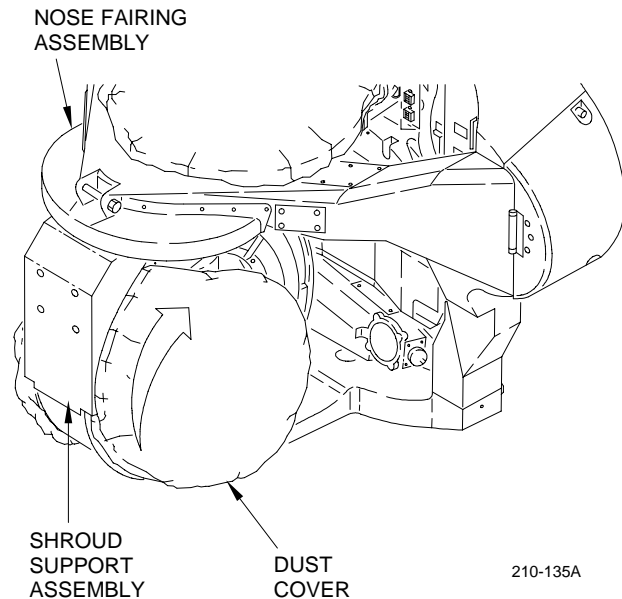
2-13. ENVIRONMENTAL DUST COVER KIT

1. GENERAL

The kit includes one aircraft cover, one dolly cover, and three dayside/ nightside/PNVS covers. Dust covers shall be installed when the turret assembly is exposed to the environment for any period of time. This procedure ensures that optics are kept free of contamination.

2. INSTALL DAYSIDE/NIGHTSIDE DUST COVER

- a. Position dust cover over the shroud support assembly.
- b. Slip elastic webbing of dust cover under nose fairing assembly and over edge of shroud support assembly.
- c. Rotate dust cover around the shroud support until it is fully covered. Ensure the elastic webbing is completely around the shroud support assembly.



3. REMOVE DAYSIDE/NIGHTSIDE DUST COVER

CAUTION

Use care when removing dust cover. Careless handling could damage the cover.

- a. Carefully lift the dust cover elastic webbing away from the bottom of shroud support assembly.
- b. Gently pull the edges of the dust cover away from the shroud support assembly until the dust cover is removed.

2-13. ENVIRONMENTAL DUST COVER KIT (cont)

4. INSTALL DOLLY DUST COVER

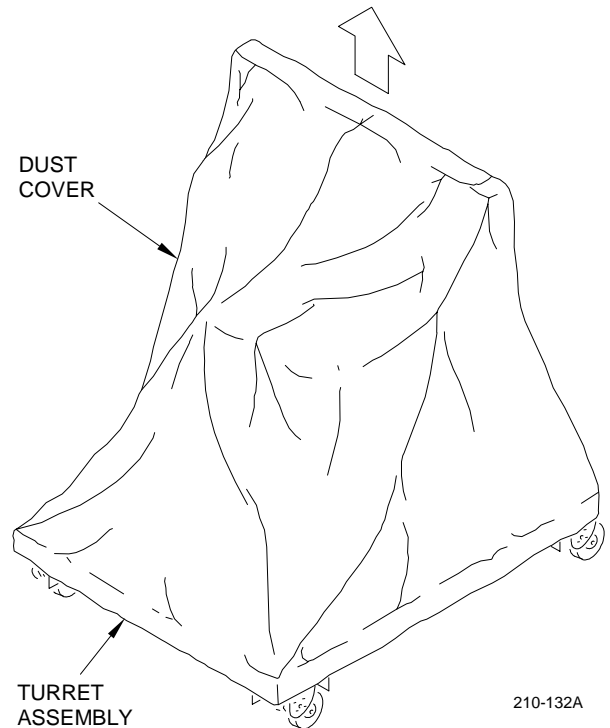
- a. Place dust cover over turret assembly.
- b. Ensure all four corners of the dolly are covered by the dust cover.

5. REMOVE DOLLY DUST COVER

CAUTION

Use care when removing dust cover. Careless handling could damage the cover.

- a. Lift four corners of dust cover.
- b. Lift dust cover straight up and remove.



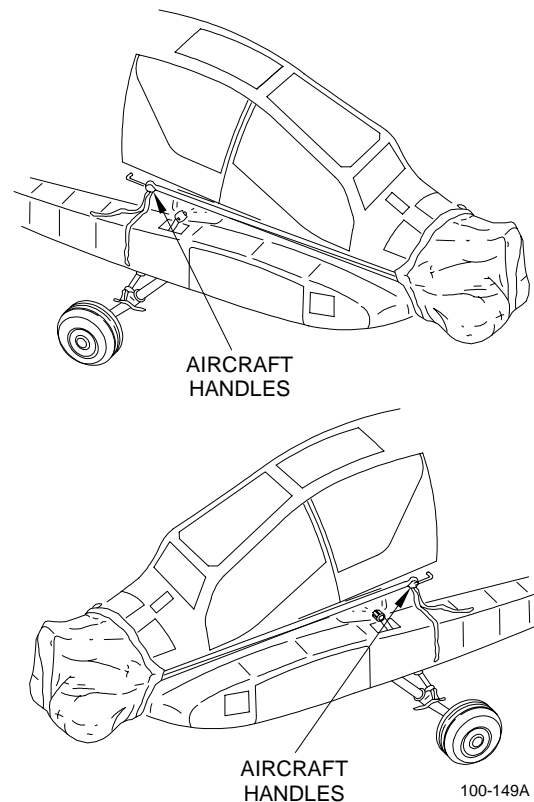
6. INSTALL AIRCRAFT DUST COVER

- a. Place dust cover over TADS/PNVS assembly.
- b. Secure drawstrings at aircraft handles.

7. REMOVE AIRCRAFT DUST COVER

- a. Remove drawstrings at aircraft handles.
- b. Remove dust cover from TADS/PNVS assembly.

END OF TASK



CHAPTER 3**MAINTENANCE PROCEDURES**

	Section	Page
General Maintenance	I	3-1
Target Acquisition Designation Sight (TADS) Assembly Maintenance	II	3-44
Target Acquisition Designation Sight (TADS) Turret Assembly Maintenance	III	3-101
Day Sensor Assembly (DSA) Maintenance	IV	3-124
Optical Relay Tube (ORT) Assembly Maintenance	V	3-148
Forward Avionics Bay (FAB) Units Maintenance	VI	3-176
System Operational Checks	VII	3-188

OVERVIEW

This chapter provides instructions for general maintenance, systems operational checks and replacement of TADS assemblies and subassemblies. The index at the beginning of the section provides paragraph references to the material contained within the section. When a nonconsumable item is replaced, the unserviceable item must be packed in the container that the replacement was shipped. Refer to chapter 2 for packing and unpacking instructions.

Section I. GENERAL MAINTENANCE

Subject	Para	Page
Pilot/CPG Station Premaintenance Procedures	3-1	3-2
Moving TADS Turret Assembly Out of Stow	3-2	3-4
Moving TADS Turret Assembly Into Stow	3-3	3-6
Cleaning	3-4	3-8
Optics Exposed During Maintenance	3-5	3-10
Optics Cleaning Procedures	3-6	3-17
Handling Equipment Maintenance Procedures	3-7	3-30
Sealing Compounds and Adhesives Removal, Application, and Curing	3-8	3-31

3-1. PILOT/CPG STATION PREMAINTENANCE PROCEDURES

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Brake release power supply assembly

Personnel Required

68X Aircraft Armament/Electrical Repairer

References

TM 1-1520-238-23

Equipment Conditions

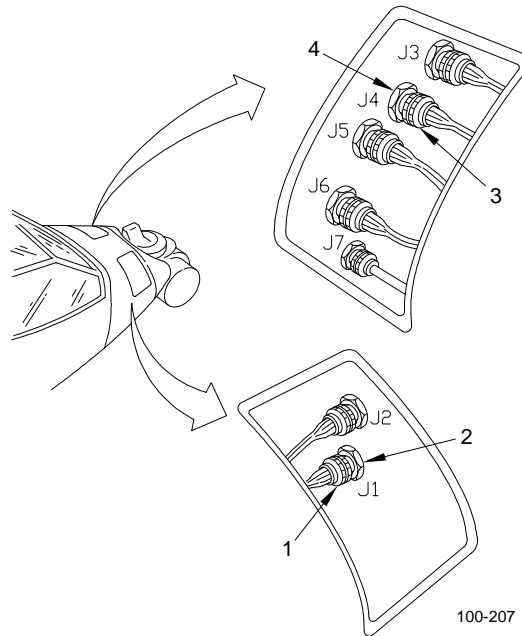
<u>Ref</u>	<u>Condition</u>
TM 1-1520-238-23	Helicopter safed

NOTE

If battery cannot be connected and electrical power is needed to move TADS turret assembly go to step 1. Otherwise, go to step 2.

1. Connect brake release power supply assembly.
 - a. Remove access panels R40 and L40 (TM 1-1520-238-23).
 - b. Disconnect helicopter cable connectors from AIA connectors as follows:

<u>Helicopter</u>	<u>AIA</u>
P835 (1)	J1 (2)
P843 (3)	J4 (4)



100-207

3-1. PILOT/CPG STATION PREMAINTENANCE PROCEDURES (cont)

- c. Set brake release power supply assembly (5) **POWER** switch (6) to **OFF**.

NOTE

If **TEST** lamp lights, even if only dimly, batteries are considered to be charged and do not require charging.

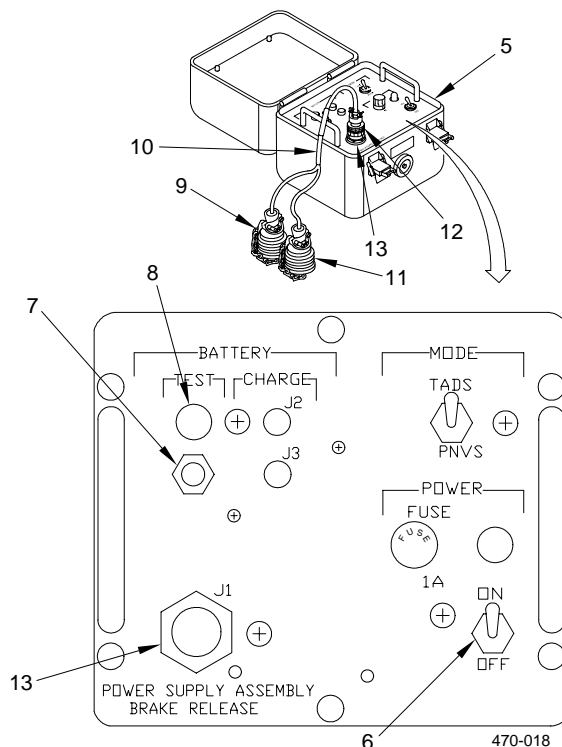
- d. Press **TEST** switch (7). Observe **TEST** light (8) is lit. If the **TEST** light (8) is not lit, replace brake release power supply assembly (5).

- e. Connect P2 (9) of cable assembly (10) to J1 (2) of the AIA.

- f. Connect P1 (11) of cable assembly (10) to J4 (4) of the AIA.

- g. Connect P3 (12) to J1 (13) of the brake release power supply assembly (5).

- h. Set **POWER** switch (6) to **ON** and go to step 4.



- 2. Have battery connected (TM 1-1520-238-23).

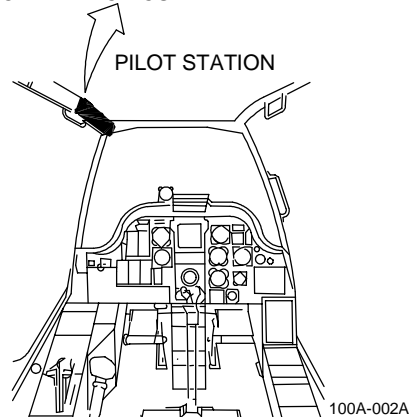
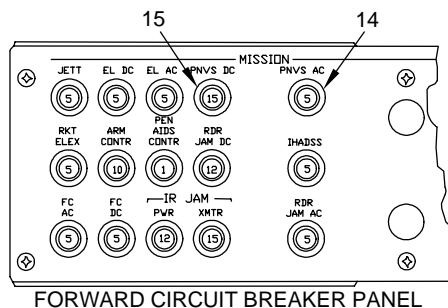
- 3. Close MAINT LT circuit breaker (TM 1-1520-238-23).

- 4. Access pilot station (TM 1-1520-238-23).

- 5. Open MISSION PNVS AC (14) and PNVS DC (15) circuit breakers.

- 6. Proceed with maintenance task.

END OF TASK



3-2. MOVING TADS TURRET ASSEMBLY OUT OF STOW

INITIAL SETUP

Tools

Aircraft armament repairman tool set

Personnel Required

68X Aircraft Armament/Electrical Repairer

References

TM 1-1270-476-T

Equipment Conditions

Ref

Para 3-1

Condition

Premaintenance procedures performed

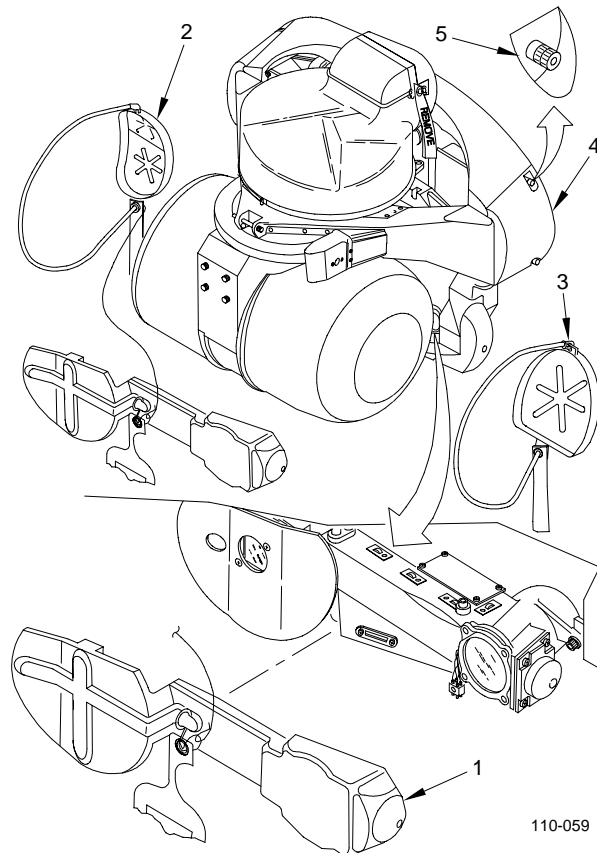
CAUTION

- Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.
- To prevent jamming while moving the turret assembly out of stow remove boresight window cover, dayside window cover, and nightside window cover.

NOTE

Dayside window cover assembly may have a lanyard that attaches to the boresight window cover.

1. Remove boresight window cover (1), dayside window cover assembly (2) and nightside window cover assembly (3).
2. Open left side fairing assembly (4) by loosening two captive screws (5).



110-059

3-2. MOVING TADS TURRET ASSEMBLY OUT OF STOW (cont)

CAUTION

Operating TADS/PNVS brake control switch releases the azimuth and elevation brakes. Rotate the turret assembly very gently. Rapid rotation may cause damage to the turret assembly.

NOTE

If turret will not move using brake release switch, refer to TM 1-1270-476-T for troubleshooting.

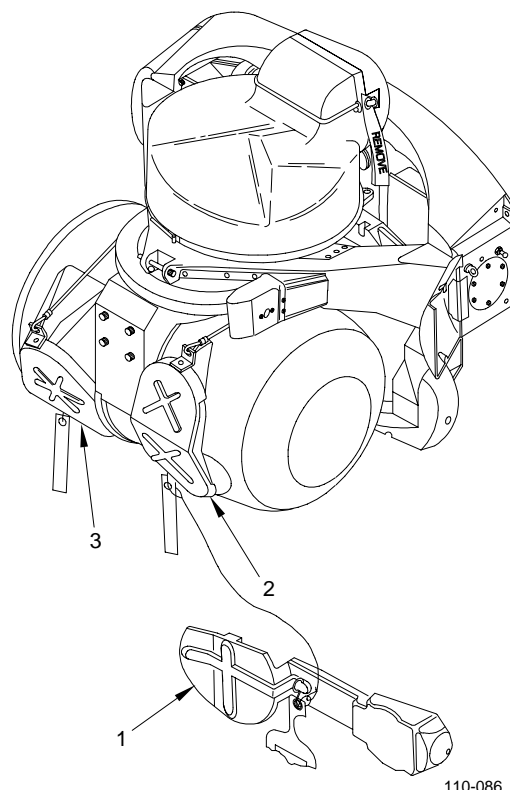
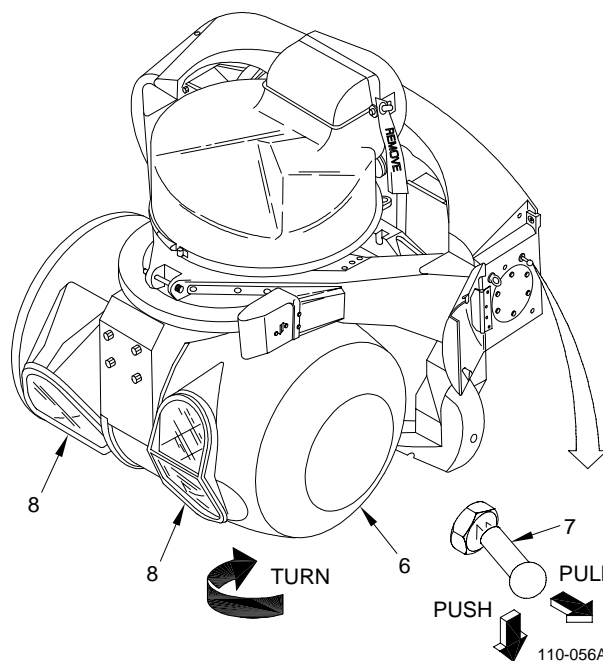
3. Move TADS turret assembly (6).
 - a. Pull TADS/PNVS brake release switch (7), push down and hold.
 - b. Turn TADS turret assembly (6) in direction of arrow.
 - c. Stop turning when shroud windows (8) reach the position specified in the maintenance task.
 - d. Release TADS/PNVS brake release switch (7). Check that turret assembly locks.

NOTE

If dayside cover with lanyard is installed, it may not be possible to install boresight window cover.

- e. Install boresight window cover (1), dayside window cover assembly (2), and night side window cover assembly (3).
4. Proceed with maintenance task.

END OF TASK



3-3. MOVING TADS TURRET ASSEMBLY INTO STOW

INITIAL SETUP

Tools

Aircraft armament repairman tool set

Personnel Required

68X Aircraft Armament/Electrical Repairer

References

TM 1-1270-476-T
TM 1-1520-238-23

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-1	Premaintenance procedures performed

CAUTION

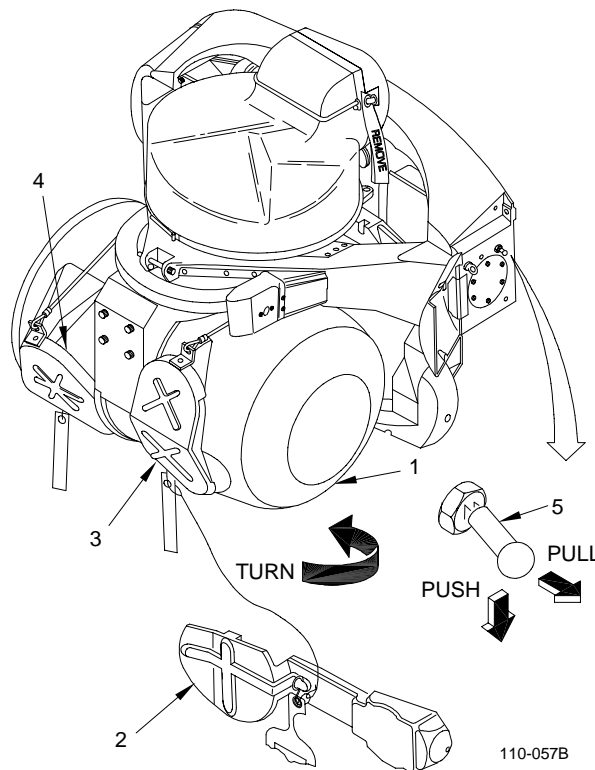
- Never rotate the TADS turret assembly without having electrical power to release the brake. Rotating the TADS turret assembly against a locked brake will damage the azimuth and elevation drive gimbal assemblies.
- Operating TADS/PNVS brake release switch releases the azimuth and elevation brakes. Rotate the turret assembly very gently. Rapid rotation may cause damage to the turret assembly.

NOTE

If turret will not move using brake release switch, refer to TM 1-1270-476-T for troubleshooting.

1. Move TADS turret assembly (1).
 - a. Remove boresight window cover (2), dayside window cover assembly (3), and nightside window cover assembly (4).
 - b. Pull TADS/PNVS brake release switch (5), push down, and hold.

- c. Turn TADS turret assembly (1) in direction of arrow until turret assembly stops.
- d. Release TADS/PNVS brake release switch (5). Check that turret assembly locks.



110-057B

3-3. MOVING TADS TURRET ASSEMBLY INTO STOW (cont)

CAUTION

Improper tightening of two captive screws can damage the equipment. Do not overtighten.

2. Close left side fairing assembly (6) and tighten two captive screws (7).

NOTE

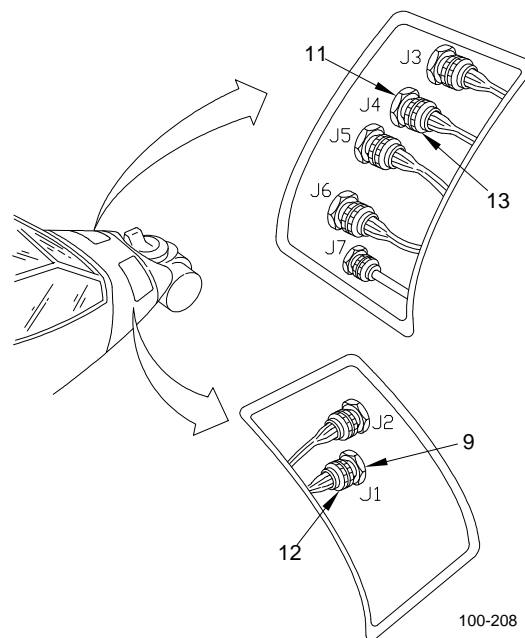
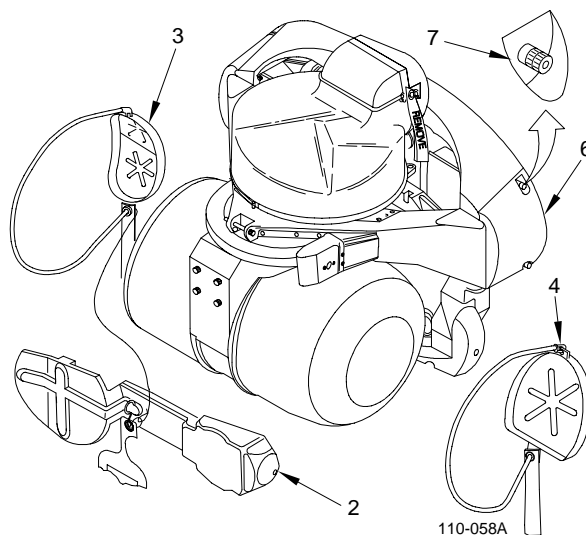
If the brake release power supply assembly was used to move the TADS turret assembly out of stow, go to step 3. Otherwise, go to step 4.

3. Disconnect brake release power supply assembly.
 - a. Turn brake release power supply assembly to OFF.
 - b. Disconnect brake release power supply assembly connectors P2 (8) from AIA J1 (9) and P1 (10) from AIA J4 (11).
 - c. Connect helicopter cable connectors to AIA connectors as follows:

<u>Helicopter</u>	<u>AIA</u>
P835 (12)	J1 (9)
P843 (13)	J4 (11)

- d. Install access panels L40 and R40 (TM 1-1520-238-23).
 - e. Go to step 5 below.
4. Open MAINT LT circuit breaker (TM 1-1520-238-23).
5. Install boresight window cover (2), dayside window cover assembly (3), and nightside window cover assembly (4).
6. Proceed with maintenance task.

END OF TASK



3-4. CLEANING

INITIAL SETUP

Tools

Gallon container

Materials (appendix D)

Water

Cotton wiping cloth (Item 12)

Liquid detergent (Item 26)

Personnel Required

68X Aircraft Armament/Electrical Repairer

NOTE

- When cleaning the TADS turret and shroud assemblies, do the following:
 - Remove day sensor shroud window cover
 - Remove night sensor shroud window cover
 - Remove boresight assembly window cover.
- When cleaning the optical relay tube (ORT) assembly, perform premaintenance procedures (para 3-1).

1. TADS TURRET AND SHROUD ASSEMBLY CLEANING

CAUTION

- Water can ruin inner optics and electronics. Before cleaning, be sure shroud assemblies and installation hardware are securely fastened. If not, permanent damage to equipment could result.
 - Do not touch windows with bare hands. Do not wipe windows with cleaning cloth. Deterioration or damage to special optical coating could result. Clean with appropriate materials only.
- a. Remove foreign matter (leaves, twigs, insects, etc.) from painted areas to be cleaned.

NOTE

When washing, water flowing over windows is allowed. Move TADS turret assembly out of stow (para 3-2) as necessary to clean all painted surfaces.

- b. Wash painted areas with cloth and water. When washing around DSA (1), NSA (2), and boresight assembly (3) windows, ensure that windows are not touched with bare hands or wiping cloth.
- c. Let surfaces air dry for 10 minutes.

NOTE

If surfaces are clean, go to step h.

- d. Repeat b and c using detergent and water solution. Mix 1 ounce of detergent with 1 gallon of water in a container.
- e. Rinse. Repeat b and c with clean fresh water.
- f. Let surfaces air dry for 10 minutes.

3-4. CLEANING (cont)

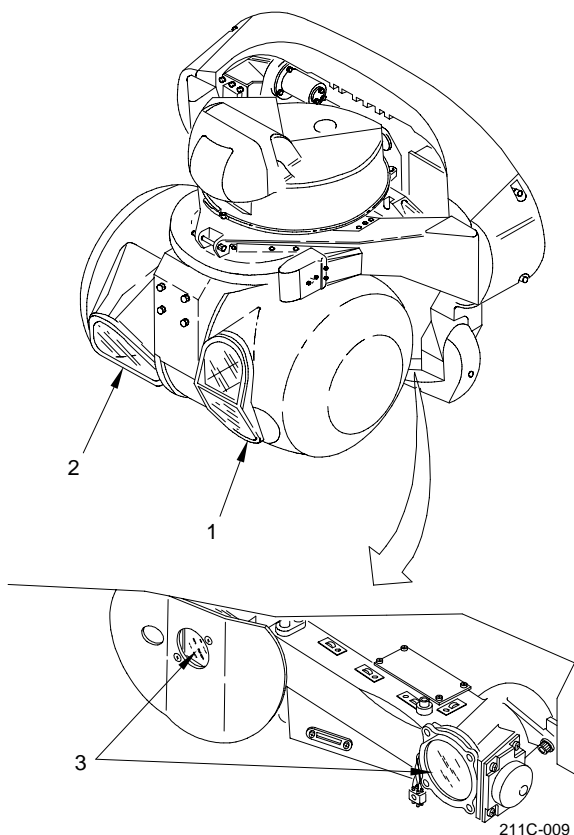
CAUTION

Do not clean DSA, NSA and boresight assembly windows. Deterioration or damage to special coating could result. Clean with appropriate materials only.

g. If DSA (1), NSA (2), and boresight assembly (3) windows are dirty, go to paragraph 3-6.

h. Install window covers as required.

END OF TASK

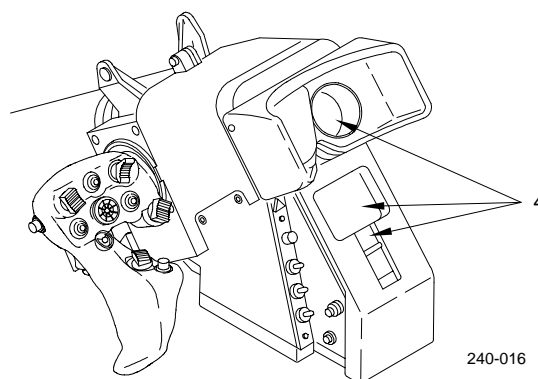


2. OPTICAL RELAY TUBE (ORT) ASSEMBLY CLEANING

CAUTION

- Water can ruin ORT assembly optics and electronics. Before cleaning, be sure that installation hardware is securely fastened. If not, permanent damage could result.
- Do not touch lens with bare hands. Do not wipe lens with cleaning cloth. Deterioration or damage to special coatings could result. Clean with appropriate materials only.

- a. Mix 1 ounce of detergent with 1 gallon of water in a container.
- b. Wash surface of ORT assembly with detergent and water solution. When washing around ORT assembly optics (4), ensure that optics are not touched with bare hands or wiping cloth.



- (1) Dip clean wiping cloth in detergent and water solution.
- (2) Wring excess water out of wiping cloth.
- (3) Wipe down ORT surfaces.

- c. Rinse. Repeat b with clean water.
- d. Let surfaces air dry.

END OF TASK

3-5. OPTICS EXPOSED DURING MAINTENANCE

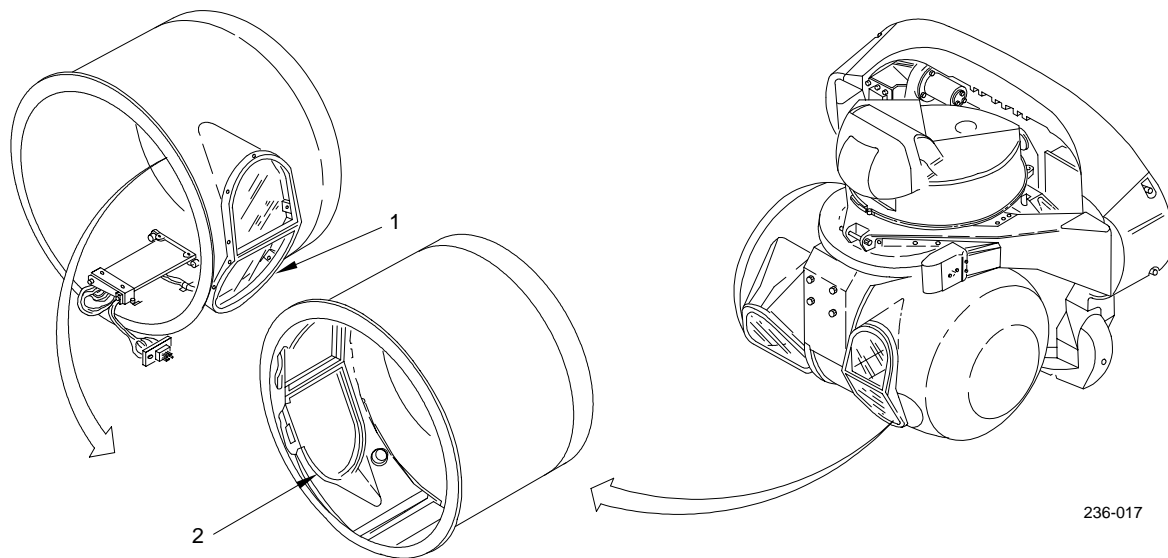
Exposed optics shall be cleaned in accordance with the instructions in paragraph 3-6 when directed. If the optics are exposed for more than 5 minutes, use extreme care not to touch any optic surfaces and do not expose them to any contaminating environment. The table below indicates the optics assemblies that are exposed during the performance of certain maintenance tasks. Use it as a guide and proceed with the current task in accordance with the above information.

NOTE

- Optics exposed during maintenance are identified in the following table by black dots. Key numbers locate the optics in the figures. Some optics are always exposed and should be checked when performing maintenance. Do not expose internal optics in windy conditions when dust and sand could damage optics.
- Optics used for FLIR operation are specially coated. The coating allows optimum FLIR operation. Defective or worn coatings cause poor FLIR operation.
- Cleaning wears away the coating, so optics must not be cleaned routinely. Optics are to be checked for contamination when they are exposed. They are cleaned only when directed. Refer to paragraph 3-6 for cleaning procedures.

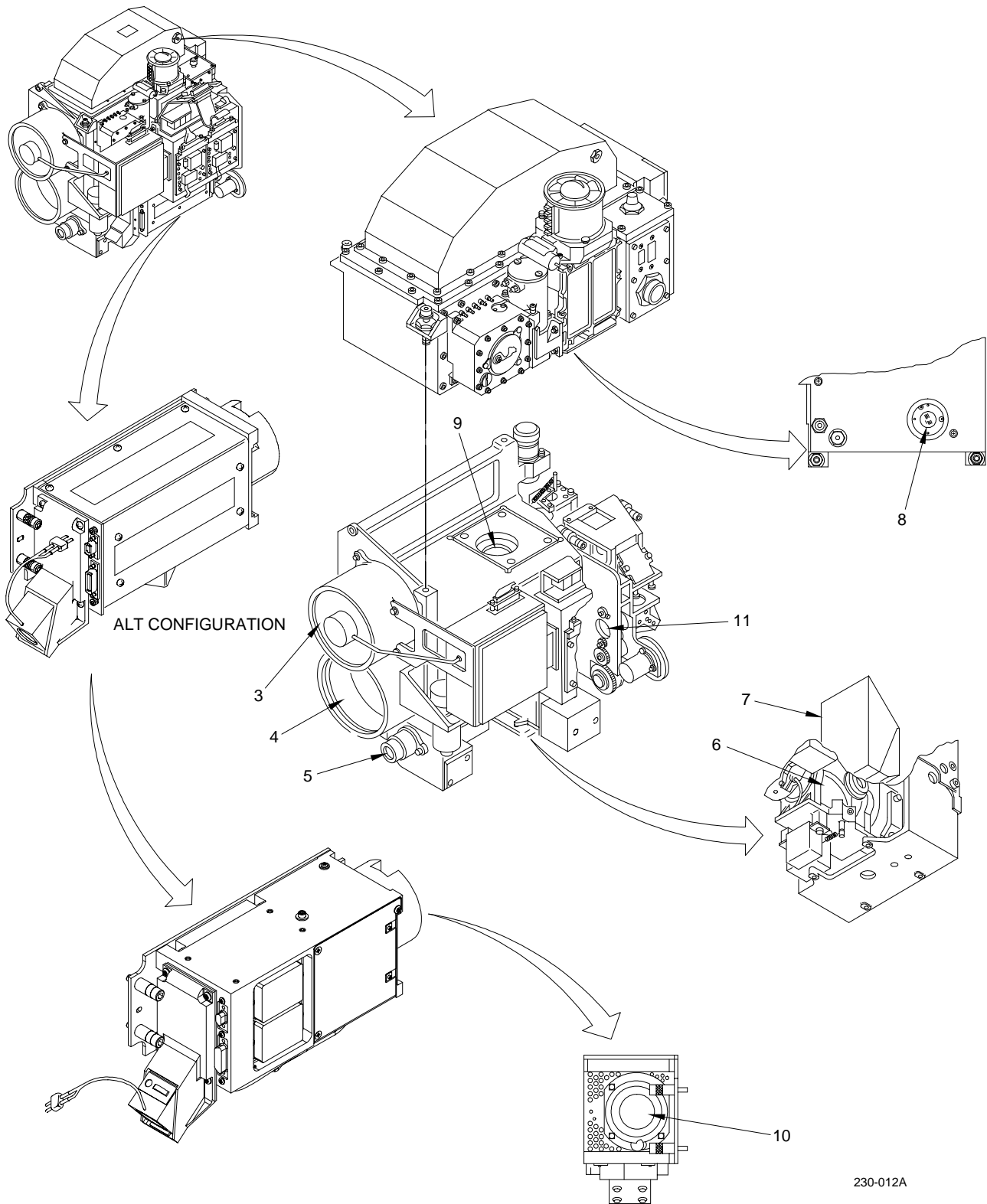
3-5. OPTICS EXPOSED DURING MAINTENANCE (cont)

Maintenance Task (para no.)	Day Sensor Shroud Assembly					DSA					
	Windows		Lens	Lens	Lens	Mirror	Prism	Lens			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Day Sensor Assembly (DSA) Maintenance											
Day sensor subassembly (para 3-36)	•	•	•	•	•	•	•	•	•	•	•
Lamp assembly A14 (para 3-37)	•	•	•	•	•	•	•				
TV sensor assembly (para 3-38)	•	•	•	•	•	•	•			•	•
LTU assembly (para 3-39)	•	•	•	•	•	•	•	•	•		
LT/R unit (para 3-40)	•	•	•	•	•	•	•				
Roll/pitch/yaw gyro CCA (para 3-41)	•	•	•	•	•	•	•				
TADS Assembly Maintenance											
Day sensor shroud assembly (para 3-22)	•	•	•	•	•	•	•				



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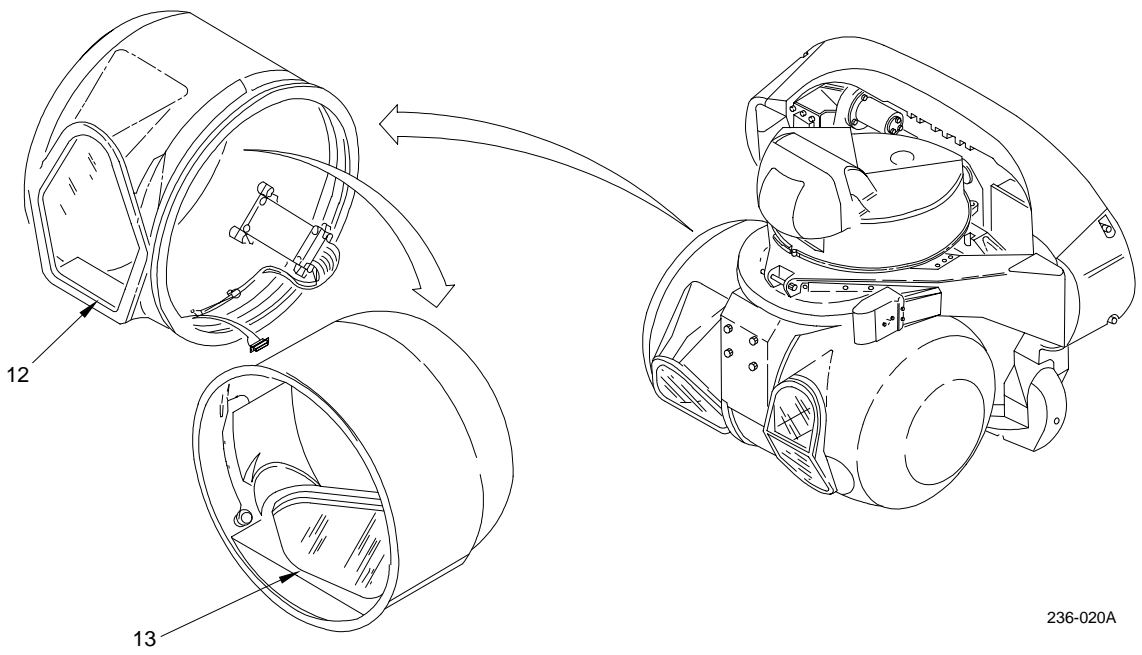
3-5. OPTICS EXPOSED DURING MAINTENANCE (cont)



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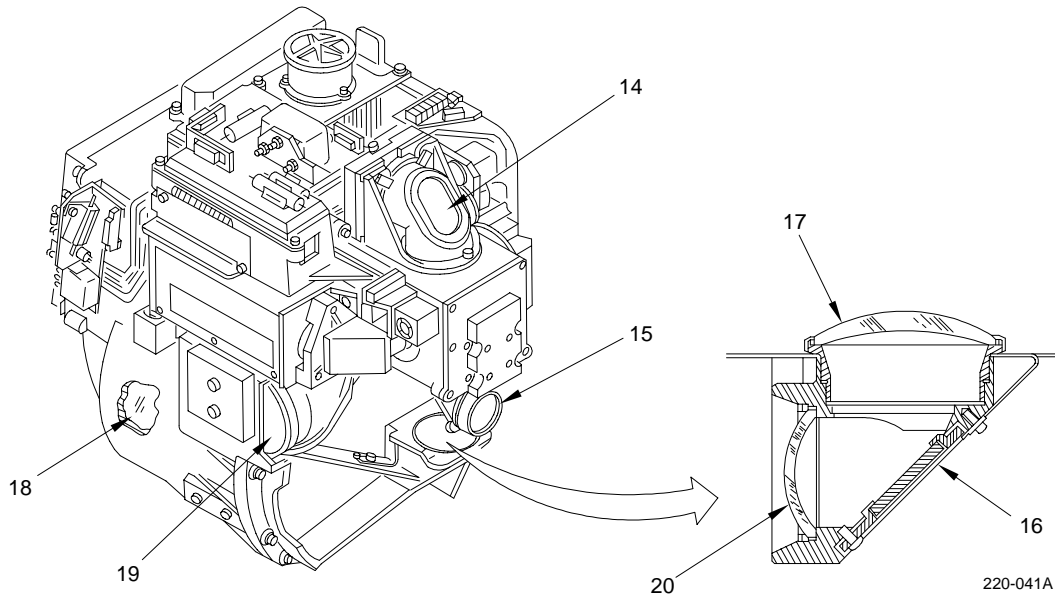
3-5. OPTICS EXPOSED DURING MAINTENANCE (cont)

Maintenance Task (para no.)	Night Sensor Shroud Assembly				NSA				
	Window (12)	Window (13)	Lens (14)	Lens (15)	Mirror (16)	Lens (17)	Lens (18)	Lens (19)	Lens (20)
TADS Assembly Maintenance (cont)									
Night sensor assembly (para 3-25)	•	•	•	•	•	•	•	•	•
Night sensor shroud assembly (para 3-24)	•	•	•	•	•	•	•	•	•



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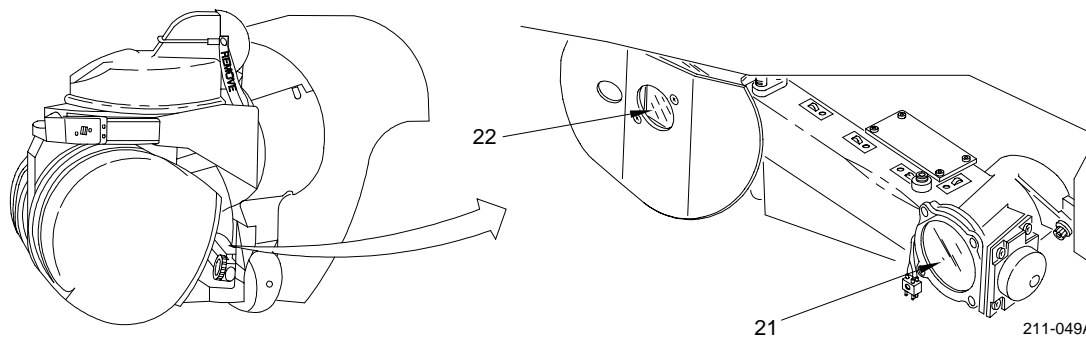
3-5. OPTICS EXPOSED DURING MAINTENANCE (cont)



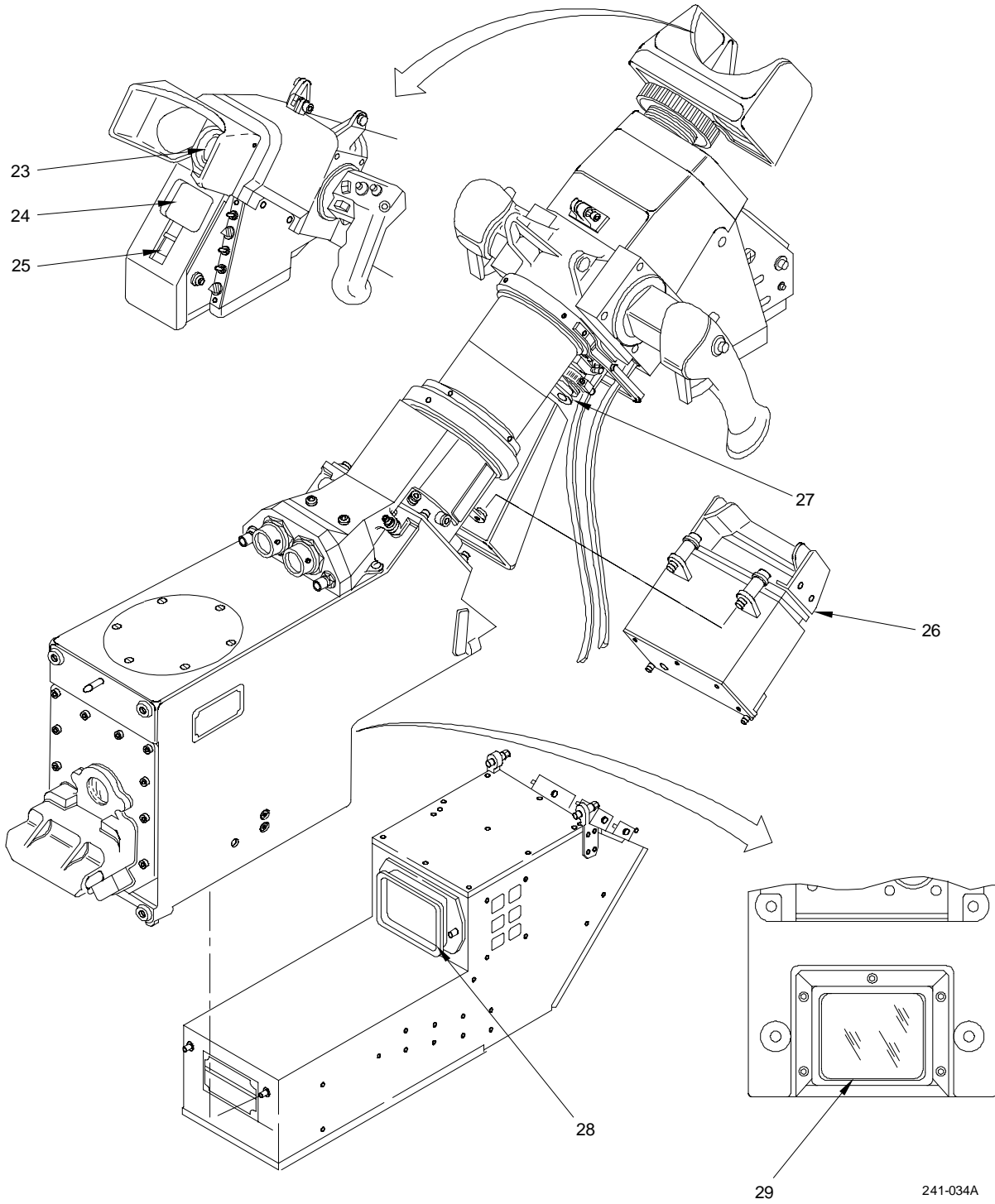
3-5. OPTICS EXPOSED DURING MAINTENANCE (cont)

Maintenance Task (para no.)	Boresight Assembly				ORT				
	Window (21)	Window (22)	Eye-piece* (23)	CRT* (24)	Night* Filter (25)	AND (26)	Lens (27)	CRT (28)	Lens (29)
TADS Assembly Maintenance (cont)									
Boresight assembly (para 3-19)	●	●							
Optical Relay Tube (ORT) Assembly Maintenance									
Optical relay column assembly (para 3-42)			●	●	●	●	●	●	●
Eyeshroud assembly (para 3-43)			●	●	●				
Eyepiece assembly (para 3-44)			●	●	●				
AND assembly (para 3-48)			●	●	●	●	●		
IVD electronics assembly (para 3-49)			●	●	●	●	●	●	●
Dessicant (para 3-50)			●	●	●				

*These optical surfaces are always exposed.



3-5. OPTICS EXPOSED DURING MAINTENANCE (cont)



3-6. OPTICS CLEANING PROCEDURES

This task is entered from other maintenance tasks. Clean only those optics specified by the supervisor. Refer to paragraph 3-5 to determine which optics are exposed during maintenance.

Step	Item	Step	Item
1.	General cleaning	4.	Boresight assembly optics cleaning
2.	DSA optics cleaning		
3.	NSA optics cleaning	5.	ORT assembly optics cleaning

INITIAL SETUP

Tools

Maintenance platform (optional)
 Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Applicator bottle, 1 pint (2)
 Acid-type safety goggles
 Rubber apron
 Rubber gloves

Materials (appendix D)

Acetone (Item 1)
 Alcohol, methyl (Item 8)
 Alconox, liquid (Item 9)
 Cotton swabs (Item 10)

Surgical rubber finger cots (5) (Item 30)
 Disposable plastic gloves (Item 32) (Alternate for Item 30)
 Nitrogen (Item 36)
 Lens paper (Item 40)
 Trichlorotrifluoroethane (Item 51)
 De-ionized water (Item 52)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

Maintenance task in progress

3-6. OPTICS CLEANING PROCEDURES (cont)

1. GENERAL CLEANING

WARNING

TRICHLOROTRIFLUOROETHANE

- Toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

CAUTION

- Clean optics only when directed by your supervisor.
- Clean only the optical surface(s) designated by the supervisor.
- Never use dry paper, eyeglass cleaning tissue, or any type of cloth, cleaning solvent, or commercial product to clean or wipe optics.
- Finger cots must be worn and cleaned with trichlorotrifluoroethane just after placing them on fingers. Do not touch anything except cleaning materials to prevent contamination.
- Avoid talking directly over optical elements to prevent expelled spittle from settling on and contaminating optics.

- a. Check optics for cleanliness. Identify the type of contamination to be cleaned away from the optical surface. Request supervisor assistance in order to select the proper type of cleaning.

- (1) If optical surface is lightly contaminated (dust, sand, etc.), perform step b below.

- (2) If optical surface is heavily contaminated (fingerprints, spittle deposits, vapor stains, etc.) perform step c below.

- (3) If optical surface is recessed and not easily reached using the lens paper cleaning method, perform step d below.

- b. Clean lightly contaminated optics.

WARNING

NITROGEN

- Asphyxiant: Nitrogen displaces oxygen. In a confined area, it can cause death by suffocation or serious injury.
- Use only in a well-ventilated area.
- If you experience shortness of breath or an increase in heart rate, get to fresh air at once.

- (1) Blow optical surface with nitrogen or dry air.

- (2) Have optical surface inspected. If surface is clean, perform ongoing maintenance task. If surface is dirty, proceed to step c below.

- c. Clean heavily contaminated optics.

3-6. OPTICS CLEANING PROCEDURES (cont)**WARNING****NITROGEN**

- Asphyxiant: Nitrogen displaces oxygen. In a confined area, it can cause death by suffocation or serious injury.
- Use only in a well-ventilated area.
- If you experience shortness of breath or an increase in heart rate, get to fresh air at once.

(1) Blow optical surface with nitrogen or dry air.

(2) Mix 1/8 ouncealconox in 1 pint of de-ionized water in 1 pint applicator bottle.

WARNING**TRICHLOROTRIFLUOROETHANE**

- Toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

CAUTION

- Finger cots or disposable plastic gloves must be worn when performing this procedure.
- Clean finger cots with trichlorotrifluoroethane just after placing them on fingers. Do not touch anything except cleaning materials to prevent contamination.

(3) Cover fingers to prevent contamination of optical surface.

- Use clean, surgical rubber finger cots on thumb and fingers of working hand.

or

- Use disposable plastic gloves.

NOTE

Use new, clean lens paper. Discard lens paper after it has been used once.

(4) Moisten lens paper with detergent solution using 1 pint applicator bottle.

(5) Wipe optical surface using single strokes in one direction only. Use a new lens paper for each stroke.

(6) Repeat (4 and 5) above until entire surface has been cleaned.

3-6. OPTICS CLEANING PROCEDURES (cont)

WARNING

NITROGEN

- Asphyxiant: Nitrogen displaces oxygen. In a confined area, it can cause death by suffocation or serious injury.
- Use only in a well-ventilated area.
- If you experience shortness of breath or an increase in heart rate, get to fresh air at once.

(7) Blow optical surface with nitrogen or dry air.

WARNING

METHYL ALCOHOL

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get in eyes, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts eyes, wash eyes with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

CAUTION

Methyl alcohol removes excessive amounts of special coating on FLIR optical surfaces. Do not use methyl alcohol to clean optical surfaces 10, 11, and 13 through 20 identified in paragraph 3-5.

NOTE

Use new, clean lens paper after it paper. Discard has been used once.

(8) Moisten lens paper with methyl alcohol.

(9) Wipe optical surface using single strokes in one direction only. Use a new lens paper for each stroke.

(10) Repeat (8 and 9) above until entire surface has been cleaned.

WARNING

NITROGEN

- Asphyxiant: Nitrogen displaces oxygen. In a confined area, it can cause death by suffocation or serious injury.
- Use only in a well-ventilated area.
- If you experience shortness of breath or an increase in heart rate, get to fresh air at once.

(11) Blow optical surface with nitrogen or dry air.

3-6. OPTICS CLEANING PROCEDURES (cont)**WARNING****ACETONE**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

NOTE

Use new, clean lens paper. Discard lens paper after it has been used once.

(12) Moisten lens paper with acetone.

(13) Wipe optical surface using single stroke in one direction only. Use a new lens paper for each stroke.

(14) Repeat (12 and 13) above until the entire surface has been cleaned.

(15) Have optical surface inspected for contamination.

d. Clean recessed optics.

WARNING**NITROGEN**

- Asphyxiant: Nitrogen displaces oxygen. In a confined area, it can cause death by suffocation or serious injury.
- Use only in well-ventilated area.
- If you experience shortness of breath or an increase in heart rate, get to fresh air at once.

(1) Blow optical surface and recessed optic housing area with nitrogen or dry air.

WARNING**METHYL ALCOHOL**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash eyes with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

(2) Moisten new cotton swab with methyl alcohol.

(3) Wipe optical surface using single stroke in one direction only. If area size is too large for a single swab, moisten another and continue until entire surface has been cleaned.

3-6. OPTICS CLEANING PROCEDURES (cont)

WARNING

ACETONE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
 - Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
 - Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
 - If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
 - If you experience any breathing problems, get to fresh air at once.
- (4) Moisten new cotton swab with acetone.
 - (5) Wipe optical surface using single stroke in one direction only. If area size is too large for a single swab, moisten another and continue until entire surface has been cleaned.
 - (6) Have optical surface inspected for contamination.

3-6. OPTICS CLEANING PROCEDURES (cont)

2. DSA OPTICS CLEANING

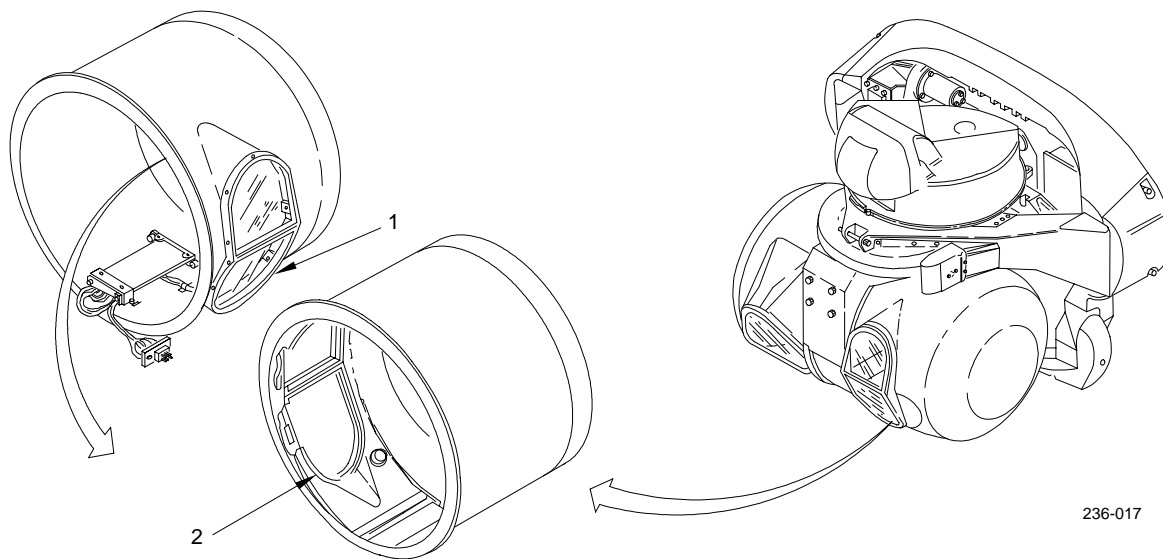
a. Clean day sensor shroud assembly outer windows.

(1) Remove day sensor shroud window cover.

(2) Clean window (1) using applicable cleaning procedure in 1 above.

(3) Replace day sensor shroud window cover.

b. Clean day sensor shroud assembly inner window (2) using applicable cleaning procedure in 1 above.

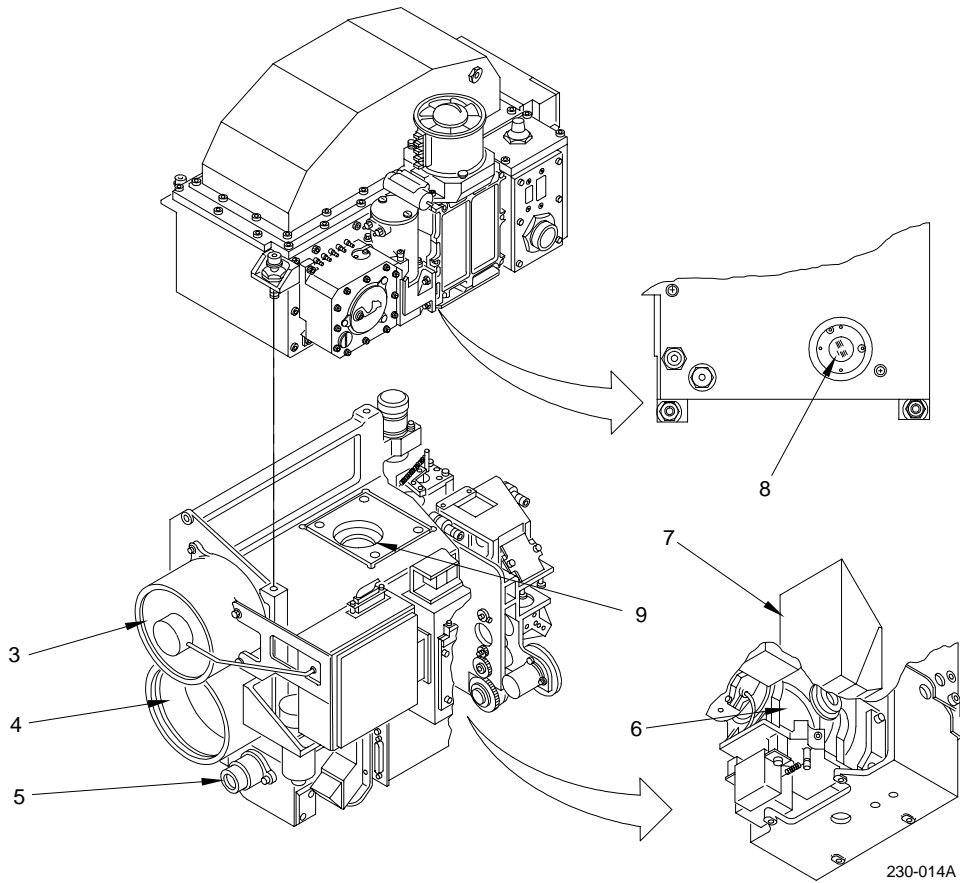


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3-6. OPTICS CLEANING PROCEDURES (cont)

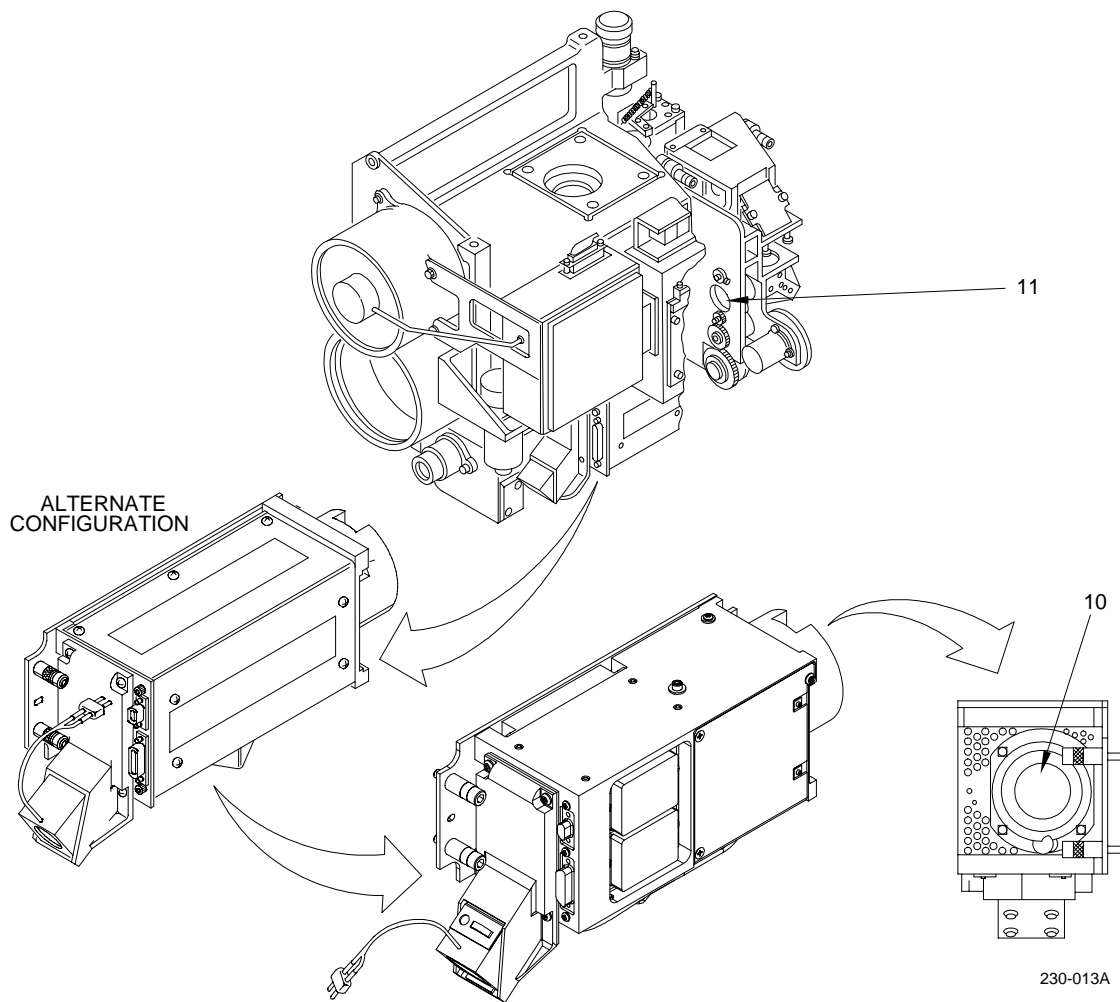
c. Clean DSA exposed optics (3 thru 7) using applicable cleaning procedure in 1 above.

d. Clean optical surfaces (8 and 9) exposed when TV sensor assembly is removed. Use applicable cleaning procedure in 1 above.



3-6. OPTICS CLEANING PROCEDURES (cont)

- e. Clean optical surfaces (10 and 11) exposed when TV sensor assembly is removed. Use applicable cleaning procedure in 1 above.



3-6. OPTICS CLEANING PROCEDURES (cont)

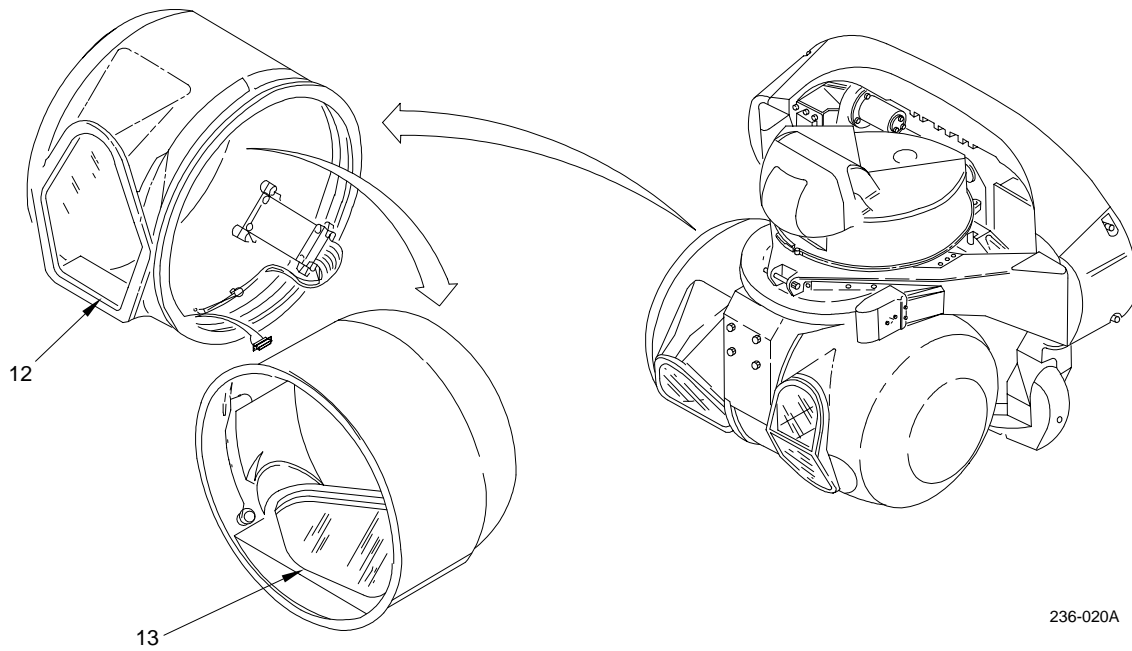
3. NSA OPTICS CLEANING

a. Clean night sensor shroud window.

- (1) Remove night sensor shroud window cover.
- (2) Clean window (12) using applicable cleaning procedure in 1 above.

- (3) Replace night sensor shroud window cover.

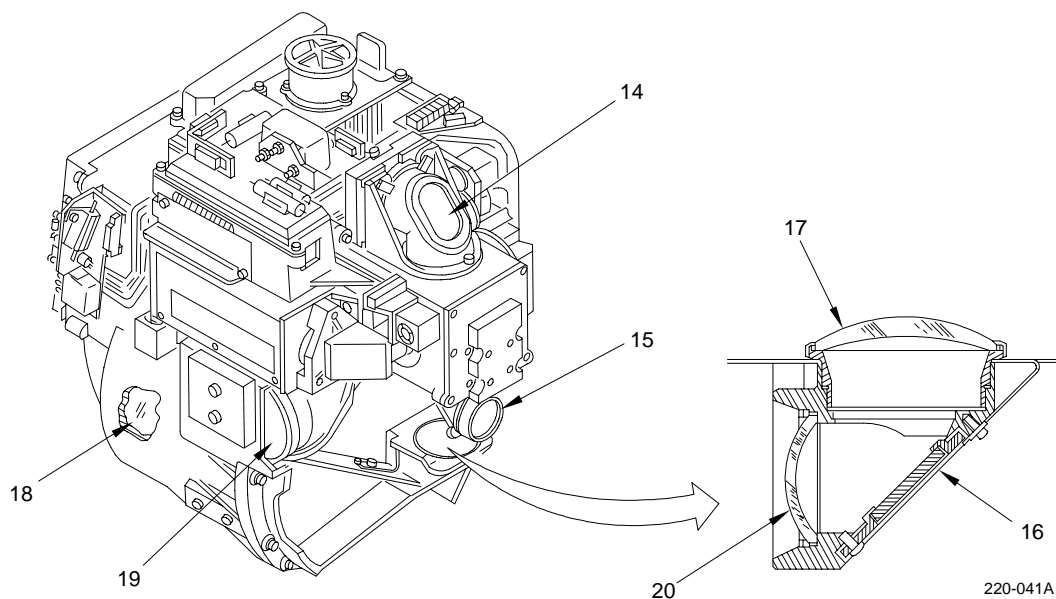
b. Clean night sensor shroud assembly inner window (13) using applicable cleaning procedure in 1 above.



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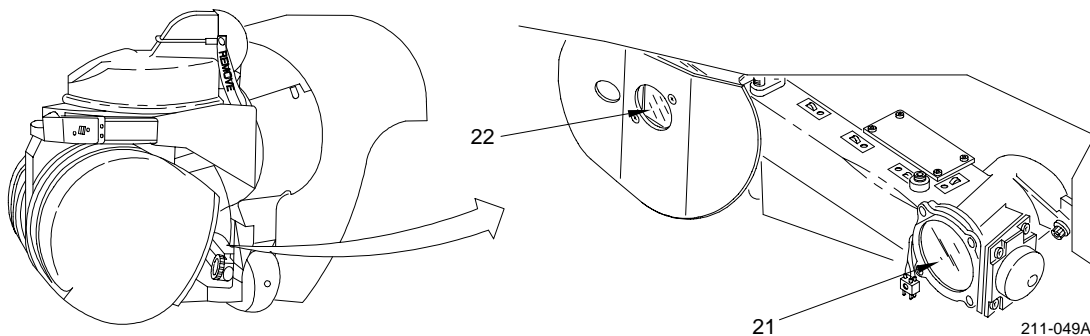
3-6. OPTICS CLEANING PROCEDURES (cont)

- c. Clean NSA exposed optics (14 thru 20) using applicable cleaning procedure in 1 above.



4. BORESIGHT ASSEMBLY OPTICS CLEANING

Clean optical surfaces (21 and 22) using applicable cleaning procedure in 1 above.

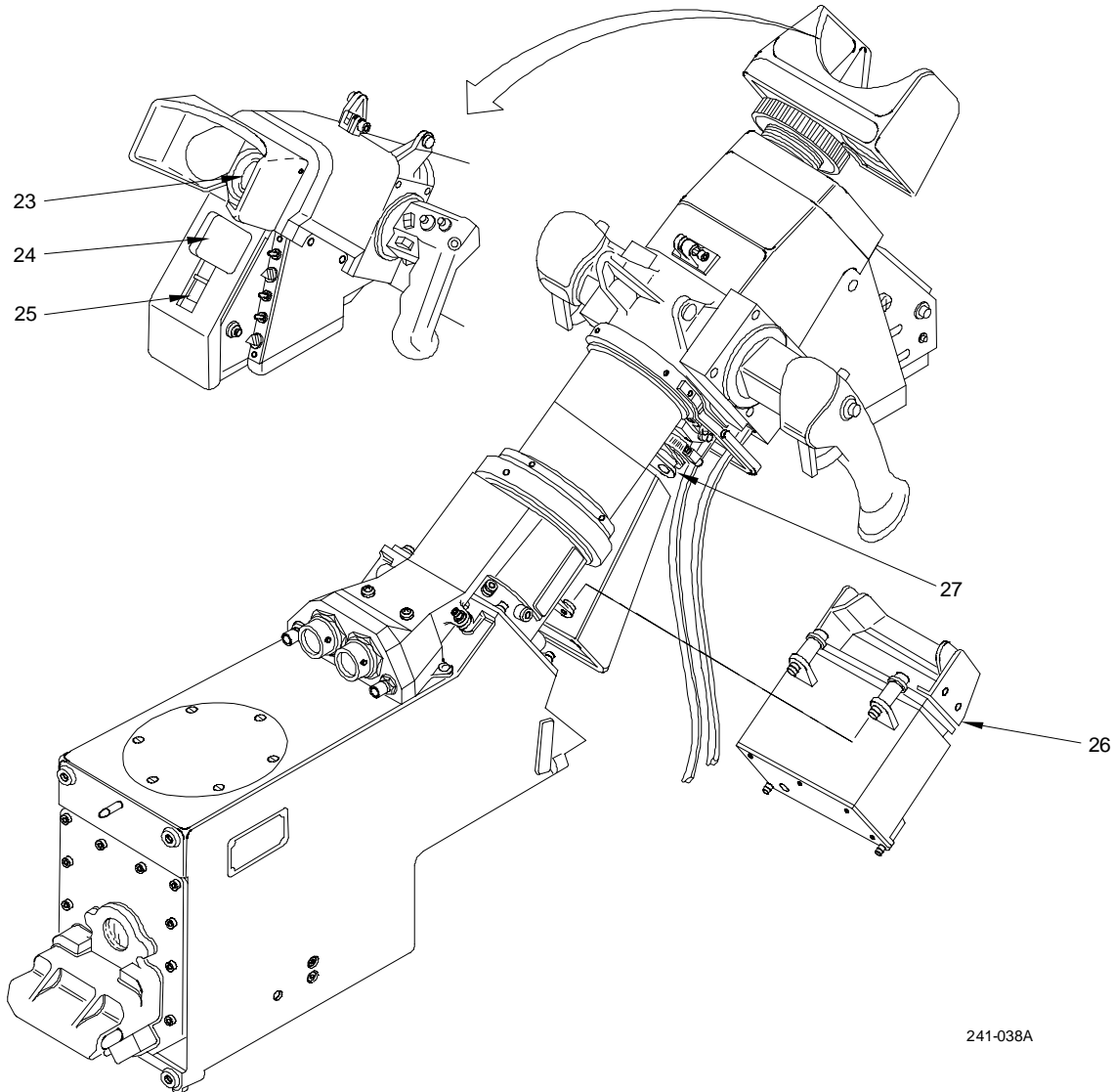


3-6. OPTICS CLEANING PROCEDURES (cont)

5. ORT ASSEMBLY OPTICS CLEANING

a. Clean ORT exposed optics. Optical surfaces (23 thru 25) are always exposed. Clean optical surfaces (23 thru 25) using applicable cleaning procedure in 1 above.

b. Clean optical surfaces exposed when AND assembly is removed (26 and 27). Use applicable cleaning procedure in 1 above.

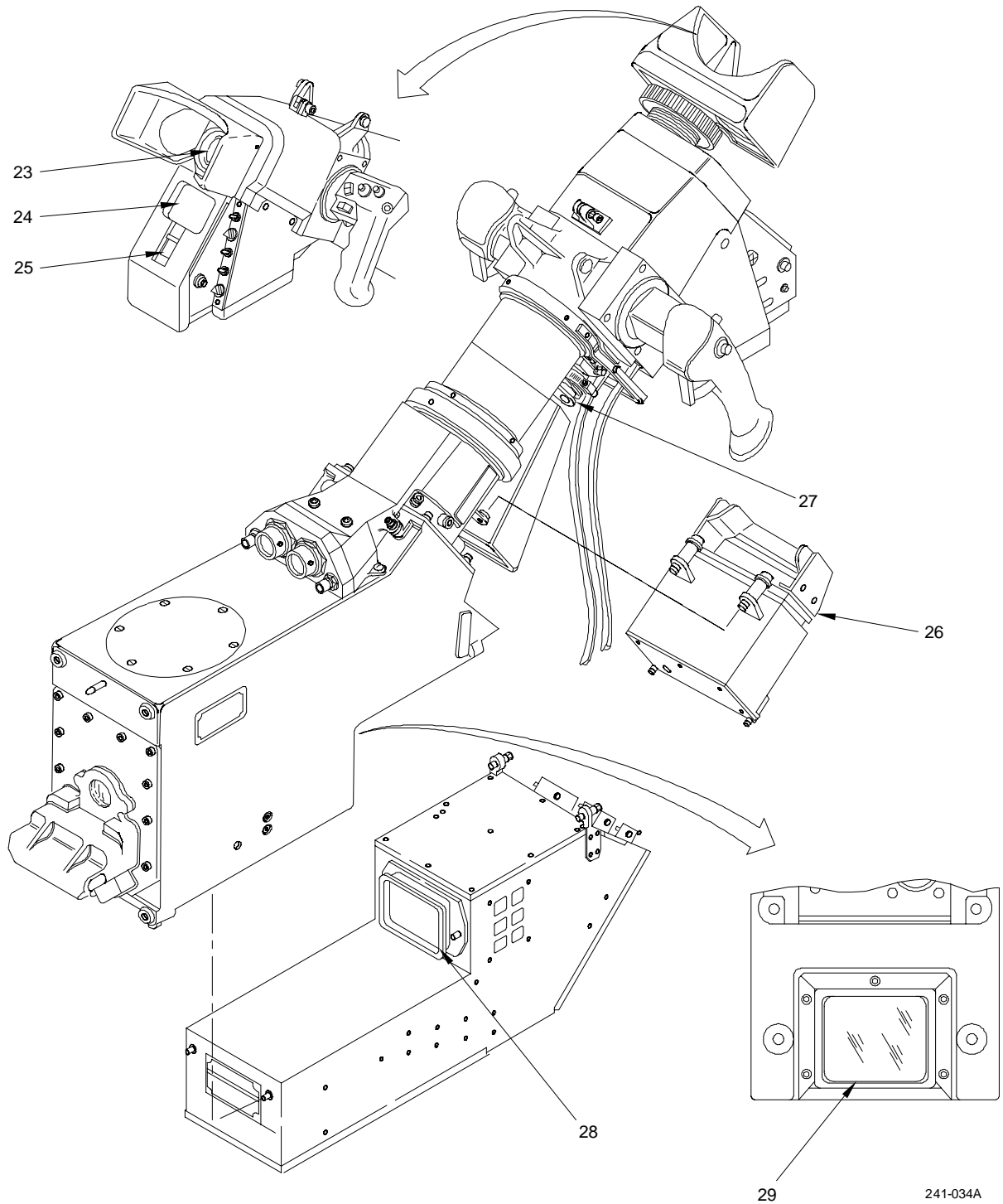


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3-6. OPTICS CLEANING PROCEDURES (cont)

- c. Clean optical surface exposed when IVD electronics assembly is removed (28 and 29). Use applicable cleaning procedure in 1 above.

END OF TASK



3-7. HANDLING EQUIPMENT MAINTENANCE PROCEDURES

There are no maintenance instructions on the maintenance handling equipment used at the AVUM level.

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Acid type safety goggles
 Rubber apron
 Rubber gloves

Materials (appendix D)

Acetone (Item 1)
 Adhesive, silicone rubber (Item 5)
 Noncorrosive RTV silicone adhesive-sealant (Item 6)
 Isopropyl alcohol (Item 7)
 Cotton swabs (Item 10)
 Brush (Item 11)
 Cotton wiping cloth (Item 12)
 Lint free cloth (Item 13)
 Adhesive sealing compound (polysulfide base) (Item 17)
 Corrosion inhibitive sealing and coating compound (Item 18)

Sealing, locking, and retaining compound (Item 19)
 Paper cup (Item 22)
 Tongue depressor (Item 23)
 Dichloromethane (Item 27)
 Fingercots (Item 30)
 Freon TMS (Item 31)
 Nitrogen, technical (Item 36)
 Paper, abrasive, 180 grit (Item 38)
 Paper, abrasive, 400 grit (Item 39)
 Noncorrosive RTV silicone primer (Item 42)
 Primer, sealing, locking, and retaining compound (Item 43)
 Toluene (Item 49)
 Trichloroethane (Item 50)
 Trichlorotrifluoroethane (Item 51)

Personnel Required

Aircraft Armament/Electrical Repairer

TASK DESCRIPTION

This paragraph contains procedures for removing, applying, and curing compounds and adhesives used throughout this manual. The following list provides quick-reference general data for each compound and adhesive. A detailed procedure for each compound and adhesive follows the list. The first column of the list specifies which step covers that compound or adhesive. Ensure that you read the entire detailed step before beginning the procedure.

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)

COMPOUND/ADHESIVE TABLE

Detailed Step No	App D Item No.	Compound Name	Mix ratio Base to Hardener	Max Work Life	Cure time at 67 to 87°F In Hours	Removal* Methods
1	18	Corrosion inhibitive sealing and coating compound, PR-1436-G	10:1	1 hr	30	1,2,5,6
	3	Corrosion inhibitive sealing and coating compound, PRO SEAL 870	100:15	1 hr	30	1,2,5,6,7
2	42	Noncorrosive RTV silicone adhesive-sealant primer	N/A	15 min	2-6	2,8
3	6	Noncorrosive RTV silicone adhesive-sealant	N/A	14 min	168	2,5,6,7
4	5	Silicone rubber adhesive	100:3.3	2 hr	72	9,10
5	17	Adhesive sealing compound (polysulfide base) 3M EC-801/1063	100:15	3 hr	24	3,9,10
		Adhesive sealing compound (polysulfide base) CHEM SEAL CS3202	100:10	2 hr	24	3,9,10
6	43	Sealing, locking, and retaining compound primer	N/A	N/A	0.5	3,10,11,12
7	19	Sealing, locking, and retaining compound	N/A	5-10 min	1-5	1,2,3,11,12
8	3	Epoxy adhesive, 13085103	10 parts A: 8.5 parts B: by weight	30-60 min	72	4,8

*REMOVAL METHODS

UNCURED COMPOUND

- 1 - Cloth moistened with acetone
- 2 - Cloth moistened with toluene
- 3 - Cloth moistened with trichloroethane
- 4 - Cloth moistened with isopropyl alcohol

CURED COMPOUND

- 5 - Cut away, scrape surface, wipe surface with toluene
- 6 - Soak in dichloromethane
- 7 - Brush or swab with dichloromethane
- 8 - Sand or scrape surface, wash surface with isopropyl alcohol
- 9 - Cut away, scrape surface, wipe surface with trichloroethane
- 10 - Sand surface with abrasive paper
- 11 - Wire brush
- 12 - Trichloroethane

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)**1. CORROSION INHIBITIVE SEALING AND COATING COMPOUND****WARNING****CORROSION INHIBITIVE SEALING AND COATING COMPOUND, ACETONE AND TOLUENE**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

WARNING**DICHLOROMETHANE**

- Toxic, irritating. Can cause breathing problems, eye damage.
- Fire containing dichloromethane gives off phosgene gas, which can cause death or serious injury.
- Don't: Let it get on skin or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

WARNING**FREON TMS**

- Toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Let it get on skin, or breathe vapors, or use near flames or sparks.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

REMOVAL

- Remove cured compound by one or more of the methods listed below.
 - Cut or scrape away with knife, then wipe with cloth and toluene.
 - Soak in dichloromethane until bond line swells (about 2 hours); then remove as in step (1) above.
 - Brush or swab with dichloromethane. Keep compound wet until bond line swells; then remove as in step (1) above.

APPLICATION**NOTE**

- Work life is 1 hour at 67 to 87°F (19.4 to 30.5°C).
- Let base and hardener containers stand for at least 24 hours at 67 to 87°F (19.4 to 30.5°C).
 - Clean freon surfaces with cloth and TMS.

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)

- d. Mix curing agent in its containers until it becomes a uniform paste.

NOTE

Two different types of corrosion inhibitive sealing and coating compounds are used. If using Pro-seal 870, go to step (1). If using PR-1436-G, go to step (2).

- (1) Pro-seal 870: Mix 100 parts base to 15 parts hardener until color is uniform. Go to step (3).
- (2) PR-1436-G: Mix 10 parts base to 1 part hardener until color is uniform.
- (3) Thoroughly mix and blend for 5 minutes minimum. Do not allow air bubbles to form.

- e. Use brush or small putty knife to apply compound as follows:

- (1) Class 1A application (screws tightened immediately upon installation) - apply compound to threads.
- (2) Class 1B application (screws tightened after alignment) - apply compound to heads of tightened screws.
- (3) Class 1C application (mating surfaces) - apply compound to entire mating surface of one of the two parts.
- (4) Class 2 application - apply compound over all bonding hardware. Extend coating to cover an area 1-1/2 times diameter of sanded area.

NOTE

Remove excess uncured compound using cloth and acetone or toluene.

CURING

NOTE

Assemblies using class 1 application may be handled immediately after completion of assembly. Assemblies using class 2 may be handled when compound becomes tack-free to touch.

- f. Cure compound for 30 hours at 67 to 87°F (19.4 to 30.5°C).

END OF TASK

2. NONCORROSIVE RTV SILICONE ADHESIVE-SEALANT PRIMER

WARNING

ISOPROPYL ALCOHOL

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)**WARNING****TRICHLOROETHANE**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

WARNING**TOLUENE AND ACETONE**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

REMOVAL

- Remove cured primer as follows:
 - (1) Sand surface with 400 grit abrasive paper.
 - (2) Scrape surface clean.

- (3) Clean surface with cloth and isopropyl alcohol.

APPLICATION**NOTE**

Work life is 15 minutes.

- Roughen surface with 180 grit abrasive paper.
- Clean surface with cloth and trichloroethane or acetone.
- Wipe surface with cloth and isopropyl alcohol.
- Apply primer within 4 hours of final cleaning step.
- Apply primer in a thin coat to mating surfaces using a soft brush.

CURING**NOTE**

- Remove excess uncured primer using a cloth and toluene.
 - Do not handle primed parts with bare hands, wear finger cots.
 - Primer will not cure below 20% humidity.
- Cure primer:
 - (1) If humidity is 40% or above, cure for 2 hours.
 - (2) If humidity is 20 to 39%, cure for 6 hours.

END OF TASK

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)

3. NONCORROSIVE RTV SILICONE ADHESIVE-SEALANT

WARNING

SILICONE ADHESIVE

- Flammable, toxic, can cause breathing problems.
- Don't: Use near flames or sparks or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using.
- If you experience shortness of breath, or other breathing problems, get to fresh air at once.

WARNING

DICHLOROMETHANE

- Toxic, irritating. Can cause breathing problems, eye damage.
- Fire containing dichloromethane gives off phosgene gas, which can cause death or serious injury.
- Don't: Let it get on skin or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

WARNING

TOLUENE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area. Close containers when not using. Wear acid-type safety goggles and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.

REMOVAL

- a. Remove cured adhesive-sealant by one or more of the following methods:
 - (1) Cut or scrape away with knife, then wipe with cloth and toluene.
 - (2) Soak in dichloromethane until bond line swells (about 2 hours); then remove as in (1) above.
 - (3) Brush or swab with dichloromethane. Keep compound wet until bond line swells; then remove as in (1) above.

APPLICATION

NOTE

Work life is 14 minutes after start of application.

- b. Prime surfaces (procedure (2) above).
- c. Apply adhesive-sealant within 24 hours after priming.
- d. Apply adhesive-sealant with knife or small putty knife.

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)**NOTE**

- Remove excess uncured adhesive-sealant using a cloth and toluene.
- When adhesive is used as a sealant between, or adjacent to, mechanically joined surfaces, further assembly may proceed immediately.
- Adhesive-sealant will not cure below 20% humidity.

CURING

- e. Cure adhesive-sealant for 168 hours at 67 to 87°F (19.4 to 30.5°C).

END OF TASK

4. SILICONE RUBBER ADHESIVE**TRICHLOROETHANE**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

WARNING**ISOPROPYL ALCOHOL**

- Flammable, toxic, Irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles and rubber apron.
- If it contacts eyes, wash eye with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

WARNING**SILICONE ADHESIVE**

- Flammable, toxic, can cause breathing problems.
- Don't: Use near flames or sparks or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using.
- If you experience shortness of breath, or other breathing problems, get to fresh air at once.

REMOVAL

- a. Remove cured compound by cutting or scraping away with knife, abrading with 180 grit abrasive paper and wiping with cloth and trichloroethane.
- b. Blow dry with clean air or nitrogen.

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)

APPLICATION

NOTE

Work life is 2 hours in sealed container at 77°F (25°C).

- c. Mix 100 parts adhesive to 4 parts catalyst.
- d. Wipe metal surface with cloth and isopropyl alcohol.
- e. Blow dry with clean air or nitrogen.
- f. Apply adhesive to both surfaces to be bonded.
- g. Let adhesive air dry for 40 to 60 minutes to allow the adhesive to become firm and tacky.
- h. Position parts to be bonded and press firmly together to remove any entrapped air.
- i. Maintain sufficient pressure keep bonding surfaces in contact throughout curing.

CAUTION

Do not apply any solvent during trimming and clean up. Solvents may wick into adhesive joint and damage the bond.

- j. Trim adhesive, squeeze out with sharp clean knife.

CURING

NOTE

Parts may be moved after 24 hours, provided they are handled with care.

- k. Cure for 72 hours at 67 to 87°F (19.4 to 30.5°C).

END OF TASK

5. ADHESIVE SEALING COMPOUND (POLYSULFIDE BASE)

WARNING

TRICHLOROETHANE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

WARNING

ADHESIVE SEALING COMPOUND (POLYSULFIDE BASE)

- Flammable, toxic, can cause breathing problems.
- Don't: Use near flames or sparks or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using.
- If you experience shortness of breath, or other breathing problems, get to fresh air at once.

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)**REMOVAL**

- a. Remove cured compound as follows:
- (1) Scrape compound from surfaces with knife.
 - (2) Sand surface with 180 grit abrasive paper.
 - (3) Clean surfaces with clean cloth and trichloroethane.

APPLICATION**NOTE**

Work life is 3 hours for 3M EC-801/1063 or 2 hours for CHEM SEAL CS3202.

- b. Clean surfaces with clean cloth and trichloroethane.

NOTE

Two different types of adhesive sealing compound are used. If using 3M EC-801/1063 go to step c. If using CHEM SEAL CS3202 go to step d.

- c. 3M EC-801/1063: Mix 100 parts base to 15 parts accelerator by weight. Go to step e.
- d. CHEM SEAL CS3202: Mix 100 parts base to 10 parts curing agent by weight.
- e. Apply compound to mating surfaces of parts to be sealed with a knife or small putty knife.
- f. Remove excess uncured compound using cloth and trichloroethane after parts have been mated.

