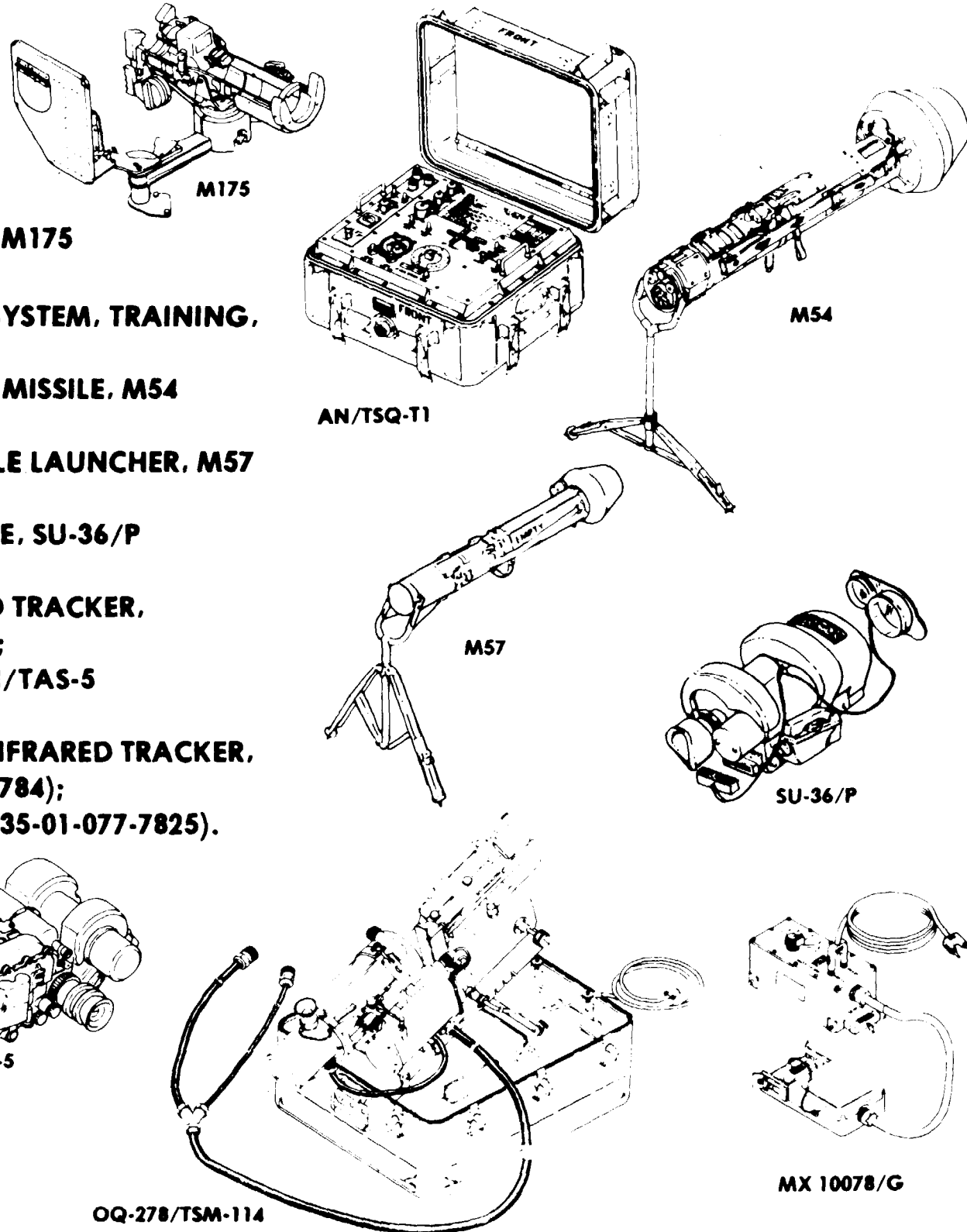


TECHNICAL MANUAL

**ORGANIZATIONAL DS AND GS
MAINTENANCE MANUAL**

FOR:

- GUIDED MISSILE LAUNCHER MOUNT, M175
(NSN 1440-01-030-8438);**
- MONITORING SET, GUIDED MISSILE SYSTEM, TRAINING,
AN/TSQ-T1 (NSN 6920-00-165-6369);**
- TRAINER, LAUNCH EFFECTS, GUIDED MISSILE, M54
(NSN 6920-00-175-6327);**
- TRAINER, HANDLING, GUIDED MISSILE LAUNCHER, M57
(NSN 6920-00-339-1042);**
- TRACKER, INFRARED, GUIDED MISSILE, SU-36/P
(NSN 1430-00-078-8340);**
- TEST SET, GUIDED MISSILE, INFRARED TRACKER,
AN/TSM-114 (NSN 4935-00-124-5585);**
- NIGHT VISION SIGHT, INFRARED, AN/TAS-5
(NSN 1430-01-046-9594);**
- TEST SET GROUP, GUIDED MISSILE, INFRARED TRACKER,
OQ-278/TSM-114 (NSN 4935-01-063-9784);**
- ADAPTER, TEST, MX10078/G (NSN 4935-01-077-7825).**



This copy is a reprint which includes current pages from Changes 1 Through 8.

**(DRAGON MEDIUM ANTITANK/ASSAULT WEAPON SYSTEM)
HEADQUARTERS, DEPARTMENT OF THE ARMY**

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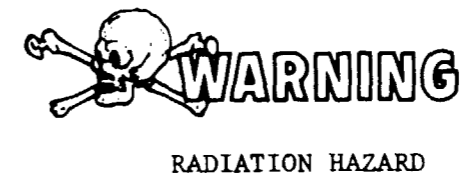
- Dangerous voltage is used in the operation of this equipment. Death on contact may result if personnel fail to observe safety precautions. Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technician is aided by operators, he must warn them about dangerous areas.
- Ž Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after the power has been turned off, always ground every part before touching it.
- Ž The Monitoring Set, AN/TSQ-T1, requires a maximum of 220 VAC for the battery charging panel, and 48 VDC for normal operation. The Tracker Test Set, AN/TSM-114, uses 115 VAC or 48 VDC for normal operation. The LET, M54, uses 24 VDC.
- Ž Do not be misled by the term "low voltage". Potentials as low as 50 volts may cause death under adverse conditions. For artificial respiration, refer to FM21-11.



- Ž Extreme care must be taken at all times to insure that the exhaust holes in the trainer are kept clean and free of moisture. Firing the trainer with the contaminated exhaust holes may cause serious personal injury.
- Ž The M64 NATO grenade launching cartridge must be used in the trainer; no other type is authorized. To avoid inadvertent firing of the cartridge in the trainer, always position the breechblock to the open position and remove cartridge before installing or removing tracker. The trainer will not be loaded during monitoring set alignment exercises.
- Ž Powder accumulation from M64 cartridge firings will be evident during cleaning. No flame or spark producing materials should be present.
- Ž Ensure that the cartridge chamber of the LET is empty prior to beginning any maintenance action.



- Ž In view of toxic and volatile nature of the materials used in the application of paints, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks, and excessive heat.
- Ž Do not look at the sun, flares or search lights while sighting through the tracker optical sight. Serious eye damage could result.
- Ž Due to the high spring pressure against the firing mechanism rod, use extreme caution when removing or installing the firing mechanism rod.



The anti-reflective coating on the AN/TAS 5 infrared optics contains thorium fluoride which is slightly radioactive. The only potential hazard involves ingestion (swallowing or inhaling) of the coating material. Dispose of broken lenses, etc., in accordance with AR 385-11.

TECHNICAL MANUAL)
)
 No. 9-1425-484-24)

HEADQUARTERS
 DEPARTMENT OF THE ARMY
 Washington, D. C., 1 December 1979

ORGANIZATIONAL DS AND GS MAINTENANCE MANUAL
 FOR:

MONITORING SET, GUIDED MISSILE SYSTEM, TRAINING AN/TSQ-T1 (NSN 6920-00-165-6369); TRAINER, LAUNCH EFFECTS, GUIDED MISSILE: M54 (NSN 6920-00-175-6327) ; GUIDED MISSILE LAUNCHER MOUNT, M175 (NSN 1440-01-030-8438); TRAINER, HANDLING, GUIDED MISSILE LAUNCHER, M57 (NSN 6920-00-339-1042); TRACKER, INFRARED, GUIDED MISSILE SU-36/P (NSN 1430-00-078-8340); TEST SET, GUIDED MISSILE INFRARED TRACKER AN/TSM-114 (NSN 4935-00-124-5585); NIGHT VISION SIGHT, INFRARED AN/TAS-5 (NSN 1430-01-046-9594); TEST SET GROUP, GUIDED MISSILE, INFRARED TRACKER, OQ-278/TSM-114 (NSN 4935-01-063-9784); ADAPTER, TEST, MX 10078/G (NSN 4935-01-077-7825),

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of awayto improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, US Army Missile Command, ATTN: AMSMI-LC-ME-PM, Redstone Arsenal, AL 35898-5238. A reply will be furnished to you.

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*This manual supersedes TM 9-1425-480-24, dated 21 April 1978 and TM 9-0920-480-34, dated 22 July 1974.

HOW TO USE THIS MANUAL

If you spend a few minutes looking through this manual, you'll see that it has a new look that is very different from the manuals you have been using. The new look is not just to make this manual look good, but to make it easier for you to read and use so you can do your job right. We got rid of as many big words as we could. Each chapter is set up to lead you through it step by step for ease of understanding. Now check out the front cover and you'll see the black bars on the right-hand edge with chapter titles next to them. So HOW DO YOU USE THIS MANUAL?

Like this:

1. Suppose you want to know how to remove the firing mechanism from the day tracker.
2. Look at the cover, and you'll see the chapter titles listed top to bottom. Find the chapter titled "DS/GS MAINTENANCE INSTRUCTIONS-TRACKER, INFRARED GUIDED MISSILE SU-36/P".
3. Bend the pages a bit and look at the edges. You'll see black bars on some of the pages that are aligned with the bars on the cover.

4. If you put your thumbnail on the black bar that is aligned with the one on the cover for "DS/GS MAINTENANCE INSTRUCTIONS- TRACKER, INFRARED GUIDED MISSILE SU-36/P", you'll find the beginning of chapter 7.
5. Right under the chapter title you'll see a list of all the sections by title and page number.
6. Look down the list until you come to Section V., MAINTENANCE procedures 7-2.

TM 9-1425-484-24

C1

TECHNICAL MANUAL

ORGANIZATIONAL DS AND GS MAINTENANCE MANUAL

FOR:

GUIDED MISSILE LAUNCHER MOUNT, M175
(NSN 1440-01-030-8438);

MONITORING SET, GUIDED MISSILE SYSTEM, TRAINING, AN/TSQ-T1 (NSN 6920-00-165-6369);

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TEST SET, GUIDED MISSILE, INFRARED TRACKER, AN/TSM-114 (NSN 4935-00-124-5585);

NIGHT VISION SIGHT, INFRARED, AN/TAS-5
(NSN 1430-01-046-9594);

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(DRAGON MEDIUM ANTITANK/ASSAULT WEAPON SYSTEM)
HEADQUARTERS, DEPARTMENT OF THE ARMY

DECEMBER, 1979

TM 9-1425-484-24

CHAPTER 7
DS/GS MAINTENANCE INSTRUCTIONS - TRACKER, INFRARED GUIDED MISSILE, SU-36/P

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Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT		
Repair Parts	7-1	7-1
Special Tools and Test Equipment	7-2	7-1

7.1. REPAIR PARTS

See TM 9-1425-480-24P for authorized repair list.

7.2. SPECIAL TOOLS AND TEST EQUIPMENT

- Plug Spanner Wrench, P/N 10275915.
- Screwdriver, P/N 10276466.
- Test Set, Guided Missile, Infrared Tracker, AN/TSM-114.

PLUG SPANNER WRENCH
P/N 10275915

SCREWDRIVER
P/N 10276466

Section II. SERVICE UPON RECEIPT

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7.3. INVENTORY INSPECTION

When a Tracker, SU-36/P is received from the using organization, perform an inventory and inspection. See TM 9-1425-484-10.

7.4. MAINTENANCE FORMS AND RECORDS

Make sure that maintenance forms DA 2405 and 2407 are completed as shown in TM 38-730.

7-1

7. Now that you have reached the section you want you'll see the title of each paragraph, paragraph number and the page number.
8. Now look down the list until you come to "REMOVE FIRING MECHANISM" and read across. The information you want is located in paragraph 7-7 on page 7-3. Now flip to page 7-3.
9. Now that you're at the paragraph you want you'll find something else that is new. SOME PROCEDURES HAVE BOXES AROUND THEM. The "boxed" procedures and the pictures go together, so you don't have to look for a picture by number or look on other pages to find out what gizmo (1) looks like. In this TM, it's right there.

10. When you find procedures that are not boxed, you don't need to look for a picture. Either you've seen it before, and now know where the component (or whatever) is, or you just don't need one to do the job.
11. You can find procedures in other sections in the same way. First, find the section you think the procedure should be in, open the manual to that section and find the page number of the procedure from the list at the beginning of the section.
12. You can also use the table of contents on page i in the front of this manual.
13. You don't have a subject matter index because you have an index in each chapter and section in this manual.

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Section III. OPERATIONAL CHECKS

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7-5. OPERATIONAL CHECKS

Operational checks for the Tracker, SU-36/P, are provided in TM 9-4935-484-14.

Section IV. SCHEDULED MAINTENANCE

Maintenance Schedule	Para	Page
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Section V. MAINTENANCE PROCEDURES

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Protective Cover and Nylon Cord	7-17	7-28	7-21
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Aft Inner Shock Absorber	7-20	7-25	7-18
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Identification Plate	7-22	7-23	7-15
Final Inspection	7-23	7-23	7-16

7-6. MAINTENANCE SCHEDULE

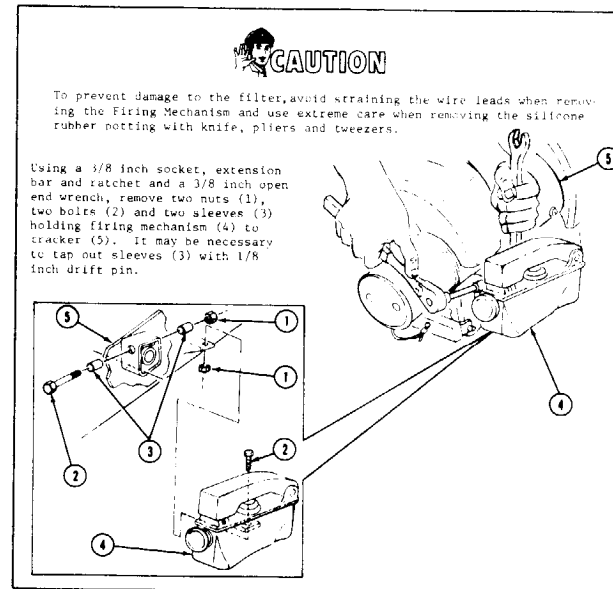
- a. The Tracker, SU-36/P, will be checked by OS/GS Maintenance every 90 days, or as requested by the unit commander.
- b. The scheduled maintenance checks will be performed in accordance with procedures outlined in TM 9-4935-484-14.

7-2

7-7. REMOVE FIRING MECHANISM

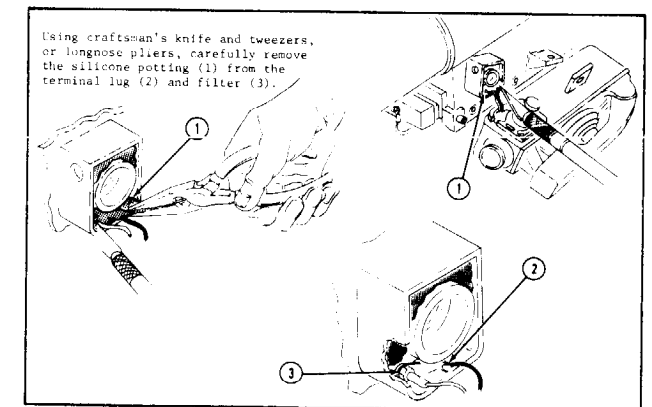
- Tools required:
- Craftsman's knife
 - Ratchet wrench
 - 2 inch extension
 - 3/8 inch open end wrench
 - Longnose pliers
 - Curved point tweezers
 - 1/8 inch drift pin
 - Desoldering kit
 - 3/8 inch socket

STEP 1

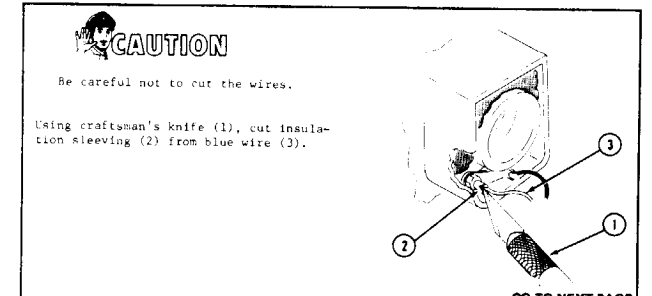


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STEP 2



STEP 3



GO TO NEXT PAGE

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CHAPTER 1
INTRODUCTION

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Section I. GENERAL INFORMATION

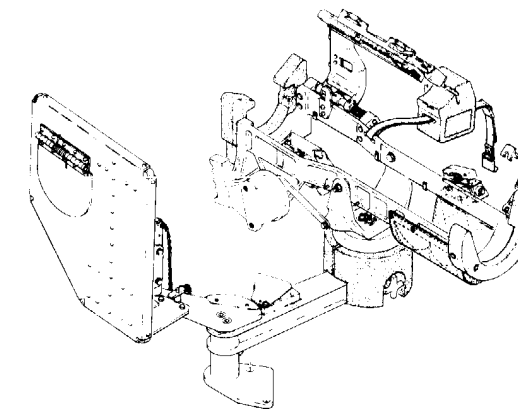
	Para	Page
Scope	1-1	1-1
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1-1. SCOPE

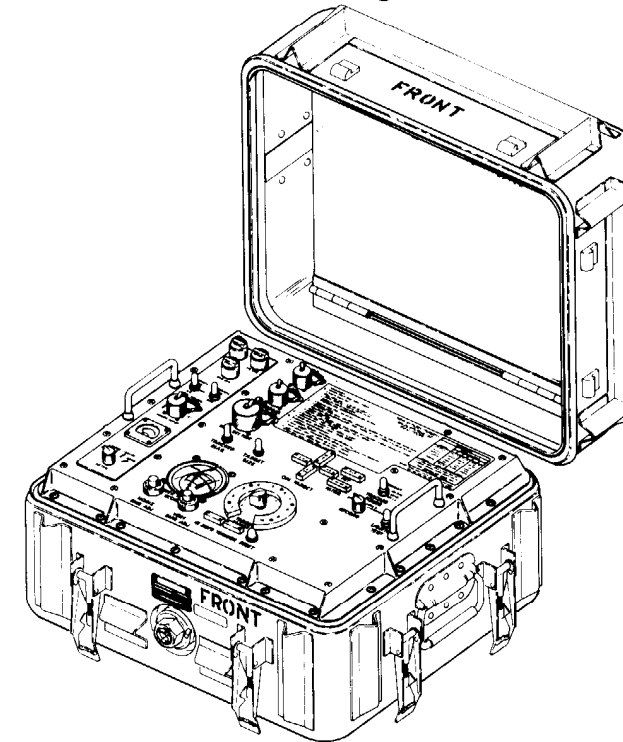
a. This manual contains a description of, and instructions for the organizational maintenance of the Guided Missile Launcher Mount, M175, the Tracker Case; G.M., Infrared, M213 and direct and general support maintenance of the following DRAGON equipment:

1. Guided Missile Launcher Mount, M175
2. Monitoring Set, Guided Missile Training, AN/TSQ-T1
3. Trainer, Launch Effects. Guided Missile: M54
4. Test Set Group, Guided Missile Infrared Tracker, OQ278/TSM-114
5. Tracker, Infrared, Guided Missile SU-36/P
6. Test Set, Guided Missile Infrared Tracker, AN/TSM-114
7. Night Vision Sight, Infrared AN/TAS-5
8. Tracker Case, Guided Missile, Infrared, M213
9. Trainer Handling, Guided Missile Launcher, M57

b. Purpose of Equipment

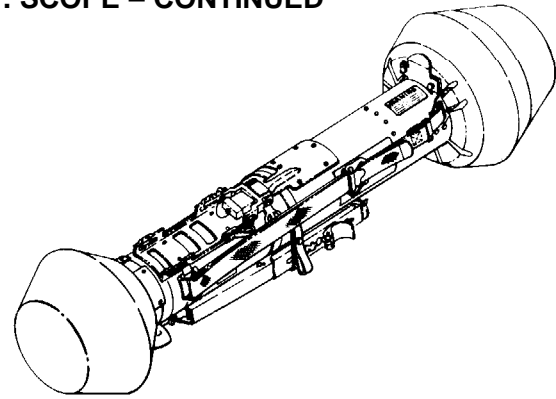


The Guided Missile Launcher Mount, M175 is designed to provide a stable platform for firing the DRAGON Missile from the M113A1 Armored Personnel Carrier (APC). Vehicle vibration effects are reduced by the azimuth and elevation damper assemblies.

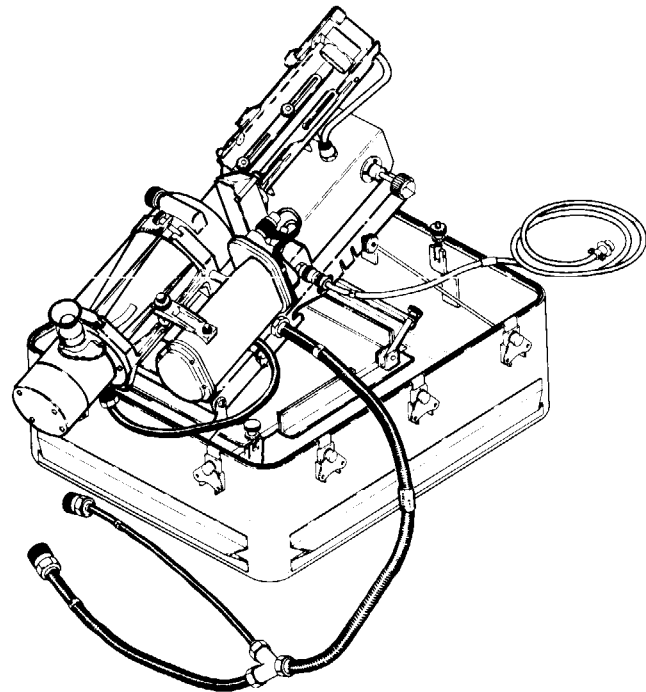


The Monitoring Set, Guided Missile Training, AN/TSQ-T1 is a device connected to the Launch Effects Trainer that detects, scores and displays the gunner's tracking performance. It is powered by self-contained rechargeable batteries and contained within a portable carrying case.

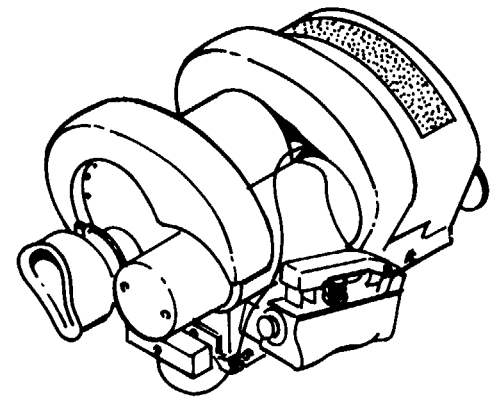
1-1. SCOPE - CONTINUED



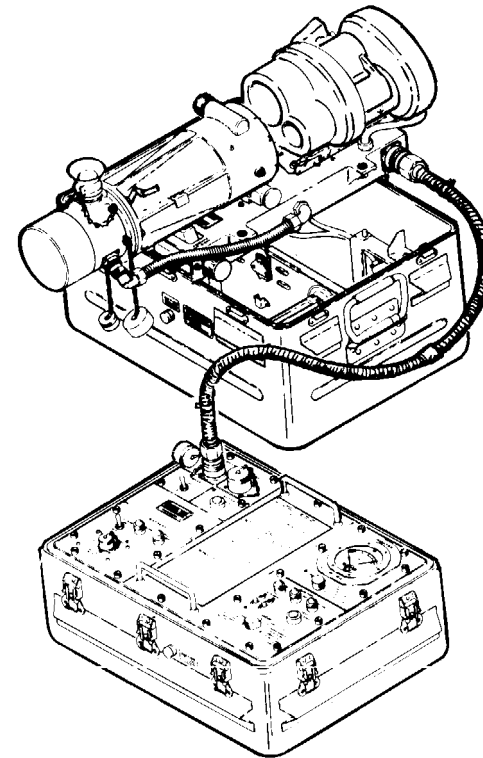
The Trainer, Launch Effects, Guided Missile: M54 (LET) is a training device used to instruct gunners in the deployment, techniques of fire, and firing POSitiOns Of the DRAGON Weapon System. The LET simulates the M47 DRAGON round. It uses an M64 grenade cartridge to provide the recoil, sound, and some of the launch characteristics of the tactical weapon. No projectile is launched from the LET.



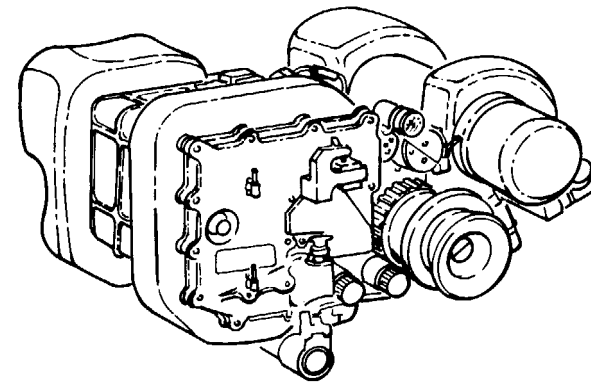
The Test Set Group, Guided Missile, Infrared Tracker, OQ-278/TSM-114 is used in conjunction with the Test Set, Guided Missile Infrared Tracker AN/TSM-114, by the contact support team to provide operational checks of the Night Vision Sight, Infrared AN/TAS-5. and the Tracker, Infrared, Guided Missile SU-36/P.



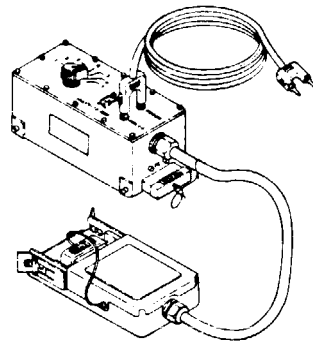
The Tracker, Infrared, Guided Missile SU-36/P provides inputs to the missile while in flight. The Tracker detects the infrared flare on the missile or from the infrared source on the target vehicle (training) and converts the deviation from the line-of-sight into guidance system signals via the guidance wire to the round.



The Test Set, Guided Missile Infrared Tracker AN/TSM-114 is used by the contact support team to provide support for the DRAGON Tracker, Trainer, and the Monitoring Set. The Test Set provides operational Go or No-Go checks of the Tracker and provides a means of evaluating the Trainer and Monitoring Set.



The Night Vision Sight, Infrared Guided Missile, AN/TAS-5 gathers infrared energy from the target area and focuses this energy on detectors that change the infrared energy to electrical energy. The electrical energy is amplified, controlled (brightness and contrast) and connected to light-emitting diodes (LED) that change the electrical energy to visible light displayed in the eyepiece.



The M175 Mount Test Adapter, MX10078/G, is used by the contact support team. It provides a complete electrical check of the wiring harness and electrical connectors on the the M175 Mount.

Section II. EQUIPMENT DESCRIPTION AND DATA

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Location and Description of Major Components	1-5	1-3
Nomenclature Cross- Reference	1-6	1-4
List of Abbreviations	1-7	1-4

1-5. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

See TM 9-1425-484-10, TM 9-6920-484-12, and TM 9-4935-484-14 for the location and description of major components.

1-2. MAINTENANCE FORMS, RECORDS AND REPORTS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS).

1-3. MAINTENANCE CALIBRATION

The Test Set, Guided Missile Infrared Tracker, AN/TSM-114, must be maintenance calibrated every 360 days, and the M175 Mount Test Adapter, MX10078/G, must be calibrated every 240 days, each in accordance with the Maintenance Allocation Chart (MAC). See TM 9-4935-484-14.

1-4. EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR'S)

EIR's can and must be submitted by anyone who is aware of an unsatisfactory condition with the equipment design or use. It is not necessary to show a new design or list a better way to perform a procedure; just simply tell why the design is unfavorable or why a procedure is difficult. EIR's may be submitted on DA Form SF 368. Mail directly to Commander, U.S. Army Missile Command, Attn: AMSMI-QA-CF, Redstone Arsenal, Alabama 35898-5238. A reply will be furnished to you.

1-6. NOMENCLATURE CROSS-REFERENCE

A cross-reference between official nomenclature and the nomenclature used in this manual is provided in Table 1-1. The shortened TM nomenclature is used in this manual to make procedures easier to read.

Table 1-1. Nomenclature Cross-Reference

<u>TM Nomenclature</u>	<u>Official Nomenclature</u>
Monitoring Set	Monitoring Set, Guided Missile System, Training AN/TSQ-T1
LET	Trainer, Launch Effects, Guided Missile M54
Pressure Tube	Tube, Launch Effects
Weight	Dummy Projectile
Biped Strap	Webbing Strap
Sling	Webbing Strap
Receiver	Cartridge Chamber
Day Tracker	Tracker, Infrared Guided Missile SU-36/P
Night Tracker	Night Vision Sight, Tracker, Infrared, AN/TAS-5
Tracker Trigger	Tracker Firing Mechanism
Trigger Safety	Pin Shoulder Headed, Firing Mechanism Safety
Field Handling Trainer	Trainer, Handling, Guided Missile Launcher Launcher, M57
M175 Mount	Guided Missile Launcher Mount, M175
End Cap	End Cap Resilient Mount
Forward Shock Absorber	Forward Resilient Mount
TTS	Test Set, Guided Missile Infrared Tracker AN/TSM-114
Tracker Test Set Supplemental Unit (TTSSU)	Test Set Group, Guided Missile, Infrared Tracker, 0Q-278/TSM-114

1-7 LIST OF ABBREVIATIONS

A list of abbreviations used in this manual and their definitions are listed below.

LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Definition</u>
LET	Trainer, Launch Effects, Guided Missile, M54
OAC	Collimator, Infrared Visual Alignment 1A3
OAF	Fixture, Optical Alignment 1A2
TTS	Test Set, Guided 'Missiie Infrared Tracker AN/TSM-114
IR	Infrared
G.M.	Guided Missile
NSN	National Stock Number
MAc	Maintenance Allocation Chart
APc	Armored Personnel Carrier M113
U/I	Unit of Issue
TM	Technical Manual
TTSSU	Tracker Test Set Supplemental Unit
SUOAF	Fixture, Optical Alignment 1A6

CHAPTER 2
ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

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Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT

	Para	Page
Special Tools and Test Equipment	2-1	2-1
Repair Parts	2-2	2-1

2-1. SPECIAL TOOLS AND TEST EQUIPMENT

None required.

2-2. REPAIR PARTS

See TM 9-1425-480-24P for a listing of authorized repair parts.

Section II. SERVICE UPON RECEIPT FOR M175 MOUNT

	Para	Page
Unpackaging	2-3	2-1
Inventory Inspection	2-4	2-4
Maintenance Forms, Records and Reports	2-5	2-5

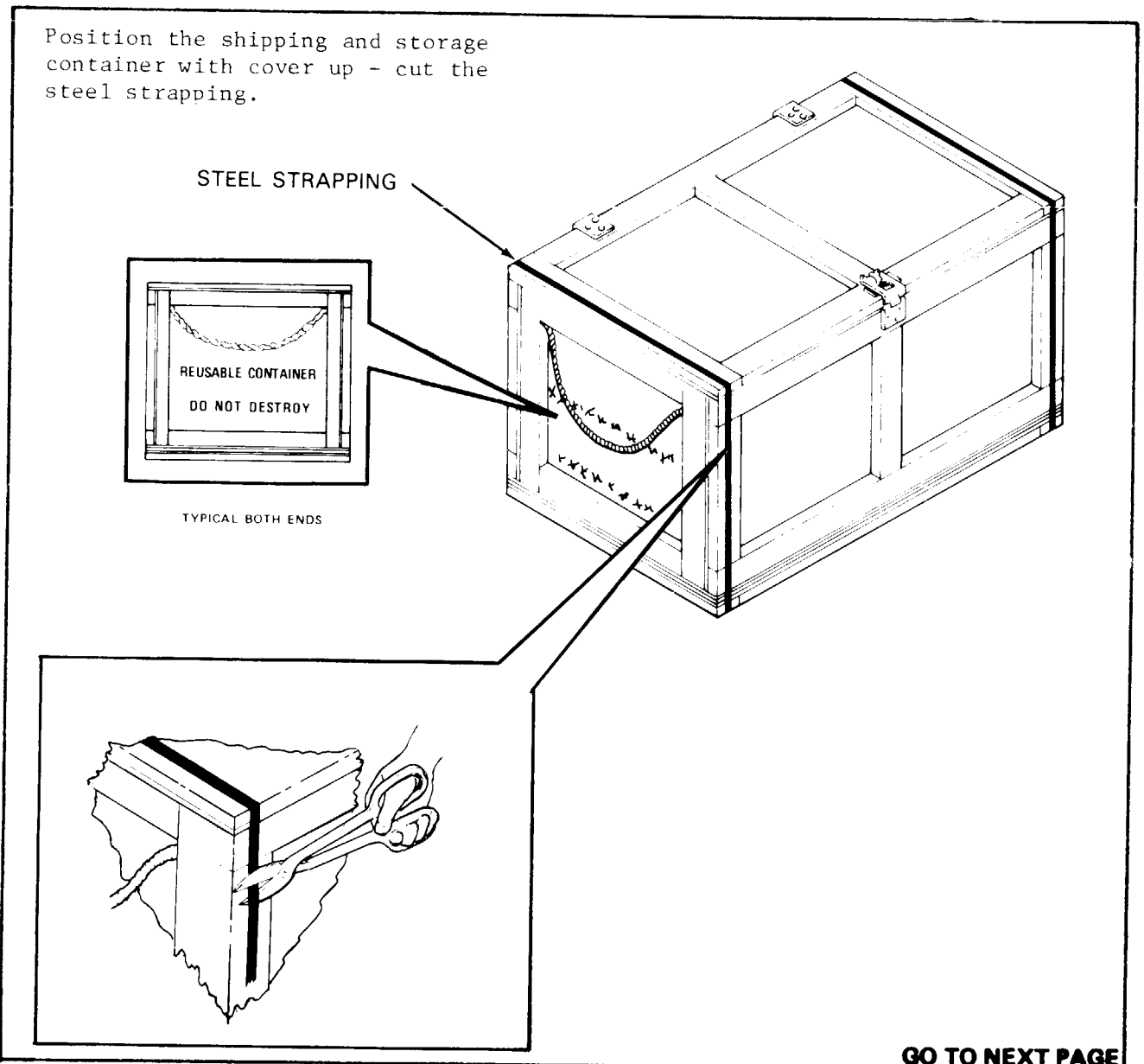
2-3. UNPACKAGING

The M175 mount must be unpacked when it is received at the using organization. Inspect each assembly as you remove it from the case. If there is any visible damage resulting from shipping, return the assembly to supply.

Tools required: Band cutters
3/4 inch open end wrench
7/16 inch open end wrench
Wire cutter pliers

Personnel required: MOS 76Y

STEP 1

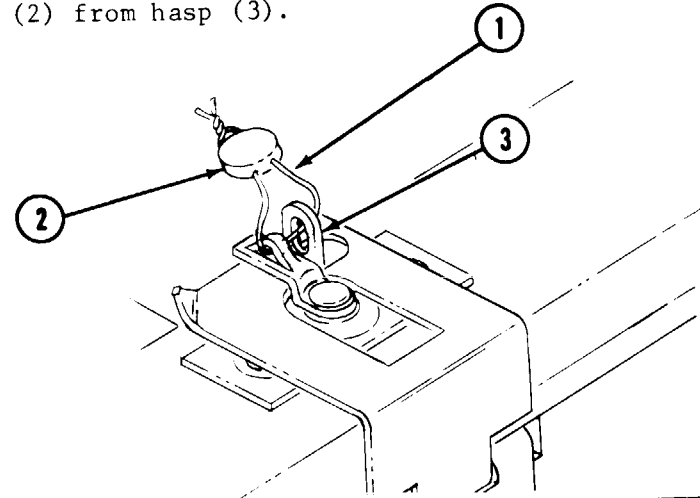


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2-3. UNPACKAGING - CONTINUED

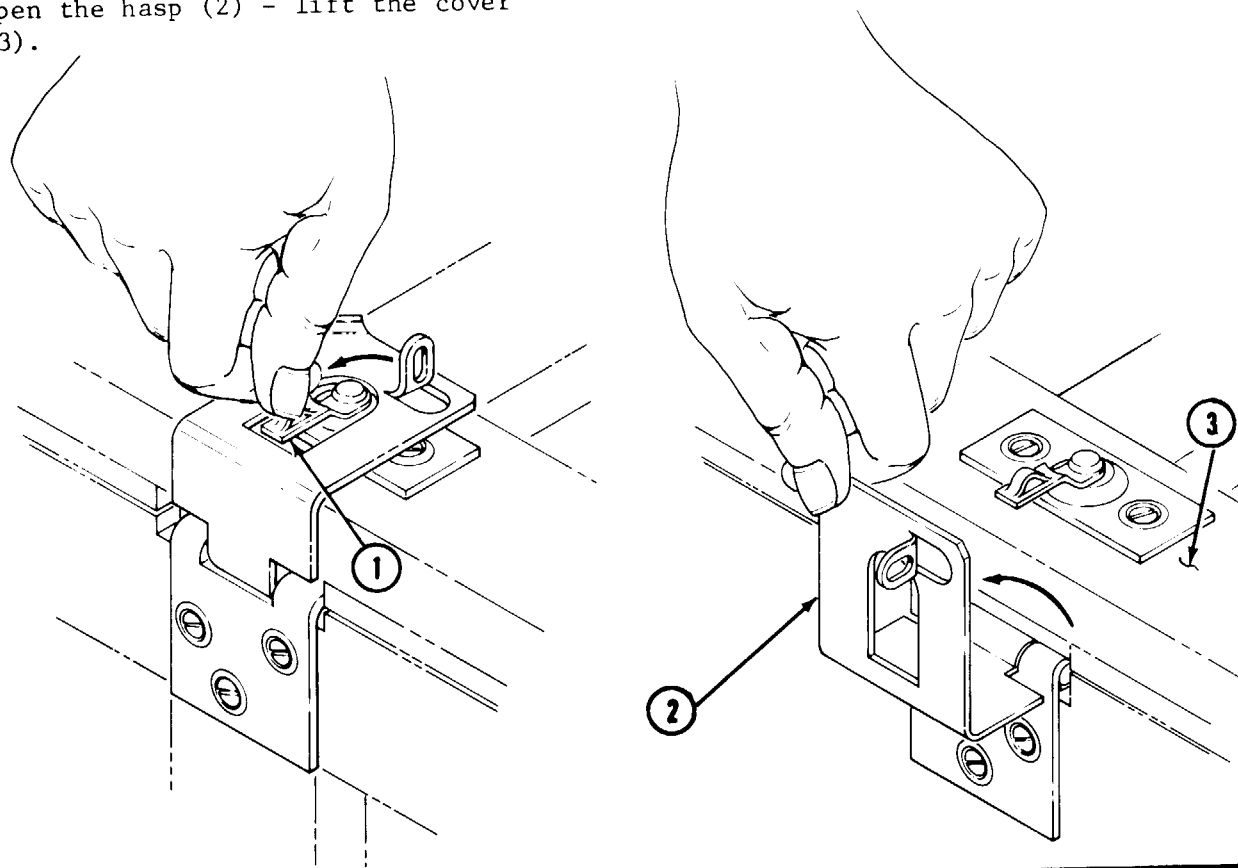
STEP 2

Using wire cutter pliers, remove wire (1) with lead seal (2) from hasp (3).



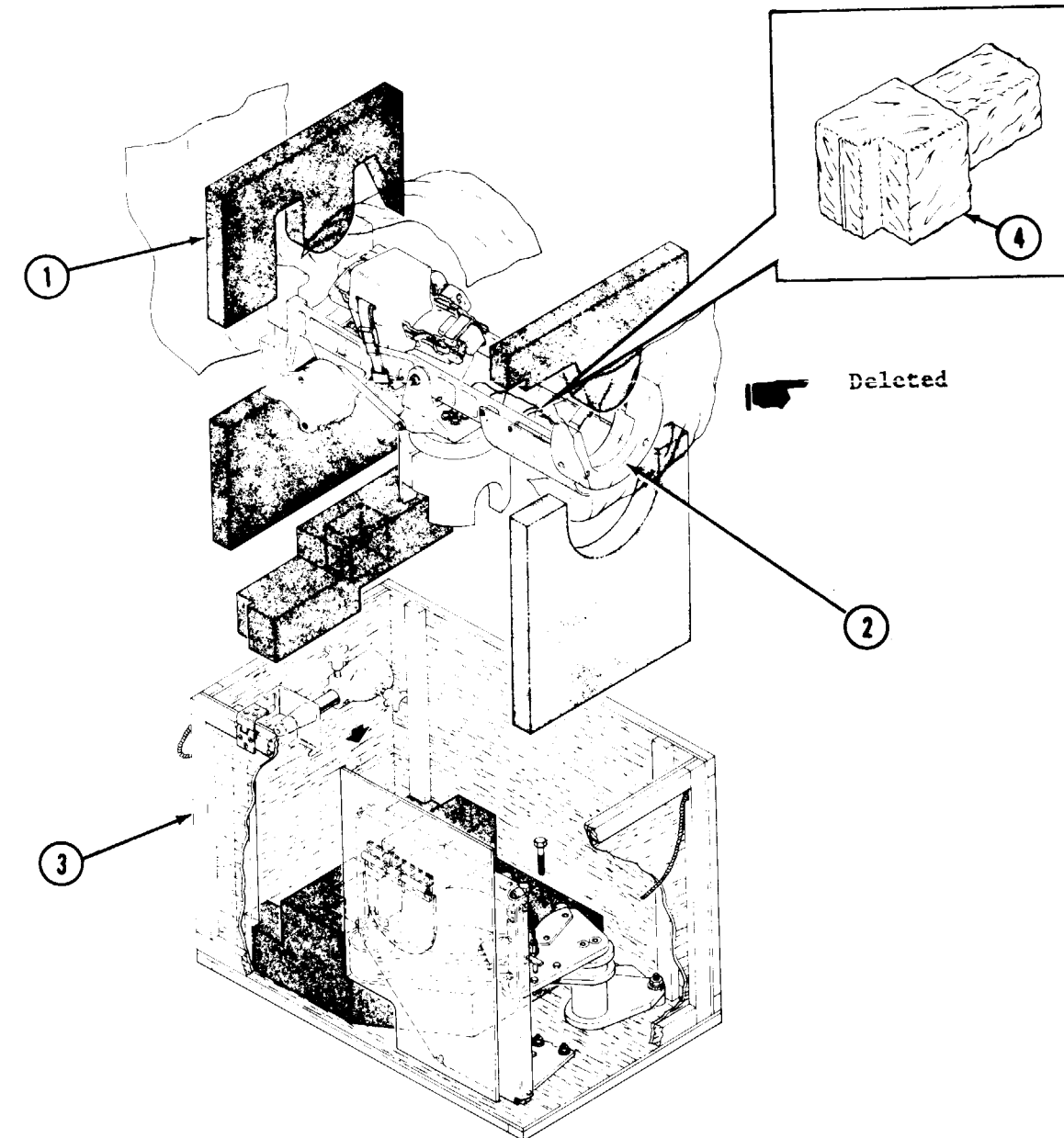
STEP 3

Rotate the swivel assembly (1) and open the hasp (2) - lift the cover (3).



STEP 4

A. Remove the foam cushions (1), then lift the launcher mount (2) clear of container (3).



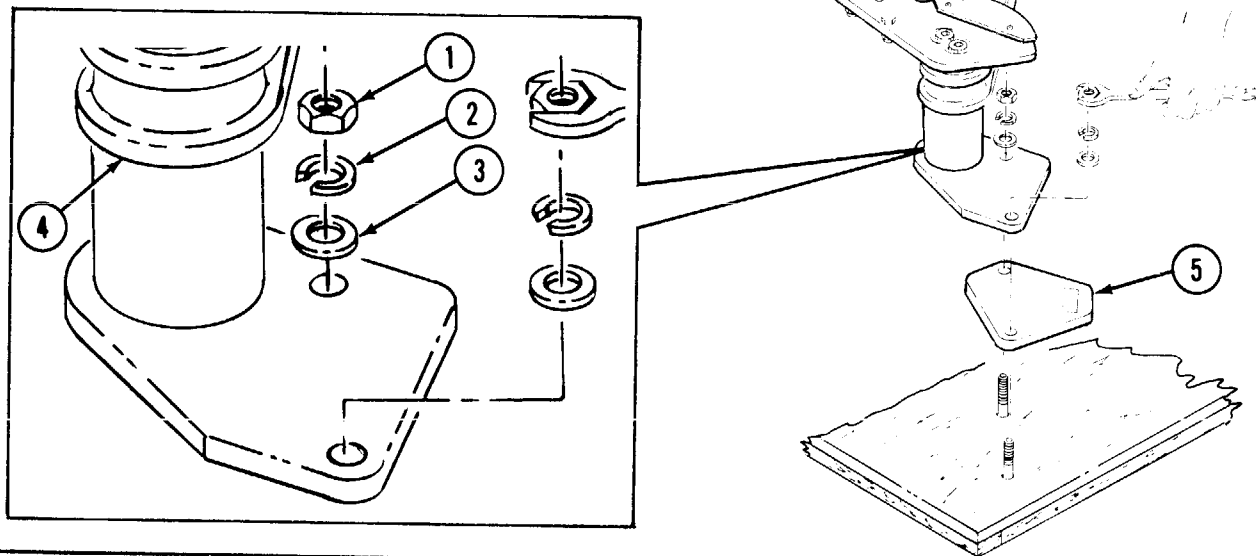
B. Remove environment protective cover (4) from the cradle.

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2-3. UNPACKAGING - CONTINUED

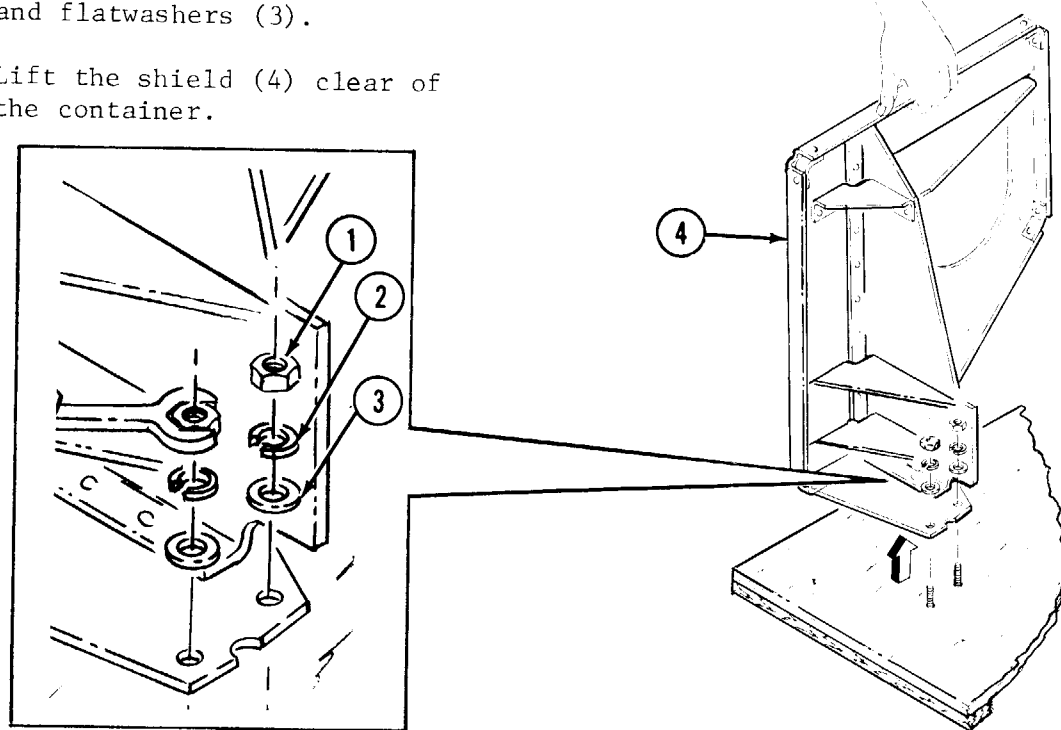
STEP 5

Using 3/4 inch wrench, remove two nuts (1), lockwashers (2), flatwashers (3), swingarm assembly (4) and spacer plate (5).



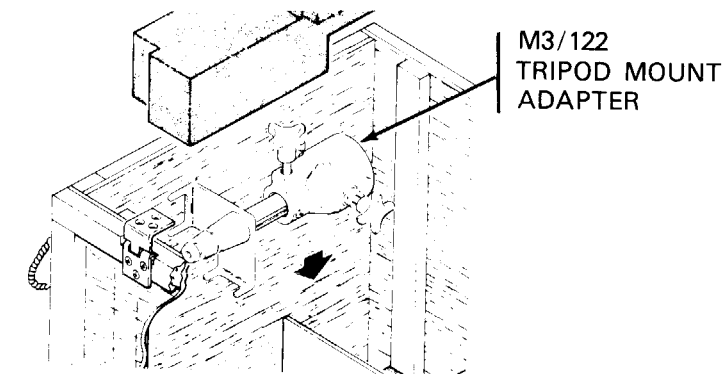
STEP 6

- A. Using 7/16 inch wrench, remove two nuts (1), lockwashers (2) and flatwashers (3).
- B. Lift the shield (4) clear of the container.



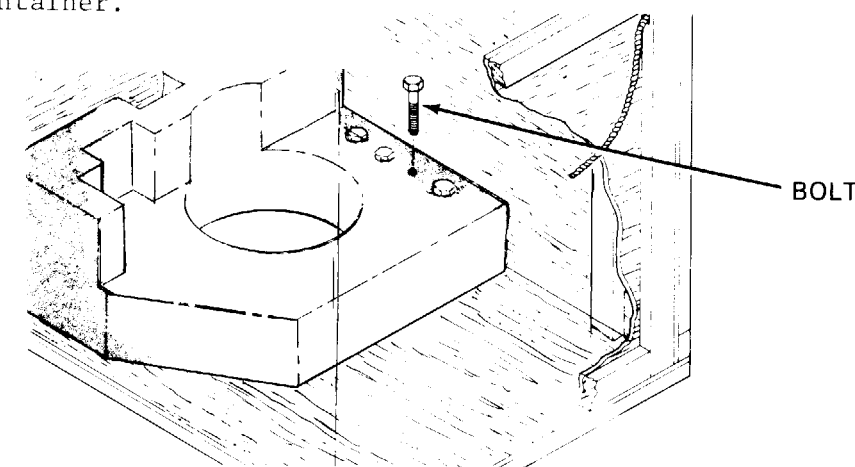
STEP 7

Remove the M3/M122 tripod mount adapter from the container.



STEP 8

Remove the four APC mounting bolts from the shipping container.



STEP 9

Save the container and the foam cushioning - it must be reused for packing, shipping, or storing the M175 mount.

END OF TASK

Follow-on Task: Perform Inventory, see para. 2-4.

2-4. INVENTORY INSPECTION

- a. An inventory must be performed :
 1. Upon initial receipt by the using organization.
 2. Upon receipt for repair at the repair facility.
- b. When sending the M175 mount to Support Maintenance for repair, package the complete mount in its shipping box.
- c. See figure 2-1 for inventory.
- d. It is the responsibility of each unit assigned an M175 Mount to maintain and store the M175 Shipping and Storage Container. The container must be available for returning the mount to the depot or to facilitate long term storage (see paragraph 5-48, step 4).

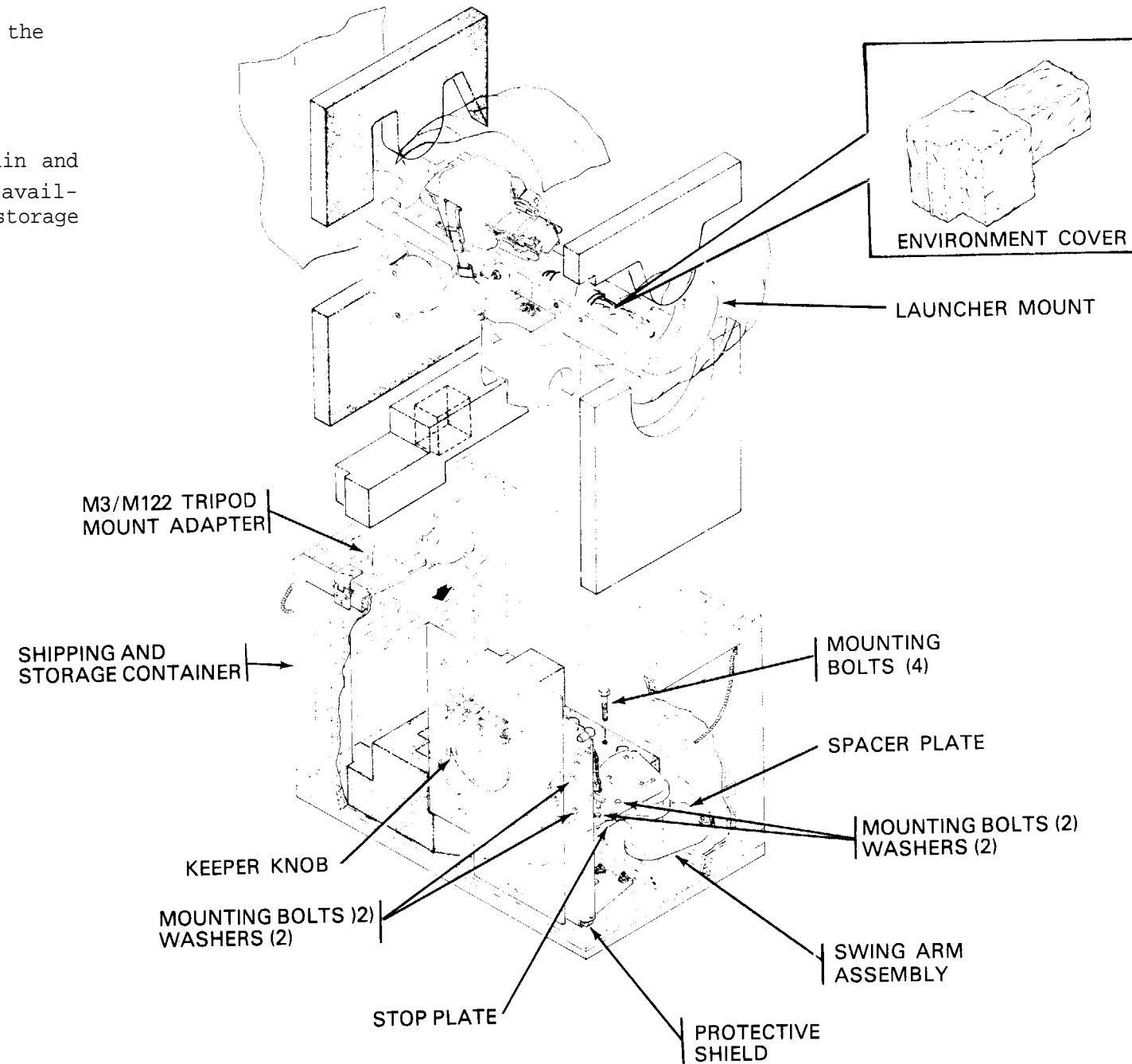


Figure 2-1, M175 inventory

ENDOFTASK

2-5. MAINTENANCE FORMS, RECORDS AND REPORTS

Make sure that maintenance form DA 2404 is completed as shown in DA PAM 738-750,

Section III. INSTALLATION AND REMOVAL PROCEDURES

	REMOVE		INSTALL	
	para	Page	Para	Page
M175 Mount	2-8	2-9	2-6	2-5
M213 Case	2-9	2-10	2-7	2-7
Quick Release Pin (M175 Mount)	2-11	2-11	2-10	2-11
Install Sub-mount Shock and Retaining Strap			2-12	2-12
Adjust Tee Bolts			2-13	2-14

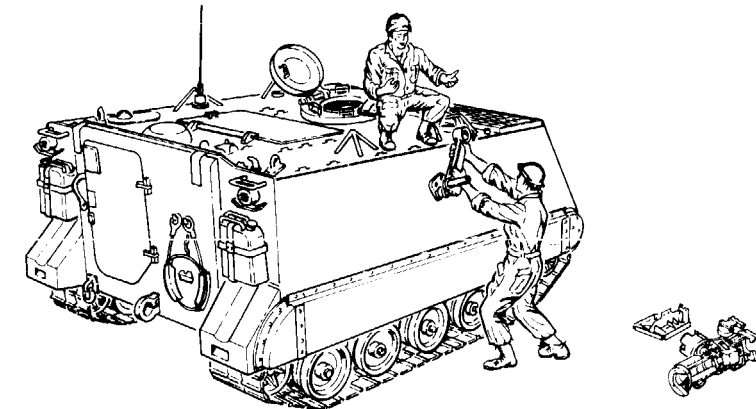
2-6. INSTALL M175 MOUNT

Tools required: 15/16 inch box end wrench
7/16 inch box end wrench
Ratchet wrench
7/16 inch socket
15/16 inch socket
250 ft lb torque wrench (in automotive tool kit)

Personnel required: MOS 11B
MOS 63C

Step 1

A. Climb to the top deck of APC.



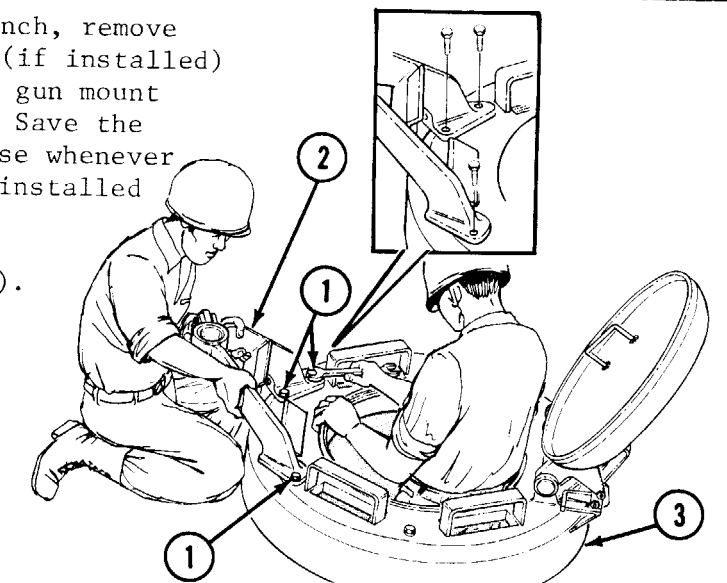
B. Place the following items on top of the APC near the commander's hatch:

1. Swingarm Assembly
2. Launcher Mount
3. Protective Shield
4. Spacer Plate
5. Environment Protective Cover
6. Mounting Bolts (4)

STEP 2

A. Using a 15/16 inch open end wrench, remove the four bolts (1) and washers (if installed) holding the .50 caliber machine gun mount (2) to the APC turret ring (3). Save the bolts (1) and any washers for use whenever the machine gun mount (2) is reinstalled without the M175.

B. Remove the machine gun mount (2). Make sure it doesn't fall when the bolts are removed.

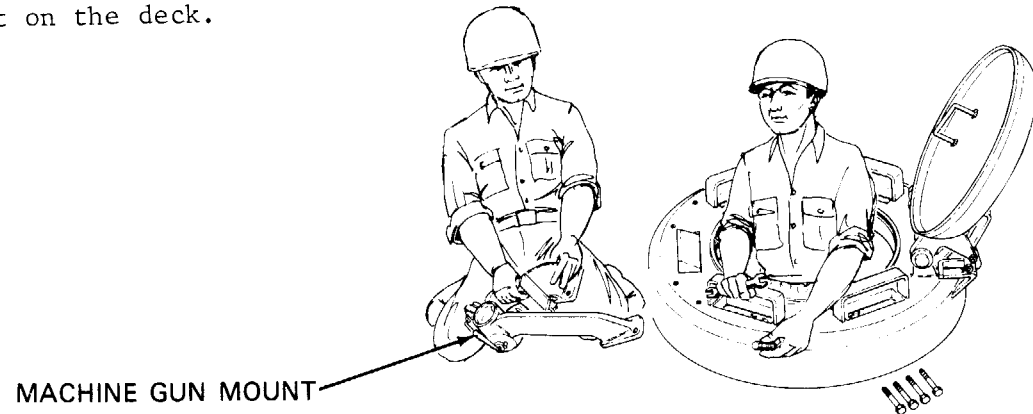


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2-6. INSTALL M175 MOUNT - CONTINUED

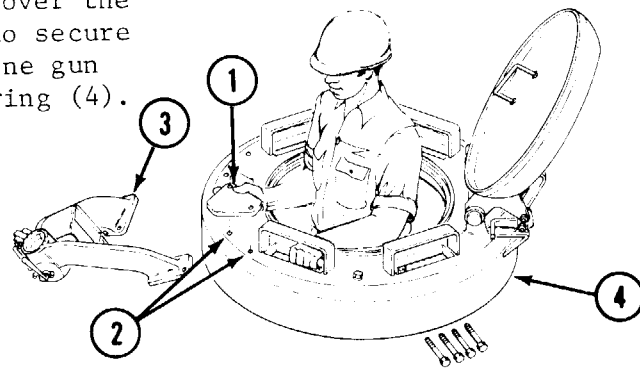
STEP 3

Lift the machine gun mount and set it on the deck.



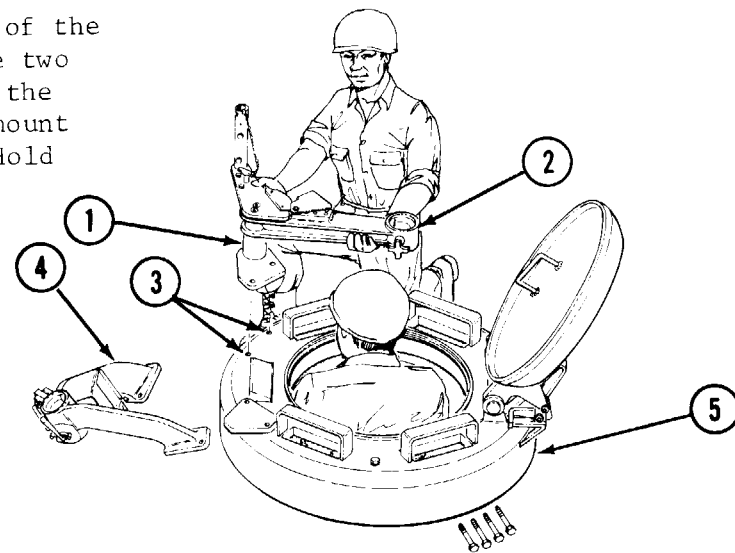
STEP 4

Set the spacer plate (1) over the two bolt holes (2) used to secure the left leg of the machine gun mount (3) to the turret ring (4).



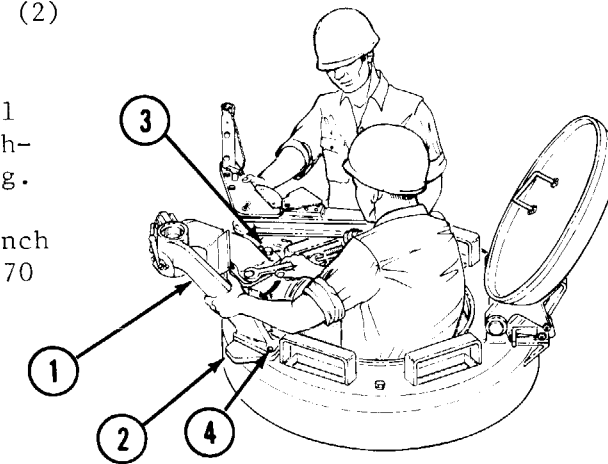
STEP 5

Set the pad assembly post (1) of the swingarm assembly (2) over the two bolt holes (3) used to secure the right leg of the machine gun mount (4) to the turret ring (5). Hold on to it.



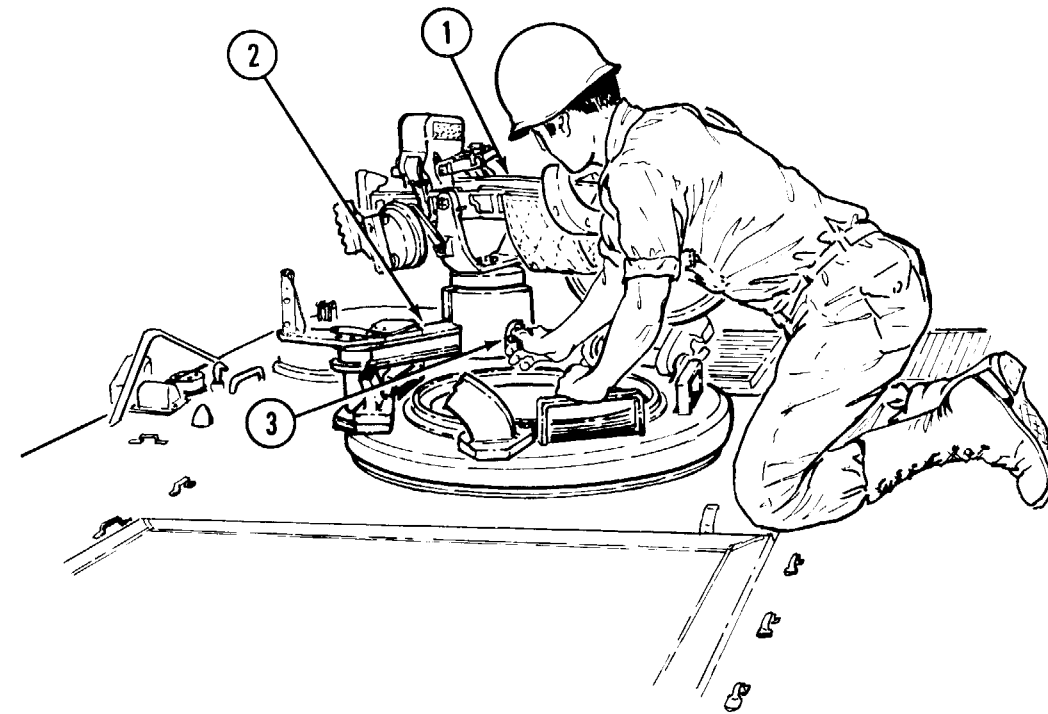
STEP 6

- A. Place the .50 caliber machine gun mount (1) over the spacer plate (2) and pad assembly post (3).
- B. Using 15/16 inch wrench, install four bolts (4) securing the machine gun mount to the turret ring.
- C. Using torque wrench and 15/16 inch socket, torque bolts (4) 56 to 70 foot pounds.



STEP 7

Set the launcher mount (1) in the swingarm assembly (2) and tighten the keeper knob (3) to secure it in place.

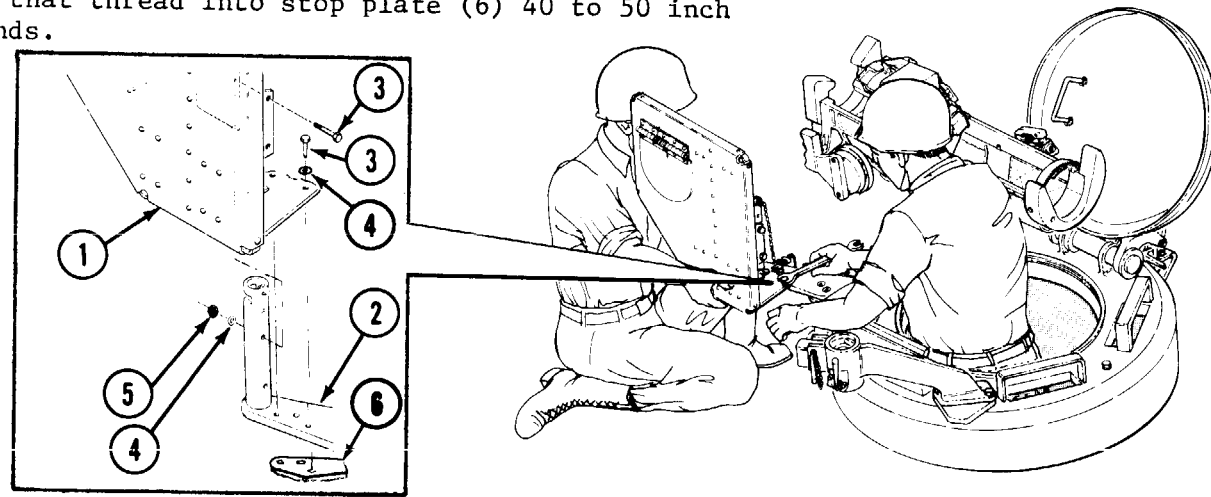


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2-6. INSTALL M175 MOUNT - CONTINUED

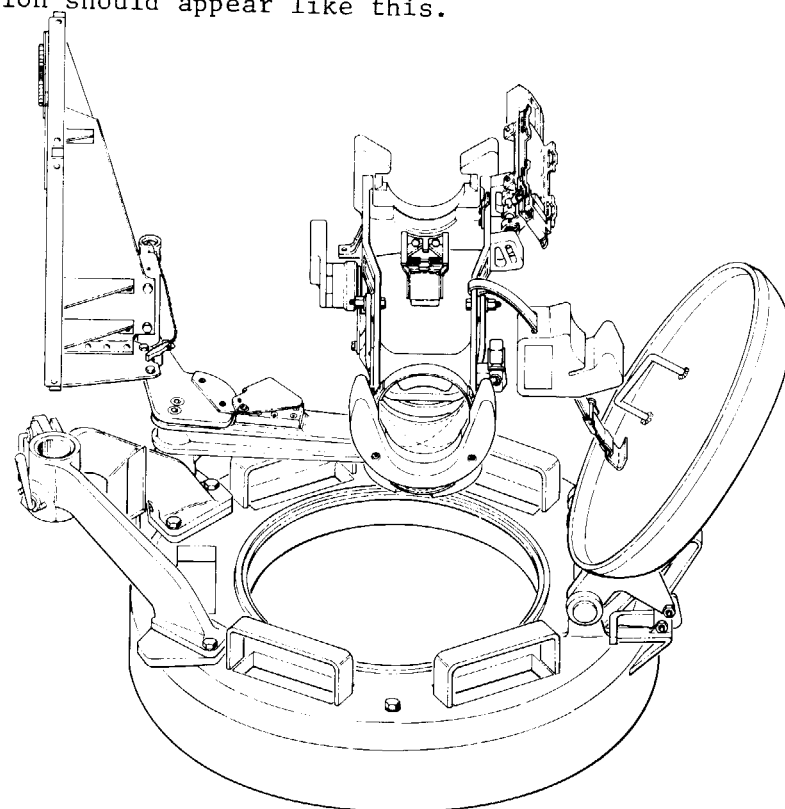
STEP 8

Using ratchet, socket and 7/16 inch wrench, install protective shield (1) and stop plate (6) on the swingarm assembly (2) using four bolts (3), four washers (4), and two nuts (5). Torque the two bolts (3) that thread into stop plate (6) 40 to 50 inch pounds.



STEP 9

Final installation should appear like this.



END OF TASK

2-7. INSTALL M213 CASE

Tools required: Machinist's rule
Ball peen hammer
Transfer punch 5/16 dia.
.332 dia. (Q) drill
Drill motor
3/8 - 16 starting tap
3/8 - 16 bottoming tap
T-handle tap wrench
Countersink tools 3/4 dia.
3/8 - 16 installation tool, (TD428L)
3/16 inch Allen wrench

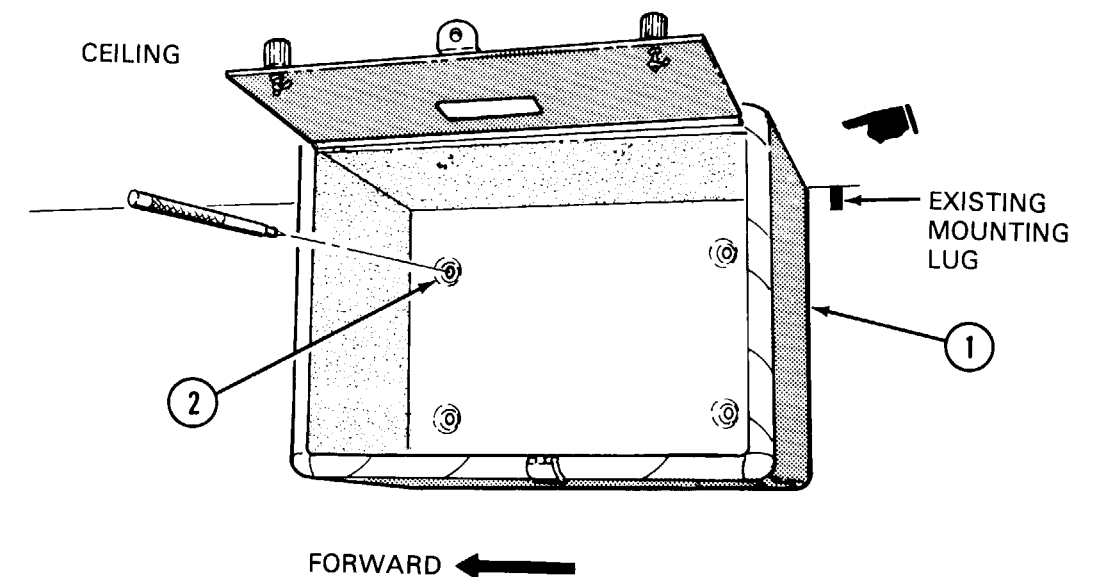
Personnel required: MOS 63C (2)

STEP 1

- Position the case (1) at the forward curbside ceiling at any clear, unobstructed location between the heater and the existing mounting lug.
- Using 5/16 inch transfer punch and hammer, mark the upper left rear mounting hole (2).



Do not allow the case to move before the hole location is marked or the mounting screw may be mislocated.



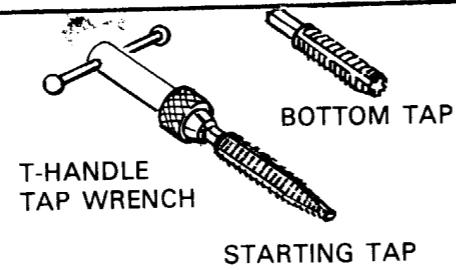
- Using the .332 (Q) diameter drill, drill the upper left rear mounting hole (2) at least 5/8 inch deep, but not more than 3/4 inch deep.

GO TO NEXT PAGE

2-7. INSTALL M213 CASE - CONTINUED

STEP 2

Install the 3/8 - 16 starting thread tap into the T-handle tap wrench. Thread the hole until the tap bottoms in the hole. Install the 3/8 - 16 bottom tap in the T-handle and thread the hole until the tap bottoms in the hole.



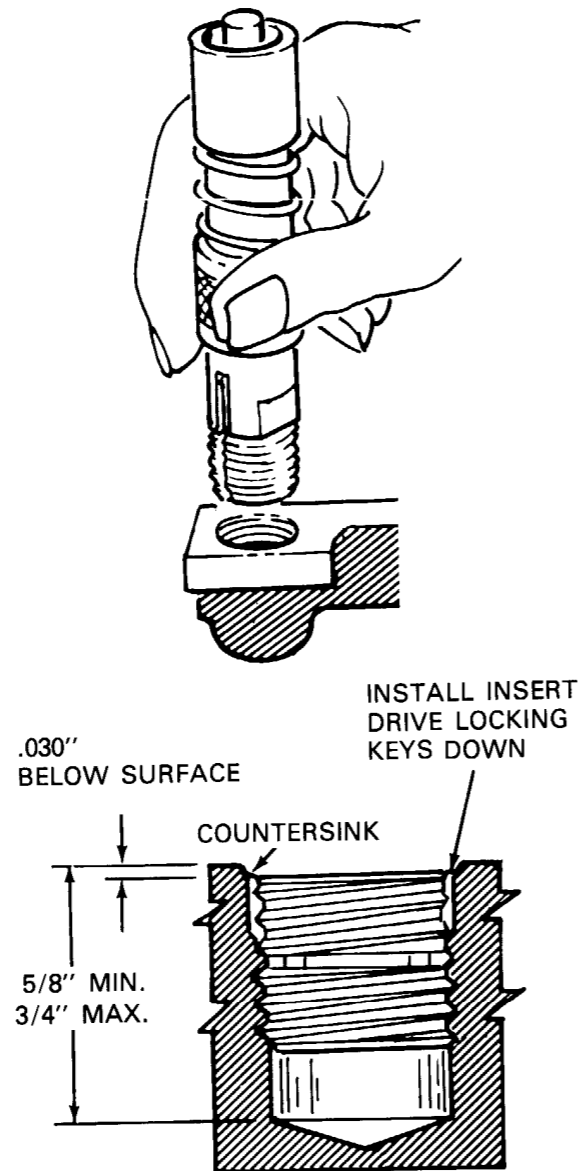
STEP 3

A. Countersink the hole using the countersink tool either by holding the tool by hand and twisting or by using a drill motor. The countersink should remove metal for about .030 (1/32) inch into the hole. Remove the metal fragments from around and inside the hole.



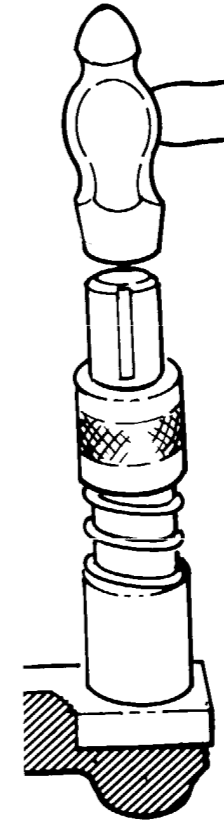
Do not screw the insert too deep. The keys may not gouge enough threads to achieve proper locking.

B. Install insert into installation tool as shown and screw into threaded hole until insert is approximately .030 (1/32) inch below the surface, this position can be felt when the insert keys start dragging on the threaded holes.



STEP 4

Lift installation tool and place other end firmly onto insert. Strike with hammer until locking keys are below surface. The insert is installed.

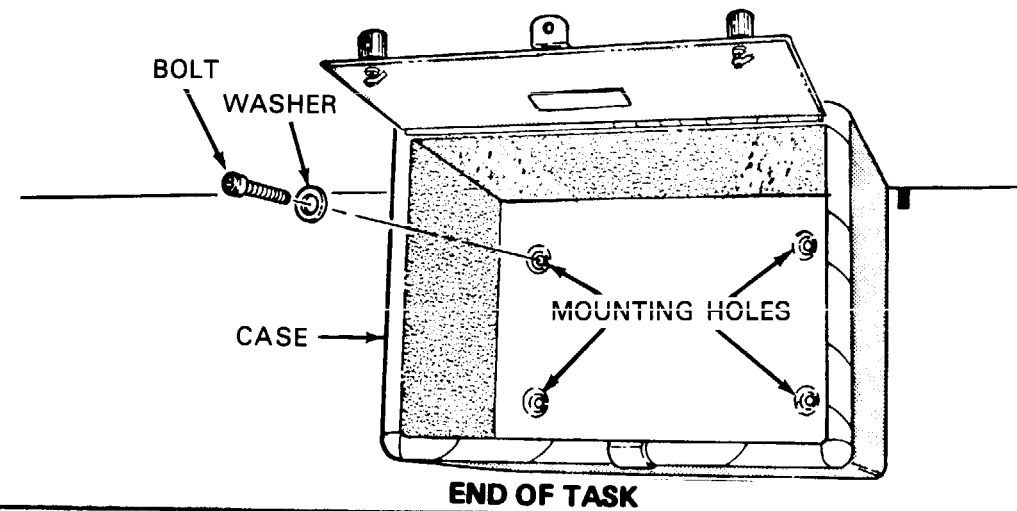


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2-7. INSTALL M213 CASE - CONTINUED

STEP 5

Mount the case with bolt and washer as shown using the 3/16 inch Allen wrench. Determine drill centers of the three remaining holes by striking the 5/16 inch diameter punch with a hammer. Remove the case by removing the upper left screw and washer. Repeat steps above for installation of the three remaining inserts. Install the case in the vehicle using four screws and four flatwashers with the 3/16 inch Allen wrench.



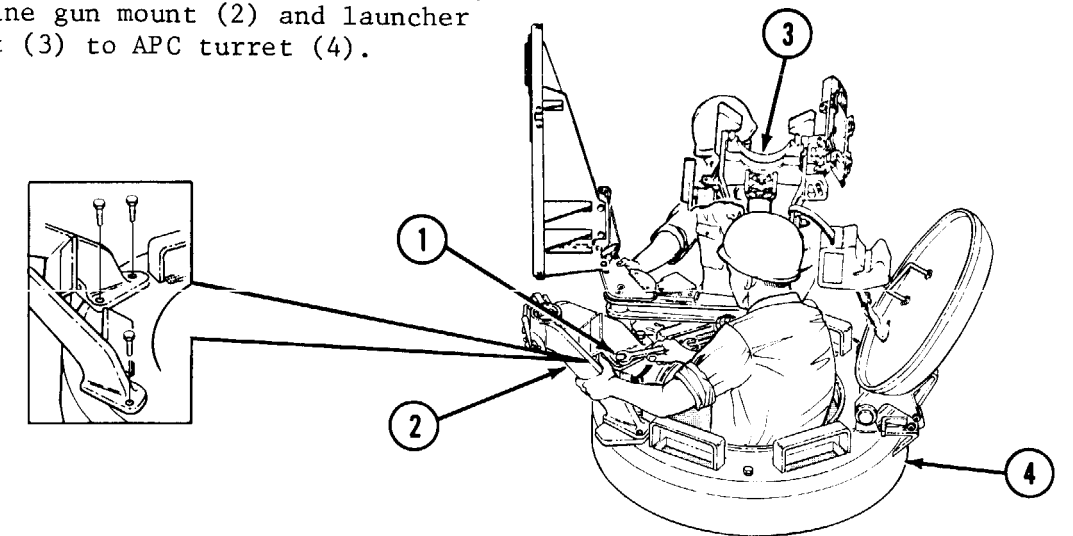
2-8. REMOVE M175 MOUNT

Tools required: 15/16 inch open end wrench

Personnel required: MOS 11B
MOS 63C

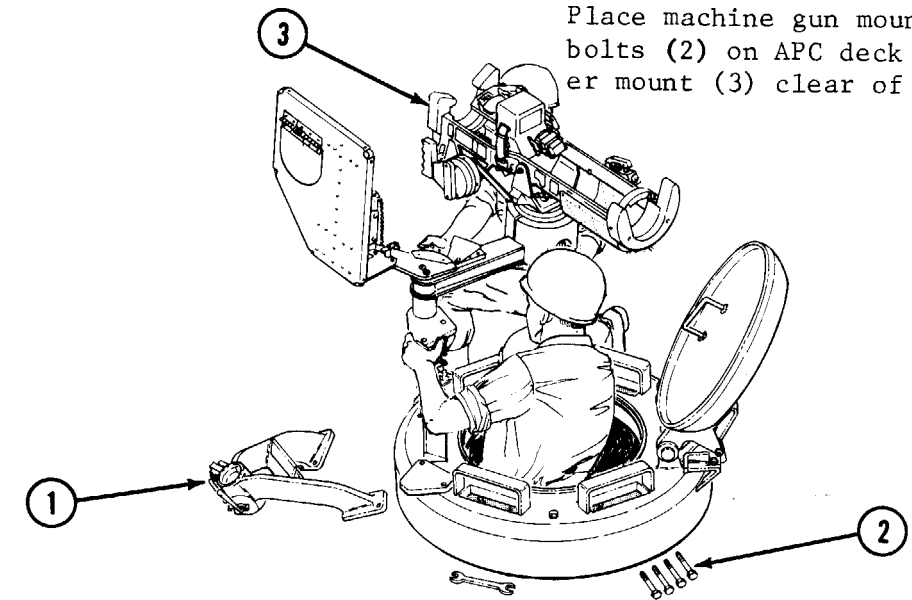
STEP 1

Remove the four bolts (1) attaching machine gun mount (2) and launcher mount (3) to APC turret (4).



STEP 2

Place machine gun mount (1) and bolts (2) on APC deck and lift launcher mount (3) clear of turret.

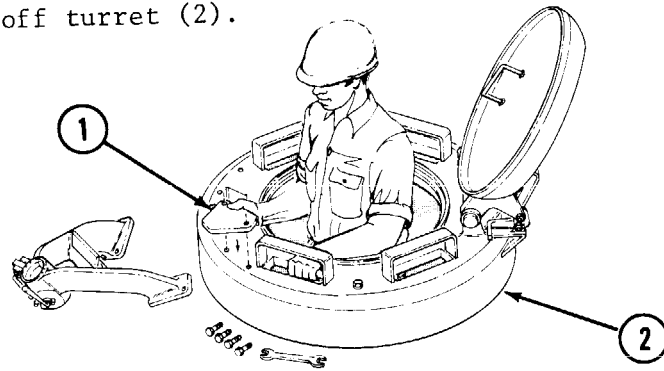


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2-8. REMOVE M175 MOUNT - CONTINUED

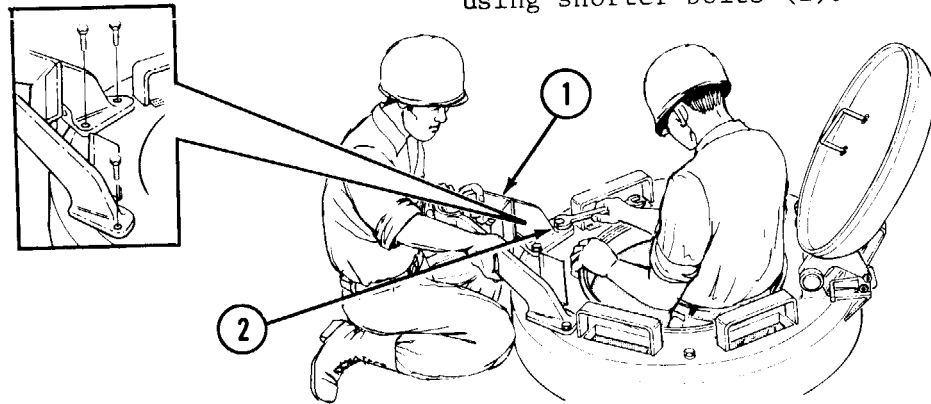
STEP 3

Lift spacer plate (1) off turret (2).



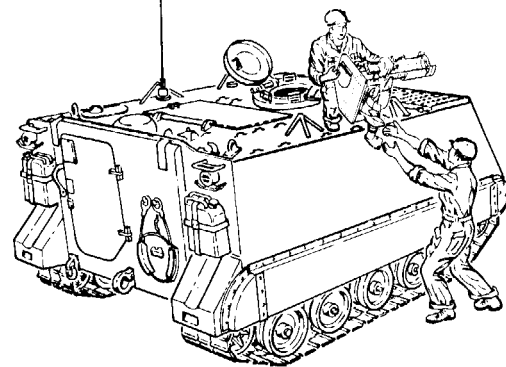
STEP 4

Install machine gun mount (1) on turret using shorter bolts (2).



STEP 5

Remove launcher mount, spacer plate, and four bolts from the APC.



END OF TASK

2-9. REMOVE M213 CASE

Tools required: 3/16 inch Allen wrench

Equipment condition: Tracker removed from M213 case.

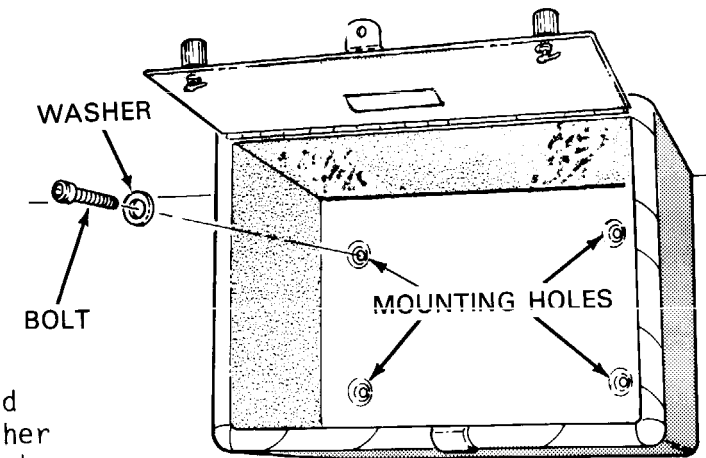
Personnel required: MOS 63C

A. Using a 3/16 inch Allen wrench, remove three bolts and three washers that secure case to APC wall.



NOTE

Case is now supported by one Allen bolt in case back.



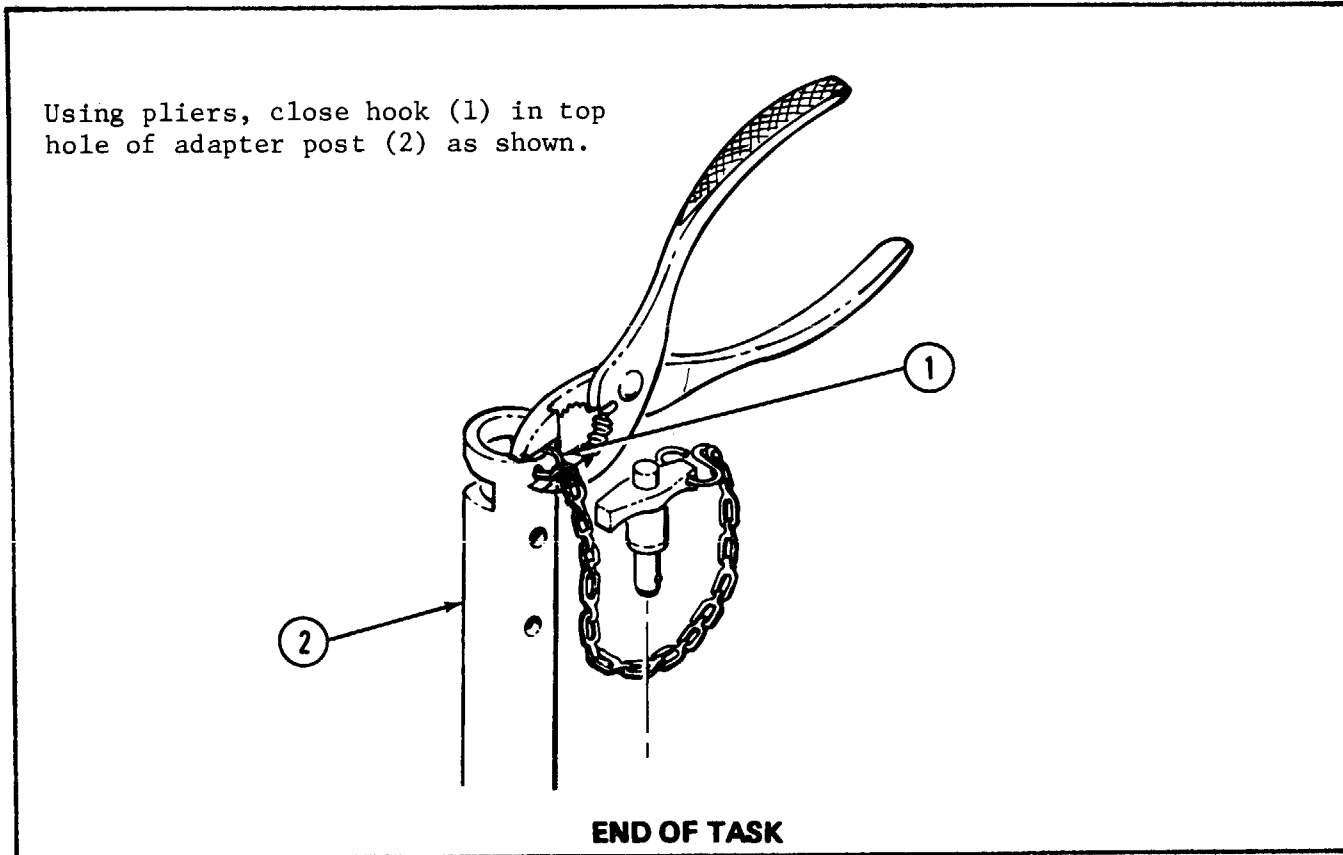
B. Support case with one hand and remove remaining bolt and washer with the 3/16 inch Allen wrench, remove case from the wall.

END OF TASK

2-10. INSTALL QUICK RELEASE PIN (M175 MOUNT)

Tools required: Pliers

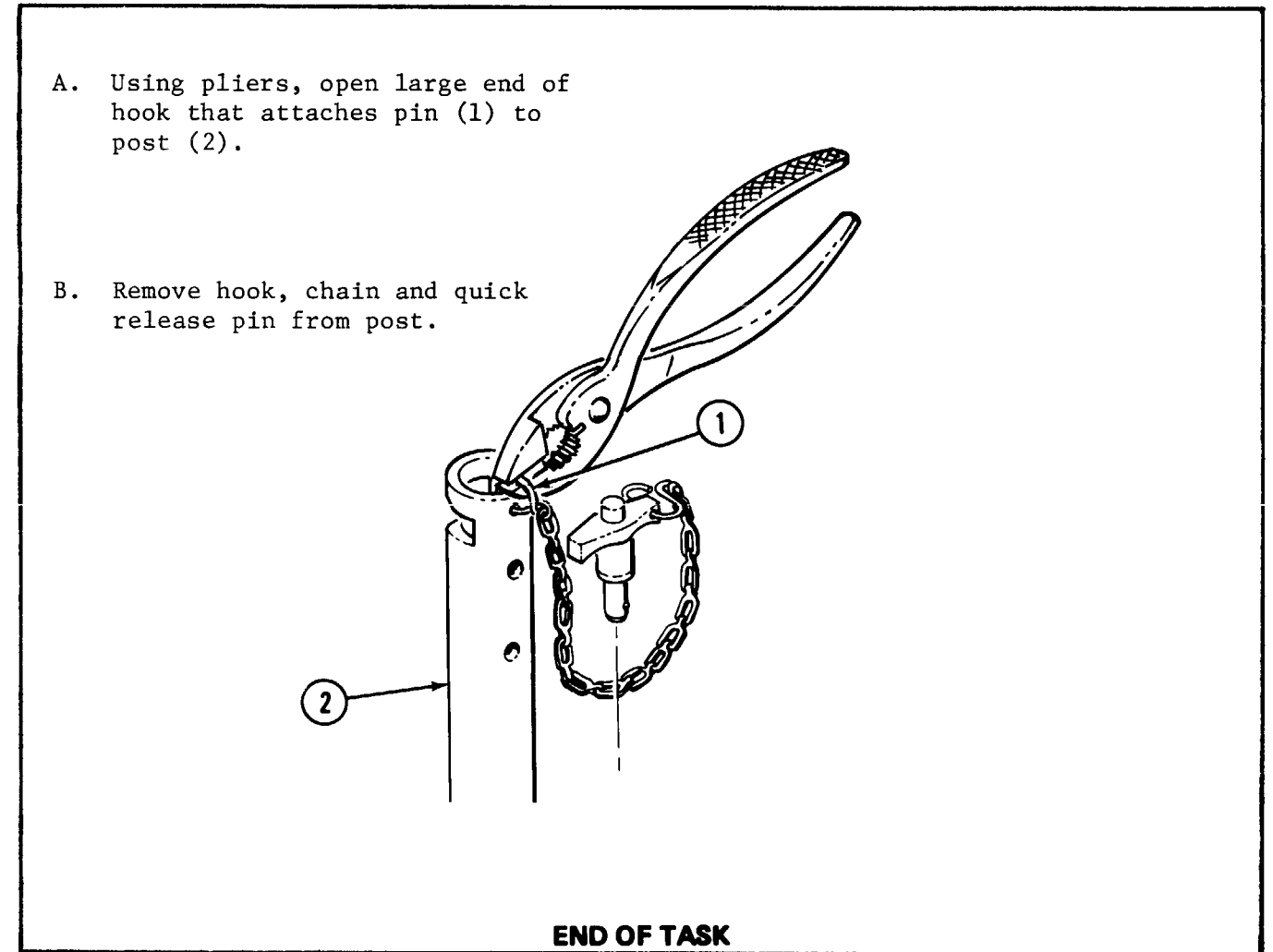
Personnel required: MOS 63C



2-11. REMOVE QUICK RELEASE PIN (M175 MOUNT)

Tools required: Pliers

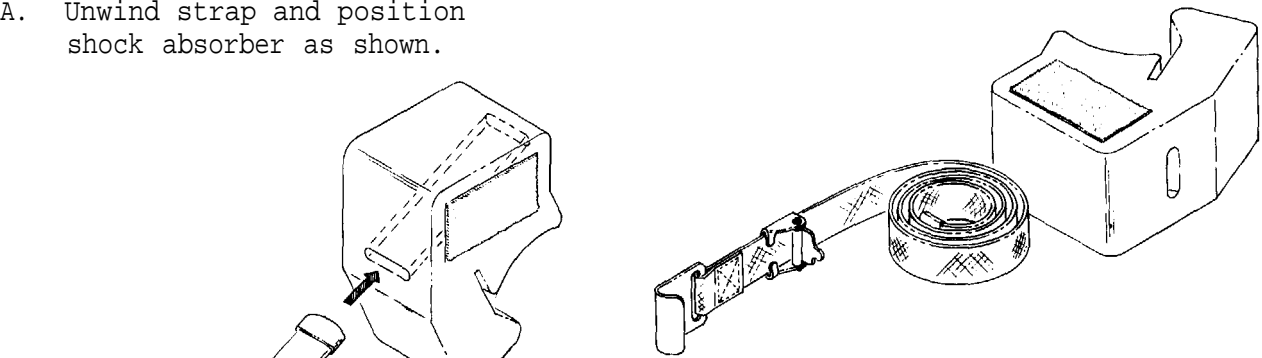
Personnel required: MOS 63C



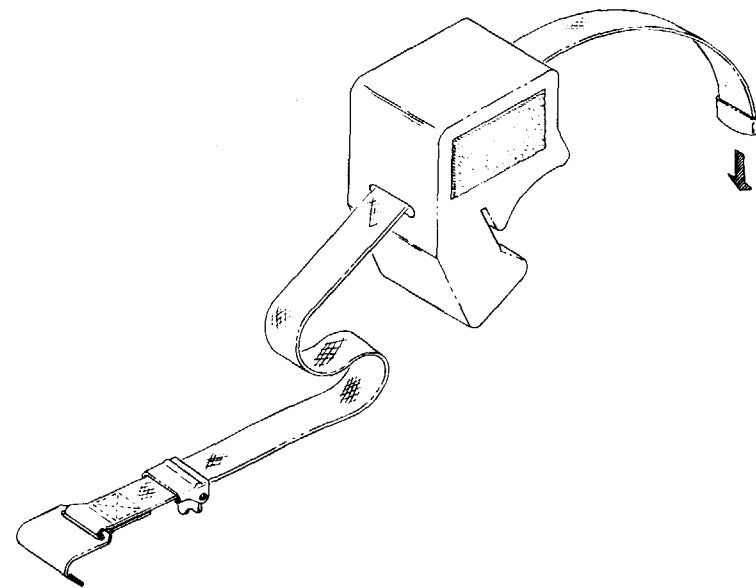
2-12. INSTALL SUB-MOUNT SHOCK AND RETAINING STRAP

STEP 1

A. Unwind strap and position shock absorber as shown.

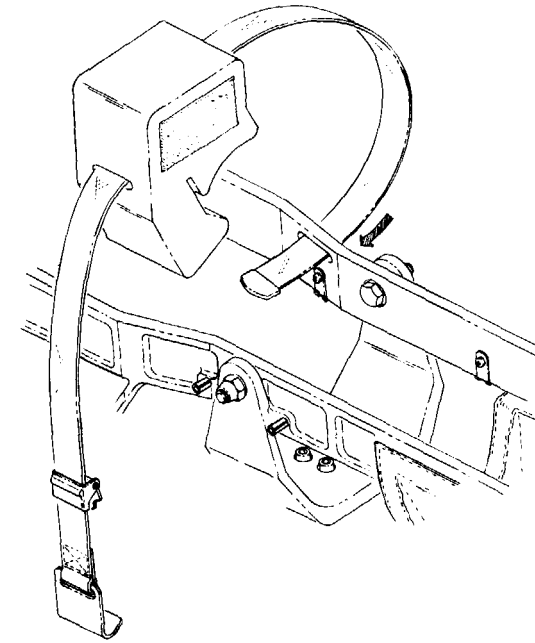


B. Pass end of strap through shock absorber.



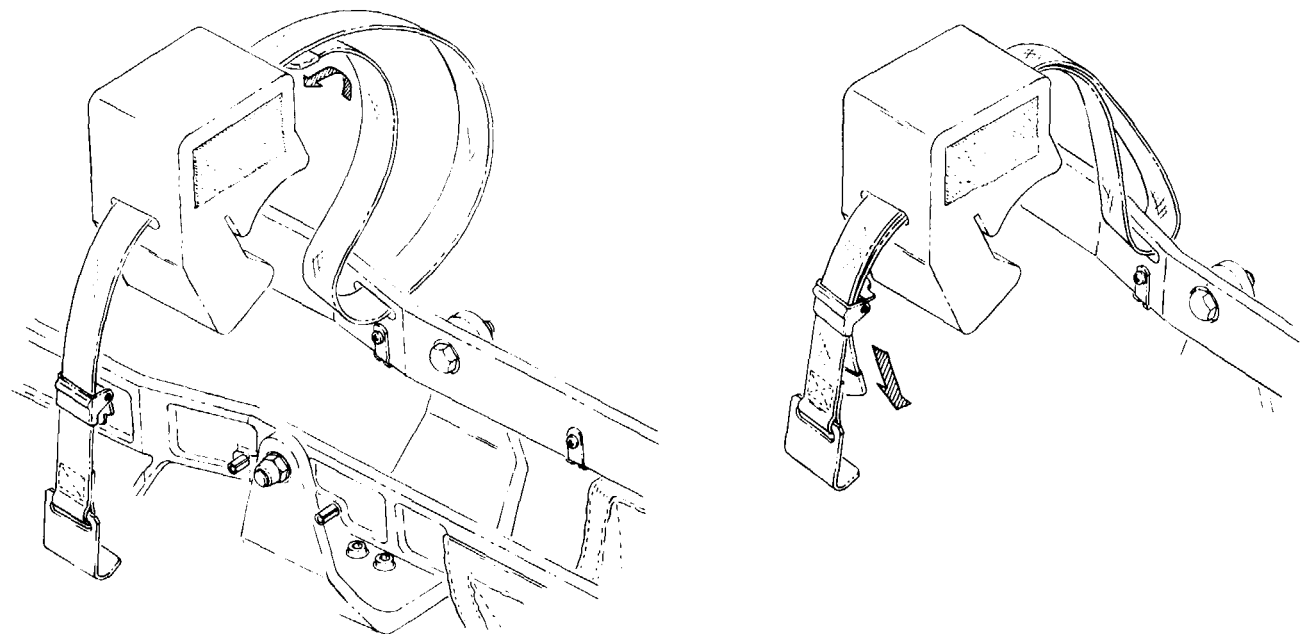
STEP 2

Pass end of strap through slot in outboard side of cradle.



STEP 3

Route strap back through the shock absorber and adjusting clip.

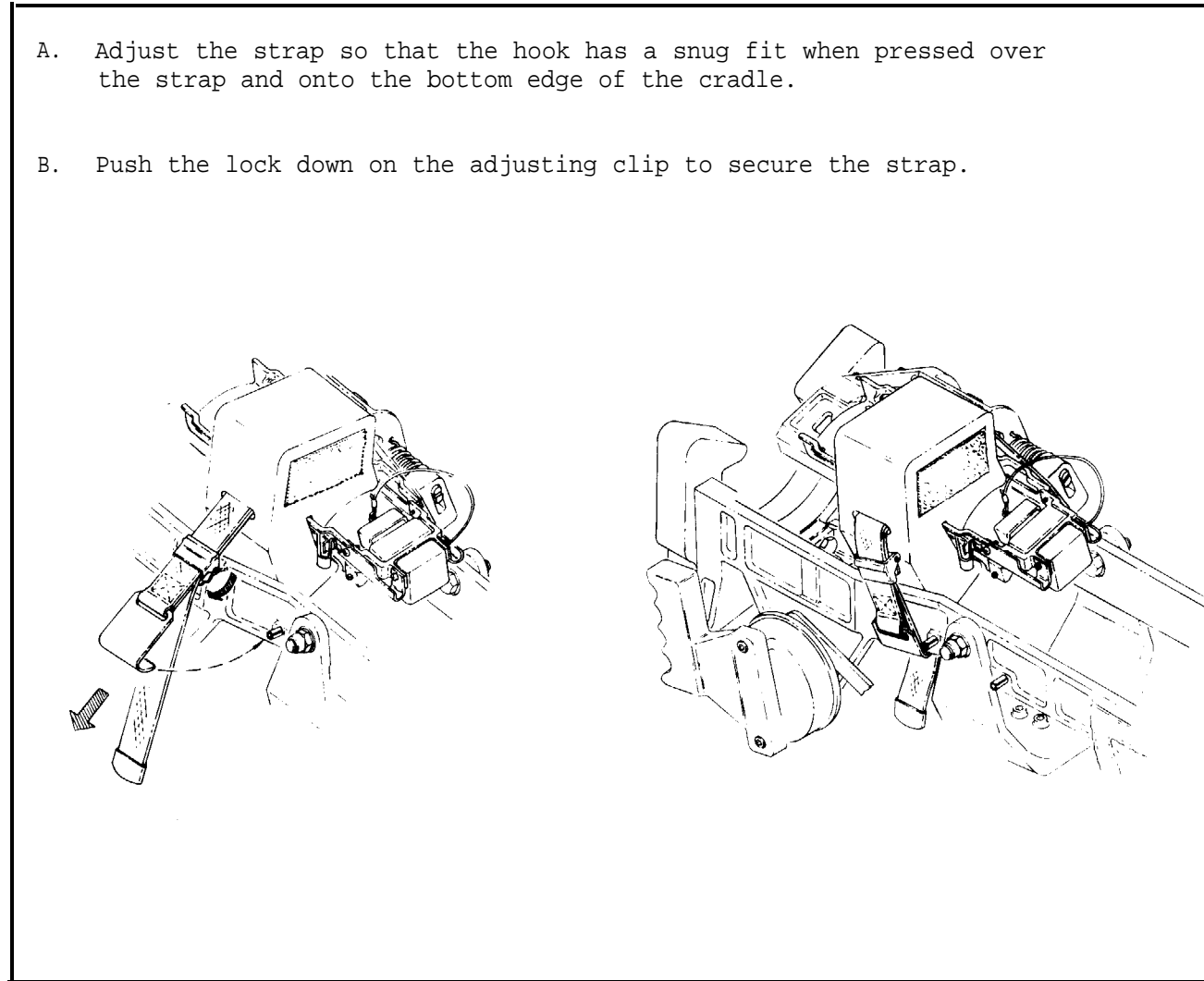


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2-12. INSTALL SUB-MOUNT SHOCK AND RETAINING STRAP - CONTINUED

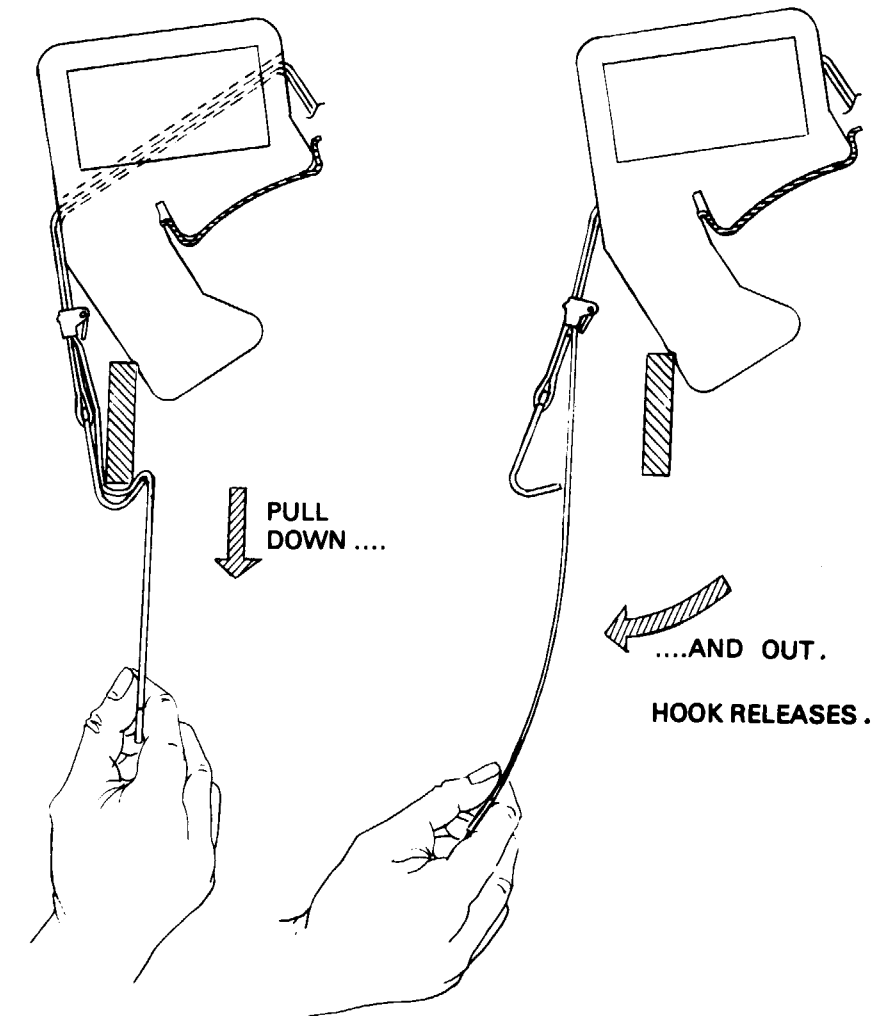
STEP 4

- A. Adjust the strap so that the hook has a snug fit when pressed over the strap and onto the bottom edge of the cradle.
- B. Push the lock down on the adjusting clip to secure the strap.



STEP 5

Check for proper adjustment of the strap and hook as follows:

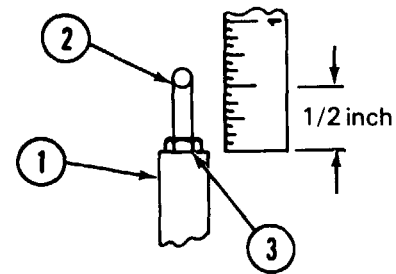


END OF TASK

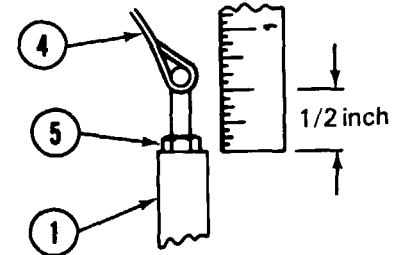
2-13. ADJUST THE BOLTS

Tools required: 3/8 inch open end wrench
Machinist's rule

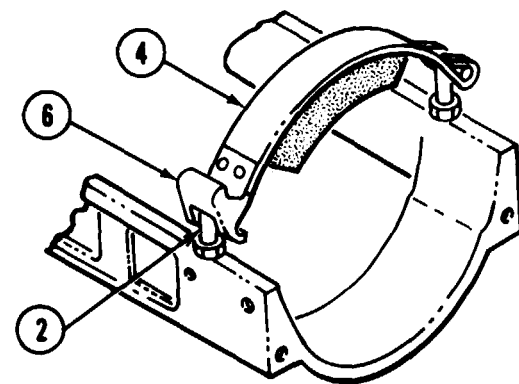
A. Use a rule and measure from top of cradle (1) to bottom of tee bolt (2). It should measure 1/2 inch. If not--use wrench to loosen lock nut (3) and rotate tee bolt (2) to obtain required adjustment. Retighten lock nut (3).



B. Use rule and measure from top of cradle (1) to bottom of strap (4) around tee bolt. It should measure 1/2 inch. If not--use wrench to loosen lock nut (5) and rotate strap (4) and tee bolt to obtain required adjustment. Retighten lock nut (5). It may be necessary to leave this adjustment slightly over the required 1/2 inch so that the hook will be in proper position to engage the opposite tee bolt.



c. Check to make sure the strap (4), hook (6), and tee bolts (2), are properly aligned.



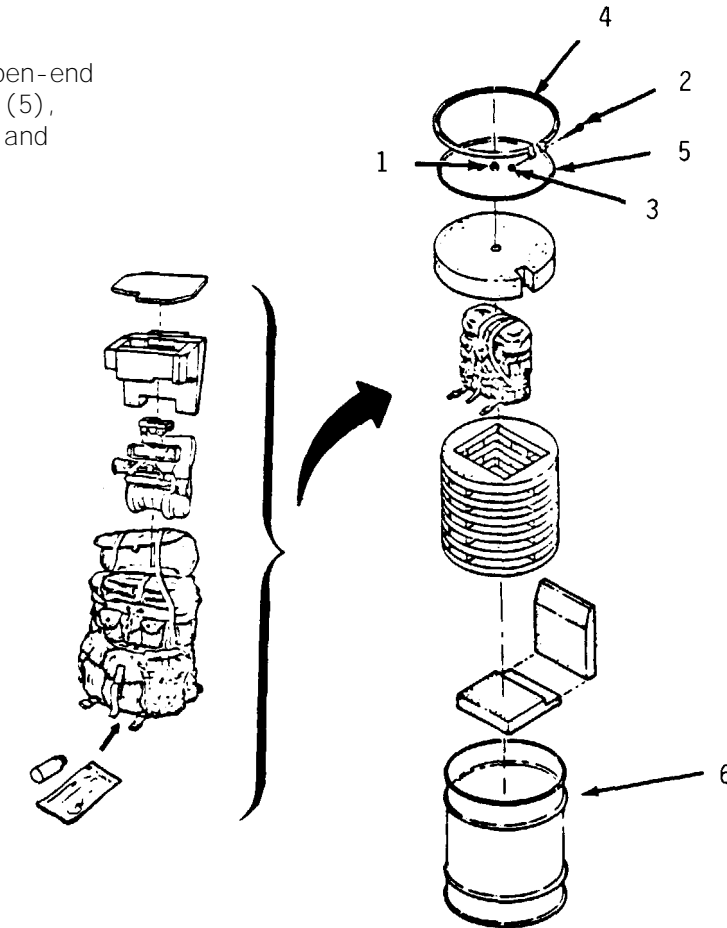
END OF TASK

SECTION IV. NIGHT TRACKER

2-14. REPLACE CUSHIONING MATERIAL

Tools required: 1/2-inch flat-blade screwdriver
9/16 open-end wrench

- A. Press button on relief valve (1) to equalize pressure.
- B. Using screwdriver and open-end wrench, remove bolt (2), nut (3), lock ring (4), and cover (5).
- C. Replace any damaged cushioning material.
- D. Repack container (6).
- E. Using screwdriver and open-end wrench, reinstall cover (5), lock ring (4), nut (3), and bolt (2).



CHAPTER 3
DS/GS MAINTENANCE INSTRUCTIONS-MONITORING SET, GUIDED
MISSILE SYSTEM, TRAINING AN/TSQ-T1

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Section II. SERVICE UP ON RECEIPT	3-1
Section III. SCHEDULED MAINTENANCE	3-1
Section IV. TROUBLESHOOTING	3-1
Section V. MAINTENANCE PROCEDURES	3-2

Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT

	Para	Page
Special Tools and Test Equipment	3-1	3-1
Repair Parts	3-2	3-1

3-1. SPECIAL TOOLS AND TEST EQUIPMENT

None required.

3-2. REPAIR PARTS

See TM 9-6920-480-24P for a listing of authorized repair parts.

Section II. SERVICE UPON RECEIPT

	Para	Page
Inventory Inspection	3-3	3-1
Maintenance Forms and Records	3-4	3-1

3-3. INVENTORY INSPECTION

When a monitoring set is received from the using organization, perform an inventory and inspection. See TM 9-6920-484-12.

3-4. MAINTENANCE FORMS AND RECORDS

Make sure that maintenance forms DA-2404 and DA-2407 are completed as shown in DA PAM 738-750.

Section III. SCHEDULED MAINTENANCE

	Para	Page
Maintenance Schedule	3-5	3-1

3-5. MAINTENANCE SCHEDULE

a. The monitoring set will be checked by DS/GS maintenance every 90 days. The unit commander may request an earlier check as conditions warrant.

b. The scheduled maintenance will be performed in accordance with procedures outlined in TM 9-4935-484-14.

Section IV. TROUBLESHOOTING

	Para	Page
Fault isolation and Troubleshooting	3-6	3-1

3-6. FAULT ISOLATION AND TROUBLESHOOTING

Fault isolation of Monitoring Set AN/TSQ-T1 is provided by LCSS. Refer to the applicable schematics and wiring diagrams in Appendix F for troubleshooting the Monitoring Set.

Section V. MAINTENANCE PROCEDURES

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Storage Batteries (BT1, BT2, BT3 and BT4)	3-30	3-20	3-67	3-56
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Circuit Card Box Access Door Rubber Pad	3-33	3-23	3-64	3-53
Electrical Connector Cover (J3)	3-34	3-24	3-63	3-53
(S1, S4, S5 and S8) Switches	3-35	3-24	3-62	3-52
Recorder Switch (S6)	3-36	3-25	3-61	3-51
Relay Assembly	3-37	3-26	3-60	3-50
Rotary Switch (S2) and Wafers	3-38	3-27	3-51	3-40
(S2) Switch Connectors	3-39	3-30	3-50	3-39
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Thermostatic Switch (S9) and Thermal Resistor (R3)	3-47	3-36	3-52	3-42
TARGET RANGE Light Assembly (DS1 through DS10)	3-48	3-37	3-49	3-38
Final Inspection			3-91	3-80

3-7. REMOVE IDENTIFICATION PLATE

Tools required: Craftsman's knife
 Machinist's stamp and die kit
 Ball peen hammer

Materials required:

Materials

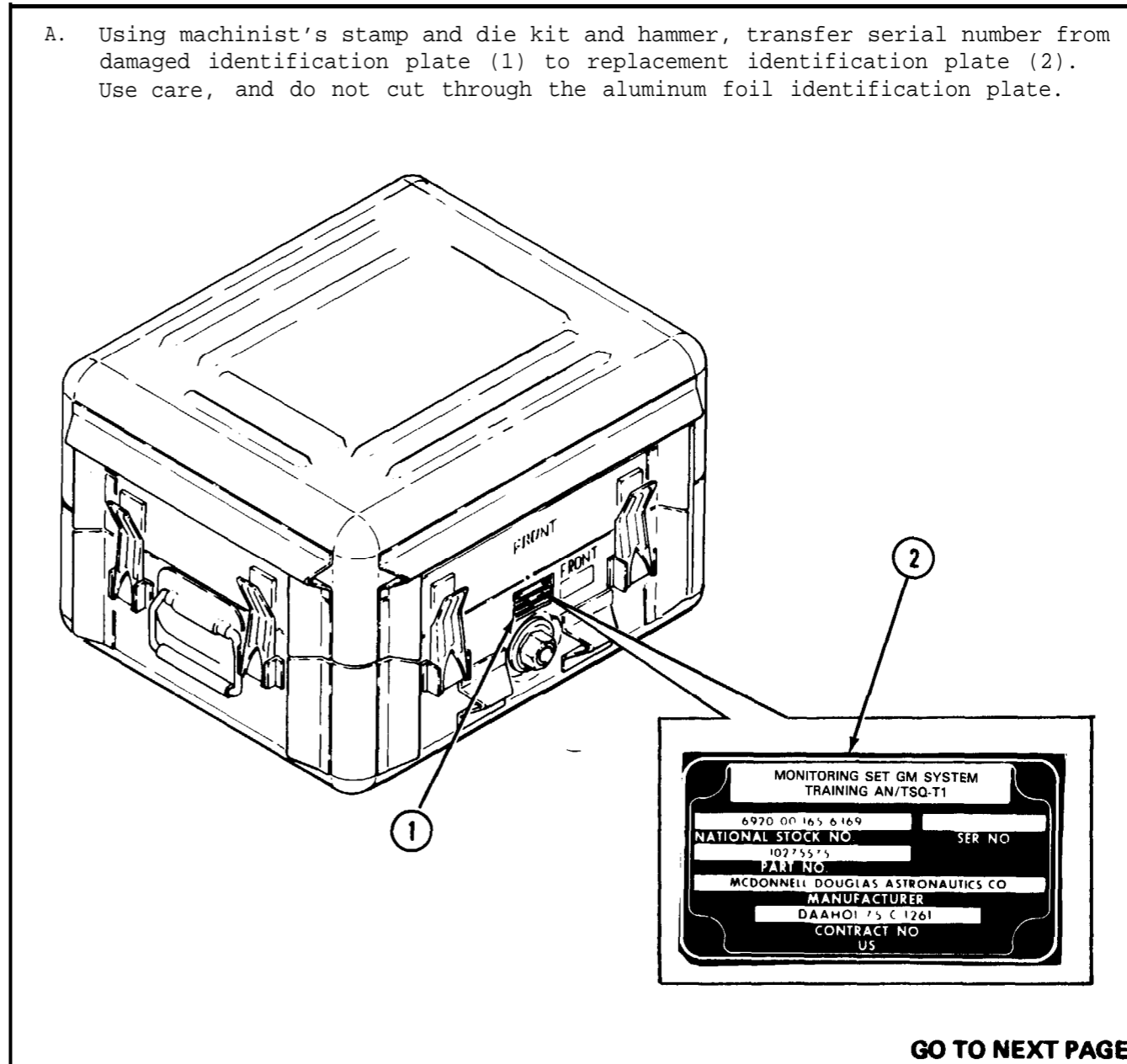
MEK
 Cleaning cloth

See Appendix D

Item 5
 Item 6

STEP 1

- A. Using machinist's stamp and die kit and hammer, transfer serial number from damaged identification plate (1) to replacement identification plate (2). Use care, and do not cut through the aluminum foil identification plate.



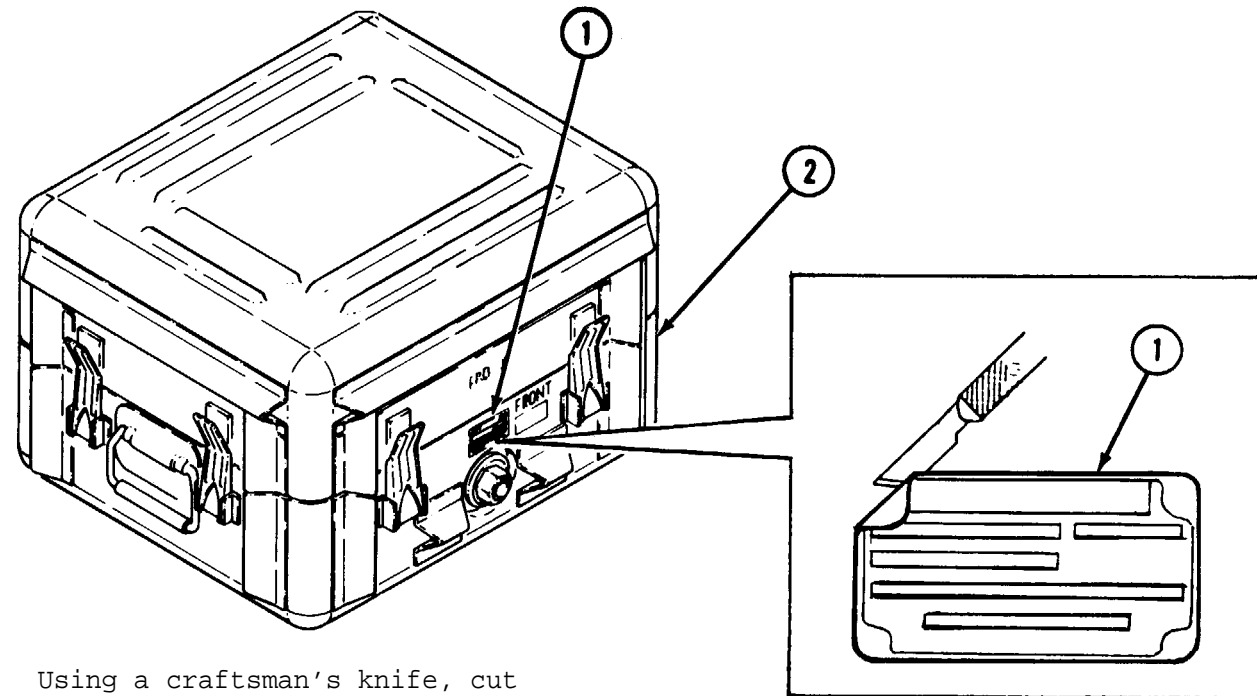
GO TO NEXT PAGE

3-7. REMOVE IDENTIFICATION PLATE – CONTINUED

STEP 2



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.



- B. Using a craftsman's knife, cut identification plate (1) away from monitoring set base (2).
- c. Using MEK and cleaning cloth, clean identification plate monitoring area.

END OF TASK

3-8. REMOVE GASKET SEAL

Tools required: Craftsman's knife

Materials required:

Materials

See Appendix D

Orangewood stick

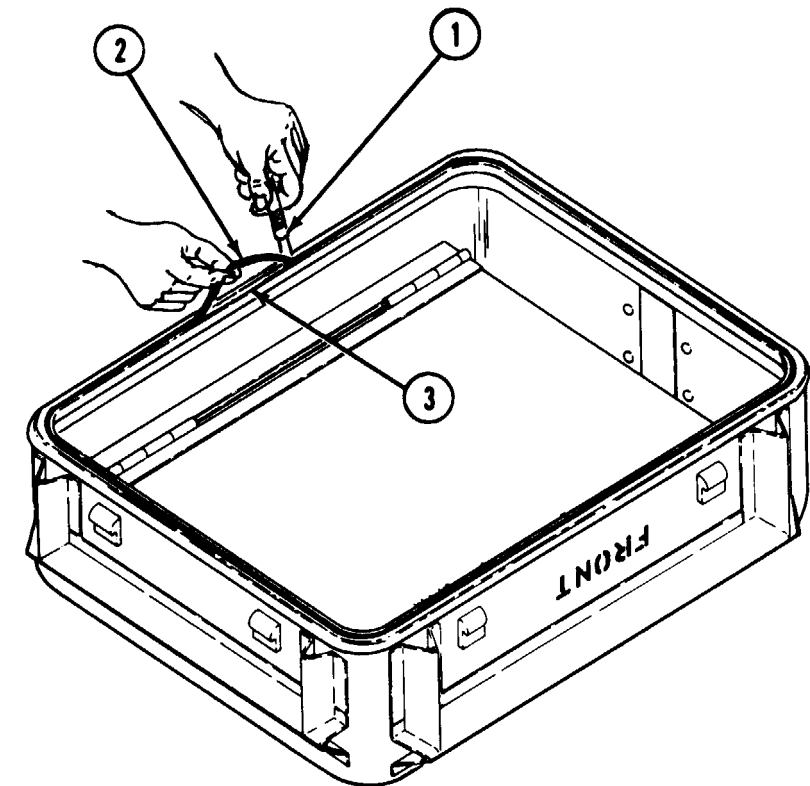
Item 7

Cleaning cloth

Item 6

Equipment condition: Monitoring set lid removed, see TM 9-6920-484-12.

Using the craftsman's knife (1) pry the rubber seal (2) out of the monitoring set lid groove (3). Once you get the rubber seal (2) started out, carefully pull the remainder of it out by hand.



END OF TASK

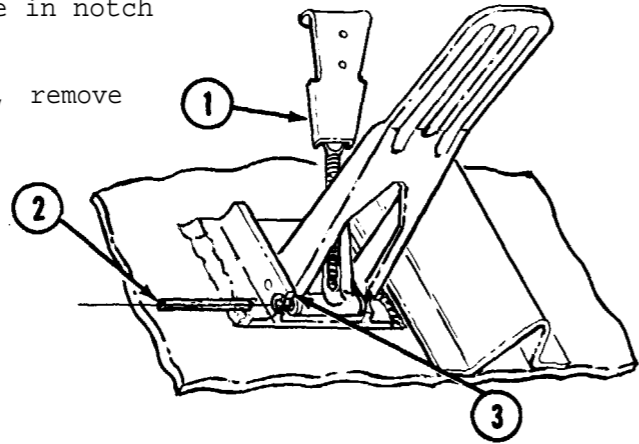
3-9. REMOVE LATCH

Tools required: Ball peen hammer
3/32 inch drift punch
10 inch flat-blade screwdriver

Equipment condition: Monitoring set lid removed, see TM 9-6920-484-12.

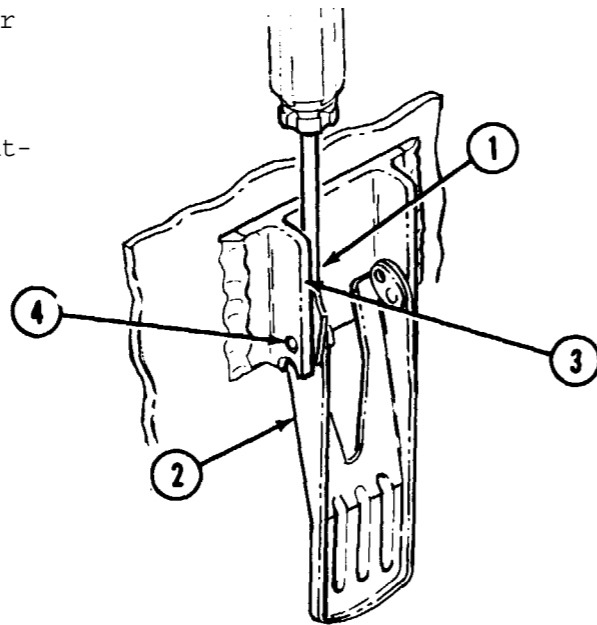
STEP 1

- A. Rotate the handle and latch (1) until the pin (2) becomes visible in notch of bracket (3).
- B. Using the punch and hammer, remove the pin (2).



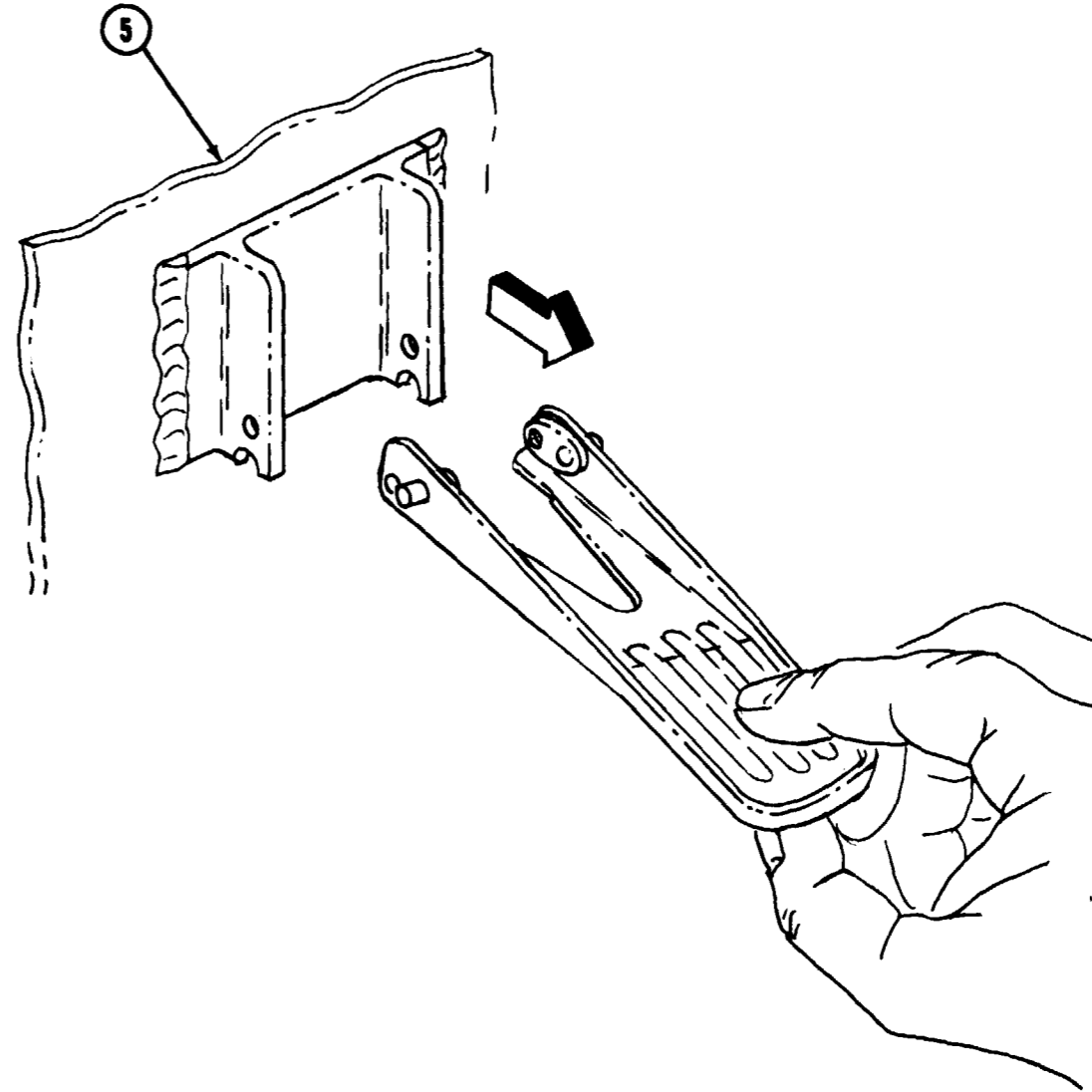
STEP 2

- A. Place the blade of the screwdriver (1) between the handle (2) and bracket (3). Apply pressure on the handle with the screwdriver until the pin (4) clears the mounting bracket.



STEP 2 - CONTINUED

- B. Remove latch handle from case (5).



END OF TASK

3-10. REMOVE INSTRUCTION PLATE

Tools required: Craftsman's knife

Materials required:

Materials

MEK
Cleaning cloth

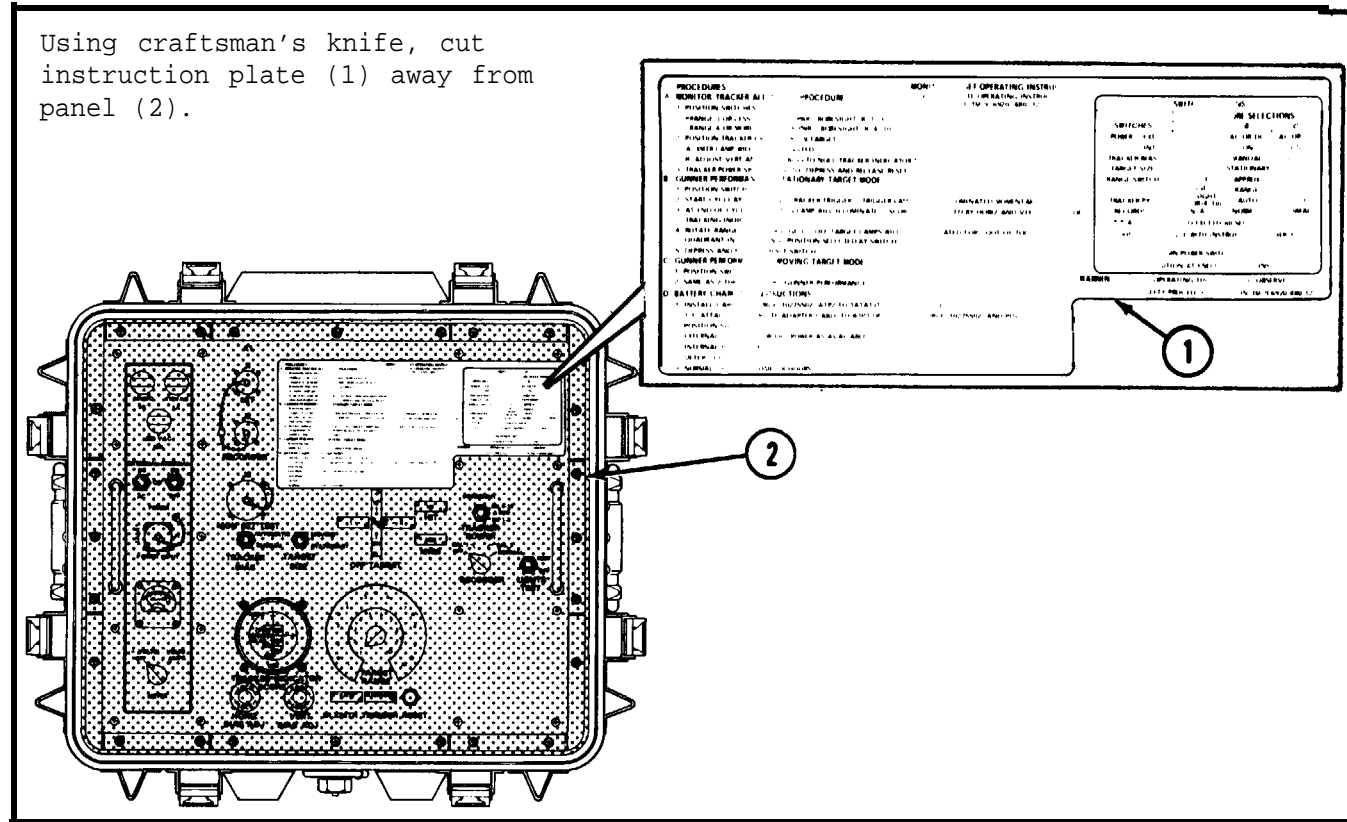
See Appendix D

Item 5
Item 6

Equipment condition: Monitoring set lid removed, see TM 9-6920-484-12.

STEP 1

Using craftsman's knife, cut instruction plate (1) away from panel (2).



STEP 2



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat.

Using MEK and cleaning cloth, clean the instruction plate mounting area.

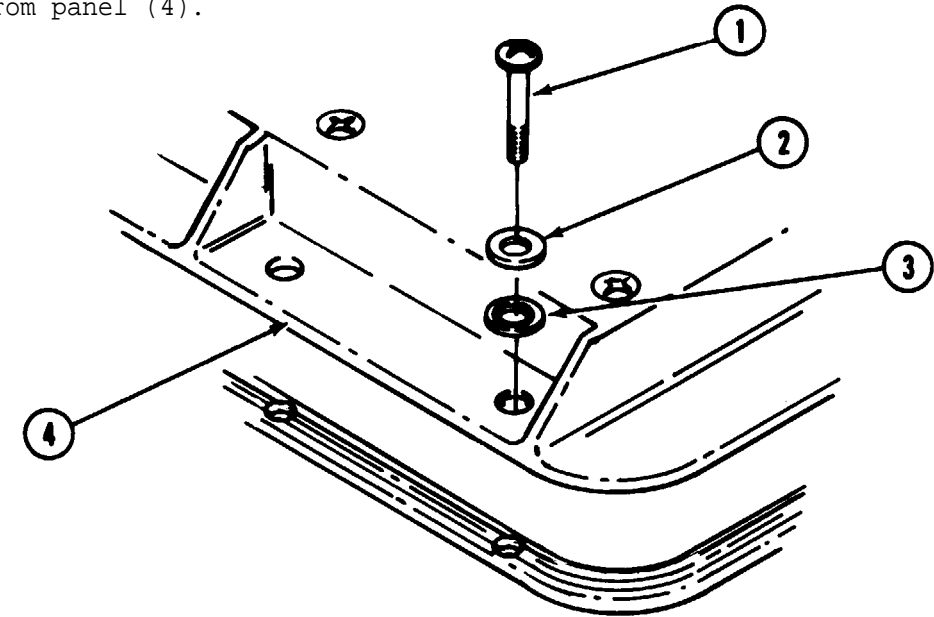
END OF TASK

3-11. REMOVE MONITORING SET PANEL

Tools required: Speed handle
No. 2 crosspoint bit

Equipment condition: Monitoring set lid removed, see TM 9-6920-484-12.

A. Using speedhandle and screw bit, remove the twenty-four screws (1), flat washers (2) and sealing washers (3) from panel (4).



B. Remove panel (4) from monitoring set base.

END OF TASK

3-12. REMOVE BATTERY CHARGER

Tools required: No. 2 crosspoint screwdriver
Craftsman's knife

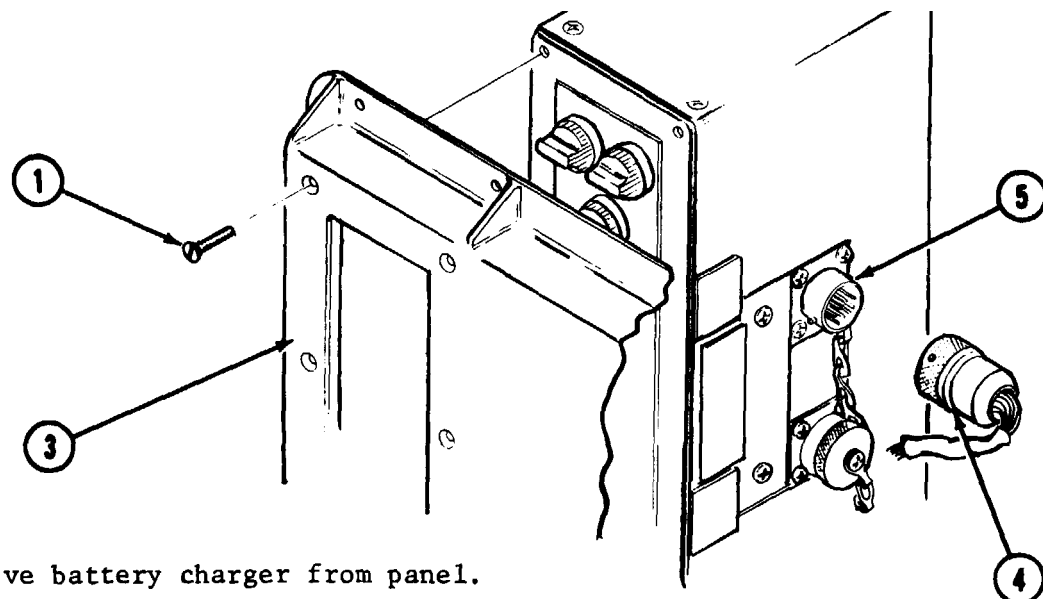
Equipment condition: Monitoring set panel removed, see para. 3-11.



NOTE

It may be necessary to loosen gasket with craftsman's knife.

- A. Using screwdriver, remove ten screws (1) securing battery charger (2) to panel (3).



- B. Remove battery charger from panel.

- C. Disconnect connector P2 (4) from receptacle AlJ2 (5).

END OF TASK

Follow-on Task: Inspect gasket and remove if damaged, see para 3-13.
Install new gasket, see para. 3-84.

3-13. REMOVE BATTERY CHARGER GASKET

Tools required: Craftsman's knife

Materials required:

Materials

See Appendix D

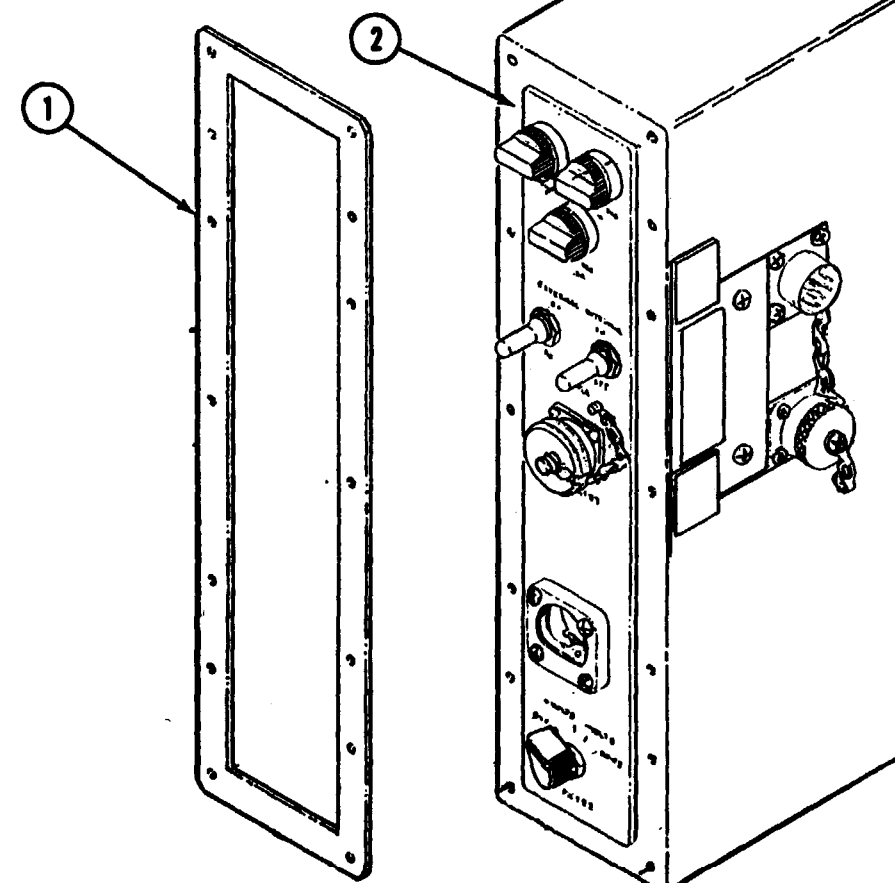
Orangewood stick

Item 7

Equipment condition: Battery Charger removed, see para. 3-12.

STEP 1

Using craftsman's knife, carefully remove gasket (1) from battery charger panel (2).



STEP 2

Using craftsman's knife and an orangewood stick, remove any residual sealing compound from panel.

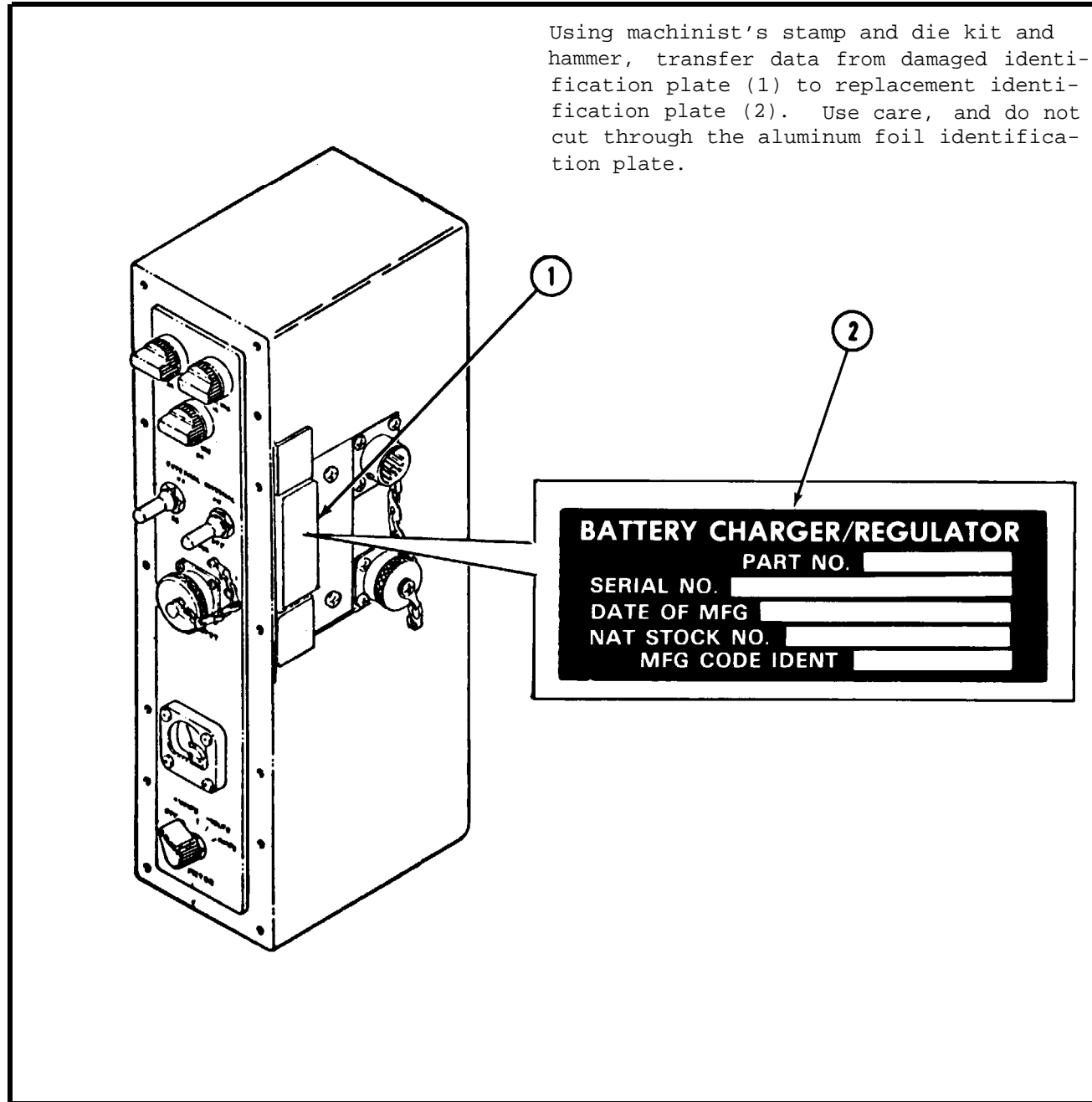
END OF TASK

3-14. REMOVE BATTERY CHARGER IDENTIFICATION PLATE

Tools required: Craftsman's knife
 Machinist's stamp and die kit
 Ball peen hammer

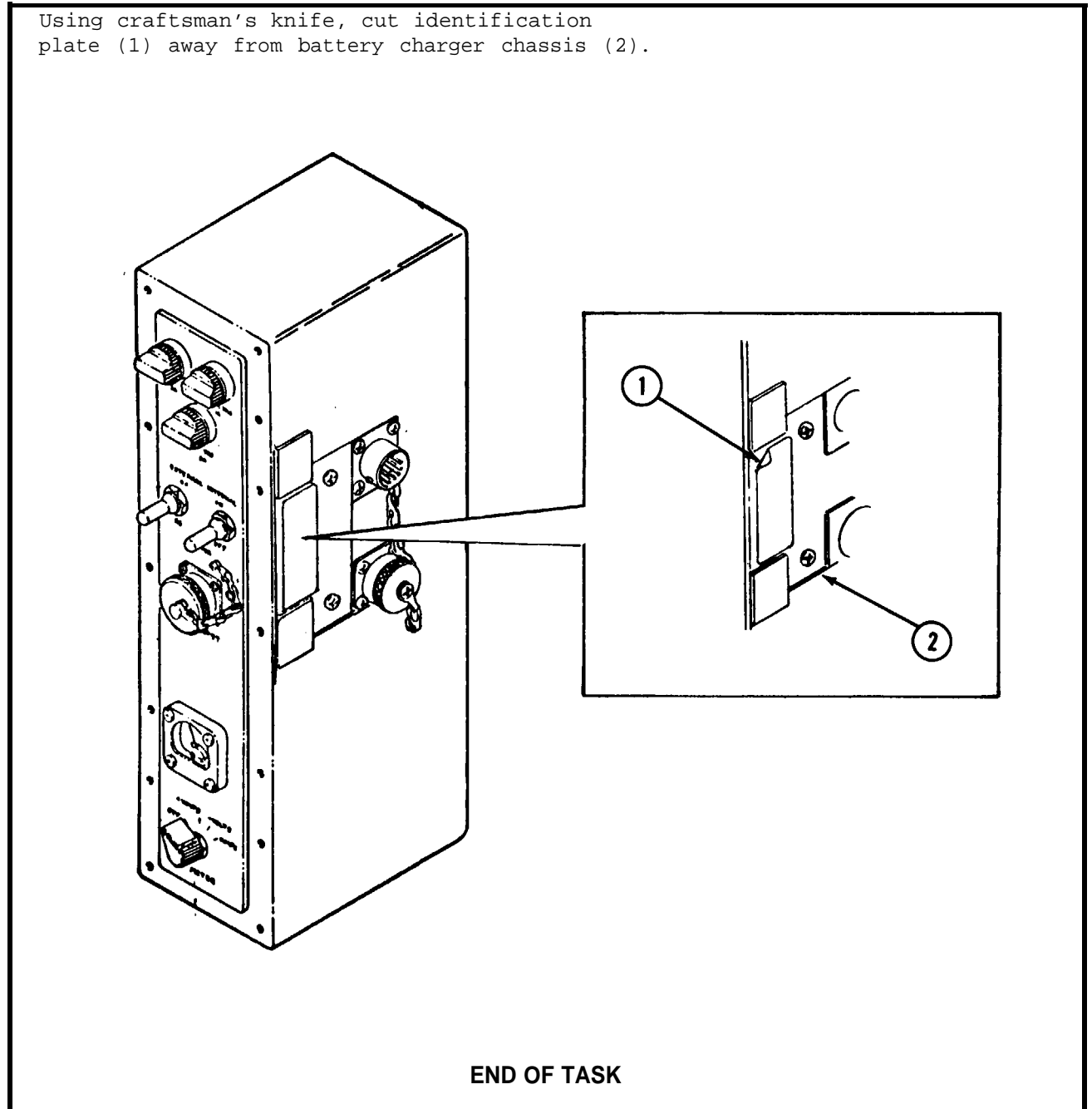
Equipment condition: Battery Charger removed, see para. 3-12.

STEP 1



STEP 2

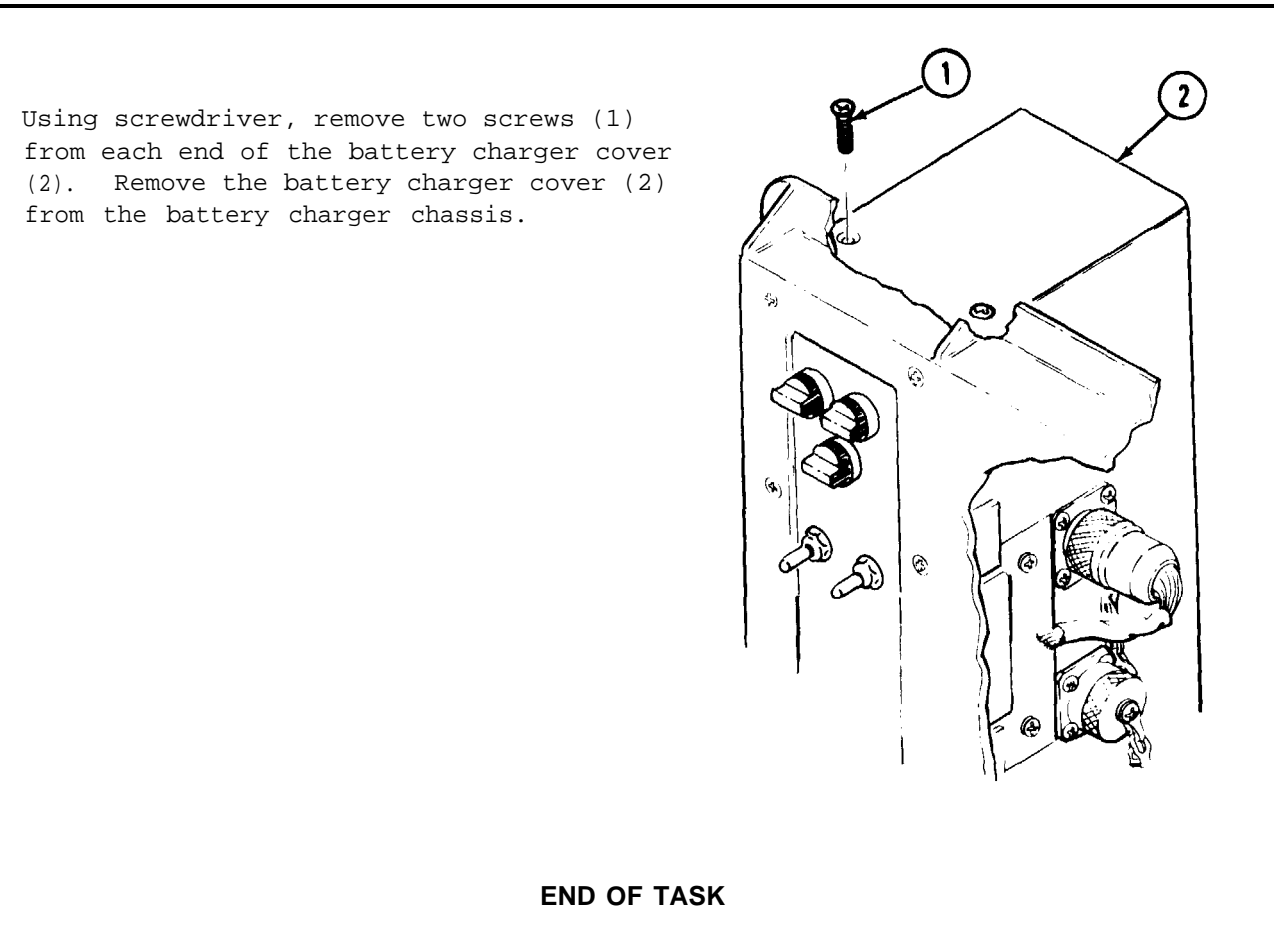
Using craftsman's knife, cut identification plate (1) away from battery charger chassis (2).



3-15. REMOVE BATTERY CHARGER COVER

Tools required: No. 2 crosspoint screwdriver

Equipment condition: Monitoring set panel removed, see para. 3-11.



3-16. REMOVE BATTERY CHARGER PANEL

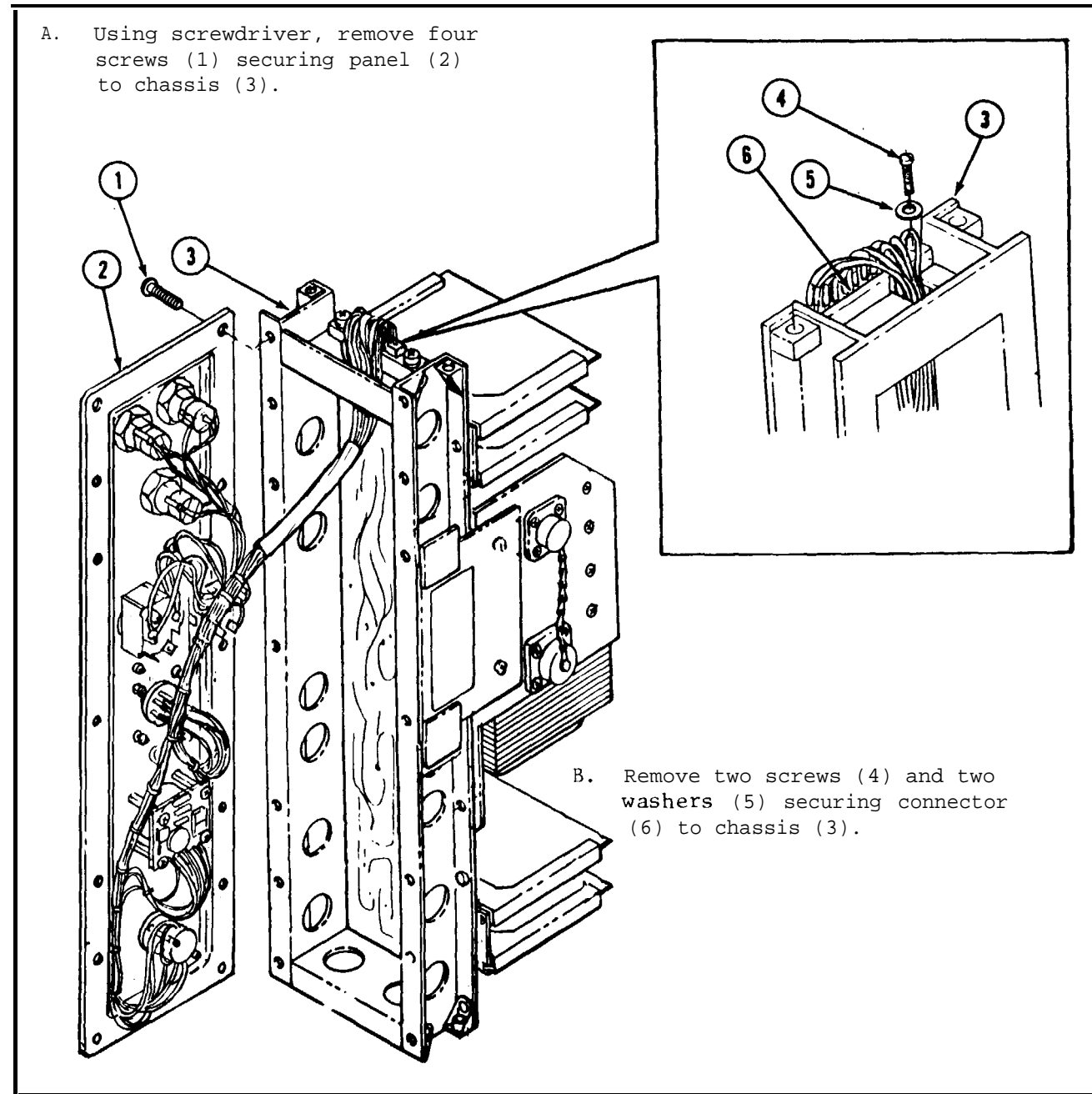
Tools required: No. 1 crosspoint screwdriver

Equipment condition: Battery charger removed, see para. 3-12.
Battery charger cover removed, see para. 3-15.

NOTE

Do only Step 1.A. to gain access to fuseholder, switch S1, switch S3, electrical connector cover J1, electrical receptacle J1, meter M1, or switch S2.

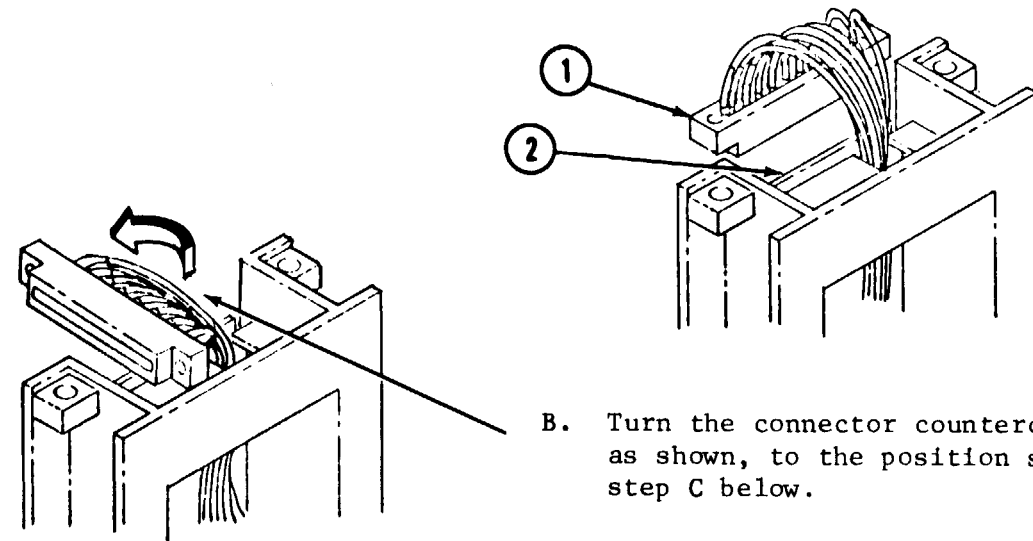
STEP 1



3-16. REMOVE BATTERY CHARGER PANEL-CONTINUED

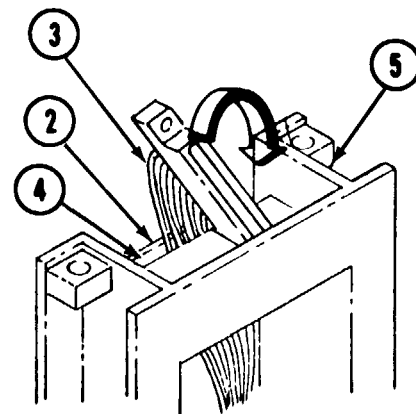
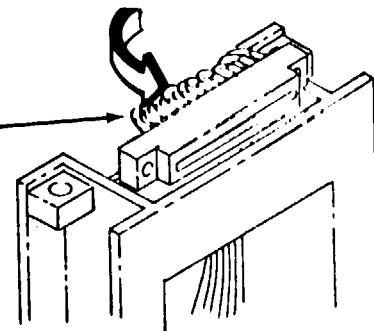
STEP 2

A. Remove connector (1) from mother board (2).

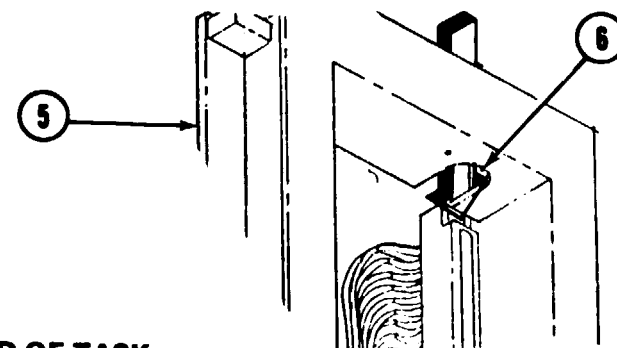


B. Turn the connector counterclockwise as shown, to the position shown in step C below.

C. Turn to this position.



D. Carefully, so as not to cut the insulation on the leads (3), feed the leads into the slot (4) between the mother board (2) and chassis (5). Start connector down through chassis.



E. Push the connector down through hole (6) in chassis (5) and remove panel.

END OF TASK

3-17. REMOVE FUSEHOLDER

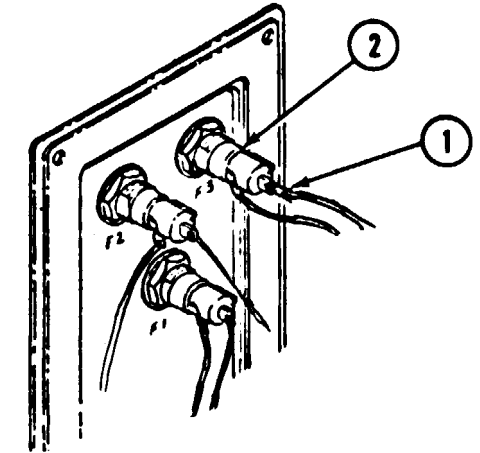
Tools required: Desoldering kit
13/16 box end wrench

Equipment condition: Battery charger panel removed, see para. 3-16.

STEP 1

A. Identify and tag leads (1).

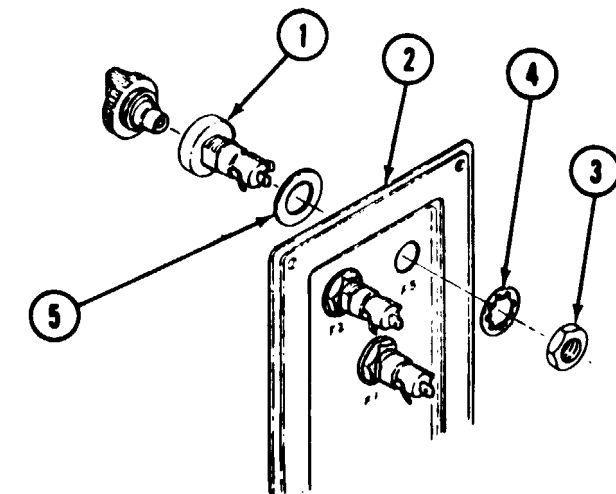
B. Desolder leads (1) from the fuseholder (2).



STEP 2

A. With one hand hold the fuseholder (1) on the front side of the panel (2) and using the wrench, remove the locking nut (3) and lock-washer (4).

B. Remove the fuseholder (1) and gasket (5) from the panel (2).



END OF TASK

3-18. REMOVE BATTERY CHARGER (S1 AND S3) SWITCHES



Switches S1 and S3 are secured to the panel in the same manner. So, only the removal of switch S3 will be explained.

Tools required: 5/8 inch box and open end wrench
Desoldering kit

Equipment condition: Battery charger panel removed from chassis, see para. 3-16.

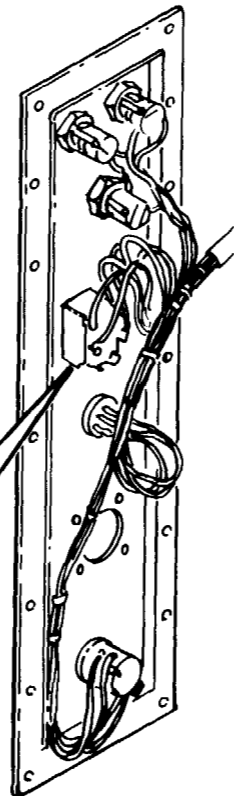
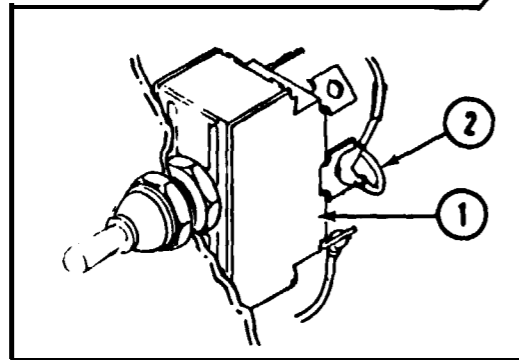
STEP 1



- Switch S1 and S3 are not locked in position on the panel and will rotate when removing the boot.

- Before removing switch, it is necessary to orient the switch on the panel. Note the position of the number 1 terminal in relation to the top or bottom of the panel.

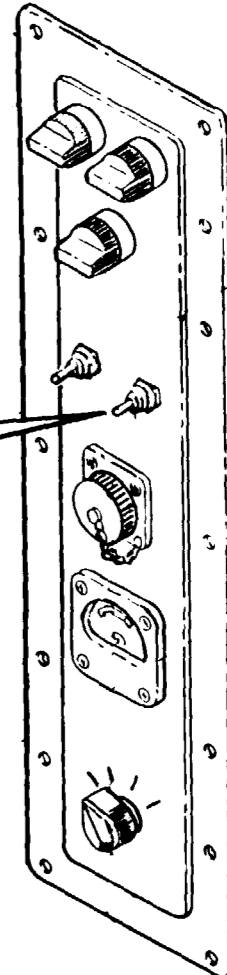
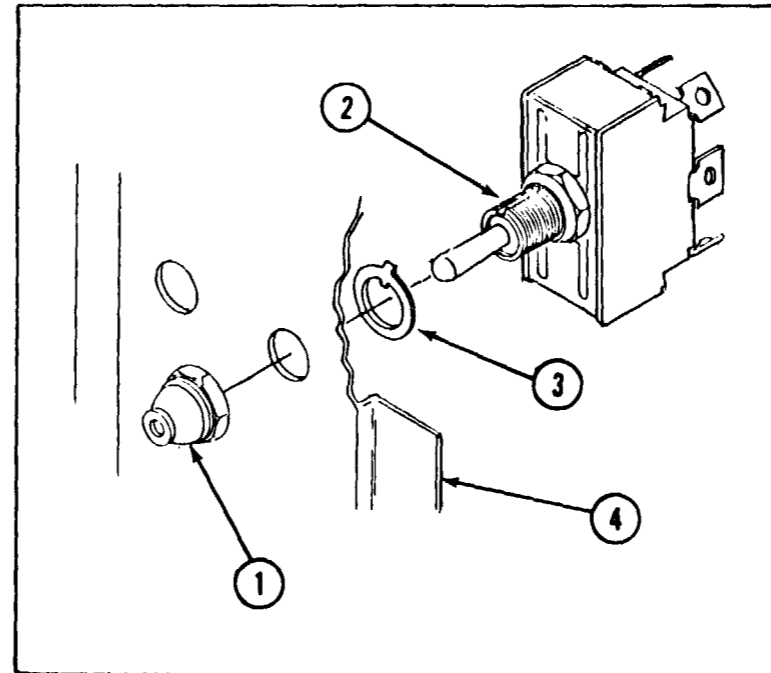
- A. Make a diagram of the switch (1), number the leads (2) and number and tag the leads on the switch.



- B. Desolder the leads (2) from the switch (1).

STEP 2

- A. Using wrench, carefully remove the boot (1) from switch (2).
- B. Remove switch and key washer (3) from panel (4).



END OF TASK

3-19. REMOVE ELECTRICAL CONNECTOR COVER (J1)

Tools required: No. 2 crosspoint screwdriver
 5/16 inch open end wrench
 Craftsman's knife

Materials required:

Materials

MEK
 Cleaning cloth

See Appendix D

Item 5
 Item 6

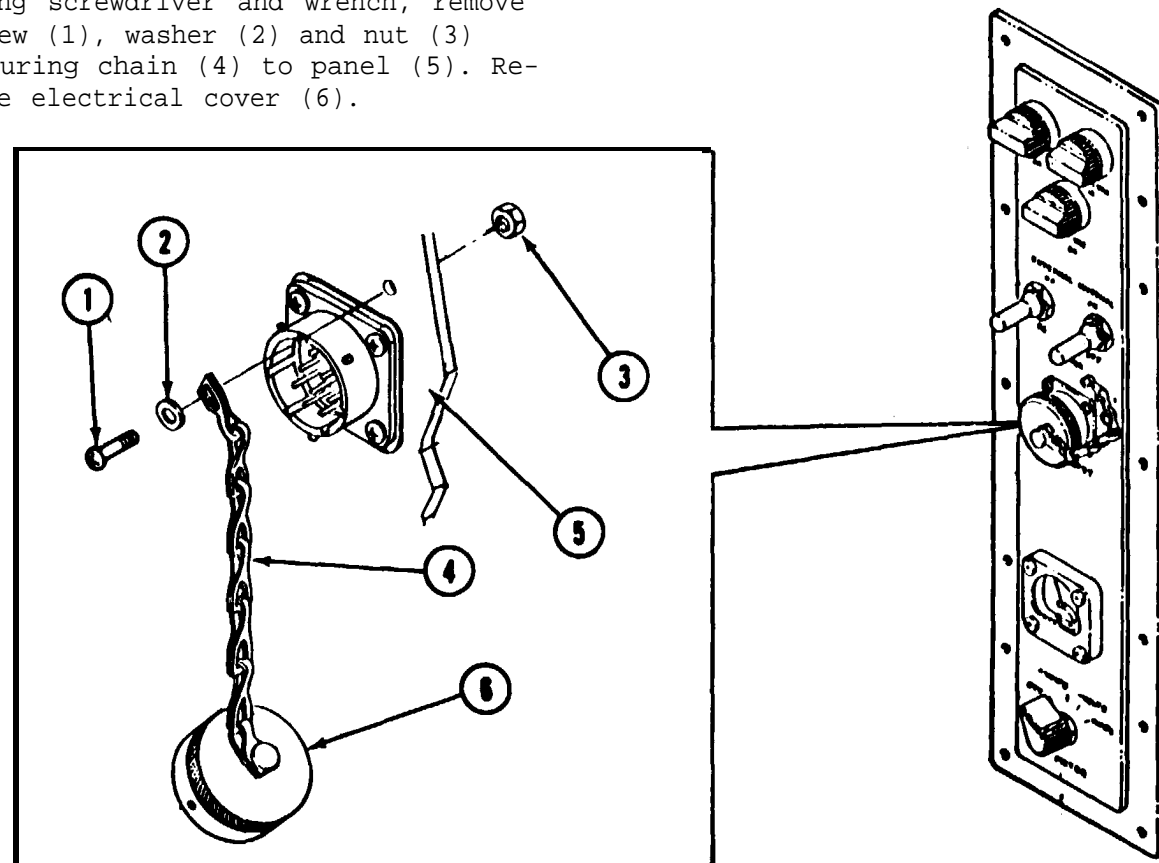
Equipment condition: Battery charger panel removed, see para. 3-16.

STEP 1



It may be necessary to remove sealing compound from nut (3). Use craftsman's knife to remove compound as necessary.

Using screwdriver and wrench, remove screw (1), washer (2) and nut (3) securing chain (4) to panel (5). Remove electrical cover (6).



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat.

STEP 2

Using knife, MEK and cleaning cloth, remove excess sealing compound.

END OF TASK

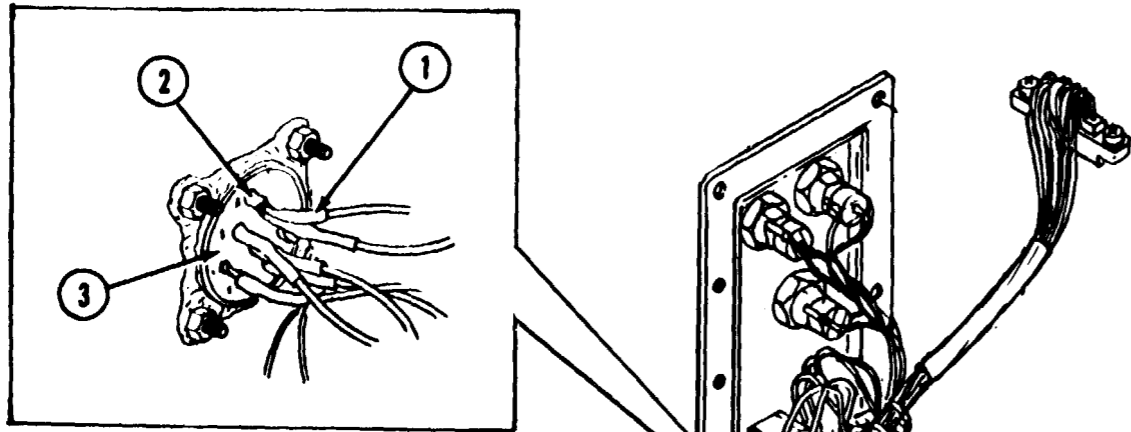
3-20. REMOVE ELECTRICAL RECEPTACLE (J1)

Tools required: Craftsman's knife
 Desoldering kit
 No. 0 crosspoint screwdriver
 1/4 inch open end wrench

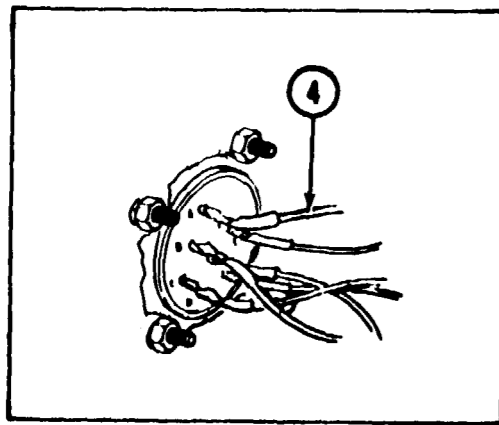
Equipment condition: Battery charger panel removed, see para. 3-16.

STEP 1

A. Using craftsman's knife, cut insulation sleeving (1) from terminals (2) on J1 connector (3).



B. Tag leads and desolder leads (4) from J1 connector.

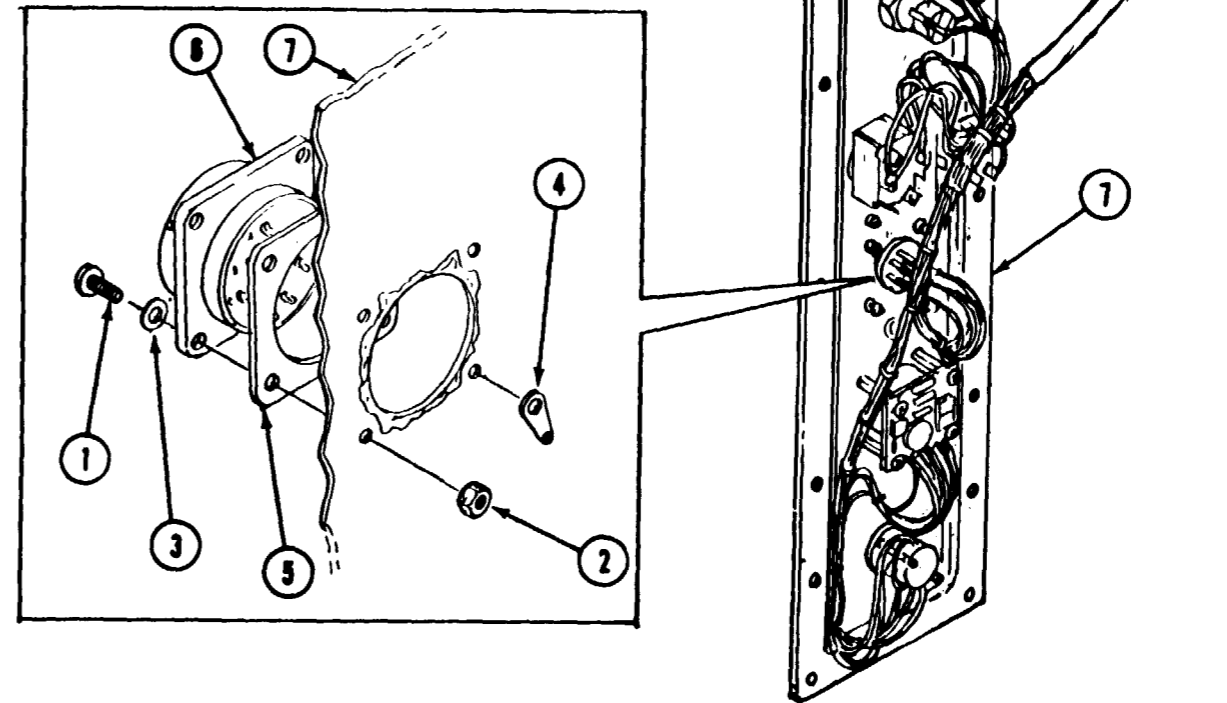


STEP 2



It may be necessary to remove sealant on backside of connector to remove nuts and/or connector from panel.

Using screwdriver and wrench, remove four screws (1), nuts (2), washers (3), terminal lug (4), gasket (5), and J1 (6) from panel (7).



END OF TASK

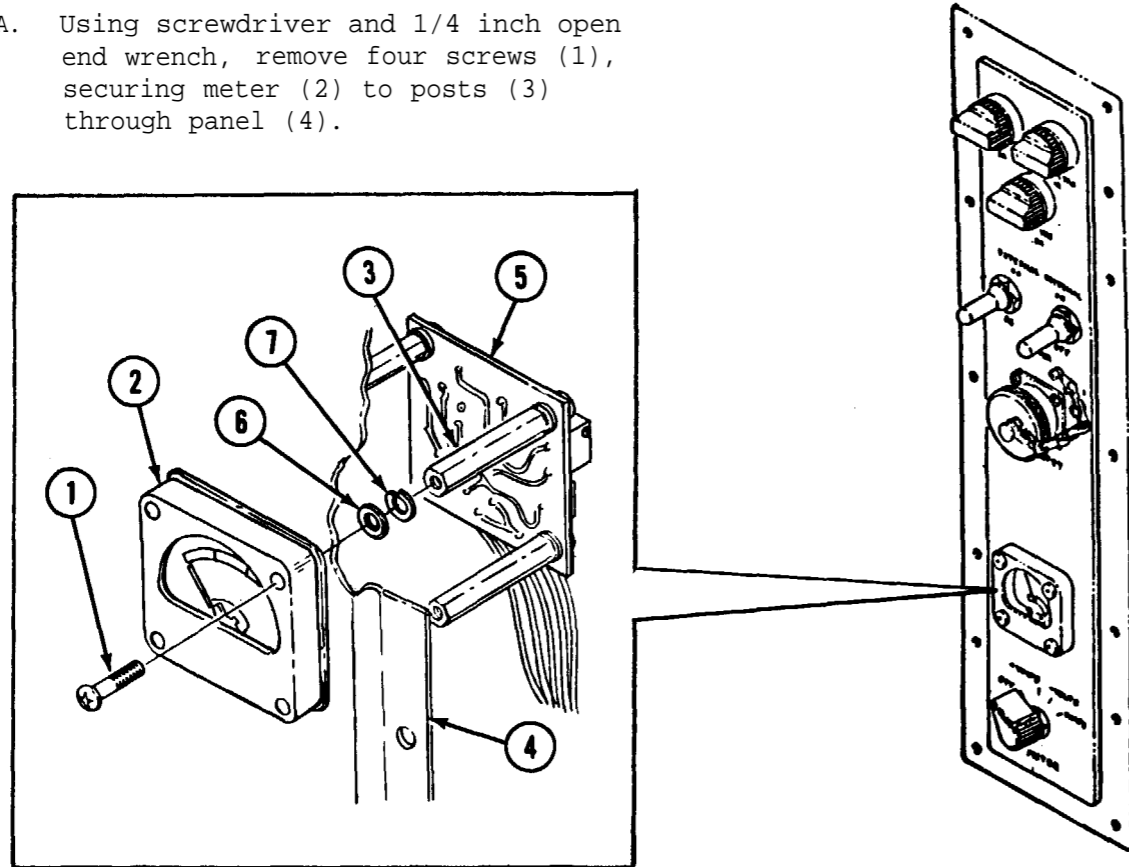
3-21. REMOVE METER (M1)

Tools required: No. 2 crosspoint screwdriver
 5/16 inch box end wrench
 Craftsman's knife
 1/4 inch open end wrench

Equipment condition: Battery charger panel removed, see para. 3-16.

STEP 1

A. Using screwdriver and 1/4 inch open end wrench, remove four screws (1), securing meter (2) to posts (3) through panel (4).



NOTE

It may be necessary to remove sealing compound from washers and panel.

B. Pull the meter circuit card (5) and posts (3) away from panel (4). Washers (6) and lockwashers (7) may be removed now.

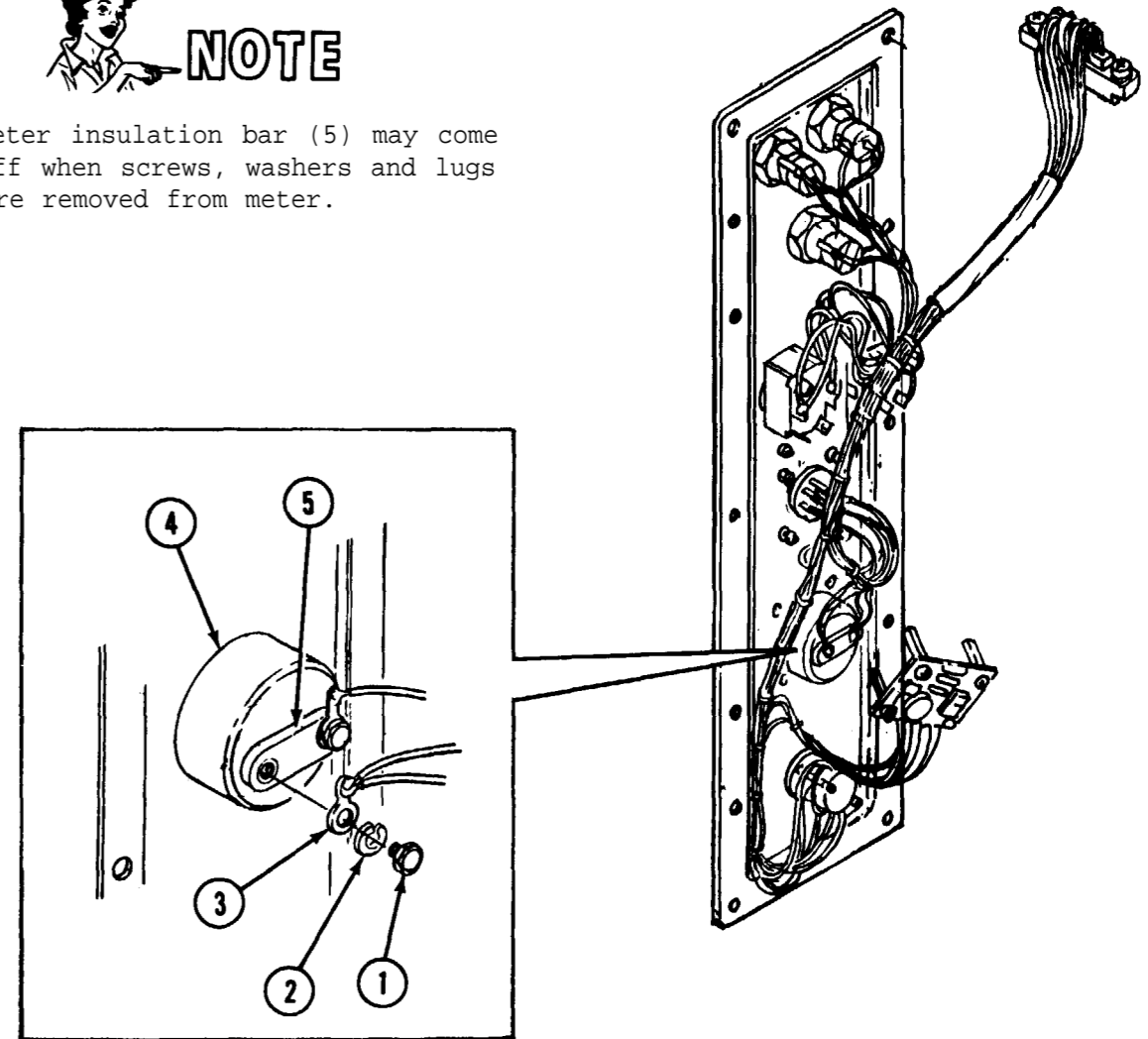
STEP 2

A. Using masking tape, identify and tag leads.

B. Using 5/16 inch box end wrench, remove two screws (1), washers (2) and lugs (3) from meter (4).

NOTE

Meter insulation bar (5) may come off when screws, washers and lugs are removed from meter.



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3-21. REMOVE METER (M1) – CONTINUED

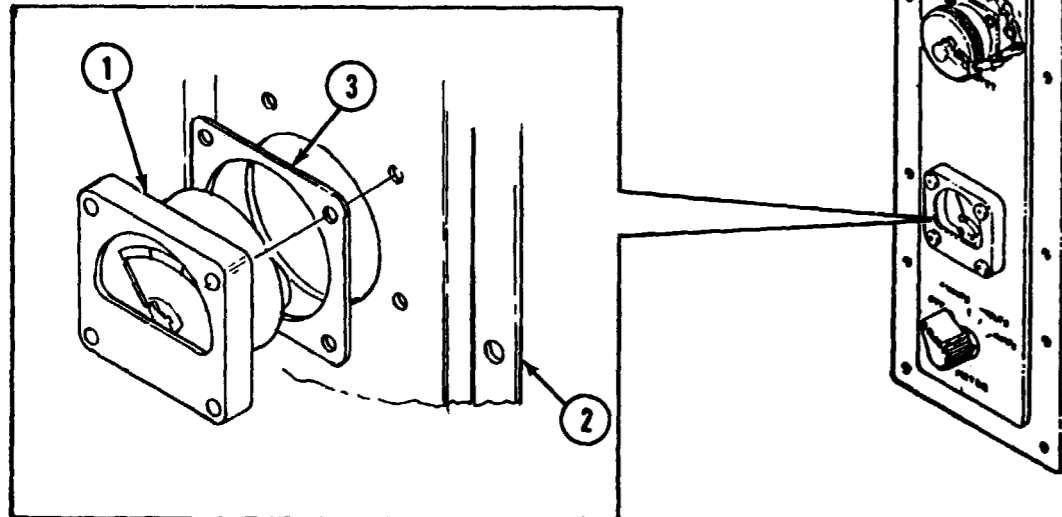
STEP 3



NOTE

It may be necessary to remove sealing compound from between meter (1) and panel (2) to remove meter.

Remove meter (1) and gasket (3) from panel (2).



END OF TASK

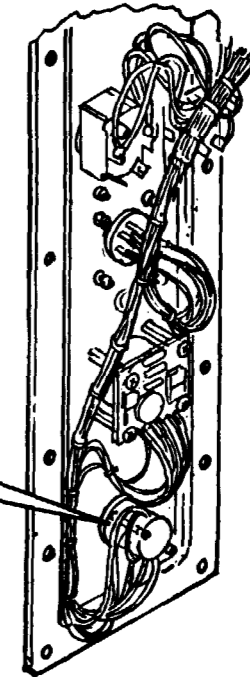
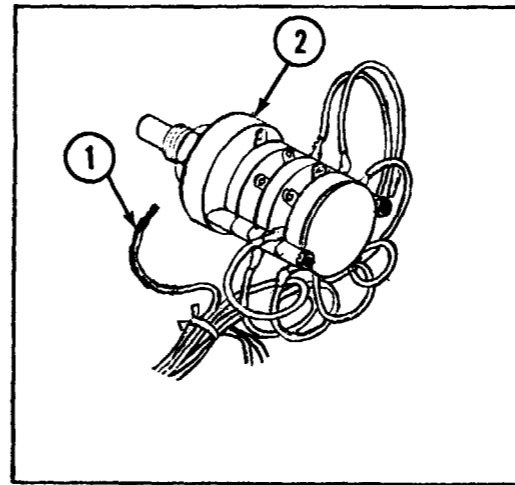
3-22. REMOVE BATTERY CHARGER (S2) SWITCH

Tools required: .050 inch Allen wrench
1/2 inch wrench
Desoldering kit
Craftsman's knife

Equipment condition: Battery charger panel removed, see para. 3-16.

STEP 1

- A. Identify and tag leads (1) as you desolder them.
- B. Desolder leads (1) from switch (2).

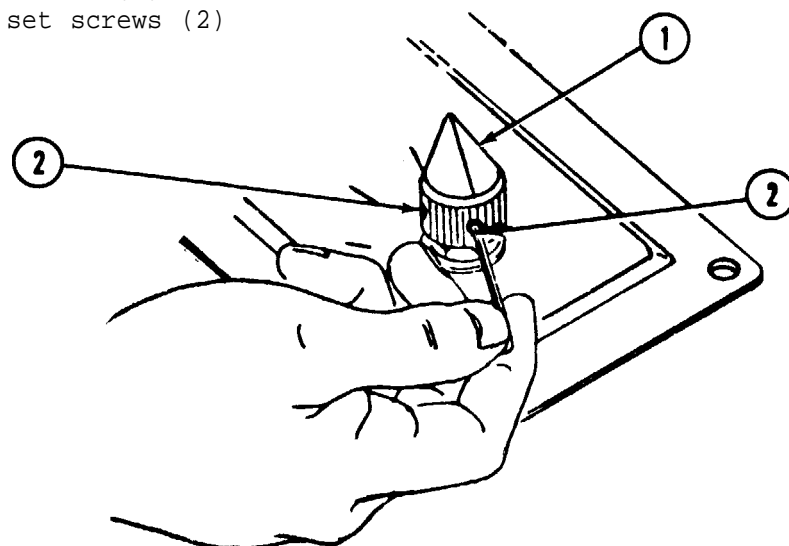


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3-22. REMOVE BATTERY CHARGER (S2) SWITCH-CONTINUED

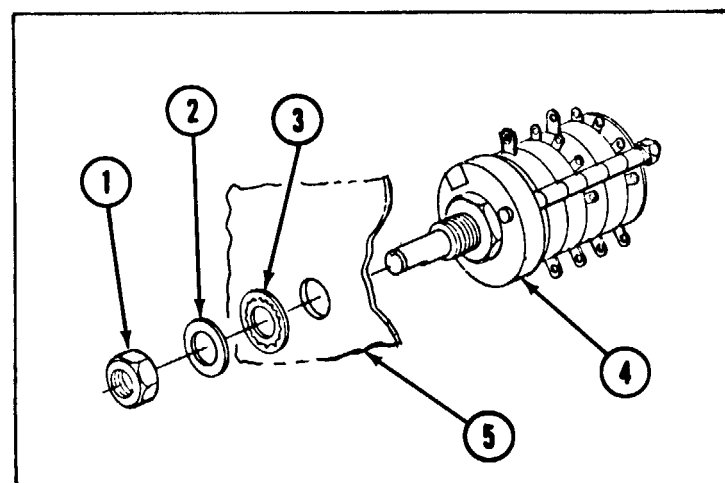
STEP 2

Using craftsman's knife, remove sealing compound from screw holes in knob (1). Using Allen wrench, loosen set screws (2) and remove knob (1).



STEP 3

A. Using wrench, remove boot (1), flatwasher (2) and sealing washer (3).



B. Remove switch (4) from panel (5).

END OF TASK

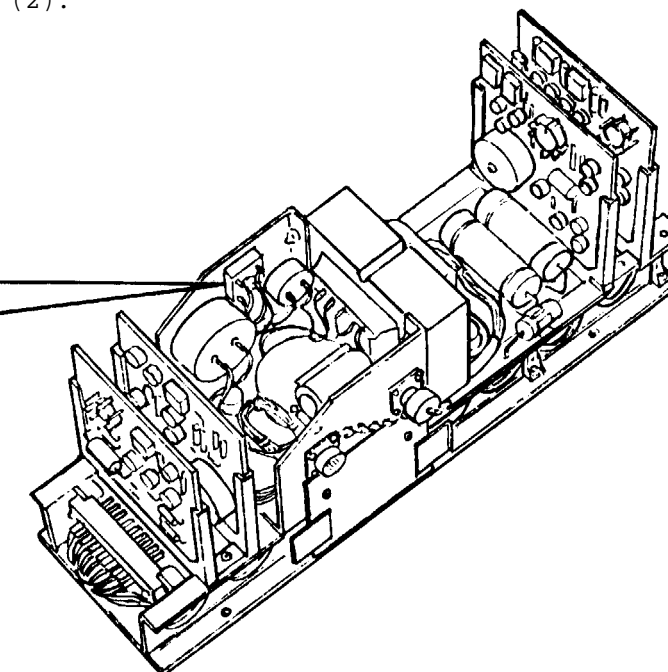
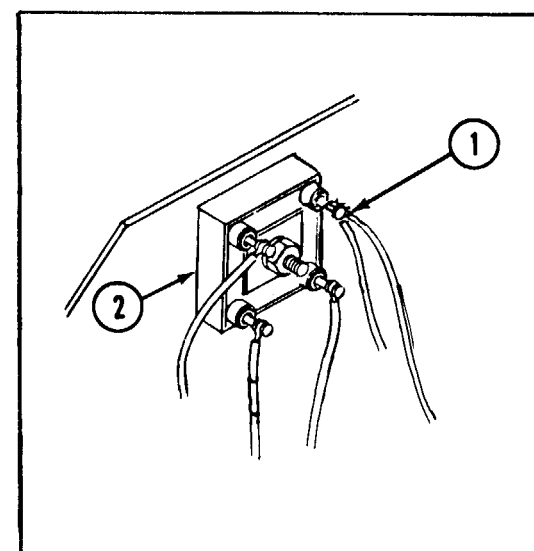
3-23. REMOVE RECTIFIER, SEMICONDUCTOR DEVICE (BR1)

Tools required: No. 2 crosspoint screwdriver
5/16 inch box end wrench
Desoldering kit

Equipment condition: Battery charger cover removed, see para. 3-15.

STEP 1

- A. Identify and tag leads (1) as you desolder them.
- B. Desolder five leads (1) from BR1 (2).

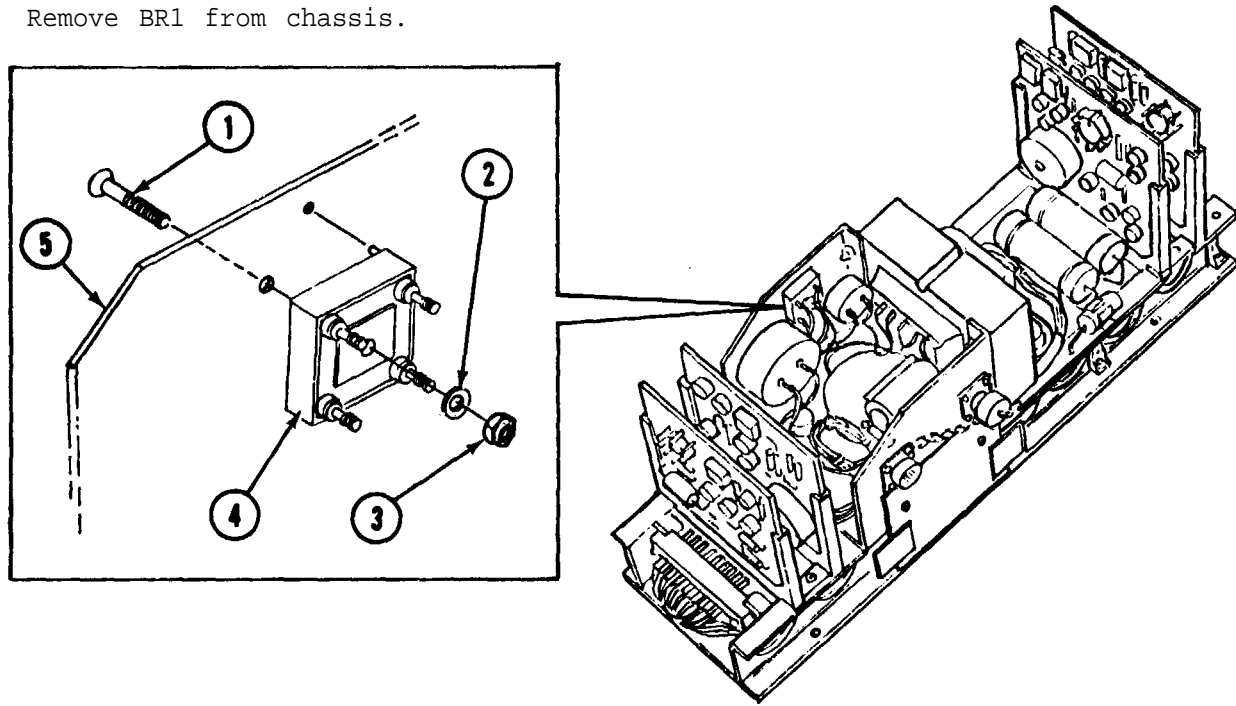


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3-23. REMOVE RECTIFIER, SEMICONDUCTOR DEVICE (BR1) – CONTINUED

STEP 2

- A. Using screwdriver and wrench, remove screw (1), washer (2) and nut (3) securing BR1 (4) to chassis (5).
- B. Remove BR1 from chassis.



END OF TASK

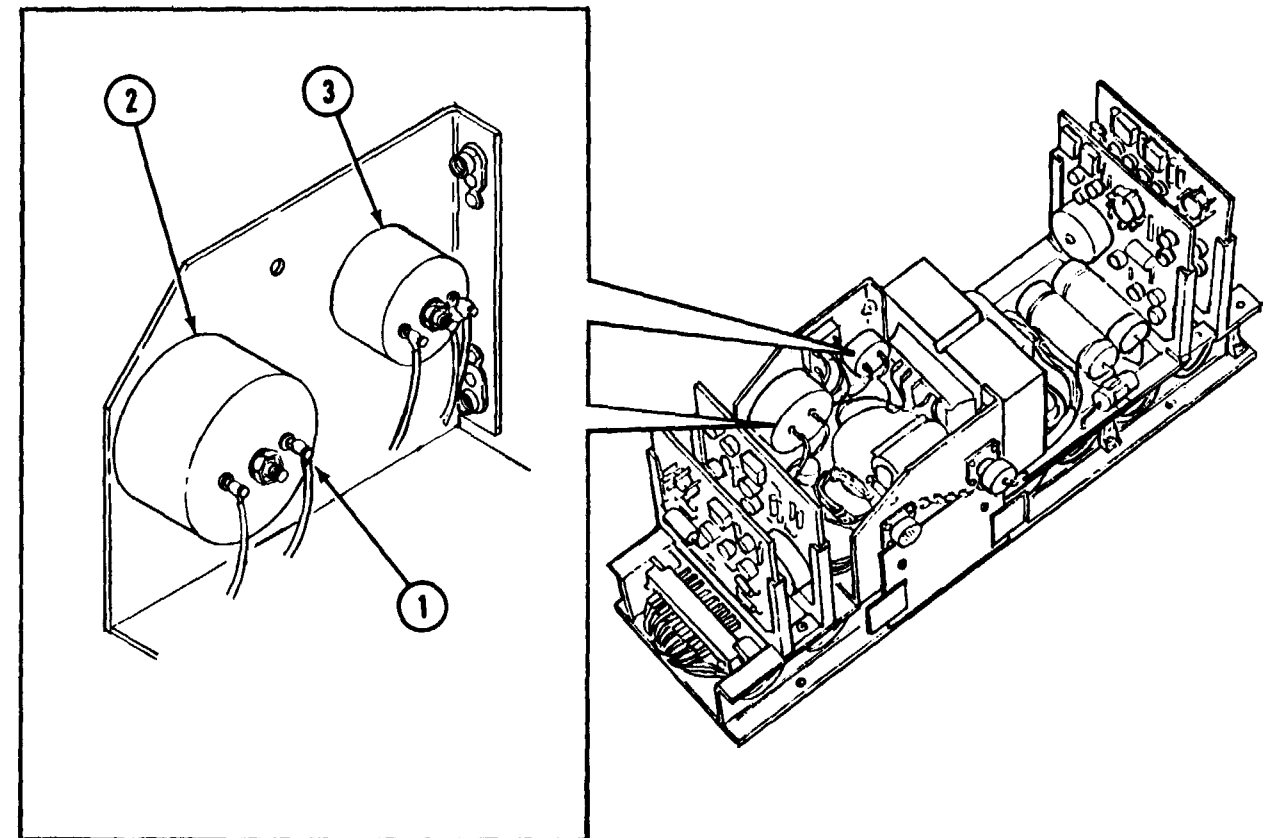
3-24. REMOVE (L1 AND L2) REACTORS

Tools required: 5/16 inch wrench
No. 2 crosspoint screwdriver
Desoldering kit

Equipment condition: Battery charger cover removed, see para. 3-15.

STEP 1

- A. Identify and tag leads (1) as you desolder them.
- B. Desolder leads (1) from L1 (2) or L2 (3).

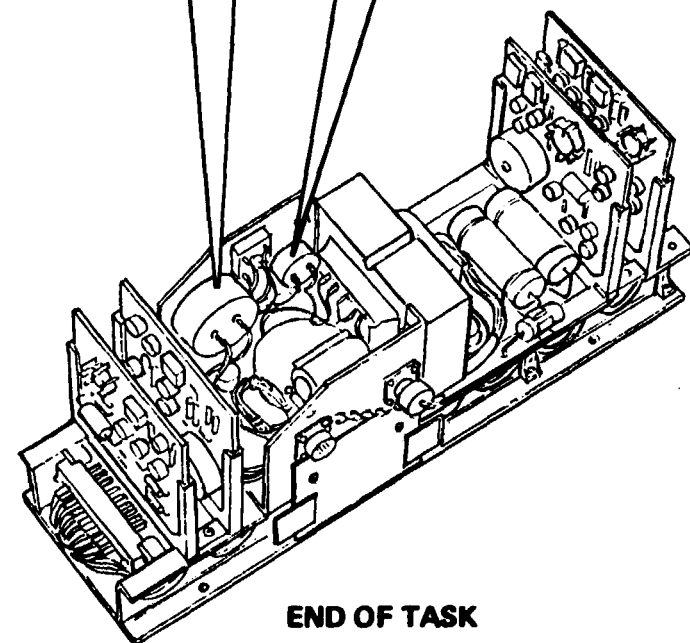
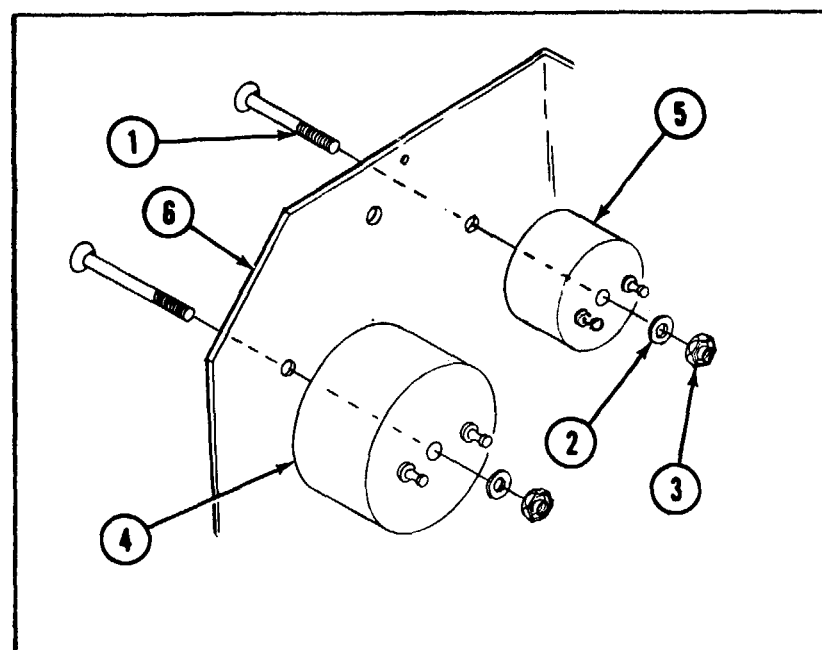


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3-24. REMOVE (L1 AND L2) REACTORS - CONTINUED

STEP 2

- A. Using screwdriver and wrench, remove screws (1), washers (2) and nuts (3).
- B. Remove reactors L1 (4) or L2 (5) from chassis (6).

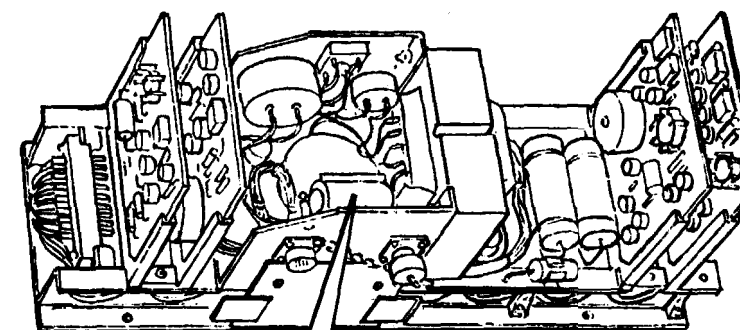


3-25. REMOVE FIXED CAPACITOR (C1)

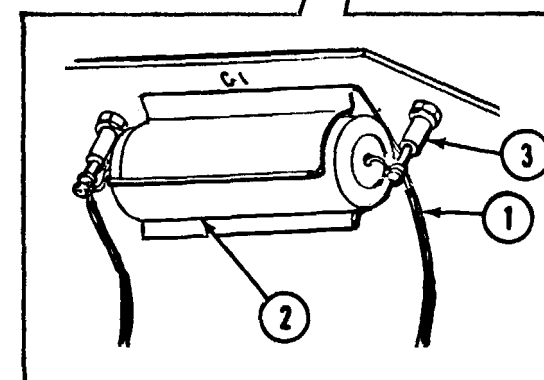
Tools required: Flat-blade screwdriver
Desoldering kit

Equipment condition: Battery charger cover removed, see para. 3-15.

STEP 1

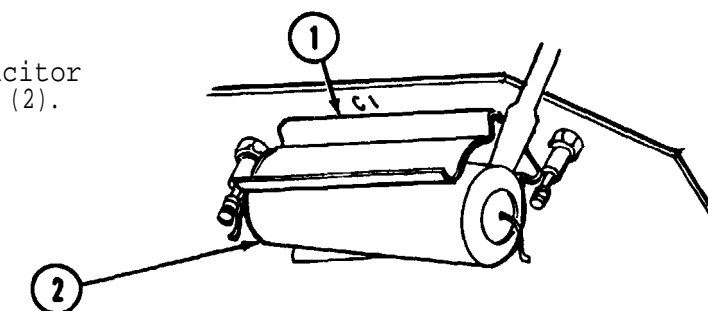


- A. Tag leads (1).
- B. Desolder leads (1) from capacitor C1 (2). Desolder C1 (2) from terminal posts (3).



STEP 2

Using screwdriver, pry capacitor C1 (1) from retaining clip (2).



END OF TASK

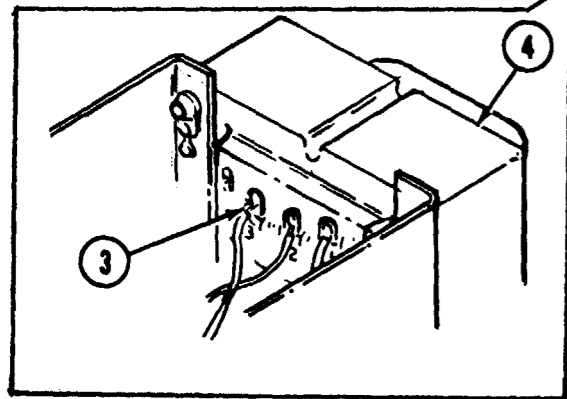
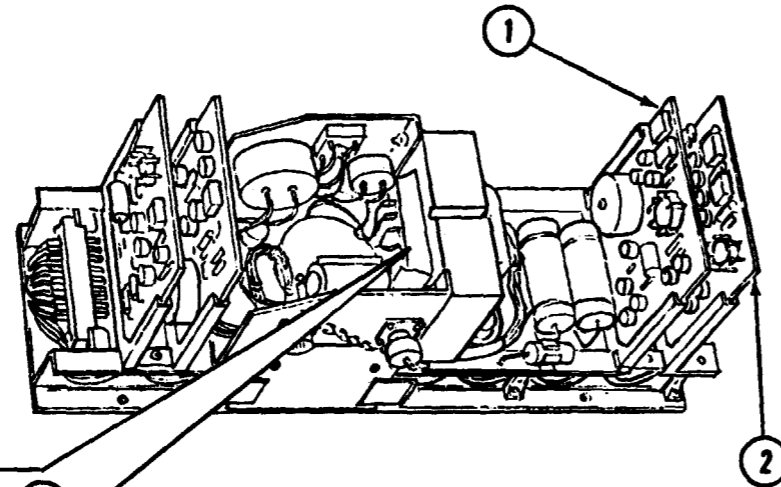
3-26. REMOVE STEP DOWN POWER TRANSFORMER (T1)

Tools required: No. 2 crosspoint screwdriver
Desoldering kit

Equipment condition: Battery charger cover removed, see para. 3-15.

STEP 1

- A. Remove A4 (1) card and A5 (2) card.
Cover connectors at A4 (1) and A5 (2)
with masking tape.



- B. Identify and tag the leads from
the transformer.

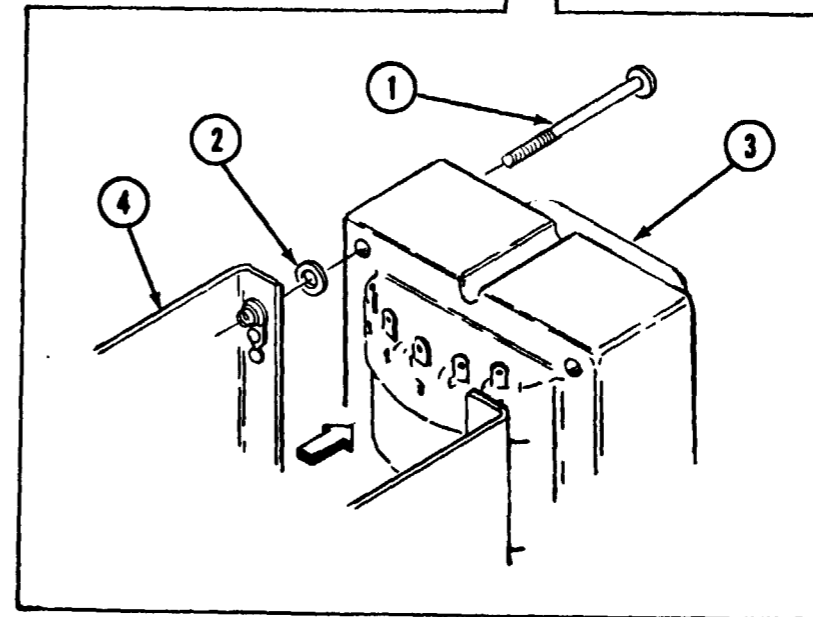
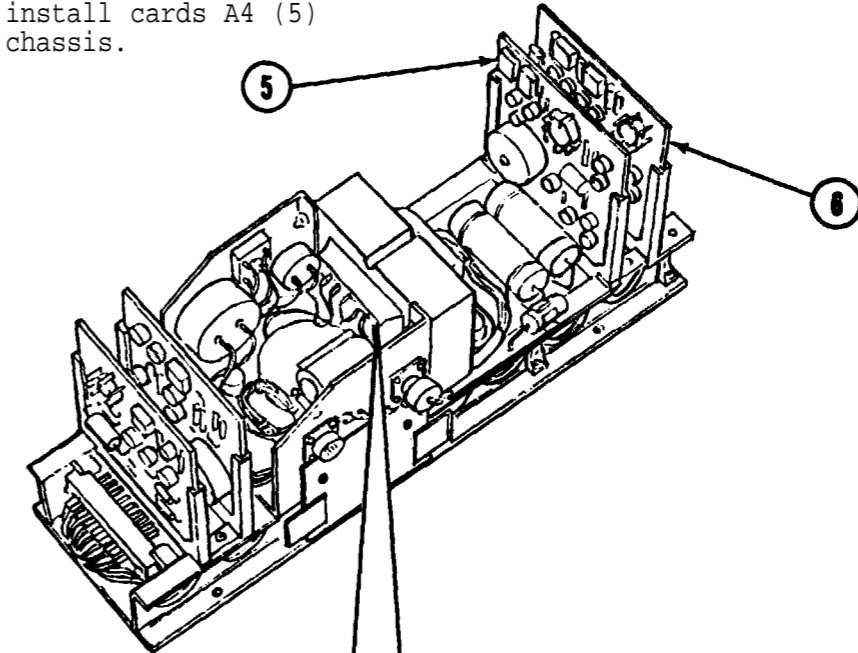
- C. Desolder five leads (3) from
transformer T1 (4).

STEP 2

- A. Using screwdriver, remove four screws (1)
and two washers (2) securing transformer
T1 (3) to chassis (4).

- B. Remove transformer from chassis.

- C. Remove tape and install cards A4 (5)
and A5 (6) into chassis.



END OF TASK

3-27. REMOVE TARGET RANGE LIGHT INDICATOR (DS1 THROUGH DS10)

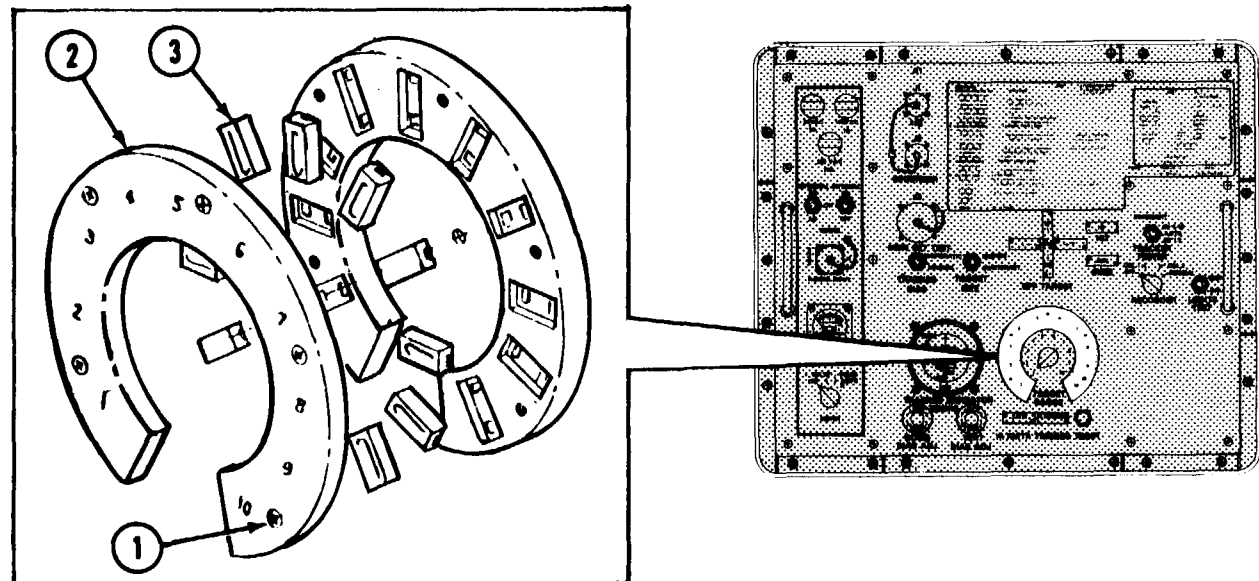
Tools required: No. 0 crosspoint screwdriver

Equipment condition: Monitoring set lid removed, see TM 9-6920-484-12.



The five screws (1) in the light assembly (2) are captive screws. Do not back screws all the way out. Just loosen screws enough to permit removal of light assembly.

- A. Using screwdriver, loosen five screws (1) and remove light assembly (2).
- B. Remove faulty light indicator (3).



END OF TASK

3-28. REMOVE OFF TARGET, HIT, MISS, IR XMTR AND TRIGGER INDICATORS

Tools required: No. 0 crosspoint screwdriver
Craftsman's knife

Equipment condition: Monitoring set lid removed, see TM 9-6920-484-12.



Removal of OFF TARGET, HIT, MISS, IR XMTR and TRIGGER light indicators is identical, so only removal of TRIGGER indicator light is shown.

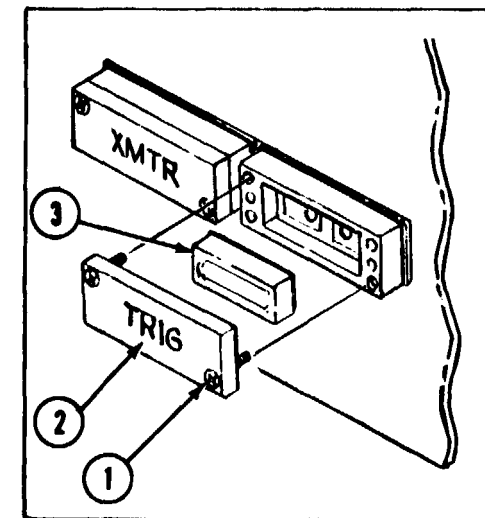


The two screws (1) in the lens assembly (2) are captive screws. Do not back screws all the way out. Just loosen screws enough to permit removal of lens assembly.

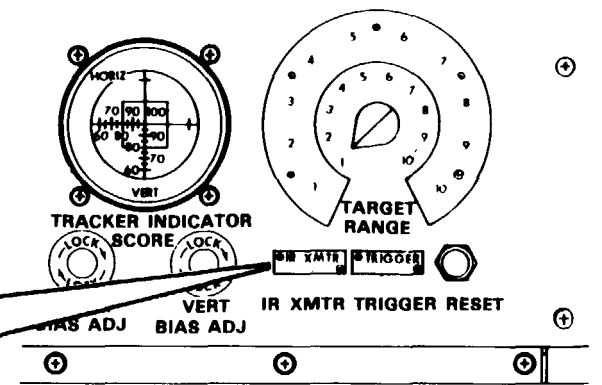
- A. Using screwdriver, loosen two screws (1) and remove lens assembly (2).
- B. Remove faulty light indicator (3).



It may be necessary to pry indicator loose with craftsman's knife.



END OF TASK

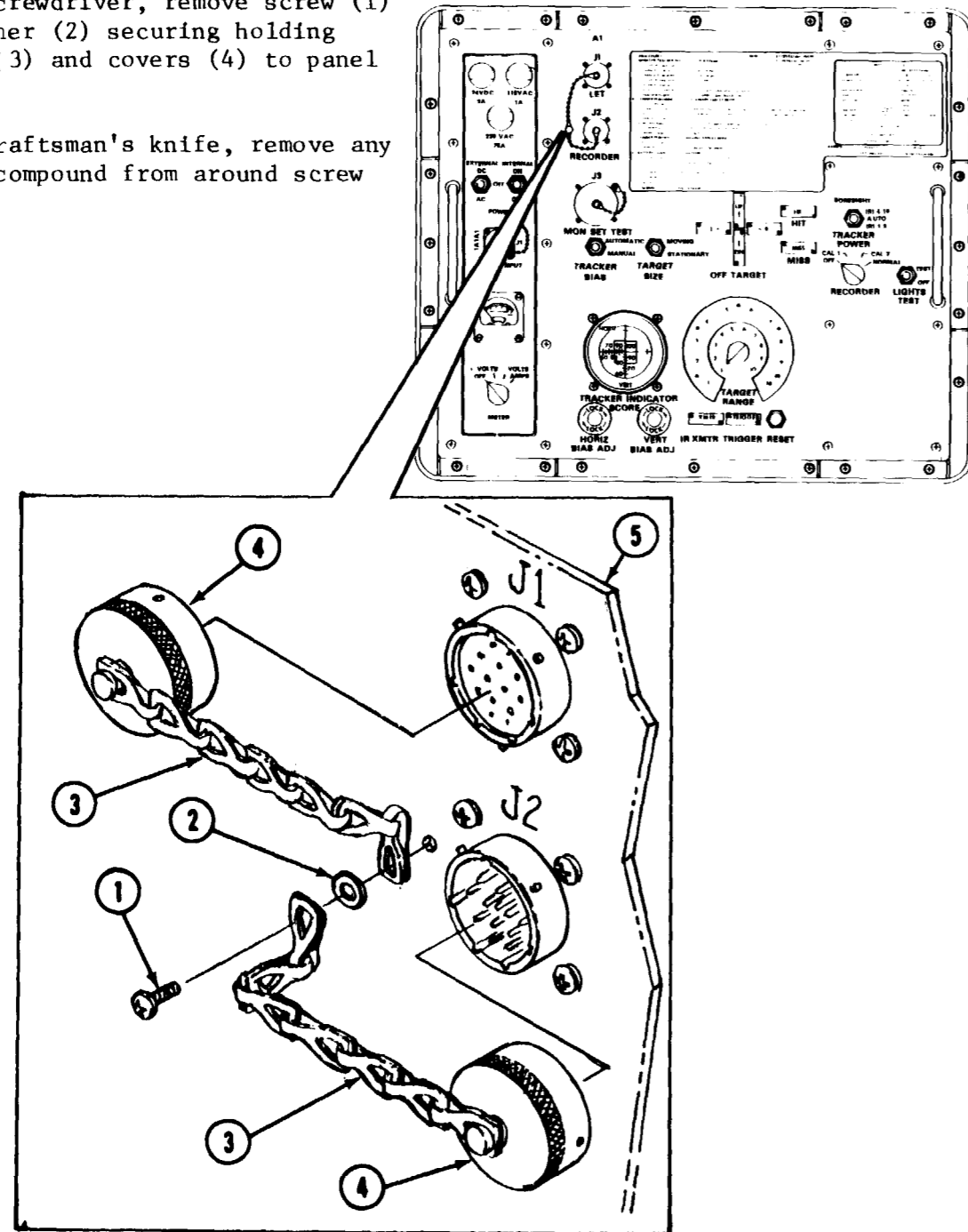


3-29. REMOVE ELECTRICAL CONNECTOR COVERS (J1 AND J2)

Tools required: No. 2 cross point screwdriver
Craftsman's knife

Equipment condition: Monitoring set lid removed, see TM 9-6920-484-12.

- A. Using screwdriver, remove screw (1) and washer (2) securing holding chains (3) and covers (4) to panel (5).
- B. Using craftsman's knife, remove any excess compound from around screw head.



END OF TASK

3-30. REMOVE STORAGE BATTERIES (BT1, BT2, BT3 AND BT4)

Tools required: 1/4 inch box end wrench
5/16 inch box end wrench
No. 2 crosspoint screwdriver

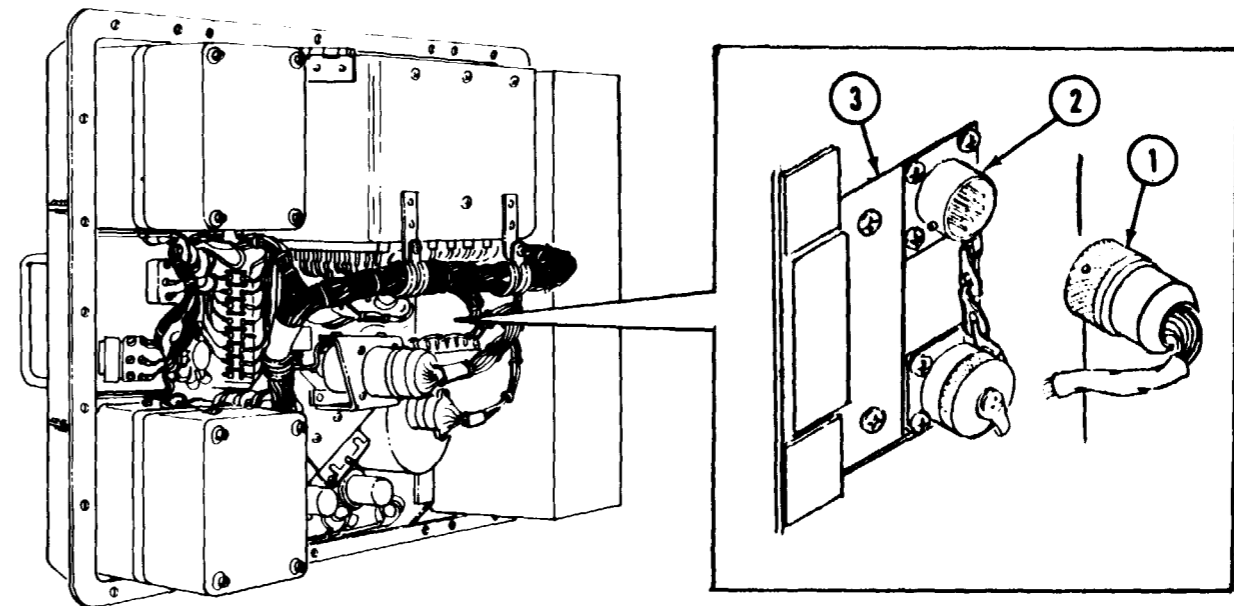
Equipment condition: Monitoring set panel removed, see para. 3-11.

STEP 1



To avoid injury to personnel, do not short battery terminals.

Disconnect connector P2 (1) from receptacle A1J2 (2) on battery charger (3).

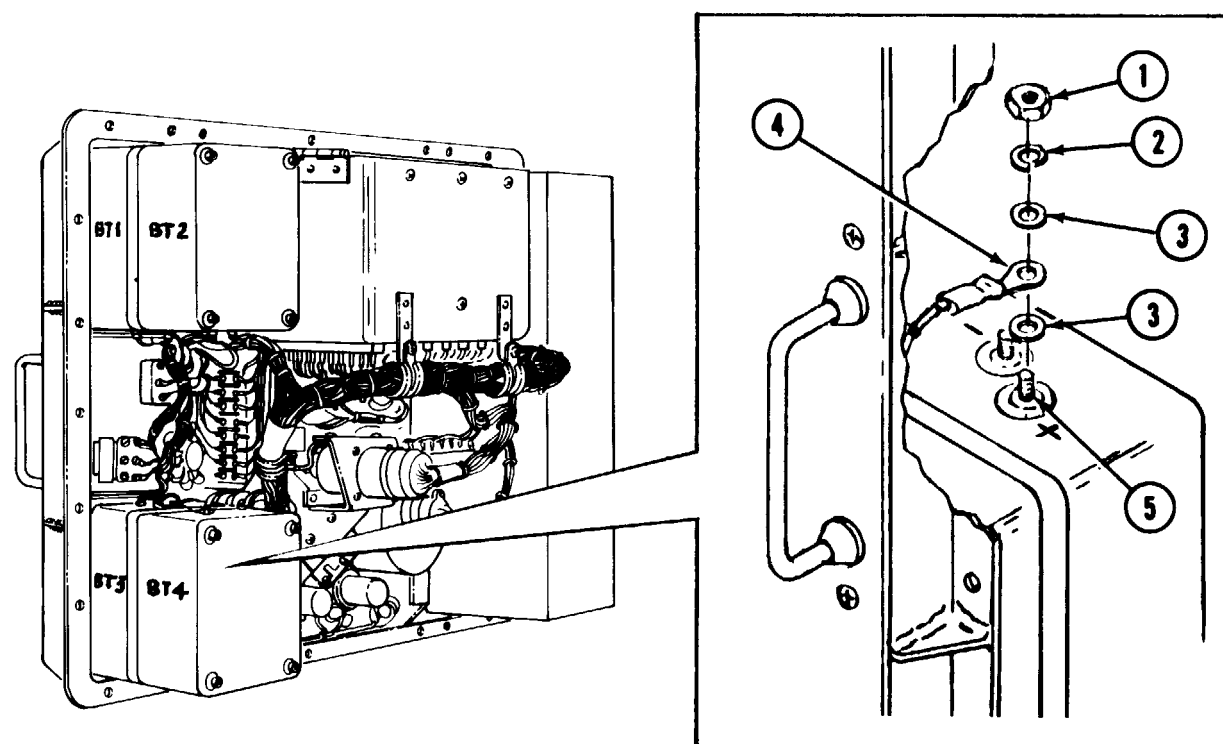


GO TO NEXT PAGE

3-30. REMOVE STORAGE Batteries (BT1, BT2, BT3 AND BT4) - Continued

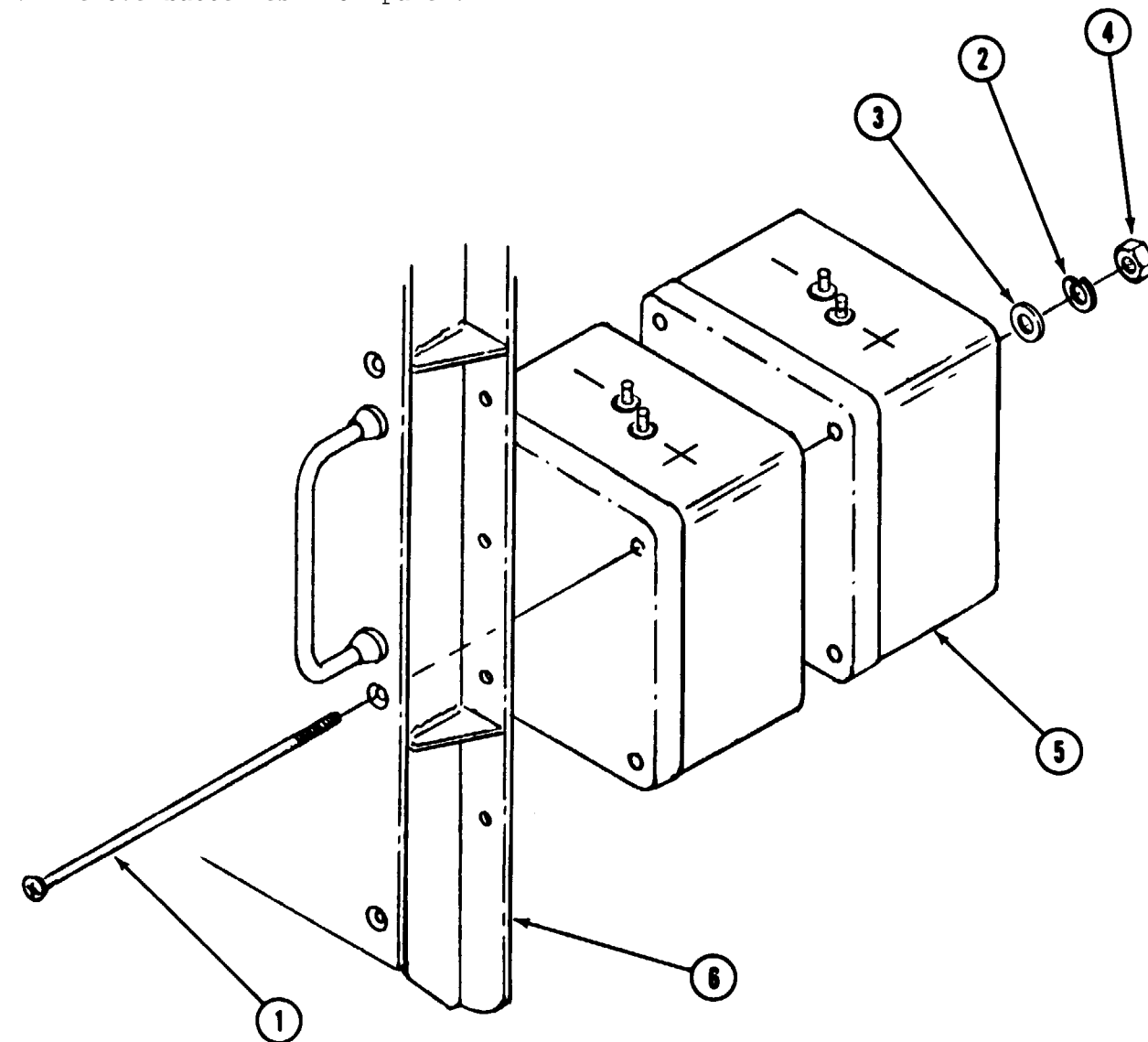
STEP 2

- A. Identify and tag each battery lead and designate which battery it came from.
- B. Using 5/16 inch wrench, remove nuts (1), lockwashers (2), flatwashers (3) and terminal lugs (4) from battery terminals (5).
- C. Using tape, cover terminals (4) to prevent shorting against other battery terminals.



STEP 3

- A. Using screwdriver and 1/4 inch wrench, remove four bolts (1), lockwashers (2), flatwashers (3) and nuts (4) securing battery (5) to panel (6).
- B. Remove batteries from panel.



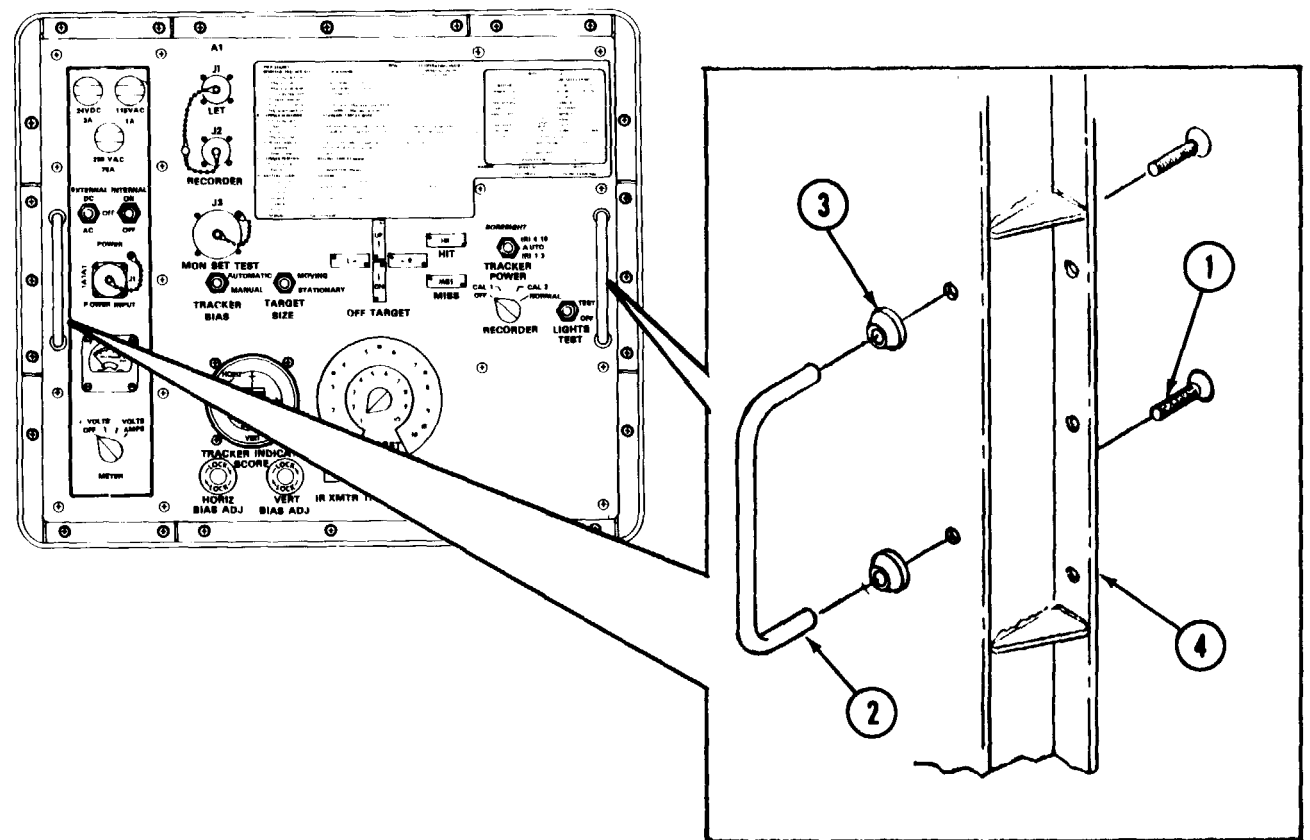
END OF TASK

3-31. REMOVE BOW HANDLES

Tools required: No. 2 crosspoint screwdriver

Equipment condition: Monitoring set panel removed, see para. 3-11.

Using screwdriver, remove two screws (1), handle (2) and two ferrules (3) from panel (4).



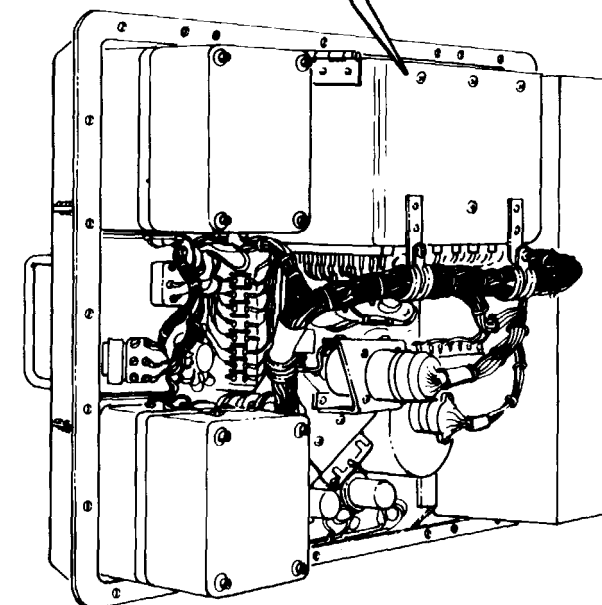
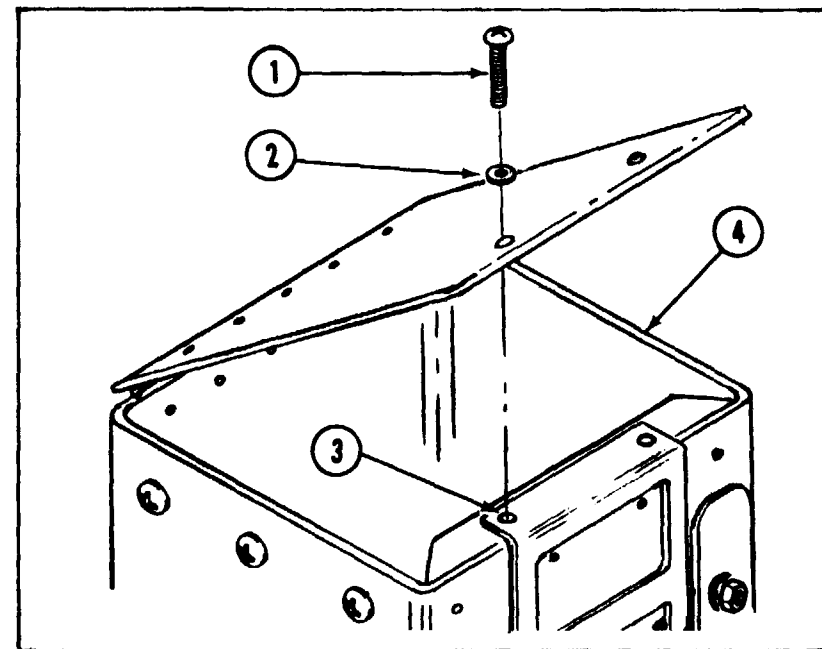
END OF TASK

3-32. REMOVE CIRCUIT CARDS (A1 THROUGH A7)

Tools required: No. 2 crosspoint screwdriver

Equipment condition: Monitoring set panel removed, see para. 3-11.

STEP 1



- A. Using screwdriver, remove two screws (1) and washers (2).
- B. Remove extraction tool (3) from circuit card box (4).

GO TO NEXT PAGE

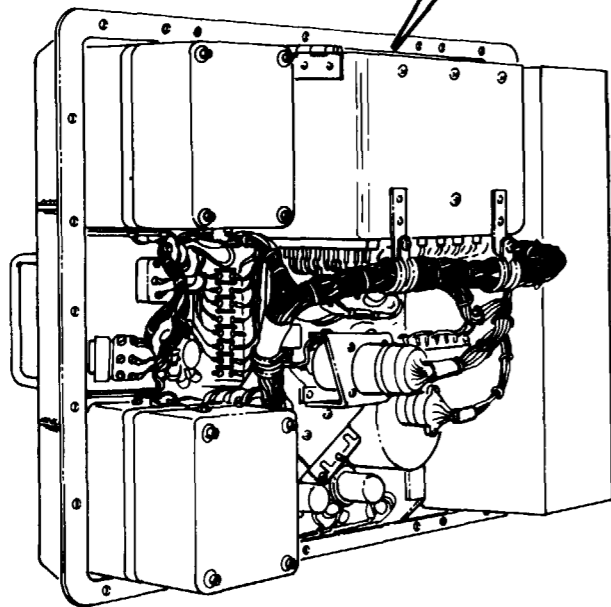
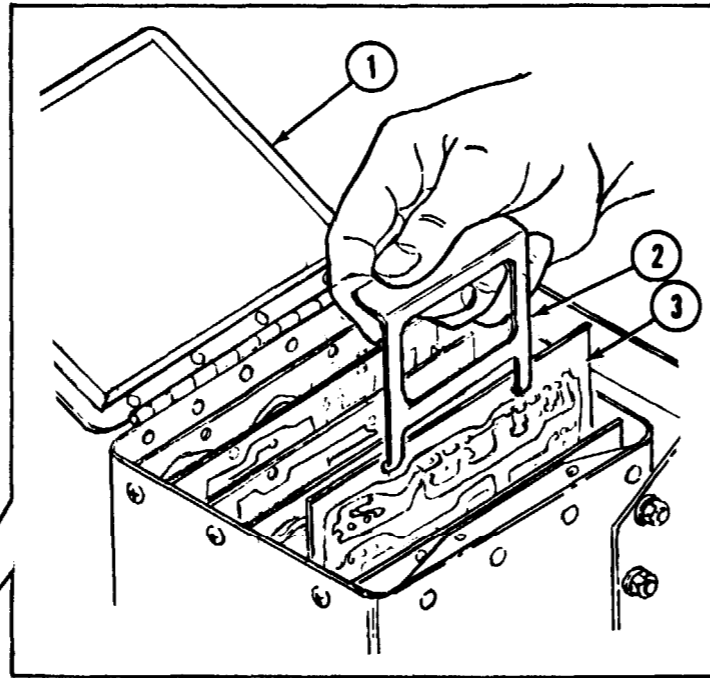
3-32. REMOVE CIRCUIT CARDS (A1 THROUGH A7) - CONTINUED

STEP 2



To prevent damage to cards, use care when removing them to avoid sudden release of card.

- A. Open access door (1).
- B. Using extraction tool (2), remove circuit cards (3).

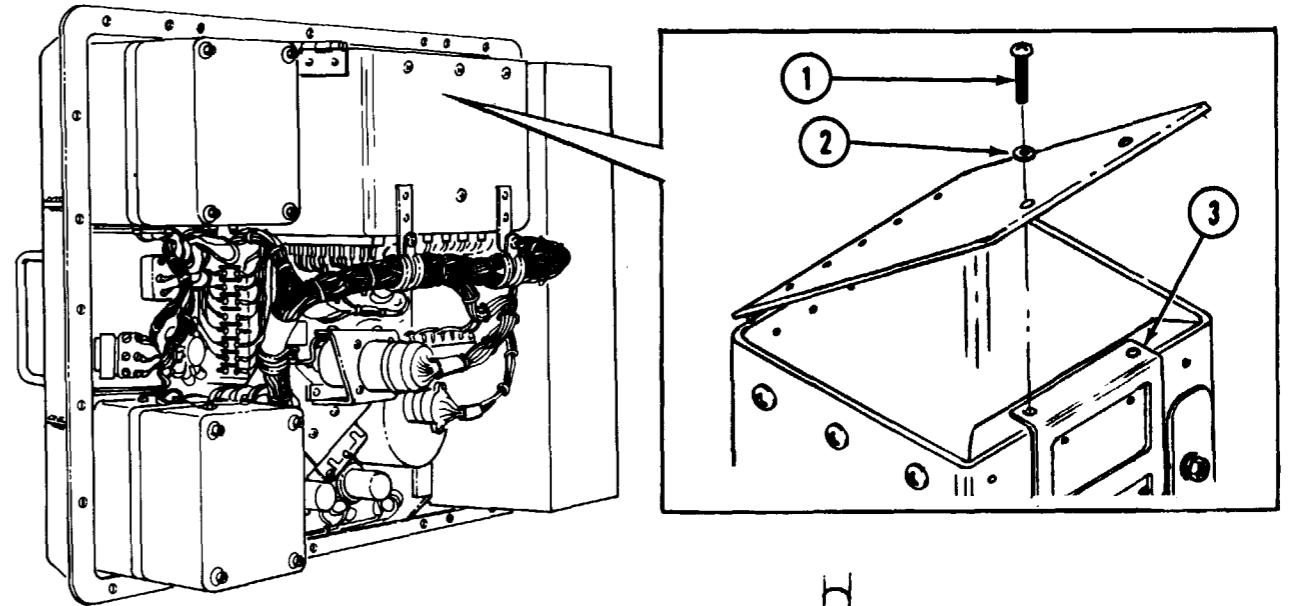


END OF TASK

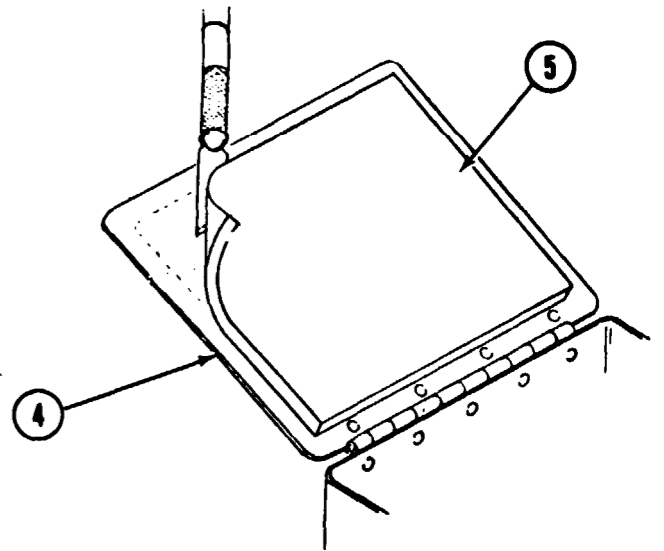
3-33. REMOVE CIRCUIT CARD ACCESS DOOR RUBBER PAD

Tools required: No. 2 crosspoint screwdriver
Craftsman's knife

Equipment condition: Monitoring set panel removed, see para. 3-11.



- A. Using screwdriver, remove two screws (1) washers (2) and extractor (3).
- B. Open access door (4).
- C. Using craftsman's knife, cut rubber pad (5) away from access door (4).



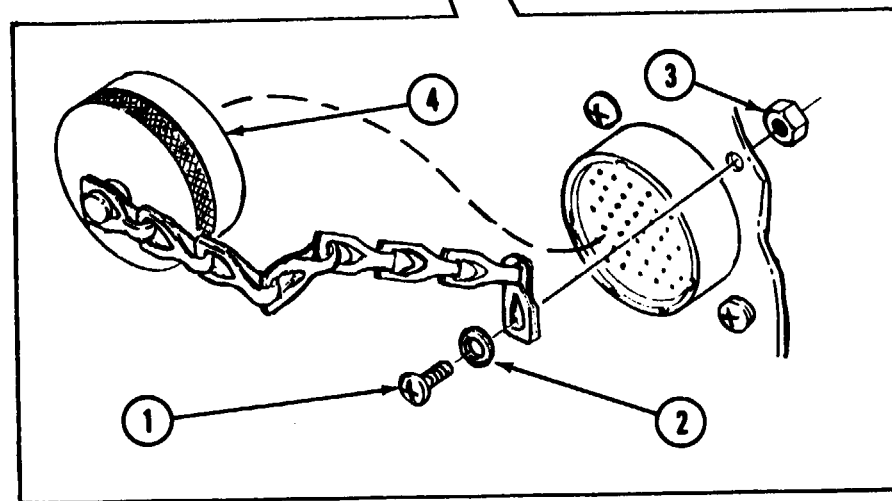
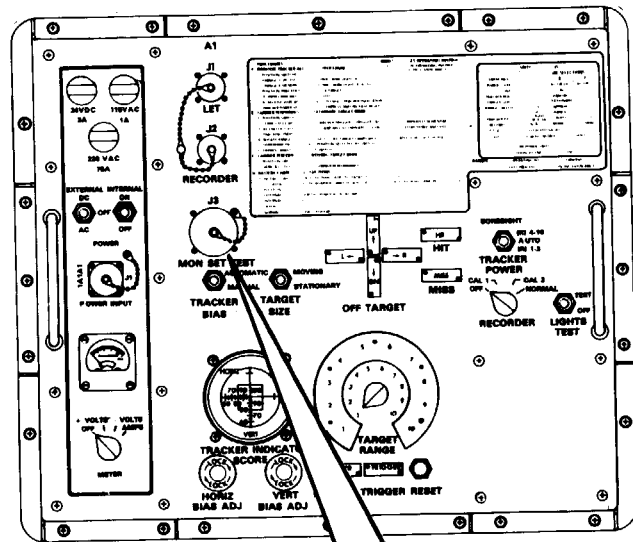
END OF TASK

3-34. REMOVE ELECTRICAL CONNECTOR COVER (J3)

Tools required: No. 1 crosspoint screwdriver
 Craftsman's knife
 5/32 inch socket
 12 inch extension bar
 Ratchet wrench

Equipment condition: Monitoring set panel removed, see para. 3-11.

- A. Using screwdriver, socket, wrench and extension, remove screw (1), washer (2), nut (3) and chain and cover (4).
- B. Using knife, remove excess sealing compound.



END OF TASK

3-35. REMOVE (S1, S4, S5 AND S8) SWITCHES

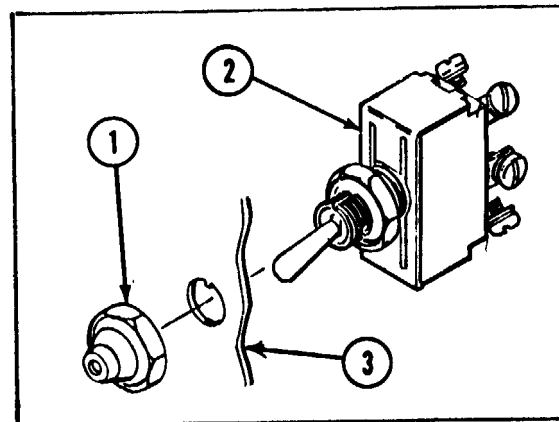
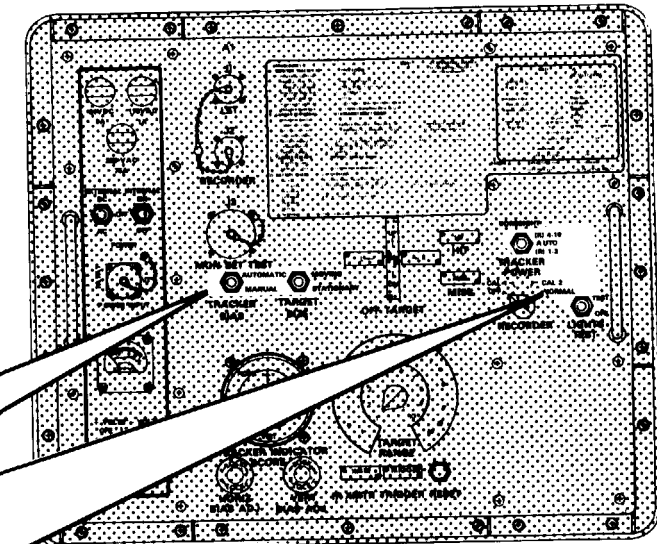
Tools required: 5/8 inch box end wrench
 1/8 inch flat-blade screwdriver

Equipment condition: Monitoring set panel remove, see para. 3-11.

STEP 1



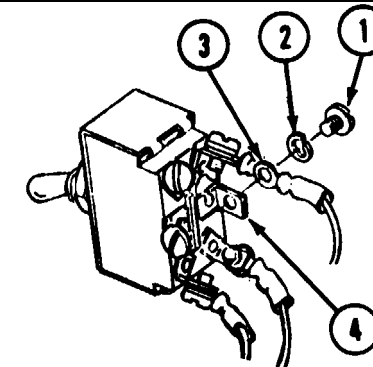
Removal of all four switches is identical. Switch identification is found on rear of front panel next to switch.



Using wrench, remove boot (1) securing switch (2) to panel (3).

STEP 2

- A. Tag leads. Using screwdriver, remove screws (1), washers (2), and terminal lug (3) from switch terminals (4).
- B. Remove switch.



END OF TASK

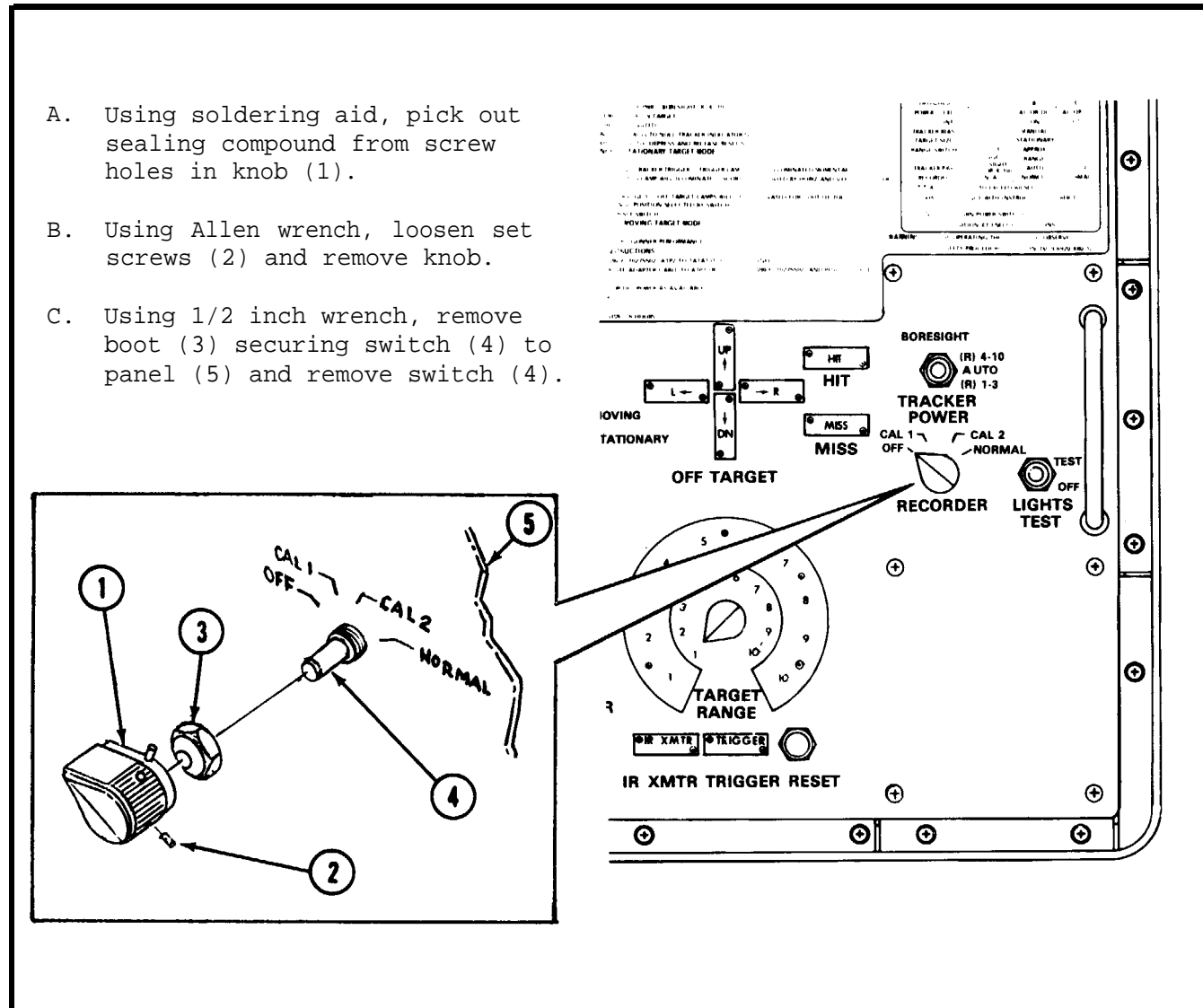
3-36. REMOVE RECORDER SWITCH (S6)

Tools required: .050 inch Allen wrench
 Soldering aid
 1/2 inch open end wrench
 Craftsman's knife
 Desoldering kit

Equipment condition: Monitoring set panel removed, see para. 3-11.

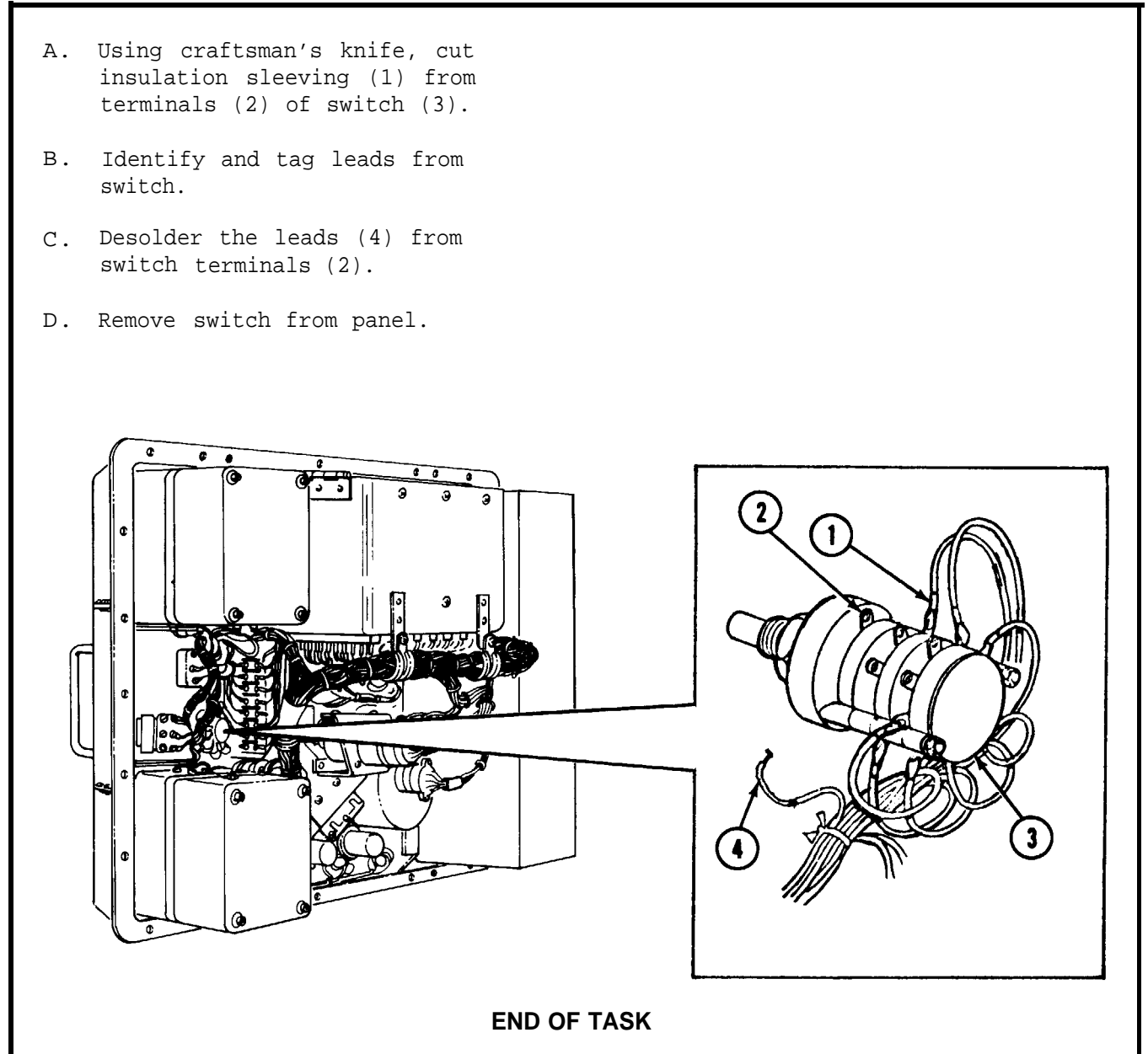
STEP 1

- A. Using soldering aid, pick out sealing compound from screw holes in knob (1).
- B. Using Allen wrench, loosen set screws (2) and remove knob.
- C. Using 1/2 inch wrench, remove boot (3) securing switch (4) to panel (5) and remove switch (4).



STEP 2

- A. Using craftsman's knife, cut insulation sleeving (1) from terminals (2) of switch (3).
- B. Identify and tag leads from switch.
- C. Desolder the leads (4) from switch terminals (2).
- D. Remove switch from panel.



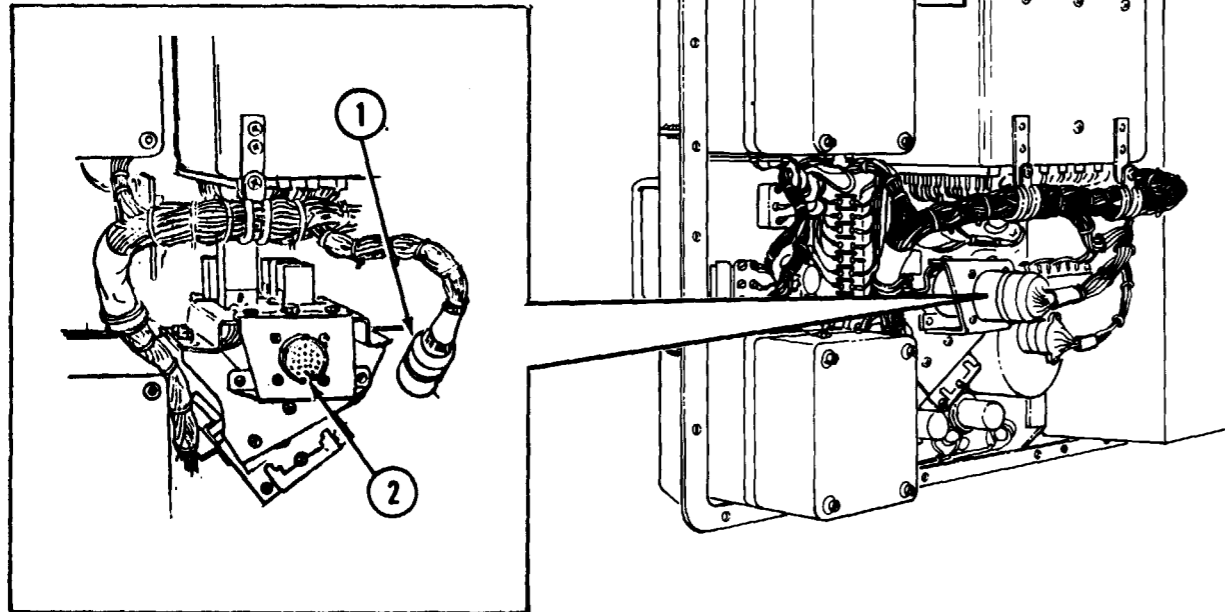
3-37. REMOVE RELAY ASSEMBLY

Tools required: 1/4 inch box end wrench
3/8 inch open end wrench
Two 6 inch extensions
Universal adapter
3/8 inch socket
No. 2 crosspoint screwdriver
Ratchet wrench

Equipment condition: Monitoring set panel removed, see para. 3-11.

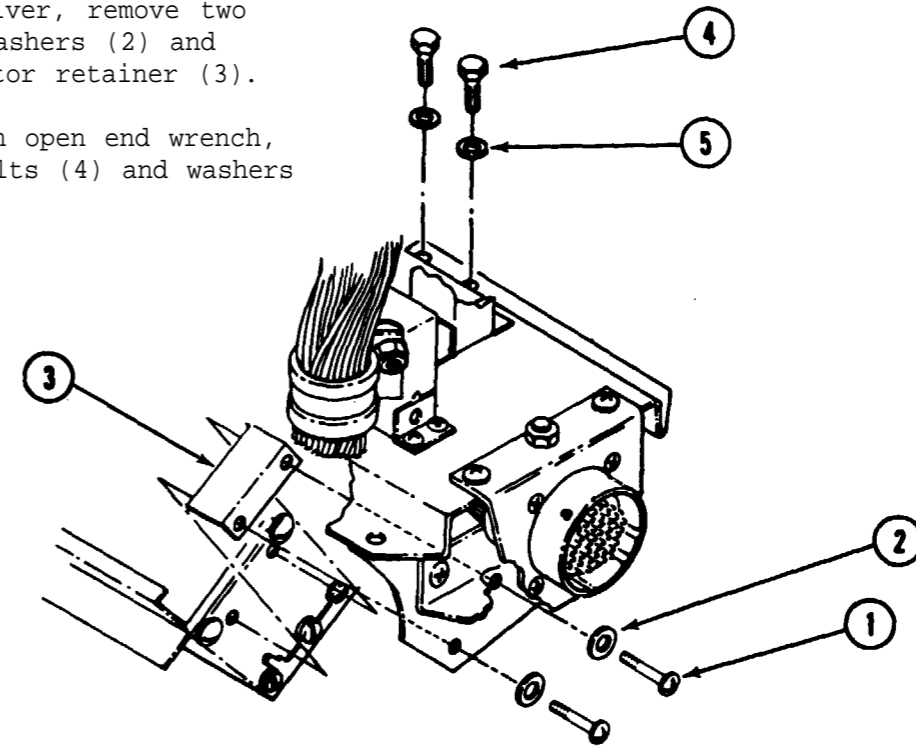
STEP 1

Disconnect connector P3 (1) from receptacle connector (2).



STEP 2

- A. Using screwdriver, remove two screws (1), washers (2) and switch connector retainer (3).
- B. Using 3/8 inch open end wrench, remove two bolts (4) and washers (5).

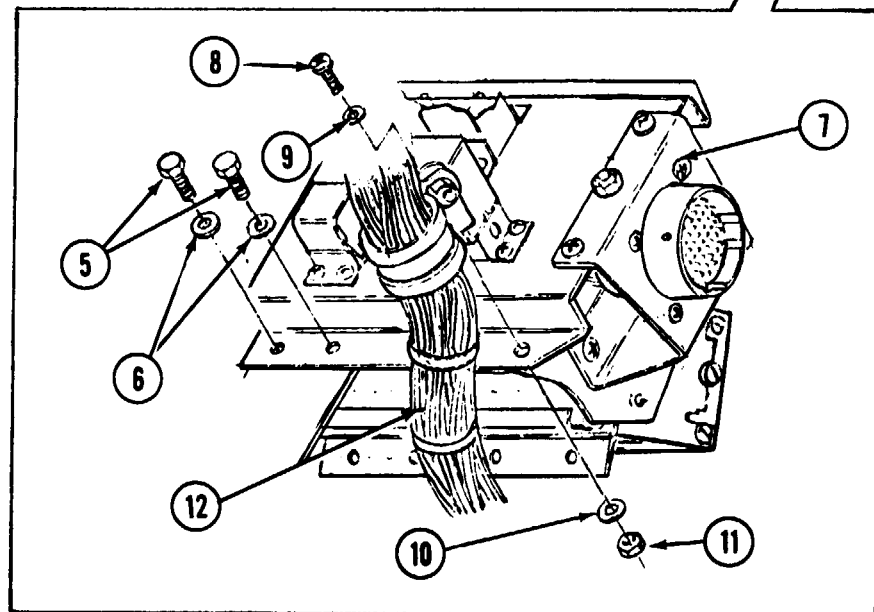
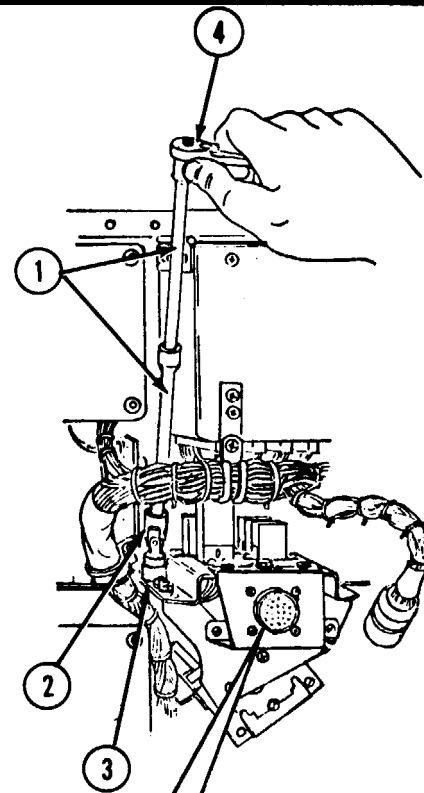


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3-37. REMOVE RELAY ASSEMBLY - CONTINUED

STEP 3

- A. Using two six inch extensions (1), 1/4 inch universal adapter (2), 3/8 inch socket (3) and ratchet handle (4), remove two bolts (5) and washers (6).
- B. Lift relay assembly (7) clear of panel.
- C. Using screwdriver and 1/4 inch wrench, remove screw (8), washer (9), washer (10) and nut (11) securing wire harness (12) to relay assembly.
- D. Remove relay assembly.



END OF TASK

3-38. REMOVE ROTARY SWITCH (S2) AND WAFERS

- Tools required:
- Flat-blade screwdriver
 - No. 1 crosspoint screwdriver
 - No. 2 crosspoint screwdriver
 - .050 Allen wrench
 - 1/2 inch open end wrench
 - 3/16 inch open end wrench
 - 1/2 inch box end wrench
 - Soldering aid

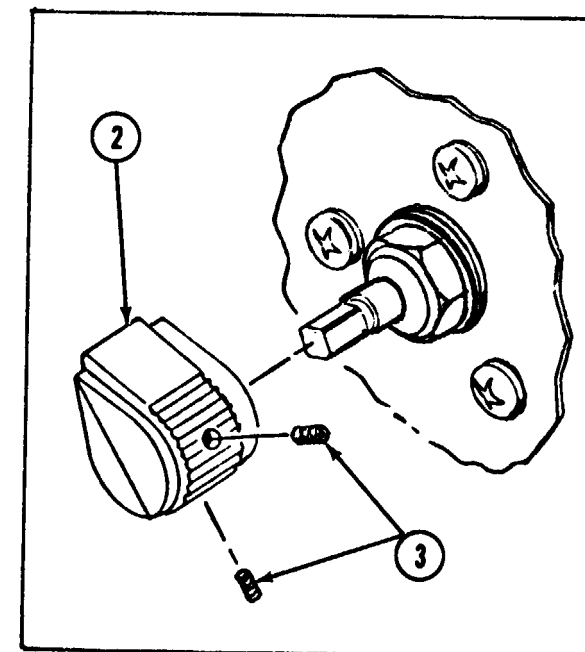
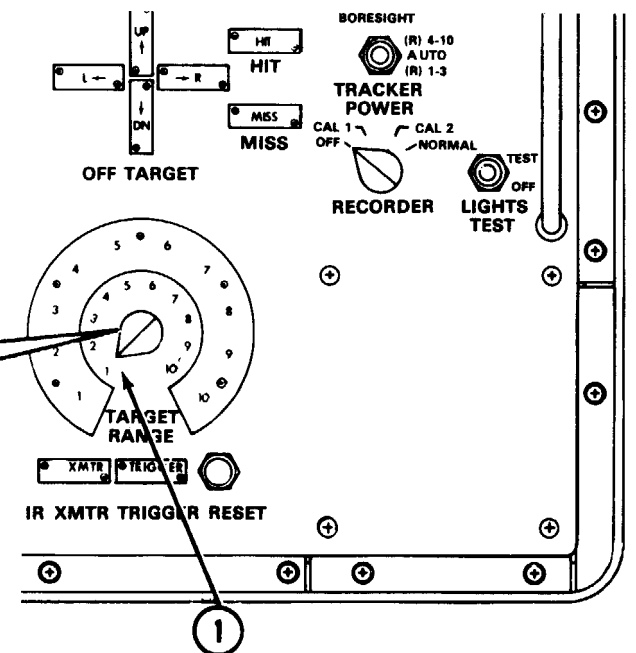
Equipment condition: Relay assembly removed, see para. 3-37.



Individual wafers may be removed and replaced without removing the entire rotary switch. If wafer removal required, proceed to Step 4.

STEP 1

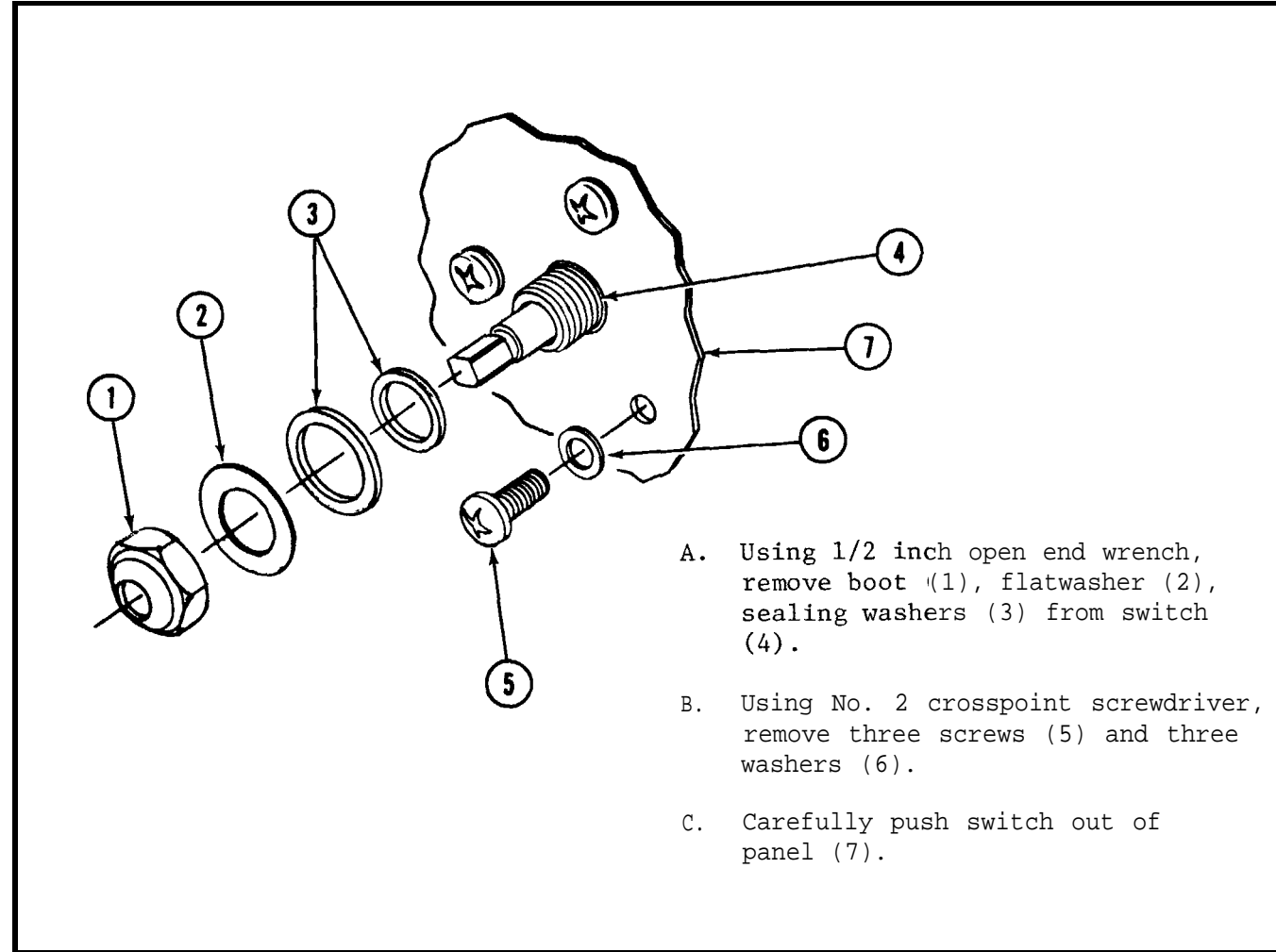
- A. Position TARGET RANGE switch to position 1 (1).
- B. Using soldering aid, pick out sealing compound from screw knob (2).
- C. Using Allen wrench, loosen two set screws (3) and remove knob.



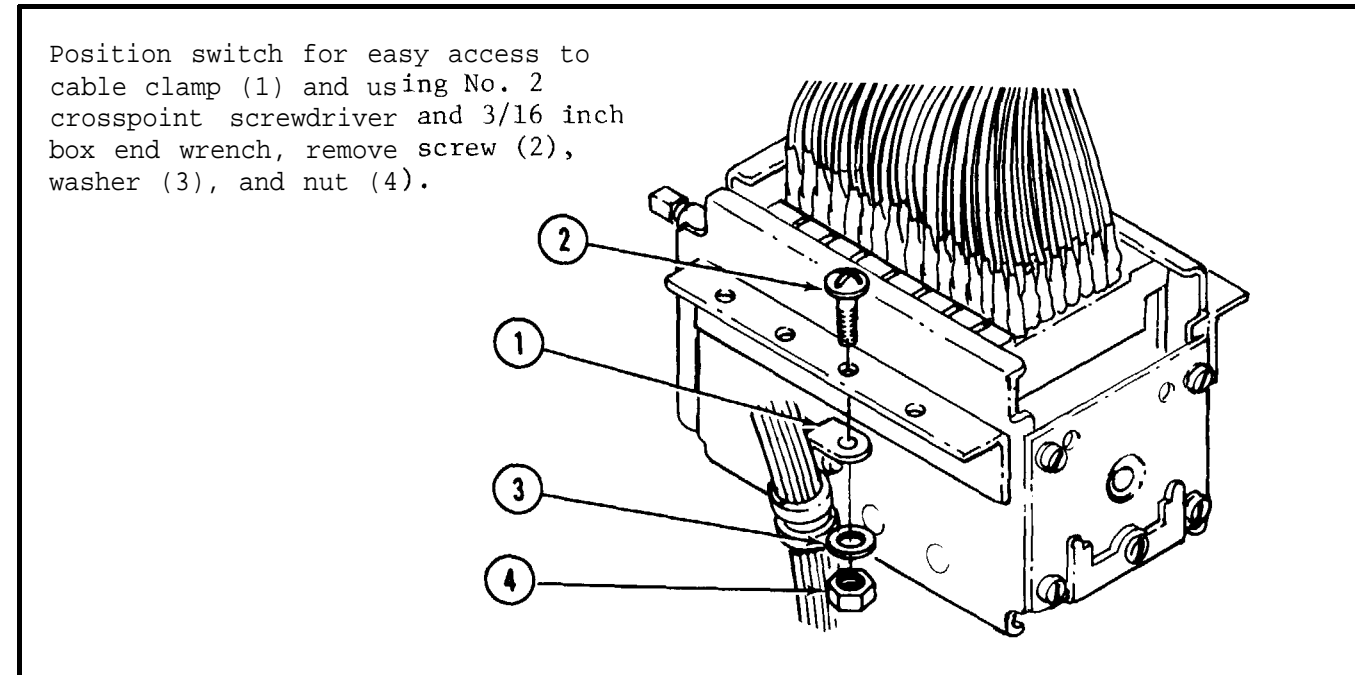
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3-38. REMOVE ROTARY SWITCH (S2) AND WAFERS - CONTINUED

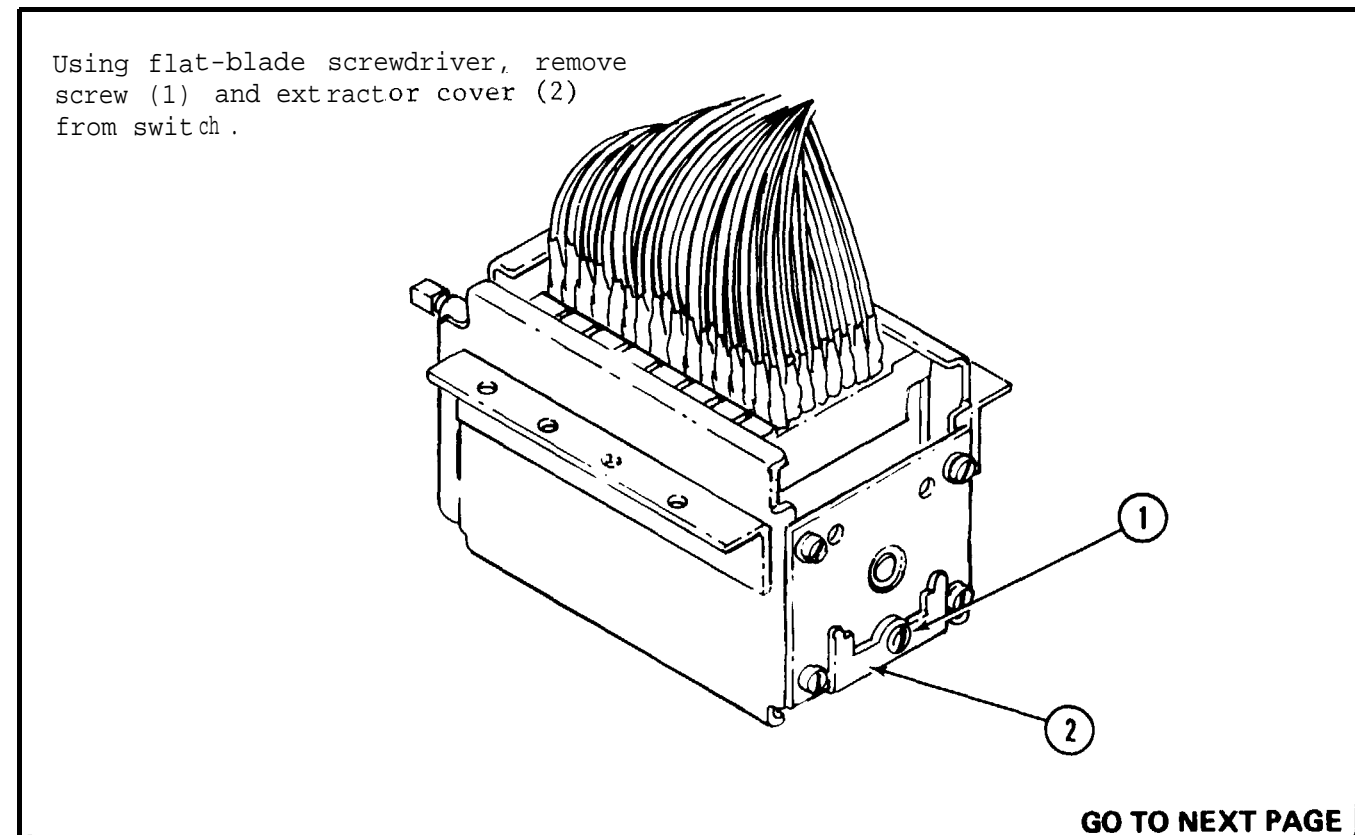
STEP 2



STEP 3



STEP 4



3-38. REMOVE ROTARY SWITCH (S2) AND WAFERS - CONTINUED

STEP 5



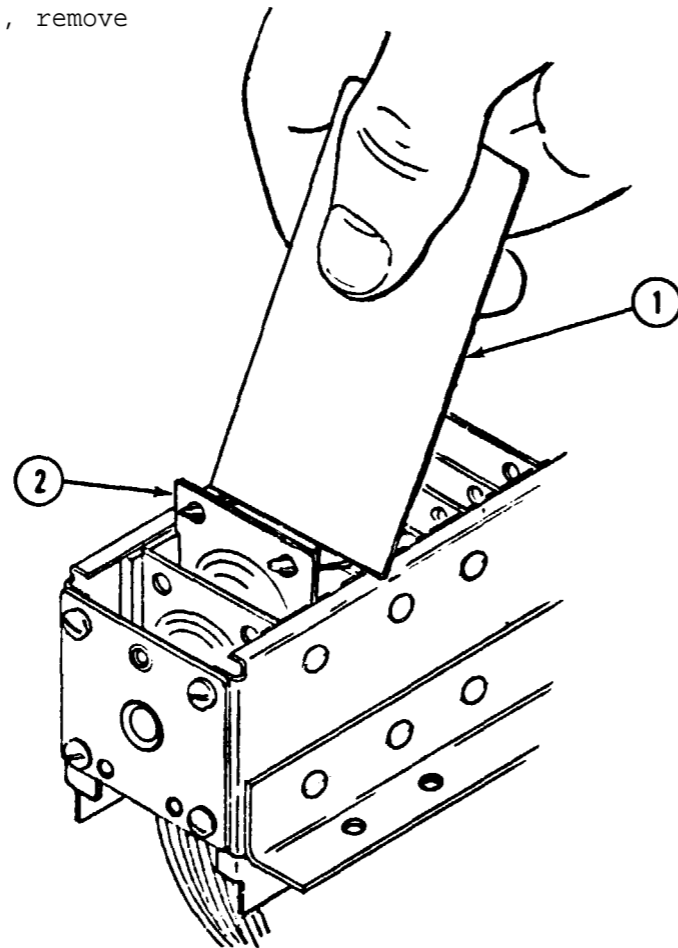
To remove wafers, be sure the switch shaft is set in line with the wafer opening. Do not touch contacts. Handle wafers by the edge. If wafers are touched, clean with cotton swab and ethyl alcohol.



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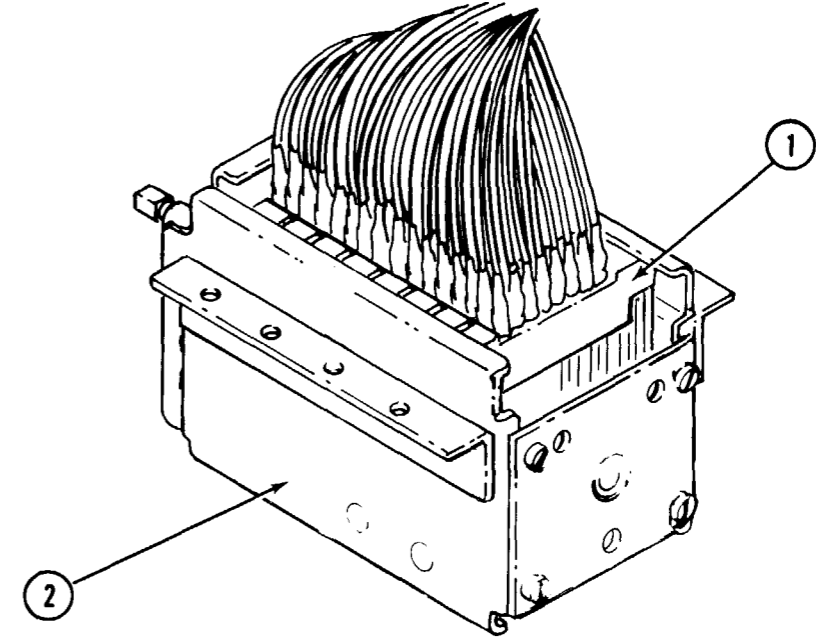
Using cover extractor (1), remove eight wafers (2).



GO TO NEXT PAGE

STEP 6

Lift eight wafer connectors (1) from switch (2).



ENDOFTASK

3-39. REMOVE (S2) SWITCH CONNECTORS

Tools required: Desoldering kit
Craftsman's knife

Equipment condition: Relay assembly removed, see para. 3-37.

STEP 1

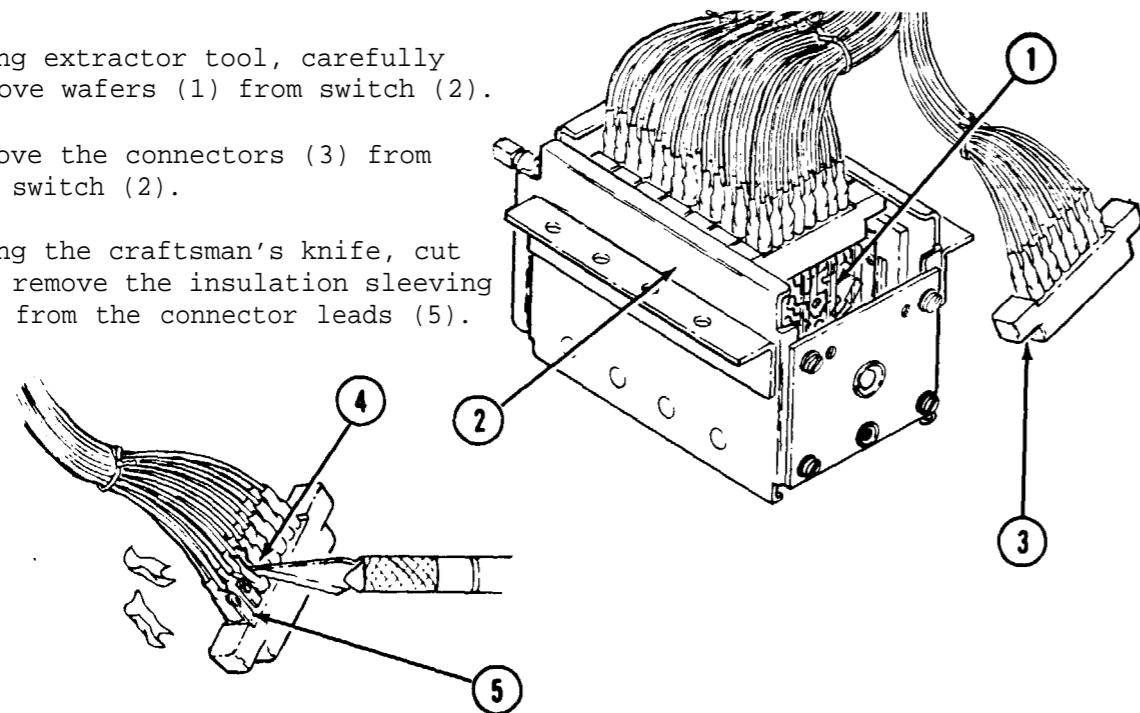


To remove wafers, be sure switch shaft is set in line with the wafer opening. Do not touch contacts. Handle wafers by the edge. If wafers are touched, clean with cotton swab and ethyl alcohol.



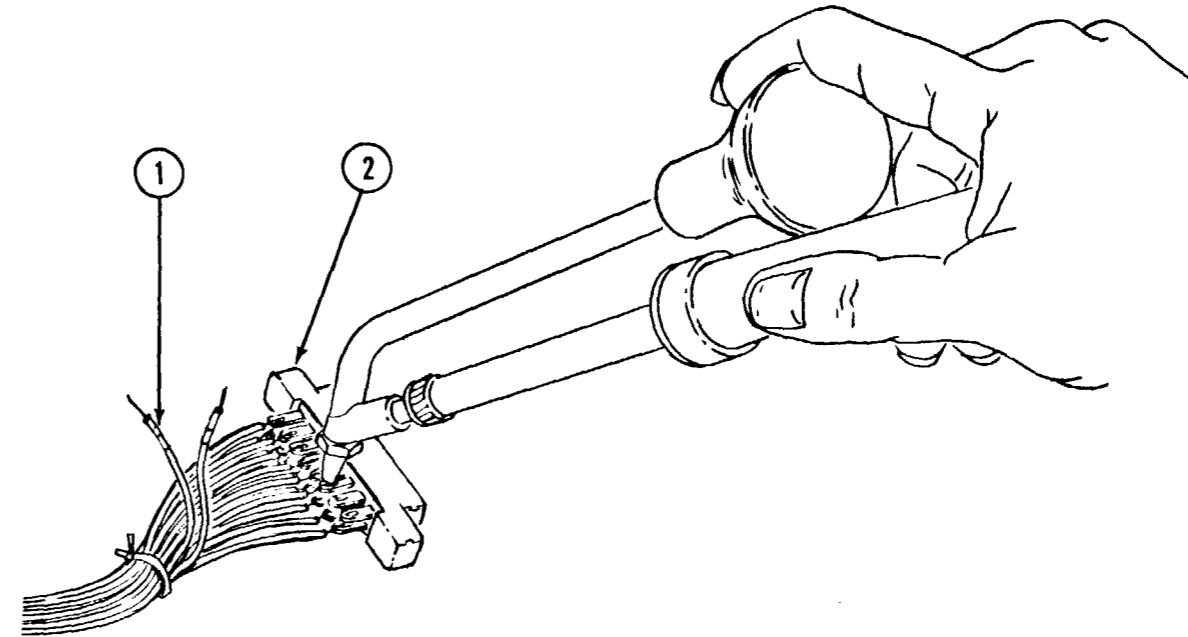
It may not be necessary to remove the switch to replace some of the connectors.

- A. Using extractor tool, carefully remove wafers (1) from switch (2).
- B. Remove the connectors (3) from the switch (2).
- C. Using the craftsman's knife, cut and remove the insulation sleeving (4) from the connector leads (5).



STEP 2

Tag each lead (1) and desolder from connector (2).



END OF TASK

3-40. REMOVE TERMINAL BOARDS (TB1 AND TB2)

Tools required: No. 2 offset crosspoint screwdriver
 1/8 inch flat-blade screwdriver
 3/16 inch box end wrench

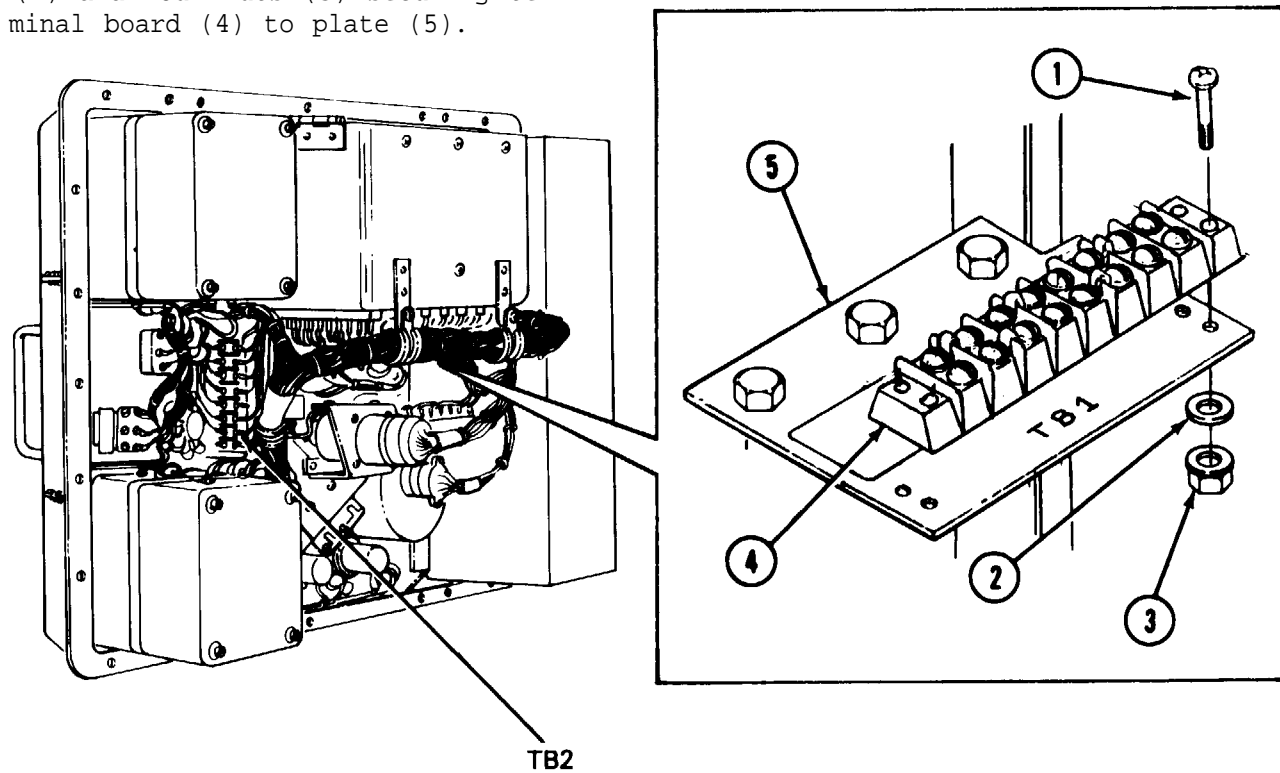
Equipment condition: Monitoring set panel removed, see para. 3-11.



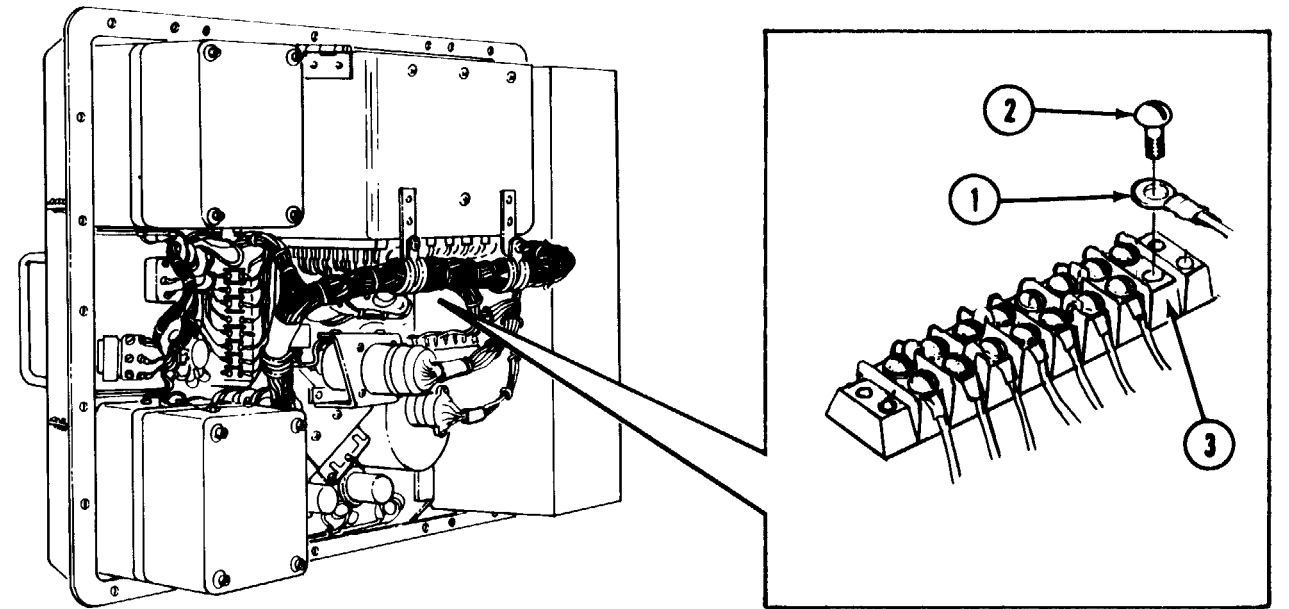
NOTE

Removal procedures for TB1 and TB2 are identical. So, only removal procedure for TB1 will be shown.

Using offset No. 2 crosspoint screwdriver, and 3/16 inch box end wrench, remove four screws (1), four washers (2) and four nuts (3) securing terminal board (4) to plate (5).



- A. Identify and tag terminal lugs (1) as you remove them.
- B. Using flat-blade screwdriver, remove screws (2), terminal lugs (1) from terminal board terminal posts (3).



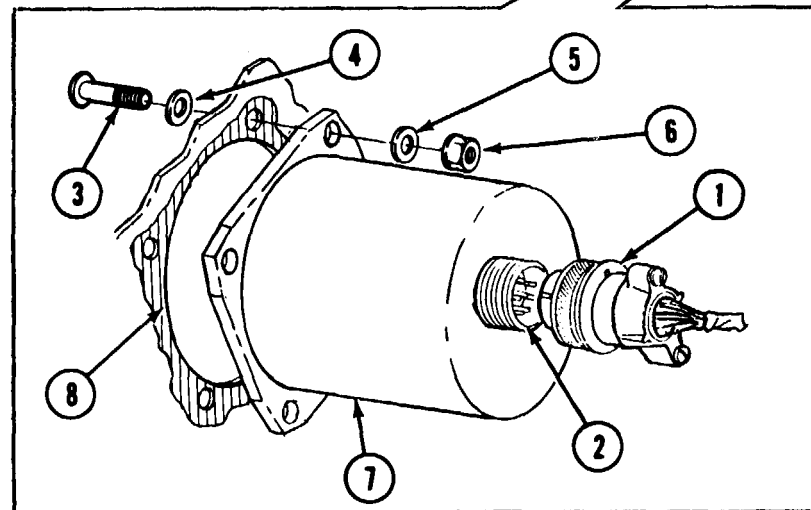
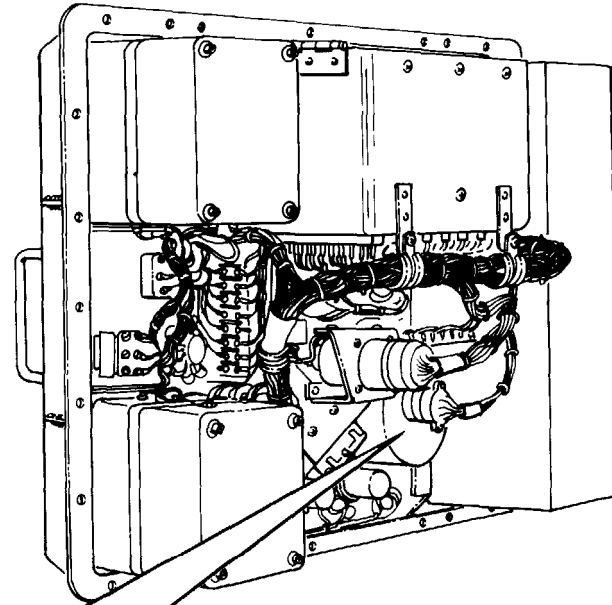
END OF TASK

3-41. REMOVE POSITION INDICATOR (M1)

Tools required: No. 2 crosspoint screwdriver
 7/32 inch deep socket wrench
 6 inch extension
 Ratchet wrench
 Craftsman's knife

Equipment condition: Monitoring set panel removed, see para. 3-11.

- A. Disconnect P1 (1) from position indicator receptacle J1 (2).
- B. Using screwdriver, socket, 6 inch extension and ratchet wrench, remove four screws (3), packing washers (4), flatwashers (5), and nuts (6) and remove position indicator (7).
- C. Using craftsman's knife, remove any old sealing compound from panel mounting hole (8).



END OF TASK

3-42. REMOVE VARIABLE RESISTORS (R1 AND R2)

Tools required: Craftsman's knife
 Desoldering kit
 .050 inch Allen wrench
 1/2 inch box end wrench

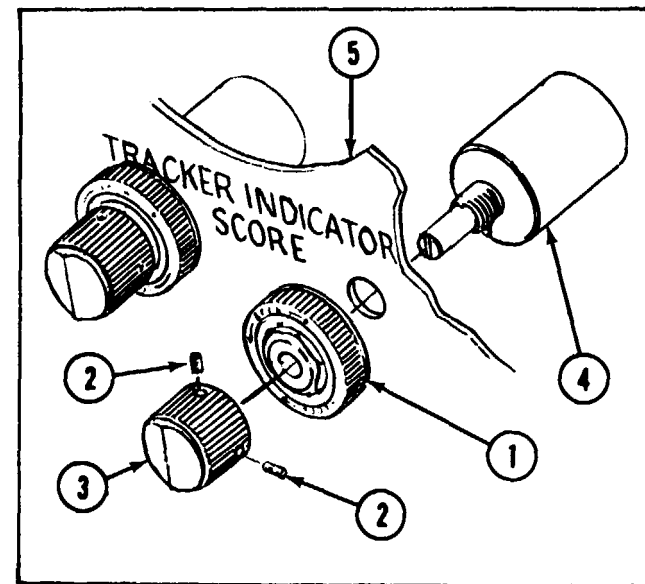
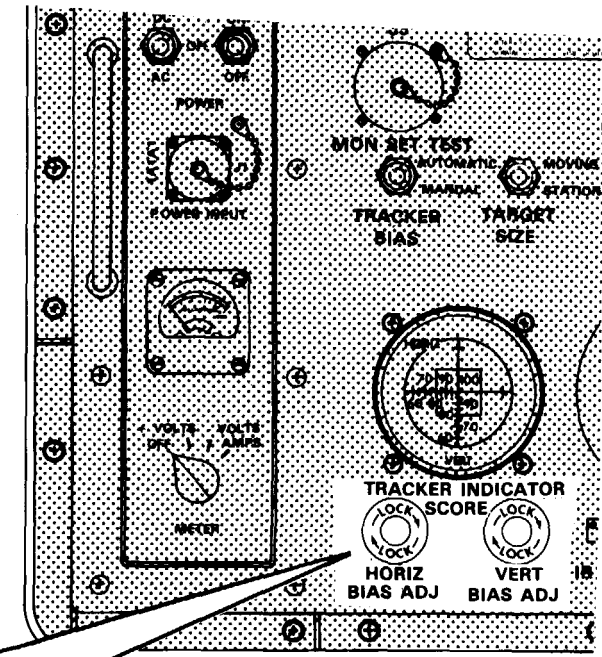
Equipment condition: Monitoring set panel removed, see para. 3-11.

STEP 1



Removal procedures for R1 and R2 are identical, so only removal procedures for R1 is shown.

- A. Unlock knob lock (1) and using Allen wrench, loosen setscrews (2) and remove knob (3).
- B. Using wrench, remove knob lock (1) and variable resistor (4) from panel (5). It may be necessary to use craftsman's knife to loosen variable resistor (4) from panel (5).

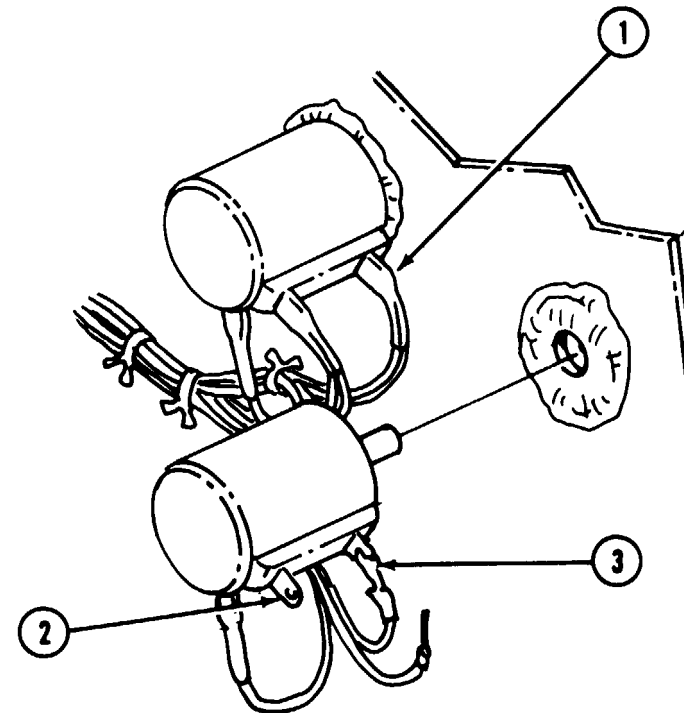


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3-42. REMOVE VARIABLE RESISTORS (R1 AND R2) – CONTINUED

STEP 2

- A. Using craftsman's knife, cut insulation sleeving (1) from resistor terminals (2).
- B. Identify and tag leads.
- C. Desolder leads (3) from resistor terminals (2).



END OF TASK

3-43. REMOVE LIGHT ASSEMBLY INDICATORS (DS11 THROUGH DS18)

Tools required: No. 1 crosspoint screwdriver
Desoldering kit

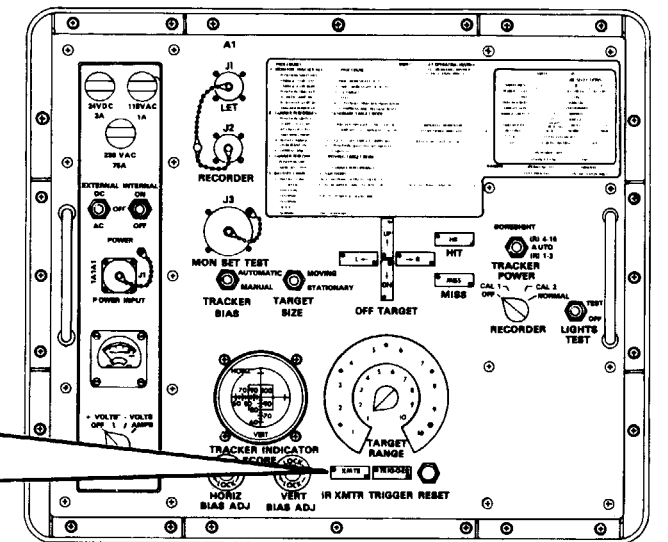
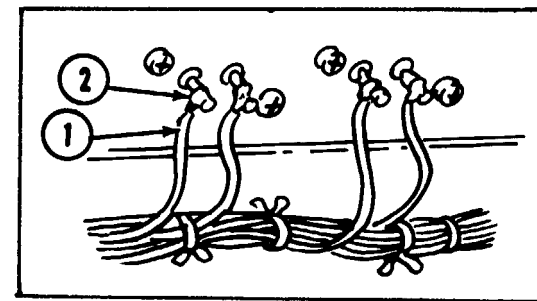
Equipment condition: Except for DS14 and DS15, S2 switch removed, see para. 3-38.

STEP 1



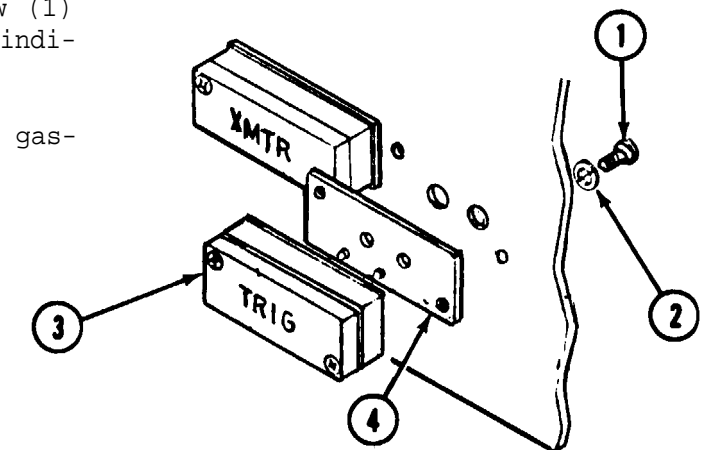
Procedures for removing the light indicators are identical, so only procedure for removing DS14 is shown.

- A. Identify and tag leads as they are removed.
- B. Desolder leads (1) from light indicator terminal lugs (2).



STEP 2

- A. Using screwdriver, remove screw (1) and washer (2) securing light indicator (3) to panel.
- B. Remove light indicator (3) and gasket (4).



END OF TASK

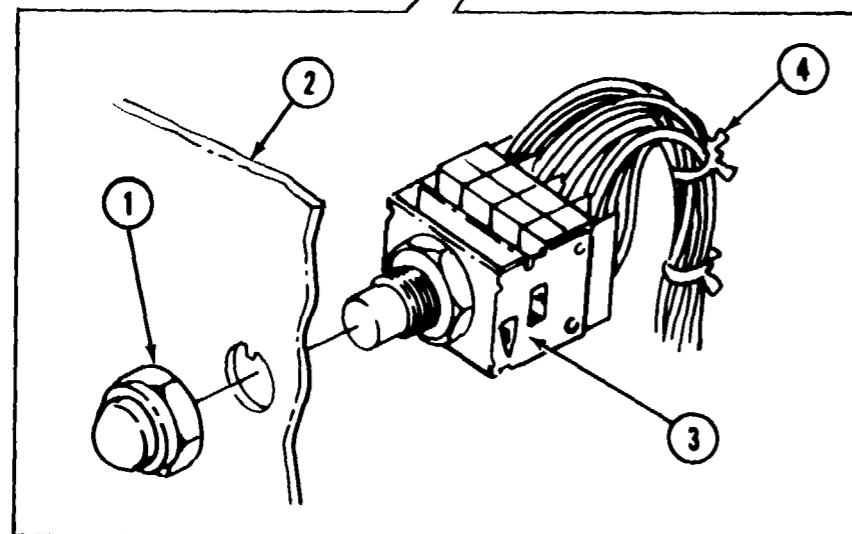
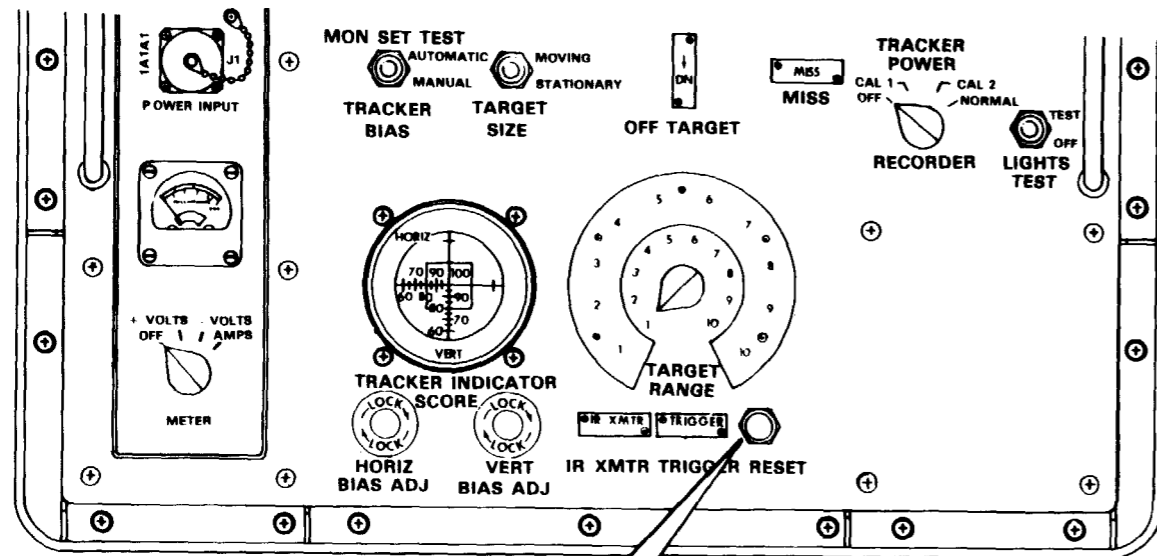
3-44. REMOVE PUSH SWITCH (S3)

Tools required: 5/8 inch box end wrench
Desoldering kit

Equipment condition: Monitoring set panel removed, see para. 3-11.

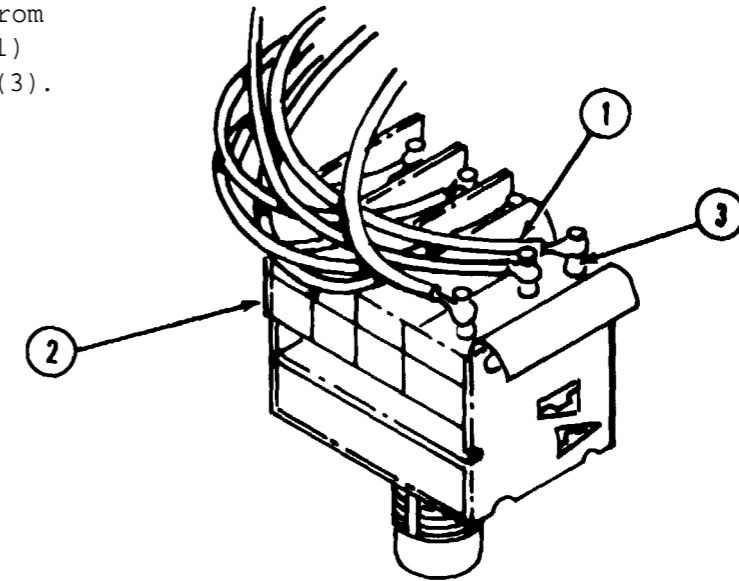
STEP 1

- A. Using wrench, remove boot (1) from panel (2).
- B. Slide switch (3) away from panel.
- C. Cut tie (4).



STEP 2

- A. Identify and tag each lead (1).
- B. Pull switch (2) out away from panel and desolder leads (1) from switch terminal posts (3).



END OF TASK

3-45. REMOVE RELAYS (K1 THROUGH K4)

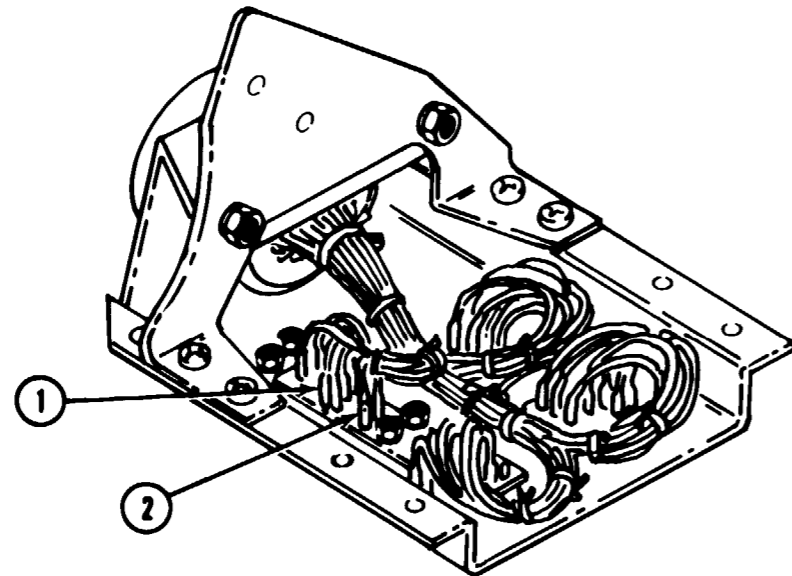
Tools required: Craftsman's knife
 Ratchet wrench
 1/4 inch socket
 3/16 inch socket
 No. 1 crosspoint screwdriver

Equipment condition: Relay assembly removed, see para. 3-37.

STEP 1



- Removal procedures for relays K1 through K4 are similar. K2 removal is shown here.
 - Before removing the relays, make a diagram showing the position of the relays on the relay assembly.
- A. Using craftsman's knife, cut insulation sleeving (1) away from relay terminals.
 - B. Identify and tag leads.
 - C. Desolder leads (2) from relay terminals.

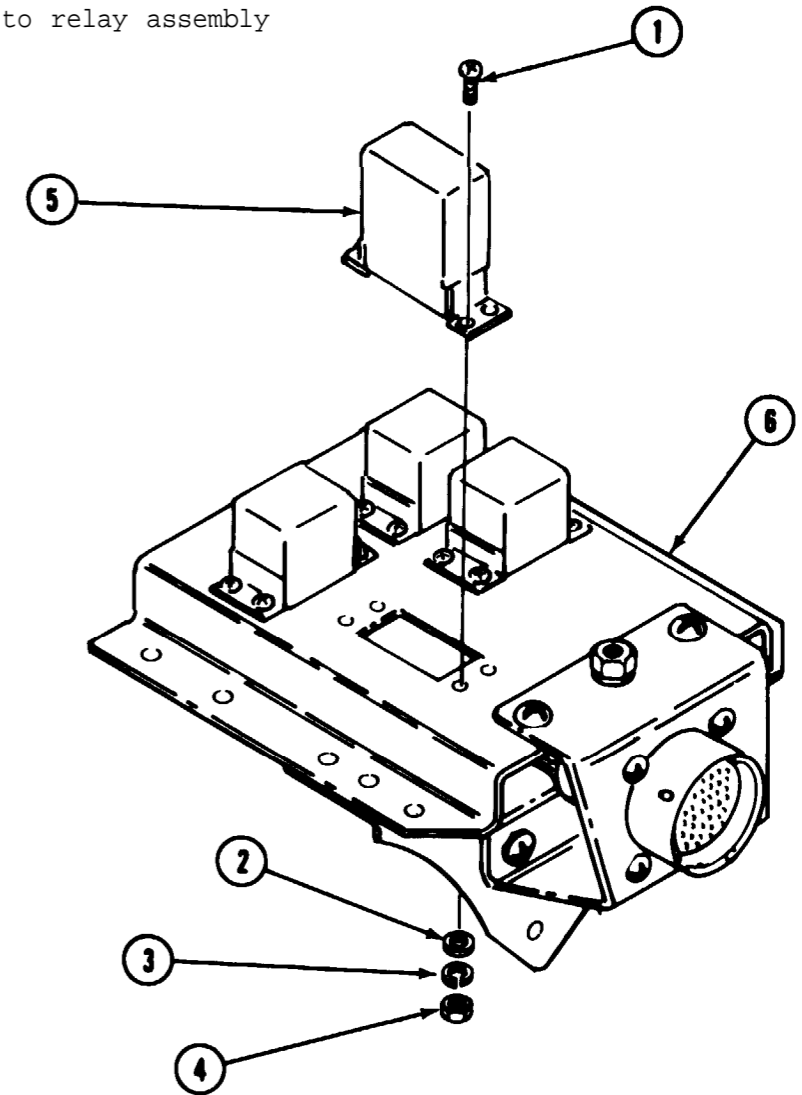


STEP 2



For removal of K1, K3 and K4, use 3/16 inch socket instead of 1/4 inch socket.

- A. Using screwdriver, 1/4 inch socket wrench and ratchet handle, remove four screws (1), flatwashers (2), lockwashers (3) and nuts (4) securing relay (5) to relay assembly (6).
- B. Remove relay.



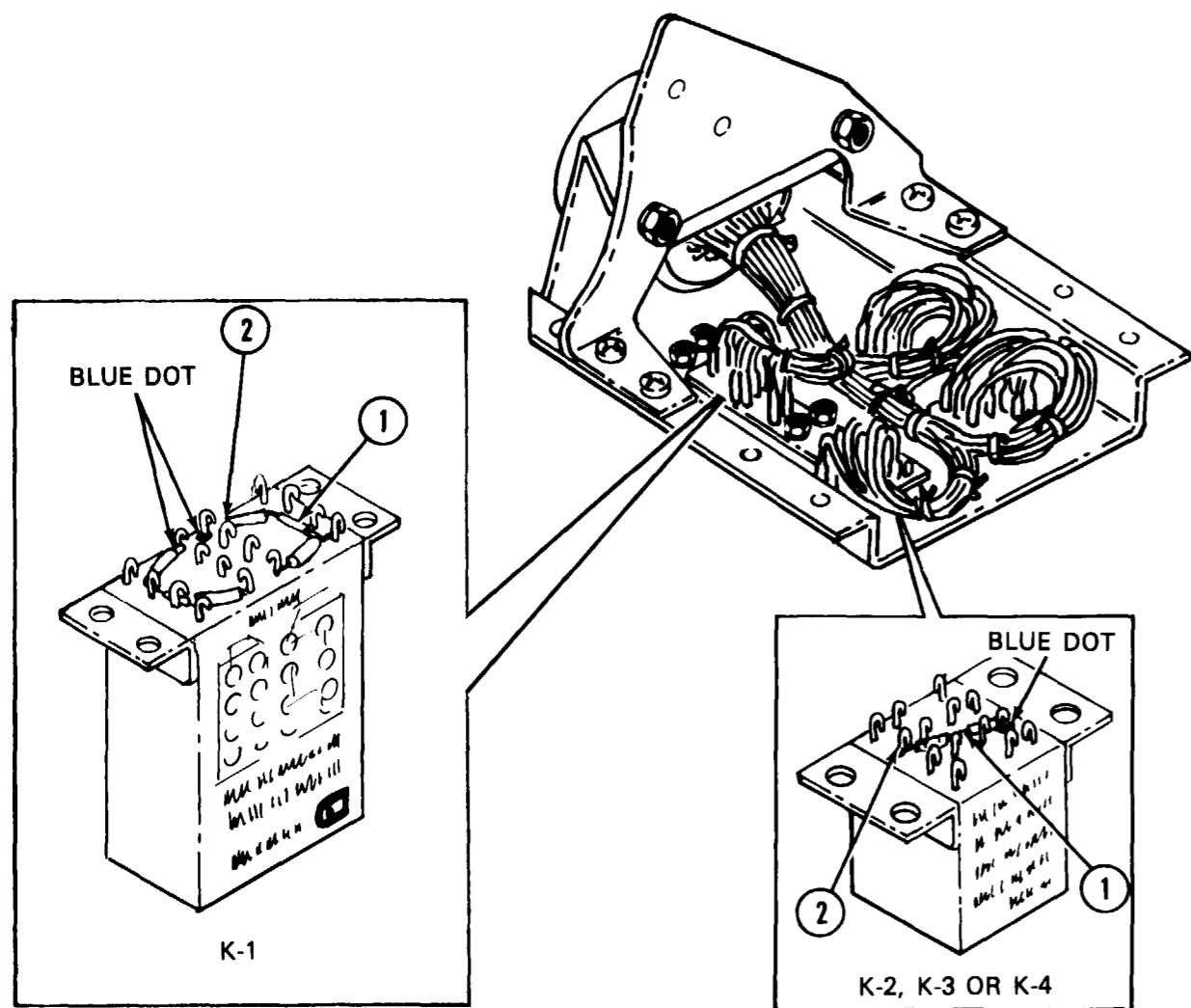
END OF TASK

3-46. REMOVE RELAY DIODES

Tools required: Longnose pliers
Desoldering kit

Equipment condition: Relay(s) removed, see para. 3-45.

- A. Make a diagram, showing the position and polarity of the diode(s) in relation to the relay (blue dots).
- B. Hold diode (1) with longnose pliers and desolder diode from relay terminal posts (2).



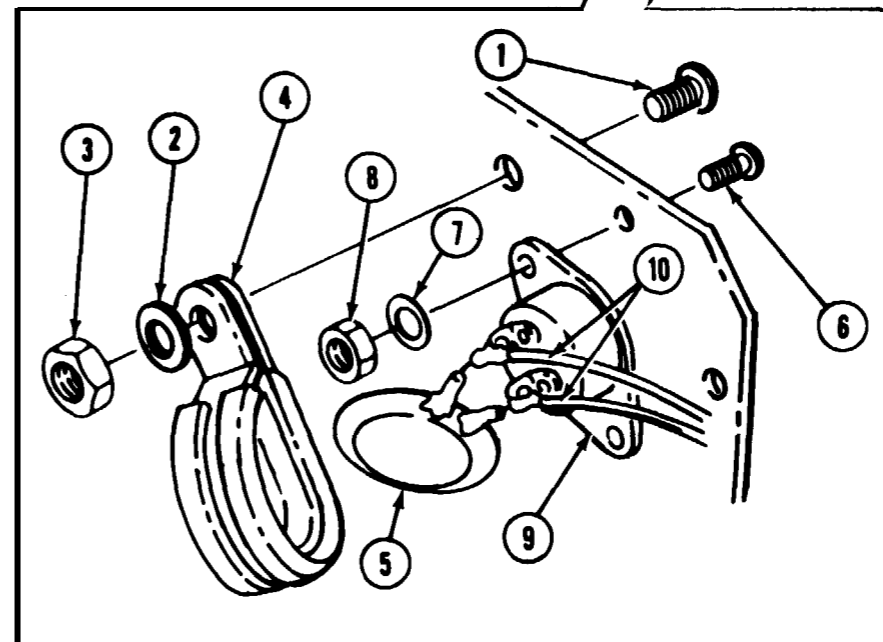
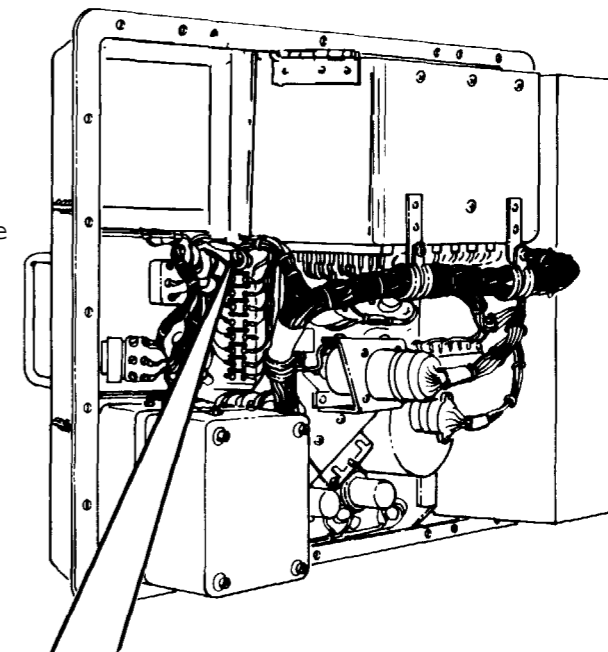
END OF TASK

3-47. REMOVE THERMOSTATIC SWITCH (S9) AND THERMAL RESISTOR (R3)

Tools required: No. 0 crosspoint screwdriver
No. 2 crosspoint screwdriver
1/4 inch open end wrench
3/8 inch open end wrench
Craftsman's knife

Equipment condition: (BT1 and BT2) batteries removed, see para. 3-30.

- A. Using No. 2 crosspoint screwdriver and 3/8 inch open end wrench, remove screw (1), washer (2), nut (3) and clamp (4).
- B. Push resistor R3 (5) out of clamp.
- C. Using No. 0 crosspoint screwdriver and 1/4 inch open end wrench, remove two screws (6), washers (7), and nuts (8) securing switch S9 (9) to panel.
- D. Tag wire harness leads (10).
- E. Desolder leads (10) from switch (9) and resistor (5).



END OF TASK

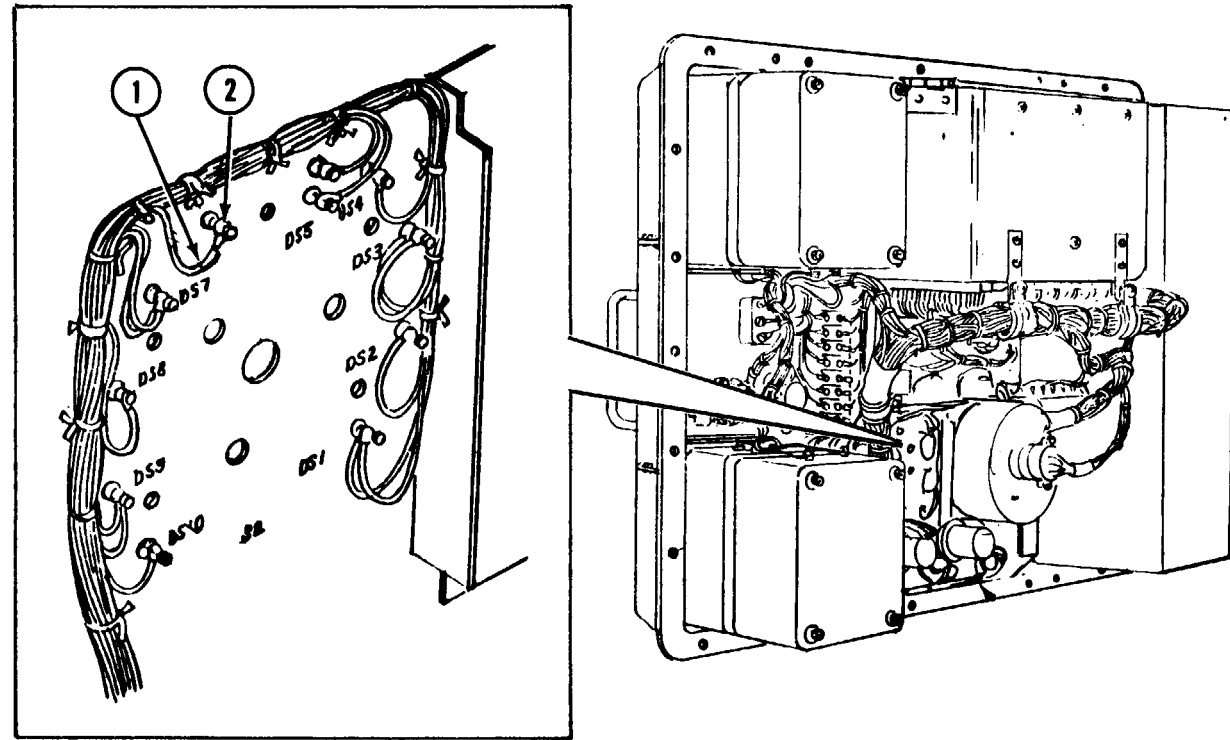
3-48. REMOVE TARGET RANGE LIGHT ASSEMBLY (DS1 THROUGH DS10)

Tools required No. 1 crosspoint screwdriver
 Craftsman's knife
 Desoldering kit
 Longnose pliers

Equipment condition: Rotary switch S2 removed, see para. 3-38.

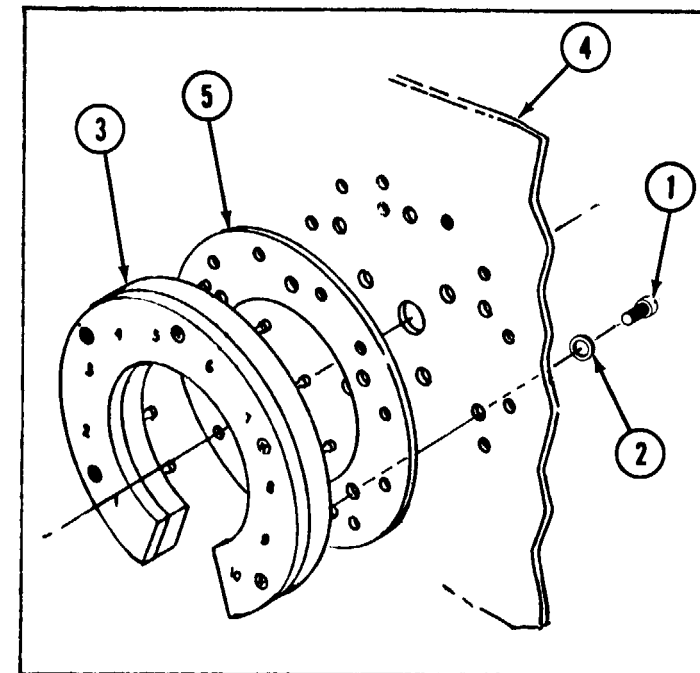
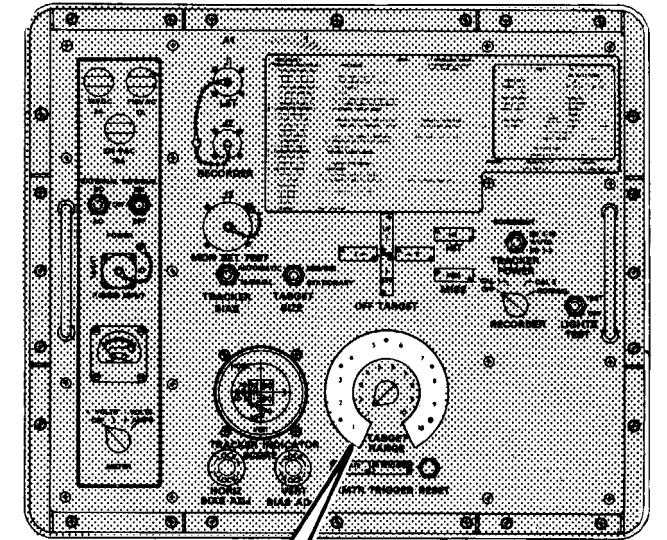
STEP 1

- A. Identify and tag leads.
- B. Desolder leads (1) from light assembly (2).



STEP 2

- A. Using screwdriver, remove five screws (1) and washers (2) securing light assembly (3) and gasket (5) to panel (4).
- B. Remove light assembly (3) and gasket (5).
- C. Using craftsman's knife, remove any excess sealing compound from panel.



END OF TASK

3-49. INSTALL TARGET RANGE LIGHT ASSEMBLY (DS1 THROUGH DS10)

Tools required: No. 0 crosspoint screwdriver
 Soldering iron
 Longnose pliers
 Diagonal cutting pliers
 9/32 inch punch
 1/4 inch punch

Materials required:

Materials

Gasket material	Item 3
DELETED	
Sealing Compound	Item 75
DELETED	
MEK	Item 5
Cleaning cloth	Item 6
Orangewood stick	Item 7
Alcohol	Item 8
Brush	Item 9
Solder	Item 11

See Appendix D

Equipment condition: Rotary switch (S2) removed, see para. 3-38.

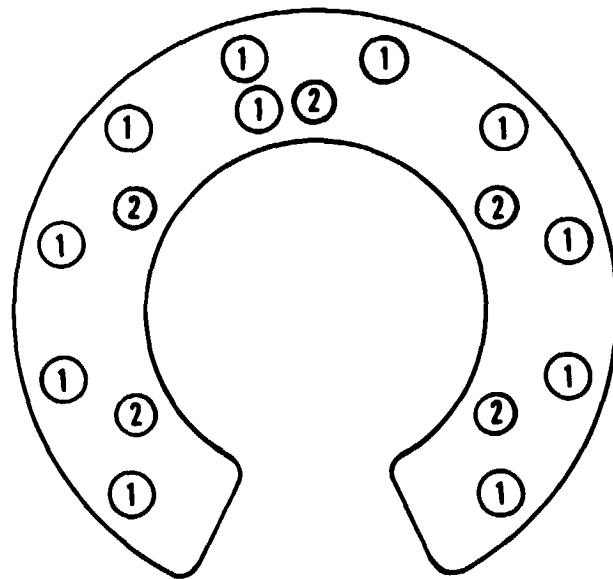
STEP 1

Trace template shown here. Cut a gasket from the gasket material.

Hole Diameters:

1 = .281 (9/32")

2 = .250 (1/4")



STEP 2

A. DELETED

B. You are going to apply gasket to back of light assembly so lay gasket on the light assembly to check proper alignment of holes.