CURING**NOTE**

It is permissible to move the assembly after the compound is tack-free to the touch.

- g. Cure compound for 24 hours at 67 to 87°F (19.4 to 30.5°C).

END OF TASK

6. SEALING, LOCKING, AND RETAINING COMPOUND PRIMER**WARNING****TRICHLOROETHANE**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)

WARNING

ISOPROPYL ALCOHOL

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

REMOVAL

- a. Remove cured primer by one of the following methods:
 - (1) Sand surface with 400 grit abrasive paper.
 - (2) Apply trichloroethane to surface and scrub with wire brush.

APPLICATION

- Primers and chlorinated cleaning solvents attack surfaces of titanium, copper and its alloys, plastics, vinyl, and lacquer type finishes.
- Do not use primers on titanium, copper or its alloys, plastics, vinyl, or lacquer type finishes.

NOTE

Apply locking compound within 8 hours after priming.

- b. Clean surface with cloth and trichloroethane.
- c. Wipe surface with cloth and isopropyl alcohol.

NOTE

There are two grades of primer. Use grade T for fast set time at low temperatures. Use grade N where installation or adjustment of hardware must be made.

- d. Apply primer using a soft brush or applicator nozzle supplied with primer.

NOTE

Remove excess uncured primer using a cloth and trichloroethane.

CURING

- e. Cure primer for:

3 to 5 minutes for grade T primer

OR

15 to 30 minutes for grade N primer.

END OF TASK

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)**7. SEALING, LOCKING, AND RETAINING COMPOUND****WARNING****TOLUENE**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.

WARNING**TRICHLOROETHANE**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

WARNING**SEALING, LOCKING, AND
RETAINING COMPOUND**

- Flammable, toxic, irritating. Can cause eye damage.
- Don't: Use near flames or sparks, or let it get on skin.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles and rubber gloves.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.

REMOVAL

- Remove cured compound by one or both of the following methods:
 - Scrub with wire brush.
 - Run screw or bolt in and out of threaded insert until threads are clean.

APPLICATION**NOTE**

Work life is 5 minutes when applied over grade T primer and 10 minutes when applied over grade N primer.

CAUTION

- Locking compounds soften or pit surfaces of plastics, and lacquer type finishes.
- Do not use locking compounds on plastics, or lacquer type finishes.

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)

NOTE

Apply locking compound within 8 hours after priming.

b. Prime all parts (6 above).

NOTE

There are two ways to apply sealing, locking, and retaining compound.

- **Type I application** - the locking compound is applied to mounting hardware before installation.
 - **Type II application** - the locking compound is applied to mounting hardware after installation and final adjustments are made.
- c. Apply locking compound using a soft brush or applicator nozzle supplied with locking compound.

NOTE

Remove excess uncured compound using a cloth and toluene or trichloroethane.

CURING

NOTE

All parts must cure for at least 30 minutes at 45°F (7.3°C) or above before application of heat for accelerated cure.

- d. Cure compound applied over grade T primer for 1 hour at 45°F (7.3°C) or above.
- e. Cure compound applied over grade N Primer for 5 hours at 45°F (7.3°C) or above.

END OF TASK

8. EPOXY ADHESIVE, 13085103

WARNING

ACETONE OR ISOPROPYL ALCOHOL

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts eyes, wash eyes with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

WARNING

NITROGEN

- Asphyxiant: Nitrogen displaces oxygen. In a confined area, it can cause death by suffocation or serious injury.
- Do: Use only in well-ventilated area.
- If you experience shortness of breath or an increase in heart rate, get to fresh air at once.

3-8. SEALING COMPOUNDS AND ADHESIVES REMOVAL, APPLICATION, AND CURING (cont)**WARNING****EPOXY ADHESIVE**

- Flammable, toxic, irritating. Can cause eye damage.
- Don't: Mix in quantities greater than 2 pounds. Toxic fumes can occur, resulting in personal injury.
- Don't: Use near flames or sparks, or let it get on skin or in eyes.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts eyes, wash affected areas with running water for not less than 15 minutes. If it contacts skin, wash affected area with soap and water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

REMOVAL**CAUTION**

Use care when removing compound not to damage mounting pads or other components or leads.

- a. Remove cured compound carefully around leads to be unsoldered.
- b. Tag and unsolder leads.
- c. Clean area with small brush and acetone.
- d. Clean area by flushing with isopropyl alcohol.
- e. Blow dry with clean, dry oil-free compressed air or nitrogen.

APPLICATION**NOTE**

Work life is 30 to 60 minutes after mixing at 67 to 87°F.

- f. Clean area with small brush and acetone.
- g. Clean area by flushing with isopropyl alcohol.
- h. Mix 10 parts A (white color) to 8.5 parts B (dark amber color) by weight. Mix until uniform beige color. Mix ratio by volume is one to one.
- i. Solder leads and remove tags.
- j. Clean area with small brush and acetone.
- k. Clean area by flushing with isopropyl alcohol.
- l. Blow dry with clean, dry oil-free compressed air or nitrogen.
- m. Apply compound to uncoated area with small brush.

NOTE

Remove excess uncured compound with isopropyl alcohol, then air dry.

CURING

- n. Cure compound for 72 hours at 67 to 87°F or for not less than 90 minutes at 135 to 165°F or for not less than 60 minutes at 162 to 198°F.

END OF TASK

**Section II. TARGET ACQUISITION DESIGNATION SIGHT (TADS)
ASSEMBLY MAINTENANCE**

Subject	Para	Page
Ice Fairing Replacement	3-9	3-45
PNVS Cutter Assembly Replacement	3-10	3-47
Wire Strike Ice Fairing Bracket Replacement	3-11	3-48
Forward and Aft Deflector Replacement	3-12	3-50
Environmental Control System (ECS) Assembly Replacement	3-13	3-53
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Boresight Assembly Desiccant Replacement	3-20	3-71
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FLIR Boresight Light Baffle Assembly Replacement	3-23	3-83
Night Sensor Shroud Assembly Replacement	3-24	3-85
Night Sensor Assembly (NSA) Replacement	3-25	3-88
TADS Window Cover Assemblies Repair	3-26	3-99

3-9. ICE FAIRING REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Torque wrench, 10-50 in-lb

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-1	Premaintenance procedures performed

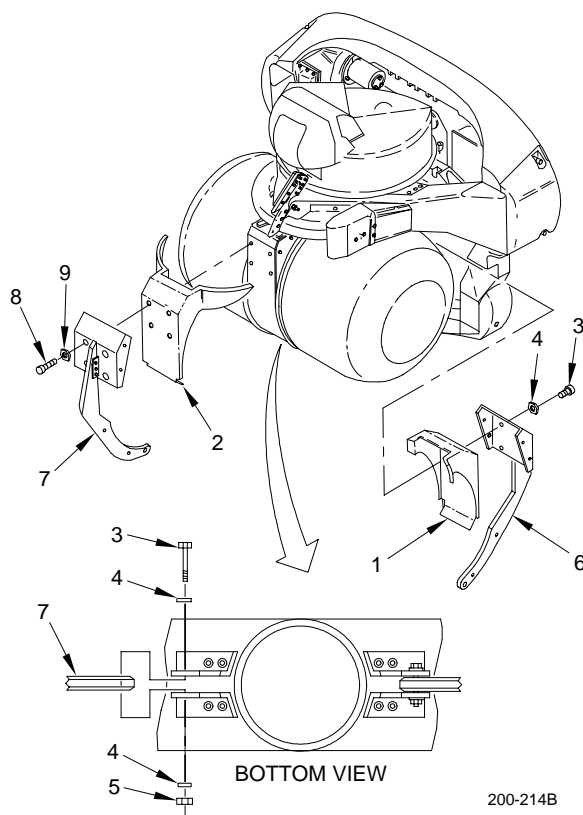
NOTE

This procedure is for replacing ice fairing (1) or (2) if:

- TADS turret assembly is moved out of stow (para 3-2) to allow access to ice fairing (1).
- After replacing ice fairing (1), move TADS turret assembly into stow (para 3-3).

REMOVAL

1. Remove screw (3), two washers (4), and nut (5) from lower end of deflector (6) or (7).
2. Remove deflector assembly (7) and ice fairing (1) or (2) by removing four screws (8) and washers (9).



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3-9. ICE FAIRING REPLACEMENT (cont)

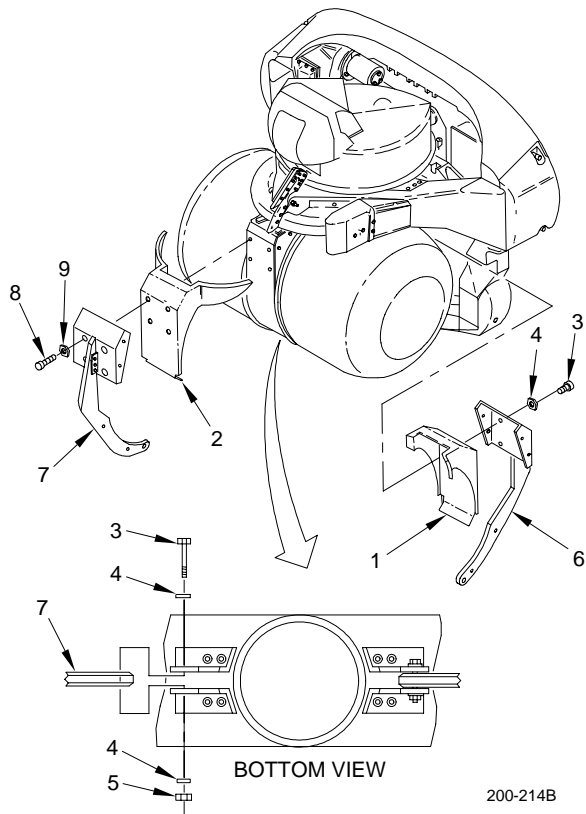
INSTALLATION

3. Remove old corrosion inhibitive sealing and coating compound from screws (8).
4. Apply corrosion inhibitive sealing and coating compound to screws (8). Use class 1A application (para 3-8).

CAUTION

Screws (8) must be torqued in the sequence stated, otherwise a 300 Hz noise may be induced into the system.

5. Install ice fairing (1) or (2) and aft deflector assembly (6) or (7) and secure loosely with four washers (9) and screws (8). Torque screws (8) to 25 in-lb, using a criss-cross pattern (upper left, lower right, lower left, upper right).
6. Secure lower end of deflector assembly (6) or (7) with screw (3), two washers (4), and nut (5). Torque nut (5) to 30 in-lb.



7. Have installation inspected.

END OF TASK

3-10. PNVS CUTTER ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Torque wrench, 30-200 in-lb
 Torque wrench, 0-50 ft-lb

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

References

TM 1-5855-265-20

Equipment Conditions

Ref

Condition

Para 3-3

TADS turret assembly
 into stow

TM 1-5855-265-20

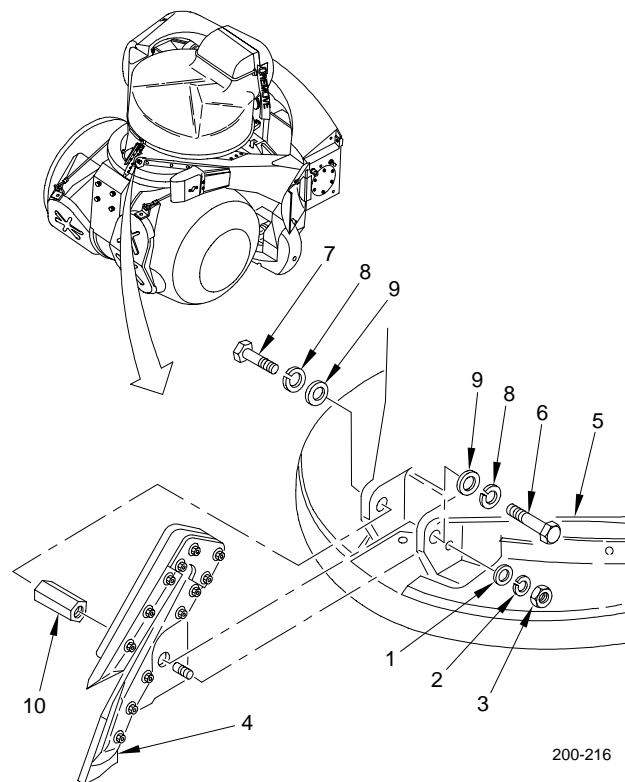
PNVS turret assembly
 into stow

REMOVAL

1. Remove flat washer (1), lockwasher (2), and hex nut (3) securing PNVs cutter assembly (4) to aircraft interface assembly (5).
2. Remove PNVs cutter assembly (4), by removing two hex head screws (6 and 7), lockwashers (8), flat washers (9), and assembly nut (10).

INSTALLATION

3. Position PNVs cutter assembly (4) on aircraft interface assembly (5) and secure with two flat washers (9), lockwashers (8), hex head screws (6 and 7), and assembly nut (10). Loosely install hex head screws (6 and 7) to allow them to be properly torqued.
4. Install flat washer (1), lockwasher (2), and hex nut (3). Torque hex nut (3) to 85 in-lb.
5. Torque hex head screw (6) to 50 ft-lb.
6. Torque hex head screw (7) to 5 ft-lb.
7. Have installation inspected.



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END OF TASK

3-11. WIRE STRIKE ICE FAIRING BRACKET REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Torque wrench 10-50 in-lb

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-1	Premaintenance procedures performed

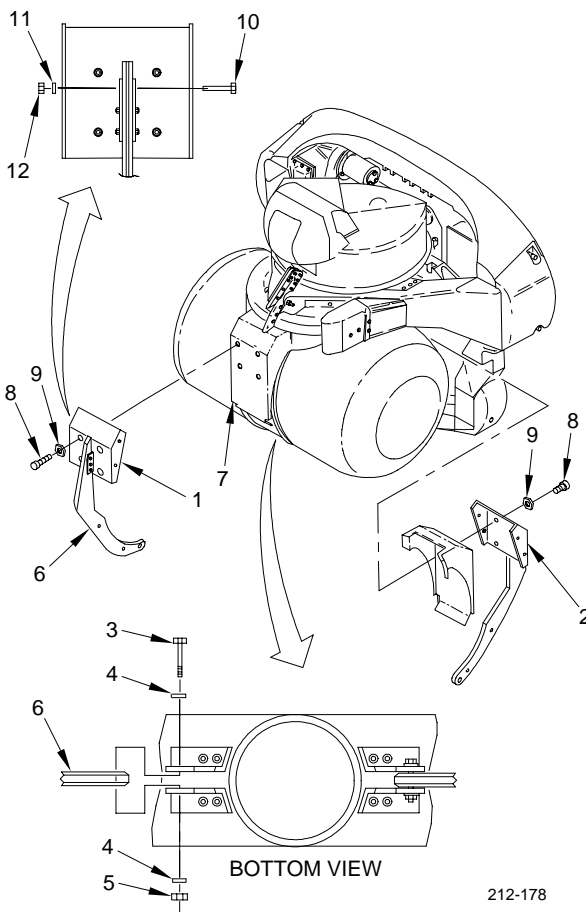
NOTE

This procedure is for replacing ice fairing bracket (1) and can be used to replace ice fairing bracket (2) if:

- TADS turret assembly is moved out of stow (para 3-2) to allow access to ice fairing bracket (2).
- After replacing ice fairing bracket (2), move TADS turret assembly into stow (para 3-3).

REMOVAL

1. Remove screw (3), two washers (4), and nut (5) from lower end of aft deflector (6).
2. Remove aft deflector (6) with ice fairing bracket (1) and ice fairing (7), by removing four screws (8) and washers (9).
3. Remove aft deflector (6) from ice fairing bracket (1) by removing three screws (10), washers (11), and nuts (12).



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3-11. WIRE STRIKE ICE FAIRING BRACKET REPLACEMENT (cont)**INSTALLATION**

4. Remove old corrosion inhibitive sealing and coating compound from screws (8).
5. Apply corrosion inhibitive sealing and coating compound to screws (8). Use class 1A application (para 3-8).
6. Position aft deflector (6) on ice fairing bracket (1) and loosely install three screws (10), washers (11), and nuts (12).

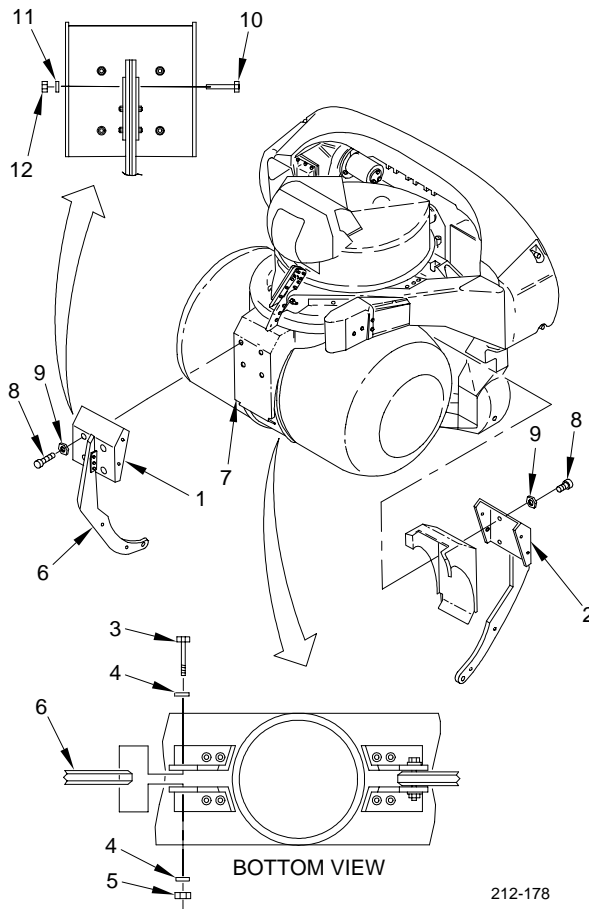
CAUTION

Screws (8) must be torqued in the sequence stated, otherwise a 300 Hz noise may be induced into the system.

7. Install ice fairing (7) and ice fairing bracket (1) with aft deflector (6) and loosely install four washers (9) and screws (8). Torque screws (8) to 25 in-lb, using a criss-cross pattern (upper left, lower right, lower left, upper right).
8. Secure lower end of aft deflector (6) with screw (3), two washers (4), and nut (5). Torque nut (5) to 30 in-lb.
9. Torque three screws (10) installed in step 6 above to 15 in-lb.

10. Have installation inspected.

END OF TASK



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3-12. FORWARD AND AFT DEFLECTOR REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Acid-type safety goggles
 Drill press
 Drill, twist, Sz F
 Rubber apron
 Rubber gloves
 Torque wrench, 10-50 in-lb

Materials (appendix D)

Chemical film (Item 29)

Cheesecloth pad (Item 37)
 Paper, abrasive 400 grit (Item 39)
 Trichloroethane (Item 50)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-1	Premaintenance procedures performed

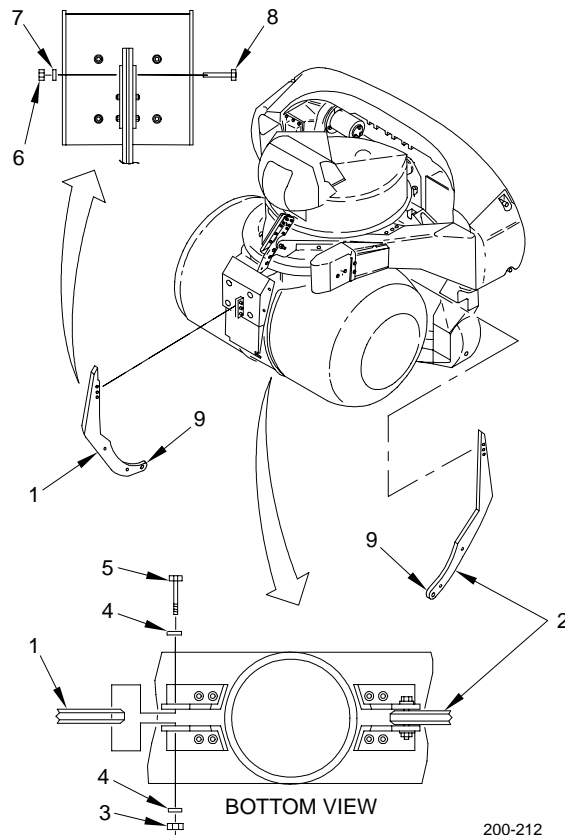
NOTE

This procedure is for replacing aft deflector (1) and can be used to replace forward deflector (2) if:

- TADS turret assembly is moved out of stow (para 3-2) to allow access to forward deflector (2).
- After replacing forward deflector (2) move TADS turret assembly in stow (para 3-3).

REMOVAL

1. Remove nut (3), two washers (4), and screw (5) from bottom of aft deflector (1). Retain all hardware.
2. Remove three nuts (6), washers (7), and screws (8) and remove aft deflector.



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3-12. FORWARD AND AFT DEFLECTOR REPLACEMENT (cont)**INSTALLATION**

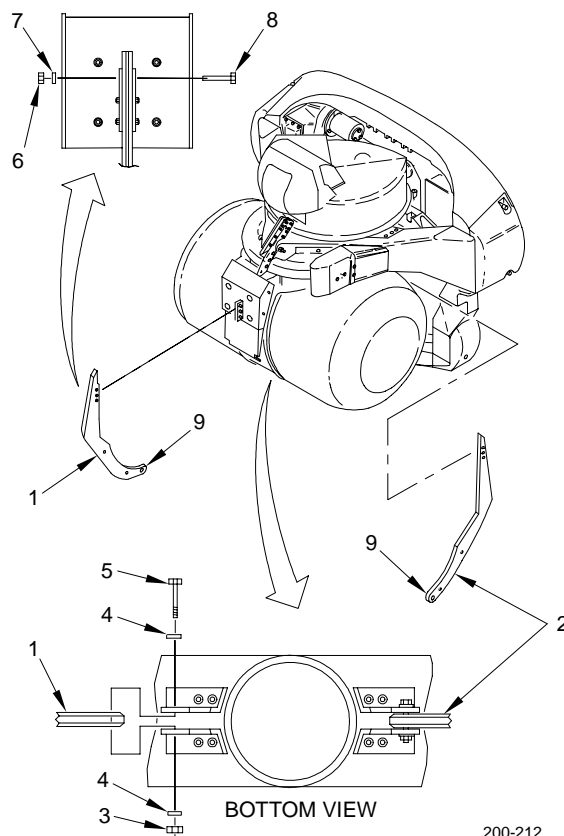
3. Install new aft deflector (1) using three screws (8), washers (7), and nuts (6). Make sure aft deflector is pushed against frame assembly before tightening screws.
4. Mark position of hole (9) on new aft deflector (1) and remove deflector (1) by removing three nuts (6), washers (7), and screws (8).

WARNING

- Drilling operations can cause eye damage. Wear safety goggles.
 - Use vacuum cleaner during operation to collect debris.
5. Using a drill press with size F twist drill, drill hole in aft deflector (1) at position marked in step 4 above.
 6. Remove burrs from drilled hole.

WARNING**TRICHLOROETHANE**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.



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7. Clean hole with a cheesecloth pad and trichloroethane.
8. Let area air dry for 5 minutes.

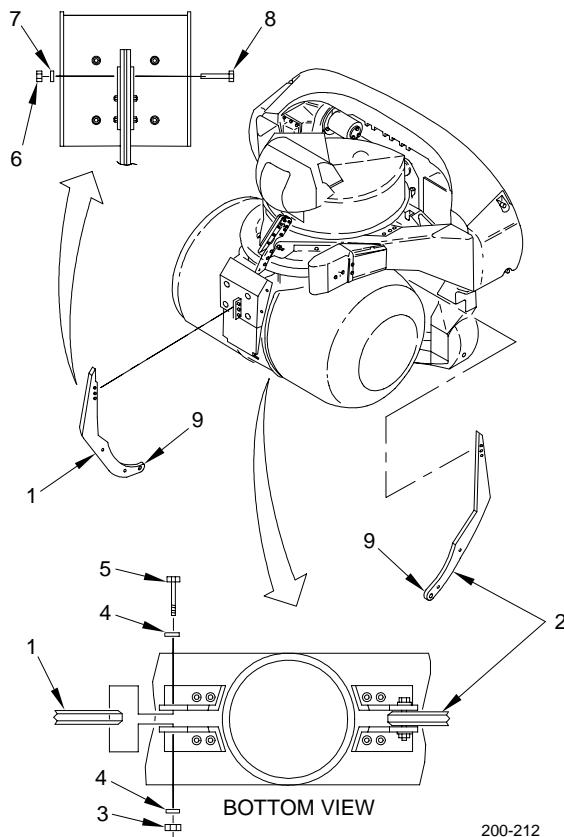
3-12. FORWARD AND AFT DEFLECTOR REPLACEMENT (cont)

WARNING

CHEMICAL FILM

- Toxic, irritating, caustic. Can cause eye damage.
- Don't: Let it get on your skin.
- Do: Use in well-ventilated area. Close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.

9. Apply chemical film to hole.
10. Let surface air dry for 5 minutes.
11. Have deflector hole inspected.
12. Install aft deflector (1) loosely with three screws (8), washers (7), and nuts (6).
13. Install bottom screw (5), two washers (4), and nut (3). Torque nut (3) to 30 in-lb.
14. Torque three screws (8) to 17 in-lb.
15. Have installation inspected.



END OF TASK

3-13. ENVIRONMENTAL CONTROL SYSTEM (ECS) ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Torque wrench, 5-50 in-lb

Materials (appendix D)

Lacing and typing tape (Item 47)
 Epoxy adhesive (Item 3)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-15	Air filter assembly removed

FOLLOWUP

Install air filter assembly (para 3-15)

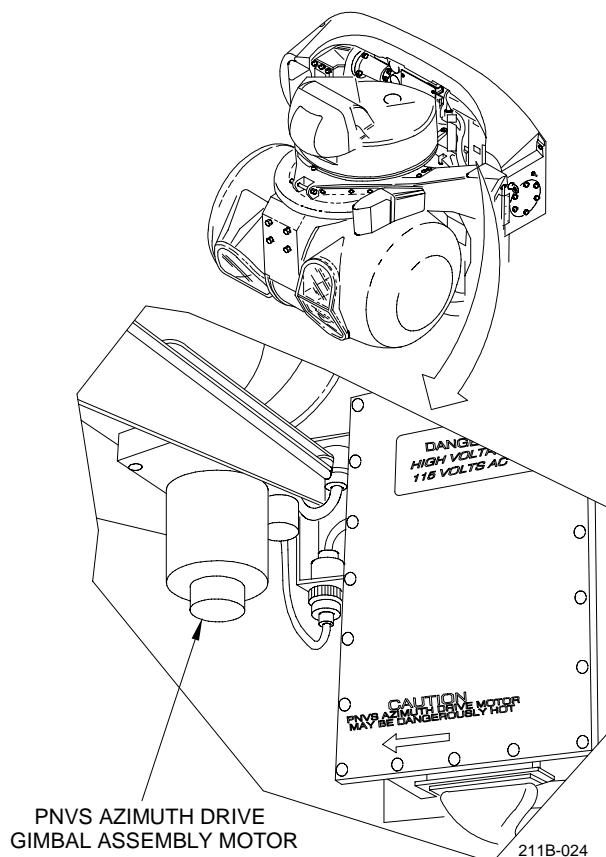
REMOVAL

WARNING

If PNVS has recently been operated, use extreme care when reaching up and behind TADS turret assembly. The PNVS azimuth drive gimbal assembly motor gets very hot during operations and can cause serious burns.

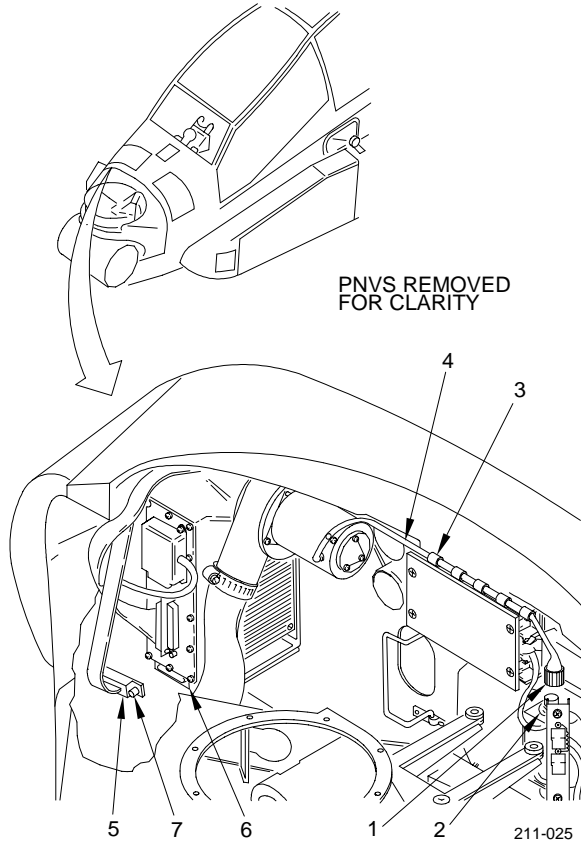
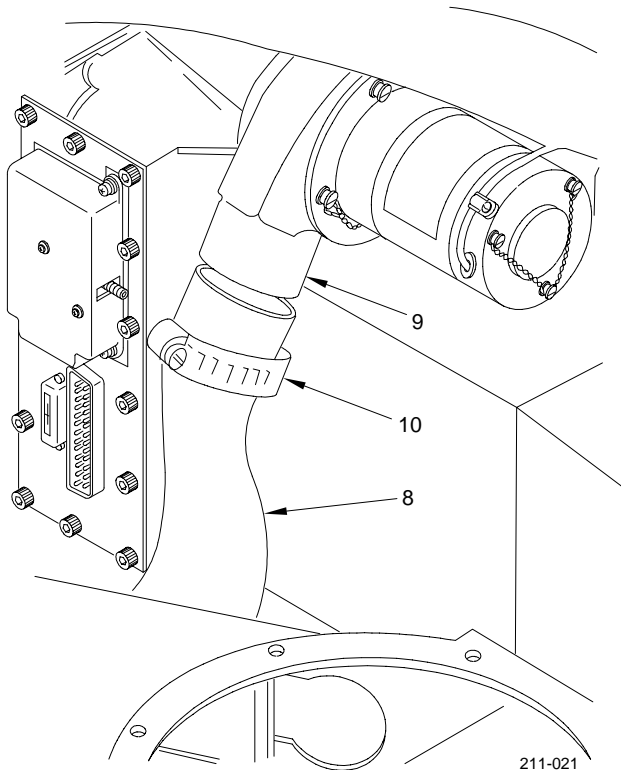
CAUTION

If replacement ECS assembly 13076018-029 or -039 is installed, TADS power supply assembly 13075523-029 will be damaged. If replacement ECS assembly 13076018-029 or -039 is installed, make sure TADS power supply assembly 13075523-039 is installed. TADS power supply assembly 13075523-039 is compatible with ECS assemblies 13076018-019 and 13076018-029 or -039. TADS power supply assembly 13075523-029 is compatible with ECS assembly 13076018-019.



3-13. ENVIRONMENTAL CONTROL SYSTEM (ECS) ASSEMBLY REPLACEMENT (cont)

1. Unscrew and disconnect ECS blower connector P1 (1) from connector W2J12 (2).
2. Cut lacing and tying tape (3) securing wire cable (4).
3. Disconnect W2P4 (5) from ECS connector J2 (6) by loosening two screwlocks (7).



4. Remove molded hose (8) from blower (9).
 - a. Loosen hose clamp (10) and slide back onto hose (8).
 - b. Pull molded hose away from and off of blower (9).

3-13. ENVIRONMENTAL CONTROL SYSTEM (ECS) ASSEMBLY REPLACEMENT (cont)

CAUTION

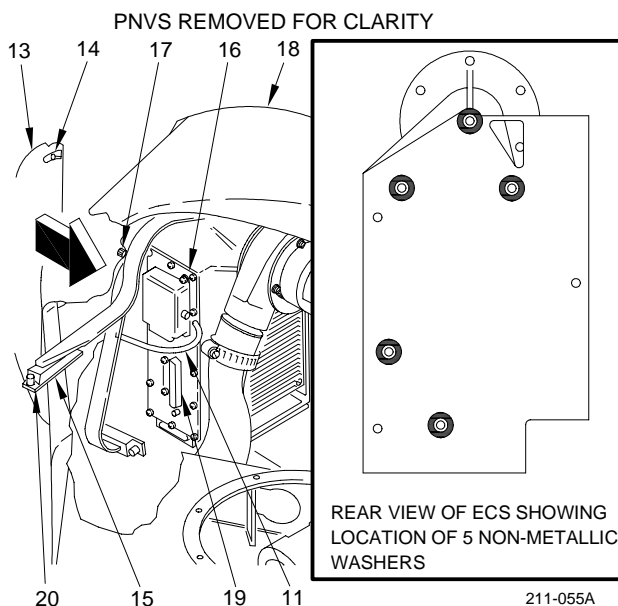
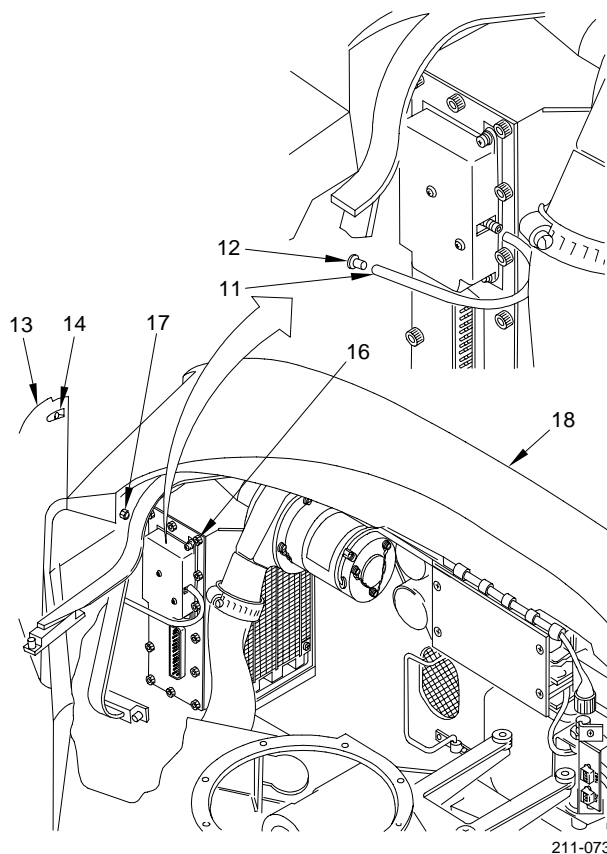
Do not pull tube directly off interface assembly ribbed fitting. Tube fits ribbed fitting snug and could cause ribbed fitting to break if pulled.

5. Roll end of tube (11) off aircraft interface assembly ribbed fitting (12).
6. Open right side fairing assembly (13) by loosening two captive screws (14).

NOTE

Connector W2P3 (15) is still connected to ECS assembly. It is accessed only after ECS assembly is repositioned.

7. Remove ECS assembly (16).
 - a. Loosen five captive screws (17) securing ECS assembly (16) to aircraft interface assembly (18).
 - b. Work ECS assembly (16) down and out from aircraft interface assembly (18) to access connector W2P3 (15).
 - c. Disconnect connector W2P3 (15) from ECS assembly connector J1 (19) by loosening two screwlocks (20).
 - d. Remove ECS assembly (16) from aircraft interface assembly (18).
8. Roll end of tube (11) off ECS assembly (16).



3-13. ENVIRONMENTAL CONTROL SYSTEM (ECS) ASSEMBLY REPLACEMENT (cont)

INSTALLATION

NOTE

Ensure that five nonmetallic washers are properly seated on ECS assembly before positioning for installation.

9. Inspect ECS assembly. Ensure that five nonmetallic washers (21) are bonded to surface of assembly before positioning for installation. If washers are missing, proceed to step 10. If washers are present, proceed to step 11.

10. Apply adhesive-epoxy to five nonmetallic washers and mating surface (para 3-8). Bond washer to mating surface in area shown.

11. Slide end of tube (11) on ECS assembly (16).

12. Position ECS assembly (16) in aircraft interface assembly (18).

13. Install connector W2P3 (15) on ECS assembly connector J1 (19) and tighten two screwlocks (20).

14. Install ECS assembly (16).

CAUTION

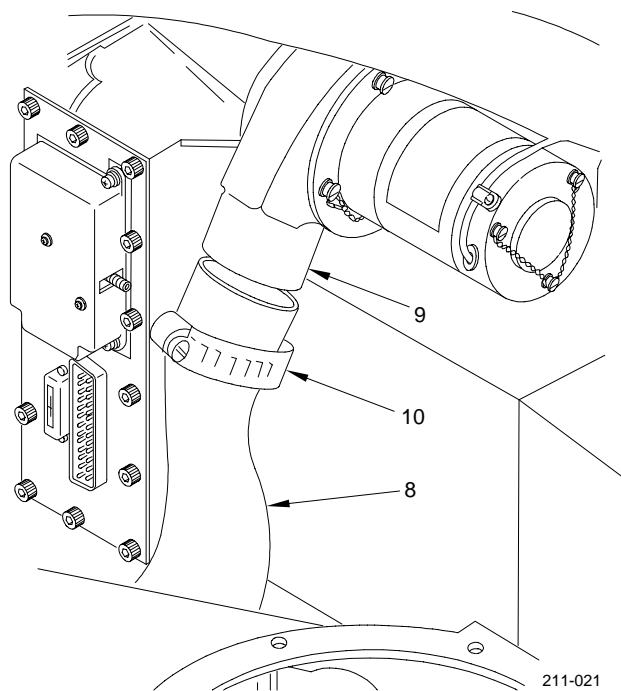
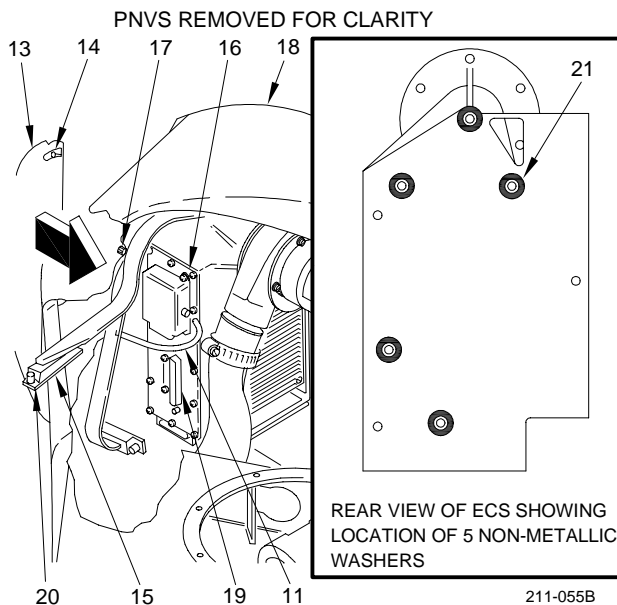
Damage could result to flat harness if crushed/ caught between the ECS and turret assembly. Ensure flat harness is stacked on top of each other and positioned behind the ECS with no kinks or twists.

a. Work ECS assembly (16) up into mounting position.

b. Torque five captive screws (17) to 30 in-lb.

15. Close right side fairing assembly (13) and tighten two captive screws (14).

16. Install ECS molded hose (8) on blower (9).



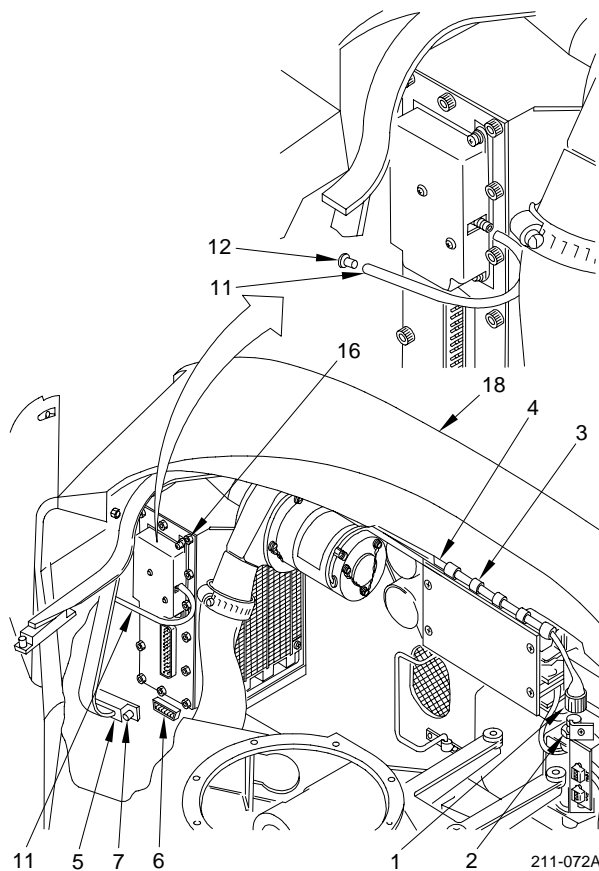
a. Work ECS molded hose (8) back onto blower (9).

b. Slide hose clamp (10) to 1/4 inch from end of ECS molded hose (8) and tighten.

3-13. ENVIRONMENTAL CONTROL SYSTEM (ECS) ASSEMBLY REPLACEMENT (cont)

17. Slide tube (11) on aircraft interface assembly ribbed fitting (12).
18. Install connector W2P4 (5) on ECS assembly connector J2 (6) and tighten two screwlocks (7).
19. Install ECS blower connector P1 (1) on connector W2J12 (2) and tighten.
20. Install lacing and tying tape (3) to secure ECS blower wire cable (4) along inner recess of aircraft interface assembly (18).
21. Have installation inspected.
22. Perform followup.

END OF TASK



3-14. ENVIRONMENTAL CONTROL SYSTEM (ECS) MOLDED HOSE REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set

Materials (appendix D)

Strap, tiedown (Item 44)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-2	TADS turret assembly technical out of stow

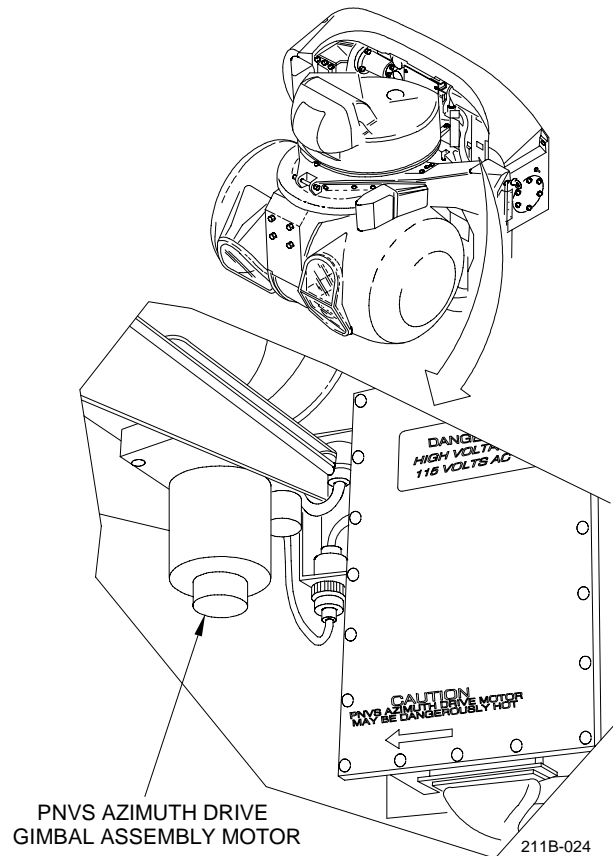
FOLLOWUP

Move TADS turret assembly into stow
 (para 3-3)

REMOVAL

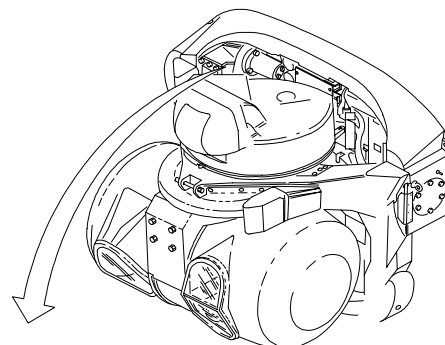
WARNING

If PNVS has recently been operated, use extreme care when reaching up and behind TADS turret assembly. The PNVS azimuth drive gimbal assembly motor gets very hot during operation and can cause serious burns.



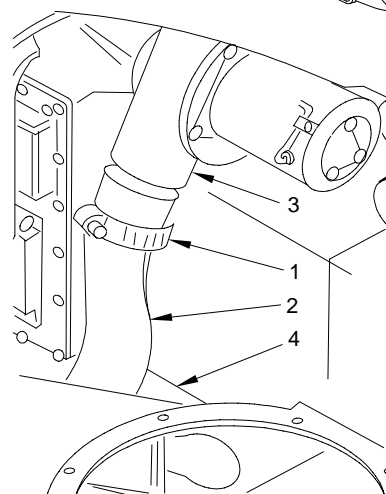
3-14. ENVIRONMENTAL CONTROL SYSTEM (ECS) MOLDED HOSE REPLACEMENT (cont)

1. Loosen two hose clamps (1) and slide back on ECS molded hose (2).
2. Pull small end of ECS molded hose (2) off blower (3).
3. Cut tiedown strap securing cable harness (6) to large end of ECS molded hose (2).
4. Pull large end of ECS molded hose (2) off aircraft interface assembly (4).



INSTALLATION

5. Remove two hose clamps (1) from old ECS molded hose (2) and place on new ECS molded hose (2).
6. Place small end of ECS molded hose (2) on blower (3).
7. Place large end of ECS molded hose (2) on aircraft interface assembly (4).

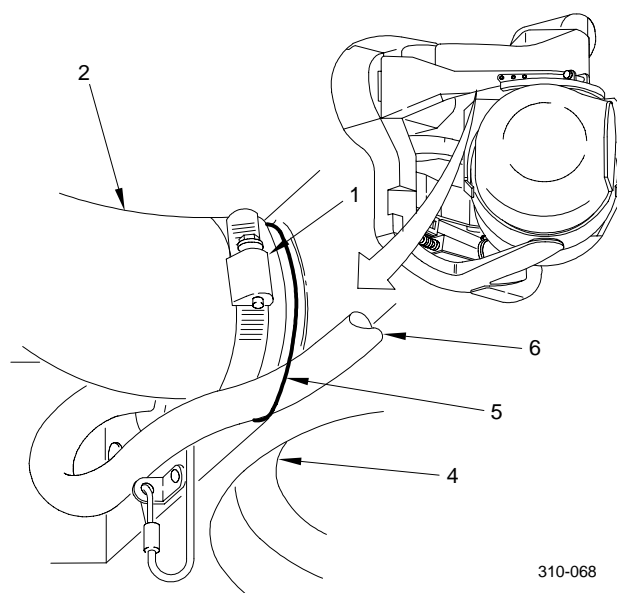


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CAUTION

Damage to cable harness may occur if hose clamp is positioned wrong. Ensure tail of hose clamp is positioned away from cable harness.

8. Position two hose clamps (1) 1/4 inch from ends of ECS molded hose. Position tail of hose clamps away from cable harness and tighten hose clamps.
9. Tie off cable harness (6) to large end of ECS molded hose (2) using tiedown strap (5).
10. Have installation inspected.
11. Perform followup.



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END OF TASK

3-15. ENVIRONMENTAL CONTROL SYSTEM (ECS) AIR FILTER ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Acid type goggles
 Rubber apron
 Rubber gloves

Materials (appendix D)

Acetone (Item 1)
 Cloth, cotton, lint-free (Item 13)

Corrosion inhibitive sealing and coating compound (Item 18)
 Trichloroethane (Item 50)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-1	Premaintenance procedures performed

CAUTION

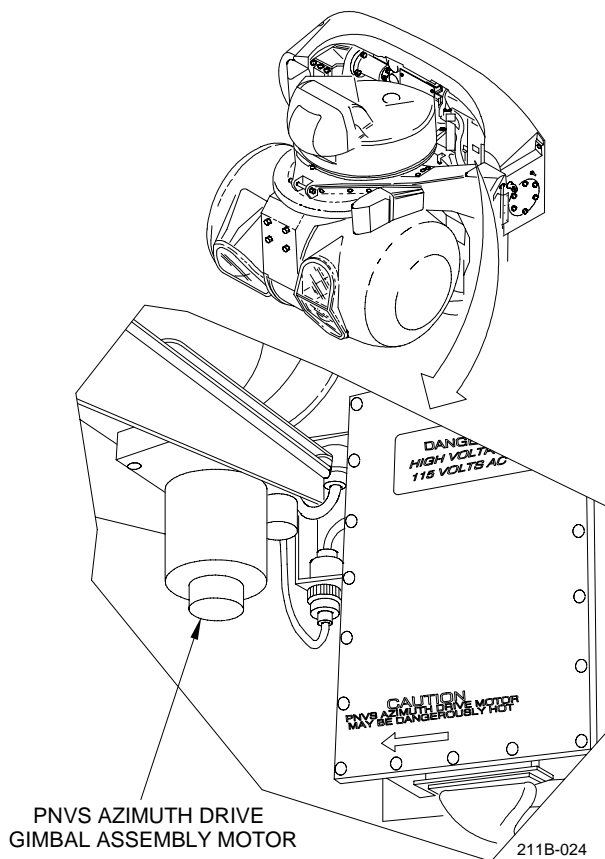
Damage to equipment could result if proper air filter assembly is not used. When using turret assembly 13076180, air filter assembly 13075671 must be used. When using turret assembly 13076290 air filter assembly 13075671-019 must be used.

REMOVAL

1. Move TADS turret assembly out of stow (para 3-2) to desired position to accomplish task.

WARNING

If PNVS has recently been operated, use extreme care when reaching up and behind TADS turret assembly. The PNVS azimuth drive gimbal assembly motor gets very hot during operation and can cause serious burns.



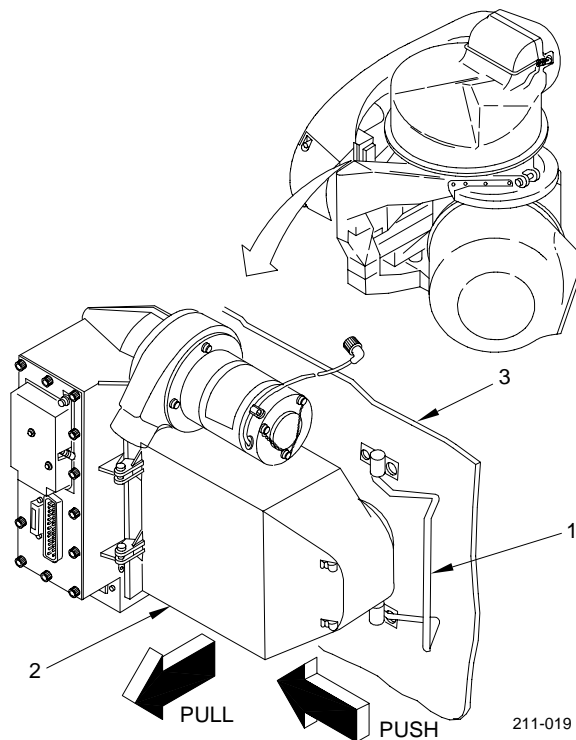
3-15. ENVIRONMENTAL CONTROL SYSTEM (ECS) AIR FILTER ASSEMBLY REPLACEMENT (cont)

2. Release retaining latch bail (1) by pulling forward and away from air filter housing assembly (2).

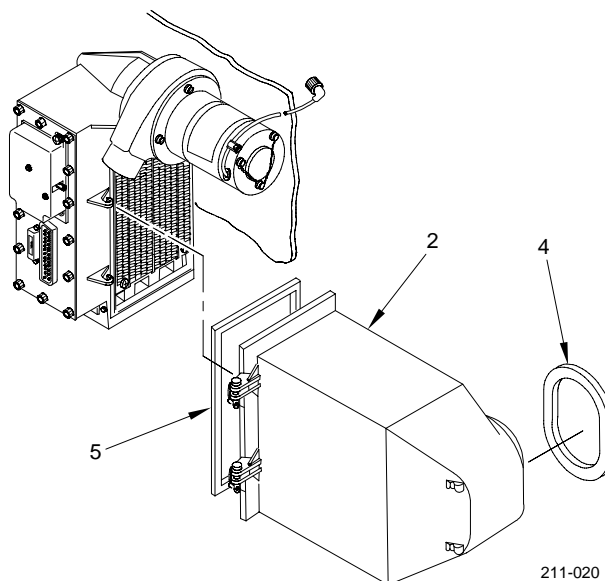
CAUTION

Excessive force applied when installing or removing air filter housing can damage equipment.

3. Push and swing air filter housing assembly (2) away from aircraft interface structure (3).



4. Remove air filter housing assembly (2) and gaskets (4 and 5).

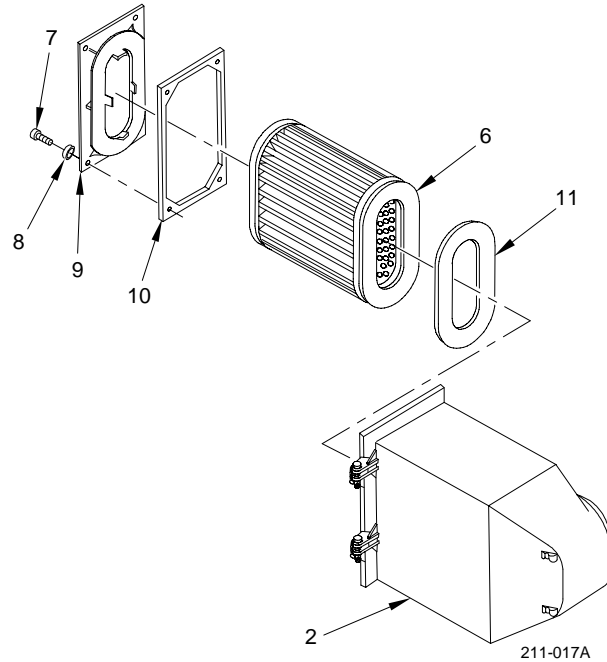


3-15. ENVIRONMENTAL CONTROL SYSTEM (ECS) AIR FILTER ASSEMBLY REPLACEMENT (cont)

5. Remove air filter (6).
 - a. Remove four screws (7) and washers (8).
 - b. Remove sealing bracket (9), gasket (10), air filter (6), and gasket (11) from air filter housing assembly (2). Discard air filter (6).

INSTALLATION

6. Remove old corrosion inhibitive sealing and coating compound from sealing bracket (9) and mounting hardware (7 and 8) (para 3-8).



WARNING

TRICHLOROETHANE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
 - At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
 - Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
 - Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
 - If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
 - If you experience any breathing problems, get to fresh air at once.
7. Wipe inner surface of air filter housing assembly (2) with a lint-free cloth moistened with trichloroethane.

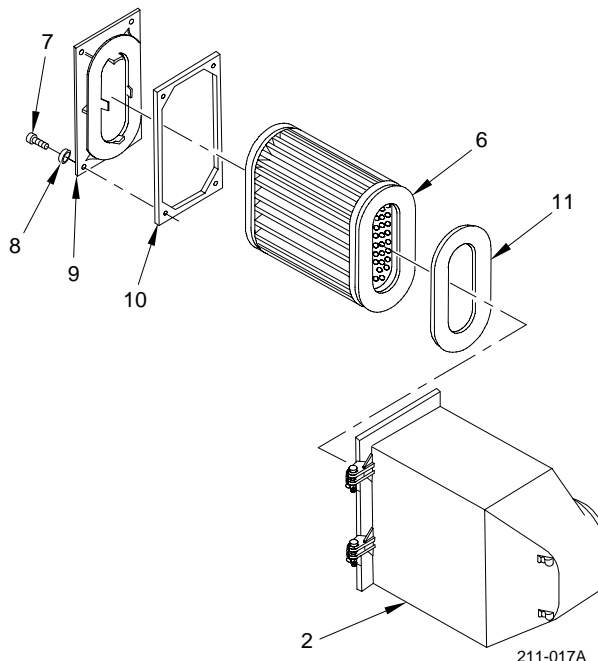
3-15. ENVIRONMENTAL CONTROL SYSTEM (ECS) AIR FILTER ASSEMBLY REPLACEMENT (cont)

WARNING

ACETONE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

8. Wipe inner surface of air filter housing assembly (2) with a lint-free cloth moistened with acetone.
9. Install gasket (11), air filter (6), and gasket (10) in air filter housing assembly (2).
10. Apply corrosion inhibitive sealing and coating compound to sealing bracket mounting hardware (7 and 8). Use class 1A application (para 3-8).
11. Install sealing bracket (9).
 - a. Position sealing bracket (9) in mounting position.
 - b. Install four washers (8) and screws (7).



3-15. ENVIRONMENTAL CONTROL SYSTEM (ECS) AIR FILTER ASSEMBLY REPLACEMENT (cont)

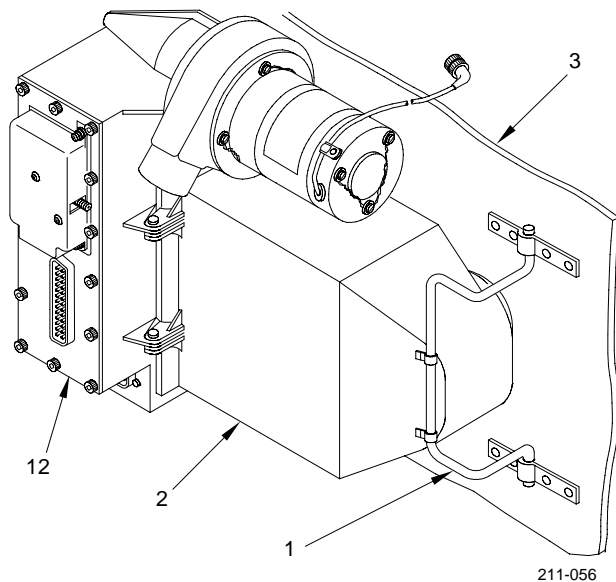
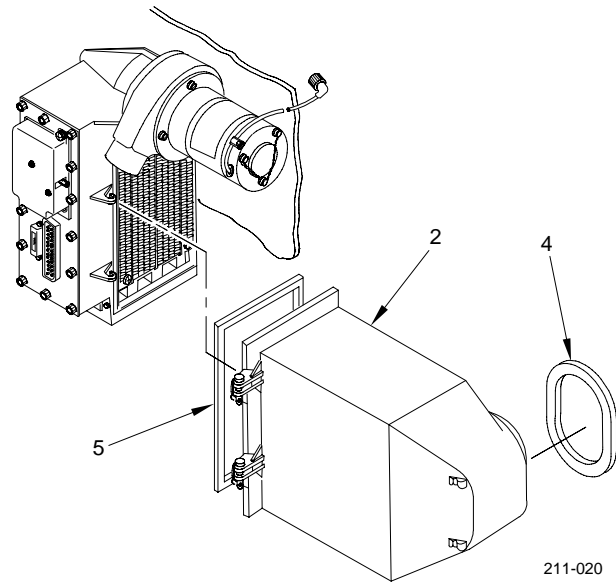
CAUTION

Damage to equipment could result if proper air filter assembly is not used. When using turret assembly 13076180, air filter assembly 13075671 must be used. When using turret assembly 13076290, air filter assembly 13075671-019 must be used.

12. Install air filter assembly (2).
 - a. Position gasket (5), air filter housing assembly (2), and gasket (4) in mounting position.
 - b. Position air filter housing assembly (2) in aircraft interface structure (3).
 - c. To seat air filter housing assembly gasket, push air filter assembly (2) toward ECS assembly (12).
 - d. Secure air filter housing assembly (2) with latch bail (1).

13. Have installation inspected.

END OF TASK



3-16. ELECTRONIC CONTROL AMPLIFIER (ECA) ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Balldriver hexset
 Torque wrench, 10-50 in-lb

Materials (appendix D)

Sealing, locking, and retaining compound
 (Item 19)
 Primer, sealing, locking and retaining
 compound (Item 43)

Personnel Required

68X Aircraft Armament/Electrical Repairer

References

TM 1-1270-476-T

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-2	TADS turret assembly out of stow

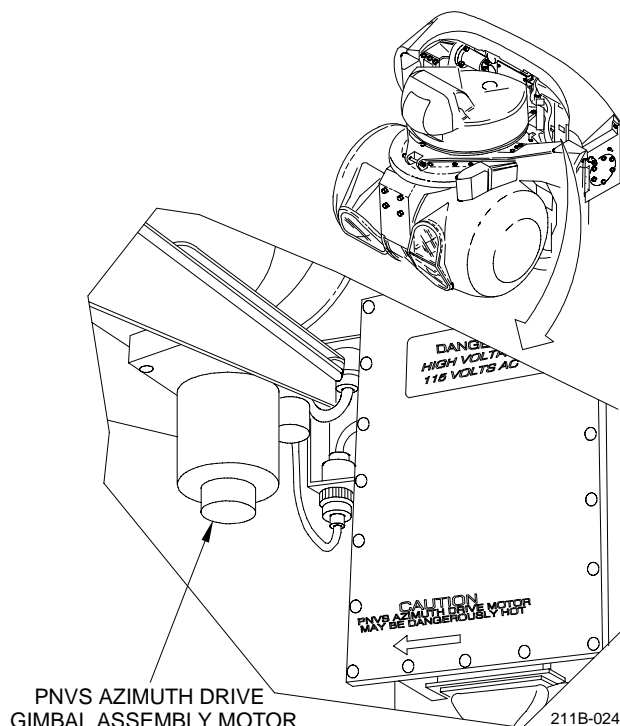
FOLLOWUP

Move TADS turret assembly into stow (para
 3-3)
 Perform MOC (TM 1-1270-476-T)

REMOVAL

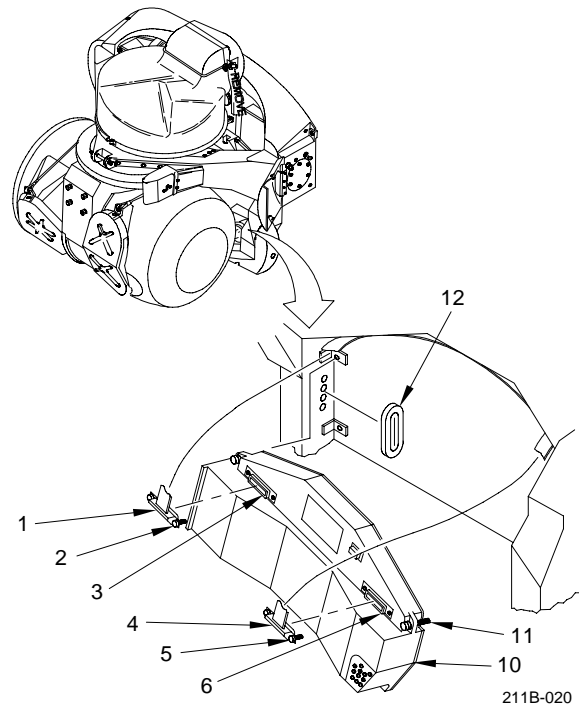
WARNING

If PNVS has recently been operated, use extreme care when reaching up and behind TADS turret assembly. The PNVS azimuth drive gimbal assembly motor gets very hot during operation and can cause serious burns.



3-16. ELECTRONIC CONTROL AMPLIFIER (ECA) ASSEMBLY REPLACEMENT (cont)

1. Loosen screwlocks (2) and disconnect W2P1 (1) from J1 (3).
2. Loosen screwlocks (5) and disconnect W2P2 (4) from J2 (6).
3. Remove ECA assembly (10).
 - a. Using balldriver hexset, loosen four captive screws (11) securing ECA assembly (10).
 - b. Remove ECA (10) by pulling the right side out first at an angle to avoid damage to sealing gasket (12).
4. Inspect connectors W2P1 (1) and W2P2 (4). If gaskets are damaged or missing, replace gasket (para 3-17).
5. Inspect sealing gasket (12) for damage. If damaged or missing, replace sealing gasket (para 3-18).



INSTALLATION

6. Remove sealing, locking, and retaining compound and primer from screwlocks and internal threads (para 3-8).
7. Install ECA assembly (10).
 - a. Install ECA assembly (10) by placing ECA at an angle (left side first. Compress sealing gasket (12), ensuring no damage to gasket, then place ECA into mounting position.
 - b. Using balldriver hexset, tighten four captive screws (11).
8. Apply sealing, locking, and retaining compound primer to screwlocks (2) and (5) and internal threads of screwlocks on J2 (6) and J1 (3). Use type 1 application (para 3-8).
9. Apply sealing, locking and retaining compound to screwlocks (2) and (5) and internal threads of J2 (6) and J1 (3). Use type I application (para 3-8).
10. Connect connector W2P2 (4) to J2 (6) and tighten screwlocks (5) finger tight.
11. Connect W2P1 (1) to J1 (3) and tighten screwlocks (2) finger tight.
12. Have installation inspected.
13. Alternately tighten screwlocks (2) and (5) until connector is secured.
14. Perform followup.

CAUTION

Use care when tightening screwlocks of W2P1 and W2P2. Excessive tightening will distort connector flanges and gaskets, permitting water intrusion.

END OF TASK

3-17. CONNECTOR 1A1W2P1 OR P2 GASKET REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set

Materials (appendix D)

Silicone rubber adhesive (Item 5)

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

Equipment Conditions

Maintenance task in progress

FOLLOWUP

Maintenance task in progress

REMOVAL

1. Remove damaged gasket (1) and old silicone adhesive (para 3-8).

INSTALLATION

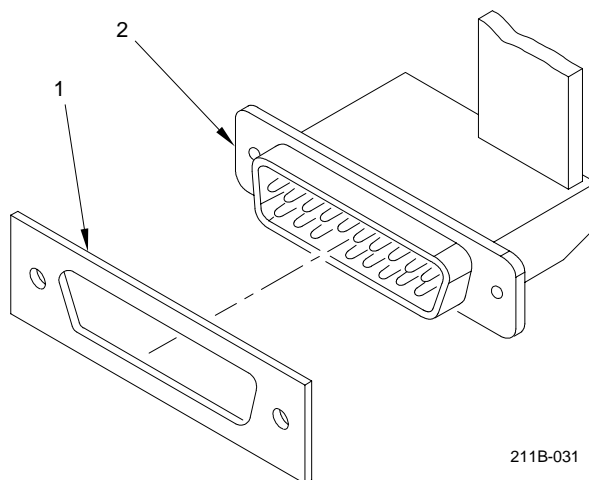
2. Apply thin film of silicone adhesive to new gasket (1) and connector (2) (para 3-8).
3. Install gasket (1) to connector (2) (para 3-8).

NOTE

ECA may be installed and connector (2) reconnected at this time.

4. Have installation inspected.
5. Perform followup.

END OF TASK



211B-031

3-18. SEALING GASKET REPLACEMENT

INITIAL SETUP

Tools:

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set

Materials (appendix D)

Silicone rubber adhesive (Item 5)

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

Equipment Conditions

Maintenance task in progress

FOLLOWUP

Maintenance task in progress

REMOVAL

1. Remove damaged sealing gasket (1) by cutting and scraping with knife.

INSTALLATION

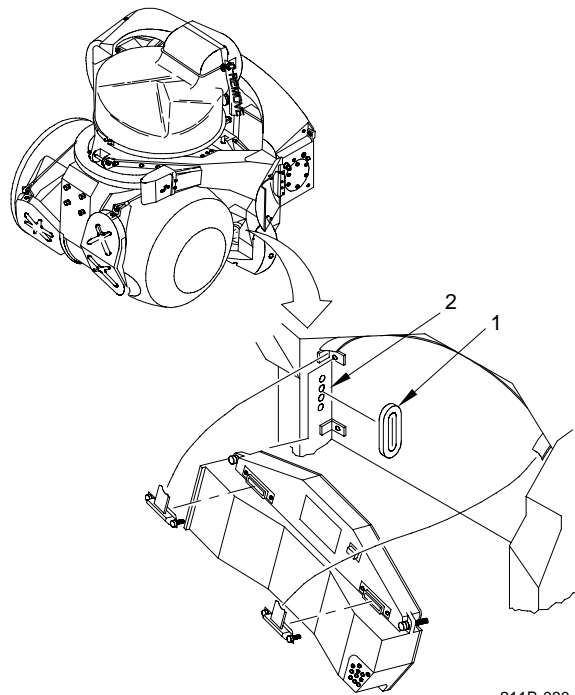
2. Prepare AIA surface (2) for new sealing gasket (1) (para 3-8).

NOTE

Do not prime sealing gasket.

3. Bond new sealing gasket (1) to AIA (2) using air drying silicone adhesive (para 3-8).
4. Cure for 72 hours at 67 to 87°F (19.4 to 30.5°C).
5. Have installation inspected.

END OF TASK



211B-030

3-19. BORESIGHT ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set
Torque wrench, 0-75 in-lb

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

References

TM 1-1270-476-T

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-1	Premaintenance procedures performed

FOLLOWUP

Perform internal boresight procedure (para 3-58)
Perform anti-ice MOC (TM 1-1270-476-T)

REMOVAL

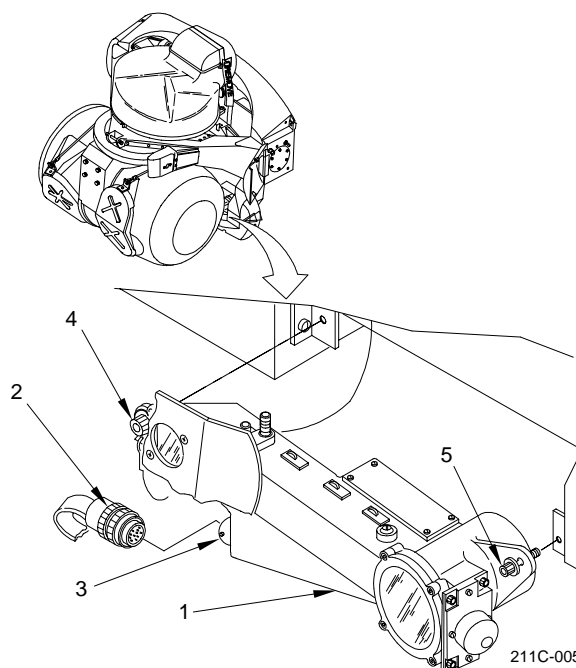
CAUTION

Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.

1. Move TADS turret assembly out of stow (para 3-2). Turn turret assembly to allow access to boresight assembly (1).
2. Remove boresight assembly (1).
 - a. Disconnect connector W2P5 (2) from J1 (3).
 - b. Remove shouldered bolt (4).
 - c. Hold boresight assembly (1) and loosen captive screw (5).
 - d. Remove foresight assembly (1) from mounting position.

INSTALLATION

3. Install boresight assembly (1).
 - a. Connect connector W2P5 to J1 (3).
 - b. Hold boresight assembly (1) in mounting position.



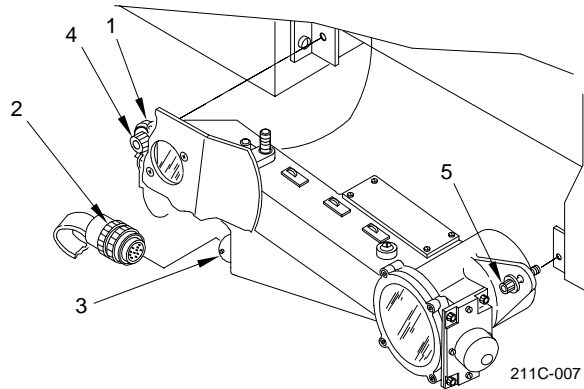
3-19. BORESIGHT ASSEMBLY REPLACEMENT (cont)

- c. Start but do not tighten captive screw (5).

CAUTION

Ensure shoulder bolt retaining strap does not wrap around bolt when tightening, causing improper torque of bolt and boresight misalignment.

- d. Install shouldered bolt (4), and torque to 30 in-lb.
- e. Torque captive screw (5) to 45 in-lb.



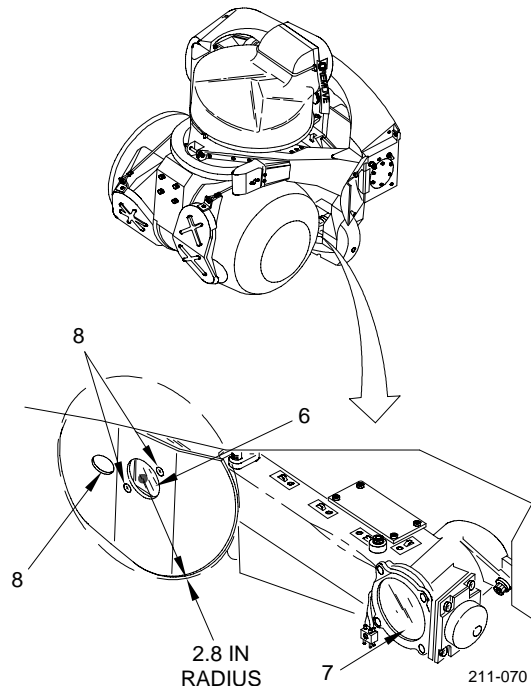
4. Perform the following:

- a. Inspect optical windows (6 and 7) and clean as required (para 3-6).
- b. Inspect painted surfaces for cracked, broken or peeling paint, or shiny hardware (8) within a 2.8 inch radius from center around boresight assembly window (6). Touch up paint as required (para 2-9).
- c. Inspect boresight assembly installation.

5. Move TADS turret assembly into stow (para 3-3).

6. Perform followup.

END OF TASK



3-20. BORESIGHT ASSEMBLY DESICCANT REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)
Desiccant (Item 24)

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-2	TADS turret assembly out of stow

FOLLOWUP

TADS turret assembly into stow (para 3-3)

REMOVAL

CAUTION

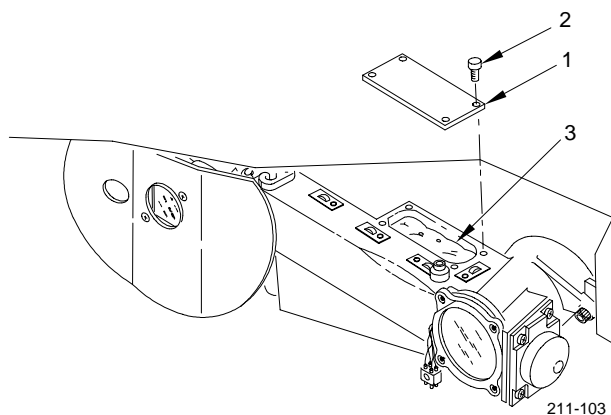
Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.

1. Remove desiccant holder cover (1) by removing four screws (2).
2. Remove desiccant bag (3) from desiccant holder and discard.

INSTALLATION

3. Remove old corrosion inhibitive sealing and coating compound (para 3-8) from mounting hardware and boresight assembly.
4. Apply corrosion inhibitive sealing and coating compound to four screws (2). Use class 1A application (para 3-8).

5. Install replacement desiccant bag into desiccant holder.



6. Install desiccant holder cover using four screws (2).
7. Have installation inspected.
8. Perform followup.

END OF TASK

3-21. RIM CLENCHING CLAMP REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 50 lb force gage
 Torque wrench, 10-50 in-lb

Materials (appendix D)

Pressure sensitive tape (Item 48)
 Safety wire (Item 53)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 One person to assist
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

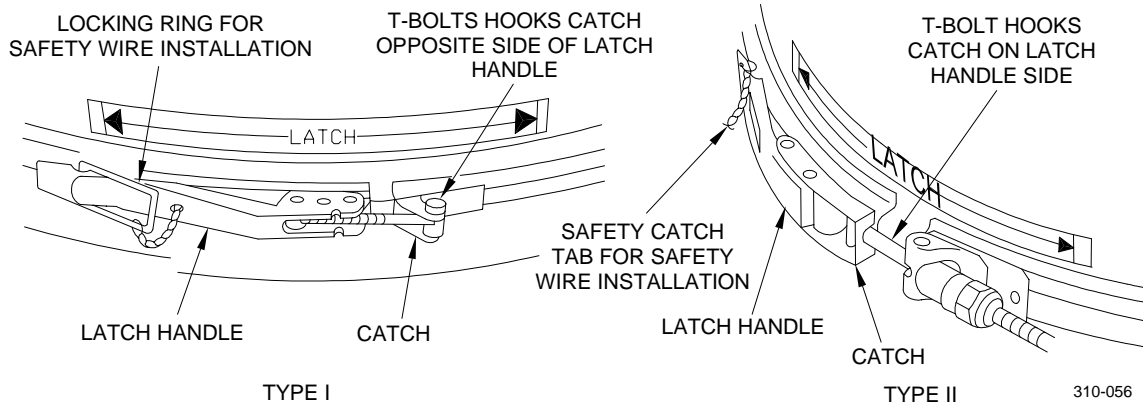
<u>Ref</u>	<u>Condition</u>
Para 3-2	TADS turret assembly out of stow

FOLLOWUP

Move TADS turret assembly into stow (para 3-3)

TASK DESCRIPTION

This task covers removal, installation, and adjustment of rim clenching clamps, types I and II. The rim clenching clamps for the day sensor shroud assembly and night sensor shroud assembly are replaced in this procedure. After adjustment, the rim clenching clamp becomes matched to the day sensor shroud assembly and night sensor shroud assembly. If rim clenching clamp or either shroud assembly is replaced, the adjustment must be performed.



1. RIM CLENCHING CLAMP -TYPE I REPLACEMENT

CAUTION

Shroud must be supported to prevent it from falling. If shroud falls, damage will result.

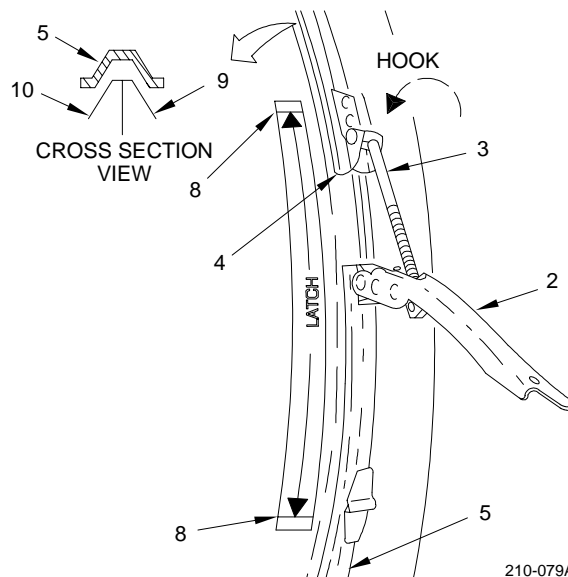
3-21. RIM CLENCHING CLAMP REPLACEMENT (cont)

NOTE

When removing rim clenching clamp on a system with wire strike protection incorporated, ensure TADS turret is in the fixed forward position.

REMOVAL

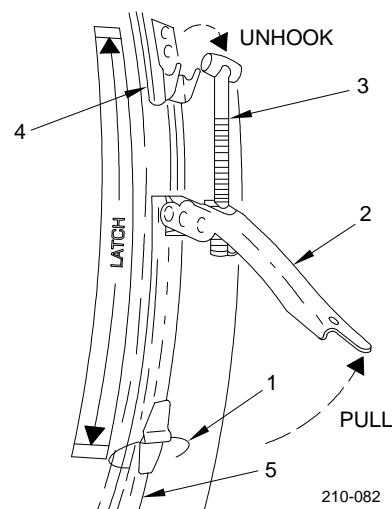
- a. Have assistant support shroud.
- b. Remove safety wire (1) securing latch handle (2).
- c. Remove rim clenching clamp (5).
 - (1) Pull latch handle (2) until T-bolt (3) unhooks from catch (4).
 - (2) Pull shroud assembly slightly away from turret assembly.
 - (3) Spread clenching clamp (5) wide enough to clear shroud and remove.



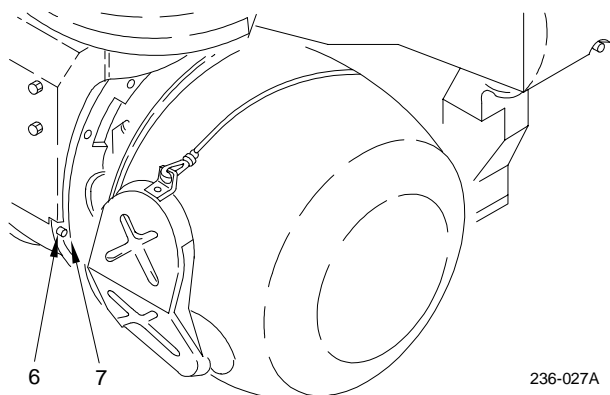
210-079A

INSTALLATION AND ADJUSTMENT

- d. Install rim clenching clamp (5).
 - (1) Pull the shroud assembly slightly away from turret assembly.
 - (2) Spread clenching clamp (5) wide enough to clear shroud and move into mounting position.
 - (3) Aline guide pins (6) on support flange (7) with pin holes on shroud assembly and mate.
 - (4) Position latch handle (2) between LATCH location lines (8) on shroud.



210-082



236-027A

3-21. RIM CLENCHING CLAMP REPLACEMENT (cont)

- (5) Mount clamp over mated rims (9 and 10).
- (6) Hook T-bolt (3) into catch (4).

NOTE

Tape applied in step (7) below reduces the chance of force gage slipping when performing step 10 below.

- (7) Attach flat pressure pad (11) to force gage (12). Apply a small piece of pressure sensitive tape to the flat surface of pressure pad.
- (8) Measure and mark a spot (13) 3.5 inches from pivot point of the latch handle (2).

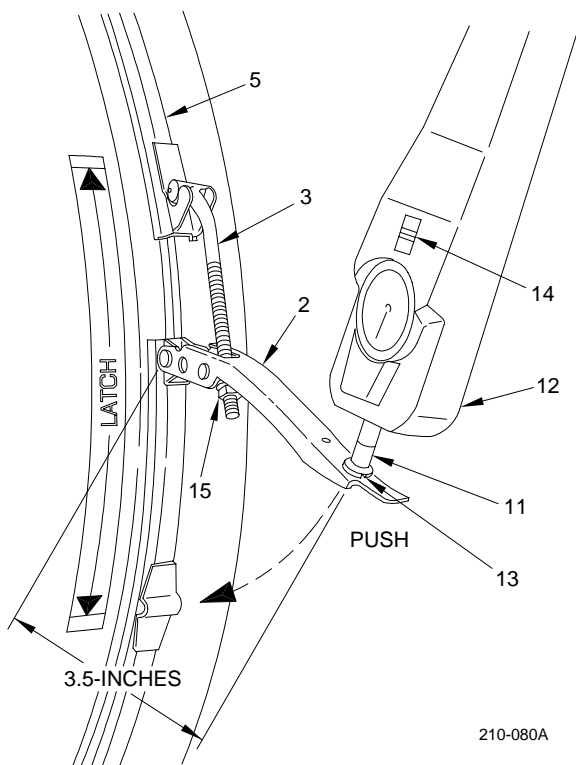
- (9) Slide switch (14) toward dial indicator on force gage. This allows dial indicator to hold reading.

NOTE

To reduce the change of slipping, hold pressure pad flat against handle while pushing.

- (10) Place force gage on latch handle 3.5 inches from pivot point and apply pressure. Observe dial indicator on force gage. If latch handle does not close before dial indicator reads 14.25 lb, stop pushing and go to step (11) below. If dial indicator reads less than 11.50 lb, go to step (13) below. If dial indicator reads between 11.50 and 14.25 lb and was not loosened, go to step f below. If jamnut (15) was loosened, torque to 25 in-lb and secure clamp (5), go to step e below.

- (11) Loosen jamnut (15) and extend T-bolt (3) slightly by unscrewing.
- (12) Repeat step (10) above.
- (13) Loosen jamnut (15) and shorten T-bolt (3) by screwing in.
- (14) Repeat step (10) above.
- (15) Push latch handle (2) down until tension is put on clamp.



3-21. RIM CLENCHING CLAMP REPLACEMENT (cont)

- e. Have clamp adjustment inspected. Ensure visual inspection is performed 360 degrees around rim clenching clamp. If installation fails inspection, repeat step d.

CAUTION

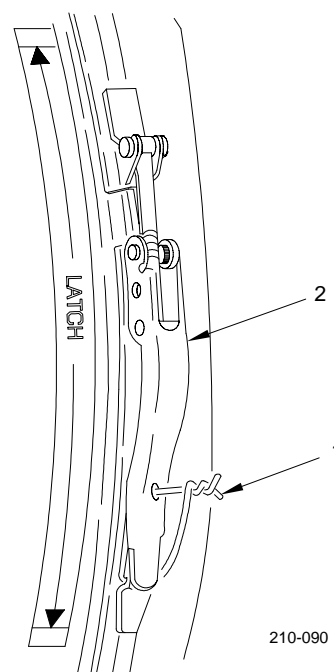
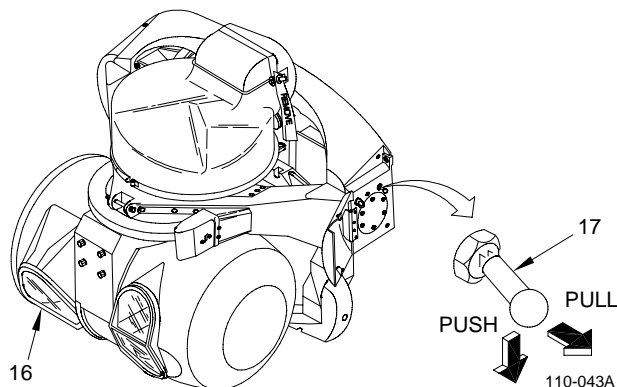
- Check TADS turret assembly for any binding. If any binding occurs, remove shroud assembly and reinstall correctly. Failure to correct binding could damage turret assembly during operations.
- Operating TADS/PNVS brake release switch releases the azimuth and elevation brakes. Rotate turret assembly very gently. Rapid rotation may cause damage to turret assembly.

- f. Check TADS turret assembly (16) for proper movement.

- (1) Pull TADS/PNVS brake release switch (17), push down and hold.

- (2) Move TADS turret assembly (6) by hand throughout its limits of travel first in azimuth and then in elevation. While moving assembly throughout its limits, look through window assembly and check equipment for binding. If any binding occurs, refer to paragraph 3-22 or 3-24. If there is no binding, go to step (3) below.

- (3) Release TADS/PNVS brake release switch (17). Check that turret assembly (16) locks.



- g. Install safety wire (1) to secure latch handle (2).

- h. Have rim clenching clamp installation inspected. Ensure visual inspection is performed 360 degrees around clenching clamp; if installation fails, repeat step d.

- i. Perform followup.

END OF TASK

3-21. RIM CLENCHING CLAMP REPLACEMENT (cont)

2. RIM CLENCHING CLAMP - TYPE II REPLACEMENT

REMOVAL

CAUTION

Shroud must be supported to prevent it from falling. If shroud falls, damage will result.

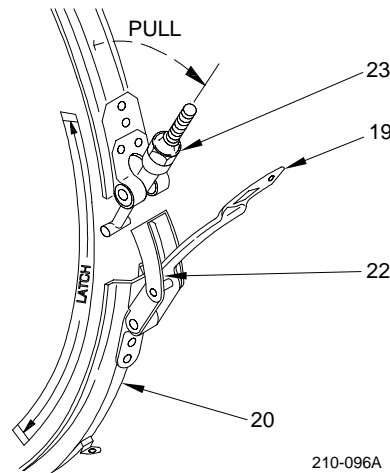
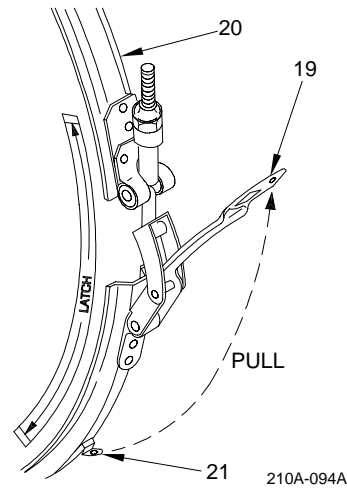
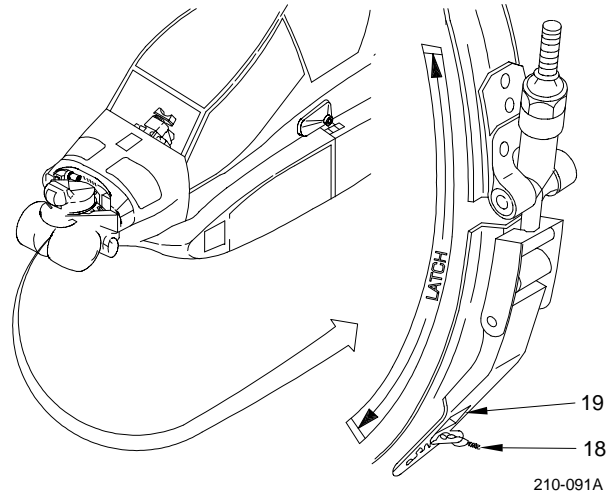
NOTE

When removing rim clenching clamp on a system with wire strike protection incorporated, ensure TADS turret is in the fixed forward position.