C. Apply a thin coat of sealing compound to face of gasket that mates with the light assembly. Press it in place.

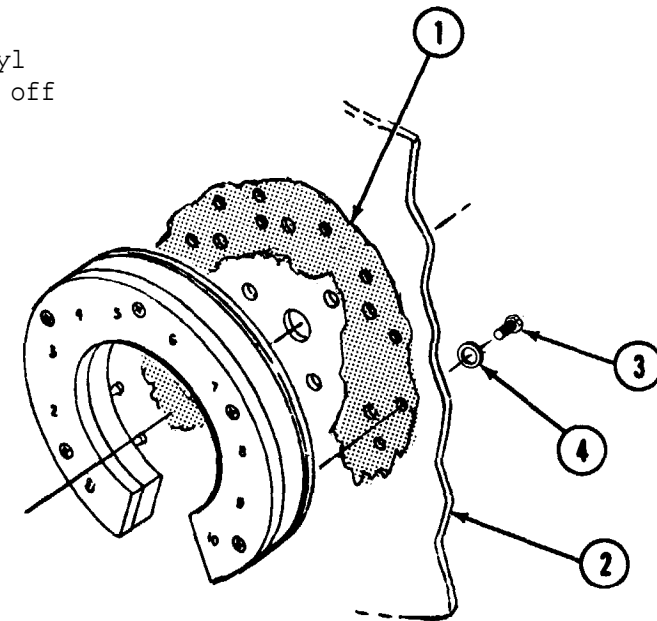
STEP 3

A. Apply primer (1) to the light assembly mounting area of the panel (2). Allow to cure one hour.

B. Apply sealing compound to back of gasket.

C. Place light assembly on panel and fasten in place with five screws (3) and washers (4) using crosspoint screwdriver.

D. Using clean cloth and isopropyl alcohol, wipe excess compound off light assembly and panel.

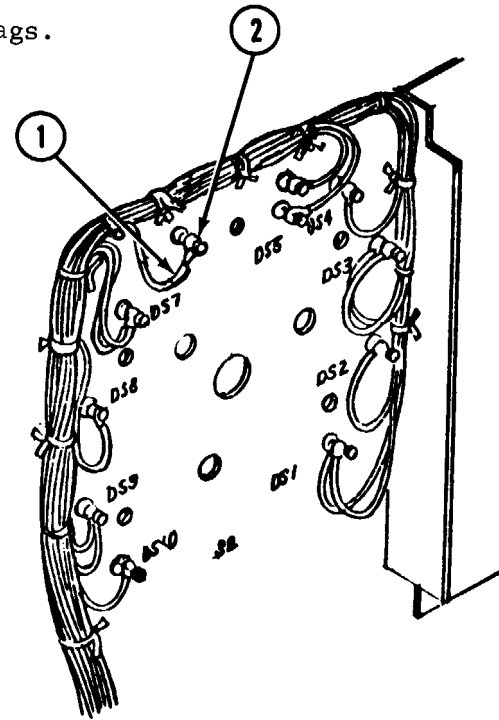


GOTONEXTPAGE

3-49. INSTALL TARGET RANGE LIGHT ASSEMBLY (DS1 THROUGH DS10) - CONTINUED

STEP 4

- A. Solder leads (1) to light assembly posts (2).
- B. Remove identifying tags.



END OF TASK

3-50. INSTALL (S2) SWITCH CONNECTORS

- Tools required:
- Soldering iron
 - Craftsman's knife
 - Heat gun
 - Machinist's rule

Materials required:

Materials

- Solder
- Alcohol
- Brush
- Insulation sleeving

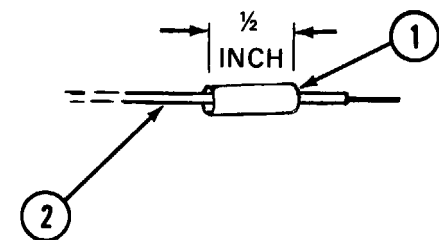
See Appendix D

- Item 11
- Item 8
- Item 9
- Item 13

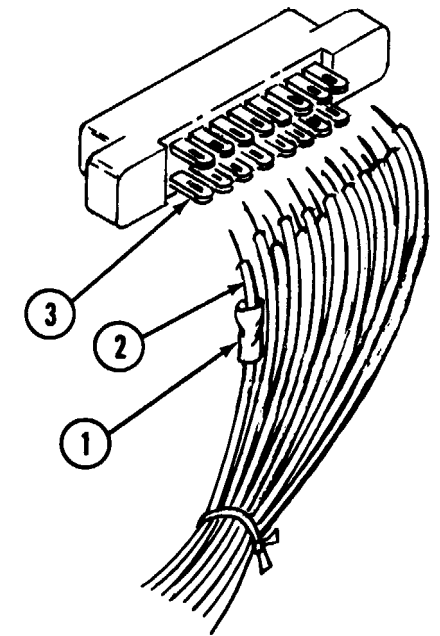
Equipment condition: Rotary switch (S2) removed, see para. 3-38.

STEP 1

- A. Using the craftsman's knife, cut a piece of sleeving (1) 1/2 inch long and slip the lead (2) through the sleeving (1).



- B. Identify and solder the leads (2) to the connector posts (3) and remove tags.

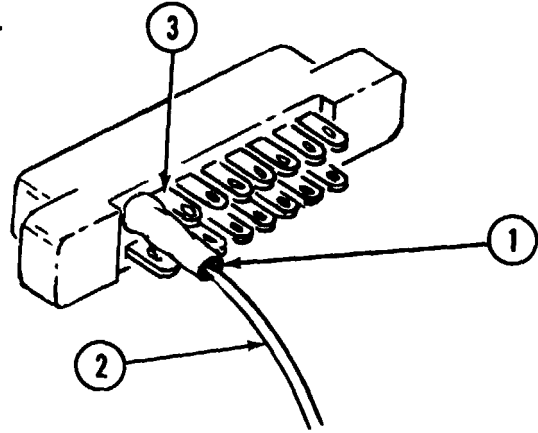


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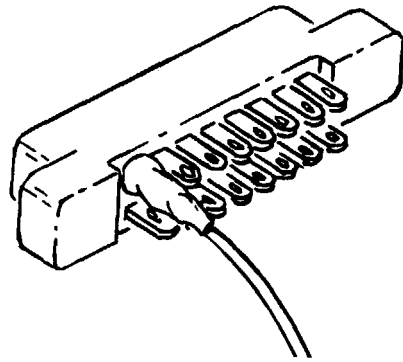
3-50. INSTALL (S2) SWITCH CONNECTORS - CONTINUED

STEP 2

A. Slide the sleeving (1) over the soldered Wad (2) and connector post (3).



B. Heat shrink the sleeving.



END OF TASK

3-51. INSTALL ROTARY SWITCH (S2) AND WAFERS

Tools required: No. 2 crosspoint screwdriver
 Flat-blade screwdriver
 .050 inch Allen wrench
 1/2 inch open end wrench
 3/16 inch box end wrench
 1/2 inch box end wrench

Materials required:

Materials

Cotton swab
 Adhesive
 DELETED
 Orangewood stick
 Ethyl alcohol
 Brush

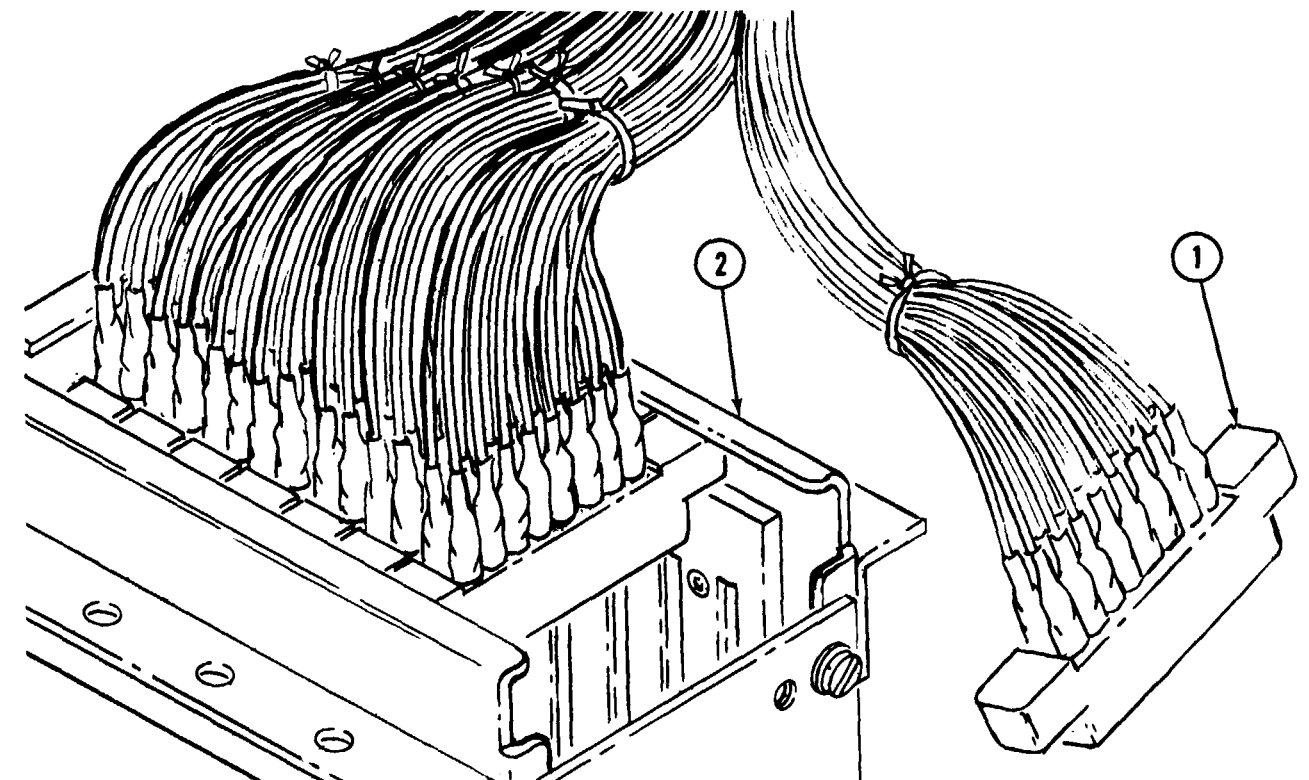
See Appendix D

Item 48
 Item 73
 Item 7
 Item 47
 Item 9

Equipment condition: Relay assembly removed, see para. 3-37.

STEP 1

Clean the eight wafer connectors (1) using brush and ethyl alcohol. Slide eight wafer connectors (1) into switch body (2).



GO TO NEXT PAGE

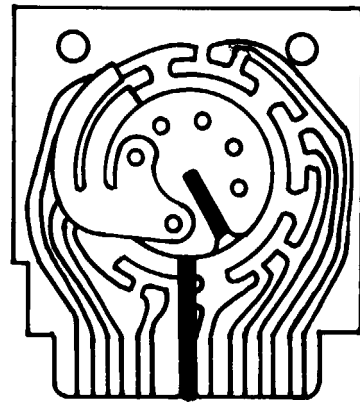
3-51. INSTALL ROTARY SWITCH (S2) AND WAFERS – CONTINUED

STEP 2

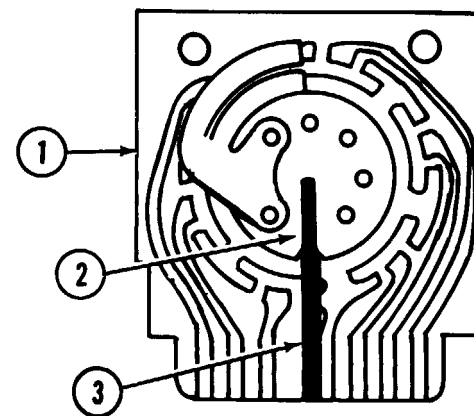


To install wafers, be sure the switch shaft is set in line with the wafer opening, (the full ccw position). Do not touch contacts. Handle wafers by the edge.

- A. Using ethyl alcohol and cotton swabs, clean the wafers (1).



WRONG

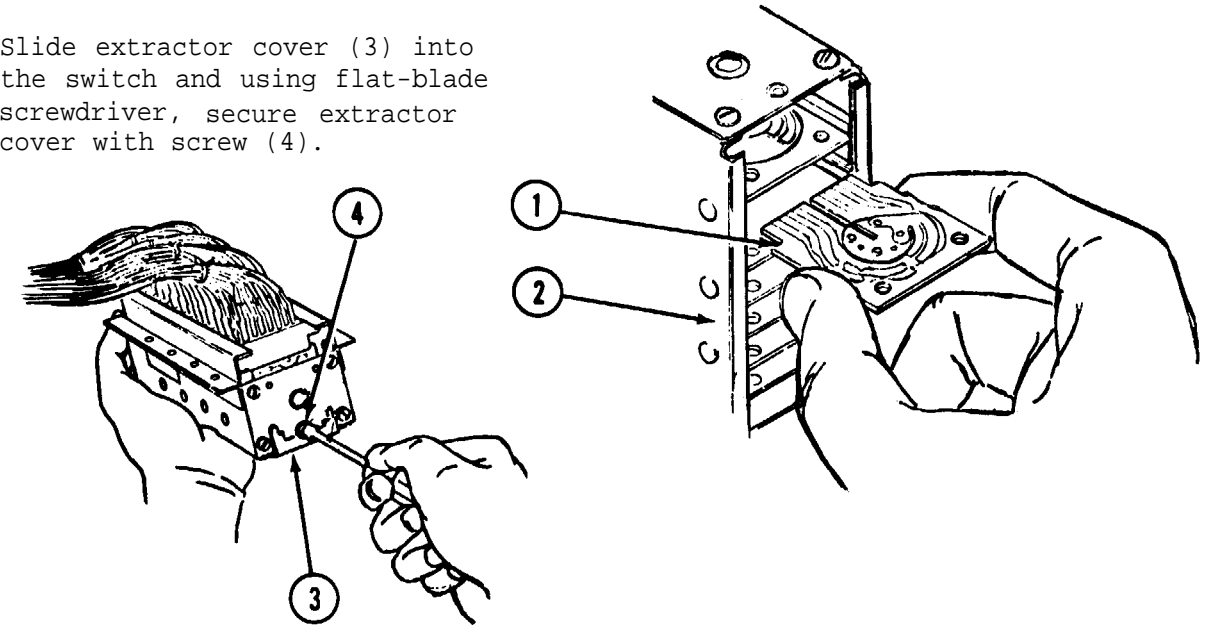


RIGHT

- B. Align the slot in rotary contact (2) with the slot (3) in the wafer (1).

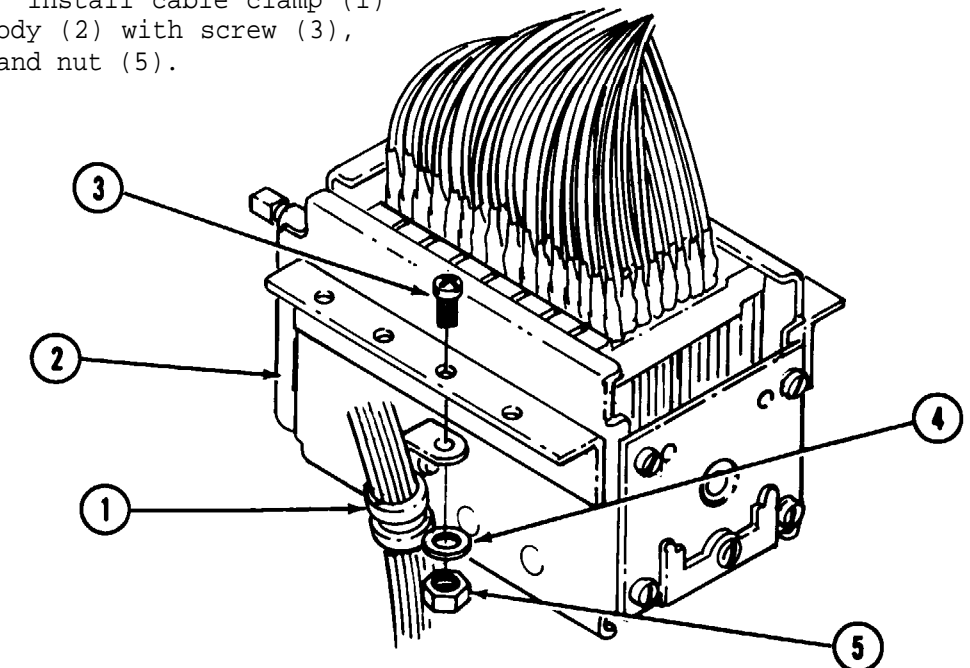
STEP 3

- A. Slide eight wafers (1) into the switch (2).
- B. Slide extractor cover (3) into the switch and using flat-blade screwdriver, secure extractor cover with screw (4).



STEP 4

Using crosspoint screwdriver and 3/16 inch wrench, install cable clamp (1) on switch body (2) with screw (3), washer (4) and nut (5).

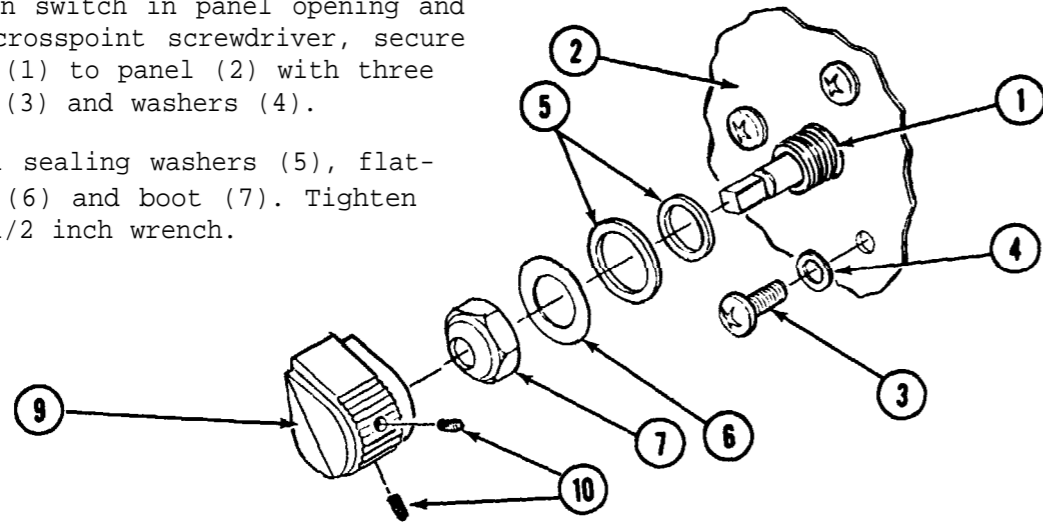


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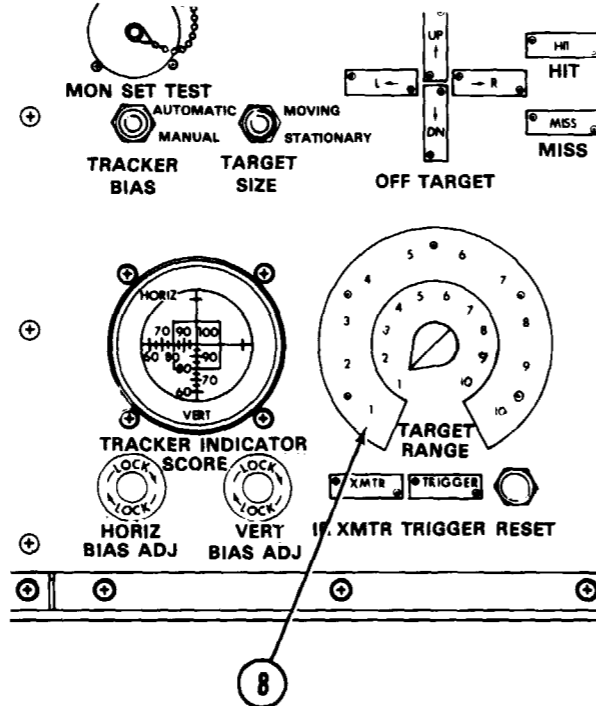
3-51. INSTALL ROTARY SWITCH (S2) AND WAFERS – CONTINUED

STEP 5

- A. Position switch in panel opening and using crosspoint screwdriver, secure switch (1) to panel (2) with three screws (3) and washers (4).
- B. Install sealing washers (5), flat-washer (6) and boot (7). Tighten using 1/2 inch wrench.



- C. Be sure switch is rotated to position 1 on TARGET RANGE indicator (8).
- D. Using Allen wrench, secure knob (9) to switch with set screws (10).



DELETED

- E. Using orangewood stick, fill void above setscrews (10) with adhesive.

END OF TASK

3-52. INSTALL THERMOSTATIC SWITCH (S9) AND THERMAL RESISTOR (R3)

- Tools required:
- No. 1 crosspoint screwdriver
 - No. 2 crosspoint screwdriver
 - 1/4 inch open end wrench
 - 3/8 inch open end wrench
 - Heat sink
 - Soldering iron
 - Longnose pliers
 - Diagonal cutting pliers
 - Machinist's rule
 - Heat gun

Materials required:

Materials

- Solder
- Alcohol
- Brush
- Insulation sleeving

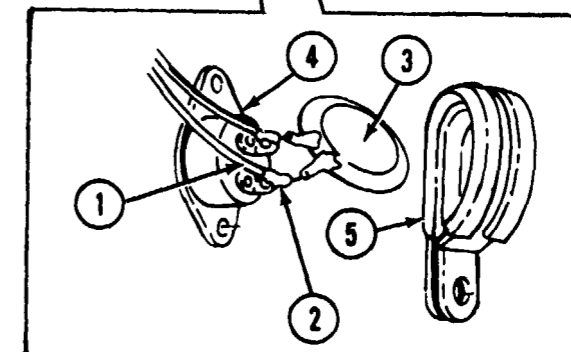
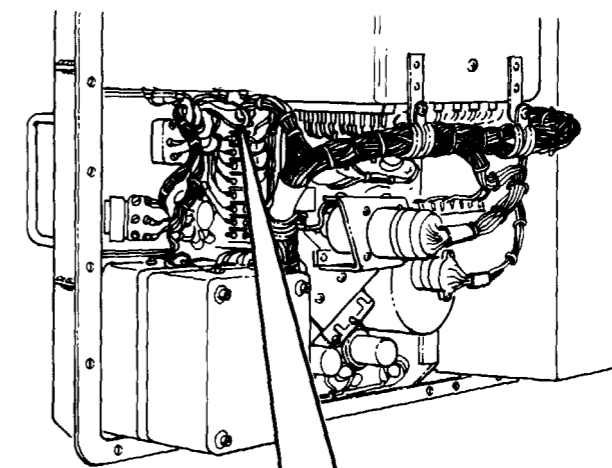
See Appendix D

- Item 11
- Item 8
- Item 9
- Item 12

Equipment condition: BT1 and BT2 removed, see para. 3-30.

STEP 1

- A. Using diagonal pliers, strip thermistor leads (1) to 1/2 inch.
- B. Cut insulation sleeving (2) to 5/16 inch and slip over leads.
- C. Place heat sink on thermistor leads. Solder leads (1) and thermistor (3) to switch (4) as shown.
- D. Slide thermistor (3) into clamp (5).
- E. Slide insulation sleeving (2) over connection of leads (1) and heat shrink.

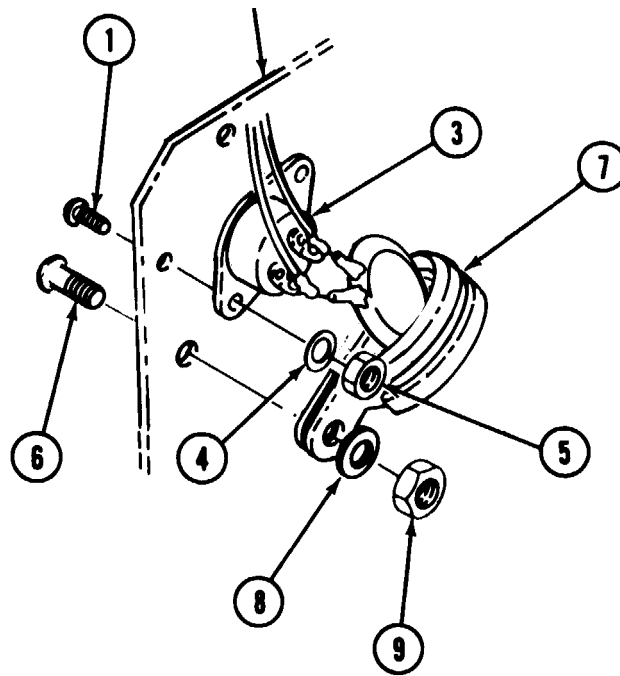


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3-52. INSTALL THERMOSTATIC SWITCH (S9) AND THERMAL RESISTOR (R3) - CONTINUED

STEP 2

- A. Insert two screws (1) through terminal board TB2 (2).
- B. Position switch (3) on screws (1), then install washers (4) and nut (5).
- C. Insert screw (6) through terminal board (2).
- D. Position clamp (7) on screw (6) then install washer (8) and nut (9).
- E. Using No. 1 crosspoint and 1/4 inch wrench, tighten two screws (1) and nuts (5),
- F. Using No. 2 crosspoint and 3/8 inch wrench, tighten screw (6) and nut (9).



END OF TASK

3-53. INSTALL RELAY DIODES

Tools required: Soldering iron
Longnose pliers
Heat sink

Materials required:

Materials

Insulation sleeving
Solder
Alcohol
Brush

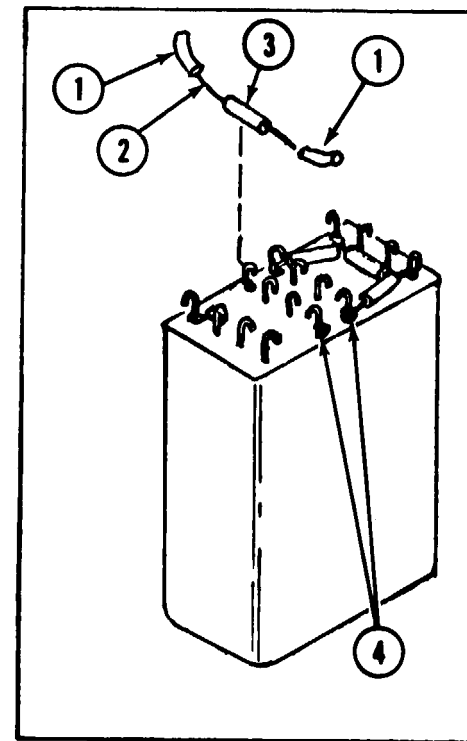
See Appendix D

Item 13
Item 11
Item 8
Item 9

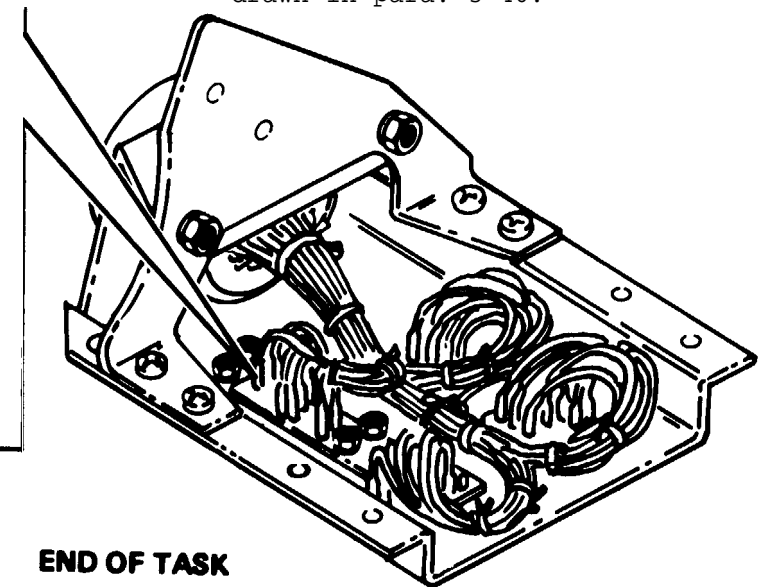
Equipment condition: Relays removed, see para. 3-45.



When soldering diode to relay armature, place heat sink between diode and relay terminal.



- A. Slip insulation sleeving (1) over diode leads (2).
- B. Solder diode leads (2) to relay terminals. Orient diodes (3) using blue dots (4). Check the diagram drawn in para. 3-46.



END OF TASK

3-54. INSTALL RELAYS (K1 THROUGH K4)

Tools required: Soldering iron
 No. 0 crosspoint screwdriver
 Heat gun
 Ratchet wrench
 1/4 inch socket
 3/16 inch socket
 3 inch extension
 Craftsman's knife
 Machinist's rule

Materials required:

Materials

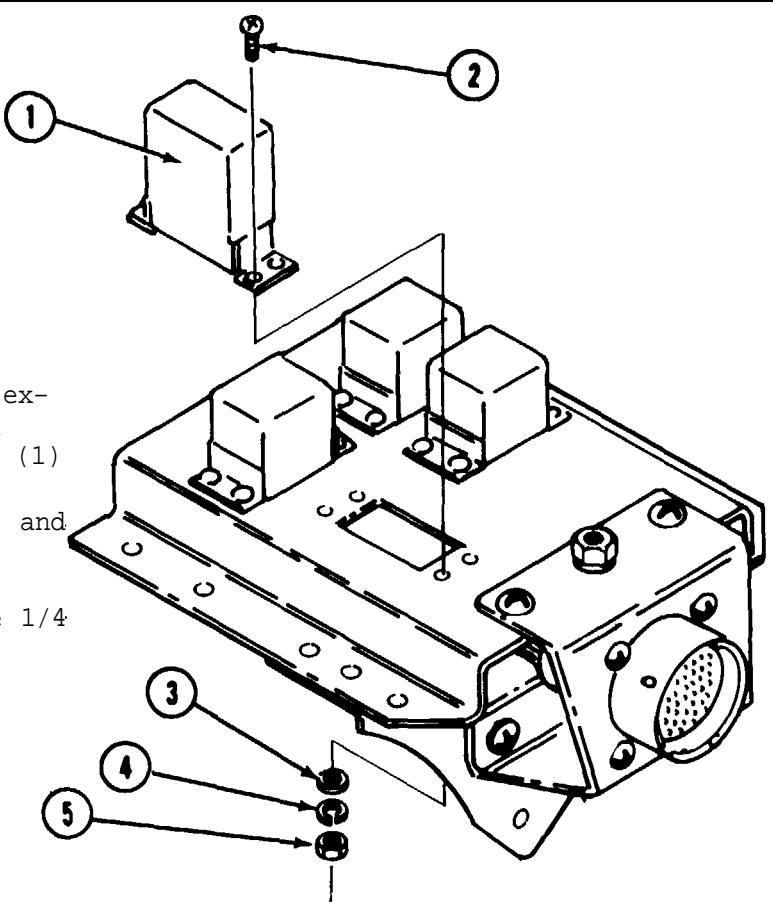
Insulation sleeving
 Brush
 Alcohol
 Solder

See Appendix D

Item 13
 Item 9
 Item 8
 Item 11

Equipment condition: Relay assembly removed, see para. 3-37.
 Diodes installed, see para. 3-53.

STEP 1



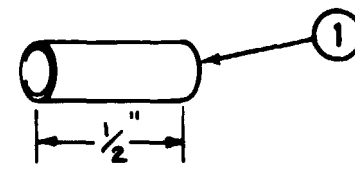
NOTE

Installation procedures for K1 thru K4 relays are identical, so only installation procedure for K2 is shown.

A. Using ratchet wrench, 3 inch extension, 3/16 inch socket and screwdriver, install K2 relay (1) with four screws (2), flat washers (3), lock washers (4) and nuts (5).

B. For K1, K3 and K4 relays, use 1/4 inch socket.

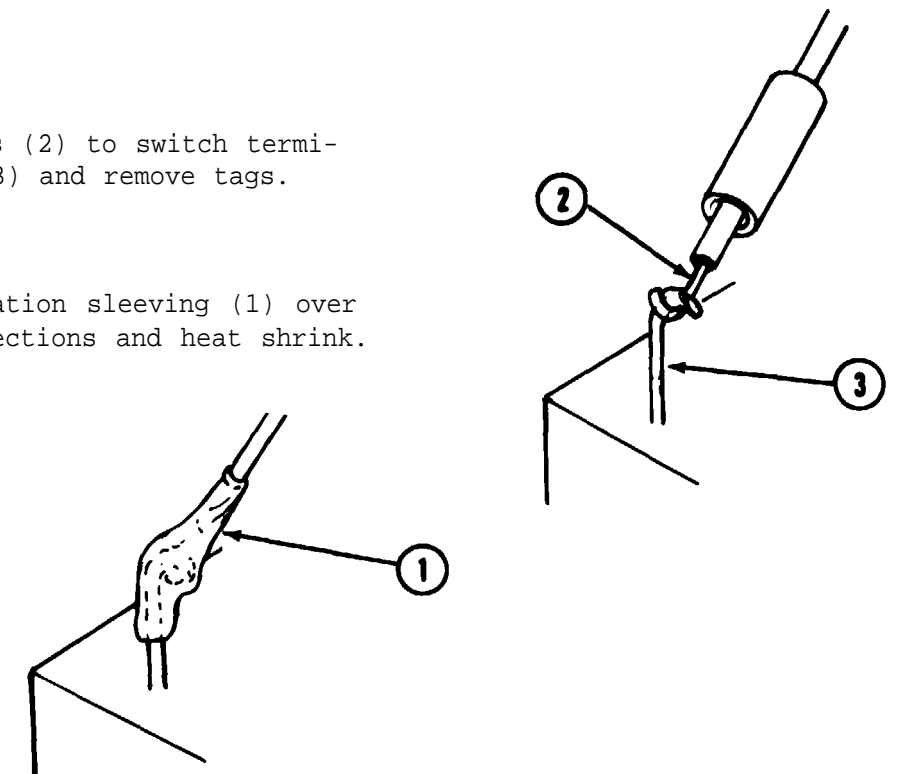
STEP 2



A. Using craftsman's knife and machinist's rule, cut insulation sleeving (1) not less than 1/2 inch.

C. Solder leads (2) to switch terminal posts (3) and remove tags.

D. Slide insulation sleeving (1) over solder connections and heat shrink.



END OF TASK

3-55. INSTALL PUSH SWITCH (S3)

Tools required: 5/8 inch box end wrench
Soldering iron

Materials required:

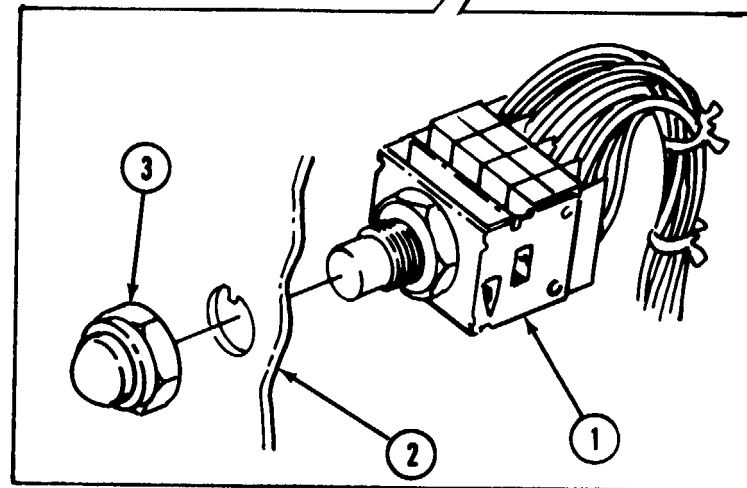
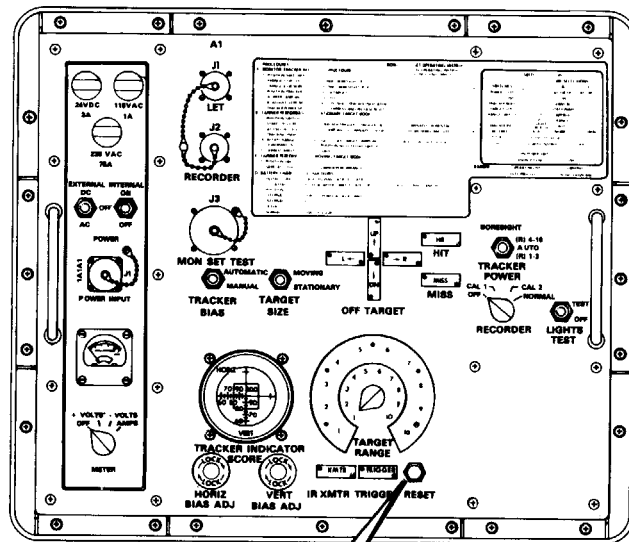
Materials

Solder	Item 11
Alcohol	Item 8
Brush	Item 9

See Appendix D

Equipment condition: Monitoring set panel removed, see para. 3-11.

- A. Solder leads to switch (1) and remove tags.
- B. Position switch (1) in panel (2).
- C. Using 5/8 inch wrench, install boot (3).



END OF TASK

3-56. INSTALL LIGHT ASSEMBLY INDICATORS (DS11 THROUGH DS18)

Tools required: No. 0 crosspoint screwdriver
Longnose pliers
Soldering iron
Craftsman's knife

Materials required:

Materials

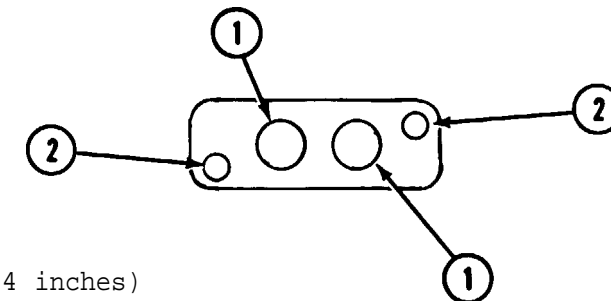
DELETED	
Sealing compound	Item 75
DELETED	
MEK	Item 5
Isopropyl alcohol	Item 8
Solder	Item 11
Brush	Item 9
Orangewood stick	Item 7
Cleaning cloth	Item 6
Gasket material	Item 3

See Appendix D

Equipment condition: Except for DS14 and DS15, S2 switch removed, see para. 3-38.

STEP 1

Using template shown below and craftsman's knife, cut a gasket from the gasket material.



Hole Diameters

1 = .250 inches (1/4 inches)

2 = .125 inches (1/8 inches)

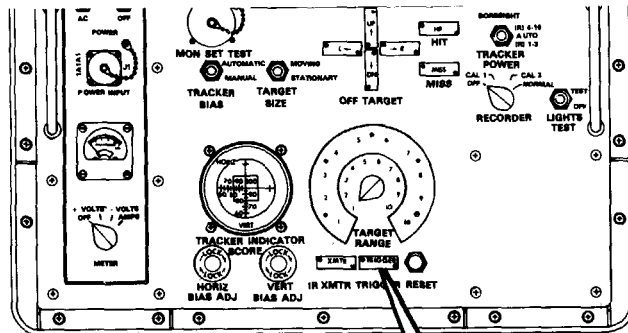
GO TO NEXT PAGE

3-56. INSTALL LIGHT ASSEMBLY INDICATORS (DS11 THROUGH DS18) - CONTINUED

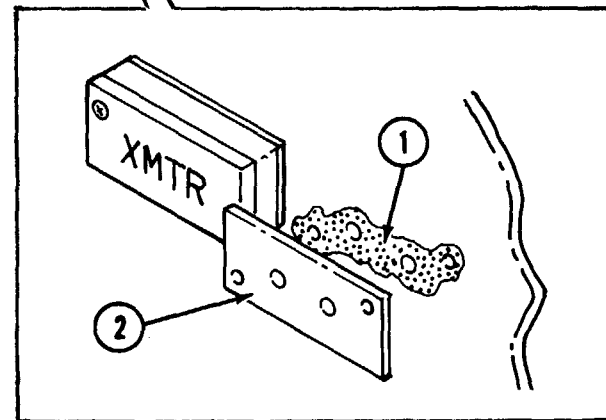
STEP 2



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

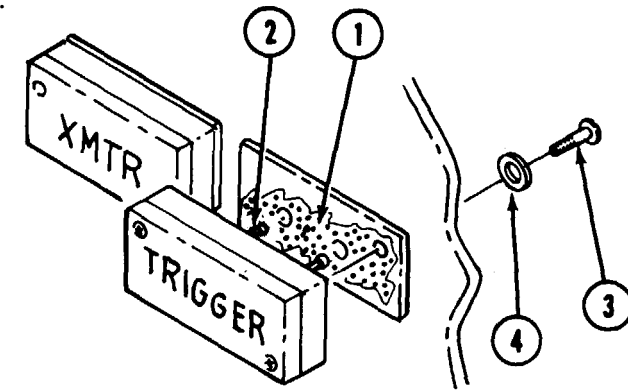


- A. Clean light mounting area.
- B. DELETED
- C. DELETED
- D. Apply thin coat of sealing compound to panel (1).
- E. Align gasket holes of gasket (2) with holes in panel and press gasket onto panel.



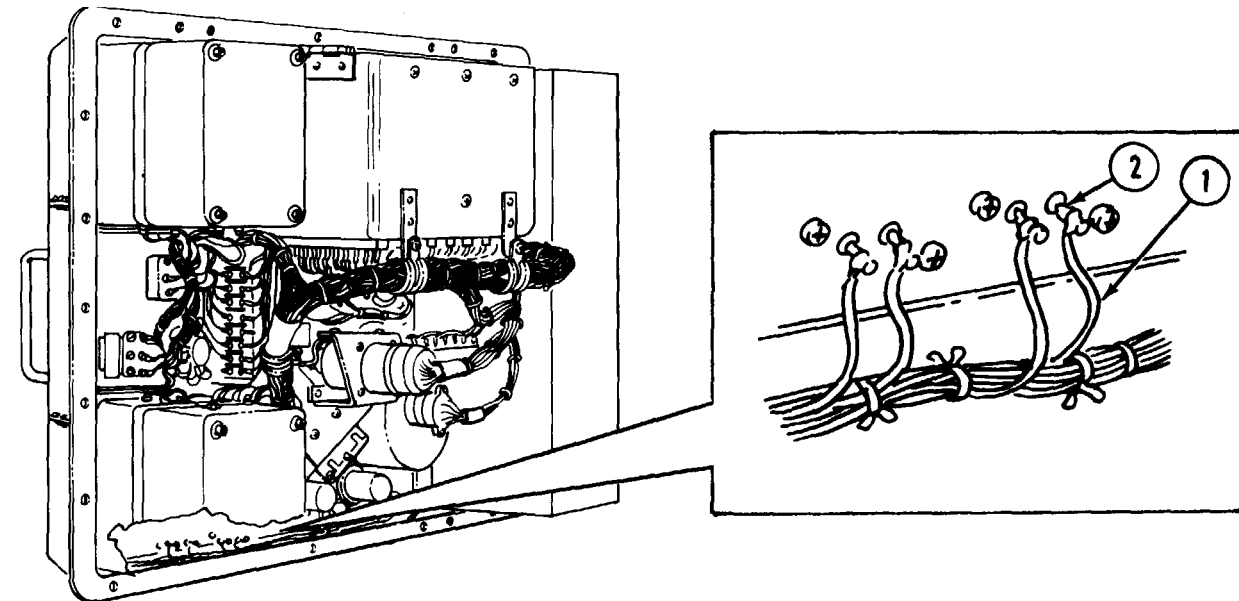
STEP 3

- A. Apply light coat of sealing compound to gasket, in area shown (1).
- B. Place light indicator on gasket, be sure to keep sealing compound off light indicator terminal posts (2).
- C. Using No. 0 screwdriver, secure light indicator with two screws (3) and washers (4).
- D. Using alcohol and cleaning cloth, wipe away any excess sealing compound from panel and light indicator terminal posts.



STEP 4

Solder leads (1) to light indicator terminal posts (2) and remove tags.



END OF TASK

3-57. INSTALL VARIABLE RESISTORS (R1 AND R2)

Tools required: Heat gun
 Soldering iron
 .050 inch Allen wrench
 1/2 inch box end wrench
 Craftsman's knife

Material required:

Materials

Adhesive
 Sealing compound
 DELETED
 Solder
 Alcohol
 Brush
 Orangewood stick
 Cleaning cloth
 Insulation sleeving

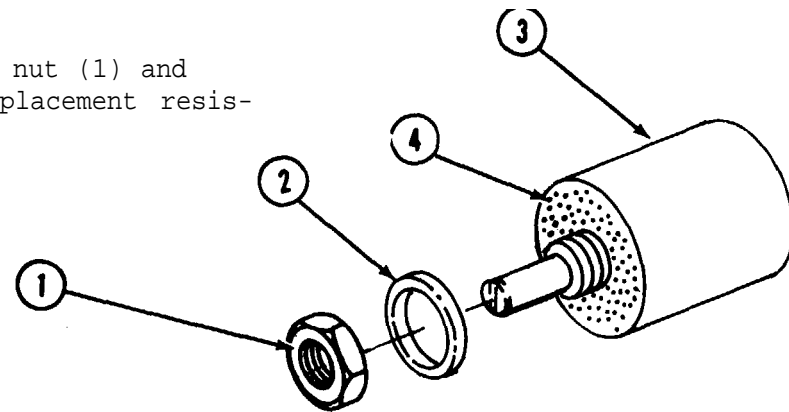
See Appendix D

Item 73
 Item 75
 Item 11
 Item 8
 Item 9
 Item 7
 Item 6
 Item 13

Equipment condition: Monitoring set panel removed, see para. 3-11.

Step 1

A. Remove and discard nut (1) and washer (2) from replacement resistor (3).

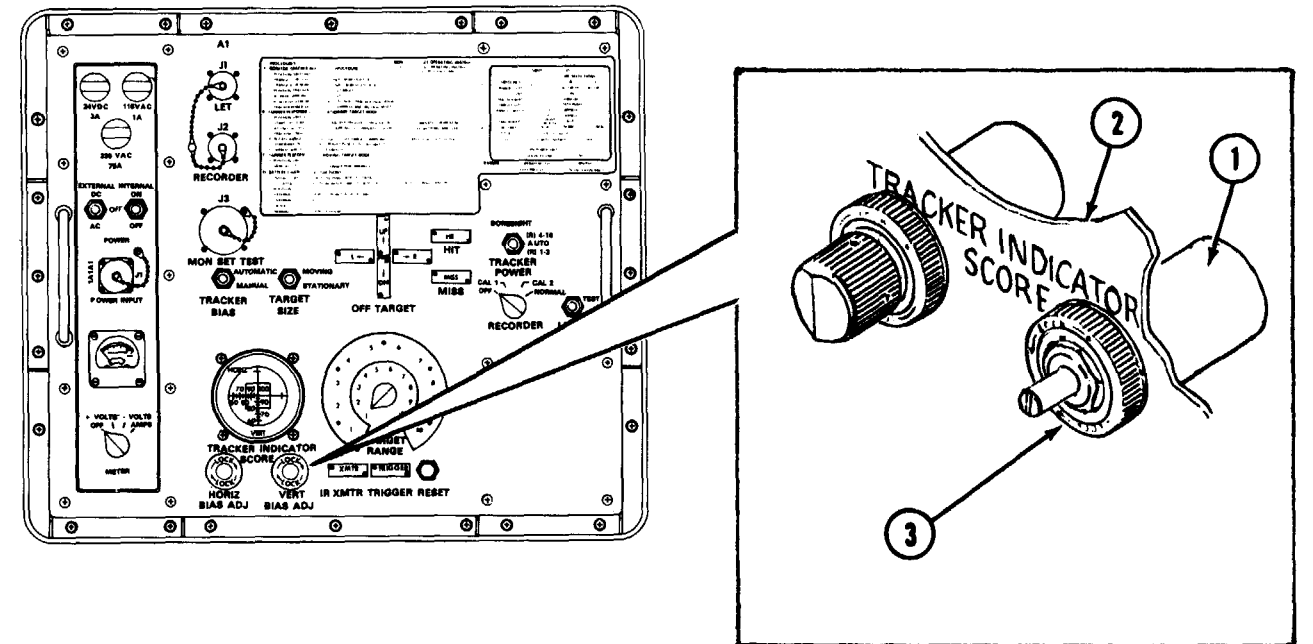


B. DELETED

C. Apply sealing compound to mounting area (4).

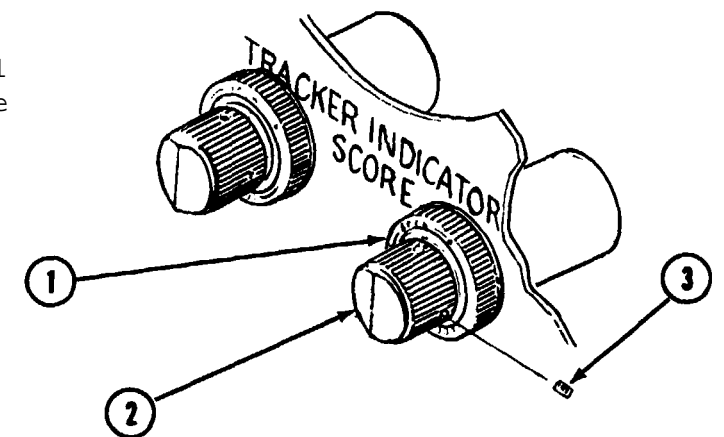
STEP 2

Install resistor (1) in panel (2) and using 1/2 inch box end wrench, install locking knob (3).



STEP 3

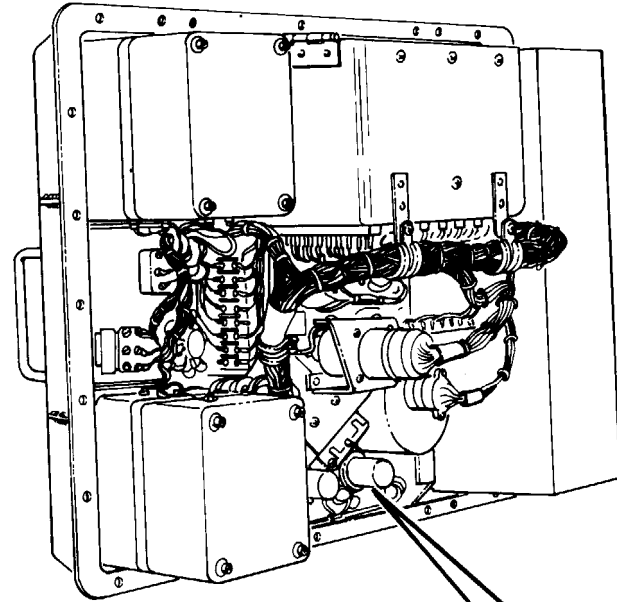
A. Unlock locking knob (1), position adjusting knob (2) on shaft and using Allen wrench, tighten two set screws
 B. Using orangewood stick, fill above setscrews with adhesive



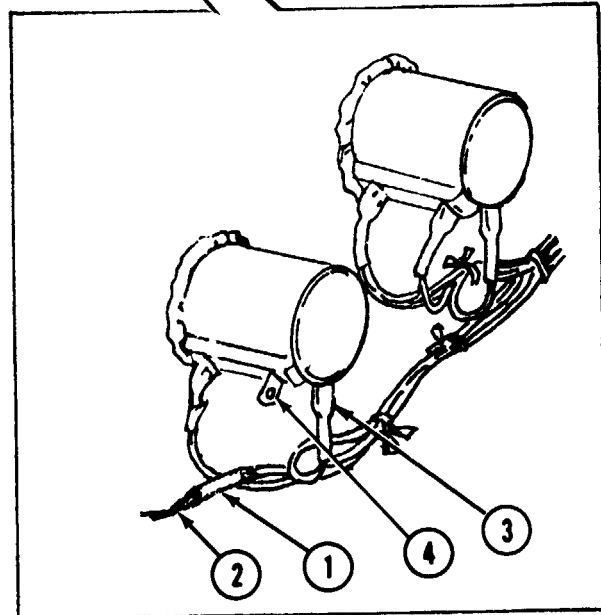
GO TO NEXT PAGE

3-57. INSTALL VARIABLE RESISTORS (R1 AND R2) - CONTINUED

STEP 4



- A. Install insulation sleeving (1) over leads (2).
- B. Solder leads to correct resistor terminal posts (3) and remove tags.
- C. Slide insulation sleeving (1) over resistor terminal posts (4) and heat shrink.



END OF TASK

3-58. INSTALL POSITION INDICATOR (M1)

Tools required: No. 1 crosspoint screwdriver
 7/32 inch socket
 Ratchet wrench
 6 inch extension bar

Materials required:

Materials

MEK
 Sealing compound
 DELETED
 Cleaning cloth
 Orangewood stick
 DELETED
 Alcohol
 Brush

See Appendix D

Item 5
Item 75
 Item 6
 Item 7
 Item 8
 Item 9

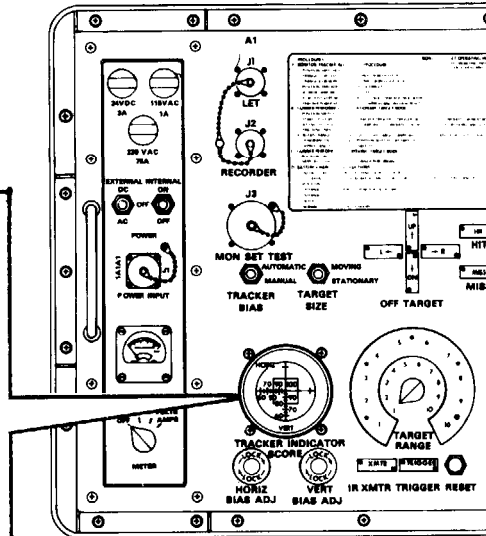
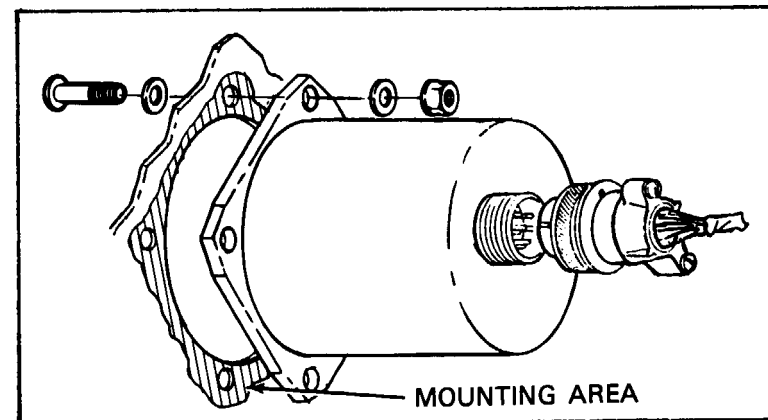
Equipment condition: Monitoring set panel removed, see para. 3-11.

STEP 1



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

- A. Using MEK, clean the mounting area.
- B. DELETED



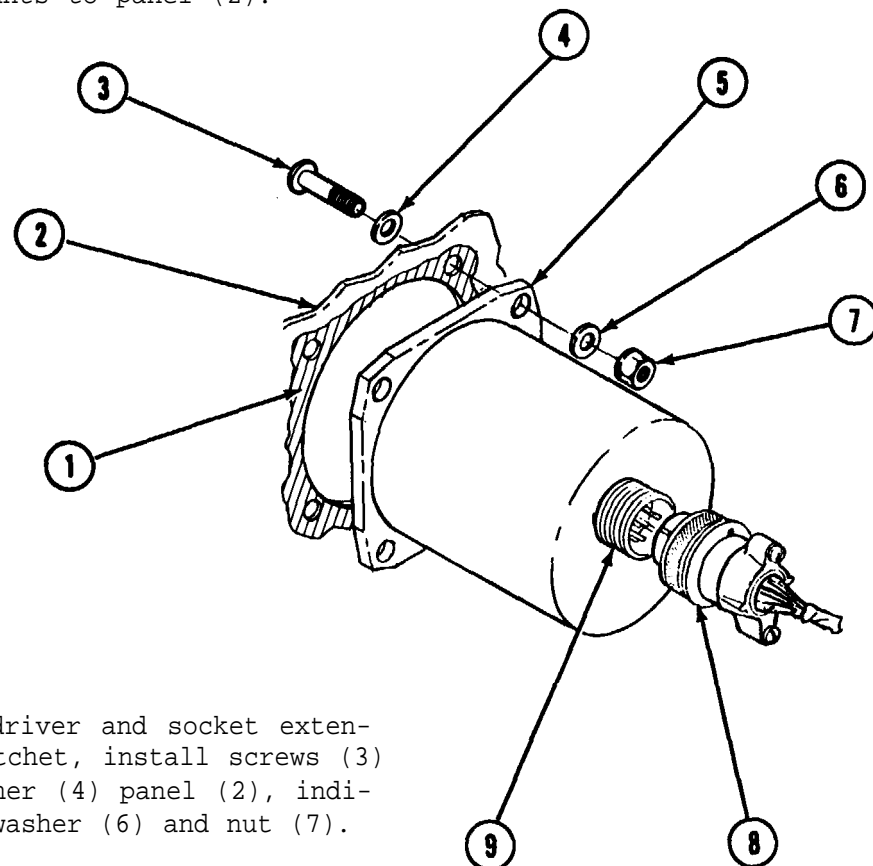
GO TO NEXT PAGE

3-58. INSTALL POSITION INDICATOR (M1) – CONTINUED

STEP 2

A. DELETED

B. Apply a light coat of the sealing compound to mounting area (1) where position indicator mounts to panel (2).



C. Using screwdriver and socket extension and ratchet, install screws (3) through washer (4) panel (2), indicator (5), washer (6) and nut (7).

D. Using a cleaning cloth moistened in isopropyl alcohol, remove any excess sealing compound.

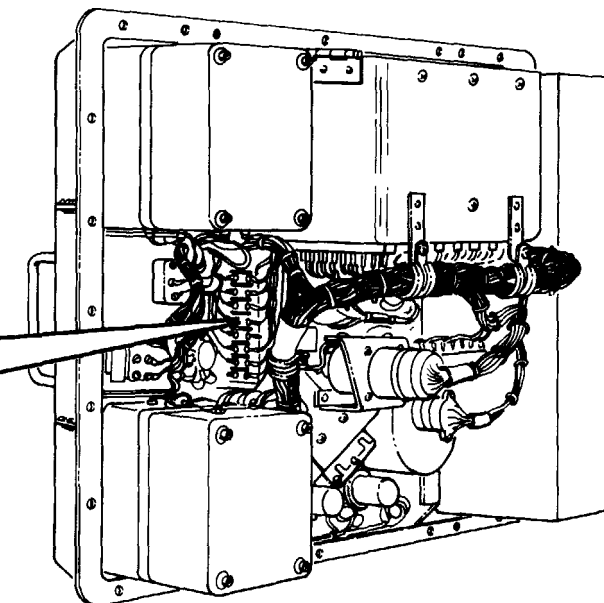
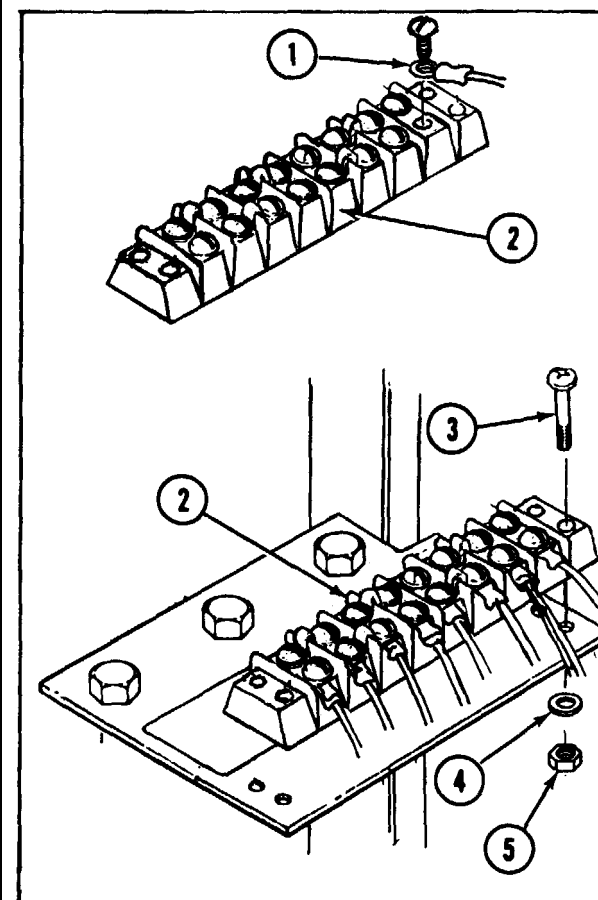
E. Connect P1 (8) to position indicator jack (9).

END OF TASK**3-59. INSTALL TERMINAL BOARDS(TB1 AND TB2)**

Tools required: No. 2 offset crosspoint screwdriver
1/8 inch flat-blade screwdriver
3/16 inch open end wrench

Equipment condition: Monitoring set panel removed, see para. 3-11.

A. Using 1/8 inch flat tip screwdriver, install lugs (1) on terminal board (2).



B. Using wrench and offset screwdriver, install screws (3), through terminal board (2), washers (4) and nuts (5).

END OF TASK

3-60. INSTALL RELAY ASSEMBLY

Tools required: 1/4 inch box end wrench
 3/8 inch open end wrench
 Two 6 inch extensions
 Universal adapter
 3/8 inch socket
 No. 2 crosspoint screwdriver
 3/32 inch drift punch

Equipment condition: Monitoring set panel removed, see para. 3-11.

STEP 1

A. Set relay assembly (1) into place on back of panel. Using 3/8 inch open end wrench, insert two bolts (2) and washers (3) but do not tighten.

B. Using screwdriver, insert two screws (4) and washers (5), but do not tighten.

NOTE

Place switch connector retainer (6) between relay assembly bracket (7) and switch housing (8). Make sure retainer (6) is on top of switch housing (8) and under the relay assembly bracket (7). Use 3/32 inch drift punch to align holes in bracket (7) with holes in switch housing (8).

STEP 2

A. Using two six inch extensions (1), 1/4 inch universal adapter (2), 3/8 inch socket (3), and ratchet handle (4), install two washers (5) and bolts (6).

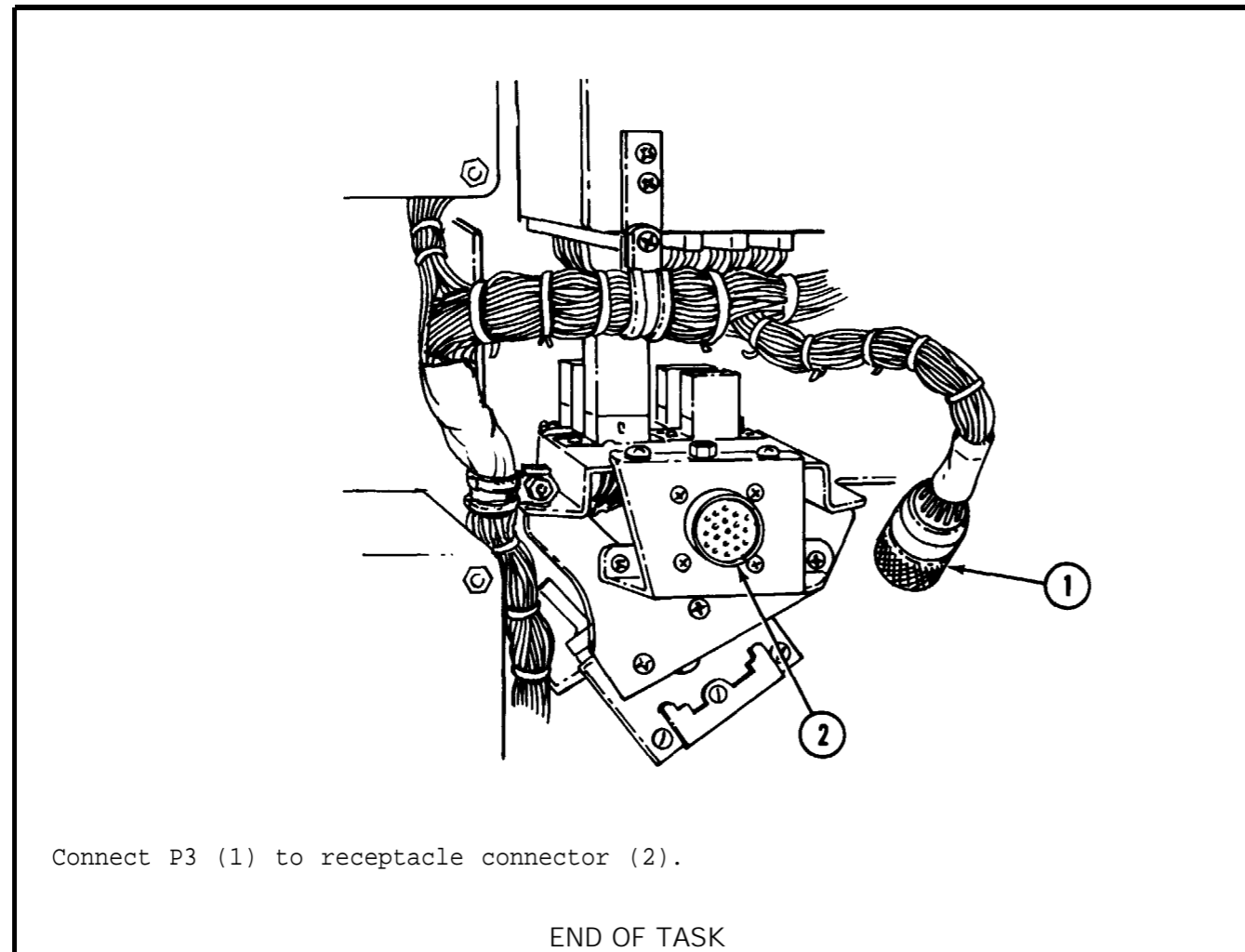
B. Place clamp (7) on relay assembly (8) and using screwdriver and 1/4 inch wrench, secure clamp with screw (9), washer (10), washer (11) and nut (12).

C. Tighten two bolts and two screws already installed in step 1.

GO TO NEXT PAGE

3-60. INSTALL RELAY ASSEMBLY - CONTINUED

STEP 3



3-61. INSTALL RECORDER SWITCH (S6)

Tools required: .050 inch Allen wrench
Soldering iron
1/2 inch open end wrench
Craftsman's knife
Machinist's rule

Materials required:

Materials

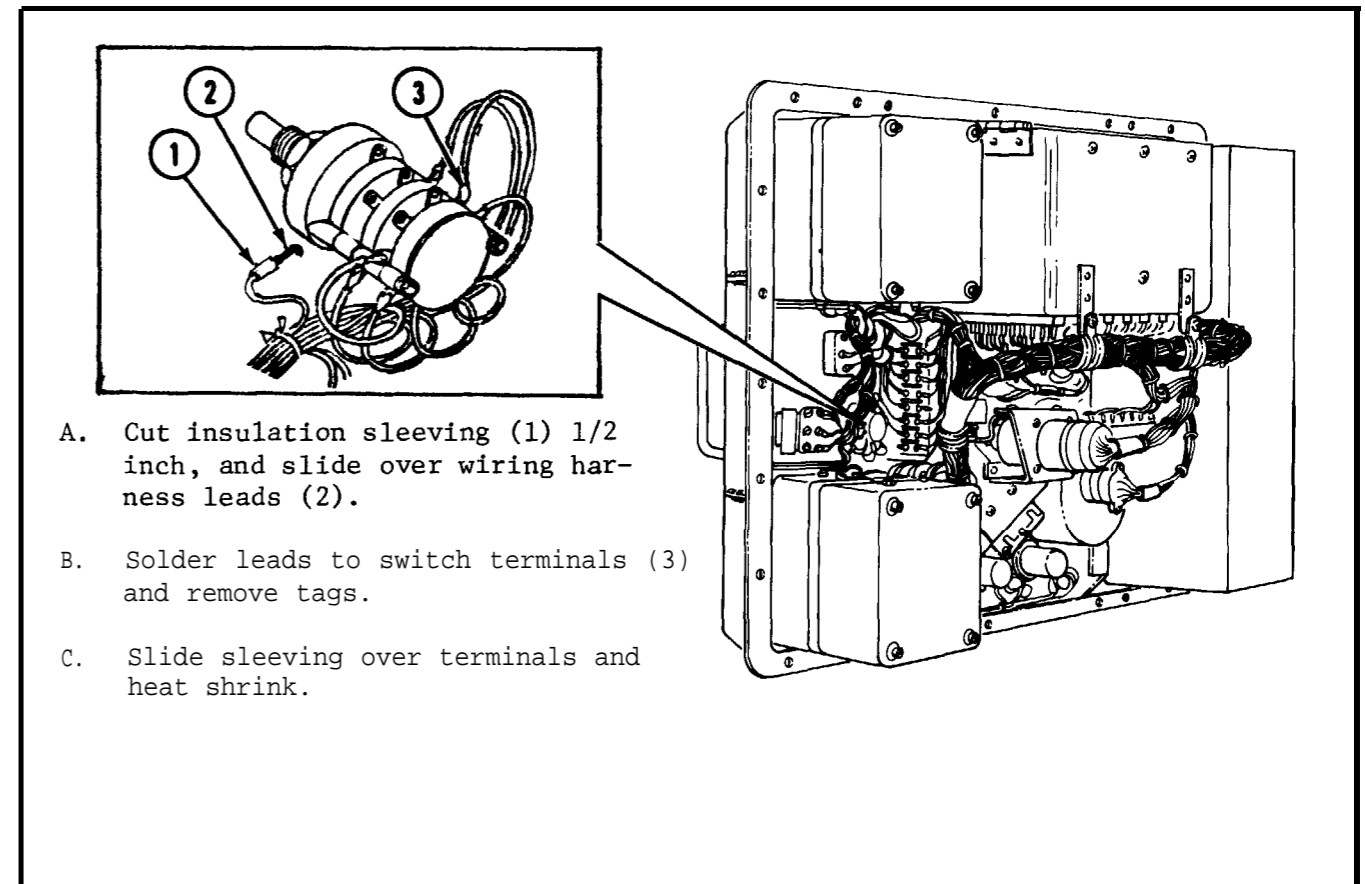
Adhesive
DELETED
Insulation sleeving
Solder
Brush
Orangewood stick

See Appendix D

Item 73
Item 13
Item 11
Item 9
Item 7

Equipment condition: Monitoring set panel removed, see para. 3-11.

STEP 1



GO TO NEXT PAGE

3-61. INSTALL RECORDER SWITCH (S6) - CONTINUED

STEP 2

- Place position nut (1) midway on the threaded portion of the switch (2).
- Install switch (3) in panel (4) with slot in threaded portion of switch aligned with key (5) on panel.
- Using 1/2 inch wrench, secure switch to panel with boot (6).
- Install knob (7) on switch shaft (8) and using Allen wrench, tighten two set screws (9).
- Using orangewood stick, fill void above set screws with adhesive.

ENDOFTASK

3-62. INSTALL (S1, S4, S5 AND S8) SWITCHES

Tools required: 5/8 inch box end wrench
1/8 inch flat-blade screwdriver

Equipment condition: Monitoring set panel removed, see para. 3-11.

NOTE

Installation procedure for installing all four switches is identical, therefore only procedure for S8 is shown.

- Using screwdriver, install terminal lugs (1) to switch terminals (2) with screws (3) and lockwashers (4).
- Position switch (5) in panel (6) so that slot in shaft (7) aligns with key (8).
- Carefully slide boot (9) over switch toggle (10) and using wrench, secure the switch to the panel with the boot.

END OF TASK

3-63. INSTALL ELECTRICAL CONNECTOR COVER (J3)

Tools required: No. 1 crosspoint screwdriver
 5/32 inch socket
 12 inch extension
 Ratchet wrench

Materials required:

Materials

Sealing compound
 DELETED
 Orangewood stick

See Appendix D

Item 75

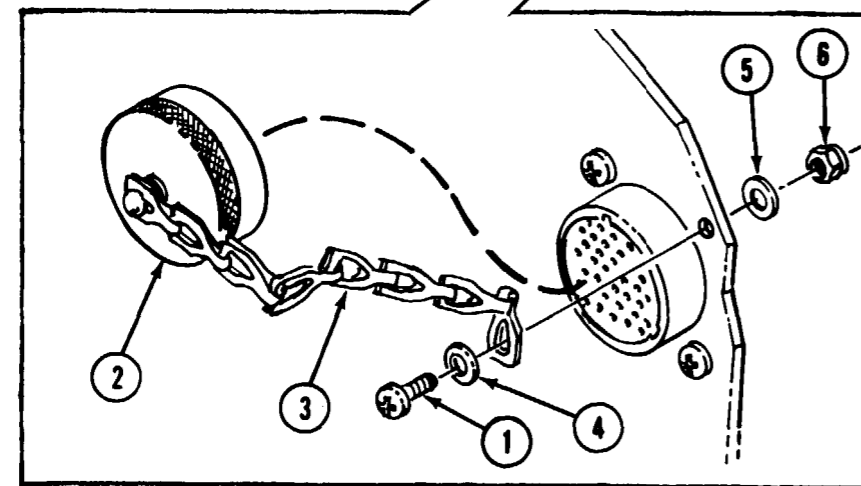
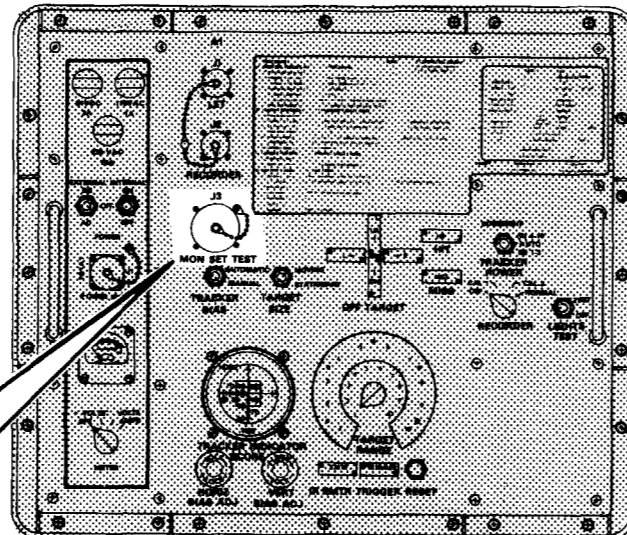
Item 7

Equipment condition: Monitoring set panel removed, see para. 3-11.

A. DELETED

B. Apply light coat of seallant to threads of screws (1).

C. Using screwdriver, ratchet handle, socket wrench and extension, secure cover (2) to panel with chain (3), screw (1), washer (4), washer (5) and nut (6).



END OF TASK

3-64. INSTALL CIRCUIT CARD BOX ACCESS DOOR RUBBER PAD

Tools required: No. 2 crosspoint screwdriver
 Machinist's rule
 Craftsman's knife

Materials required:

Materials

MEK
 Adhesive epoxy
 Rubber sheet
 Orangewood stick
 Cleaning cloth

See Appendix D

Item 5
 Item 30
 Item 26
 Item 7
 Item 6

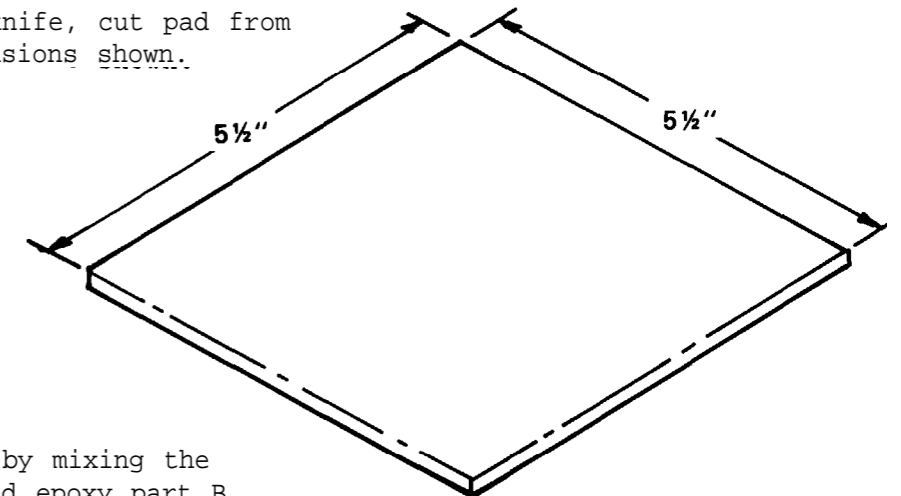
Equipment condition: Monitoring set panel removed, see para. 3-11.

STEP 1



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

A. Using a craftsman's knife, cut pad from rubber sheet to dimensions shown.

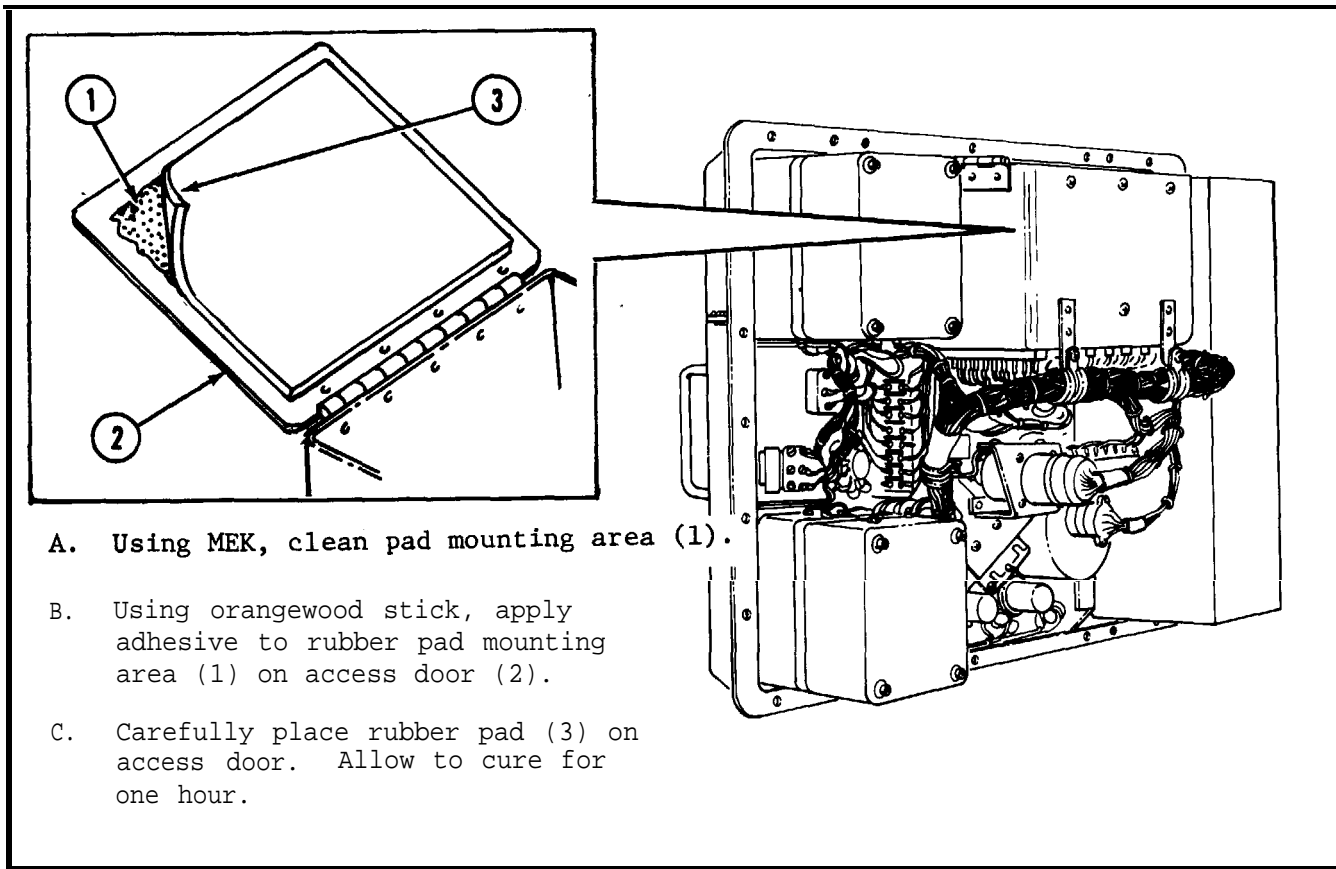


B. Prepare the adhesive by mixing the accelerator part A and epoxy part B using a 3 to 2 ratio. Squeeze a bead of part A three inches long and a bead of part B two inches long into a container and mix to a uniform gray color.

GO TO NEXT PAGE

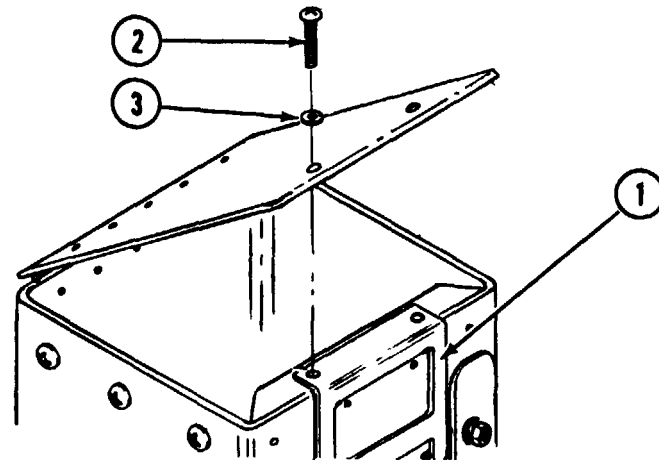
3-64. INSTALL CIRCUIT CARD BOX ACCESS DOOR RUBBER PAD - CONTINUED

STEP 2



STEP 3

Close access door and secure with circuit card extractor (1), two screws (2) and washers (3).



END OF TASK

3-65. INSTALL CIRCUIT CARDS (A1 THROUGH A7)

Tools required: No. 2 crosspoint screwdriver

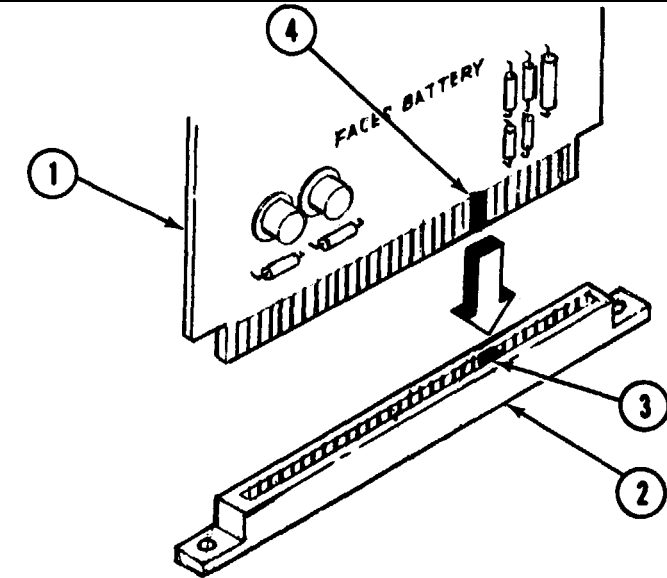
Equipment condition: Monitoring set panel removed, see para. 3-11.

STEP 1

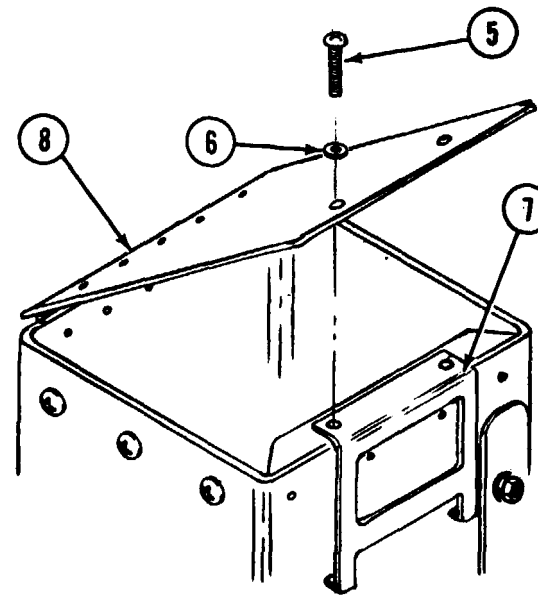


NOTE

All monitoring set circuit cards (1) and circuit card connectors (2) are keyed to prevent putting a circuit card in the wrong connector. The connector has a key (3) and the circuit card has a notch (4). Match the notch in the circuit card with the key in the connector. When installing the circuit card, the component side of the card faces the batteries.



- A. Using screwdriver, remove two screws (5), washers (6), circuit card extractor (7) and open access door (8).
- B. Look into the circuit card box and check to see that the connector (2) has a key (3) in place.
- C. Now, locate the notch (4) in the circuit card (1) and be sure it will line up with the key (3) in the connector (2).

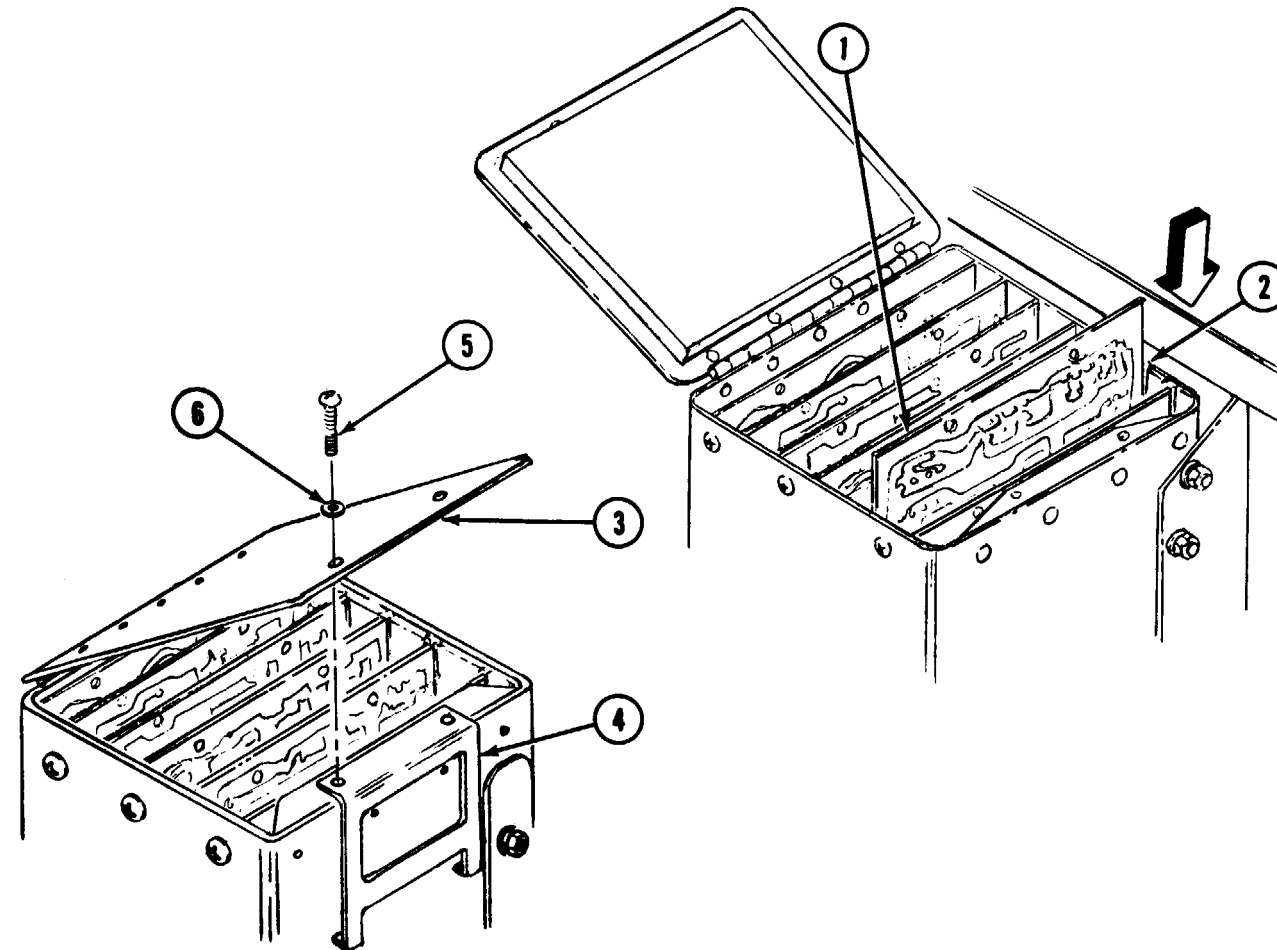


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3-65. INSTALL CIRCUIT CARDS (A1 THROUGH A7) - CONTINUED

STEP 2

- A. Carefully insert circuit card (1) into circuit card grooves (2) in circuit card box. Push circuit card all the way down into the connector.



- B. Close access door (3), install circuit card extractor (4) and using screwdriver, secure door with two screws (5) and washers (6).

END OF TASK

3-66. INSTALL BOW HANDLES

Tools required: No. 2 crosspoint screwdriver

Materials required:

Materials

See Appendix D

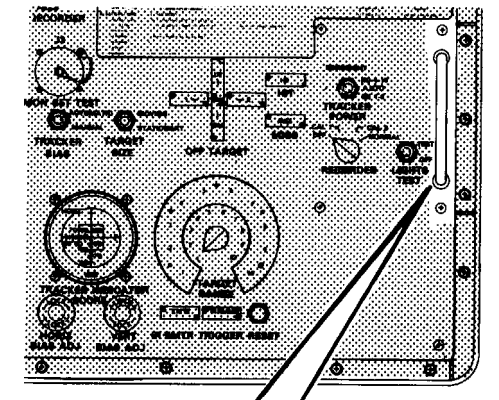
Sealing compound
 DELETED
 MEK
 Cleaning cloth
 Orangewood stick

Item 75
 Item 5
 Item 6
 Item 7

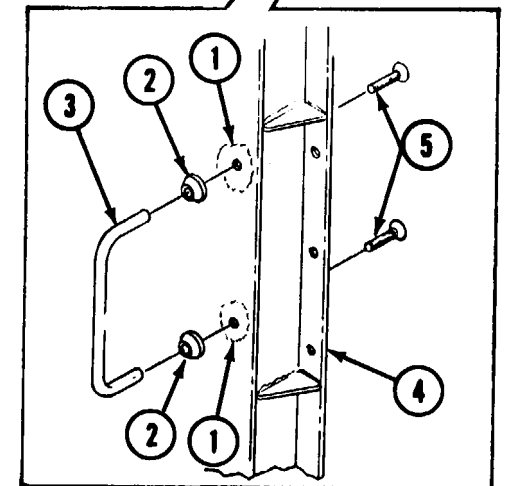
Equipment condition: Monitoring set panel removed, see para. 3-11.



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.



- A. Using MEK, clean bow handle mounting area (1).
- B. Install a ferrule (2) on each end of bow handle (3).
- C. DELETED
- D. Apply a light coat of the sealant to back of ferrule.
- E. Position bow handle on panel (4) and using screwdriver, secure with two screws (5).



END OF TASK

3-67. INSTALL STORAGE BATTERIES (BT1 , W2, BT3 AND BT4)

Tools required: No. 2 crosspoint screwdriver
 1/4 inch open end wrench
 5/16 inch open end wrench
 5/16 inch box end wrench

Materials required:

<u>Materials</u>	<u>See Appendix D</u>
Sealing compound DELETED	Item 75
Orangewood stick	Item 7
Cleaning cloth	Item 6
MEK	Item 5

Equipment condition: Monitoring set panel removed, see para. 3-11.

STEP 1

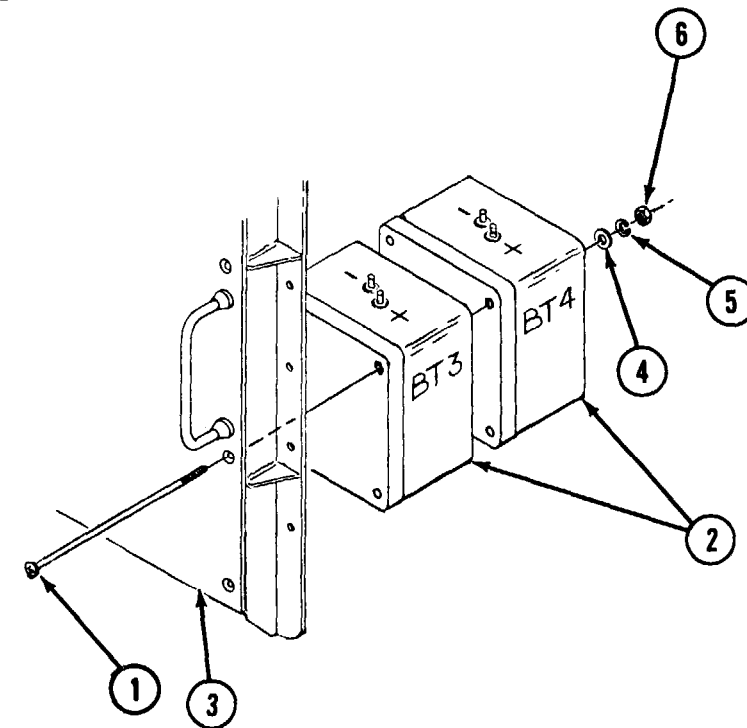
DELETED

STEP 2



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

- A. Apply a thin coat of sealing compound to countersunk area of bolts (1).
- B. Position batteries (2) on panel (3) and using screwdriver and 1/4 inch wrench, secure batteries with four bolts (1), flatwashers (4), lock-washers (5) and nuts (6).
- C. Using cleaning cloth and MEK, clean excess sealing compound from around heads of bolts.



GO TO NEXTPAGE

3-67. INSTALL STORAGE Batteries (BT1, BT2, BT3 AND BT4) - Continued

STEP 3

NOTE

Batteries are installed the same; for clarity, only the procedure for mounting BT3

- Remove tape from lead terminals (1).
- Using 5/16 wrench, install terminals (1), flatwashers (2), lockwashers (3) and nuts (4) on battery posts (5).
- Connect P2 (6) to connector receptacle (7).

Follow-on Task: Check Battery Charge Condition, see TM 9-6920-484-12.

3-68. INSTALL ELECTRICAL CONNECTOR COVERS (J1 AND J2)

Tools required: No. 0 crosspoint screwdriver

Materials required:

Materials

- MEK
- Cleaning cloth
- Sealing compound
- DELETED
- Orangewood stick

See Appendix D

- Item 5
- Item 6
- Item 5
- Item 7

Equipment condition: Monitoring set lid removed, see TM 9-6920-484-12.

WARNING

In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

- DELETED
- Apply a thin coat of sealant to screw threads (1).
- Install J1 cover chain (2), washer (3), J2 cover chain (4), and using screwdriver, secure both chains and washer with screw (1).
- Using MEK, clean excess sealing compound away from screw.

END OF TASK

3-69. INSTALL OFF TARGET, HIT, MISS, IR XMTR AND TRIGGER INDICATORS

Tools required: No. 0 crosspoint screwdriver

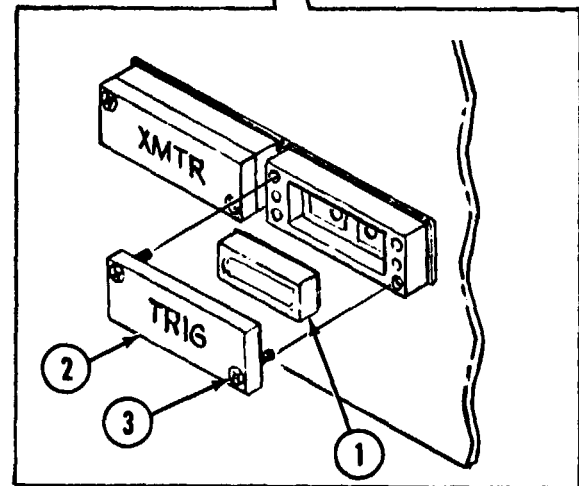
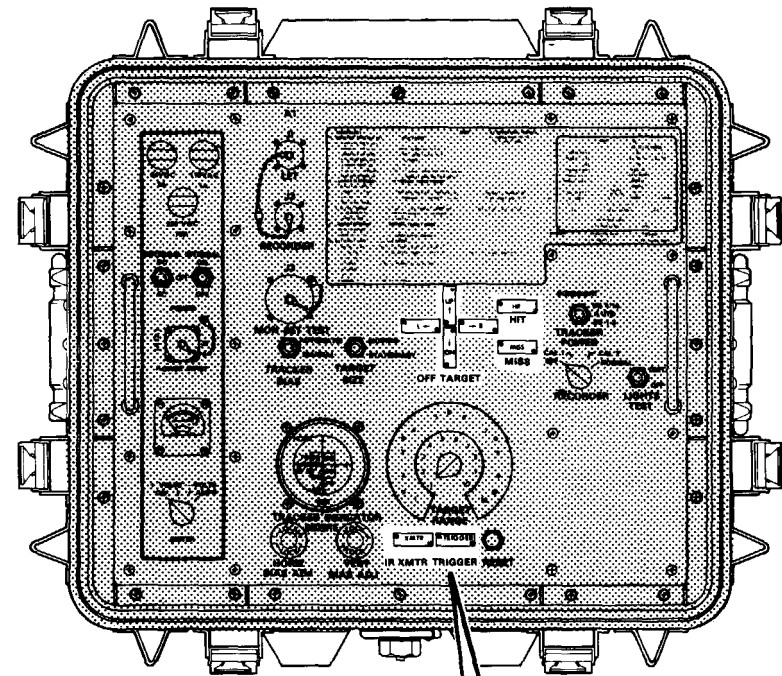
Equipment condition: DS11 through DS18 light indicators removed, see para. 3-28.



NOTE

Installation of lamps is identical for all eight indicator lights, therefore, only procedure for one is given.

Install light indicator (1), lens assembly (2) and using screwdriver, tighten two screws (3).

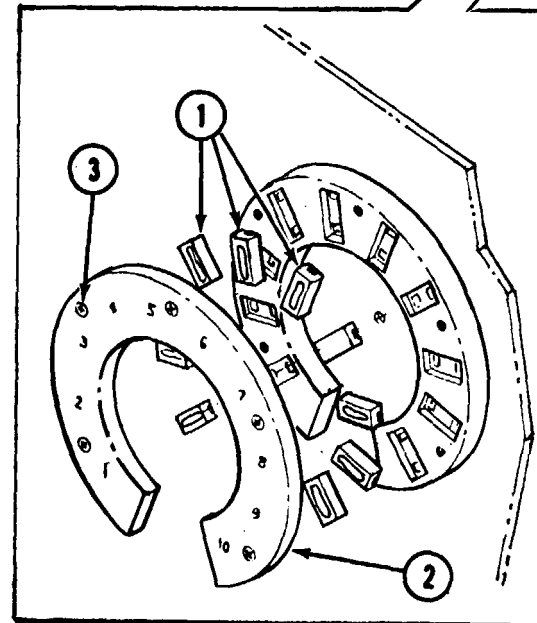
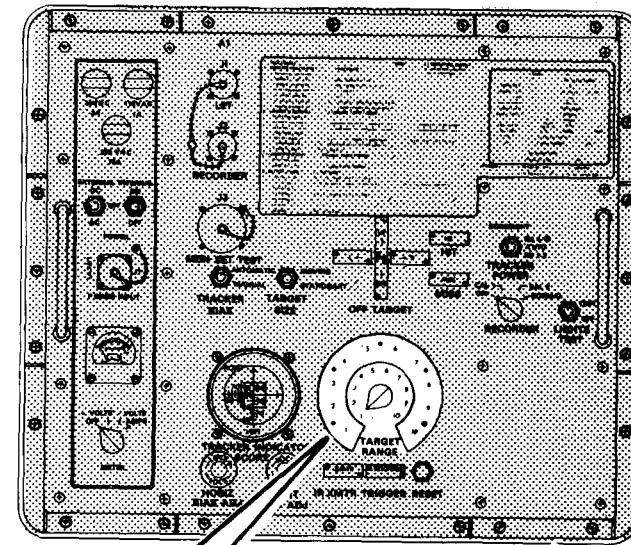


END OF TASK

3-70. INSTALL TARGETRANGELIGHT INDICATORS (DS1 THROUGH DS10)

Tools required: No. 0 crosspoint screwdriver

Equipment condition: DS1 through DS10 light indicators removed, see para. 3-27.



Install light indicators(1), light assembly (2) and tighten five screws (3).

END OF TASK

3-71. INSTALL STEP DOWN TRANSFORMER (T1)

Tools required: Soldering iron
No. 2 cross point screwdriver

Materials required:

Materials

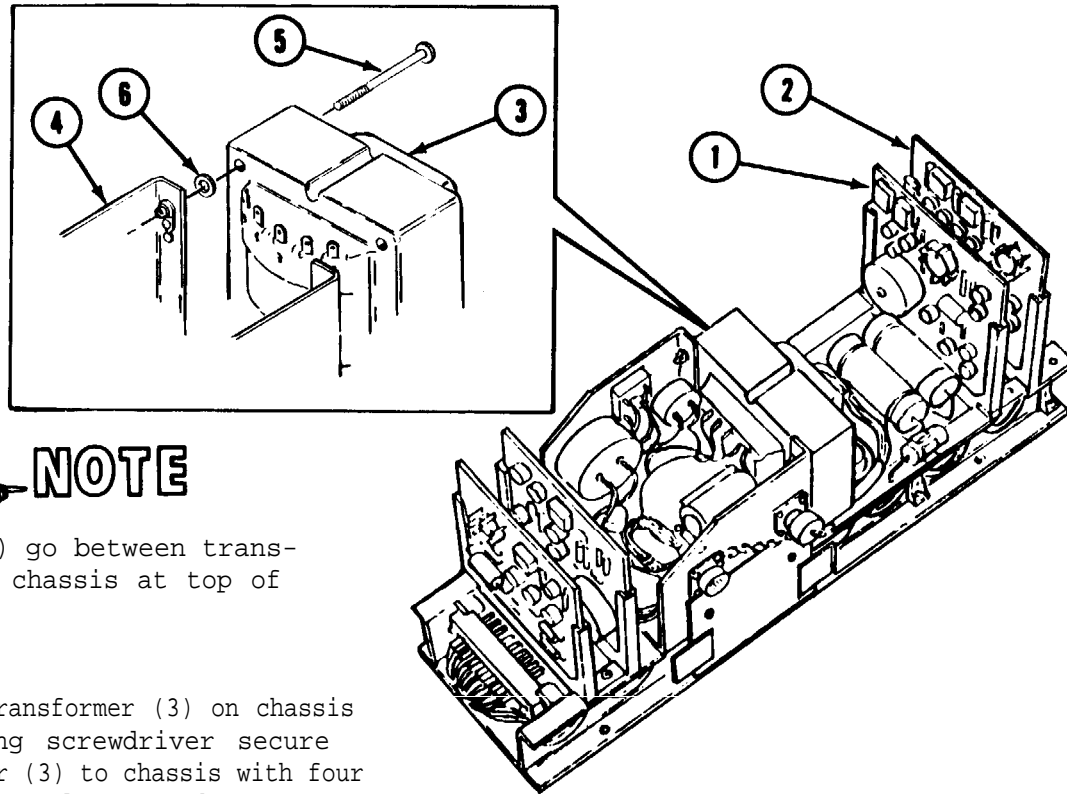
Solder	Item 11
Alcohol	Item 8
Brush	Item 9

See Appendix D

Equipment condition: Battery charger cover removed, see para. 3-15.

STEP 1

A. Remove cards A4 (1) and A5 (2).



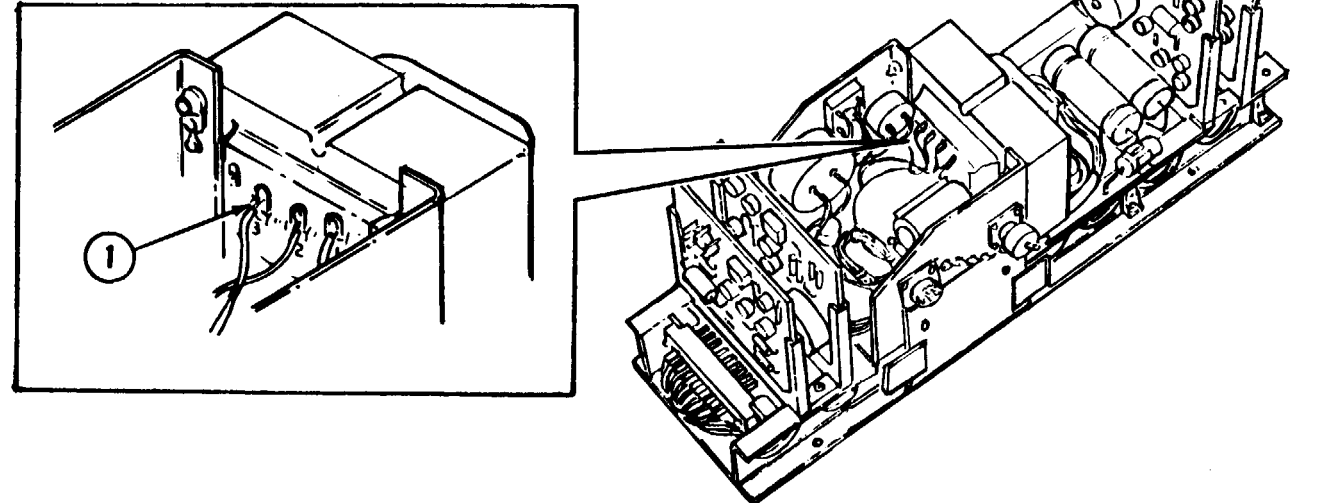
NOTE
Washers (6) go between transformer and chassis at top of T1 only.

B. Position transformer (3) on chassis (4). Using screwdriver secure transformer (3) to chassis with four screws (5) and two washers (6).

STEP 2

A. Solder leads (1) to transformer terminals and remove tags.

B. Install A4 (2) and A5 (3) cards into their respective places.



END OF TASK

3-72. INSTALL FIXED CAPACITOR (C1)

Tools required: Soldering iron

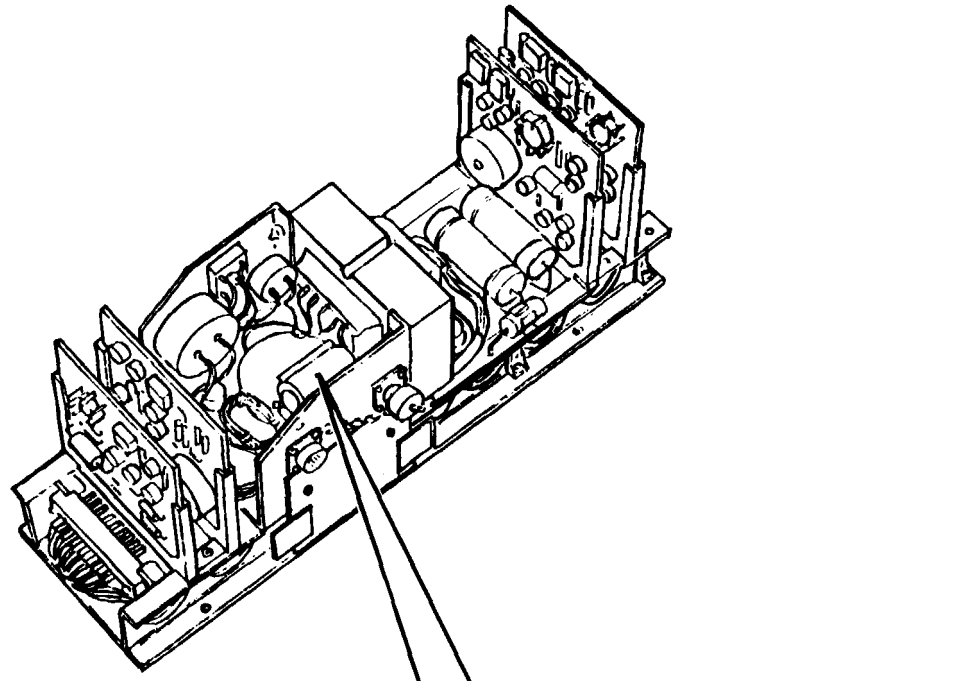
Materials required:

Materials

Solder	Item 11
Alcohol	Item 8
Brush	Item 9

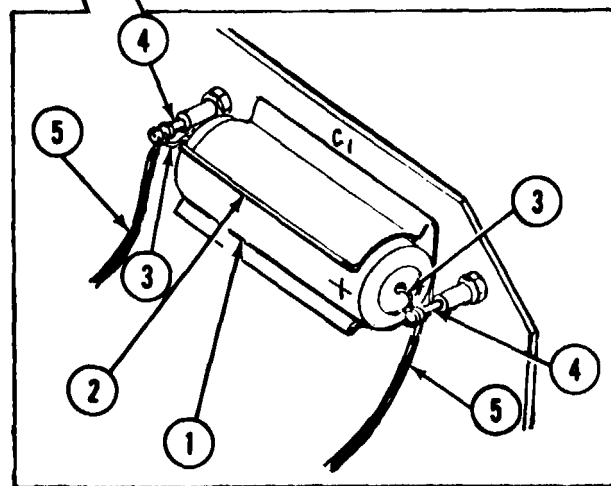
See Appendix D

Equipment condition: Battery charger cover removed, see para. 3-15.



A. Install capacitor C1 (1) in spring clip (2) with positive end of capacitor facing the direction shown. Solder capacitor leads (3) to posts (4).

B. Solder leads (5) to posts (4) and remove tags.



END OF TASK

3-73. INSTALL (L1 AND L2) REACTORS

Tools required: 5/16 inch box wrench
No. 2 crosspoint screwdriver
Soldering iron

Materials required:

Materials

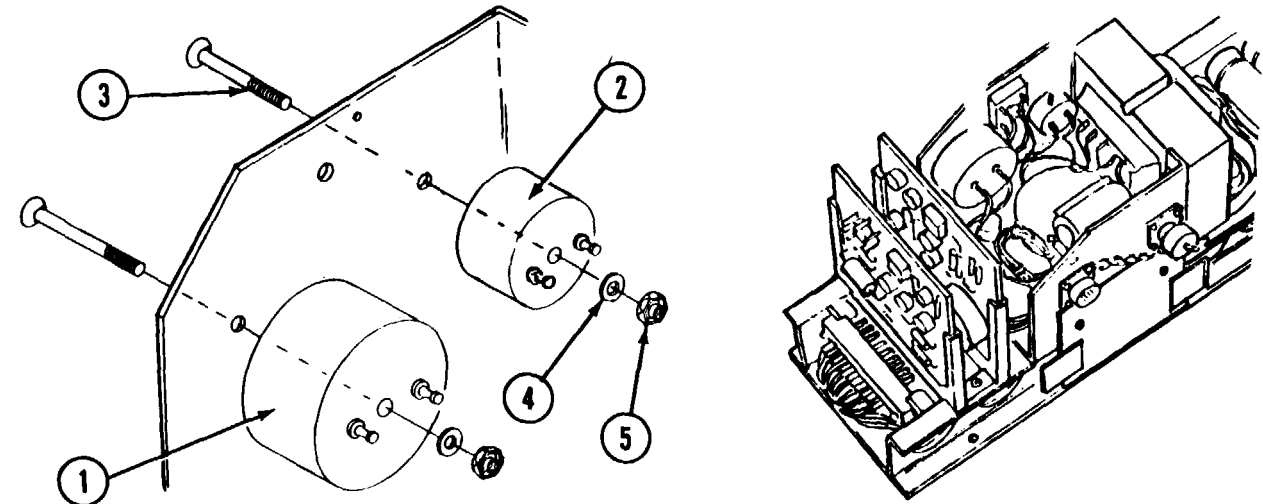
Solder	Item 11
Alcohol	Item 8
Brush	Item 9

See Appendix D

Equipment condition: Battery charger cover removed, see para. 3-15.

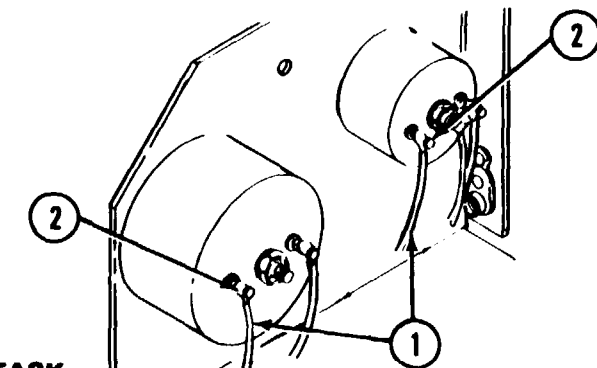
STEP 1

Using screwdriver and wrench, install L1 (1) or L2 (2) with screws (3) washers (4) and nuts (5).



STEP 2

Solder leads (1) to L1 and L2 terminal posts (2) and remove tags.



END OF TASK

3-74. INSTALL RECTIFIER, SEMI-CONDUCTOR DEVICE (BR1)

Tools required: No. 2 crosspoint screwdriver
 5/16 inch box end wrench
 Soldering iron

Materials required:

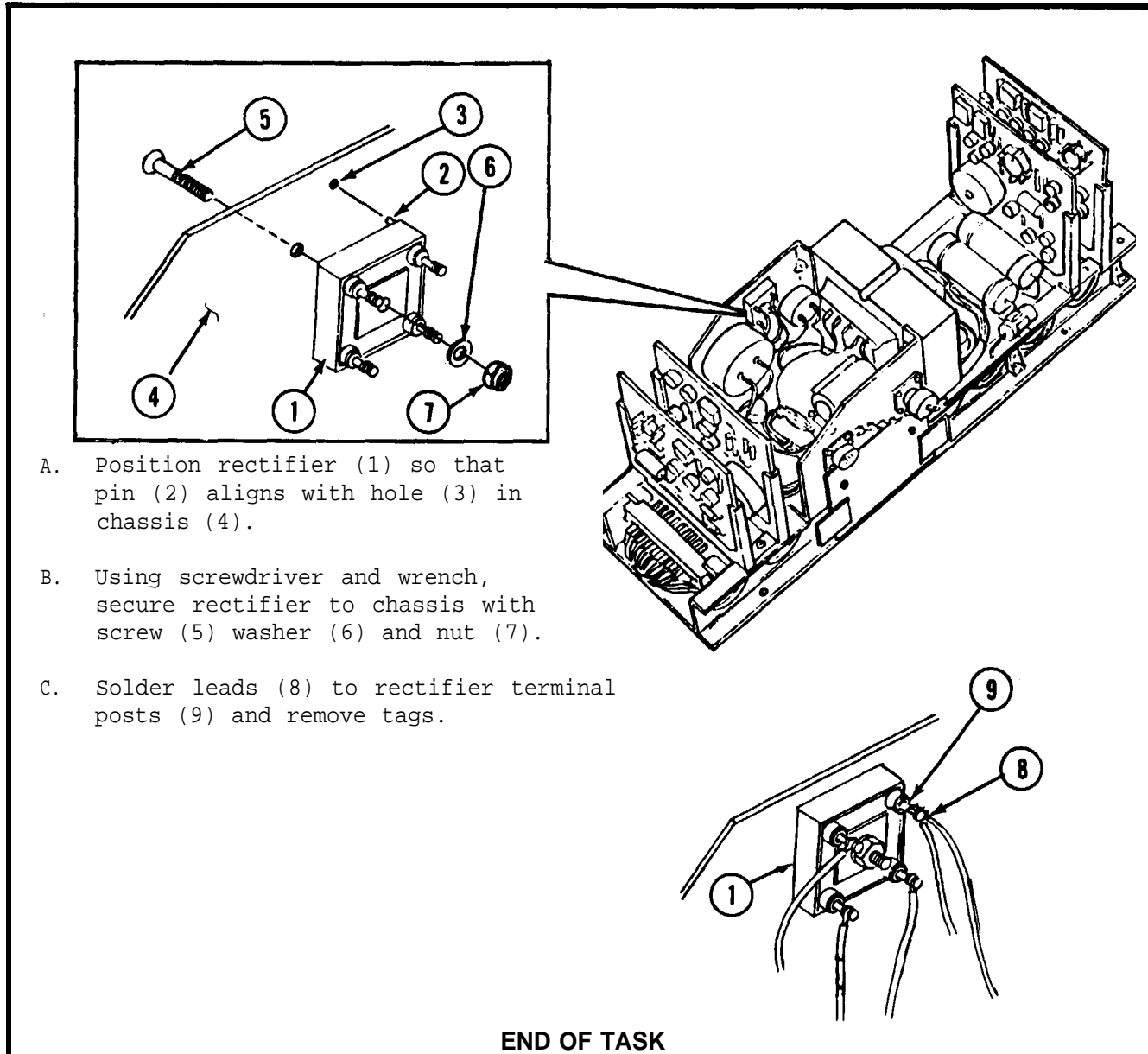
Materials

Solder
 Alcohol
 Brush

See Appendix D

Item 11
 Item 8
 Item 9

Equipment condition: Battery charger cover removed, see para. 3-15.



- A. Position rectifier (1) so that pin (2) aligns with hole (3) in chassis (4).
- B. Using screwdriver and wrench, secure rectifier to chassis with screw (5) washer (6) and nut (7).
- C. Solder leads (8) to rectifier terminal posts (9) and remove tags.

3-75. INSTALL BATTERY CHARGER (S2) SWITCH

Tools required: .050 inch Allen wrench
 1/2 inch open end wrench
 Soldering iron

Materials required:

Materials

Solder
 Alcohol
 Brush
 DELETED
 DELETED
 Orangewood stick

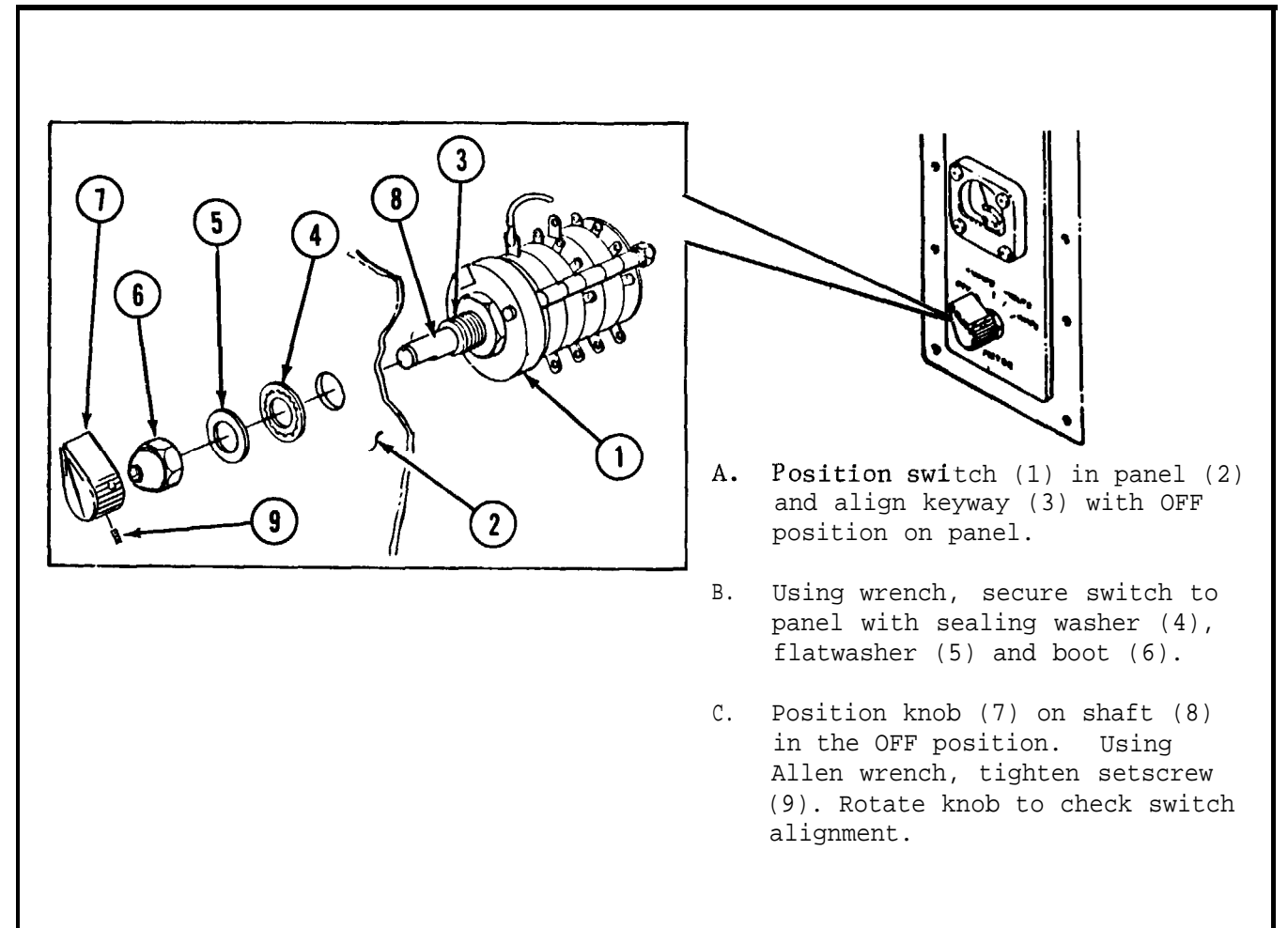
See Appendix D

Item 11
 Item 8
 Item 9

Item 7

Equipment condition: Battery charger panel removed, see para. 3-16.

STEP 1



- A. Position switch (1) in panel (2) and align keyway (3) with OFF position on panel.
- B. Using wrench, secure switch to panel with sealing washer (4), flatwasher (5) and boot (6).
- C. Position knob (7) on shaft (8) in the OFF position. Using Allen wrench, tighten setscrew (9). Rotate knob to check switch alignment.

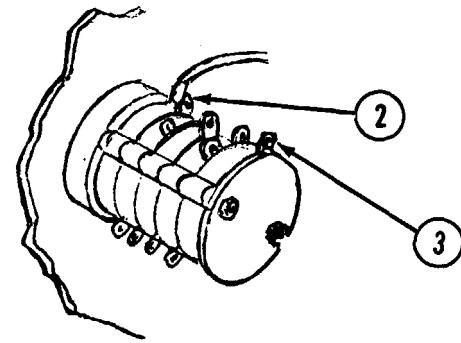
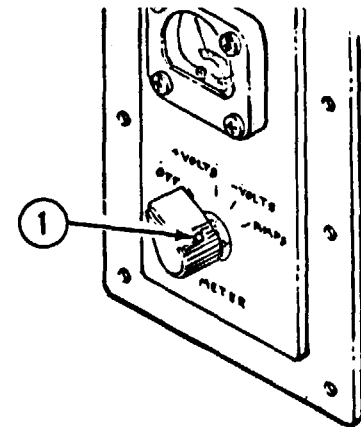
GO TO NEXT PAGE

3-75. INSTALL BATTERY CHARGER (S2) SWITCH -CONTINUED

STEP 2

A. DELETED

B. DELETED



C. Solder leads (2) to switch terminals (3) and remove tags.

END OF TASK

3-76. INSTALL METER (M1)

Tools required: No. 2 crosspoint screwdriver
5/16 inch box end wrench

Materials required:

Materials

See Appendix D

Sealing compound
DELETED
Orangewood stick
Alcohol
MEK
Cleaning cloth
Primer

Item 75

Item 7
Item 8
Item 5
Item 6
Item 66

Equipment condition: Battery charger panel removed, see para. 3-16.

STEP 1

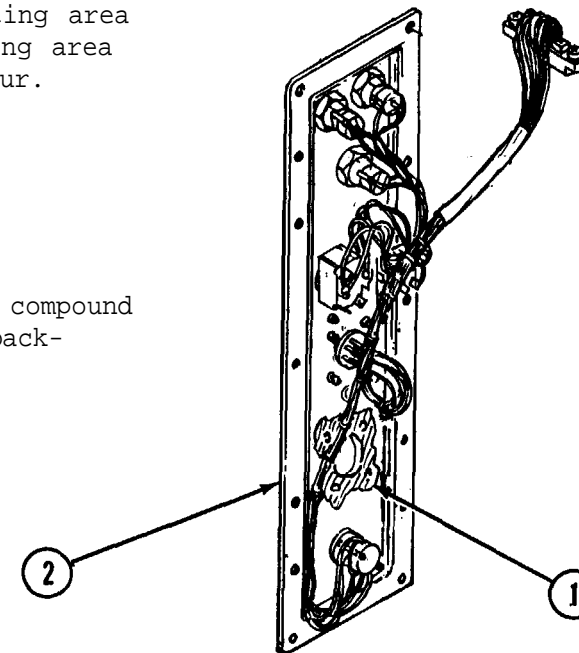


In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

A. Using MEK, clean meter mounting area (1). Apply primer to mounting area and allow to cure for one hour.

B. DELETED

C. Apply light coat of sealing compound meter mounting area (1) on back-side of panel (2).

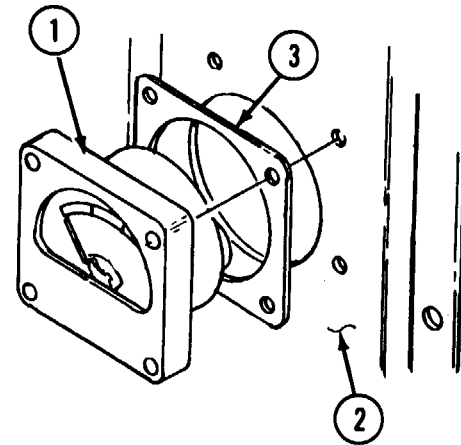


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3-76. INSTALL METER (M1) - CONTINUED

STEP 2

- A. Align meter (1) with panel (2) and insert meter with gasket (3) in panel.



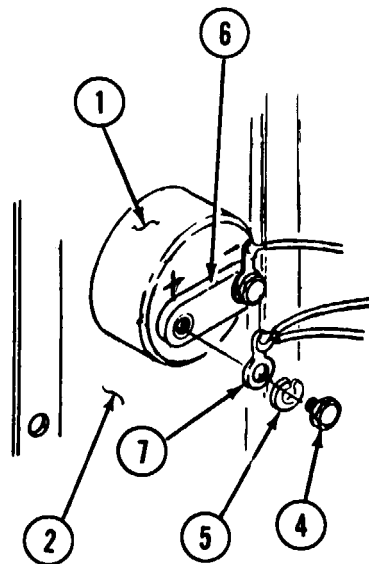
NOTE

- Replacement meters come with insulation bar (6) and bolts (4) installed.
- Terminal with two wires is positive (+). Other terminal with single wire is negative (-).

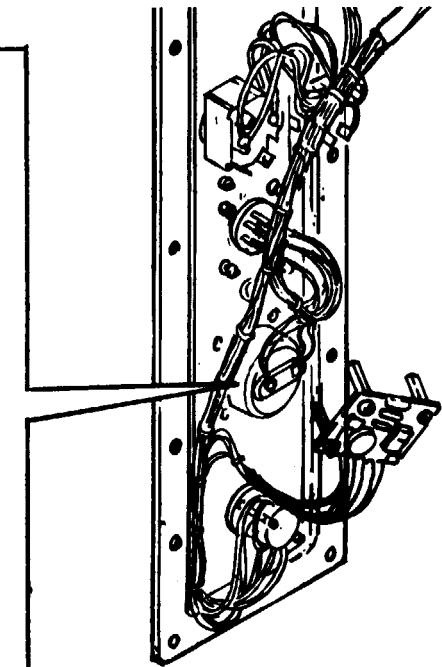
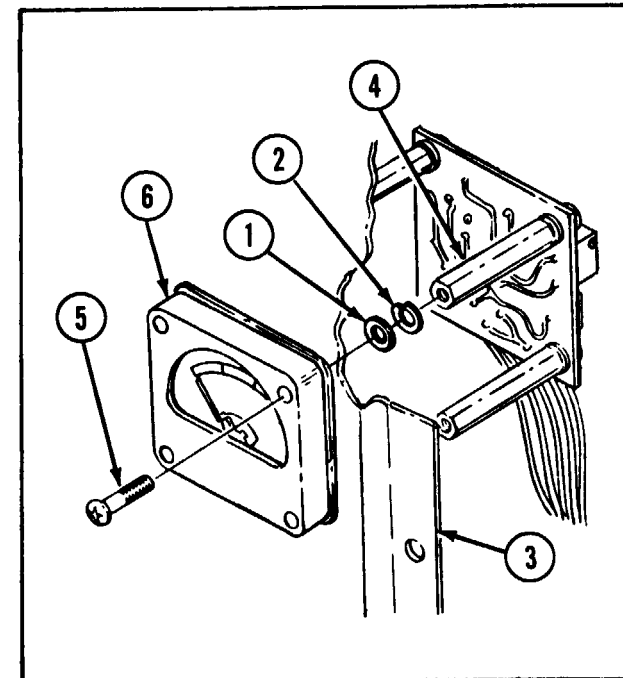
- B. Using wrench remove bolts (4), lockwashers (5) and insulation bar (6) from meter.

- C. Identify leads and using wrench, secure insulation bar (6), lead terminals (7) with bolts (4) and lockwashers (5) to meter (1).

- D. Using orangewood stick, apply a bead of sealing compound around meter (1) where it comes in contact with back of panel (2). Clean any excess sealant from meter with cleaning cloth and MEK.



STEP 3



NOTE

Flat washer (1) and lockwasher (2) go between panel (3) and posts (4).

- A. Apply light coat of sealing compound to threads of screws (5) before installing them.
- B. Using screwdriver, attach meter (6) through panel (3) to circuit card posts (4) with four screws (5), flatwashers (1), and lockwashers (2).
- C. Using MEK, wipe excess sealing compound from around posts (4).

END OF TASK

3-77. INSTALL ELECTRICAL RECEPTACLE (J1)

Tools required: Ratchet wrench
 Soldering iron
 Heat gun
 No. 1 crosspoint screwdriver
 Craftsman's knife
 1/4 inch socket

Materials required:

Materials

See Appendix D

Solder	Item 11
Alcohol	Item 8
MEK	Item 5
Sealing compound	Item 75
DELETED	
Cleaning cloth	Item 6
Primer	Item 66
Brush	Item 9
Insulation sleeving	Item 12

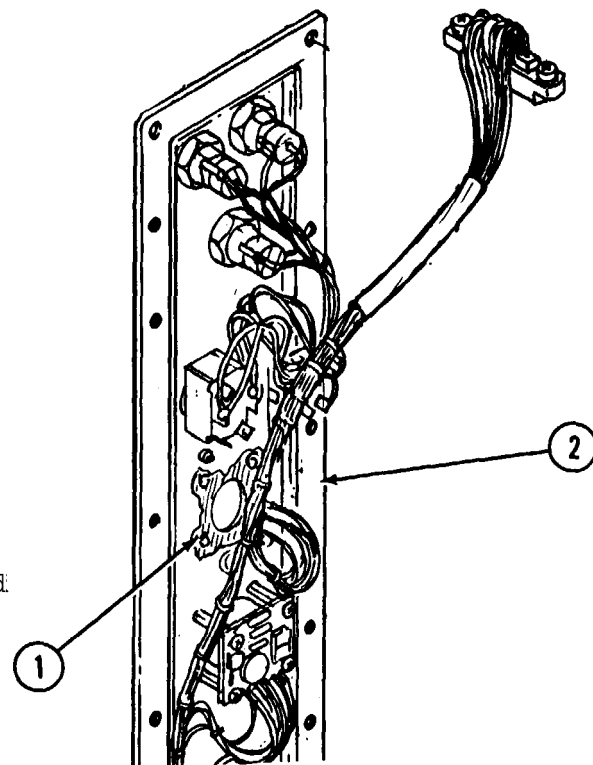
Equipment condition: Battery charger cover removed, see para. 3-15.

STEP 1



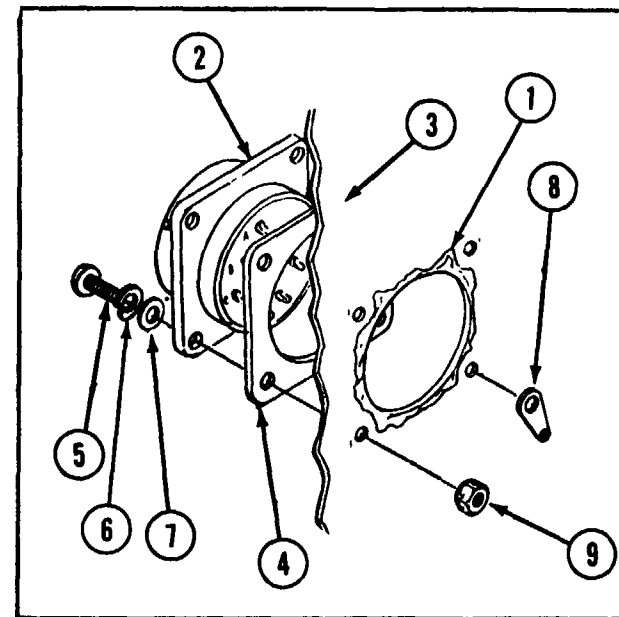
In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

- A. Using MEK, clean connector mounting area (1) on front and rear side of panel (2).
- B. Apply primer to mounting area (1) and allow to cure for one hour.

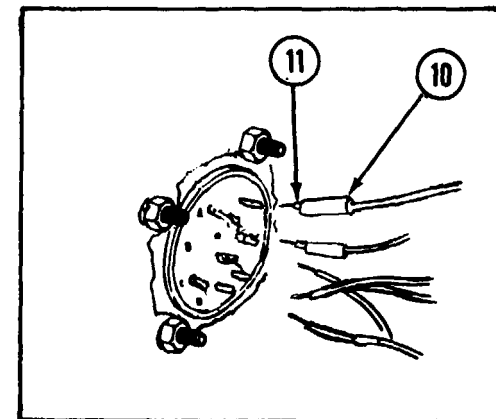


STEP 2

A. DELETED



- B. Apply a light coat of sealing compound to area (1) where connector (2) mounts to panel (3).
- C. Position gasket (4) on connector (2) and install in panel (3). Using screwdriver and wrench, install four screws (5), lockwashers (6), washers (7), one terminal lug (8), in position shown, and four nuts (9).



- D. Using craftsman's knife, cut six pieces of insulation sleeving 1/2 inch long.

Install insulation sleeving (10) on

GO TO NEXT PAGE

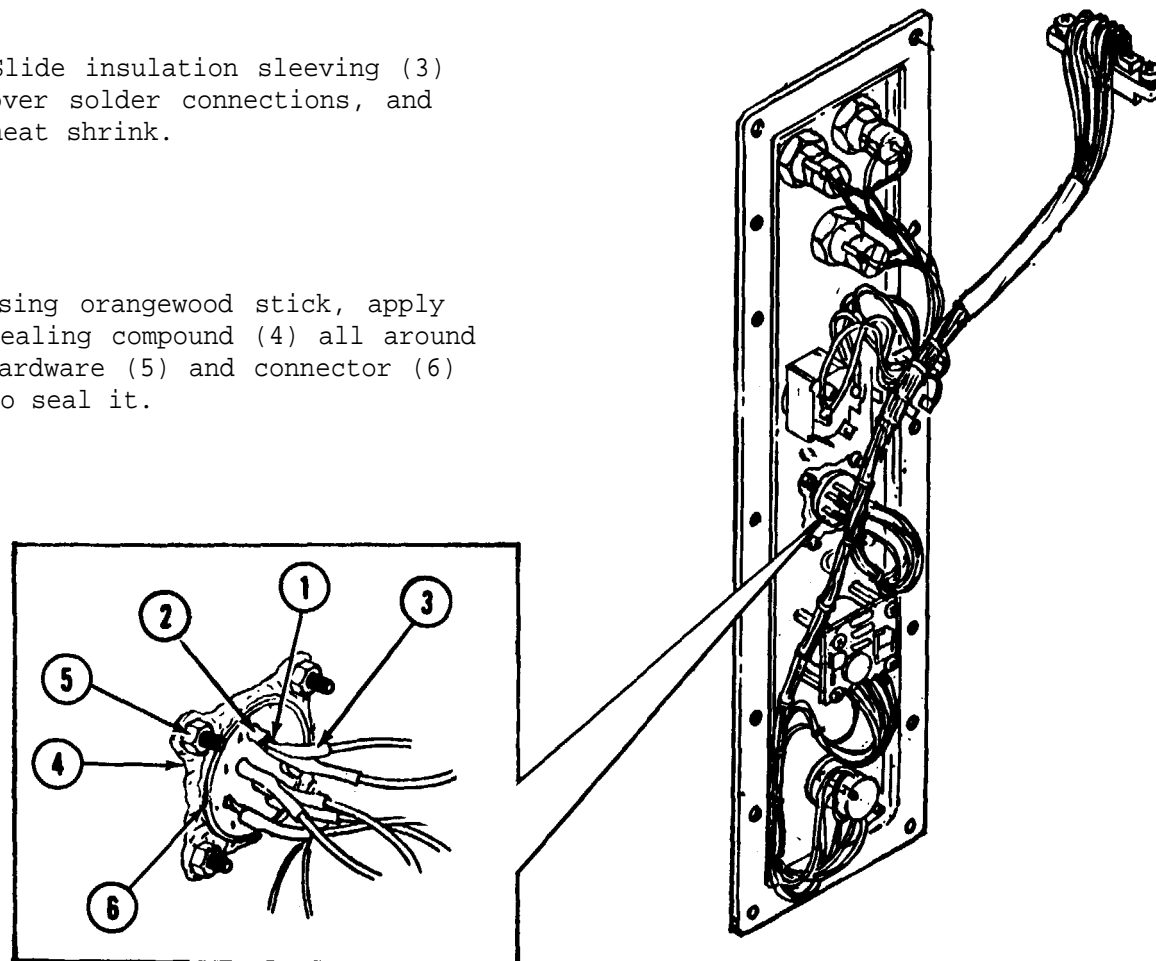
3-77. INSTALL ELECTRICAL RECEPTACLE (J1) - CONTINUED

STEP 3

A. Solder leads (1) to connector terminals (2) and remove tags.

B. Slide insulation sleeving (3) over solder connections, and heat shrink.

C. Using orangewood stick, apply sealing compound (4) all around hardware (5) and connector (6) to seal it.



END OF TASK

3-78. INSTALL ELECTRICAL CONNECTOR COVER (J1)

Tools required: No. 2 crosspoint screwdriver
5/16 inch open end wrench

Materials required:

MaterialsSee Appendix D

Sealing compound

Item 75

Primer

Item 66

Orangewood stick

Item 7

MEK

Item 5

Cleaning cloth

Item 6

Equipment condition: Battery charger panel removed, see para. 3-16,

STEP 1



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

A. DELETED

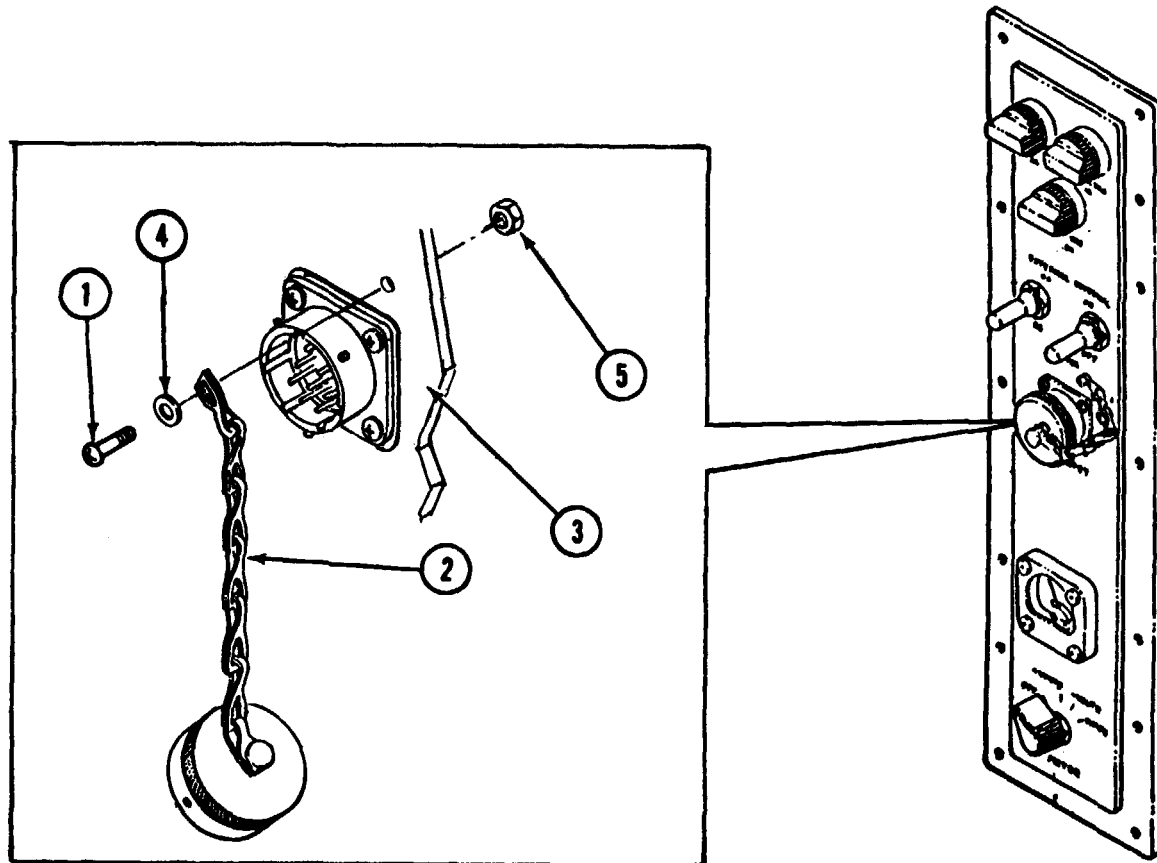
B. Using MEK, clean mounting area of nut on rear of panel.

GO TO NEXT PAGE

3-78. INSTALL ELECTRICAL CONNECTOR COVER (J1) - CONTINUED

STEP 2

- A. Apply light coat of sealing compound to threads on screw (1).
- B. Using screwdriver and wrench, install chain (2) on panel (3) and secure with screw (1), washer (4) and nut (5).



- C. Apply light coat of sealing compound mixture to nut (5) and area around nut to form a seal.

END OF TASK

3-79. INSTALL BATTERY CHARGER (S1 AND S3) SWITCHES

Tools required: Soldering iron
 5/8 inch box end wrench
 Longnose pliers

Materials required:

Materials

See Appendix D

Brush	Item 11
Solder	Item 9
Alcohol	Item 8

Equipment condition: Battery charger panel removed, see para. 3-16.



New switches (S1 or S3) come with captive screws mounted in the contact lugs. These screws must be removed by holding the lugs individually with longnose pliers and exerting enough force on each screw with a screwdriver to release it from the lugs without damaging the switch internally.



Switches S1 and S3 are installed in the same manner, so only installation of S3 switch will be covered.

3-79. INSTALL BATTERY CHARGER (S1 AND S3) SWITCHES -CONTINUED

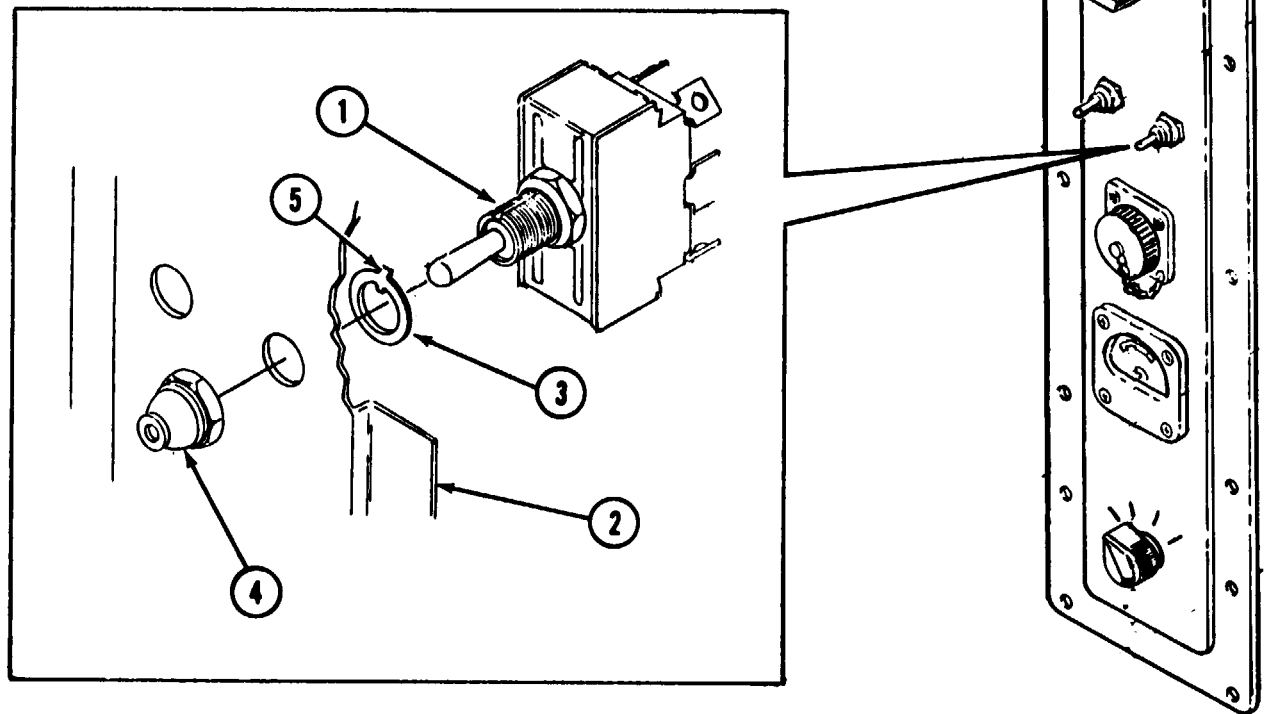
STEP 1



NOTE

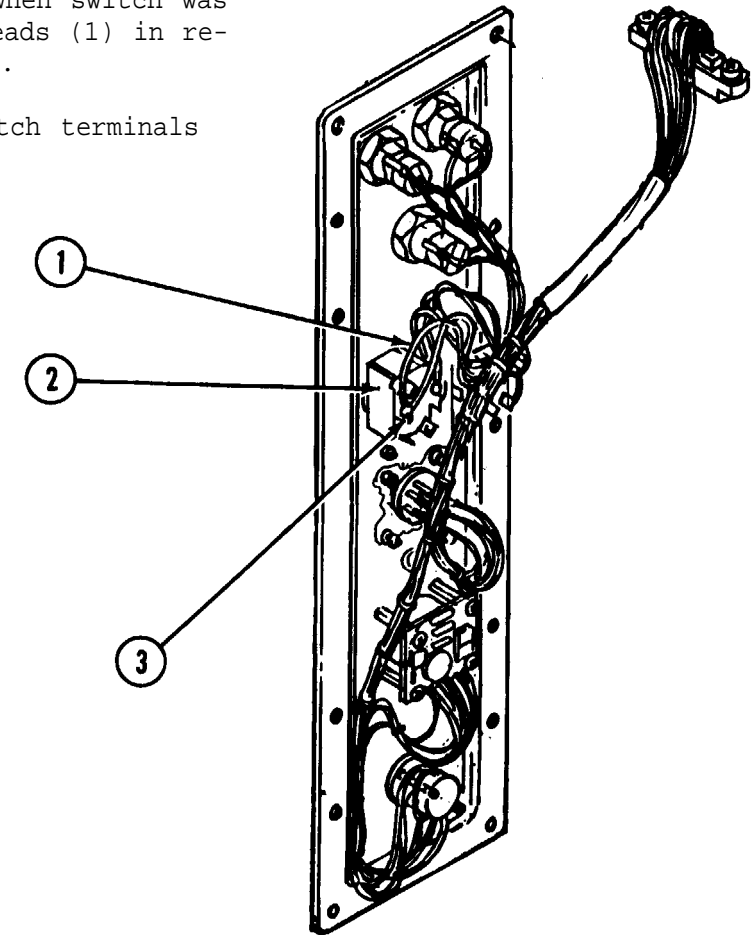
Tang (5) of key washer (3) points up and toward switch (1).

- A. Using diagram made when switch (1) was removed, (see para. 3-18), orient switch to panel (2). Install key washer (3) on switch (1) and install in panel (2).
- B. Using wrench, secure switch to panel with key washer (3) and boot (4).



STEP 2

- A. Using diagram made when switch was removed, identify leads (1) in relation to switch (2).
- B. Solder leads to switch terminals (3) and remove tags.



END OF TASK

3-80. INSTALL FUSEHOLDER

Tools required: Soldering iron
Craftsman's knife
Longnose pliers
Diagonal cutting pliers

Materials required: See Appendix D

Alcohol	Item 8
Brush	Item 9
Solder	Item 11

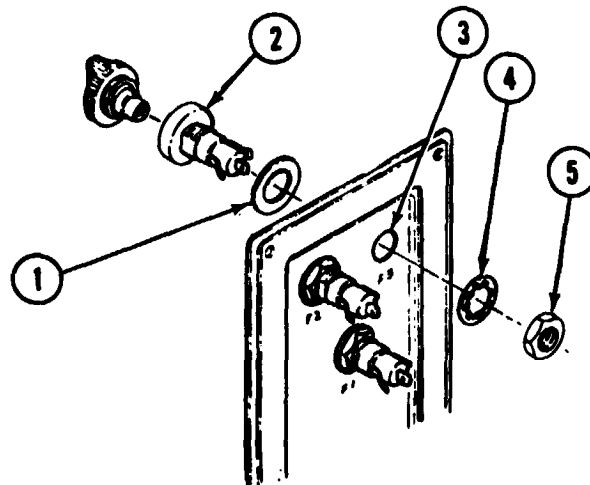
Equipment condition: Battery charger panel removed, see para. 3-16.

STEP 1



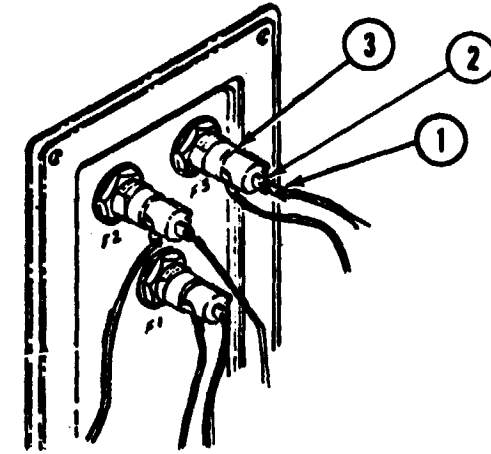
Each of the fuseholders is replaced using same method.

- A. Place the rubber gasket (1) on the fuseholder (2) from the rear of the fuseholder.
- B. Insert the fuseholder (2) with the gasket (1) in place through the hole in the panel (3). Hold the fuseholder in place with your fingers. Using the wrench, secure the fuseholder (2) with a lockwasher (4) and locking nut (5).



STEP 2

Solder the leads (1) to the terminals (2) on the rear of the fuseholder (3) and remove the tags.



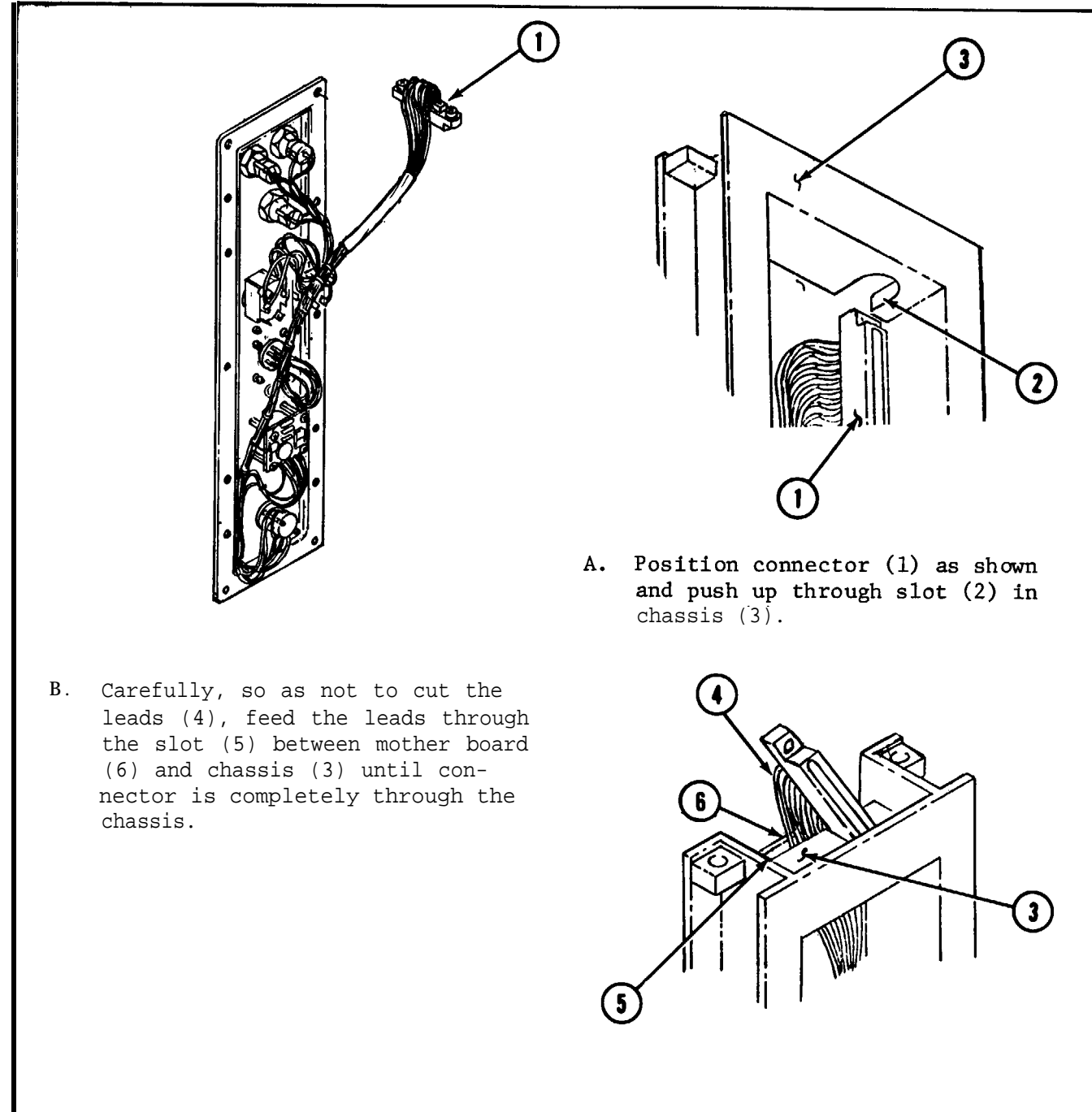
END OF TASK

3-81. INSTALL BATTERY CHARGER PANEL

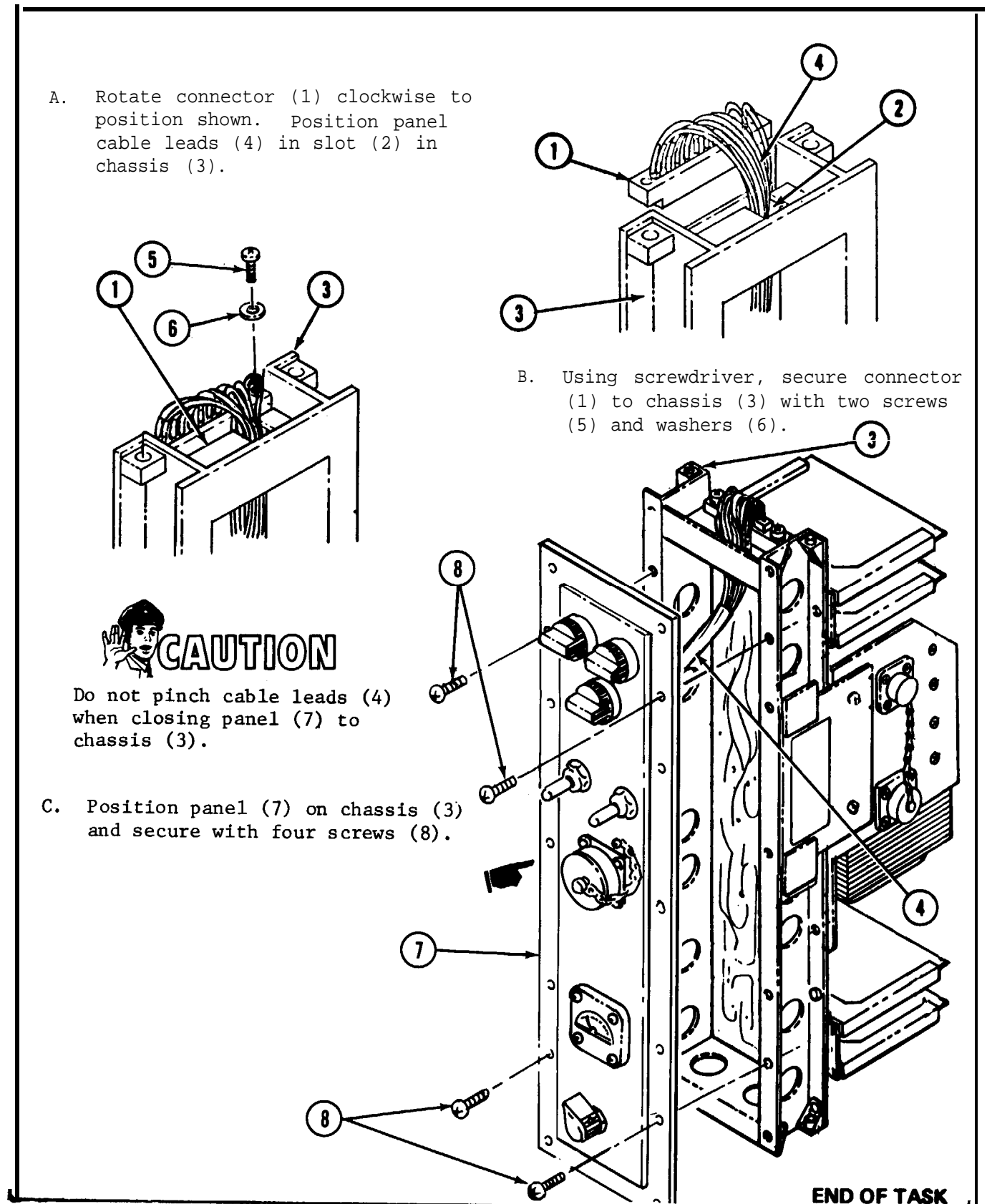
Tools required: No. 2 crosspoint screwdriver

Equipment condition: Battery charger removed, see para. 3-12.
Battery charger cover removed, see para. 3-15.

STEP 1



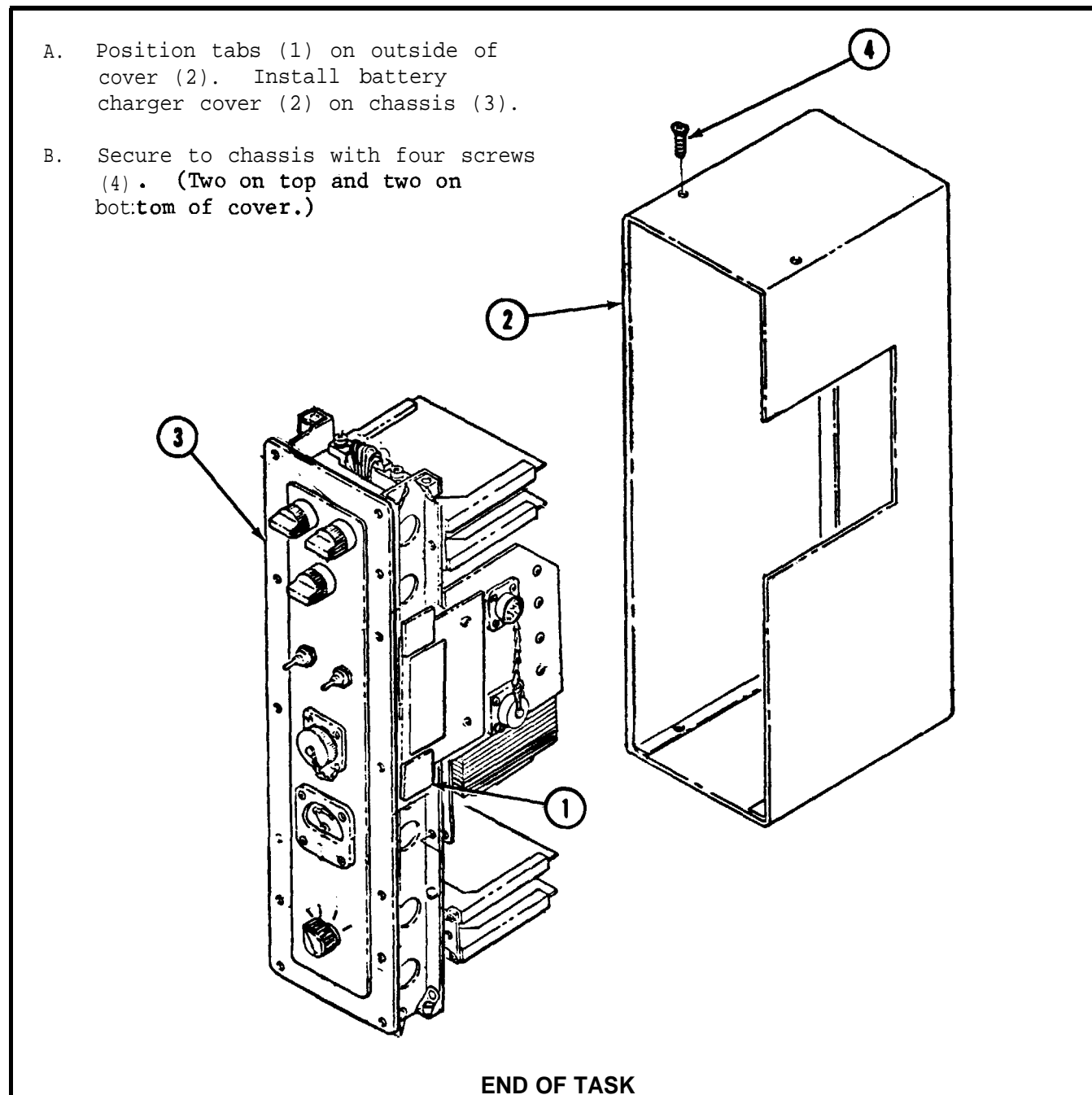
STEP 2



3-82. INSTALL BATTERY CHARGER COVER

Tools required: No. 2 crosspoint screwdriver

Equipment condition: Monitoring set panel removed, see para. 3-11.



3-83. INSTALL BATTERY CHARGER IDENTIFICATION PLATE

Materials required:

Materials

See Appendix D

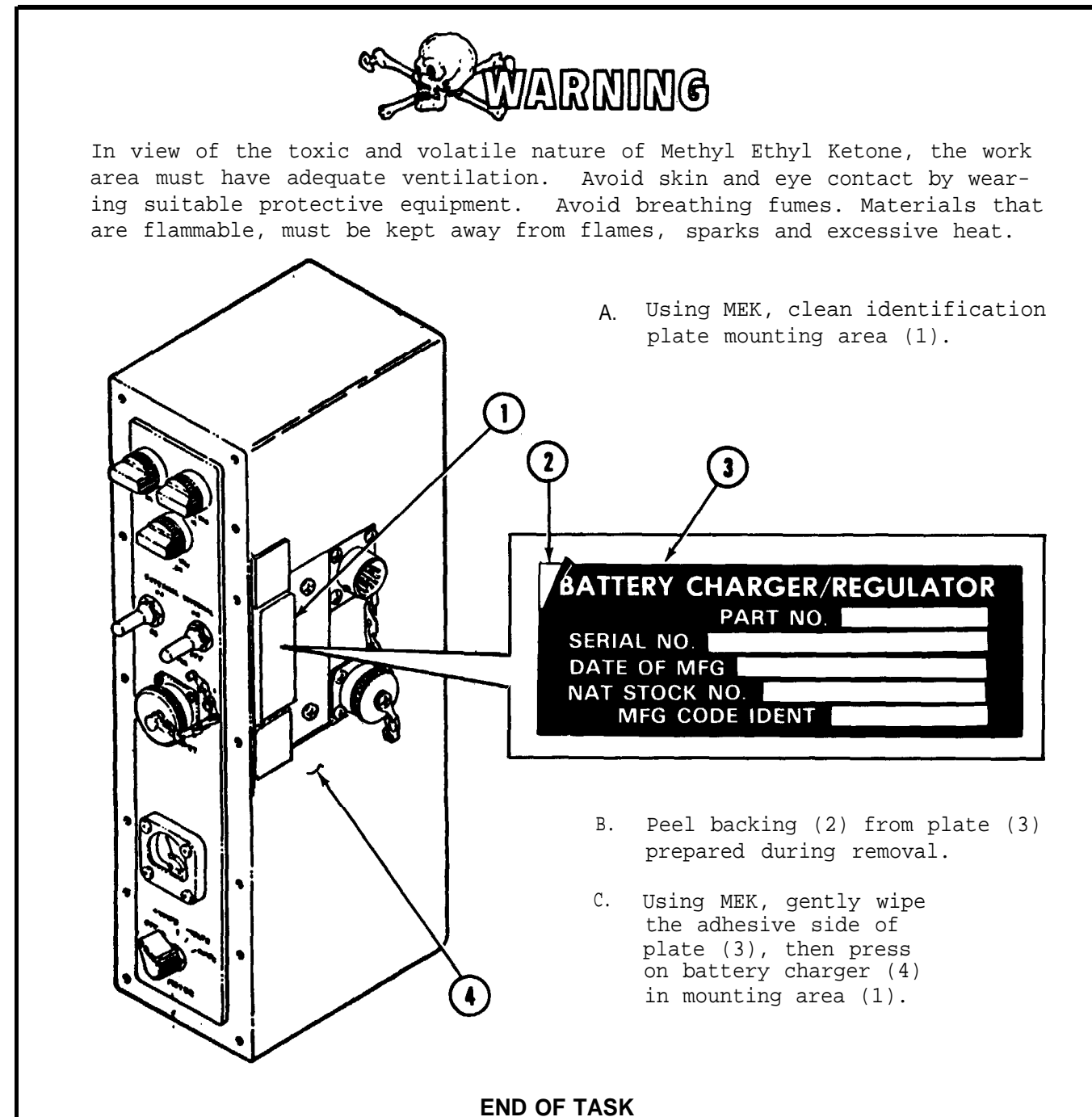
MEK

Item 5

Cleaning cloth

Item 6

Equipment condition: Battery charger removed, see para. 3-12.



3-84. INSTALL BATTERY CHARGER GASKET

Tools required: Craftsman's knife
7/32 inch punch
9/32 inch punch
Ball peen hammer
Machinist's rule

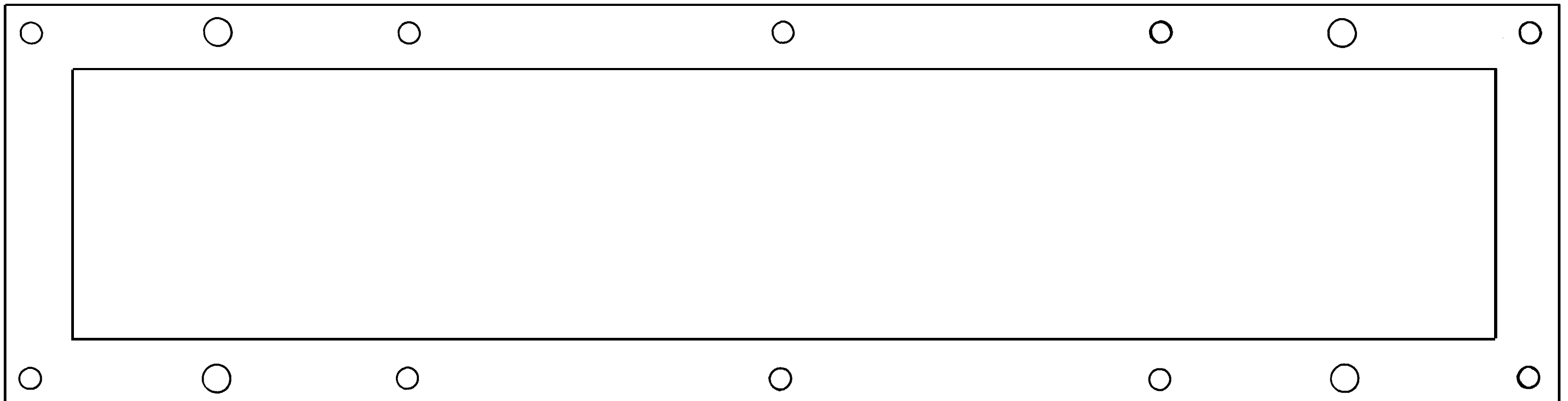
Materials required:

<u>Materials</u>	<u>See Appendix D</u>
Rubber sheet	Item 31
Sealing compound	Item 75
DELETED:	
MEK	Item 5
Orangewood stick	Item 7
DELETED	
Cleaning cloth	Item 6

Equipment condition: Battery charger removed, see para. 3-12.

STEP 1

Using the template as a guide, cut a new gasket to dimensions shown below.



GOTONEXTPAGE

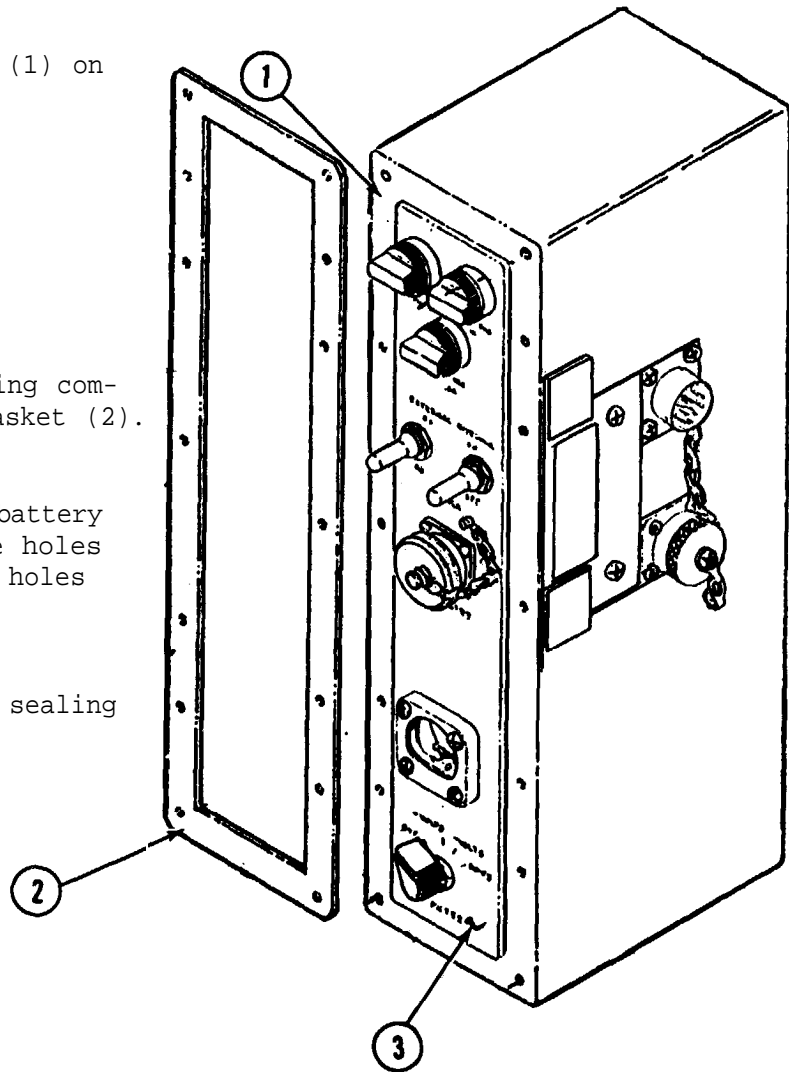
3-84. INSTALL BATTERY CHARGER GASKET - CONTINUED

STEP 2



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

- A. Clean gasket mounting area (1) on battery charger.
- B. DELETED
- C. Apply a light coat of sealing compound to battery charger gasket (2).
- D. Carefully press gasket on battery charger panel (3). Be sure holes in gasket are aligned with holes in panel.
- E. Using MEK, wipe off excess sealing compound.



END OF TASK

3-85. INSTALL BATTERY CHARGER

Tools required: No. 2 crosspoint screwdriver

Materials required:

Materials

See Appendix D

DELETED

Sealing compound	Item 75
Orangewood stick	Item 7
MEK	Item 5
Cleaning cloth	Item 6

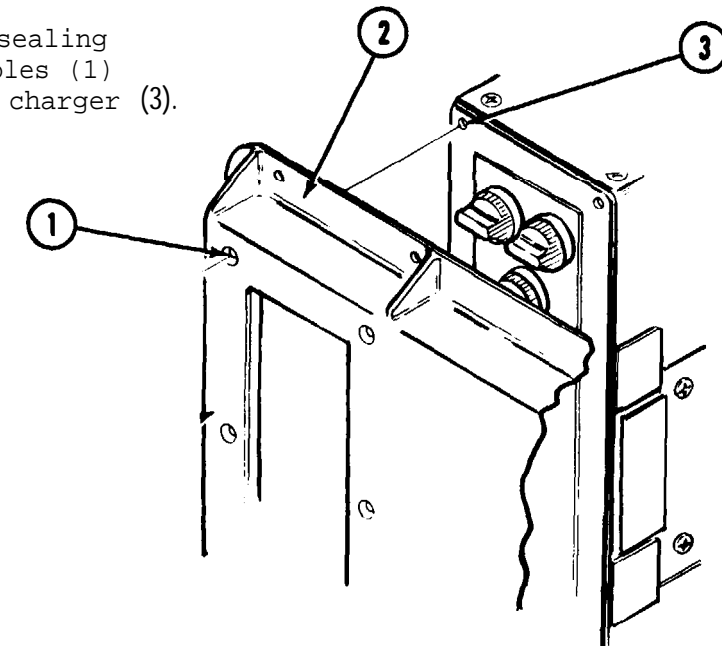
Equipment condition: Monitoring set panel removed, see para. 3-11.

STEP 1



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excess heat.

Using MEK, wipe away any old sealing compound from the ten screw holes (1) on the panel (2) and battery charger (3).



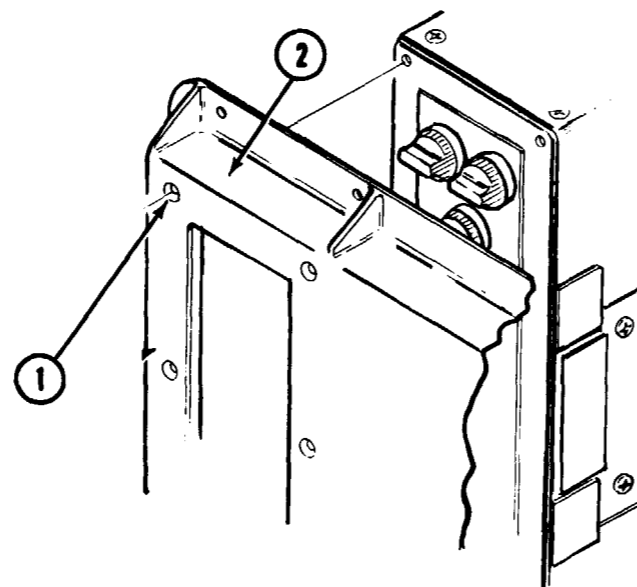
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3-85. INSTALL BATTERY CHARGER - CONTINUED

STEP 2

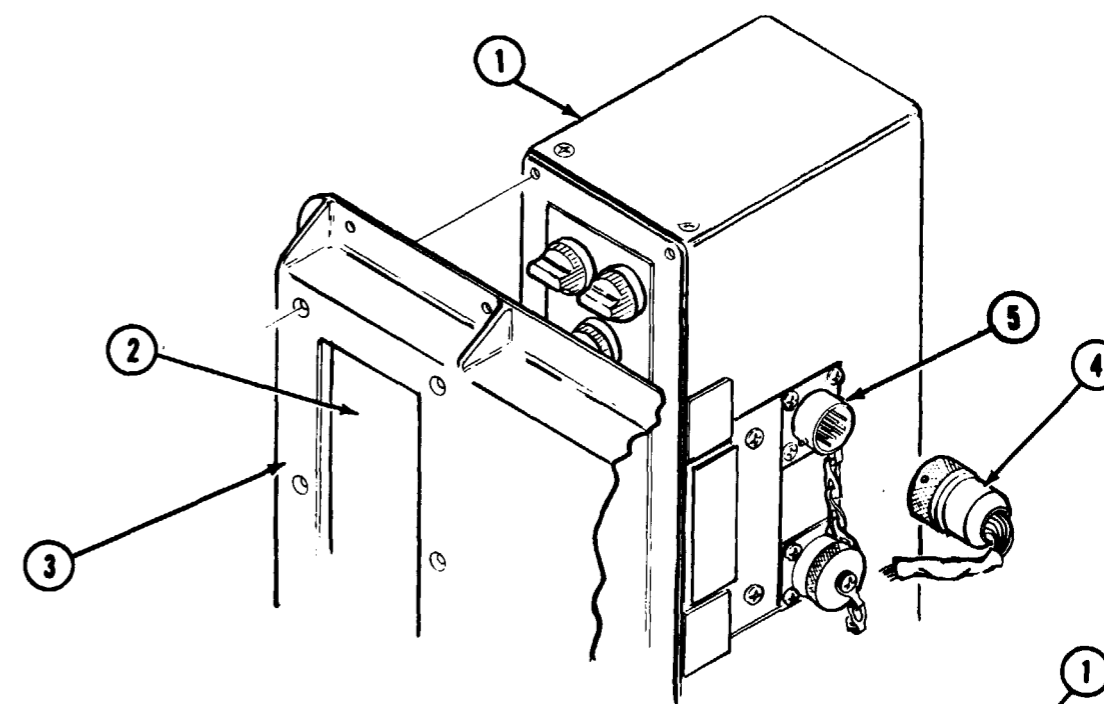
A. DELETED

B. Apply a light coat of sealing compound to the ten countersunk holes (1) in the panel (2).



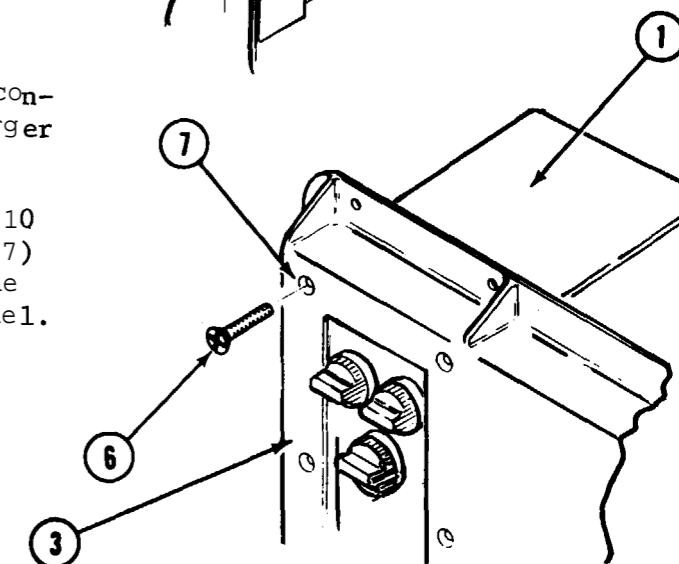
STEP 3

A. Position the battery charger (1) in the opening (2) on the panel (3).



B. Connect P2 (4) to receptacle connector (5) on the battery charger (1).

C. Using the screwdriver, insert 10 screws (6) through the holes (7) in the panel (3) and secure the battery charger (1) to the panel.



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3-85. INSTALL BATTERY CHARGER -CONTINUED

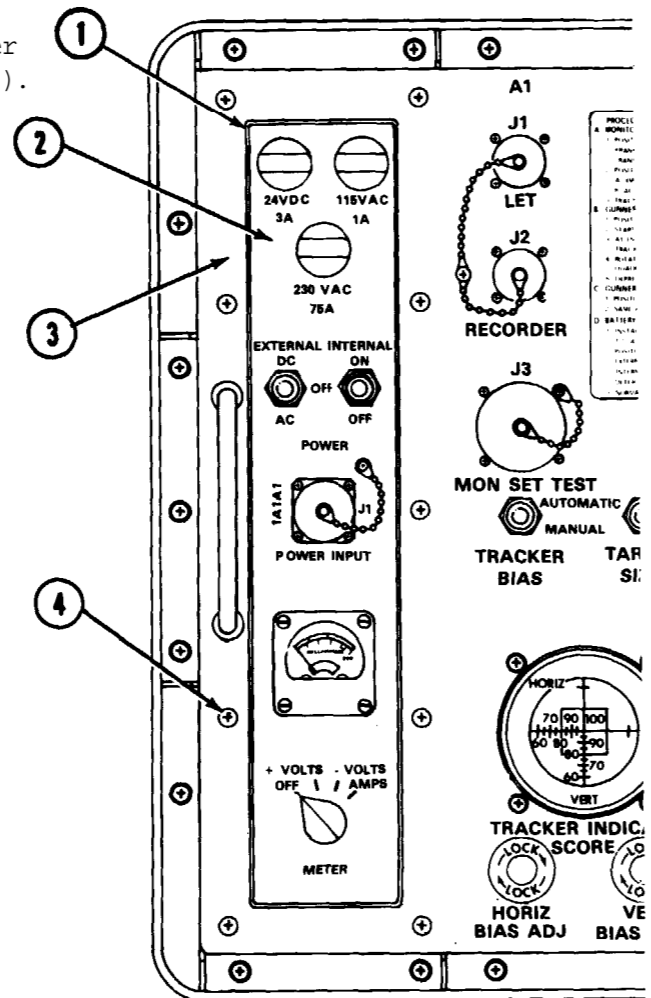
STEP 4

- A. Apply a bead of sealing compound in void (1) between battery charger panel (2) and monitor set panel (3).



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

- B. Using MEK, clean excess sealing compound from heads of screws (4) and panels (2) and (3).



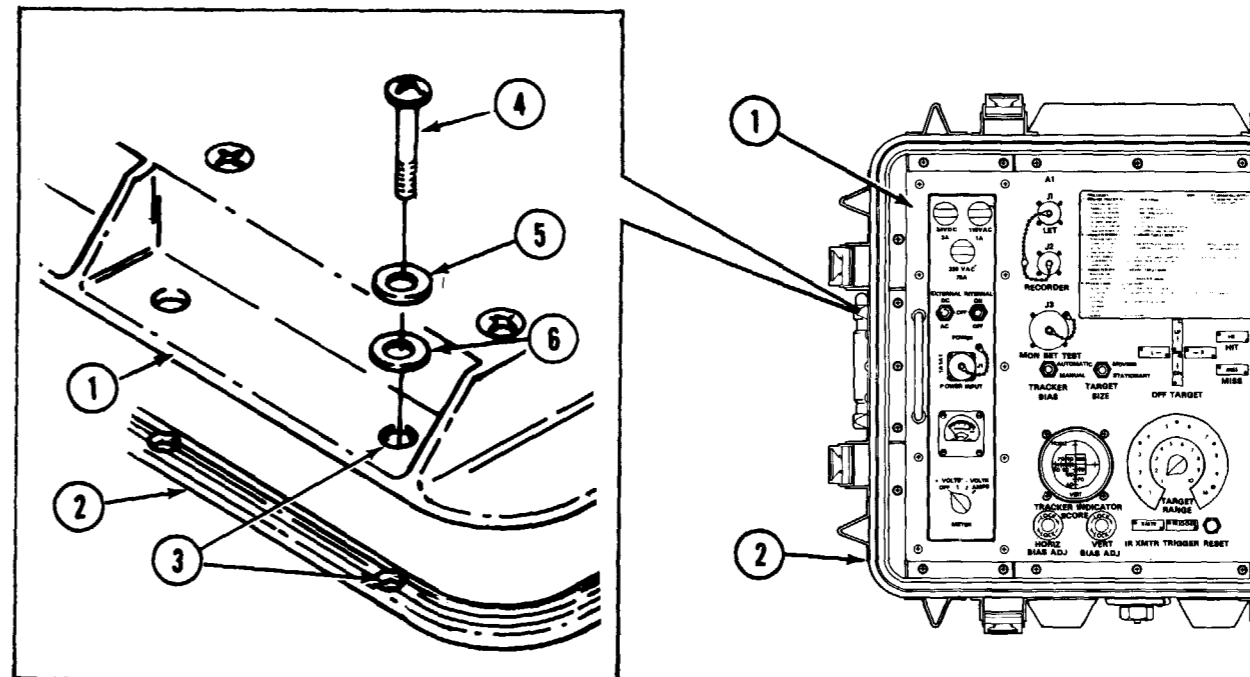
END OF TASK

3-86. INSTALL MONITORING SET PANEL

Tools required: Speed handle
No. 2 crosspoint bit

Equipment condition: Monitoring set lid removed, see TM 9-6920-484-12.

- A. Place the monitoring set panel (1) on the base (2) and align the screw holes (3) in the panel with the holes in the base.



- B. Using the speed handle and bit, secure the panel (1) to base (2) with screws (4) flatwashers (5) and sealing washers (6).

END OF TASK

3-87. INSTALL INSTRUCTION PLATE

Materials required:

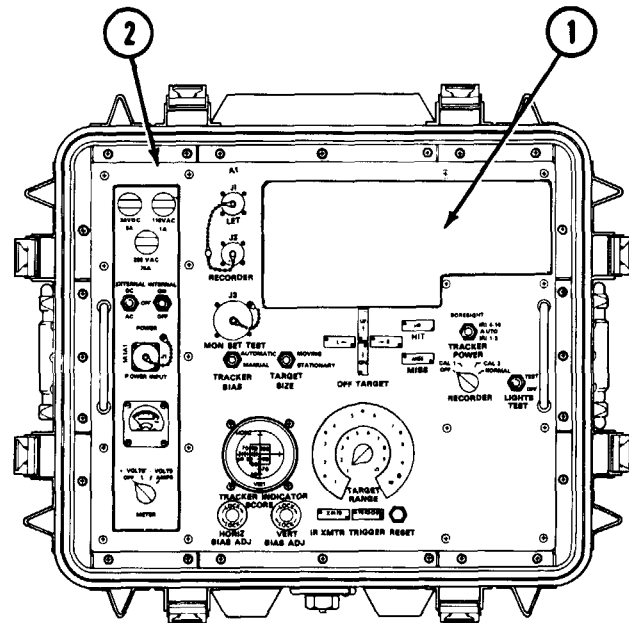
Materials

MEK	Item 5
Cleaning cloth	Item 6
Orangewood stick	Item 7
Adhesive epoxy	Item 30
Fine abrasive paper	Item 16
Primer	Item 66
Alcohol	Item 8
Equipment condition:	Monitoring set lid removed, see TM 9-6920-484-12.

See Appendix D

Step 1

- Using fine abrasive paper, rough the instruction plate mounting area (1) on the panel (2).
- Clean the mounting area (1) using isopropyl alcohol and a cleaning cloth.
- Apply primer to mounting area (1). Allow to cure one hour.



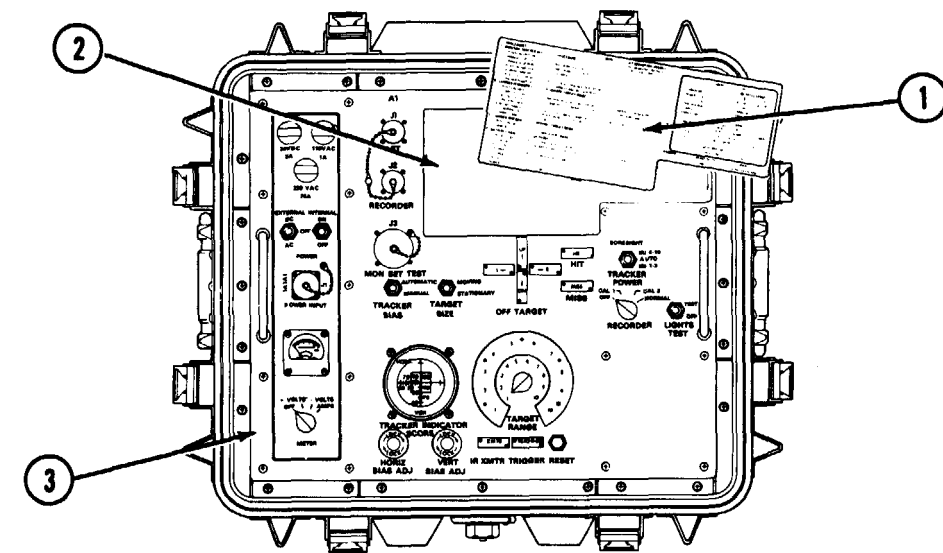
STEP 2

- Prepare the adhesive by mixing the accelerator part A and epoxy part B using a 3 to 2 ratio. Squeeze a bead of part A three inches long and a bead of part B two inches long into a container and mix to a uniform gray color.
- Apply a light coating of adhesive to the back side of the instruction panel (1).
- Place the instruction plate (1) in the mounting area (2) on the monitoring set panel (3). Apply uniform pressure over the entire instruction plate surface to ensure good contact.



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

- Using MEK, wipe away any excess adhesive around the edges of the plate.



END OF TASK

3-88. INSTALL GASKET SEAL

Tools required: Craftsman's knife
Tape measure

Materials required:

Materials

Rubber, synthetic
Adhesive
Silicone grease
Orangewood stick
Cleaning cloth

See Appendix D

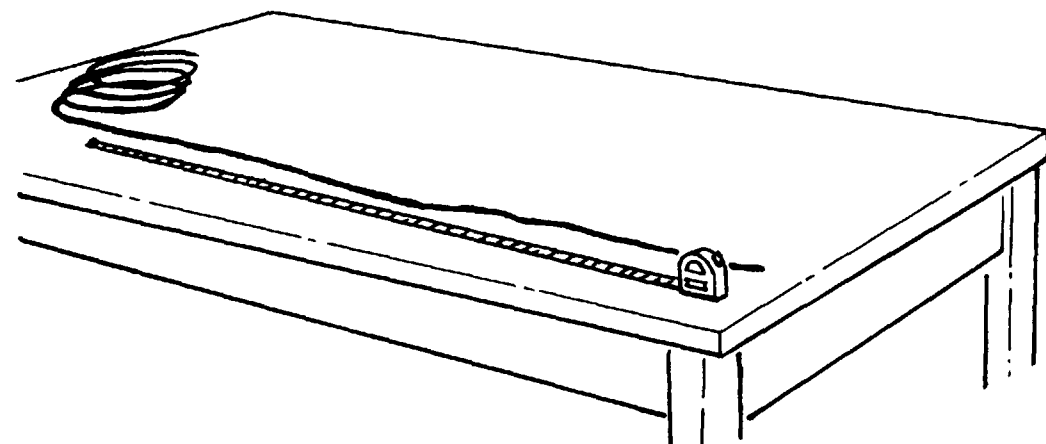
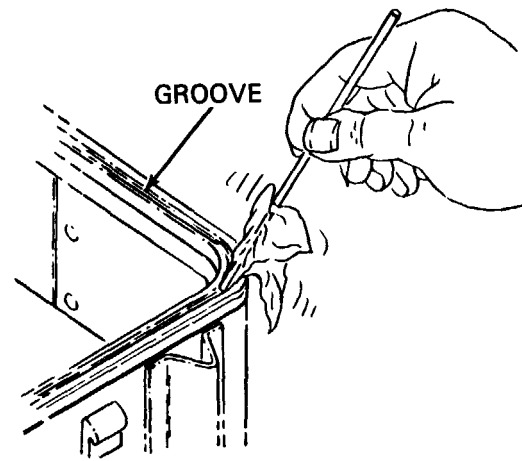
Item 22
Item 23
Item 24
Item 7
Item 6

Equipment condition: Monitoring set lid removed, see TM 9-6920-484-12.

STEP 1

A. Clean the groove in the monitoring set lid.

B. Using a tape measure, measure a piece of synthetic rubber 71 3/4 to 72 1/4 inches long.

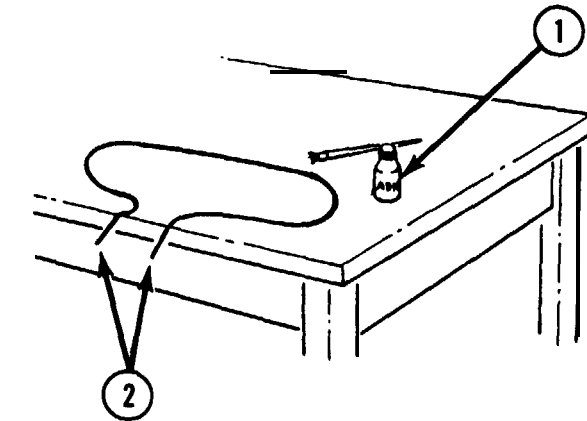


STEP 2

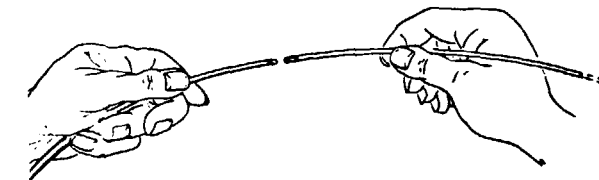


Adhesive used for bonding the synthetic rubber, bonds instantly. Be careful not to get it on your skin or fingers because it will bond them together and will peel the skin when being removed.

A. Lay the synthetic rubber on a flat surface with ends extending off the edge of the surface. Now, carefully apply a light coat of adhesive (1) to both ends of the rubber tubing (2).



B. Carefully grasp the rubber tubing near the ends, keeping your fingers away from the adhesive and place the ends together. Remember bonding occurs immediately.



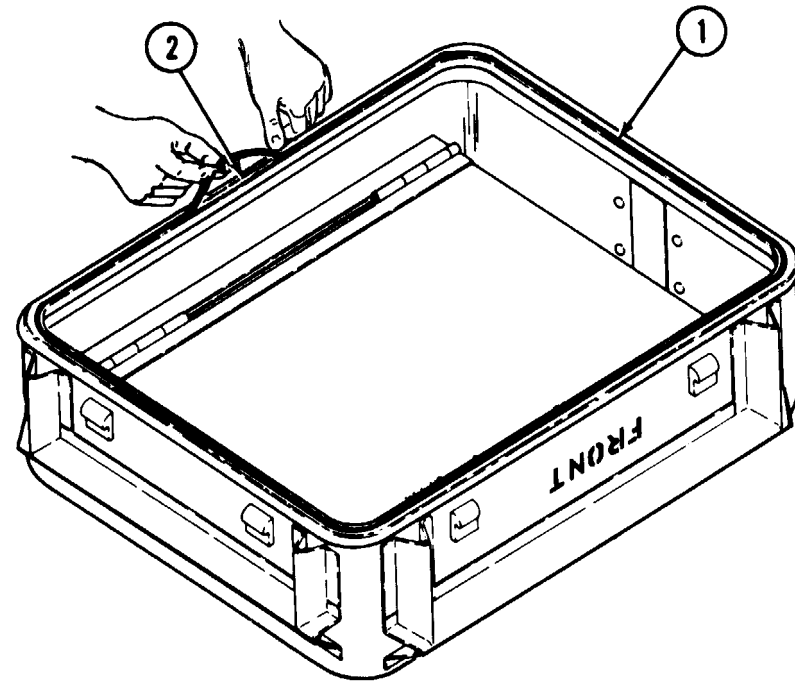
C. Set the bonded rubber tubing aside and allow excess adhesive to dry.

GO TO NEXT PAGE

3-88. INSTALL GASKET SEAL – CONTINUED

STEP 3

- A. Apply a light coat of silicone grease to the bonded gasket seal (1).
- B. Lay the gasket seal (1) in the groove (2) of the monitoring set lid and using your thumb press the gasket into the groove completely around the lid.



END OF TASK

3-89. INSTALL LATCH

- Tools required:
- Ball peen hammer
 - 3/32 inch drift punch
 - Diagonal cutting pliers
 - Wire twister pliers
 - Long nose pliers

Materials required:

Materials

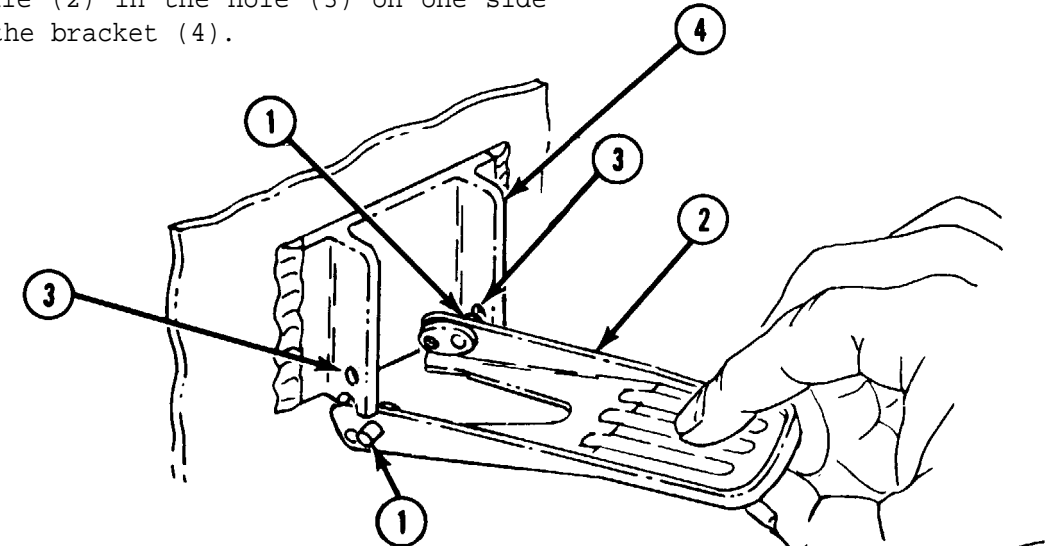
Lock wire

See Appendix D

Item 27

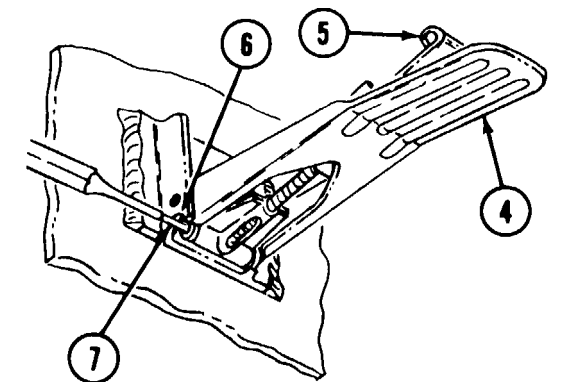
STEP 1

- A. Place the pin (1) on one side of the handle (2) in the hole (3) on one side of the bracket (4).



- B. With one of the handle pins (1) in position, slide the other side of the handle (2) between the bracket (4). Now squeeze the handle together and work it until the other pin (1) slips into the hole (3) in the bracket (4).

- C. Place the latch (5) inside the handle (4) and line up the holes on the latch and handle with the notches (6) on both sides of the bracket. Insert the pin (1) through the notch (6) handle (4) and latch (5) using the hammer and drift punch.



GO TO NEXT PAGE

3-89. INSTALL LATCH - CONTINUED

STEP 9

A. Place the monitoring set lid (1) on the base (2) and secure the latch(es) .

B. If the latch is loose, unhook the latch (3).

C. Screw the latch (3) down a few turns and secure the latch to the lid and check for a snug fit.

D. Repeat steps A, B and C until the latch is snug.

E. Now, unhook the latch and allow the handle (4) to swing down to the vertical position.

STEP 3

A. Holding the latch (1) in one hand, take a piece of lock wire (2) and feed it through the hole (3) in the threaded portion of the latch (1).

B. Lock wire the latch.

C. Tuck the lock wire down inside the latch out of the way.

END OF TASK

3-90. INSTALL IDENTIFICATION PLATE

Tools required: Machinist's stamp and die kit
Ball peen hammer

Materials required:

Materials

- MEK
- Cleaning cloth
- Orangewood stick
- Alcohol
- Adhesive epoxy
- Fine abrasive paper

See Appendix D

- Item 5
- Item 6
- Item 7
- Item 8
- Item 30
- Item 16

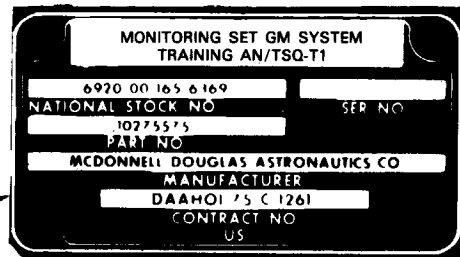
STEP 1



When stamping information on the I.D. plate, do not cut through, bend, or distort the back surface of the plate.

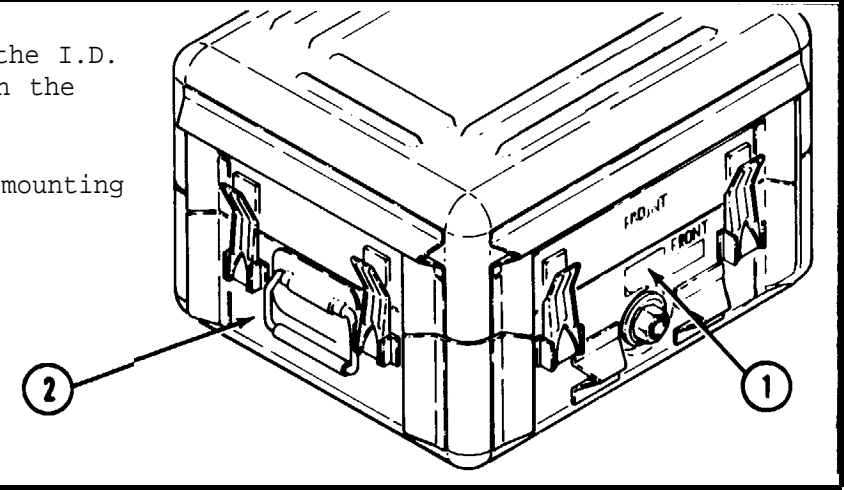
If not previously stamped during removal, use the machinist's stamp and die kit and hammer and transfer serial number from damaged identification plate to replacement identification plate.

IDENTIFICATION PLATE



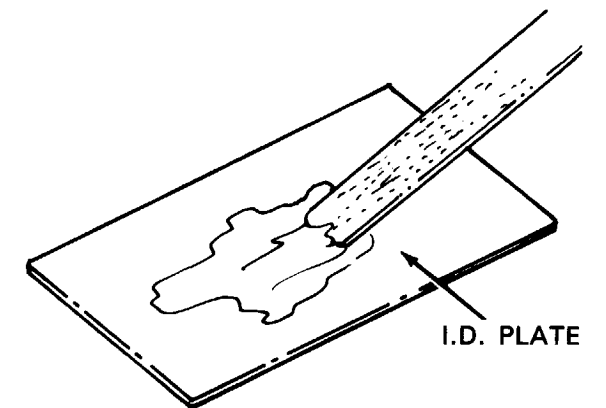
STEP 2

- A. Using emery paper, rough the I.D. plate mounting area (1) on the monitoring set base (2).
- B. Using alcohol, clean the mounting area (1).



STEP 3

- A. Prepare the adhesive by mixing the accelerator part A and epoxy part B using a 3 to 2 ratio. Squeeze a bead of part A 1 1/2 inches long and a bead of part B 1 inch long into a container and mix to a uniformly gray color.
- B. Apply a light coating of adhesive to the back side of the I.D. plate (1).



GO TO NEXT PAGE

3-90. INSTALL IDENTIFICATION PLATE - CONTINUED

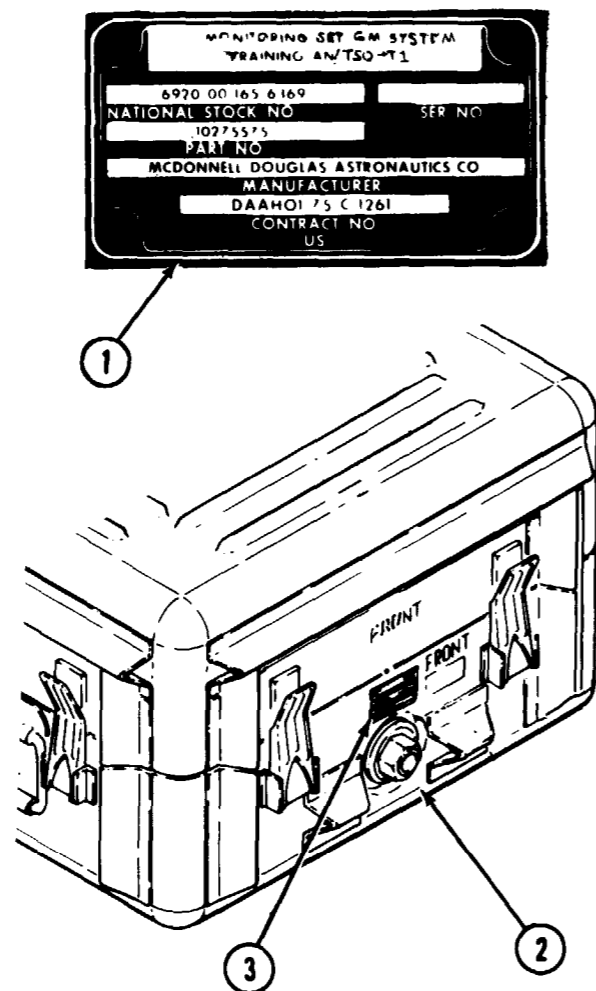
STEP 4

- A. Place the I.D. plate (1) on the monitoring set base (2) in the mounting area (3). Apply uniform pressure over the entire bonding surface to ensure good contact.



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable, must be kept away from flames, sparks and excessive heat.

- B. Using MEK, wipe away any excess adhesive around the edges of the plate.



END OF TASK

3-91. FINAL INSPECTION

After any maintenance or repair, the Monitoring Set must be inspected by QA/QC personnel in accordance with Appendix E. To be acceptable for return to supply, the Monitoring Set must pass the LCSS tape program.

**CHAPTER 4
DS/GS MAINTENANCE INSTRUCTIONS - TRAINER, LAUNCH EFFECTS, GUIDED
MISSILE; M54**

Section II. SERVICE UPON RECEIPT

	Page
Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT	4-1
Section II. SERVICE UPON RECEIPT	4-1
Section III. SCHEDULED MAINTENANCE	4-1
Section IV. TROUBLESHOOTING	4-2
Section V. MAINTENANCE PROCEDURES	4-7

Inventory inspection

Para Page

4-3 4-1

Maintenance Forms and Records

4-4 4-1

4-3. INVENTORY INSPECTION

When a LET is received from the using organization, perform an inventory and inspection. See TM 9-6920-484-12.

4-4. MAINTENANCE FORMS AND RECORDS

Make sure that maintenance forms DA-2404 and DA-247 are completed as shown in DA PAM 738-750.

	Para	Page
Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT		
Special Tools and Test Equipment	4-1	4-1
Repair Parts	4-2	4-1

Section III. SCHEDULED MAINTENANCE

4-1, SPECIAL TOOLS AND TEST EQUIPMENT

- a. Offset screwdriver, P/N 8035628
- b. Probe Kit, NSN 6625-00-678-0657
- c. Multimeter, Fluke 8000A or equivalent
- d. Headspace gauge, NSN 4933-00-916-9271
- e. Firing Device, Electric M57, NSN 1345-00-070-1010
- f. Oscilloscope, Tektronix 502

Maintenance Schedule

Para Page

4-5 4-2

General Cleaning Instructions

4-6 4-2

Special Cleaning Instructions

4-7 4-2

Operational Checks

4-8 4-2

Maintenance Inspection

4-9 4-2

4-2. REPAIR PARTS

See TM 9-6920-480-24P for a listing of authorized repair parts.

4-5. MAINTENANCE SCHEDULE

The Launch Effects Trainer, M54, shall be checked by DS/GS Maintenance every 90 days or as requested by the Unit Commander. At 180 day intervals, this check will include disassembly of the trainer and cleaning of the firing mechanism, firing mechanism piston housing, extractor, firing mechanism rod and springs. After reassembly, the trainer will be checked as prescribed in TM 9-4935-484-14.

4-6. GENERAL CLEANING INSTRUCTIONS

All assemblies must be cleaned prior to assembly and installation. Keep the work area clean and free of foreign materials.

4-7. SPECIAL CLEANING INSTRUCTIONS

When the trainer has been returned to maintenance for cleaning, after having been immersed in water, it will be completely disassembled, thoroughly dried and reassembled.

4-8. OPERATIONAL CHECKS

Operational checks are performed in accordance with the instructions provided in TM 9-4935-484-14.

4-9. MAINTENANCE INSPECTION

Before troubleshooting the LET, check the headspace for proper adjustment. See para. 4-74.

Section IV. TROUBLESHOOTING

	Para	Page
Troubleshooting LET Electrical System and Components	4-10	4-2

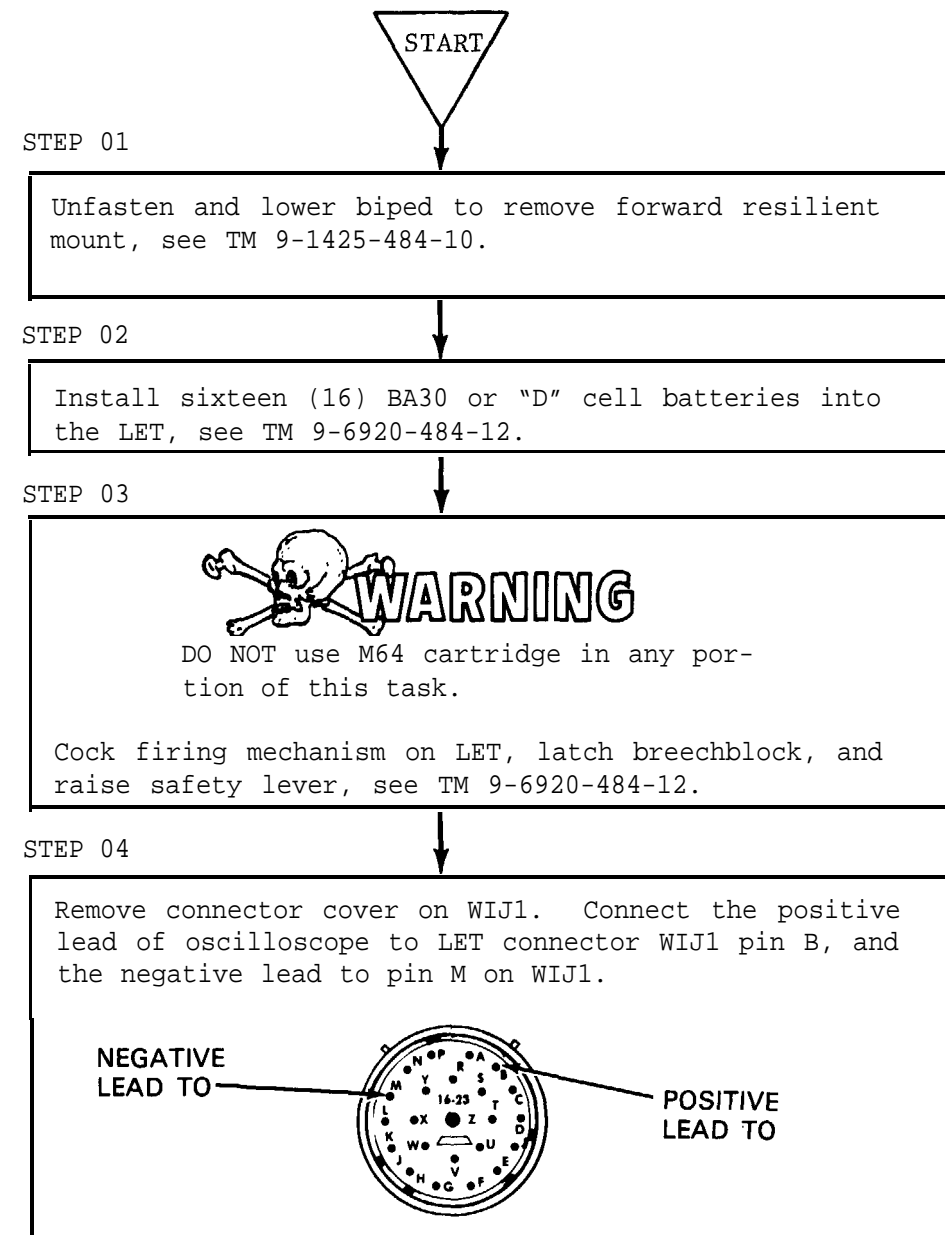
4-10. TROUBLESHOOTING LET ELECTRICAL SYSTEM AND COMPONENTS

Tools required: No. 2 crosspoint screwdriver
Pliers

Equipment required: Tracker SU36/P or M57 Triggering device
Tektronix 502 oscilloscope
Multimeter

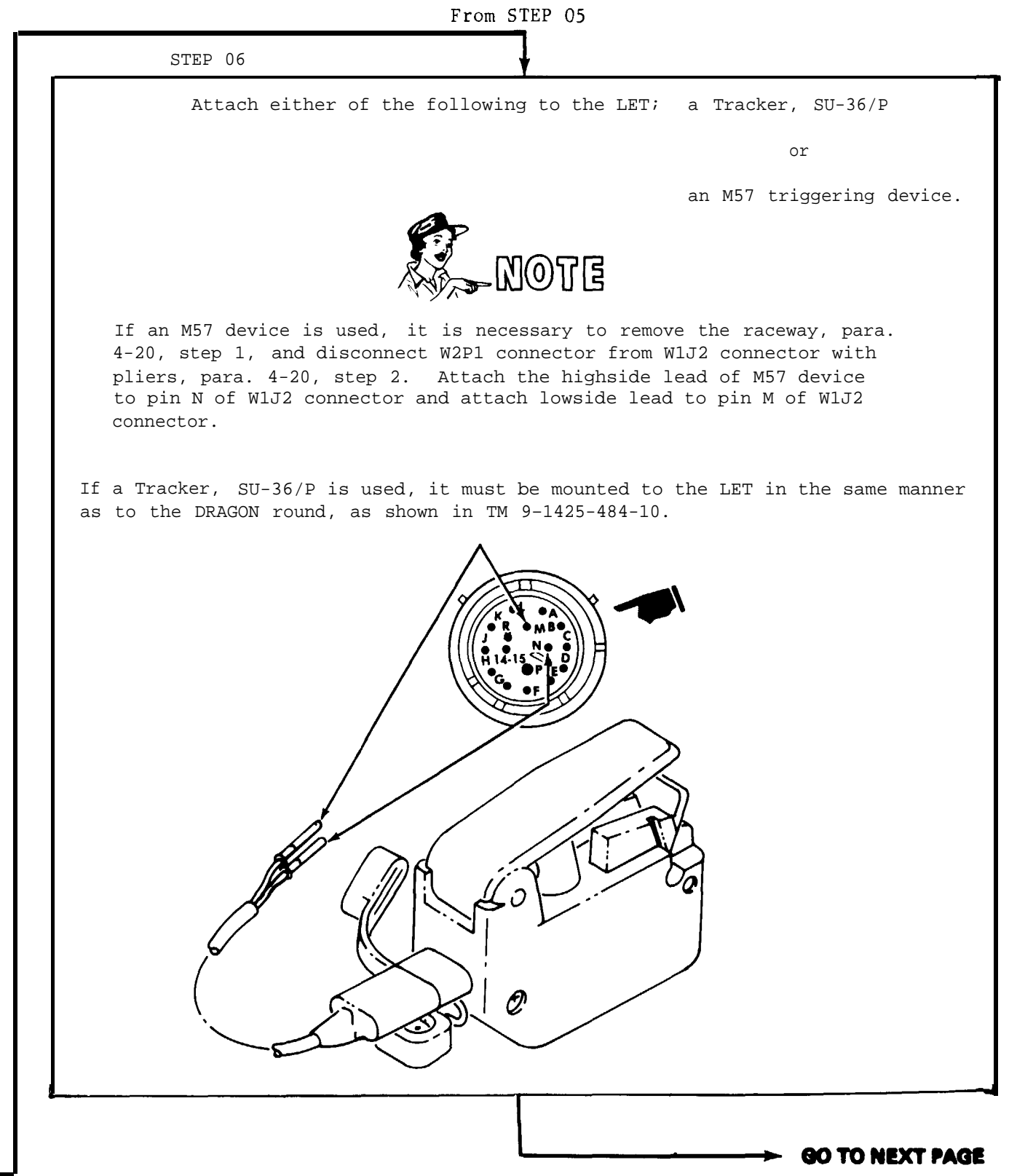
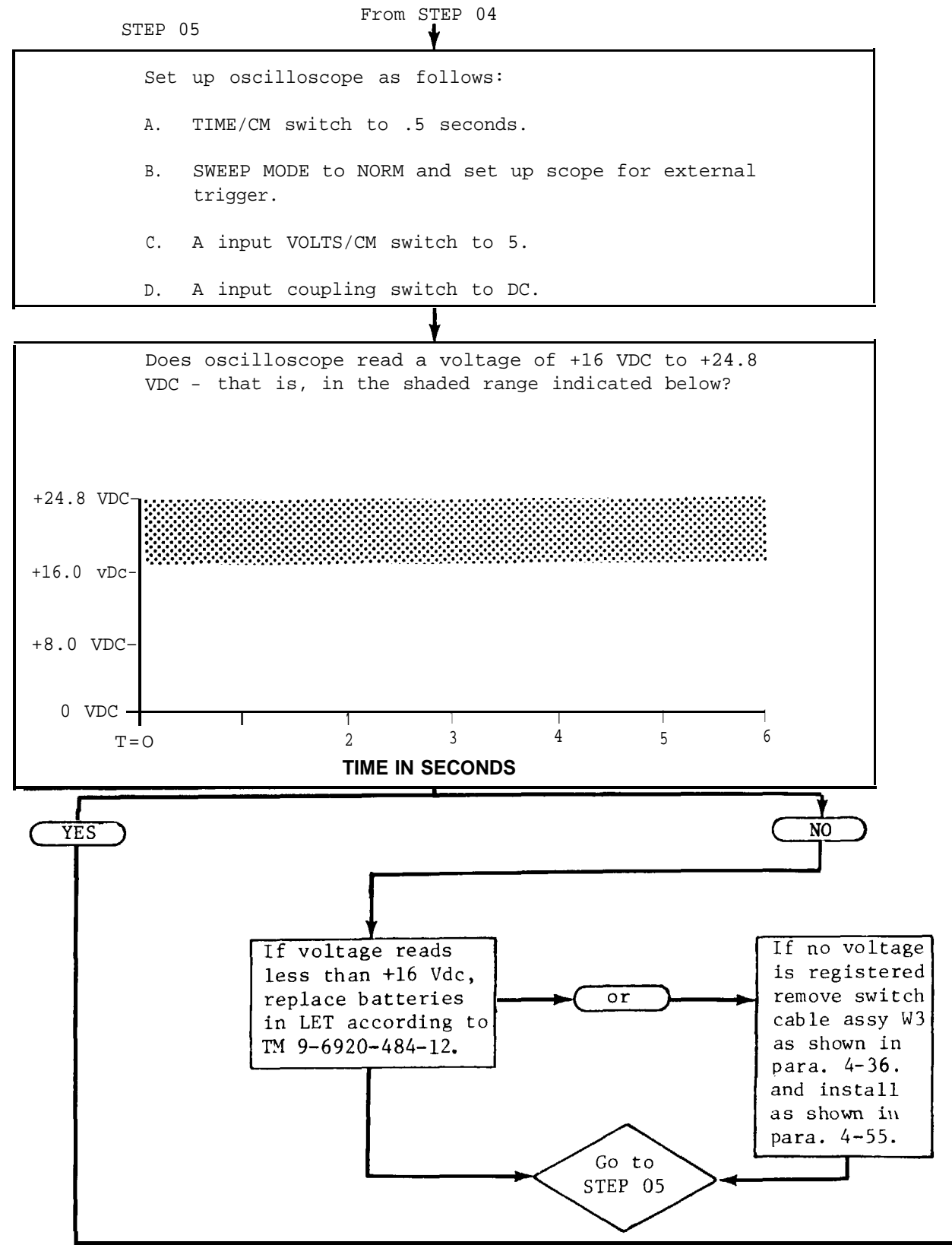


Before troubleshooting the LET, perform maintenance inspection, see para. 4-9.



GO TO NEXT PAGE

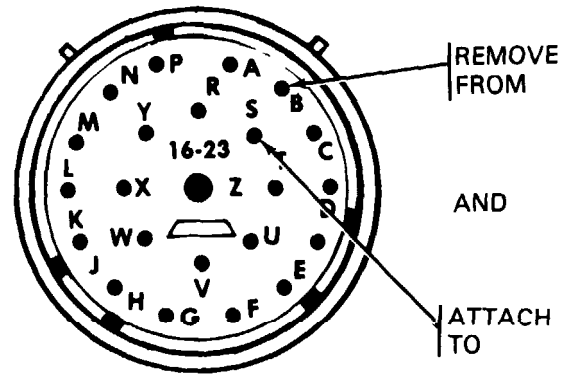
4-10. TROUBLESHOOTING LET ELECTRICAL SYSTEM AND COMPONENTS - CONTINUED



4-10. TROUBLESHOOTING LET ELECTRICAL SYSTEM AND COMPONENTS - CONTINUED

STEP 07

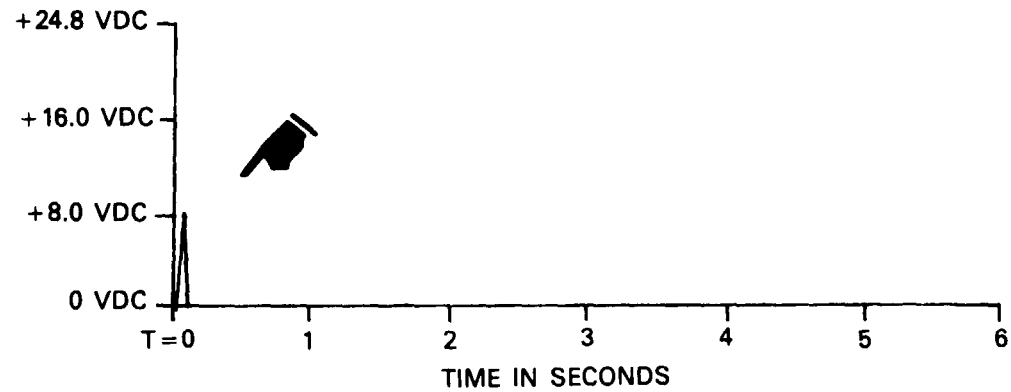
Disconnect positive lead of scope from pin B of WIJ1 and attach the positive lead to pin S of WIJ1.



STEP 08

Depress Tracker trigger OR activate M57 device.

Does scope indicate a spike and then return to zero voltage?



From STEP 06

YES

NO

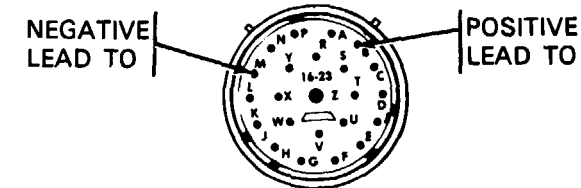
Check output of M57 device or tracker trigger. If ok -- continue. If faulty--replace, and go back to step 06.

Remove scope leads from LET

Using MULTIMETER, perform continuity check between pin S of W1J1 and pin-N of W1J2; between pin M of W1J1 and pin M of W1J2. Repair wires (if accessible) as necessary if continuity does not check out. If either connector, W1J1 or W1J2, is damaged, remove wiring harness as described in para. 4-41 and replace as shown in para. 4-51. Remove MULTIMETER LEADS,

Go to STEP 06

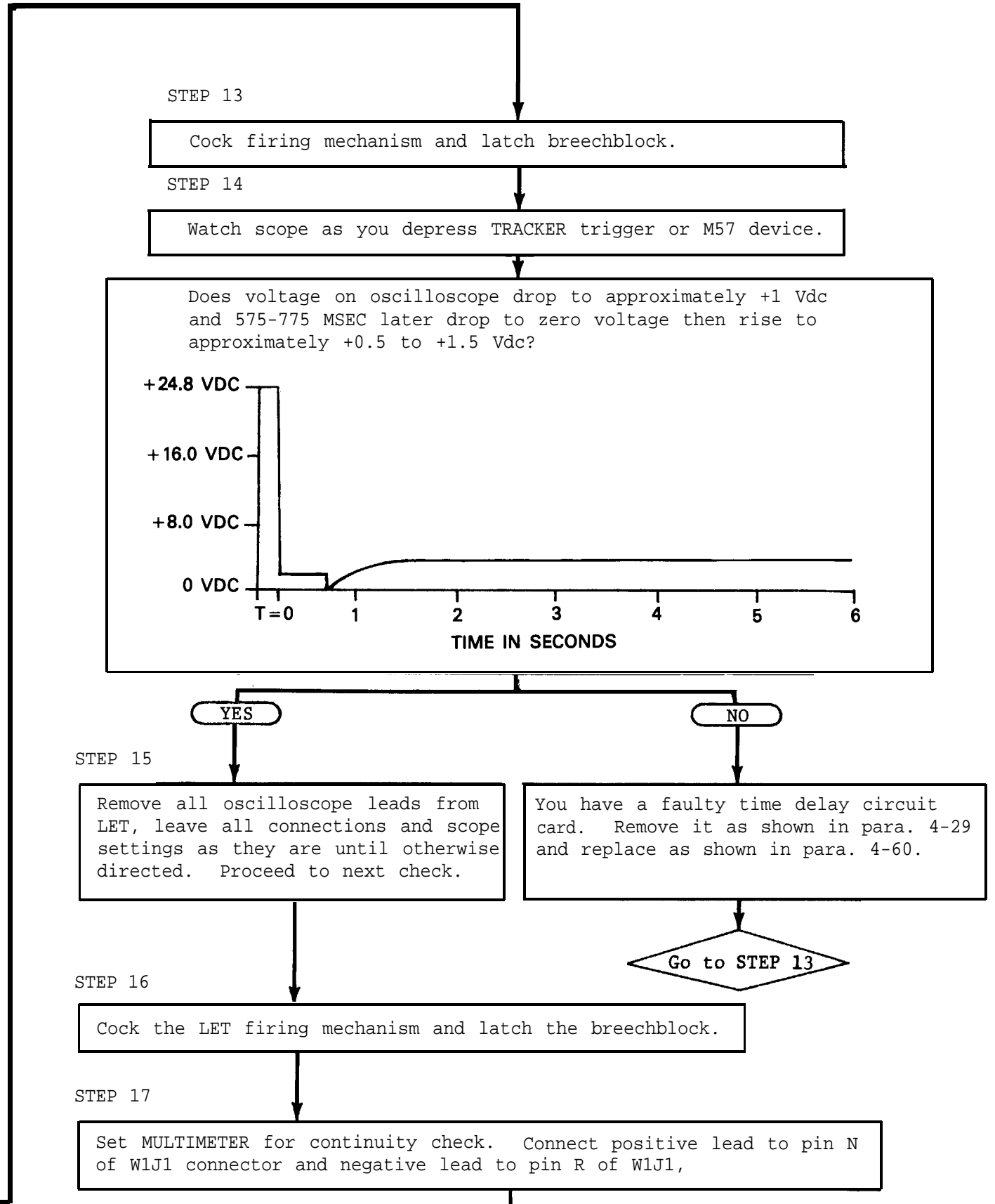
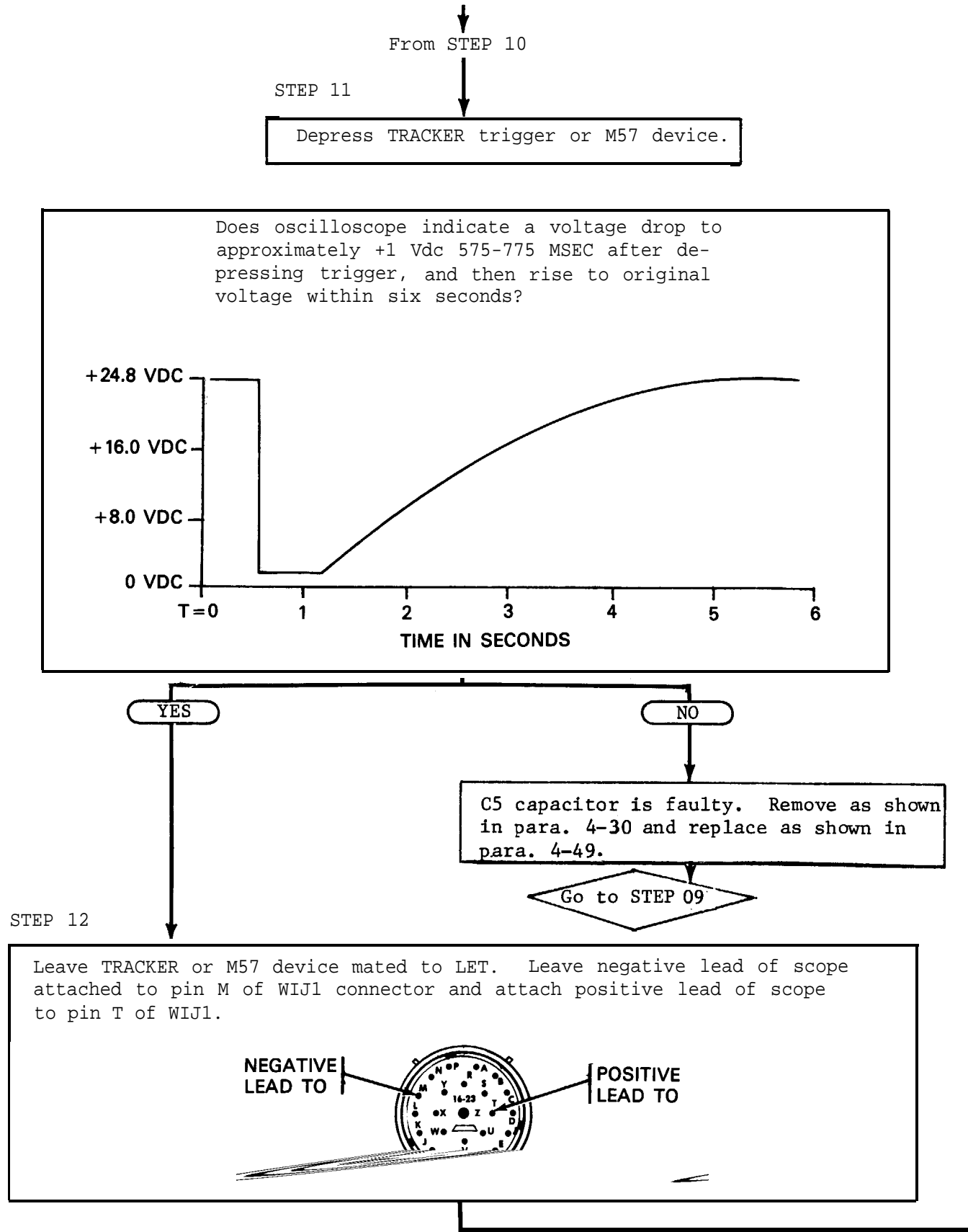
Connect positive lead of oscilloscope to pin B of W1J1 and negative lead to pin M of W1J1 connector, if not already done.



STEP 10

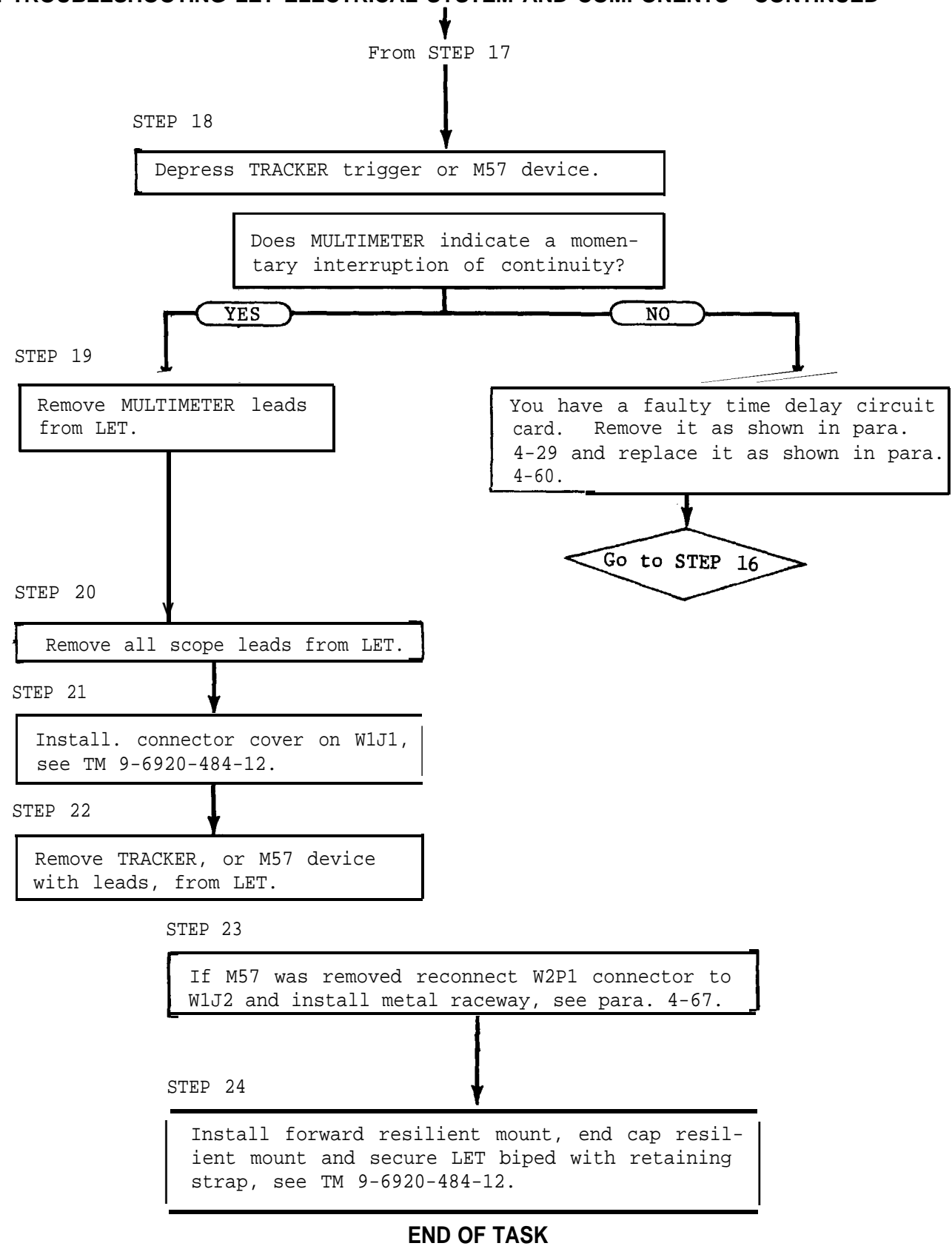
Position the scope so you can see it as you cock the LET firing mechanism without latching the breechblock.

4-10. TROUBLESHOOTING LET ELECTRICAL SYSTEM AND COMPONENTS - CONTINUED



GO TO NEXT PAGE

4-10. TROUBLESHOOTING LET ELECTRICAL SYSTEM AND COMPONENTS - CONTINUED



Section V. MAINTENANCE PROCEDURES

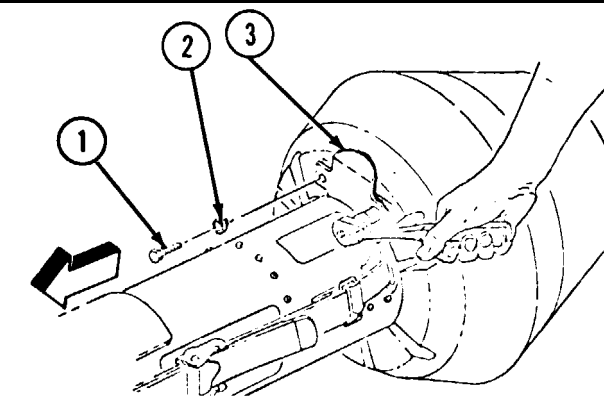
	REMOVE		REPAIR		INSTALL	
	Para	Page	Para	Page	Para	Page
Rear Shock Element Support	4-11	4-7			4-73	4-98
Bipod	4-12	4-8			4-72	4-97
Biped Support Bracket	4-12.1	4-8.1			4-71.1	4-97
Biped Yoke	4-13	4-9	4-14	4-10.1	4-71	4-95
Biped Legs			4-15	4-12		
Biped Foot	4-15.1	4-14.1			4-69.1	4-94.1
Latchbolt	4-16	4-15			4-70	4-95
Receiver	4-17	4-16	4-18	4-17	4-69	4-94
Electrical Connector Cover	4-19	4-19			4-68	4-93
Special Purpose Cable Assembly W2	4-20	4-19			4-67	4-92
LET Subassembly	4-21	4-21			4-66	4-90
Forward Access Covers	4-22	4-22	4-23	4-23	4-65	4-90
Tracker Support	4-24	4-24	4-25	4-24	4-64	4-89
Support End Fitting	4-26	4-25			4-61	4-87
Dummy Projectile	4-27	4-26			4-63	4-88
J1 Connector Cover	4-28	4-26			4-62	4-88
Time Delay Circuit Card Assembly	4-29	4-27			4-60	4-86
C5 Capacitor	4-30	4-29			4-49	4-63
Safety Lever	4-31	4-30			4-58	4-82
Straight Pin	4-32	4-31			4-57	4-82
Firing Mechanism	4-33	4-31	4-34	4-33	4-59	4-83
Solenoid Cable Assembly	4-35	4-43			4-56	4-80
Switch Cable Assembly	4-36	4-45			4-55	4-77
Firing Mechanism Housing	4-37	4-46			4-54	4-75
Thumbscrews & Electrical Contacts	4-38	4-48	4-39	4-49	4-53	4-74
Angle Bracket	4-40	4-50			4-52	4-73
LET Hire Harness	4-41	4-51			4-51	4-68
Battery Retainer Shell and Wiring						
Harness	4-42	4-54			4-50	4-64
Forward Circuit Card Assembly						
Bracket	4-43	4-56			4-48	4-62
Aft Circuit Card Assembly Bracket	4-44	4-57			4-47	4-61
Dummy Projectile Retaining Clip	4-45	4-58			4-46	4-59
Firing Mechanism Headspace			4-47	4-100		
Adhesive Coated Aluminum Plates and Decals			4-75	4-102		
Final Inspection			4-76	4-103		

4-11. REMOVE REARSHOCK, ELEMENT SUPPORT

Tools required: 3/8 inch socket
Ratchet wrench
No. 2 crosspoint screwdriver

STEP 1

Using ratchet and socket, remove two bolts (1), two washers (2), and shield (3).



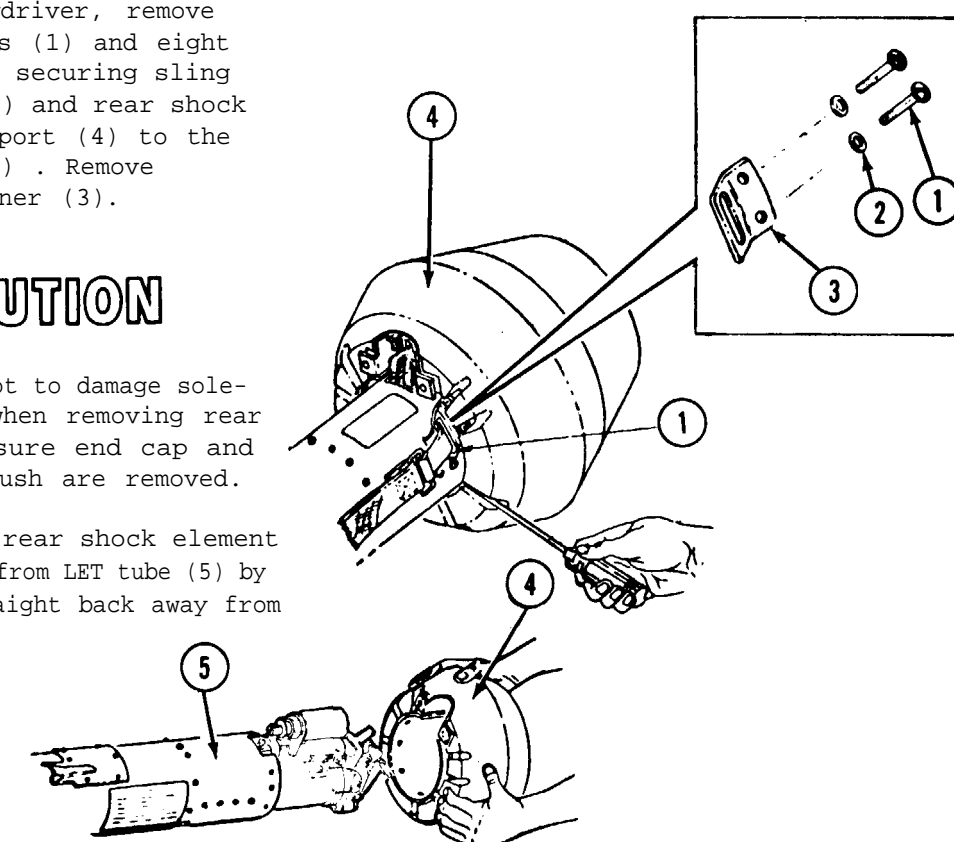
STEP 2

A. Using screwdriver, remove eight screws (1) and eight washers (2) securing sling retainer (3) and rear shock element support (4) to the LET tube (5). Remove sling retainer (3).



Be careful not to damage solenoid cable when removing rear shock. Be sure end cap and cartridge brush are removed.

B. Remove the rear shock element support (4) from LET tube (5) by pulling straight back away from tube.



END OF TASK

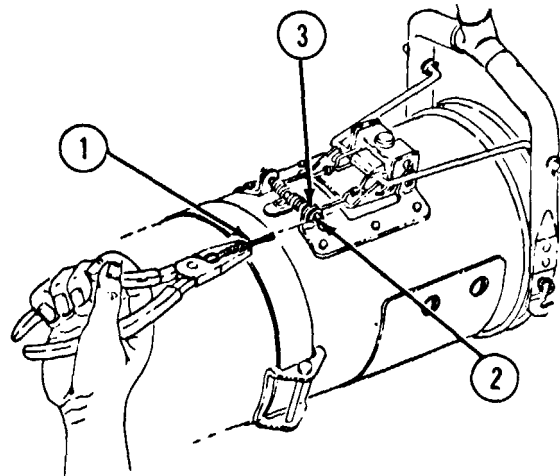
4-12. REMOVE BIPOD

Tools required: No. 2 crosspoint screwdriver
 Longnose pliers
 10 inch flat-blade screwdriver

Equipment condition: Bipod extended, see TM 9-6920-484-12.

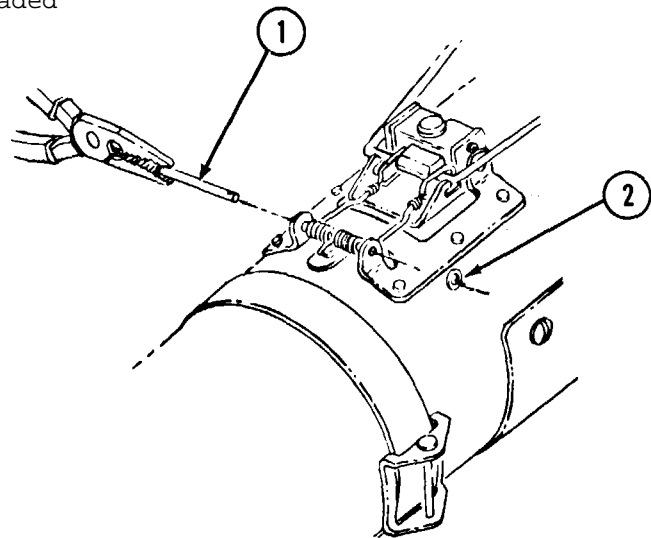
STEP 1

Using longnose pliers, remove cotter pin (1) holding straight head pin (2) which spring (3) is mounted on.



STEP 2

Tap end of straight head pin (1) to expose head. Using longnose pliers, pull out straight headed pin (1) being careful not to lose the washer (2).

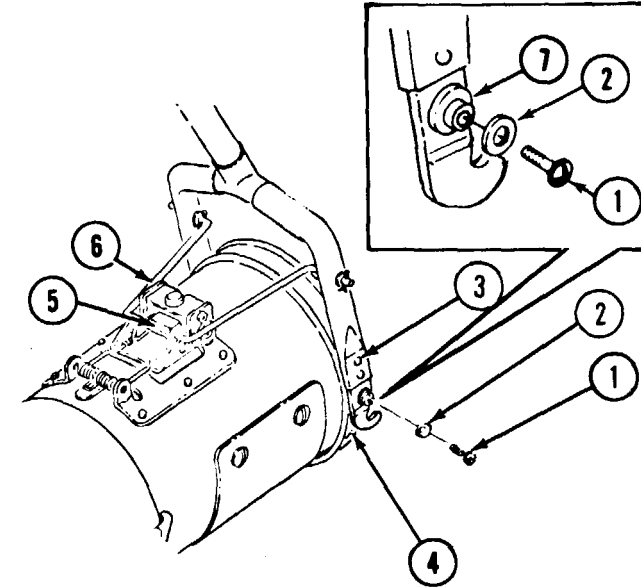


STEP 3



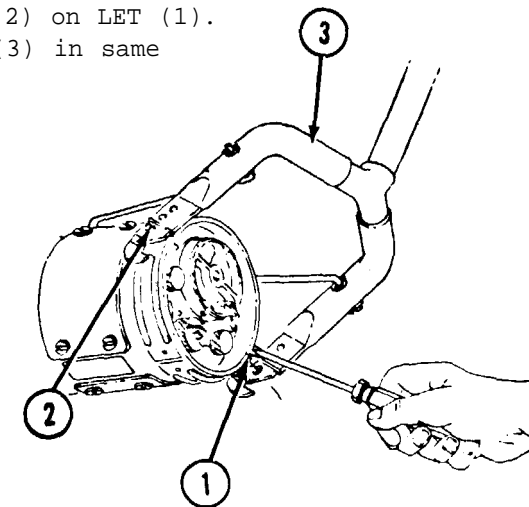
It may be necessary to hold the flange (7) with pliers while removing screw (1).

Using No. 2 crosspoint screwdriver, remove screw (1) and washer (2) holding each side of bipod (3) to LET (4). Lift bipod brace (6) clear of latch-bolt (5).



STEP 4

Very carefully insert long flat-blade screwdriver between front of LET (1) and bipod attaching pin (2). Spread yoke (3) far enough apart to remove one side of yoke (3) from pin (2) on LET (1). Remove other side of yoke (3) in same manner.



END OF TASK

4-12.1 REMOVE LET BIPOD SUPPORT BRACKET

Tools required: Center punch Flat-blade screwdriver
 Drill 7-inch no. 2 cross-tip screwdriver
 Long nose pliers 7/64 inch drill bit
 Ball peen hammer Chisel

Materials required: rivets (Item 1, Appendix D)

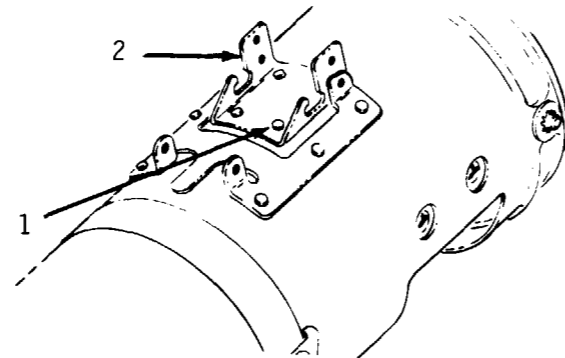
Personnel required: two

Equipment condition: Forward shock absorber removed
 Bipod removed. See para. 4-12.
 Latchbolt removed. See para 4-16.
 Rear shock element support removed. See para. 4-11.



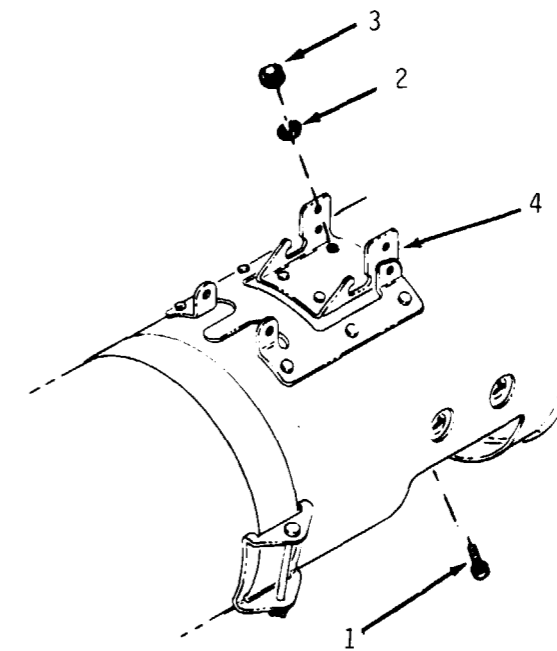
NOTE
 Bipod support bracket is attached to tube with either rivets or screws. To remove rivets, do Step 1; to remove screws, do Step 2.

STEP 1



- Using center punch and ball peen hammer, tap a starter hole in four rivet heads (1).
- Using drill and 7/16-inch drill bit, drill a hole through the four rivets.
- Using chisel and hammer, remove base of four rivets inside tube, and remove rivets.
- Using flat-blade screwdriver, carefully pry support bracket (2) from

STEP 2



- Using cross-tip screwdriver and longnose pliers, remove four screws (1), four lockwashers (2), and four nuts (3) from support bracket (4).
- Using flat-tip screwdriver, carefully pry support bracket (4) from tube.

END OF TASK

4-13. REMOVE BIPOD YOKE

Tools required: Pliers
 3/32 inch drift pin
 Ball peen hammer
 Flat-blade screwdriver
 Personnel required: Two

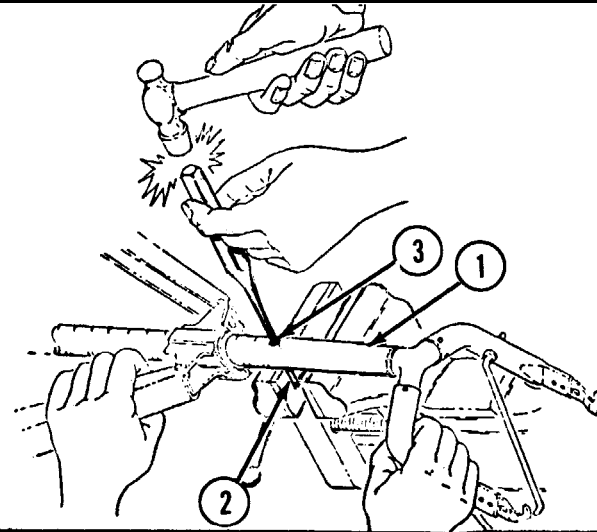
Ratchet wrench
 3/8 inch socket
 3/8 inch box end wrench
 Craftsman knife

Equipment condition: Bipod removed, see para. 4-12.

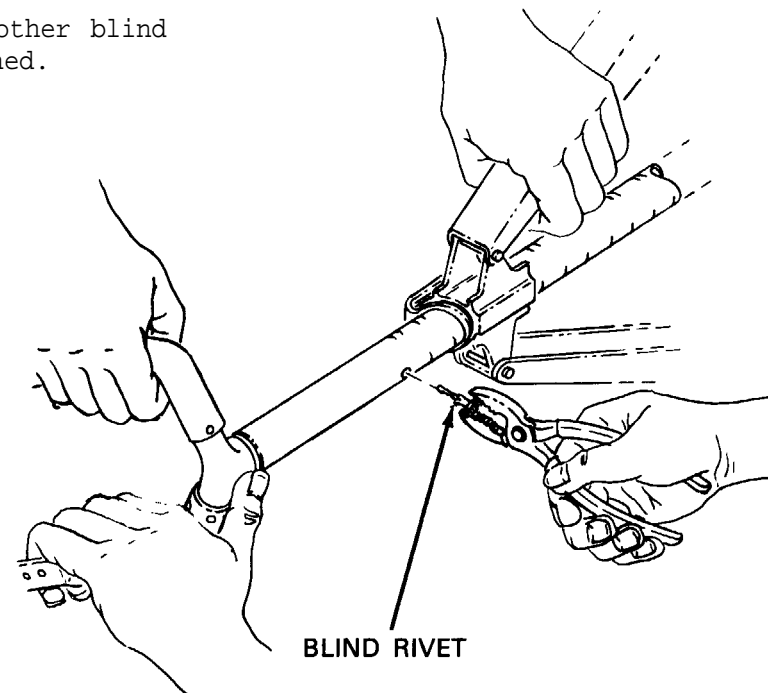
STEP 1

For LET Serial No's. 504697 and up,
 go to Step 4.

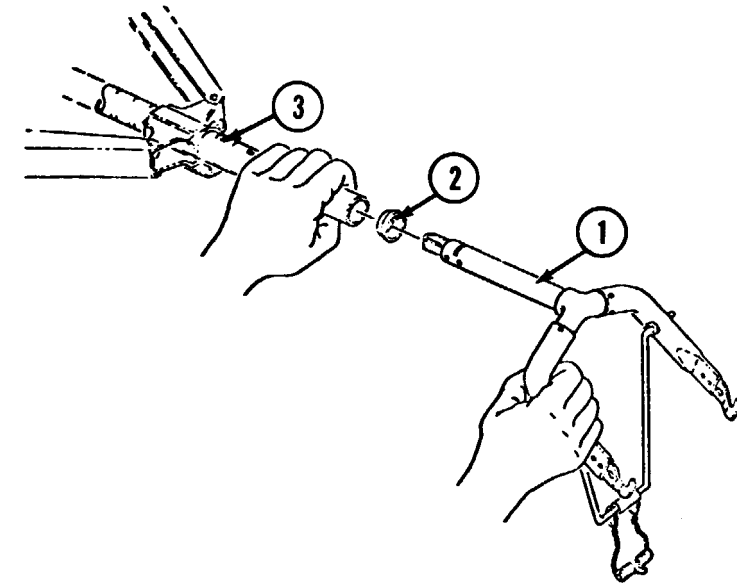
Firmly support biped assembly (1).
 Using hammer and drift pin, drive
 roll pin (2) out of one end of the
 blind rivet (3) and remove blind
 rivet.

**STEP 2**

Using pliers, remove the other blind
 rivet with roll pin attached.

**STEP 3**

Remove biped yoke (1) and bushing (2) from biped tube assembly (3).



4-13 REMOVE BIPOD YOKE

STEP 4

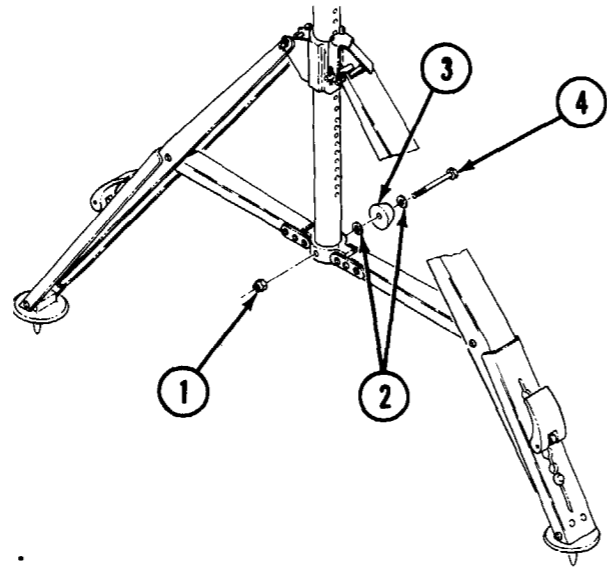
For LET serial no's. 504696 and below, go to Step 1.



NOTE

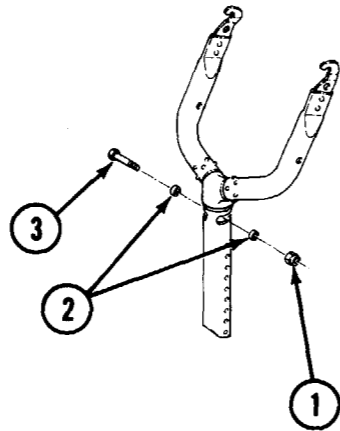
Some bipod bumpers may be filled with potting compound. Potting compound is no longer required.

- A. Using craftsman's knife, remove potting in center of rubber bumper (3) which covers head of screw (4).
- B. Using ratchet wrench, socket and screwdriver, remove nut (1), two washers (2), bumper (3) and screw (4).



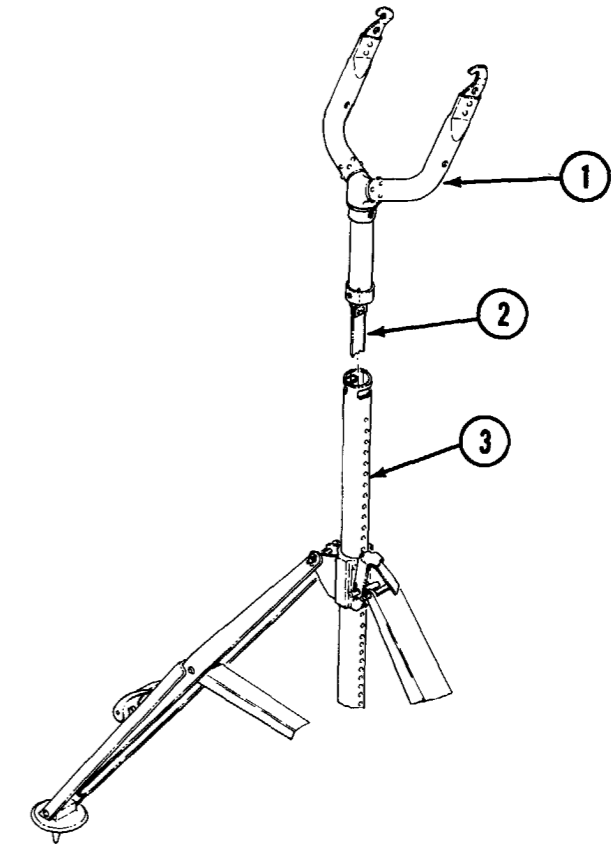
STEP 5

Using ratchet wrench, socket and box end wrench, remove nut (1), two spacers (2) and bolt (3).

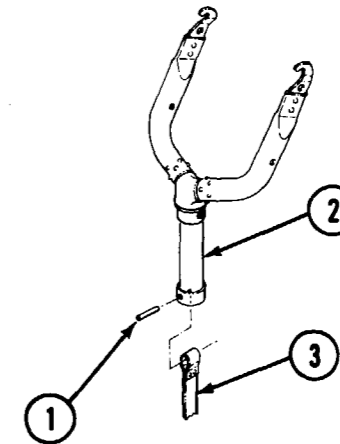


STEP 6

Slide yoke (1) and flat spring (2) out of biped tube assembly (3).



- A. Using punch and hammer, drive spring pin (1) out of bipod yoke (2) and flat spring (3).
- B. Pull flat spring (3) out of bipod yoke (2).



END OF TASK

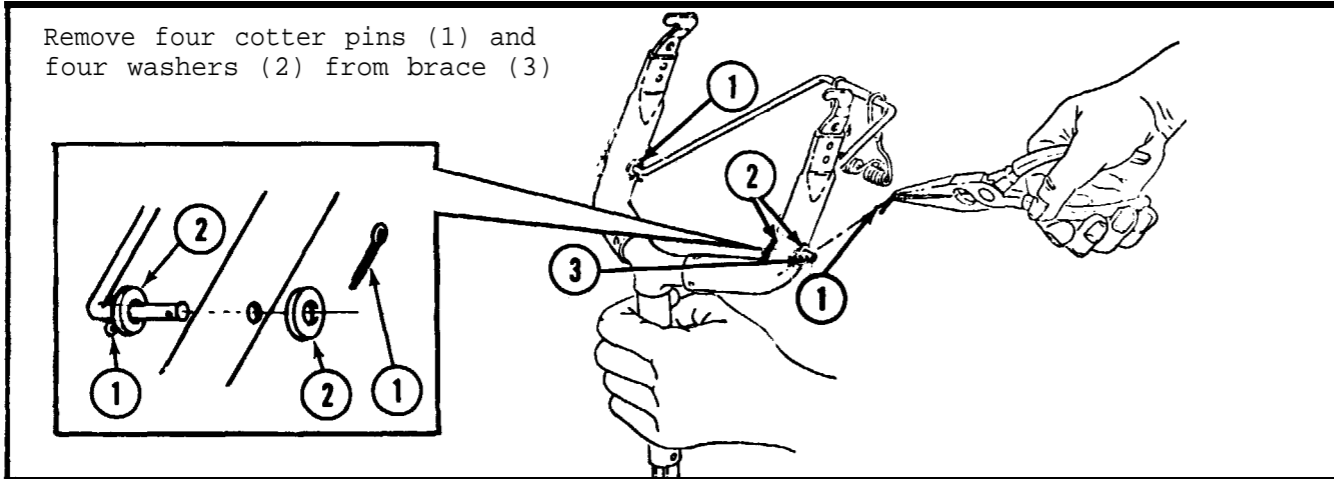
4-14. REPAIR BIPOD YOKE

Tools required: Longnose pliers

a. Disassembly

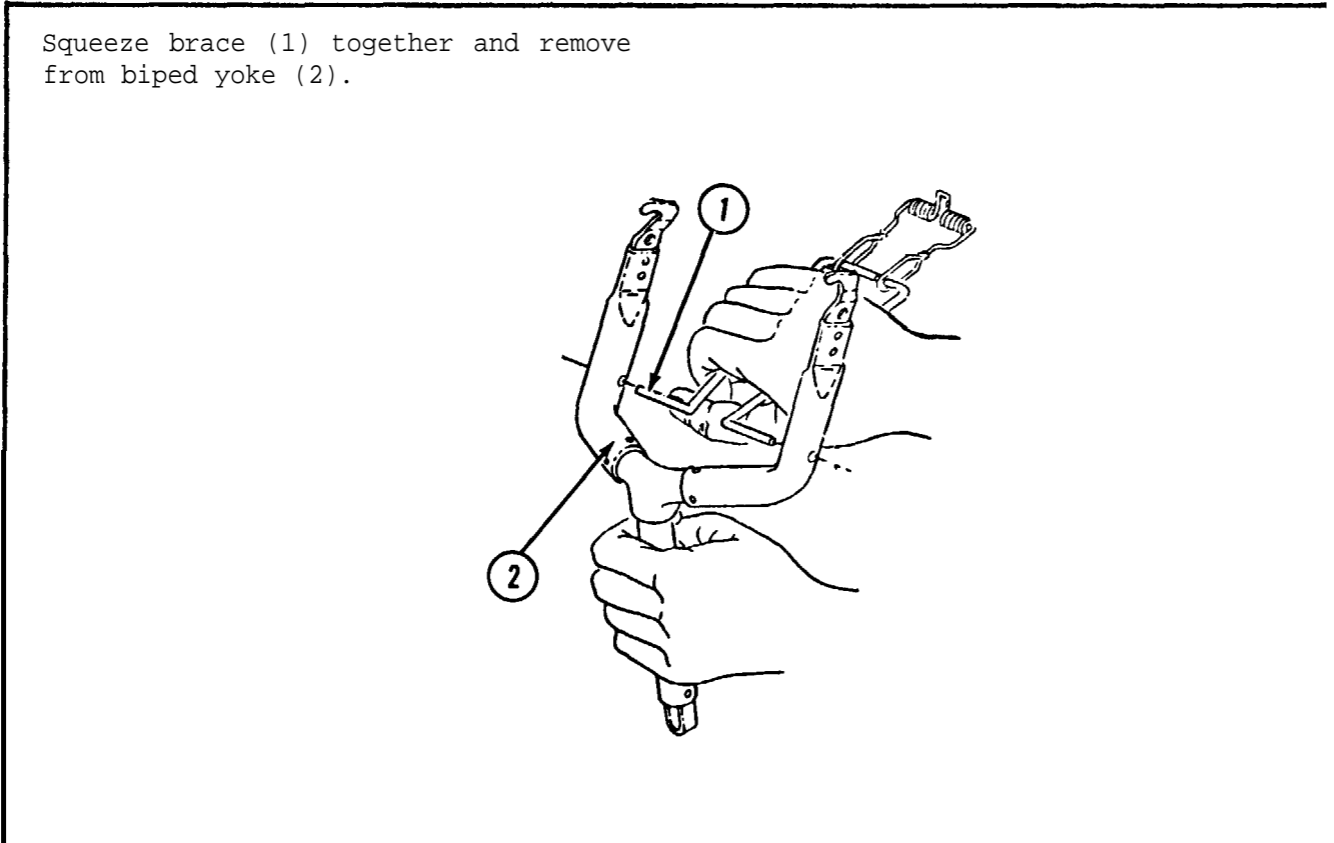
STEP 1

Remove four cotter pins (1) and four washers (2) from brace (3)



STEP 2

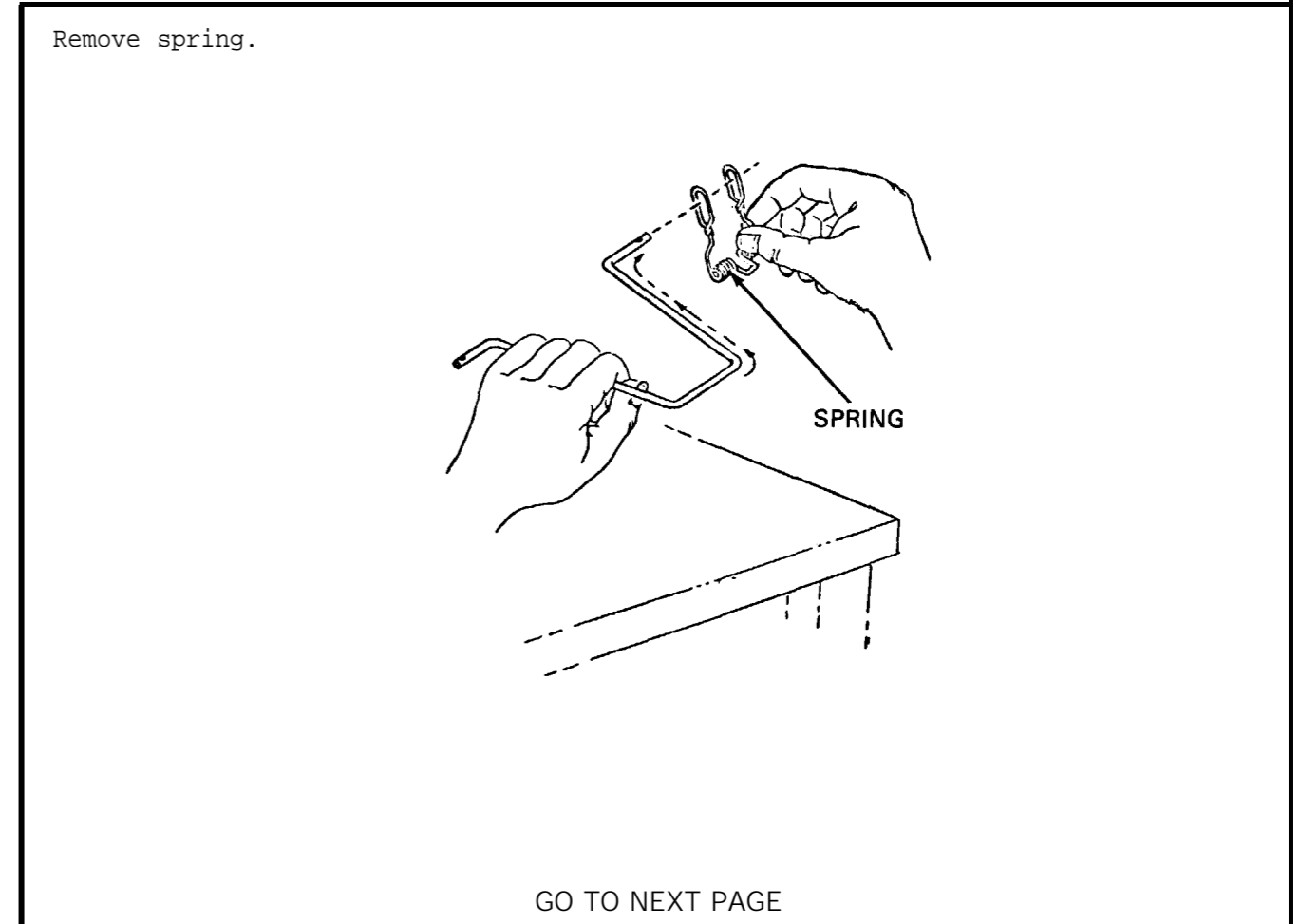
Squeeze brace (1) together and remove from bipod yoke (2).



a. Disassembly - Continued

STEP 3

Remove spring.



4-14. REPAIR BIPOD YOKE – CONTINUED

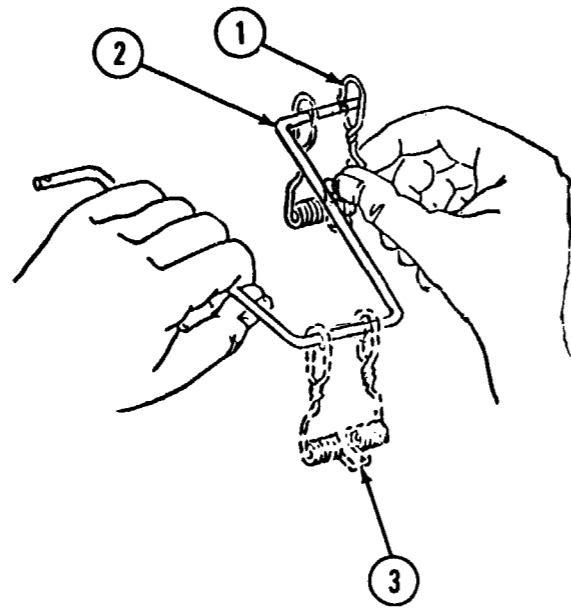
b. Assembly

STEP 1

Slide spring (1) over brace (2).



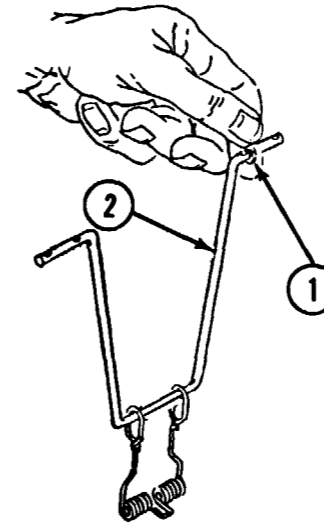
Tab (3) on spring must point up.



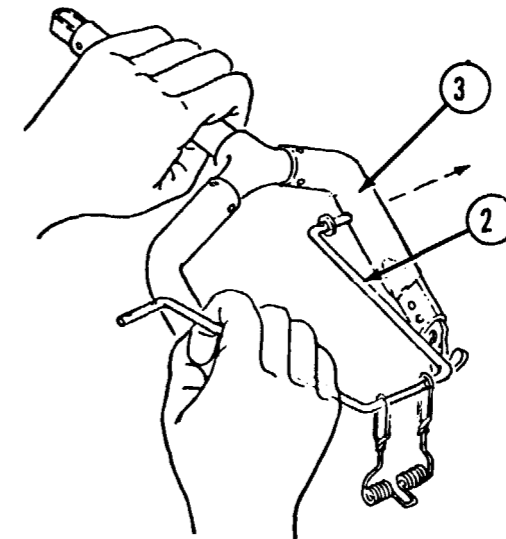
b. Assembly - Continued

STEP 2

A. Slide washer (1) over one end of brace (2).



B. Insert this side of brace (2) into one side of bipod yoke (3).



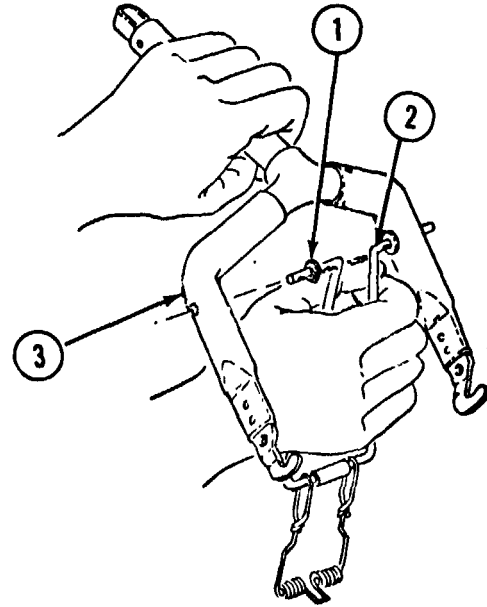
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4-14. REPAIR BIPOD YOKE – CONTINUED

b. Assembly - Continued

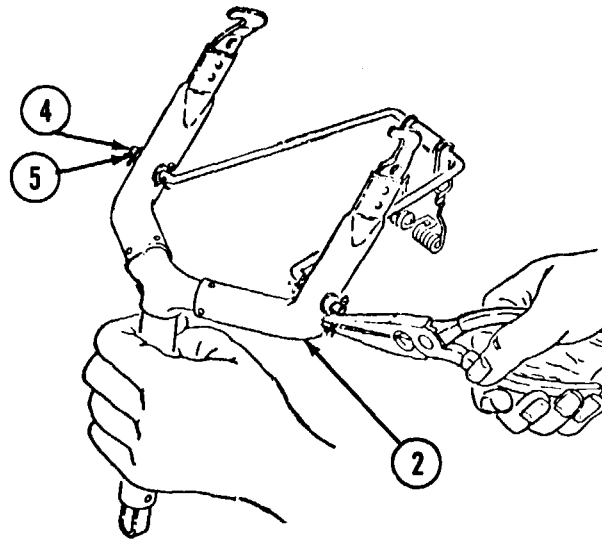
STEP 3

A. Slide a washer (1) over other side of brace (2).



B. Squeeze forward bipod brace (2) together sufficiently to insert other side of brace (2) into yoke (3).

C. Install remaining two washers (4) and four new cotter pins (5) into forward brace (2) using longnose pliers.



END OF TASK

4-15. REPAIR BIPOD LEGS

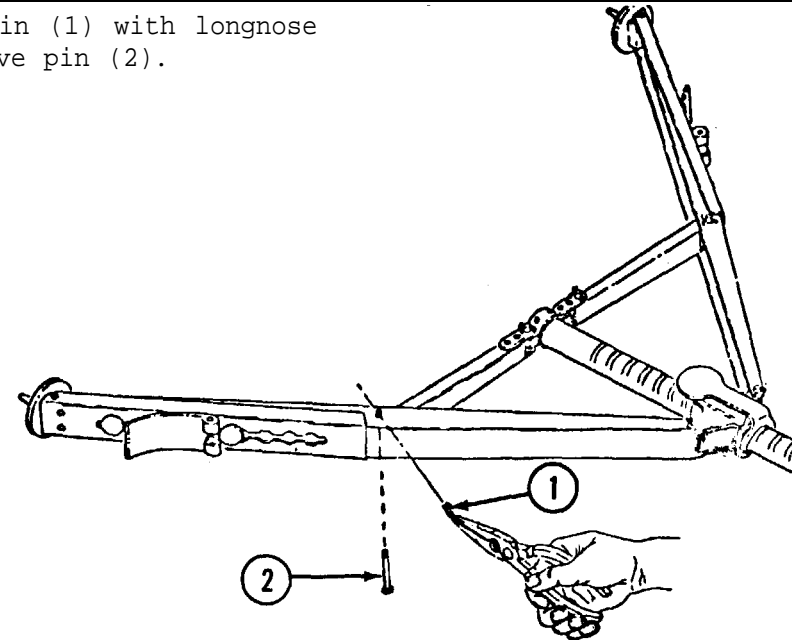
Tools required: Longnose pliers

Equipment condition: Bipod yoke removed, see para. 4-13.

a. Disassembly

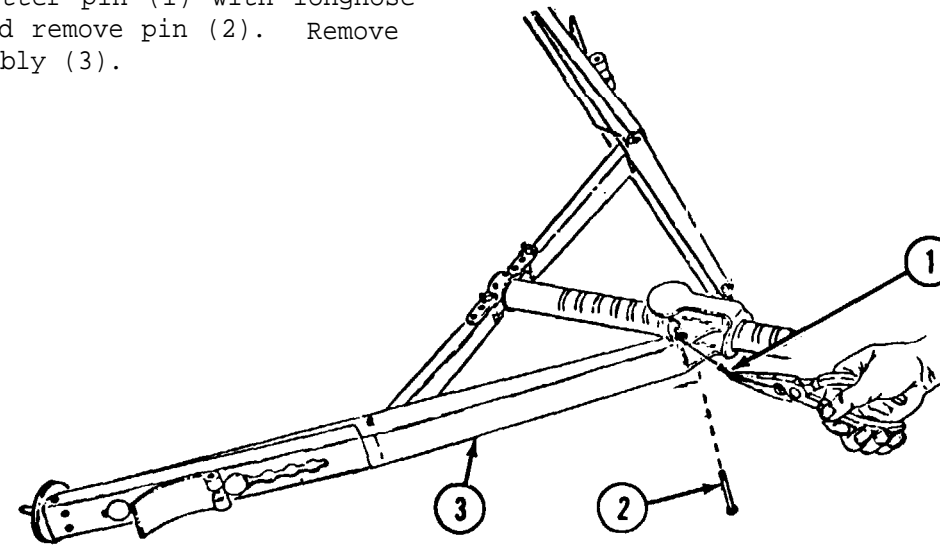
STEP 1

Remove cotter pin (1) with longnose pliers and remove pin (2).



STEP 2

Remove cotter pin (1) with longnose pliers and remove pin (2). Remove leg assembly (3).



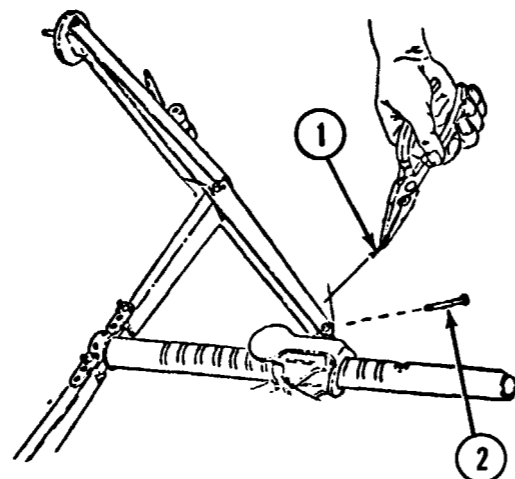
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4-15. REPAIR BIPOD LEGS – CONTINUED

a. Disassembly - Continued

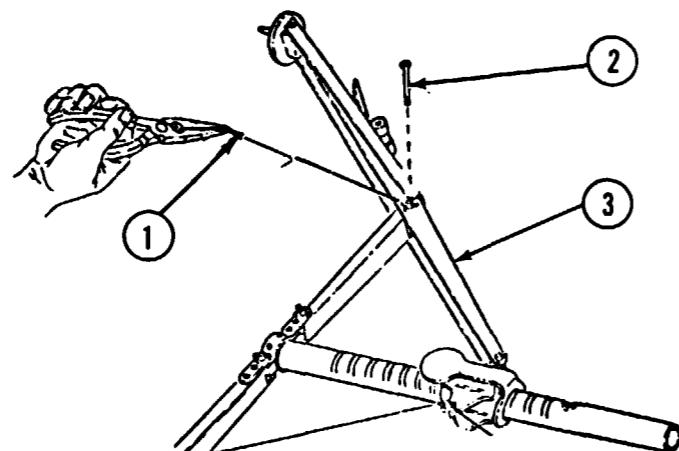
STEP 3

Remove cotter pin (1) with longnose pliers and remove pin (2).



STEP 4

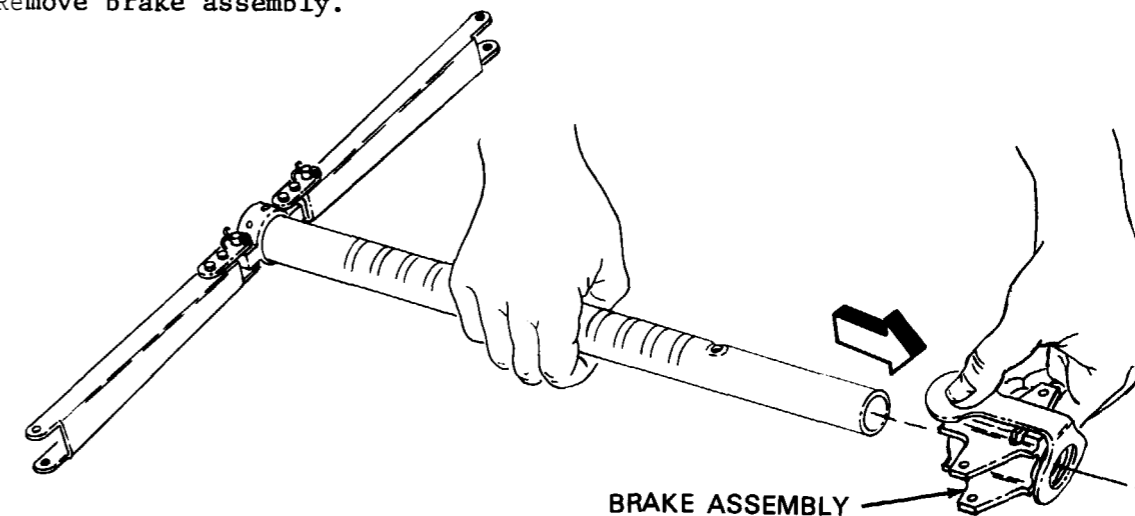
Remove cotter pin (1) with longnose pliers and remove pin (2) and remove leg assembly (3).



a. Disassembly - Continued

STEP 5

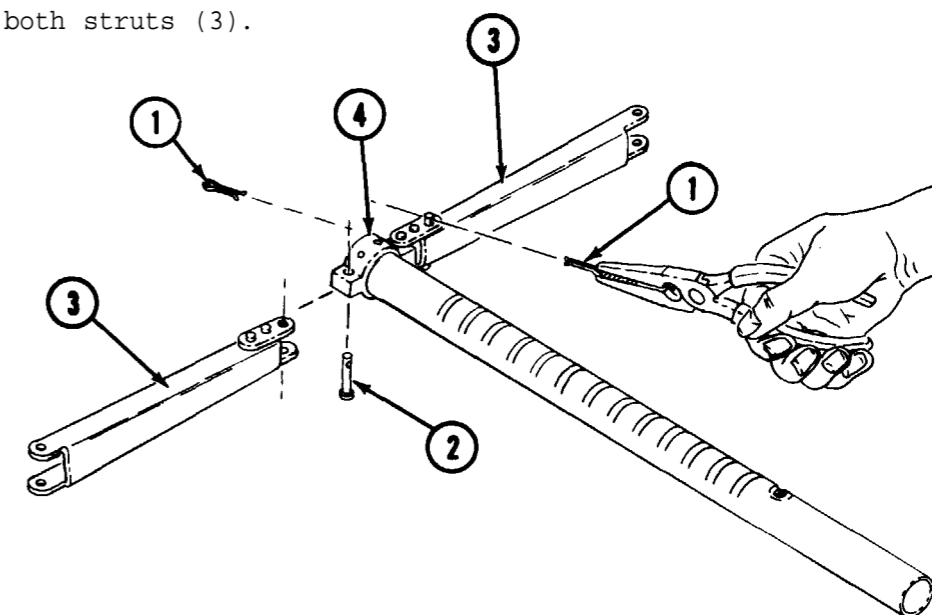
Remove brake assembly.



STEP 6

A. Remove cotter pins (1) and pins (2) securing struts (3) to support (4).

B. Remove both struts (3).



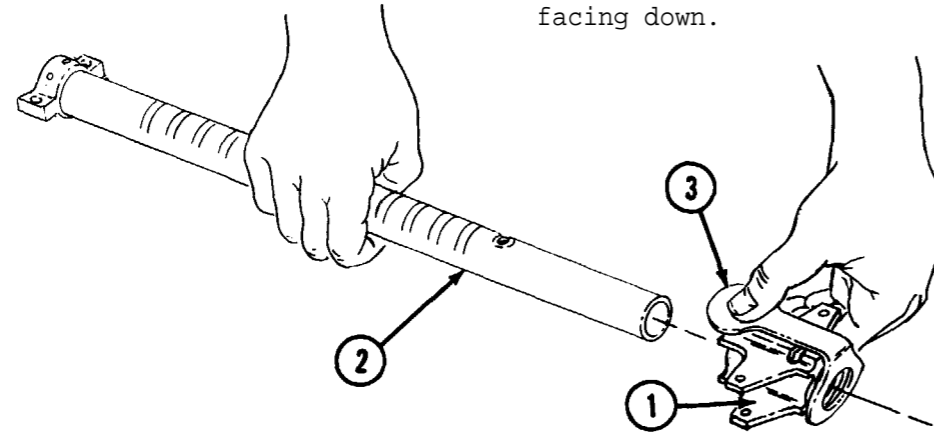
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4-15. REPAIR BIPOD LEGS – CONTINUED

b. Assembly

STEP 1

Slide bipod brake (1) on support (2).

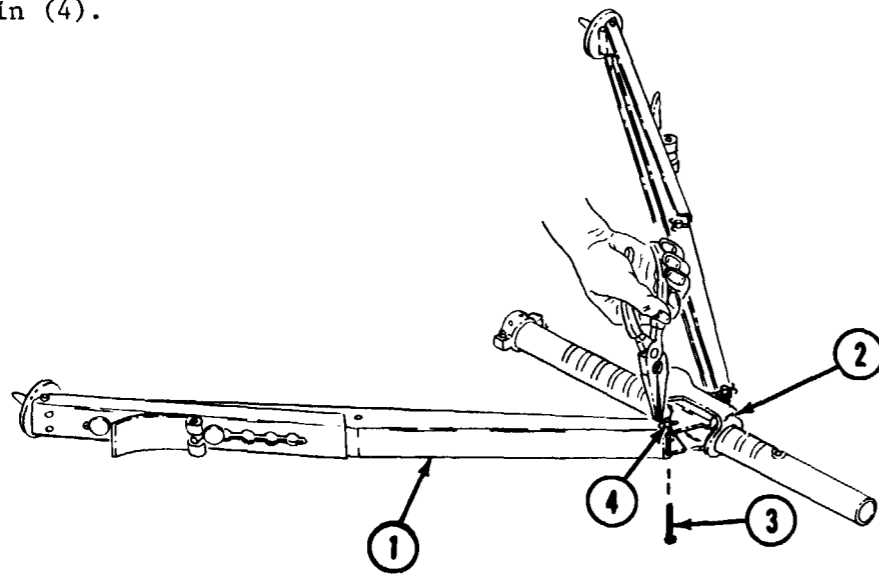


NOTE

The handle (3) on brake (1) goes on side of notched tube facing down.

STEP 2

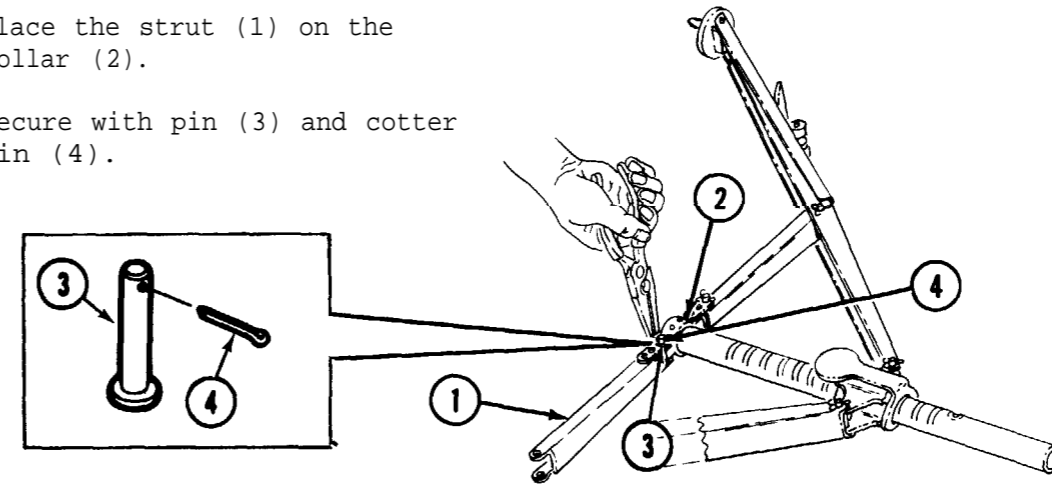
Using long nose pliers, secure each bipod leg assembly (1) to the slide support (2) with pin (3) and new cotter pin (4).



b. Assembly - Continued

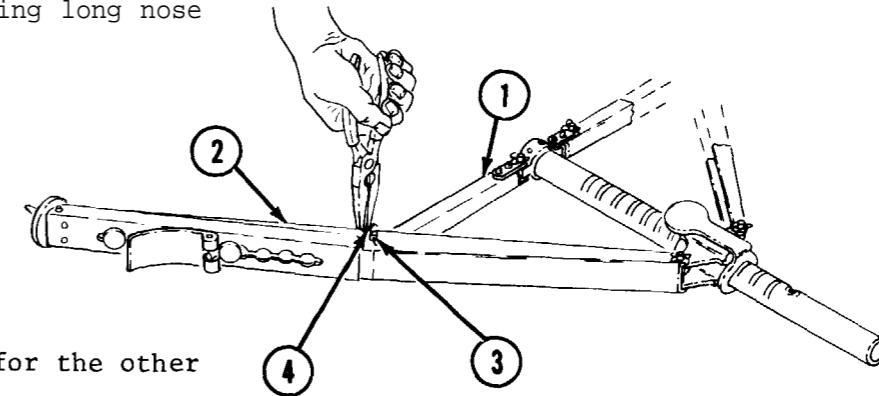
STEP 3

- A. Place the strut (1) on the collar (2).
- B. Secure with pin (3) and cotter pin (4).



STEP 4

- A. Insert strut (1) into leg (2).
- B. Secure with pin (3) and new cotter pin (4) using long nose pliers.



- C. Repeat procedure for the other leg.

END OF TASK

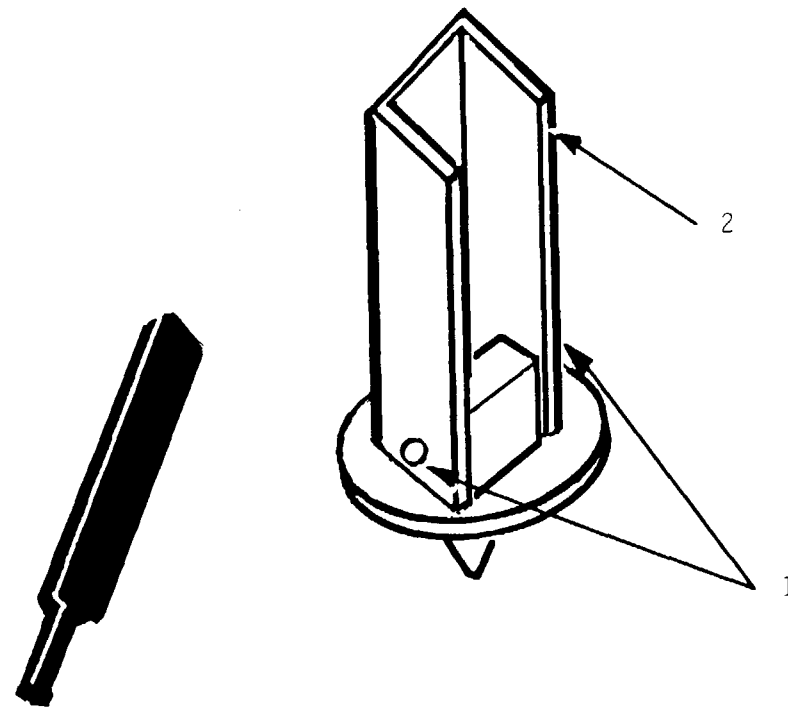
4-15.1 REMOVE BIPOD FOOT

Tools required: File
Flat-blade screwdriver

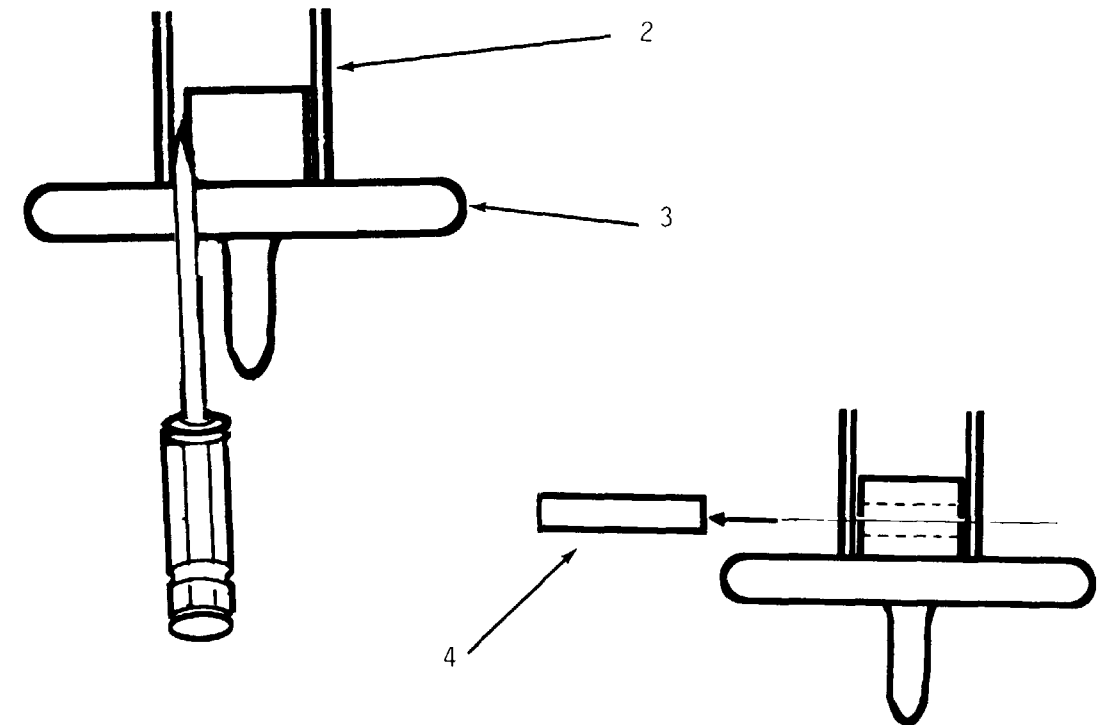
Equipment Condition: Bipod removed. See para. 4-12.

STEP 1

File off rivet heads (1) on both sides of bipod leg (2).

**STEP 2**

Using flat-blade screwdriver, pry bipod foot (3) from leg (2), and remove rivet (4).

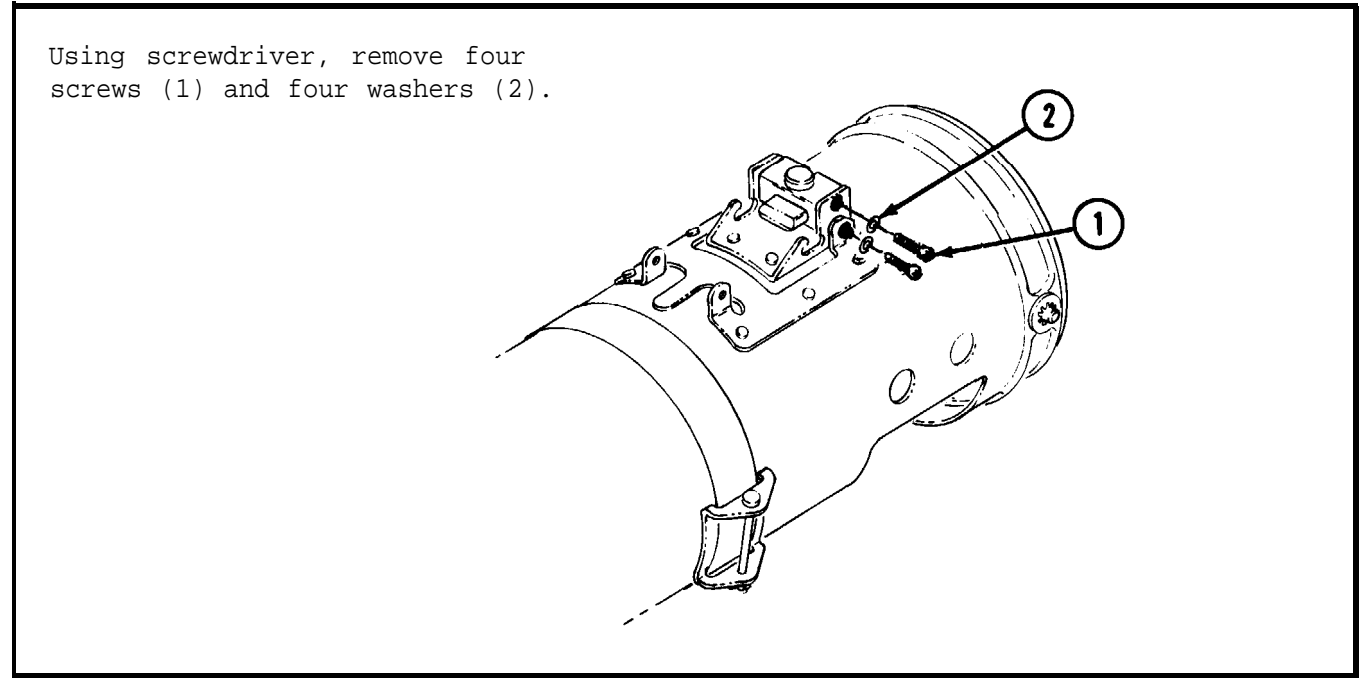


END OF TASK

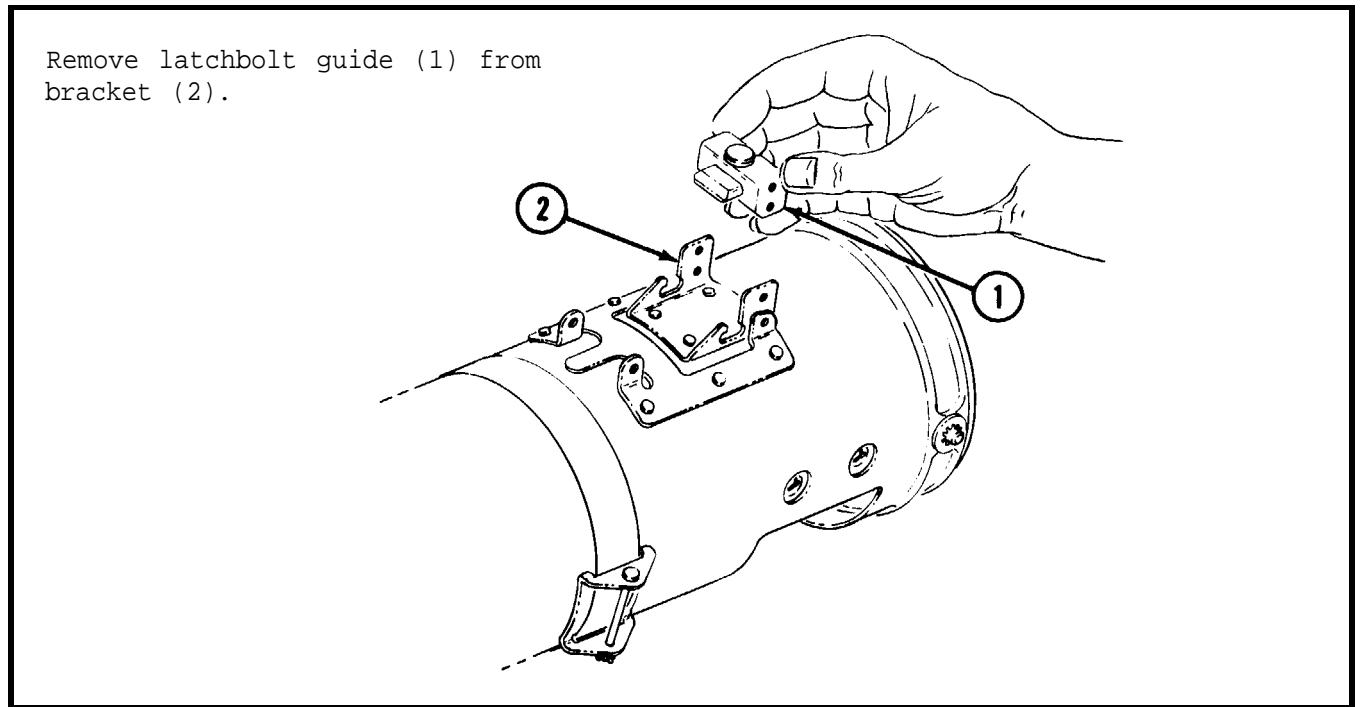
4-16. REMOVE LATCHBOLT

Tools required: No. 1 crosspoint screwdriver
 Pliers
 Equipment condition: Bipod removed, see para. 4-12.

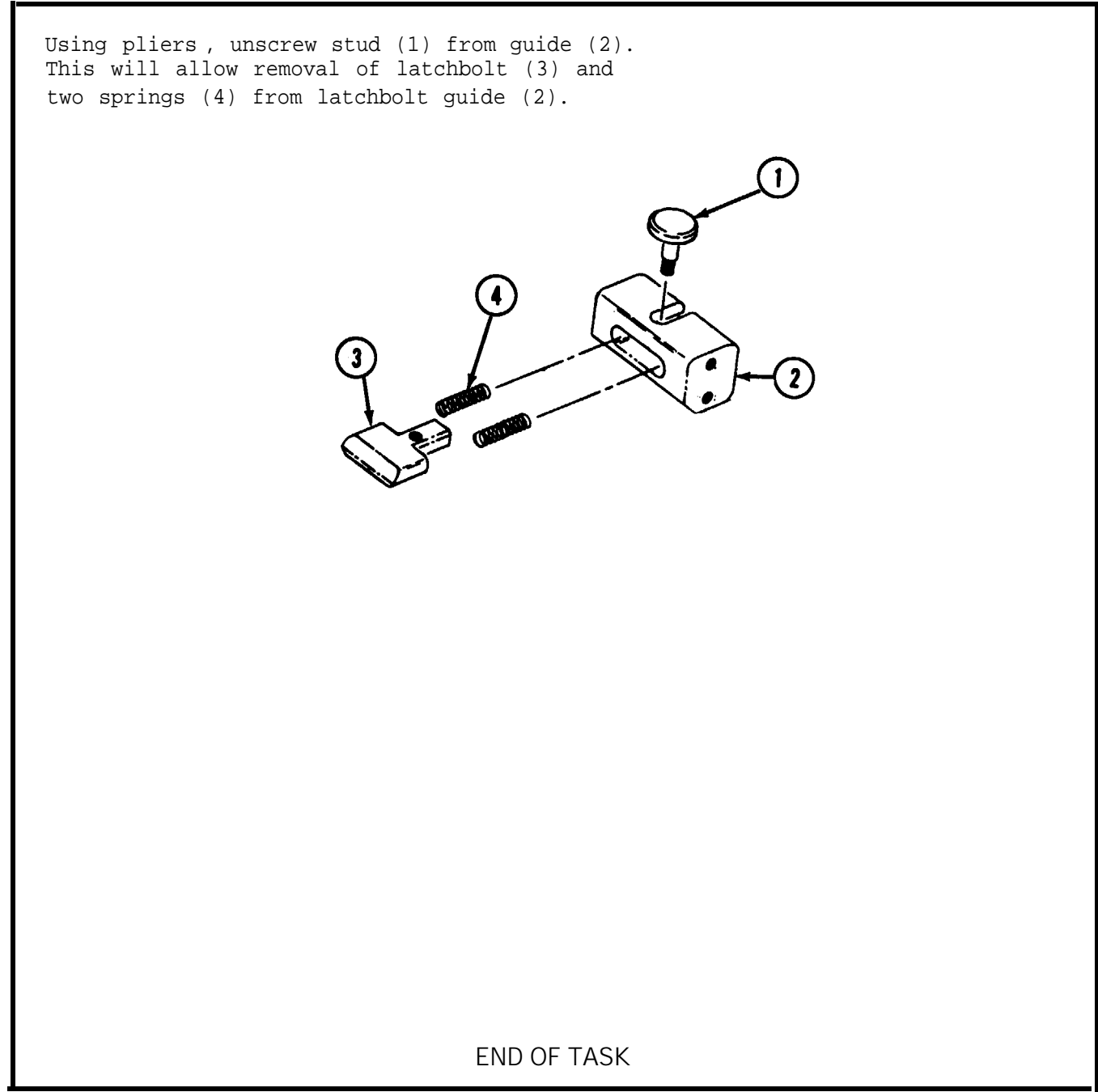
STEP 1



STEP 2



STEP 3

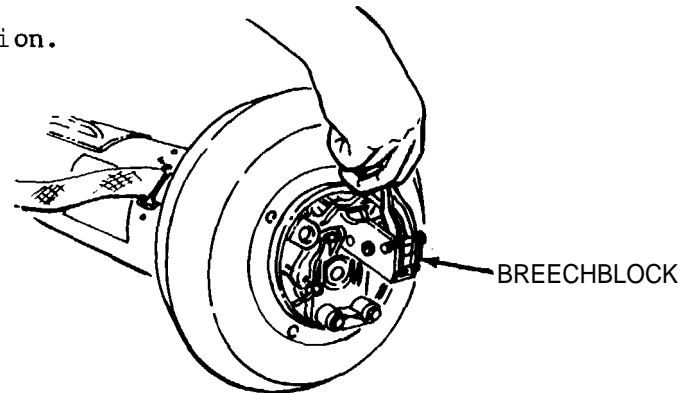


4-17. REMOVE RECEIVER

Equipment condition: End cap resilient mount removed, see TM 9-6920-484-12.

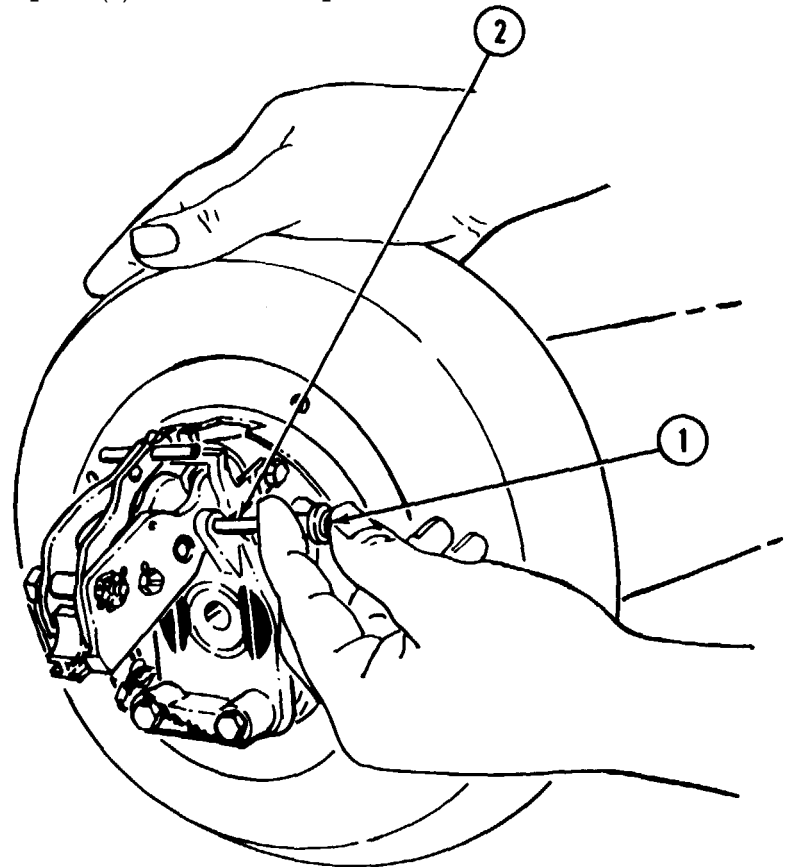
STEP 1

- A. Lift breechblock back and up.
- B. Leave breechblock in up position.



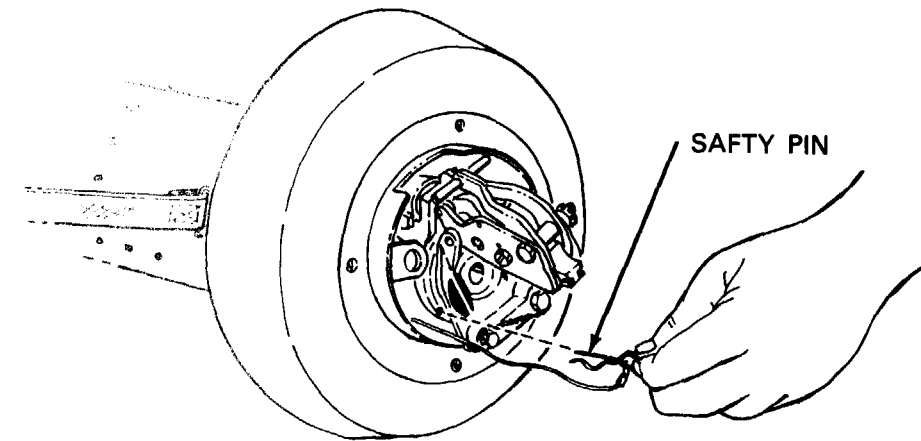
STEP 2

Depress button (1) on breechblock lanyard pin (2) and remove pin.



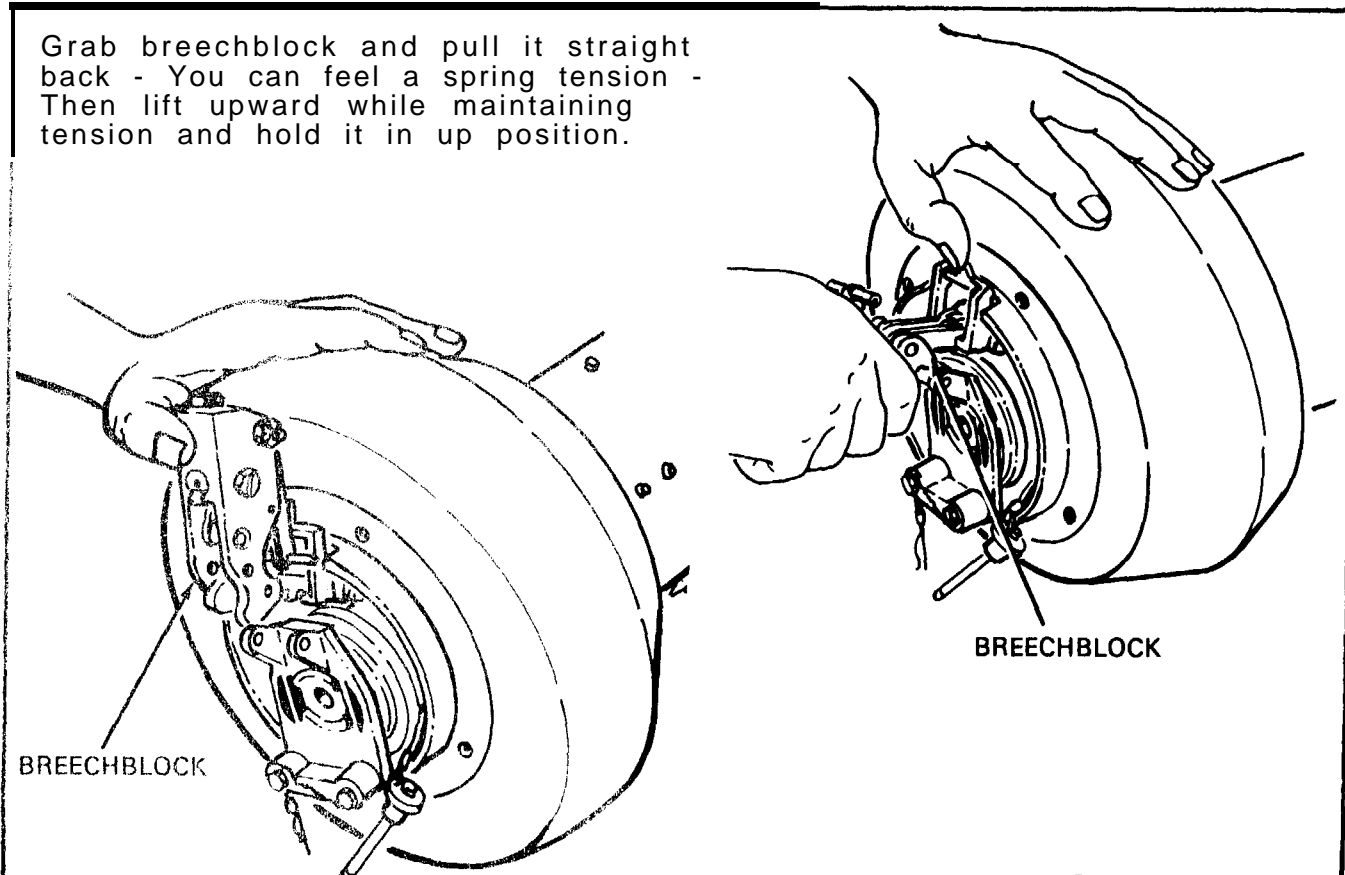
STEP 3

Remove safety pin by pulling it straight back.



STEP 4

Grab breechblock and pull it straight back - You can feel a spring tension - Then lift upward while maintaining tension and hold it in up position.

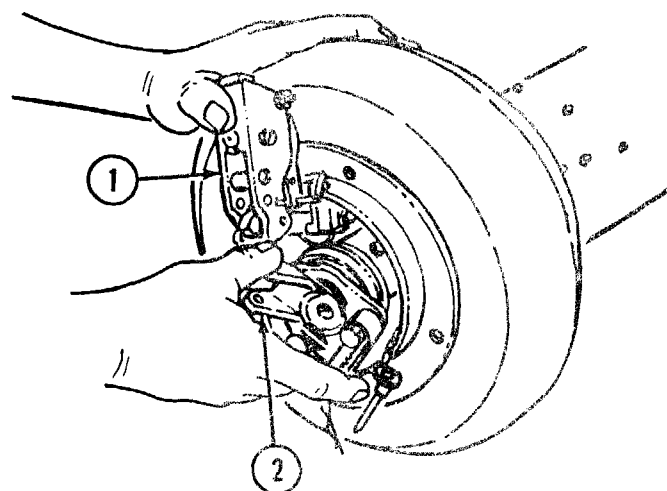


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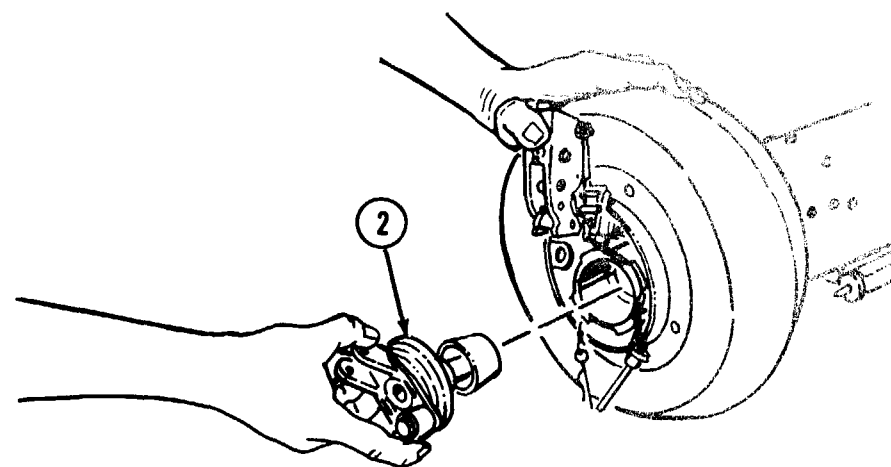
4-17. REMOVE RECEIVER - CONTINUED

STEP 5

A. While holding breechblock (1) back, rotate receiver (2) to the left to the 9 o'clock position.



B. Remove receiver (2) by pulling straight back towards you.



END OF TASK

4-18. REPAIR RECEIVER

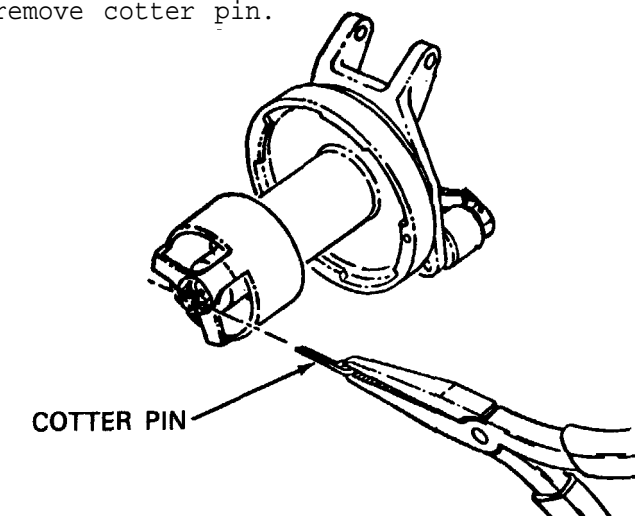
Tools required: Longnose pliers
Ratchet wrench
7/16 inch socket

Equipment condition: Receiver removed, see para. 4-17.

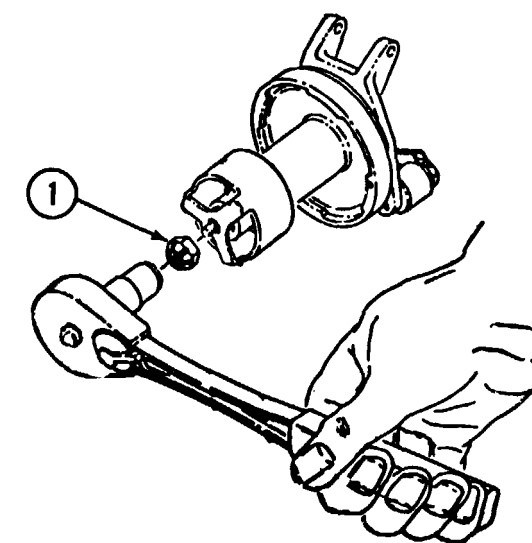
a. Disassembly

STEP 1

Using longnose pliers, remove cotter pin.



Using ratchet and socket, remove nut (1).

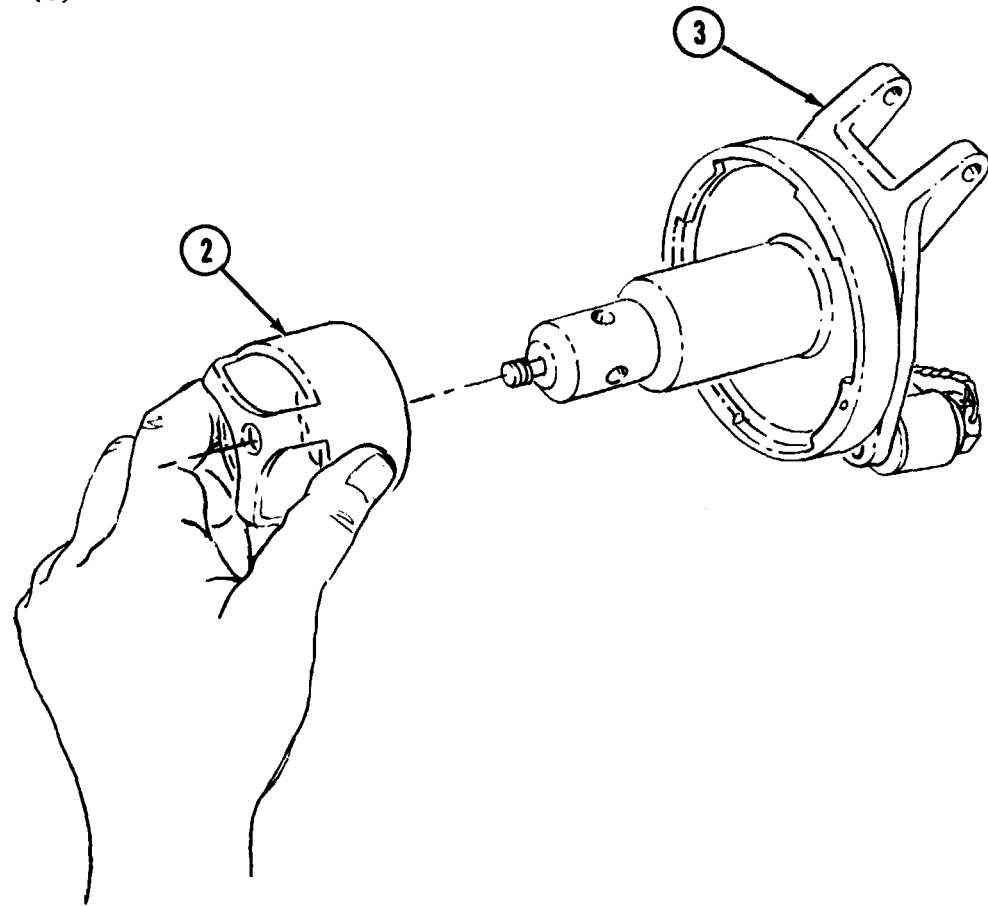


GO TO NEXT PAGE

4-18. REPAIR RECEIVER - CONTINUED

a. Disassembly - Continued

Remove heat shield (2) from receiver (3).

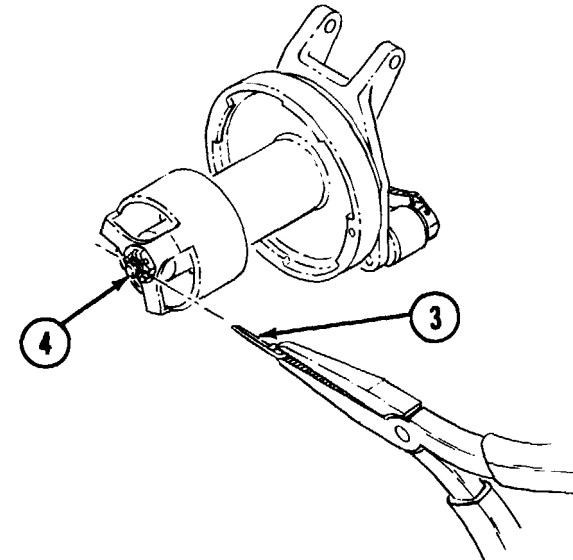
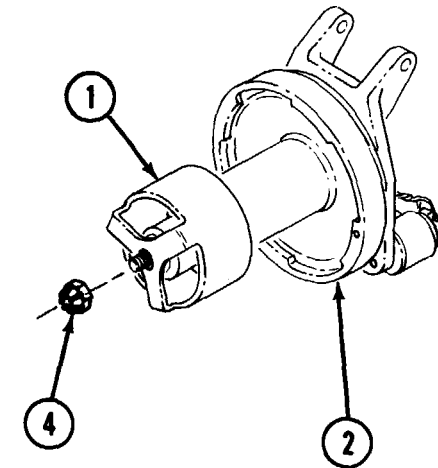


b. Assembly



To prevent shearing off threaded portion of receiver, do not tighten nut too tight.

- A. Install heat shield (1) on receiver (2) using ratchet wrench and 7/16 inch socket. Install nut so that slot in nut aligns with hole in threaded portion of receiver.



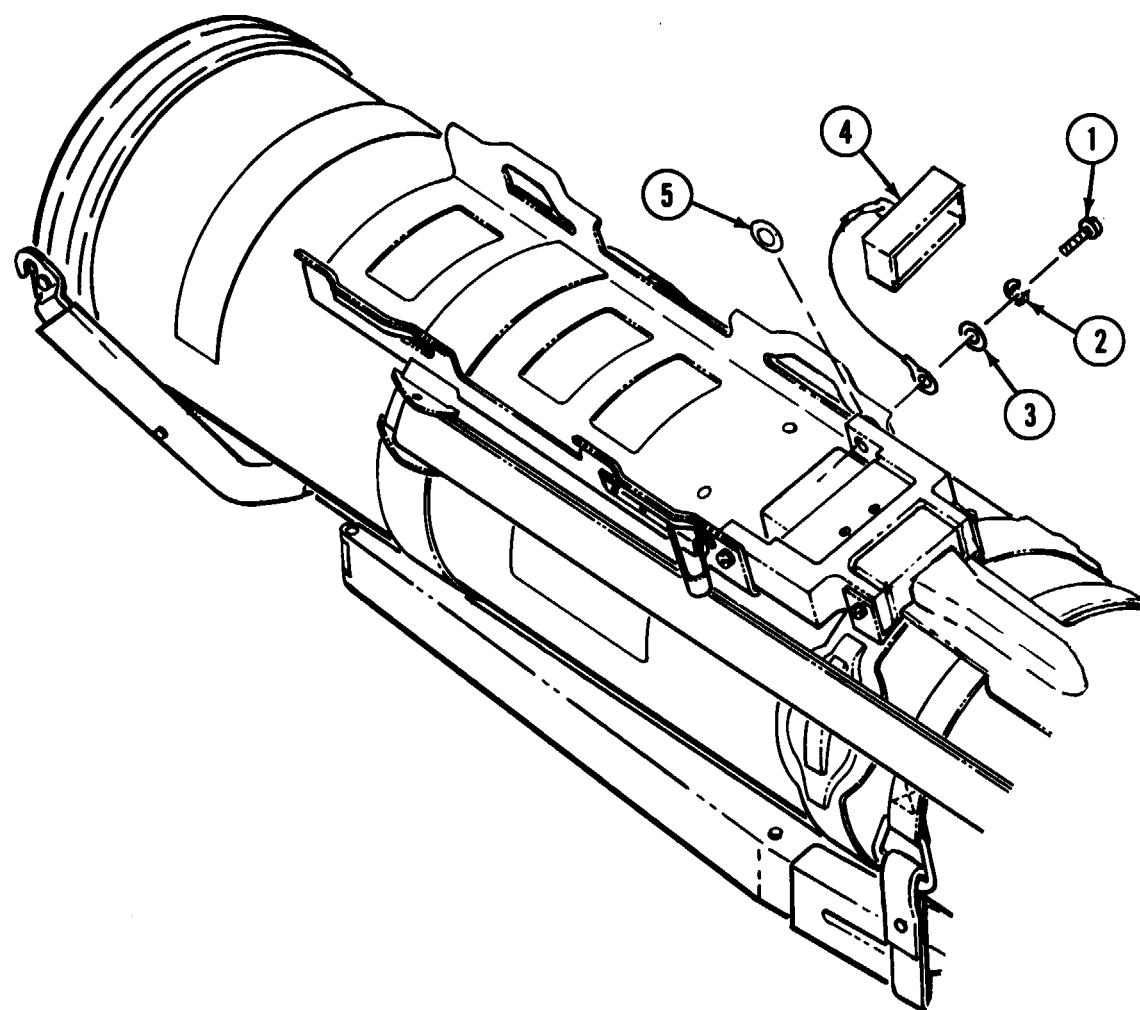
- B. Using longnose pliers, install cotter pin (3) through nut (4).

END OF TASK

4-19. REMOVE ELECTRICAL CONNECTOR COVER

Tools required: No. 1 crosspoint screwdriver

- A. Using screwdriver, remove screw (1), lockwasher (2), washer (3), connector cover (4) and shim (5).
- B. Remove connector cover (4).



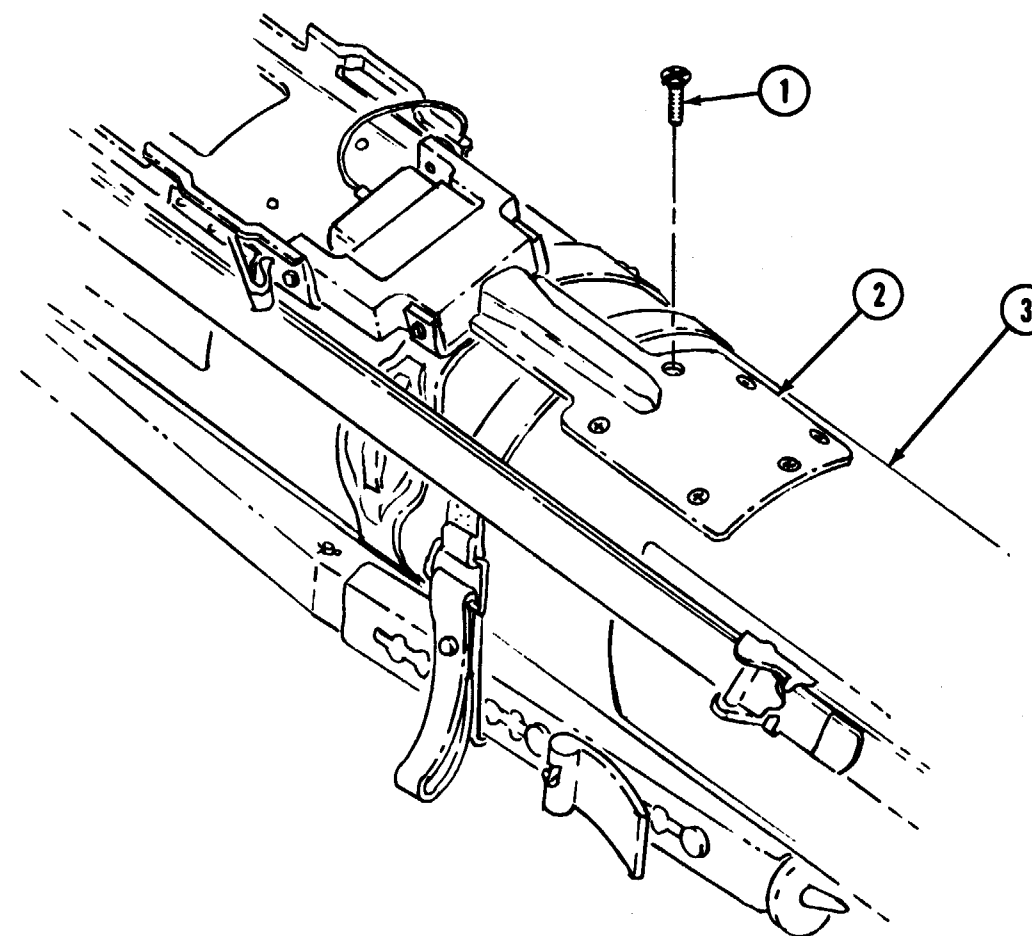
END OF TASK

4-20. REMOVE W2 SPECIAL PURPOSE CABLE ASSEMBLY

Tools required: No. 1 crosspoint screwdriver
No. 2 crosspoint screwdriver
Pliers

STEP 1

- A. Using a No. 2 crosspoint screwdriver, remove six screws (1) securing raceway (2) to LET tube (3).
- B. Remove raceway (2).

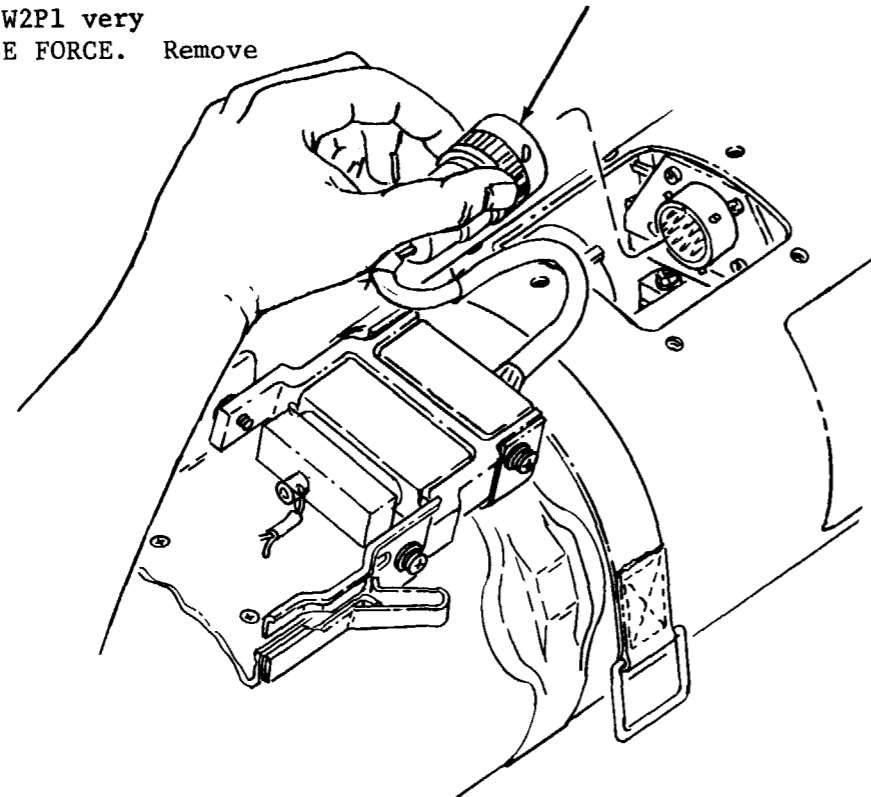


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4-20. REMOVE W2 SPECIAL PURPOSE CABLE ASSEMBLY - CONTINUED

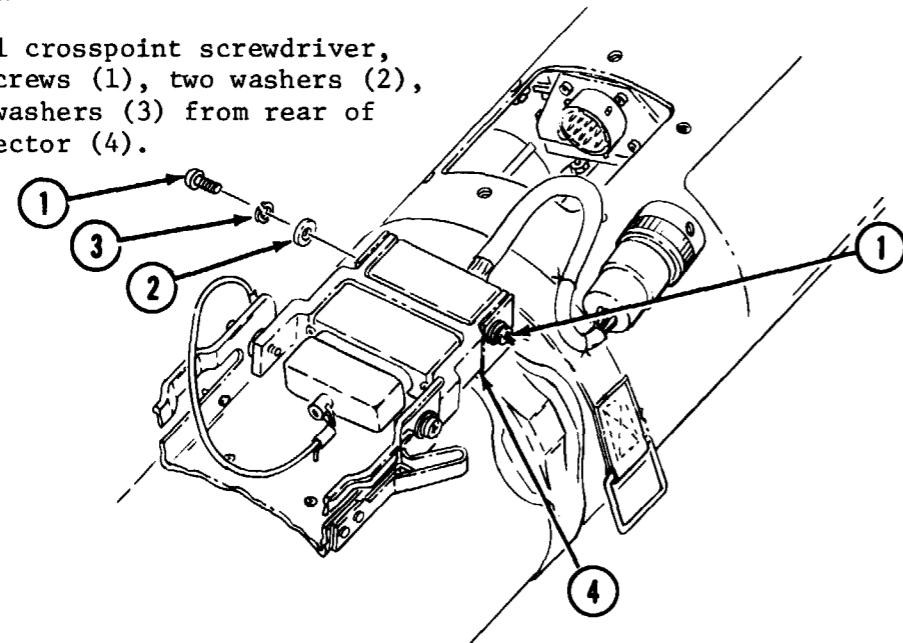
STEP 2

Using pliers, loosen W2P1 very carefully - DO NOT USE FORCE. Remove connector by hand.



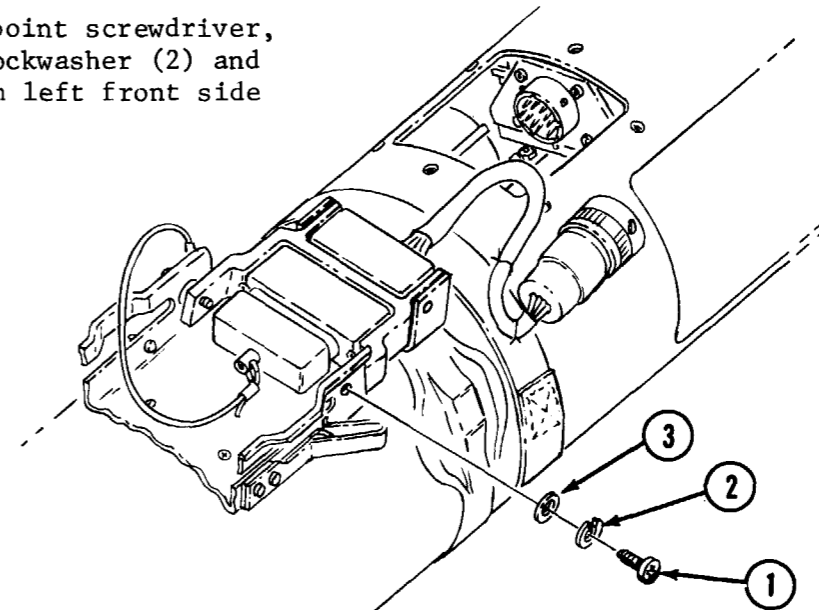
STEP 3

Using a No. 1 crosspoint screwdriver, remove two screws (1), two washers (2), and two lockwashers (3) from rear of tracker connector (4).



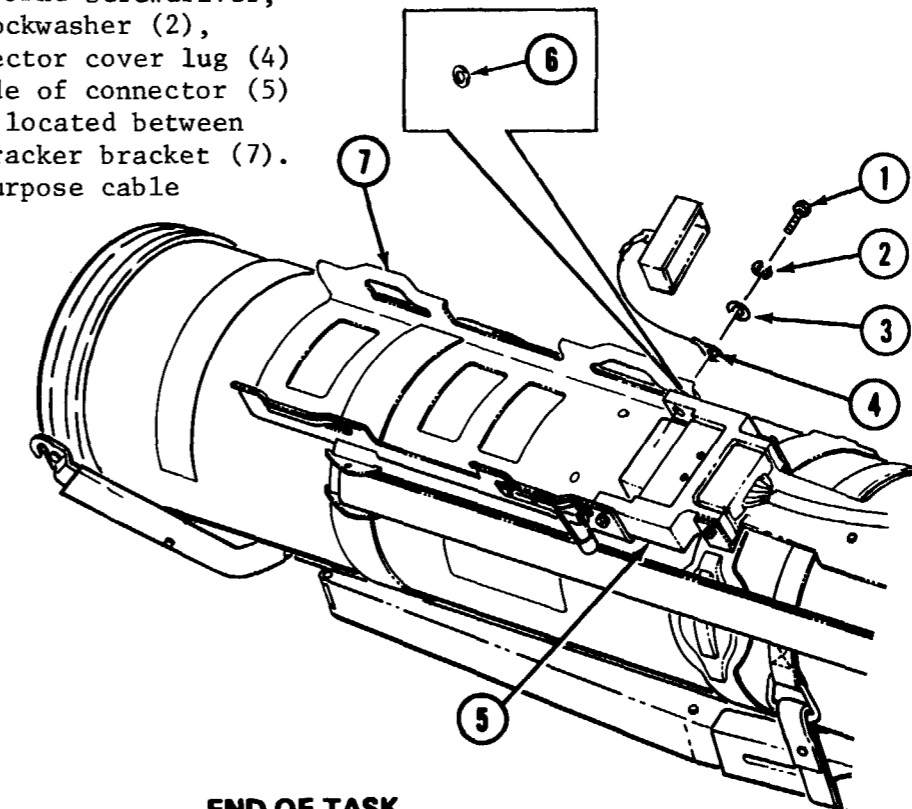
STEP 4

Using a No. 1 crosspoint screwdriver, remove screw (1), lockwasher (2) and flat washer (3) from left front side of connector.



STEP 5

Using a No. 1 crosspoint screwdriver, remove screw (1), lockwasher (2), washer (3) and connector cover lug (4) from right front side of connector (5) and remove shim (6) located between connector (5) and tracker bracket (7). Remove W2 special purpose cable assembly.



END OF TASK

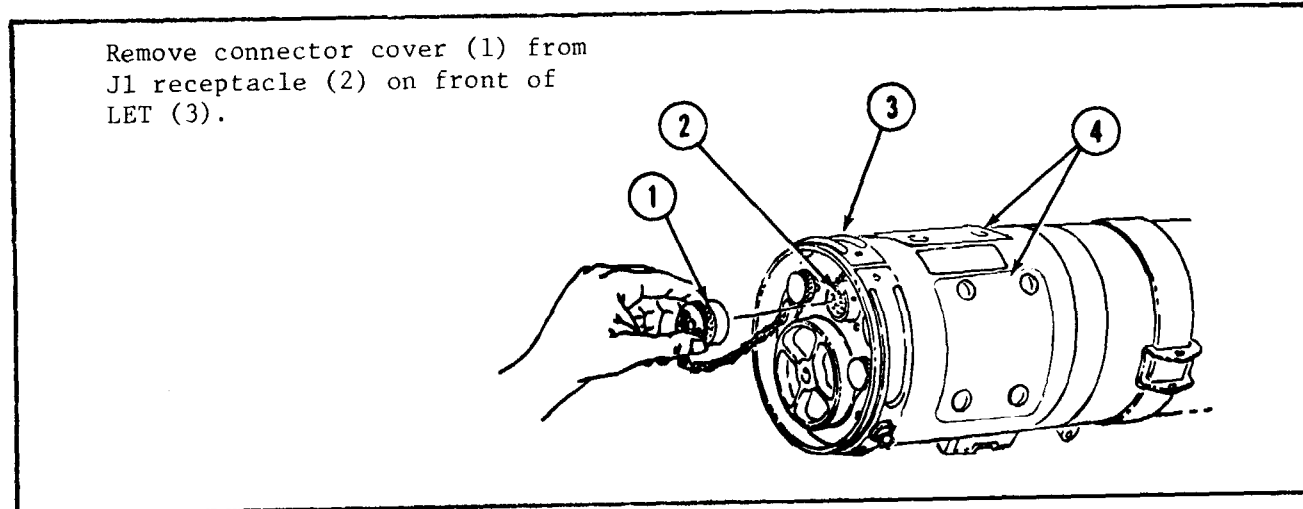
4-21. REMOVE LET SUBASSEMBLY

Tools required: 3/8 inch socket
Ratchet wrench
No. 2 crosspoint screwdriver
Flat-blade screwdriver

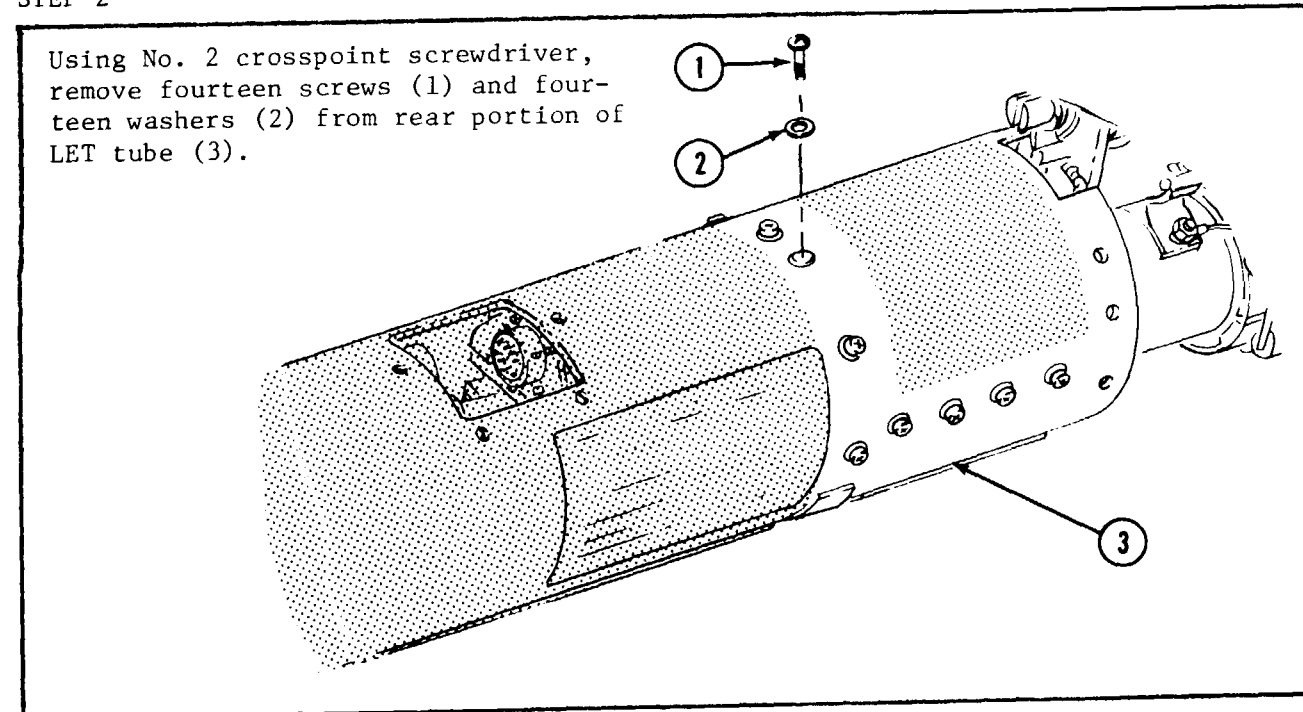
Equipment condition: Rear shock removed, see para. 4-11.
W2 Special purpose cable disconnected, see para. 4-20, steps 1 and 2.