- a. Have assistant support shroud.
- b. Remove safety wire (18) securing latch handle (19).
- c. Remove clenching clamp (20).
 - (1) Push safety catch (21) and release latch handle (19).
 - (2) Unhook catch (22) from T-bolt (23) by pulling up on latch handle (19) while pulling down on T-bolt (23).
 - (3) Pull the shroud assembly slightly away from the turret assembly.
 - (4) Spread rim clenching clamp (20) wide enough to clear shroud and remove.

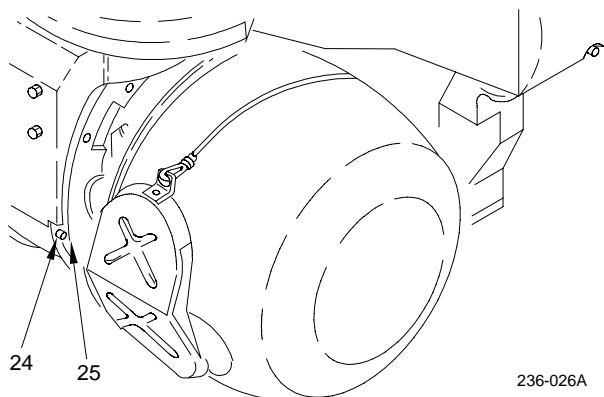
INSTALLATION AND ADJUSTMENT

- d. Install rim clenching clamp (20).
 - (1) Pull shroud assembly slightly away from turret assembly.



3-21. RIM CLENCHING CLAMP REPLACEMENT (cont)

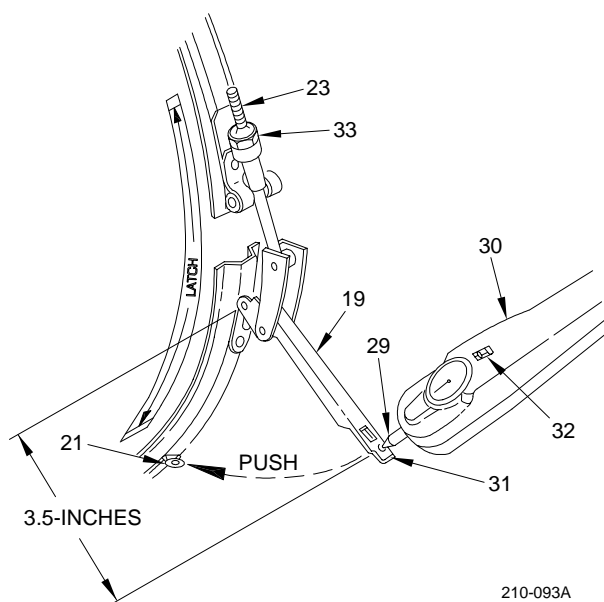
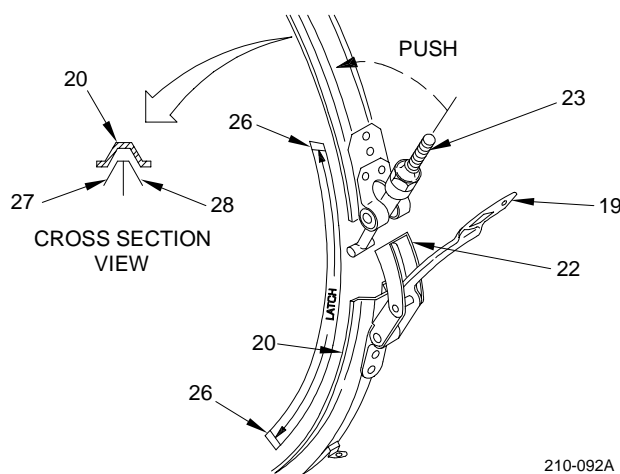
- (2) Spread rim clenching clamp (20) wide enough to clear shroud and move into mounting position.
- (3) Aline guide pins (24) on support flange (25) with pin holes on shroud assembly and mate.
- (4) Position latch handle (19) between latch location lines (26) on shroud.
- (5) Mount clamp over mated rims (27 and 28).
- (6) Hook catch (22) onto T-bolt (23).



NOTE

Tape applied in step (7) below reduces chance of force gage slipping when performing step (10) below.

- (7) Attach flat pressure pad (29) to force gage (30). Apply small piece of pressure sensitive tape to flat surface of pressure pad.
- (8) Measure and mark spot (31) from pivot point of latch handle (19).
- (9) Slide switch (32) toward dial indicator on the force gage. This allows dial indicator to hold reading.



3-21. RIM CLENCHING CLAMP REPLACEMENT (cont)

NOTE

- To reduce chance of slipping hold pressure pad flat against handle while pushing.
- When performing step (10), do not engage safety catch tab (21).

(10) Place force gage on latch handle 3.5 inches from pivot point and apply pressure. Observe dial indicator on force gage. If latch handle does not close before dial indicator reads 14.25 lb, stop pushing and go to step (11) below. If latch handle closes and dial indicator reads less than 11.50 lb, go to step (13) below. If latch handle closes and dial indicator reads between 11.50 and 14.25 lb, go to step e below.

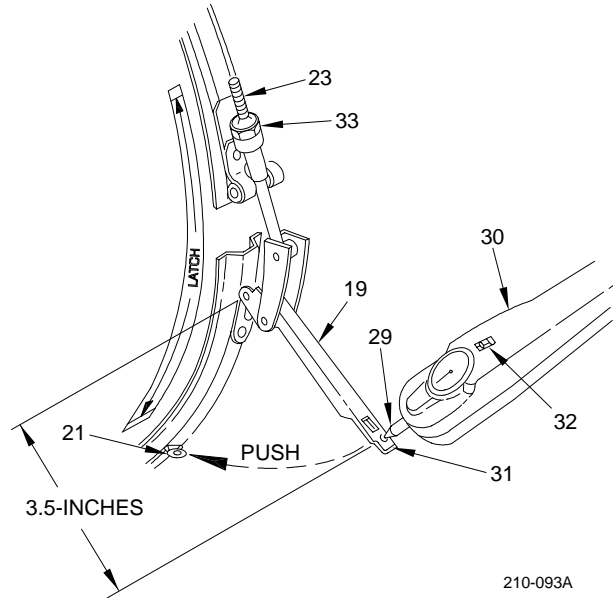
(11) Extend T-bolt (23) slightly by unscrewing locknut (33).

(12) Repeat step (10) above.

(13) Shorten T-bolt (23) slightly by screwing in locknut (33).

(14) Repeat step (10) above.

(15) Push latch handle (19) down until tension is put on clamp.



- e. Have clamp adjustment inspected. Ensure visual inspection is performed 360 degrees around rim clenching clamp; if clamp fails inspection, repeat step d.
- f. Press latch handle (19) firmly to engage and lock safety catch tab (21).

3-21. RIM CLENCHING CLAMP REPLACEMENT (cont)**CAUTION**

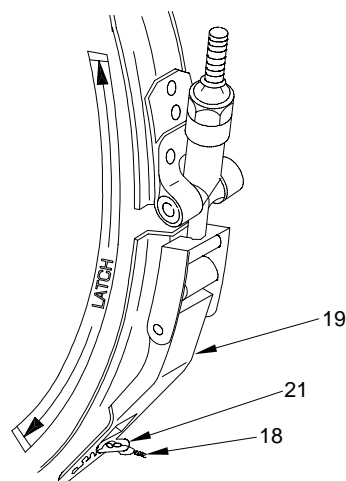
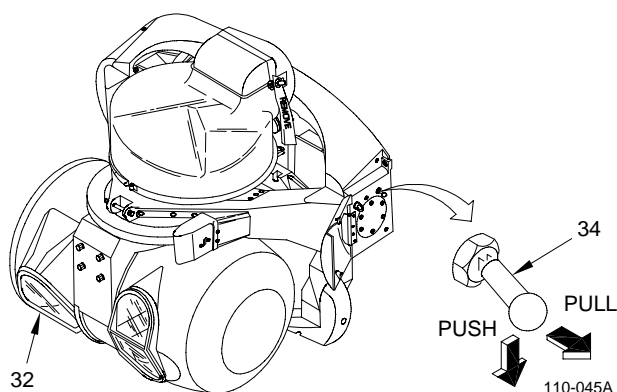
- Check TADS turret assembly for any binding. If any binding occurs, remove shroud assembly and reinstall correctly. Failure to correct binding could damage turret assembly during operation.
- Operating TADS/PNVS brake release switch releases azimuth and elevation brakes. Rotate turret assembly very gently. Rapid rotation may cause damage to turret assembly.

g. Check TADS turret assembly (32) for proper movement.

(1) Pull TADS/PNVS brake release switch (34), push down and hold.

(2) Move TADS turret assembly (32) by hand throughout its limits of travel first in azimuth and then in elevation. While moving the assembly throughout its limits look through the window assembly and check equipment for binding. If any binding occurs, refer to paragraph 3-22 or 3-24. If there is no binding, go to step (3) below.

(3) Release TADS/PNVS brake release switch (34). Check that TADS turret assembly (32) locks.



- h. Install safety wire (18) to secure safety catch (21) and latch handle (19).
- i. Have rim clenching clamp installation inspected.
- j. Perform followup.

END OF TASK

3-22. DAY SENSOR SHROUD ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set

Materials (appendix D)

Lint-free cloth (Item 13)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 One person to assist
 66J30 Aircraft Armament Technical Inspector

References

TM 1-1270-476-T

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-21	Shroud rim clenching clamp removed

FOLLOWUP

Install shroud rim clenching clamp (para 3-21)
 Perform MOC (TM 1-1270-476-T)

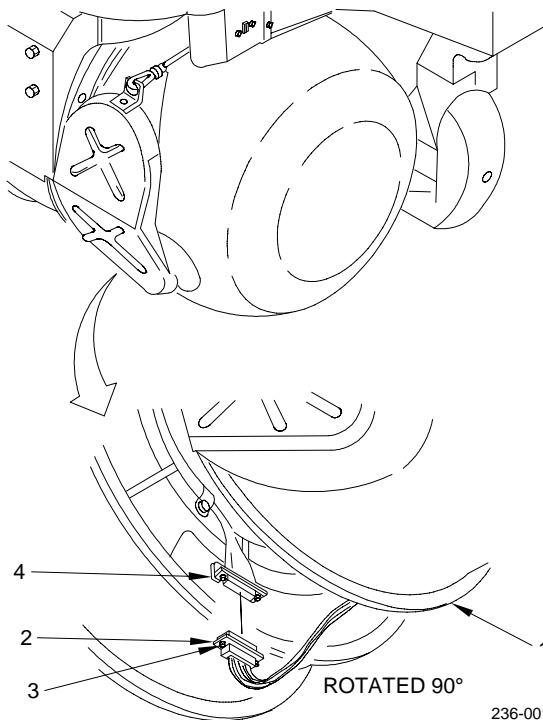
REMOVAL

CAUTION

- Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.
- Two people are needed to remove day sensor shroud assembly. One person must hold day sensor shroud assembly while other disconnects day sensor shroud assembly connector.
- Care must be used when removing day sensor shroud assembly due to tight tolerance of day sensor shroud assembly fit. Removal steps must be performed as indicated to prevent possible damage to heater elements, anti-ice CCA, and yaw gyro CCA.

1. Pull day sensor shroud assembly (1) slightly away from turret assembly just far enough to get to connector P1 (2).

2. Loosen two screwlocks (3) and disconnect connector P1 (2) from J8 (4).



236-001

3-22. DAY SENSOR SHROUD ASSEMBLY REPLACEMENT (cont)**CAUTION**

- Use caution when handling day sensor shroud assembly. Do not lift shroud assembly from area near the window. Contact with heater elements could cause damage to the equipment.
- TADS shroud assembly windows and housings are fragile and easily broken or damaged. Use extreme care when handling TADS shroud assemblies to prevent dropping or jarring assemblies.

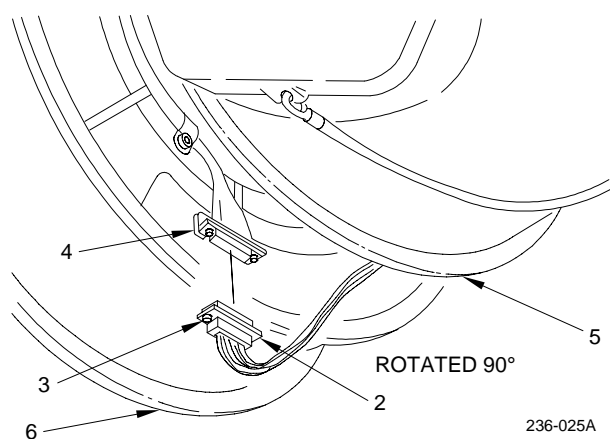
3. Remove day sensor shroud assembly (1).
 - a. To gain clearance for day sensor shroud assembly removal, move front of day sensor shroud assembly toward azimuth gimbal assembly. At same time move rear of day sensor shroud assembly away from azimuth gimbal assembly.
 - b. With day sensor shroud assembly (1) in this position, pull it straight out and away from azimuth gimbal assembly.

INSTALLATION

4. Clean mating surfaces of shroud rim (5) and support flanges (6) using lint-free cloth.

CAUTION

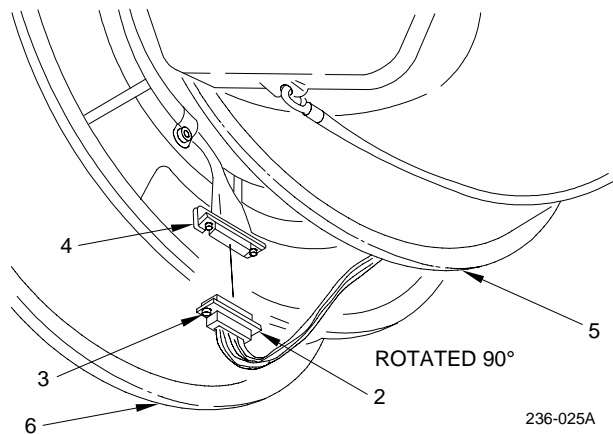
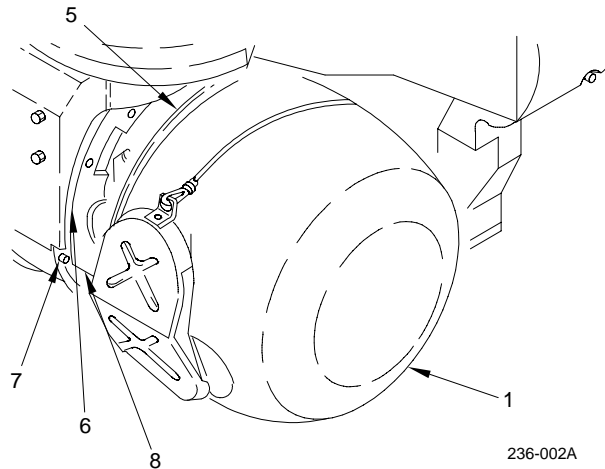
- Do not clean optics unless told to by your supervisor.
 - Too much cleaning can damage optical surfaces.
5. Have day sensor shroud assembly windows and DSA optics inspected and cleaned as required (para 3-6).



3-22. DAY SENSOR SHROUD ASSEMBLY REPLACEMENT (cont)

CAUTION

- Two people are needed to install day sensor shroud assembly. One person must hold day sensor shroud assembly while the other connects day sensor shroud assembly connector.
- DSA optics can be easily damaged. Do not bump optics. Do not touch optics with bare fingers.
- Care must be used when installing day sensor shroud assembly due to tight tolerance of day sensor shroud assembly fit. Installation steps must be performed as indicated to prevent possible damage to internal components.
- Use caution when handling day sensor shroud assembly. Do not lift shroud assembly from area near window. Contact with the heater elements could cause damage to equipment.
- TADS shroud assembly windows and housings are fragile and easily broken or damaged. Use extreme care when handling TADS shroud assemblies to prevent dropping or jarring assemblies.



6. Install day sensor shroud assembly (1).
 - a. To gain clearance for day sensor shroud assembly installation, position shroud away from DSA as follows. Move front of day sensor shroud assembly toward azimuth gimbal assembly. At same time move rear of day sensor shroud assembly away from azimuth gimbal assembly.
 - b. With day sensor shroud assembly in this position, place day sensor shroud assembly (1) around DSA with shroud rim (5) a few inches from support flange (6).
 - c. Connect P1 (2) to J8 (4) and tighten screwlocks (3).

CAUTION

Ensure shroud assembly cable harness is pressed against inner surface of shroud assembly. Contact with components on day sensor assembly could cause chaffing of cable harness wires.

- d. Aline guide pins (7) on support flange (6) with pin holes (8) on day sensor shroud and mate.

7. Perform followup.

END OF TASK

3-23. FLIR BORESIGHT LIGHT BAFFLE ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set
Torque wrench, 10-50 in-lb

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

References

TM 1-1520-238-23

Equipment Conditions

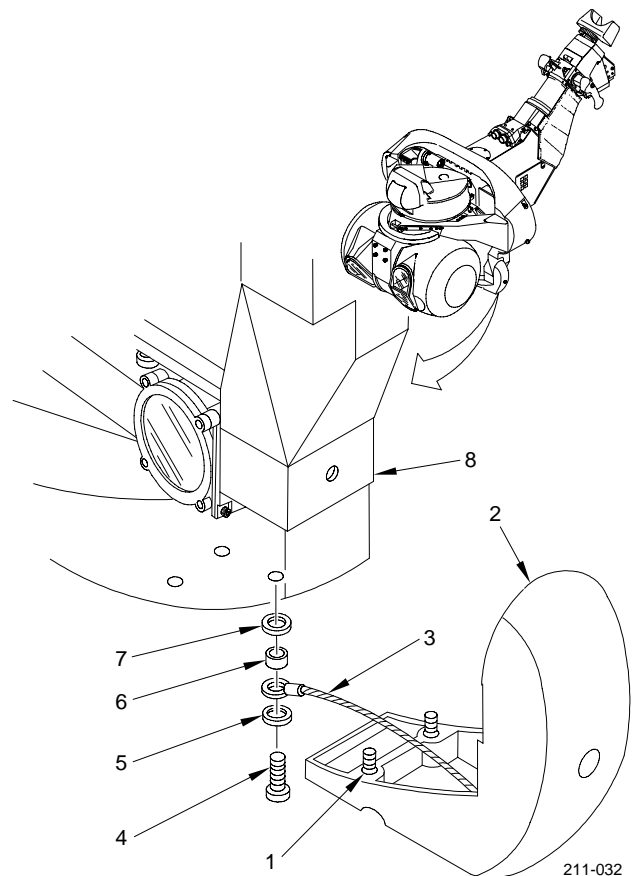
<u>Ref</u>	<u>Condition</u>
TM 1-1520-238-23	Helicopter safed

REMOVAL

1. Loosen three captive screws (1) and allow FLIR boresight light baffle assembly (2) to hang by lanyard (3).
2. Remove screw (4), washer (5), spacer (6), and washer (7) holding lanyard (3) to aircraft interface assembly (8).

INSTALLATION

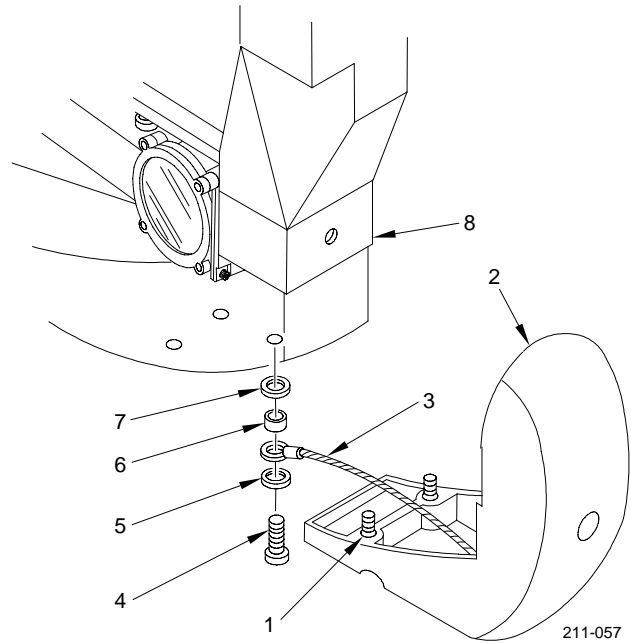
3. Remove old corrosion inhibitive sealing and coating compound from lanyard mounting hardware (para 3-8).



3-23. FLIR BORESIGHT LIGHT BAFFLE ASSEMBLY REPLACEMENT (cont)

4. Apply corrosion inhibitive sealing and coating compound to screw (4) Use class 1A application (para 3-8).
5. Assemble lanyard (3) with washer (7), spacer (6), lanyard (3), washer (5), and screw (4).
6. Install lanyard assembly in aircraft interface assembly (8).
7. Position FLIR boresight light baffle assembly (2) and torque three captive screws (1) to 20 in-lb.
8. Have installation inspected.

END OF TASK



3-24. NIGHT SENSOR SHROUD ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set

Materials (appendix D)

Lint-free cloth (Item 13)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 One person to assist
 66J30 Aircraft Armament Technical Inspector

References

TM 1-1270-476-T

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-21	Rim clenching clamp removed

FOLLOWUP

Install rim clenching clamp (para 3-21)
 Perform MOC (TM 1-1270-476-T)

NOTE

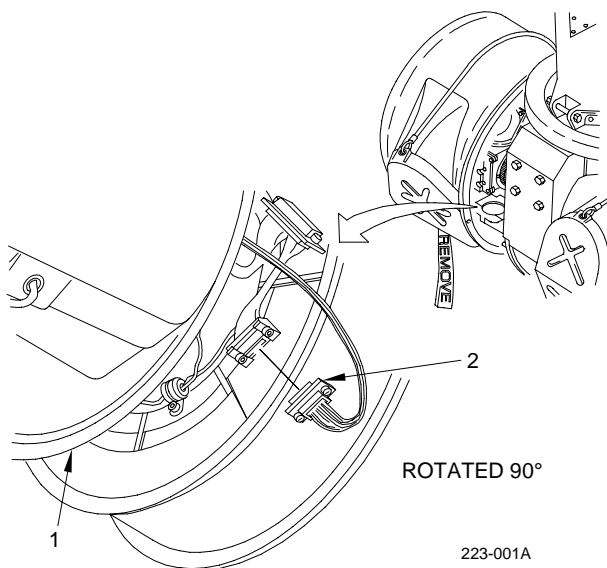
If night sensor shroud assembly window is broken, the pieces must be salvaged. Observe precautions on broken optical glass (refer to AR 385-11). Put broken pieces of window in a suitable container and ship them with faulty night sensor shroud assembly or TADS turret assembly.

REMOVAL

CAUTION

- Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.
- Two people are needed to remove night sensor shroud assembly. One person must hold night sensor shroud assembly while the other disconnects night sensor shroud assembly connector.
- Care must be used when removing the night sensor shroud assembly due to tight tolerance of night sensor assembly fit. Removal steps must be performed as indicated to prevent possible damage to heater elements.

1. Pull night sensor shroud assembly (1) slightly away from TADS turret assembly just far enough to get to connector P1 (2).

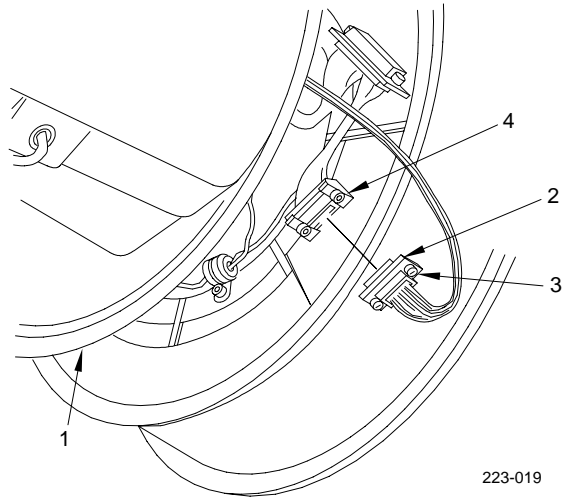


3-24. NIGHT SENSOR SHROUD ASSEMBLY REPLACEMENT (cont)

- Loosen two screwlocks (3) and disconnect connector P1 (2) from J5 (4).

CAUTION

- Use caution when handling night sensor shroud assembly. Do not lift shroud assembly from area near the window. Contact with heater elements could cause damage to equipment.
- TADS shroud assembly windows and housings are fragile and easily broken or damaged. Use extreme care when handling TADS shroud assemblies to prevent dropping or jarring assemblies.



223-019

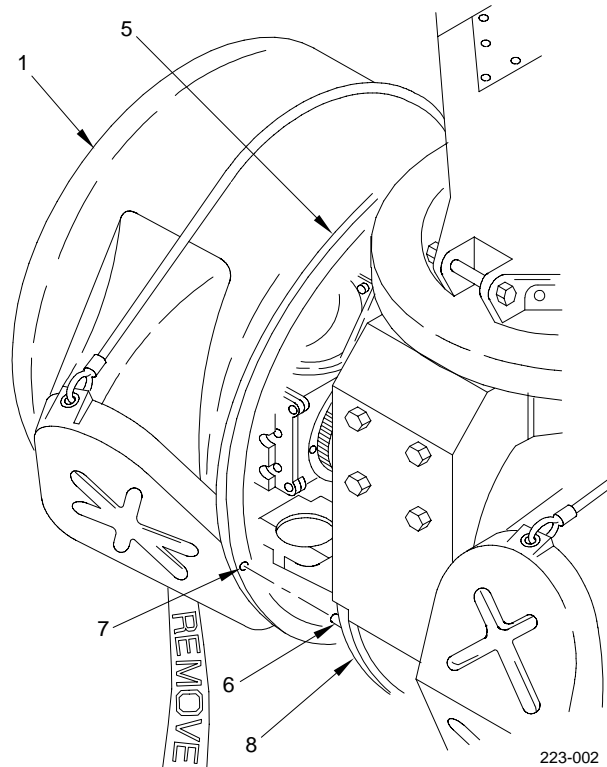
- Remove night sensor shroud assembly (1).

INSTALLATION

- Clean mating surfaces of shroud rim (5) and support flange (8) using lint-free cloth.

CAUTION

- Do not clean optics unless told to by your supervisor.
 - Too much cleaning can damage optical surfaces.
- Have night sensor shroud assembly windows and NSA optics inspected and cleaned as required (para 3-6).

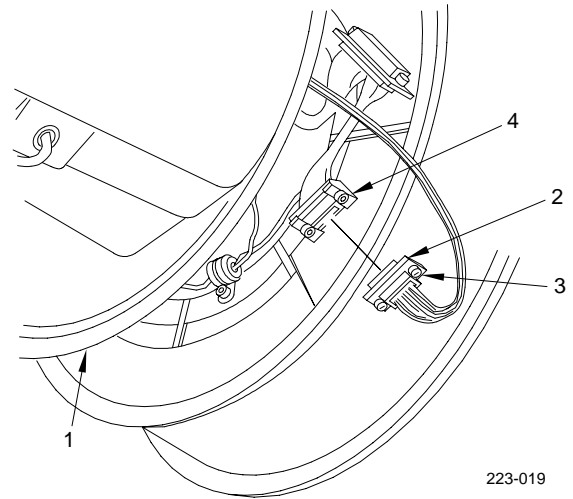


223-002

3-24. NIGHT SENSOR SHROUD ASSEMBLY REPLACEMENT (cont)

CAUTION

- Two people are needed to install night sensor shroud assembly. One person must hold night sensor shroud assembly while the other connects night sensor shroud assembly connector.
- NSA optics can be easily damaged. Do not bump optics. Do not touch optics with bare fingers.
- Use caution when handling night sensor shroud assembly. Do not lift shroud assembly from area near the window. Contact with heater elements could cause damage to equipment.
- TADS shroud assembly windows and housings are fragile and easily broken or damaged. Use extreme care when handling TADS shroud assemblies to prevent dropping or jarring assemblies.

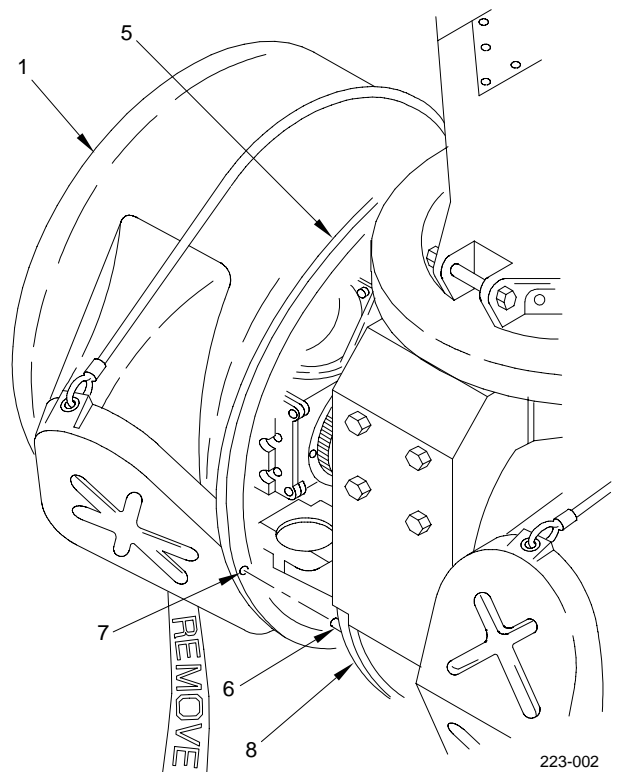


6. Install night sensor shroud assembly (1).
 - a. Place night sensor shroud assembly (1) around NSA with shroud rim (5) a few inches from support flange (8).
 - b. Connect P1 (2) to J5 (4) and tighten screwlocks (3).

CAUTION

Ensure shroud assembly wiring harness is pressed against inner surface of shroud assembly. Contact with components on night sensor assembly could cause chaffing of cable harness wires.

- c. Aline guide pins (6) on support flange (8) with pin holes (7) on night sensor shroud and mate.



7. Perform followup.

END OF TASK

3-25. NIGHT SENSOR ASSEMBLY (NSA) REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Night sensor assembly holding fixture
 Torque wrench, 0-75 in-lb
 Torque wrench, 30-200 in-lb

Materials (appendix D)

Lacing and tying tape (Item 47)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 One person to assist
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-24	Night sensor shroud assembly removed

FOLLOWUP

Install night sensor shroud assembly (para 3-24)
 Perform internal boresight procedure (para 3-58)
 Perform outfront boresight procedure (para 3-59)

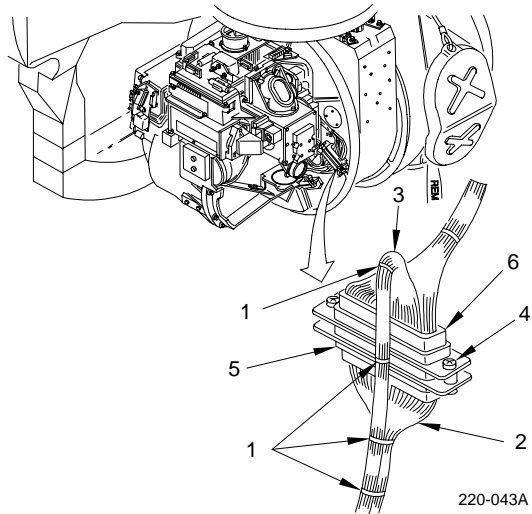
WARNING

HEAVY OBJECT

- Excessive strain can cause serious injury.
- Don't: Attempt to lift or carry heavy objects alone.
- Do: Get help for lifting or carrying objects weighing more than 35 pounds.
- If you experience a sudden pain while lifting or discomfort after lifting, get medical help at once.

CAUTION

- Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.
- Careless handling of night sensor assembly (NSA) can damage the optics.
- Never touch optic surfaces with bare hands.
- Never attempt to lift or support NSA except by holding fixture.

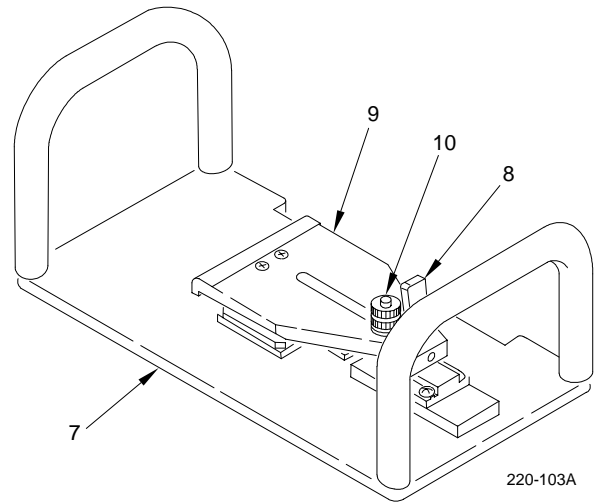


REMOVAL

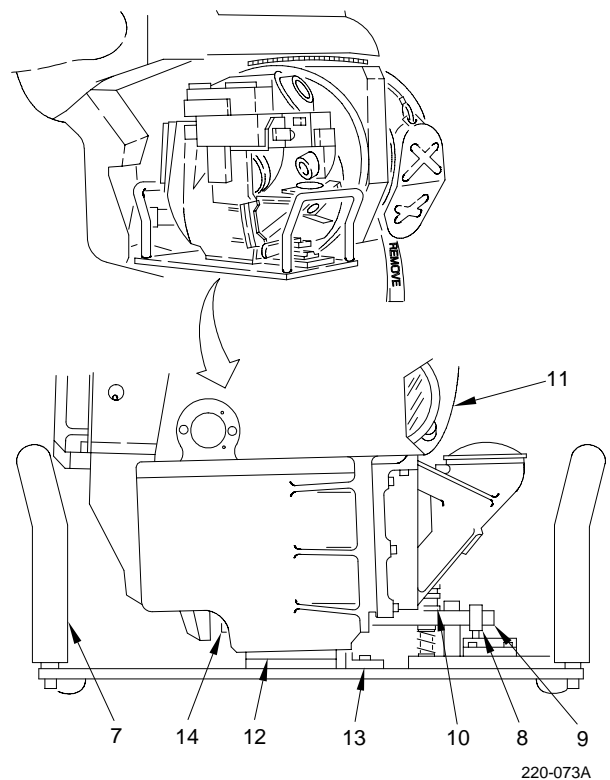
1. Operate TADS/PNVIS brake release switch and turn turret assembly to desired position to accomplish task (para 3-2).
2. Remove lacing and tying tape (1) from W1 wire harness (2) and loose wires (3).
3. Loosen screwlocks (4) and disconnect W1J2 (5) from P1 (6).

3-25. NIGHT SENSOR ASSEMBLY (NSA) REPLACEMENT (cont)

4. Prepare handling fixture (7) for attachment.
 - a. Position handling fixture (7) with locking lever (8) on right.
 - b. Lift locking lever (8) to vertical position. This action releases clamp (9).
 - c. Loosen nuts (10).
 - d. Slide clamp (9) to right as far as it will go.



5. Attach handling fixture (7) to NSA (11).
 - a. Position handling fixture (7) below NSA (11) with notch in fixture base towards NSA.
 - b. Raise handling fixture (7) until pad (12) rests against bottom of NSA (11) casting and bracket (13) contacts right side of casting.
 - c. Press down on right side of clamp (9). This action raises clamp cleat (14).
 - d. Slide clamp (9) to left and seat clamp cleat (14) over left edge of NSA (11) casting. Hand tighten nuts (10) against clamp.
 - e. Push locking lever (8) down to secure handling fixture (7) to NSA (11).



3-25. NIGHT SENSOR ASSEMBLY (NSA) REPLACEMENT (cont)

WARNING

HEAVY OBJECT

- Excessive strain can cause serious injury.
- Don't: Attempt to lift or carry heavy objects alone.
- Do: Get help for lifting or carrying objects weighing more than 35 pounds.
- If you experience a sudden pain while lifting or discomfort after lifting, get medical help at once.

NOTE

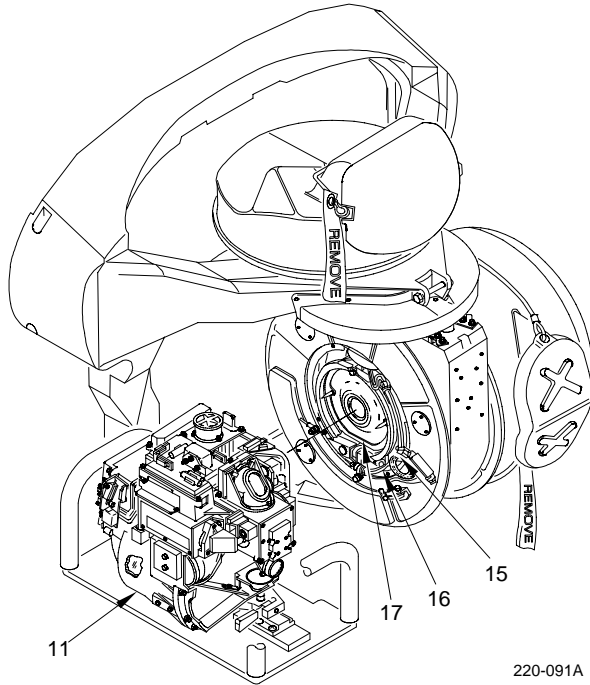
Two people are needed to do this task. One person must support NSA while the other person loosens clamp pin.

6. Remove NSA (11).

CAUTION

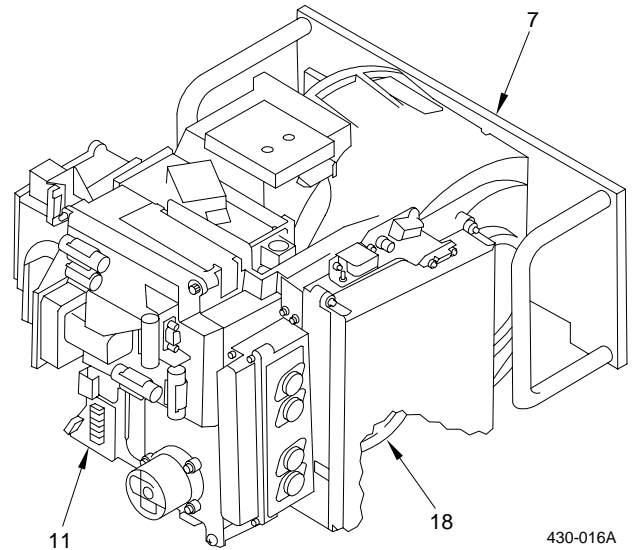
Damage to gimbal clamp assembly can result if clamp pin is loosened too far. Loosen gimbal clamp assembly only far enough to allow the night sensor assembly to be removed.

- a. While assistant supports NSA (11), spread gimbal clamp assembly (15) by unscrewing clamp pin (16).
- b. Pull NSA (11) straight out from azimuth gimbal assembly (17).



3-25. NIGHT SENSOR ASSEMBLY (NSA) REPLACEMENT (cont)

7. Place NSA (11), with mounting flange (18) down, on a clean dry surface.
8. If night sensor assembly remains off the support assembly for any period of time, an environmental dust cover shall be installed (para 2-13).



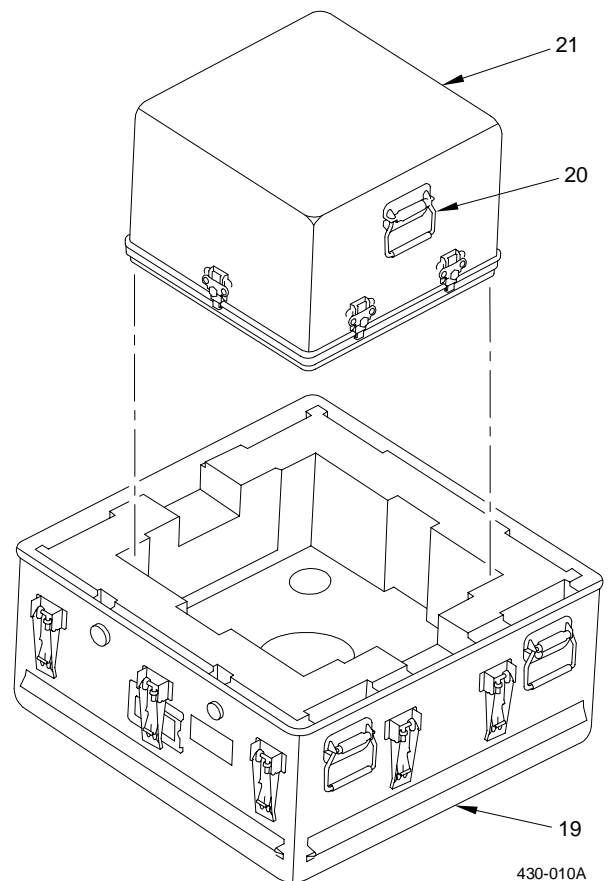
INSTALLATION

WARNING

HEAVY OBJECT

- Excessive strain can cause serious injury.
- Don't: Attempt to lift or carry heavy objects alone.
- Do: Get help for lifting or carrying objects weighing more than 35 pounds.
- If you experience a sudden pain while lifting or discomfort after lifting, get medical help at once.

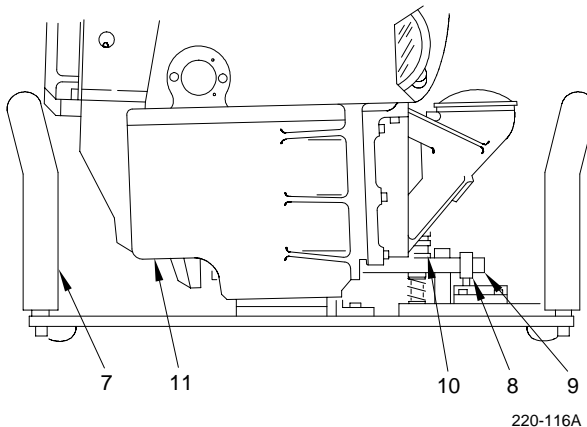
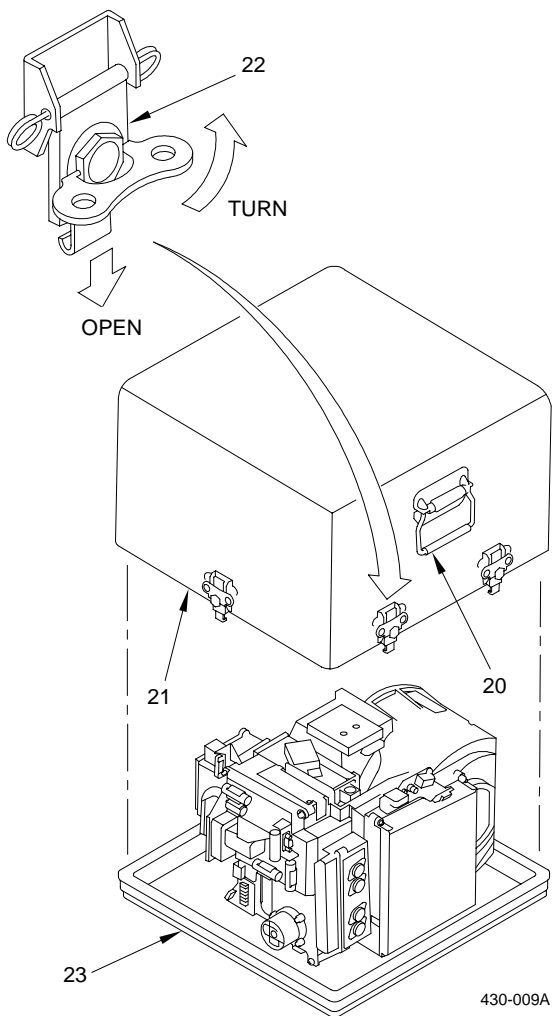
9. Remove replacement NSA (11) from shipping and storage container (19).
 - a. Open shipping and storage container (para 2-4).
 - b. Grasp handles (20) on case assembly (21) and remove case assembly from shipping and storage container (19).
 - c. Place case assembly (21) on flat surface.



3-25. NIGHT SENSOR ASSEMBLY (NSA) REPLACEMENT (cont)

- d. Unlock and disengage six latches (22) securing case assembly (21) to base assembly (23).
- e. Grasp handles (20) and lift case assembly (21) clear of base assembly (23).
- f. Place case assembly (21) on clean dry surface.

- 10. Remove handling fixture (7) from defective NSA (11).
 - a. Support handling fixture (7).
 - b. Lift up locking lever (8).
 - c. Loosen nuts (10).
 - d. Press on right side of clamp (9) and slide clamp to right as far as clamp will go.
 - e. Remove handling fixture (7) from NSA (11) casting.

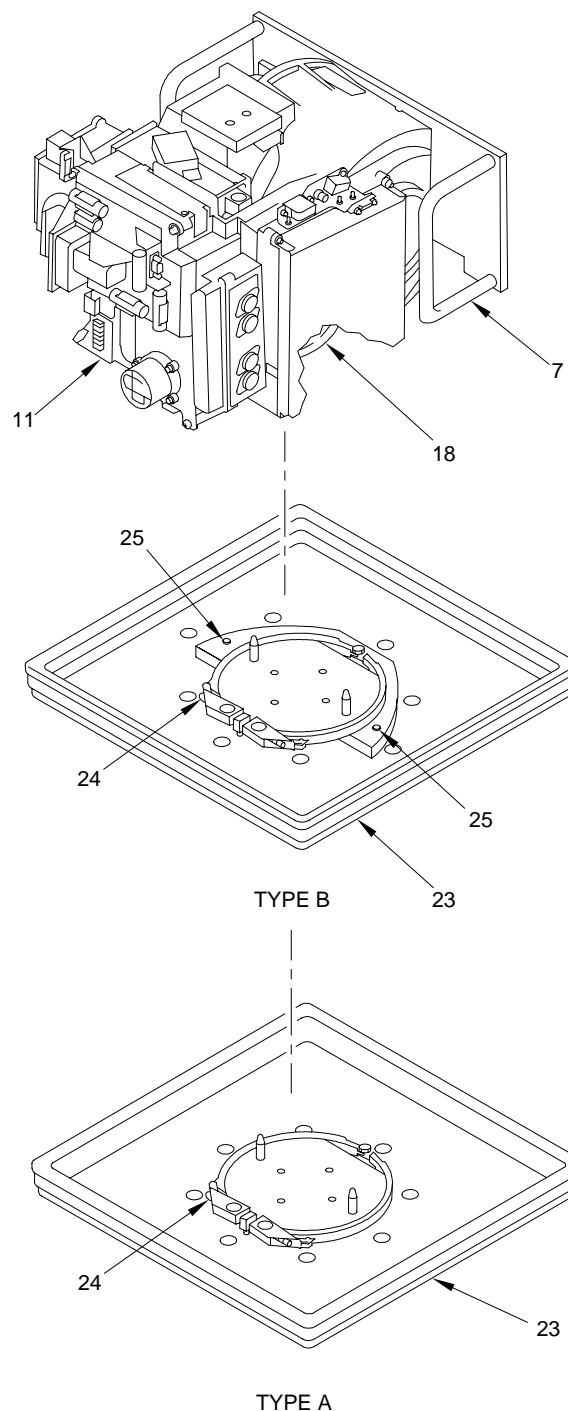


3-25. NIGHT SENSOR ASSEMBLY (NSA) REPLACEMENT (cont)

11. Install handling fixture (7) on replacement NSA (11). Use procedures in 4 and 5 above. Do not raise base assembly (23) to a vertical position to install fixture.
12. Place NSA (11) with base assembly (23) attached in vertical position on lid of shipping and storage container.
13. Remove replacement NSA (11) from base assembly (23).

NOTE

- Two types of base assemblies are used with inner case of NSA shipping and storage container. Type B has a support plate attached to the base assembly with two bolts. Type A has no support plate.
 - Do step a for type A base assembly.
 - Do step b for type B base assembly.
- a. Unscrew clamp pin (24) until clamp halves are clear of mounting flange (18).
 - b. Unscrew clamp pin (24) until clamp halves touch bolt heads (25).
 - c. Carefully remove base assembly (23) from NSA mounting flange (18).



430-011B

3-25. NIGHT SENSOR ASSEMBLY (NSA) REPLACEMENT (cont)

WARNING

HEAVY OBJECT

- Excessive strain can cause serious injury.
- Don't: Attempt to lift or carry heavy objects alone.
- Do: Get help for lifting or carrying objects weighing more than 35 pounds.
- If you experience a sudden pain while lifting or discomfort after lifting, get medical help at once.

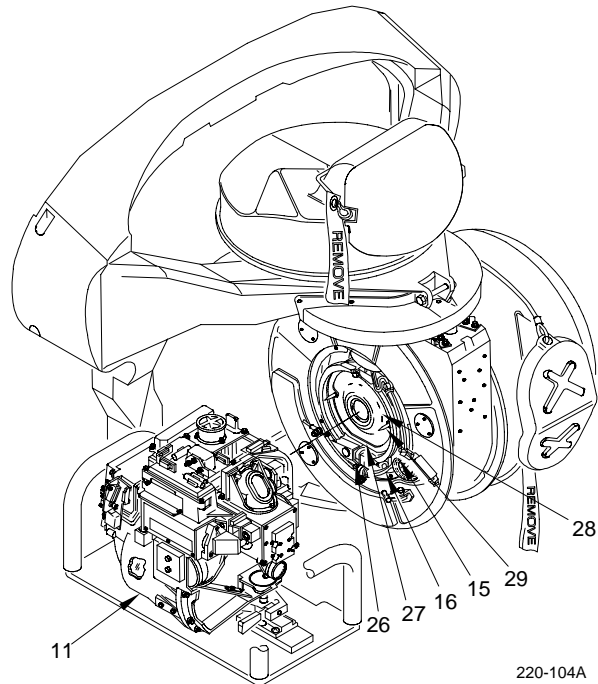
CAUTION

Ensure gimbal clamp assembly is properly seated around NSA mounting flange. An improper fit can cause damage to equipment when tightening the clamp pin.

NOTE

Two people are needed to do this task. One person must support NSA while other person tightens the clamp pin.

14. Remove environmental dust cover (para 2-13) if installed in step 8 above, otherwise go to step 15 below.
15. Install NSA (11).
 - a. Ensure that gimbal clamp fitting (26) is properly seated in azimuth gimbal assembly flange (27).
 - b. Lift NSA (11) to mounting position and line up two alignment pins (29) on azimuth gimbal assembly (28) with two mounting holes on NSA (11).



- c. Install NSA (11) and hold in mounting position. Use inspection mirror and ensure night sensor mounting flange (18) is seated flush against azimuth gimbal assembly. If NSA (11) is not seated properly repeat steps a thru c.
 - d. Place gimbal clamp assembly (15) on NSA (11) and tighten clamp pin (16). Torque to 100 in-lb.
16. Remove handling fixture from replacement NSA (11) using procedure in 10 above.

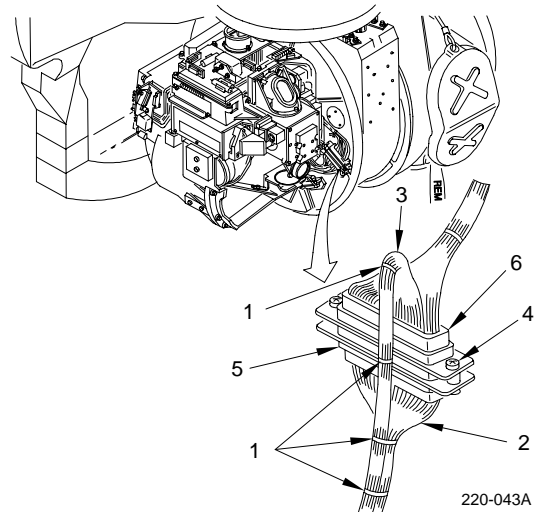
3-25. NIGHT SENSOR ASSEMBLY (NSA) REPLACEMENT (cont)**CAUTION**

Ensure loose wire from W10P1 is secured to W1 wire harness. Improper installation could damage the equipment.

17. Place loose wires (3) in W1 cable harness (2) and install lacing and tying tape (1).
18. Connect W10P1 (6) to W1J2 (5) and tighten screw locks (4).
19. Have NSA installation inspected.
20. Install handling fixture (7) on defective NSA (11) using procedures in 4 and 5 above.

CAUTION

Ensure the clamp assembly is properly seated around the NSA mounting flange. An improper fit can cause damage to the equipment when tightening the clamp pin.

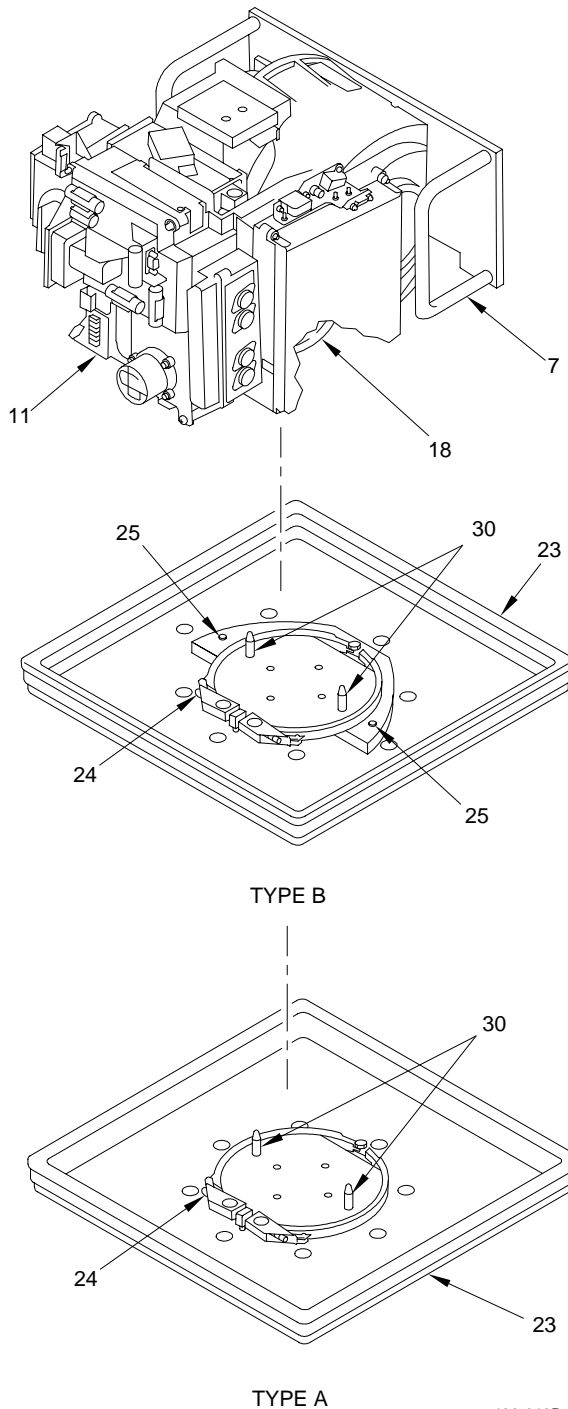


3-25. NIGHT SENSOR ASSEMBLY (NSA) REPLACEMENT (cont)

21. Install base assembly (23) on defective NSA (11).

NOTE

- Two types of base assemblies are used with inner case of NSA shipping and storage container. Type B has a support plate attached to the base assembly with two bolts. The support plate and two bolts prevent clamp misalignment during installation of base assembly on NSA. Type A has no support plate and the clamp is subject to misalignment during installation of base assembly on NSA.
 - Do step a for type A base assembly.
 - Do step b for type B base assembly.
- a. Make sure clamp assembly is loosened until clamp halves are spread apart far enough to permit installation on NSA mounting flange (18). Also, make sure clamp halves are positioned equally on each side of locating pins (30).
 - b. Make sure clamp assembly is loosened until clamp halves are touching bolt heads (25). Also, clamp tab must point to clamp center.
 - c. Place NSA (11) with handling fixture (7) in vertical position on lid of shipping and storage container.
 - d. Position base assembly (23) on mounting flange (18) of NSA (11).
 - e. Install base assembly (23) by aligning two locating pins (30) with two mounting holes in mounting flange (18).
 - f. Hold base assembly (23) in place and tighten clamp pin (24). Torque to 35 in-lb.
 - g. Have base assembly (23) installation inspected.



430-013B

3-25. NIGHT SENSOR ASSEMBLY (NSA) REPLACEMENT (cont)

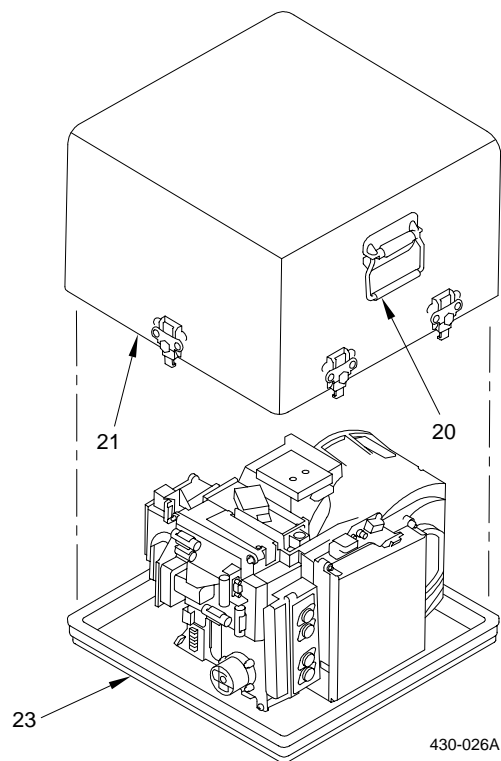
22. Repeat 10 above for defective NSA.

WARNING**HEAVY OBJECT**

- Excessive strain can cause serious injury.
- Don't: Attempt to lift or carry heavy objects alone.
- Do: Get help for lifting or carrying objects weighing more than 35 pounds.
- If you experience a sudden pain while lifting or discomfort after lifting, get medical help at once.

23. Install defective NSA (11) in shipping and storage container.

- a. Grasp handles (20) of case assembly (21) and install case assembly on base assembly (23).

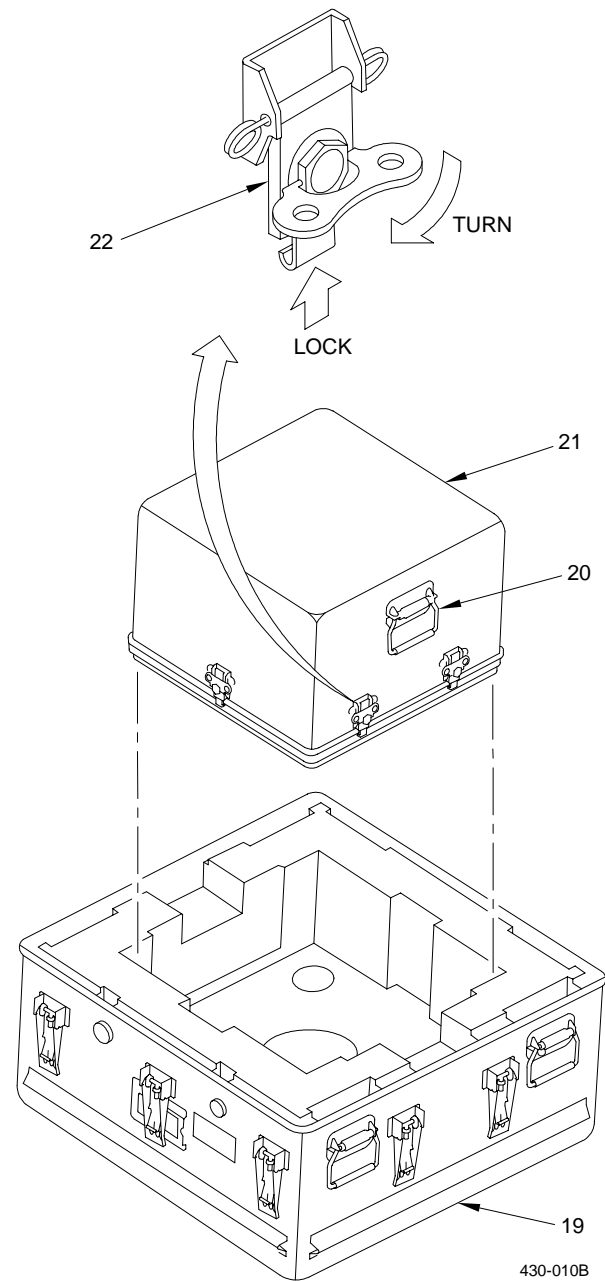


3-25. NIGHT SENSOR ASSEMBLY (NSA) REPLACEMENT (cont)

- b. Engage and lock six latches (22).
- c. Grasp handles (20) and install case assembly (21) in shipping and storage container (19).
- d. Close shipping and storage container (para 2-5).

24. Perform followup.

END OF TASK



3-26. TADS WINDOW COVER ASSEMBLIES REPAIR

INITIAL SETUP

Tools

Aircraft armament repairman tool set

Materials (appendix D)

Cord, shock abs 0.125" dia (Item 20)

Cord, shock abs 0.187" dia (Item 21)

Grommet set (Item 33)

Insulation sleeving (Item 34)

Streamer, warning (Item 45)

Tape, insulation (Item 46)

Wire, stainless (Item 54)

Personnel Required

68X Aircraft Armament/Electrical Repairer

Equipment Conditions

Ref

Condition

Para 3-2

TADS window cover(s)
removed

FOLLOWUP

TADS window cover(s) replaced
(para 3-2)

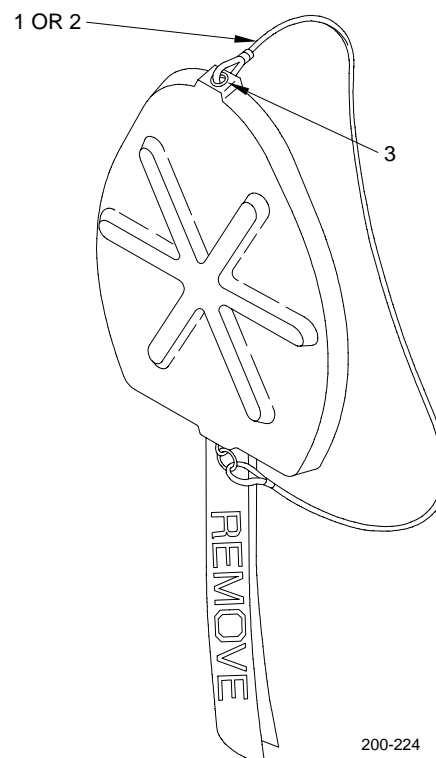
1. NIGHTSIDE OR DAYSIDE SHOCK CORD, STREAMER AND GROMMET REPLACEMENT.

- a. Remove old shock cord (1 or 2).

NOTE

If grommet replacement is not required, go to step d.

- b. Remove loose or damaged grommet assembly (3).
- c. Install new grommet assembly (3).
- d. Cut new 0.187" dia shock cord to length (nightside (1) = 47 ± 0.25 inches, Dayside (2) = 48 ± 0.25 inches).



200-224

3-26. TADS WINDOW COVER ASSEMBLIES REPAIR (cont)

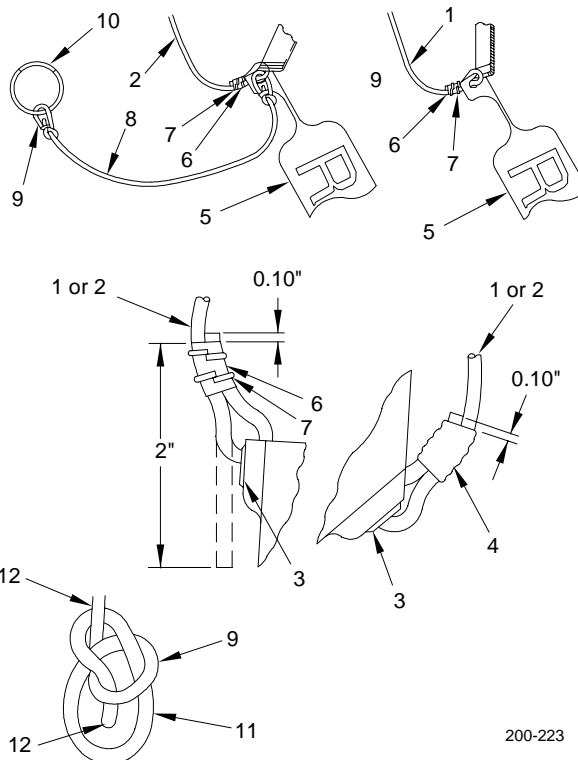
- e. Cut two pieces of insulation sleeving (4) to 1.12 ± 0.12 inches and slide to middle of new cord.
- f. Feed shock cord bottom loop through warning streamer (5) and grommet (3). Make loop length 2 ± 0.25 inches.
- g. Wrap insulation tape (6) two to four turns around end of shock cord loop. Allow 0.10 inch outside of taped end.
- h. Cut two lengths of stainless steel wire to 1 ± 0.12 inch for clamps (7).
- i. Bend clamps around center of tape, 0.25 to 0.50 inches apart and crimp.
- j. Slide insulation sleeving (4) from middle of shock cord over taped and crimped area and heat shrink in place.
- k. Feed shock cord top loop through grommet (3). Make loop length 2 ± 0.25 inches.
- l. Repeat steps g thru j.

NOTE

If repairing dayside cover, go to 2a; otherwise, go to 2f.

2. DAYSIDE TO BORESIGHT SHOCK CORD REPLACEMENT.

- a. Remove old shock cord (8).
- b. Cut new 0.125" dia shock cord to 18 ± 0.25 inches.
- c. Tie a figure eight knot (9) through the dayside shock cord (2) bottom loop.
- d. Tie a figure eight knot (9) through the boresight ring (10).



200-223

- e. Tighten knots by alternately pulling on loop (11) and ends (12). Finished inside diameter of loop to 1.25 ± 0.50 inches.
- f. Perform followup.

END OF TASK

**Section III. TARGET ACQUISITION DESIGNATION SIGHT (TADS)
TURRET ASSEMBLY MAINTENANCE**

Subject	Para	Page
Gimbal Clamp Assembly Replacement	3-27	3-102
Left/Right Side Fairing Assembly Replacement	3-28	3-104
Radar Jamming Antenna Support Assembly Replacement	3-29	3-105
Radar Jammer RF Cable Replacement	3-30	3-109
Nose Fairing Replacement	3-31	3-115
Left Side Access Cover Replacement	3-32	3-117
Switch Assembly A4 Replacement	3-33	3-118
Tube Replacement	3-34	3-120
Bonding Strap Assembly Replacement	3-35	3-121

3-27. GIMBAL CLAMP ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Torque wrench, 0-30 in-lb

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)
 Anti-seize lubricant (Item 35)
 Lacing and tying tape (Item 47)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-36	Day sensor subassembly removed

FOLLOWUP

Install day sensor subassembly (para 3-36)

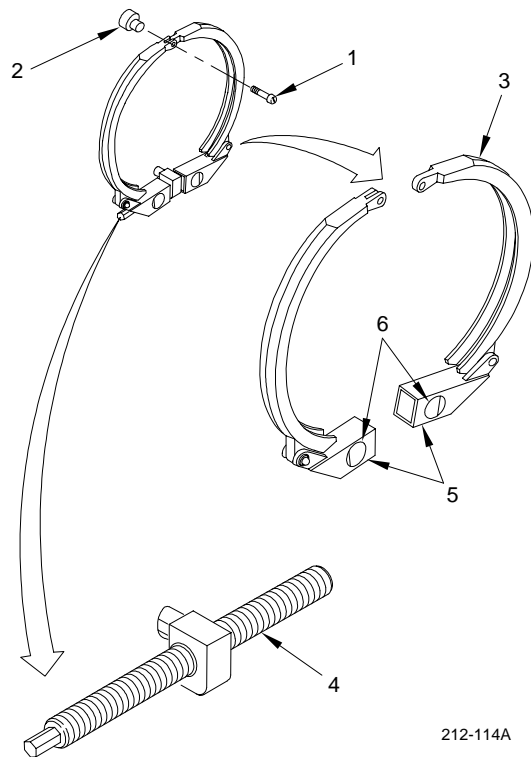
NOTE

This procedure is for replacing dayside gimbal clamp assembly and can also be used to replace nightside gimbal clamp assembly, if:

- Night sensor assembly removed (para 3-25).
- After replacing gimbal clamp assembly, install night sensor assembly (para 3-25).

REMOVAL

1. Remove bolt (1) and clamp stud (2).
2. Rotate gimbal clamp assembly (3) from mounting position enough to access clamp pin (4) and provide sufficient clearance for gimbal clamp assembly removal.
3. Remove gimbal clamp assembly (3) by turning clamp pin (4) CCW until both gimbal clamp assembly halves separate and clamp pin (4) is free of clamp links (5) and clamp nuts (6).



212-114A

3-27. GIMBAL CLAMP ASSEMBLY REPLACEMENT (cont)

4. Remove clamp pin (4) from clamp fitting (7).

INSTALLATION

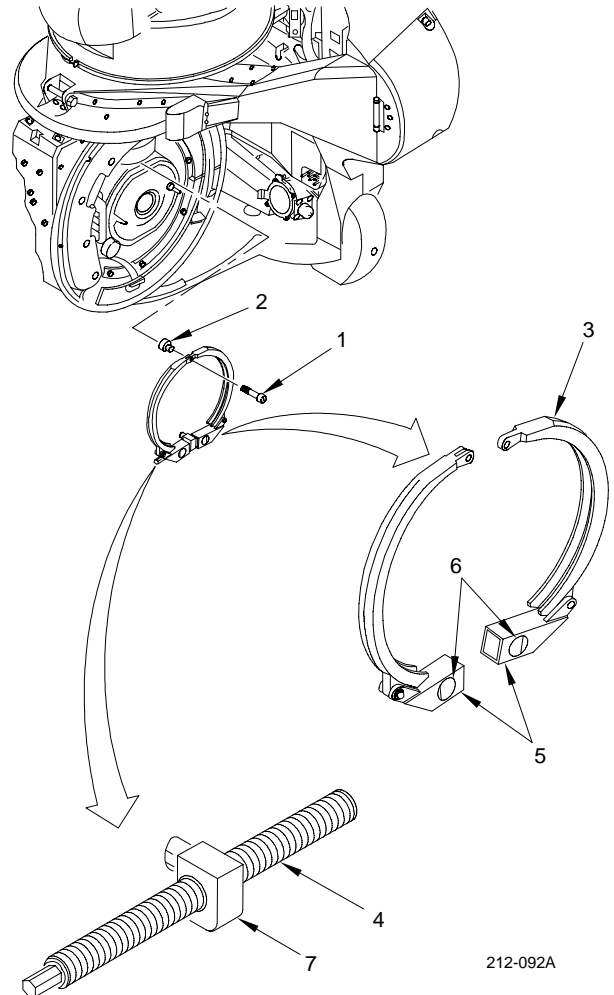
5. Remove old corrosion inhibitive sealing and coating compound from bolt (1) (para 3-8).
6. Install gimbal clamp assembly (3).
 - a. Apply anti-seize lubricant on clamp nuts (6). Insert them into clamp link assembly (5) making sure the flat end is facing outward.

CAUTION

Ensure there is equal distance between clamp link assemblies and clamp fitting, when threading gimbal clamp assembly. Improper installation can cause damage to equipment.

- b. Install gimbal clamp assembly (3) by inserting clamp pin (4) through clamp fitting (7). Thread clamp pin (4) into clamp nuts (6) making sure to thread each side equally.
 - c. Before tightening clamp pin (4), apply corrosion inhibitive sealing and coating compound to threads of bolt (1) (para 3-8). Use class 1A application. Install bolt (1) and clamp stud (2).
 - d. Tighten clamp pin (4).
 - e. Torque bolt (1) to 20 in-lb.
7. Have installation inspected.
8. Perform followup.

END OF TASK



212-092A

3-28. LEFT/RIGHT SIDE FAIRING ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set
Torque wrench, 0-30 in-lb

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

REMOVAL

NOTE

This procedure is for replacing left side fairing assembly and can also be used to replace right side fairing assembly.

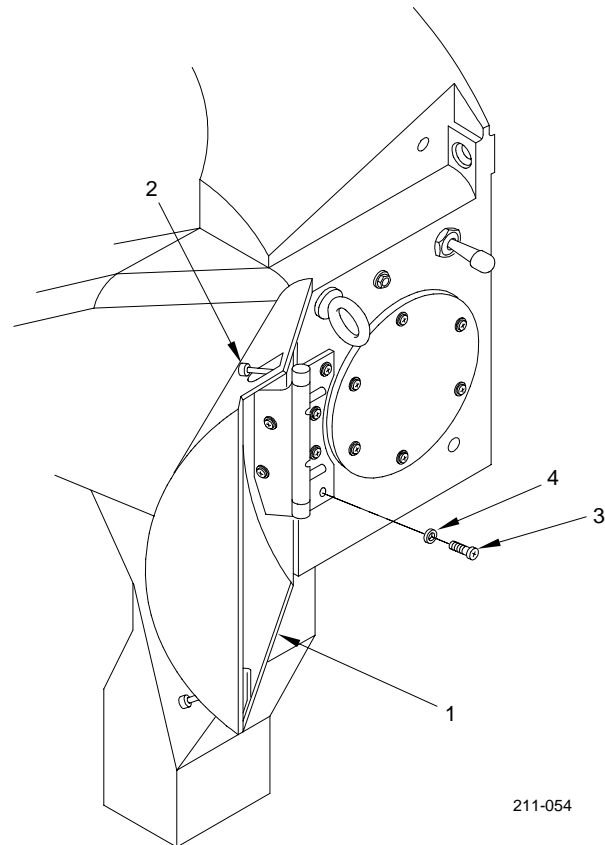
1. Loosen two captive screws (2) and open left side fairing assembly (1).
2. Remove left side fairing assembly (1) by removing four screws (3) and washers (4).

INSTALLATION

3. Remove old corrosion Inhibitive sealing and coating compound (para 3-8) from mounting hardware.
4. Apply corrosion inhibitive sealing and coating compound to threads of four screws (3). Use class 1A application (para 3-8).
5. Install leftside fairing assembly (1) with four screws (3) and washers (4). Torque to 9 in-lb.

CAUTION

Improper tightening of the two captive screws can damage equipment. Do not overtighten.



211-054

6. Close left side fairing assembly (1) and tighten two captive screws (2).
7. Have installation inspected.

END OF TASK

3-29. RADAR JAMMING ANTENNA SUPPORT ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Torque wrench, 0-30 in-lb

Materials (appendix D)

Noncorrosive RTV silicone adhesive-sealant (Item 6)
 Corrosion inhibitive sealing and coating compound (Item 18)
 Noncorrosive RTV silicone primer (Item 42)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

References

TM 1-1520-238-23-1

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-1	Premaintenance procedures performed

REMOVAL

NOTE

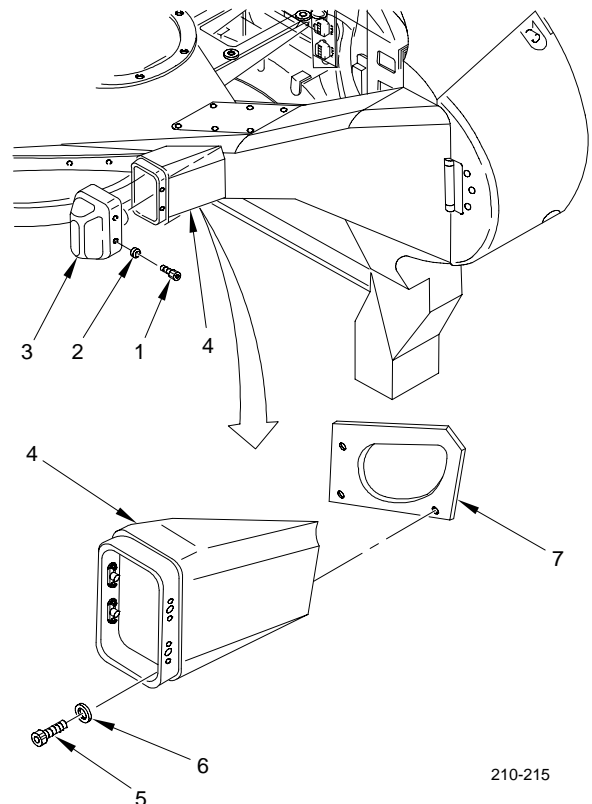
If radar jammer transmitter antenna is not installed go to step 2.

1. Remove radar jammer transmitter antenna, TM 1-1520-238-23-1.

NOTE

If radar jammer transmitter antenna was removed in step 1, go to step 3.

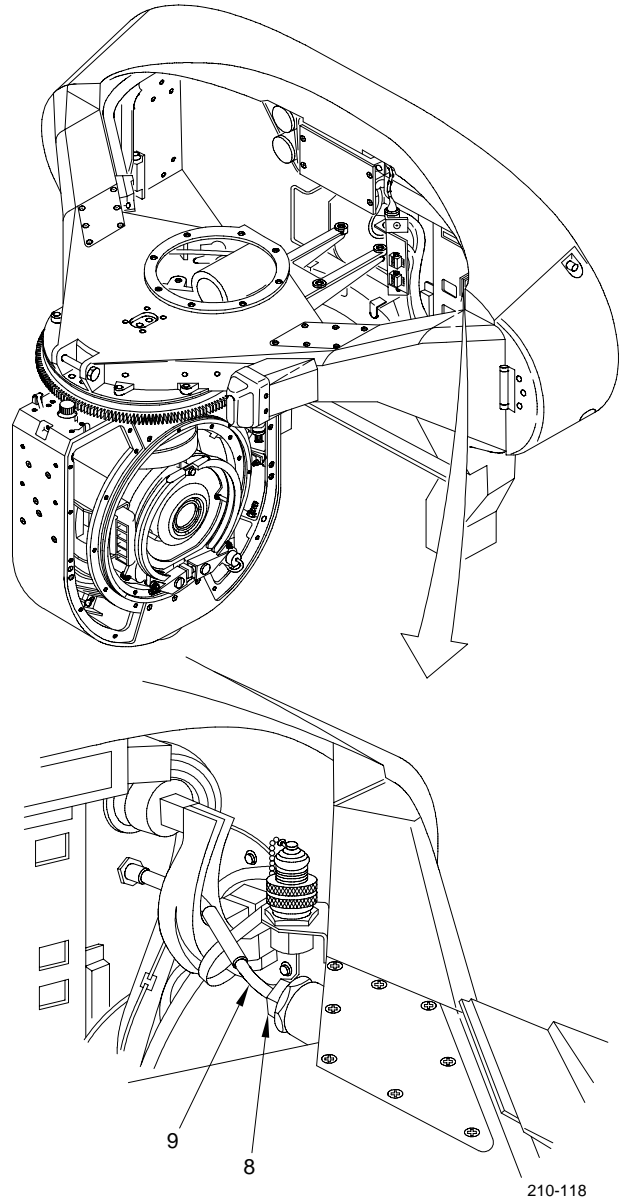
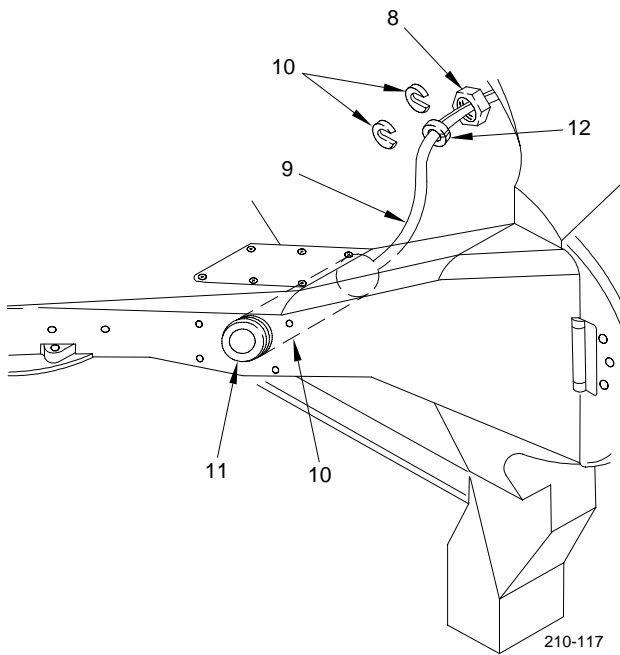
2. Remove four screws (1) and washers (2) from cover (3). Remove cover (3) from antenna support assembly (4).
3. Remove four screws (5) and washers (6) from antenna support assembly (4).
4. Remove antenna support assembly (4) and gasket (7).



210-215

3-29. RADAR JAMMING ANTENNA SUPPORT ASSEMBLY REPLACEMENT (cont)

5. Unscrew conduit sealing nut (8) and slide back on cable (9). Pull cable back enough to remove two slotted washers (13).
6. Pull cable (9) back through conduit (10) until it is flush with the front of conduit (11).

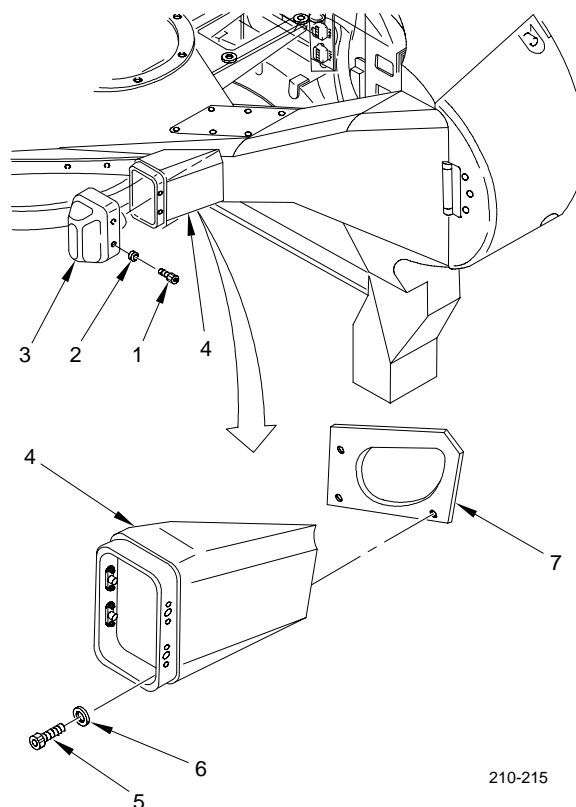


3-29. RADAR JAMMING ANTENNA SUPPORT ASSEMBLY REPLACEMENT (cont)**INSTALLATION**

7. Remove old corrosion inhibitive sealing and coating compound (para 3-8) from all mounting hardware, cover, antenna support, and spacer.
8. Apply corrosion inhibitive sealing and coating compound to threads of four screws (5) removed in (3) above. Use class 1A application (para 3-8).
9. Install gasket (7) and antenna support assembly (4) with four screws (5) and washers (6) to aircraft Interface assembly. Torque to 16 in-lb.
10. Install two slotted washers 13 on each side of slotted gasket (12). Push cable (9) forward until all slack is taken out of the cable. Tighten conduit sealing nut (8).

NOTE

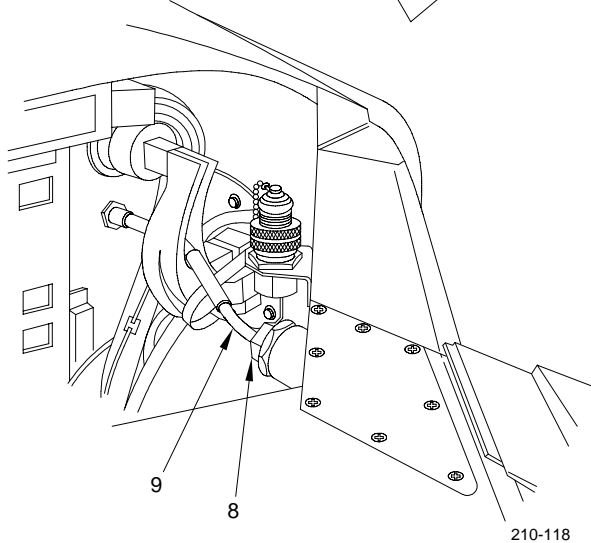
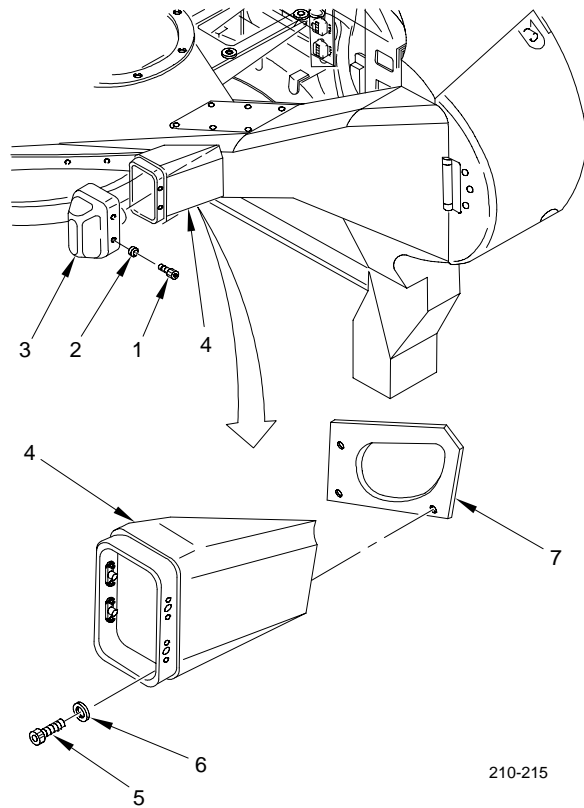
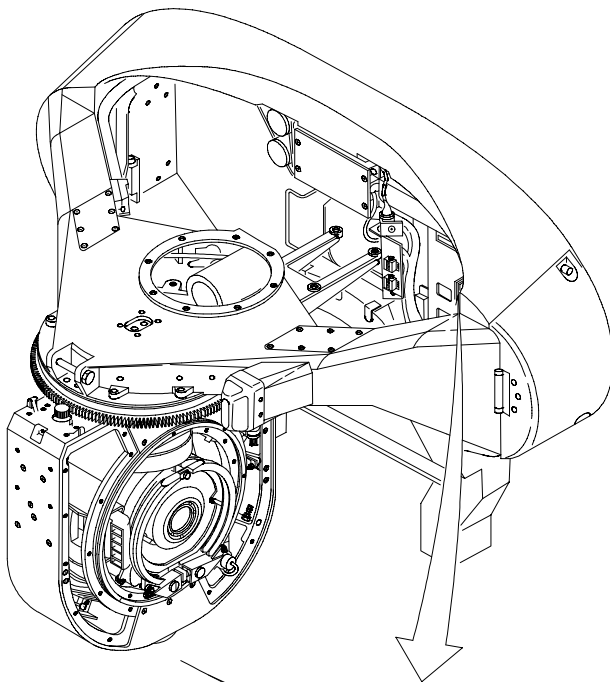
- If the radar jammer transmitter antenna was removed, install per TM 1-1520-238-23-1.
 - When applying RTV silicone adhesive sealant, do not prime mating surfaces because the cover must be easily removed at some future date when it is replaced by radome and antenna.
11. Apply noncorrosive RTV silicone adhesive-sealant (para 3-8) to mating surfaces of antenna support assembly (4) and cover (3).
 12. Apply corrosion inhibitive sealing and coating compound to four screws (1). Use class 1A application (para 3-8).



210-215

3-29. RADAR JAMMING ANTENNA SUPPORT ASSEMBLY REPLACEMENT (cont)

13. Insert cable (9) and antenna connector (8) into tubular part of antenna support assembly (4).
14. Install cover (3) on antenna support assembly (4) with four screws (1) and washers (2). Torque to 9 in-lb. Remove excess adhesive-sealant. If radar jammer transmitter antenna is installed, proceed to step 16.
15. Install radar jammer transmitter antenna TM 1-1520-238-23-1.
16. Have installation inspected.



END OF TASK

3-30. RADAR JAMMER RF CABLE REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Rubber gloves
 Torque wrench, 0-30 in-lb

Materials (appendix D)

Noncorrosive RTV silicone adhesive-sealant,
 (Item 6)
 Cloth, cotton, lint free (Item 13)
 Corrosion inhibitive sealing and coating
 compound (Item 18)
 Noncorrosive RTV silicone primer (Item 42)
 Trichloroethane (Item 50)
 Safety wire (Item 53)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

References

TM 1-5855-265-20
 TM 1-1520-238-23-1

Equipment Conditions

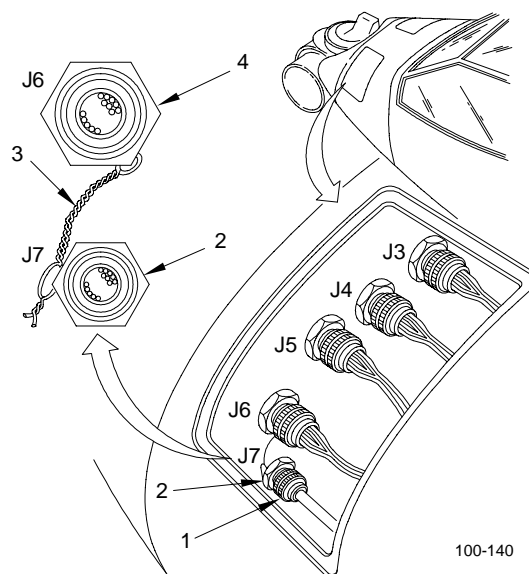
<u>Ref</u>	<u>Condition</u>
Para 3-1	Premaintenance procedures performed
TM 1-5855-265-20	PNVS turret assembly out of stow

FOLLOWUP

Move PNVS turret assembly into stow
 (TM 1-5855-265-20)

REMOVAL

1. Disconnect helicopter cable connector P976 (1) from AIA connector J7 (2).
2. Cut and remove safety wire (3) at AIA connectors J7 (2) and J6 (4).



100-140

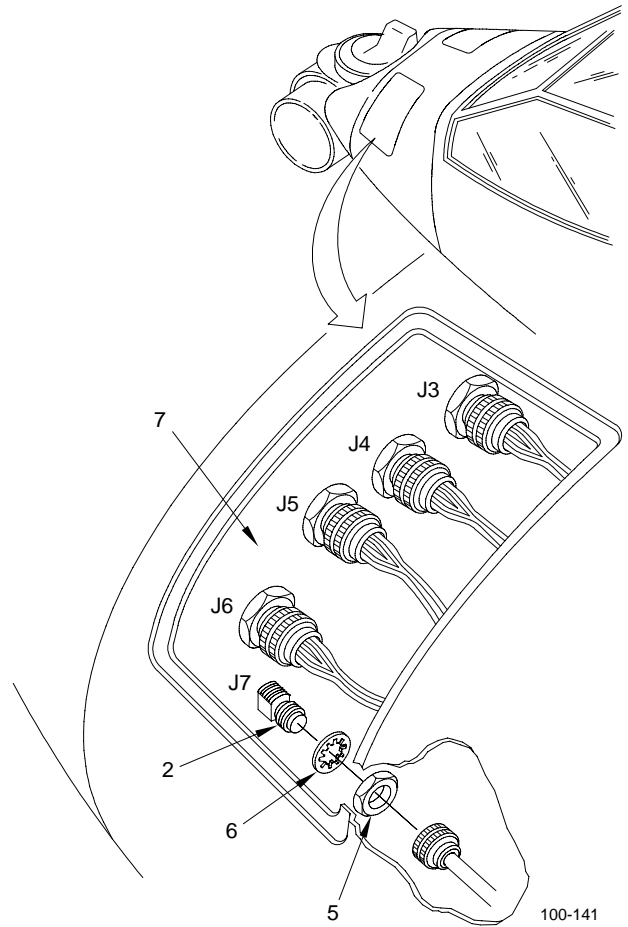
3-30. RADAR JAMMER RF CABLE REPLACEMENT (cont)

3. Remove and discard nut (5) and lockwasher (6) at AIA connector J7 (2).
4. Pull connector J7 (2) out of AIA (7) and push aside.

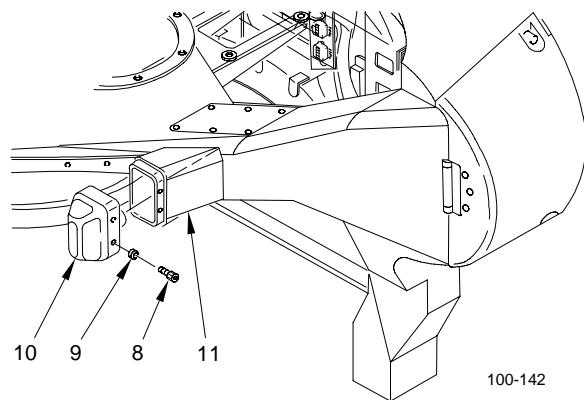
NOTE

If radar jammer transmitter antenna is not installed, go to step 6.

5. Remove radar jammer transmitter antenna, TM 1-1520-238-23-1. Go to step 7.



6. Remove four screws (8) and washers (9) from cover (10). Remove cover (10) from antenna support assembly (11). Retain all hardware.



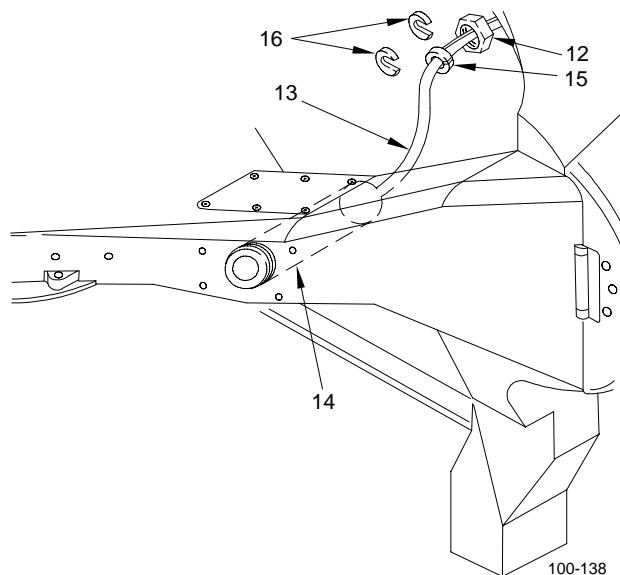
3-30. RADAR JAMMER RF CABLE REPLACEMENT (cont)

7. Unscrew conduit sealing nut (12) and slide back on RF cable (13).

CAUTION

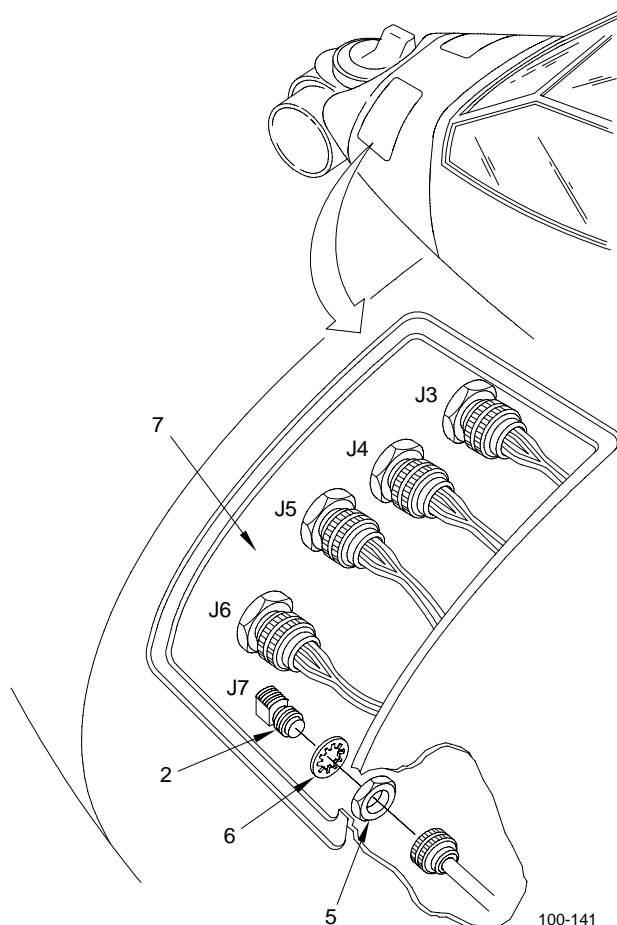
Use caution when removing the RF cable. Improper handling can damage the equipment.

8. Pull RF cable (13) from conduit (14) until slotted gasket (15) and two slotted washers (16) are clear. Remove slotted gasket (15) and two slotted washers (16) and retain.
9. Remove RF cable (13) from conduit (14) and discard. Retain conduit sealing nut (12).



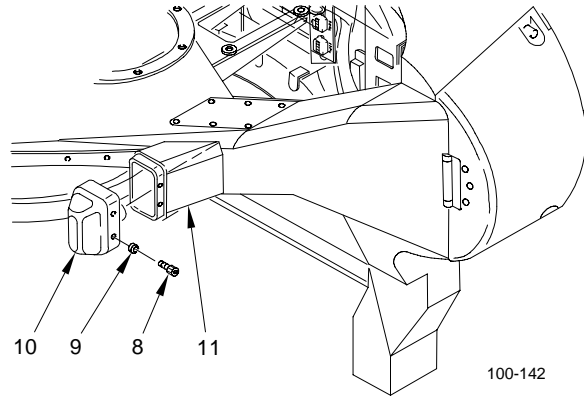
INSTALLATION

10. Remove old corrosion inhibitive sealing and coating compound from retained hardware, conduit threads, and sealing nut (para 3-8).
11. Remove old RTV silicone adhesive sealant from cover (10) (para 3-8).
12. Remove nut (5) and lockwasher (6) from RF cable (13).

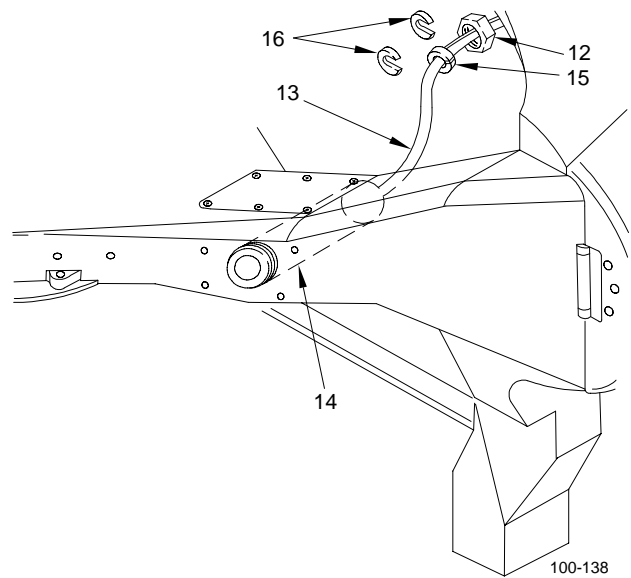


3-30. RADAR JAMMER RF CABLE REPLACEMENT (cont)

13. Apply corrosion inhibitive sealing and coating compound to screws (8), washers (9), threaded end of conduit (14), and conduit sealing nut (12). Use class 1A application (para 3-8).



14. Assemble conduit sealing nut (12) on RF cable (13) and slide it back on the RF cable.
15. Insert antenna connector end of RF cable (13) through rear of conduit (14).



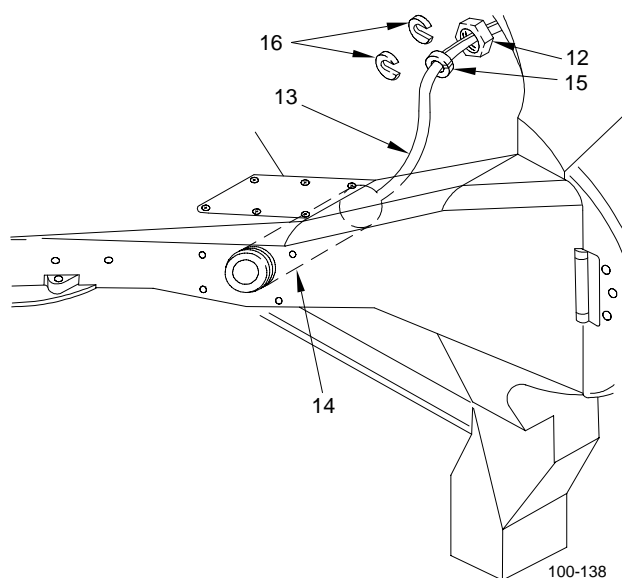
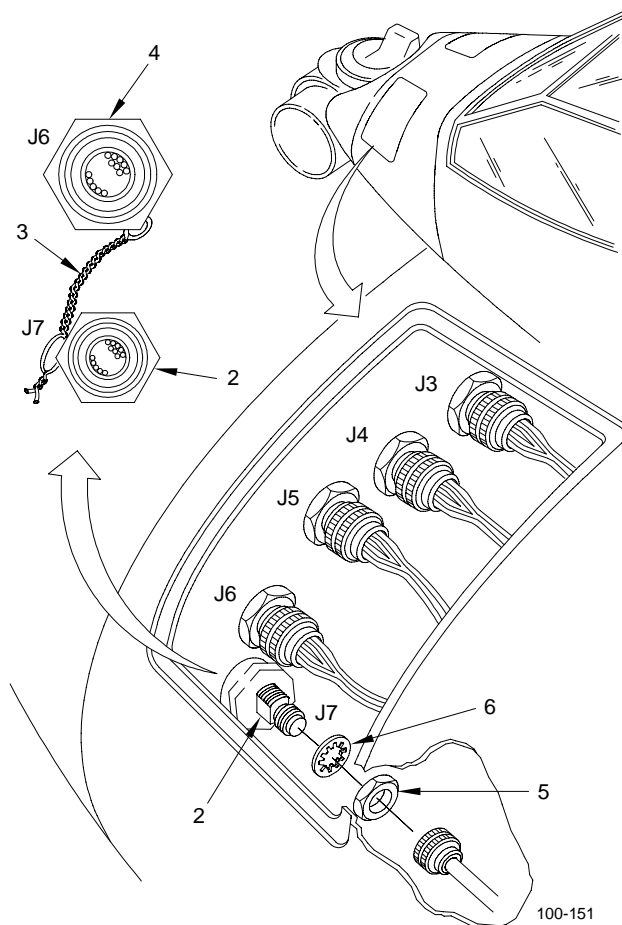
3-30. RADAR JAMMER RF CABLE REPLACEMENT (cont)

WARNING

TRICHLOROETHANE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems," get to fresh air at once.

16. Wipe both bulkhead surface areas of J7 (2) with lint-free cloth moistened with trichloroethane.
17. Install connector J7 (2) on aircraft side of AIA with lockwasher (6) and nut (5).
18. Install safety wire (3).
19. Assemble slotted gasket (15) and two slotted washers (16) to RF cable (13) between the conduit (14) and conduit sealing nut (12).
20. Take slack out of RF cable and install conduit sealing nut (12).



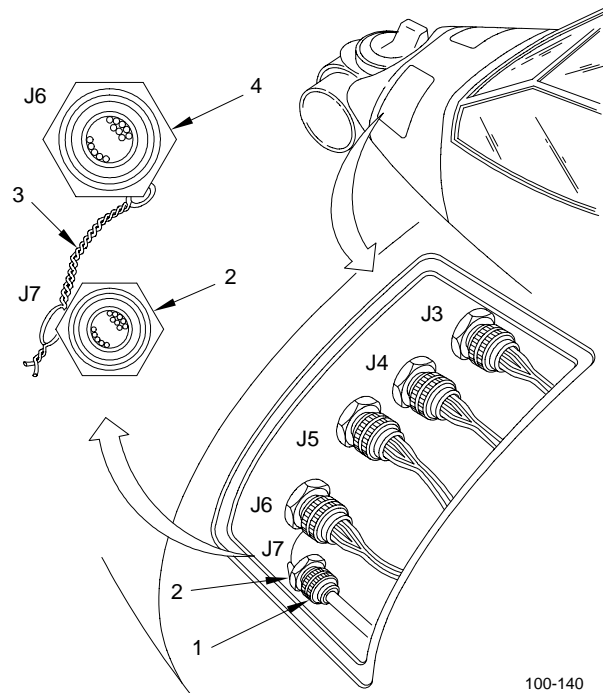
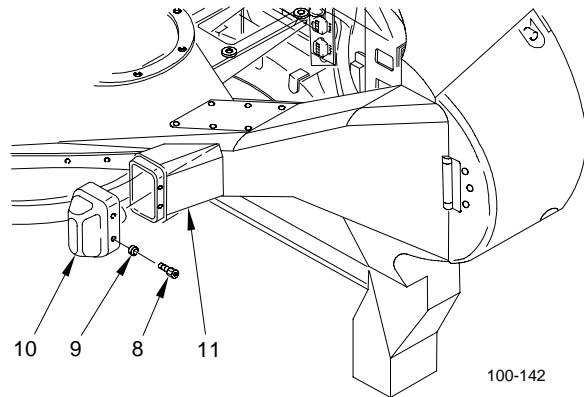
3-30. RADAR JAMMER RF CABLE REPLACEMENT (cont)

NOTE

If radar jammer transmitter antenna is to be installed, go to step 21; otherwise, go to step 22.

21. Install radar jammer transmitter antenna, TM 1-1520-238-23-1, go to step 24.
22. Apply noncorrosive RTV silicone adhesive sealant to mating surfaces of support assembly (11) and cover (10) (para 3-8).
23. Install cover (10) to support assembly (11) with four screws (8) and washers (9). Torque to 9 in-1b. Remove excess RTV silicone adhesive sealant (para 3-8).
24. Connect helicopter cable connector P976 (1) to AIA connector J7 (2).
25. Have installation inspected.
26. Perform followup.

END OF TASK



3-31. NOSE FAIRING REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

Equipment Conditions

Ref

Condition

Para 3-1

Premaintenance procedures performed

NOTE

Two different nose fairings are used on TADS. The old requires radar jamming antenna support removal, the new style does not. If old style nose fairing is installed, remove radar jamming antenna support assembly (para 3-29).

NOTE

If wire strike protection is installed, remove PNVS cutter assembly (para 3-10).

FOLLOWUP

NOTE

If old style nose fairing is installed, install radar jamming antenna support assembly (para 3-29).

NOTE

If wire strike protection is installed, install PNVS cutter assembly (para 3-10).

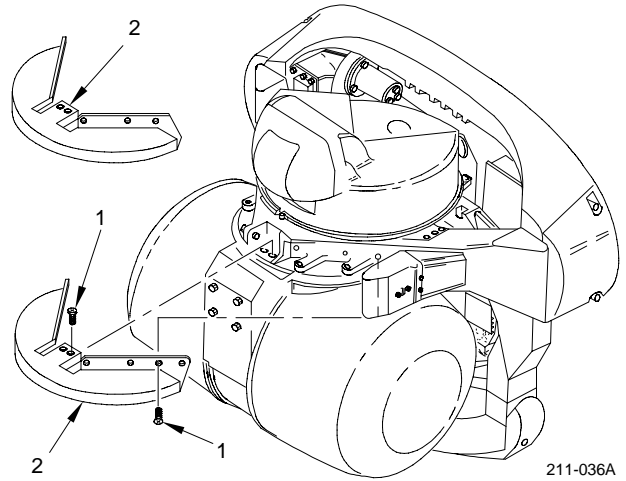
3-31. NOSE FAIRING REPLACEMENT (cont)

REMOVAL

1. Remove seven or eight screws (1), as required and remove nose fairing (2).

INSTALLATION

2. Remove old corrosion inhibitive sealing and coating compound from screws (1) (para 3-8).
3. Apply corrosion inhibitive sealing and coating compound to screws (1) (para 3-8). Use class 1A application.
4. Install nose fairing (2) using seven or eight screws (1), as required.
5. Have installation inspected.
6. Perform followup.



END OF TASK

3-32. LEFT SIDE ACCESS COVER REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

Equipment Conditions

Maintenance task in progress

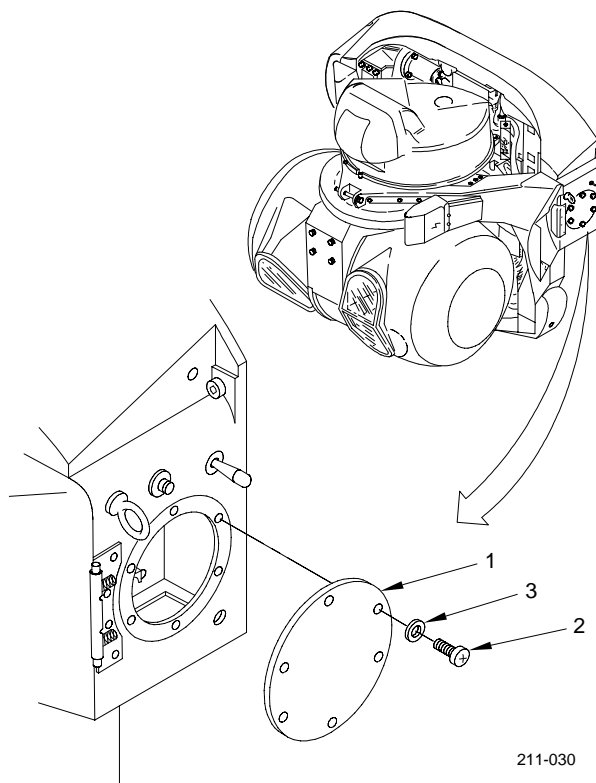
REMOVAL

1. Remove access cover assembly (1) by removing six screws (2) and washers (3).

INSTALLATION

2. Remove old corrosion inhibitive sealing and coating compound from screws (2) (para 3-8).
3. Apply corrosion inhibitive sealing and coating compound to six screws (2). Use class 1A application (para 3-8).
4. Install access cover assembly (1) using six washers (3) and screws (2).
5. Have access cover assembly (1) installation inspected.

END OF TASK



211-030

3-33. SWITCH ASSEMBLY A4 REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Torque wrench, 0-50 in-lb

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

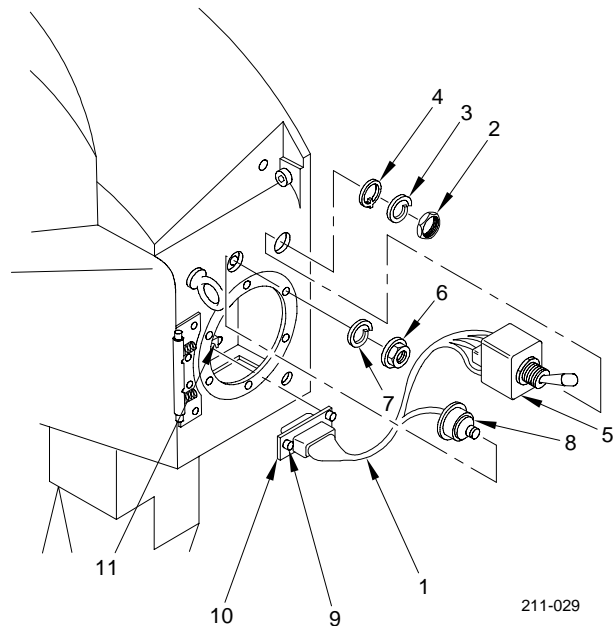
<u>Ref</u>	<u>Condition</u>
Para 3-32	Left side access cover removed

FOLLOWUP

Install left side access cover (para 3-32)

REMOVAL

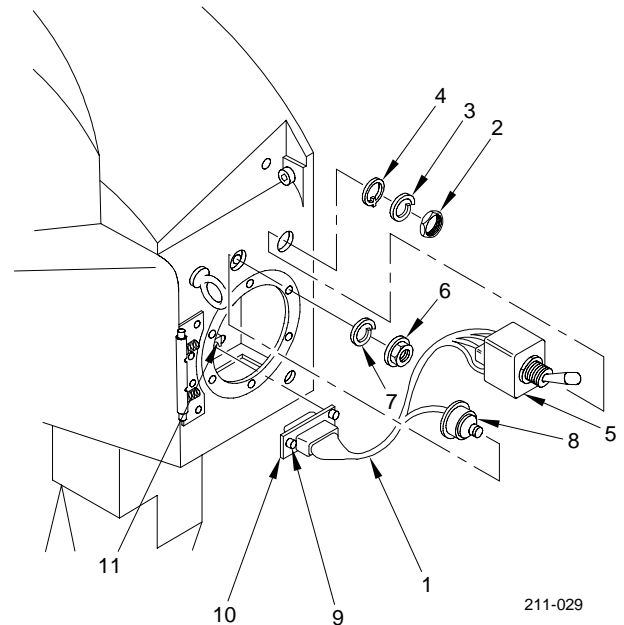
1. Remove switch assembly A4 (1).
 - a. Remove nut (2), lockwasher (3), and keyway washer (4).
 - b. Remove switch S1 (5).
 - c. Remove nut (6) and lockwasher (7).
 - d. Remove switch S2 (8).
 - e. Loosen two screwlocks (9) and disconnect connector P1 (10) from J14 (11).
 - f. Remove switch assembly A4 (1).



211-029

3-33. SWITCH ASSEMBLY A4 REPLACEMENT (cont)**INSTALLATION**

2. Remove corrosion inhibitive sealing and coating compound from access cover assembly mounting hardware (para 3-8).
3. Install switch assembly A4 (1).
 - a. Connect connector P1 (10) to connector J14 (11) and tighten two screwlocks (9).
 - b. Place switch S2 (8) in mounting position. Do not attach hardware.
 - c. Place switch S1 (5) in mounting position. Do not attach hardware.
4. Apply corrosion inhibitive sealing and coating compound to threads of S1 (5) and S2 (8). Use class 1A application (para 3-8).
5. Install hardware on switch S1 (5) and switch S2 (8).
 - a. Use keyway washer (4), lockwasher (3), and nut (2) on switch S1 (5).
 - b. Use lockwasher (7) and nut (6) on switch S2 (8). Torque nut (6) to 40 in-lb.
6. Have switch S1 (5) and switch S2 (8) installation inspected.
7. Perform followup.



END OF TASK

3-34. TUBE REPLACEMENT

INITIAL SETUP

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-2	TADS turret assembly out of stow

FOLLOWUP

Move TADS turret assembly into stow (para 3-3)

REMOVAL

CAUTION

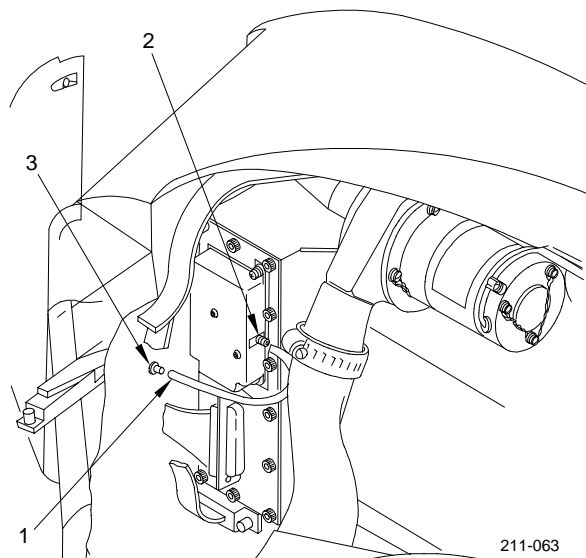
Do not pull the tube directly off the ribbed fitting. The tube fits the ribbed fitting snug and could cause the ribbed fitting to break if pulled.

1. Roll ends of tube (1) away from ECS assembly (2) and away from aircraft interface assembly ribbed fitting (3) and remove tube (1).

INSTALLATION

2. Slide ends of tube (1) on aircraft interface assembly ribbed fitting (3) and on ECS assembly (2).
3. Have installation inspected.
4. Perform followup.

END OF TASK



3-35. BONDING STRAP ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Multimeter
 Acid type safety goggles
 Rubber apron
 Rubber gloves

Materials (appendix D)

Brush (Item 11)
 Compound, corrosion inhibitive sealing and coating (Item 18)
 Chemical film (Item 29)
 Cheesecloth pad (Item 37)
 Abrasive paper, 400 grit (Item 39)
 Trichloroethane (Item 50)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

References

TM 1-5855-265-20
 TM 1-1520-238-23

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-1	Premaintenance procedures performed
TM 1-5855-265-20	PNVS electronic control amplifier removed
TM 1-1520-238-23	Access panel L40 removed

FOLLOWUP

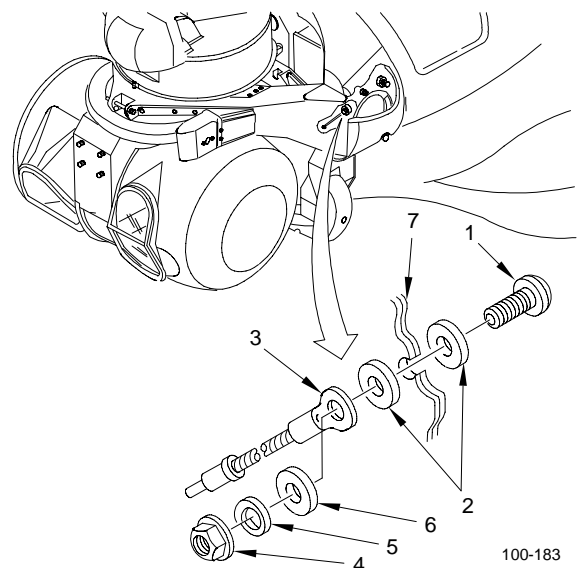
Install access panel L40 (TM 1-1520-238-23)
 Install PNVS electronic control amplifier (TM 1-5855-265-20)

REMOVAL

1. Remove bonding strap (3) from aircraft interface assembly (7) by removing nut (4), washers (5 and 6), washers (2), and screw (1).

INSTALLATION

2. Remove old corrosion inhibitive sealing and coating compound (para 3-8) from bonding strap, mounting hardware, and bonding strap mounting surface.
3. Sand bonding surface (7) to bare metal for an area 1-1/2 times diameter of grounding terminal.



100-183

3-35. BONDING STRAP ASSEMBLY REPLACEMENT (cont)

WARNING

TRICHLOROETHANE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

NOTE

Sanded area is 1-1/2 times diameter of grounding terminal.

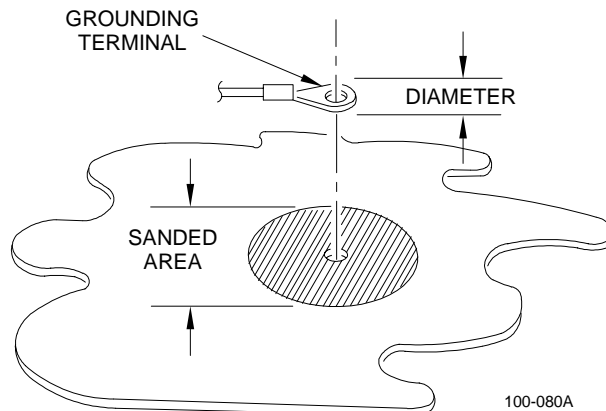
4. Clean sanded grounding strap mounting surface with cheesecloth pad using trichloroethane. Let surface air dry for 5 minutes.

WARNING

CHEMICAL FILM

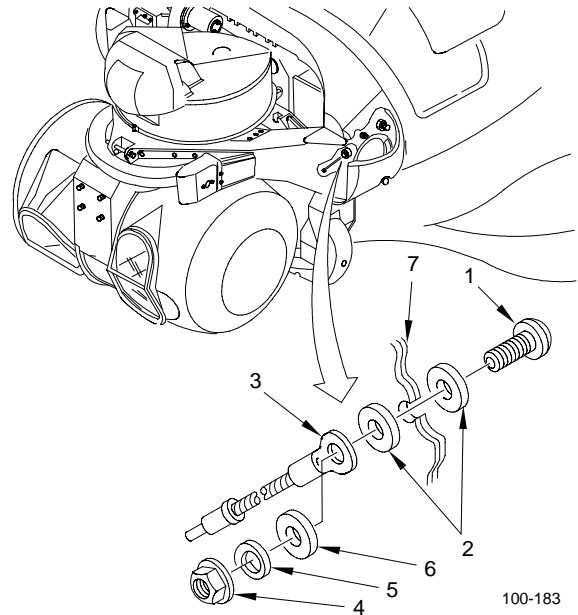
- Toxic, irritating, caustic. Can cause eye damage.
- Don't: Let it get on your skin.
- Do: Use in well-ventilated area. Close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.

5. Apply chemical film to sanded area with brush. Let surface air dry for 5 minutes.



3-35. BONDING STRAP ASSEMBLY REPLACEMENT (cont)

6. Lightly wipe sanded area with a cheesecloth pad and water. If the surface shows streaks, continue wiping until streaks are gone.
7. Let surface air dry.
8. Install bonding strap (3) on aircraft interface assembly (7) using screw (1), washers (2), washers (5 and 6), and nut (4).
9. Using multimeter, measure resistance between bonding strap (3) and surface of aircraft interface assembly (7). If resistance is greater than 0.0025 ohms repeat steps 1 thru 6 above.
10. Apply corrosion inhibitive sealing and coating compound to bonding strap and mounting hardware. Use class 2 application (para 3-8).
11. Have installation inspected.
12. Perform followup.



END OF TASK

Section IV. DAY SENSOR ASSEMBLY (DSA) MAINTENANCE

Subject	Para	Page
Day Sensor Subassembly Replacement	3-36	3-125
Lamp Assembly A14 Replacement	3-37	3-132
Television Sensor Assembly or Solid State Camera Assembly Replacement	3-38	3-134
Laser Transceiver Unit (LTU) Assembly Replacement	3-39	3-140
Laser Tracker Receiver (LT/R) Unit Replacement	3-40	3-143
Roll/Pitch/Yaw Gyro Circuit Card Assembly (CCA) Replacement	3-41	3-146

3-36. DAY SENSOR SUBASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Torque wrench, 0-75 in-lb
 Torque wrench, 30-200 in-lb

Materials (appendix D)

Lacing and tying tape (Item 47)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 One person to assist
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-22	Day sensor shroud assembly removed
Para 3-41	Roll/pitch/yaw gyro CCA removed
Para 3-39	LTU assembly removed
Para 3-40	LT/R unit removed
Para 3-38	TV sensor assembly removed

FOLLOWUP

Install TV sensor assembly (para 3-38)
 Install LTU assembly (para 3-39)
 Install LT/R unit (para 3-40)
 Install roll/pitch/yaw gyro CCA (para 3-41)
 Install day sensor shroud assembly (para 3-22)
 Perform internal boresight procedure (para 3-58)
 Perform outfront boresight procedure (para 3-59)

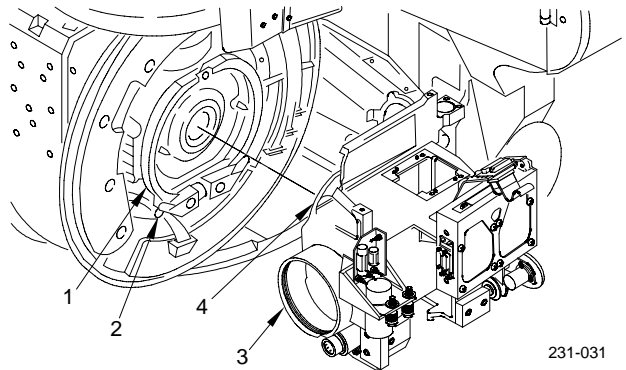
3-36. DAY SENSOR SUBASSEMBLY REPLACEMENT (cont)

REMOVAL

CAUTION

- Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.
- The day sensor subassembly is bulky and fragile. Assistant is needed to support the subassembly to prevent damage.
- Optics are exposed when day sensor subassembly is removed. Do not touch or bump optics. Damage will result.
- Damage to the gimbal clamp assembly can result if the clamp pin is loosened too far. Loosen gimbal clamp assembly only far enough to allow the day sensor assembly to be removed.

1. Loosen gimbal clamp assembly (1) by unscrewing clamp pin (2). Have assistant support subassembly (3).
2. Remove day sensor subassembly (3) by unscrewing clamp pin (2) enough to spread clamp assembly (1).
3. Place day sensor subassembly (3), with mounting flange (4) down, on a clean dry surface.



231-031

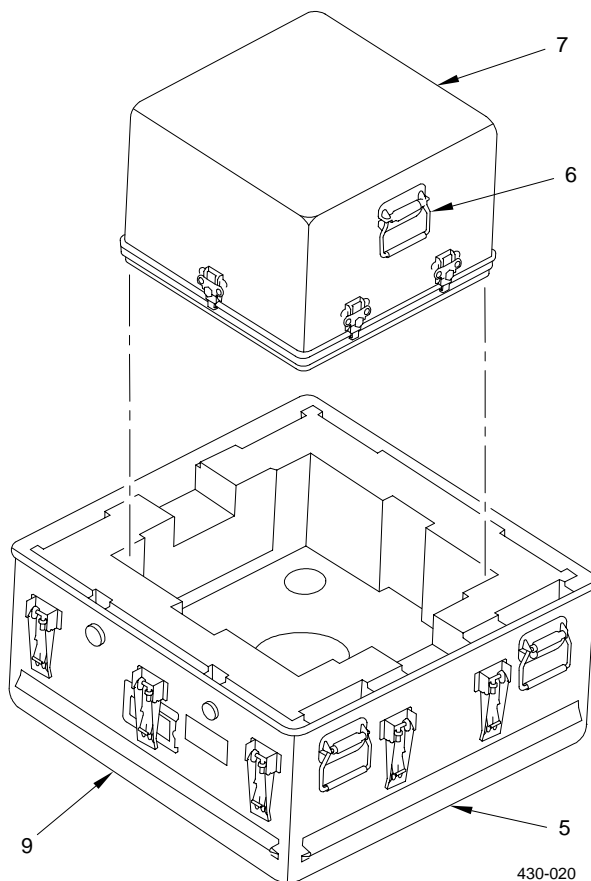
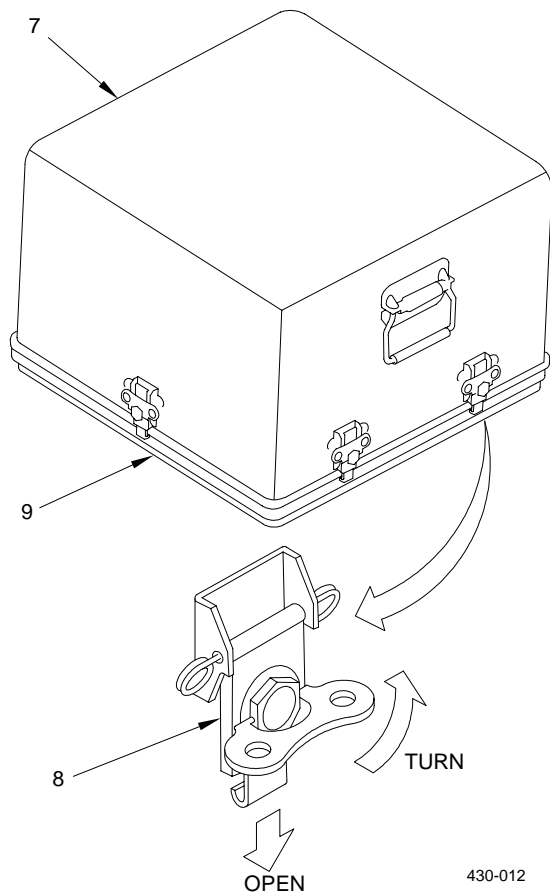
3-36. DAY SENSOR SUBASSEMBLY REPLACEMENT (cont)

INSTALLATION

WARNING

HEAVY OBJECT

- Excessive strain can cause serious injury.
- Don't: Attempt to lift or carry heavy objects alone.
- Do: Get help for lifting or carrying objects weighing more than 35 pounds.
- If you experience a sudden pain while lifting or discomfort after lifting, get medical help at once.



4. Remove replacement day sensor subassembly from shipping and storage container (5).
 - a. Open shipping and storage container (para 2-4).
 - b. Grasp handles (6) on case assembly (7) and remove case assembly from shipping and storage container (5).
 - c. Place case assembly (7) on flat surface.
 - d. Unlock and disengage six latches (8) securing case assembly (7) to base assembly (9).

3-36. DAY SENSOR SUBASSEMBLY REPLACEMENT (cont)

e. Grasp handles (6) and lift case assembly (7) clear of base assembly (9).

f. Place case assembly (7) on clean dry surface.

5. Remove replacement day sensor subassembly (3) from base assembly (9).

NOTE

- Two types of base assemblies are used with inner case of day sensor subassembly shipping and storage container. Type B has a support plate attached to the base assembly with two bolts. Type A has no support plate.

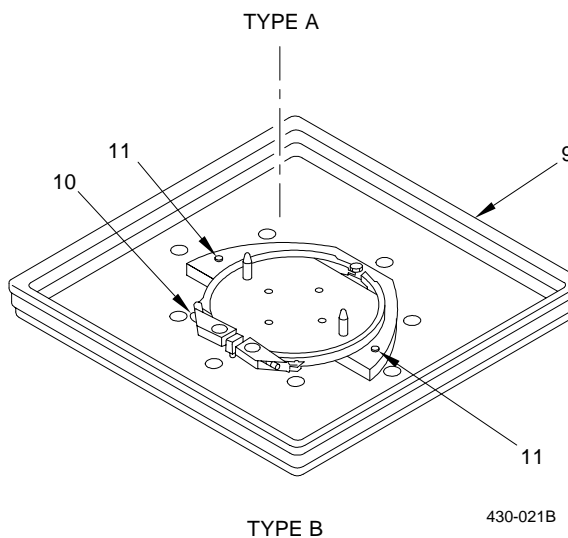
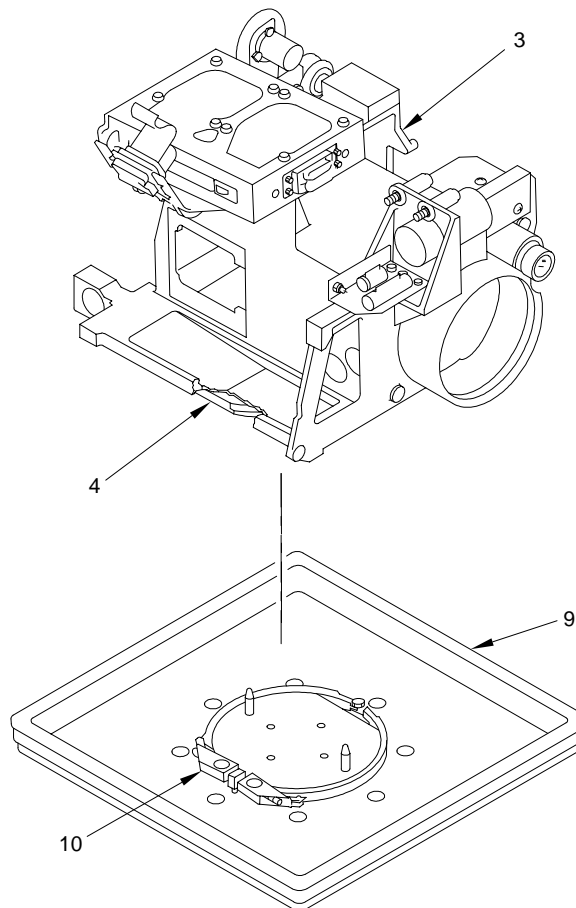
- Do step a for Type A base assembly.

- Do step b for Type B base assembly.

a. Unscrew clamp pin (10) until clamp halves are clear of mounting flange (4) of day sensor subassembly (3).

b. Unscrew clamp pin (10) until clamp halves touch bolt heads (11).

c. Carefully remove day sensor subassembly (3) from base assembly (9).

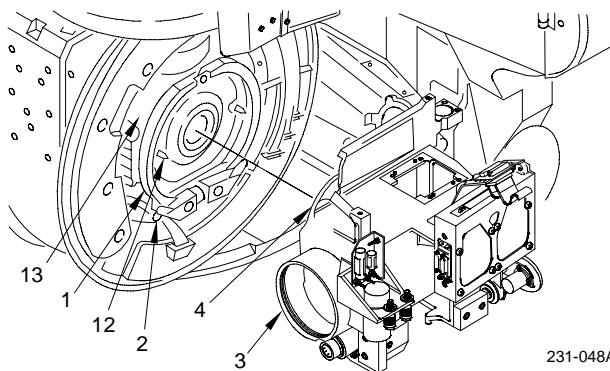


430-021B

3-36. DAY SENSOR SUBASSEMBLY REPLACEMENT (cont)**CAUTION**

Ensure the gimbal clamp assembly is properly seated around the DSA subassembly mounting flange. An improper fit can cause damage to the equipment when tightening the clamp pin.

6. Install day sensor subassembly (3).
 - a. Lift day sensor subassembly (3) to mounting position and line up two alignment pins (12) on gimbal assembly (13) with mounting holes on day sensor subassembly (3).
 - b. Install day sensor subassembly (3) and hold in mounting position. Use inspection mirror and ensure day sensor subassembly mounting flange is seated flush against the azimuth gimbal assembly. If the DSA (3) is not seated properly repeat step a above.
 - c. Place gimbal clamp assembly (1) on day sensor subassembly (3) and torque clamp pin (2) to 100 in-lb.



231-048A

3-36. DAY SENSOR SUBASSEMBLY REPLACEMENT (cont)

7. Install defective day sensor subassembly (3) on base assembly (9).

NOTE

- Two types of base assemblies are used with inner case of DSA shipping and storage container. Type B has a support plate attached to the base assembly with two bolts. The support plate and two bolts prevent clamp misalignment during installation of day sensor subassembly on base assembly. Type A has no support plate and the clamp is subject to misalignment during installation of day sensor subassembly on base assembly.
- Do step a for Type A base assembly.
- Do step b for Type B base assembly.

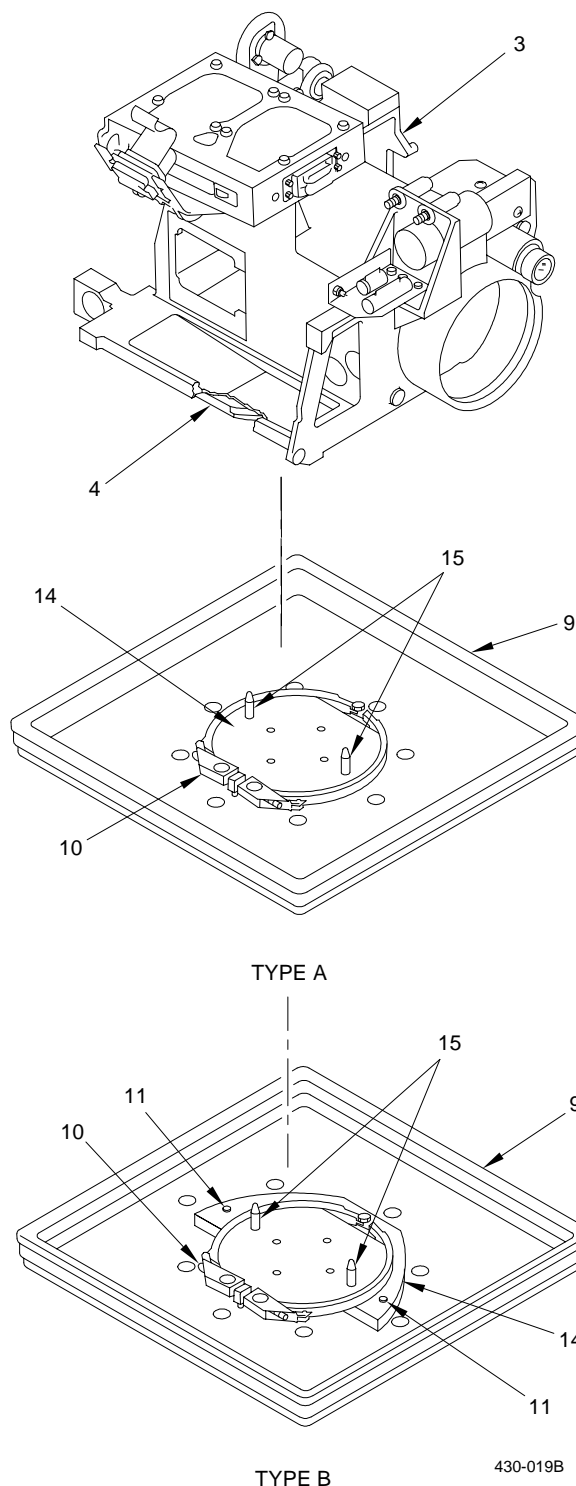
- a. Make sure clamp assembly is loosened until clamp halves are spread apart far enough to permit installation of day sensor subassembly mounting flange (4) on base assembly mounting plate assembly (14). Also, make sure clamp halves are positioned equally on each side of locating pins (15).

- b. Make sure clamp assembly is loosened until clamp halves are touching bolt heads (11). Also, clamp tab must point to clamp center.

- c. Position mounting flange (4) of day sensor subassembly (3) above mounting plate assembly (14).

- d. Align the two locating pins (15) with two mounting holes on day sensor subassembly (3) and install day sensor subassembly (3) on mounting plate assembly (14).

- e. Hold day sensor subassembly (3) in place and tighten clamp pin (10). Torque to 35 in-lb.

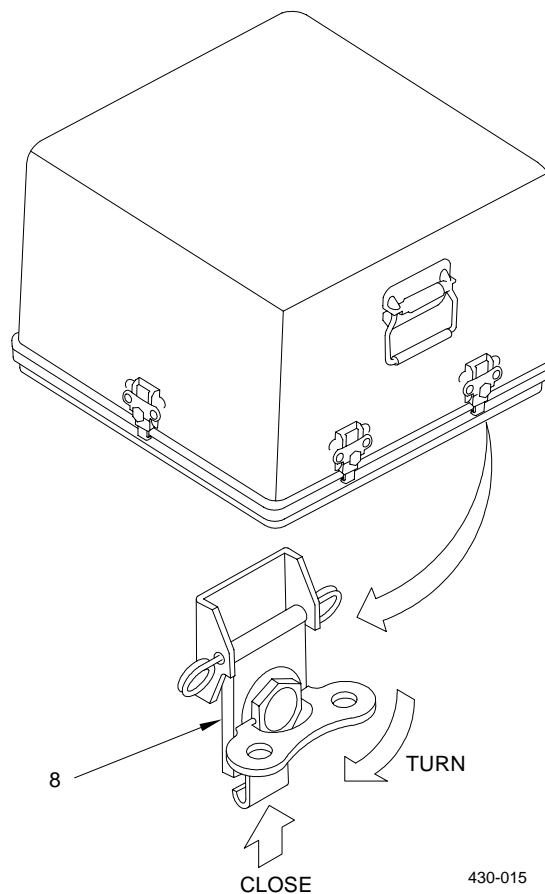
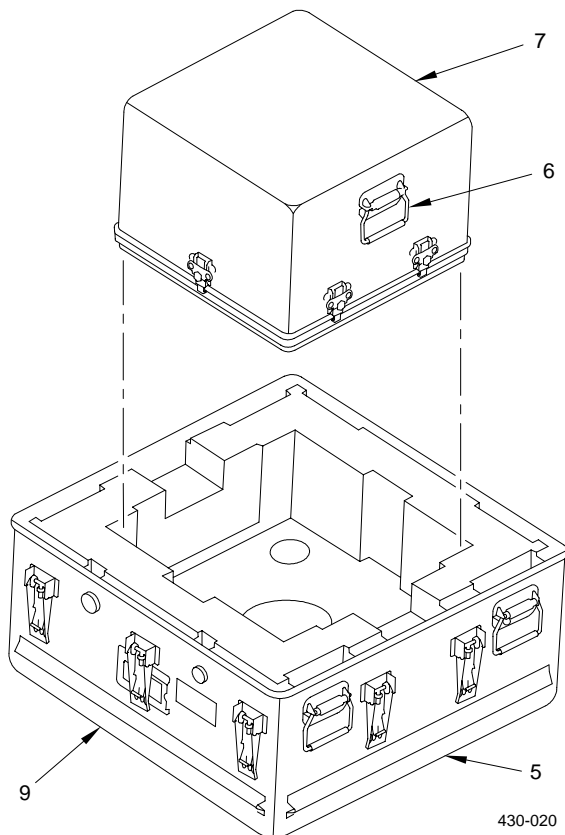


430-019B

3-36. DAY SENSOR SUBASSEMBLY REPLACEMENT (cont)

8. Install defective day sensor subassembly (3) in shipping and storage container.
 - a. Grasp handles (6) of case assembly (7) and install case assembly on base assembly (9).
 - b. Engage and lock six latches (8).
 - c. Grasp handles (6) and install case assembly (7) in shipping and storage container (5).
 - d. Close shipping and storage container (para 2-5).
9. Have day sensor subassembly installation inspected.
10. Perform followup.

END OF TASK



3-37. LAMP ASSEMBLY A14 REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)
 Lacing and tying tape (Item 47)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-22	Day sensor shroud assembly removed

FOLLOWUP

Install day sensor shroud assembly (para 3-22)

REMOVAL

CAUTION

Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.

1. Remove lamp bracket assembly (1).
 - a. Disconnect connector A14J1 (2) from connector P9 by cutting lacing and tying tape (3).
 - b. Remove lacing and tying tape (3) from around cable harness assembly (4).
 - c. Remove screw (5), washer (6), and lamp bracket assembly (1).
2. Remove lamp assembly (7) from lamp bracket assembly (1).

NOTE

There are two configuration lamp bracket assemblies:

- Screw (8) secures lamp assembly to lamp bracket assembly by pinching slotted ends of lamp bracket assembly together.
 - Screw (8) secures lamp assembly to lamp bracket assembly by applying pressure directly to lamp assembly through lamp bracket assembly.
- a. Remove screw (8).
 - b. Remove lamp assembly (7).

3-37. LAMP ASSEMBLY A14 REPLACEMENT (cont)**INSTALLATION**

3. Remove old corrosion inhibitive sealing and coating compound from lamp bracket assembly (1) and screw (8) (para 3-8).
4. Install lamp assembly (7) in lamp bracket assembly (1). Insert and tighten screw (8) so that lamp assembly (7) is secure in bracket but loose enough to be movable.
5. Position lamp bracket assembly (1) in housing mounting position and adjust the lamp assembly (7) until it touches bottom of lens.

NOTE

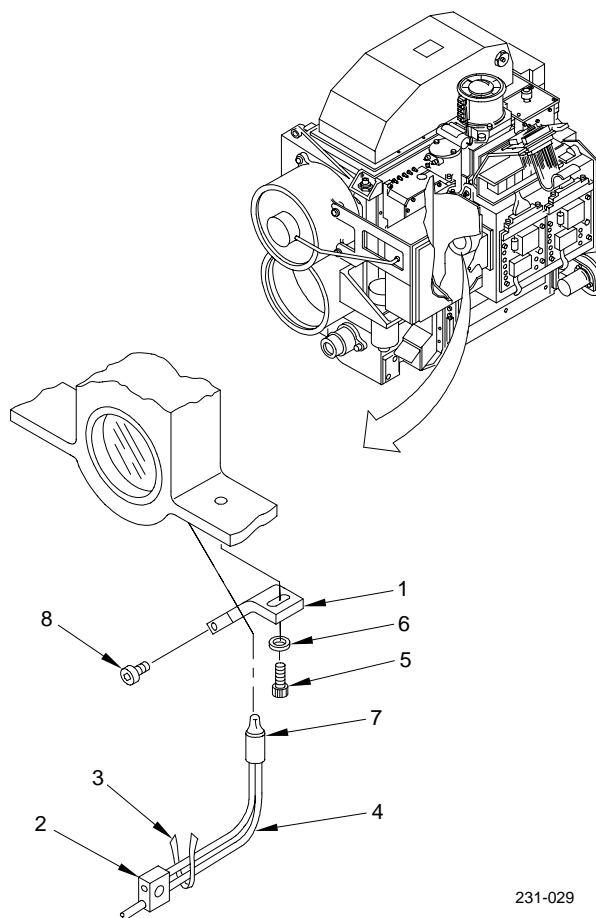
After adjusting lamp assembly, be careful not to pull, push, or jar it from its setting.

6. Remove lamp bracket assembly (1) from housing and tighten screw (8).
7. Apply corrosion inhibitive sealing and coating compound to head of screw (8). Use class 1B application (para 3-8).
8. Install lamp bracket assembly (1).
 - a. Install lamp bracket assembly (1), using washer (6) and screw (5).
 - b. Connect connector A14J1 (2) to connector P9 and secure with lacing and tying tape (3).
 - c. Place wires in cable harness assembly (4) and install lacing and tying tape (3).

9. Have installation inspected.

10. Perform followup.

END OF TASK



231-029

3-38. TELEVISION SENSOR ASSEMBLY OR SOLID STATE CAMERA ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Acid-type safety goggles
 Ball driver hexset
 Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Rubber apron
 Rubber gloves
 Torque wrench, 0-30 in-lb

Materials (appendix D)

Abrasive paper, 400 grit (Item 39)
 Cheesecloth pad (Item 37)
 Chemical film (Item 29)
 Cotton, lint-free cloth (Item 13)
 Corrosion inhibitive sealing and coating compound (Item 18)
 Lacing and tying tape (Item 47)
 Trichloroethane (Item 50)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-22	Day sensor shroud assembly removed

FOLLOWUP

Install day sensor shroud assembly (para 3-22)
 Perform internal boresight procedure (para 3-58)
 Perform outfront boresight procedure (para 3-59)

REMOVAL

CAUTION

- Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.
- This assembly contains electro-static discharge sensitive (ESDS) devices. Refer to paragraph 4-3 for handling requirements before starting this task, to prevent damage to the devices.
- Observe how connectors are mated. It is possible to reverse connections due to lack of keying on connectors. Reversing connectors can cause extensive damage.

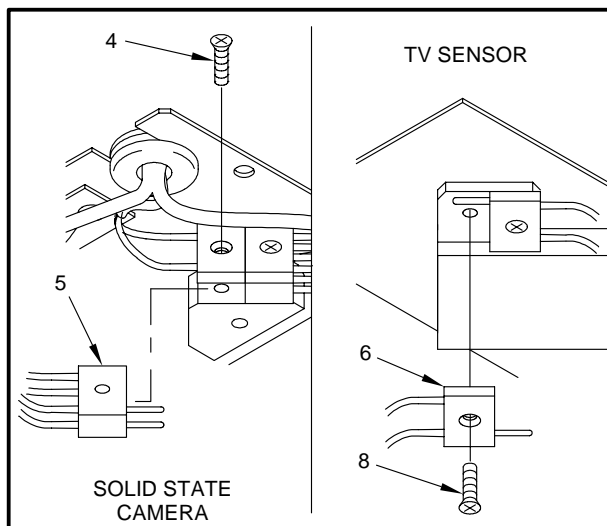
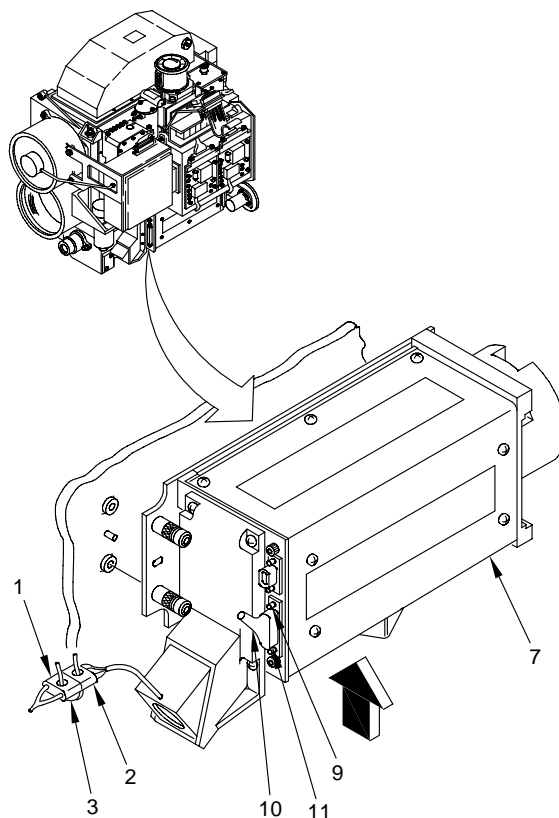
3-38. TELEVISION SENSOR ASSEMBLY OR SOLID STATE CAMERA ASSEMBLY REPLACEMENT (cont)

1. Disconnect connector A19J1 (1) from connector P1 (2) by removing lacing and tying tape (3).

NOTE

If removing Day TV Solid State Camera Assembly, proceed with step 2. If removing a TV Sensor Assembly, proceed to step 4.

2. Remove screw (4) and disconnect connector P13 (5) from connector A4J1 on bottom of solid state camera assembly.
3. Disconnect connector P13 (6) from connector A4J1 on bottom of TV sensor assembly (7) by removing screw (8).
4. Loosen two screwlocks (9) and disconnect connector P7 (10) from connector J1 (11).



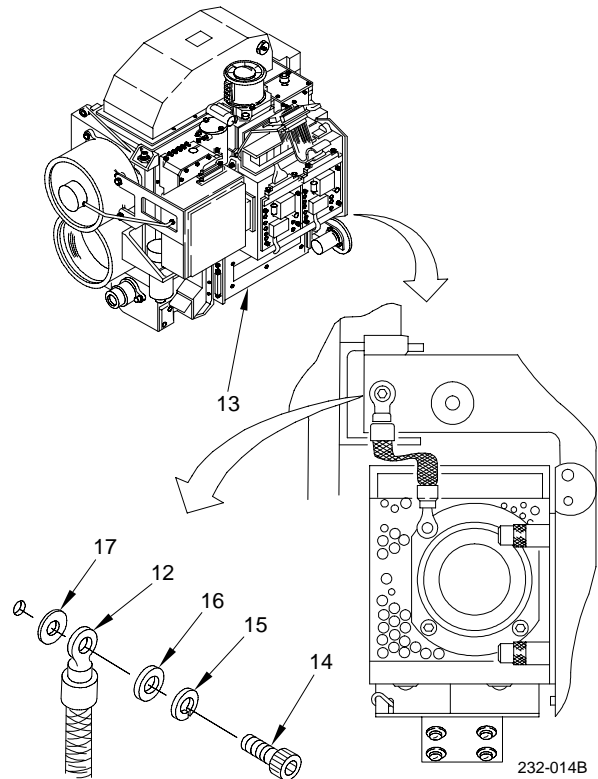
232-007A

3-38. TELEVISION SENSOR ASSEMBLY OR SOLID STATE CAMERA ASSEMBLY REPLACEMENT (cont)

NOTE

Day TV Solid State Camera Assembly has no ground strap requirement. Skip ground strap removal step 5 and continue procedure.

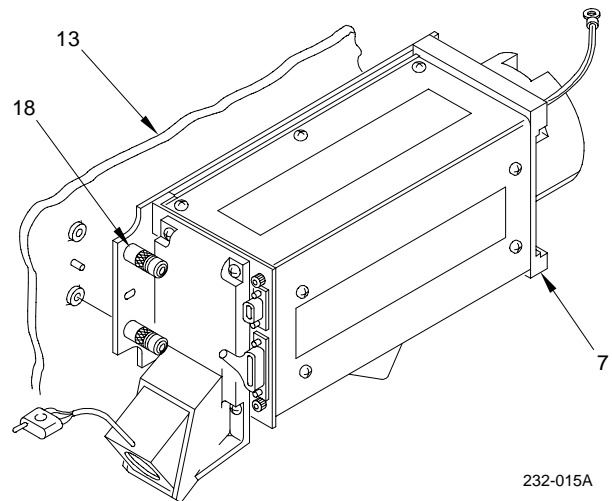
5. Disconnect ground strap (12) from day sensor assembly (13) by removing screw (14), lockwasher (15), washer (16), and washer (17).



CAUTION

Optics are exposed when TV sensor assembly is removed. Do not touch or bump optics. Damage may result.

6. Remove TV sensor assembly (7). Support TV sensor assembly (7) and using ball driver set, loosen four captive screws (18) holding TV sensor assembly (7) to day sensor assembly (13).



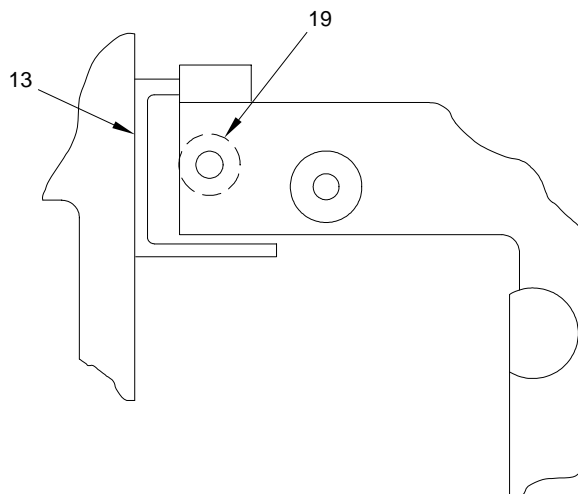
3-38. TELEVISION SENSOR ASSEMBLY OR SOLID STATE CAMERA ASSEMBLY REPLACEMENT (cont)

INSTALLATION

NOTE

Day TV Solid State Camera Assembly has no ground strap requirement. Skip ground strap installation steps 7 thru 17 and continue procedure.

7. Remove old corrosion inhibitive sealing and coating compound (para 3-8) from grounding strap, mounting hardware, and grounding strap mounting surface (19) on DSA (13).
8. Using 400 grit emery paper sand grounding strap mounting surface (19) on DSA (13) to bare metal.



232-016A

WARNING

TRICHLOROETHANE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
 - At 325°F (162.7 °C), gives off phosgene gas, which can cause death or serious injury.
 - Don't: Use near flames or sparks, let it get on skin, or breath vapors.
 - Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
 - If it contacts skin or eyes, wash affected area with running water. Get medical help at once.
 - If you experience any breathing problems, get to fresh air at once.
9. Clean sanded grounding strap mounting surface (19) with cotton lint-free cloth and trichloroethane. Let surface air dry for 5 minutes.

3-38. TELEVISION SENSOR ASSEMBLY OR SOLID STATE CAMERA ASSEMBLY REPLACEMENT (cont)

WARNING

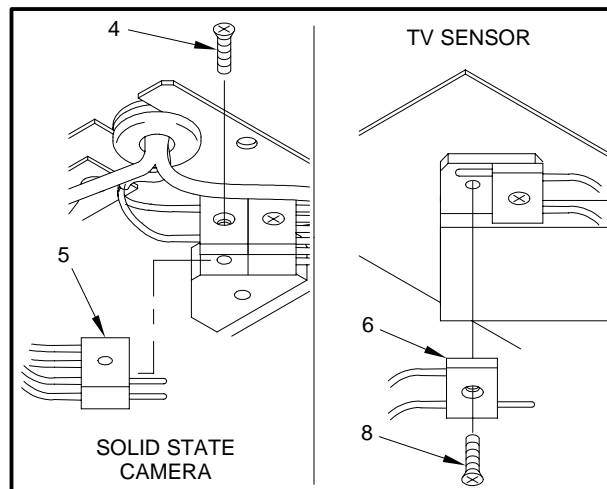
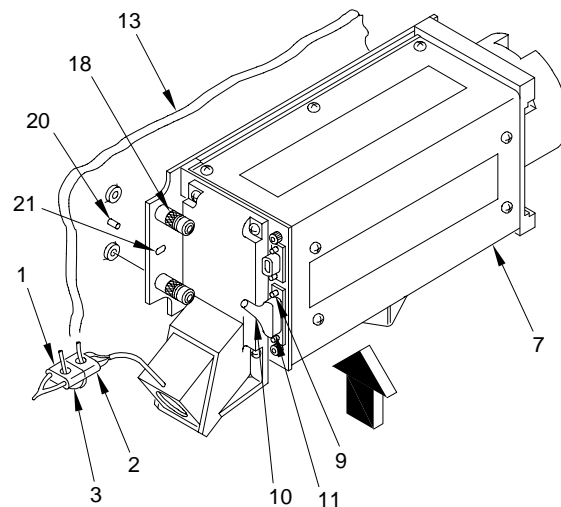
CHEMICAL FILM

- Toxic, irritating, caustic. Can cause eye damage.
- Don't: Let it get on your skin.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles.
- If it contacts skin or eyes, wash affected area with running water. Get medical help at once.

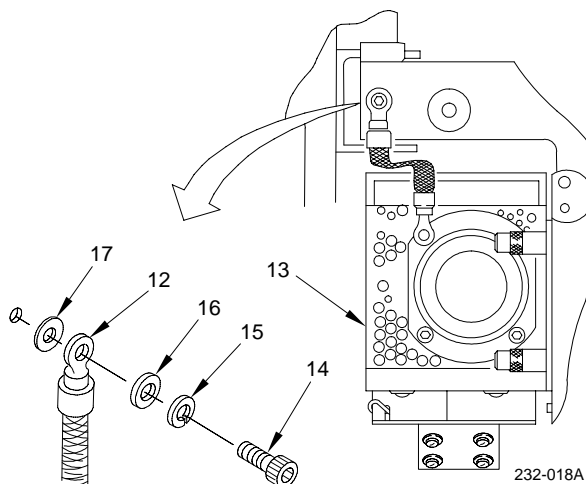
CAUTION

- Do not clean optics unless told to by your supervisor.
- Too much cleaning can ruin optical surfaces.

10. Apply chemical film to sanded area.
11. Let surface air dry for 5 minutes.
12. Lightly wipe surface with a cheesecloth pad and water. If the surface shows streaks, continue wiping until streaks are gone.
13. Let surface air dry.
14. Have optical surfaces inspected and cleaned as required (para 3-6).
15. Position TV sensor assembly (7) on DSA (13). Ensure alinement pins (20) are seated properly in alinement holes (21). Tighten four captive screws (18). Torque to 16 in-lb.
16. Install grounding strap (12) on day sensor assembly (13) with washer (17), washer (16), lockwasher (15), and screw (14).
17. Apply corrosion inhibitive sealing and coating compound class 2 application (para 3-8).



232-017B



232-018A

3-38. TELEVISION SENSOR ASSEMBLY OR SOLID STATE CAMERA ASSEMBLY REPLACEMENT (cont)

NOTE

Ensure connector is mated properly to avoid severe damage to solid state camera, TADS power supply and/or wiring. It is possible to reverse connector plug due to lack of keying.

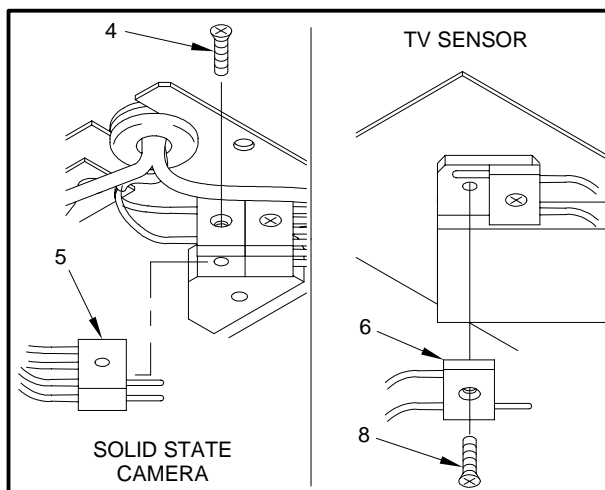
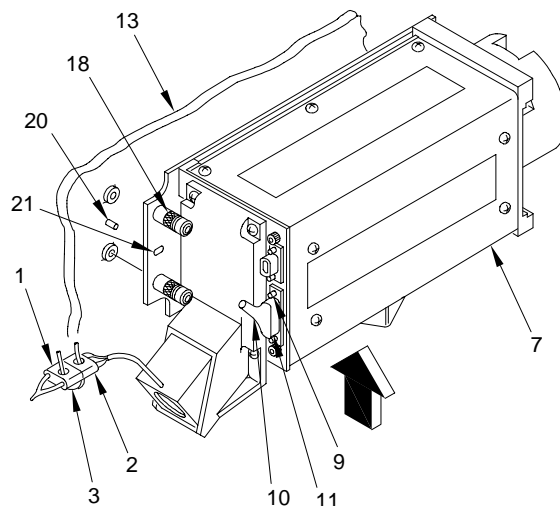
18. Connect connector P7 (10) to connector J1 (11) and tighten two screwlocks (9).

NOTE

If installing a Day TV Solid State Camera Assembly, proceed with step 19. If installing a TV Sensor Assembly, proceed with step 20.

19. Connect connector P13 (5) to connector A4J1 on bottom of solid state camera assembly (7) and secure using screw (4).
20. Connect connector P13 (6) to connector A4J1 and secure to bottom of TV sensor assembly (7) using screw (8).
21. Connect connector A19J1 (1) to connector P1 (2). Tie connectors P1 (2) and A19J1 (1) to harness using lacing tape (3).
22. Have installation inspected.
23. Perform followup.

END OF TASK



232-017B

3-39. LASER TRANSCEIVER UNIT (LTU) ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Torque wrench, 0-30 in-lb

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-22	Day sensor shroud assembly removed

FOLLOWUP

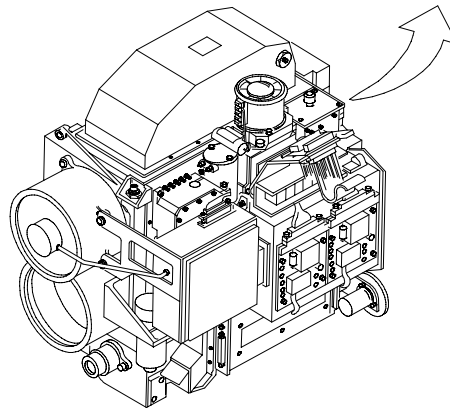
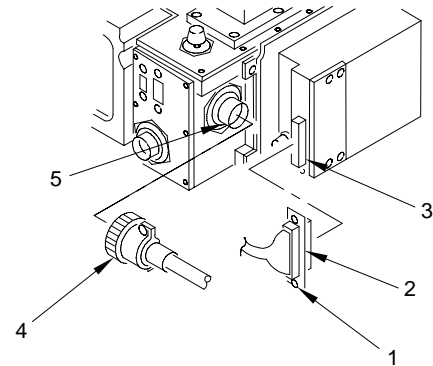
Install day sensor shroud assembly (para 3-22)
 Perform internal boresight procedure (para 3-58)
 Perform outfront boresight procedure (para 3-59)

REMOVAL

CAUTION

- Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.
- Operating TADS/PNVS brake release switch releases the azimuth and elevation brakes. Be careful when operating this switch not to rotate the TADS turret assembly in elevation. If you do, it may cause the turret assembly to bind in azimuth.

1. Move TADS turret assembly out of stow (para 3-2) so that it is facing right (90° relative).
2. Operate TADS/PNVS brake release switch and turn DSA so that it faces down.
3. Loosen two screwlocks (1) and disconnect connector 1A4W1P11 (2) from connector J1 (3).



233-047

3-39. LASER TRANSCEIVER UNIT (LTU) ASSEMBLY REPLACEMENT (cont)

4. Disconnect connector 1A4W1P10 (4) from connector J1 (5).
5. Loosen two screwlocks (6) and disconnect connector 1A4W1J1 (7) from connector 1A5W1P1 (8) on DSA (9).
6. Loosen two screwlocks (10) and disconnect connector 1A4W1J3 (11) from connector 1A5W1P2 (12) on DSA (9).

NOTE

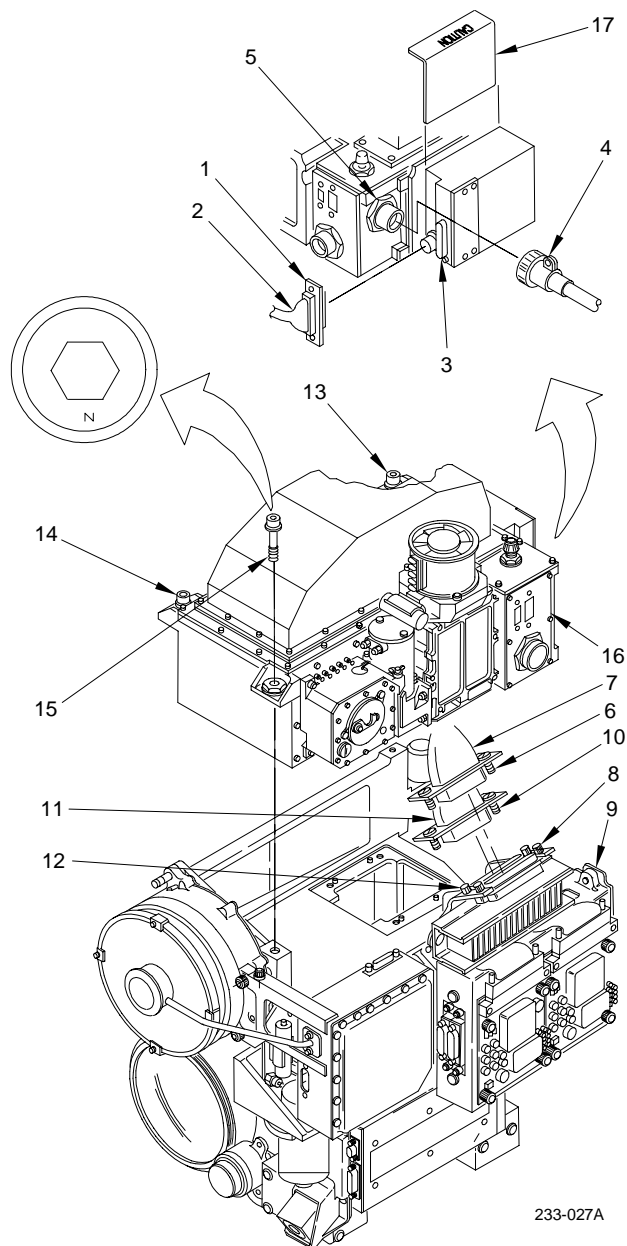
When replacing the LTU assembly the three captive screws (13, 14, 15) should be replaced with part number NAS1351N3-16. The screws are stamped with an 'N' as shown. If these screws are not available in supply, retain existing captive screws.

7. Loosen three captive screws (13, 14, 15) securing LTU assembly (16).

CAUTION

Optics are exposed when laser transceiver unit assembly is removed. Do not touch or bump optics. Damage will result.

8. Remove LTU assembly (16).



233-027A

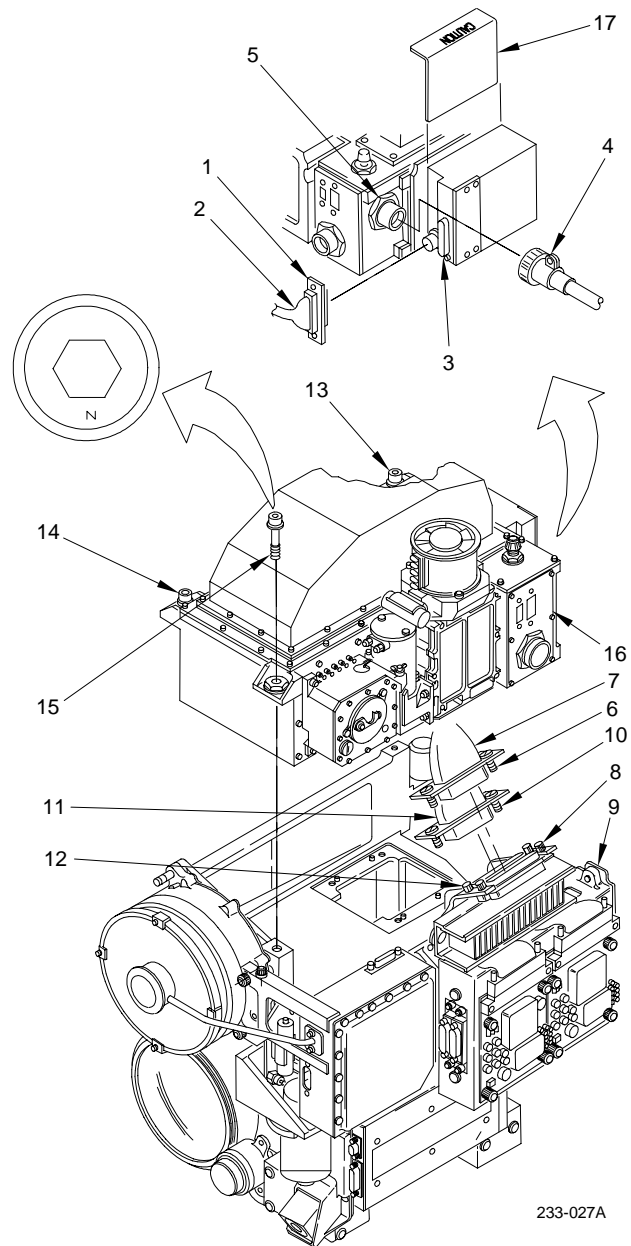
3-39. LASER TRANSCEIVER UNIT (LTU) ASSEMBLY REPLACEMENT (cont)

INSTALLATION

CAUTION

- Do not clean optics unless told to by your supervisor.
- Too much cleaning can damage optical surfaces.

9. Have LTU assembly optics inspected and cleaned as required (para 3-6).
10. Install LTU assembly (16) and tighten three captive screws (15), (14), and (13). If captive screws, part number NAS1351N3-16 are used, torque to 22 in-lb. If part number MS16996-14 is used, torque to 16 in-lb.
11. Connect connectors as follows and tighten four screwlocks (10) and (6):
 - 1A4W1J3 (11) to 1A5W1P2 (12)
 - 1A4W1J1 (7) to 1A5W1P1 (8)
12. Connect connector W1P10 (4) to connector J1 (5).
13. Connect connector W1P11 (2) to connector J1 (3) and tighten two screwlocks (1).
14. Remove receiver safety shield (17) and install in removed unit.
15. Have installation inspected.
16. Perform followup.



233-027A

END OF TASK

3-40. LASER TRACKER/RECEIVER (LT/R) UNIT REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set
Torque wrench, 0-30 in-lb

Materials (appendix D)

Lacing and tying tape (Item 47)

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-22	Day sensor shroud assembly removed

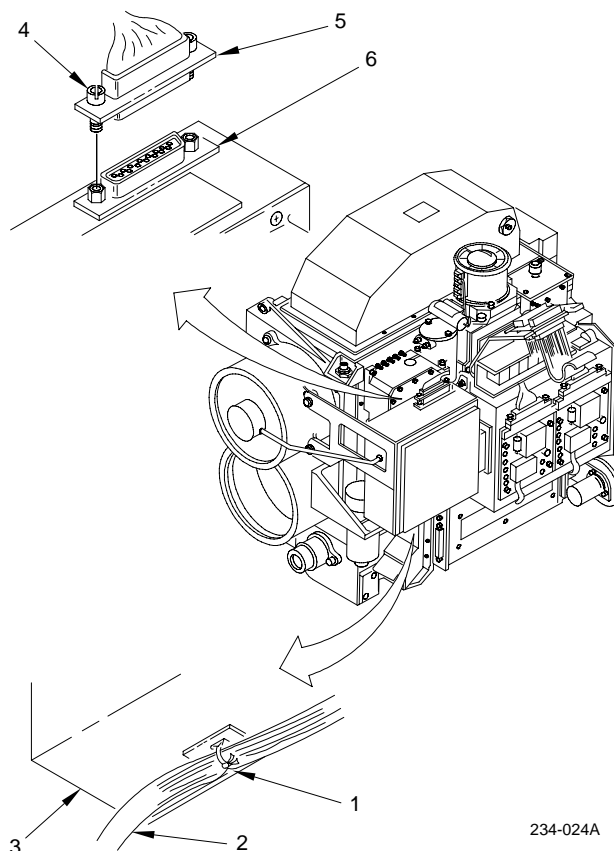
FOLLOWUP

Install day sensor shroud assembly (para 3-22)

REMOVAL

CAUTION

- Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.
 - LTR unit and other DSA optics are exposed and easily damaged. Do not bump optics. Do not touch optics with fingers or hands.
1. Remove lacing and tying tape (1) securing DSA wire bundle (2) to bottom of signal processor (3).
 2. Loosen two screwlocks (4) and disconnect connector P4 (5) from connector J1 (6).



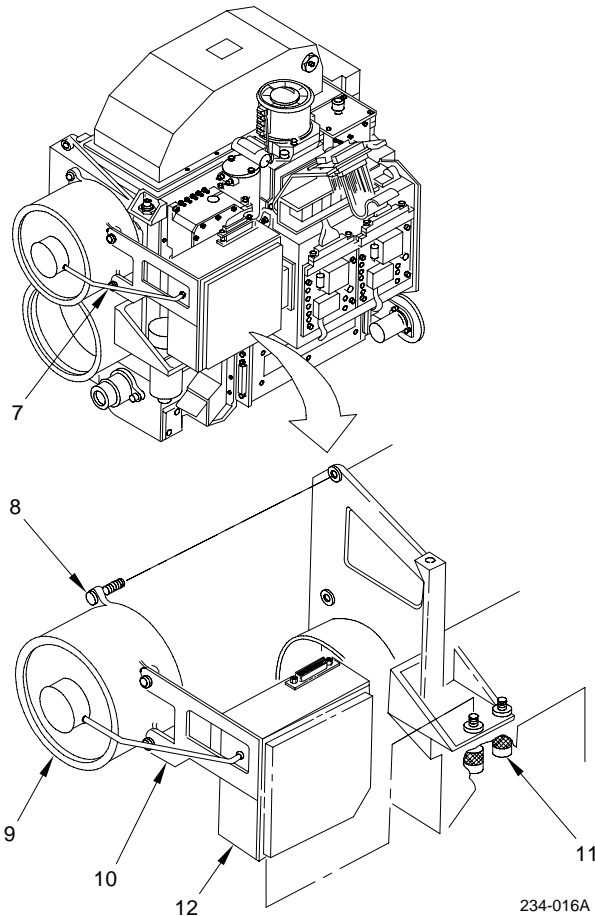
234-024A

3-40. LASER TRACKER/RECEIVER (LT/R) UNIT REPLACEMENT (cont)

CAUTION

Do not lift or support LT/R unit by cover assembly tube (7). This tube is fragile and easily damaged.

3. Loosen three captive screws (8) holding optical receiver (9).
4. Support LT/R unit (10) and loosen two captive screws (11) holding signal processor (12).
5. Remove LT/R unit (10).

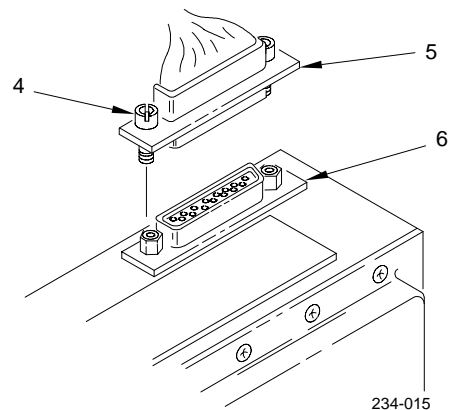


INSTALLATION

CAUTION

- LT/R unit and other DSA optics are exposed and easily damaged. Do not bump optics. Do not touch optics with fingers or hands.
- Cover assembly tube is fragile and easily damaged. Do not support or hold LT/R unit by tube.

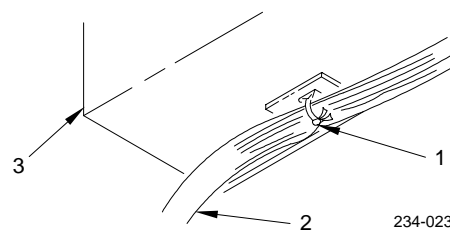
6. Install LT/R unit (10).
 - a. Support LT/R unit (10) in mounting position and tighten two captive screws (11) that hold signal processor (12).
 - b. Tighten three captive screws (8) holding optical receiver (9).
 - c. Torque screws (8 and 11) to 16 in-lb. Torque sequence of screws (8) is clockwise starting at righthand screw.
7. Connect connector P4 (5) to connector J1 (6) and tighten two screwlocks (4). Torque to 35 in-oz.



3-40. LASER TRACKER/RECEIVER (LT/R) UNIT REPLACEMENT (cont)

8. Install lacing and tying tape (1) to secure DSA wire bundle (2) to bottom of signal processor (3).
9. Have installation inspected.
10. Perform followup.

END OF TASK



3-41. ROLL/PITCH/YAW GYRO CIRCUIT CARD ASSEMBLY (CCA) REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Torque wrench, 0-30 in-lb

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)
 Lacing and tying tape (Item 47)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

References

TM 1-1270-476-T

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-22	Day sensor shroud assembly removed

FOLLOWUP

Install day sensor shroud assembly (para 3-22)
 Perform MOC (TM 1-1270-476-T)
 Perform servo drift null procedures (para 3-55)
 Perform automatic gyro alinement procedure (para 3-62)

REMOVAL

CAUTION

- Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.
- This assembly contains electro-static discharge sensitive (ESDS) devices. Refer to paragraph 4-3 for handling requirements before starting this task, to prevent damage to the devices.

NOTE

Each gyro assembly consists of a gyro and CCA. Replacement of each gyro assembly is the same. The following procedure is for replacing the roll gyro assembly and can be used to replace the pitch or yaw gyro assembly. Connectors for the pitch and yaw gyros are as follows:

Pitch gyro CCA - 1A5W1J7 from P1
 Yaw gyro CCA - 1A5W1J9 from P1

3-41. ROLL/PITCH/YAW GYRO CIRCUIT CARD ASSEMBLY (CCA) REPLACEMENT (cont)

1. Loosen screwlocks (1) and disconnect connector 1A5W1J8 (2) from connector P1 (3) at the CCA (4).

NOTE

When replacing the gyro assembly the three mounting screws (5) should be replaced with part number NAS1352N03-04. The screws are stamped with an "N" as shown. If these screws are not available in supply, retain existing mounting screws.

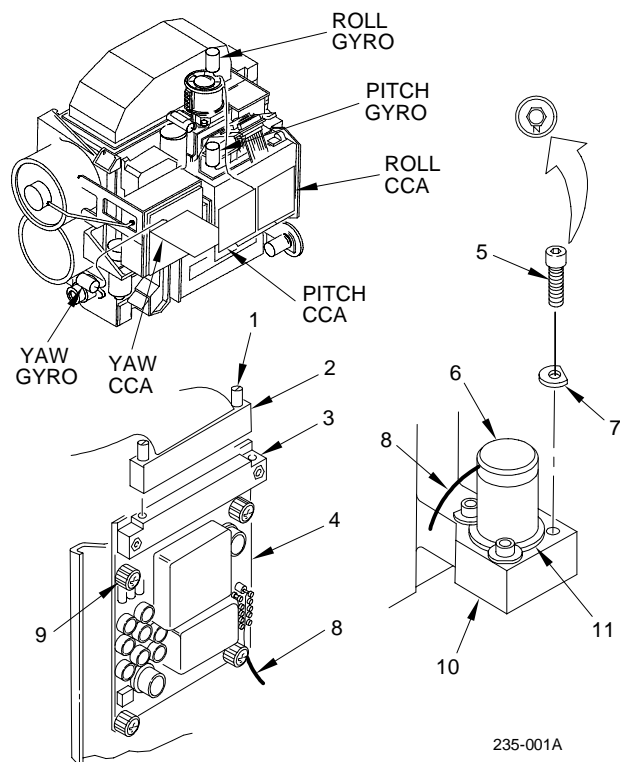
2. Remove and discard three mounting screws (5) securing gyro assembly (6). Retain mounting clamps (7).
3. Cut lacing and tying tape holding wires (8) between gyro and CCA. Note location of lacing and tying tape before removing.
4. Support CCA (4) with one hand and loosen four screws (9).
5. Remove gyro assembly (6) from housing (10).