Personnel required: Two

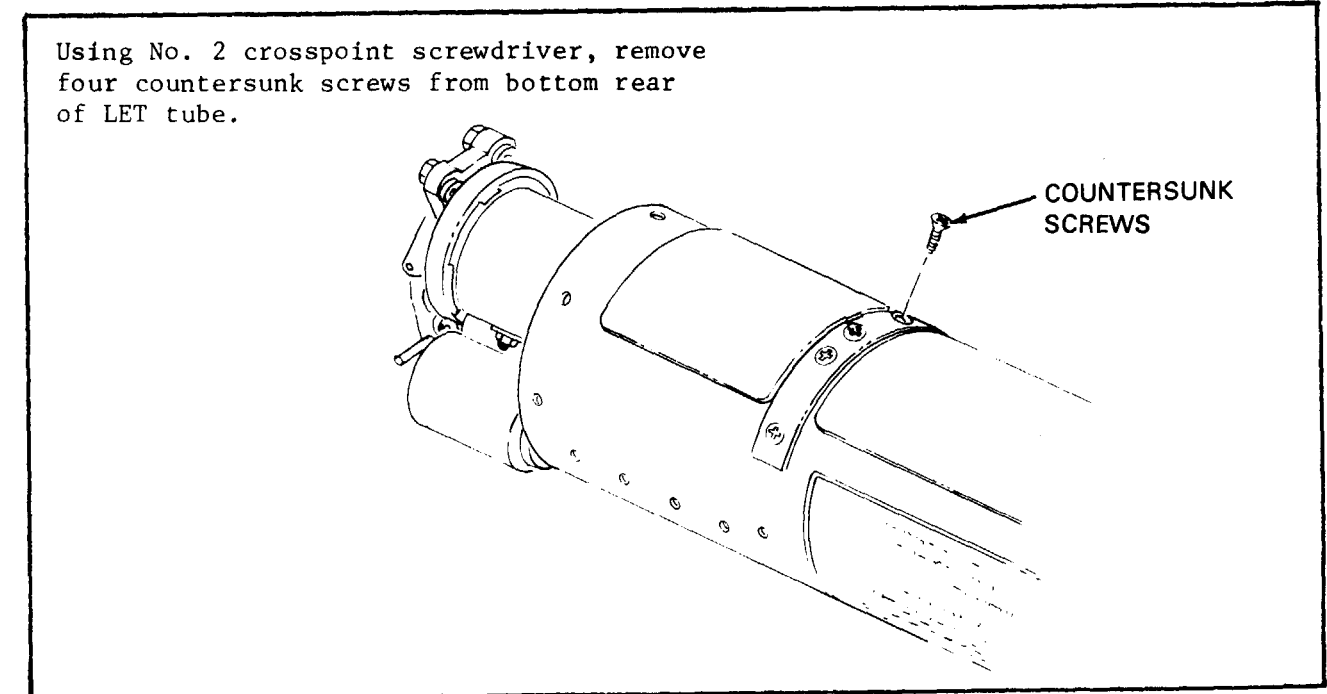
STEP 1



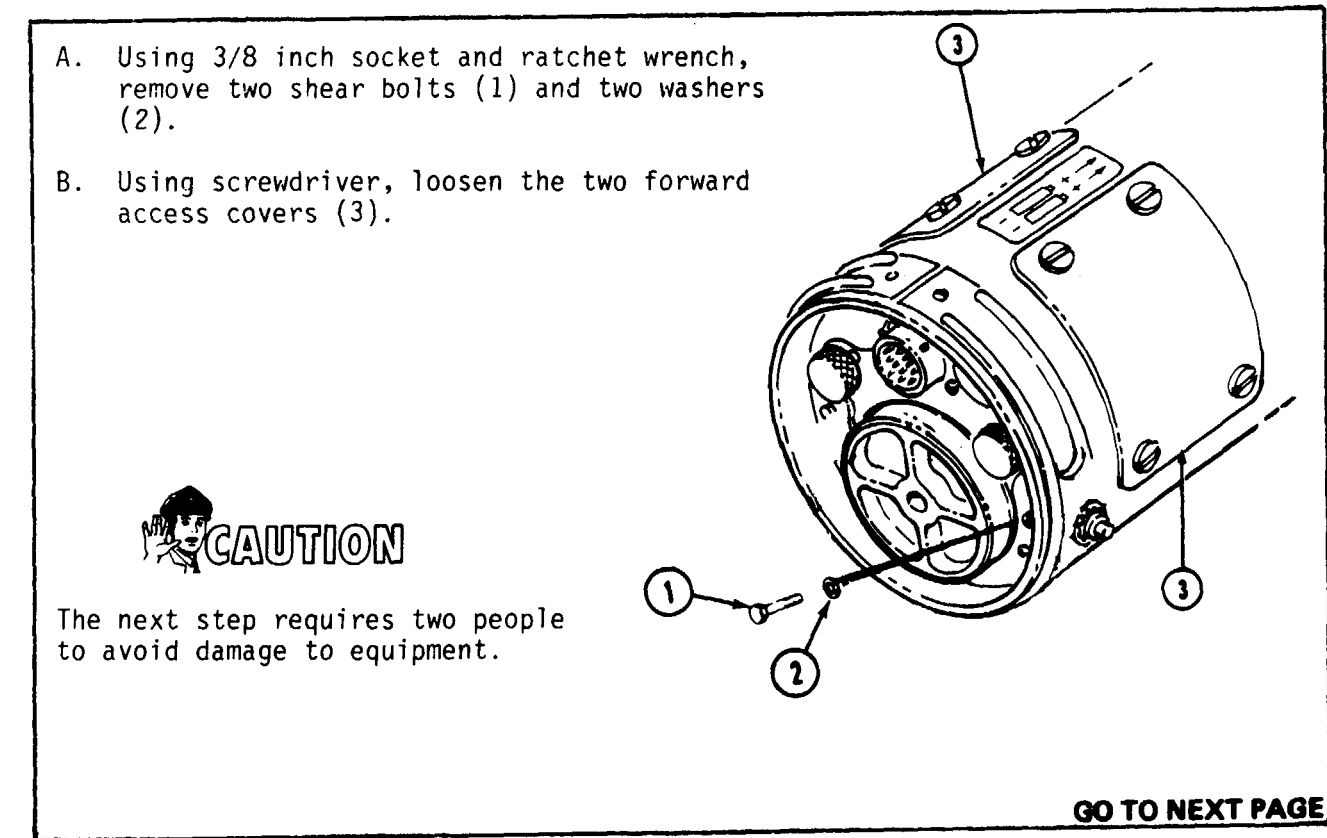
STEP 2



STEP 3



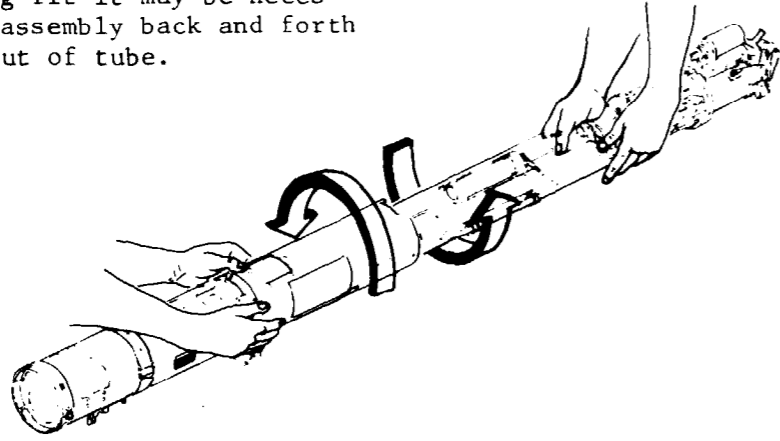
STEP 4



4-21. REMOVE LET SUBASSEMBLY - CONTINUED

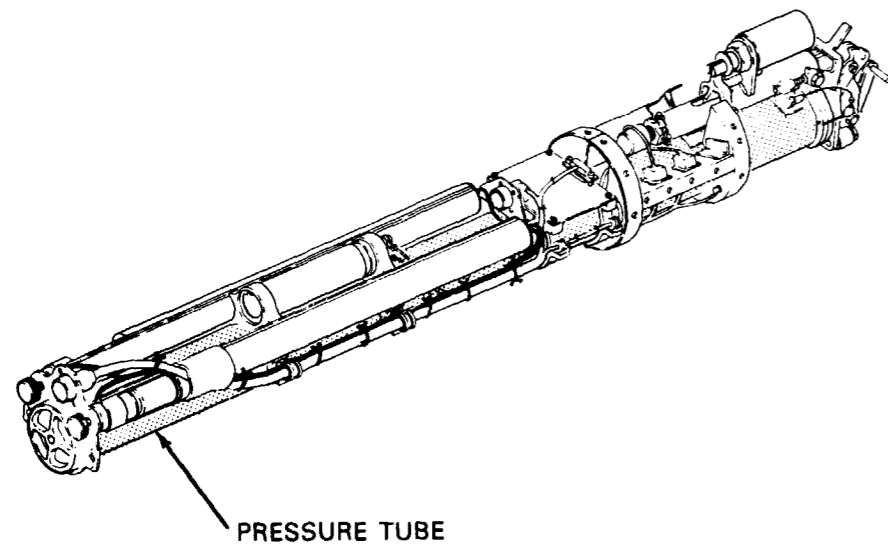
STEP 5

Carefully remove LET subassembly from tube. Due to snug fit it may be necessary to twist subassembly back and forth as it is pulled out of tube.



STEP 6

Visually inspect pressure tube for obvious bulge or defects. If bulged, the complete LET must be replaced.



END OF TASK

4-22. REMOVE FORWARD ACCESS COVERS

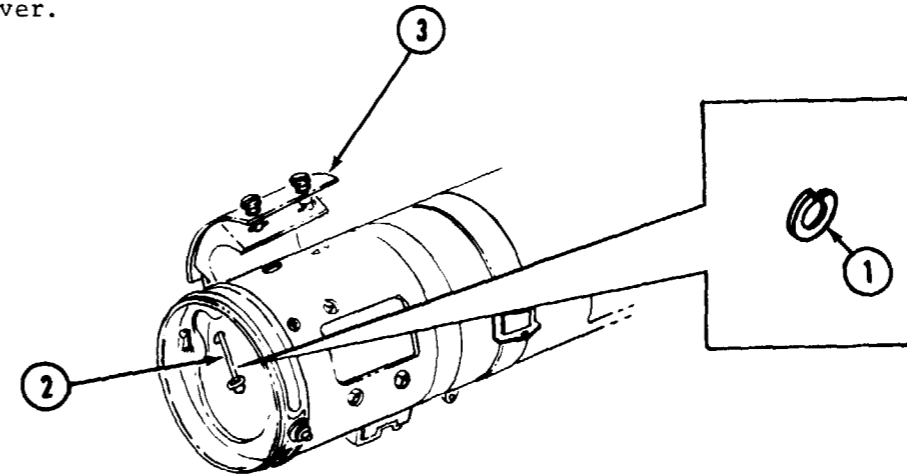
Tools required: Pliers
Longnose pliers
Flat-blade screwdriver

Equipment condition: LET Subassembly removed, see para. 4-21.

A. Using pliers, hold the lockwasher (1). Use longnose pliers to pull lockwasher (1) apart so it can be removed from lanyard (2).

B. Save lockwasher (1). Remove access cover (3).

C. Repeat procedures for other access cover.



END OF TASK

Follow-on Task: Repair Forward Access Covers, see para. 4-23.

4-23. REPAIR FORWARD ACCESS COVERS

Tools required: Machinist's vise
 Ball peen hammer
 Lineman's pliers
 3/32 inch drive pin

Equipment condition: Forward access covers removed, see para. 4-22.

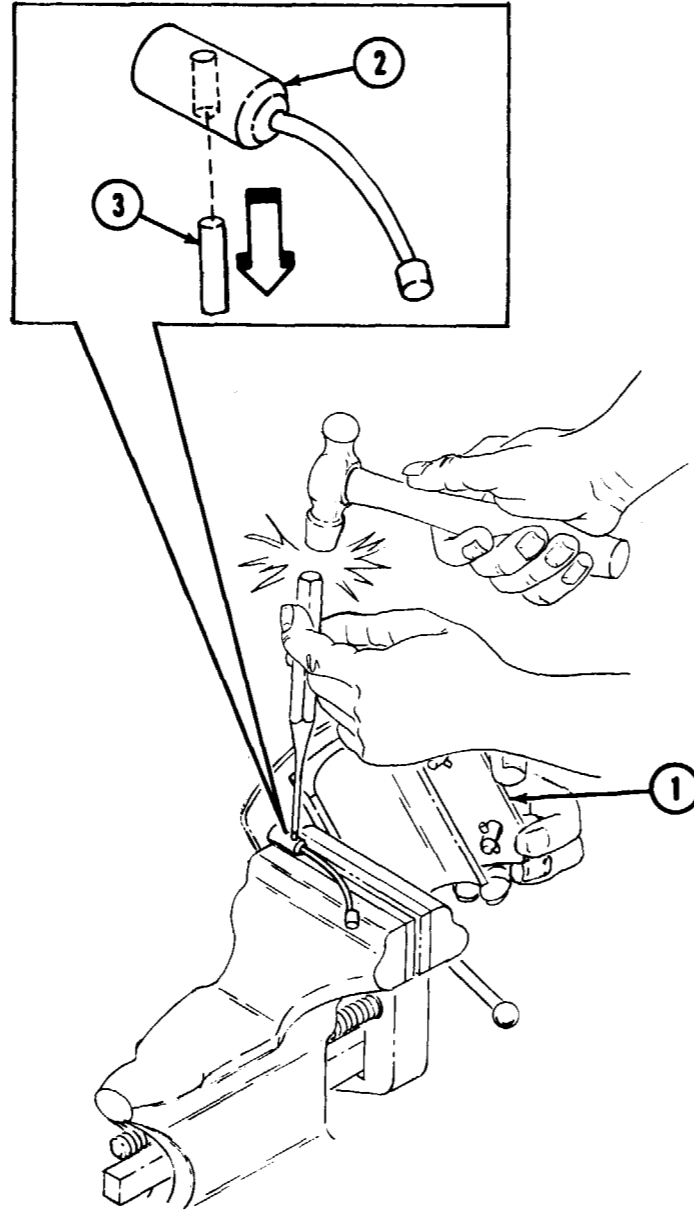
Personnel required: Two

a. Disassembly

A. Hold cover (1) and support turnlock fastener (2) on vise. Hold fastener (2) with lineman's pliers.

B. Using drive pin and hammer, force the pin (3) out of the fastener (2).

C. Use this procedure for all fasteners (2) on both covers as necessary.

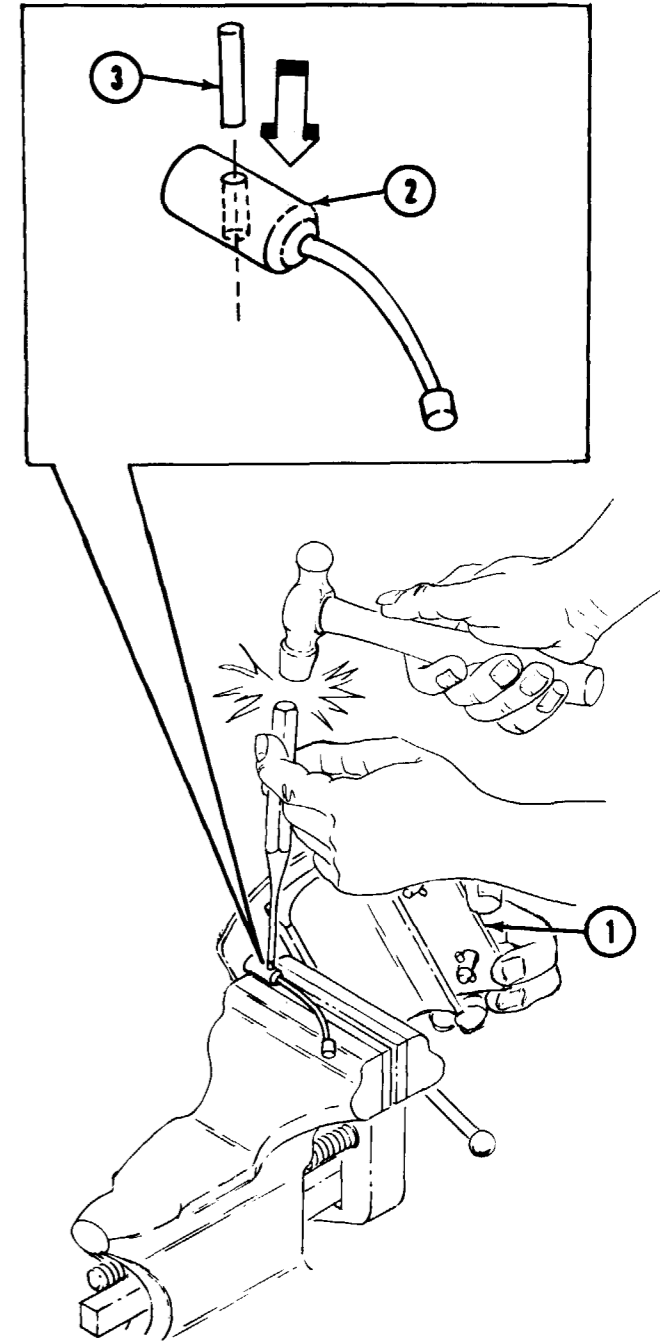


b. Assembly

A. Hold cover (1) and support fastener (2) on vise. Hold fastener (2) with lineman's pliers.

B. Push pin (3) in hole in fastener (2) using pliers.

C. With pin (3) started in hole, force pin (3) through hole with drive pin and hammer, until same amount of pin shows on both sides.




END OF TASK

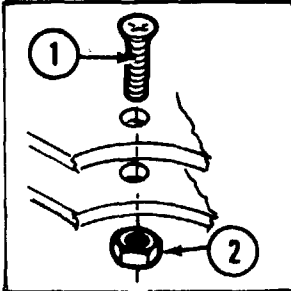
4-24. REMOVE TRACKER SUPPORT

Tools required: No. 2 crosspoint screwdriver
 7/32 inch socket
 Ratchet wrench

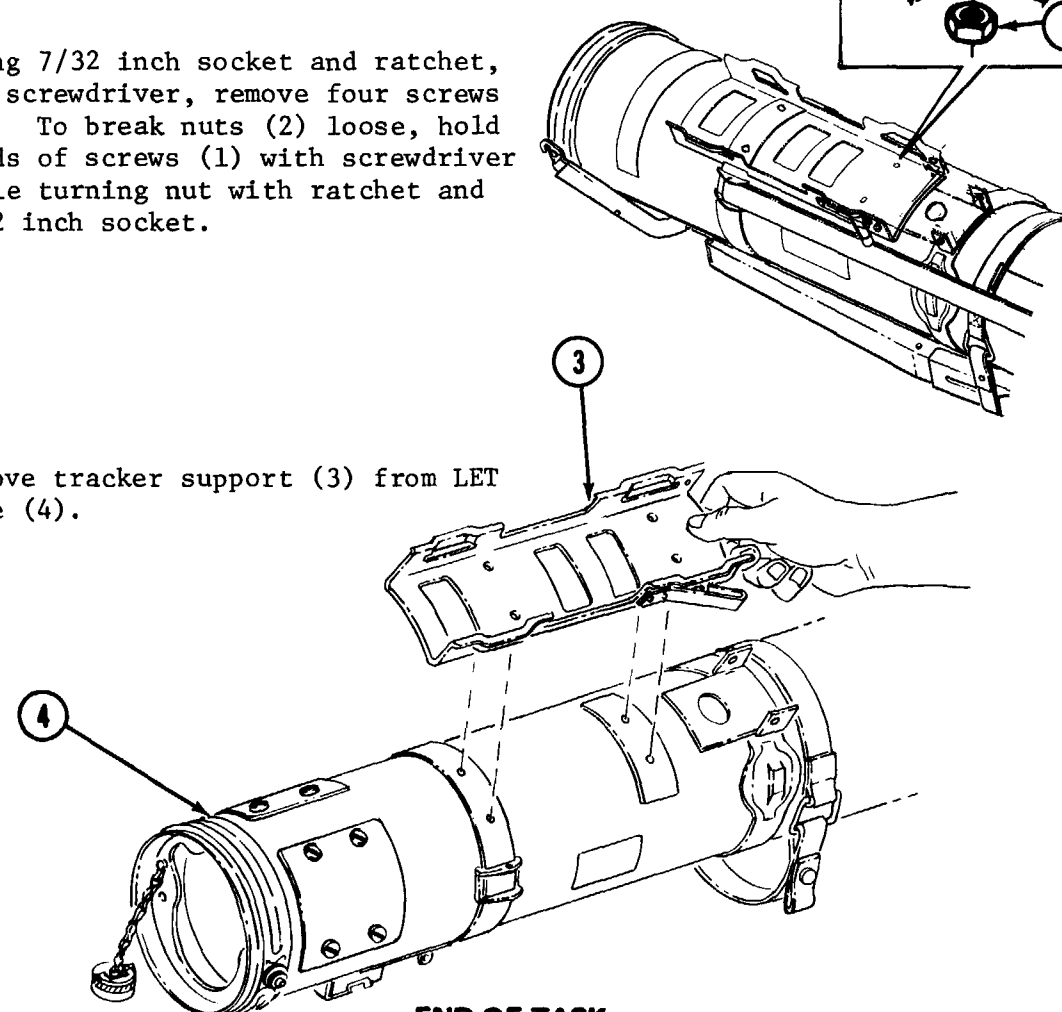
Equipment condition: W2 Special purpose cable assembly removed, see para. 4-20.
 For serial numbers 501258 and below, LET subassembly must be removed, see para. 4-21.

 **NOTE**

For serial numbers 501259 and above, ratchet and socket not required.



A. Using 7/32 inch socket and ratchet, and screwdriver, remove four screws (1). To break nuts (2) loose, hold heads of screws (1) with screwdriver while turning nut with ratchet and 7/32 inch socket.



B. Remove tracker support (3) from LET tube (4).

END OF TASK

Follow-on Task: Repair Tracker Support, see para. 4-25.

4-25. REPAIR TRACKER SUPPORT

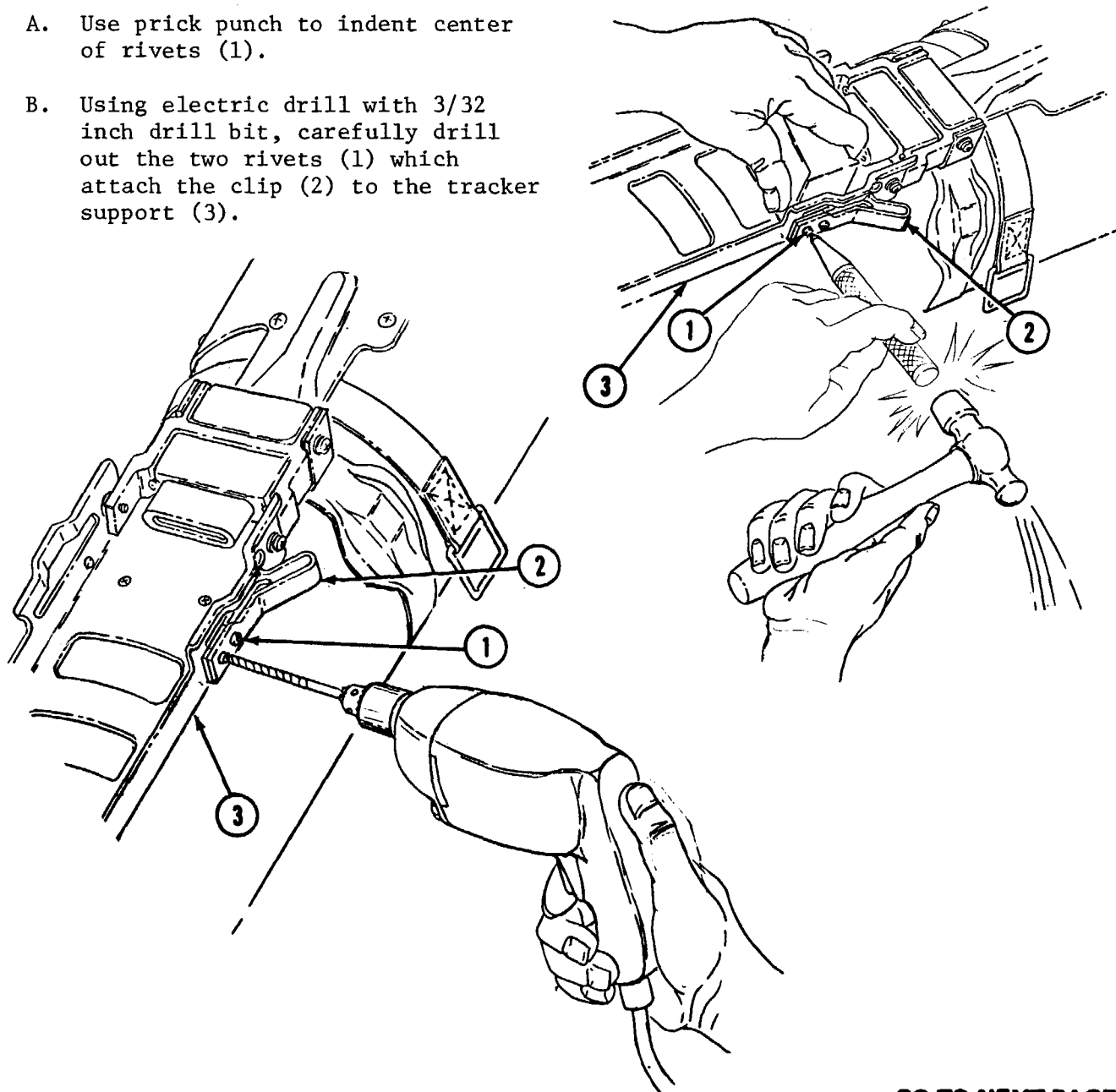
Tools required: Portable electric drill
 3/32 inch drill bit
 Prick punch
 3/32 inch drive pin
 Ball peen hammer
 Rivet bucking bar

a. Disassembly

STEP 1

A. Use prick punch to indent center of rivets (1).

B. Using electric drill with 3/32 inch drill bit, carefully drill out the two rivets (1) which attach the clip (2) to the tracker support (3).



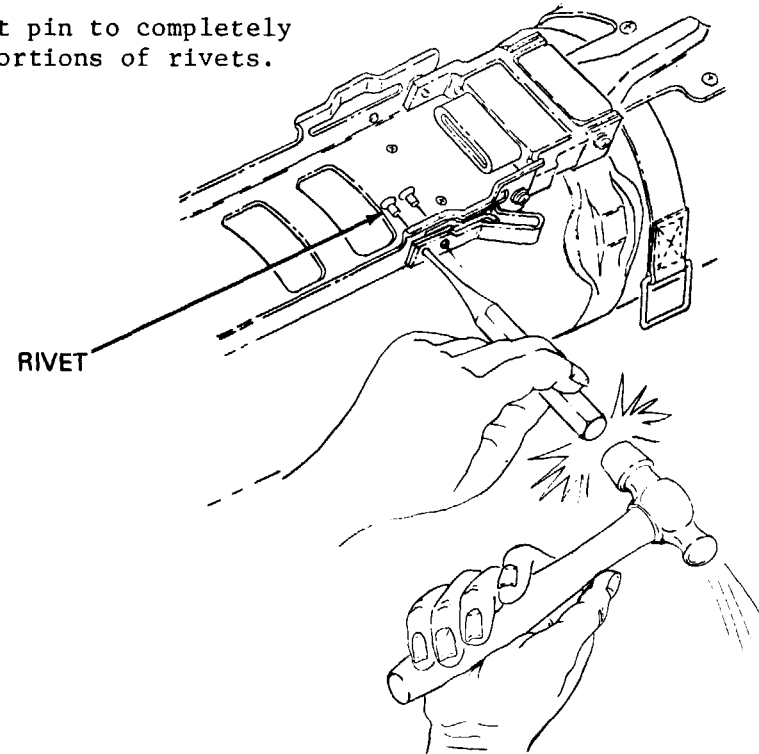
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4-25. REPAIR TRACKER SUPPORT - CONTINUED

a. Disassembly - Continued

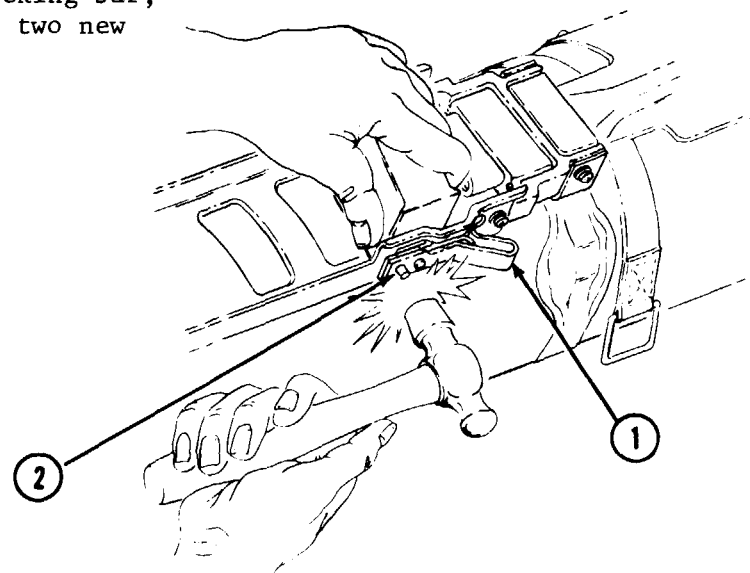
STEP 2

Use 3/32 inch drift pin to completely remove remaining portions of rivets.



b. Assembly

Using hammer and rivet bucking bar, install new clip (1) with two new rivets (2).



END OF TASK

4-26. REMOVE SUPPORT END FITTING

Tools required: No. 2 Crosspoint screwdriver

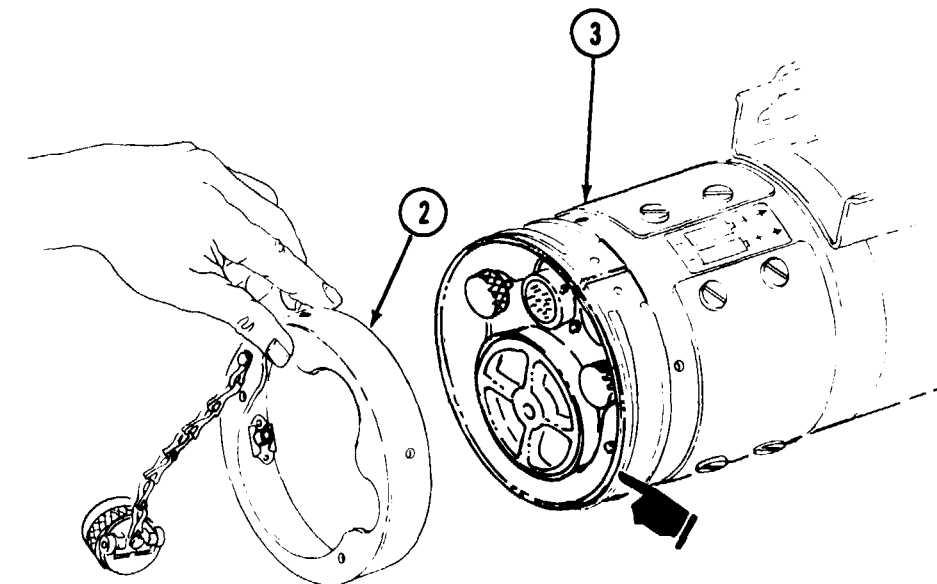
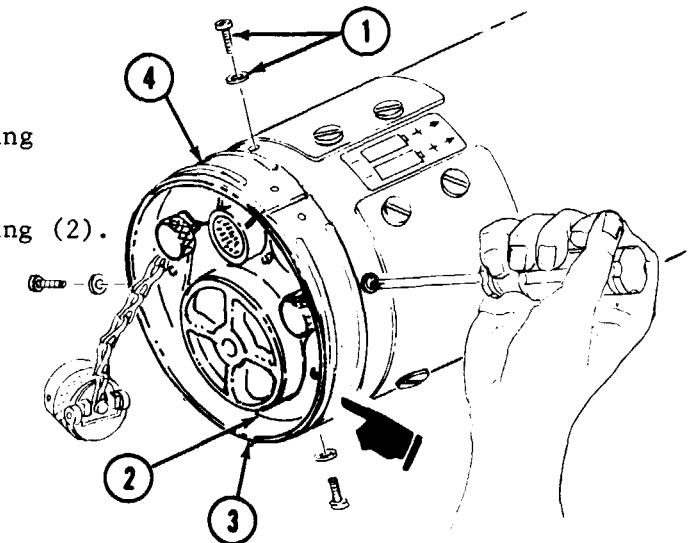
Equipment condition: Shear bolts removed, see para. 4-21, step 4.



Some LETs have eight screws, nuts and washers in the bipod support ring (4) that must be removed first.

A. Using screwdriver, remove four screws and four washers (1) securing forward end support fitting (2) to LET tube (3).

B. Remove forward end support fitting (2).



END OF TASK

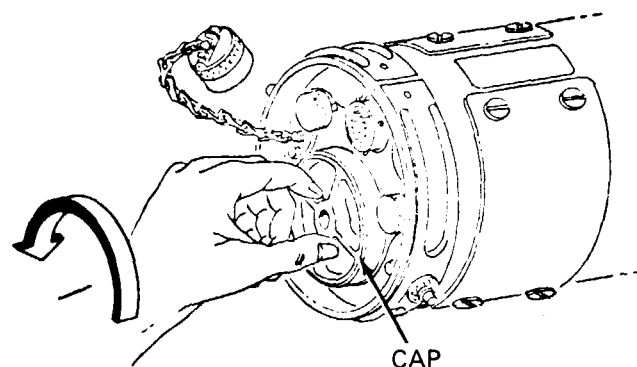
4-27. REMOVE DUMMY PROJECTILE

Tools required: Weight positioning rod (from LET box)

Equipment condition: Aft end cap removed, see TM 9-6920-484-12.
 Forward shock removed, see TM 9-6920-484-12.
 Receiver removed, see para. 4-17.

STEP 1

Unscrew cap by hand.

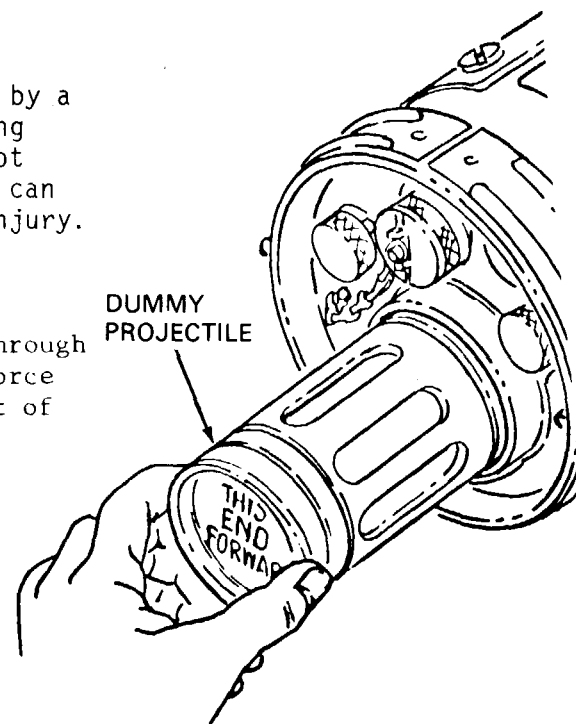


STEP 2



The projectile is held in place by a spring and a latch. If the spring is broken or the projectile is not latched in place, the projectile can fall out of the tube and cause injury.

Insert weight positioning rod through rear end of pressure tube and force dummy projectile all the way out of forward end of pressure tube.



END OF TASK

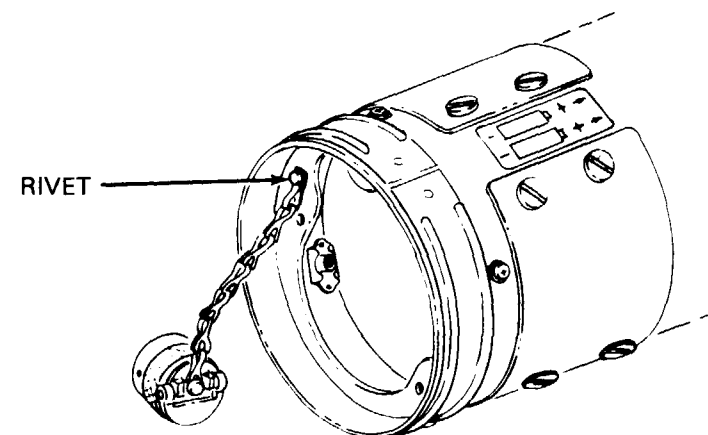
4-28. REMOVE J1 CONNECTOR COVER

Tools required: Electric drill
 3/32 inch drill bit
 Prick punch
 3/32 inch drift pin
 Ball peen hammer

Equipment condition: LET Subassembly removed, see para. 4-21.

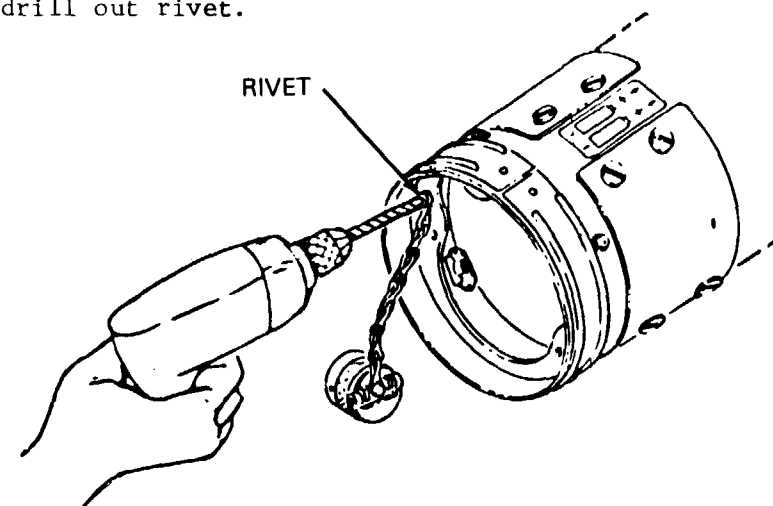
STEP 1

Mark center of rivet with prick punch and hammer.



STEP 2

Using electric drill and 3/32 inch bit, very carefully drill out rivet.

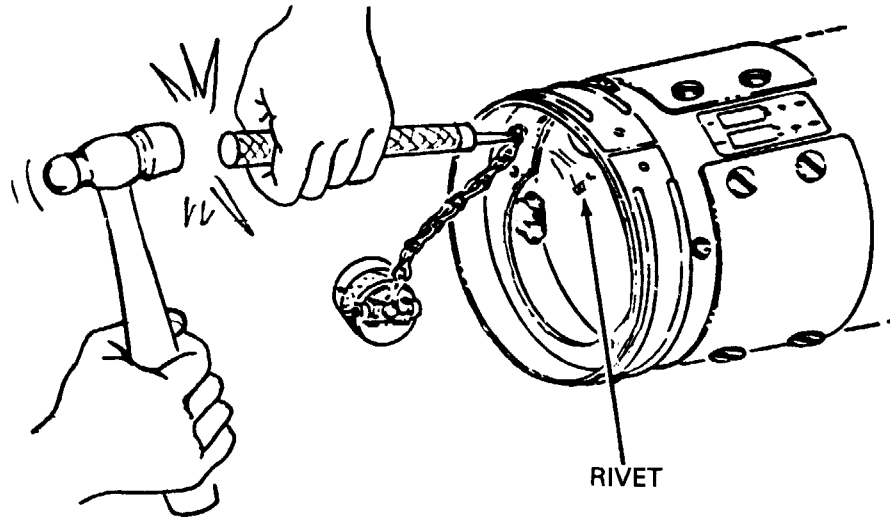


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4-28. REMOVE J1 CONNECTOR COVER - CONTINUED

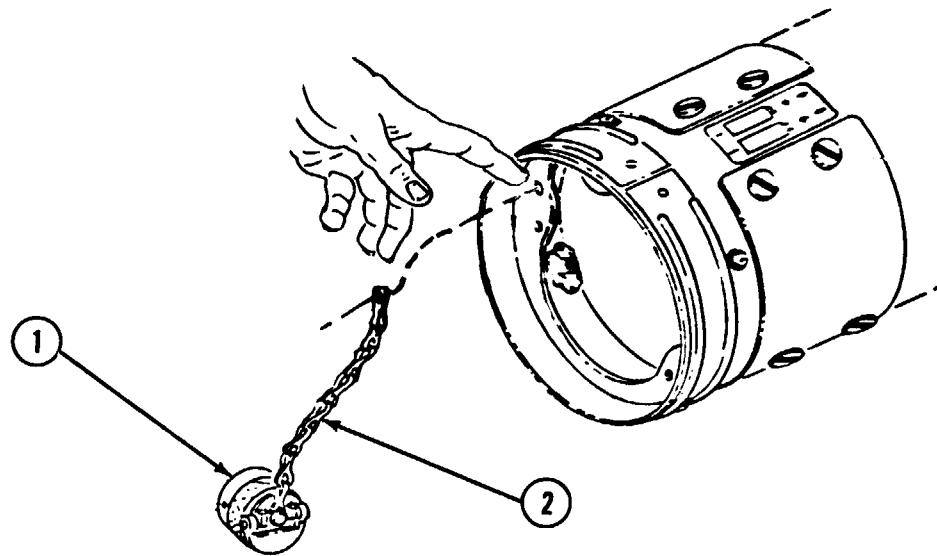
STEP 3

Using hammer and 3/32 inch drift pin, remove remaining parts of rivet.



STEP 4

Remove connector (1) with chain (2) still attached to connector.



END OF TASK

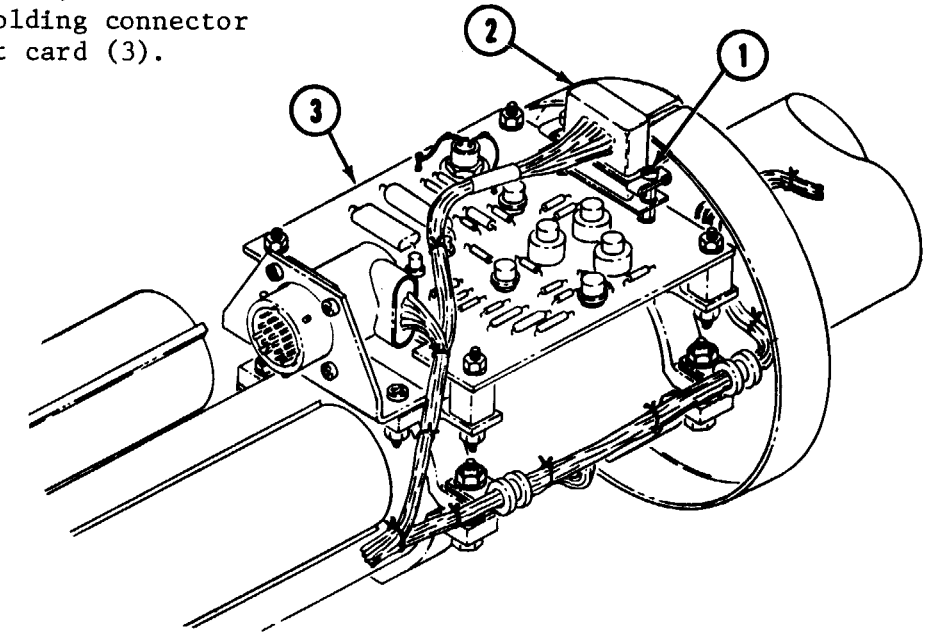
4-29. REMOVE TIME DELAY CIRCUIT CARD ASSEMBLY

Tools required: 1/8 inch flat-blade screwdriver
Ratchet wrench
7/32 inch socket
3/8 inch open end wrench

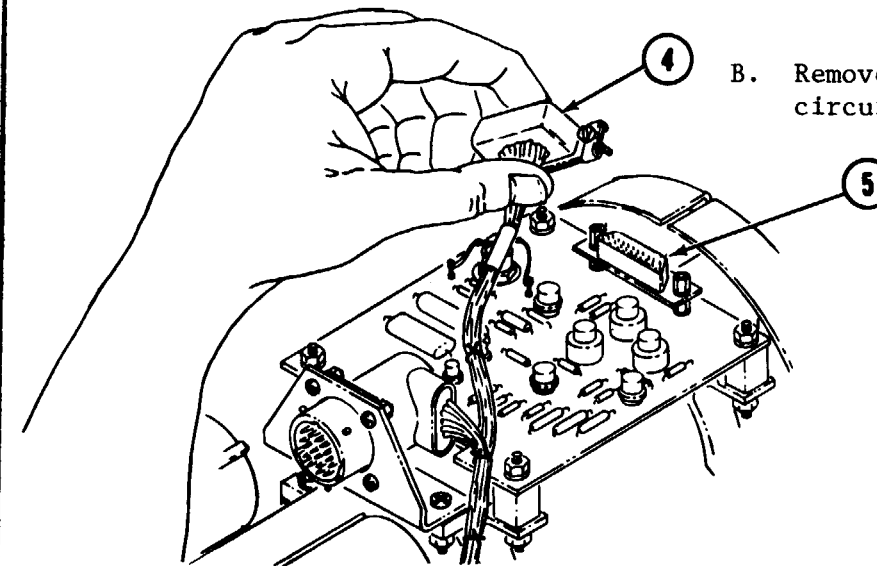
Equipment condition: LET subassembly removed, see para. 4-21.

STEP 1

A. Using screwdriver, loosen two screws (1), holding connector (2) to circuit card (3).



B. Remove connector W1J3 (4) from circuit card connector P1 (5).



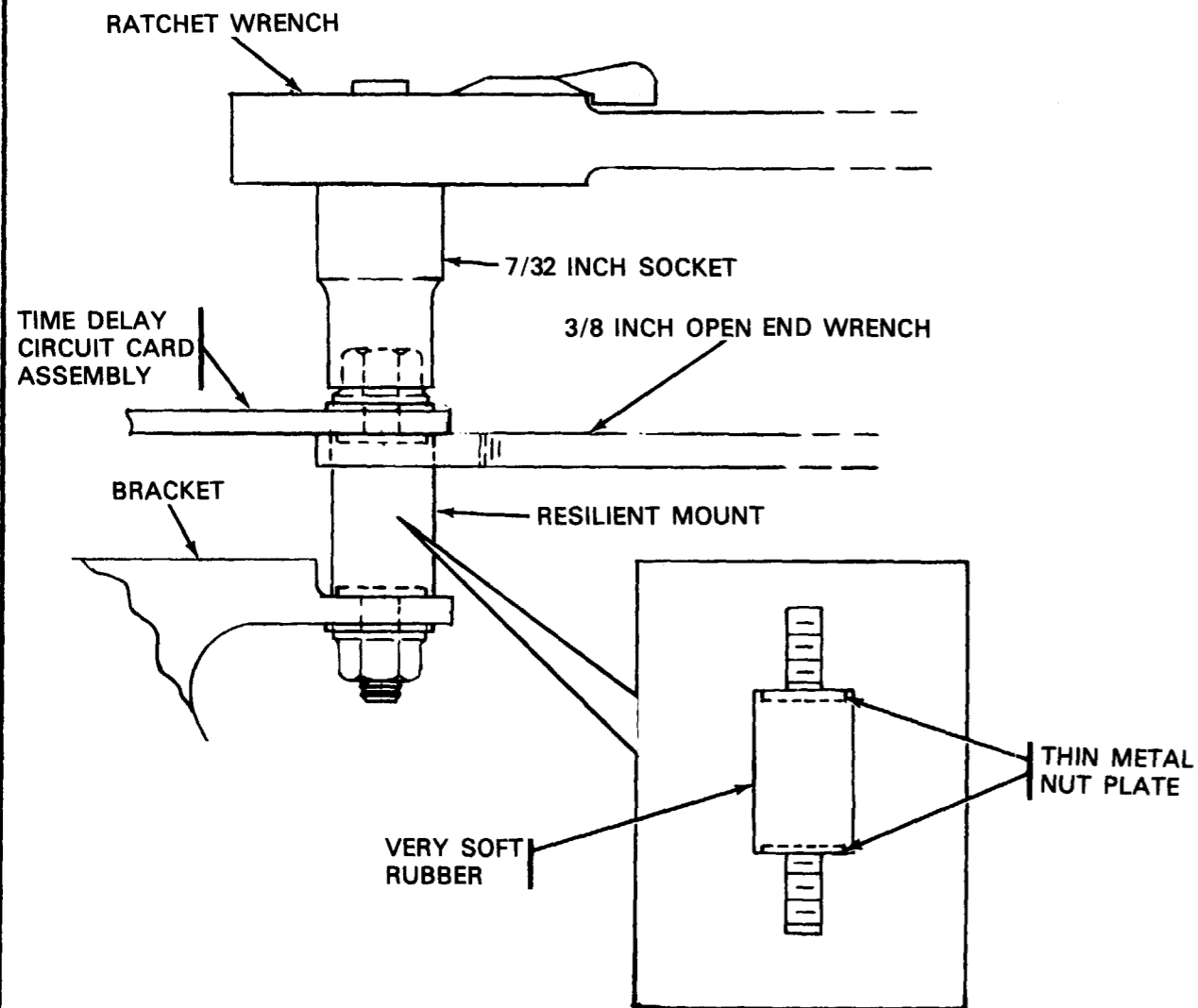
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4-29. REMOVE TIME DELAY CIRCUIT CARD ASSEMBLY - CONTINUED

STEP 2



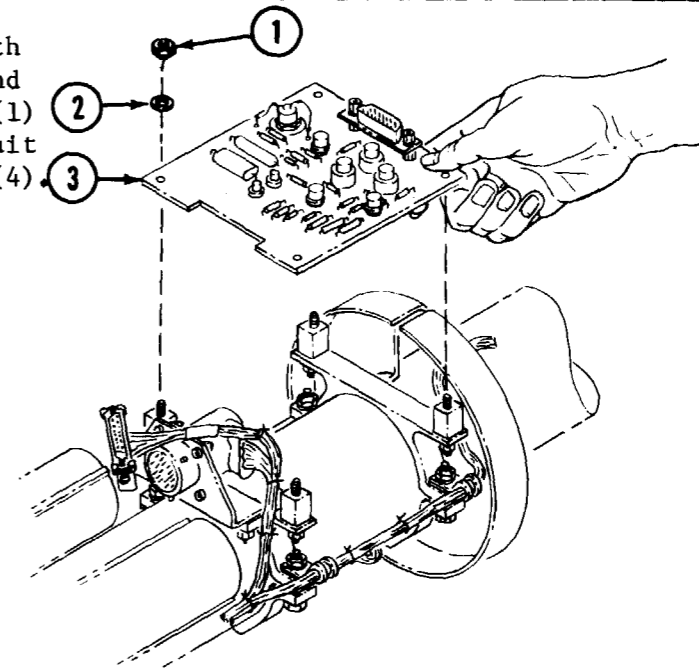
To avoid damage to the four resilient mounts, use **EXTREME** care when removing or installing the self-locking nuts on top or bottom of mounts. Mounts must be held as in drawing or **DAMAGE WILL OCCUR!**



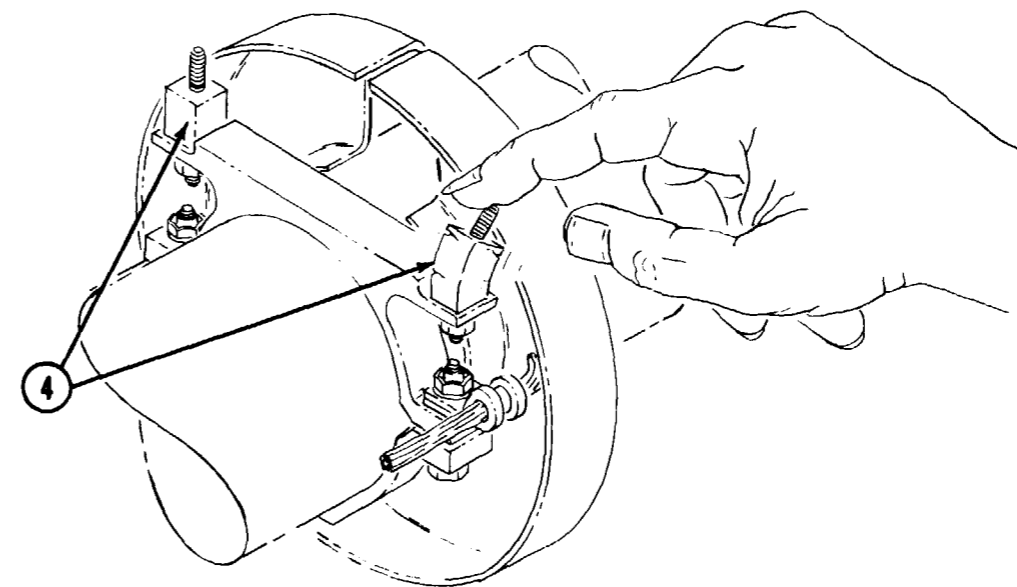
To keep from destroying mount, hold 3/8 inch wrench flush against circuit card assembly. It will assure the grip of wrench on the thin metal nut-plate inside resilient mount.

STEP 3

- A. Using the 7/32 inch socket with ratchet and a 3/8 inch open end wrench, remove the four nuts (1) and washers (2) securing circuit card (3) to resilient mounts (4). Remove circuit card (3).



- B. Inspect resilient mounts (4) for damage. If rubber is torn, replace mount.



END OF TASK

4-30. REMOVE C5 CAPACITOR

Tools required: No. 2 crosspoint screwdriver
 1/8 inch flat-blade screwdriver
 Snap ring pliers

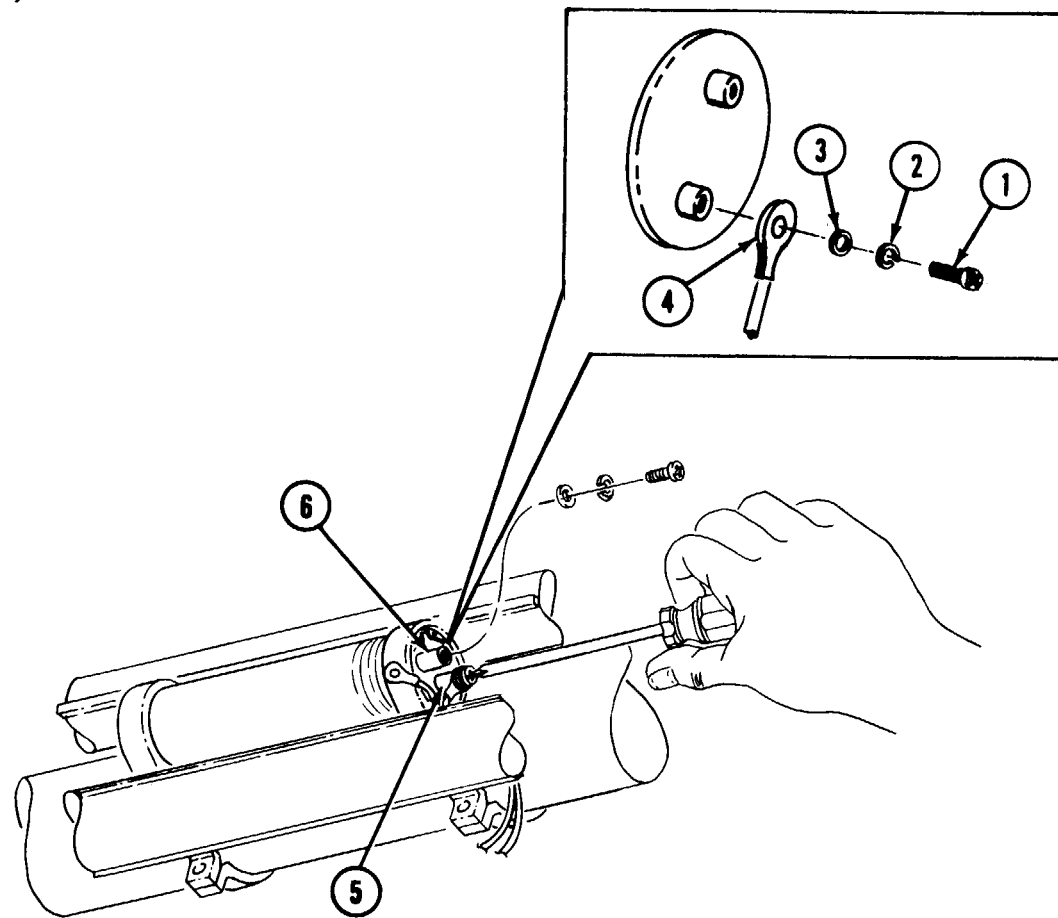
Equipment condition: LET subassembly removed, see para. 4-21.



Prior to removing capacitor C5, discharge capacitor by shorting across terminals E1+ (5) and E2- (6). Electric shock may result if C5 is not discharged.

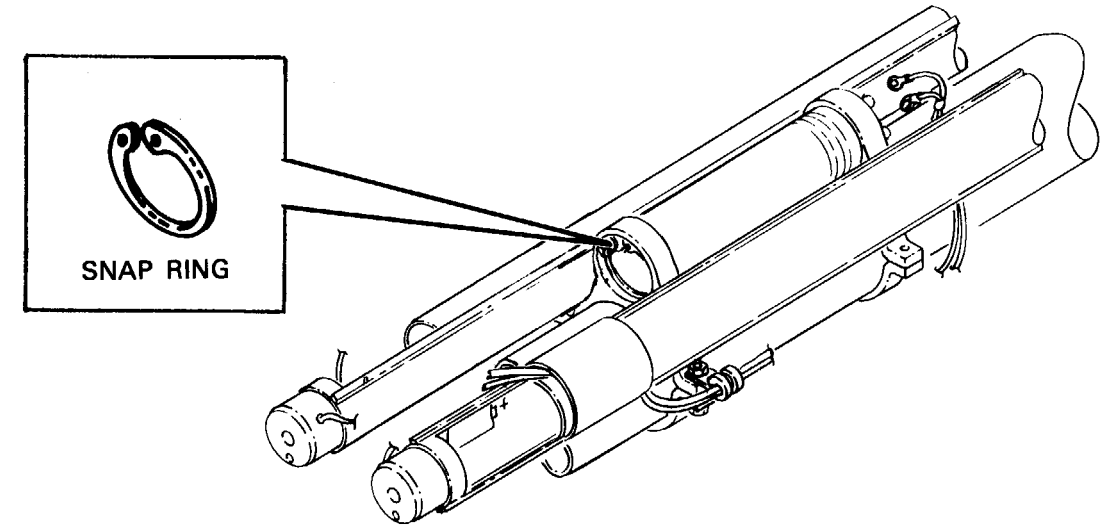
STEP 1

Using No. 2 crosspoint screwdriver, remove two screws (1), two lockwashers (2), two flatwashers (3) and terminal lugs (4).



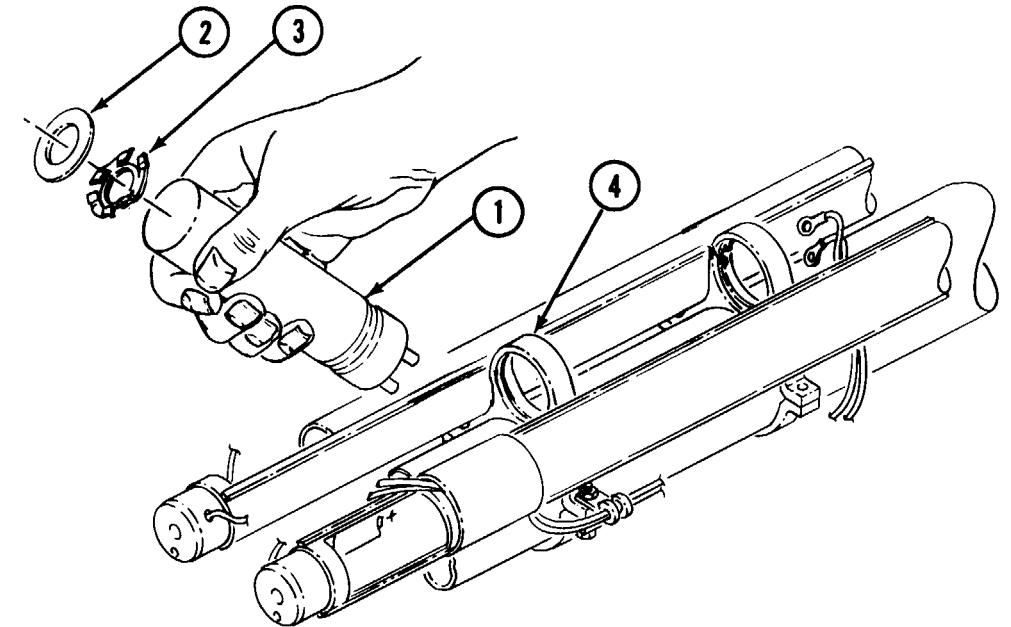
STEP 2

Remove the forward snap ring using the snap ring pliers. It may also be helpful to use a flat-blade screwdriver to remove snap ring.



STEP 3

Slide the capacitor (1), washer (2), and spring tension washer (3) out of the capacitor holder (4).



END OF TASK

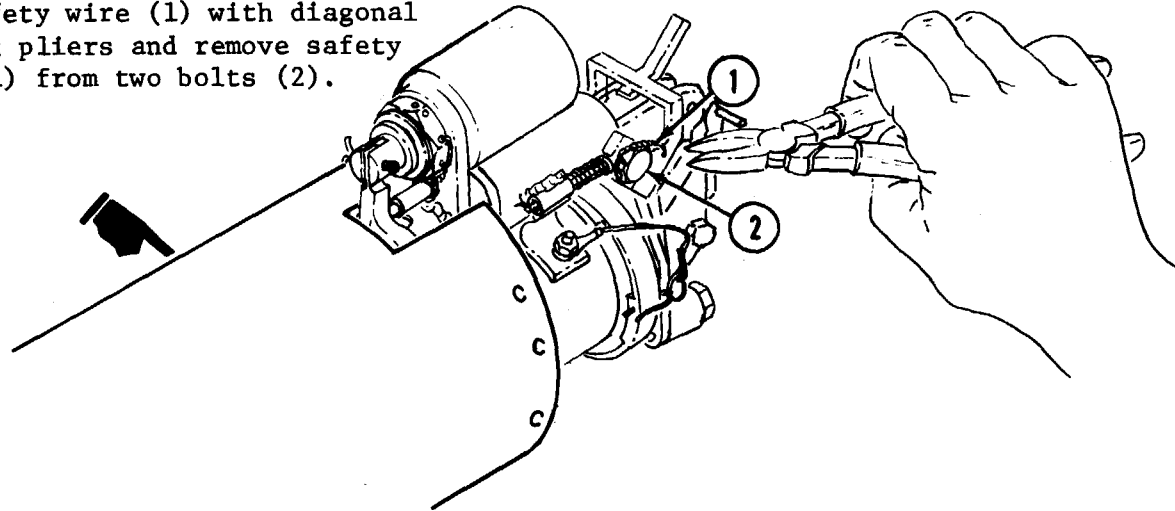
4-31. REMOVE SAFETY LEVER

Tools required: 7/16 inch open end wrench
 Diagonal cutting pliers
 No. 0 crosspoint screwdriver

Equipment condition: Rear Shock removed, see para. 4-11.

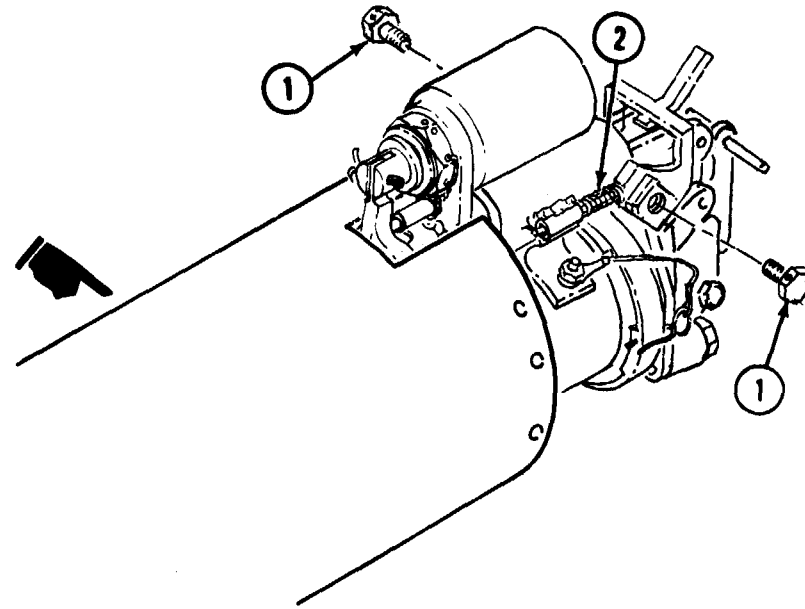
STEP 1

Cut safety wire (1) with diagonal cutting pliers and remove safety wire (1) from two bolts (2).



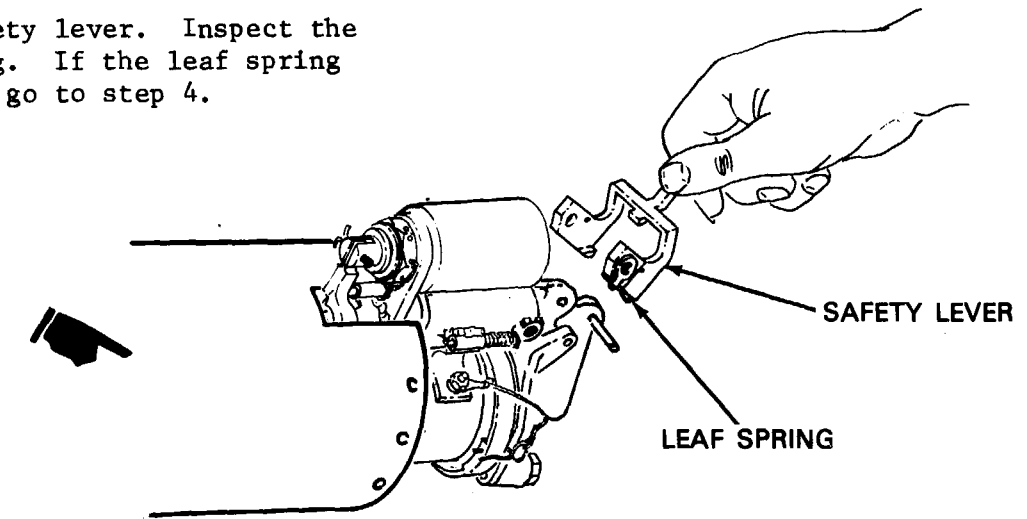
STEP 2

Using wrench, remove two bolts (1). Pull bolt opposite spring (2) first.



STEP 3

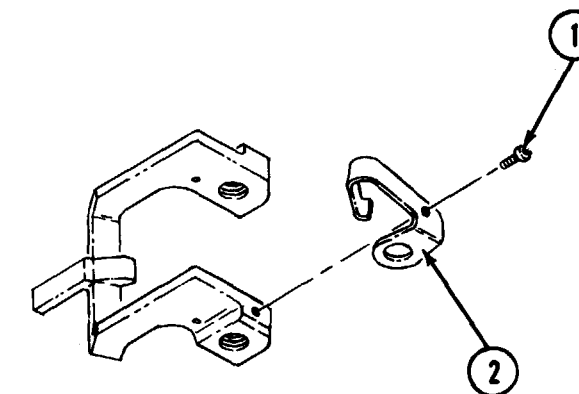
Remove safety lever. Inspect the leaf spring. If the leaf spring is damaged go to step 4.



STEP 4

A. Remove screw (1) with screwdriver.

B. Remove leaf spring (2).



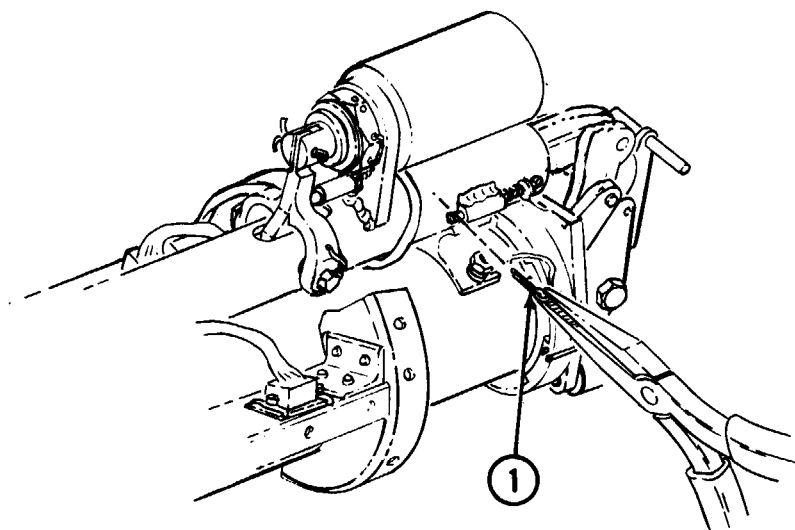
END OF TASK

4-32. REMOVE STRAIGHT PIN

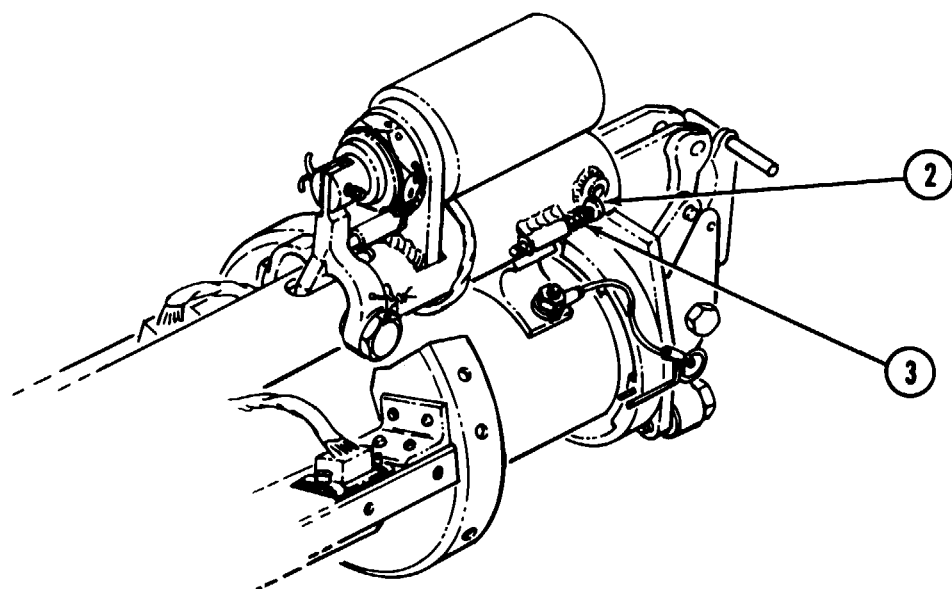
Tools required: Longnose pliers

Equipment condition: Safety lever removed, see para. 4-31.

A. Remove cotter pin (1) with longnose pliers.



B. Remove straight pin (2) and spring (3).



END OF TASK

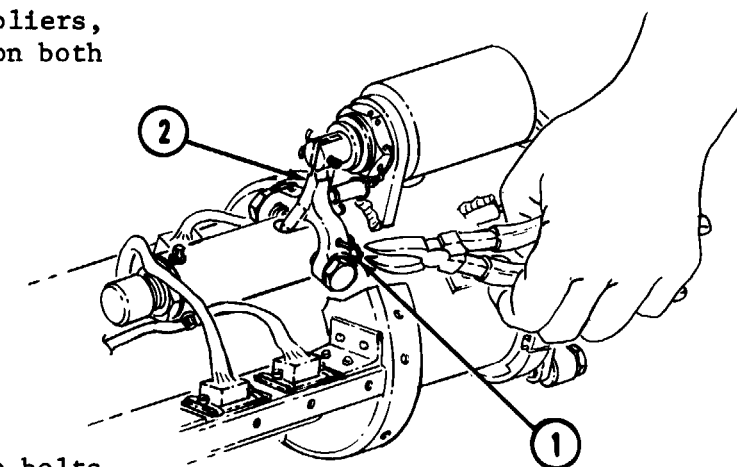
4-33. REMOVE FIRING MECHANISM

Tools required: Diagonal cutting pliers
7/16 inch open end wrench
Longnose pliers

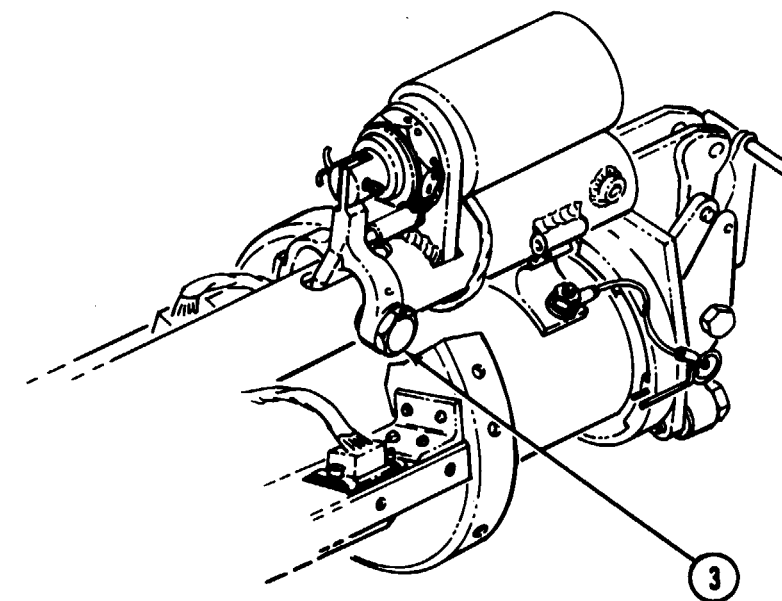
Equipment condition: LET subassembly removed, see para. 4-21.

STEP 1

A. Using diagonal cutting pliers, remove safety wire (1) on both sides of trigger (2).



B. Using wrench, remove two bolts (3), securing the trigger.



GO TO NEXT PAGE

4-33. REMOVE FIRING MECHANISM - CONTINUED

STEP 2



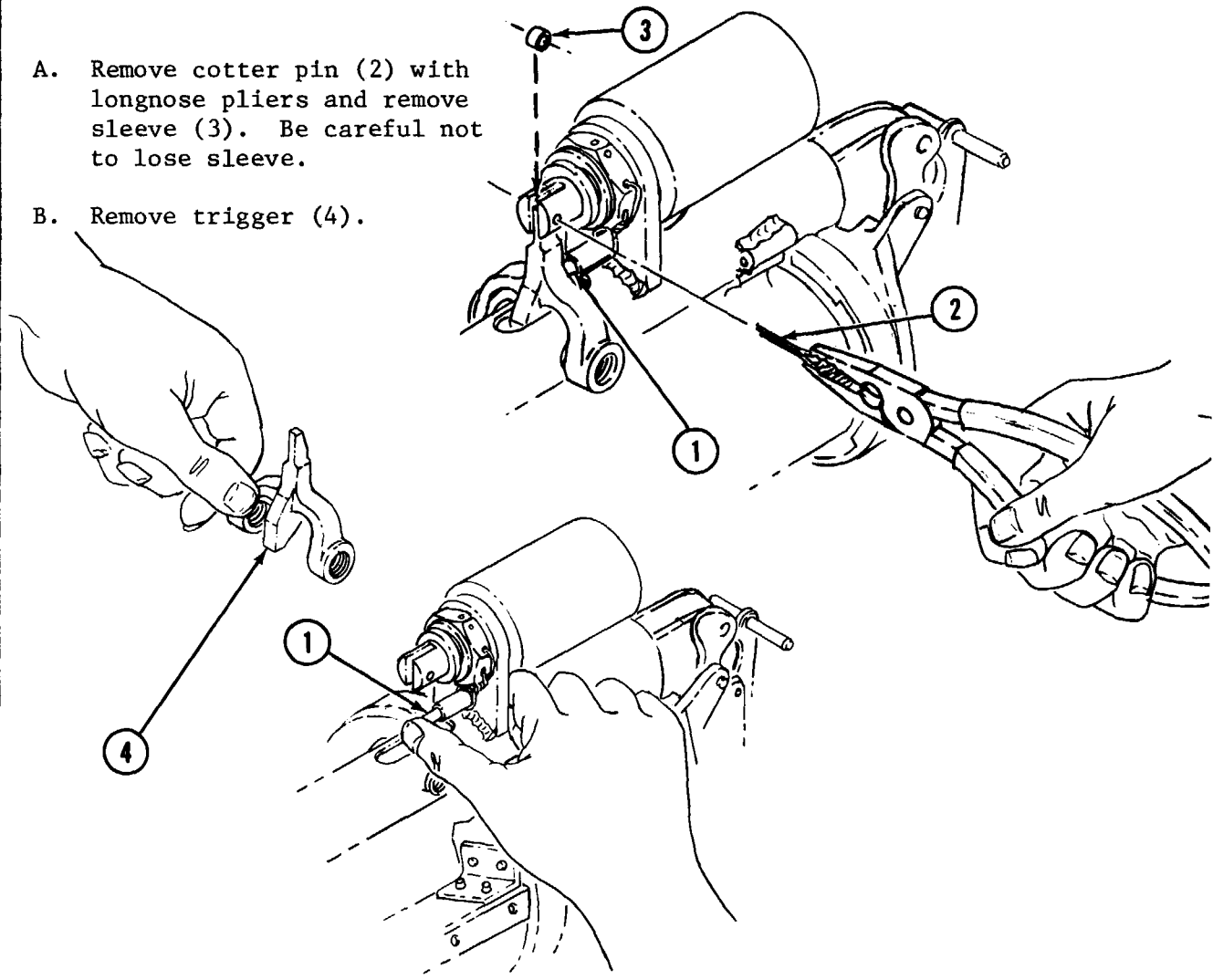
The firing mechanism rod (1) is under constant spring pressure against the trigger. When removing the trigger hold the rod tight until the trigger is removed. Then release the rod slowly.



The following steps are for LET serial number 504374 and below. If you have LET serial number 504375 and above, go to step 5.

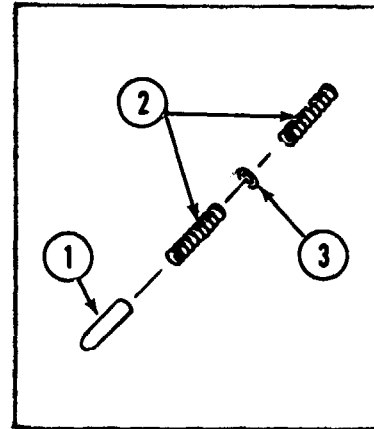
A. Remove cotter pin (2) with longnose pliers and remove sleeve (3). Be careful not to lose sleeve.

B. Remove trigger (4).

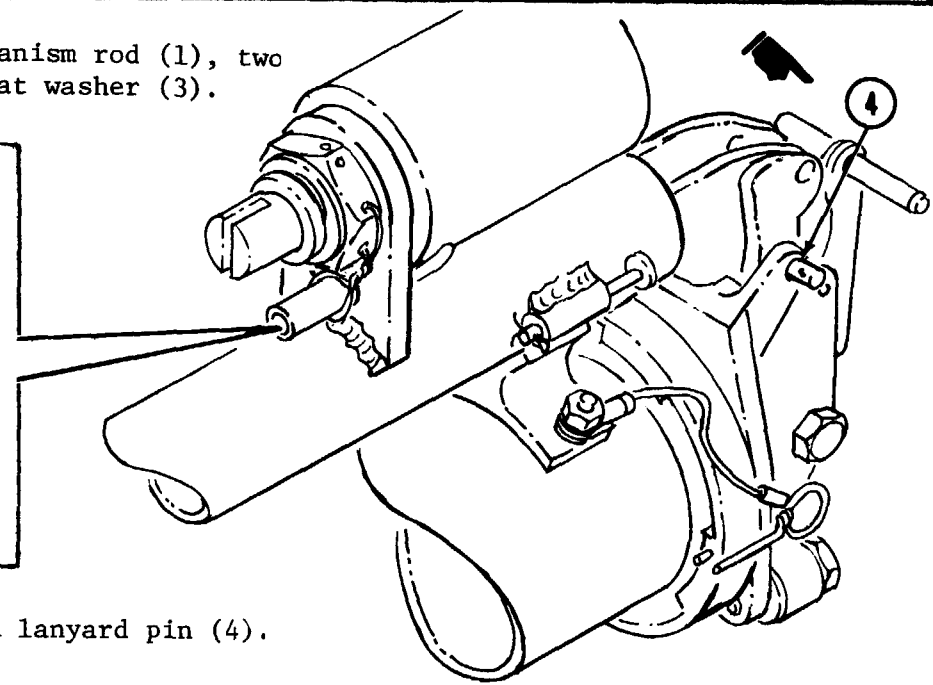


STEP 3

A. Remove firing mechanism rod (1), two springs (2) and flat washer (3).

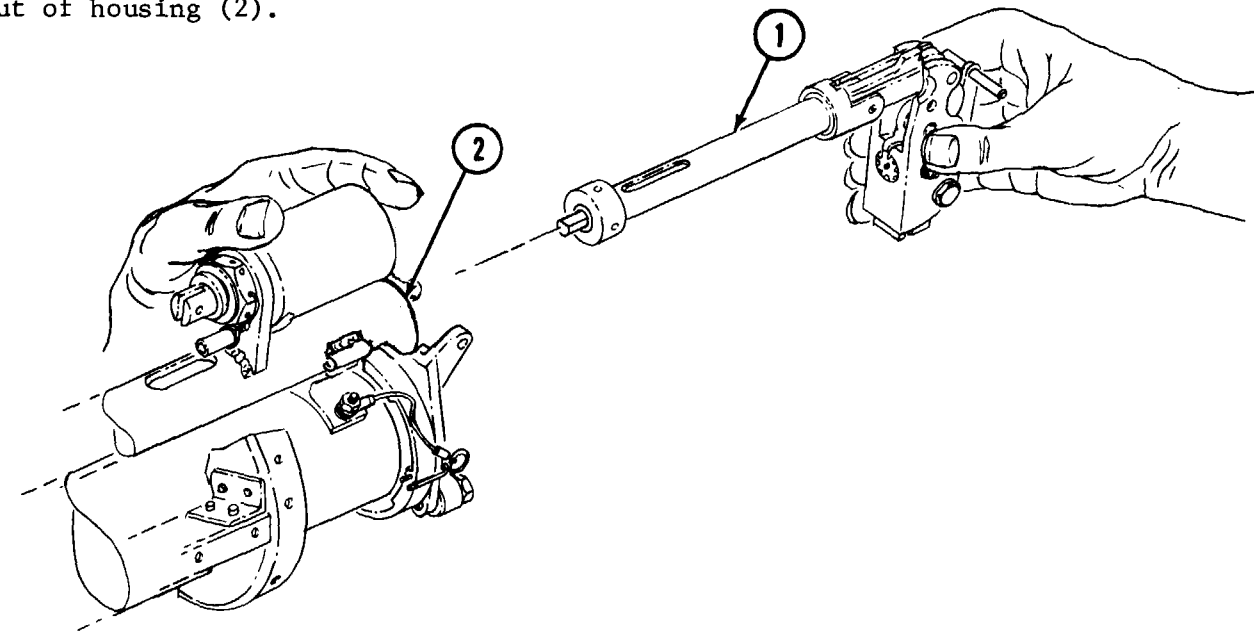


B. Remove breechblock lanyard pin (4).



STEP 4

Slide firing mechanism (1) back out of housing (2).



END OF TASK

Follow-on Task: Repair Firing Mechanism, see para. 4-34.

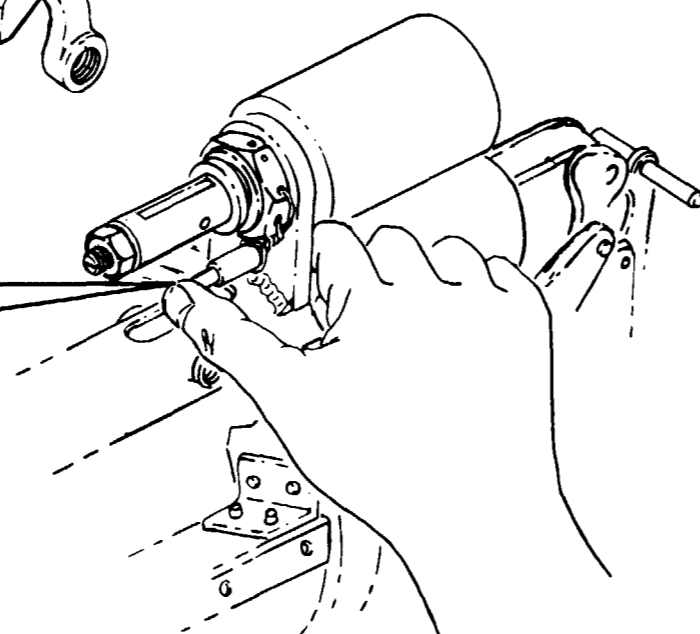
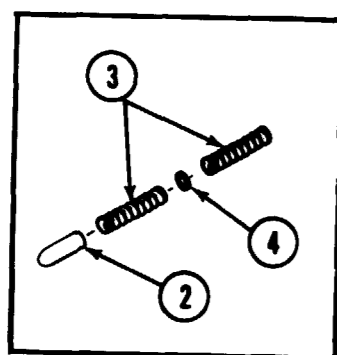
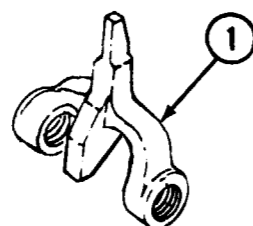
4-33. REMOVE FIRING MECHANISM - CONTINUED

STEP 5



The firing mechanism rod (2) is under constant spring pressure against the trigger. When removing the trigger hold the rod tight until the trigger is removed. Release the rod slowly.

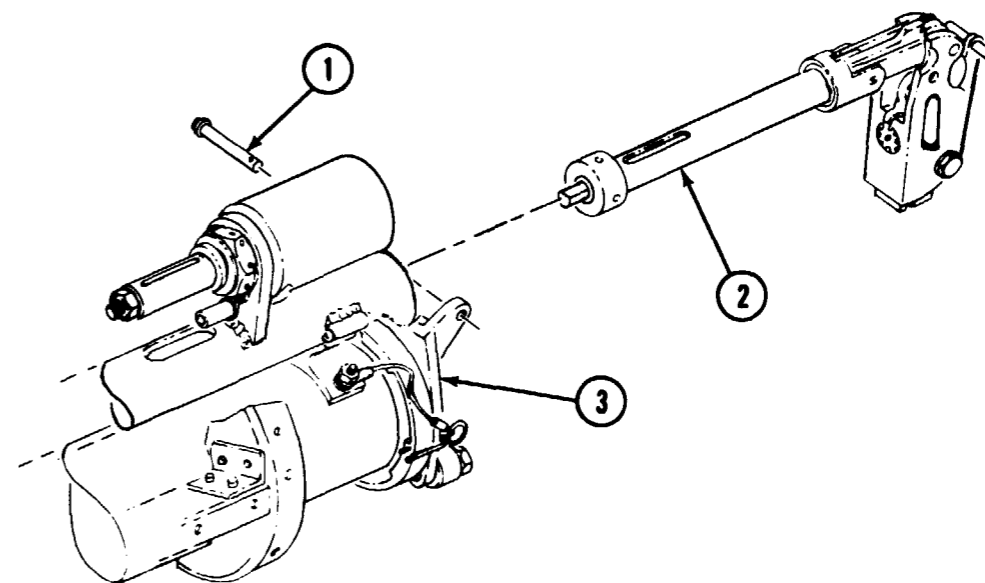
A. Remove trigger (1).



B. Remove firing mechanism rod (2), two springs (3) and flat washer (4).

STEP 6

A. Remove breechblock lanyard pin (1).



B. Slide firing mechanism (2) back out of housing (3).

END OF TASK

Follow-on Task: Repair Firing Mechanism, see para. 4-34.

4-34. REPAIR OF FIRING MECHANISM

Tools required: 1/16 inch drift punch 7/16 inch open end wrench
 Ball peen hammer Longnose pliers
 1/8 inch drift punch 7/16 inch socket
 1/8 inch flat-blade screwdriver Ratchet wrench
 3/64 inch Allen wrench Machinist's vise

Equipment condition: Firing mechanism removed, see para. 4-33.

Materials required:

Materials

Brush
 Solid film lubricant

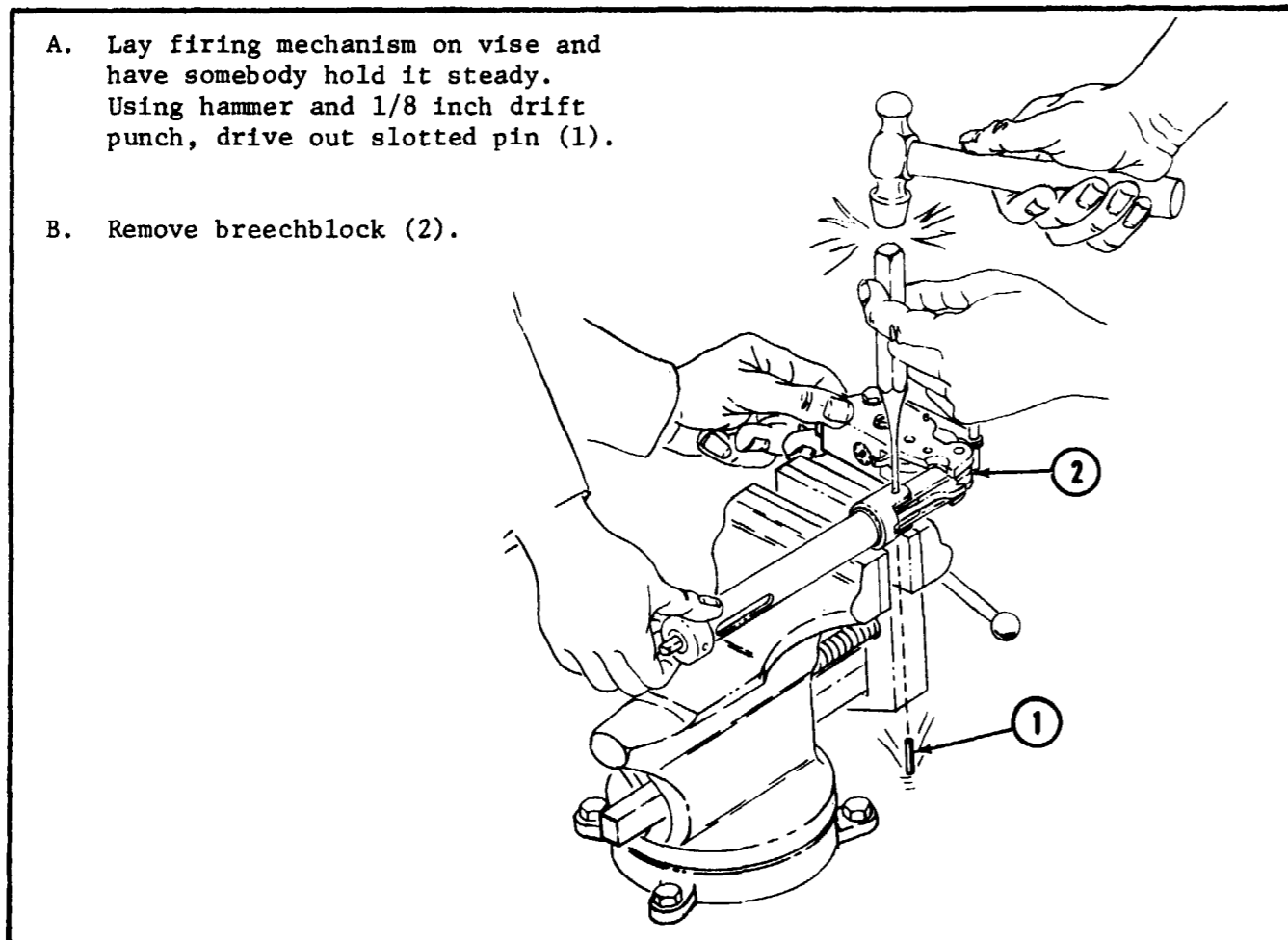
See Appendix D

Item 9
 Item 14

Personnel required: Two

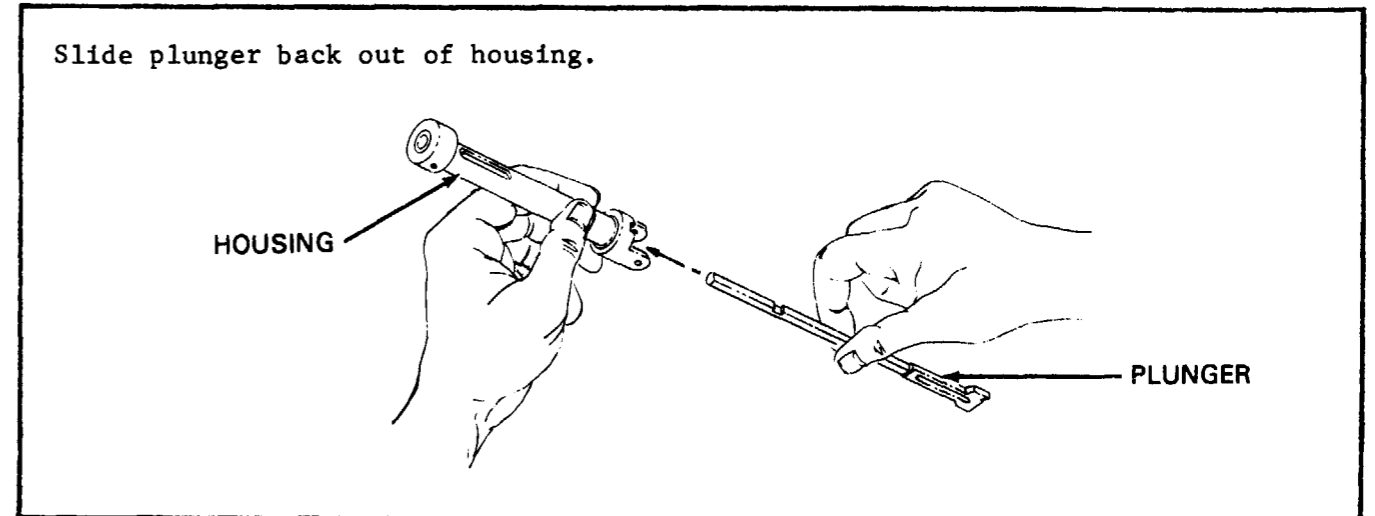
a. Disassembly

STEP 1

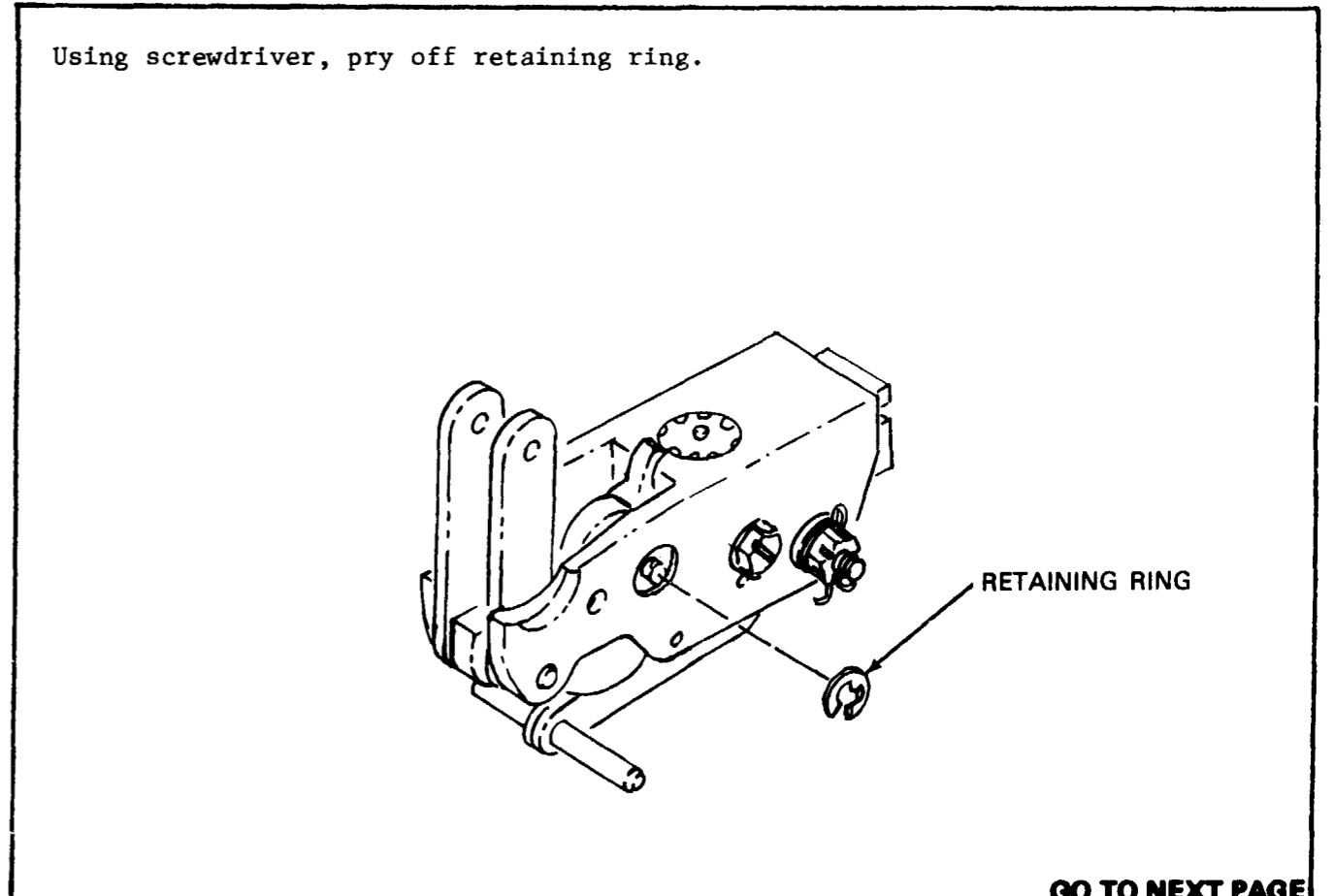


a. Disassembly -Continued

STEP 2



STEP 3



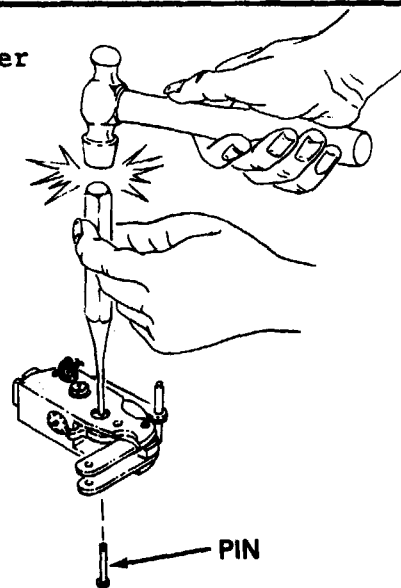
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4-34. REPAIR OF FIRING MECHANISM - CONTINUED

a. Disassembly - Continued

STEP 4

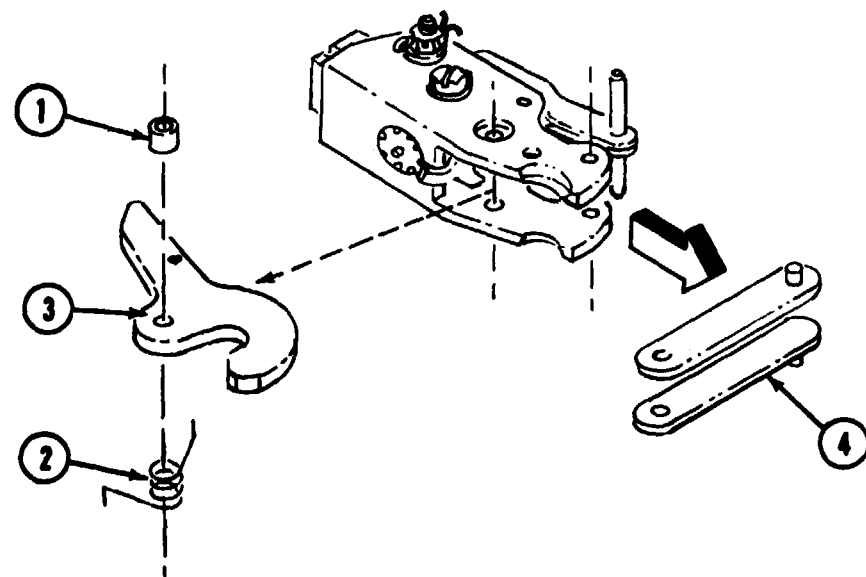
Remove pin. If necessary, use hammer and 1/8 inch drift punch.



STEP 5

A. Remove spacer (1), spring (2) and hammer (3).

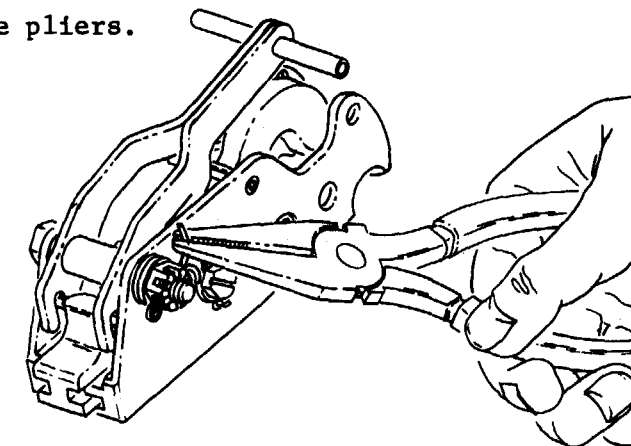
B. Remove two connecting links (4).



a. Disassembly - Continued

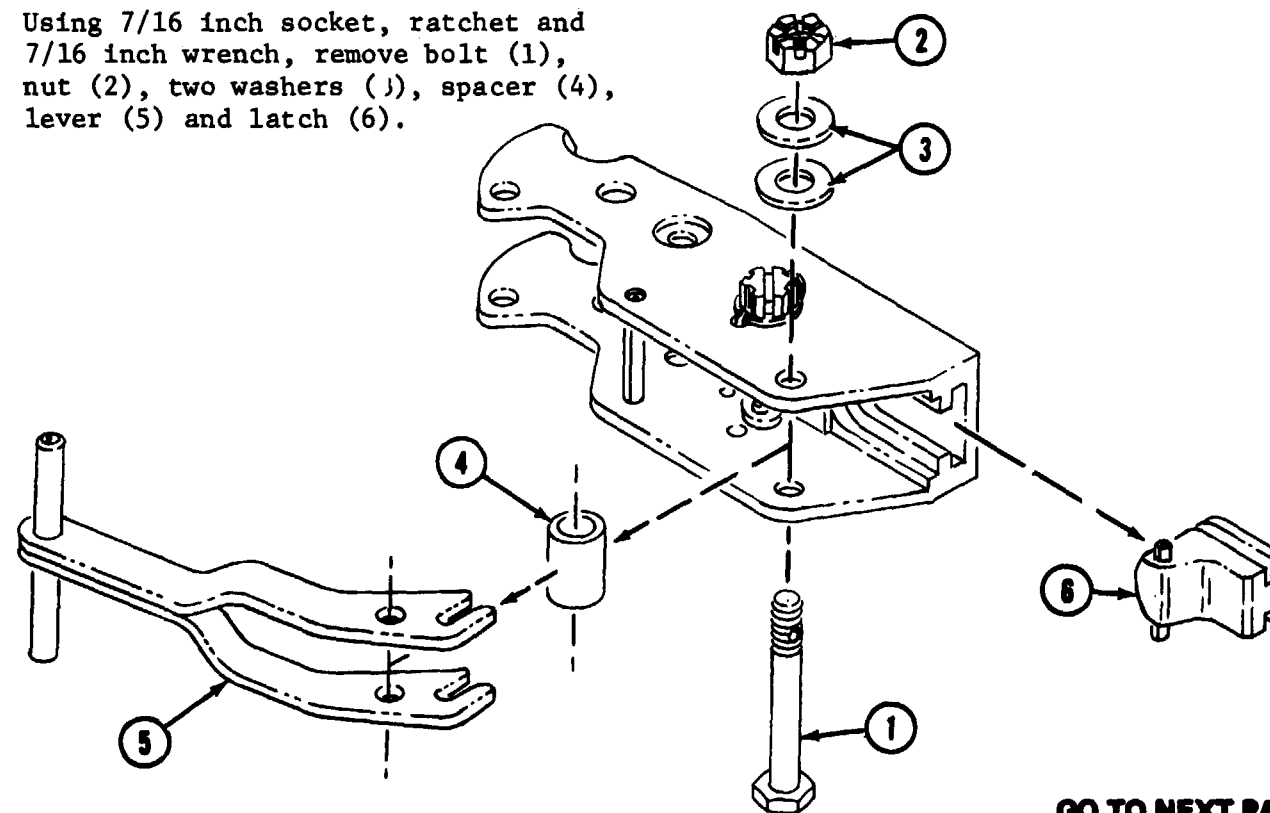
STEP 6

Remove cotter pin with longnose pliers.



STEP 7

Using 7/16 inch socket, ratchet and 7/16 inch wrench, remove bolt (1), nut (2), two washers (3), spacer (4), lever (5) and latch (6).




GO TO NEXT PAGE

4-34. REPAIR OF FIRING MECHANISM - CONTINUED

a. Disassembly - Continued

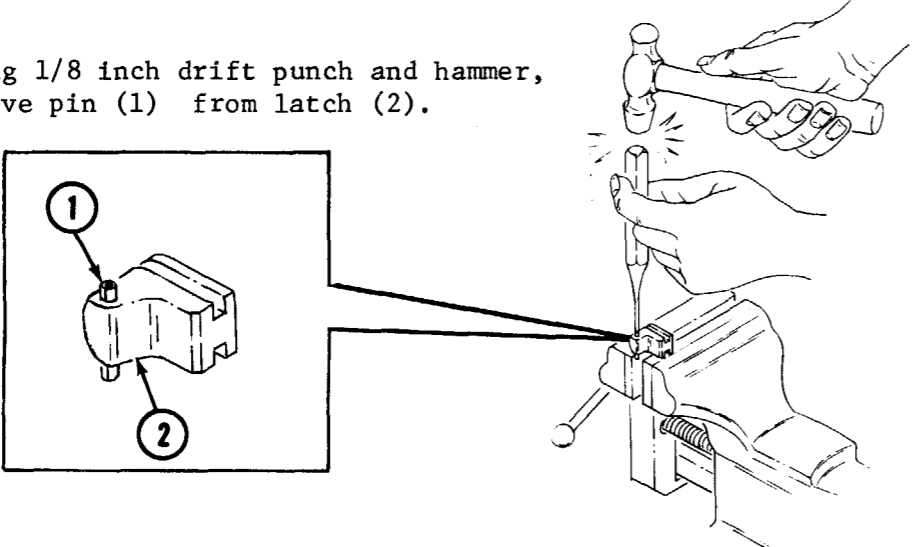
STEP 8



NOTE

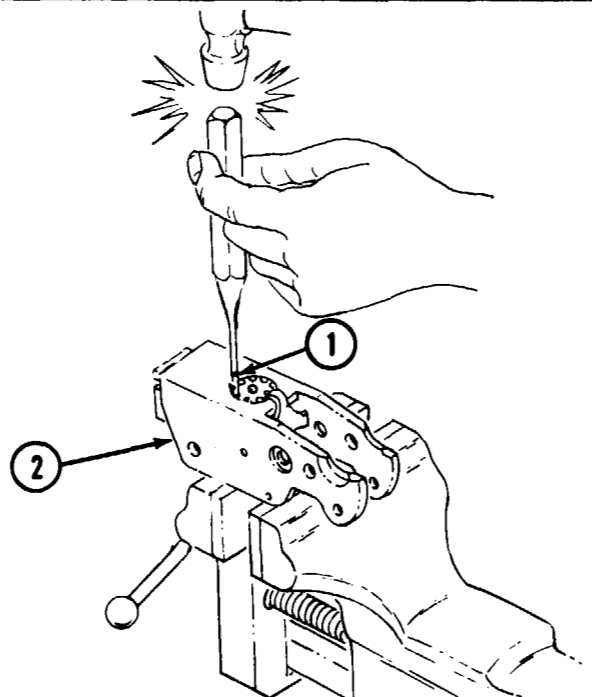
Place latch over jaws of vise.

Using 1/8 inch drift punch and hammer, remove pin (1) from latch (2).



STEP 9

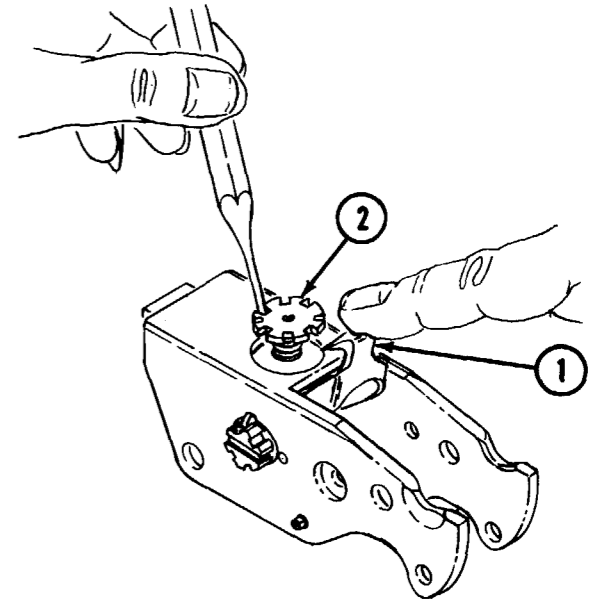
Lay breechblock on vise and remove pin with hammer and 1/16 inch drift punch.



a. Disassembly - Continued

STEP 10

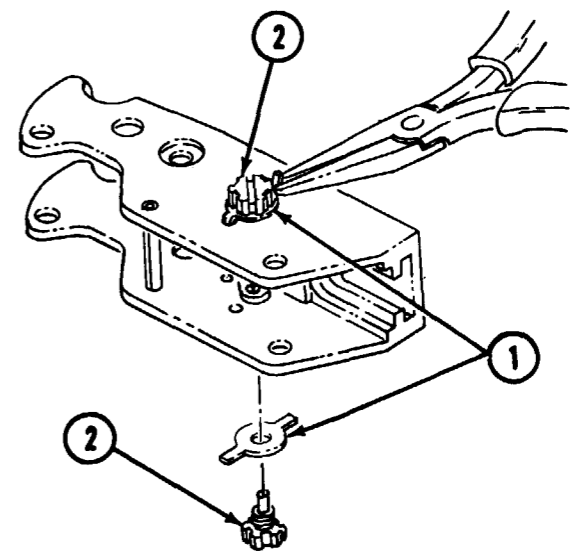
Push spring loaded extractor (1) up out of way with finger. Insert 1/16 inch drift punch point in one of the grooves of plate (2). Rotate plate counterclockwise until it is loose. Continue removal by hand.



STEP 11

A. Straighten tabs on two washers (1) using longnose pliers.

B. Remove two screws (2) with screwdriver and remove two washers (1).



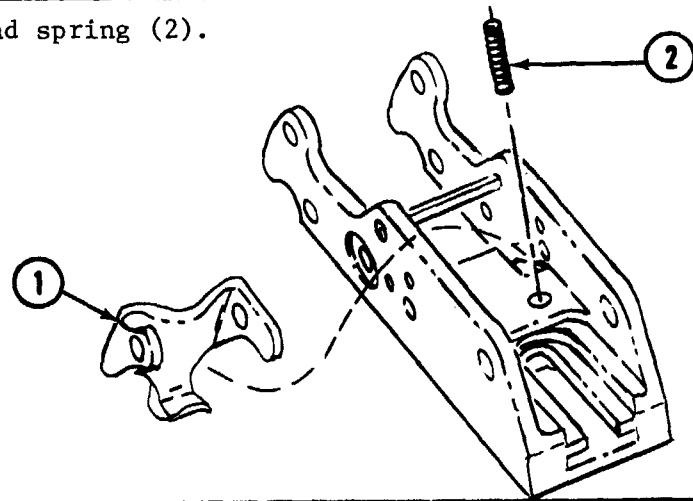
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4-34. REPAIR OF FIRING MECHANISM - CONTINUED

a. Disassembly - Continued

STEP 12

Remove extractor (1) and spring (2).

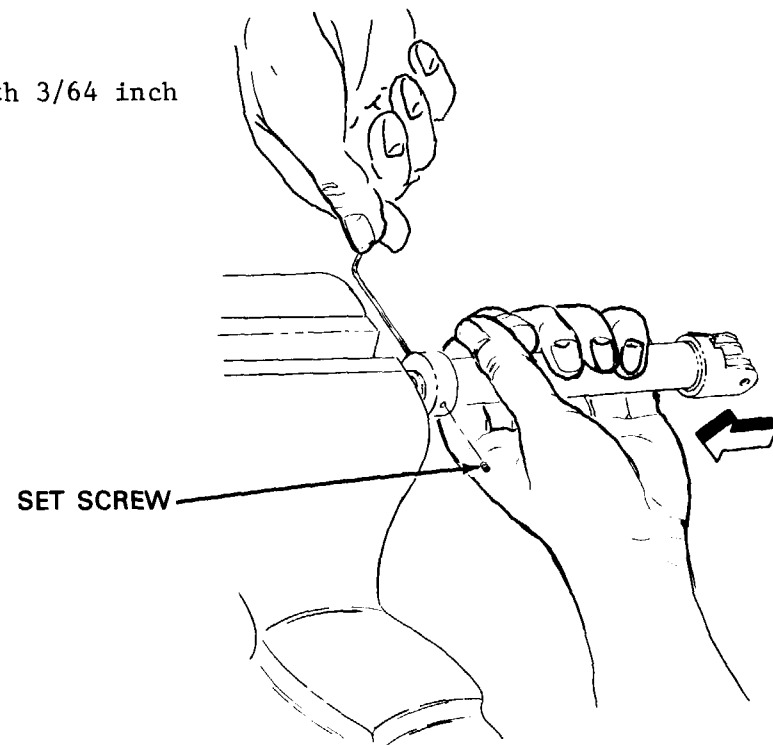


STEP 13



Spring is under considerable pressure. Hold housing firmly against work bench, vise, or other object while removing set screws. Do not point at people or objects.

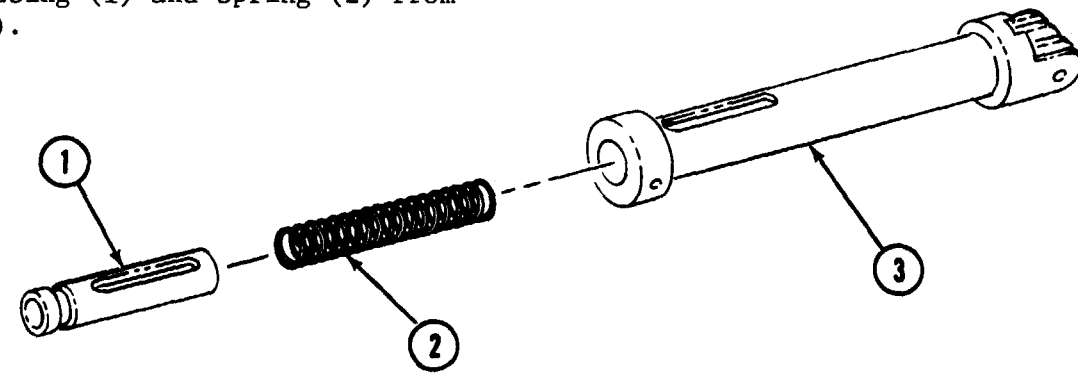
Remove two set screws with 3/64 inch Allen wrench.



a. Disassembly - Continued

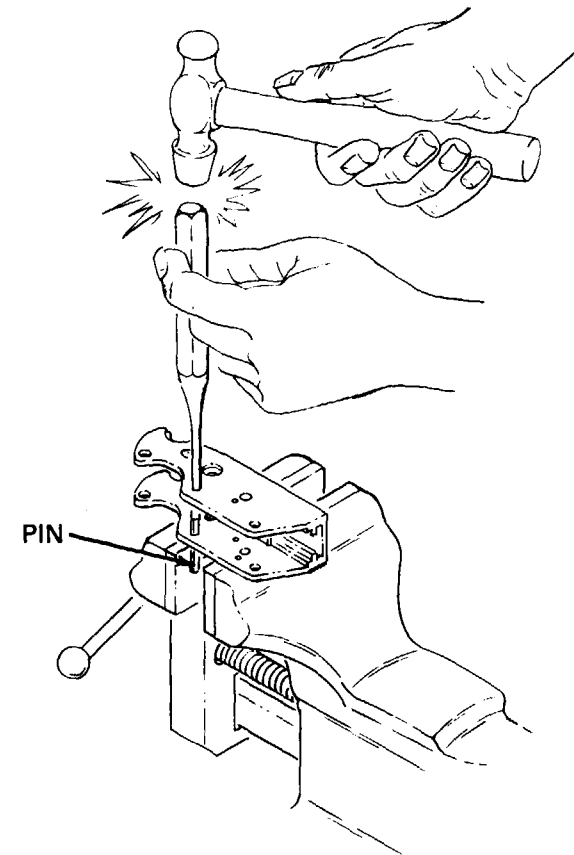
STEP 14

Remove housing (1) and spring (2) from piston (3).



STEP 15

Remove pin from breechblock using 1/8 inch drift punch and hammer.



GO TO NEXT PAGE

4-34. REPAIR OF FIRING MECHANISM - CONTINUED

b. Assembly

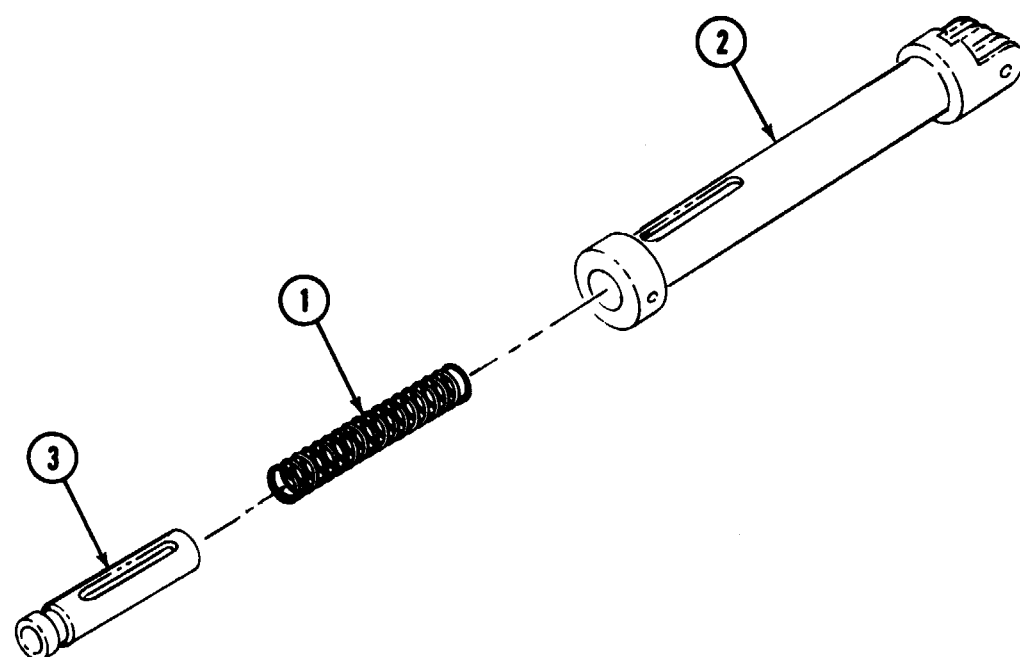
STEP 1



NOTE

Prior to installation, coat all fasteners and pins with solid film lubricant. Wipe clean with cloth after installation.

- A. Insert spring (1) into piston (2).
- B. Insert housing (3) into piston (2).



b. Assembly - Continued

STEP 2



WARNING

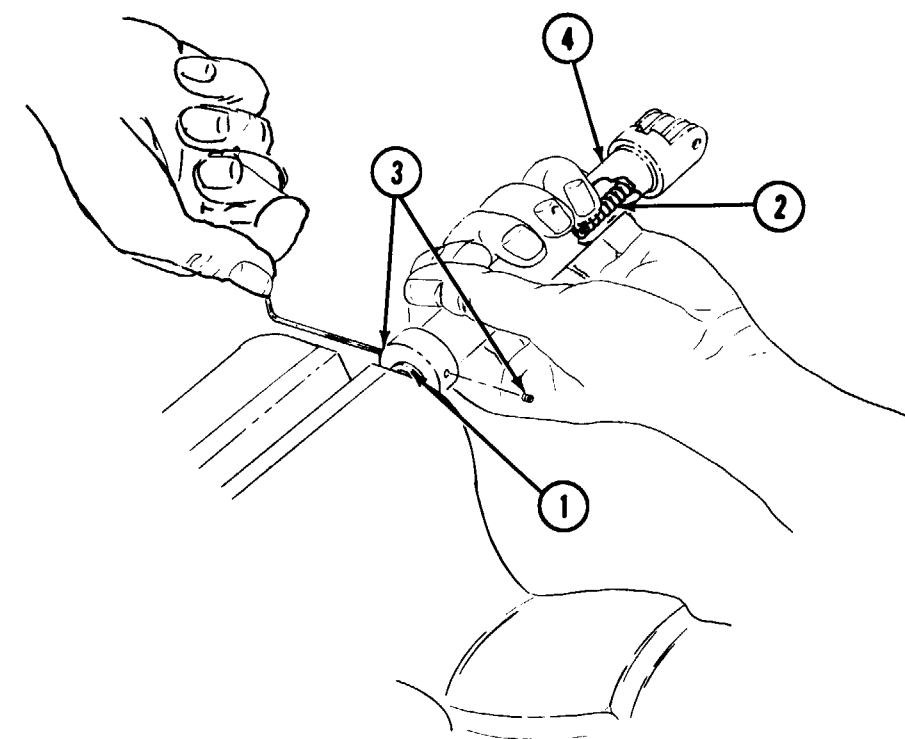
Before performing step below, remember -- the spring is under pressure. Hold housing firmly against work bench vise or other object while installing setscrews. Do not point at people or objects.



NOTE

Line up slot in housing with slot in piston.

Push housing (1) against spring (2) by holding against solid object. When housing (1) is all the way in piston (4), screw setscrews (3) into place using 3/64 inch Allen wrench to secure housing (1) in piston (4).



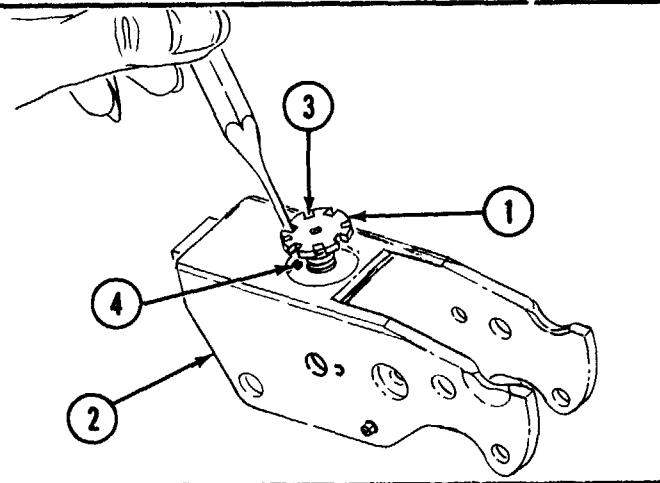
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4-34. REPAIR OF FIRING MECHANISM - CONTINUED

b. Assembly - Continued

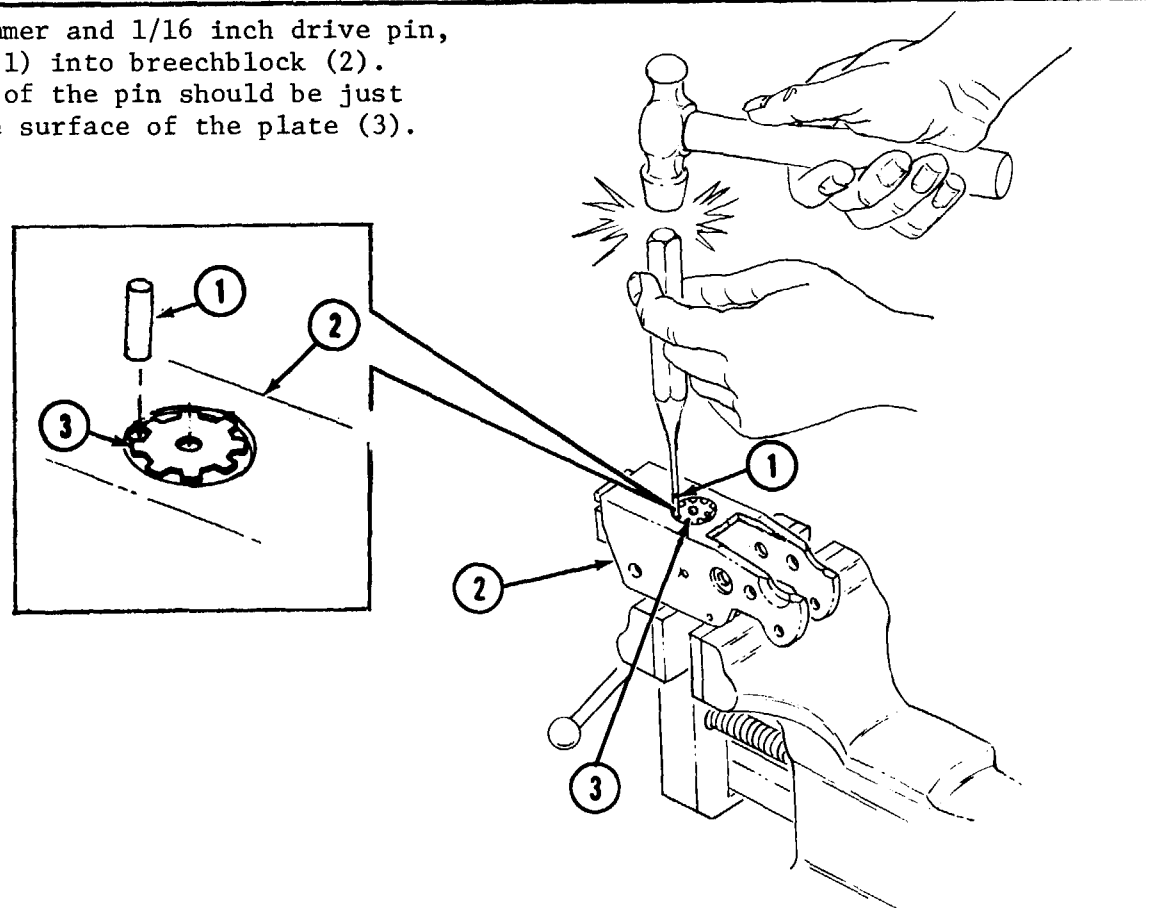
STEP 3

Coat threads of plate (1) with solid film lubricant. Screw plate (1) into breechblock (2). Insert 1/16 inch drift punch into one of the grooves of the plate. Turn plate until it is flush with surface of the breechblock (2). Be sure one of the notches (3) in the plate (1) aligns with the hole (4) in the breechblock (2).



STEP 4

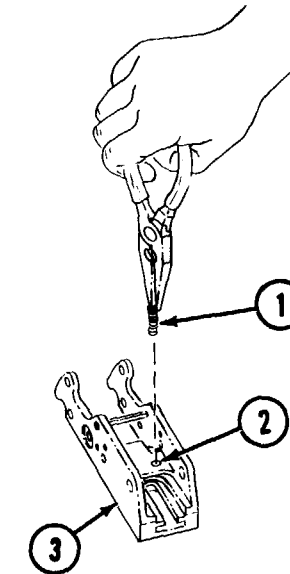
Using hammer and 1/16 inch drive pin, tap pin (1) into breechblock (2). The edge of the pin should be just below the surface of the plate (3).



b. Assembly - Continued

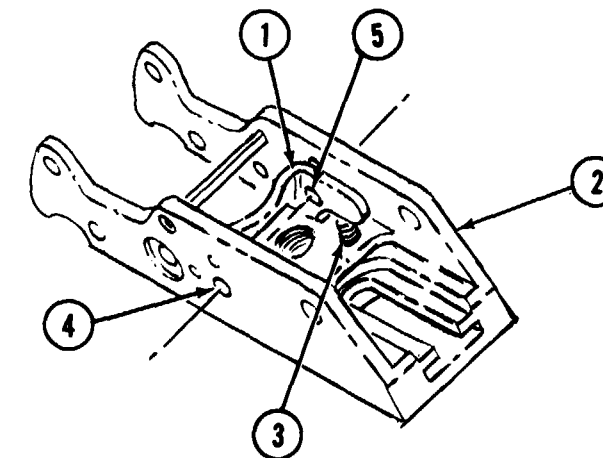
STEP 5

Using longnose pliers, install spring (1) into hole (2) in breechblock (3).



STEP 6

- A. Insert cartridge extractor (1) into breechblock (2). Be careful to keep spring (3) in place.
- B. Align holes (4) in breechblock (2) and holes (5) in extractor (1).



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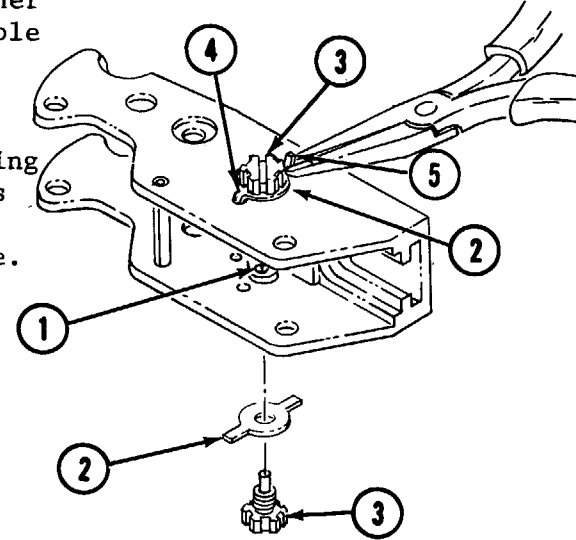
4-34. REPAIR OF FIRING MECHANISM - CONTINUED

b. Assembly - Continued

STEP 7

A. Using pliers, bend tab (4) on washer (2), so that it slips into lock hole as shown.

B. Secure extractor (1) with two tab washers (2) and two screws (3) using flat-blade screwdriver. Bend tabs (5) on washers (2) with longnose pliers to lock screws (3) in place.

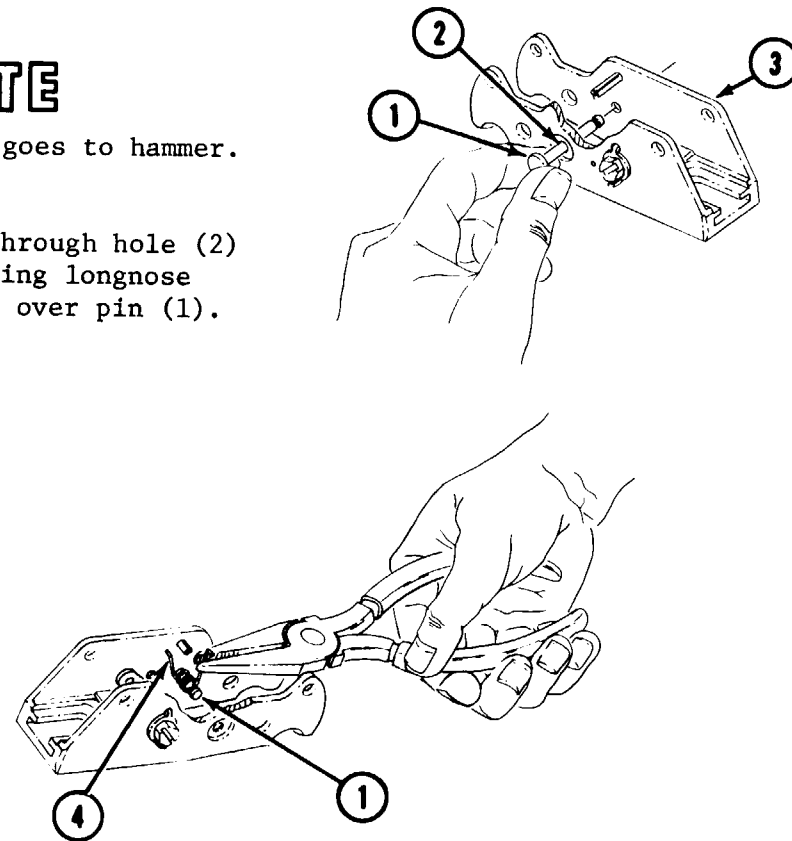


STEP 8

**NOTE**

Long tang of spring goes to hammer.

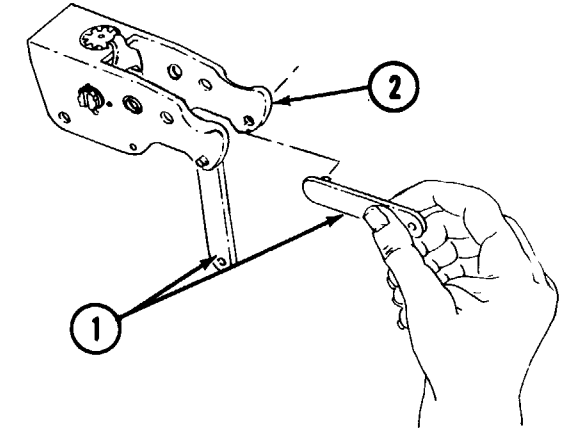
Push pin (1) part way through hole (2) in breechblock (3). Using longnose pliers, push spring (4) over pin (1).



b. Assembly - Continued

STEP 9

Install two rigid connecting links (1) in breechblock (2).



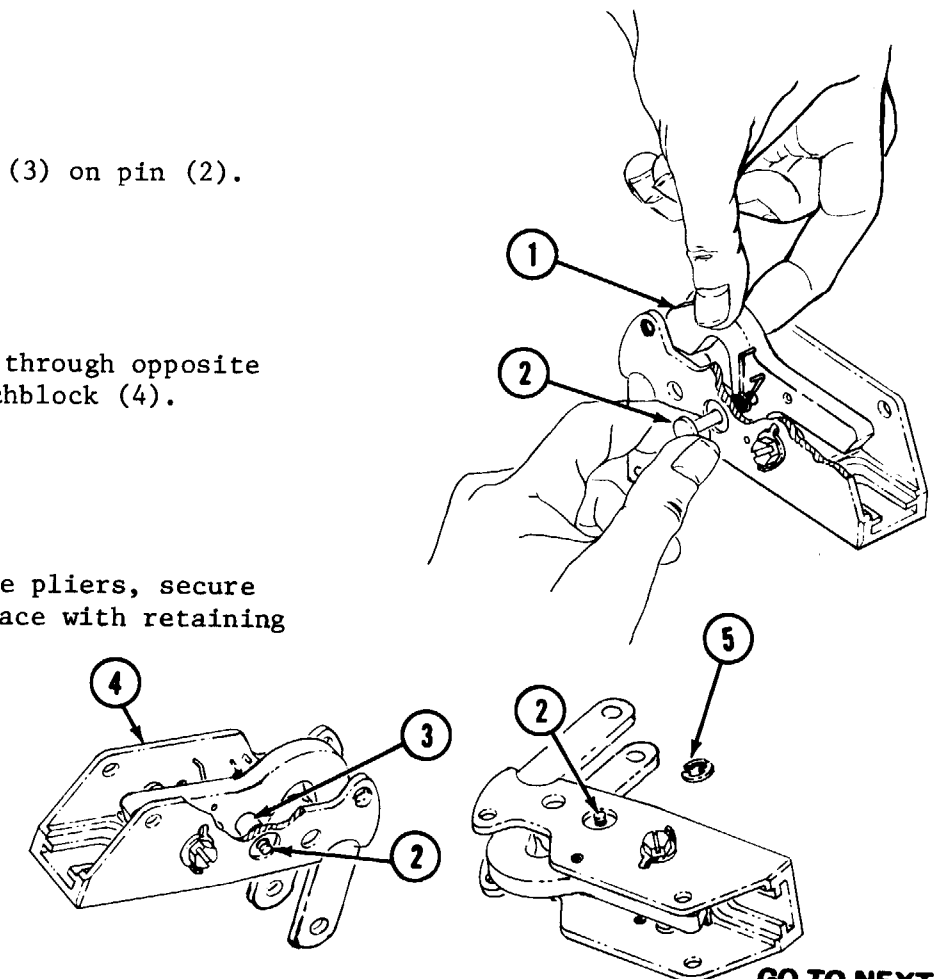
STEP 10

A. Place hammer (1) on pin (2).

B. Place spacer (3) on pin (2).

C. Push pin (2) through opposite side of breechblock (4).

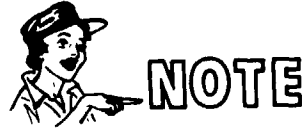
D. Using longnose pliers, secure pin (2) in place with retaining ring (5).

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4-34. REPAIR OF FIRING MECHANISM - CONTINUED

b. Assembly - Continued

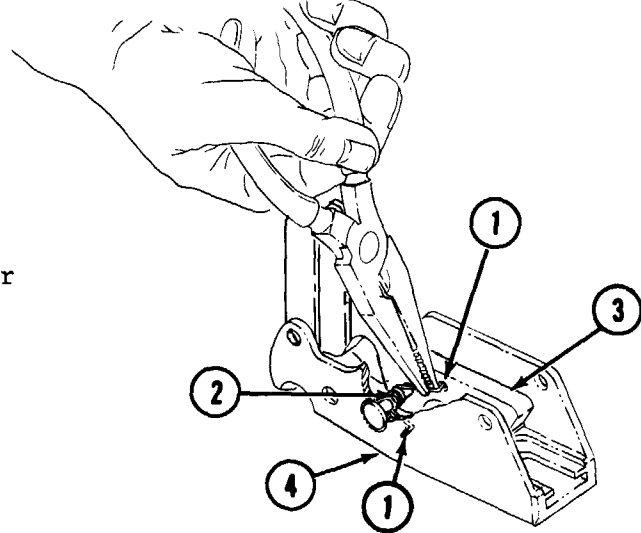
STEP 11



NOTE

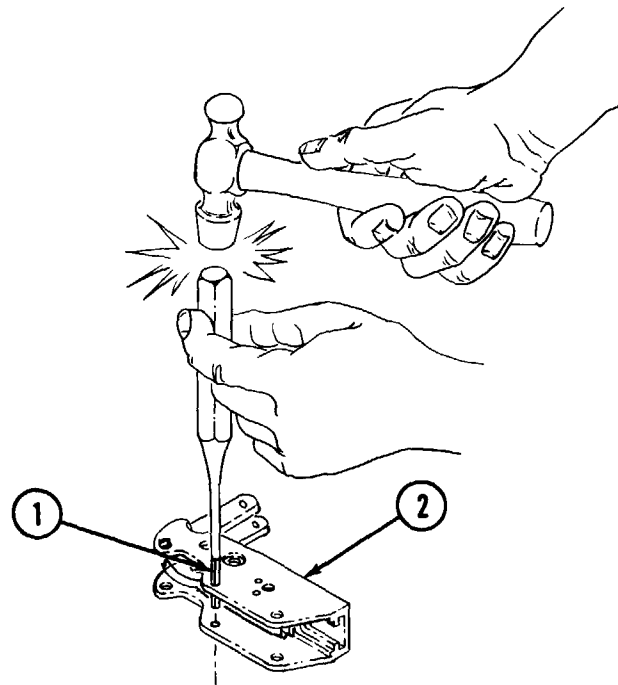
Long tang goes into hammer.

Using longnose pliers, install tangs (1) of spring (2) in hammer (3) and breechblock (4).



STEP 12

Using hammer and drive pin, carefully tap pin (1) into breechblock (2).



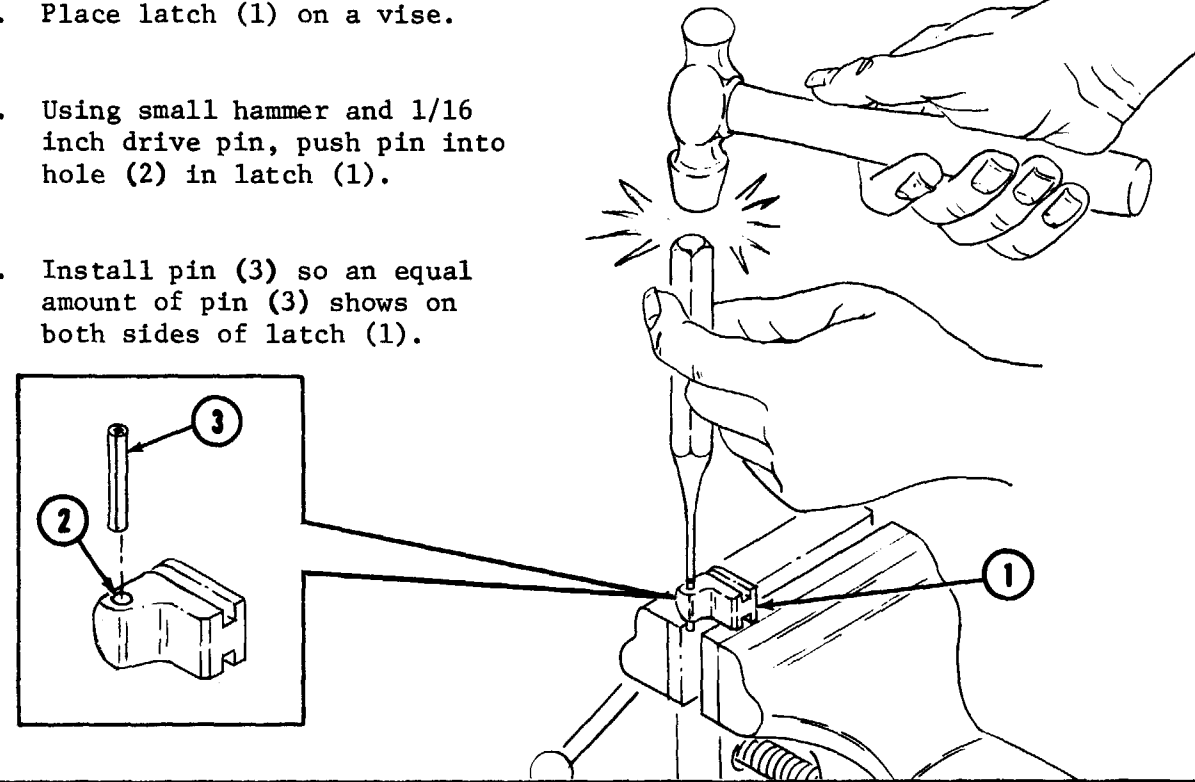
b. Assembly - Continued

STEP 13

A. Place latch (1) on a vise.

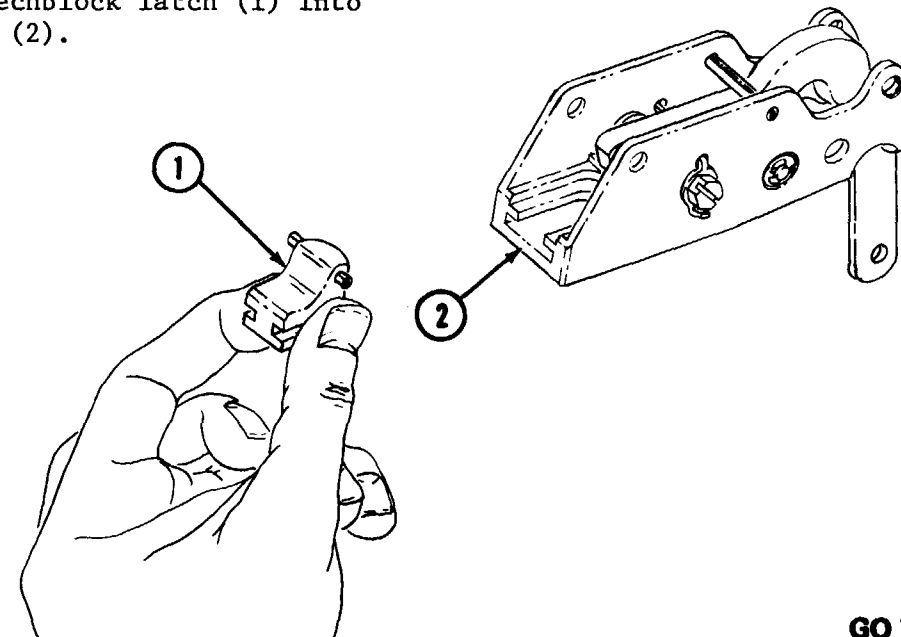
B. Using small hammer and 1/16 inch drive pin, push pin into hole (2) in latch (1).

C. Install pin (3) so an equal amount of pin (3) shows on both sides of latch (1).



STEP 14

Install breechblock latch (1) into breechblock (2).



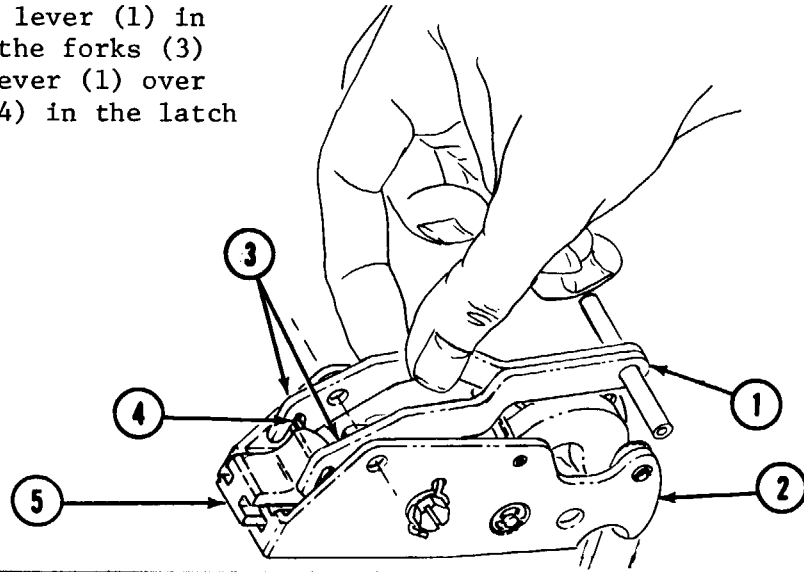
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4-34. REPAIR OF FIRING MECHANISM - CONTINUED

b. Assembly - Continued

STEP 15

Position lock release lever (1) in breechblock (2) with the forks (3) of the lock release lever (1) over each end of the pin (4) in the latch (5).



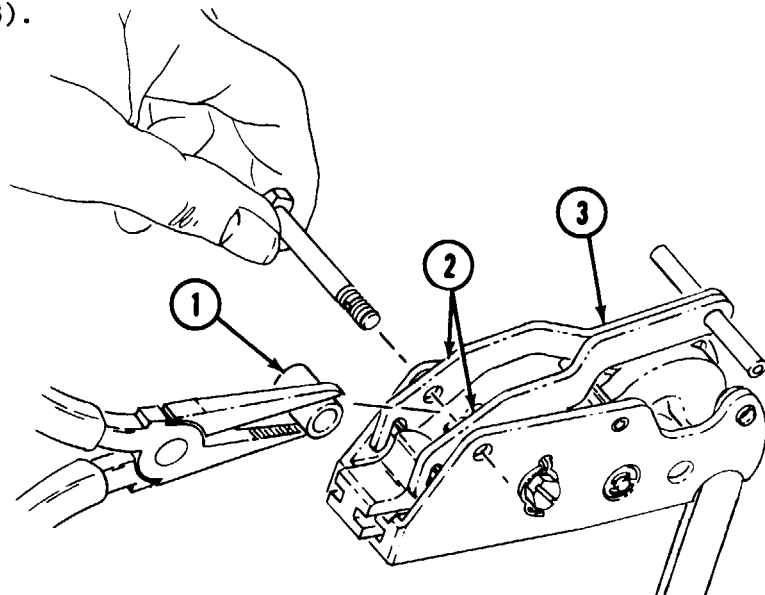
STEP 16



NOTE

Install bolt from left side as shown.

Using longnose pliers, place sleeve (1) between forks (2) of lever (3).

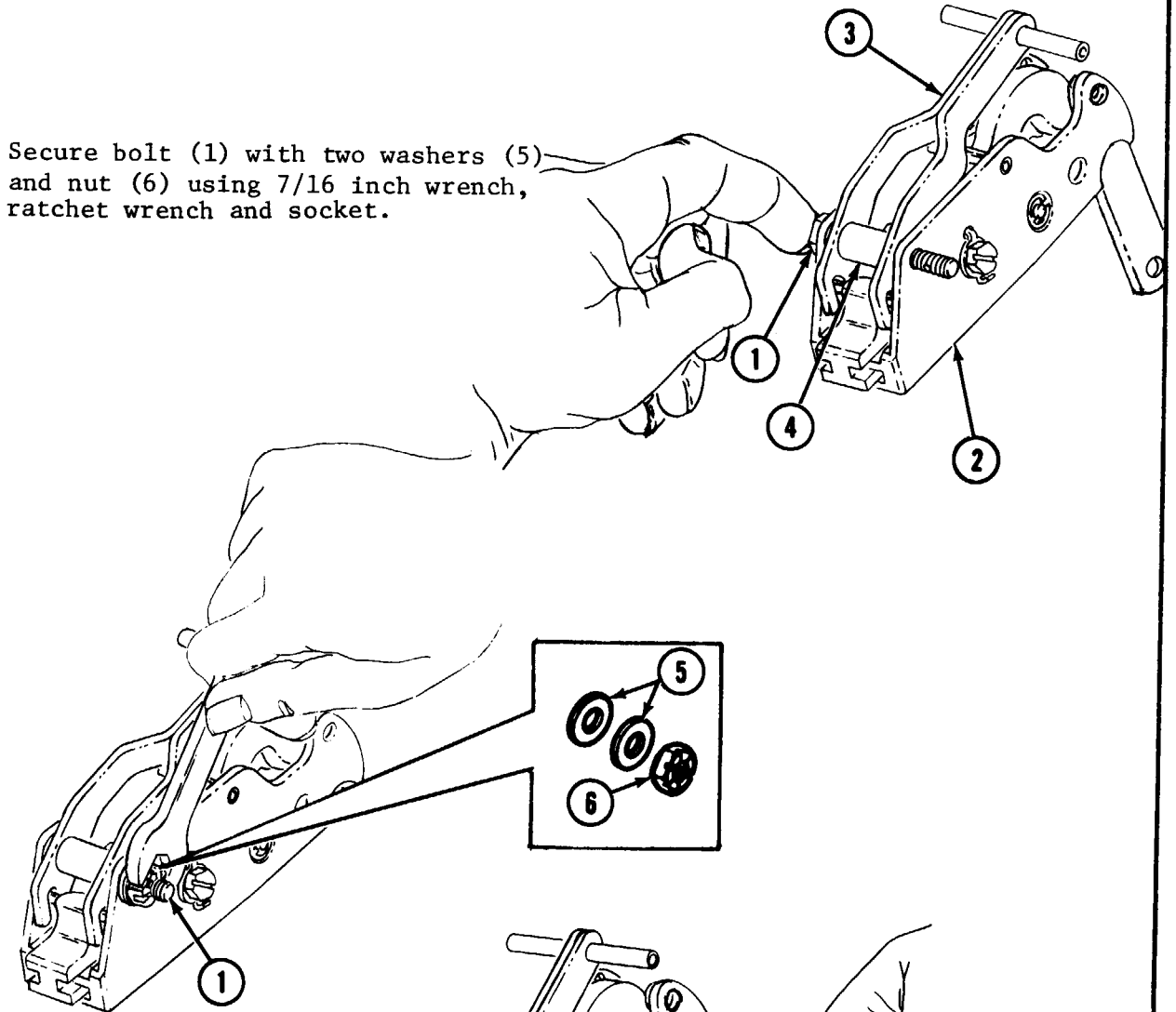


b. Assembly - Continued

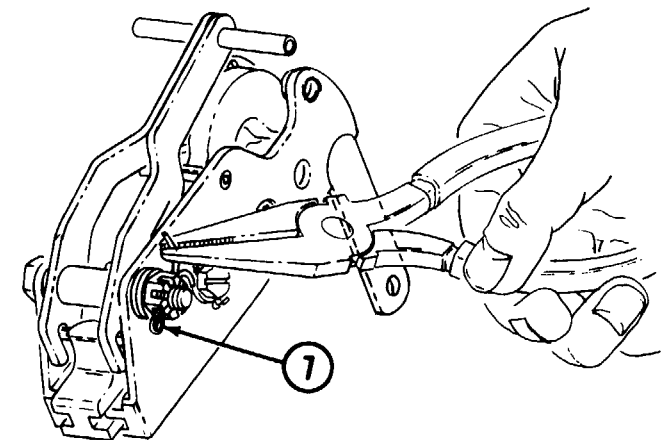
STEP 17

A. Push bolt (1) through breechblock (2), lever (3) and spacer (4).

B. Secure bolt (1) with two washers (5) and nut (6) using 7/16 inch wrench, ratchet wrench and socket.



C. Install new cotter pin (7) using longnose pliers.



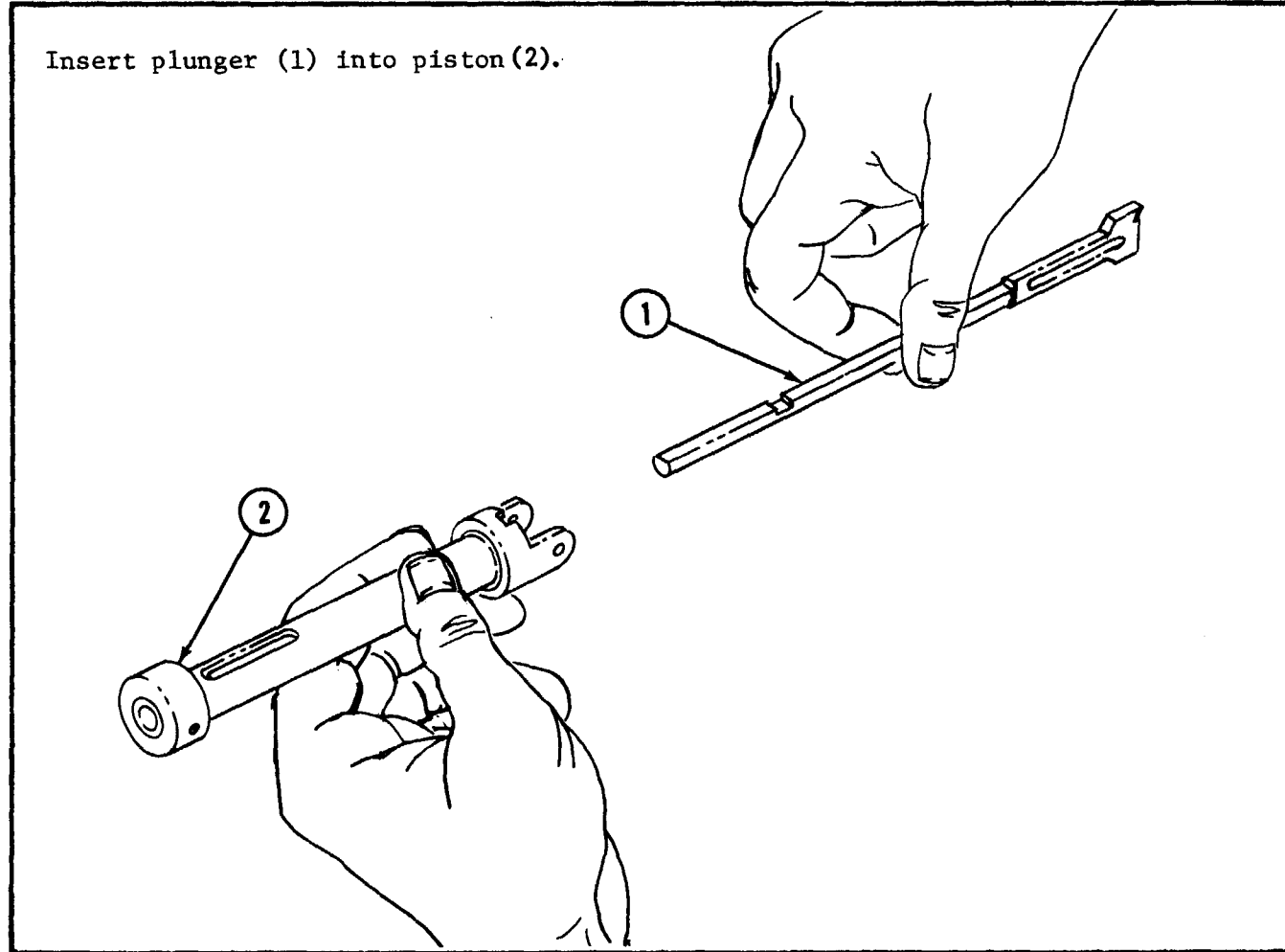
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4-34. REPAIR OF FIRING MECHANISM - CONTINUED

b. Assembly - Continued

STEP 18

Insert plunger (1) into piston (2).



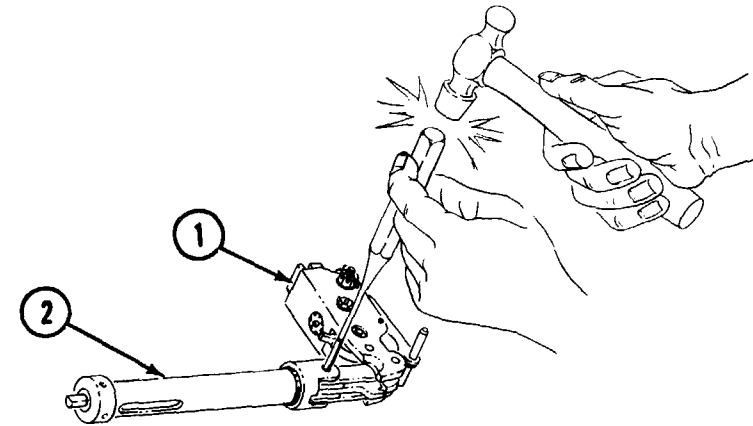
b. Assembly - Continued

STEP 19

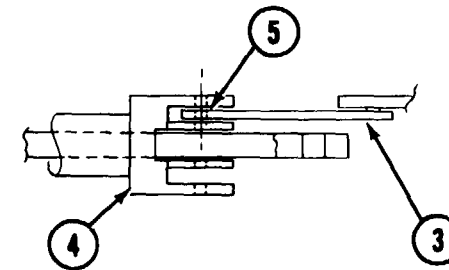


NOTE

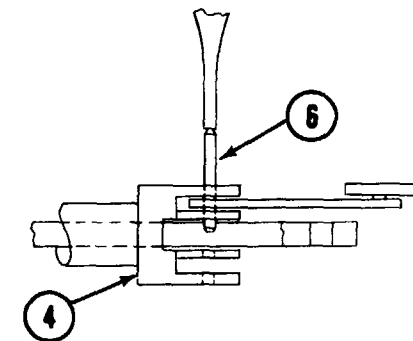
Secure assembled breechblock (1) to assembled firing mechanism piston (2) as follows:



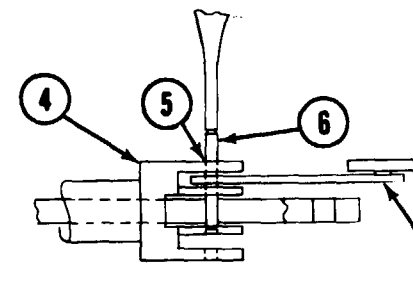
A. Insert one of the links (3) into piston linkage (4). Line up holes (5).



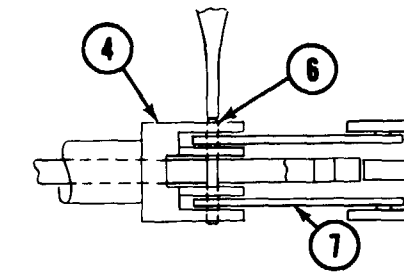
B. Start pin (6) through side of piston linkage (4).



C. Using hammer and 1/8 inch drift punch, gently tap pin (6) through holes (5) in piston linkage (4) and one link (3).



D. Insert other link (7) and line up holes. Tap pin through link (7) and piston linkage (4) until an equal length of pin (6) is visible from both sides.



END OF TASK

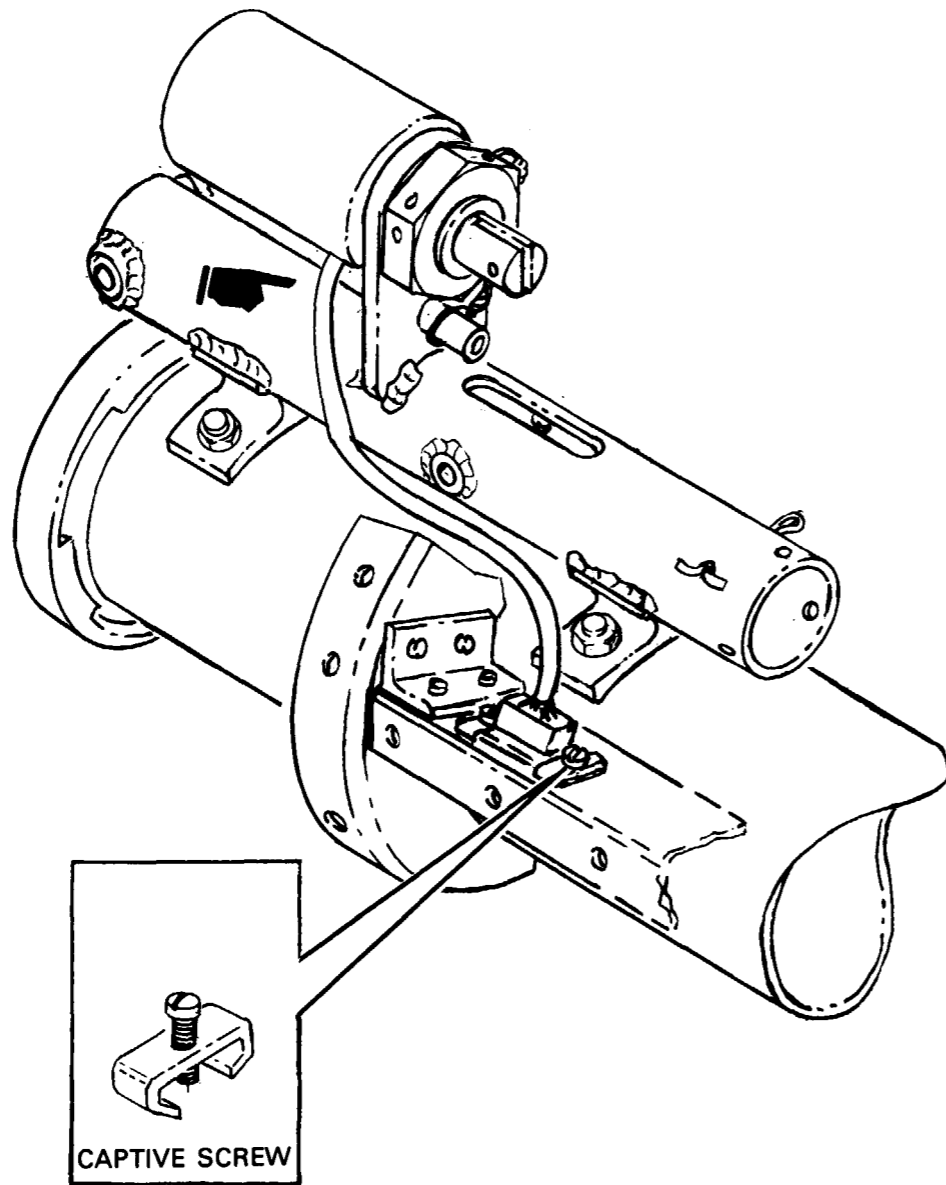
4-35. REMOVE SOLENOID CABLE ASSEMBLY

Tools required: 1/8 inch flat-blade screwdriver
Diagonal cutting pliers
1 1/4 inch open end wrench
Pliers

Equipment condition: Firing mechanism removed, see para. 4-33, steps 1 and 2.

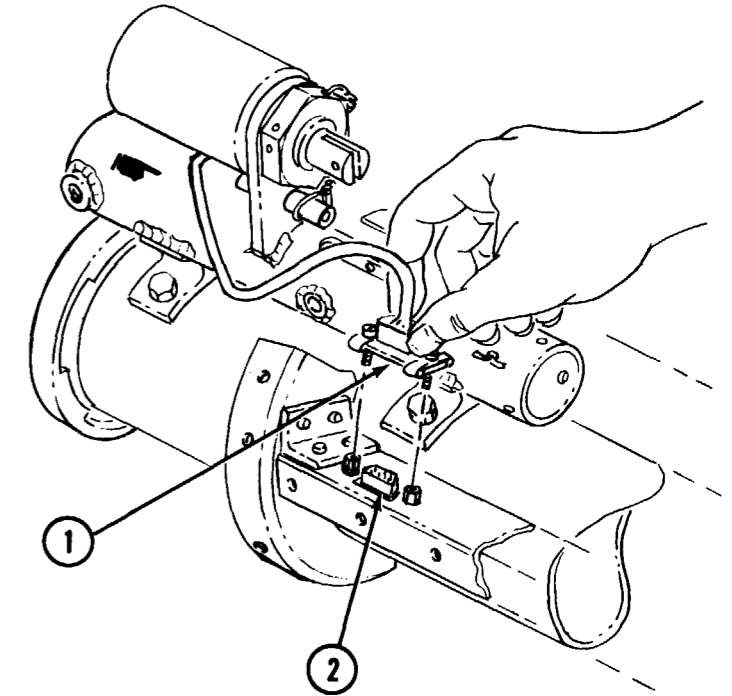
STEP 1

Using screwdriver, loosen two captive screws.



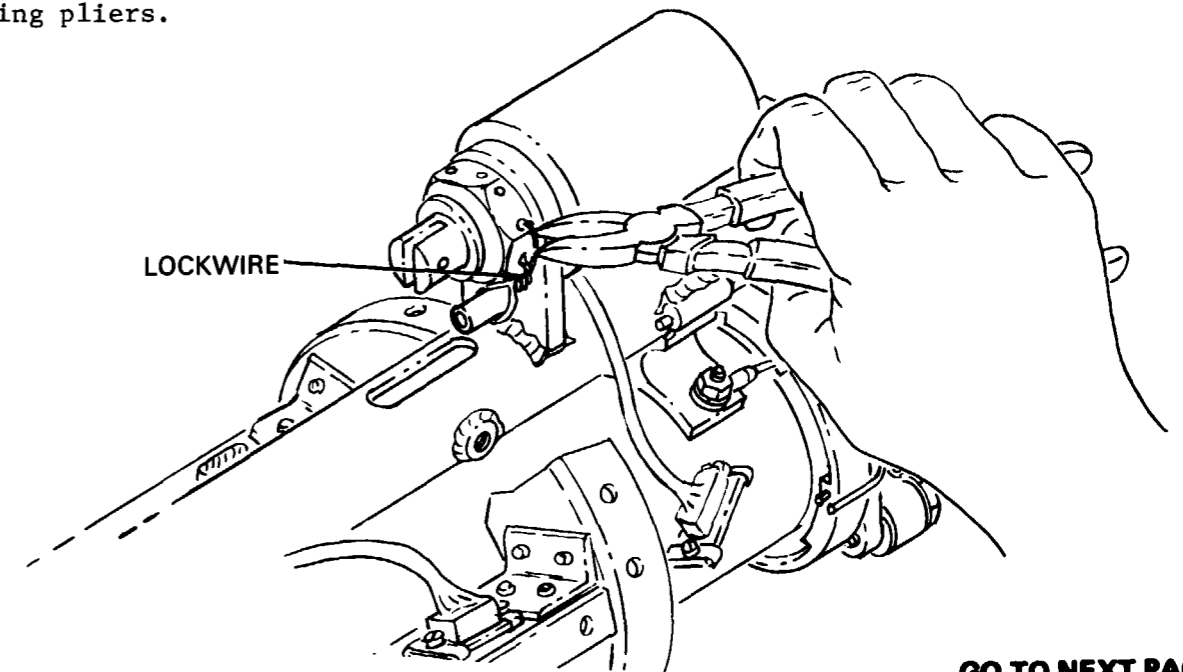
STEP 2

Remove connector W5J1 (1) from connector W1P1 (2).



STEP 3

Remove lockwire using diagonal cutting pliers.

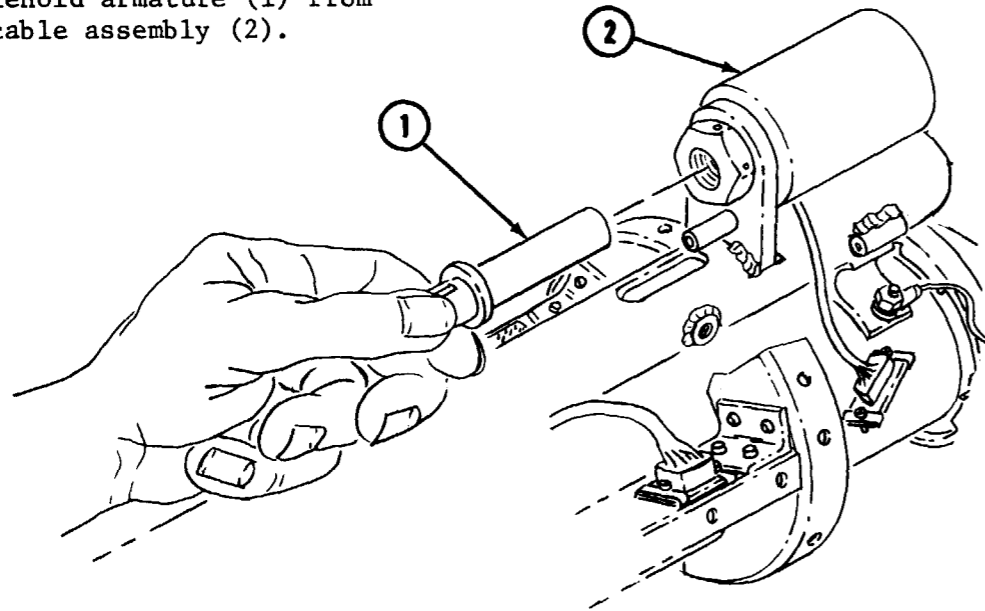


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4-35. REMOVE SOLENOID CABLE ASSEMBLY - CONTINUED

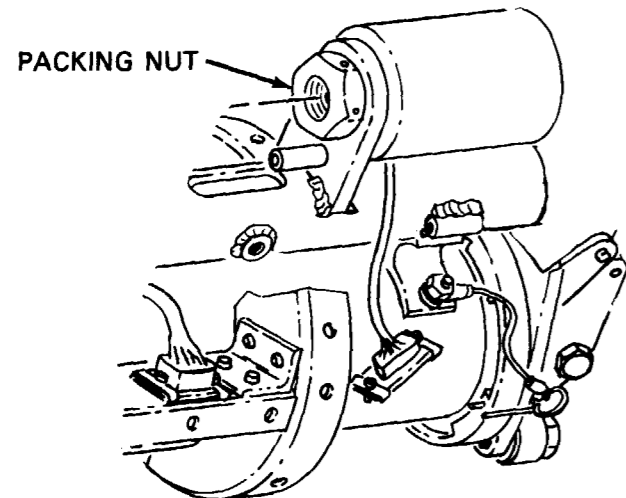
STEP 4

Remove solenoid armature (1) from solenoid cable assembly (2).



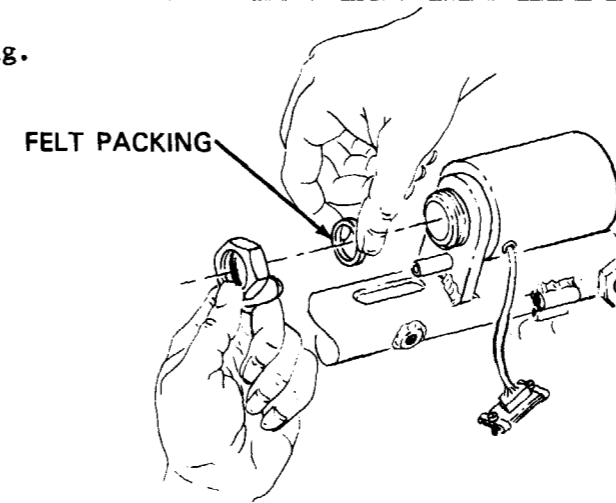
STEP 5

Using 1 1/4 inch open end wrench and pliers, remove packing nut.



STEP 6

Remove felt packing.



STEP 7



CAUTION

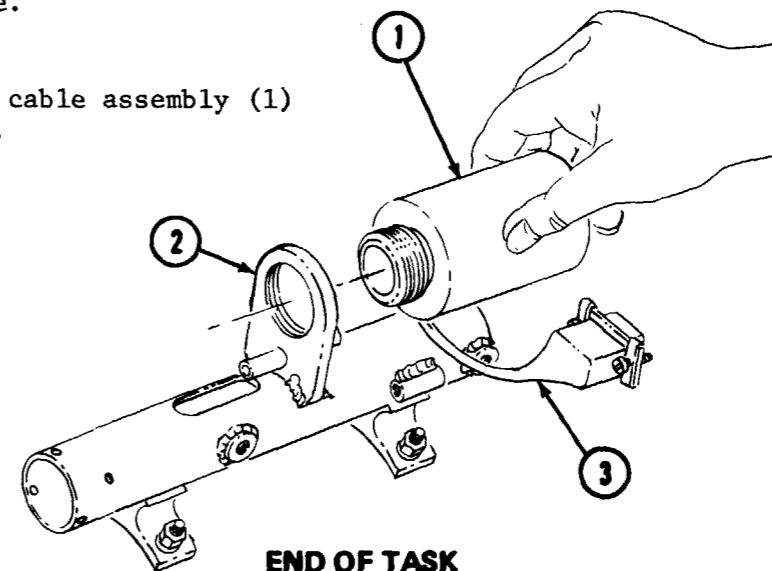
When removing solenoid cable assembly (1) from housing (2) be careful not to damage the cable (3).



NOTE

It is HELPFUL to tape the cable to the solenoid to prevent damage to solenoid cable.

Unscrew solenoid cable assembly (1) from housing (2).



END OF TASK

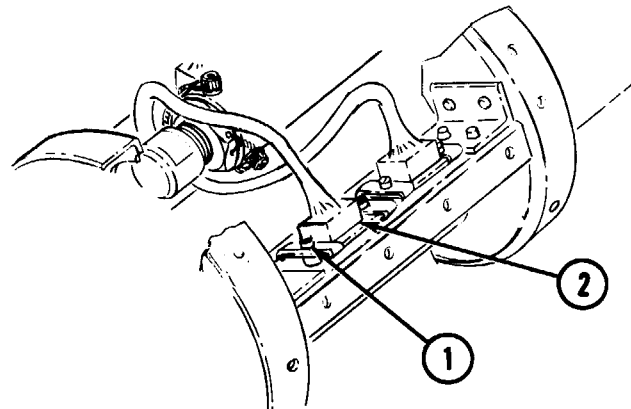
4-36. REMOVE SWITCH CABLE ASSEMBLY

Tools required: 3/32 inch Allen wrench
 Longnose pliers
 Diagonal cutting pliers
 13/16 open end wrench
 1/8 inch flat-blade screwdriver

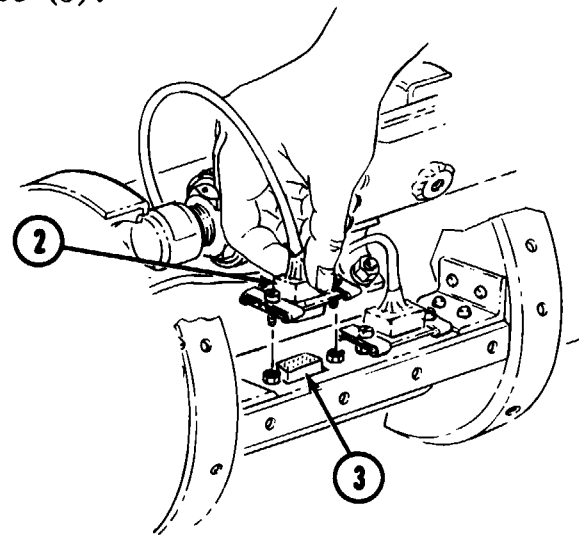
Equipment condition: LET subassembly removed, see para. 4-21.

STEP 1

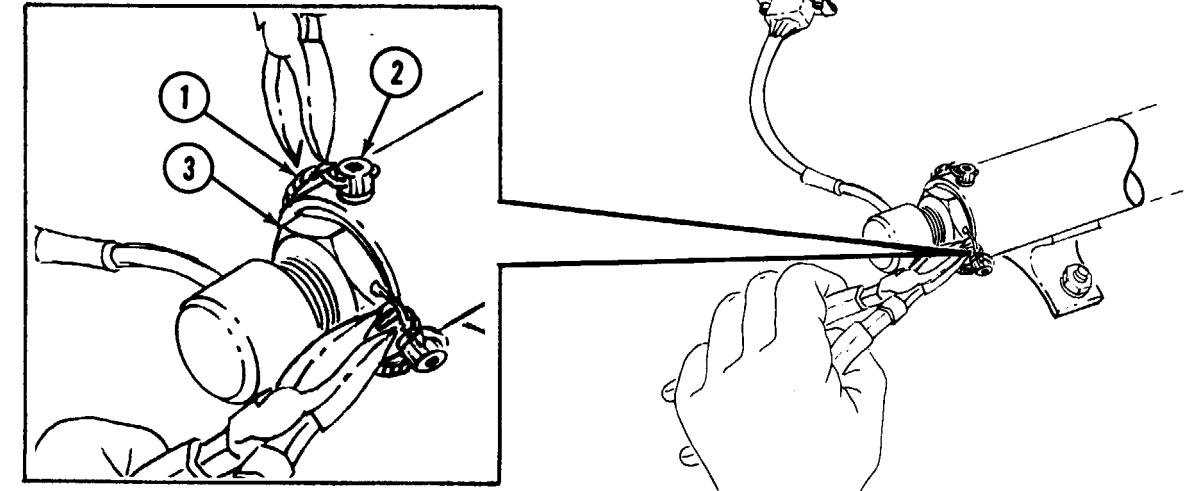
A. Using screwdriver, loosen two captive screws (1) from connector W3P1 (2).



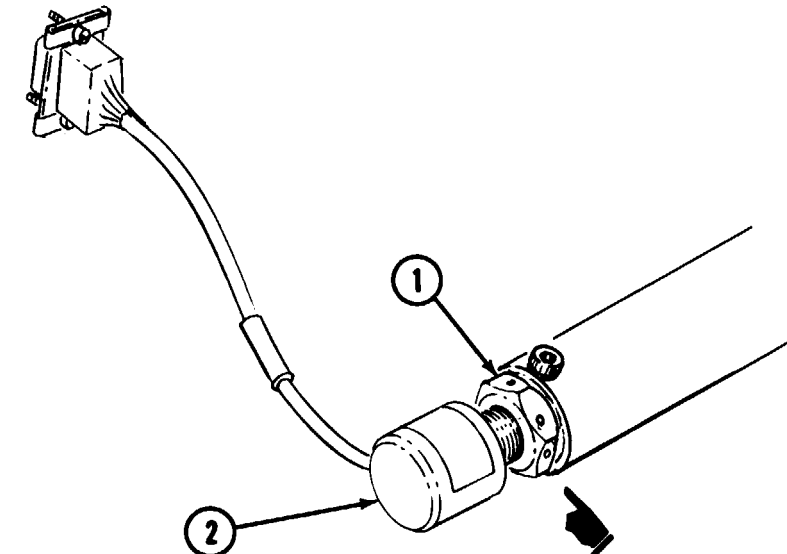
B. Disconnect W3P1 (2) from W1J5 (3).

**STEP 2**

Using diagonal cutting pliers, remove safety wire (1) from three capscrews (2) and jam nut (3).

**STEP 3**

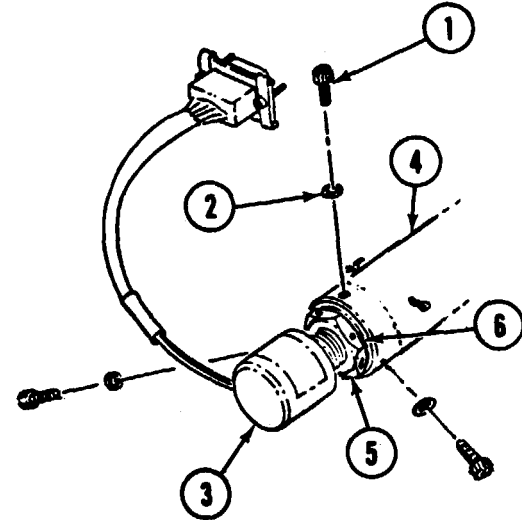
Using 13/16 inch open end wrench, loosen jam nut (1) on switch cable assembly (2).

**GO TO NEXT PAGE**

4-36. REMOVE SWITCH CABLE ASSEMBLY - CONTINUED

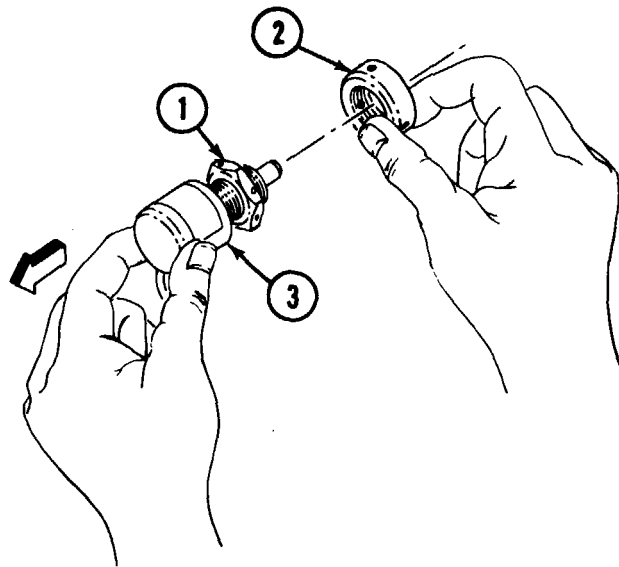
STEP 4

- A. Using 3/32 inch Allen wrench, remove three capscrews (1) and three washers (2).
- B. Remove switch cable (3) from housing (4) with jam nut (5) and bushing (6) attached.



STEP 5

- Unscrew jam nut (1) and bushing (2) from switch (3).



END OF TASK

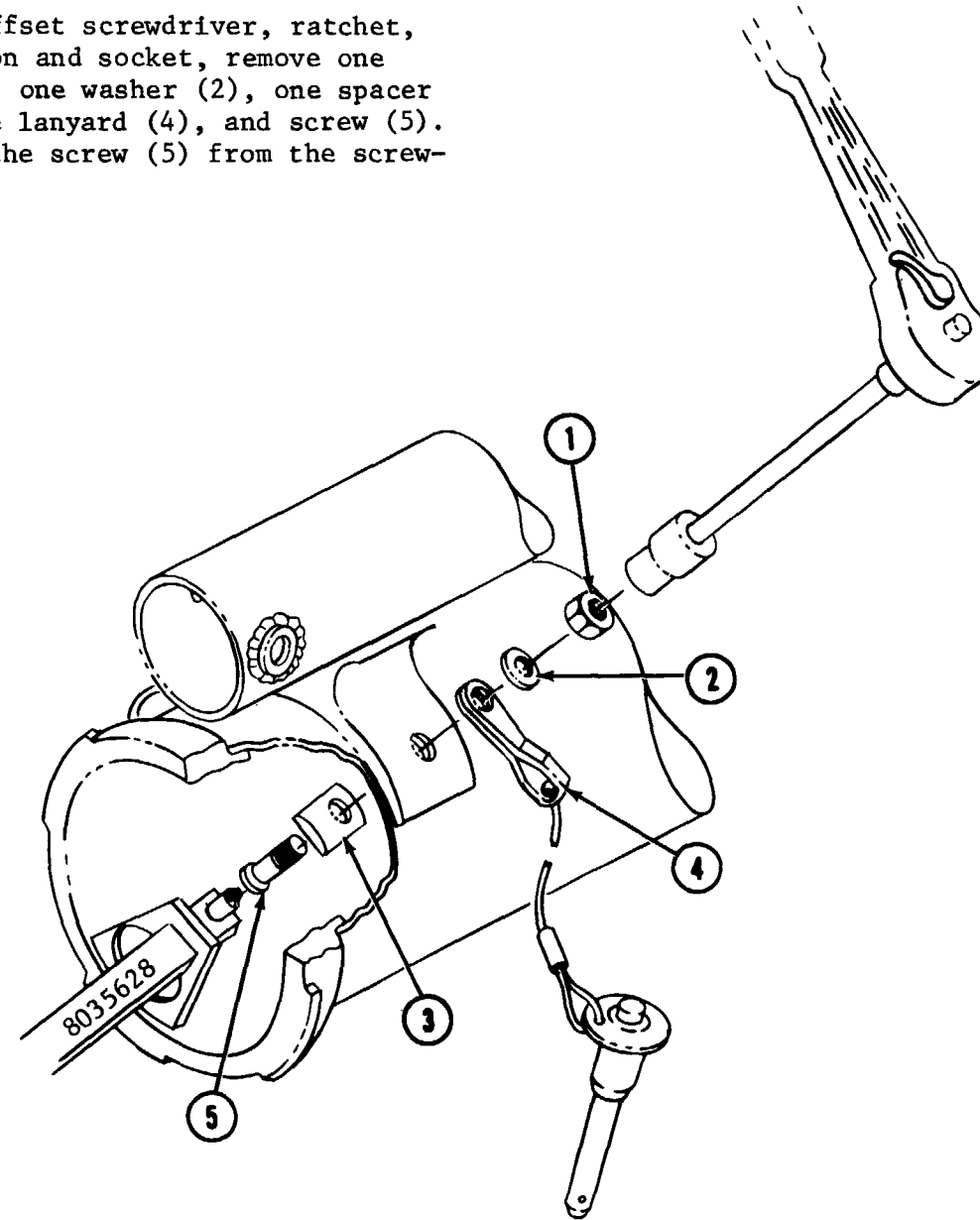
4-37. REMOVE FIRING MECHANISM HOUSING

- Tools required: Ratchet wrench
 3 inch extension
 1/4 inch socket
 Offset screwdriver, special tool P/N 8035628

- Equipment condition: Safety lever removed, see para. 4-31.
 Switch cable assembly removed, see para. 4-36.
 Solenoid cable assembly removed, see para. 4-35.
 Receiver removed, see para. 4-17.

STEP 1

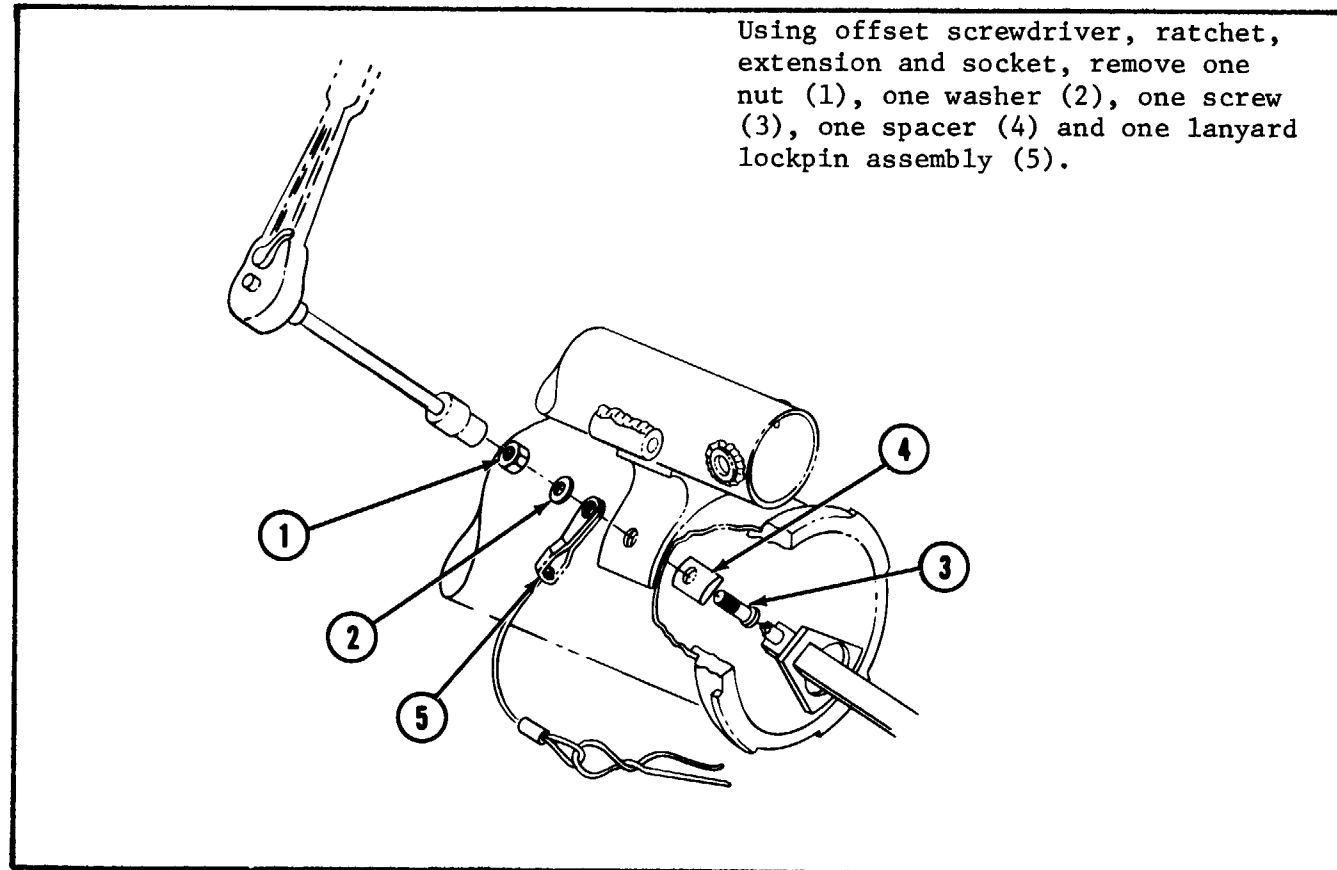
- Using offset screwdriver, ratchet, extension and socket, remove one nut (1), one washer (2), one spacer (3), one lanyard (4), and screw (5). Remove the screw (5) from the screwdriver.



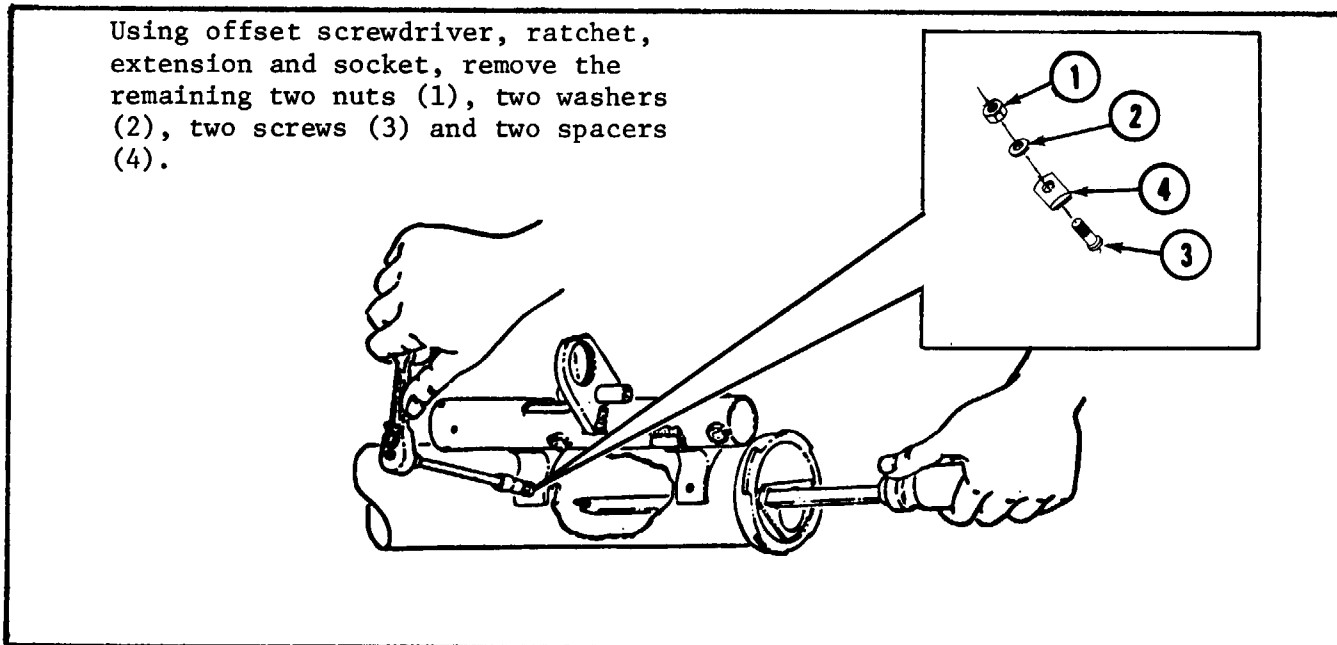
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4-37. REMOVE FIRING MECHANISM HOUSING - CONTINUED

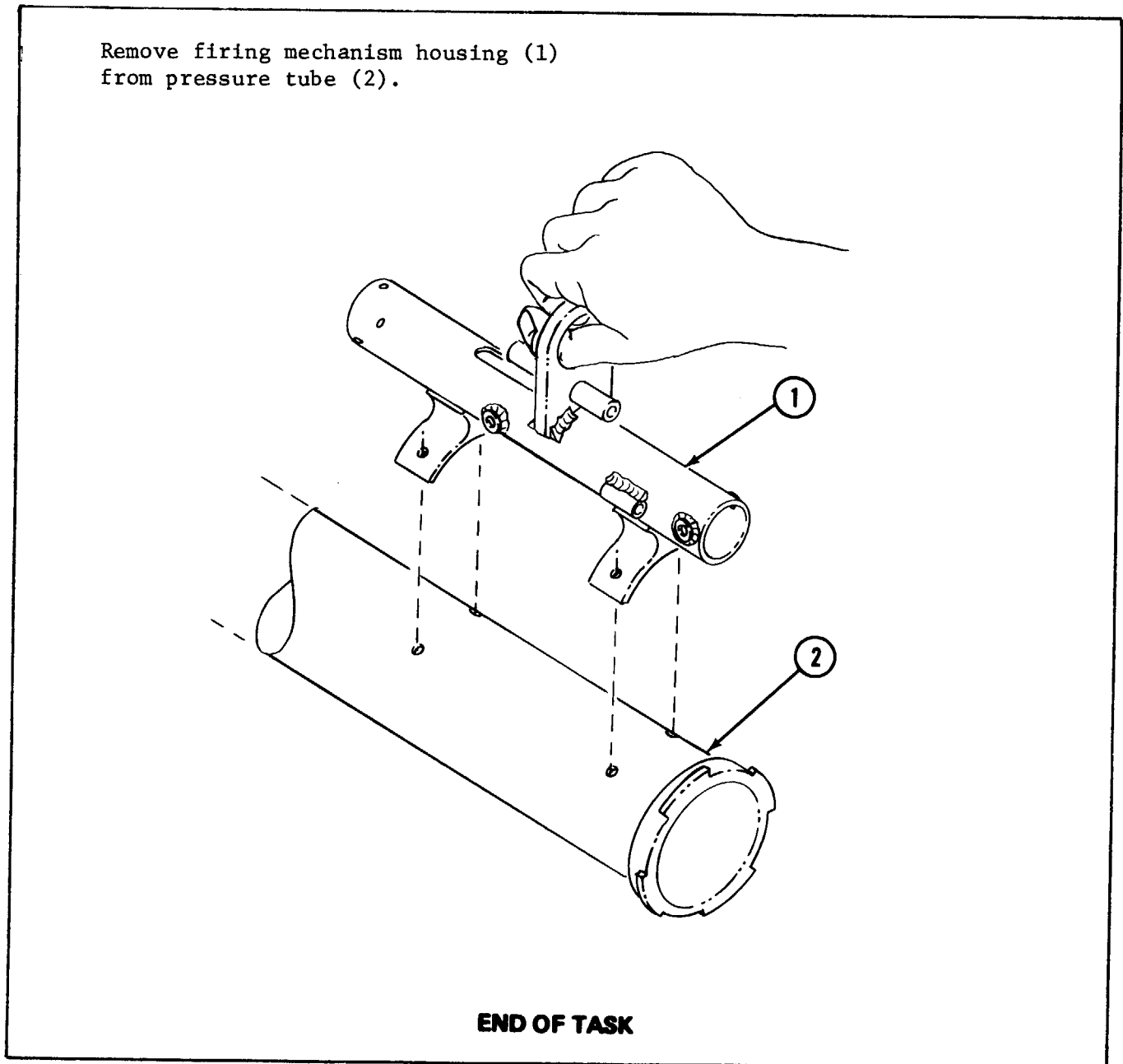
STEP 2



STEP 3



STEP 4



4-38. REMOVE THUMBSCREWS AND ELECTRICAL CONTACTS

Tools required: No. 1 crosspoint screwdriver Pliers
 5/8 inch open end wrench
 .050 inch Allen wrench

Equipment condition: Loosen forward access covers, see para. 4-21, step 1.

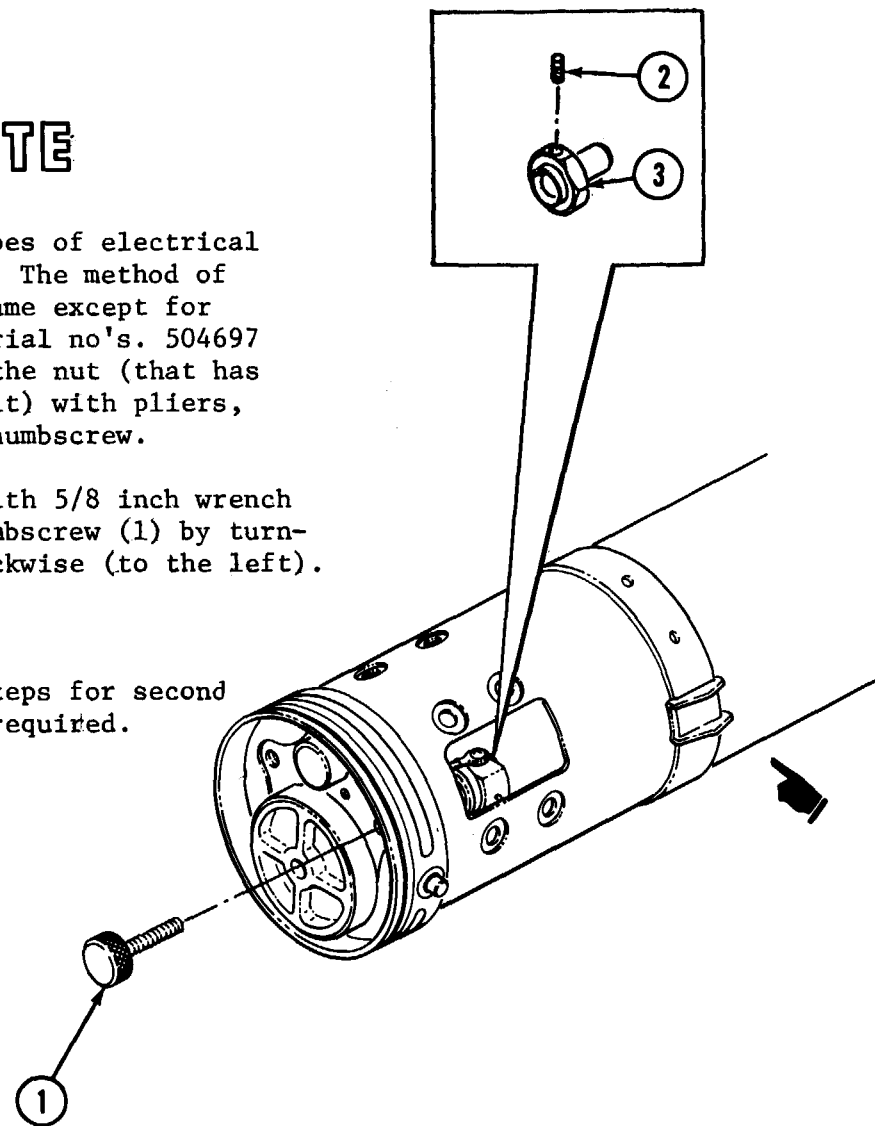
STEP 1

- A. Turn thumbscrew (1) clockwise until setscrew (2) can be seen.
- B. Using Allen wrench, loosen setscrew (2).



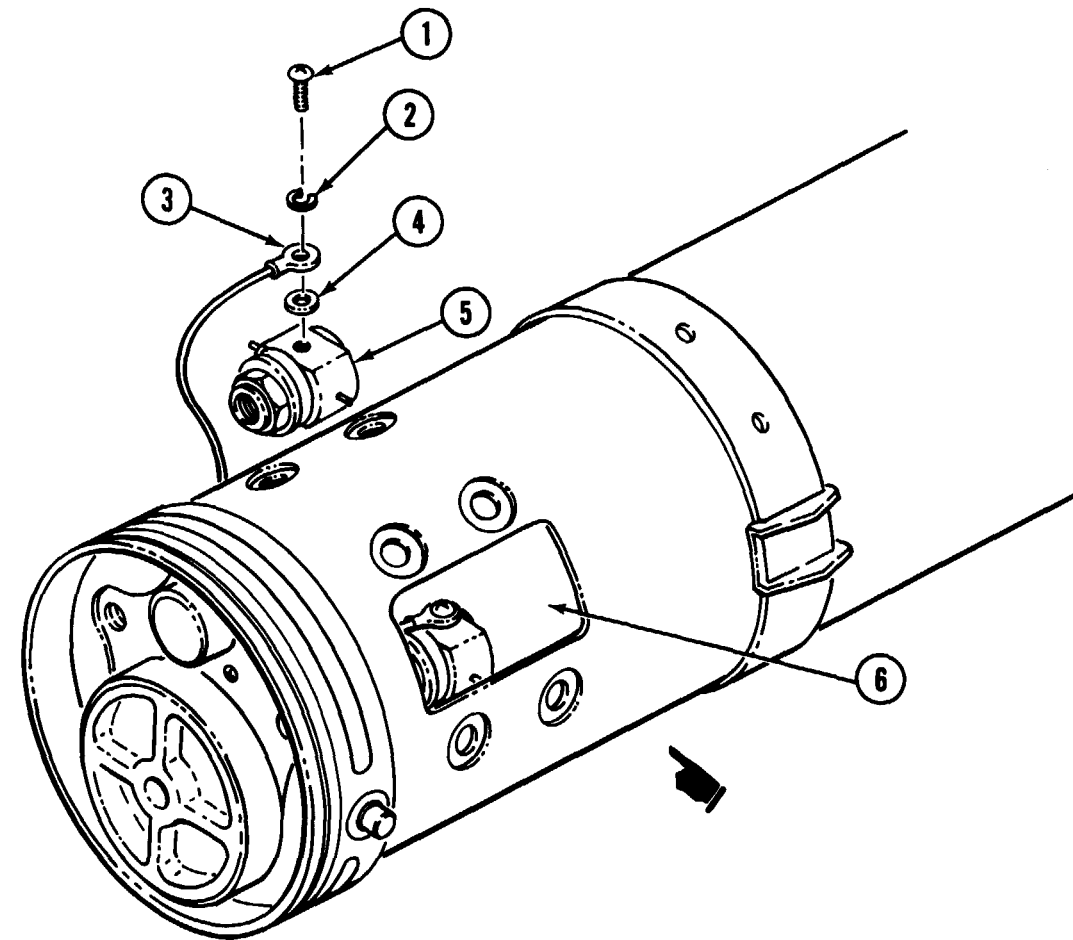
NOTE
 There are two types of electrical contacts in use. The method of removal is the same except for STEP 1C. For serial no's. 504697 and above, hold the nut (that has the setscrew in it) with pliers, while removing thumbscrew.

- C. Hold nut (3) with 5/8 inch wrench and remove thumbscrew (1) by turning counterclockwise (to the left).
- D. Repeat above steps for second thumbscrew if required.



STEP 2

- A. Using screwdriver, remove screw (1), lockwasher (2), terminal lug (3) and flatwasher (4) from electrical contact (5).
- B. Remove electrical contact (5) from battery retainer shell (6).



END OF TASK

4-39. REPAIR OF ELECTRICAL CONTACTS

Tools required: No. 1 crosspoint screwdriver Snap-ring pliers
 No. 2 crosspoint screwdriver
 5/8 inch open end wrench
 .050 inch Allen wrench

Materials required:

Materials

See Appendix D

Sealing compound
 Orangewood stick
 Insulation compound

Item 75
 Item 7
 Item 60

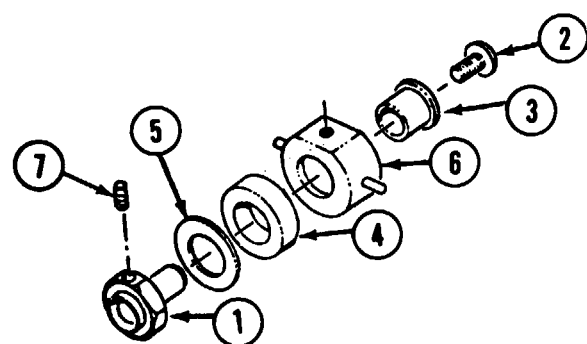
Equipment condition: Thumbscrews and electrical contacts removed, see para. 4-38.

a. Disassembly

STEP 1

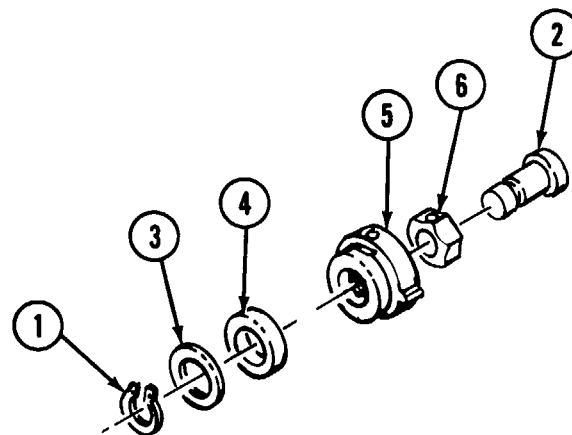
Serial No. 504696 and below:

- A. Using 5/8 inch wrench, hold nut (1).
- B. Using No. 2 crosspoint screwdriver, remove screw (2).
- C. Remove spacer (3), sponge washer (4), and washer (5) from contact (6).
- D. Using Allen wrench, remove set-screw (7) from nut (1).



Serial No. 504697 and above:

- A. Using snap-ring pliers, remove retaining ring (1) from detent on nut (2).
- B. Slide metal washer (3), rubber washer (4), retainer (5) and contact (6) off nut (2).

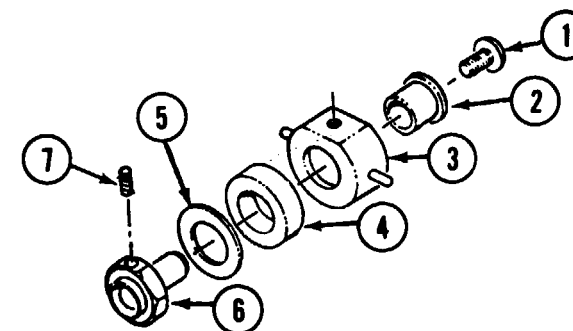


b. Assembly

STEP 2

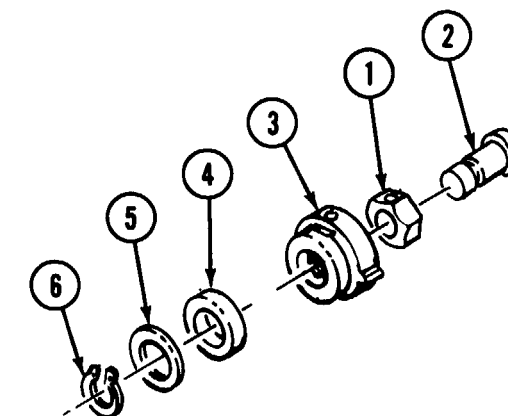
Serial No. 504696 and below:

- A. Using orangewood stick, apply sealing compound to threads of screw (1).
- B. Insert plastic bushing (2) into contact (3).
- C. Slide rubber cushion (4) and flat-washer (5) over plastic bushing (2).
- D. Insert nut (6) into plastic bushing and using No. 2 crosspoint screwdriver and wrench, secure nut to contact with screw (1).
- E. Using Allen wrench, install set-screw (7) into nut (6).



Serial No. 504697 and above:

- A. Slide contact (1) on nut (2) (nut head will be recessed in contact).
- B. Slide retainer (3) onto nut (2) and over contact (1) (align screw hole in retainer with screw hole in contact).
- C. Slide rubber washer (4) and metal washer (5) on nut (2).
- D. Using snap-ring pliers, install retaining ring (6).



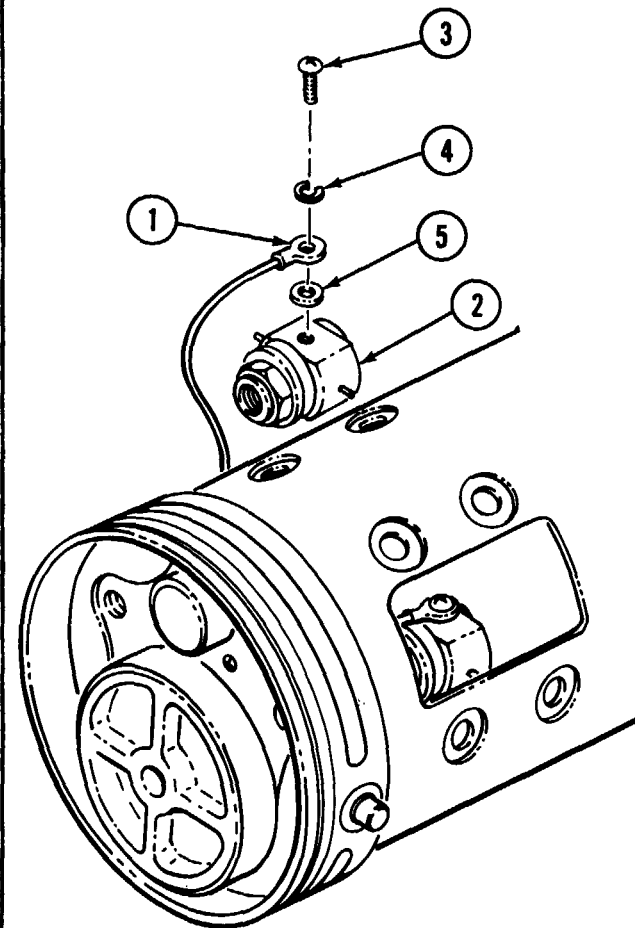
4-39. REPAIR OF ELECTRICAL CONTACTS - CONTINUED

b. Assembly - Continued

STEP 3

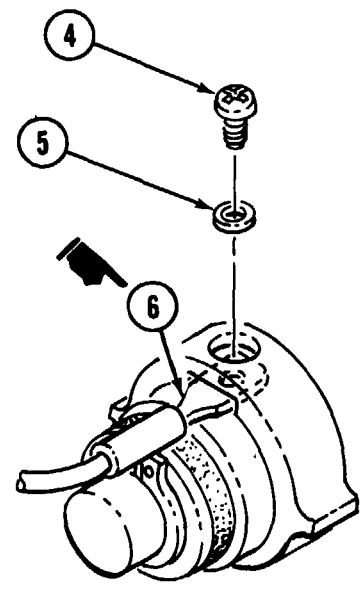
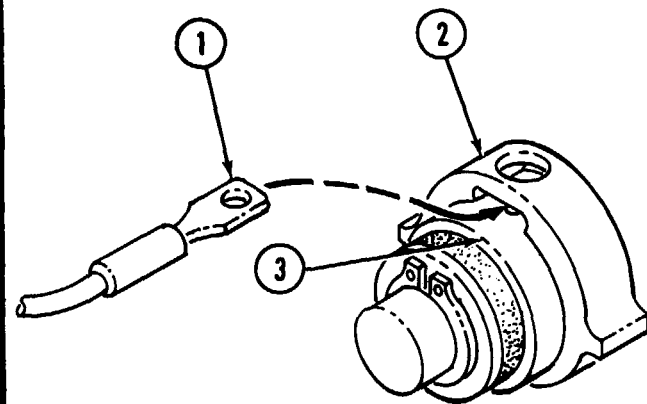
Serial No. 504696 and below:

- A. Using No. 1 crosspoint screwdriver, attach lead terminal lug (1) to contact (2) and secure with screw (3), lockwasher (4) and flatwasher (5).
- B. Coat exposed connections with insulation compound.



Serial No. 504697 and above:

- A. Slide lead terminal lug (1) into access slot between retainer (2) and contact (3).
- B. Using No. 1 crosspoint screwdriver, install screw (4) and washer (5).



- C. Coat exposed portion of terminal lug (6) with insulating compound.

END OF TASK

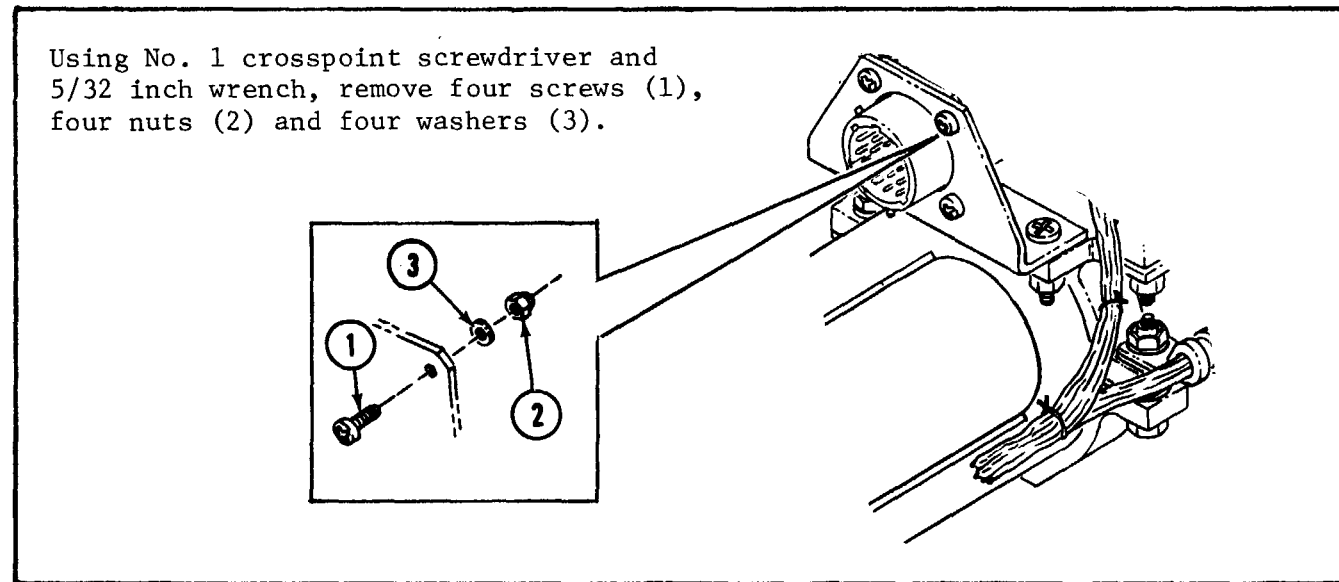
4-40. REMOVE ANGLE BRACKET

- Tools required:
- No. 1 crosspoint screwdriver
 - No. 2 crosspoint screwdriver
 - 5/32 inch box end wrench
 - 7/32 inch open end wrench

Equipment condition: LET subassembly removed, see para. 4-21.

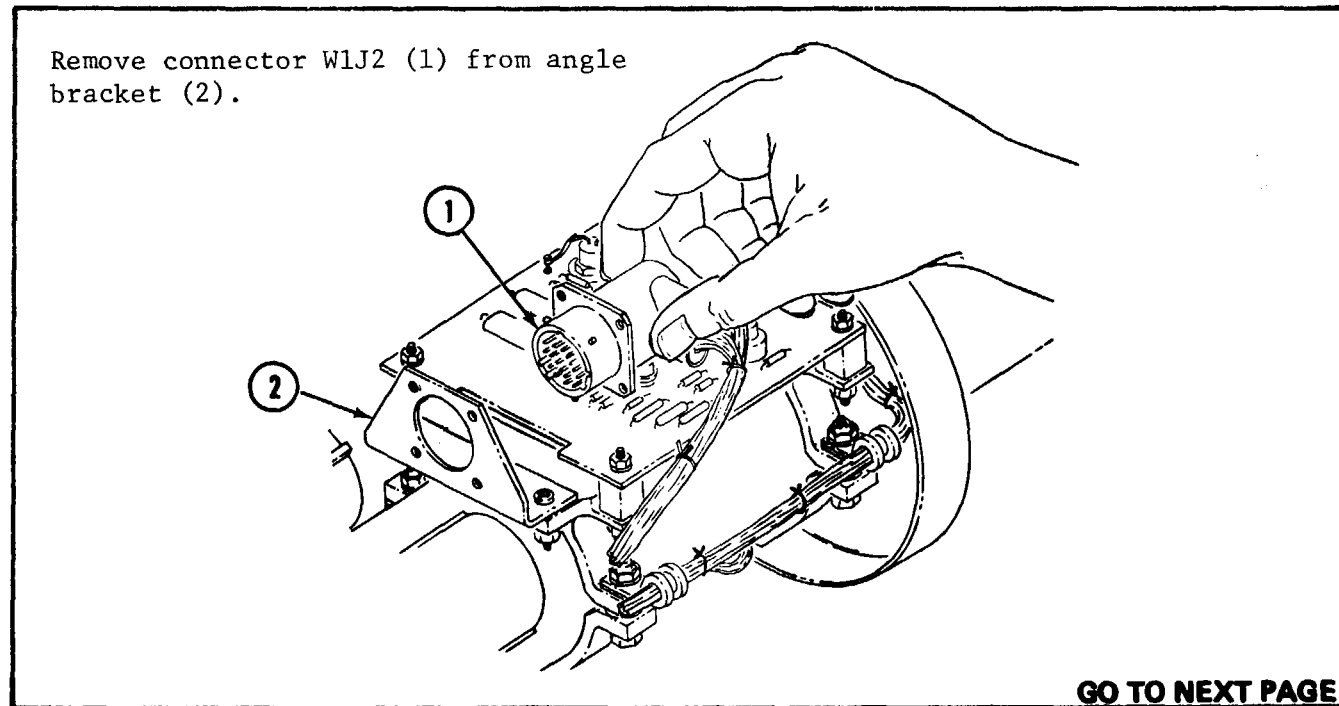
STEP 1

- Using No. 1 crosspoint screwdriver and 5/32 inch wrench, remove four screws (1), four nuts (2) and four washers (3).



STEP 2

- Remove connector WLJ2 (1) from angle bracket (2).

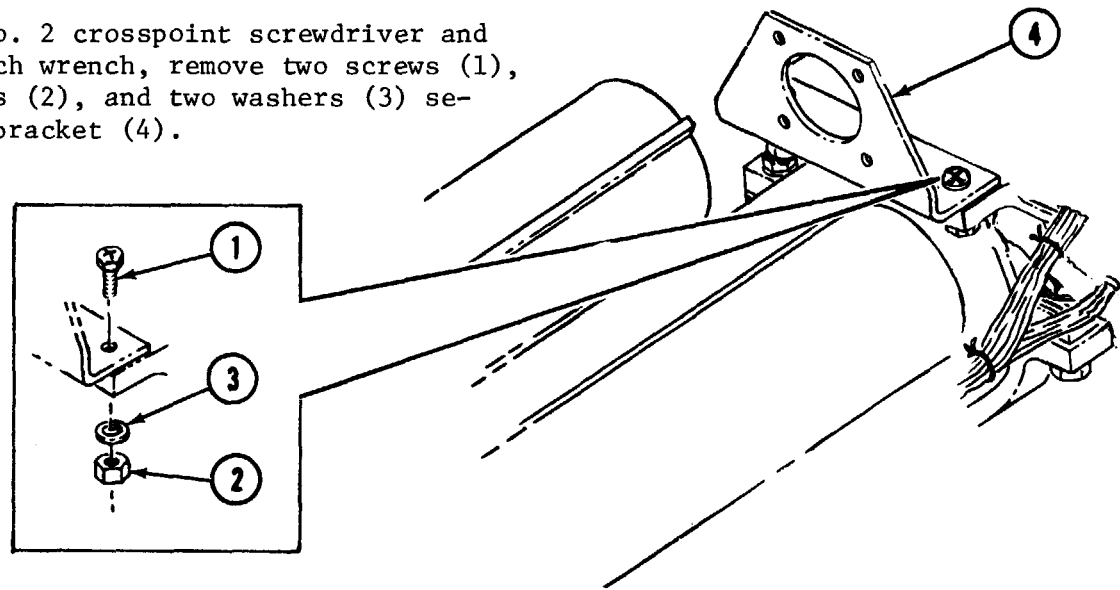


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4-40. REMOVE ANGLE BRACKET-CONTINUED

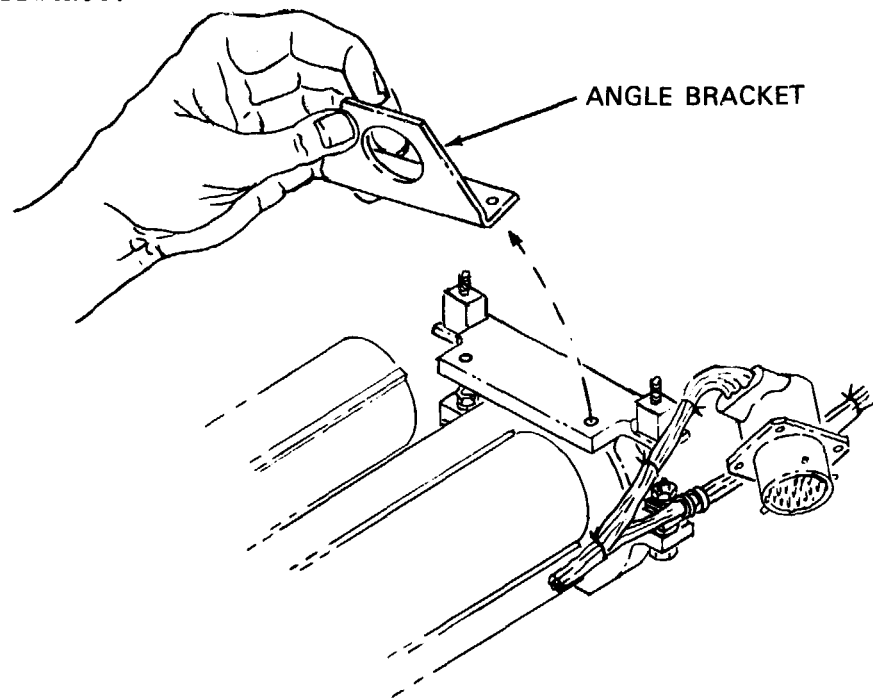
STEP 3

Using No. 2 crosspoint screwdriver and 7/32 inch wrench, remove two screws (1), two nuts (2), and two washers (3) securing bracket (4).



STEP 4

Remove angle bracket.



END OF TASK

4-41. REMOVE LET WIRING HARNESS

- | | | |
|-----------------|-------------------------------------|---------------------------|
| Tools required: | No. 0 crosspoint screwdriver | 5/32 inch open end wrench |
| | No. 1 crosspoint screwdriver | 3/8 inch open end wrench |
| | No. 2 crosspoint screwdriver | 3/8 inch socket |
| | 1/8 inch flat-blade screwdriver | Ratchet wrench |
| | 3/16 inch open end wrench | 3 inch extension |
| | 3/16 inch box end wrench | 1/4 inch socket |
| | No. 2 offset crosspoint screwdriver | Craftsman's knife |
| | Diagonal cutting pliers | |

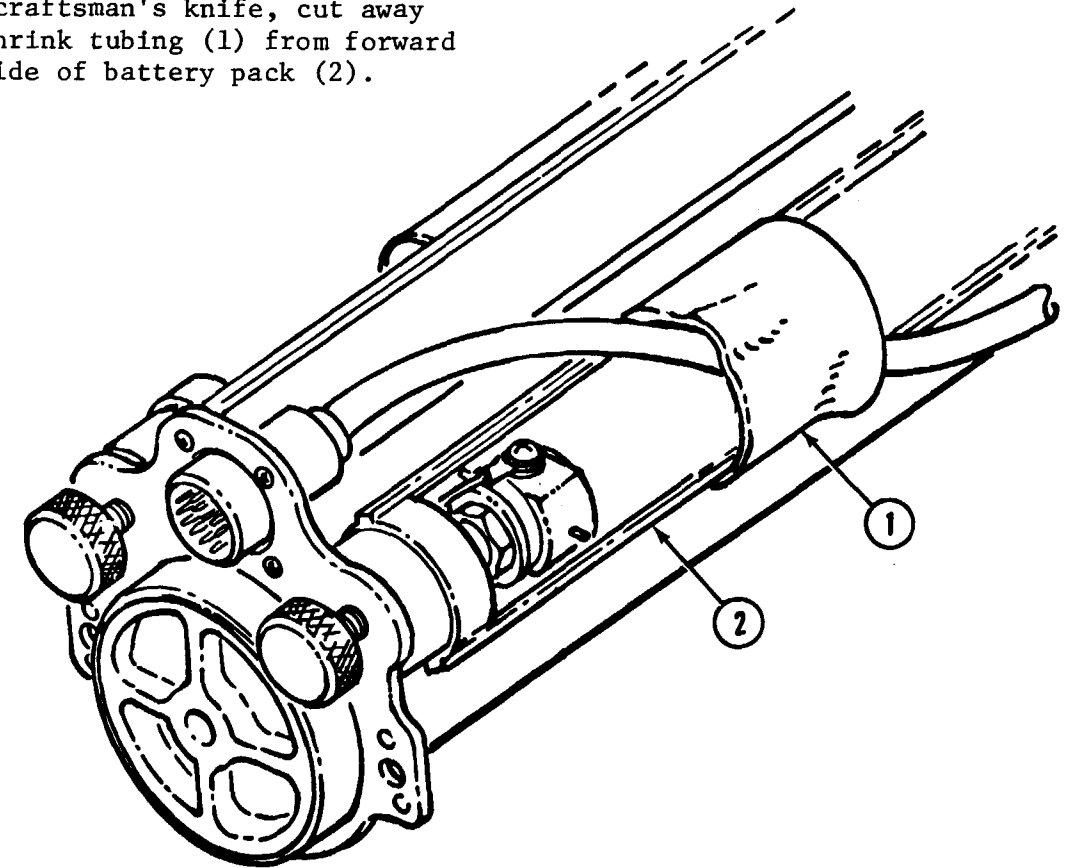
Equipment condition: LET subassembly removed, see para. 4-21.

STEP 1



Be careful not to cut wires to avoid damage to equipment.

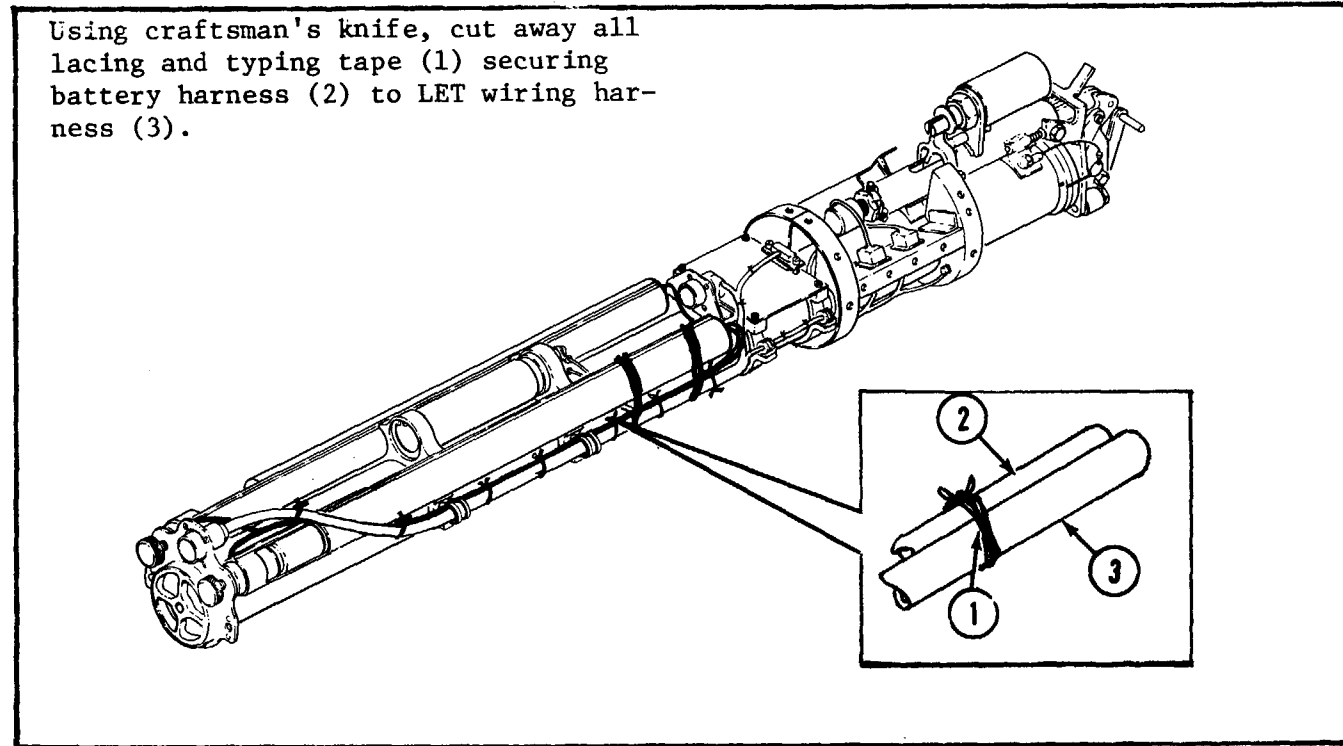
Using craftsman's knife, cut away heat shrink tubing (1) from forward left side of battery pack (2).



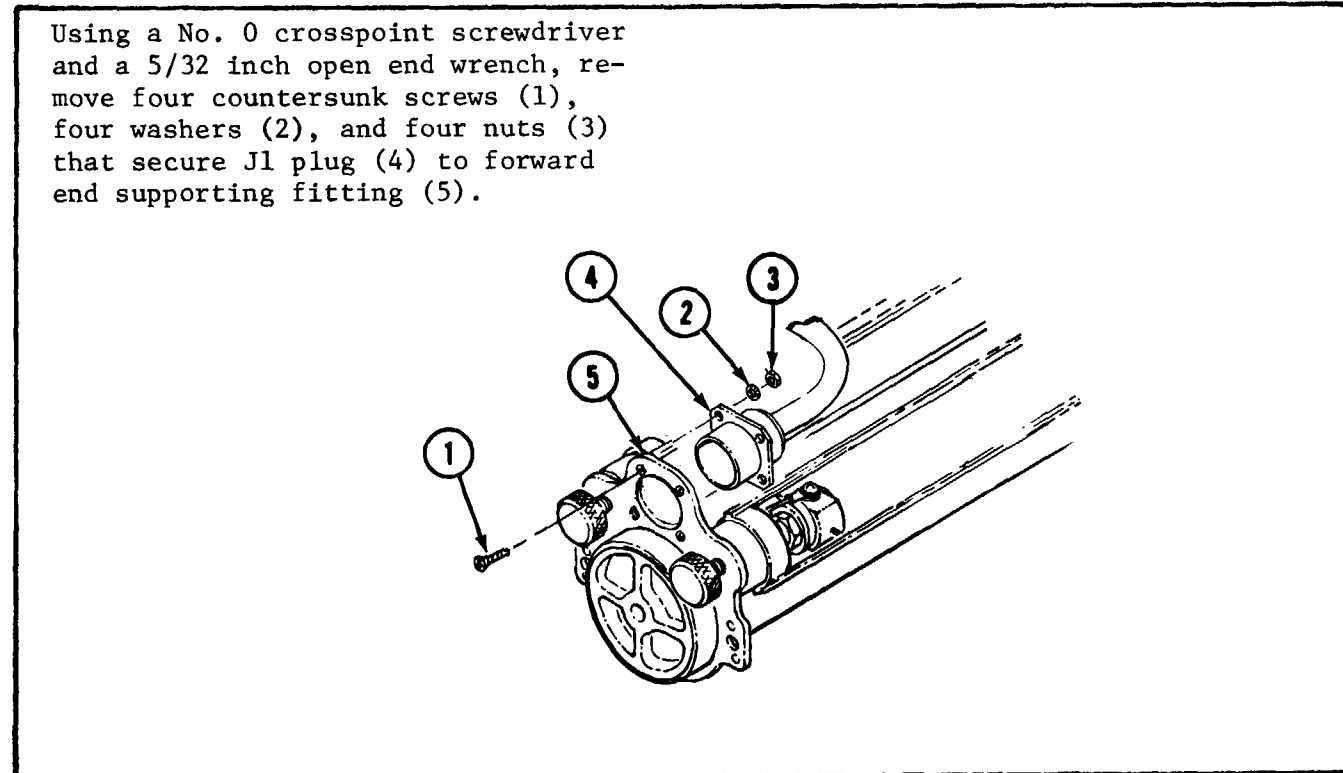
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4-41. REMOVE LET WIRING HARNESS - CONTINUED

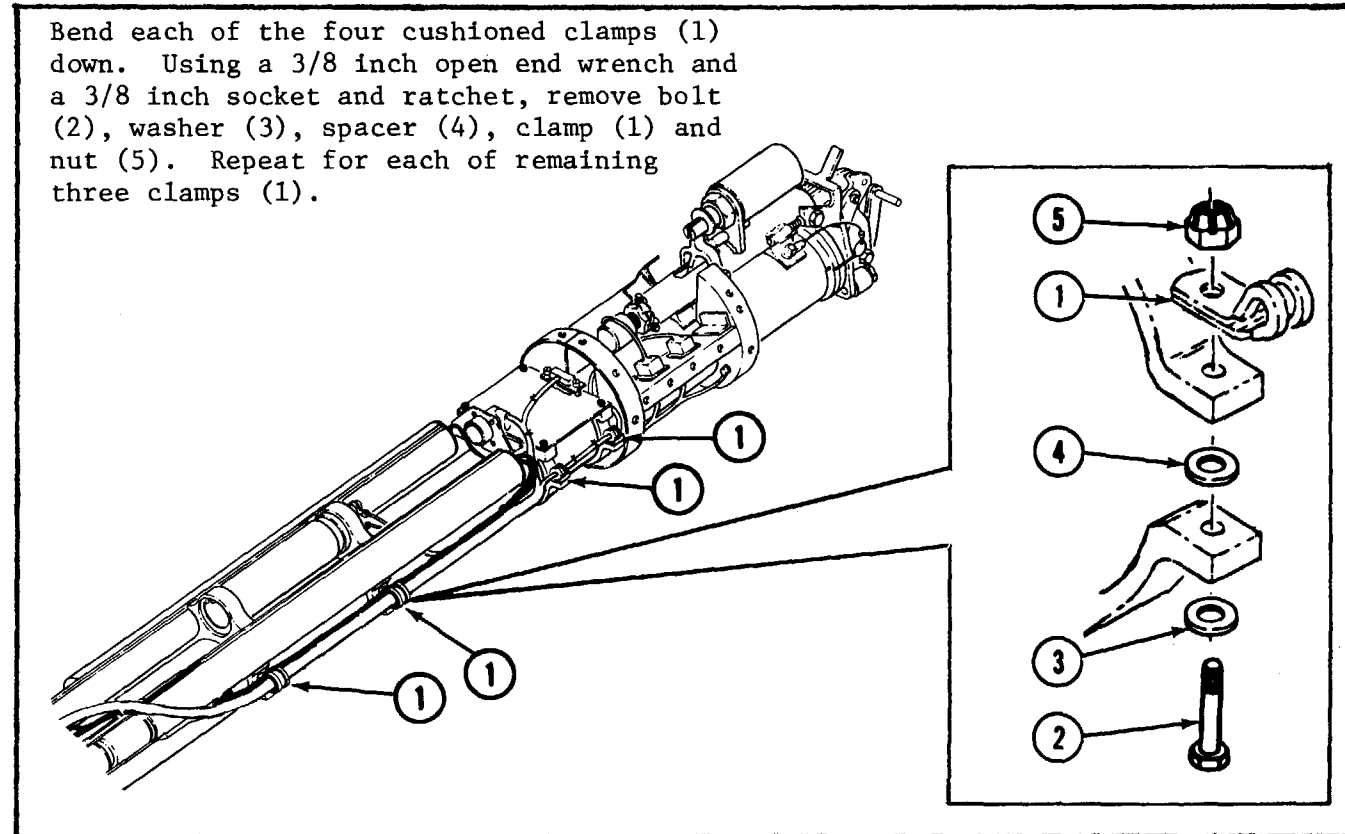
STEP 2



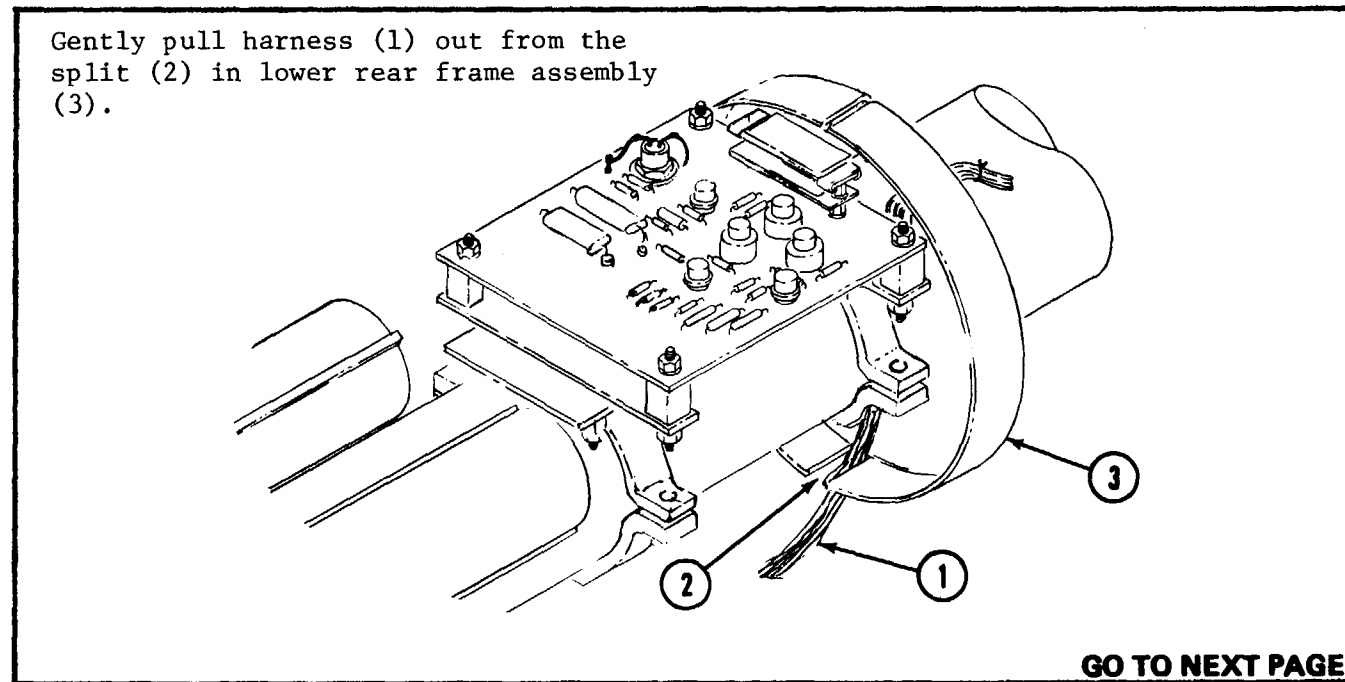
STEP 3



STEP 4



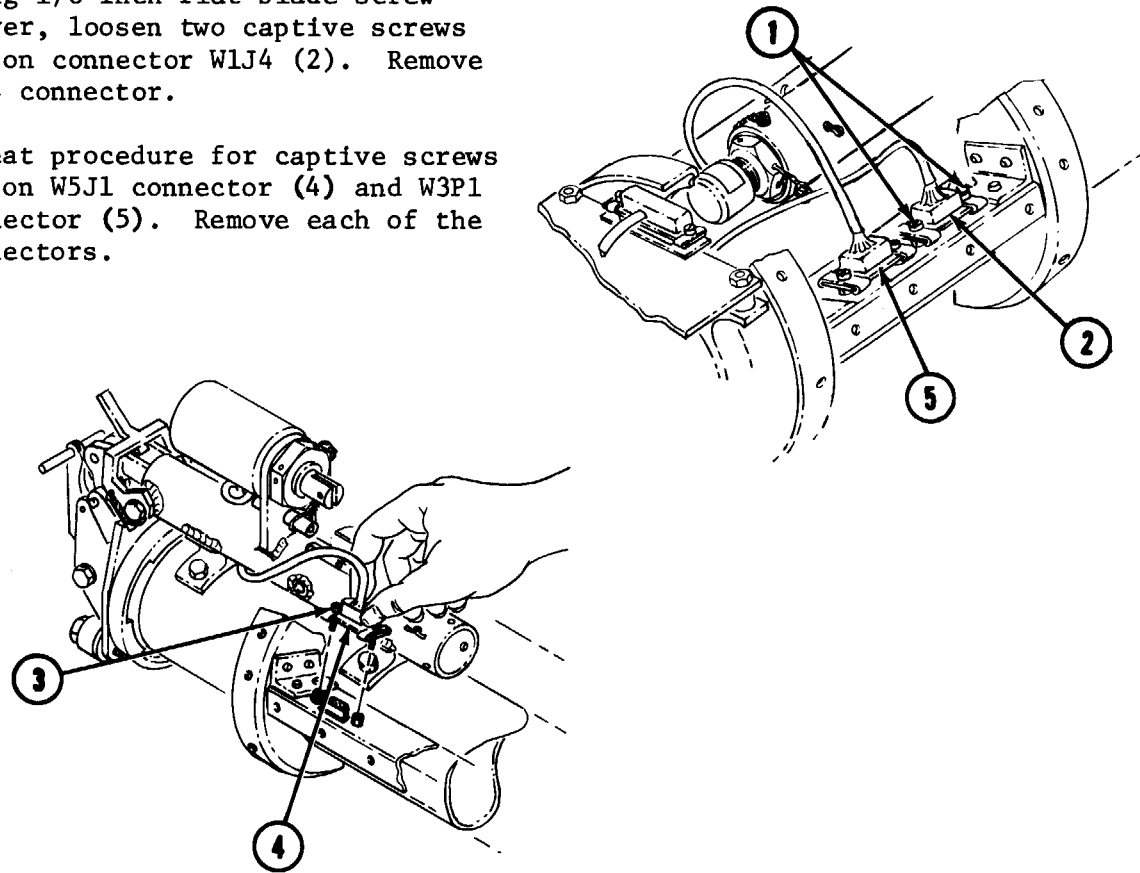
STEP 5



4-41. REMOVE LET WIRING HARNESS - CONTINUED

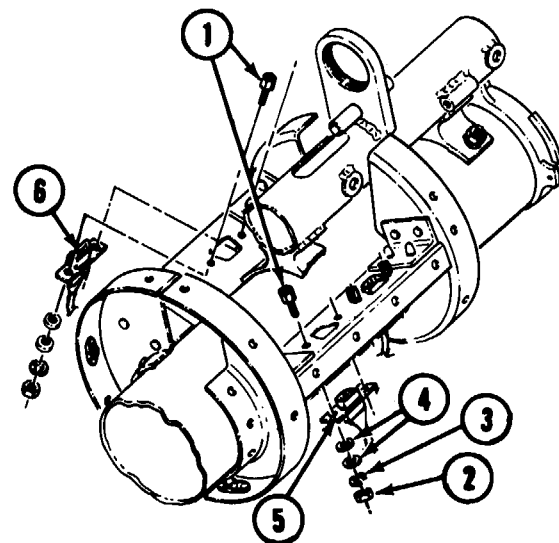
STEP 6

- A. Using 1/8 inch flat-blade screwdriver, loosen two captive screws (1) on connector W1J4 (2). Remove W1J4 connector.
- B. Repeat procedure for captive screws (3) on W5J1 connector (4) and W3P1 connector (5). Remove each of the connectors.



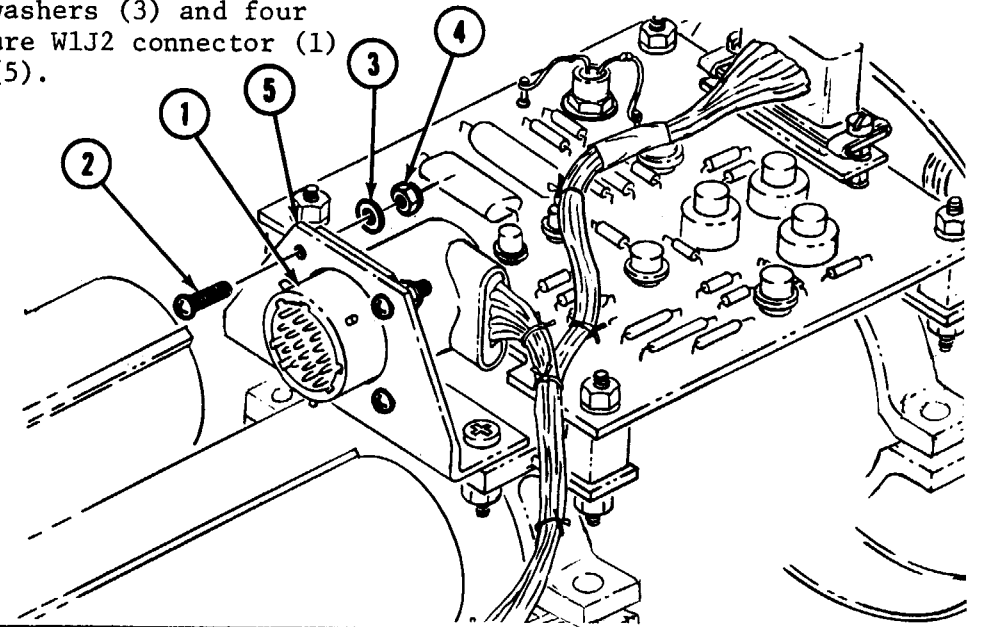
STEP 7

- A. Using a 3/16 inch open end wrench on stud (1) and a 3/16 inch box end wrench on nut (2), remove two studs (1), two lockwashers (3), four flatwashers (4) and two nuts (2), securing W1J5 connector (5) to underside of left rear frame assembly.
- B. Repeat the procedure with same tools to remove connector W1P1 (6).



STEP 8

Remove W1J2 connector (1) by using a No. 1 crosspoint screwdriver and a 5/32 inch open end wrench to remove four screws (2), four washers (3) and four nuts (4) that secure W1J2 connector (1) to angle bracket (5).



STEP 9

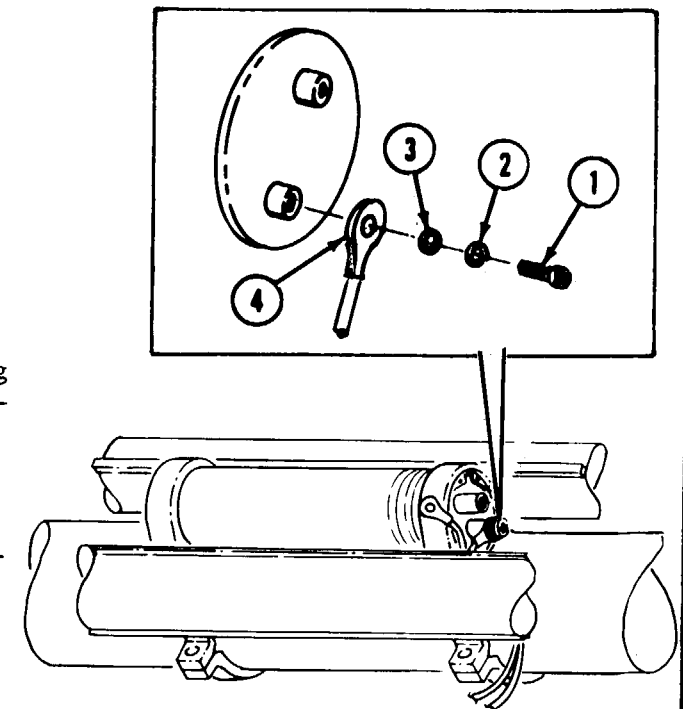
WARNING

Prior to removing leads E1 and E2, short the terminals to prevent electric shock.

NOTE

If each lead (E1 and E2) is not tagged by a band on the wire, tag each lead to aid in correct reinstallation.

Short out the capacitor. Using No. 1 crosspoint, remove screws (1) and lockwashers (2), and flatwashers (3) that secure terminal lugs (4).

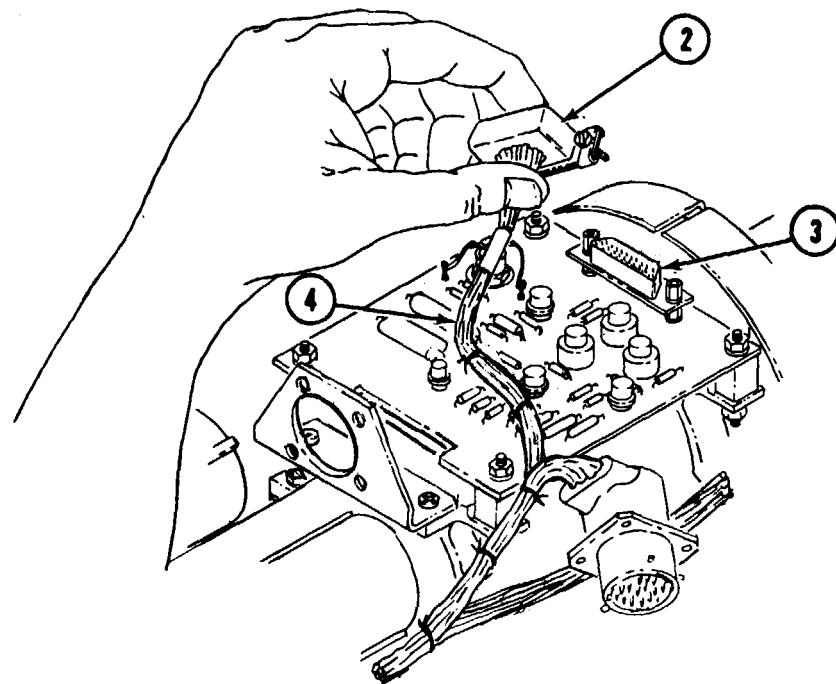
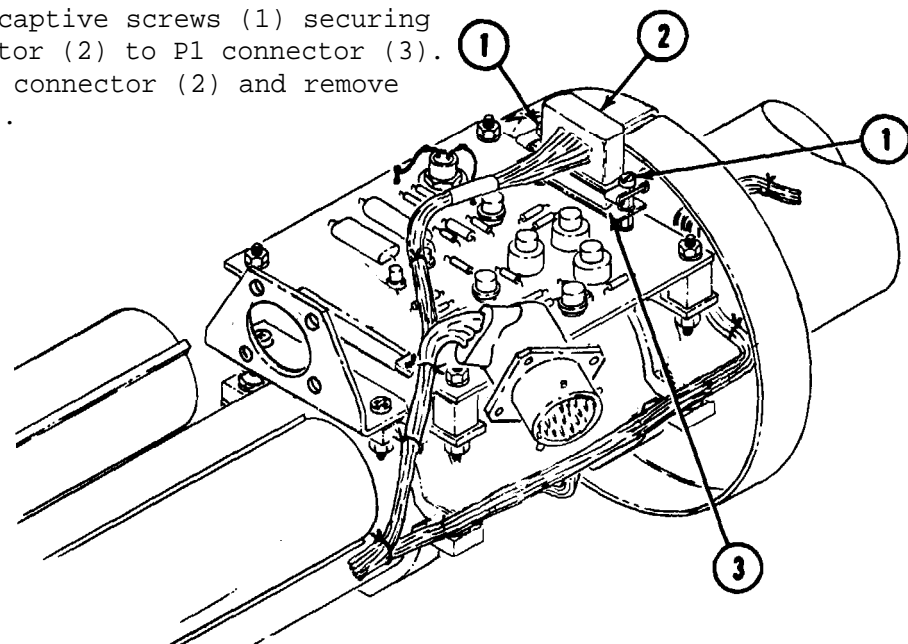


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4-41. REMOVE LET WIRING HARNESS – CONTINUED

STEP 10

Loosen two captive screws (1) securing W1J3 connector (2) to P1 connector (3). Remove W1J3 connector (2) and remove harness (4).



END OF TASK

4-42. REMOVE BATTERY RETAINER SHELL AND WIRING HARNESS

- Tools required:
- | | |
|------------------------------|---------------------------|
| Desoldering kit | 3/16 inch open end wrench |
| 3/8 inch open end wrench | 3/16 inch box end wrench |
| 3/8 inch socket | |
| Ratchet wrench | |
| No. 2 crosspoint screwdriver | |
| Diagonal cutting pliers | |
| Tweezers | |
| Craftsman's knife | |

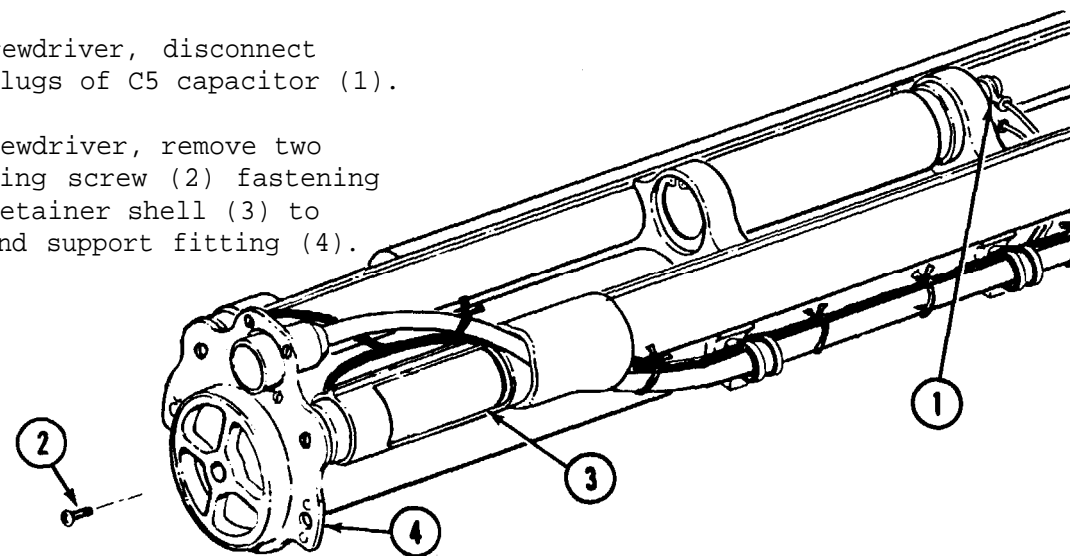
Equipment condition: LET sub-assembly removed, see para. 4-21.
Thumbscrews and electrical contacts removed, see para.4-38.

STEP 1



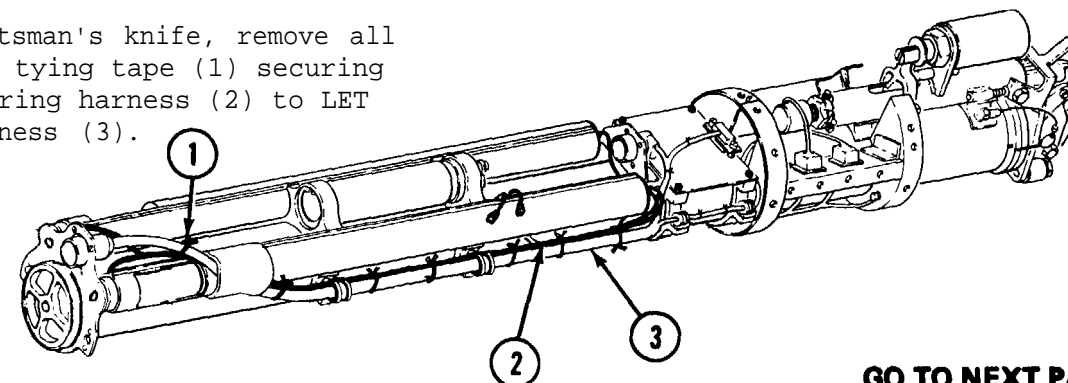
Prior to removing E1 and E2 leads, short out terminals to prevent electric shock.

- A. Using screwdriver, disconnect terminal lugs of C5 capacitor (1).
- B. Using screwdriver, remove two self-locking screw (2) fastening battery retainer shell (3) to forward end support fitting (4).



STEP 2

Using craftsman's knife, remove all lacing and tying tape (1) securing battery wiring harness (2) to LET wiring harness (3).



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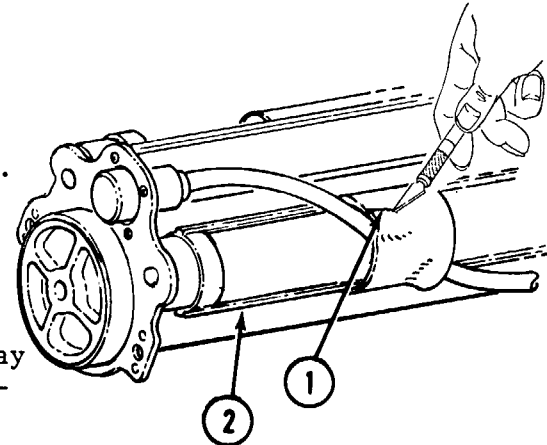
4-42. REMOVE BATTERY RETAINER SHELL AND WIRING HARNESS - Continued

STEP 3



To avoid damage to equipment, be careful not to cut the wires.

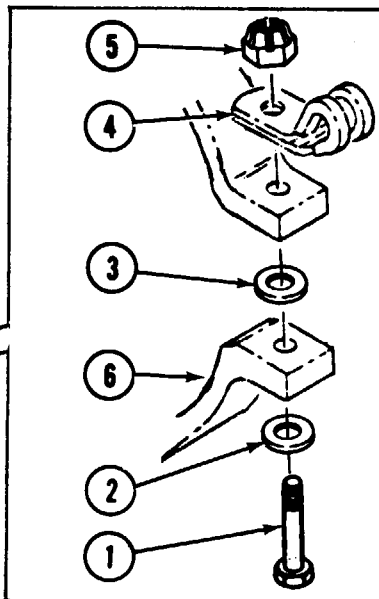
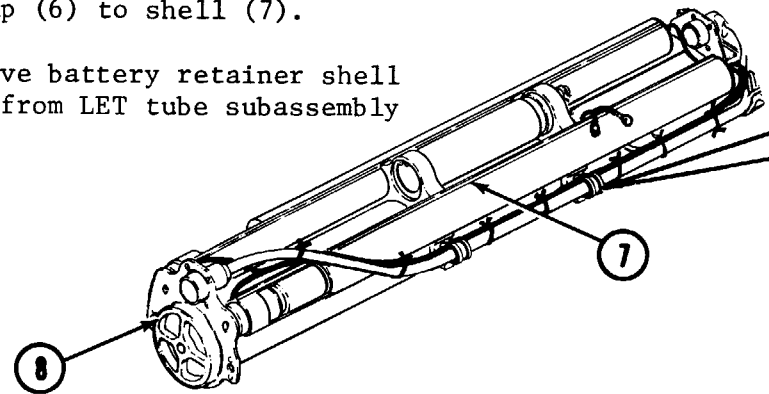
Using craftsman's knife, cut away heat shrink sleeving (1) on battery retainer shell (2).



STEP 4

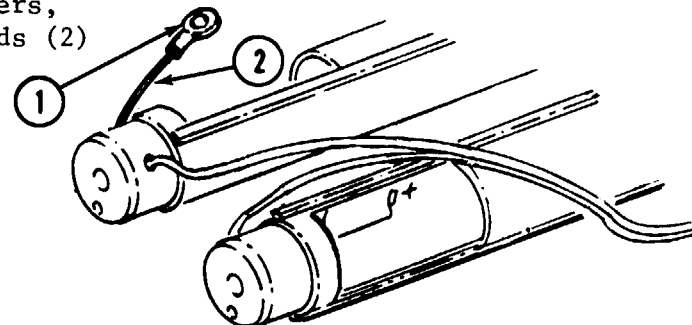
A. Using 3/8 inch socket and ratchet and a 3/8 inch open end wrench, remove four bolts (1), four washers (2) four spacers (3), two clamps (4), and four nuts (5) securing battery retainer clamp (6) to shell (7).

B. Remove battery retainer shell (7) from LET tube subassembly (8).



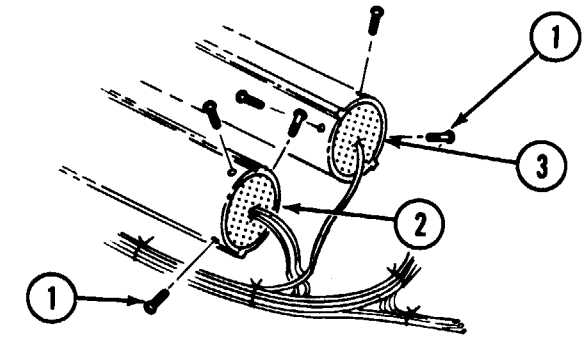
STEP 5

Using diagonal cutting pliers, cut lugs (1) from wire leads (2) at base of lug.



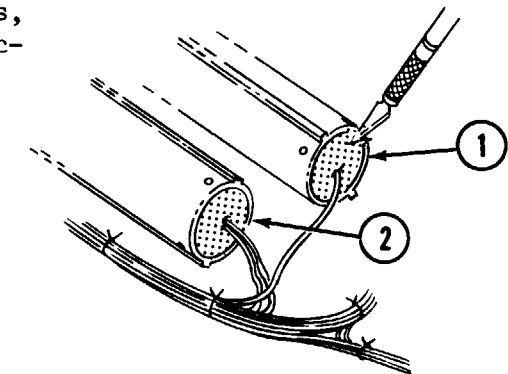
STEP 6

Using screwdriver, remove three screws (1) from the aft end of BT1 (2) and BT9 (3).



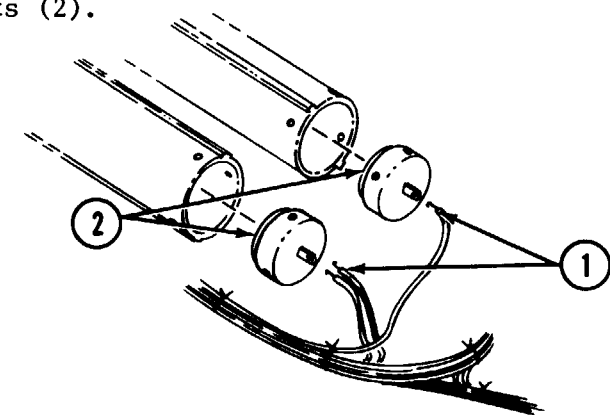
STEP 7

Using craftsman's knife and tweezers, remove potting from each of the electrical contacts, (one each from BT9 (1) and BT1 (2)).



STEP 8

Desolder leads (1) from contacts (2). Remove leads.

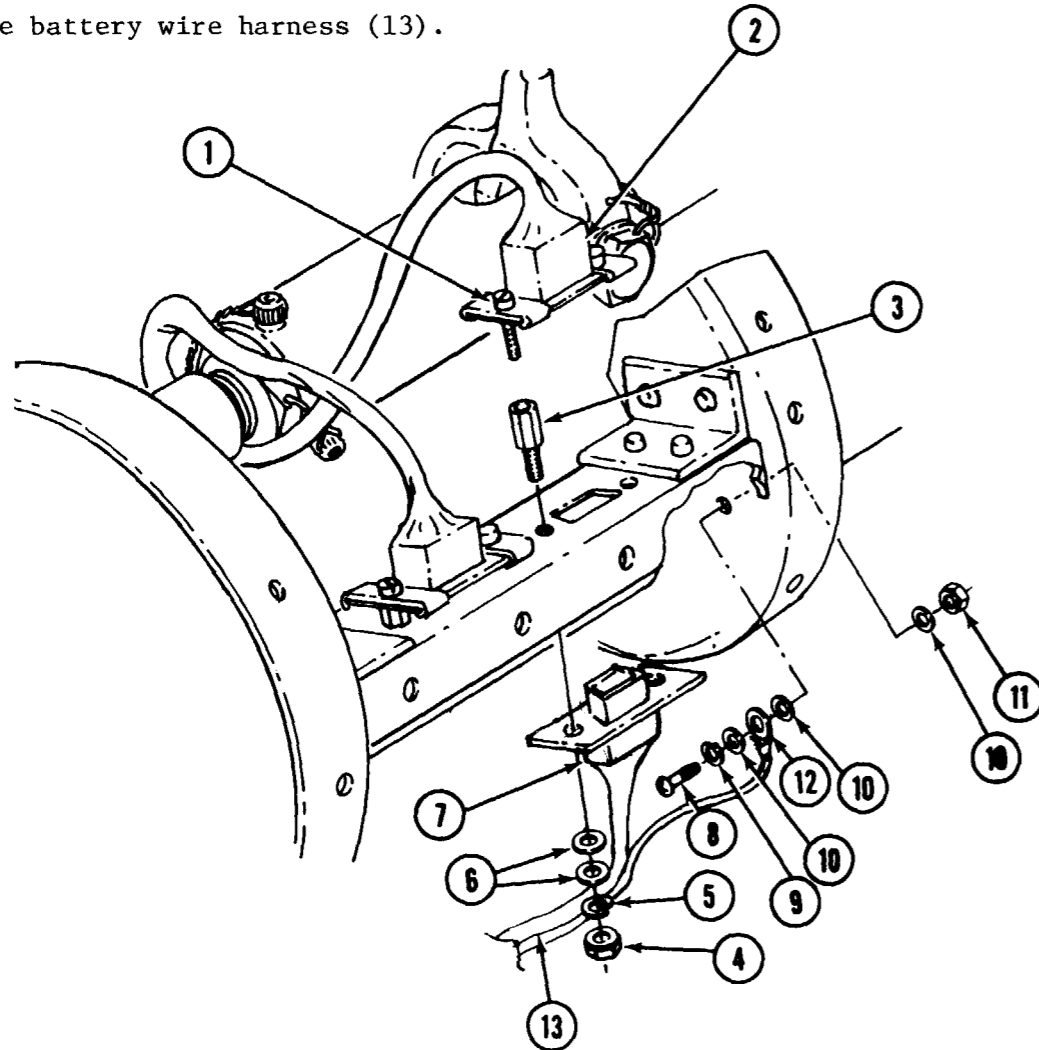


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4-42. REMOVE BATTERY RETAINER SHELL AND WIRING HARNESS - CONTINUED

STEP 9

- A. Using flat-blade screwdriver, loosen two captive screws (1) securing W1J4 (2). Remove W1J4.
- B. Using 3/16 inch open end wrench on stud (3) and a 3/16 inch box wrench on nut (4), remove two studs (3), two lockwashers (5), four flatwashers (6) and two nuts (4) securing W4P1 (7). Remove W4P1.
- C. Using No. 2 crosspoint screwdriver, remove screw (8), lockwasher (9), three flatwashers (10) and nut (11) securing E1 lug (12).
- D. Remove battery wire harness (13).



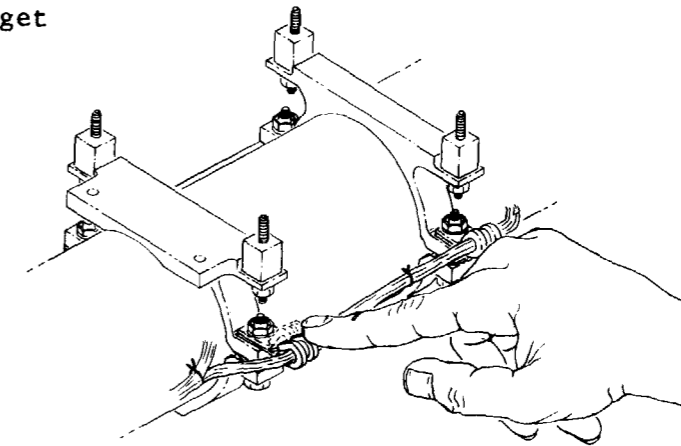
4-43. REMOVE FORWARD CIRCUIT CARD ASSEMBLY BRACKET

Tools required: 3/8 inch open end wrench
3/8 inch socket
Ratchet wrench

Equipment condition: Time delay circuit card removed, see para. 4-29.

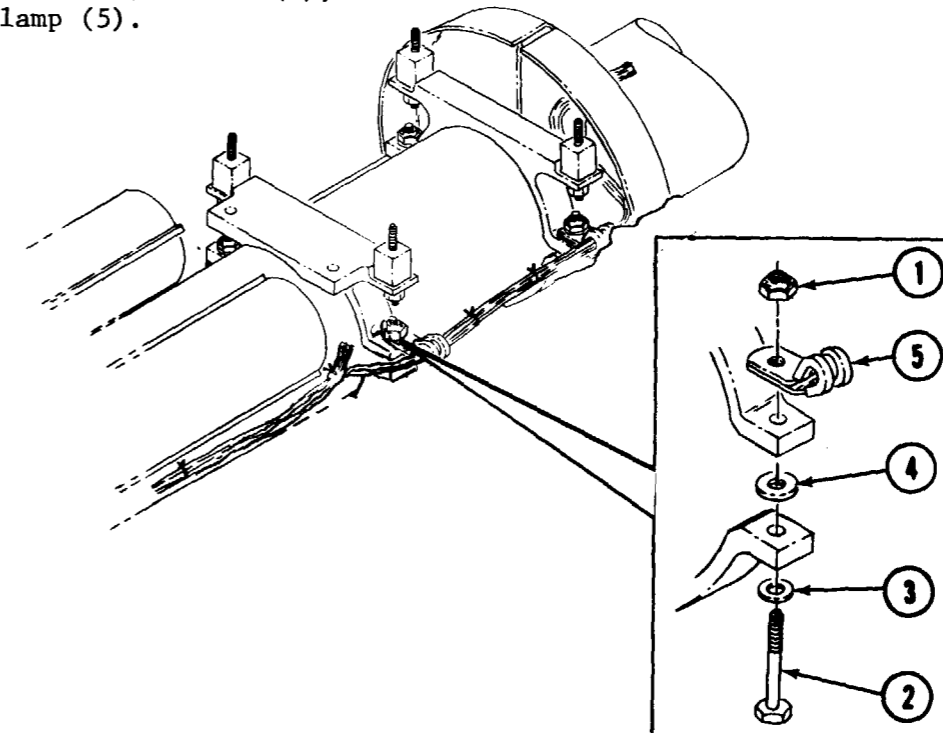
STEP 1

Bend clamp downward slightly to get wrench onto nut.



STEP 2

Using wrench, ratchet, and socket, remove nut (1), bolt (2), washer (3), spacer (4) and clamp (5).

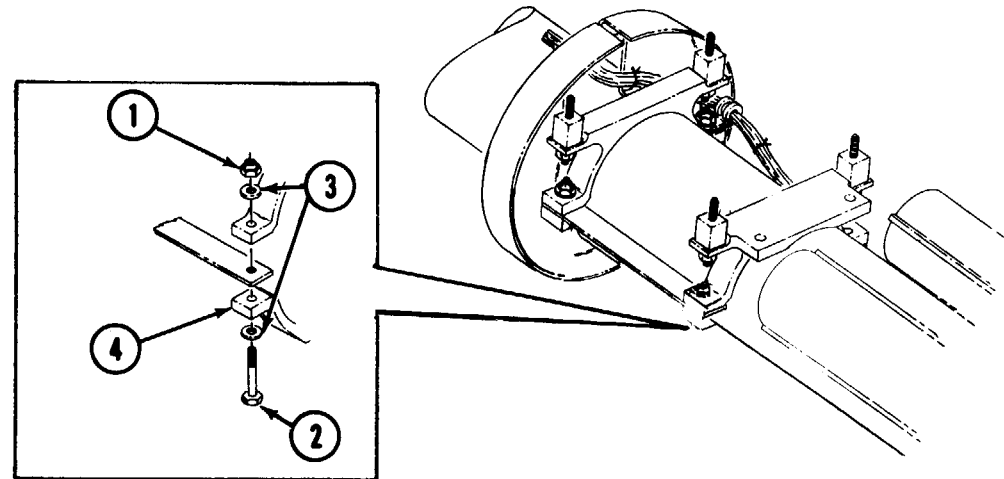


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4-43. REMOVE FORWARD CIRCUIT CARD ASSEMBLY BRACKET - CONTINUED

STEP 3

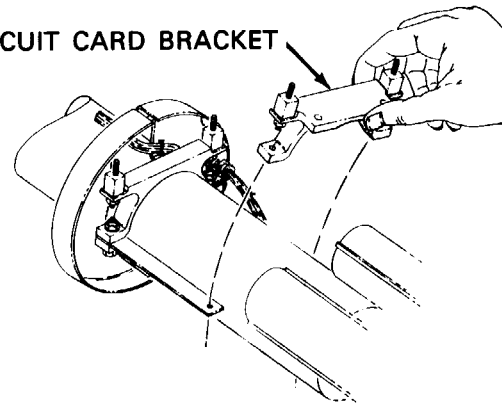
Using wrench, ratchet and socket, remove nut (1), bolt (2), washers (3), and clamp (4).



STEP 4

Remove forward circuit card bracket.

CIRCUIT CARD BRACKET



END OF TASK

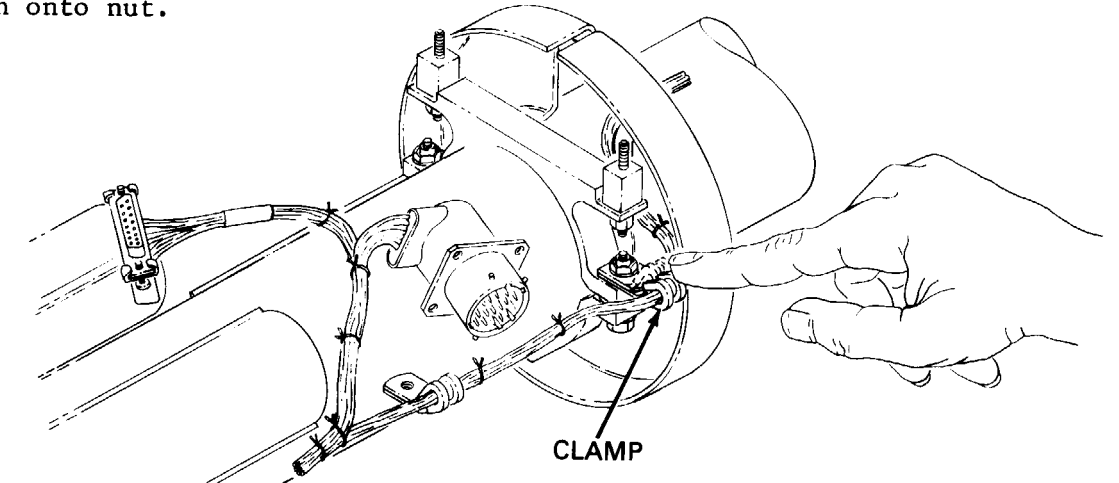
4-44. REMOVE AFT CIRCUIT CARD ASSEMBLY BRACKET

Tools required: Ratchet wrench
3/8 inch socket
3/8 inch open end wrench

Equipment condition: Time delay circuit card removed, see para. 4-29.

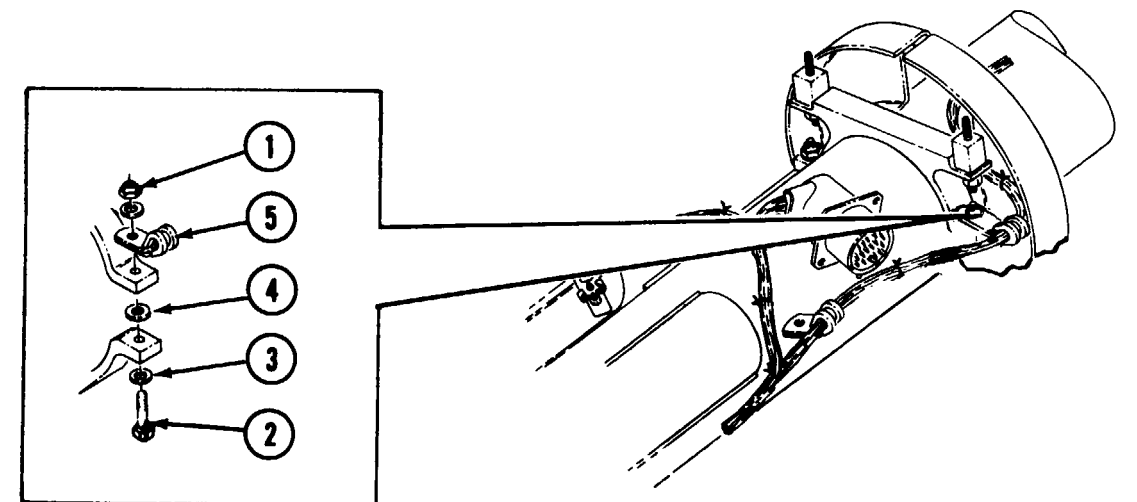
STEP 1

Bend clamp downward slightly to get wrench onto nut.



STEP 2

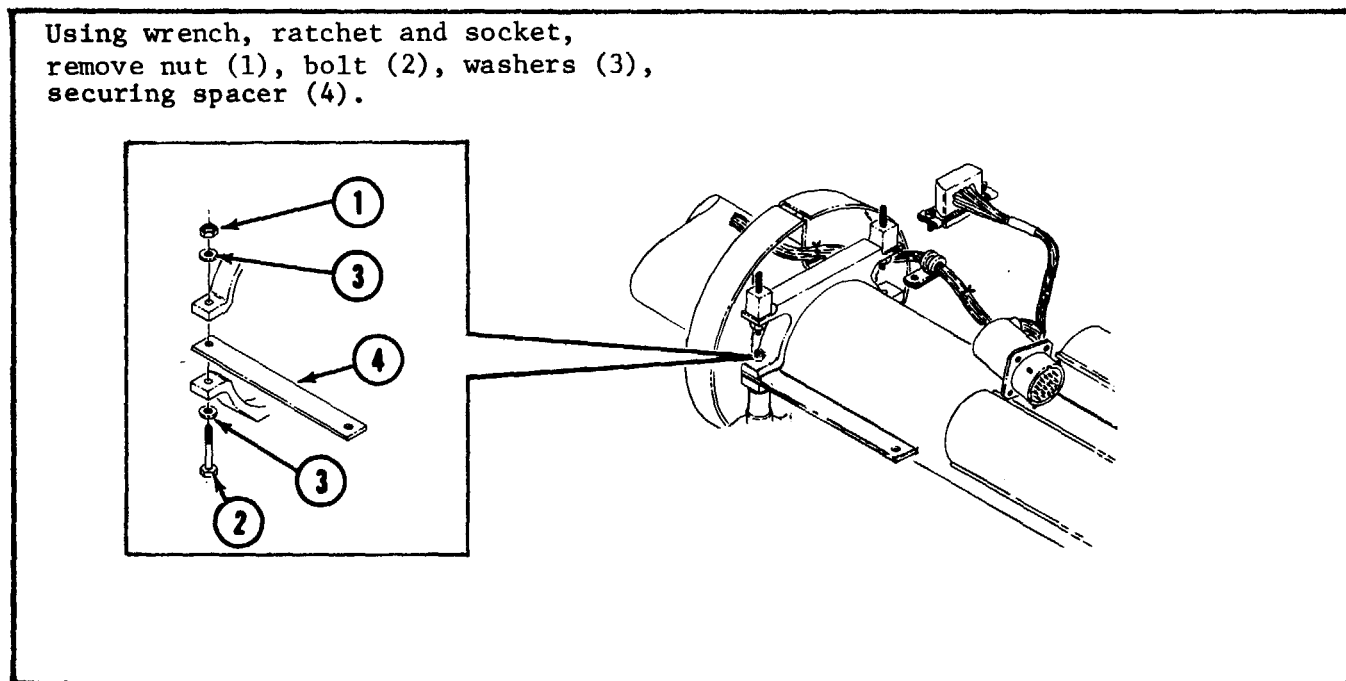
Using wrench, ratchet and socket, remove nut (1), bolt (2), washer (3), spacer (4) and clamp (5).



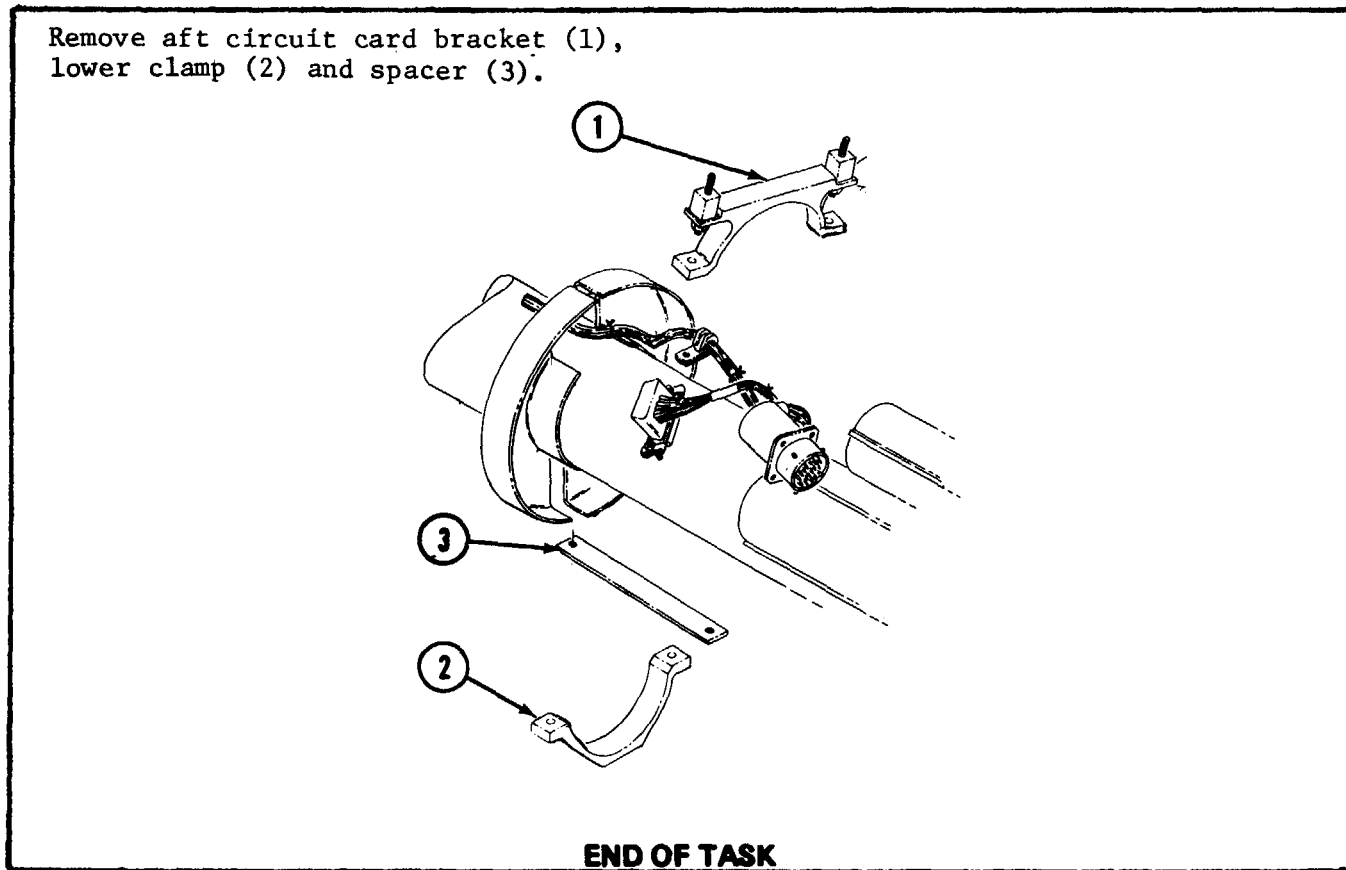
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4-44. REMOVE AFT CIRCUIT CARD ASSEMBLY BRACKET - CONTINUED

STEP 3



STEP 4

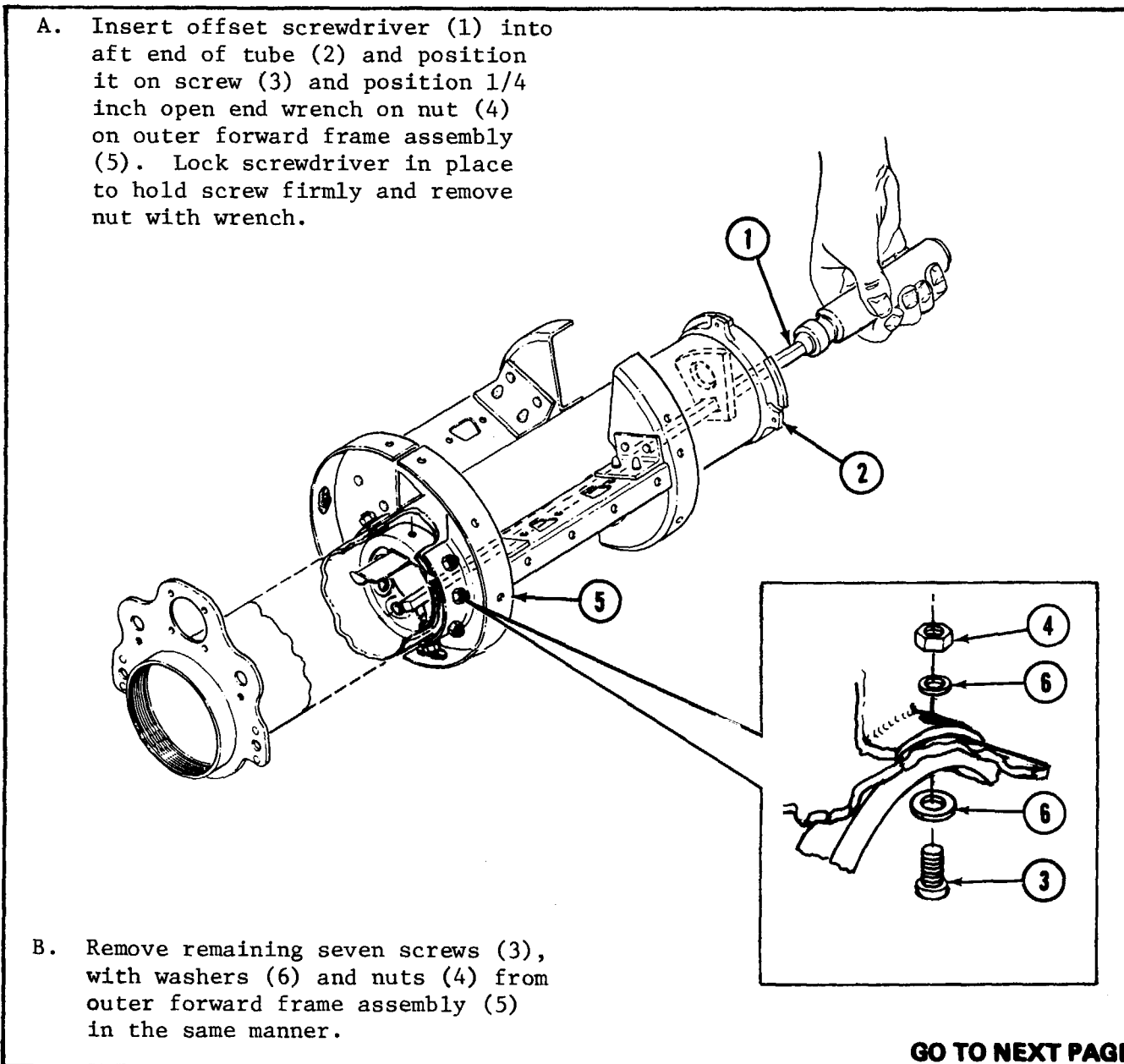


4-45. REMOVE DUMMY PROJECTILE RETAINING CLIP

Tools required: Offset screwdriver, special tool, P/N 8035628
 1/4 inch open end wrench
 3/8 inch open end wrench
 LET cleaning brush

Equipment condition: Forward circuit card assembly bracket removed, see para. 4-43.
 Aft circuit card assembly bracket removed, see para. 4-44.
 Receiver removed, see para 4-17.
 Dummy projectile removed, see para. 4-27.

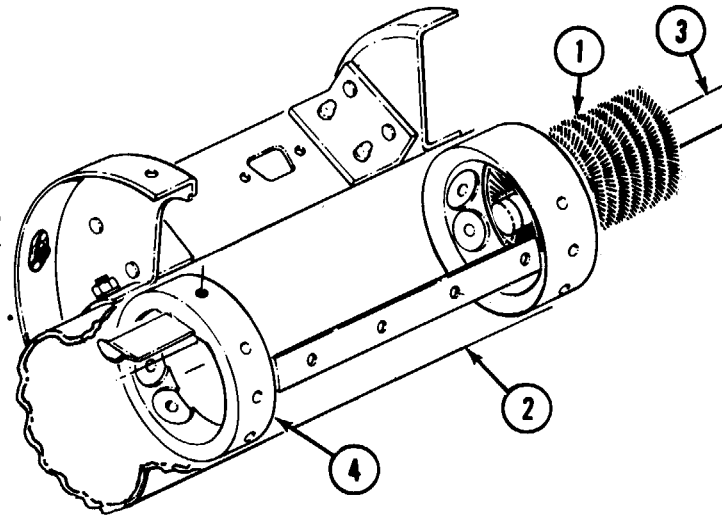
STEP 1



4-45. REMOVE DUMMY PROJECTILE RETAINING CLIP - CONTINUED

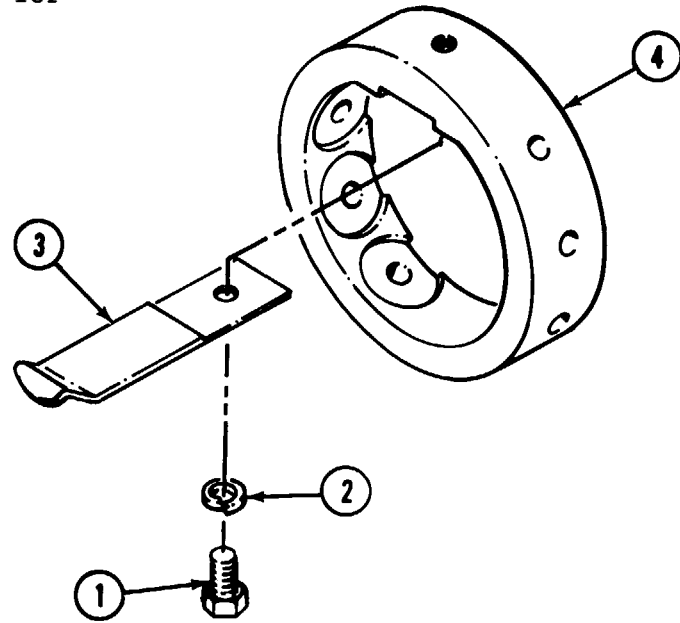
STEP 2

- A. Push LET cleaning brush (1) through the aft end of pressure tube (2) to remove excessive carbon build-up. Remove brush (1) from tube (2).
- B. Unscrew brush (1) from rod (3). Insert rod (3) into the end of pressure tube (2) and gently tap the inner forward frame assembly (4) until it slides out of the forward end of pressure tube (2).
- C. Repeat step A.



STEP 3

Using 3/8 inch open end wrench, remove bolt (1) and washer (2) securing dummy projectile retaining clip (3) to inner forward frame assembly (4).



END OF TASK

4-46. INSTALL DUMMY PROJECTILE RETAINING CLIP

Tools required: Offset screwdriver, special tool, P/N 8035628
 1/4 inch open end wrench
 3/8 inch open end wrench

Equipment condition: Aft circuit card assembly bracket removed, see para. 4-44.
 Receiver removed, para. 4-17.
 Dummy projectile removed, see para. 4-27.

Materials required:

Material

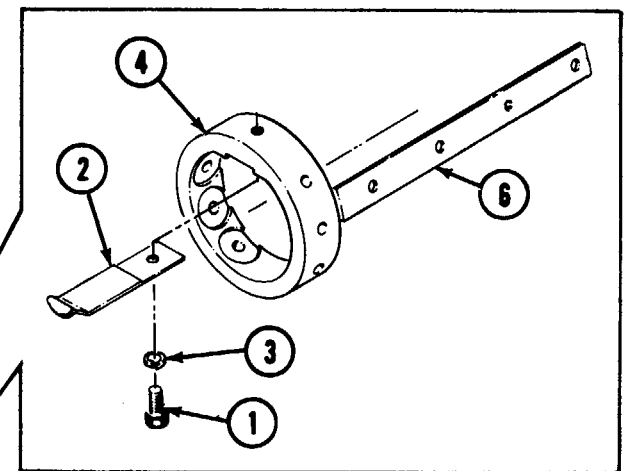
See Appendix D

Sealing compound

Item 34

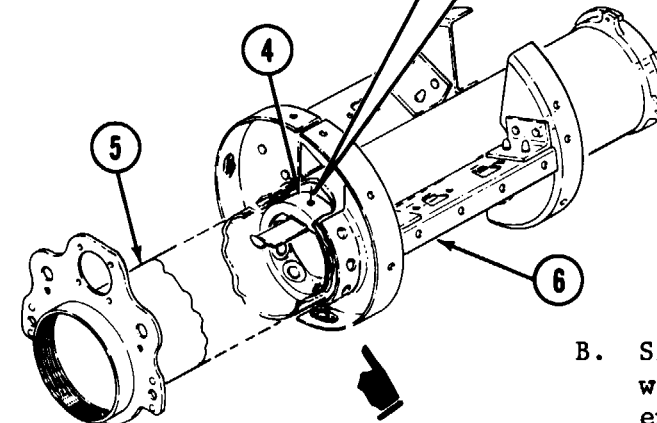
STEP 1

- A. Apply sealing compound to threads of bolt (1). Using 3/8 inch open end wrench, attach dummy projectile retaining clip (2) by inserting single bolt (1) and washer (3) through clip (2) into hole in notch of inner forward frame assembly (4). Tighten bolt (1)



NOTE

Beveled side of frame assembly faces to the rear.



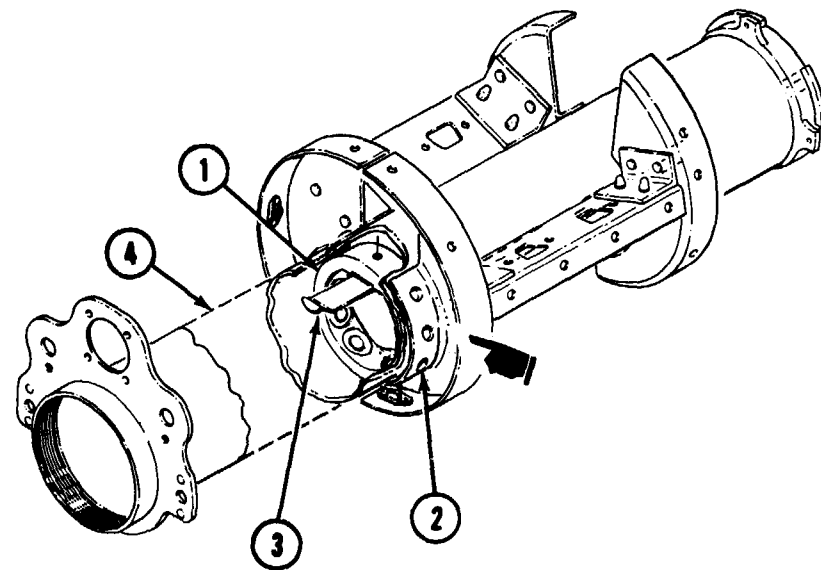
- B. Slide inner forward frame assembly (4) with retaining clip (2) into forward end of LET tube (5). Let frame assembly (4) slide down until it butts against spacer (6).

GO TO NEXT PAGE

4-46. INSTALL DUMMY PROJECTILE RETAINING CLIP - CONTINUED

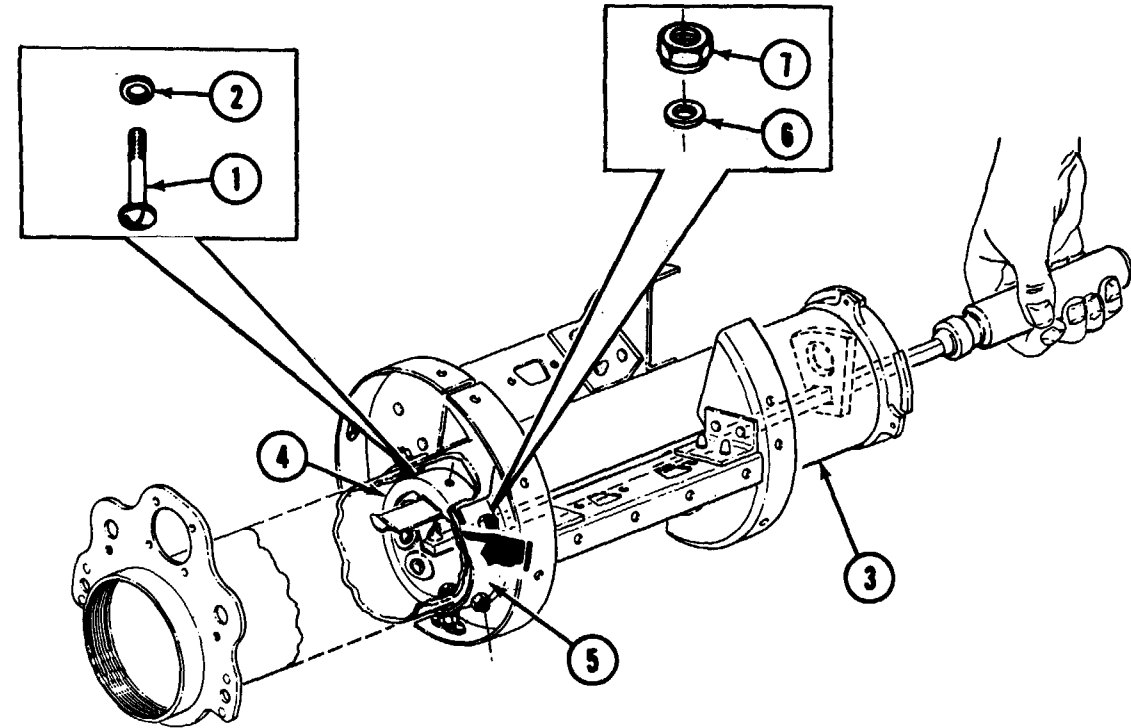
STEP 2

Position inner forward frame assembly (1) in place to align holes in inner forward assembly with holes in outer assembly (2). Make sure clip (3) is located at top of tube (4) looking forward.



STEP 3

A. Insert offset screwdriver with screw (1) and washer (2) on it through rear end of pressure tube (3). Install screw (1) and washer (2) through hole in inner forward frame assembly (4) and up through outer shell (5).



B. Hold screwdriver in place and use 1/4 inch wrench to install washer (6) and self-locking nut (7) on screw (1) and tighten.

C. Repeat this step for each of the remaining seven screws (1).

END OF TASK

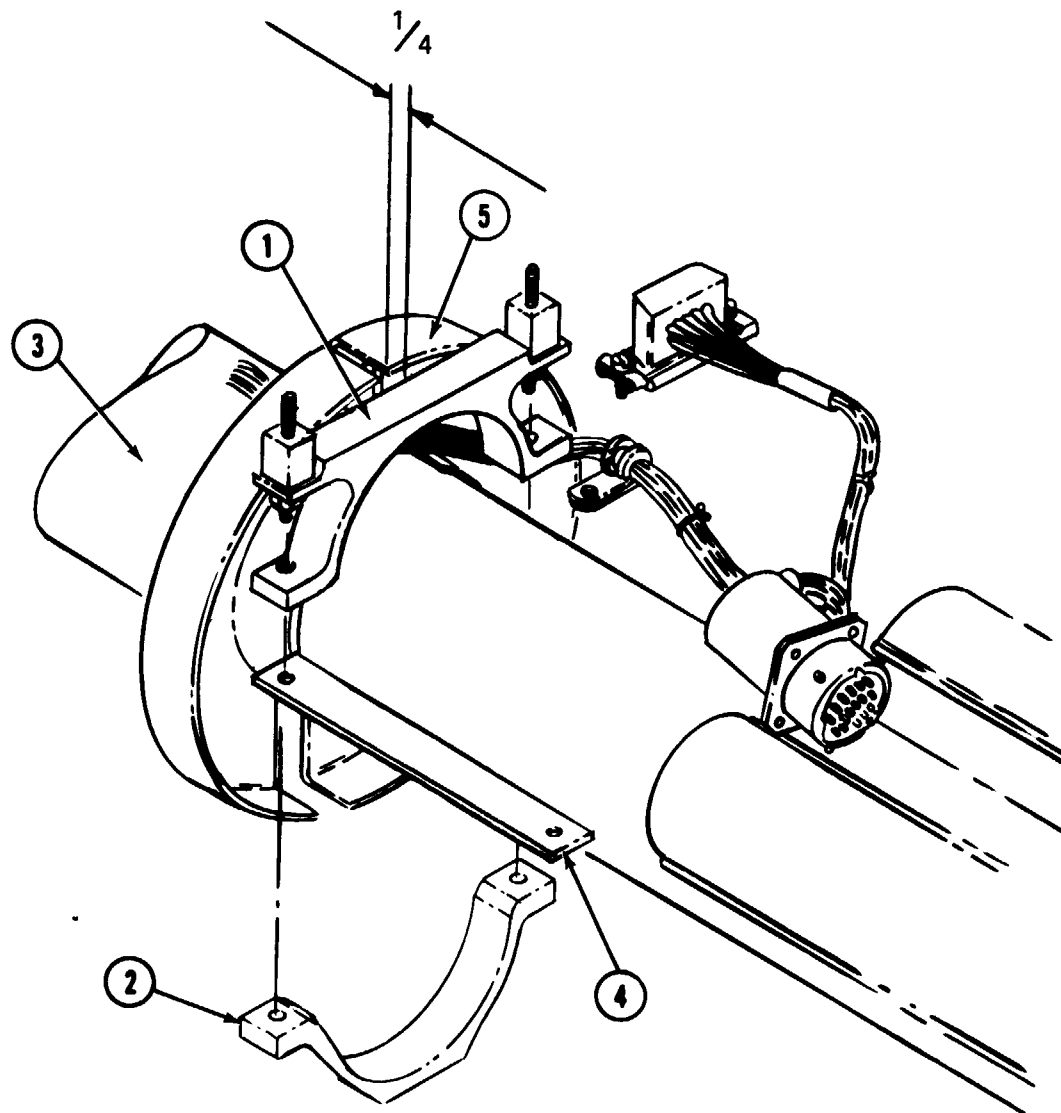
4-47. INSTALL AFT CIRCUIT CARD ASSEMBLY BRACKET

Tools required: 3/8 inch open end wrench
 3/8 inch socket
 Ratchet wrench
 Torque wrench, inch/pounds

Equipment condition: Time delay circuit card assembly removed, see para. 4-29.

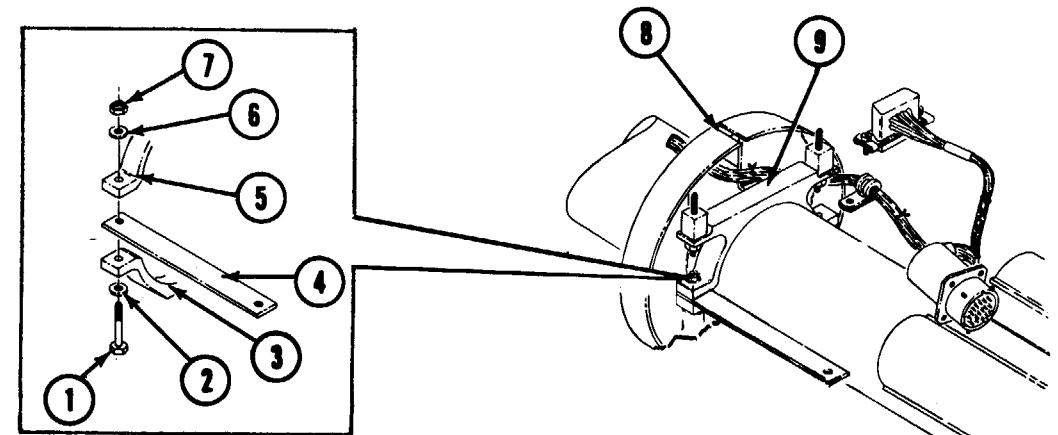
STEP 1

Place rear circuit card bracket (1) and clamp (2) on tube (3). Place one end of strap (4) between them on the rear right side. Line up holes of clamp (2), strap (4) and circuit card bracket (1). Leave about 1/4 inch between frame assembly (5) and circuit card bracket (1).



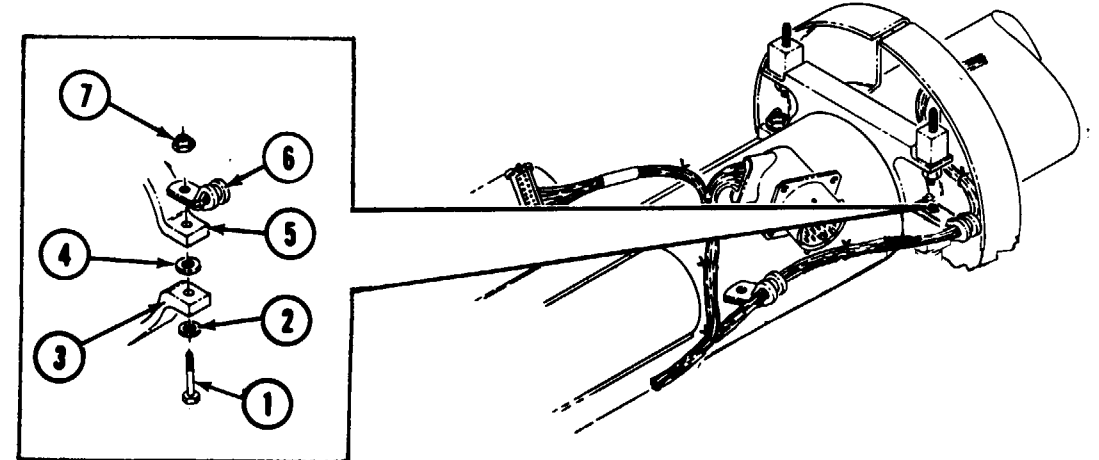
STEP 2

On right side looking forward, insert bolt (1) from bottom through washer (2), clamp (3), strap (4) circuit card bracket (5), washer (6) and nut (7). Line up circuit card bracket (9) with groove (8) in frame assembly.



STEP 3

On left side looking forward, insert bolt (1) from bottom through washer (2), clamp (3), washer (4), circuit card bracket (5), wire harness clamp (6) and nut (7). Tighten both nuts with 3/8 inch socket and ratchet and 3/8 inch open end wrench. Using torque wrench, torque both nuts 15 to 18 inch-pounds, holding the 1/4 inch dimension (Step 1) and circuit card bracket assembly centering (Step 2).

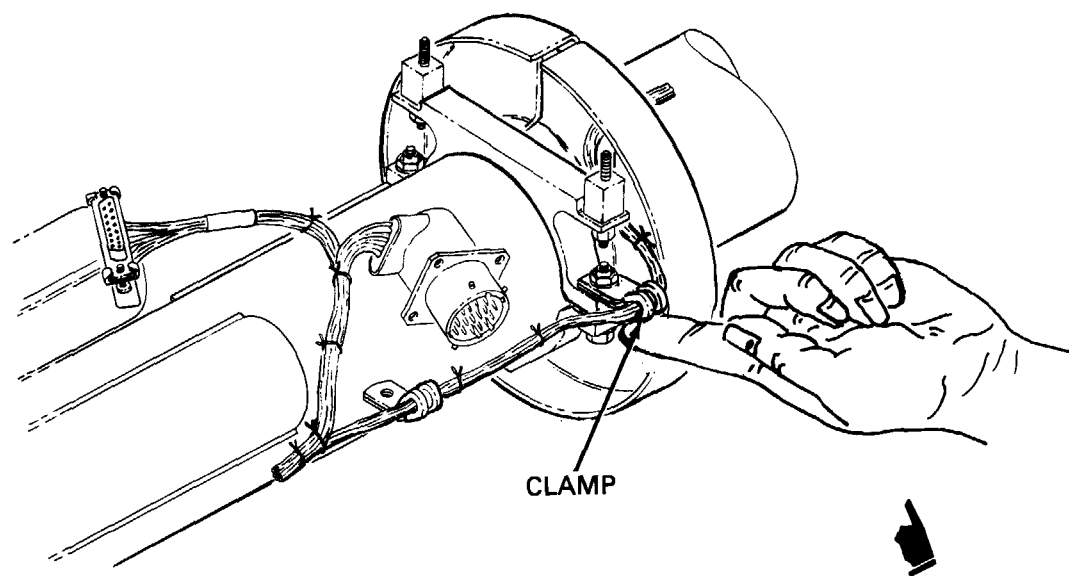


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4-47. INSTALL AFT CIRCUIT CARD ASSEMBLY BRACKET - CONTINUED

STEP 4

Bend wire harness clamp up.



END OF TASK

4-48. INSTALL FORWARD CIRCUIT CARD ASSEMBLY BRACKET

Tools required: 3/8 inch open end wrench
 3/8 inch socket
 Ratchet wrench
 Torque wrench, inch/pounds

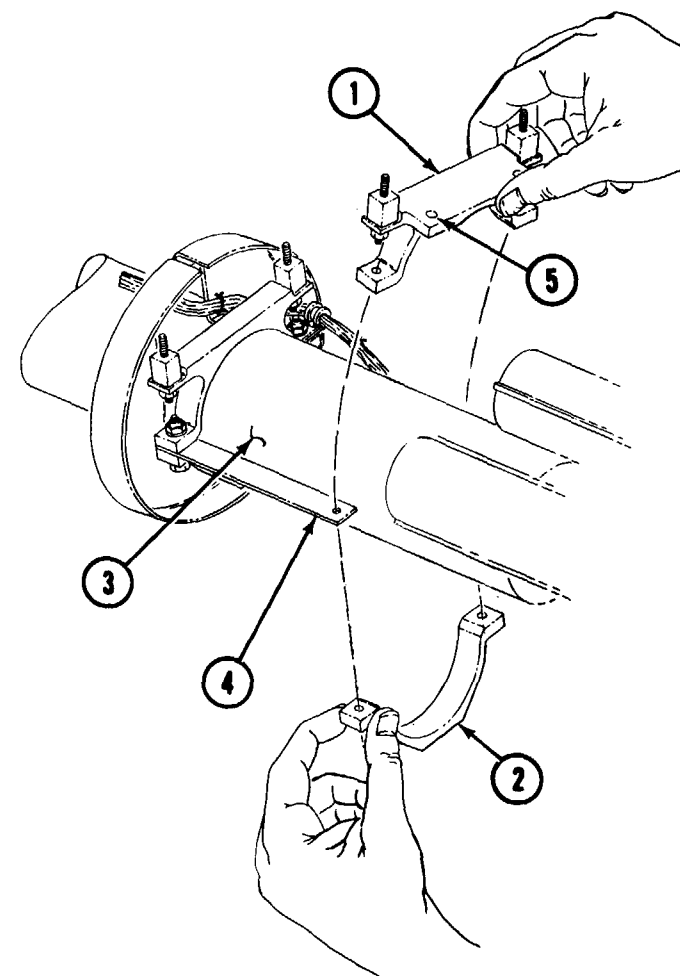
Equipment condition: Aft circuit card assembly bracket installed, see para. 4-47.

STEP 1



Make sure that two holes (5) on forward bracket face forward.

Place forward circuit card assembly bracket (1) and clamp (2) on tube (3).
 Place one end of strap (4) between bracket and clamp on forward right side.
 Line up holes on strap (4), bracket (1) and clamp (2).



GO TO NEXT PAGE

4-48. INSTALL FORWARD CIRCUIT CARD ASSEMBLY BRACKET - Continued

STEP 2

On right side of forward assembly bracket (1) thread bolt (2) from bottom up through washer (3), clamp (4), strap (5), bracket (1), washer (6) and nut (7).

STEP 3

A. On left side of assembly bracket (1) thread bolt (2) from bottom up through washer (3), clamp (4), spacer (5), bracket (1), wire harness clamp (6) and nut (7). Tighten with 3/8 inch socket, ratchet and 3/8 inch open end wrench. Go back and tighten other side of bracket in same manner.

B. Using torque wrench and 3/8 inch socket, torque both nuts securing forward bracket 15 to 18 inch/pounds.

STEP 4

Bend wire harness clamp up to prevent damage to equipment when reinstalling LET tube.

END OF TASK

4-49. INSTALL C5 CAPACITOR

Tools required: No. 2 crosspoint screwdriver
Snap ring pliers

Equipment condition: LET subassembly removed, see para. 4-21.

STEP 1

WARNING

Prior to handling the capacitor, discharge the capacitor by shorting across terminals.

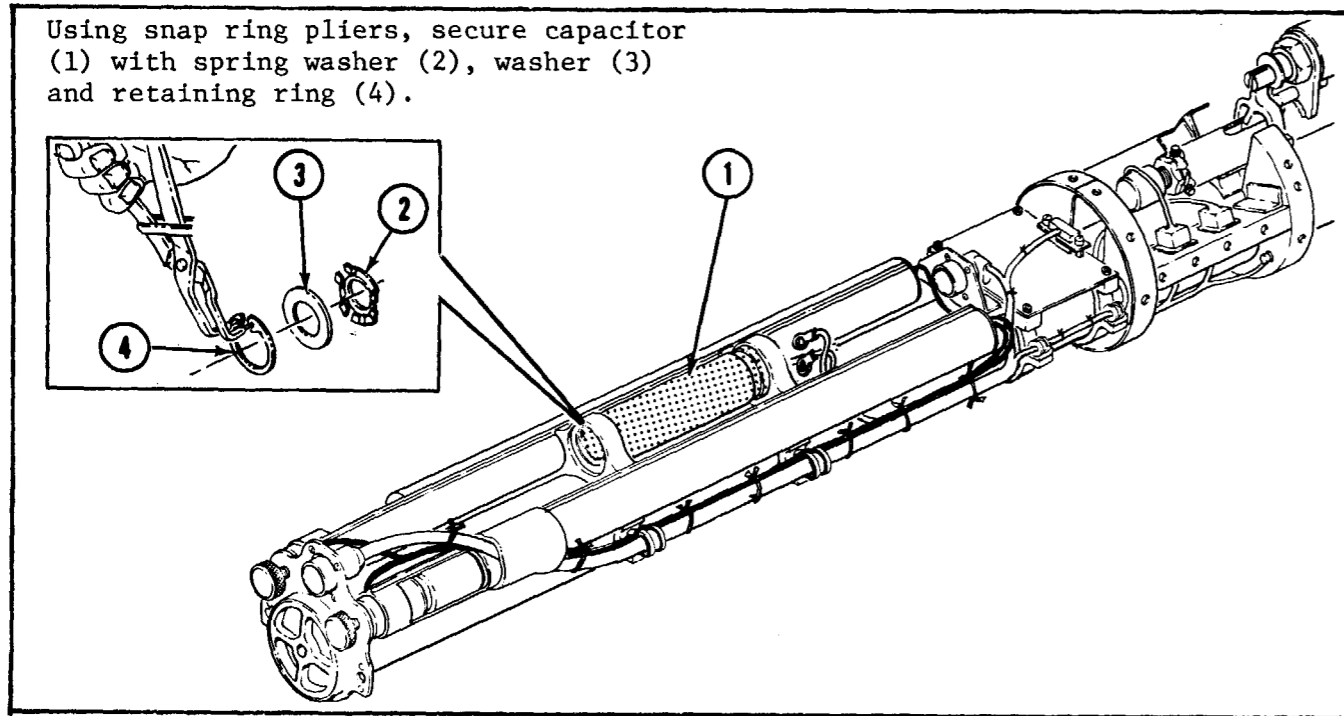
Slide capacitor into capacitor holder with capacitor terminals toward rear of LET.

GO TO NEXT PAGE

4-49. INSTALL C5 CAPACITOR - CONTINUED

STEP 2

Using snap ring pliers, secure capacitor (1) with spring washer (2), washer (3) and retaining ring (4).



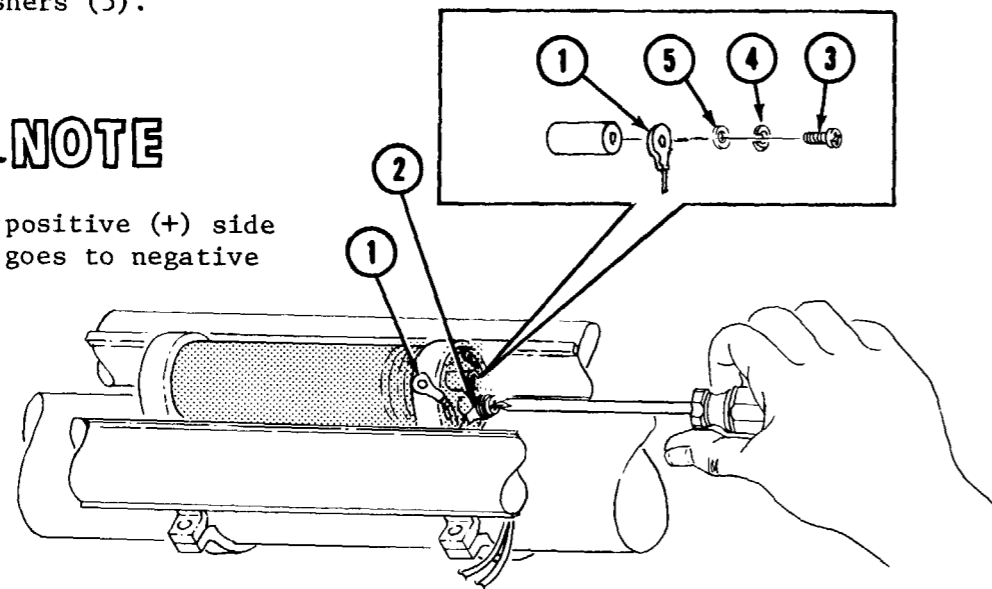
STEP 3

Using screwdriver, install terminal lugs E1+ (1) and E2- (2) and secure with two screws (3), two washers (4) and two lockwashers (5).



NOTE

E1+ goes to positive (+) side of C5. E2- goes to negative (-) side.



END OF TASK

4-50. INSTALL BATTERY RETAINER SHELL AND WIRING HARNESS

- | | | |
|-----------------|------------------------------|---------------------------------|
| Tools required: | No. 2 crosspoint screwdriver | Wire crimping tool |
| | 3/8 inch open end wrench | Soldering iron |
| | 3/8 inch socket | Wire stripping tool |
| | Ratchet wrench | Heat gun |
| | Torque wrench, inch/pounds | 3/16 inch box end wrench |
| | 3/16 inch open end wrench | 1/8 inch flat-blade screwdriver |
| | 1/4 inch open end wrench | |

Equipment condition: Thumbscrews and electrical contacts removed, see para. 4-38. C5 capacitor installed, see para. 4-49. J1 connector removed, see para. 4-41, step 3.

Materials required:

Materials

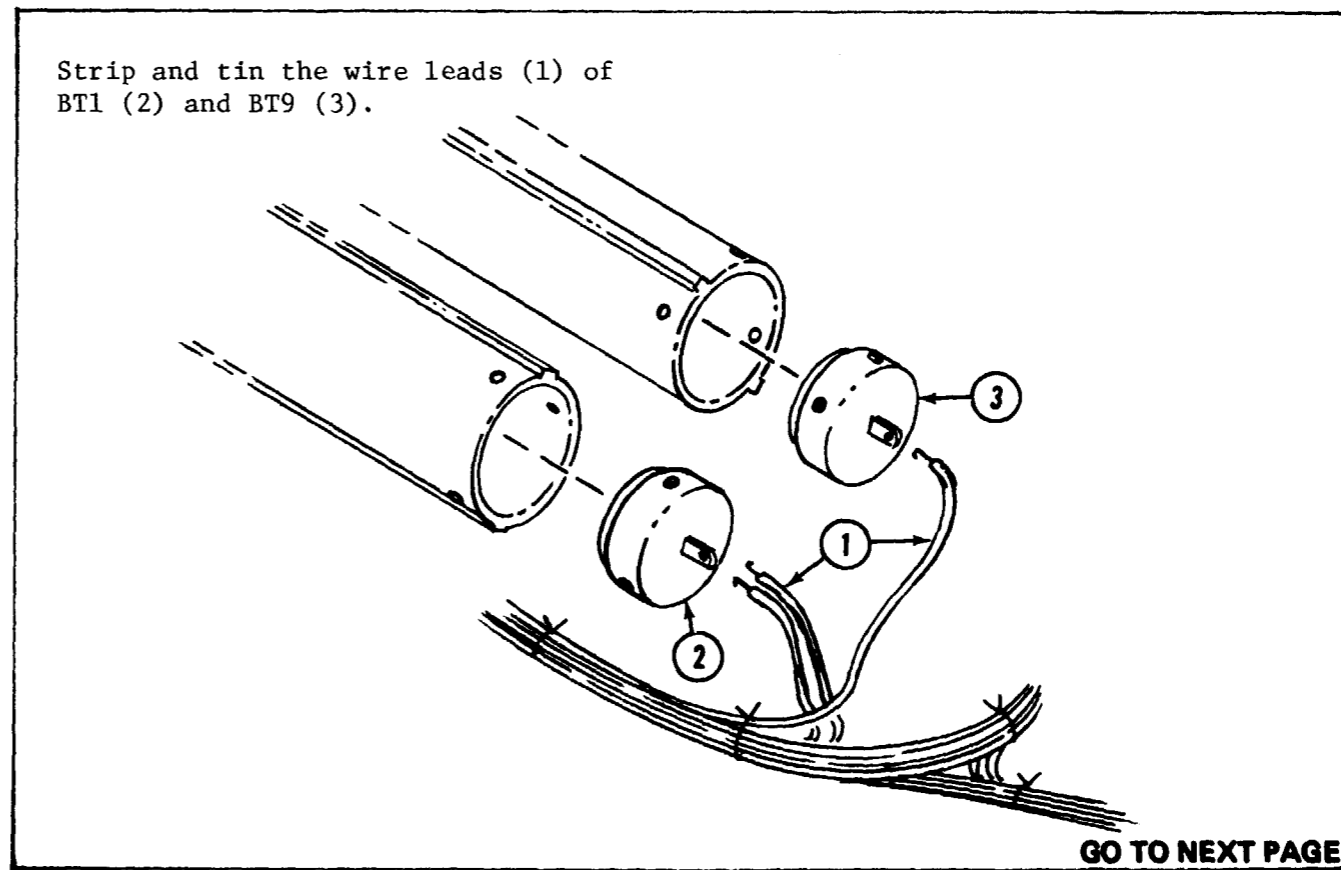
See Appendix D

- Orangewood stick
- Insulation sleeving, 4 inch section
- Sealing compound
- Lacing tape
- DELETED
- DELETED

- Item 7
- Item 28
- Item 29
- Item 33

STEP 1

Strip and tin the wire leads (1) of BT1 (2) and BT9 (3).



GO TO NEXT PAGE

4-50. INSTALL BATTERY RETAINER SHELL AND WIRING HARNESS - Continued

STEP 2

A. Insert two leads (1) into BT1 electrical contact (2). Solder leads.

B. Insert lead (3) into BT9 electrical contact (4). Solder leads.

STEP 3

A. Insert BT1 electrical contact (1) into rear of BT1 side of battery retainer shell (2). Align holes (3) in electrical contact with holes in the battery retainer shell. Using a screwdriver, install three screws (4).

B. Insert electrical contact of BT9 (5) into BT9 side of battery retainer shell (2). Install three mounting screws (4).

STEP 4

A. DELETED

B. Using orangewood stick, carefully reseal the two electrical contacts (1) with sealing compound (2) to a depth flush with the end of battery retainer shell (3).

STEP 5

CAUTION

Sleeving must be used to protect the wiring harness during installation of the LET subassembly.

Place J1 connector (5) inside of battery shell (3), then slide 4 inch section of sleeving (1) over BT8 side (2) of battery retainer shell (3), wires (4) and J1 connector (5). Do not heat shrink the sleeving at this time.

GO TO NEXT PAGE

4-50. INSTALL BATTERY RETAINER SHELL AND WIRING HARNESS - CONTINUED

STEP 6

A. Strip the end of BT8 terminal lead (2) and BT16 leads (1) with wire stripping tool.

B. Insert BT8 lead (2) through the access hole (5) in BT8 side of battery retainer shell (4).

C. Insert the BT16 leads (1) through access hole (3) in BT16 side of battery retainer shell (4).

STEP 7

Install terminal lug (1) on BT8 lead (2) and on BT16 leads (3) with wire crimping tool.

STEP 8

A. Place battery retainer shell (1) in position on top of LET pressure tube (2). Align holes in forward end support fitting (3) with holes (4) in each forward end of battery retainer shell (1).

B. Using No. 2 crosspoint screwdriver, insert two self-locking screws (5) through forward end support fitting (3) and into holes (4) of each end of battery retainer shell (1).

C. Insert J1 connector (9) into forward end support fitting (3). Position large keyway of J1 (9) at the top. Using a No. 1 crosspoint screwdriver and a 5/32 inch open end wrench, secure J1 (9) with four countersunk screws (10), washers (11), and nuts (12).

D. Shrink insulation sleeving (6) in place just behind battery opening (7) in BT1 (8).

E. Install wire clamps (13) over the wire harness (14).

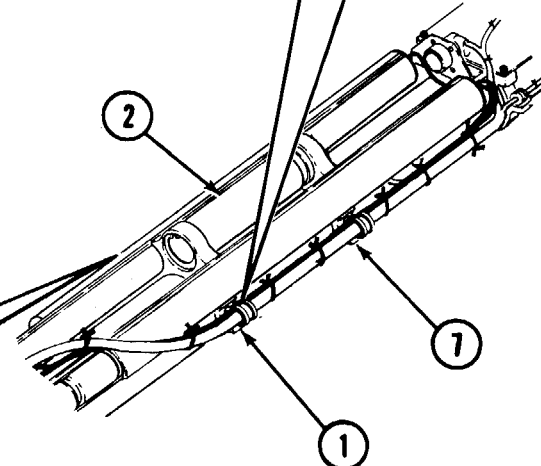
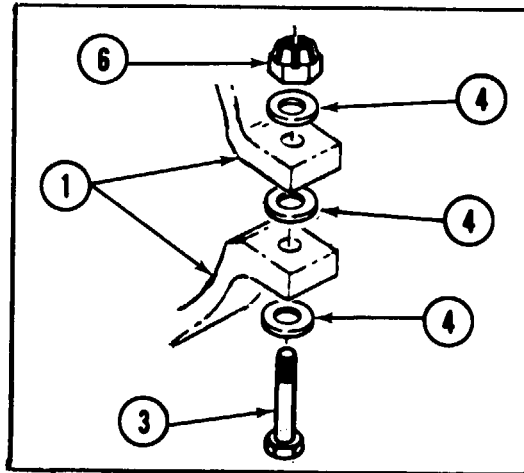
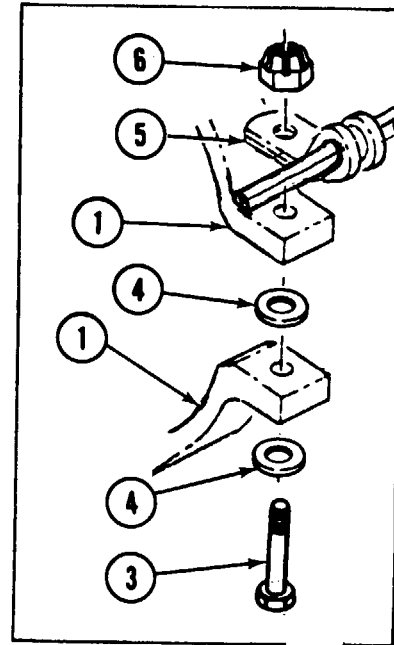
F. Using lacing tape, lace up the wire harness (14).

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4-50. INSTALL BATTERY RETAINER SHELL AND WIRING HARNESS - CONTINUED

STEP 9

- A. Attach forward clamp (1) to battery retainer shell (2) by inserting bolt (3) through washer (4), forward clamp (1), washer (4), battery retainer shell (2), wire harness clamp (5), and nut (6) using a 3/8 inch socket on ratchet and a 3/8 inch open end wrench.
- B. Using same method attach rear clamp (7) to battery retainer shell (2).
- C. Attach other side of forward clamp (1) to battery retainer shell (2) by inserting bolt (3) through washer (4) forward clamp (1), washer (4), retainer shell (2), washer (4), and nut (6) using 3/8 inch socket on ratchet and 3/8 inch open end wrench.
- D. Attach other side of rear clamp (7) to battery retainer shell (2) in **same** manner.
- E. Using torque wrench, tighten nuts (6) 15 to 18 inch/pounds.



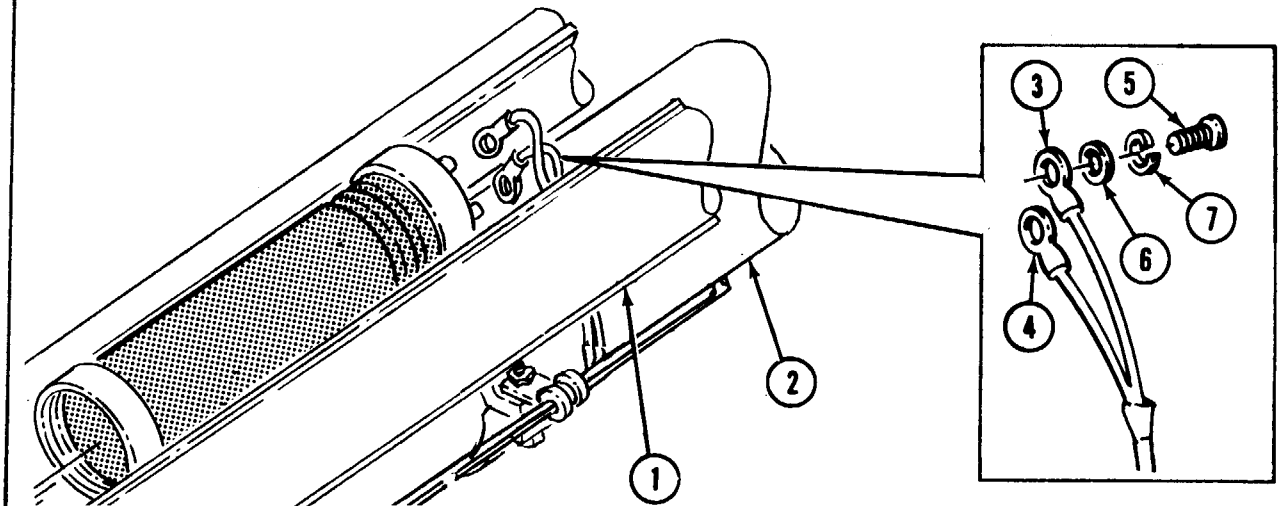
STEP 10



NOTE

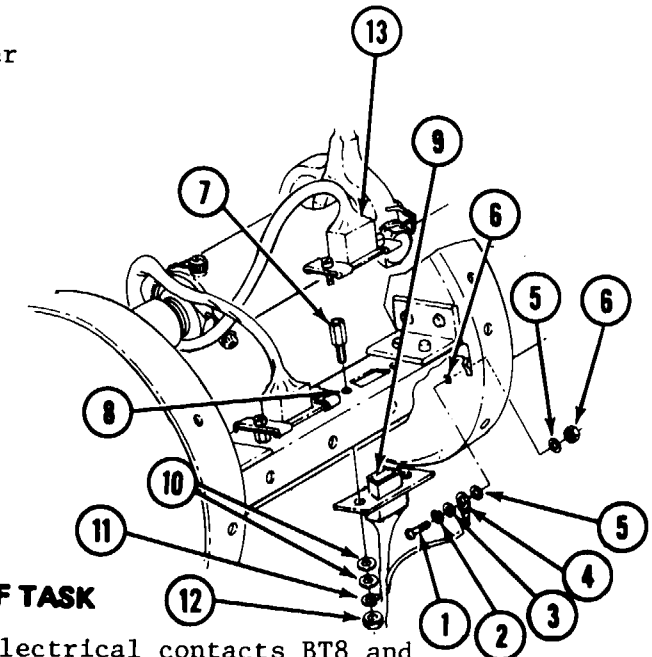
E1+ goes to positive (+) side of C5. E2- goes to negative (-) side.

- A. Push two leads between battery shell (1) and tube (2).
- B. Using No. 2 crosspoint screwdriver, install terminal lugs E1+ (3) and E2- (4) and secure with two screws (5), two washers (6) and two lockwashers (7).



STEP 11

- A. Using a No. 2 crosspoint screwdriver and a 1/4 inch open end wrench, install screw (1) through lockwasher (2), flatwasher (3), E1 lug (4), flatwasher (5), assembly wall (6), flatwasher (5) and self-locking nut (6).
- B. Using 3/16 inch open end wrench and 3/16 inch box end wrench, install two studs (7) through frame (8), W4P1 (9), flatwashers (10), lockwashers (11) and nuts (12).
- C. Using 1/8 inch flat-blade screwdriver, secure W1J4 (13) to W4P1 (9).



END OF TASK

Follow-on Task: Connect electrical contacts BT8 and BT16, see para. 4-39, step 3.

4-51. INSTALL LET WIRE HARNESS

- Tools required:
- | | |
|-------------------------------------|----------------------------|
| No. 1 crosspoint screwdriver | 5/32 inch open end wrench |
| No. 2 crosspoint screwdriver | 3/8 inch open end wrench |
| 1/8 inch flat-blade screwdriver | 3/8 inch socket |
| 3/16 inch open end wrench | Ratchet wrench |
| 3/16 inch box end wrench | 3 inch extension |
| No. 2 offset crosspoint screwdriver | 1/4 inch socket |
| Diagonal cutting pliers | Craftsman's knife |
| Wire stripper pliers | Torque wrench, inch/pounds |
| Heat gun | Wire crimping pliers |
| | 3/16 inch nut driver |

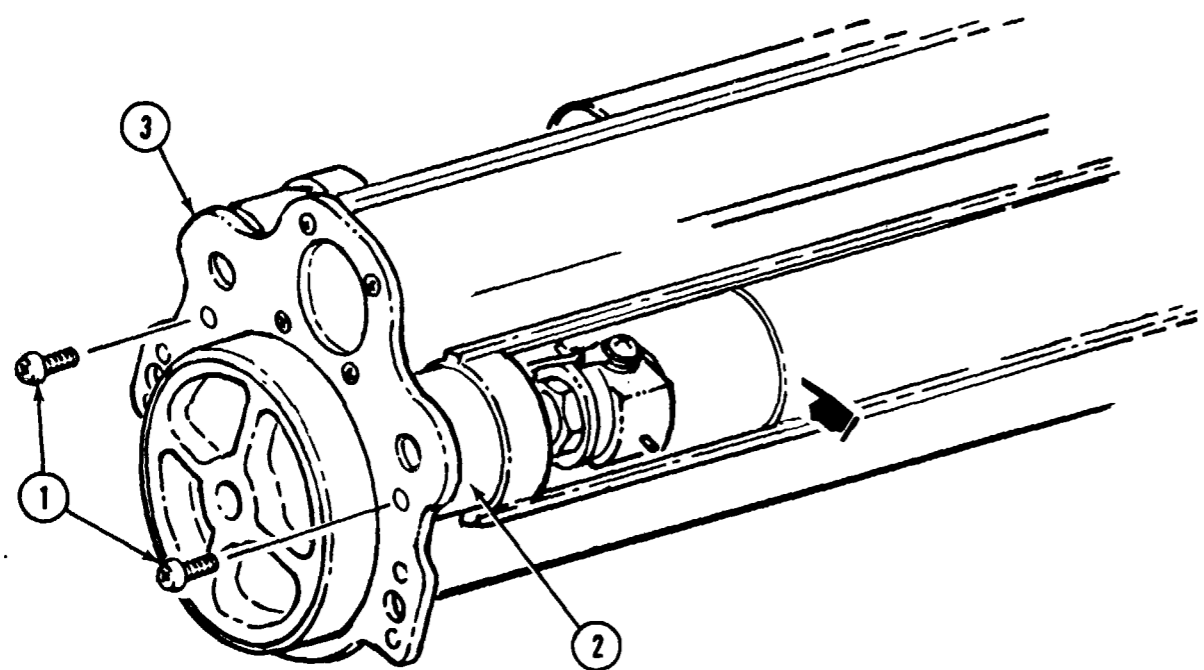
Materials required:

<u>Materials</u>	<u>See Appendix D</u>
Orangewood stick	Item 7
Insulation sleeving	Item 28
Lacing tape	Item 33
Insulation compound	Item 60

Equipment condition: Thumbscrews removed, see para. 4-38.
C5 capacitor installed, see para. 4-49.

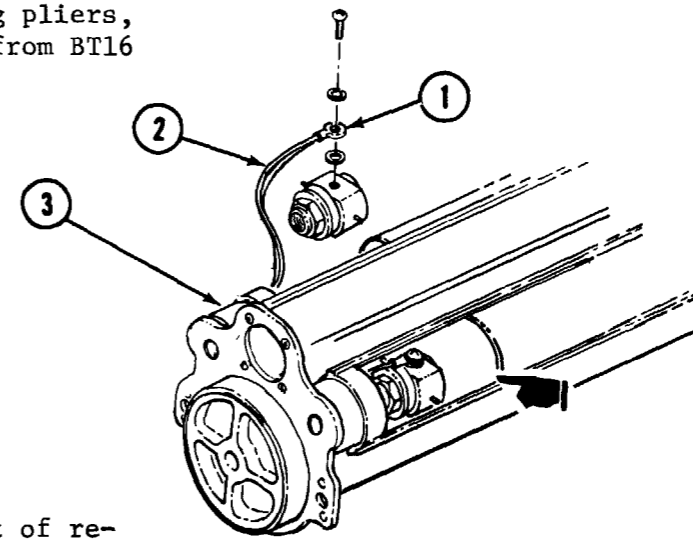
STEP 1

Using No. 2 crosspoint, remove two self-sealing screws (1) securing battery retainer shell (2) to forward end support fitting (3).

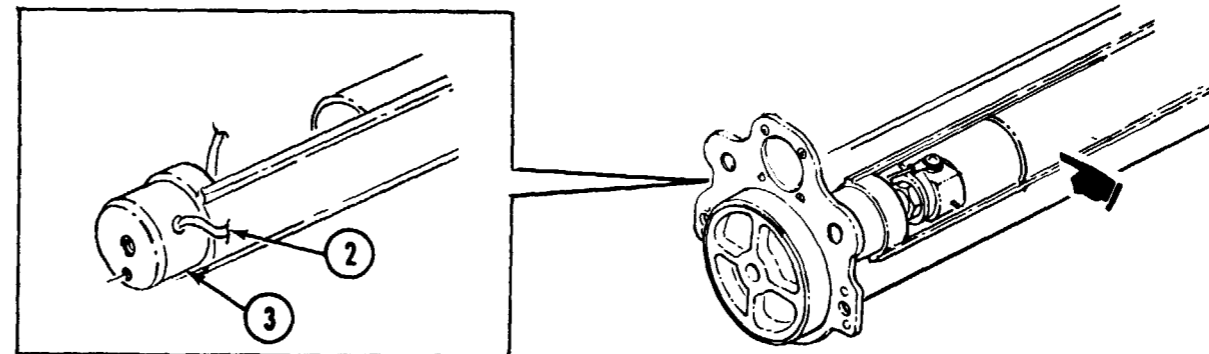


STEP 2

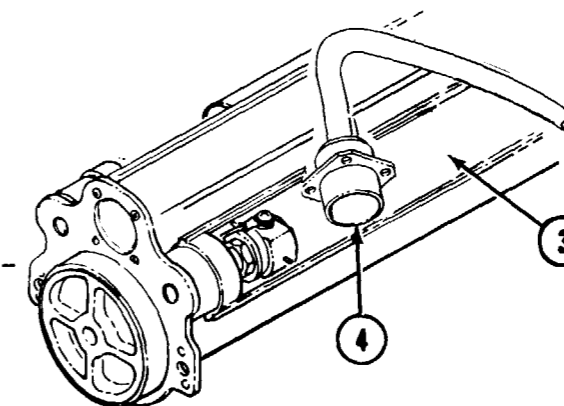
A. Using diagonal cutting pliers, cut terminal lug (1) from BT16 lead (2).