INSTALLATION

6. Apply corrosion inhibitive sealing and coating compound to three screws (5). Use class 1A application (para 3-8).
7. Install three mounting screws (5) and mounting clamp (7) into housing (10). Do not tighten. With straight of mounting clamp (7) facing in, install gyro assembly (6).
8. Rotate clamps (7) so clamp edges overlap flange (11).
9. Remove old sealing, locking, and retaining compound from four screws (9) (para 3-8), and clean threads with acetone.

10. Apply sealing, locking, and retaining compound to four screws (9) (para 3-8), using type I application. Sealing, locking, and retaining primer application not required.
11. Install CCA (4) and torque four screws (9) to 10 in-lb.
12. Connect connector 1A5W1J8 (2) to connector P1 (3) and tighten screwlocks (1).
13. Torque three mounting screws (5) to 5 in-lb if using mounting screw NAS1352N03-04.
14. Install lacing tape on wires (8) between gyro and CCA at location noted in step 3 above.
15. Have installation inspected.
16. Perform followup.

END OF TASK



Section V. OPTICAL RELAY TUBE (ORT) ASSEMBLY MAINTENANCE

Subject	Para	Page
Optical Relay Column (ORC) Assembly Replacement	3-42	3-149
Eyeshroud Assembly Replacement	3-43	3-158
Eyepiece Assembly Replacement	3-44	3-159
Left/Right Handgrip (LHG, RHG) Assembly Replacement	3-45	3-161
Control Panel Assembly Replacement	3-46	3-162
Cable Cover Assembly Replacement	3-47	3-164
Alphanumeric Display (AND) Assembly Replacement	3-48	3-165
Indirect View Display (IVD) Electronics Assembly Replacement	3-49	3-170
Desiccant Replacement	3-50	3-174
Snubber Pad Replacement	3-51	3-175

3-42. OPTICAL RELAY COLUMN (ORC) ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools	<u>Ref</u>	<u>Condition</u>
Aircraft armament repairman tool set	Para 3-47	Cable cover assembly removed
Aircraft armament technical inspector tool set	Para 3-49	Indirect view display (IVD) electronics
Maintenance platform	Para 3-2	TADS turret assembly out of stow
Torque wrench, 30-200 in-lb stow	TM 1-5855-265-20	PNVS turret assembly out of stow
Personnel Required	TM 1-1520-238-23	Access Panels L40 and R40 removed
68X Aircraft Armament/Electrical Repairer	TM 9-1230-476-20-1	CPG MRTU type III removed
One person to assist		
66J30 Aircraft Armament Technical Inspector		
References		
TM 1-1270-476-T		
TM 1-5855-265-20		
TM 9-1230-476-20-1		
TM 1-1520-238-23		

TM 1-1270-476-T
 TM 1-5855-265-20
 TM 9-1230-476-20-1
 TM 1-1520-238-23

Equipment Conditions

CAUTION

Place removed line replaceable units (LRU) in suitable temporary storage to prevent damage.

<u>Ref</u>	<u>Condition</u>
Para 3-43	Eye shroud assembly removed
Para 3-46	Control panel assembly removed
Para 3-45	Handgrip assemblies removed

FOLLOWUP

CAUTION

Do not perform MOC with followup procedures listed below until all LRUs are reinstalled.

- Move PNVS turret assembly into stow (TM 1-5855-265-20)
- Move TADS turret assembly into stow (para 3-3)
- Install IVD electronics assembly (para 3-49)
- Install handgrip assemblies (para 3-45)
- Install control panel assembly (para 3-46)
- Install eye shroud assembly (para 3-43)
- Install MRTU (TM 9-1230-476-20-1)
- Install access panels L40 and R40 (TM 1-1520-238-23)
- Perform MOC (TM 1-1270-476-T)
- Perform pechan manual alinement procedures (para 3-56)

3-42. OPTICAL RELAY COLUMN (ORC) ASSEMBLY REPLACEMENT (cont)

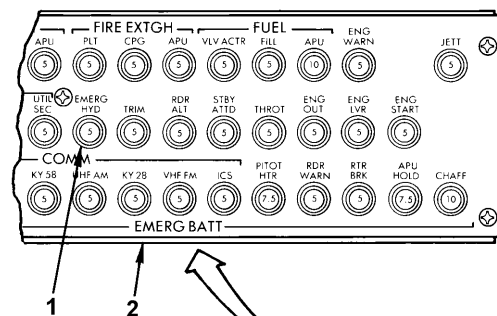
REMOVAL

- Adjust CPG foot pedals to forward limit (TM 1-1520-238-23).

CAUTION

Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.

- Close EMERG HYD circuit breaker (1) on pilot center circuit breaker panel (2).
- Set pilot ELEC PWR control panel BATT/OFF/EXT PWR switch (3) to BATT.



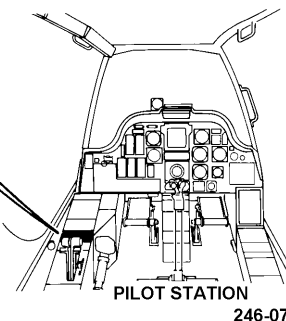
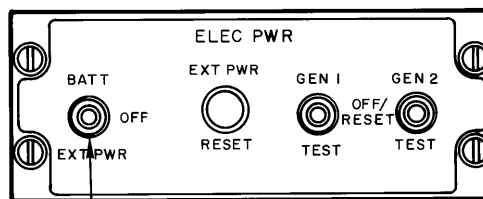
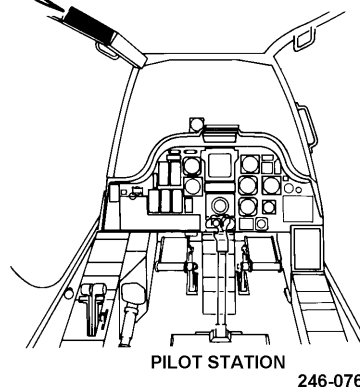
CAUTION

Hydraulic system pressure should be applied before moving flight controls. Otherwise, shear pins may be broken.

NOTE

The EMER HYD PWR switch must only be activated long enough to allow the flight controls to be moved into position, then set to OFF to avoid bleeding off accumulator pressure.

- Set CPG EMER HYD PWR switch (4) to ON.
- Place pedal adjust lever (5) in unlocked position and move foot pedals (6) to forward limits. Place pedal adjust lever (5) in locked position.
- Move and hold LH foot pedal to forward limit. Move and hold CPG cyclic stick (7) to full aft and right limits then set CPG EMER HYD PWR switch (4) to OFF and release LH foot pedal and cyclic stick.
- Set pilot ELEC PWR control panel BATT/OFF/EXT PWR switch (3) to OFF.



3-42. OPTICAL RELAY COLUMN (ORC) ASSEMBLY REPLACEMENT (cont)

8. Completely lower CPG seat (TM 1-1520-238-23).

CAUTION

Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.

NOTE

- The AND does not have to be removed if there is a cable guide attached to the AND and the cables on both sides of the ORC are restrained by the cable guide.
- The AND does not have to be removed if there is no cable guide but the cables on both sides of the ORC are free of the instrument panel.
- The AND must be removed if the cables on either side of the ORC are wedged by the instrument panel.
- Go to step 10 if the AND does not have to be removed.

9. Remove AND assembly (para 3-48).

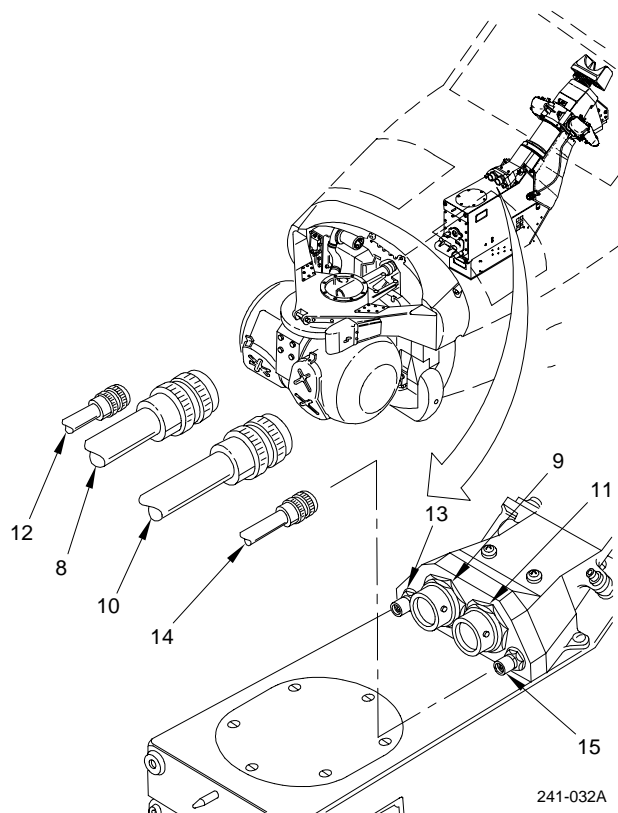
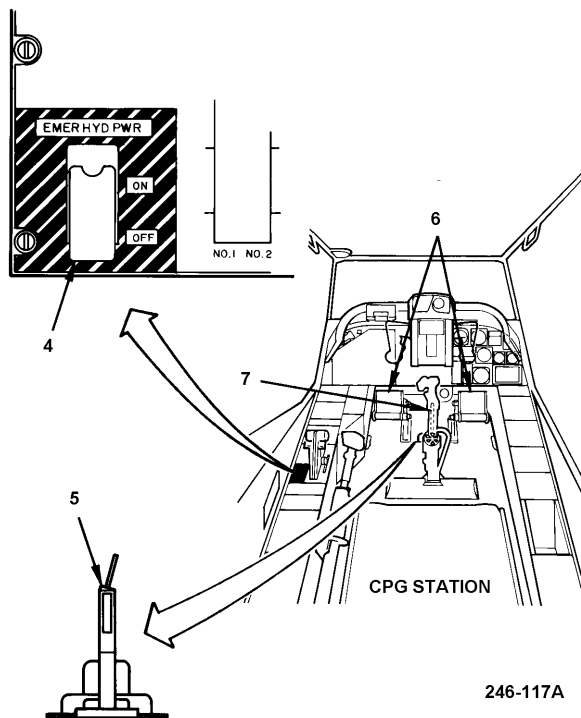
10. Disconnect the following connectors:

- P871 (8) from W1J1 (9)
- P870 (10) from W1J2 (11)
- P869 (12) from W3J3 (13)
- P868 (14) from W3J4 (15)

NOTE

To gain access to left side swivel foot screw, the left instrument panel flood light lens and lamp must be removed.

11. Remove left instrument light lens and lamp (TM 1-1520-238-23).



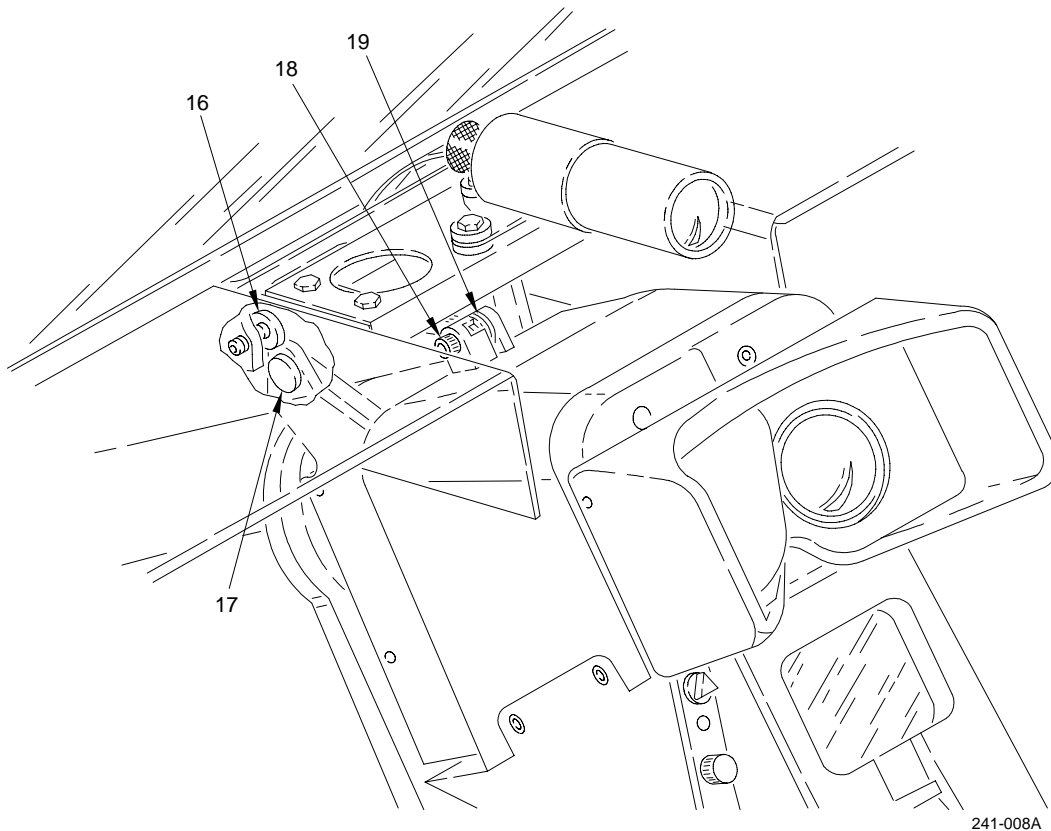
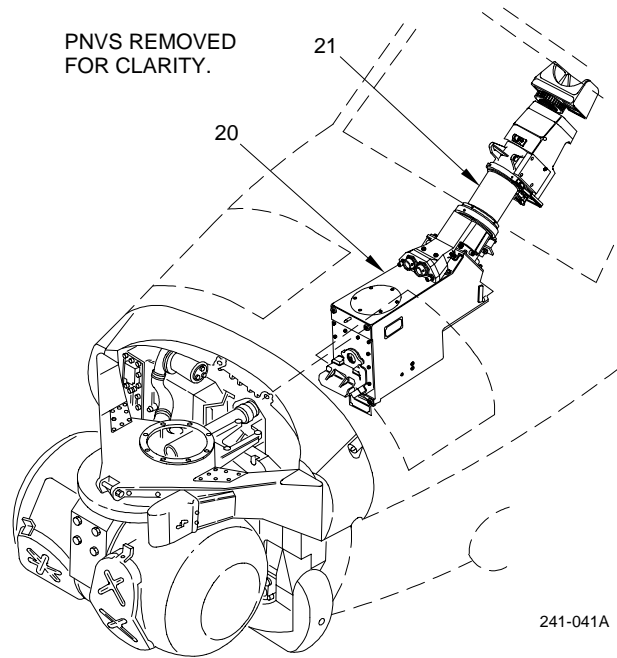
3-42. OPTICAL RELAY COLUMN (ORC) ASSEMBLY REPLACEMENT (cont)

12. Loosen two captive swivel foot screws (16), four full turns, securing ORC snubber bracket (17).
13. Loosen captive screw (18) and release crash link (19).

CAUTION

The ORC assembly is heavy and removal is awkward. Two people are required for handling. The ORC assembly and its optics are easily damaged. Do not bump ORC assembly or touch exposed optics.

14. Remove ORC assembly (20).
 - a. Have assistant support base of ORC assembly tube (21) in CPG station.



3-42. OPTICAL RELAY COLUMN (ORC) ASSEMBLY REPLACEMENT (cont)**CAUTION**

When captive screws are loosened, the ORC is supported at the aircraft interface assembly (AIA) by guide pins only. Caution assistant to keep slight forward pressure on ORC to keep pins seated. If pins come unseated, ORC will fall and cause serious damage.

- b. Loosen four captive screws (22) securing ORC assembly to AIA (23).

CAUTION

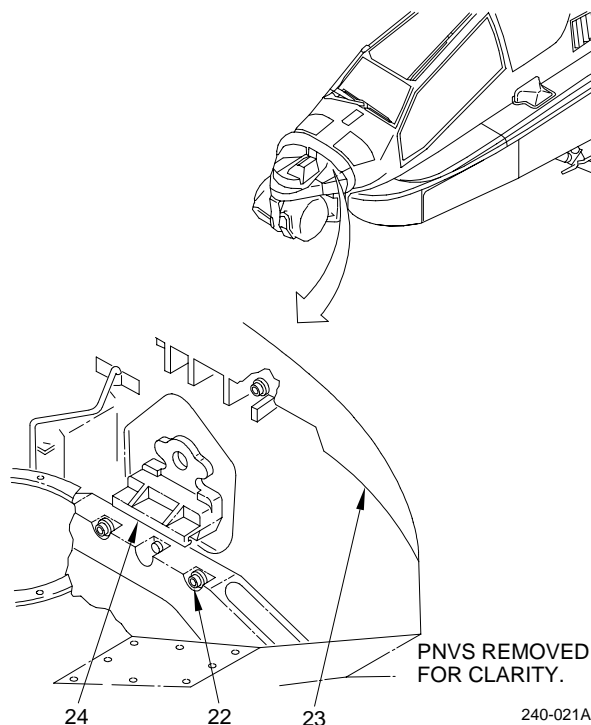
Use extreme caution when pulling the ORC out of position to ensure the cables on either side of the ORC do not get damaged by the right and left side instrument panels.

- c. Grasp handle (24) to help support ORC assembly and with assistant, move ORC straight back until clear of guide pins. When clear of pins, lower ORC and pull back until clear of instrument panel.
- d. Tilt ORC assembly toward left cockpit window and lower to floor.
- e. Have assistant move right and forward to reach down and under lower ORC.
- f. Move the upper ORC toward the left cockpit window and swing lower ORC up and through the right cockpit door onto the maintenance platform.

NOTE

If AND assembly was removed in step 9 above, go to step 15 below.

- g. Remove AND assembly (para 3-48).



- h. Check ORT snubber pads on snubber bracket (10). If damaged or missing refer to paragraph 3-51.

3-42. OPTICAL RELAY COLUMN (ORC) ASSEMBLY REPLACEMENT (cont)

INSTALLATION

15. Transfer protective caps from replacement assembly to faulty assembly.

NOTE

If AND assembly was removed at step 14g, go to step 16.

If AND assembly was removed at step 9, go to step 19.

16. Replace AND assembly (para 3-48).
17. Remove optical relay tube (ORT) nameplate from defective ORC.
18. Install ORT nameplate on replacement ORC.

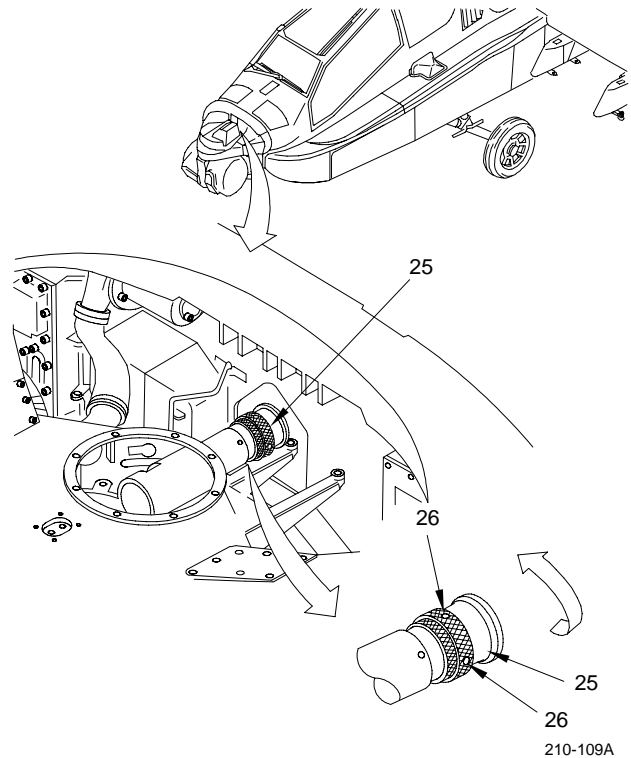
CAUTION

Do not clean optics unless told to by your supervisor. Too much cleaning can ruin optical surfaces.

19. Have ORC assembly optics inspected and cleaned as required (para 3-6).
20. Loosen field lens assembly (25).
 - a. Loosen two setscrews (26).
 - b. Turn field lens assembly (25) fully counterclockwise.
21. Position assistant in CPG station.

CAUTION

The ORC assembly is heavy and installation is awkward. Two people are required for handling. The ORC assembly and its optics are easily damaged. Do not bump ORC assembly or touch exposed optics.



22. Move ORC into CPG station.
 - a. Pass ORC through right cockpit door toward left cockpit window.
 - b. Swing lower ORC down and forward toward instrument panel and lower to floor.
 - c. Have assistant support ORC in preparation for mounting.

3-42. OPTICAL RELAY COLUMN (ORC) ASSEMBLY REPLACEMENT (cont)

23. Install ORC assembly (20).

- a. Hold ORC assembly at base of assembly tube (21) and support with feet at bottom of ORC assembly (20).

CAUTION

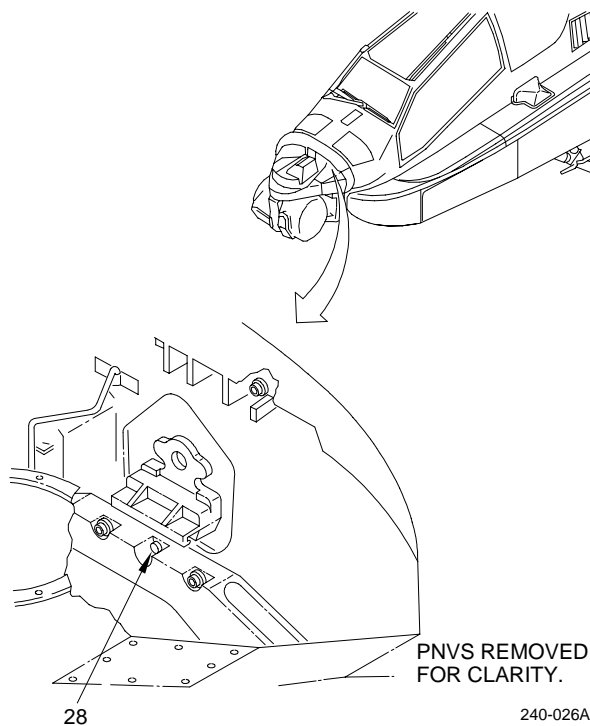
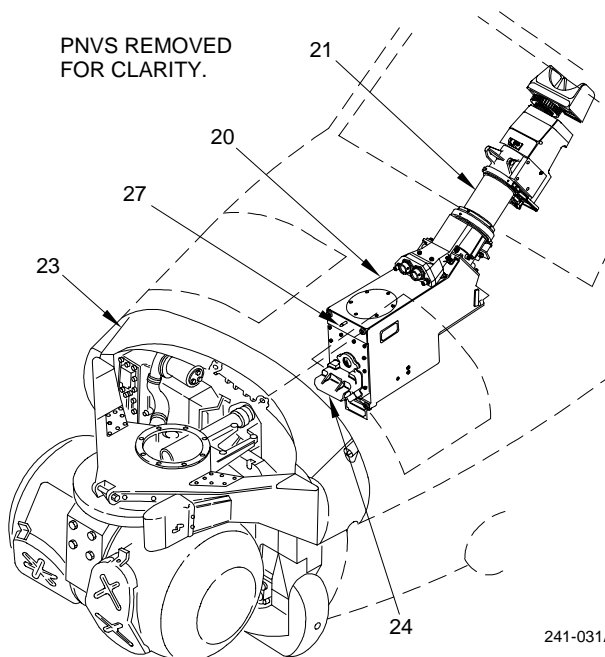
Use extreme care when pushing ORC into position to ensure cables on either side of ORC do not get damaged by the left and right side instrument panels.

- b. Using feet and hands, push ORC assembly (20) up and forward until handle (24) can be grasped from outside through opening in AIA (23).

CAUTION

Until captive screws are tightened, the ORC is supported at the aircraft interface assembly (AIA) by guide pins only. Caution assistant to keep slight forward pressure on ORC to keep pins seated. If pins come unseated, ORC will fall and cause serious damage.

- c. Grasp handle (24) and with assistant raise and maneuver ORC until the guide pins (27) are seated into pin holes (28).



3-42. OPTICAL RELAY COLUMN (ORC) ASSEMBLY REPLACEMENT (cont)

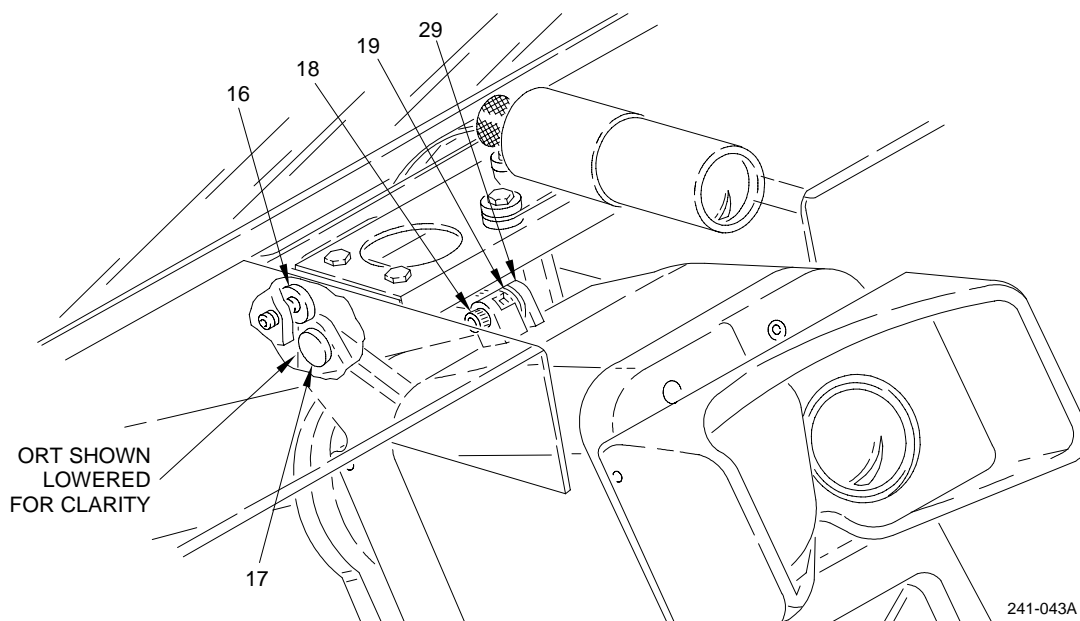
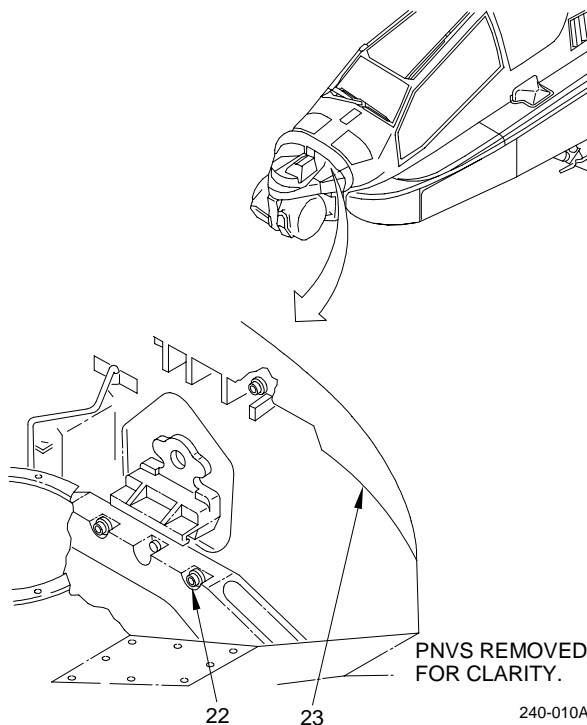
- d. Position crash link (19) into slot of crash link bracket (29).
- e. Have assistant maintain support to keep alignment pins seated. Tighten four captive screws (22) securing ORC assembly to AIA (23). Torque to 80 in-lb.
- f. Secure crash link (19) into slot of crash link bracket (29) by tightening captive screw (18).

- h. Install left instrument panel flood light lens and lamp (TM 1-1520-238-23).

CAUTION

The incremental tightening sequence below must be followed. Improper tightening can cause damage to the equipment.

- g. Tighten two captive swivel-foot screws (16) until they just make contact against snubber bracket (17), then alternately turn screws (16) in incremental turns as follows; 1/4, 1/4, 1/2, 1/4.



3-42. OPTICAL RELAY COLUMN (ORC) ASSEMBLY REPLACEMENT (cont)

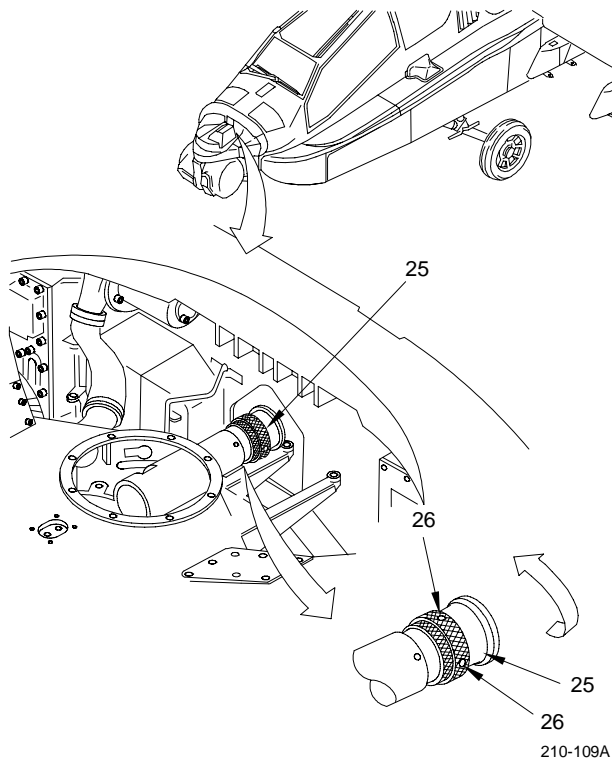
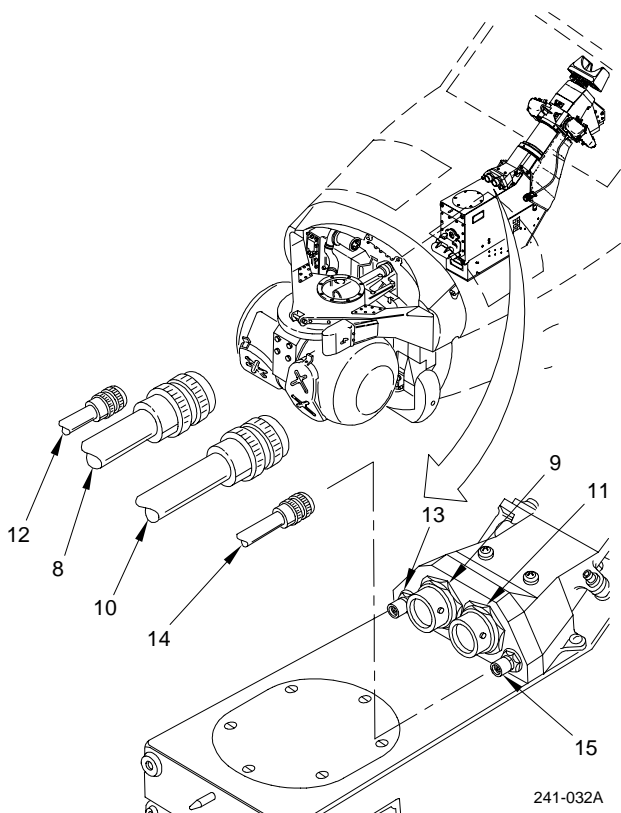
NOTE

If AND assembly was installed at step 16 go to step 25.

24. Install AND assembly (para 3-48).
25. Adjust field lens assembly (25).
 - a. Turn field lens assembly (25) clockwise to firmly seat against ORC field lens interface.

NOTE

If setscrews are not accessible, turn field lens assembly until setscrews can be removed. Remove setscrews, do step a above, and reinstall setscrews (four holes total are available for setscrew installation).



- b. Tighten two setscrews (26).

26. Connect the following connectors:

P868 (14) to W3J4 (15)
 P869 (12) to W3J3 (13)
 P870 (10) to W1J2 (11)
 P871 (8) to W1J1 (9)

27. Have assembly installation inspected.
28. Perform followup.

END OF TASK

3-43. EYESHROUD ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Spanner wrench

Personnel Required

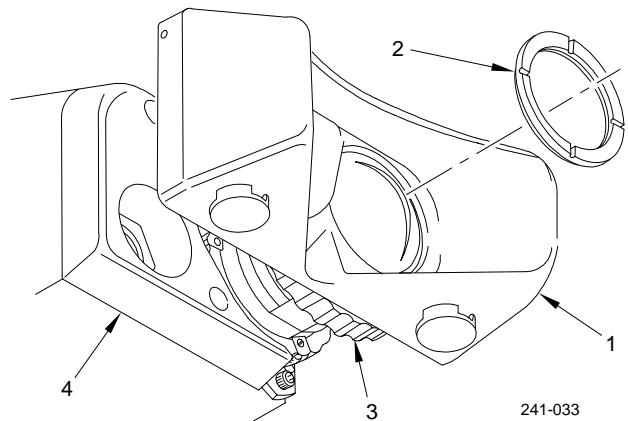
68X Aircraft Armament/Electrical Repairer

REMOVAL

CAUTION

Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.

1. Remove eye shroud assembly (1).
 - a. Unscrew retainer (2) from eye-shroud assembly (1) using optical spanner wrench.
 - b. Unscrew knob assembly (3) from optical relay column (ORC) assembly (4).



INSTALLATION

2. Install eye shroud assembly (1).
 - a. Position eye shroud assembly (1) on ORC assembly (4).
 - b. Screw knob assembly (3) onto ORC assembly (4).
 - c. Install retainer (2). Tighten retainer (2) using optical spanner wrench.

CAUTION

Do not clean optics unless told by your supervisor to clean them. Too much cleaning will wear away the optical coating.

3. Have eyepiece assembly optics inspected and cleaned as required (para 3-6).

END OF TASK

3-44. EYEPIECE ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)
Rubber finger cots (5) (Item 30)

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-43	Eyeshroud assembly removed

FOLLOWUP

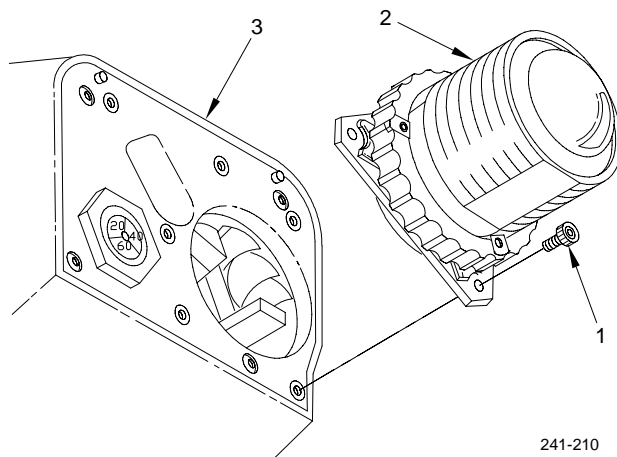
Install eyeshroud assembly (para 3-43)

REMOVAL

CAUTION

- Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.
- Never touch optics with your bare hands.
- When optics have to be touched, always wear clean rubber finger cots.

1. Place rubber finger cots on fingers and thumb of working hand.
2. Remove three screws (1) holding eyepiece assembly (2) to housing assembly (3).



241-210

3-44. EYEPIECE ASSEMBLY REPLACEMENT (cont)

CAUTION

The fiber optics will be exposed when eyepiece assembly is removed. The fiber optics are easily damaged. Do not touch exposed fiber optics.

3. Grasp eyepiece assembly (2) and remove from upper housing assembly (3).

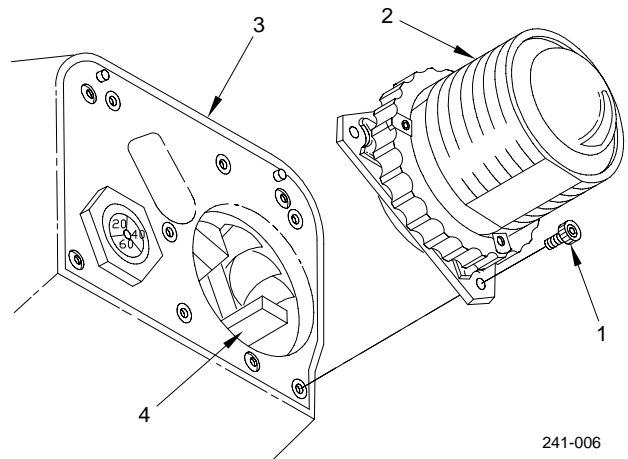
INSTALLATION

CAUTION

- Ensure the fiber optics assembly and notch inside eyepiece assembly are aligned before installation. Improper alignment will cause damage to the equipment.
- When installing eyepiece assembly, avoid touching exposed fiber optics.

4. Remove old corrosion inhibitive sealing and coating compound (para 3-8) from three screws (1).
5. Apply corrosion inhibitive sealing and coating compound to threads of three screws (1) removed in (2) above. Use class 1A application (para 3-8).
6. Aline notch inside eyepiece assembly (2) with fiber optics assembly (4).
7. Install three screws (1) holding eyepiece assembly (2),
8. Have installation inspected.
9. Perform followup.

END OF TASK



241-006

3-45. LEFT/RIGHT HANDGRIP (LHG, RHG) ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set

Personnel Required

68X Aircraft Armament/Electrical Repairer

References

TM 1-1270-476-T

TM 1-1520-238-23

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
TM 1-1520-238-23	Helicopter safed

FOLLOWUP

Perform MOC (TM 1-1270-476-1)

REMOVAL

CAUTION

The ORC and its optics are easily damaged. Do not bump ORC or touch exposed optics.

NOTE

This task covers replacement of either handgrip assembly. For illustration, the right handgrip is shown.

1. Remove handgrip assembly (1).
 - a. Loosen four captive screws (2) securing handgrip assembly (1) to ORC (3).
 - b. Grasp handgrip assembly (1) near plate (4) and pull free of ORC (3).

INSTALLATION

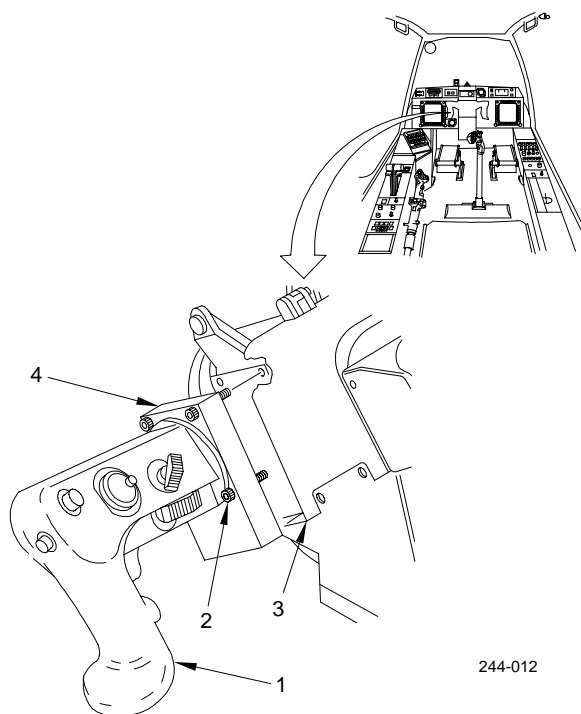
CAUTION

When installing handgrip assembly, use care to prevent bending connector contacts.

2. Install handgrip assembly (1).

- a. Aline connector contacts and mount handgrip assembly onto ORC (3)
 - b. Tighten four captive screws (2) securing handgrip assembly (1) to ORC (3).
3. Perform followup.

END OF TASK



244-012

3-46. CONTROL PANEL ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set

Personnel Required

68X Aircraft Armament/Electrical Repairer

References

TM 1-1270-476-T

TM 1-1520-238-23

Equipment Conditions

Ref

Condition

TM 1-1520-238-23 Helicopter safed

FOLLOWUP

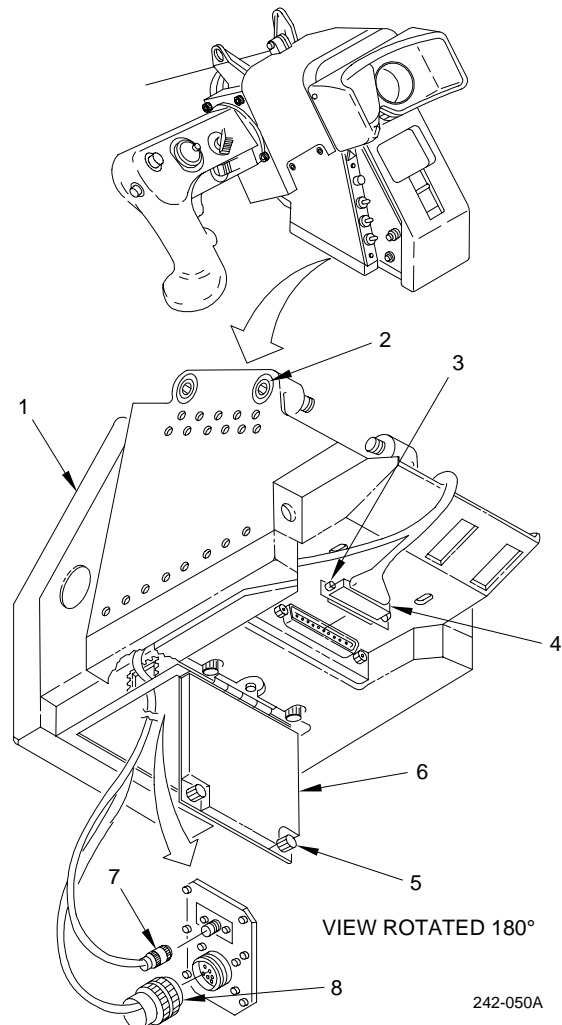
Perform MOC (TM 1-1270-476-T)

REMOVAL

CAUTION

Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.

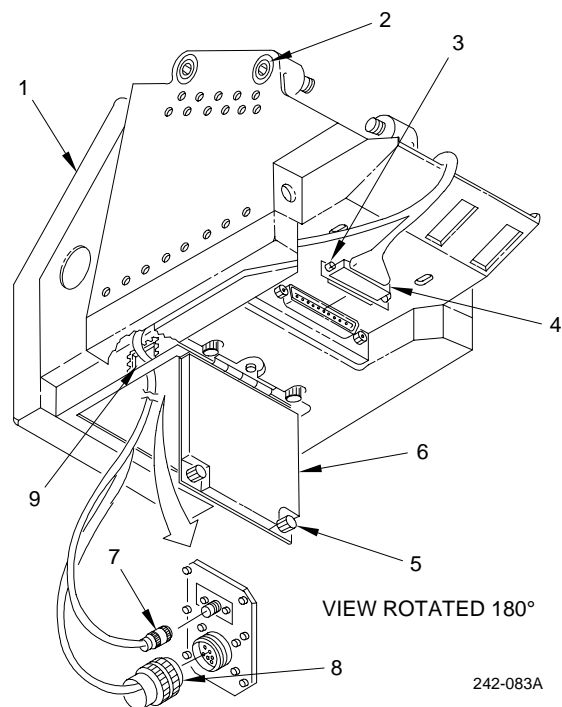
1. Remove control panel assembly (1).
 - a. Holding control panel assembly (1), loosen four captive screws (2), two on each side, securing assembly to ORC.
 - b. On bottom of control panel assembly (1), loosen screwlocks (3) and disconnect connector J3 (4).
 - c. Loosen two captive screws (5) on bottom of control panel (1). Control panel cover (6) will hang free.
 - d. Disconnect connectors J1 and J2 (7 and 8) from inside control panel (1).
 - e. Remove control panel assembly (1).



242-050A

3-46. CONTROL PANEL ASSEMBLY REPLACEMENT (cont)**INSTALLATION**

2. Install control panel assembly (1).
 - a. Loosen two captive screws (5) on bottom of control panel (1). Control panel cover (6) will hang free.
 - b. Connect connectors J1 and J2 (7 and 8) to inside of control panel (1). Seat cables in grooves on shock pad (9).
 - c. Position control panel cover (6) and secure with two captive screws (5).
 - d. Connect connector J3 (4) and tighten screwlocks (3).
 - e. Mount control panel assembly (1) and tighten four captive screws (2).
3. Have exposed optics inspected and cleaned as required (para 3-6).
4. Perform followup.



END OF TASK

3-47. CABLE COVER ASSEMBLY REPLACEMENT

INITIAL SETUP

Personnel Required

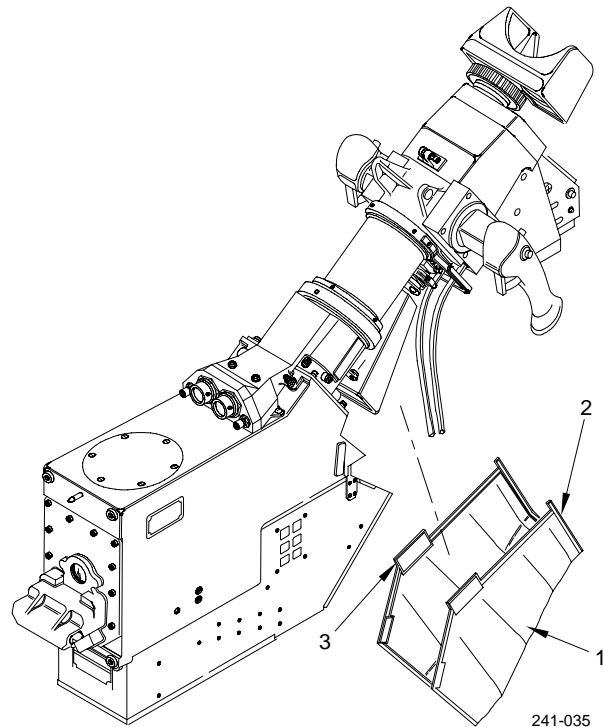
68X Aircraft Armament/Electrical Repairer

REMOVAL

1. Remove CRC cable cover assembly (1).
 - a. Grasp top edges (2) of ORC cable cover assembly (1) and peel it away from ORC.
 - b. Repeat for remaining fabric pile fasteners (3).

INSTALLATION

2. Install ORC cable cover assembly (1).
 - a. Position top edges (2) of ORC cable cover assembly (1) and press down.
 - b. Feed ORC cable cover assembly (1) between ORC and CPG instrument panel.
 - c. Press down top edges (2) on cable cover assembly (1) and remaining fabric pile fasteners (3) until they are firmly hooked together.



END OF TASK

3-48. ALPHANUMERIC DISPLAY (AND) ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set

Materials (appendix D)

Corrosion inhibitive sealing and coating compound (Item 18)
Lacing and tying tape (Item 47)

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

References

TM 1-1270-476-T
TM 1-1520-238-23

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-47	Cable cover assembly removed
TM 1-1520-238-23	Helicopter safed

FOLLOWUP

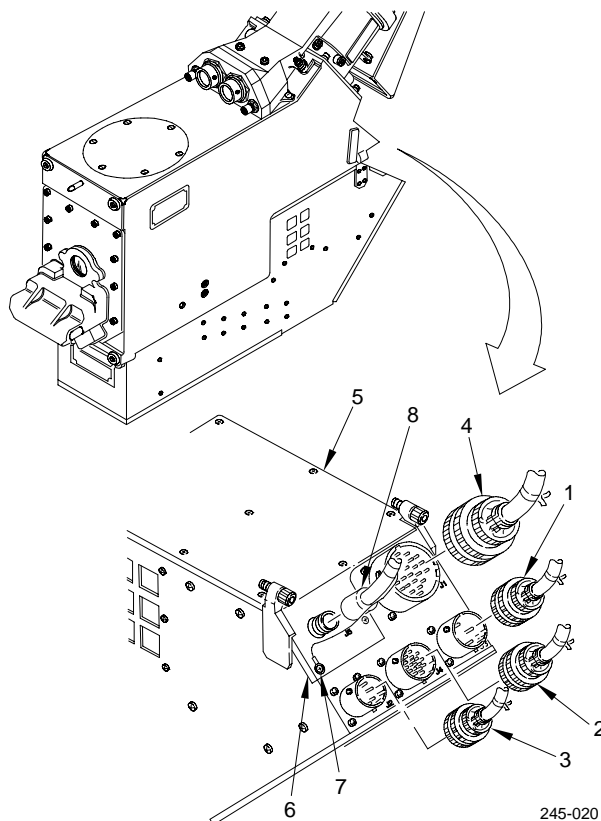
Install cable cover assembly (para 3-47)
Perform MOC (TM 1-1270-476-T)

REMOVAL

CAUTION

Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.

1. Remove AND assembly.
 - a. Disconnect connectors 2W3P1, 2W4P1, 2W1P7, and 2W1P3 (1, 2, 3, and 4) from IVD electronics assembly (5).
 - b. Remove connector 2W5P2 ground wire from panel (6) by removing screw (7). Reinstall screw (7).
 - c. Unscrew and disconnect connector 2W5P2 (8) from IVD electronics assembly (5).



245-020

3-48. ALPHANUMERIC DISPLAY (AND) ASSEMBLY REPLACEMENT (cont)

- d. Loosen two screwlocks (9) on connector J1 (10) and pull connector (10) free of AND assembly (11).

CAUTION

When removing shroud, do not bump fiber optics. Bumping could damage fiber optics.

- e. Loosen screw (12) on clamp (13) and pull shroud (14) from over fiber optics.
- f. Cut lacing and tying tape as required.
- g. Remove clamp (13) and shroud (14) from AND assembly (11).

NOTE

If AND assembly does not have cable bracket, go to i below.

- h. Remove bracket (15) by removing seven screws (16) and washers (17).

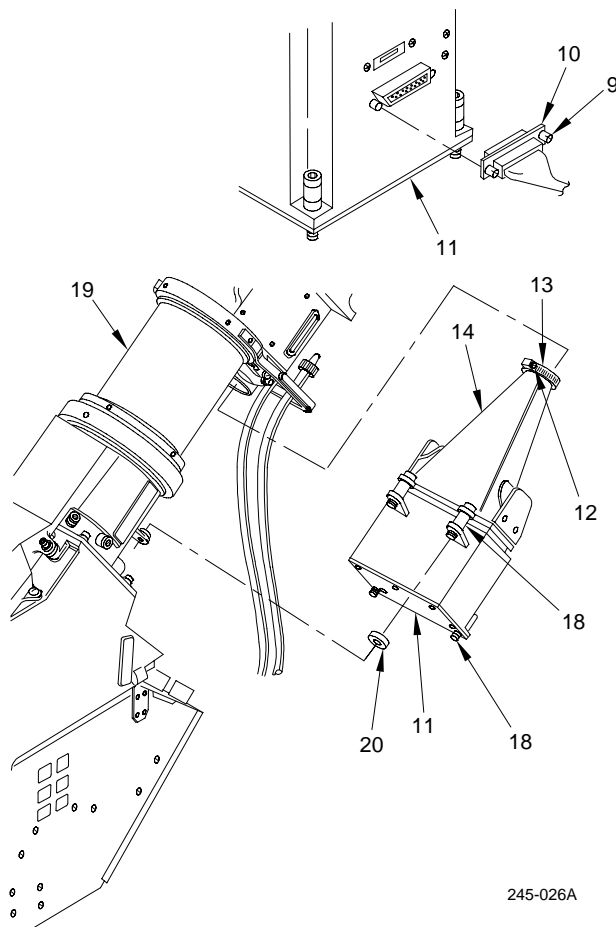
CAUTION

Do not put excessive strain on wiring when removing AND assembly. Improper handling could damage wiring.

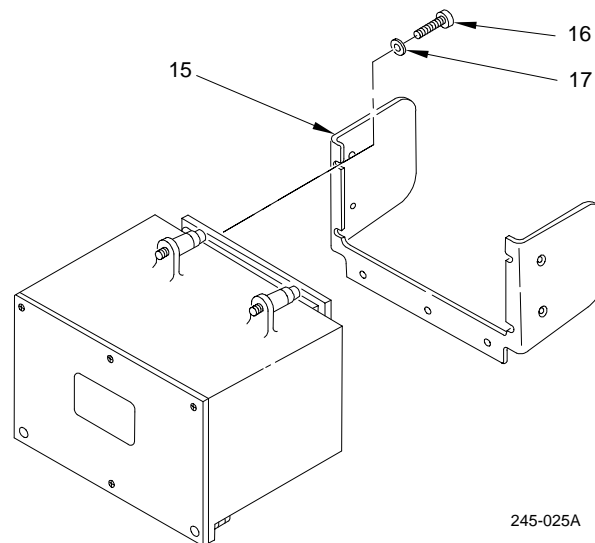
- i. Loosen four captive screws (18) and remove AND assembly (11) from left side of ORT (19).

INSTALLATION

- 2. Have exposed optics inspected and cleaned as required (para 3-6).
- 3. Check ORT to ensure rubber pads (20) are in place.
- 4. Remove old corrosion inhibitive sealing and coating compound from mounting hardware (16).



245-026A



245-025A

3-48. ALPHANUMERIC DISPLAY (AND) ASSEMBLY REPLACEMENT (cont)

5. Install AND assembly.

- a. Aline AND assembly (11) so that two guide pins (21) on ORT mate with holes (22) in AND assembly (11). Tighten four captive screws (18).

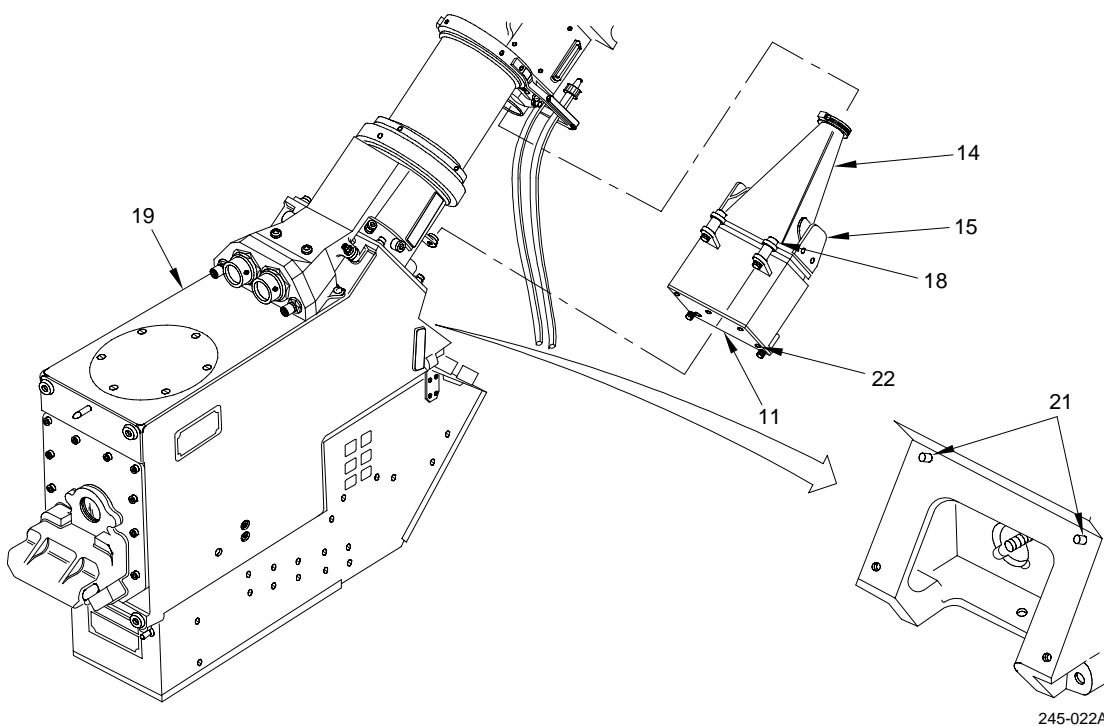
NOTE

If AND assembly does not have cable bracket, go to step e below.

- b. Apply corrosion inhibitive sealing and coating compound to bracket mounting hardware. Use class 1A application (para 3-8).

CAUTION

Do not put excessive strain on wiring when installing the cable bracket. Improper handling could damage wiring.



3-48. ALPHANUMERIC DISPLAY (AND) ASSEMBLY REPLACEMENT (cont)

- c. Position three cables (23) on right side of bracket and one cable and two wires (24) on left side of bracket.
- d. Install bracket (15) with seven screws (16) and washers (17) and tighten.

CAUTION

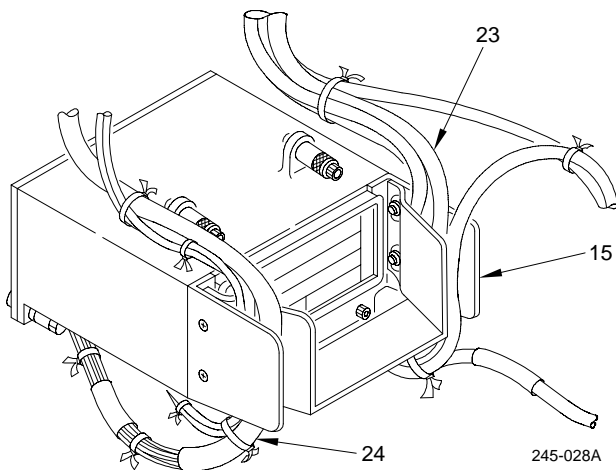
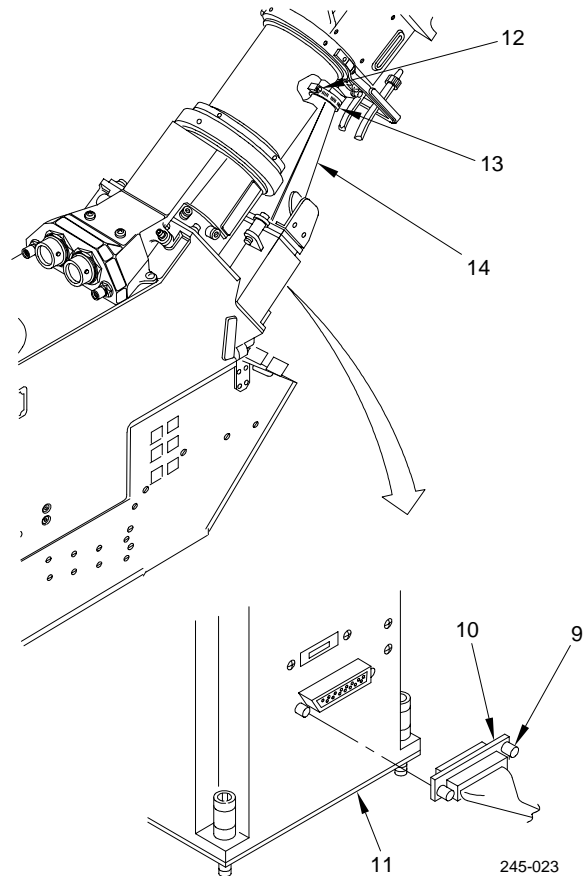
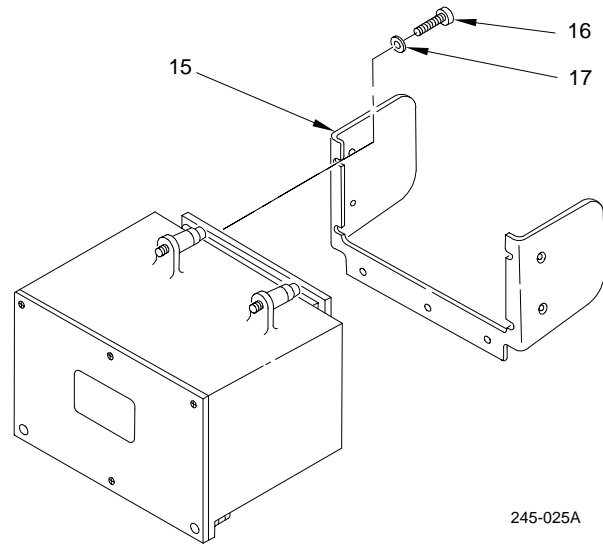
When installing shroud, do not bump fiber optics. Improper handling could damage the fiber optics.

- e. Install shroud (14) over fiber optics and position clamp (13) so that clamp screw (12) is at top of clamp (13) between ORT and fiber optics. Tighten clamp screw (12).
- f. Install shroud (14) over AND assembly optics.

CAUTION

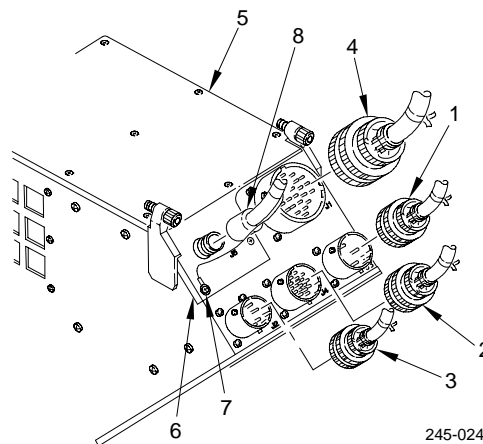
Use care when installing connector to prevent bending connector contacts.

- g. Connect connector J1 (10) to AND assembly (11) and tighten two screwlocks (9).

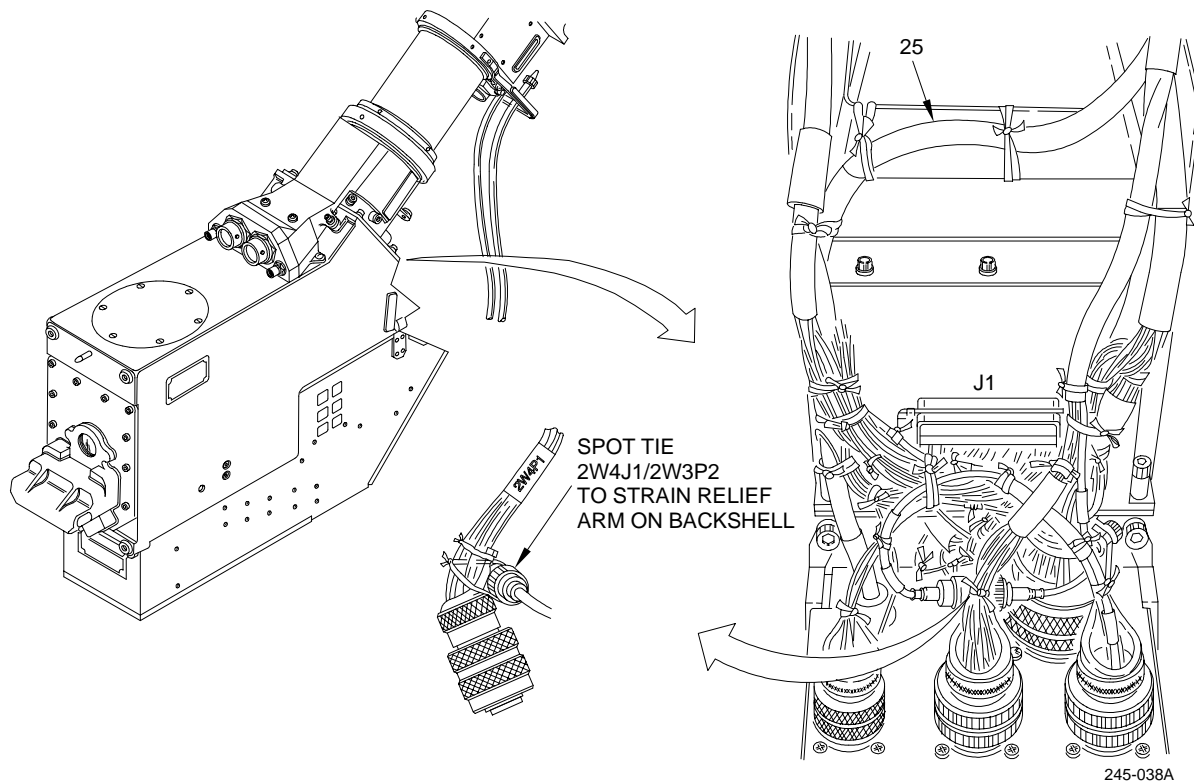


3-48. ALPHANUMERIC DISPLAY (AND) ASSEMBLY REPLACEMENT (cont)

- h. Screw connector 2W5P2 (8) into IVD electronics assembly (5).
 - i. Install connector 2W5P2 ground wire to front panel (6) with screw (7).
 - j. Connect connectors 2W1P3, 2W1P7, 2W4P1, and 2W3P1 (4, 3, 2, and 1) to IVD electronics assembly (5).
 - k. Route cable harness 2W5 (25) and install lacing and tying tape as shown in illustration.
6. Have installation inspected.
7. Perform followup.



END OF TASK



3-49. INDIRECT VIEW DISPLAY (IVD) ELECTRONICS ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

References

TM 1-1270-476-T
 TM 1-1520-238-23

Equipment Conditions

Ref	Condition
Para 3-47	Cable cover assembly removed
TM 1-1520-238-23	Helicopter safed

FOLLOWUP

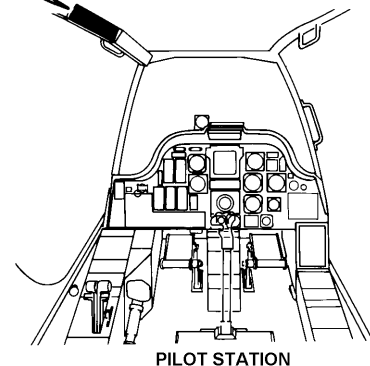
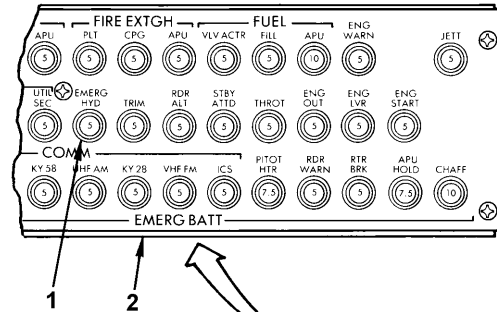
Install cable cover assembly (para 3-47)
 Perform MOC (TM 1-1270-476-T)

REMOVAL

CAUTION

Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.

1. Close EMERG HYD circuit breaker (1) on pilot center circuit breaker panel (2).



246-076

3-49. INDIRECT VIEW DISPLAY (IVD) ELECTRONICS ASSEMBLY REPLACEMENT (cont)

- Set pilot ELEC PMR control panel BATT/OFF/EXT PWR switch (3) to BATT.

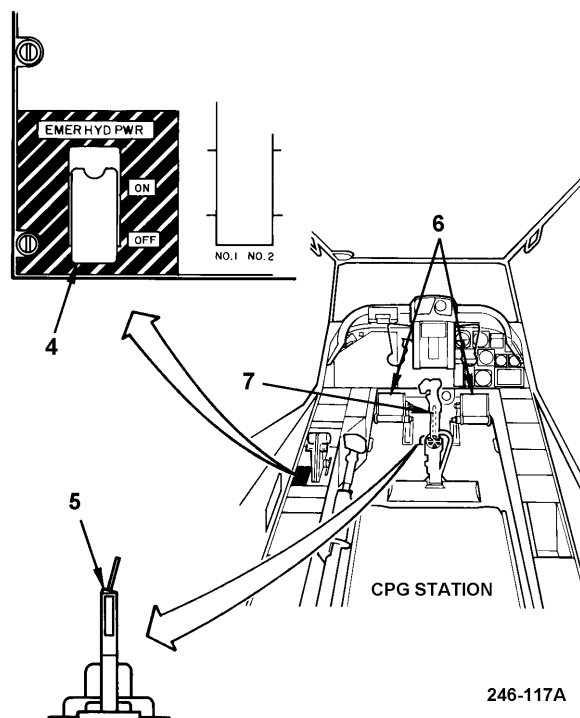
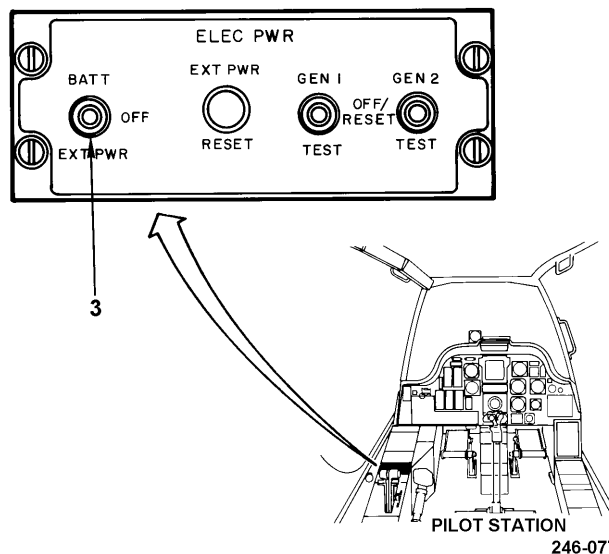
CAUTION

Hydraulic system pressure should be applied before moving flight controls. Otherwise, shear pins may be broken.

NOTE

The **EMER HYD PWR** switch must only be activated long enough to allow the flight controls to be moved into position, then set to **OFF** to avoid bleeding off accumulator pressure.

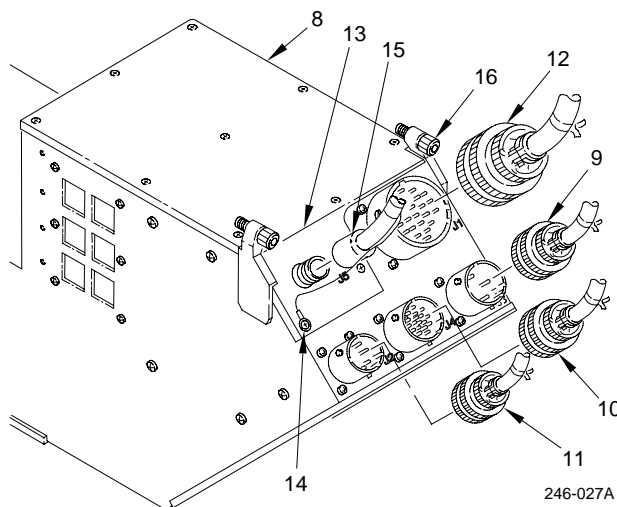
- Set CPG EMER HYD PWR switch (4) to ON.
- Place pedal adjust lever (5) in unlocked position and move foot pedals (6) to forward limits. Place pedal adjust lever (5) in locked position.
- Move and hold LH foot pedal to forward limit. Move and hold CPG cyclic stick (7) to full aft and right limits then set CPG **EMER HYD PWR** switch (4) to **OFF** and release LH foot pedal and cyclic stick.
- Set pilot ELEC PMR control panel BATT/OFF/EXT PWR switch (3) to OFF.



3-49. INDIRECT VIEW DISPLAY (IVD) ELECTRONICS ASSEMBLY REPLACEMENT (cont)

7. Remove IVD electronics assembly (8).

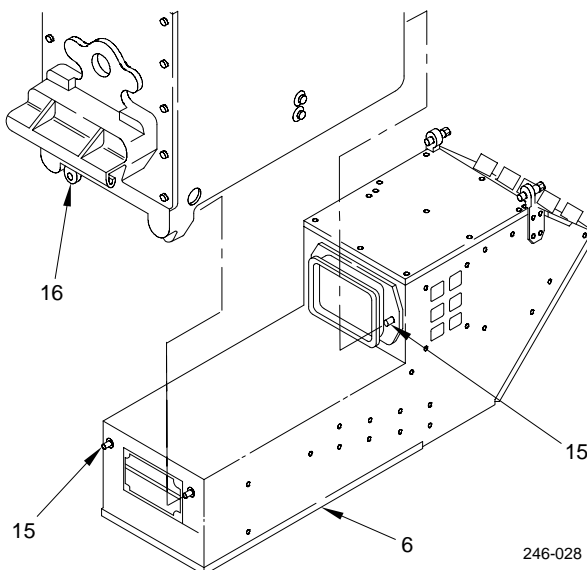
- a. Disconnect connectors 2W3P1, 2W4P1, 2W1P7, and 2W1P3 (9, 10, 11, and 12) from IVD electronics assembly (8).
- b. Remove connector 2W5P2 ground wire from front panel (13) by removing screw (14). Reinstall screw (14).
- c. Unscrew and disconnect connector 2W5P2 (15) from IVD electronics assembly.



CAUTION

Use caution when removing the IVD. Hold the IVD firmly in place when loosening the captive screws. Improper handling could cause damage to the equipment.

- d. Support the IVD electronics assembly (8) firmly in place and loosen two captive screws (16).
- e. Supporting the bottom of IVD electronics assembly (8), pull forward and remove.



INSTALLATION

8. Have IVD electronics assembly exposed optics inspected and cleaned as required (para 3-6).

CAUTION

- Use caution when installing the IVD. Hold the IVD firmly in place when loosening the captive screws. Improper handling could cause damage to the equipment.
- Ensure the guide pins are inserted into guide pin holes prior to tightening captive screws. Improper installation can cause damage to the equipment.

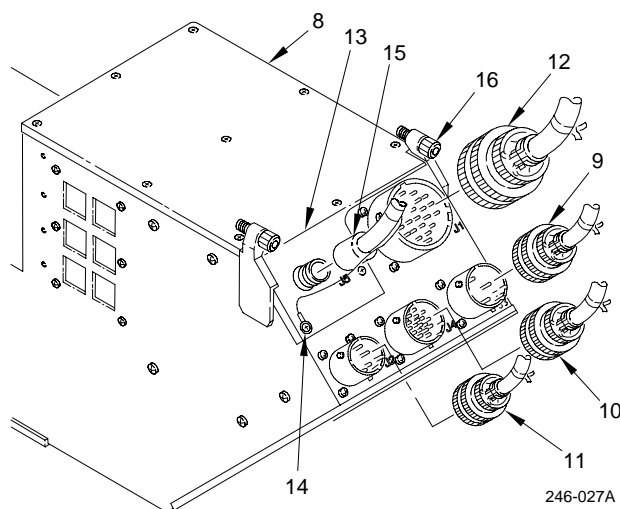
9. Install IVD electronics assembly (8).

- a. Supporting the bottom of IVD electronics assembly (8), insert guide pins (17) into pin holes (18).

3-49. INDIRECT VIEW DISPLAY (IVD) ELECTRONICS ASSEMBLY REPLACEMENT (cont)

- b. Support the IVD electronics assembly firmly in place and tighten two captive screws (16).
 - c. Screw connector 2W5P2 (15) into IVD electronics assembly (8).
 - d. Install connector 2W5P2 (15) ground wire to front panel (13) with screw (14).
 - e. Connect connectors 2W1P3, 2W1P7, 2W4P1, and 2W3P1 (12, 11, 10, and 9) to IVD electronics assembly (8).
10. Have installation inspected.
 11. Perform followup.

END OF TASK



3-50. DESICCANT REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Socket, 1-3/8 inch, deep well, 12 point

Materials (appendix D)

Desiccant (Item 25)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

Equipment Conditions

Eyeshroud assembly moved up for access

FOLLOWUP

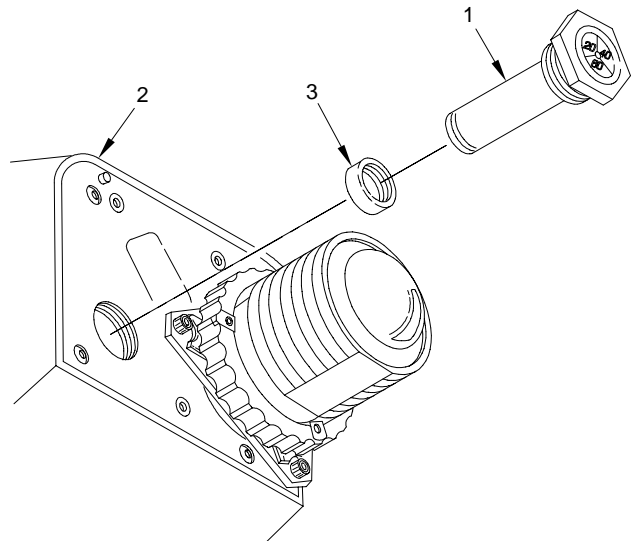
Reposition eyeshroud assembly

REMOVAL

CAUTION

Optics are exposed during this task. When optics are exposed for more than 5 minutes they must be protected from contamination. Careless handling of equipment could result in contaminated or damaged optics.

1. Remove desiccator container (1) from upper housing assembly (2) using 1-3/8 inch, deep well, 12 point socket.
2. Remove desiccant by removing cap (3) from bottom of desiccator container (1) and pouring desiccant out.



SHOCK PAD AND EYE SHROUD
 REMOVED FOR CLARITY.

241-040

INSTALLATION

3. Install new desiccant.
4. Install cap (3) on bottom of desiccator container (1).
5. Screw desiccator container (1) into upper ORC housing (2) using 1-3/8 inch, deep well, 12 point socket.

6. Have installation inspected.

7. Perform followup.

END OF TASK

3-51. SNUBBER PAD REPLACEMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool set

Personnel Required

68X Aircraft Armament/Electrical Repairer
One person to assist
66J30 Aircraft Armament Technical Inspector

Materials (appendix D)

Noncorrosive RTV silicone adhesive sealant
(Item 6)
Noncorrosive RTV silicone primer (Item 42)

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
Para 3-42	Optical relay column (ORC) removed

FOLLOWUP

Install optical relay column (ORC) (para 3-42)

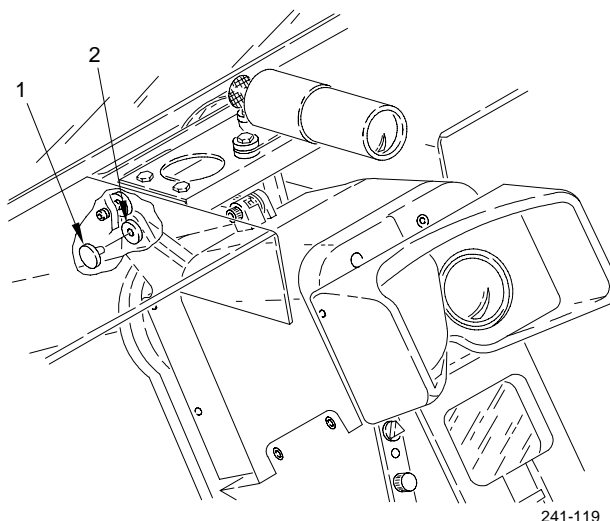
REMOVAL

1. Remove damaged snubber pad (1) from pad support (2).

INSTALLATION

2. Remove old noncorrosive RTV silicone adhesive sealant (para 3-8).
3. Bond new snubber pad (1) to pad support (2) with noncorrosive RTV silicone adhesive sealant (para 3-8).
4. Have installation inspected.
5. Perform followup.

END OF TASK



241-119

Section VI. FORWARD AVIONICS BAY (FAB) UNITS MAINTENANCE

Subject	Para	Page
TADS Electronic Unit (TEU) Assembly Replacement	3-52	3-177
Power Supply Assembly Replacement	3-53	3-180
Laser Electronics Unit (LEU) Assembly Replacement	3-54	3-184

3-52. TADS ELECTRONIC UNIT (TEU) ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Acid-type safety goggles
 Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Multimeter
 Rubber apron
 Rubber gloves
 Torque wrench, 0-75 in-lb

Materials (appendix D)

Acetone (Item 1)
 Cotton, lint-free cloth (Item 13)
 Trichloroethane (Item 50)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 66J30 Aircraft Armament Technical Inspector

References

TM 1-1270-476-T
 TM 1-1520-238-23

Equipment Conditions

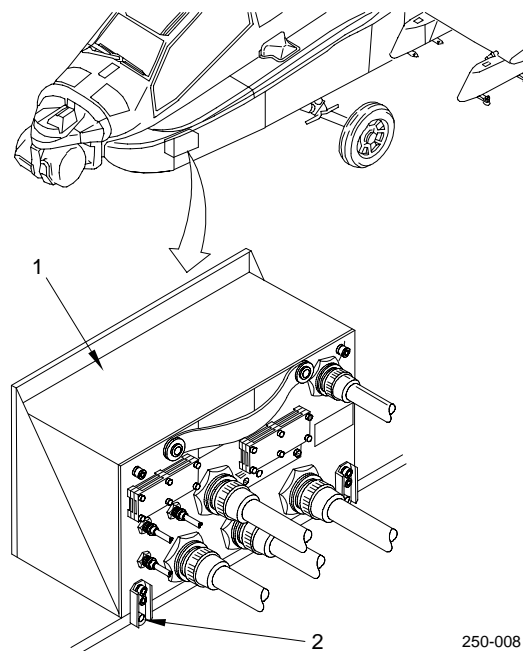
<u>Ref</u>	<u>Condition</u>
TM 1-1520-238-23	Helicopter safed

FOLLOWUP

Perform MOC (TM 1-1270-476-1)
 Perform servo drift null procedure (para 3-55)
 Perform automatic gyro alignment procedure (para 3-62)
 Perform internal boresight procedure (para 3-58)
 Perform outfront boresight procedure (para 3-59)

REMOVAL

1. Remove TADS electronic unit (TEU) (1).
 - a. Open left FAB access panel (TM 1-1520-238-23).
 - b. Disconnect eight cables from front panel of TEU (1).
 - c. Loosen two captive screws (2) and remove TEU (1).



250-008

3-52. TADS ELECTRONIC UNIT (TEU) ASSEMBLY REPLACEMENT (cont)

INSTALLATION

WARNING

TRICHLOROETHANE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

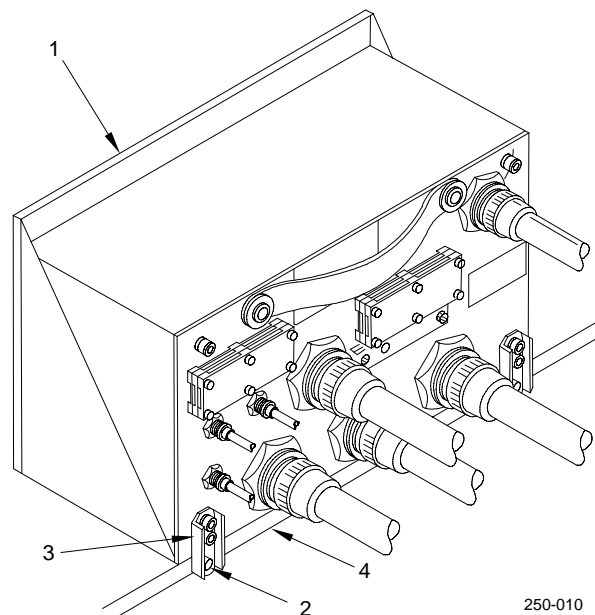
CAUTION

FAB equipment will be damaged if operated while the TEU cooling duct is left uncovered. Cover the TEU cooling duct if any FAB equipment is to be operated prior to TEU installation.

NOTE

Check condition of air seal around inner surface of equipment shelf.

2. Prepare mating surfaces for electrical bonding.
 - a. Clean mating surfaces of mounting bracket (3) and equipment shelf (4). Use trichloroethane and cotton, lint-free cloth.
 - b. Let surfaces air dry.



WARNING

ACETONE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
 - Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
 - Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
 - If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
 - If you experience any breathing problems, get to fresh air at once.
- c. Clean mating surfaces of mounting bracket (3) and equipment shelf (4) again. Use acetone and cotton, lint-free cloth.
 - d. Let surfaces air dry.

3-52. TADS ELECTRONIC UNIT (TEU) ASSEMBLY REPLACEMENT (cont)

3. Install TEU (1).

- a. Position TEU (1) in FAB and tighten two captive screws (2). Torque to 55 in-lb.
- b. Using multimeter, check that resistance between mounting brackets (3) and equipment shelf (4) does not exceed 0.0025 ohms. If resistance is greater than 0.0025 ohms, repeat 1, 2, and 3a above.
- c. Connect cables to TEU (1) as follows:

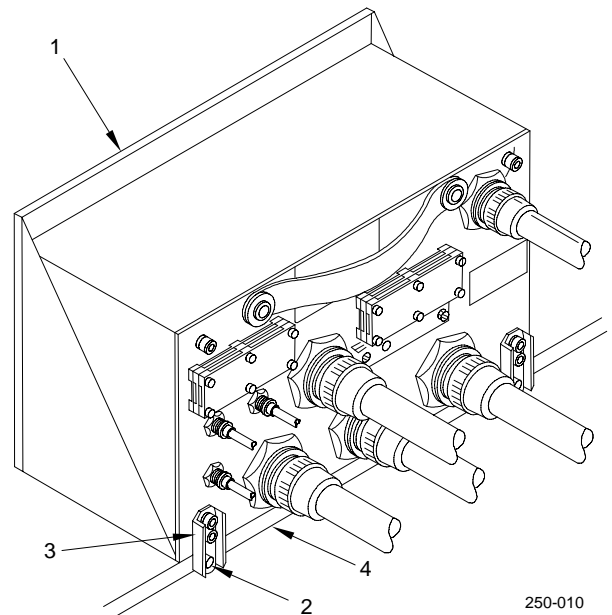
P851 to J1 P862 to J8
 P852 to J2 P863 to J9
 P857 to J6 P855 to J4
 P861 to J7 P853 to J3

4. Have installation inspected.

5. Close left FAB access panel (TM 1-1520-238-23).

6. Perform followup.

END OF TASK



250-010

3-53. POWER SUPPLY ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Acid-type safety goggles
 Aircraft armament repairman tool set
 Aircraft armament technical inspector tool set
 Multimeter
 Rubber apron
 Rubber gloves
 Torque wrench, 0-75 in-lb

Materials (appendix D)

Acetone (Item 1)
 Cotton, lint-free cloth (Item 13)
 Trichloroethane (Item 50)

Personnel Required

68X Aircraft Armament/Electrical Repairer
 68J30 Aircraft Armament Technical Inspector

References

TM 1-1270-476-T
 TM 1-1520-238-23

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
TM 1-1520-238-23	Helicopter safed

FOLLOWUP

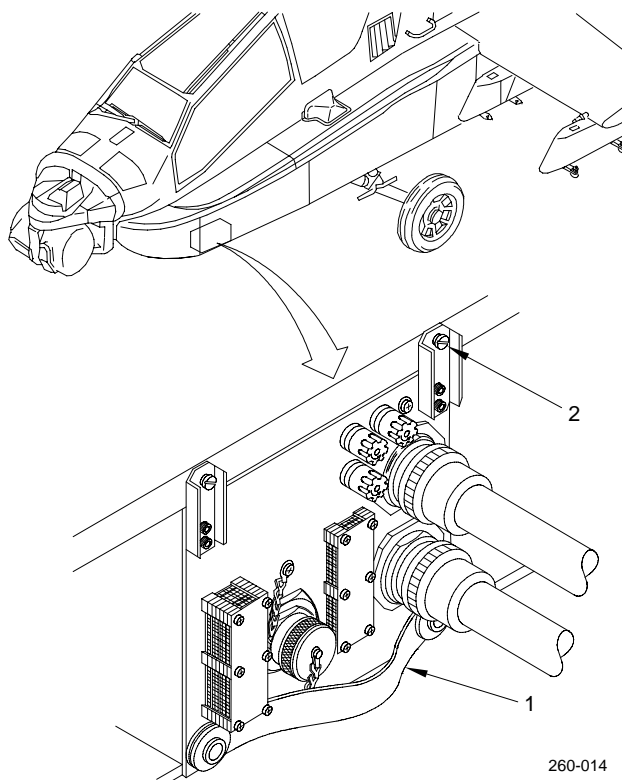
Perform MOC (TM 1-1270-476-T)

CAUTION

If replacement TADS power supply assembly 13075523-029 is installed with ECS assembly 13076018-029 or -039, the power supply assembly will be damaged. If ECS assembly 13076018-029 or -039 is installed, make sure replacement TADS power supply assembly 13075523-039 is installed. TADS power supply assembly 13075523-039 is compatible with ECS assemblies 13076018-019 and 13076018-029 or 13076018-039. TADS power supply assembly 13075523-029 is compatible with ECS assembly 13076018-019.

3-53. POWER SUPPLY ASSEMBLY REPLACEMENT (cont)**REMOVAL**

1. Remove power supply assembly (1).
 - a. Open left FAB access panel (TM 1-1520-238-23).
 - b. Disconnect two cables from front panel of power supply (1).
 - c. Loosen two captive screws (2) and remove power supply (1).

**INSTALLATION****WARNING****TRICHLOROETHANE**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

260-014

3-53. POWER SUPPLY ASSEMBLY REPLACEMENT (cont)

WARNING

ACETONE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

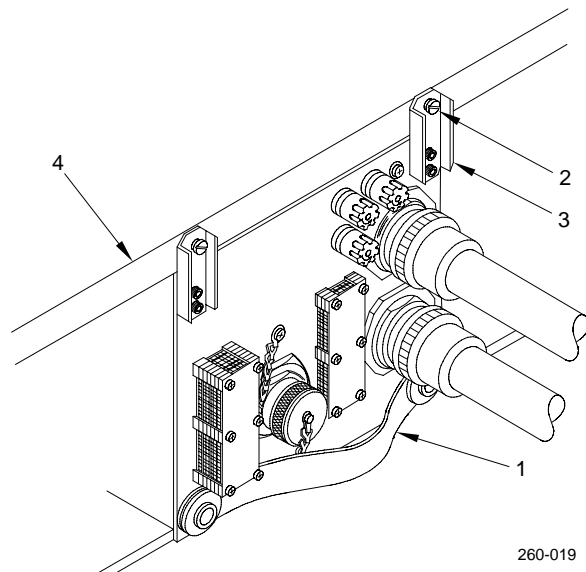
CAUTION

FAB equipment will be damaged if operated while the power supply assembly cooling duct is left uncovered. Cover the power supply assembly cooling duct if any FAB equipment is to be operated prior to power supply assembly installation.

NOTE

Check condition of air seal around inner surface of equipment shelf.

2. Prepare mating surfaces for electrical bonding.
 - a. Clean mating surfaces of mounting bracket (3) and equipment shelf (4). Use trichloroethane and cotton, lint-free cloth.
 - b. Let surfaces air dry.
 - c. Clean mating surfaces of mounting bracket (3) and equipment shelf (4) again. Use acetone and cotton, lint-free cloth.
 - d. Let surfaces air dry.



260-019

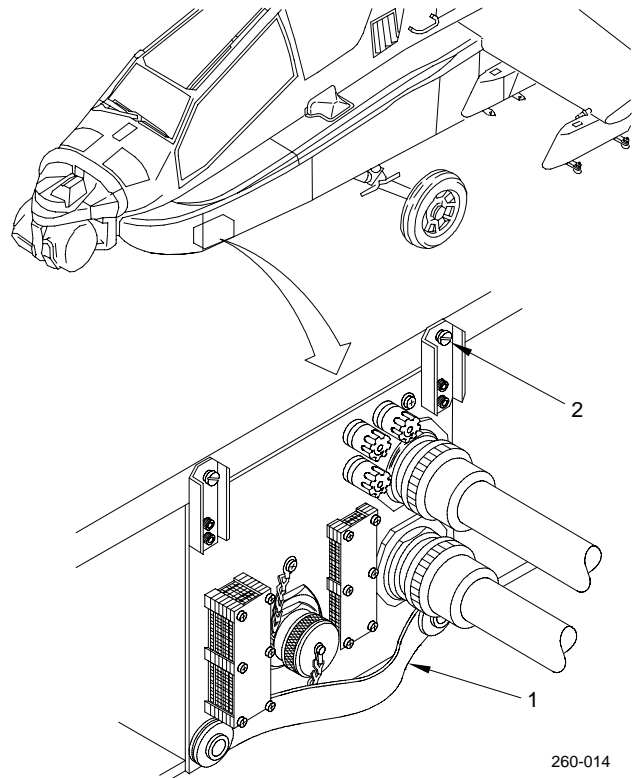
3-53. POWER SUPPLY ASSEMBLY REPLACEMENT (cont)

3. Install power supply assembly (1).
 - a. Position power supply (1) in FAB and tighten two captive screws (2). Torque to 55 in-lb.
 - b. Using multimeter, check that resistance between mounting bracket (3) and equipment shelf (4) does not exceed 0.0025 ohms. If resistance is greater than 0.0025 ohms, repeat 1, 2, and 3a above.
 - c. Connect cables to power supply (1) as follows:

P848 to J1
P849 to J2

4. Have installation inspected.
5. Close left FAB access panel (TM 1-1520-238-23).
6. Perform followup.

END OF TASK



260-014

3-54. LASER ELECTRONICS UNIT (LEU) ASSEMBLY REPLACEMENT

INITIAL SETUP

Tools

Acid-type safety goggles
Aircraft armament repairman tool set
Aircraft armament technical inspector tool set
Multimeter
Rubber apron
Rubber gloves
Torque wrench, 0-75 in-lb

Materials (appendix D)

Acetone (Item 1)
Cotton, lint-free cloth (Item 13)
Trichloroethane (Item 50)

Personnel Required

68X Aircraft Armament/Electrical Repairer
66J30 Aircraft Armament Technical Inspector

References

TM 1-1270-476-T
TM 1-1520-238-23

Equipment Conditions

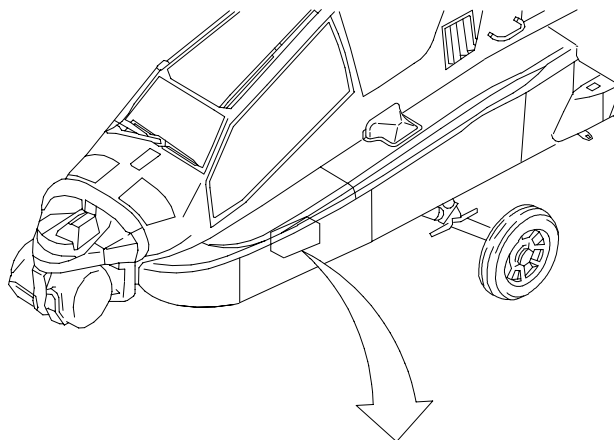
<u>Ref</u>	<u>Condition</u>
TM 1-1520-238-23	Helicopter safed

FOLLOWUP

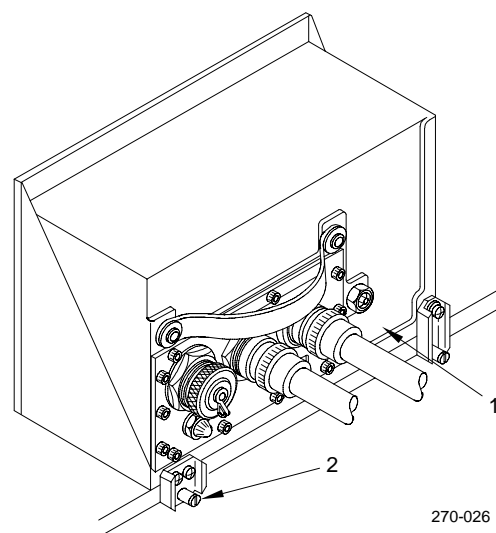
Perform MOC (TM 1-1270-476-T)

3-54. LASER ELECTRONICS UNIT (LEU) ASSEMBLY REPLACEMENT (cont)**REMOVAL**

1. Remove LEU assembly (1).
 - a. Open left FAB access panel (TM 1-1520-238-23).
 - b. Disconnect two cables from front panel of LEU (1).
 - c. Loosen two captive screws (2) and remove LEU (1).

**INSTALLATION****WARNING****TRICHLOROETHANE**

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- At 325°F (162.7°C), gives off phosgene gas, which can cause death or serious injury.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.



270-026

3-54. LASER ELECTRONICS UNIT (LEU) ASSEMBLY REPLACEMENT (cont)

WARNING

ACETONE

- Flammable, toxic, irritating. Can cause breathing problems, eye damage.
- Don't: Use near flames or sparks, let it get on skin, or breathe vapors.
- Do: Use in well-ventilated area, close containers when not using. Wear acid-type safety goggles, rubber gloves, and rubber apron.
- If it contacts skin or eyes, wash affected areas with running water. Get medical help at once.
- If you experience any breathing problems, get to fresh air at once.

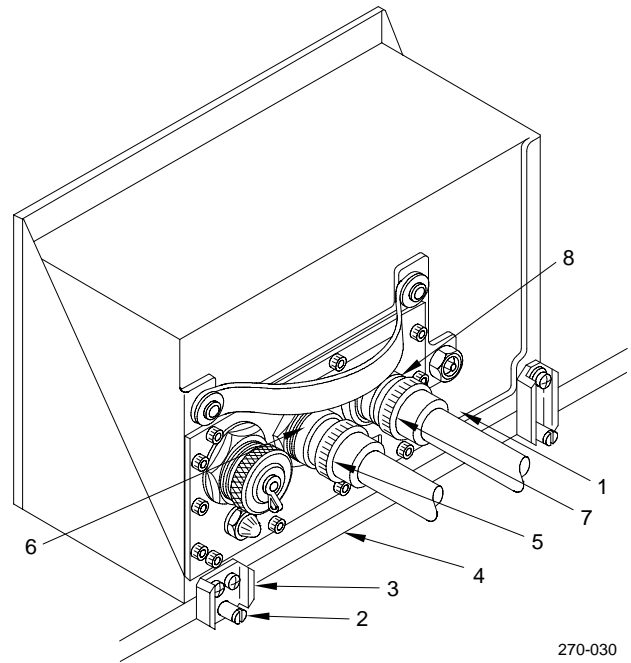
CAUTION

FAB equipment will be damaged if operated while the LEU cooling duct is left uncovered. Cover the LEU cooling duct if any FAB equipment is to be operated prior to LEU installation.

NOTE

Check condition of air seal around inner surface of equipment shelf.

2. Prepare mating surfaces for electrical bonding.
 - a. Clean mating surfaces of mounting bracket (3) and equipment shelf (4). Use trichloroethane and cotton, lint-free cloth.
 - b. Let surfaces air dry.
 - c. Clean mating surfaces of mounting bracket (3) and equipment shelf (4) again. Use acetone and cotton, lint-free cloth.
 - d. Let surfaces air dry.



270-030

3-54. LASER ELECTRONICS UNIT (LEU) ASSEMBLY REPLACEMENT (cont)

3. Install LEU assembly (1).
 - a. Position LEU (1) in FAB and tighten two captive screws (2). Torque to 55 in-lb.
 - b. Using multimeter, check that resistance between mounting bracket (3) and equipment shelf (4) does not exceed 0.0025 ohms. If resistance is greater than 0.0025 ohms, repeat 1, 2, and 3a above.

CAUTION

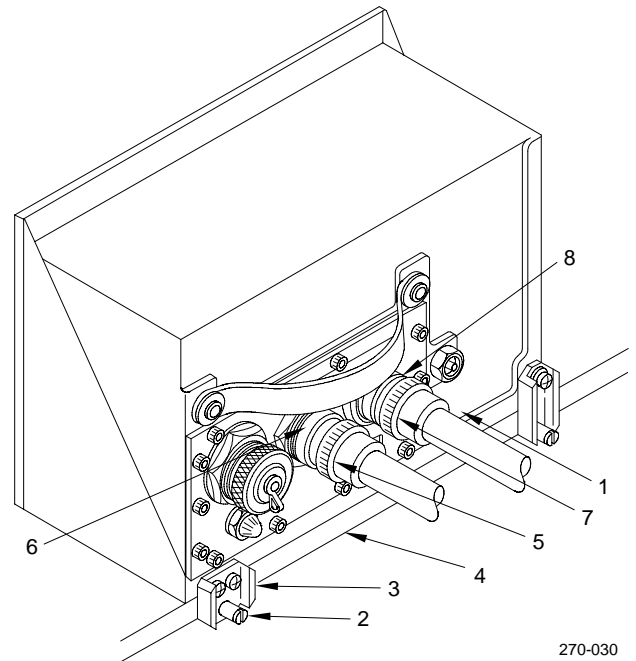
Make sure that keyways (wide slot) on cable connectors are lined up with colored line on LEU connectors prior to mating connectors. Failure to do so may scratch or chip insulator in connectors.

- c. Connect cables to LEU (1) as follows:

P867 (5) to J2 (6)
P864 (7) to J3 (8)

4. Have installation inspected.
5. Close left FAB access panel (TM 1-1520-238-23).
6. Perform followup.

END OF TASK



270-030

Section VII. SYSTEM OPERATIONAL CHECKS

Subject	Para	Page
Servo Drift Null Procedures	3-55	3-189
Pechan Optics Manual Alinement Procedures	3-56	3-190
Cue Update Procedure	3-57	3-192
Internal Boresight Procedure	3-58	3-196
Outfront Boresight Procedure	3-59	3-204
Shroud Interference Check	3-60	3-209
Control Panel Filter Assembly Adjustment	3-61	3-211
Automatic Gyro Alinement Procedure	3-62	3-212

3-55. SERVO DRIFT NULL PROCEDURES

INITIAL SETUP

Personnel Required

68X Aircraft Armament/Electrical Repairer

Ref

TM 1-1270-476-T

Condition

TADS power-up procedure performed

References

TM 1-1270-476-T
 TM 1-1520-238-23

FOLLOWUP

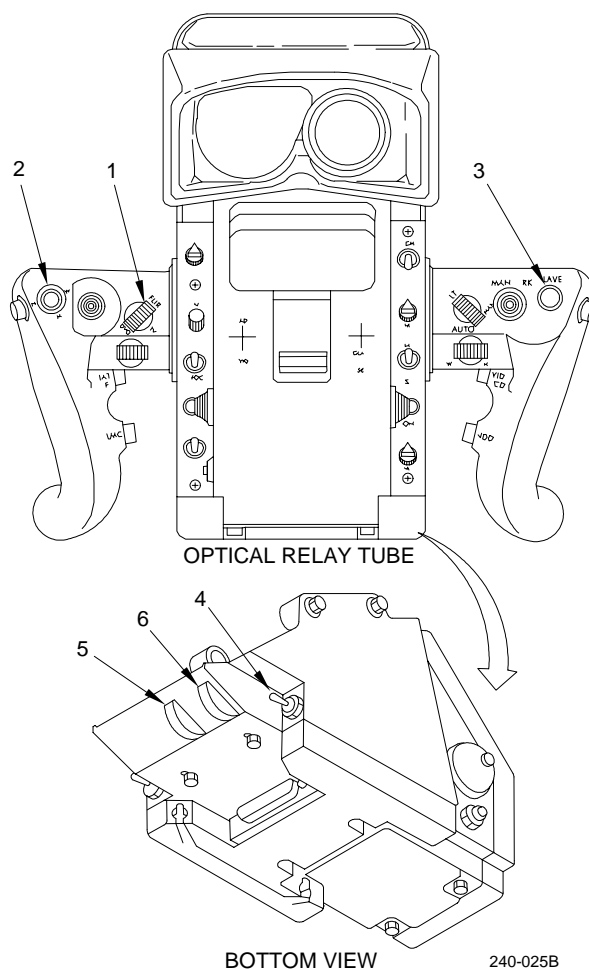
Perform TADS power-down procedure (TM 1-1270-476-T)

Equipment Conditions

TASK DESCRIPTION

This task contains the procedures for manually nulling the servo drift that occurs after replacing the roll/pitch/yaw gyro CCAs and TEU.

1. Access CPG station (TM 1-1520-238-23).
2. Set ORT left handgrip sensor select switch (1) to FLIR or TV and set FOV (N/M/M/Z) switch (2) to N.
3. Press and release ORT right handgrip SLAVE switch (3) to initiate manual track.
4. Set ORT boresight enable switch (4) to on (up) and then to off (center) within 5 seconds. If elevation and azimuth servo drift is not corrected, go to step 5 below. Otherwise, go to step 7 below.
5. Set ORT boresight enable switch (4) to on (up). After 5 seconds adjust azimuth (5) and elevation (6) controls until azimuth and elevation servo drift is no longer evident.
6. Set ORT boresight enable switch (4) to off (center).
7. Press and release ORT right handgrip SLAVE switch (3) to deactivate manual track.
8. Perform followup.



END OF TASK

3-56. PECHAN OPTICS MANUAL ALINEMENT PROCEDURE

INITIAL SETUP

Personnel Required

68X Aircraft Armament/Electrical Repairer

References

TM 1-1270-476-T
TM 1-1520-238-23

Equipment Conditions

Ref

Condition

TM 1-1270-476-T

TADS power-up
procedure performed

FOLLOWUP

Perform TADS power-down procedure
(TM 1-1270-476-T)

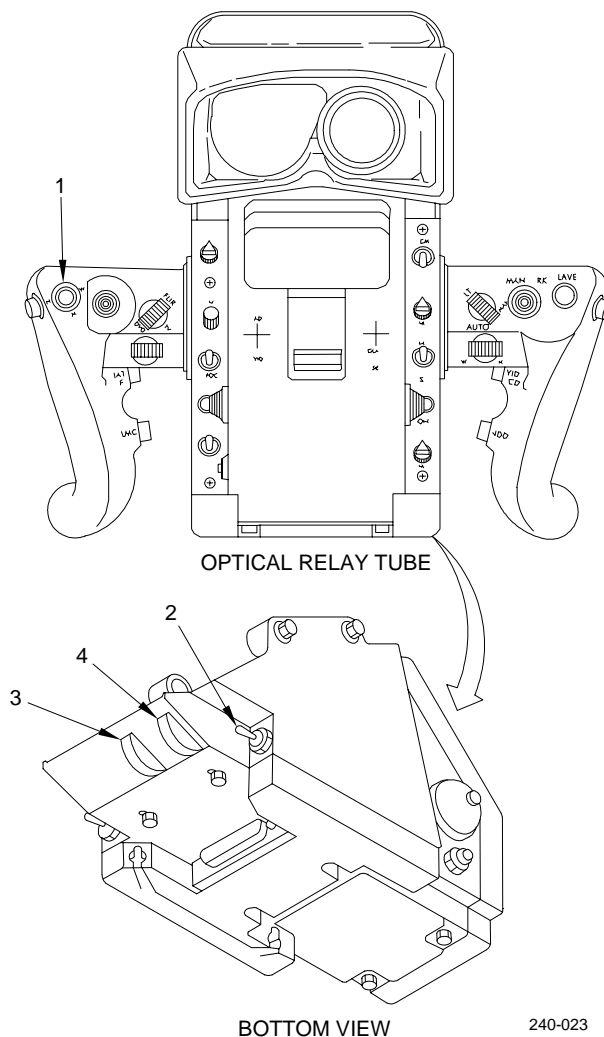
TASK DESCRIPTION

This task contains the procedures for manually alining the pechan optics after replacing the optical relay column.

3-56. PECHAN OPTICS MANUAL ALINEMENT PROCEDURE (cont)

1. Access CPG station (TM 1-1520-238-23).
2. View DVO scene while changing ORT left handgrip FOV (N/M/W/Z) switch (1) between W and N.
3. Press and release ORT right hand grip slave switch to activate manual track. Set ORT left handgrip FOV (N/M/W/Z) switch (1) to W, set ORT boresight enable switch (2) to on (up), and adjust ORT azimuth control (3) to eliminate the difference in tilt of the two FOV. Set ORT boresight enable switch (2) to off (center) and repeat step 2 above. Both FOV should have the same tilt, but may not be upright.
4. If scene is not upright, set ORT left handgrip FOV (N/M/W/Z) switch (1) to N, set ORT boresight enable switch (2) to on (up), and adjust ORT elevation control (4) until the DVO scene is upright. Set ORT boresight enable switch (2) to off (center) and repeat step 2 above. Scene should be upright in both FOV.
5. Perform followup.

END OF TASK



240-023

3-57. CUE UPDATE PROCEDURE

INITIAL SETUP

Personnel Required

68X Aircraft Armament/Electrical Repairer

References

TM 1-1270-476-T
 TM 1-1520-238-23

Equipment Conditions

<u>Ref</u>	<u>Condition</u>
TM 1-1270-476-T	TADS power-up procedure performed

FOLLOWUP

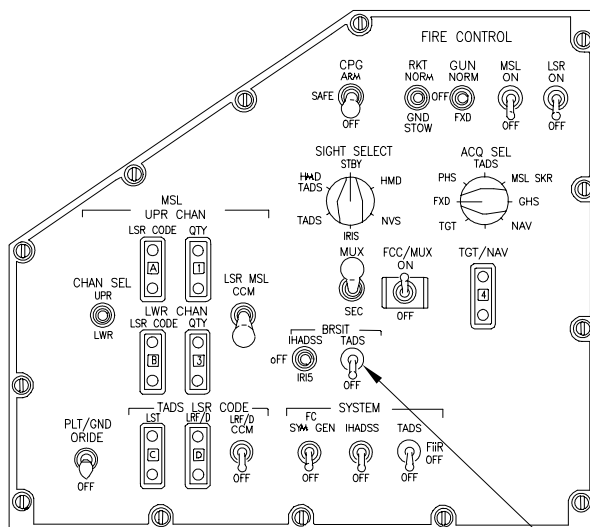
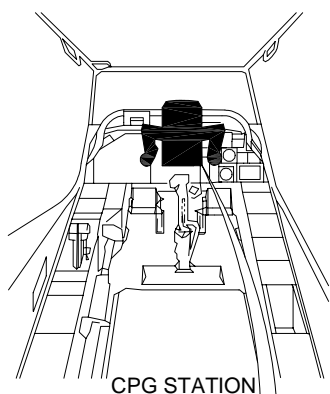
Perform internal boresight procedure (Para 3-58)
 Perform outfront boresight procedure (para 3-59)

TASK DESCRIPTION

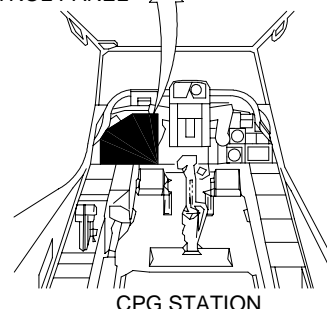
This task is to be performed after replacement of the TADS electronic unit (TEU), night sensor assembly (NSA), day sensor subassembly, laser transceiver unit (LTU) assembly, turret assembly, television (TV) sensor assembly, and boresight assembly. Cue update is also performed prior to performing the internal and outfront boresight procedures.

3-57. CUE UPDATE PROCEDURE (cont)

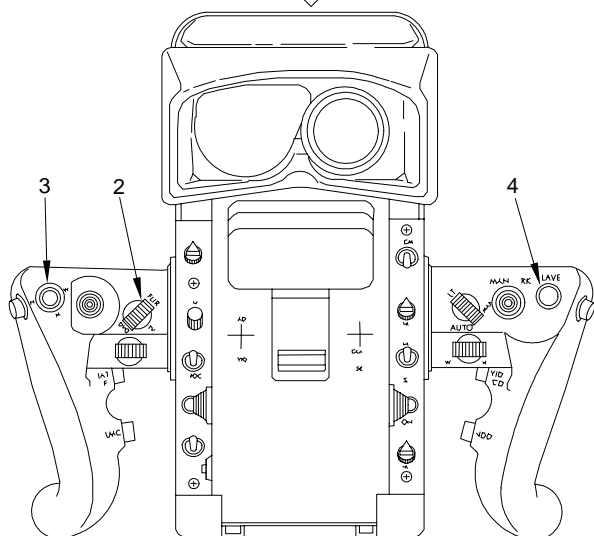
1. Access CPG station (TM 1-1520-238-23).
2. Set CPG fire control panel BRSIT TADS/OFF switch (1) to TADS.



FIRE CONTROL PANEL



100-123



100-187

3. Set ORT left handgrip sensor select switch (2) to TV.
4. Set ORT left handgrip FOV (N/M/W/Z) switch (3) to W.
5. Press ORT right handgrip SLAVE switch (4) to select cue update. Verify message CUE UPDT is displayed in lower left corner of display.

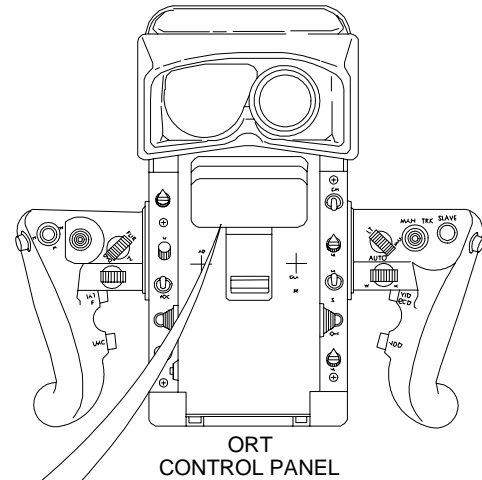
NOTE

All four cue update target position indicators may not be visible on the display simultaneously.

3-57. CUE UPDATE PROCEDURE (cont)

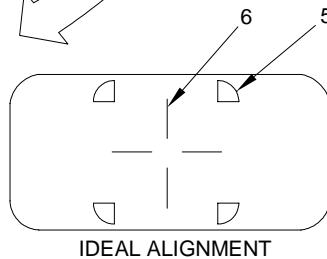
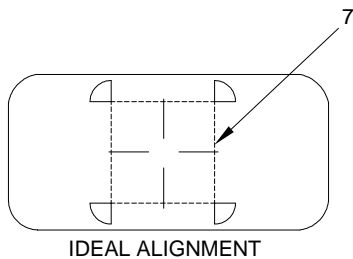
6. Observe position of cue update target position indicators (5) around aiming reticle (6). If aiming reticle (6) is not within boundary line (7) or if laser spot is not visible or not usable

during FLIR internal boresight, go to step 7. If aiming reticle (6) is within boundary line (7) go to step 10.

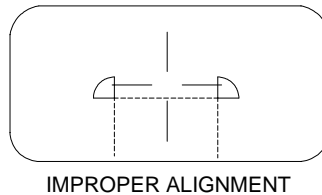
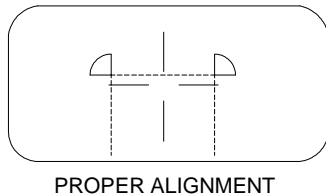


NOTES:

1. ELEVATION ALIGNMENT SHOWN
2. BOUNDARY LINE (7) NOT DISPLAYED
3. NOT DRAWN TO SCALE. CUE POSITION INDICATORS (5) MAY:
 - APPEAR LARGER THAN SHOWN.
 - NOT ALL BE DISPLAYED.
 - BE ROTATED RELATIVE TO LOS RETICLE.

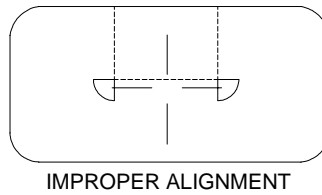
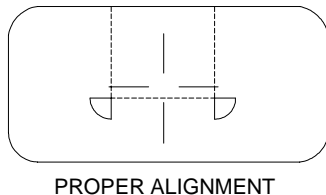


UPPER CUE POSITION INDICATORS ABOVE AIMING RETICLE



UPPER CUE POSITION INDICATORS BELOW AIMING RETICLE

LOWER CUE POSITION INDICATORS BELOW AIMING RETICLE



LOWER CUE POSITION INDICATORS ABOVE AIMING RETICLE

3-57. CUE UPDATE PROCEDURE (cont)

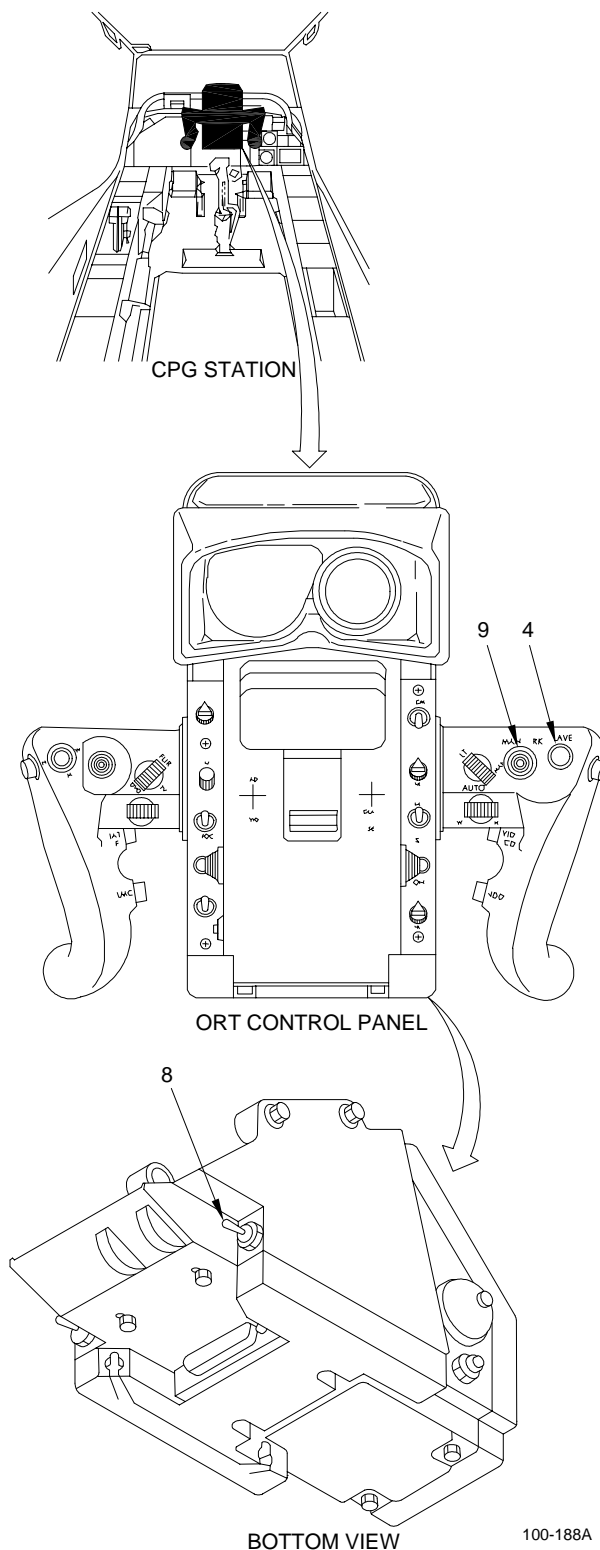
7. Set ORT boresight enable switch (8) to on (up).

NOTE

Do not drive cue update target from the FOV.

8. Operate ORT right handgrip NAN TRK thumb force controller (9) to move the aiming reticle within cue update target boundary line as shown in step 6 above.
9. Set ORT boresight enable switch (8) to center position.
10. Press ORT right handgrip SLAVE switch (4) to select internal boresight. Verify message INTERNAL BORESITE is displayed in lower left corner of the display.
11. Perform followup.

END OF TASK



100-188A

3-58. INTERNAL BORESIGHT PROCEDURE

INITIAL SETUP

Personnel Required

68X Aircraft Armament/Electrical Repairer

Equipment Conditions

Ref

Condition

Para 3-57

Cue update procedure performed

FOLLOWUP

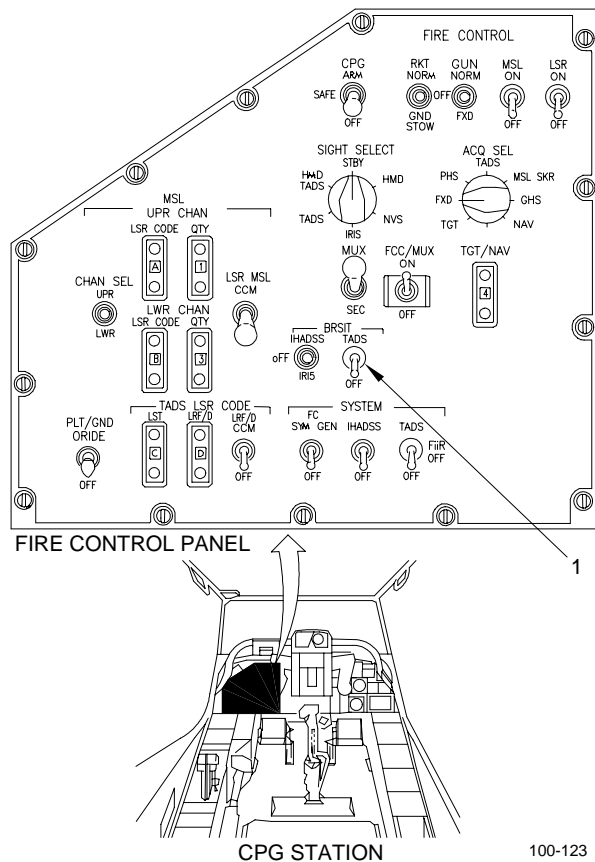
Perform outfront boresight procedure (para 3-59)

TASK DESCRIPTION

This task is to be performed after replacement of the TADS electronic unit (TEU) night sensor assembly (NSA), day sensor subassembly, laser transceiver unit (LTU) assembly, turret assembly, television (TV) sensor assembly, or boresight assembly.

1. DTV BORESIGHT NFOV

- a. Set CPG fire control panel BRSIT TADS/ OFF switch (1) to TADS.



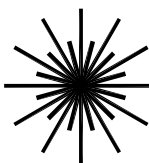
100-123

3-58. INTERNAL BORESIGHT PROCEDURE (cont)

NOTE

In bright sunlight conditions the HDD is recommended for viewing the laser spot.

- e. Press ORT right handgrip HDD switch (6) to select desired display.



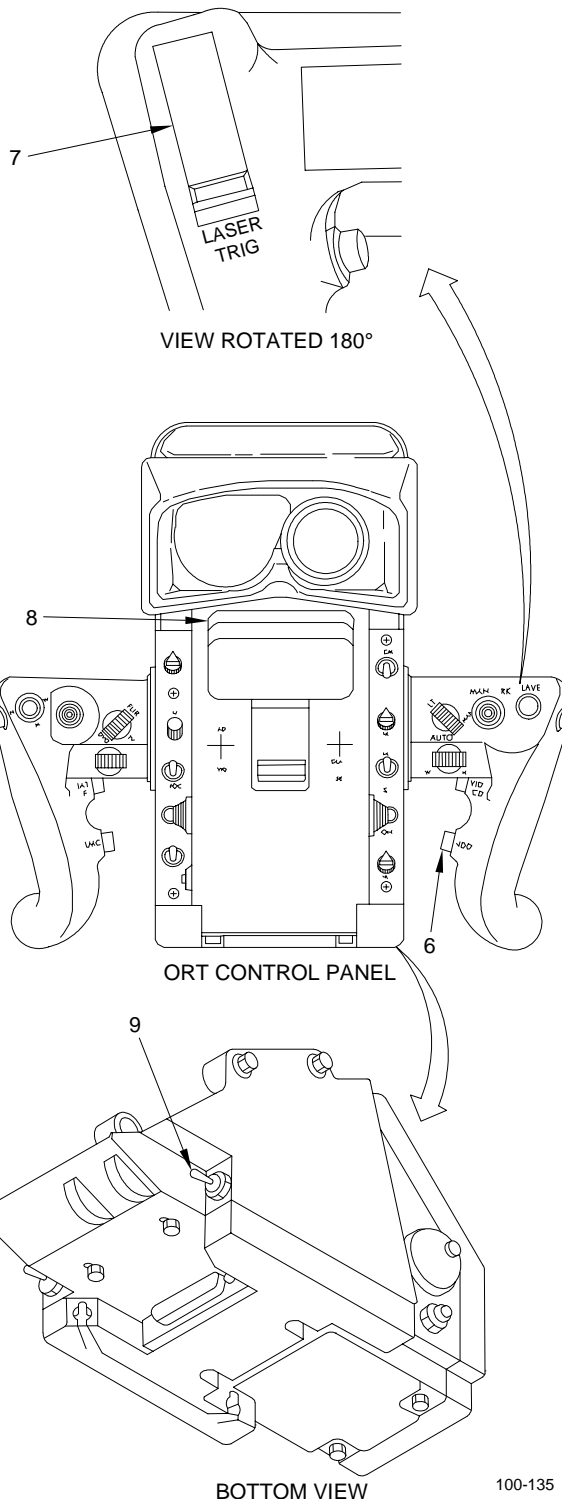
INVISIBLE LASER RADIATION
AVOID EYE EXPOSURE TO DIRECT RADIATION

100-137

WARNING

Do not allow anyone forward of the TADS interface bulkhead while the laser is being fired. Direct exposure to or reflections from the laser beam could cause blindness or serious eye injury.

- f. Press ORT right handgrip LASER TRIG (7) to second detent and hold. Verify laser spot is visible on display (8) selected.
- g. Set ORT foresight enable switch (9) to on (up).



100-135

3-58. INTERNAL BORESIGHT PROCEDURE (cont)

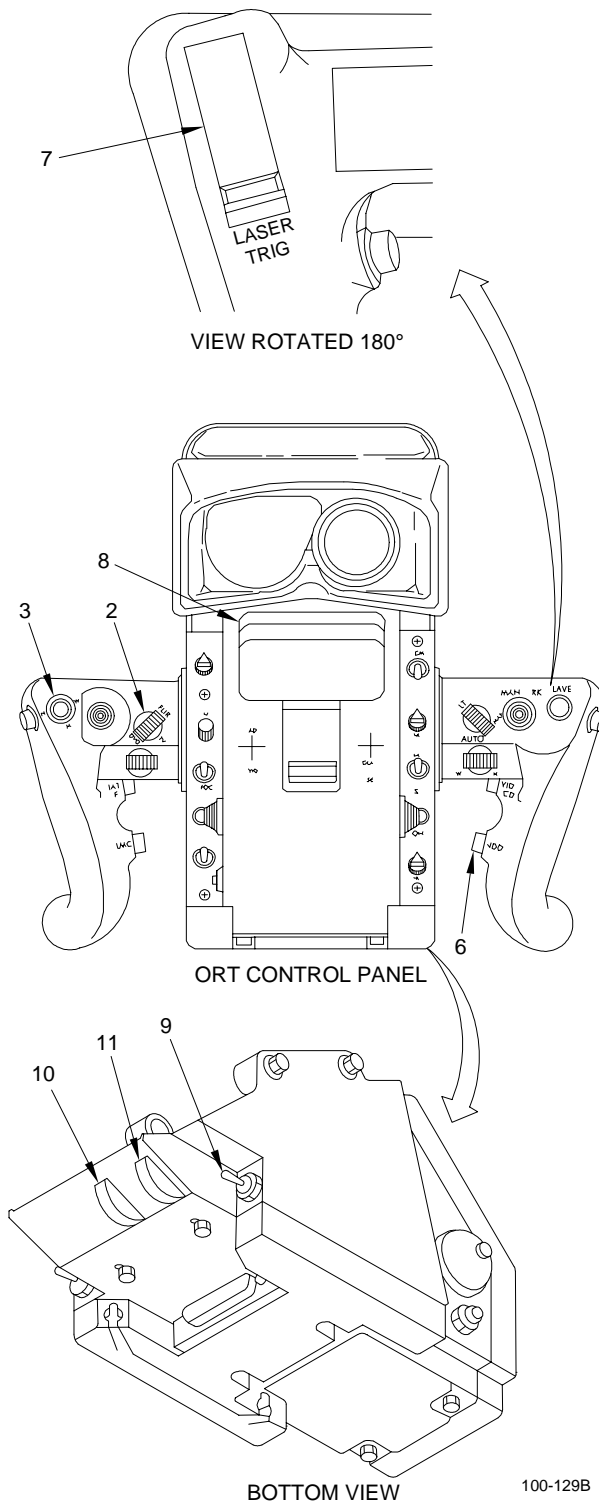
NOTE

If the laser spot cannot be centered on the display, check day sensor assembly laser transceiver unit (para 3-39) and television sensor (para 3-38) installation. Make sure day sensor subassembly mounting flanges are seated flush against the azimuth gimbal assembly (para 3-36).

- h. On display, observe IAT tracking gates capture laser spot and center it in the display aiming reticle (8). If tracking gates do not capture the laser spot, set ORT boresight enable switch (9) to off (center) position then set to on (up). If laser spot is not centered on display and cannot be captured by tracking gates, set ORT boresight enable switch (9) to off (center) and continue firing laser. Wait 5 seconds and adjust ORT azimuth (10) and elevation (11) controls to center laser spot in display. Release laser trigger and repeat steps g thru i. If tracker enters the Stop Mode, set ORT boresight enable switch (9) to off (center). Repeat steps g through i.
- i. When tracking gates disappear, set ORT boresight enable switch (9) to off (center).
- j. Release ORT right handgrip LASER TRIG switch (7).

2. DTV BORESIGHT ZFOV

- a. Set left handgrip FOV (N/M/WIZ) switch (3) to Z.
- b. Repeat steps 1g thru 1j to boresight zoom FOV.



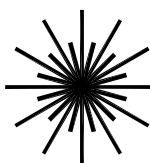
100-129B

3-58. INTERNAL BORESIGHT PROCEDURE (cont)

3. FLIR BORESIGHT NFOV

- a. Set ORT left handgrip sensor select switch (2) to FLIR.
- b. Press ORT right handgrip FLIR PLRT switch (12) to select white hot.
- c. Set ORT left handgrip FOV (N/M/M/Z) switch (3) to N.

- d. Press ORT right handgrip LASER TRIG switch (7) to second detent and hold. Adjust GAIN (13) and LVL (14) for brightest laser spot with least background noise. If laser spot is not visible or if laser spot is visible and cannot be captured in step f below, perform CUE update procedure (para 3-57) and select a different aiming reticle position within the cue update target boundaries.



INVISIBLE LASER RADIATION
AVOID EYE EXPOSURE TO DIRECT RADIATION

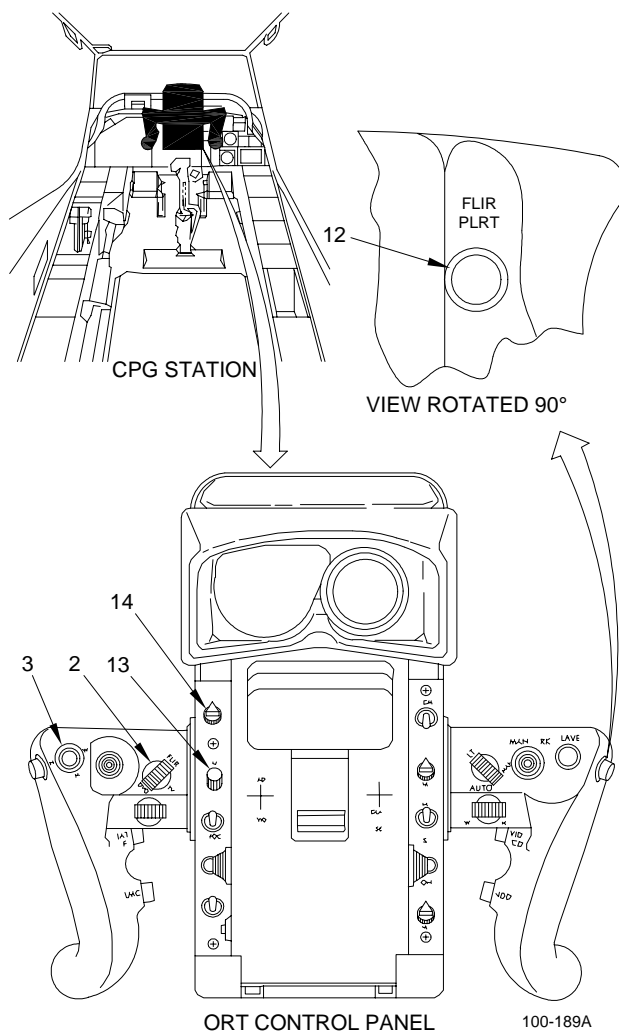
100-137

WARNING

Do not allow anyone forward of the TADS interface bulkhead while the laser is being fired. Direct exposure to or reflections from the laser beam could cause blindness or serious eye injury.

CAUTION

Prolonged laser firing on one particular spot (laser spot) will pit the boresight assembly material. Boresight assembly life can be increased by alternating CUE update target locations (para 3-57).



3-58. INTERNAL BORESIGHT PROCEDURE (cont)

- e. Set ORT boresight enable switch (9) to on (up).

NOTE

If the laser spot cannot be centered on the display, check day sensor assembly laser transceiver unit (para 3-39) and day sensor (para 3-38) installation. Make sure day sensor subassembly (para 3-36) and night sensor assembly (para 3-25) mounting flanges are seated flush against the azimuth gimbal assembly.

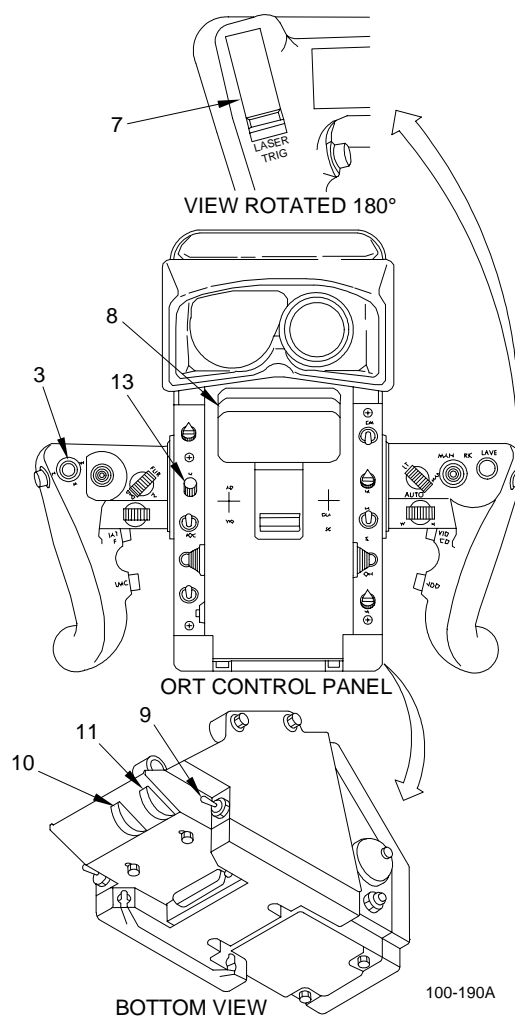
- f. On display, observe tracking gates capture the laser spot and center it in the display aiming reticle. If tracking gates are unable to capture laser spot, set ORT boresight enable switch (9) to off (center) and then to on (up). If laser spot is not centered on display and cannot be captured by tracking gates, set ORT boresight enable switch (9) to off (center) and continue firing laser. Wait 5 seconds and adjust ORT azimuth (10) and elevation (11) controls to center laser spot on display. Release the laser trigger and repeat steps d thru f. If tracker enters the Stop Mode, set ORT boresight enable switch (9) to off (center). Repeat steps d through f.

- g. When tracking gates disappear set ORT boresight enable switch (9) to off (center).

- h. Release ORT right handgrip LASER TRIG switch (7).

CAUTION

FLIR zoom FOV shall not be actuated for more than 2 minutes of continuous operation in order to prevent excessive raster retention. Permanent damage may occur if it is engaged for more than 5 minutes.



4. FLIR BORESIGHT ZFOV

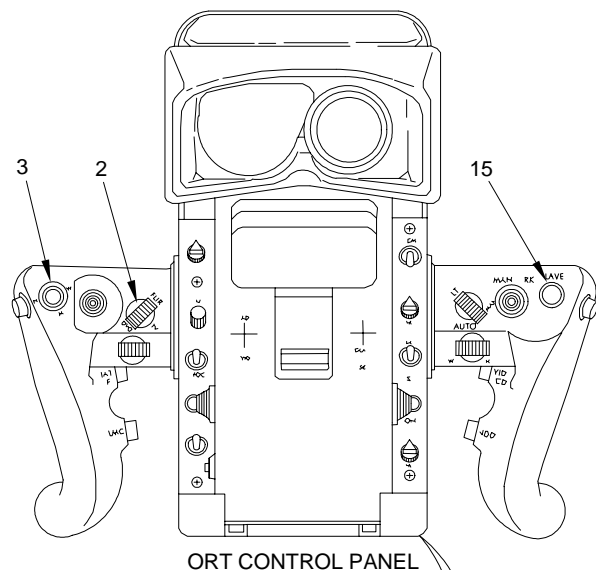
- a. Set left handgrip FOV (N/M/W/Z) switch (3) to Z.
- b. Repeat steps 3d thru 3h to boresight zoom FOV.

3-58. INTERNAL BORESIGHT PROCEDURE (cont)

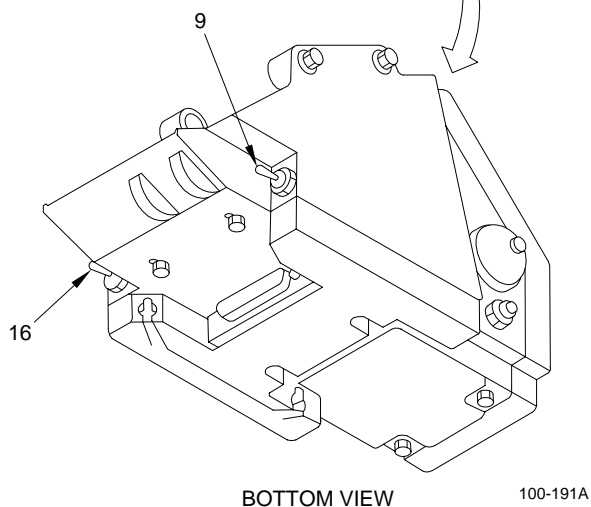
c. Set CPG fire control pane switches:

- (1) LSR ON/OFF (5) to OFF
- (2) CPG ARM/SAFE/OFF (4) SAFE.

d. Set ORT left handgrip FOV (N/M/W/Z) switch (3) to N.

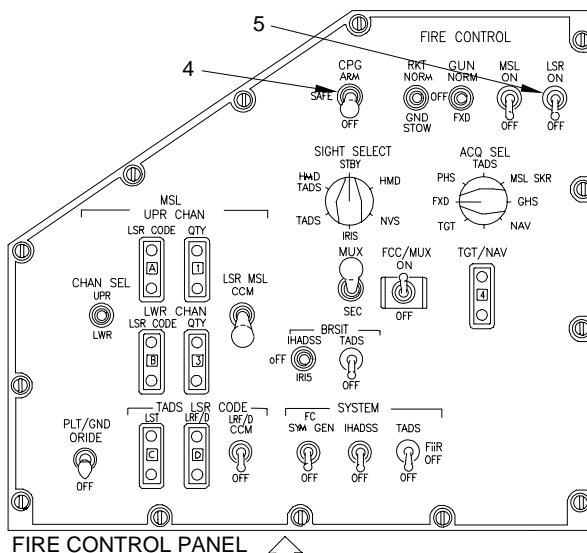


ORT CONTROL PANEL

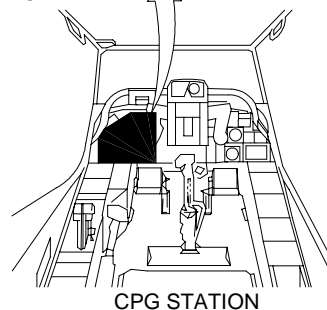


BOTTOM VIEW

100-191A



FIRE CONTROL PANEL



CPG STATION

100-192

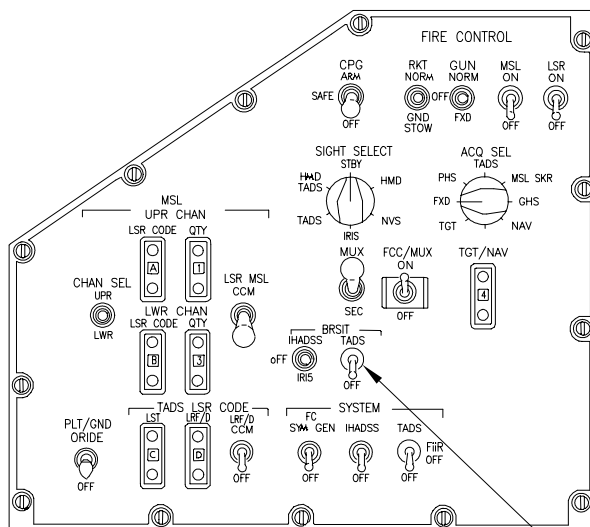
5. DVO BORESIGHT

- a. Set ORT left handgrip sensor select switch (2) to DVO.
- b. Set ORT boresight enable switch (9) on (down).
- c. Observe DVO crosshairs. If crosshair has sufficient contrast go to step g.
- d. Press SLAVE switch (15). Adjust DVO CUE position using MAN TRK until DVO crosshair has sufficient contrast.

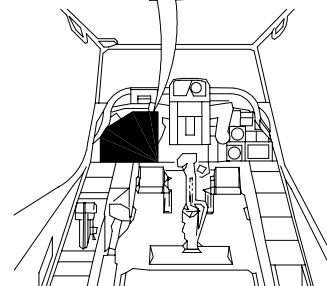
3-58. INTERNAL BORESIGHT PROCEDURE (cont)

- e. Press SLAVE switch (15).
- f. Set ORT DVO boresight switch (16) up or down to bring DVO crosshairs into coincidence with DTV reticle.
- g. Set ORT boresight enable switch (9) to off (center).
- h. Set CPG fire control panel BRSIT TADS/ OFF switch (1) to OFF.
- i. Perform followup.

END OF TASK



FIRE CONTROL PANEL



CPG STATION

100-123

3-59. OUTFRONT BORESIGHT PROCEDURE

INITIAL SETUP

Personnel Required

68X Aircraft Armament/Electrical Repairer

References

TM 1-1270-476-T

Equipment Conditions

Ref

Para 3-58

Condition

Internal boresight performed

FOLLOWUP

Perform TADS power-down procedure (TM 1-1270-476-T)

TASK DESCRIPTION

This task is to be performed after a cue update is performed and after replacement of the TADS electronic unit (TEU), night sensor assembly (NSA), day sensor subassembly, turret assembly, boresight assembly, television (TV) sensor assembly, or the laser transceiver unit (LTU) assembly. A target, a minimum of 0.5 KM away from the helicopter is required. The target must be clearly visible and trackable through both the FLIR and TV sensor NFOV. The target must have the same center as viewed in both FLIR and TV sensors.

NOTE

Wait 30 minutes after the FLIR NOT COOLED message on the display disappears before performing outfront boresight. This allows the FLIR system to stabilize for a more accurate outfront boresight.

1. OUTFRONT BORESIGHT

- a. Perform DTV boresight NFOV steps 1a thru 1j (para 3-58).
- b. Perform FLIR boresight NFOV steps 3a thru 3h (para 3-58).

3-59. OUTFRONT BORESIGHT PROCEDURE (cont)

- c. Set CPG fire control panel BRSIT TADS/ OFF switch (1) to OFF.

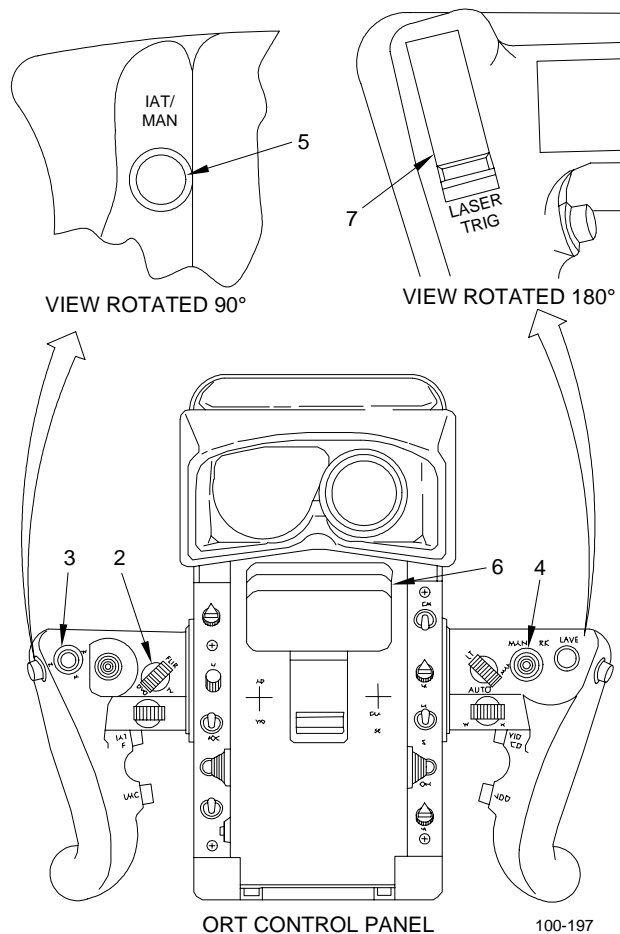
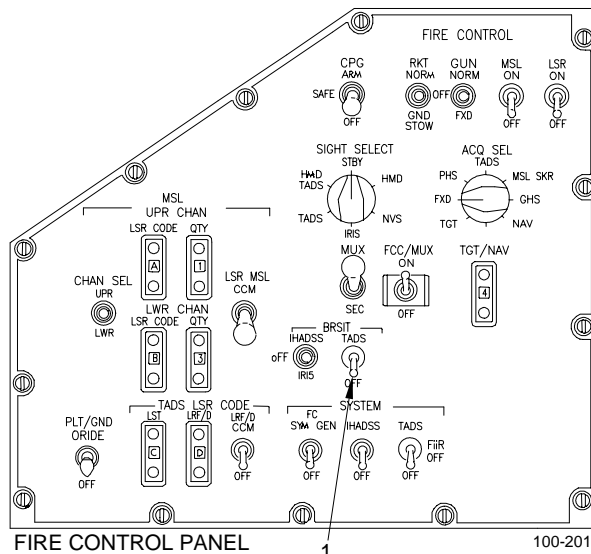
WARNING

If on an approved laser firing range go to step d. If not on an approved firing range go to step o.

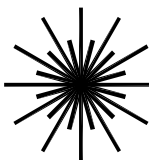
NOTE

A target a minimum of 0.5 KM away from the helicopter is required. The target must be clearly visible through both the FLIR and TV sensor.

- d. Set ORT left handgrip sensor select switch (2) to TV and FOV (N/MIW/Z) switch (3) to W.
- e. Operate ORT right handgrip MAN TRK control (4) and select a clearly visible target.
- f. Set ORT left handgrip sensor select switch (2) to FLIR. If target is not clearly visible in FLIR, set sensor select switch (2) to TV and repeat steps e and f; otherwise, go to step g.
- g. Set ORT left handgrip sensor select switch (2) to TV and FOV (N/W/M/Z) switch (3) to N.
- h. Set ORT left handgrip IAT/MAN switch (5) to IAT (autotrack) and track target.
- i. On display (6), observe target aligns with center of display aiming reticle. If tracker enters Stop Mode, set IAT/MAN switch (5) to MAN. Repeat steps h and i.



3-59. OUTFRONT BORESIGHT PROCEDURE (cont)



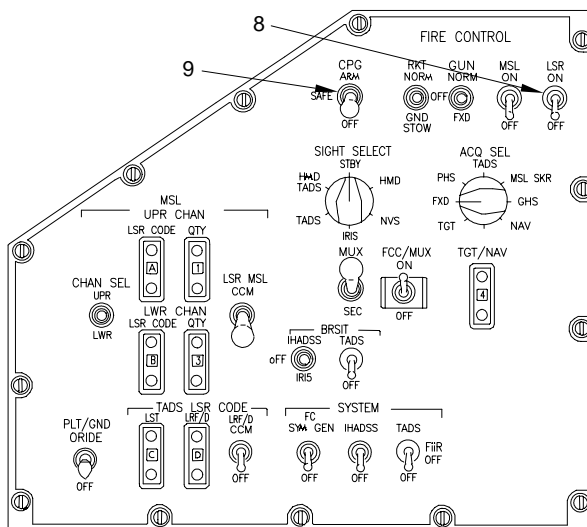
INVISIBLE LASER RADIATION
AVOID EYE EXPOSURE TO DIRECT RADIATION

100-137

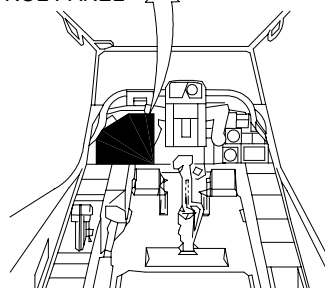
WARNING

Do not allow anyone forward of the TADS interface bulkhead while the laser is being fired. Direct exposure to or reflections from the laser beam could cause blindness or serious eye injury.

- j. Press ORT right handgrip LASER TRIG switch (7) to first detent and hold.
- k. On display (6), note target range displayed in lower left hand corner.
- l. Release ORT right handgrip LASER TRIG switch (7).
- m. Set ORT left handgrip IAT/MAN switch (5) to NAN. Observe tracking gates disappear.
- n. Set ORT left handgrip sensor select switch (2) to FLIR.
- o. Set CPG fire control panel switches:
 - (1) LSR ON/OFF (8) to OFF.
 - (2) CPG ARM/SAFE/OFF (9) to SAFE.



FIRE CONTROL PANEL



CPG STATION

100-195

3-59. OUTFRONT BORESIGHT PROCEDURE (cont)

NOTE

If steps d thru n were performed, proceed to step t; otherwise, perform step p.

p. Enter target range.

(1) Set DEK, **DATA ENTRY** switch (10) to **RNG.**

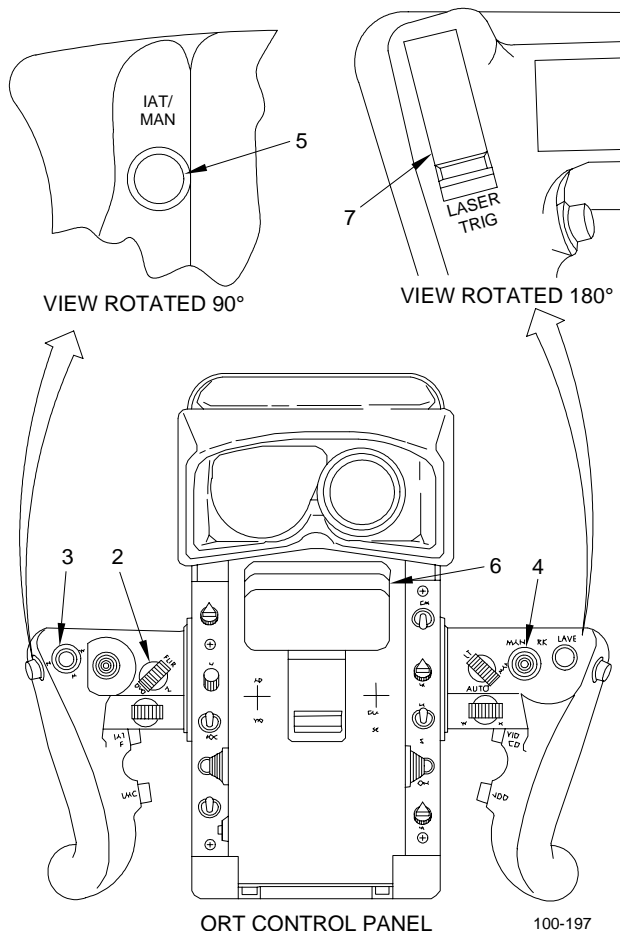
(2) Key in exact target range.

TARGET RANGE	ON DEK, SET EXACT RANGE WITHIN:
0.5 to 1.5 KM	10 meters
1.5 to 5 KM	50 meters
Greater than 5 KM	1 KM

(3) Press any **SHIFT** key, then **ENTER SPACE** key.

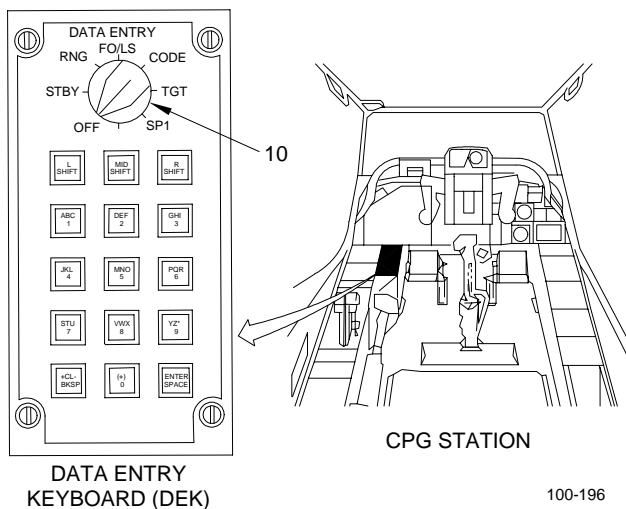
(4) Set DEK DATA ENTRY switch (10) to **STBY.**

q. Set ORT left handgrip sensor select switch (2) to TV and FOV (N/M/W/Z) switch (3) to W.



r. Operate ORT right handgrip **MAN TRK** control (4) and select desired target at range entered in step p above.

s. Set ORT left handgrip sensor select switch (2) to **FLIR** and **FOV (N/H/M/Z)** switch (3) to **N.**

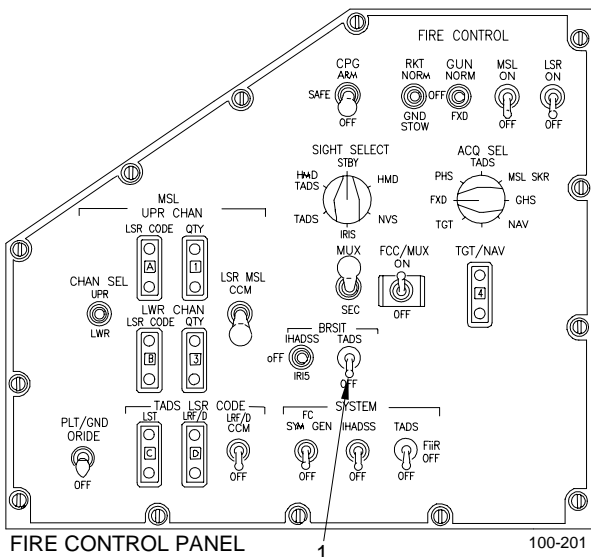
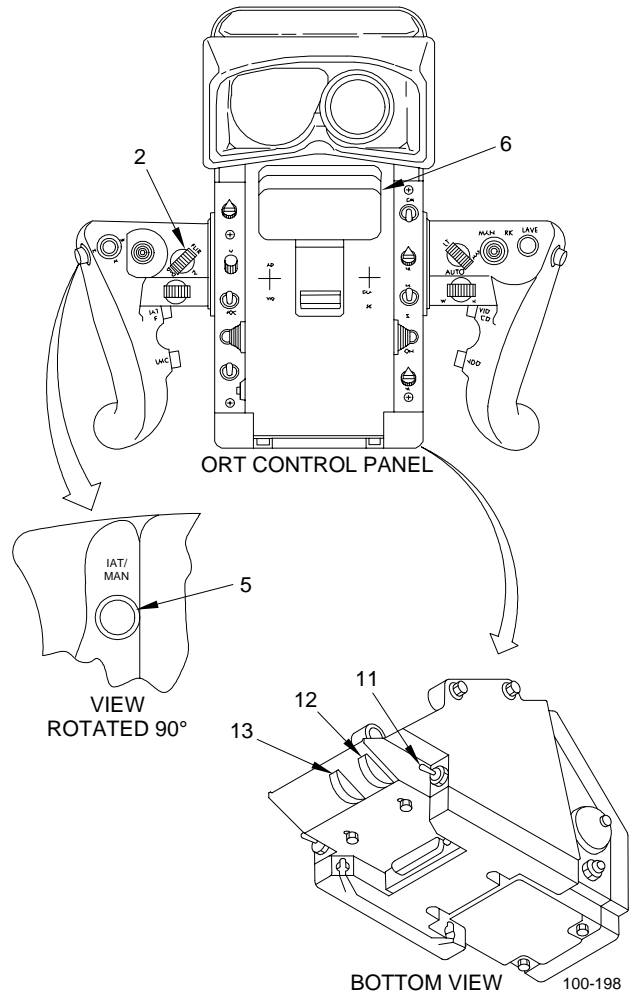


3-59. OUTFRONT BORESIGHT PROCEDURE (cont)

NOTE

Ensure same target is used to autotrack in FLIR.

- t. Set ORT left handgrip IAT/MAN switch (5) to IAT (autotrack) and track target.
- u. On display (6), observe target aligns with center of reticle. If tracker enters Stop Mode, set IAT/MAN switch (5) to MAN. Repeat steps t and u.
- v. Set ORT left handgrip sensor select switch (2) to TV.
- w. Set CPG fire control panel BRSIT TADS/OFF switch (1) to TADS. Verify message OUT-FRNT BORESITE is displayed in lower left corner of display.
- x. Set ORT boresight enable switch (11) to up.
- y. Observe display (6), while adjusting ORT azimuth (13) and elevation (12) controls. Adjust until target aligns with center of reticle.



- z. Set ORT boresight enable switch (11) to off (center).
- aa. Set ORT left handgrip IAT/MAN switch (5) to MAN.
- ab. Set CPG fire control panel BRSIT TADS/OFF switch (1) to OFF.
- ac. Perform followup.

END OF TASK

3-60. SHROUD INTERFERENCE CHECK

INITIAL SETUP

Tools

Aircraft armament repairman tool set
Aircraft armament technical inspector tool kit

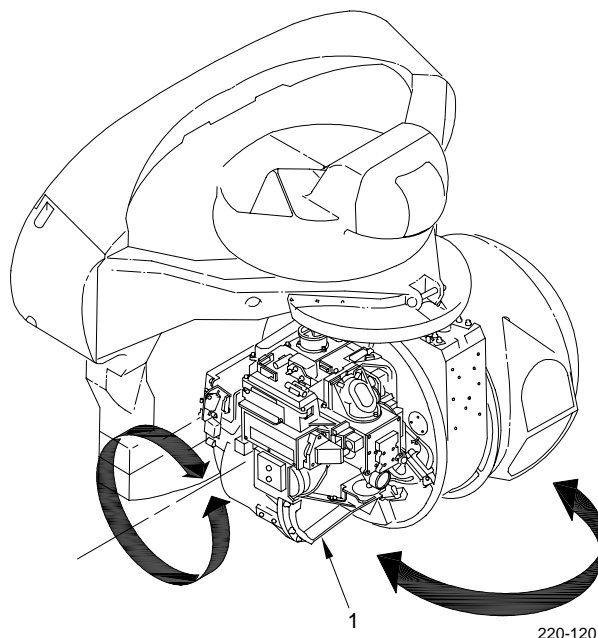
Personnel Required

68X Aircraft Armament/Electrical Repairer
One person to assist
66J30 Aircraft Armament Technical Inspector

NOTE

If day sensor shroud assembly is dented, perform steps 1 thru 6. If night sensor shroud assembly is dented, perform steps 7 thru 12.

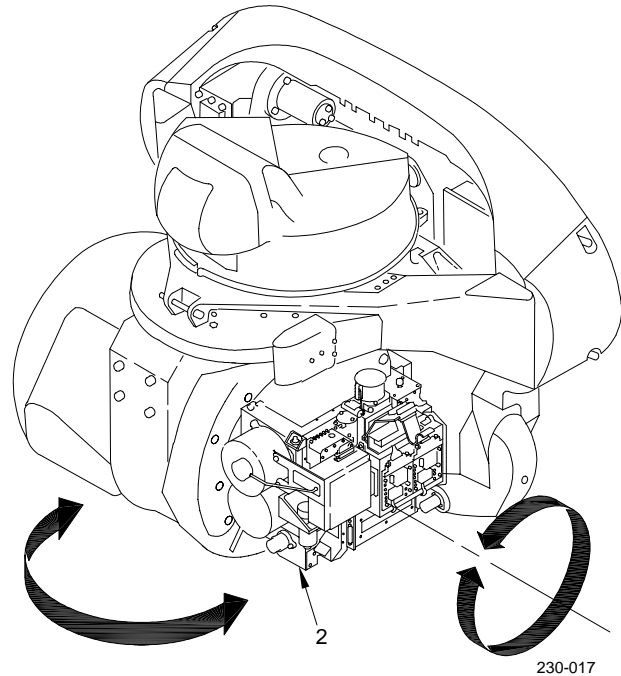
1. Remove day sensor shroud assembly (para 3-22).
2. Check internal painted surfaces for scratched, chipped, or peeling paint. Note location of scratches and chips and relate them to possible points of contact with DSA components. Check for damage to components. If damage is seen, replace damaged component and day sensor shroud assembly (para 3-22). If peeled paint is seen, replace day sensor shroud assembly (para 3-22).
3. Install day sensor shroud assembly (para 3-22).
4. Remove night sensor shroud assembly (para 3-24).
5. Rotate night sensor (1) to elevation and azimuth stops. If any scraping is detected, replace day sensor shroud assembly (para 3-22).



220-120

3-60. SHROUD INTERFERENCE CHECK (cont)

6. Install night sensor shroud assembly (para 3-24).
7. Remove night sensor shroud assembly (para 3-24).
8. Check internal painted surfaces for scratched, chipped, or peeling paint. Note location of scratches and chips and relate them to possible points of contact with NSA components. Check for damage to components. If damage is seen, replace NSA (para 3-25) and night sensor shroud assembly (para 3-24). If peeled paint is seen, replace night sensor shroud assembly (para 3-24).
9. Install night sensor shroud assembly (para 3-24).
10. Remove day sensor shroud assembly (para 3-22).
11. Rotate day sensor (2) to elevation and azimuth stops. If any scraping is detected, replace night sensor shroud assembly (para 3-24).
12. Install day sensor shroud assembly (para 3-22).



230-017

END OF TASK

3-61. CONTROL PANEL FILTER ASSEMBLY ADJUSTMENT

INITIAL SETUP

Tools

Aircraft armament repairman tool set

Personnel Required

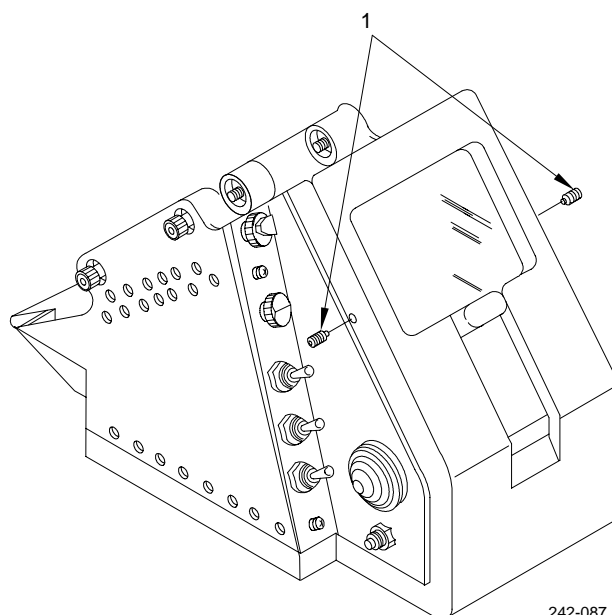
68X Aircraft Armament/Electrical Repairer

NOTE

- This procedure is for adjustment of the old style type 1 or type 2 night filter assemblies only.
- If movement of the filter assembly is restricted, turn the ball plunger counterclockwise. If the night filter assembly does not remain in the up position, turn the ball plunger clockwise.

1. Locate two ball plungers (1) on control panel assembly.
2. Turn two ball plungers (1) until desired tension on filter assembly is reached.

END OF TASK



242-087

3-62. AUTOMATIC GYRO ALINEMENT PROCEDURE (cont)

- b. Set DEK DATA ENTRY switch (4) to FD/LS then press MID SHIFT key and enter B32.
- c. Turret will automatically slew down and back, then left and back from zero, zero position.
- d. System will enter manual track mode when BITE target appears on display.

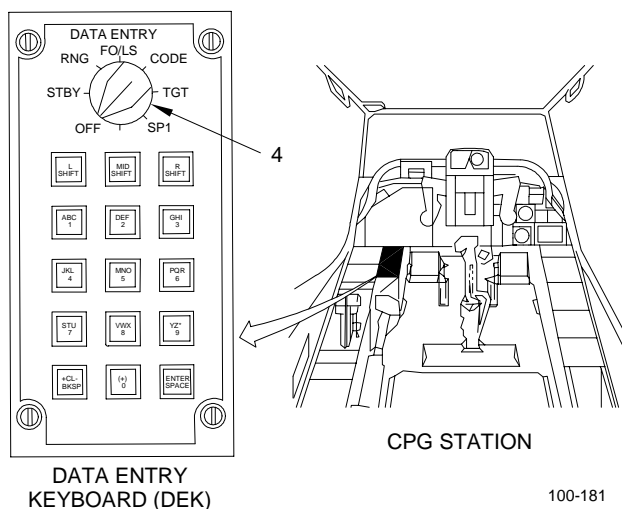
4. Aline pitch and yaw gyro.

NOTE

Pitch and yaw gyro alinement is normally performed airborne, but may be performed on the ground if a suitable target is available. The target requires to be at an elevation angle greater than 25 degrees from zero, zero position, and must be trackable.

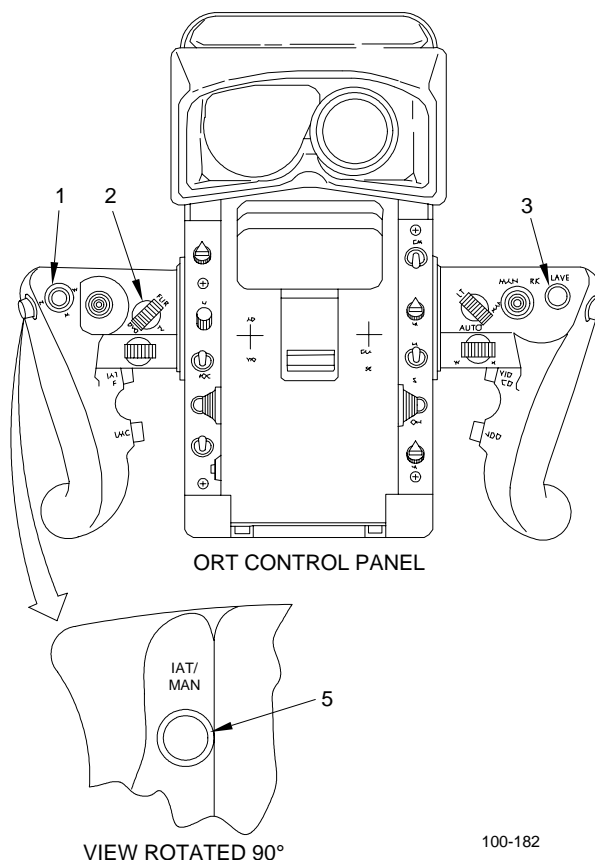
- a. Observe display until BITE target disappears.
- b. On display, acquire a trackable target.
- c. Press ORT left handgrip IAT/MAN switch (5) to select IAT (autotrack) and track target. If tracker enters Stop Mode, press IAT/MAN switch to select MAN. Repeat step c.
- d. The display automatically begins a rocking motion which terminates in 10 to 25 seconds. TADS automatically goes to fixed forward.
- e. Set DEK DATA ENTRY switch (4) to STBY.
- f. Perform followup.

END OF TASK



DATA ENTRY KEYBOARD (DEK)

100-181



ORT CONTROL PANEL

VIEW ROTATED 90°

100-182

CHAPTER 4

PREPARATION FOR STORAGE OR SHIPMENT

4-1. GENERAL

This chapter contains shipping and storage information for TADS AVUM replacement assemblies packed in reusable shipping and storage containers. Container and applicable packing instructions are given in chapter 2.

4-2. SHIPPING AND STORAGE REQUIREMENTS

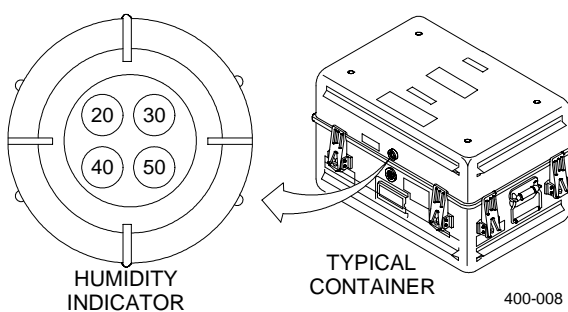
The containers are designed for:

- Long-term stationary storage
- Flyaway storage (storage items subject to immediate flyaway)
- All modes of shipping

CHECKING HUMIDITY INDICATOR DURING STORAGE

NOTE

- The humidity indicator is located in the lower half of all containers.
- 40% humidity is indicated when the small circle with the number 40 inside turns lavender in color.



- a. During flyaway storage, the humidity indicator must be intervals. If the 40% humidity indicator is lavender (TM 1-8145-476-23).
- b. During stationary storage, the humidity indicator must intervals. If the 40% humidity indicator is lavender (TM 1-8145-476-23).
- c. If containers are in use (opened and closed periodically), the humidity indicator must be checked at 60-day intervals. If the 40% humidity indicator is lavender, replace the desiccant (TM 1-8145-476-23).

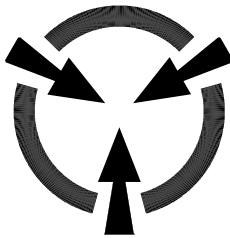
4-3. PACKING, STORING, AND SHIPPING ESDS ASSEMBLIES

CAUTION

This equipment contains parts and assemblies sensitive to damage by electrostatic discharge. Use ESDS precautionary procedures when touching, removing, or installing assemblies (DOD HDBK 263 and DOD STD 1686).

1. PACKING ESDS DEVICES OR ASSEMBLIES

Place ESDS assembly in a conductive plastic bag. Label plastic bag with sensitive electronic device symbol shown below. Close the open end of the bag by folding. Do not seal the opening.



- b. Place plastic bag between two sheets of corrugated cardboard.
- c. Tape cardboard in place. Do not allow tape to touch plastic package.
- d. Place cardboard package in a shipping type envelope.
- e. Apply sensitive electronic device symbol to the outside of shipping envelope.
- f. Wrap the envelope in brown shipping paper and apply shipping labels.

2. STORING ESDS ASSEMBLIES

Pack ESDS assemblies before storing (1 above). Store package in an area where the relative humidity is closely maintained at 50%.

3. SHIPPING ESDS ASSEMBLIES

Prepare ESDS assemblies for shipping as follows:

- a. Cut two sheets of corrugated cardboard 1/8 inch larger on all sides than the plastic bag.

APPENDIX A

REFERENCES

A-1. SCOPE

This appendix lists all army regulations, common tables of allowances, field manuals, forms, pamphlets, technical bulletins and technical manuals referenced in this manual.

A-2. ARMY REGULATIONS

Control of Health Hazards from Lasers and Other High Intensity Optical Sources	AR 40-46
Ionizing Radiation Protection (Licensing, Control, Transportation, Disposal, and Radiation Safety)	AR 385-11

A-3. COMMON TABLES OF ALLOWANCES

Expendable/Durable Items (Except: Medical, Class V, Repair Parts, and Heraldic Items)	CTA 50-970
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A-4. FIELD MANUALS

Army Aircraft Quality Control and Technical Inspection	FM 1-511
First Aid for Soldiers	FM 21-11

A-5. FORMS

Recommended Changes to Publications or Blank Forms	DA Form 2028
Recommended Changes to Equipment Technical Manuals	DA Form 2028-2
Equipment Inspection and Maintenance Worksheet	DA Form 2404
Historical Record for Aircraft	DA Form 2408-15
Quality Deficiency Report	SF 368

A-6. PAMPHLETS

Consolidated Index of Army Publications and Blank Forms	DA Pam 25-30
The Army Maintenance Management System - Aviation (TAMMS-A)	DA Pam 738-751

A-7. TECHNICAL BULLETINS

Respiratory Protection Program (AFOSH STD 161-1)	TB MED 223
U.S. Surgeon General's Noise Limits	TB MED 251
Control of Hazards to Health from Laser Radiation	TB MED 524

REFERENCES (cont)

A-8. TECHNICAL MANUALS

Aviation Unit and Intermediate Maintenance Repair Parts and
 Special Tools List (Including Depot Level Parts), Target
 Acquisition Designation Sight (TADS) Assembly AN/ASQ-170,
 AH-64A Attack Helicopter TM 1-1270-476-23P

Aviation Unit Troubleshooting Manual, Target Acquisition
 Designation Sight (TADS) Assembly AN/ASQ- 70, AH-64A
 Attack Helicopter TM 1-1270-476-T

Aviation Unit Maintenance Manual: AH-64A Helicopter, Fire Control System TM 9-1230-476-20-1

Aviation Intermediate Maintenance Manual: Target Acquisition Designation
 Sight (TADS) Assembly AN/ASQ-170, AH-64A Attack Helicopter TM 1-1270-476-30

Technical Escort Information on Chemical Agents and Decontaminating
 Procedures (TM 1300-30) TM 9-1300-275/2

Aviation Unit and Intermediate Maintenance Manual for Target Acquisition
 Designation Sight Assembly/Pilot Night Vision Sensor Assembly (TADS/PNVS)
 Shipping and Storage Containers TM 1-8145-476-23

Aviation Unit and Intermediate Maintenance Manual for Army Model AH-64A
 Helicopter Avionics Configuration TM 1-1520-238-23-1

Aviation Unit Maintenance Manual, Pilot Night Vision Sensor (PNVS) Assembly
 AN/AAQ-11, AH-64A Attack Helicopter TM 1-5855-265-20

Aviation Intermediate Maintenance Manual: Pilot Night Vision Sensor (PNVS)
 Assembly AN/AAQ-11, AH-64A Attack Helicopter TM 1-5855-265-30

General Aircraft Maintenance Manual TM 55-1500-204-25/1

Painting and Marking of Army Aircraft TM 55-1500-345-23

Operator’s Manual: AH-64A Helicopter TM 1-1520-238-10

Aviation Unit and Intermediate Maintenance Manual:
 AH-64A Helicopter TM 1-1520-238-23 Series

Procedures for Destruction of Equipment to Prevent Enemy Use TM 750-244-2

A-9. MISCELLANEOUS PUBLICATIONS

Electrostatic Discharge Control Handbook for Protection of Electrical
 and Electronic Parts, Assemblies and Equipment (Excluding Electrically
 Initiated Explosive Devices) DOD-HDBK-263

Electrostatic Discharge Control Program for Protection of Electrical and
 Electronic Parts, Assemblies and Equipment (Excluding Electrically
 Initiated Explosive Devices) DOD-STD-1686

APPENDIX B

MAINTENANCE ALLOCATION CHART (MAC)

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 an 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)

b. The maintenance to be performed below depot and in the field is described as follows:

(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 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 operational 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, jiggling, 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 shop sets. Evacuate unserviceable modules/components and end items beyond the repair capability of AVUM to the supporting AVIM.

B-1. MAINTENANCE ALLOCATION CHART (cont)

(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 10 aircraft assigned. Maintenance tasks performed by these units will be those which can be accomplished by the aircraft crew chief or assigned aircraft repairman and will normally be limited to preventive maintenance, 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 of 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 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 repairable modules/components and end items 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 air mobility requirements and conservation 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 II)**NOTE**

Nomenclature used throughout the MAC are approved item names. Those terms/nomenclatures expressed in parentheses are generic in nature and are not to be considered as official terminology.

- a. The Maintenance Allocation Chart assigns maintenance functions to the lowest category of maintenance based on past experience and the following considerations:
 - (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 may, 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 comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. TEST

To verify serviceability by measuring the mechanical, pneumatic, hydraulic, 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 (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. ADJUST

To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. ALINE

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, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons 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 a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. REPLACE

To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the third position code of the SMR code.

B-3. MAINTENANCE FUNCTIONS (cont)**i. REPAIR**

The application of maintenance services¹, including fault location/troubleshooting², removal/installation, and disassembly/assembly³ procedures, and maintenance actions⁴ to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. OVERHAUL

That maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

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.

¹Services - inspect, test, service, adjust, align, calibrate, and/or replace.

²Fault locate/troubleshoot - the process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or unit under test (UUT).

³Disassemble/assemble - encompasses the step-by-step taking apart (or breakdown) of a spare/functional group coded item to the level of its least component identified as maintenance significant (i.e., assigned a SMR code) for the category of maintenance under consideration.

⁴Actions - welding, grinding, riveting, straightening, facing, remachining and/or resurfacing.

B-4. STANDARD GROUPS (Columns 1 and 2)

Standard groupings are used, as applicable, throughout this MAC. Maintenance manuals and RPSTL will reflect these standard groupings as individual chapters, with sections in each chapter relative to the individual complete systems, subsystems, modules, components, assemblies, or specific parts noted.

B-5. MAINTENANCE FUNCTION (Column 3)

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

B-6. MAINTENANCE CATEGORIES AND WORK TIMES (Column 4)

The maintenance categories (levels) AVUM, 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, test, 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 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.