B. Pull BT16 lead (2) out of retainer shell (3).



C. Place J1 connector (4) into BT8 side of retainer shell (3).



D. Slide battery retainer shell (3) rearward to allow installation of the shrink sleeve in the next step.

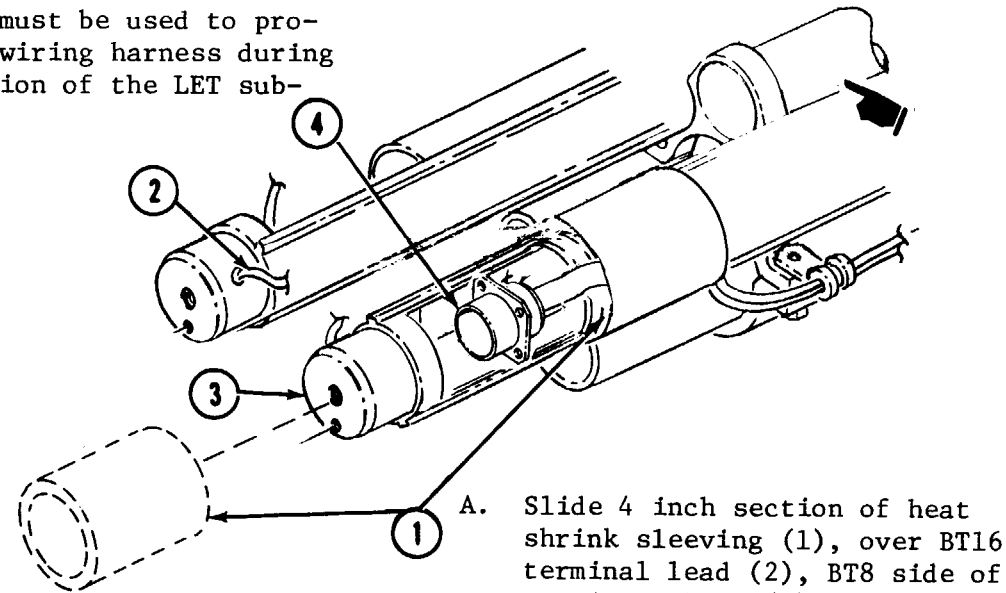
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4-51. INSTALL LET WIRE HARNESS - CONTINUED

STEP 3

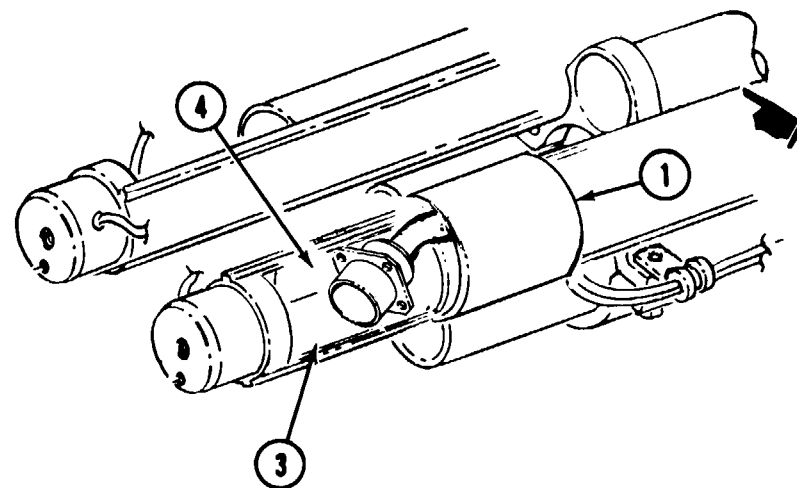


Sleeving must be used to protect the wiring harness during installation of the LET sub-assembly.



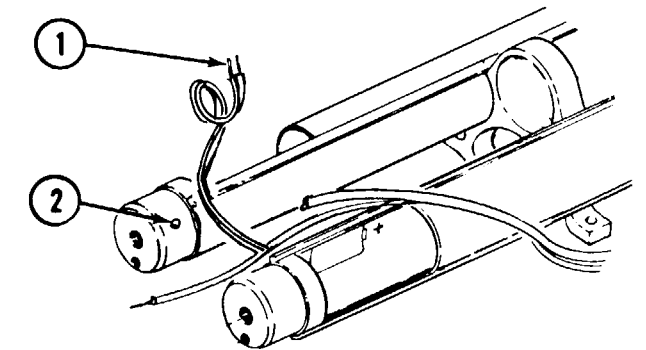
A. Slide 4 inch section of heat shrink sleeving (1), over BT16 terminal lead (2), BT8 side of retainer shell (3) and over J1 connector (4).

B. Pull J1 connector (4) from slot in retainer shell (3). Be sure J1 is through the sleeving (1).



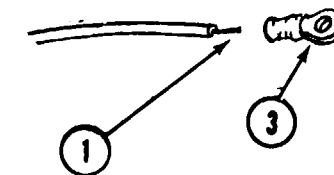
STEP 4

A. Insert BT16 lead (1) through hole in BT16 side of battery retainer shell (2).



B. Using wire stripper pliers, strip the lead (1).

C. Install new lug (3) on BT16 lead (1) using wire crimping pliers.

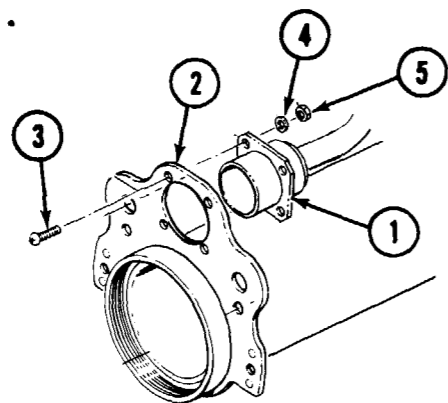


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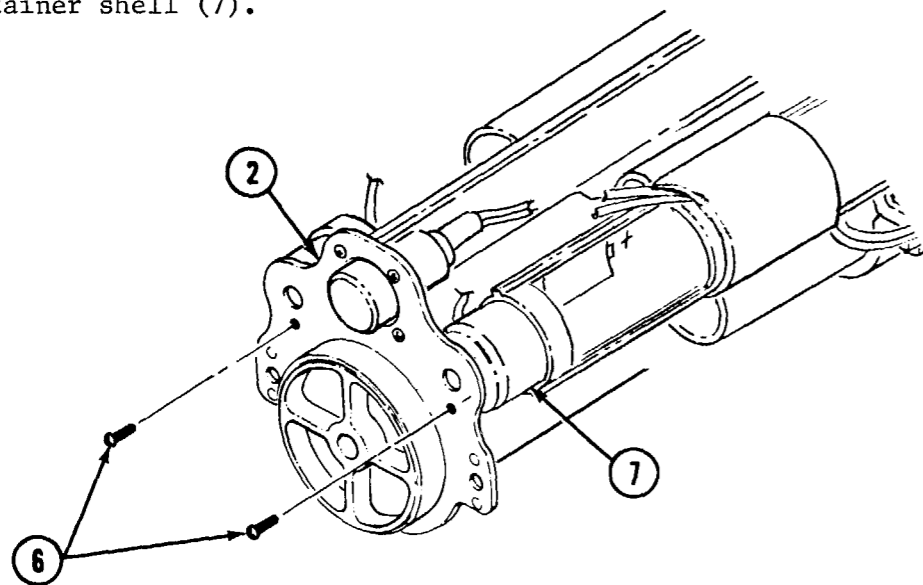
4-51. INSTALL LET WIRE HARNESS - CONTINUED

STEP 5

- A. Insert J1 connector (1) into forward end support fitting (2). Position large keyway of J1 (1) toward top (2). Using No. 1 crosspoint screwdriver and 5/32 inch open end wrench, secure four countersunk screws (3), four washers (4) and four nuts (5).

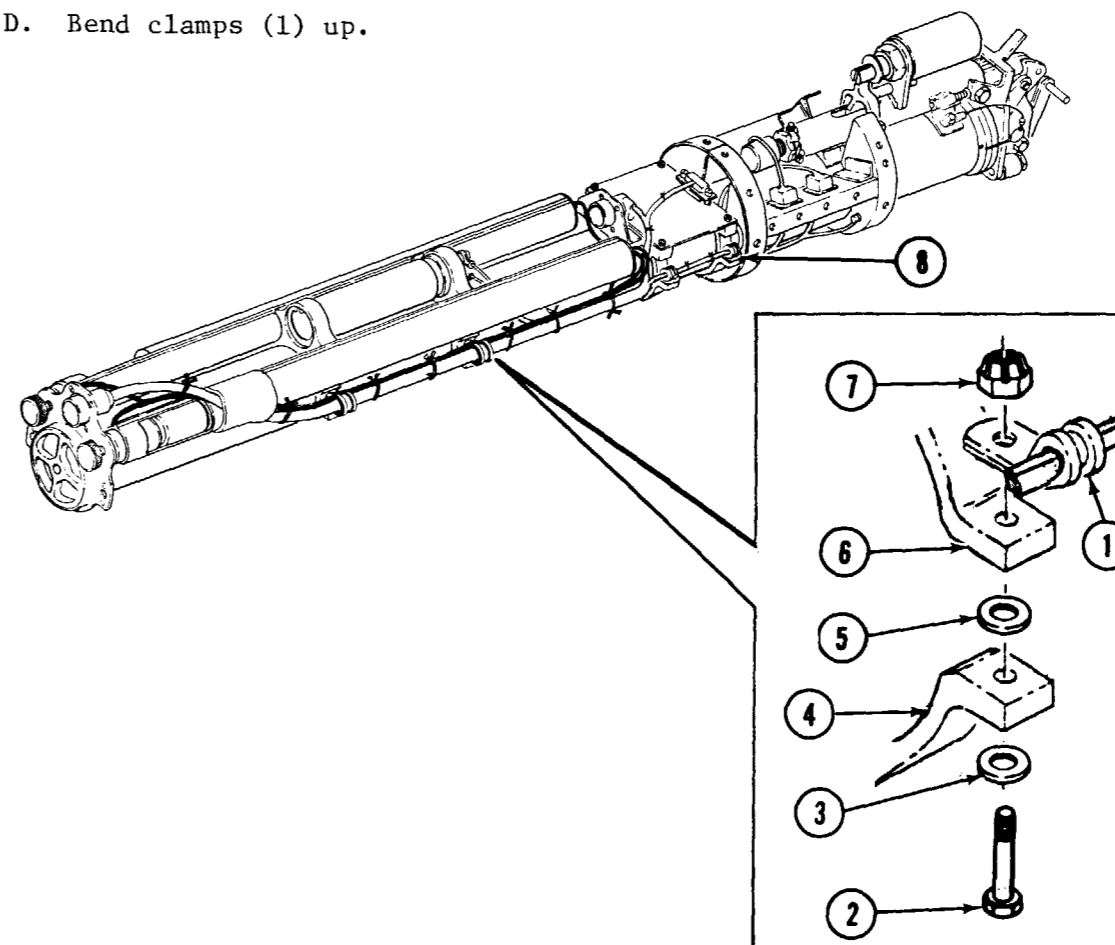


- B. Using No. 1 crosspoint screwdriver, install two self-sealing screws (6) through forward end support fitting (2) and into each end of battery retainer shell (7).



STEP 6

- A. Install each of the four cushioned clamps (1) onto wire harness. The smallest clamp goes on the aft circuit card assembly bracket (8).
- B. Fasten each cushioned clamp (1) by inserting bolt (2) from bottom through washer (3), lower clamp (4), washer (5), bracket (6), cushioned clamp (1) and secure with nut (7).
- C. Install each of four clamps (1) in this manner. Using torque wrench, 3/8 inch socket and 3/8 inch open end wrench, torque each bolt (2) 15 to 18 inch/pounds.
- D. Bend clamps (1) up.

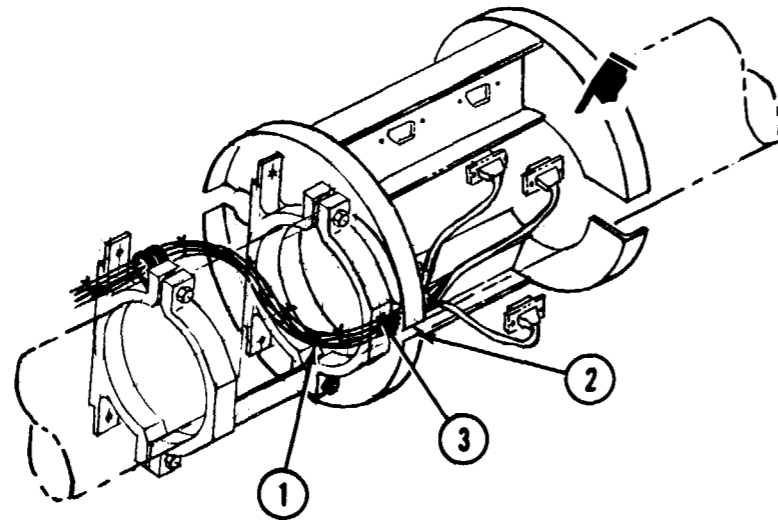


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4-51. INSTALL LET WIRE HARNESS - CONTINUED

STEP 7

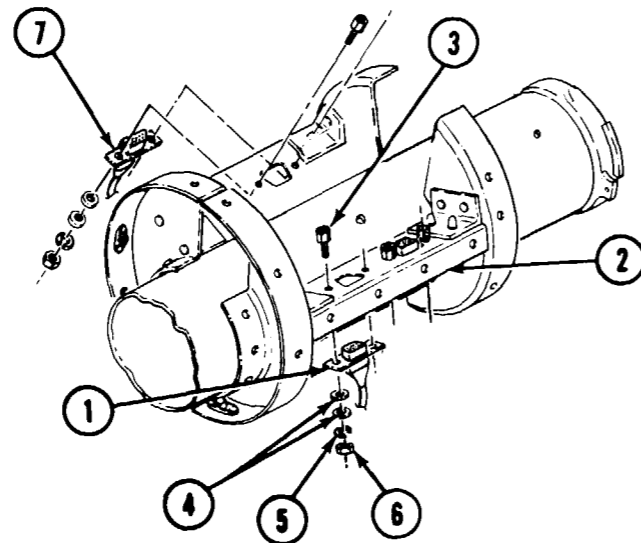
Insert LET wire harness (1) through split in bottom of support (2). Stack LET wire harness (1) on top of battery wire harness (3) in the split. Tie LET wire harness (1) and battery wire harness (3) together at this point with lacing tape.



STEP 8

A. Install W1J5 connector (1) to frame (2) by inserting retainer (3) through frame (2), two flatwashers (4), one lockwasher (5) and one nut (6) on each side of connector (1). Tighten with a 3/16 inch nut driver.

B. Install W1P1 (7) connector in same manner as in step A.

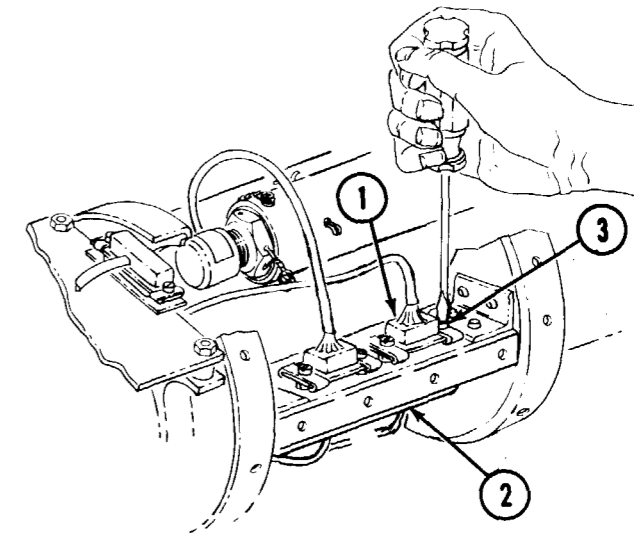


STEP 9

A. Install W1J4 connector (1) to W4P1 connector (2) by fastening two captive screws (3) using 1/8 inch flat-blade screwdriver.

B. Install W3P1 to W1J5.

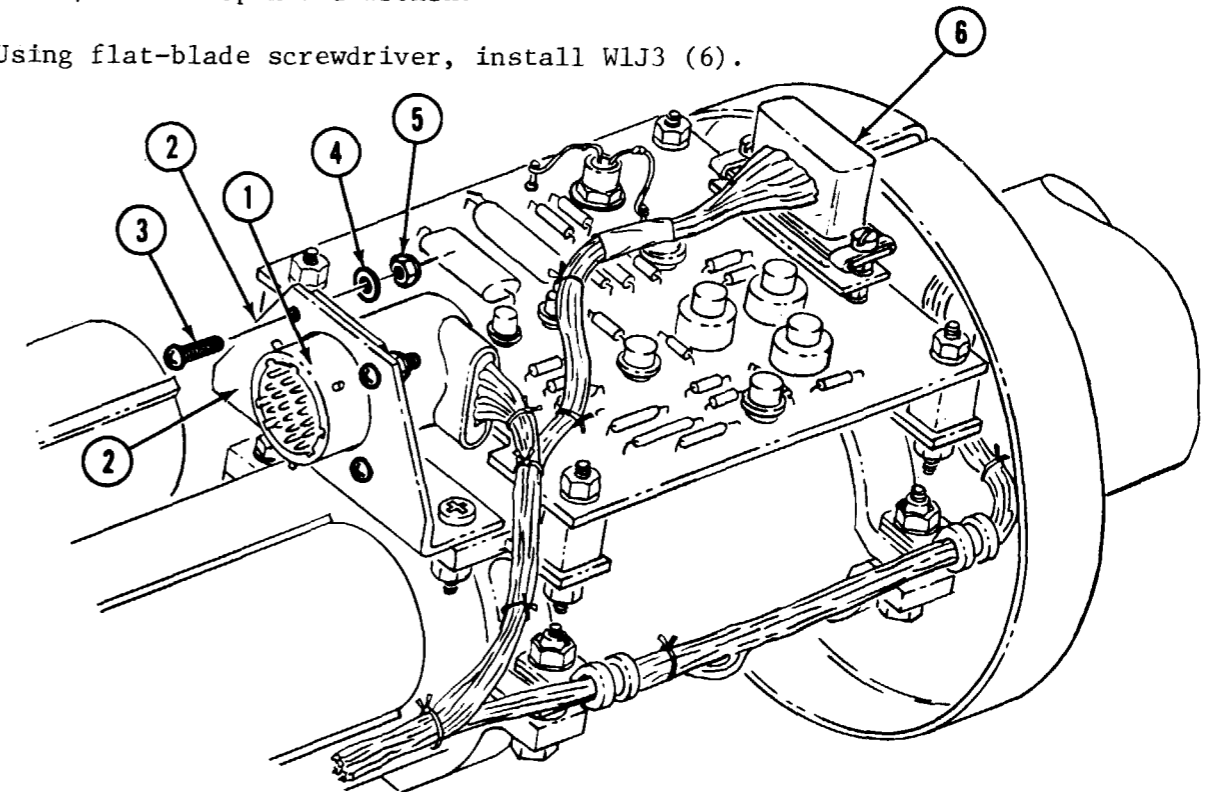
C. Install W5J1 to W1P1.



STEP 10

A. Install J2 connector (1) in angle bracket (2) with four screws (3), four washers (4) and four nuts (5). Tighten with No. 1 crosspoint screwdriver and 3/16 inch open end wrench.

B. Using flat-blade screwdriver, install W1J3 (6).



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4-51. INSTALL LET WIRE HARNESS - CONTINUED

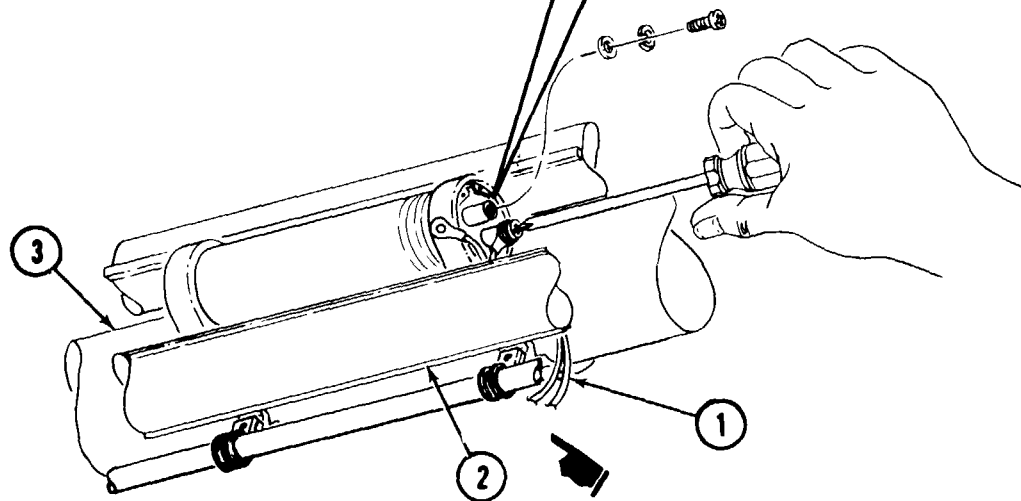
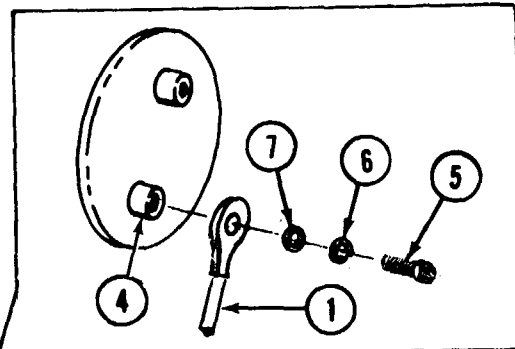
STEP 11



NOTE

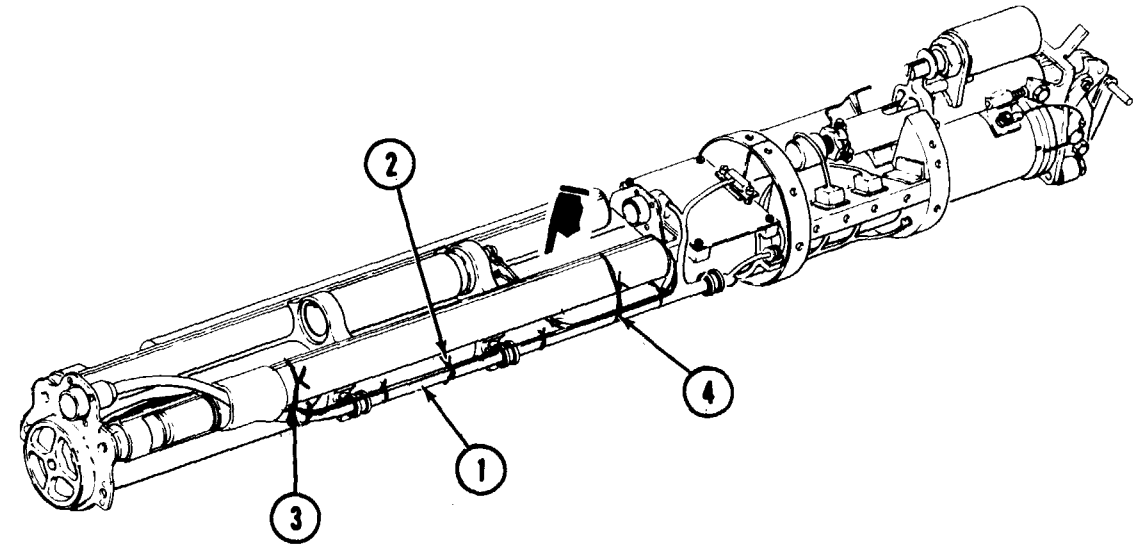
E1+ goes to positive (+) side of C5. E2- goes to negative (-) side.

Route C5 leads (1) between battery retainer shell (2) and pressure tube (3). Attach each marked lead (1) to its appropriate post (4). Use No. 2 crosspoint to secure leads (1) with screw (5), lockwasher (6) and flatwasher (7).

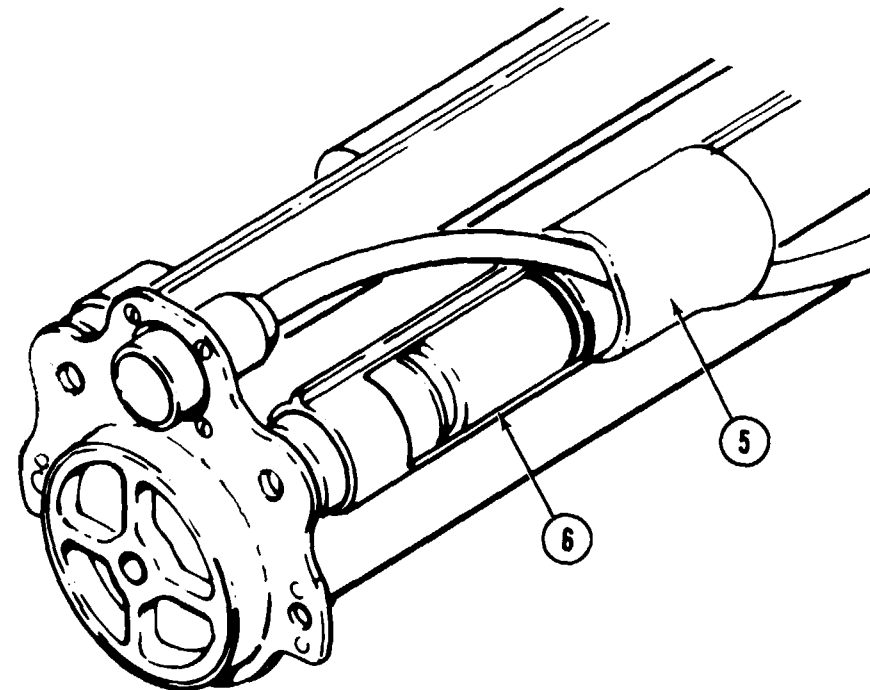


STEP 12

- A. Using lacing tape, tie LET wire harness (1) to battery wire harness (2). Tie both to battery retainer shell as shown by arrows (3) and (4).



- B. Heat shrink sleeving (5) installed at front of LET, making sure tubing is located to rear of battery access opening (6).



END OF TASK

Follow-on Task: Install thumbscrews, see para. 4-53.

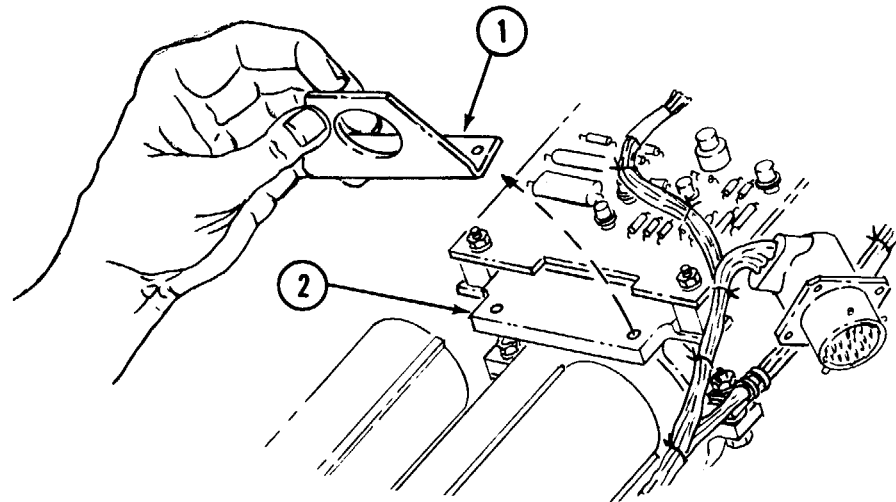
4-52. INSTALL ANGLE BRACKET

Tools required: No. 1 crosspoint screwdriver
 No. 2 crosspoint screwdriver
 5/32 inch box end wrench
 7/32 inch open end wrench

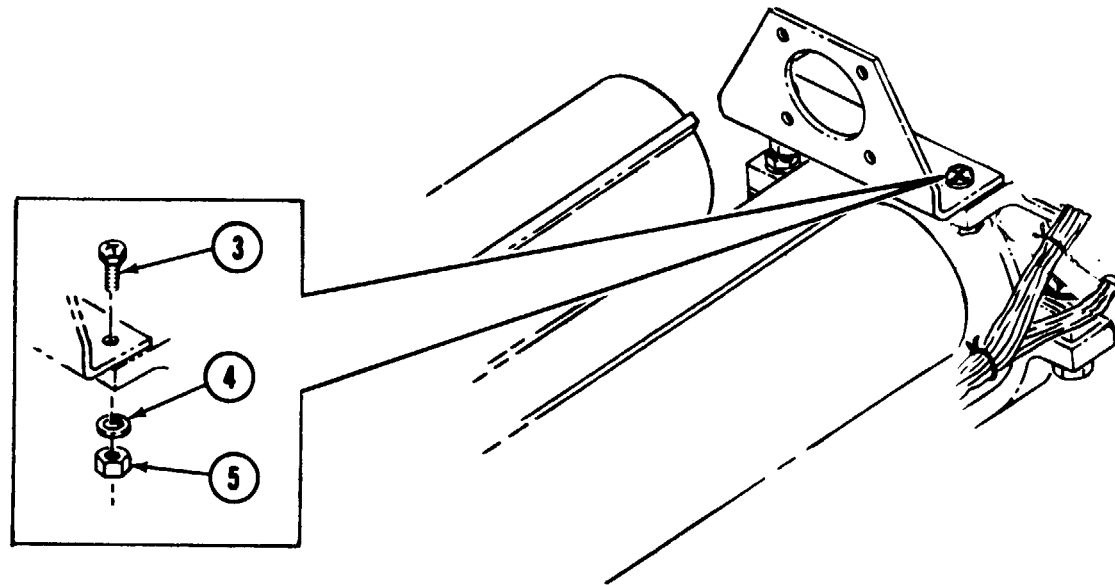
Equipment condition: LET subassembly removed, see para. 4-21.

STEP 1

A. Place angle bracket (1) on circuit card forward mounting bracket (2).

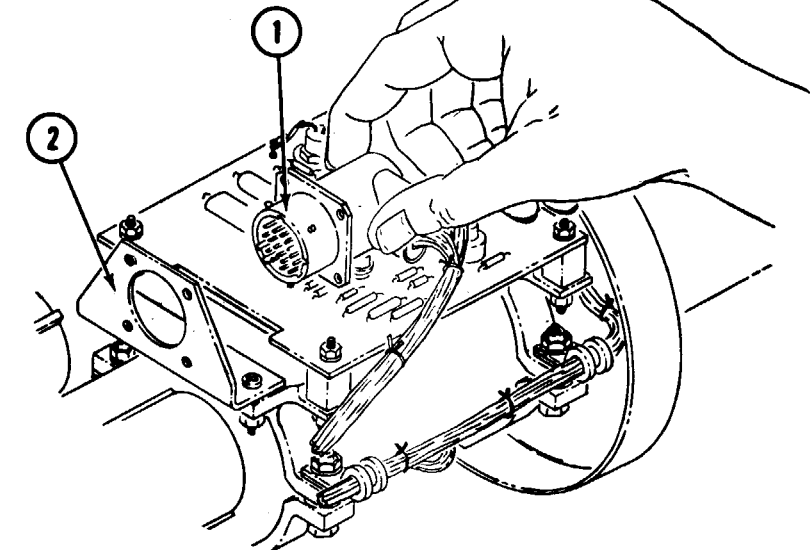


B. Using No. 2 crosspoint screwdriver with 7/32 inch open end wrench, secure bracket with two screws (3), two washers (4) and two nuts (5).

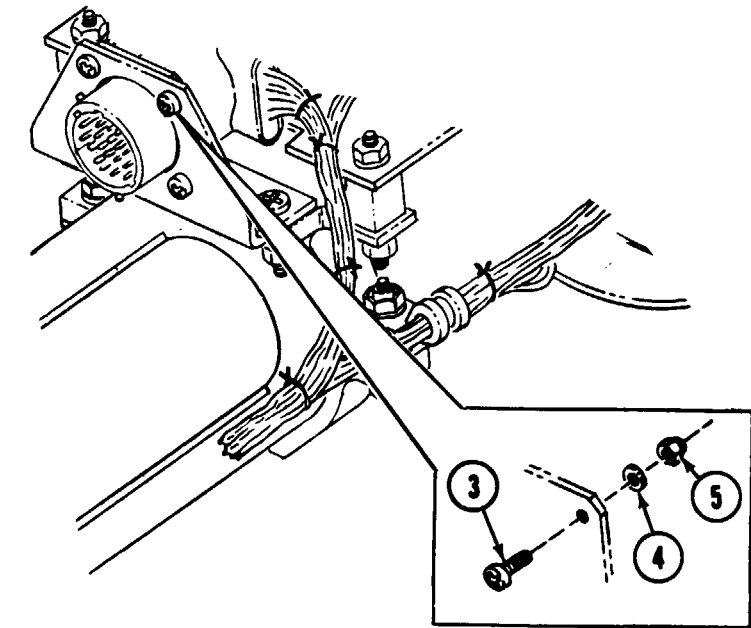


STEP 2

A. Install connector (1) in bracket (2).



B. Using No. 1 crosspoint screwdriver and 5/32 inch box end wrench, secure connector to bracket with four screws (3), four washers (4) and four nuts (5).



END OF TASK

4-53. INSTALL THUMBSCREWS AND ELECTRICAL CONTACTS

Tools required: 5/8 inch double offset open end wrench
 .050 inch Allen wrench
 Machinist's rule

Equipment condition: LET subassembly removed, see para. 4-21.

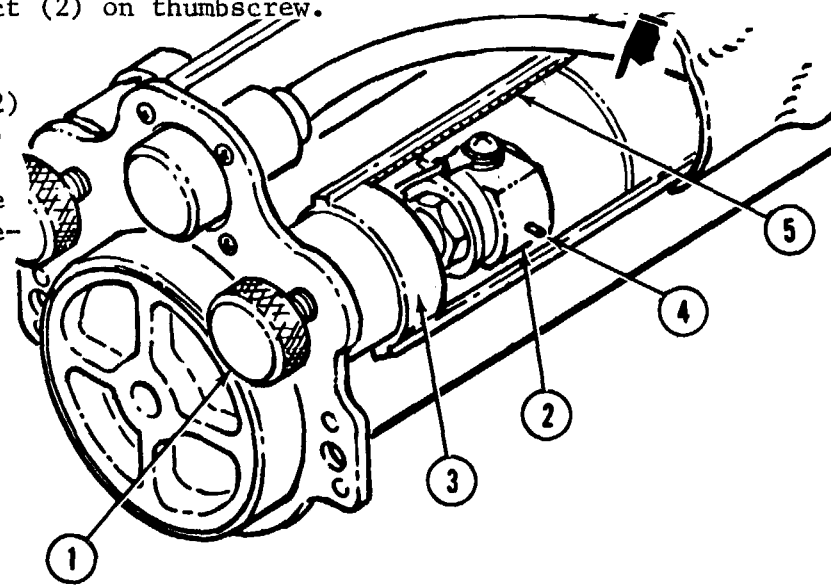
STEP 1



NOTE

Wrap each lead wire around its thumbscrew (1) a minimum of 1 1/2 turns prior to installing contact (2) on thumbscrew.

Install electrical contact (2) in battery retainer shell (3) with the plastic lugs (4) of the electrical contact in the grooves (5) of the battery retainer shell.



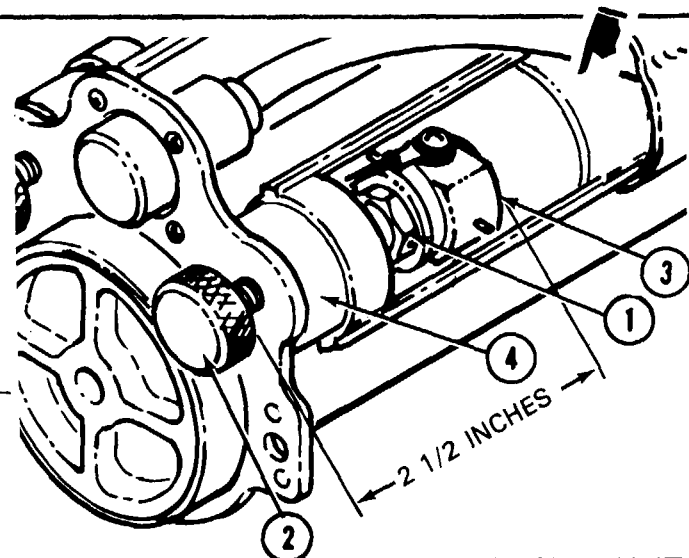
STEP 2



NOTES

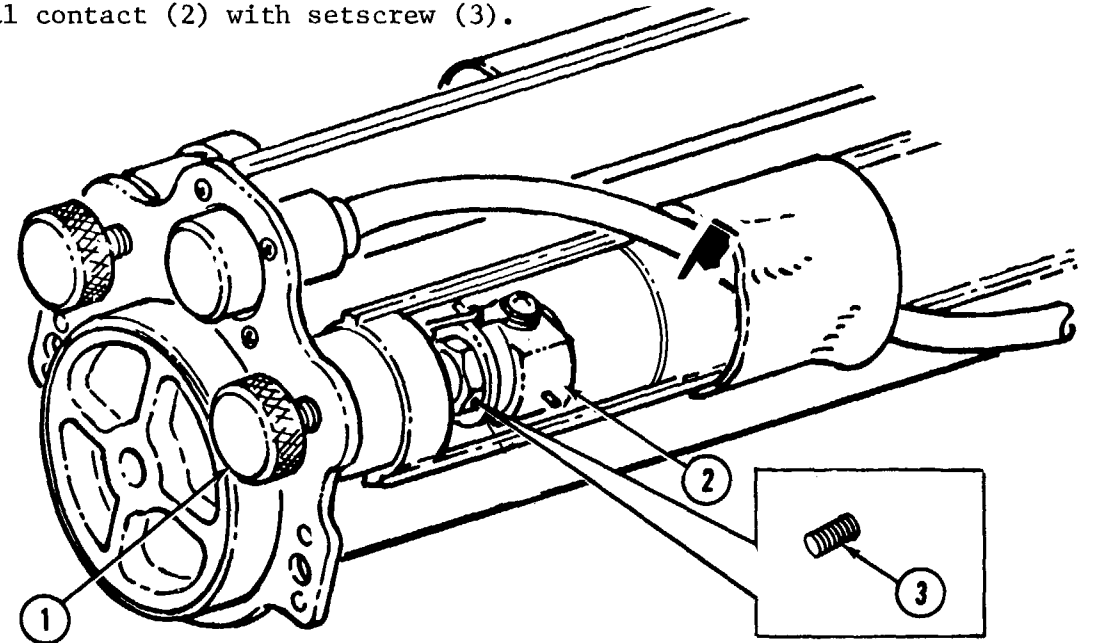
There are two types of electrical contacts in use. Installation is the same except for LET Serial No. 504697 and above. Hold the nut (1) with pliers while installing thumbscrew.

Hold nut (1) with wrench. Screw thumbscrew (2) into electrical contact (3) until distance between back of knurled knob (4) and back of electrical contact is 2 1/2 inches as shown.



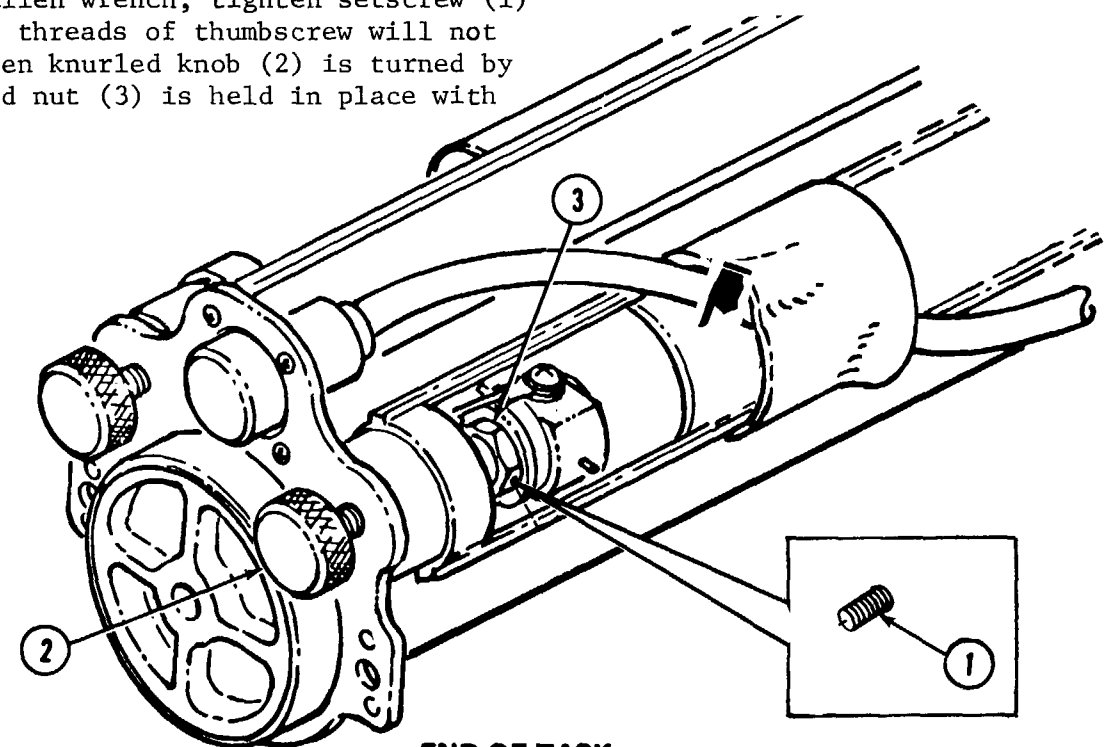
STEP 3

Using Allen wrench, secure thumbscrew (1) to electrical contact (2) with setscrew (3).



STEP 4

Using Allen wrench, tighten setscrew (1) so that threads of thumbscrew will not turn when knurled knob (2) is turned by hand and nut (3) is held in place with wrench.



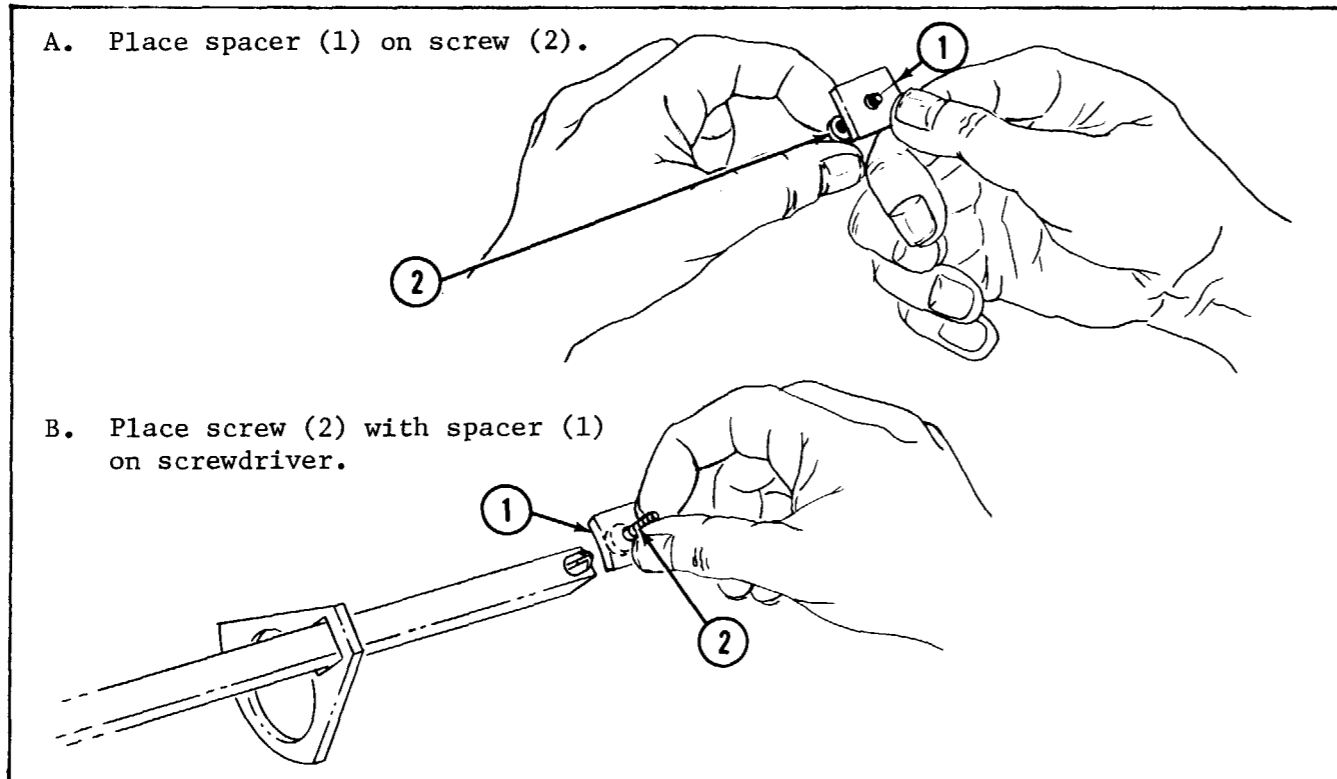
END OF TASK

4-54. INSTALL FIRING MECHANISM HOUSING

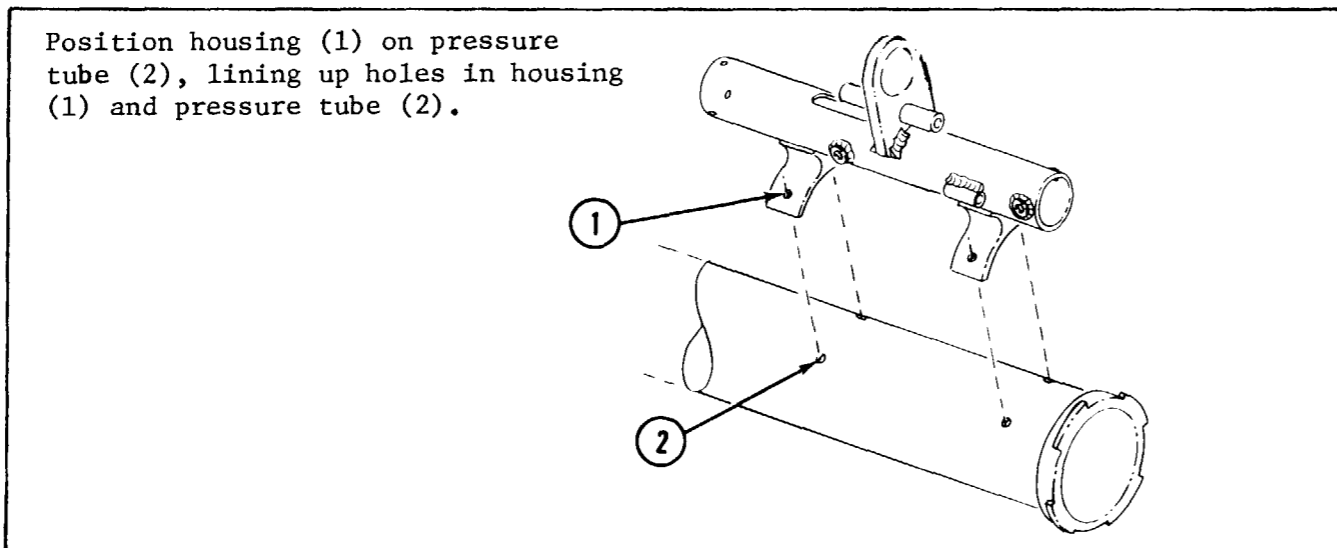
Tools required: Offset screwdriver, special tool, P/N 8035628
 1/4 inch socket
 Ratchet wrench
 3 inch extension

Equipment condition: Solenoid cable assembly removed, see para. 4-35.

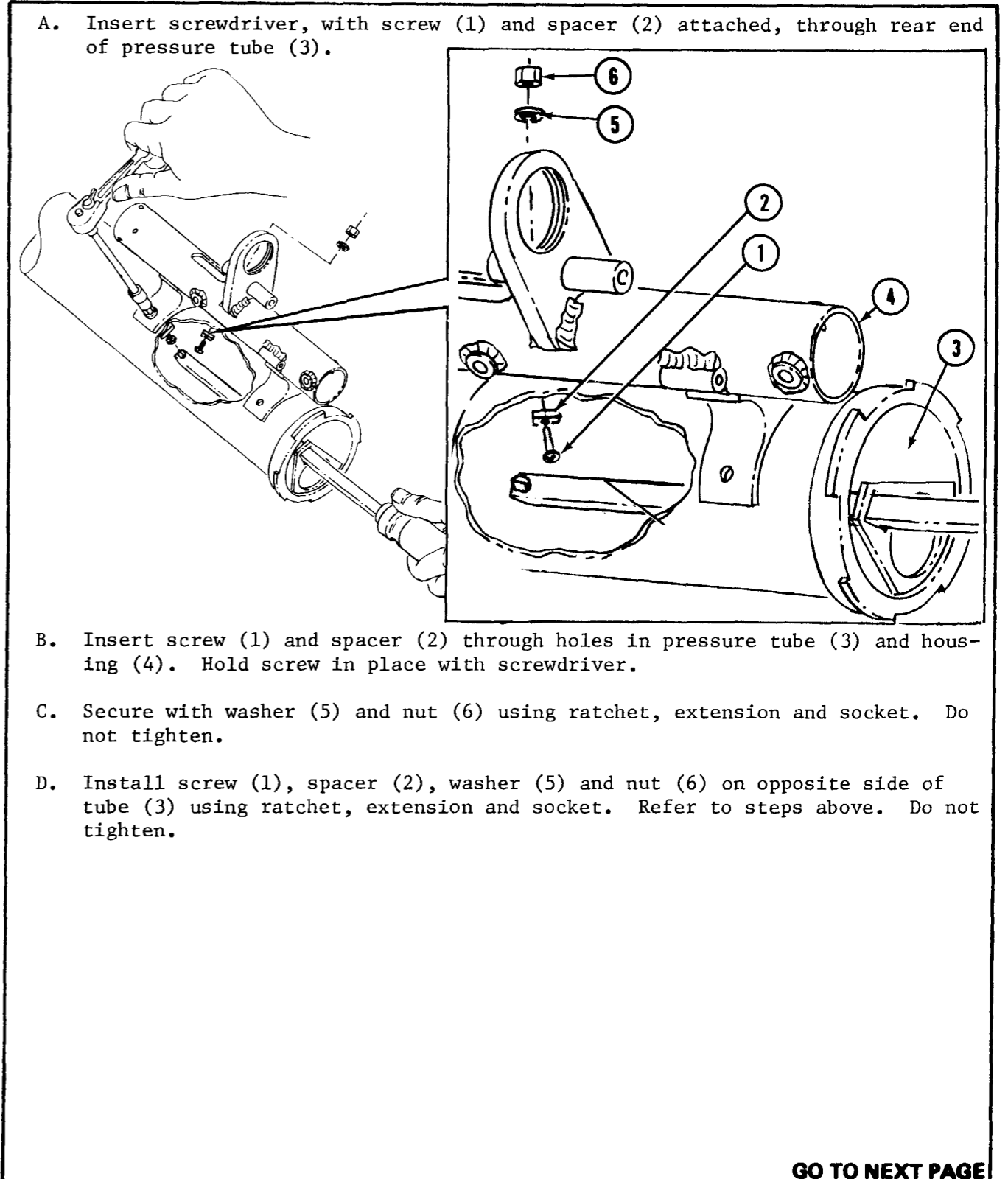
STEP 1



STEP 2



STEP 3

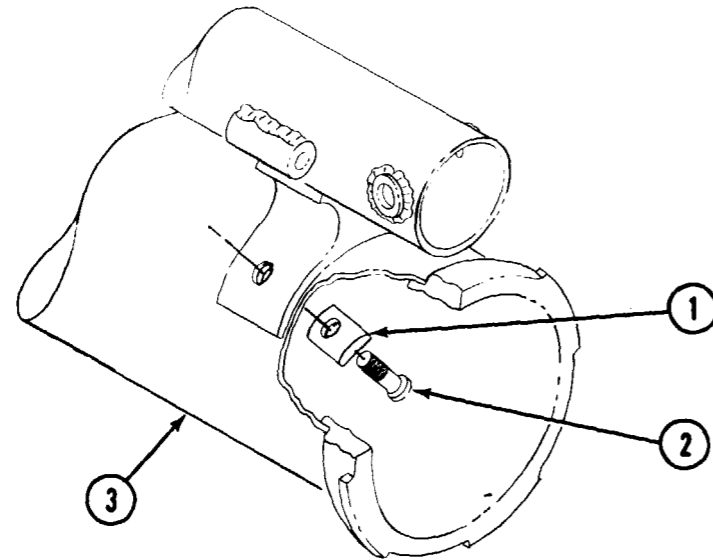


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4-54. INSTALL FIRING MECHANISM HOUSING - CONTINUED

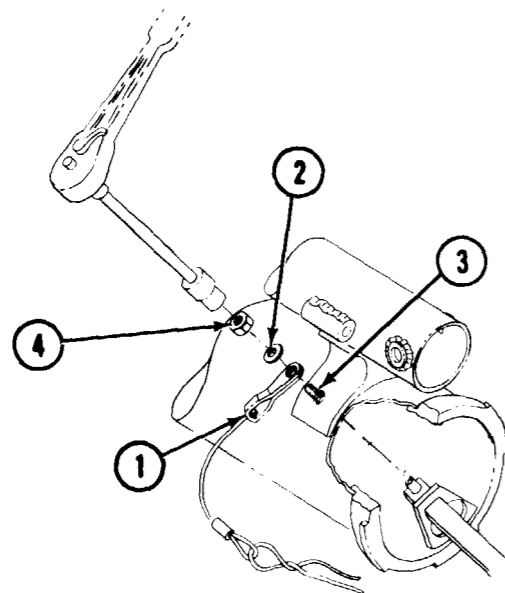
STEP 4

Place spacer (1) on screw (2) and insert them through left rear hole in housing (3).



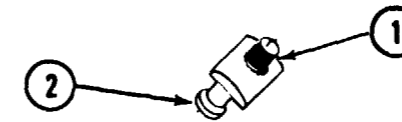
STEP 5

Place safety pin lanyard assembly (1) and washer (2) over screw (3). Using ratchet extension and socket, secure with nut (4). Do not tighten.



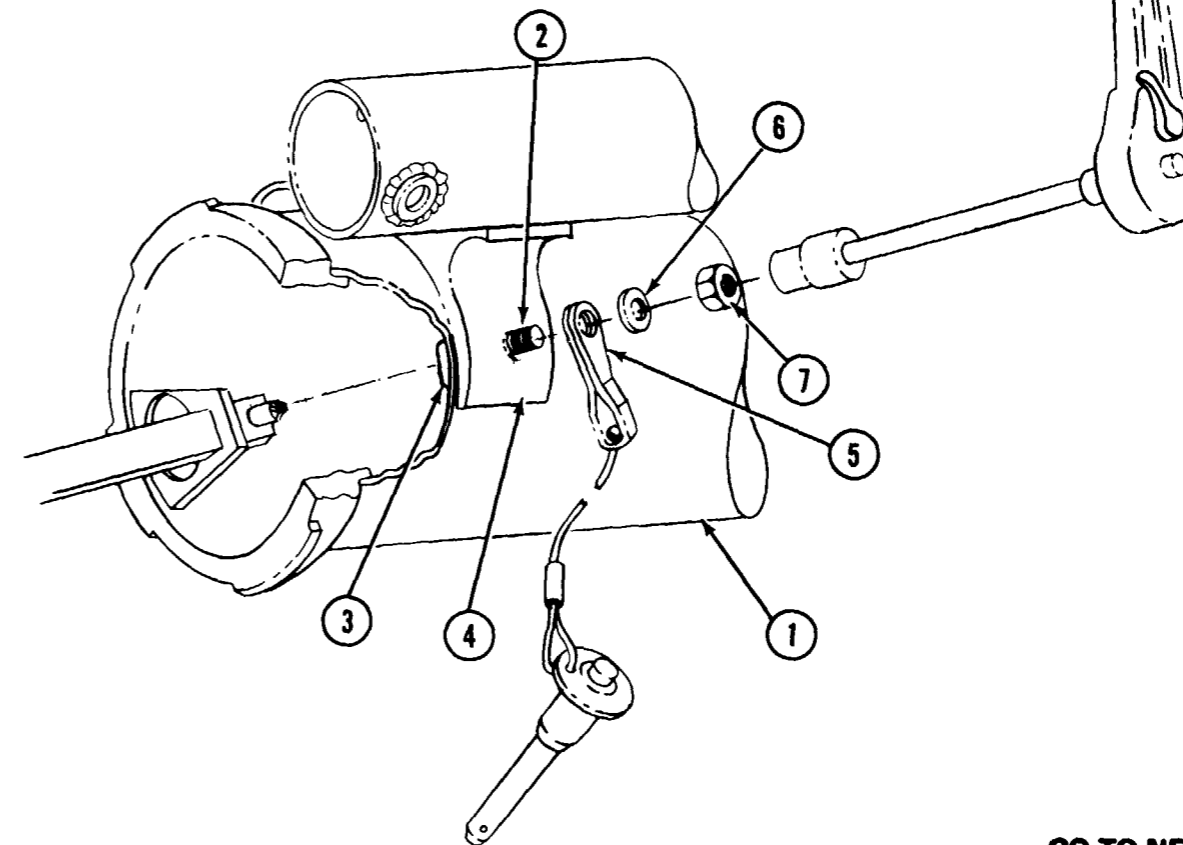
STEP 6

Place spacer (1) on screw (2) and place screw (2) on screwdriver.



STEP 7

- A. Place screwdriver into rear end of LET pressure tube (1) and insert screw (2) with spacer (3) in place through hole in pressure tube (1) and through mounting hole of housing (4).
- B. Place breechblock lanyard (5) and washer (6) on screw (2). Using ratchet, extension and socket, secure with nut (7). Do not tighten.

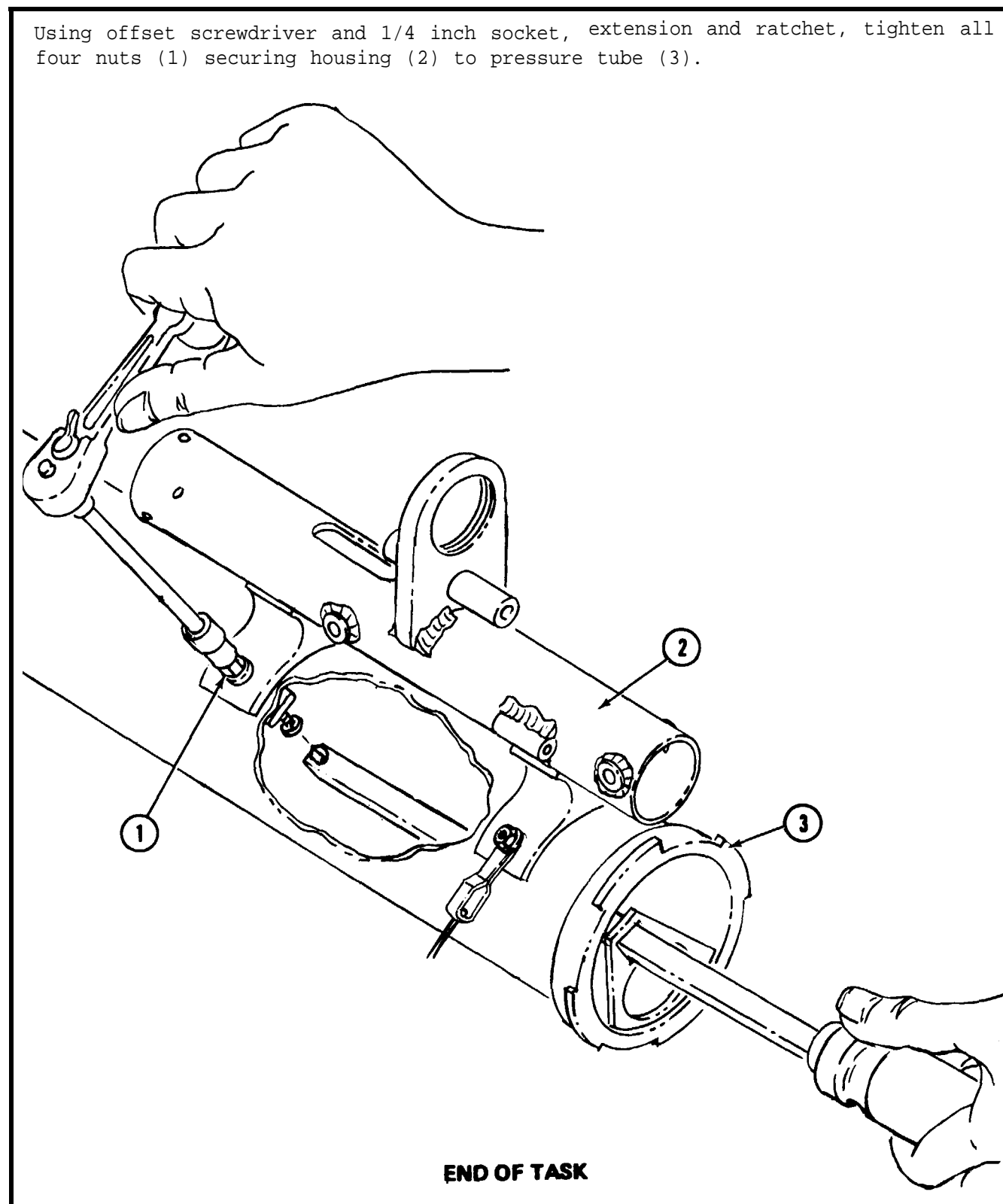


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4-54. INSTALL FIRING MECHANISM HOUSING - CONTINUED

STEP 8

Using offset screwdriver and 1/4 inch socket, extension and ratchet, tighten all four nuts (1) securing housing (2) to pressure tube (3).



4-55. INSTALL SWITCH CABLE ASSEMBLY

Tools required: 9/64 inch Allen wrench
 Longnose pliers
 Wire twister pliers
 13/16 inch open end wrench
 1/8 inch flat-blade screwdriver

Materials required:

Material See Appendix D

Lock wire Item 27

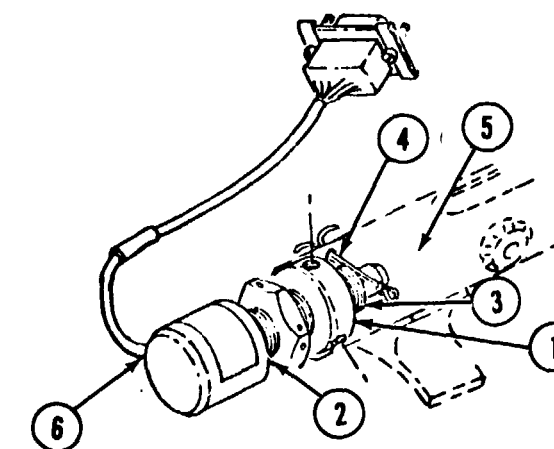
Equipment condition: LET subassembly removed, see para. 4-21.

STEP 1



Position of the wire breakout (6) from switch must be located on the lower left side of the switch as it is inserted into housing (3).

Screw bushing (1) onto switch (2) far enough to permit switch housing (3) to contact cotter pin (4) when positioned in firing mechanism housing (5).

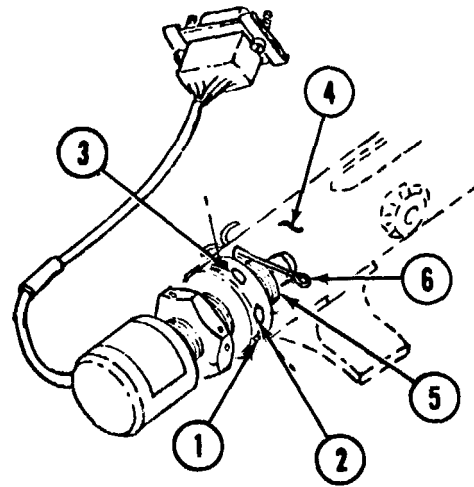


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4-55. INSTALL SWITCH CABLE ASSEMBLY - CONTINUED

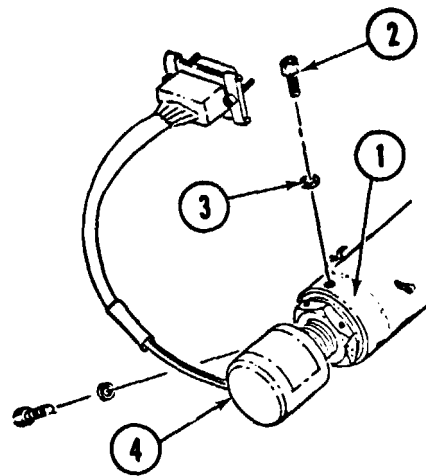
STEP 2

Adjust bushing (1) until holes (2) in bushing align with holes (3) in housing (4) while switch housing (5) remains in contact with cotter pin (6).



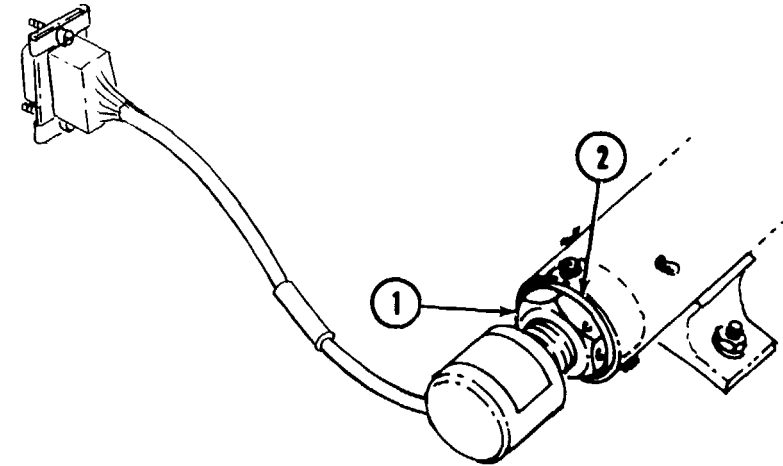
STEP 3

Apply finger pressure against switch (4) while securing bushing (1) with three socket head screws (2) and three flatwashers (3). Use 9/64 inch Allen wrench. Be sure switch housing remains in contact with cotter pin while tightening. Refer to Step 2 above.

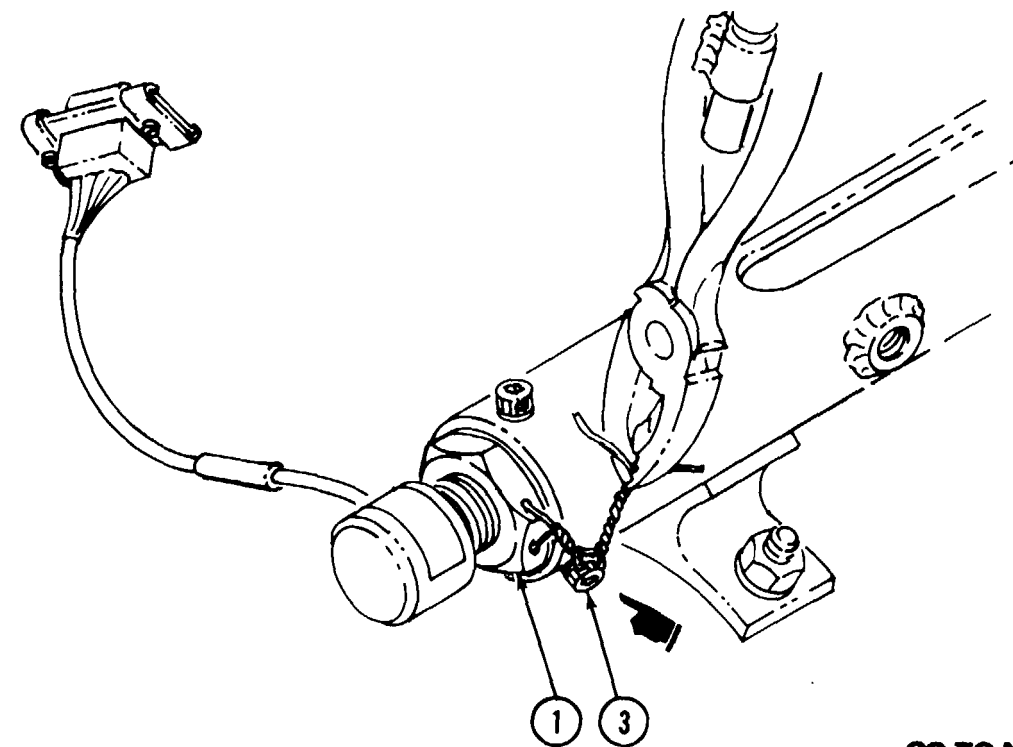


STEP 4

A. Using wrench, tighten jam nut (1) against bushing (2).



B. Lockwire jam nut (1) to one of the socket head screws (3).

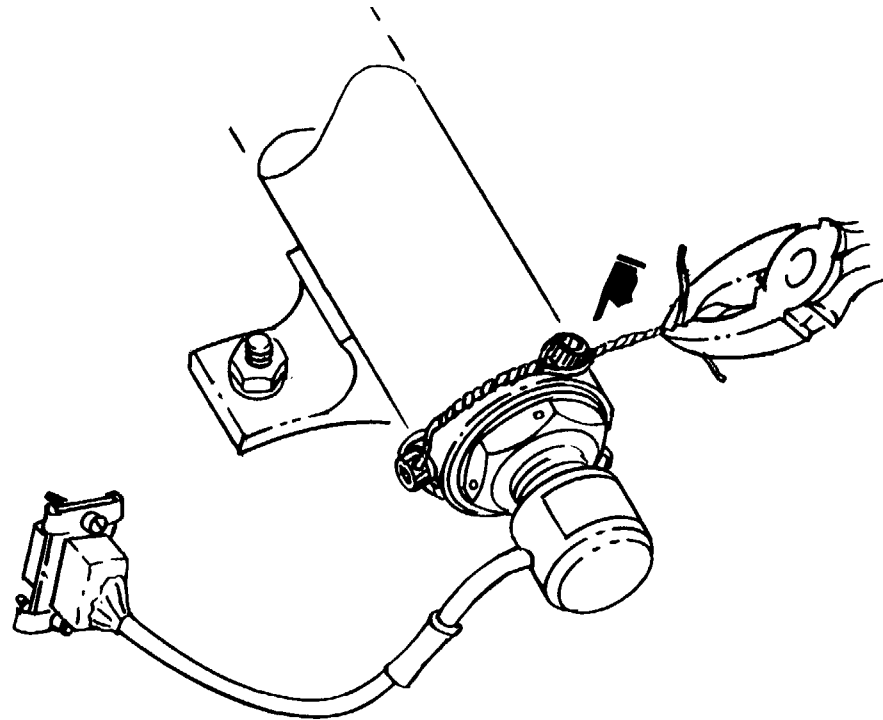


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4-55. INSTALL SWITCH CABLE ASSEMBLY - CONTINUED

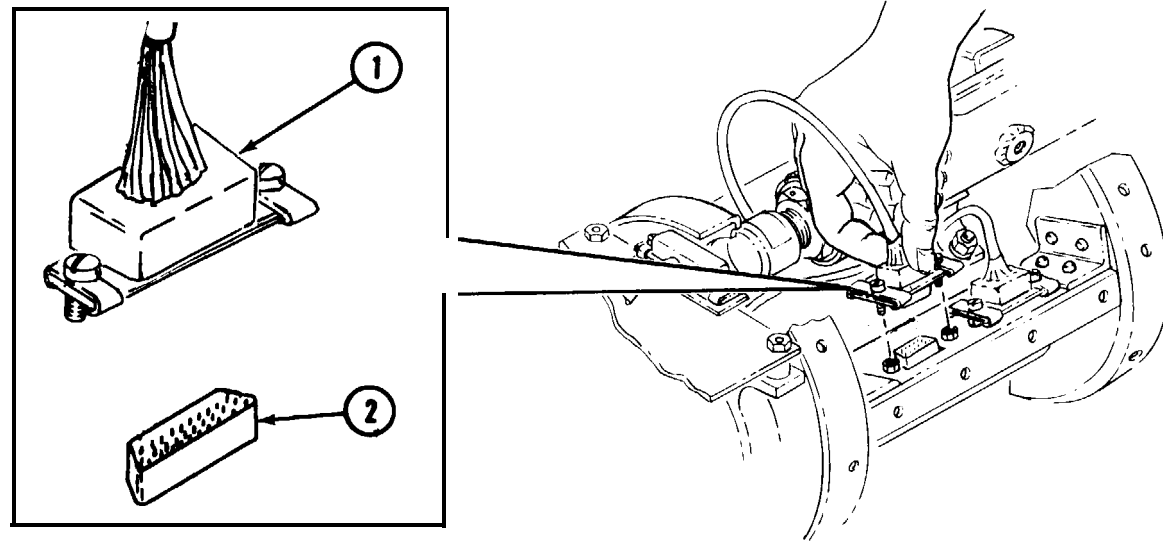
STEP 5

Lockwire the remaining two socket head screws together.



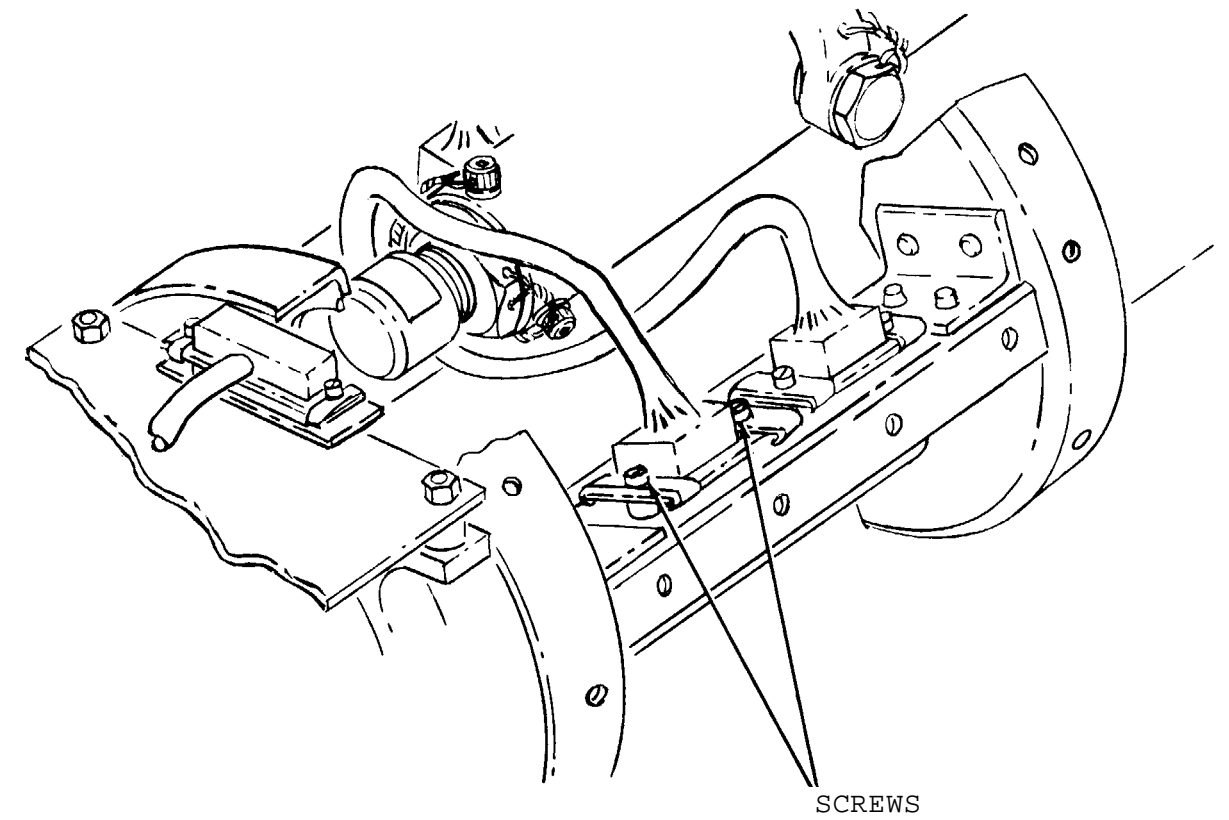
STEP 6

Connect W3P1 (1) to W1J5 (2).



STEP 7

Using a flat-blade screwdriver, secure the two retaining screws.



END OF TASK

4-56. INSTALL SOLENOID CABLE ASSEMBLY

Tools required: Wire twister pliers
 1 1/4 inch open end wrench
 Longnose pliers
 1/8 inch flat-blade screwdriver

Materials required:

Material See Appendix D

Lockwire Item 27

Equipment condition: LET subassembly removed, see para. 4-21.

STEP 1

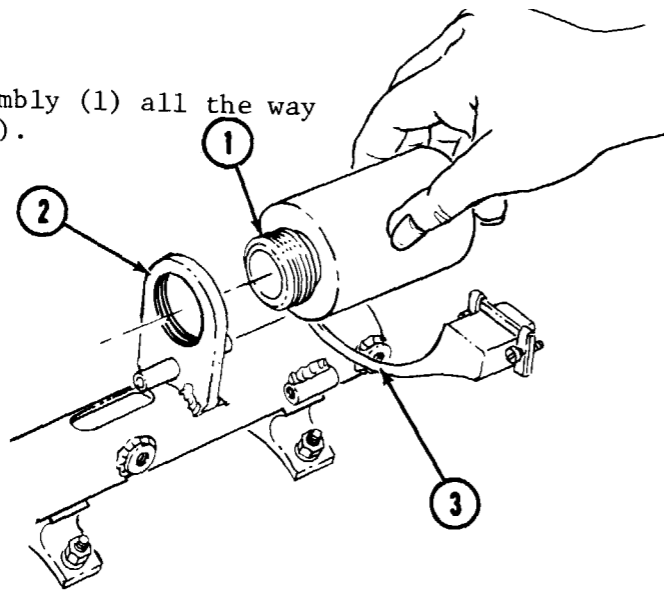


When installing solenoid cable assembly (1) into bracket (2) be careful not to damage the cable (3).



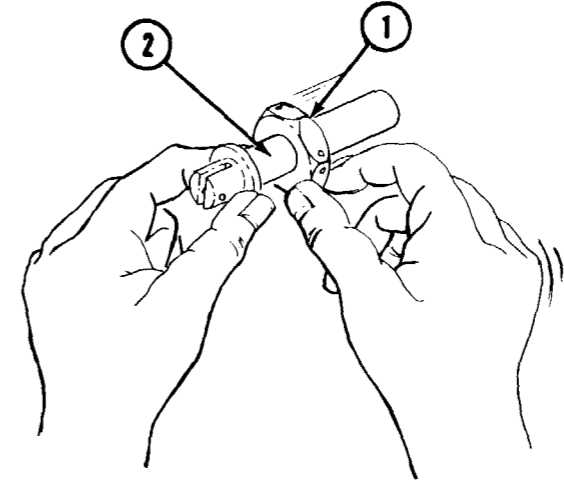
It is HELPFUL to tape the cable to the solenoid to prevent damage to solenoid cable.

Screw solenoid assembly (1) all the way into the bracket (2).



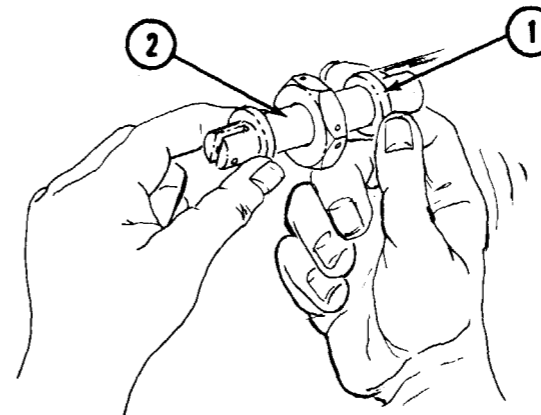
STEP 2

Slide packing nut (1) onto armature (2).

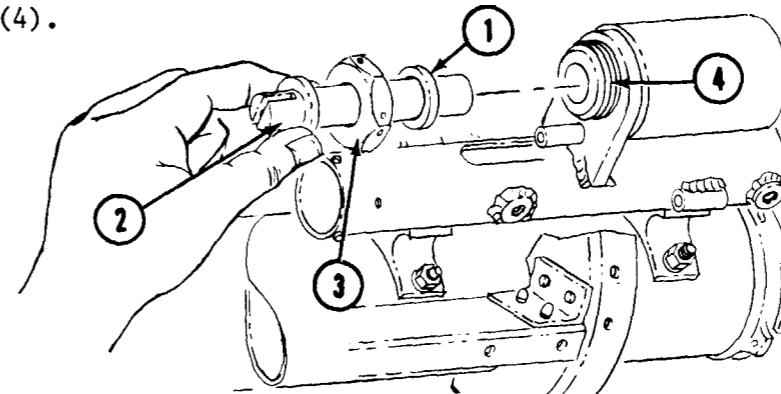


STEP 3

A. Slide felt packing (1) over armature (2).



B. Slide armature (2) with felt packing (1) and nut (3) attached, into solenoid assembly (4).

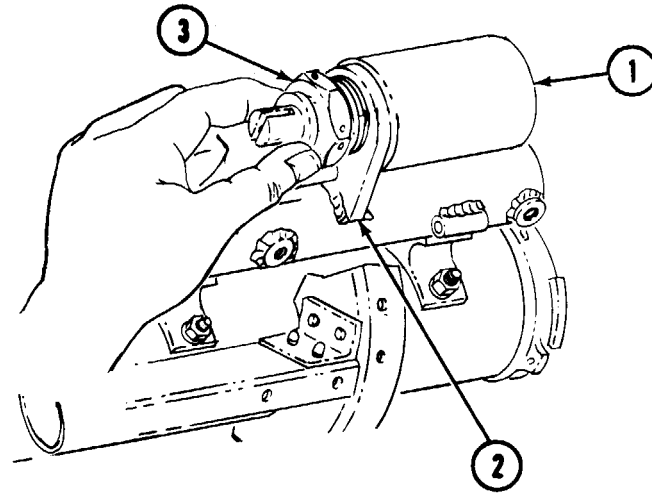


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4-56. INSTALL SOLENOID CABLE ASSEMBLY - CONTINUED

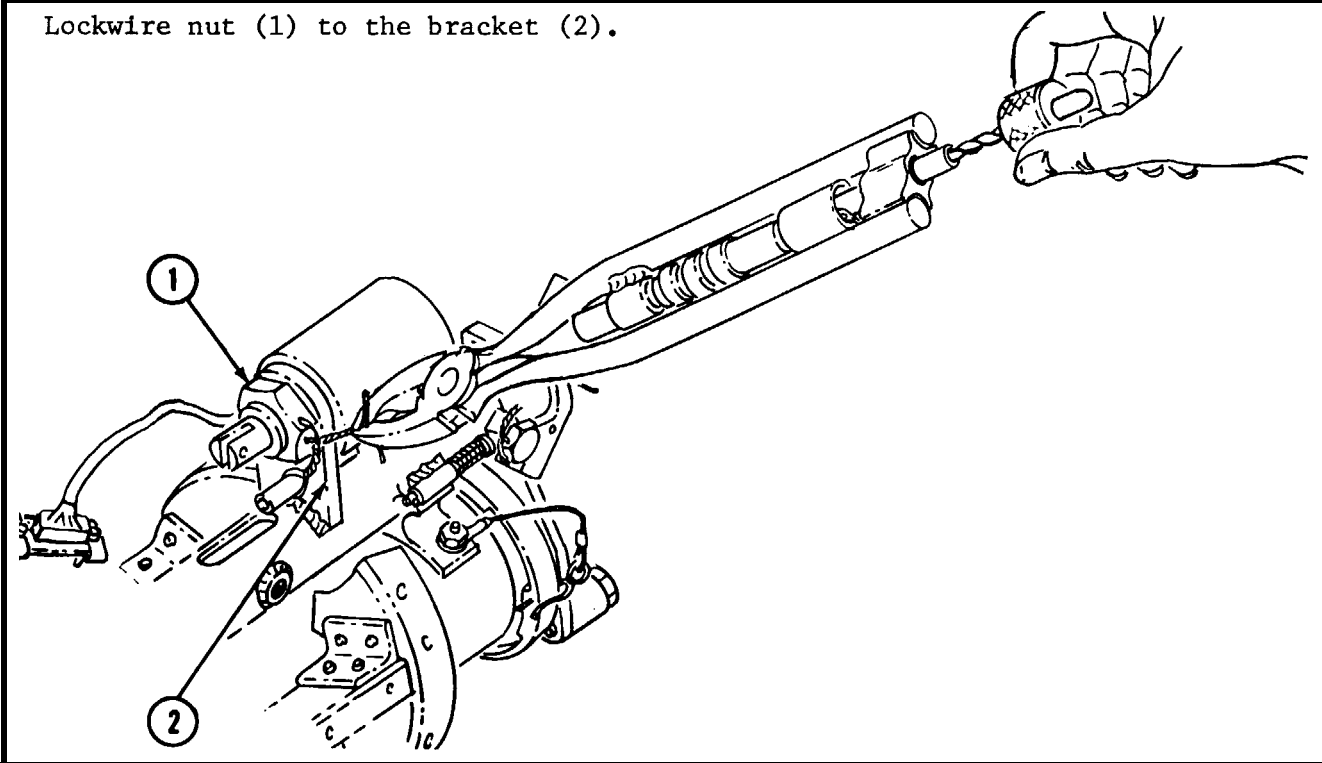
STEP 4

Using wrench, attach solenoid (1) to bracket (2) with packing nut (3).
Position solenoid cable facing down.



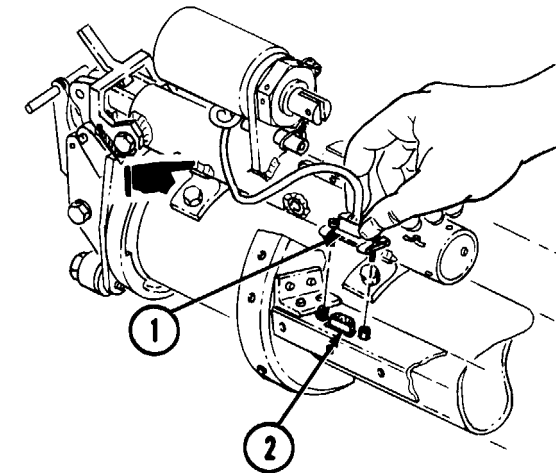
STEP 5

Lockwire nut (1) to the bracket (2).



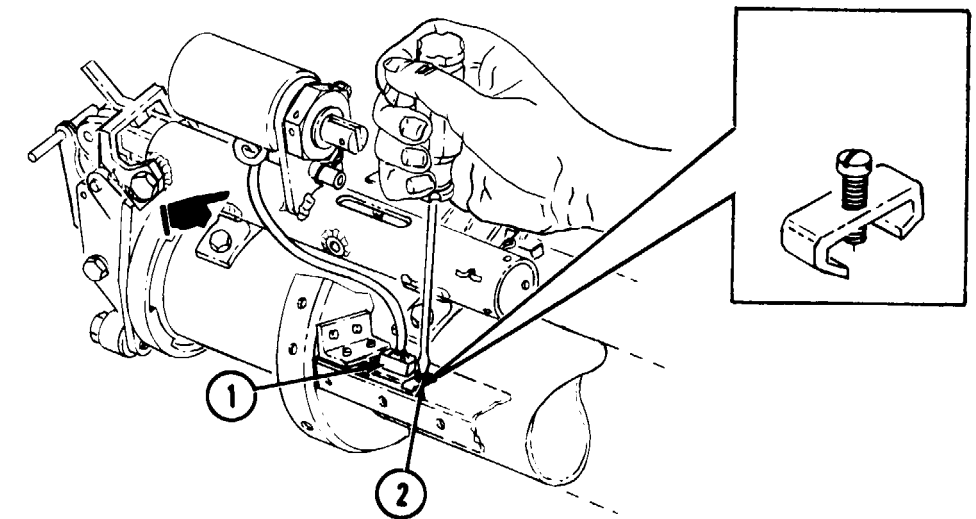
STEP 6

Connect W5J1 (1) to connector W1P1 (2).



STEP 7

Using screwdriver, secure connector (1) with two retaining screws (2).



END OF TASK

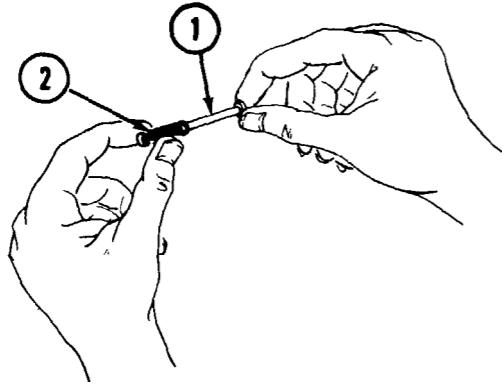
4-57. INSTALL STRAIGHT PIN

Tools required: Longnose pliers

Equipment condition: LET subassembly removed, see para. 4-21.

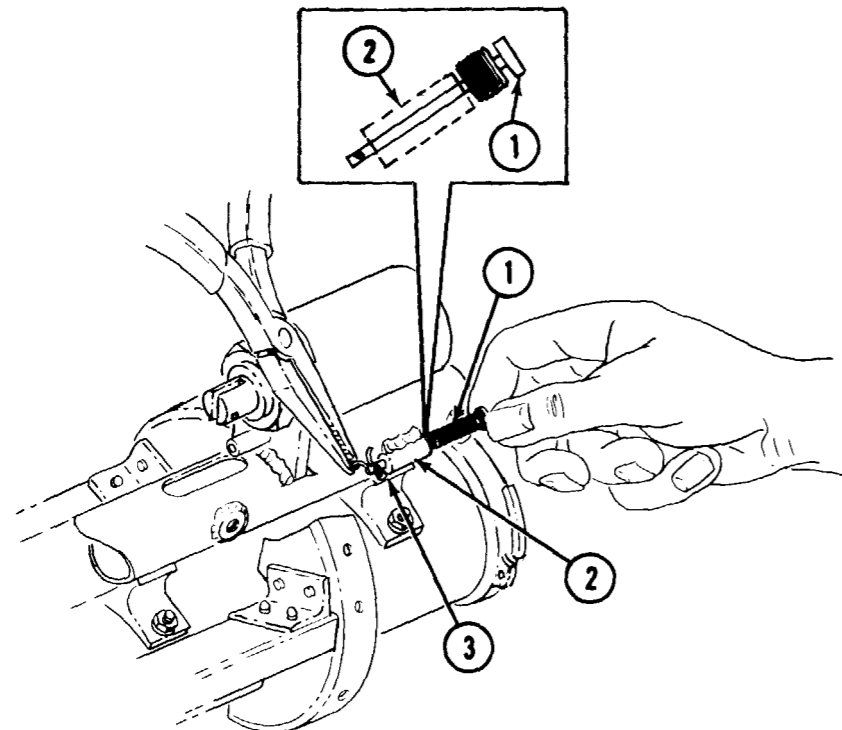
STEP 1

Insert pin (1) in spring (2).



STEP 2

- A. Push pin (1) through housing (2) until hole in pin can be seen on far end of housing.
- B. Install cotter pin (3) in hole in straight pin (1).



END OF TASK

4-58. INSTALL SAFETY LEVER

Tools required: 7/16 inch open end wrench
Wire twister pliers
No. 0 crosspoint screwdriver

Materials required:

Material

See Appendix D

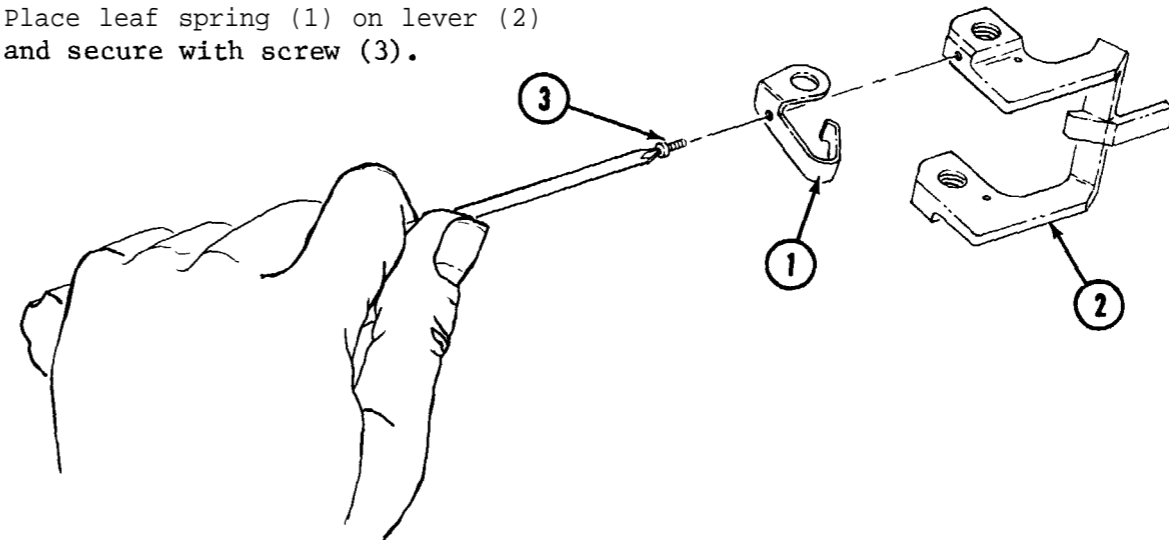
Lockwire

Item 27

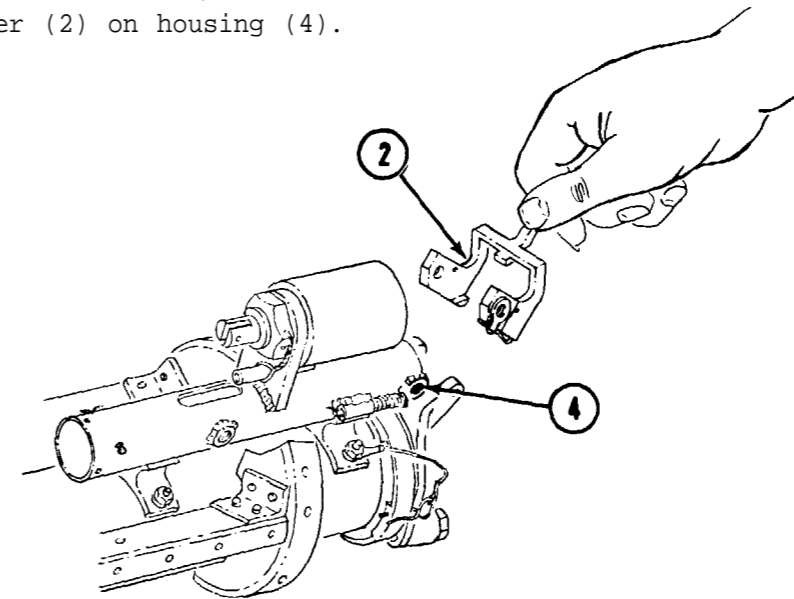
Equipment condition: Straight pin installed, see para. 4-57.

STEP 1

- A. Place leaf spring (1) on lever (2) and secure with screw (3).



- B. Install lever (2) on housing (4).

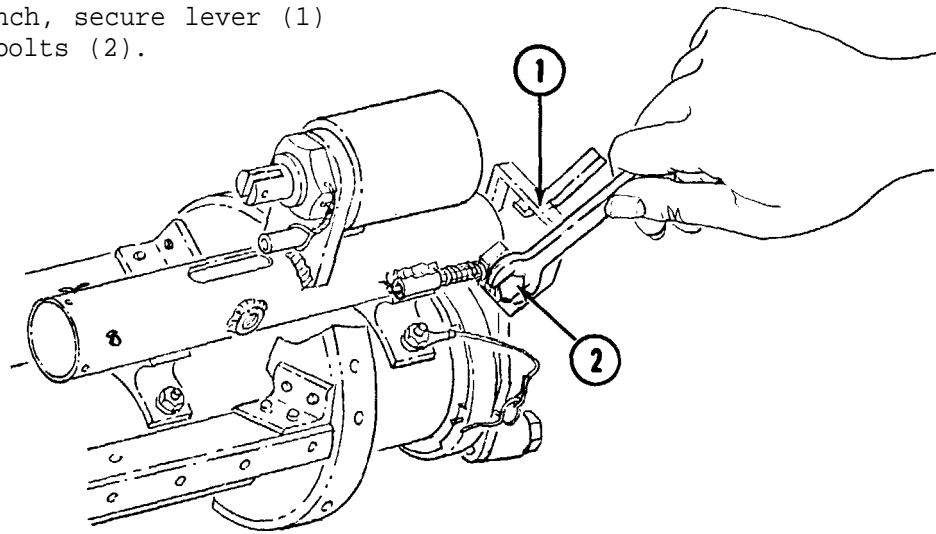


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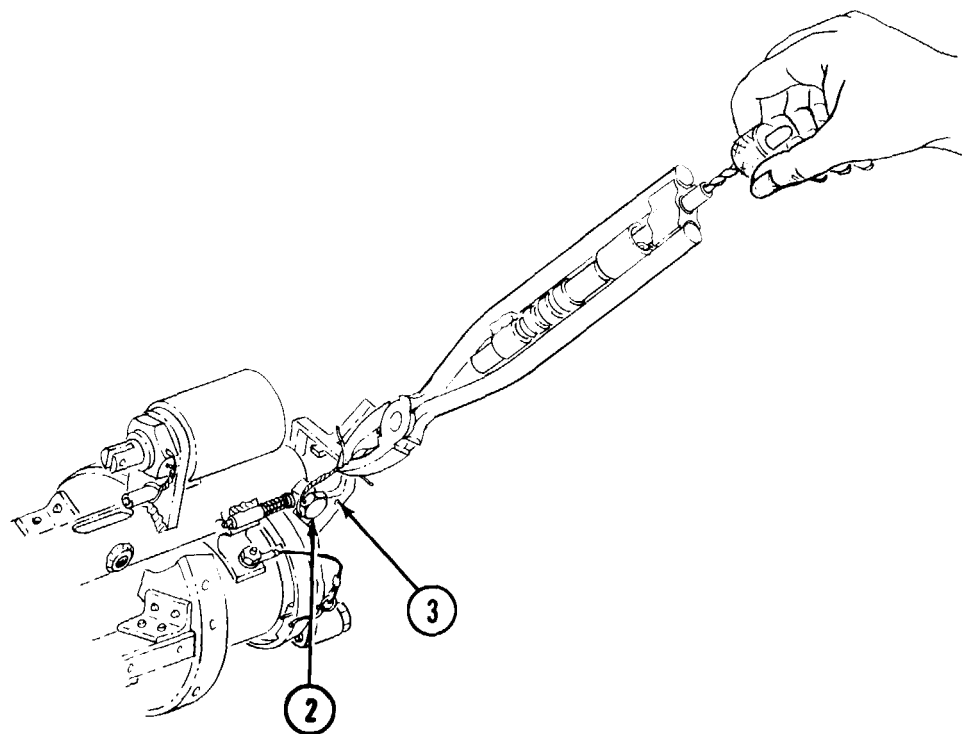
4-58. INSTALL SAFETY LEVER - CONTINUED

STEP 2

- A. Using wrench, secure lever (1) with two bolts (2).



- B. Lockwire bolts (2) to holes in lever (3).



END OF TASK

4-59. INSTALL FIRING MECHANISM

Tools required: 7/16 inch open end wrench Bit MA 2 1/2
 Longnose pliers Torque screwdriver, inch pounds
 Wire twister pliers 5/16 inch socket

Materials required:

Material

See Appendix D

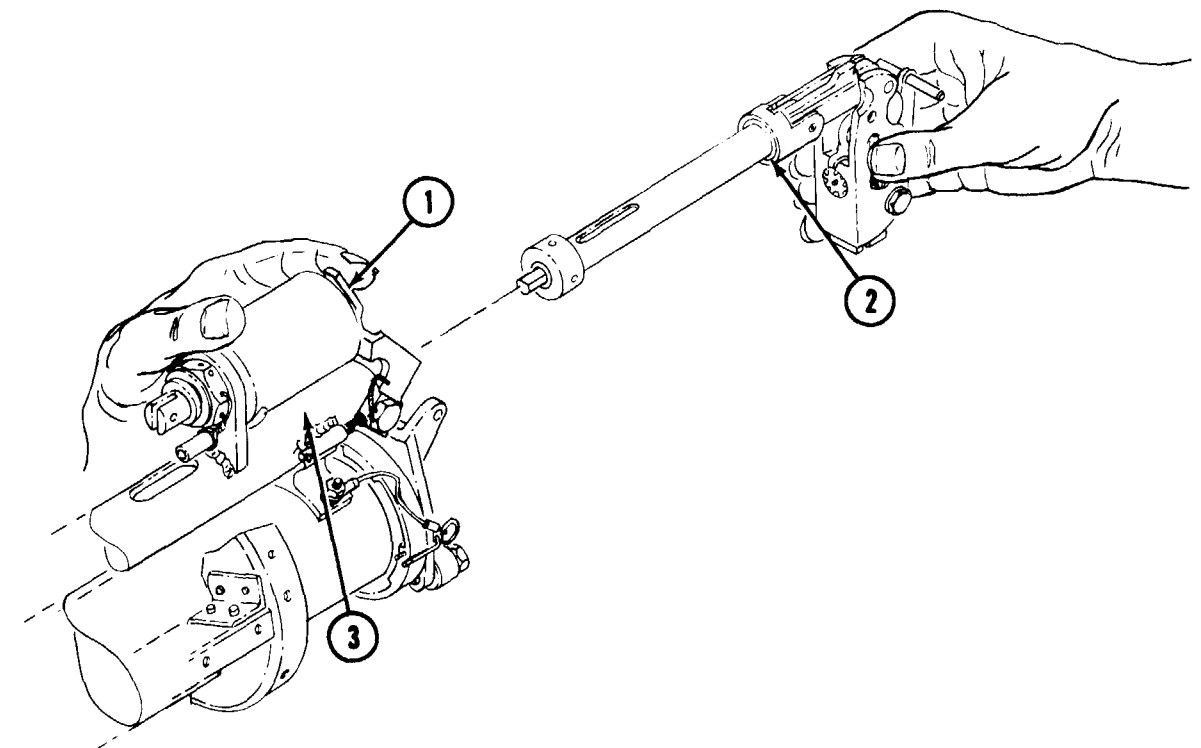
Lockwire Item 27
 Sealing compound Item 18
 Equipment condition: LET subassembly removed, see para. 4-21.

STEP 1



Be careful not to damage spring on safety lever.

- A. Lift safety lever (1) with finger as far as possible.
 B. Slide firing mechanism (2) into housing (3).

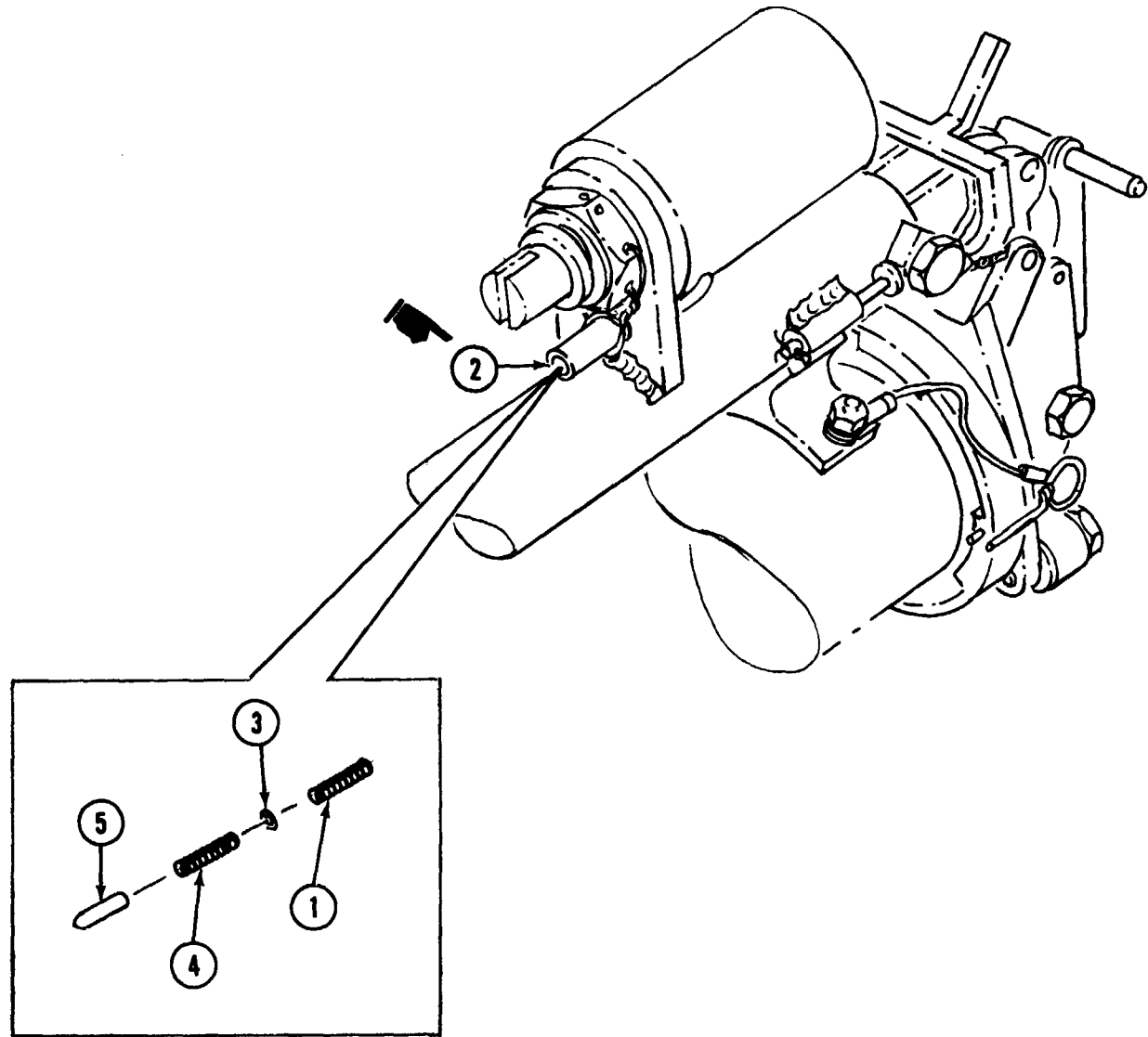


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4-59. INSTALL FIRING MECHANISM - CONTINUED

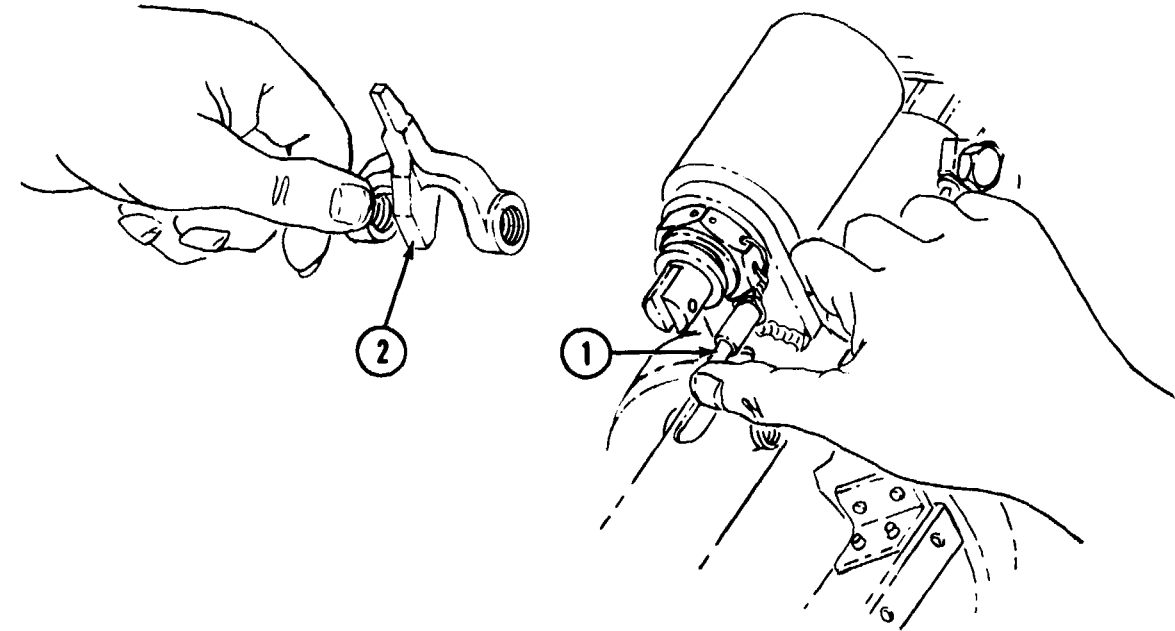
STEP 2

- A. Install spring (1) in housing (2), then install washer (3). Now install second spring (4) into the housing (2).
- B. Install flat end of nylon rod (5) into housing (2) and hold in position.

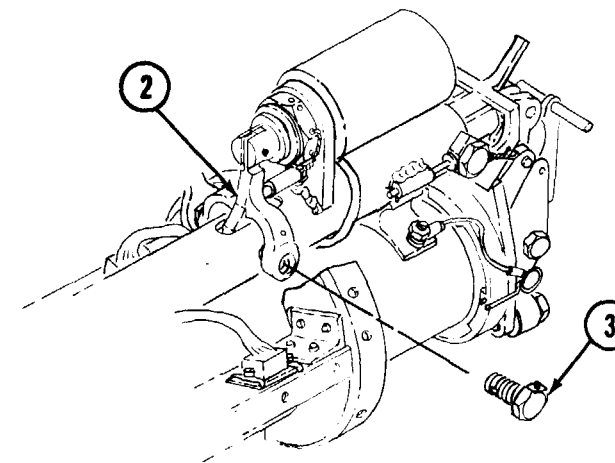


STEP 3

- A. While holding rod (1) in place, install trigger (2).



- B. Using a wrench, secure trigger (2) in place with two bolts (3).

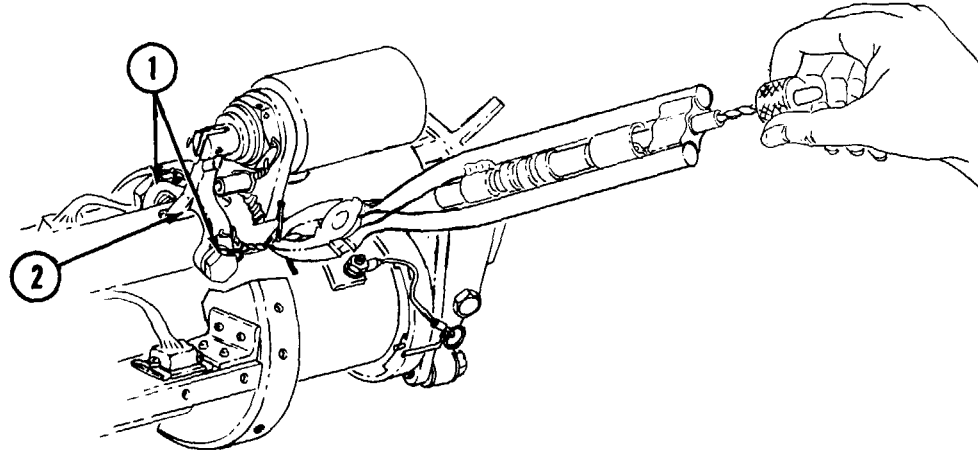


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4-59. INSTALL FIRING MECHANISM - CONTINUED

STEP 4

Using wire twister pliers, lockwire bolts (1) to trigger (2).

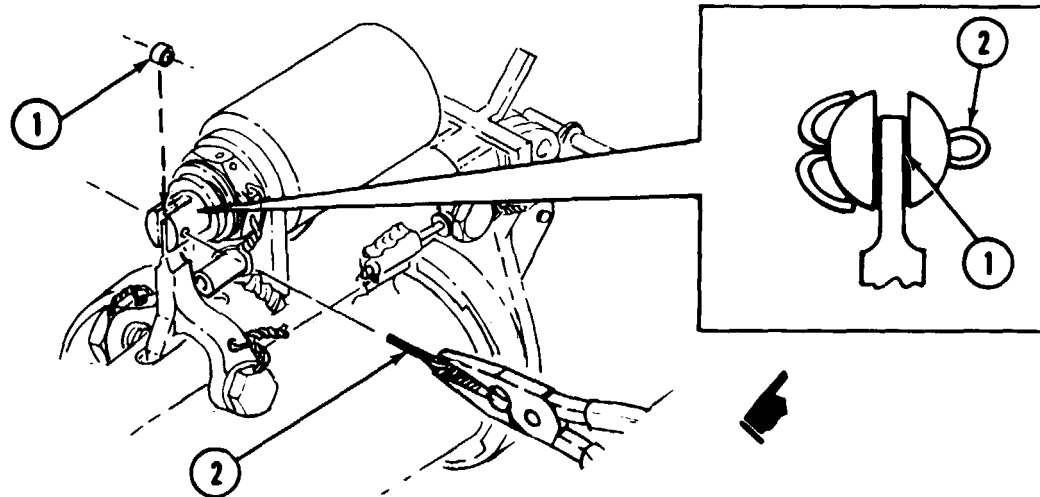


STEP 5

**NOTE**

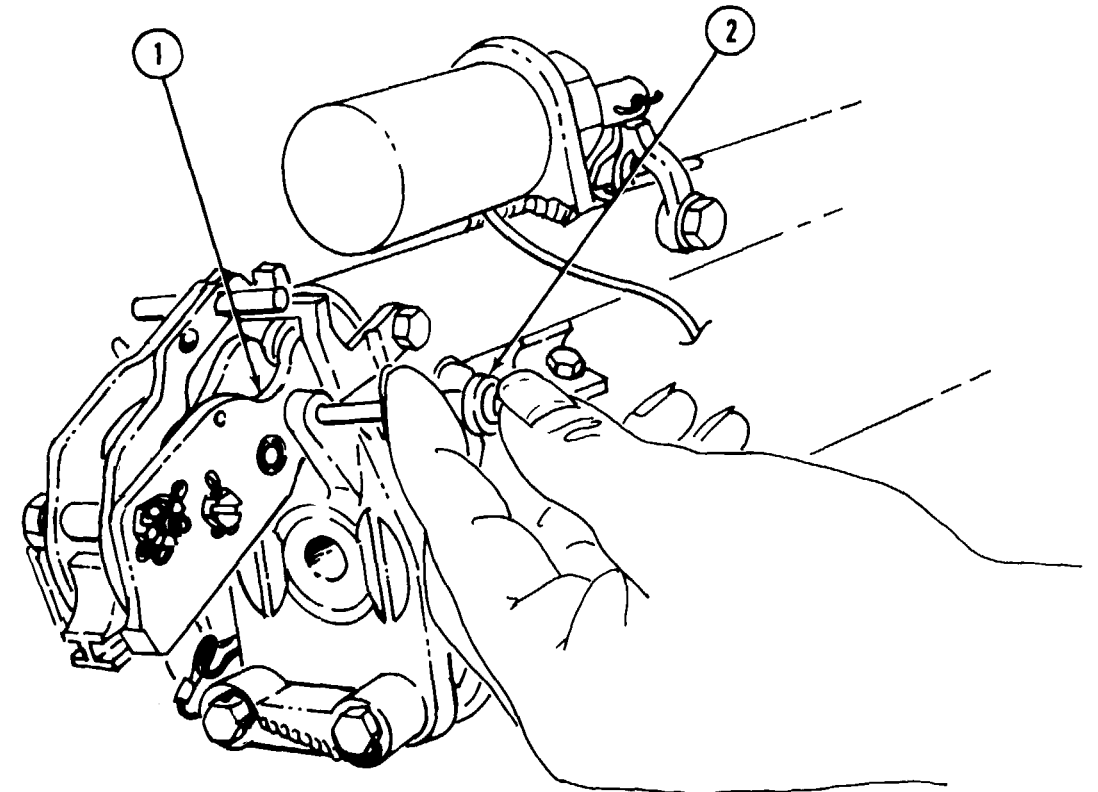
This step is for LET serial 504374 and below. For LET serial 504375 and above go to step 6.

Install sleeve (1) and new cotter pin (2) with longnose pliers. Bend ends of cotter pin as shown.



STEP 6

Install breechblock lanyard pin (1) through breechblock (2).

**NOTE**

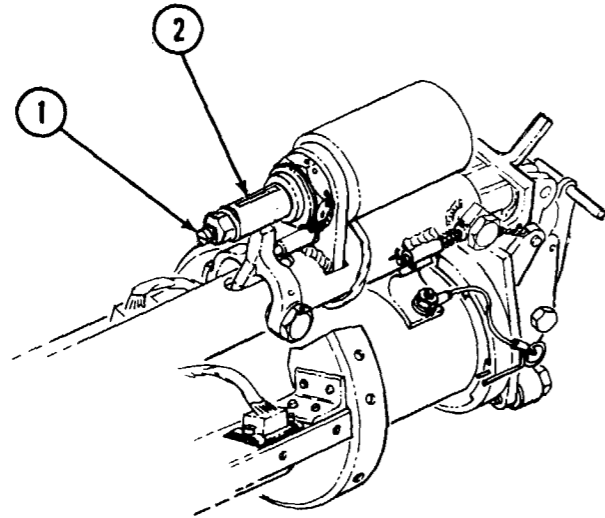
For LET serial 504375 and above go to step 7.

END OF TASK

4-59. INSTALL FIRING MECHANISM - CONTINUED

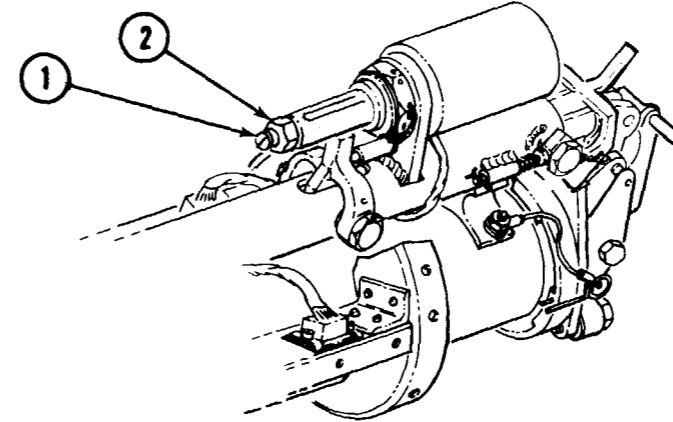
STEP 7

- A. Cock the firing mechanism.
- B. Apply sealing compound to threads of setscrew (1) on end of solenoid armature (2).



STEP 9

- A. While holding setscrew (1) in position, tighten locknut (2).

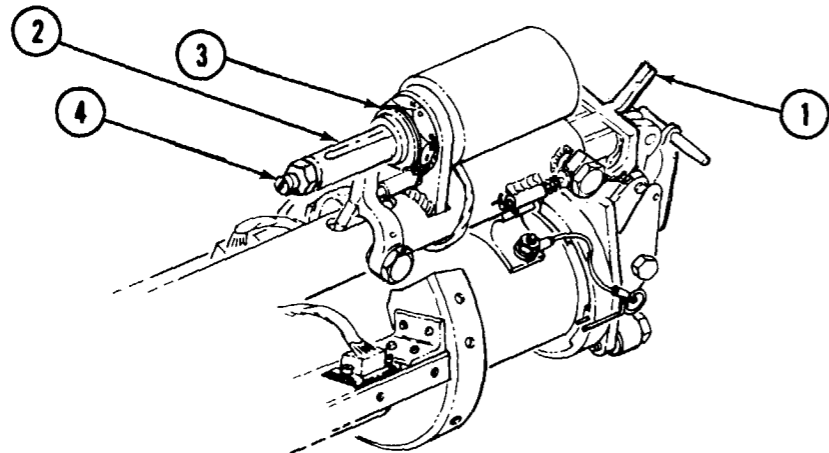


- B. Torque locknut (2) to 10-12 inch/pounds.

END OF TASK

STEP 8

- A. With the safety lever (1) in the down SAFE position, move the solenoid armature (2) until it is tight against packing nut (3).



- B. While holding armature (2) in this position, adjust setscrew (4) into the armature until the trigger trips out of the firing mechanism plunger.
- C. Continue to turn the setscrew three-quarters to one complete revolution.

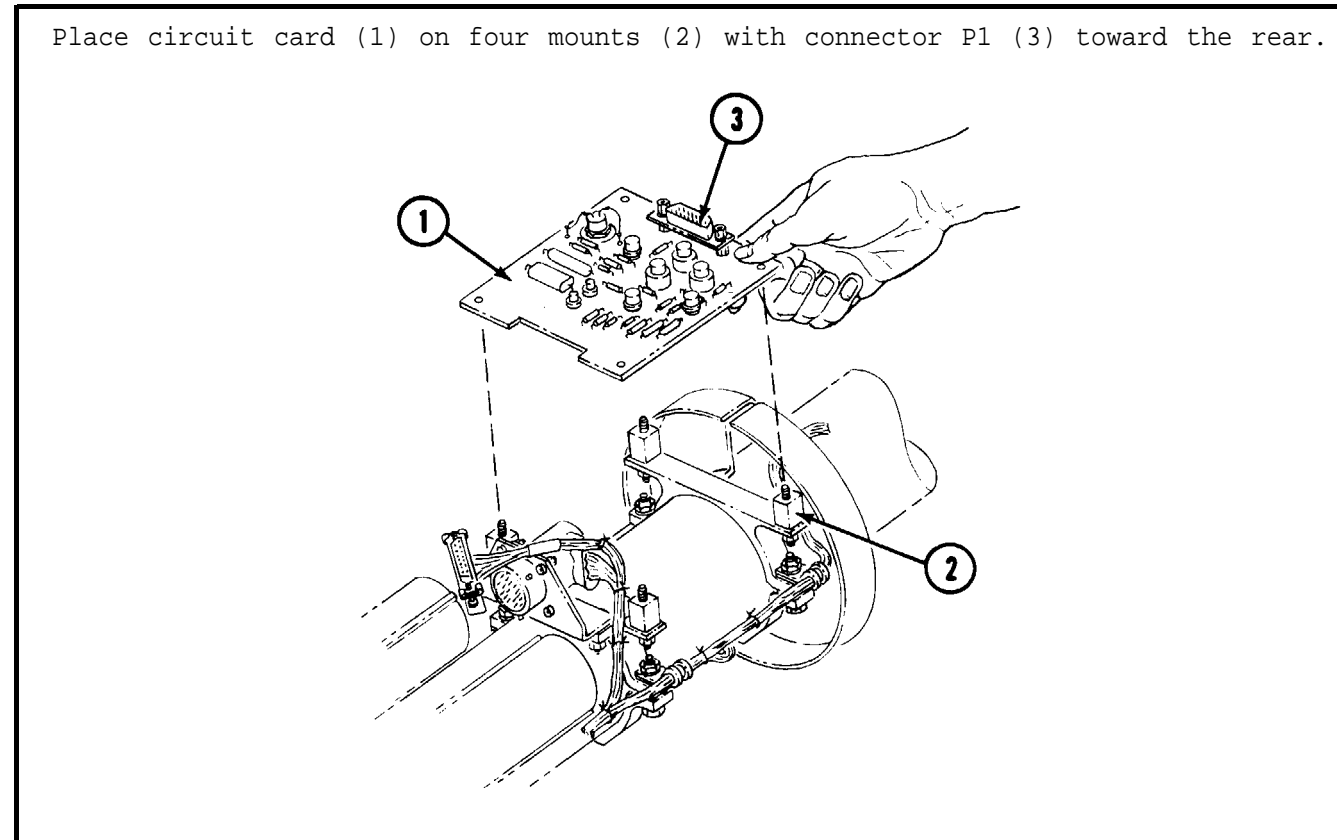
4-60. INSTALL TIME DELAY CIRCUIT CARD ASSEMBLY

Tools required: 7/32 inch socket
 3 inch extension
 3/8 inch open end wrench
 Ratchet wrench
 1/8 inch flat-blade screwdriver

Equipment condition: Aft circuit card assembly bracket installed, see para. 4-47.
 Forward circuit card assembly bracket installed, see para. 4-48.

STEP 1

Place circuit card (1) on four mounts (2) with connector P1 (3) toward the rear.

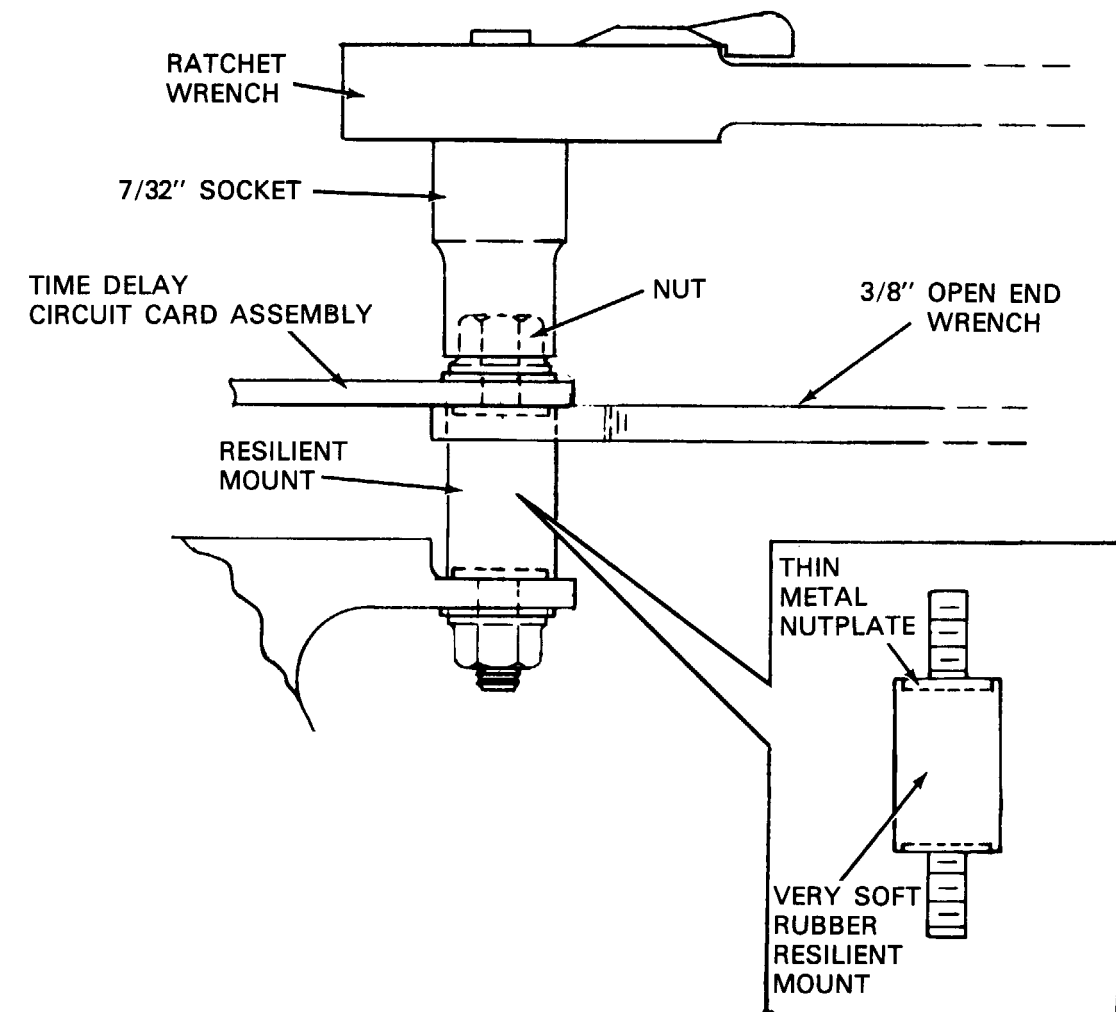


STEP 2



To avoid damage to the four resilient mounts, use **EXTREME** care when removing or installing the self-locking nuts on top or bottom of mounts. Mounts must be held as in drawing or-DAMAGE WILL-OCCUR!

To keep from destroying the mount, hold 3/8 inch wrench flush against circuit card assembly. It will assure the grip of wrench on the thin metal nutplate inside resilient mount.

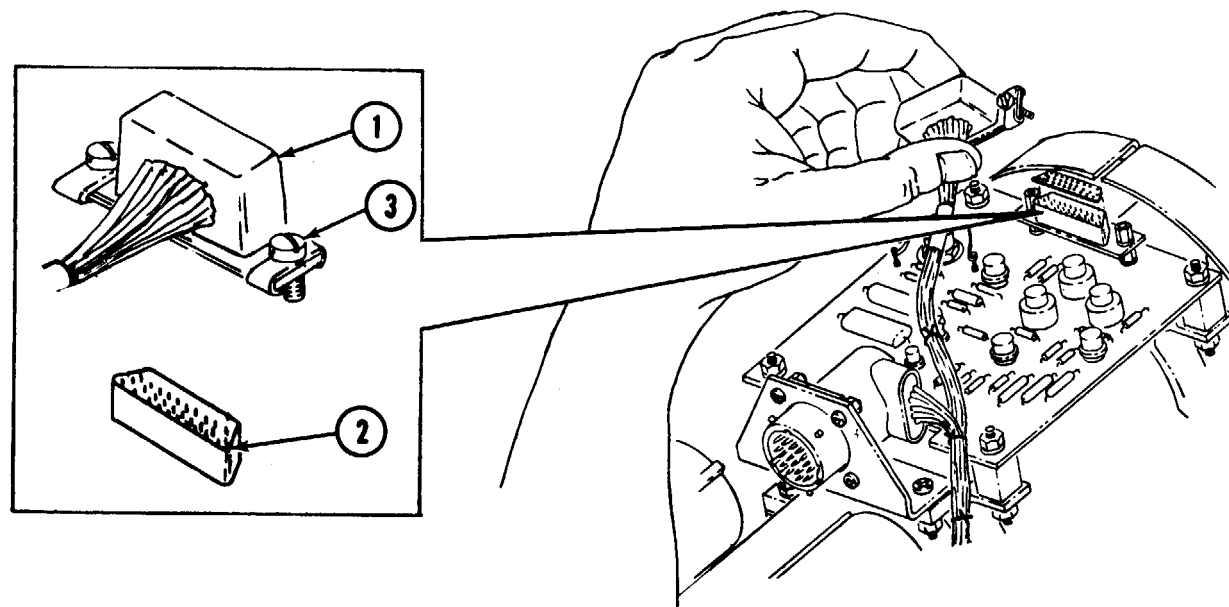


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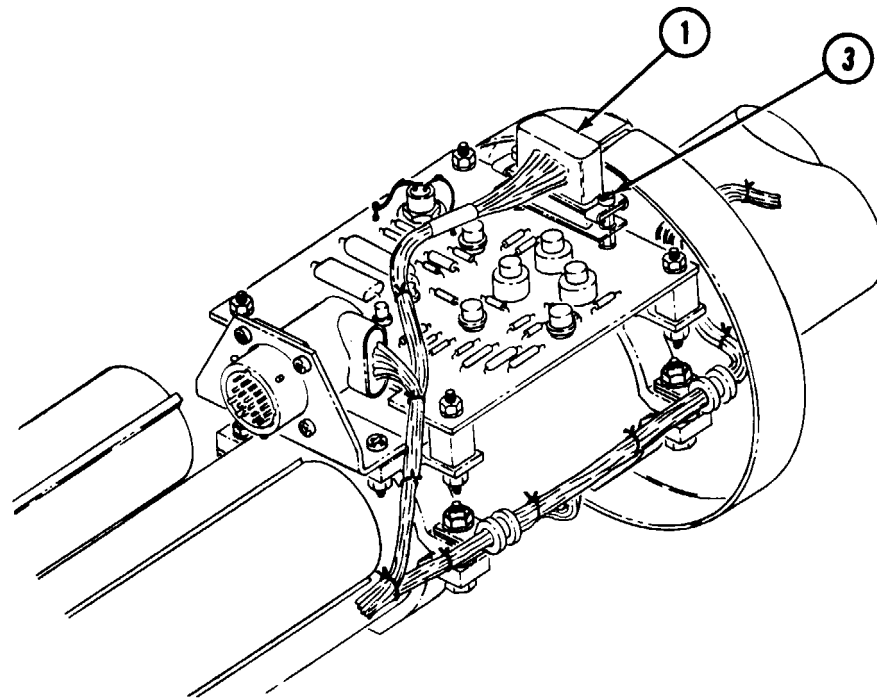
4-60. INSTALL TIME DELAY CIRCUIT CARD ASSEMBLY - CONTINUED

STEP 3

- A. Fasten connector W1J3 (1) to circuit board connector P1 (2).



- B. Using screwdriver, secure connector (1) with two retaining screws (3).



END OF TASK

4-61. INSTALL SUPPORT END FITTING

Tools required: No. 2 crosspoint screwdriver
Ratchet wrench
3/8 inch socket

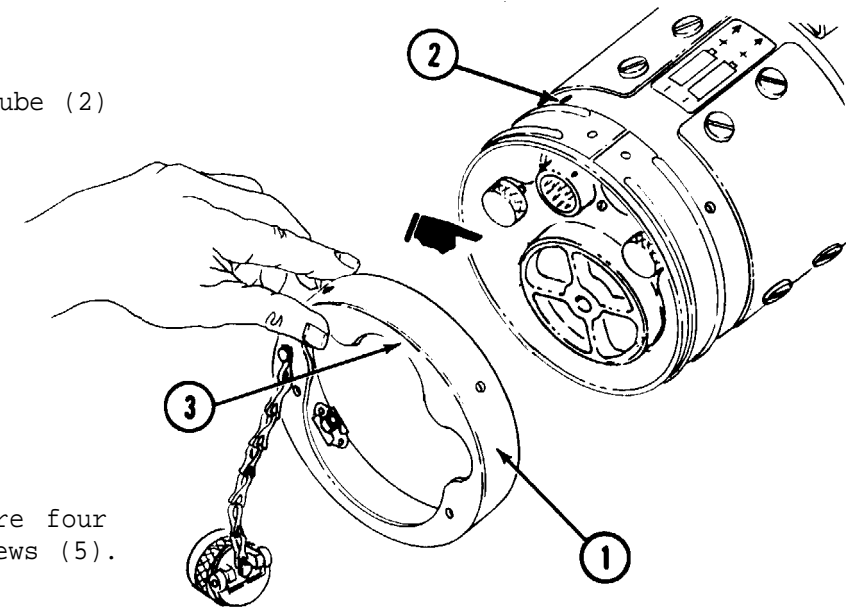
Equipment condition: Forward shock removed, see TM 9-6920-484-12.

4. Install fitting (1) in tube (2). The largest of the three cutouts (3) must point up.

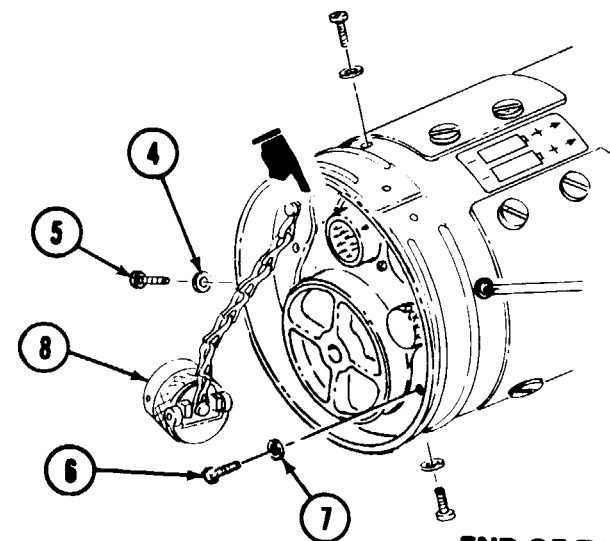


Some LETs have eight screws, nuts and washers in the supporting ring that must be installed.

- B. Line up four holes in tube (2) and fitting (1).



- C. Using screwdriver, secure four flatwashers (4) and screws (5).



- D. Using 3/8 inch socket and ratchet wrench, install two shear bolts (6) and two washers (7).

- E. Attach cap (8) to J1 connector.

END OF TASK

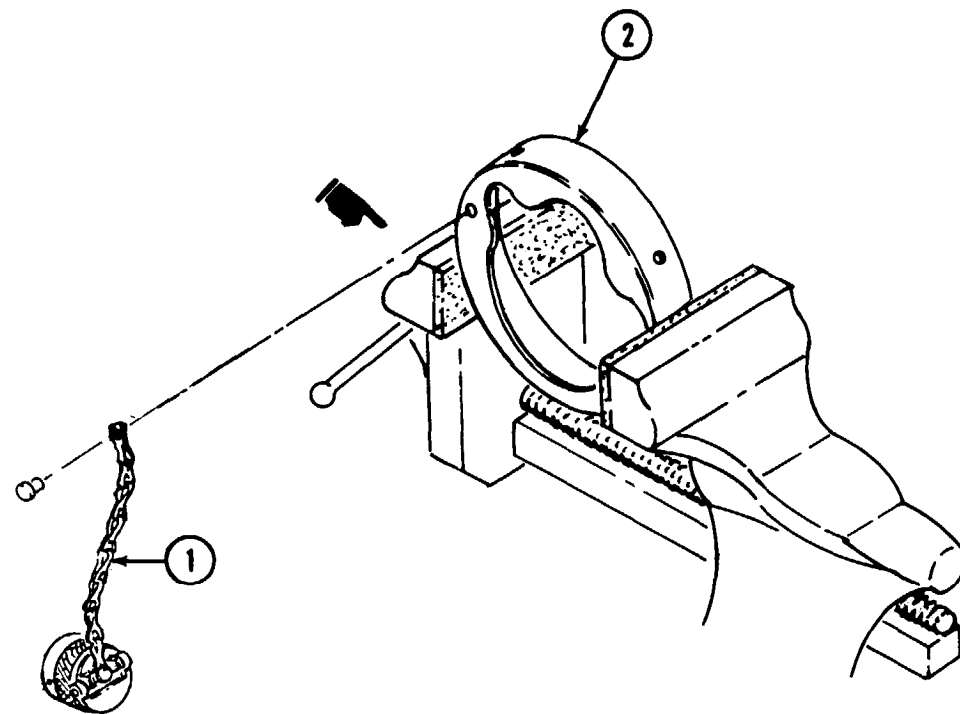
4-62. INSTALL J1 CONNECTOR COVER

Tools required: Ball peen hammer
Rivet bucking bar

Equipment condition: Forward end fitting support removed, see para. 4-26.

Personnel required: Two

- A. Position connector chain (1) on forward end fitting support (2).
- B. Using hammer and bucking bar, install solid rivet with help from second person to hold hardware.



ENDOFTASK

4-63. INSTALL DUMMY PROJECTILE

Tools required: Weight positioning rod
Craftsman's knife

Equipment condition: Forward shock removed, see TM 9-6920-484-12.

STEP 1

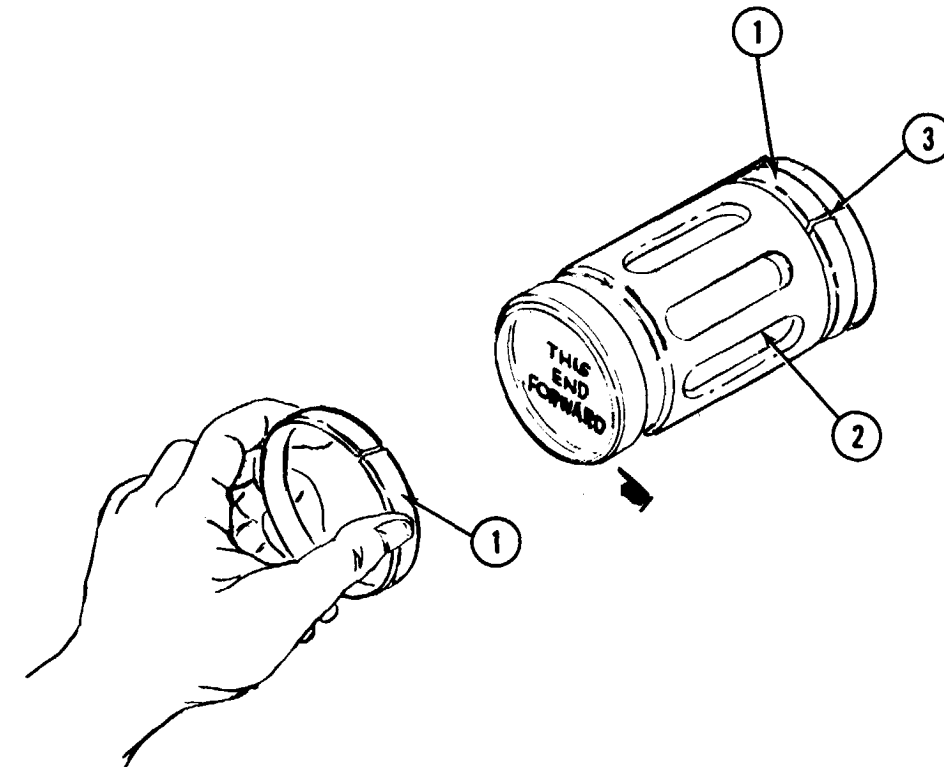
- A. Install rings (1) on dummy projectile (2).



NOTE

If no gap is present in the rings, carefully shave off material from both ends of the ring until a small gap is present.

- B. Inspect rings (1). The gap (3) in the rings should be as small as possible without ends of the rings touching each other.

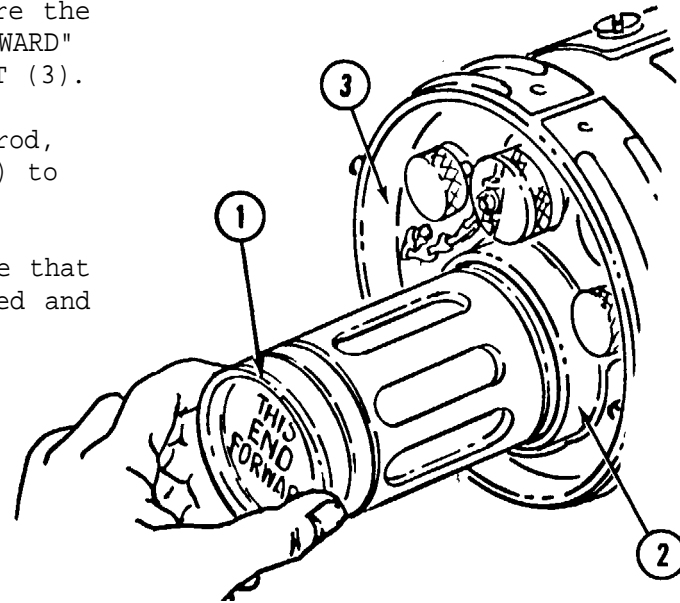


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4-63. INSTALL DUMMY PROJECTILE - CONTINUED

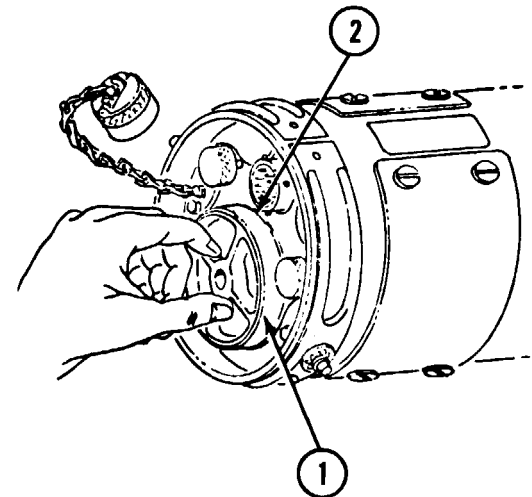
STEP 2

- A. Slide dummy projectile (1) into pressure tube (2). Be sure the end stamped "THIS END FORWARD" points toward front of LET (3).
- B. Using weight positioning rod, shove dummy projectile (1) to rear until it latches.
- C. Lift rear of LET to ensure that dummy projectile is latched and does not slide forward.



STEP 3

Screw cap (1) into front of LET tube (2).



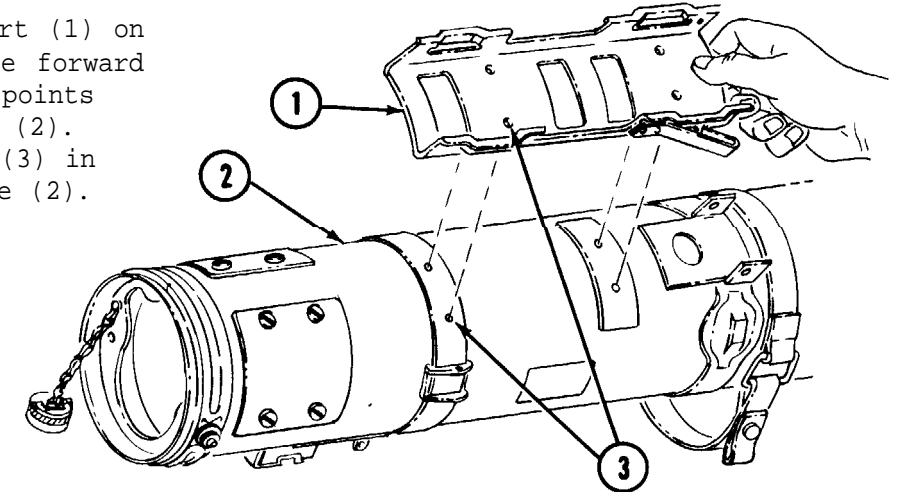
ENDOFTASK

4-64. INSTALL TRACKER SUPPORT

Tools required: No. 2 crosspoint screwdriver
Ratchet wrench
7/32 inch socket

Equipment condition: Remove W2 Special Purpose Cable Assembly, see para. 4-20, steps 4 and 5. For serial numbers 501258 and below, LET subassembly must be removed, see para. 4-21.

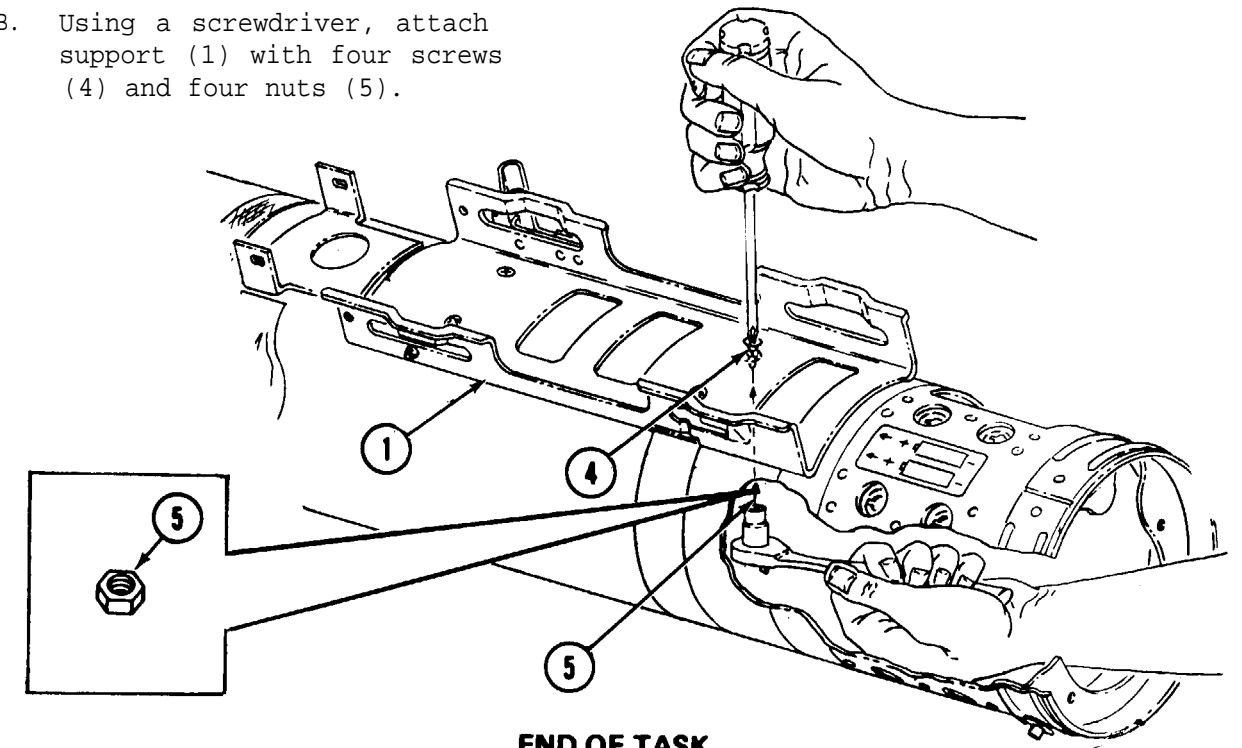
- A. Place tracker support (1) on tube (2). Make sure forward end of support (1) points forward on LET tube (2). Line up four holes (3) in support (1) and tube (2).



NOTE

LET serial numbers 501258 and below are fastened as shown. LET serial numbers 501259 and up use nutplates instead of nuts (5).

- B. Using a screwdriver, attach support (1) with four screws (4) and four nuts (5).



END OF TASK

4-65. INSTALL FORWARD ACCESS COVERS

Tools required: Pliers
Longnose pliers

Equipment condition: LET subassembly removed, see para. 4-21.

STEP 1

NOTE

Install right side access cover lanyard (1) in bottom forward hole (2). Install left side access cover lanyard in bottom rear hole (3).

Using both pliers, spread lockwasher (4) far enough apart to slip over lanyard (1).

STEP 2

A. Using pliers, hold washer (1) and slip it over lanyard (2), then using longnose pliers, bend washer back together.

B. Repeat procedure for other access cover lanyard.

END OF TASK

4-66. INSTALL LET SUBASSEMBLY

Tools required: Ratchet wrench
3/8 inch socket
No. 2 crosspoint screwdriver
Flat-blade screwdriver

Personnel required: Two

STEP 1

CAUTION

To avoid damage to the equipment, two people should perform step (1) below. The subassembly fits snugly into the launcher tube and requires reasonable pressure to push it into the tube. DO NOT USE EXCESSIVE FORCE.

Carefully insert subassembly (1) in tube (2). Due to snug fit, it may be necessary to twist the subassembly back and forth as it is pushed into the tube. Be careful not to damage wiring harness.

STEP 2

A. If subassembly hangs up, pry connector bracket (1) down to clear nut plate (2).

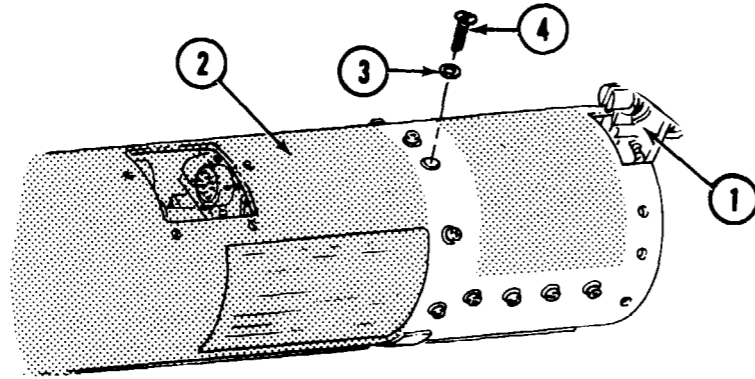
B. Secure the forward end of LET subassembly to the forward end fitting support (3) with two washers (4) and bolts (5). Do not tighten bolts.

GO TO NEXT PAGE

4-66. INSTALL LET SUBASSEMBLY -CONTINUED

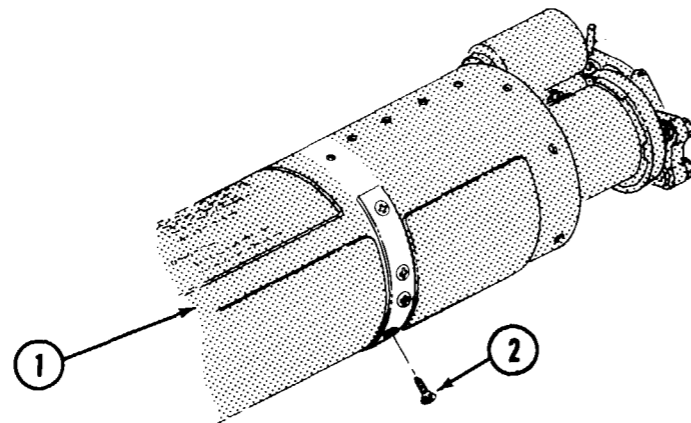
STEP 3

Using No. 2 crosspoint screwdriver, secure subassembly (1) to LET tube (2) with 14 washers (3) and screws (4).



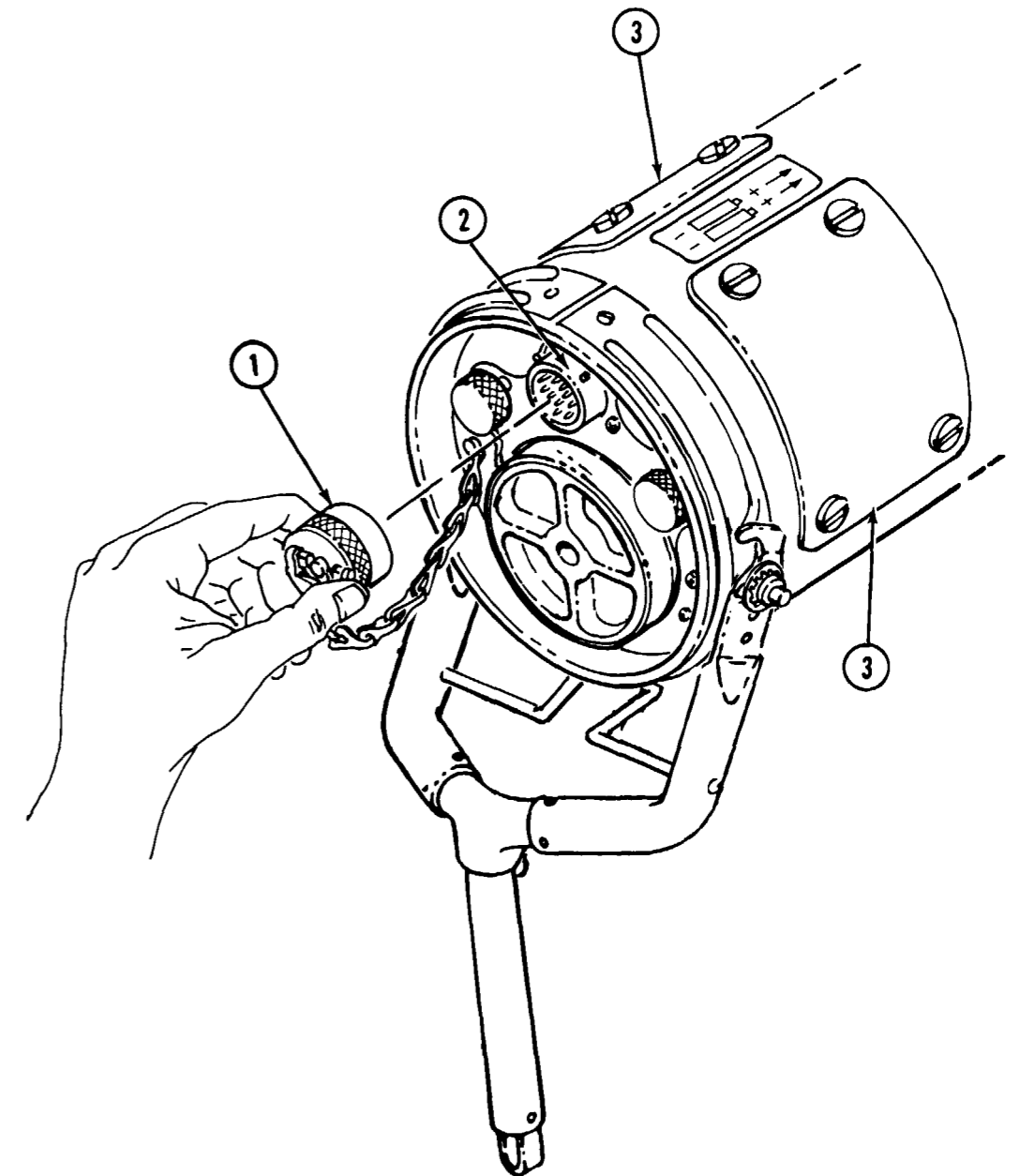
STEP 4

Using No. 2 crosspoint screwdriver, secure bottom of subassembly to bottom of tube (1) with four countersunk screws (2).



STEP 5

- A. Replace connector cover (1) on J1 connector (2).
- B. Using a flat-blade screwdriver, fasten both forward access covers (3).
- C. Tighten all screws and bolts installed in steps 2, 3, and 4.



END OF TASK

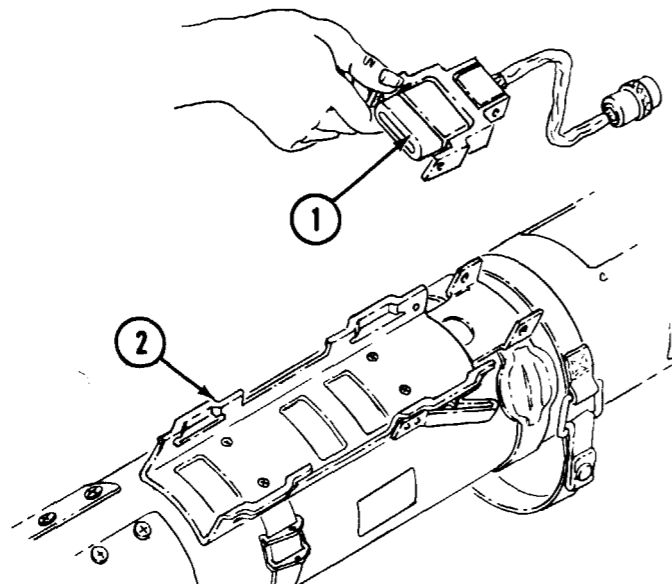
4-67. INSTALL SPECIAL PURPOSE CABLE ASSEMBLY (W2)

Tools required: No. 1 crosspoint screwdriver
 No. 2 crosspoint screwdriver
 Torque screwdriver, inch/pounds
 No. 1 crosspoint bit

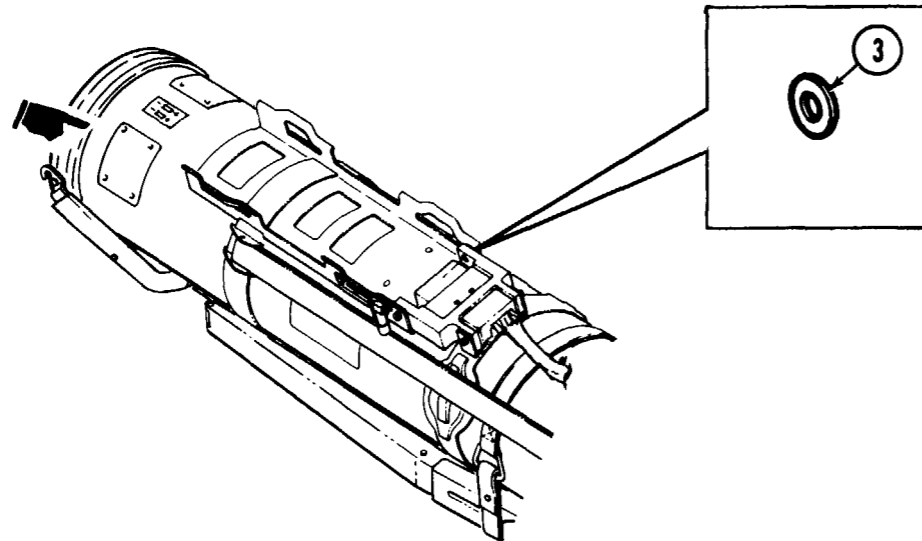
Equipment condition: Tracker support installed, see para. 4-64.

STEP 1

A. Place connector W2J1 (1) on tracker support (2).



B. Place shim (3) between the tracker support and connector.



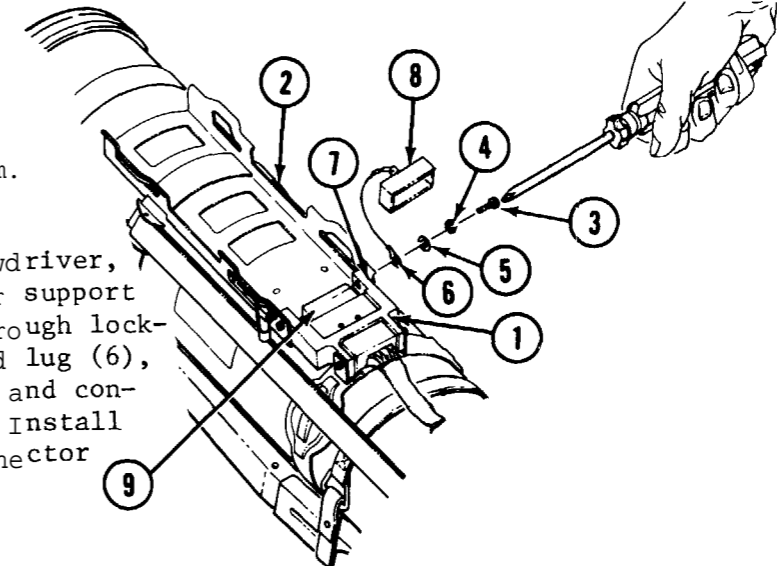
STEP 2



NOTE

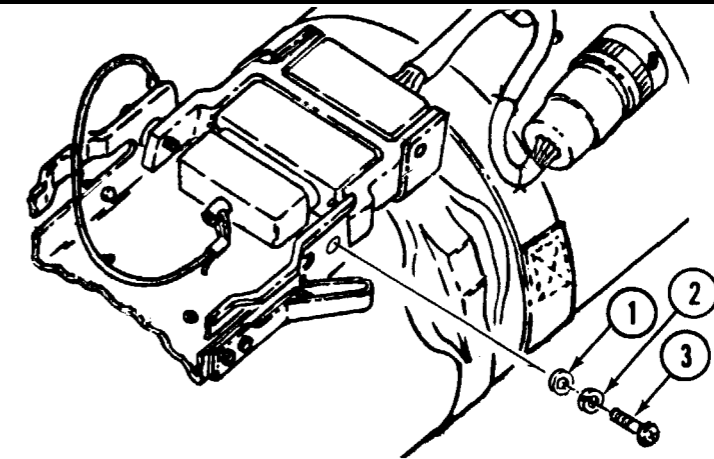
Be careful not to lose shim.

Using a No. 1 crosspoint screwdriver, secure connector (1) to tracker support (2) by inserting screw (3) through lockwasher (4), washer (5), lanyard lug (6), tracker support (2), shim (7), and connector (1). Do not tighten. Install connector cover (8) on to connector (9).



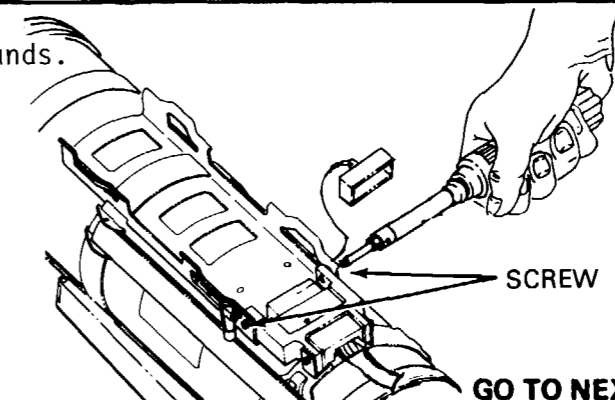
STEP 3

Using No. 1 crosspoint screwdriver, install flatwasher (1), lockwasher (2), and screw (3) on left side of the connector. DO NOT tighten.



STEP 4

Using torque screwdriver and bit, torque both screws 9 to 11 inch/pounds.

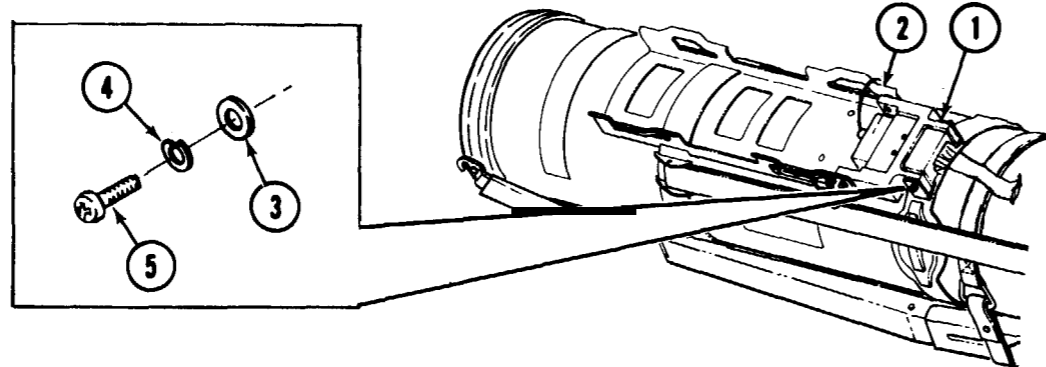


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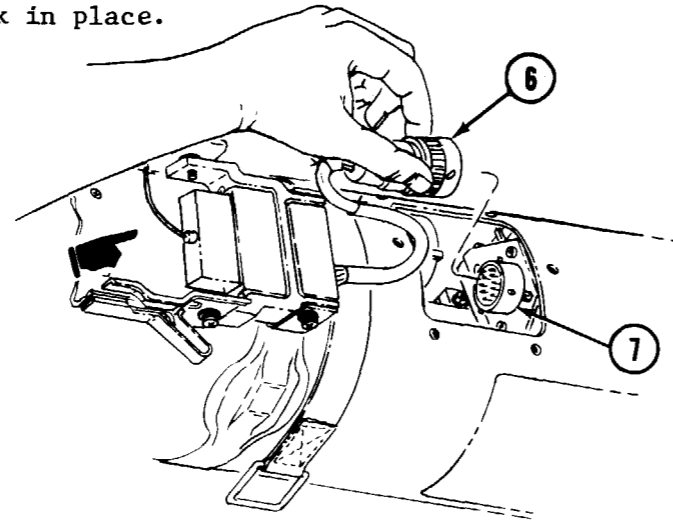
4-67. INSTALL SPECIAL PURPOSE CABLE ASSEMBLY (W2) - CONTINUED

STEP 5

- A. Using No. 1 crosspoint screwdriver, secure aft end of W2J1 connector (1) to bracket (2) with two flatwashers (3), two lockwashers (4) and two screws (5). Using torque screwdriver and bit, torque screws 1 to 3 inch/pounds.

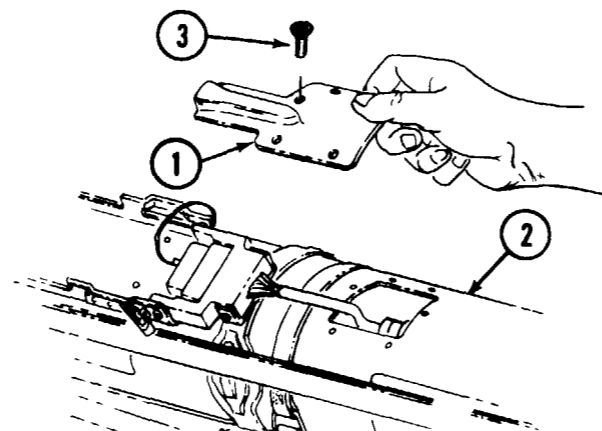


- B. Secure connector W2P1 (6) to LET connector W1J2 (7) by hand. You can feel the connector lock in place.



STEP 6

- A. Place raceway (1) on tube (2).
- B. Using No. 2 crosspoint screwdriver, secure raceway with six screws (3).



END OF TASK

4-68. INSTALL ELECTRICAL CONNECTOR COVER

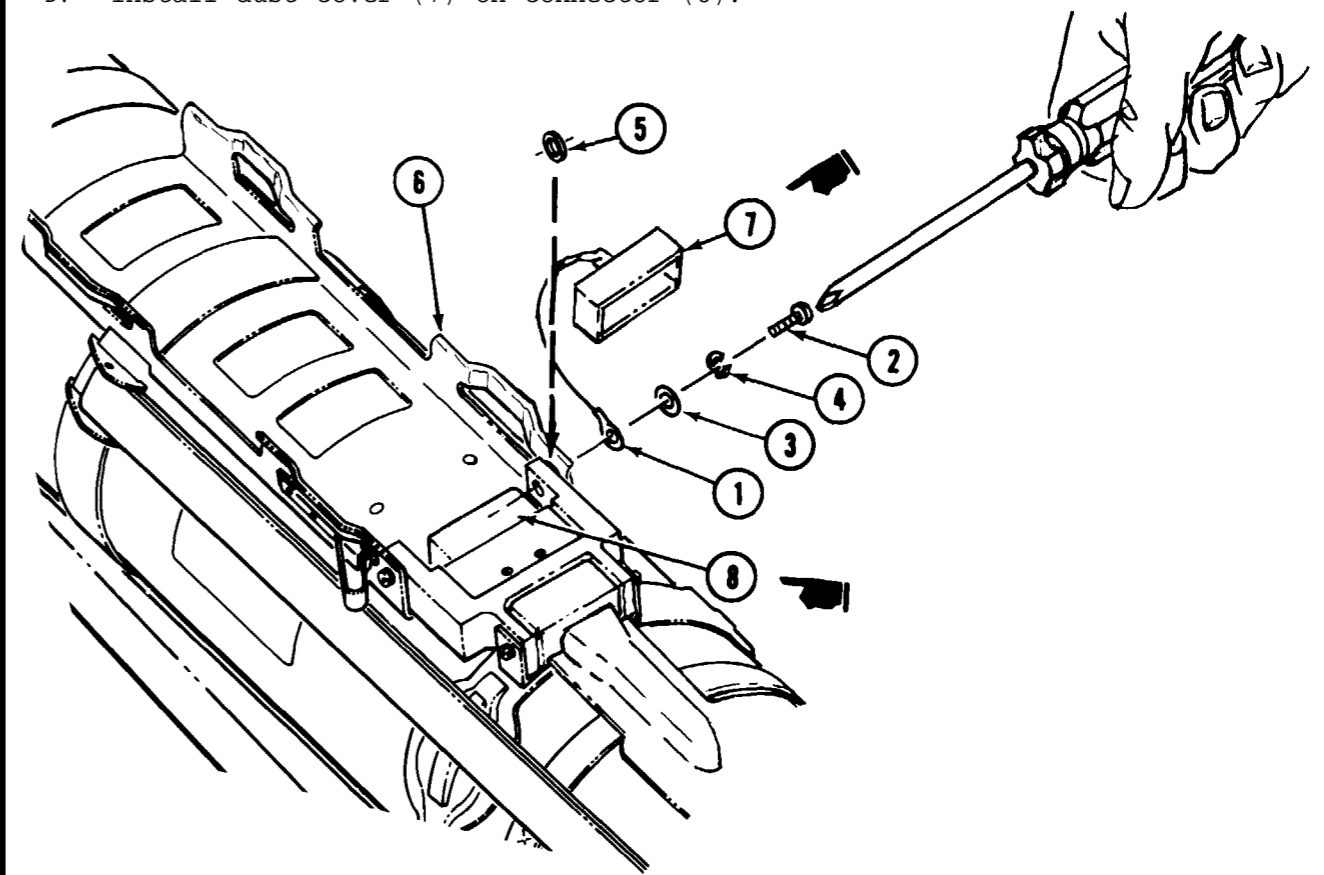
Tools required: Torque screwdriver, inch/pounds
No. 1 crosspoint screwdriver
No. 1 crosspoint bit

- A. Hold the connector assembly in place.
- B. Using screwdriver, secure electrical connector cover lanyard (1) to connector assembly with screw (2), flatwasher (3) and lockwasher (4), but do not tighten.

**NOTE**

Be sure that shim (5) is still in place between tracker support (6) and electrical connector assembly.

- C. Torque screw (2) 9 to 11 inch/pounds using torque screwdriver and screwdriver bit.
- D. Install dust cover (7) on connector (8).



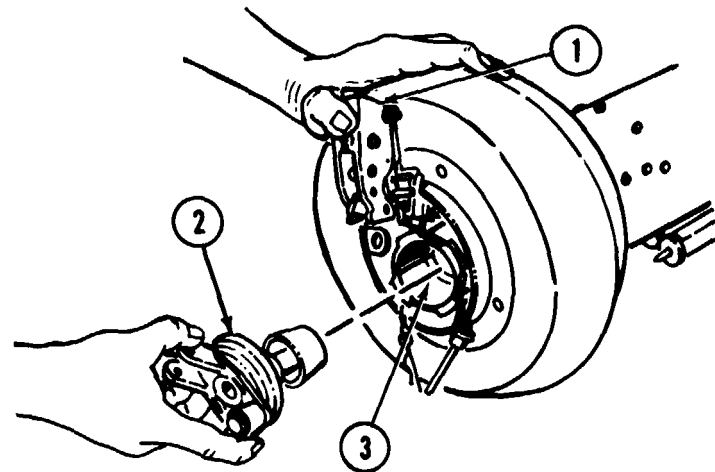
END OF TASK

4-69. INSTALL RECEIVER

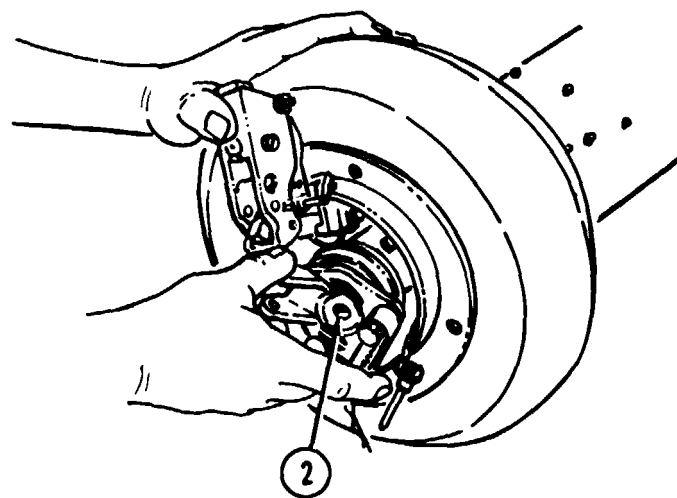
Equipment condition: End cap removed, see TM 9-6920-484-12.

STEP 1

- A. Grab breechblock (1) and pull it straight back, you can feel a spring tension then lift upward while maintaining tension and hold breechblock in up position.
- B. Rotate the receiver (2) to the left to the 9 o'clock position and insert into the pressure tube (3).



- C. Rotate receiver (2) to the right to engage lugs on the pressure tube.

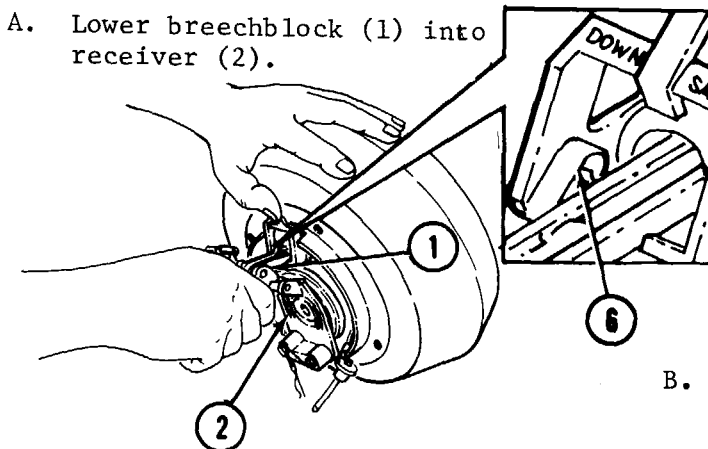


STEP 2

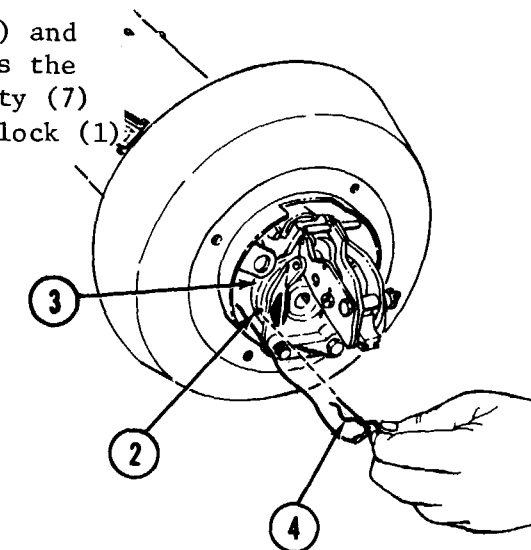


Pull out breechblock (1) and make sure that it clears the leaf spring (6) on safety (7) before lowering breechblock (1) into the receiver (2).

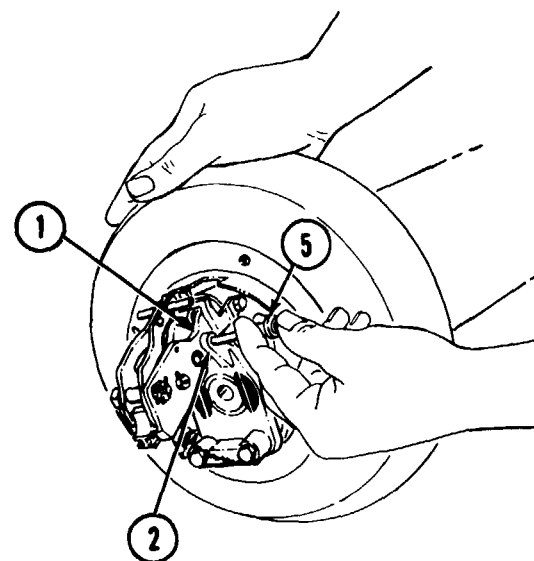
- A. Lower breechblock (1) into receiver (2).



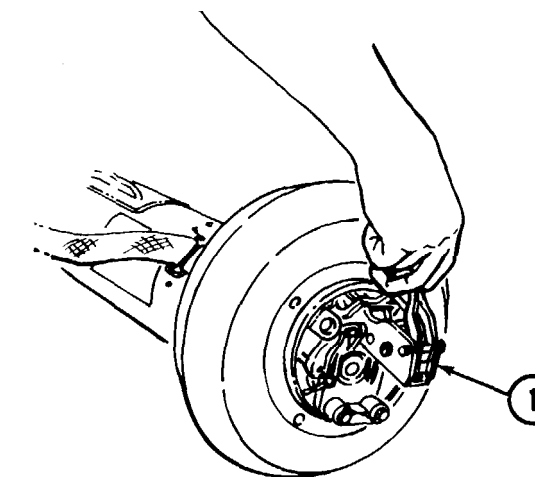
- B. Line up hole in receiver (2) with hole in pressure tube (3) and insert safety pin (4).



- C. Depress button on breechblock lanyard pin (5) and insert through hole in receiver (2) and breechblock (1).



- D. Lower and latch breechblock (1).



END OF TASK

4-69.1 INSTALL BIPOD FOOT

Tools required: Ball peen hammer

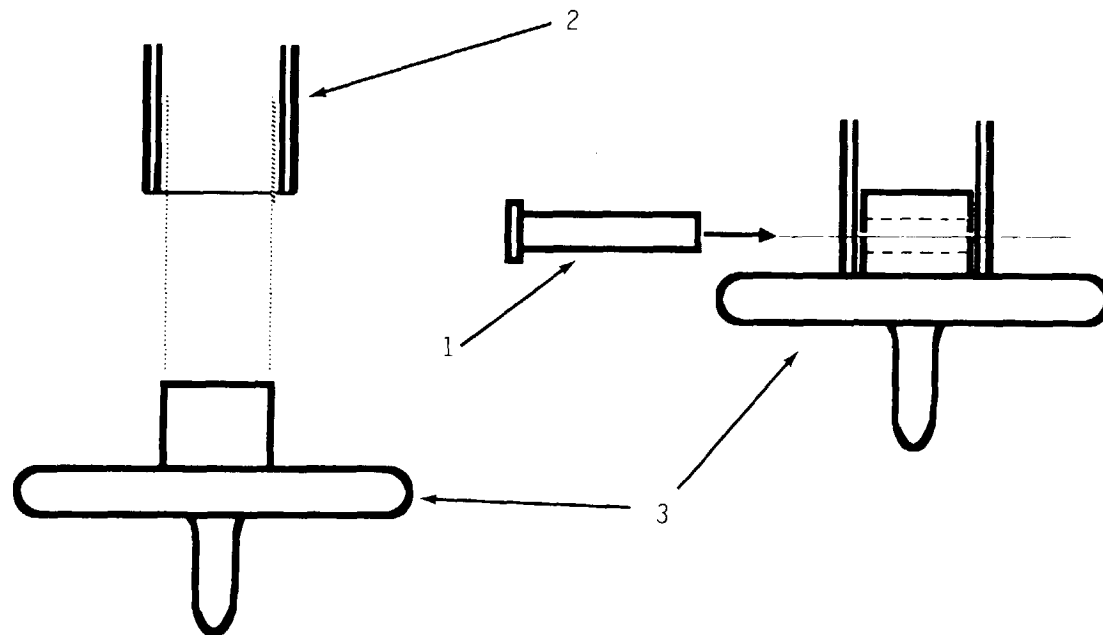
Materials
solid rivet

Appendix D
Item 1

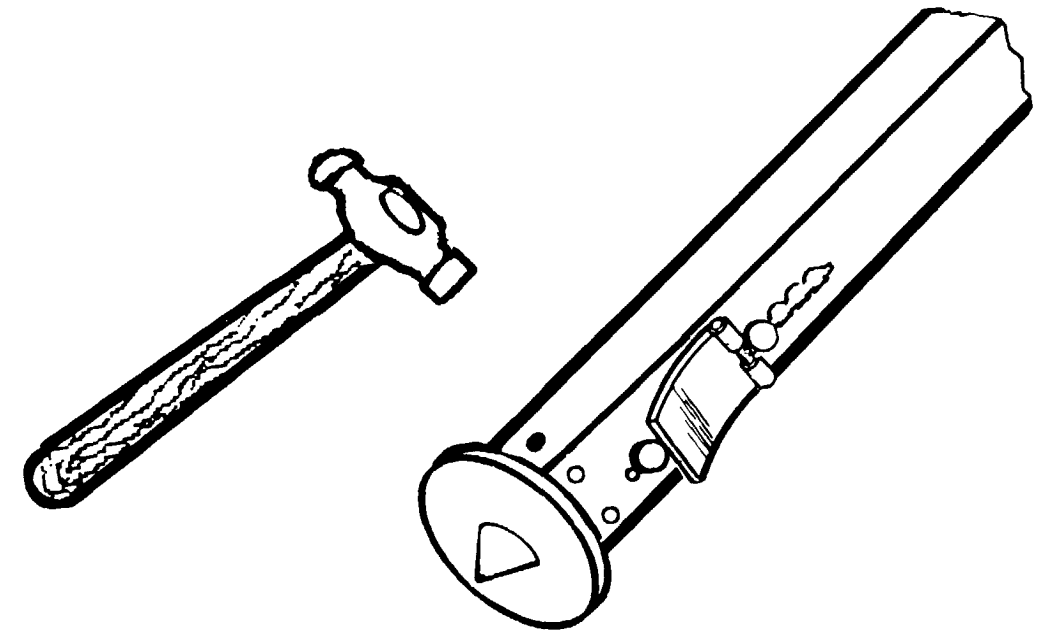
Equipment condition: Bipod removed. See para. 4-12.

STEP 1

- A. Install bipod foot (3) on bipod leg (2), matching up holes in foot with holes in leg.
- B. Insert rivet (1).

**STEP 2**

Swell rivet head by placing it against a hard surface and hitting other end of rivet with hammer.



END OF TASK

4-70. INSTALL LATCHBOLT

Tools required: No. 1 crosspoint screwdriver

Materials required:

Materials

Sealing compound

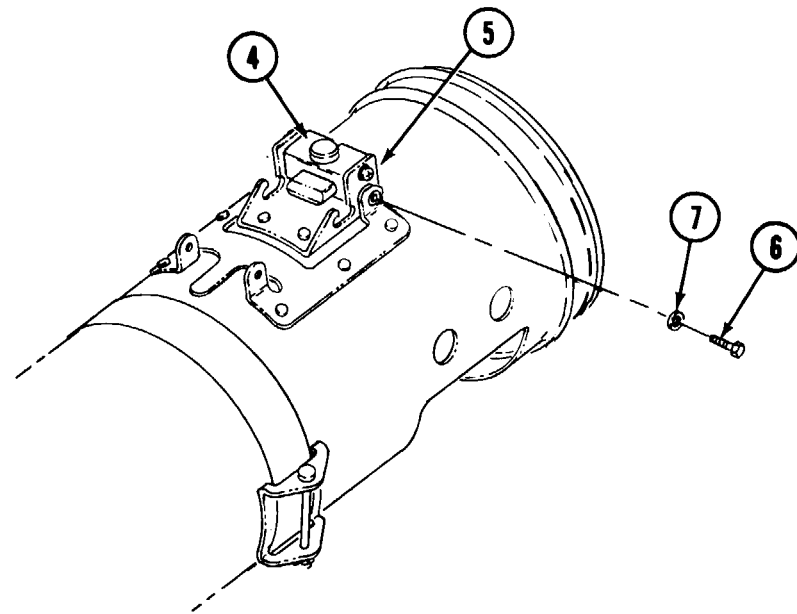
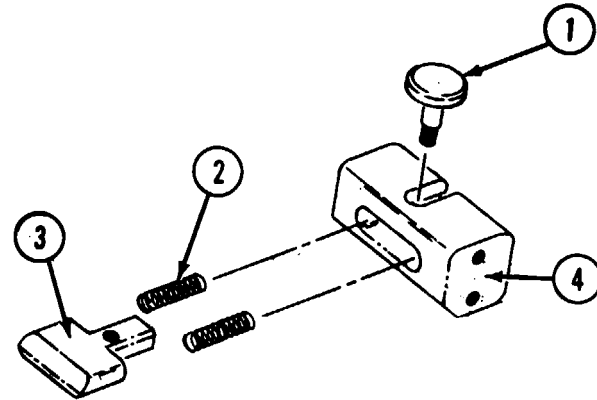
See Appendix D

Item 18

A. Apply sealing compound to threads of stud (1).

B. Install two springs (2), latch-bolt (3) into latchbolt guide (4) and secure with stud (1).

C. Install latchbolt guide (4) into bracket (5). Using screwdriver, secure latchbolt guide to bracket with four screws (6) and washers (7).



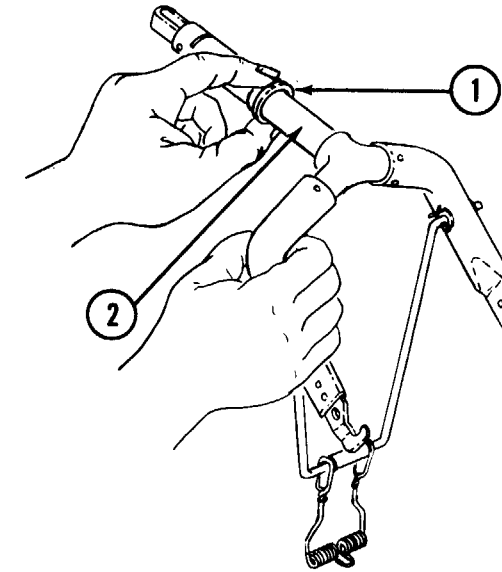
END OF TASK

4-71. INSTALL BIPOD YOKE

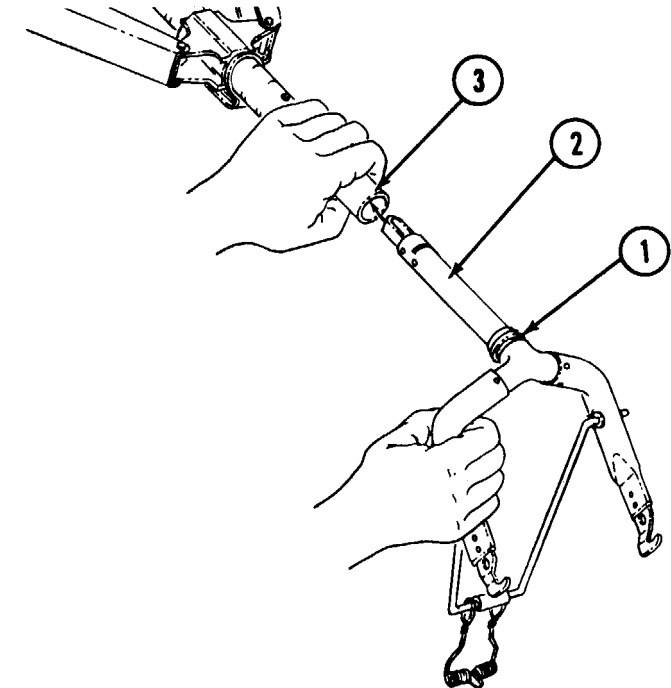
Tools required: Ball peen hammer Ratchet wrench Flat blade screwdriver
 Pliers 3/8 inch socket
 Machinist's vise 3/8 inch open end wrench

STEP 1 For LET serial No's. 504697 and above, go to step 5.

A. Install bushing (1) on yoke (2).



B. Install yoke (2) with bushing (1) in tube (3).

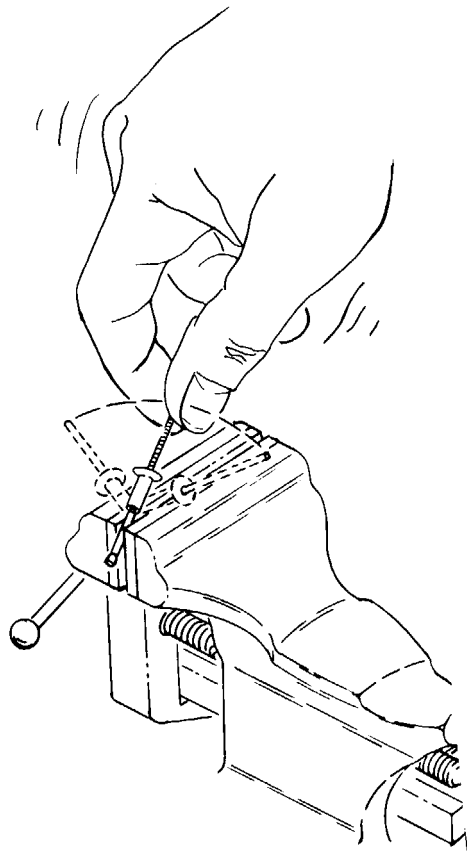
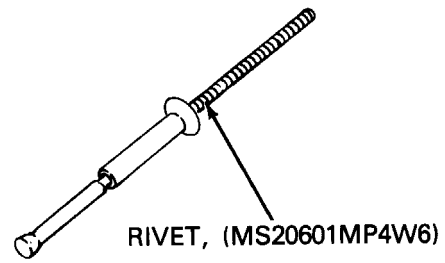


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4-71. INSTALL BIPOD YOKE - CONTINUED

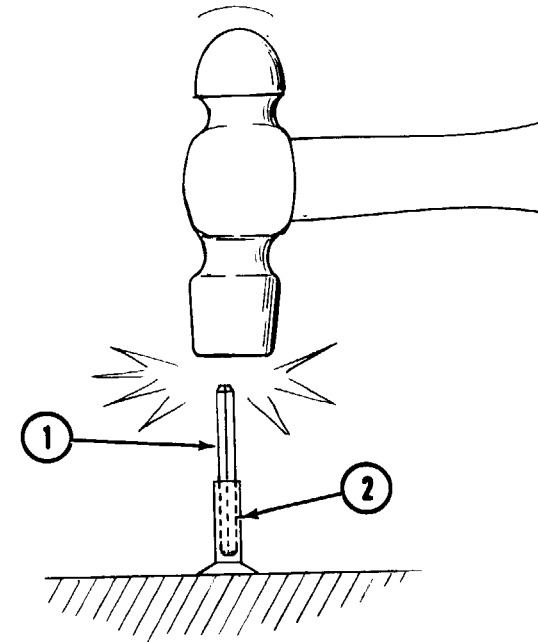
STEP 2

Remove the serrated stems from two blind rivets by placing them in a vise. Twist off with back and forth movements.

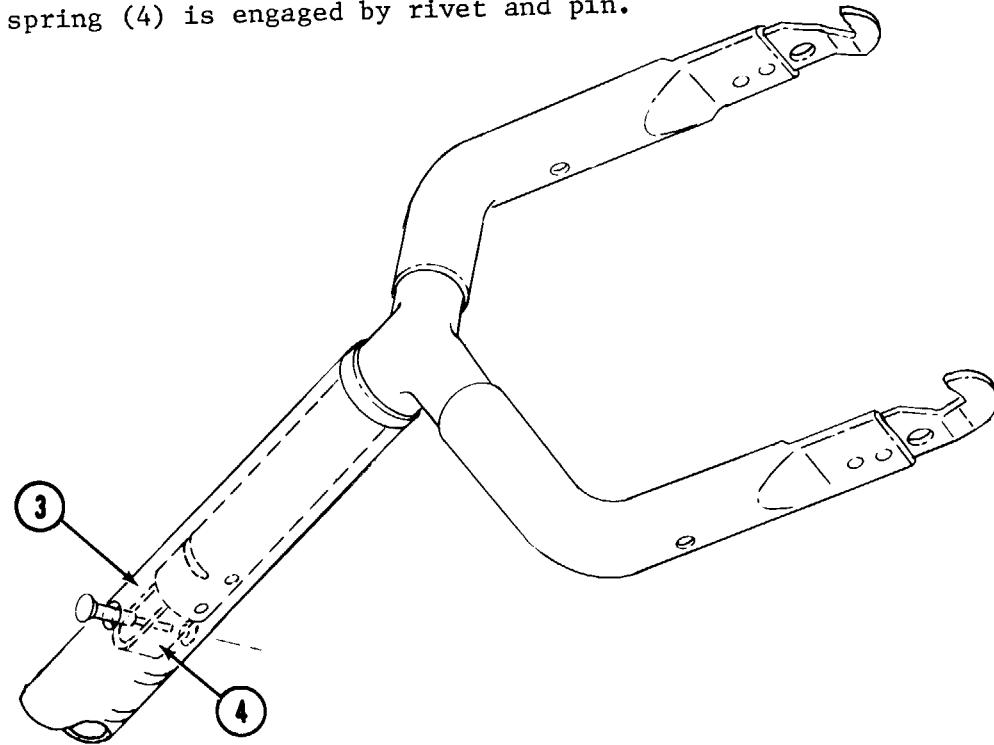


STEP 3

A. Drive spring pin (1) into one blind rivet (2).



B. Install blind rivet (2) and spring pin (1) through tube assembly (3). Be sure flat spring (4) is engaged by rivet and pin.

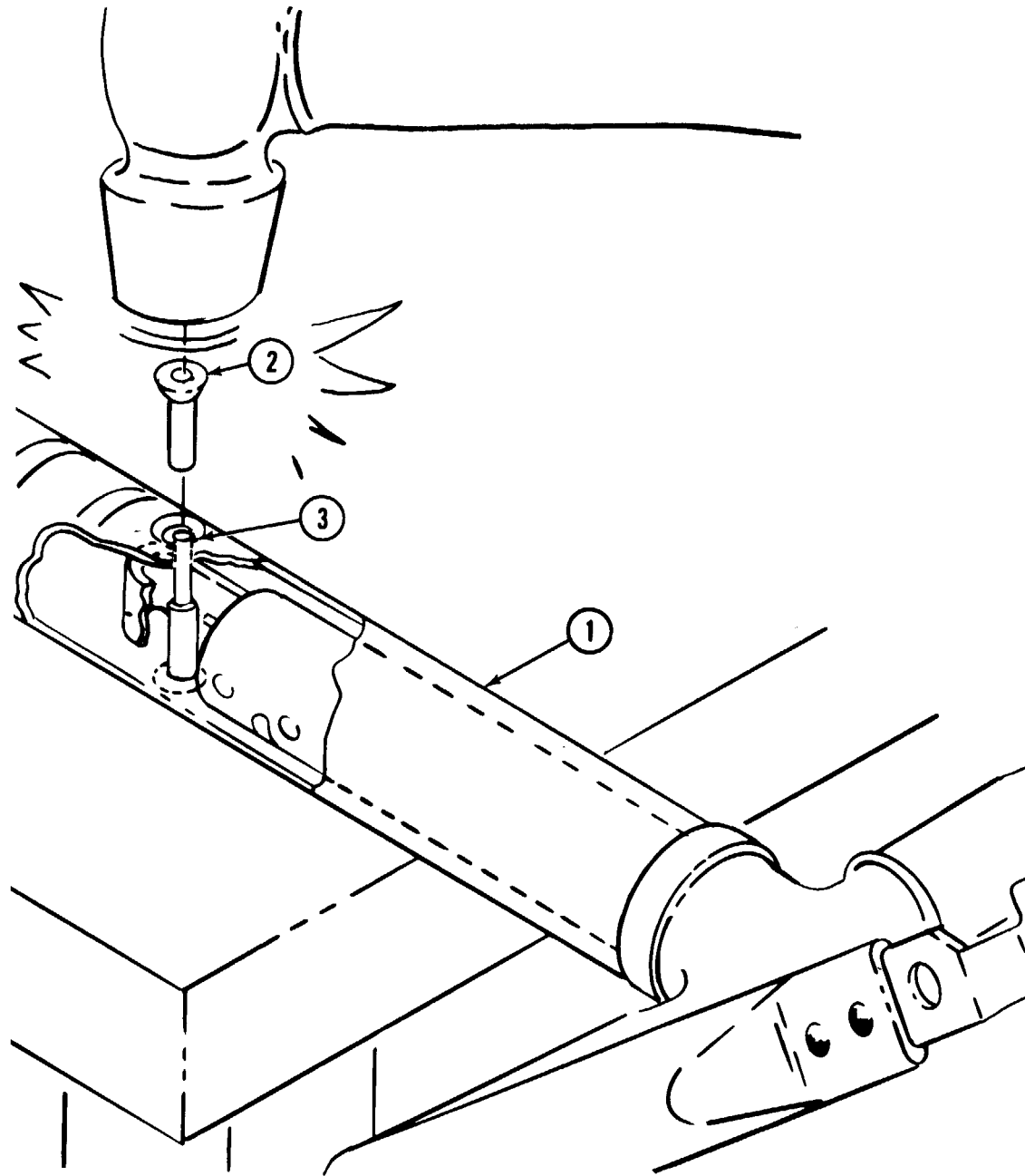


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4-71. INSTALL BIPOD YOKE - CONTINUED

STEP 4

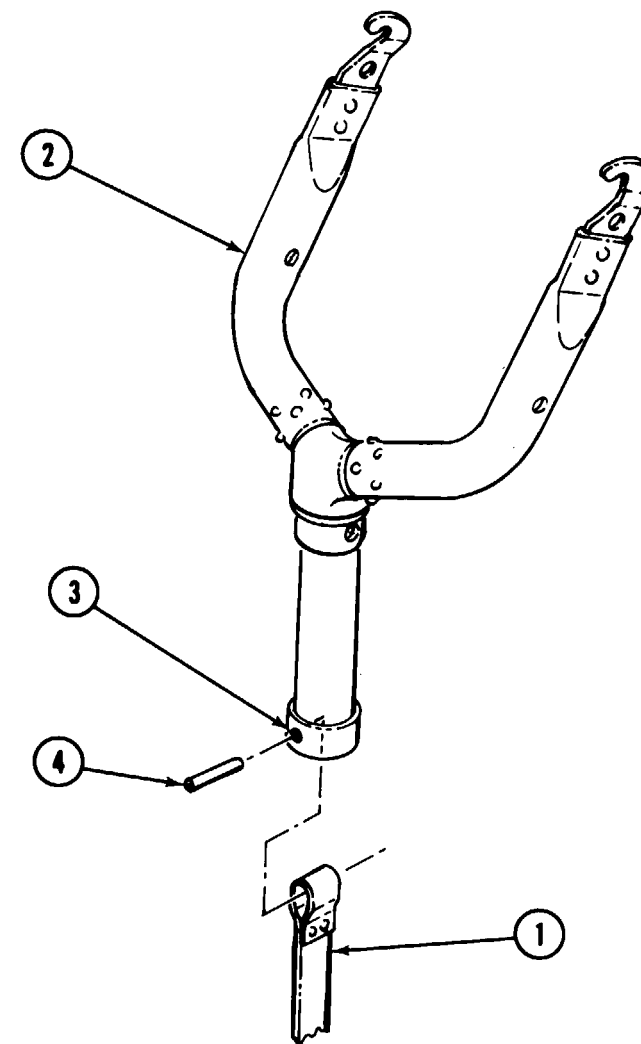
Firmly support bipod assembly (1). Install second rivet (2) and drive onto spring pin (3).



4-71. INSTALL BIPOD YOKE - CONTINUED

STEP 5 For LET serial No's. 504696 and below, go to step 1.

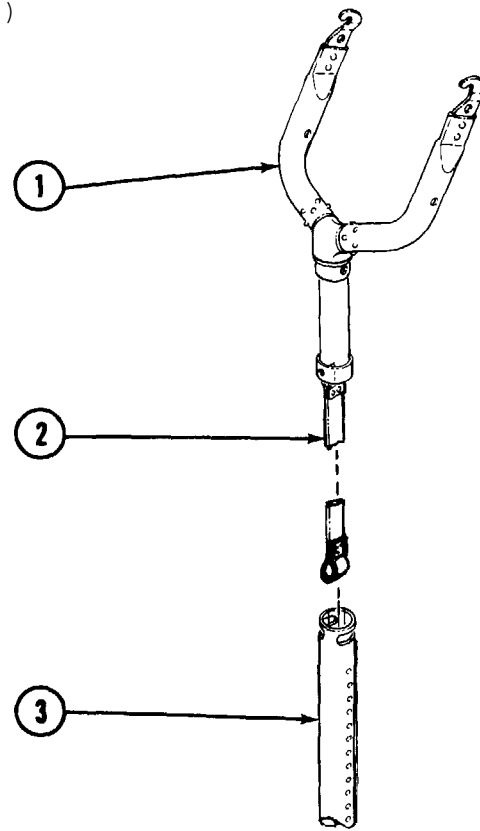
- A. Slide flat spring (1) into bottom of yoke (2).
- B. Align loop in flat spring (1) with hole (3) in yoke (2).
- C. Using hammer, install spring pin (4) so that it engages loop in flat spring (1).



4-71. INSTALL BIPOD YOKE-CONTINUED

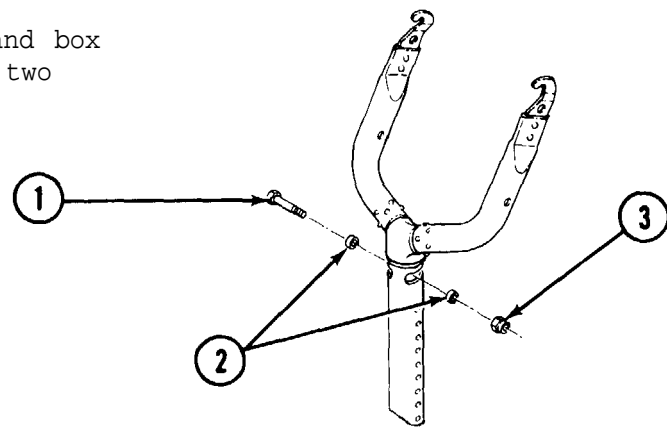
STEP 6

Slide yoke (1) and flat spring (2) into bipod tube assembly (3).



STEP 7

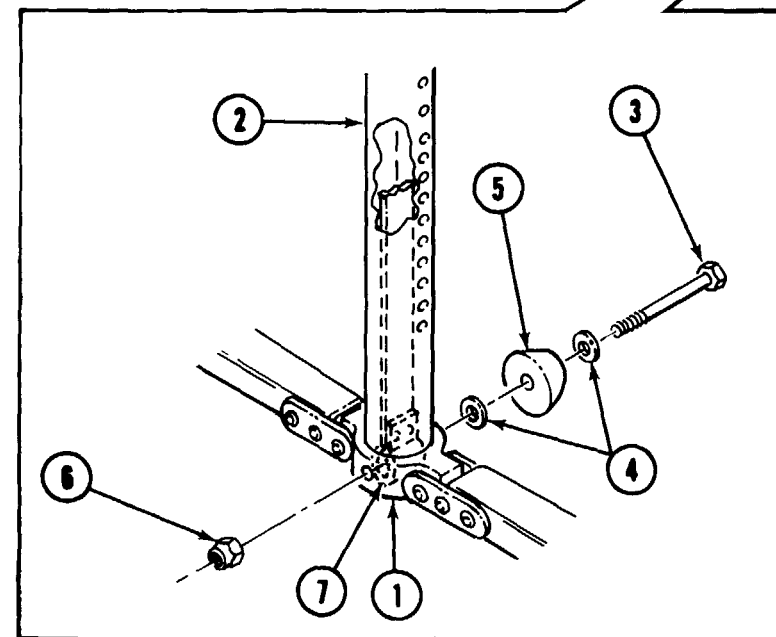
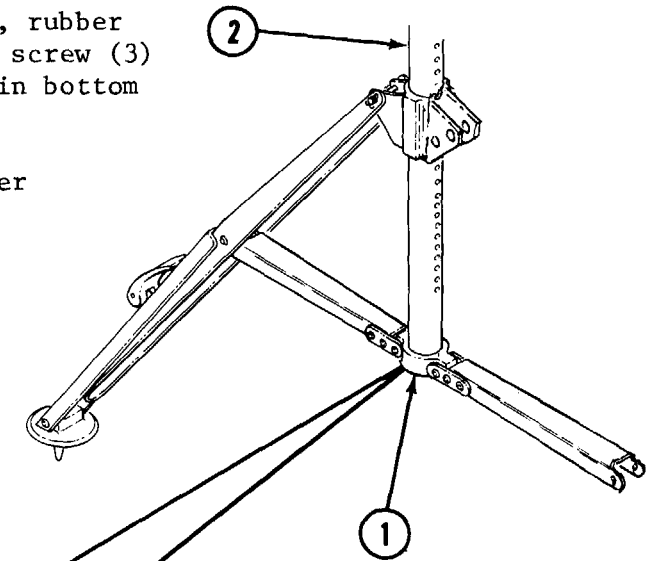
Using ratchet wrench, socket and box end wrench, install bolt (1), two spacers (2) and nut (3).



4-71. INSTALL BIPOD YOKE -CONTINUED

STEP 8

- A. Slide collar (1) into place on bottom of bipod tube assembly (2).
- B. Install bolt (3) two washers (4), rubber bumper (5) and nut (6). Be sure screw (3) engages loop in flat spring (7) in bottom of bipod tube assembly (2).
- C. Check to make sure that the rubber bumper will be between the bipod and the fiberglass tube when the bipod is folded.



END OF TASK

4-71 .1 INSTALL LET BIPOD SUPPORT BRACKET

Tools required: 7-inch no. 2 cross-tip screwdriver
Longnose pliers

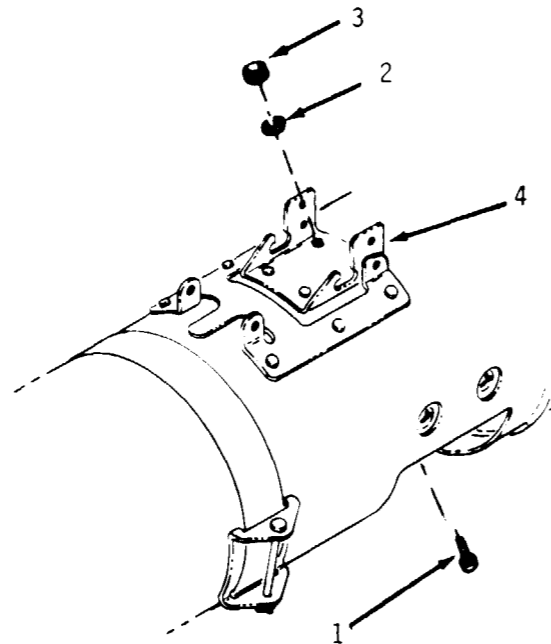
Personnel required: two

Equipment condition: Forward shock absorber removed.
LET subassembly removed. See para. 4-21.

Using cross-tip screwdriver and longnose pliers, install support bracket (1) on tube with four screws (2), four lockwashers (3), and four nuts (4).

**NOTE**

It may be necessary to gain access to screw heads through battery compartment or nut plate openings.



END OF TASK

4-72. INSTALL BIPOD

Tools required: No. 2 crosspoint screwdriver
Longnose pliers
Flat-blade screwdriver

Materials required:

Materials

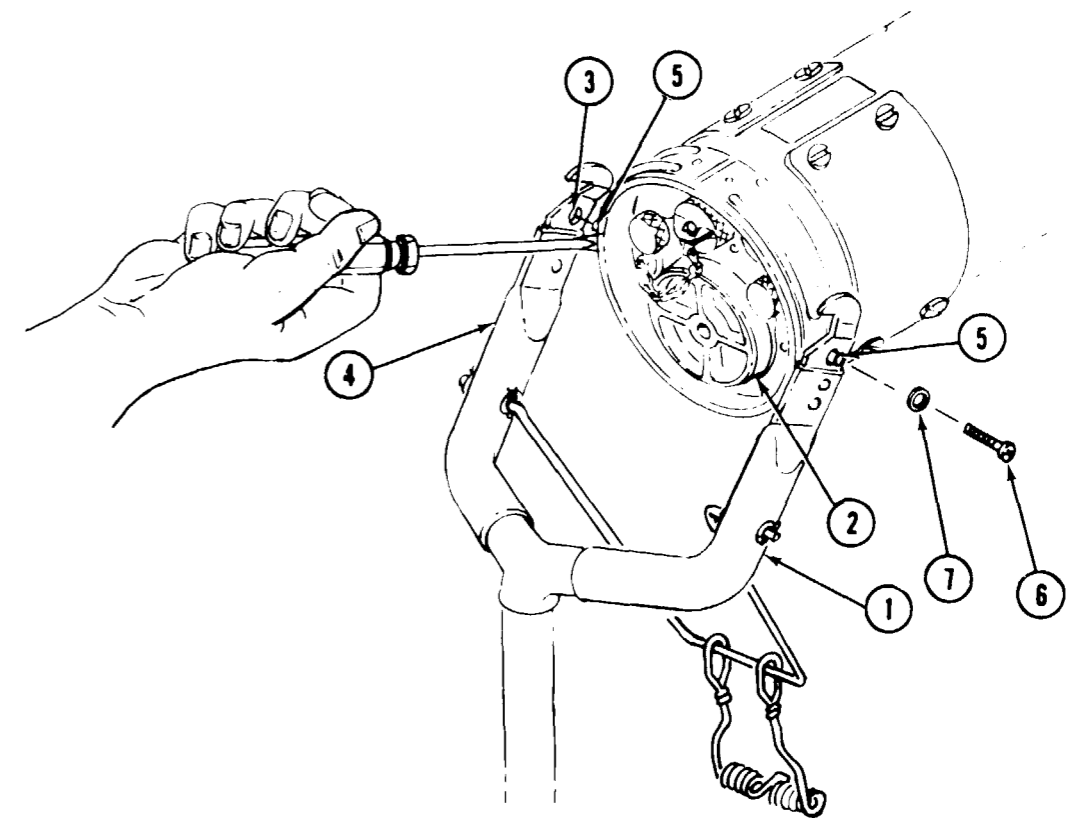
See Appendix D

Sealing compound

Item 18

STEP 1

- A. Press yoke end of bipod (1) to forward end of LET (2) and line up holes (3) in yoke (4) with threaded lugs (5) on LET.
- B. Insert flat-blade screwdriver between yoke (4) and threaded lug (5) to cause threaded lug on LET to fit into hole on yoke of bipod. Attach other side of yoke in same manner. Apply sealing compound on threads of screws (6). Using No. 2 crosspoint screwdriver, insert screw (6) and washer (7) to fasten each side of bipod (1) to LET.

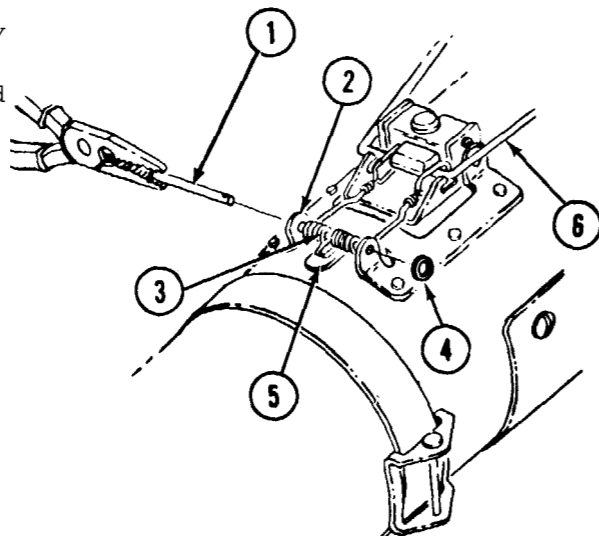


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4-72. INSTALL BIPOD - CONTINUED

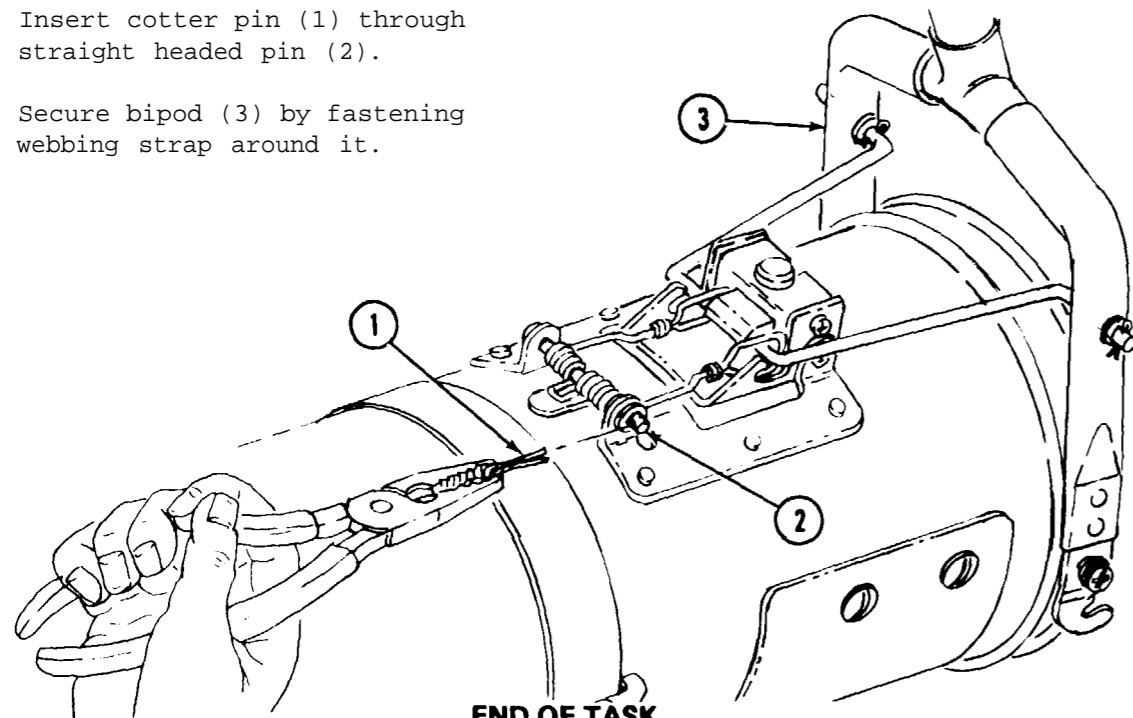
STEP 2

- A. Using longnose pliers, insert straight headed pin (1) through bipod support (2), spring (3) and out other side of bipod support (2) and washer (4).
- B. Using longnose pliers, carefully pull spring tang (5) around up against LET to spring load bipod brace (6).



STEP 3

- A. Insert cotter pin (1) through straight headed pin (2).
- B. Secure bipod (3) by fastening webbing strap around it.



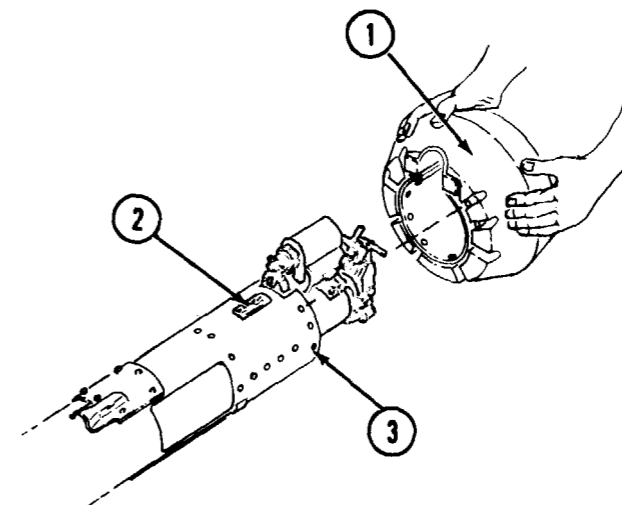
END OF TASK

4-73. INSTALL REAR SHOCK, ELEMENT SUPPORT

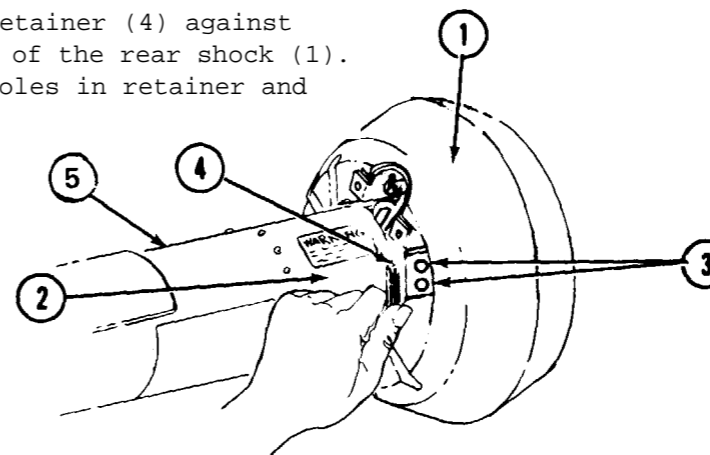
- Tools required: 3/8 inch socket
Ratchet wrench
No. 2 crosspoint screwdriver

STEP 1

- A. Push rear shock (1) over end of tube (2) and line up holes (3) in mount and tube.



- B. Place sling retainer (4) against mounting ring of the rear shock (1). Line up the holes in retainer and tube (5).



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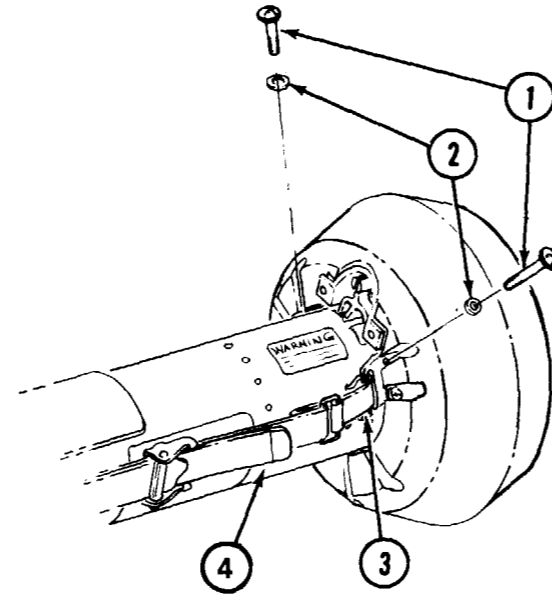
4-73. INSTALL REAR SHOCK, ELEMENT SUPPORT - CONTINUED

STEP 2

NOTE

Deleted

- A. Using screwdriver, install eight screws (1) and eight washers (2).
- B. Now tighten all screws, making sure that retainer stays straight so the sling will not bind.
- C. If sling (4) was removed, reinstall the sling.



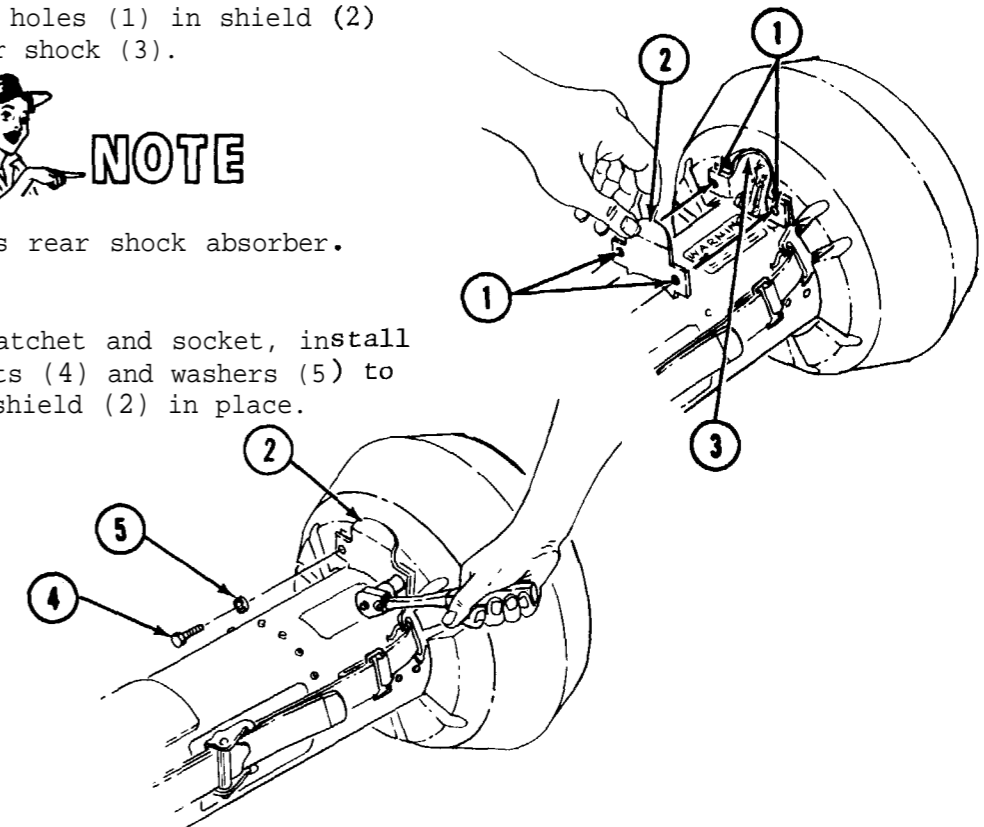
STEP 3

- A. Line up holes (1) in shield (2) and rear shock (3).

**NOTE**

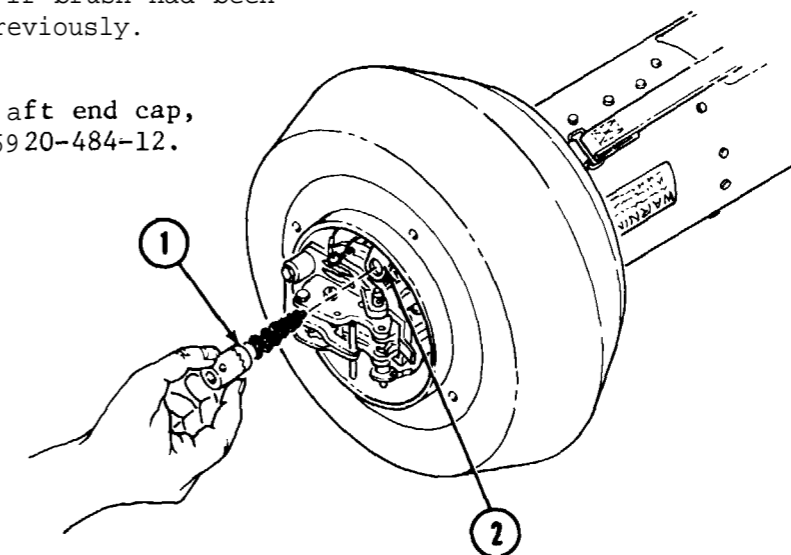
Tab faces rear shock absorber.

- B. Using ratchet and socket, install two bolts (4) and washers (5) to secure shield (2) in place.



STEP 4

- A. Insert cleaning brush (1) in mount (2) if brush had been removed previously.
- B. Reinstall aft end cap, see TM 9-6920-484-12.



END OF TASK

4-74. ADJUSTMENT OF FIRING MECHANISM HEADSPACE

Tools required: Torque wrench, inch/pounds
 3/8 inch socket
 Ratchet wrench
 Feeler gauge
 Micrometer
 Headspace gauge, special tool, NSN 4933-00-916-9271
 Wire twister pliers

Materials required:

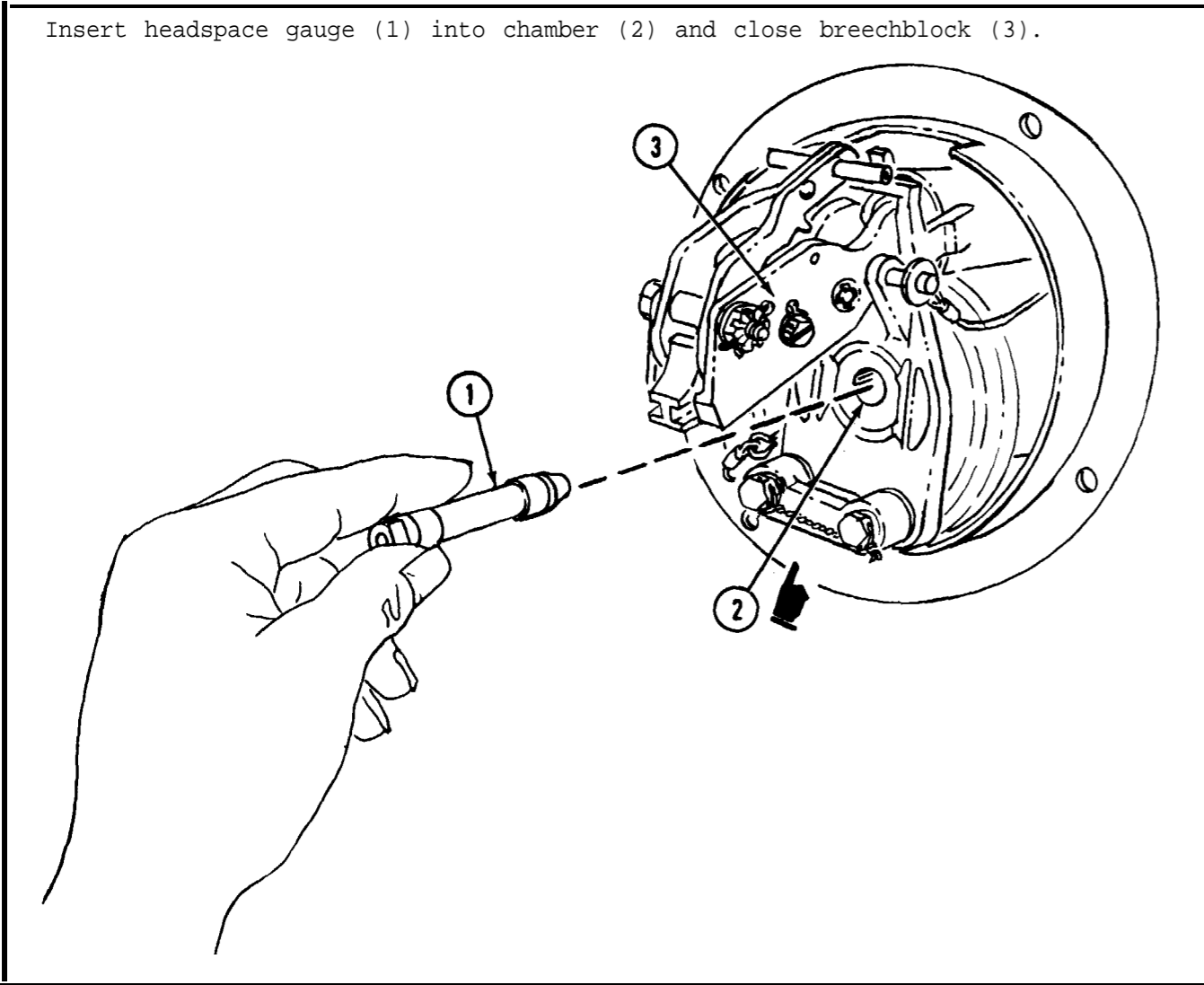
Materials See Appendix D

Lockwire Item 27

Equipment condition: Firing mechanism installed, see para. 4-59.
 Plate properly installed, see para. 4-34 step 3.

STEP 1

Insert headspace gauge (1) into chamber (2) and close breechblock (3).

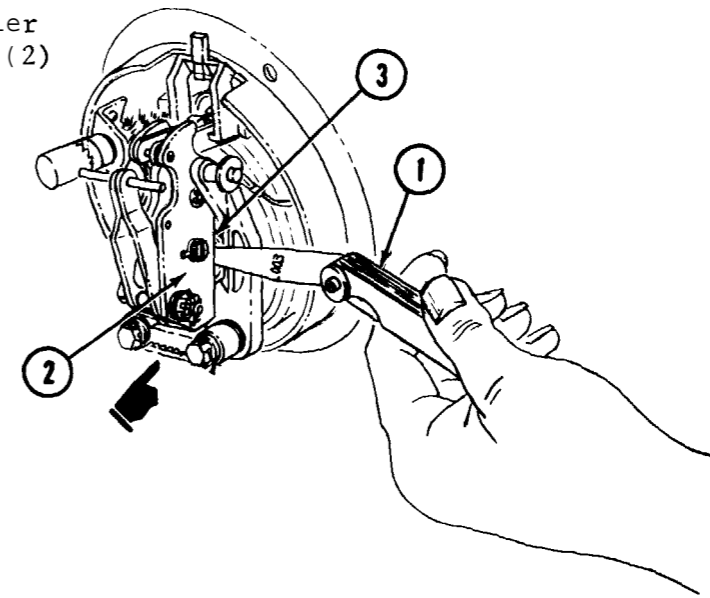


STEP 2



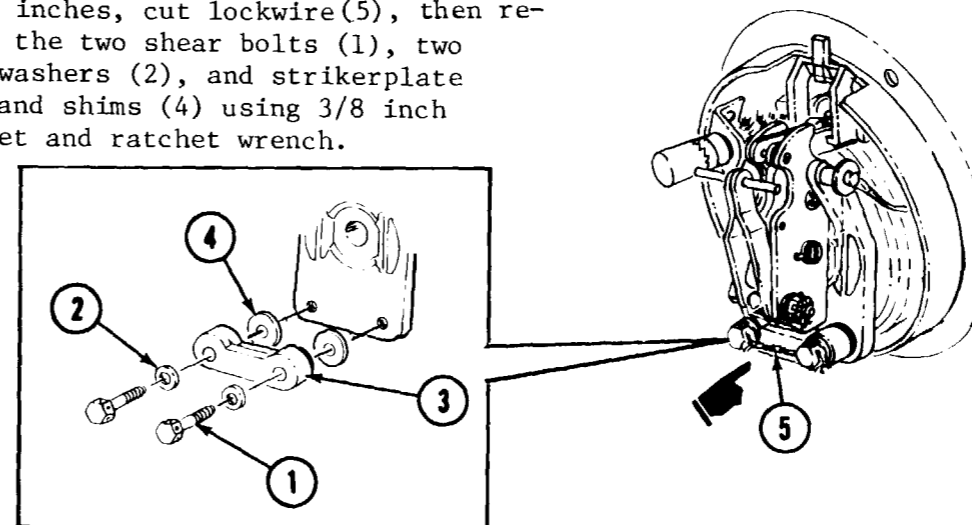
Acceptable headspace tolerance is .000 to .003 inches. If .003 feeler gauge cannot be inserted, headspace is acceptable.

Insert .003 inch blade of feeler gauge (1) between breechblock (2) and headspace gauge (3).



STEP 3

If clearance between feeler gauge and headspace gauge is greater than .003 inches, cut lockwire (5), then remove the two shear bolts (1), two flatwashers (2), and strikerplate (3) and shims (4) using 3/8 inch socket and ratchet wrench.

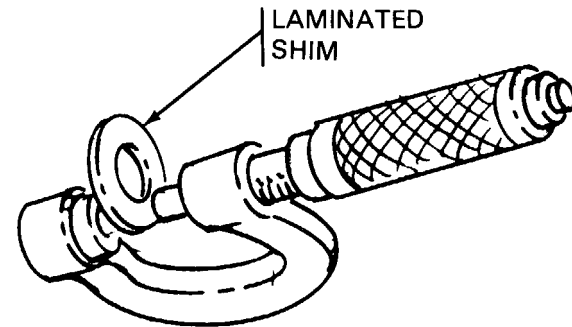


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4-74. ADJUSTMENT OF FIRING MECHANISM HEADSPACE - CONTINUED

STEP 4

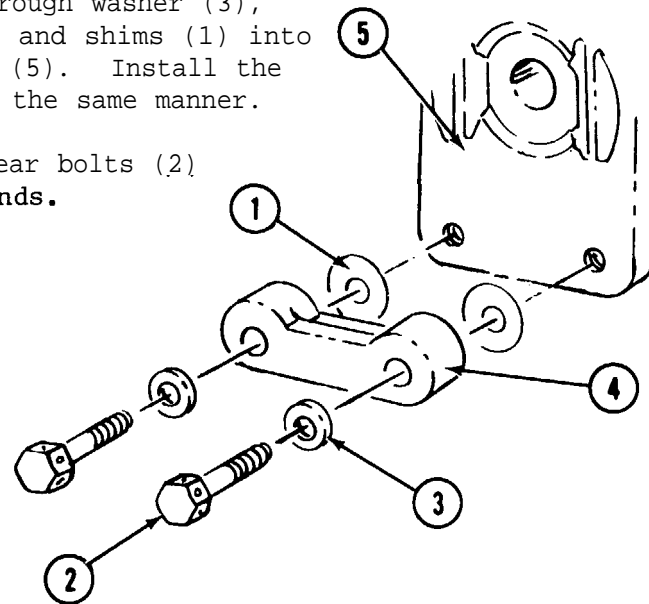
Using micrometer to check thickness of laminated shim, peel away shim until .040 inch thickness is reached.



STEP 5

A. Using 3/8 inch socket and ratchet, install the shims (1) by inserting shear bolt (2) through washer (3), strikerplate (4), and shims (1) into cartridge chamber (5). Install the other bolt (2) in the same manner.

B. Torque the two shear bolts (2) 50 to 70 inch pounds.

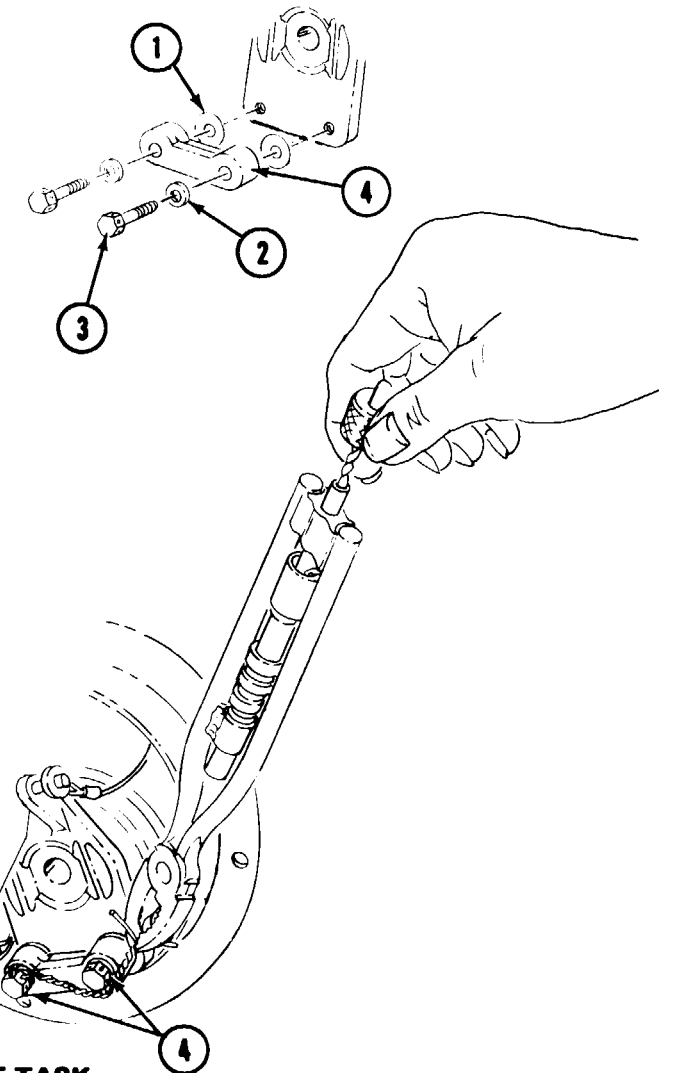
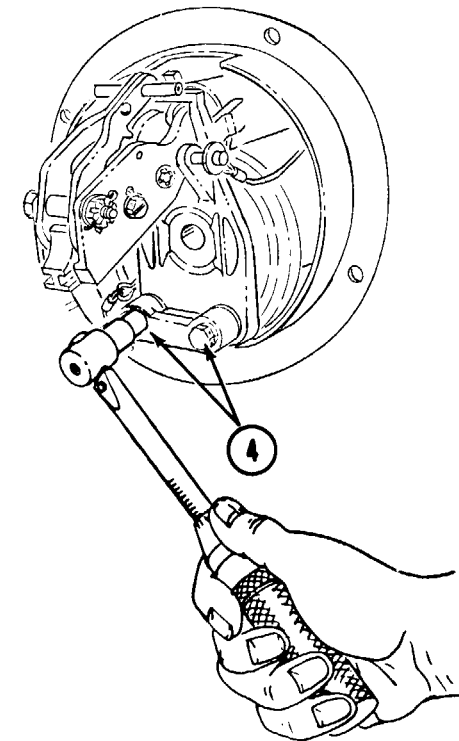
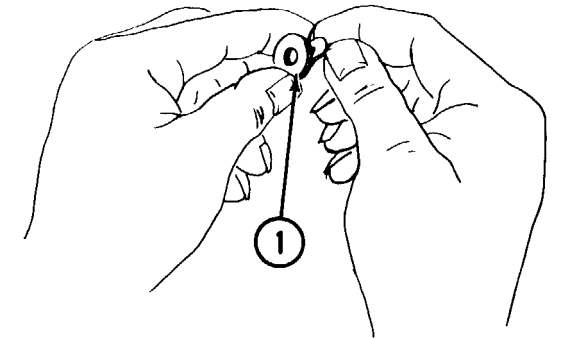


STEP 6

A. Measure headspace as in steps 1 and 2. If headspace is greater than .003, adjust shims by peeling away the layers of the laminated shims (1) and each time re-insert two shims, two flatwashers (2), and two shear bolts (3), strikerplate (4) and torque 50 to 70 inch pounds.

B. Repeat until proper headspace is obtained.

C. After proper head space is obtained, lockwire shear bolts (4) to each other.



END OF TASK


4-75. REPAIR OF ADHESIVE COATED ALUMINUM PLATES AND DECALS

Tools required: Craftsman's knife
Machinist's stamp and die kit

Materials required: Deleted

a. Removal

STEP 1

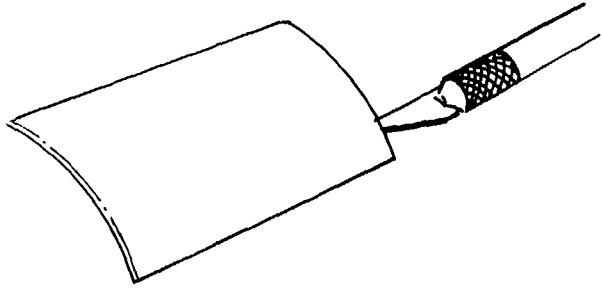
 **NOTE**

If decal is being replaced, go to step 2.

Using machinist's stamp and die kit, transfer data from old plate to new plate.

STEP 2

Using craftsman's knife, remove old plate or decal.



b. Installation

STEP 3

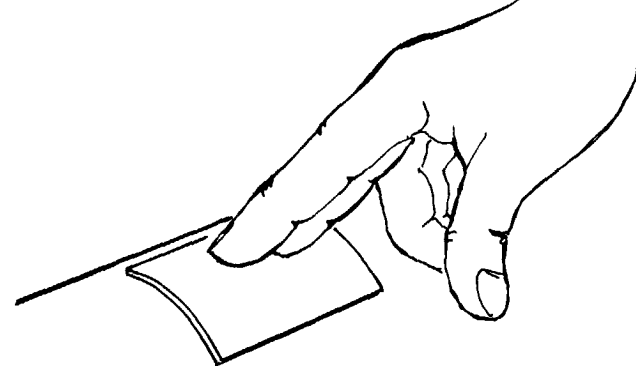
Deleted

Peel off the protective cover on the back of the new plate.



STEP 4

Place the plate or decal onto the same location as the one that was removed. Press firmly in place to ensure adhesion.



END OF TASK

4-76. FINAL INSPECTION

- a. After any maintenance or repair, the LAUNCH EFFECTS TRAINER, M54, must be inspected by QA/QC personnel as instructed in Appendix E.
- b. The dummy projectile, with rings installed, must slide freely within the pressure tube until contact is made with the spring tension clip.
- c. Insert headspace gauge into chamber, check for clearance of .003 inch maximum. Measurement must be made between headspace gauge and breechblock.
- d. Cartridge Extractor. The extractor spring must exert pressure against the cartridge extractor at all times. Using finger pressure, work the extractor to determine if any looseness exists.
- e. Verify that safety lever snaps into the "DOWN SAFE" position during the cocking cycle.



Observe all safety precautions as outlined in TM 9-6920-484-12 before performing firing operational test.

- f. Firing Operational Test.
 - (1) Install a serviceable tracker on the trainer, insert M64 NATO grenade launching cartridge and fire the trainer.
 - (2) The trainer should fire the cartridge approximately 1/2 second after actuating the tracker trigger.
- g. Batteries. Insure that batteries are removed from the trainer.

END OF TASK

CHAPTER 5
DS/GS MAINTENANCE INSTRUCTIONS - GUIDED MISSILE LAUNCHER
MOUNT, M175

Section II. SERVICE UPON RECEIPT

	Page
Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT	5-1
Section II. SERVICE UPON RECEIPT	5-1
Section III. OPERATIONAL CHECKS	5-1
Section IV. TROUBLESHOOTING	5-5
Section V. MAINTENANCE PROCEDURES	5-5

Section I.

REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT

	Para	Page
Special Tools and Test Equipment	5-1	5-1
Repair Parts	5-2	5-1

5-1. SPECIAL TOOLS AND TEST EQUIPMENT

Bit adapter, special tool, P/N 9254229.

5-2. REPAIR PARTS

Repair parts are listed and illustrated in TM 9-1425-480-24P.

Unpackaging	5-3	5-1
Inventory Inspection	5-4	5-1
Maintenance Forms and Records	5-5	5-1

5-3. UNPACKAGING

See paragraph 2-3 for unpackaging instructions.

5-4. INVENTORY INSPECTION

See paragraph 2-4 for inventory instructions.

5-5. MAINTENANCE FORMS AND RECORDS

Make sure that the maintenance forms DA 2404 and DA 2407 are completed as shown in DA PAM 738-750.

Section III. OPERATIONAL CHECKS

	Para	Page
Mounting Instructions	5-6	5-2
Operational Checks	5-7	5-5

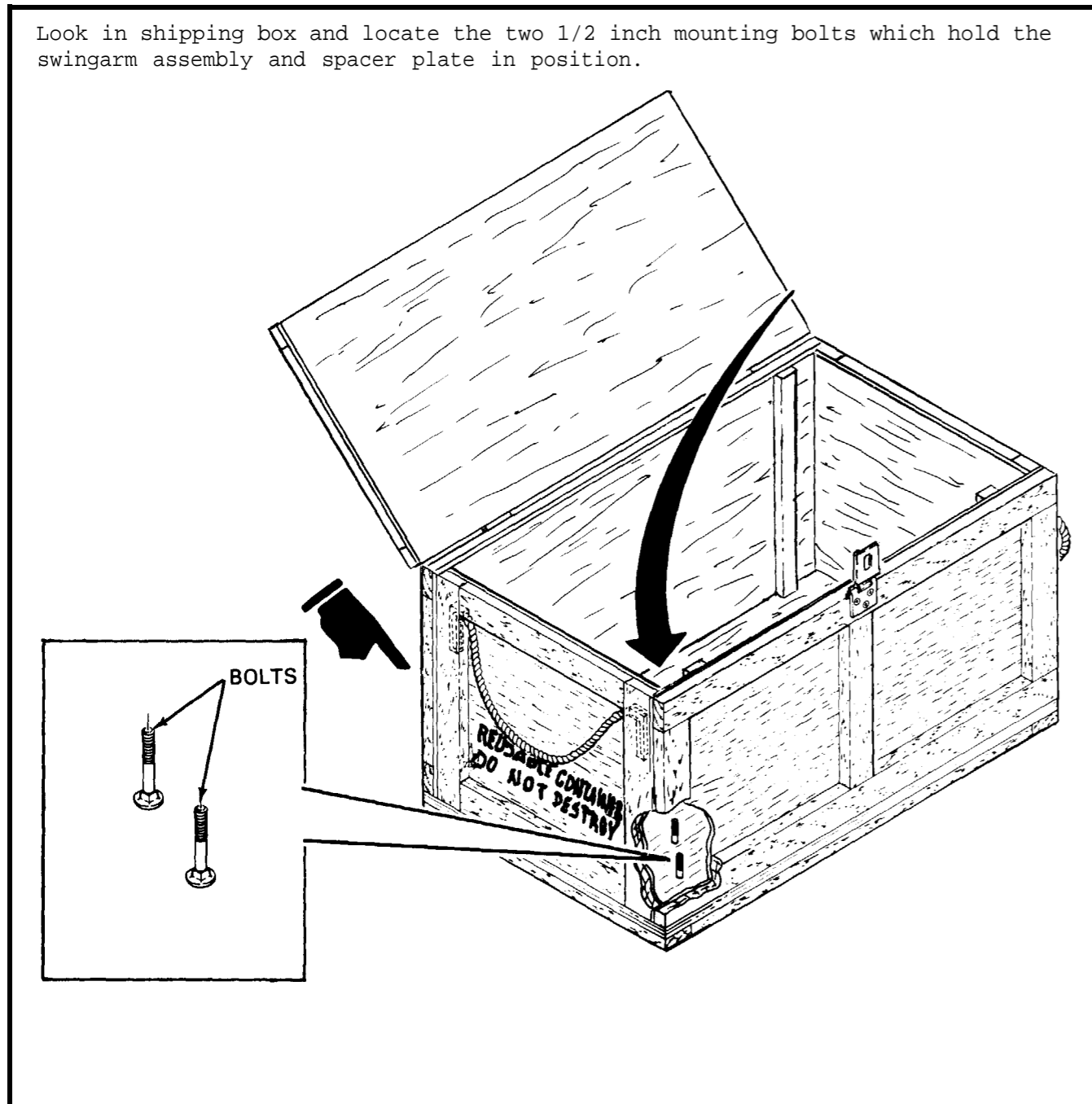
5-6. MOUNTING INSTRUCTIONS

The swingarm assembly of the M175 mount must be secured to a stable surface during repair.

- Tools required:
- Electric drill, 1/4 inch with chuck
 - Drill bit, 17/32 inch with 1/4 inch shank
 - Workbench
 - Ball peen hammer
 - 15/16 inch box end wrench

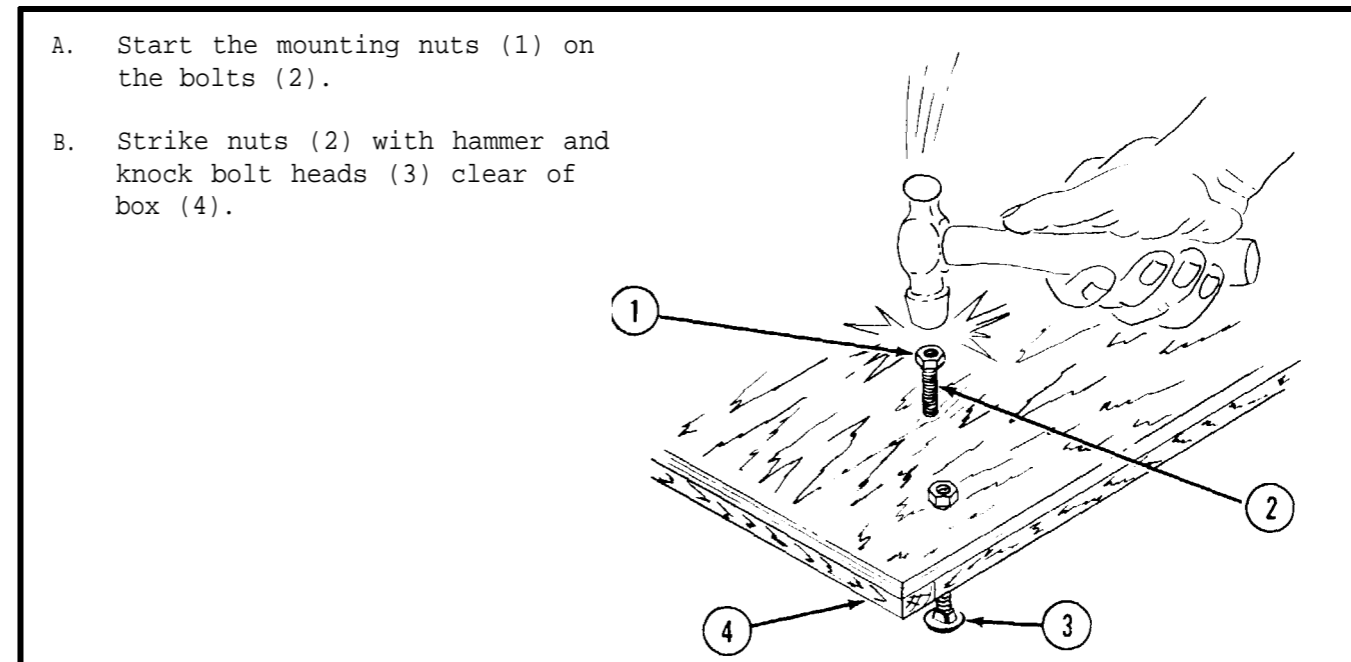
Step 1

Look in shipping box and locate the two 1/2 inch mounting bolts which hold the swingarm assembly and spacer plate in position.



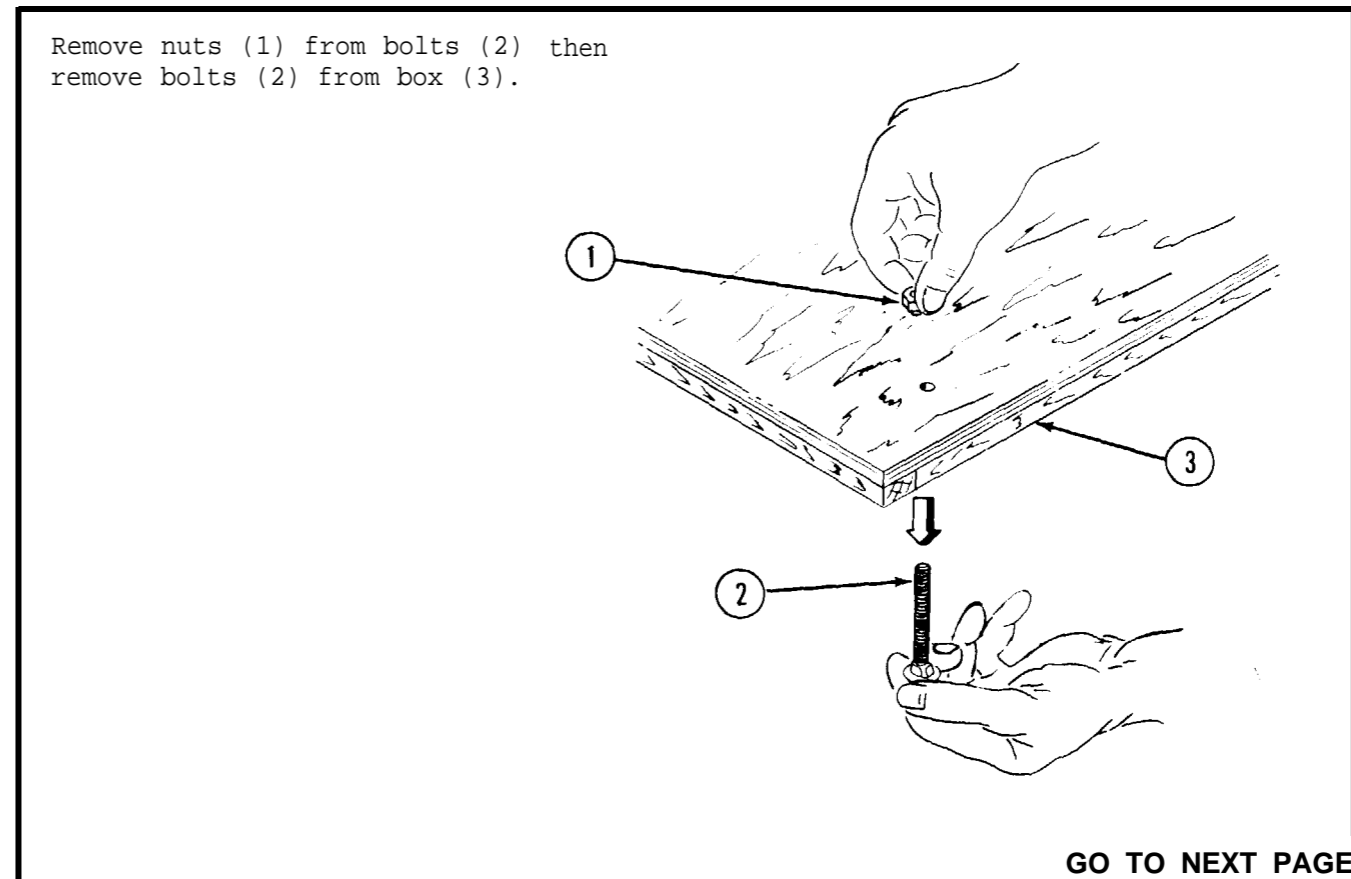
STEP 2

- A. Start the mounting nuts (1) on the bolts (2).
- B. Strike nuts (2) with hammer and knock bolt heads (3) clear of box (4).



STEP 3

Remove nuts (1) from bolts (2) then remove bolts (2) from box (3).

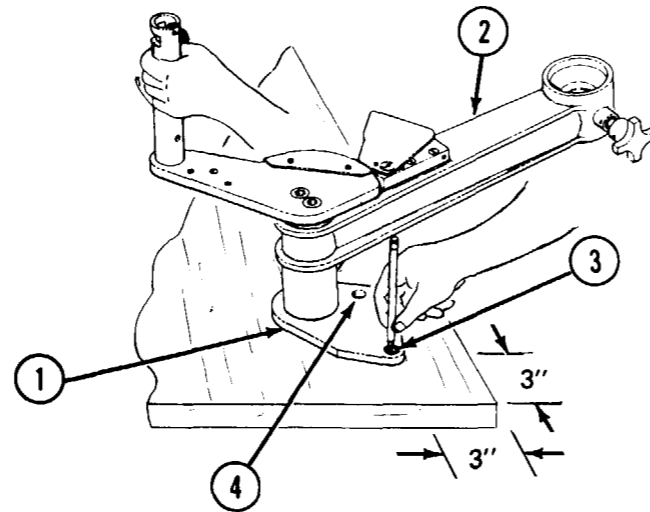


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5-6. MOUNTING INSTRUCTIONS - CONTINUED

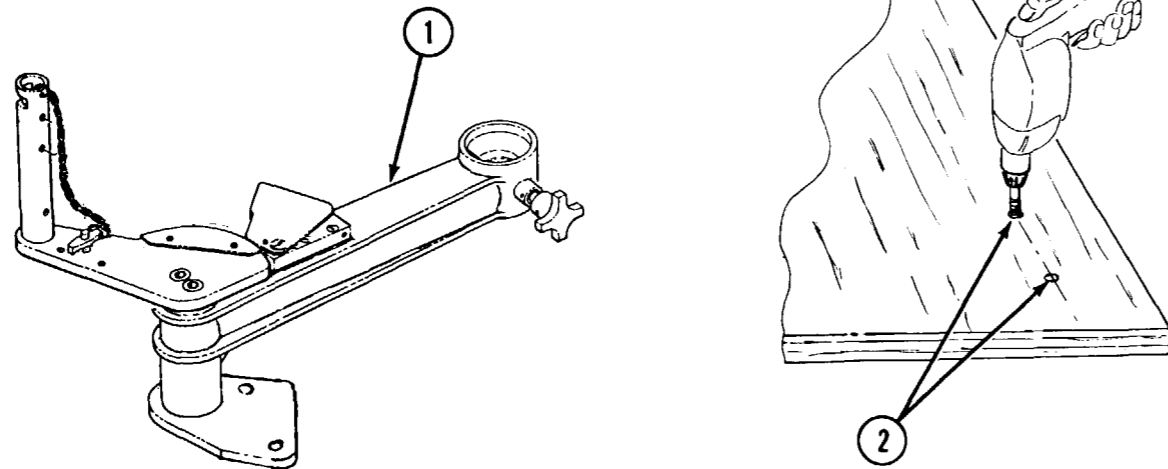
STEP 4

Using support (1) as a pattern, position swingarm assembly (2) as shown, and mark hole location (3) about 3 inches in from edge of bench. (Mark other hole (4)).



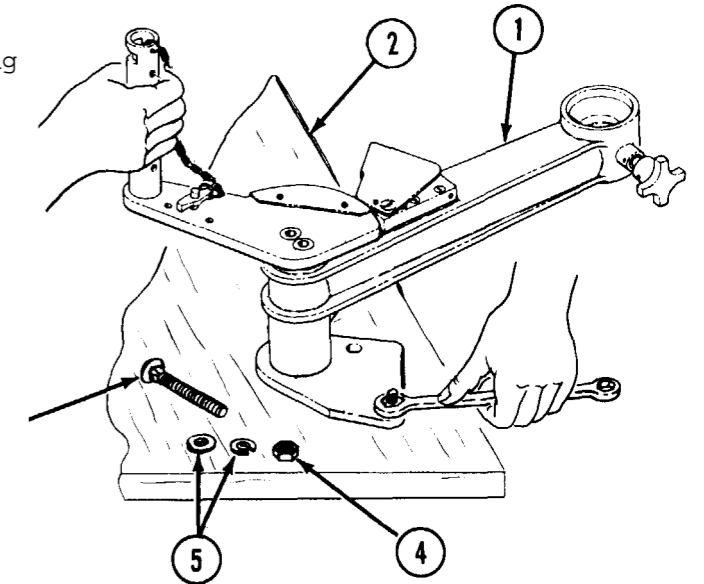
STEP 5

Set swingarm assembly (1) aside, then using drill and bit, drill both holes (2).



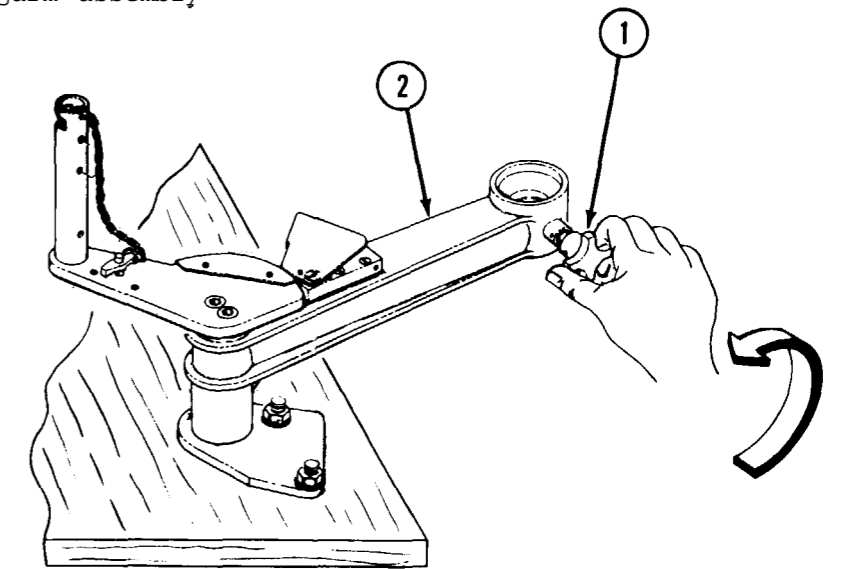
STEP 6

Mount the swingarm assembly (1) on the bench (2) using bolts (3), nuts (4), and washers (5), removed from shipping box. Tighten nuts (4) using 15/16 inch box end wrench.



STEP 7

Loosen knob (1) on swingarm assembly (2).

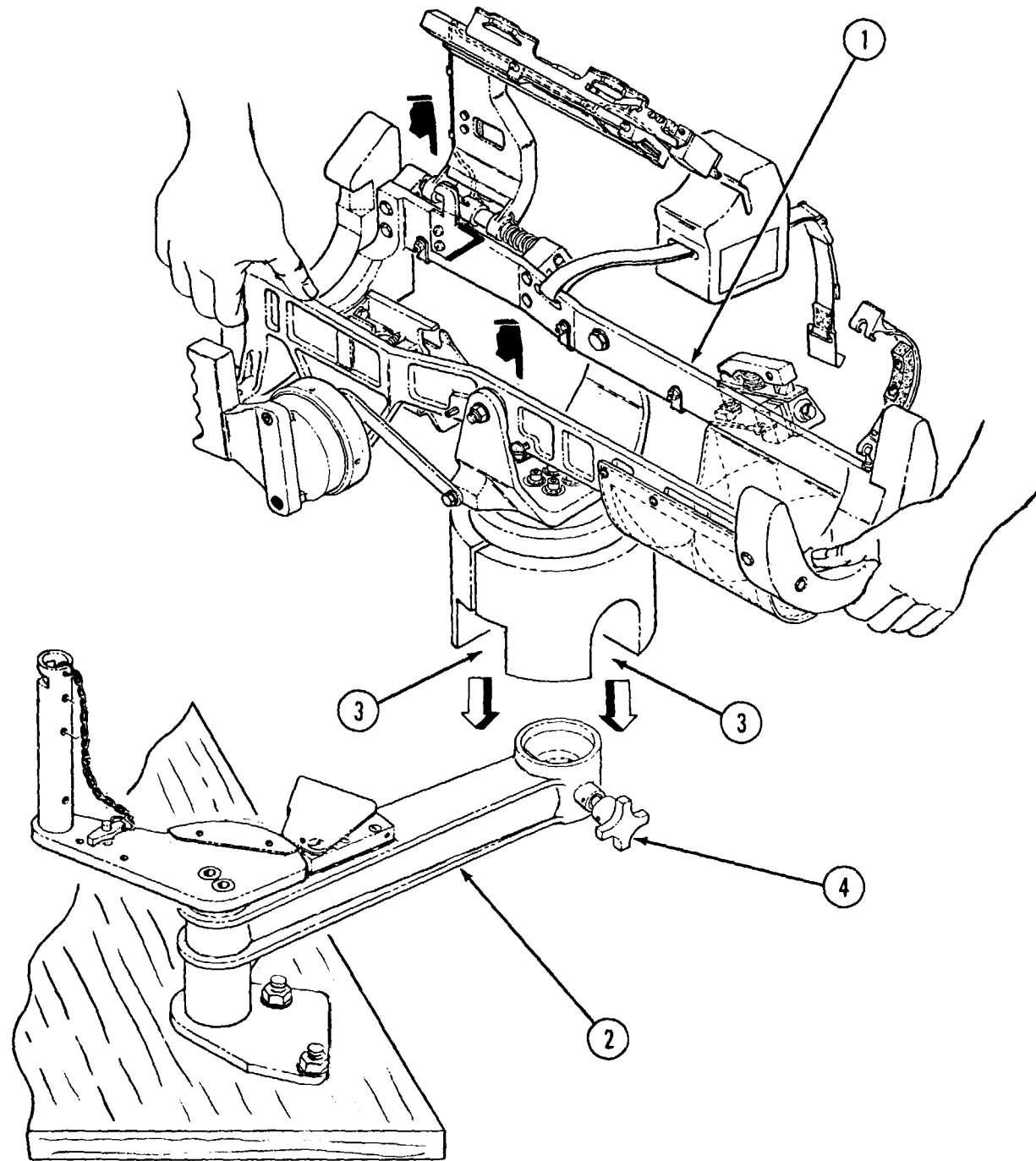


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5-6. MOUNTING INSTRUCTIONS - CONTINUED

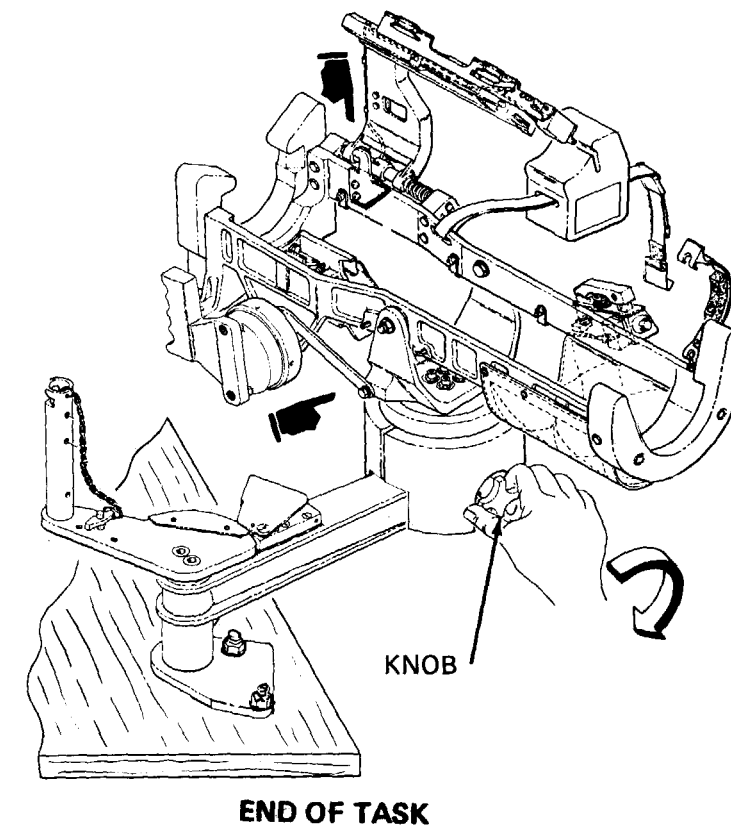
STEP 8

Set launcher mount (1) in place on swingarm assembly (2) (notches in shock absorber (3) fit over swingarm assembly (2) and knob (4)).



STEP 9

Tighten knob.



5-7. OPERATIONAL CHECKS

Check the M175 mount operation as shown in TM 9-1425-484-10.

Section IV. TROUBLESHOOTING

See TM 9-4935-484-14.

Section V. MAINTENANCE PROCEDURES

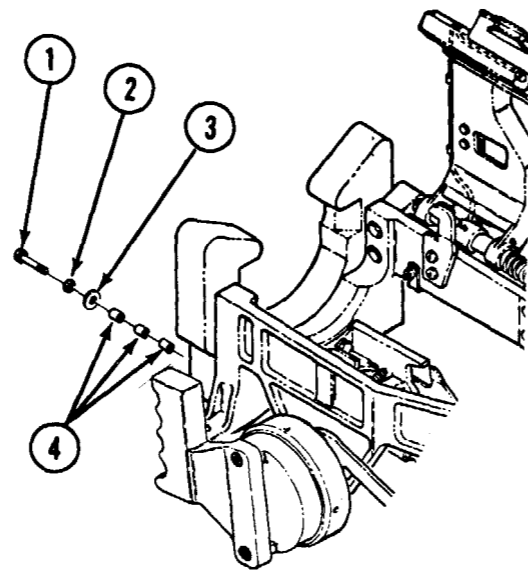
	REMOVE		REPAIR		INSTALL	
	Para	Page	Para	Page	Para	Page
Forward Shock Absorber	5-8	5-6			5-47	5-39
Rear Shock Absorber	5-9	5-7			5-46	5-38
Bipod Support	5-10	5-8			5-45	5-38
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Pawl and Adapter	5-12	5-9			5-43	5-36
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Firing Mechanism	5-14	5-10			5-40	5-30
Wiring Harness Assembly	5-15	5-11			5-41	5-32
Tracker Mount Assembly	5-16	5-13	5-17	5-13	5-39	5-29
Cam Slide Assembly	5-18	5-14			5-38	5-27
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Shield	5-23	5-17			5-33	5-24
Slide Guard and Latch Handle	5-24	5-17			5-32	5-24
Swingarm Latch Cover	5-25	5-18			5-31	5-23
Swingarm Assembly	5-26	5-18			5-30	5-22
Keeper Knob	5-27	5-19			5-29	5-22
Adapter Mount to Tripod Components			5-28	5-19		
Final Inspection					5-48	5-39

5-8. REMOVE FORWARD SHOCK ABSORBER

Tools required: 5/16 inch socket
Ratchet wrench
Craftsman's knife

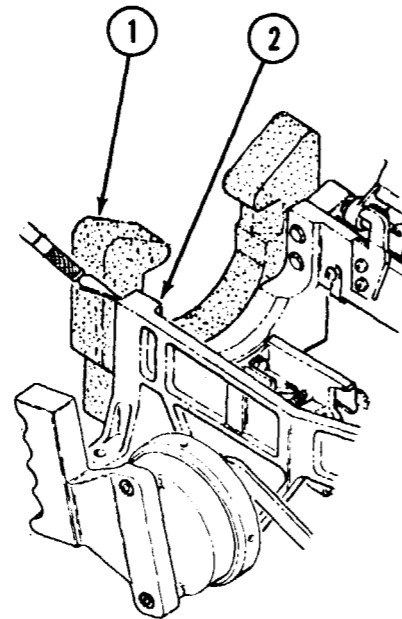
STEP 1

Using socket and ratchet wrench, remove four bolts (1) with washers (2), (3), and spacers (4).



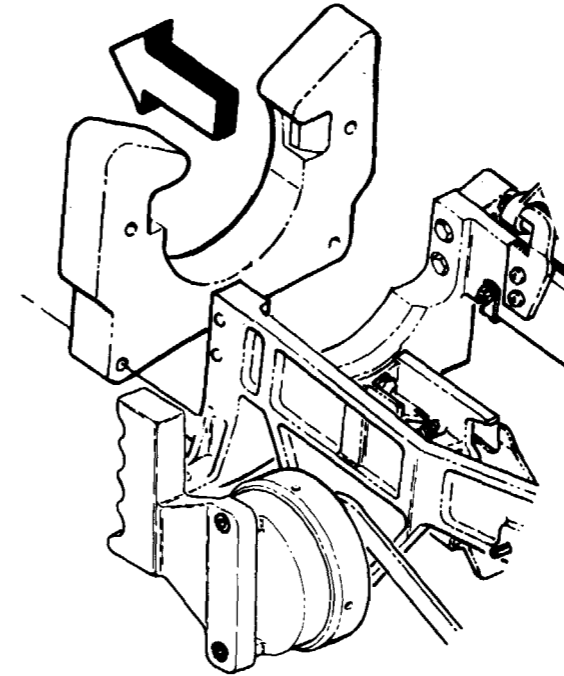
STEP 2

Using craftsman's knife, cut adhesive securing shock absorber (1) to cradle (2).



STEP 3

Remove shock. Check shock for any hardware still stuck inside.



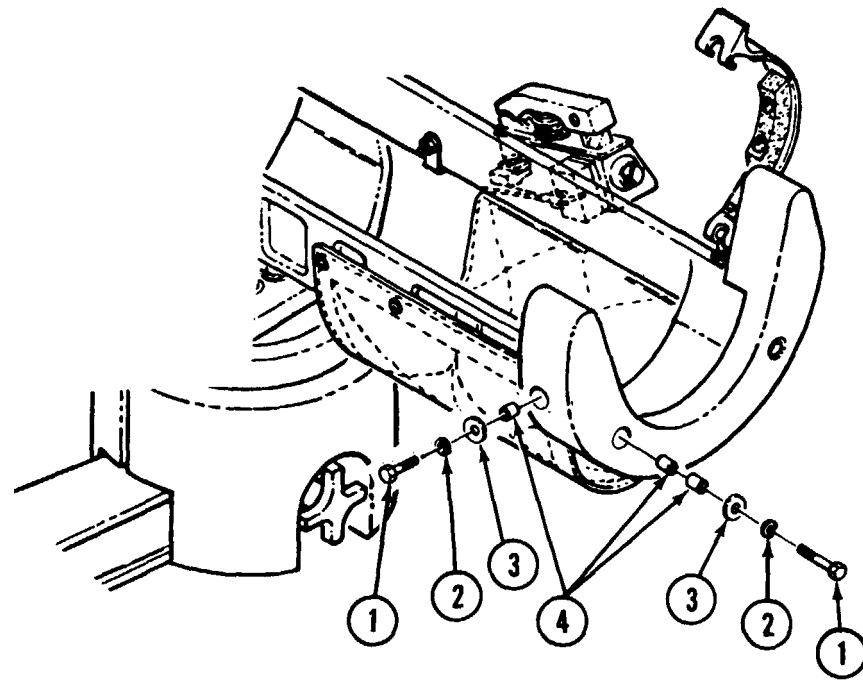
END OF TASK

5-9. REMOVE REAR SHOCK ABSORBER

Tools required: 5/16 inch socket
Ratchet wrench
Craftsman's knife

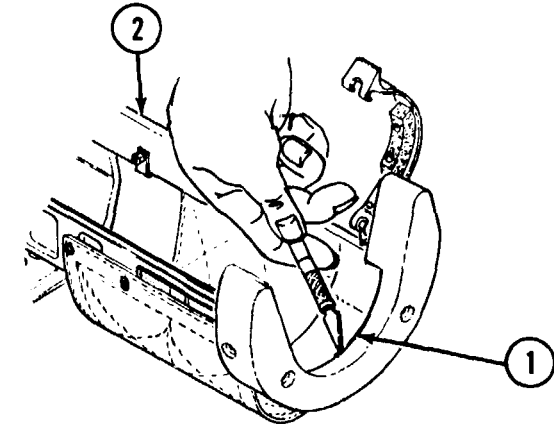
STEP 1

Using socket and ratchet wrench, remove four bolts (1) with washers (2), (3) and spacers (4).



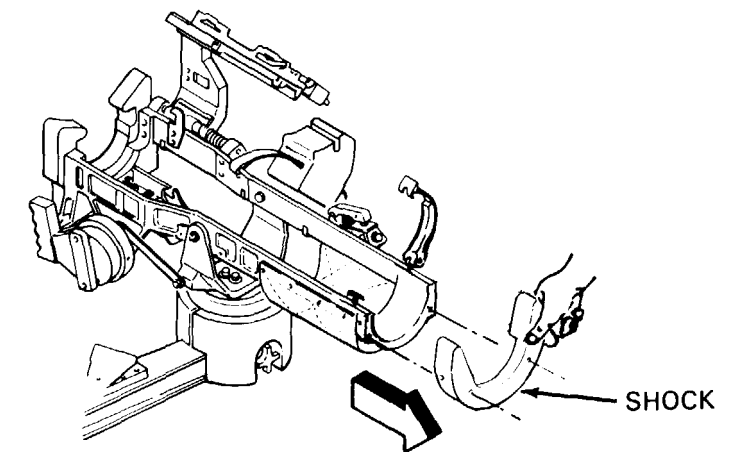
STEP 2

Using craftsman's knife, cut adhesive securing shock absorber (1) to cradle (2).



STEP 3

Remove shock. Check shock for any hardware still stuck inside.

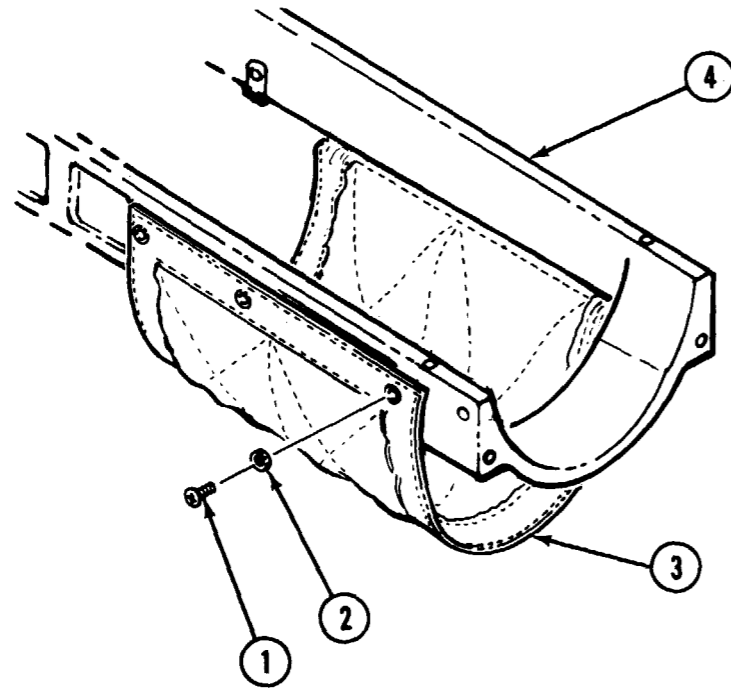


END OF TASK

5-10. REMOVE BIPOD SUPPORT

Tools required: No. 2 crosspoint screwdriver

- A. Using screwdriver, remove six screws (1) and washers (2) securing support (3) to cradle (4).
- B. Remove support (3).

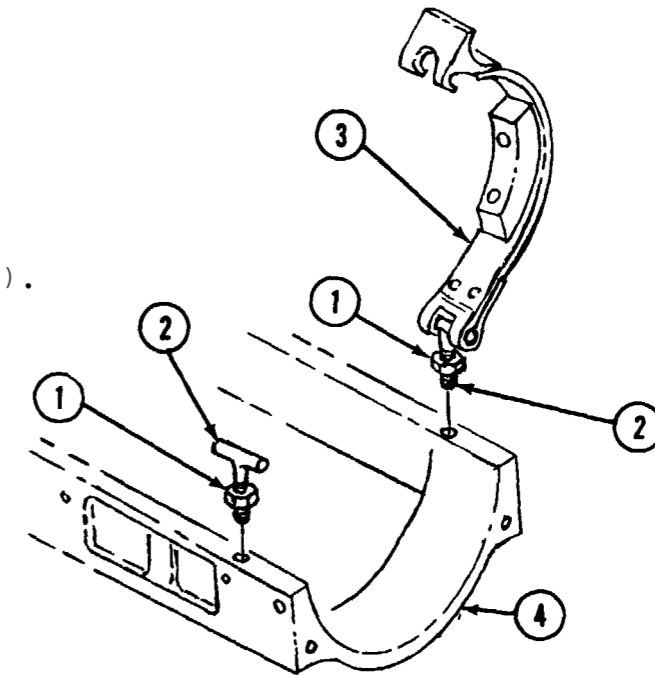


END OF TASK

5-11. REMOVE CRADLE STRAP ASSEMBLY AND TEE BOLTS

Tools required: 7/16 inch open end wrench

- A. Using wrench, loosen lock nut (1).
- B. Unscrew tee bolts (2), (one of tee bolts has strap assembly (3) attached) from cradle assembly (4).
- C. Remove strap and tee bolts.



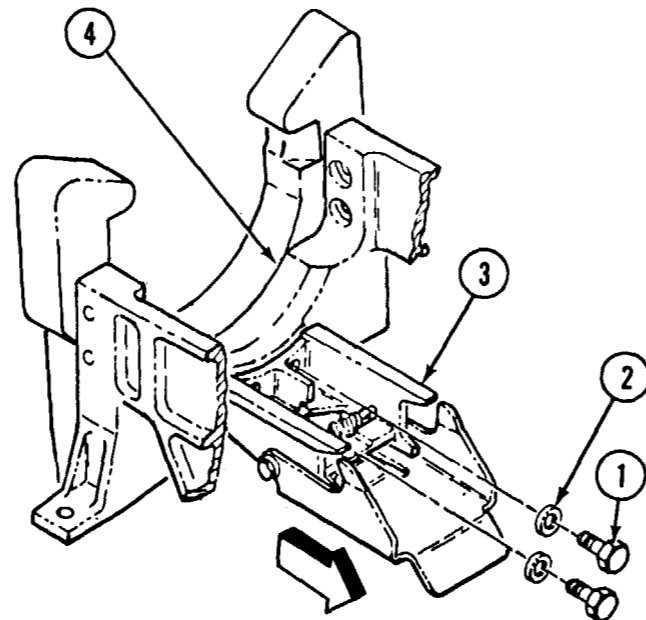
END OF TASK

5-12. REMOVE PAWL AND ADAPTER

Tools required: 1/2 inch open end wrench
 9/16 inch socket
 1/2 inch socket
 Ratchet wrench
 6 inch extension

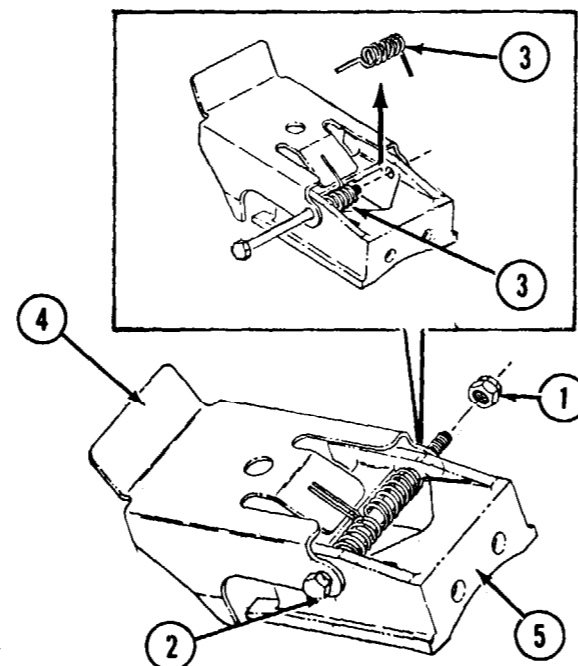
STEP 1

Using 9/16 inch socket, ratchet wrench and 6 inch extension, remove two bolts (1) and washers (2) securing adapter (3) to cradle assembly. Remove adapter (3) from cradle assembly (4).

**STEP 2****NOTE**

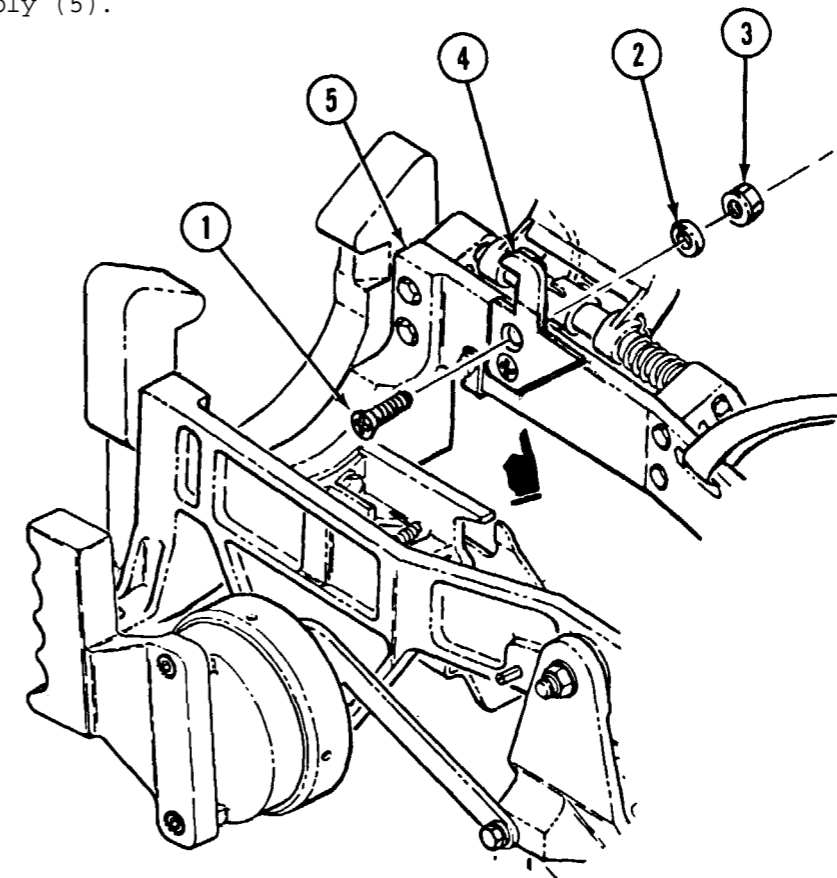
When you disassemble pawl and adapter, be careful removing bolt holding spring under tension.

Using 1/2 inch socket, ratchet wrench and 1/2 inch open end wrench, remove nut (1) and bolt (2) securing springs (3) to pawl (4). Remove pawl (4) from adapter (5).

**END OF TASK****5-13. REMOVE CRADLE HOOK**

Tools required: No. 2 crosspoint screwdriver
 7/16 inch open end wrench

- A. Using screwdriver and 7/16 inch open end wrench, remove two screws (1), two washers (2), and two nuts (3).
- B. Remove cradle hook (4) from cradle assembly (5).

**END OF TASK**

5-14. REMOVE FIRING MECHANISM



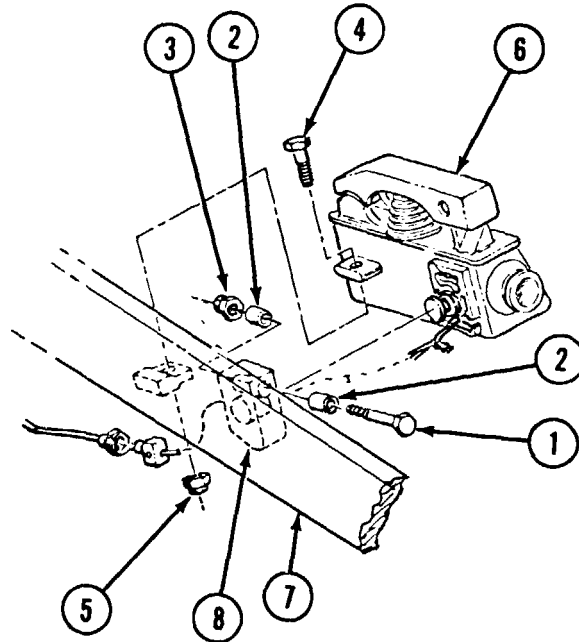
NOTE

For repair of firing mechanism, see Chapter 7.

Tools required: Craftsman's knife 3/8 inch socket
 Desoldering kit 3 inch extension
 Ratchet wrench 3/8 inch open end wrench
 5/8 inch drift pin

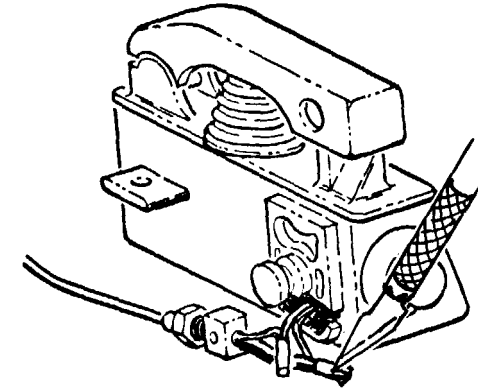
STEP 1

Using a 3/8 inch socket, 3 inch extension, ratchet wrench and 3/8 inch open end wrench, remove bolt (1), sleeves (2), and nut (3). Remove bolt (4) and nut (5) securing firing mechanism (6) to cradle assembly (7). Use drift pin to tap sleeves (2) out of mounting flange (8).



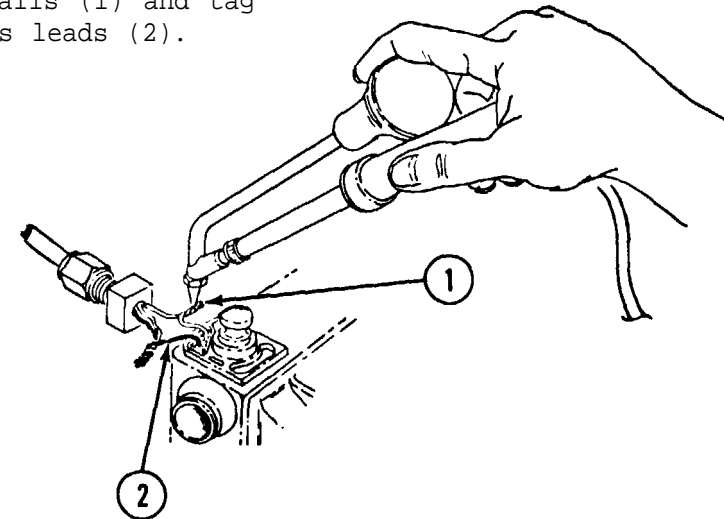
STEP 2

Using knife, cut the shrink sleeving from the solder connection.



STEP 3

Desolder the pigtails (1) and tag the wiring harness leads (2).



END OF TASK

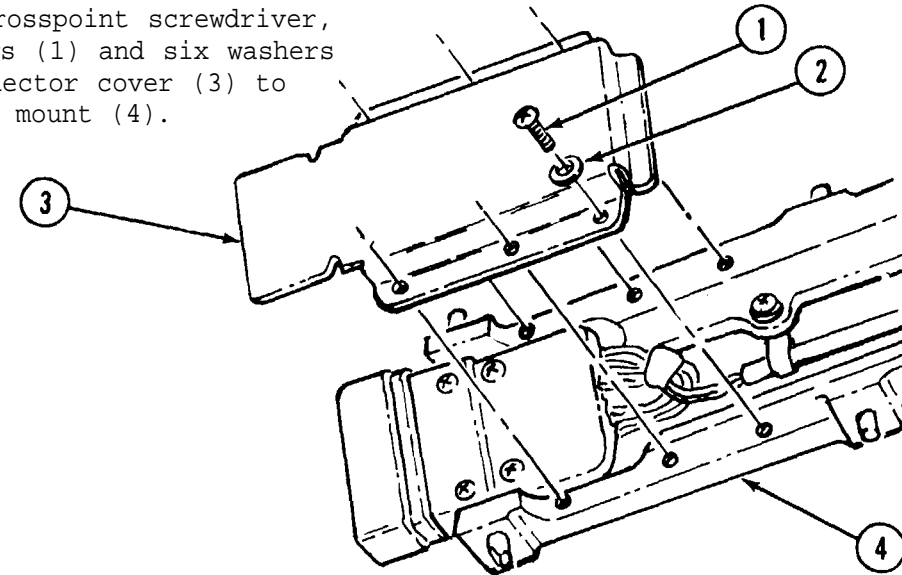
5-15. REMOVE WIRING HARNESS ASSEMBLY

Tools required : 11/32 inch box end wrench
 No. 0 crosspoint screwdriver
 No. 2 crosspoint screwdriver

Equipment condition: Remove Firing Mechanism, see para. 5-14.

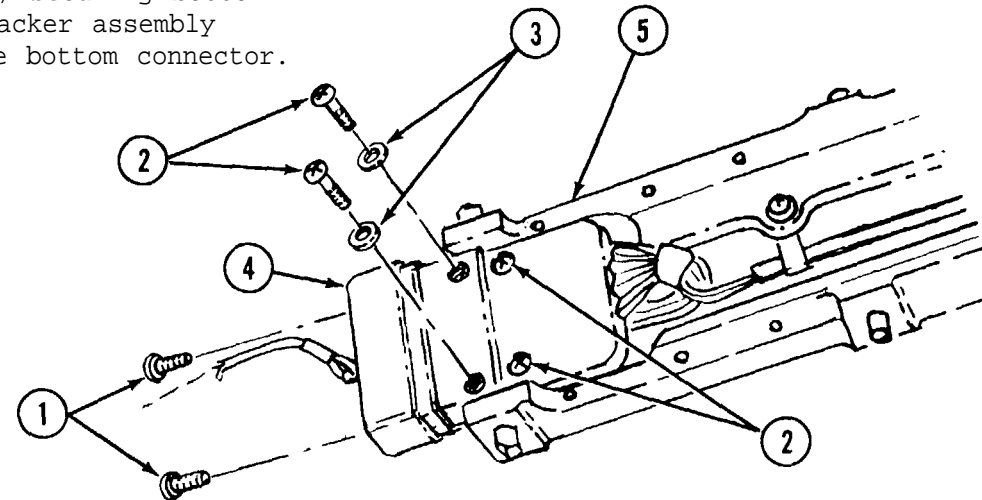
STEP 1

Using a No. 0 crosspoint screwdriver, remove six screws (1) and six washers (2) holding connector cover (3) to tracker assembly mount (4).



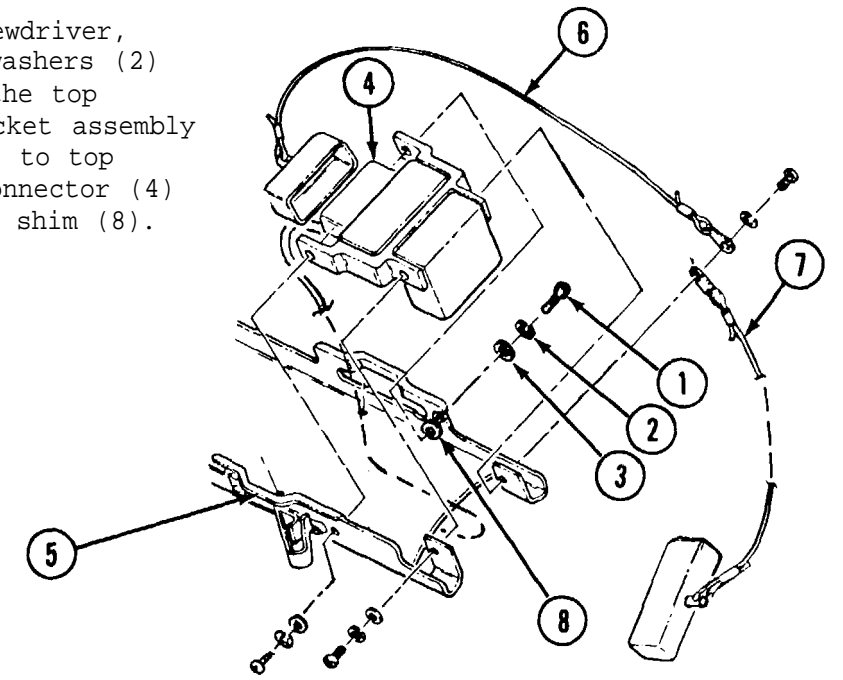
STEP 2

Using a No. 0 crosspoint screwdriver, remove two screws (1), four screws (2) and four washers (3) securing bottom connector (4) to tracker assembly mount (5) and remove bottom connector.



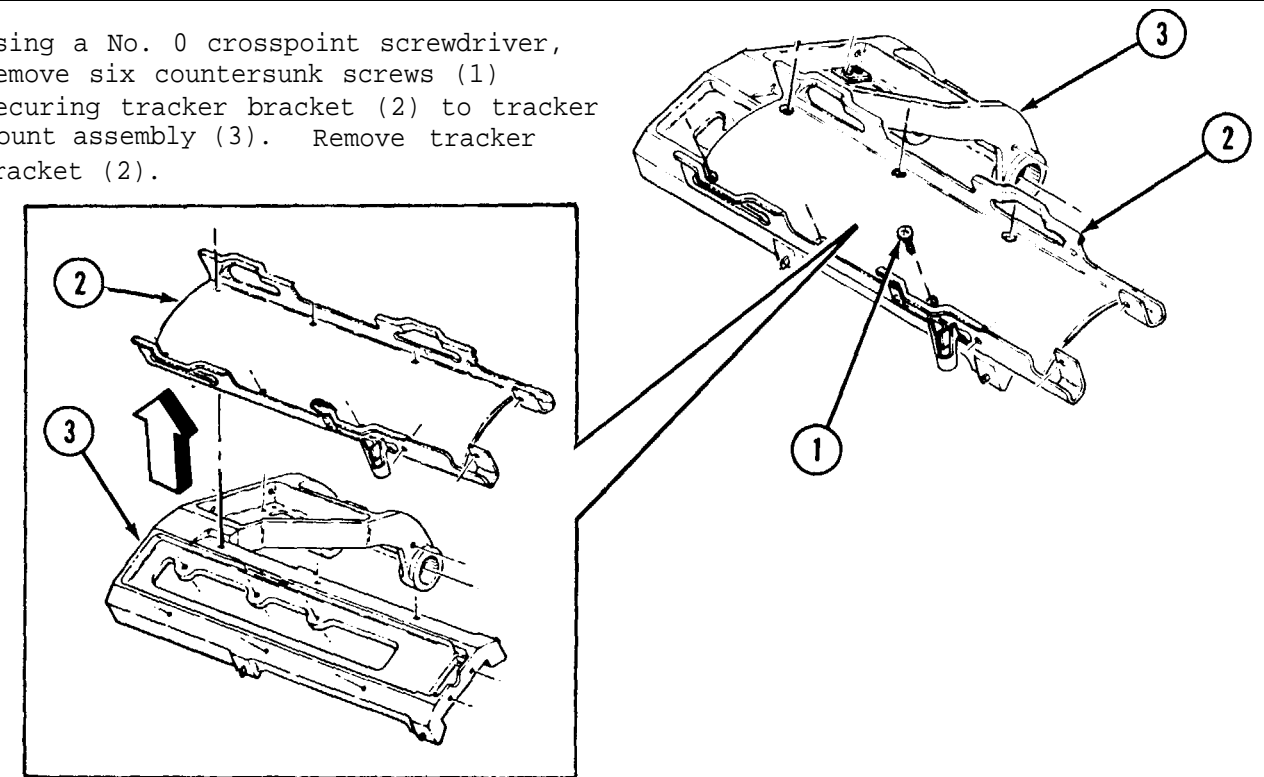
STEP 3

Using a No. 0 crosspoint screwdriver, remove four screws (1), lockwashers (2) and washers (3) that secure the top connector (4) to tracker bracket assembly (5) and two lanyards (6), (7) to top connector (4). Remove top connector (4) and two lanyards (6), (7) and shim (8).



STEP 4

Using a No. 0 crosspoint screwdriver, remove six countersunk screws (1) securing tracker bracket (2) to tracker mount assembly (3). Remove tracker bracket (2).



GO TO NEXT PAGE

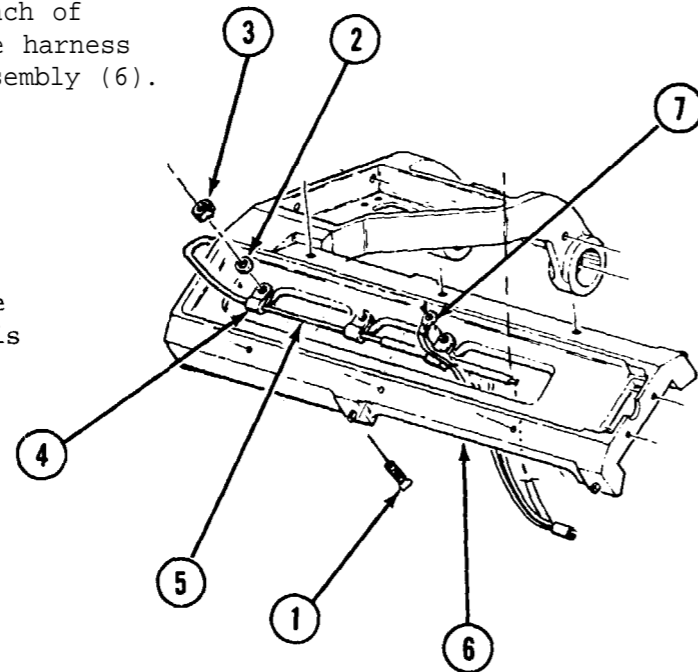
5-15. REMOVE WIRING HARNESS ASSEMBLY - CONTINUED

STEP 5

Using a No. 2 crosspoint and 11/32 inch open end wrench, remove screw (1), washer (2) and nut (3) from each of three clamps (4) securing wire harness cable (5) to tracker mount assembly (6).

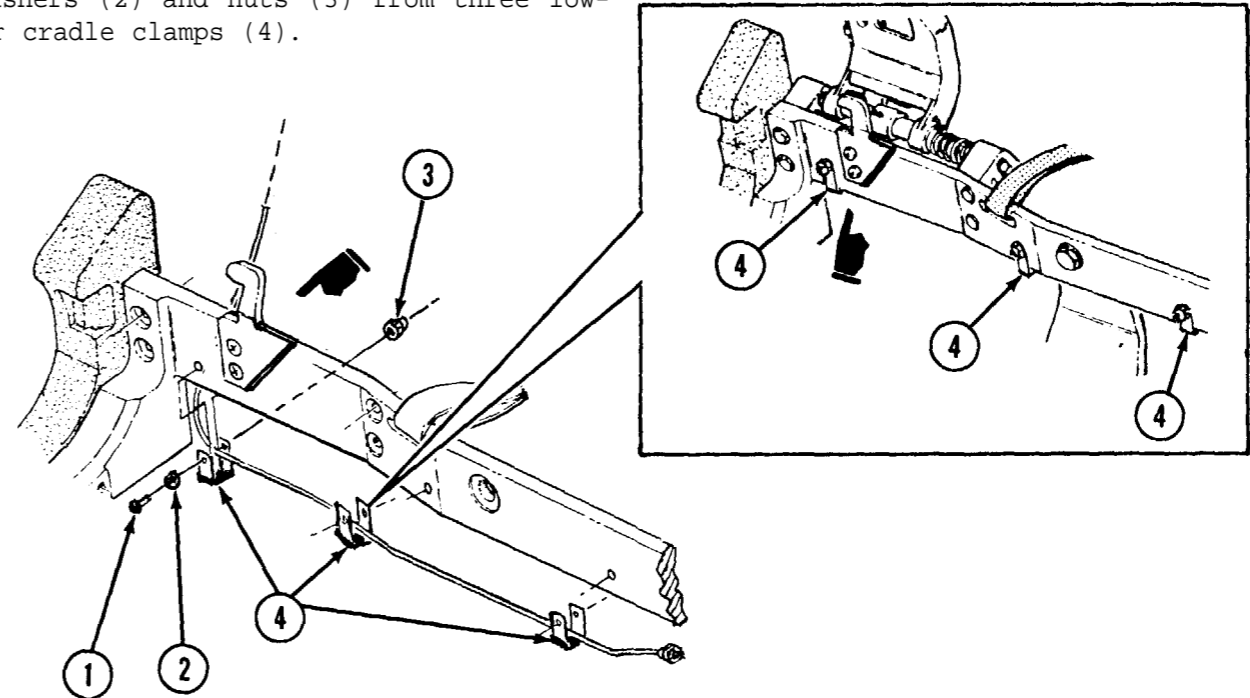


NOTE
The ground cable (7) on the end clamp is removed at this time.



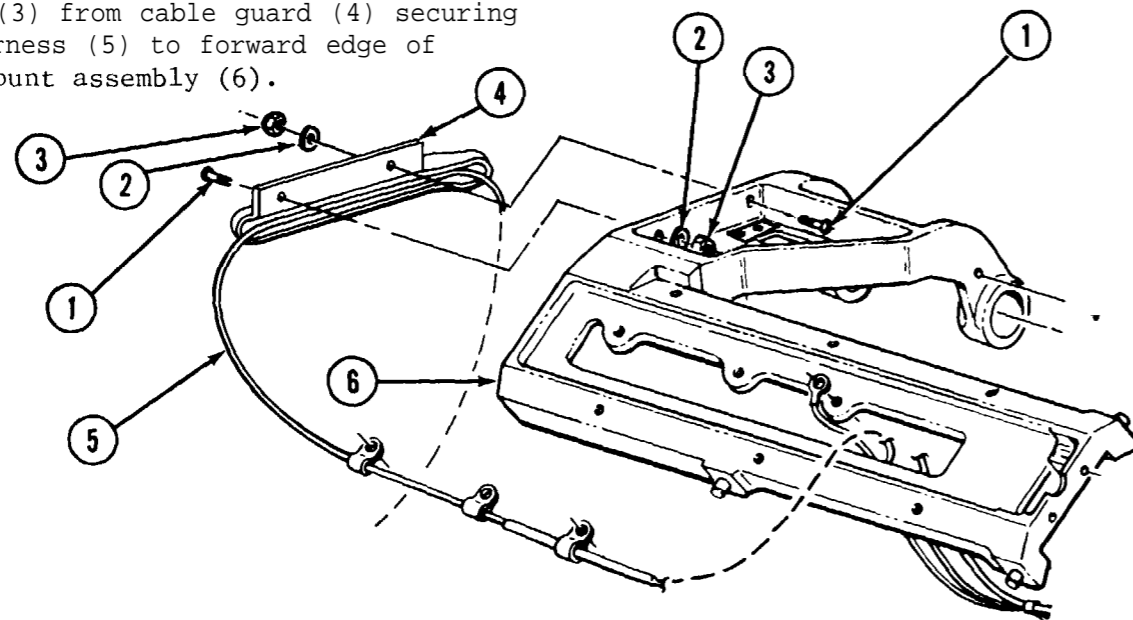
STEP 7

Using a No. 2 crosspoint and 11/32 inch open end wrench, remove three screws (1), washers (2) and nuts (3) from three lower cradle clamps (4).



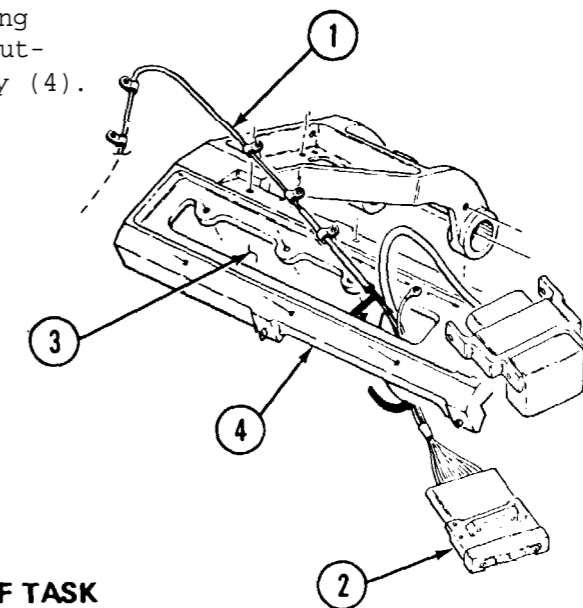
STEP 6

Using a no. 2 crosspoint screwdriver and 11/32-inch open end wrench, remove screws (1), washers (2), and nuts (3) from cable guard (4) securing wiring harness (5) to forward edge of tracker mount assembly (6).



STEP 8

Remove the wire harness (1) by sliding the connector (2) back through the cut-out (3) in the tracker mount assembly (4).



END OF TASK

5-15.1. REPAIR WIRING HARNESS ASSEMBLY

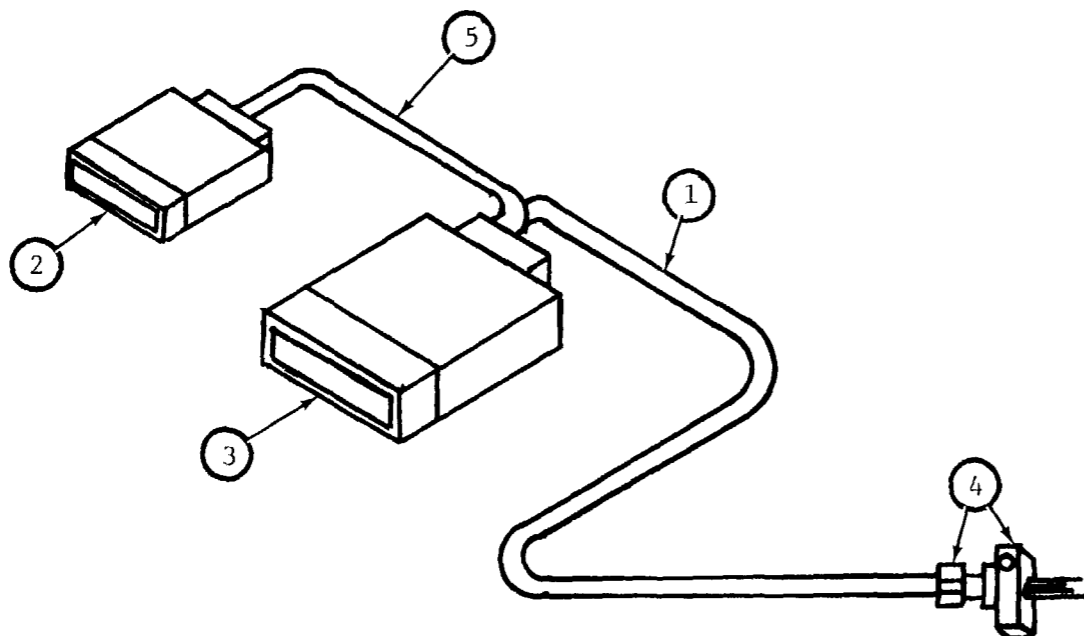
Tools Required:

Shrinkable tubing heat gun

Equipment condition: Wire harness removed from mount, see para's 5-14 and 5-15.

Step 1

- A. Thoroughly inspect cable (1) for cuts, scuffs, or indications of being crushed. Damage to exterior insulation of cable is acceptable providing cuts, nicks, or breaks have not penetrated the internal braid shield.
- B. Inspect wiring harness assembly ends (2), (3), and (4) to determine if couplings, fittings, terminal lugs, and connectors are damaged or parts missing. Small dents or scratches on connectors or end fittings are acceptable providing they do not prevent connectors from mating.



- C. Small nicks or cuts in the exterior cable insulation (5) between the tracker connector and launcher connector may be repaired using adhesive (item 73, appendix D).

Step 2

- A. Cable exterior insulation damage may be repaired by installing heat shrinkable tubing (item 76, appendix D) over the damaged area. The original insulation will have to be stripped from those portions of the cable that are nested in the cradle cable channel. (Cable diameter will be too large to fit channel with two layers of insulation.)
- B. Using a heat gun, shrink all newly installed insulation tubing. When small portions of the original insulation are removed, overlap the ends by at least 1/4-inch with the new tubing.

Step 3

- A. Reinstall wiring harness assembly back in the mount assembly in accordance with para's 5-40 and 5-41.
- B. Test wiring harness assembly using M175 Test Adapter (MX10078/G) in accordance with TM 9-4935-484-14, para's 5-6 and 5-7.
- C. The wiring harness assembly must be rejected if it cannot be repaired to the extent specified herein or will not pass electrical tests in TM 9-4935-484-14. Rejected cables should be returned to the depot for applicable disposition.

END OF TASK

5-16. REMOVE TRACKER MOUNT ASSEMBLY

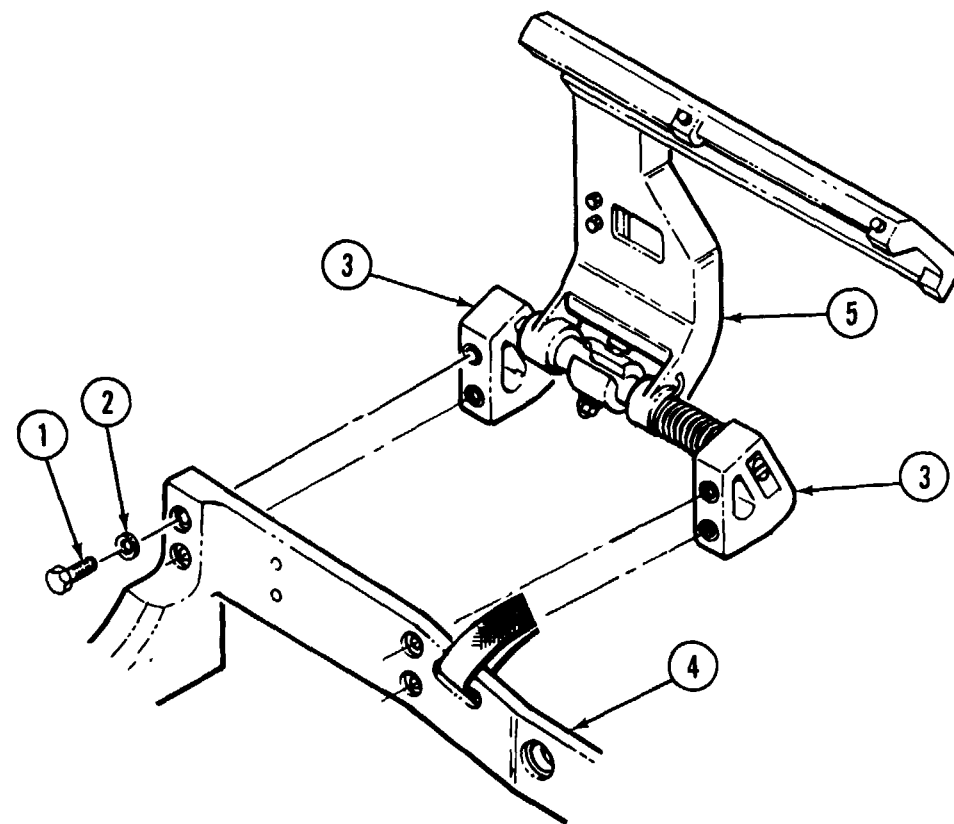
Tools required: 7/16 inch socket
Ratchet wrench
3 inch extension

Equipment condition: Wire harness removed, see para. 5-15.

**NOTE**

Support the mount while removing bolts (1) and washers (2).

- A. Using 7/16 inch socket, 3 inch extension and ratchet wrench, remove four bolts (1) and four washers (2) securing adapters (3) to cradle assembly (4).
- B. Remove tracker mount assembly (5) from cradle assembly (4).



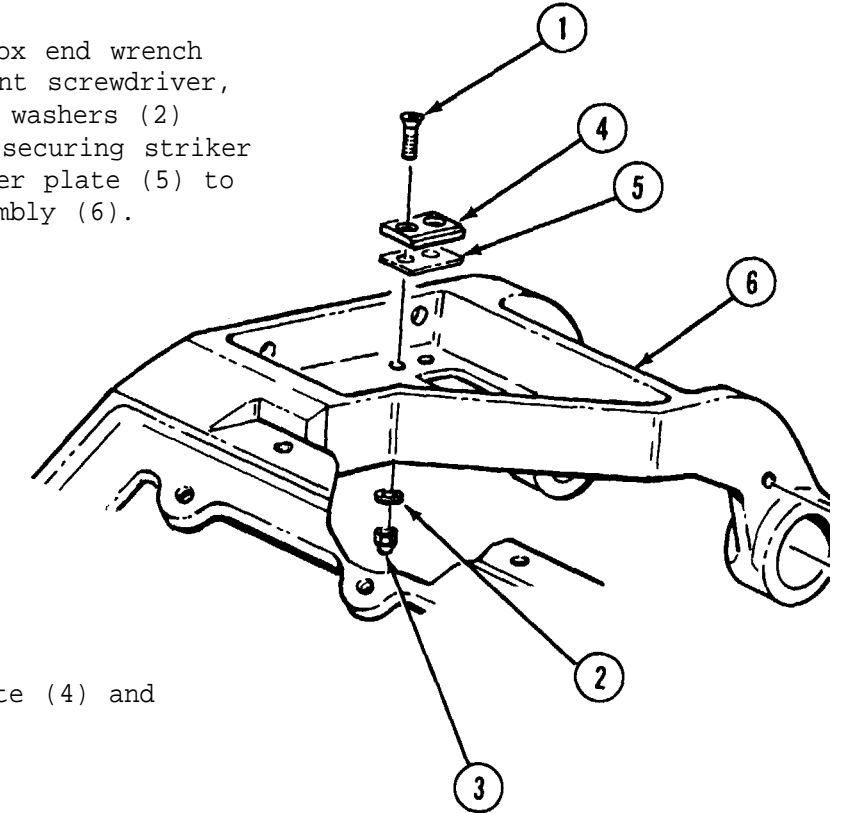
END OF TASK

Follow-on Task: Repair tracker mount assembly, see para. 5-17.

5-17. REPAIR TRACKER MOUNT ASSEMBLY

Tools Required: 11/32 inch box end wrench
No. 2 crosspoint bit
Torque screwdriver, inch/pounds
No. 2 crosspoint screwdriver

- A. Using 11/32 inch box end wrench and No. 2 crosspoint screwdriver, remove screws (1), washers (2) and lock nuts (3) securing striker plate (4) and spacer plate (5) to tracker mount assembly (6).



- B. Remove striker plate (4) and spacer plate (5).

**NOTE**

Insure striker plate (4) is pushed as far forward as it will go, before torquing screws (1).

- C. Secure new striker plate (4) to tracker mount assembly (6) using the hardware removed above. Insure that spacer plate (5) is installed between the casting and the striker plate. Using torque screwdriver with bit and wrench, torque screws (1) 15 to 20 inch/pounds.

END OF TASK

5-18. REMOVE CAM SLIDE ASSEMBLY

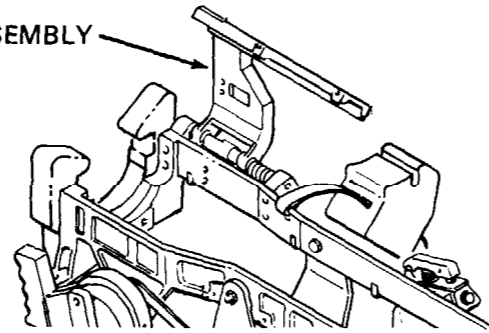
Tools required: No. 2 crosspoint screwdriver
3/8 inch box end wrench

Equipment condition: Tracker mount assembly removed, see para. 5-16.

TRACKER MOUNT ASSEMBLY

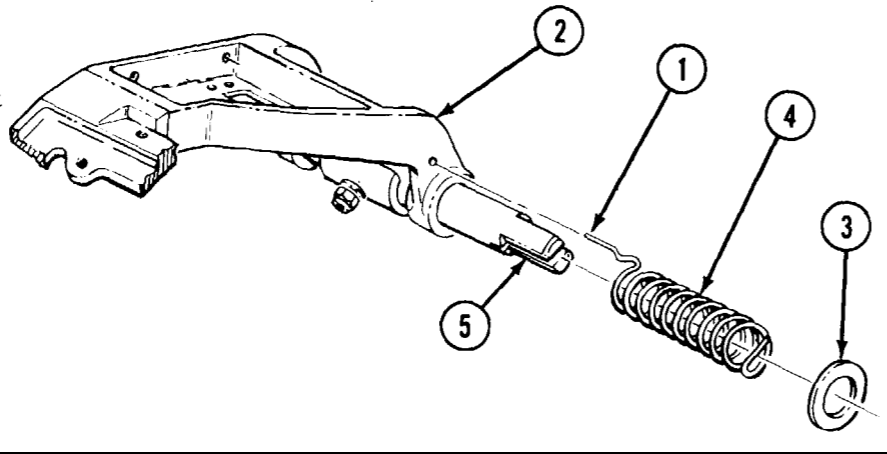


If wiring harness has not been removed, do not allow mount to hang by wiring harness or damage may occur. Keep tracker mount supported during procedure.



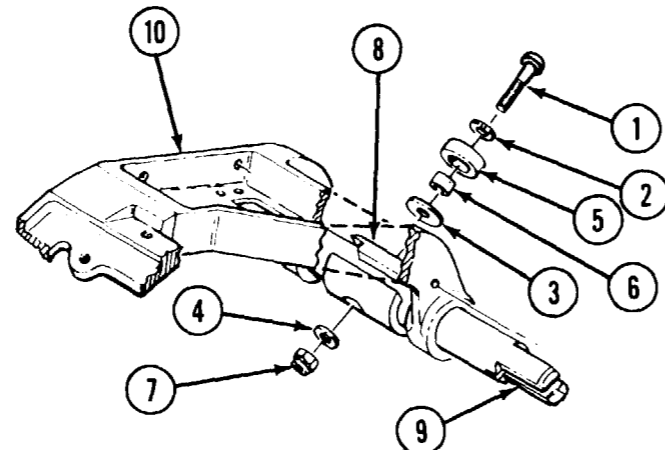
STEP 1

Disengage spring tang (1) from side of tracker mount assembly (2), and slide washer (3) and spring (4) from shaft (5).



STEP 2

Using crosspoint screwdriver and 3/8 inch box end wrench, remove screw (1), washers (2, 3 and 4), pad (5), spacer (6) and nut (7) in camslide (8) from shaft (9). Remove camslide (8) and shaft (9) from tracker mount assembly (10).



END OF TASK

5-19. REMOVE ELEVATION DAMPER ASSEMBLY

Tools required: 3/16 inch Allen wrench
7/16 inch socket
Ratchet wrench

Materials required:

Materials

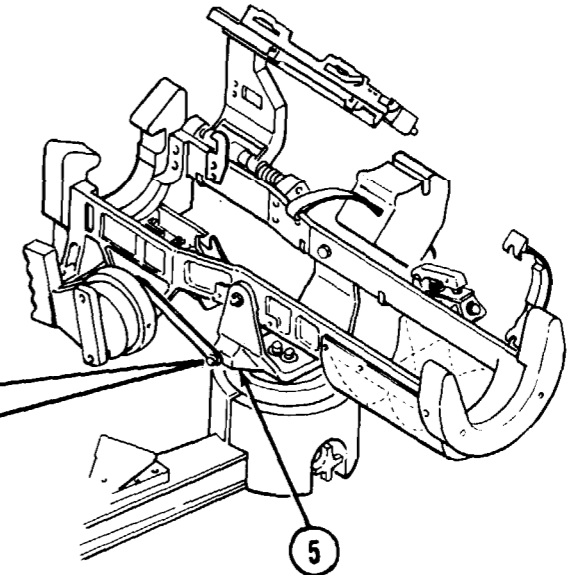
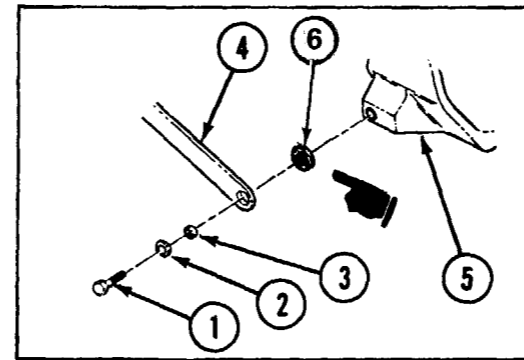
Trichloroethane
Cleaning cloth

See Appendix D

Item 61
Item 6

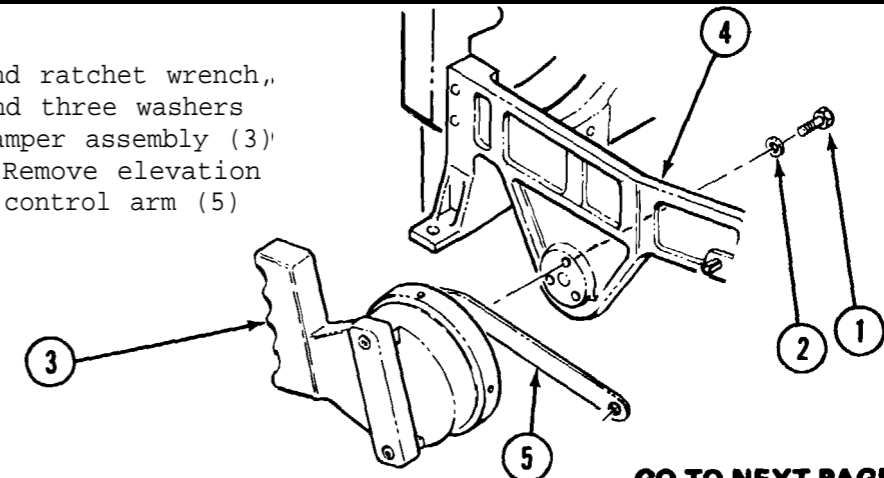
STEP 1

Using 7/16-inch socket and ratchet wrench, remove bolt (1), lockwasher (2), and bushing (3). Remove the control arm (4) and lockwasher (6) from the yoke (5).



STEP 2

Using 7/16 inch socket and ratchet wrench, remove three bolts (1) and three washers (2) securing elevation damper assembly (3) to cradle assembly (4). Remove elevation damper assembly (3) with control arm (5) still attached.

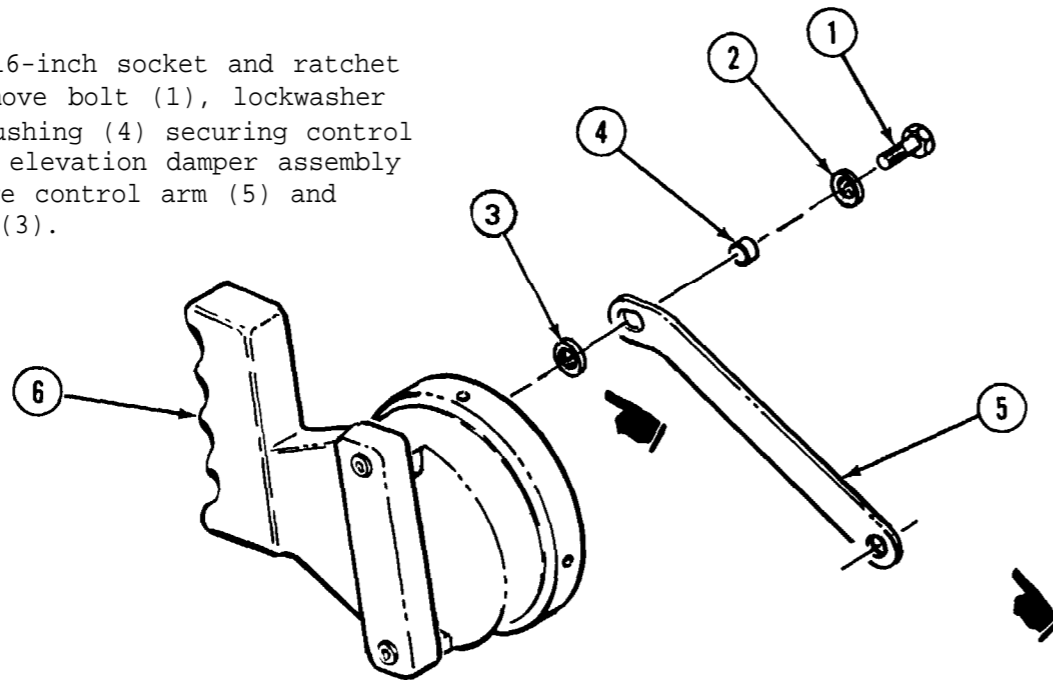


GO TO NEXT PAGE

5-19. REMOVE ELEVATION DAMPER ASSEMBLY - CONTINUED

STEP 3

Using a 7/16-inch socket and ratchet wrench, remove bolt (1), lockwasher (2), and bushing (4) securing control arm (5) to elevation damper assembly (6). Remove control arm (5) and lockwasher (3).

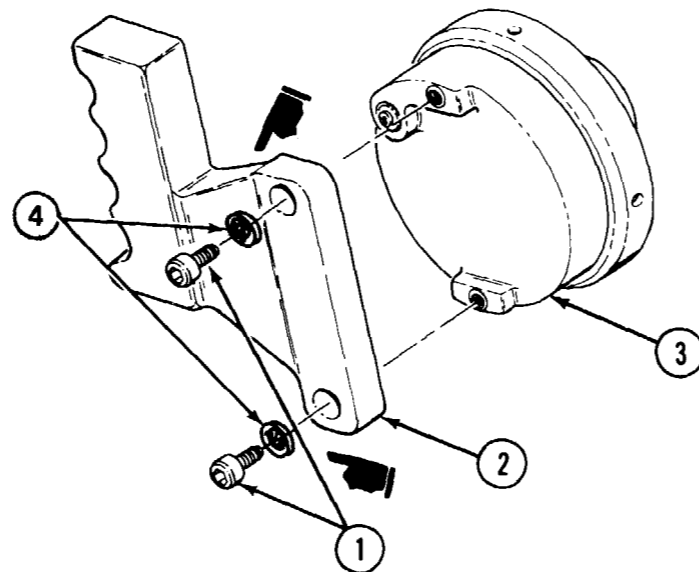


STEP 4

Using a 3/16-inch Allen wrench, remove two bolts (1) and two lockwashers (4) securing handle (2) to elevation damper assembly (3).



NOTE
Check damping unit for leakage of damping fluid. If fluid is present, remove fluid with a cleaning cloth moistened in trichloroethane.



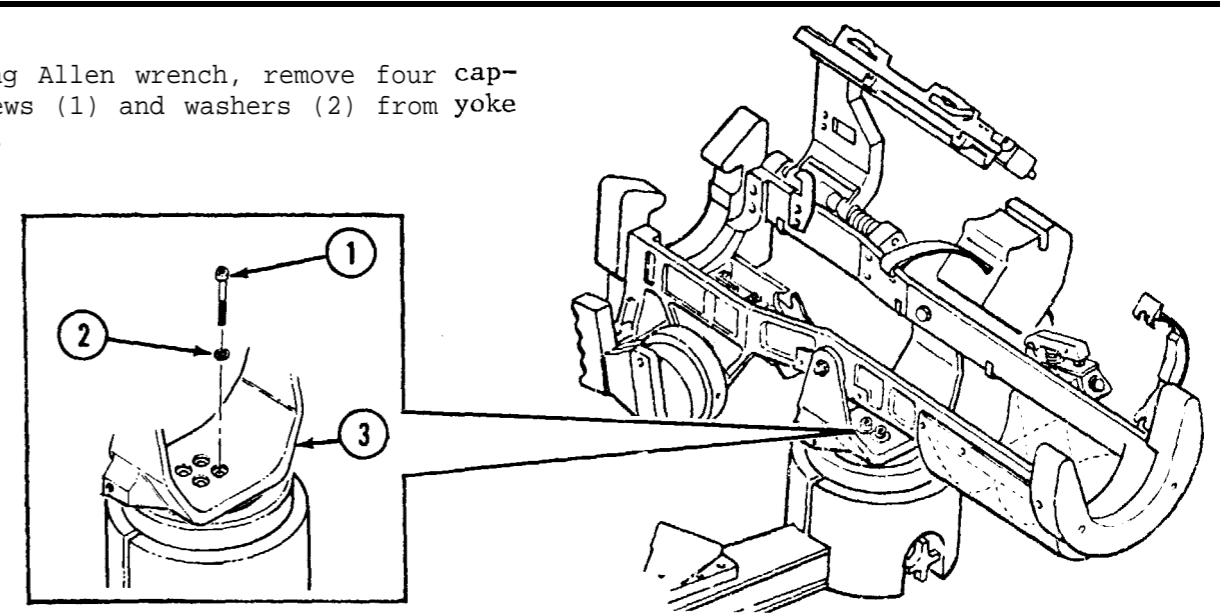
END OF TASK

5-20. REMOVE AZIMUTH DAMPER ASSEMBLY

Tools required: 1/4 inch Allen wrench

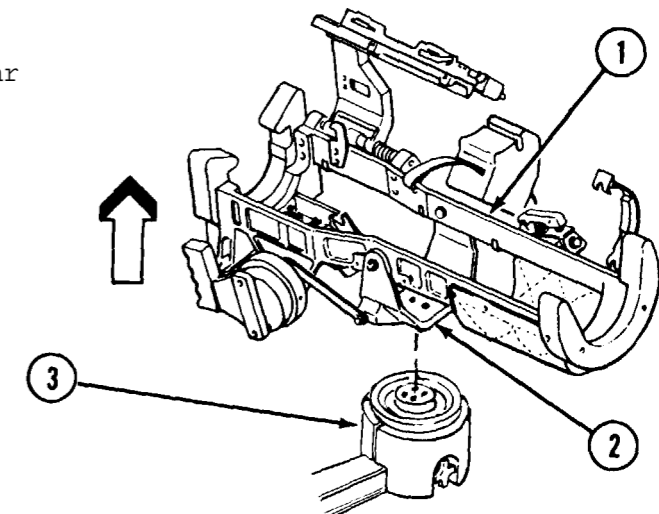
STEP 1

Using Allen wrench, remove four cap-screws (1) and washers (2) from yoke (3).



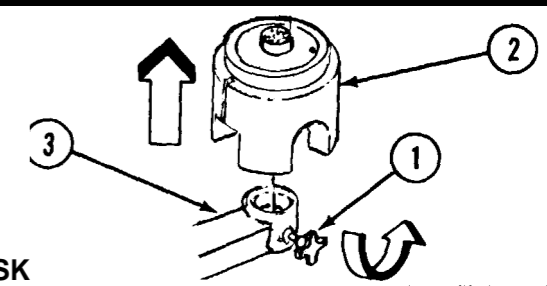
STEP 2

Lift cradle (1) and yoke (2) clear of damper (3).



STEP 3

Loosen knob (1) so that you can lift damper (2) clear of arm assembly (3).



END OF TASK

5-21. REMOVE SHOCK MOUNT (AZIMUTH DAMPER)

Tools required: Craftsman's knife

Materials required:

Materials

MEK
Cleaning cloth

See Appendix D

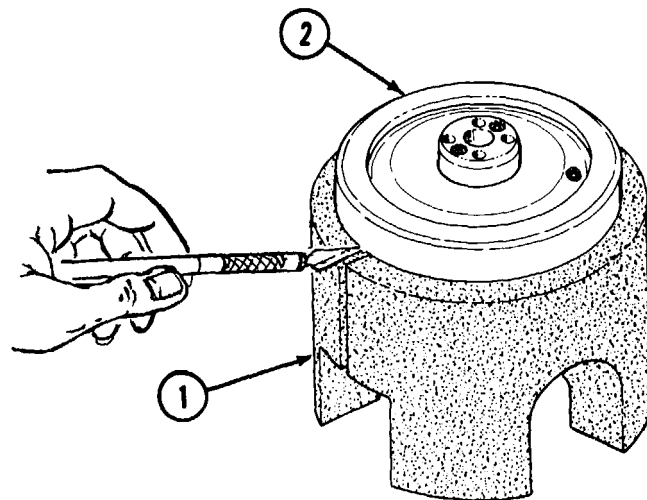
Item 5
Item 6

- A. Using knife, cut shock absorber (1) from azimuth damper (2).



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat.

- B. Using cleaning cloth and MEK, clean the azimuth damper (2).



END OF TASK

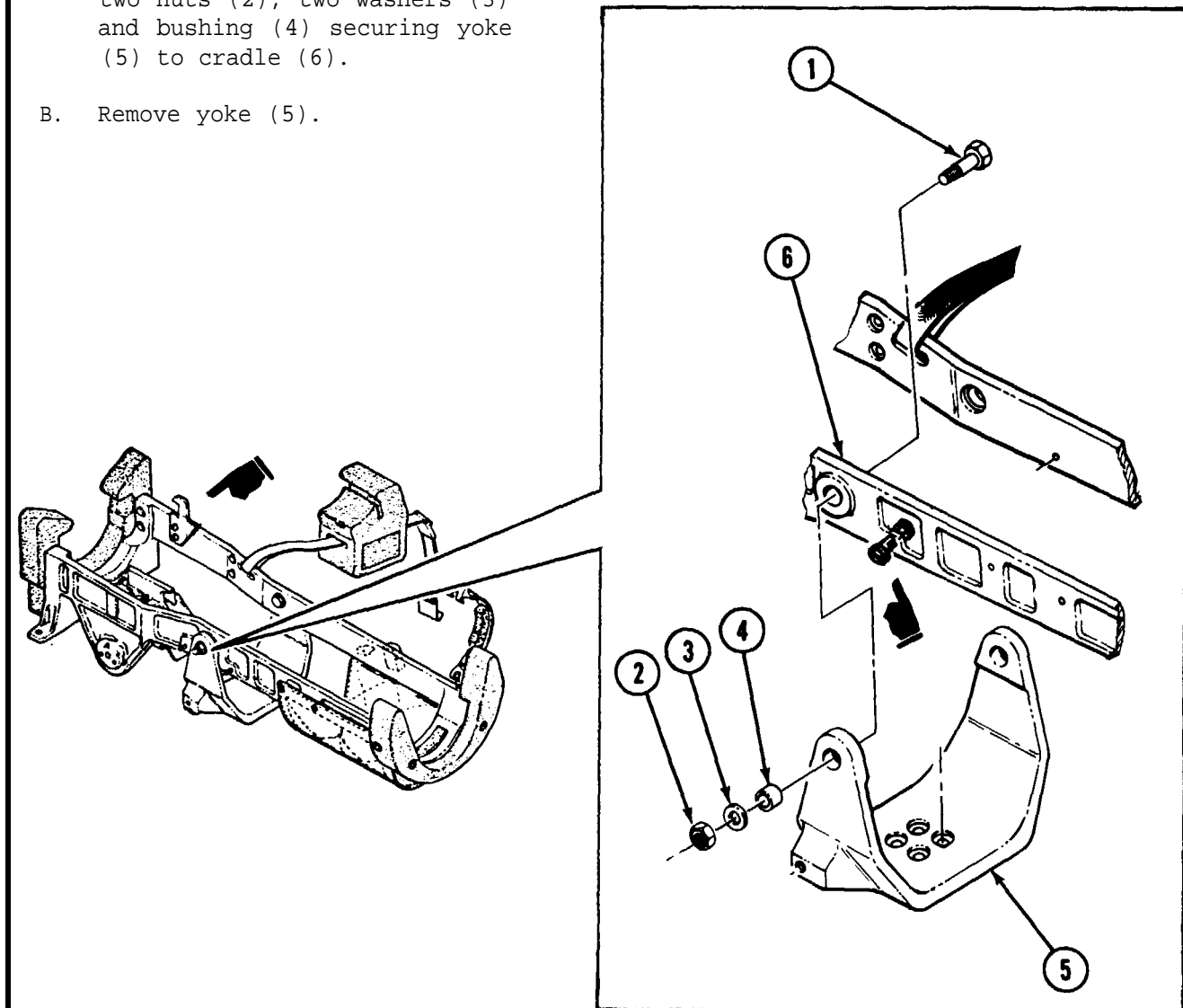
5-22. REMOVE YOKE ON CRADLE ASSEMBLY

Tools required: 3/4 inch socket
Ratchet wrench
3/4 inch box end wrench

Equipment condition: Control arm removed, see para. 5-19, step 1.
Azimuth damper removed, see para. 5-20, steps 1 and 2.

- A. Using 3/4 inch socket, ratchet wrench and 3/4 inch box end wrench, remove two bolts (1) two nuts (2), two washers (3) and bushing (4) securing yoke (5) to cradle (6).

- B. Remove yoke (5).

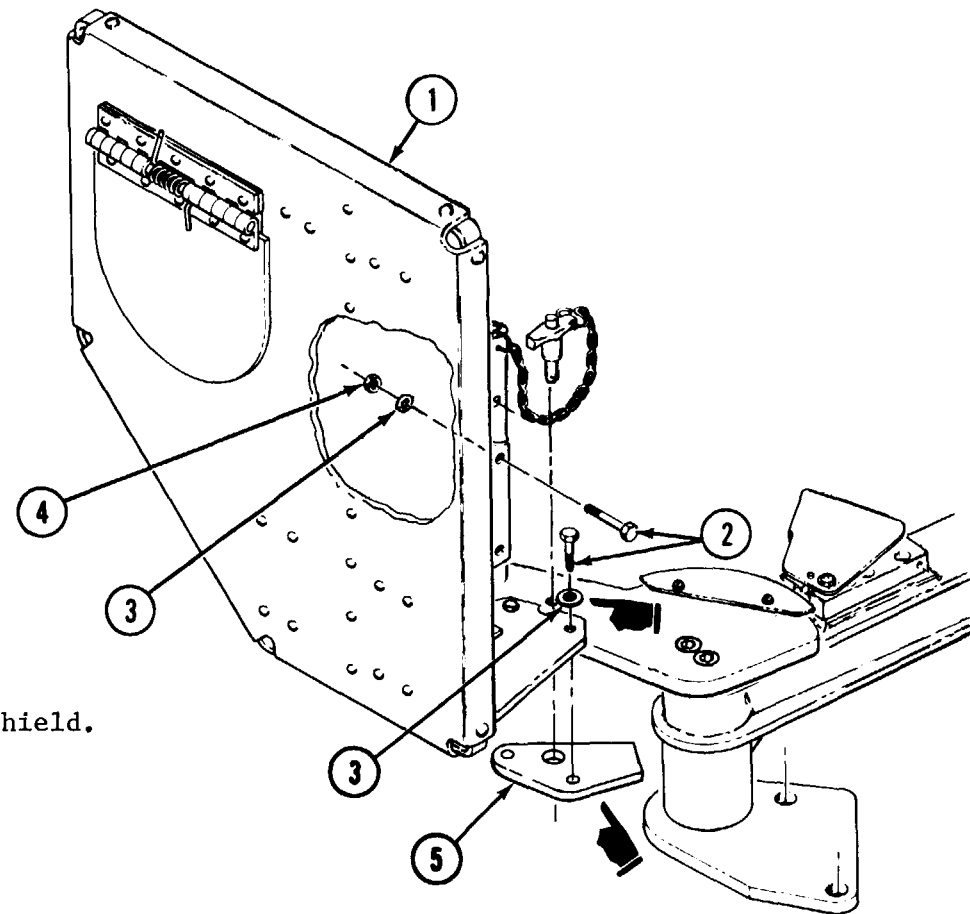


END OF TASK

5-23. REMOVE SHIELD

Tools required: 7/16 inch open end wrench
 7/16 inch socket
 Ratchet wrench

A. Using 7/16 inch open end wrench and 7/16 inch socket and ratchet, remove shield (1) and stop plate (5) by removing four bolts (2), four washers (3) and two nuts (4).



B. Remove shield.

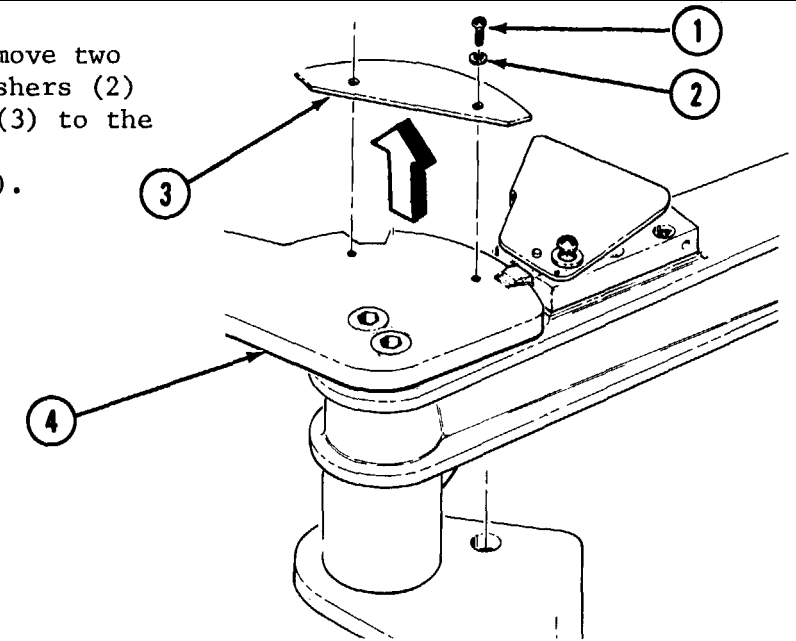
END OF TASK

5-24. REMOVE SLIDE GUARD AND LATCH HANDLE

Tools required: No. 2 crosspoint screwdriver

STEP 1

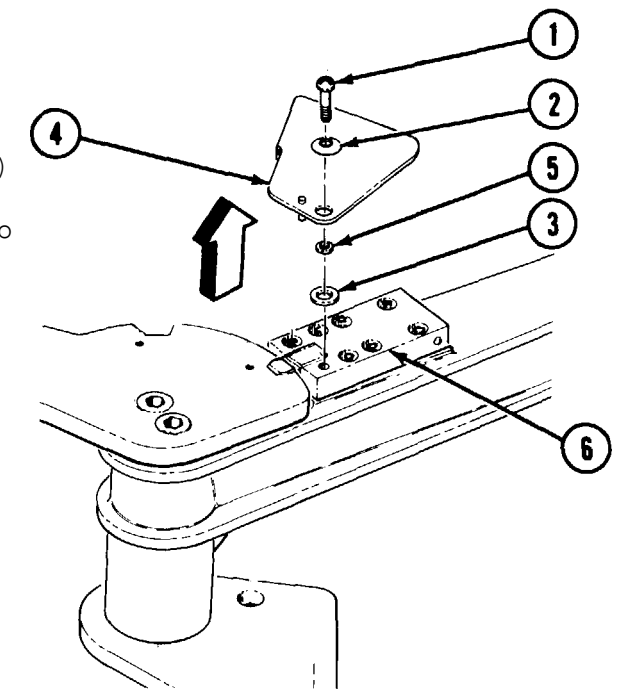
Using screwdriver, remove two screws (1) and two washers (2) securing slide guard (3) to the adapter (4). Remove slide guard (3).