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
00	Target Acquisition Designation Sight Assembly AN/ASQ- 170	Inspect	0.58	--	--	83	93	181	385	
						392	444	446	485	
						516	530	534	543	
						548	567	633	635	
						640	647	679	808	
						809	810	1000	1009	
						1012				
		Test	1.61	--	--	446	530	567	569	
						635	708	808	809	
						810	915	1000		
		Service	0.16	--	--	181	392	446	516	
						530	543	567	633	
						636	808	809	1000	
Adjust	1.20	--	--	66	446	530	567			
				569	635	808	809			
				810	1000					
Aline	1.03	--	--	446	530	567	569			
				635	1000					
Repair	0.43	--	--	83	92	385	392			
				404	405	446	463			
				530	534	548	567			
				624	635	647	808			
				809	810	1000	1007			
				1012						
Fault Location	1.61	--	--	83	407	446	503			
				530	567	569	635			
				808	809	1000				
04	Turret Assembly 1	Test	1.45	--	5.58	9	18	64	83	
						98	128	130	134	
						174	177	179	204	
						208	250	256	257	
						329	333	375	392	
						404	405	420	422	
						443	444	445	446	
						448	499	503	507	
						534	548	627	629	
						633	635	636	639	
						640	645	664	667	
						671	673	697	772	
						785	787	797	804	
						804	808	809	810	
						916	917	955	967	
						1001	1009	1012		

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
		Service	2.48	--	--	79	81	83	96	
						104	308	317	378	
						385	392	404	407	
						436	444	446	463	
						516	530	534	548	
						567	629	633	635	
						640	647	679	687	
						808	809	810	1000	
						1009	1012			
		Aline	--	--	1.36	77	97	112	123	
						124	125	126	150	
						221	302	304	315	
						317	392	404	436	
						443	513	633	641	
						659	661	662	672	
						676	808	809	810	
						944	1009			
		Remove and Replace	7.14	--		81	83	404	407	
						446	530	567	633	
						635	647	687	808	
						809	810	909	916	
						1000				
		Repair	0.58	--	0.99	76	81	83	85	
						89	91	112	267	
						282	285	287	295	
						296	298	317	372	
						392	396	397	404	
						405	410	446	448	
						449	462	463	464	
						465	466	467	483	
						485	530	532	534	
						536	545	548	567	
						573	585	588	593	
						618	619	620	623	
						627	629	630	631	
						633	634	635	654	
						672	678	684	685	
						694	808	809	810	
						817	879	916	923	
						927	935	939	941	
						946	947	950	952	
						953	959	960	966	
						1000	1003	1005	1008	
						1009	1010	1012		
		Fault Location	--	--	5.51	9	18	64	83	
						98	128	130	134	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
0404	Interface Assembly, Aircraft 1A1	Fault Location (cont)				174	177	179	204	
						208	250	256	257	
						329	333	375	392	
						404	405	420	422	
						443	444	445	446	
						448	499	503	507	
						627	629	633	636	
						639	640	664	667	
						671	673	697	773	
						787	797	804	804	
						808	809	810	916	
						917	955	967	1001	
						1009	1012			
			040412	Cable Assembly, Switch 1A1A4	Test	--	0.14	--	503	
		Remove and Replace	0.29	--	--	83 633 809	392 639 963	404 667	530 808	
		Repair	--	0.10	--	392 533 695 848	412 534 808 864	463 624 809 879	513 639 810	
		Fault Location	--	0.14	--	503				
0408	Gimbal Assembly, Azimuth 1A4	Adjust	--	--	4.50	64 98 317 404 446 567 697 809 1001	79 100 329 407 448 635 804 810 1009	83 177 388 422 450 642 804 861 1012	87 179 392 438 462 647 808 1000	
		Aline (Non OIP)	--	--	1.48	41 117 178 360 447 631 668 795	83 118 304 392 465 633 669 808	99 119 316 404 484 641 672 809	116 120 317 446 629 660 778 810	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
		Aline (Non OIP) (cont)				944 1014	948 1015	963	1012	
		Aline (OIP)	--	--	1.48	41 117 178 360 447 631 668 795 944 1014	83 118 304 392 465 633 669 808 948 1015	99 119 316 404 484 641 672 809 962	116 120 317 446 629 660 778 810 1012	
		Repair (Non OIP)	--	--	4.19	25 79 87 99 118 124 179 273 315 370 386 397 404 413 434 443 448 462 482 519 567 617 631 640 654 662 676 697 806 810 841 916 939 949 1000 1006	40 80 91 100 119 125 180 302 316 382 388 399 407 414 436 444 450 463 483 533 572 624 633 641 659 668 678 778 807 815 856 919 941 963 1001 1007	41 83 92 110 120 126 221 304 317 383 392 400 411 418 438 446 451 464 484 534 587 627 635 642 660 671 694 804 808 819 861 930 944 971 1003 1008	64 85 98 116 123 177 226 307 329 385 396 401 412 422 441 447 454 465 513 542 590 629 639 647 661 672 695 804 809 827 890 935 946 972 1005 1011	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
		Repair (Non OIP) (cont)				1014	1015			
		Repair (OIP)	--	0.71	4.19	25	40	41	64	
						79	80	81	83	
						85	87	91	92	
						98	99	100	110	
						116	118	119	120	
						123	124	125	126	
						177	179	180	221	
						226	273	302	304	
						307	315	316	317	
						329	370	382	383	
						385	386	388	392	
						396	397	399	400	
						401	404	405	407	
						411	412	413	414	
						418	422	434	436	
						438	441	443	444	
						446	447	448	450	
						451	454	462	463	
						464	465	482	483	
						484	513	519	533	
						534	542	567	572	
						587	590	617	624	
						627	629	631	633	
						635	639	640	641	
						642	647	654	659	
						660	661	662	668	
						670	671	672	676	
						678	694	695	697	
						778	804	806	807	
						808	809	810	815	
						819	827	841	856	
						861	890	916	919	
						930	935	939	941	
						944	946	949	962	
						971	972	1000	1001	
						1003	1005	1006	1007	
						1008	1009	1011	1012	
						1014	1015			
P/O 0408	Optics Assembly, No. 7A	Remove and Replace (Non-OIP)	--	--	5.02	41	81	83	91	
						99	116	118	119	
						120	123	124	125	
						126	221	273	302	
						304	315	316	317	
						392	396	404	407	
						436	443	444	446	
						447	462	465	484	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS		
			AVUM	AVIM	DEPOT							
P/O 0408	Mirror Assembly, Optical, No. 8	Remove and Replace (Non-OIP) (cont)				629	631	633	641			
						642	659	660	662			
						668	672	676	778			
						808	809	810	941			
						944	963	1009	1012			
						1014	1015					
				Remove and Replace (OIP)	---	---	5.02	41	81	83	91	
								99	116	118	119	
								120	123	124	125	
								126	221	273	302	
								304	315	316	317	
								392	396	404	407	
								436	443	444	446	
								447	462	465	484	
								629	631	633	641	
								642	659	660	662	
							668	672	676	778		
							808	809	810	941		
							944	962	1009	1012		
							1014	1015				
				Repair	---	---	0.36	53	67	180	233	
								339	392	396	447	
								464	513	654	808	
								809	810	919	992	
				Remove and Replace (Non OIP)	---	---	2.30	41	83	99	100	
								116	118	119	120	
								316	317	392	396	
								404	446	447	450	
								465	484	534	629	
								633	641	660	668	
								672	778	808	809	
								810	944	963	1007	
							1012	1014	1015			
				Remove and Replace (OIP)	---	---	2.30	41	83	99	100	
								116	118	119	120	
								316	317	392	396	
						404	446	447	450			
						465	484	534	629			
						633	641	660	668			
						672	778	808	809			
						810	944	962	1007			
					1012	1014	1015					

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 0408	Optics Assembly, No.6	Repair	--	--	0.61	53	180	268	388	
						392	396	513	545	
						545	633	808	809	
						810	902	931		
		Test	--	--	0.64	55	180	234	262	
						450	472	476	808	
						895	919	988		
		Remove and Replace (Non OIP)	--	--	4.38	41	81	83	87	
						91	99	116	118	
						119	120	123	124	
						125	126	221	273	
						315	317	392	396	
						404	407	434	436	
						443	446	447	450	
						465	484	629	631	
						633	641	642	659	
						660	661	662	672	
						676	778	808	809	
						810	941	944	963	
						1007	1009	1012	1014	
		1015								
		Remove and Replace (OIP)	--		4.38	41	81	83	87	
						91	99	116	118	
119	120					123	124			
125	126					221	273			
315	317					392	396			
404	407					434	436			
443	446					447	450			
465	484					629	631			
633	641					642	659			
660	661					662	672			
676	778					808	809			
810	941					944	962			
1007	1009					1012	1014			
1015										
Repair	--		1.45	53	55	67	180			
				234	262	392	396			
				397	430	444	450			
				464	472	476	513			
				545	584	590	830			
				895	900	919	932			
				988						

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 0408	Optics Assembly, Double Relay	Remove and Replace	--	--	1.29	55	180	234	262	
						263	264	392	396	
						397	444	450	464	
						472	476	513	545	
						590	808	809	810	
						895	919	988		
						895	919	988		
		Repair	--	--	3.21	54	67	180	263	
						264	268	334	392	
						396	443	462	513	
						633	654	802	808	
						809	810	919	989	
P/O 0408	Support Assembly, Shroud	Remove and Replace	--	0.37	--	83	392	404	462	
						482	483	808	809	
						810	946	1012		
		Repair	--	--	0.23	99	280	392	398	
						399	404	483	543	
						573	592	808	809	
P/O 0408	Harness Assembly, Wiring 1A4W1	Test	--	--	1.46	548	639	640	645	
						785	808	809	810	
		Remove and Replace (Non OIP)	--	--	4.45	81	91	99	273	
						302	304	315	317	
						392	404	407	414	
						436	443	444	446	
						463	465	533	534	
						629	633	635	641	
						642	672	676	808	
						809	810	941	944	
						961	1009	1012	0473	
		Remove and Replace (OIP)	--	--	4.29	81	91	99	273	
						302	304	315	317	
						392	404	406	407	
						414	436	443	444	
						446	463	465	533	
						534	629	633	635	
						641	642	672	676	
						808	809	810	941	
						944	961	1009	1012	
Repair (Non-OIP)	--	--	1.61	392	396	463	503			
				534	545	624	695			
				808	809	810	845			
				846	848	849	864			
				878	879					

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
040804	Clamp Assembly	Repair (OIP)	--	--	1.60	392	396	463	503	
						534	545	624	695	
						808	809	810	845	
						846	848	849	864	
						878	879			
		Fault Location	--	--	2.32	81	83	91	99	
						273	315	317	392	
						396	404	407	409	
						414	444	446	462	
						463	465	503	533	
P/O 0408	Drive Assembly, Azimuth 1A4A1	Remove and Replace	--	15.10	--	64	79	81	83	
						85	87	88	98	
						99	100	177	179	
						317	329	388	392	
						404	422	438	446	
		Overhaul	--	--	0.29	150	280	573	808	
						809	810	923	941	
						448	450	462	463	
						464	567	627	629	
						631	635	647	654	
P/O 0408	Drive Assembly, Elevation 1A4A2	Remove and Replace	--	7.65	--	64	79	81	83	
						85	87	88	98	
						99	100	177	179	
						317	329	388	392	
						404	422	438	446	
						448	450	462	463	
						464	567	627	629	
						631	635	647	654	
						672	678	697	804	
						808	809	810	861	
P/O 0408	Mirror Assembly, Optical No. 8	Remove and Replace	--	1.27	--	126	221	304	315	
						317	392	404	436	
						939	946	1000	1001	
						1009	1012			
						83	85	87	88	
						99	179	317	392	
						404	407	422	438	
						446	448	463	464	
						567	627	629	631	
						642	654	672	678	
697	804	808	809							
810	861	939	946							
1000	1001	1009	1012							

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS		
			AVUM	AVIM	DEPOT							
P/O 04	Optics Assembly, Double	Remove and Replace (cont)				443	465	629	641			
						659	661	662	672			
						676	808	809	810			
						944	1007	1009				
			Repair		--	--	0.61	53	180	268	382	
							388	392	396	513		
							545	633	808	809		
							810	829	902	931		
			Remove and Replace		--	--	0.22	392	396	444	808	
							809	810				
			Repair		--	--	3.22	54	67	180	263	
								264	268	334	392	
						396	443	462	513			
						633	654	802	808			
P/O 04	Lens Assembly, Field	Remove and Replace		--	--	0.27	392	396	444	808		
						810						
		Repair		--	--	1.01	53	55	180	234		
							262	392	396	397		
							430	444	450	464		
							472	476	513	545		
							584	590	808	809		
							810	830	883	895		
		Repair					900	919	932	988		
					--	--	0.27	180	392			
			08	Sensor Assembly, Night 1A3	Test (Non-OIP)	--	--	6.10	3	5	18	106
									128	129	132	135
							136	138	144	167		
							169	190	195	198		
						206	215	248	311			
						364	405	420	425			
						480	507	639	673			
						709	771	787	803			
						808	809	967	1005			
	Test (OIP)					--	--	2.75	481	578	579	580
					808	809						
	Service		0.25	0.59	--	283	392	396	489			
						513	689					

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 08	Focusing Assembly 1A3A31	Aline	--	--	1.93	44	63	78	392	
						395	446	450	481	
						524	621	622	673	
						691	808	809	810	
						949	967	1005	1013	
		Remove and Replace	--	1.20	--	248	364	405	446	
						530	534	567	635	
						640	674	808	809	
						810	967	1000	1005	
		Repair	--	0.69	1.71	87	99	180	248	
						314	317	319	341	
						364	392	404	405	
						411	412	437	444	
						447	448	450	462	
						463	481	534	539	
						545	629	635	638	
						640	672	673	674	
						694	808	809	810	
						946	947	952	967	
						1005	1009	1013		
		Fault Location	--	--	2.75	481	578	579	580	
						808	809			
		Test (Non-OIP)	--	--	0.40	501	780	794		
		Remove and Replace (Non OIP)	--	0.83	--	87	248	314	341	
364	392					404	405			
444	448					450	629			
637	640					673	808			
809	810					967	1005			
Repair (Non-OIP)	--	0.20	0.51	67	102	144	180			
				278	288	347	367			
				373	388	392	396			
				411	430	431	434			
				436	447	462	503			
				533	534	545	573			
				575	584	606	610			
				629	635	694	695			
				808	809	810	836			
				838	901	923				
				Fault Location (Non-OIP)	--	--	0.42	501	780	794

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS		
			AVUM	AVIM	DEPOT							
P/O 08	Cooler-Dewar Group 1A3A29, 1A3A30	Service	--	0.09	--	602	605	935	1007			
		Remove and Replace	--	2.29	--	87	248	314	392			
						404	448	462	638			
						673	808	809	810			
						1005						
0816	Scanner Assembly, Optics	Repair	--	--	1.40	85	100	141	254			
		Test (Non-OIP)	--	--	0.70	462	492	700	1008			
						232	248	364	396			
						481	624	626	808			
						809	810	1013				
		Test (OIP)	--	--	0.66	85	100	141	254			
						180	229	392	434			
								481	629	691	808	
								809	810	982	1013	
		Aline	--	--	5.03	698	792	793	808			
809												
Repair (Non-OIP)	--	--	0.95	5	87	227	228					
				229	232	248	303					
				392	396	447	448					
				450	462	481	624					
				625	629	640	808					
				809	810	952	982					
Repair (OIP)	--	--	0.76	87	227	228	229					
				232	248	300	303					
				364	392	396	405					
				430	434	444	447					
				448	450	462	481					
				624	625	626	629					
				640	665	673	808					
				809	810	952	967					
Fault Location	--	--	0.56	180	228	392	396					
				434	479	624	629					
				691	982							
P/O 0816	Scanner, Mechanical 1A3A32	Remove and Replace	--	--	1.79	69	227	228	319			
						341	364	396	405			
						447	450	624	673			
						808	809	810	967			

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 0816	Scanner, Mechanical	Remove and Replace (cont)				982	1005			
P/O 0816	Led Emitter Assembly 1A3A34	Remove and Replace	--	--	1.66	63 396 560 809	180 436 629 810	248 448 640	392 450 808	
P/O 0816	Imager Assembly, IR	Remove and Replace (Non-OIP)	--	--	0.57	180 448	248 450	392 629	444 640	
P/O 0816	Visual Collimator SU-102/UA	Remove and Replace	808	809	810	952				
P/O 0816	Circuit Card Assembly, Scan-Interlace 1A3A24	Remove and Replace	--	--	0.52	180 629	229 808	319 809	450 810	
P/O 08	MFOV/WFOV Optics Assembly 1A3A35	Test	--	--	0.28	503	777	794		
		Remove and Replace	--	--	3.02	39 87 253 364 404 444 481 534 635 688 809 949 1012	44 99 314 388 405 446 491 621 638 692 810 957 1013	63 149 319 392 421 447 503 622 640 699 911 967	78 248 341 395 423 450 524 629 673 808 947 1005	
		Fault Location	--	--	0.28	503	777	794		
	WFOV Optics Assembly	Remove and Replace	--	--	2.03	180 810	392	446	515	
		Repair	--	--	2.05	53 430 513 612 810 983	180 444 534 654 814 984	392 447 584 808 835	396 464 611 809 904	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
P/O 08	MFOV Optics Assembly	Remove and	--	--	0.37	180	392	444	810		
		Replace									
		Repair	--	--	3.68	180	392	396	430		
					444	447	464	513			
					534	584	613	614			
					654	808	809	810			
					814	833	834	903			
				919	985	986	993				
		Switching Test Assembly	Aline	--	--	0.47	163	175	442	503	
						581	639	777	794		
					808	809	933	934			
			Remove and Replace	--	--	0.12	180	444	808	810	
			Repair	--	--	0.65	4	19	70	88	
					307	352	359	392			
				396	397	414	434				
			444	447	461	533					
			534	574	594	629					
			694	808	809	810					
			848	868	879	882					
			958	961	1002						
		Fault Location	--	--	0.52	163	175	442	503		
					639	777	794	933			
					934						
P/O 08	Optics Assembly, NFOV	Aline	--	--	0.63	151	152	180	351		
					379	392	444	513			
					808	810	908				
		Remove and Replace	--	--	0.56	248	341	364	392		
					405	450	481	673			
					808	809	810	967			
					1005	1013					
		Repair	--	--	0.62	180	388	392	396		
					444	447	450	465			
			513	615	616	629					
			808	809	810	828					
			831	832	886	896					
			987	999	1011						

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
0828	Cover Assembly, Pre-Amp 1A3A36	Repair	--	0.34	--	248	341	364	392	
						405	407	412	414	
						444	448	462	463	
						481	533	534	539	
						543	545	629	639	
						673	679	693	695	
						808	809	810	866	
						882	942	967	1005	
						1013				
						0832	Cover Assembly, Post Amp	Repair	--	0.63
405	444	462	463							
481	539	673	808							
809	810	967	1005							
1013										
P/O 08	Circuit Card Assembly, Motherboard 1A3A28	Test (Non-OIP)	--	--	0.78	5	7	392	407	
						414	479	481	501	
						503	566	633	672	
						712	797	808	809	
						810				
		Test (OIP)	--	--	0.15	503	797	808	809	
						810				
		Remove and Replace (Non-OIP)	--	--	0.40	5	180	248	317	
						319	354	364	392	
						404	444	481	640	
						672	808	809	810	
						1009				
		Remove and Replace (OIP)	--	--	0.42	180	248	317	354	
						364	392	404	444	
						481	640	672	808	
809	810					1013				
Repair (Non-OIP)	--	--	0.56	392	396	399	462			
				477	479	513	533			
				534	537	808	809			
				856						
Repair (OIP)	--	--	1.19	65	392	396	414			
				465	477	479	481			
				513	533	534	624			
				640	694	808	809			
				856	942	1013				

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 08	Circuit Card Assembly, Power Regulator Motherboard 1A3A25	Fault Location (Non-OIP)	--	--	0.46	5 407 533 808	7 479 633 809	392 481 672 856	396 503 797	
		Fault Location (OIP)	--	--	0.49	31 808	127 809	715	783	
		Test	--	--	0.26	8	503	797		
		Remove and Replace	--	--	0.48	248 392 635 810	319 405 673 967	341 629 808 1005	364 633 809	
		Repair	--	--	0.93	392 462 513 808	396 465 533 809	399 477 534 810	414 479 537 856	
P/O 08	Circuit Card Assembly, Post Amp Motherboard 1A3A23	Fault Location	--	--	0.27	8	503	797		
		Test	--	--	0.52	13	503	797		
		Remove and Replace	--	--	2.88	80 248 317 404 447 672 1009	87 304 319 407 629 808	89 314 364 411 638 809	180 316 392 444 640 810	
		Repair	--	--	1.28	392 462 513 808	396 465 533 809	399 477 534 810	414 479 537 856	
		Fault Location	--	--	0.52	13	503	797		
P/O 08	Circuit Card Assembly, Focus Control 1A3A26	Test (Non-OIP)	--	--	0.33	18 740	128 787	156	199	
		Remove and Replace (Non-OIP)	--	0.44	--	5 364 481 810	248 392 673 967	319 405 808 1005	341 444 809	
		Repair (Non-OIP)	--	--	1.16	5 407 477	392 414 479	396 462 481	399 465 513	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
P/O 08	Circuit Card Assembly, MCM Driver 1A3A26	Repair (Non-OIP) (cont)				533 629 809 996	534 678 809	537 808 810	624 808 856		
		Fault Location (Non-OIP)	--	--	0.32	18 740	128 787	156	199		
		Test (OIP)	--	--	0.49	31	127	715	783		
		Remove and Replace (OIP)	--	0.44	--	65 392 640 810	248 404 672 1013	317 444 808	364 481 809		
		Repair (OIP)	--	--	1.19	65 465 513 640 810	392 477 533 694 856	396 479 534 808 942	414 481 624 809 1013		
		Fault Location (OIP)	--	--	0.49	31	127	715	783		
	P/O 08	Circuit Card Assembly, Power Regulator 1A3A22	Test	--	--	0.51	18	128	760	787	
			Remove and Replace	--	0.28	--	248 392 672 1009	317 404 808 1013	319 444 809	364 481 810	
			Repair	--	--	1.28	392 414 479 534 678 856	396 462 481 537 808 996	399 465 513 624 809 1013	407 477 533 629 810	
			Fault Location	--	--	0.48	18	128	760	787	
	P/O 08	Circuit Card Assembly, FOV 1A3A27	Test (Non-OIP)	--	--	0.40	18 741	128 787	160	216	
			Remove and Replace (Non-OIP)	--	0.28	--	5 364 481 810	248 392 672 1009	317 404 808	319 444 809	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 08	Circuit Card Assembly, Microprocessor 1A3A27 (Programmed Card)	Repair (Non-OIP)	--	--	1.29	5 407 477 533 629 810	392 414 479 534 678 856	396 462 481 537 808 996	399 465 513 624 809	
		Fault Location (Non-OIP)	--	--	0.37	18 741	128 787	160	216	
		Test (OIP)	--	--	0.46	30 504	65 715	122 1013	481	
		Remove and Replace (OIP)	--	0.65	--	248 392 640 1013	317 404 808	354 444 809	364 481 810	
		Repair (OIP)	--	--	0.11	65 810	481 936	808 1013	809	
		Fault Location (OIP)	--	--	0.46	30 504	65 715	122 1013	481	
		Repair (OIP)	--	--	1.25	65 477 533 808 1013	392 479 534 809	396 481 633 810	465 513 694 856	
		Test	--	--	0.70	18 787	128	159	720	
		Remove and Replace	--	0.28	--	248 392 672 1009	317 404 808 1013	319 444 809	364 481 810	
		Repair	--	--	1.44	392 414 479 534 672 856	396 462 481 537 808 1013	399 465 513 624 809	407 477 533 629 810	
Fault Location	--	--	0.64	18 787	128	159	720			
P/O 08	Circuit Card Assembly, ACM 1A3A21	Test	--	--	0.70	18 787	128	159	720	
		Remove and Replace	--	0.28	--	248 392 672 1009	317 404 808 1013	319 444 809	364 481 810	
		Repair	--	--	1.44	392 414 479 534 672 856	396 462 481 537 808 1013	399 465 513 624 809	407 477 533 629 810	
		Fault Location	--	--	0.64	18 787	128	159	720	
		Test	--	--	0.70	18 787	128	159	720	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 08	Circuit Card Assembly, Video IR Pre-Amp 1A3A1 thru 1A3A9	Remove and Replace	--	0.41	--	248 392 629 809	317 404 640 810	319 444 672 1009	364 447 808	
P/O 08	Circuit Card Assembly, Control Driver 1A3A12 thru 1A3A20	Remove and Replace	--	0.29	--	248 392 672 1009	317 404 808	319 444 809	364 447 810	
P/O 08	Circuit Card Assembly, Bias Voltage Regulator 1A3A10	Remove and Replace	--	0.37	--	248 392 640 810	317 404 672 1009	319 444 808	364 629 809	
P/O 08	Circuit Card Assembly, Focus Adj. Pot 1A3A37	Test	--	--	0.23	503	640			
		Remove and Replace	--	0.26	--	248 404 672 1009	317 448 808 1013	364 481 809	392 640 810	
		Repair	--	--	0.61	392 462 533 808	396 477 534 809	399 479 537 810	414 513 624 856	
		Fault Location	--	--	0.23					
0864	Transistor Assembly 1A3A38	Repair	--	1.77	--	248 462 629 810	392 464 640 950	414 533 808 1012	444 534 809	
0868	Multiplexer-Power Supply (Vidicon Tube) Camera Assembly, Solid State (CCD)	Test	--	1.64	1.64	5 43 132 167 207 255 501 656	18 106 135 195 213 311 510 709	27 128 136 198 214 428 653 717	28 129 143 201 223 495 655 787	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
086804	Multiplexer Assembly, (Vidicon Tube) 1A3A33	Adjust	---	---	2.68	69	142	223	255	
			392	428	510	629				
			653	781	808	809				
			810	899						
		Aline	---	---	2.68	69	142	223	255	
			392	428	510	629				
			653	781	808	809				
			810	899						
		Remove and Replace	0.88	---	---	83	251	317	385	
			392	444	446	503				
			530	534	548	567				
			629	635	640	679				
			808	809	810	1000				
			1012							
		Repair	---	1.63	---	52	80	320	391	
			392	404	440	444				
			446	447	450	481				
			534	547	629	808				
			809	810	1013					
		Fault Location	---	1.64	1.64	5	18	27	28	
			43	106	128	129				
132	135		136	143						
167	195		198	201						
207	213		214	223						
255	311		428	495						
501	510		653	655						
656	709		717	787						
Test	---	1.54	1.54	5	18	27	27			
	42	43	106	128						
	129	132	135	136						
	167	195	198	201						
	207	213	214	311						
	495	649	655	656						
	709	787	808	809						
	810	840								
Adjust	---	---	1.81	392						
Aline	---	---	2.63	713	781	897				
Remove and Replace	---	0.50	---	248	341	364	392			
				808	809	810	1013			

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS				
			AVUM	AVIM	DEPOT									
08680404	Multiplexer Assembly, CCD Camera 1A3A33	Repair	--	0.28	1.85	52	103	320	391					
						392	396	411	436					
						457	459	462	477					
						513	533	534	695					
						808	809	810	942					
		Fault Location	--	1.44	1.44	5	18	27	42					
						43	106	128	129					
						132	135	136	143					
						167	195	198	201					
						207	214	311	495					
		Test	--	1.64	--	311	495	709	787					
						Repair	--	1.14	--	52	80	320	391	
										392	404	440	444	
										447	450	481	534	
629	808									809	810			
1013														
Fault Location	--	1.64	--	311	495	709	787							
08680404	Video Processor Unit (CCD Camera)	Remove and Replace	--	0.86	--	52	80	320	391					
						392	404	440	444					
						447	450	481	534					
						629	808	809	810					
						1013								
		Repair	--	0.21	--	52	320	391	392					
						481	808	809	810					
						1013								
						Test	--	0.05	--	501				
										Repair	--	0.92	--	392
809	810													
Fault Location	--	0.05	--	501										
P/O 08680404	Circuit Card Assembly, Motherboard (CCD Camera) 1A3A33A5	Test	--	--	0.54	191	501	791						
						Remove and Replace	--	0.64	--	52	320	391	392	
										481	808	809	810	
						1013								

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 08680404	Circuit Card Assembly, Digital (CCD Camera) 1A3A33A2	Repair	--	--	2.36	392 462 513 610 809	396 465 533 624 810	411 479 534 695 856	414 481 609 808 1013	
		Fault Location	--	--	0.54	191	501	791		
		Test	--	--	0.45	191	789			
		Remove and Replace	--	--	0.32	52 629 808	320 391 809	391 534 810	392 629 1013	
		Repair	--	--	2.39	392 465 533 624 810	396 479 534 695 856	411 481 609 808 1013	414 513 610 809	
		Fault Location	--	--	0.45	191	789			
		Test	--	--	0.45	191	789			
		Remove and Replace	--	--	0.32	52 440 808	320 481 809	391 534 810	392 629 1013	
		Repair	--	--	2.45	392 465 533 624 810	396 479 534 695 856	411 481 609 808 1013	414 513 610 809	
		Fault Location	--	--	0.45	191	789			
P/O 08680404	Power Supply Assembly (CCD Camera) 1A3A33A6	Test	--	--	0.20	501				
		Remove and Replace	--	--	0.43	52 414 534 810	320 440 629 856	391 481 808 1013	392 533 809	
		Repair	--	--	0.41	52 412 533 856	320 414 808 1013	391 453 809	392 481 810	
		Fault Location	--	--	0.20	501				

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 08680404	Wiring Harness Assembly (CCD Camera) 1A3A33A7	Test	--	--	0.20	501				
		Remove and Replace	--	--	0.57	52	320	391	392	
			414	440	481	533				
			534	629	808	809				
	810		856	1013						
	Repair	--	--	0.28	392	412	414	453		
	463	533	534	695						
	808	809	810	856						
	Fault Location	--	--	0.20	501					
	Circuit Card Assembly (CCD Camera) 1A3A33A7A1	Test	--	--	0.45	191	790			
		Remove and Replace	--	--	0.32	392	412	414	453	
			463	533	534	808				
809			810	856						
Repair	--		--	1.68	46	392	396	411		
465	479	481	513							
533	609	610	695							
808	809	810	856							
1013										
Fault Location	--	--	0.45	191	790					
P/O 086804	Sensor, Electro- Optical (CCD Camera) 1A3A33A1	Remove and Replace	--	0.70	--	52	320	391	392	
		440	444	447	481					
		534	629	808	809					
		810	1013							
	Circuit Card Assembly, EO MUX (Vidicon Tube) 1A3A33A1	Test	--	--	3.90					
		Remove and Replace	--	--	5.74	5	52	180	320	
			391	392	396	411				
			444	447	477	481				
	513		534	629	695					
	808	809	810	942						
	Repair	--	--	4.27	5	392	396	411		
	414	465	479	481						
513	533	534	609							
610	624	695	808							
809	810	856								
Fault Location	--	--	3.90							

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 086804	Power Supply Assembly (Vidicon Tube) 1A3A33A2	Fault Location	--	--	0.36	18	128	164	787	
		Repair	--	--	0.35	392	411	458	459	
			--	--		462	533	534	610	
			--	--		695	808	809	810	
			--	--		856	935	951		
	Remove and Replace	--	0.18	--	392	808	810			
	Test	--	--	0.38	18	128	164	787		
	Electronic Components Assembly (Vidicon Tube) 1A3A33A2A2	Repair	--	--	1.78	48	392	396	411	
			--	--		462	465	477	479	
			--	--		481	513	533	534	
--			--		573	597	599	610		
--			--		686	695	808	809		
			810	856	951	1013				
P/O 0868	Visual Imager Assembly	Remove and Replace	--	0.21	--	392	396	629	808	
		Repair (Non-OIP)	--	--	1.72	74	180	189	222	
			--	--		270	381	412	436	
	--		--		448	462	468	486		
	--		--		493	497	498	500		
	--	--		521	531	576	808			
	--	--		809	810	925	0295			
Test	--	--	0.92	74	189	192	222			
0876	Electronic Component Relay Bracket Assembly 1A3A39	Test	--	0.36	--	109	111	503		
		Remove and Replace (Non-OIP)	--	0.26	--	248	341	364	392	
			--	--		405	444	635	673	
			--	--		808	809	810	967	
	Remove and Replace (OIP)	--	0.27	--	248	341	364	392		
	--	--		405	444	481	635			
	--	--		673	808	809	810			
	--	--		967	1005	1013				
Repair	--	0.26	--	392	412	414	464			
			533	534	535	543				

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
0880	Wiring Harness Assembly, Branched 1A3W10	Repair (cont)				545	624	633	643		
						694	695	808	809		
						810	946	949			
			Fault Location	--	0.36	--	109	111	503		
			Test	--	--	2.00	6	90	94	248	
		319					364	392	403		
		444					448	450	462		
		503					629	638	640		
		797					808	809	810		
			Repair (Non-OIP)	--	3.31	4.85	67	392	396	411	
		414					463	513	533		
		534					609	624	693		
		694					805	808	809		
		810					813	846	849		
			Repair (OIP)	--	3.31	4.16	67	392	396	411	
		463					513	533	534		
		609					624	693	694		
		805					808	809	810		
		813					846	849	864		
			Fault Location	--	--	1.69	6	90	94	317	
319	341	364					392				
403	404	444					448				
450	503	534					629				
638	640	672					797				
	Test (OIP)	--	--	0.44	30	65	481	504			
715					1013						
	Remove and Replace (OIP)	--	0.42	--	65	180	248	317			
364					392	396	404				
481					672	808	809				
810					946	1013					
	Repair (OIP)	--	--	1.02	65	392	396	399			
412					414	462	465				
477					479	481	513				
533					534	537	624				
633					694	808	809				
L810					856	1013					

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS		
			AVUM	AVIM	DEPOT							
P/O 08	Imager/Filter Assembly, IR 1A3A40	Fault Location (OIP)	--	--	0.44	30 504	65 715	122 1013	481			
		Test (OIP)	--	--	0.40	180 441 577	193 462 786	392 494	396 561			
		Remove and Replace (OIP)	--	0.40	--	68 364 673 967	180 367 808 1005	248 392 809	341 405 810			
		Repair (OIP)	--	--	0.33	37 297 350 392 433 447 487 522 584 639 671 808 826 952	113 301 380 396 434 448 488 528 625 640 690 809 903 964	144 302 384 429 436 463 513 534 629 649 701 810 928 986	180 308 387 430 444 464 518 545 633 651 707 814 942			
		Fault Location (OIP)	--	--	0.40	180 441 577	193 462 786	392 494	396 561			
		Filter Assembly, Optical 1A3A40A5	Remove and Replace (OIP)	--	--	0.54	180 384 436 528 671 826	301 392 447 589 808 1013	308 397 481 625 809	350 434 520 640 810		
			Repair (OIP)	--	--	0.27	144 419 545 810	180 436 629 964	392 481 808 1013	396 518 809		
			Gear Assy, Filter Drive	Repair (OIP)	--	--	0.30	84 302 513 808	144 392 518 809	180 396 534 810	188 447 545	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
	Window, Optical Instrument	Remove and Replace (OIP)	--	--	0.71	36	113	144	180	
392						396	433	434		
436						440	447	448		
518						534	625	629		
633						640	808	809		
810						826	929	969		
		Repair (OIP)	--	--	0.29	180	338	388	392	
						396	431	464	513	
						808	809	810	919	
	Cell Assembly, Optic	Remove and Replace (OIP)	--	--	0.13	39	180	392	405	
						808	809	810	968	
						1008				
		Repair (OIP)	--	--	0.23	144	180	337	388	
						392	396	431	513	
						658	808	809	810	
						919				
	Housing Assembly, Drive Gear	Repair (OIP)	--	--	0.09	392	441			
	Shaft Assembly, Eccentric	Repair (OIP)	--	--	0.11	180				
	Sensor Assembly, Focus	Repair (OIP)	--	--	0.25	392	412	436	503	
						533	534	695	856	
	Shaft Assembly, Gear, Idler	Repair (OIP)	--	--	0.20	180	302	392	436	
						440	633	962		
	Circuit Card Assembly, Optical Filter 1A3A40A1	Test (OIP)	--	--	0.13	65	481	710	1013	
		Remove and Replace (OIP)	--	--	0.35	180	302	392	447	
						625	942			
		Repair (OIP)	--	--	0.65	392	396	412	414	
						477	479	513	533	
						534	624	633	695	
						856				
		Fault Location (OIP)	--	--	0.12	65	481	710	1013	
	Motor, Stepping 1A3A40A3	Remove and Replace (OIP)	--	--	0.17	180	392	447	481	
						625	808	809	1013	
		Repair (OIP)	--	--	0.15	392	412	534	695	
						808	809	810		

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS		
			AVUM	AVIM	DEPOT							
12	Motor, Stepping 1A3A40A4	Remove and Replace (OIP)	--	--	0.17	180 808	447 809	481 810	625 1013			
		Repair (OIP)	--	--	0.11	392 808	412 809	534 810	695			
1204	Sensor Assembly, Day 1A5											
1204	Sensor Subassembly, Day	Test	--	--	2.17	18	128	144	180			
						204	207	249	311			
						405	420	425	474			
						481	507	639	673			
						709	733	787	808			
						809 1013	914	967	1005			
		Service	0.28	--	--	392						
		Aline	--	--	1.34	79	101	139	146			
						180	249	252	317			
						392	393	404	439			
						444	448	450	452			
476	481					501	503					
508	513					549	568					
603	629					639	701					
784	798					808	809					
810	811					855	885					
893	910					912	922					
926 1013	942	970	1009									
Remove and Replace	1.92	--	--	79	82	83	89					
				96	249	302	304					
				305	308	316	317					
				392	404	407	444					
				446	448	463	530					
				534	548	567	629					
				635	640	808	809					
				810	1000	1009	1012					
				Repair	0.46	0.32	0.98	79	82	83	101	
								139	144	146	150	
180	248	249	252									
260	261	317	319									
341	354	356	364									
385	388	392	393									
396	404	407	412									
430	436	439	444									
446	447	448	450									

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS		
			AVUM	AVIM	DEPOT							
120408	Electronic Assembly, Day Sensor 1A5A4	Repair (cont)				452	462	464	465			
						476	481	501	503			
						508	512	516	523			
						526	530	534	545			
						548	549	567	568			
						584	586	603	628			
						629	633	635	638			
						639	640	644	657			
						663	672	675	679			
						701	784	798	808			
						809	810	811	855			
						885	893	906	910			
						912	919	922	926			
						938	942	973	995			
						996	1000	1009	1012			
						1013						
					Fault Location	--	--	2.17	18	128	144	180
									204	207	249	311
									405	420	425	474
								507	639	673	709	
						733	787	808	809			
						914	967	1005				
P/O 120808	Circuit Card Assembly, ALC Servo 1A5A4A2	Test	--	--	0.71	18	160	128	160			
						219	309	787				
		Remove and Replace	--	0.17	--	249	319	392	481			
						633	809	810	1013			
		Repair	--	--	3.21	392	396	399	404			
						407	414	462	465			
						477	479	481	513			
						533	534	537	624			
						629	678	681	808			
						809	810	856	1013			
		Fault Location	--	--	0.64	18	128	160	219			
						309	721	787				
P/O 120808	Circuit Card Assembly, Optical Adjust 1A5A4A1	Test	--	--	0.40	18	128	159	219			
						758	787					
		Remove and Replace	--	0.17	--	249	319	392	481			
						633	808	810	1013			

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 1204	Wiring Harness Assembly 1A5W1	Repair	--	--	2.30	67	392	396	399	
						404	407	414	462	
						465	477	479	481	
						513	533	534	537	
						624	629	678	681	
						808	809	810	856	
						1013				
		Fault Location	--	--	0.36	18	128	159	219	
						758	787			
		Test	--	--	1.59	14	249	392	393	
						405	448	463	640	
						673	797	808	809	
						810	946	967	1005	
		Repair	--	--	0.88	67	392	396	412	
						414	448	462	463	
513	533					534	624			
629	695					808	809			
810	845					849	857			
864	866					878	879			
Fault Location	--	--	1.38	14	341	392	396			
				405	448	462	463			
				503	640	673	797			
				808	809	946	967			
				1005						
P/O 1204	Lens Assembly, Relay 5	Remove and Replace	--	--	1.11	144	180	236	249	
						317	341	388	392	
						396	404	444	513	
						534	586	629	672	
						808	809	810	971	
						1009				
P/O 1204	Mirror Assembly, Switching 1A5A12	Repair	--	--	1.35	59	150	180	236	
						392	396	465	513	
						654	808	809	894	
						919	971			
P/O 1204	Mirror Assembly, Switching 1A5A12	Test	--	--	0.26	231	430	503	584	
						798	907			
P/O 1204	Mirror Assembly, Switching 1A5A12	Remove and Replace	--	--	0.85	144	180	226	249	
						306	317	341	388	
						392	404	436	444	
						481	534	586	629	
						672	808	809	810	
						1009	1013			

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 1204	Optical Assembly, No. 3 1A5A11	Repair	--	--	0.44	53	82	88	112	
						180	226	249	291	
						293	316	317	356	
						357	388	392	396	
						397	404	407	411	
						431	434	436	462	
						464	465	503	513	
						533	534	543	566	
						573	586	592	610	
						624	629	639	654	
						672	694	798	808	
						809	810	818	889	
						907	919	971	972	
						1009				
						Fault Location	--	--	0.26	
		798	810	907						
		Test	--	--	0.60	230	439	444	503	
						629	798	808	809	
						810	813	949	955	
		Aline	--	--	0.51	180	392	439	444	
						503	813	949	955	
		Remove and Replace	--	--	0.99	79	101	146	249	
						317	393	404	450	
						476	501	508	549	
						568	603	639	808	
						809	810	855	910	
		Repair	--	--	0.21	53	60	145	180	
						249	279	306	330	
						355	383	388	392	
						396	411	440	442	
						444	447	450	462	
						464	513	529	533	
						534	543	544	545	
						573	592	610	624	
						629	694	808	809	
						810	889	942	955	
		976	977							

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 1204	Motor, Stepping 1A5A13	Repair (Non-OIP)	--	--	0.77	56 396 810	58 513 919	226 808	365 809	
		Repair (OIP)	--	--	0.28	392 970	808	809	810	
		Test	--	--	0.24	327	503	798		
		Remove and Replace	--	--	0.47	79 317 534 810	84 341 629 1009	180 392 808	249 404 809	
		Repair	--	--	0.31	84 392 411 545 624 808	279 396 434 566 693 809	327 397 503 573 694 810	388 404 534 610 716	
P/O 1204	Control Module Assembly, Automatic, Light 1A5A5	Fault Location	--	--	0.24	327	503	798		
		Test	--	--	0.54	392 629 809	396 794 810	444 798	503 808	
		Remove and Replace	--	--	0.39	79 316 404 810	80 317 442 942	235 341 808 1009	249 392 809 1011	
		Repair	--	--	0.50	89 291 353 399 455 513 566 609 639 696 810 935	150 306 356 411 463 533 573 610 642 716 888 942	180 336 392 434 464 534 592 624 646 808 889	284 349 396 444 503 543 594 629 694 809 919	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
P/O 1208	Power Supply Assembly (Vidicon Tube) 1A5A3A2	Fault Location	--	1.08	1.08	5 106 135 195 213 495 721	11 128 136 198 214 655 787	27 129 143 201 251 656 808	43 132 167 207 311 709 840		
		Test	--	--	0.38	18	128	164	787		
		Remove and Replace	--	0.18	--	392					
		Repair	--	--	0.35	392 462 695	411 533 856	458 534 935	459 610 951		
		Fault Location	--	--	0.36	18	128	164	787		
		Repair	--	--	1.78	48 458 477 533 599 809 1013	392 459 479 534 610 810	396 462 481 573 695 856	415 465 513 597 808 951		
		Electronic Components Assembly 1A5A3A2A2	Repair	--	--	1.78	48 458 477 533 599 809 1013	392 459 479 534 610 810	396 462 481 573 695 856	415 465 513 597 808 951	
	Circuit Card Assembly, Day Sensor 1A5A3A1	Test	--	--	3.90	775	787				
		Remove and Replace	--	--	1.46	251 477 808 942	392 481 809 1013	411 513 810	462 533 856		
		Repair	--	--	1.03	49 392 459 479 534 600 695 856	50 396 462 481 573 601 808 942	51 411 465 513 598 609 809 1013	146 415 477 533 599 610 810		
		Fault Location	--	--	3.90						
		Test	--	--	1.64	5 43 132 167 207	18 106 135 195 213	27 128 136 198 214	28 129 143 201 223		
	1208	Camera Assy, Solid State (CCD) 1A5A3	Test	--	1.64	1.64	5 43 132 167 207	18 106 135 195 213	27 128 136 198 214	28 129 143 201 223	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
120804	Video Processor Unit (CCD Camera)	Test (cont)				255	311	495	501	
						510	653	655	656	
						709	717	787		
		Adjust	---	---	2.68	69	142	223	255	
						392	510	629	653	
						781	808	809	899	
		Aline	---	---	2.68	69	142	223	255	
						392	510	629	653	
						781	808	809	899	
		Remove and Replace	0.88	---	---	83	251	317	385	
						392	444	446	503	
						530	534	548	567	
						629	635	640	679	
						808	809	810	1000	
		Repair	---	1.63	---	440	447	444	450	
				446	392	320	52			
				629	547	80	404			
				391	1013	534	481			
				809	808	810				
Fault Location	---	1.64	1.64	5	18	27	28			
				43	106	128	129			
				132	135	136	143			
				167	195	198	201			
				207	213	214	223			
				255	311	495	501			
				510	653	655	656			
			709	717	787					
120804	Video Processor Unit (CCD Camera)	Remove and Replace	---	1.13	---	52	80	320	391	
						392	404	440	444	
						446	447	450	481	
						534	547	629	808	
						809	810	1013		
12080404	Cover Assembly, Camera (CCD Camera) 1A5A3A4	Repair	---	0.21	0.21	52	320	391	392	
					481	808	809	810		
					1013					
12080404	Cover Assembly, Camera (CCD Camera) 1A5A3A4	Test	---	0.05	---					
		Repair	---	0.92	---	392	431	462	808	
					809	810				
12080404	Cover Assembly, Camera (CCD Camera) 1A5A3A4	Fault Location	---	0.05	---	501				

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 120804	Circuit Card Assembly, Motherboard (CCD Camera) 1A5A3A5	Test	--	--	0.54	191	501	791		
		Remove and Replace	--	--	0.64	52 481 1013	320 808	391 809	392 810	
		Repair	--	--	2.36	392 462 513 610 809	396 465 533 624 810	411 479 534 695 856	414 481 609 808 1013	
		Fault Location	--	--	0.54	191	501	791		
P/O 120804		Test	--	--	0.45	191	789			
		Remove and Replace	--	--	0.32	52 440 808	320 481 809	391 534 810	392 629 1013	
		Repair	--	--	2.39	392 465 533 624 810	396 479 534 695 856	411 481 609 808 1013	414 513 610 809	
		Fault Location	--	--	0.45	191	789			
P/O 120804	Circuit Card Assembly, Digital (CCD Camera) 1A5A3A2	Test	--	--	0.45	191	789			
		Remove and Replace	--	--	0.32	52 440 808	320 481 809	391 534 810	392 629 1013	
		Repair	--	--	2.45	392 465 533 624 810	396 479 534 695 856	411 481 609 808 1013	414 513 610 809	
		Fault Location	--	--	0.45	191	789			
P/O 120804	Power Supply Assembly (CCD Camera) 1A5A3A6	Test	--	--	0.20	501				
		Remove and Replace	--	--	0.42	52 414 534 810	320 440 629 856	391 481 808 1013	392 533 809	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 120804	Wiring Harness Assembly (CCD Camera) 1A5A3A7	Repair	--	--	0.41	52 412 533 856	320 414 808 1013	391 453 809	392 481 810	
		Fault Location	--	--	0.20	501				
		Test	--	--	0.20	501				
		Remove and Replace	--	--	0.57	52 392 533 809	180 414 534 810	320 440 629 856	391 481 808 1013	
		Repair	--	--	0.28	463 412 695	392 414 809	534 856 808	533 453 810	
		Fault Location	--	--	0.20	501				
		Test	--	--	0.45	191	790			
		Remove and Replace	--	--	0.32	392 463 809	412 533 810	414 534 856	453 808	
		Repair	--	--	1.68	46 465 533 808 1013	392 479 609 809	396 481 610 810	411 513 695 856	
		Fault Location	--	--	0.45	191	790			
P/O 1208	Sensor, Electro- Optical (CCD Camera) 1A5A3A1	Remove and Replace	--	0.70	--	52 440 534 810	320 444 629 1013	391 447 808	392 481 809	
1212	Transceiver Unit Assembly, Laser 1A5A1	Test	--	--	0.71	129 202 167 195 18	131 137 311 198 5	132 108 709 136 787	155 750 128 243	
		Service	--	--	0.63	243 810	396 920	633 935	808	
		Remove and Replace	1.00	--	--	83 385	239 392	243 407	317 446	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
P/O 1212	Network Assembly, Pulse Forming 1A5A1A4	Remove and Replace (cont)				530	534	548	567		
						635	640	679	808		
						809	810	1000	1012		
		Repair	---	---	0.34	180	243	392	396		
						444	446	538	633		
						808	809	810	919		
						935					
		Fault Location	---	---	0.66	5	18	108	128		
						129	131	132	136		
						137	155	167	195		
						198	202	243	311		
						709	750	787			
		Test	---	---	0.43	762	787				
			Remove and Replace	---	---	0.27	82	180	243	317	
							404	481	547	633	
				643	716	808	809				
				810	935	1013					
Repair	---	---	0.17	53	84	281	283				
				392	411	414	444				
				453	470	481	534				
				545	610	633	637				
				643	695	808	809				
				810	856	941	955				
Fault Location	---	---	0.44	762	787						
				962	1013						
P/O 1212	Circuit Card, Assembly PFN Control 1A5A1A1	Repair	---	---	1.75	82	388	392	396		
						399	407	414	462		
						465	477	479	481		
						533	534	537	624		
						629	640	678	808		
						1809	810	856	1013		
P/O 1212	Cooling Unit-Cavity Assembly 1A5A1A3	Service	---	---	1.68	180	243	392	517		
						643	825				
Repair	---	---	0.74	82	148	180	243				
				392	404	411	447				
				462	517	547	610				
				643	808	809	810				
				918	924	940					

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
	Cooling Unit Assembly, Laser	Repair	--	--	0.41	82 404 808 946	180 448 809 961	243 534 810	392 643 918	
	Reservoir Assembly	Repair	--	--	0.58	82 404 465 610 695 918	180 411 517 633 808 961	243 414 534 634 809	392 447 545 643 810	
	Pump Assembly 1A5A1A3B1	Repair	0.00	0.00	0.42	82 392 534 695 962	180 404 545 808	243 414 633 809	389 517 643 810	
	Circuit Card Assembly, Power Monitor 1A5A1A3A1	Test	0.00	0.00	0.58	731	787			
		Remove and Replace	0.00	0.00	0.66	82 481 809	180 633 810	243 634 918	404 808 1013	
		Repair	0.00	0.00	1.47	281 396 462 481 624 809	283 399 465 533 629 810	388 407 477 534 678 856	392 414 479 537 808 1013	
		Fault Location	0.00	0.00	0.54	731	787			
	Cavity Box Assembly	Repair	--	--	1.24	82 243 404 443 517 609 654 809 935	114 268 411 444 533 610 693 810	154 392 414 462 534 633 695 918	180 396 436 465 545 643 808 920	
	Rod, Laser	Remove and Replace	--	--	1.27	82 268 444 809 935	154 392 633 810	180 396 643 918	243 404 808 920	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
P/O 1212	Receiver Assembly 1A5A1A1	Test	--	--	0.53	311	709	764	787		
		Remove and Replace	--	0.14	--	82 809	243 808	392 810	404		
		Repair	--	--	0.38	83 404 437 513 546 681 809 936 1013	180 411 444 533 610 686 810 941	392 414 447 534 629 695 813 946	396 427 481 545 635 808 919 949		
		Fault Location	--	--	0.46	311	709	764	787		
		Circuit Card Assembly, Range Receiver 1A5A1A1A1	Repair	--	--	1.22	82 407 477 537 808	392 414 479 624 809	396 462 533 629 810	399 465 534 654 856	
			Test	--	--	0.43					
			Remove and Replace	--	--	0.25	180 446 935	243 808	392 809	444 810	
			Repair	--	--	0.17	180 414 545 808	392 447 610 809	396 448 634 810	411 534 695	
			Fault Location	--	--	0.36					
		Prism Assembly, Porro 3/8 Wave	Test	--	--	0.15					
Remove and Replace	--		--	0.12	180 808	392 809	396 810	447			
Repair	--		--	0.40	180 640 810	392 654 919	396 808	436 809			
Test	--		--	0.15							
Prism Assembly, Optical Instrument	Remove and Replace	--	--	0.11	180 808	392 809	396 810	447			

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
		Repair	--	--	0.40	180 640 810	392 654 919	396 808	436 809	
	Cell Assembly, Pockels	Test	--	--	0.15					
		Remove and Replace	--	--	0.28	180 447 810	392 545 962	396 808	414 809	
		Repair	--	--	0.30	180 447 810	388 640 918	392 808	396 809	
	Telescope Assembly, Compensating	Test	--	--	0.14					
		Remove and Replace	--	--	0.19	180 808	392 809	396 810	447	
		Repair	--	--	5.25	180 414 463 610 808 919	392 434 534 643 809 962	396 436 545 654 810	411 447 546 695 869	
		Fault Location	--	--	0.28					
	Polarizer Assembly	Test	--	--	0.15					
		Remove and Replace	--	--	0.12	180 808	392 809	396 810	447	
		Repair	--	--	0.32	180 463 810	392 643	396 463	447 809	
	Telescope Assembly, Output	Test	--	--	0.15					
		Remove and Replace	--	--	0.13	180 808	392 809	396 810	447	
		Repair	--	--	0.25	180 808	392 809	396 810	547 919	
	Circuit Card Assembly, Photo Diode 1A5A1A2A1	Test	--	--	0.34					
		Remove and Replace	--	--	0.31	180 447	392 481	396 545	414 808	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
		Remove and Replace (cont)				809	810	1013		
		Repair	--	--	0.67	392 440 533 629 856	396 462 534 808 1013	399 479 537 809	414 481 624 810	
		Fault Location	--	--	0.32					
P/O 1212	Harness Assembly 1A5A1W1	Repair	--	--	0.30	82 392 414 547 695 864	84 396 444 610 808 879	180 404 534 629 809 935	243 411 545 633 810 941	
P/O 1212	Harness Assembly 1A5A1W2	Repair	--	--	0.69	180 426 634 643 809	392 427 545 695 810	411 545 610 805 813	414 610 634 808 935	
P/O 1212	Risley Assembly, Output	Test	--	--	0.13					
		Remove and Replace	--	--	0.23	180 444 808 935	243 538 809	392 633 810	396 703 920	
		Repair	--	--	0.20	180 534 810	392 545	396 808	447 809	
P/O 12	Receiver Unit, Laser Tracker 1A5A2	Test	--	--	3.00	244	371	796		
		Service	0.13	--	--	392				
		Remove and Replace	0.90	--	--	83 317 530 635 810	96 392 534 640 1000	244 407 548 808 1012	308 446 567 809	
		Repair	--	--	1.05	53 269 414 437 464 511	153 392 416 444 478 513	180 411 417 448 479 514	244 412 436 463 481 533	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
		Repair (cont)				534 610 654 856 1013	543 629 808 935	565 635 809 951	566 640 810 962	
		Fault Location	--	--	3.00	244	371	796		
	Circuit Card Assembly, Led Driver 1A5A2A1	Test	--	--	0.30	752	787			
		Remove and Replace	--	--	2.14	75 392 448 513 640 809	140 414 463 534 694 810	180 436 481 543 782 856	342 444 511 629 808 1013	
		Repair	--	--	1.18	392 414 533 693 856	396 462 534 808 1013	399 465 537 809	414 481 624 810	
		Fault Location	--	--	0.28	752	787			
	Processor Assembly, Signal 1A5A2A2									
	Processor Assembly, Signal 1A5A2A2A1	Test	--	--	0.61	769	787			
		Remove and Replace	--	--	0.91	180 463 629 810	244 481 635 856	392 513 808 941	414 533 809 1013	
		Repair	--	--	3.59	392 414 479 534 639 810	396 462 481 537 695 856	399 465 513 609 808 1013	411 477 533 624 809	
		Fault Location	--	--	0.57	769	787			

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 12	Circuit Card Assembly, Rate Gyro 1A5A7-1A5A9	Remove and Replace	0.77	--	--	80	82	89	302	
						304	444	446	463	
						481	530	534	548	
						567	629	635	640	
						808	809	810	1000	
		1013								
		Repair	--	--	1.45	392	396	399	407	
						414	462	463	465	
						477	479	481	513	
						533	534	537	624	
629	678					696	808			
809	810	856	1013							
16	Shroud Assy, Night Sensor 1A2	Test	--	--	0.30	18	128	132	238	
						768	787			
		Service	0.18	0.34	--	392	516	534	810	
		Remove and Replace	0.77	--	--	238	385	446	530	
						534	548	567	635	
						640	679	808	809	
						810	1000	1012		
		Repair	--	--	0.64	112	238	392	412	
						462	463	464	527	
						533	534	537	624	
694	695					702	808			
809	810									
Fault Location	--	--	0.28	18	128	132	238			
				768	787					
P/O 16	Window Assembly	Remove and Replace	--	--	1.09	87	105	144	238	
						392	396	411	450	
						463	464	503	512	
						516	527	534	609	
						695	702	808	809	
						810	1012			
1604	Harness Assembly, Wiring 1A2W1	Test	--	0.56	--	238	412	463	503	
						534	635	695	808	
						809	810			
		Repair	--	0.22	--	238	392	462	534	
						695	810	846	848	
						864	877	879		
		Fault Location	--	0.19	--	238	463	502	534	
						635	808	809		

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 16	Circuit Card Assembly, Anti-Ice 1A2A1	Test	--	--	0.31	18	128	723	787	
		Remove and Replace	--	0.30	--	238	392	448	481	
			516	534	640	654				
			1013							
		Repair	--	--	1.84	392	396	399	407	
414	462		465	477						
479	481		513	533						
534	537		624	629						
678	856		949	1013						
		Fault Location	--		0.29	18	128	723	787	
1612	Cover Assembly, Window	Repair	0.37	--	--	412	446	530	534	
						541	567	635	704	
						1000				
20	Shroud Assembly, Day Sensor 1A6	Test	--	--	0.30	18	128	132	239	
		Service	0.16	0.34	--	392	516			
		Remove and Replace	0.72	--	--	239	385	446	530	
			534	548	567	635				
640	679		808	809						
			810	1000	1012					
		Repair	--	--	0.68	239	392	412	462	
						464	533	534	624	
						694	695	808	809	
						810				
		Fault Location	--	--	0.28	18	128	132	239	
						768	787			
P/O 20	Window Assembly, Day Sensor	Remove and Replace	--	--	0.91	99	100	105	239	
						265	392	396	404	
						411	463	464	516	
						527	533	534	609	
						695	702	808	809	
			810	1012						
P/O 20	Circuit Card Assembly, Anti-Ice 1A6A1	Test	--	--	0.31	18	128	723	787	
		Remove and Replace	--	0.55	--	98	239	392	407	
481	516		640	808						
809	810		961	1012						
			1013							

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
2008	Harness Assembly, Wiring 1A6W1	Repair	--	--	1.07	53	392	396	399	
						407	414	453	462	
						465	477	479	481	
						513	533	534	537	
						624	629	678	808	
						809	810	856	953	
						1013				
		Fault Location	--	--	0.29	18	128	723	787	
		Test	--	0.73	--	239	412	463	503	
						534	635	695	808	
Repair	--	0.21	--	239	392	462	534			
				695	810	848	864			
Fault Location	--	0.19	--	239	463	503	534			
				635	808	809				
2012	Cover Assembly, Electronic Component	Repair	0.37	--	--	412	446	530	534	
						567	635	704	1000	
24	Tube Assembly, Optical Relay 2									
2404	Column Assembly, Optical Relay 2A6	Test	--	--	4.00	241	714			
		Service	0.29	--	--	392	516	937		
		Aline	--	0.85	--	25	99	180	241	
						271	299	361	367	
						376	392	404	405	
						436	440	444	446	
						450	476	542	633	
						642	670	705	706	
						799	808	809	810	
		Remove and Replace	2.31	--	--	81	83	241	404	
				407	436	446	530			
				567	569	629	633			
				635	647	687	808			
				809	810	1000	1009			

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
P/O 2404	ORT Assembly, Lower	Repair	0.14	--	0.32	99	180	241	366		
						392	404	407	444		
						463	629	687	808		
						809	810	951	962		
				Fault Location	--	--	4.00	241	714		
				Repair	--	--	0.75	99	180	241	366
								392	404	431	436
								438	444	446	448
								450	462	463	631
								633	635	808	809
							810	919	980	990	
							991	997			
		Filter Assembly, Night 2A6A3	Test	--	--	0.86	502	799			
			Remove and Replace	--	--	1.06	99	180	241	366	
							392	404	436	438	
							446	448	450	631	
		Repair		--	0.20	145	180	182	183		
							184	185	186	187	
							279	324	344	345	
							363	388	392	396	
							397	411	434	444	
							447	462	463	534	
							545	571	573	575	
							586	590	591	610	
							629	633	654	695	
							808	809	810	848	
						864	879	921	923		
					949	950	951	953			
	Holder Assembly, Switching 2A6A4	Fault Location	--	--	0.74	502	799				
		Test	--	--	0.31	582	799				
		Remove and Replace	--	--	0.81	99	180	241	366		
						392	404	436	438		
						446	448	450	631		
					633	635	808	809			
					810	919	991	997			
		Repair	--	--	0.30	62	180	182	183		
						185	186	274	275		
						276	277	286	292		
						343	346	348	363		

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
		Repair (cont)				388	392	396	397	
						411	436	444	462	
						463	475	525	534	
						543	545	546	573	
						575	590	591	594	
						607	608	610	624	
						629	643	649	654	
						695	808	809	810	
						816	848	864	878	
						887	924	944	950	
						951	953			
		Fault Location	--	--	0.31	502	799			
	Door Assembly, Forward Assembly, Filter	Test	--	--	0.36	502	799			
		Remove and Replace	--	--	0.57	180	241	366	392	
						446	448	450	545	
						635	808	809	810	
						946				
		Repair	--	--	0.31	84	180	182	183	
						185	186	279	328	
						358	363	369	388	
						392	397	436	444	
						447	534	543	545	
						573	575	586	590	
						595	608	633	654	
						695	808	809	810	
						923	941	946	1004	
		Fault Location	--	--	0.36	502	799			
	Optics Assembly, Pechan	Test	--	--	1.41	503	799			
		Remove and Replace	--	--	0.49	180	241	366	392	
						446	450	635	808	
						809	810			
		Repair (Non OIP)	--	--	0.44	22	39	71	72	
						73	150	180	294	
						303	307	331	332	
						335	368	392	396	
						405	421	431	434	
						436	444	463	533	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
		Repair (Non OIP) (cont)				534 606 635 695 820 848 911 998	545 624 654 808 822 864 923	570 629 682 809 823 879 946	573 633 683 810 824 898 951	
		Repair (OIP)	--	--	0.44	22 73 303 335 405 436 534 606 635 695 821 848 911 998	39 150 307 368 421 444 545 624 654 808 822 864 923	71 180 331 392 431 463 570 629 682 809 823 879 946	72 294 332 396 434 533 573 633 683 810 824 898 951	
		Fault Location	--	--	1.41	272	799			
	Cell Assembly, Optics	Remove and Replace	--	--	0.86	99 392 446 633 810	180 404 448 635 919	241 436 450 808 991	366 438 631 809 997	
		Repair	--	--	0.26	180 809	392 810	396 919	808 981	
	Harness Assembly, Wiring 2A6W2	Test	--	--	0.84	12 366 463 808	99 392 503 809	180 407 635 810	241 450 797	
		Repair	--	--	0.82	67 392 462 534 809 864 946	180 396 463 634 848 871 951	366 414 513 695 849 878	388 444 533 808 851 879	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 2404	Power Supply Assembly 2A6A1A1	Fault Location	--	--	0.59	12 392 503 809	99 407 635 797	180 450 797	366 463 808	
		Test (OIP)	--	--	0.12	272				
		Remove and Replace (OIP)	--	--	0.40	98 392 650 1013	180 450 808	241 481 809	366 633 810	
		Repair (OIP)	--	--	0.38	392 534 810	412 633 856	453 808	501 809	
	Circuit Card Assembly, Mounted	Remove and Replace (OIP)	--	--	0.55	65 366 450 513 633 808 1013	98 392 477 533 650 809	180 396 479 534 652 810	241 414 481 624 694 856	
		Repair (OIP)	--	--	0.90	65 453 534 856	392 477 808 1013	396 481 809	450 533 810	
		Remove and Replace (OIP)	--	--	0.57	241 629 962	366 808	392 809	444 810	
		Repair (OIP)	--	--	0.52	392 633 810	412 695 856	453 808 864	534 809 878	
	Housing Assembly, Wiring Harness	Test	--	--	0.42	10 810	241	503	797	
		Repair (Non-OIP)	--	--	4.45	39 396 436 463 548 678	99 404 438 503 629 695	180 405 448 513 633 808	392 407 450 534 635 809	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
		Repair (Non-OIP) (cont)				810 849 879	846 850 951	847 864 956	848 878 1012	
		Repair (OIP)	--	--	5.25	39 396 436 463 548 678 810 849 879	99 404 438 503 629 695 846 850 951	180 405 448 513 633 808 847 864 956	392 407 450 534 635 809 848 878 1012	
		Fault Location	--	--	0.42	10	503	797		
	Harness Assembly, Wiring 2A6W3	Test	--	--	0.13	241	503	810		
		Repair	--	--	0.51	39 396 414 448 533 1610 694 810 864	99 404 424 450 534 624 695 852 865	180 405 436 462 545 635 808 853 880	392 411 438 463 609 666 809 862 1012	
		Fault Location	--	--	0.18	241	366	503	810	
240412	Housing Assembly, Upper	Repair	--	--	0.64	53 362 440 450 810	98 392 444 463	180 396 446 809	241 404 448 808	
P/O 240412	Mirror Assembly	Remove and Replace	--	--	0.71	53 362 443	98 392 446	180 396 450	241 404 463	
		Repair	--	--	0.57	53 396 462 808 905	148 430 464 809	180 443 513 810	392 444 584 837	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 2404	Cable Assy, Special 2A6W4	Repair	--	--	1.01	84 392 654 940	180 396 808 978	268 447 809 979	374 463 810 1004	
		Test	--	--	0.29	15	241	503	797	
		Repair	--	--	0.35	98 424 635 810 854 867 891	392 463 695 847 862 875 892	396 534 808 852 864 878	404 624 809 853 865 881	
		Fault Location	--	--	0.32	15	366	503	797	
		Test	--	0.51	--	45 744	246 787	420	471	
		Remove and Replace (Non-OIP)	0.22	--	--	83 635	246 808	404 809	633	
		Remove and Replace (OIP)	0.23	--	--	83 635	246 808	404 809	633	
		Repair	--	0.40	--	2 435 463 559 808 878	246 436 503 629 809 946	392 447 534 644 810 950	412 448 543 695 864 955	
		Fault Location	--	0.46	--	45 787	420	471	744	
		240804	Panel Assembly, Control 2A1	Test	--	0.51	--	45 744	246 787	420
240804	Display Assembly, Heads Out	Remove and Replace (Non-OIP)	0.22	--	--	83 635	246 808	404 809	633	
		Remove and Replace (OIP)	0.23	--	--	83 635	246 808	404 809	633	
P/O 240804	Electron Tube	Repair	--	0.40	--	2 435 463 559 808 878	246 436 503 629 809 946	392 447 534 644 810 950	412 448 543 695 864 955	
		Fault Location	--	0.46	--	45 787	420	471	744	
		Repair	--	0.72	--	52 448 635 809	246 481 644 810	392 503 648 950	434 629 808 1013	
		Service	--	0.61	--					

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
P/O 240804	Harness Assembly	Test	--	0.78	--	246	392	404	434		
						448	463	503	629		
						635	644	648	675		
						808	809	810	950		
		Repair	--	2.64	--	392	404	463	503		
						534	545	624	624		
						629	635	675	696		
						801	808	809	810		
						844	858	859	863		
						872	873	935			
		Fault Location	--	0.71	--	246	392	434	448		
						503	629	635	644		
648	808					809	810				
950											
P/O 2408	Panel, Illuminating, Left Hand	Test	--	--	3.90	775	787				
		Remove and Replace	--	--	--	1.46	251	392	411	447	
							462	477	481	513	
							533	624	629	808	
							809	810	856	942	
							1013				
		Repair	--	--	--	4.06	48	49	50	51	
							289	294	392	396	
							399	411	414	462	
							464	465	477	479	
							481	513	533	534	
537	573						597	598			
599	600						601	609			
610	624						640	695			
808	809	810	856								
942	1013										
Fault Location	--	--	--	3.90							
P/O 2408	Filter Assembly, Night Vision	Remove and Replace	--	0.39	--	83	392	404	462		
						540	633	635	808		
		Repair	--	0.29	--	392	396	624	635		
			--		--	808	809	810			
2412	Handgrip Assembly, Left Hand	Test	--	0.39	--	83	107	176	407		
						743	787				
		Remove and Replace	0.15	--	--	87	407	808	809		

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 2412	Housing Assembly, Left Hand	Repair	--	0.34	--	392 629 810	432 640 964	463 808	545 809	
		Fault Location	--	0.28	--	83 743	107 787	176 808	407 809	
		Remove and Replace	--	0.38	--	392 808	463 809	545 810	629	
2416	Handgrip Assembly, Right Hand	Repair	--	0.13	--	392 592 810	402 641	542 808	547 809	
		Test	--	0.39	--	18 407	83 743	107 787	176	
		Remove and Replace	0.15	--	--	87	407			
P/O 2416	Housing Assembly, Right Hand	Repair	--	0.25	--	392 534 695 964	412 545 808	432 629 809	463 640 810	
		Fault Location	--	0.30	--	18 407 809	83 743 810	107 787	176 808	
		Remove and Replace	--	0.70	--	392 534 808	412 545 809	432 629 810	463 695	
P/O 24	Display Assembly, Alphanumeric 2A7	Repair	--	0.13	--	399 592 810	402 641	542 808	547 809	
		Test	--	--	0.25	719	787			
		Remove and Replace	0.27	--	--	83 647	404 808	629 809	635	
P/O 24	Display Assembly, Alphanumeric 2A7	Repair	--	--	0.42	79 319 448 629 809 962	82 392 463 633 810 1013	113 402 481 678 942	316 444 534 808 961	
		Fault Location	--	--	0.23	719	787			

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
	Circuit Card Assembly, Display Driver 2A7A1	Test	--	--	0.28	18 634	128 737	190 787	220		
		Remove and Replace	--	--	0.17	319 810	392	633	808		
		Repair	--	--	1.21	392 414 479 537 681 810	396 462 513 624 694 856	399 465 533 629 808 866	407 477 534 678 809 996		
		Fault Location	--	--	0.25	18 634	128 787	190	220		
		Circuit Card Assembly, Character Generator 2A7A2	Test	--	--	0.21	18 787	128	170	730	
			Remove and Replace	--	--	0.17	319 808	392 810	481 1013	633	
	Repair		--	--	1.30	392 414 479 534 678 856	396 462 481 537 808 996	399 465 513 624 809 1013	407 477 533 629 810		
	Fault Location		--	--	0.21	18 787	128	170	730		
	Circuit Card Assembly, Interface Electronics 2A7A3	Test	--	--	0.51	18 747	128 787	170	218		
		Remove and Replace	--	--	0.17	319 808	392 810	481 1013	633		
		Repair	--	--	1.56	392 414 481 537 679 856	396 462 513 624 808 996	399 465 533 629 809 1013	407 479 534 678 810		
		Fault Location	--	--	0.47	18 747	128 787	170	220		
	Circuit Card Assembly,	Test	--	--	0.40	18 787	128	161	751		

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
2424	Alphanumeric Display 2A7A5	Remove and Replace	---	---	0.61	65	79	82	113		
			316	319	392	404					
			448	481	534	629					
			633	678	808	809					
			810	942	961	962					
		1013									
		Repair	---	---	0.80	392	396	414	465		
			479	481	533	624					
			808	809	810	856					
	1013										
	Fault Location	---	---	0.38	18	128	161	751			
		787									
	Circuit Card Assembly, Motherboard, A.N.D. 2A7A4	Test	---	---	0.27	11	503	797			
		Remove and Replace	---	---	0.66	79	82	113	316		
			319	392	404	448					
534			629	633	678						
808			809	810	942						
946			961	962	965						
Repair		---	---	0.76	392	396	399	407			
		414	462	465	477						
		479	513	533	534						
	537	624	629	678							
	696	808	809	810							
	849	856	864	878							
	996										
Fault Location	---	---	0.27	11	503	797					
Electronic Assembly, IVD 2A3	Test	---	4.25	4.25	5	18	43	45			
		121	128	129	131						
		132	157	166	172						
		203	209	210	211						
		212	213	247	258						
		259	266	311	420						
		471	507	709	748						
		787									
		Remove and Replace	0.29	---	---	81	247	404	629		
			808			809					

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
		Fault Location	--	--	0.66	5 121 132 203 212 259 471 787	18 128 157 209 213 266 507	43 129 166 210 247 311 709	45 131 172 211 258 420 748	
242404	Heads Down Display 2A3A3	Repair	--	0.26	--	52 391 546 640 810	247 392 629 648 962	319 463 635 808 1013	320 481 639 809	
P/O 242404	Module Assembly, CRT 2A3A3A1	Service	--	0.61	--					
P/O 242404	Housing and Circuit Card Assembly 2A3A3A2									
	Circuit Card Assembly, Motherboard	Test	--	--	0.75	503				
		Remove and Replace	--	--	0.39	247 640 810	319 681	407 808	629 809	
		Repair	--	--	0.56	392 462 533 808	396 465 534 809	399 477 537 810	414 479 624 856	
		Fault Location	--	--	0.75	503				
P/O 242404	Circuit Card Assembly, Video Preamp 2A3A3A2A4	Test	--	--	1.35					
		Remove and Replace	--	0.15	--	247 810	481 1013	629	808	
		Repair	--	--	1.45	388 414 477 513 624 809 1013	392 462 478 533 629 810	399 463 479 534 678 856	407 465 481 537 808 996	
		Fault Location	--	--	1.35					

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 242404	Circuit Card Assembly, Relay Driver 2A3A3A2A9	Test	--	--	0.36	18 787	128	218	766	
		Remove and Replace	--	0.15	--	247 810	481 1013	629	808	
		Repair	--	--	1.36	392 414 477 533 629 810	396 462 479 534 678 856	399 463 481 537 808 996	407 465 513 624 809 1013	
		Fault Location	--	--	0.34	18 787	128	218	766	
		Test	--	--	1.35					
		Remove and Replace	--	0.15	--	247	629	808	810	
P/O 242404	Circuit Card Assembly, BIT Pattern Generator 2A3A3A2A5	Repair	--	--	1.37	392 414 477 533 629 810	396 462 479 534 678 856	399 463 481 537 808 996	407 465 513 624 809 1013	
		Fault Location	--	--	1.35					
		Test	--	--	0.61	18 195 787	128 198	167 199	168 776	
		Remove and Replace	--	0.15	--	247	629	808	810	
		Repair	--	--	1.95	388 407 465 533 629 810	392 414 477 534 678 856	396 462 479 537 808 996	399 463 513 624 809	
		Fault Location	--	--	0.52	18 195 787	128 198	167 199	168 776	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS		
			AVUM	AVIM	DEPOT							
P/O 242404	Power Supply Assembly, HV 2A3A3A3	Test	--	--	1.35							
		Remove and Replace	--	0.21	--	247 635	546 808	629 809	633 810			
		Repair	--	--	0.24	407 533 678 856	414 534 808 946	462 624 809 1013	481 629 810			
		Fault Location	--	--	1.35							
	Circuit Card Assembly, Power Supply, HV	Repair	--	--	2.44	388 407 465 513 624 809 1004	392 414 477 533 629 810 1013	396 462 479 534 678 856	399 463 481 537 808 954			
		P/O 242404	Power Supply Assembly, LV 2A3A3A12	Test	--	--	0.31	18 754	128 787	171	310	
				Remove and Replace	--	0.23	--	247 809	629 810	639	808	
				Repair	--	--	0.30	392 414 513 624 678 810 879	396 463 533 629 693 844 951	407 465 534 633 808 856	411 477 610 639 809 863	
				Fault Location	--	--	0.30	18 754	128 787	171	310	
				P/O 242404	Circuit Card Assembly, Focus Regulator 2A3A3A15	Test	--	--	1.35			
Remove and Replace	--	0.26	--			247 810	481 1013	629	808			
Repair	--	--	1.78			306 407 465 513 624 809 1013	392 414 477 533 678 810	396 462 479 534 680 856	399 463 481 537 808 996			

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
P/O 242404	Harness Assembly HDD	Fault Location	--	--	1.35						
		Repair	--	0.66	--	52	320	391	392		
							412	463	533	534	
							629	633	640	693	
							695	808	809	810	
							849	852	853	864	
							865	878	881	892	
242408	Electronic Assy Control, ORT										
P/O 242408	Circuit Card Assembly, Motherboard, IVD	Test	--	--	0.29	17	503	797			
		Remove and Replace	--	--	0.45	247	319	392	444		
							629	808	809	810	
P/O 242408	Circuit Card Assembly, Brightness 2A3A4A1	Repair	--	--	1.24	392	396	399	407		
							414	462	465	477	
							479	513	533	534	
							537	624	629	681	
							808	809	810	856	
							996				
P/O 242408	Circuit Card Assembly, Contrast 2A3A4A2	Fault Location	--	--	0.29	17	503	797			
		Test	--	--	0.33	727	787				
		Remove and Replace	--	0.15	--	247	319	481	629		
							808	810	1013		
P/O 242408	Circuit Card Assembly, Contrast 2A3A4A2	Repair	--	--	0.95	392	396	399	414		
							462	465	477	479	
							481	513	533	534	
					537	624	808	809			
					810	856	996	1013			
P/O 242408	Circuit Card Assembly, Contrast 2A3A4A2	Fault Location	--	--	0.29	727	787				
		Test	--	--	0.55	18	128	159	216		
							732	787			
		Remove and Replace	--	0.16	--	247	319	481	629		
						808	810	1013			

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 242408	Circuit Card Assembly, BITE 2A3A4A3	Repair	--	--	2.06	392	396	399	414	
						462	465	477	479	
						481	513	533	534	
						537	624	808	809	
						810	856	996	1013	
		Fault Location	--	--	0.51	18	128	216	732	
						18	128	160	220	
		Test	--	--	0.46	724	787			
						247	319	481	629	
		Remove and Replace	--	0.16	--	808	810	1013		
392	396					399	414			
P/O 242408	Circuit Card Assembly, Relay Driver 2A3A4A4	Repair	--	--	1.82	462	465	477	479	
						481	513	533	534	
						537	624	808	809	
						810	856	996	1013	
						Fault Location	--	--	0.40	
		724	787							
		Test	--	--	0.36	767	787	165	217	
						247	319	481	629	
		Remove and Replace	--	0.16	--	808	810	1013		
						392	396	399	407	
P/O 242408	Circuit Card Assembly, Motor Drive 2A3A4A5	Repair	--	--	1.57	411	414	462	465	
						477	479	481	513	
						533	534	537	610	
						624	629	678	809	
						809	810	856	996	
		Fault Location	--	--	0.31	18	128	165	217	
						767	787			
		Test	--	--	0.48	757	787	170	217	
247	319					481	629			
Remove and Replace	--	0.16	--	808	810	1013				
				322	323	392	396			
Repair	--	--	1.20	399	414	462	465			
				477	479	481	513			
				533	534	537	624			

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS			
			AVUM	AVIM	DEPOT								
28	Electronic Unit Assembly, TADS 3	Repair (cont)				808 996	809 1013	810	856				
		Fault Location	--	--	0.41	18	128	170	217				
		Test	--	--	0.91	481	583	788	1013				
		Remove and Replace	0.27	--	--	83 485	242 808	392 809	446 1009				
		Fault Location	--	--	0.91	242 1013	481	583	788				
2804	Electronic Unit Subassembly	Repair (Non-OIP)	--	--	0.33	35 412 534 629 670 810 951	242 447 548 633 695 863 963	392 448 604 640 808 880 1009	408 533 624 642 809 941				
			Repair (OIP)	--	--	0.36	35 412 534 629 670 810 951	242 447 548 633 695 863 962	392 448 604 640 808 880 1009	408 533 624 642 809 941			
				Test	--	--	0.61	16	503	797			
					Remove and Replace (Non-OIP)	--	--	2.76	39 396 447 548 671 810 960	242 404 463 624 678 842 1009	307 405 503 629 808 942	392 411 534 670 809 945	
						Remove and Replace (OIP)	--	--	2.79	242 404 463 624 678 842	307 405 503 629 808 884	392 411 534 670 809 942	396 447 548 671 810 945
		P/O 2804		Circuit Card Assembly, Motherboard, TEU 3A15			Test	--	--	0.61	16	503	797
			Remove and Replace (Non-OIP)		--			--	2.76	39 396 447 548 671 810 960	242 404 463 624 678 842 1009	307 405 503 629 808 942	392 411 534 670 809 945
		P/O 2804		Circuit Card Assembly, Motherboard, TEU 3A15	Remove and Replace (OIP)	--	--	2.79	242 404 463 624 678 842	307 405 503 629 808 884	392 411 534 670 809 942	396 447 548 671 810 945	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS				
			AVUM	AVIM	DEPOT									
2828	Cover Assembly, Access	Repair (Non-OIP)	--	--	2.53	392	396	399	407					
						411	414	462	465					
						477	479	513	533					
						534	537	609	624					
						629	675	694	808					
						809	810	856	878					
		P/O 28	Circuit Card Assembly, Decoder, Programmed 3A2	Repair (OIP)	--	--	2.29	392	396	407	414			
								465	479	533	629			
								675	808	809	810			
								856						
P/O 28	Circuit Card Assembly, Decoder, Programmed 3A2	Fault Location	--	--	0.61	16	503	797						
						53	392	808	809					
		Remove and Replace	--	0.12	--	53	392	808	809					
						810								
		Repair	--	0.24	--	53	392	808	809					
						810								
P/O 28	Circuit Card Assembly, Timing/Video 3A3	Test	--	--	0.46	753	787							
						Remove and Replace	--	0.20	--		242	319	447	481
											533	629	808	809
						810	1013							
P/O 28	Circuit Card Assembly, Timing/Video 3A3	Repair	--	--	1.48	306	392	396	399					
						407	414	462	465					
						477	479	481	513					
						533	534	537	624					
						629	678	808	809					
						810	856	996	1013					
P/O 28	Circuit Card Assembly, Timing/Video 3A3	Fault Location	--	--	0.43	753	787							
						34	715							
		Test	--	--	8.00	34	715							
						242	319	447	481					
P/O 28	Circuit Card Assembly, Timing/Video 3A3	Remove and Replace	--	0.18	--	242	319	447	481					
						629	808	809	810					
						1013								
P/O 28	Circuit Card Assembly, Timing/Video 3A3	Repair	--	--	3.21	392	396	399	407					
						414	462	465	477					
						479	481	513	533					
						534	537	624	629					
						678	808	809	810					
						856	1013							
P/O 28	Circuit Card Assembly, Timing/Video 3A3	Fault Location	--	--	8.00	34	715							
						34	715							

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS	
			AVUM	AVIM	DEPOT						
P/O 28	Circuit Card Assembly, Video Processor 3A4	Test	--	--	0.85	38	715				
		Remove and Replace	--	0.18	--	242	319	447	481		
						629	808	809	810		
		Repair	--	--	2.56	67	392	396	399		
						407	414	462	465		
477	479					481	513				
533	534					537	624				
629	633					672	678				
P/O 28	Circuit Card Assembly, Processor, Digital Tracker 3A5	Fault Location	--	--	0.85	38	715				
						1013					
		Test	--	--	0.56	18	128	197	735		
		Remove and Replace	--	0.18	--	242	319	447	481		
						629	808	809	810		
Repair	--	--	1.75	392	396	399	407				
				414	462	465	477				
				479	481	513	533				
				534	624	629	678				
				808	809	810	1013				
P/O 28	Circuit Card Assembly, Digital Tracker 3A6	Fault Location	--	--	0.49	18	128	197	735		
						787					
		Test	--	--	0.63	734	787				
		Remove and Replace	--	0.18	--	242	319	447	481		
						629	808	809	810		
Repair	--	--	1.82	392	396	414	462				
				465	479	481	513				
				533	534	624	808				
				809	810	856	1013				
				734	787						
P/O 28	Circuit Card Assembly, Analog I/O 3A7	Test	--	--	1.25	18	128	722	787		
		Remove and Replace	--	0.18	--	242	319	447	481		
						629	808	809	810		
					1013						

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 28	Circuit Card Assembly, CPU 3A8	Repair	--	--	1.59	392 465 533 809	396 479 534 810	414 481 624 856	462 513 808 1013	
		Fault Location	--	--	1.05	18	128	722	787	
		Test	--	--	0.60	18 787	128	197	770	
		Remove and Replace	--	0.19	--	242 629 1013	319 808	447 809	481 810	
		Repair	--	--	1.45	392 414 479 534 678 856	396 462 481 537 808 1013	399 465 513 624 809	407 477 533 629 810	
P/O 28	Circuit Card Assembly, Memory, Programmed 3A9	Fault Location	--	--	0.54	18 787	128	197	770	
		Test	--	--	0.68	18 787	128	170	756	
		Remove and Replace	--	0.18	--	242 629 1013	319 808	447 809	481 810	
		Repair	--	--	1.45	392 414 479 534 678 856	396 462 481 537 808 1013	399 465 513 624 809	407 477 533 629 810	
		Fault Location	--	--	0.60	18 787	128	170	756	
P/O 28	Circuit Card Assembly, Discrete/Serial I/O 3A10	Test	--	--	2.13	18 787	128	633	736	
		Remove and Replace	--	0.18	--	242 629 1013	319 808	447 809	481 810	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 28	Circuit Card Assembly, Interface, Laser 3A11	Repair	--	--	1.95	392	396	407	414	
						465	479	481	513	
						533	534	624	629	
						678	808	809	810	
						856	1013			
		Fault Location	--	--	1.86	18	128	633	787	
		Test	--	--	0.41	18	128	746	787	
		Remove and Replace	--	0.18	--	242	319	447	481	
						629	808	809	810	
						1013				
P/O 28	Circuit Card Assembly, Resolver To Digital 3A12	Repair (Non-OIP)	--	--	2.24	5	392	396	399	
						407	414	462	465	
						477	479	481	513	
						533	534	537	624	
						629	678	808	809	
		810	856							
		Repair (OIP)	--	--	2.16	392	396	399	407	
						414	462	465	477	
						479	481	513	533	
						534	537	624	629	
				678	808	809	810			
				856	1013					
Fault Location	--	--	0.38	18	128	746	787			
Test	--	--	1.35	711						
Remove and Replace	--	0.18	--	242	319	447	629			
				808	809	810				
Repair	--	--	1.10	392	396	399	406			
				407	414	462	465			
				477	479	513	533			
				534	537	624	629			
				808	809	810	856			
Fault Location	--	--	1.35	711						
P/O 28	Power Supply Assembly 3A14	Test	--	--	0.38	18	128	204	718	
						787				
		Remove and Replace	--	0.18	--	89	242	304	447	
						629	808	809	810	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
32	Circuit Card Assembly, Power Supply 3A14A1	Repair	--	--	0.24	392 462 533 624 808 953	396 464 534 633 809	411 503 609 693 810	414 513 610 695 941	
		Fault Location	--	--	0.35	18 787	128	204	718	
		Test	--	--	0.24	33	501	715		
		Remove and Replace	--	--	0.12	447 810	635	808	809	
		Repair	--	--	1.49	392 414 477 533 635 810	396 447 479 534 681 856	399 462 481 537 808 942	404 465 513 624 809 1013	
		Fault Location	--	--	0.24	33	501	715	808	
		Test	--	0.63	--	240	761	787		
		Remove and Replace	0.18	--	--	83 503 1009	240 808	392 809	446 810	
		Repair	--	0.33	--	392 808	448 809	462 810	463	
		Fault Location	--	0.57	--	240	761	787		
P/O 32	Circuit Card Assembly, Regulator 4A1	Test	--	--	0.56	18 196	128 765	161 787	164	
		Remove and Replace	--	0.20	--	240 633	319 808	392 809	437 810	
		Repair	--	--	1.33	392 414 479 537 808	396 462 513 624 809	399 465 533 629 810	407 477 534 678 856	
		Fault Location	--	--	0.52	18 196	128 765	161 787	164	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 32	Circuit Card Assembly, Gyro Excitation 4A3	Test	--	--	0.38	18 742	128 787	158	309	
		Remove and Replace	--	0.20	--	240 481 810	319 633 1013	392 808	437 809	
		Repair	--	--	1.89	392 414 479 534 633 809	396 462 481 537 672 810	399 465 513 624 678 856	407 477 533 629 808 1013	
		Fault Location	--	--	0.35	18 742	128 787	158	309	
		Test	--	--	0.68	18 310	128 725	165 787	196	
		Remove and Replace	--	0.22	--	240 481 810	319 633 1013	392 808	437 809	
		Repair	--	--	2.36	392 414 481 537 808 1013	396 465 513 624 809	399 477 533 629 810	407 479 534 678 856	
		Fault Location	--	--	0.63	18 310	128 725	165 787	196	
		Repair	--	0.23	--	302 447 481 694 813	319 448 534 808 878	392 450 545 809 1013	396 462 633 810	
		P/O 3216	Circuit Card Assembly, Motherboard, Power Supply 4A6	Test	--	--	0.27	29	503	797
Remove and Replace	--			0.15	--	240 809	447 810	635	808	
Repair	--			--	1.11	392 414 479 537 808	396 462 513 624 809	399 465 533 629 810	407 477 534 678 856	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
321608	Components Assembly, Electronic 4A7	Fault Location	--	--	0.27	29	503	797		
		Test	--	0.56	0.56	18 759	128 787	190 1013	481	
		Remove and Replace	--	0.31	--	82 302 403 633 1013	84 313 437 808	98 319 448 809	240 392 481 810	
		Repair	--	0.39	--	84 404 444 463 534 633 809 946 1011	85 407 447 465 545 678 810 949 1012	100 412 448 481 624 695 942 951 1013	392 414 462 533 629 808 943 953	
		Fault Location	--	0.51	0.51	18 759	128 787	190 1013	481	
		Test	--	--	0.42	20 505	21 506	32 794	194	
		Remove and Replace	--	--	0.72	392 534 810	414 695 856	447 808	533 809	
		Repair	--	--	0.97	47 396 444 479 537 678 810	290 399 462 513 573 800 856	292 407 465 533 596 808 870	392 414 477 534 624 809	
		Fault Location	--	--	0.08	20 505	21 506	32 794	194	
		Test	--	0.81	0.81	18 749	128 787	225	321	
36	Electronic Unit Assembly, Laser 5	Remove and Replace (Non ALC)	0.23	--	--	93 808	225 809	392 810	503 1009	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 36	Power Supply Assembly, HV 5A7	Remove and Replace (ALC)	0.23	--	--	93 647 1009	225 808	392 809	503 810	
		Repair (Non ALC)	--	--	0.33	225	808	809	810	
		Repair (ALC)	--	--	0.11	82 808	225 809	404 810	635	
		Fault Location (Non ALC)	--	0.76	0.76	18 749	128 787	225	321	
		Fault Location (ALC)	--	--	0.79	18 749	128 787	225	321	
		Test	--	--	0.50	745	787			
		Remove and Replace	--	0.16	--	82 809	403 810	633	808	
		Repair	--	--	0.23	392 470 533 629 695 876 953	411 481 534 633 808 944 1013	414 503 610 634 809 949	444 513 624 639 810 950	
		Fault Location	--	--	0.46	745	787			
			Circuit Card Assembly, Control, HVPS 5A7A1	Repair	--	--	1.72	392 414 479 537 808 996	396 462 481 624 809 1013	399 465 533 629 810
3612	Harness Assembly 5W1	Test (Non ALC)	--	0.82	--	225 809	415 810	503	808	
		Test (ALC)	--	0.82	--	225 444 639 810	316 447 679	404 503 808	407 629 809	
		Repair (Non ALC)	--	0.21	--	225 460 633 809 874	392 462 693 810 880	415 533 695 843 938	457 534 808 863	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 36	Circuit Card Assembly, Motherboard 5A1	Repair (ALC)	--	0.22	--	82 404 695 950	84 412 808	225 533 809	392 534 810	
		Fault Location (Non ALC)	--	0.66	--	415	503	808	809	
		Fault Location (ALC)	--	0.82	--	225 444 639	316 447 679	404 503 808	407 629 809	
		Test (Non ALC)	--	--	0.48	415	503			
		Test (ALC)	--	--	0.47	503				
		Remove and Replace (Non ALC)	--	--	0.54	225	808	809	810	
		Remove and Replace (ALC)	--	0.52	--	82 404 639 810	84 407 679	225 444 808	316 629 809	
		Repair (Non ALC)	--	--	0.43	392 459 479 808	396 462 513 809	415 465 533 810	458 477 534 856	
		Repair (ALC)	--	--	0.97	392 414 479 537 808	396 462 513 624 809	399 465 533 629 810	407 477 534 678 856	
		Fault Location (Non ALC)	--	--	0.65	16 808	225 809	503 810	797	
Fault Location (ALC)	--	--	1.04	16 316 629 808	82 404 639 809	84 407 679 810	225 503 797			
P/O 36	Circuit Card Assembly, Range Counter 5A2	Test	--	--	0.31	18 787	128	217	763	
		Remove and Replace	--	0.17	--	82 633 1013	225 808	407 809	481 810	

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 36	Circuit Card Assembly, Receiver, Range Counter 5A3	Repair	--	--	1.89	392	396	399	407	
						414	462	465	477	
						479	481	513	533	
						534	537	624	629	
						678	808	809	810	
		856	996	1013						
		Fault Location	--	--	0.31	18	128	217	763	
						787				
		Test	--	--	0.26	18	128	217	729	
						787				
Remove and Replace	--	0.17	--	82	225	407	481			
				633	808	809	810			
				1013						
Repair	--	--	1.20	392	396	399	407			
				414	462	465	477			
				479	481	513	533			
				534	537	624	629			
				678	808	809	810			
856	996	1013								
Fault Location	--	--	0.25	18	128	217	729			
				787						
P/O 36	Circuit Card Assembly, Code Generator (Non-ALC) 5A4	Test	--	--	0.58	18	128	173	217	
						456	755	787		
		Remove and Replace	--	0.18	--	225	481	808	809	
						810	1013			
		Repair	--	--	0.91	392	396	415	458	
	459					462	465	477		
	479					481	513	533		
	534					808	809	810		
	856	996	1013							
	Fault Location	--	--	0.58	728	787				
Circuit Card Assembly, (ALC) 5A4	Test	--	--	0.58	18	128	217	456		
					755	787				
	Remove and Replace	--	0.17	--	82	225	407	481		
633					808	809	810			
				1013						

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
P/O 36	Circuit Card Assembly, FD/LS Power Supply 5A5	Repair	--	--	1.98	388	392	396	399	
						407	414	462	465	
						477	479	481	513	
						533	534	537	624	
						629	678	808	809	
		810	856	996	1013					
		Fault Location	--	--	0.58	728	787			
		Test	--	--	0.41	18	128	217	739	
						787				
Remove and Replace	--	0.17	--	82	225	407	481			
				633	808	809	810			
Repair	--	--	1.92	388	392	396	399			
				407	414	462	465			
				477	479	481	513			
				533	534	537	624			
				629	678	808	809			
810	856	1013								
Fault Location	--	--	0.39	18	128	217	739			
				787						
P/O 36	Circuit Card Assembly, Power Supply, LV 5A6	Test	--	--	0.85	18	128	171	217	
						456	755	787		
		Remove and Replace	--	0.17	--	82	225	407	481	
						633	808	809	810	
		Repair	--	--	2.62	388	392	396	399	
						407	414	462	465	
						477	479	481	513	
						533	534	537	624	
						629	672	678	808	
		809	810	856	1013					
Fault Location	--	--	0.73	18	128	171	217			
				456	755	787				
P/O 00	Control System Assembly, Environmental 1A1A1	Test (Non OIP)	--	--	0.46	18	115	128	133	
		205	738	787						
Test (OIP)	--	--	0.46	18	115	128	133			
				205	738	787				

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS		
			AVUM	AVIM	DEPOT							
48	Element Assembly, Air Filter	Remove and Replace	0.63	--	--	83	392	446	530			
						534	545	546	567			
						624	635	647	808			
						809	810	1000	1012			
		Repair	--	--	0.27	82	302	392	414			
						444	450	462	463			
						534	543	548	629			
						633	695	808	809			
						810	848	864	879			
		Fault Location (Non OIP)	--	--	0.40	18	115	128	133			
						205	738	787				
		Fault Location (OIP)	--	--	0.40	18	115	128	133			
						205	738	787				
		P/O 00	Amplifier Assembly 1A1A2	Remove and Replace	0.63	--	--	83	392	446	530	
								534	545	546	567	
624	635							647	808			
809	1000							1012				
Repair	0.73			--	1.20	83	392	446	462			
		530	534			545	546					
		567	624			633	635					
		647	808			809	810					
		1000	1012									
Circuit Card Assembly, Servo 1A1A2A4	Test (Non OIP)	--	--	3.24	5	20	21	23				
					200	318	390	481				
					505	506	509	550				
					551	554	555	556				
					557	558	563	715				

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS
			AVUM	AVIM	DEPOT					
56	Boresight Assembly 1A1A3	Test (OIP)	--	--	3.24	20	21	23	200	
						318	390	481	505	
						506	509	550	551	
						552	553	554	555	
						556	563	715	1013	
		Remove and Replace	--	--	1.13	95	245	304	392	
						411	438	447	463	
						481	503	629	640	
						808	809	810	935	
						946	961	1013		
		Repair	--	--	6.19	392	396	399	404	
						407	411	414	462	
						465	477	479	481	
						513	533	534	537	
						610	624	629	675	
						678	695	808	809	
						810	856	1013		
		Fault Location	--	--	5.35	23	715			
		Test	--	--	0.64	18	128	162	224	
						392	463	503	516	
						629	640	726	787	
						808	809	810	941	
		Service	0.52	--	--	392	444	446	516	
						530	567	635	808	
						809	810	1000		
		Adjust	--	--	1.67	1	91	147	180	
						224	302	312	325	
340	392					394	469			
473	496					508	516			
562	564					629	639			
779	808					809	810			
839										
Aline	--	--	0.74	82	180	302	340			
				392	396	444	635			
				808	809	810	919			
Remove and Replace	0.56	--	--	80	83	224	317			
				442	446	530	567			
				635	808	809	810			
				1000	1012					

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL			(5) TOOLS AND EQUIPMENT				(6) REMARKS					
			AVUM	AVIM	DEPOT										
P/O 56	Circuit Card Assembly, Anti-Ice 1A1A3A1	Repair	--	--	2.84	1	63	67	82						
						91	147	180	224						
						302	312	315	325						
						340	388	392	394						
						396	404	411	414						
						444	446	447	462						
						463	465	469	473						
						481	496	508	513						
						516	533	534	562						
						564	610	624	629						
						633	635	639	640						
						654	681	695	779						
						808	809	810	839						
						849	856	860	864						
		878	919	941	1013										
		Fault Location	--	--	0.41	1	2	18	63						
						82	91	128	147						
						162	180	224	302						
						312	325	340	392						
						394	396	444	462						
						463	465	469	473						
						496	503	508	516						
						562	564	629	633						
						635	639	640	726						
						779	787	808	809						
						810	839	941							
						Test	--	--	0.31		18	128	723	787	
											Remove and Replace	--	--	0.74	224
629	640									808					809
Repair	0.24	--	--	446	530	541	567								
				635	1000										

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
1	D	Access, Adapter Ring	-	09LAR001
2	D	Acetone, Technical	-	O-A-51
3	D	Adapter Assembly, Channel Balance	-	13083603-19
4	D	Adapter, Arbor Press	-	T7-781140
5	D	Adapter, Connector	-	31-008
6	D	Adapter, Ditmco	-	TE-781790
7	D	Adapter, Ditmco	-	TE-781791
8	D	Adapter, Ditmco	-	TE-781792
9	D	Adapter, Ditmco	-	TE-781793
10	D	Adapter, Ditmco	-	TE-781795
11	D	Adapter, Ditmco	-	TE-781807
12	D	Adapter, Ditmco	-	TE-781808
13	D	Adapter, Ditmco	-	TE-781814
14	D	Adapter, Ditmco	-	TE-781817
15	D	Adapter, Ditmco	-	TE-781822
16	D	Adapter, Ditmco	-	TE-781826
17	D	Adapter, Ditmco	-	TE-781831
18	D	Adapter, Major Test	6625-01-220-7887	13083633-19
19	D	Adapter, Press	-	T7A781140
20	D	Adapter, Rack (1a4)	-	M03-205-600
21	D	Adapter, Rack (1a5)	-	M04-205-600
22	D	Adapter, Securing	-	T7A781195 UNIT 5
23	D	Adapter, Servo CCA	-	TE-781512
24	D	Adapter, Socket, 3/8f-1/2m	-	EX375B
25	D	Adapter, Spanner	-	T7-781160 UNIT 5
26	D	Adapter, TADS ECA	-	TE-781568
27	D	Adapter, Test	-	A3003989
28	D	Adapter, Test	-	DTE-781510
29	D	Adapter, Test	-	TE-781825
30	D	Adapter, Test	-	TE-781300
31	D	Adapter, Test	-	TE-781320
32	D	Adapter, Test	-	TE-781601
33	D	Adapter, Test	-	TE-781615
34	D	Adapter, Timing Generator	-	TE-781528
35	D	Adapter, Torque	-	OE-1-7/16

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
36	D	Adapter, Torque Test	-	79921152
37	D	Adapter, Torque Test	-	97721152
38	D	Adapter, Video Processor	-	TE-781527
39	D	Adapter, Socket, 1/4f-3/8m	-	TA3
40	D	Adapter, Spanner	-	T7-781160 UNIT 4
41	D	Alinement Aid, Resolver	-	TE-781181 UNIT 10
42	D	Alinement Assembly	-	TE-782101
43	D	Alinement Assembly, Optical	6650-01-295-5370	13083078-39
44	D	Alinement Tool, Primary Mirror	-	TE-781275 UNIT 1
45	D	Amplifier, Current	-	TYPE134,110V
46	D	Anvil	-	2495A22
47	D	Anvil, Swagger	-	435-6411-01-00-0
48	D	Anvil, Swagger	-	435-6429-01-00-0
49	D	Anvil, Swagger	-	435-6468-01-00-0
50	D	Anvil, Swagger	-	435-6520-01-00-0
51	D	Anvil, Swagger	-	PSA201-2
52	D	Apron, Heavy Duty	-	MIL-A-41829
53	D	Apron, Rubber	-	5251T1
54	D	Assembly Aid	-	A-40009
55	D	Assembly Aid	-	A-40011
56	D	Assembly Tool	-	A-40003
57	D	Assembly Tool	-	T7-781288
58	D	Assembly Tool	-	T7-781298
59	D	Assembly Tool	-	T7-781299
60	D	Assembly Tool	-	T7-781307
61	D	Assembly Tool	-	T7-781310
62	D	Attachment	-	T7-781335 UNIT 1
63	D	Autocollimator	-	70007
64	D	Autocollimator Assembly	-	13083203
65	D	Bag, Electronic Shielding	-	TMT-21218
66	O	Bag, Environmental Nose	-	7-362120006
67	D	Balance, Trip	-	MIL-B-43714STY2SZ2
68	D	Ball Driver, 7 "	-	5497A41
69	D	Ball Driver, Hexset	5120-01-018-8956 PS-40BP	99-
70	D	Bar, Breaker, 1/4 DR	-	TM10F
71	D	Bar, Set Up	-	A-40047
72	D	Base, Press Adapter	-	T7A781195 UNIT 1

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
73	D	Base, Press Adapter	-	T7A781195 UNIT 4
74	D	Bench, 4' X 8' N	-	EQ-734234
75	D	Bench, Fixture	-	TBD7KADBG16E
76	D	Bit, Hex 3/16 3/8DR	-	FA6L
77	D	Bit, Hex 3/16 In 3/8DR	-	FA6A
78	D	Bit, Hex 5/32 In 3/8DR	-	FA5L
79	O,D	Bit, Hex, 1/4 In 1/4 DR	-	TMA8
80	O,D	Bit, Hex, 1/8 In 1/4 DR	-	TMA4
81	O,D	Bit, Hex, 3/16 In 1/4 DR	-	TMA6
82	O,D	Bit, Hex, 3/32 In 1/4 DR	-	TMA3
83	O,D	Bit, Hex, 5/32 In 1/4 DR	-	TMA5
84	D	Bit, Hex, 5/64 In 1/4 DR	-	TMA2.5
85	O,D	Bit, Hex, 7/64 In 1/4 DR	-	TMA3.5
86	O,D	Bit, Hex, 9/64 In 1/4 DR	-	TMA4.5
87	D	Bit, Screw Driver, Cross Tip No. 0, 1/4 DR	-	-TMP01
88	D	Bit, Screw Driver, Cross Tip No. 1, 1/4 DR	-	-440-1
89	O,D	Bit, Screw Driver, Cross Tip No. 1, 1/4 DR	-	-TMP12A
90	D	Bit, Screw Driver, Cross Tip No. 2, 1/4 DR	-	-440-2
91	O,D	Bit, Screw Driver, Cross Tip No. 2, 1/4 DR	-	-TMP22A
92	O,D	Bit, Screw Driver, Cross Tip No.3 3/8DR	-	5120-00-250-5576FP34
93	O	Bit, Screw Driver, Flat Tip 5/16	-	F52
94	D	Bit, Screw Driver, Flat Tip, 1/4 1/4DR	-	AC1047
95	D	Bit, Screw Driver, Flat Tip, 1/4 In, 1/4 DR	-	-TMC105A
96	O	Bit, Screw Driver, Flat Tip, 3/16 In, 1/4 DR	-	-TMC104A
97	D	Bit, Screw Driver, Flat Tip, 3/8 1/4DR	-	AC1048
98	D	Bit, Screw Driver, Hi Torque No.1	5120-00-003-8939	HTS1
99	O,D	Bit, Screw Driver, Hi Torque No.2	5120-00-797-2992	HTS2
100	D	Bit, Screw Driver, Hi Torque No.3	5120-00-863-4944	HTS3
101	D	Block, Laser Test	-	79906188
102	D	Block, Tool Set	-	EQ325994/EQ32599
103	D	Booth, Flow, 10, 000	-	7K1J
104	O	Bottle, Dispensing	-	4527T41
105	D	Bottle, Spray	-	7025T85
106	D	Box Assembly, Terminal	-	13082747
107	D	Box, Breakout RH	-	79918055
108	D	Bracket Assembly, Camera	5340-01-285-4545	13082029-39
109	D	Bracket Assembly, Relay	-	TE-781944

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
110	D	Brayer, Lucite	-	110415
111	D	Breakout Box, Power	-	TE-781562
112	D	Brush, Bristle	-	HB391
113	D	Brush, File Cleaner	-	HB421
114	D	Brush, Wire Scratch	-	HB178TY3CL3
115	D	Cabinet Assembly	5975-01-387-1300	13082386
116	D	Cable	-	TE-781184 UNIT 1
117	D	Cable	-	TE-781184 UNIT 2
118	D	Cable	-	TE-781184 UNIT 4
119	D	Cable	-	TE-781184 UNIT 5
120	D	Cable	-	TE-781184 UNIT 6
121	D	Cable Assembly	5995-01-293-1598	13083702
122	D	Cable Assembly	-	TE-1315
123	D	Cable Assembly	-	TE-781044 UNIT 1
124	D	Cable Assembly	-	TE-781044 UNIT 2
125	D	Cable Assembly	-	TE-781044 UNIT 3
126	D	Cable Assembly	-	TE-781044 UNIT 4
127	D	Cable Assembly	-	TE-781325
128	D	Cable Assembly, Power, W2	5995-01-293-1593	13082730
129	D	Cable Assembly, RF	5995-01-224-2536	13081706
130	D	Cable Assembly, RF	5995-01-293-3543	13081454-29
131	D	Cable Assembly, RF	5995-01-226-2439	13081706-29
132	D	Cable Assembly, RF	5995-01-296-5540	13081706-69
133	D	Cable Assembly, W105	6145-01-384-6938	13082466
134	D	Cable Assembly, W19	6150-01-390-7290	13081448
135	D	Cable Assembly, W61	5995-01-293-1594	13083092
136	D	Cable Assembly, W62	5995-01-293-1595	13083093
137	D	Cable Assembly, W66	5995-01-293-1597	13081837
138	D	Cable Assembly, W93	5995-01-223-0283	13231435
139	D	Cable Set	-	TE-781004
140	D	Cable Set, Scope	-	TBD7KADBG18E
141	D	Cable Set, Unit 1	-	TE-781454
142	D	Cable, BNC Coaxial	-	BNC TO BNC COAXI
143	D	Cable, Self Test	-	A3003942
144	D	Caliper, 0-1 In .0001	-	GGG-C-105
145	D	Caliper, Vernier	-	599-579-2
146	D	Camera, Test	1270-01-223-8914	13076149-019

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
147	D	Camera, Television	-	TC-2031
148	D	Caps, Vise Jaw, 4 In	-	404-4
149	D	Card, Extender	-	TE-781010
150	D	Case, Caliper	-	599-578-9999
151	D	Cell, Reticle	-	A-40025EX
152	D	Cell, Reticle	-	A-40026EX
153	D	Centering Tool, Detector	-	TBD7KADBG4E
154	D	Chamber, N2 Atmospheric	-	EQ733019
155	D	Circuit Card Assembly	6625-01-220-7945	13081830
156	D	Circuit Card Assembly	-	13082322
157	D	Circuit Card Assembly	6625-01-225-8825	13083641
158	D	Circuit Card Assembly	5998-01-333-2983	13230931
159	D	Circuit Card Assembly	5998-01-333-2984	13230969
160	D	Circuit Card Assembly	5998-01-333-2985	13230972
161	D	Circuit Card Assembly	5998-01-333-2986	13230977
162	D	Circuit Card Assembly	5998-01-333-2987	13231886
163	D	Circuit Card Assembly	-	13074123 UNIT 5
164	D	Circuit Card Assembly, A5-1	-	13082300
165	D	Circuit Card Assembly, A7-1	-	13082102
166	D	Circuit Card Assembly, A7-12	6625-01-220-7938	13082365
167	D	Circuit Card Assembly, A7-28	6625-01-220-7923	13082310
168	D	Circuit Card Assembly, A7-3	5998-01-333-2982	13082410-19
169	D	Circuit Card Assembly, A7-37	5998-01-356-6316	13231525-19
170	D	Circuit Card Assembly, A7-8	-	13082370
171	D	Circuit Card Assembly, A7-9	6625-01-226-2535	13082317
172	D	Circuit Card Assembly, A9-2	6625-01-226-2539	13082411
173	D	Circuit Card Assembly, Code Gen	1270-01-259-0179	13079713-029
174	D	Clamp Assembly, Pinion	5826-01-264-4297	13231437
175	D	Clamp, "C"	-	SKD4850-105
176	D	Clamp, "C", 6 In	5120-00-293-0784	A-A-429
177	D	Clamp, Gimbal Alinement Fixture	5826-01-264-4300	13231486
178	D	Clamp, Interface	-	PTE-1361
179	D	Clamp, Rim Clenching	5340-01-180-6795	13084034
180	D	Clean Room, 100000	-	PCR8-14
181	O	Cleaner, Vacuum	7910-00-530-6260	MIL-C-52074 TY1
182	D	Clip, Alligator	-	T7A781359 UNIT 2
183	D	Clip, Alligator	-	T7A781359 UNIT 3

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
184	D	Clip, Alligator	-	T7A781359 UNIT 4
185	D	Clip, Alligator	-	T7A781359 UNIT 7
186	D	Clip, Alligator	-	T7A781359 UNIT 8
187	D	Clip, Alligator	-	T7A781359 UNIT 9
188	D	Clip, Position	-	79921124
189	D	Collimator	-	EQ 734229/09
190	D	Component Assembly, Electronic	6625-01-225-8327	13082050
191	D	Computer	-	HP3075,SER2
192	D	Computer	-	MODEL XT
193	D	Computer	-	TE-781302 UNIT 1
194	D	Connector	-	PT06SE22-21S
195	D	Connector Assembly	5935-01-224-5321	13083091
196	D	Connector Assembly	-	13082471-29
197	D	Connector Assembly	5935-01-227-1391	13082471-79
198	D	Connector Assembly	5935-01-224-5320	13083091-19
199	D	Connector Assembly	5935-01-227-9756	13083964-19
200	D	Connector Saver	-	ITT MDM97294-377
201	D	Connector, Adapter	-	901-167
202	D	Connector, Self Test	5935-01-303-6809	13081833
203	D	Connector, Self Test	5935-01-222-1234	13083962-109
204	D	Connector, Self-Test	5935-01-227-9754	13081998
205	D	Connector, Self-Test	5985-01-396-9070	13082467
206	D	Connector, Self-Test	5935-01-227-9755	13081998-79
207	D	Connector, Self-Test	5935-01-227-6320	13083679-29
208	D	Connector, Self-Test	5935-01-222-1217	13083962-229
209	D	Connector, Self-Test	5935-01-222-1202	13083962-419
210	D	Connector, Self-Test	5935-01-222-1203	13083962-429
211	D	Connector, Self-Test	5935-01-222-1204	13083962-439
212	D	Connector, Self-Test	5935-01-222-1205	13083962-449
213	D	Connector, Self-Test	5935-01-222-1208	13083962-459
214	D	Connector, Self-Test	5935-01-333-6464	13083962-549
215	D	Connector, Self-Test	5935-01-222-1153	13083963-349
216	D	Connector, Self-Test	5935-01-222-1156	13083964-29
217	D	Connector, Self-Test	5935-01-222-1157	13083964-39
218	D	Connector, Self-Test	5935-01-222-1158	13083964-49
219	D	Connector, Self-Test	5935-01-222-1159	13083964-59
220	D	Connector, Self-Test	5935-01-222-1160	13083964-69

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
221	D	Console, Electrical	-	TE-781042 UNIT 1
222	D	Console, MTF Analyzer	-	EQ-734229
223	D	Console, Test	-	DTE-781566
224	O,D	Container, Boresight	8145-01-183-8294	13083613
225	O,D	Container, Laser Electronic Unit	8145-01-183-8301	13083615
226	D	Container, Protective	-	A-20050
227	D	Container, Protective	-	A-20053
228	D	Container, Protective	-	A-20054
229	D	Container, Protective	-	A-20057
230	D	Container, Protective	-	A-20063
231	D	Container, Protective	-	T0-781088
232	D	Container, Protective	-	T0-781280
233	D	Container, Protective	-	T0-781318
234	D	Container, Protective	-	T0-781346
235	D	Container, Protective	-	T0A781266
236	D	Container, Protective	-	T0A781291
237	D	Container, Protective	-	T0A781300
238	O,D	Container, Shipping/Storage	8145-01-183-8299	13083610
239	O,D	Container, Shipping/Storage	8145-01-183-8300	13083611
240	O,D	Container, Shipping/Storage	8140-01-184-4038	13083614
241	O,D	Container, Shipping/Storage	8145-01-183-8302	13083617
242	O,D	Container, Shipping/Storage	8145-01-183-8303	13083618
243	O,D	Container, Shipping/Storage	8145-01-183-8304	13083619
244	O,D	Container, Shipping/Storage	8145-01-183-8306	13083621
245	O,D	Container, Shipping/Storage	8145-01-183-8307	13083622
246	O,D	Container, Shipping/Storage	8145-01-183-8308	13083624
247	O,D	Container, Shipping/Storage	8145-01-183-8309	13083625
248	O,D	Container, Shipping/Storage	8145-01-175-2476	13082385
249	O,D	Container, Shipping/Storage	8145-01-183-8298	13082387
250	D	Container, TADS Turret	-	TBD7KAB1431J
251	O,D	Container, TV Sensor	8145-01-183-8305	13083620
252	D	Control Box, Inter-Locking	-	TE-781005
253	D	Control Module, Common Equipment	-	TE-781100-29
254	D	Control Module, Common Equipment	-	TE-781100-49
255	D	Control, Voltage	-	DTE-781510 UNIT
256	D	Cover, Dolly	-	79918010
257	D	Cover, interface	-	79918009

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
258	D	Cover, Protective	-	13083110
259	D	Cover, Protective	-	13083114
260	D	Cover, Protective	-	A-10014
261	D	Cover, Protective	-	A-10015
262	D	Cover, Protective	-	A-10051
263	D	Cover, Protective	-	A-10053
264	D	Cover, Protective	-	A-10054
265	D	Cover, Protective	-	T0-781151
266	D	Current Probe, Amp.	-	015-0058-01
267	D	Cutter, Router	-	T9-781171
268	D	Degreaser, Ultrasonic	-	MODEL 4144
269	D	Det Aline Elec Unit	-	TBD7KADBG12E
270	D	Detector, Visible	-	EQ 734229/11
271	D	Dioptometer, K&E	-	717101
272	D	DMM Hewlett Packard	-	3466A
273	D	Dolly, Azimuth Gimbal Holding	-	T0-781047
274	D	Drill Blank, 1/16	-	710-327073
275	D	Drill Blank, 3/32	-	710-327115
276	D	Drill Blank, 3/8	-	710-327479
277	D	Drill Blank, 7/32	-	710-327271
278	D	Drill Blank, No. 56	-	710-330135
279	D	Drill, HSS Twist 1/16	-	206-1-16
280	D	Drill, HSS Twist 1/8	-	206-1-8
281	D	Drill, HSS Twist 3/32	-	206-3-32
282	D	Drill, HSS Twist, 19/64	-	2011-0296
283	D	Drill, Portable Electric	-	681V
284	D	Drill, Twist No. 2	-	2012-0221
285	D	Drill, Twist No.10	-	2012-0193
286	D	Drill, Twist No.16	-	2012-0177
287	D	Drill, Twist No.20	-	2012-0161
288	D	Drill, Twist No.29	-	2012-0136
289	D	Drill, Twist No.30	-	2012-0128
290	D	Drill, Twist No.51	-	2012-0067
291	D	Drill, Twist No.52	-	2012-0063
292	D	Drill, Twist No.53	-	2012-0059
293	D	Drill, Twist No.56	-	2012-0046
294	D	Drill, Twist No.57	-	2012-0043
295	O	Drill, Twist, Size F	-	DBA1F

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
296	O	Drill, Twist, Size Z	-	DBA1Z
297	D	Driver, Ballpoint 1/16 In	-	LN-21BP
298	O	Driver, Ballpoint 3/32 In	-	LN-23BP
299	D	Driver, Ballpoint 7/64 In	-	LN-764BP
300	D	Driver, Ballpoint 9/64 In	-	LN-964BP
301	D	Driver, Hex, 0.035 In	-	P19
302	O,D	Driver, Torque, 0-12 In-LB 1/4 DR	5120-00-401-1676	TQS1
303	D	Driver, Torque, 0-16 In-Oz 1/4 DR	-	TQS008
304	O,D	Driver, Torque, 0-24 In-LB 1/4 DR	5120-01-124-2148	TQS2
305	O	Driver, Torque, 0-24 In-LB 1/4 DR	-	TQSS2
306	D	Driver, Torque, 0-48 In-Oz 1/4 DR	-	TQS025
307	D	Driver, Torque, 0-50 In-LB 1/4 DR	-	TQS4
308	O,D	Driver, Torque, 0-96 In-Oz 1/4 DR	-	TQS050
309	D	Electronic Assembly, A8-2	-	13082031
310	D	Electronic Assembly, A8-6	-	13082404
311	D	Electronic Station	5855-01-224-7973	13082701-29
312	D	Expander, Beam	-	09LBM005
313	D	Extension, Flexible, Socket, 1/4 DR	-	TM61
314	D	Extension, Socket Wrench, 14 In 1/4 DR	-	-TMX140
315	D	Extension, Socket Wrench, 2 In 1/4 DR	-	-TMX-2
316	O,D	Extension, Socket Wrench, 4 In 1/4 DR	-	-TMX-4
317	O,D	Extension, Socket Wrench, 6 In 1/4 DR	-	-TMX60
318	D	Extractor, Connector	-	T7-781813
319	D	Extractor, PC Board	-	112N
320	D	Face shield, Industrial	-	L-F-36 STYLE B SZ 3
321	D	Fan Assembly	-	13231670
322	D	File, Hand	-	GGG-F-325,TY9,STA
323	D	File, Hand	-	GGG-F-325TY13CL2ST
324	D	File, Mill	-	4MA
325	D	Filter Set	-	FS-3
326	D	Filter, Green	-	TE-781006 UNIT 4
327	D	Fixture Assembly	-	T7-781535
328	D	Fixture Assembly	-	T7A781350
329	D	Fixture Assembly, Azimuth Gimbal	-	13083246
330	D	Fixture Assembly, Drill	-	T7A781169
331	D	Fixture Assembly, Drill	-	T7A781196
332	D	Fixture Assembly, Drill	-	T7A781197
333	D	Fixture Assembly, Test	-	13081963

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
334	D	Fixture, Acceptance	-	T8-781083
335	D	Fixture, Alinement	-	T7-781279
336	D	Fixture, Alinement	-	T7A781178
337	D	Fixture, Bonding	-	79921153
338	D	Fixture, Bonding	-	79921154
339	D	Fixture, Bonding	-	T7-781241
340	D	Fixture, Boresight Holding	-	T7-781672
341	D	Fixture, D/S-N/S Handling	-	13231857
342	D	Fixture, Diode Alinement	-	TBD7KADBG1E
343	D	Fixture, Drill Assembly	-	T7-781177
344	D	Fixture, Drill Assembly	-	T7-781199
345	D	Fixture, Drill Assembly	-	T7-781200
346	D	Fixture, Drill Assembly	-	T7-781335
347	D	Fixture, Drill Assembly	-	T7-781427
348	D	Fixture, Drill Assembly	-	T7-781603
349	D	Fixture, Drill Assembly	-	T7-781716
350	D	Fixture, Holding	-	79921155
351	D	Fixture, Holding	-	A-50068EX
352	D	Fixture, Holding	-	T7-781698
353	D	Fixture, Holding	-	T7-781744
354	D	Fixture, Holding	-	T7A781334
355	D	Fixture, Holding	-	T7A781340
356	D	Fixture, Holding	-	T7A781344
357	D	Fixture, Holding	-	T7A781345
358	D	Fixture, Holding	-	T7A781568
359	D	Fixture, Holding	-	T7A781818
360	D	Fixture, Inner Gimbal Support	-	TE-781181 UNIT 8
361	D	Fixture, IVD Test	-	731140880-009
362	D	Fixture, Locating	-	T7-781174
363	D	Fixture, Motor Set Test	-	T7A781359 UNIT 1
364	O,D	Fixture, NS Handling	4931-01-223-5698	13083231
365	D	Fixture, Optical Test Alinement	-	T7-781075
366	D	Fixture, ORT Holding	-	T7-781192
367	D	Fixture, ORT Manufacturing Test	-	731140876-009
368	D	Fixture, Pin Gear Support	-	T7A781534
369	D	Fixture, Pin Support	-	T7A781557
370	D	Fixture, Pitch/Yaw Alinement	-	T8-781072
371	D	Fixture, Preamp Simulator Test	-	79925108

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
372	D	Fixture, Router	-	T7-781864 ITEM 2
373	D	Fixture, Support/Pin	-	T7A781524
374	D	Fixture, Test	-	T8-781093
375	D	Fixture, Test	-	13083086
376	D	Fixture, Test	-	731140878-009
377	D	Fixture, Torque	-	T7-781171
378	O	Flashlight	-	MIL-F-3747
379	D	Flat, Optical	-	ZYGO 4 IN
380	D	Flat, Reference	-	EQ732632
381	D	Gage	-	AA50040
382	D	Gage, Depth Micrometer	-	44506RL
383	D	Gage, Feeler	-	FB335
384	D	Gage, Height	-	M18422TY3STB
385	O,D	Gage, Push/Pull Dial	6635-00-802-8846	DPP-50
386	D	Gage, Push-Pull Dial	-	DPP-5
387	D	Gage, Tension	-	1368T21
388	D	Gage, Thickness	-	F71371
389	D	Gage, Torque B/A	-	TBD7KADAXXBCA1J
390	D	Generator, Function	-	8165A
391	D	Gloves, Rubber	-	ZZG381TY1CL2
392	O,D	Goggles, Industrial	4240-00-052-3776	GGG-531 CL1
393	D	Goggles, Laser Safe	-	MODEL LGA-NDGA
394	D	Goggles, Laser Safe	-	MODEL LGS-HN
395	D	Guard, Mirror	-	TE-781275 UNIT 3
396	D	Gun, Filtered Air	2520-00-774-4879	902F
397	D	Hammer, Ballpeen, 4 Oz	-	BP4B
398	D	Hammer, Bronze Tip	5120-01-131-7093	BE216
399	D	Hammer, Hand, 8 Oz	-	GGG-H-86
400	D	Hammer, Plastic	-	BE116
401	D	Hammer, Plastic Tip	-	BE124
402	D	Handle, Crimp Tool	-	HW7600-8
403	D	Handle, Flexible, 1/4 DR	-	TM62A
404	O,D	Handle, Ratchet, 1/4 DR	-	TM70B
405	O,D	Handle, Ratchet, 3/8 DR	-	PF720
406	D	Handle, Sliding T, 1/4 DR	-	TM5
407	O,D	Handle, Spin Rigid, 1/4 DR	-	TM4CS
408	D	Handle, Torque Wrench	-	CCM1501
409	D	Harness Assembly, Turret	-	TE-781821

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
410	D	Head, Pulling	-	H753-456
411	D	Heater, Gun Type	4940-00-314-9789	991332
412	O,D	Heater, Gun Type	-	500A
413	D	Heater, Gun Type	-	T7-781165
414	D	Heatsink, Solder Aid	-	51E
415	D	Holder, PCB Panavise	-	MODEL 396
416	D	Holding Fixture, Filter	-	TBD7KADBG5E
417	D	Holding Fixture, Optical Alinement	-	TBD7KADBG3E
418	D	Hook	-	506886
419	D	Housing, Filter Alinement	-	79921132
420	D	Illuminator	6625-01-222-1255	I-250
421	D	Illuminator, Universal	-	MODEL LSD
422	D	Indicator Assembly, Dial	5355-01-391-9891	13231451
423	D	Indicator, Scan Position	-	TE-781272 UNIT 5
424	D	Insert, Die	-	220026-1
425	D	Insert/Adapter Assembly	-	13082064-39
426	D	Insert/Extractor	-	6500-001-16
427	D	Insert/Extractor	-	6500-001-20
428	D	interface Assembly, CCD	-	76502085
429	D	interferometer, Zygo	-	EQ732751
430	D	interferometer, Zygo	-	MK II
431	D	Jar, Vacuum	-	S15720
432	D	Key Set, Socket Head,	-	GGG-K-275
433	D	Key, Socket Head, 0.028in	-	AW028
434	D	Key, Socket Head, 0.035in	-	AW035
435	D	Key, Socket Head, 0.050 In	-	
436	O,D	Key, Socket Head, 0.050in	-	AW050
437	D	Key, Socket Head, 0.078 In	-	M564
438	D	Key, Socket Head, 0.094 In	-	M332
439	D	Key, Socket Head, 0.109 In	-	M764
440	D	Key, Socket Head, 1/16in	-	AW2
441	D	Key, Socket Head, 1/4in	-	AW8
442	O,D	Key, Socket Head, 1/8 In	-	AW4
443	D	Key, Socket Head, 3/16in	-	AW6
444	O,D	Key, Socket Head, 3/32in	-	AW3
445	D	Key, Socket Head, 5/16in	-	AW10
446	O,D	Key, Socket Head, 5/32in	-	AW5
447	O,D	Key, Socket Head, 5/64in	-	AW2-1/2

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
448	O,D	Key, Socket Head, 7/64in	-	AW3-1/2
449	D	Key, Socket Head, 9/16in	-	AW18
450	D	Key, Socket Head, 9/64in	-	AW4-1/2
451	D	Key, Socket Head, Long 3/32 In	-	70005
452	D	Kit, Day Sensor Tool	-	PTE-1412
453	D	Kit, Desoldering	-	7800
454	D	Kit, Measuring	-	T8A781381
455	D	Kit, Pin Insertion	-	T7A781789 UNIT 3
456	D	Kit, Probe	-	SM-C-6869189
457	D	Kit, Solder/Desolder	-	500-MDK
458	D	Kit, Solder/Desolder	3439-00-273-1178	6993-0032
459	D	Kit, Solder/Desolder	3439-00-196-0703	PRC350C
460	D	Kit, Solder/Desolder	-	WTCPR
461	D	Kit, Torque Tool	-	T7A781741
462	O,D	Knife, Craftsman	5110-00-293-1585	GGG-K-450
463	O,D	Knife, Pocket	-	GGG-K-484,TY2,CL1
464	O,D	Knife, Putty	-	GGG-K-481
465	O,D	Knife, Thermal	-	SP23HK
466	D	Knob, Hand	-	T7-781864 ITEM 5
467	D	Knob, Hand	-	T7-781864 ITEM 6
468	D	Lamp, Visible Source	-	EQ 734229/07
469	D	Laser, Melles Griot	-	05LHR111
470	D	Lead, Jumper	-	012-0181-00
471	D	Lead, Test	-	P6021OPT.13
472	D	Lens Retainer, Dummy	-	A-50011
473	D	Lens, Telephoto	-	OS-388
474	D	Level, 24 Power Transit	-	326PZ
475	D	Level, Bubble	-	599-3000-6
476	D	Light Source	-	TE-781006
477	D	Light, Black	-	B-100XR
478	D	Light, Collimated	-	TBD7KADBG6E
479	D	Magnifier, Illuminated	6650-00-356-8411	81-34-80
480	D	Mask Assembly	6625-01-223-5195	13083157
481	O,D	Mat, Anti-Electrostatic	-	8201
482	D	Micrometer, Depth, 0-1 Inch	-	CM12RL
483	D	Micrometer, Depth, 0-3 Inch	-	CM103
484	D	Microscope, Runout	-	TE-781181 UNIT 5

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
485	O,D	Milliometer	-	HP4328A
486	D	Mirror	-	AA50038
487	D	Mirror, Reticle Cell	-	79921149-009
488	D	Mirror, Reticle Cell	-	79921150-009
489	D	Mixer, Impeller	-	3471K5
490	D	Module, Collimator	-	2078940-1
491	D	Module, Peculiar Equipment	-	TE-781272
492	D	Module, Unique Equipment	-	TE-781452
493	D	Monitor	-	MODEL C1320
494	D	Monitor	-	TE-781302 UNIT 2
495	D	Monitor, Television	5820-01-292-5093	13231666
496	D	Monitor, Television	-	SNA9/C
497	D	Mount	-	AA50036
498	D	Mount	-	AA50042
499	D	Mount Assembly, Camera	5340-01-285-9821	13083954-59
500	D	Mount, Mirror	-	EQ 734229/10
501	D	Multimeter	-	8050A
502	D	Multimeter, Digital	-	8600A
503	O,D	Multimeter, Digital	6625-01-139-2512	AN/PSM-45
504	D	Multimeter, Digital	-	1A4 DMM
505	D	Multimeter, Digital 1a4	-	8520A
506	D	Multimeter, Digital 1a5	-	8502A
507	D	Optic Assembly, Fiber	6625-01-223-5197	13083098
508	D	Oscilloscope	6625-00-322-8716	465B
509	D	Oscilloscope	-	R466
510	D	Oscilloscope	-	TEK2465B
511	D	Oscilloscope	-	TEKTRONICS 5A
512	D	Oven	-	11041288-1
513	D	Oven, Precision	-	MODEL 31543
514	D	Oven, Vacuum	-	MODEL V0-12A
515	D	Pad, Cheesecloth	-	DDDC301
516	O,D	Pail, Plastic 5-Qt	7240-00-061-1163	LP65-5QT
517	D	Pan, Drip	-	4206T1
518	D	Pin, Clocking	-	79921133
519	D	Pin, Steel	-	1-1/2 X 1/16 STK
520	D	Plate, Alinement	-	79912135
521	D	Plate, Base	-	EQ 734229-2
522	D	Plate, Bearing Torque	-	79921151

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
523	D	Plate, Bonding	-	A-40109
524	D	Plate, Datum Transfer	-	TE-781275 UNIT 4
525	D	Plate, Handling	-	T0A781236
526	D	Plate, Pallet	-	T7A781341
527	D	Plate, Press Check	-	T7A781336
528	D	Plate, surface	-	GGG-P-463,CL 1,G
529	D	Plate, Torque Adapter	-	T7A781214
530	O,D	Platform, Maintenance	1730-00-390-5618	MIL-M-7404
531	D	Platform, Source	-	EQ 734229-1
532	D	Pliers, Combination	-	DK15
533	D	Pliers, Curved Needle Nose	5120-00-239-8250	497CP
534	O,D	Pliers, Diagonal Cut	-	41-4C
535	D	Pliers, Diagonal Cut	-	41-4C X
536	D	Pliers, Diagonal Cut	5110-00-965-0974	84CG
537	D	Pliers, Duckbill	-	60R
538	D	Pliers, Interlocking	-	HL112P
539	D	Pliers, Large Round Nose	-	96
540	D	Pliers, Narrow Nose	-	GGG-P-471 6 IN
541	O	Pliers, Narrow Nose	-	GGG-P-471 7 IN
542	D	Pliers, Needle Nose	5120-00-087-4106	E708
543	O,D	Pliers, Needle Nose	-	NN56R
544	D	Pliers, Retaining Ring	-	PR34A
545	O,D	Pliers, Round Needle Nose	-	1920
546	O,D	Pliers, Slip Joint	-	AT508K
547	D	Pliers, Slip Joint	-	SWE82
548	O,D	Pliers, Wire Twister	-	M80-12
549	D	Plug Gage, Complete	-	TE-781089
550	D	Plug, Shorting	-	TE-781500 UNIT 3
551	D	Plug, Shorting	-	TE-781500 UNIT 4
552	D	Plug, Shorting	-	TE-781500 UNIT 5
553	D	Plug, Shorting	-	TE-781500 UNIT 6
554	D	Plug, Shorting	-	TE-781500 UNIT 7
555	D	Plug, Shorting	-	TE-781500 UNIT 8
556	D	Plug, Shorting	-	TE-781500 UNIT 9
557	D	Plug, Shorting	-	TE-781500 UNIT5
558	D	Plug, Shorting	-	TE-781500 UNIT6
559	D	Positioned, Contact	-	N22520/8-09
560	D	Power Source	-	A-40046

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
561	D	Power Source	-	TE-781302 UNIT 7
562	D	Power Supply	-	05LPL340
563	D	Power Supply	-	83-24-260-2
564	D	Power Supply	-	MOD 80-2
565	D	Power Supply	-	MODEL 6034A
566	D	Power Supply	-	MODEL 6824A
567	O,D	Power Supply Assy, Brake Release	1270-01-223-5716	13083229
568	D	Power Supply, 12 VDC	-	LK 343 AFM
569	O	Power Unit, Aviation Ground	-	83-360A
570	D	Press, Arbor	-	125 H
571	D	Press, Arbor, 3/8-1in	-	T7-781360
572	D	Press, Bench Arbor	-	A3-3/4
573	O,D	Press, Drill	-	00-D-676CL1SZ14
574	D	Press, Pilot, 1/4-Ton	-	#1-7PW
575	D	Press, Pilot, 1/4-Ton	-	1-7PW
576	D	Printer	-	MODEL 182
577	D	Printer	-	TE-781302 UNIT 5
578	D	Procedure, Functional Test	-	13076110-OP10
579	D	Procedure, Functional Test	-	13076110-OP20
580	D	Procedure, Functional Test	-	13076110-OP30
581	D	Procedure, Functional Test	-	13076332-OP15
582	D	Procedure, Functional Test	-	13084280-OP5
583	D	Procedure, Test Set	-	TPS C/N 49
584	D	Processor, Video Copy	-	P-60U
585	D	Protector, Ear	-	YA126A
586	D	Protractor, Circular	-	GG-P-681,ST2,6IN
587	D	Puller, Gear	-	6169K13
588	D	Puller, Mechanical	-	GGG-P-781,TY1,CL1
589	D	Punch Set, Drive Pin	-	GGG-P-331, 1/8IN
590	D	Punch, Drive Pin, 1/16 In	-	GGG-P-831B-1/16
591	D	Punch, Drive Pin, 1/4 In	-	PPC108A
592	D	Punch, Drive Pin, 1/8 In	-	PPC104A
593	D	Punch, Drive Pin, 3/16 In	-	PPC106A
594	D	Punch, Drive Pin, 3/32 In	-	GGG-P-831TYB,3/32
595	D	Punch, Drive Pin, 3/8 In	-	GGG-P-831-3/8
596	D	Punch, Flare	-	435-6457-01-00-0
597	D	Punch, Flare	-	435-6657-01-00-0
598	D	Punch, Flare PC	-	435-6690-01-00-0

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
599	D	Punch, Roll	-	435-6629-01-00-0
600	D	Punch, Roll	-	435-6642-01-00-0
601	D	Punch, Roll	-	PSP607
602	D	Purge & Recharge Kit	-	5007550-1
603	D	Radiometer	5860-01-064-1794	MODEL 581
604	D	Ratchet, 3/8 DR.	-	FRS70A
605	D	Ratchet, Spin. 1/4DR	-	TMS70
606	D	Reamer, 0.0469	-	60003
607	D	Reamer, 0.0625	-	60004
608	D	Reamer, 0.0938	-	60006
609	D	Reflector, Solder Sleeve	-	991319
610	D	Reflector, Tubing	-	991320
611	D	Reticle	-	A-40020
612	D	Reticle	-	A-40021
613	D	Reticle	-	A-40022
614	D	Reticle	-	A-40023
615	D	Reticle	-	A-40025
616	D	Reticle	-	A-40026
617	D	Ring, Bearing Preload	-	T7-781358
618	D	Riser	-	T7-781864 ITEM 3
619	D	Riser	-	T7-781864 ITEM 4
620	D	Riveter, Power	-	G-704A
621	D	Rod, Alinement	-	TE-781275 UNIT 5
622	D	Rod, Centering	-	TE-781275 UNIT 2
623	D	Router	-	T7-781864 ITEM 7
624	O,D	Rule, Steel, 6 In	-	430C
625	D	Screw Driver, Cross Tip No.0, 3 In	-	SSDEP30B
626	D	Screw Driver, Cross Tip No.0, 4 In	-	7228423P1
627	O,D	Screw Driver, Cross Tip No.1, 1 In	-	SSDP21
628	D	Screw Driver, Cross Tip No.1, 3 In	-	G-801DR
629	O,D	Screw Driver, Cross Tip No.1, 3 In	-	SSDP31
630	O	Screw Driver, Cross Tip No.2, 6 In	-	SSDP62
631	O,D	Screw Driver, Cross Tip No.2, 1.5 In	-	SSDP22
632	D	Screw Driver, Cross Tip No.2, 16 In	-	SSDP216
633	O,D	Screw Driver, Cross Tip No.2, 4 In	-	SSDP42
634	D	Screw Driver, Cross Tip No.3, 6 In	-	SSDP63
635	O,D	Screw Driver, Flat Tip 3/16 X 5 In	-	41S1056-10
636	D	Screw Driver, Flat Tip 5/16 X 6 In	-	41S1104-10

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
637	D	Screw Driver, Flat Tip, 1/4 X 1.5 In	-	SSD1
638	D	Screw Driver, Flat Tip, 1/4 X 12 In	-	SSD4120
639	O,D	Screw Driver, Flat Tip, 1/4 X 4 In	-	SSD4
640	O,D	Screw Driver, Flat Tip, 1/8 X 2 In	-	SSD204
641	D	Screw Driver, Flat Tip, 1/8 X 4 In	-	SSDE44B
642	D	Screw Driver, Flat Tip, 3/16 X 3 In	-	SSDE63B
643	D	Screw Driver, Flat Tip, 3/16 X 5 In	-	SSDE66B
644	D	Screw Driver, Flat Tip, 3/16 X 8 In	-	SSDE68B
645	O,D	Screw Driver, Flat Tip, 3/8 X 12 In	-	S012
646	D	Screw Driver, Flat Tip, 3/8 X 8 In	-	SSD8
647	O,D	Screw Driver, Flat Tip, 5/16 X 6 In	-	SSD6
648	D	Screw Driver, Offset, Flat Tip, 1/4 In	5120-00-287-2130	020
649	D	Screw Driver, Offset, Flat Tip, 5/16 In	5120-00-288-9710	030
650	D	Screw Driver, Torque Set	-	EMTSK36-4/810588
651	D	Screw, Cap, Socket Head	5305-00-141-6179	NAS1352C02-5
652	D	Screw, Machine	5305-00-115-9358	NAS514P440-9P
653	D	Screwdriver, St/Jewelry	-	9176649
654	O,D	Scriber, Machinist	-	GGG-S-131
655	D	Shelf, Monitor	5975-01-292-2960	13231558
656	D	Shelf, Oscilloscope	-	13231659
657	D	Shim, Shop Aid, 0.059	-	A-40036
658	D	Silicone, Elastomer	-	13085143
659	D	Simulator, Day Side	-	TE-781041 UNIT 2
660	D	Simulator, DSA	-	TE-781181 UNIT 2
661	D	Simulator, Night Side	-	TE-781041 UNIT 3
662	D	Simulator, ORT	-	TE-781041 UNIT 1
663	D	Sleeving, Insulation	-	M23053/5-104-9
664	D	Sling Assembly, Universal	1730-01-166-3543	7-262110010
665	D	Socket, Dbl Sqr 1/2, 3/8DR	-	F316
666	D	Socket, Deep, 1/2 3/8 DR	-	SF161
667	O,D	Socket, Deep, 1/4 1/4 DR	-	STM-8
668	D	Socket, Deep, 11/32 1/4 DR	-	STM-11
669	D	Socket, Deep, 3/8 1/4 DR	-	STM-12
670	O,D	Socket, Deep, 5/8 3/8 DR	-	SF201
671	D	Socket, Reg, 1/2 1/4DR	-	TM16
672	O,D	Socket, Reg, 1/4 1/4 DR	-	TM8
673	D	Socket, Reg, 1/4 3/8DR	-	F081
674	O,D	Socket, Reg, 1/4 3/8DR	-	FS081

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
675	D	Socket, Reg, 1/8 1/4 DR	-	TM04
676	D	Socket, Reg, 11/32 1/4 DR	-	TM11
677	D	Socket, Reg, 1-1/8 1/2 DR	-	5434
678	D	Socket, Reg, 3/16, 1/4 DR	-	TM6
679	O,D	Socket, Reg, 3/8 1/4 DR	-	TM12
680	D	Socket, Reg, 5/16 1/4 DR	-	TM10
681	D	Socket, Reg, 5/32 1/4 DR	-	TM05
682	D	Socket, Reg, 5/8 3/8 DR	-	FS201
683	D	Socket, Reg, 5/8 3/8DR	-	F201
684	O	Socket, Reg, 9/16 3/8DR	-	F181
685	O	Socket, Reg, 9/16 3/8DR	-	FS181
686	D	Soldering Aid	-	SH20A
687	O	Spanner, Socket	-	T7A781607
688	D	Spider Assembly	-	TE-781275 UNIT 6
689	D	Sprayer	-	150-1-IL
690	D	Stand	-	EQ742888
691	D	Station No. 12	-	TE-781270
692	D	Station No. 12	-	TE-871270
693	D	Stripper, Thermal	4920-00-009-4942	7012-0003-02
694	D	Stripper, Wire Hand	-	45-502
695	D	Stripper, Wire, 14-30	5110-00-542-4487	9177208-1
696	D	Stripper, Wire, 8-22	-	GA116
697	D	Support Assembly, Dial Indicator	5826-01-264-4294	13231416
698	D	Table Assembly, Scanner	-	TE-781461
699	D	Table, Connection System	-	TE-781274
700	D	Table, FLIR Subassembly	-	TE-781451
701	D	Table, Isolation	-	TE-781001 UNIT 1
702	D	Table, Leak Test	-	T7A781337
703	D	Tank, Nitrogen	-	BBN411TY2 CL 1 GR B
704	O	Tape Measure	-	GGG-T-106
705	D	Target, DVO Test	-	733140876-019
706	D	Target, IVD Test	-	733140880-009
707	D	Telescope, Brunson	-	EQ742882
708	O	Test Assembly, Power Supply	-	13231277
709	D	Test Bench, Electrical/Optical	6625-01-215-6179	13082704-39
710	D	Test Box	-	TE-781311
711	D	Test Box, R/D Converter	-	TE-781XXX
712	D	Test Circuit	-	7596375

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
713	D	Test Console	-	TE-781566
714	D	Test Console, ORT	-	TE-781711
715	D	Test Console, PC Card	-	TE-781500
716	D	Test Lead, System	-	5577
717	D	Test Probes, Oscilloscope	-	TEKP6137
718	D	Test Program Set, 5v Power Supply	-	13082545-29
719	D	Test Program Set, A.N.D. Assembly	-	13081534-39
720	D	Test Program Set, ACM CCA	-	13082570
721	D	Test Program Set, ALC Servo CCA	-	13083653-19
722	D	Test Program Set, Analog I/O CCA	-	13082547-39
723	D	Test Program Set, Anti-Ice CCA	-	13081913-19
724	D	Test Program Set, BITE CCA	-	13083026-19
725	D	Test Program Set, BITE Control CCA	-	13082499
726	D	Test Program Set, Boresight Assembly	-	13082529-19
727	D	Test Program Set, Bright Control CCA	-	13082511-29
728	D	Test Program Set, CCA, Code Gen	-	13082507
729	D	Test Program Set, CCA, Range Ctr RC	-	13082506
730	D	Test Program Set, Character Gen	-	13083667-19
731	D	Test Program Set, Comp Scope CCA	-	13082535
732	D	Test Program Set, Contrast CCA	-	13082510-29
733	D	Test Program Set, D/S Sub-Assembly	-	13082108
734	D	Test Program Set, Dig Trk CPU CCA	-	13082544
735	D	Test Program Set, Digital Trk CCA	-	13082546-29
736	D	Test Program Set, Discrete Serial	-	13082543-19
737	D	Test Program Set, Display Driver	-	13083664
738	D	Test Program Set, Environmental Control	-	-13082110-29
739	D	Test Program Set, FD/LS PS CCA	-	13082505-19
740	D	Test Program Set, Focus Control CCA	-	13082530-19
741	D	Test Program Set, FOV CCA	-	13082569-29
742	D	Test Program Set, Gyro Excite CCA	-	13082500-19
743	D	Test Program Set, Handgrip L & R	-	13082424-39
744	D	Test Program Set, Hod Control	-	13082099-39
745	D	Test Program Set, HV PS Assembly	-	13082575
746	D	Test Program Set, I/O LSR INT CCA	-	13083661-39
747	D	Test Program Set, interface Elect	-	13083670-19
748	D	Test Program Set, IVD Electronics	-	13081533-629
749	D	Test Program Set, Laser Elect Unit	-	13082103-619
750	D	Test Program Set, Laser Transceiver	-	13082104-609

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
751	D	Test Program Set, Led Display CCA	-	13082359-29
752	D	Test Program Set, Led Driver CCA	-	13081581
753	D	Test Program Set, LST Decoder CCA	-	13082540
754	D	Test Program Set, LV PS Assembly	-	13083027
755	D	Test Program Set, LV PS CCA	-	13082504-19
756	D	Test Program Set, Memory CCA	-	13082550
757	D	Test Program Set, Motor Drive CCA	-	13082576-19
758	D	Test Program Set, Optical Adj CCA	-	13083654-19
759	D	Test Program Set, Power Module	-	13083031-39
760	D	Test Program Set, Power Reg CCA	-	13082571-29
761	D	Test Program Set, Power Supply	-	13082094-29
762	D	Test Program Set, Pulse Form Network	-	13082534
763	D	Test Program Set, Range Cntr CCA	-	13082509-19
764	D	Test Program Set, Receiver Assembly	-	13083024
765	D	Test Program Set, Regulator CCA	-	13082502
766	D	Test Program Set, Relay Drive CCA	-	13083028
767	D	Test Program Set, Relay Driver CCA	-	13083819-19
768	D	Test Program Set, Shroud Assembly	-	13081901-629
769	D	Test Program Set, Sig Proc Assembly	-	13082536
770	D	Test Program Set, TADS CPU CCA	-	13082542-29
771	D	Test Program Set, TADS Night Sensor	-	13082107-39
772	D	Test Program Set, Turret Assembly	-	13082568
773	D	Test Program Set, Turret Assembly	-	13082568-509
774	D	Test Program Set, TV Camera Assy	-	13082433-629
775	D	Test Program Set, TV Sensor CCA	-	13082531
776	D	Test Program Set, Vert Sync CCA	-	13082517
777	D	Test Set	-	TE-781519
778	D	Test Set, Azimuth Gimbal	-	TE-781182 UNIT 1
779	D	Test Set, Boresight Module	-	TE-781033
780	D	Test Set, Focus Assembly	-	TE-781514
781	D	Test Set, Gyro	-	TE-781537
782	D	Test Set, Led	-	TBD7KADBG2E
783	D	Test Set, PCB	-	TE-781152
784	D	Test Set, Peculiar	-	TE-781002 UNIT 1
785	O,D	Test Set, TADS Turret	6625-01-365-6869	13231232
786	D	Test Station	-	TE-781302
787	D	Test Station, Ah-64 Automatic	-	7-265100000
788	D	Test Station, Ah-64a	-	OQ-290(V)2/MSM

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
789	D	Test Station, CCA	-	TE-781483
790	D	Test Station, CCA	-	TE-781485
791	D	Test Station, CCA	-	TE-781486
792	D	Test Station, Scanner	-	TE-781460
793	D	Test Station, Scanner	-	TE-781462
794	D	Test Station, SRU	-	TE-781563
795	D	Test Tool, Torque Sensor	-	TE-781181 UNIT 7
796	D	Test Unit, Laser Tracker	-	79972063
797	D	Tester, Cable/Motherboard	-	MODEL 9100
798	D	Tester, Motor Gear	-	TE-781541
799	D	Tester, Switching Mirror	-	TE-781539
800	D	Tip, Knockout Tool	-	435-3953-01-00-0
801	D	Tool Assembly	-	010-0004-0000
802	D	Tool Assembly	-	A-40055
803	D	Tool Assembly, Alinement	5120-01-285-9806	13083129
804	D	Tool Assembly, Backlash	5120-01-385-2769	13083995
805	D	Tool Assembly, Crimping	-	11-7295
806	D	Tool Assembly, Zero	-	T7-781508
807	D	Tool Kit, Inner Gimbal	-	T7-781160
808	O,D	Tool Set, A/C Armt Repairman	5180-00-987-9816	SC 5180-95-CL-B09HR
809	O,D	Tool Set, A/C Armt Repairman Suppl	5180-00-994-9242	SC 4933-95-CL-A14HR
810	O,D	Tool Set, Technical Inspector	5180-00-323-5114	SC 5180-99-CL-A09
811	D	Tool Set, Telephoto	-	ER-113000E
812	D	Tool, Alinement	-	8608
813	D	Tool, Alinement	-	ER-8-113215A
814	D	Tool, Alinement	-	T8-781090
815	D	Tool, Bearing Insert	-	T7-781167
816	D	Tool, Bearing Insert	-	T7-781176
817	D	Tool, Bearing Insert	-	T7-781343
818	D	Tool, Bearing Insert Ion	-	T7-781793
819	D	Tool, Bearing Insertion	-	T7-781718
820	D	Tool, Bearing Insertion	-	T7A781195 UNIT
821	D	Tool, Bearing Insertion	-	T7A781195 UNIT 2
822	D	Tool, Bearing Insertion	-	T7A781195 UNIT 3
823	D	Tool, Bearing Removal	-	T7A781195 UNIT 6
824	D	Tool, Bearing Removal	-	T7A781195 UNIT 7
825	D	Tool, Bellows Set	-	MTTL-10012
826	D	Tool, Belt Tension	-	79921135

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
827	D	Tool, Blocking	-	T7A781777
828	D	Tool, Bonding	-	A-40131EX
829	D	Tool, Bonding	-	T7-781237
830	D	Tool, Bonding	-	T7-781243
831	D	Tool, Bonding	-	T7-781247
832	D	Tool, Bonding	-	T7-781251
833	D	Tool, Bonding	-	T7-781252
834	D	Tool, Bonding	-	T7-781253
835	D	Tool, Bonding	-	T7-781256
836	D	Tool, Bonding	-	T7-781261
837	D	Tool, Bonding	-	T7-781285
838	D	Tool, Bonding	-	T7A781263
839	D	Tool, Boresight Alinement	-	PTE-1427
840	D	Tool, Camera Focus	5120-01-337-4681	13230910
841	D	Tool, Cap Forming	-	T7-781760
842	D	Tool, Crimp	-	WT-203
843	D	Tool, Crimp Positioner	5120-00-016-6382	M22520/1-02
844	D	Tool, Crimp Positioner	5120-00-016-7582	M22520/1-04
845	D	Tool, Crimp Positioner	5120-00-165-3913	M22520/2-02
846	D	Tool, Crimp Positioner	5120-00-017-3809	M22520/2-06
847	D	Tool, Crimp Positioner	5120-00-017-3827	M22520/2-07
848	D	Tool, Crimp Positioner	5120-00-017-3921	M22520/2-08
849	D	Tool, Crimp Positioner	5120-00-017-3927	M22520/2-09
850	D	Tool, Crimp Positioner	5120-00-017-3932	M22520/2-10
851	D	Tool, Crimp Positioner	-	M22520/2-11
852	D	Tool, Crimp Positioner	-	M22520/2-35
853	D	Tool, Crimp Positioner	5120-00-017-4142	M22520/4-02
854	D	Tool, Crimp Positioner	5120-00-133-1785	M22520/7-08
855	D	Tool, Day Side Assembly Test Set	-	866F-7626
856	D	Tool, Desoldering	3439-00-808-2144	7010-0004
857	D	Tool, Die Crimping	5120-00-126-0860	M22520/5-100
858	D	Tool, Extraction	5120-00-409-5206	MS27495-R16
859	D	Tool, Extraction	5120-00-177-6966	MS27495-R20
860	D	Tool, Focus	-	A-50020
861	D	Tool, Gear Alinement	-	T7-781685
862	D	Tool, Hand Crimping	5120-00-117-4571	220009-1
863	D	Tool, Hand Crimping	5120-00-165-3912	M22520/1-01
864	D	Tool, Hand Crimping	5120-00-165-3910	M22520/2-01

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
865	D	Tool, Hand Crimping	5210-00-017-4017	M22520/4-01
866	D	Tool, Hand Crimping	-	M22520/5-01
867	D	Tool, Hand Crimping	5210-00-133-1747	M22520/7-01
868	D	Tool, Hand Crimping	-	MS3198
869	D	Tool, Hand Crimping	-	MS90413-1
870	D	Tool, Impact	-	435-3101-01-00-0
871	D	Tool, Insert/Extract	-	MS3447-20
872	D	Tool, Insertion	5120-00-018-0529	MS27495-A16
873	D	Tool, Insertion	5120-00-177-6967	MS27495-A20
874	D	Tool, Install	5120-00-079-4597	M81969/17-03
875	D	Tool, Install	-	M81969/8-05
876	D	Tool, Install	-	MS3160-16
877	D	Tool, Install/Remove	5120-01-078-1917	M81969/12-01
878	D	Tool, Install/Remove	5120-00-018-0575	M81969/14-01
879	D	Tool, Install/Remove	5120-00-915-4587	M81969/14-02
880	D	Tool, Install/Remove	5120-00-915-4588	M81969/14-03
881	D	Tool, Install/Remove	5120-00-018-0529	M81969/8-07
882	D	Tool, Install/Remove	5120-01-068-6511	MS18278-1
883	D	Tool, Install/Remove	-	T7-781909
884	D	Tool, Jam Nut Socket	-	T7A781941
885	D	Tool, Laser Focus	-	79906189
886	D	Tool, Mirror Bonding	-	T7-781249
887	D	Tool, Pin Insertion	-	T7-781556 UNIT 4
888	D	Tool, Pin Insertion	-	T7A781612
889	D	Tool, Pin Insertion	-	T7A781789
890	D	Tool, Removal	-	T7A781690
891	D	Tool, Remove	5120-00-177-6966	M81969/8-06
892	D	Tool, Remove	5120-00-409-5206	M81969/8-08
893	D	Tool, Shim-Aline	-	PTE-1407
894	D	Tool, Test	-	T7-781083
895	D	Tool, Test	-	T7-781781
896	D	Tool, Test	-	T8-781086
897	D	Tool, Test	-	TE-781510
898	D	Tool, Torque Holding	-	T7A781561
899	D	Tool, V Relay Alinement	-	79905444
900	D	Tool, Zygo	-	T7-781244
901	D	Tool, Zygo	-	T7-781262
902	D	Tool, Zygo interface	-	T7-781236

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
903	D	Tool, Zygo interface	-	T7-781254
904	D	Tool, Zygo interface	-	T7-781258
905	D	Tool, Zygo interface	-	T7-781284
906	D	Tool, Zygo interface	-	T7-781301
907	D	Tool, Zygo interface	-	T7-781304
908	D	Tool, Zygo Test	-	T7-781250
909	O	Trailer, Maintenance	1730-00-435-7818	22142
910	D	Transceiver Unit Assembly, Laser	1270-01-408-9015	13079020-019
911	D	Transformer, Low Voltage	-	MODEL TE-11
912	D	Translation Control.	-	UNIDEX II
913	D	Translation Control.	-	UNIDEX2
914	D	Tripod	-	874A
915	O	Troubleshooting Aid, TPS	-	79904188
916	O,D	Truck Assembly, Dolly	3920-01-224-2313	13082459
917	D	Truck, Fork Lift	3930-01-054-3833	3330601
918	D	Tweezers, Craftsman	5120-00-233-6985	GGG-T-870, TY3
919	D	Vacuum, Pencil	-	MODEL VUP-100
920	D	Valve, Regulating	4820-00-001-7749	0781-6043
921	D	V-Block	-	T7A781359 UNIT 5
922	D	Viewer, Infrared	-	FIND-R-SCOPE
923	O,D	Vise, Machine Table	5120-00-221-1119	GGG-V-00443, TY1, ST
924	D	Vise, Machinist	-	GGG-V-410,TY6,CL2
925	D	Voltmeter, Digital	-	EQ 733706/01
926	D	VTE & Power Supply	-	TE-781002 UNIT 4
927	D	Washer	-	T7-781864 ITEM 1
928	D	Watch, Torque	-	651X-2
929	D	Watch, Torque, .5-10 In-Oz	-	651X-4
930	D	Watch, Torque, 2-40 In-Oz	5120-00-673-4085	651C-3
931	D	Weight, 4 Oz.	-	4 OUNCE WEIGHT
932	D	Weight, 8 Oz.	-	8 OUNCE WEIGHT
933	D	Weight, MFOV	-	TE-781563 UNIT 3
934	D	Weight, WFOV	-	TE-781563 UNIT 4
935	O,D	Wrench, Adjustable, 0-0.760 In	5120-00-264-3795	D76
936	D	Wrench, Adjustable, 0-1.125 In	5120-00-449-8083	D710
937	O	Wrench, Adjustable, 0-1.3125 In	5120-00-264-3796	D712
938	D	Wrench, Adjustable, 0-1.6875 In	5120-00-423-6728	D715
939	O,D	Wrench, Box & Open End 1 In Std	-	OEX-32
940	D	Wrench, Box & Open End 1/2 In	-	OEX-160

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS PNVS

(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
941	D	Wrench, Box & Open End 1/4 Midget	-	OXI-8
942	D	Wrench, Box & Open End 1/8 Midget	5120-00-132-0486	OXI-4
943	D	Wrench, Box & Open End 11/16 Std	-	OEX-22
944	D	Wrench, Box & Open End 11/32 Midget		5120-00-278-0342 OXI-11
945	D	Wrench, Box & Open End 1-1/8 In	5120-00-228-9516	OEX-36
946	O,D	Wrench, Box & Open End 3/16 Midget		-OXI-6
947	O,D	Wrench, Box & Open End 3/4 In	-	OEX-24
948	D	Wrench, Box & Open End 3/8 Midget	-	OXI-12
949	D	Wrench, Box & Open End 3/8 Std	-	OEX-120
950	O,D	Wrench, Box & Open End 5/16 In	-	OEX-100
951	D	Wrench, Box & Open End 5/32 Midget		5120-00-132-0492OXI-5
952	D	Wrench, Box & Open End 5/8 Std	-	OEX-200
953	O,D	Wrench, Box & Open End 7/16 Std	-	OEX-140
954	D	Wrench, Box & Open End 7/32 Midget		5120-00-132-0541OXI-7
955	D	Wrench, Box & Open End 9/16 Std	-	OEX-180
956	D	Wrench, Crowsfoot, 1-11/16 3/8DR	5120-01-204-8630	FC54A
957	D	Wrench, Crowsfoot, 3/4 3/8DR	-	FC24A
958	D	Wrench, Crowsfoot, 3/8, 1/4 DR	-	AN8508-6A
959	O	Wrench, Crowsfoot, 7/16 3/8DR	-	FC14A
960	D	Wrench, Jam Nut	-	JR700
961	D	Wrench, Open End, 13/64 & 15/64	-	27-813
962	D	Wrench, Open End, 5/32 & 3/16	-	A-A-1356
963	O	Wrench, Open End, 7/16 & 1/2	-	AN8505-3
964	D	Wrench, Plier Vise Grip	-	VP10WR
965	D	Wrench, Ratchet, 1/4 & 5/16	-	1191
966	O	Wrench, Socket, 1-5/16 In	-	11-6266-12
967	O,D	Wrench, Socket, 6 In 3/8 DR	-	FX6
968	D	Wrench, Spanner	-	79921126
969	D	Wrench, Spanner	-	79921131
970	D	Wrench, Spanner	-	A-30005
971	D	Wrench, Spanner	-	A-30006
972	D	Wrench, Spanner	-	A-30007
973	D	Wrench, Spanner	-	A-30009
974	D	Wrench, Spanner	-	A-30011
975	D	Wrench, Spanner	-	A-30012
976	D	Wrench, Spanner	-	A-30014
977	D	Wrench, Spanner	-	A-30015
978	D	Wrench, Spanner	-	A-30016

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(1) TOOL OR TEST EQUIPMENT	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
979	D	Wrench, Spanner	-	A-30017
980	D	Wrench, Spanner	-	A-30019
981	D	Wrench, Spanner	-	A-30020
982	D	Wrench, Spanner	-	A-30023
983	D	Wrench, Spanner	-	A-30025
984	D	Wrench, Spanner	-	A-30026
985	D	Wrench, Spanner	-	A-30027
986	D	Wrench, Spanner	-	A-30028
987	D	Wrench, Spanner	-	A-30029
988	D	Wrench, Spanner	-	A-30031
989	D	Wrench, Spanner	-	A-30032
990	D	Wrench, Spanner	-	A-30036
991	D	Wrench, Spanner	-	A-30037
992	D	Wrench, Spanner	-	A-30038
993	D	Wrench, Spanner	-	A-30042
994	D	Wrench, Spanner	-	A-30044
995	D	Wrench, Spanner	-	A-30046
996	D	Wrench, Spanner	-	M55302/57-01
997	D	Wrench, Spanner	-	T7-781677
998	D	Wrench, Spanner	-	T7A781215
999	D	Wrench, Spanner	-	A-20039
1000	O,D	Wrench, Strap	-	BT-BS-601
1001	D	Wrench, Torque	5120-01-255-8233	2502CI
1002	D	Wrench, Torque	-	T9-781042
1003	O,D	Wrench, Torque 0-50 Ft-LB, 3/8 DR	5120-00-410-1090	TE50FA
1004	D	Wrench, Torque, 0-15 In-LB, 1/4 DR	5120-00-006-3163	TE1A
1005	O,D	Wrench, Torque, 0-150 Ft-LB, 3/8 DR	5120-00-230-6380	TE12A
1006	D	Wrench, Torque, 0-175 Ft-LB, 1/2 DR	-	GGG-W-686-1/2
1007	O,D	Wrench, Torque, 0-30 In-LB, 1/4 DR	-	TE3A
1008	O,D	Wrench, Torque, 0-75 In-LB, 1/4 DR	-	TE6A
1009	O,D	Wrench, Torque, 30-200 In-LB 1/4 DR	-	-QJ117B
1010	D	Wrench, Torque, 30-200 In-LB 3/8 DR	-	-QJR217C
1011	D	Wrench, Torque, 5-150 In-LB 1/4 DR	-	GGG-W-686-1/4
1012	O,D	Wrench, Torque, 5-50 In-LB 1/4 DR	-	QJR104A
1013	O,D	Wrist Strap, Anti-ESD	-	2066
1014	D	Zero Tool, Inner Gimbal	-	TE-781181 UNIT 4
1015	D	Zero Tool, Outer Gimbal	-	TE-781181 UNIT 6

APPENDIX C

REPAIR PARTS AND SPECIAL TOOLS LIST

For Repair Parts and Special Tools List, refer to TM 1-1270-476-23P.

APPENDIX D

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. SCOPE

This appendix lists expendable supplies and materials needed to operate and maintain the TADS. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

D-2. EXPLANATION OF COLUMNS

a. Column 1 - Item Number. This number is assigned to the entry in the listing and is referenced in the Initial Setup table to identify the material.

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

0 - Aviation Unit Maintenance

c. Column 3 - National Stock Number. This is the national stock number assigned to the item; use it to order a new item.

d. Column 4 - Description. Indicates the federal item name and, if required, a description to identify the item.

e. Column 5 - Unit of Measure (U/M). This column indicates the measure (amount) used in performing the actual maintenance function. The measure is expressed by a two-letter alphabetical abbreviation such as: ea for each, ft for foot, oz for ounce, in for inch, cc for cubic centimeter, pr for pair, and sh for sheet. If the unit measure is different from the unit of issue, order the lowest unit of issue that will do the job for you.

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	O	6810-00-223-2739	Acetone, technical, 0-A-51	oz
2	O	8030-00-195-7660	Adhesive-decal, edge sealer	cn
3	O	8040-00-061-8303	Adhesive, epoxy, 13085103, EPS462	kt
4	O	8040-01-396-4795	Adhesive-sealant, silicone, RTV, noncorrosive, grey, TY1, MIL-A-46146	oz
5	O	8040-00-097-6524	Adhesive, silicone rubber, pressure sensitive, MIS-20220	kt
6	O	8040-00-145-0020	Adhesive-sealant, silicone, RTV, noncorrosive, grey, TY III, 3145, MIL-A-46146	oz
7	O	6810-00-753-4993	Alcohol, isopropyl, grade A, TT-I-735	oz
8	O	6810-00-292-9676	Alcohol, methyl, O-M-232	oz
9	O	7930-00-279-7089	Alconox, liquid (liqui-nox) OR	oz
	O	7930-01-107-9169	Alconox, powdered	oz
10	O	6515-00-303-8250	Applicator, cotton swab, TY2, GG-A-616	ea
11	O	8020-00-264-3883	Brush, artist, H-B-118	ea
12	O	7920-00-044-9281	Cloth, cotton wiping, CCC-C-46C	ea
13	O	8305-00-286-5461	Cloth, cotton, lint free, MIL-C-401292	ea
14	O	8010-01-144-9885	Coating, aliphatic polyurethane, black, 37038, MIL-C-46168	oz
15	O	8010-01-926-9174	Coating, polyurethane, oil free, type 2, class A, TT-C-5421-118-C	oz
16	O	8010-00-283-8672	Coating, solar absorber, 13085375	oz
17	O	-	Compound, adhesive sealing, polysulfide base (chem seal CS3202), MIL-S-11031	oz
17	O	8030-00-275-8110	Compound, adhesive sealing, polysulfide base, 3M EC-801/1063, MIL-S-11031	oz
18		8030-00-871-8489	Compound, corrosion inhibitive sealing and coating, type III-1, PR-1436-G, MIL-S-81733	kt
18	O	8030-00-762-8807	Compound, corrosion inhibitive sealing and coating, type 1-2, PRO-SEAL 870, MIL-S-81733	kt
19	O	8030-01-396-3200	Compound, sealing, locking and retaining, grade C, MIL-S-22473	oz
19	O	8030-00-067-6746	Compound, sealing, locking and retaining, grade HV, MIL-S-22473	oz

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST (cont)

(1) Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
19	O	8030-00-081-2325	Compound, sealing, locking and retaining, grade H, MIL-S-22473	oz
20	O	8305-01-H76-7552	Cord, bungee, 0.125" dia, 13075913-4	ft
21	O	8305-00-267-3116	Cord, bungee, 0.187" dia, 13075913-3	ft
22	O	7350-00-965-1662	Cup, paper, TY5 CL2, UU-C-806	ea
23	O	6515-00-735-4533	Depressor, tongue, GG-D-226	ea
24	O	6850-00-264-6562	Desiccant, activated, MIL-D-3464	ea
25	O	6850-00-619-7804	Desiccant, activated, MIL-D-3464	ea
26	O	7930-00-985-6946	Detergent, liquid, P-D-225	oz
27	O	6810-00-223-2737	Dichloromethane, technical, grade B, MIL-D-6998	oz
28	O	8010-00-281-2842	Filler, engraving, stamped, marking black, type 1, TT-E-325	oz
29	O	8030-00-823-8039	Film, chemical, iridite 14-2, MIL-C-81706	oz
30	O	6515-00-935-1193	Fingercot, rubber, ZZ-F-00-1299	ea
31	O	6810-01-120-6694	Freon TMS	cn
32	O	8415-00-682-6786	Gloves, plastic, disposable	ea
33	O	5325-00-231-6589	Grommet, MS20230B10	set
34	O	5970-01-044-3698	Insulation sleeving, electrical, heat shrinkable, M23053/10-005-0	in
35	O	8030-00-149-0335	Lubricant, antiseize, 13085110	oz
36	O	6830-00-028-9402	Nitrogen, technical, type 1, grade B, class 1, BB-N-441	cn
37	O	7920-00-205-3558	Pad, cheesecloth DDD-C-301	ea
38	O	5320-00-721-8117	Paper, abrasive, 180 grit P-P-101	sh
39	O	5350-00-224-7201	Paper, abrasive, 400 grit, P-P-101E	sh
40	O	6640-00-559-1385	Paper, lens, TY1, CL 1, A-A-50177	sh
41	O		Plate, LRU identification, 13231543	ea
42	O	8040-01-148-1759	Primer, noncorrosive silicone, RTV adhesive sealant, type 1	oz
43	O	8030-00-980-3975	Primer, sealing, locking and retaining compound, grade N, form R, MIL-S-22473	oz

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST (cont)

(1) Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
44	O	5975-00-899-4606	Strap, tiedown, MS3367-2-0	ea
45	O	8345-01-137-4795	Streamer, warning, NAS 1756-12	ea
46	O	5970-00-913-4404	Tape, insulation, electrical, type 1, MIL-I-23594	in
47	O	4020-00-956-4754	Tape, lacing and tying, fin C, SZ 2, TY 2, MIL-T-43435	in
48	O	7510-00-290-2023	Tape, pressure sensitive (masking 1/2 inch), PPP-T-42	in
49	O	6810-00-281-2002	Toluene, technical, TT-T-548	oz
50	O	6810-00-664-0387	Trichloroethane, O-T-620, type 1	oz
51	O	6830-00-584-2957	Trichlorotrifluoroethane, technical, MIL-C-81302, type 2	oz
52	O	6810-00-682-6867	Water, de-ionized, MIL-STD-1444	oz
53	O	9505-00-221-2652	Wire, nonelectrical (safety), MS20995C32	in
54	O		Wire, stainless & ht res, 0.100, 0.100+/-0.005", type 302, annealed, CF, ASTM-A580	in

APPENDIX E
WARRANTY ITEMS

E-1. SCOPE

Certain items of the Target Acquisition Designation Sight (TADS) Assembly AN/ASQ-170 are warranted by Lockheed Martin. The primary warranted assemblies are listed below. check DA Form 2408-15 overprint 2 and proceed as prescribed in DA PAM 738-751.

- Alphanumeric Display Assembly (AND)
- Day Sensor Subassembly (DSSA)
- Electronic Control Assembly (ECA)
- Indirect View Display (IVD)
- Laser Electronic Unit (LEU)
- Laser Tracker/Receiver (LT/R)
- Laser Transceiver Unit (LTU)
- TADS Electronic Unit (TEU)
- TADS Night Sensor Assembly (NSA)
- TADS Power Supply (TPS)
- Television Sensor Assembly (TV Sensor)

GLOSSARY

Section I. ABBREVIATIONS

ACK	Acknowledge
ACM	Automatic control module
AIA	Aircraft interface assembly
ALC	Automatic light control
AND	Alphanumeric display
ASSY	Assembly
AUTO	Automatic
AVIM	Aviation intermediate maintenance
AVUM	Aviation unit maintenance
BIT	Built-in test
BITE	Built-in test equipment
C	Celsius/centigrade
CB	Circuit breaker
CCA	Circuit card assembly
CCW	Counterclockwise
CONT	Contrast
CPG	Copilot/gunner
CRT	Cathode ray tube
CW	Clockwise
CWP	Caution/warning panel
DEK	Data entry keyboard
DIA	Diameter
DMWR	Depot maintenance work requirements
DSA	Day sensor assembly
DTV	Day television
DVO	Direct view optics
DX	Direct exchange
ECA	Electronic control amplifier
ECS	Environmental control unit
EIR	Equipment improvement recommendations
EL	Elevation
ENCU	Environmental control unit
EO	Electro-optics/electro-optical
EQPT	Equipment
EU	Electronics unit
F	Fahrenheit
FAB	Forward avionics bay
FCC	Fire control computer
FCP	Fire control panel
FD/LS	Fault detection/location system
FLIR	Forward looking infrared
FOV	Field-of-view
GPU	Ground power unit
GS	Gray scale
GSE	Ground support equipment
HARS	Heading and altitude reference system

GLOSSARY (cont)

HDD.....	Heads down display
HGT.....	Height
HMD.....	Helmet mounted display
HOD.....	Heads out display
HZ.....	Hertz
IAT.....	Image automatic tracker
ID.....	Identification
IHADSS.....	Integrated helmet and display sight system
IN.....	Inch
IR.....	Infrared
IVD.....	Indirect view display
LB.....	Pound
LEU.....	Laser electronics unit
LHG.....	Left handgrip
LMC.....	Linear motion compensator
LOS.....	Line-of-sight
LRF/D.....	Laser rangefinder/designator
LRU.....	Line replaceable unit
LSR.....	Laser
LST.....	Laser spot tracking
LT.....	Laser tracker
LTR.....	Laser tracker receiver
LTU.....	Laser transceiver unit
MAC.....	Maintenance allocation chart
MAN.....	Manual
MFOV.....	Medium field-of-view
MOC.....	Maintenance operational check
MTOE.....	Modified table of organization and equipment
MUX.....	Multiplexer
N.....	No
NFOV.....	Narrow field-of-view
NO.....	Number
NOE.....	Nap-of-the-earth
NSA.....	Night sensor assembly
NSN.....	National stock number
NT.....	Night
NVS.....	Night vision system
ORC.....	Optical relay column
ORIDE.....	Override
ORT.....	Optical relay tube
OZ.....	Ounce
PARA.....	Paragraph
PCB.....	Printed circuit board
PECA.....	PNVS electronic control amplifier
PEU.....	PNVS electronic unit
PMCS.....	Preventive maintenance checks and services
PNVS.....	Pilot night vision sensor QA/QC Quality assurance/quality control

GLOSSARY (cont)

QA/QC	Quality assurance/quality control
RCD	Recorder
RHG	Right handgrip
RPSTL	Repair parts and special tools list
SH	Sheet
SMR	Source, maintenance, and recoverability (code)
SOP	Standard operating procedures
SRU	Shop replaceable unit
SYB	Symbol
TADS	Target acquisition designation sight
TBO	Time between overhaul
TELA	TADS electronic control amplifier
TEU	TADS electronic unit
TMDE	Test, measurement, and diagnostic equipment
TV	Television
UPDT	Update
UUT	Unit under test
V	Volts
VAC	Volts alternating current
VDC	Volts direct current
VDU	Video display unit
VID	Video
WFOV	Wide field-of-view
Y	Yes

GLOSSARY (cont)

Section II. DEFINITION OF UNUSUAL TERMS

Angle of Azimuth - The angle measured clockwise in a horizontal plane.

Angle of Elevation - The angle measured between the line-of-sight and the line-of-elevation.

Boresight - Adjust the line-of-sight of a weapon sighting instrument parallel to the axis of the bore of the weapon. Also for TADS, the process of electrically aligning all viewing systems to the same point.

Chafing - Wear caused by friction or rubbing.

Fault Detection and Location System (FD/LS) - A computer controlled built-in test (BIT) for all helicopter avionics.

Filter - Special lenses placed in the path of light through the optical system used to absorb selected colors, reduce glare, or reduce intensity. Filters are usually separate elements mounted so they can be placed in or out of the path of light as desired.

Forward Looking Infrared - Looking at radiated infrared energy rather than reflected infrared energy.

Image - A likeness of an object produced by means of light rays.

Infinity - In optics, it means a distance so great that light rays emitted from an object at that distance are practically parallel.

Infrared - Electromagnetic radiation below the red end of the visible light spectrum. Heat is radiated in the infrared region.

Line-of-Sight - The straight line connecting the observer with the aiming point; the line along which the sights are set.

Maintenance Operational Check (MOC) - A procedure used to determine status of the equipment. It is performed after a operational maintenance task and during troubleshooting.

Nap-of-the-Earth - A term used to describe the technique of flying low to the ground at night or during poor visibility to observe, or avoid striking terrain features. (Nap refers to the uneven terrain, similar to the hairy or downy finish of a blanket.)

Optical - Pertaining to vision and the phenomena of light. Optics is that branch of physical science that is concerned with electromagnetic radiation and the phenomena of vision.

Outfront Boresighting - The TADS outfront boresighting is performed on the ground and brings the FLIR reticle into coincidence with the TV reticle.

Outgassing - Certain chemicals used in repair release gasses that are harmful to optical glass. Outgassing uses heat to release the gasses from the chemicals faster than normal. This makes the chemicals safe to use around the optical glass.

GLOSSARY (cont)

Reticle - A scale, indicator, or pattern (symbols) placed in the focal plane. The symbols appear to the observer to be superimposed on the field-of-view.

Squat Switch - A switch located near the helicopter left main landing gear that disables laser and anti-ice circuits while the helicopter is on the ground.

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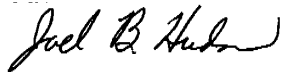
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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = 0.39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = 0.15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigram = 0.035 ounce
 1 dekagram = 10 grams = 0.35 ounce
 1 hectogram = 10 dekagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Temperature

$5/9 (°F - 32) = °C$
 212° Fahrenheit = 100° Celsius
 90° Fahrenheit = 32.2° Celsius
 32° Fahrenheit = 0° Celsius
 $9/5 C° + 32 = F°$

Liquid Measure

1 centiliter = 10 milliliters = 0.34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = 0.155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
 1 sq. kilometer = 100 sq. hectometers = 0.386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = 0.06 cu. inch
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	To	Multiply by	To change	To	Multiply by
inches	centimeters	2.540	ounce-inches	newton-meters	0.007062
feet	meters	0.305	centimeters	inches	0.394
yards	meters	0.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	0.621
square feet	square meters	0.093	square centimeters	square inches	0.155
square yards	square meters	0.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	0.405	square kilometers	square miles	0.386
cubic feet	cubic meters	0.028	square hectometers	acres	2.471
cubic yards	cubic meters	0.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	0.473	milliliters	fluid ounces	0.034
quarts	liters	0.946	liters	pints	2.113
gallons	liters	3.785	liters	pints	1.057
ounces	grams	28.349	liters	quarts	0.264
pounds	kilograms	0.454	grams	ounces	0.035
short tons	metric tons	0.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	0.11296	Newton-meters	pound-feet	0.738
			Kilo pascals	pounds per square inch	0.145

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