STEP 2

A. Using screwdriver, remove screw (1) and washers (2) and (3) securing latch handle (4) and bearing (5) to cover (6).

C. Remove latch handle (4).



END OF TASK

5-25. REMOVE SWINGARM LATCH COVER

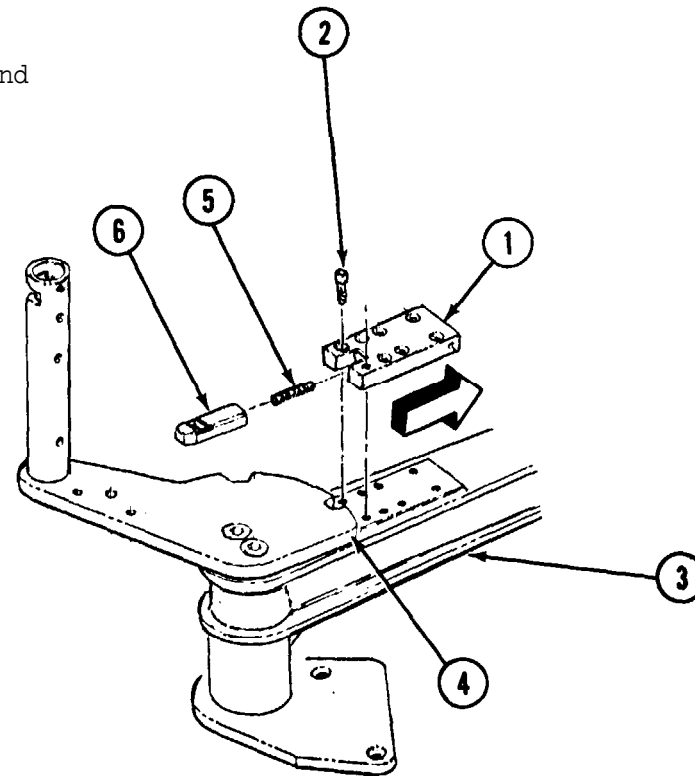
Tools required: 3/16 inch Allen wrench

Equipment condition: Latch handle removed, see para. 5-24.



The following step involves releasing tension on a spring. Perform carefully to avoid damage or loss of spring.

- A. Hold latch cover (1). Using a 3/16 inch Allen wrench, carefully remove seven capscrews (2) securing cover (1) to swingarm (3). Slowly slide cover (1) back away from adapter assembly (4) until the spring tension is released.
- B. Remove cover (1), spring (5), and bar (6).



END OF TASK

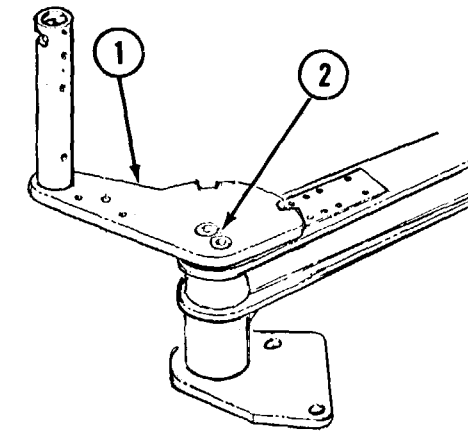
5-26. REMOVE SWINGARM ASSEMBLY

Tools required: Heat gun
 Bit adapter (special tool PN 9254229)
 11/16-inch socket and ratchet wrench
 Wire side cutters

Step 1

FOR ALLEN HEAD SCREWS: Using heat gun, apply heat to adapter (1) in area of two screws (2), to soften the adhesive sealant.

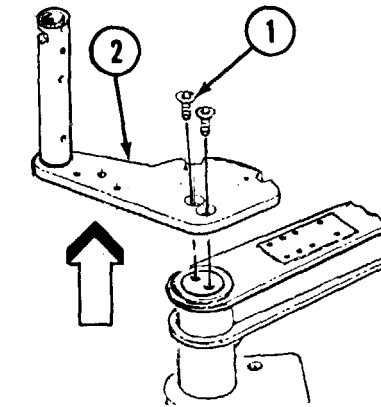
B. FOR HEX HEAD SCREWS: Using wire cutters, cut and remove safety wire from two screw heads.



Step 2

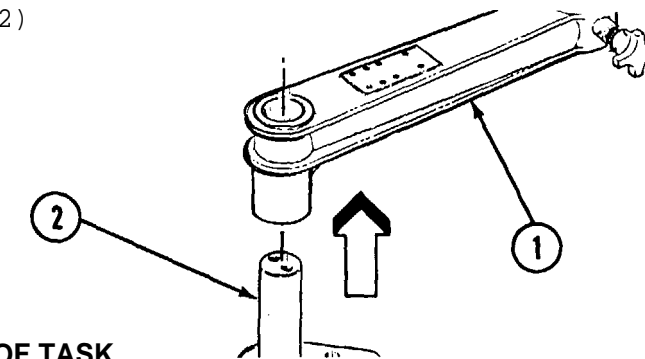
A. FOR ALLEN HEAD SCREWS: Using ratchet wrench and bit adapter, remove two Allen head screws (1) from adapter (2). Remove adapter.

B. FOR HEX HEAD SCREWS: Using socket and ratchet wrench, remove two hex head screws (1) from adapter (2). Remove adapter.



Step 3

Lift swingarm (1) from the support (2)



END OF TASK

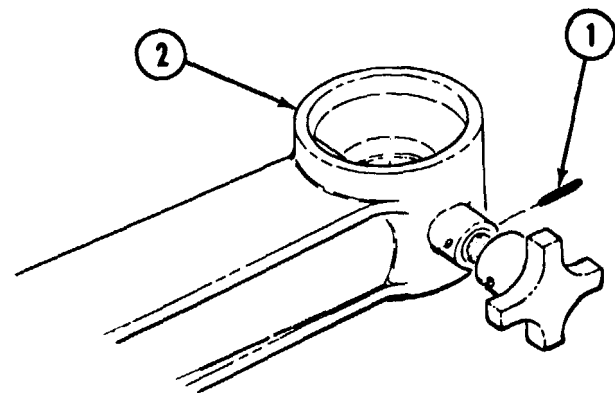
5-27. REMOVE KEEPER KNOB

Tools required: 3/16 inch drift pin
Ball peen hammer

Equipment condition: Launcher mount removed from swingarm, see TM 9-1425-480-10.

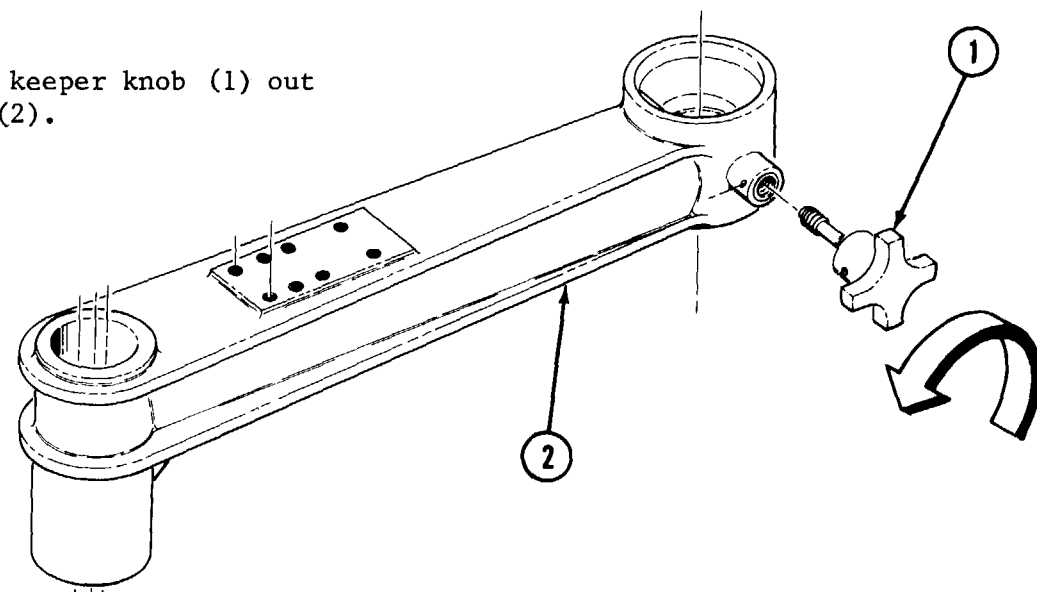
STEP 1

Using hammer and 3/16 inch drift pin, drive roll pin (1) out of arm (2) far enough to release knob.



STEP 2

Unscrew keeper knob (1) out of arm (2).



END OF TASK

5-28. REPAIR ADAPTER MOUNT TO TRIPOD COMPONENTS

Tools required: Ball peen hammer
No. 2 crosspoint screwdriver
3/32 inch drift pin
3/16 inch drift pin
Torque screwdriver inch pounds
No. 2 crosspoint bit

Materials required:

Materials

Solid film lubricant
Brush

a. Disassembly

See Appendix D

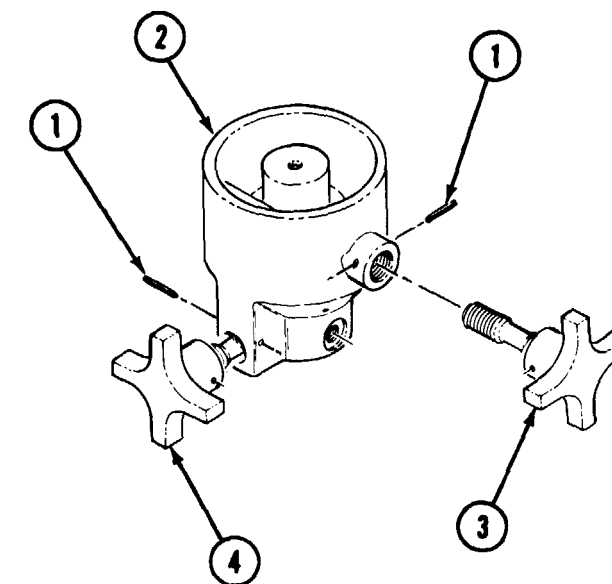
Item 14
Item 9

STEP 1

A. Using 3/32 inch drift pin and hammer, remove roll pin (1) from receptacle (2).

B. Unscrew keeper knob (3) from receptacle (2).

C. Remove keeper knob (4) in same manner.

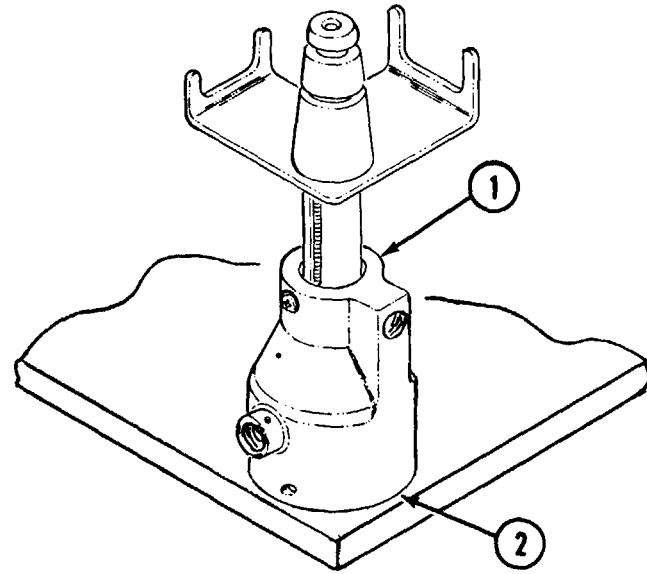


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5-28. REPAIR ADAPTER MOUNT TO TRIPOD COMPONENTS - CONTINUED

STEP 2

Place the receptacle (1) on the work bench, resting on the flat surface (2).



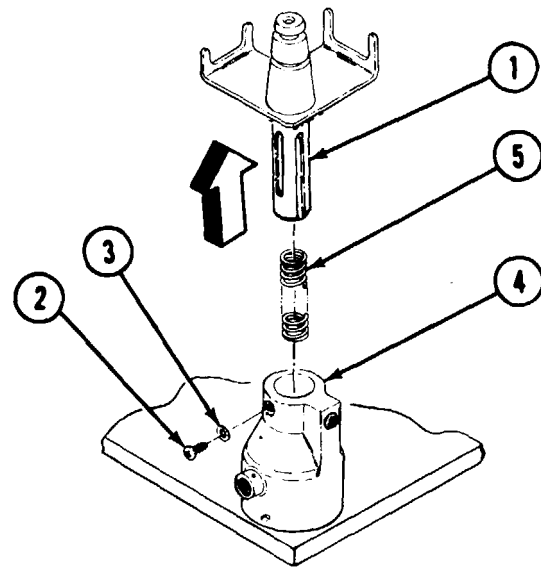
STEP 3



WARNING

The following steps involve the release of spring compression. Perform carefully to avoid injury.

- A. While holding the post adapter (1) firmly and pressing down, use screwdriver to remove retaining screw (2) and lockwasher (3) securing receptacle (4) to post adapter. Allow post adapter (1) to move slowly up and relieve the compression of spring (5).
- B. Remove post adapter (1) and spring (5).



b. Assembly

STEP 4

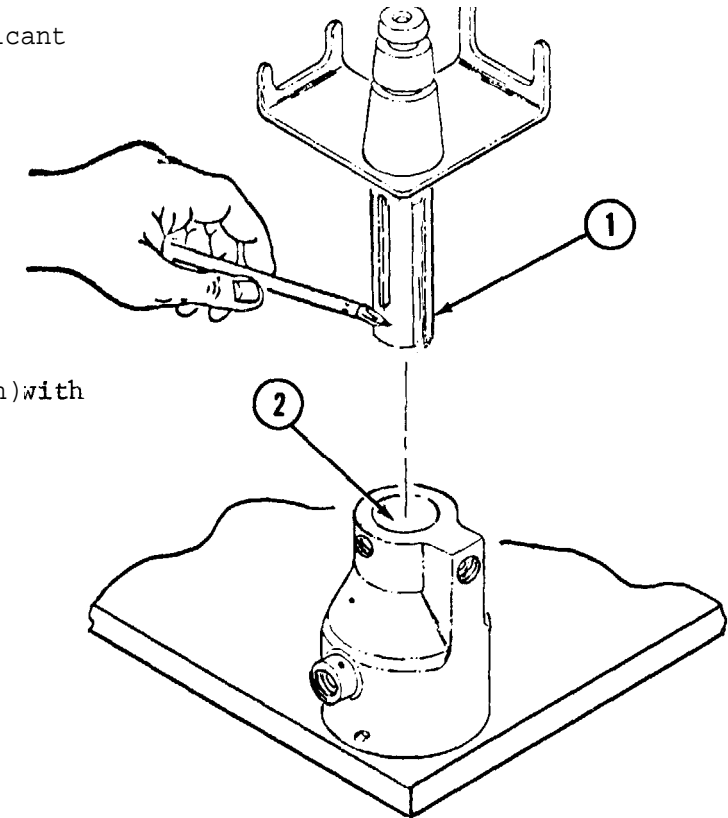
- A. Apply coat of solid film lubricant to post adapter (1) where it slides into receptacle (2).

- B. Coat inside of receptacle (2), (where post adapter slides in) with same lubricant.



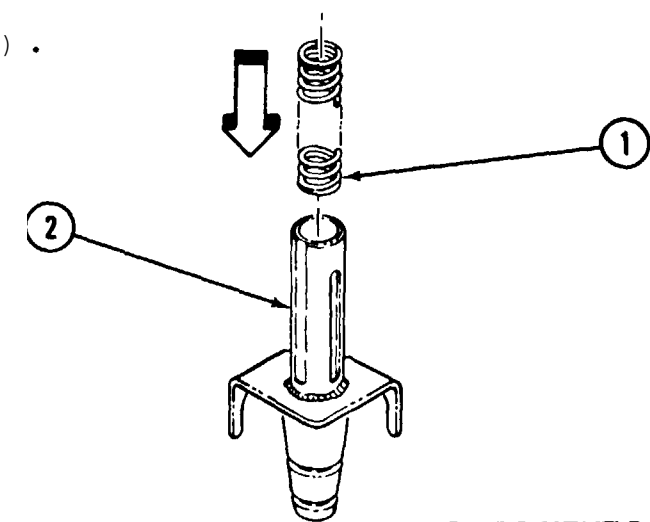
NOTE

Allow to dry 30 minutes before proceeding to step 2.



STEP 5

Insert spring (1) into post adapter (2).



GO TO NEXT PAGE

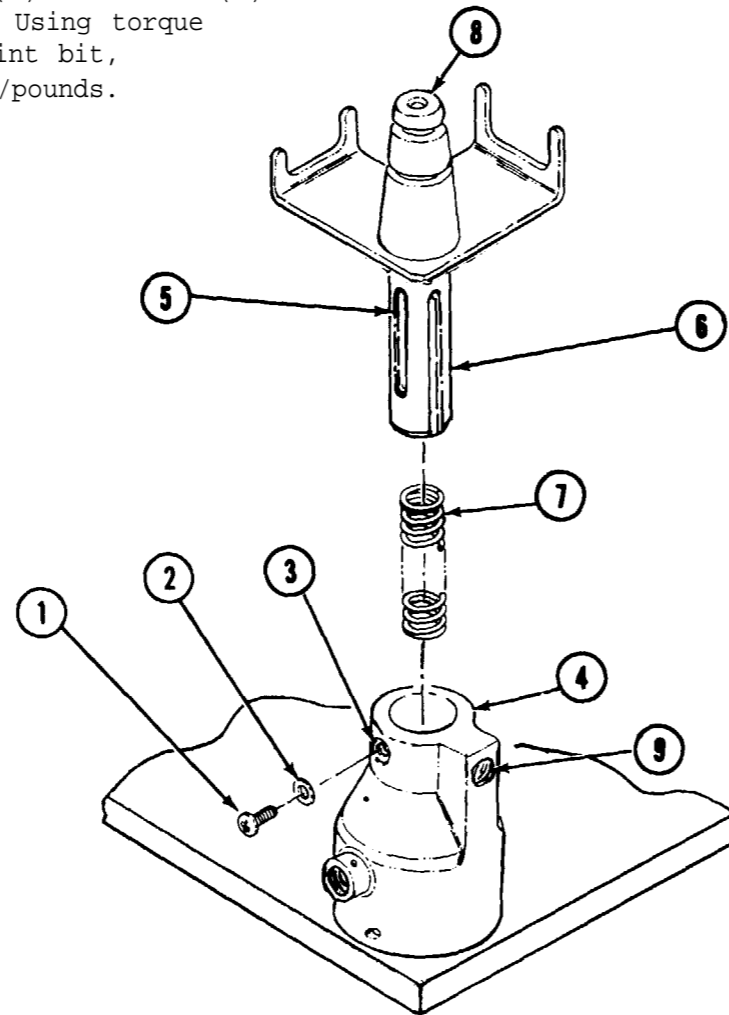
5-28. REPAIR ADAPTER MOUNT TO TRIPOD COMPONENTS - CONTINUED

STEP 6



The following step involves compression of a spring. Perform carefully to avoid injury to personnel or damage to the equipment.

Start retaining screw (1) and lockwasher (2) in receptacle (3). Insert spring (7) into adapter (4). Press post adapter (8) into receptacle (4) aligning slot (6) with hole (9) and slot (5) with screw (1). Using torque screwdriver and No. 2 crosspoint bit, torque screw (1) 9 to 11 inch/pounds.



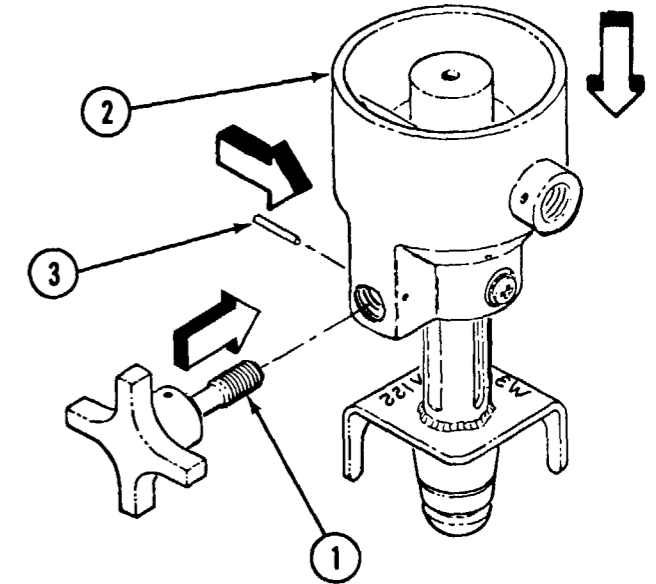
STEP 7

- A. Apply a light coat of solid film lubricant to threaded shaft (1). Allow to dry 30 minutes.



It may be necessary to push down on the receptacle (2) to install keeper knob.

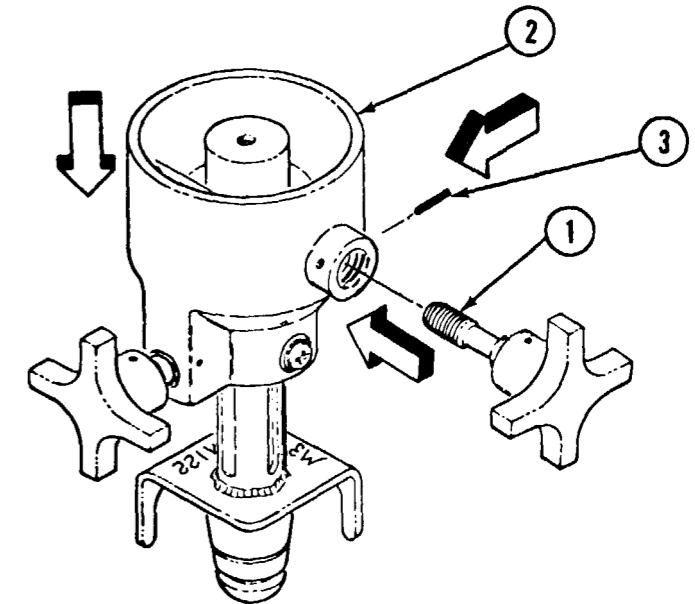
- B. Screw knob with threaded shaft (1) all the way into receptacle (2) and install roll pin (3) by tapping in place with hammer.



STEP 8

- A. Apply a light coat of solid film lubricant to threaded shaft (1). Allow to dry 30 minutes.

- B. Screw knob with threaded shaft (1) all the way into receptacle (2) and install roll pin (3) by tapping in place with hammer.



END OF TASK

5-29. INSTALL KEEPER KNOB

Tools required: Ball peen hammer

Materials required:

Materials

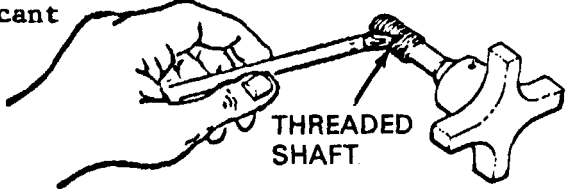
Solid film lubricant
Brush

See Appendix D

Item 14
Item 9

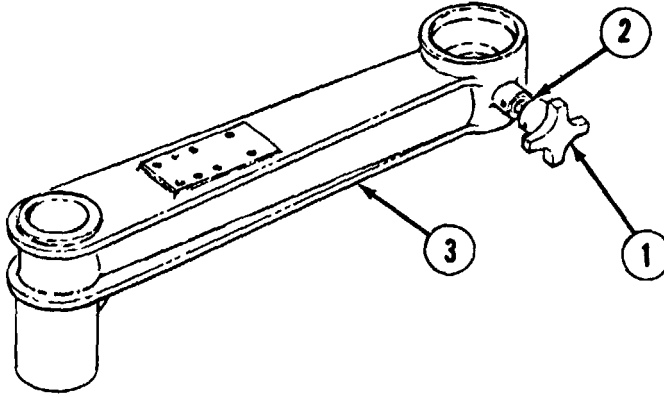
STEP 1

Apply a light coat of solid film lubricant to threaded shaft. Allow to dry 30 minutes.



STEP 2

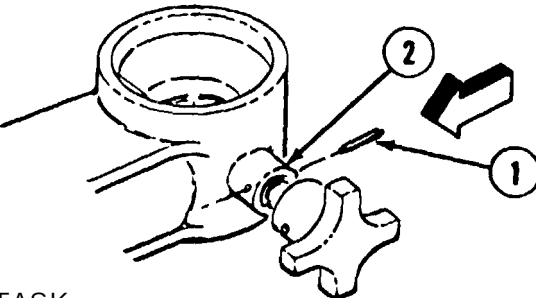
Screw knob (1) with threaded shaft (2) all the way into arm (3).



STEP 3

Using hammer, tap roll pin (1) into arm (2) to lock keeper knob in place.

END OF TASK



5-30. INSTALL SWINGARM ASSEMBLY

Tools required: Torque wrench, 0-150 ft/lbs

11/16-inch socket wrench

Safety wire pliers

Materials required:

Materials

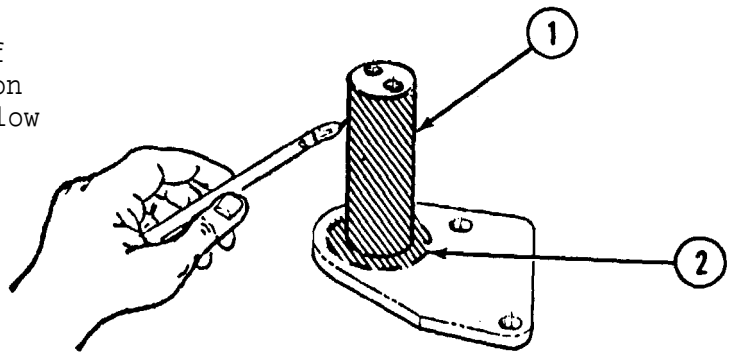
Sealing compound
Solid film lubricant
Brush
Safety wire

See Appendix D

Item 16
Item 14
Item 9
Item 27

STEP 1

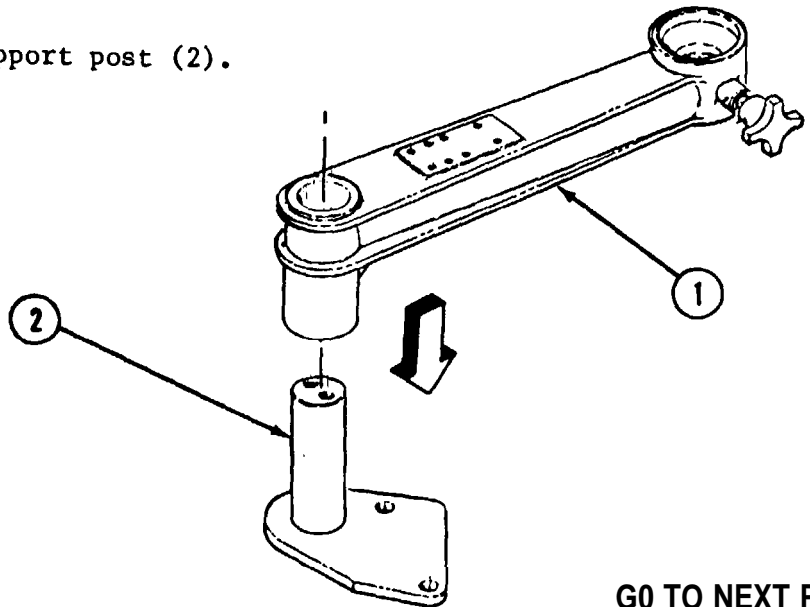
Apply a light coat of solid film lubricant to the outer surfaces of support (1) and the contact portion of the base (2) (shaded area). Allow to dry 30 minutes.



STEP 2

Slide arm (1) down over support post (2).

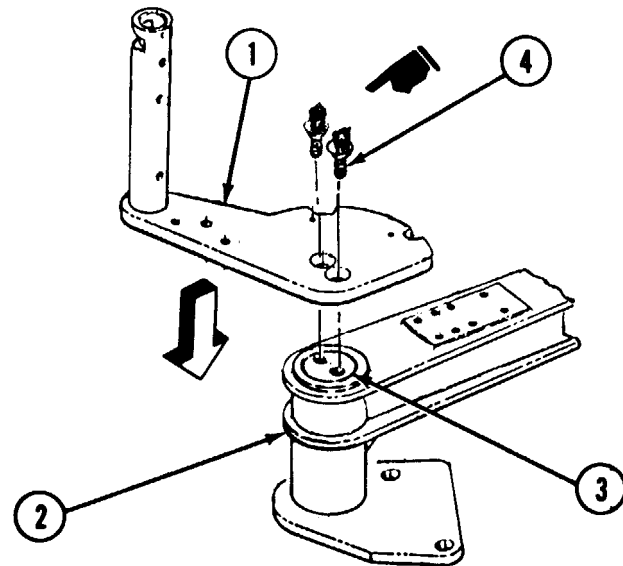
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5-30. INSTALL SWINGARM ASSEMBLY - CONTINUED

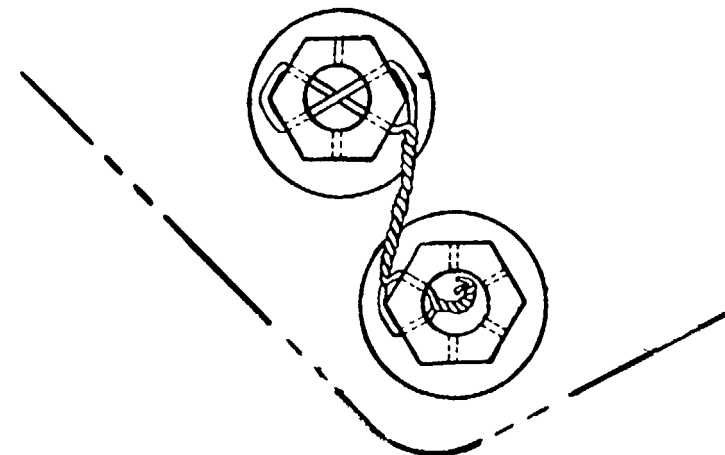
STEP 3

- A. Position the adapter (1) on top of arm (2) and support post (3) as shown.
- B. Align the screw holes.
- C. Start two screws (4) in threaded holes.
- D. Using torque wrench and socket, torque screws 63 to 70 ft lb.



STEP 4

Using safety wire pliers, install safety wire between the two hex head screws as shown.



END OF TASK

5-31. INSTALL SWINGARM LATCH COVER

Tools required: Ball peen hammer
3/16 inch Allen bit
3/16 inch socket
Torque wrench, inch pounds

Materials required:

Materials

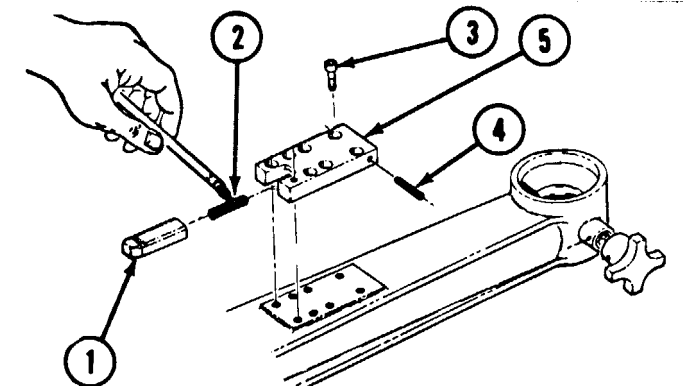
Solid film lubricant
Brush

See Appendix D

Item 14
Item 9

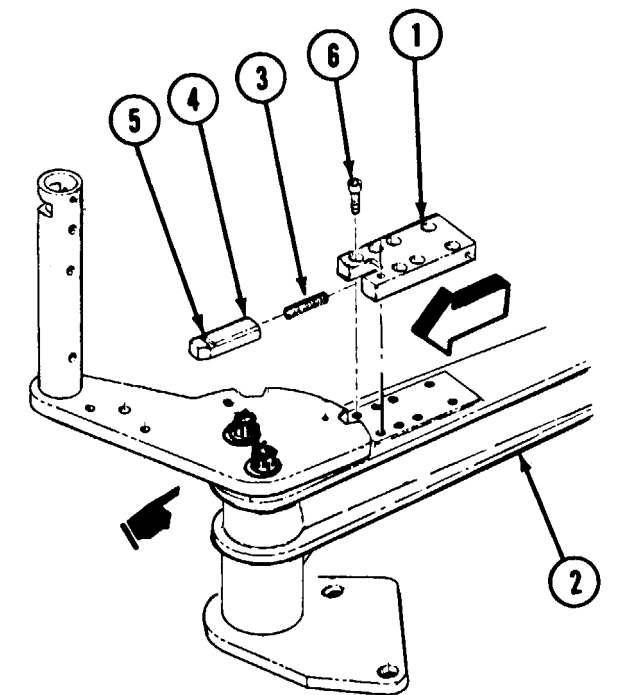
STEP 1

- A. Apply a thin coat of solid film lubricant to latch bar (1), spring (2) and threads of seven Allen head screws (3). Allow to dry for 30 minutes.
- B. If roll pin (4) has been removed, drive pin (4) into cover (5) using hammer.



STEP 2

- A. Place the cover (1) flat on the arm (2).
- B. Slide the spring (3) and latch bar (4) into position.
- C. Be sure slot (5) on latch bar (4) is facing up and away from cover (1).
- D. Align holes and start screws (6).
- E. Torque screws 50 to 70 in lb.



END OF TASK

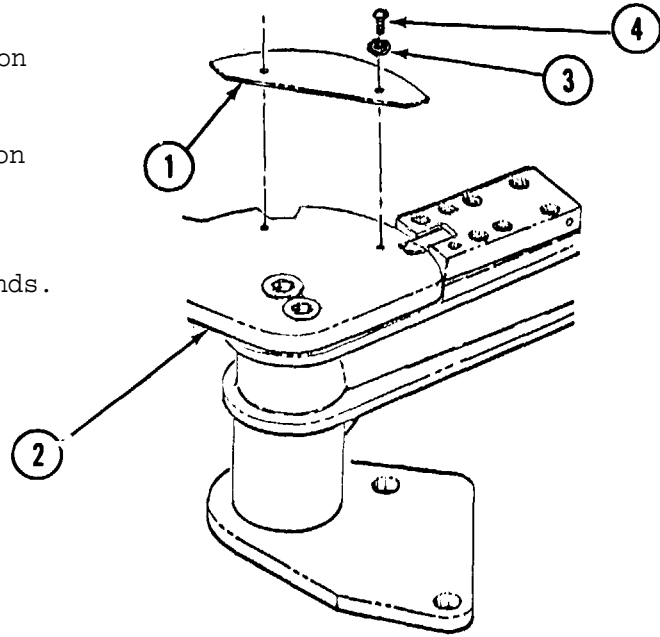
5-32. INSTALL SLIDE GUARD AND LATCH HANDLE

Tools required: Torque screwdriver, inch/pounds
No. 2 crosspoint bit

Equipment condition: Swingarm assembly latch cover installed, see para. 5-31.

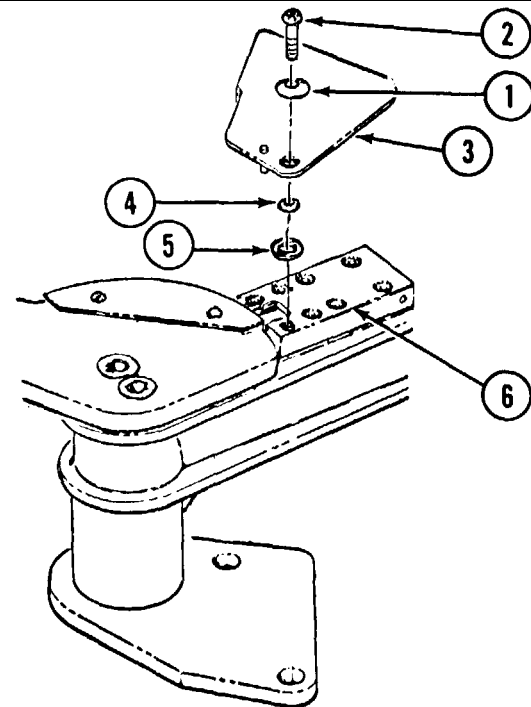
STEP 1

- A. Place slide guard (1) in position on adapter (2).
- B. Align holes, place washers (3) on screws (4). Insert screws and finger tighten.
- C. Torque screws 12 to 15 inch pounds.



STEP 2

- A. Place washer (1) on screw (2) and insert in handle (3).
- B. Place spacer (4) and washer (5) on screw (2).
- C. Start screw (2) in cover (6) and finger tighten.
- D. Torque screw 30 to 40 inch pounds.

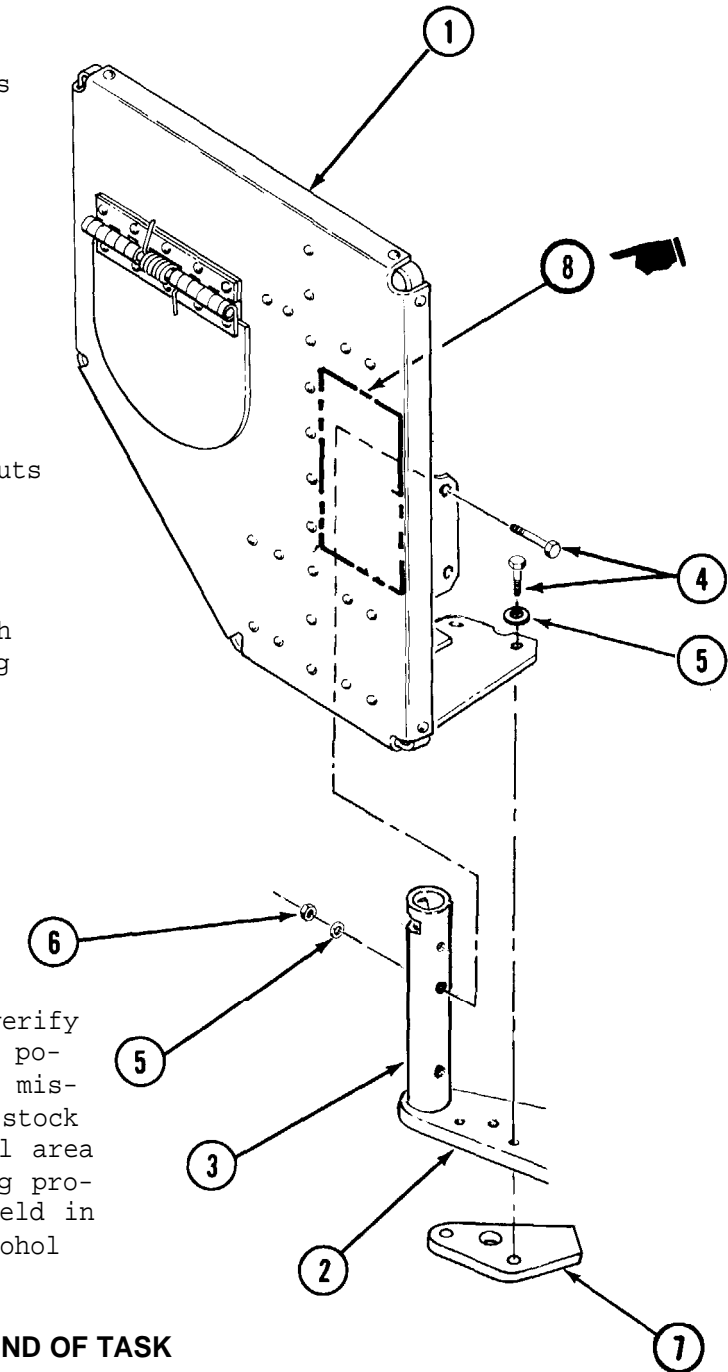


END OF TASK

5-33. INSTALL SHIELD

Tools required: 7/16 inch box end wrench
7/16 inch socket
Ratchet wrench
Torque wrench (in lb)

- A. Position shield (1) on adapter (2) along side adapter post (3).
- B. Align holes and insert two bolts (4) (the shorter of the four bolts) with two washers (5) through shield (1) adapter (2) and thread into stop place (7).
- C. Align holes and insert the long bolts (4) through shield and post (3).
- D. Place two washers (5) and two nuts (6) on two bolts (4) inserted through post (3).
- E. Using ratchet, socket and wrench tighten the two nuts (6). Using torque wrench, torque bolts threaded into stop plate 40 to 50 inch pounds.



- F. On the backside of the shield, verify that the warning decal (8) is in position and legible. If decal is missing or illegible, replace from stock PN 10276911 and locate in general area shown. Install decal by removing protective backing and apply to shield in area previously cleaned with alcohol (item 8, appendix D).

END OF TASK

5-34. INSTALL YOKE ON CRADLE ASSEMBLY

Tools required: 3/4 inch socket
 3/4 inch box end wrench
 Ratchet wrench
 Torque wrench, inch pounds

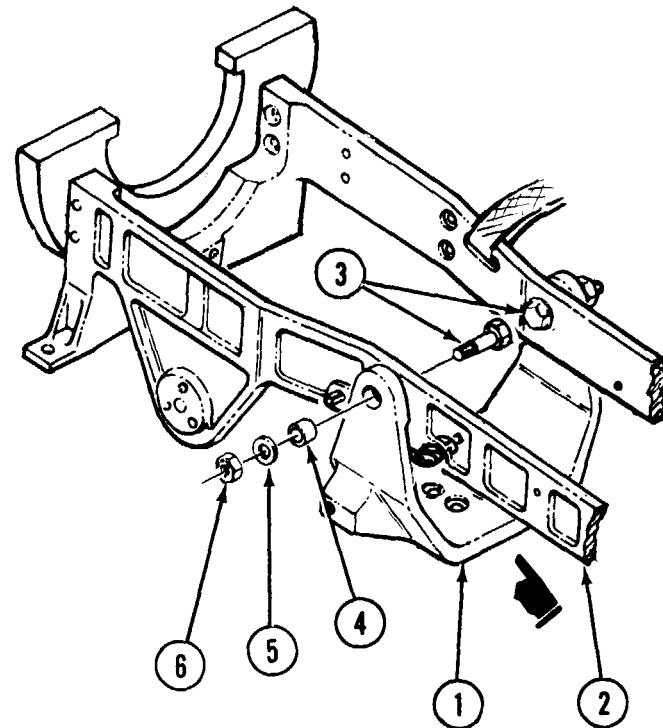
- A. Position yoke (1) on cradle (2) as shown.
- B. Align the holes and insert bolts (3) through cradle (2) and yoke (1).
- C. Slide bushing (4) onto bolt (3) and into yoke (1).



NOTE

Before torquing, be sure bushing (4) is properly inserted into bushing of yoke.

- D. Put washer (5) on bolt (3) and start nut (6).
- E. Torque nut (6) 150 to 300 inch pounds.



END OF TASK

5-35. INSTALL SHOCK MOUNT(AZIMUTH DAMPER)

Materials required:

Materials

Orangewood stick
 Adhesive sealant

See Appendix D

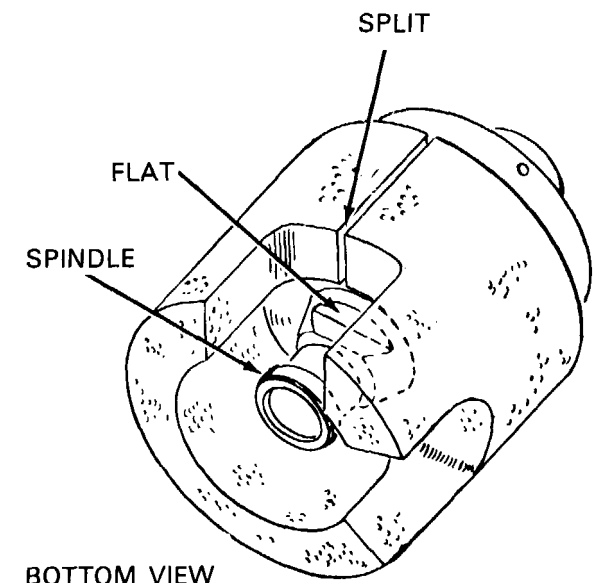
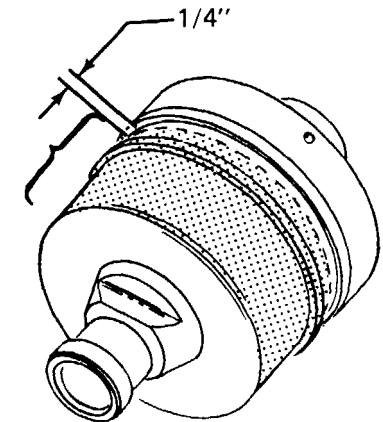
Item 7
 Item 73



NOTE

Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

- A. Brush primer (if required) on area indicated (from 1/4 inch below lip on cap to bottom of body of damper). Allow to cure according to manufacturer's instructions.
- B. Apply adhesive to area indicated (From 1/4 inch below lip on cap, to bottom of body on damper).
- C. Look at bottom of azimuth damper. The center spindle has a flat side.
- D. Slide the shock absorber in place on the azimuth damper. Align the split in the shock absorber with the center of the flat on the bottom spindle.
- E. Allow to cure 24 hours prior to handling. Full cure takes 72 hours.



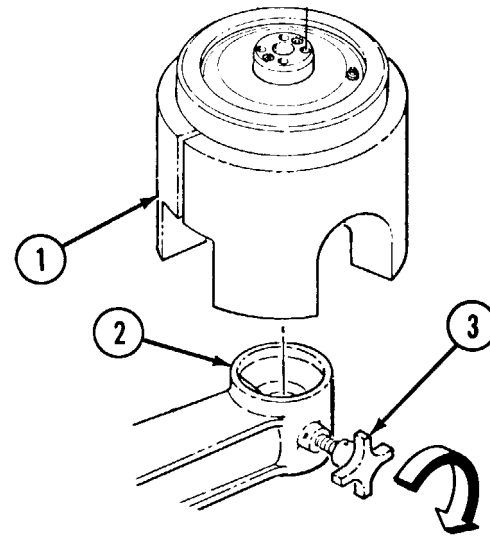
END OF TASK

5-36. INSTALL AZIMUTH DAMPER ASSEMBLY

Tools required: 1/4 inch Allen head bit
 1/4 inch socket
 Torque wrench, inch pounds

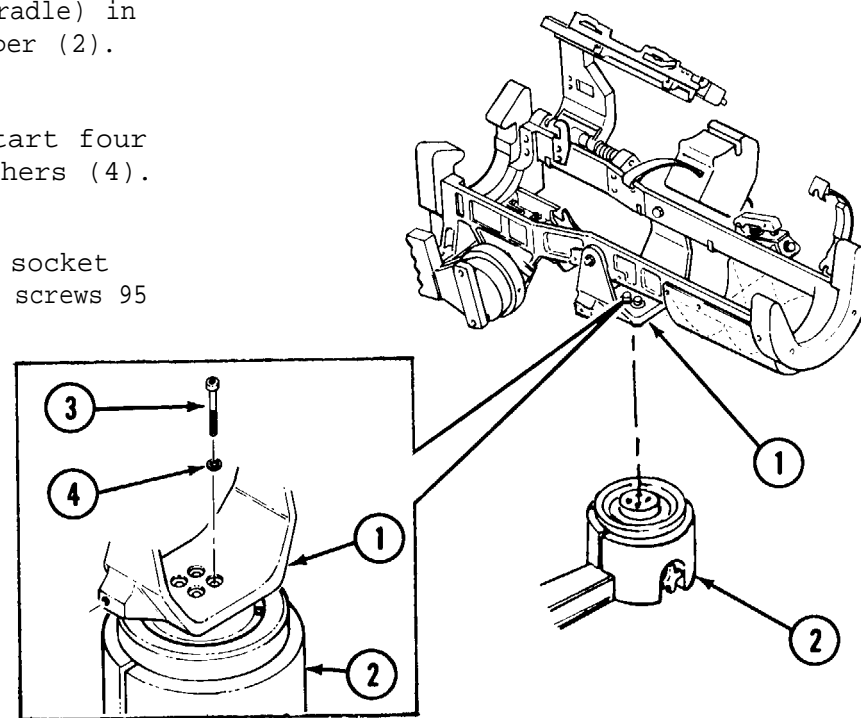
STEP 1

Set azimuth damper (1) on arm (2),
 tighten keeper knob (3).



STEP 2

- A. Set yoke (1) (with cradle) in place on azimuth damper (2).
- B. Align holes, and start four screws (3) with washers (4).
- C. Using torque wrench, socket and bit, torque four screws 95 to 110 inch pounds.



END OF TASK

5-37. INSTALL ELEVATION DAMPER ASSEMBLY

Tools required: Ratchet wrench
 7/16 inch open end wrench
 7/16 inch socket
 3/16 inch Allen head bit
 3/16 inch socket
 Torque wrench, inch pounds

Materials required:

Materials

Brush
 Solid film lubricant

See Appendix D

Item 9
 Item 14

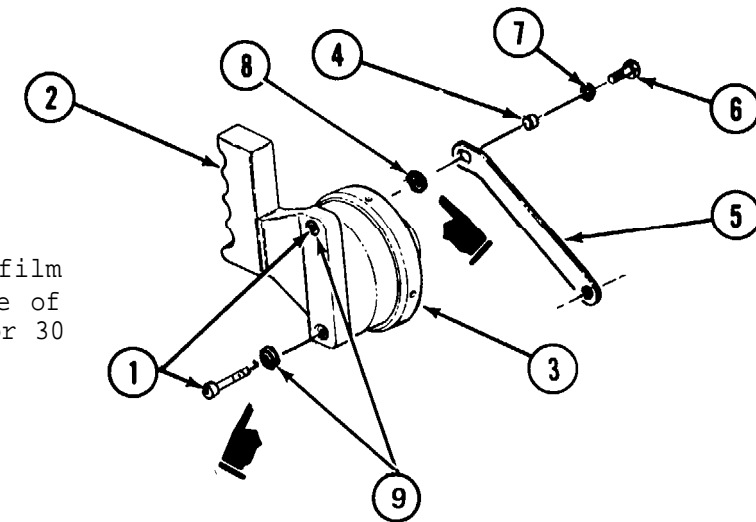
STEP 1

- A. Using a 3/16-inch socket with 3/16-inch Allen bit and torque wrench, insert screws (1) and lockwashers (9) through handle (2) into the elevation damper (3). Torque screws 30 to 40 in lb.



When installing control arm the straight end goes into the yoke and the bent end pointing down attaches to the elevation damper assembly.

- B. Apply a light coat of solid film lubricant to interior surface of bushing (4). Allow to dry for 30 minutes.



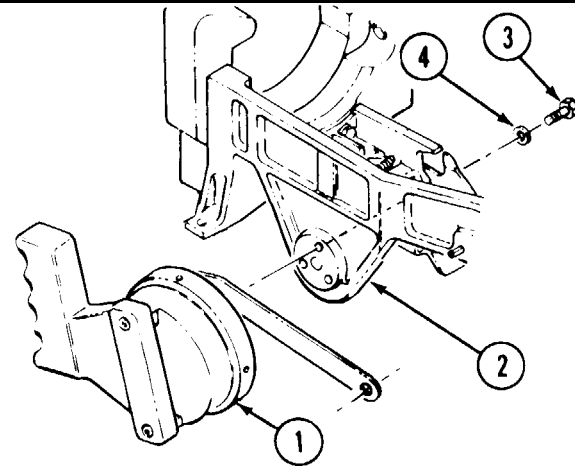
- C. Using a 7/16-inch socket and ratchet wrench, install lockwasher (8) and control arm (5) on elevation damper assembly (3) using bolt (6), lockwasher (7), and bushing (4). Torque bolt 30 to 40 in lb.

GO TO NEXT PAGE

5-37. INSTALL ELEVATION DAMPER ASSEMBLY - CONTINUED

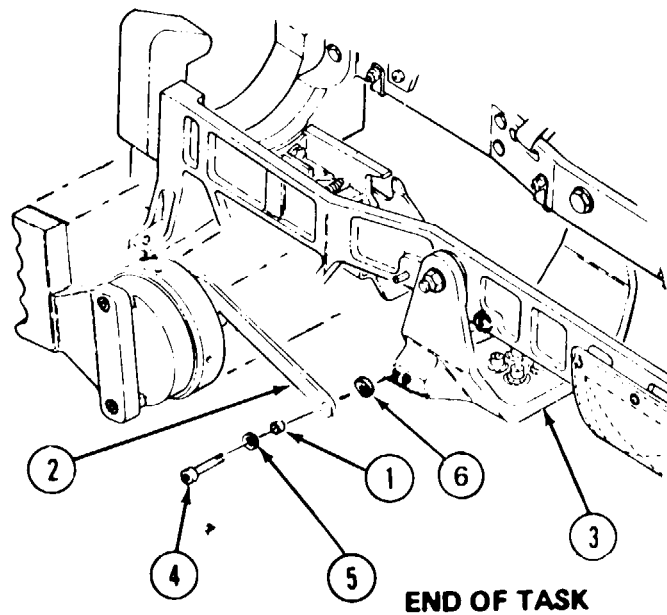
STEP 2

Using 7/16 inch socket and ratchet wrench, secure elevation damper assembly (1) to cradle assembly (2) using bolts (3) and washers (4). Torque bolts 30 to 40 inch/pounds.



STEP 3

- A. Apply a light coat of solid film lubricant to interior surface of bushing (1). Allow to dry for 30 minutes.
- B. Using a 7/16-inch socket and ratchet wrench, install lockwasher (6) and control arm (2) to yoke (3) ; using bolt (4), lockwasher (5), and bushing (1). Torque bolt 30 to 40 in lb.



5-38. INSTALL CAM SLIDE ASSEMBLY

Tools required: No. 2 crosspoint screwdriver
3/8 inch box end wrench
Torque screwdriver, inch/pounds
No. 2 crosspoint bit

Materials required:

Materials

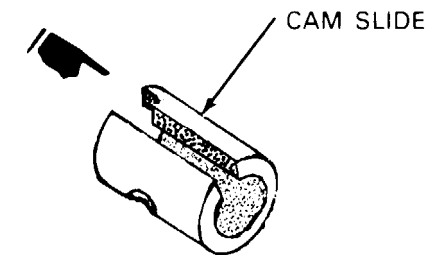
Solid film lubricant
Brush

See Appendix D

Item 14
Item 9

STEP 1

Apply a light coat of solid film lubricant to the shaded area as shown. Allow to dry for 30 minutes.

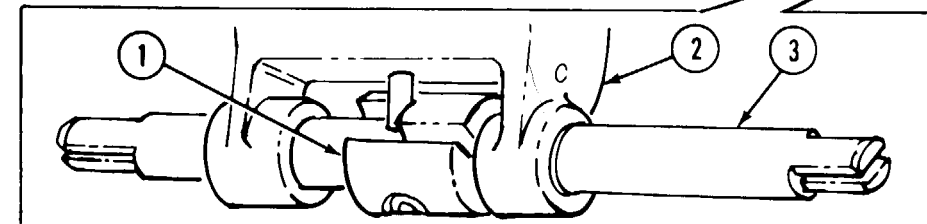


STEP 2

Install cam slide (1) and tracker mount assembly (2) on shaft (3).

**NOTE**

Be sure cam slide is in position shown.



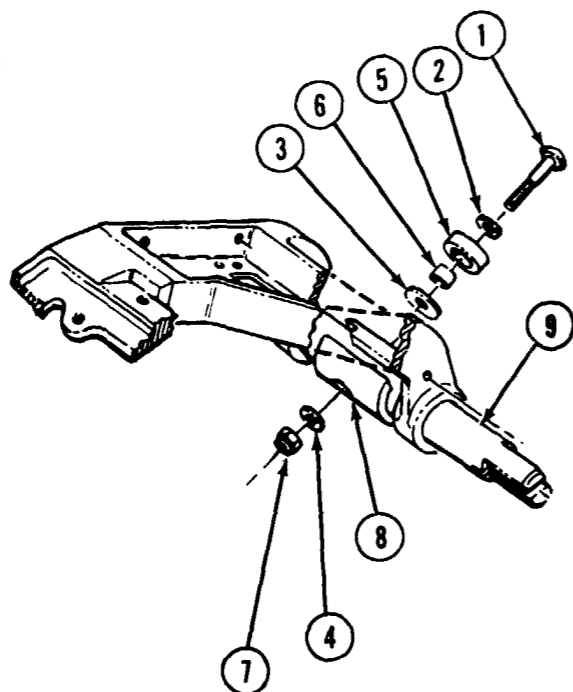
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5-38. INSTALL CAM SLIDE ASSEMBLY - CONTINUED

STEP 3

A. Using screwdriver and 3/8 inch box end wrench, install screw (1), washers (2, 3 and 4), pad (5), spacer (6) and nut (7) in cam slide (8) to secure cam slide to shaft (9).

B. Using torque screwdriver, torque screw (1) 18 to 35 inch/pounds.



STEP 4



CAUTION

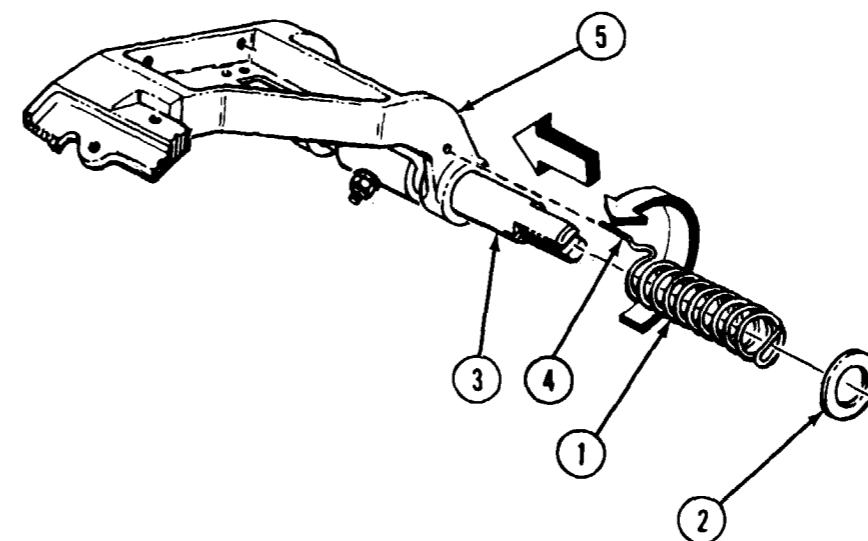
The following steps apply tension to a spring. Perform carefully to avoid damage or loss of the spring.



NOTE

When sliding spring onto shaft, rotate spring tang (4) 1 to 1 1/2 turns counterclockwise. This loads the mount in an "open" direction.

Slide spring (1) and washer (2) onto shaft (3) and engage spring tang (4) in side of tracker mount assembly (5).



END OF TASK

5-39. INSTALL TRACKER MOUNT ASSEMBLY

Tools required: 7/16 inch socket
 Ratchet wrench
 3 inch extension
 Torque wrench, inch/pounds

Materials required:

Materials

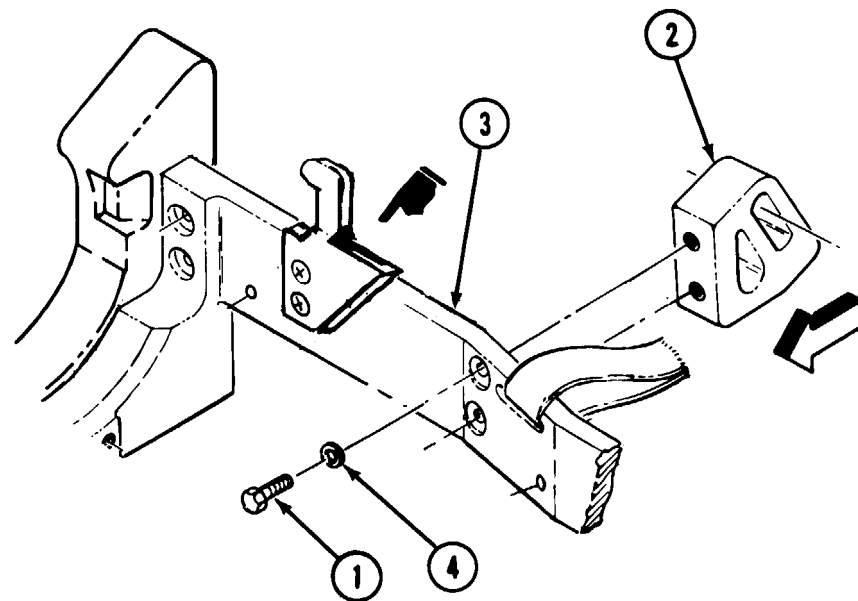
Brush
 Solid film lubricant

See Appendix D

Item 9
 Item 14

Step 1

- A. Apply thin coat of solid film lubricant to threads of four bolts (1). Allow to dry for 30 minutes.
- B. Using 7/16 inch socket, extension and ratchet wrench, install rear adapter (2) onto cradle assembly (3) using bolts (1) and washers (4).
- C. Using torque wrench and socket, torque bolts (1) 30 to 40 inch/pounds.

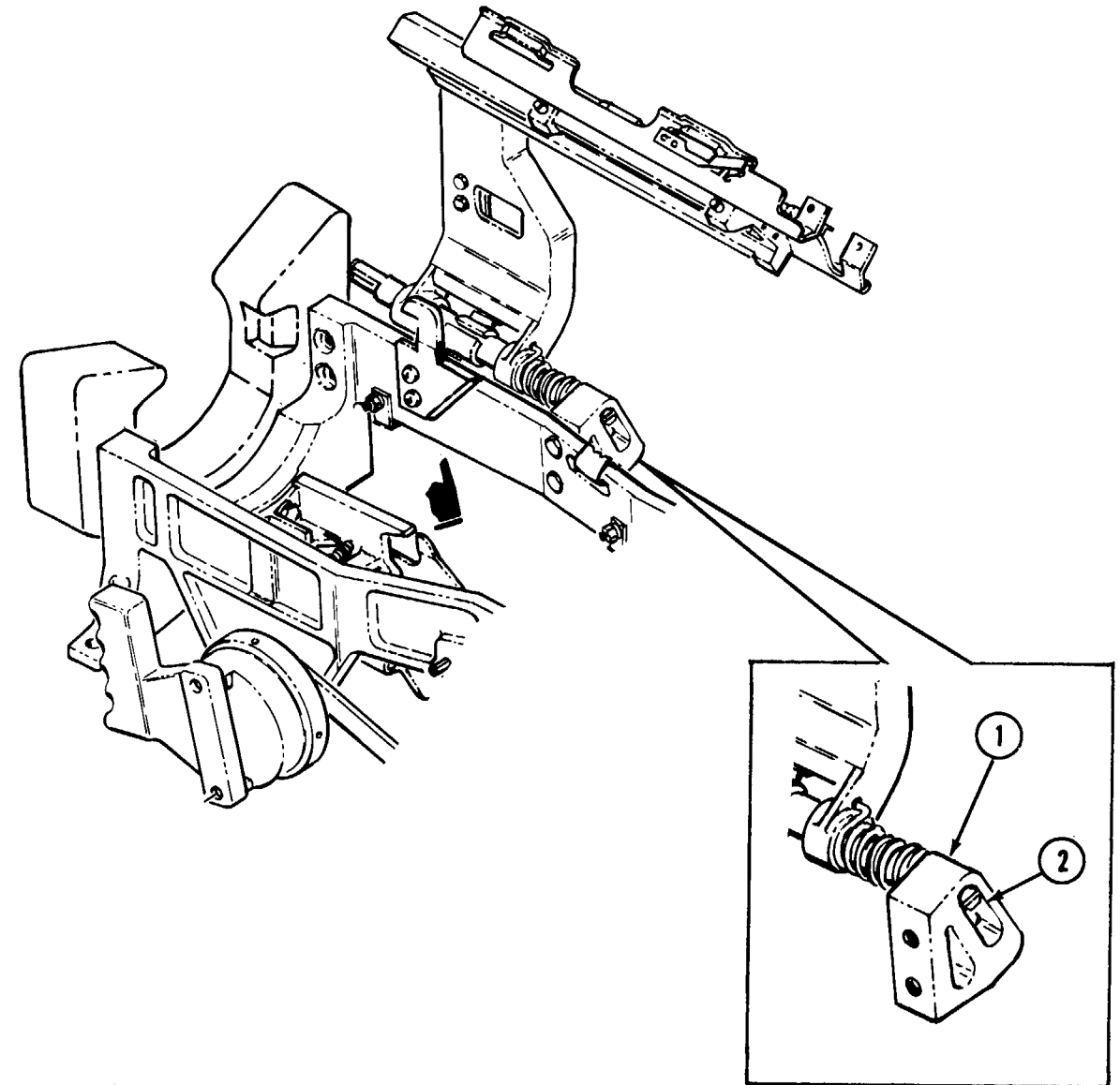


STEP 2

**NOTE**

Shaft must be inserted into outside slot (2) of adapter (1).

Insert shaft into adapter (1).

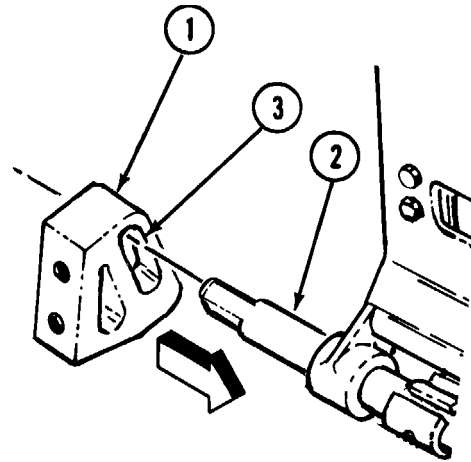


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5-39. INSTALL TRACKER MOUNT ASSEMBLY - CONTINUED

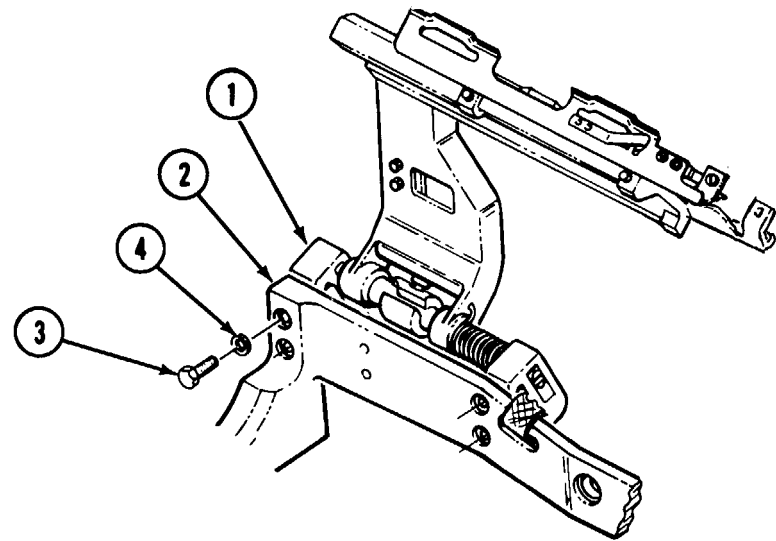
STEP 3

- A. Install adapter (1) on shaft (2).
- B. Shaft must be inserted into outside slot (3) of adapter (1).



STEP 4

Secure forward adapter (1) to cradle assembly (2) using two bolts (3) and two washers (4). Torque bolts 30 to 40 inch/pounds.



END OF TASK

5-40. INSTALL FIRING MECHANISM

- | | | |
|-----------------|----------------------|-------------------------|
| Tools required: | Heat gun | Ratchet wrench |
| | 3/8 inch socket | 3/8 inch box end wrench |
| | 3 inch extension bar | Torque wrench |

Materials required:

Materials

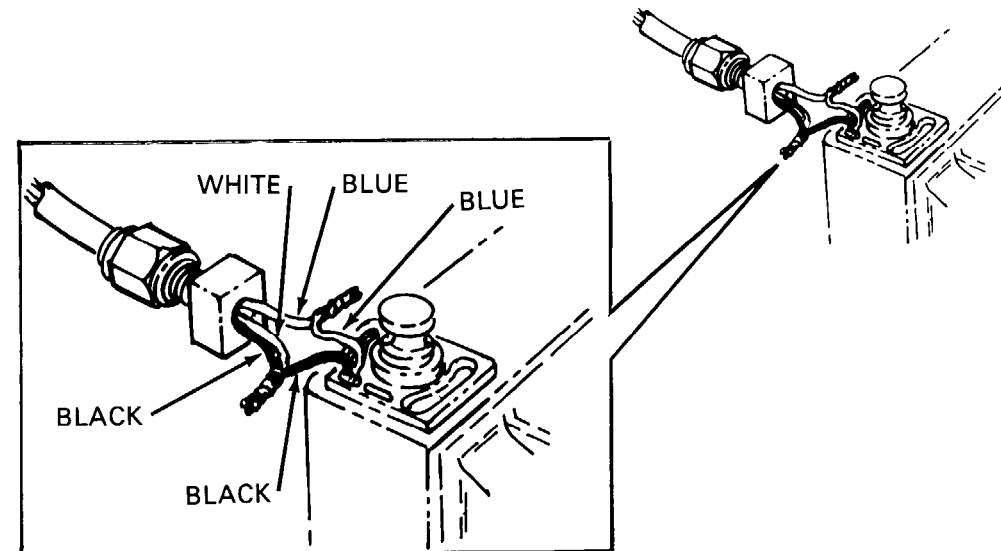
- Solder
- Alcohol
- Insulation sleeving

See Appendix D

- Item 11
- Item 8
- Item 36

STEP 1

Tin the wires and solder the pigtails from the replacement firing mechanism to the pigtails of the wiring harness; (blue to blue, black and white to black leads).

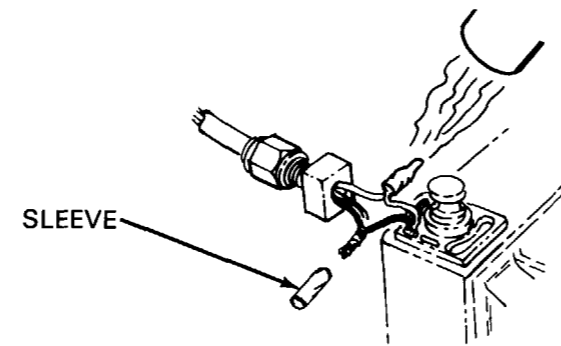


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5-40. INSTALL FIRING MECHANISM - CONTINUED

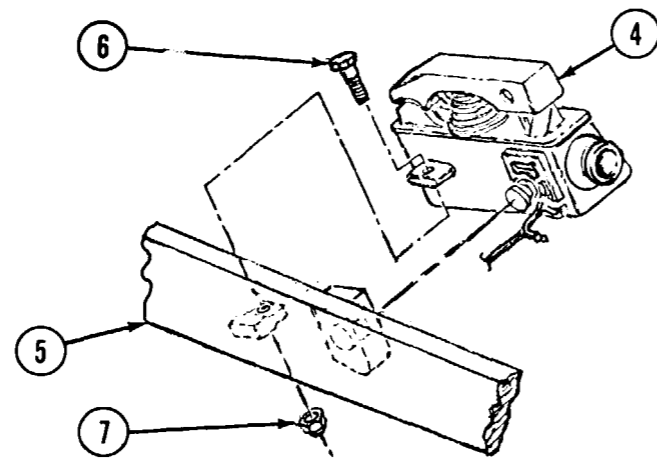
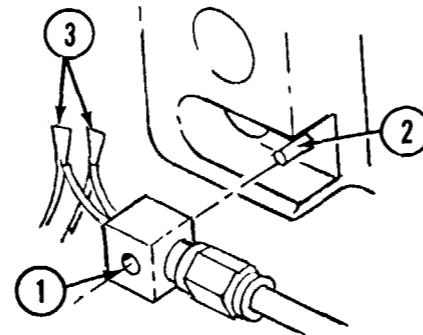
STEP 2

Install sleeving over each of the solder connections. Squeeze end of tubing together as heat is applied with heat gun in the shrinking process.



STEP 3

- A. Install fitting (1) into pin (2). Feed wires (3) into slot behind fitting (1).
- B. Set firing mechanism in place.
- C. Attach firing mechanism (4) to cradle assembly (5) using bolt (6) and nut (7). Using 3/8 inch socket, 3 inch extension bar, ratchet and 3/8 inch box end wrench, tighten bolt. Using torque wrench, torque bolt (6) 18 to 35 inch/pounds.

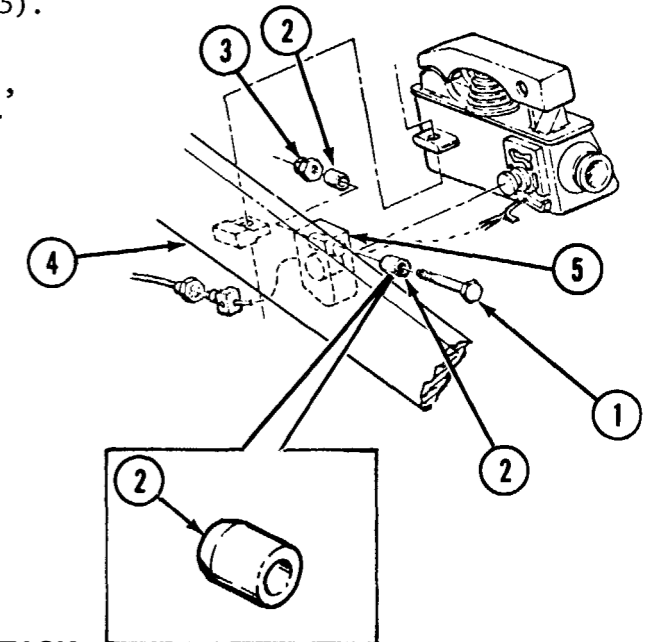


STEP 4



Chamfered ends of sleeves (2) go towards center of mounting flange (5).

- A. Install bolt (1), two sleeves (2), and nut (3) through cradle assembly (4) using 3/8 inch socket, extension bar and ratchet and 3/8 inch open end wrench.
- B. Torque bolt (1) 18 to 35 inch/pounds using torque wrench.



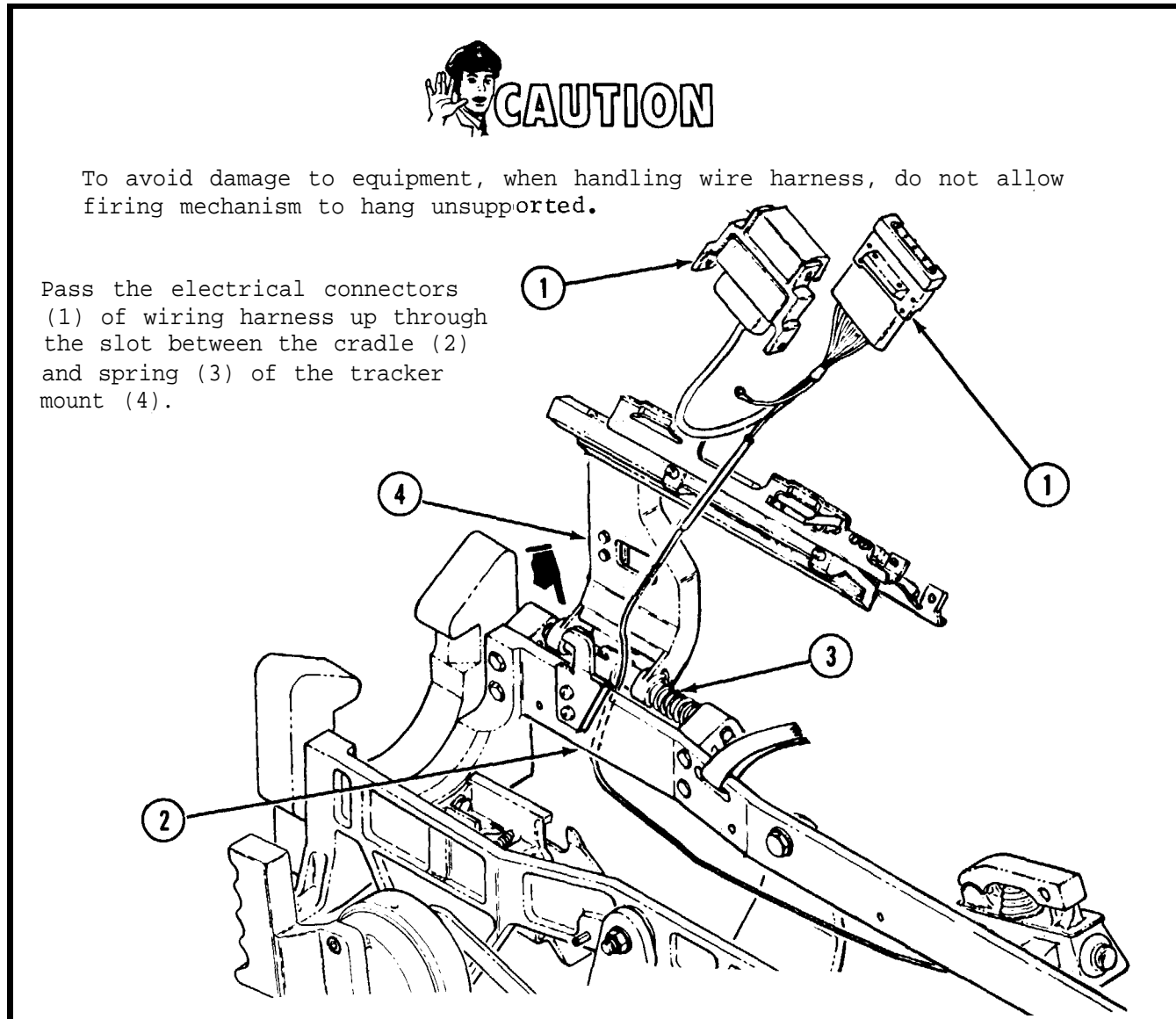
END OF TASK

5-41. INSTALL WIRING HARNESS ASSEMBLY

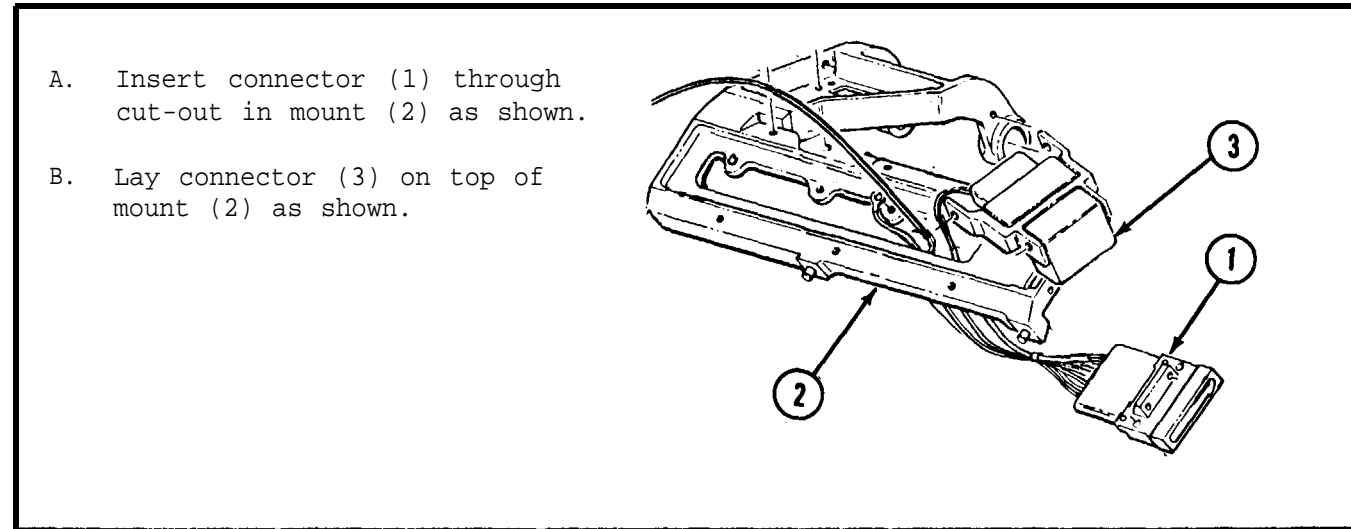
Tools required: No. 1 crosspoint screwdriver
 No. 2 crosspoint screwdriver
 No. 0 crosspoint screwdriver
 11/32 inch open end wrench
 Torque wrench, inch/pounds
 Torque screwdriver, inch/pounds
 No. 1 crosspoint bit
 11/32 inch socket

Equipment condition: Tracker mount assembly installed, see para. 5-39.
 Wiring harness firing mechanism installed, see para. 5-40.

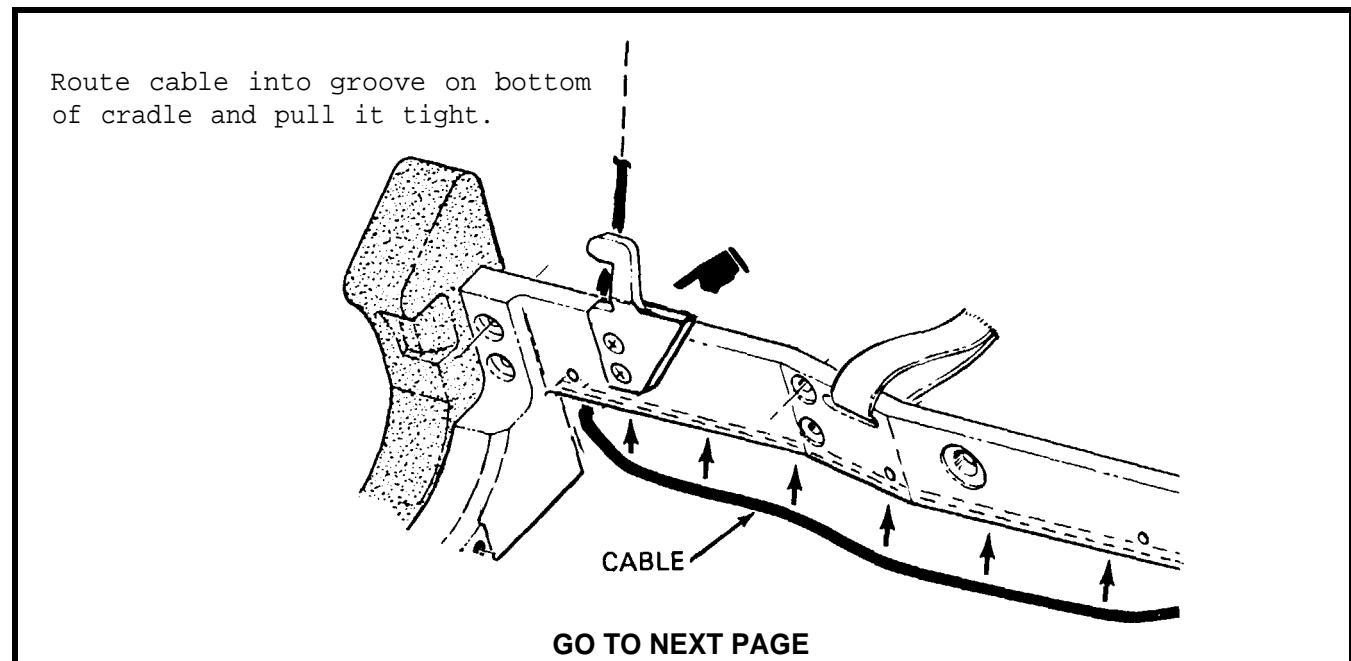
STEP 1



STEP 2



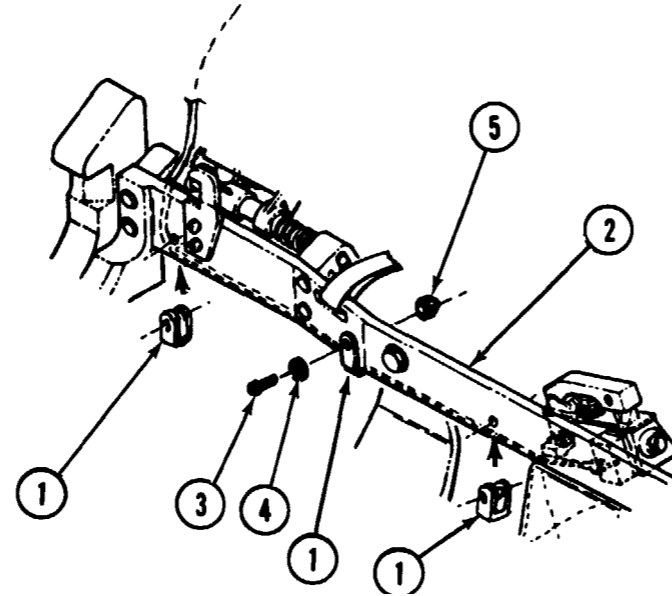
STEP 3



5-41. INSTALL WIRING HARNESS ASSEMBLY - CONTINUED

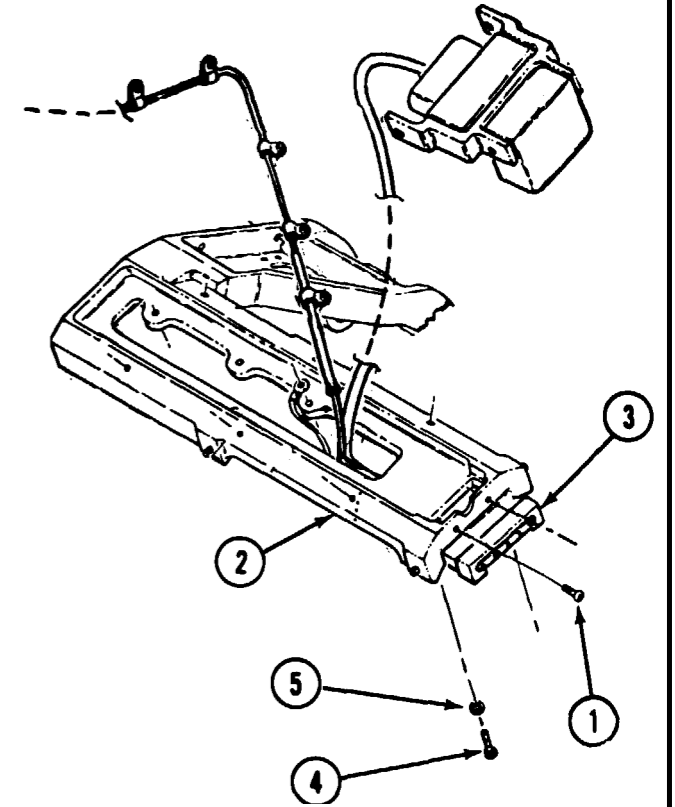
STEP 4

- A. Position clamps (1) as shown.
- B. Install three clamps (1) on cradle (2) using three screws (3) and three washers (4) inserted from inside the cradle. Secure with three nuts (5) and tighten with No. 2 crosspoint screwdriver and an 11/32 inch open end wrench.
- C. Torque three nuts (5) 18 to 35 inch/pounds.



STEP 5

- A. Using No. 1 crosspoint screwdriver, insert two screws (1) through mount (2) and into connector (3).
- B. Using No. 0 crosspoint screwdriver, install four screws (4), and four washers (5) into bottom of connector (3) to secure it to mount.
- C. Torque six screws (1) and (4) 4 to 5.5 inch/pounds.

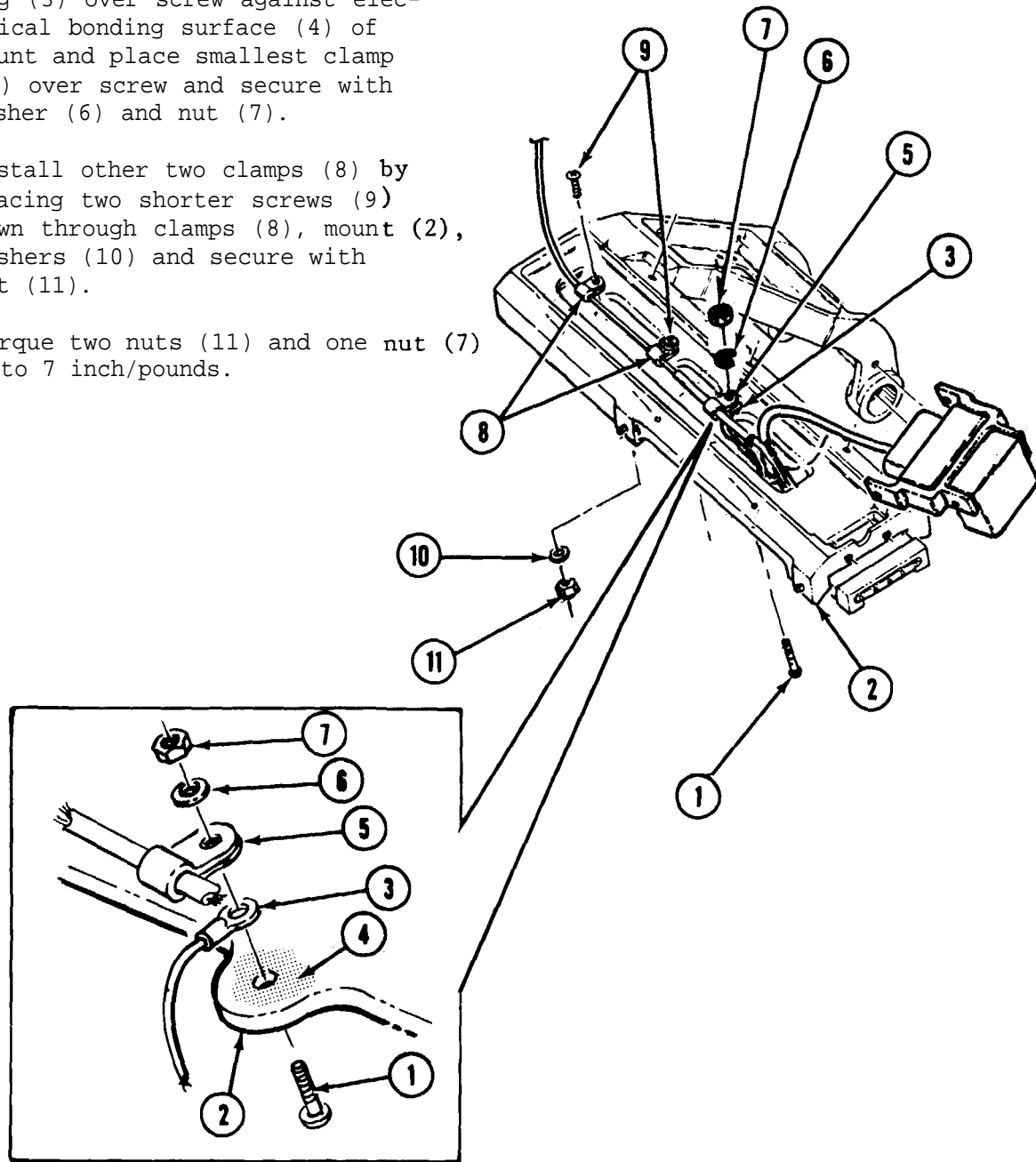


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5-41. INSTALL WIRING HARNESS ASSEMBLY - CONTINUED

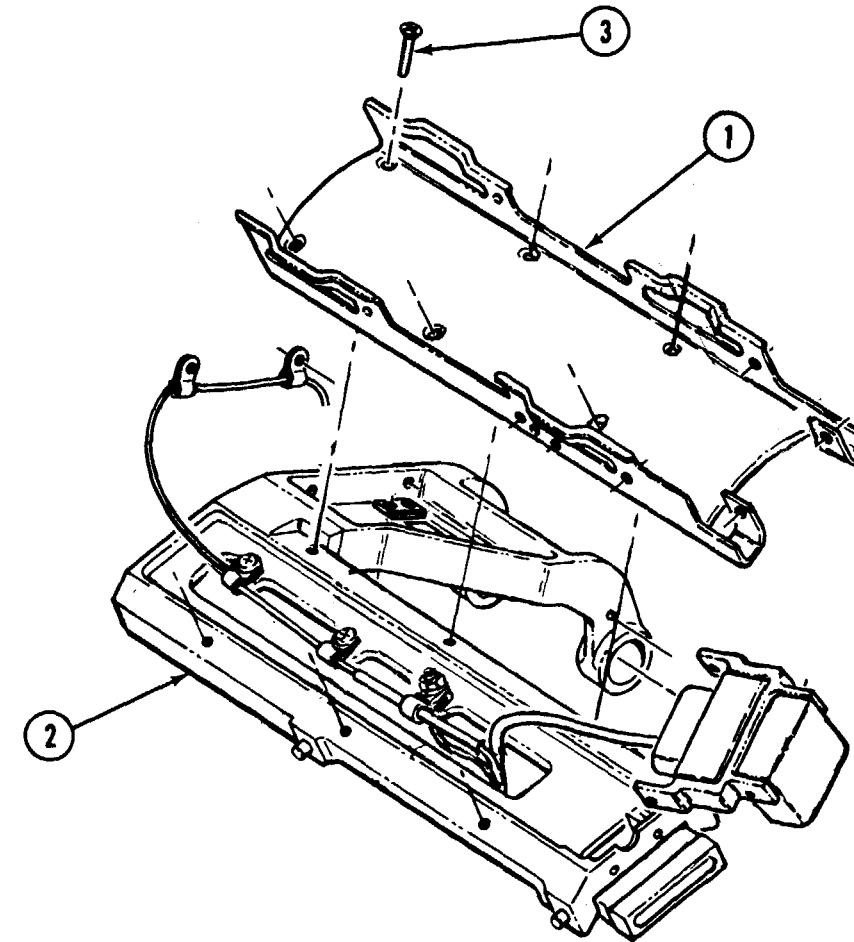
STEP 6

- A. Using a No. 2 crosspoint screwdriver and 11/32 inch open end wrench, install longest screw (1) up from bottom through mount (2). Place lug (3) over screw against electrical bonding surface (4) of mount and place smallest clamp (5) over screw and secure with washer (6) and nut (7).
- B. Install other two clamps (8) by placing two shorter screws (9) down through clamps (8), mount (2), washers (10) and secure with nut (11).
- C. Torque two nuts (11) and one nut (7) 5 to 7 inch/pounds.



STEP 7

- A. Using a No. 0 crosspoint screwdriver, install bracket assembly (1) on tracker mount assembly (2) using six countersunk screws (3).
- B. Torque screws (3) 5 to 7 inch/pounds.



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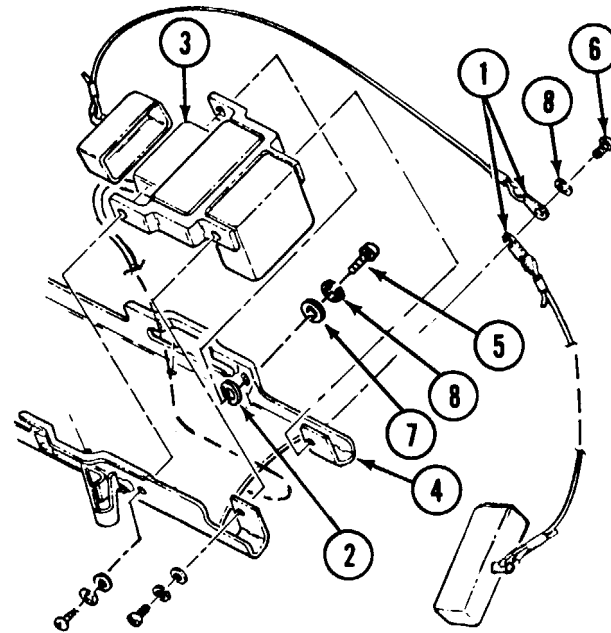
5-41. INSTALL WIRING HARNESS ASSEMBLY - CONTINUED

STEP 8

**NOTE**

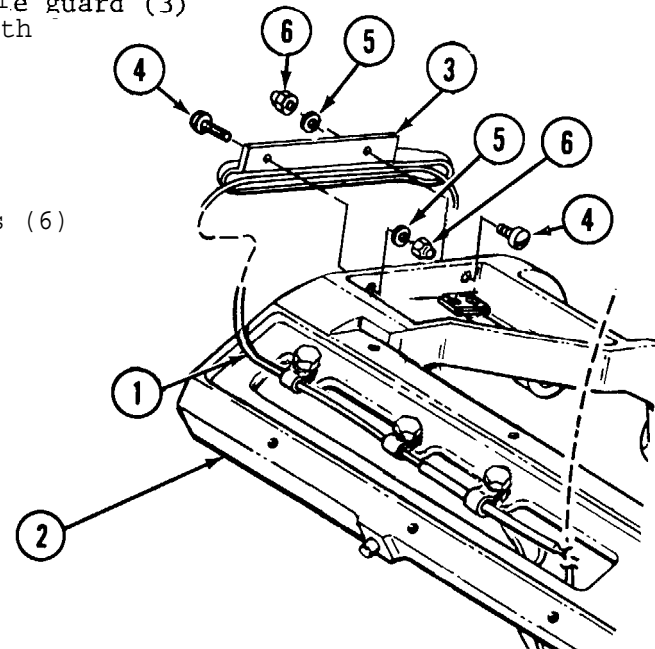
Looking forward, lanyards (1) belong on right rear side. Shim (2) goes between connector (3) and bracket assembly (4) on right front.

- A. Using a No. 0 crosspoint screwdriver, install connector (3) and lanyards (1) on bracket assembly (4) using three screws (5), one screw (6), four washers (7), four lockwashers (8) and one shim (2).
- B. Torque screws (5) 5 to 7 inch pounds. Torque lanyard screw (6) 10 to 12 inch pounds.



STEP 9

- A. Secure cable assembly (1) and cable guard (3) to rearward edge of mount (2) with two screws (4), two washers (5), and two nuts (6) using a no. 2 crosspoint screwdriver and a 11/32-inch open end wrench.
- B. Make sure that screws (4) and nuts (6) are installed as shown.
- C. Torque screws (4) 5 to 7 in lb.



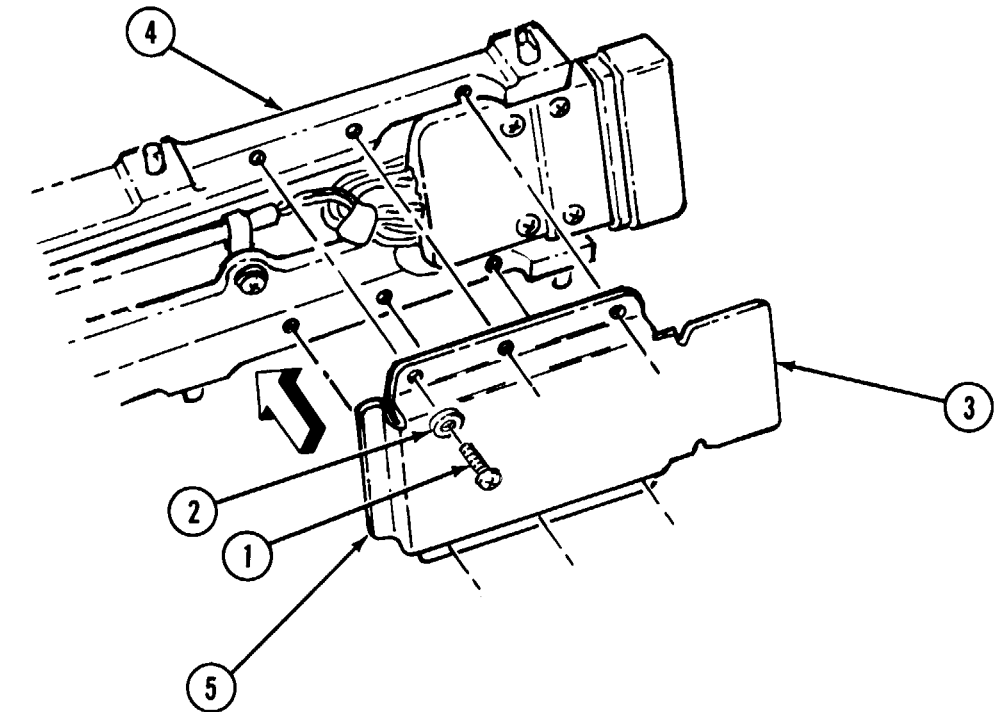
STEP 10

- A. Using a No. 0 crosspoint screwdriver, install six screws (1) and six washers (2) to secure connector cover (3) to bottom of tracker mount assembly (4).

**NOTE**

The lip (5) of cover (3) faces up into tracker mount.

- B. Torque screws 4 to 5.5 inch pounds.



END OF TASK

5-42. INSTALL CRADLE HOOK

Tools required: No. 2 offset crosspoint screwdriver
 7/16 inch open end wrench
 7/16 inch socket
 Torque wrench, inch pounds

Equipment condition: Tracker mount assembly removed, see para. 5-16.

A. Position cradle hook (1) on cradle assembly (2).

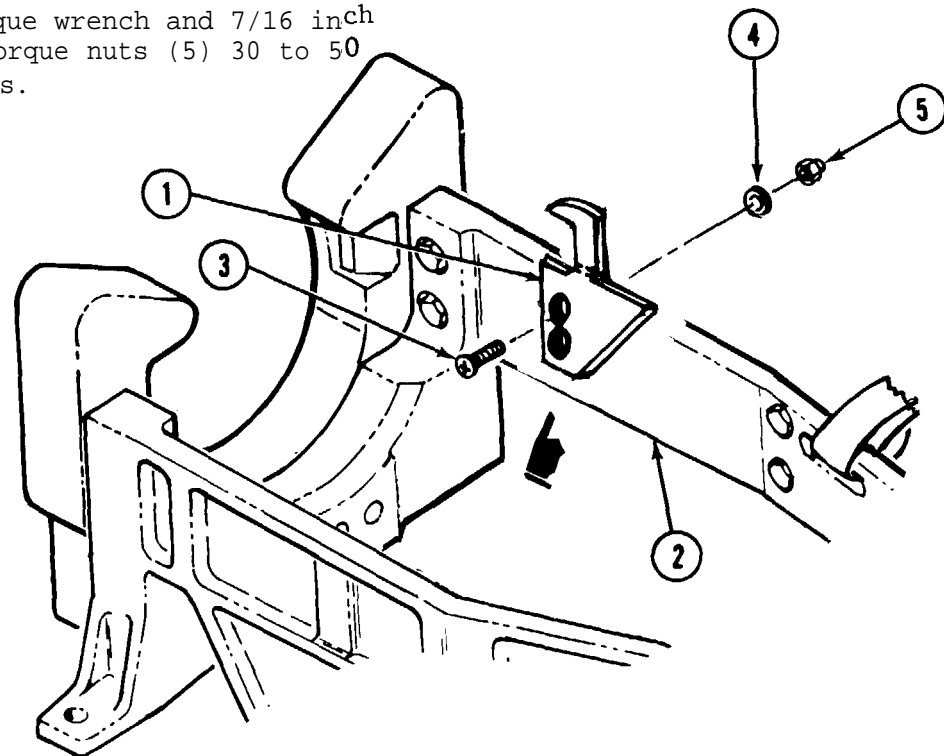


NOTE

Cradle hook should be held as far to rear as it will go while screws are being tightened.

B. Using No. 2 offset screwdriver and 7/16 inch open end wrench, secure cradle hook (1) to cradle assembly (2) using screws (3), washers (4) and nuts (5).

C. Using torque wrench and 7/16 inch socket, torque nuts (5) 30 to 50 inch pounds.



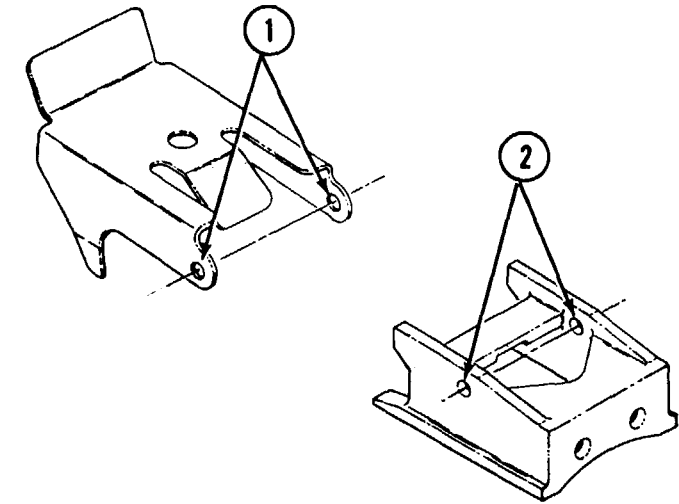
END OF TASK

5-43. INSTALL PAWL AND ADAPTER

Tools required: 9/16 inch socket
 1/2 inch socket
 Ratchet wrench
 6 inch extension
 Torque wrench, inch pounds
 1/2 inch box end wrench

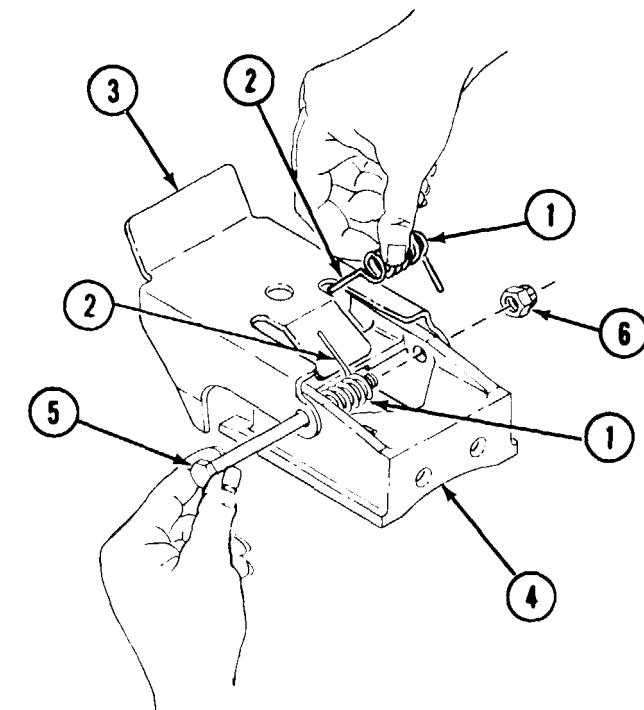
STEP 1

Align bolt holes of pawl (1) with bolt holes of adapter (2).



STEP 2

- A. Place springs (1) in position.
- B. Position spring tangs(2) as shown in illustration.
- C. Secure springs (1) and pawl (3) in adapter (4) using bolt (5) and nut (6). Tighten, using 1/2 inch box end wrench, ratchet, 6 inch extension and 1/2 inch socket.



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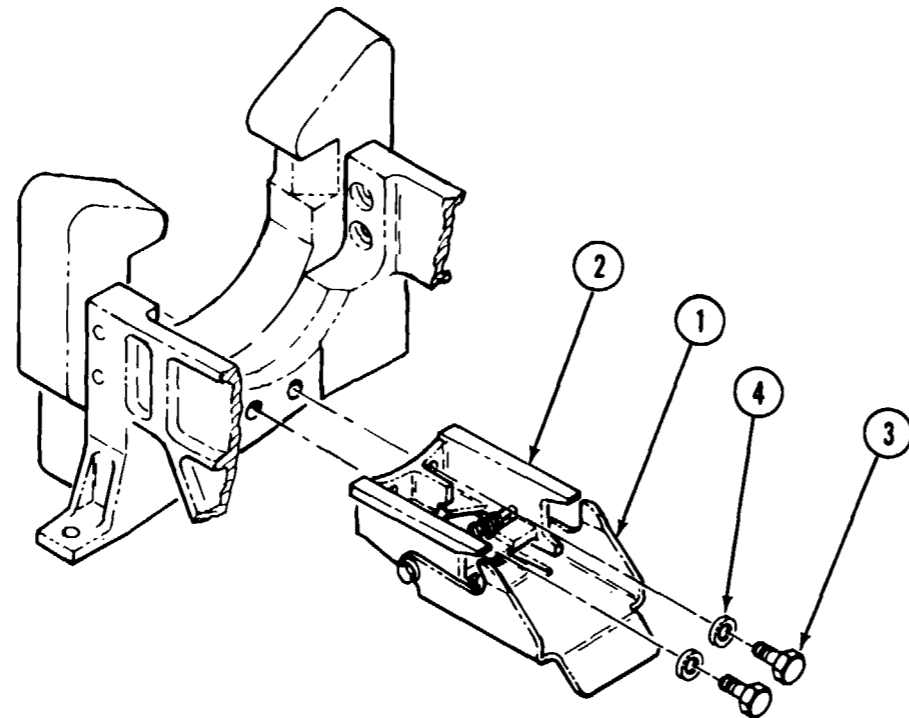
5-43. INSTALL PAWL AND ADAPTER - CONTINUED

STEP 3



Hold pawl (1) and adapter (2) up as far as they will go while tightening the bolts (3).

Install pawl (1) and adapter (2) to cradle assembly using bolts (3) and washers (4). Using torque wrench and 9/16 inch socket, torque bolts 95 to 110 inch pounds.

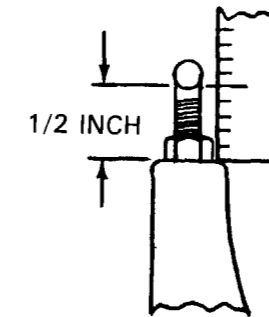


END OF TASK

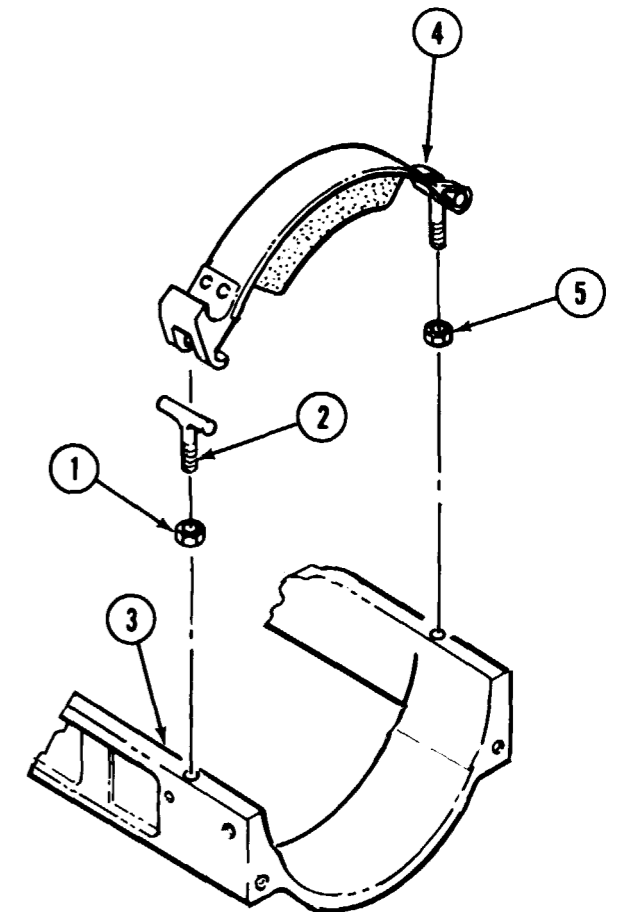
5-44. INSTALL CRADLE STRAP ASSEMBLY AND TEE BOLTS

Tools required: 3/8 inch open end wrench
Machinist's rule

- A. Put nut (1) on tee bolt (2) and run it to end of threads.
- B. Screw tee bolt (2) into top of cradle (3) (left side). Using machinist's rule, measure from top of cradle to bottom of tee bolt . . . adjust to 1/2 inch.



- C. Using wrench, tighten lock nut (1) against cradle.
- D. Screw strap assembly (4) with lock nut (5) into cradle (3).
- E. Adjust strap clearance to 1/2 inch between top surface of cradle (3) and bottom of tee bolt [part of strap assembly (4)].
- F. Tighten lock nut (5).

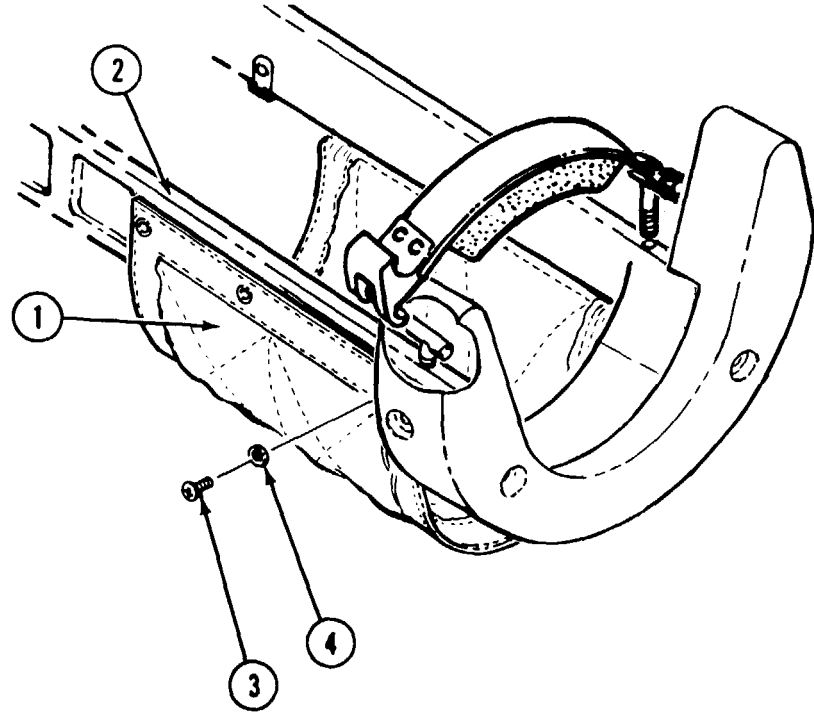


END OF TASK

5-45. INSTALL BIPOD SUPPORT

Tools required: Torque screwdriver, inch pounds
No. 2 crosspoint bit

- A. Position bipod support (1) on cradle (2) and align holes.
- B. Start six screws (3) and washers (4) through support (1) into cradle (2).
- C. Using torque screwdriver and bit, torque screws 18 to 35 inch pounds.



END OF TASK

5-46. INSTALL REAR SHOCK ABSORBER

Tools required: 5/16 inch socket
Torque wrench, inch pounds

Materials:

Materials

- Alcohol
- Adhesive sealant
- Cleaning cloth
- Brush
- Orangewood stick

See Appendix D

- Item 8
- Item 73
- Item 6
- Item 9
- Item 7

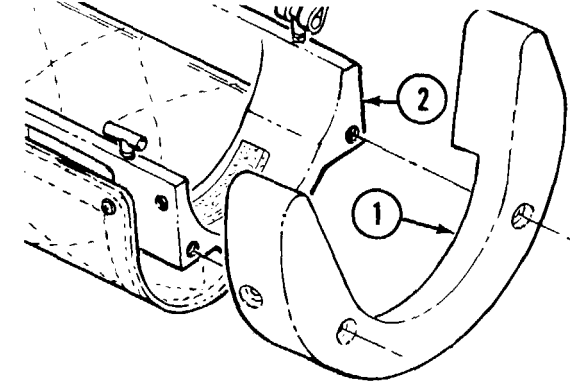
STEP 1

- A. Clean mating surfaces of shock (1) and cradle (2) with cleaning cloth and alcohol.



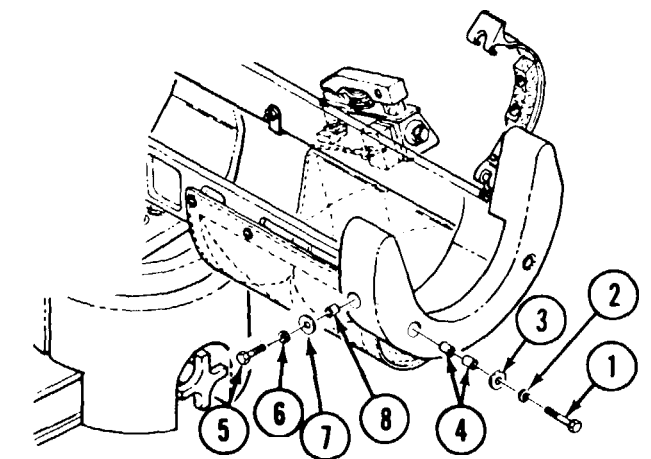
Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

- B. Paint mating surfaces with primer (if required). Let cure according to the manufacturer's instructions.
- C. Apply adhesive sealant to mating surfaces of shock absorber with an orangewood stick.



STEP 2

- A. Press surfaces together, then install two bolts (1), washers (2), and (3) and spacers (4).
- B. Torque bolts (1) 18 to 35 inch pounds. Wipe off excess adhesive.
- C. Install bolts (5), washers (6) and (7) and spacers (8).
- D. Using torque wrench and socket, torque bolts (5) 18 to 35 inch pounds. Let cure for 24 hours.



5-47. INSTALL FRONT SHOCK ABSORBER

Tools required: 5/16 inch socket
Torque wrench, inch pounds

Materials required:

Materials

- Alcohol
- Cleaning cloth
- Brush
- Orangewood stick
- Adhesive sealant

See Appendix D

- Item 8
- Item 6
- Item 9
- Item 7
- Item 73

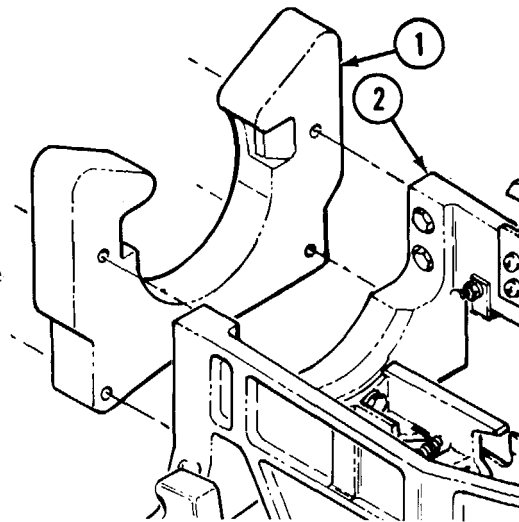
STEP 1

- A. Clean mating surfaces of shock (1) and cradle (2) with cleaning cloth and alcohol.



Read the manufacturer's instructions on the adhesive container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

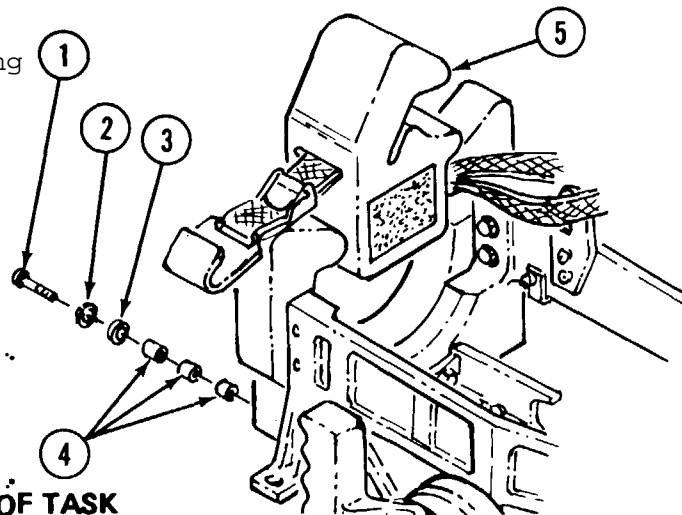
- B. Paint mating surfaces with primer (if required). Let cure according to manufacturer's instructions.
- C. Apply adhesive sealant to mating surfaces of shock absorber with orangewood stick.



STEP 2

- A. press surfaces together, aligning holes, then install four bolts (1), washers (2 and 3) and three spacers (4).
- B. Insert mount shock absorber (5) between the tips of shock, until adhesive is cured.
- C. Torque bolts (1) 18 to 35 inch lbs..
- D. Wipe off excess adhesive.
- E. Cure time for adhesive is 72 hours.

END OF TASK



5-48. FINAL INSPECTION

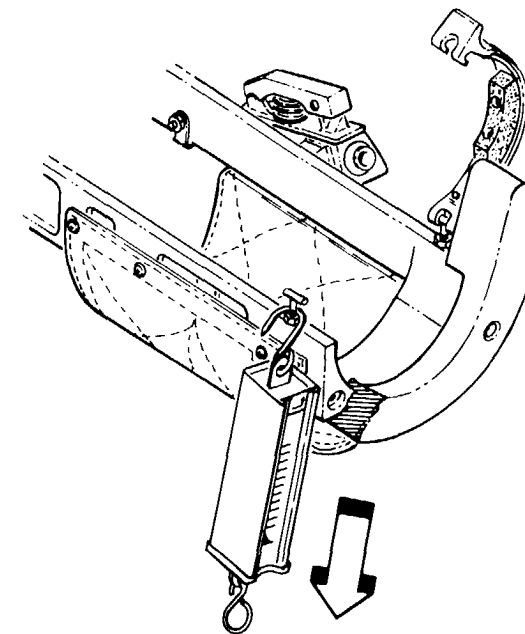


- The following mechanical checks are affected by temperature. Check the thermometer to see if you are between -12.2°C (+10.0°F) and +51.7°C (+125.0°F).
- The measuring tools (spring gauge and torque screwdriver) are sensitive to cold temperatures. Keep them warm, until you are ready to use them.
- If there is ice on the M175 mount, move the mount in both azimuth and elevation to free the controls.

a. Elevation Damper Check

STEP 1

- A. Attach spring scale to "TEE" bolt on rear end of M175 mount (either side).



- B. Position the M175 mount "nose down".

GO TO NEXT PAGE

5-48. FINAL INSPECTION - CONTINUED

STEP 2

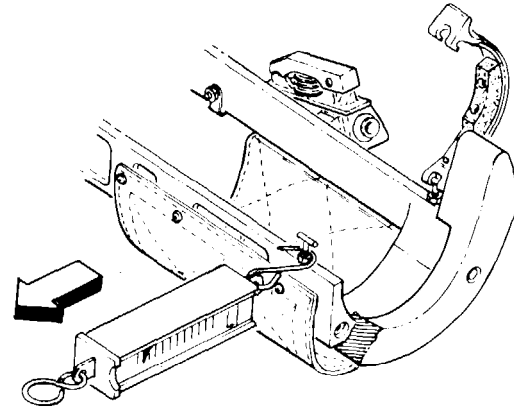
- A. Slowly increase pressure on the spring scale (pulling down) and watch both the scale and the rear of the M175 mount. Note the scale reading when the M175 mount starts moving.
- B. Maintain pressure on the scale until the M175 mount moves from limit to limit.
- C. If it requires more than 30.0 pounds to maintain movement from limit to limit (nose down to nose up) replace the elevation damper, see para. 5-19.

STEP 3

- A. Position the cradle so that it is in a horizontal position.
- B. Release it and time it. If it takes less than 5 seconds for the cradle to reach the limit (nose down) replace the elevation damper, see para. 5-19.

b. Azimuth Damper Check
STEP 1

- A. Move the spring scale (hooked to the "TEE" bolt) up, so that it is horizontal to the APC deck and perpendicular to the cradle.



STEP 1 - CONTINUED

- B. Slowly increase pressure on the spring scale (pulling perpendicular to the cradle) and watch both the scale and the rear of the M175 mount. Note the scale reading when the M175 mount starts moving.
- C. Maintain pressure on the scale until the M175 mount moves 90°.
- D. If it requires more than 14.0 pounds to maintain movement through 90° replace the azimuth damper, see para. 5-20.

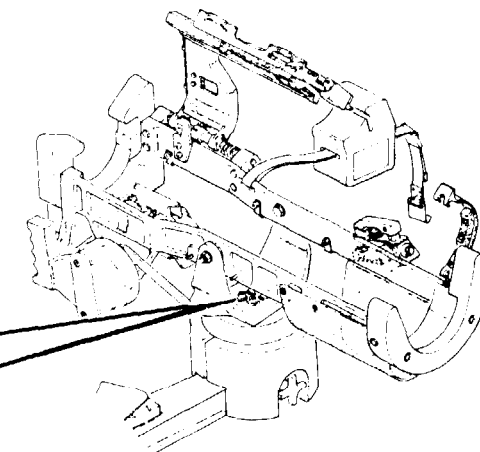
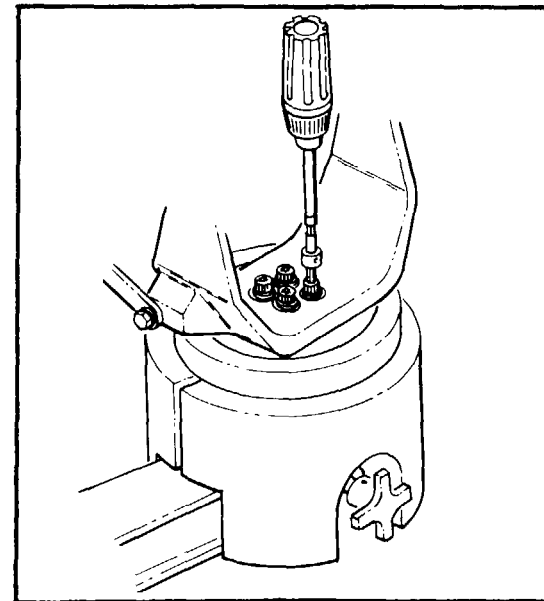
STEP 2



NOTE

A torque screwdriver must be used in the following steps, because of the mechanical torque limiting function of the tool.

- A. Insert the 1/4 inch square drive adapter then put the MA-8 adapter bit in the torque screwdriver.
- B. Adjust the torque screwdriver to 29 inch pounds.
- C. Insert torque screwdriver in any one of the four Allen head screws.



GO TO NEXT PAGE

5-48. FINAL INSPECTION - CONTINUED

STEP 3

- A. Apply force to the torque screwdriver so that the M175 cradle rotates in a clockwise direction. If it requires less than twenty seconds to rotate the cradle 90° replace the azimuth damper, see para. 5-20.
- B. After any maintenance or repair, the M175 mount must be inspected by QA/QC personnel as instructed in Appendix E. To be acceptable for return to supply, the M175 mount must pass test procedures outlined in TM 9-4935-484-14.

Step 4.

- A. Inspect the M175 shipping and storage container for proper markings, especially the maintenance data stenciled on the exterior of each end.
- B. If end markings are missing or illegible, stencil as follows:

REUSABLE CONTAINER

DO NOT DESTROY

1. Stencil letters to be 1-inch high.
2. Using black paint or black stenciling ink, brush or spray on the stencil.

CHAPTER 6
DS/GS MAINTENANCE INSTRUCTIONS - TRAINER HANDLING, GUIDED
MISSILE LAUNCHER, M57

Section II. SERVICE UPON RECEIPT

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	Para Page
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REPAIR PARTS	6-2 6-1

	Para	Page
INVENTORY INSPECTION	6-3	6-1
MAINTENANCE FORMS AND RECORDS	6-4	6-1

6-3. INVENTORY INSPECTION

The Trainer, Handling, Guided Missile Launcher, M57 should be inspected for dents or damage to tracker bracket, biped or shock mounts.

6-4. MAINTENANCE FORMS AND RECORDS

Make sure that maintenance forms DA 2404 and 2407 are completed as shown in DA PAM 738-750.

6-1. SPECIAL TOOLS AND TEST EQUIPMENT

There are no special tools or test equipment required.

6-2. REPAIR PARTS

Repair parts for the Trainer, Handling, Guided Missile, M57 are listed and illustrated in TM 9-6920-480-24P.

Section III. MAINTENANCE PROCEDURES

	REMOVE		INSTALL	
	Para	Page	Para	Page
Bipod with Long Forward Brace and Spring	6-5	6-2	6-6	6-3
Bipod with Short Forward Brace	6-7	6-4	6-8	6-5
Weight Simulator	6-9	6-6	6-10	6-7

6-5. REMOVE BIPOD WITH LONG FORWARD BRACE AND SPRING

Tools required: No. 2 crosspoint screwdriver
 Hacksaw with blade
 Flat-blade screwdriver

Materials required:

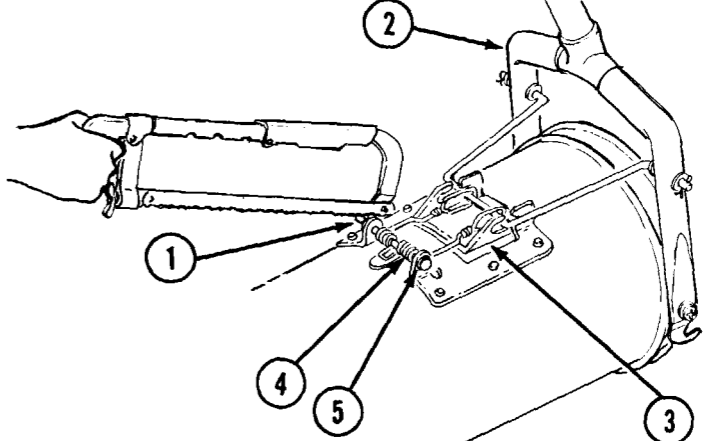
Material

Sealing compound

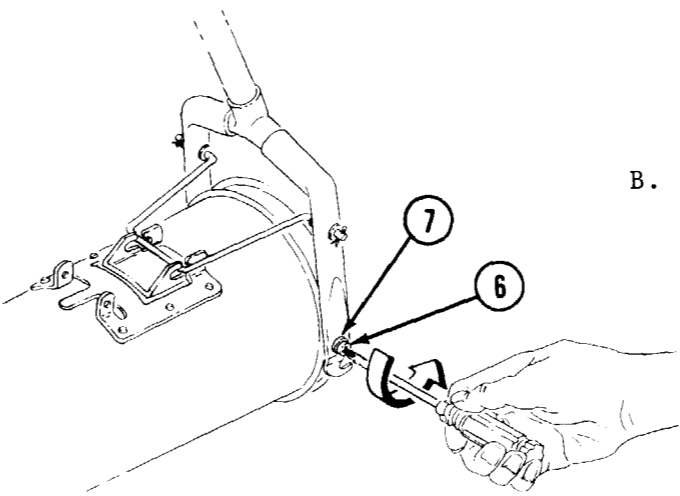
See Appendix D

Item 35

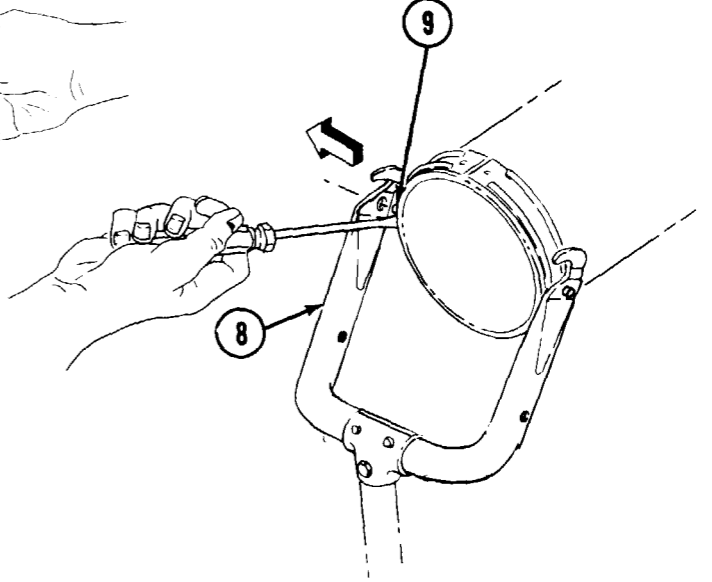
A. Extend bipod and using a hacksaw, cut rivet (1) securing bipod (2) to bracket (3), remove rivet (1), but keep spring (4) and washers (5).



B. Using a No. 2 crosspoint screwdriver, remove two screws (6) and two flatwashers (7), securing the bipod to the launcher tube.



C. Using a flat-blade screwdriver, pry one side of bipod yoke (8) from launcher tube pin (9) and remove and discard bipod.



END OF TASK

6-5.1. INSTALL REINFORCEMENT RIVETS IN BIPOD RING AND SHORT OR LONG BIPOD LATCHING BRACKET

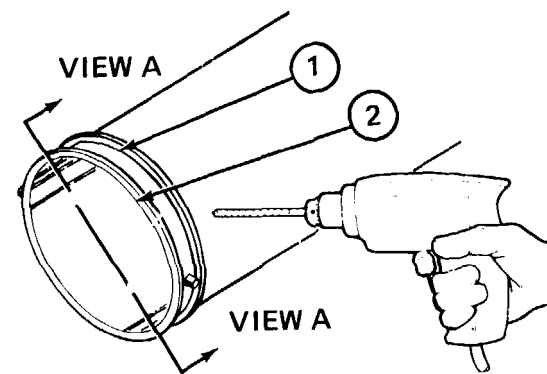
Tools Required: Electric drill, 1/4 inch
 No. 30 drill bit
 Ball peen hammer
 Centering punch
 Blind rivet installation tool
 Utility knife

Materials Required:
 Rivets See TM 9-6920-480-24P-1
 Washers See TM 9-6920-480-24P-1

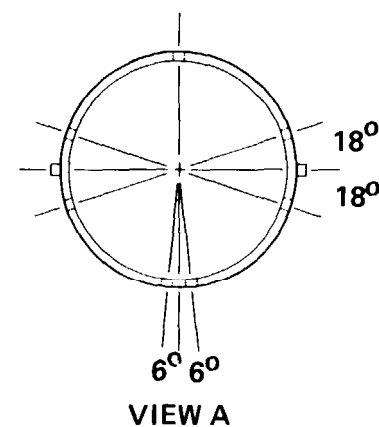
Equipment Condition: Bipod removed from support ring
 (Ref: Paragraphs 6-5 or 6-7)

STEP 1

A. Using center punch and hammer, locate the centers of seven holes 0.75 inch from forward end of launch tube (2) at locations shown in View A.



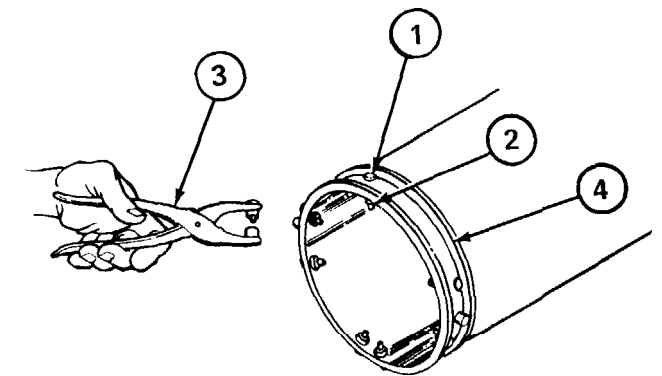
B. Using the electric drill and no. 30 bit, drill seven holes through bipod support ring (1) and launcher tube (2).



C. Remove debris and burrs from edges of holes using utility knife.

STEP 2

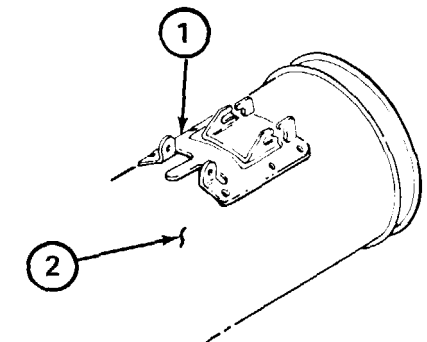
Using rivet installation tool (3), install seven blind rivets (1) and seven backup washers (2) with the rivet heads located on the outside of the support ring (4).



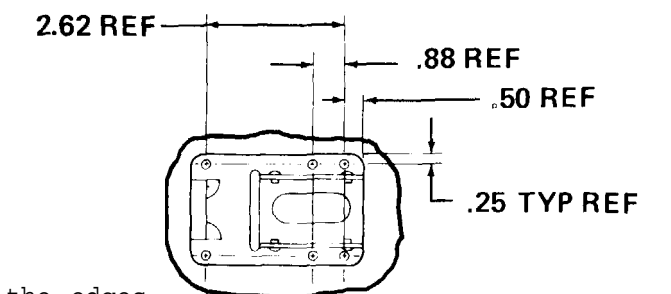
STEP 3

A. If the bipod latch on your expended round launch tube (2) is the short type (1), locate six existing hole centers and mark using a center punch and hammer.

B. If your latching mechanism only has four holes, locate two new holes as shown.



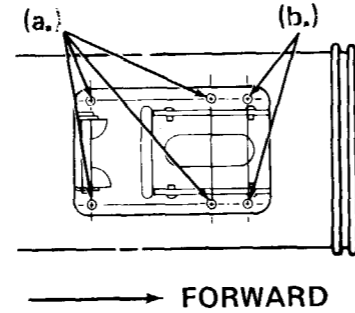
C. Using electric drill with no. 30 drill bit, drill six holes through latch and launch tube (2).



D. Remove all debris and burrs from the edges of the holes using utility knife.

STEP 4

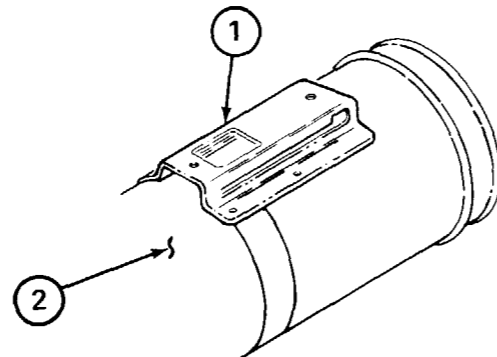
- A. Using rivet installation tool, install four rivets without backup washers in holes marked (a.), rivet head on outside of latch.



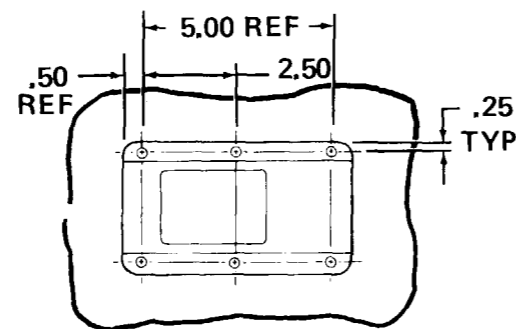
- B. Install two rivets and two backup-washers in holes marked (b.), rivet head on outside of latch and washer on inside of launch tube.

STEP 5

- A. If the bipod latch on your expended round launch tube (2) is the long type (1), locate the center of the four existing holes and two new holes per dimensions shown. Mark using center punch and hammer.



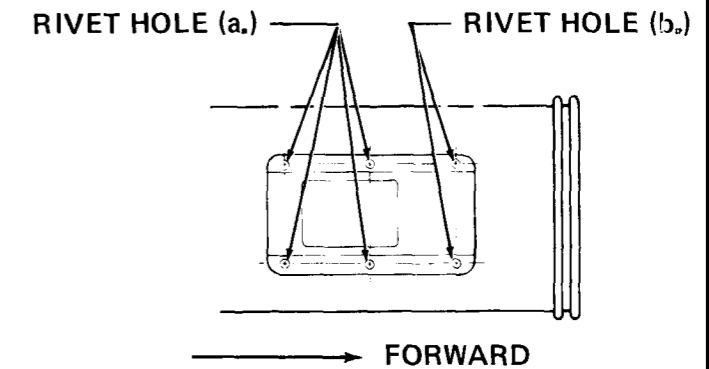
- B. Using electric drill and no. 30 drill bit, drill six holes through latch and launch tube (2).



- C. Remove all debris and burrs from edges of holes using utility knife.

STEP 6

- A. Using rivet installation tool, install four rivets without backup washers in holes marked (a.), rivet heads on outside of latch.



- B. Install two rivets and two backup washers in holes marked (b.), rivet head on outside of latch and washers on inside of launch tube.

END OF TASK

Follow-on Task: Go to paragraph 6-6 or 6-8.

6-6. INSTALL BIPOD WITH LONG FORWARD BRACE AND SPRING

Tools required: Longnose pliers
 No. 2 crosspoint screwdriver
 Flat-blade screwdriver

Materials required:

See Appendix D

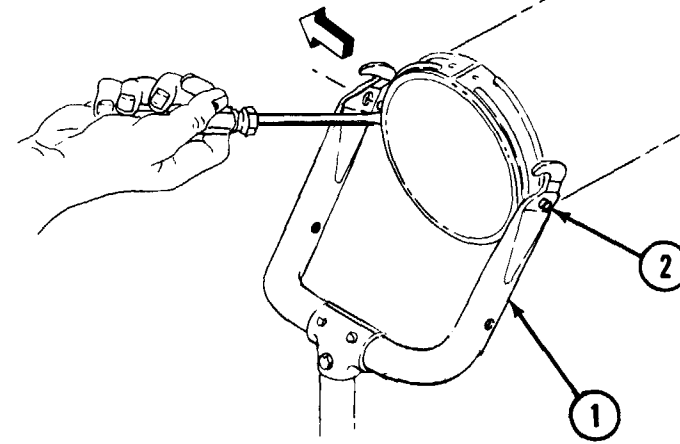
Materials

Item 35

Sealing compound

STEP 1

Slip one side of bipod yoke (1) on one of the launcher tube pins (2), then using a flat-blade screwdriver, spread the other side of the bipod yoke far enough apart to slip over the other launcher tube pin.

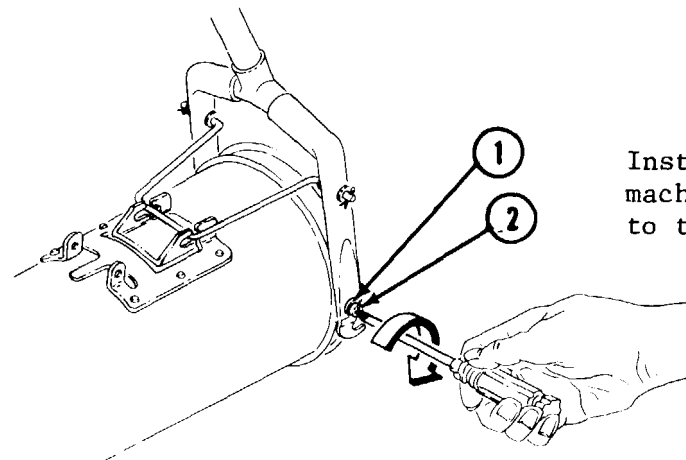


STEP 2



NOTE

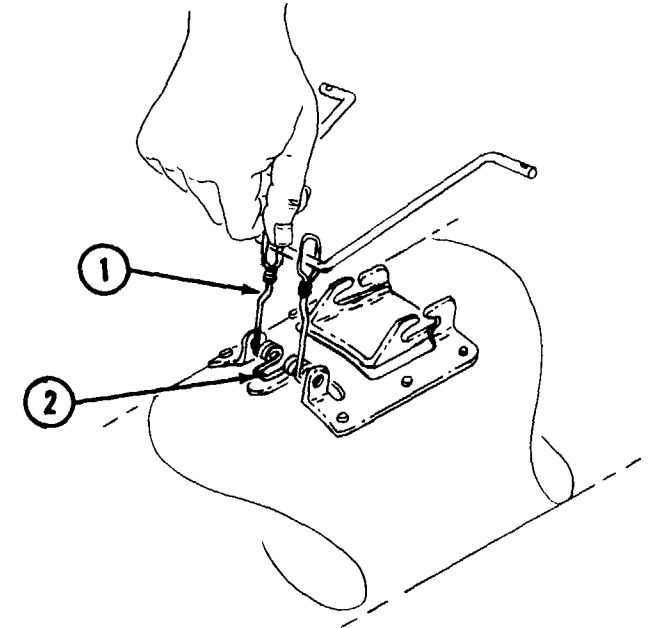
Apply sealing compound to machine screws before installation.



Install two flatwashers (1) and two machine screws (2), securing the bipod to the launcher tube.

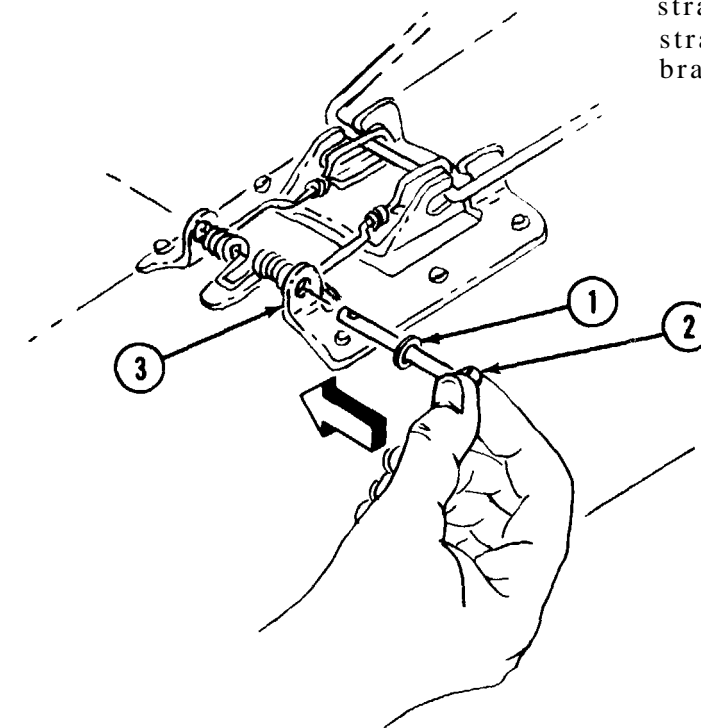
STEP 3

Position spring (1) by rotating spring tab (2) toward rear of launcher tube.



Step 4

Install flatwasher (1) under head of straight headed pin (2) and slide straight headed pin through bipod bracket (3).

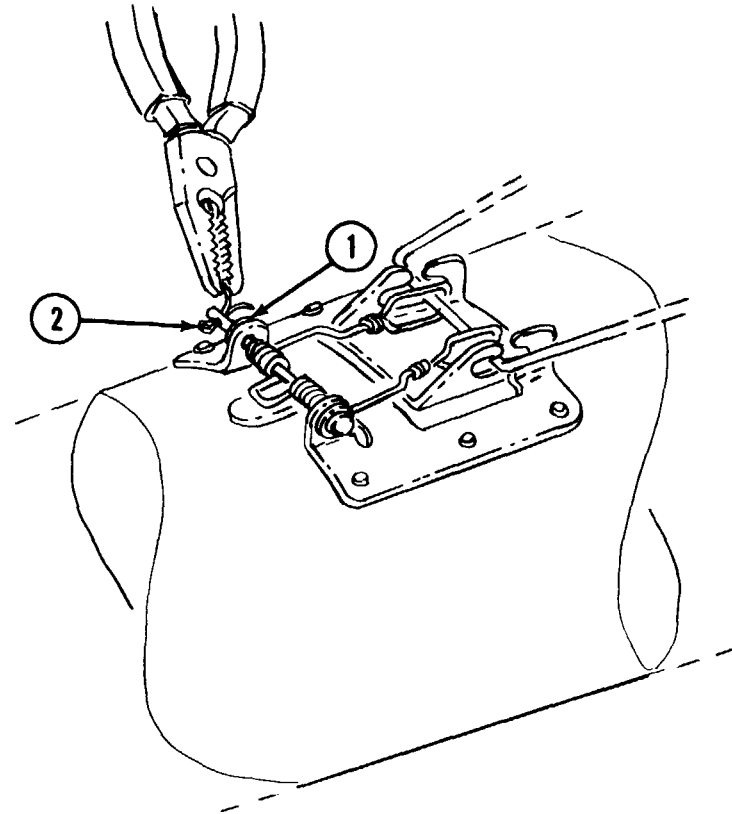


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6-6. INSTALL BIPOD WITH LONG FORWARD BRACE AND SPRING – CONTINUED

STEP 5

Install other flat washer (1) and secure straight headed pin with cotter pin (2).

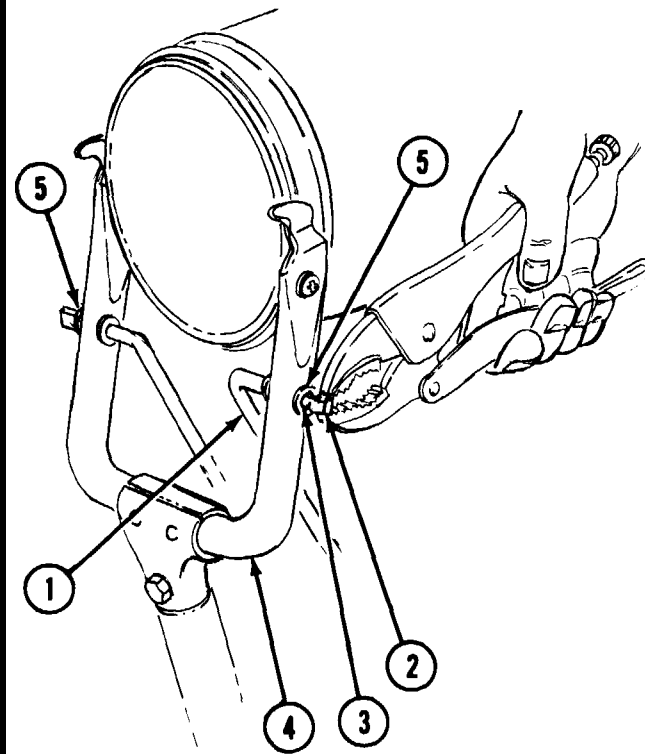


END OF TASK

6-7. REMOVE BIPOD WITH SHORT FORWARD BRACE

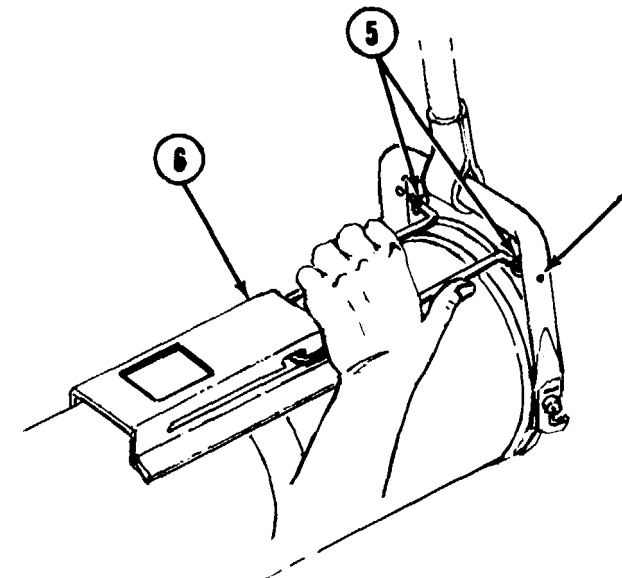
Tools required: Vise grip pliers
No. 2 crosspoint screwdriver
Flat-blade screwdriver

STEP 1



A. Using vise grip pliers, adjust the pliers so the jaws of the pliers just fit on the bipod forward brace (1). Now, using the vise grips, squeeze the flattened out ends (2) of the bipod forward brace just enough for both ends to slip through the holes (3) in each side of the bipod yoke (4). Keep the washers (5).

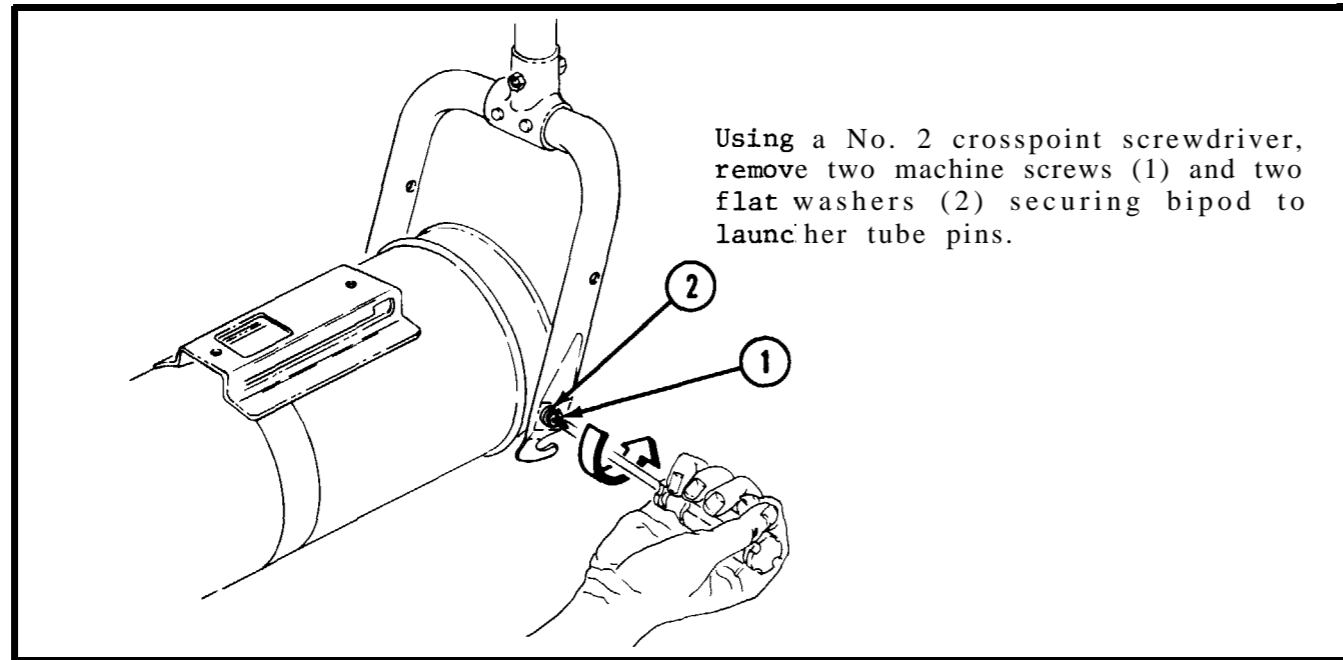
B. Squeeze the bipod forward brace together to remove from bipod yoke. Now, slide the bipod forward brace out of the bipod bracket (6). Keep the washers (5).



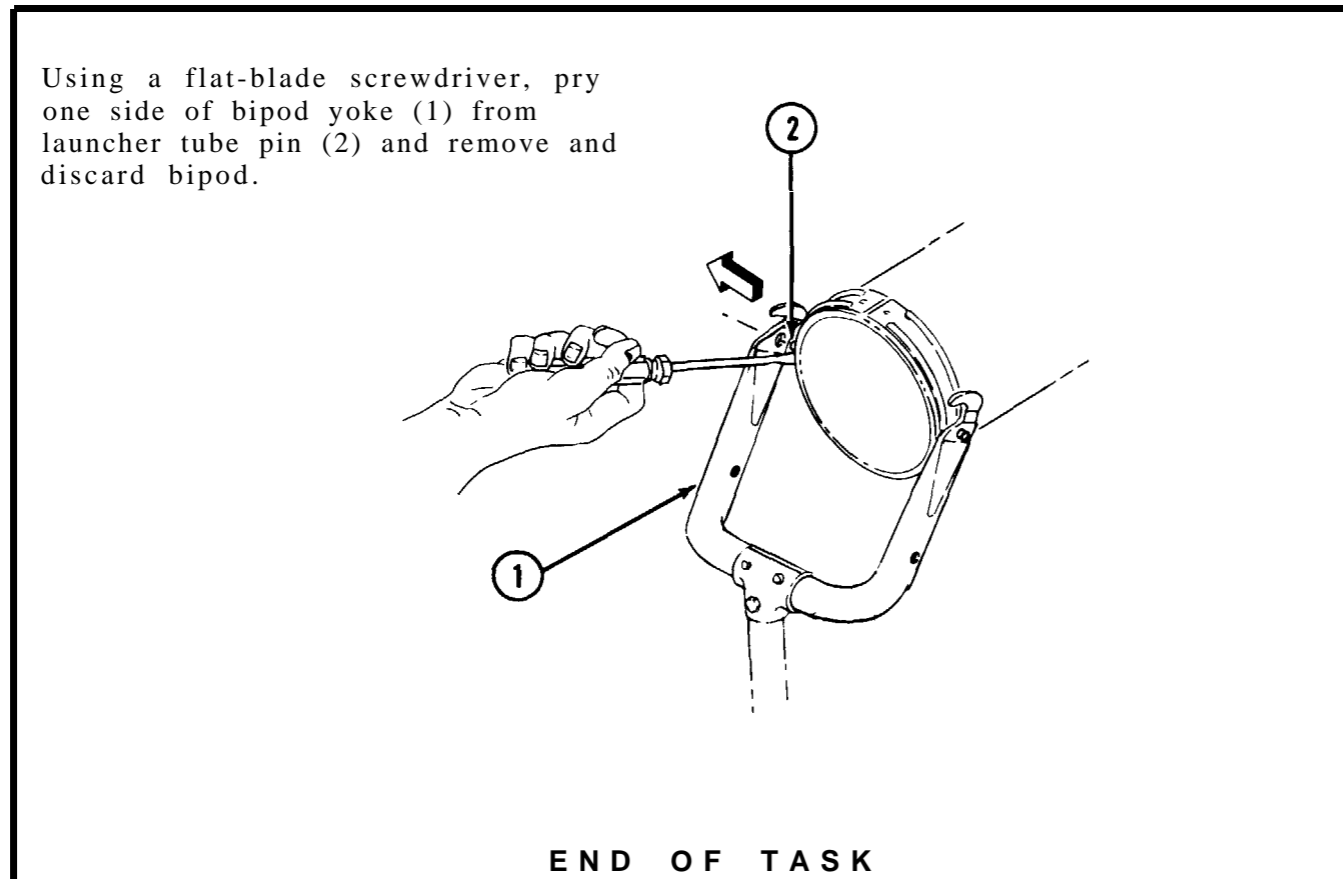
GO TO NEXT PAGE

6-7. REMOVE BIPOD WITH SHORT FORWARD BRACE – CONTINUED

STEP 2



STEP 3



6-8. INSTALL BIPOD WITH SHORT FORWARD BRACE

Tools required: Vise grip pliers
Flat-blade screwdriver
No. 2 crosspoint screwdriver

Materials required:

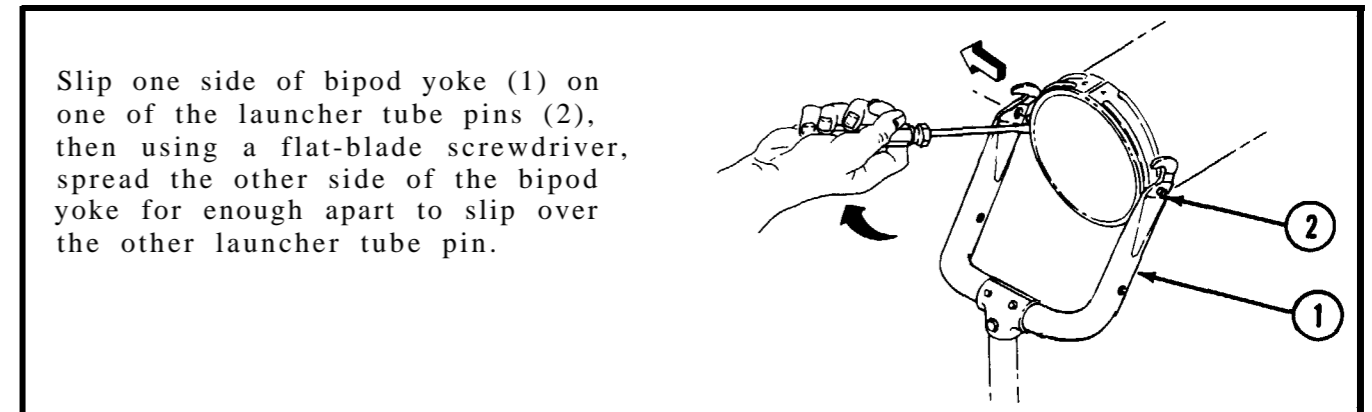
Materials

Sealing compound

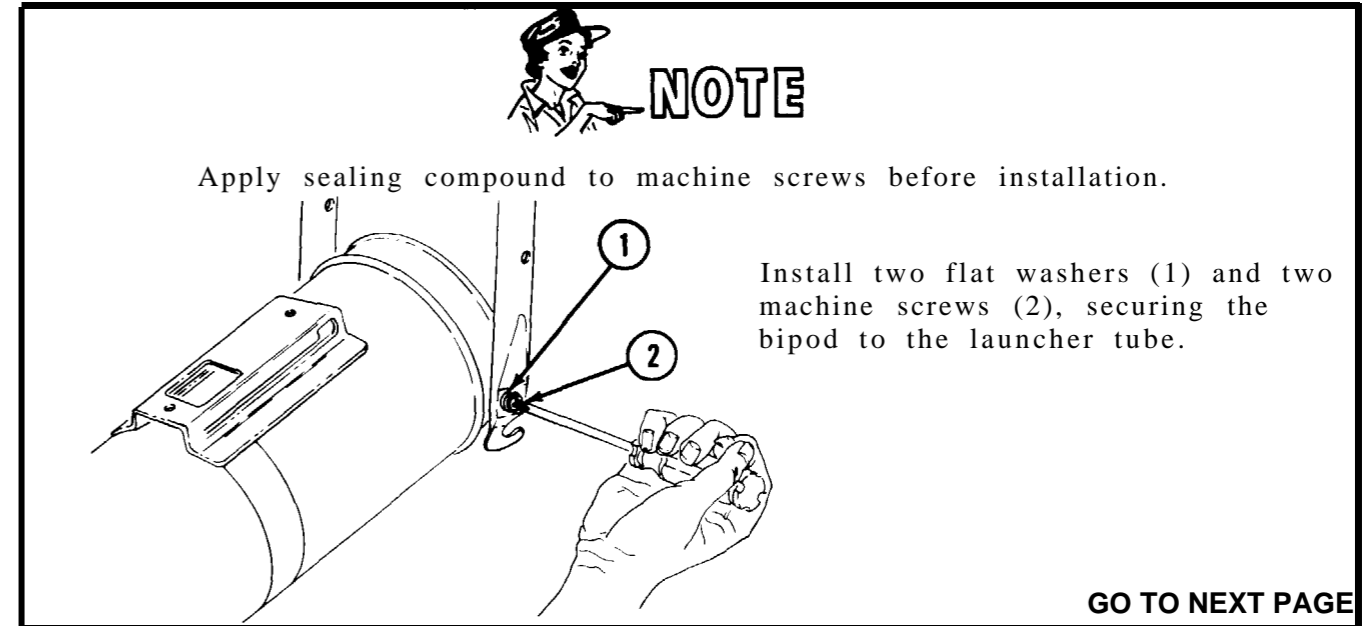
See Appendix D

Item 35

STEP 1

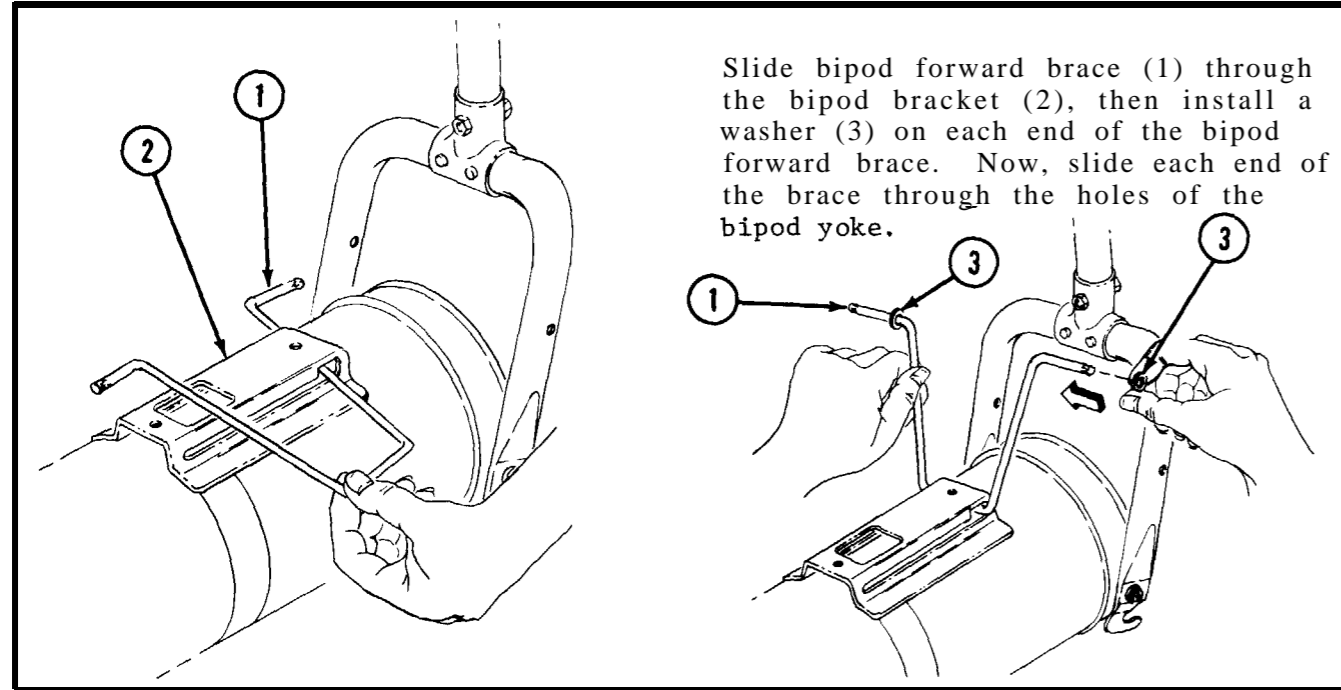


STEP 2

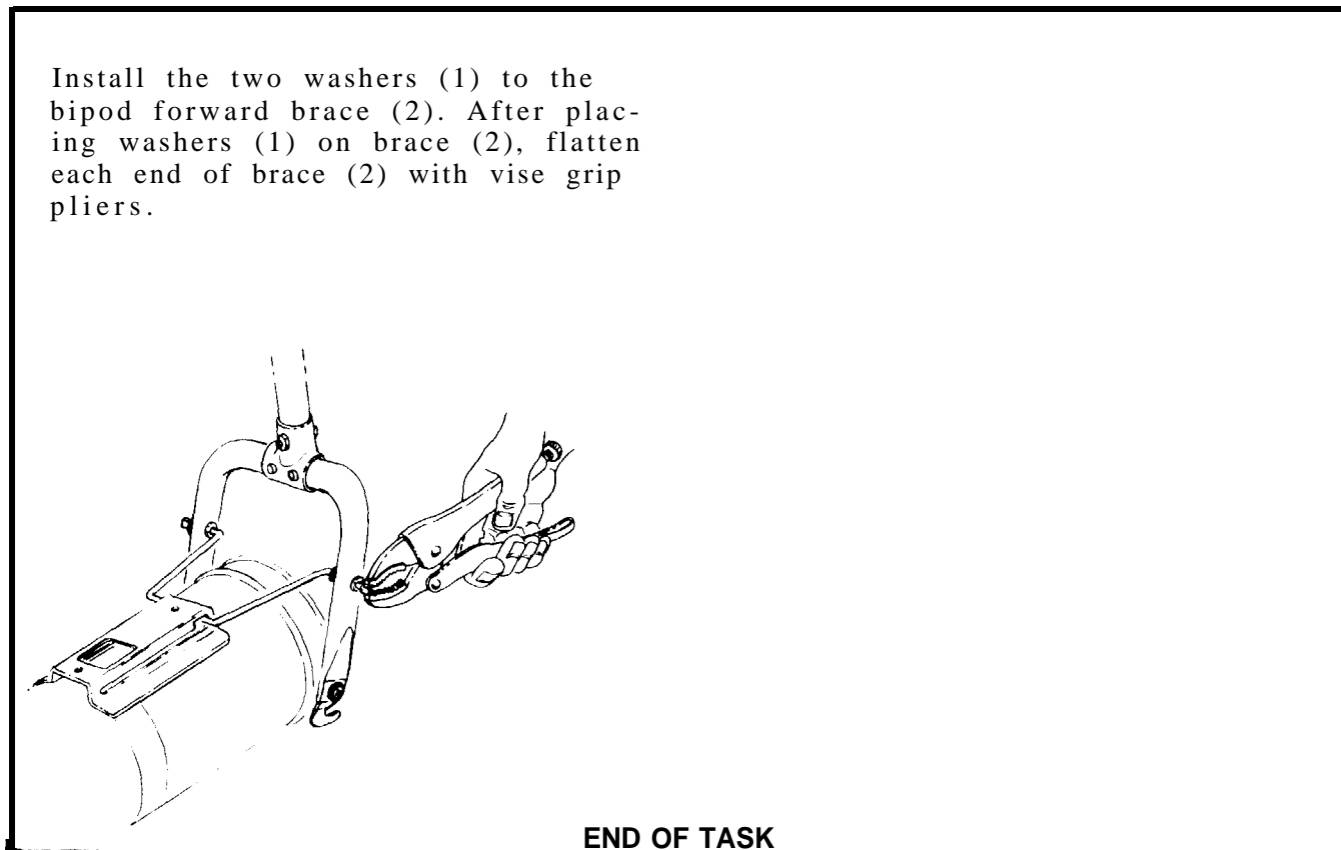


6-8. INSTALL BIPOD WITH SHORT FORWARD BRACE - CONTINUED

STEP 3



STEP 4



6-9. REMOVE WEIGHT SIMULATOR

Tools required: No. 2 crosspoint screwdriver

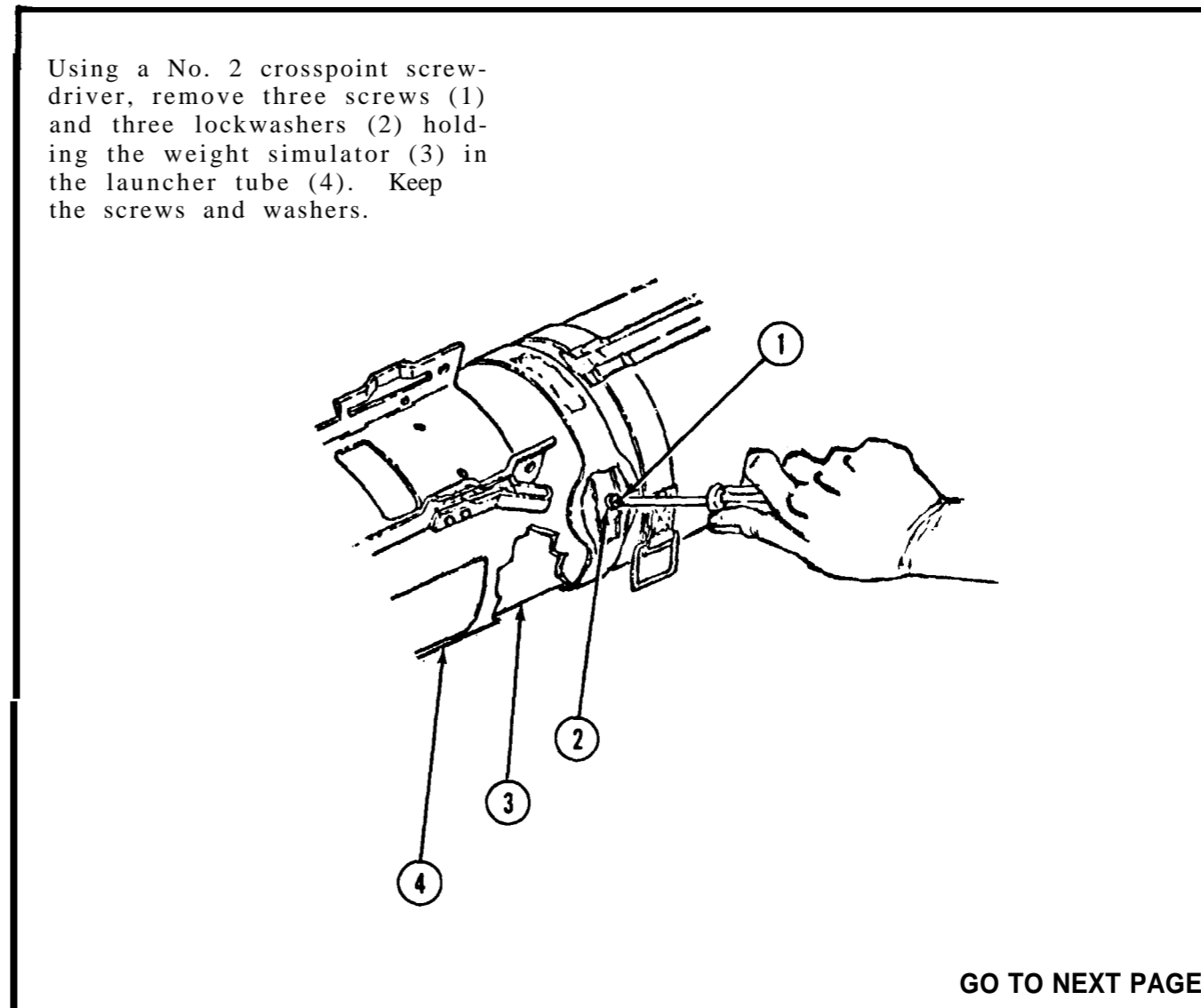
STEP 1

Unsnap the lower bipod remove forward shock absorber. Keep the forward shock absorber as spare.

STEP 2

Remove bipod and retain as spare. Refer to para. 6-5 for removal procedure for long forward brace with spring. Refer to para. 6-7 for removal procedure for short forward brace.

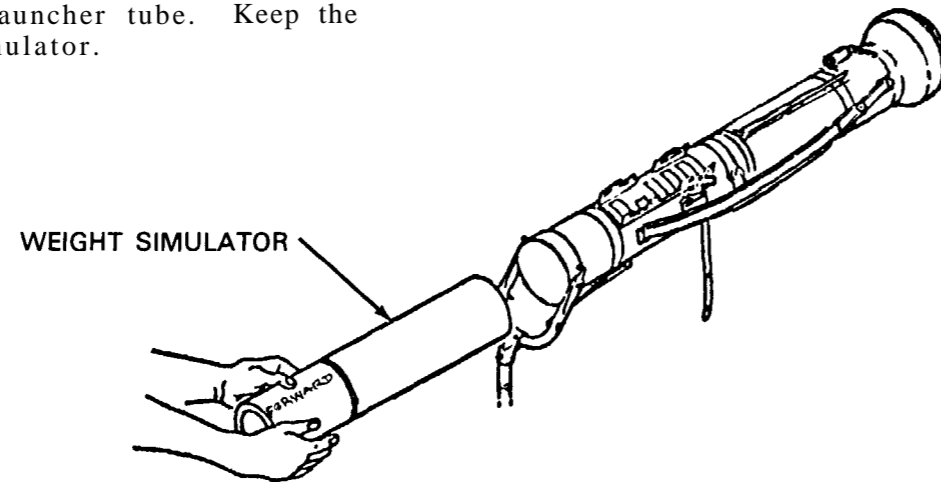
STEP 3



6-9. REMOVE WEIGHT SIMULATOR - CONTINUED

STEP 4

Tilt forward end of launch tube down to allow weight simulator to slide forward far enough to grasp it. Carefully remove the weight simulator from the launcher tube. Keep the weight simulator.



END OF TASK

6-10. INSTALL WEIGHT SIMULATOR



An expended launcher tube is required to install the weight simulator. The expended launcher tube must be certified free of all explosives and propellants by Qualified Ammunition Inspection personnel prior to installation of the Weight Simulator, Guided Missile: M8.

Tools required: Craftsman's knife
Metal cutting chisel
Ball peen hammer
Side cutter pliers
Center punch
Electric drill
13/64 inch drill bit
No. 2 crosspoint screwdriver
File

Materials required:

Materials

See Appendix D

Enamel
Enamel
Enamel
Stencil with 1 in. high letters EMPTY
Stencil with 1/4 in. high letters:
TRAINER, HANDLING, GUIDED
MISSILE LAUNCHER, M57,
NSN 6920-00-339-1042
PART NO. 8035750
Adhesive sealant
Paper, abrasive, medium
Primer

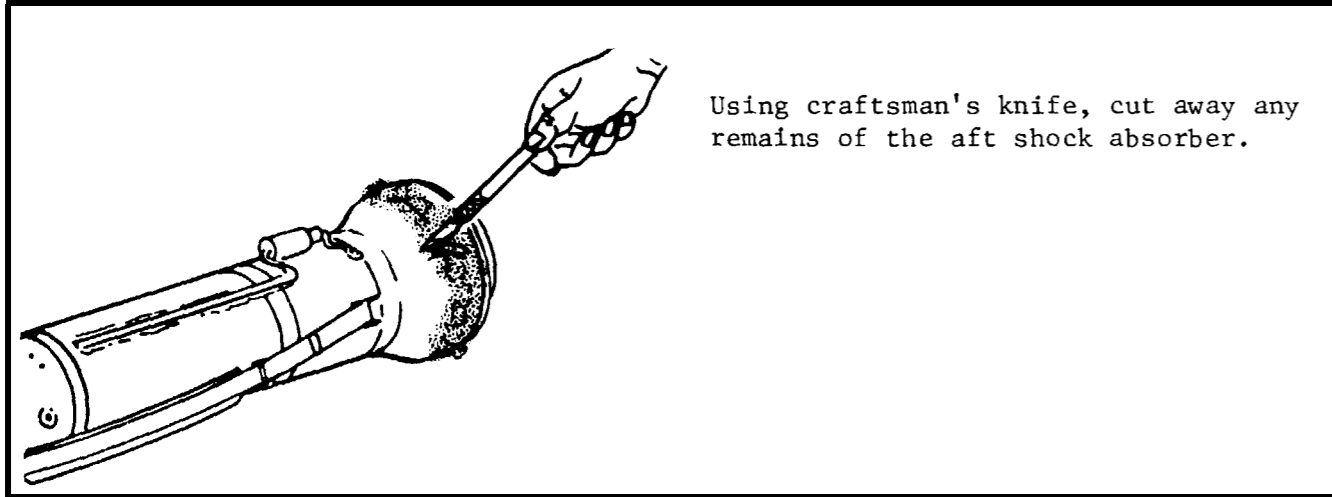
Item 57
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Item 73
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Item 74

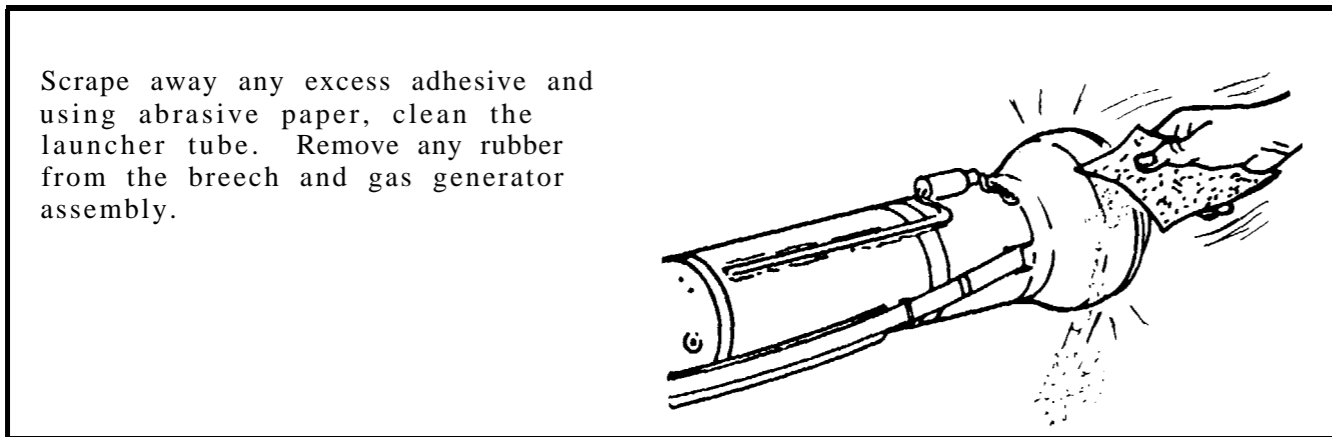
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6-10. INSTALL WEIGHT SIMULATOR - CONTINUED

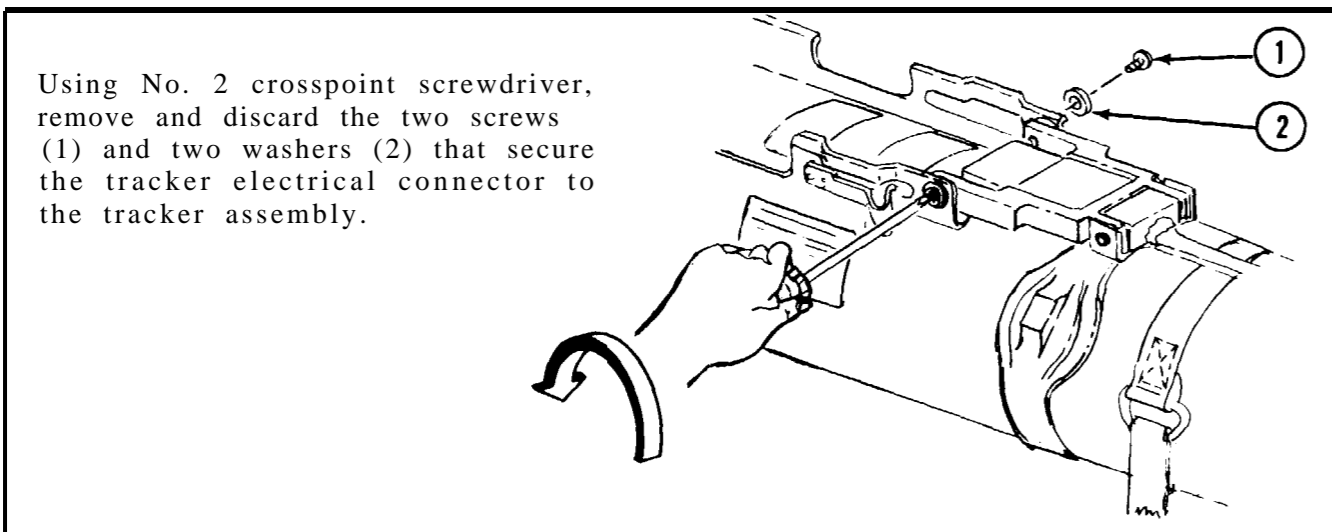
STEP 1



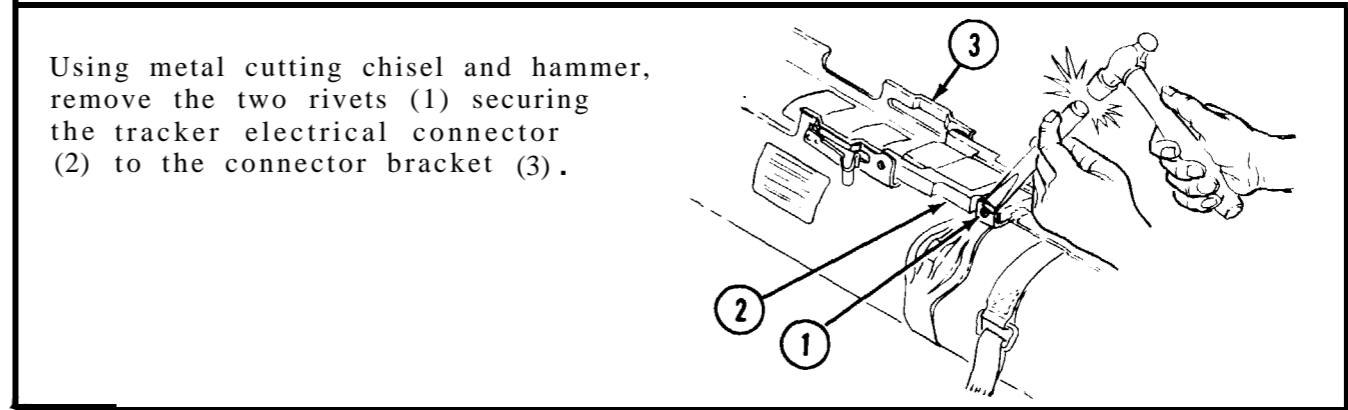
STEP 2



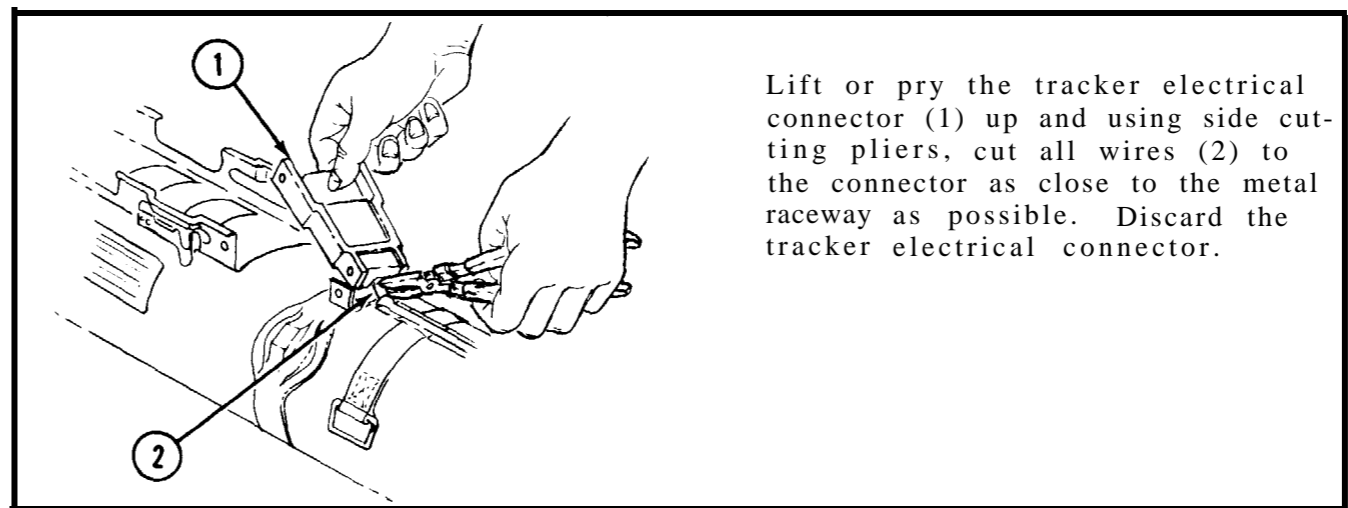
Step 3



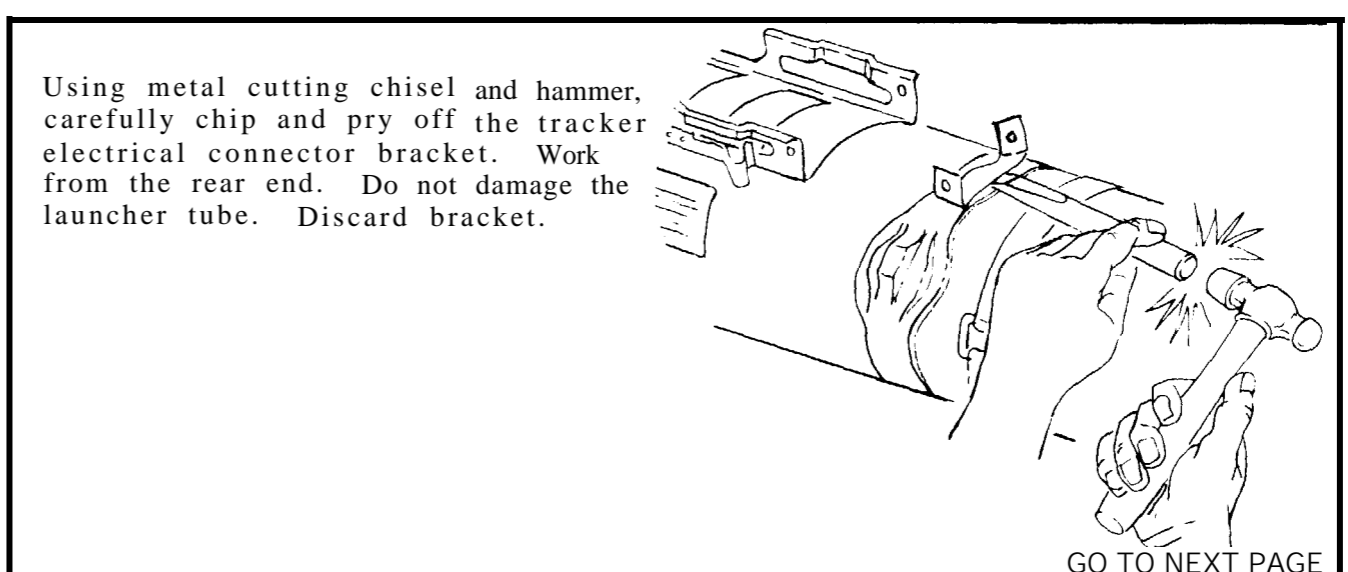
STEP 4



STEP 5



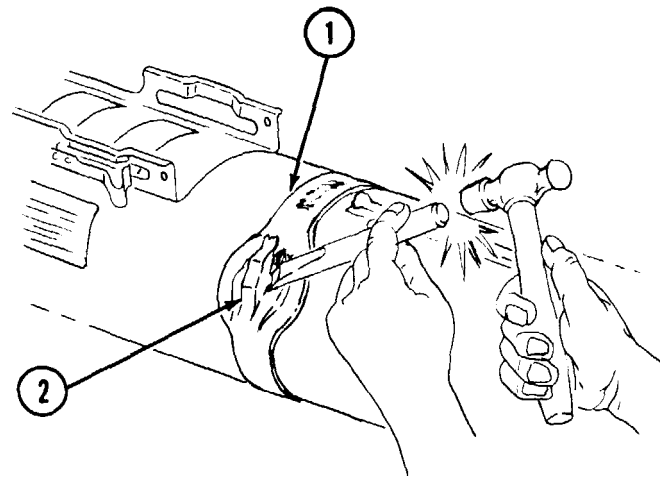
Step 6



6-10. INSTALL WEIGHT SIMULATOR - CONTINUED

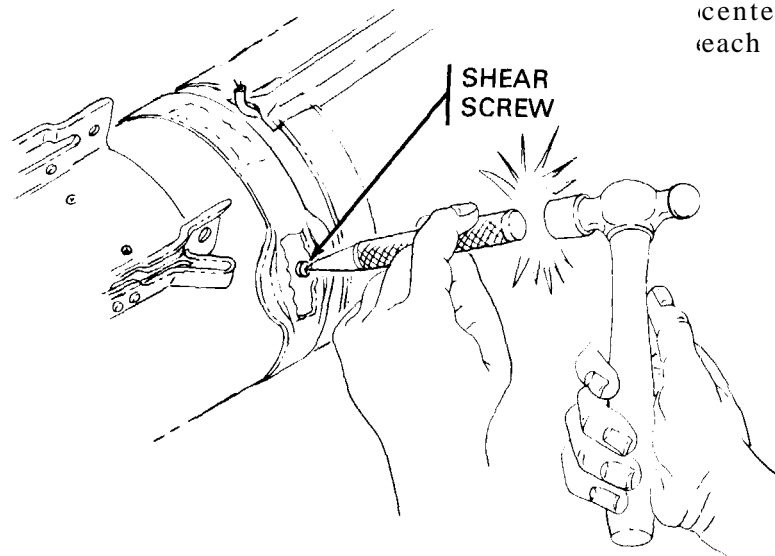
STEP 7

Locate the fiberglass retainer band (1) which covers the three shear screw mounting bosses (2). If the end of the band is loose, peel the band off. If the ends are not loose, using a metal cutting chisel and hammer, cut about 1/8 inch from the top surface of each mounting boss until the head of each shear screw is exposed.



STEP 8

Using center punch and hammer, center punch the exposed head of each shear screw.

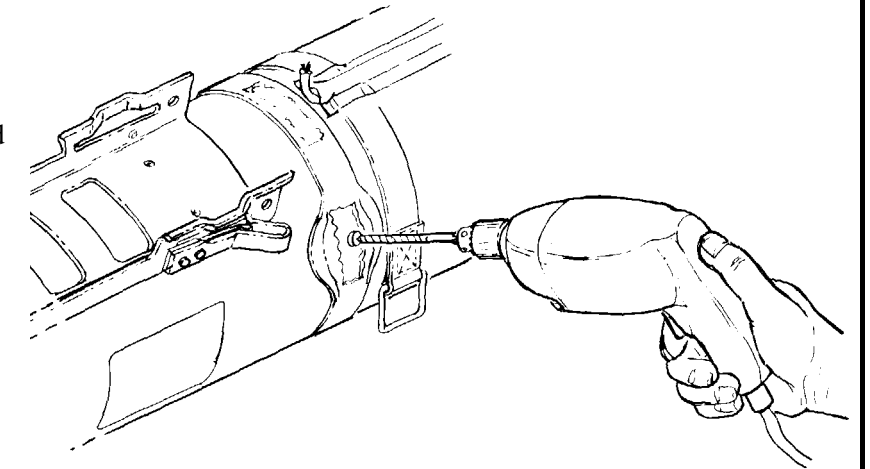


STEP 9



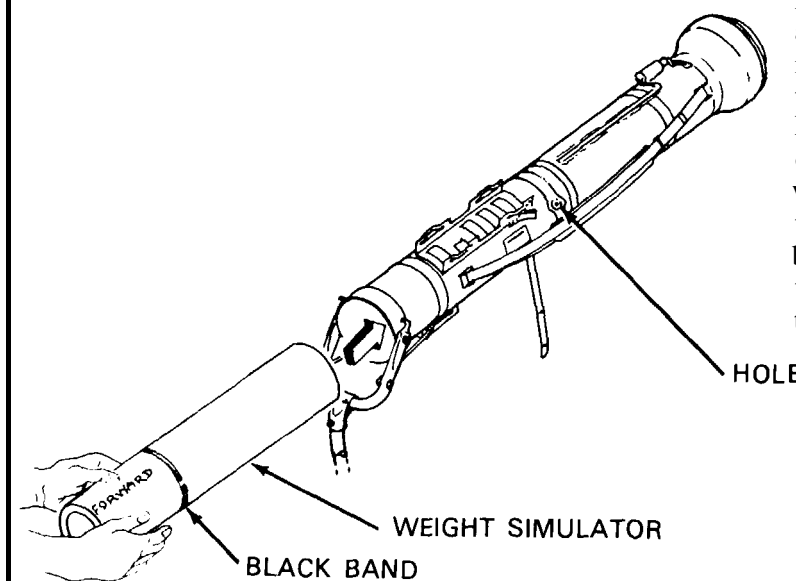
One of the bosses is located under the bipod therefore, the bipod must be unstrapped, extended, and lowered before the drilling operation.

Using an electric drill and 13/64 inch drill bit, drill a hole through each of the bosses. Remove any drilled fragments from the launcher tube and smooth the boss with a file.



STEP 10

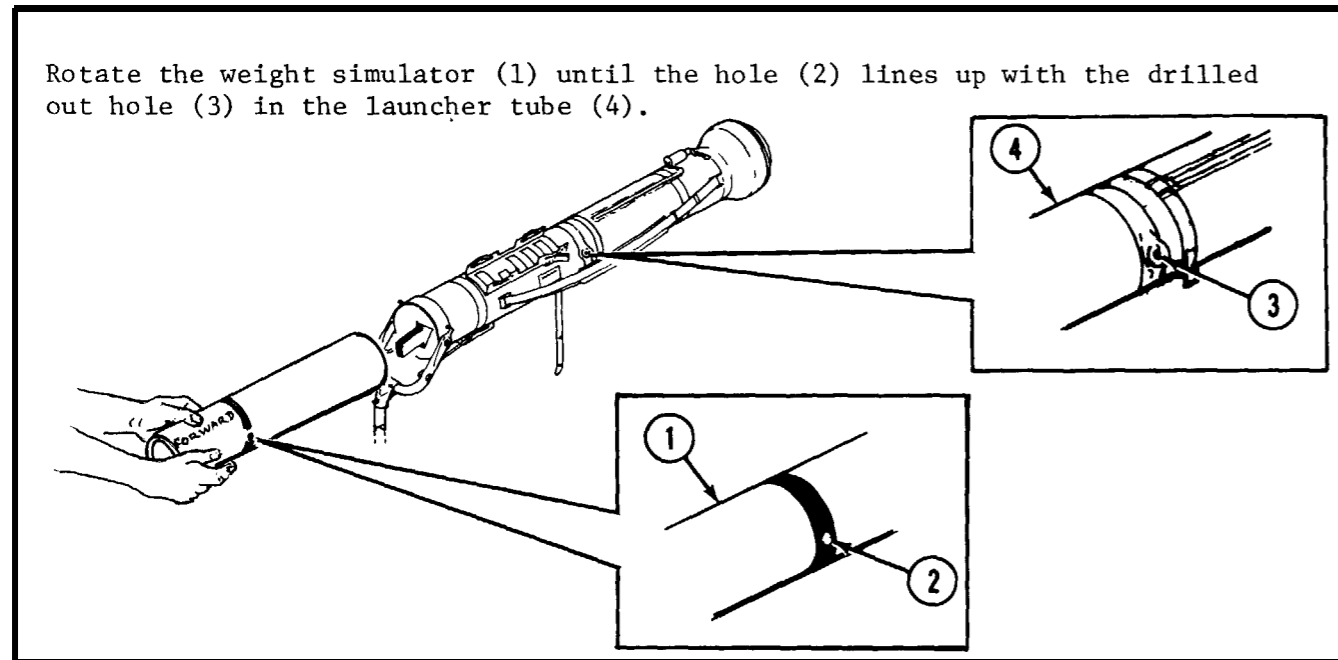
Remove the forward shock absorber and slide the weight simulator into the replacement launcher tube. Be sure the end marked FORWARD is toward the front end of the launcher tube. Slide the weight simulator into the launcher tube until you can see the black band on the weight simulator through the drilled out holes in the launcher tube bosses.



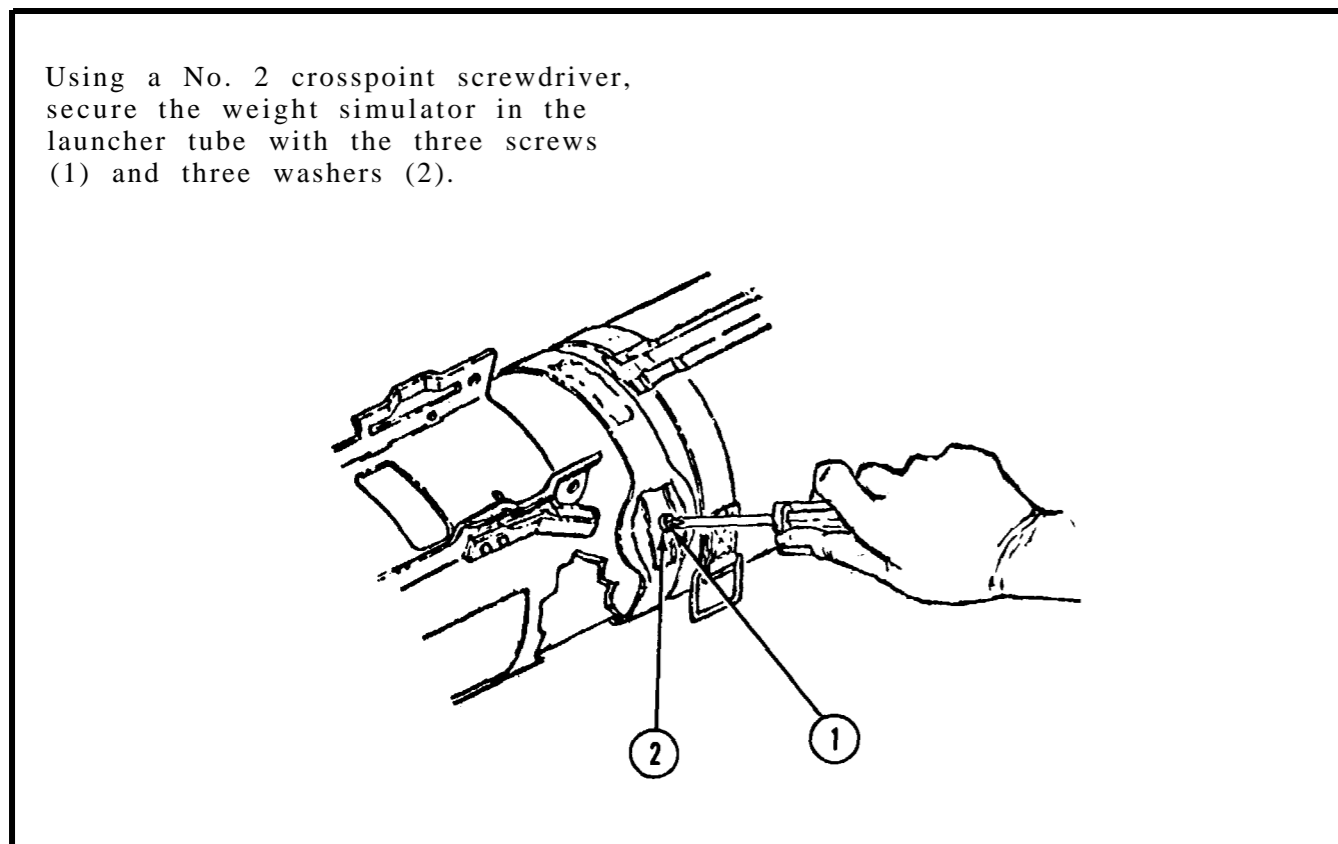
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6-10. INSTALL WEIGHT SIMULATOR - CONTINUED

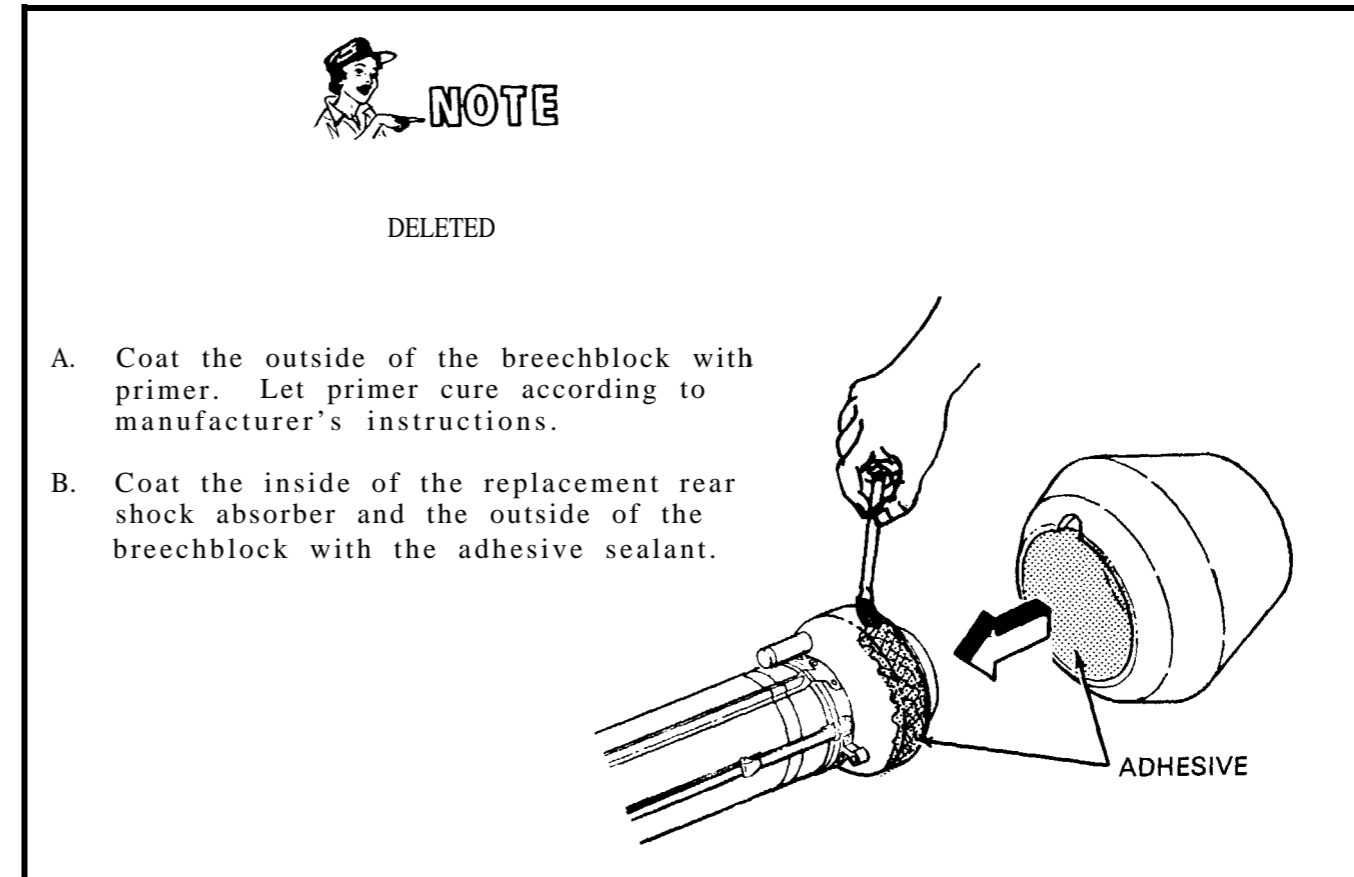
STEP 11



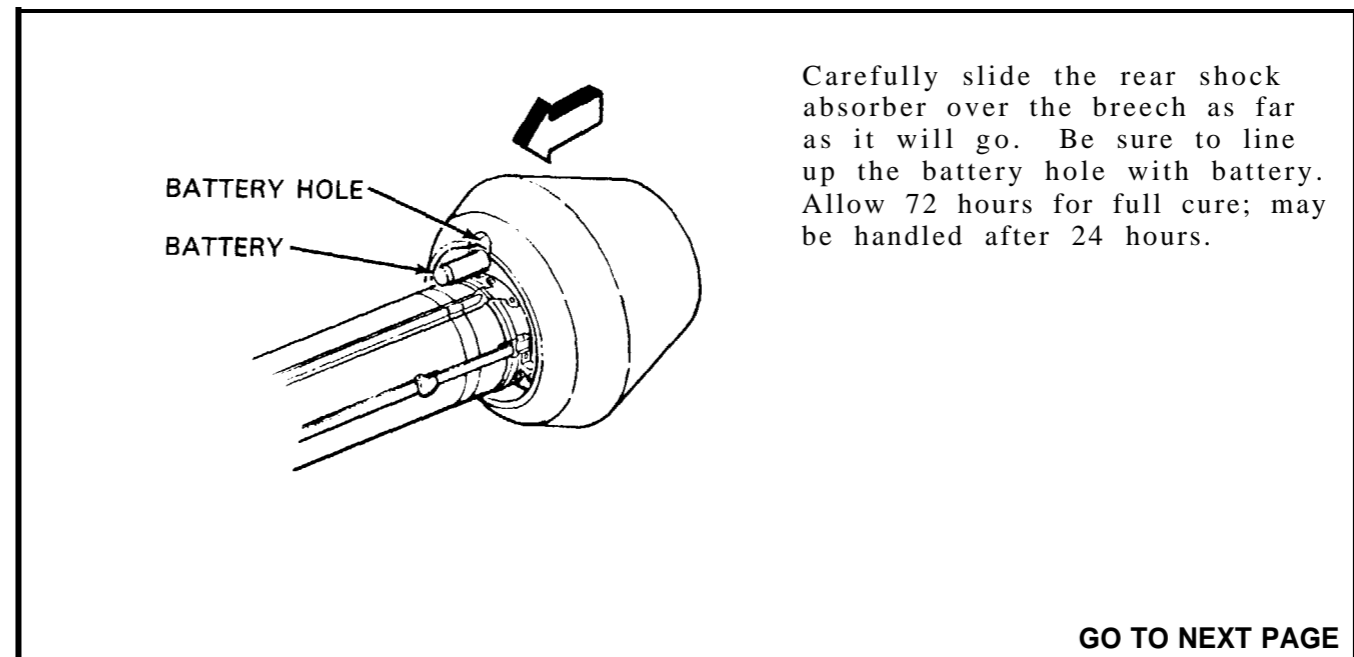
STEP 12



STEP 13



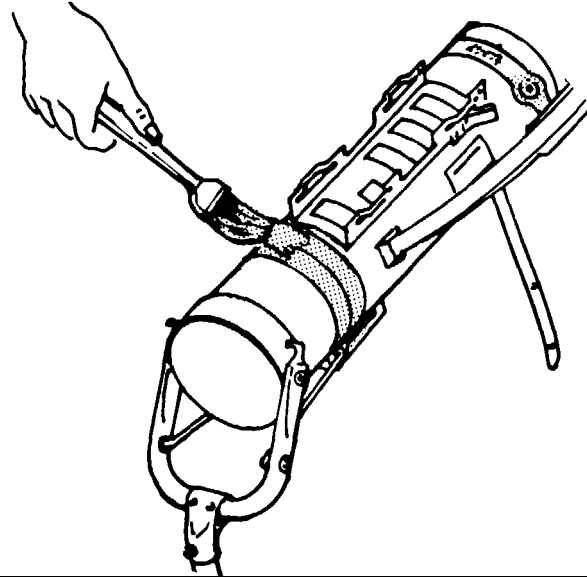
STEP 14



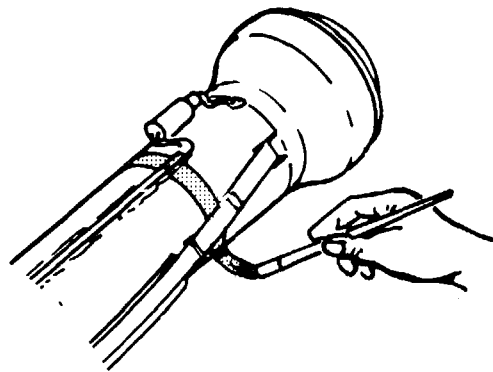
6-10. INSTALL WEIGHT SIMULATOR -- CONTINUED

STEP 15

Paint the screw mounting bosses and both ammunition bands (front and rear) with enamel alkyd camouflage (forest green) paint.



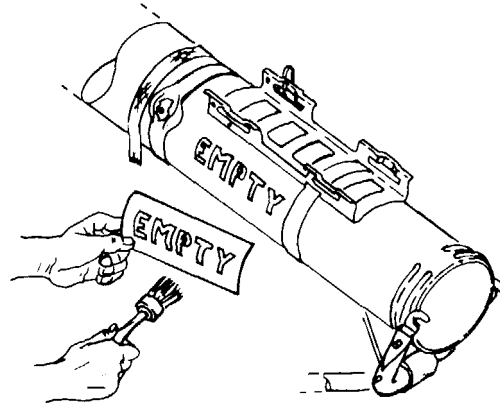
STEP 16



Using bronze paint, paint a one inch wide color band on the aft section of the launcher tube immediately in front of the tracker battery.

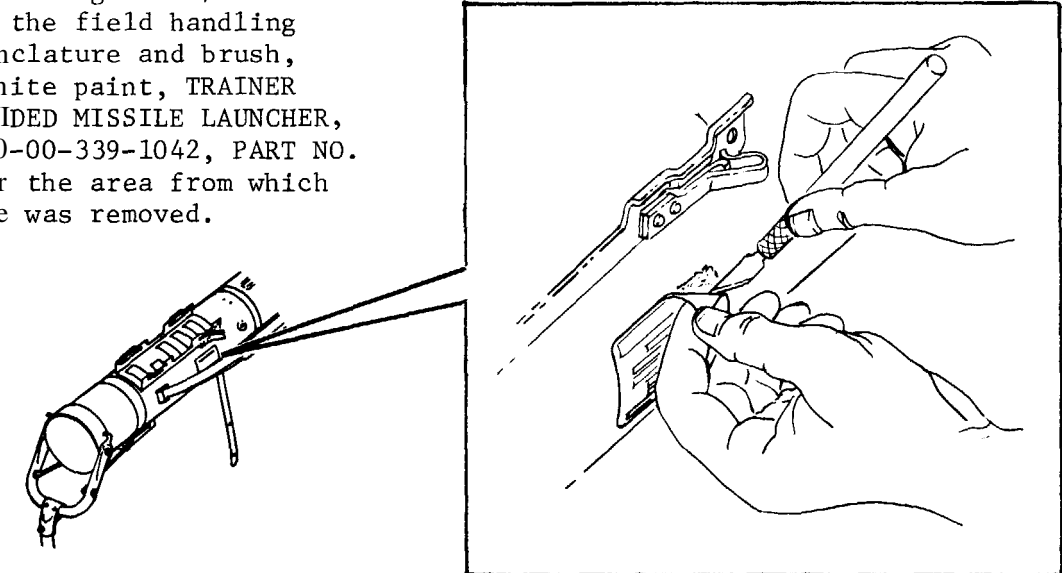
STEP 17

Using stencil with one inch high letters and brush, stencil in white paint, EMPTY, on the side of the launcher tube.



STEP 18

Using a craftsman's knife, remove the nameplate and using the 1/4 inch stencil with the field handling trainer nomenclature and brush, stencil in white paint, TRAINER HANDLING, GUIDED MISSILE LAUNCHER, M57, NSN 6920-00-339-1042, PART NO. 8035750, near the area from which the nameplate was removed.



STEP 19

Remove o-ring from desiccant holder in front shock absorber and dispose of o-ring. Install forward shock absorber on launcher tube. Release forward brace, return bipod to retracted position and be sure forward shock absorber is locked in place. Secure bipod in place with webbing strap. See TM 9-1425-484-10.

END OF TASK

**CHAPTER 7
DS/GS MAINTENANCE INSTRUCTIONS - TRACKER, INFRARED
GUIDED MISSILE, SU-36/P**

	Page
Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT	7-1
Section II. SERVICE UPON RECEIPT	7-1
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Section IV. SCHEDULED MAINTENANCE	7-2
Section V. MAINTENANCE PROCEDURES	7-2

Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT

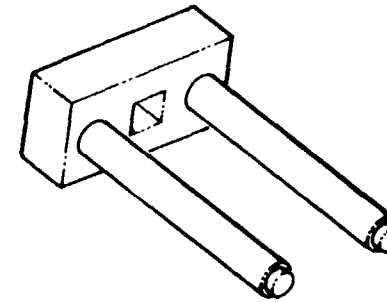
	Para	Page
Repair Parts	7-1	7-1
Special Tools and Test Equipment	7-2	7-1

7-1. REPAIR PARTS

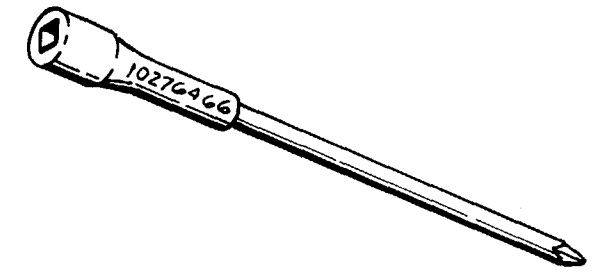
See TM 9-1425-480-24P for authorized repair list.

7-2. SPECIAL TOOLS AND TEST EQUIPMENT

- a. Plug Spanner Wrench, P/N 10275915.
- b. Screwdriver, P/N 10276466.
- c. Test Set, Guided Missile, Infrared Tracker, AN/TSM-114.



PLUG SPANNER WRENCH
P/N 10275915



SCREWDRIVER
P/N 10276466

Section II. SERVICE UPON RECEIPT

	Para	Page
Inventory Inspection	7-3	7-1
Maintenance Forms and Records	7-4	7-1

7-3. INVENTORY INSPECTION

When a Tracker, SU-36/P is received from the using organization, perform an inventory and inspection. See TM 9-1425-484-10.

7-4. MAINTENANCE FORMS AND RECORDS

Make sure that maintenance forms DA 2404 and 2407 are completed as shown in DA PAM 738-750.

Section III. OPERATIONAL CHECKS

	Para	Page
Operational Checks	7-5	7-2

7-5. OPERATIONAL CHECKS

Operational checks for the Tracker, SU-36/P, are provided in TM 9-4935-484-14.

Section IV. SCHEDULED MAINTENANCE

	Para	Page
IVaintenance Schedule	7-6	7-2

7-6. MAINTENANCE SCHEDULE

a. The Tracker, SU-36/P, will be checked by DS/GS Maintenance every 90 days, or as requested by the unit commander.

b. The scheduled maintenance checks will be performed in accordance with procedures outlined in TM 9-4935-484-14.

Section V. MAINTENANCE PROCEDURES

	REMOVE		INSTALL	
	Para	Page	Para	Page
Firing Mechanism	7-7	7-3	7-38	7-32
Access Cover	7-8	7-4	7-37	7-32
Control Signal Comparator Board (CSCB)	7-9	7-5	7-36	7-31
FL-1 Filter	7-10	7-5	7-35	7-28
Nutator	7-11	7-6	7-34	7-27
Eyeguard	7-12	7-8	7-33	7-26
Eyepiece Assembly	7-13	7-8	7-32	7-25
Cell Assembly	7-14	7-9	7-31	7-24
Safety Boot, Dust and Moisture Seal	7-15	7-10	7-30	7-23
Trigger Boot, Dust and Moisture Seal	7-16	7-10	7-29	7-22
Protective Cover and Nylon Cord	7-17	7-11	7-28	7-21
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Forward Shock Absorber	7-19	7-13	7-26	7-19
Aft Inner Shock Absorber	7-20	7-14	7-25	7-18
Aft Shock Absorber	7-21	7-14	7-24	7-16
Identification Plate	7-22	7-15	7-23	7-16
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Final Inspection	7-40	7-34		

7-7. REMOVE FIRING MECHANISM

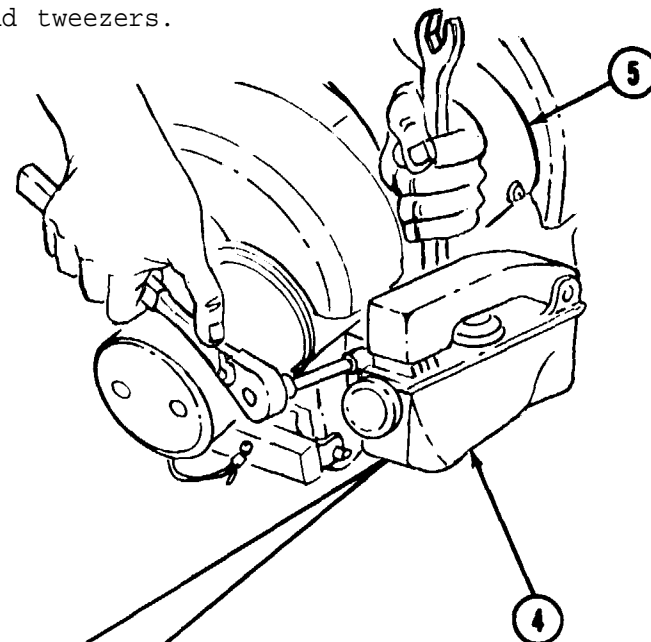
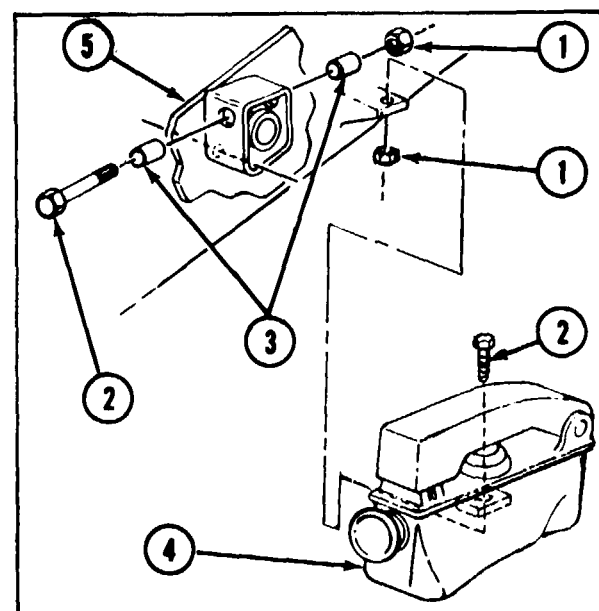
- Tools required:
- Craftsman's knife
 - Ratchet wrench
 - 2 inch extension
 - 3/8 inch open end wrench
 - Longnose pliers
 - Curved point tweezers
 - 1/8 inch drift pin
 - Desoldering kit
 - 3/8 inch socket

STEP 1



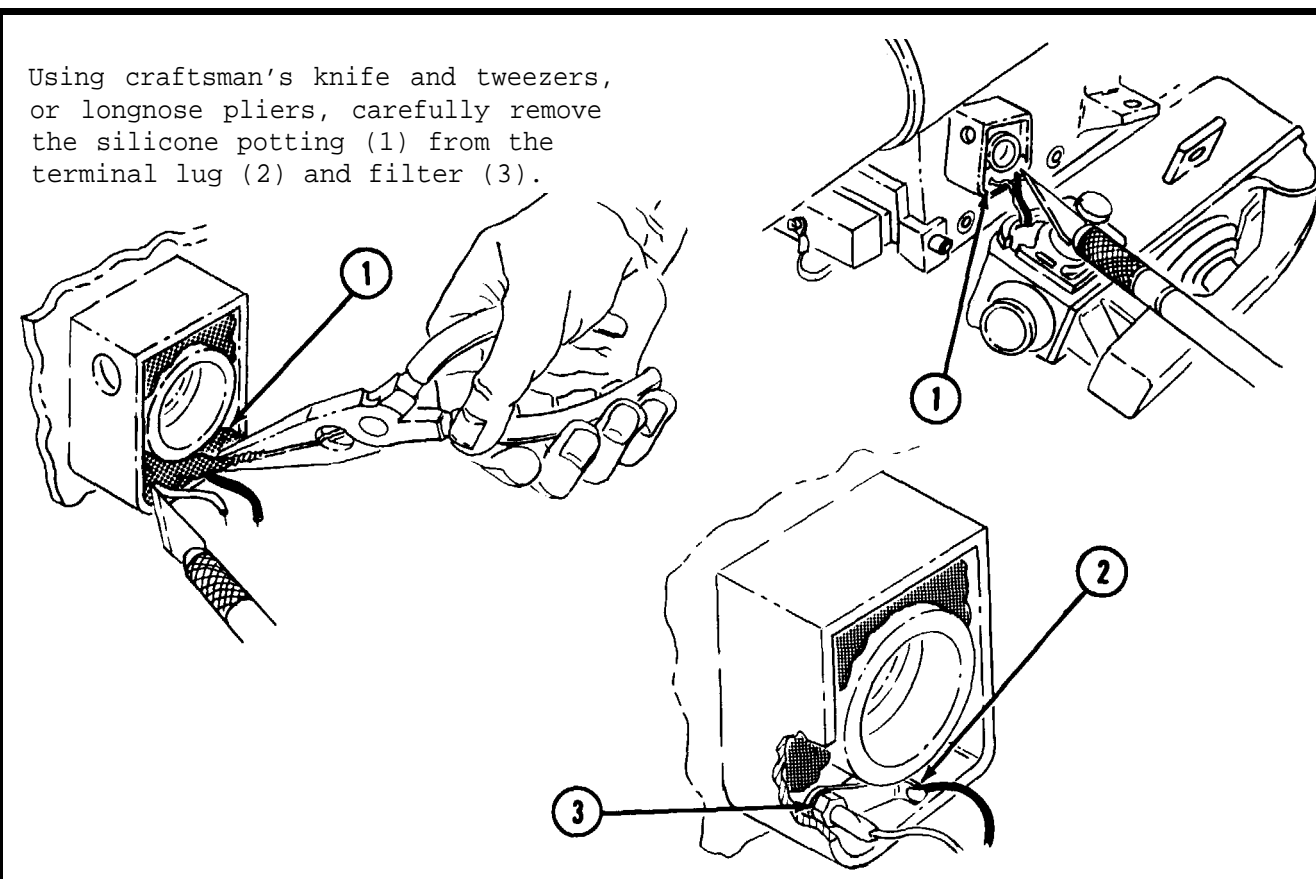
To prevent damage to the filter, avoid straining the wire leads when removing the Firing Mechanism and use extreme care when removing the silicone rubber potting with knife, pliers and tweezers.

Using a 3/8 inch socket, extension bar and ratchet and a 3/8 inch open end wrench, remove two nuts (1), two bolts (2) and two sleeves (3) holding firing mechanism (4) to tracker (5). It may be necessary to tap out sleeves (3) with 1/8 inch drift pin.



STEP 2

Using craftsman's knife and tweezers, or longnose pliers, carefully remove the silicone potting (1) from the terminal lug (2) and filter (3).

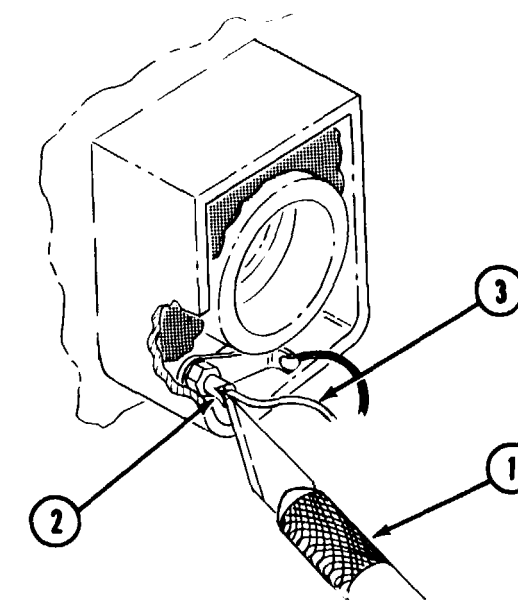


STEP 3



Be careful not to cut the wires.

Using craftsman's knife (1), cut insulation sleeving (2) from blue wire (3).

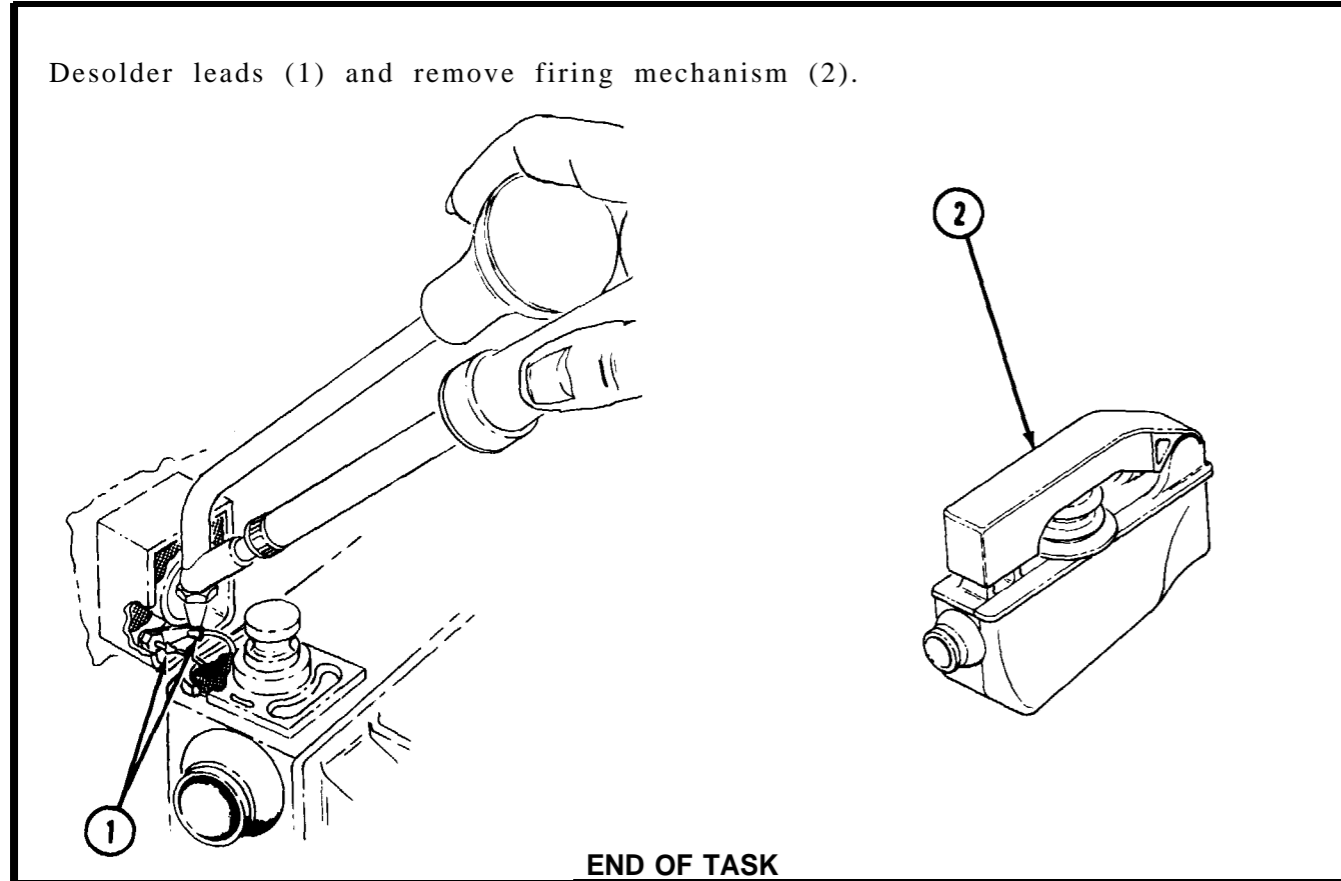


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7-7. REMOVE FIRING MECHANISM - CONTINUED

STEP 4

Desolder leads (1) and remove firing mechanism (2).

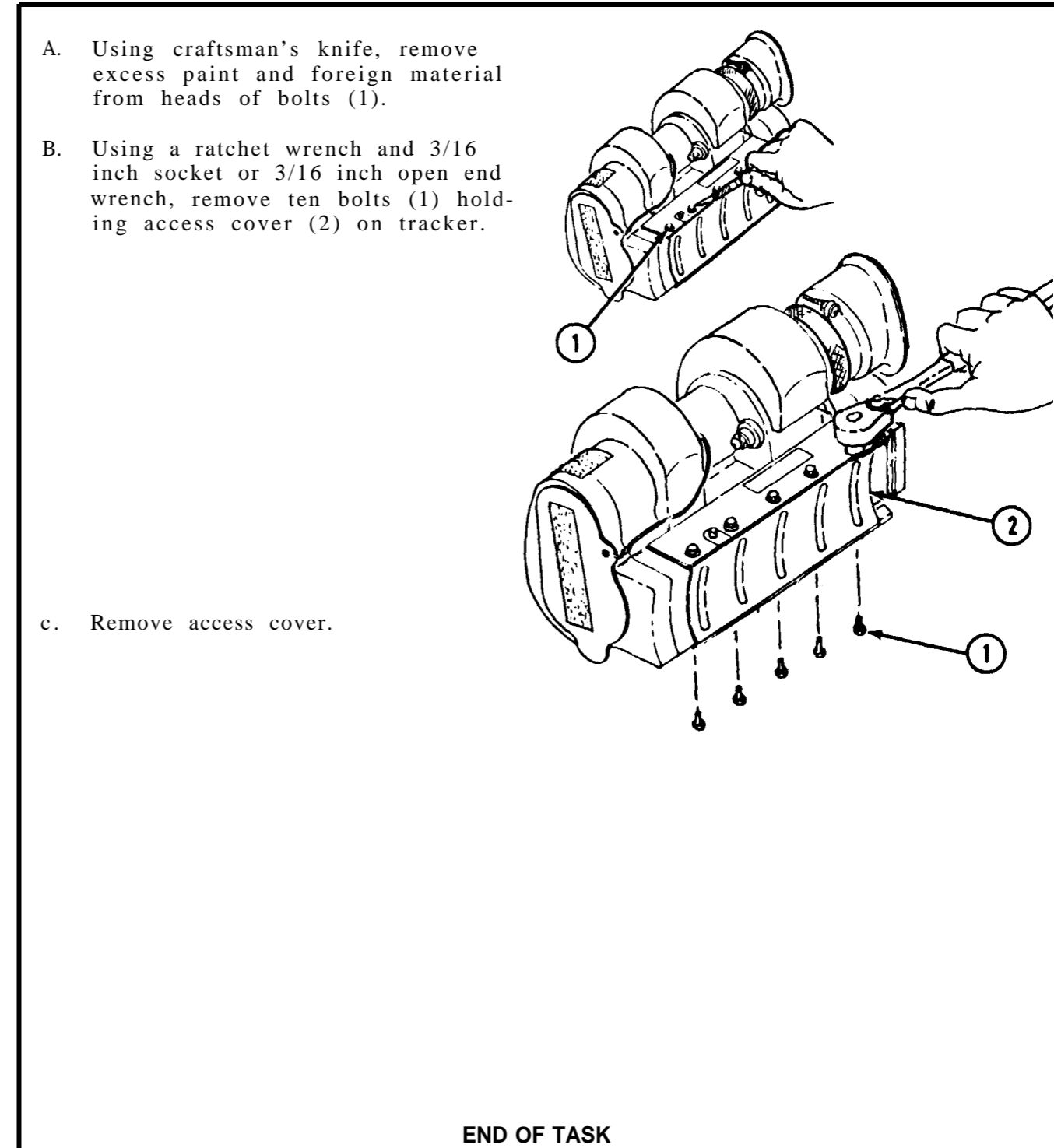


7-8. REMOVE ACCESS COVER

Tools required: Craftsman's knife
3/16 inch socket
Ratchet wrench
3/16 inch open end wrench

- A. Using craftsman's knife, remove excess paint and foreign material from heads of bolts (1).
- B. Using a ratchet wrench and 3/16 inch socket or 3/16 inch open end wrench, remove ten bolts (1) holding access cover (2) on tracker.

c. Remove access cover.

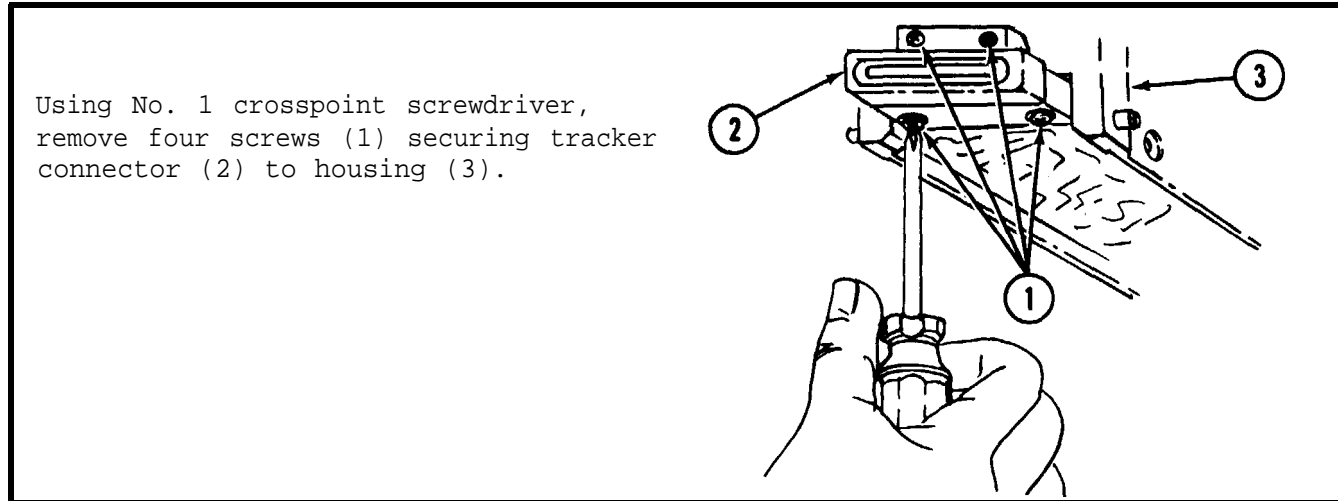


7-9. REMOVE CONTROL SIGNAL COMPARATOR BOARD (CSCB)

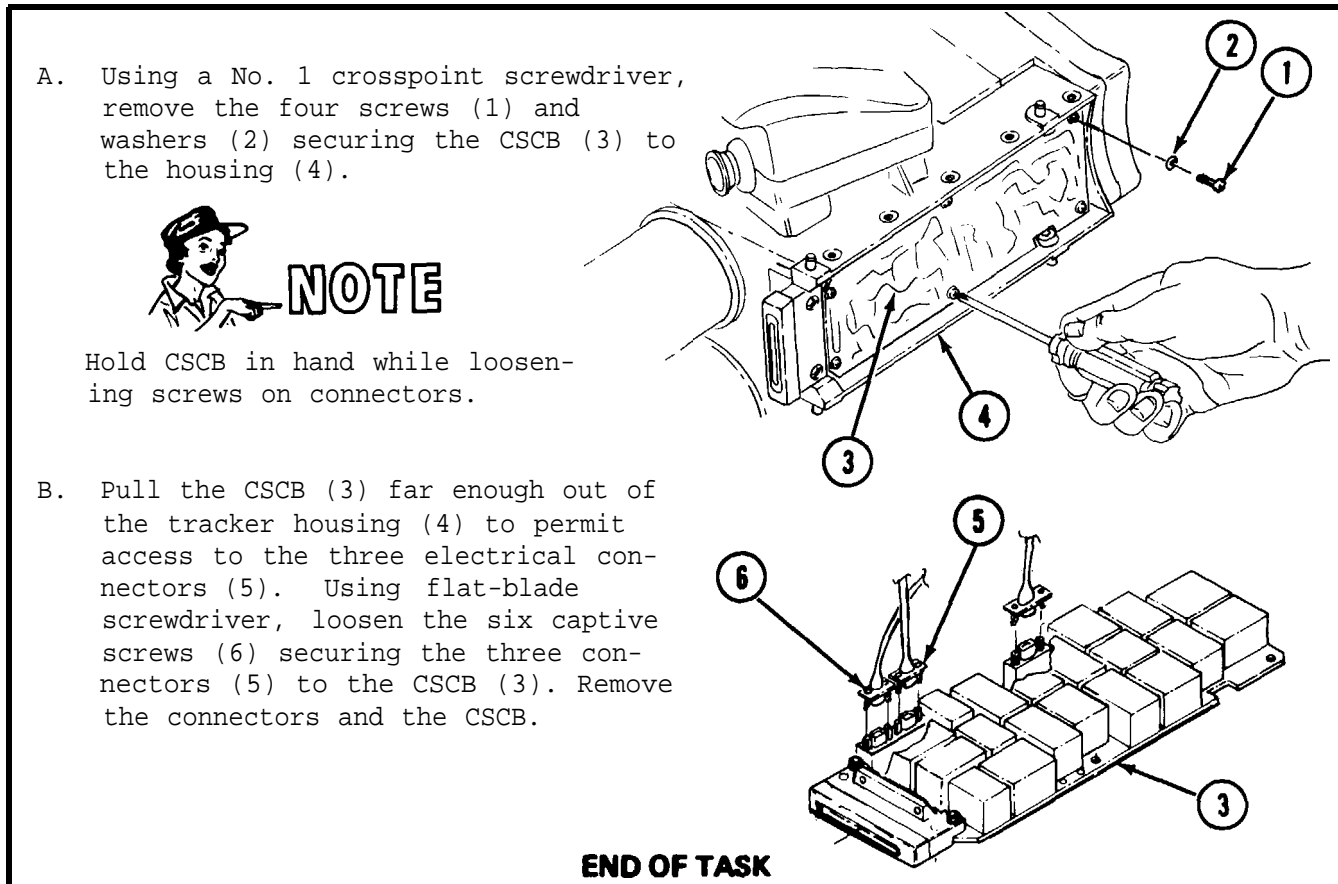
Tools required: No. 1 crosspoint screwdriver
1/8 inch flat-blade screwdriver

Equipment condition: Access cover removed, see para. 7-8.

STEP 1



STEP 2

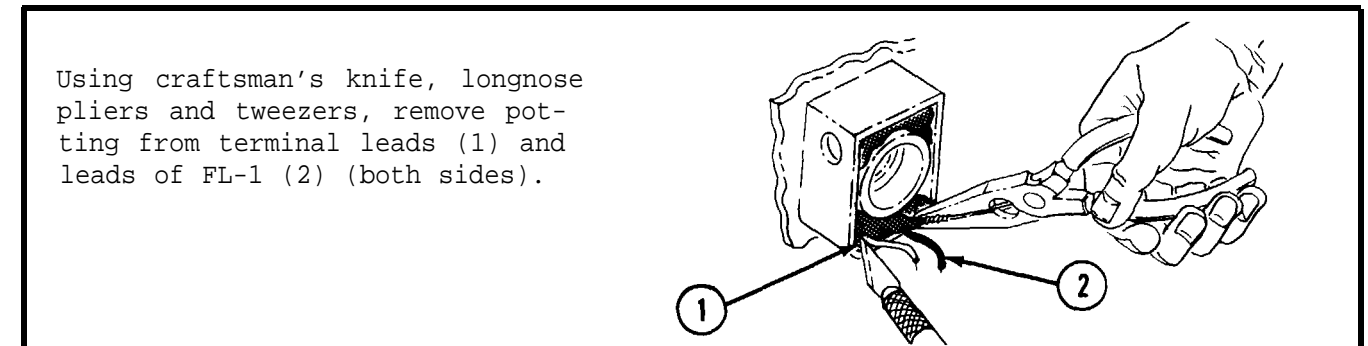


7-10. REMOVE FL-1 FILTER

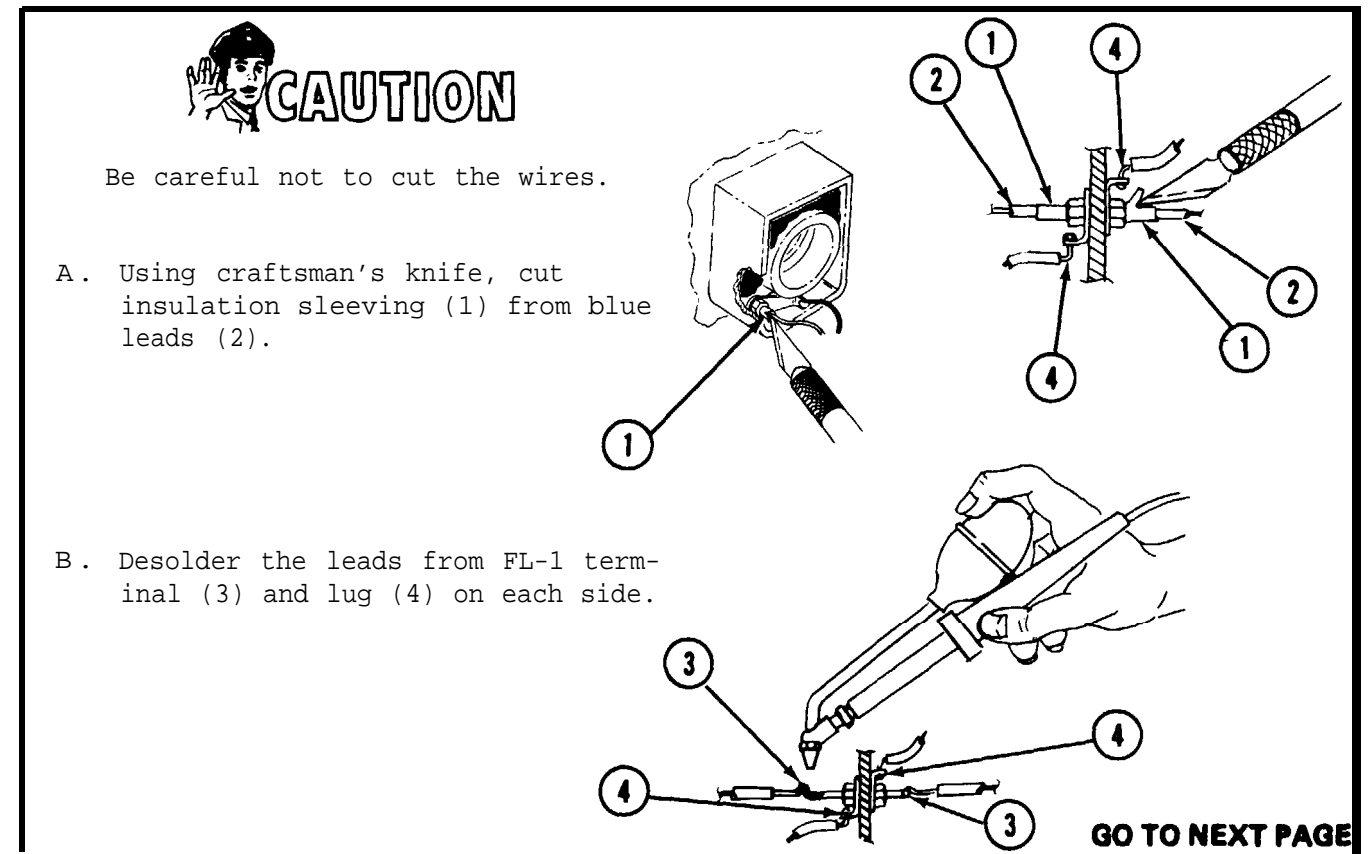
Tools required: Craftsman's knife
Longnose pliers
Curved point tweezers
Desoldering kit
1/4 inch open end wrench
3/16 inch deep socket
Ratchet wrench

Equipment condition: Firing mechanism removed, see para. 7-7, Step 1.
CSCB removed, see para. 7-9.

STEP 1



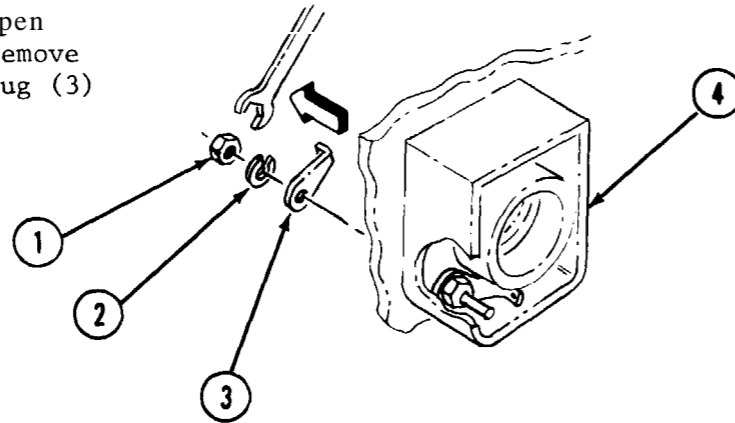
STEP 2



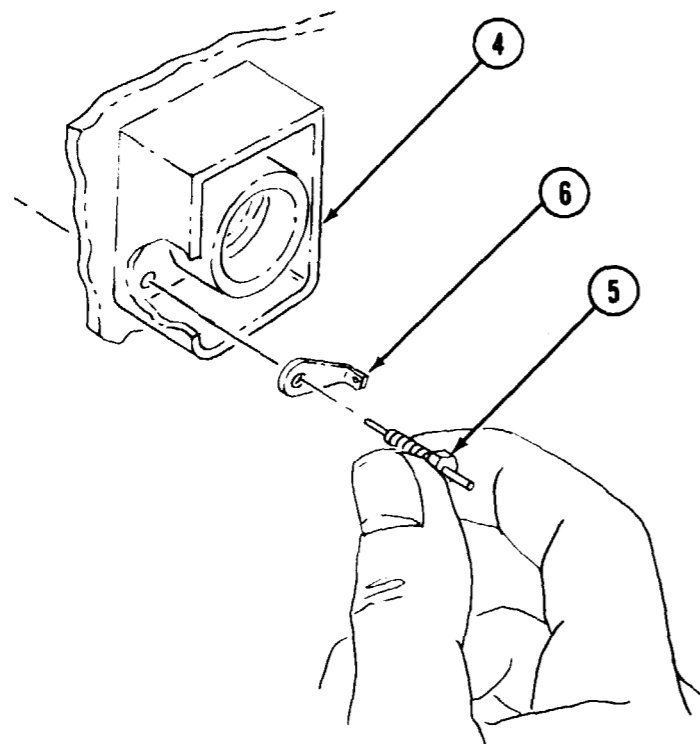
7-10. REMOVE FL-1 FILTER-CONTINUED

STEP 3

A. Using a 3/16 inch deep socket and ratchet wrench on firing mechanism side of FL-1 and a 1/4 inch open end wrench on the backside, remove nut (1), lockwasher (2) and lug (3) from tracker housing (4).



B. Pull FL-1 (5) and lug (6) from housing (4).



END OF TASK

7-11. REMOVE NUTATOR

Tools required: No. 2 crosspoint screwdriver
 Breaker bar
 Snap ring pliers
 Screwdriver, special tool, P/N 10276466
 Plug spanner wrench, special tool, P/N 10275915

Materials required:

See Appendix D

Materials

Item 71

Mirror protective dust cap SP 386

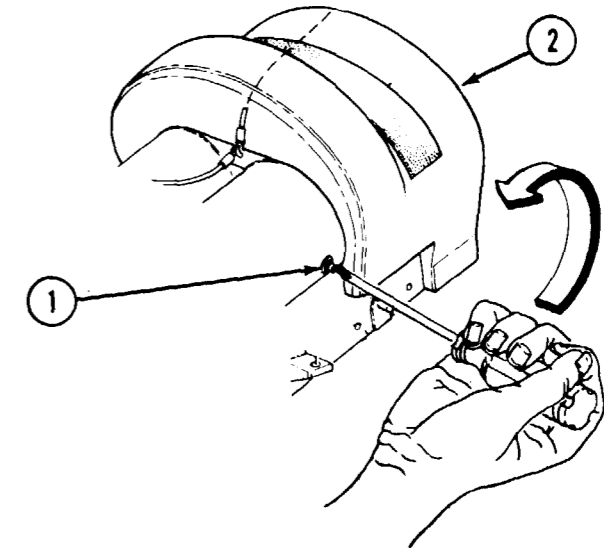
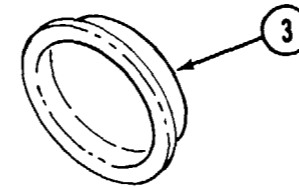
Equipment condition: CSCB removed, see para. 7-9.

STEP 1

Remove the self sealing screw (1) to repressurize tracker (2) using a No. 2 crosspoint screwdriver.

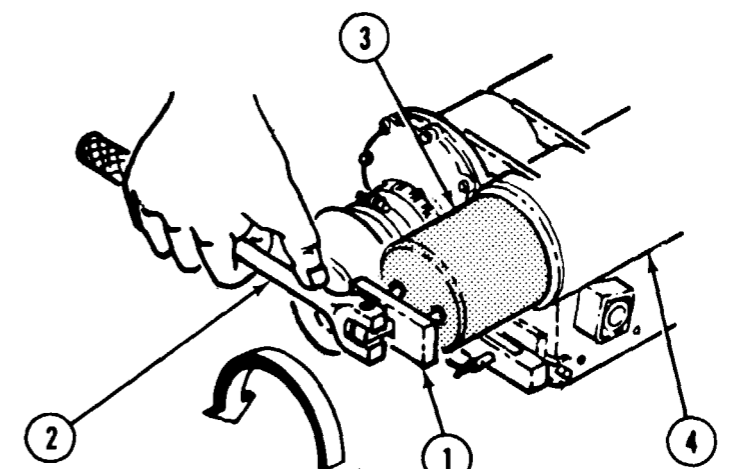


Have the protective dust cap (3) available.



STEP 2

Using the plug spanner wrench (1) and breaker bar (2) turn counter-clockwise to remove the plug (3) and the preformed packing from the housing (4).

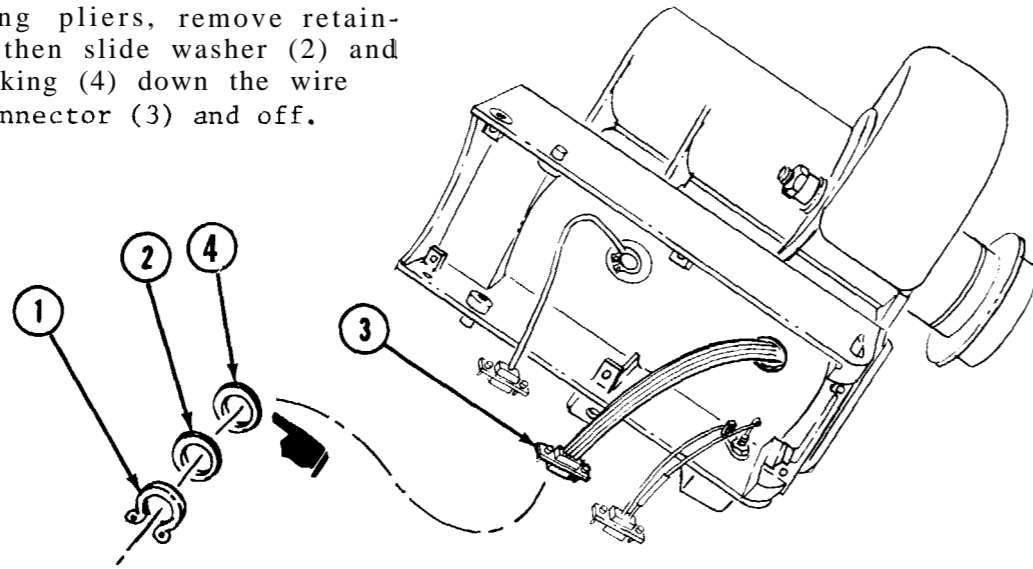


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7-11. REMOVE NUTATOR - CONTINUED

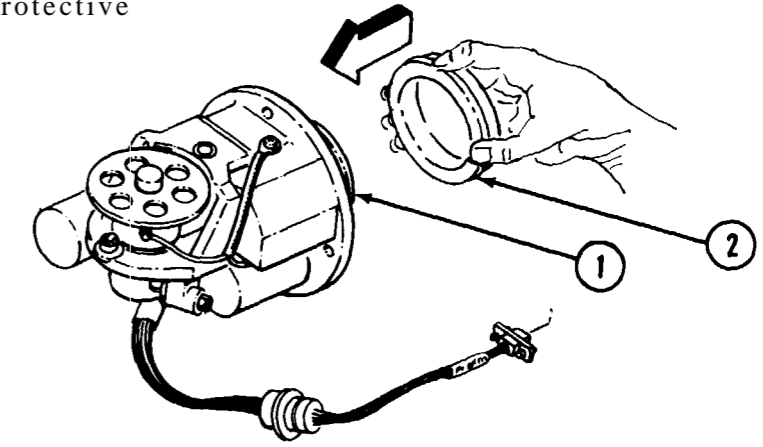
STEP 3

Using snap ring pliers, remove retaining ring (1) then slide washer (2) and preformed packing (4) down the wire towards P1 connector (3) and off.



STEP 5

Cover the mirror (1) with protective dust cap (2).



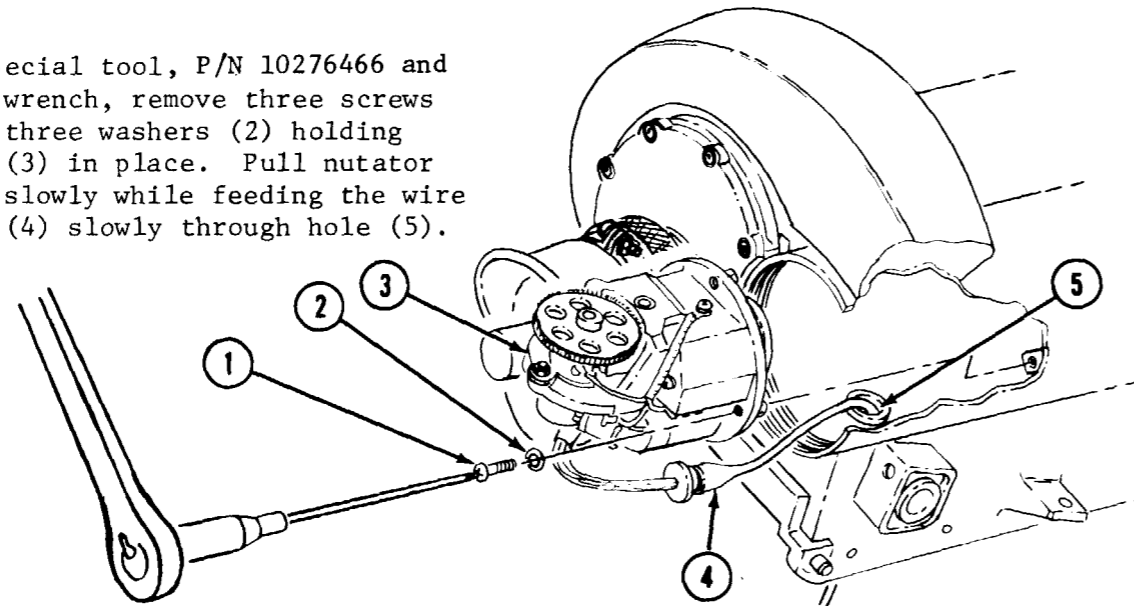
END OF TASK

STEP 4



Be careful when handling the Nutator - do not touch the mirror or change the position of gears in the mirror drive assembly and clutch. If the mirror is touched, clean with a cotton swab and ethyl alcohol, wiping in a straight line in one direction only.

Using special tool, P/N 10276466 and ratchet wrench, remove three screws (1) and three washers (2) holding nutator (3) in place. Pull nutator (3) out slowly while feeding the wire harness (4) slowly through hole (5).



7-12. REMOVE EYEGUARD

Tools required: No. 1 crosspoint screwdriver
Snap ring pliers

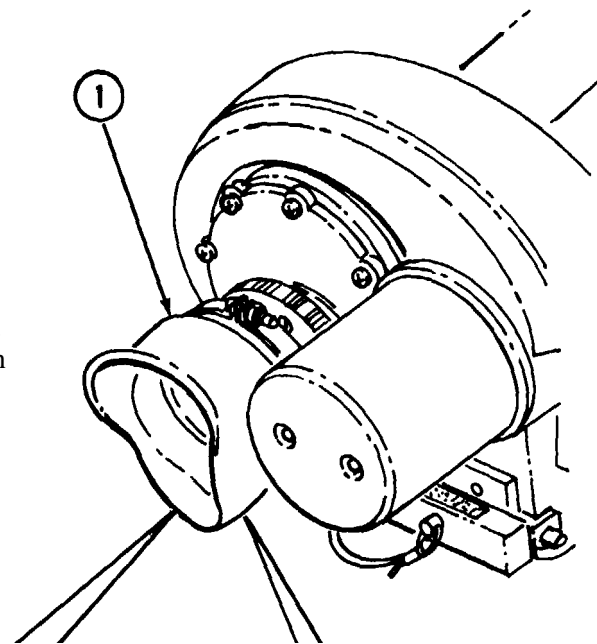


NOTE

The eyeguard is attached by one of the following methods:

- a clamp with a screw
- a retaining ring.

- A. If your tracker's eyeguard (1) is attached with clamp (2) and screw (3), remove clamp by loosening screw with the crosspoint screwdriver.
- B. If your tracker's eyeguard (1) is attached with a retaining ring (4), then remove retaining ring (4) with snap ring pliers. Remove eyeguard (1) from the diopter assembly.



END OF TASK

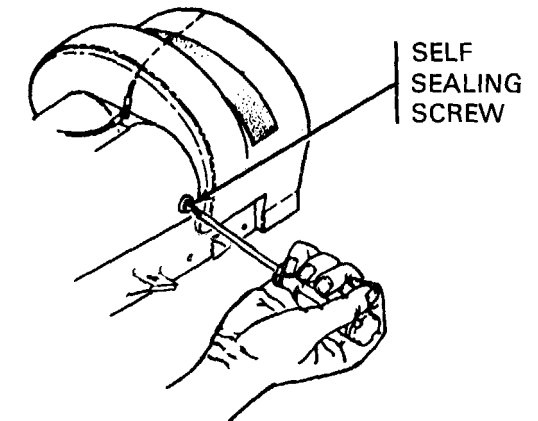
7-13. REMOVE EYEPIECE ASSEMBLY

Tools required; 5/64 inch Allen wrench or
MA 2 1/2 adapter with 6 inch bit
Ratchet wrench
No. 1 crosspoint screwdriver

Equipment condition: Eyeguard removed, see para. 7-12.

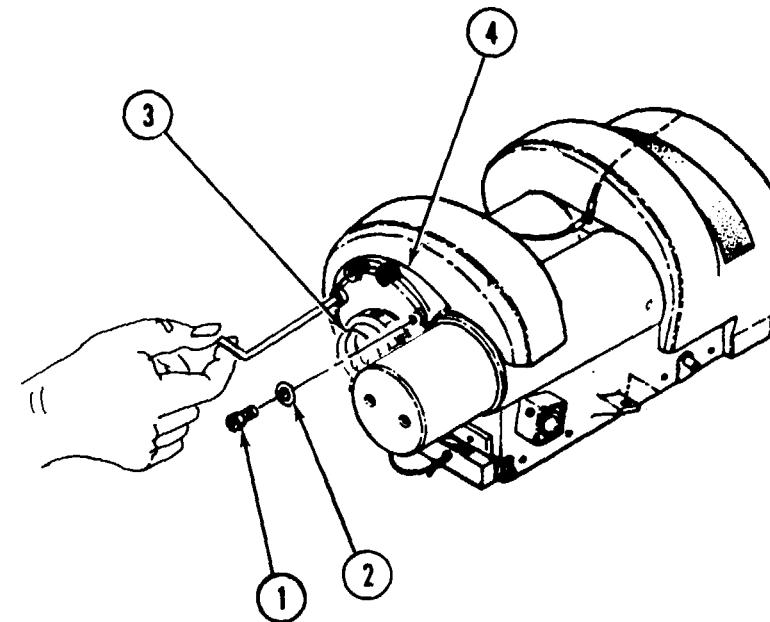
STEP 1

Using screwdriver, remove self sealing screw to repressurize the unit.



STEP 2

Using the 5/64 inch Allen wrench, remove eight capscrews (1) and eight flatwashers (2) that secure the eyepiece (3) to the tracker housing (4).



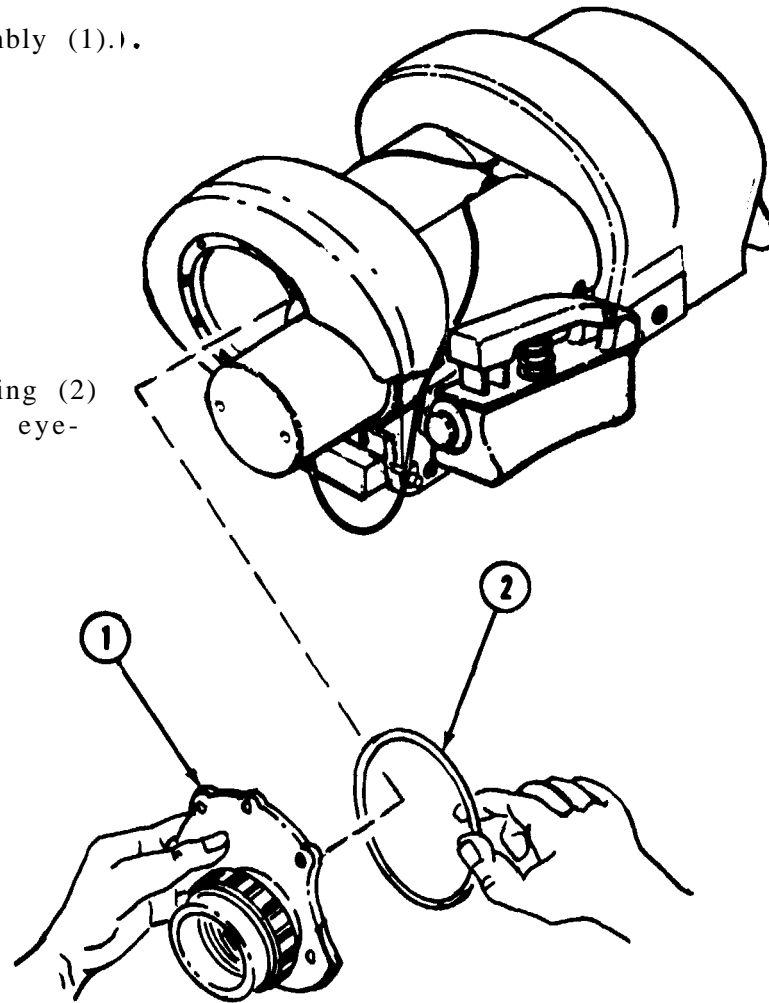
GO TO NEXT PAGE

7-13. REMOVE EYEPIECE ASSEMBLY - CONTINUED

STEP 3

A. Take off the eyepiece assembly (1).

B. Remove the preformed packing (2) that fits on inside of the eyepiece assembly (1).



END OF TASK

7-14. REMOVE CELL ASSEMBLY

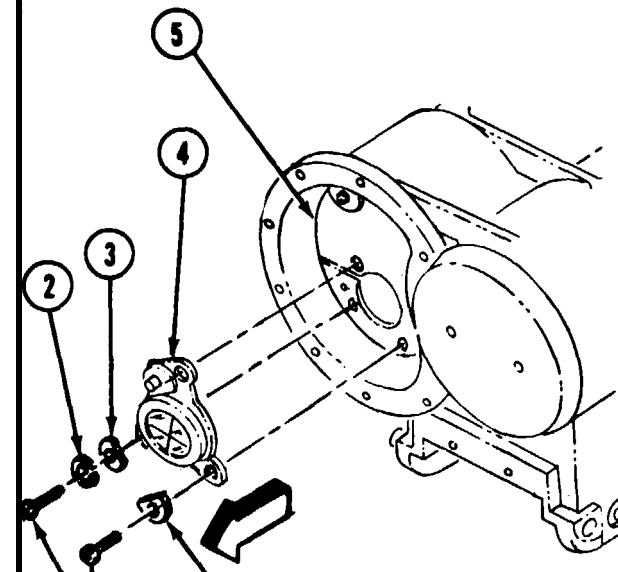
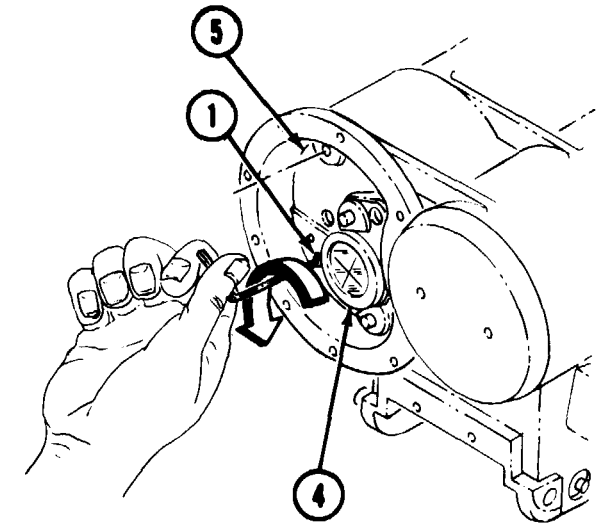
Tools required: 5/64 inch Allen wrench

Equipment condition: Eyepiece assembly removed, see para. 7-13.



Don't touch the lens with your bare hands.

Using Allen wrench, remove three screws (1), one lockwasher (2), three flatwashers (3) and cell assembly (4) from prism assembly (5).



END OF TASK

7-15. REMOVE SAFETY BOOT, DUST AND MOISTURE SEAL

Tools required: Craftsman's knife

Materials required:

Materials

Alcohol
Cleaning cloth

See Appendix D

Item 8
Item 6

7-16. REMOVE TRIGGER BOOT, DUST AND MOISTURE SEAL

Tools required: Craftsman's knife

Materials required:

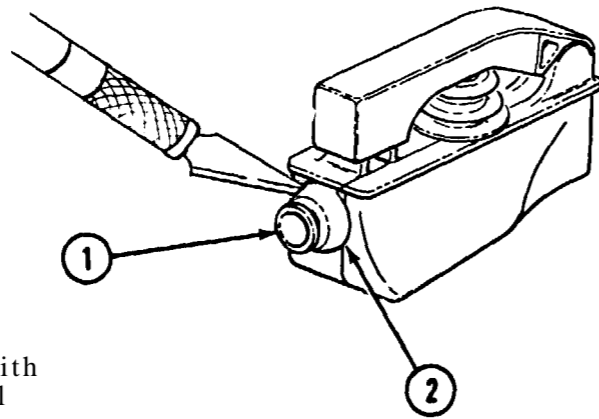
Materials

Alcohol
Cleaning cloth

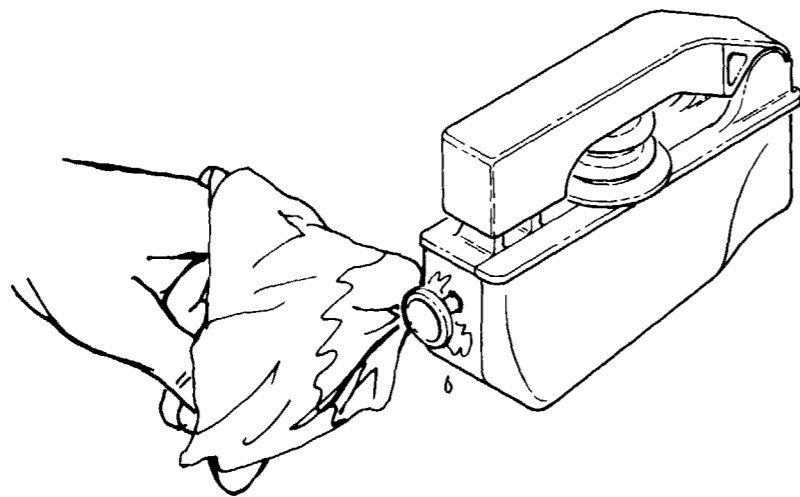
See Appendix D

Item 8
Item 6

- A. Using craftsman's knife, remove boot (1) from safety (2).

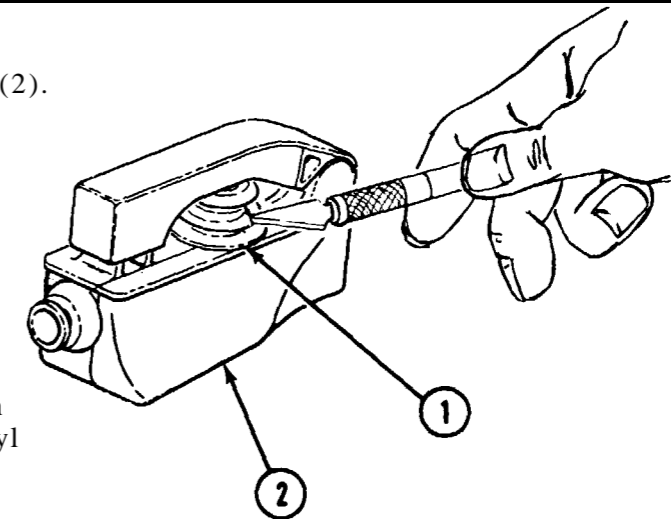


- B. Clean residual adhesive off with a cleaning cloth and isopropyl alcohol.

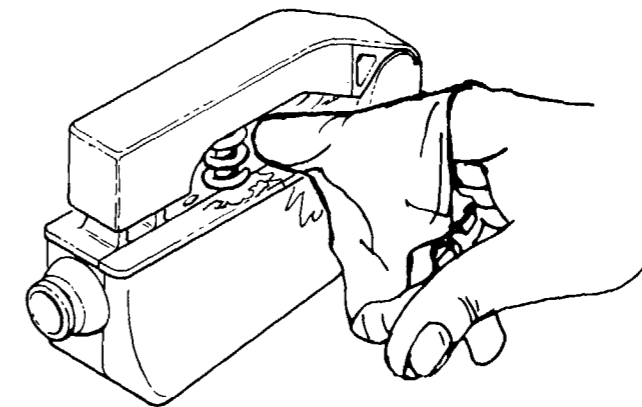


END OF TASK

- A. Using craftsman's knife, remove boot (1) from firing mechanism (2).



- B. Clean residual adhesive off with a cleaning cloth soaked in isopropyl alcohol.



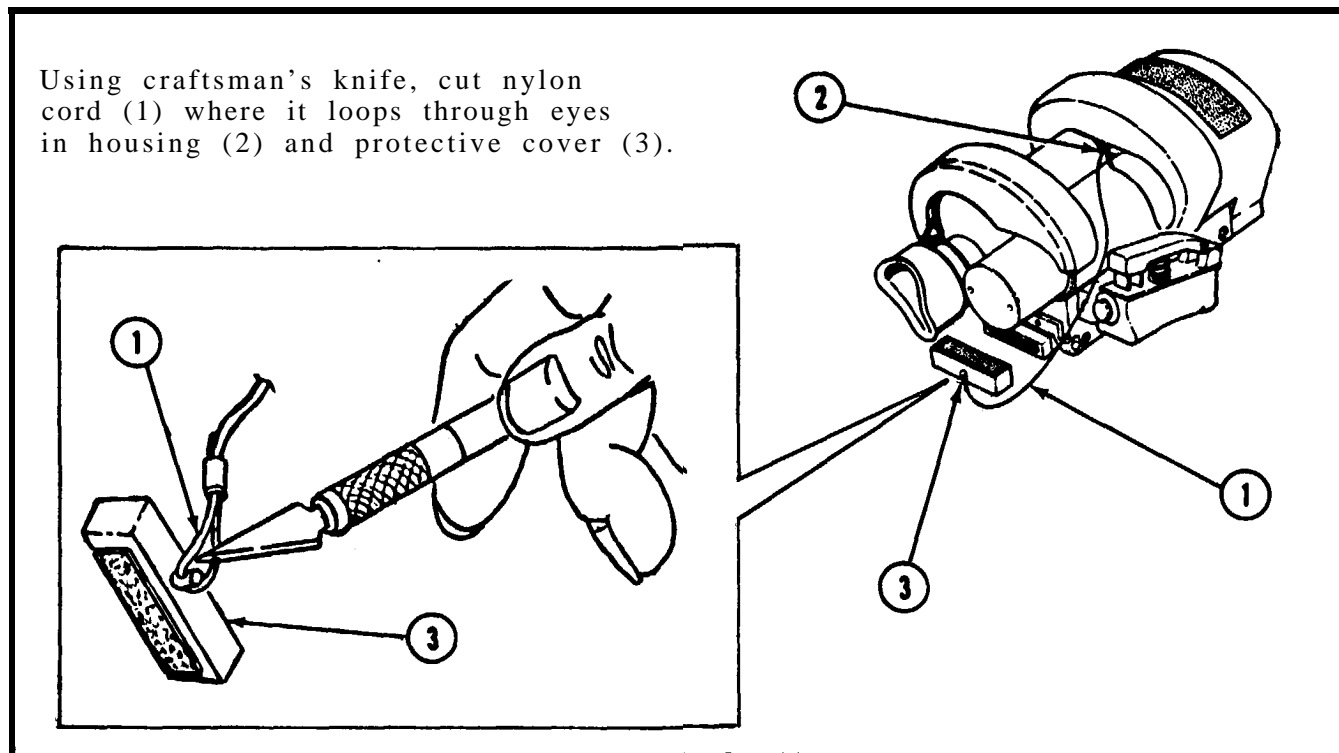
END OF TASK

7-17. REMOVE PROTECTIVE COVER AND NYLON CORD

Tools required: Craftsman's knife

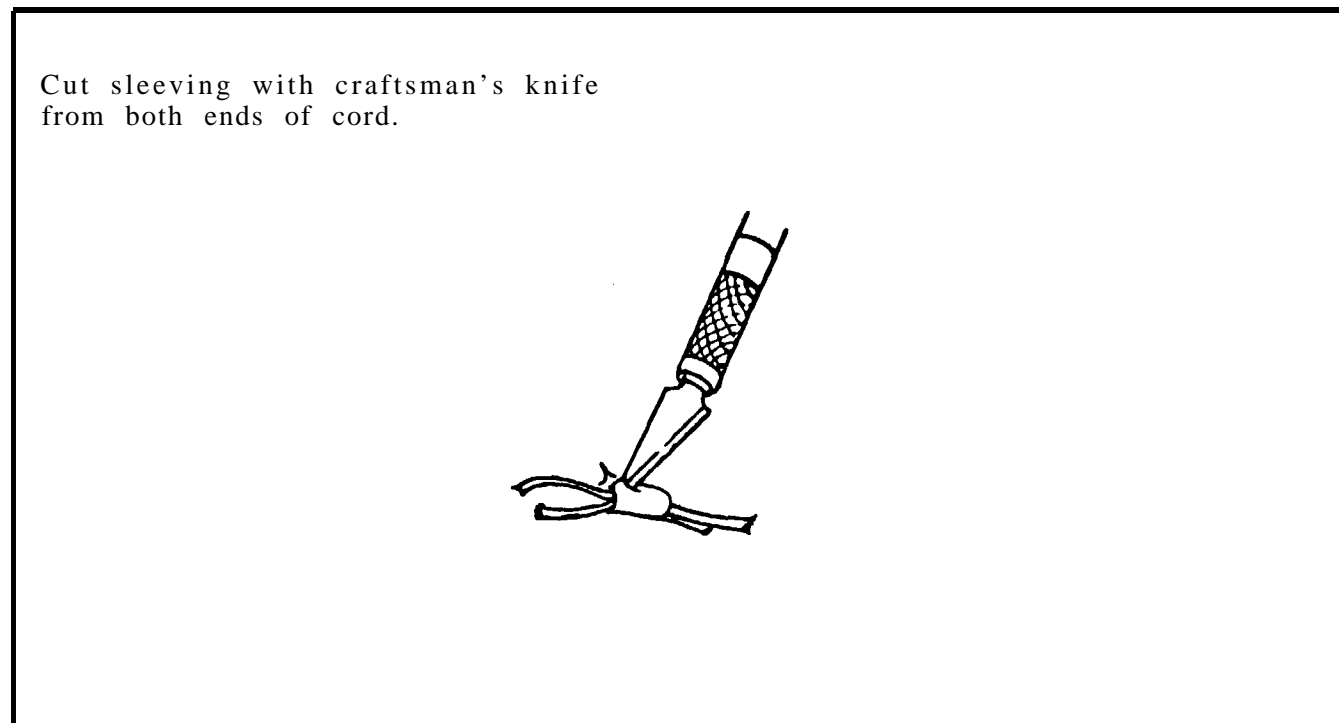
STEP 1

Using craftsman's knife, cut nylon cord (1) where it loops through eyes in housing (2) and protective cover (3).



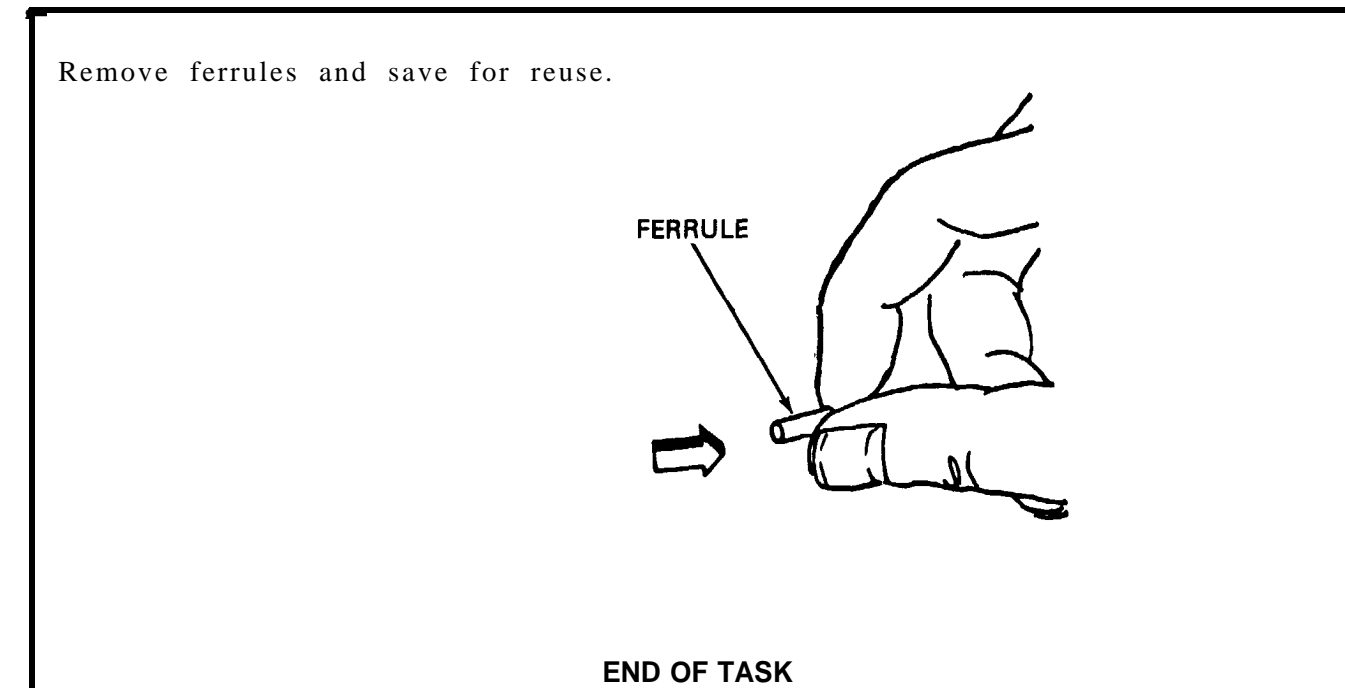
STEP 2

Cut sleeving with craftsman's knife from both ends of cord.



STEP 3

Remove ferrules and save for reuse.

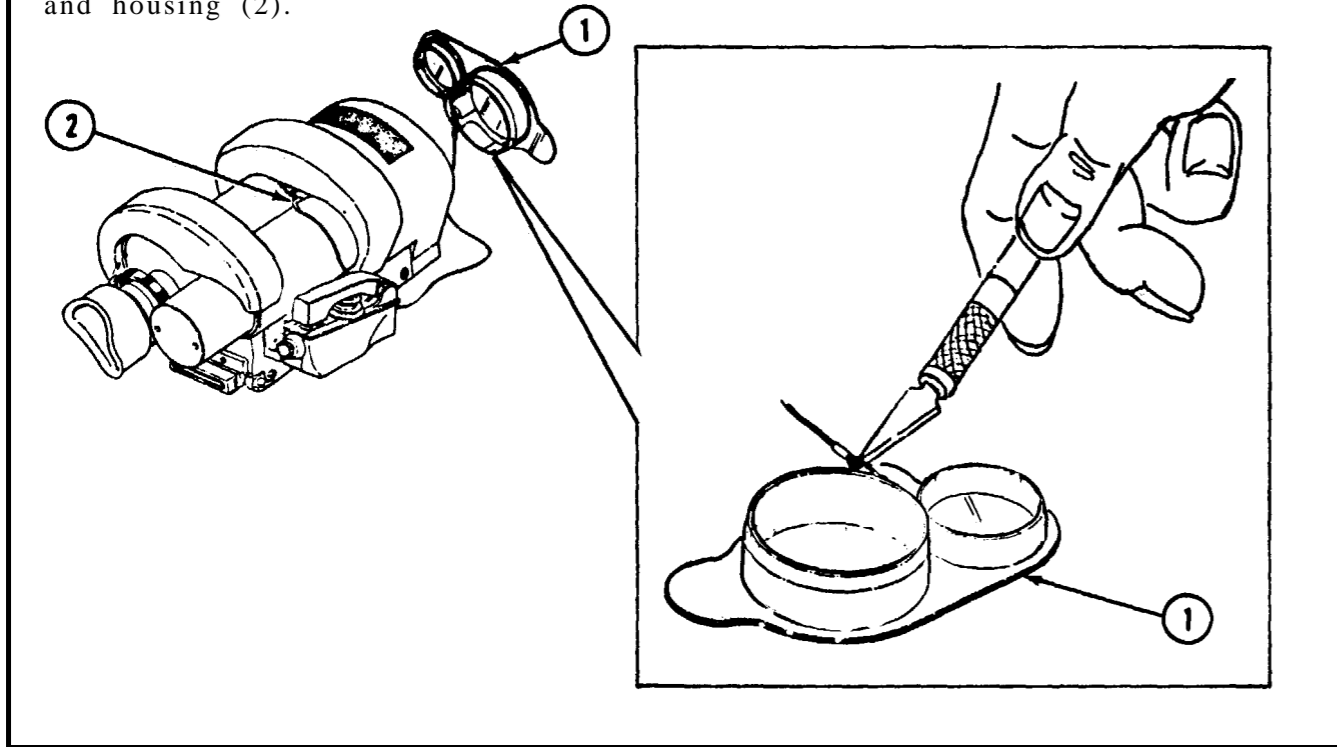


7-18. REMOVE LENS COVER AND NYLON CORD

Tools required: Craftsman's knife

STEP 1

Using craftsman's knife, cut through cord where it loops between lens cover (1) and housing (2).



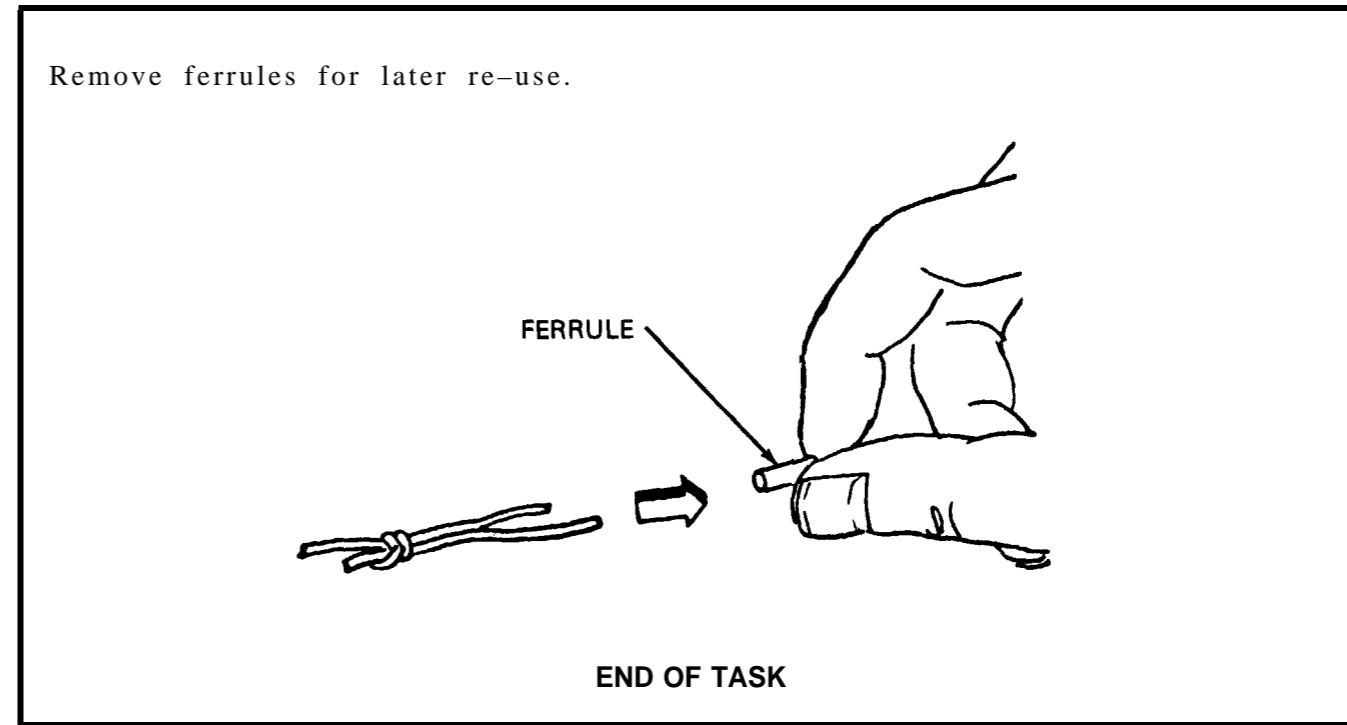
STEP 2

Using craftsman's knife, cut sleeving from each end of cord.



STEP 3

Remove ferrules for later re-use.



7-19. REMOVE FORWARD SHOCK ABSORBER

Tools required: Craftsman's knife

Materials required:

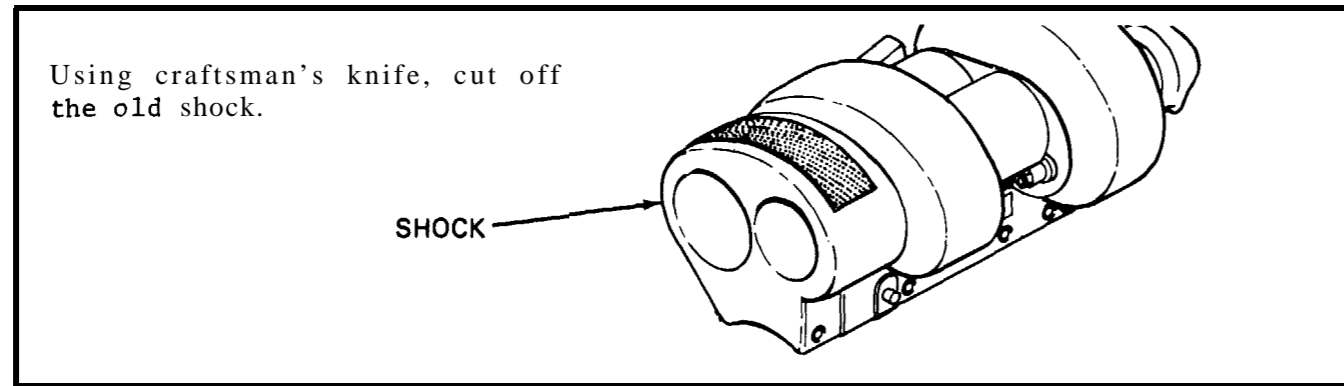
Materials

- Abrasive paper
- Alcohol
- Cleaning cloth

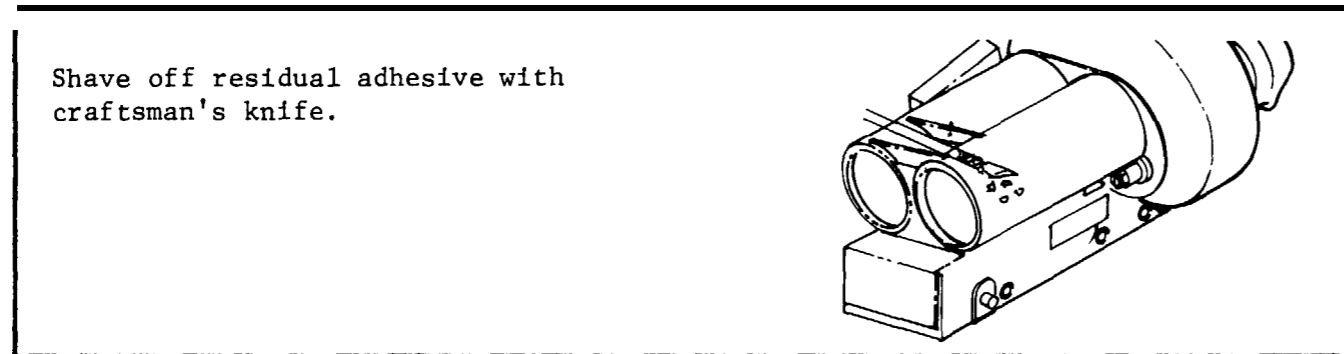
See Appendix D

- Item 16
- Item 8
- Item 6

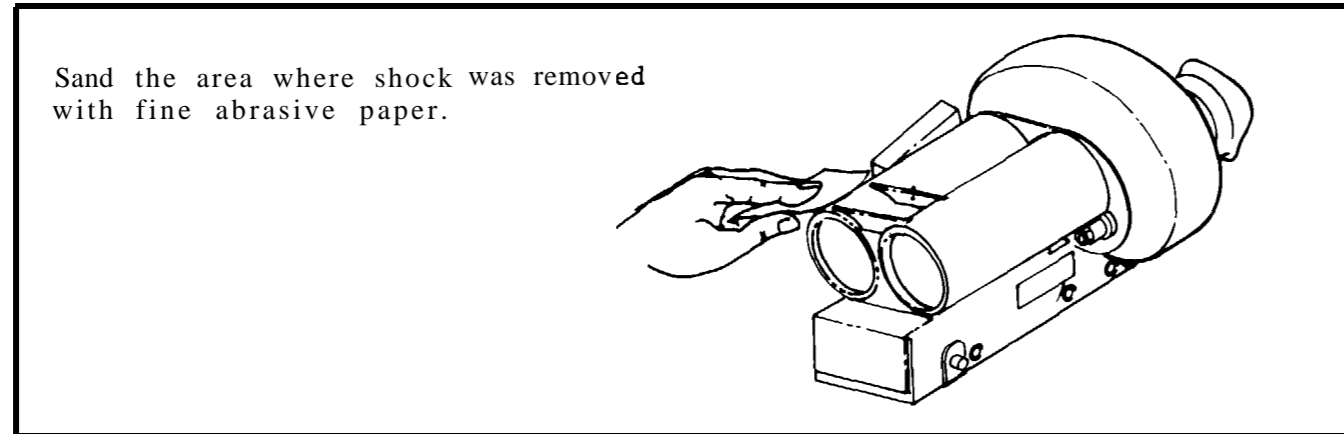
STEP 1



STEP 2

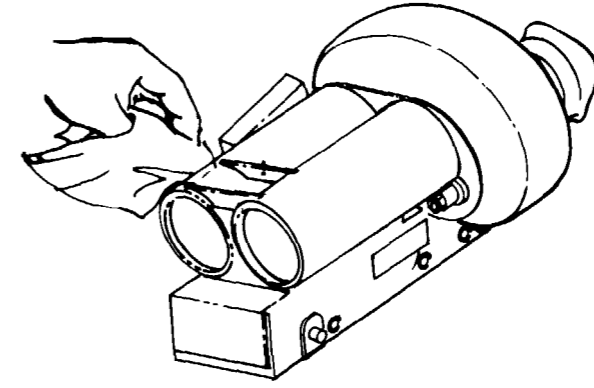


STEP 3



STEP 4

Clean mounting area with cloth soaked in isopropyl alcohol.



END OF TASK

7-20. REMOVE AFT INNER SHOCK ABSORBER

Tools required: Craftsman's knife

Materials required:

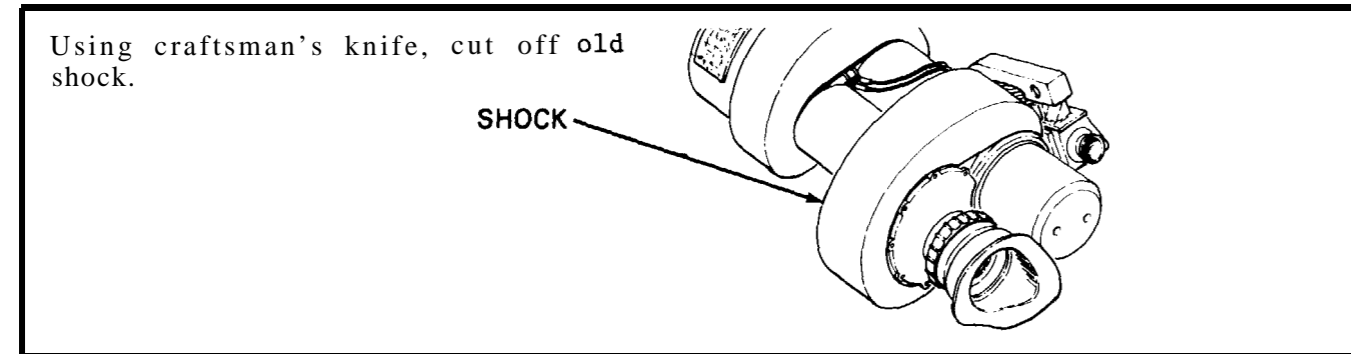
Materials

- Abrasive paper
- Alcohol
- Cleaning cloth

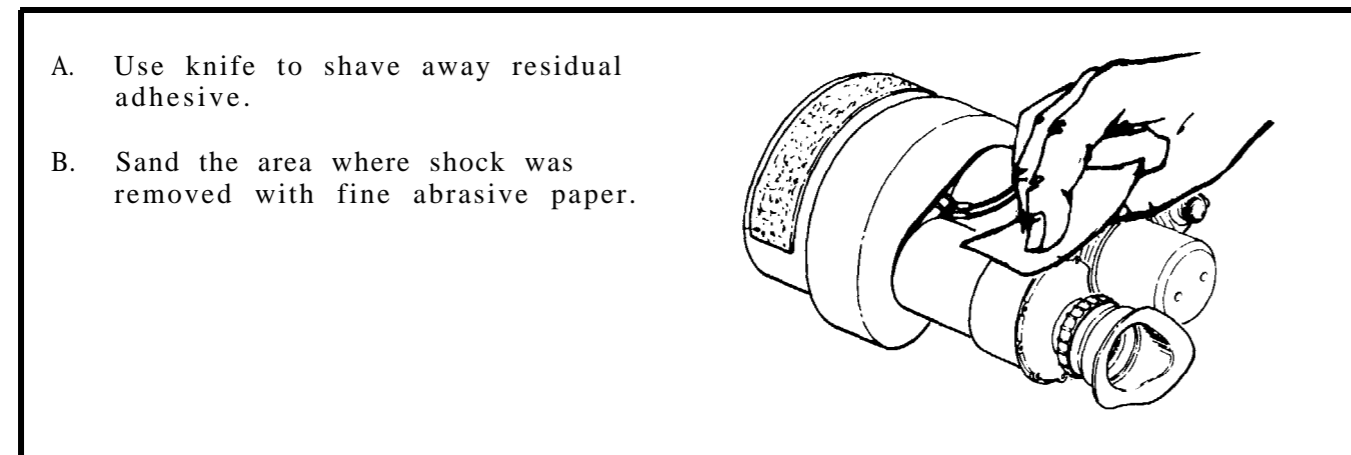
See Appendix D

- Item 16
- Item 8
- Item 6

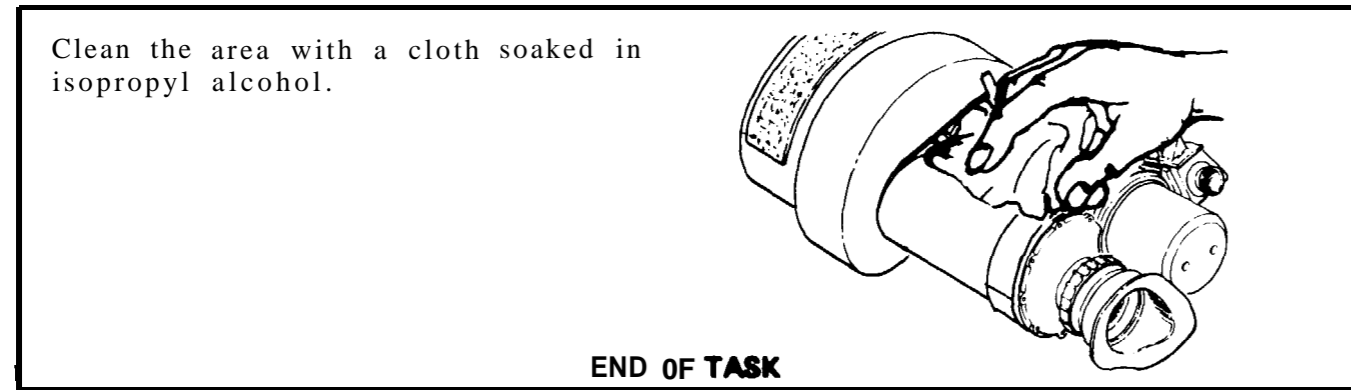
STEP 1



STEP 2



STEP 3



7-21. REMOVE AFT SHOCK ABSORBER

Tools required: Craftsman's knife

Materials required:

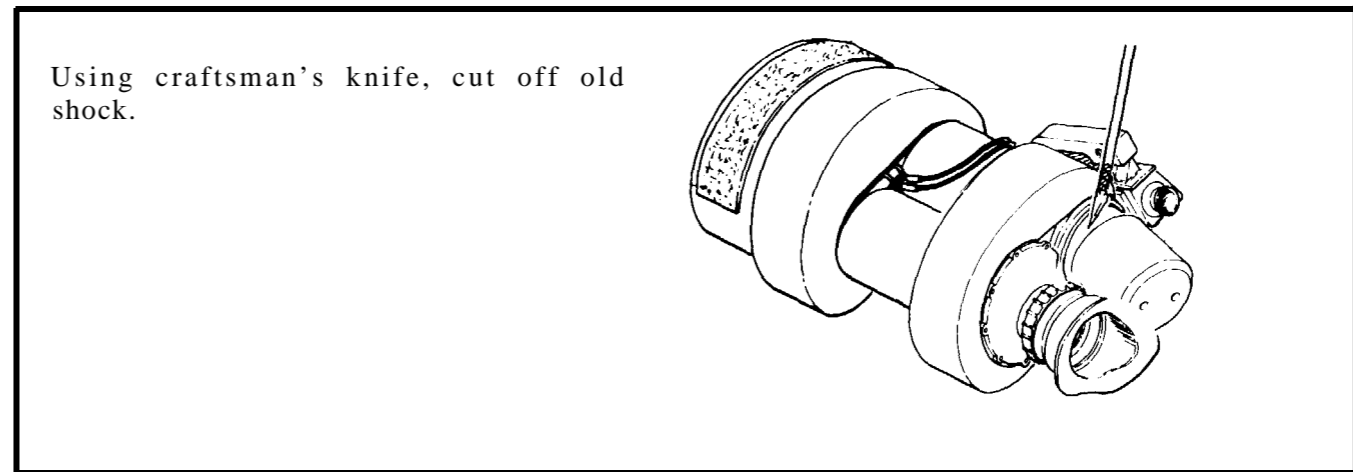
Materials

- Abrasive paper
- Alcohol
- Cleaning cloth

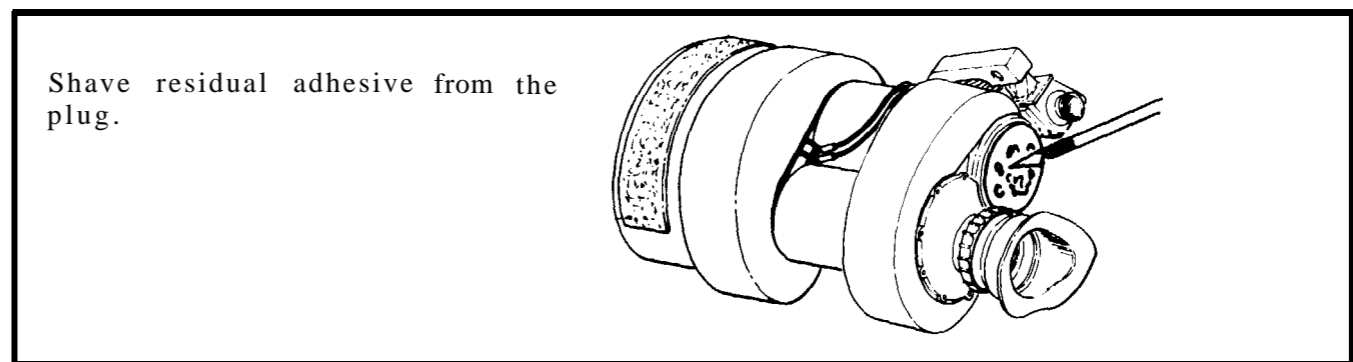
See Appendix D

- Item 16
- Item 8
- Item 9

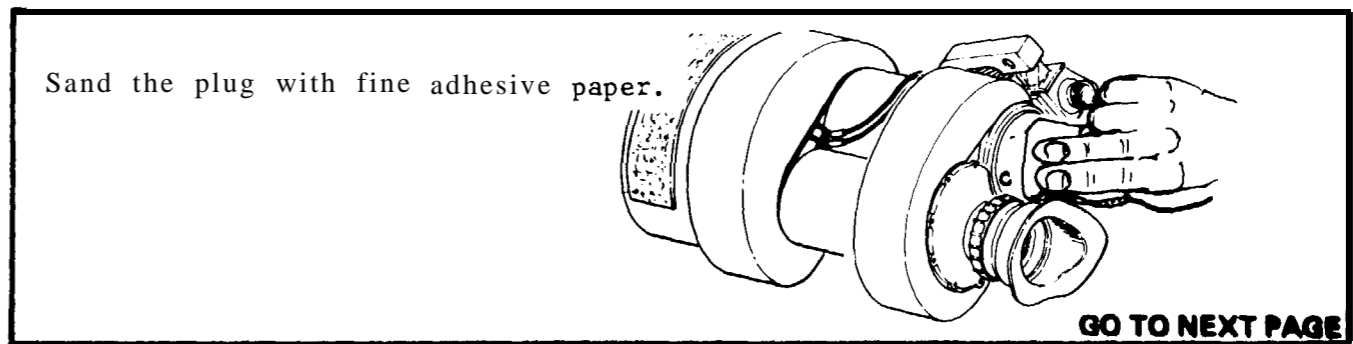
STEP 1



STEP 2



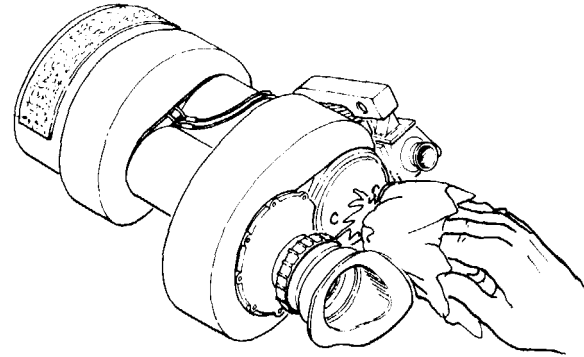
STEP 3



7-21. REMOVE AFT SHOCK ABSORBER – CONTINUED

STEP 4

Clean the mounting area with a cloth soaked in isopropyl alcohol.



END OF TASK

7-22. REMOVE IDENTIFICATION PLATE

Tools required: Craftsman's knife

Materials required:

Materials

See Appendix D

Cleaning cloth
MEK

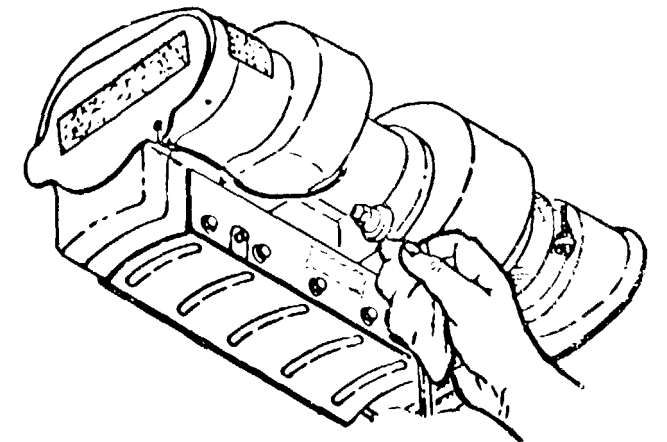
Item 6
Item 5

- A. Record information from old identification plate.
- B. Using craftsman's knife, peel away old identification plate.



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat.

- C. Use cloth soaked in MEK to clean away residual adhesive.



END OF TASK

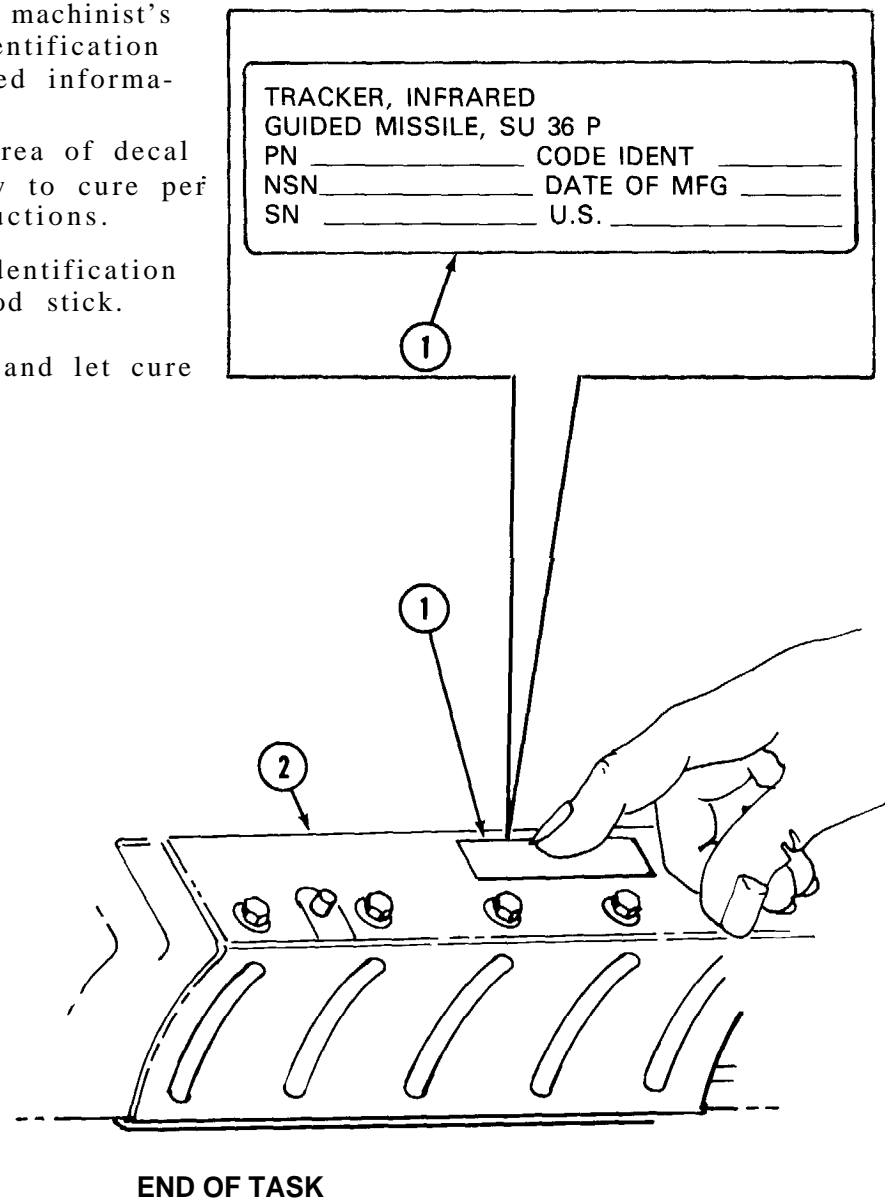
7-23. INSTALL IDENTIFICATION PLATE

Tools required: Marking set or
Machinist's scribe

Materials required:

<u>Materials</u>	<u>See Appendix D</u>
Adhesive	Item 73
Primer	Item 74
Orangewood stick	Item 7

- A. Using marking set or machinist's scribe, mark new identification plate (1) with required information.
- B. Apply primer to the area of decal installation and allow to cure per manufacturer's instructions.
- C. Apply adhesive to identification plate using orangewood stick.
- D. Press to housing (2) and let cure 4 hours.



7-24. INSTALL AFT SHOCK ABSORBER

Tools required: Plug spanner wrench, special tool, P/N 10275915
Craftsman's knife

Materials required:

<u>Materials</u>	<u>See Appendix D</u>
Rubber bands	Item 62
Cleaning cloth	Item 6
Orangewood stick	Item 7
Adhesive epoxy	Item 30
DELETED	
Brush	Item 9
Alcohol	Item 8

STEP 1

- A. **DELETED**
- B. Prepare the adhesive by mixing the accelerator part A and epoxy part B using a 3 to 2 ratio. Squeeze a bead of part A three inches long and a bead of part B two inches long into a container and mix to a uniform gray color.

ART
DELETED

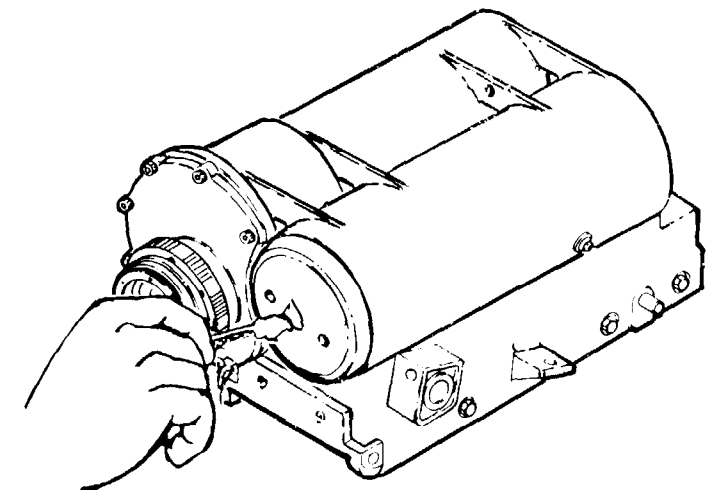
STEP 2

- A. Deleted



NOTE
DO NOT get adhesive in holes in plug.

- B. Apply adhesive to plug with orangewood stick.

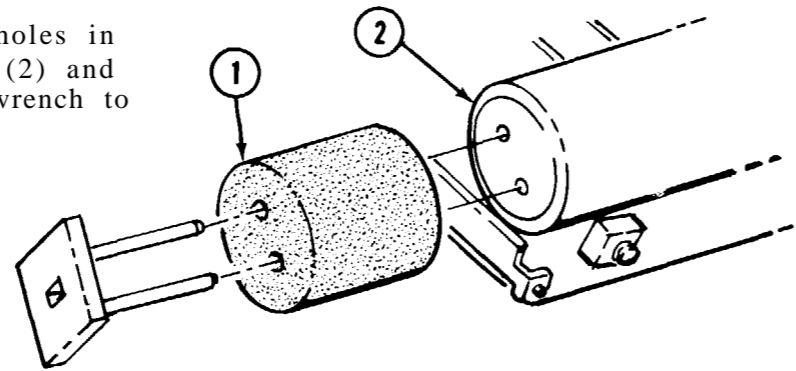


GO TO NEXT PAGE

7-24. INSTALL AFT SHOCK ABSORBER – CONTINUED

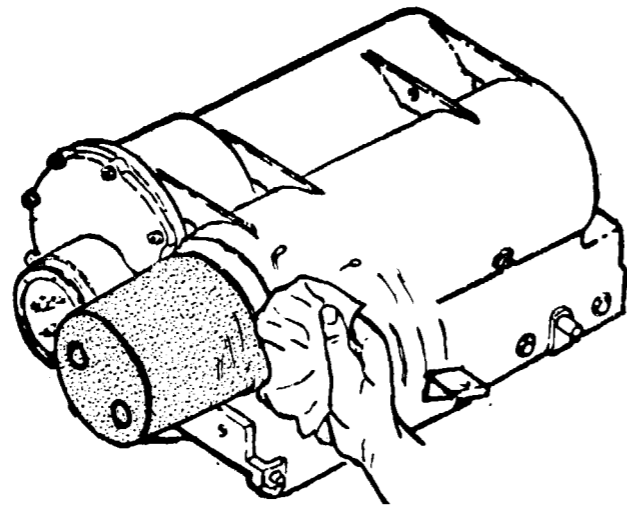
STEP 3

Using spanner wrench, align holes in shock (1) with holes in plug (2) and install shock. Use spanner wrench to check alignment.



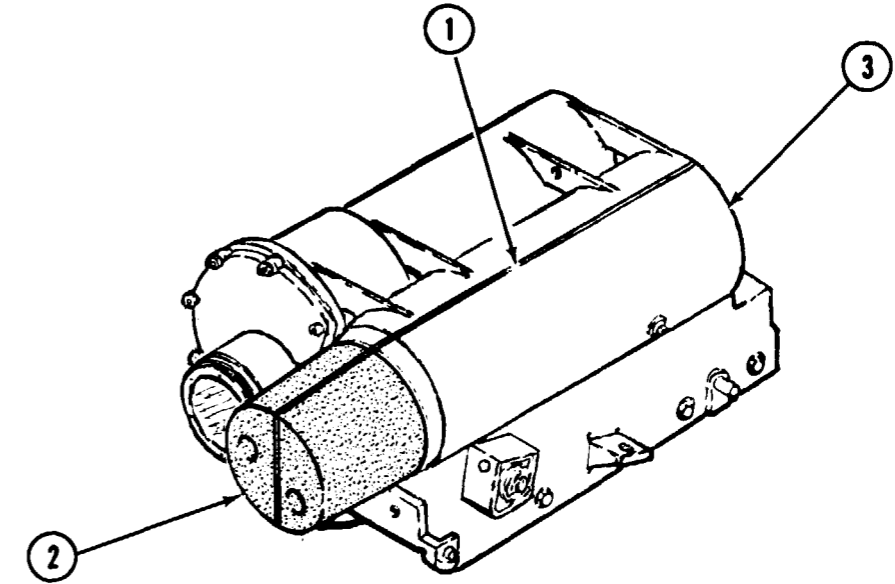
STEP 4

Using cloth soaked in alcohol, wipe off excess adhesive. Use craftsman's knife if necessary.



STEP 5

Position rubber bands (1) to hold shock (2) to tracker (3). Allow to cure 4 hours at room temperature.



END OF TASK

7-25. INSTALL AFT INNER SHOCK ABSORBER

Materials required:

Materials

- Orangewood stick
- Adhesive sealant
- Deleted
- Brush
- Cleaning cloth
- Alcohol
- Rubber bands

See Appendix D

- Item 7
- Item 73
- Item 9
- Item 6
- Item 8
- Item 62

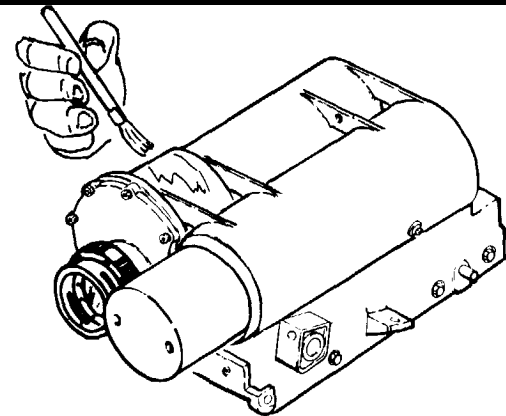
STEP 1



NOTE

Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

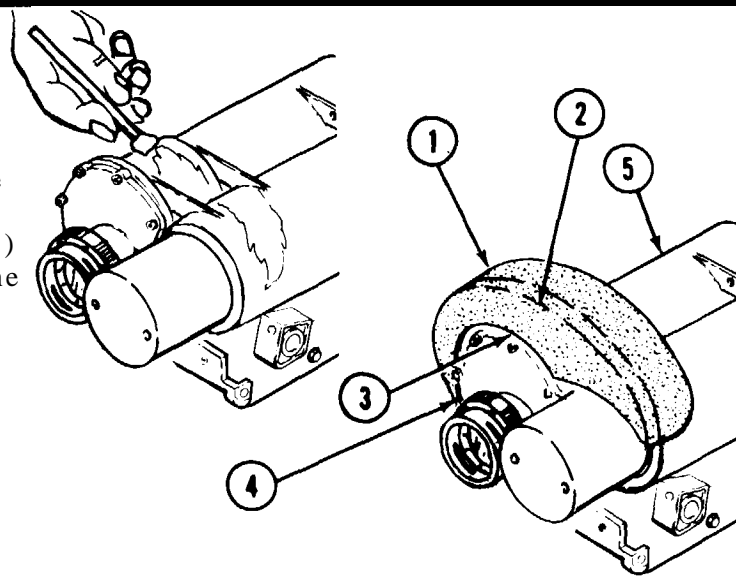
Brush adhesive primer (if required) on mounting surface. Allow to cure according to the manufacturer's instructions.



STEP 2

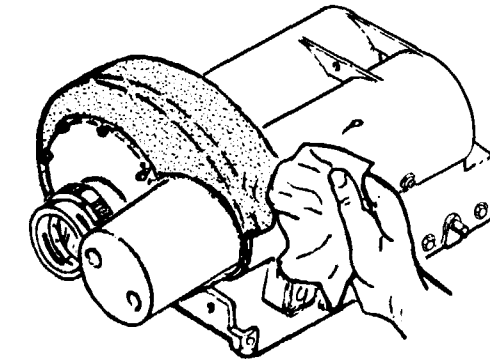
A. Spread adhesive over mounting area with orangewood stick.

B. Install the shock (1). Be sure that the rearmost edge (2) of shock is flush with the seam (3) where the eyepiece (4) meets the tracker housing (5).



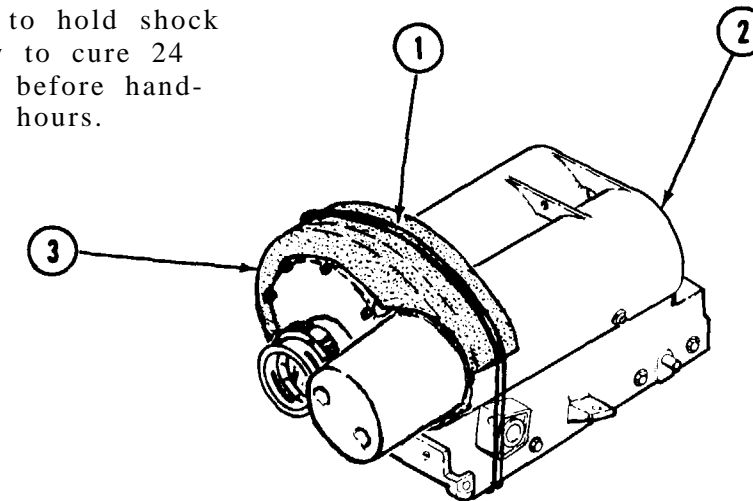
STEP 3

Using cleaning cloth soaked in alcohol, wipe off excess adhesive.



STEP 4

Position rubber bands (1) to hold shock (2) to tracker (3). Allow to cure 24 hours at room temperature before handling. Full cure takes 72 hours.



END OF TASK

7-26. INSTALL FORWARD SHOCK ABSORBER

Materials required:

Materials

Rubber bands
Orangewood stick
Adhesive sealant
Brush
Cleaning cloth
Alcohol

See Appendix D

Item 62
Item 7
Item 73
Item 9
Item 6
Item 8

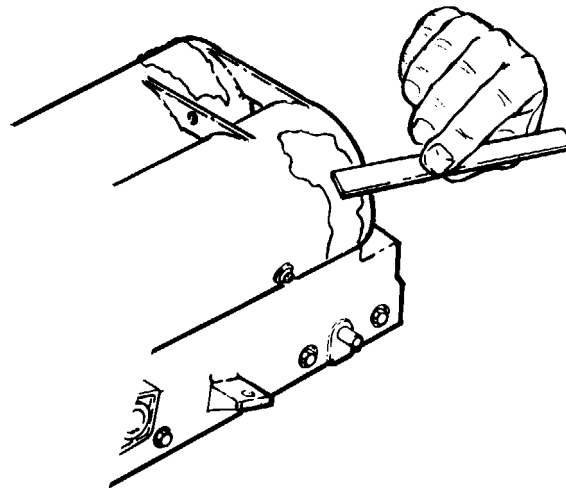
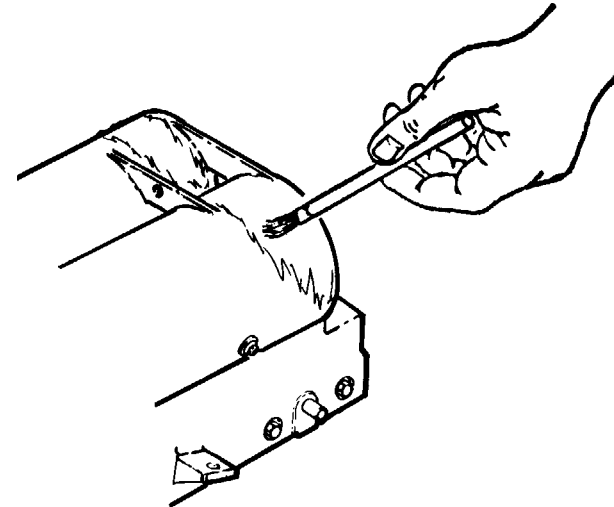
STEP 1



NOTE

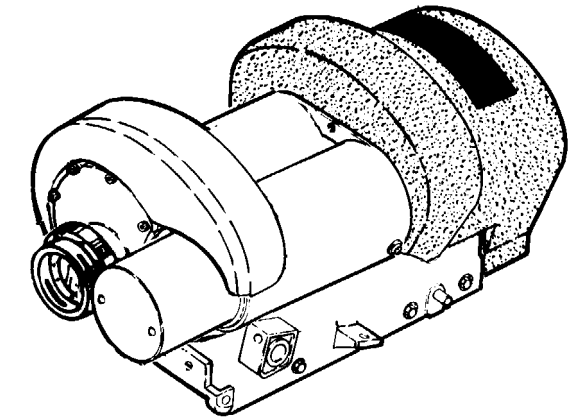
Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

- A. Brush adhesive primer (if required) on mounting surface. Allow to cure according to manufacturer's instructions.
- B. Apply adhesive to mounting surface with orangewood stick.



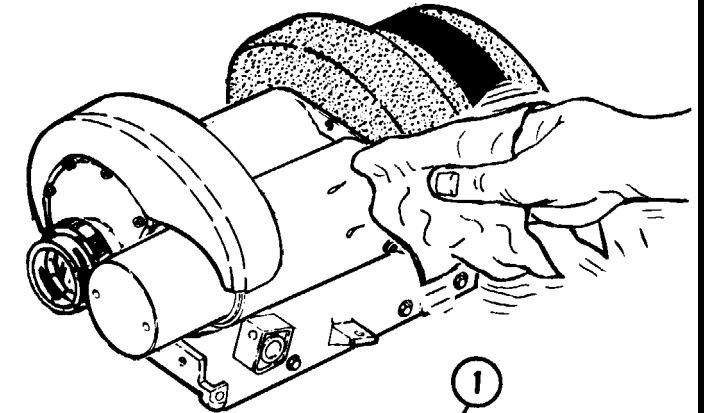
STEP 2

Install the shock.

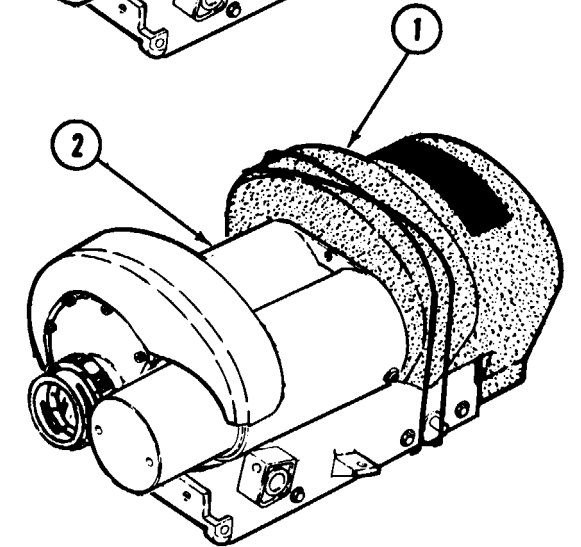


STEP 3

- A. Using cloth soaked in alcohol, wipe off excess adhesive.



- B. Position rubber bands to hold shock (1) to tracker (2). Allow to cure 24 hours at room temperature before handling. Full cure takes 72 hours.



END OF TASK

7-27. INSTALL LENS COVER AND NYLON CORD

Tools required: Diagonal cutting pliers
 Machinist's rule
 Heat gun
 1/16 inch drift pin
 Craftsman's knife

Materials required:

Materials

Nylon cord, 16 inch length
 Insulation sleeving
 Ferrules

See Appendix D

Item 49
 Item 52
 Item 20

STEP 1

A. Slip two 1/2 inch sections of insulation sleeving (1) and two ferrules (2) onto the nylon cord (3). Use heat gun to heat ends of cord (3). Use craftsman's knife to trim away any excess - this will allow cord to have solid ends that will be able to be guided through holes.

B. Loop one end of the cord (3) through the eye (4) of the cover (5) and the other end through the tracker housing (6).

The diagram for Step 1 consists of two parts. The top part shows a pair of hands working with a nylon cord (3). Two sections of insulation sleeving (1) and two ferrules (2) are being slid onto the cord. The bottom part shows the cord (3) being installed into a lens cover (5) and a tracker housing (6). The cord is looped through the eye (4) of the cover and the other end through the tracker housing.

STEP 2

A. Slip the ends of the cord through the ferrules using 1/16 inch drift pin if necessary.

B. Tie a figure-eight knot in the end of the cord.

c. Pull the cord tight to take up the slack.

The diagram for Step 2 shows three stages of the process. The top illustration shows the cord ends being inserted into the ferrules. The middle illustration shows a figure-eight knot being tied in the end of the cord. The bottom illustration shows the cord being pulled tight to remove any slack.

STEP 3

A. Slide the sleeving over the knot and ferrule.

B. Shrink the sleeving in place with heat gun.

C. Repeat steps 2 and 3 to fasten other end of cord to housing.

END OF TASK

The diagram for Step 3 shows two illustrations. The top illustration shows the insulation sleeving being slid over the knot and ferrule. The bottom illustration shows a heat gun being used to shrink the sleeving in place.

7-28. INSTALL PROTECTIVE COVER AND NYLON CORD

Tools required: Craftsman's knife
 Diagonal cutting pliers
 Machinist's rule
 1/16 inch drift pin
 Heat gun

Materials required:

Materials

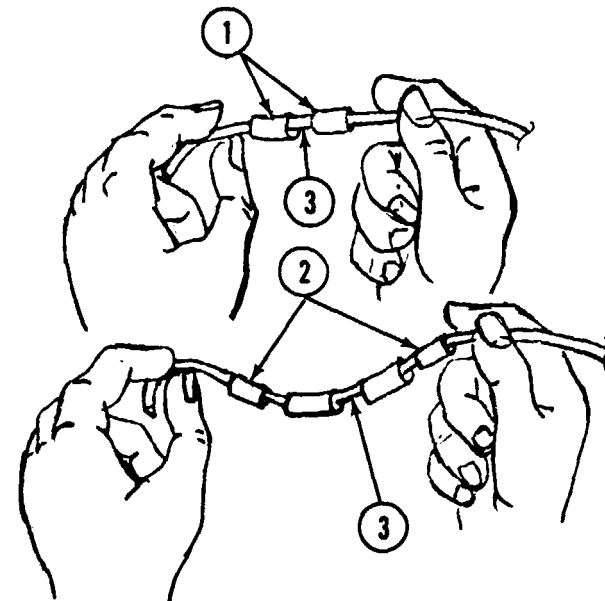
Nylon cord, 18-inches long
 Insulation sleeving
 Ferrules

See Appendix D

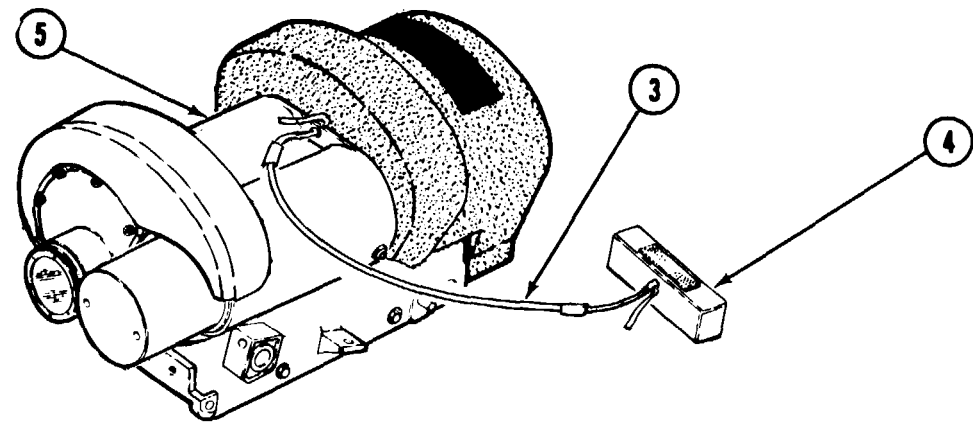
Item 49
 Item 52
 Item 20

STEP 1

A. Slip two 1/2 inch sections of insulation sleeving (1) and two ferrules (2) onto the nylon cord (3). Use heat gun to heat ends of cord (3). Use craftsman's knife to trim away any excess - this will allow cord to have solid ends that will be able to be guided through holes.

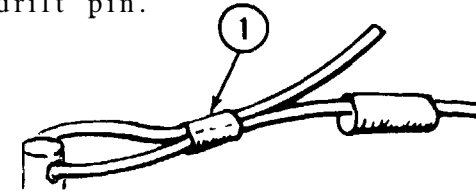


B. Loop ends of nylon cord (3) through the eyes in protective cover (4) and housing (5).

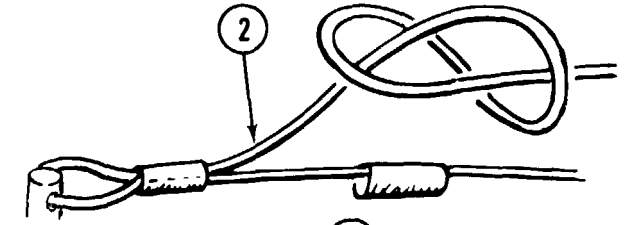


STEP 2

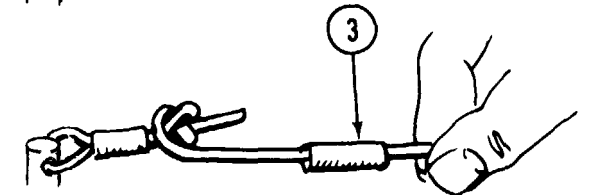
A. Push the end of the cord through the ferrule (1) using 1/16 inch drift pin.



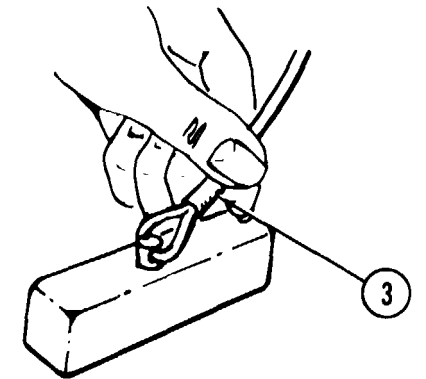
B. Tie a figure-eight knot in the end of the nylon cord (2).



C. Pull the cord tight to take the slack out of loop and pull the knot tight against the ferrule.



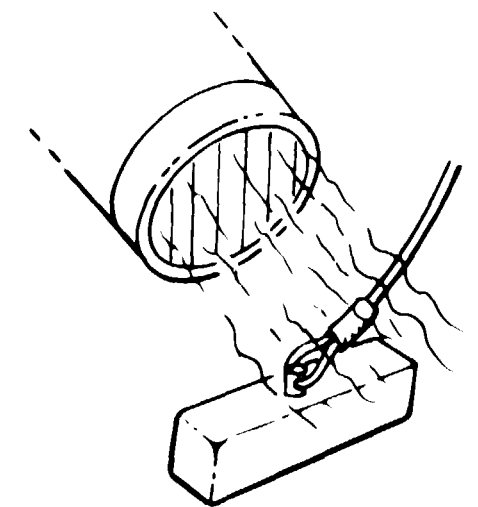
D. Slide the sleeving (3) over the knot and ferrule.



STEP 3

A. Shrink the tubing in place.

B. Repeat steps 2 and 3 to fasten other end of cord to housing.



END OF TASK

7-29. INSTALL TRIGGER BOOT, DUST AND MOISTURE SEAL

Tools required: No. 1 cross point screwdriver
 Craftsman's knife
 Tweezers

Materials required:

Materials

Adhesive sealant
 Cleaning cloth
 Alcohol
 Orangewood stick

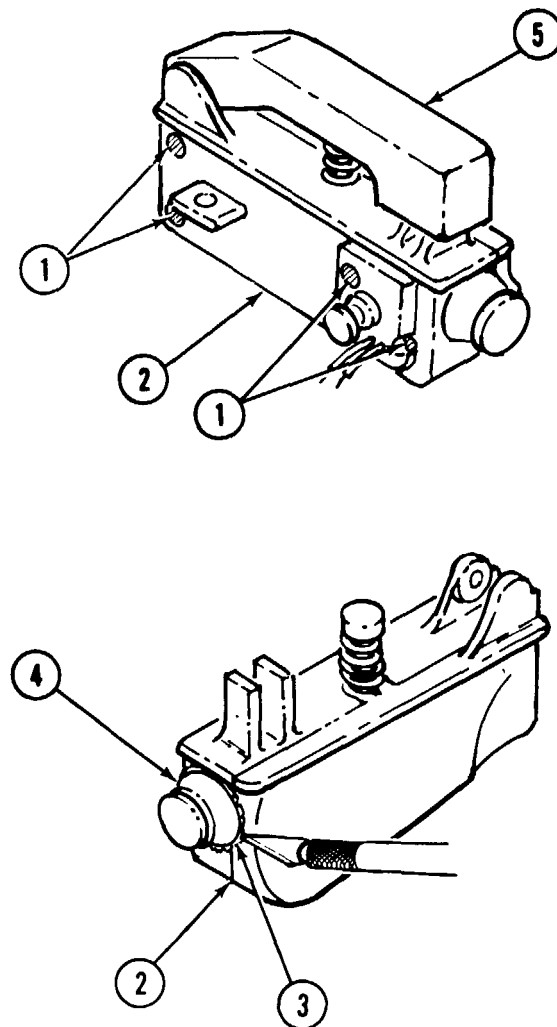
See Appendix D

Item 73
 Item 6
 Item 8
 Item 7

Equipment condition: Firing mechanism removed, see para. 7-7.

STEP 1

- A. Using craftsman's knife and tweezers, remove potting from four screws (1) holding housing (2) together.
- B. Using screwdriver, remove four screws (1).
- C. Using craftsman's knife, cut the seal (3) between safety boot (4) and housing (2) just enough to separate the two halves.
- D. Separate the two halves far enough to remove trigger lever (5).
- E. DELETED

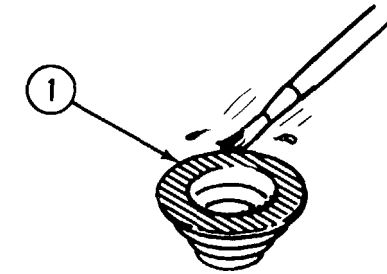


STEP 2



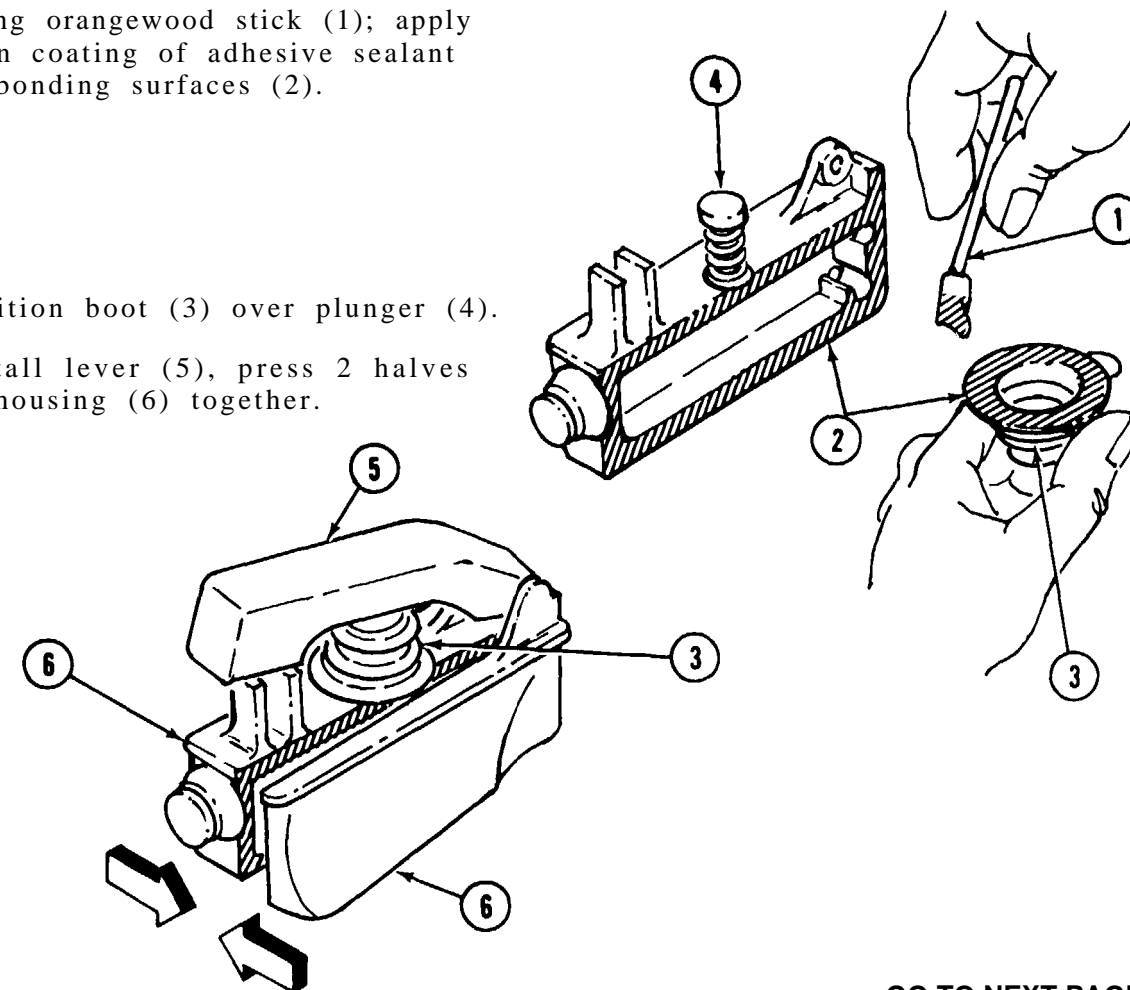
Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

Coat bonding surfaces of trigger boot (1) with primer (if primer is required). Allow to cure according to manufacturer's instructions.



STEP 3

- A. Using orangewood stick (1); apply even coating of adhesive sealant to bonding surfaces (2).
- B. Position boot (3) over plunger (4).
- C. Install lever (5), press 2 halves of housing (6) together.

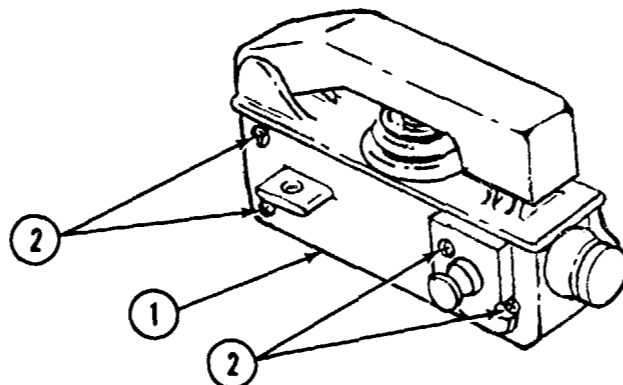


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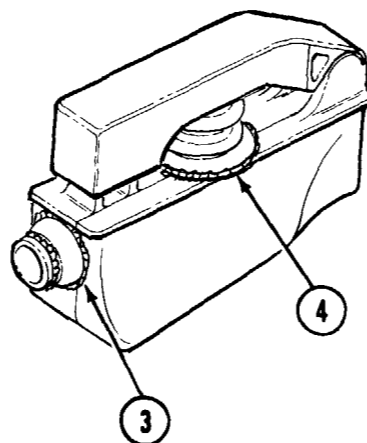
7-29. INSTALL TRIGGER BOOT, DUST AND MOISTURE SEAL - CONTINUED

STEP 4

A. Using No. 1 crosspoint screwdriver, fasten halves of housing (1) together with four screws (2). Apply coating of adhesive sealant over screws.



B. Using an orangewood stick, apply a fillet bead of adhesive sealant around edge of safety boot (3) and trigger boot (4).



C. Using cloth and alcohol, wipe off excess adhesive and allow to cure 24 hours at room temperature before handling. Full cure takes 72 hours.

END OF TASK

7-30. INSTALL SAFETY BOOT, DUST AND MOISTURE SEAL

Tools required: Craftsman's knife

Materials required:

Materials

- Adhesive sealant
- Alcohol
- Cleaning cloth
- Orangewood stick

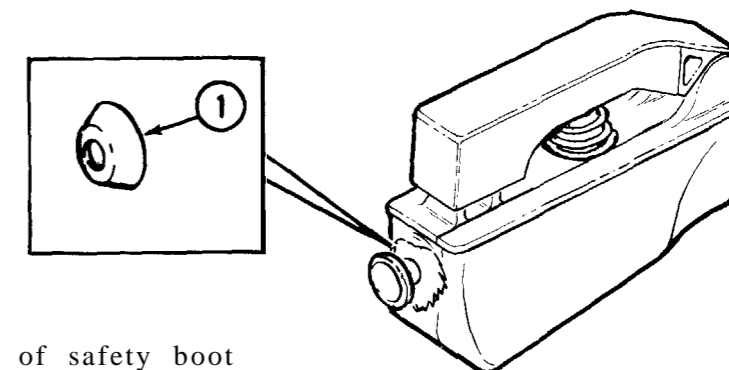
See Appendix D

- Item 73
- Item 8
- Item 6
- Item 7

STEP 1



Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

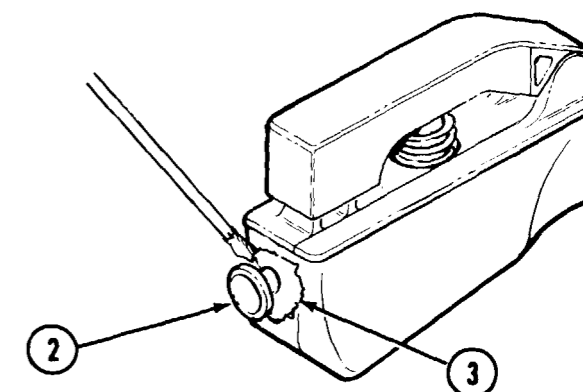


A. Coat bonding surfaces of safety boot (1) with primer (if required). Let cure according to manufacturer's instructions.



To keep plunger from sticking, do not allow any of adhesive sealant to remain on plunger (2).

B. Using orangewood stick, apply even coating of adhesive sealant to bonding surface (3).

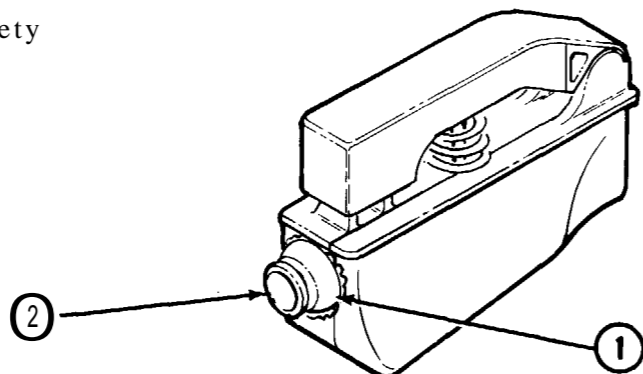


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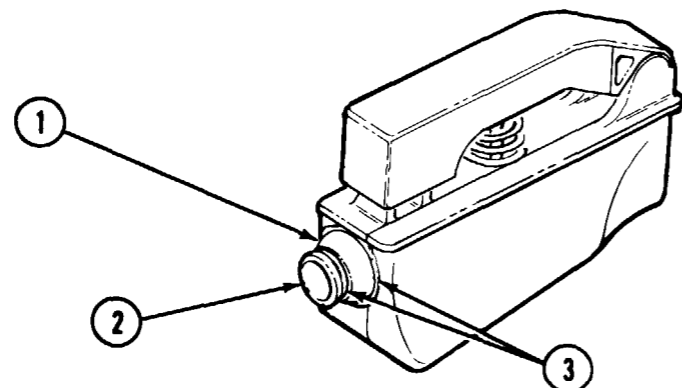
7-30. INSTALL SAFETY BOOT, DUST AND MOISTURE SEAL - CONTINUED

STEP 2

- A. Slip the boot (1) over the safety plunger (2) and bond in place.



- B. Apply a fillet bead (3) of adhesive sealant around edges of boot (1).



- C. Wipe off excess adhesive with cloth and alcohol. Allow adhesive to cure 24 hours at room temperature before handling. Full cure takes 72 hours.

END OF TASK

7-31. INSTALL CELL ASSEMBLY

Tools required: Torque wrench, inch/pounds
 MA 2 1/2 adapter with 6 inch bit or
 5/64 inch Allen wrench

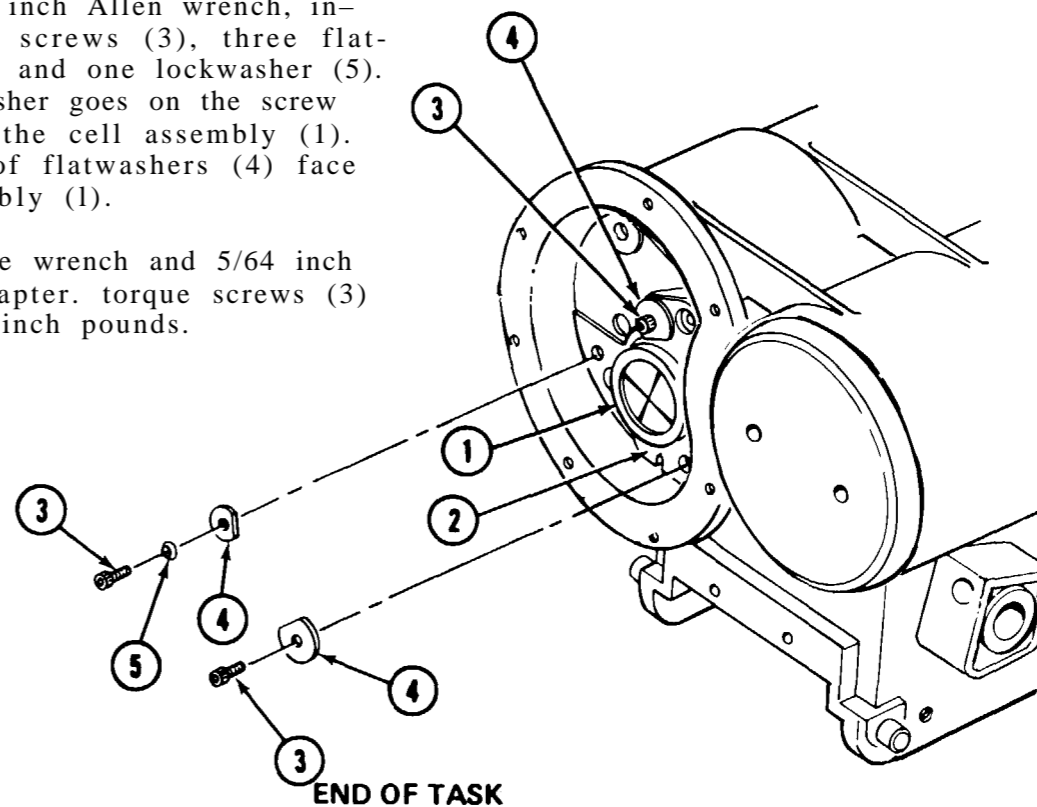


Use EXTREME care with cell because it is easily damaged. Inspect cell for dirt and fingerprints. Clean by wetting a cotton swab with ethyl alcohol, starting at one end of the cell and draw the swab straight across the lens surface and off the end of the lens in one stroke. Repeat, overlapping slightly until lens is cleaned.

- A. Position cell assembly (1) on prism assembly (2).

- B. Using 5/64 inch Allen wrench, install three screws (3), three flatwashers (4) and one lockwasher (5). The lockwasher goes on the screw closest to the cell assembly (1). Flat side of flatwashers (4) face cell assembly (1).

- C. Using torque wrench and 5/64 inch bit and adapter, torque screws (3) 2.0 to 3.5 inch pounds.



END OF TASK

Follow-on Task: Install eyepiece assembly, see para. 7-32.
 Align reticle, see TM 9-1425-481-34.

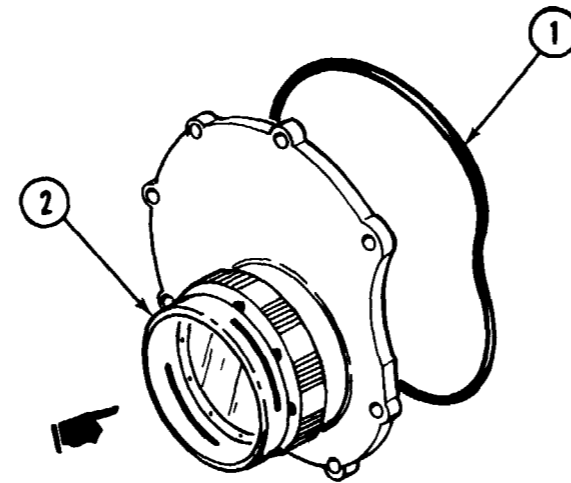
7-32. INSTALL EYEPiece ASSEMBLY

Tools required: Torque screwdriver, inch pounds
 MA 2 1/2 adapter with 6 inch bit or
 5/64 inch Allen wrench

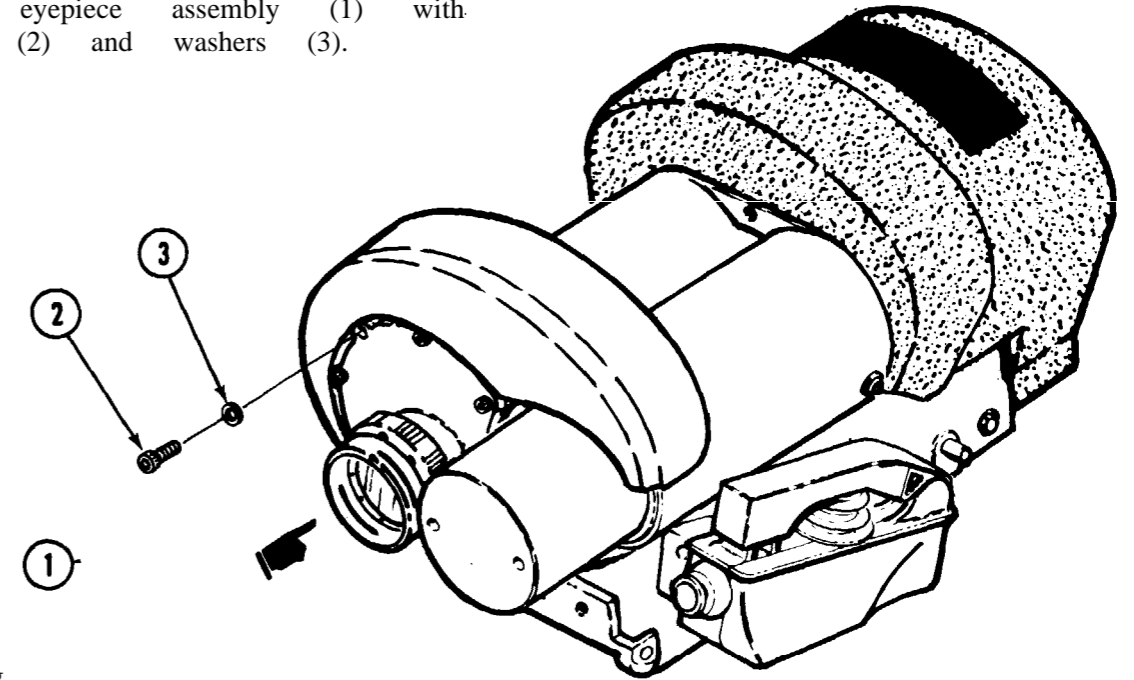
STEP 1

A. Discard old preformed packing.

B. Install new preformed packing (1)
 on eyepiece assembly (2).

**STEP 2**

A. Install eyepiece assembly (1) with
 screws (2) and washers (3).



B. Using
 inch bit and adapter, torque screws
 (3) 2.0 to 3.5 inch pounds.

END OF TASK

Follow-on Task: Install eyeguard, see para. 7-33.
 Purge tracker in accordance with procedures
 outlined in TM 9-1425-481-34 or TM 9-4935-484-14

7-33. INSTALL EYEGUARD

Tools required: Snap ring pliers

Materials required:

Materials

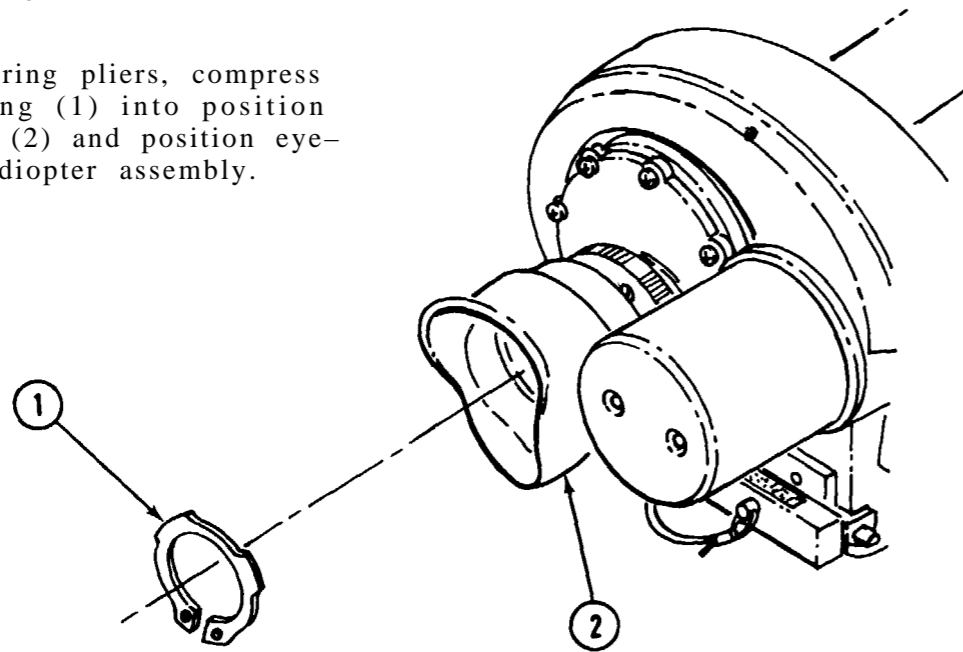
Molykote lubricant

See Appendix D

Item 79

A. Apply a light coat of molykote lubricant on the surface of eyeguard that contacts the retaining ring.

B. Using snap ring pliers, compress retaining ring (1) into position in eyeguard (2) and position eyeguard over diopter assembly.



END OF TASK

7-34. INSTALL NUTATOR

Tools required: Plug spanner wrench, special tool, P/N 10275915
 Torque wrench, inch pounds
 Screwdriver, special tool, P/N 10276466
 Snap ring pliers
 1/4 inch to 3/8 inch adapter
 No. 1 crosspoint screwdriver

Materials required:

Materials

Molybdenum Disulfide
 Silicone Compound

Equipment condition: CSCB removed, see para. 7-9.

See Appendix D

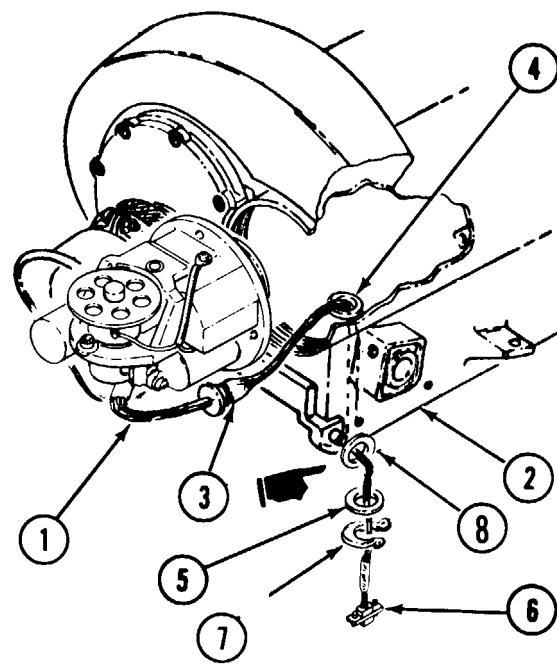
Item 50
 Item 24

STEP 1



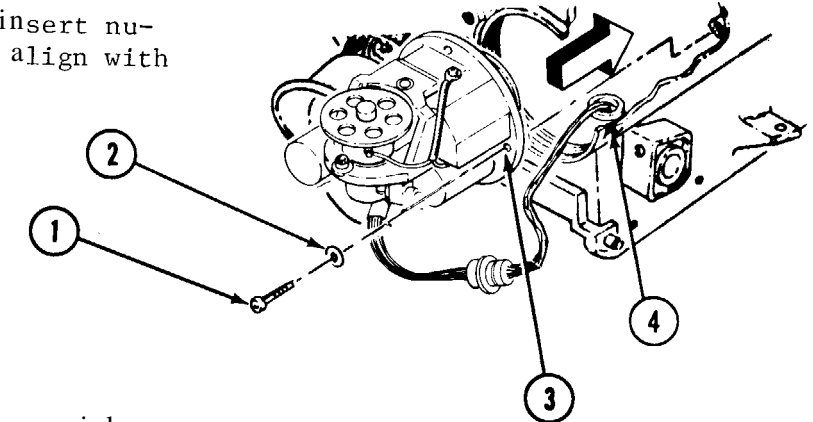
Be careful when handling the Nutator. Do not touch the mirror or change the position of the gears in the mirror drive assembly and clutch. If the mirror is touched, clean with a cotton swab and ethyl alcohol wiping in a straight line in one direction only.

- Insert nutator cable assembly (1) through tracker case (2) with header (3) in hole (4) and allow cable to hang.
- Slide preformed packing (8) and washer (5) over P1 connector (6) and let it slide down the cable.
- Using snap ring pliers, position snap ring (7) in place over header (3) and secure header.

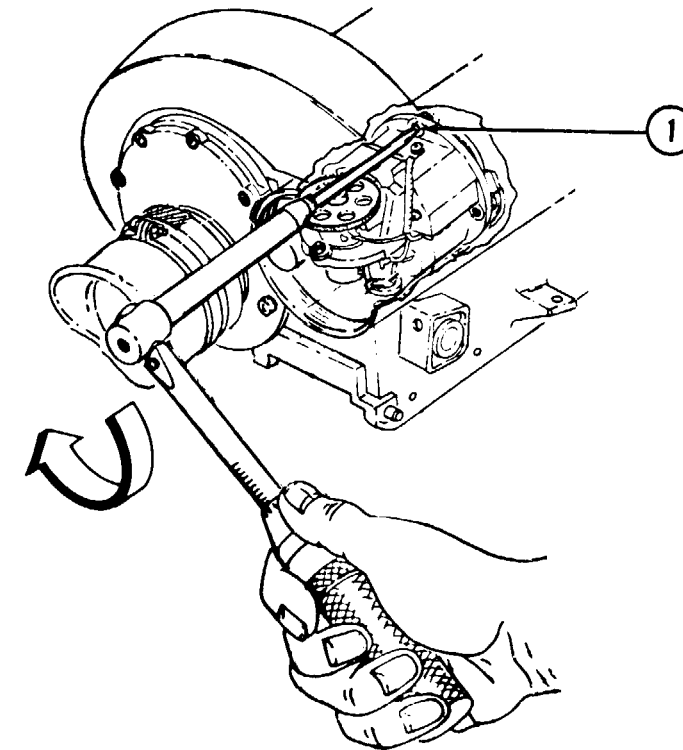


STEP 2

- Remove protective dust cap. Apply molybdenum disulfide to threads of screws (1). Position three screws (1) with washers (2) in nutator mounting holes (3) and insert nutator in housing (4) to align with holes in housing.



- Using torque wrench and special tool, P/N 10276466, torque the three screws (1) 4.5 to 5.5 inch pounds.



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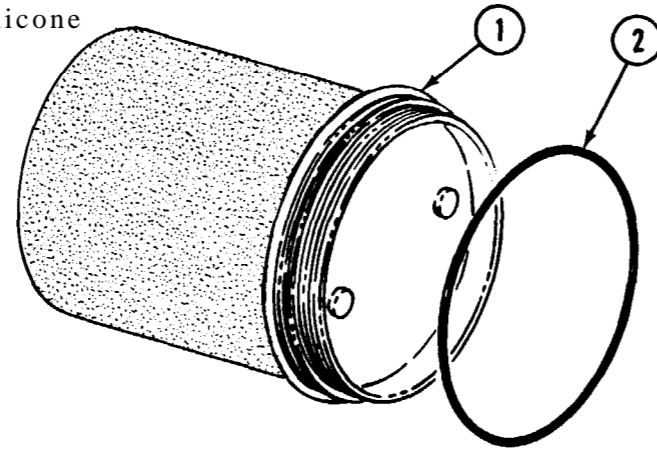
7-34. INSTALL NUTATOR - CONTINUED

Step 3

- A. Discard the old preformed packing.
- B. Adequately lubricate the preformed packing seating surface with silicone compound (item 24, Appendix D).

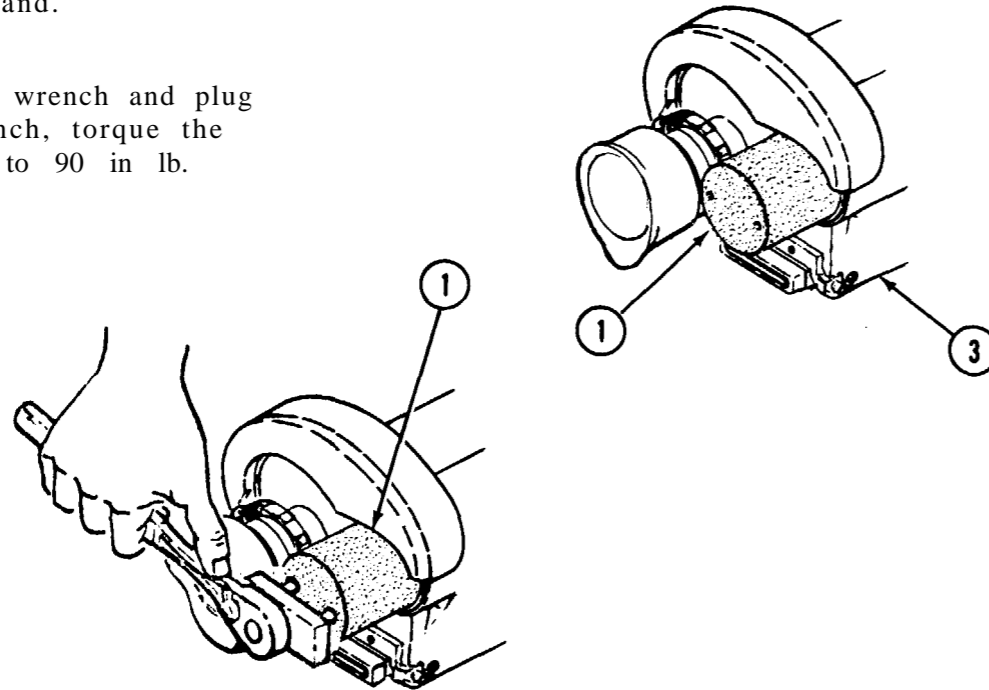


care is not used.



- C. Start plug (1) with new preformed packing (2) into housing (3) and tighten by hand.

- B. Using torque wrench and plug spanner wrench, torque the plug (1) 70 to 90 in lb.



END OF TASK

Follow-on Task: Install CSCB, see para. 7-36.
Purge the tracker, see TM 9-1425-481-34 or TM 9-4935-484-14.

7-35. INSTALL FL-1 FILTER

- Tools required:
- Heat gun
 - Craftsman's knife
 - Soldering iron
 - Torque wrench, inch Pounds
 - 1/4 inch socket, deep
 - Longnose pliers
 - 3/16 inch open end wrench
 - Wire strippers

Materials required:

Materials

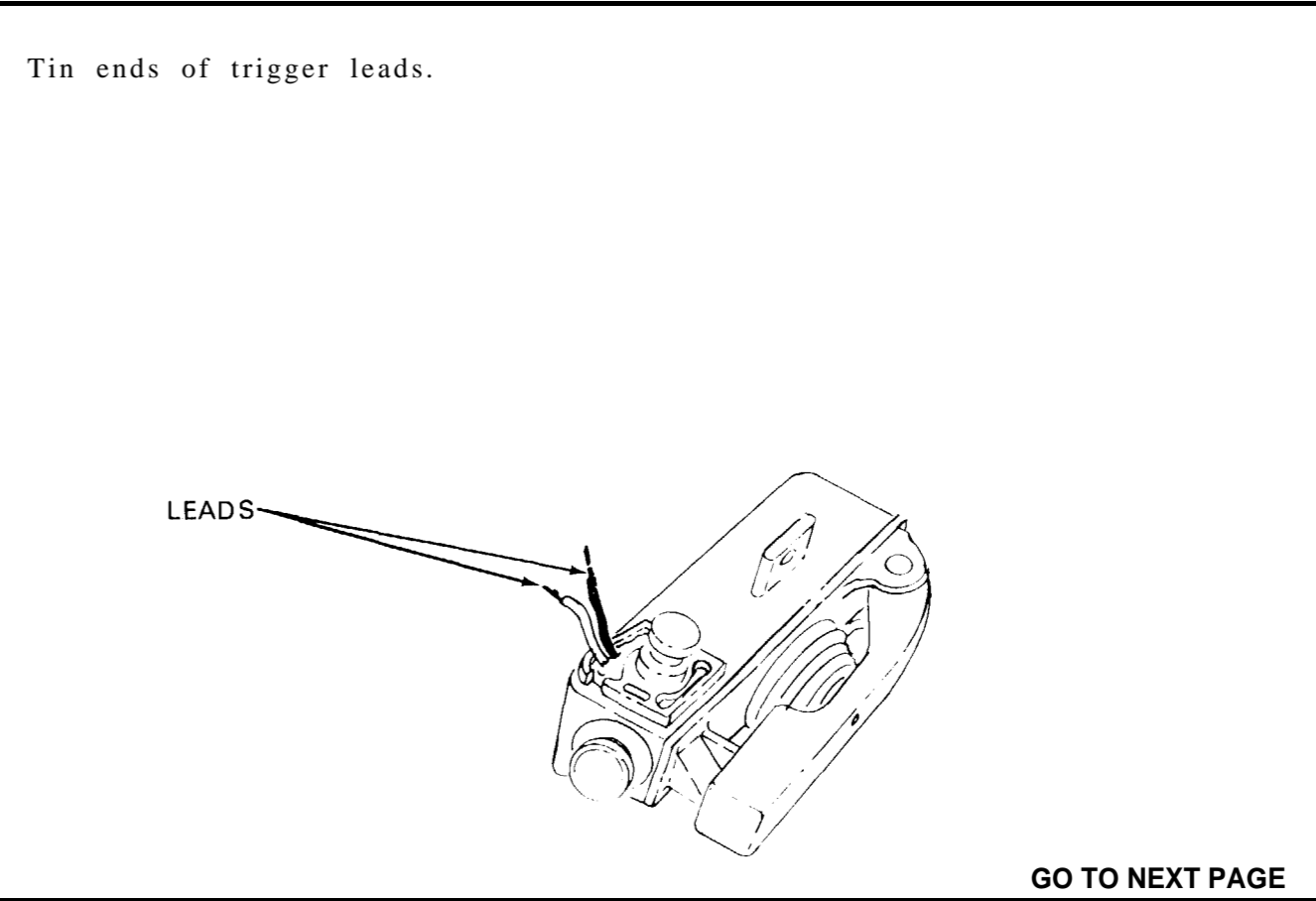
- Silicone rubber, RTV
- Adhesive primer
- Insulation sleeving
- Orangewood stick
- Solder

See Appendix D

- Item 75
- Item 74
- Item 67
- Item 7
- Item 11

Equipment condition: CSCB removed, see para. 7-9.
Firing mechanism removed, see para. 7-7, step 1.

STEP 1



Tin ends of trigger leads.

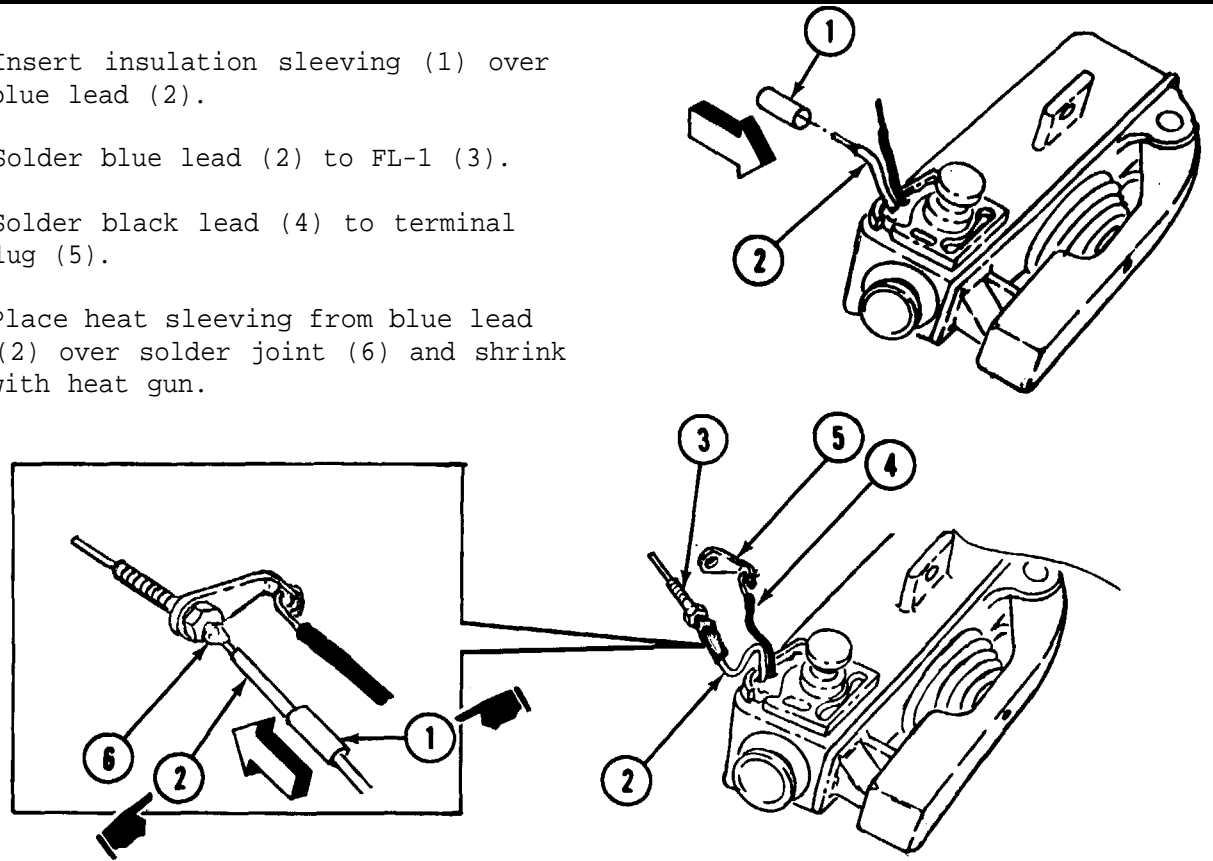
LEADS

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7-35 INSTALL FL-1 FILTER - CONTINUED

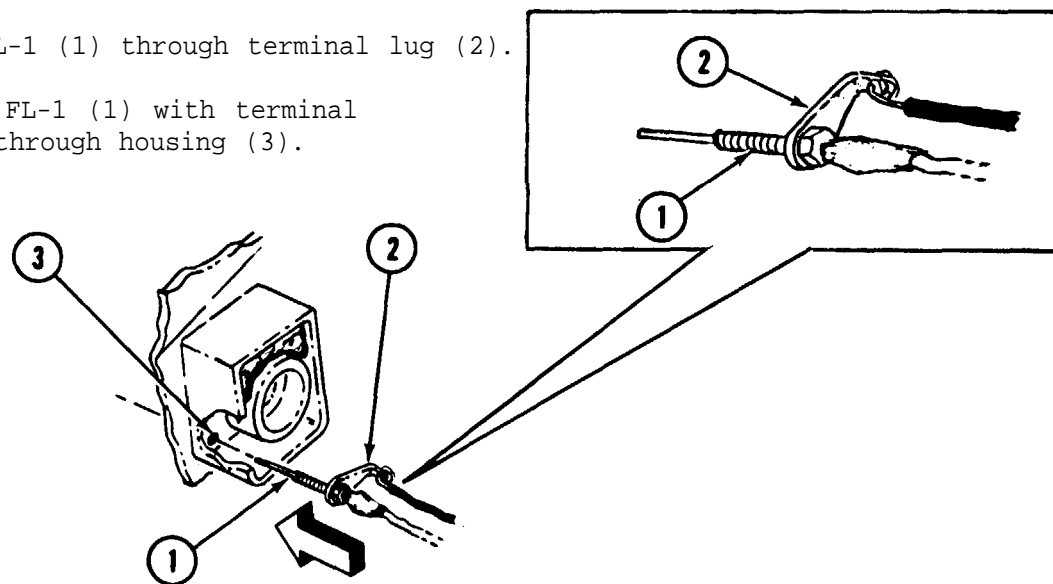
STEP 2

- A. Insert insulation sleeving (1) over blue lead (2).
- B. Solder blue lead (2) to FL-1 (3).
- C. Solder black lead (4) to terminal lug (5).
- D. Place heat sleeving from blue lead (2) over solder joint (6) and shrink with heat gun.



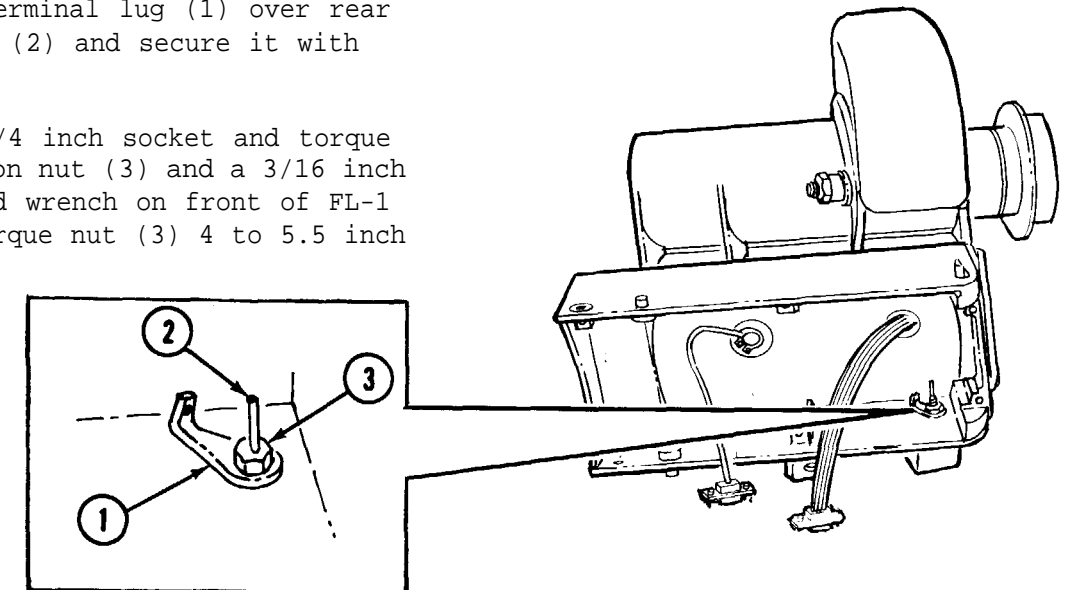
Step 3

- A. Insert FL-1 (1) through terminal lug (2).
- B. Position FL-1 (1) with terminal lug (2) through housing (3).



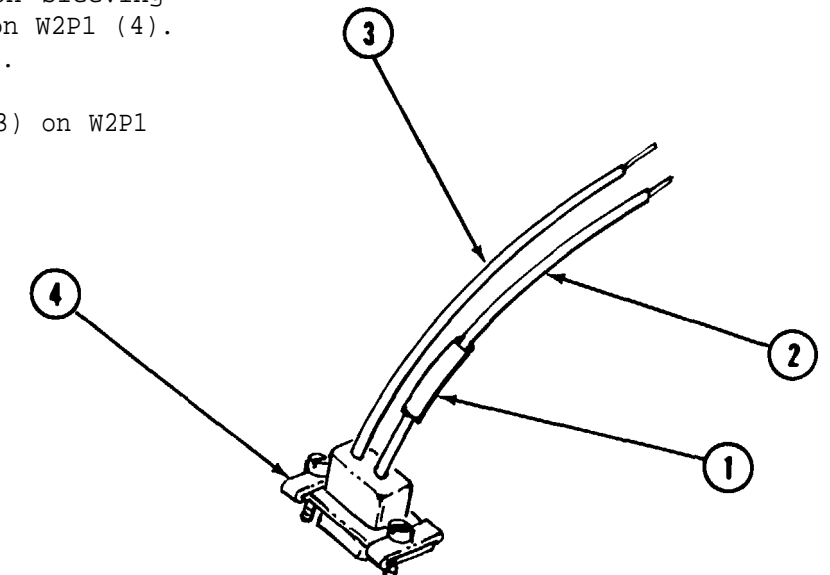
STEP 4

- A. Place terminal lug (1) over rear of FL-1 (2) and secure it with nut (3).
- B. Using 1/4 inch socket and torque wrench on nut (3) and a 3/16 inch open end wrench on front of FL-1 (2), torque nut (3) 4 to 5.5 inch pounds.



STEP 5

- A. Slide 1/2 inch insulation sleeving (1) over blue lead (2) on W2P1 (4). Tin end of blue lead (2).
- B. Tin end of brown lead (3) on W2P1 (4).

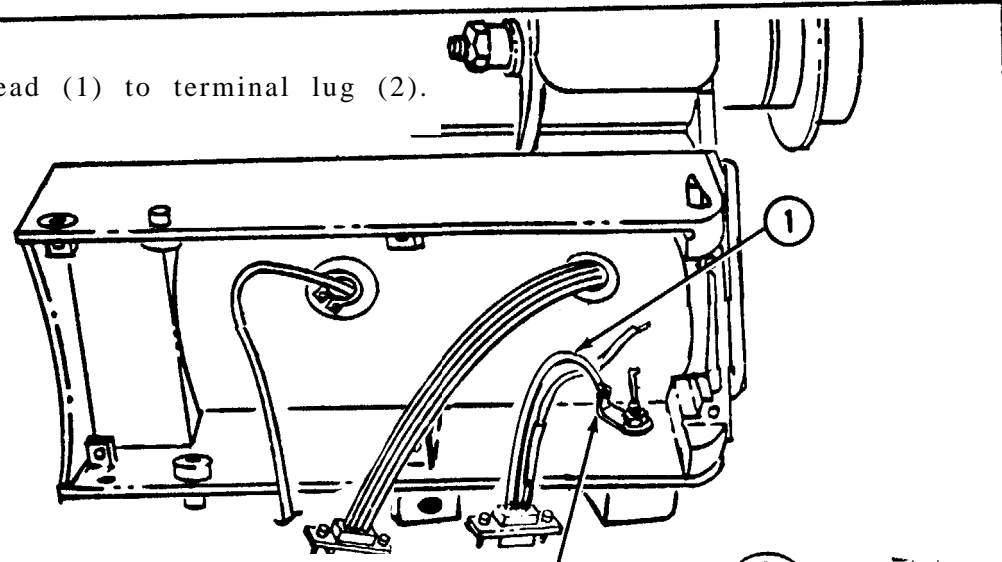


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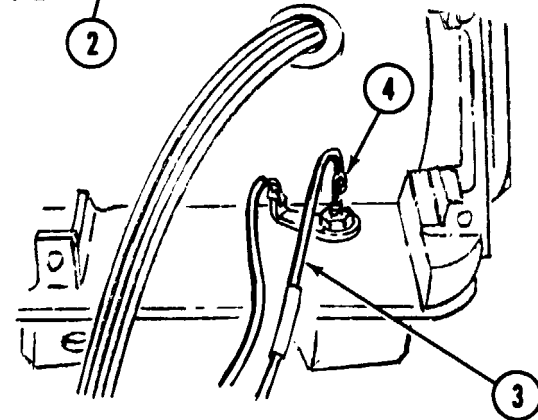
7-35. INSTALL FL-1 FILTER - CONTINUED

STEP 6

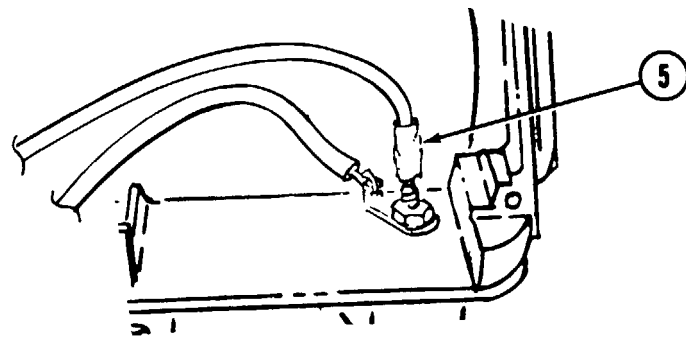
A. Solder brown lead (1) to terminal lug (2).



B. Solder blue lead (3) to FL-1



C. Slide insulation over blue lead solder joint and heat shrink.

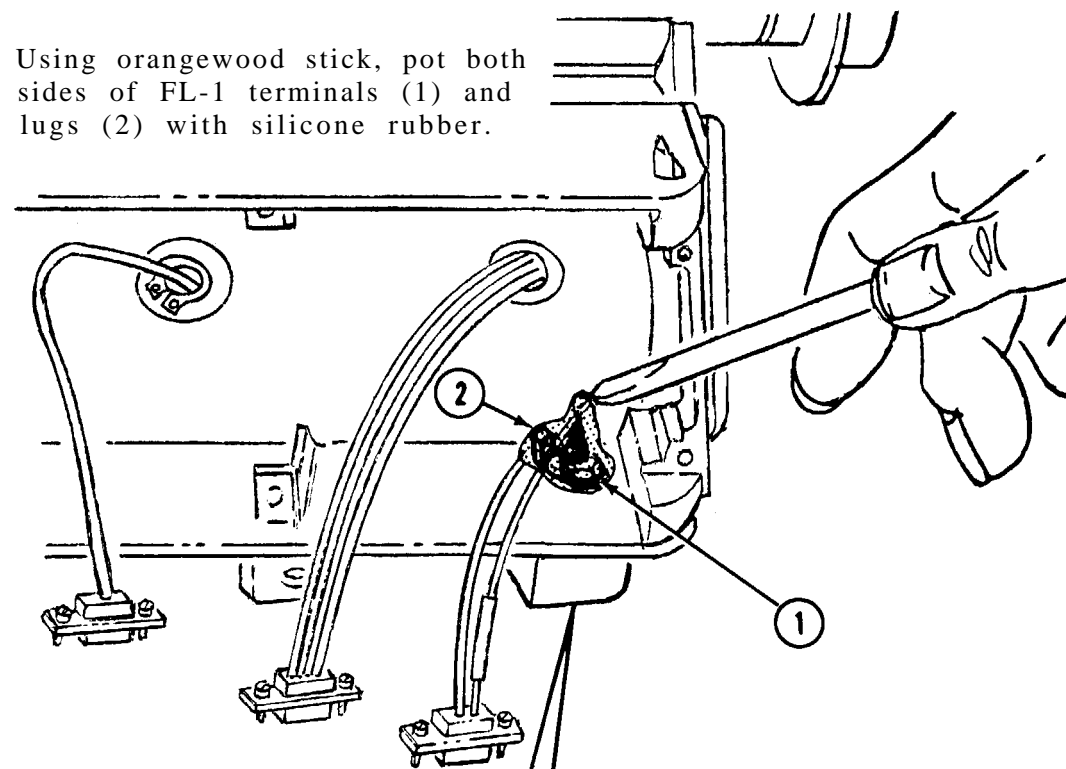


STEP 7

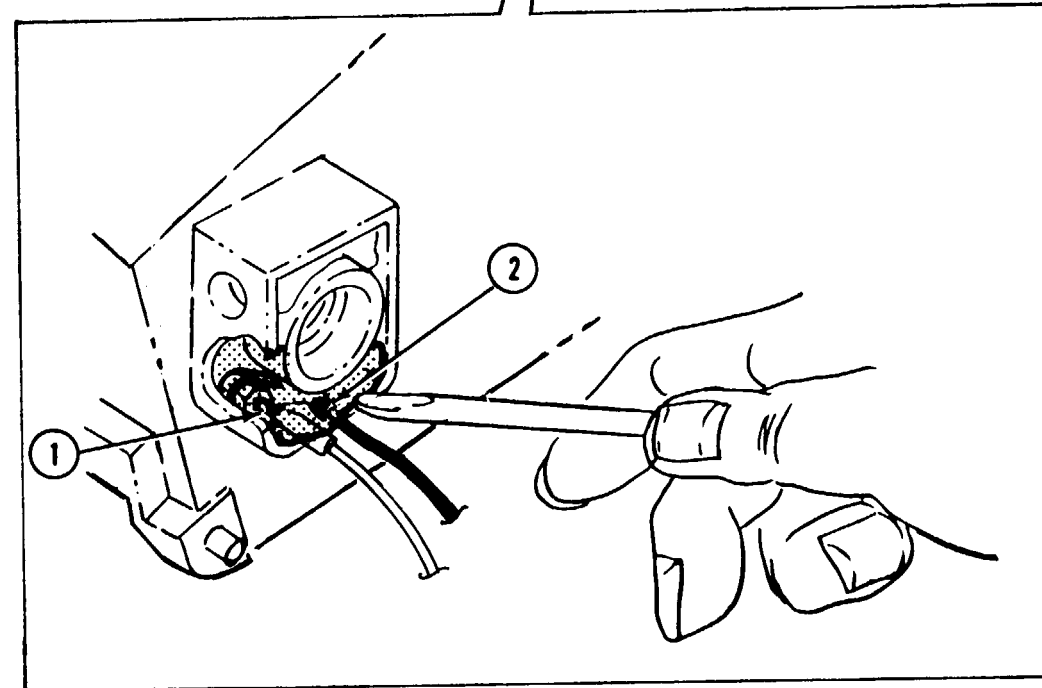
Apply primer to the areas to be potted in step 8. Allow to cure according to manufacturer's instructions.

STEP 8

A. Using orangewood stick, pot both sides of FL-1 terminals (1) and lugs (2) with silicone rubber.



B. Allow 72 hours cure time.



END OF TASK

7-36. INSTALL CONTROL SIGNAL COMPARATOR BOARD (CSCB)

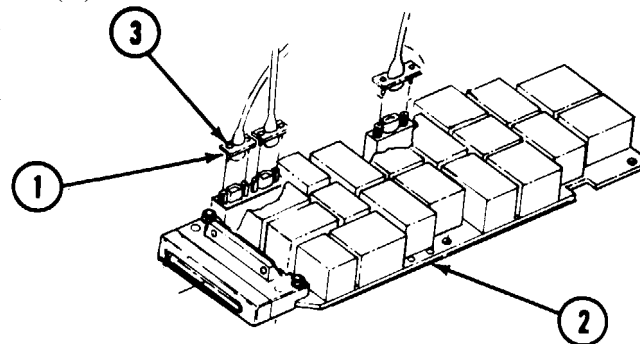
Tools required: No. 1 crosspoint screwdriver
1/8 inch flat-blade screwdriver

STEP 1

**NOTE**

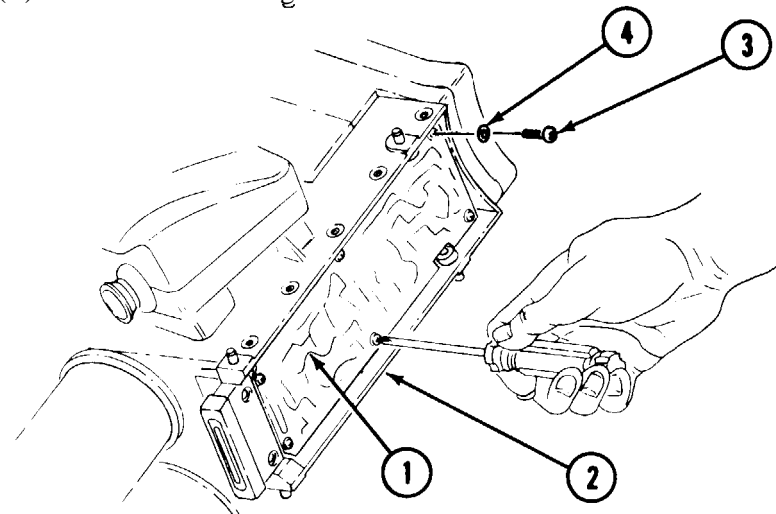
Be sure to align connector with its proper plug, that is, the two prong connector with two hole plug, etc. Each connector is different.

Connect the three electrical connectors (1) to the CSCB (2). Using a 1/8 inch flat blade screwdriver, fasten each with the two captive screws (3) attached to each connector.



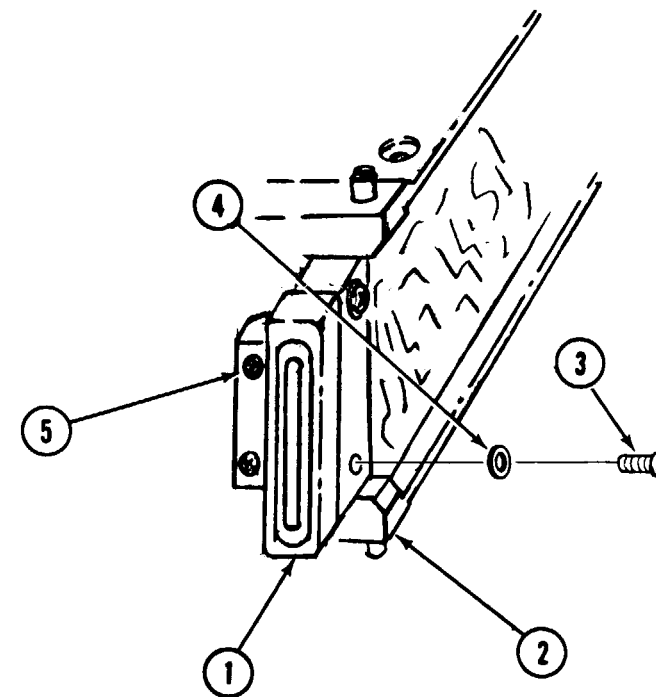
STEP 2

- Carefully position the CSCB (1) into the tracker housing (2).
- Using a No. 1 crosspoint screwdriver, start six screws (3) with washers (4) through CSCB (1) and into housing.



STEP 3

- Secure tracker connector (1) to housing (2), using crosspoint screwdriver to install and tighten two screws (5).
- Tighten remaining six screws installed in step 2.

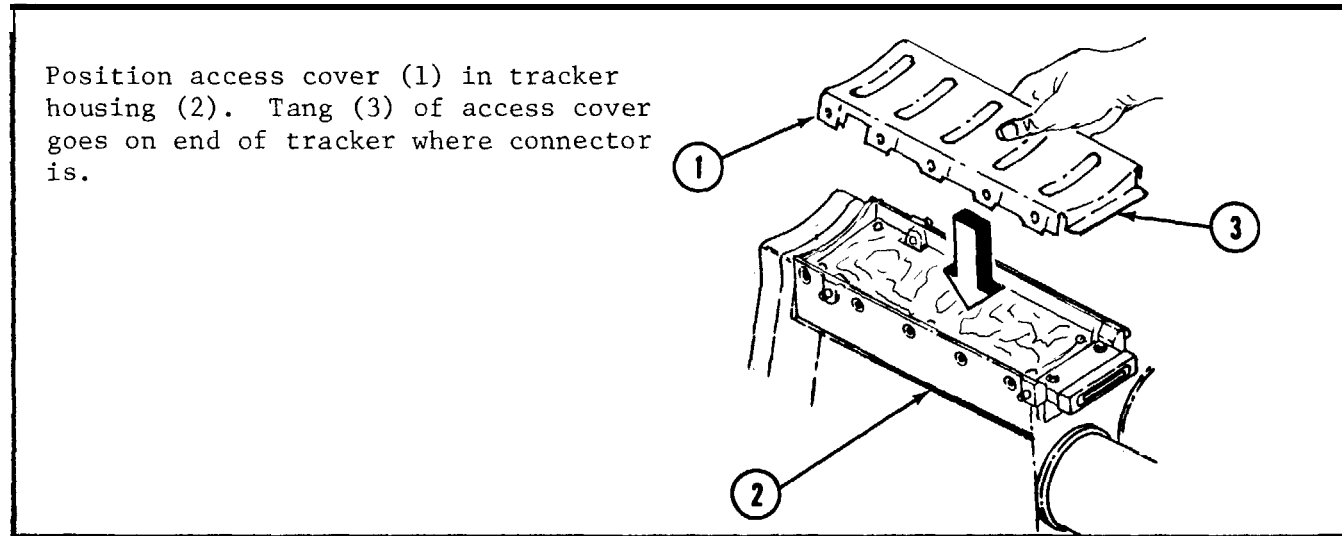
**END OF TASK**

7-37. INSTALL ACCESS COVER

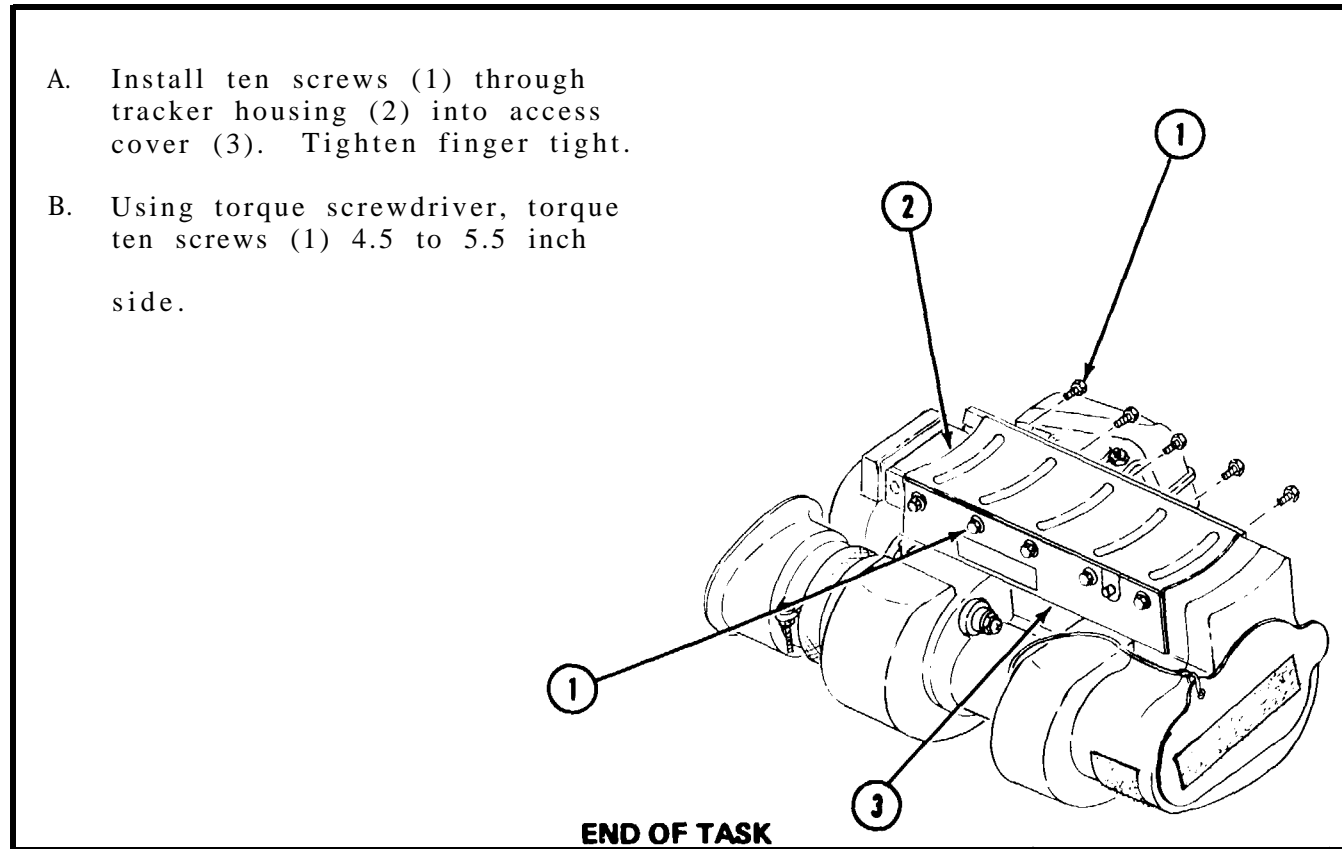
Tools required: Torque screwdriver, inch pounds
3/16 inch socket

Equipment condition: Firing mechanism removed, see para. 7-7, step 1.

STEP 1



STEP 2



7-38. INSTALL FIRING MECHANISM

Tools required: Torque wrench, inch pounds
3/8 inch socket
Ratchet wrench
3 inch extension
3/8 inch open end wrench
Soldering iron
Diagonal cutting pliers
Longnose pliers
Tweezers

Materials required:

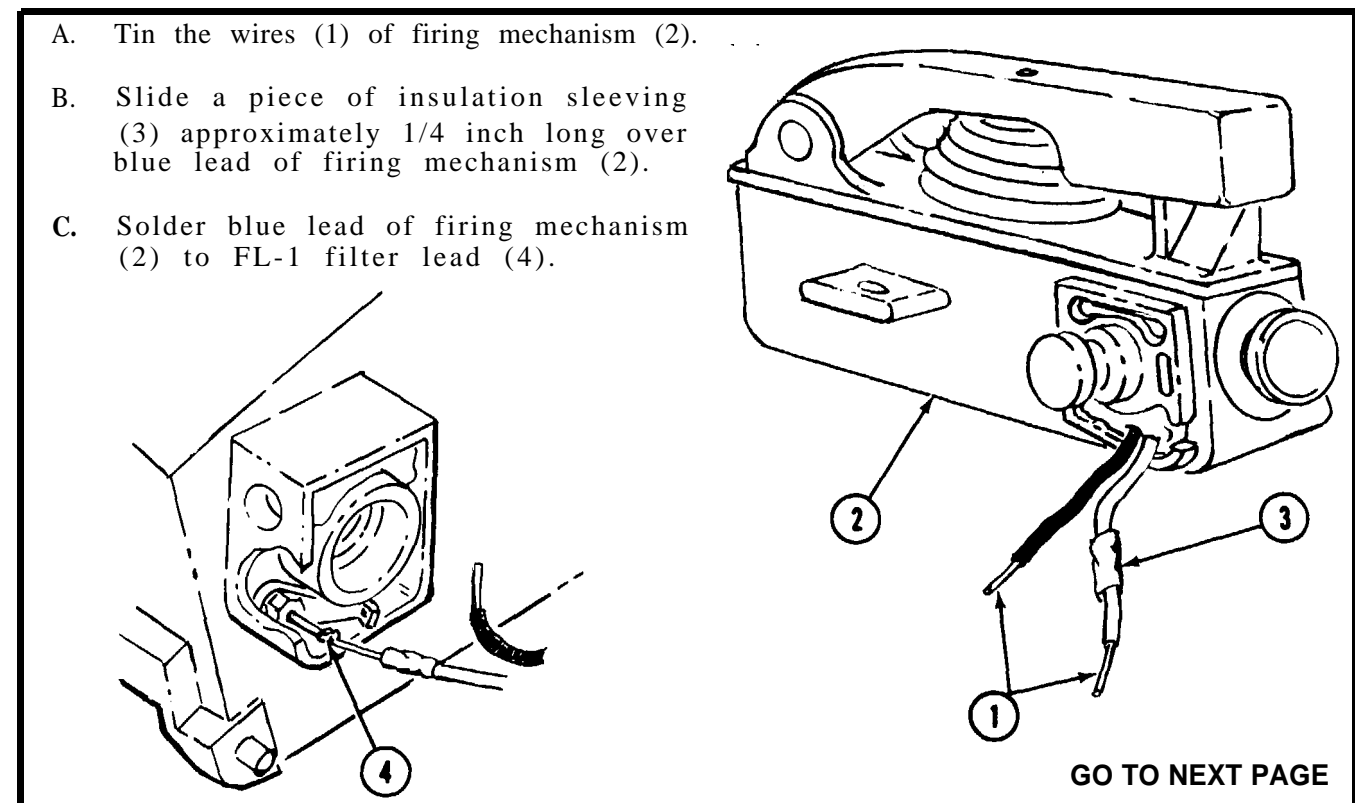
Materials

Insulation sleeving
Solder
Alcohol
Adhesive primer
Sealing compound
Cleaning cloth
MEK
Orangewood stick
Brush

See Appendix D

Item 67
Item 11
Item 8
Item 74
Item 75
Item 6
Item 5
Item 7
Item 9

STEP 1

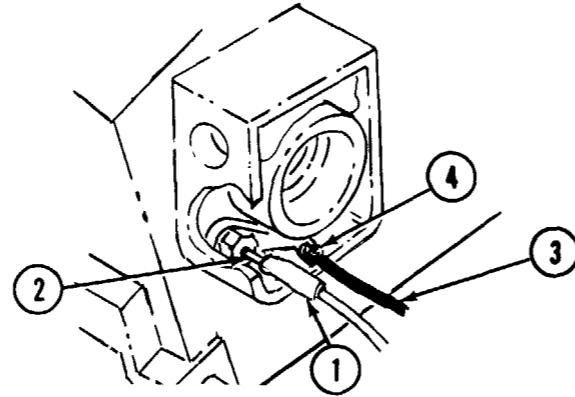


7-38. INSTALL FIRING MECHANISM - CONTINUED

STEP 2

A. Slide insulation sleeving (1) over FL-1 filter lead (2) and heat shrink.

B. Solder the black lead (3) from firing mechanism to terminal lug (4).



STEP 3

A. Using brush, prime area around filter with primer. (ITEM 74 Appendix D)

B. Apply sealing compound (Item 75, Appendix D) around FL-1 and terminal lug.

STEP 4



To prevent damage to wires, make sure they are not in position to get pinched.



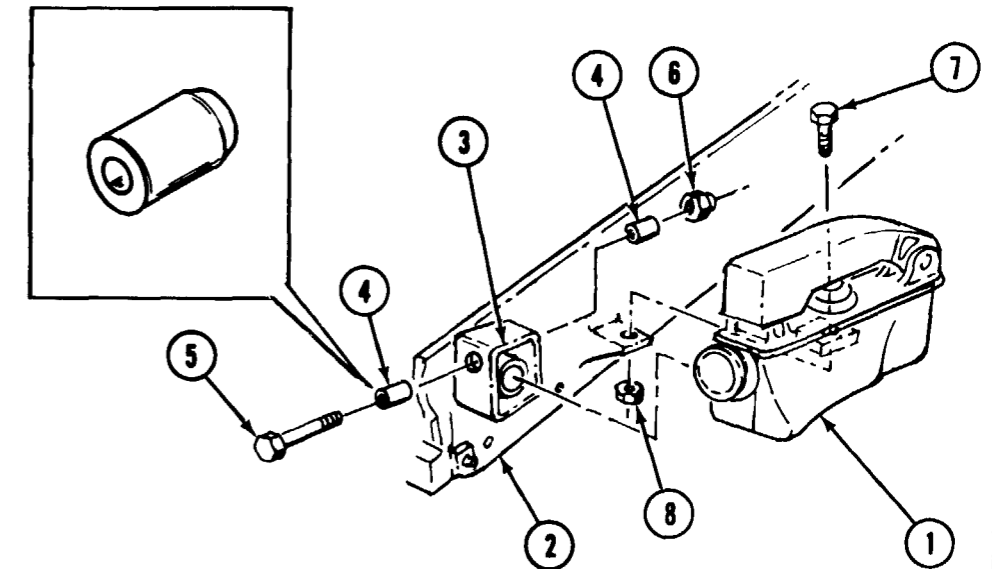
Chamfered ends of sleeves (4) go towards center of mounting flange (3).

A. Mount firing mechanism (1) on tracker (2) by coiling excess wire and stowing it in mounting flange (3).

B. Secure the firing mechanism (1) in mounting flange (3) with bolt (5), nut (6) and two sleeves (4).

C. Secure other end of firing mechanism (1) with bolt (7) and nut (8).

D. Torque bolt (5) and bolt (7) 12 to 15 inch pounds.



END OF TASK

7-39. PRISM CLEANING PROCEDURE

Tools required: Ratchet
MA 2-1/2 with 6 inch bit
Flat-Blade Screwdriver
Torque screwdriver


Materials required:

Materials See Appendix D

Alcohol	Item 47
Cotton swabs	Item 48
Gloves	Item 72

Equipment condition: Eyepiece assembly removed, see para. 7-13.

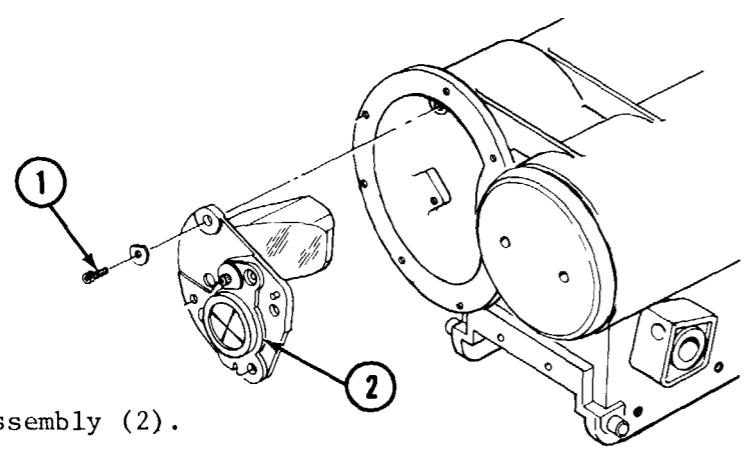
Step 1



CAUTION

Do not touch prism with your bare hands.

A. Remove three screws (1) with flat washers and one spring tension washer.



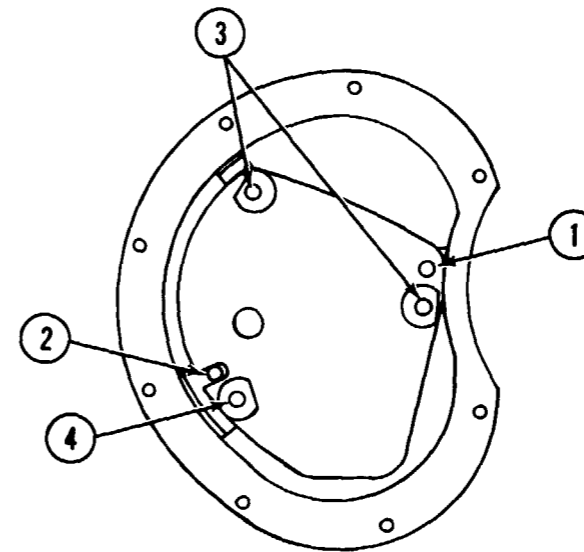
B. Remove prism assembly (2).

Step 2

Clean the prism by wetting a cotton swab with alcohol. Starting at one end of the prism, draw the cotton swab straight across the prism surface and completely off the opposite end of the prism in one stroke. Repeat this procedure, slightly overlapping each stroke until the prism is cleaned. Keep alcohol off of blackened area and adhesive portion of prism.

Step 3

- A. Position prism assembly in tracker. Align locator pins with hole (1) and slot (2).
- B. Install two screws (3) with washers (flat of washer towards outside wall).
- C. Install screw, washer and spring washer (4).



- D. Torque all three screws to 2.5 inch pounds.

Follow-on Task: Install Eyepiece Assembly. See para. 7-32

7-40. FINAL INSPECTION

After any maintenance or repair, the tracker must be inspected by QA/QC personnel in accordance with Appendix E.

To be acceptable for return to supply, the tracker must pass test procedure outlined in TM 9-4935-484-14.

CHAPTER 8

DS/GS MAINTENANCE INSTRUCTIONS - TRACKER TEST SET, INFRARED TRACKER, AN/TSM-114

	Page
Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT	8-1
Section II. SERVICE UPON RECEIPT	8-1
Section III. OPERATIONAL CHECKS	8-2
Section IV. SCHEDULED MAINTENANCE	8-2
Section V. TROUBLESHOOTING	8-2
Section VI. MAINTENANCE PROCEDURES	8-2

Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT

	Para.	Page
Special Tools and Test Equipment	8-1	8-1
Repair Parts	8-2	8-1

8-1. SPECIAL TOOLS AND TEST EQUIPMENT

Installation Tool TA-425
 Removal Tool TA-426
 1 11/16 inch double-head open end wrench

8-2. REPAIR PARTS

See TM 9-4935-480-34P for the authorized list of repair parts for the Tracker Test Set (TTS), AN/TSM-114.

Section II. SERVICE UPON RECEIPT

	Para.	Page
Inventory Inspection	8-3	8-1
Maintenance Forms and Records	8-4	8-1

8-3. INVENTORY INSPECTION

When a Tracker Test Set is received from the using organization, perform an inventory and inspection. See TM 9-4935-484-14.

8-4. MAINTENANCE FORMS AND RECORDS

Make sure that maintenance forms DA 2404 and 2407 are completed as shown in DA PAM 738-750.

Section III. OPERATIONAL CHECKS

	Para.	Page
Operational Checks	8-5	8-2

8-5. OPERATIONAL CHECKS

See TM 9-4935-484-14 for Tracker Test Set operational procedures and checks.

Section IV. SCHEDULED MAINTENANCE

	Para.	Page
Maintenance Schedule	8-6	8-2

8-6. Maintenance SCHEDULE

a. The Tracker Test Set, AN/TSN-114 must be returned to LCSS every 360 days for maintenance calibration.

b. The preventive maintenance checks will be performed in accordance with the procedures outlined in TN 9-4935-484-14.

Section V. TROUBLESHOOTING

	Para.	Page
Fault isolation and Troubleshooting	8-7	8-2

8-7. FAULT ISOLATION AND TROUBLESHOOTING

Fault isolation of Tracker Test Set malfunctions is provided by LCSS. Refer to the applicable schematics and wiring diagrams in Appendix F for troubleshooting the Tracker Test Set Monitor Unit, Optical Alignment Fixture, Optical Alignment Collimator, or Trainer Adapter.

Section VI. MAINTENANCE PROCEDURES

	REMOVE		ADJUST		INSTALL	
	Para	Page	Para	Page	Para	Page
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Eyepiece Pad (OAC)	8-23	8-15			8-85	8-68
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M1 Meter and Meter Components	8-47	8-31			8-60	8-44
Battery BT4	8-48	8-32			8-59	8-42
Circuit Card Assembly Rack	8-49	8-34			8-58	8-41
	8-50	8-34			8-57	8-40

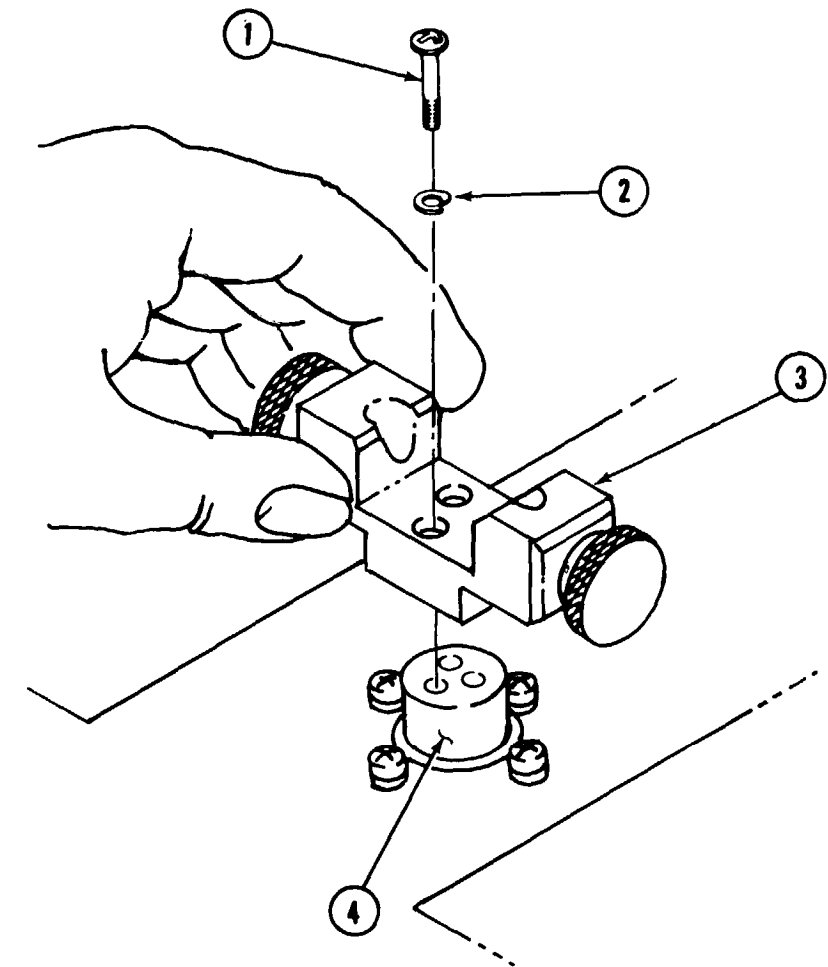
	REMOVE		ADJUST		INSTALL	
	Para	Page	Para	Page	Para	Page
Resistor R1 and Capacitor C1	8-51	8-35			8-56	8-39
Transformer T1	8-52	8-36			8-55	8-38
Cable Clamps	8-53	8-36			8-54	8-37
Repair Tracker Reticle Light 1A5					8-101	8-86
Final Inspection					8-102	8-88

8-8. REMOVE COLLIMATOR MOUNT (OAF)

Tools required: No. 1 crosspoint screwdriver

Equipment condition: OAF removed from lid.

Using a No. 1 crosspoint screwdriver, remove three screws (1) and lockwashers (2) holding mount (3) to bearing shaft (4).



END OF TASK

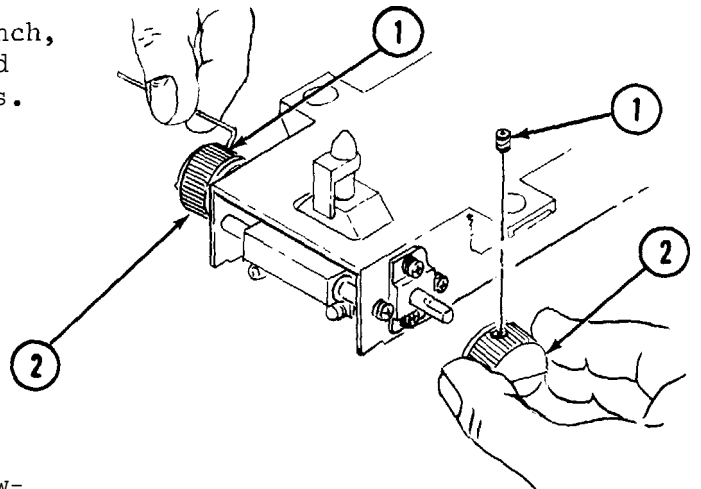
8-9. REMOVE AZIMUTH/ELEVATION CONTROL (OAF)

Tools required: No. 1 crosspoint screwdriver
 No. 2 crosspoint screwdriver
 5/64 inch Allen wrench

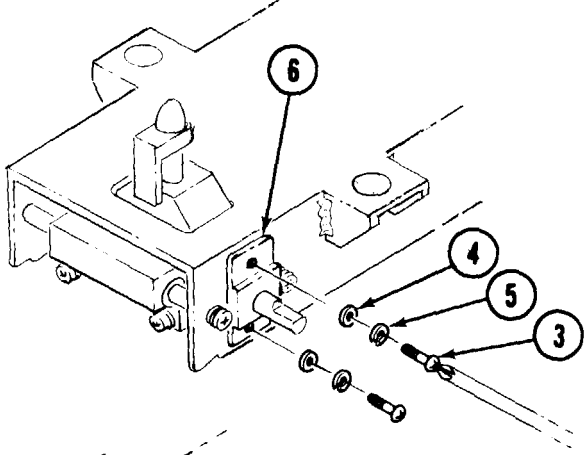
Equipment condition: OAF removed from lid.

STEP 1

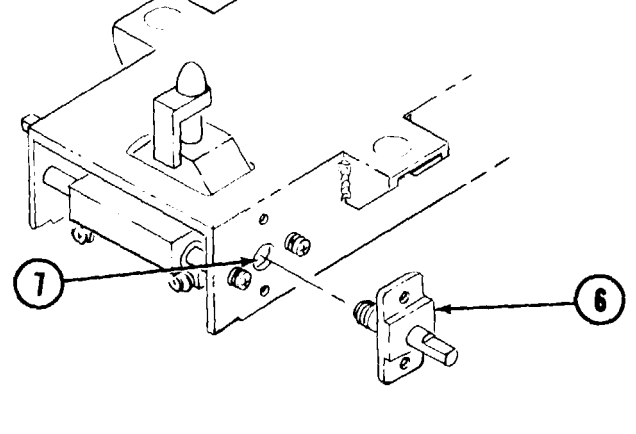
A. Using a 5/64 inch Allen wrench, loosen two setscrews (1) and remove knobs (2) from shafts.



B. Using No. 1 crosspoint screwdriver, remove two screws (3), washers (4) and lockwashers (5) holding azimuth shaft assembly (6).

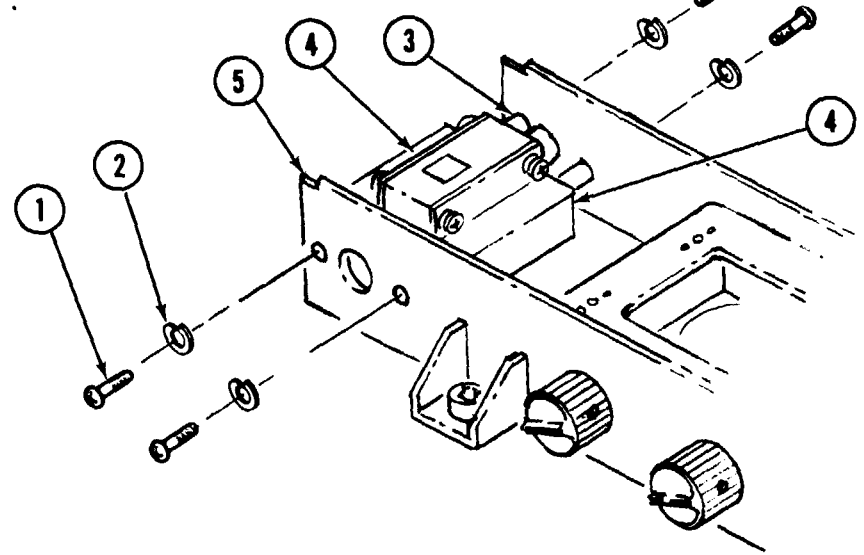


C. Unscrew azimuth shaft assembly (6) from control shaft (7).

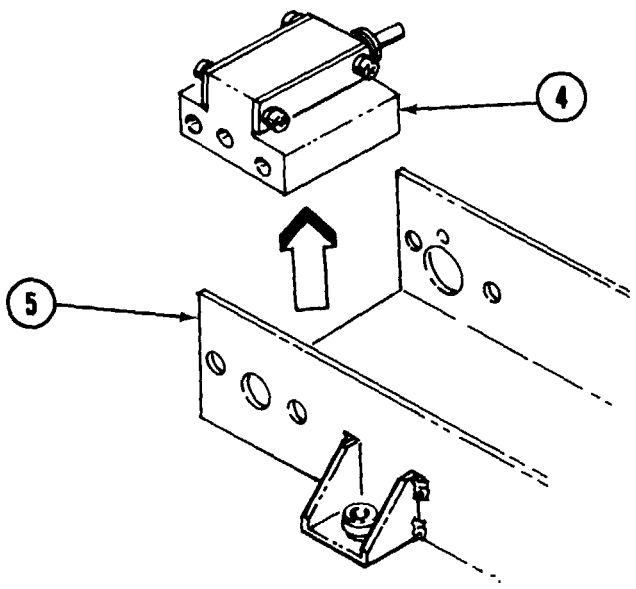


STEP 2

A. Using no. 2 crosspoint screwdriver, remove four screws (1), four washers (2), and four spacers (3) holding AZ/EL control (4) in OAF.



B. Remove AZ/EL control (4) from base (5).



END OF TASK

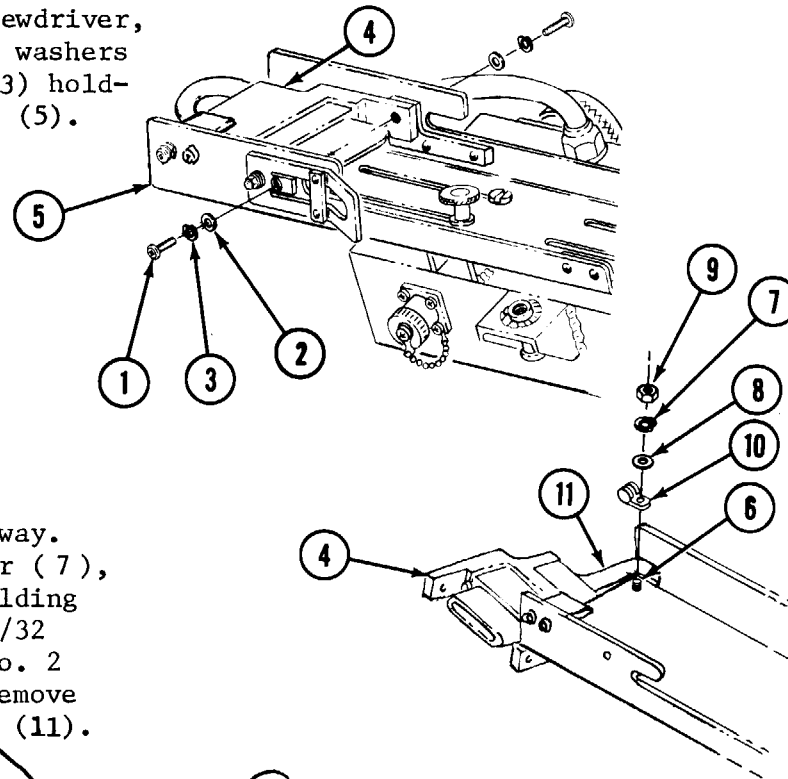
8-10. REMOVE TRACKER MOUNT

- Tools required: 11/32 inch open end wrench
 No. 1 cross point screwdriver
 No. 2 crosspoint screwdriver
 1/8 inch flat-blade screwdriver
 1/16 inch drift pin
 Ball peen hammer
 5/16 inch open end wrench

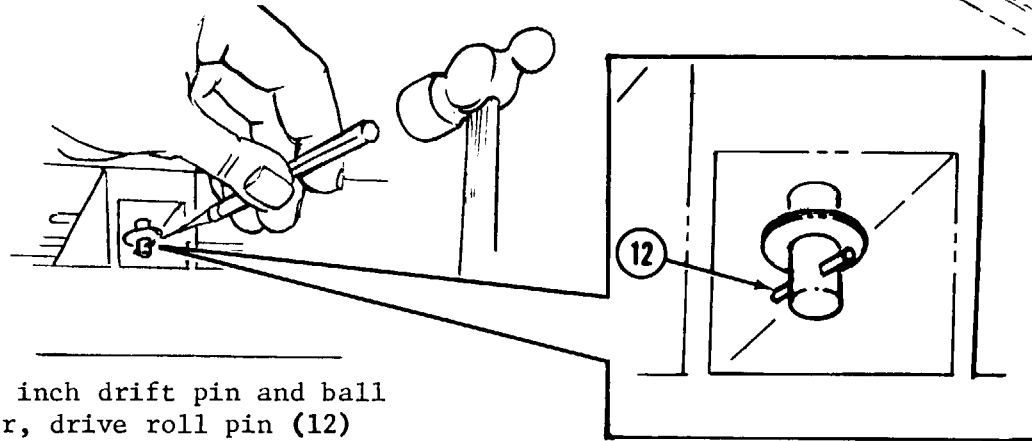
Equipment condition: OAF removed from case.

STEP 1

- A. Using No. 1 crosspoint screwdriver, remove two screws (1), two washers (2), and two lockwashers (3) holding connector (4) to mount (5).



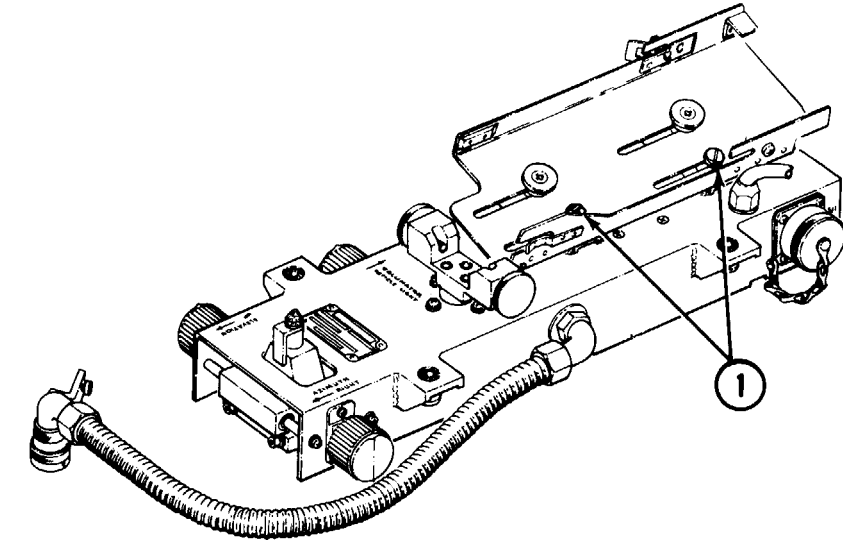
- B. Fold connector (4) out of way. Remove bolt (6), lockwasher (7), washer (8) and nut (9) holding clamp (10) to mount with 11/32 inch open end wrench and No. 2 crosspoint screwdriver. Remove clamp from connector cable (11).



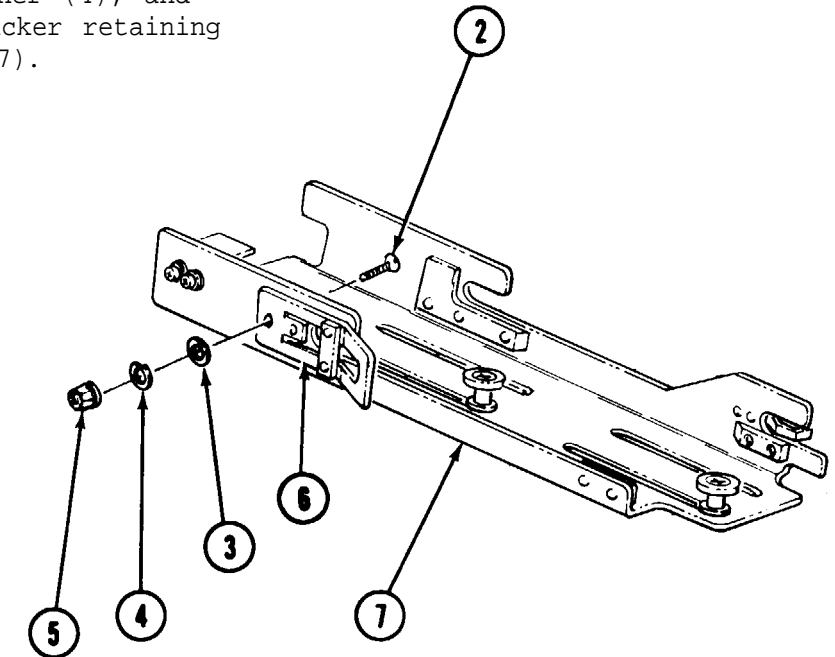
- C. Using 1/16 inch drift pin and ball peen hammer, drive roll pin (12) out of thumbscrews and remove thumbscrews.

STEP 2

- A. Remove shoulder screws (1) with flat-blade screwdriver.



- B. Using 5/16 inch open end wrench and No. 2 crosspoint screwdriver, remove countersunk screw (2), washer (3), lockwasher (4), and nut (5) holding tracker retaining clip (6) to mount (7).



- C. Remove mount (7).

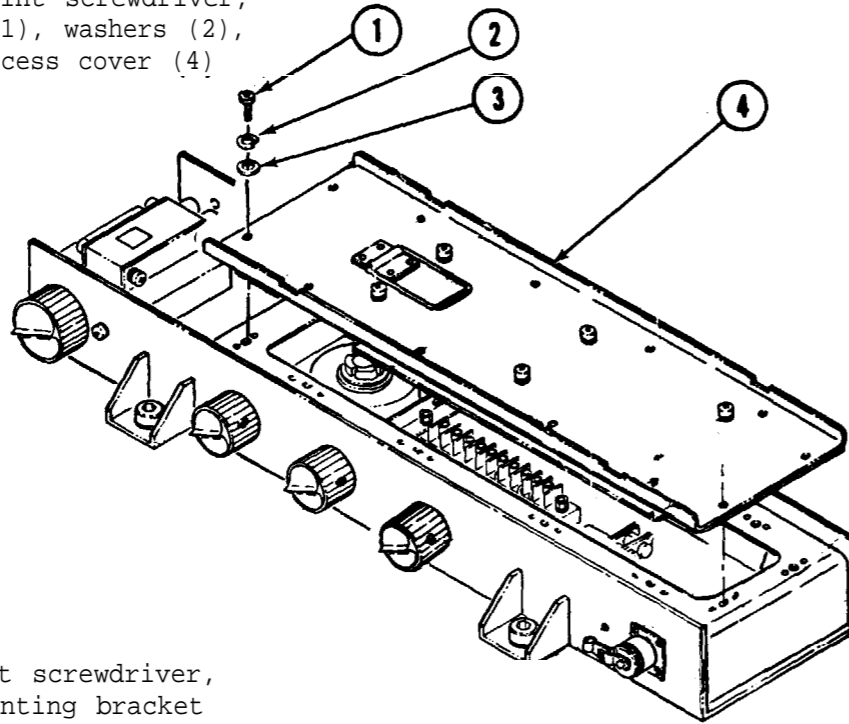
END OF TASK

8-11. REMOVE OAF COVER AND CIRCUIT CARD ASSEMBLY 2A1

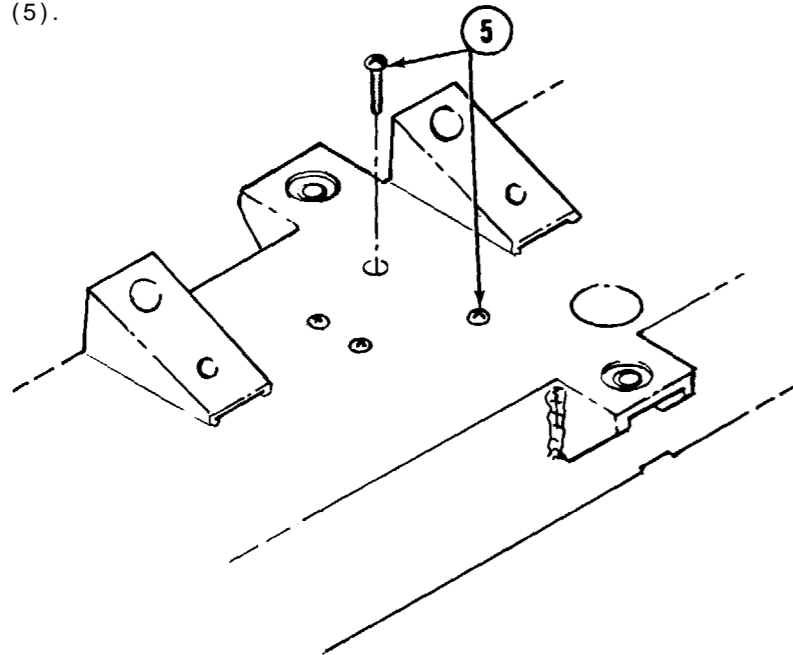
Tools required: No. 2 crosspoint screwdriver
 1/8 inch flat-blade screwdriver
 5/16 inch open end wrench

Equipment condition: Tracker mount removed, see para. 8-10.

A. Using a No. 2 crosspoint screwdriver, remove twelve screws (1), washers (2), flatwashers (3) and access cover (4).



B. Using No. 2 crosspoint screwdriver, remove the two J4 mounting bracket screws (5).

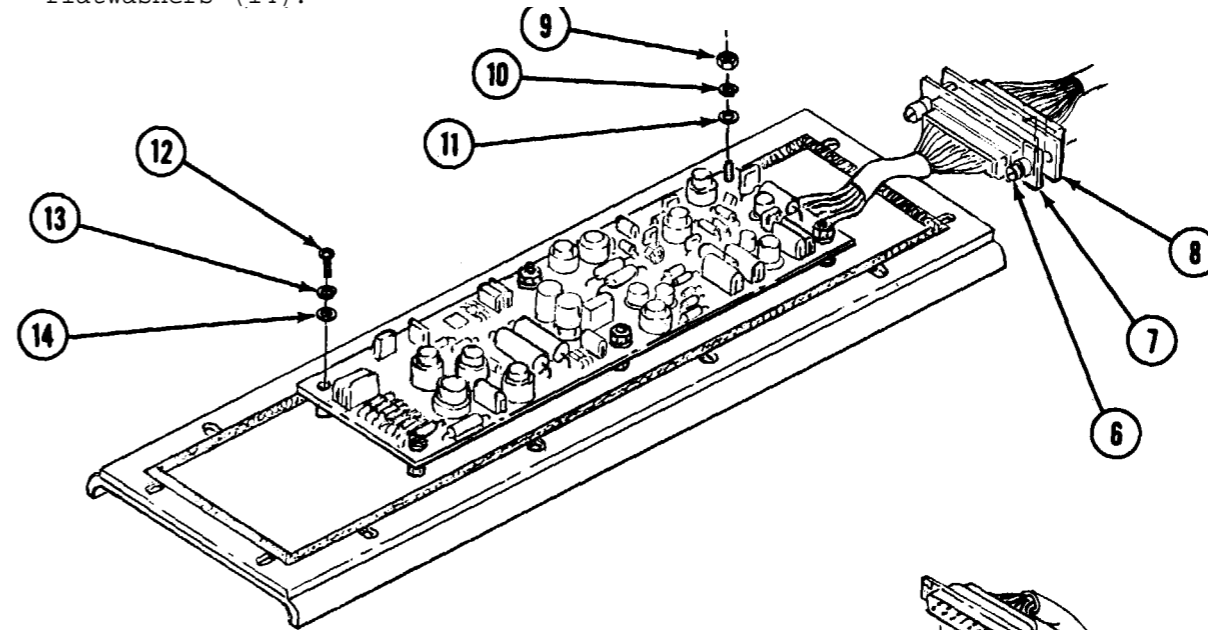


C. Using 1/8 inch flat-blade screwdriver, loosen captive screws (6) holding P1 (7) to J4 (8).

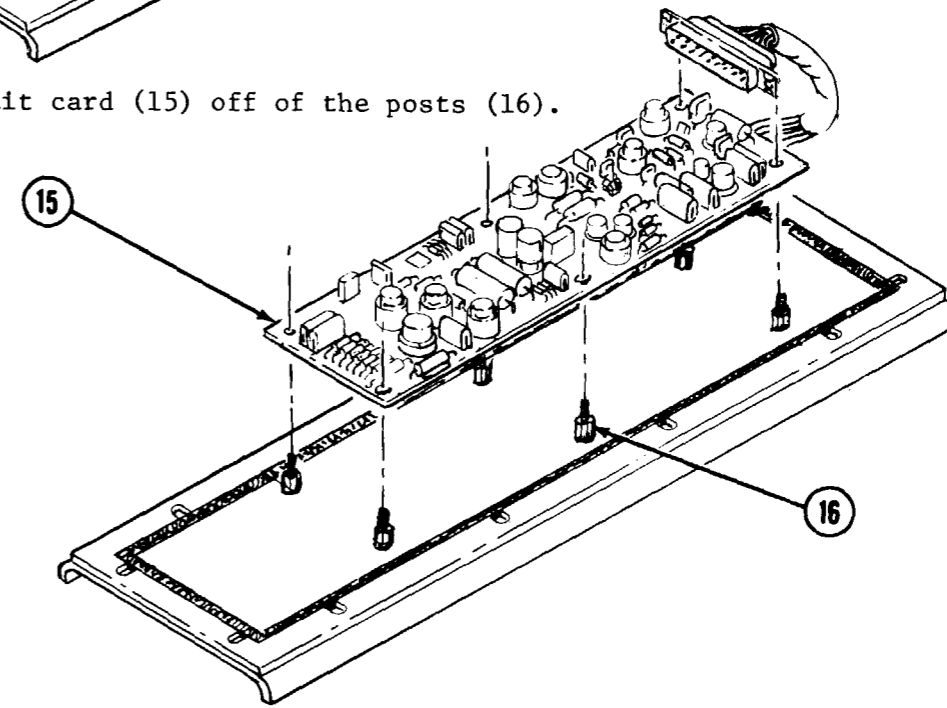
D. Disconnect P1 (7) from J4 (8).

E. Using 5/16 inch open end wrench, remove four nuts (9), lockwashers (10) and flatwashers (11).

F. Using crosspoint screwdriver, remove two screws (12), lockwashers (13) and flatwashers (14).



G. Lift 2A1 circuit card (15) off of the posts (16).



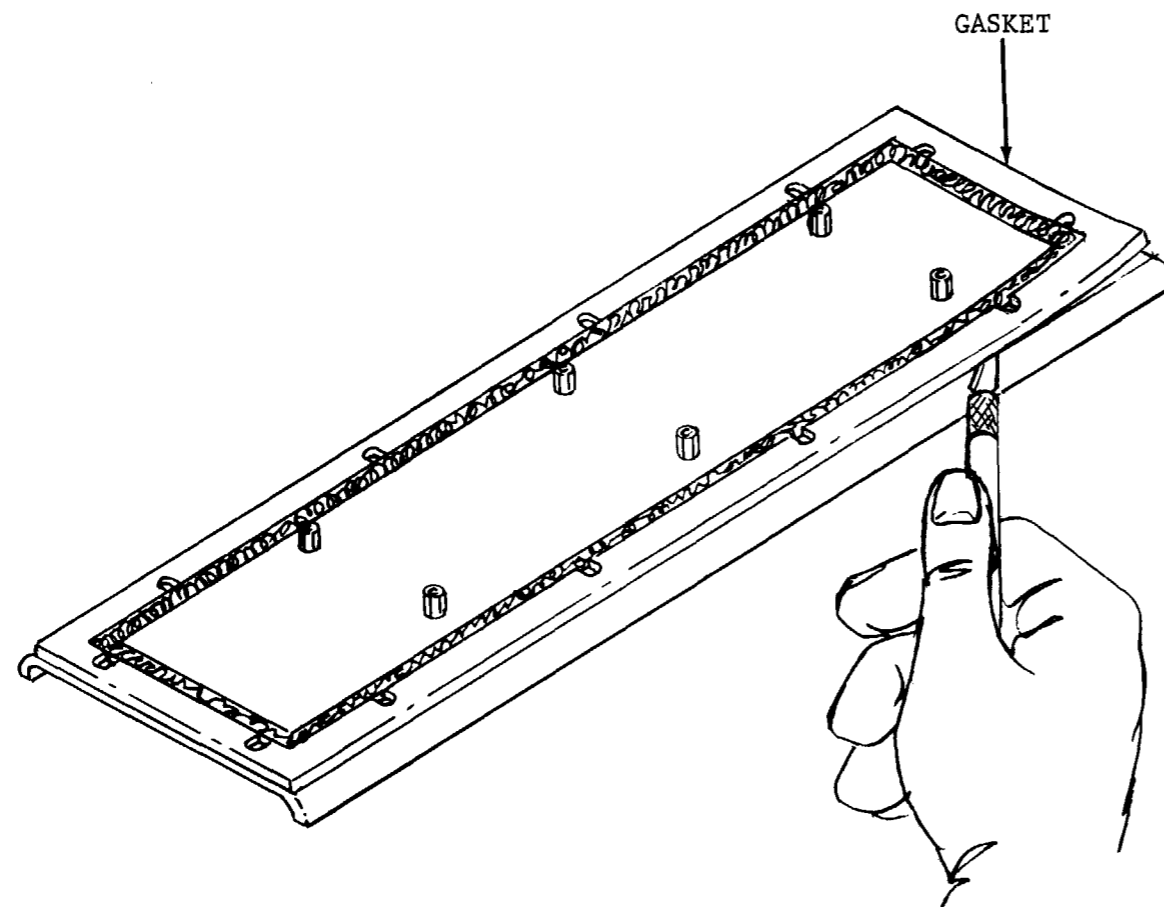
END OF TASK

8-12. REMOVE COVER GASKET (OAF)

Tools required: Craftsman's knife

Equipment condition: 2A1 circuit card removed, see para. 8-11.

Use the craftsman's knife to remove the gasket and any remaining adhesive.



END OF TASK

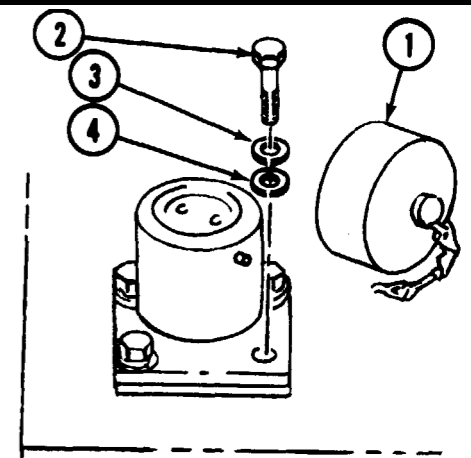
8-13. REMOVE RF FILTERS FL1 AND FL2 (OAF)

Tools required: Desoldering kit
Soldering iron
3/16 inch socket
7/16 open end wrench
No. 1 crosspoint screwdriver
Craftsman's knife
Ratchet wrench

Equipment condition: OAF cover removed, see para. 8-11.

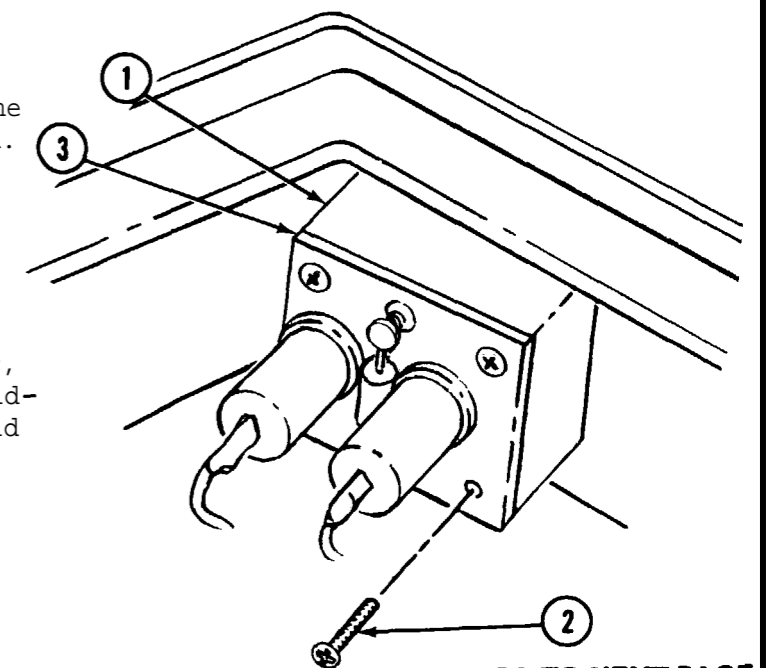
STEP 1

- A. Remove J2 connector cover (1).
- B. Using a 3/16 inch socket and ratchet wrench, remove four hex-head screws (2), flatwashers (3) and sealing washers (4).



STEP 2

- A. Carefully pull and position shield (1) so you can get at the four screws (2) holding the filter plate (3) to the shield.
- B. Using a crosspoint screwdriver, remove the four screws (2) holding the plate (3) to the shield (1).



GO TO NEXT PAGE

8-13. REMOVE RF FILTERS FL1 AND FL2 (OAC) - CONTINUED

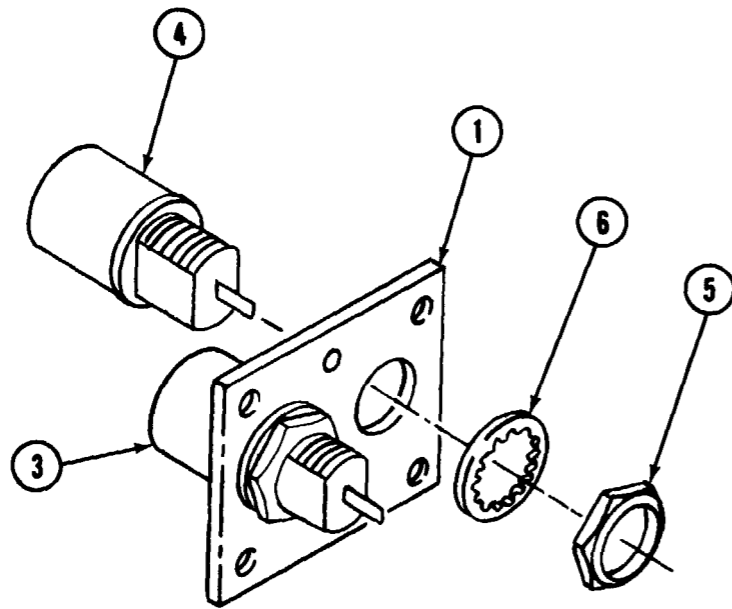
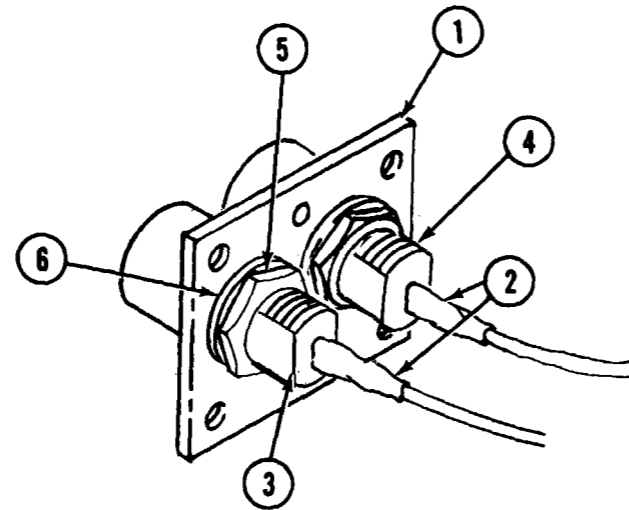
STEP 3

A. Slide the plate (1) towards J1.

B. Using craftsman's knife, cut the insulation sleeving (2) from the filter FL1 (3) or FL2 (4) leads going to J2.

C. Desolder and tag leads.

D. Using 7/16 inch open end wrench, remove the nuts (5) and washers (6) holding the filters to the plate (1).



END OF TASK

8-14. REMOVE CONNECTOR J2 (OAF)

Tools required: Desoldering kit
 Longnose pliers
 Diagonal cutting pliers
 Craftsman's knife
 3/16 inch socket
 Ratchet wrench

Equipment condition: OAF cover removed, see para. 8-11.

A. Remove connector cover (1).

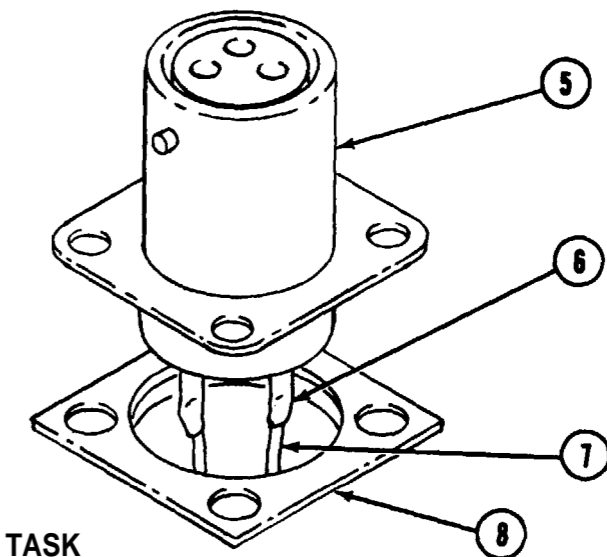
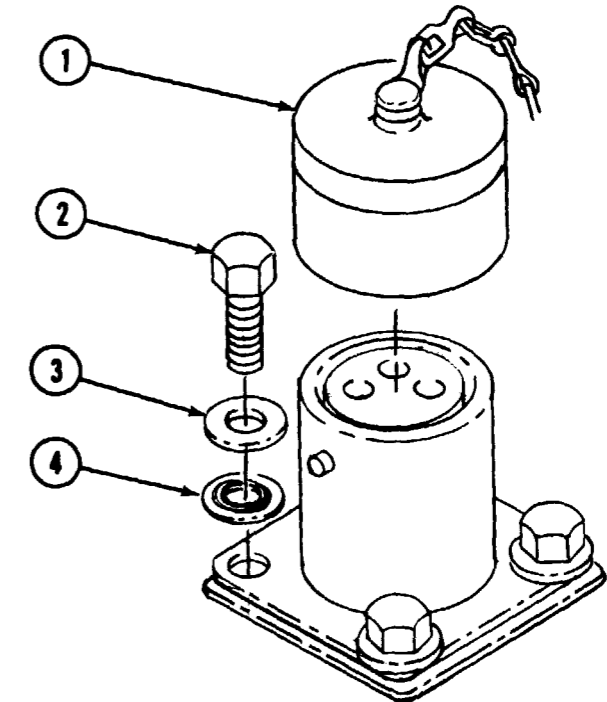
B. Using 3/16 inch socket and ratchet wrench, remove four each hex-head screws (2), flatwashers (3) and sealing washers (4).

C. Carefully pull J2 (5) out of base.

D. Using craftsman's knife, cut sleeving (6) from J2 terminals.

E. Desolder and tag leads (7).

F. Remove gasket (8).



END OF TASK

8-15. REMOVE TERMINAL LUG E1 AND J2 CONNECTOR COVER (OAF)

Tools required: Desoldering kit
 Diagonal cutting pliers
 Longnose pliers
 5/16 inch open end wrench
 No. 1 crosspoint screwdriver
 Craftsman's knife

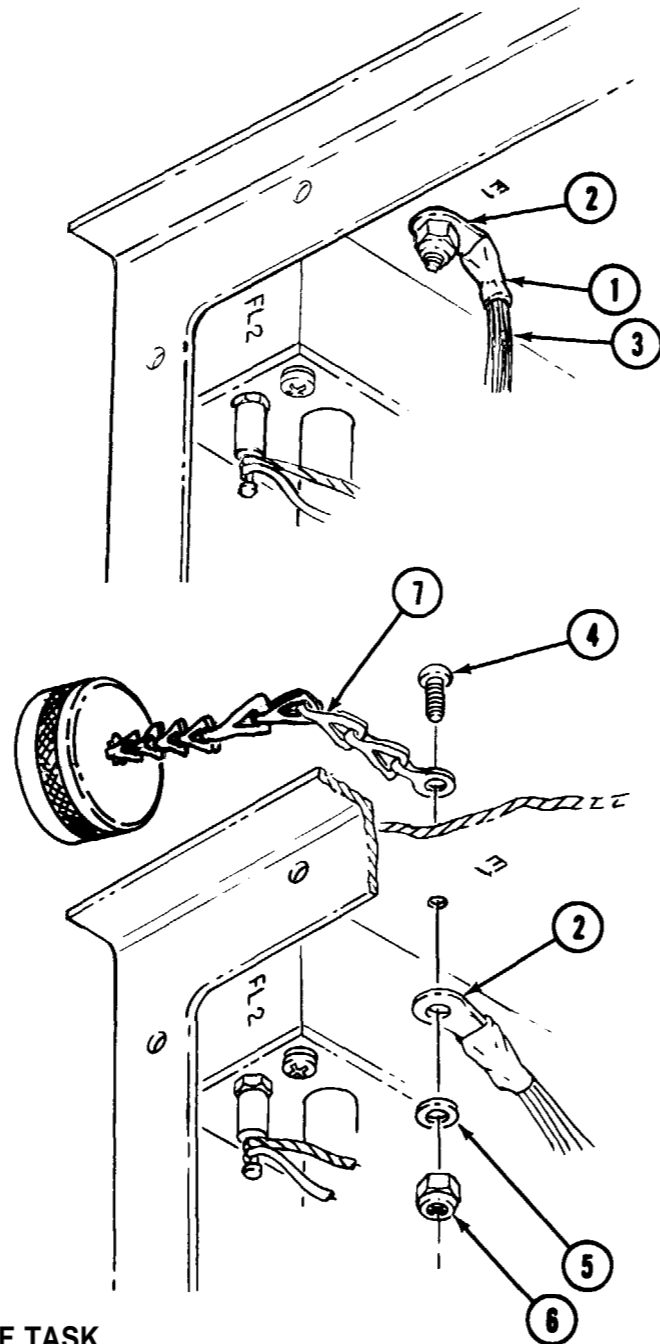
Equipment condition: OAF cover removed, see para. 8-11.

A. Using craftsman's knife, cut sleeving (1) from E1 terminal (2).

B. Desolder and tag leads (3) from E1 (2).

C. Using crosspoint screwdriver and 5/16 inch open end wrench, remove screw (4), washer (5) and nut (6) holding E1 (2) and J2 connector cover chain (7) to base.

D. Remove E1 (2) and J2 connector cover.



END OF TASK

8-16. REMOVE J1 CONNECTOR COVER (OAF)

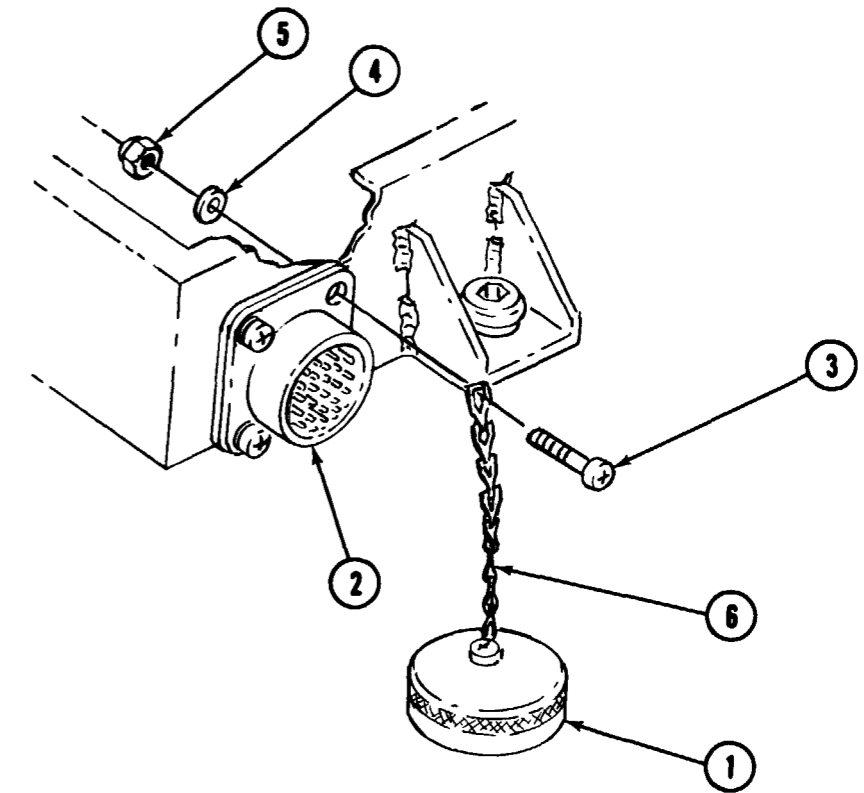
Tools required: No. 1 crosspoint screwdriver
 1/4 inch open end wrench

Equipment condition: OAF cover removed, see para. 8-11.

A. Remove cover (1) from J1 connector (2).

B. Using 1/4 inch open end wrench and crosspoint screwdriver, remove screw (3), washer (4) and nut (5) holding chain (6) to connector (2).

C. Remove chain (6) and cover (1).



END OF TASK

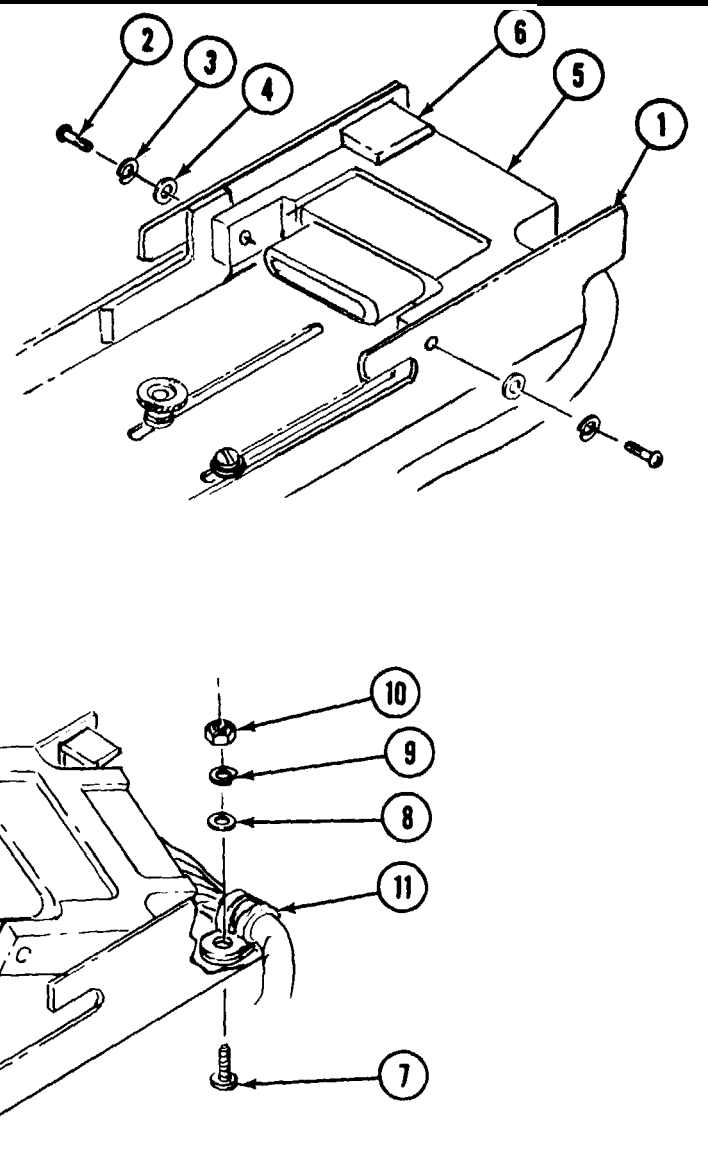
8-17. REMOVE ELECTRICAL SPECIAL PURPOSE CABLE ASSEMBLY

Tools required: 1/8 inch flat-blade screwdriver
 11/32 inch open end wrench
 13/16 inch open end wrench
 No. 2 crosspoint screwdriver
 Longnose pliers
 Diagonal cutting pliers
 Pliers
 Craftsman's knife

Equipment condition: OAF cover removed, see para. 8-11.

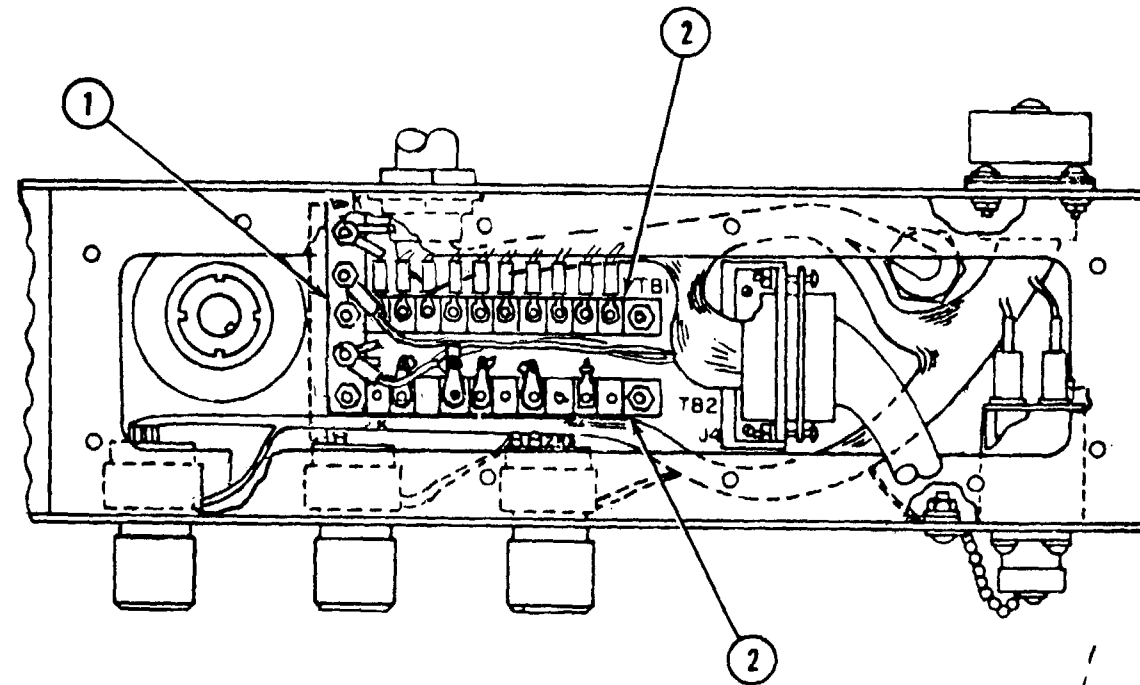
STEP 1

- A. Slide tracker mount (1) to extended position.
- B. Remove two screws (2) and two lockwashers (3) and two washers (4) holding connector (5) to mount. Slide connector out through clip (6).
- C. Fold connector (5) out of way. Remove screw (7), washer (8), lockwasher (9), and nut (10) holding clamp (11) to mount using No. 2 crosspoint and 11/32 inch open end wrench.

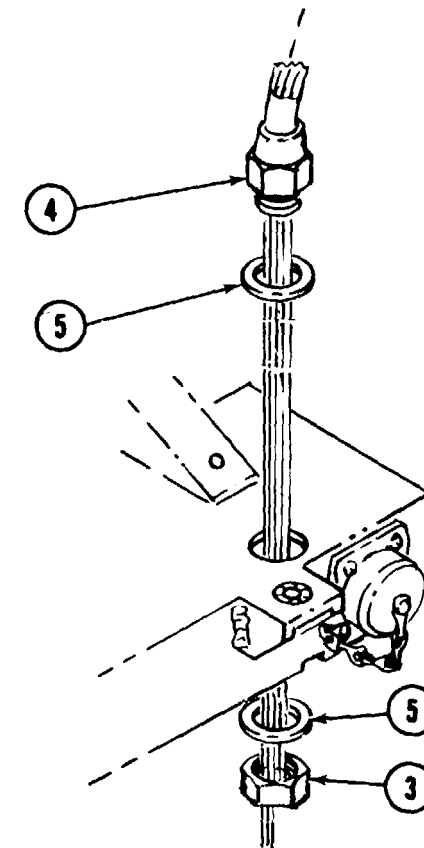


STEP 2

- A. Using 1/8 inch flat-blade screwdriver, remove and tag 15 cable ends from electrical component assembly (1), TB1. and TB2 (2). Cut cable ties if you have to.



- B. Using 13/16 inch open end wrench, remove nut (3) holding cable assembly in base.
- C. Carefully pull cable (4) out of base.
- D. Remove washers (5) from cable.



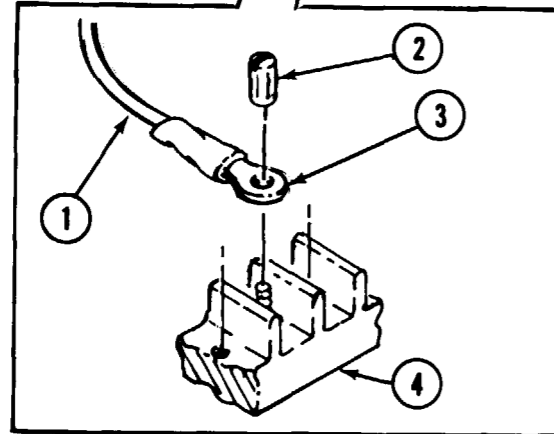
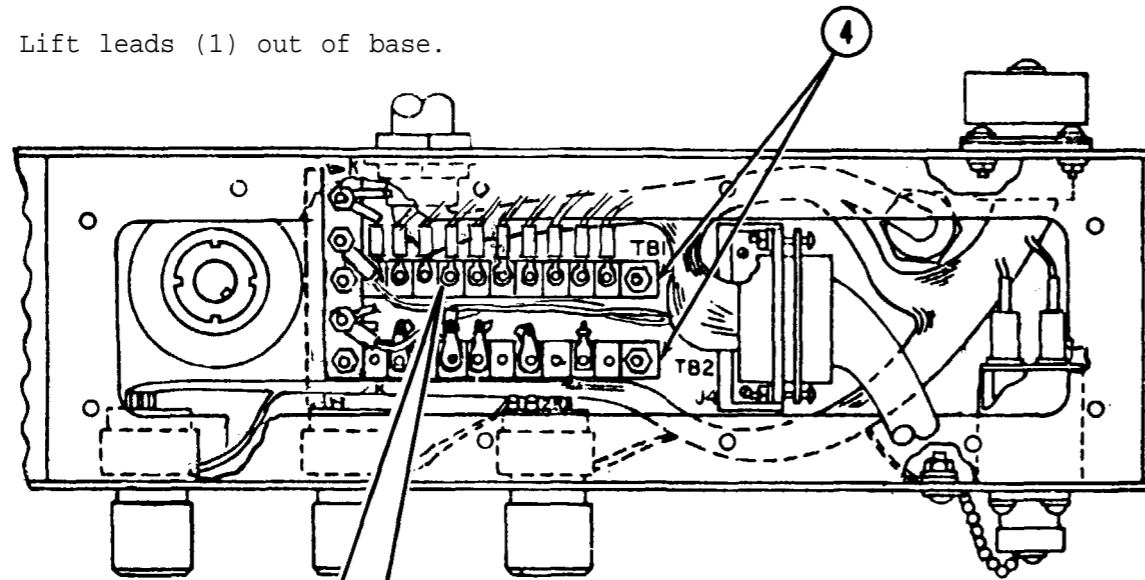
END OF TASK

8-18. REMOVE TB1 OR TB2 TERMINALS (OAF)

Tools required: 1/8 inch flat-blade screwdriver
 Longnose pliers
 Diagonal cutting pliers

Equipment condition: OAF cover removed, see para. 8-11.

- A. Tag terminal leads (1).
- B. Using screwdriver, remove terminal screws (2) holding terminals (3) to TB1 or TB2 (4).
- C. Lift leads (1) out of base.



- D. Cut terminal from lead (if required).

END OF TASK

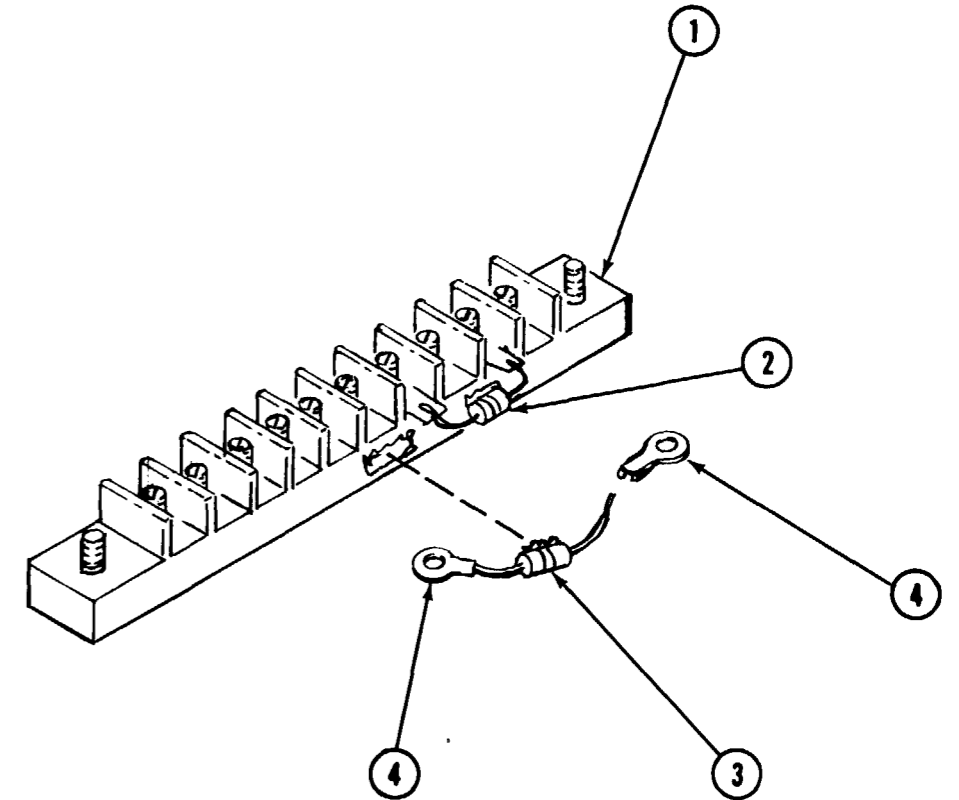
Follow-on Task: Install new terminals, see para. 8-90.

8-19. REMOVE RESISTOR R7 OR R8 (OAF)

Tools required: 1/8 inch flat-blade screwdriver
 Longnose pliers
 Desoldering kit
 Craftsman's knife

Equipment condition: OAF cover removed, see para. 8-11.

- A. Using a screwdriver, remove and tag leads to TB2 (1) terminals where R7 (2) or R8 (3) is connected.
- B. Using craftsman's knife, cut the adhesive holding resistor to TB2.
- C. Lift the resistor from TB2 terminals.
- D. Desolder terminals (4) from resistor.



END OF TASK

8-20. REMOVE TB3 (OAF)

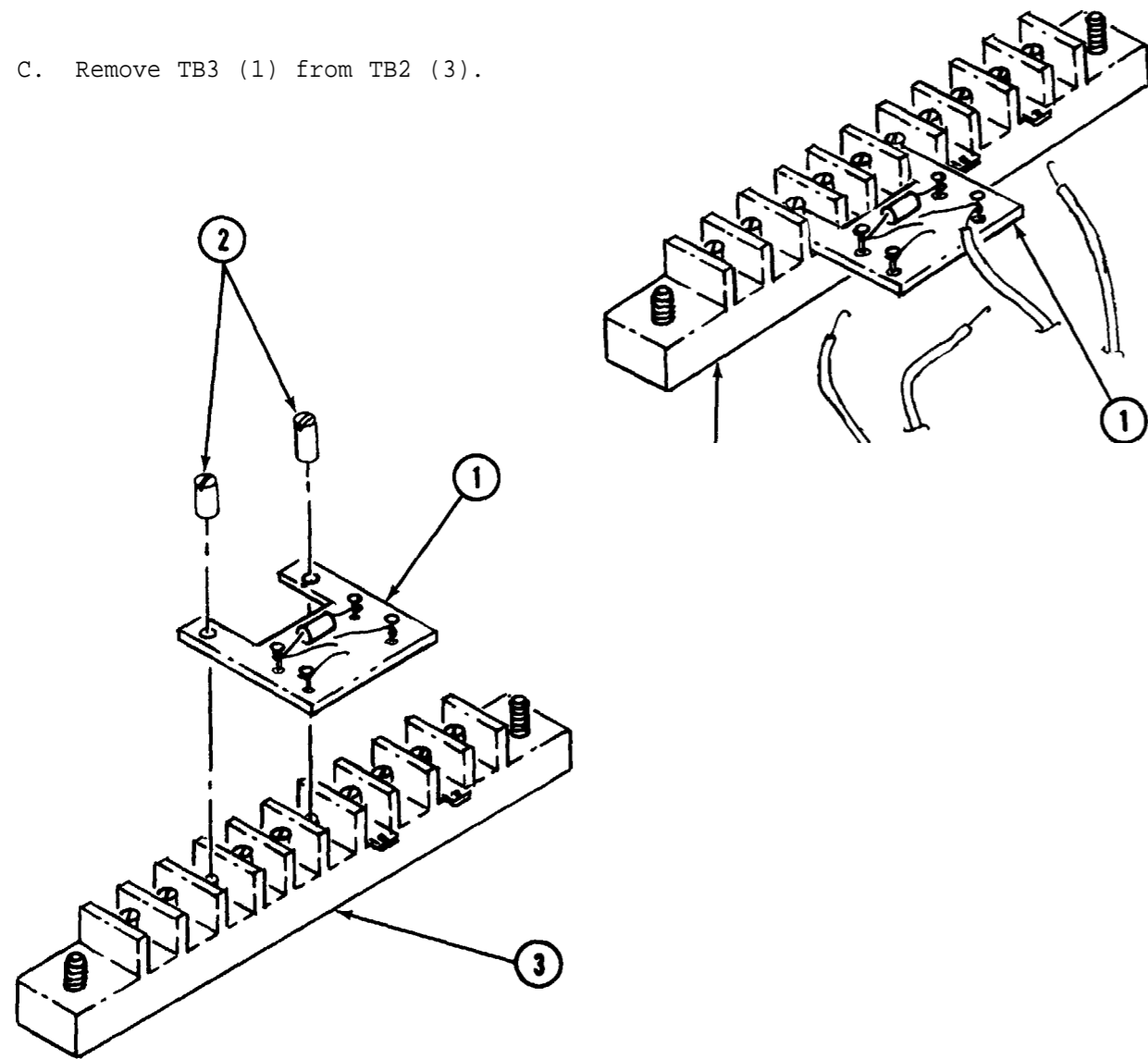
Tools required: Desoldering kit
 Longnose pliers
 Diagonal cutting pliers
 Craftsman's knife
 1/8 inch flat-blade screwdriver

Equipment condition: OAF cover removed, see para. 8-11.

A. Desolder and tag leads from TB3 (1).

B. Using screwdriver, remove terminal nuts (2).

C. Remove TB3 (1) from TB2 (3).



END OF TASK

8-21. REMOVE R4, R6 AND R9 (OAF)

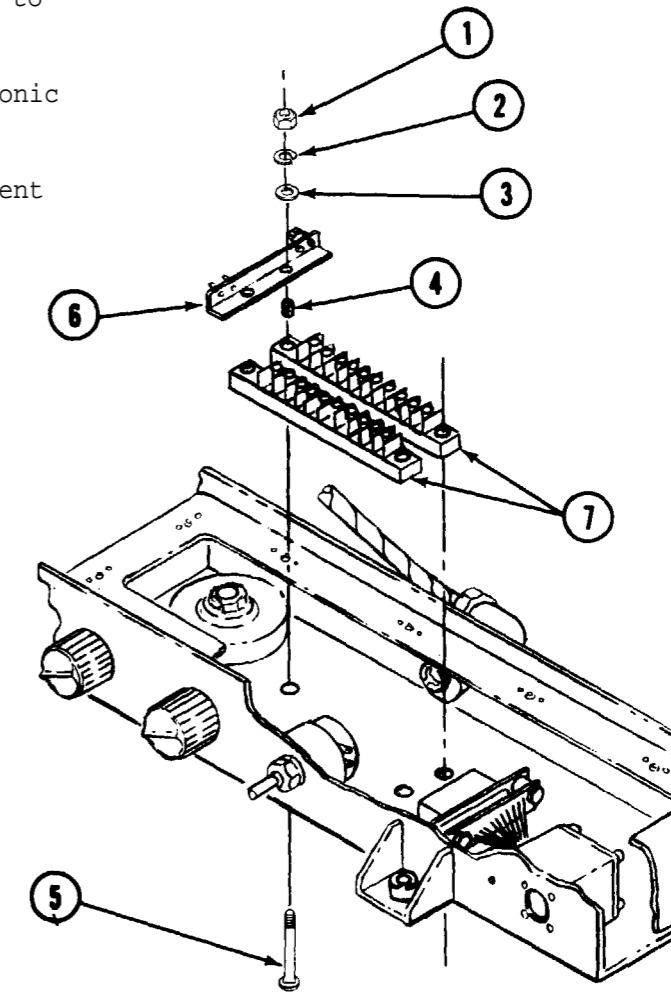
Tools required: Desoldering kit
 Longnose pliers
 Diagonal cutting pliers
 Flat-blade screwdriver
 No. 2 crosspoint screwdriver
 1/4 inch open end wrench
 5/32 inch open end wrench
 5/16 inch open end wrench
 Ratchet wrench
 6 inch extension
 Craftsman's knife

Equipment condition: OAF cover removed, see para. 8-11.

A. Using a crosspoint, a ratchet with a 6 inch extension and a 5/16 inch socket, remove the two nuts (1), two lockwashers (2), two washers (3) and two spacers (4) and two screws (5) holding the ECA (6) to TB2 and TB1 (7).

B. Remove and tag leads to electronic component assembly (6).

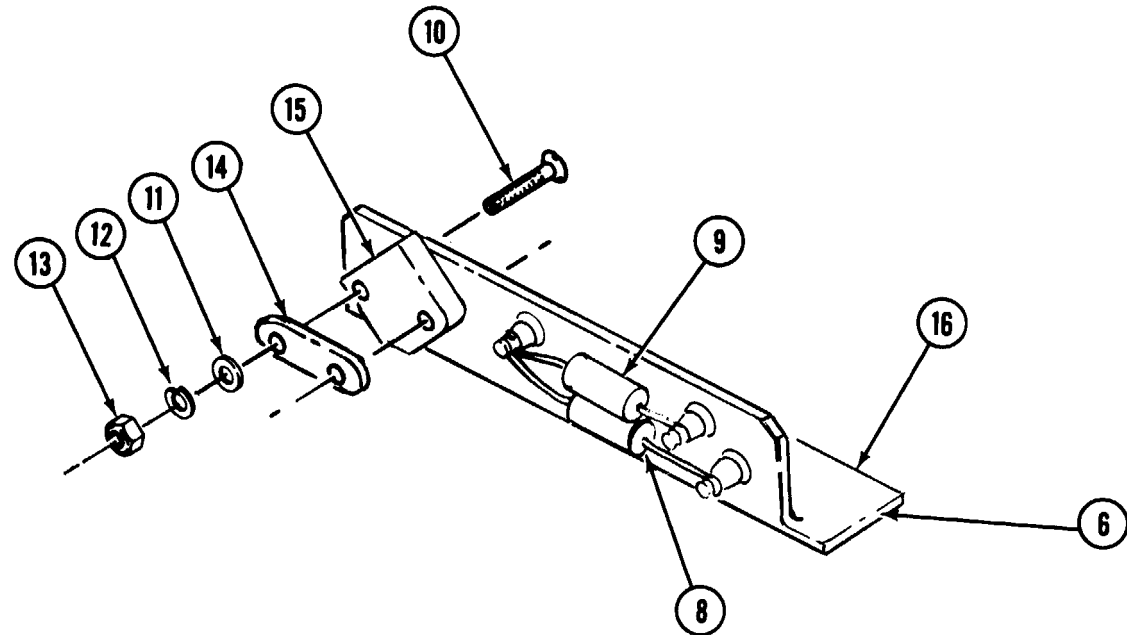
C. Position the electronic component assembly (6) on the workbench.



GO TO NEXT PAGE

8-21. REMOVE R4, R6 AND R9 (OAF) – CONTINUED

- D. Desolder and remove R4 (8) or R9 (9).
- E. Using crosspoint screwdriver and 1/4 inch open end wrench, remove two screws (10), washers (11), lockwashers (12), nuts (13) and retainer (14) holding R6 (15) to ECA (6). Remove R6 (15).



END OF TASK

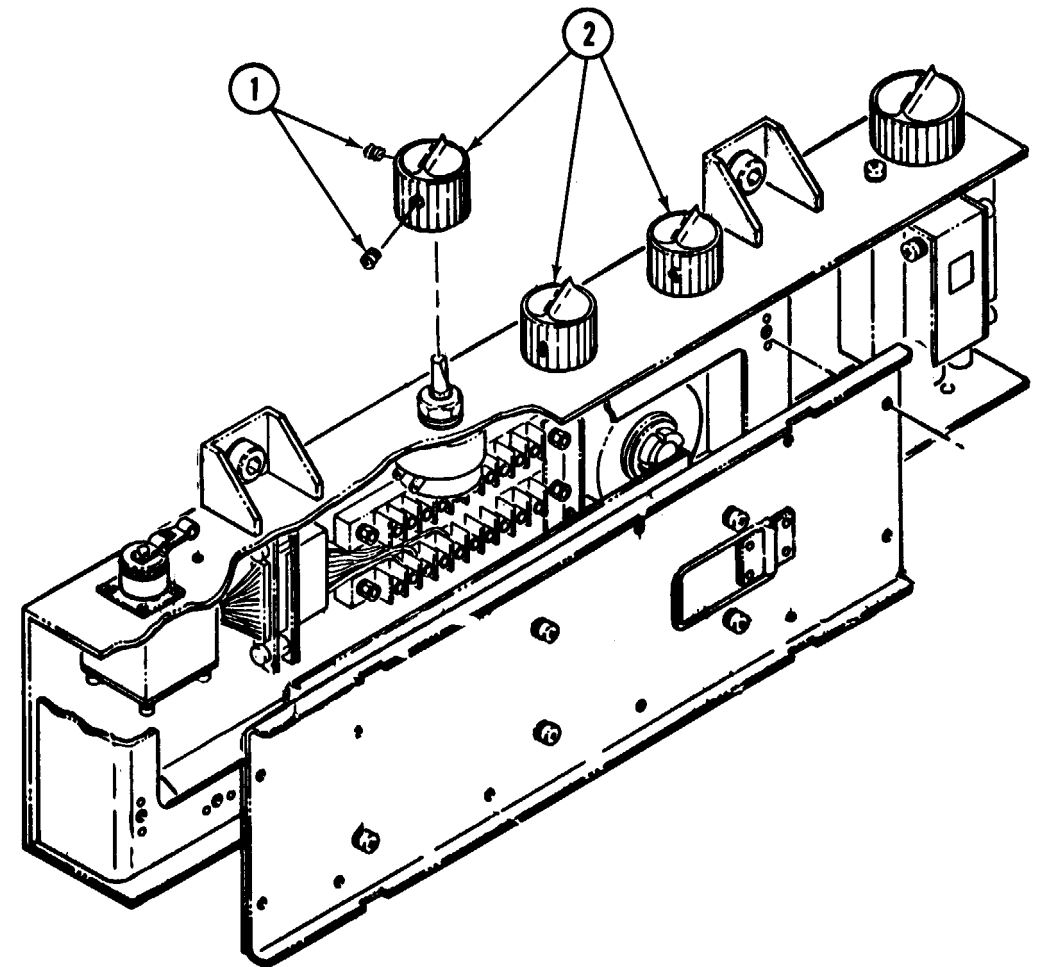
8-22. REMOVE RESISTOR SWITCHES R1, R2 AND R3 (OAF)

- Tools required:
- Desoldering kit
 - Diagonal cutting pliers
 - Longnose pliers
 - 0.050 inch Allen wrench
 - 3/8 inch open end wrench
 - 5/16 inch open end wrench
 - No. 2 crosspoint screwdriver
 - Craftsman's knife

Equipment condition: OAF cover removed, see para. 8-11.

STEP 1

Loosen two setscrews (1) on each knob (2). Remove knobs.

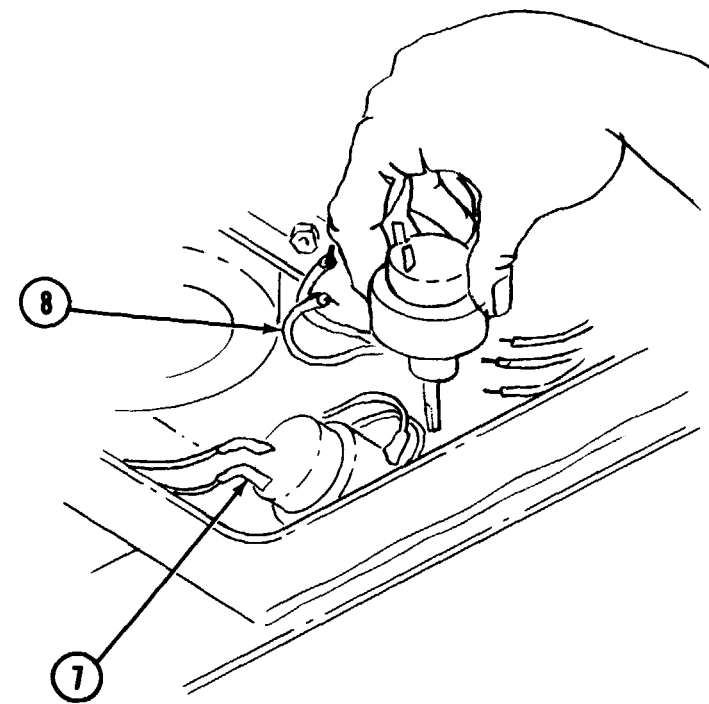
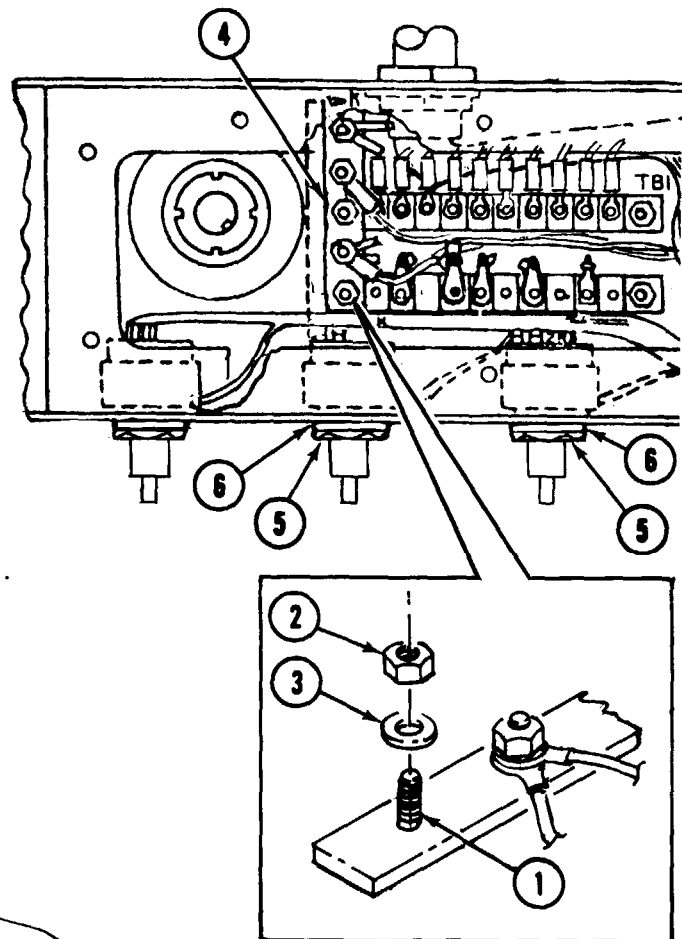


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8-22. REMOVE RESISTOR SWITCHES R1, R2 AND R3 (OAF) - CONTINUED

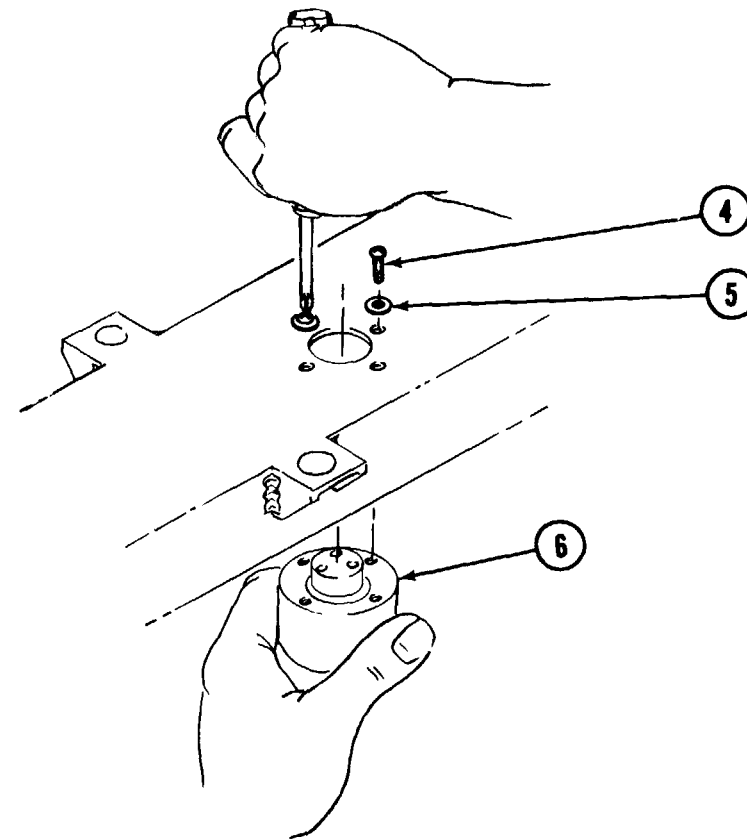
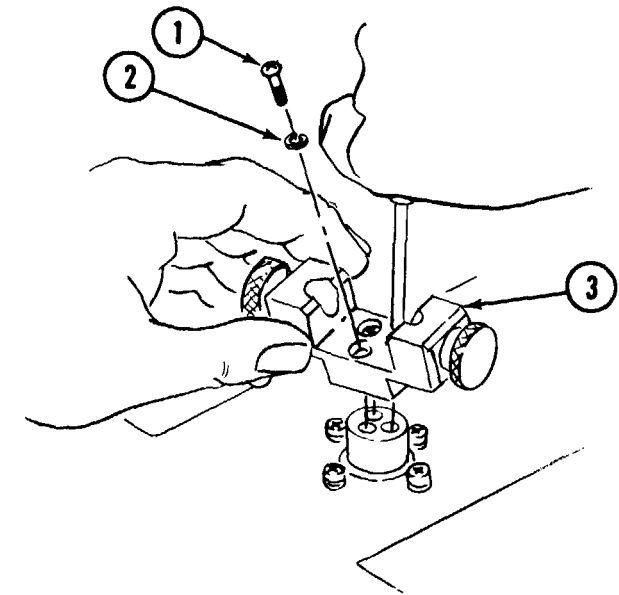
STEP 2

- A. Remove four screws (1), four nuts (2), and four washers (3) holding TB1, TB2 and the ECA (4) to the base.
- B. Push TB1, TB2 and the ECA (4) away from R1 to provide clearance for moving R1 or R3.
- C. Using 5/8 inch open end wrench, remove nut (5) and washer (6) holding R1 or R3 to base.
- D. Push R1. or R3 into the base and lift up so you can get to the connections.
- E. Cut the sleeving (7) from terminals.
- F. Desolder and tag leads (8).
- G. Remove resistor switch from OAF.



STEP 3

- A. Remove R2 switch by using crosspoint screwdriver to remove three screws (1) and three lockwashers (2) to remove OAC mount (3).
- B. Using crosspoint screwdriver, remove four screws (4) and washers (5) holding bearing shaft to OAF.
- C. Remove bearing-shaft (6).

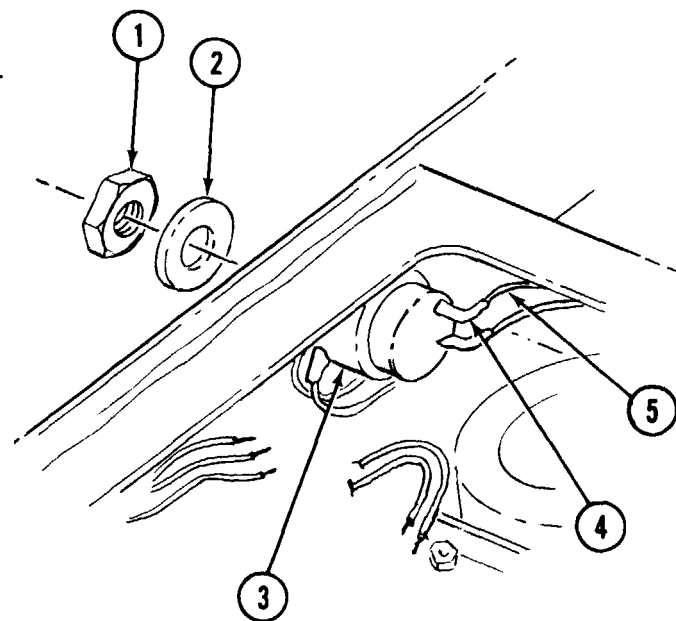


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8-22. REMOVE RESISTOR SWITCHES R1, R2 AND R3 (OAF) - CONTINUED

STEP 4

- A. Remove 5/8 inch nut (1) and washer (2) holding R2 (3) to base.
- B. Push R2 (3) into base and lift up.
- c. Cut sleeving (4) from terminals.
- D. Desolder and tag leads (5).
- E. Remove R2 (3) from base.

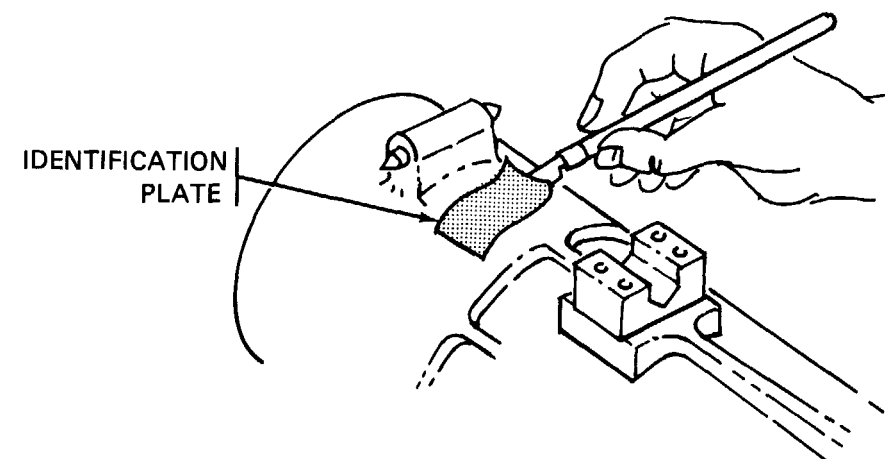


END OF TASK

8-23. REMOVE IDENTIFICATION PLATE (OAC)

Tools required: Craftsman's knife

- A. Record information from old identification plate.
- B. Use the knife to remove the identification plate.
- c. Scrape any old adhesive off of the mounting area using the knife.

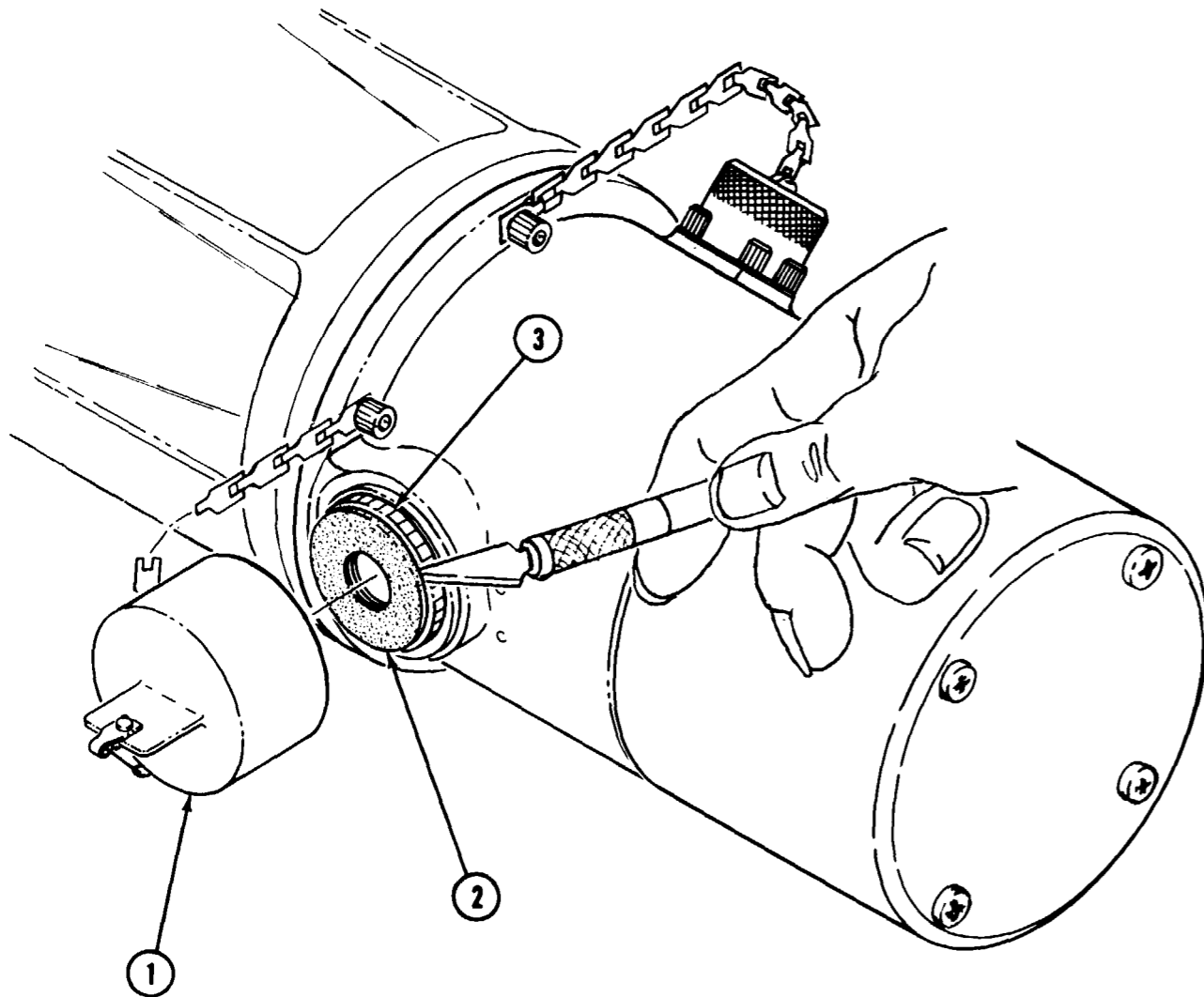


END OF TASK

8-24. REMOVE EYEPiece PAD (OAC)

Tools required: Craftsman's knife

- A. Remove dust cap (1).
- B. Use the knife to remove pad (2) and any residual adhesive from the knurled nut (3).

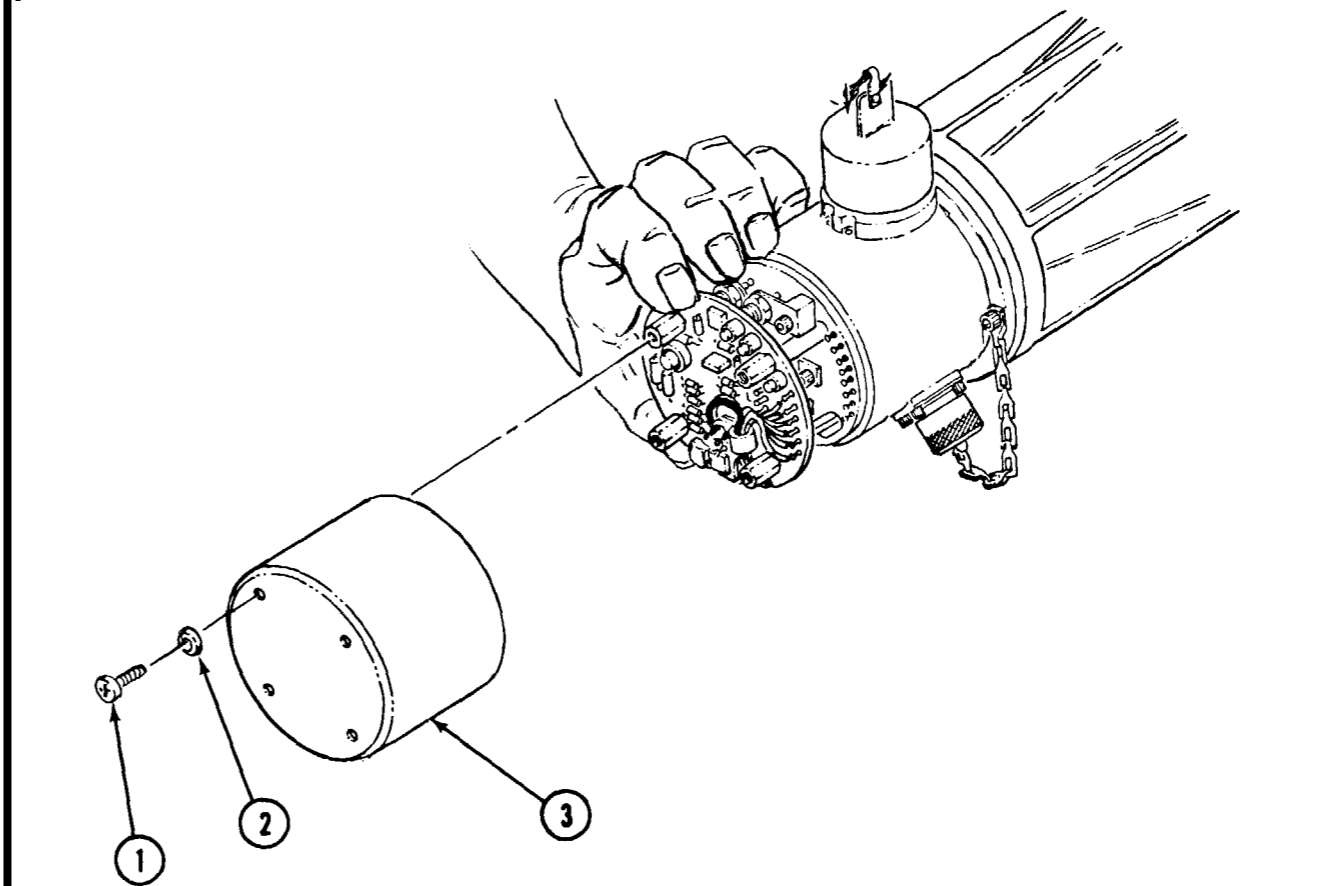


END OF TASK

8-25. REMOVE ELECTRONIC COVER (OAC)

Tools required: No. 2 crosspoint screwdriver

- A. Using screwdriver, remove four screws (1) and washers (2) holding the electronic cover (3) to the OAC.
- B. Remove the cover.



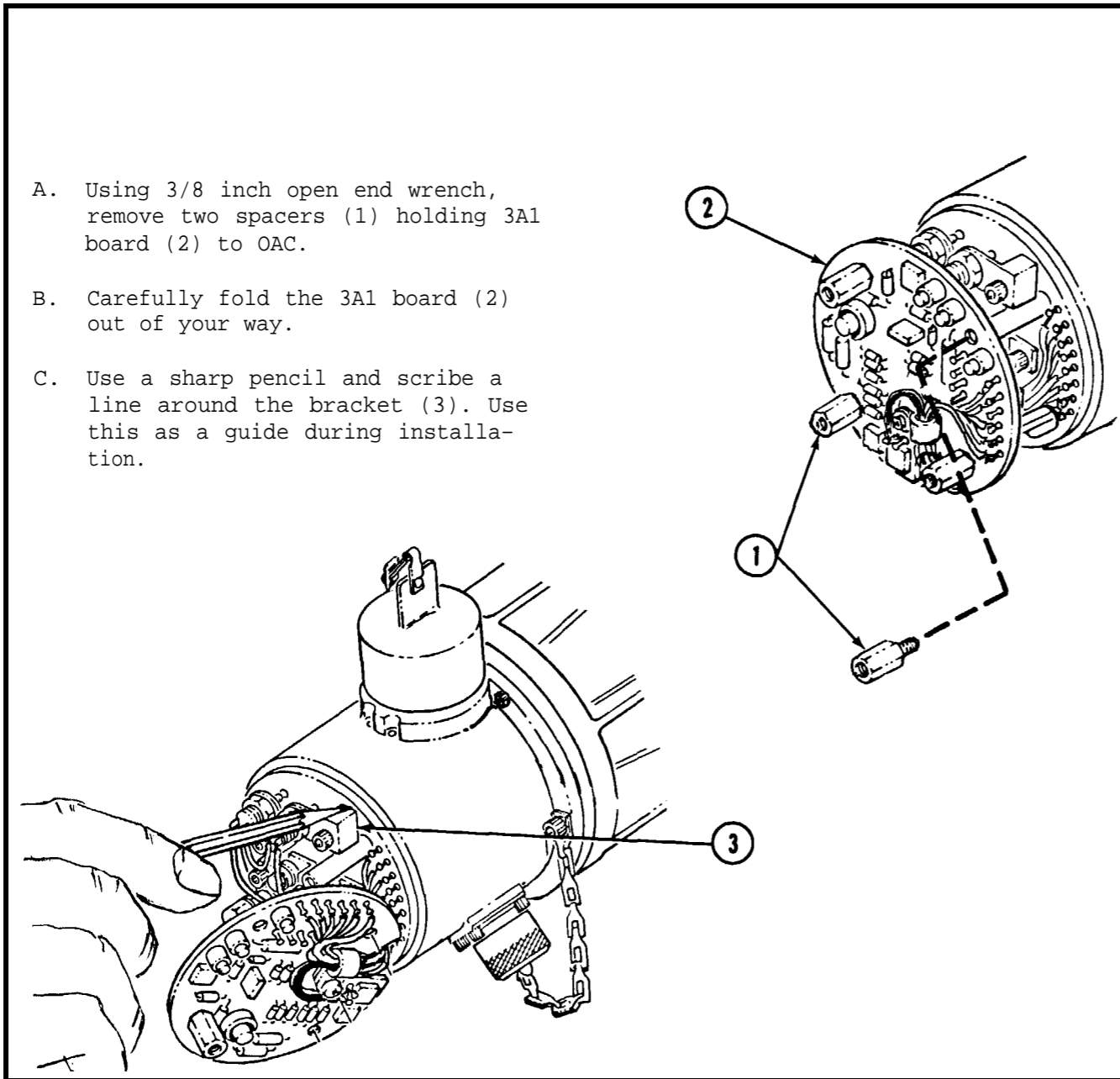
END OF TASK

8-26. REMOVE OAC LAMPS (DS1/DS2 AND LAMP ASSEMBLIES (XDS1/XDS2))

Tools required: 9/64 inch Allen wrench
 11/32 inch box end wrench
 3/8 inch open end wrench
 9/16 inch open end wrench
 Desoldering kit
 Longnose pliers
 Diagonal cutting pliers

Equipment condition: OAC cover removed, see para. 8-25.

STEP 1

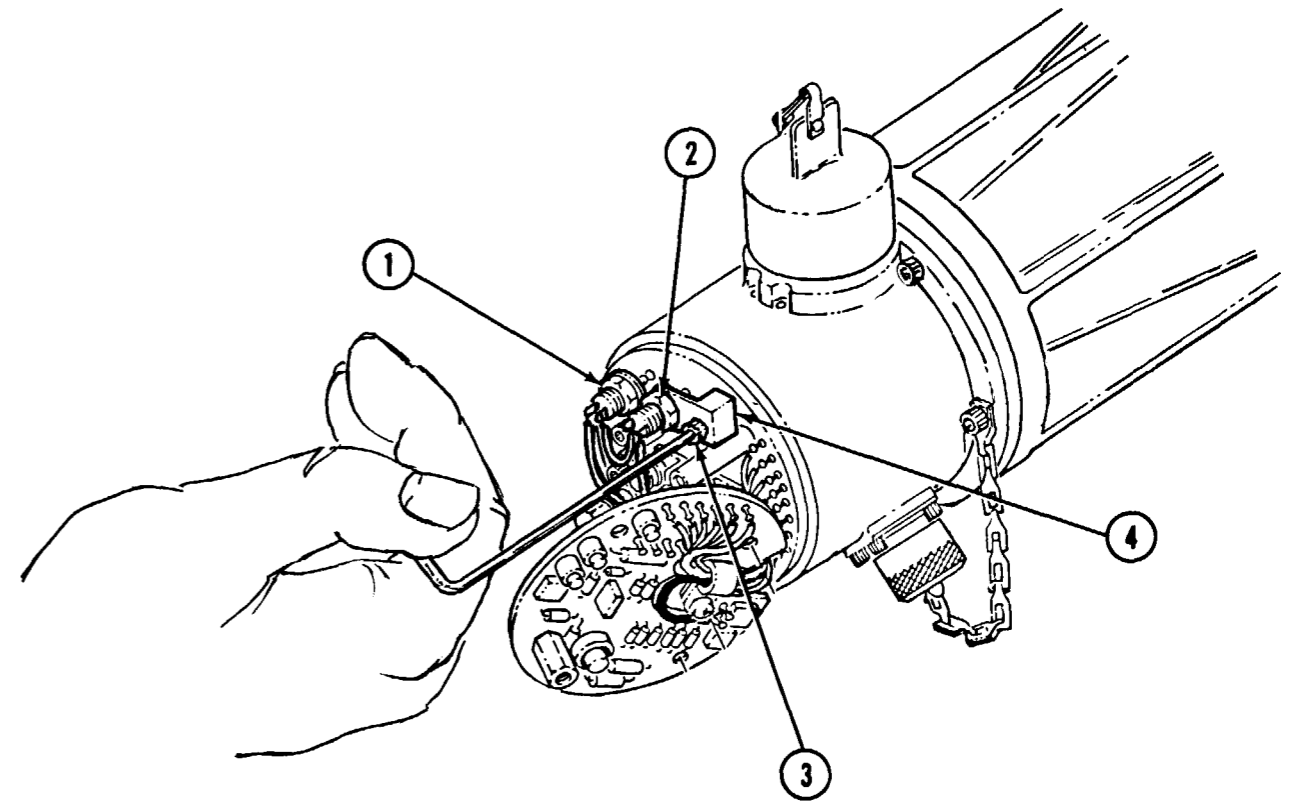


STEP 2



Perform Step A only if the light indicator assembly XDS1 (1) or XDS2 (2) is to be removed.

- A. Desolder leads from XDS1 (1) or XDS2 (2), identify and tag leads.
- B. Using Allen wrench, remove screw (3) holding bracket (4) on OAC.
- C. Pull bracket (4) away from OAC.

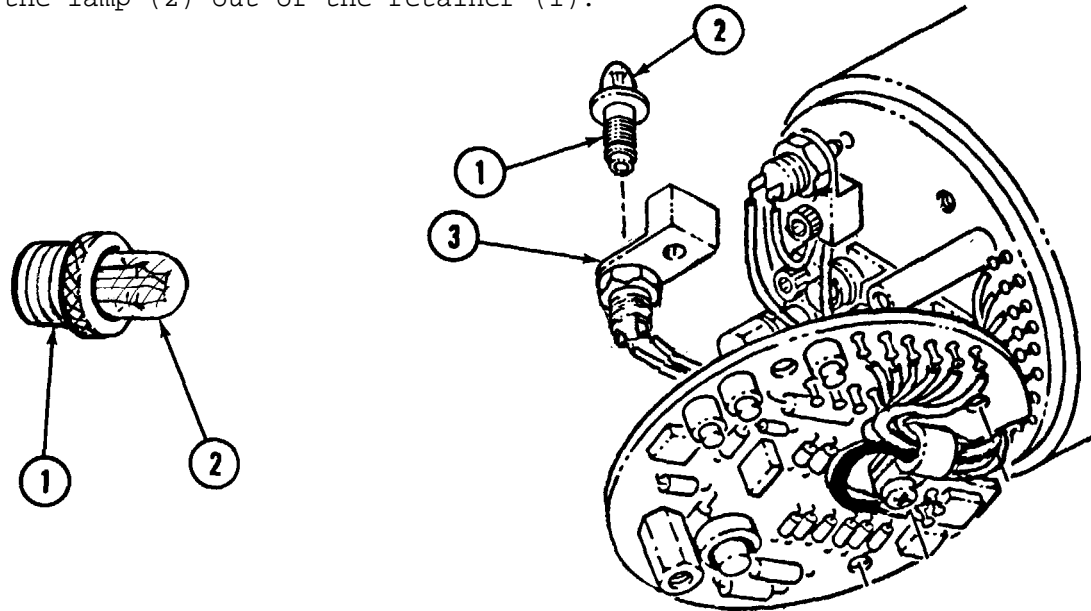


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8-26. REMOVE OAC LAMPS (DS1/DS2) AND LAMP ASSEMBLIES (XDS1/XDS2) – CONTINUED

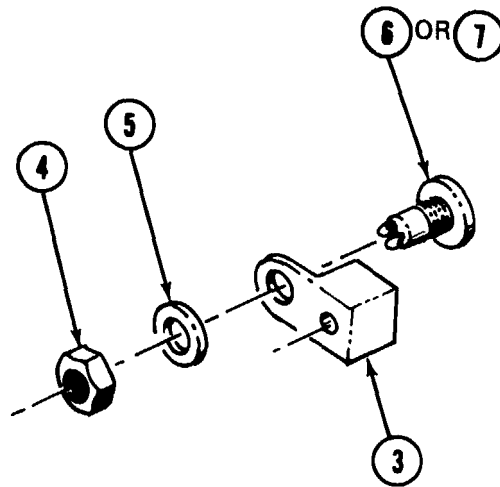
STEP 3

- A. Unscrew retainer (1) with lamp (2) from bracket (3).
- B. Push the lamp (2) out of the retainer (1).



Perform the following two steps only if light indicator assembly is to be removed.

- C. Using 9/16 inch open end wrench, remove nut (4) and washer (5) from indicator assembly XDS1 (6) or XDS2 (7).
- D. Remove light indicator assembly XDS1 (6) or XDS2 (7) from bracket.



END OF TASK

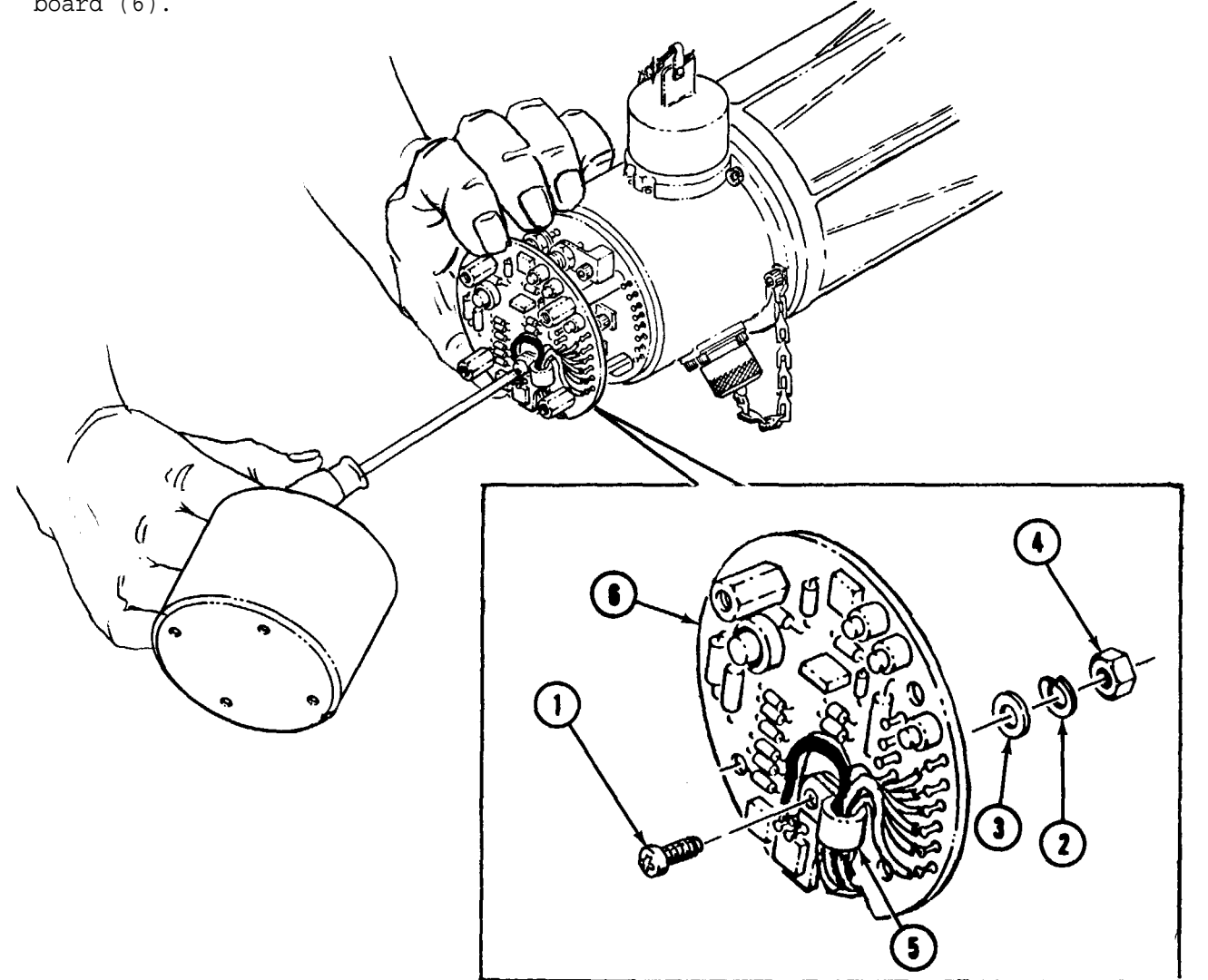
8-27. REMOVE 1A3A1 BOARD (OAC)

- Tools required:
- 3/8 inch open end wrench
 - 11/32 inch open end wrench
 - No. 2 crosspoint screwdriver
 - Desoldering kit
 - Craftsman's knife
 - Diagonal cutting pliers
 - Longnose pliers

Equipment condition: OAC cover removed, see para. 8-25.

STEP 1

Using a crosspoint screwdriver and 11/32 inch open end wrench, remove the screw (1), lockwasher (2), washer (3), and nut (4) holding the clamp (5) to the 1A3A1 board (6).



8-27. REMOVE 1A3A1 BOARD (OAC) – CONTINUED

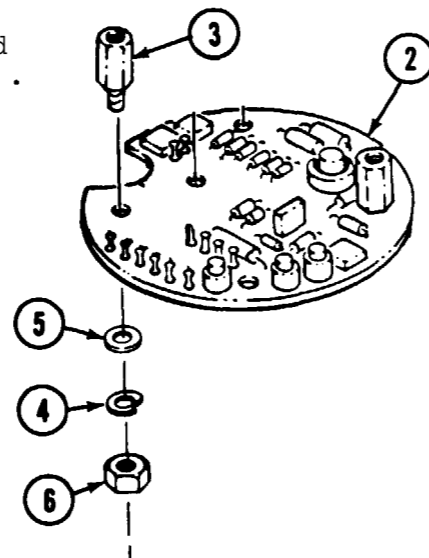
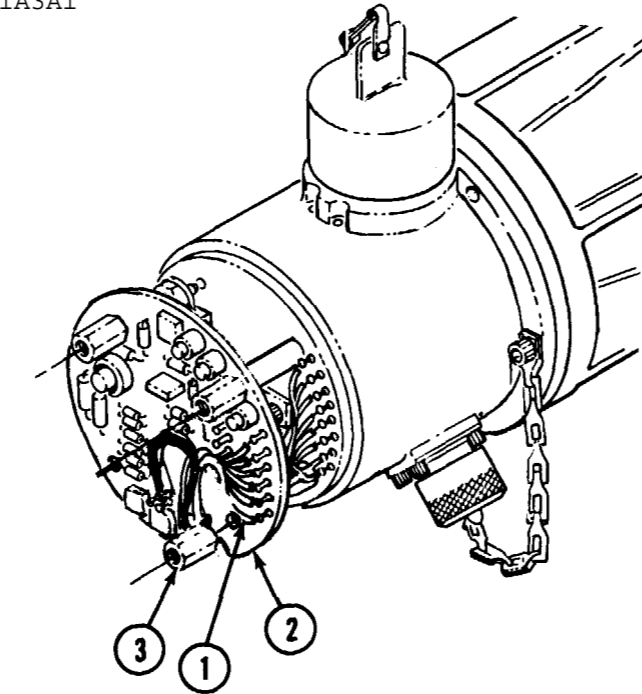
STEP 2

A. Desolder and tag leads (1) from 1A3A1 board (2).

B. Using 3/8 inch open end wrench, remove two spacers (3) holding board to OAC.

C. Remove the board (2).

D. Using the 3/8 inch open end wrench, remove the two spacers (3) and lockwashers (4), washers (5), and nuts (6) from the 1A3A1 board (2).



END OF TASK

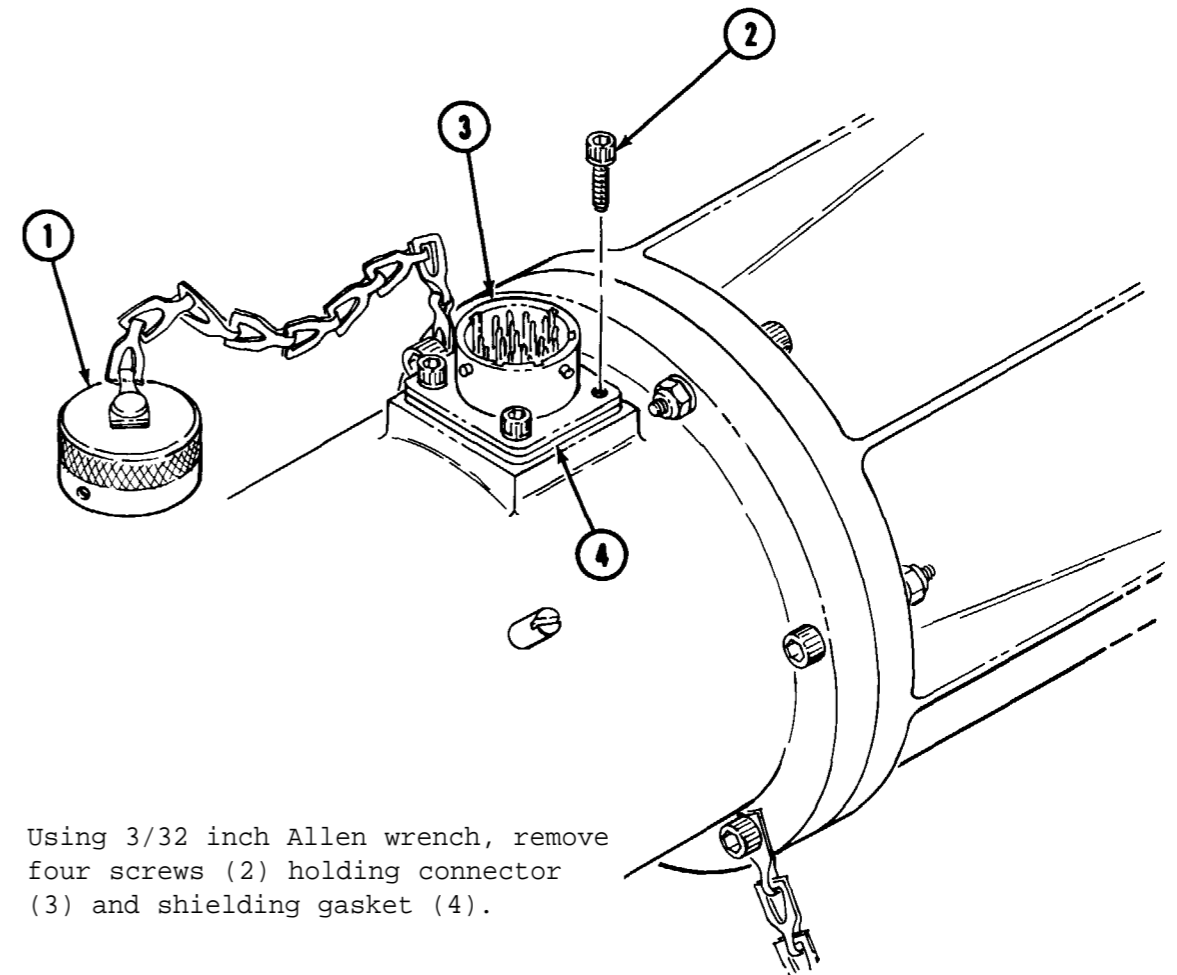
8-28. REMOVE ELECTRICAL CONNECTOR (OAC)

Tools required: 3/32 inch Allen wrench
Desoldering kit
Craftsman's knife
Longnose pliers
Diagonal cutting pliers

Equipment condition: 1A3A1 board removed, see para. 8-27.
STEP 1

A. Remove connector cap (1).

B. Using 3/32 inch Allen wrench, remove four screws (2) holding connector (3) and shielding gasket (4).

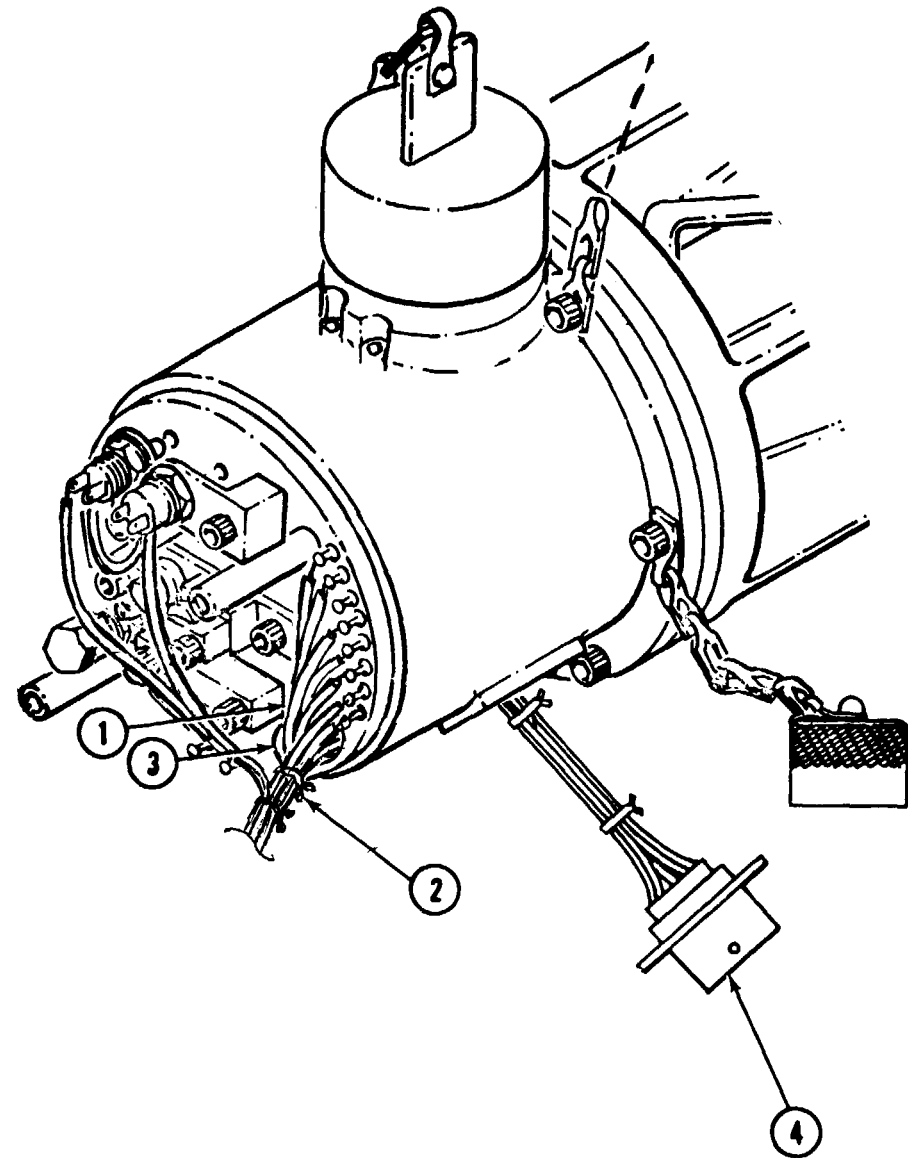


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8-28. REMOVE ELECTRICAL CONNECTOR (OAC) - CONTINUED

STEP 2

- A. Desolder wires (1) from terminal posts E1 through E8 and tag leads. Cut away all lacing tape (2) securing leads to wire bundle (3).



- B. Slowly pull the connector (4) out of the OAC while carefully pushing the wires into the OAC.

END OF TASK

8-29. REMOVE LATCH ASSEMBLY

- Tools required: #31 drill bit
Prick punch
Ball peen hammer
1/4 inch electric drill

- Equipment condition: Case cover removed, see TM 9-4935-484-14.
Front panel opened, see para. 8-33.
M1 meter and meter components removed, see para. 8-48.
Circuit card assembly rack removed, see para. 8-50.

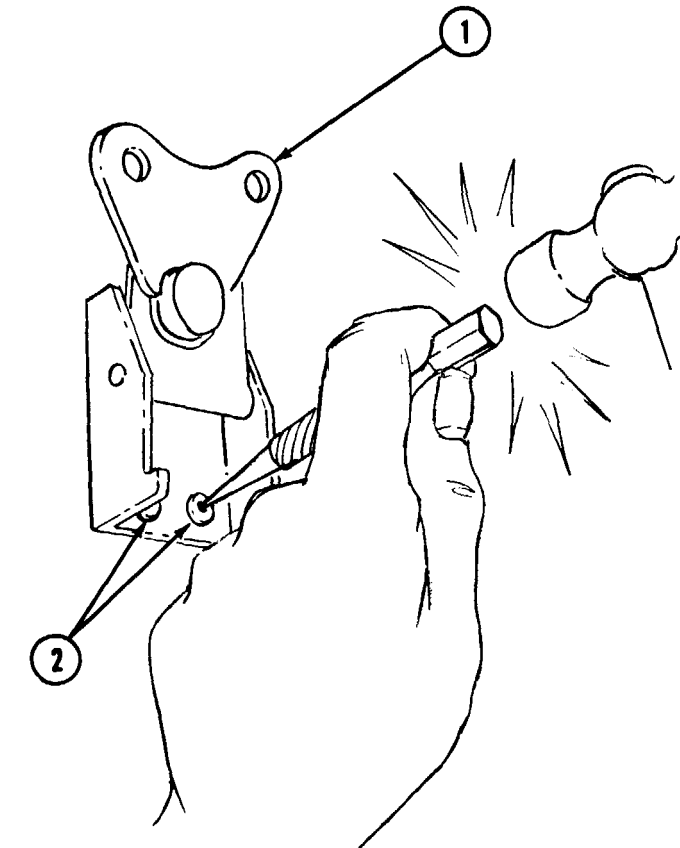
STEP 1

- A. Raise the latch handle (1) up.

- B. Use the hammer and punch to center punch the two bottom rivets (2).

- C. Drill the two center punched rivets (2).

- D. Drive out the drilled rivets (2) using the punch and hammer.

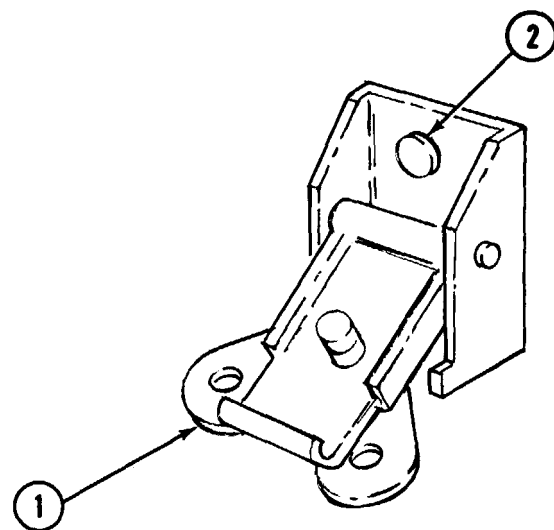


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8-29. REMOVE LATCH ASSEMBLY - CONTINUED

STEP 2

- A. Lower the latch handle (1) to get to the last rivet (2).
- B. Center punch the rivet (2) then drill it.



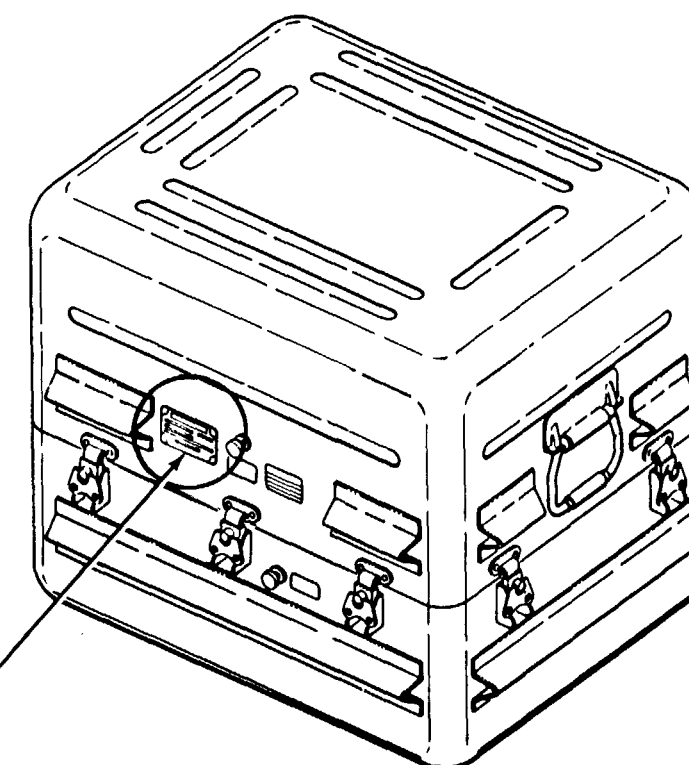
- C. Use the punch and hammer to drive out this last rivet (2).
- D. Discard the old rivets and the damaged latch (1).

END OF TASK

8-30. REMOVE IDENTIFICATION PLATE (TTS)

Tools required: Craftsman's knife

- A. Record necessary information.



IDENTIFICATION PLATE

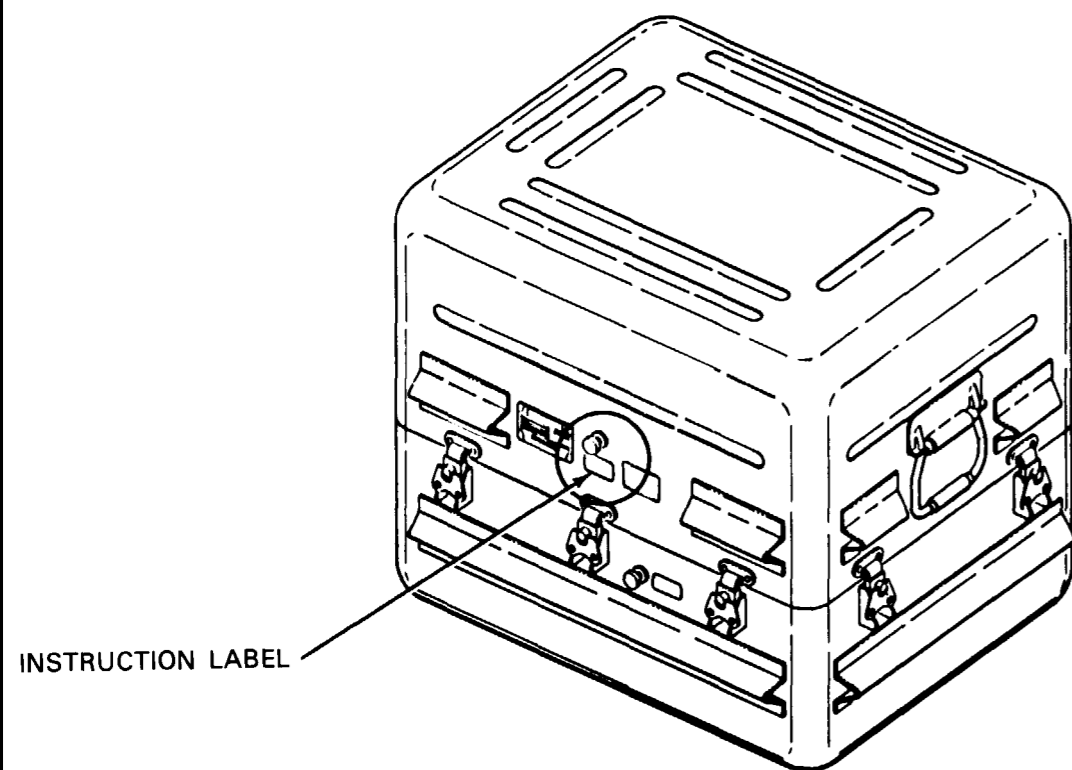
- B. Using craftsman's knife, remove identification plate and any adhesive from case.

END OF TASK

8-31. REMOVE INSTRUCTION LABEL (TTS)

Tools required: Craftsman's knife

Using craftsman's knife, remove instruction label and any adhesive from the case.



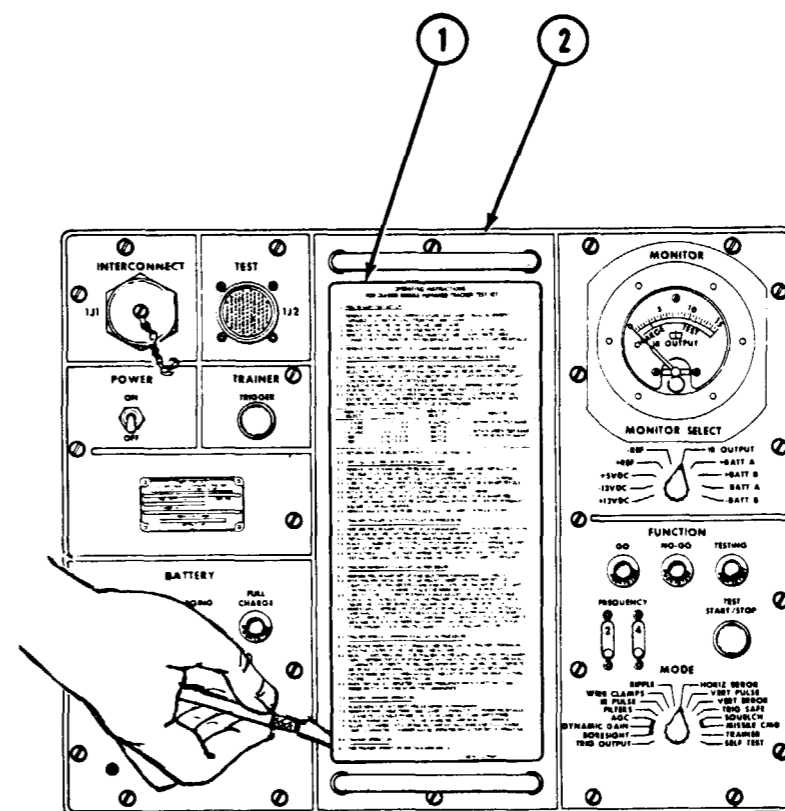
END OF TASK

8-32. REMOVE MONITOR UNIT INSTRUCTION PLATE

Tools required: Craftsman's knife

Equipment condition: Case cover removed, see TM 9-4935-484-14.

- A. Use the knife to remove the instruction plate (1).
- B. Scrape off any adhesive sticking to the panel (2).
- C. Discard the old instruction plate.

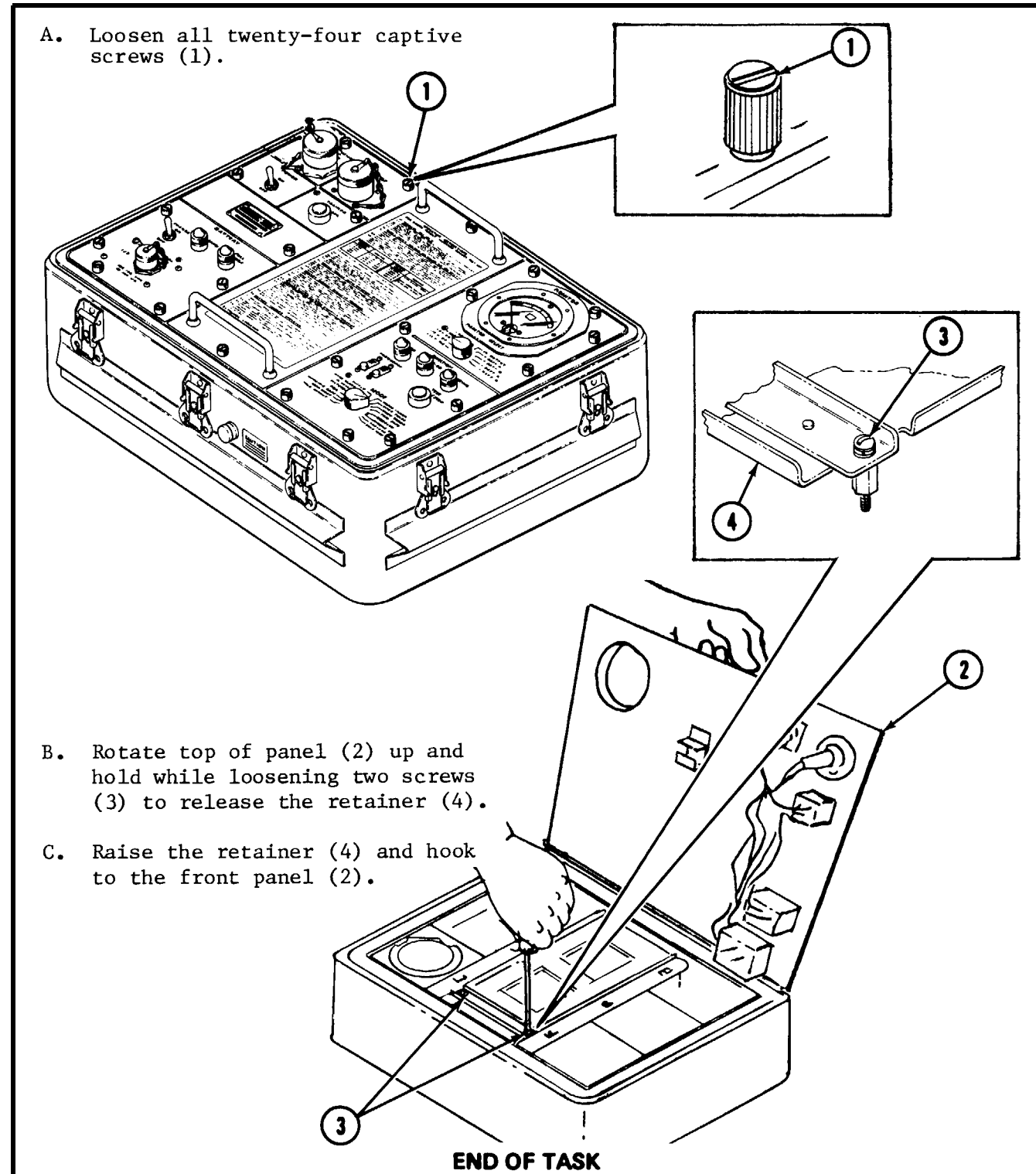


END OF TASK

8-33. REMOVE FRONT PANEL

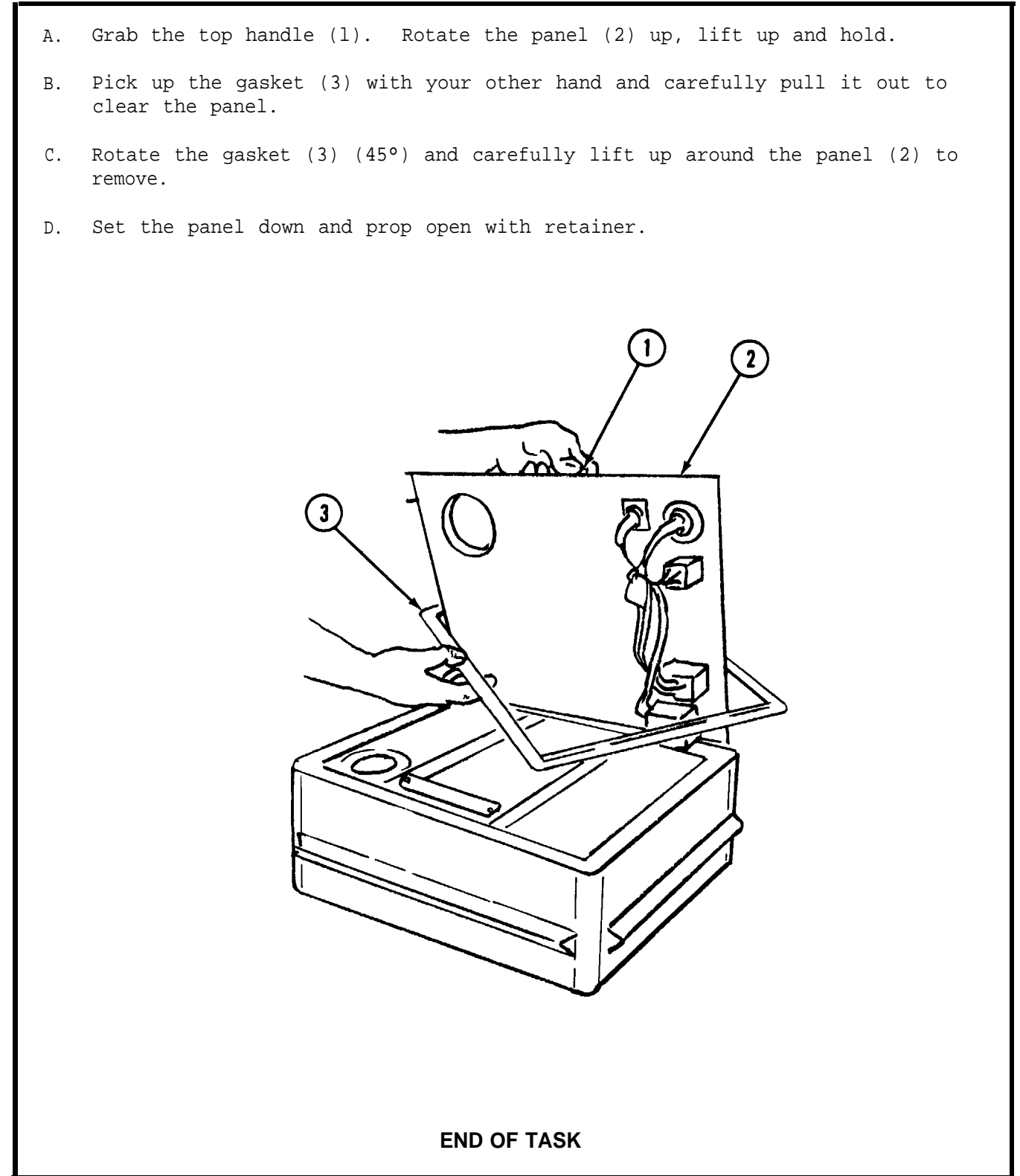
Tools required: 1/4 inch flat-blade screwdriver

Equipment condition: Case cover removed, see TM 9-4935-484-14.



8-34. REMOVE ELECTRONIC SHIELDING GASKET

Equipment condition: Front panel open, see para. 8-33.

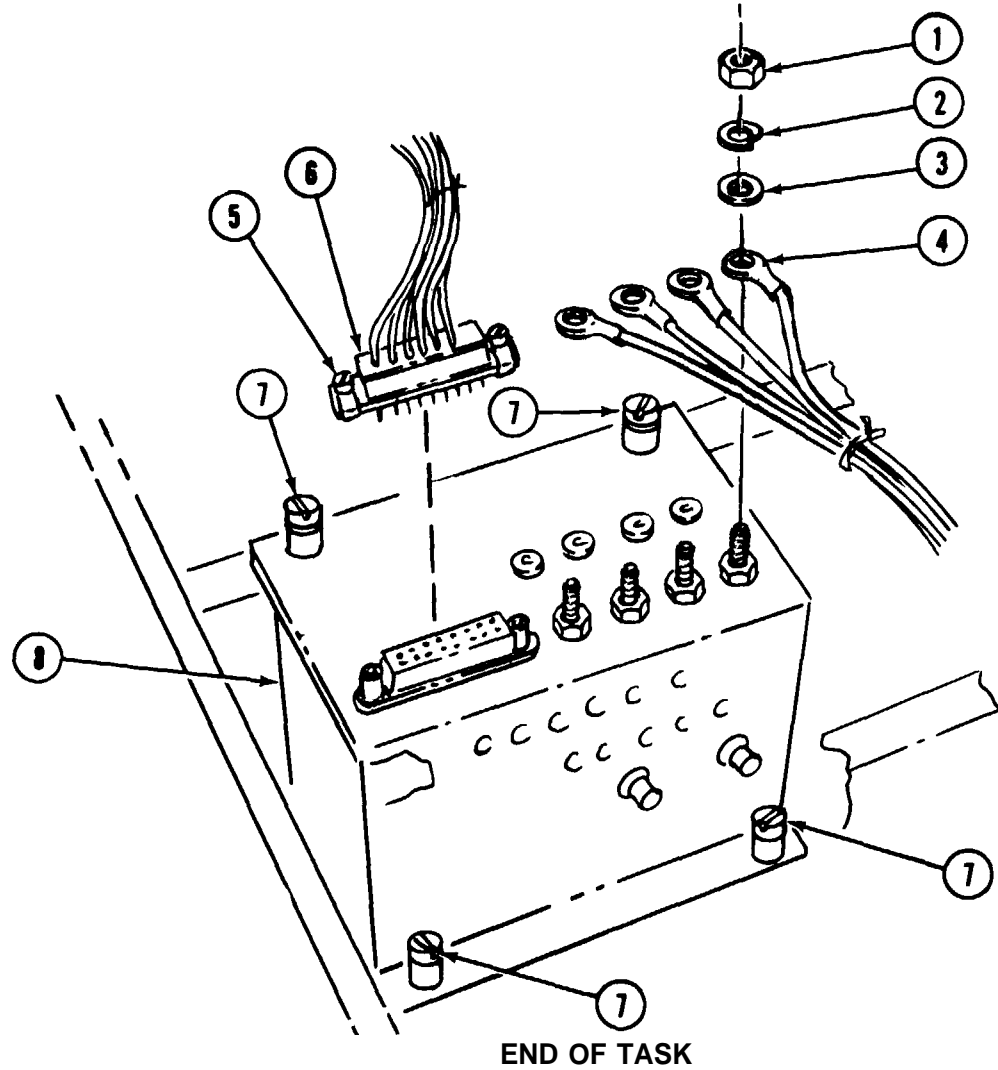


8-35. REMOVE ELECTRONIC COMPONENT ASSEMBLY (ECA) A1

Tools required: 1/4 inch flat-blade screwdriver, 6 inch blade
 1/8 inch flat-blade screwdriver
 5/16 inch open end wrench

Equipment condition: Front panel opened, see para. 8-33.

- A. Using 5/16 inch open end wrench, remove four nuts (1), four lockwashers (2) and four washers (3). Remove and tag leads (4).
- B. Using 1/8 inch flat-blade screwdriver, loosen two captive screws (5). Pull connector (6) free.
- C. Using 1/4 inch flat-blade screwdriver, loosen four captive screws (7).
- D. Carefully lift electronic component assembly A1 (8) out of the monitor unit.

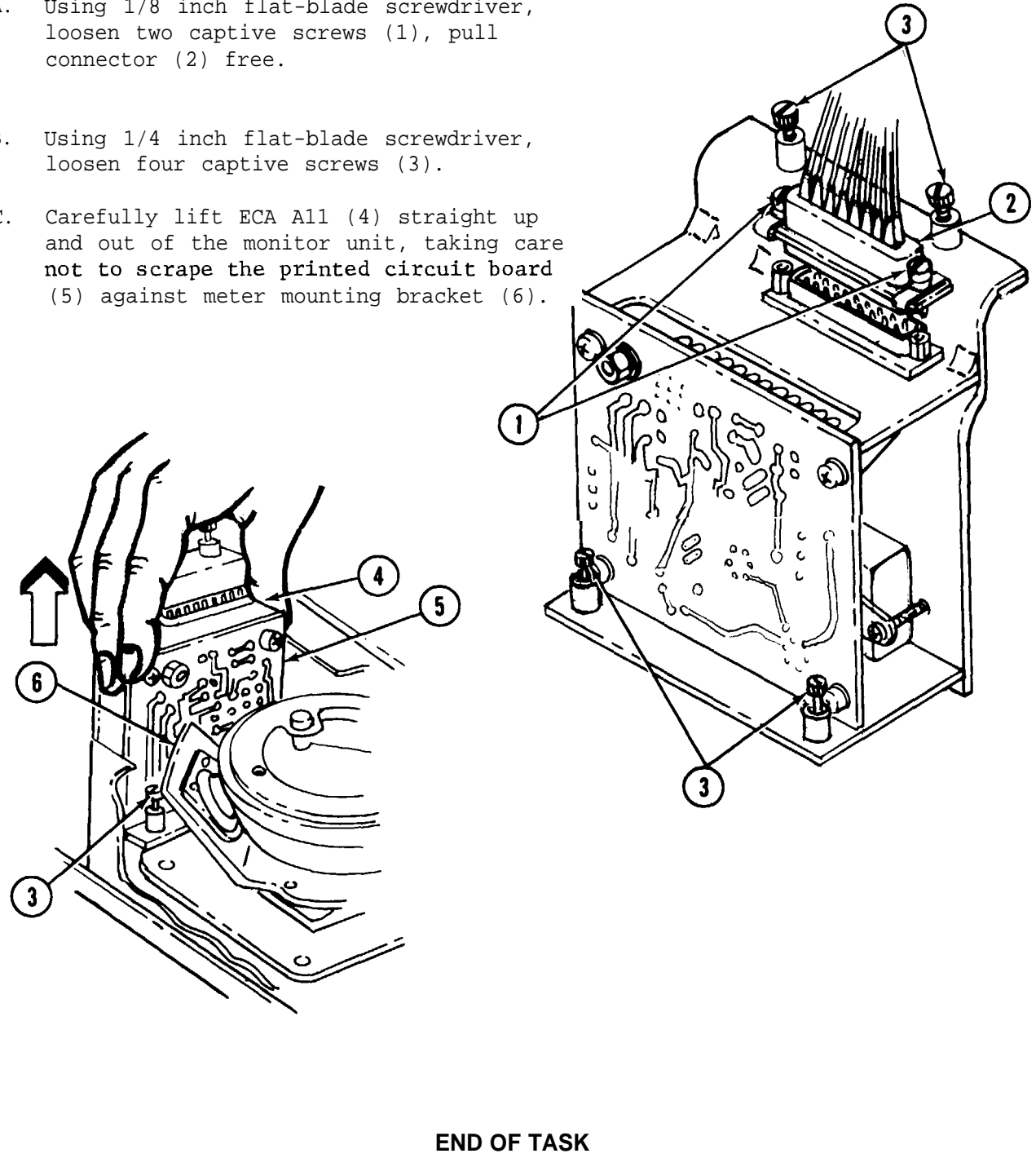


8-36. REMOVE ELECTRONIC COMPONENT ASSEMBLY (ECA) A11

Tools required: 1/4 inch flat-blade screwdriver
 1/8 inch flat-blade screwdriver

Equipment condition: Front panel opened, see para. 8-33.

- A. Using 1/8 inch flat-blade screwdriver, loosen two captive screws (1), pull connector (2) free.
- B. Using 1/4 inch flat-blade screwdriver, loosen four captive screws (3).
- C. Carefully lift ECA A11 (4) straight up and out of the monitor unit, taking care not to scrape the printed circuit board (5) against meter mounting bracket (6).



8-37. REMOVE MONITOR UNIT PANEL CAPTIVE SCREWS

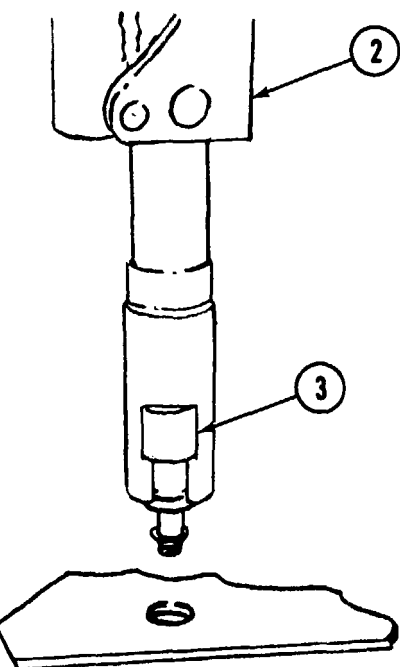
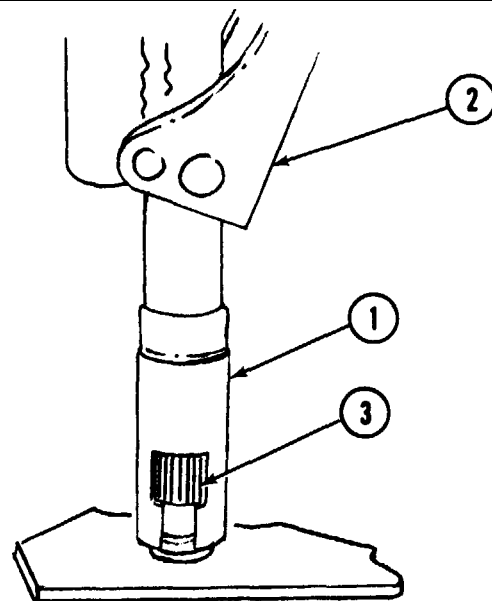
Tools required: Installation tool, TA-425
Removal tool, TA-426

Equipment condition: Front panel open, see para. 8-33.

A. Screw the TA-426 removal tool (1) on to the TA-425 installation tool (2).

B. Position the TA-426 (1) over the captive screw (3).

C. Squeeze the TA-425 (2) handle until the captive screw (3) is removed from the panel.



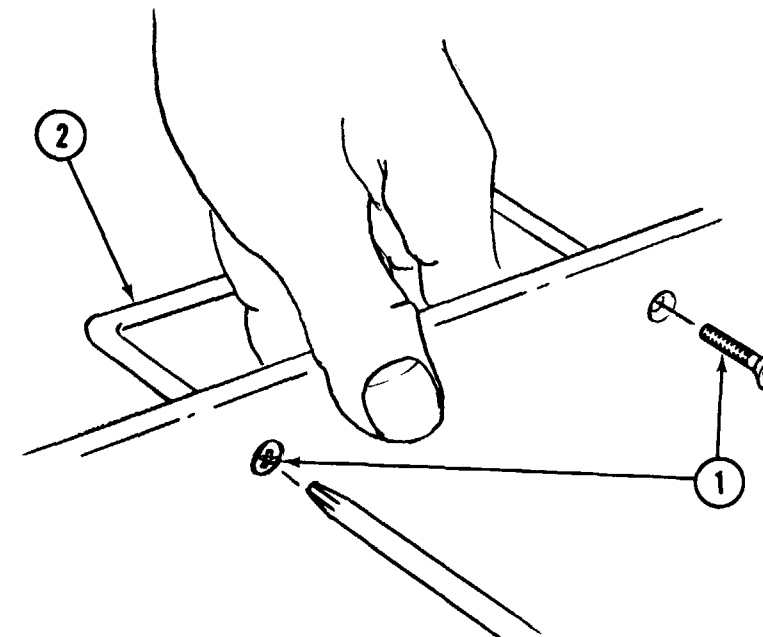
END OF TASK

8-38. REMOVE BOW HANDLE

Tools required: No. 1 crosspoint screwdriver

Equipment condition: Front panel open, para. 8-33.

A. Using screwdriver, remove the two screws (1) that are holding the bow handle (2) to the panel.



B. Remove the handle.

END OF TASK

8-39. REMOVE CIRCUIT BREAKERS CB1 AND CB2

Tools required: Diagonal cutting pliers
Desoldering kit
Longnose pliers
1/2 inch open end wrench
Craftsman's knife

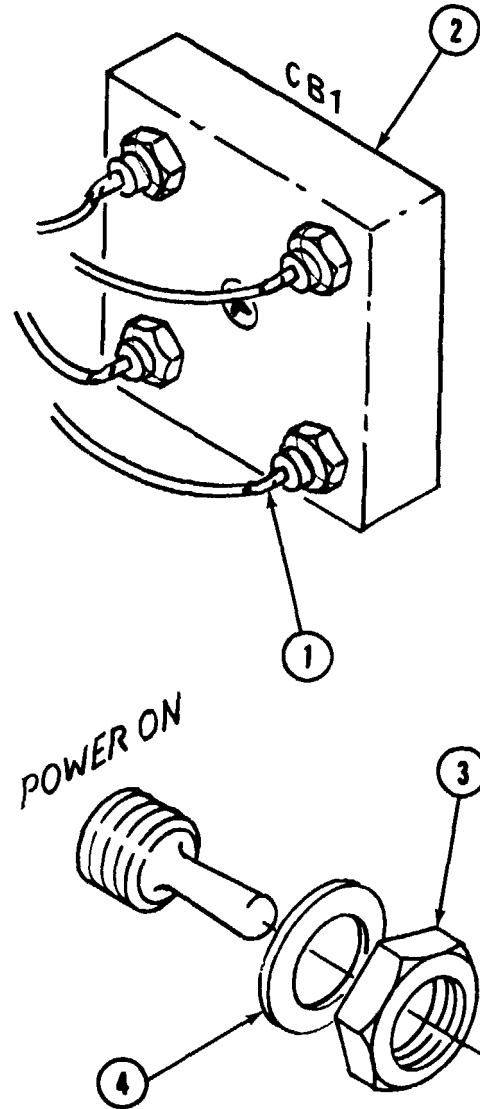
Equipment condition: Front panel open, see para. 8-33.

A. Using craftsman's knife, cut the insulation sleeving (1) from the leads connected to the defective circuit breaker CB1 or CB2 (2).

B. Desolder and tag the leads.

C. Hold the circuit breaker and with a 1/2 inch open end wrench, remove nut (3) and washer (4) holding it to the panel.

D. Remove the circuit breaker from the panel.



END OF TASK

8-40. REMOVE PUSH SWITCHES S1 AND S3

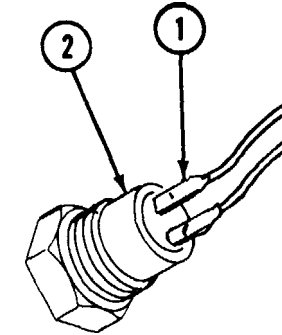
Tools required: Longnose pliers
Diagonal cutting pliers
11/16 inch open end wrench
Desoldering kit
Craftsman's knife

Equipment condition: Front panel open, see para. 8-33.

STEP 1

A. Using craftsman's knife, cut the sleeving (1) from the terminals of the defective switch (2).

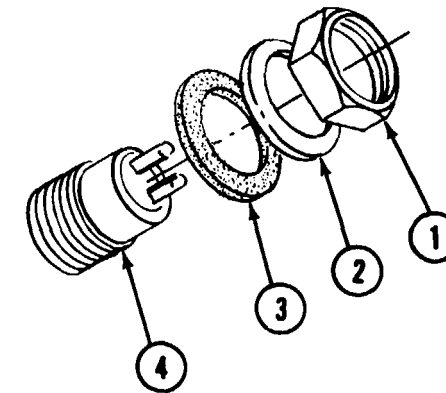
B. Desolder and tag the leads from the switch (2).



STEP 2

A. Hold onto the switch and with the 11/16 inch open end wrench, remove the nut (1), washer (2) and gasket (3) holding the switch (4) to the panel.

B. Remove the switch (4) from the panel.



END OF TASK

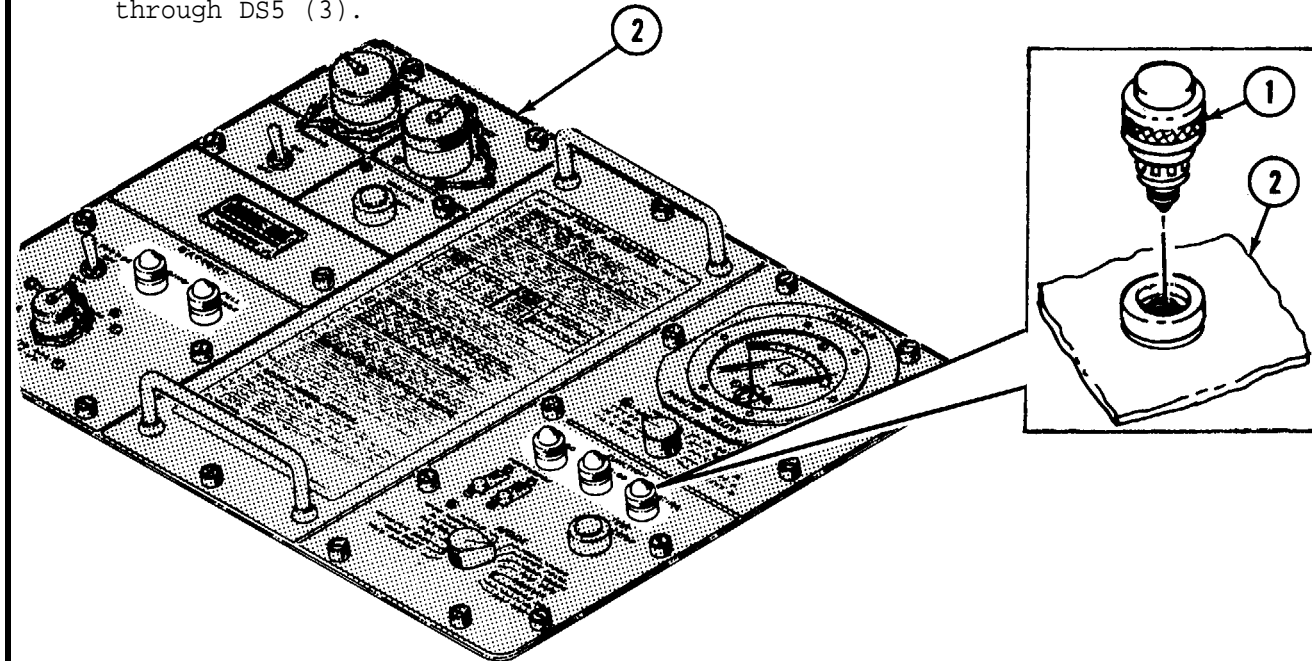
8-41. REMOVE DS1 THROUGH DS5 AND XDS1 THROUGH XDS5

Tools required: Longnose pliers
 Diagonal cutting pliers
 Desoldering kit
 9/16 open end wrench
 Craftsman's knife

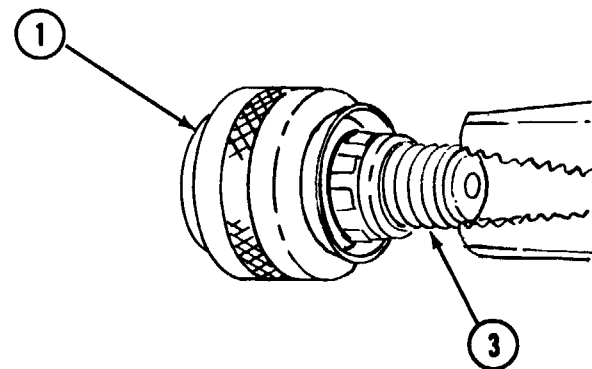
Equipment condition: Front panel open, see para. 8-33.

STEP 1

A. Unscrew the lamp cap (1) on the front panel (2) to remove the lamp, DS1 through DS5 (3).

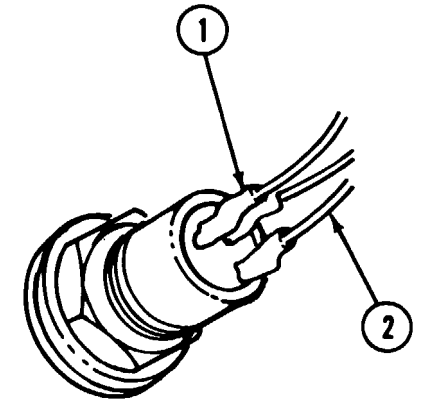


B. Pull the lamp (3) out of the cap (1) with fingers or longnose pliers.



STEP 2

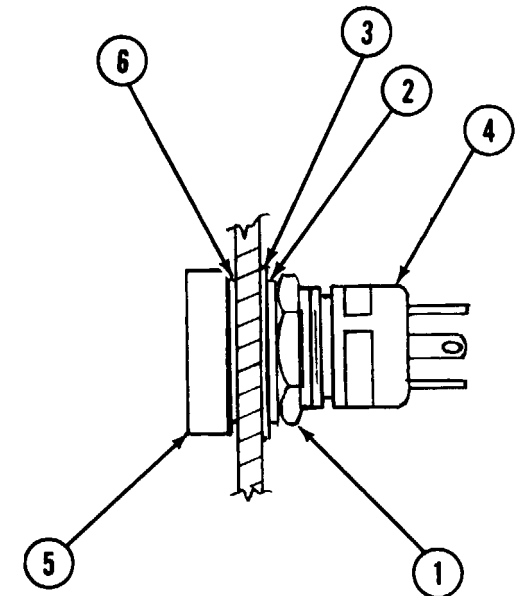
A. After the lamp has been removed, cut the insulation sleeving (1) from the leads of XDS1 through XDS5.



B. Desolder and tag the leads (2).

STEP 3

A. Using 9/16 inch open end wrench, remove the nut (1), lockwasher (2), and gasket (3) holding the indicator assembly (4) at rear of panel then unscrew and remove watertight nut (5) and rubber washer (6) on front of panel.



B. Remove the indicator assembly (XDS1 through XDS5) (4) from the panel.

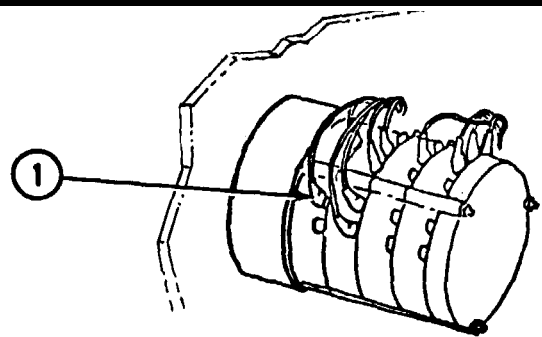
END OF TASK

8-42. REMOVE ROTARY SWITCHES S2 AND S6

Tools required: .050 inch Allen wrench
 Longnose pliers
 Diagonal cutting pliers
 Desoldering kit
 9/16 inch open end wrench
 Craftsman's knife

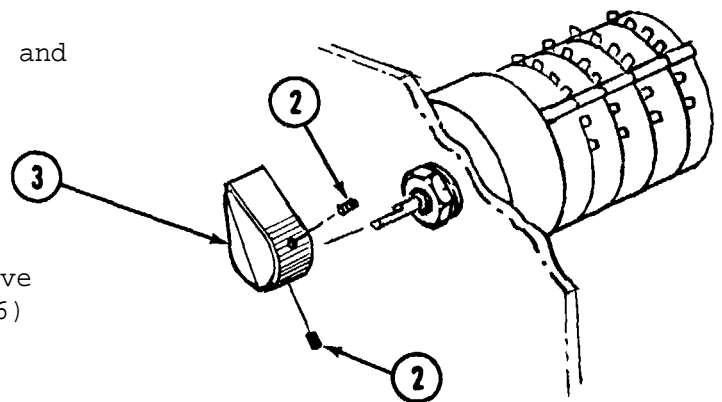
Equipment condition: Front panel open, see Para. 8-33.

A. Using craftsman's knife, cut the insulation sleeving (1) from the switch terminals.



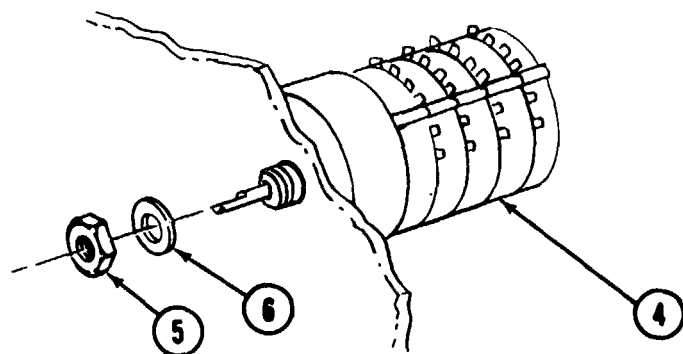
B. Desolder and tag the leads.

C. Loosen the two setscrews (2) and remove the knob (3).



D. Hold the switch (4) and remove the nut (5) and lockwasher (6) holding it to the panel.

E. Remove the switch.



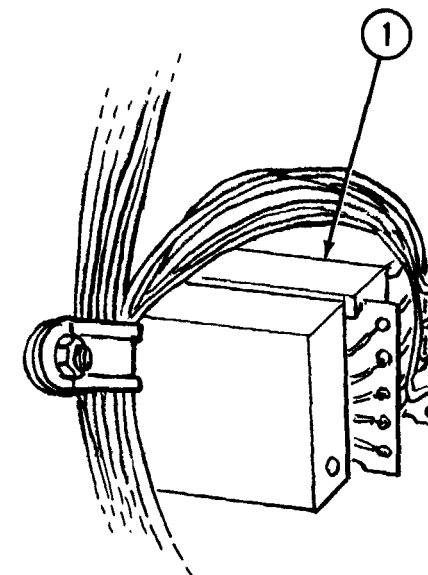
END OF TASK

8-43. REMOVE ROTARY SWITCHES S4 AND S5

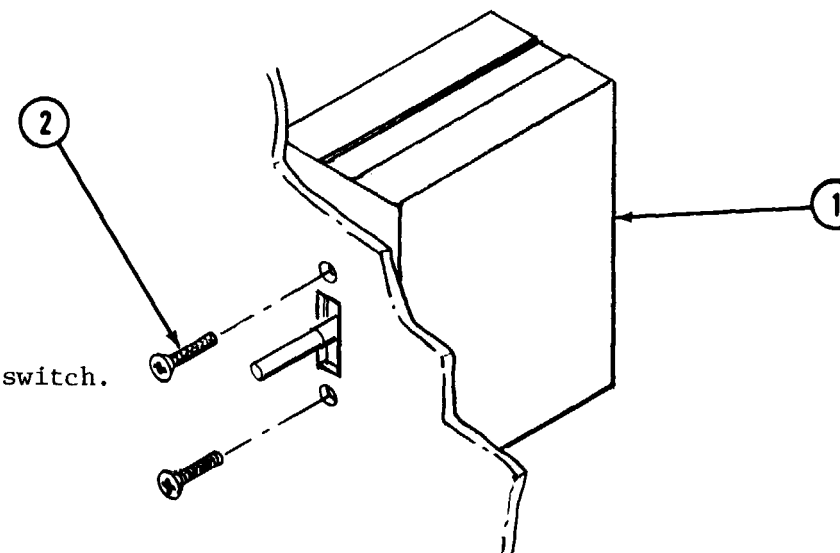
Tools required: No. 1 crosspoint screwdriver
 Longnose pliers
 Diagonal cutting pliers
 Desoldering kit

Equipment condition: Front panel open, see para. 8-33.

A. Desolder and tag the leads from the frequency switch S4 (1).



B. Hold the switch (1) and using a screwdriver, remove the two screws (2) holding it to the panel.



C. Remove the switch.

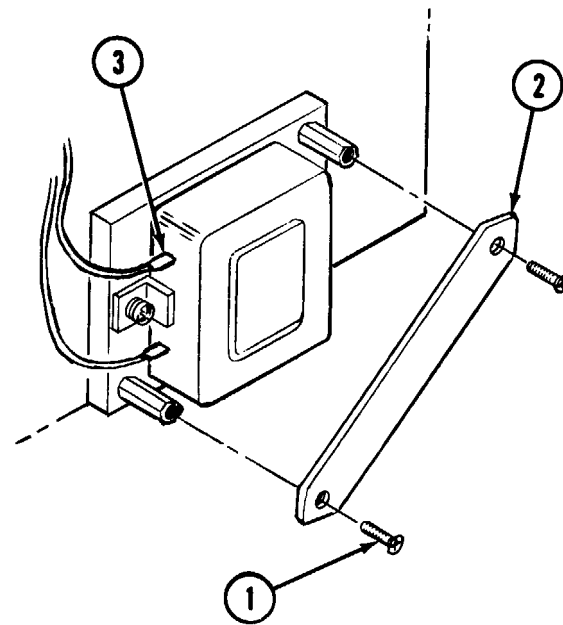
END OF TASK

8-44. REMOVE RFI FILTER FL1

Tools required: No. 1 cross point screwdriver
 Desoldering kit
 Longnose pliers
 Diagonal cutting pliers
 Craftsman's knife

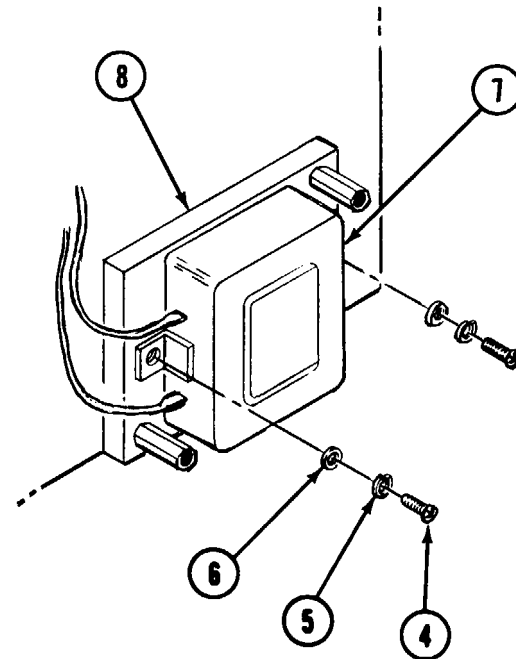
Equipment condition: Front panel open, see para. 8-33.

A. Using a screwdriver, remove the two flat head screws (1) and the retainer (2).



B. Cut the sleeving (3) from the two terminals using the craftsman's knife.

C. Desolder and tag the leads.



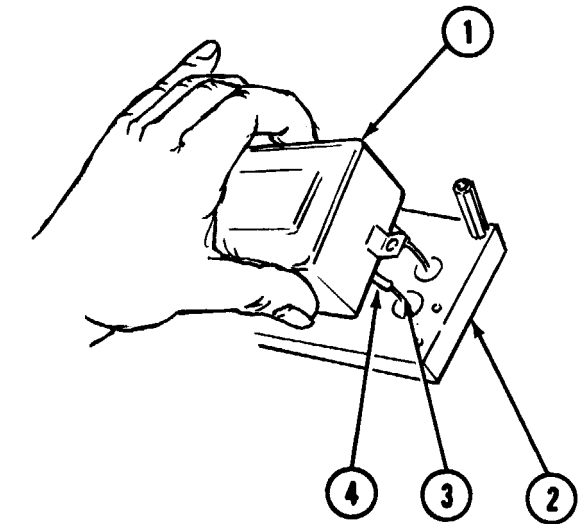
D. Using a screwdriver, remove the two screws (4), two lockwashers (5) and two flatwashers (6) holding the filter (7) to the shield (8).

STEP 2

A. Carefully pull the filter (1) away from the shield (2) and expose the leads (3) inside.

B. Using craftsman's knife, cut the insulation sleeving (4) from the leads (3).

C. Desolder and tag each of the leads.



END OF TASK

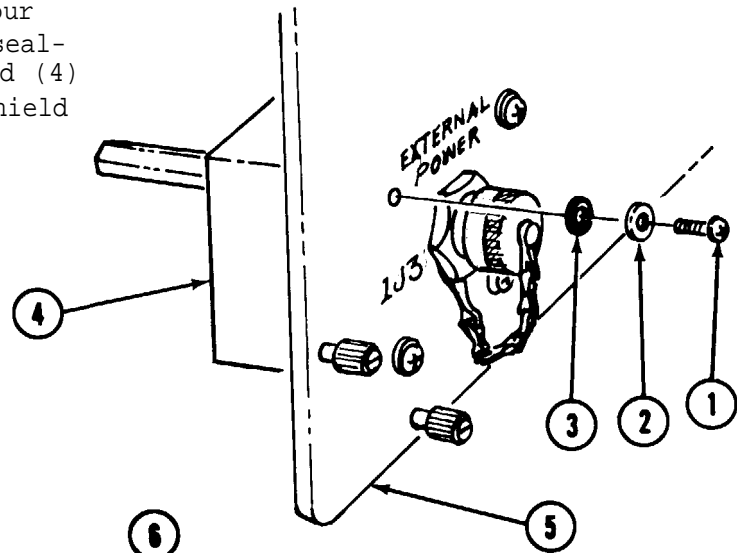
8-45. REMOVE 1J3 CONNECTOR

- Tools required:
- Diagonal cutting pliers
 - Longnose pliers
 - Contact removal tool (Bendix)
 - 1 11/16 inch connector nut tool
 - 5/16 inch open end wrench
 - Desoldering kit
 - No. 1 crosspoint screwdriver
 - Craftsman's knife

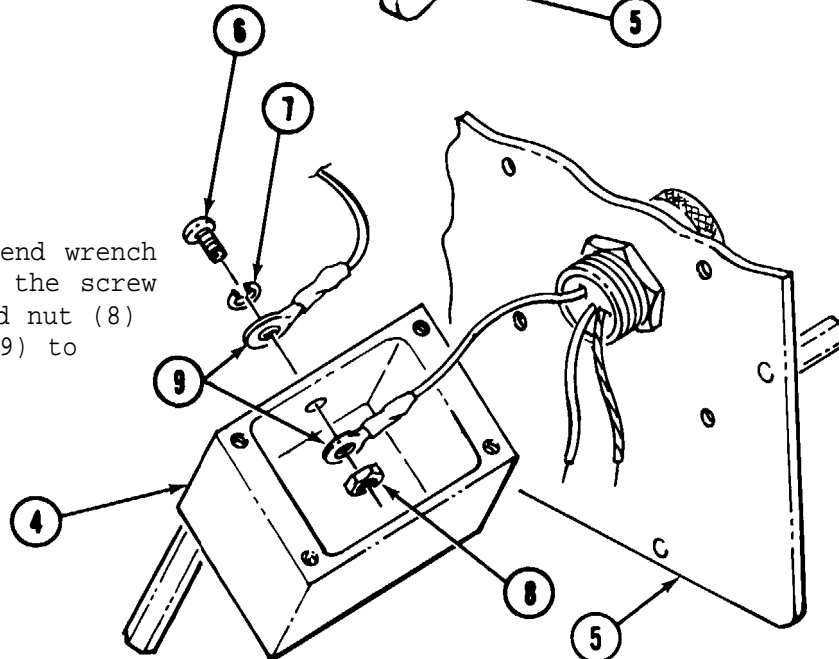
Equipment condition: FL1 filter removed, see para. 8-44.

STEP 1

- A. Using a screwdriver, remove four screws (1), washers (2), and sealing washers (3) securing shield (4) to panel (5). Carefully pull shield away from panel.

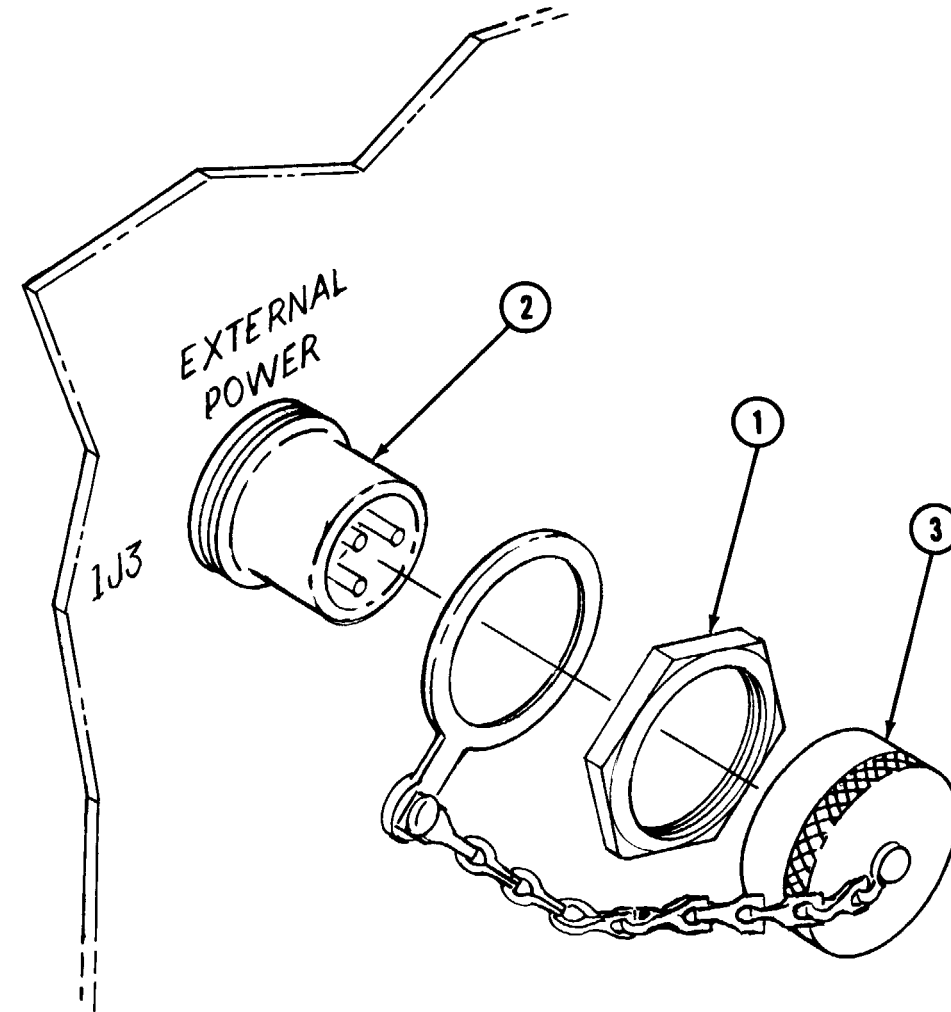


- B. Using a 5/16 inch open end wrench and screwdriver, remove the screw (6), lockwasher (7), and nut (8) securing terminal lugs (9) to shield (4).



STEP 2

- A. Using the 1 11/16 inch connector nut tool, remove nut (1) holding 1J3 (2) and cover (3) to panel.
- B. Remove 1J3 (2) from panel.
- C. Remove and tag each lead from 1J3, using contact removal tool.
- D. Remove any damaged terminals from leads.

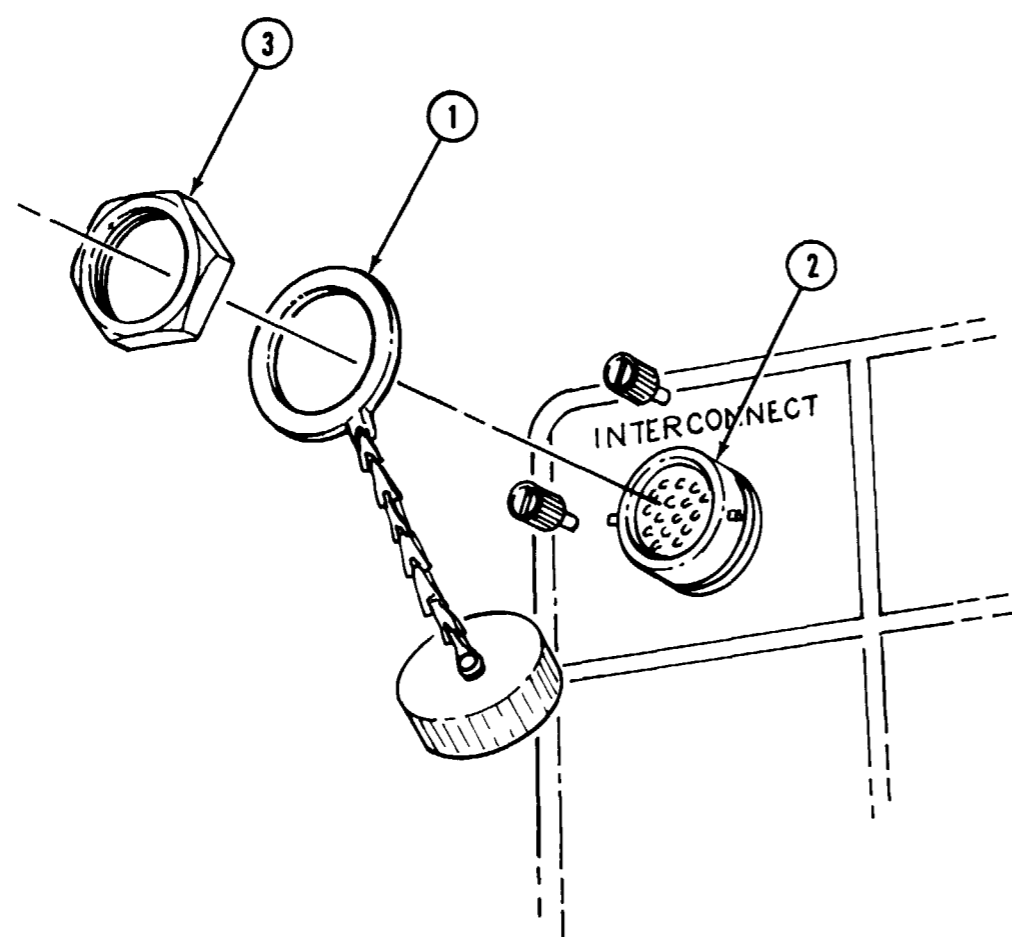


END OF TASK

8-46. REMOVE PROTECTIVE COVER, 1J1

Tools required: 1 11/16 inch connector nut tool

- A. Remove cover (1) from 1J1 connector (2).
- B. Using connector nut tool, remove nut (3) holding 1J1 connector to panel.
- C. Remove cover (1) attached to washer.



END OF TASK

8-47. REMOVE BATTERIES BT1, BT2 AND BT3 WITH THERMISTOR ASSEMBLY

Tools required: 3/8 inch socket
5/16 open end wrench
Ratchet wrench
6 inch extension

Equipment condition: Front panel opened, see para. 8-33.
A1 and A11 ECA'S removed, see para. 8-35 and 8-36.

STEP 1

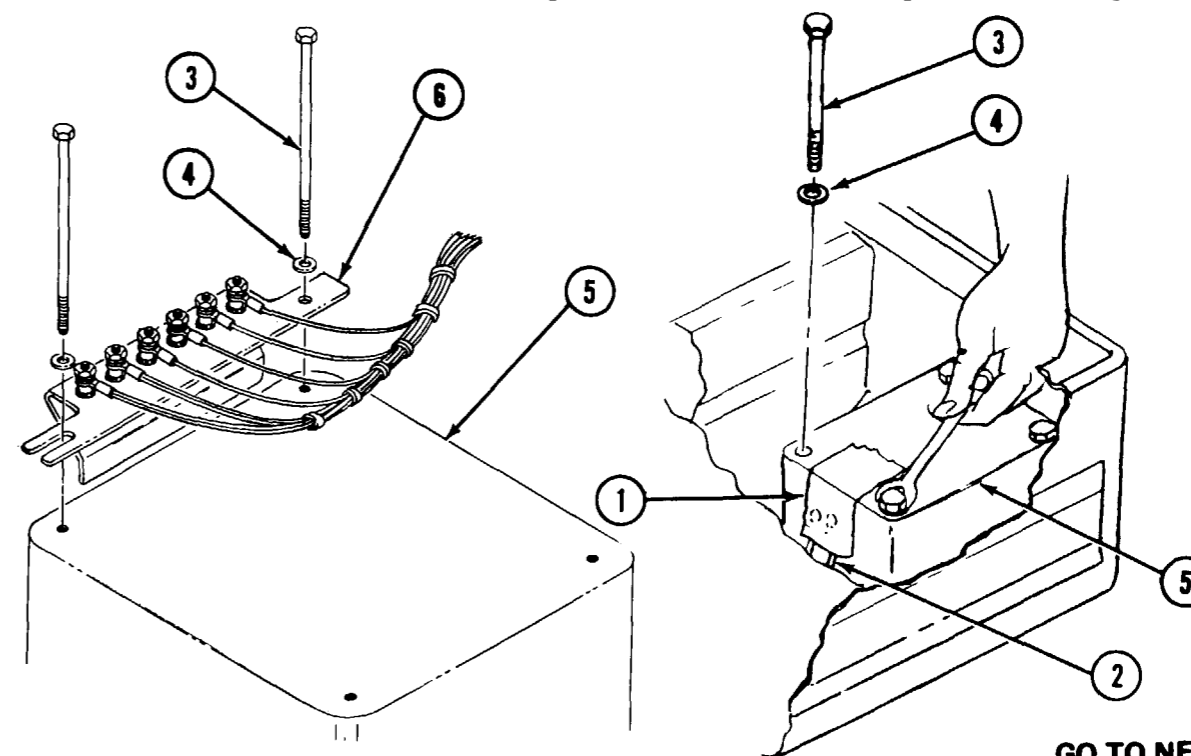


If A1 and A11 ECA'S are not removed, they will be damaged if battery terminals are accidentally shorted.

- A. Use the masking tape (1) to insulate the battery terminals (2) and leads before moving the batteries.
- B. Using the 3/8 inch open end wrench, remove the four bolts (3) and washers (4) holding the battery (5) and thermistor assembly (6).



BT3 has the thermistor assembly (6) attached to it by the mounting bolts.



GO TO NEXT PAGE

8-47. REMOVE BATTERIES BT1, BT2 AND BT3 WITH THERMISTOR ASSEMBLY - CONTINUED

STEP 2

A. Rotate the battery (1) 90° up. Be careful not to put strain on the leads (2).

B. Remove the masking tape from the terminals.

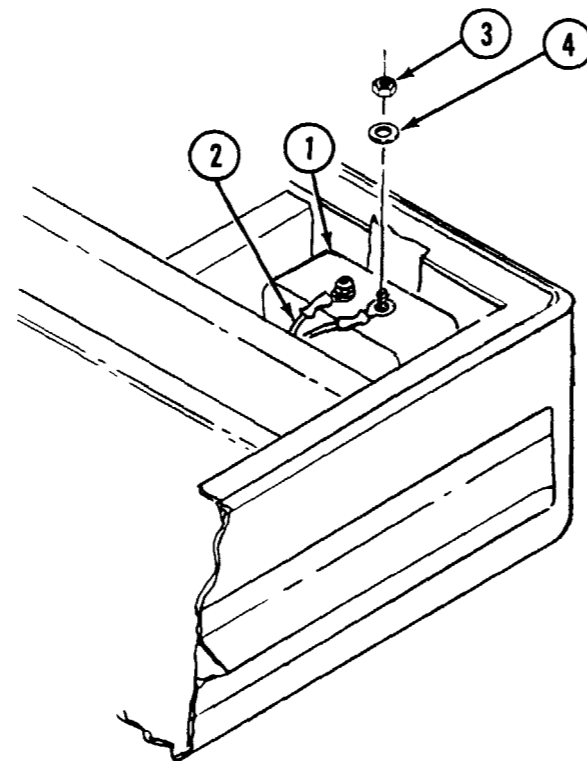


To avoid damage to equipment, do not short battery terminals.

C. Using 5/16 inch open end wrench, remove two nuts (3) and two washers (4) and tag and insulate the battery leads (2).

D. Press the masking tape back over the terminals.

E. Lift the battery (1) out of the chassis.



END OF TASK

8-48. REMOVE M1 METER AND METER COMPONENTS

Tools required: No. 2 offset crosspoint screwdriver
 No. 1 crosspoint screwdriver, 8 inch
 No. 2 crosspoint screwdriver, 8 inch
 No. 0 crosspoint screwdriver
 7/16 inch open end wrench

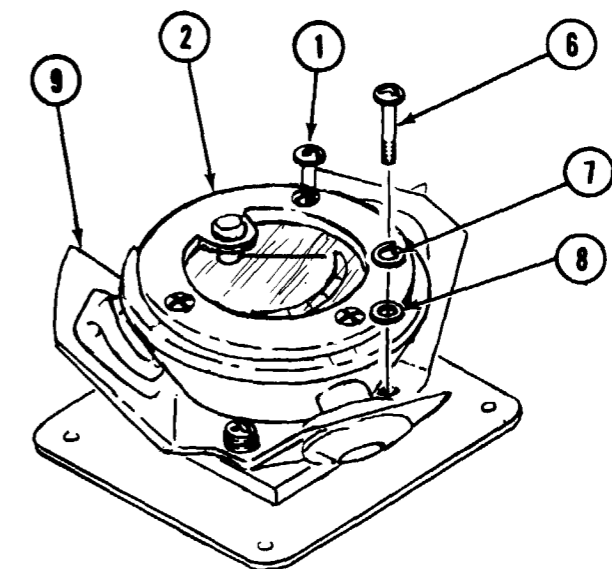
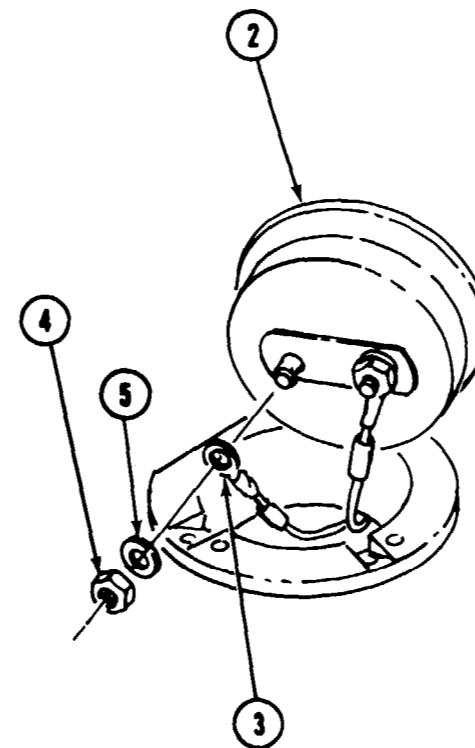
Equipment condition: Front panel opened, see para. 8-33.
 STEP 1

A. Loosen the three screws (1) holding meter M1 (2) to the ring, with a No. 1 crosspoint screwdriver.

B. Carefully pull the meter (2) out to get to the leads connected to the back.

C. Tag leads (3) on meter. Using 7/16 inch open end wrench, remove the two nuts (4), washers (5) and two leads (3).

D. Using a No. 2 crosspoint screwdriver, remove the three each screws (6), lock-washers (7) and flatwashers (8) holding the mount (9) to the chassis.

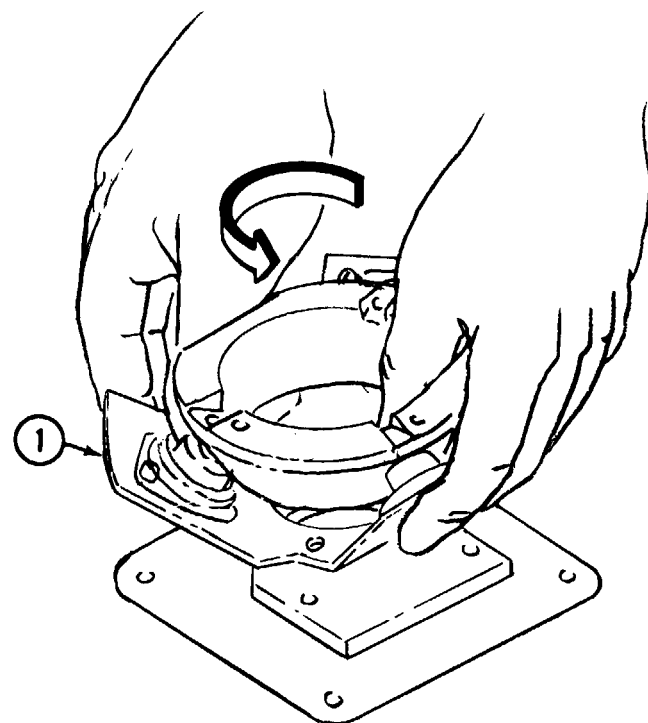


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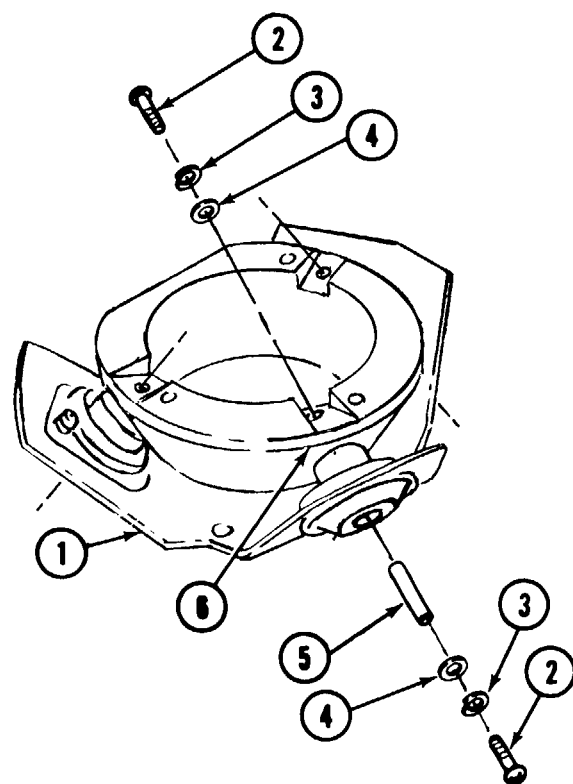
8-48. REMOVE M1 METER AND METER COMPONENTS - CONTINUED

STEP 2

- A. Carefully rotate the meter mount (1), lift up and remove from the chassis.

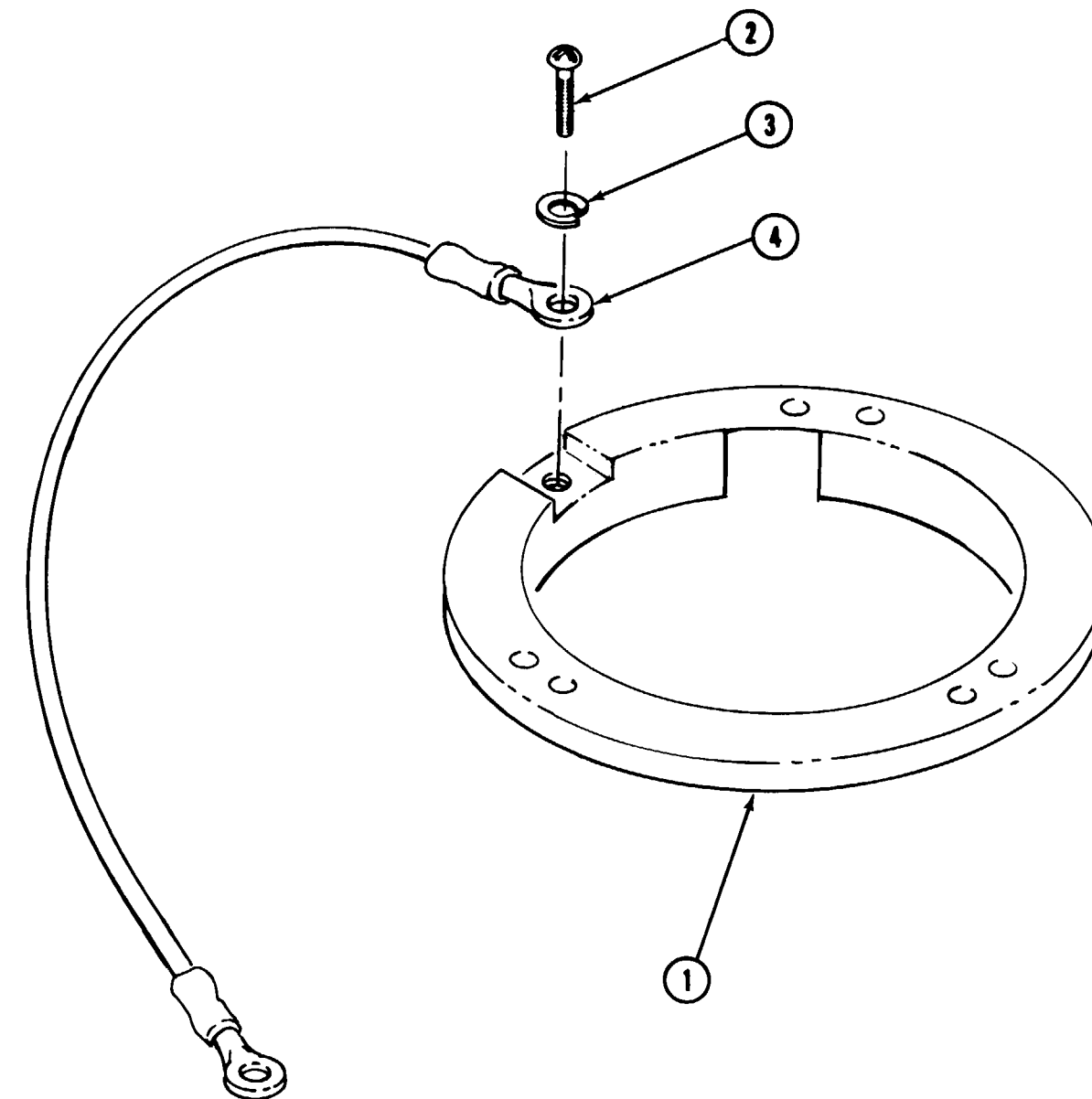


- B. Using a No. 2 offset crosspoint screwdriver and a No. 2 crosspoint screwdriver, remove the six screws (2) six lockwashers (3) and six flatwashers (4) and three posts (5) holding the ring (6) to the mount (1). The screws and posts on the back will slide out when these screws are removed.



STEP 3

- Using a No. 2 crosspoint screwdriver, turn the ring (1) over and remove the screw (2) and lockwasher (3) holding the terminal (4) on the ring.



END OF TASK

8-49. REMOVE BATTERY BT4

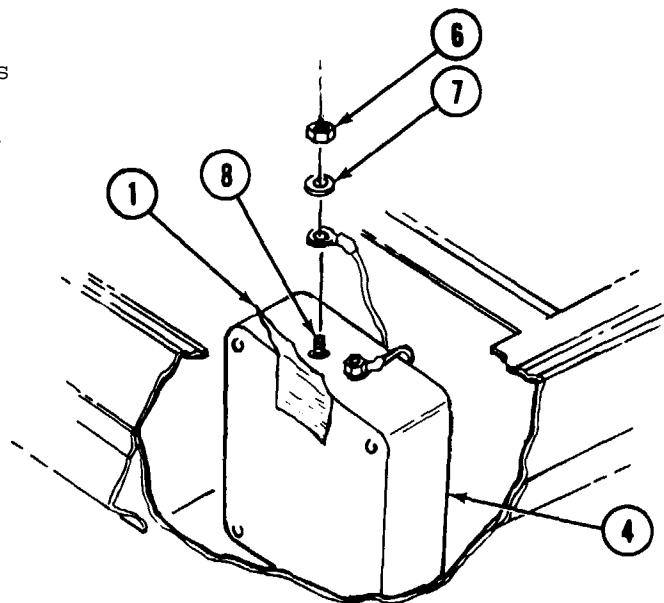
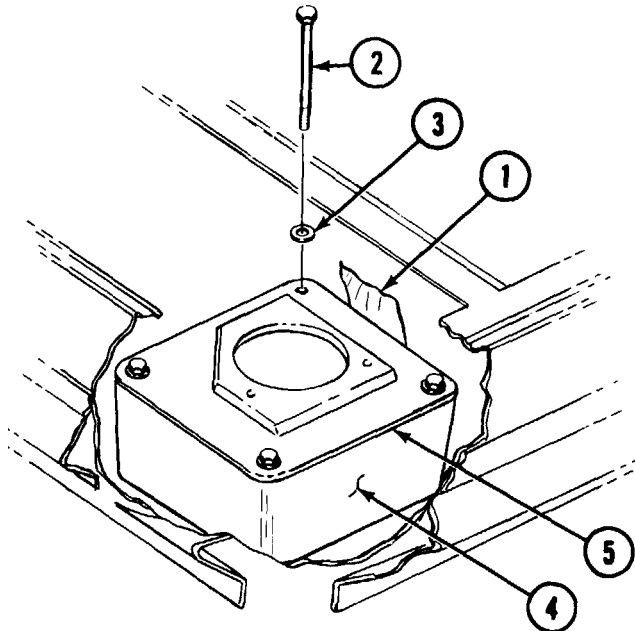
Tools required: 3/8 inch open end wrench
5/16 inch open end wrench

Equipment condition: M1 meter removed, see para. 8-48.
A1 and All ECA'S removed, see para. 8-35 and 8-36.



If A1 and All ECA'S are not removed, they will be damaged if battery terminals are accidentally shorted.

- A. Use the masking tape (1) to insulate the battery terminals and leads before moving the battery.
- B. Using a 3/8 inch open end wrench, remove the four bolts (2) and four washers (3) holding the battery (4) and plate (5).
- C. Rotate the battery (4) 90° up. Be careful not to put strain on the leads.
- D. Remove the masking tape (1) from the terminals.
- E. Using 5/16 inch open end wrench, remove the two nuts (6) and washers (7) on battery terminals (8) and tag and insulate the battery leads.
- F. Press the masking tape back over the terminals.
- G. Lift the battery (4) and plate (5) out of the chassis.



END OF TASK

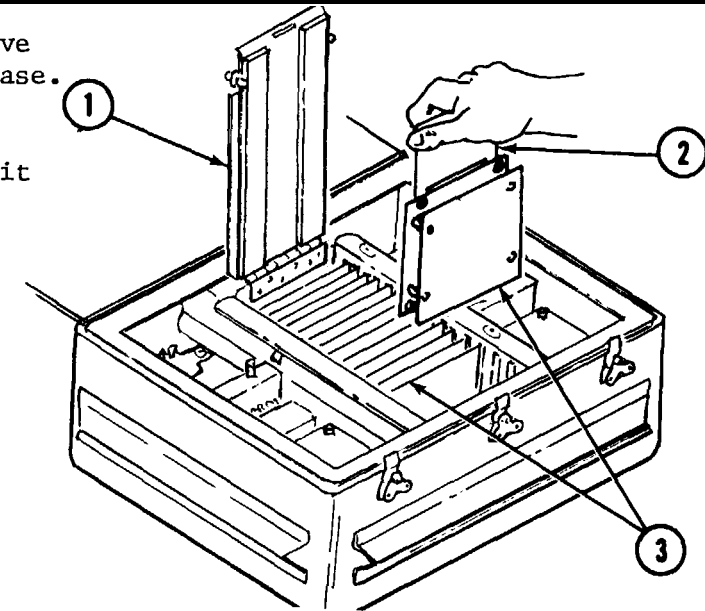
8-50. REMOVE CIRCUIT CARD ASSEMBLY RACK

Tools required: No. 2 offset crosspoint screwdriver
No. 0 crosspoint screwdriver
No. 2 crosspoint screwdriver
Circuit card extractor (P/O TTS)
3/8 inch open end wrench
1/4 inch nut driver

Equipment condition: M1 meter removed, see para. 8-48.

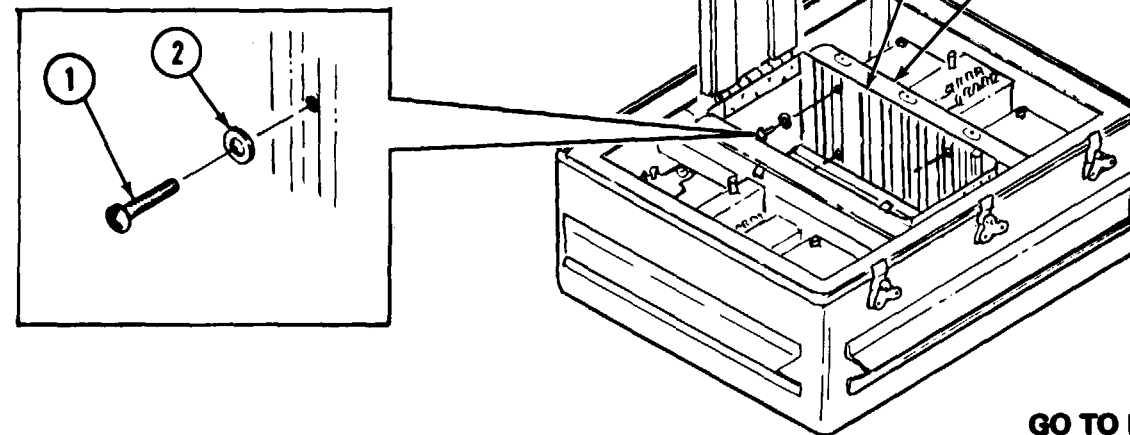
STEP 1

- A. Open card retainer (1). Remove card extractor (2) from TTS case.
- B. Use the card extractor (2) to remove 1A2 through 1A10 circuit cards (3).



STEP 2

Using the offset screwdriver, remove the eight screws (1) and washers (2) holding the card rack (3) to the chassis (4).



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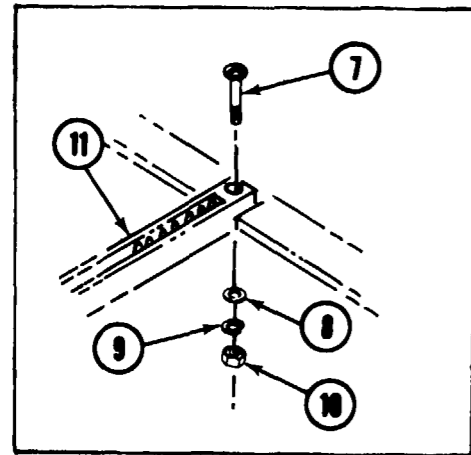
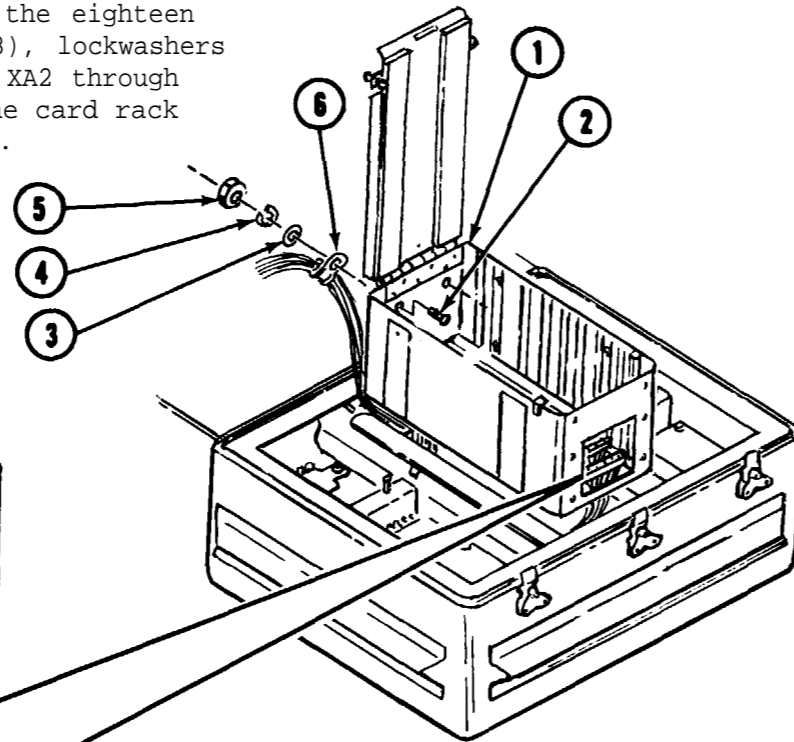
8-50. REMOVE CIRCUIT CARD ASSEMBLY RACK – CONTINUED

STEP 3



Don't put any strain on the leads to XA2 through XA10 when you take the card rack out of the chassis.

- A. Lift the card rack (1) up and using a No. 2 crosspoint screwdriver and 3/8 inch open end wrench, remove the two screws (2), two flatwashers (3), two lockwashers (4) and two nuts (5) holding the two cable clamps (6) to the card rack (1).
- B. Lift the card rack (1) up and using a 1/4 inch nutdriver and No. 0 cross-point screwdriver, remove the eighteen screws (7), flatwashers (8), lockwashers (9) and nuts (10) holding XA2 through XA10 connectors (11) to the card rack (1). Remove the card rack.



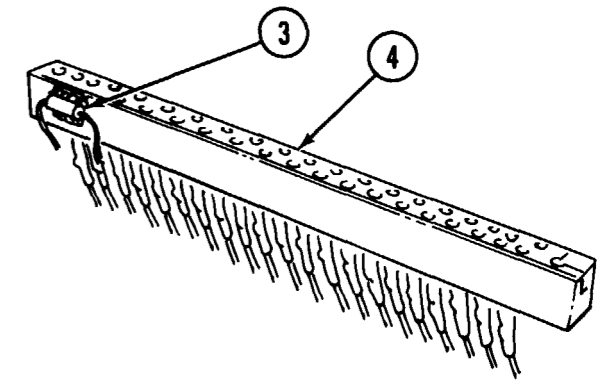
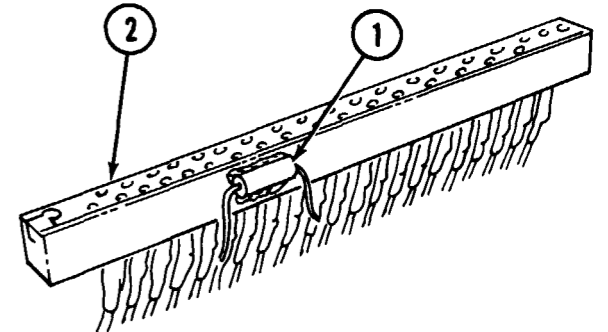
END OF TASK

8-51. REMOVE RESISTOR R1 AND CAPACITOR C1

Tools required: Longnose pliers
 Diagonal cutting pliers
 Desoldering kit
 Craftsman's knife

Equipment condition: Front panel opened, see para. 8-33.

- A. Mark the terminals where R1 and C1 are connected. Using craftsman's knife, cut the insulation sleeving and desolder resistor R1 (1) from XA6 connector (2).
- B. Using craftsman's knife, cut the adhesive holding the resistor to the connector. Remove the resistor.
- C. Using craftsman's knife, cut the insulation sleeving and desolder C1 (3) from XA3 connector (4).
- D. Using craftsman's knife, cut the adhesive holding the capacitor to the connector. Remove capacitor.



END OF TASK

8-52. REMOVE TRANSFORMER T1

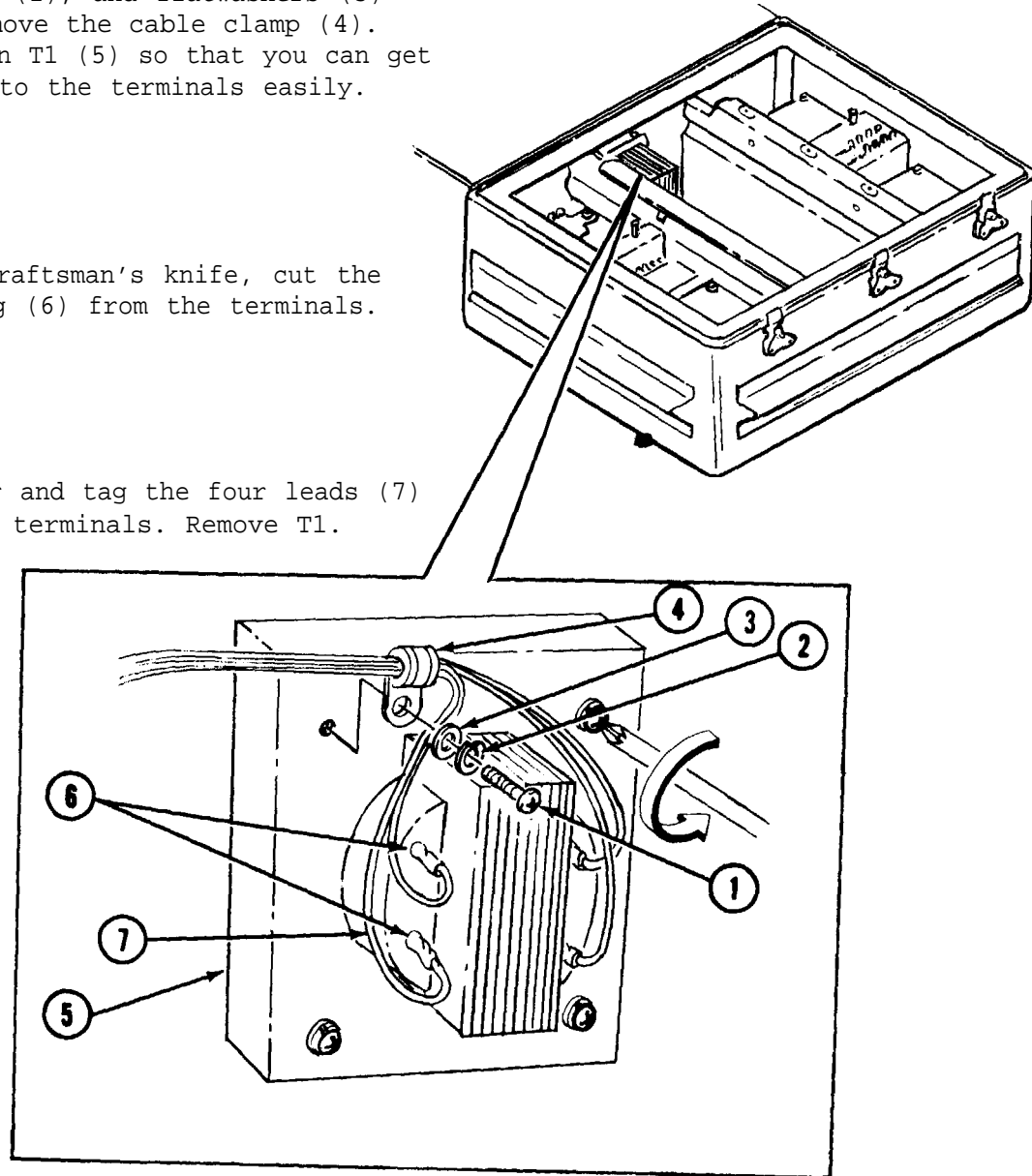
Tools required: Desoldering kit
 No. 2 crosspoint screwdriver
 Craftsman's knife

Equipment condition: Front panel removed, see para. 8-33.
 Circuit card assembly rack removed, see para. 8-50.

A. Using No. 2 crosspoint screwdriver, remove the four screws (1), lockwashers (2), and flatwashers (3) and remove the cable clamp (4). Position T1 (5) so that you can get access to the terminals easily.

B. Using craftsman's knife, cut the sleeving (6) from the terminals.

C. Desolder and tag the four leads (7) from T1 terminals. Remove T1.



END OF TASK

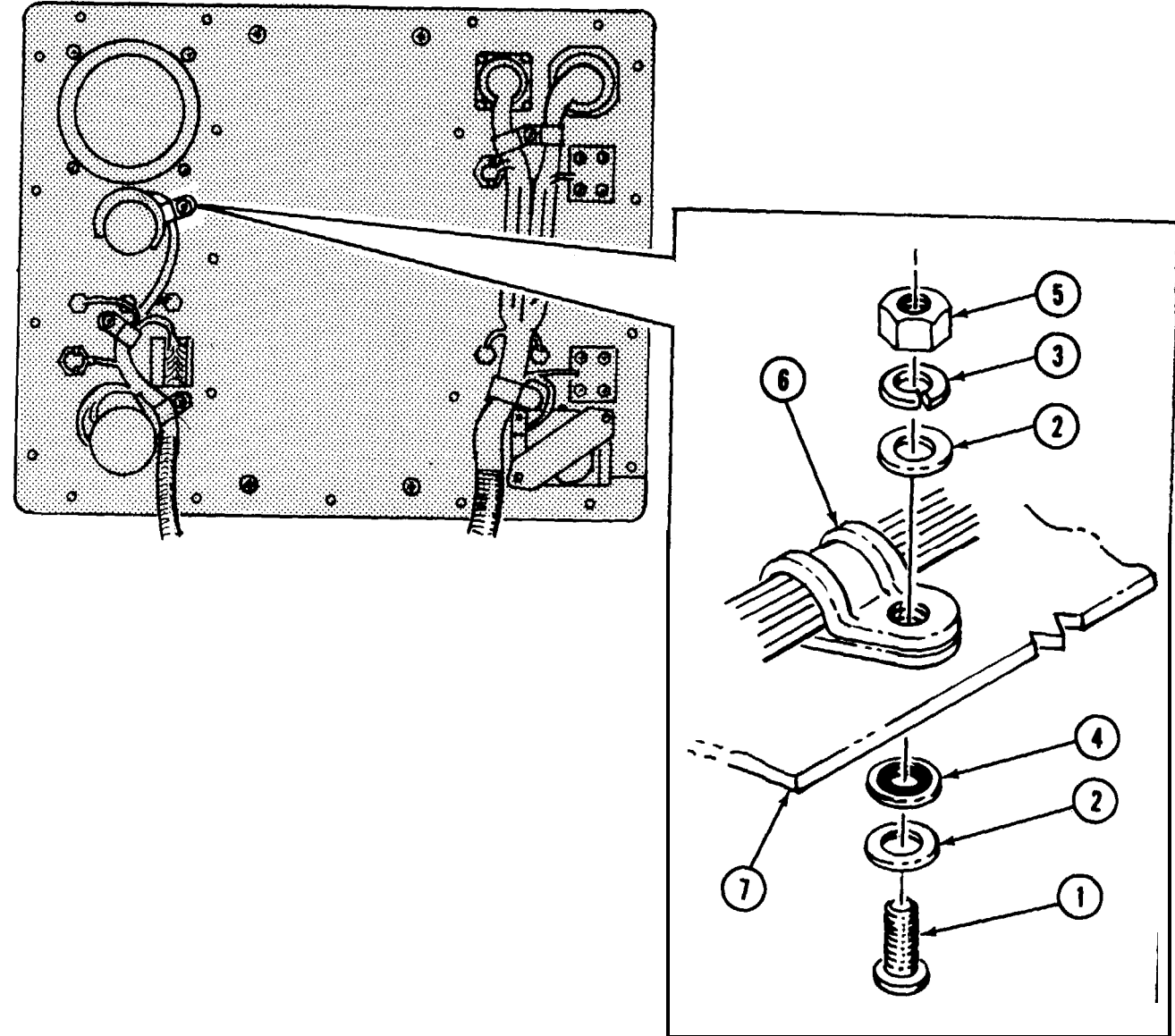
8-53. REMOVE CABLE CLAMPS

Tools required: No. 1 crosspoint screwdriver
 5/16 inch open end wrench

Equipment condition: Front panel opened, see para. 8-33.

A. Using No. 1 crosspoint screwdriver, and 5/16 inch open end wrench remove the screw (1), and washer (2), lockwasher (3), sealing washer (4) and nut (5) holding the clamp (6) to the panel (7).

B. Remove the clamp from the cable.



END OF TASK

8-54. INSTALL CABLE CLAMPS

Tools required: 5/16 inch open end wrench
No. 1 crosspoint screwdriver

Materials required:

Materials

Adhesive
DELETED
DELETED

Cleaning cloth
Orangewood stick
MEK

See Appendix D

Item 73

Item 6

Item 7

Item 5

Equipment condition: Front panel open, see para. 8-33.

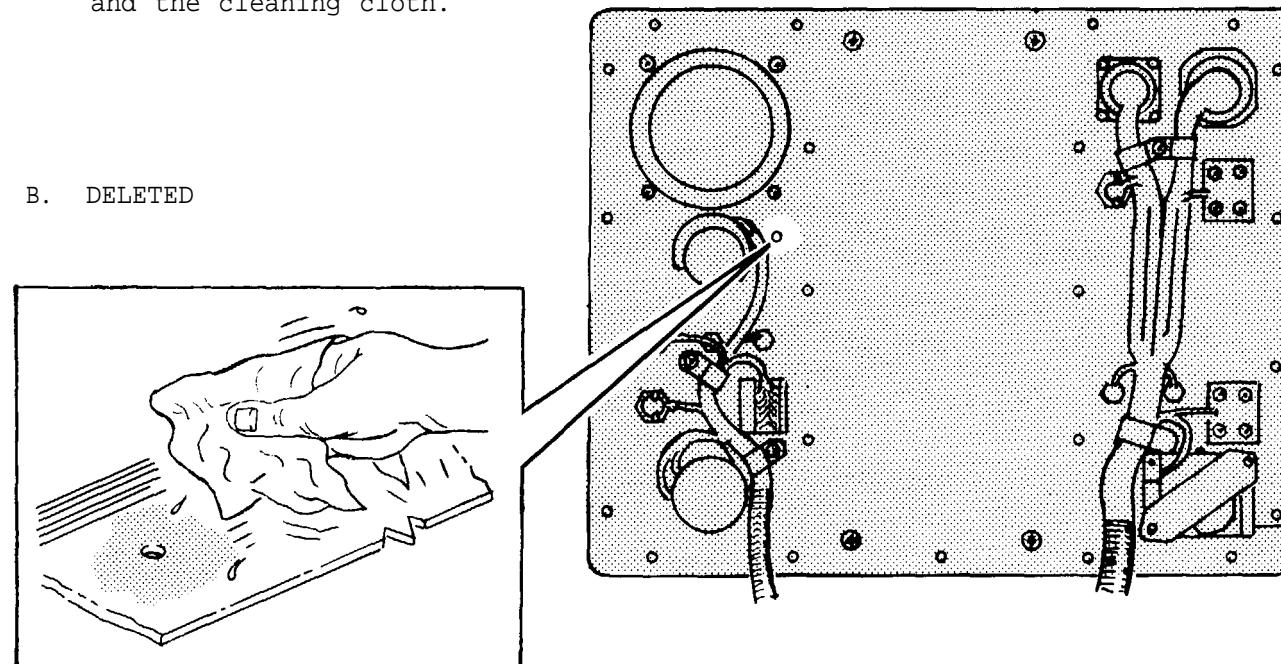
STEP 1

**WARNING**

In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat.

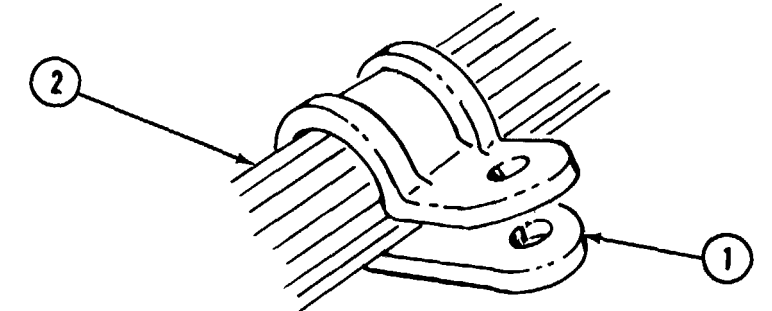
- A. Clean the screw hole area with MEK and the cleaning cloth.

B. DELETED

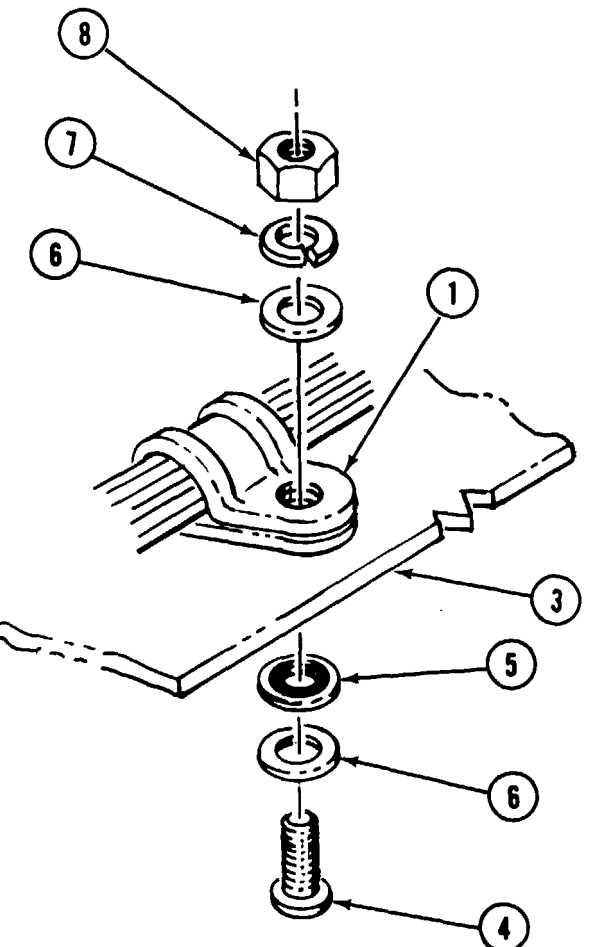


STEP 2

- A. Slide the clamp (1) on to the wire harness (2).



- B. Using the orangewood stick, apply a thin coat of the adhesive to the heads of screws (4).



- C. Secure the clamp (1) to the panel (3) using the screw (4), sealing washer (5), two flatwashers (6), lockwasher (7) and nut (8).

END OF TASK

8-55. INSTALL TRANSFORMER T1

Tools required: Longnose pliers
 Diagonal cutting pliers
 Wire strippers
 Desoldering kit
 No. 2 crosspoint screwdriver
 Heat gun

Materials required:

Materials

Alcohol
 Solder
 Brush
 DELETED
 Insulation sleeving

See Appendix D

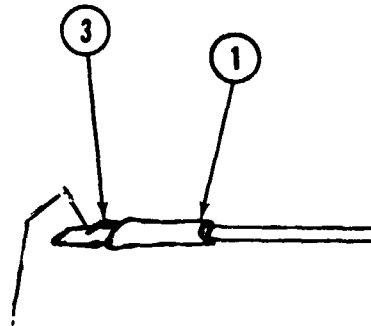
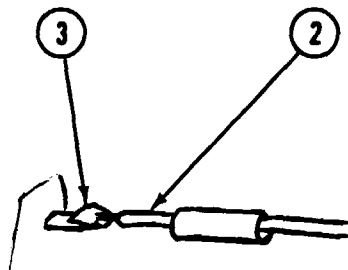
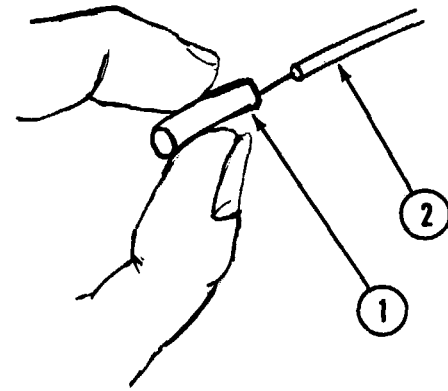
Item 8
 Item 11
 Item 9
 Item 38

STEP 1

A. Slide a piece of insulation sleeving (1) over the leads (2).

B. Solder the leads (2) to terminal (3).

C. Slide sleeving (1) over terminals (3) and heat shrink.

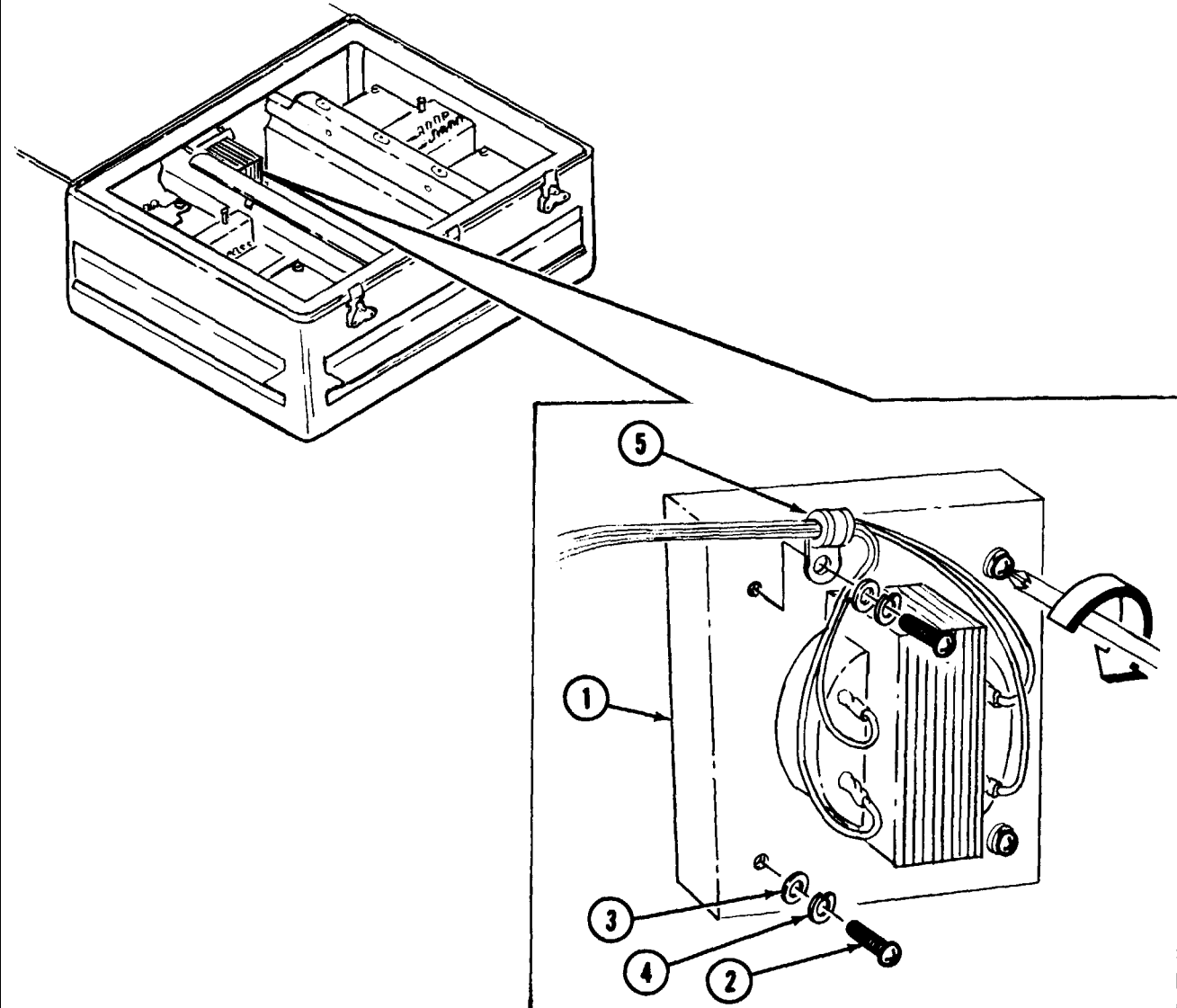


STEP 2

Using a No. 2 crosspoint, install T1 (1) in chassis (3) using the four screws (2), four washers (3), and four lockwashers (4).



Be sure to install clamp (5) on retaining screw.



END OF TASK

8-56. INSTALL RESISTOR R1 AND CAPACITOR C1

Tools required: Wire strippers
 Diagonal cutting pliers
 Longnose pliers
 Soldering iron

Materials required:

Materials

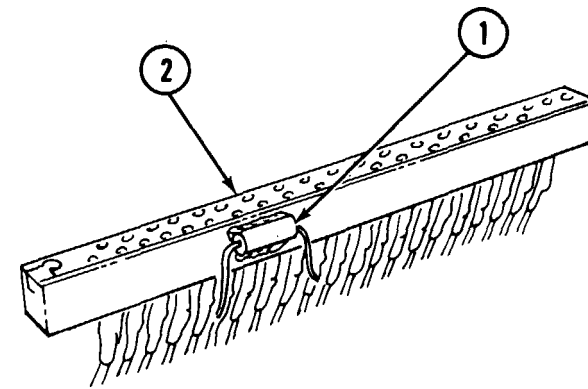
Alcohol
 Solder
 Brush
 Orangewood stick
 Adhesive
 Insulation sleeving

See Appendix D

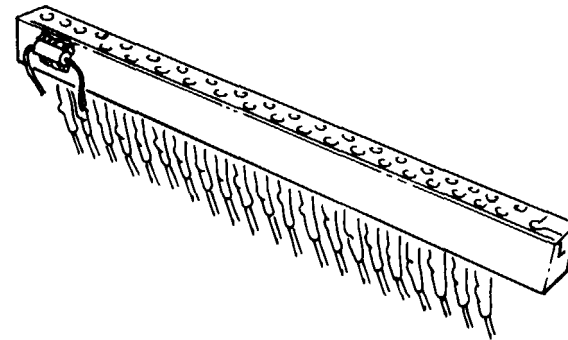
Item 8
 Item 11
 Item 9
 Item 7
 Item 73
 Item 38

STEP 1

- A. Install sleeving on R1 (1) leads and leads removed from connector XA6 (2).



- B. Solder the R1 leads to connector (2) (pins 25 and 31).

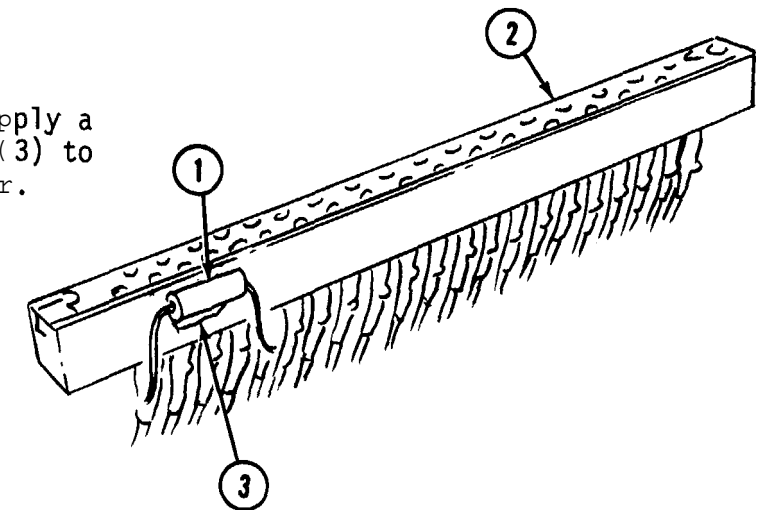


- C. Slide sleeving over connections and heat shrink.

STEP 2

- A. Carefully bend resistor R1 (1) down along side of connector.

- B. Using orangewood stick, apply a small fillet of adhesive (3) to hold resistor to connector.



- C. Allow adhesive to cure before installing connector (2) in rack.

- D. Repeat the above procedures for installing capacitor C1 on XA3 connector pins 40 (+) and 41 (-).

END OF TASK

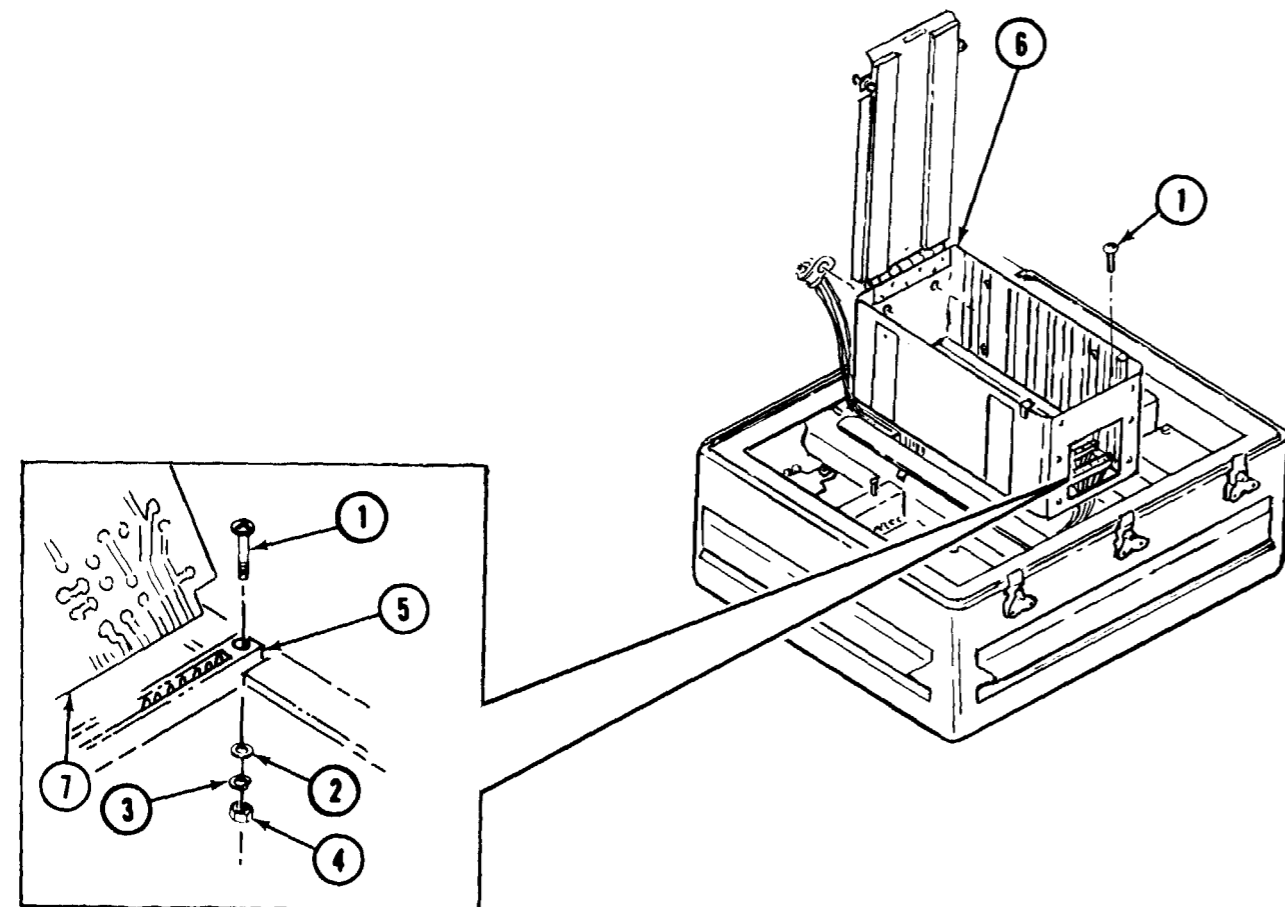
8-57. INSTALL CIRCUIT CARD ASSEMBLY RACK

Tools required: No. 2 offset crosspoint screwdriver
 No. 0 crosspoint screwdriver
 Circuit card extractor (P/O TTS)
 No. 2 crosspoint screwdriver
 3/8 inch open end wrench
 1/4 inch nutdriver

Equipment condition: M1 meter removed, see para. 8-48.

STEP 1

Using No.0 crosspoint screwdriver and 1/4 inch nutdriver, install two screws (1), two washers (2), two lockwashers (3) and two nuts (4) to hold each of the connectors (5) in the circuit card rack (6). Do not tighten the connectors in place. Starting with card 1A2 and its connector, place card (7) in connector (5) to position connector correctly. Hold connector and gently remove card. Tighten the screws (1) and nuts (4). Use this method for each card and connector to insure that connectors will seat cards properly.

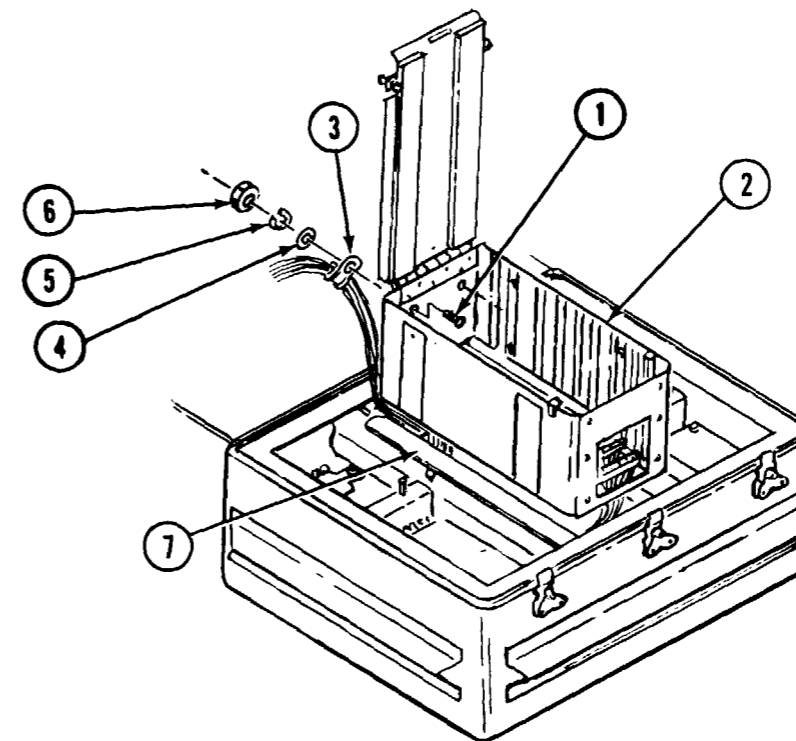


STEP 2



Loop part of each clamp faces outside of circuit card assembly rack.

- A. Using a No. 2 crosspoint screwdriver, and a 3/8 inch open end wrench, install screws (1) from inside of circuit card assembly rack (2) through the rack, through clamp (3), flatwasher (4), lockwasher (5) and secure with nut (6). Install other clamp in same manner.
- B. Gently insert circuit card assembly rack (2) into chassis (7).

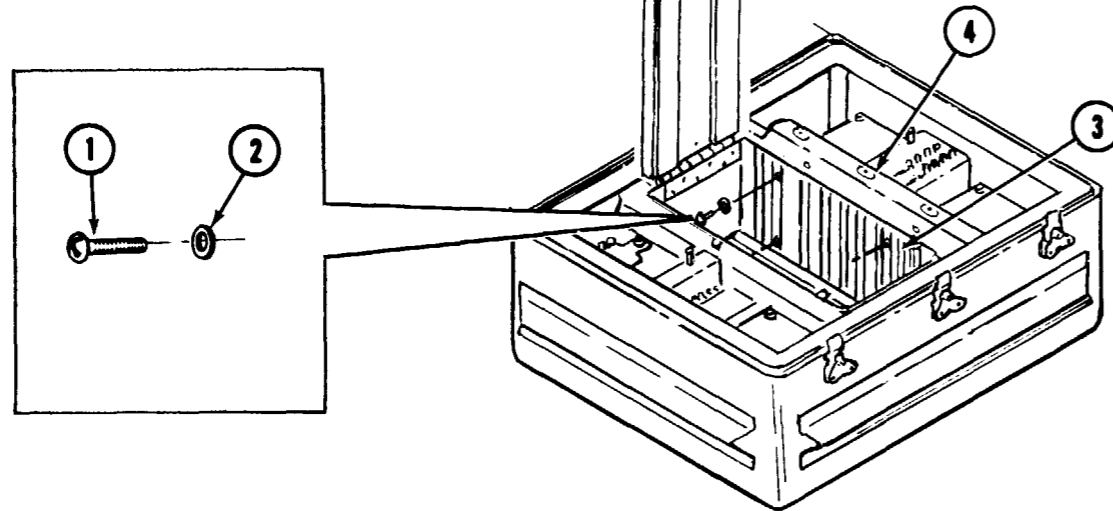


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8-57. INSTALL CIRCUIT CARD ASSEMBLY RACK - CONTINUED

STEP 3

Using a No. 2 crosspoint screwdriver or a No. 2 offset crosspoint screwdriver, install eight screws (1) with washers (2) through the circuit card assembly rack (3) into the chassis (4).



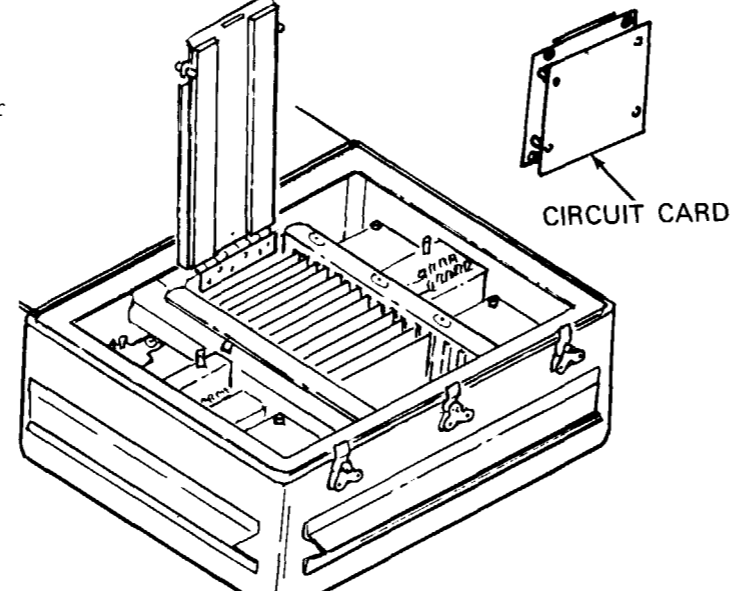
STEP 4



CAUTION

Insert cards gently into connectors. Do not use force.

Install each of the circuit cards, 1A2 through 1A10, into their proper connectors (as marked).



END OF TASK

8-58. INSTALL BATTERY BT4

Tools required: 3/8 inch socket
5/16 inch open end wrench
Ratchet wrench
6 inch extension bar

Equipment condition: M1 meter removed, see para. 8-48.
A1 and A11 ECA'S removed, see para. 8-35 and 8-36.

STEP 1



CAUTION

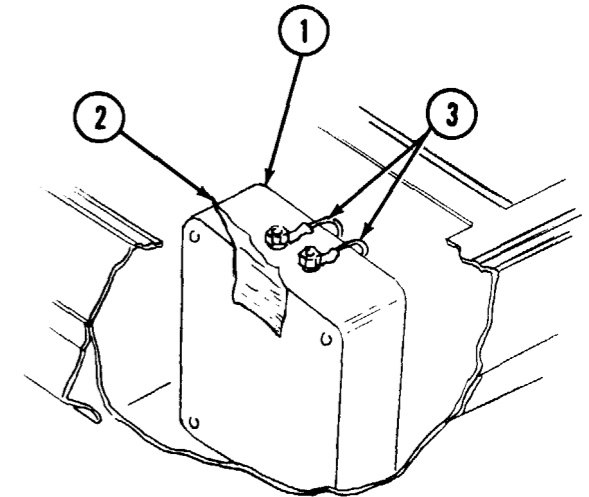
- Insulate BT4 terminals and leads with insulating tape before BT4 installation. Use care when placing BT4 in the case so that no strain is put on the leads.
- If A1 and A11 ECA'S are not removed, they will be damaged if battery terminals are accidentally shorted.

A. Position BT4 battery (1) in chassis.

B. Lift the tape (2).

C. Using a 5/16 inch open end wrench, connect the leads (3).

D. Press the tape back over the terminals.



GO TO NEXT PAGE

8-58. INSTALL BATTERY BT4 – CONTINUED

STEP 2

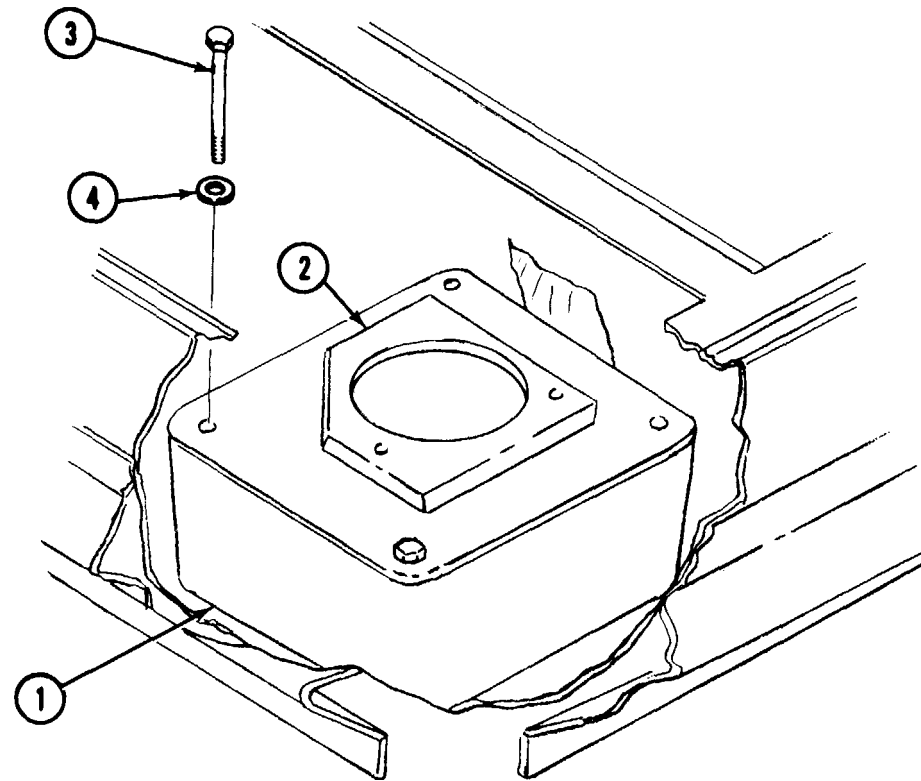
- A. Rotate the battery (1) over into position.



NOTE

Plate (2) must go on as shown to allow proper mating of M1 meter.

- B. Using 3/8 inch socket, ratchet and 6 inch extension, secure the battery (1) and M1 mounting plate (2) with four bolts (3) and flatwashers (4).
- C. Leave masking tape on terminals.



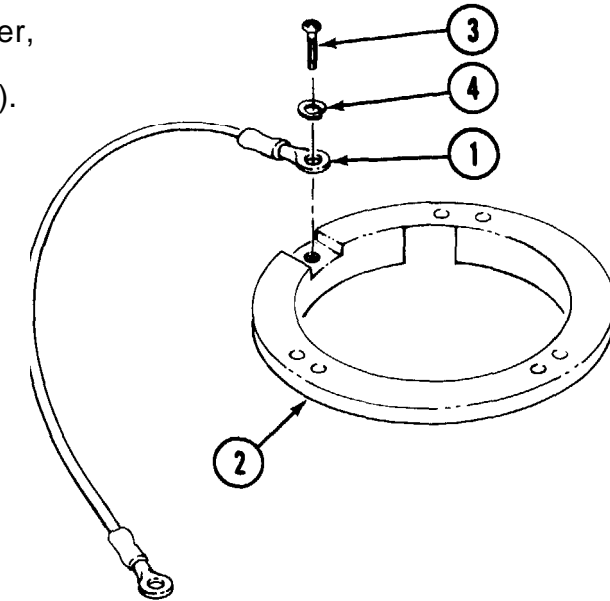
END OF TASK

8-59. INSTALL MI METER AND METER COMPONENTS

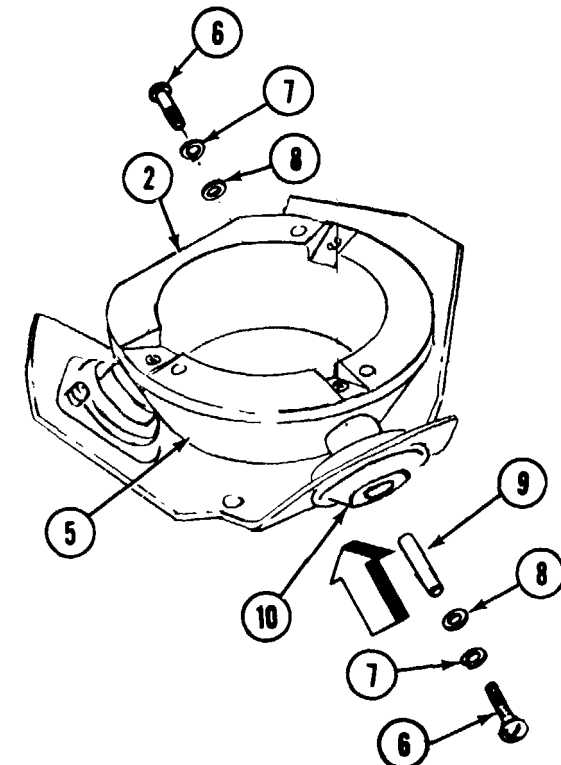
- Tools required: No. 1 crosspoint screwdriver
 No. 2 crosspoint screwdriver
 7/16 inch open end wrench
 No. 2 offset crosspoint screwdriver

STEP 1

- A. Using No. 2 crosspoint screwdriver, install terminal (1) on ring (2) with screw (3) and lockwasher (4).



- B. Turn ring (2) over and install on mount (5). Install three screws (6), lockwashers (7) and flatwasher (8) to hold ring (2) to mount (5). Install three screws (6) with lockwashers (7) and flatwashers (8) into posts (9) to form an assembly. Insert each assembly up through shock mounts (10). Holding this assembly with No. 2 offset screwdriver, screw top screws with hardware into the common post (9) using a No. 2 crosspoint screwdriver.

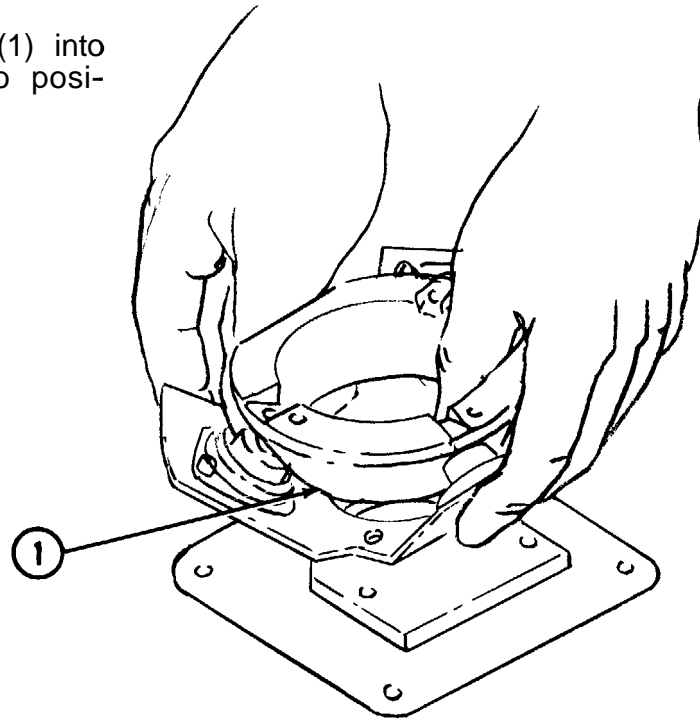


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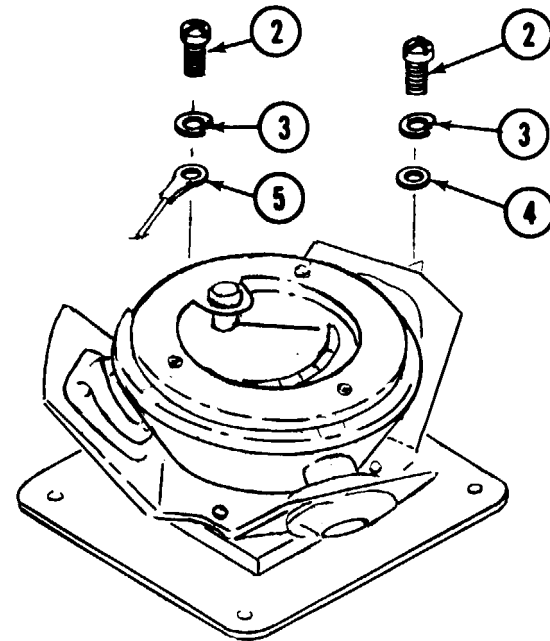
8-59. INSTALL M1 METER AND METER COMPONENTS – CONTINUED

STEP 2

- A. Lower the ring and mount (1) into the chassis and rotate into position.



- B. Install the three screws, three lockwashers (3), two flatwashers (4) and one terminal (5) to hold the mount (1) in the chassis. Make sure you install the terminal (5) which ties the ring and mount electrical ground.

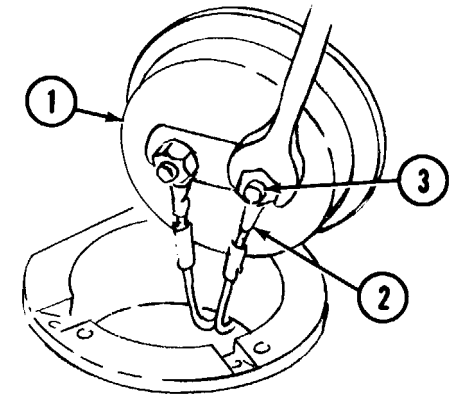


STEP 3



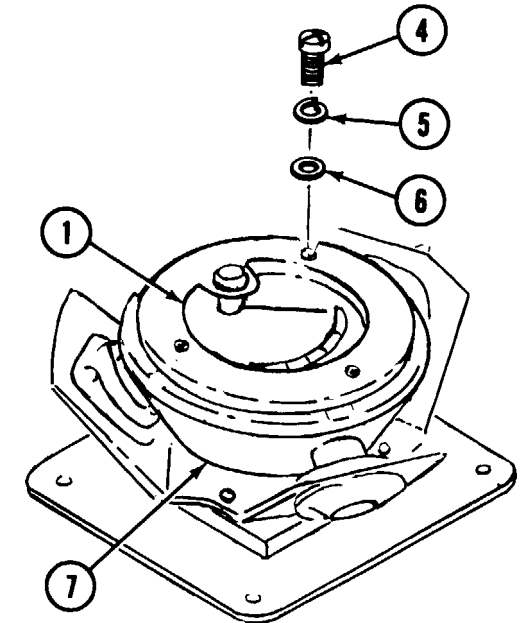
Be sure leads go under and up through ring before connecting to meter.

- A. Position M1 meter (1) and connect the leads (2) to the meter terminals (3).



Be sure to position meter to read "right side up" in reference to lettering on front cover.

- B. Position M1 meter (1) in place and tighten the three screws (4), lockwashers (5) and flatwashers (6) holding the meter to the mount (7).



END OF TASK

8-60. INSTALL BATTERIES BT1, BT2 AND BT3 WITH THERMISTOR ASSEMBLY

Tools required: Ratchet wrench
 5/16 inch open end wrench
 3/8 inch socket
 6 inch extension

STEP 1

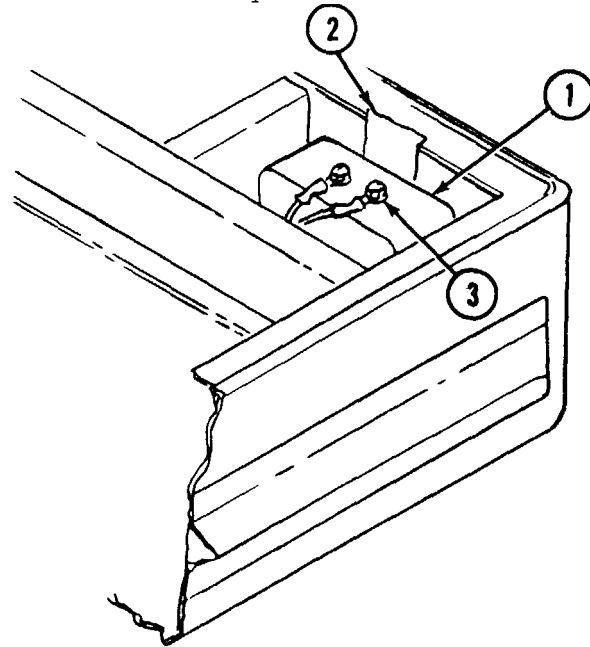
 **CAUTION**

- Insulate battery terminals and leads with tape before installing battery. Use care when placing the battery in the case, so no strain is put on the leads.
- If A1 and A11 ECA'S are not removed, they will be damaged if the battery terminals are accidentally shorted.

 **NOTE**

If BT3 is being installed, be sure thermistor assembly is installed before installing the mounting hardware.

- A. Put the battery (1) in the chassis.
- B. Lift the tape (2).
- C. Using a 5/16 inch open end wrench, connect the leads.
- D. Press the tape back on the terminals (3).



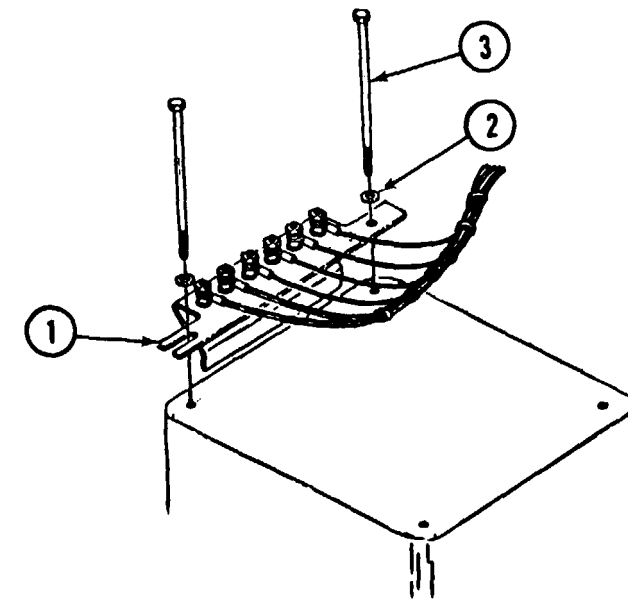
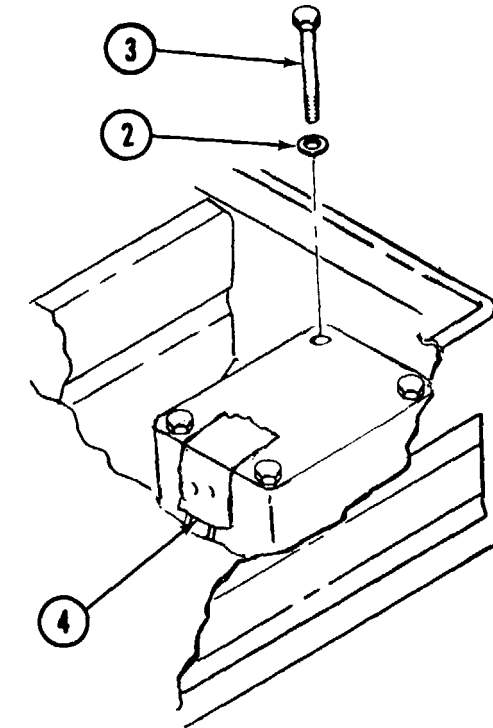
STEP 2

- A. Rotate the battery down into the chassis. Don't put strain on the leads.

 **NOTE**

If BT3 is being installed, be sure thermistor assembly (1) is positioned before installing the mounting hardware. Thermistor is held in place by two of the four washers (2) and four bolts (3) that secure the battery.

- B. Put in the bolts (3), and washers (2) and tighten down using ratchet wrench, 6 inch extension and 3/8 inch socket.
- C. Leave tape (4) in place.

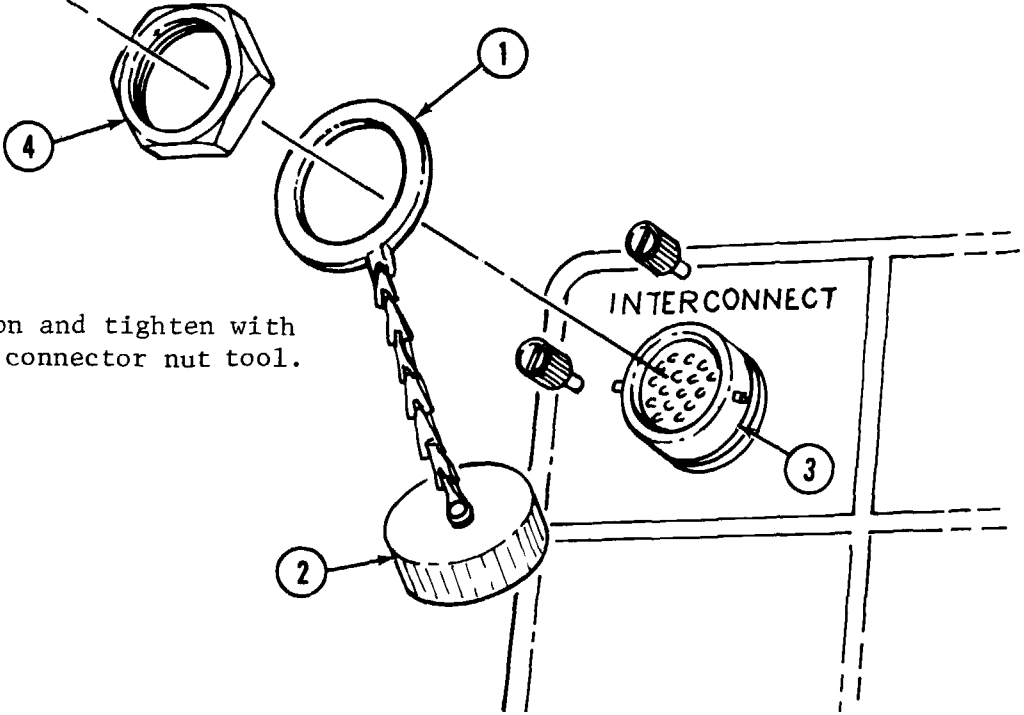


END OF TASK

8-61. INSTALL PROTECTIVE COVER 1J1

Tools required: 1 11/16 inch connector nut tool

A. Put the washer (1) connected to the cover (2), on 1J1 connector (3).



B. Put nut (4) on and tighten with 1 11/16 inch connector nut tool.

C. Install the cover (2) on the connector (3).

END OF TASK

8-62. INSTALL 1J3 CONNECTOR

Tools required: Wire strippers
 Diagonal cutting pliers
 Longnose pliers
 Crimping tool kit
 5/16 inch open end wrench
 1 11/16 inch connector nut tool
 Contact insertion tool, (Bendix)
 No. 1 crosspoint screwdriver

Materials required:

Materials

Cleaning cloth
 Sealing compound

See Appendix D

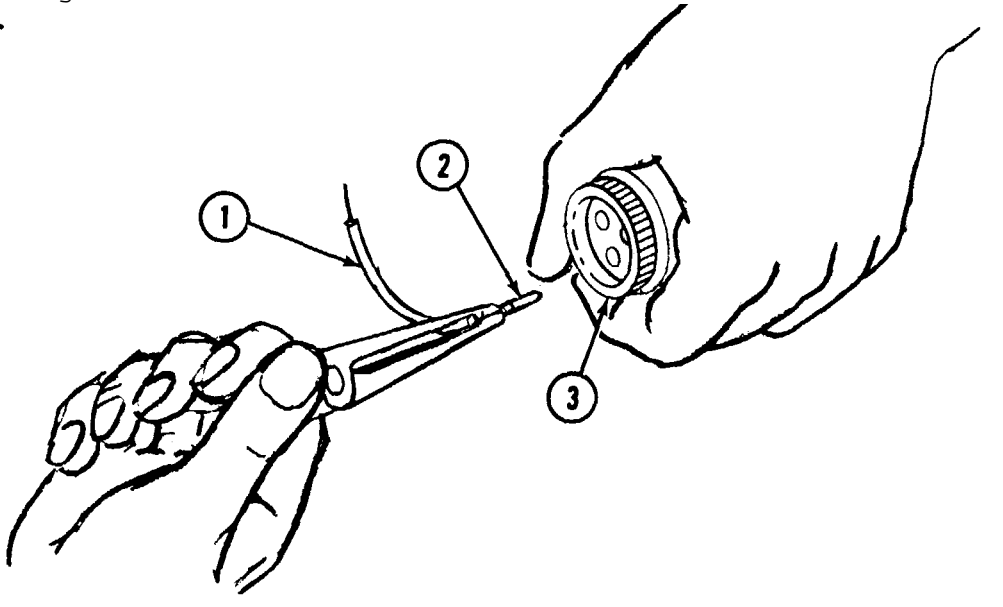
Item 6
 Item 35

STEP 1

A. Strip the end of any tagged lead (1) that had a terminal removed.

B. Crimp a new terminal (2) on the lead.

C. Insert the leads into 1J3 connector (3), using the contact insertion tool.

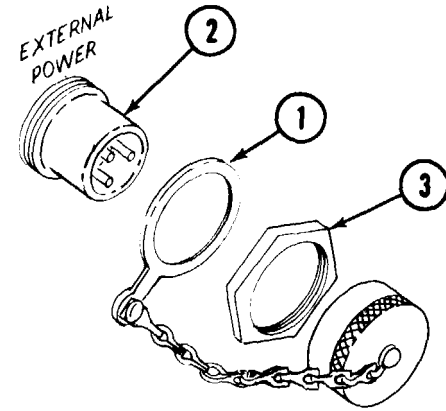


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8-62. INSTALL 1J3 CONNECTOR – CONTINUED

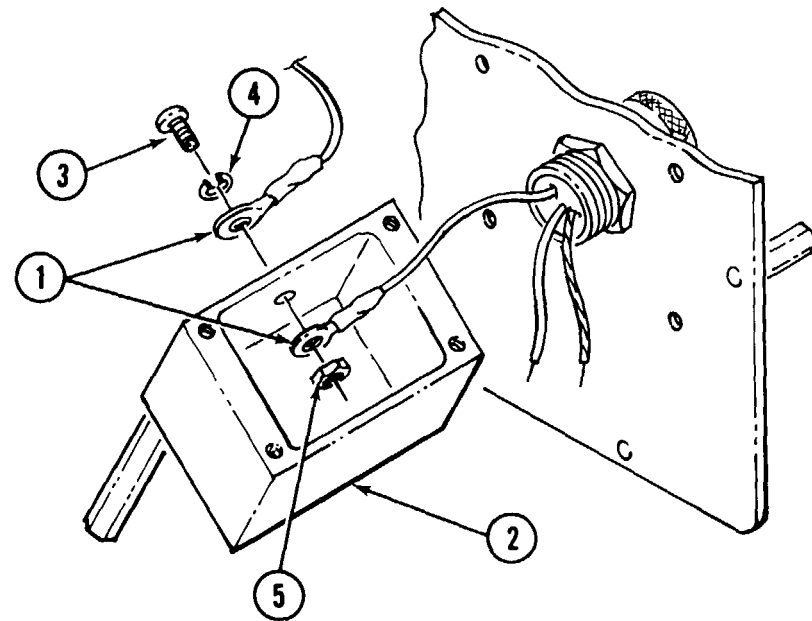
STEP 2

Install cover washer (1) over 1J3 connector (2) on panel and tighten nut (3) with 1 11/16 inch connector nut tool.



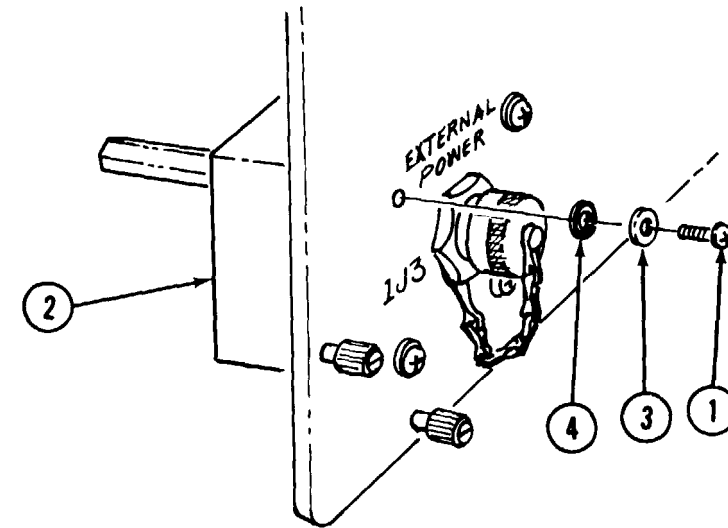
STEP 3

Using a screwdriver, fasten terminal lugs (1) to shield (2) with screw (3), lock-washer (4), and nut (5) as shown.



STEP 4

- A. Apply sealing compound to the four shield mounting screws (1).
- B. Install the shield (2) to the panel. Using No. 1 crosspoint screwdriver, install four screws (1), flat-washers (3) and sealing washers (4).



END OF TASK

8-63. INSTALL RFI FILTER FL1

Tools required: No. 1 crosspoint screwdriver
 No. 2 crosspoint screwdriver
 1/4 inch open end wrench
 5/16 inch open end wrench
 Soldering iron
 Longnose pliers
 Diagonal cutting pliers
 Craftsman's knife
 Wire strippers
 Heat gun

Materials required:

Materials

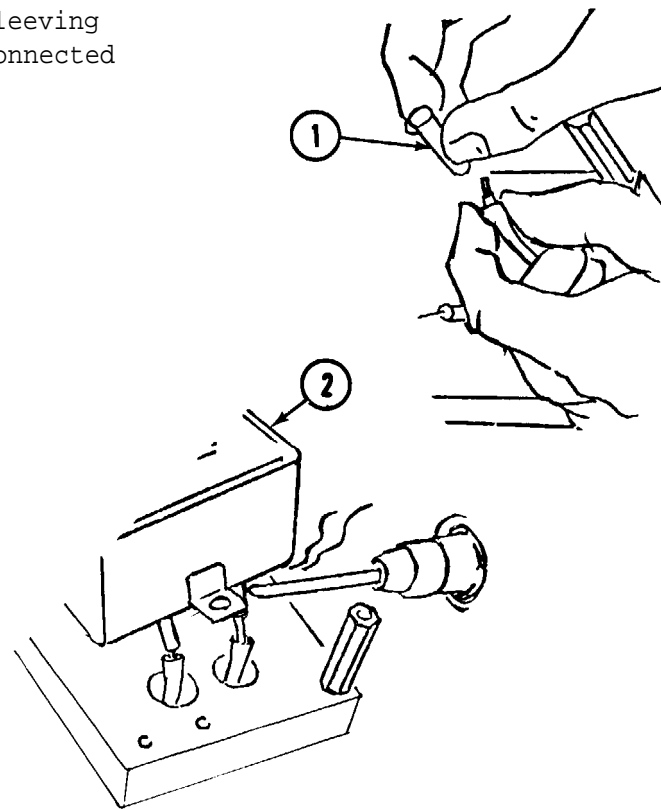
Sealing compound
 Cleaning cloth
 Solder
 Alcohol
 Brush
 Insulation sleeving

See Appendix D

Item 35
 Item 6
 Item 11
 Item 8
 Item 9
 Item 36

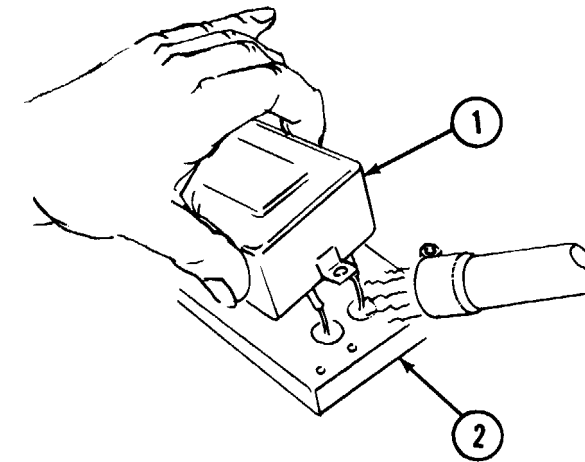
STEP 1

- A. Install a small piece of sleeving (1) over the leads to be connected to FL1 (2).
- B. Solder leads to FL1 (2).
- C. Remove tags.

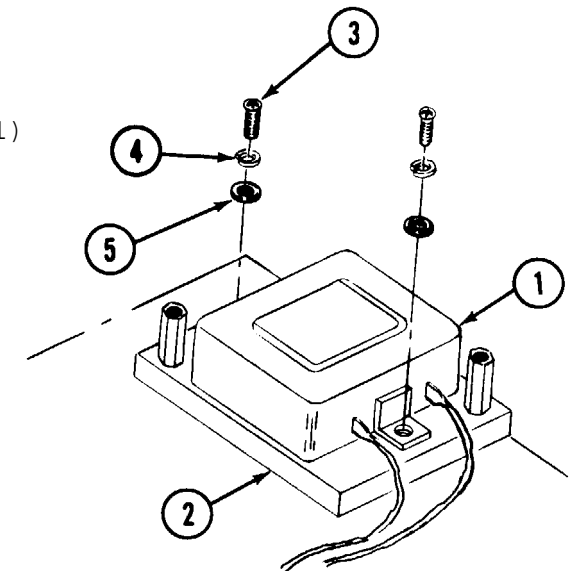


STEP 2

- A. Slide sleeving over terminals and heat shrink using heat gun.



- B. Carefully push FL1 (1) into the shield (2).
- C. Line up the holes and install the two screws (3), lockwashers (4) and flatwashers (5) to hold FL1 (1) to shield (2).



GO TO NEXT PAGE

8-63. INSTALL RFI FILTER FL1 - CONTINUED

STEP 3

A. Put a drop of sealing compound on the threads of the two flat-head screws (1).

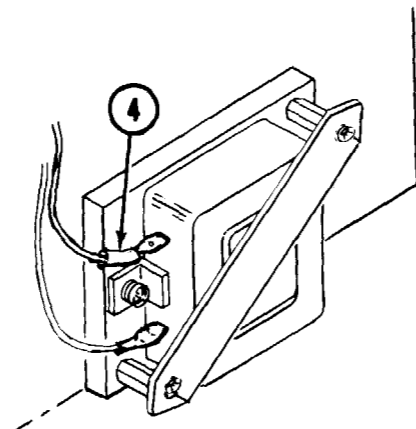
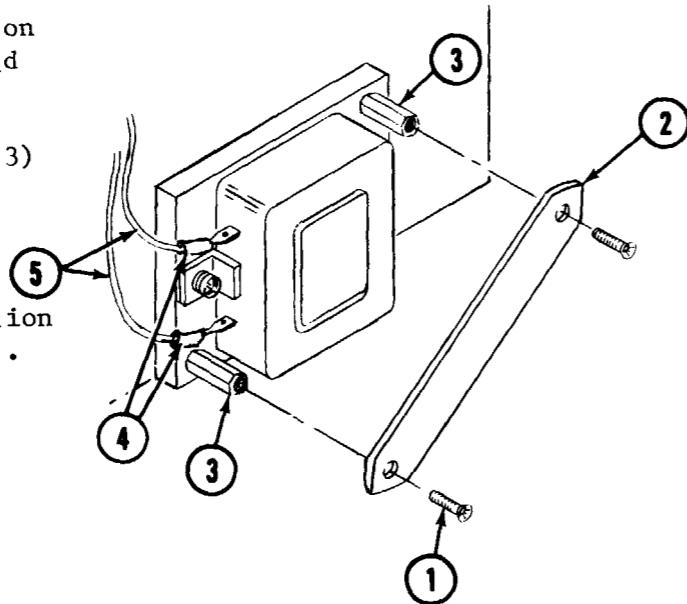
B. Install retainer (2) on posts (3) using two screws (1).

C. Wipe away any excess compound.

D. Install short pieces of insulation sleeving (4) over the leads (5).

E. Solder the leads (5) to FL1. Remove tags.

F. Slide sleeving (4) over connections and heat shrink.



END OF TASK

8-64. INSTALL ROTARY SWITCHES S4 AND S5

Tools required: No. 0 crosspoint screwdriver
 Longnose pliers
 Diagonal cutting pliers
 Wire strippers
 Soldering iron

Materials required:

Materials

Sealing compound
 Cleaning cloth
 Solder
 Alcohol
 Brush

See Appendix D

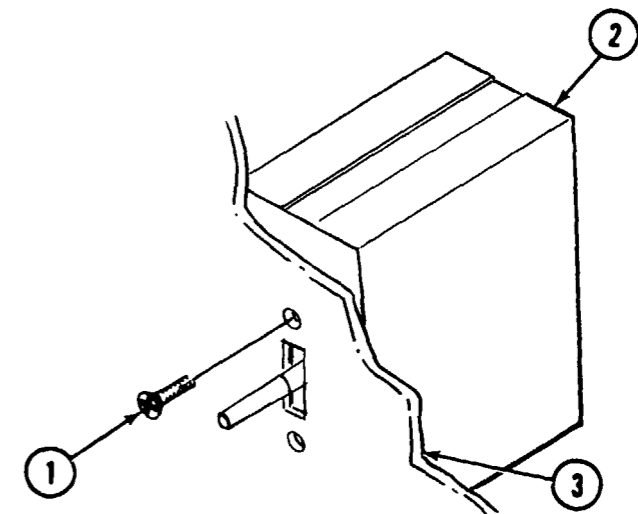
Item 35
 Item 6
 Item 11
 Item 8
 Item 9

A. Apply sealing compound to screw (1) threads.

B. position switch (2) in panel (3) and install screws (1).

C. Solder leads to switch (2). Remove tags.

D. Install other switch in same manner.



END OF TASK

8-65. INSTALL ROTARY SWITCH ES S2 AND S6

- Tools required:
- .050 inch Allen wrench
 - Longnose pliers
 - Diagonal cutting pliers
 - Soldering iron
 - 9/16 inch open end wrench
 - Craftsman's knife
 - Wire strippers

Materials required:

Materials

- Adhesive epoxy
- Orangewood stick
- Cleaning cloth
- Alcohol
- Solder
- Brush
- Insulation sleeving
- Insulation sleeving

See Appendix D

- Item 25
- Item 7
- Item 6
- Item 8
- Item 11
- Item 9
- Item 36
- Item 53

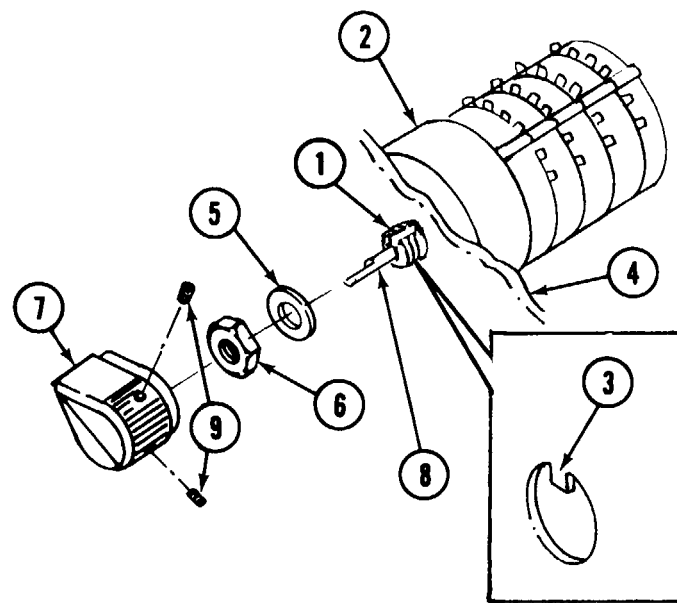
STEP 1



NOTE

If a new switch is installed, discard the keyway washer and one nut supplied with the switch.

- A. Align keyway (1) in switch (2) with key (3) in panel (4). Insert switch through panel.
- B. Install washer (5) and secure with nut (6) using 9/16 inch open end wrench.
- C. Install knob (7) to shaft (8) and secure with two setscrews (9) using .050 Allen wrench.



STEP 2

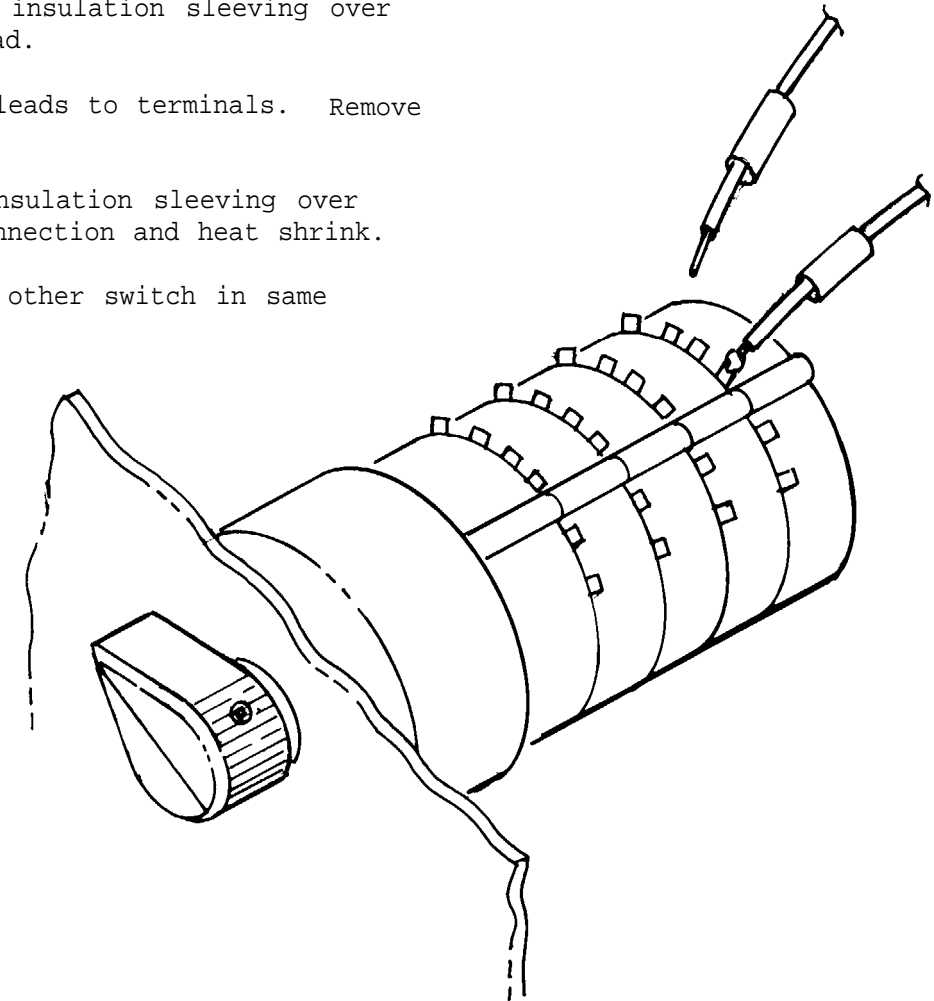


- The leads to the following S2 terminals are connected to 10 VDC.

- S2A-7 and S2B-7
- S2A-8 and S2B-8
- S2A-9 and S2B-9
- S2A-10 and S2B-10

- Use care not to ground any tools when connecting the leads to S2.

- A. Install insulation sleeving over each lead.
- B. Solder leads to terminals. Remove tags.
- C. Slide insulation sleeving over each connection and heat shrink.
- D. Install other switch in same manner.



END OF TASK

8-66. INSTALL DS1 THROUGH DS5 AND XDS1 THROUGH XDS5

Tools required: Diagonal cutting pliers
 Longnose pliers
 Soldering iron
 9/16 inch open end wrench
 Heat gun

Materials required:

Materials

Alcohol
 Solder
 Brush
 Insulation sleeving
 Insulation sleeving

See Appendix D

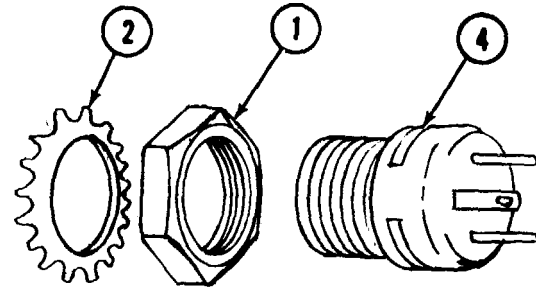
Item 8
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STEP 1

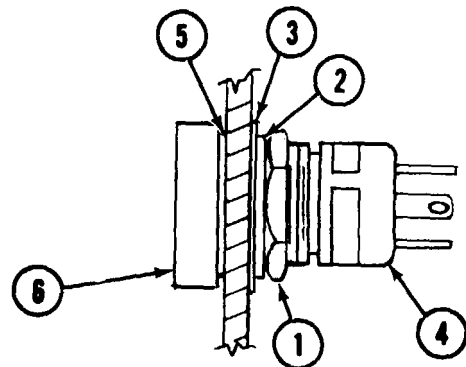


NOTE

Perform the following steps to install indicator assemblies XDS1 through XDS5.



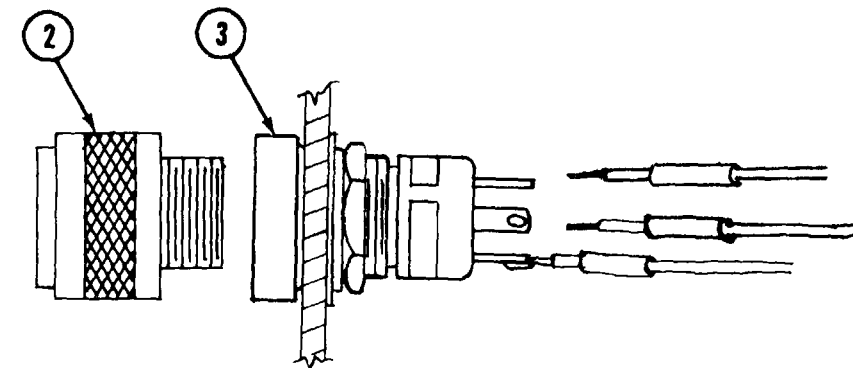
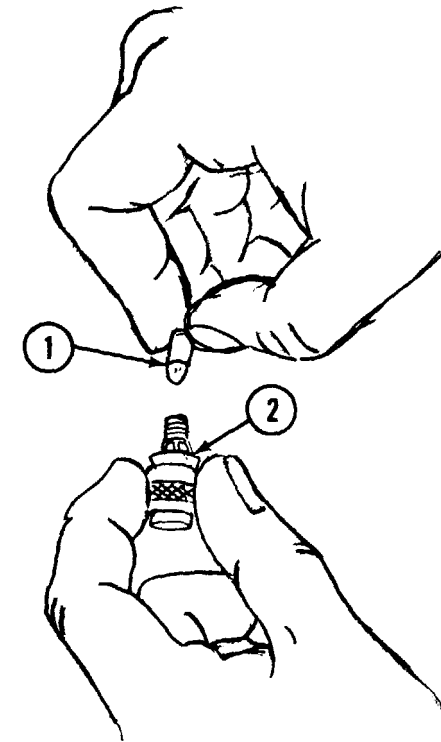
- A. Put mounting nut (1), lockwasher (2) then gasket (3) on indicator (XDS1 through XDS5) (4).
- B. Slide the indicator (4) through the panel and install rubber washer (5) and watertight nut (6).
- C. Tighten nut (1) at rear of panel.



NOTE

To install DS1 through DS5, perform the following two steps only.

- B. Push the new lamp (1) into the rear of the front cap (2).
- C. Screw the front cap (2) into the indicator (XDS1 through XDS5) (3).



END OF TASK

8-67. INSTALL PUSH SWITCHES S1 AND S3

- Tools required:
- Wire strippers
 - Diagonal cutting pliers
 - Longnose pliers
 - Soldering iron
 - 11/16 inch open end wrench
 - Heat gun
 - Craftsman's knife

Materials required:

Materials

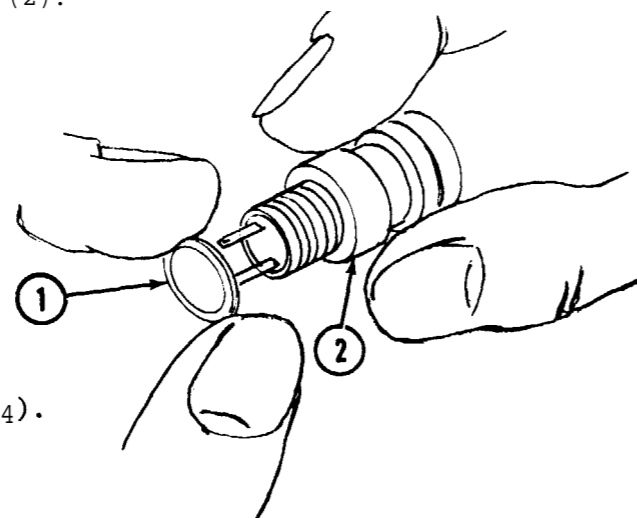
- Alcohol
- Solder
- Brush
- Insulation sleeving

See Appendix D

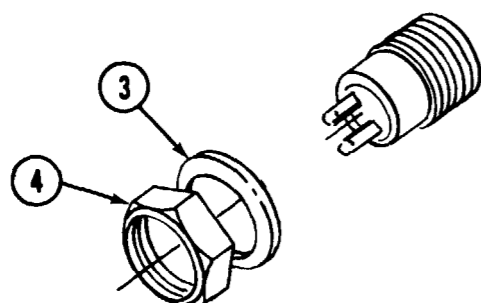
- Item 8
- Item 11
- Item 9
- Item 36

STEP 1

A. Install gasket (1) on switch (2).

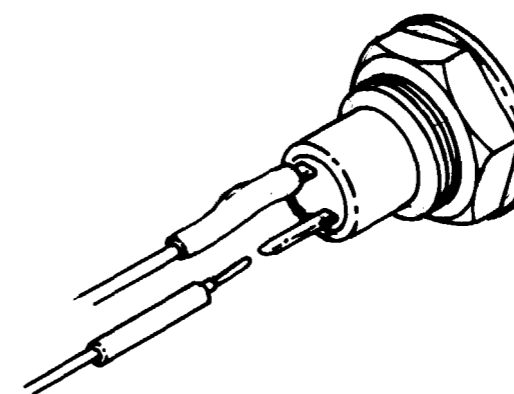


B. Put switch through panel and install washer (3) and nut (4).



STEP 2

- A. Slide a short piece of sleeving over wires.
- B. Solder leads to switch terminals.
- C. Slide sleeving over terminals and heat shrink.



END OF TASK

8-68. INSTALL CIRCUIT BREAKERS CB1 AND CB2

Tools required: Diagonal cutting pliers
 Longnose pliers
 Soldering iron
 Wire strippers
 1/2 inch open end wrench
 Craftsman's knife
 Heat gun

Materials required:

Materials

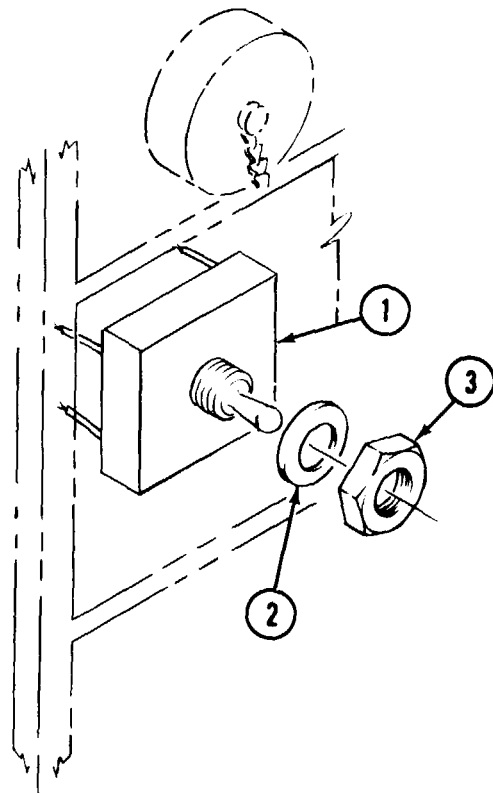
Alcohol
 Solder
 Brush
 Insulation sleeving
 Insulation sleeving

See Appendix D

Item 8
 Item 11
 Item 9
 Item 36
 Item 53

Step 1

- A. Insert circuit breaker (1) through panel.
- B. Put the washer (2) and nut (3) on the circuit breaker (1) and tighten with 1/2 inch open end wrench.

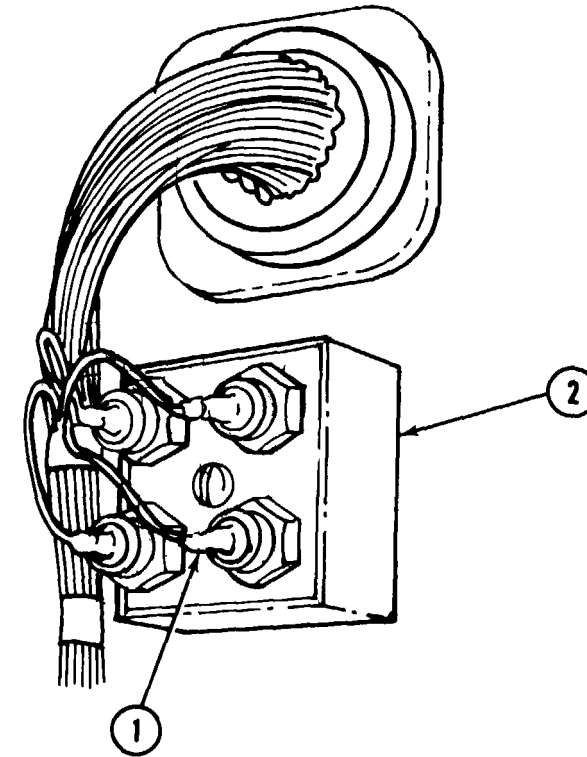


STEP 2



The leads to CB1-2 and CB1-4 are connected to 20 Vdc. DO NOT ground any tools when connecting these leads to CB1 to prevent injury to personnel or equipment.

- A. Install a short piece of insulation sleeving (1) on the leads.
- B. Solder leads to circuit breaker (2). Remove tags from wires after installation.
- C. Slide sleeving (1) over connections and heat shrink.



END OF TASK

8-69. INSTALL ELECTRONIC COMPONENT ASSEMBLY (ECA) A11

Tools required: 1/4 inch flat-blade screwdriver
1/8 inch flat-blade screwdriver

A. Install electronic component assembly (ECA) A11 (1) in position taking care not to scrape printed circuit board (2) against meter mounting assembly (3).

B. Tighten the four captive screws (4) to hold ECA A11 in place, using the 1/4 inch flat-blade screwdriver.

C. Connect the cable connector (5) and tighten the two captive screws (6) with 1/8 inch flat-blade screwdriver.

END OF TASK

8-70. INSTALL ELECTRONIC COMPONENT ASSEMBLY (ECA) A1

Tools required: 10 inch long flat-blade screwdriver
Ratchet wrench
5/16 inch socket
6 inch extension

A. Install electronic component assembly (ECA) A1 (1) in position.

B. Tighten the four captive screws (2) to hold (ECA) A1 in place with screwdriver.

C. Connect the cable connector (3) and tighten the two captive screws (4) with screwdriver.

D. Insert four connectors (5) over terminals (6), attach flatwashers (7), lockwashers (8) and hex nut (9) on top of the washers. Tighten with ratchet, socket and extension. Remove tags.

END OF TASK

8-71. INSTALL BOW HANDLE

Tools required: No. 1 crosspoint screwdriver

Materials required:

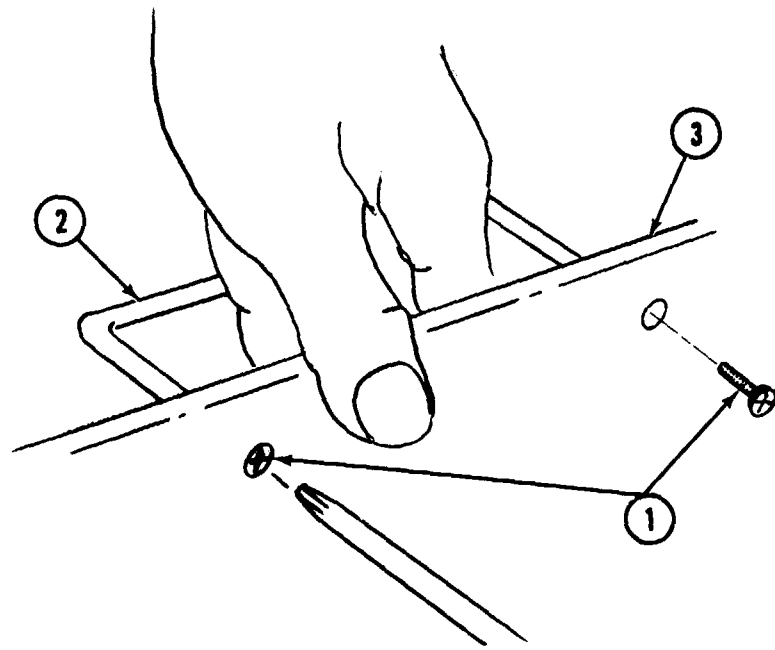
Materials

Sealing compound
Cleaning cloth

See Appendix D

Item 35
Item 6

- A. Apply sealing compound to threads of screws (1).
- B. Position bow handle (2) on panel (3) and insert screws (1) and tighten with screwdriver.

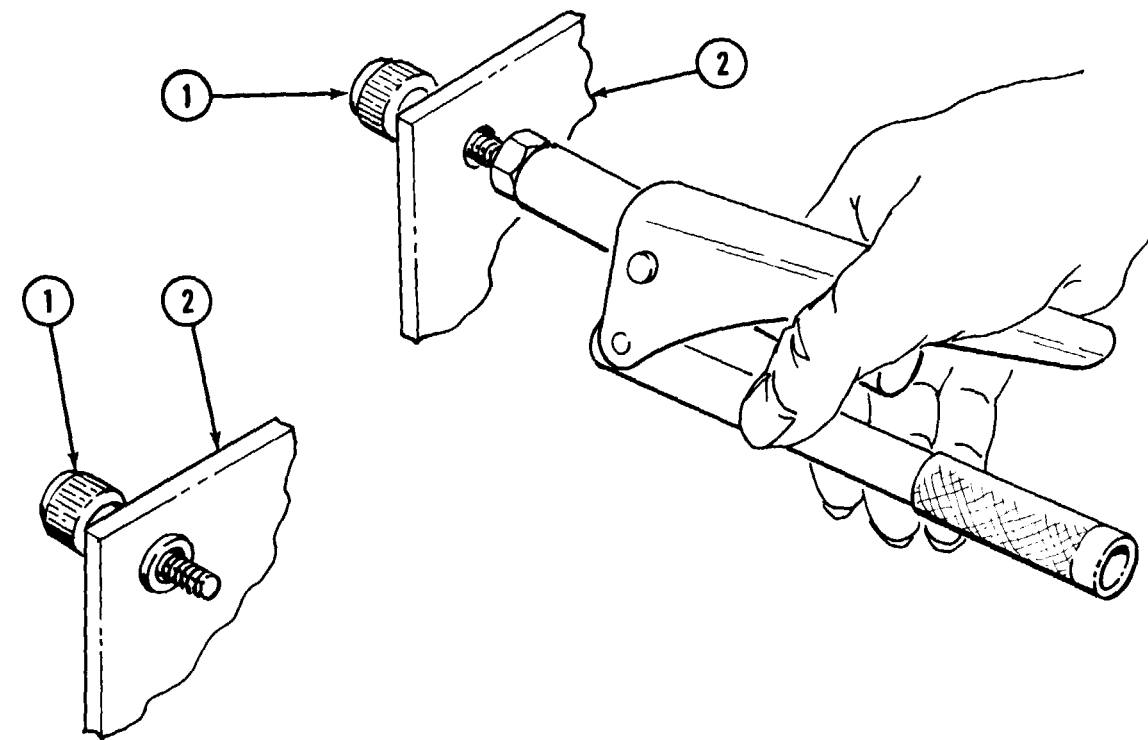
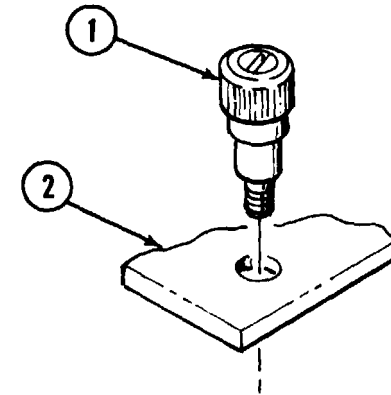


END OF TASK

8-72. INSTALL MONITOR UNIT PANEL CAPTIVE SCREWS

Tools required: Installation tool, TA-425

- A. Insert the captive screw (1) through the panel (2).
- B. Hold special tool TA-425 behind panel (2) and thread captive screw (1) into the tool.
- C. Squeeze handle of TA-425 until captive screw (1) is installed in panel.
- D. Unscrew TA-425 tool from captive screw (1).

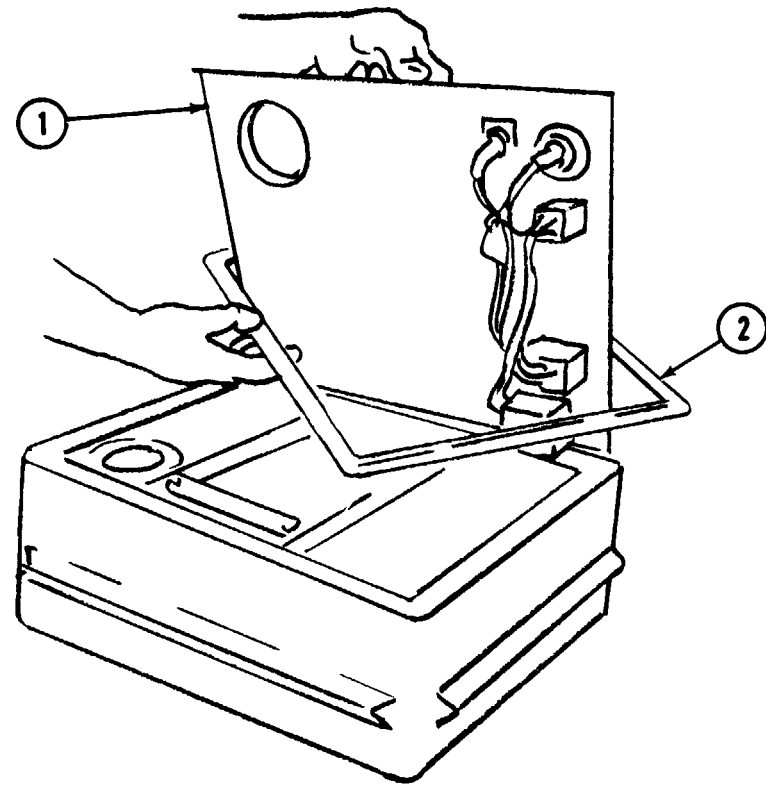


END OF TASK

8-73. INSTALL ELECTRONIC SHIELDING GASKET

STEP 1

- A. Open the top panel (1) and prop it open.
- B. Hold gasket (2) at a 45° angle. Carefully slide gasket (2) down and around panel (1).

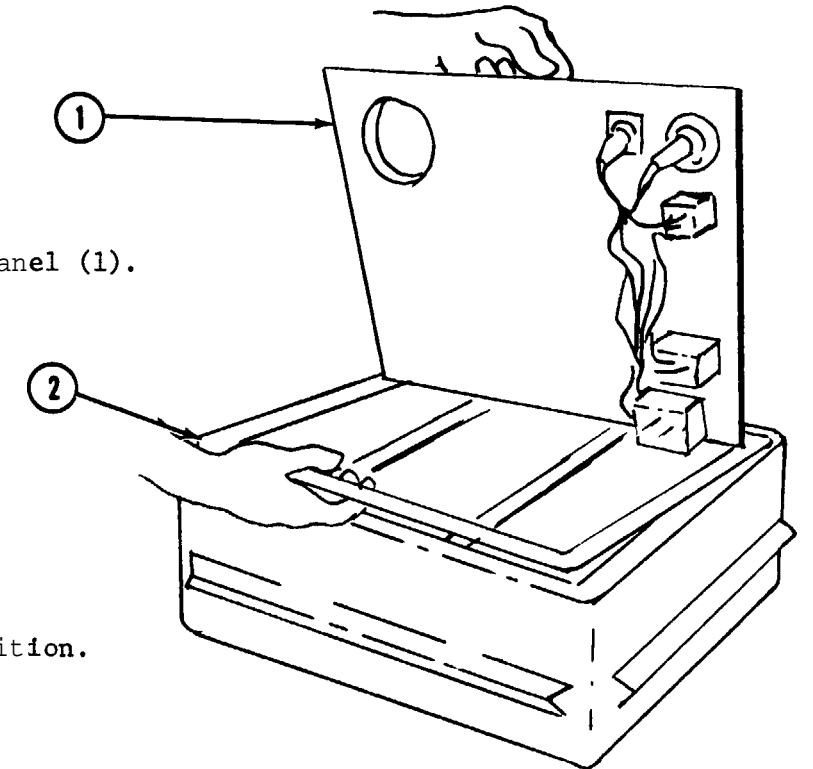


STEP 2

- A. Lift panel (1) up and rotate gasket (2) into position.

- B. Slide gasket (2) under panel (1).

- C. Lower panel (1) into position.



END OF TASK

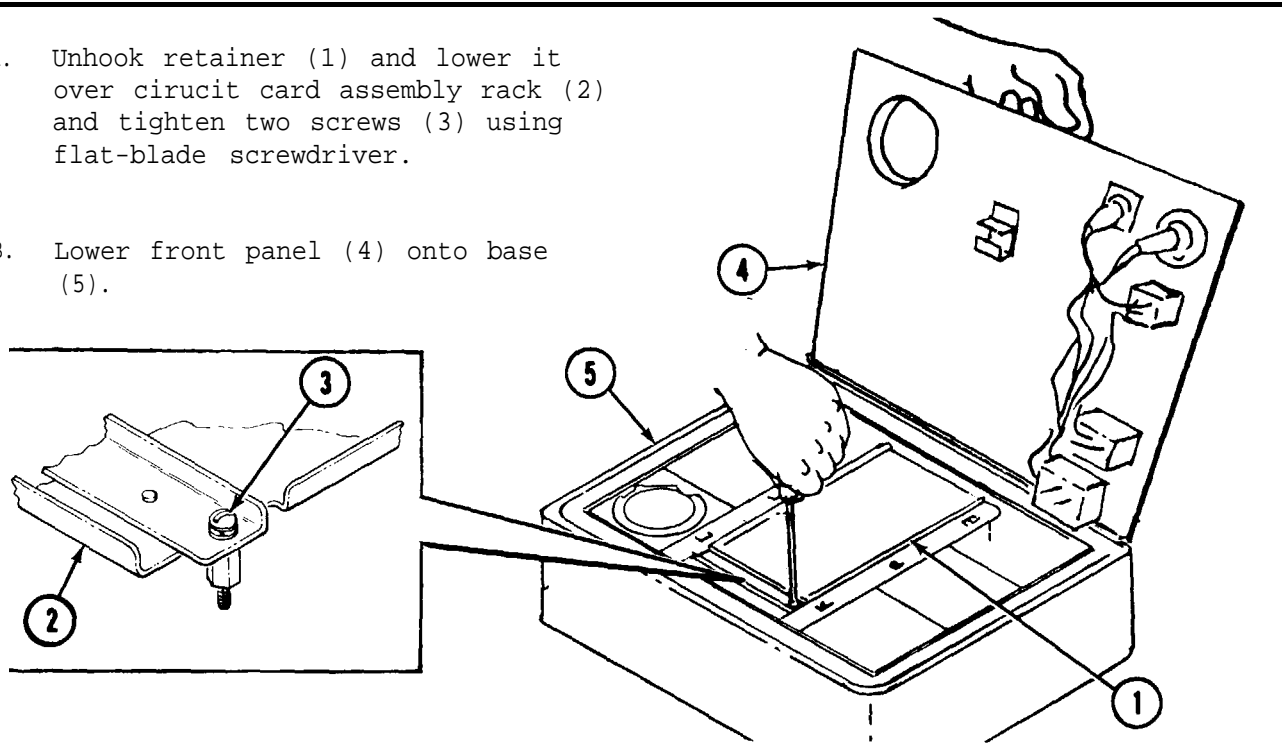
8-74. INSTALL FRONT PANEL

Tools required: 1/4 inch flat-blade screwdriver

STEP 1

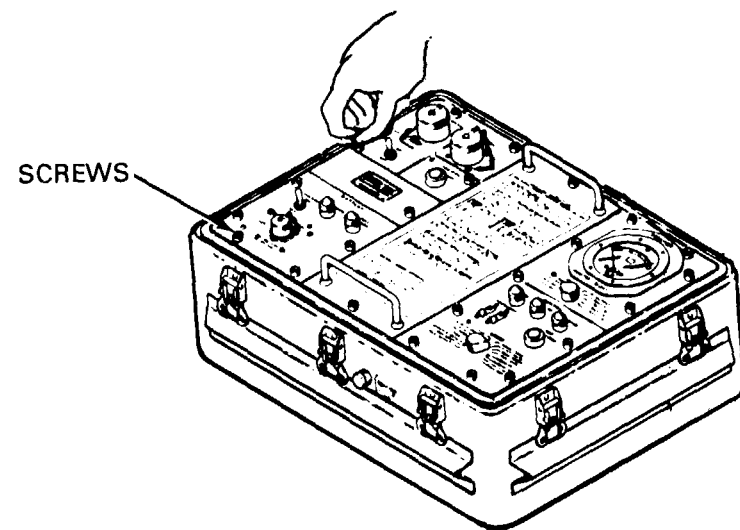
A. Unhook retainer (1) and lower it over circuit card assembly rack (2) and tighten two screws (3) using flat-blade screwdriver.

B. Lower front panel (4) onto base (5).



STEP 2

Finger tighten all twenty-four screws.



END OF TASK

8-75. INSTALL MONITOR UNIT INSTRUCTION PLATE

Tools required: Craftsman's knife

Materials required:

Materials

Adhesive
MEK
Cleaning cloth
Orangewood stick

See Appendix D

Item 41
Item 5
Item 6
Item 7

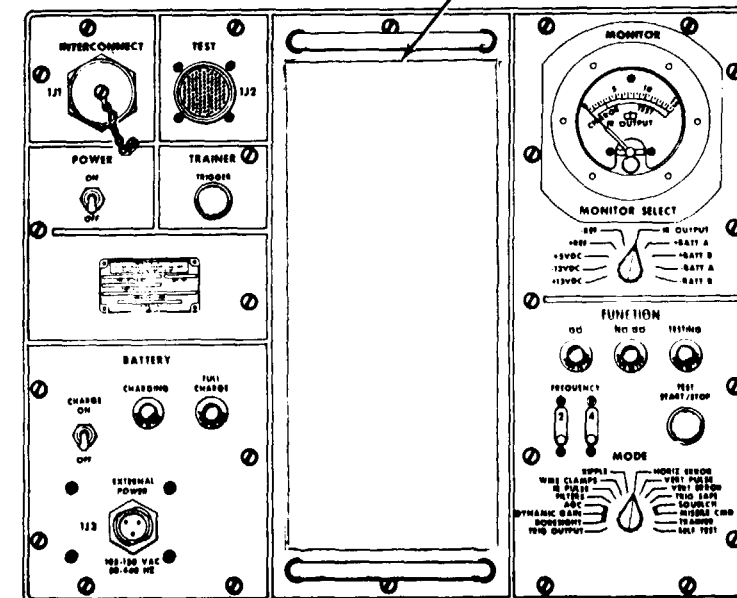
STEP 1



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat.

Clean the mounting area with MEK. Use the knife to scrape off any large pieces of old adhesive.

MOUNTING AREA



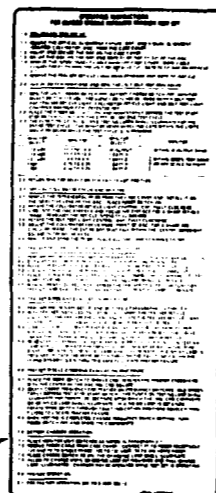
GO TO NEXT PAGE

8-75. INSTALL MONITOR UNIT INSTRUCTION PLATE - CONTINUED

STEP 2

- A. Spread a thin layer of adhesive on the mounting area with the orange-wood stick.
- B. Carefully position the instruction plate on the panel. Press firmly to make good contact, starting in the center and working out to the edges.
- C. Wipe up any excess adhesive using the cleaning cloth moistened with MEK.

INSTRUCTION PLATE



END OF TASK

8-76. INSTALL INSTRUCTION LABEL (TTS)

Materials required:

Materials

MEK
Cleaning cloth

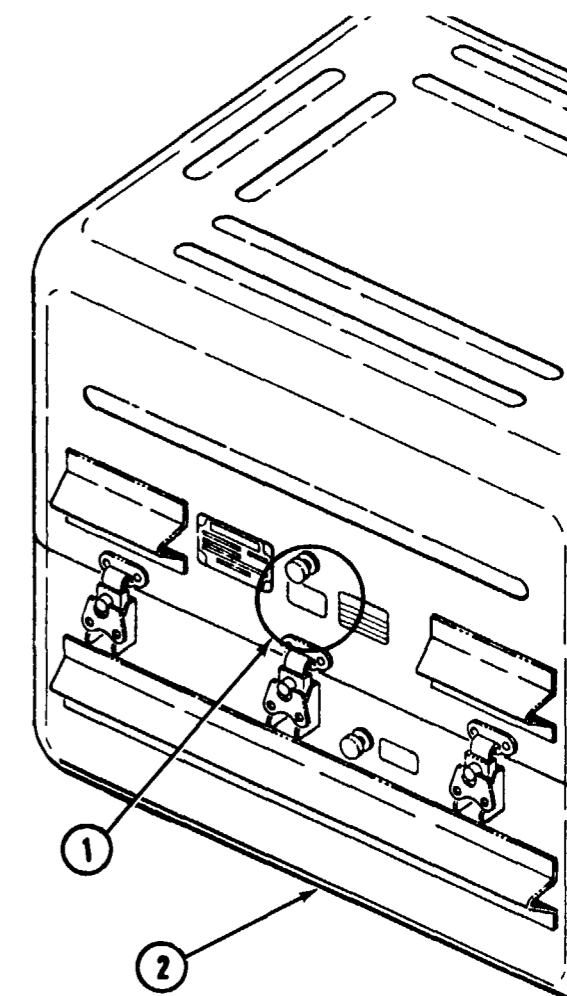
See Appendix D

Item 5
Item 6



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat,

- A. Clean mounting area with MEK and cleaning cloth.
- B. Peel protective backing from new instruction label (1).
- C. Position in place on case (2). Press firmly so it makes good contact.



END OF TASK

8-77. INSTALL IDENTIFICATION PLATE (TTS)

Tools required: Machinist's stamp and die kit
Ball peen hammer

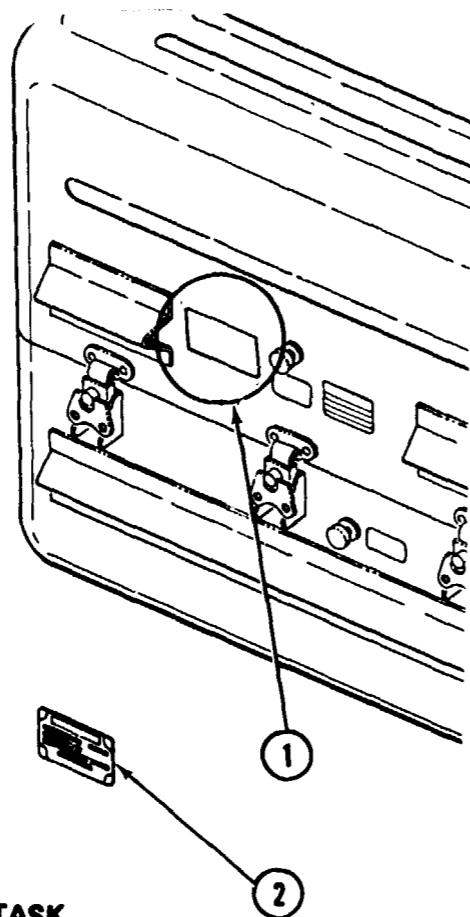
Materials required:

<u>Materials</u>	<u>See Appendix D</u>
MEK	Item 5
Cleaning cloth	Item 6
Varnish	Item 42
Brush	Item 10



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat.

- A. Clean mounting area (1) with MEK and cleaning cloth.
- B. Make sure the information on the new plate is the same as on the old one. Use the hammer and stamping kit.
- C. Peel protective backing from new identification plate.
- D. Position identification plate (2) in place. Press firmly to make good contact.
- E. Cover new I.D. plate (2) with a coat of varnish.



END OF TASK

8-78. INSTALL LATCH ASSEMBLY

Tools required: Ball peen hammer
Bucking bar

Materials required:

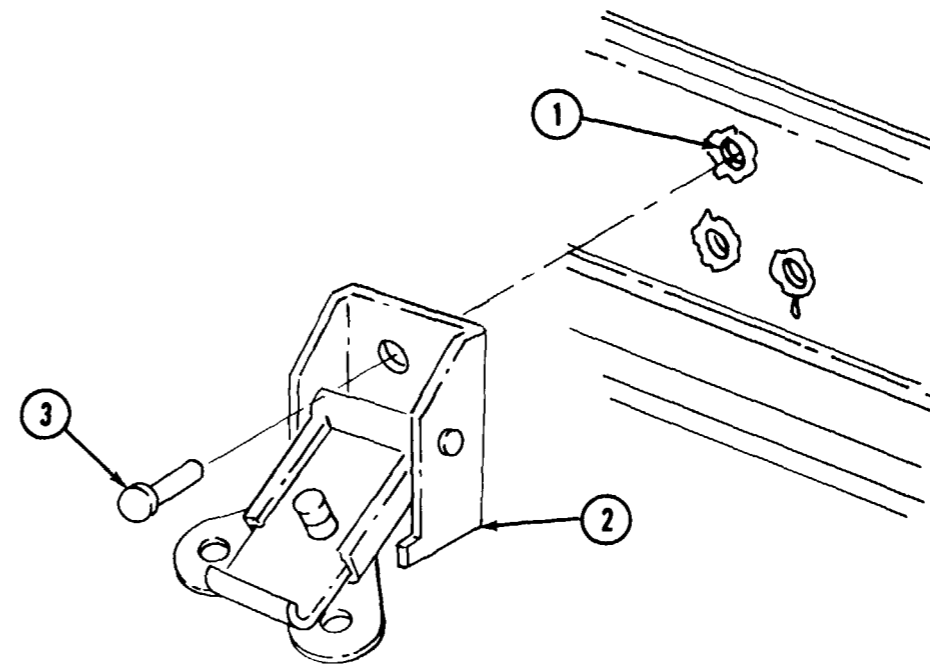
<u>Materials</u>	<u>See Appendix D</u>
Primer	Item 55
Cleaning cloth	Item 6
Brush	Item 10

Equipment condition: Case cover removed, see TM 9-4935-484-14.
Front panel opened, see para. 8-33.
Ml meter and meter components removed, see para. 8-48.
Circuit card assembly rack removed, see para. 8-50.

Personnel required: Two

STEP 1

- A. Apply a light coat of primer to rivet holes (1) inside and out. Let dry for one hour.
- B. Position latch assembly (2) and place rivet (3) in top hole of latch (2).



GO TO NEXT PAGE

8-78. INSTALL LATCH ASSEMBLY-CONTINUED

STEP 2

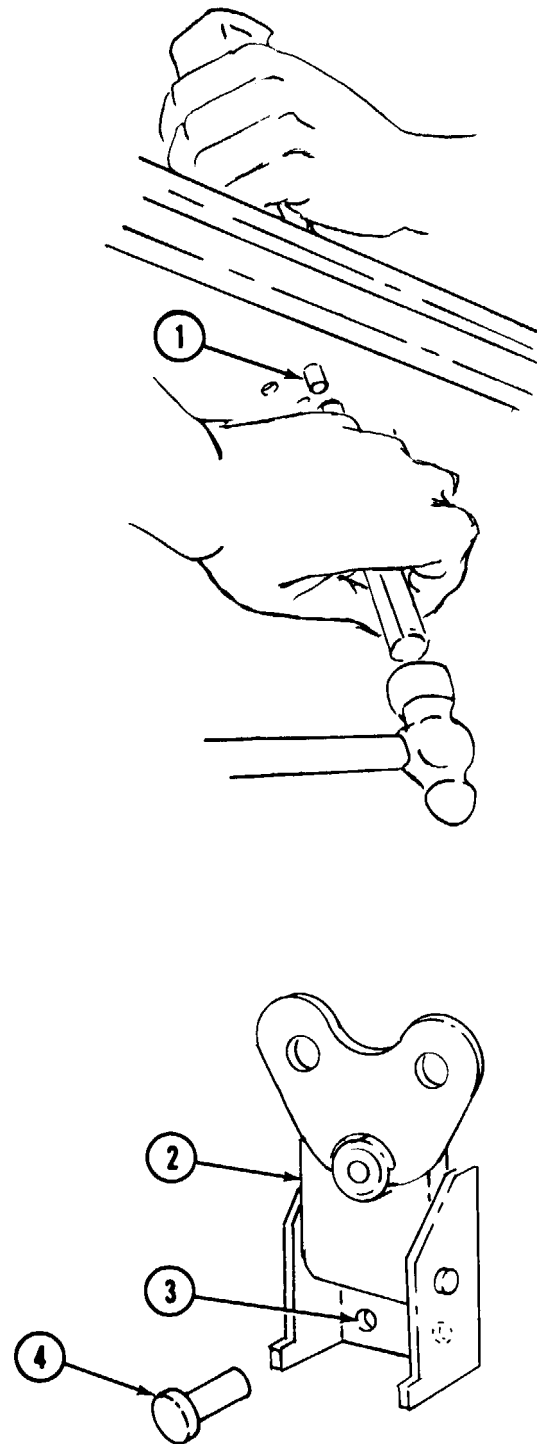
A. Have your helper hold bucking bar tight against rivet head.

B. Place rivet set against rivet (1) and hit rivet set with hammer to set rivet (1) just enough to hold latch (2). This allows enough movement to line up other holes in latch.

C. Move latch assembly (2) to line up the bottom holes (3).

D. Put a rivet (4) in one of the holes (3). Set the rivet tight with hammer, rivet set and bucking bar.

E. Set remaining bottom rivet (4) in same fashion. Go back and tighten top rivet (1) in same fashion.



END OF TASK

8-79. INSTALL ELECTRICAL CONNECTOR (OAC)

- Tools required:
- 3/32 inch Allen wrench
 - Soldering iron
 - Craftsman's knife
 - Diagonal cutting pliers
 - No. 2 crosspoint screwdriver
 - Longnose pliers
 - 3/8 inch open end wrench
 - 11/32 inch open end wrench

Materials required:

Materials

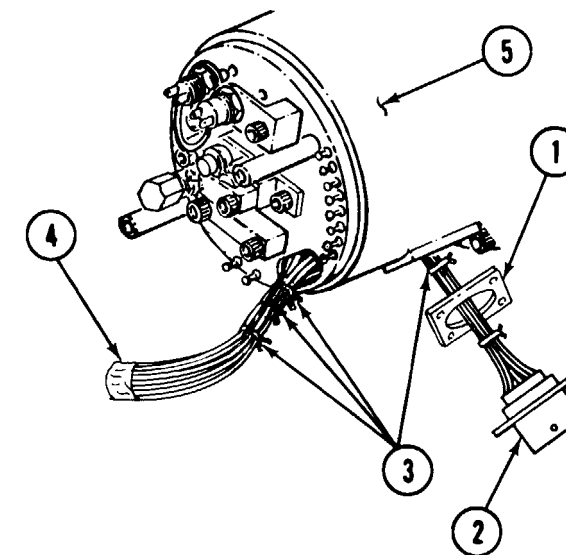
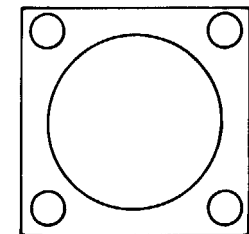
- Sealing compound
- Solder
- Alcohol
- Cleaning cloth
- Brush
- Lacing tape
- Silicone rubber

See Appendix D

- Item 35
- Item 11
- Item 8
- Item 6
- Item 9
- Item 33
- Item 43

STEP 1

- A. Cut a new shielding gasket (1) from the rubber sheet. Use template for a pattern.
- B. Starting at connector (2), tie the wire bundle (3) together for approximately three inches.



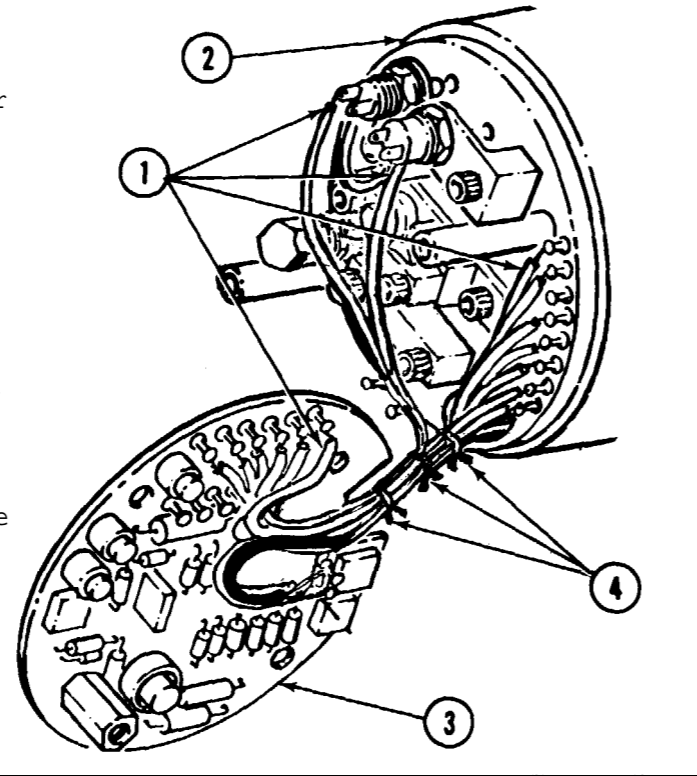
- C. Using masking tape, tape the ends of the wire bundle (4).
- D. Slide the gasket (1) over the wire bundle.
- E. Thread the wire bundle through the collimator (5) and remove tape.

GO TO NEXT PAGE

8-79. INSTALL ELECTRICAL CONNECTOR (OAC) - CONTINUED

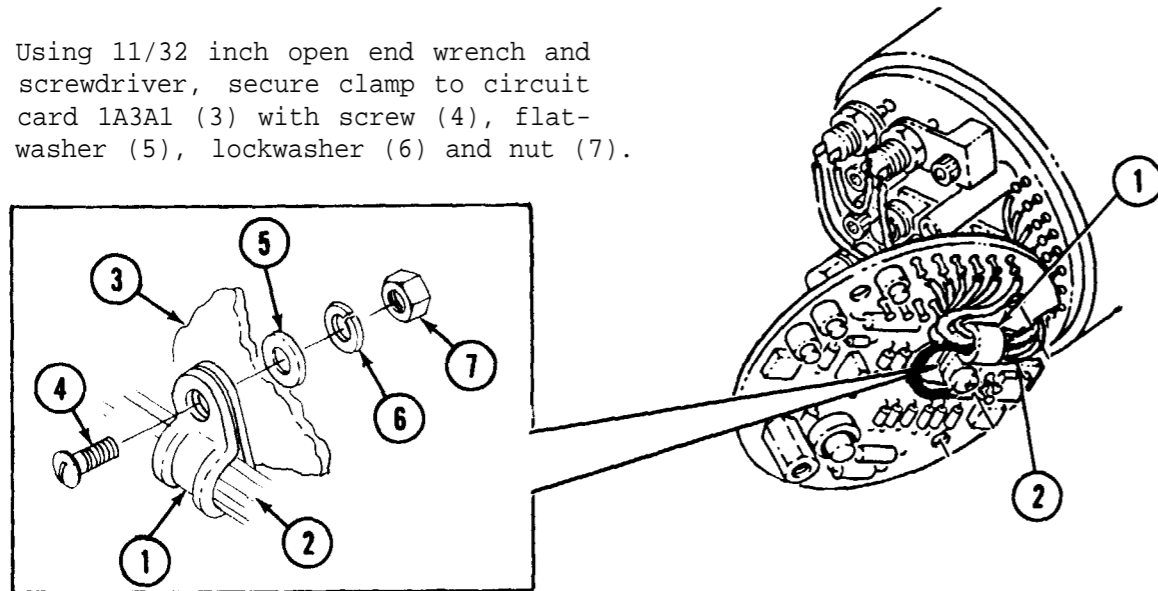
STEP 2

- A. Identify and solder wires (1) to connecting terminals on collimator (2) and circuit card 1A3A1 (3).
- B. Remove identification tags.
- C. To insure proper wire connections, see Appendix F, for schematic.
- D. Using lacing tape, tie wire bundle (4).



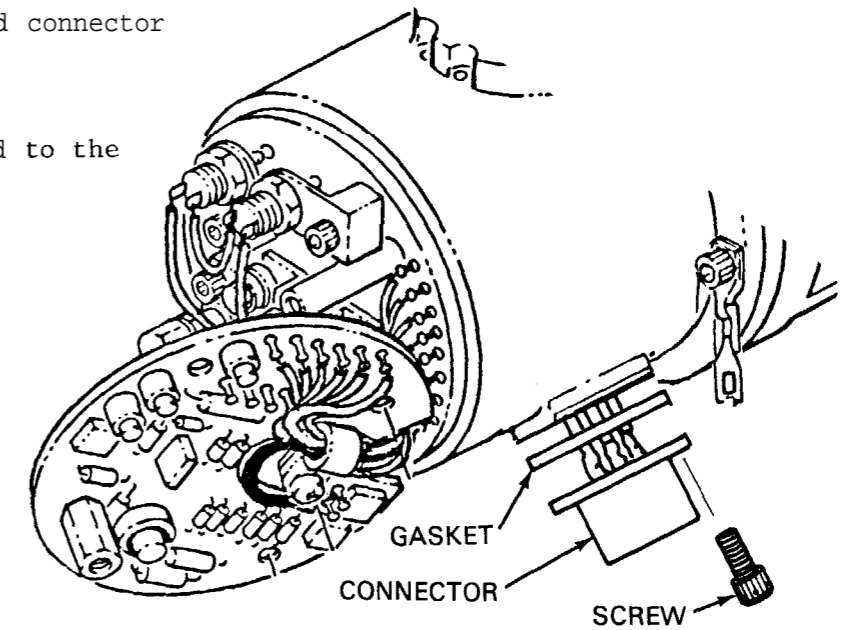
STEP 3

- A. Install clamp (1) on wire bundle (2).
- B. Using 11/32 inch open end wrench and screwdriver, secure clamp to circuit card 1A3A1 (3) with screw (4), flat-washer (5), lockwasher (6) and nut (7).



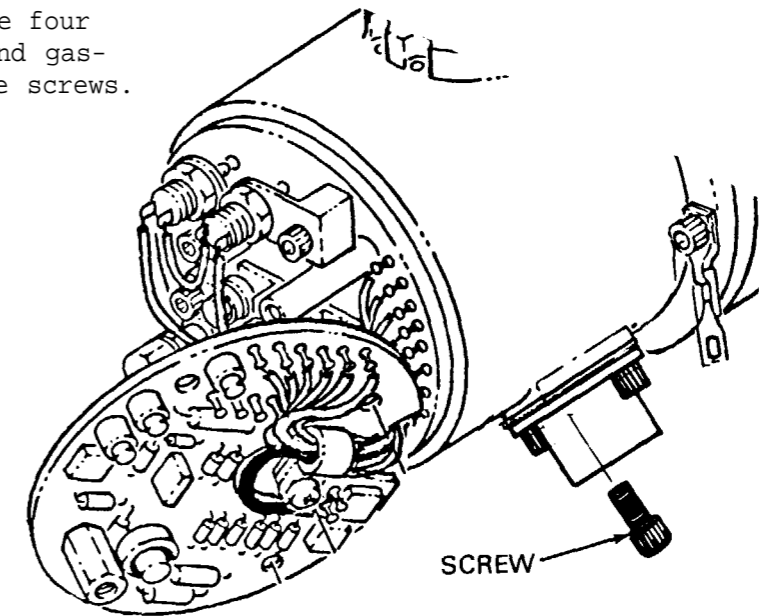
STEP 4

- A. Line up the gasket and connector mounting holes.
- B. Apply sealing compound to the screw threads.



STEP 5

Using Allen wrench, install the four screws through the connector and gasket, into the OAC. Tighten the screws.

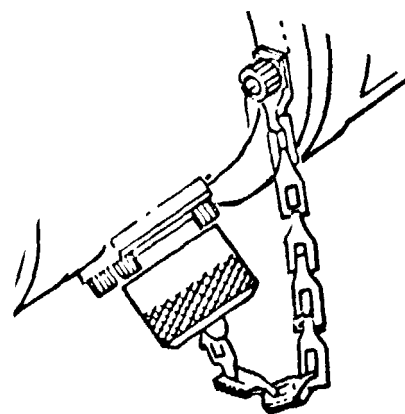


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8-79. INSTALL ELECTRICAL CONNECTOR (OAC)- CONTINUED

STEP 6

Install the connector cap.



END OF TASK

Follow-on Task: Install OAC 1A3A1 board, see para. 8-82.
Install OAC electronic cover, see para. 8-83.

8-80. INSTALL OAC LAMPS(DS1/DS2)AND LAMP ASSEMBLIES(XDS1/XDS2)

Tools required: 9/64 inch Allen wrench
Soldering iron
9/16 inch open end wrench
Longnose pliers
Diagonal cutting pliers
Craftsman's knife

Materials required:

Materials

Solder
Alcohol
Brush
Cleaning cloth

See Appendix D

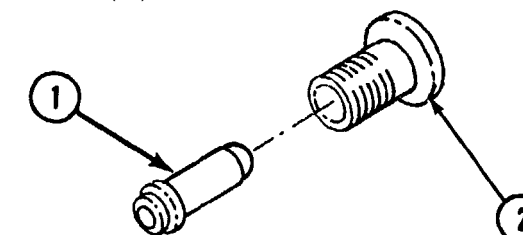
Item 11
Item 8
Item 9
Item 6

STEP 1

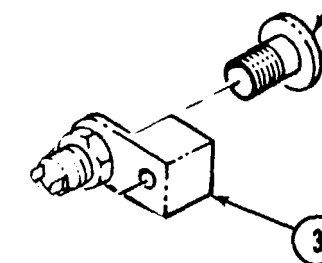


Perform step 1 and step 2 if only the lamp is to be installed.

A. Push the lamp (1) into the retainer (2).



B. Screw the retainer (2) into the bracket (3).



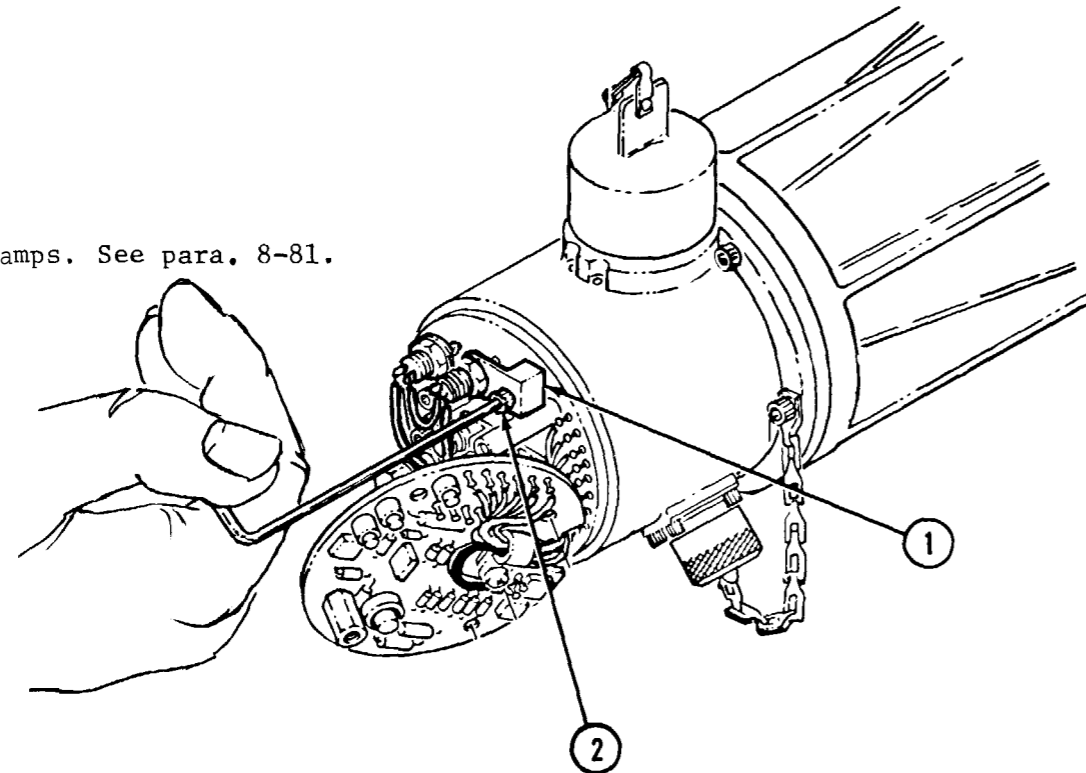
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8-80. INSTALL OAC LAMPS (DS1/DS2) AND LAMP ASSEMBLIES (XDS1/XDS2) - CONTINUED

STEP 2

- A. Using the scribe marks as a reference, position the bracket (1) on the OAC.
- B. Install the cap screw (2) using the 9/64 inch Allen wrench.

C. Adjust lamps. See para. 8-81.

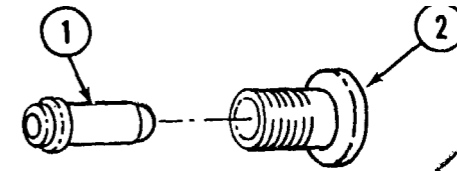


STEP 3

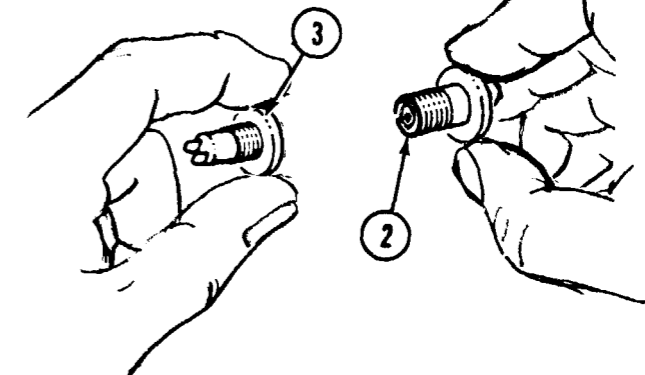


Perform the following when XDS1 or XDS2 is to be installed.

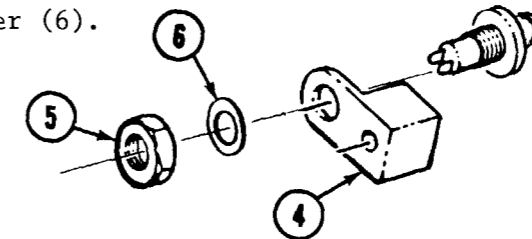
- A. Push the lamp (1) into the retainer (2).



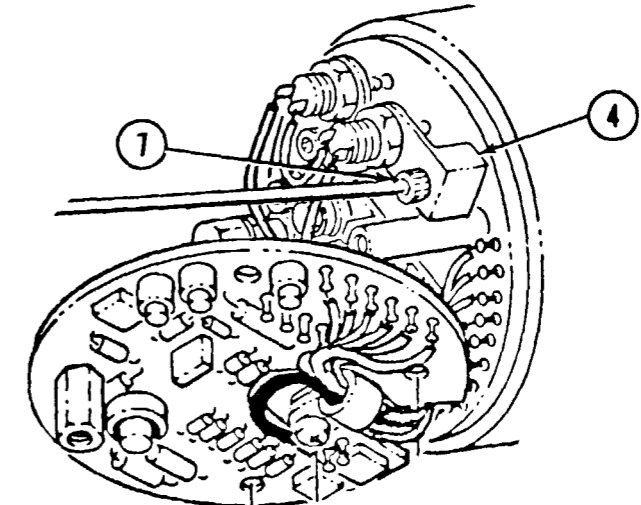
- B. Screw the retainer (2) into XDS1 or XDS2 (3).



- C. Install XDS1 or XDS2 in bracket (4) using the nut (5) and washer (6).



- D. Using the scribe marks as reference, install bracket (4) on OAC with cap screw (7).

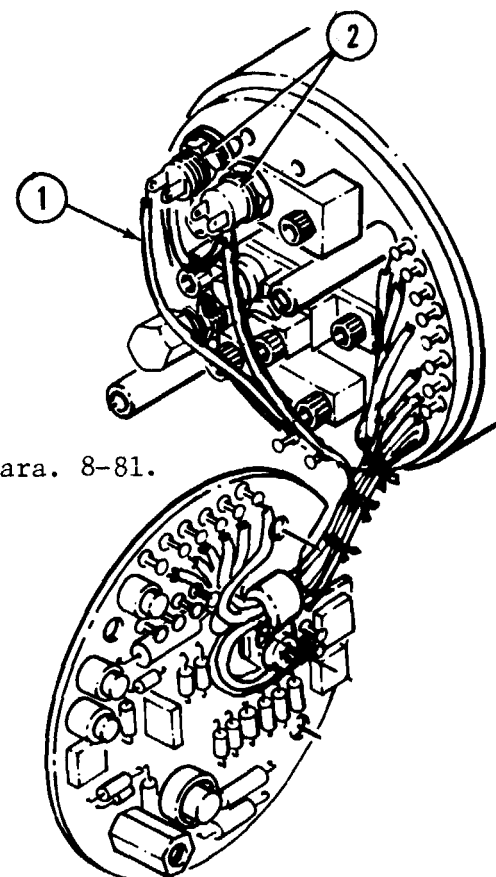


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8-80. INSTALL OAC LAMPS (DS1/DS2) AND LAMP ASSEMBLIES (XDS1/XDS2) - CONTINUED

STEP 4

A. Solder leads (1) to XDS1 or XDS2 (2).



B. Adjust the lamps, see para. 8-81.

END OF TASK

8-81. ADJUST DS1 AND DS2 LAMPS

Tools required: 3/8 inch open end wrench
1/2 inch open end wrench

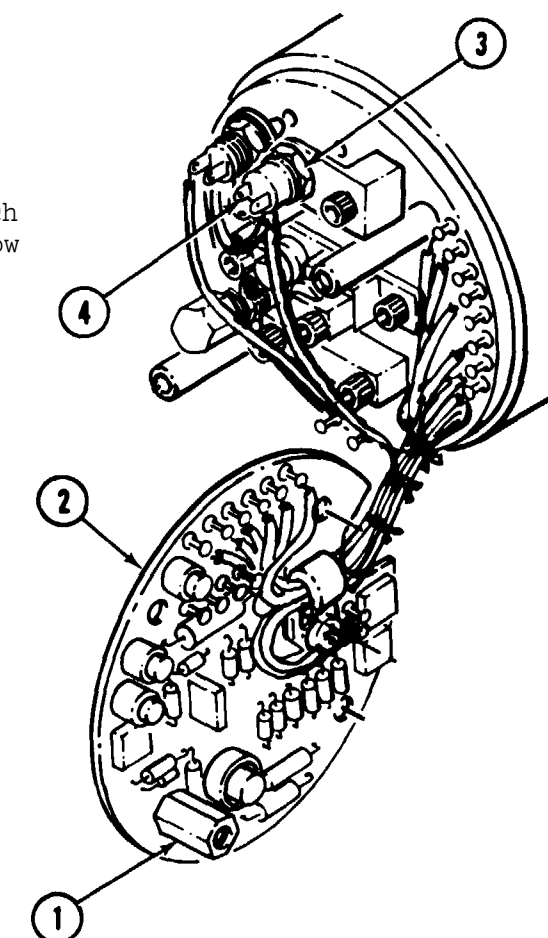
Equipment condition: Remove OAC cover, see para. 8-25.

STEP 1



Adjustment of DS1 and DS2 lamps is necessary following removal and/or replacement of either lamps or sockets of DS1 or DS2 units. The self-test light (DS1) is the more critical due to its alignment function.

- A. Hook up OAC to OAF as shown in TM 9-4935-484-14 to allow operation of DS1 and DS2 lamps.
- B. Using 3/8 inch open end wrench, remove two spacers (1) holding 3A1 board (2) to OAC.
- C. Adjust DS1 by loosening the retaining nut (3) on indicator assembly XDS1 (4) with a 1/2 inch open end wrench. This will allow XDS1 to rotate freely.



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8-81. ADJUST DSI AND DS2 LAMPS - CONTINUED

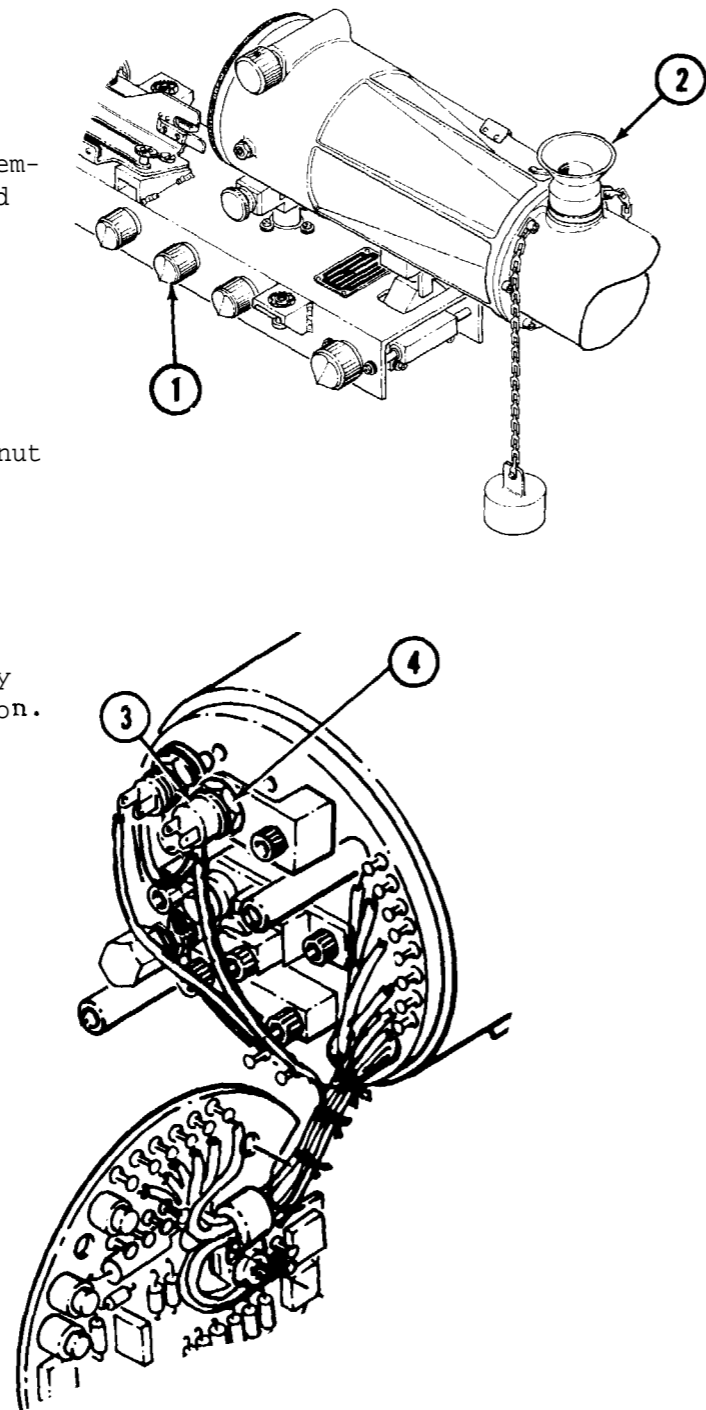
STEP 2

A. Turn SELF TEST light switch (1) clockwise to get visible red dot in eyepiece (2).

B. While looking through eyepiece (2), rotate XDS1 indicator assembly (3) to find point where red dot appears brightest.

C. Hold XDS1 (3) in this position while tightening the retaining nut (4) with the 1/2 inch open end wrench.

D. Turn SELF TEST switch (1) fully counterclockwise to OTF position.



STEP 3

A. Adjust XDS2 by first using a 1/2 inch open end wrench to loosen retaining nut (1) on XDS2 (2) to allow for free rotation of XDS2.

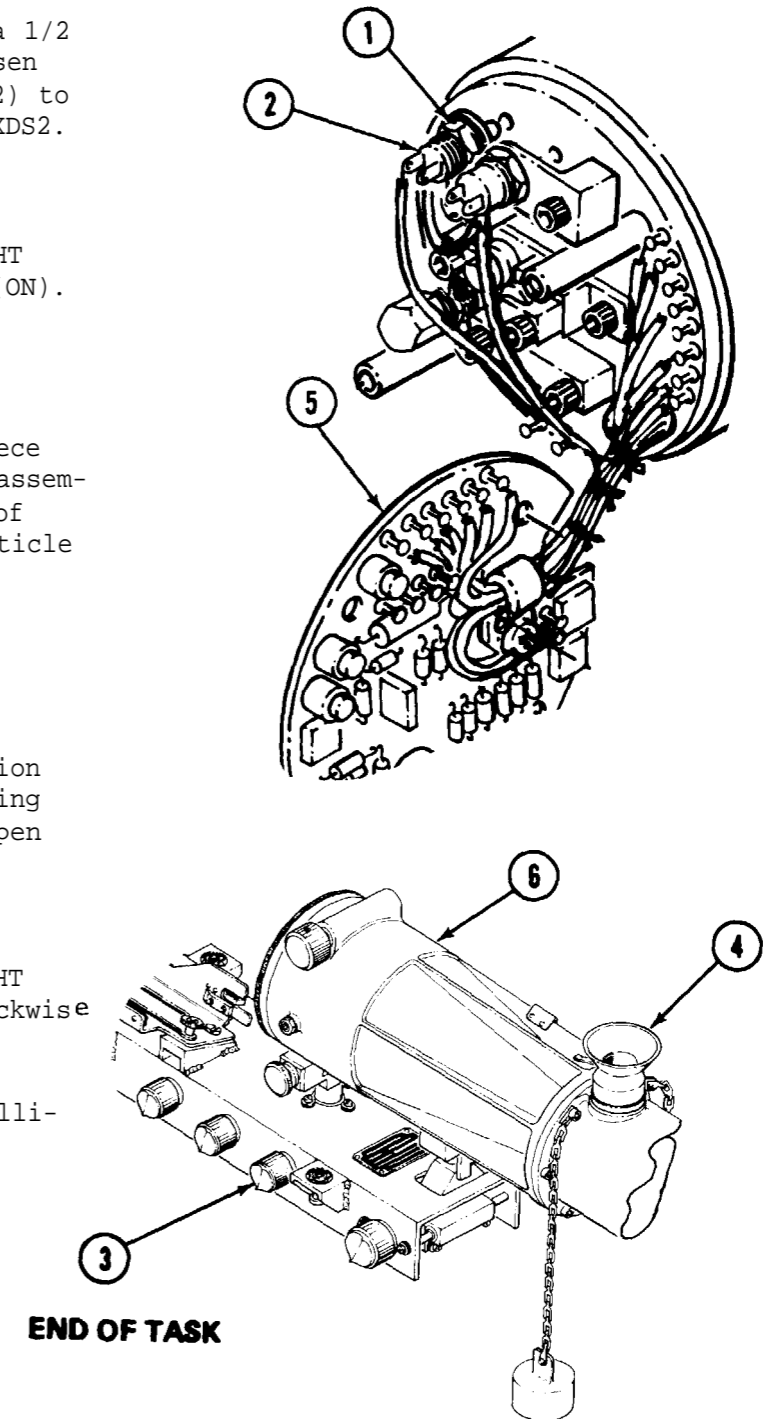
B. Turn COLLIMATOR RETICLE LIGHT switch (3) fully clockwise (ON).

C. While looking through eyepiece (4), rotate XDS2 indicator assembly (2) to determine point of brightest light from the reticle light.

D. Hold XDS2 (2) in this position while tightening the retaining nut (1) with the 1/2 inch open end wrench.

E. Turn COLLIMATOR RETICLE LIGHT switch (3) fully counterclockwise to the OFF position.

F. Install 3A1 board (5) on collimator (6) with two spacers removed in step 1B.



END OF TASK

8-82. INSTALL 1A3A1 BOARD (OAC)

Tools required: 3/8 inch open end wrench
 11/32 inch open end wrench
 No. 2 crosspoint screwdriver
 Soldering iron
 Craftsman's knife
 Heat gun
 Diagonal cutting pliers
 Longnose pliers

Materials required:

Materials

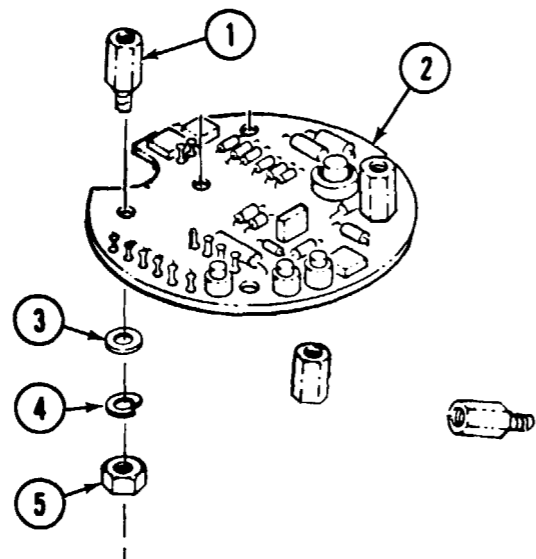
Solder
 Alcohol
 Brush
 Sealing compound

See Appendix D

Item 11
 Item 8
 Item 9
 Item 18

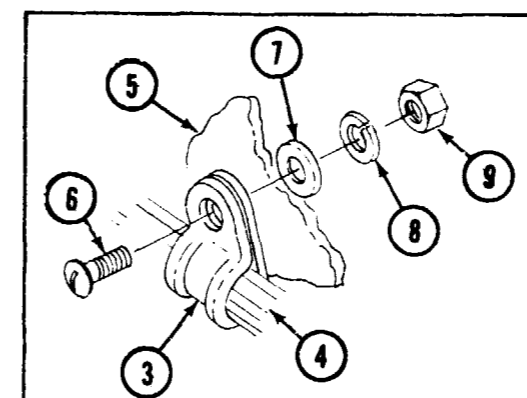
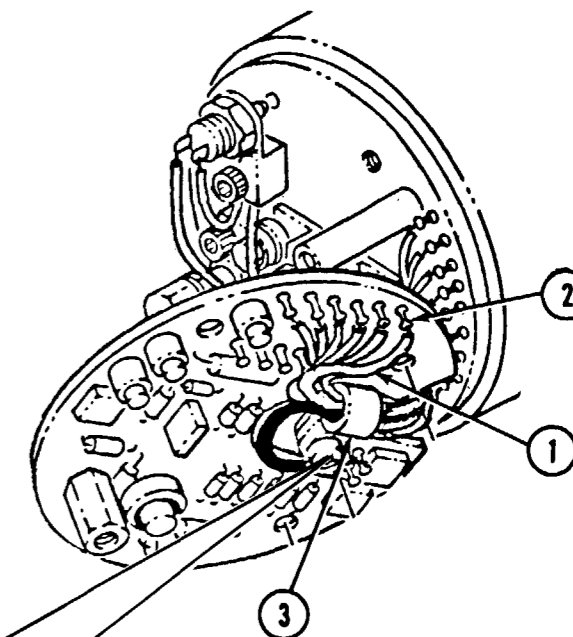
STEP 1

Install two spacers (1) on component side of 1A3A1 board (2) and secure with flatwashers (3), lockwashers (4) and nuts (5).



STEP 2

A. Identify and solder leads (1) to 1A3A1 board terminals (2). Remove tags.



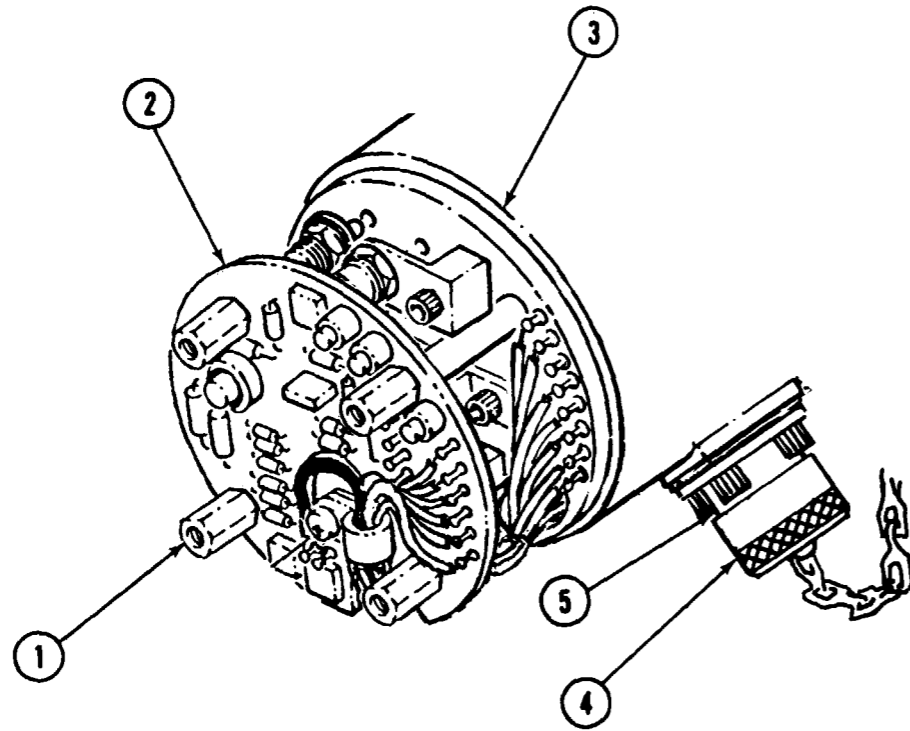
B. Install cable clamp (3) around cable (4) and secure clamp to 1A3A1 board (5) with screw (6), flatwasher (7), lockwasher (8) and nut (9).

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8-82. INSTALL 1A3A1 BOARD (OAC) - CONTINUED

STEP 3

- A. Coat threads of remaining two spacers (1) with sealing compound and using 3/8 inch open end wrench, secure 1A3A1 board (2) to OAC (3) with two spacers.
- B. Replace dust cover (4) on connector (5).

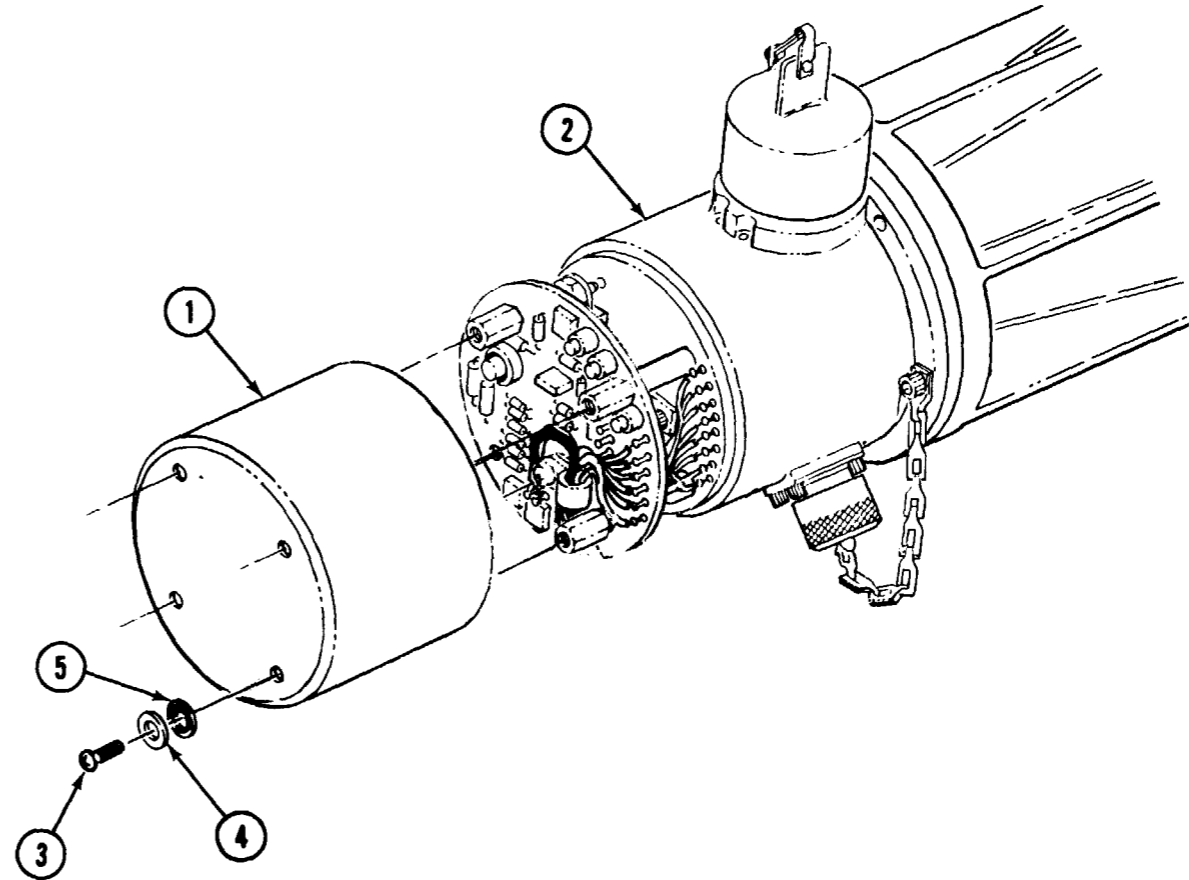


Follow-on Task: Install OAC cover, see paragraph 8-83.

8-83. INSTALL OAC ELECTRONIC COVER

Tools required: No. 2 crosspoint screwdriver

- A. Position cover (1) on OAC (2).



- B. Install four screws (3), flatwashers (4), and sealing washers (5) to hold cover (1) on the OAC.

END OF TASK

8-84. INSTALL EYEPIECE PAD (OAC)

Tools required: Craftsman's knife

Materials required:

Materials

Orangewood stick
 Cleaning cloth
 Rubber sheeting
 MEK
 Adhesive epoxy

See Appendix D

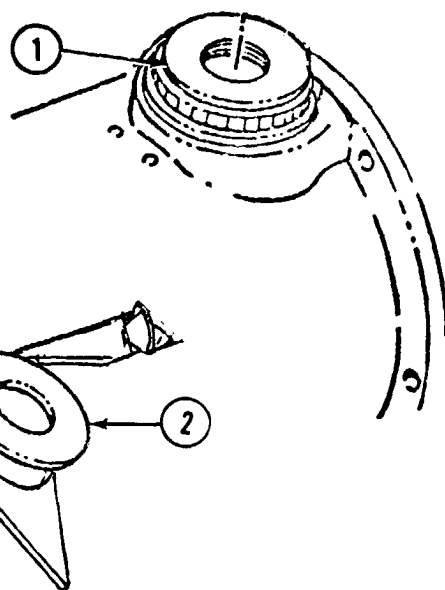
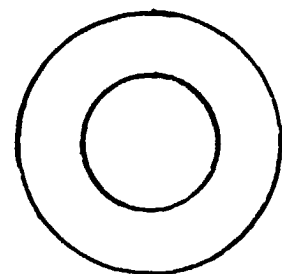
Item 7
 Item 6
 Item 43
 Item 5
 Item 25

STEP 1



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat.

- A. Clean mounting area (1) with cleaning cloth soaked in MEK.

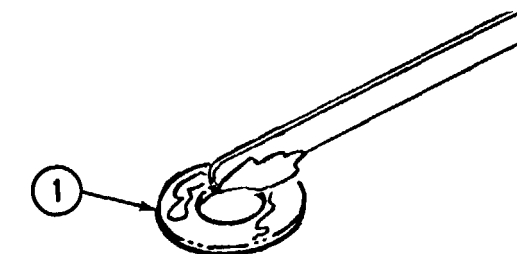


- B. Using template, cut a new pad (2) from the rubber sheeting.

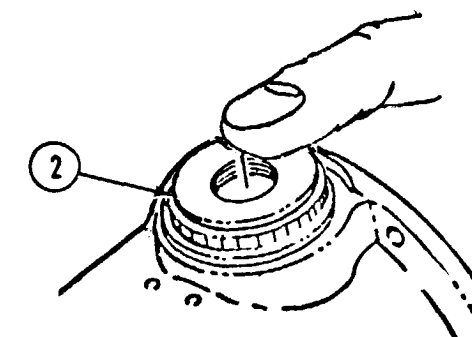
STEP 2



Do not get adhesive on optics.



- A. Apply adhesive to new pad (1).
- B. Position the pad (1) on the eyepiece (2) and press firmly to assure a good bond.



END OF TASK

8-85. INSTALL IDENTIFICATION PLATE (OAC)

Tools required: Machinist's stamp and die kit
Machinist's scribe

Materials required:

Materials

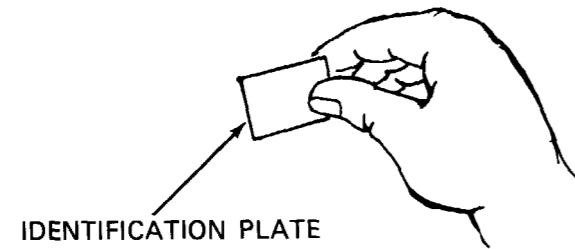
MEK
Cleaning cloth

See Appendix D

Item 5
Item 6

STEP 1

Using a machinist's scribe or stamp and die kit, transfer information from old plate to new plate.

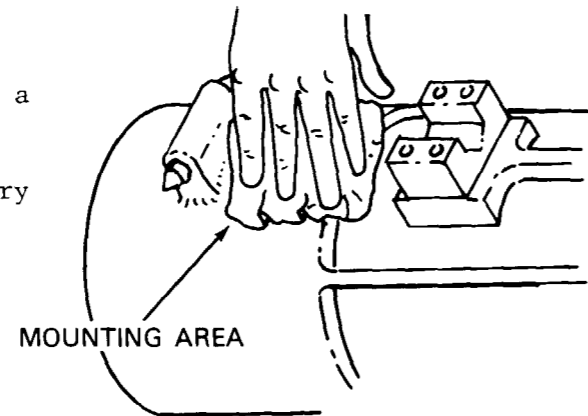


STEP 2



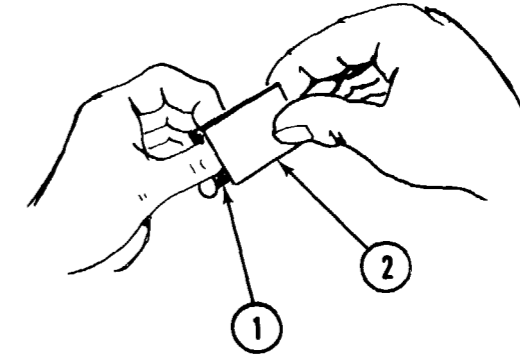
In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat.

- A. Clean the mounting area with a cloth soaked in MEK.
- B. Dry the mounting area with dry cleaning cloth.

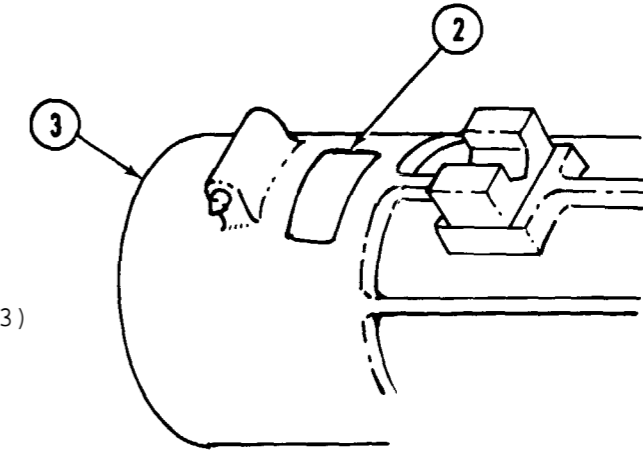


STEP 3

- A. Peel the protective backing (1) from the new plate (2).



- B. Position plate (2) on the OAC (3).



- C. Press plate (2) firmly to OAC (3) to insure a good bond.

END OF TASK

8-86. INSTALL RESISTOR SWITCHES R1, R2 AND R3 (OAF)

- Tools required:
- Soldering iron
 - Diagonal cutting pliers
 - Longnose pliers
 - 1/2 inch open end wrench
 - .050 inch Allen wrench
 - Heat gun
 - Wire strippers
 - No. 1 crosspoint screwdriver

Materials required:

Materials

- Alcohol
- Brush
- Sealing compound
- Cleaning cloth
- Solder
- Insulation sleeving

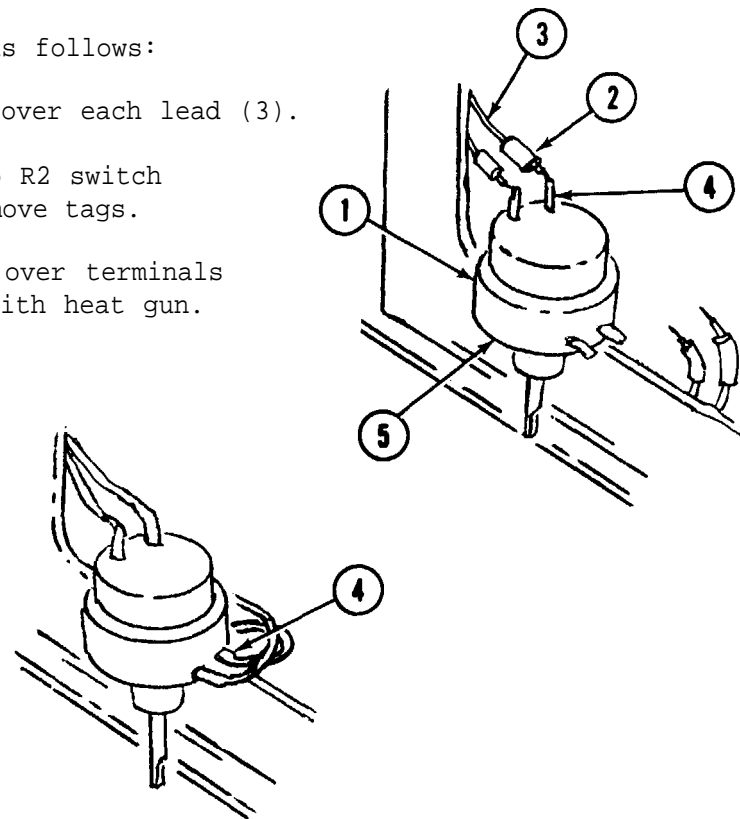
See Appendix D

- Item 8
- Item 9
- Item 18
- Item 6
- Item 11
- Item 36

STEP 1

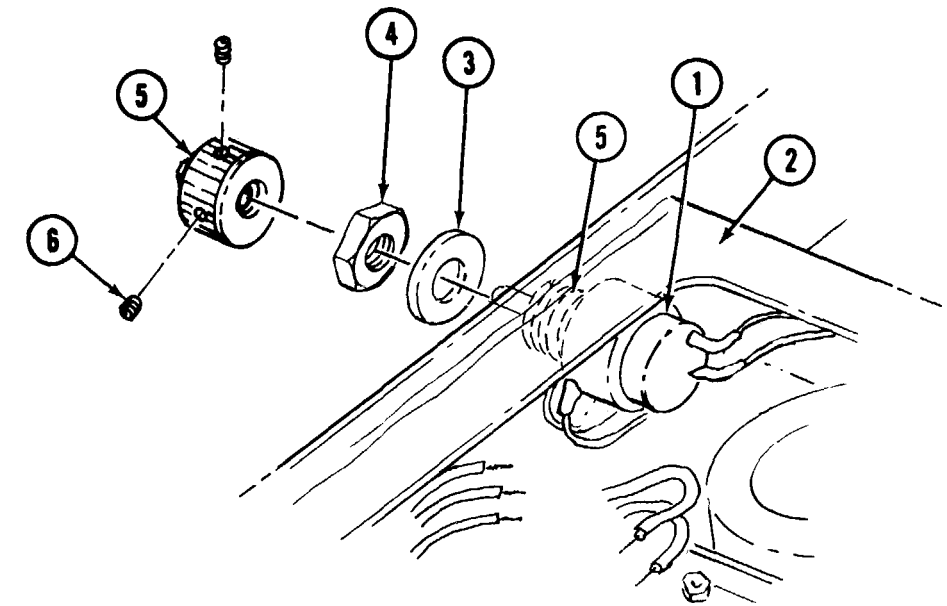
Install R2 switch (1) as follows:

- A. Slide sleeving (2) over each lead (3).
- B. Solder leads (3) to R2 switch terminals (4). Remove tags.
- C. Slide sleeving (2) over terminals (4). Heat shrink with heat gun.



STEP 2

- A. Slide R2 switch (1) into position in base of OAF (2).
- B. Apply a thin coat of sealing compound to threads of R2 (1) that extend out of base of OAF (2).
- C. Using 1/2 inch open end wrench, install washer (3) and nut (4) to secure R2 switch (1) to base of OAF (2).
- C. Install knob (5) and secure the two setscrews (6) securing it with .050 inch Allen wrench.

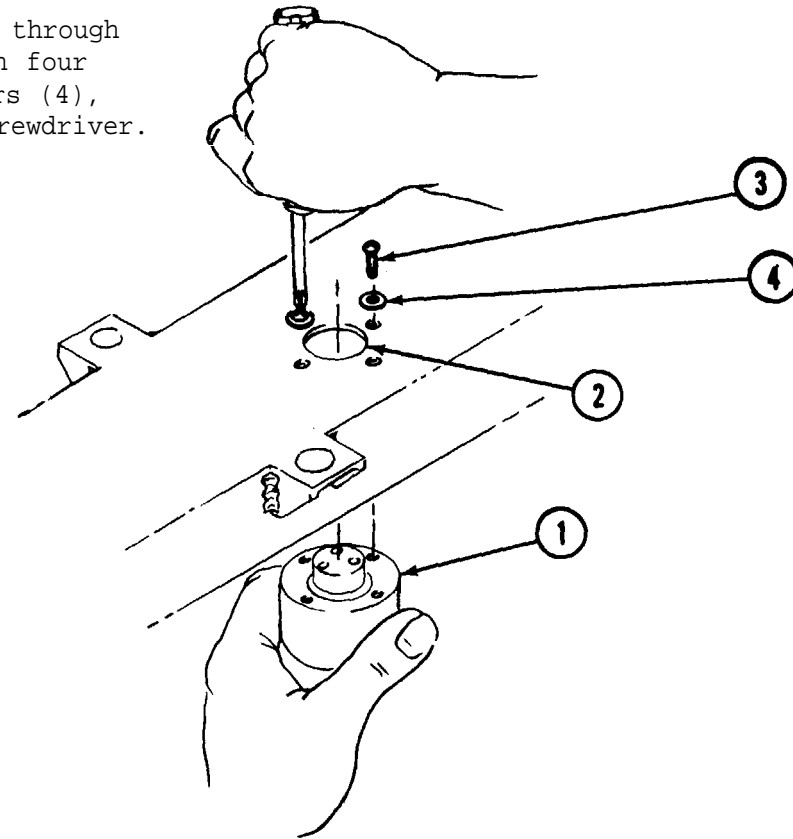


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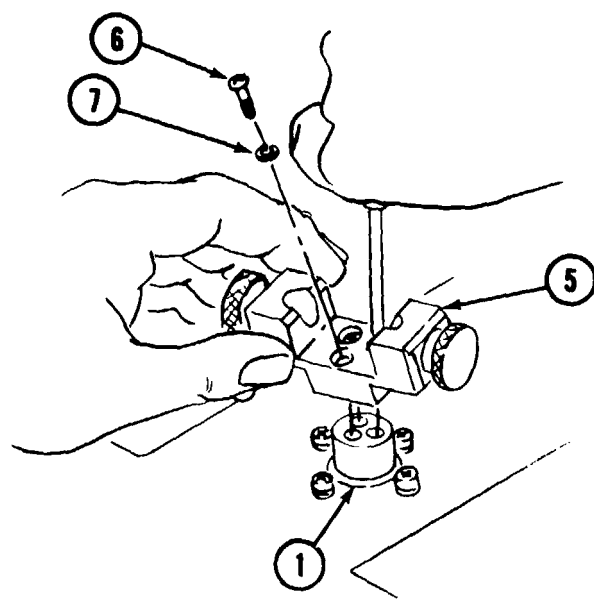
8-86. INSTALL RESISTOR SWITCHES R1, R2 AND R3(OAF) - CONTINUED

STEP 3

- A. Install bearing shaft (1) through OAF base (2). Secure with four screws (3) and four washers (4), using No. 2 crosspoint screwdriver.



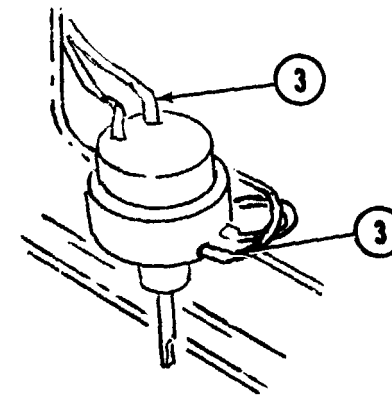
- B. Install OAC mount (5) to bearing shaft (1) using screwdriver to secure three screws (6) and three washers (7).



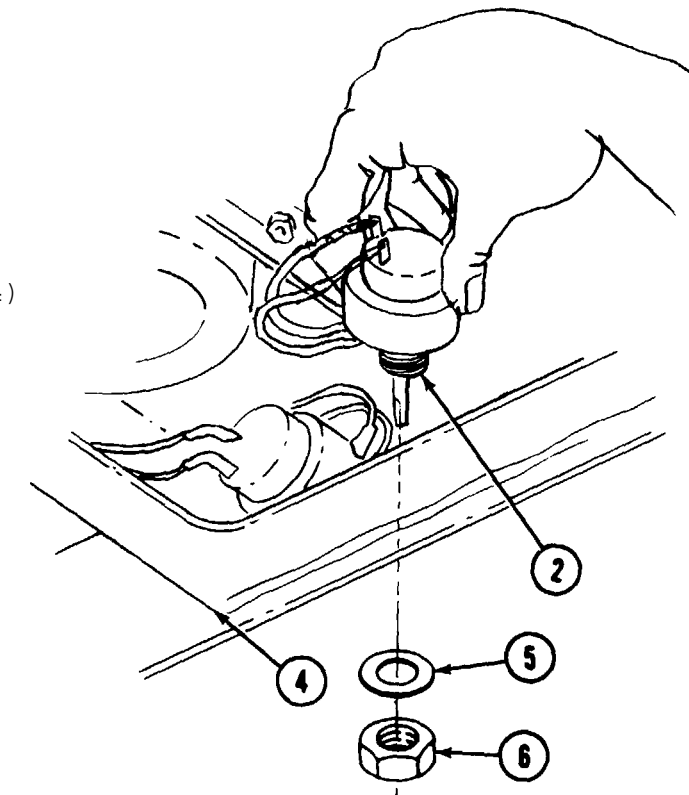
STEP 4

Install R1 or R3 as follows:

- A. Slide insulation sleeving over leads (1).
 B. Solder leads (1) to switch (2). Remove tags.



- D. Slide switch (2) into position on OAF base (4).
 E. Apply a thin coat of sealing compound to threads of switch (2).
 F. Install washer (5) and nut (6) to secure switch (2) to base (4) using 3/8 inch open end wrench.



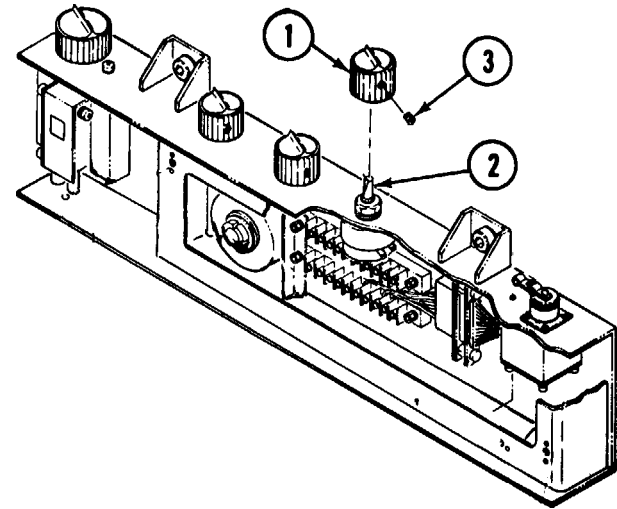
- C. Slide sleeving over the connections (3). Heat shrink using heat gun.

GO TO NEXT PAGE

8-86. INSTALL RESISTOR SWITCHES R1, R2 AND R3(OAF) -CONTINUED

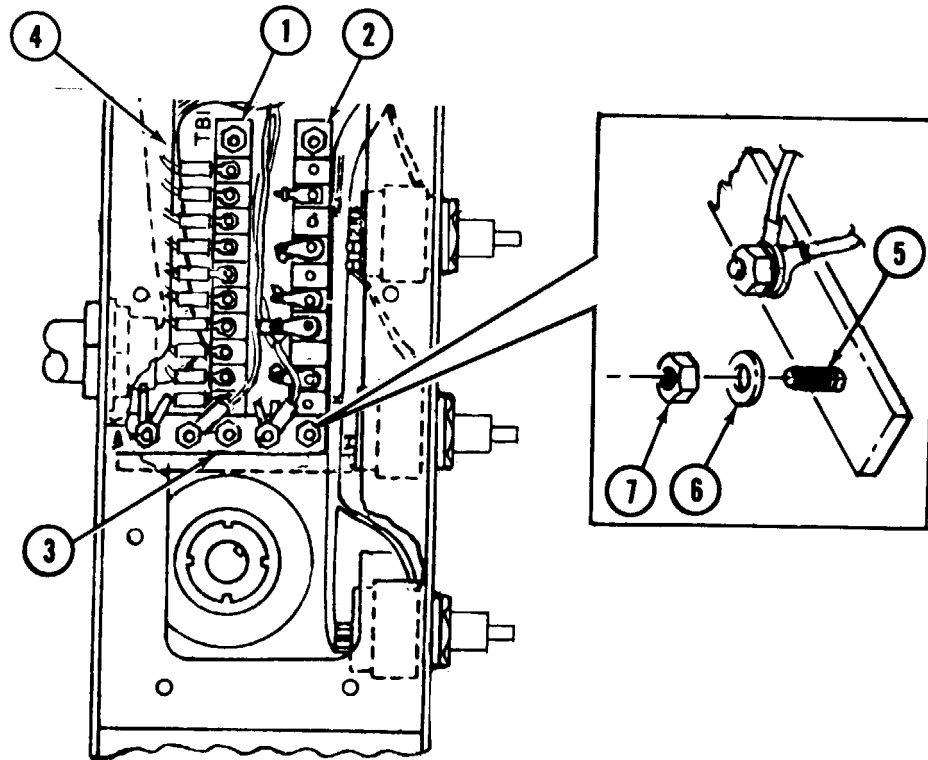
STEP 5

Install knob (1) on switch shaft (2) and secure the two setscrews (3) with .050 inch Allen wrench.



STEP 6

Secure TB1 (1), TB2 (2) and the ECA (3) to OAF base (4) with four screws (5), four washers (6) and four nuts (7).



END OF TASK

8-87. INSTALL R4, R6 AND R9(OAF)

Tools required: Soldering iron
 Longnose pliers
 Diagonal cutting pliers
 Craftsman's knife
 1/4 inch open end wrench
 5/32 inch open end wrench
 5/16 inch open end wrench
 No. 2 crosspoint screwdriver

Materials required:

Materials

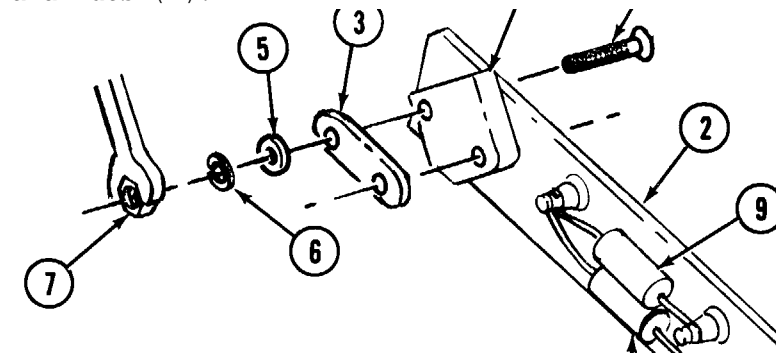
Solder
 Alcohol
 Brush

See Appendix D

Item 11
 Item 8
 Item 9

STEP 1

- A. Using 5/32 inch open end wrench and crosspoint screwdriver, install R6 (1) on electronic component assembly (ECA) (2) and secure with retainer (3), two screws (4), flatwashers (5), lockwashers (6) and nuts (7).

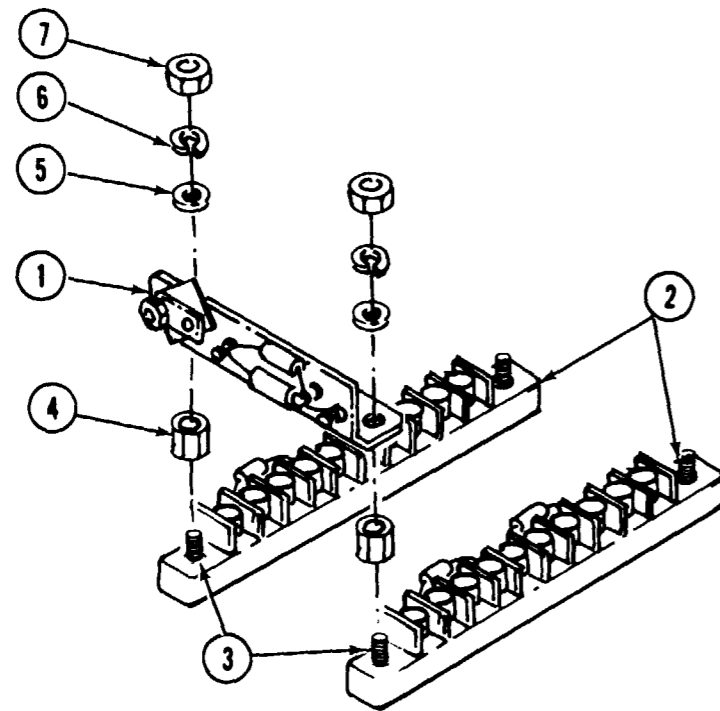


- B. Install R6 tagged leads.
- C. Install R4 (8) and R9 (9) on standoff terminals (10).
- D. Solder the leads of R4 (8), R6 (1), and R9 (9).

8-87. INSTALL R4, R6 AND R9 (OAF) - CONTINUED

STEP 2

Using 1/4 inch and 5/16 inch open end wrenches, secure the ECA (1) to TB1 and TB2 (2) with two screws (3), sleeve spacers (4), flatwashers (5), lockwashers (6) and nuts (7).



END OF TASK

8-88. INSTALL TB3(OAF)

Tools required: Longnose pliers
 Diagonal cutting pliers
 Craftman's knife
 1/8 inch flat-blade screwdriver
 Wire strippers
 Heat sink

Materials required:

Materials

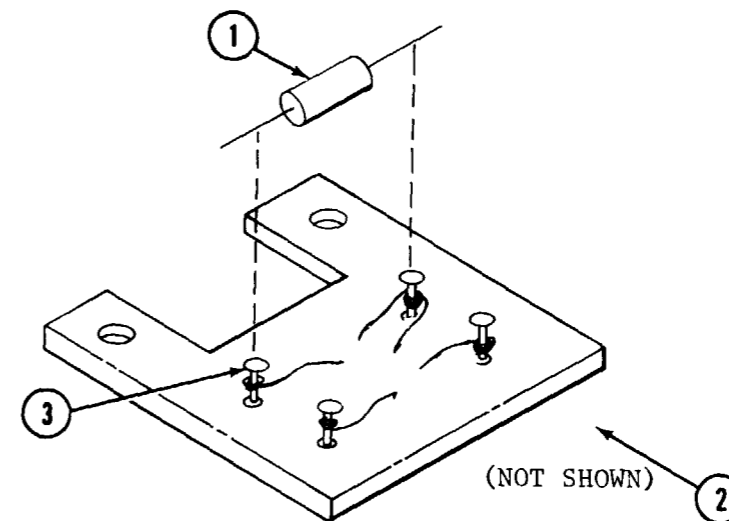
DELETED
 Solder
 Alcohol
 DELETED
 DELETED

See Appendix D

Item 11
 Item 8

STEP 1

Install diode (1) and relay (2) to terminal studs (3) if previously removed.
 Install heat sink and solder diode and relay (reverse side of board).

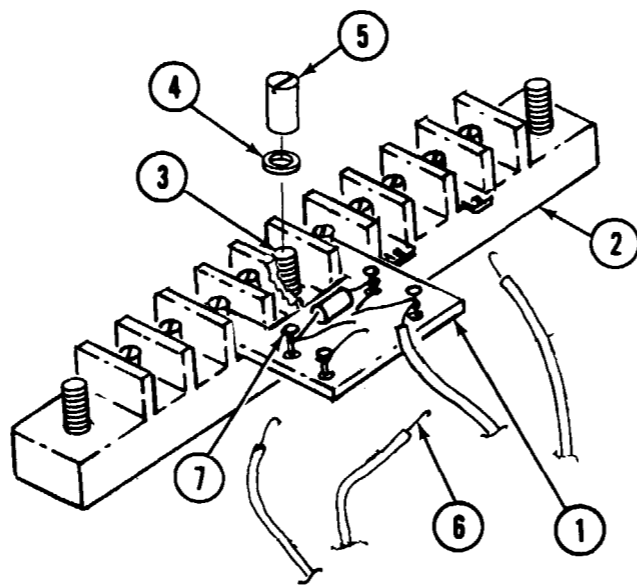


GO TO NEXT PAGE

8-88. INSTALL TB3 (OAF)- CONTINUED

STEP 2

- A. Install TB3 (1) on TB2 (2) by placing it over two terminal screws (3) and secure each side with flat-washer (4) and terminal post (5) by using flat-blade screwdriver.



- B. Solder leads (6) to terminal studs (7) on TB3 (1). Remove tags.

END OF TASK

8-89. INSTALL RESISTOR R7 OR R8(OAF)

Tools required: 1/8 inch flat-blade screwdriver
 Longnose pliers
 Soldering iron

Materials required:

Materials

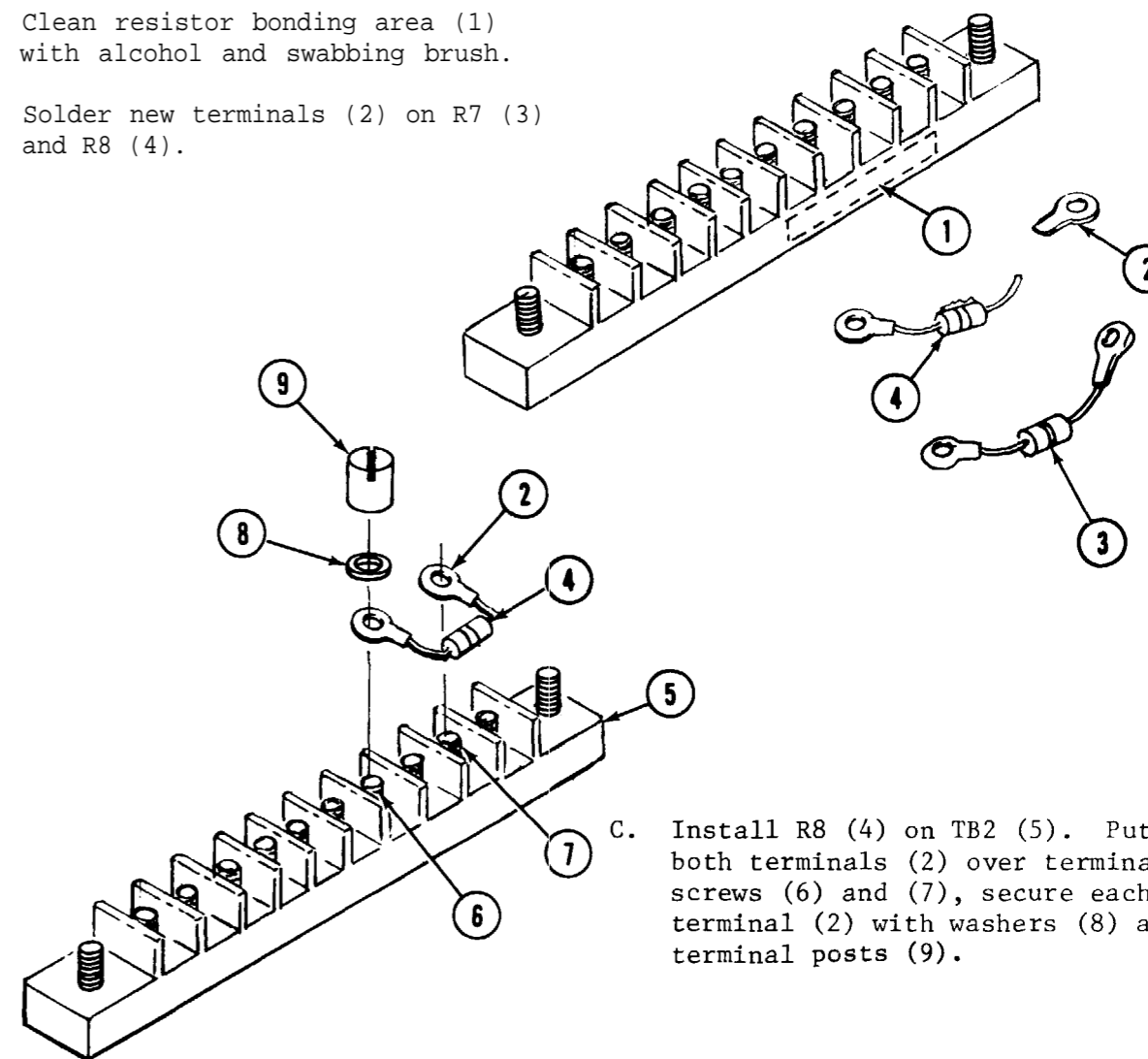
Alcohol
 Adhesive sealant
 Brush

See Appendix D

Item 8
 Item 73
 Item 9

STEP 1

- A. Clean resistor bonding area (1) with alcohol and swabbing brush.
 B. Solder new terminals (2) on R7 (3) and R8 (4).



- C. Install R8 (4) on TB2 (5). Put both terminals (2) over terminal screws (6) and (7), secure each terminal (2) with washers (8) and terminal posts (9).

GO TO NEXT PAGE

8-89. INSTALL RESISTOR R7 OR R8 (OAF) - CONTINUED

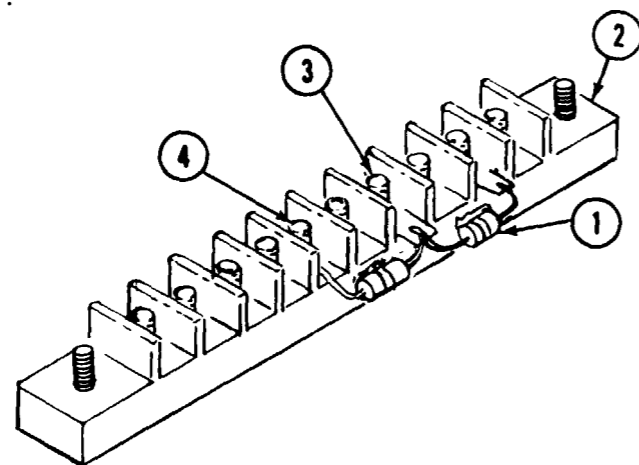
STEP 2

- A. Carefully bend R8 (1) down along side TB2 (2).
- B. Bond R8 (1) to TB2 (2) with adhesive sealant. Allow to cure 24 hours prior to handling. Full cure takes 72 hours.
- C. Install R7 resistor in same manner on terminals (3) and (4).
- D. Bond resistor R7 with adhesive sealant and allow to cure 24 hours prior to handling. Full cure takes 72 hours.



NOTE

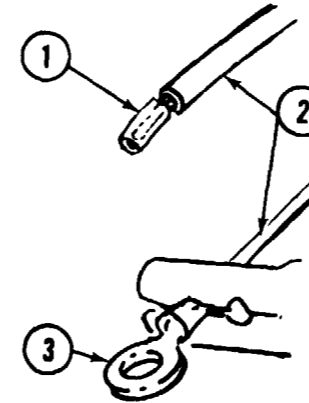
Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.



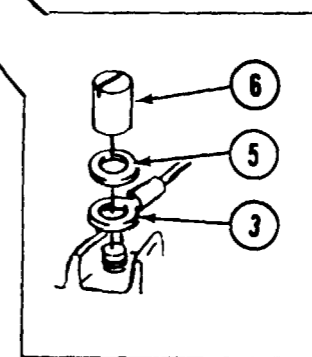
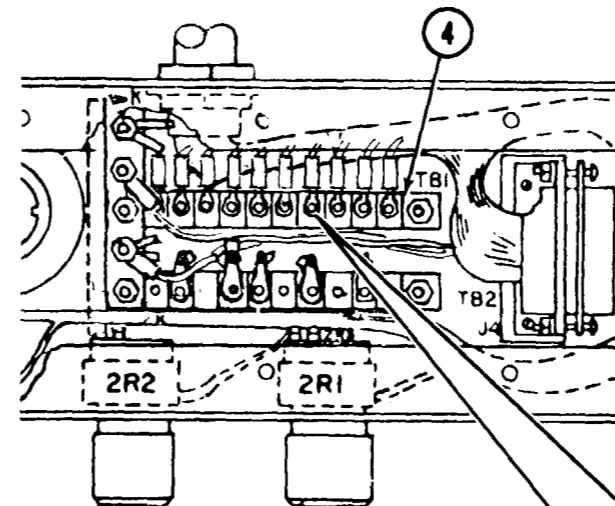
END OF TASK

8-90. INSTALL TB1 OR TB2 TERMINALS (OAF)

Tools required: 1/8 inch flat-blade screwdriver
 Longnose pliers
 Diagonal cutting pliers
 Wire strippers
 Wire crimpers



- A. Using wire strippers, strip insulation (1) from any lead(s) (2) missing a terminal (3).
- B. Install new terminal (3) on lead (2) with crimping tool.
- C. Install leads (2) onto TB1 (4). Secure each lead (2) with flat-washer (5) and terminal post (6).
- D. Install terminals on TB2 in same manner.



END OF TASK

8-91. INSTALL ELECTRICAL SPECIAL PURPOSE CABLE ASSEMBLY

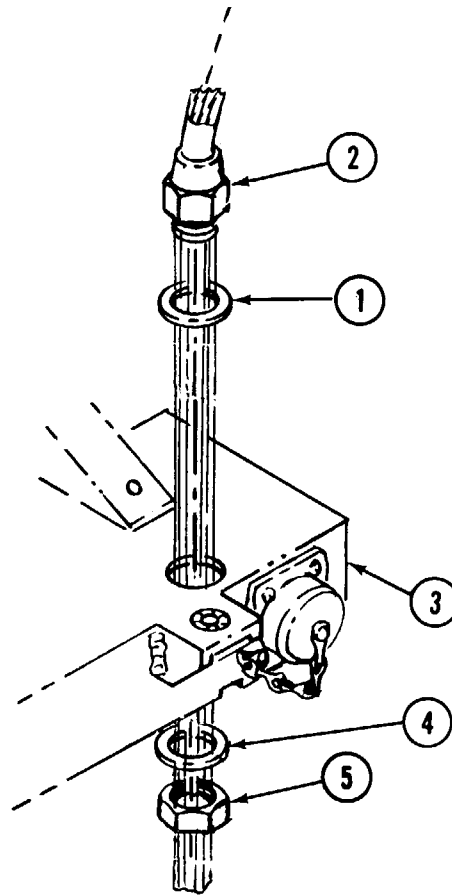
- Tools required:
- 11/32 inch open end wrench
 - 13/16 inch open end wrench
 - No. 2 crosspoint screwdriver
 - Craftsman's knife
 - Longnose pliers
 - Pliers
 - Wire strippers
 - Crimping tool

STEP 1

Using crimping tool, install new terminals on any leads where a damaged terminal has been removed.

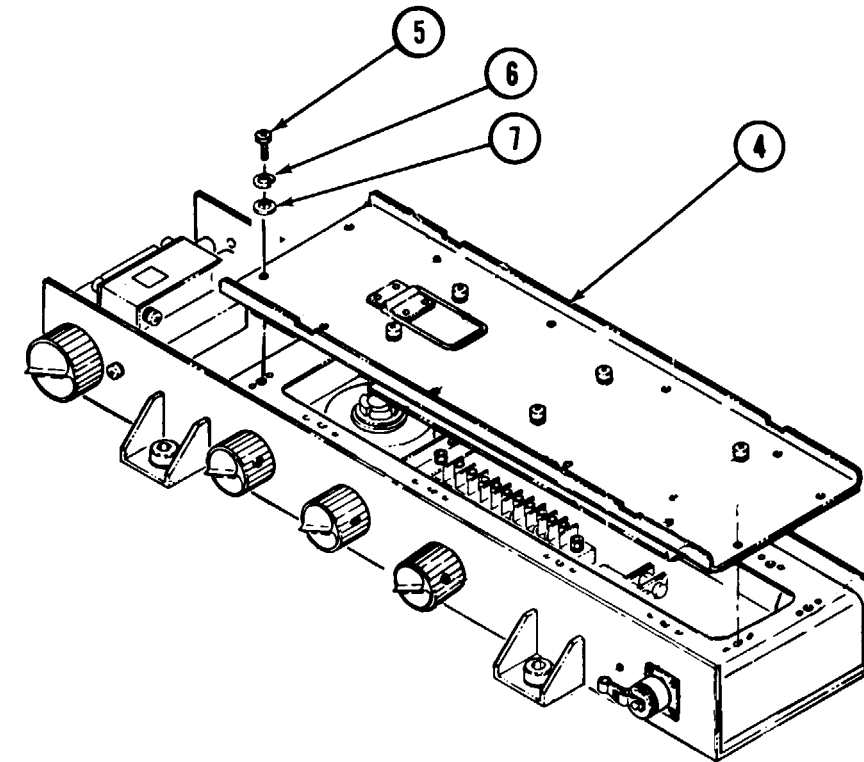
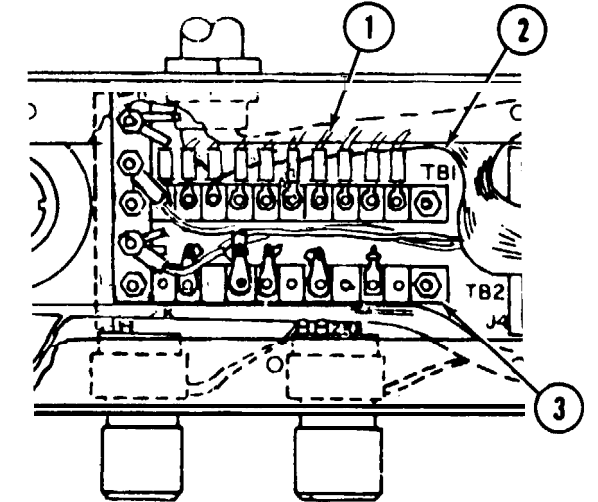
STEP 2

- A. Place the flatwasher (1) on the cable assembly (2).
- B. Carefully insert the cable assembly (2) into the base of the OAF (3).
- C. Install flatwasher (4) over cable assembly (2) and secure with nut (5).



STEP 3

- A. Press leads and install cable straps where removed.
- B. Connect leads (1) to TB1 (2) and TB2 (3).
- C. Using a No. 2 crosspoint screwdriver, install access cover (4) with twelve screws (5), flatwashers (6) and retainers (7).



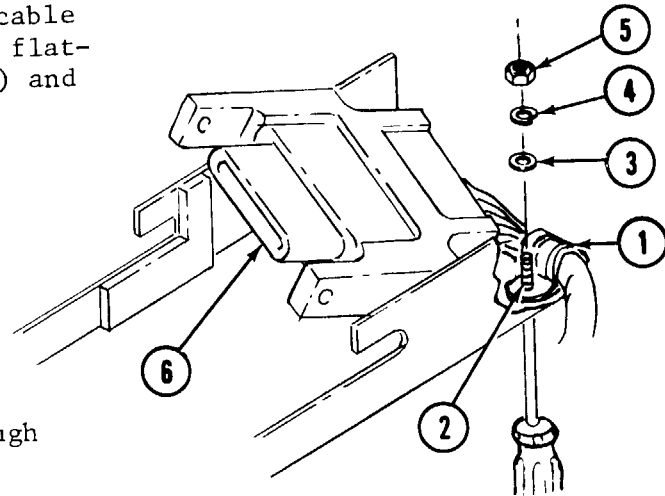
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TM 9-1425-484-24

8-91. INSTALL Electrical SPECIAL PURPOSE CABLE ASSEMBLY - Continued

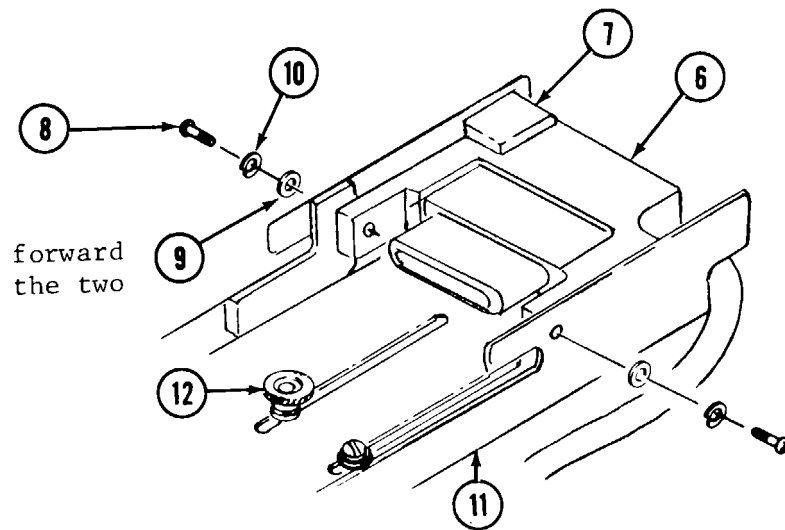
STEP 4

- A. Using screwdriver and 11/32 inch open end wrench, install cable clamp (1) with screw (2), flatwasher (3), lockwasher (4) and nut (5).



- B. Slide connector (6) through clip (7).

- C. Using screwdriver, install connector (6) with two screws (8), flatwashers (9) and lockwashers (10).



- D. Push mount (11) to the forward position and lock with the two knobs (12).

END OF TASK

8-92. INSTALL J1 CONNECTOR COVER (OAF)

Tools required: No. 1 crosspoint screwdriver
1/4 inch open end wrench

Materials required:

Materials

Adhesive sealant
Orangewood stick

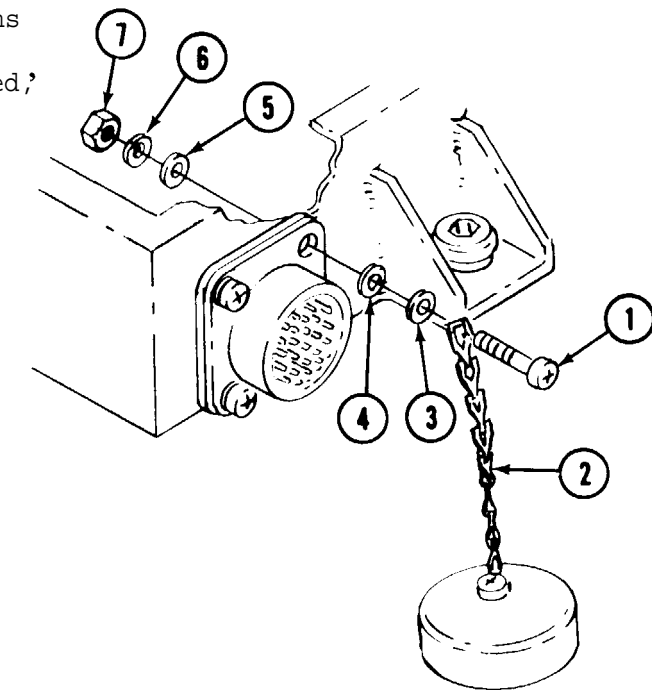
See Appendix D

Item 73
Item 7

- A. Put a thin coat of adhesive sealant under the screw head (1),
- B. Install cap chain (2) to base using the screw (1), flatwasher (3), retainer (4), flatwasher (5), lockwasher (6) and nut (7). Tighten with screwdriver and wrench.
- C. Wipe off any excess adhesive sealant.



Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.



END OF TASK

8-93. INSTALL TERMINAL LUG E1 AND J2 CONNECTOR COVER (OAF)

Tools required: Soldering iron
 Longnose pliers
 Diagonal cutting pliers
 5/16 inch open end wrench
 Craftsman's knife
 Heat gun
 No. 1 crosspoint screwdriver

Materials required:

Materials

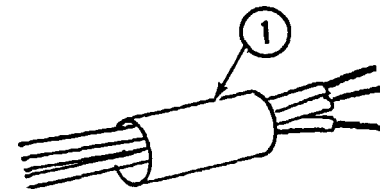
Solder
 Alcohol
 Brush
 Adhesive sealant
 Insulation sleeving
 Orangewood stick

See Appendix D

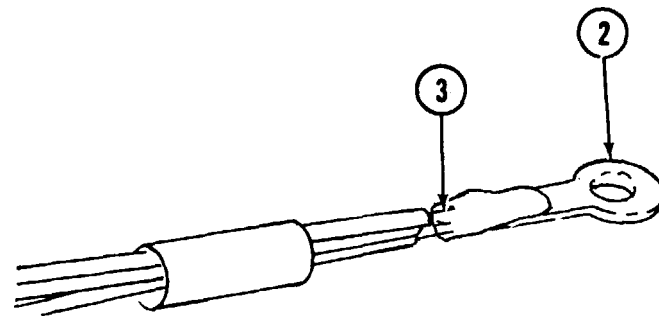
Item 11
 Item 8
 Item 9
 Item 73
 Item 65
 Item 7

STEP 1

- A. Install a 1 inch length of sleeving (1) over the leads to E1 (2).



- B. Solder leads (3) to E1 (2).



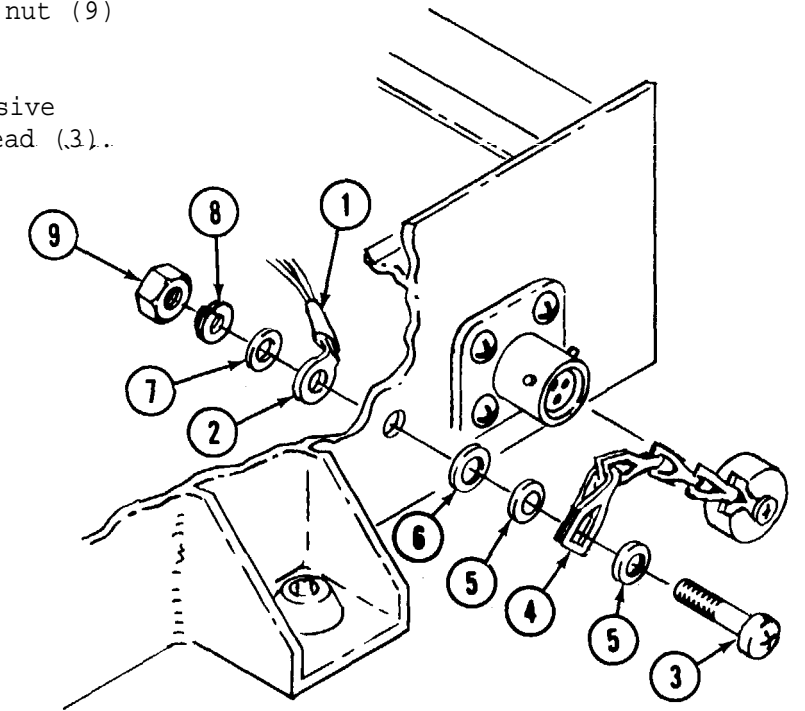
STEP 2

- A. Slide sleeving (1) over connections and heat shrink,
 B. Bend E1 (2) up about 45°.



Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

- C. Apply adhesive sealant under the head of the screw (3).
 D. Install cap chain (4), two flat-washers (5), sealing washer (6), from outside of OAF chassis. Install lug E1 (2), flatwasher (7), lockwashers (8) and nut (9) on the screw (3).
 E. Wipe off any excess adhesive sealant from the screw head (3).



END OF TASK

8-94. INSTALL RF FILTERS FL1 AND FL 2 (OAF)

- | | | |
|-----------------|-------------------------|------------------------------|
| Tools required: | Ratchet wrench | 3/8 inch open end wrench |
| | Soldering iron | 7/16 inch open end wrench |
| | Diagonal cutting pliers | Craftsman's knife |
| | Longnose pliers | No. 1 crosspoint screwdriver |
| | Wire strippers | Machinist's rule |
| | 3/16 inch socket | Heat gun |
| | | No. 0 crosspoint screwdriver |

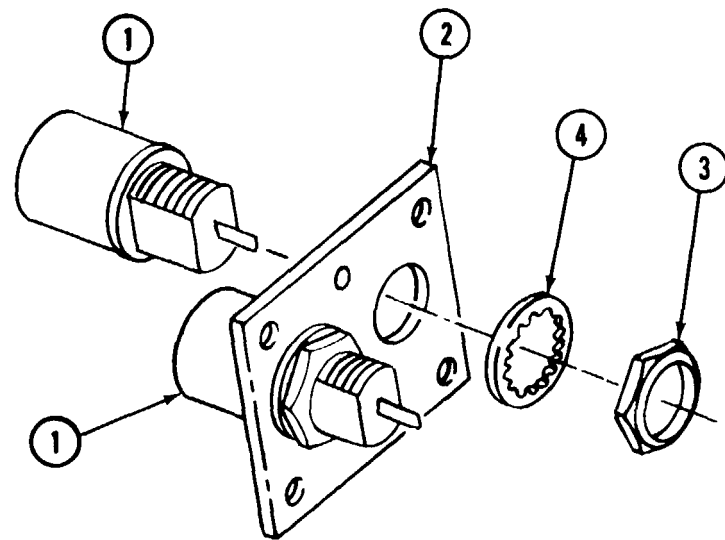
Materials required:

<u>Materials</u>	<u>See Appendix D</u>
Solder	Item 11
Alcohol	Item 8
Brush	Item 9
Deleted	
Cleaning cloth	Item 6
Deleted	
Deleted	
Insulation sleeving	Item 38
Deleted	

Equipment condition: J2 connector removed (OAF), see para. 8-14.

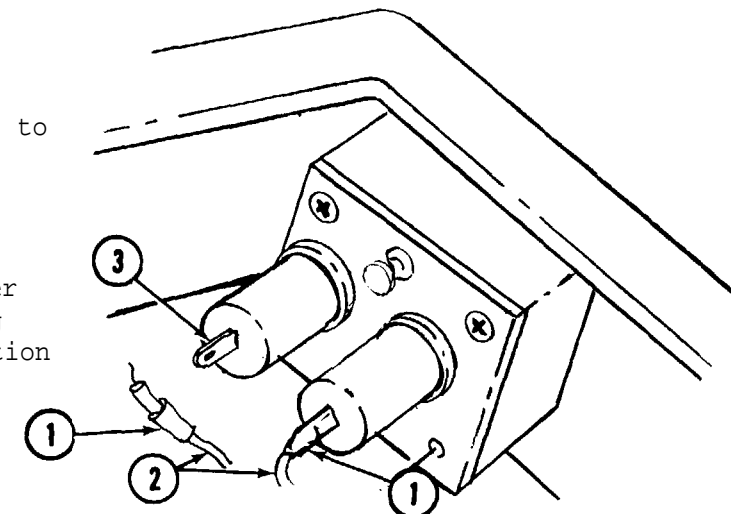
STEP 1

- A. Install filters, FL1 or FL2 (1) on plate (2).
- B. Using 7/16 inch open end wrench, secure filters FL1 or FL2 to the plate with nut (3) and washer (4).



STEP 2

- A. Cut insulation sleeving (1) not less than 1/2 inch long and slide over leads (2).
- B. Identify and solder leads (2) to filter terminals (3).
- C. Slide insulation sleeving over soldered connection and using heat gun, heat shrink insulation sleeving in place.



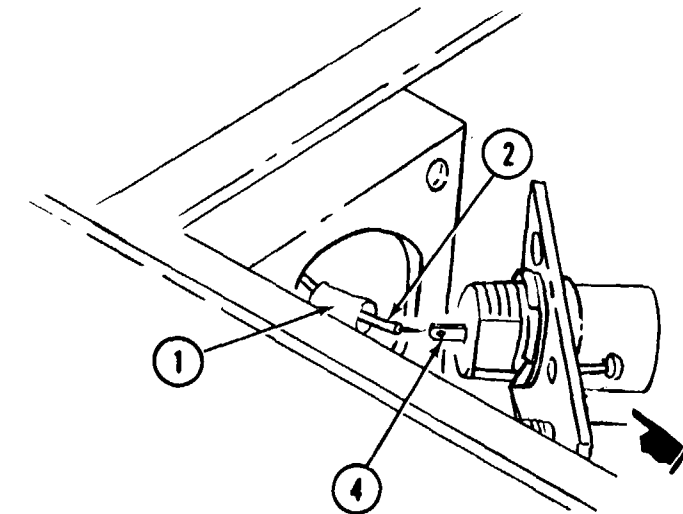
STEP 3

- A. Cut insulation sleeving (1) not less than 1/2 inch long and slide over leads (2).



NOTE
Be sure to route the leads (2) through the connector gasket before soldering.

- B. Identify and solder leads (2) to filter terminals (4).
- C. Slide insulation sleeving over solder connections, heat shrink into place.



GO TO NEXT PAGE

8-94. INSTALL RF FILTERS FL1 AND FL2 (OAF) - CONTINUED

STEP 4

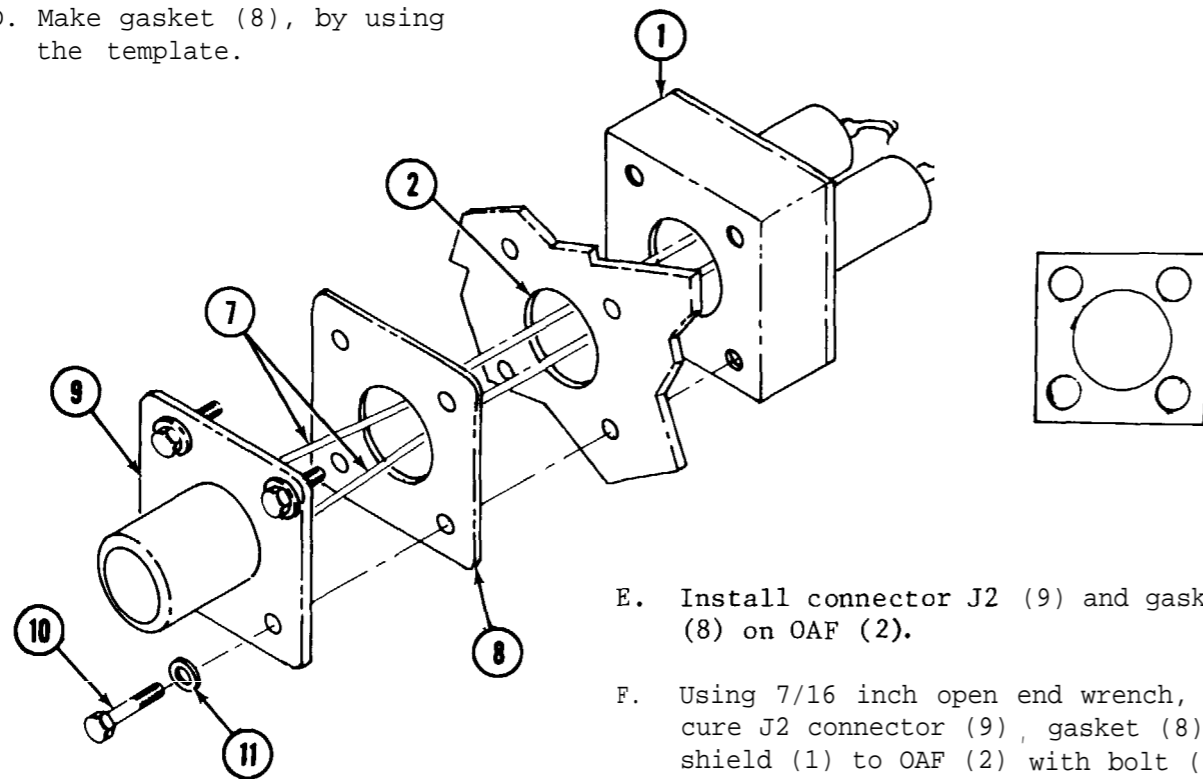
- A. Carefully push wires through hole in shield (1) and through hole in OAF (2).
- B. Using screwdriver, secure plate (3) to shield (1) with four screws (4), flatwashers (5) and lockwashers (6).
- C. Carefully push connector J2 leads (7) back into the shield (1).



NOTE

Some connectors are installed with screws. Use No. 0 crosspoint screwdriver to install screws-

- D. Make gasket (8), by using the template.



- E. Install connector J2 (9) and gasket (8) on OAF (2).
- F. Using 7/16 inch open end wrench, secure J2 connector (9), gasket (8) and shield (1) to OAF (2) with bolt (10) and washer (11).

END OF TASK

8-95. INSTALL CONNECTOR J2 (OAF)

- Tools required:
- Soldering iron
 - Longnose pliers
 - Diagonal cutting pliers
 - Wire strippers
 - Craftsman's knife
 - 3/16 inch open end wrench
 - No. 0 crosspoint screwdriver

Materials required:

Materials

- Solder
- Brush
- Alcohol
- Silicone rubber
- Insulation sleeving

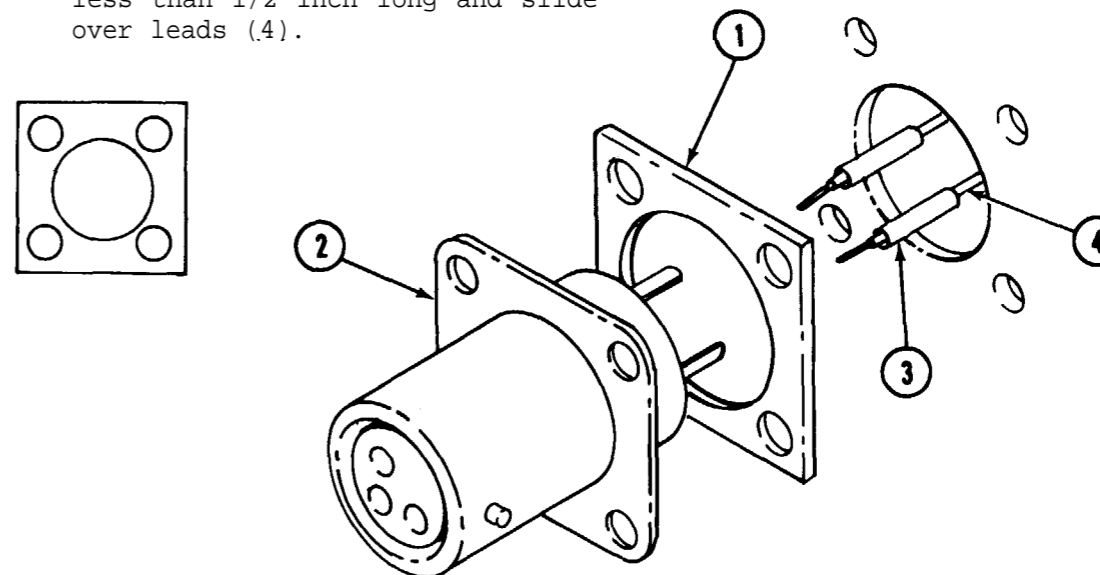
See Appendix D

- Item 11
- Item 9
- Item 8
- Item 43
- Item 38

Equipment condition: RF filters FL1 and FL2 installed, see para. 8-94.

STEP 1

- A. Using template, with craftsman's knife, cut a new gasket (1) from gasket material and install on J2 connector (2).
- B. Cut insulation sleeving (3) not less than 1/2 inch long and slide over leads (4).

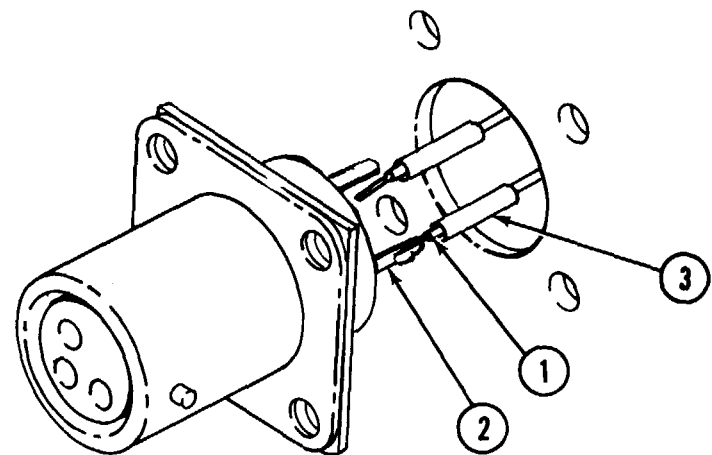


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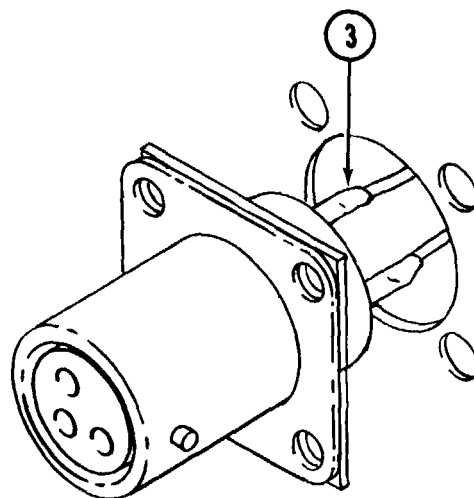
8-95. INSTALL CONNECTOR J2 (OAF) - CONTINUED

STEP 2

- A. Identify and solder leads (1) to connector terminals (2). Remove tags.

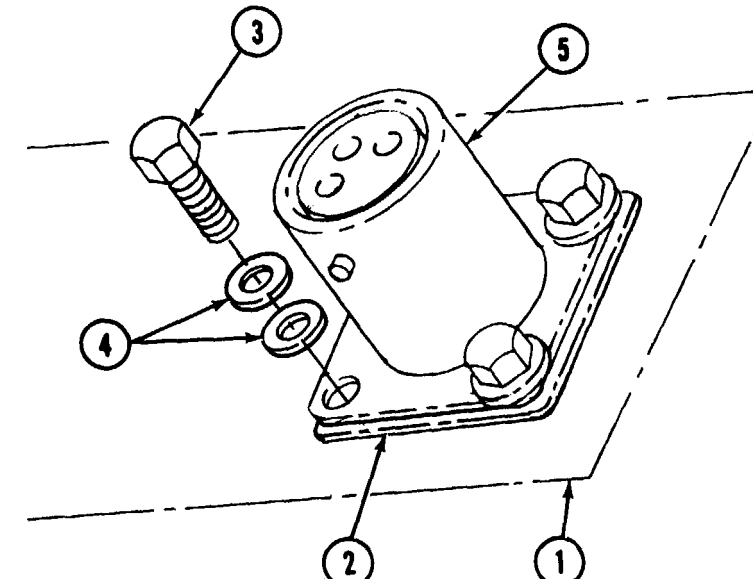


- B. Slide insulation sleeving (3) over connector terminals (2) and shrink insulation sleeving over soldered connections.



STEP 3

- A. Carefully push leads into OAF (1) and position gasket (2) on OAF.



- B. Using a 3/16 inch open end wrench, install bolts (3) and washers (4) to secure connector J2 (5) to OAF.



NOTE

Some connectors are installed with screws. Use No. 0 crosspoint screwdriver to install screws.

END OF TASK

8-96. INSTALL COVER GASKET (OAF)

Tools required: No. 2 crosspoint screwdriver
 Craftsman's knife
 Machinist's rule

Materials required:

Materials

MEK
 Cleaning cloth
 Adhesive
 Silicone rubber
 Orangewood stick

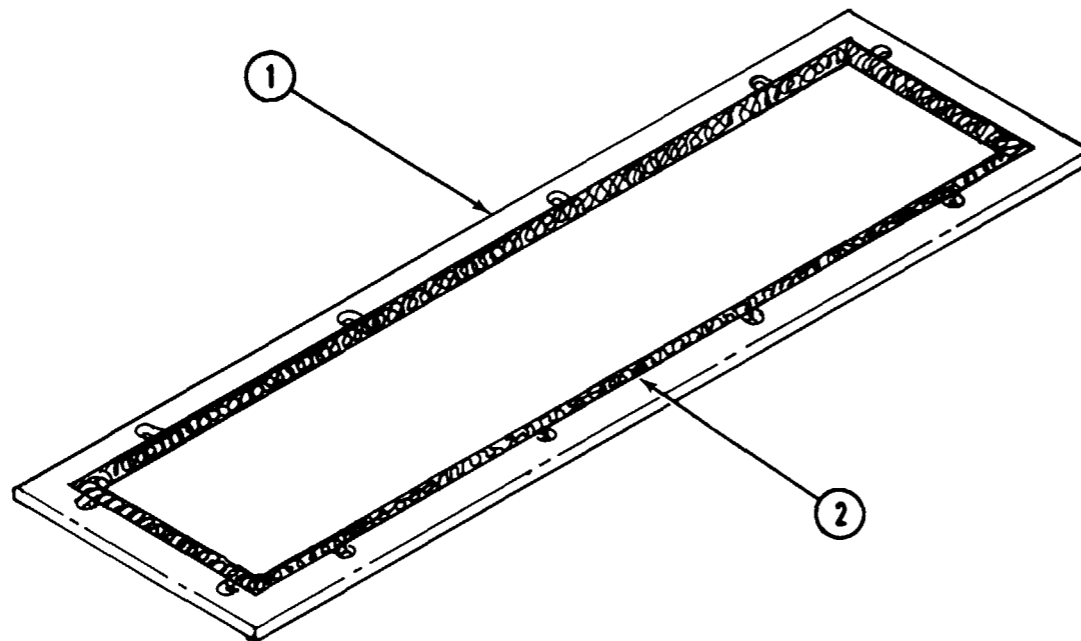
See Appendix D

Item 5
 Item 6
 Item 41
 Item 46
 Item 7

Equipment condition: OAF cover removed, see para. 8-11.

STEP 1

- A. Using craftsman's knife, cut new cover gasket from gasket material. Use old gasket as pattern.
- B. Using orangewood stick, apply adhesive to inside edge of cover gasket (1) and press the RF1 gasket (2) to the cover gasket.

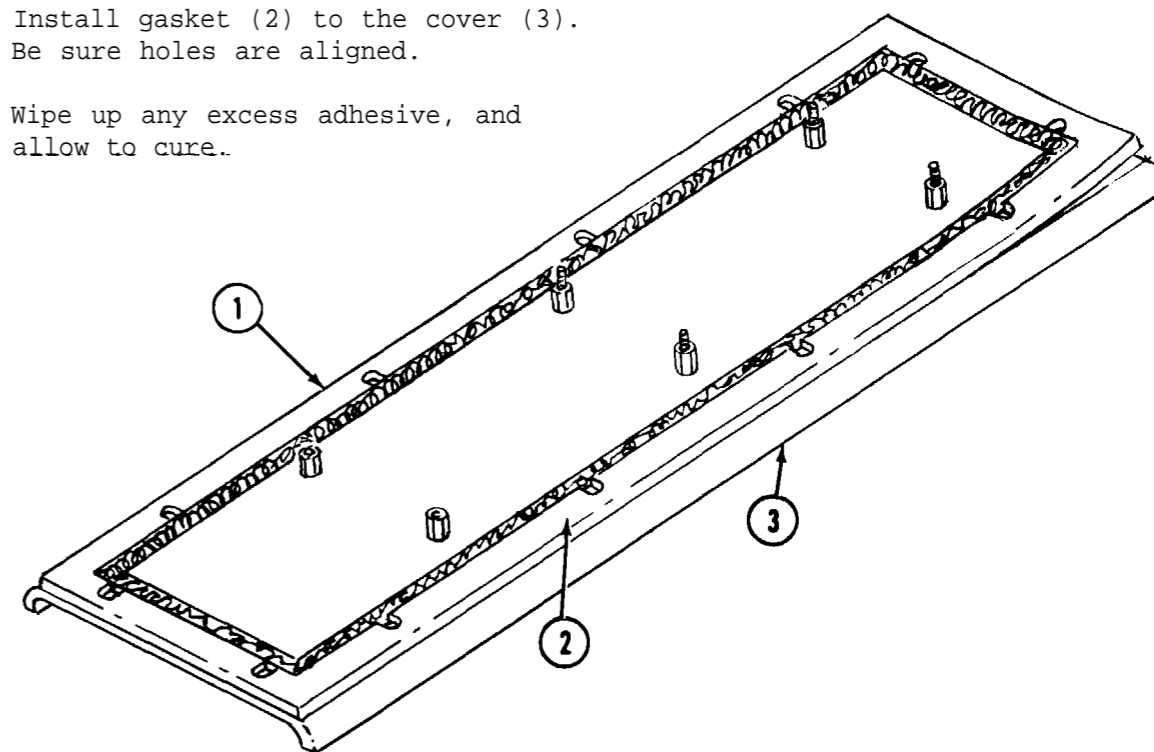


STEP 2



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat.

- A. Using MEK and cleaning cloth, clean gasket mounting area (1).
- B. Using orangewood stick, apply adhesive to the gasket mounting area.
- C. Install gasket (2) to the cover (3). Be sure holes are aligned.
- D. Wipe up any excess adhesive, and allow to cure..



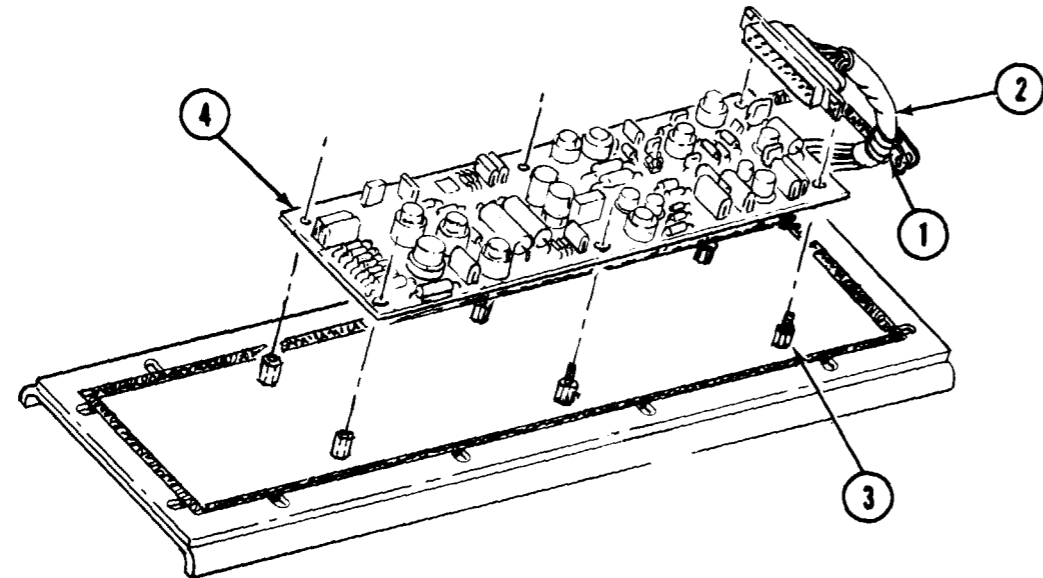
END OF TASK

8-97. INSTALL OAF COVER AND CIRCUIT CARD ASSEMBLY 2A1

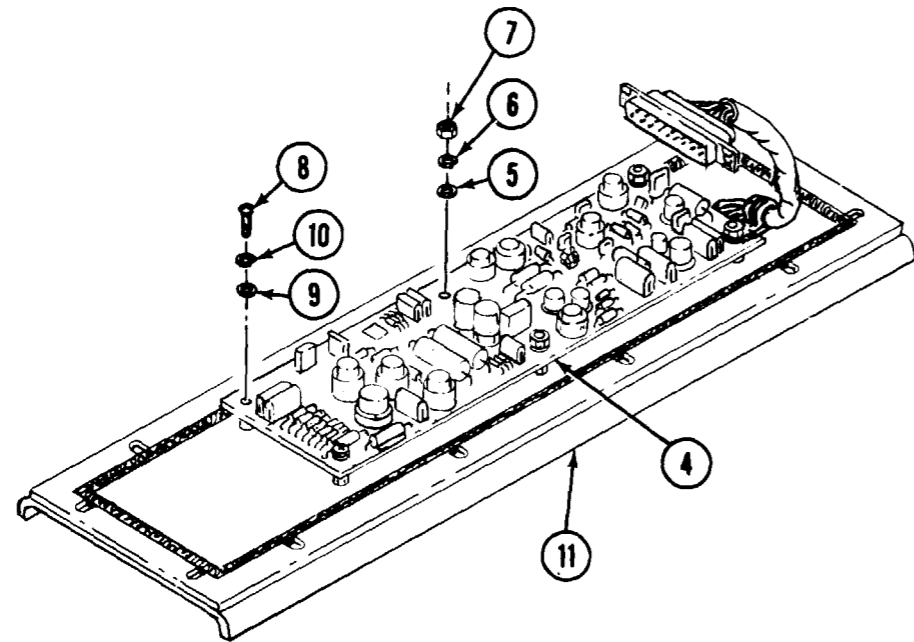
Tools required: 1/8 Inch flat-blade screwdriver
 5/16 inch open end wrench
 No. 2 crosspoint screwdriver

STEP 1

A. Install clamp (1) on 2A1 wiring harness (2). Be sure to put clamp (1) over short post (3) when installing on circuit board (4).

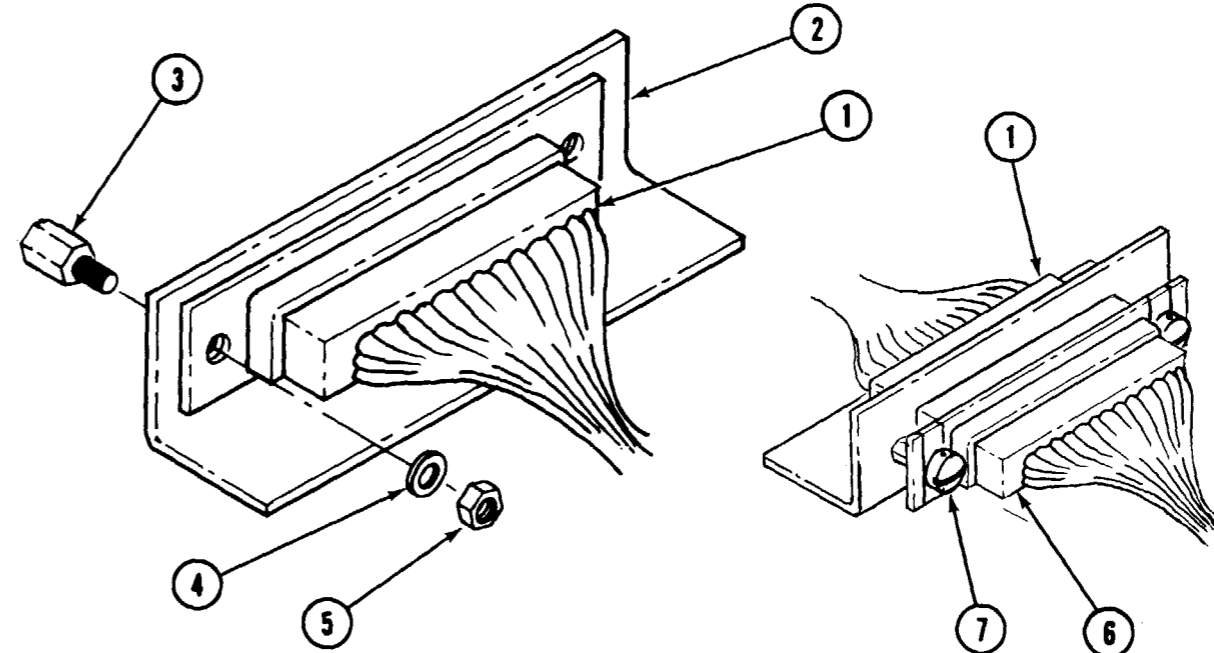


B. Install four washers (5) and four lockwashers (6) and four nuts (7) and two screws (8) with washer (9) and lockwasher (10) to secure circuit card (4) to cover (11).

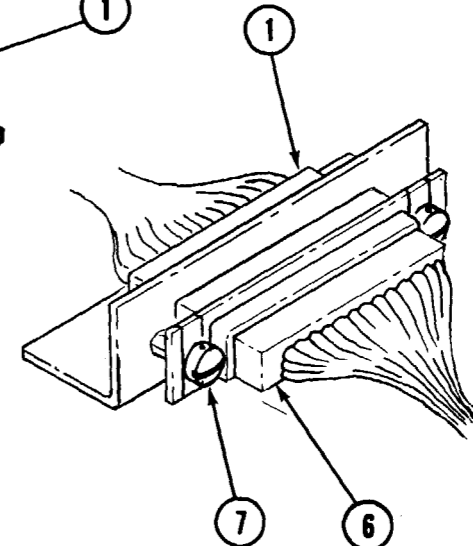


STEP 2

A. Install J4 connector (1) on OAF bracket (2) and secure with two retainers (3) two lockwashers (4) and two nuts (5).

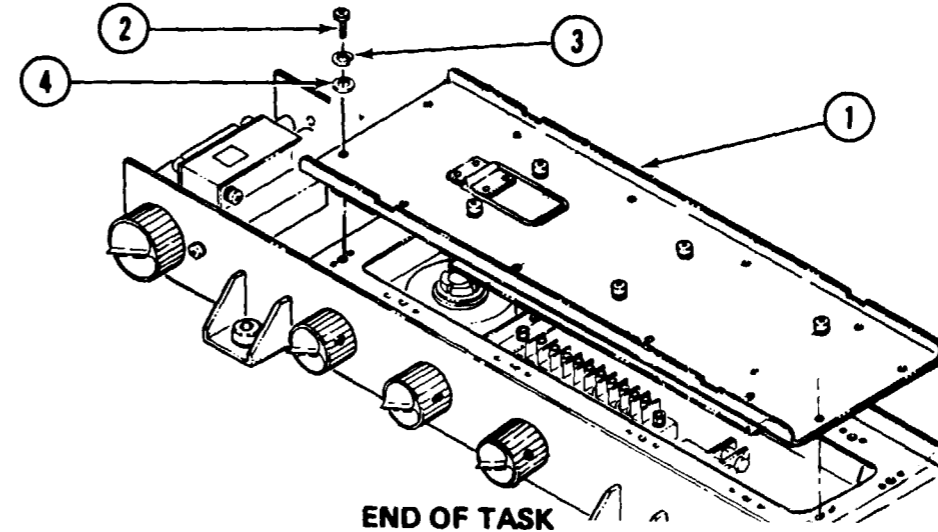


B. Connect A1P1 connector (6) to J4 connector (1) and secure with two captive screws (7).



STEP 3

Install access cover (1) using twelve screws (2), Lockwashers (3) and flatwashers (4).



END OF TASK

8-98. INSTALL TRACKER MOUNT

- Tools required:
- 11/32 inch open end wrench
 - No. 1 crosspoint screwdriver
 - No. 2 crosspoint screwdriver
 - 1/8 inch flat-blade screwdriver
 - 1/16 inch drive pin
 - Ball peen hammer
 - Longnose pliers
 - 5/16 inch open end wrench

Materials required:

Materials

See Appendix D

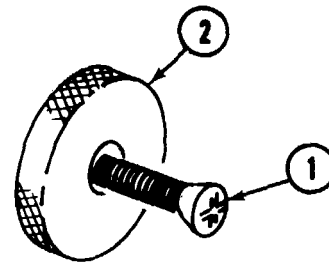
Adhesive sealant

Item 73

Personnel required: Two

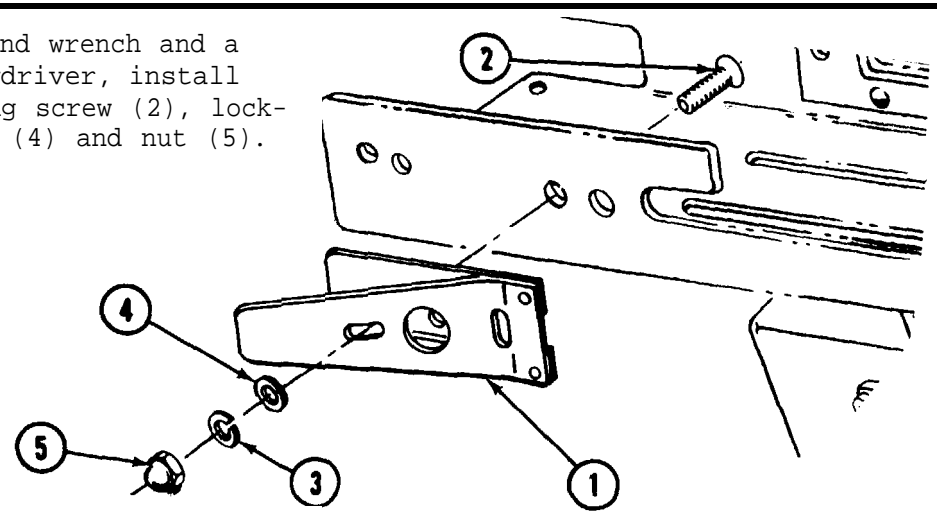
STEP 1

- A. Apply adhesive sealant lightly around screwheads (1) of thumbnuts (2).
- B. Run the thumbnuts (2) up to the screwheads (1).



STEP 2

Using 5/16 inch open end wrench and a No. 1 crosspoint screwdriver, install clip (1) on mount using screw (2), lockwasher (3), flatwasher (4) and nut (5).



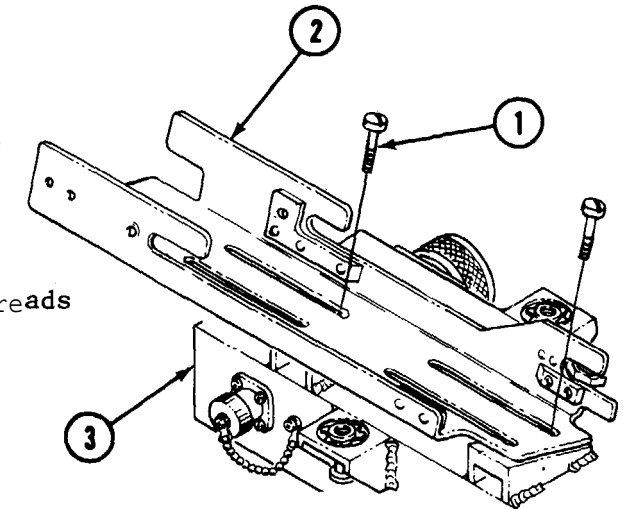
STEP 3



NOTE

Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

- A. Put a drop of adhesive sealant on threads of shoulder screws (1).
- B. Position mount (2) on base (3) and install two shoulder screws (1) with flat-blade screwdriver.

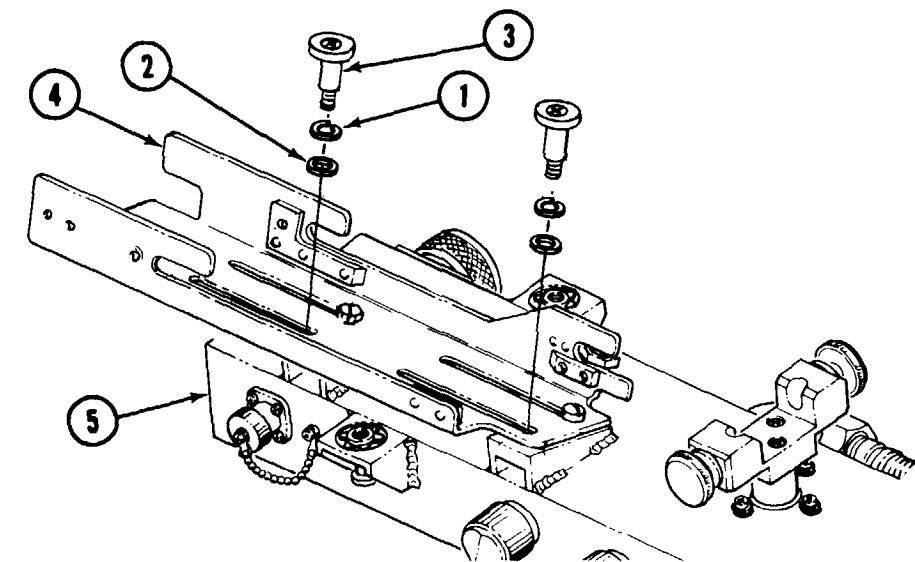


NOTE

You may need a second pair of hands to help out in the following steps.

STEP 4

Install lockwashers (1), flatwashers (2) on thumbscrews (3) and insert them through the tracker mount (4) and screw them into the base (5).



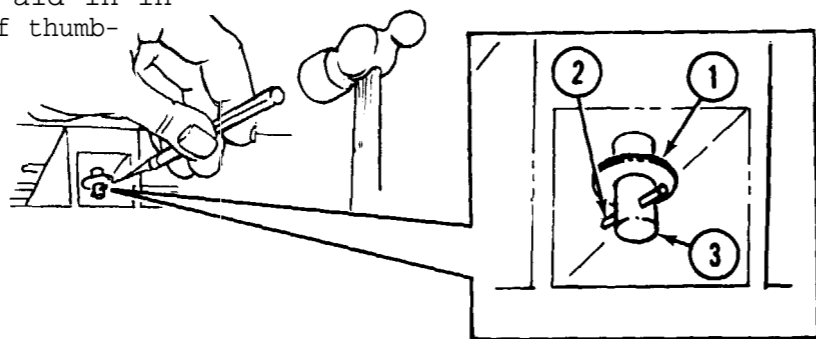
GO TO HELP PAGE

8-98. INSTALL TRACKER MOUNT - CONTINUED

STEP 5

A. Slide washer (1) over thumbscrew.

B. Using hammer and punch, install roll pin (2) in thumbscrew (3). It may be necessary to hold roll pin (2) with longnose pliers to aid in installing it into bottom of thumbscrew (3).



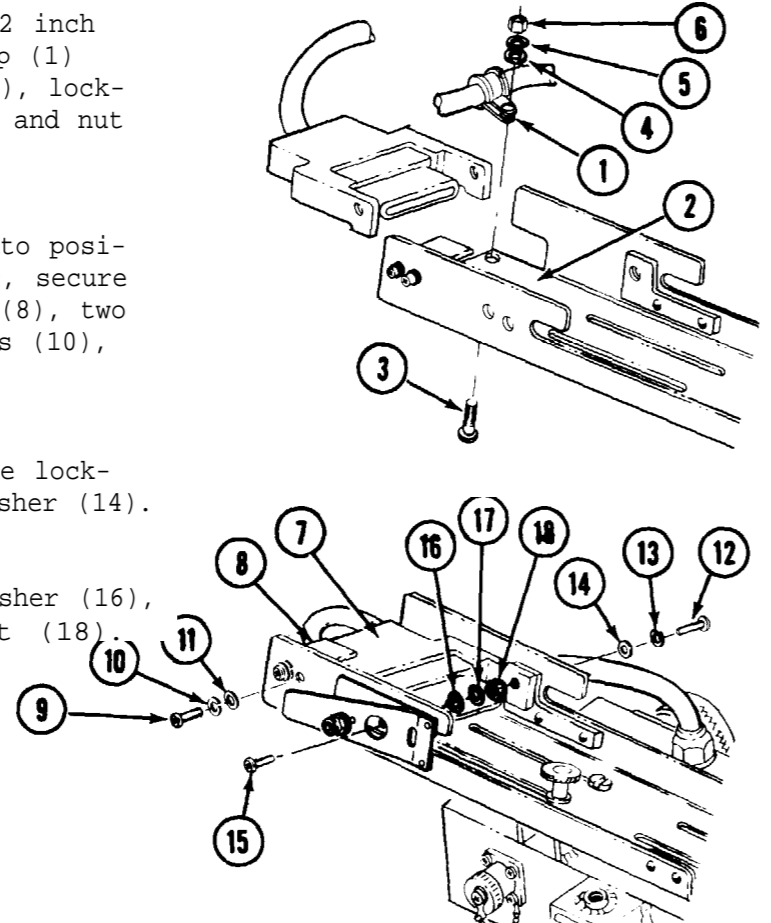
STEP 6

A. Using screwdriver and 11/32 inch wrench, install cable clamp (1) on mount (2) with screw (3), lockwasher (4), flatwasher (5) and nut (6).

B. Swing the connector (7) into position and using screwdriver, secure in position with retainer (8), two screws (9), two lockwashers (10), and two flatwashers (11).

C. Install one screw (12), one lockwasher (13) and one flatwasher (14).

D. Install screw (15), lockwasher (16), flatwasher (17) and nut (18).



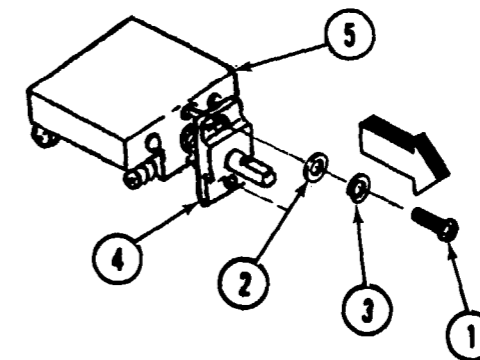
END OF TASK

8-99. INSTALL AZIMUTH/ELEVATION CONTROL (OAF)

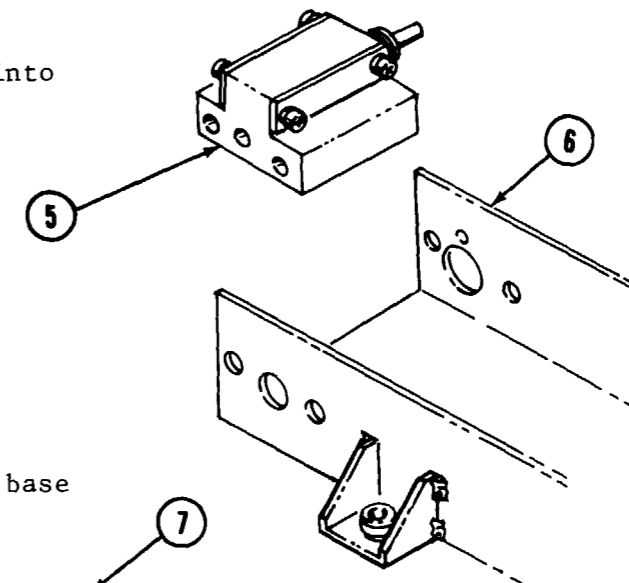
Tools required: No. 1 crosspoint screwdriver
No. 2 crosspoint screwdriver
1/16 inch Allen wrench

STEP 1

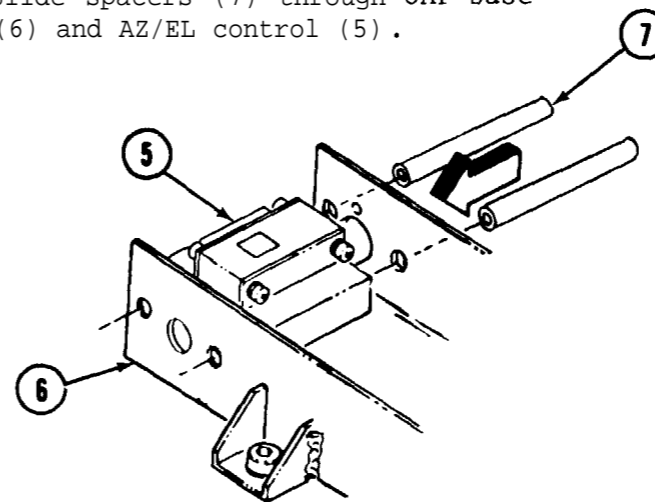
A. Remove two screws (1), two flatwashers (2) and two lockwashers (3) holding azimuth shaft (4) to AZ/EL control (5).



B. Insert the AZ/EL control (5) into the OAF base (6).



C. Slide spacers (7) through OAF base (6) and AZ/EL control (5).

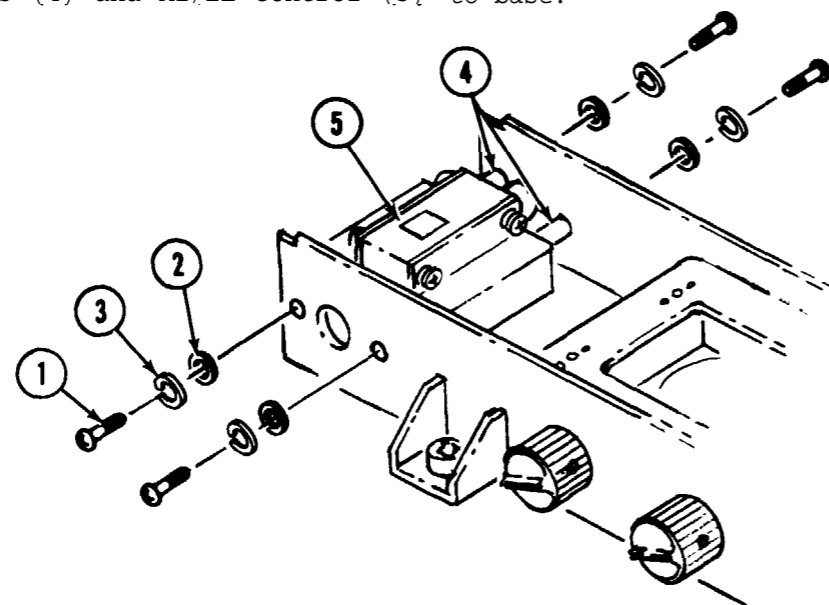


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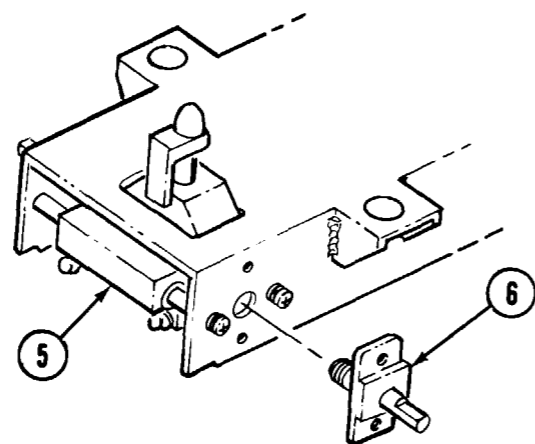
8-99. INSTALL AZIMUTH/ELEVATION CONTROL (OAF) -CONTINUED

STEP 2

- A. Install the four screws (1), flatwashers (2) and lockwashers (3) to secure the spacers (4) and AZ/EL control (5) to base.

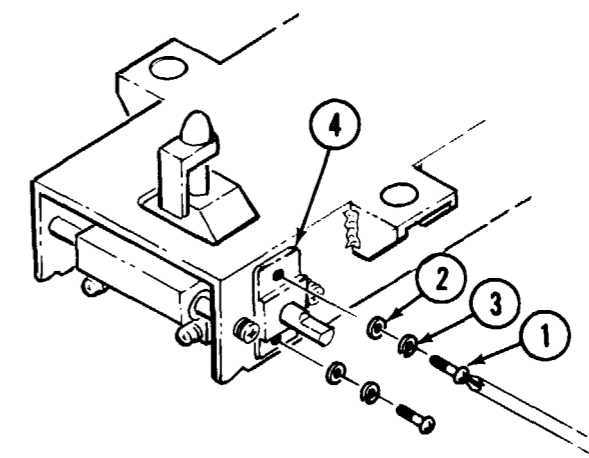


- B. Screw the azimuth shaft assembly (6) into the AZ/EL control (5).

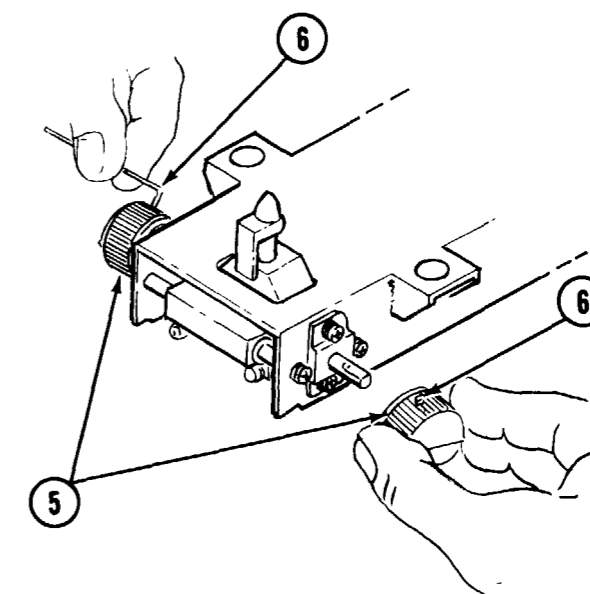


STEP 3

- A. Install the two screws (1), flatwashers (2), lockwashers (3) in place and tighten to hold the azimuth shaft assembly (4).



- B. Install knobs (5) and align them on flat parts of shaft and tighten set-screws (6).

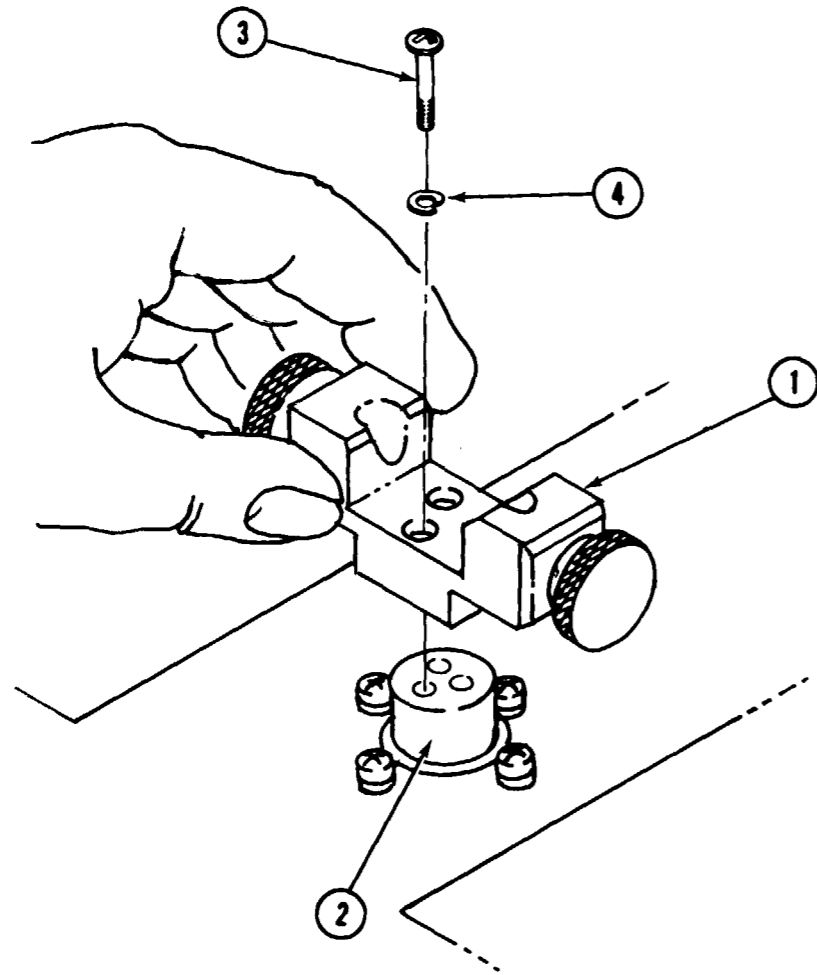


END OF TASK

8-100. INSTALL COLLIMATOR MOUNT (OAF)

Tools required: No. 1 crosspoint screwdriver

- A. Position the mount (1) on the bearing shaft (2).
- B. Secure mount (1) to bearing shaft (2) using the three screws (3) and lock-washers (4).



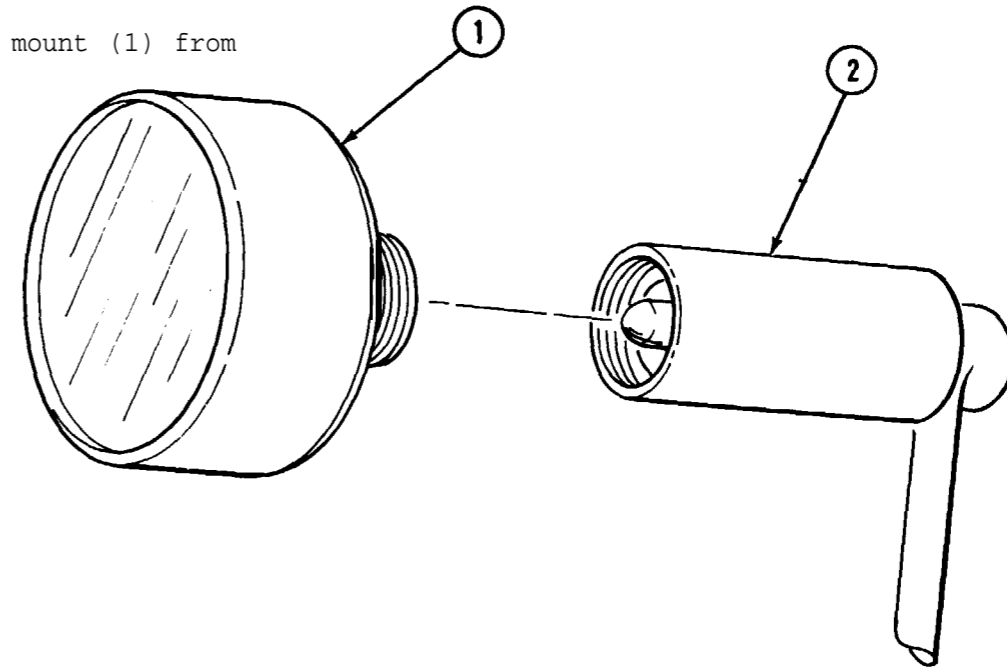
END OF TASK

8-101. REPAIR TRACKER RETICLE LIGHT 1A5

Tools required: Needlenose pliers
Curved point tweezers

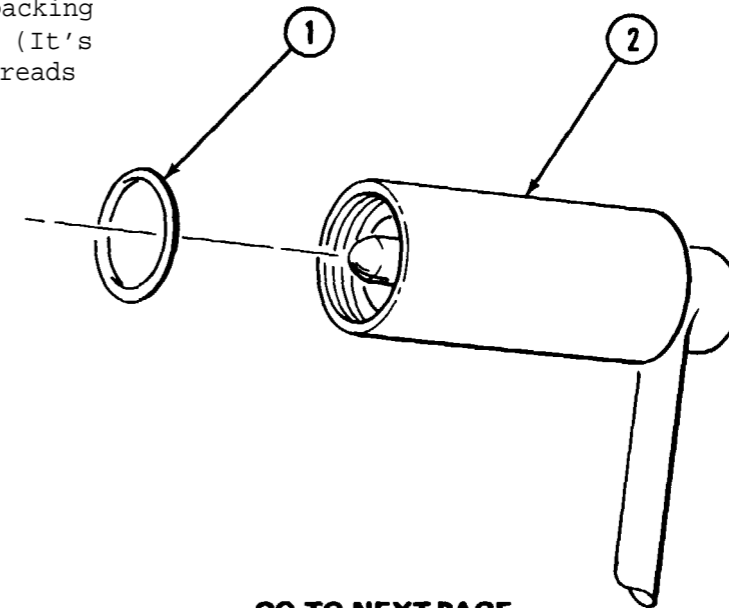
STEP 1

Unscrew filter mount (1) from adapter (2).



STEP 2

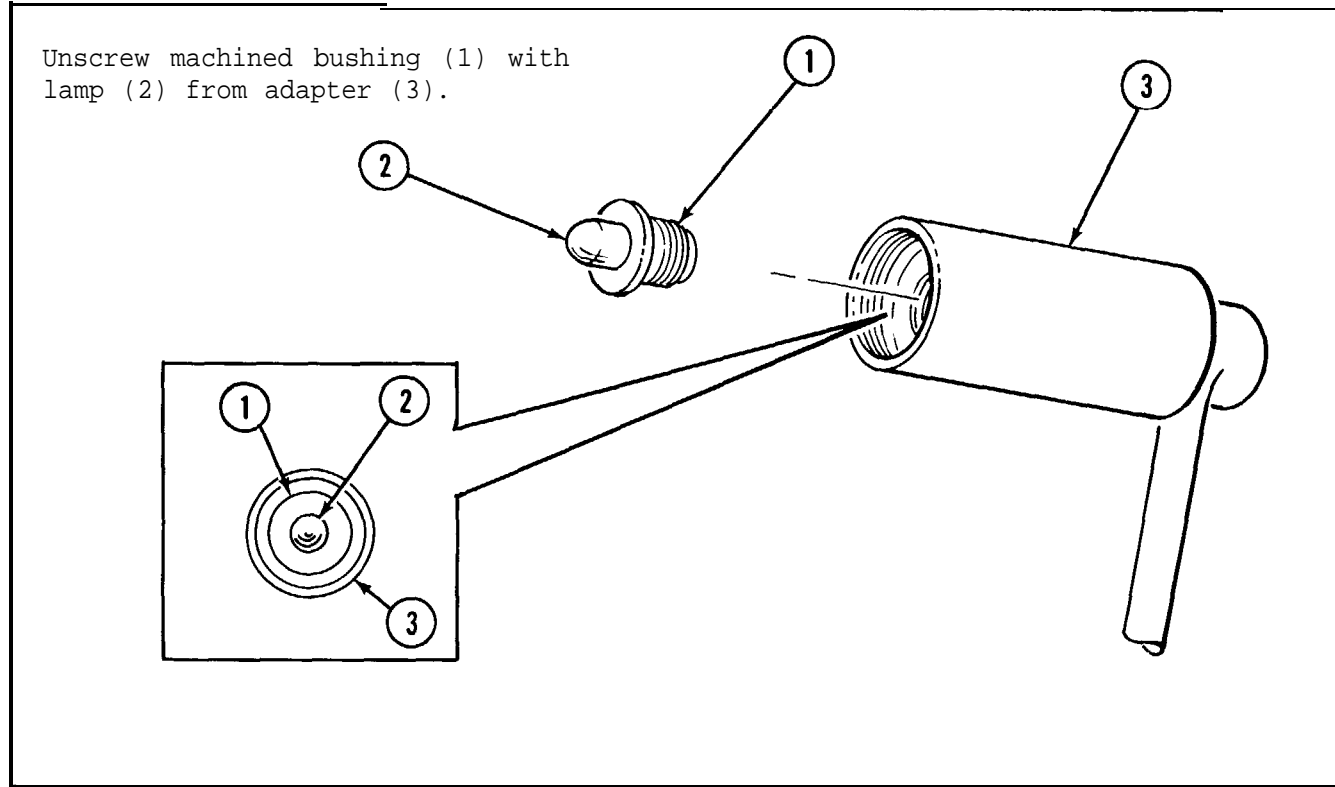
Remove and discard preformed packing (1) removed from adapter (2). (It's located just in back of the threads near the base of the lamp.)



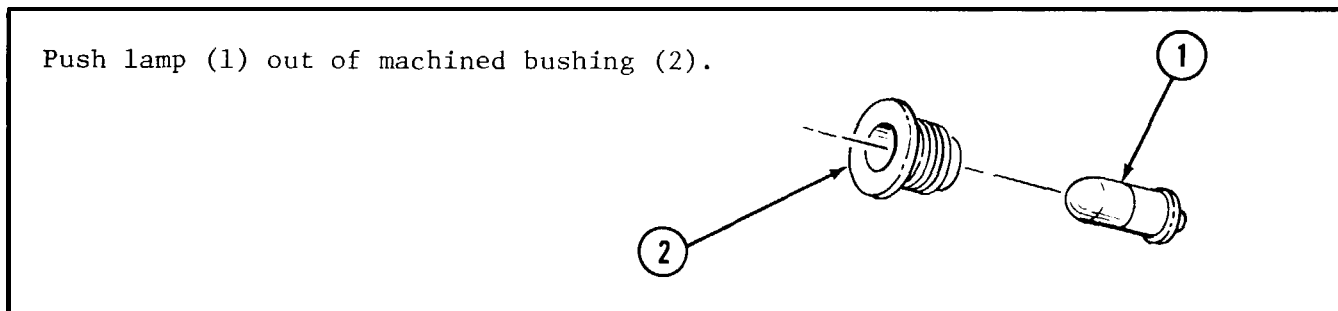
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8-101. REPAIR TRACKER RETICLE LIGHT 1A5 - CONTINUED

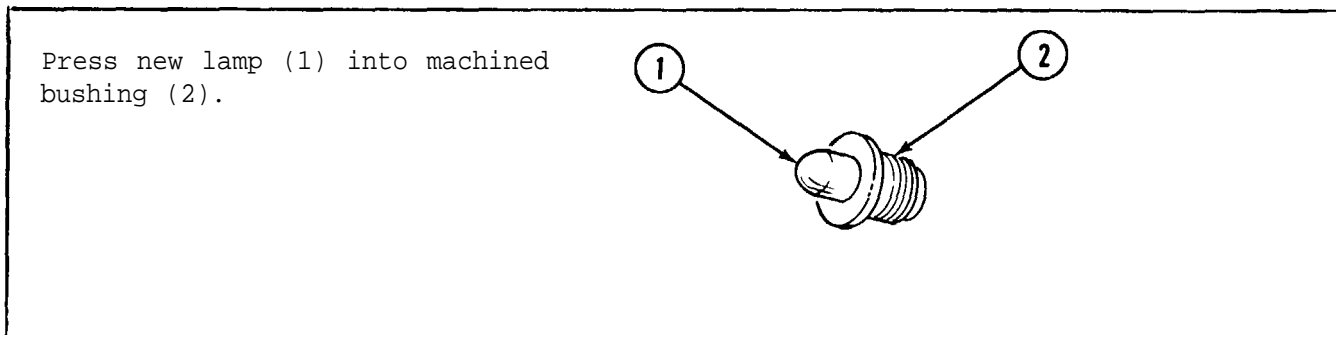
STEP 3



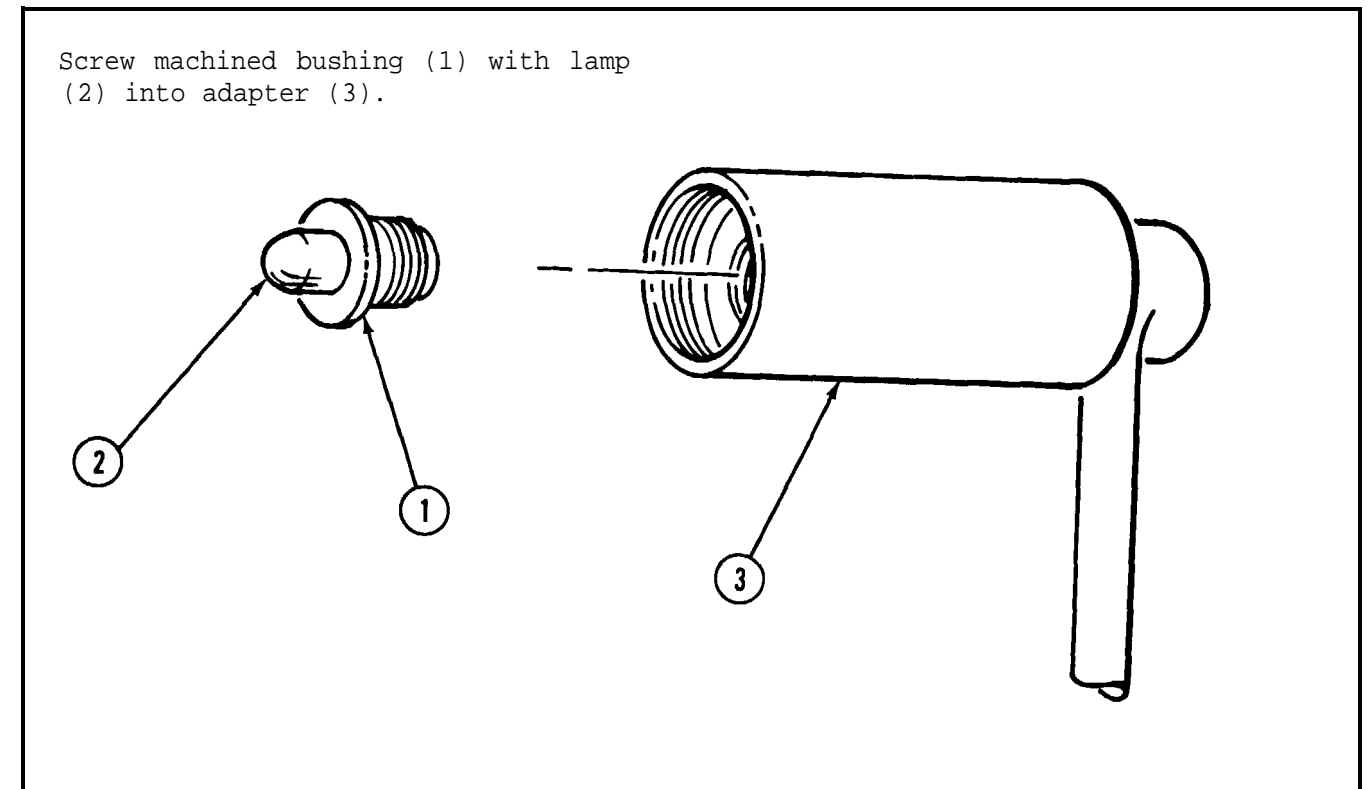
STEP 4



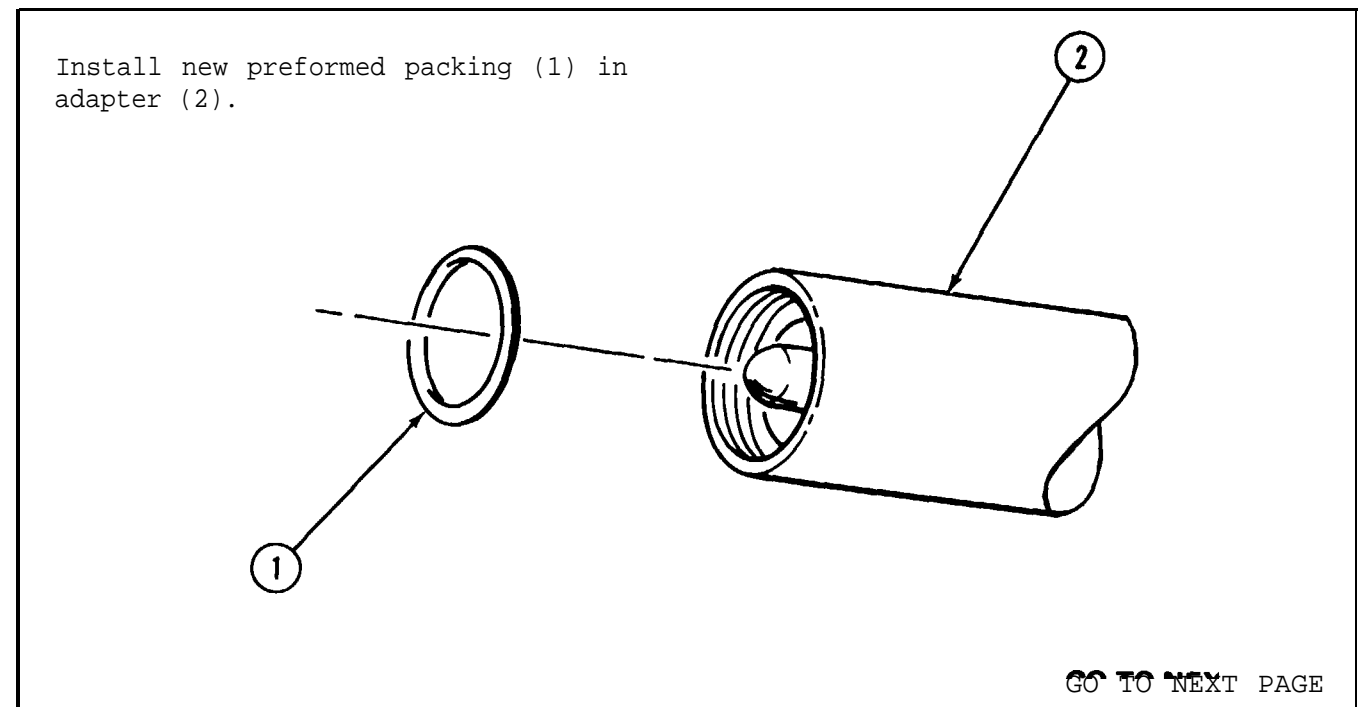
STEP 5



STEP 6



STEP 7

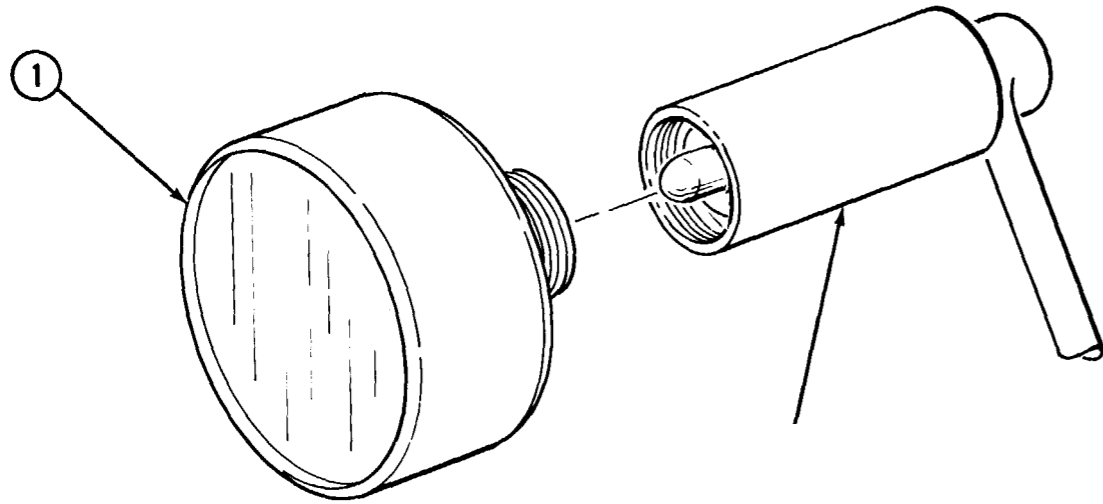


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8-101. REPAIR TRACKER RETICLE LIGHT 1A5 - CONTINUED

STEP 8

Screw filter mount (1) into adapter (2).



END OF TASK

8-102. FINAL INSPECTION

After any maintenance or repair, the Tracker Test Set must be inspected by QA/QC personnel in accordance with Appendix E.

To be acceptable for return to supply, the Tracker Test Set must pass the LCSS tape program.

CHAPTER 9
 DS/GS MAINTENANCE INSTRUCTIONS - NIGHT VISION SIGHT, TRACKER,
 INFRARED, AN/TAS-5

Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT

	Para	Page
Repair Parts, Special Tools and Test Equipment	9-1	9-1
		Page
Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT		9-1
Section II. SERVICE UPON RECEIPT		9-2
Section III. OPERATIONAL CHECKS		9-2
Section IV. SCHEDULED MAINTENANCE		9-2
Section V. TROUBLESHOOTING		9-2
Section VI. MAINTENANCE PROCEDURES		9-3

9-1. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT

Repair parts, special tools and test equipment to service the Night Vision Sight, Infrared AN/TAS-5, are listed in TM 9-1425-480-24P.

Repair parts and special tools for the basic sight assembly, SU-108, are listed in TM 9-5855-247-24P-1.

Section II. SERVICE UPON RECEIPT

	Para.	Page
Inventory of Night Tracker, AN/TAS-5	9-2	9-2
Inspection of Night Tracker, AN/TAS-5	9-3	9-2

9-2. INVENTORY OF NIGHT TRACKER, AN/TAS-5

Inventory the night tracker using the procedures outlined in TM 9-1425-484-10.

9-3. INSPECTION OF NIGHT TRACKER, AN/TAS-5

Inspect the night tracker using the procedures outlined in TM 9-1425-484-10.

Section III. OPERATIONAL CHECKS

	Para.	Page
Operational Checks	9-4	9-2

9-4. OPERATIONAL CHECKS

Operational checks for the Night Tracker, AN/TAS-5, are provided in TM 9-1425-484-10.

Section IV. SCHEDULED MAINTENANCE

	Para.	Page
Maintenance Schedule	9-5	9-2

9-5. MAINTENANCE SCHEDULE

a. The Night Tracker, AN/TAS-5, must be checked at 90 day intervals by support maintenance, however, checks may be scheduled at more frequent intervals at the discretion of the unit commander.

b. The scheduled maintenance will be performed in accordance with procedures outlined in TM 9-4935-484-14.

Section V. TROUBLESHOOTING

	Para.	Page
Troubleshooting and Testing	9-6	9-2

9-6. TROUBLESHOOTING AND TESTING

Troubleshooting and testing of the Night Tracker, AN/TAS-5, will be accomplished by the procedures outlined in TM 9-4935-484-14.

Troubleshooting and testing of the basic sight assembly, SU-108, will be accomplished using the AN/TAS-4 procedures outlined in TM 9-5855-247-24.

Section VI. MAINTENANCE PROCEDURES

	REMOVE		INSTALL	
	Para	Page	Para	Page
Access Cover	9-7	9-3	9-28	9-25
Control Signal Comparator Board (CSCB)	9-8	9-4	9-27	9-24
Firing Mechanism	9-9	9-5	9-26	9-23
Nutator	9-10	9-6	9-25	9-21
FL-1 Filter	9-11	9-8	9-24	9-19
Electrical Connector Cover and Nylon Cord	9-12	9-9	9-23	9-19
Lens Cover and Nylon Cord	9-13	9-9	9-22	9-18
Identification Plate	9-14	9-10	9-21	9-18
Mount	9-15	9-11	9-20	9-16
Afocal Assembly	9-16	9-11	9-19	9-15
Basic Sight Assembly	9-17	9-12	9-18	9-13
Afocal Assembly Cleaning Procedure			9-29	9-25
Final Inspection			9-30	9-27
Storage/ Shipping Container Cushion Replacement			9-31	9-27

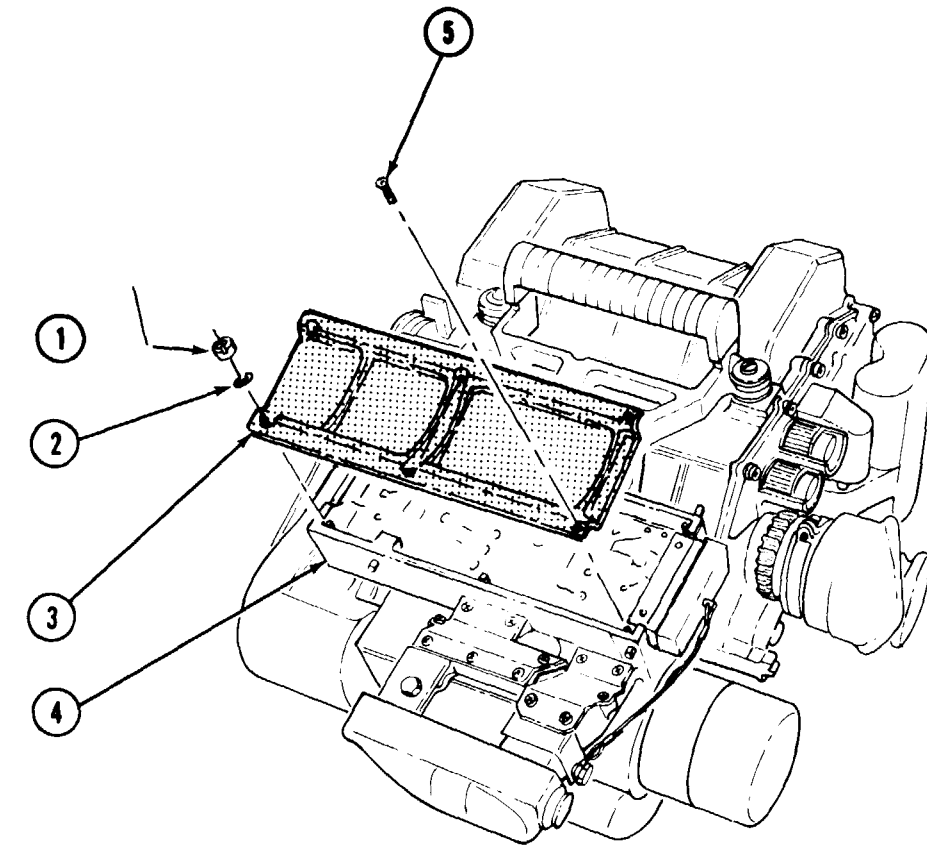
**NOTE**

Maintenance of the basic sight assembly, SU-108, will be accomplished using the procedures outlined in TM 9-5855-247-24.

9-7. REMOVE ACCESS COVER

Tools required: No. 1 crosspoint screwdriver
1/4 inch flat-blade screwdriver.

- A. Using flat-blade screwdriver, remove four nuts (1) and four internal tooth washers (2) securing cover (3) to housing (4).
- B. Using crosspoint screwdriver, remove two screws (5).
- C. Remove access cover (3).




END OF TASK

9-8. REMOVE CONTROL SIGNAL COMPARATOR BOARD (CSCB)

Tools required: No. 0 crosspoint screwdriver
 1/8 inch flat-blade screwdriver
 3/16 inch open end wrench.

Equipment condition: Access cover removed, see para. 9-7.

STEP 1

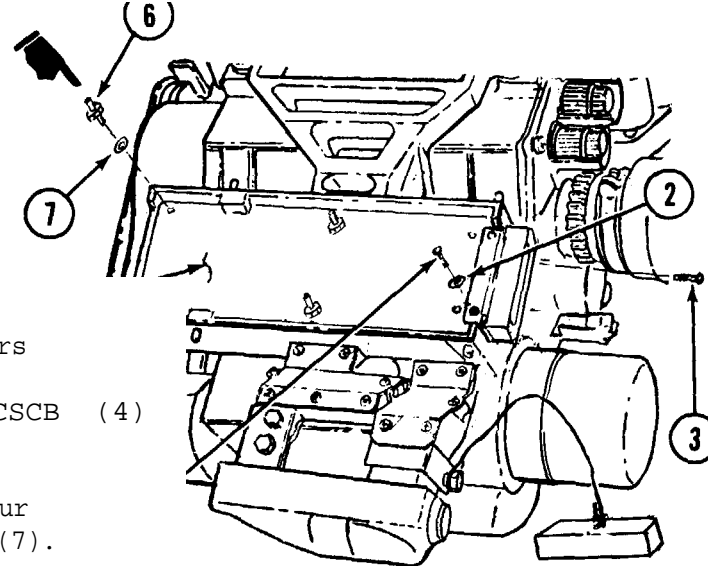


NOTE

Two screws are located on CSCB side and two are above tracker connector in interface mount.

A. Using crosspoint screwdriver, remove two screws (1), lockwashers (2), and two screws (3) securing tracker connector end of CSCB (4) on interface mount (5).

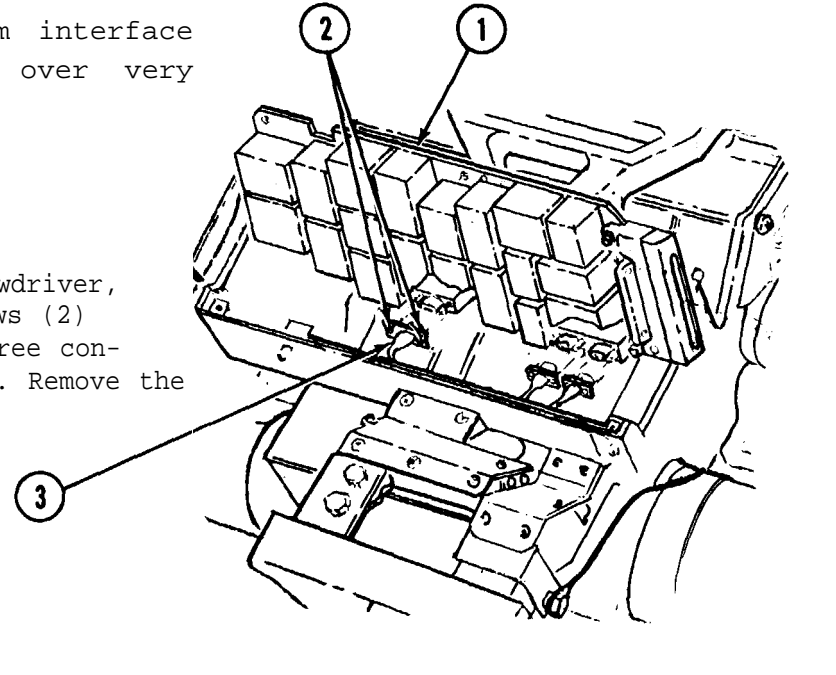
B. Using open-end wrench, remove four studs (6) and four flat washers (7).




STEP 2

A. Lift CSCB (1) up from interface mount and turn CSCB over very carefully.

B. Using a flat-blade screwdriver, loosen two captive screws (2) securing each of the three connectors (3) to CSCB (1). Remove the three connectors.



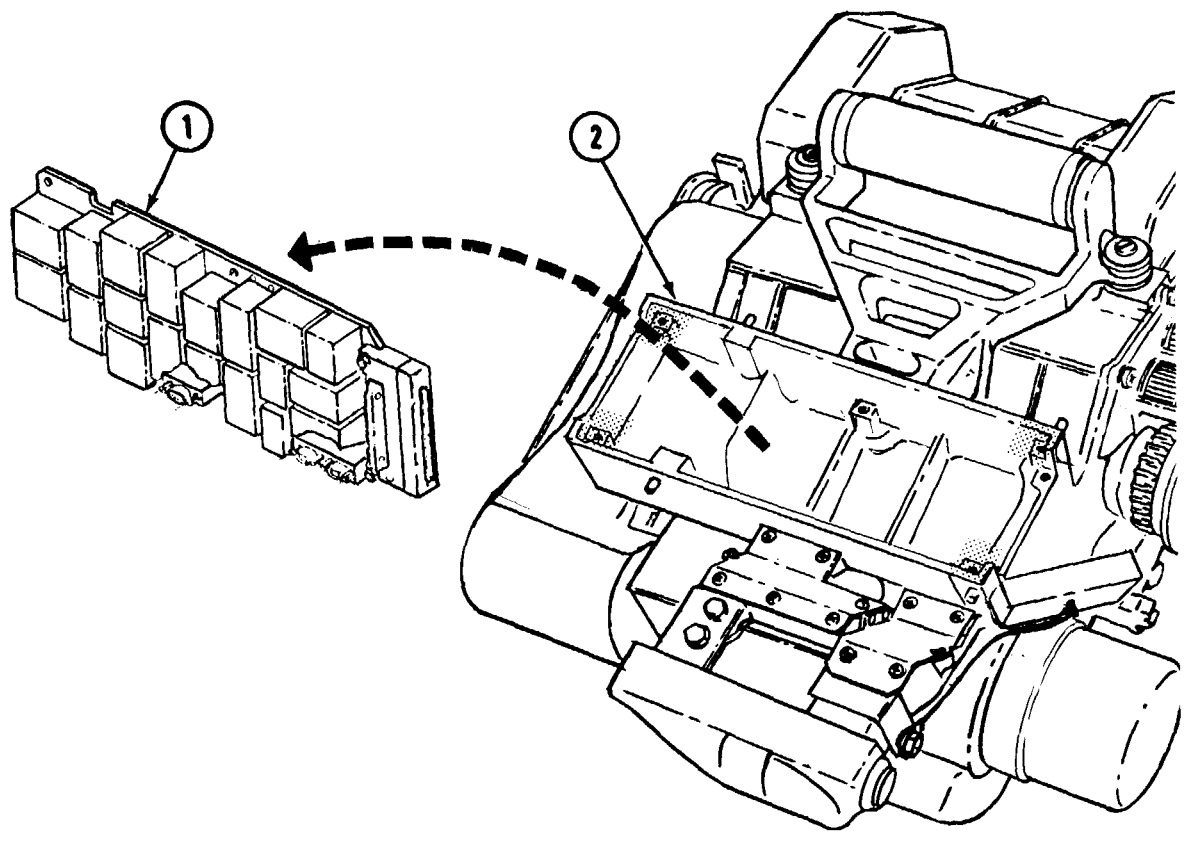
STEP 3



CAUTION

Handle CSCB carefully. Do not damage the finish of board or lay it on the test points.

Remove CSCB (1) from interface mount (2).



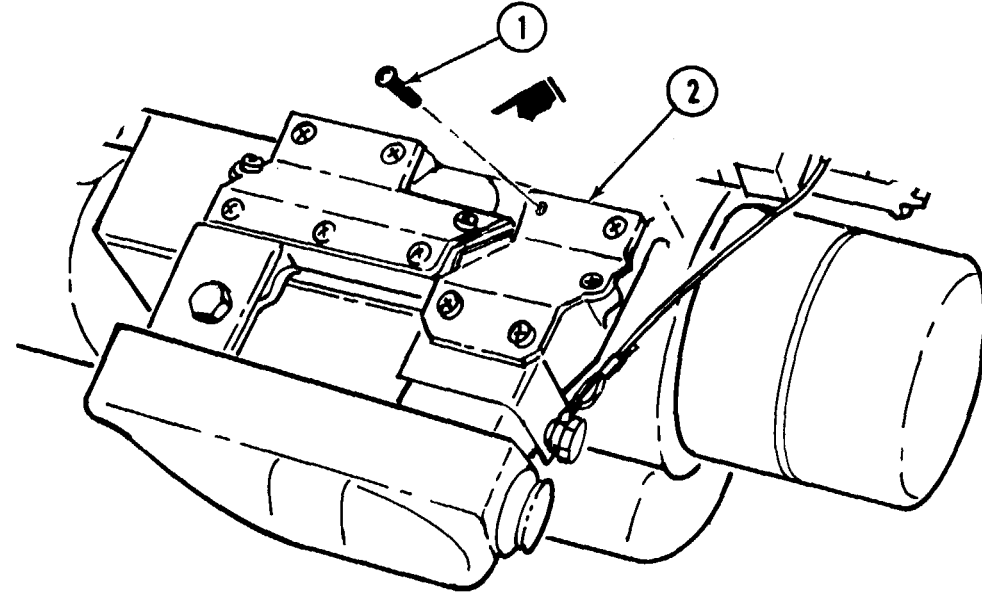
END OF TASK

9-9. REMOVE FIRING MECHANISM

Tools required: Ratchet wrench
 3 inch extension
 3/8 inch socket
 Desolder kit
 Tweezers
 Craftsman's knife
 No. 1 crosspoint screwdriver
 3/8 inch open end wrench

STEP 1

Using screwdriver, remove five screws (1), three lock washers, three flat washers, and wire cover (2).



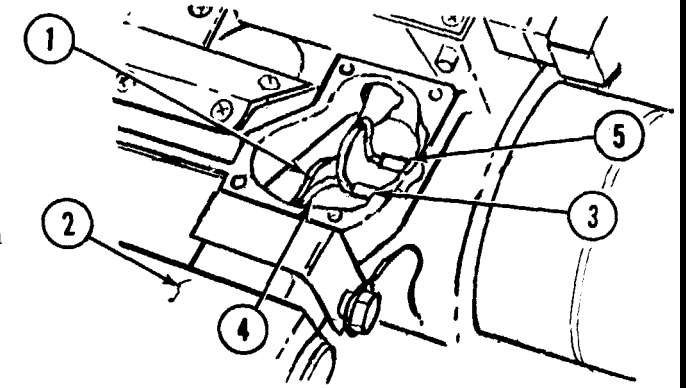
STEP 2

Using craftsman's knife and tweezers, remove potting from terminal posts E1 (1) and E2 (2) being careful not to damage leads (3).



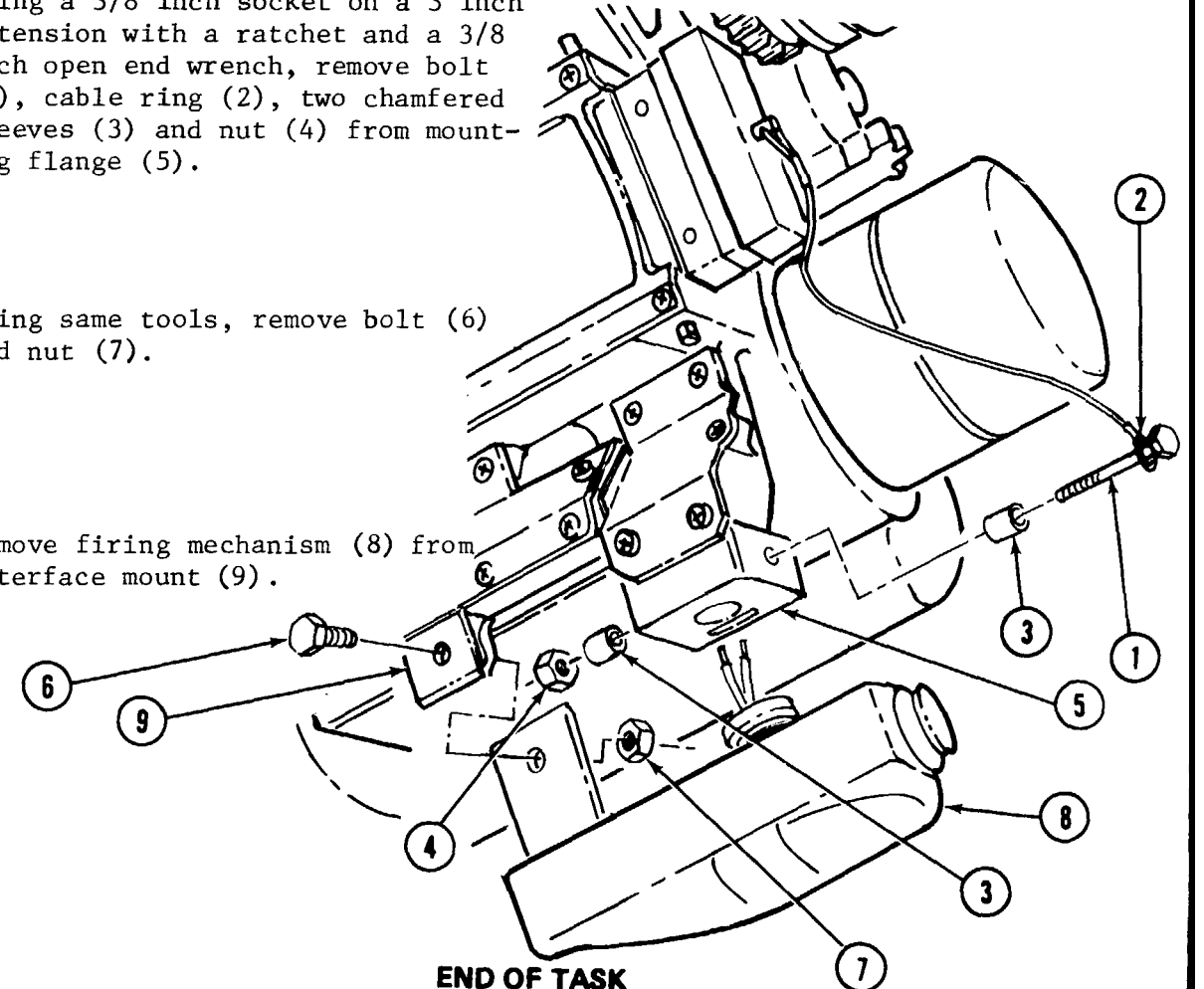
STEP 3

- A. Desolder blue lead (1) coming from firing mechanism (2) to terminal post E1 (3).
- B. Desolder black wire (4) coming from firing mechanism (2) to terminal post E2 (5).



STEP 4

- A. Using a 3/8 inch socket on a 3 inch extension with a ratchet and a 3/8 inch open end wrench, remove bolt (1), cable ring (2), two chamfered sleeves (3) and nut (4) from mounting flange (5).
- B. Using same tools, remove bolt (6) and nut (7).
- C. Remove firing mechanism (8) from interface mount (9).



END OF TASK

9-10. REMOVE NUTATOR

Tools required: No. 0 crosspoint screwdriver
 No. 2 crosspoint screwdriver
 Snap ring pliers
 Screwdriver, special tool P/N 10276466
 Plug spanner wrench, special tool P/N 10275915 or P/N 11508633
 Ratchet wrench
 Craftsman's knife
 .050 Allen wrench


Materials required:

Materials See Appendix D

Mirror protective dust cap Item 71

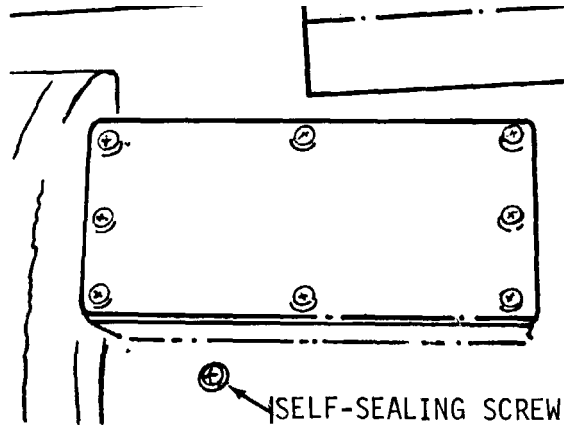
Equipment condition: CSCB removed, see para. 9-8.

STEP 1



CAUTION

Before attempting to remove nutator, make sure Night Tracker AN/TAS-5 is completely depressurized.



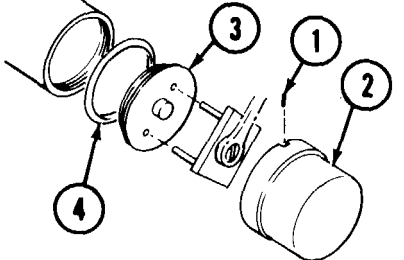
Remove self-sealing screw with a No. 2 crosspoint screwdriver.

SELF-SEALING SCREW

STEP 2

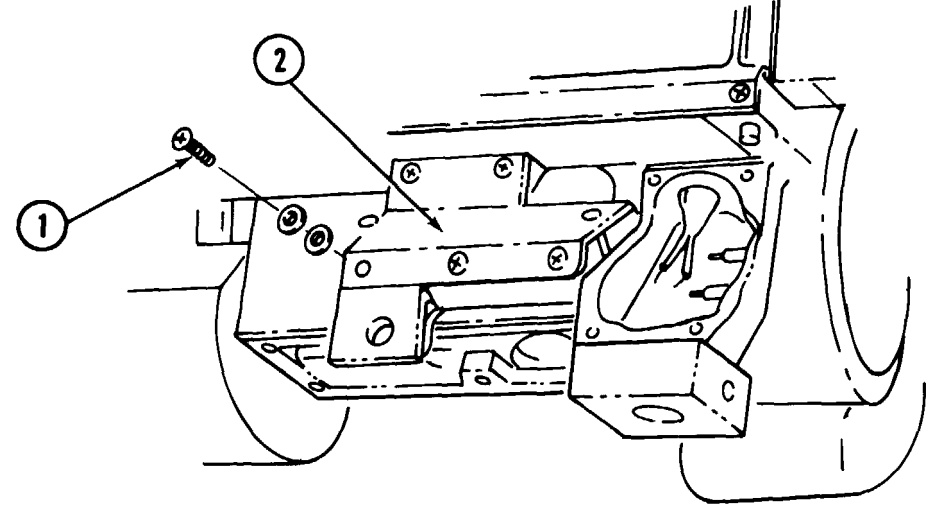
A. Using Allen wrench, loosen setscrew (1) and turn the socket assembly (2) counterclockwise and remove the socket assembly.

B. Using the plug spanner wrench and ratchet, turn the plug (3) counterclockwise and remove plug with preformed packing (4).



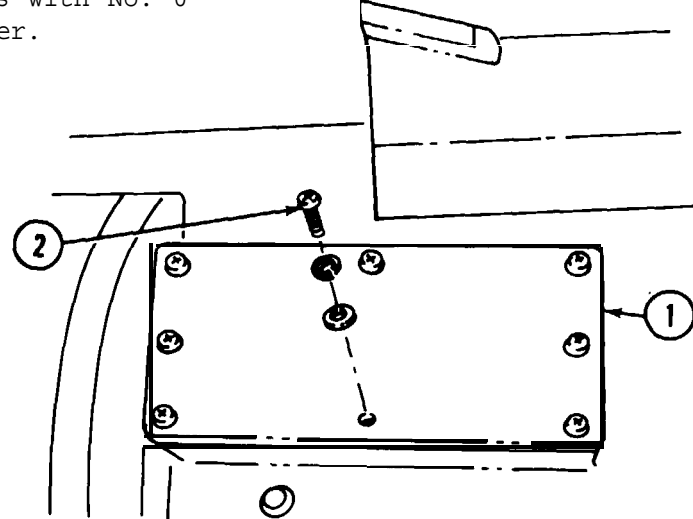
STEP 3

Using No. 0 crosspoint screwdriver, remove seven screws (1), five lockwashers, five flat washers and wire cover (2).



STEP 4

Remove header cover (1) by removing eight screws (2), eight lockwashers, and eight flatwashers with No. 0 crosspoint screwdriver.

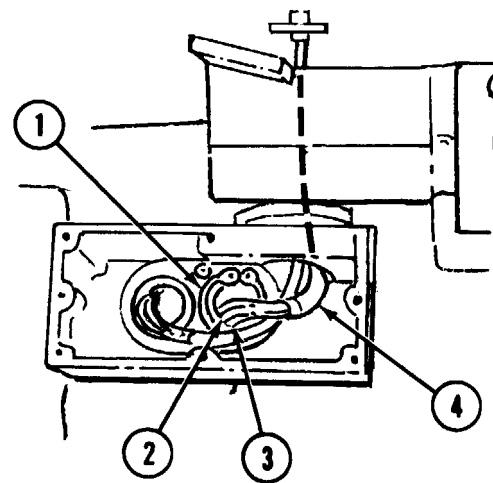


GO TO NEXT PAGE

9-10. REMOVE NUTATOR- CONTINUED

STEP 5

- A. Using snap ring pliers, remove retaining ring (1).
- B. Guide wire harness (4) into header compartment.
- C. Slide washer (2) and preformed packing (3) down the wire harness (4).



STEP 6

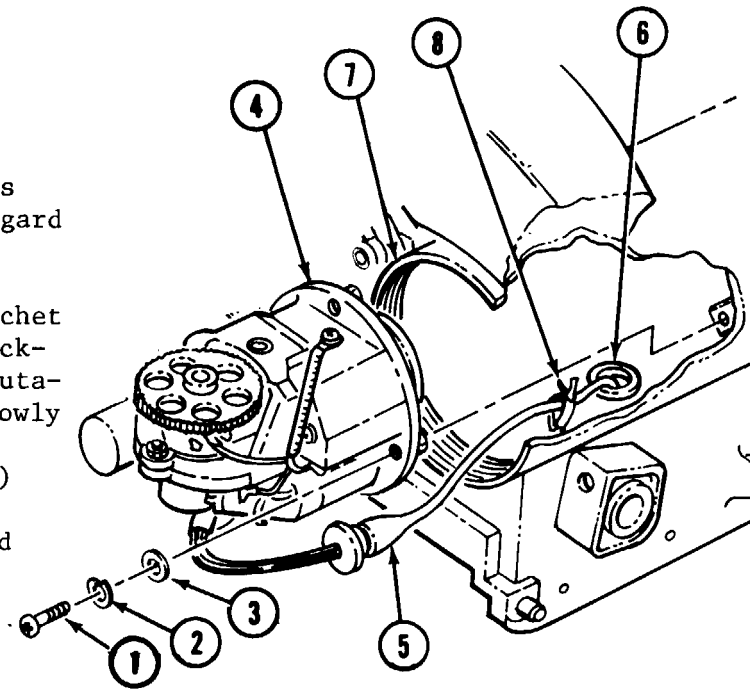


Be careful when handling the nutator - do not touch the mirror or change the position of gears in the mirror driver assembly and clutch. If the mirror is touched, clean with a cotton swab and ethyl alcohol, wiping in a straight line in one direction only.



For SN 650001 and up, wire harness is retained by wrap tubing; disregard reference to tie-down strap (8).

Using special tool 10276466 and ratchet wrench, remove three screws (1), lock-washers (2), flatwashers (3) from nutator (4) and pull the nutator out slowly feeding the wires (5) through the terminal hole (6). When nutator (4) is far enough out of housing (7), carefully cut tie-down strap (8) and slide nutator gently from housing.

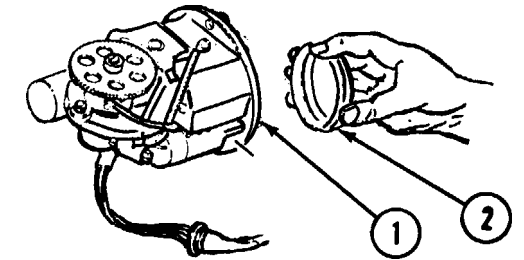


STEP 7

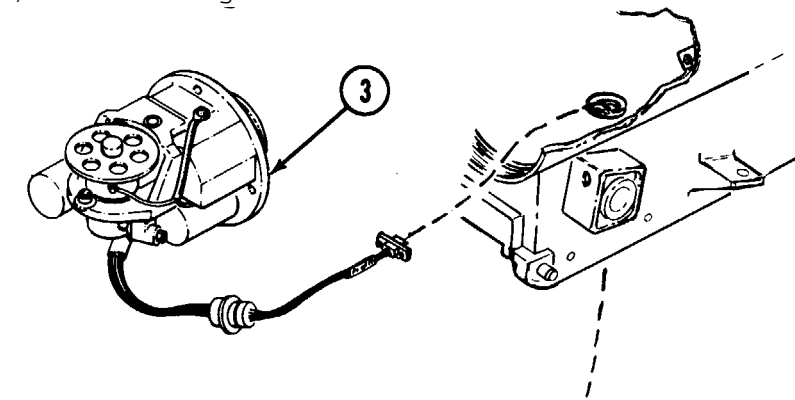
- A. Cover the nutator mirror (1) with dust cover (2).



If it will be necessary to carefully push electrical connector through hole in housing so that nutator will be free.



- B. Remove nutator (3) from housing.



END OF TASK

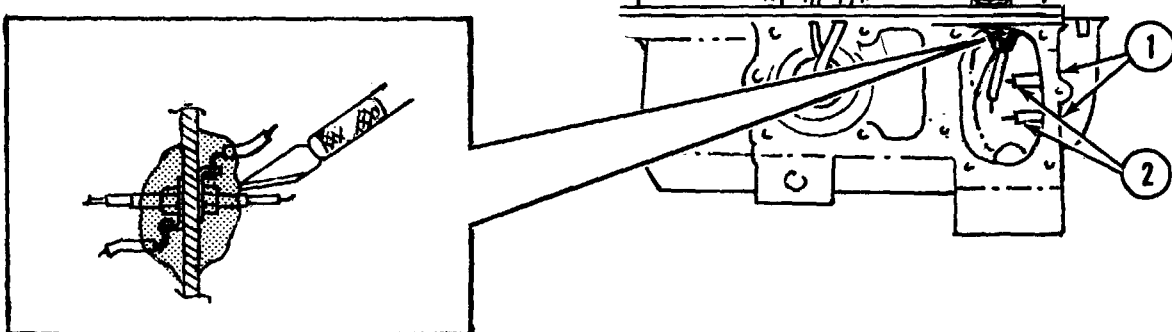
9-11. REMOVE FL-1 FILTER

- Tools required:
- | | |
|------------------------------|---------------------------|
| Craftsman's knife | 1/4 inch deep well socket |
| Desoldering kit | Ratchet wrench |
| Tweezers | 6 inch extension |
| 3/16 inch open end wrench | |
| Longnose pliers | |
| No. 1 crosspoint screwdriver | |

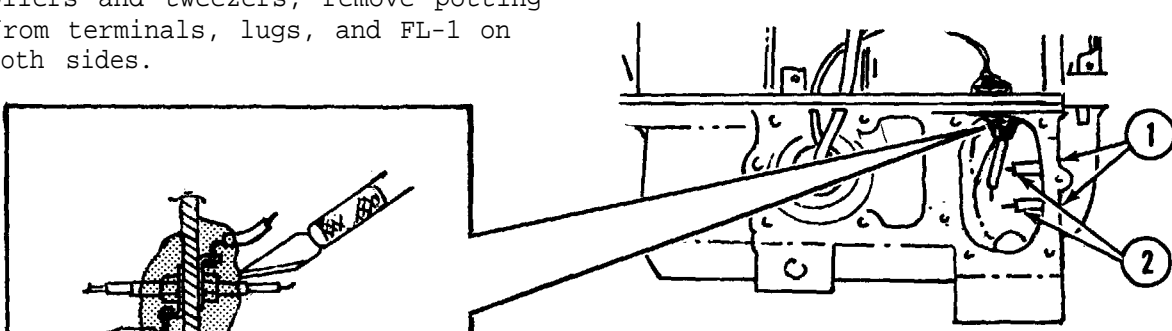
Equipment condition: CSCB removed, see para. 9-8.
 Firing mechanism removed, see para. 9-9, steps 1 and 4.

STEP 1

A. Using craftsman's knife and longnose pliers and tweezers, remove potting from terminals, lugs, and FL-1 on both sides.

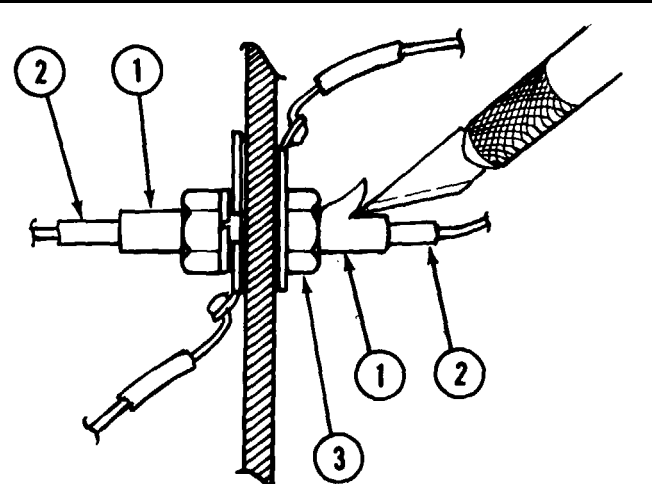


B. Remove screws (1) securing terminal posts E1 and E2 (2).



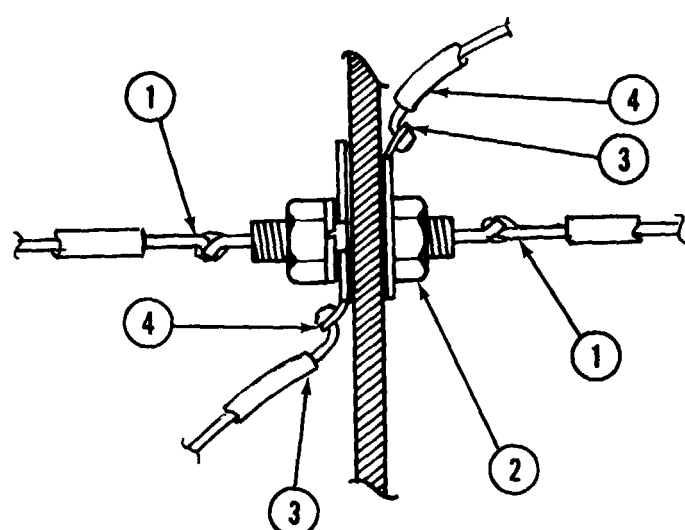
STEP 2

Using craftsman's knife, cut insulation sleeving (1) from blue leads (2) on both sides of FL-1 filter (3).



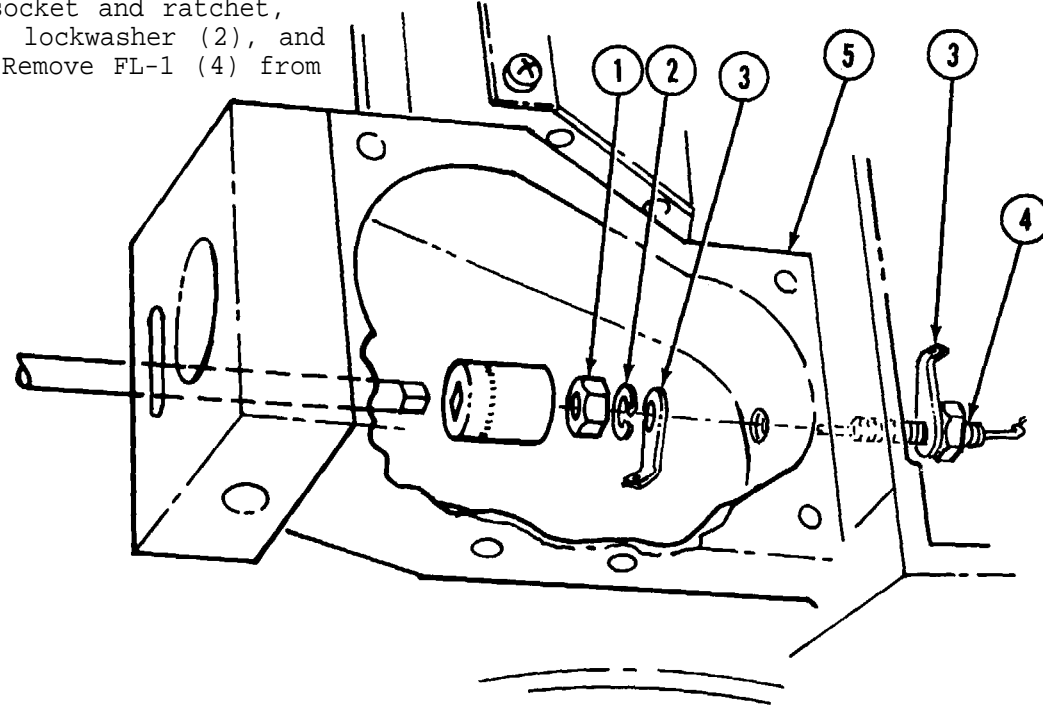
STEP 3

Desolder blue lead (1) from each side of FL-1 (2) and brown lead (3) from each lug (4).



STEP 4

Using 3/16 inch open end wrench and 1/4 inch deep socket and ratchet, remove nut (1), lockwasher (2), and two lugs (3). Remove FL-1 (4) from housing (5).



END OF TASK

9-12. REMOVE ELECTRICAL CONNECTOR COVER AND NYLON CORD

Tools required: Craftsman's knife 3 inch extension
 3/8 inch open end wrench 3/8 inch socket
 Ratchet wrench

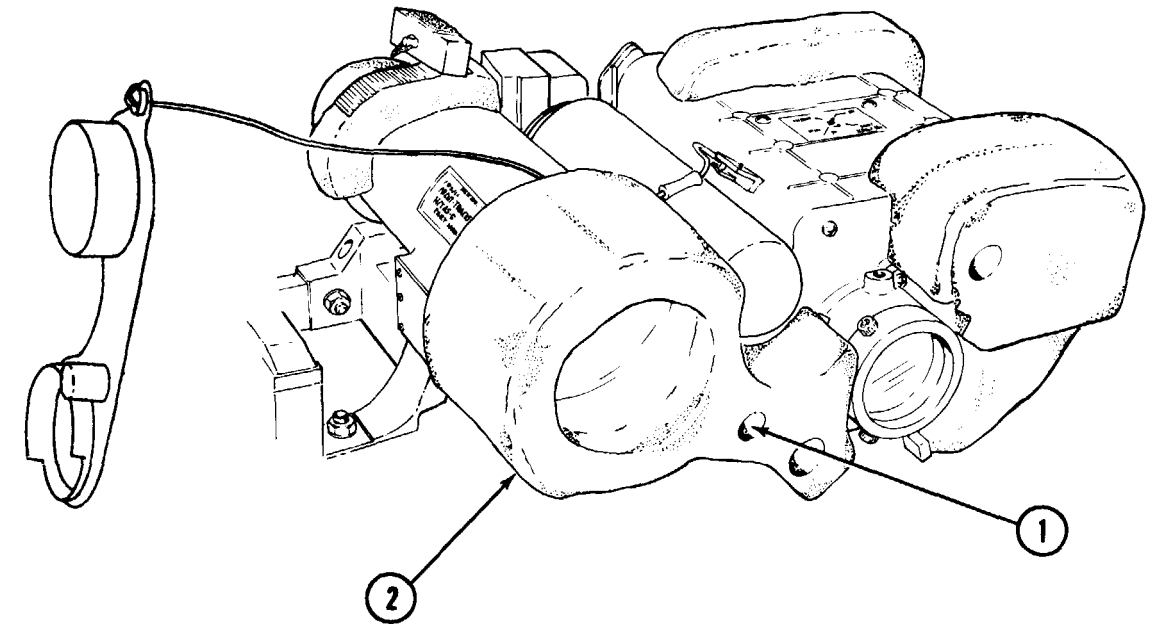
To remove electrical connector cover and nylon cord see para. 9-9, step 4A.

9-13. REMOVE LENS COVER AND NYLON CORD

Tools required: Craftsman's knife
 No. 1 crosspoint screwdriver

STEP 1

A. Remove screw (1) holding forward cushion assembly (2) in place.



B. Remove forward cushion assembly.

STEP 2

Cut old lanyard from lens cover and forward cushion assembly.

END OF TASK

9-14. REMOVE IDENTIFICATION PLATE

Tools required: Craftsman's knife

Materials required:

Materials See Appendix D

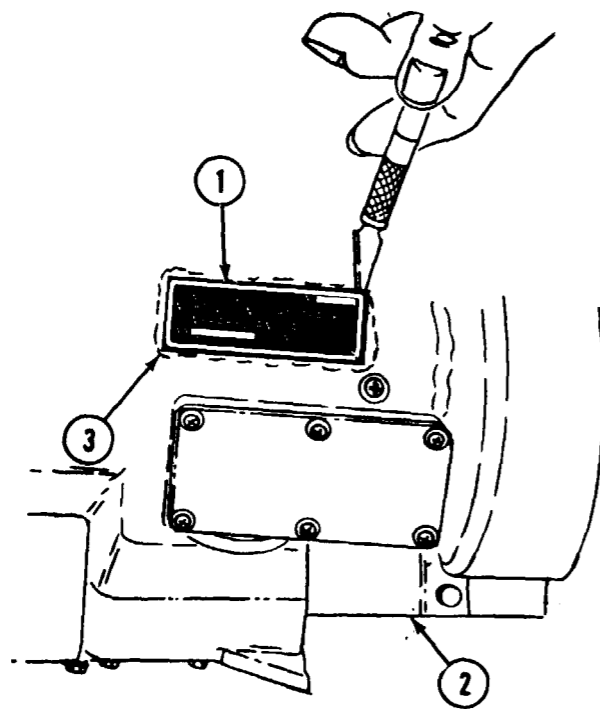
Cleaning cloth Item 6
 MEK Item 5

- A. Record information from old I.D. plate (1).
- B. Using craftsman's knife, remove old I.D. plate (1) from housing (2).



In view of the toxic and volatile nature of Methyl Ethyl Ketone, the work area must have adequate ventilation. Avoid skin and eye contact by wearing suitable protective equipment. Avoid breathing fumes. Materials that are flammable must be kept away from flames, sparks and excessive heat.

- C. Using cloth soaked in Methyl Ethyl Ketone (MEK), clean mounting area (3) of any residual adhesive.



END OF TASK

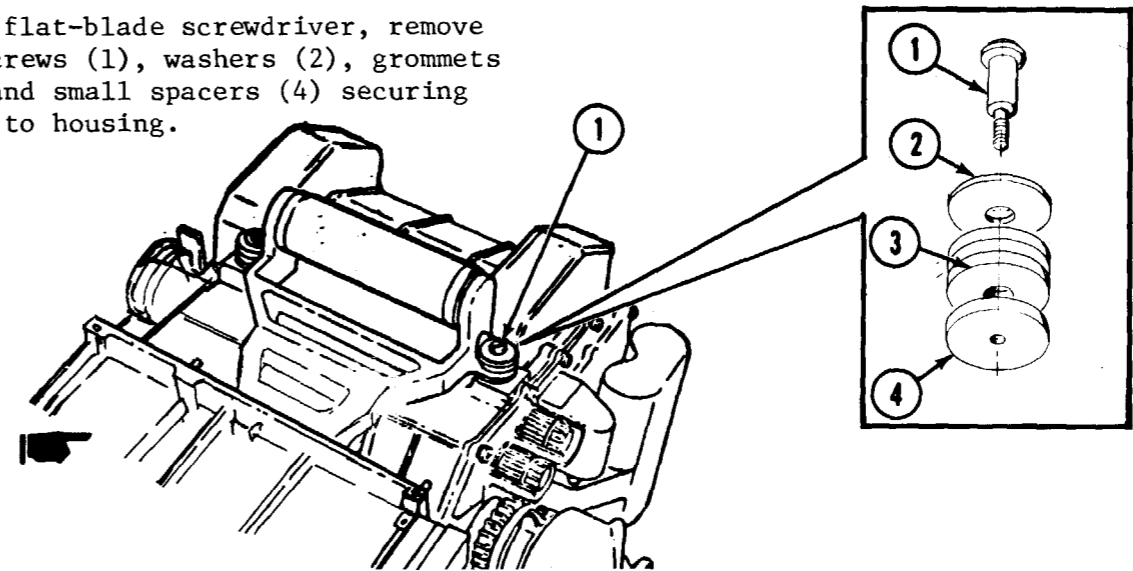
9-15 REMOVE MOUNT

Tools required: 3/8 inch flat-blade screwdriver
 Eyepiece spanner wrench,
 special tool SMD 804302
 .050 allen wrench

Equipment condition: CSCB removed, see para. 9-8.
 Wire cover removed, see para. 9-9, step 1.
 Header cover removed, see para. 9-10, step 1.

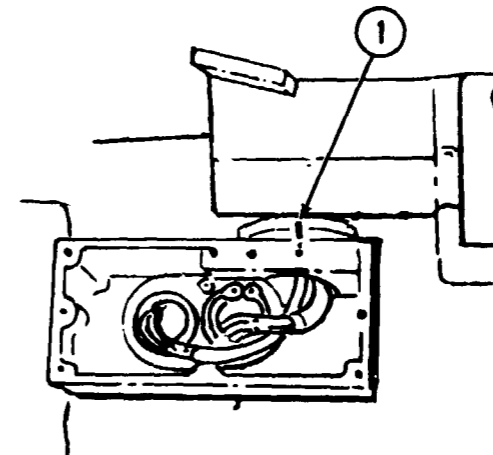
STEP 1

Using flat-blade screwdriver, remove two screws (1), washers (2), grommets (3), and small spacers (4) securing mount to housing.



STEP 2

Using allen wrench, loosen set screw (1) in header chassis two turns.



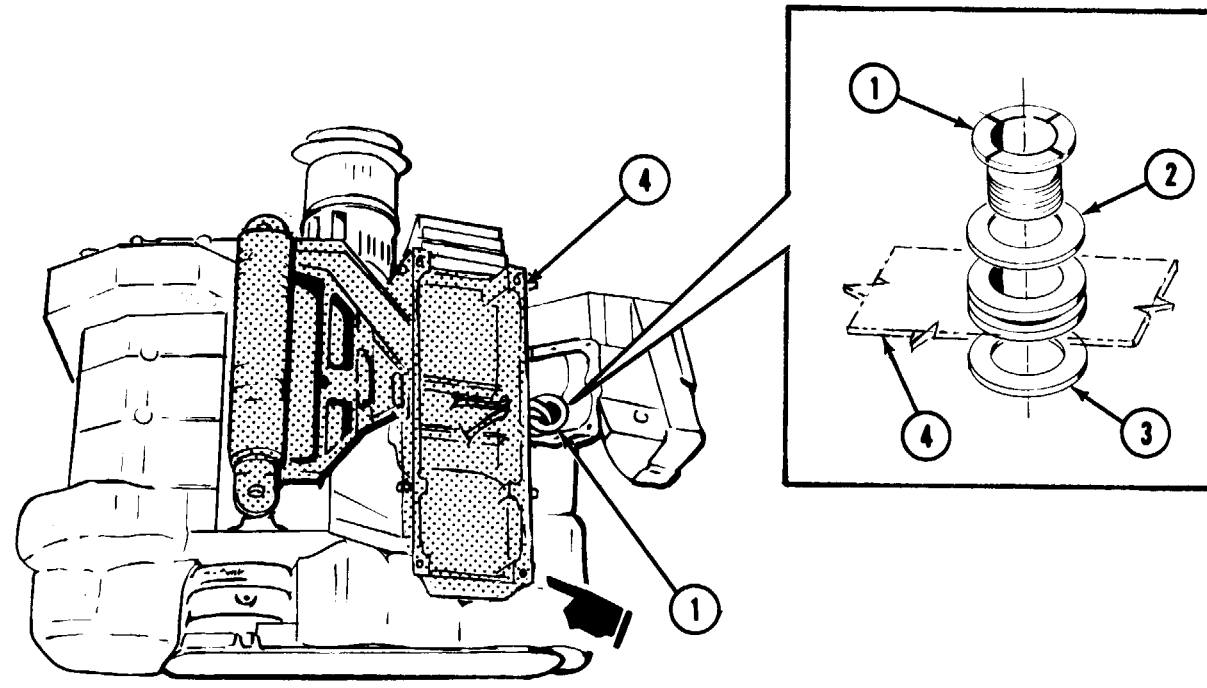
9-15. REMOVE MOUNT - CONTINUED

STEP 3

Carefully feed both leads out of CSCB mounting area through the relief hole and into the wire cover chassis.

STEP 4

- A. Using spanner wrench (SMD 804302), remove sleeve (1), washer (2), large space (3), and mount (4).
- B. Feed the two leads through the sleeve (1) as you lift the mount (4) clear of the tracker.



END OF TASK

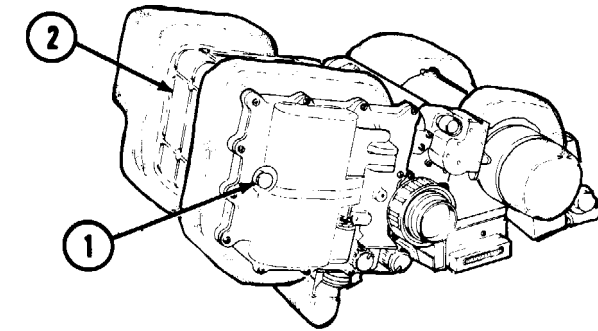
9-16. REMOVE AFOCAL ASSEMBLY

Tools required: No. 1 crosspoint screwdriver

Equipment condition: Lens cover and battery removed, see TM 9-1425-484-10.

STEP 1

Open check valve (1) and release pressure from night vision sight assembly (2).



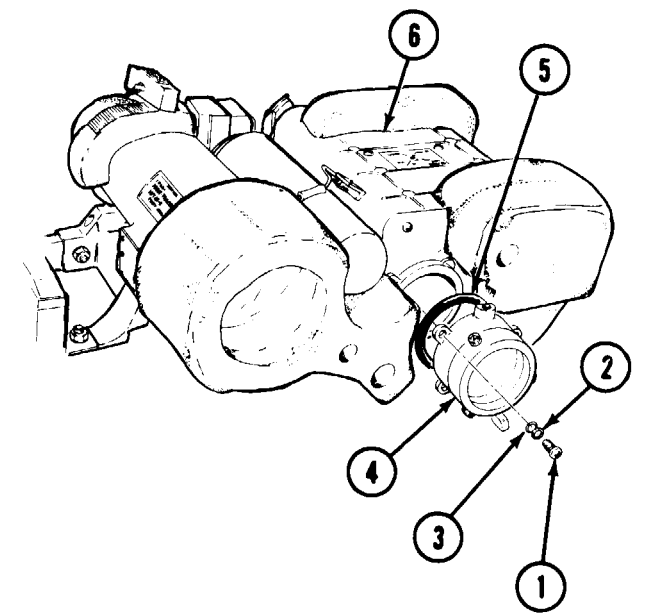
STEP 2



CAUTION

Be careful not to touch the afocal lens when removing the afocal assembly. If lens are touched, clean using cotton swab and ethyl alcohol wiping in a straight line in one direction only.

- A. Using screwdriver, remove four screws (1), lockwashers (2) and flatwashers (3).
- B. Carefully remove afocal lens assembly (4) and preformed packing (5) from tracker housing (6).



END OF TASK

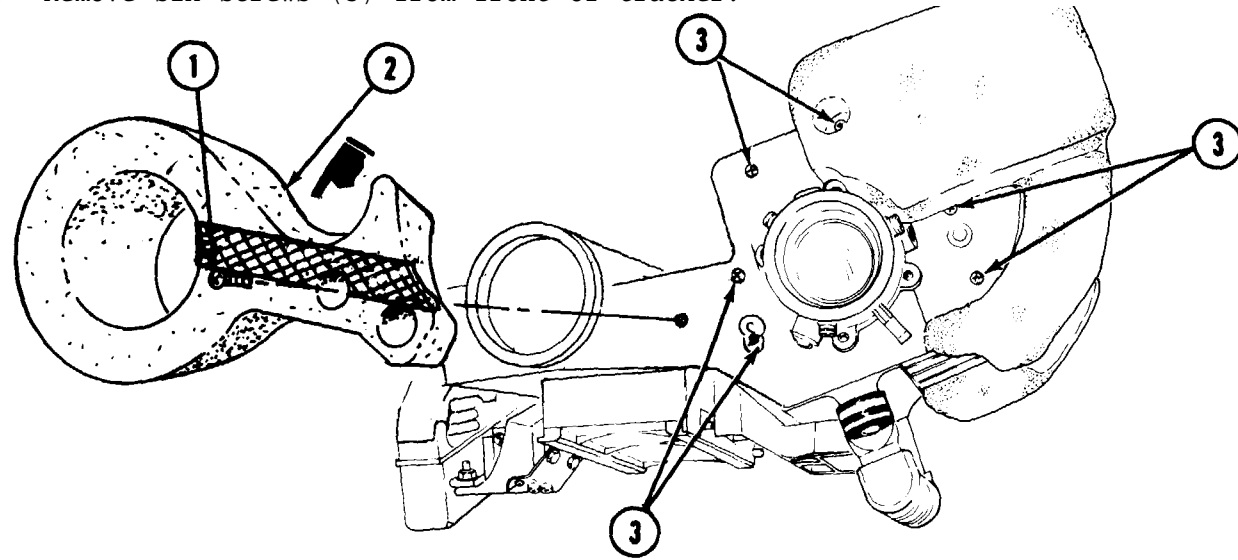
9-17. REMOVE BASIC SIGHT ASSEMBLY

Tools required: No. 1 crosspoint screwdriver

Equipment condition: Battery and coolant bottle removed, see TM 9-1425-484-10.

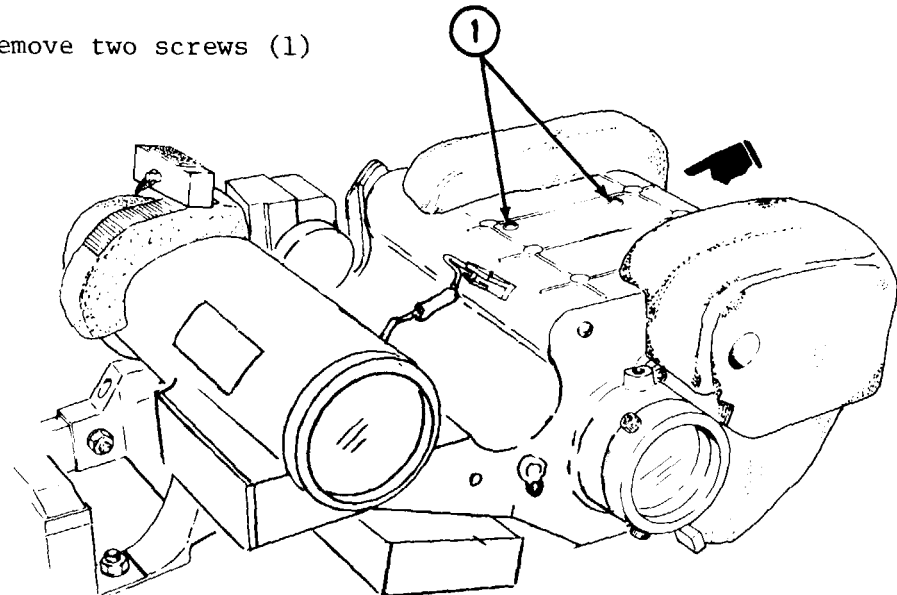
STEP 1

- A. Remove screw (1) holding forward cushion assembly (2) in place.
- B. Remove forward cushion assembly (2).
- C. Remove six screws (3) from front of tracker.



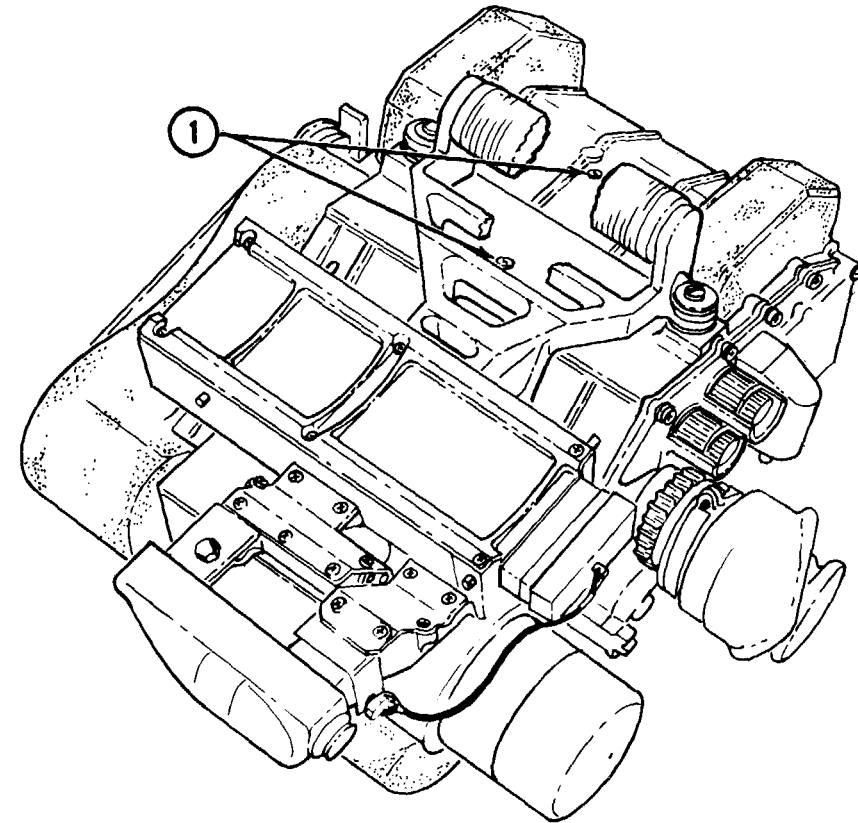
STEP 2

Using screwdriver, remove two screws (1) from top of tracker.



STEP 3

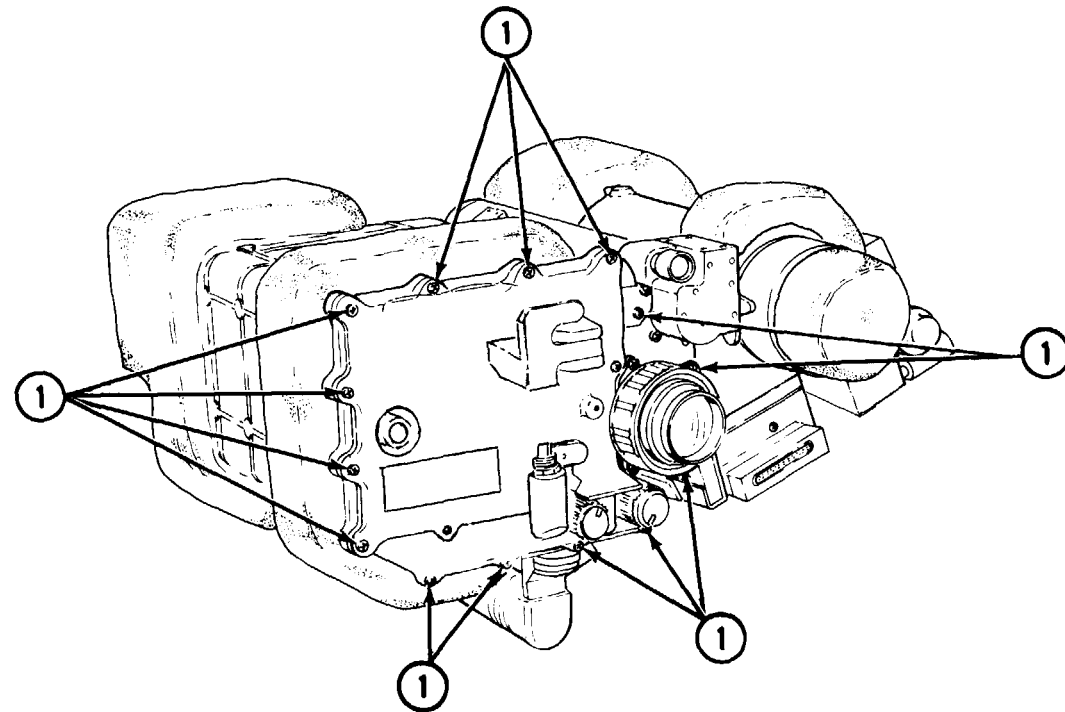
Using screwdriver, remove two self sealing screws (1) from bottom of Tracker.



9-17. REMOVE BASIC SIGHT ASSEMBLY - CONTINUED

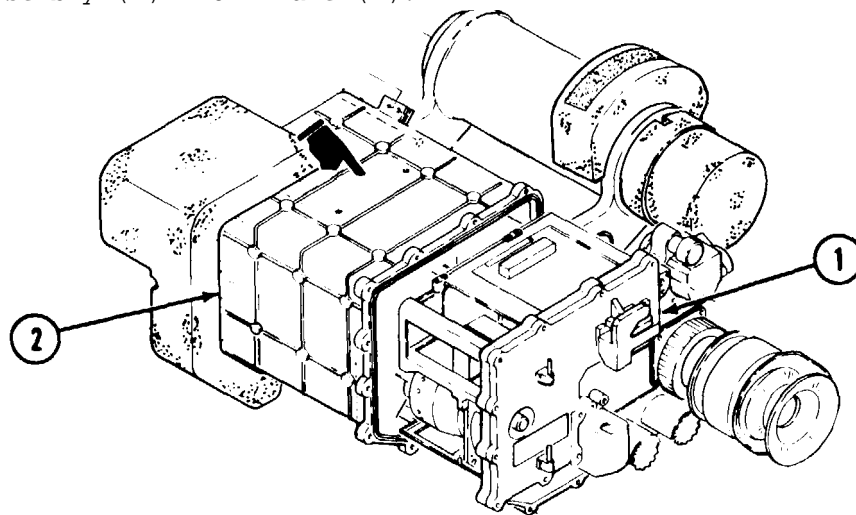
STEP 4

Using screwdriver, remove fourteen screws (1) with flat washers and lock washers from rear of Tracker.



STEP 5

Remove drawer assembly (1) from frame (2).



END OF TASK

9-18 INSTALL BASIC SIGHT ASSEMBLY

Tools required: Screwdriver, crosspoint No. 1
Torque screwdriver (in lb)
No. 1 crosspoint bit

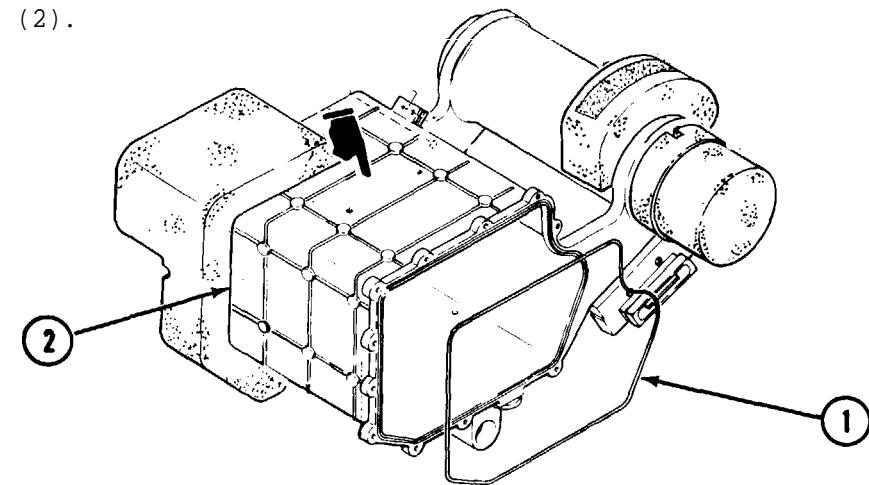


NOTE

Do not tighten the screws in the following steps until you are told to do so.

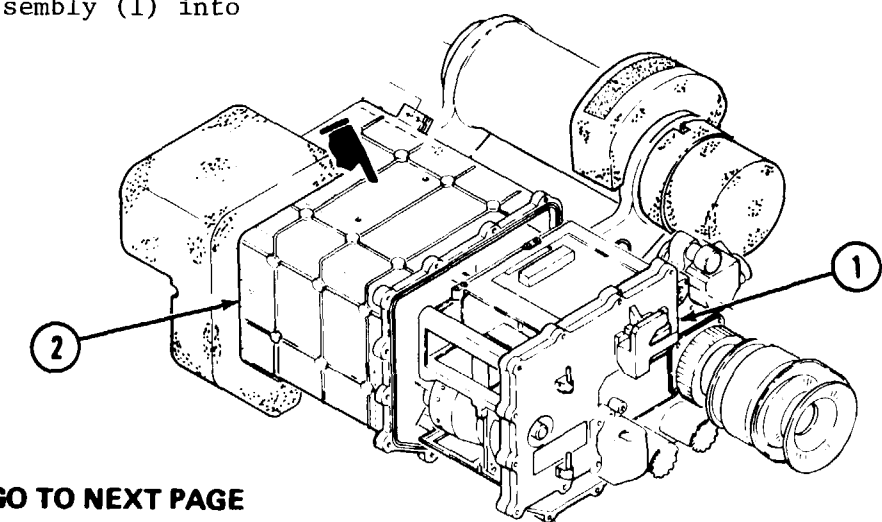
STEP 1

Install new preformed packing (1) in frame assembly (2).



STEP 2

Slide the drawer assembly (1) into the frame (2).



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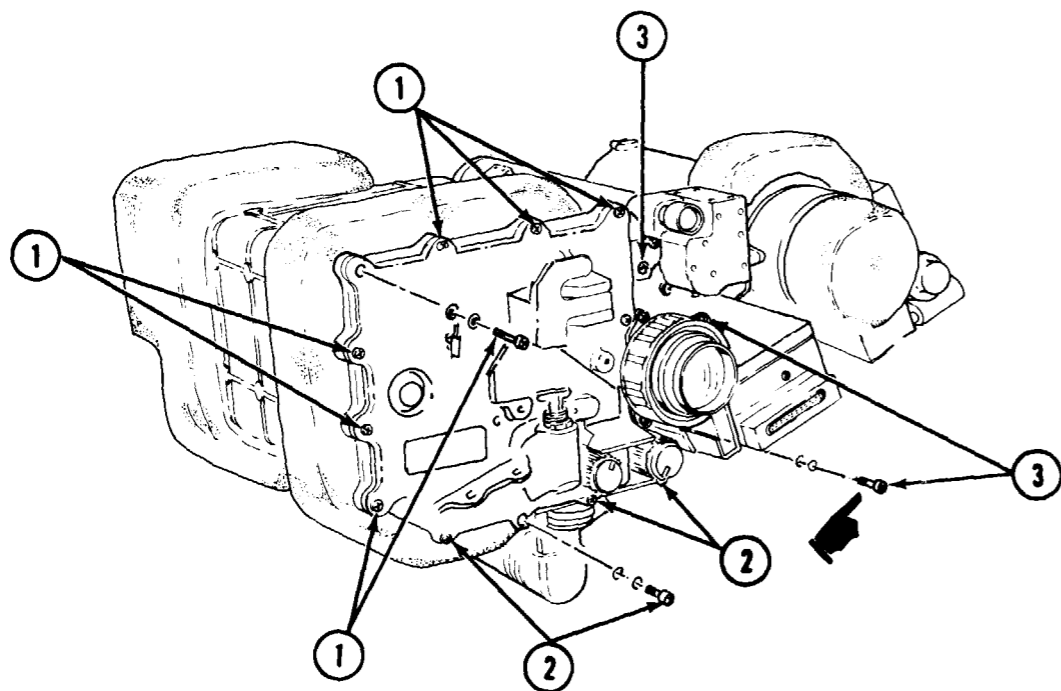
9-18. INSTALL BASIC SIGHT ASSEMBLY - CONTINUED

STEP 3

- A. Line up the fourteen screws with lock washers and flat washers used to secure the drawer assembly in the frame (rear of Tracker).
- B. There are seven long (13/16), three medium (11/16) and four short (9/16) length screws.

STEP 4

- A. Start seven long screws (1) with flat and lock washers.
- B. Start four short screws (2) with flat and lock washers.
- C. Start three medium screws (3) with flat and lock washers.

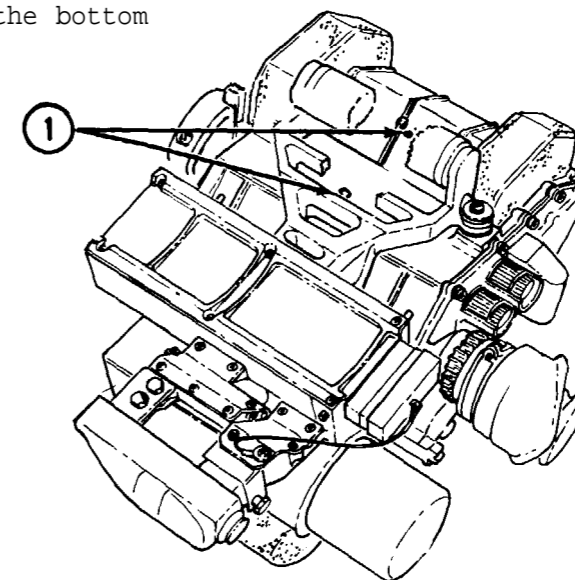


STEP 5

- A. Line up the four self-sealing screws.
- B. There are two short (1/4) screws and two long (5/16) screws.

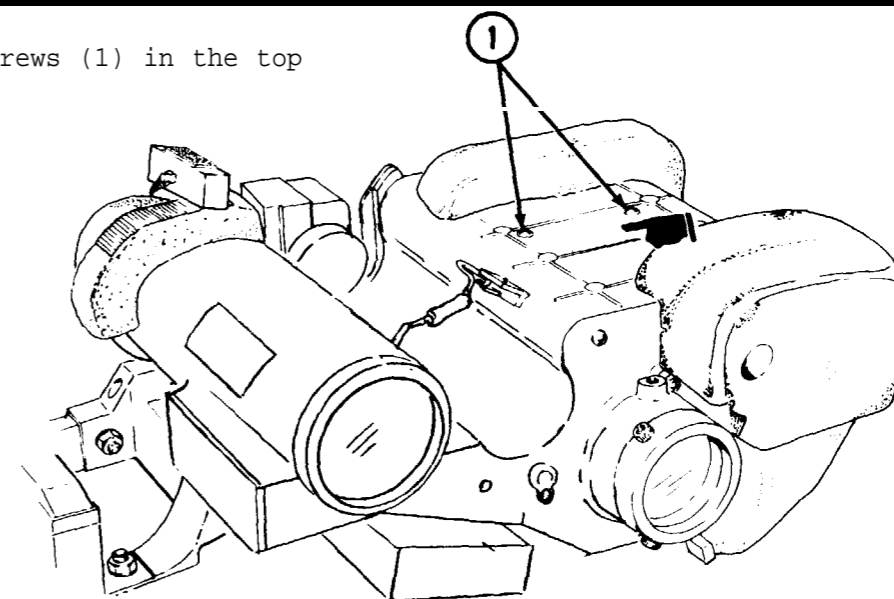
STEP 6

Start the two long screws (1) in the bottom of the frame assembly.



STEP 7

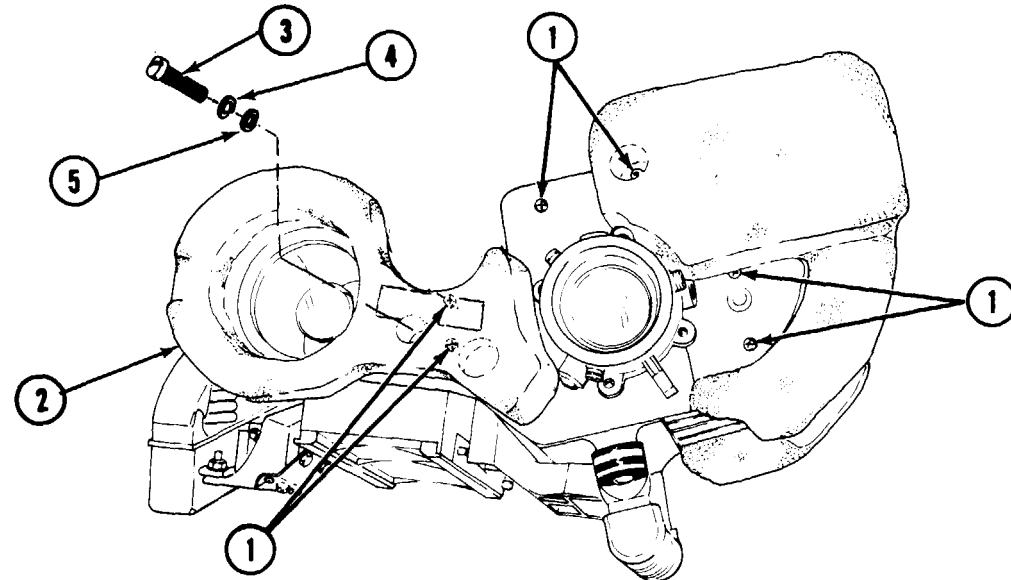
Start the two short screws (1) in the top of the frame assembly.



9-18. INSTALL BASIC SIGHT ASSEMBLY - CONTINUED

STEP 8

- A. Start the remaining six screws (1) in the front of the frame assembly.
- B. Torque the fourteen Screws installed in step 4, 5 to 7 inch pounds
- C. Tighten remaining fourteen screws installed in steps 6, 7, and 8A.



- D. Install forward cushion assembly (2) using screw (3), lockwasher (4) and flatwasher (5).

Follow-on Task: Perform purging procedures in accordance with paragraph 4-14, steps 20 and 21, of TM 9-4935-484-14.

END OF TASK

9-19 INSTALL AFOCAL ASSEMBLY

Tools required: No. 1 crosspoint screwdriver

Materials required:

Materials

See Appendix D

Molybdenum disulfide
Cloth, cleaning

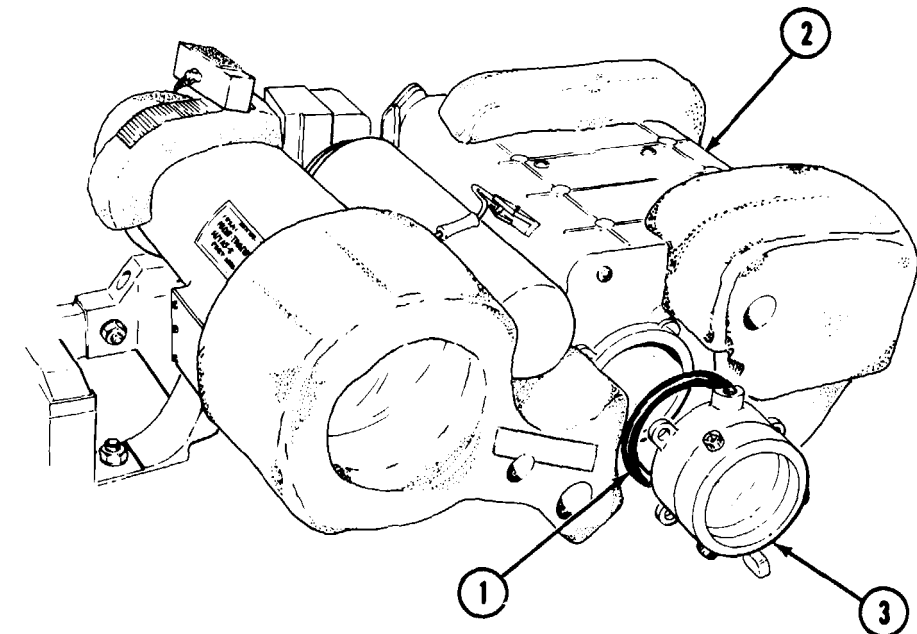
Item 50
Item 6

STEP 1



Be careful not to touch the afocal lens when installing the afocal assembly.

- A. Carefully place a new preformed packing (1) into the tracker housing (2).
- B. Carefully slide the afocal assembly (3) into the tracker housing (2).



9-19. INSTALL AFOCAL - CONTINUED

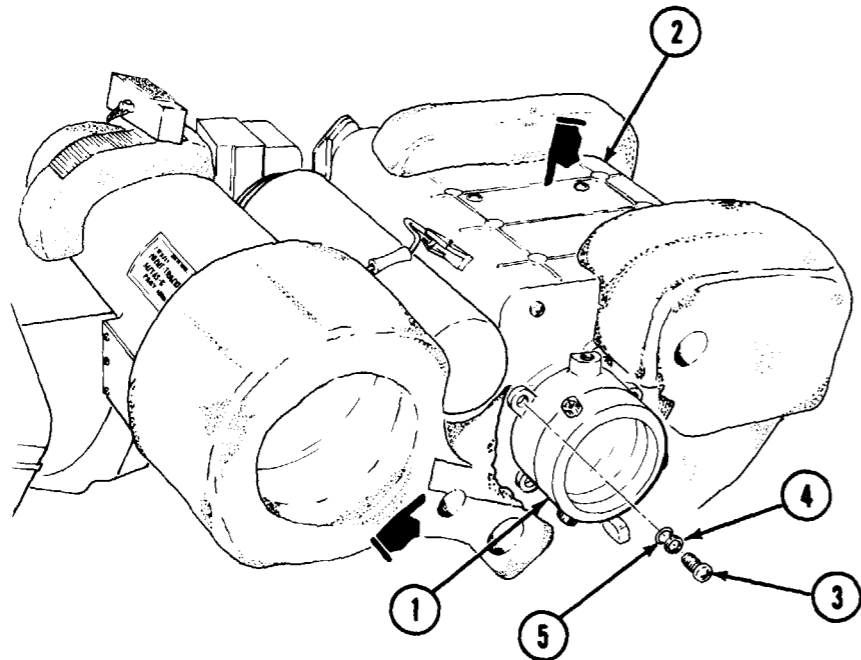
STEP 2



NOTE

Coat threads of screws with molybdenum disulfide before installation.

- A. Secure afocal assembly (1) to the tracker housing (2) with four screws (3), lock washers (4) and flat washers (5).
- B. Wipe off excess molybdenum disulfide.

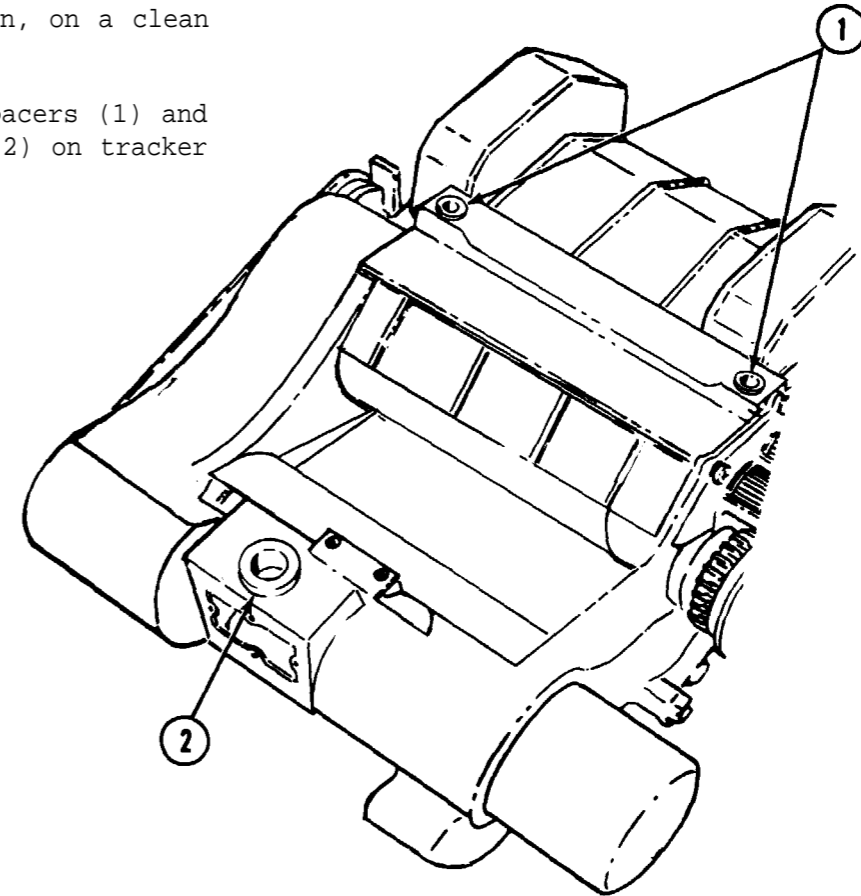


9-20 INSTALL MOUNT

- Tools required:
- 3/8 inch flat-blade screwdriver
 - Eyepiece spanner wrench
 - special tool SMD 804302
 - .050 allen wrench
 - Torque screwdriver (in lb)

STEP 1

- A. Lay the tracker housing, coolant cartridge side down, on a clean work surface.
- B. Place two small spacers (1) and one large spacer (2) on tracker housing.



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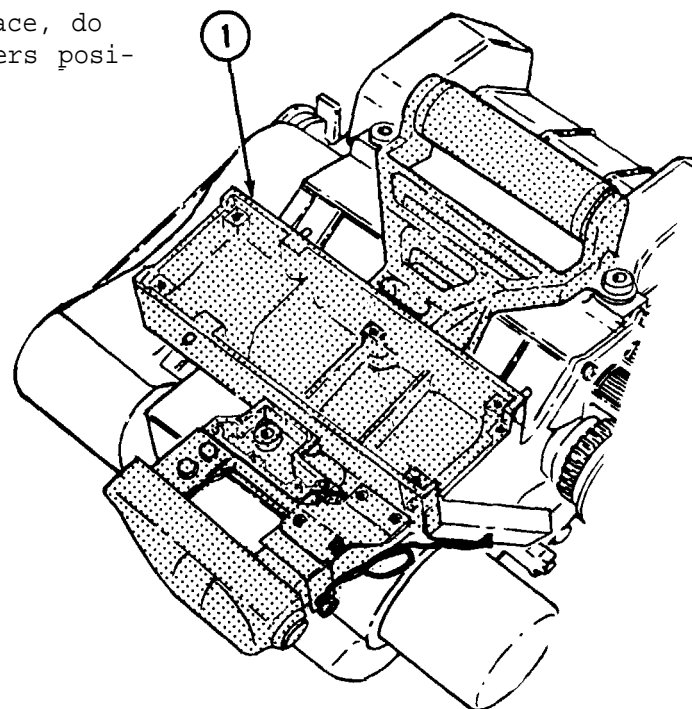
Follow-on Task: Perform boresight procedure, see TM 9-4935-484-14.

END OF TASK

9-20. INSTALL MOUNT - CONTINUED

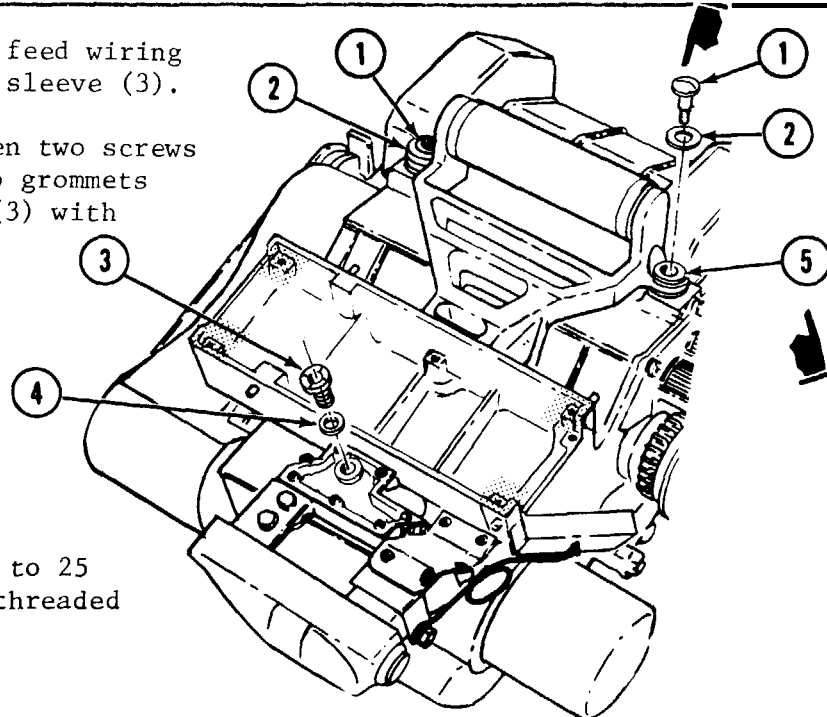
STEP 2

Carefully set mount (1) in place, do not disturb alignment of spacers positioned in step 1.



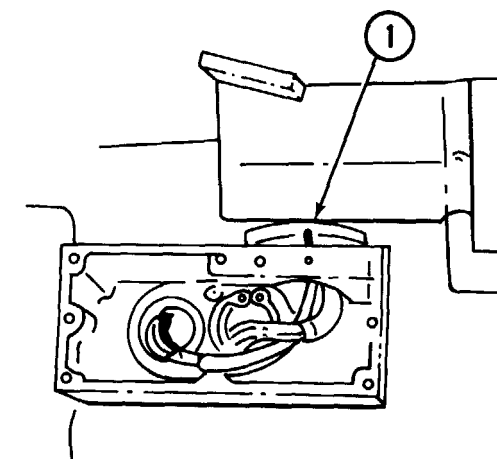
STEP 3

- A. As mount is positioned, feed wiring harness through threaded sleeve (3).
- B. Install but do not tighten two screws (1), two washers (2), two grommets (5) and threaded sleeve (3) with washer (4).
- C. Now torque screws (1) 20 to 25 inch pounds and tighten threaded sleeve (3).



STEP 4

- A. Feed leads into CSCB mounting area.
- B. Using Allen wrench, tighten set screw (1) in header chassis.



END OF TASK

9-21. INSTALL IDENTIFICATION PLATE

Tools required: Marking set or Machinist's scribe

Materials required:

Materials

Adhesive sealant
Deleted
Orangewood stick
Alcohol
Cleaning cloth

See Appendix D

Item 73
Item 7
Item 8
Item 6

STEP 1

Using marking set or machinist's scribe, mark new identification plate with information recorded from old identification plate.



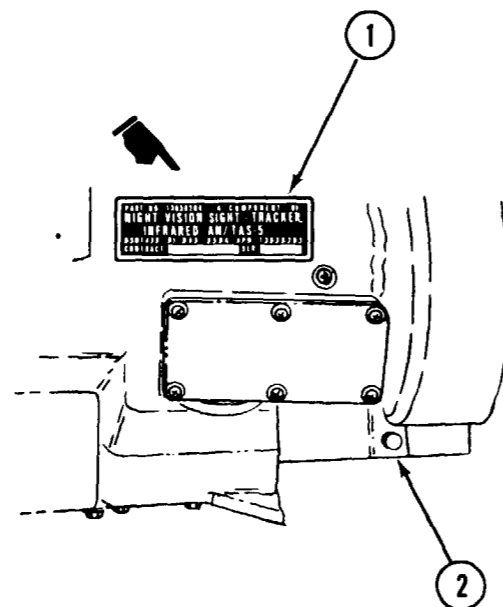
STEP 2



NOTE

Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

- A. Apply primer (if required) to the bonding area and allow to cure according to the manufacturer's instructions.
- B. Apply sealing compound to I.D. plate (1) and bond to housing (2). Let cure for 24 hours before handling. Full cure takes 72 hours.



END OF TASK

9-22. INSTALL LENS COVER AND NYLON CORD

Tools required: Craftsman's knife
Machinist's rule
Heat gun
1/16 inch punch

Materials required:

Materials

Nylon cord
Ferrules
Insulation sleeving

See Appendix D

Item 49
Item 20
Item 52

Install lens cover and nylon cord see para. 7-27.

END OF TASK

9-23. INSTALL ELECTRICAL CONNECTOR COVER AND NYLON CORD

Tools required: Craftsman's knife 3/8 inch open end wrench
 Diagonal cutting pliers Ratchet wrench
 Machinist's rule 3 inch extension
 1/16 inch punch 3/8 inch socket
 Heat gun

Materials required:

<u>Materials</u>	<u>See Appendix D</u>
Ferrules	Item 20
Nylon cord	Item 49
Insulation sleeving	Item 52

STEP 1

Install electrical connector cover and nylon cord, see para. 7-28, steps 1A, 2, and 3.

END OF TASK

9-24. INSTALL FL-1 FILTER

Tools required: Heat gun
 Craftsman's knife
 Soldering iron
 Torque screwdriver, inch/pounds
 1/4 inch deep well socket
 6 inch extension
 3/16 inch open end wrench
 No. 1 crosspoint screwdriver

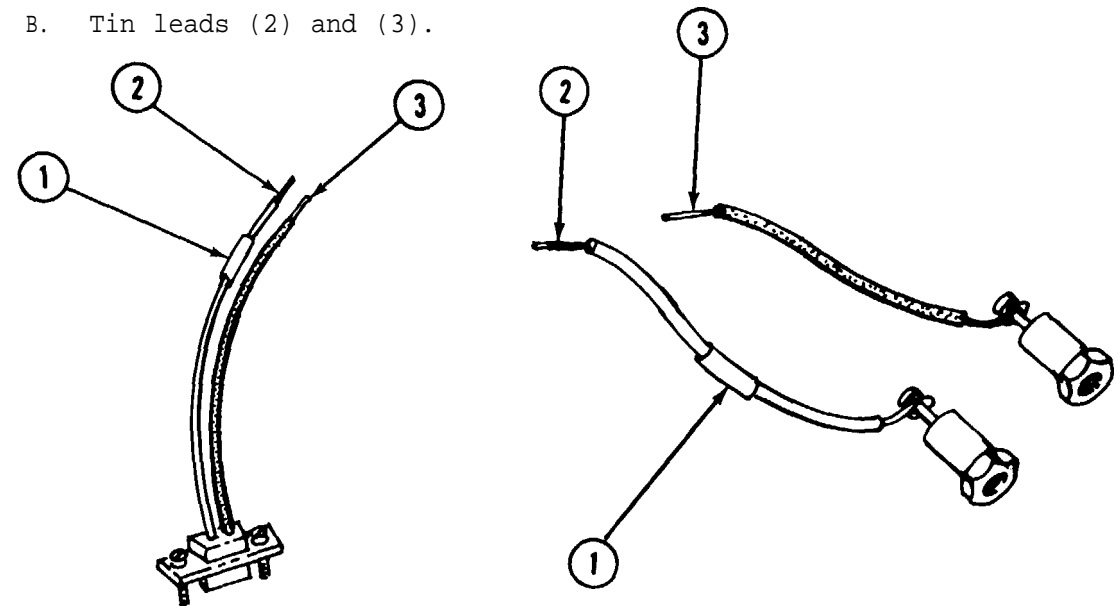
Materials required:

<u>Materials</u>	<u>See Appendix D</u>
Adhesive sealant	Item 73
Deleted	
Insulation sleeving	Item 67
Orangewood stick	Item 7
Solder	Item 11
Alcohol	Item 8

Equipment condition: CSCB removed, see para. 9-8.
 Firing mechanism removed, see para. 9-9, steps 1 and 4.

STEP 1

- A. Slide a 1/2 inch piece of insulation sleeving (1) over each of blue leads (2).
- B. Tin leads (2) and (3).

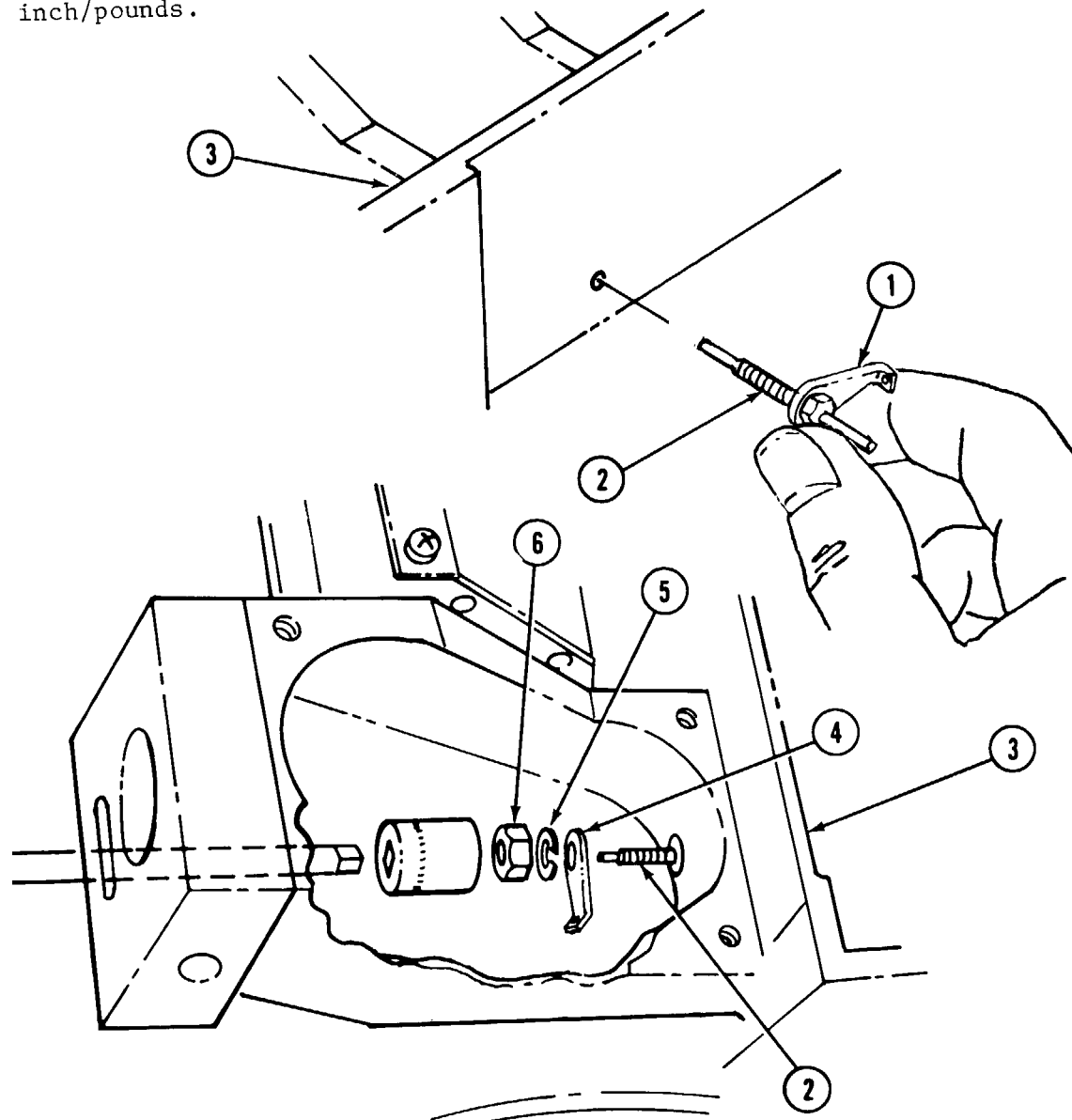


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9-24. INSTALL FL-1 FILTER-CONTINUED

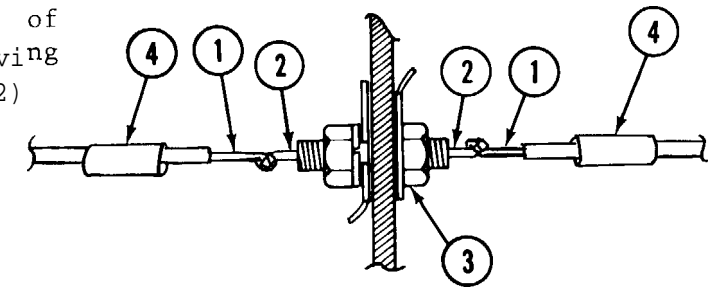
STEP 2

- A. Place terminal lug (1) on FL-1 (2).
- B. Insert FL-1 (2) through housing (3) as shown.
- C. Place terminal lug (4), lockwasher (5) and nut (6) on FL-1 (2) and finger tighten.
- D. Place 1/4 inch socket on nut (6), then insert 6 inch extension through access hole in housing and insert into socket.
- E. Using 3/16 inch open end wrench, half FL-1 (2) and torque nut (6) 4 to 5.5 inch/pounds.



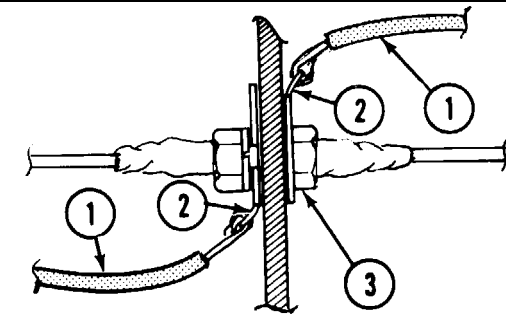
STEP 3

Solder blue leads (1) to posts (2) of FL-1 (3). Slide heat shrink sleeving (4) over solder joints on posts (2) and heat shrink with heat gun.



STEP 4

Solder brown lead (1) to terminal lugs (2) of FL-1 (3).



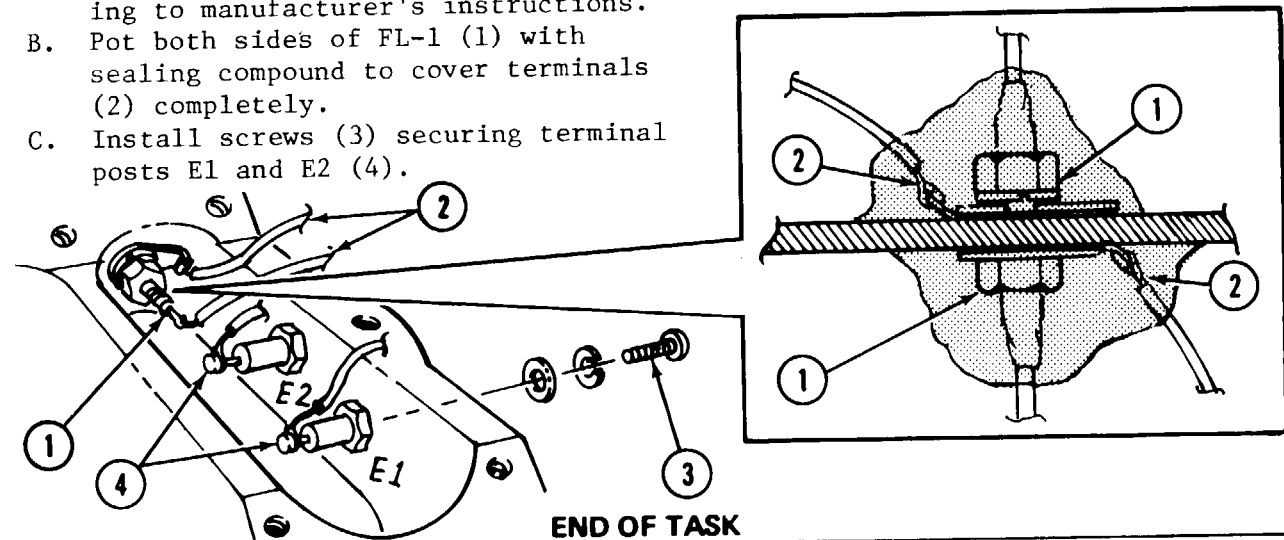
STEP 5



NOTE

Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

- A. Apply primer to both sides of the FL-1 (1) to cover terminals (2) completely. Allow to cure according to manufacturer's instructions.
- B. Pot both sides of FL-1 (1) with sealing compound to cover terminals (2) completely.
- C. Install screws (3) securing terminal posts E1 and E2 (4).



END OF TASK

C2

9-25. INSTALL NUTATOR

Tools required: Plug spanner wrench, special tool P/N 10275915 or P/N 11508633
 Screwdriver, special tool P/N 10276466
 Torque wrench, inch/pounds
 Snap ring pliers
 1/8 inch flat-blade screwdriver
 No. 1 crosspoint screwdriver
 Forceps tweezers
 .050 Allen wrench
 Nutator dust cover, 1.340" ID, NSN 5340-00-437-6461

Materials required:

Materials

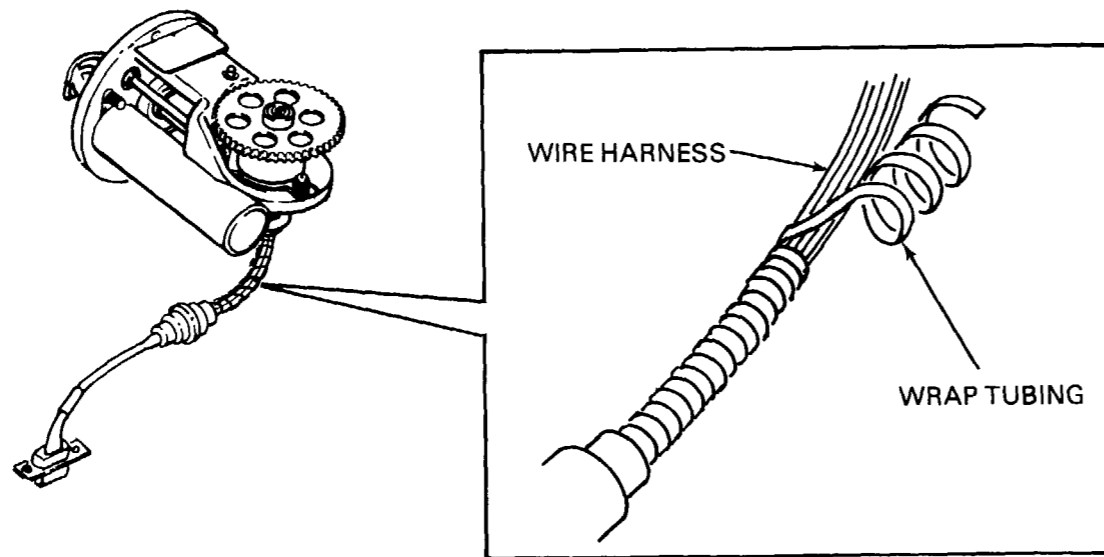
Primer
 Silicone compound
 Sealing compound
 Molybdenum disulfide

See Appendix D

Item 2
 Item 24
 Item 18
 Item 50

STEP 1

Wind wrap tubing on wire harness

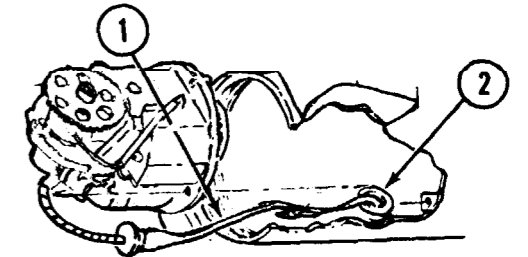


STEP 2

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STEP 3

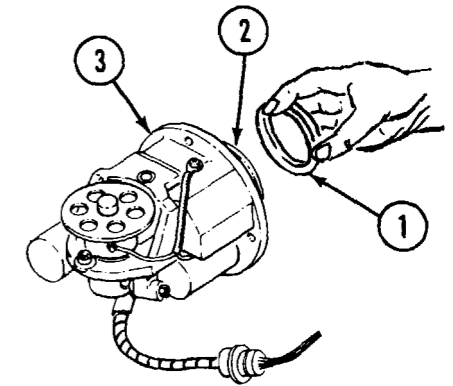
Thread the nutator cable (1) through terminal assembly access hole (2).



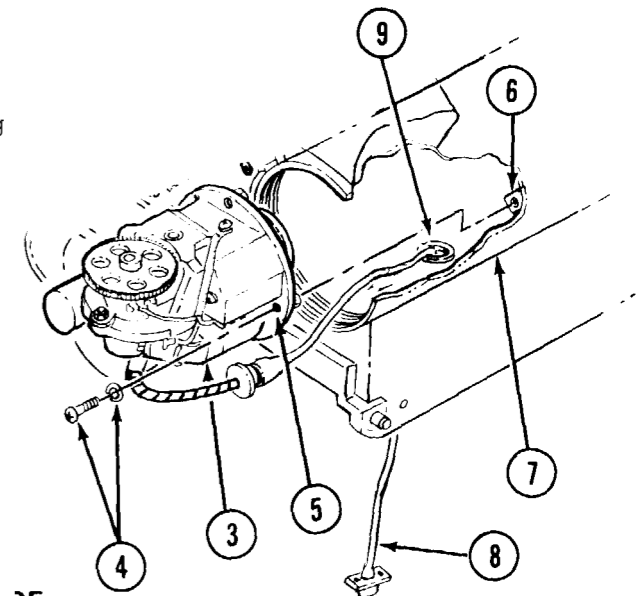
STEP 4



Be careful when handling the nutator - do not touch the mirror or change the position of gears in the mirror drive assembly and clutch. If the mirror is touched, clean with a cotton swab and ethyl alcohol, wiping in a straight line in one direction only.



- A. Remove dust cap (1) from mirror (2) of nutator (3).
- B. Carefully position three crosspoint screws with washers (4) into mounting holes (5) of nutator (3), and align them with holes (6) in housing (7). Carefully pull nutator cable (8) through hole (9) while nutator (3) is being positioned.
- C. Using torque wrench and special tool P/N 10276466, torque screws (4) 4 to 5.5 inch/pounds.



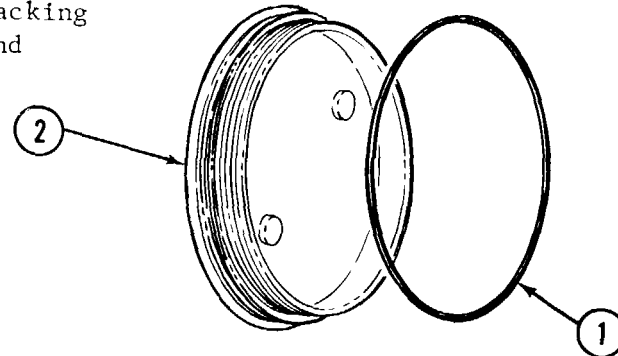
GO TO NEXT

9-25. INSTALL NUTATOR - CONTINUED

STEP 5

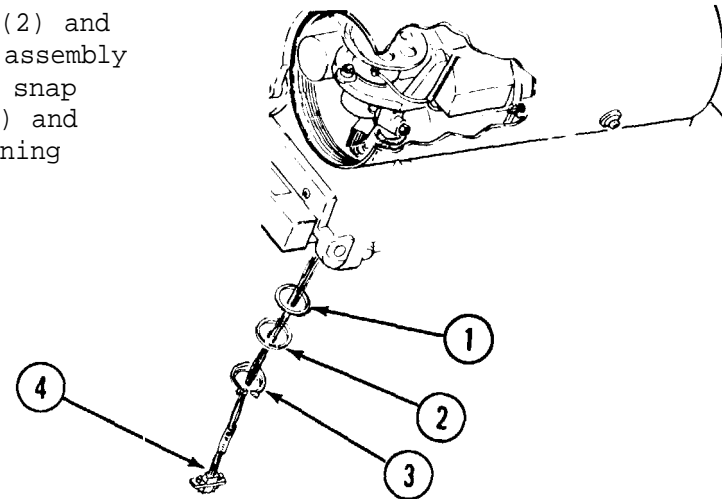
A. Adequately lubricate the preformed packing seating surface with silicone compound (item 24, Appendix D).

B. Install new preformed packing (1) on plug (2).



STEP 6

Slide new packing (1), washer (2) and retaining ring (3) over cable assembly (4), and position them. Using snap ring pliers, secure packing (1) and washer (2) in place with retaining ring (3).



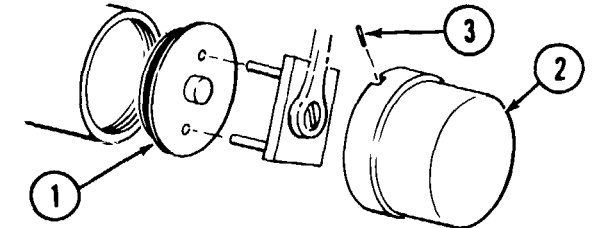
STEP 7

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STEP 8

A. Using torque wrench and the plug spanner wrench, install the plug (1) with preformed packing and torque 70 to 90 in lb.

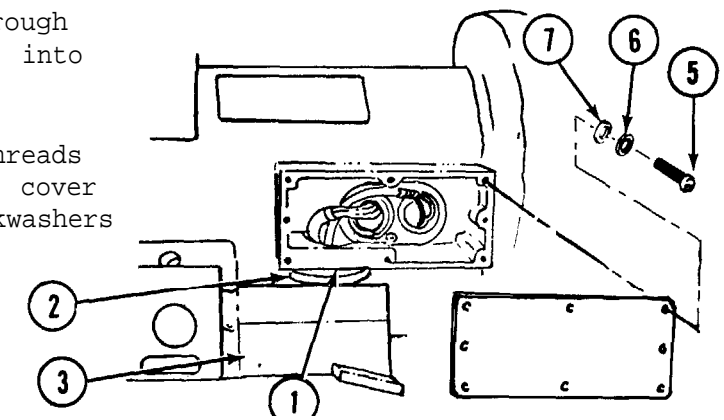
B. Install socket assembly (2) and secure with set screw (3).



STEP 9

A. Route nutator cable end down through grommet (1) and large spacer (2) into A2 compartment (3).

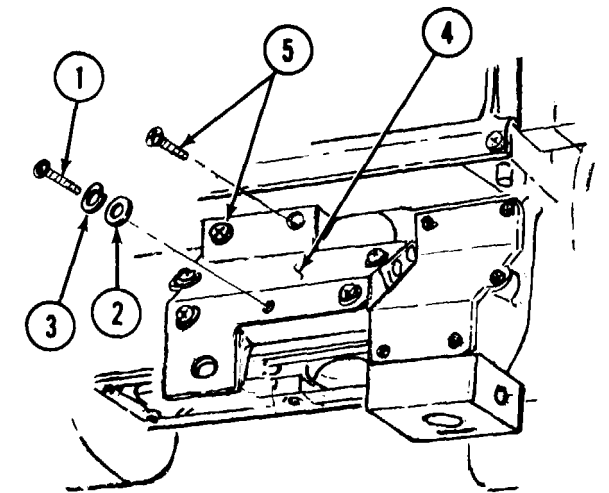
B. Place molybdenum disulfide on threads of eight screws (5) then install cover (4) using eight screws (5), lockwashers (6) and flatwashers (7).



STEP 10

A. Place molybdenum disulfide on threads of five screws (1). Install screws (1) with washers (2) and lockwashers (3) to secure wire cover (4) onto place on interface mount.

B. Coat threads of two countersunk screws (5) with primer and let cure for one hour. Coat threads of primed countersunk screws (5) with sealing compound. Using a No. 1 crosspoint screwdriver, secure screws (5) into place on wire cover (4).



END OF TASK

Follow-On Task: Purge and repressurize tracker, see TM 9-1425-481-34 or TM 9-4935-484-14. Perform boresight alignment, see TM 9-4935-484-14.

9-26. INSTALL FIRING MECHANISM

- | | | |
|-----------------|----------------------------|------------------------------|
| Tools required: | Torque wrench, inch pounds | Longnose pliers |
| | 3/8 inch socket | Tweezers |
| | Ratchet wrench | No. 1 crosspoint screwdriver |
| | 3 inch extension | |
| | 3/8 inch open end wrench | |
| | Soldering iron | |

Materials required:

Materials

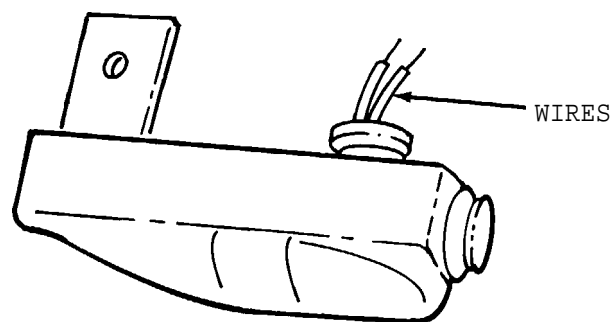
- Solder
- Alcohol
- Deleted
- Adhesive sealant
- Cleaning cloth
- Deleted
- MEK
- Orangewood stick

See Appendix D

- Item 11
- Item 8
- Item 73
- Item 6
- Item 5
- Item 7

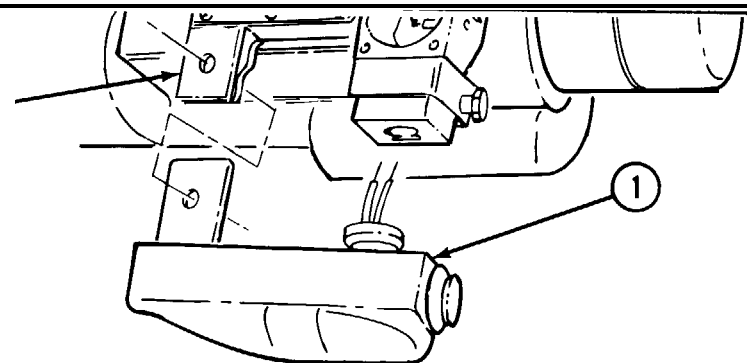
STEP 1

Tin the wires.



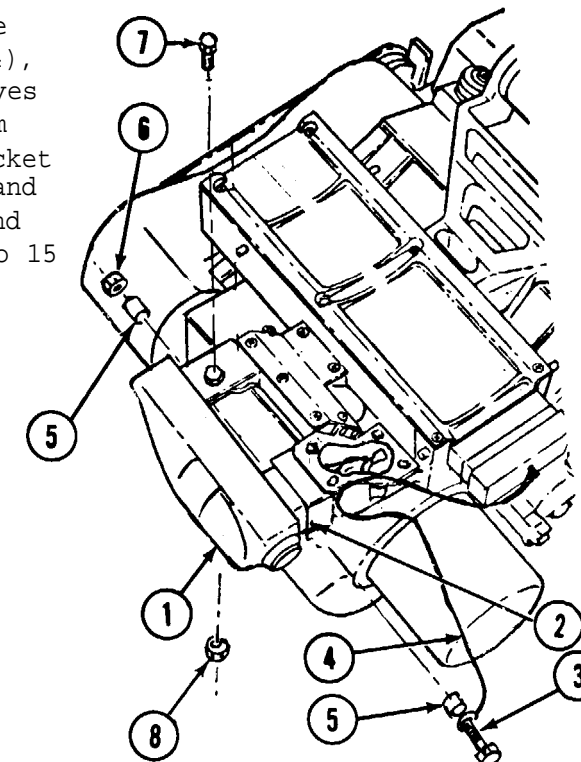
STEP 2

Mount the firing mechanism (1) on the tracker (2).



STEP 3

- A. Install firing mechanism (1) on flange (2) and insert bolt (3), cable ring (4), two sleeves (5) (tapered ends of sleeves point inward) through firing mechanism (1), flange (2). Using a 3/8 inch socket on a 3 inch extension with a ratchet and a 3/8 inch open end wrench, install and tighten nut (6). Torque nut (6), 12 to 15 inch pounds.
- B. Secure other end of firing mechanism (1) with bolt (7) and nut (8). Tighten bolt (7) with 3/8 inch extension bar and ratchet while holding nut (8) with 3/8 inch open end wrench. Torque 12 to 15 inch pounds.



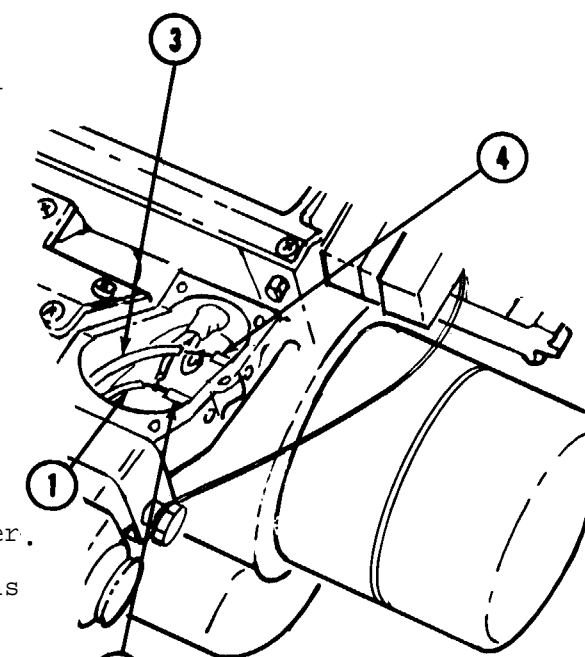
STEP 4

- A. Solder blue lead from firing mechanism (1) to E1 post (2).
- B. Solder black lead from firing mechanism (3) to E2 post (4).



NOTE

- Read the manufacturer's instruction's on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.
- C. Apply primer (if required) to the area to be potted in step D. Allow to cure according to the manufacturer.
 - D. Using adhesive sealant, pot terminals to cover solder joints completely.
 - E. Allow 72 hours for full cure.



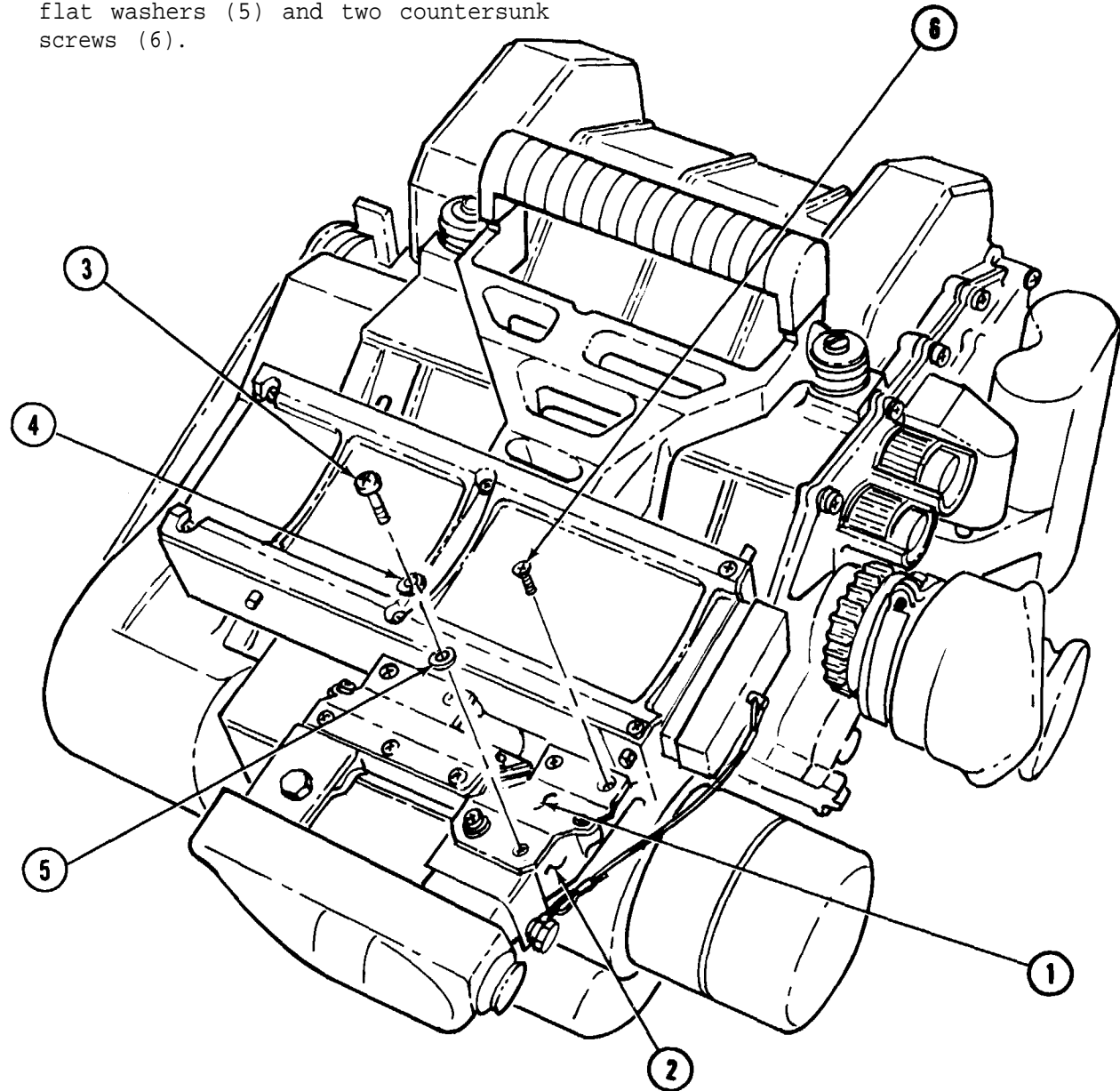
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9-26. INSTALL FIRING MECHANISM - CONTINUED

STEP 5 Deleted

STEP-6

Using screwdriver, install wire cover (1) to interface mount (2) and secure with three screws (3), lock washers (4), flat washers (5) and two countersunk screws (6).



END OF TASK

9-27. INSTALL CONTROL SIGNAL COMPARATOR BOARD (CSCB)

Tools required: No. 1 crosspoint screwdriver
1/8 inch flat-blade screwdriver

Materials

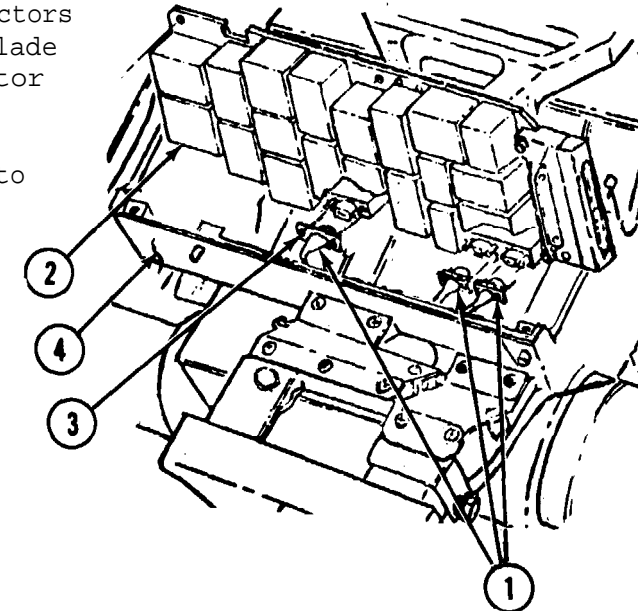
Molybdenum Disulfide

See Appendix D

Item 50

STEP 1

- A. Connect the three electrical connectors (1) to the CSCB (2). Using flat-blade screwdriver, fasten each connector with two captive screws (3).
- B. Carefully position the CSCB (2) into the housing (4).

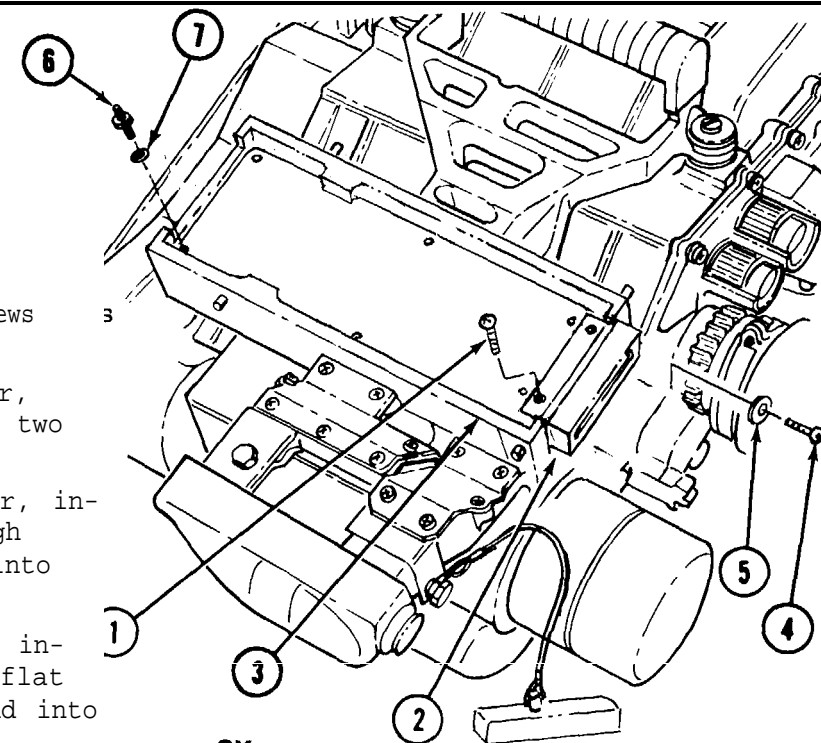


STEP 2



CAUTION
To prevent damage to the tracker connector, always install mounting hardware in the sequence shown.

- A. Apply item 50 to threads of screws (4) then remove excess.
- B. Using crosspoint screwdriver, secure CSCB to housing with two screws (4) and washers (5).
- C. Using crosspoint screwdriver, install two screws (1) through tracker connector (2) and into housing (3).
- D. Using 3/16 open-end wrench, install four studs (6) with flat washers (7) through CSCB and into housing (3).



END OF TASK

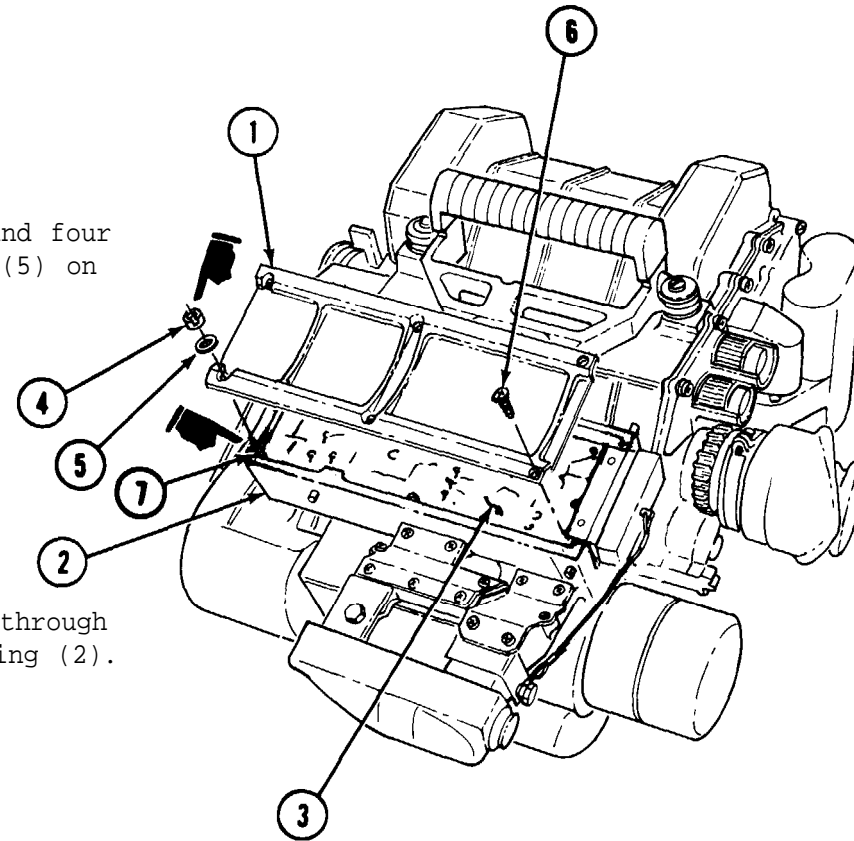
9-28. INSTALL ACCESS COVER

Tools required: 1/4 inch flat-blade screwdriver.
No. 1 crosspoint screwdriver.

A. Position access cover (1) in tracker housing (2) over studs (7) protruding through CSCB (3).

B. Install four nuts (4) and four internal tooth washers (5) on studs (7).

C. Install two screws (6) through cover (1) and into housing (2).



END OF TASK

9-29. AFOCAL ASSEMBLY CLEANING PROCEDURE

Tools required: Electrician's knife
Needlenose pliers
5/32 Allen wrench
Torque screwdriver
MA5 bit 1/4 inch drive

Materials required:

Materials

Orangewood stick
Alcohol
Cleaning cloth
Silicone

See Appendix D

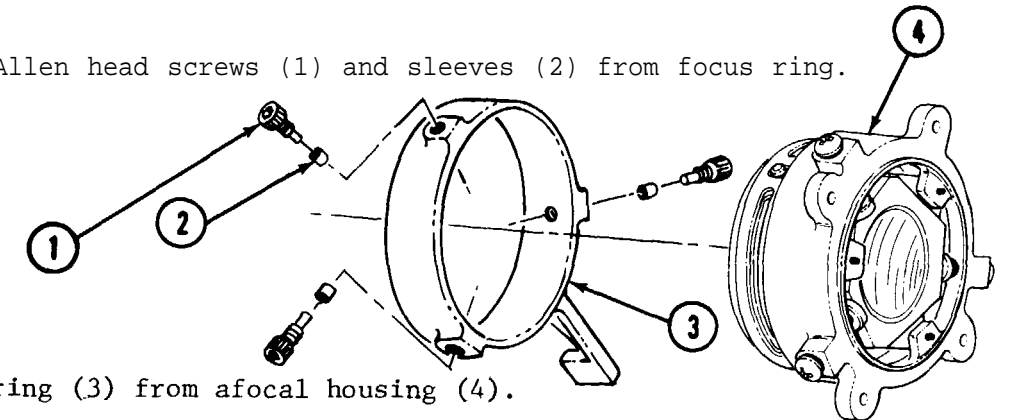
Item 7
Item 8
Item 6
Item 24

Equipment condition: Afocal removed, see para. 9-16.

a. Disassembly

STEP 1

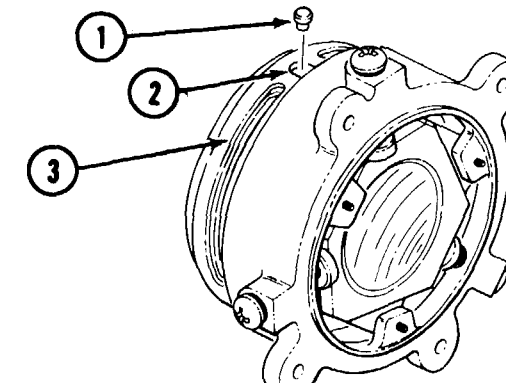
A. Remove three Allen head screws (1) and sleeves (2) from focus ring.



B. Remove focus ring (3) from afocal housing (4).

STEP 2

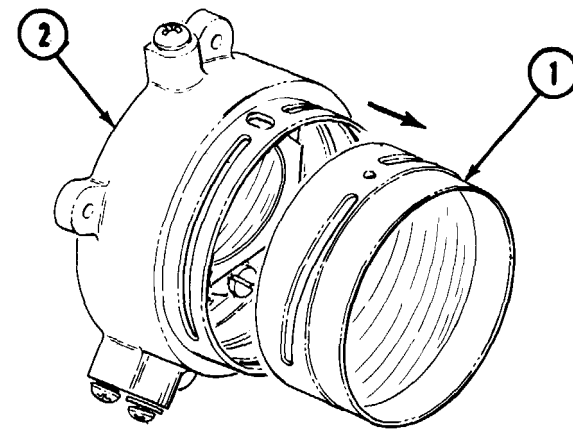
Using needlenose pliers, remove stepped pin (1) from slot (2) in frame of lens assembly (3).



9-29. AFOCAL ASSEMBLY CLEANING PROCEDURE - CONTINUED

STEP 3

Using electrician's knife, gently pry lens assembly frame (1) off the afocal housing (2).



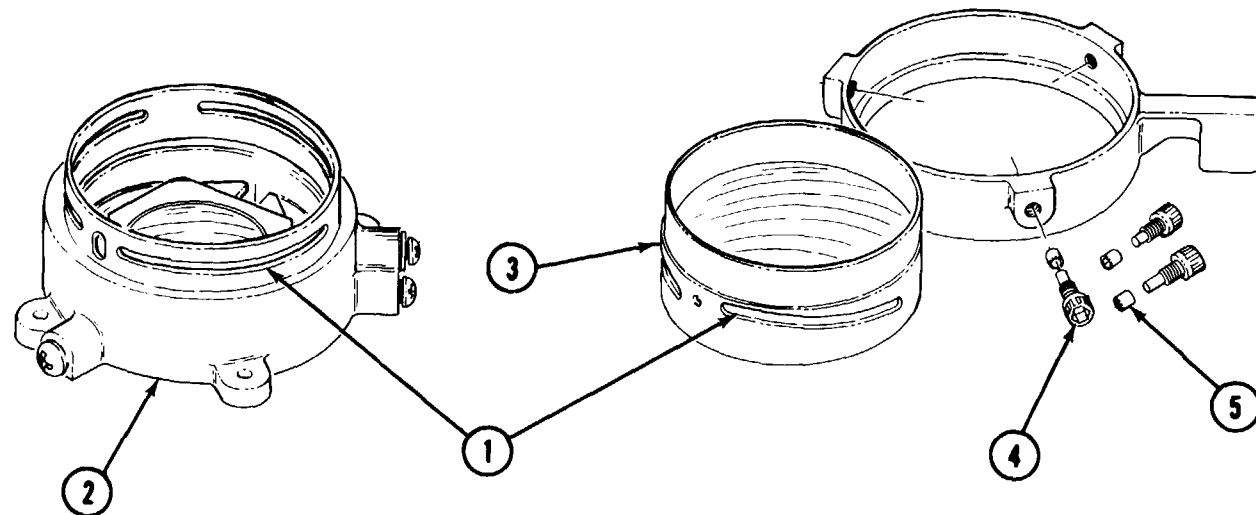
STEP 4



CAUTION

Be careful when cleaning/lubricating frame and housing. Do not get materials or fingerprints on lens. If lens are contaminated, clean with a cotton swab and ethyl alcohol, wiping in a straight line in one direction only.

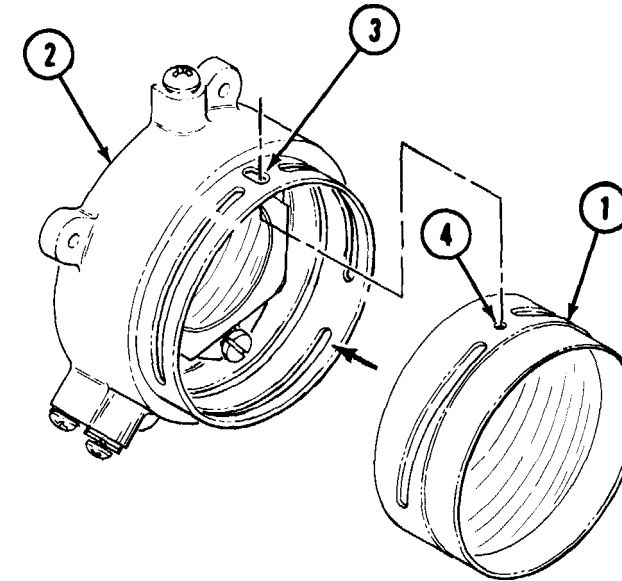
- A. Use orangewood stick, cleaning cloth and alcohol to clean positioning slots (1) in afocal housing (2) and lens assembly (3).
- B. Clean Allen head screws (4) and sleeves (5).
- C. Apply a thin film of silicone to working areas of slots (1) screws (4) and sleeves (5).



b. Reassembly.

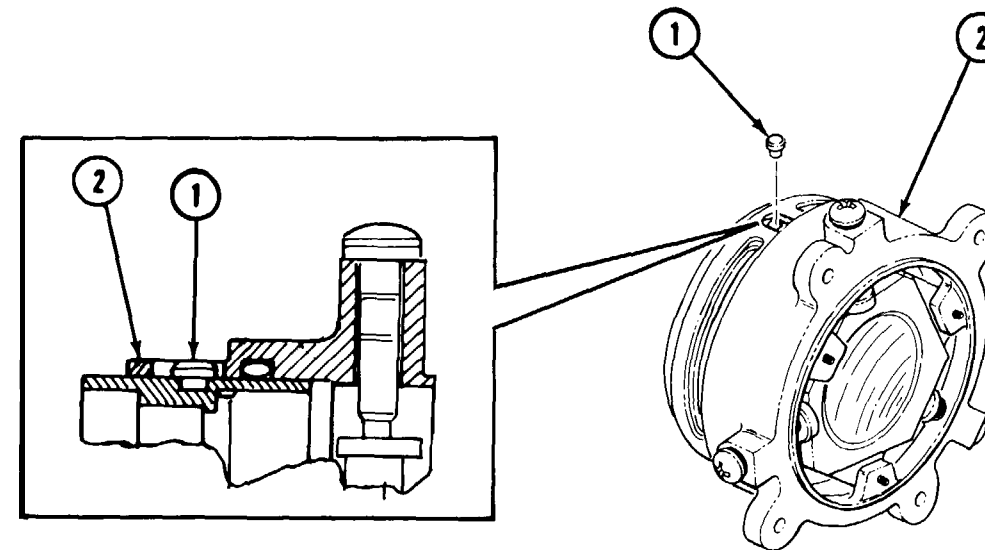
STEP 5

Install lens assembly (1) on afocal housing (2) and align slot (3) with hole (4) for stepped pin.



STEP 6

Install stepped pin (1). Gently tap pin into seat. When properly installed, top surface of pin will be flush with or slightly recessed below the surface of the lens assembly (2).



9-29. AFOCAL ASSEMBLY CLEANING PROCEDURE - CONTINUED

A. Wipe a thin film of silicone on inside surface of focus ring.

B. Install focus ring (1) on afocal housing (2). Position handle of focus ring (1) opposite small recess (3).

STEP 8

A. Position three sleeves (1) on three screws (2) and install three screws (2) in focus ring (3).

B. Torque screws to 9 to 15 inch pounds.

END OF TASK

9-30. FINAL INSPECTION

After any maintenance or repair, the Night Vision Sight must be inspected by QA/QC personnel in accordance with Appendix E.

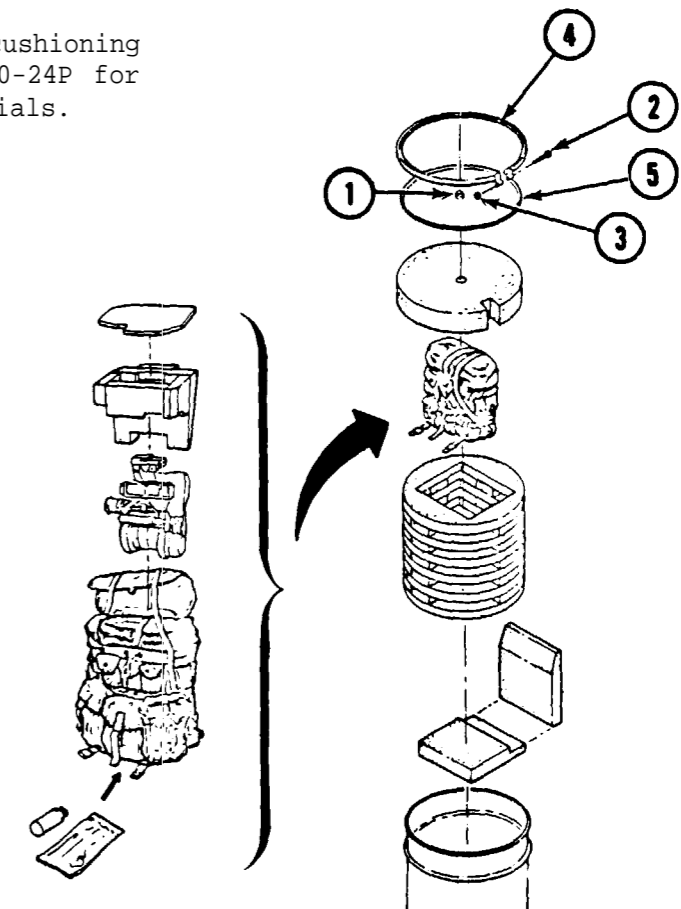
To be acceptable for return to supply, the Night Vision Sight must pass the test procedures outlined in TM 9-4935-484-14.

9-31. STORAGE/SHIPPINGCONTAINER CUSHION REPLACEMENT

Inspect cushioning material in the Night Tracker storage/shipping container per the PMCS table in TM9-1425-484-10 Replace deteriorated cushioning as follows:

Tools required: 1/2 inch flat-blade screwdriver
9/16 open-end wrench

- A. Depress button on pressure relief valve (1) to equalize pressure.
- B. Using screwdriver and open-end wrench, remove bolt (2), nut (3), lock ring (4) and cover (5).
- C. Replace any deteriorated cushioning material. See TM9-1425-480-24P for ordering replacement materials.
- D. Repackage as shown.
- E. Reinstall cover (5) lock ring (4), nut (3) and bolt (2).



CHAPTER 10

DS/GS MAINTENANCE INSTRUCTIONS - TEST SET GROUP,
GUIDED MISSILE INFRARED TRACKER: OQ-278/TSM-114

Section III. OPERATIONAL CHECKS

10-5. OPERATIONAL CHECKS

See TM 9-4935-484-14 for TTSSU operational procedures and checks.

	Page
Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT	10-1
Section II. SERVICE UPON RECEIPT	10-1
Section III. OPERATIONAL CHECKS	10-1
Section IV. SCHEDULED MAINTENANCE	10-1
Section V. TROUBLESHOOTING	10-1
Section VI. MAINTENANCE PROCEDURES	10-2

Section IV, SCHEDULED MAINTENANCE

10-6. MAINTENANCE SCHEDULE

- a. The TTSSU must be returned to LCSS every 360 days for maintenance calibration.
- b. The scheduled maintenance checks will be performed in accordance with the procedures outlined in TM 9-4935-484-14.

Section V. TROUBLESHOOTING

10-7. FAULT ISOLATION AND TROUBLESHOOTING

Fault isolation of TTSSU malfunctions is provided by LCSS. See applicable schematics and wiring diagrams in Appendix F for troubleshooting the TTSSU optical alignment fixture.

Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT

10-1. SPECIAL TOOLS AND TEST EQUIPMENT

There are no special tools or test equipment required.

10-2. REPAIR PARTS

See TM 9-4935-480-34P for a listing of authorized repair parts.

Section II. SERVICE UPON RECEIPT

10-3. INVENTORY INSPECTION

When a TTSSU is received from the using organization, perform an inventory and inspection. See TM 9-4935-484-14.

10-4. MAINTENANCE FORMS AND RECORDS

Make sure that maintenance forms DA-2404 and 2407 are completed as shown in DA PAM 738-750.

Section VI. MAINTENANCE PROCEDURES

	REMOVE		INSTALL	
	Para	Page	Para	Page
Identification Plate and Decal	10-8	10-2	10-58	10-45
Lid and Hinge	10-9	10-3	10-57	10-45
Cover	10-10	10-3	10-56	10-43
Circuit Card 1A6A1	10-11	10-5	10-55	10-42
Circuit Card 1A6A2	10-12	10-6	10-54	10-41
Digital Volt Meter 1A6M1 and Pads	10-13	10-7	10-53	10-40
Rubber Pad Replacement	10-14	10-8.1	10-14	10-8.1
Resistors 1A6R1 Through 1A6R4	10-15	10-8.1	10-52	10-38
Switch 1 A6S1 and 1A6S2	10-16	10-9	10-51	10-37
Electronic Component Assembly 1A6A3	10-17	10-10	10-50	10-36
Electronic Component Assembly 1A6A4	10-18	10-11	10-49	10-35
Indicator Light 1A6DS1	10-19	10-12	10-48	10-34
Filters 1A6FL1 Through 1A6FL9	10-20	10-12	10-47	10-33
Observation Window	10-21	10-13	10-46	10-33
Connector J2	10-22	10-14	10-45	10-32
Special Purpose Cable Assembly 1A6W1	10-23	10-14	10-44	10-30
Resistor R5	10-24	10-16	10-43	10-29
Conduit	10-25	10-16	10-42	10-28
Connectors J5 and J6	10-26	10-17	10-41	10-28
Chain (Elevation)	10-27	10-17	10-40	10-26
Chain (Azimuth)	10-28	10-18	10-39	10-25
Special Purpose Electrical Cable Assembly 1A7W1	10-29	10-20	10-38	10-24
Thermal Collimator Light Emitting Diode DS1	10-30	10-20	10-37	10-24
Forward or Aft Band	10-31	10-21	10-36	10-23
Eyebolt and Knob, Aft Bracket	10-32	10-21	10-35	10-23
Eyebolt Knob	10-33	10-22	10-34	10-22
Replace Velcro Hook and Pile (Base)	10-59	10-46		
Final Inspection	10-60	10-46		

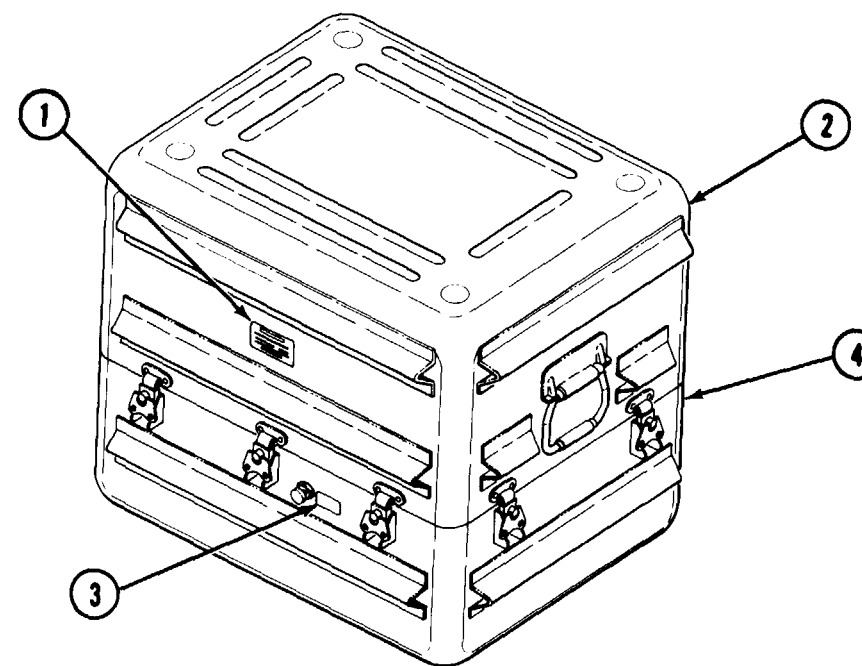
10-8. REMOVE IDENTIFICATION PLATE AND DECAL

Tools required: Knife, craftsman's
Machinist's stamp and die kit

Materials required:

<u>Materials</u>	<u>See Appendix D</u>
Methel Ethyl Ketone (MEK)	Item 5
Cleaning cloth	Item 6

- A. Transfer data from old identification plate to new identification plate.
- B. Using a knife, remove identification plate (1) and any residual adhesive from the case cover (2).
- C. Clean the identification plate mounting area with MEK.



- D. Using a knife, remove decal (3) and any residual adhesive from the case base (4).

- E. Clean the decal mounting area with MEK.

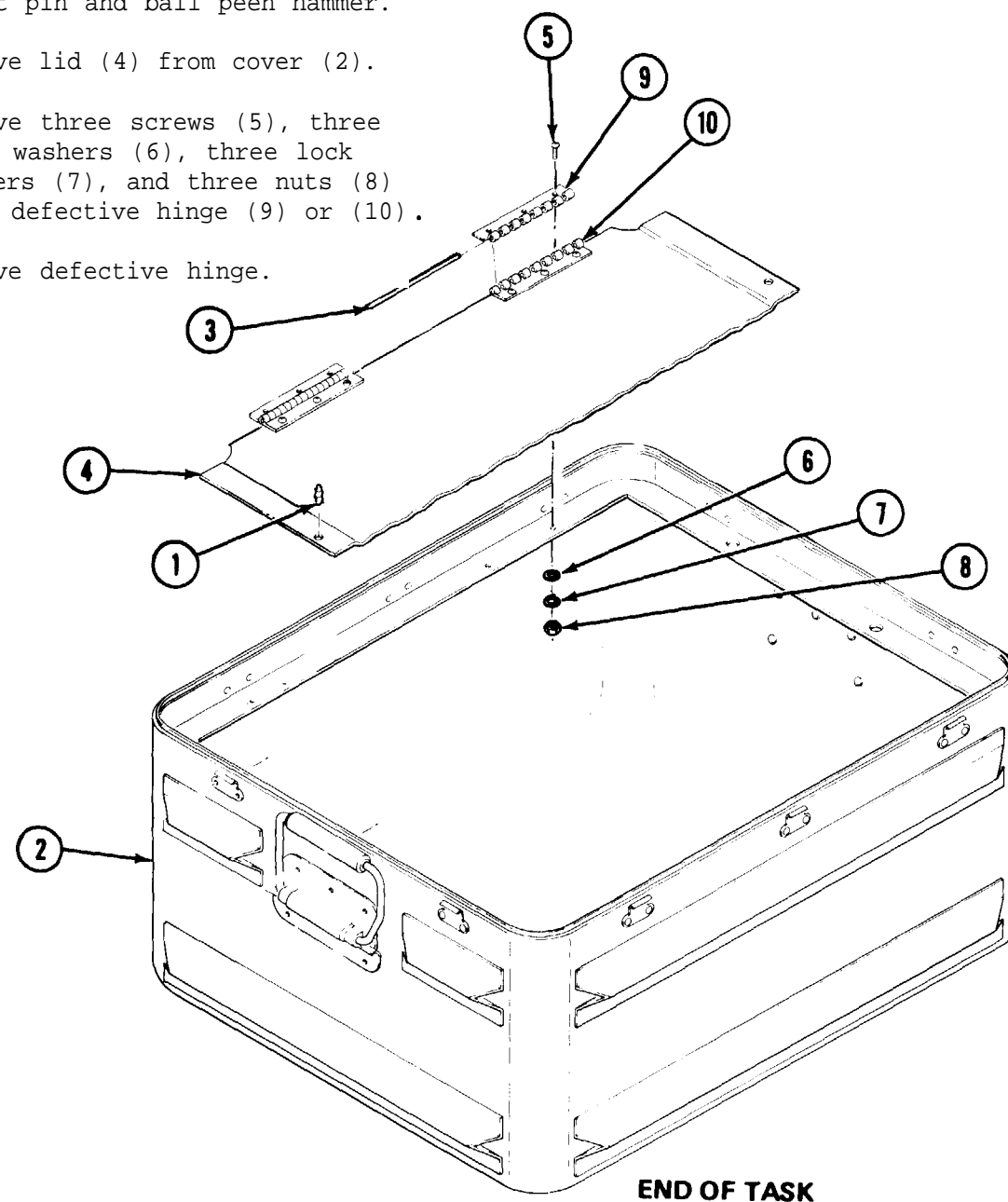
ENDOFTASK

10-9. REMOVE LID AND HINGE

Tools required: Drift pin 5/16 inch open end wrench
 Ball peen hammer No. 1 crosspoint screwdriver

Equipment condition: Lid removed from case base.

- a. Loosen studs (1) from cover (2).
Remove two hinge pins (3) using drift pin and ball peen hammer.
- b. Remove lid (4) from cover (2).
- c. Remove three screws (5), three flat washers (6), three lock washers (7), and three nuts (8) from defective hinge (9) or (10).
- d. Remove defective hinge.

**10-10. REMOVE COVER**

Tools required: Flat-blade screwdriver, 1/8 inch
 No. 2 crosspoint screwdriver
 Craftsman's knife

Materials required:

Materials

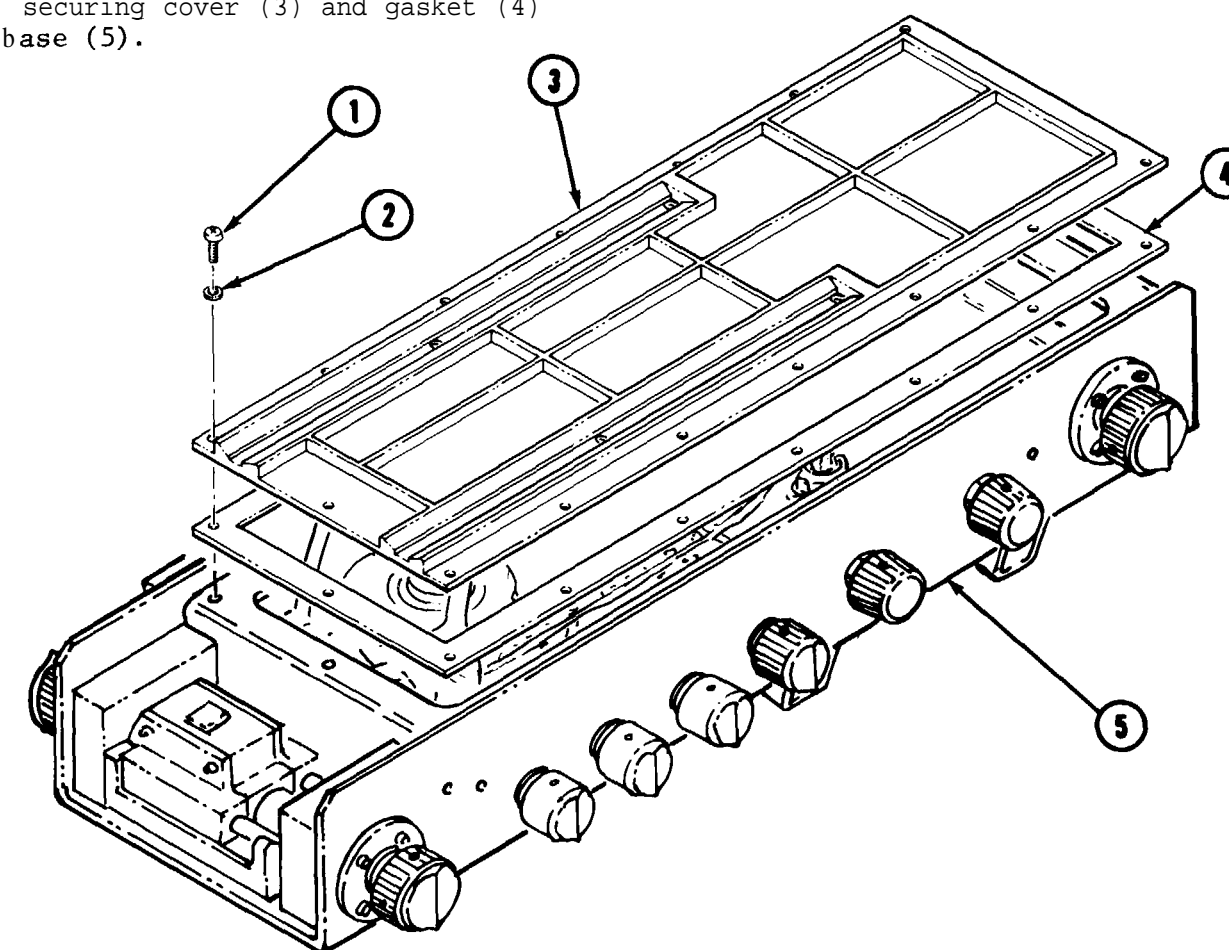
See Appendix D

Methyl Ethyl Ketone (MEK) Item 5
 Cleaning cloth Item 6

Equipment condition: TTSSU case open, SUOAF removed from lid, see TM 9-4935-484-14.

STEP 1

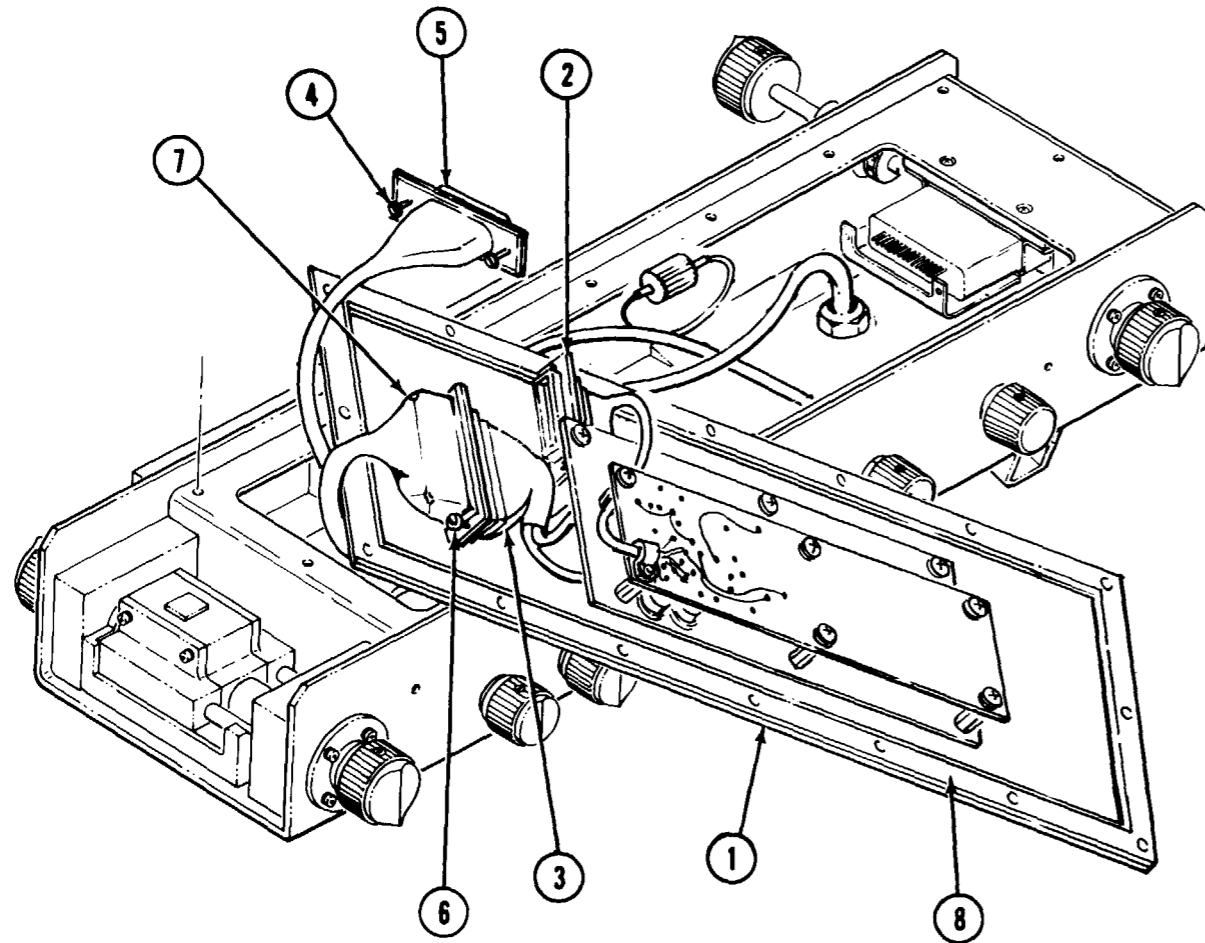
Using crosspoint screwdriver, remove sixteen screws (1), sixteen washers (2) securing cover (3) and gasket (4) to base (5).



10-10. REMOVE COVER -CONTINUED

STEP 2

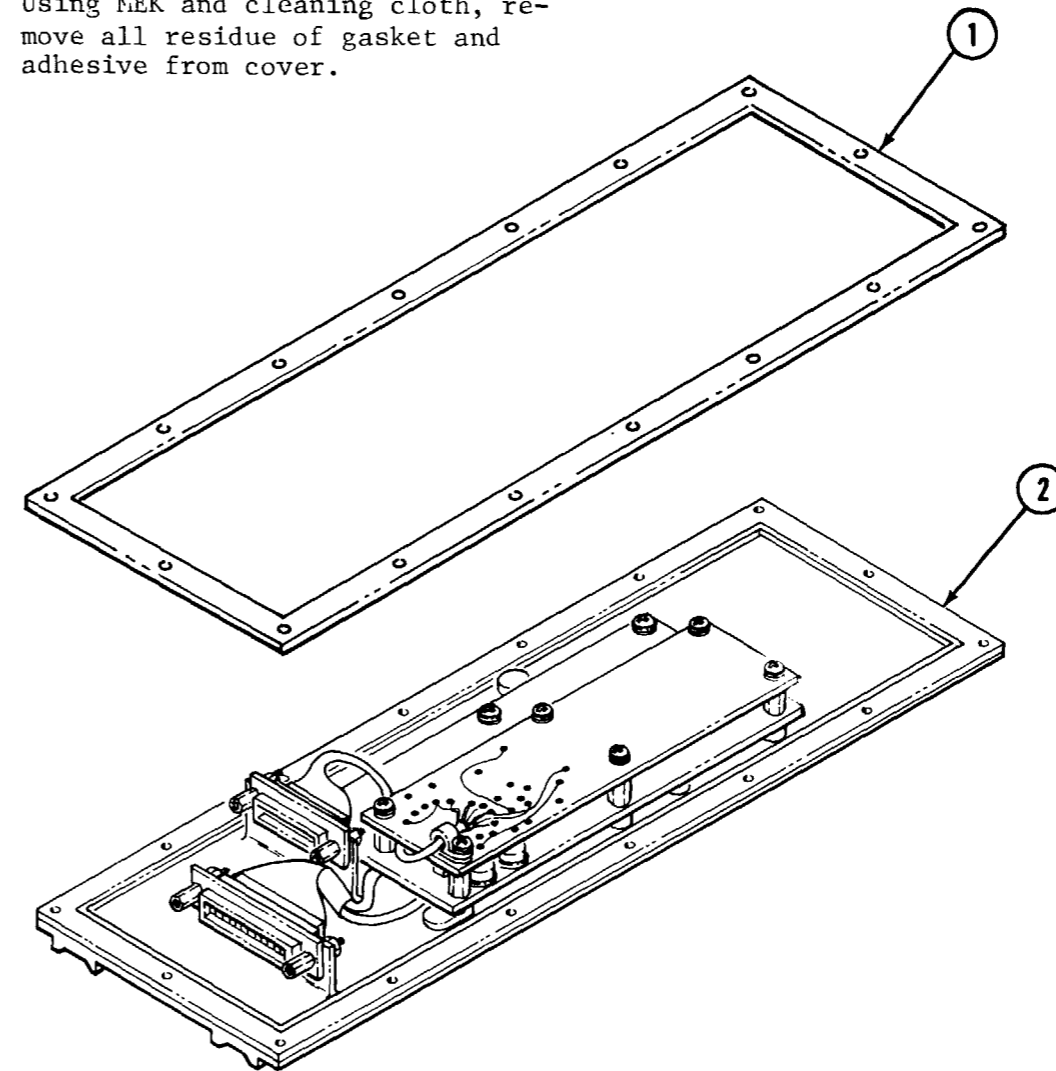
- A. Position cover (1) for access to circuit card connector 1A6A1P1 (2) and circuit card connector 1A6A2P1 (3).
- B. Loosen two captive screws (4) securing connector (2) to connector J7 (5). Disconnect J7 (5).
- C. Loosen two captive screws (6) securing connector (3) to connector J8 (7). Disconnect J8 (7).
- D. Remove cover (1) with gasket (8).



Perform the following step only if the cover gasket is damaged.

STEP 3

- A. Using a craftsman's knife, remove the gasket (1) from cover (2). Retain old gasket for a pattern.
- B. Using MEK and cleaning cloth, remove all residue of gasket and adhesive from cover.



END OF TASK

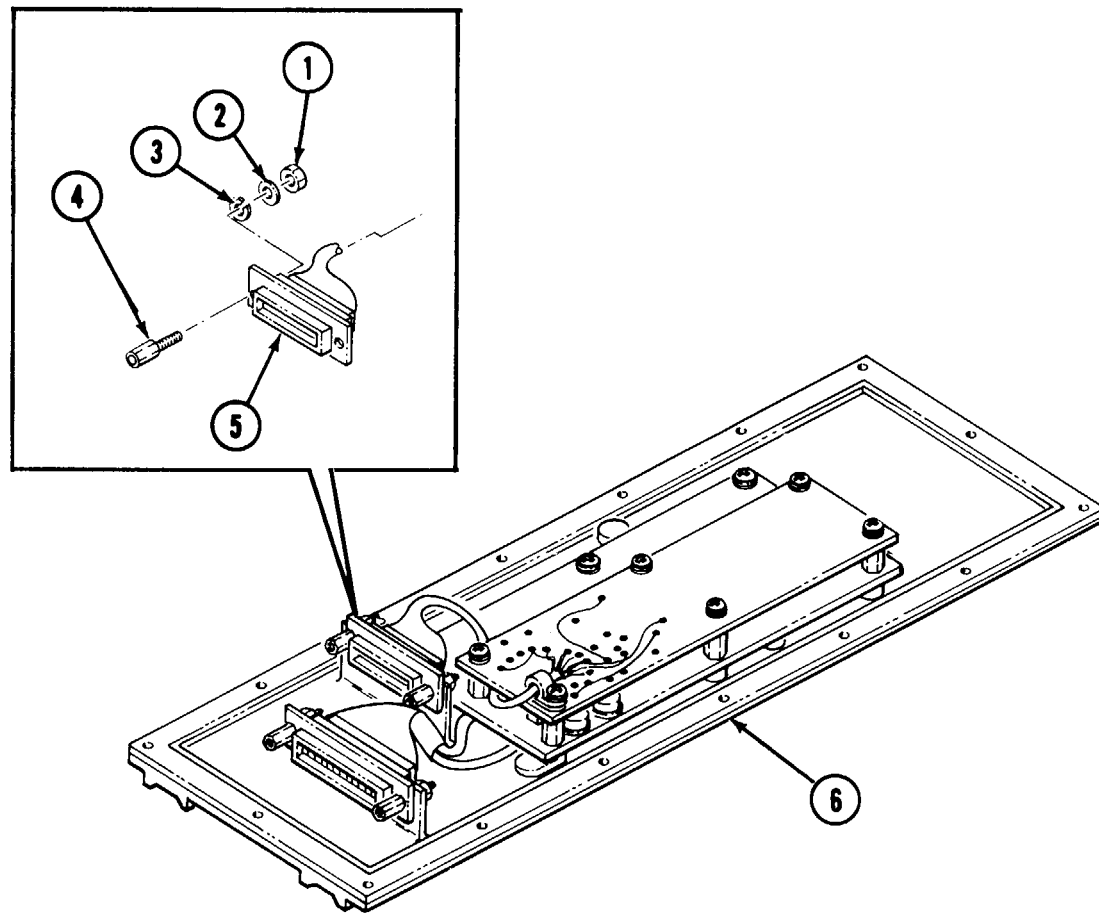
10-11. REMOVE CIRCUIT CARD 1A6A1

Tools required: No. 2 crosspoint screwdriver
 3/16 inch open end wrench
 3/16 inch box and open end wrench
 1/4 inch open end wrench

Equipment condition: SUOAF cover removed, see para. 10-10.

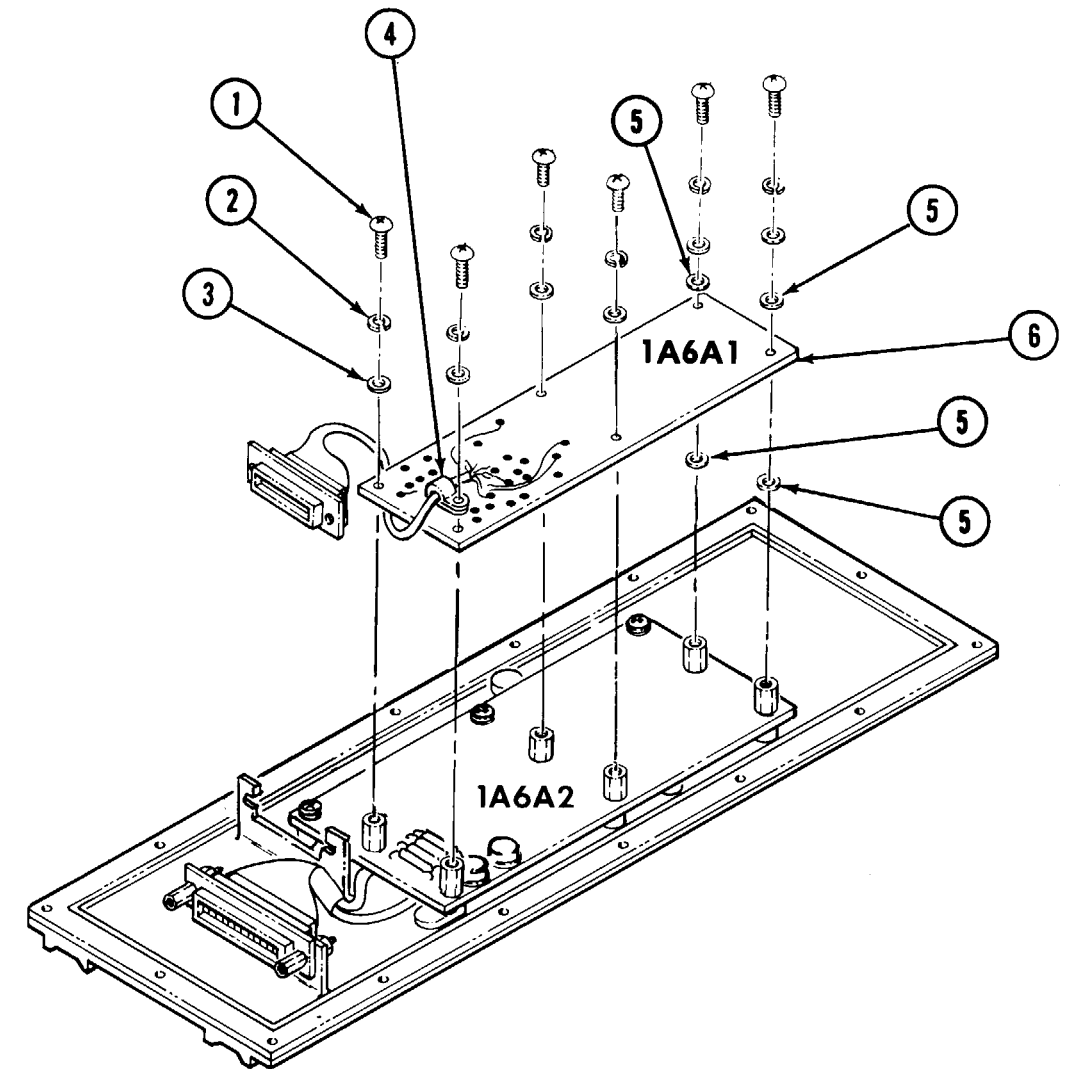
STEP 1

Using both 3/16 inch wrenches, remove two nuts (1), two lock washers (2), two flat washers (3), two retainers (4) securing connector 1A6A1P1 (5) to cover (6).



STEP 2

- A. Using screwdriver and 1/4 inch wrench, remove six screws (1), six lock washers (2), six flat washers (3) and clamp (4).
- B. Remove insulating washers (5) and 1A6A1 circuit card (6).



END OF TASK

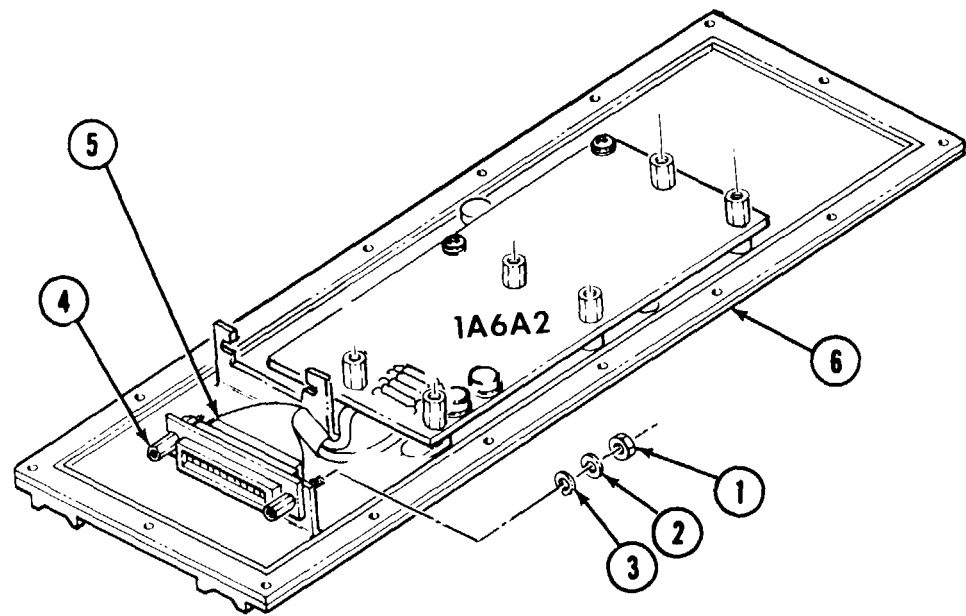
10-12. REMOVE CIRCUIT CARD 1A6A2

Tools required: Flat-blade screwdriver, 1/8 inch
 3/16 inch open end wrench
 3/16 inch box and open end wrench
 1/4 inch open end wrench
 No. 2 crosspoint screwdriver

Equipment condition: Circuit card 1A6A1 removed, see para. 10-11.

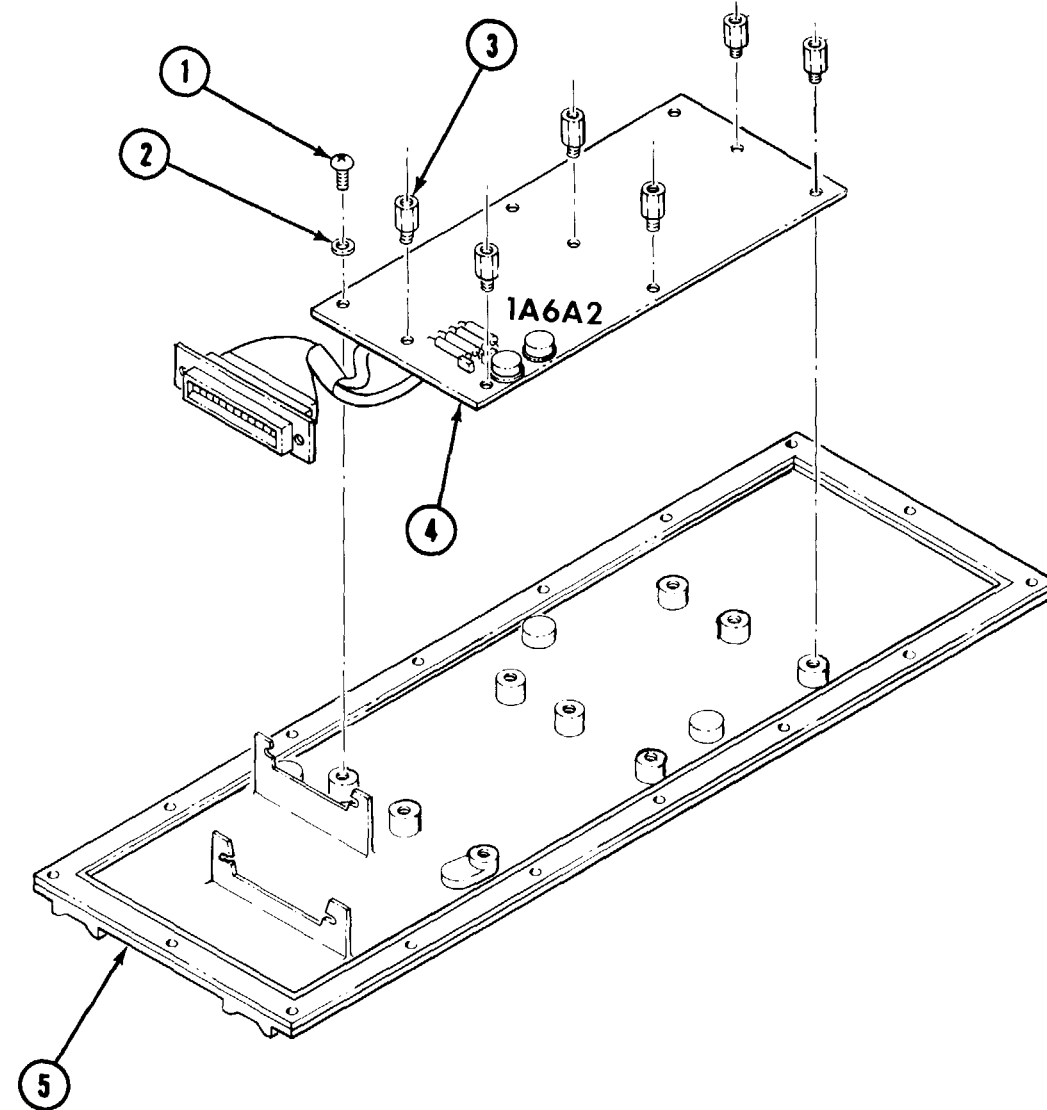
STEP 1

Using both 3/16 inch wrenches, remove two nuts (1), two lock washers (2), two flat washers (3), two retainers (4) and connector 1A6A2P1 (5) from cover (6).



STEP 2

- A. Using crosspoint screwdriver, remove three screws (1), and three flat washers (2).
- B. Using 1/4 inch wrench, remove six posts (3) and remove circuit card (4) from cover (5).



END OF TASK

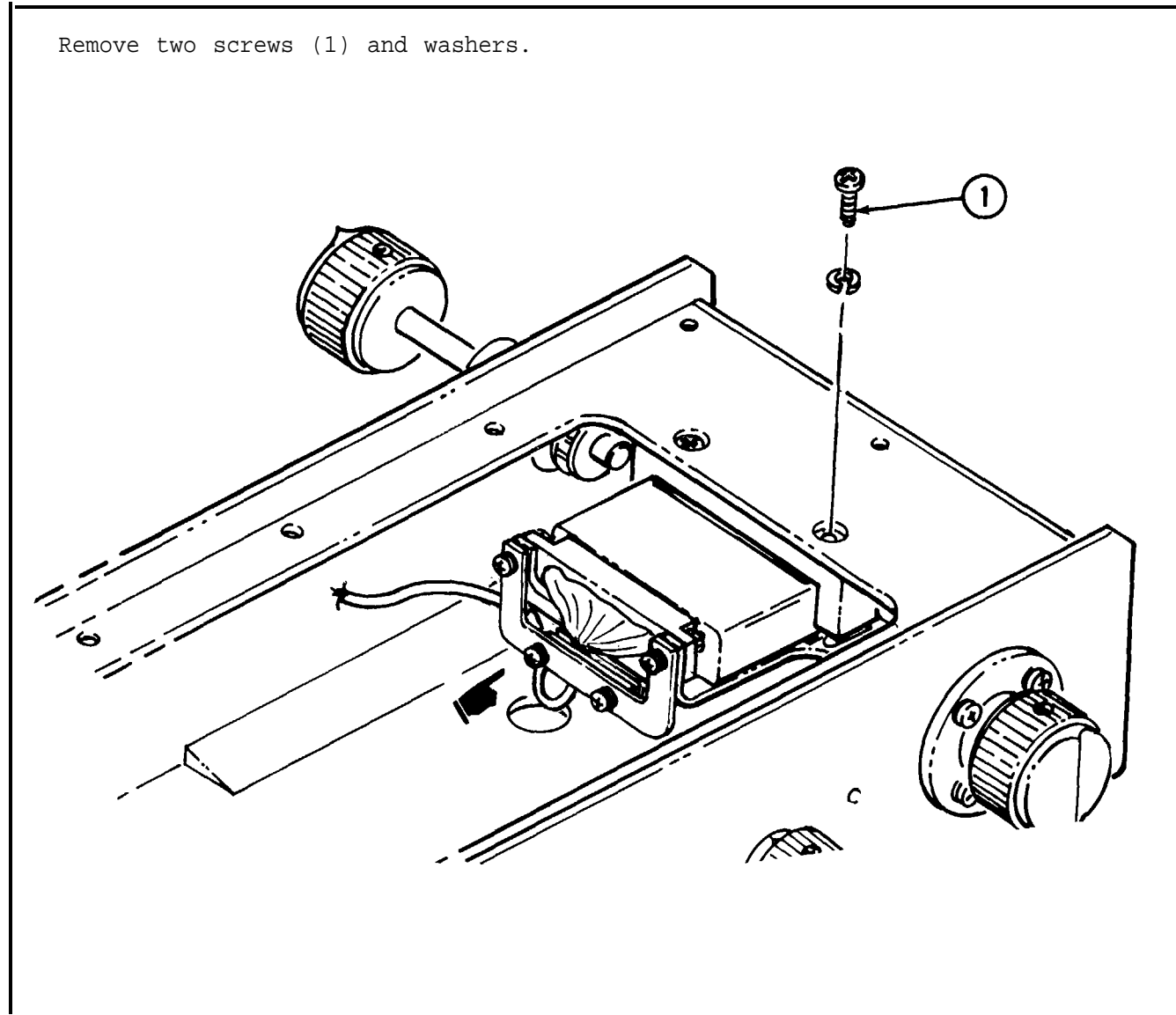
10-13. REMOVE DIGITAL VOLTMETER 1A6M1 AND PADS

Tools required: No. 1 crosspoint screwdriver

Equipment condition: Cover removed, see para. 10-10.

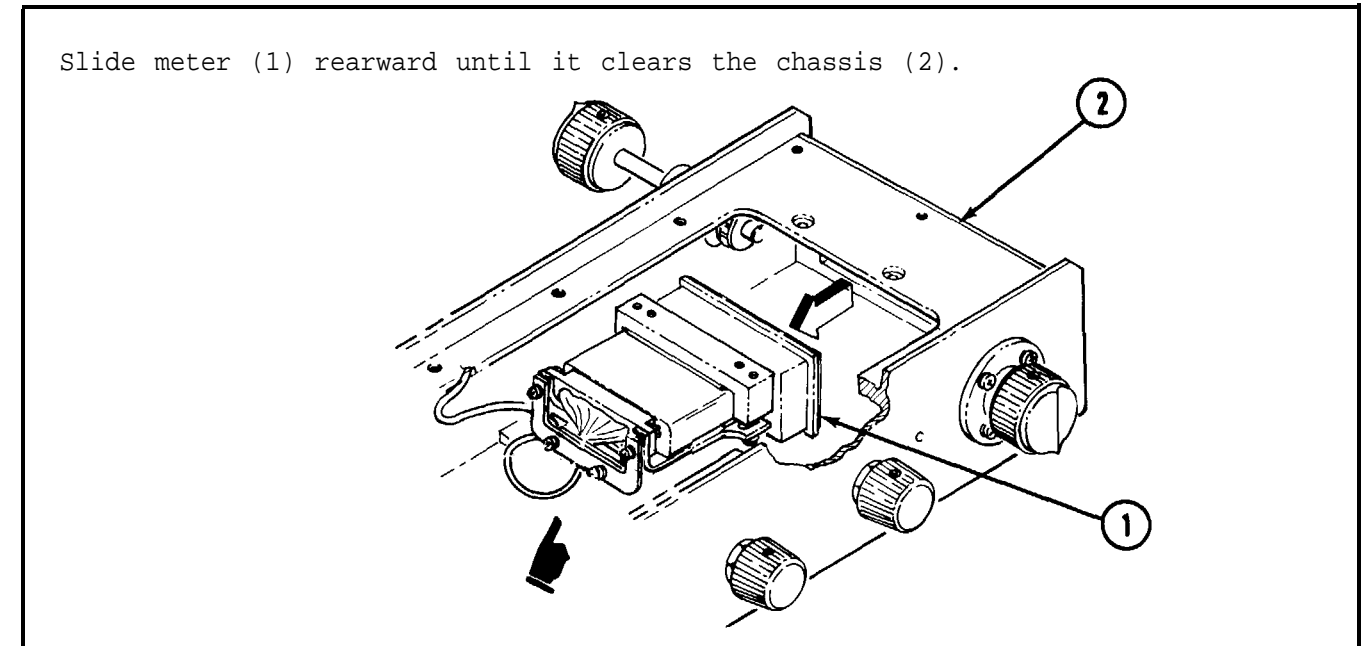
STEP 1

Remove two screws (1) and washers.

**10-13. REMOVE DIGITAL VOLTMETER 1A6M1 AND PADS-CONTINUED**

STEP 2

Slide meter (1) rearward until it clears the chassis (2).

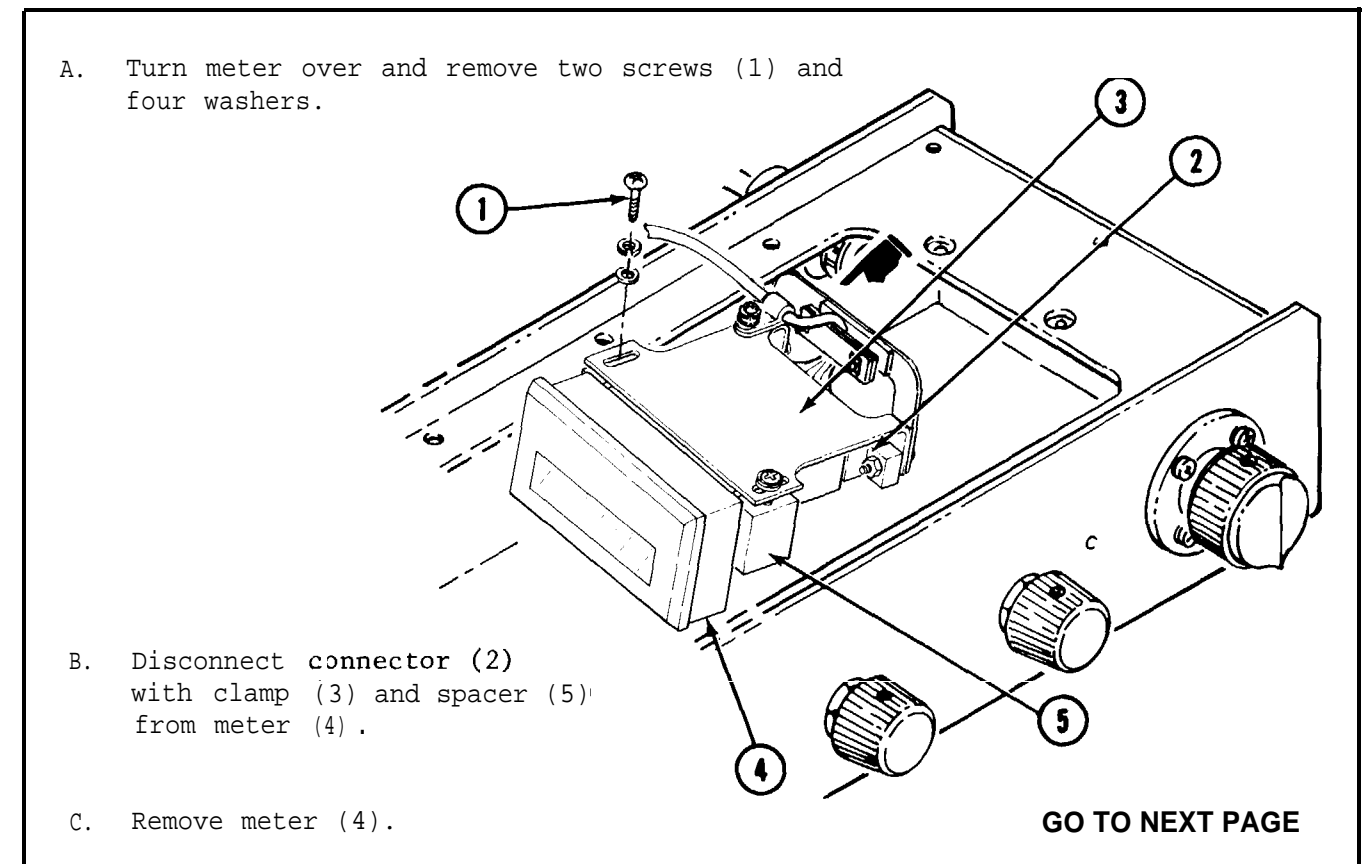


STEP 3

A. Turn meter over and remove two screws (1) and four washers.

B. Disconnect connector (2) with clamp (3) and spacer (5) from meter (4).

C. Remove meter (4).



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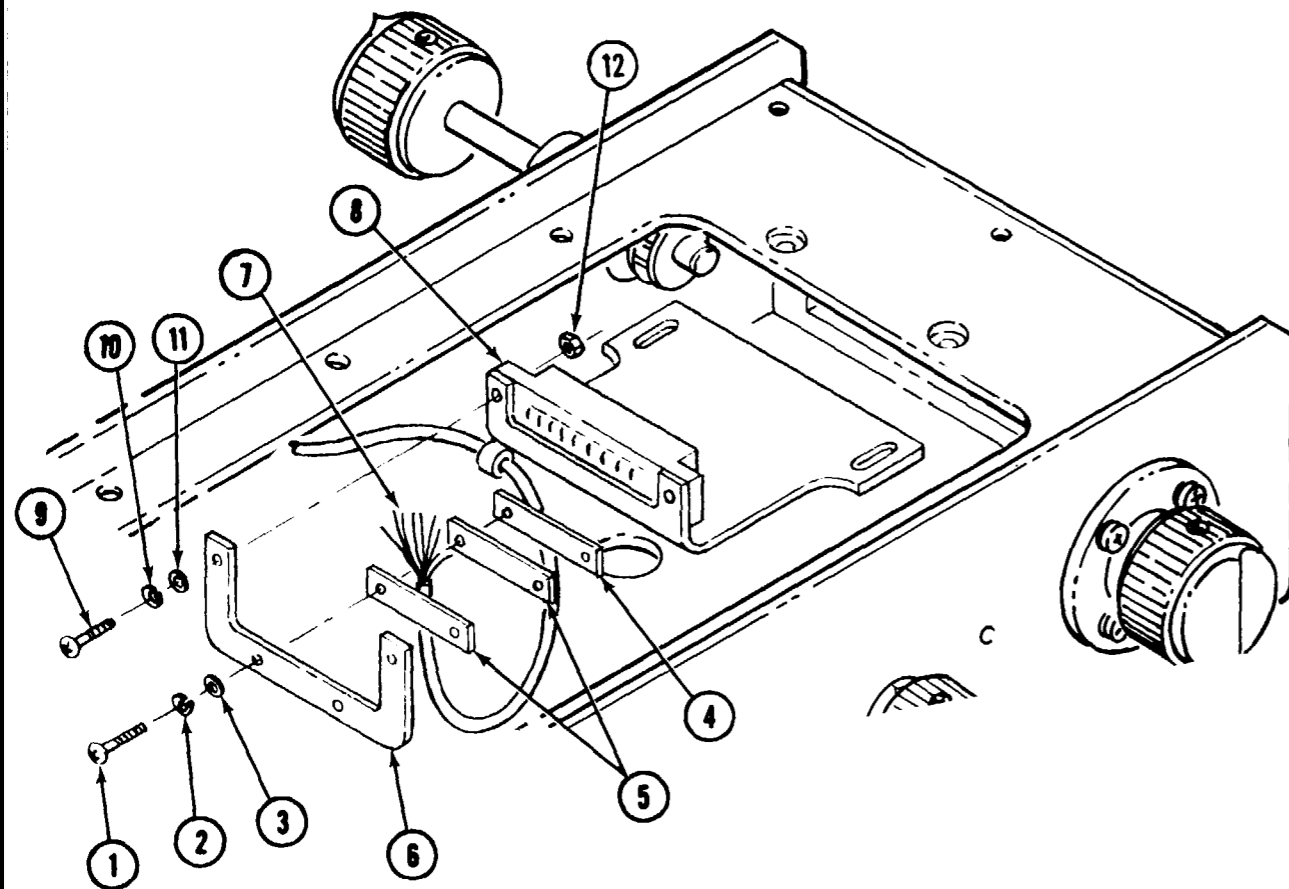
10-13. REMOVE DIGITAL VOLTMETER 1A6M1 AND PADS-CONTINUED

STEP 4

**NOTE**

Perform the following step only if meter connector (1) is defective and must be replaced.

- A. Remove two screws (1), two lock washers (2), and two flat washers (3) securing plate (4) and two pads (5) to bracket (6).
- B. Make a diagram of the terminal connections (7), from meter connector (8). Tag and desolder the leads.
- C. Remove two screws (9), two lock washers (10), two flat washers (11), and nuts (12).
- D. Remove meter connector (8).

**END OF TASK**

10-14. RUBBER PAD REPLACEMENT

Tools required: Craftsman's knife

Materials required:

Materials

- MEK
- Cleaning cloth
- Adhesive sealant

See Appendix D

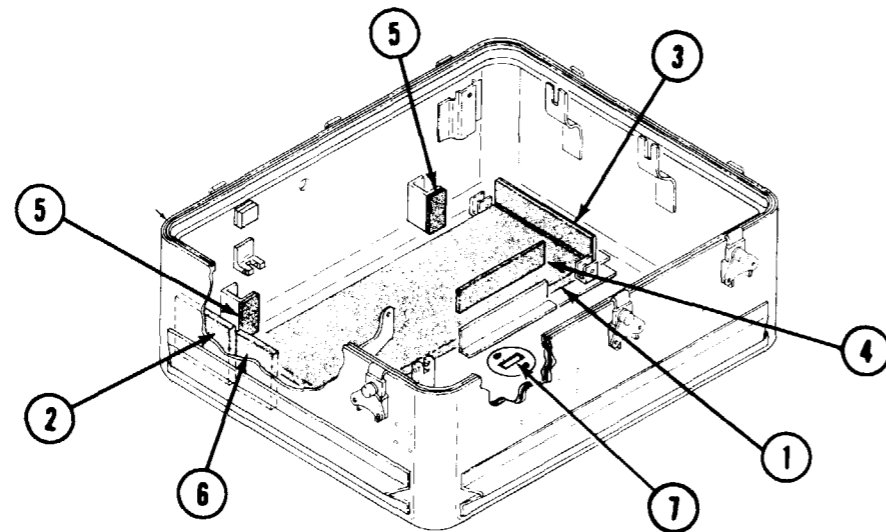
- Item 5
- Item 6
- Item 73

STEP 1

- A. Using craftsman's knife, cut away damaged pad.
- B. Clean mounting area with MEK.

STEP 2

Use picture and table below to identify and make new pad.



	LENGTH	WIDTH	THICKNESS
1.	19.40	6.25	.50
2.	3.60	3.00	.50
3.	5.75	1.25	.25
4.	6.25	1.25	.25
5.	2.00	.87	.25
6.	3.00	2.40	.31
7.	2.00	1.25	.06

(DELETED)

10-14. RUBBER PAD REPLACEMENT (continued)

STEP 3



Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

- A. Apply primer (if required), to the bonding area on the case base and allow to cure according to the manufacturer's instructions.
- B. Secure pad in place using adhesive sealant. Let cure for 72 hours.

END OF TASK

10-15. REMOVE RESISTORS 1A6R1 THROUGH 1A6R4

Tools required: 5/64 inch allen wrench
1/2 inch open end wrench
No. 2 crosspoint screwdriver
Desoldering kit
Craftsman's knife

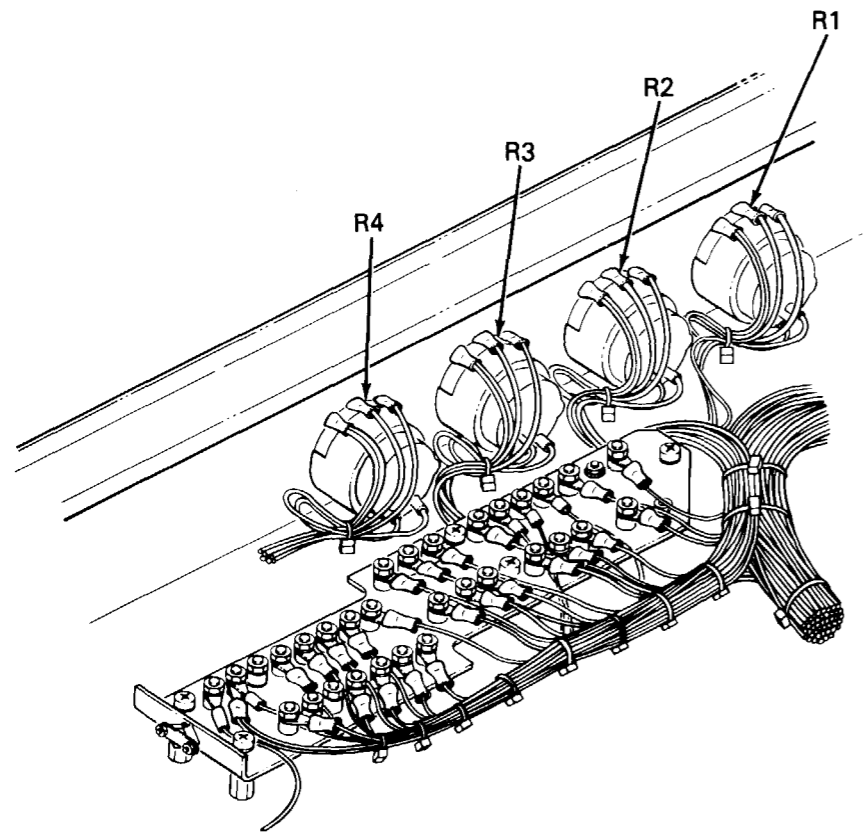
Equipment condition: Cover removed, see para. 10-10.

**NOTE**

Removal procedures for resistors R1 through R4 are identical, therefore only removal of R4 is covered.

STEP 1

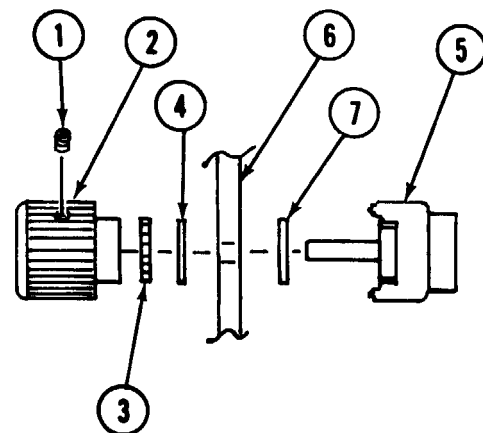
R1 through R4 can be removed without removing terminal board 1A6A3.



10-15. REMOVE RESISTORS 1A6R1 THROUGH 1A6R4 – CONTINUED

STEP 2

- A. Using allen wrench, loosen two set screws (1) and remove knob (2).

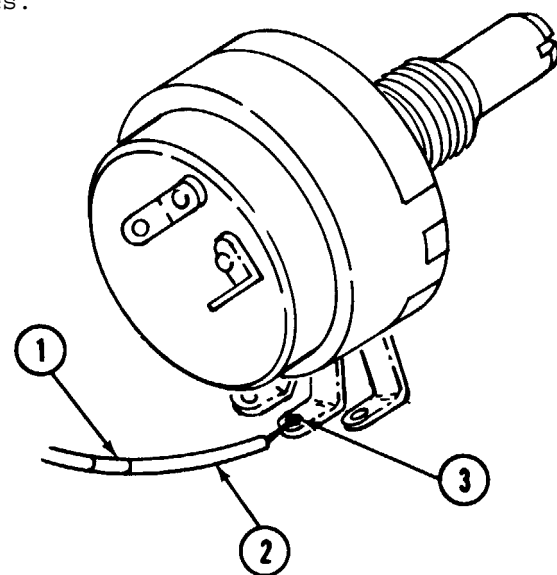


- B. Using open end wrench, remove nut (3) and lock washer (4).

- C. Carefully push resistor (5) out of SUOAF (6) and remove sealing washer (7).

Step 3

- A. Identify and tag wires (1).
- B. Using craftsman's knife, remove insulation sleeving (2) from wires.



- C. Desolder wires from resistor (3).

END OF TASK

10-16. REMOVE SWITCHES 1A6S1 AND 1A6S2

Tools required: .050 inch allen wrench
 9/16 inch open end wrench
 Desoldering kit
 Craftsman's knife

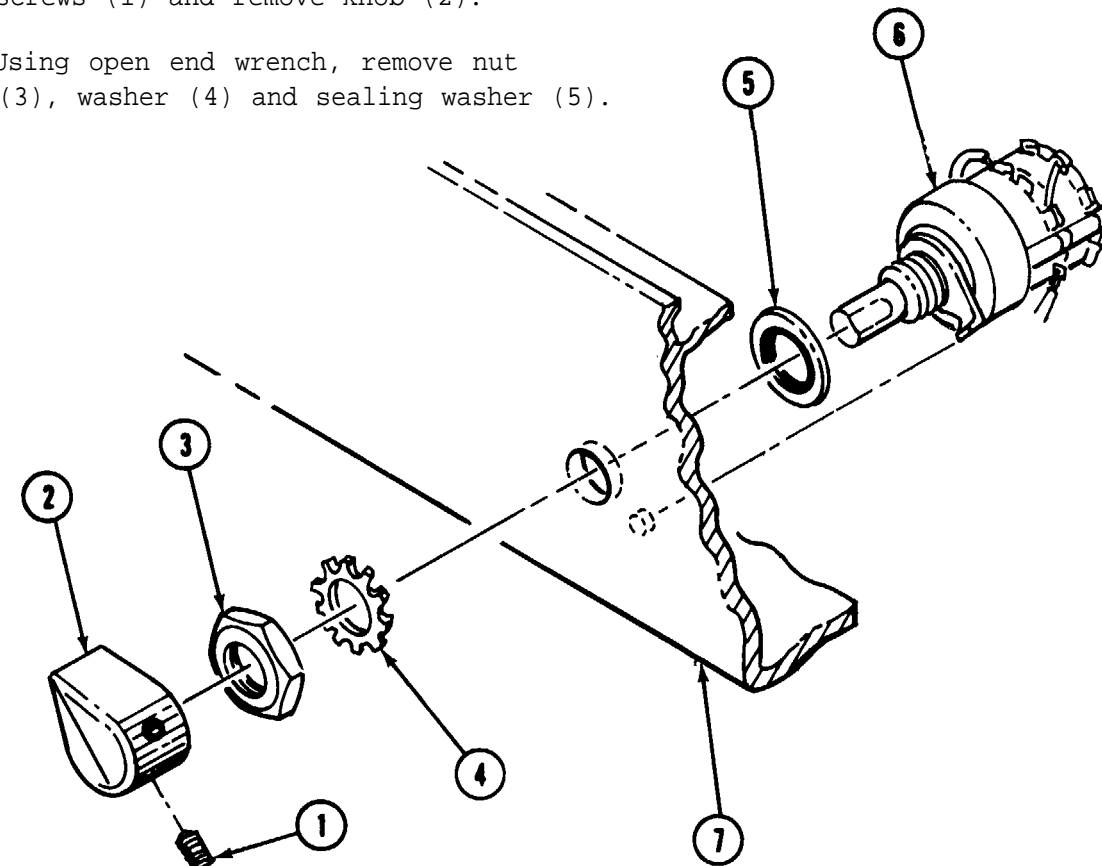
Equipment condition: Cover removed, see para. 10-10.



Removal procedures for both switches are identical, therefore only removal of S2 is covered.

STEP 1

- A. Using allen wrench, loosen two set screws (1) and remove knob (2).
- B. Using open end wrench, remove nut (3), washer (4) and sealing washer (5).



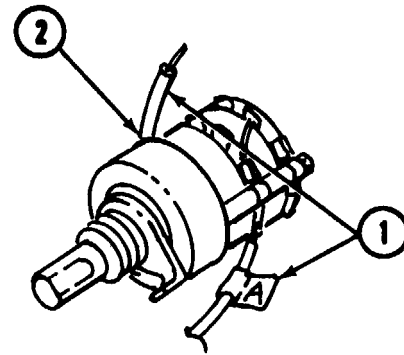
- C. Remove switch (6) from SUOAF (7).

GO TO NEXT PAGE

10-16. REMOVE SWITCHES 1A6S2 - CONTINUED

STEP 2

A. Identify and tag wires (1).



B. Desolder wires from switch (2).

END OF TASK

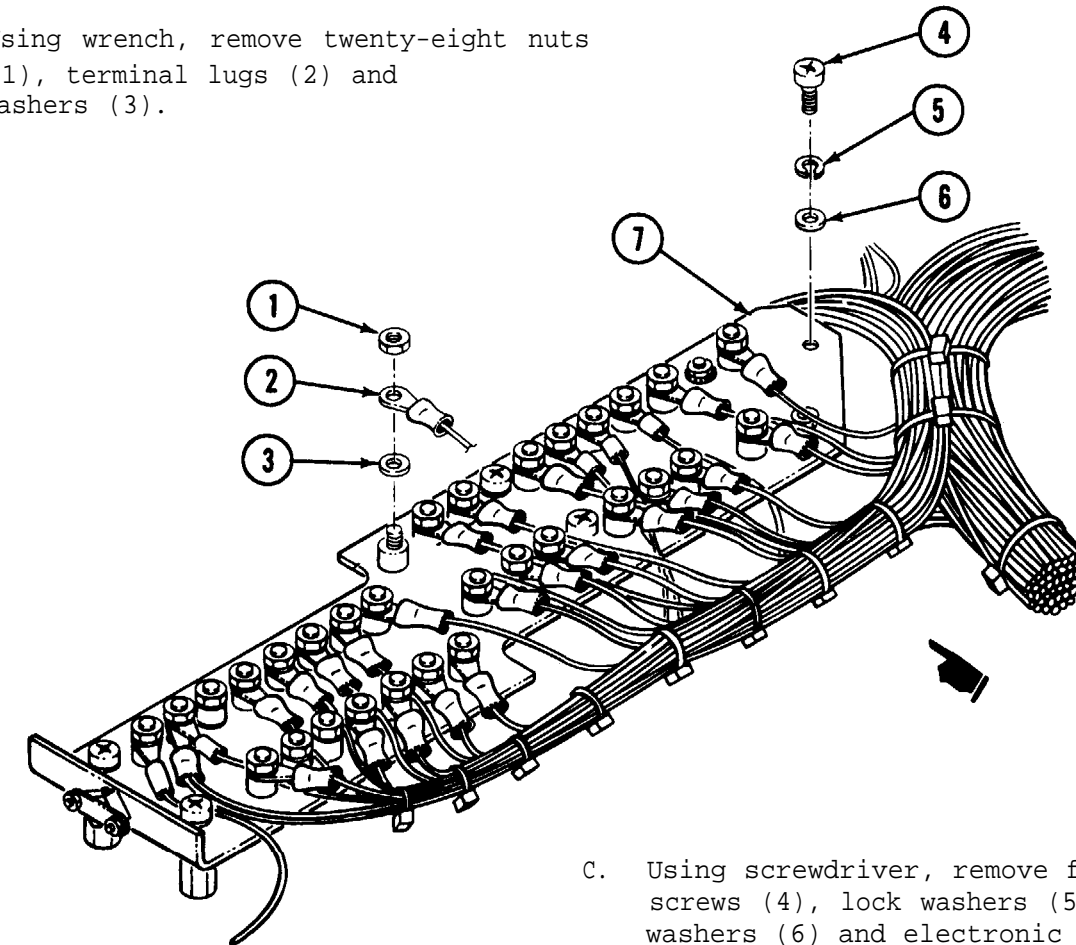
10-17. REMOVE ELECTRONIC COMPONENT ASSEMBLY 1A6A3

Tools required: 1/4 inch open end wrench
No. 2 crosspoint screwdriver

Equipment condition: Cover removed, see para. 10-10.

A. Identify and tag wires.

B. Using wrench, remove twenty-eight nuts (1), terminal lugs (2) and washers (3).



C. Using screwdriver, remove five screws (4), lock washers (5), flat washers (6) and electronic components assembly (7).

END OF TASK

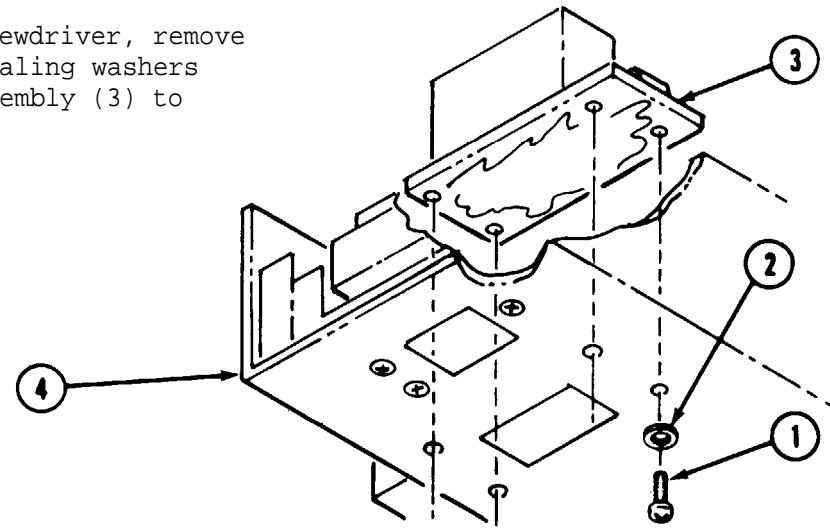
10-18. REMOVE ELECTRONIC COMPONENT ASSEMBLY 1A6A4

Tools required: No. 2 crosspoint screwdriver
1/8 inch flat-blade screwdriver

Equipment condition: Cover removed, see para. 10-10.

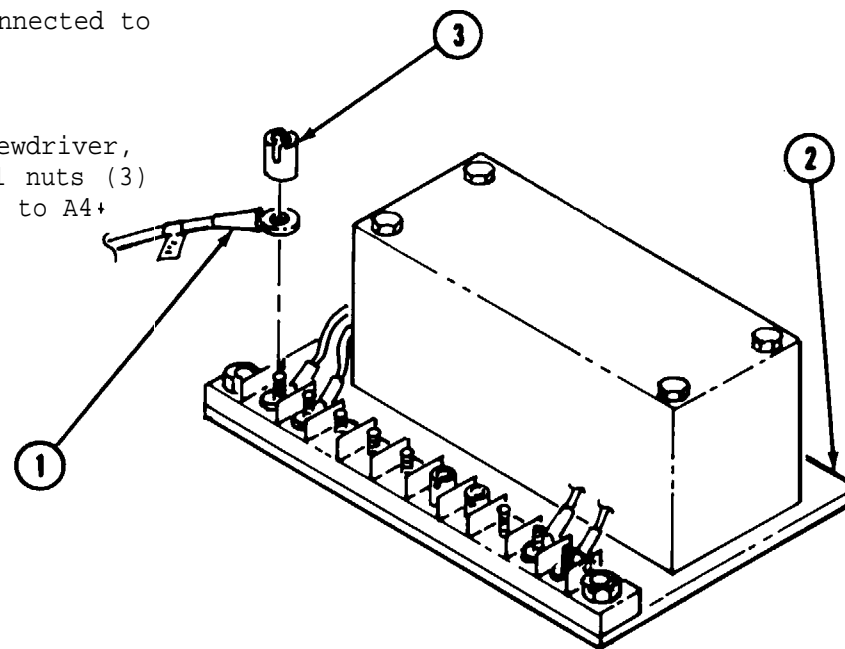
STEP 1

Using a crosspoint screwdriver, remove four screws (1) and sealing washers (2) that secure A4 assembly (3) to SUOAF (4).

**STEP 2**

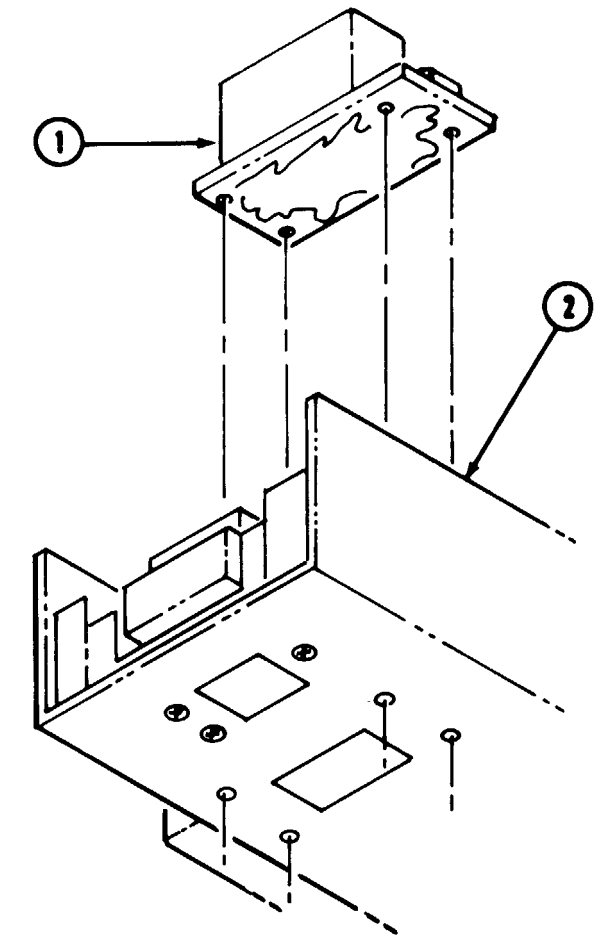
A. Tag all leads (1) connected to A4 assembly (2).

B. Using flat-blade screwdriver, remove eight terminal nuts (3) that secure leads (1) to A4 assembly (2).

**10-18. REMOVE ELECTRONIC COMPONENT ASSEMBLY 1A6A4-CONTINUED****STEP 3**

Use extreme care when prying A4 assembly loose to prevent any damage.

Carefully pry A4 assembly (1) loose from SUOAF (2). Remove A4 assembly.



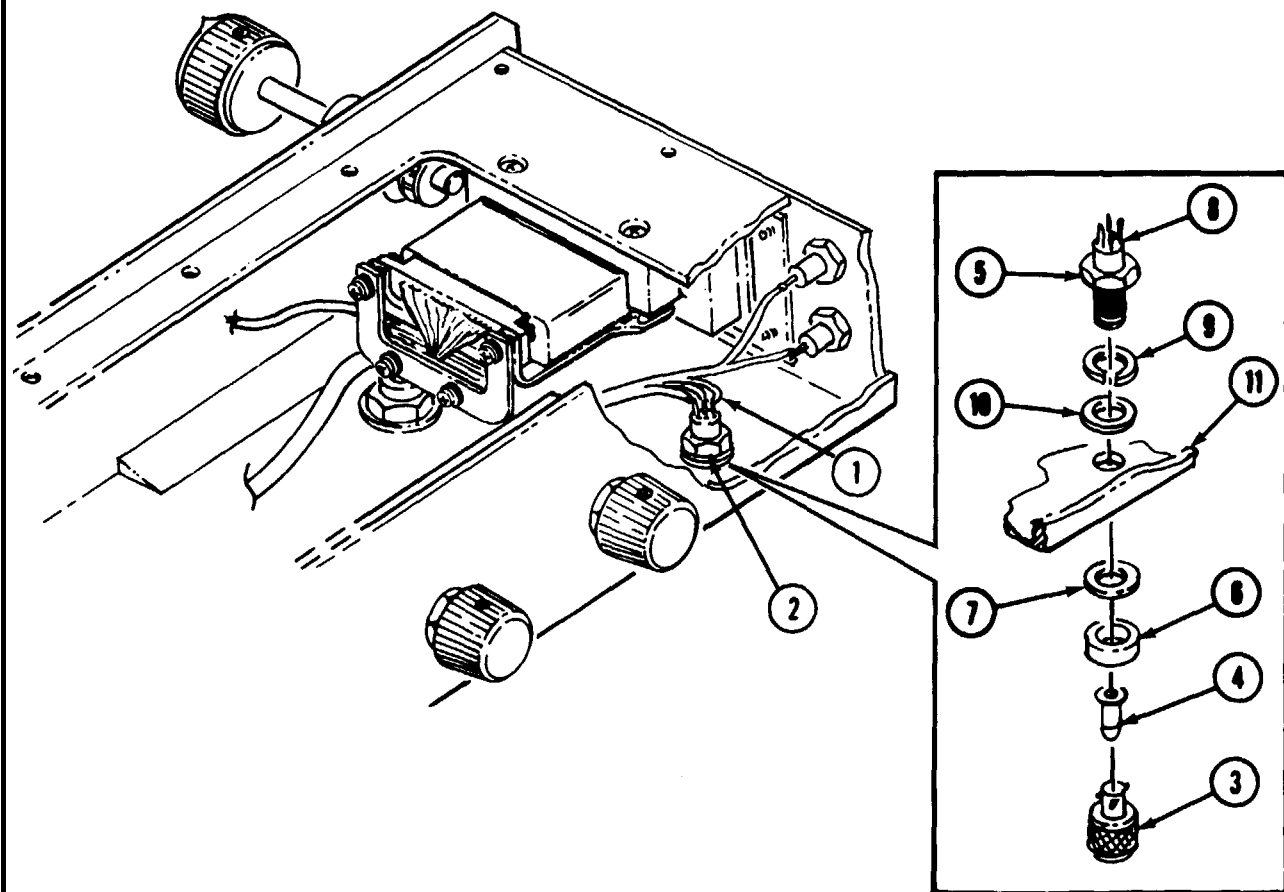
END OF TASK

10-19. REMOVE INDICATOR LIGHT 1A6DS1

Tools required: Desoldering kit
9/16 inch open end wrench

Equipment condition: Cover removed, see para. 10-10.

A. Tag and unsolder wires (1) from the light indicator XDSI (2).



B. Remove cap assembly (3) and lamp (4).

C. Loosen jam nut (5), remove mounting nut (6), rubber washer (7), base assembly (8), lock washer (9) and RFI gasket (10) from SUOAF (11).

END OF TASK

10-20. REMOVE FILTERS 1A6FL1 THROUGH 1A6FL9

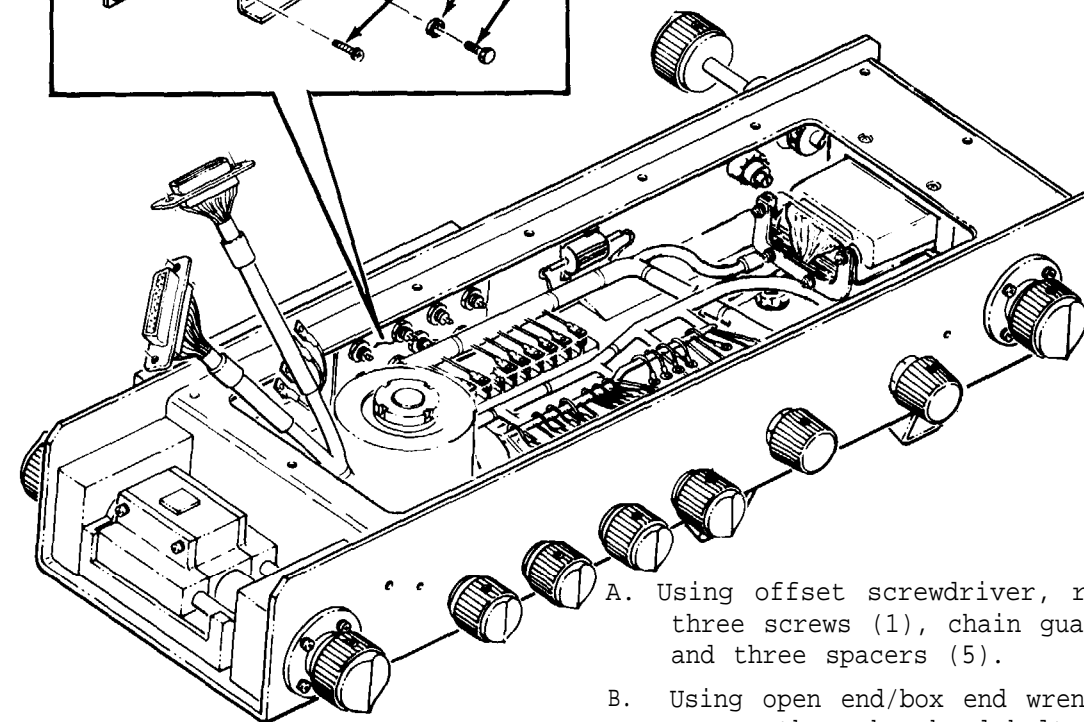
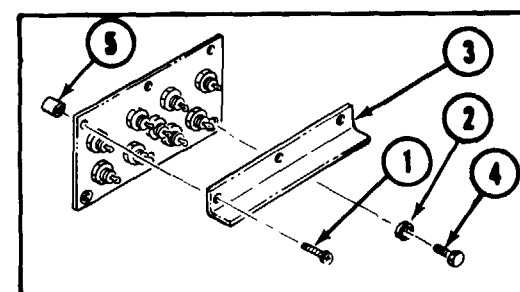
Tools required: Craftsman's knife
Desoldering kit
No. 1 offset crosspoint screwdriver
Longnose pliers
5/16 inch open end wrench
3/16 inch open end/box end wrench.

Equipment condition: Cover removed, see para. 10-10.

STEP 1



Procedures for removing FL1 through FL9 are identical, therefore only removal of FL2 is shown.



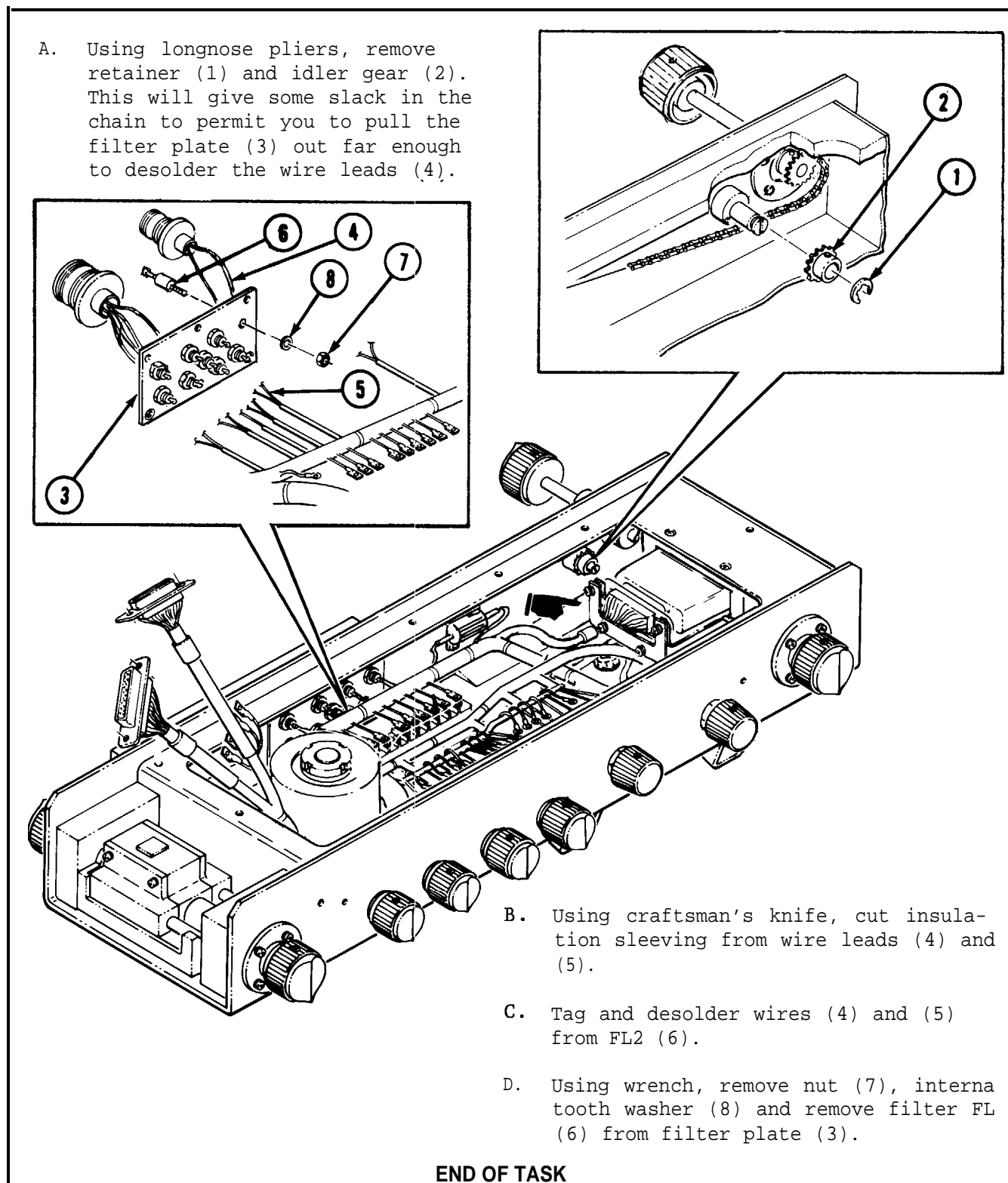
A. Using offset screwdriver, remove three screws (1), chain guard (3), and three spacers (5).

B. Using open end/box end wrench, remove three hex-head bolts (4) and three washers (2), and three spacers (5).

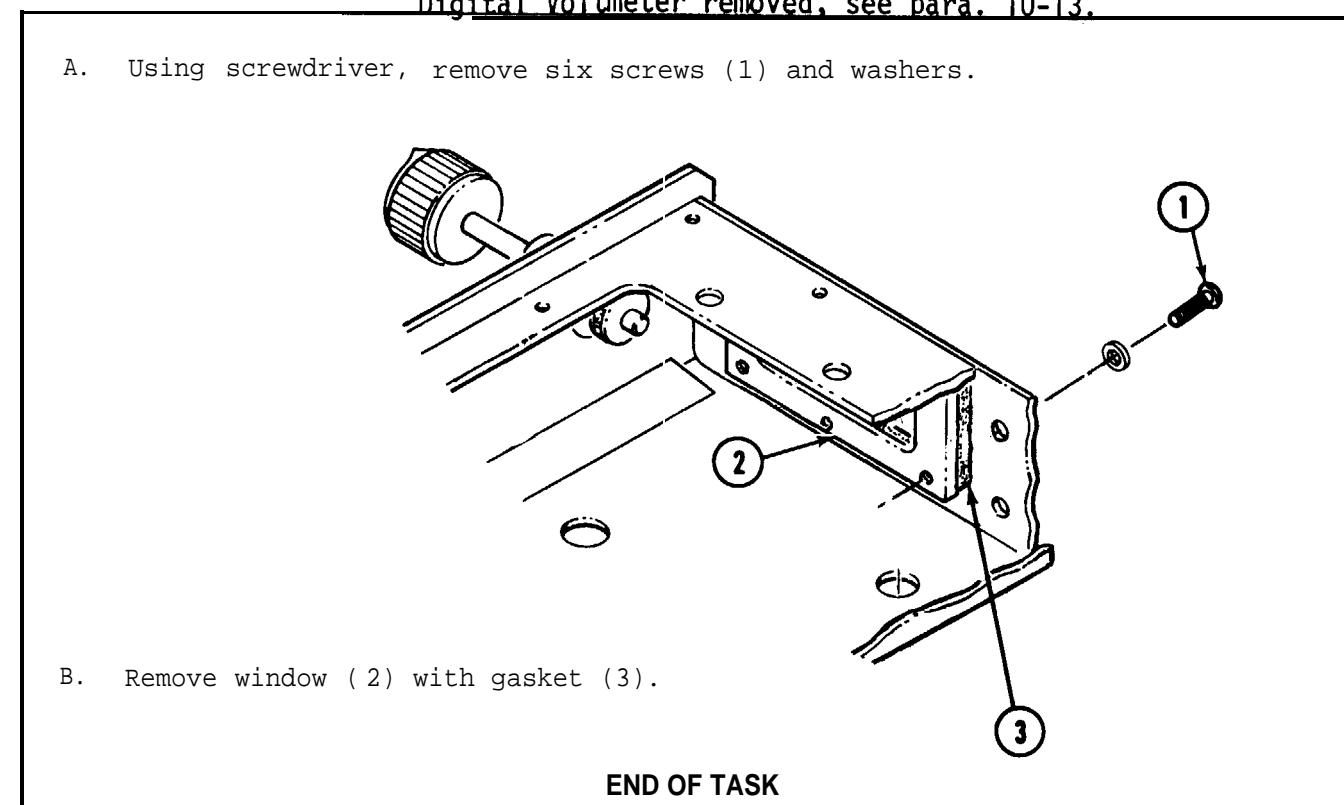
GO TO NEXT PAGE

10-20. REMOVE FILTERS 1A6FL1 THROUGH 1A6FL9 - CONTINUED

STEP 2

**10-21. REMOVE OBSERVATION WINDOW**

Tools required: No. 0 crosspoint screwdriver

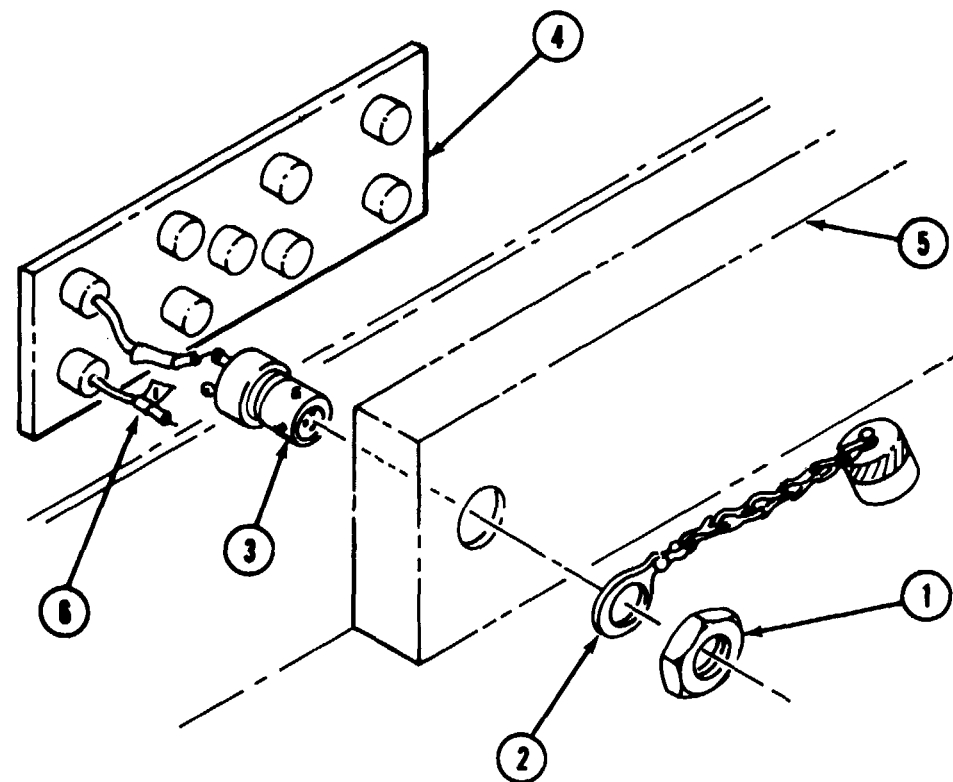
Equipment condition: Cover removed, see para. 10-10.
Digital Voltmeter removed, see para. 10-13.

10-22. REMOVE CONNECTOR J2

Tools required: Desoldering kit
3/4 inch open end wrench

Equipment condition: Filter plate removed, see para. 10-20, step 1.

- A. Using wrench, remove jam nut (1), connector cover (2). Remove connector (3) and filter plate (4) from base (5).
- B. Tag and unsolder wires (6) from connector (3).



END OF TASK

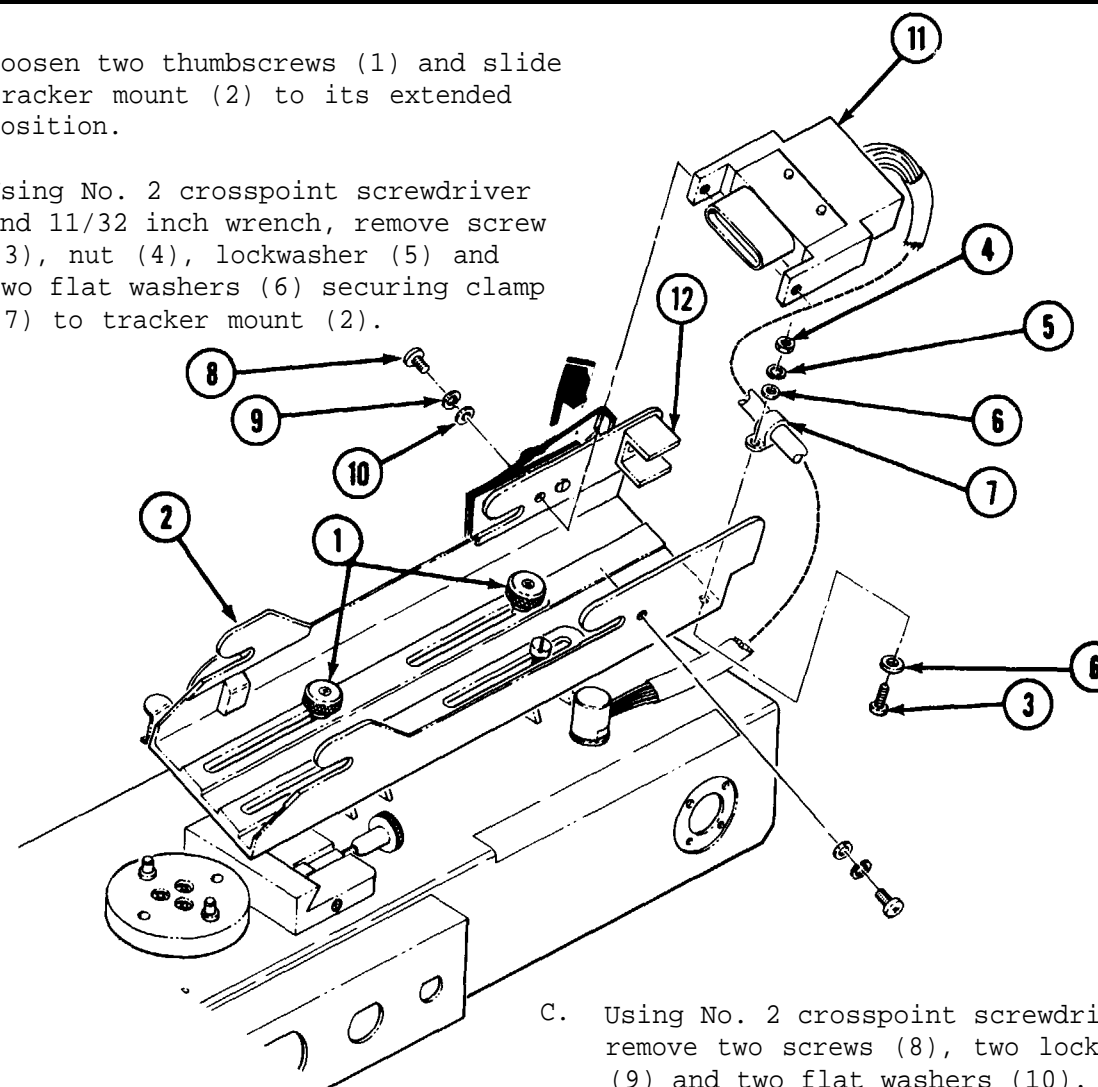
10-23. REMOVE SPECIAL PURPOSE CABLE ASSEMBLY 1A6W1

Tools required: No. 2 crosspoint screwdriver
Flat-blade screwdriver
13/16 inch open end wrench
5/8 inch open end wrench
11/32 inch open end wrench
1/4 inch open end wrench

Equipment condition: Cover removed, see para. 10-10.

STEP 1

- A. Loosen two thumbscrews (1) and slide tracker mount (2) to its extended position.
- B. Using No. 2 crosspoint screwdriver and 11/32 inch wrench, remove screw (3), nut (4), lockwasher (5) and two flat washers (6) securing clamp (7) to tracker mount (2).



- C. Using No. 2 crosspoint screwdriver, remove two screws (8), two lock washers (9) and two flat washers (10).
- D. Slide connector (11) forward out of retainer (12).

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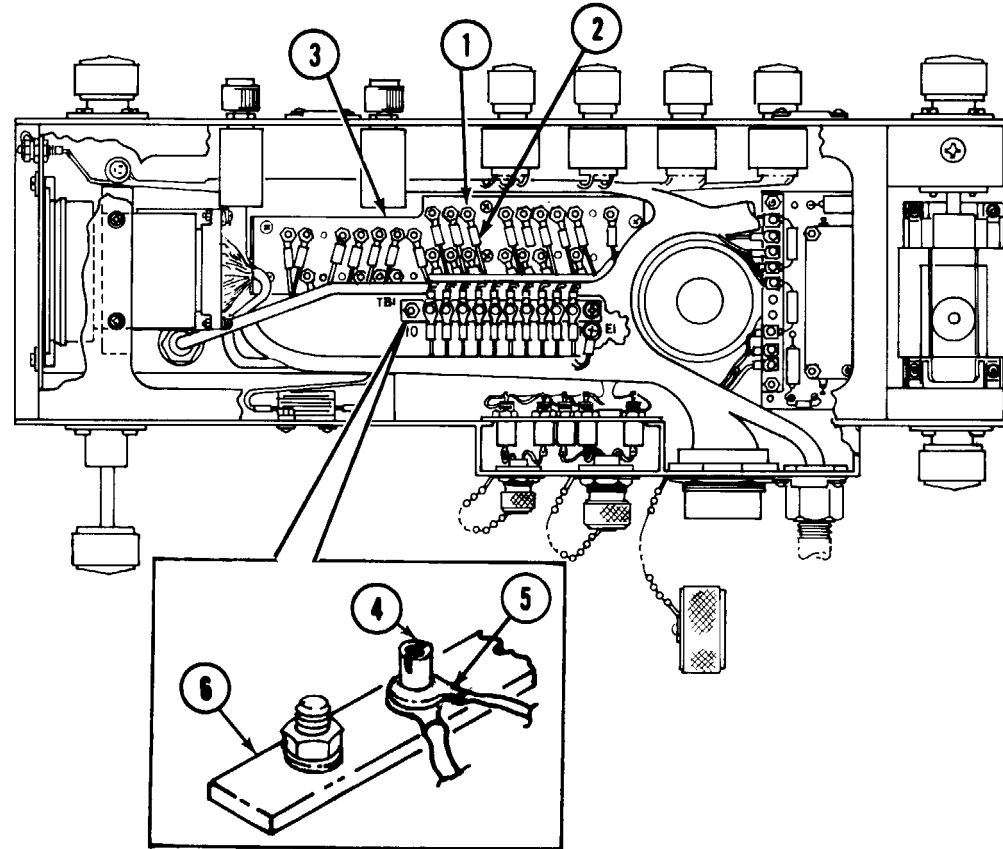
10-23. REMOVE SPECIAL PURPOSE CABLE ASSEMBLY 1A6W1 – CONTINUED

STEP 2

**NOTE**

See Appendix F, schematics and wiring diagrams for identification of cable leads.

- A. Using 1/4 inch open end wrench, remove five nuts (1) and remove terminal lugs (2) from electronic component 1A6A3 (3).

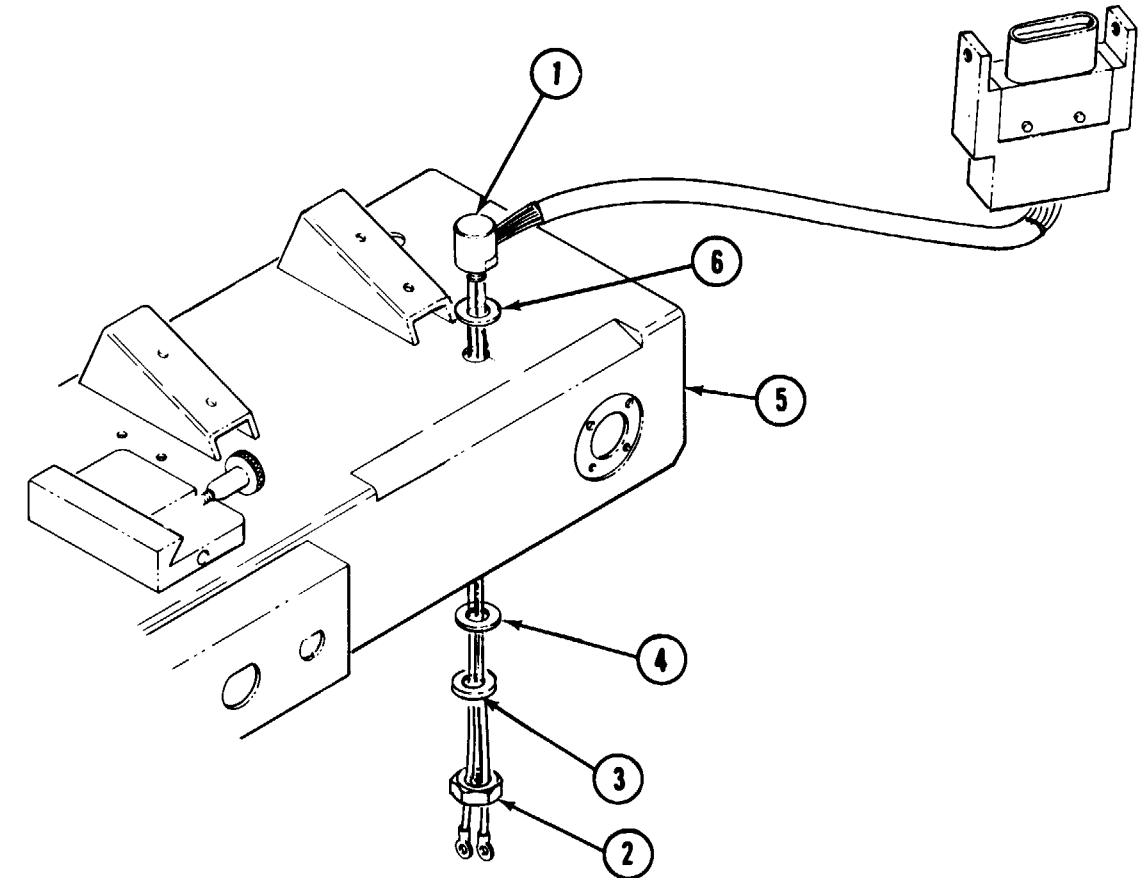
**NOTE**

If cable is not to be replaced immediately, replace nuts (1) and terminal nuts (4) on terminal posts.

- B. Using flat-blade screwdriver, remove ten terminal nuts (4) and terminal lugs (5) from terminal board TB1 (6).

STEP 3

- A. Using 5/8 inch wrench to hold bushing (1) and 13/16 inch wrench, remove nut (2) and washers (3) and (4).
- B. Lift bushing (1) and slide cable leads through OAF housing (5).
- C. Remove washer (6) from cable leads.



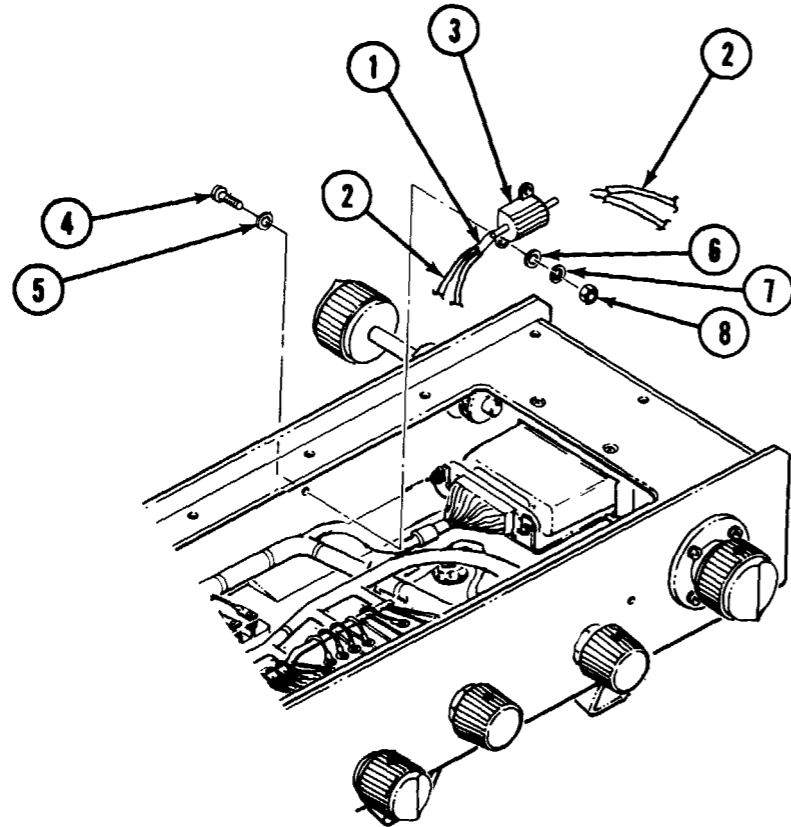
END OF TASK

10-24. REMOVE RESISTOR R5

Tools required: Craftsman's knife
Desoldering kit
No. 1 crosspoint screwdriver
1/4 inch open end wrench

Equipment condition: Cover removed, see para. 10-10.

- A. Using craftsman's knife, cut insulation sleeving (1) from leads (2).
- B. Tag and desolder the leads from the resistor (3).



- C. Using screwdriver and wrench, remove two screws (4), sealing washers (5), flat washers (6), lock washers (7), nuts (8) and resistor (3).

END OF TASK

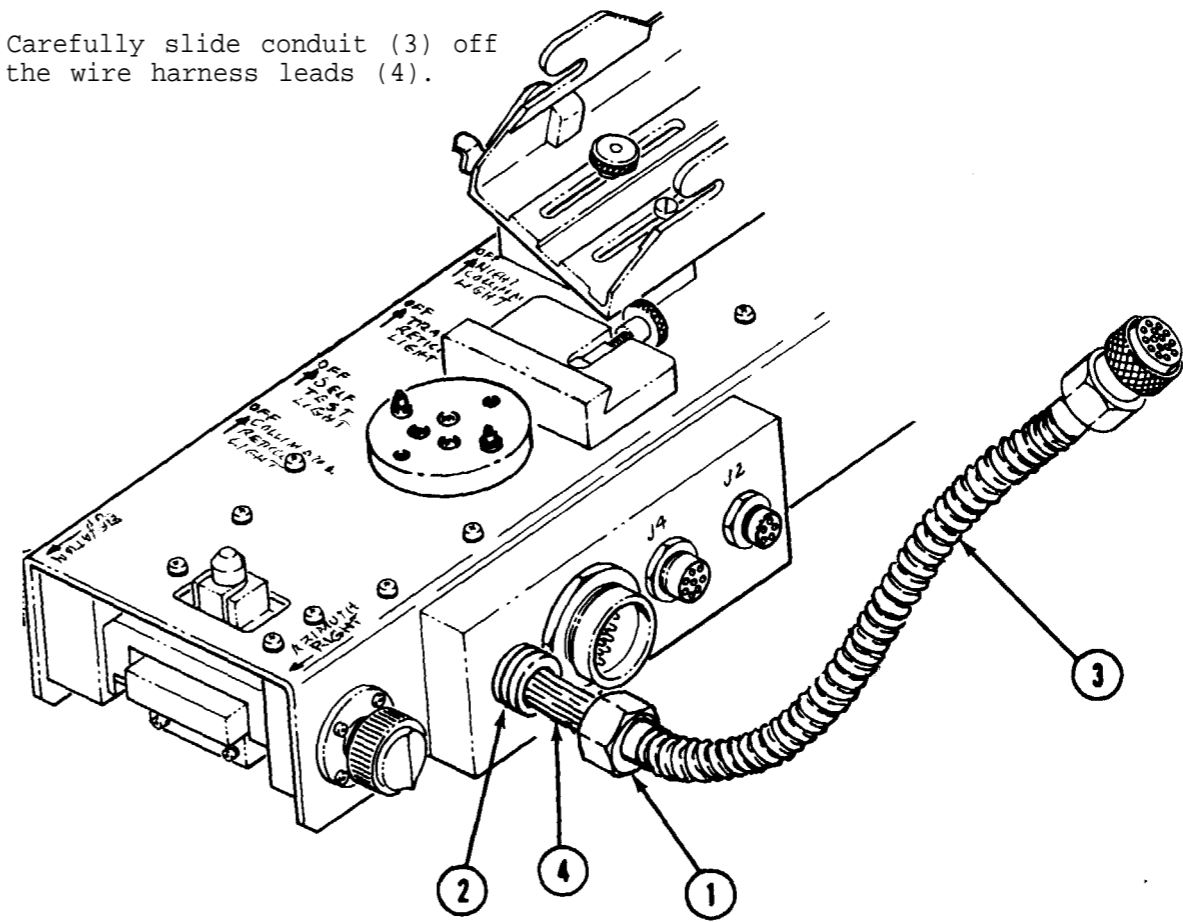
10-25. REMOVE CONDUIT

Tools required: Contact removal tool M24256R20
1 inch open end wrench
Heat gun

- A. Using contact removal tool push pins out of P1 connector. Remove P1.

It may be necessary to heat the end fitting to soften adhesive before removing end fitting from OAP housing.

- B. Using wrench, remove end fitting (1) from OAP housing (2).
- C. Carefully slide conduit (3) off the wire harness leads (4).



END OF TASK

10-26. REMOVE CONNECTORS J5 AND J6

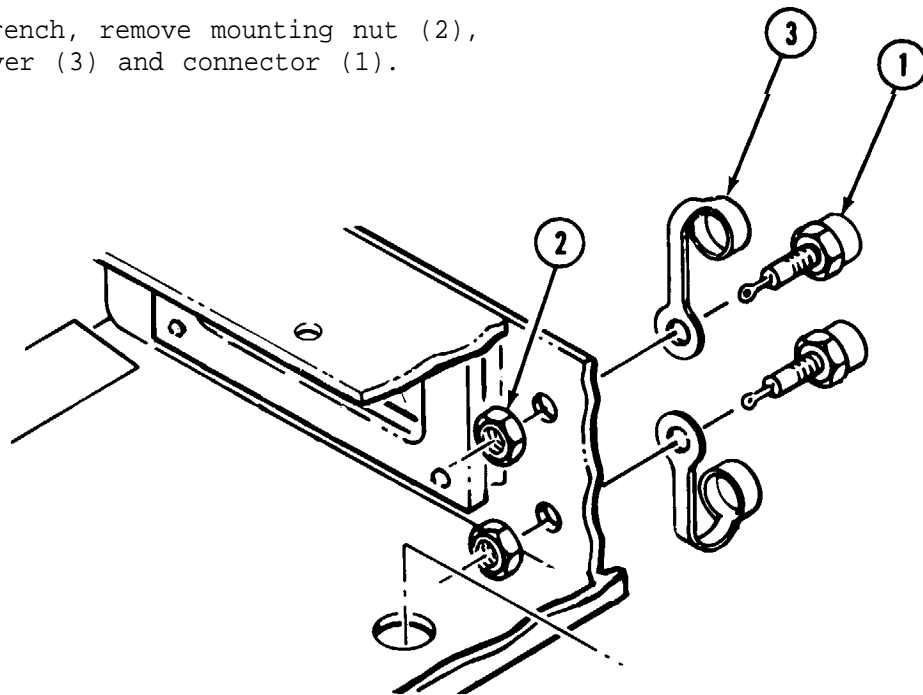
Tools required: 11/32 inch open end wrench
1/2 inch open end wrench
Desoldering kit

Equipment condition: Cover removed, see para. 10-10.
XDS1 removed (for J5 only), see para. 10-19 B and C.
Digital voltmeter removed, see para. 10-13.

**NOTE**

Removal procedures for both connectors are identical, therefore only procedure for J6 is covered.

- A. Tag and desolder leads from connector J6 (1).
- B. Using wrench, remove mounting nut (2), dust cover (3) and connector (1).



END OF TASK

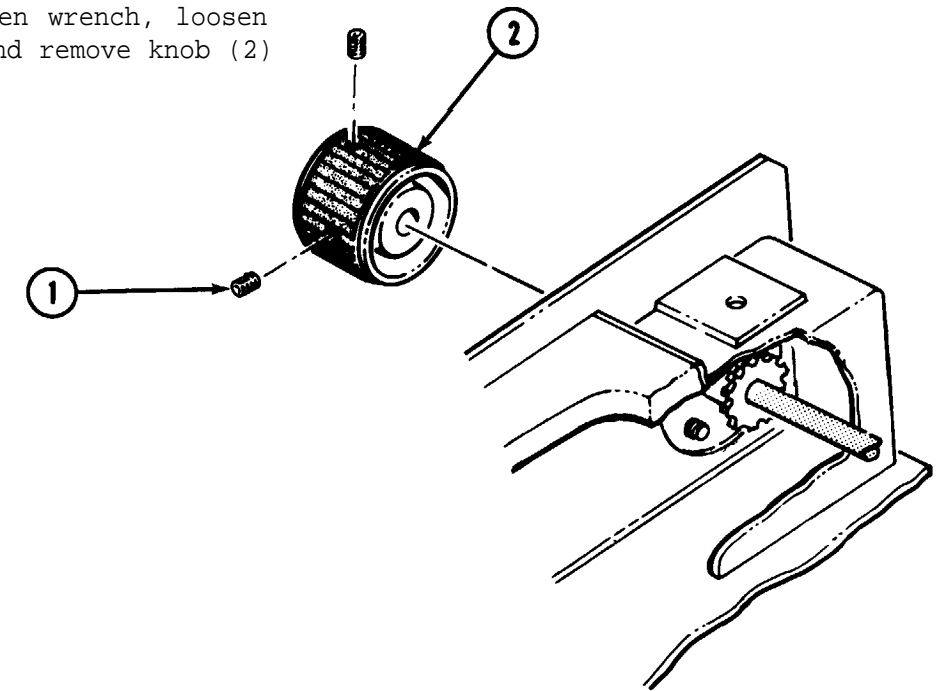
10-27. REMOVE CHAIN (ELEVATION)

Tools required: 5/64 inch allen wrench
No. 1 crosspoint screwdriver
No. 0 crosspoint screwdriver

Equipment condition: Cover removed, see para. 10-10.

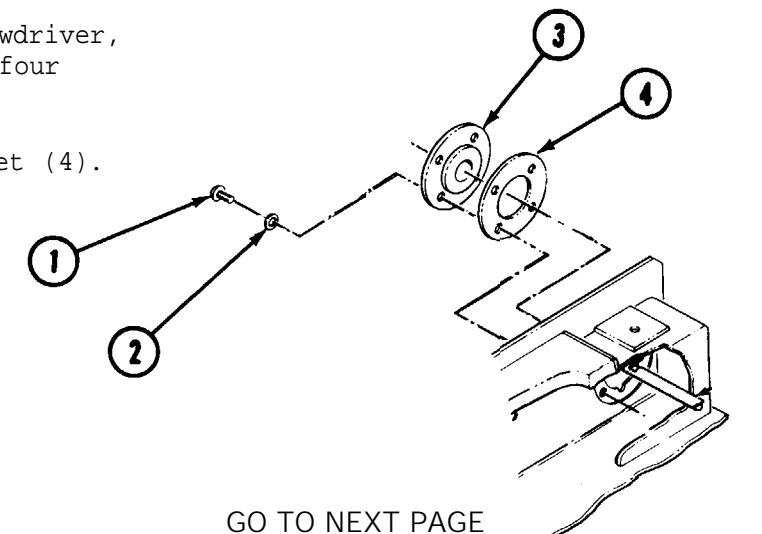
STEP 1

Using 5/64 inch allen wrench, loosen two setscrews (1) and remove knob (2)



STEP 2

- A. Using No. 0 crosspoint screwdriver, remove four screws (1) and four washers (2).
- B. Remove bearing (3) and gasket (4).

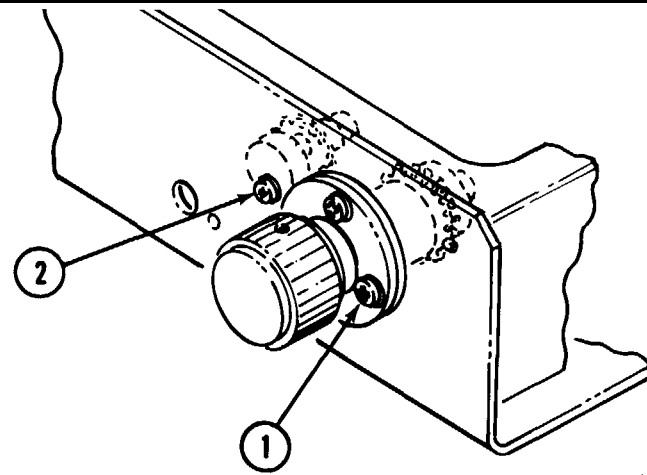


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10-27. REMOVE CHAIN (ELEVATION) – CONTINUED

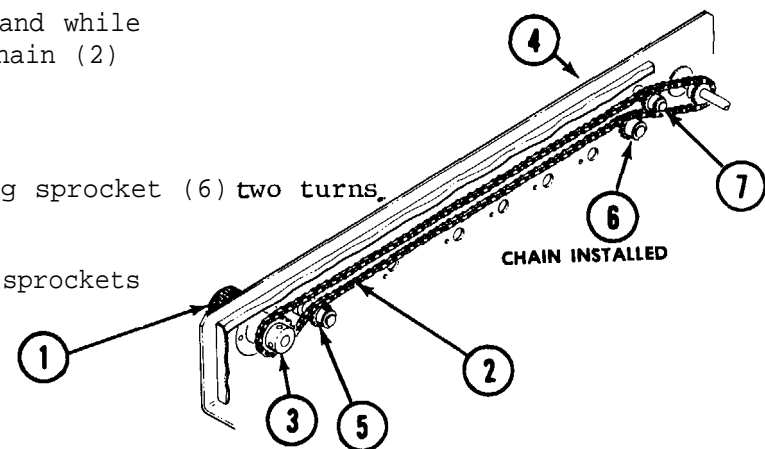
STEP 3

- A. Invert the unit and let it rest on the tracker bracket.
- B. Using No. 0 crosspoint screwdriver, loosen each of the four screws (1) four turns.
- C. Using No. 1 crosspoint screwdriver, loosen screw (2) two turns.



STEP 4

- A. Reach inside of chassis and while turning knob (1) guide chain (2) clear of sprocket (3).
- B. Loosen screw (4) securing sprocket (6) two turns.
- C. Lift chain (2) clear of sprockets (5), (6) and (7).



STEP 5

- A. From outside the chassis, reach through the hole around shaft (see step 2) and hook chain with allen wrench or screwdriver.
- B. Pull the chain through the hole. Guide the chain with your other hand to prevent it from hanging up on other components.

END OF TASK

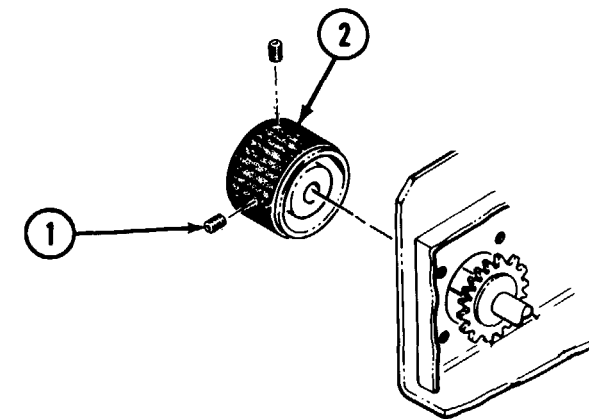
10-28. REMOVE CHAIN(AZIMUTH)

- Tools required: 5/64 inch allen wrench
 No. 1 crosspoint screwdriver
 No. 0 crosspoint screwdriver

Equipment condition: Cover removed, see para. 10-10.

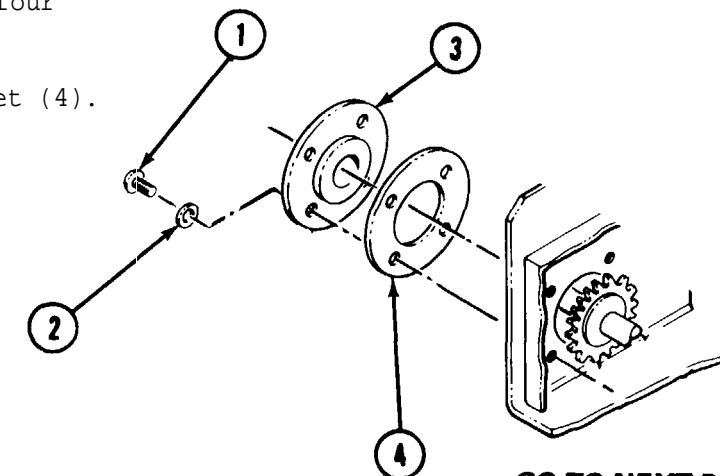
STEP 1

Using 5/64 inch allen wrench, loosen two setscrews (1) and remove knob (2).



STEP 2

- A. Using No. 0 crosspoint screwdriver, remove four screws (1) and four washers (2).
- B. Remove bearing (3) and gasket (4).

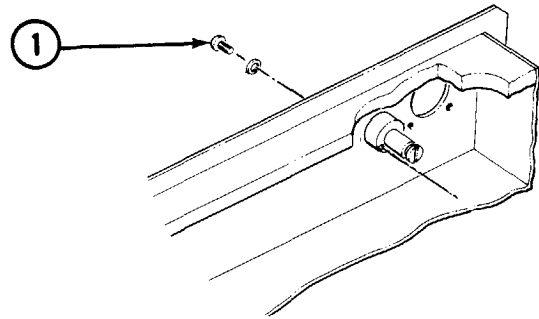


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10-28. REMOVE CHAIN (AZIMUTH) – CONTINUED

STEP 3

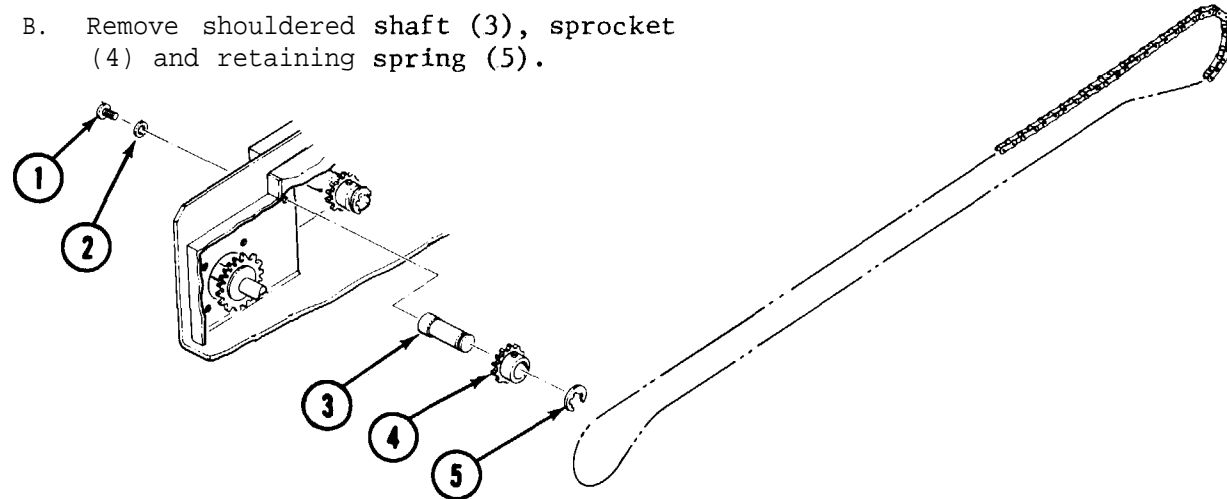
Using No. 1 crosspoint screwdriver
loosens the chain tension.)



STEP 4

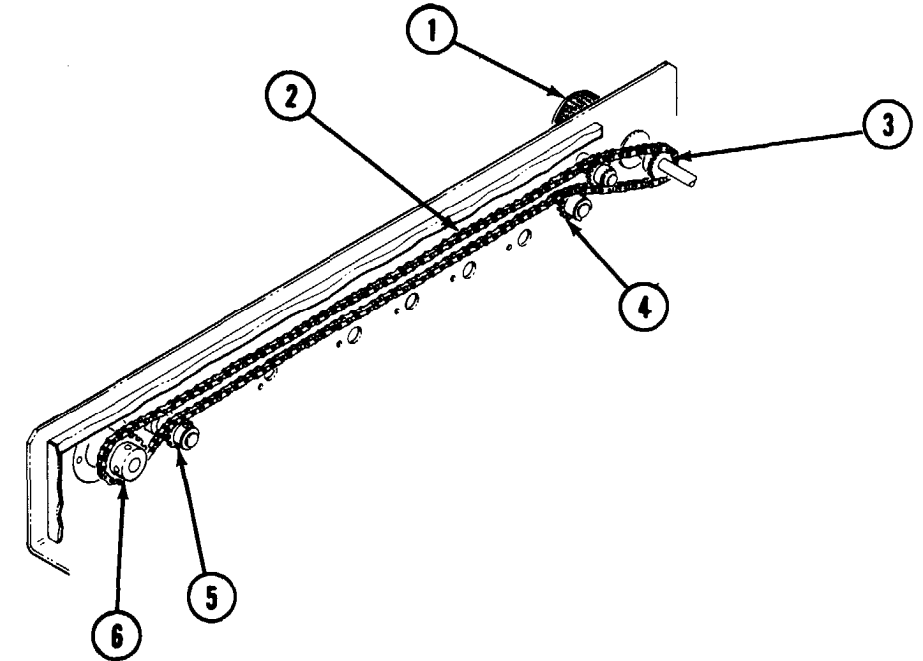
A. Using No. 1 crosspoint screwdriver,
remove screw (1), washer (2). Reach
inside chassis and support shouldered
shaft and sprocket while removing
screw (1).

B. Remove shouldered shaft (3), sprocket
(4) and retaining spring (5).



STEP 5

A. Reach inside of chassis and while turning knob (1) guide chain (2) clear of
sprocket (3).



B. Lift chain (2) clear of sprockets (4), (5) and (6).

STEP 6

A. From outside the chassis, reach through the hole around shaft (see step 2)
and hook chain with allen wrench or screwdriver.

B. Pull the chain through the hole. Guide the chain with your hand to prevent
it from hanging up on other components.

END OF TASK

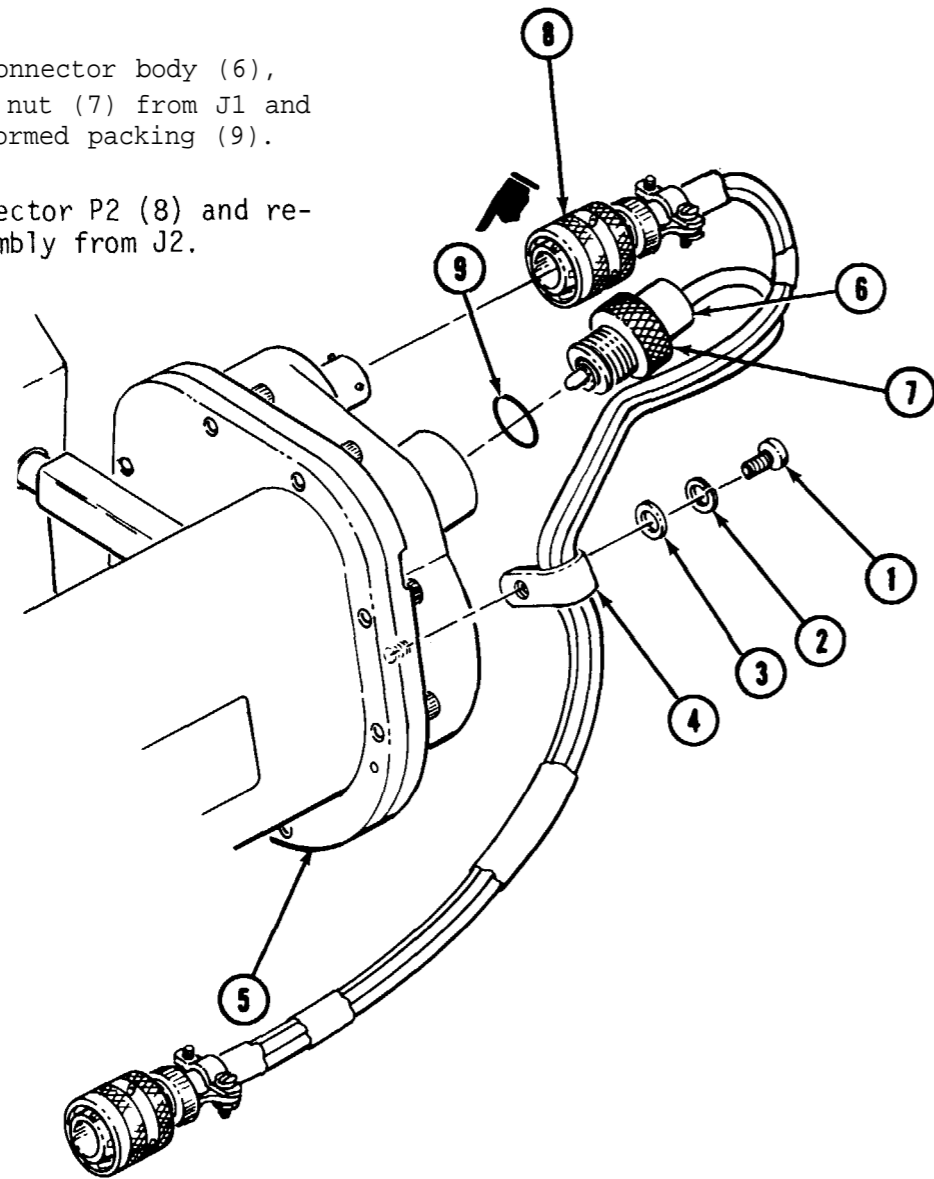
10-29. REMOVE SPECIAL PURPOSE ELECTRICAL CABLE ASSEMBLY 1A7W1

Tools required: No. 2 crosspoint screwdriver

Equipment condition: Thermal collimator removed from case base, see TM 9-4935-484-14

STEP 1

- A. Using crosspoint screwdriver, remove screw (1), lock washer (2), flat washer (3) and clamp (4) holding cable to thermal collimator housing (5).
- B. While holding connector body (6), unscrew knurled nut (7) from J1 and dispose of preformed packing (9).
- C. Disconnect connector P2 (8) and remove cable assembly from J2.



END OF TASK

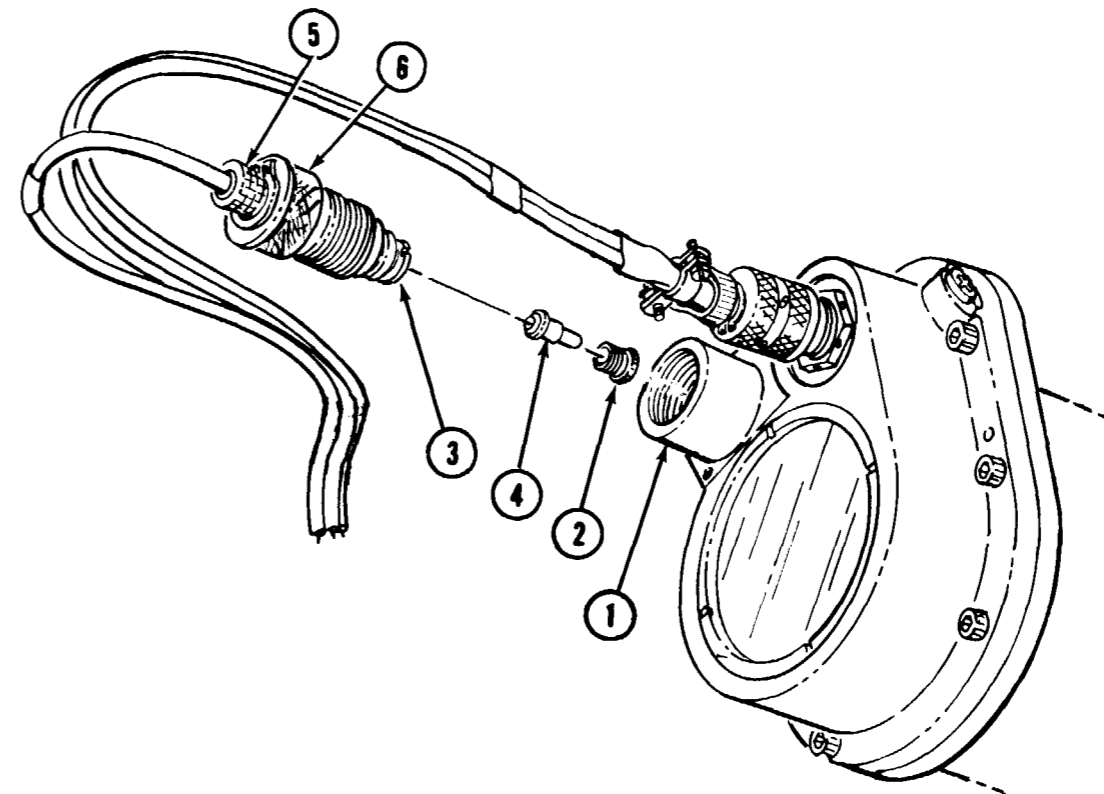
10-30. REMOVE THERMAL COLLIMATOR LIGHT EMITTING DIODE DS1

Tools required:

Equipment condition: Thermal collimator removed from case base, see TM 9-4935-484-14.

STEP 1

- A. While holding (5) uncrew connector (6) from J1 (1)
- B. Unscrew bushing (2) from lamp-holder (3).
- C. Remove lamp (4).



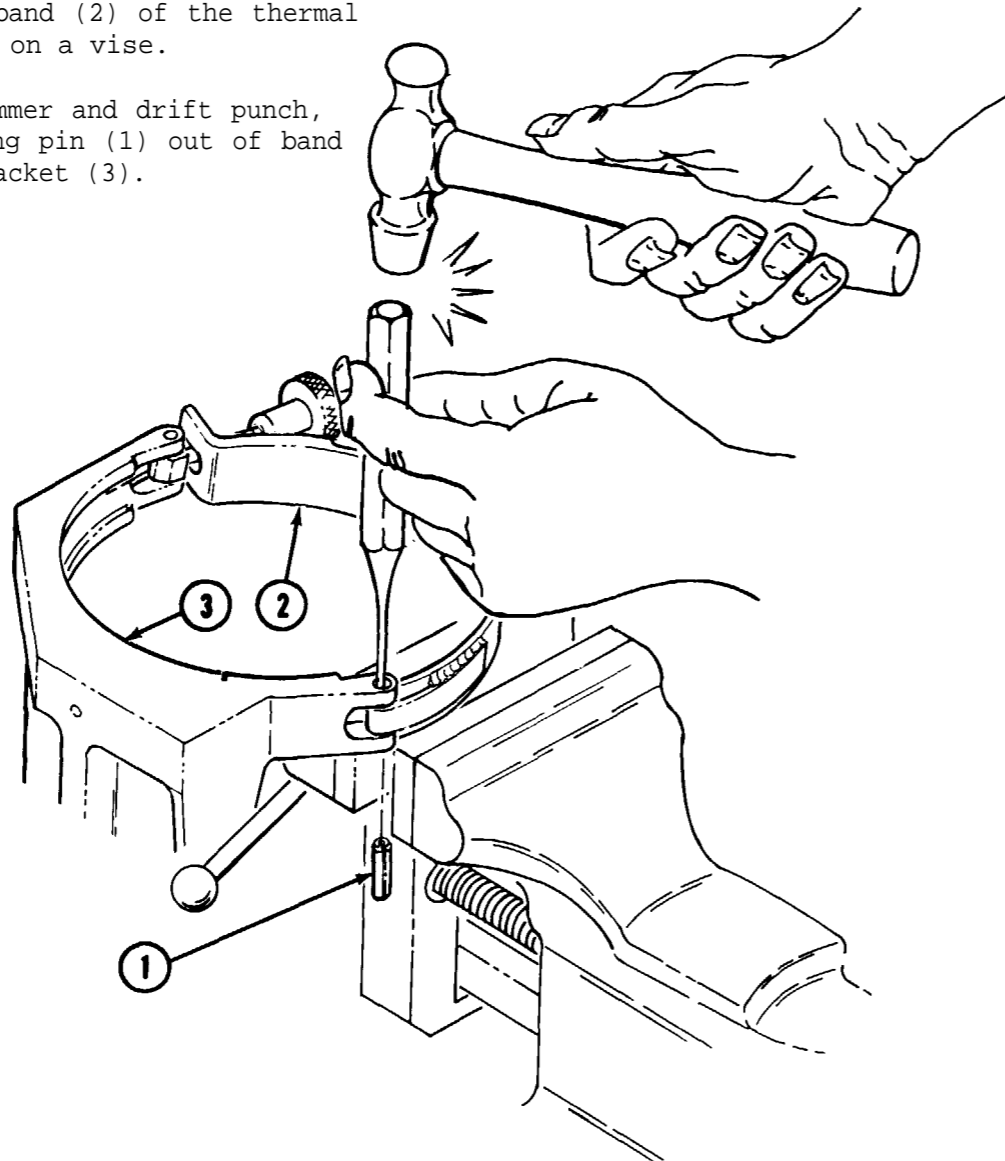
10-31. REMOVE FORWARD OR AFT BAND

Tools required: Drift punch
Ball peen hammer
Machinist's vise

Equipment condition: Thermal collimator removed from case base, see TM 9-4935-484-14.

STEP 1

- A. Place the band (2) of the thermal collimator on a vise.
- B. Using a hammer and drift punch, drive spring pin (1) out of band (2) and bracket (3).



END OF TASK

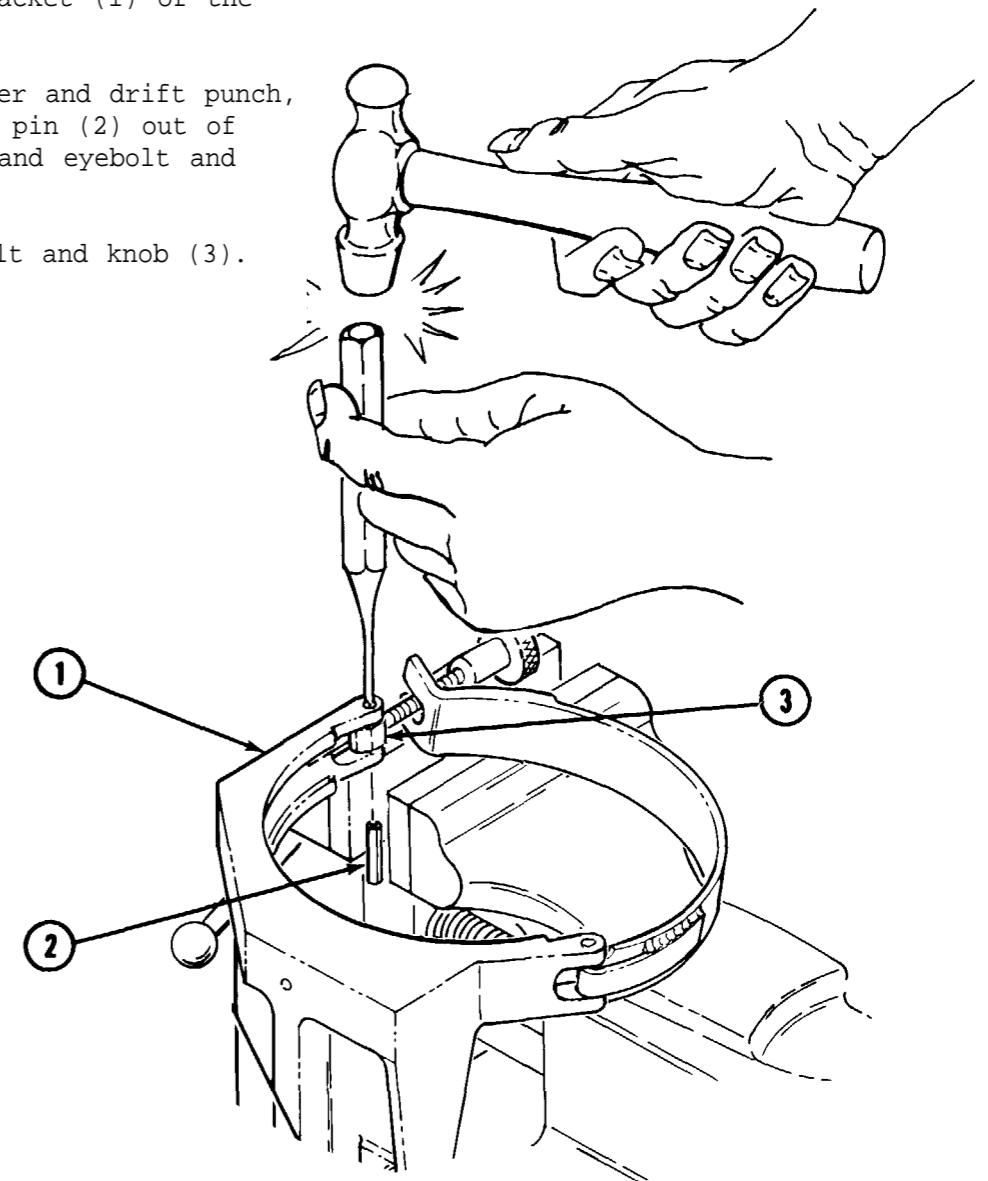
10-32. REMOVE EYEBOLT AND KNOB BRACKET

Tools required: Drift punch
Ball peen hammer
Machinist's vise

Equipment condition: Thermal collimator removed from case base, see TM 9-4935-484-14.

STEP 1

- A. Place the bracket (1) of the
- B. Using a hammer and drift punch, drive spring pin (2) out of bracket (1) and eyebolt and knob (3).
- C. Remove eyebolt and knob (3).



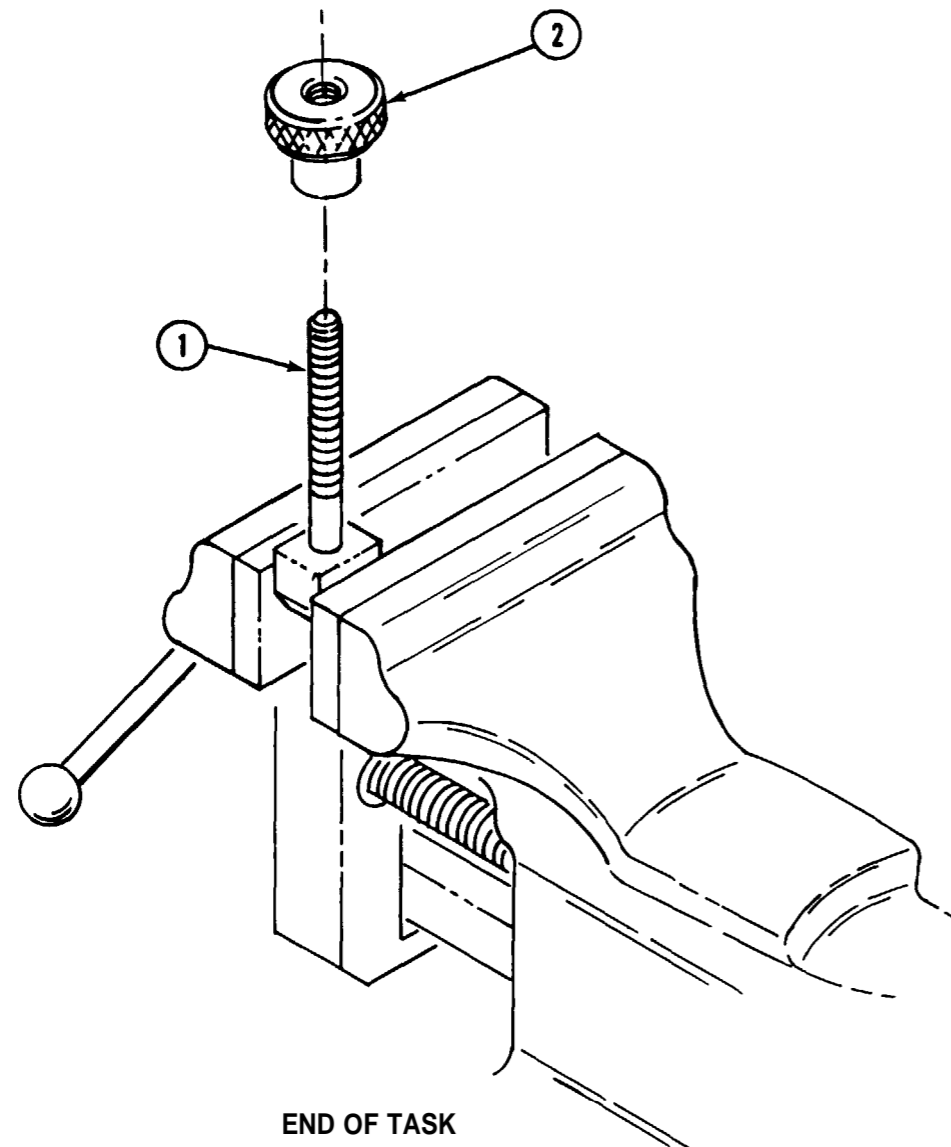
END OF TASK

10-33. REMOVE EYEBOLT KNOB

Tools required: Machinists's Vise

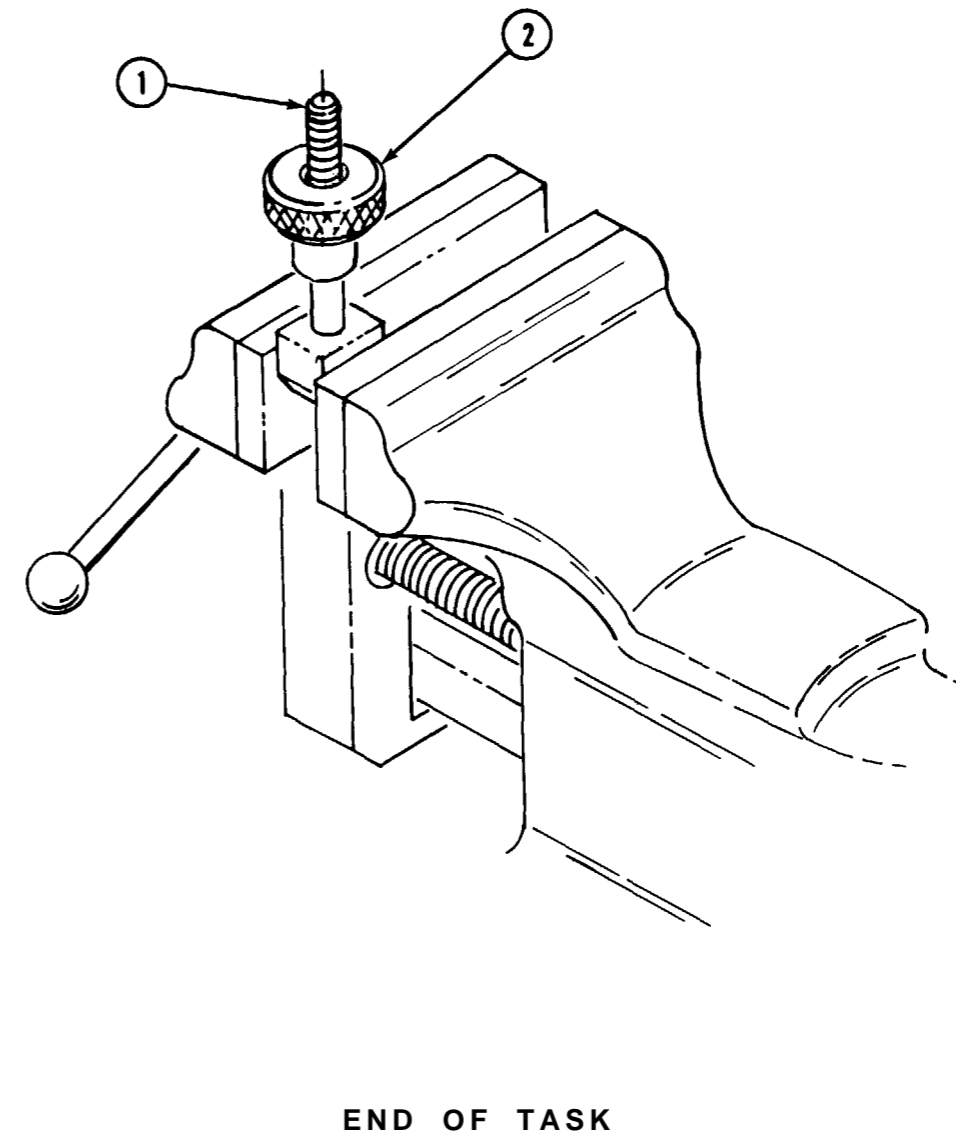
Equipment condition: Thermal collimator removed from case base, see TM 9-4935-484-14
 Eyebolt and knob removed from bracket, see para. 10-32

- A. Securely clamp eyebolt (1) in vise.
 B. Unscrew knob (2) from eyebolt (1).

**10-34. INSTALL EYEBOLT KNOB**

Tools required: Machinist's vise
 Ballpeen hammer
 Drift punch

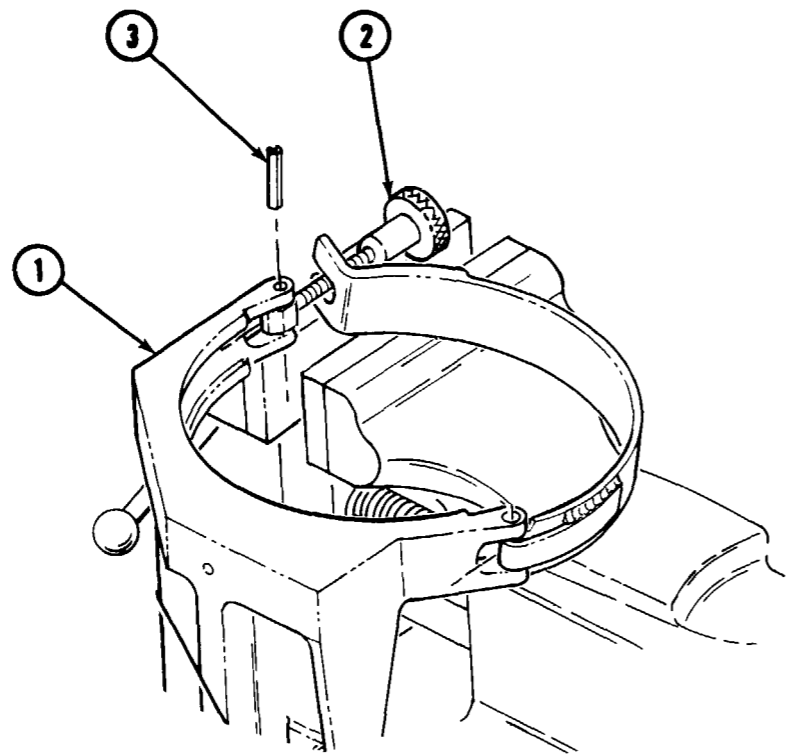
- A. Securely clamp eyebolt (1) in vise.
 B. Screw knob (2) all the way down on eyebolt.
 C. Deform top two or three threads of the eyebolt.



10-35. INSTALL EYEBOLT AND KNOB BRACKET

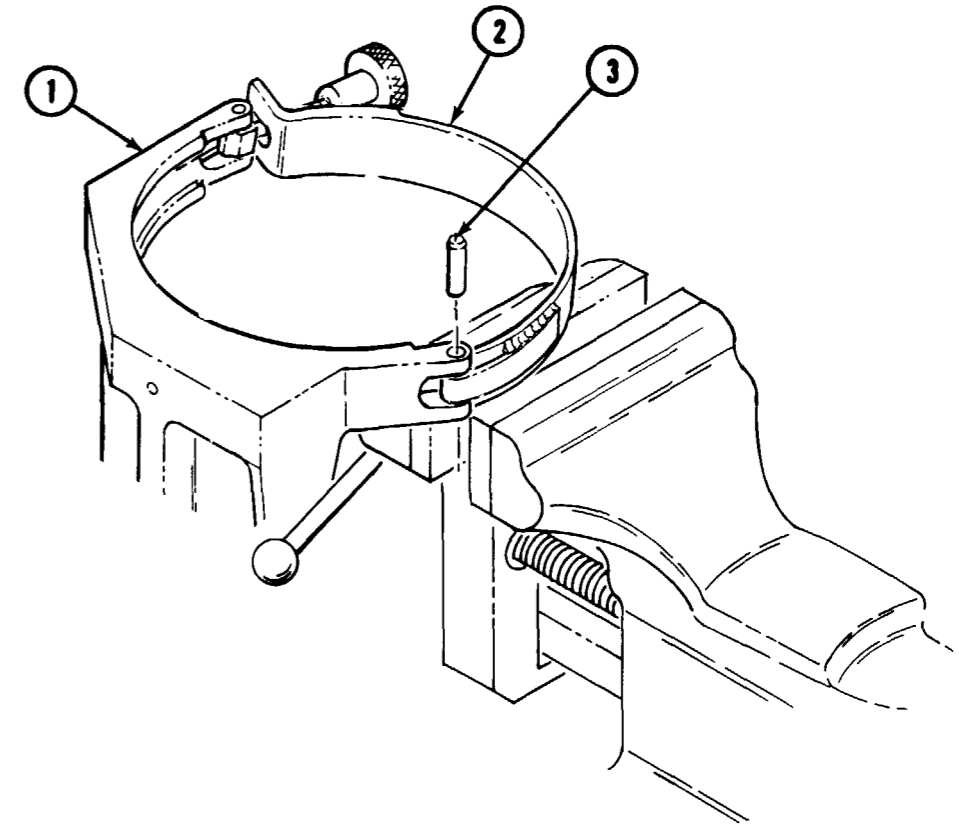
Tools required: Ballpeen hammer
Machinist's vise

- A. Place bracket (1) on vise and position eyebolt and knob (2) in bracket.
- B. Secure eyebolt and knob to bracket with spring pin (3).

**END OF TASK****10-36. INSTALL FORWARD OR AFT BAND**

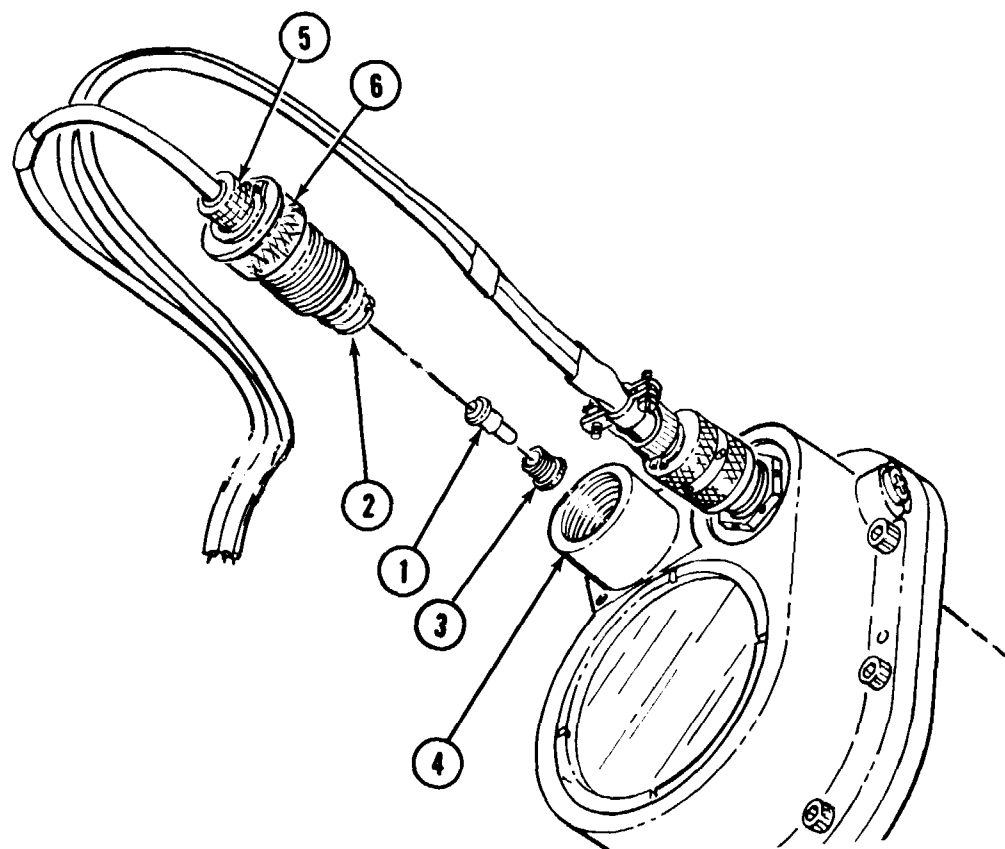
Tools required: Ballpeen hammer
Machinist's vise

- A. Place the bracket (1) on a vise as shown and position band (2) in bracket.
- B. Secure band to bracket with spring pin (3).

**END OF TASK**

10-37. INSTALL THERMAL COLLIMATOR LIGHT EMITTING DIODE DS1

Install light emitting diode DS1 (1) in lampholder (2) and secure by installing bushing (3).



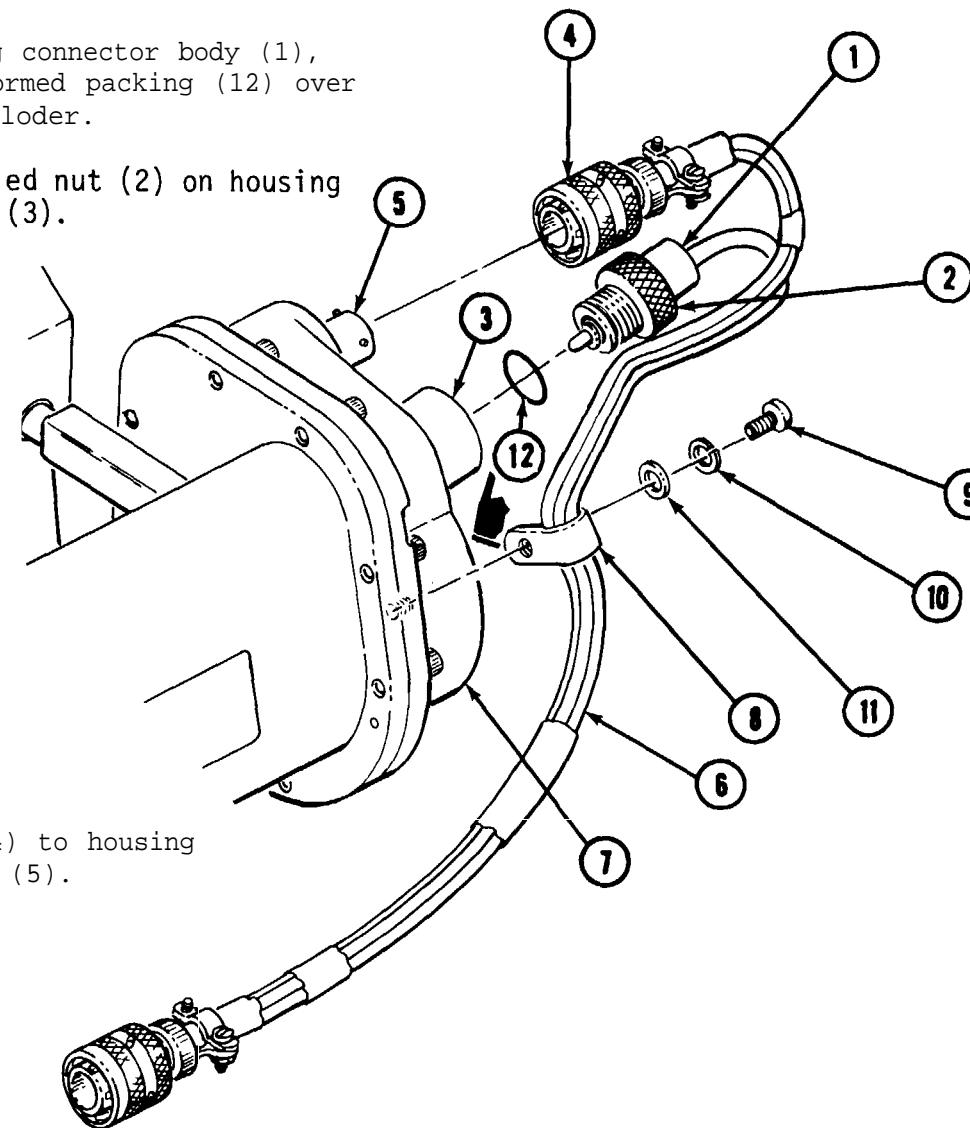
END OF TASK

10-38. INSTALL SPECIAL PURPOSE CABLE ASSEMBLY 1A7W1

Tools required: No. 2 crosspoint screwdriver

A. While holding connector body (1), install preformed packing (12) over end of lampholder.

B. Connect knurled nut (2) on housing connector J1 (3).



C. Connect P2 (4) to housing connector J2 (5).

D. Secure cable assembly (6) to housing (7) with clamp (8), screw (9), lock washer (10) and flat washer (11).

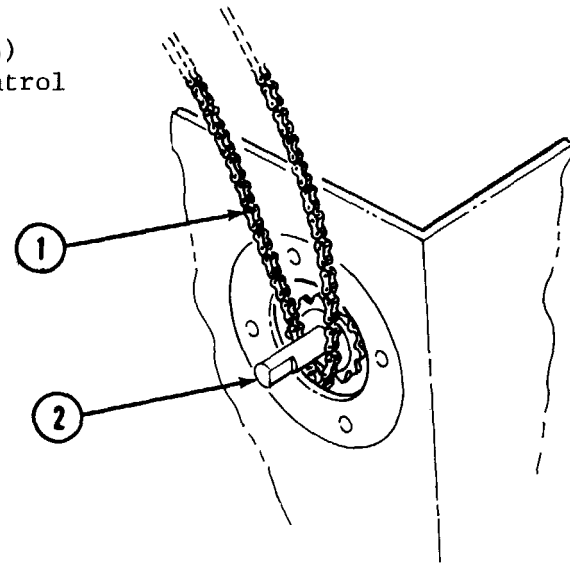
END OF TASK

10-39. INSTALL CHAIN (AZIMUTH)

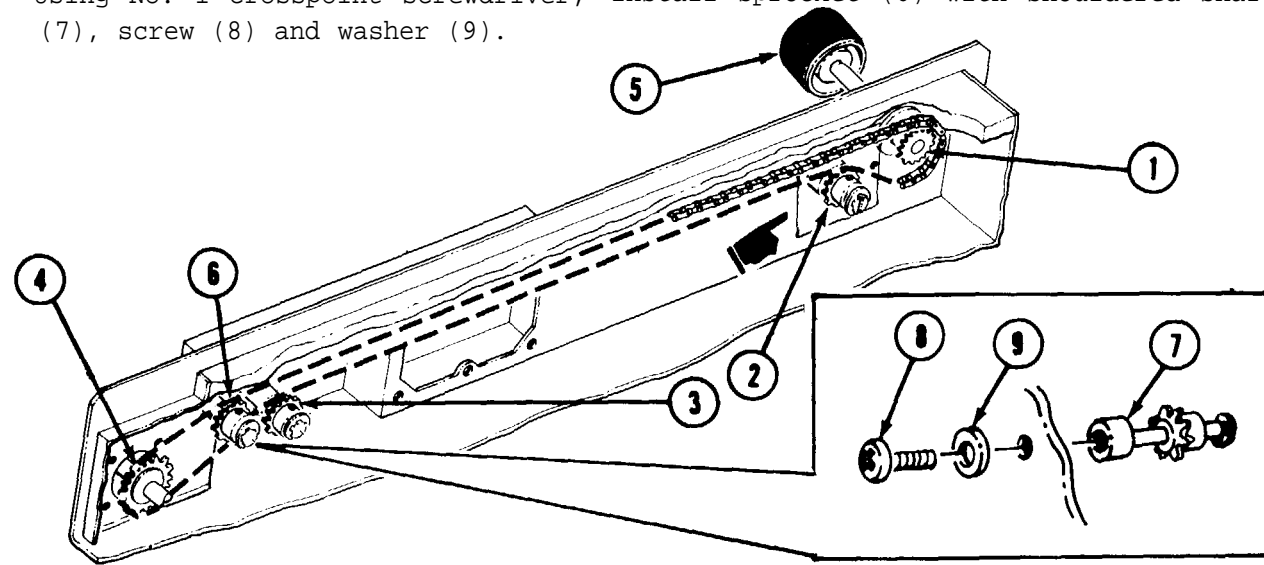
Tools required: 5/64 inch allen wrench
 No. 1 crosspoint screwdriver
 No. 0 crosspoint screwdriver
 1/4 inch flat-blade screwdriver
 Torque screwdriver (in lb)
 No.1 crosspoint bit

STEP 1

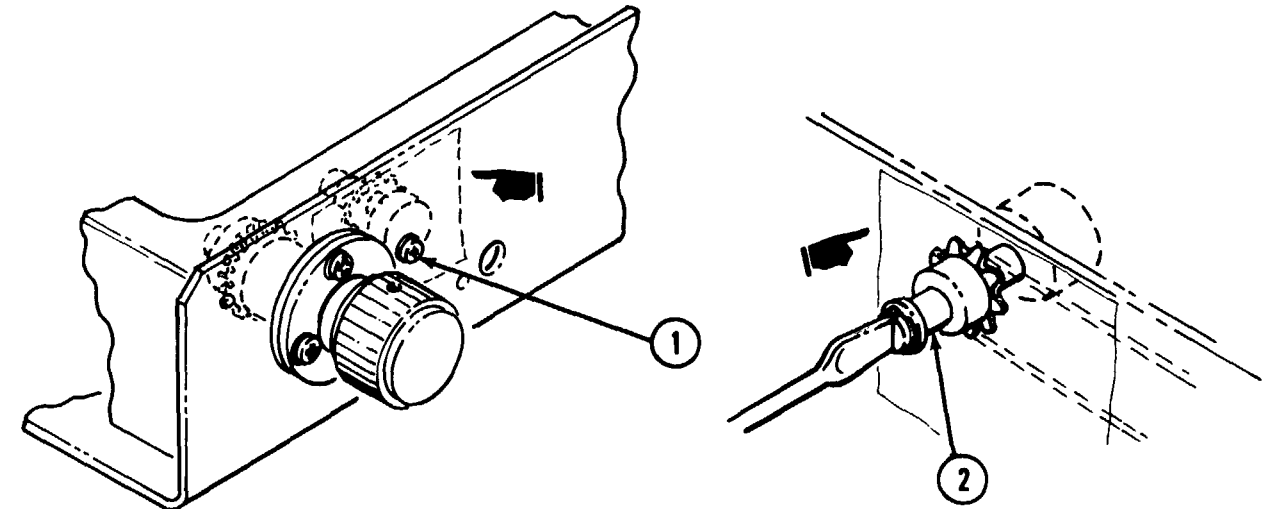
Stand chassis on end and feed chain (1) through access hole around azimuth control shaft (2).

**STEP 2**

- Guide chain onto sprockets (1), (2) and (3). (Sprocket (6) not yet installed).
- Rotate azimuth knob (5) and guide chain onto sprocket (4).
- Using No. 1 crosspoint screwdriver, install sprocket (6) with shouldered shaft (7), screw (8) and washer (9).

**STEP 3**

- On outside of chassis, place torque screwdriver No. 1 bit in screwhead (1) but do not tighten.
- Leave torque screwdriver bit in screwhead while you reach inside of chassis with 1/4 inch flat-blade screwdriver.
- Adjust shouldered shaft (2) to remove most of chain slack.
- Torque screw (1), 7 to 9 inch pounds.

**STEP 4**

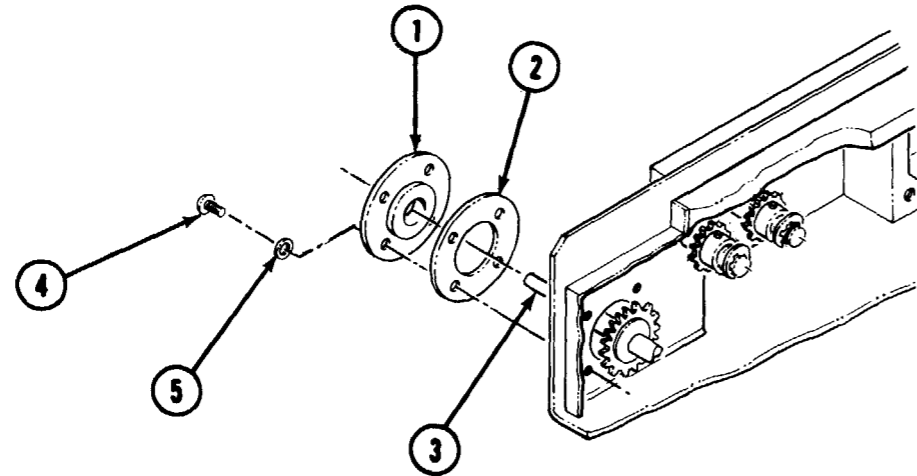
Check operation of azimuth control. The control should rotate smoothly with no binding.

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10-39. INSTALL CHAIN (AZIMUTH) - CONTINUED

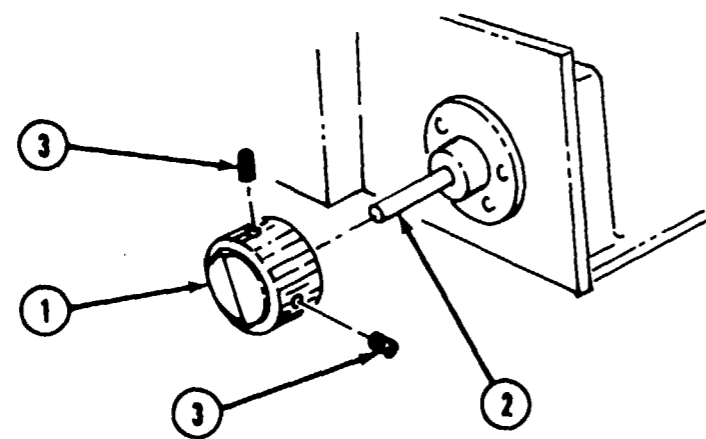
STEP 5

- A. Slide bearing (1) with gasket (2) over shaft (3).
- B. Using No. 0 crosspoint screwdriver, install four screws (4) with washers (5).



STEP 6

- A. Slide knob (1) onto shaft (2).
- B. Using allen wrench, tighten two set screws (3).



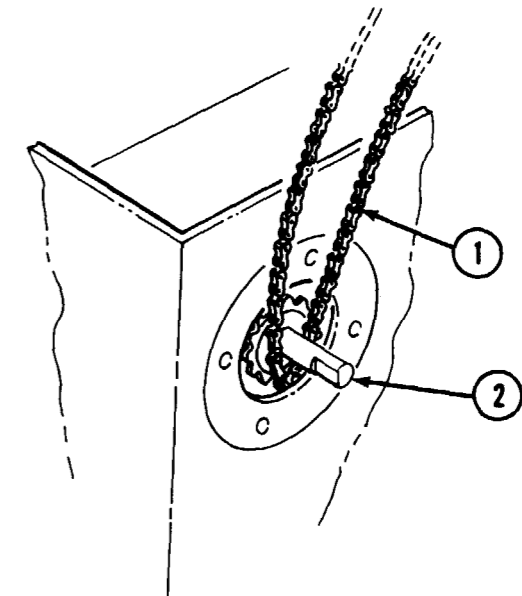
END OF TASK

10-40. INSTALL CHAIN(ELEVATION)

- Tools required:
- 5/64 inch allen wrench
 - No. 1 crosspoint screwdriver
 - No. 0 crosspoint screwdriver
 - 1/4 inch flat-blade screwdriver
 - Torque screwdriver (in lb)

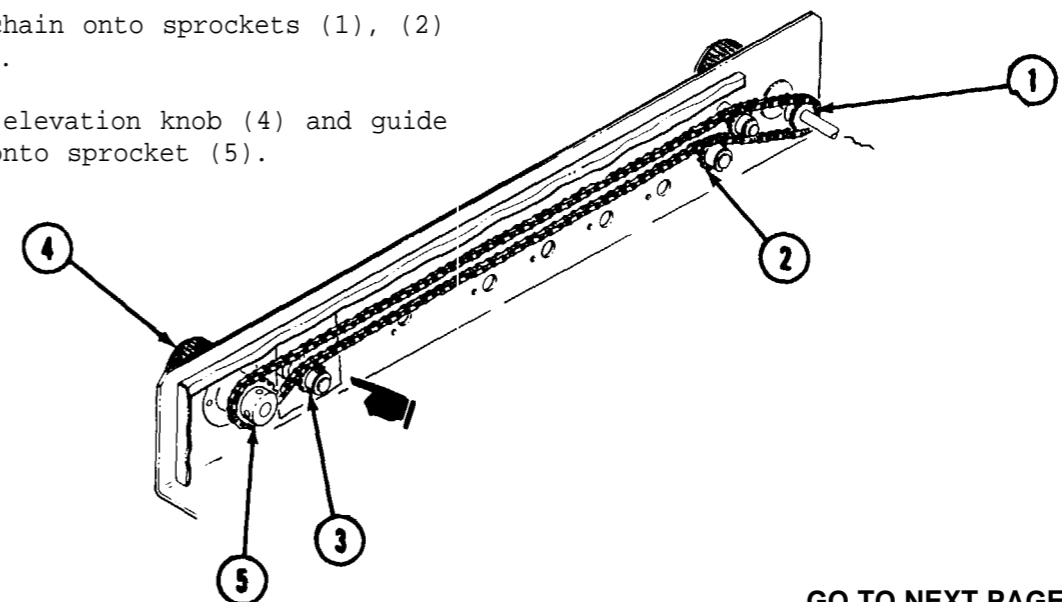
STEP 1

- Stand chassis on end and feed chain (1) through access hole around elevation control shaft (2).



STEP 2

- A. Guide chain onto sprockets (1), (2) and (3).
- B. Rotate elevation knob (4) and guide chain onto sprocket (5).

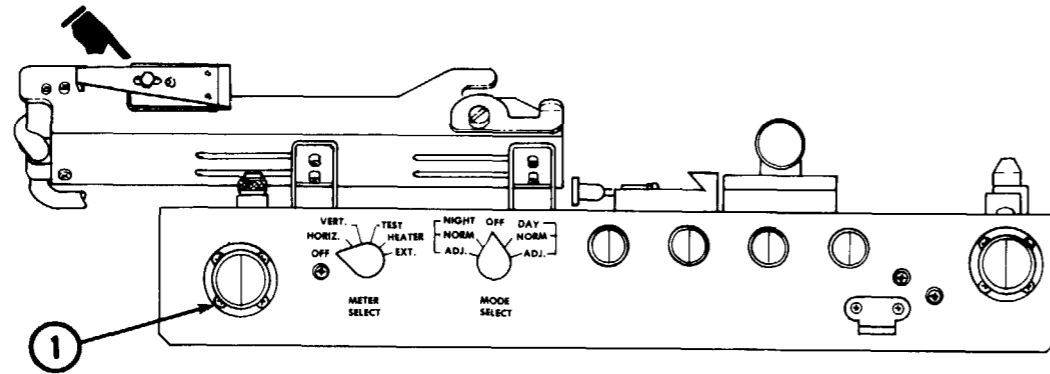


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10-40. INSTALL CHAIN (ELEVATION) - CONTINUED

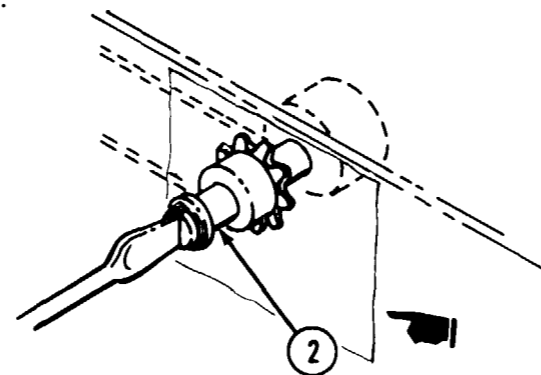
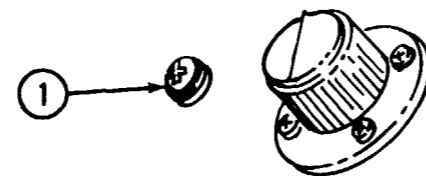
STEP 3

Using No. 0 crosspoint screwdriver, tighten each of the four screws (1).



STEP 4

- A. On outside of chassis, place torque screwdriver No. 1 bit in screwhead (1) but do not tighten.
- B. Leave torque screwdriver bit in screwhead while you reach inside of chassis with 1/4 inch flatblade screwdriver.
- C. Adjust shouldered shaft (2) to remove most of chain slack.
- D. Torque screw (1), 7 to 9 inch pounds.

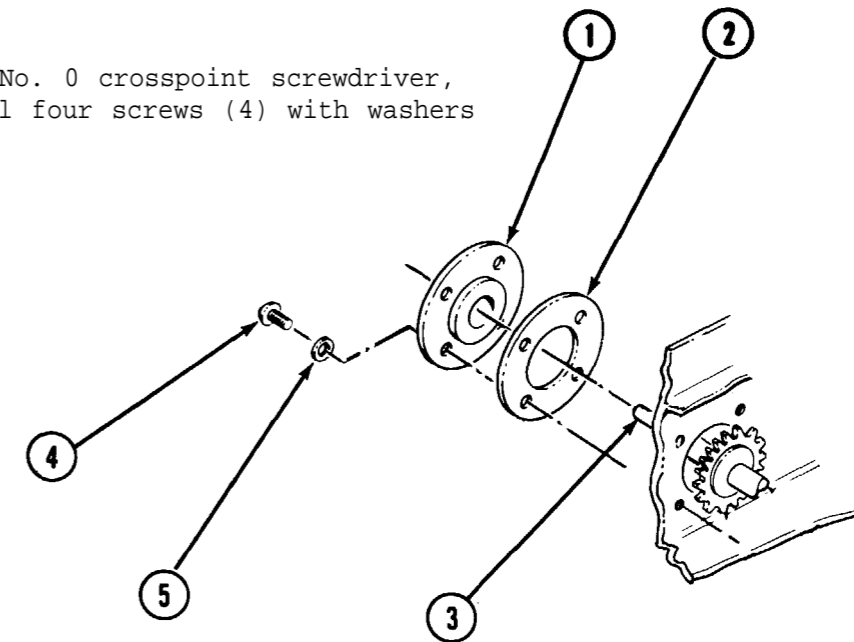


STEP 5

Check operation of elevation control. The control should rotate smoothly with no binding.

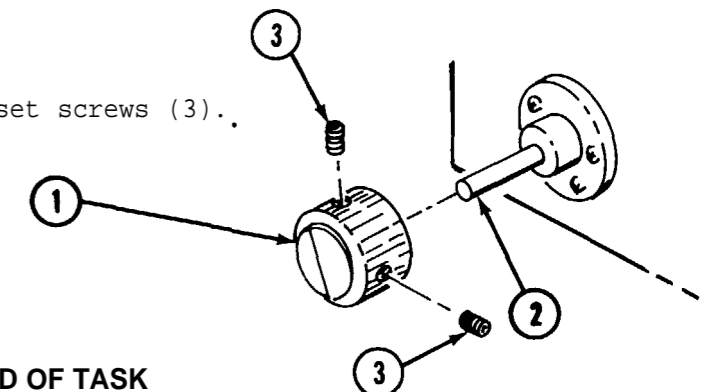
STEP 6

- A. Slide bearing (1) with gasket (2) over shaft (3).
- B. Using No. 0 crosspoint screwdriver, install four screws (4) with washers (5).



STEP 7

- A. Slide knob (1) onto shaft (2).
- B. Using allen wrench, tighten two set screws (3).



END OF TASK

10-41. INSTALL CONNECTORS J5 AND J6

Tools required: 11/16 inch open end wrench
 7/16 inch open end wrench
 Soldering iron

Materials required:

Materials

Solder
 Alcohol
 Brush
 Cleaning cloth

See Appendix D

Item 11
 Item 8
 Item 9
 Item 6

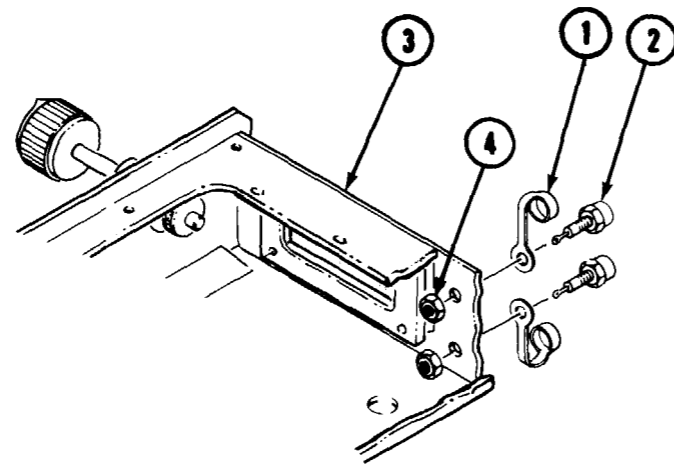
Equipment condition: XDS1 removed (for J5 only), see para. 10-19



NOTE

Installation procedure for both connectors is identical, therefore, only procedure for J6 in covered.

- A. Position dust cover (1) on connector (2).
- B. Install connector with dust cover in SUOAF housing (3) and secure with nut (4).
- C. Solder lead to connector.



END OF TASK

10-42. INSTALL CONDUIT

Tools required: Contact installation tool M24256A20
 1 inch open end wrench

Materials required:

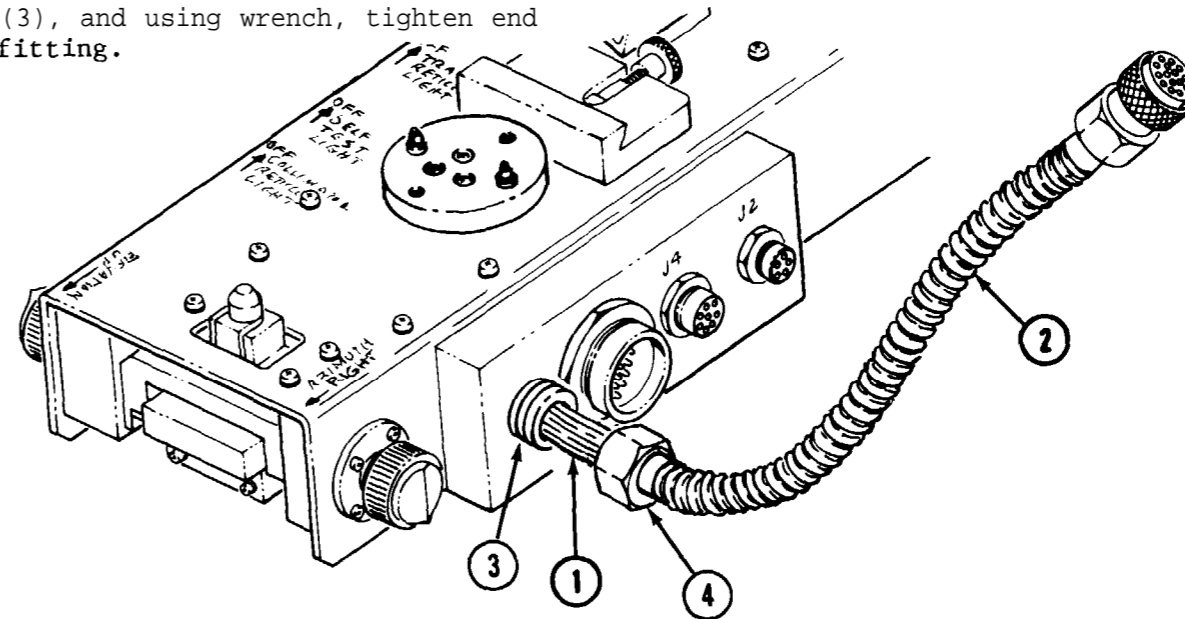
Materials

Adhesive
 Orangewood stick

See Appendix D

Item 73
 Item 7

- A. Carefully thread the wire harness leads (1) through the conduit (2).
- B. Apply a small amount of the adhesive to the threads of SUOAF housing nipple (3).
- C. Screw end fitting (4) on to nipple (3), and using wrench, tighten end fitting.



- D. Using contact installation tool, install pins into connector P1. For proper connections see Appendix F for schematics and wiring diagrams.

END OF TASK

10-43. INSTALL RESISTOR R5

Tools required: Craftsman's knife
 Machinist's rule
 Heat gun
 Soldering iron
 No. 1 crosspoint screwdriver
 1/4 inch open end wrench

Materials required:

Materials

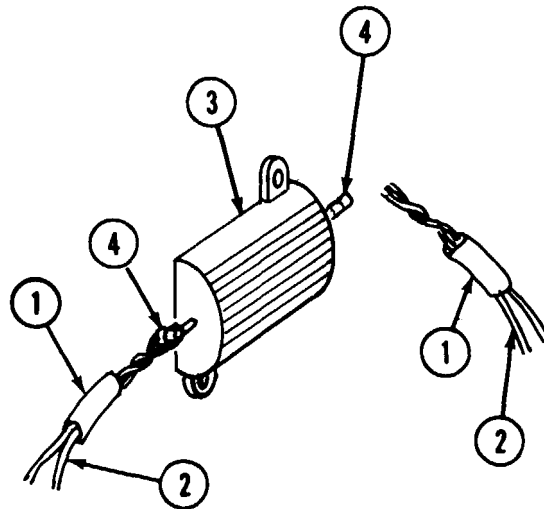
Cleaning cloth
 Brush
 Insulation sleeving
 Silicone compound
 Solder

See Appendix D

Item 6
 Item 9
 Item 13
 Item 24
 Item 11

STEP 1

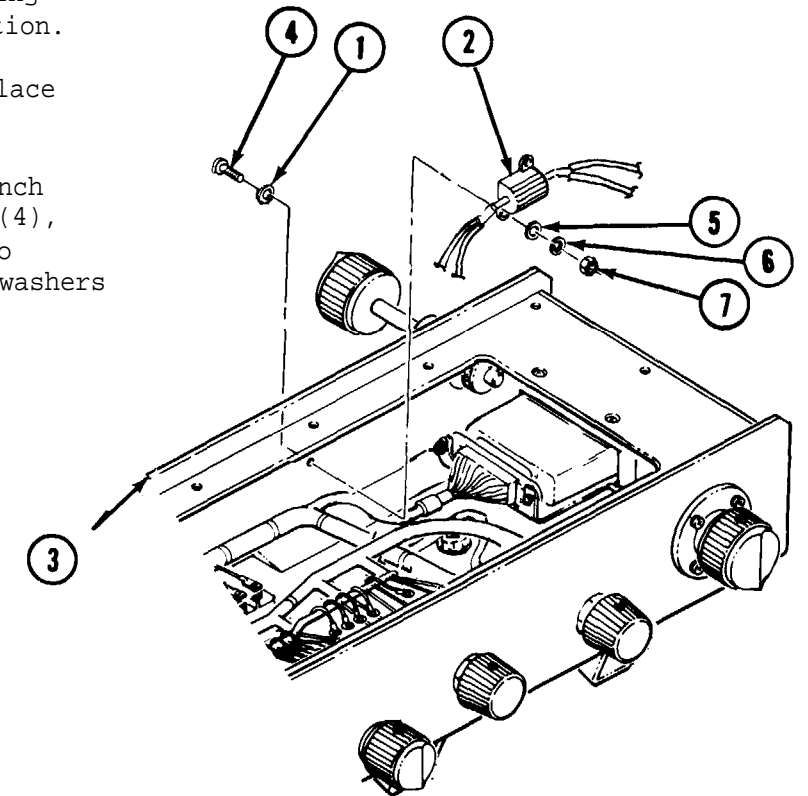
- A. Using craftsman's knife and machinist's rule, cut two pieces of insulation sleeving approximately 1/2 inch long.



- B. Slide insulation sleeving (1) over leads (2).
- C. Identify and solder leads to resistor (3). For proper connections, see Appendix F for schematics and wiring diagrams.
- D. Slide insulation sleeving (1) over solder connections (4) and heat shrink in place.
- E. Remove tags.

STEP 2

- A. Apply small amount of silicone compound to rubber of sealing washer (1) before installation.
- B. Position resistor (2) in place on SUOAF housing (3).
- C. Using screwdriver and 1/4 inch wrench, install two screws (4), two sealing washers (1), two flat washers (5), two lock washers (6), and two nuts (7).



END OF TASK

10-44. INSTALL SPECIAL PURPOSE CABLE ASSEMBLY 1A6W1

Tools required: No. 2 crosspoint screwdriver
 Flat-blade screwdriver
 13/16 inch open end wrench
 11/32 inch open end wrench
 5/8 inch open end wrench
 1/4 inch open end wrench

Materials required:

Materials

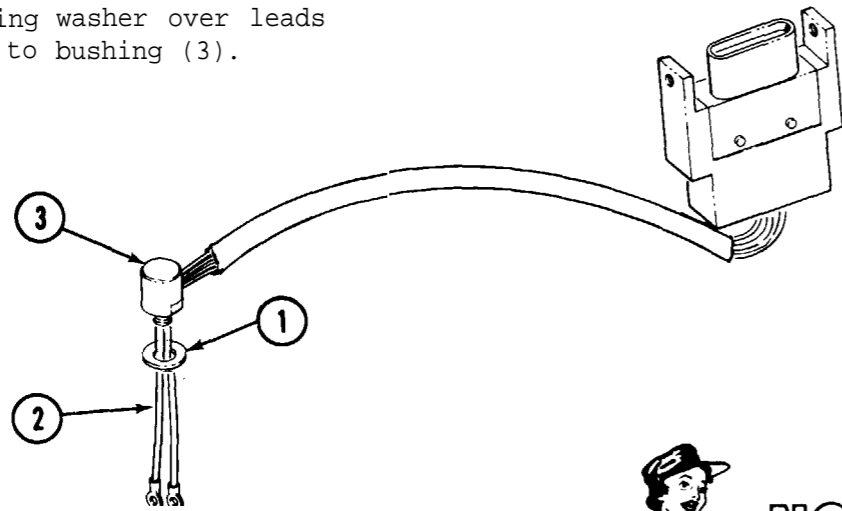
Sealing compound
 Silicone compound

See Appendix D

Item 18
 Item 24

STEP 1

- A. Apply small amount of silicone compound to rubber portion of sealing washer (1) before installation.
- B. Slide sealing washer over leads (2) and on to bushing (3).

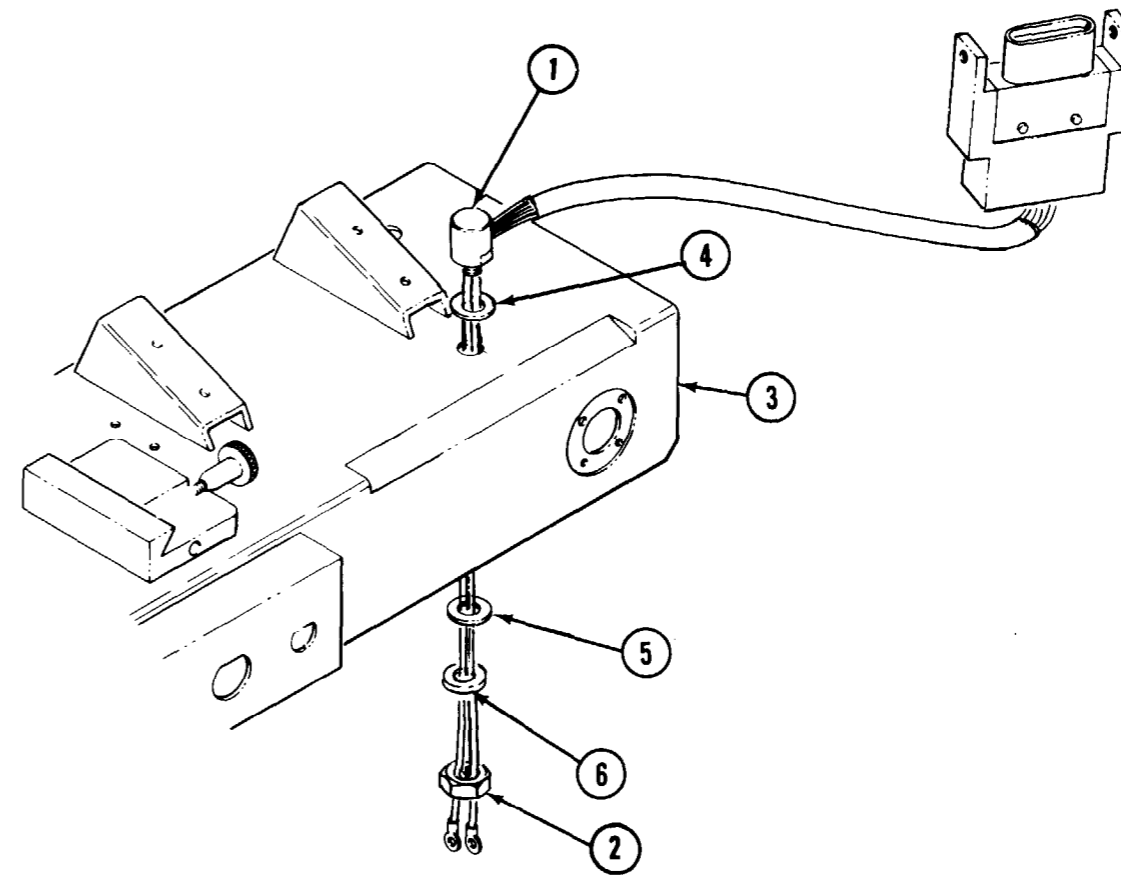


NOTE

There are fifteen cable leads, only two are shown for clarity.

STEP 2

- A. Apply a small amount of sealing compound to threads of bushing (1).
- B. Thread wire leads (2) through SUOAF housing (3) and install bushing (1) and washer (4) in SUOAF housing.



- C. Slide washer (5) and nut (6) over leads (2).
- D. Using 5/8 inch wrench hold bushing and install and tighten nut with 13/16 inch wrench.

GOTONEXTPAGE

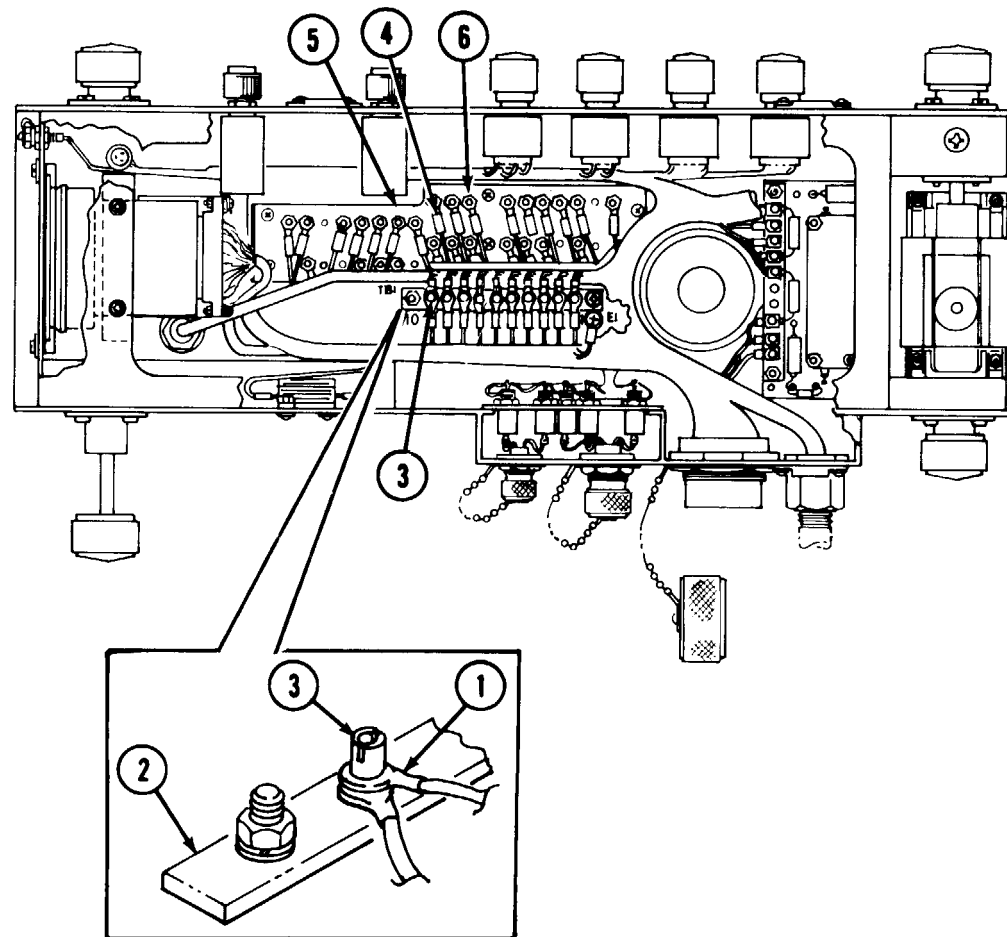
10-44. INSTALL SPECIAL PURPOSE CABLE ASSEMBLY 1A6W1 - CONTINUED

STEP 3

**NOTE**

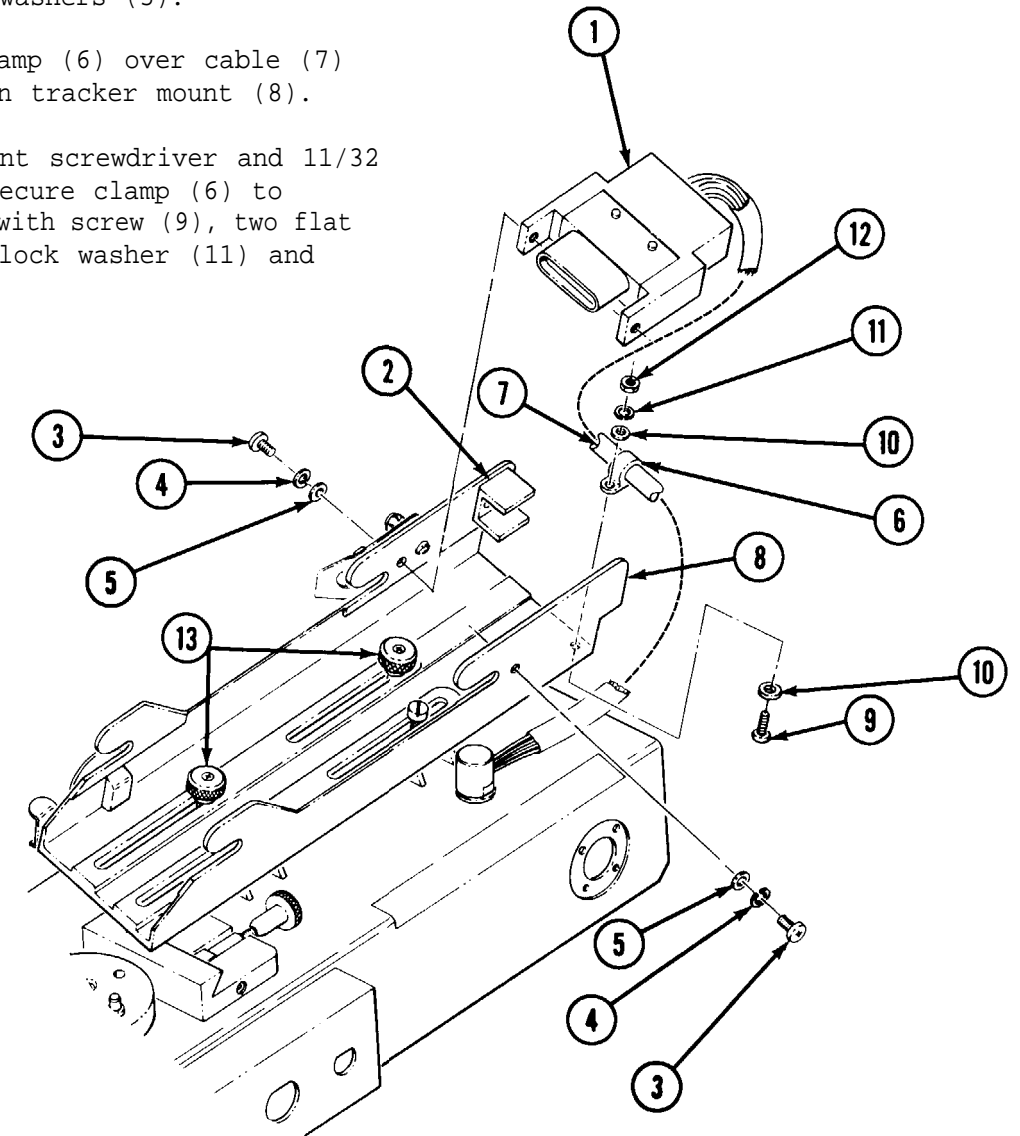
See Appendix F, schematics and wiring diagrams for correct installation of cable leads.

- A. If terminal nuts were reinstalled during removal of cable leads, remove terminal nuts.
- B. Install ten cable lead terminal lugs (1) on TB1 (2) and using flat-blade screwdriver, install ten terminal nuts (3).
- C. Install five cable lead terminal lugs (4) on electronic components board 1A6A3 (5) and using 1/4 inch wrench, install five nuts (6).



STEP 4

- A. Slide connector (1) into retainer (2).
- B. Using No. 2 crosspoint screwdriver, install two screws (3), lock washers (4), and flat washers (5).
- C. Slide cable clamp (6) over cable (7) and position on tracker mount (8).
- D. Using crosspoint screwdriver and 11/32 inch wrench, secure clamp (6) to tracker mount with screw (9), two flat washers (10), lock washer (11) and nut (12).



- F. Slide tracker mount (8) to its retracted position and tighten thumbscrews (13).

END OF TASK

10-45. INSTALL CONNECTOR J2

Tools required: Soldering iron
 3/4 inch open end wrench
 Machinist's rule
 Craftsman's knife

Materials required:

Materials

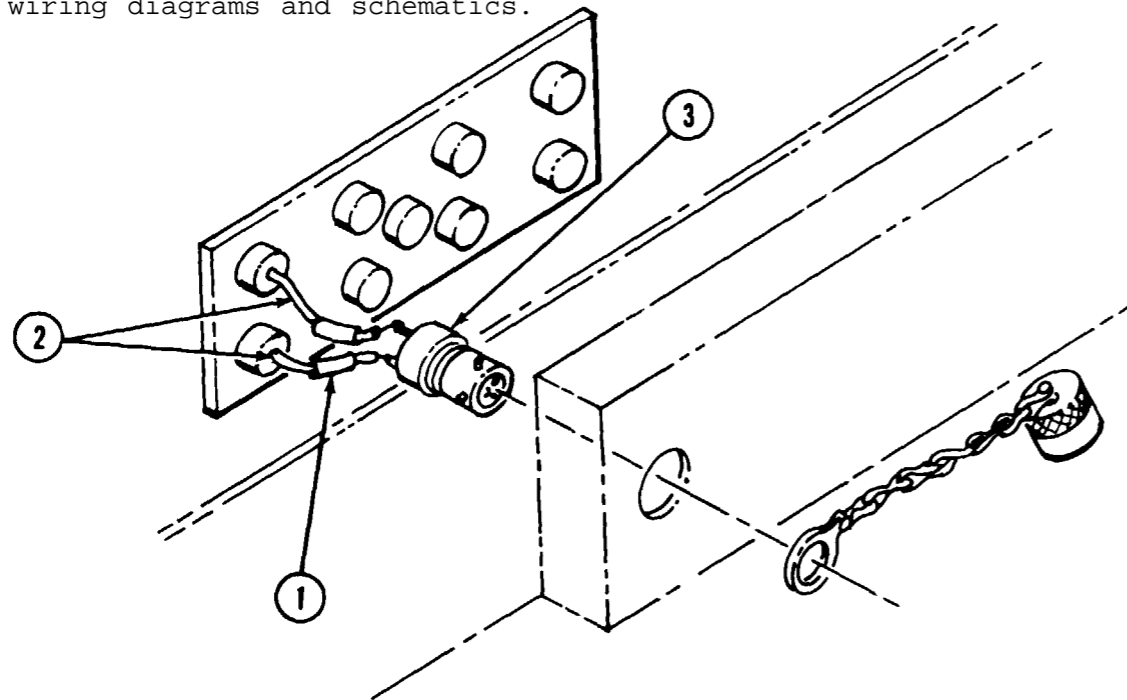
Alcohol
 Brush
 Solder
 Cleaning cloth

See Appendix D

Item 8
 Item 9
 Item 11
 Item 6

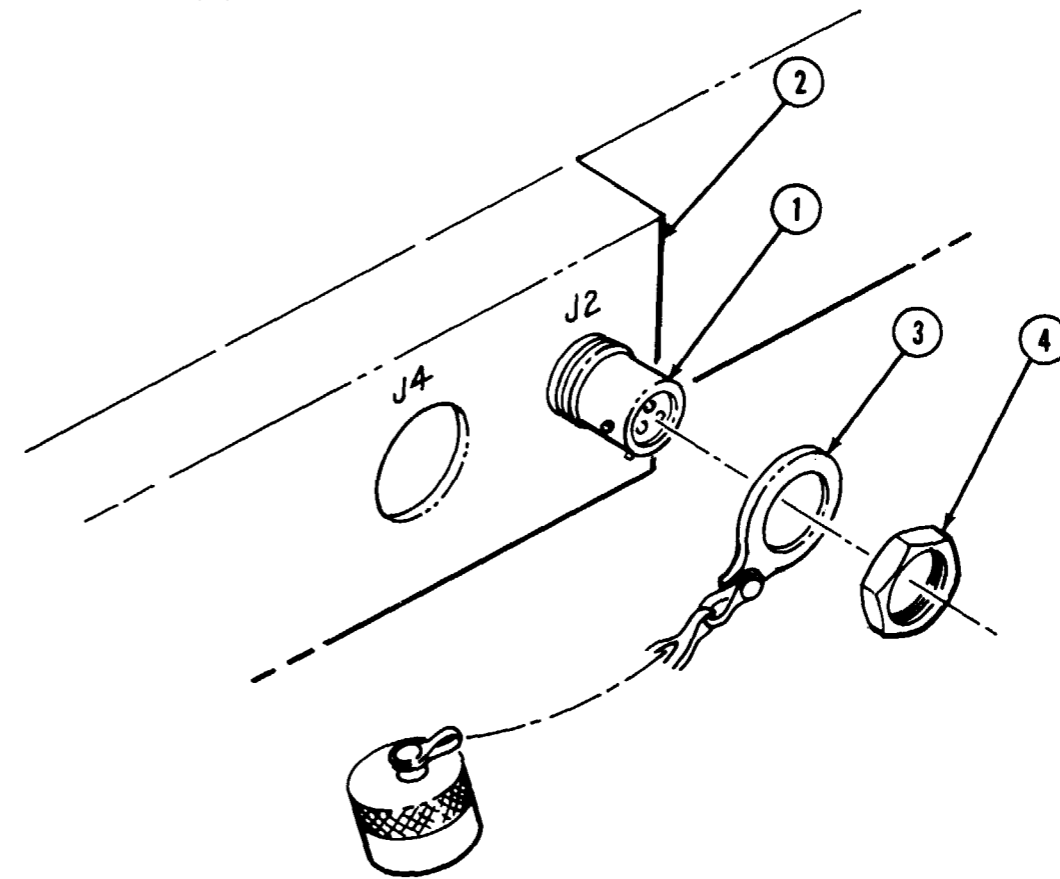
STEP 1

- A. Using machinist's rule and craftsman's knife, cut two pieces of insulation sleeving approximately 1/2 inch long.
- B. Slide insulation sleeving (1) over wires (2).
- C. Identify wires and solder wires to connector (3). To assure proper connections, see Appendix F for wiring diagrams and schematics.



STEP 2

- A. Install connector (1) in base (2).
- B. Install cover (3) on connector and secure with nut (4).

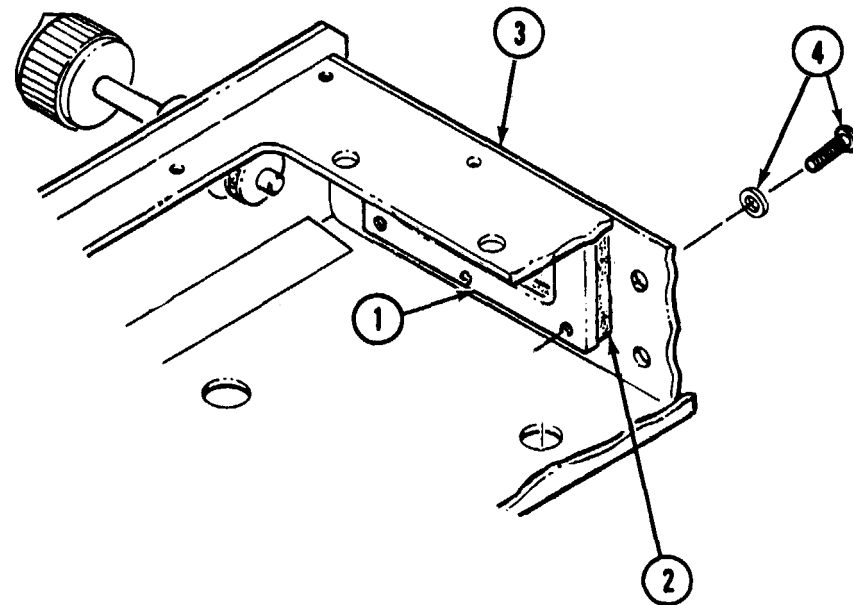


END OF TASK

10-46. INSTALL OBSERVATION WINDOW

Tools required: No. 0 crosspoint screwdriver

- A. Position window (1) with gasket (2) in chassis (3).
 B. Using screwdriver, install six screws (4) with washers.



END OF TASK

10-47. INSTALL FILTERS 1A6FL1 THROUGH 1A6FL9

Tools required: Craftsman's knife
 Machinist's rule
 No. 1 offset crosspoint screwdriver
 5/16 inch open end wrench
 Longnose pliers
 Soldering iron
 Heat gun
 3/16 inch open end/box end wrench.

Materials required:

Materials

Solder
 Insulation sleeving
 Alcohol
 Acid swabbing brush
 Cleaning cloth

See Appendix D

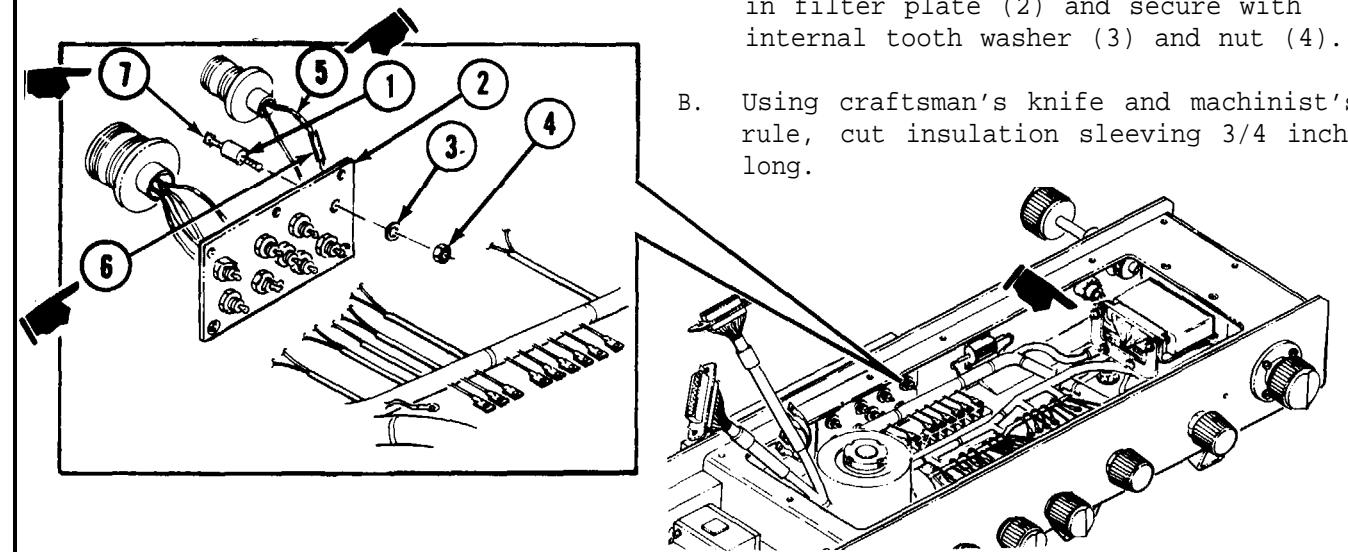
Item 11
 Item 67
 Item 8
 Item 9
 Item 6

STEP 1



Procedure for installing FL1 through FL9 is identical, therefore, only installation for FL2 is shown.

- A. Using wrench, install filter FL2 (1) in filter plate (2) and secure with internal tooth washer (3) and nut (4).
 B. Using craftsman's knife and machinist's rule, cut insulation sleeving 3/4 inch long.



- C. Identify wires (5) and install insulation sleeving (6) over wire. To identify wire connections, see Appendix F schematics and wiring diagrams. Solder wire to lead (7) of filter FL2 (1). Slide insulation sleeving over solder connection and using heat gun, heat shrink insulation sleeving.

GO TO NEXT PAGE

10-47. INSTALL FILTERS 1A6FL1 THROUGH 1A6FL9 - CONTINUED

STEP 2

A. Install insulation sleeving (1) over wire (2).

B. Identify wire and solder wire to filter (3). For proper installation of wire leads, see Appendix F schematics and wiring diagrams.

C. Slide insulation sleeving over solder connection and heat shrink the sleeving.

D. Using offset screwdriver and 3/16 inch wrench, install chainguard (4), filter plate (5), three screws (6), three screws (8) and six spacers (12). Screws (8) are hex-head screws and use washers (7).

E. Install idler gear (9) on shaft (10) and secure with retainer (11). Be sure chain meshes with gear.

END OF TASK

10-48. INSTALL INDICATOR LIGHT 1A6DS1

Tools required: 9/16 inch open end wrench
Heat gun

Craftsman's knife
Machinist's rule

Materials required:

Materials

See Appendix D

Insulation sleeving

Item 67

NOTE

Position contacts of base assembly (1) so that they will not interfere with chain. (11).

A. Install base assembly (1), lock washer (2), and RF1 gasket (3) in SUOAF (4) and secure with rubber washer (5) and mounting nut (6). Tighten jam nut (7).

B. Install lamp (8) in cap (9) and install cap in base assembly.

C. Cut insulation sleeving 3/4 inch long and slide over wires (10). Identify and solder wires to base assembly (1). For proper terminal connections, see Appendix F for wiring diagrams and schematics.

D. Slide insulation sleeving over solder connections and heat shrink in place.

END OF TASK

10-49. INSTALL ELECTRONIC COMPONENTS ASSEMBLY 1A6A4

Tools required: No. 2 crosspoint screwdriver
 1/4 inch flat-blade screwdriver
 Craftsman's knife

Materials required:

Materials

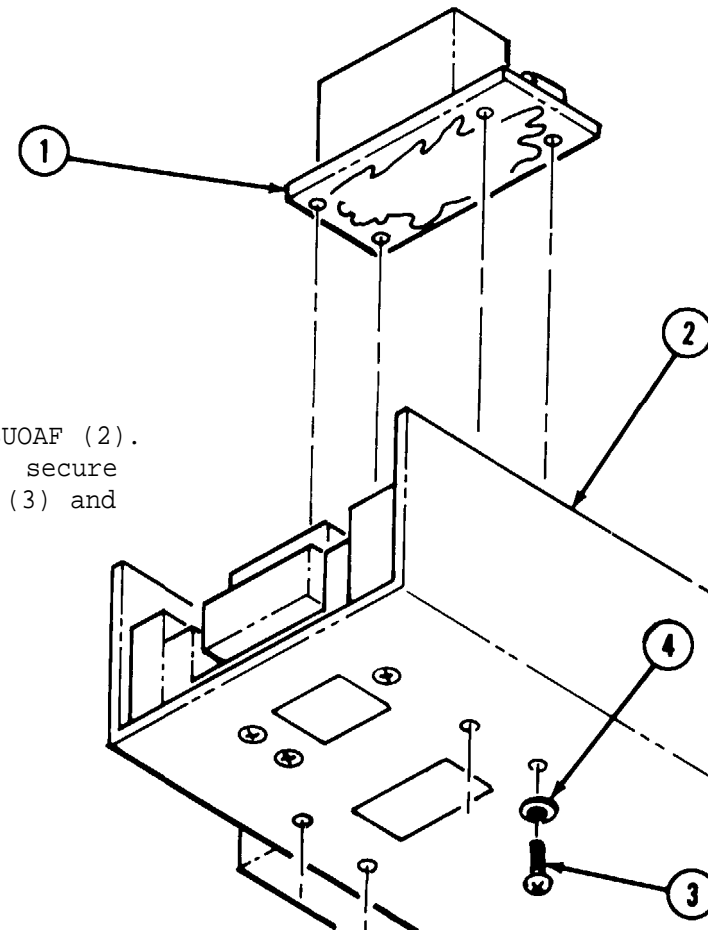
MEK
 Thermal compound
 Cleaning cloth
 Silicone compound
 Orangewood stick

See Appendix D

Item 5
 Item 70
 Item 6
 Item 24
 Item 7

STEP 1

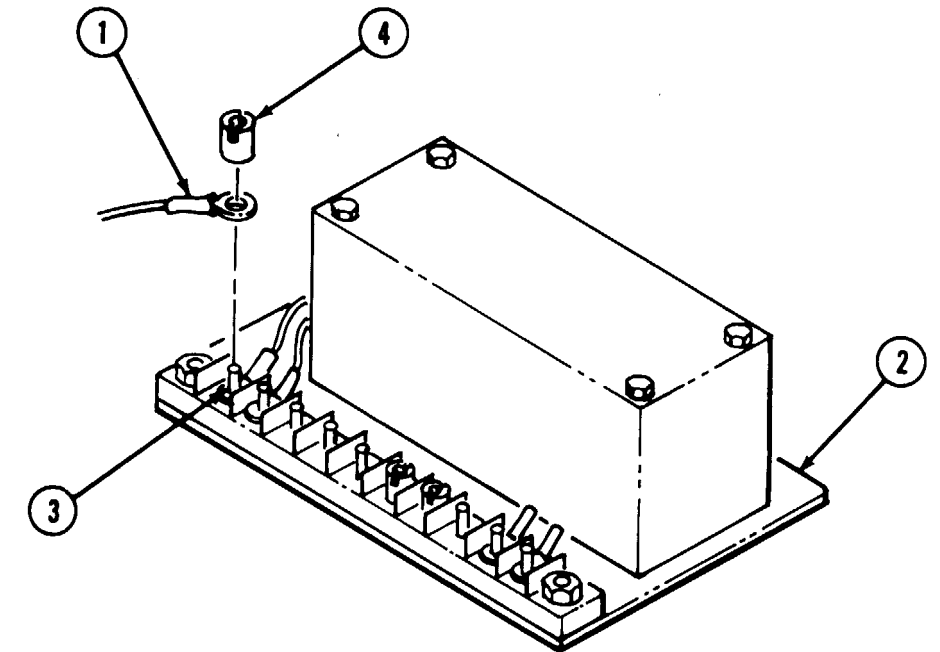
A. Using orangewood stick, apply a coat of thermal compound to base of A4 assembly (1).



B. Insert A4 assembly (1) into SUOAF (2). Using crosspoint screwdriver, secure A4 assembly with four screws (3) and sealing washers (4).

STEP 2

A. Install the eight leads (1) as previously tagged, to the A4 assembly (2). Using flat-blade screwdriver, secure each lead terminal (3) with terminal nut (4).



B. Remove tags.

END OF TASK

Follow-on Task: Install cover, see para. 10-57.

10-50. INSTALL ELECTRONIC COMPONENT ASSEMBLY 1A6A3

Tools required: 1/4 inch open end wrench
No. 2 crosspoint screwdriver

Materials

Silicone compound
Methyl Ethyl Ketone (MEK)
Cleaning cloth

See Appendix D

Item 24
Item 5
Item 6

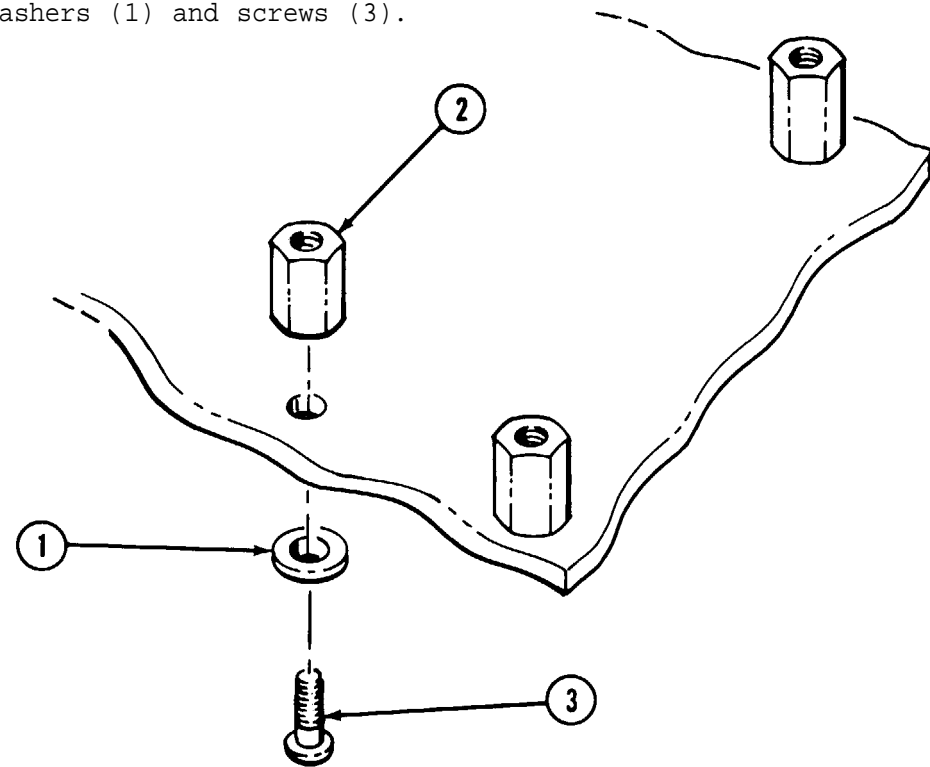
STEP 1



NOTE

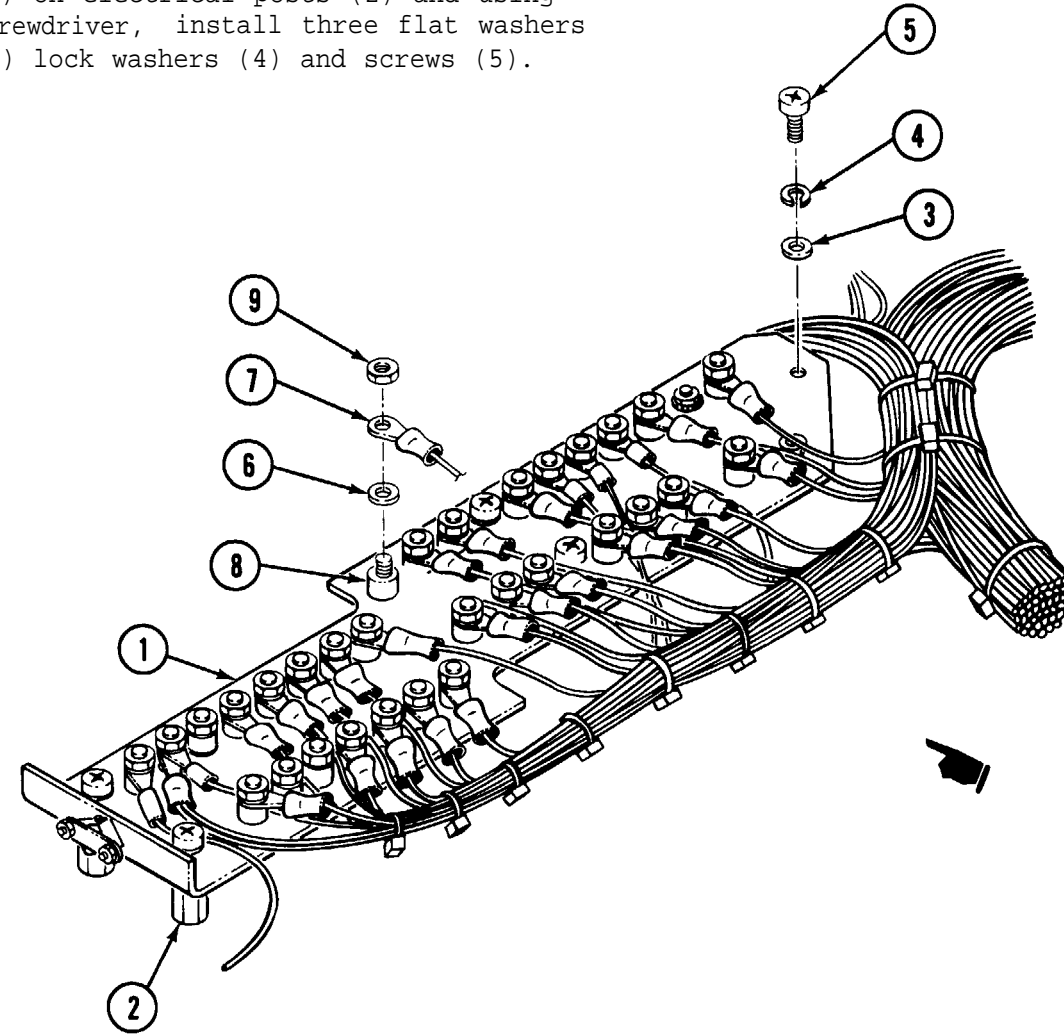
If electrical posts were not removed earlier, proceed with step B.

- A. Apply a small amount of silicone compound to three sealing washers (1).
- B. Install three electrical posts (2), sealing washers (1) and screws (3).



STEP 2

- A. Place electronic components assembly (1) on electrical posts (2) and using screwdriver, install three flat washers (3) lock washers (4) and screws (5).



- B. Identify wires and install washers (6), terminal lugs (7) on terminal posts (8). For proper terminal connections, see Appendix F for wiring diagrams and schematics.
- C. Using wrench secure terminal lugs with nuts (9).

END OF TASK

10-51. INSTALL SWITCH 1A6S1 AND 1A6S2

Tools required: .050 inch allen wrench
 9/16 inch open end wrench
 Soldering iron
 Craftsman's knife

Materials required:

Materials

Brush
 Insulation sleeving
 Insulation sleeving
 Solder
 Silicone compound
 Alcohol
 Cleaning cloth

See Appendix D

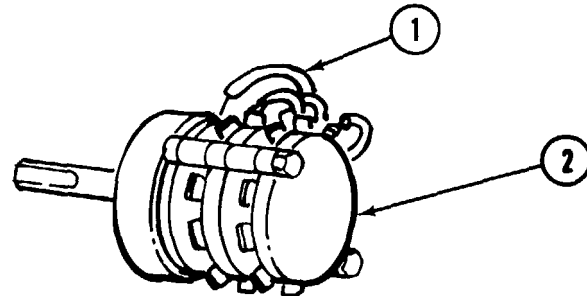
Item 9
 Item 36
 Item 67
 Item 11
 Item 24
 Item 8
 Item 6

**NOTE**

Installation procedures for both switches are identical, therefore, only installation of S2 is covered.

STEP 1

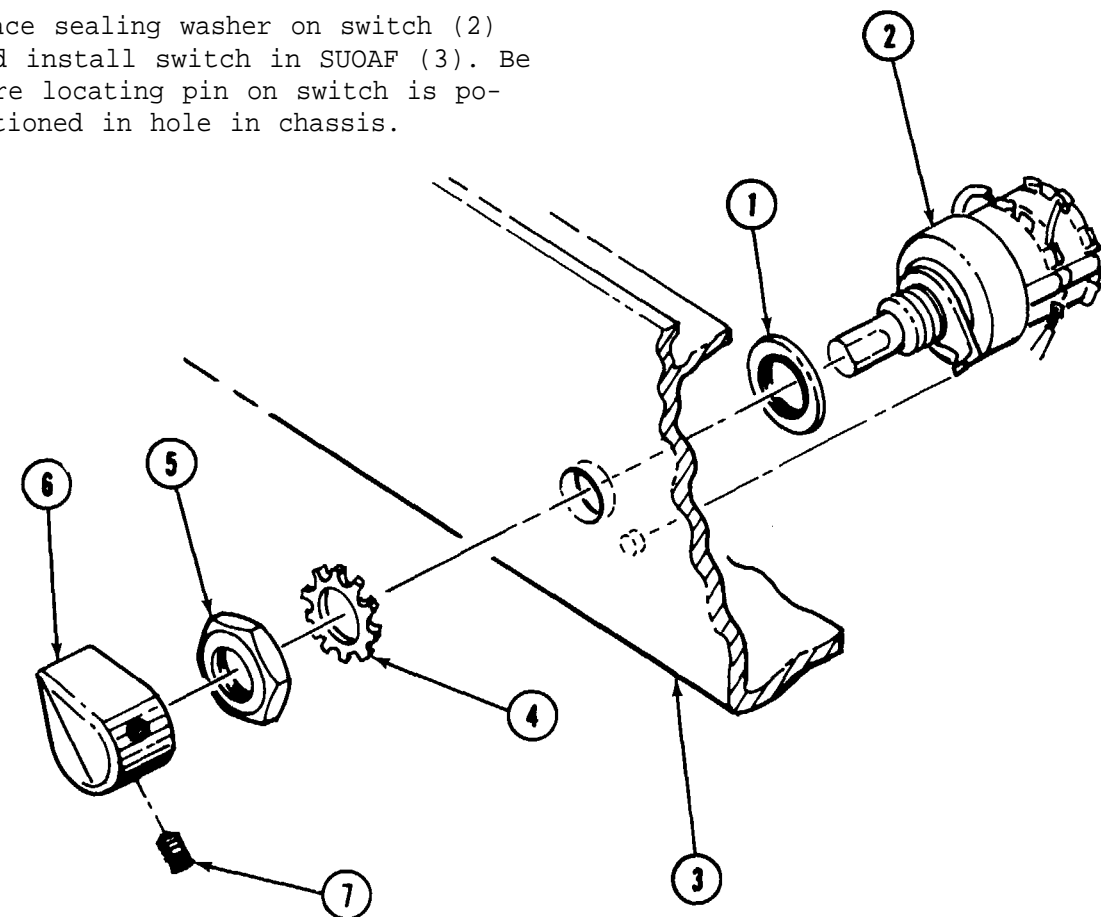
- A. Using craftsman's knife, cut insulation sleeving long enough to cover bare wires.



- B. Identify and solder wires (1) to switch (2). For proper terminal connections, see Appendix F for wiring diagrams and schematics.

STEP 2

- A. Apply a small amount of silicone compound to sealing washer (1) before installation.
- B. Place sealing washer on switch (2) and install switch in SUOAF (3). Be sure locating pin on switch is positioned in hole in chassis.



- C. Using open end wrench, secure switch in SUOAF with lock washer (4) and nut (5).
- B. Install knob (6) and using allen wrench tighten set screws (7).

END OF TASK

10-52. INSTALL RESISTORS 1A6R1 THROUGH 1A6R4

Tools required: .050 inch allen wrench
 1/2 inch open end wrench
 Craftsman's knife
 Soldering kit
 Heat gun
 Machinist's rule
 Needlenose pliers

Materials required:

Materials

Insulation sleeving
 Solder
 Silicone compound
 Alcohol
 Brush
 Cleaning cloth

See Appendix D

Item 67
 Item 11
 Item 24
 Item 8
 Item 9
 Item 6



NOTE

Installation procedures for resistors R1 through R4 are identical, therefore only installation of R4 is covered.

Perform STEP 3D only for resistors R3 and R4.

STEP 1

A. Discard lock washer (1) that comes with replacement resistor (2), but retain nut (3).

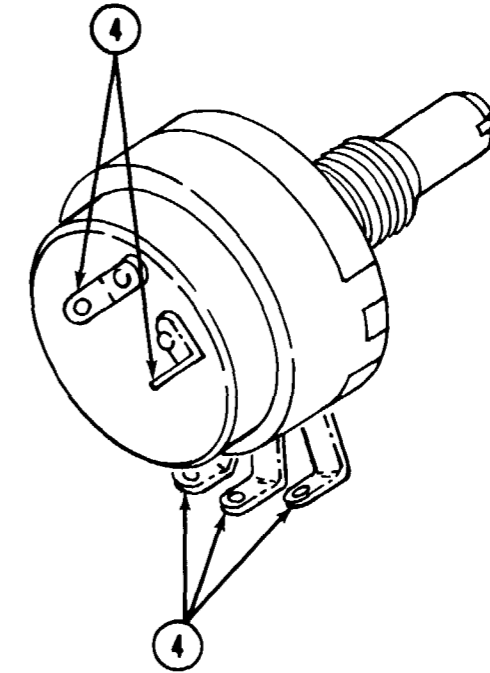
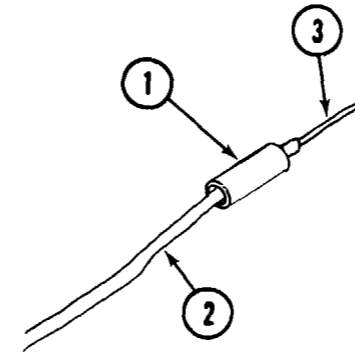
B. Bend terminals (4) 90° as shown.

C. Apply a small amount of silicone compound to sealing washer (5) before installation.

90° BEND

STEP 2

- A. Using craftsman's knife and machinist's rule, cut insulation sleeving approximately 1/2 inch long for each wire termination.
- B. Install insulation sleeving (1) over wires (2).



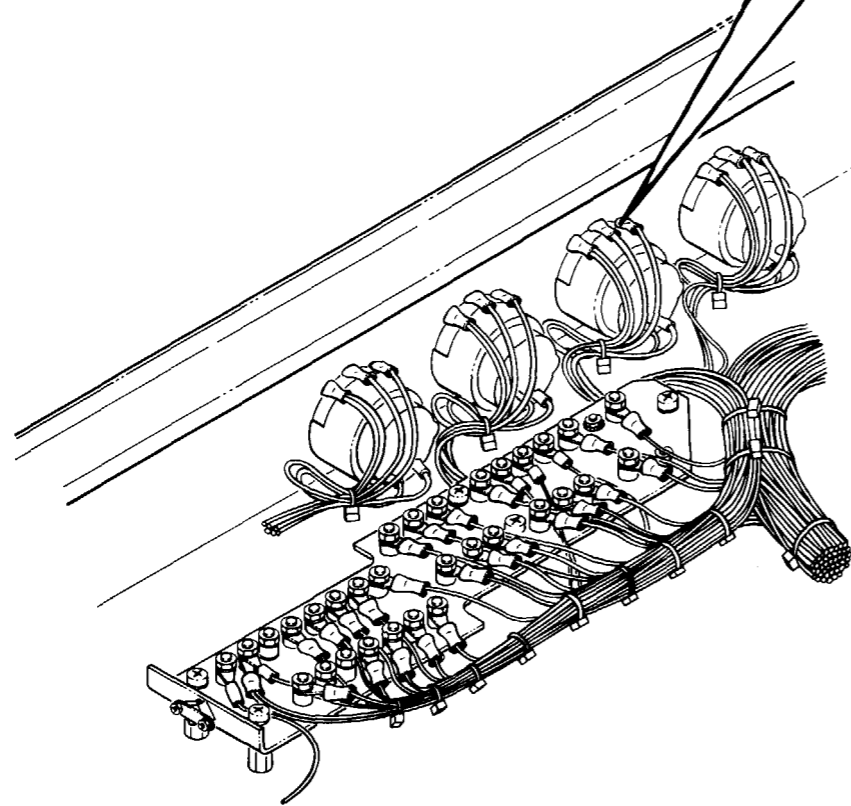
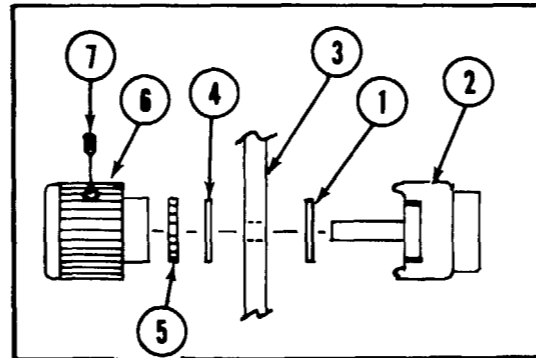
- C. Identify leads (3) and solder to resistor terminals (4). For proper connections, see Appendix F for wiring diagrams and schematics.
- D. Slide insulation sleeving over solder connections and using heat gun, shrink sleeving.

GO TO NEXT PAGE

10-52. INSTALL RESISTORS 1A6R1 THROUGH 1A6R4 – CONTINUED

STEP 3

- A. Place sealing washer (1) on resistor (2) and install resistor in SUOAF chassis (3). Be sure locating pin on resistor is positioned in hole in chassis.
- B. Secure resistor with lock washer (4) and nut (5).
- C. Deleted
- D. Install knob (6) and using allen wrench tighten set screws (7).

**END OF TASK**

10-53. INSTALL DIGITAL VOLTMETER 1A6M1 AND PADS

Tools required: No. 2 crosspoint screwdriver
 Flat-blade screwdriver
 Craftsman's knife
 Machinist's rule

Materials required:

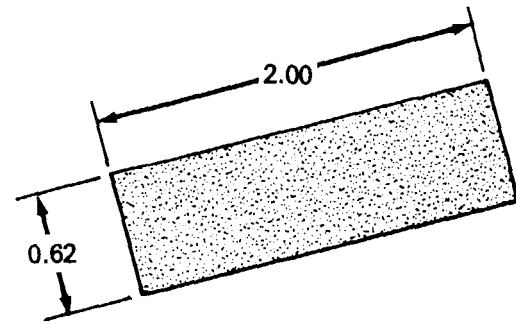
Materials See Appendix D
 Gasket material Item 46



Perform STEP 1 only if the pad was damaged during removal.

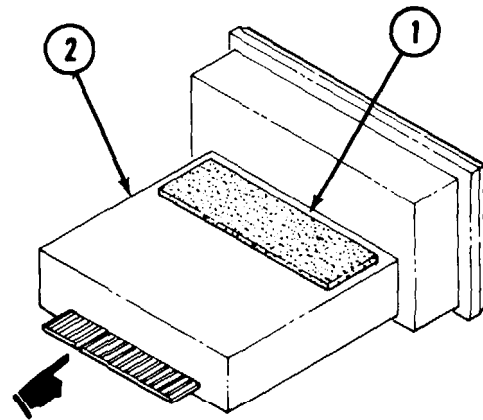
STEP 1

Using craftsman's knife and machinist's rule, cut new pad from gasket material 2.00 inches long by 0.62 inches wide.

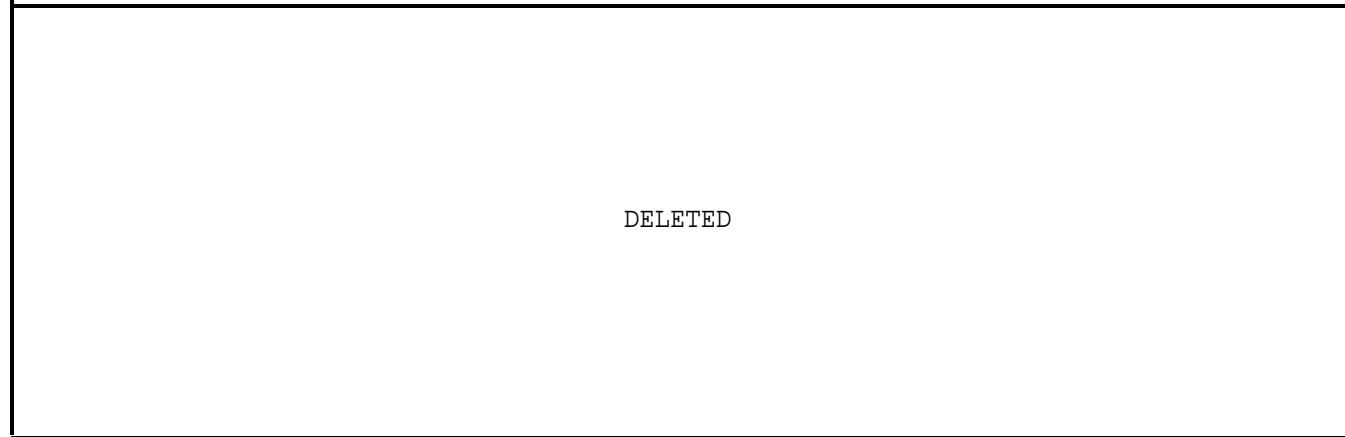


STEP 2

Lay pad (1) on meter (2) in mounting area.

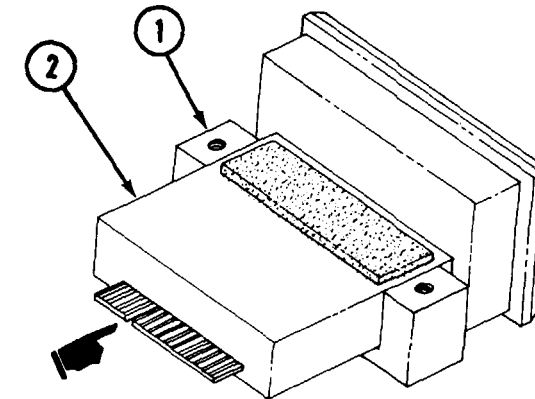


STEP 3



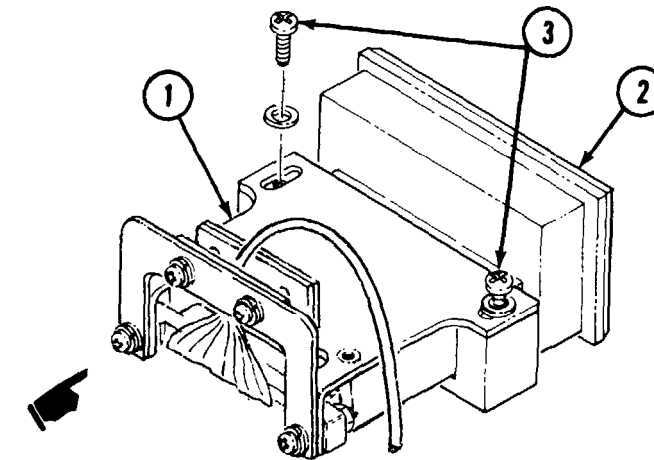
STEP 4

Slide spacer plate (1) into position on meter (2).



STEP 5

- A. Insert meter (2) into connector on clamp (1).
- B. Install two screws (3) with washers, do not tighten.
- C. Slide connector up flush against meter.

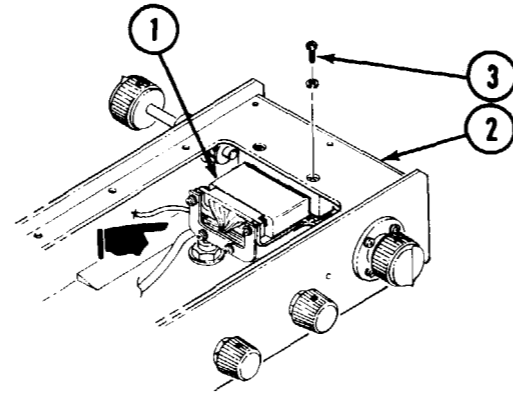


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10-53. INSTALL DIGITAL VOLTMETER 1A6M1 AND PADS - CONTINUED

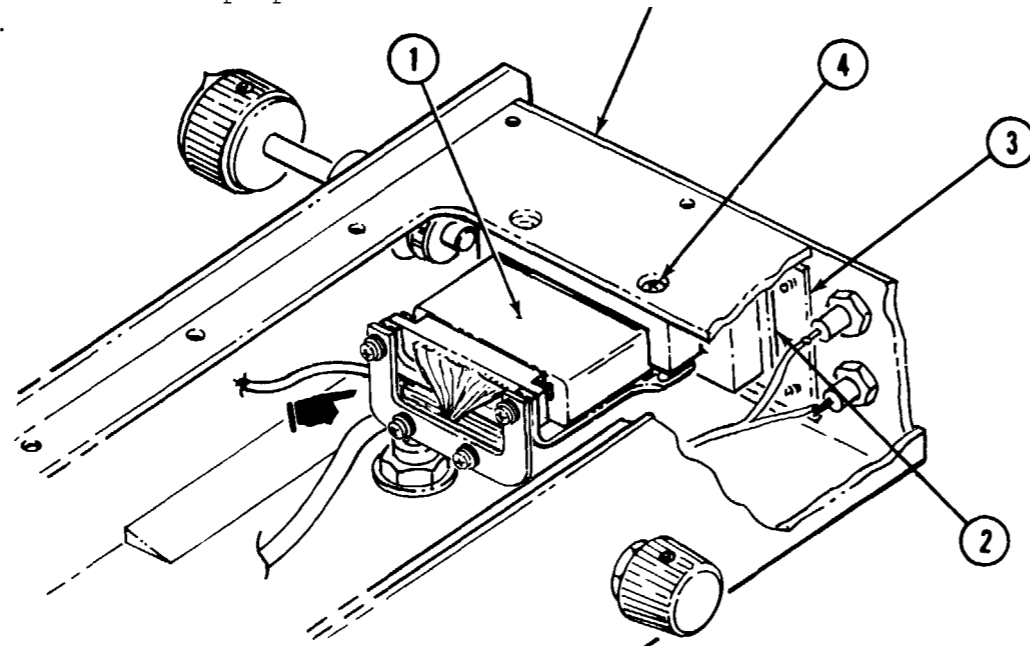
STEP 6

- A. Slide meter (1) into position in chassis (2).
- B. Install and tighten one screw (3) with washer.



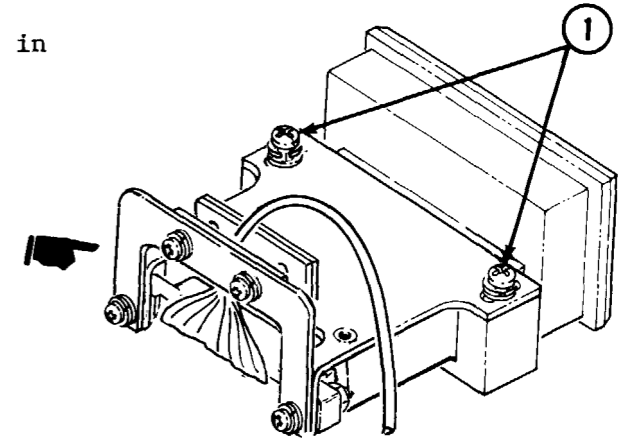
STEP 7

- A. Push on the meter (1) and slide it forward until meter face (2) engages chassis window (3).
- B. Remove screw (4) and washer (installed in step 6).
- C. Remove meter (1) from chassis (5) being careful not to bump spacer adjustment.



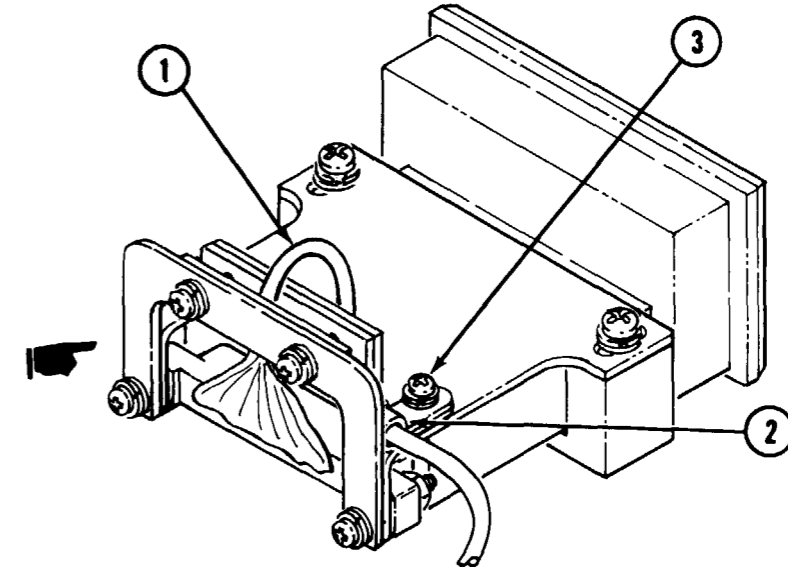
STEP 8

- Tighten two screws (1) (installed in step 5b).



STEP 9

- A. Feed wire harness (1) through clamp (2).
- B. Secure clamp (2) with screw (3).



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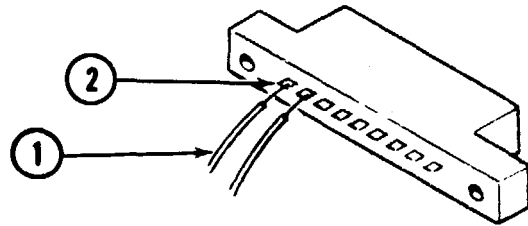
10-53. INSTALL DIGITAL VOLTMETER 1A6M1 AND PADS - CONTINUED



NOTE
Perform steps 10 thru 10.2 only if connector is being replaced.

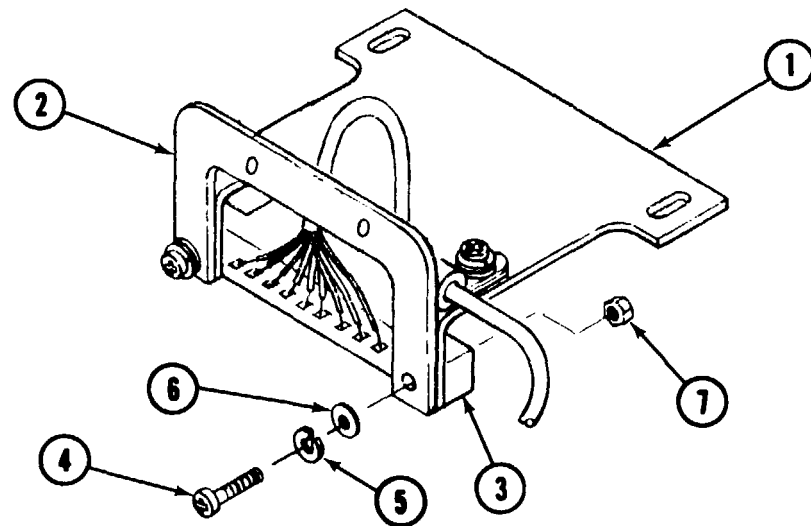
STEP 10

Identify wires (1) and solder wires to connector terminals (2). For proper connections, see wiring diagram in Appendix F.



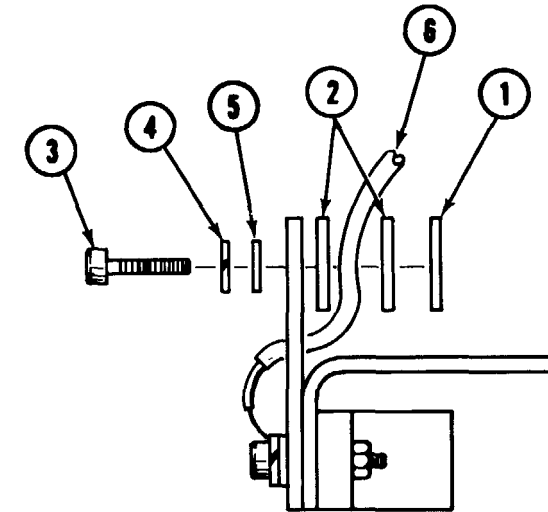
STEP 10.1

Using No. 1 crosspoint screwdriver, install clamp (1) and bracket (2) on connector (3) using two screws (4), two lock washers (5), two flat washers (6) and two nuts (7).



STEP 10.2

Using No. 1 crosspoint screwdriver, install plate (1) and two rubber pads (2) with two screws (3), two lock washers (4), and two flat washers (5). Clamp connector wires (6) between the two rubber pads (2).

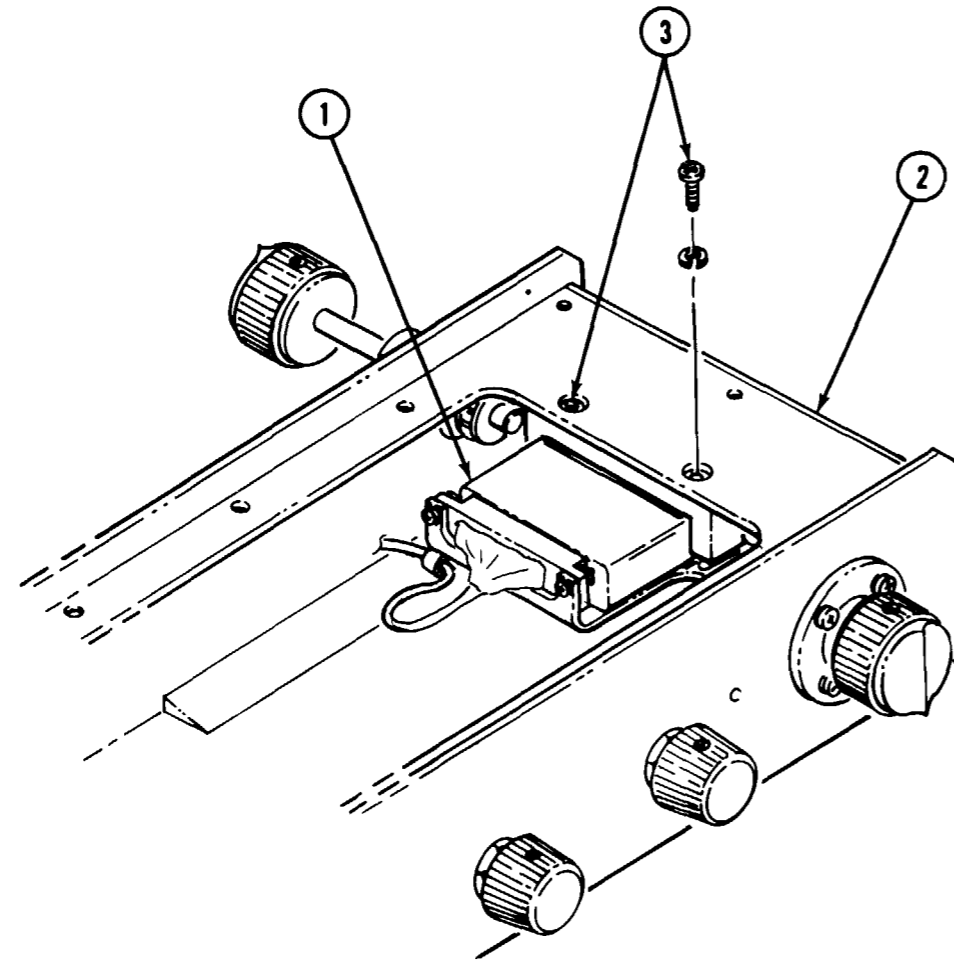


Follow-on Task: Return to Step 5.

10-53. INSTALL DIGITAL VOLTMETER 1A6M1 AND PADS - CONTINUED

STEP 11

- A. Slide meter (1) in place in chassis (2).
- B. Secure meter (1) in chassis (2) with two screws (3) and washers.



END OF TASK

10-54. INSTALL CIRCUIT CARD 1A6A2

Tools required: 3/16 inch open end wrench
 3/16 inch box and open end wrench
 1/4 inch open end wrench
 No. 2 crosspoint screwdriver

Materials required:

Materials

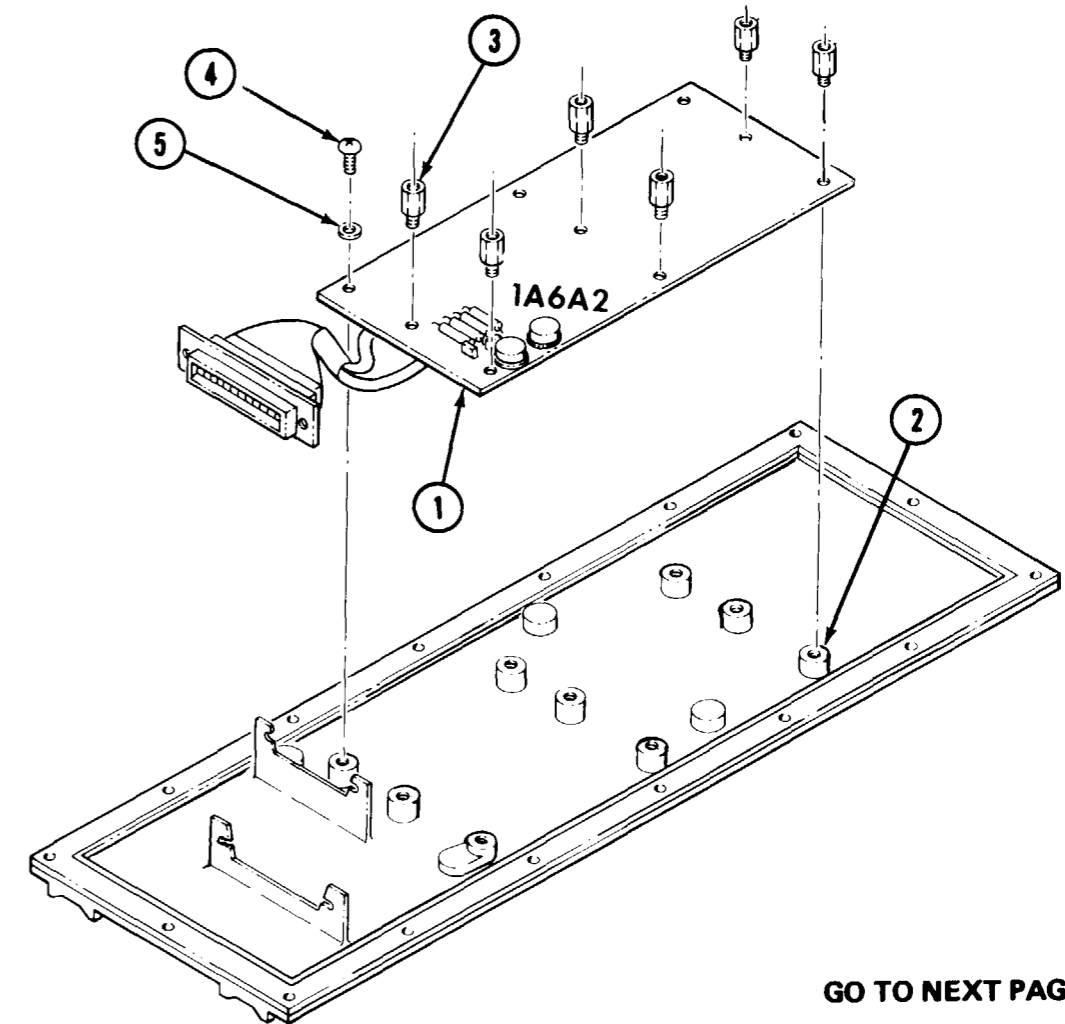
Emery paper

See Appendix D

Item 16

STEP 1

- A. Position circuit card 1A6A2 (1) on mounting bosses (2). Using 1/4 inch open end wrench, install six posts (3).
- B. Using crosspoint screwdriver, install three screws (4) and three washers (5).

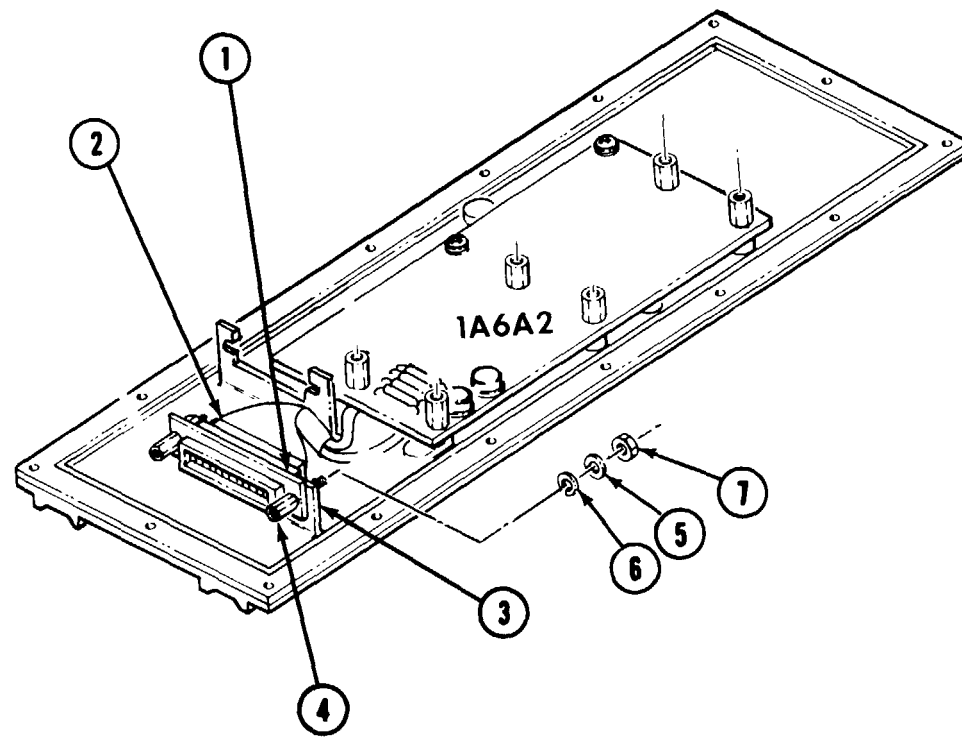


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10-54. INSTALL CIRCUIT CARD 1A6A2 – CONTINUED

STEP 2

- A. Using emery paper, clean terminal mounting area (1).
- B. Using both 3/16 inch wrenches, install connector (2) and terminal (3) and secure with retainer (4), flat washer (5), lock washer (6) and nut (7).



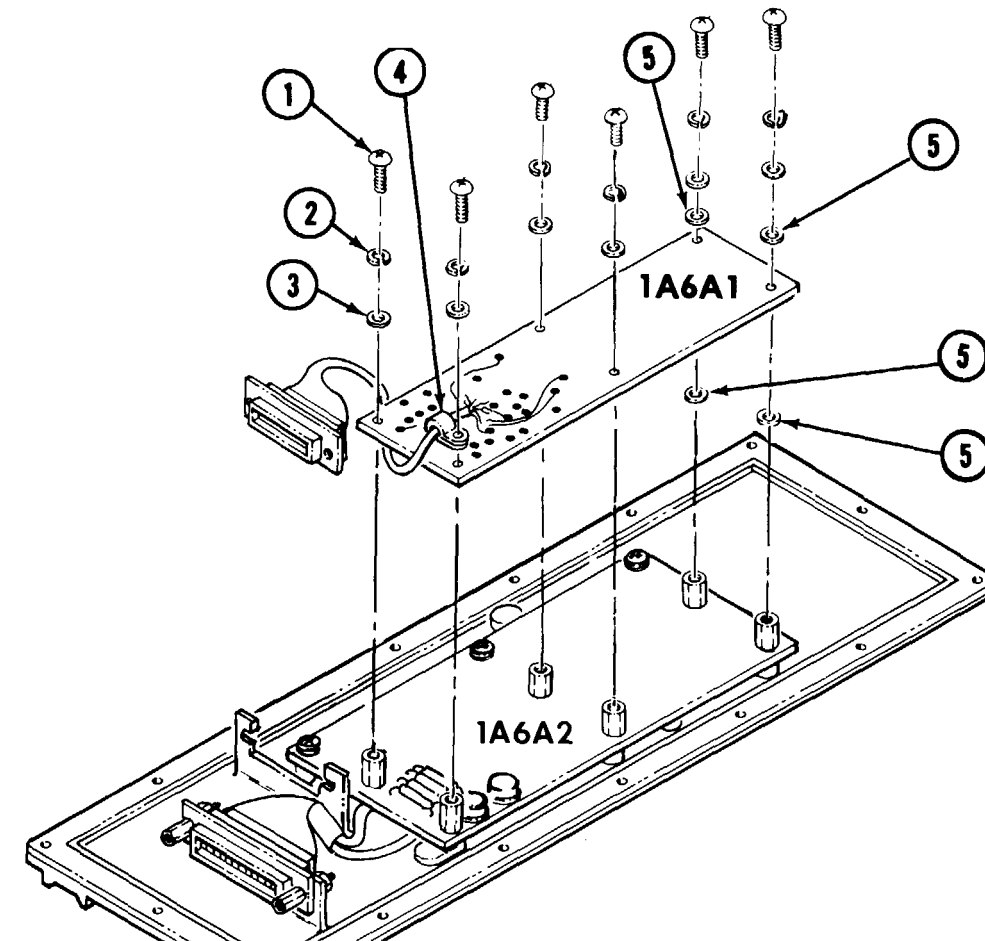
END OF TASK

10-55. INSTALL CIRCUIT CARD 1A6A1

- Tools required:
- No. 2 crosspoint screwdriver
 - 3/16 inch open end wrench
 - 3/16 inch box and open end wrench
 - 1/4 inch open wrench

STEP 1

Install six screws (1), lockwashers (2) and flatwashers (3). Be sure clamp (4) and insulating washers (5) are installed as shown.

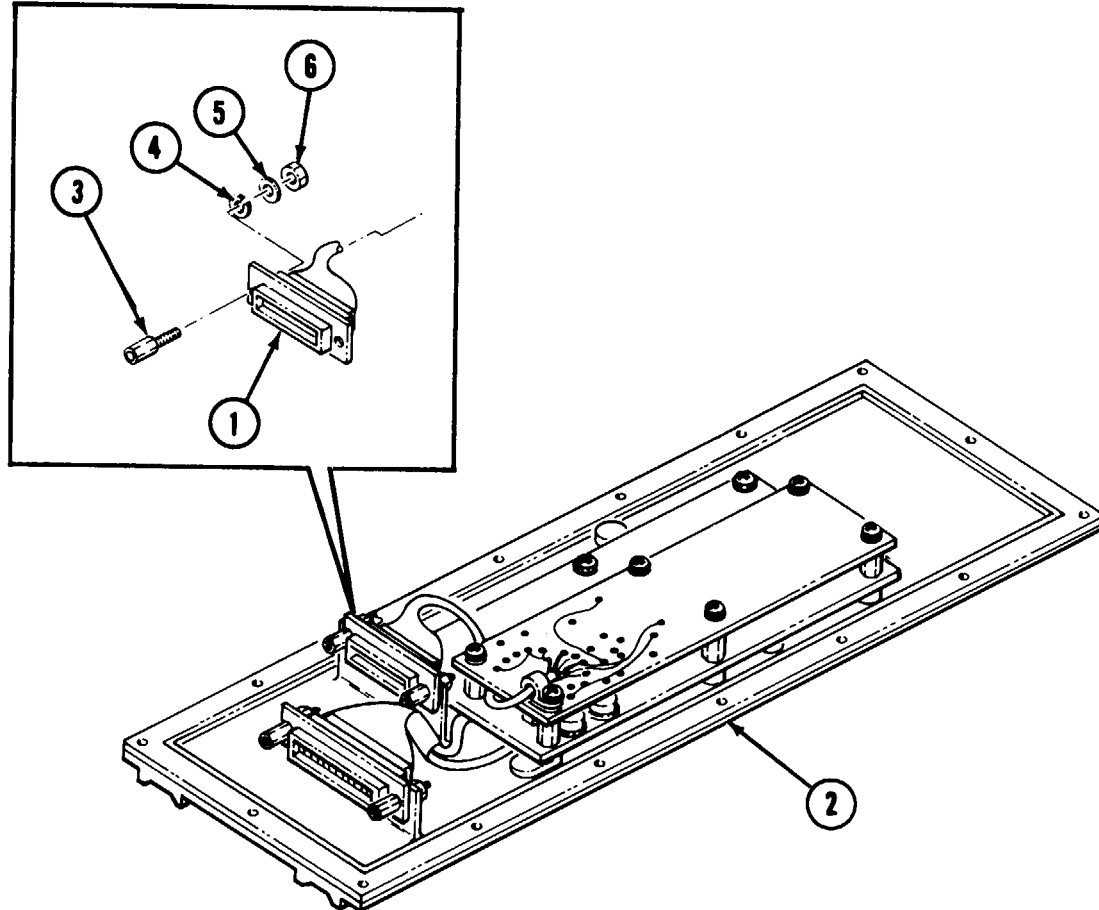


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10-55. INSTALL CIRCUIT CARD 1A6A1- CONTINUED

STEP 2

Using both 3/16 inch wrenches, install connector 1A6A1P1 (1) to cover (2) with two retainers (3), two lock washers (4), two flat washers (5) and two nuts (6).



END OF TASK

10-56. INSTALL COVER

Tools required: Flat-blade screwdriver
No. 2 crosspoint screwdriver
Craftsman's knife

Materials required:

Materials

Methyl Ethyl Ketone (MEK)
Adhesive
Orangewood stick
Cleaning cloth
Gasket material

See Appendix D

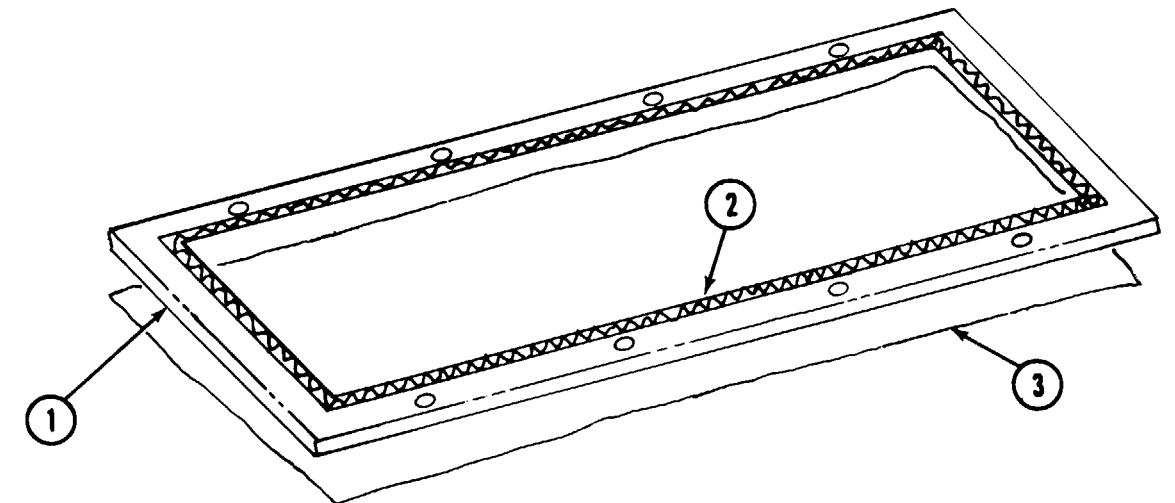
Item 5
Item 41
Item 7
Item 6
Item 46



Perform STEP 1 only if the cover gasket was damaged during removal.

STEP 1

- Using the old gasket as a pattern, cut a new gasket from gasket material.
- Using orangewood stick, apply adhesive to inside edge of neoprene gasket (1) and press the RFI gasket (2) to the neoprene gasket (1).



- Using orangewood stick and adhesive, bond gasket (1) to cover (3). Be sure holes are aligned. Wipe up any excess adhesive.

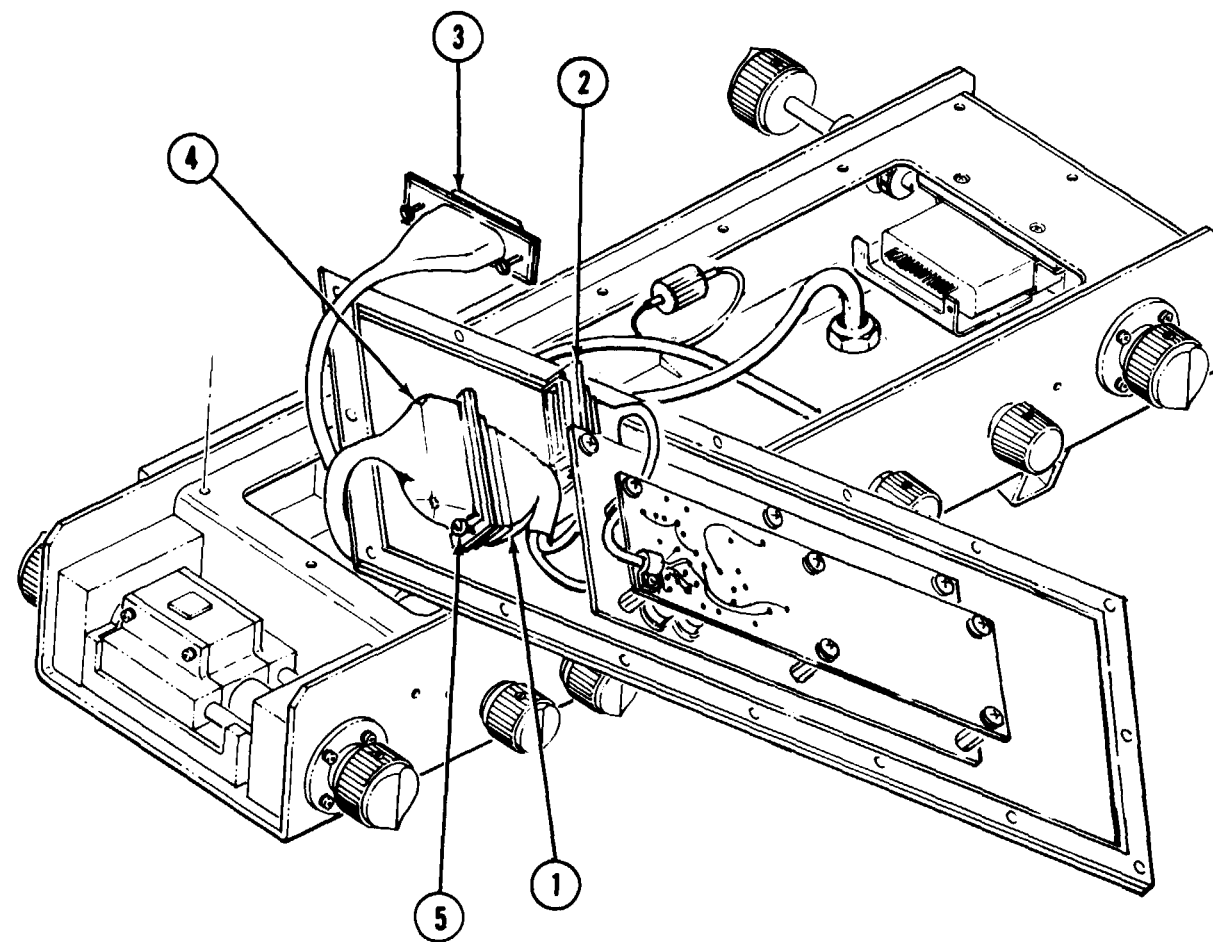
GOTONEXTPAGE

10-56. INSTALL COVER - CONTINUED

STEP 2

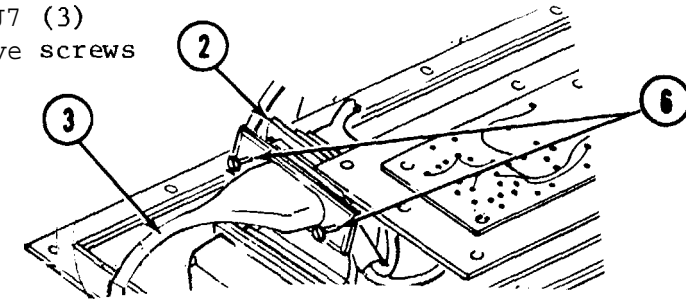
A. Position cover to permit mating of circuit card connectors (1) and (2) to OAF wire harness connectors (3) and (4).

B. Connect circuit card connector 1A6A2P1 (1) to connector J8 (4) and secure with two captive screws (5).



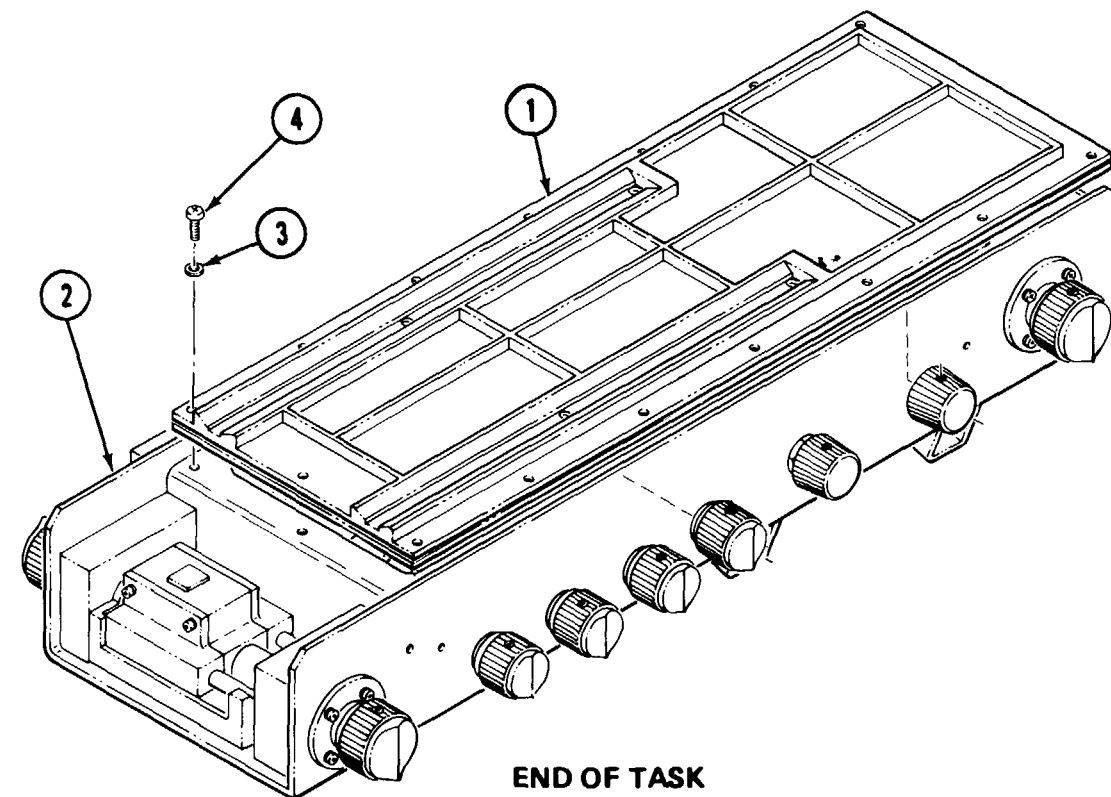
STEP 2 - CONTINUED

C. Connect circuit card connector 1A6A1P1 (2) to connector J7 (3) and secure with two captive screws (6).



STEP 3

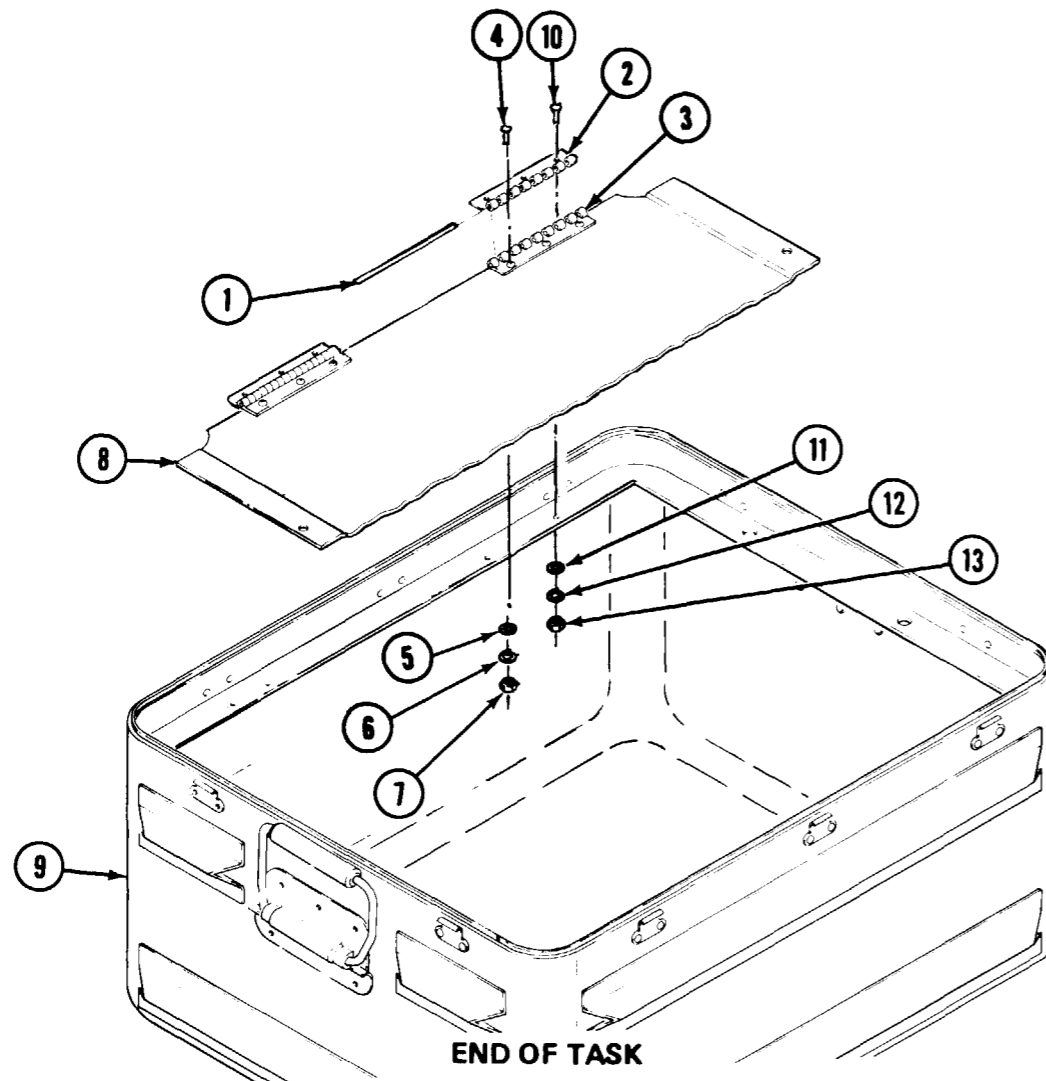
Using crosspoint screwdriver, install cover (1) on SUOAF base (2) and secure with sixteen washers (3) and sixteen screws (4).



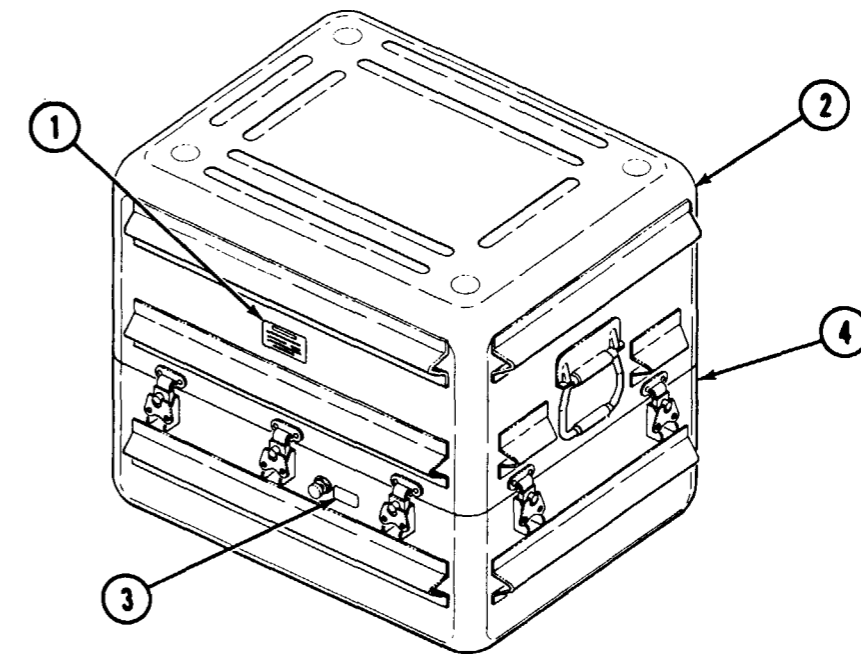
10-57. INSTALL LID AND HINGE

Tools required: Ballpeen hammer
 5/16 inch open end wrench
 No. 1 crosspoint screwdriver

- A. Install hinge pins (1) in hinge halves (2) and (3).
- B. Install three screws (4), washers (5), lock washers (6) and nuts (7) in lid (8).
- C. Set lid (8) with hinge in place on base (9).
- D. Install three screws (10), washers (11), lock washers (12) and nuts (13).

**10-58. INSTALL IDENTIFICATION PLATE AND DECAL**

- A. Peel backing paper from I.D. plate (1) and press in place on case lid (2).
- B. Peel backing paper from decal (3) and press in place on case base (4).



10-59. REPLACE VELCRO HOOK AND PILE (BASE)

Tools required: Craftsman's knife

Materials required:

Materials

- Methyl Ethyl Ketone (MEK)
- DELETED
- Adhesive, contact
- Orangewood stick
- Cleaning cloth
- Brush
- Fastener
- Fastener

See Appendix D

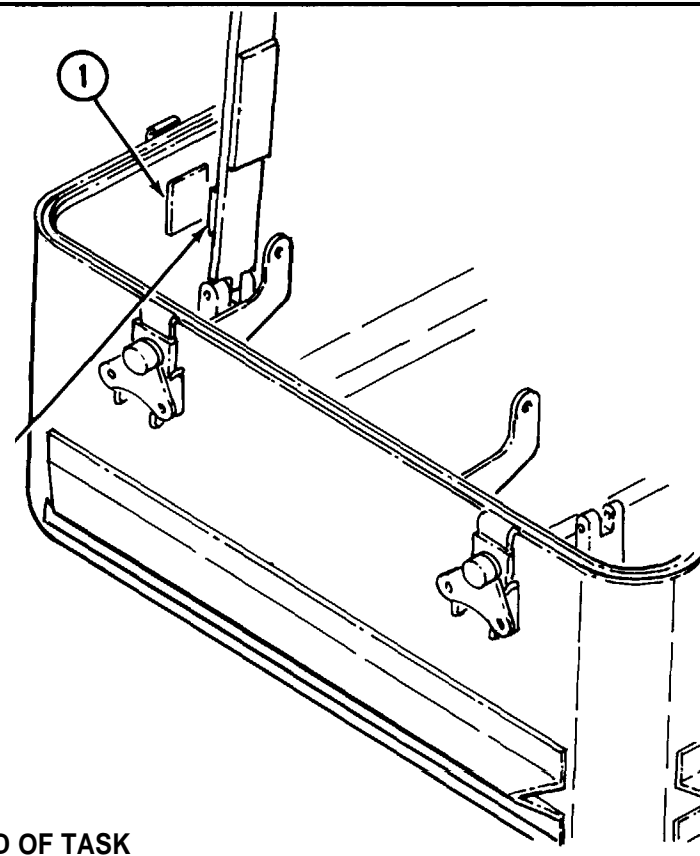
- Item 5
- Item 80
- Item 7
- Item 6
- Item 9
- Item 68
- Item 69

10-60. FINAL INSPECTION

After any maintenance or repair, the TTSSU must be inspected by QA/QC in accordance with Appendix E.

To be acceptable for return to supply, the TTSSU must pass the LCSS tape program.

- A. Using craftsman's knife, remove hook (1) and pile (2).
- B. Clean mounting area using cleaning cloth and MEK.
- C. DELETED
- D. Using craftsman's knife, cut fastener to dimensions shown.
- E. Apply adhesive to mounting area.
- F. Press fastener in place on case and strap. Allow four hour cure time.



END OF TASK

**CHAPTER 11
DS GS MAINTENANCE INSTRUCTIONS - ADAPTER,
TEST: MX 10078 G**

Section III. OPERATIONAL CHECKS

11-5. OPERATIONAL CHECKS

See TM 9-4935-484-14 for Test Adapter operational procedures and checks.

	Page
Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT	11-1
Section II. SERVICE UPON RECEIPT	11-1
Section III. OPERATIONAL CHECKS	11-1
Section IV. SCHEDULED MAINTENANCE	11-1
Section V. TROUBLESHOOTING	11-1
Section VI. MAINTENANCE PROCEDURES	11-1

Section IV. SCHEDULED MAINTENANCE

11-6. MAINTENANCE SCHEDULE

- a. The Test Adapter, MX 10078/G must be returned to LCSS every 360 days for maintenance calibration.
- b. The preventive maintenance checks will be performed in accordance with the procedures outlined in TM 9-4935-484-14.

Section V. TROUBLESHOOTING

11-7. FAULT ISOLATION AND TROUBLESHOOTING

Fault isolation of Test Adapter malfunctions is provided by LCSS. Refer to the applicable schematics and wiring diagrams in Appendix F for troubleshooting the Test Adapter.

Section VI. MAINTENANCE PROCEDURES

Section I. REPAIR PARTS, SPECIAL TOOLS AND TEST EQUIPMENT

11-1. SPECIAL TOOLS AND TEST EQUIPMENT

None required.

11-2. REPAIR PARTS

See TM 9-4935-472-24P-3 for a listing of authorized repair parts.

Section II. SERVICE UPON RECEIPT

11-3. INVENTORY INSPECTION

When a Test Adapter is received from the using organization, perform an inventory and inspection. See TM 9-4935-484-14.

11-4. MAINTENANCE FORMS AND RECORDS

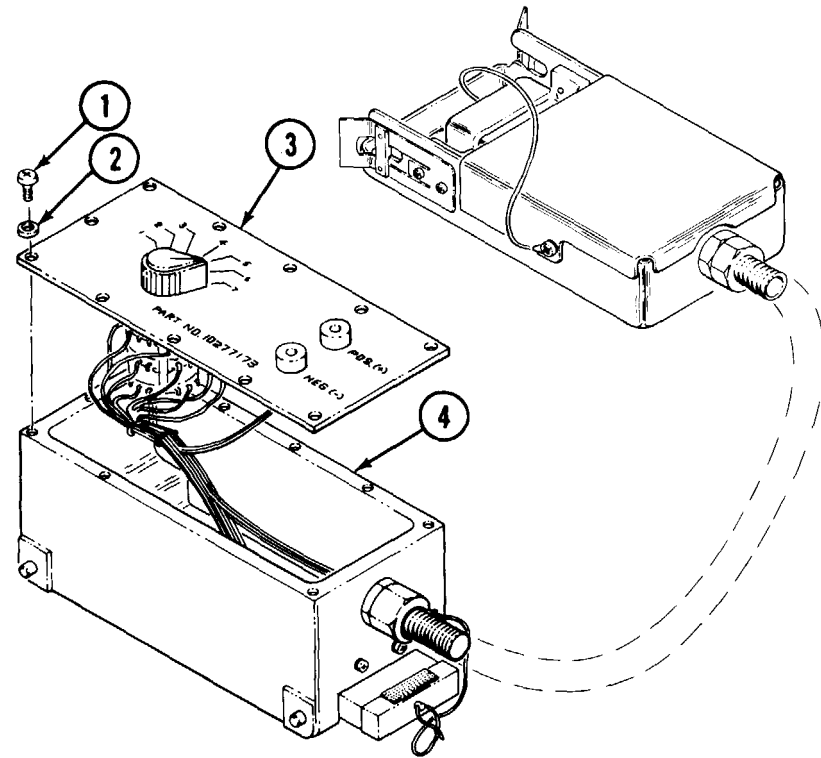
Make sure that maintenance forms DA2404 and DA2407 are completed as shown in DA PAM 738-750.

	REMOVE		INSTALL	
	Para	Page	Para	Page
Access Cover	11-8	11-2	11-19	11-9
Switch S-1	11-9	11-2	11-18	11-8
Circuit Card Assembly	11-10	11-3	11-17	11-7
Conduit Assembly	11-11	11-4	11-16	11-6
Cable Assembly	11-12	11-4	11-15	11-6
Identification Plate	11-13	11-5	11-14	11-5
Cushioning Pad			11-20	11-10
Final Inspection			11-21	11-10

11-8. REMOVE ACCESS COVER

Tools required: No. 1 crosspoint screwdriver

A. Remove eleven screws (1) and flat washers (2).



When laying access cover aside, be careful not to put any strain on the wires.

B. Carefully invert cover (3) and allow it to rest against the base (4).

END OF TASK

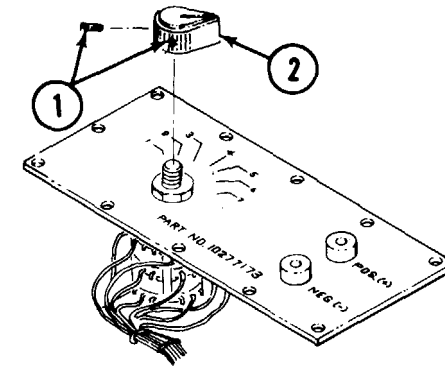
11-9. REMOVE SWITCH S-1

Tools required: 5/64 inch Allen wrench
 9/16 inch box end wrench
 Craftsman's knife
 Desoldering kit

Equipment condition: Access cover removed, see para. 11-8.

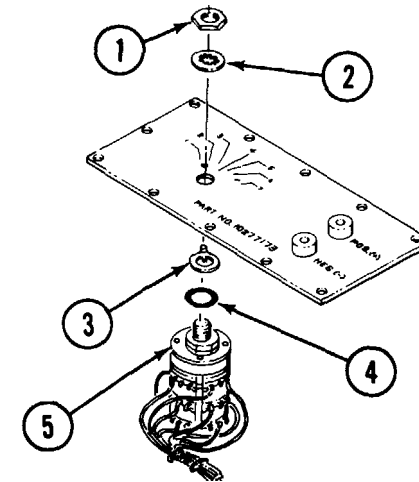
STEP 1

A. Loosen two set screws (1).
 B. Remove knob (2).



STEP 2

Remove nut (1), internal tooth washer (2), key way washer (3), sealing washer (4) and switch S1 (5).



STEP 3

Desolder and tag switch leads. Remove switch S1.

END OF TASK

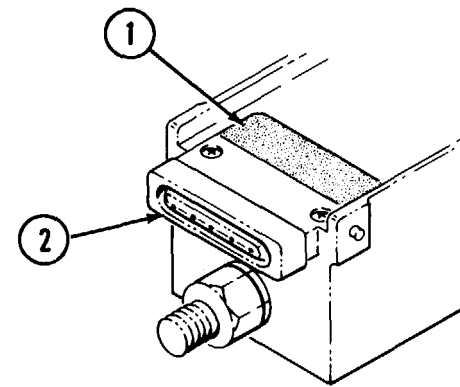
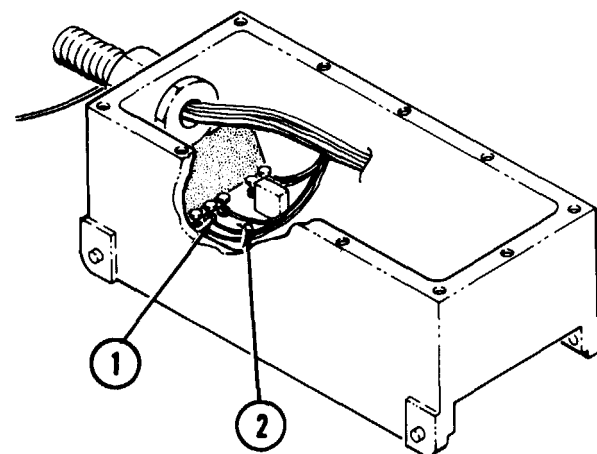
11-10. REMOVE CIRCUIT CARD ASSEMBLY

Tools required: Craftsman's knife
Desoldering kit
1/4 inch box and open end wrench
No. 1 crosspoint screwdriver

Equipment condition: Access cover removed, see para. 11-8.

STEP 1

Carefully remove the sealing compound (1) from around the circuit card (2).

**STEP 2**

A. Identify and tag leads (1).

B. Desolder leads from circuit card (2)

GO TO NEXT PAGE

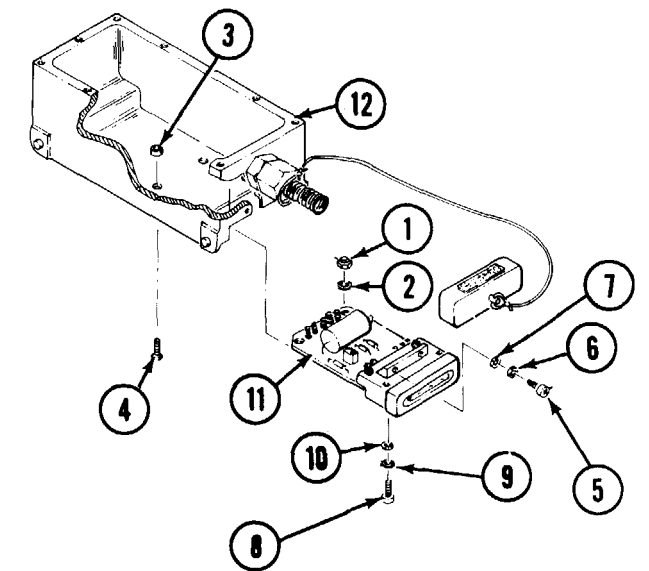
11-10. REMOVE CIRCUIT CARD ASSEMBLY – CONTINUED**STEP 3**

A. Remove two nuts (1), flat washers (2), spacers (3) and screws (4).

B. Remove two screws (5), flat washers (6) and lock washers (7).

C. Remove two screws (8), lock washers (9), and flat washers (10).

D. Carefully remove the circuit card assembly (11) from the base (12).



END OF TASK

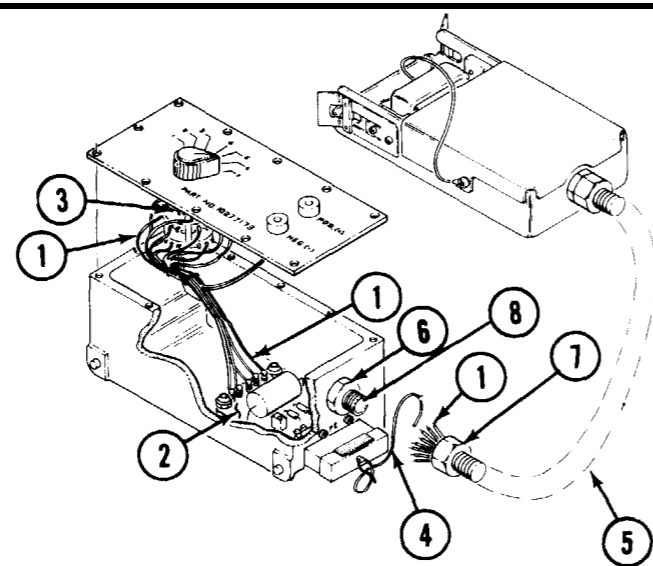
11-11. REMOVE CONDUIT ASSEMBLY

Tools required: Desoldering kit
 Longnose pliers
 15/16 inch open-end wrench
 12 inch adjustable wrench

Equipment condition: Access cover removed, see para. 11-8.

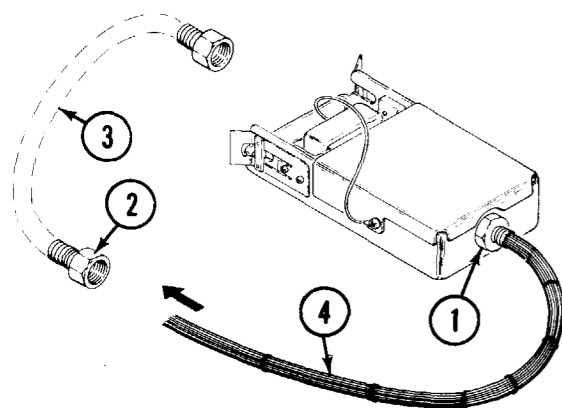
STEP 1

- A. Tag and desolder wires (1) from circuit card (2) and switch (3).
- B. Cut electrical connector cover lanyard (4) from conduit assembly (5).
- C. Using open end wrench, hold nut (6) while removing conduit assembly nut (7) with adjustable wrench.
- D. Carefully pull wires out through box connector (8).



STEP 2

- A. Using open end wrench, hold nut (1) while removing conduit assembly nut (2) with adjustable wrench.
- B. Slide conduit assembly (3) from wire bundle (4).



END OF TASK

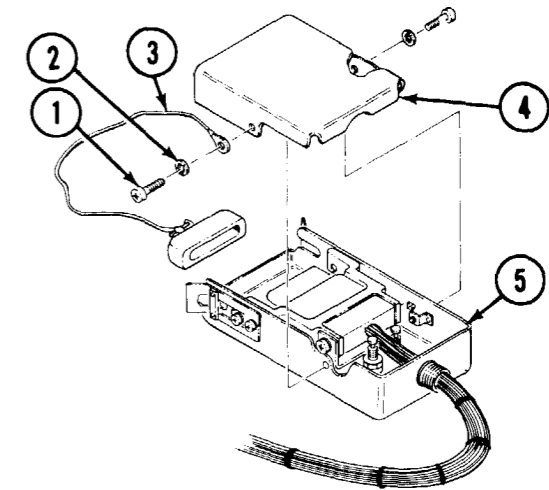
11-12. REMOVE CABLE ASSEMBLY

Tools required: No. 1 crosspoint screwdriver
 No. 2 crosspoint screwdriver
 Desoldering kit
 Longnose pliers

Equipment condition: Conduit assembly removed, see para. 11-11.

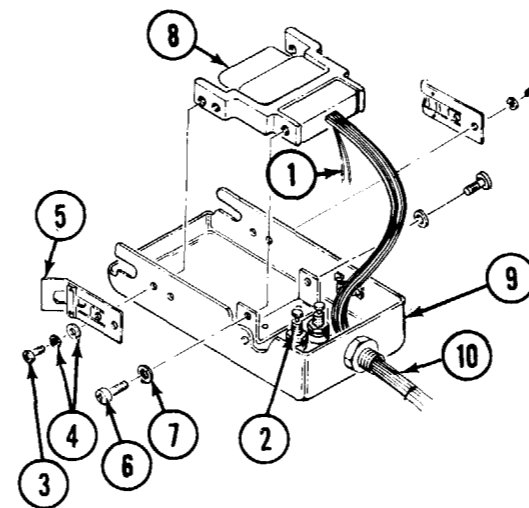
STEP 1

- A. Remove two screws (1), two flat washers (2) and connector dust cover (3).
- B. Remove access cover (4) from electronic equipment chassis (5).



STEP 2

- A. Tag and desolder leads (1) from terminal posts (2).
- B. Using No. 2 crosspoint screwdriver, remove four screws (3), six flat washers (4) and two spring clips (5).
- C. Using No. 1 crosspoint screwdriver, remove two screws (6) and flat washers (7).
- D. Carefully lift cable assembly connector (8) from electronic equipment chassis (9) and slide wires (10) out of chassis.



END OF TASK

11-13. REMOVE IDENTIFICATION PLATE

Tools required: Craftsman's knife
 Machinist's stamp and die kit
 Ballpeen hammer

Materials required:

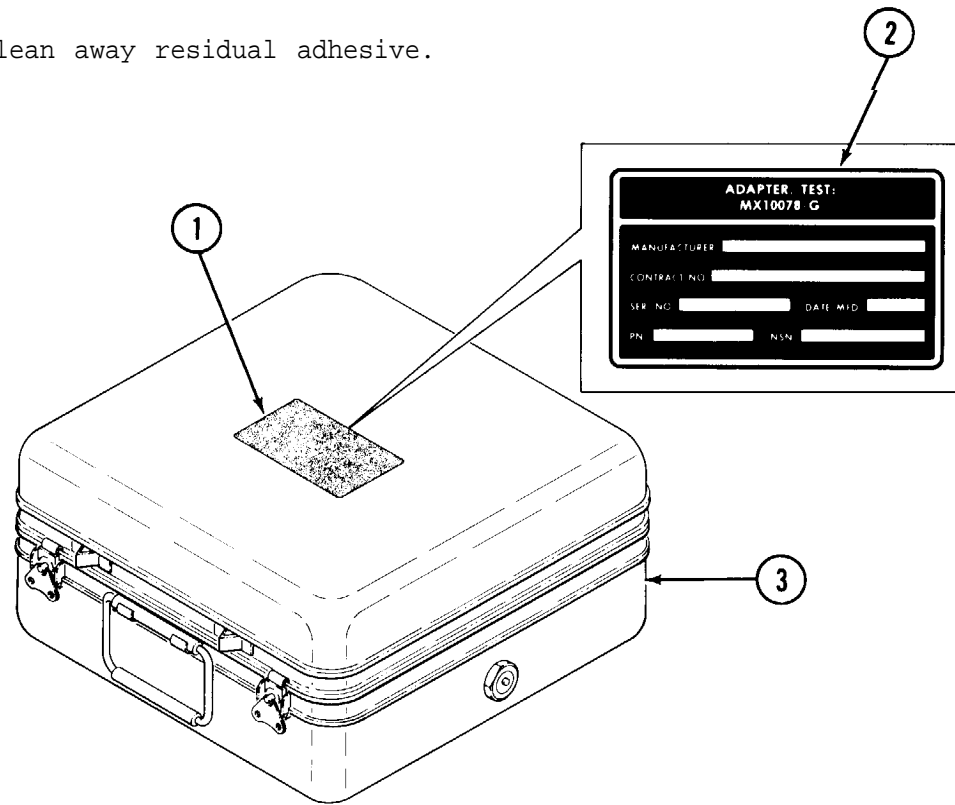
Materials

Cleaning cloth
 Alcohol

See Appendix D

Item 6
 Item 8

- A. Transfer appropriate information from damaged I.D. plate (1) to replacement I.D. plate (2). Use care not to cut through the plate.
- B. Cut I.D. plate from case (3).
- C. Clean away residual adhesive.



END OF TASK

11-14. INSTALL IDENTIFICATION PLATE

Tools required: Machinist's stamp and die kit
 Ballpeen hammer

Materials required:

Materials

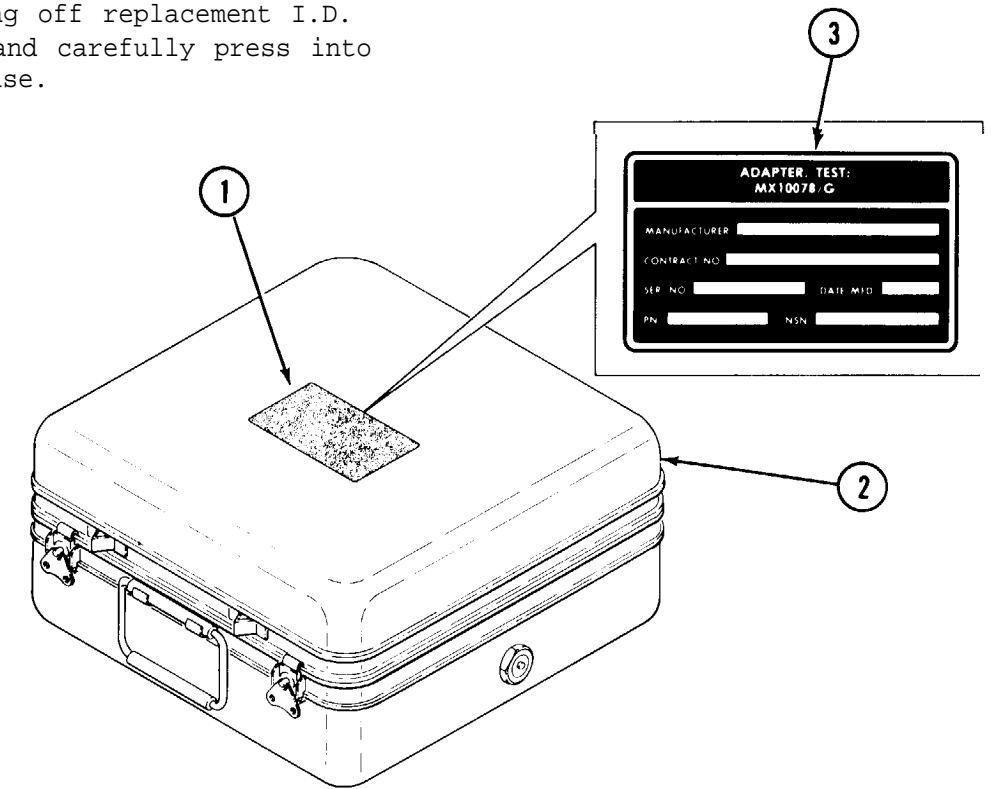
Cleaning cloth
 Alcohol
 Fine abrasive paper

See Appendix D

Item 6
 Item 8
 Item 16

If I.D. plate was not previously stamped during removal, transfer the information from the damaged I.D. plate to the replacement I.D. plate, see para. 11-13.

- A. Using abrasive paper, rough mounting area (1) on case (2).
- B. Using alcohol, clean mounting area.
- C. Peel backing off replacement I.D. plate (3) and carefully press into place on case.



11-15. INSTALL CABLE ASSEMBLY

Tools required: No. 1 crosspoint screwdriver
 No. 2 crosspoint screwdriver
 Soldering iron
 Longnose pliers

Materials required:

Materials

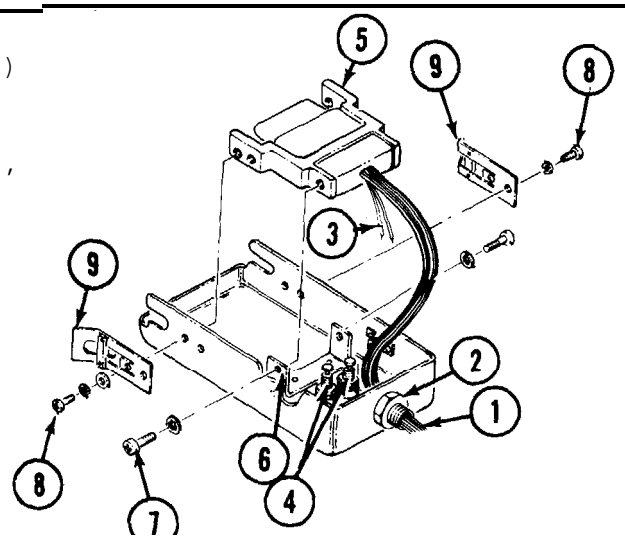
Solder
 Cleaning rag
 Alcohol
 Acid brush

See Appendix D

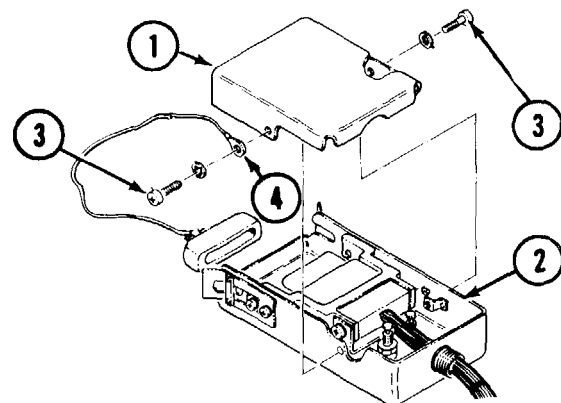
Item 11
 Item 6
 Item 8
 Item 9

STEP 1

- A. Carefully thread the cable assembly (1) through the hole in the chassis (2).
- B. Solder leads (3) to terminal posts (4), (see wiring diagram, Appendix F).
- C. Position connector (5) in bracket (6).
- D. Using No. 1 crosspoint screwdriver, install two screws (7) with flat washers.
- E. Using No. 2 crosspoint screwdriver, install four screws (8) with six washers and two spring clips (9).



STEP 2



- A. Place access cover (1) on chassis (2) and secure with two screws (3) and flat washers.
- B. Place connector cover (4) on access cover (1) before securing with screw (3) and flat washer.

END OF TASK

11-16. INSTALL CONDUIT ASSEMBLY

Tools required: Soldering iron
 Heat gun
 15/16 inch open end wrench
 12 inch adjustable wrench

Materials required:

Materials

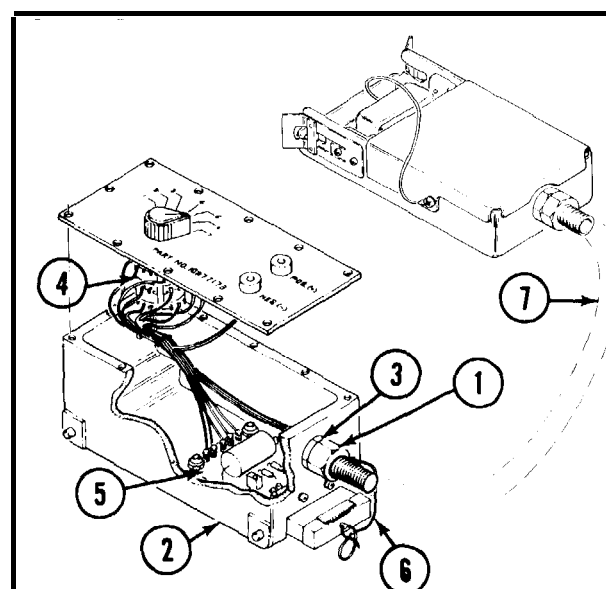
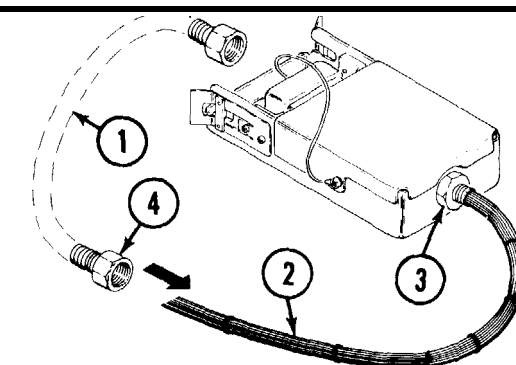
Cleaning cloth
 Alcohol
 Brush
 Solder
 Insulation sleeving

See Appendix D

Item 6
 Item 8
 Item 9
 Item 11
 Item 13

STEP 1

- A. Carefully slide conduit assembly (1) on wire bundle (2).
- B. Using open end wrench, hold nut (3) while tightening nut (4) with adjustable wrench.



- A. Secure nut (1) to chassis (2) by holding nut (3) with open end wrench and tightening nut (1) with adjustable wrench.
- B. Install insulation sleeving over wires to switch (4), solder wires to switch and circuit board (5).
- C. Slide insulation sleeving over soldered switch connections and heat shrink in place.
- D. Tie dust cover lanyard (6) to conduit assembly (7) just behind nut (1).

END OF TASK

C5

11-17. INSTALL CIRCUIT CARD ASSEMBLY

Tools required: Soldering iron
 1/4 inch box and open end wrench
 No. 1 crosspoint screwdriver
 Longnose pliers

Materials required:

Materials

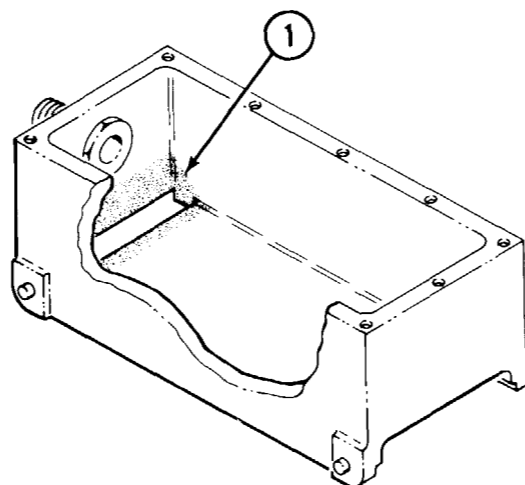
Cleaning cloth
 Sealing compound
 DELETED
 Orangewood stick
 Primer
 Methel Ethyl Ketone (MEK)
 Brush
 Solder
 Brush
 Alcohol

See Appendix D

Item 6
 Item 29
 Item 7
 Item 66
 Item 5
 Item 32
 Item 11
 Item 9
 Item 8

STEP 1

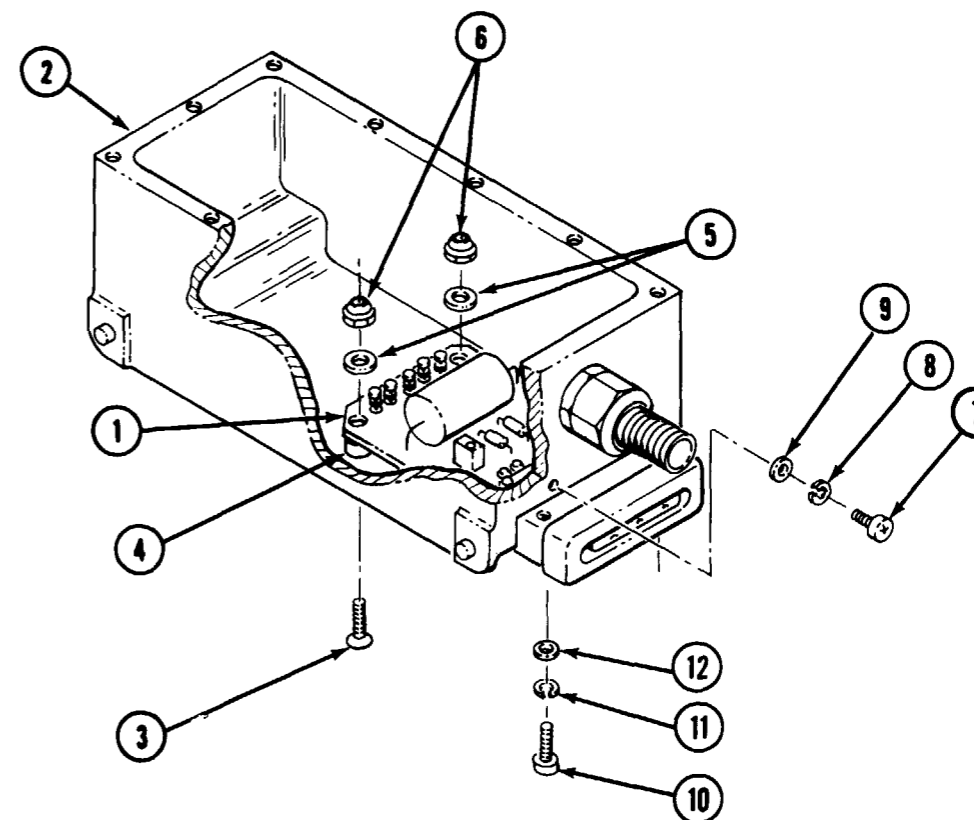
- A. Using MEK, clean area to be potted, shown by shaded area (1).
- B. Using primer, prime area to be potted.



GO TO NEXT PAGE

STEP 2

- A. Carefully slide the circuit card assembly (1) into the base (2).
- B. Align the circuit card and secure to the base with two screws (3), spacers (4), flat washers (5) and nuts (6).

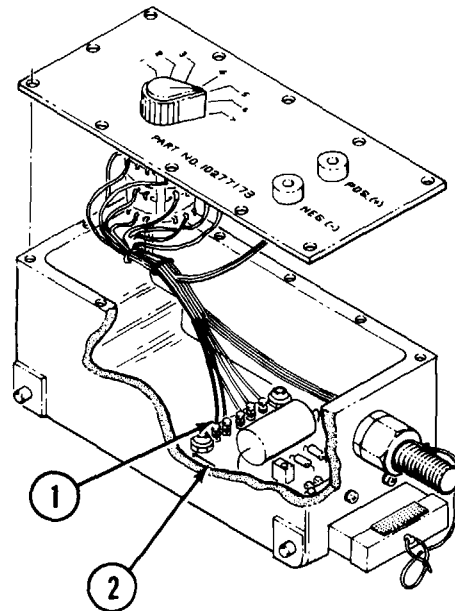


- C. Install two screws (7), lock washers (8) and flat washers (9).
- D. Install two screws (10), lock washers (11) and flat washers (12).

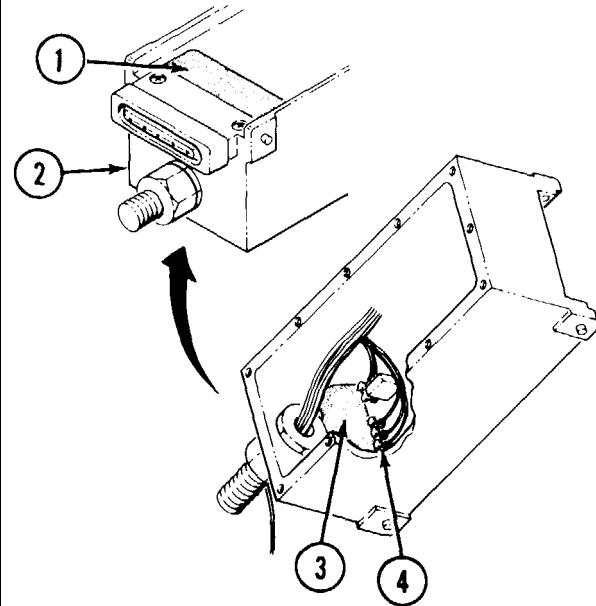
11-17. INSTALL CIRCUIT CARD ASSEMBLY – CONTINUED

STEP 3

Identify and solder leads (1) to circuit card assembly (2).



STEP 4



- A. Cover opening (1) in bottom of base (2) with tape.
- B. Position base as shown, so that sealing compound (3) will completely cover opening in base, but will not touch terminal posts (4).
- C. DELETED
- D. Carefully apply sealing compound as outlined in step B above. Allow to cure for 24 hours.
- E. Remove tape.

END OF TASK

11-18. INSTALL SWITCH S-1

Tools required: 5/64 inch Allen wrench
 9/16 inch box end wrench
 Craftsman's knife
 Soldering iron
 Heat gun

Materials required:

Materials

Solder
 Alcohol
 Brush
 Insulation tubing
 Insulation sleeving

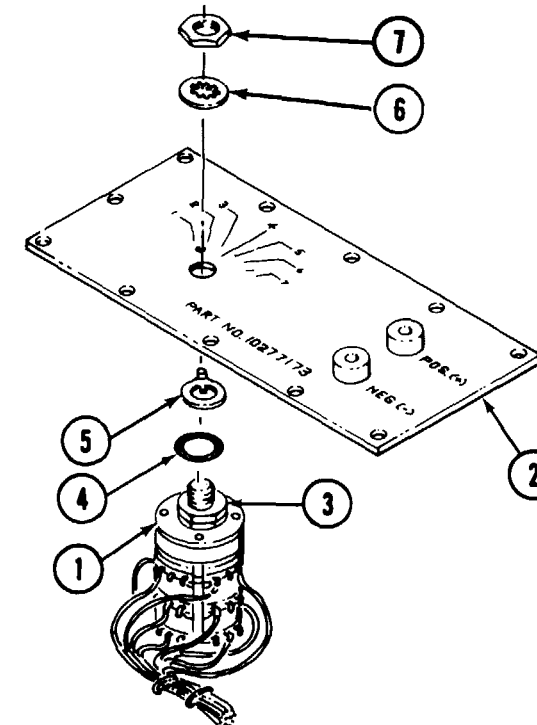
See Appendix D

Item 11
 Item 8
 Item 9
 Item 38
 Item 13

STEP 1

- A. Using the schematic in Appendix F, cut new jumper wires and insulation tubing and solder them in place on switch.
 - B. Install insulation sleeving on remaining wires and solder wires in place on switch. Heat shrink sleeving.
- STEP 2

- A. Install S1 (1) on access cover (2) using two positioning nuts (3), sealing washer (4), key way washer (5), internal tooth washer (6) and nut (7).
- B. Tighten nut (7).

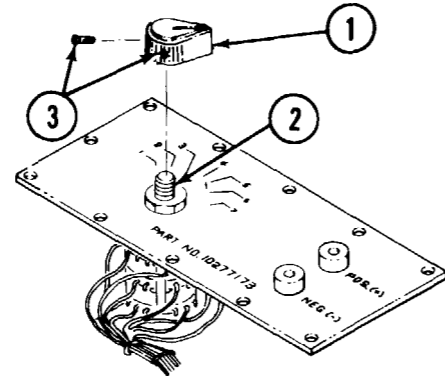


GO TO NEXT PAGE

11-17. INSTALL SWITCH S--1 - CONTINUED

STEP 3

- A. Slide knob (1) on switch shaft (2) and tighten one set screw (3).



- B. Rotate knob (1) fully counterclockwise.
- C. If knob aligns with position 1, tighten second set screw (3). If not, loosen set screw (3), align knob with position 1 and tighten both set screws (3).

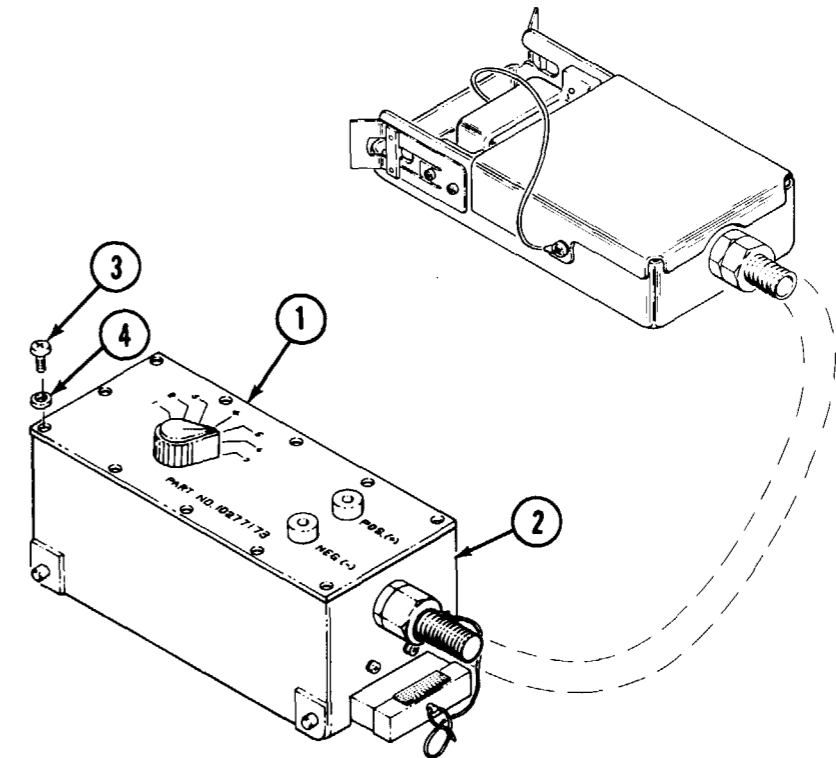
Follow-on Task: Install Access Cover, see para. 11-19.

END OF TASK

11-19. INSTALL ACCESS COVER

Tools required: No. 1 crosspoint screwdriver

Carefully install access cover (1) on base (2) and secure with eleven screws (3) and flat washers (4).



END OF TASK

11-20. INSTALL CUSHIONING PADS

Materials required:

Materials

- Cleaning cloth
- Orangewood stick
- Alcohol
- Adhesive sealant

See Appendix D

- Item 6
- Item 7
- Item 8
- Item 73



NOTE

The carrying case is not repairable and if damaged, should be discarded. New cases can be ordered, but do not come with cushions. Cushions must be ordered separately and installed as shown below.

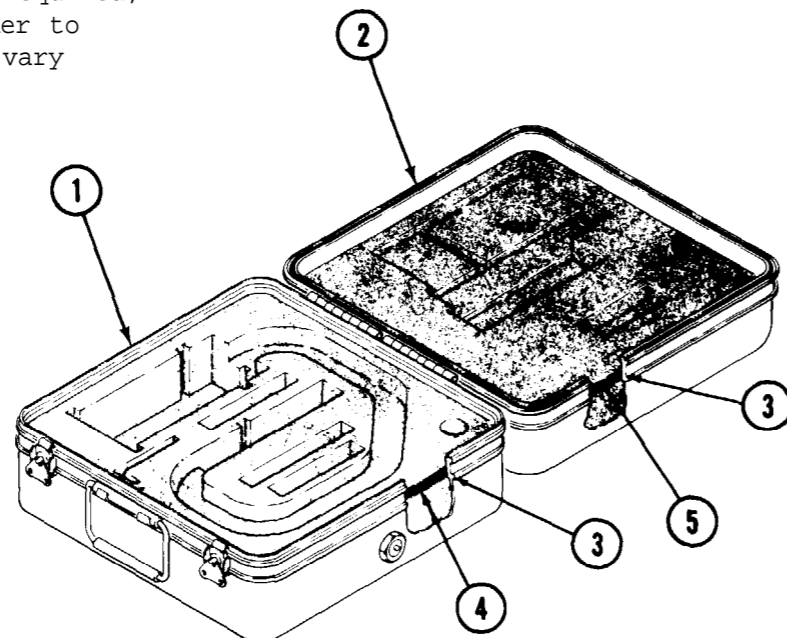
- A. Apply adhesive sealant to case base (1) and lid (2) to closure rim (3).



NOTE

Read the manufacturer's instructions on the adhesive sealant container to determine if a primer is required, and if so, what kind of primer to use. This requirement will vary with the manufacturer.

- B. Apply adhesive sealant to cushioning materials (4) and (5) in area to be bonded to case and lid.
- C. Carefully install cushioning material and allow to cure for 72 hours.



END OF TASK

11-21. FINAL INSPECTION

After any maintenance or repair, the TEST ADAPTER must be inspected by QA/QC personnel in accordance with Appendix E.

To be acceptable for return to supply, the TEST ADAPTER must pass the LCSS tape program.

**APPENDIX A
REFERENCES**

A-1. GENERAL

For applicable publications refer to TM 9-1425-480-L, List of Applicable Publications (LOAP).

APPENDIX B

MAINTENANCE ALLOCATION CHARTS

B-1. GENERAL

This appendix contains the maintenance allocation chart which indicates the lowest level of maintenance authorized to perform specified maintenance operations.

B-2. 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.
- b. Test. To verify serviceability and detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those 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 (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids or compressed air supplies.
- d. Adjust. To maintain, with prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.
- e. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.
- f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test 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. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
- h. Replace. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.
- i. Repair. The application of maintenance services or other maintenance actions to 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 (i.e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

B-2. MAINTENANCE FUNCTIONS -CONTINUED

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 equipments/components.

B-3. COLUMN ENTRIES

An explanation of the maintenance allocation chart columns is given below.

- a. Column 1, Group Number. This column lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.
- b. Column 2, Component/Assembly. This column contains the noun names of components, assemblies, subassemblies, and modules for which maintenance is authorized.
- c. Column 3, Maintenance Functions. This column lists the functions to be performed on the item listed in Column 2.
- d. Column 4, Maintenance Category. This column specifies, by the listing of a "work time" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate "work time" figures will be shown for each category. The number of man-hours specified by the "work time" figure represents the average time required to restore an item (assembly, subassembly, component, module, end item or system) to a serviceable condition under typical field operating condition. This time includes preparation time, troubleshooting time, and quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance chart.
- e. Column 5, Tools and Equipment. This column specifies by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

MAINTENANCE ALLOCATION CHART for
TRACKER, INFRARED, GUIDED MISSILE SU-36/P

END ITEM: TRACKER, INFRARED, GUIDED MISSILE SU-36/P

(1) GROUP NUM- BER	COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY*					(5) TOOLS AND EQUIP- MENT
			C	O	F	H	D	
0100	Tracker, Infrared, GM SU-36/P	Inspect	0.2					3
		Test			1.5			
		Service	0.2					
		Adjust	0.1					
		Align			1.0		1,2,4,5	
		Install	0.1					
		Replace	0.1					
0200	Firing Mechanism	Repair			4.0		1,2,4,5	
		Overhaul				3.0		
		Inspect	0.1					
		Replace			1.0		1,2,4,5	
0300	Nutator, Tracker	Repair			4.0		1,2,4,5	
		Inspect			0.1			
		Test				1.5		
0400	Control Signal Comparato	Adjust					1.5	
		Replace			1.5		1,2,4,5	
		Repair				3.5		
		Overhaul				4.0		
		Inspect			0.2		1.0	
0500	Sight, Optical GM Launcher	Test					1.5	
		Replace			0.5		1,2,4,5	
		Repair				1.5		
		Overhaul				3.0		
		Inspect	0.1					
0900	Case, Tracker Storage, M213	Service	0.1					
		Adjust	0.1					
		Align			1.0		1,2,4,5	
		Replace				3.0		
		Repair			2.0		1,2,4,5	
		Overhaul				3.0		
		Inspect	0.1					
		Service	0.2				6	
		Install		1.0		6		
		Repair		0.5		6		

* C operator/crew O organizational F direct support H general support D depot

SMI FORM 1134, 1 FEB 75 PREVIOUS EDITION IS OBSOLETE

TOOL AND TEST EQUIPMENT REQUIREMENTS

Tool or Test Equipment Reference Code	Maintenance Category	Desc	National/NATO Stock Number	Tool Number
1	F,D AN	Test Station GM System AN/TSM-93	4935-00-930-7250	11152901
2	F,D	Shop Equipment GM System AN/TSM-94	4935-00-930-7251	11153001
3	F	Guided Missile Infrared Tracker Test Set AN/TSM-114	4935-00-124-5585	10277930
4	F,D	Supplemental Equipment GMS Test Station MK-1638/TSM-93 DRAGON	4935-00-109-3365	10684200
5	F,D	Tool Kit GM Maint: Wire Guided Missile System MOS 27E	5180-00-179-3574	5180-95- CL-A52
6	O	Shop Equip. Auto Maint. and Repair, Org. Maint., No. 1 or No. 2	4910-00-754-0654	5120-00- 221-7983

SMI FORM 1134-1, 1 FEB 75 PREVIOUS EDITION IS OBSOLETE

**MAINTENANCE ALLOCATION CHART for
M175 GUIDED MISSILE LAUNCHER MOUNT**

(1) GROUP NUM. BER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY*					(5) TOOLS AND EQUIP- MENT
			C	O	F	H	D	
1000	Mount, GM Launcher M175	Inspect	0.2					2 2
		Test	0.1		0.3			
		Service	0.2					
		Install		0.1				
		Repair		0.2				
1100	Environment Cover	Inspect	0.1					
		Install	0.1					
		Replace		0.1				
1200	M122 Adapter	Inspect	0.1				2,1	
		Service	0.1					
		Install	0.1					
		Repair		0.1	0.5			
1300	Mount, Launcher	Inspect	0.2				1	
		Test	0.2					
		Service	0.2					
		Install	0.1					
		Repair			6.6			
1310	Azimuth Damper Assembly	Inspect	0.1				1 1	
		Repair				0.9		
1320	Cradle Assembly	Inspect	0.1				1	
		Repair			1.4			
		Adjust		0.1				
1330	Elevation Damper Assembl	Inspect	0.1				1	
		Remove/ Replace Repair			0.3	0.8		
1340	Mount, Tracker	Inspect	0.1				1	
		Repair			0.5			

* C operator/crew O organizational F direct support H general support D depot

SMI FORM 1134, 1 FEB 75 PREVIOUS EDITION IS OBSOLETE

**MAINTENANCE ALLOCATION CHART for
M175 GUIDED MISSILE LAUNCHER MOUNT - CONTINUED**

(1) GROUP NUM. BER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY*					(5) TOOLS AND EQUIP- MENT
			C	O	F	H	D	
1350	Wiring Harness	Inspect	0.1					1 1
		Test			0.4			
		Repair			0.5			
1500	Swing Arm Ass emb ly	Inspect	0.1				1,3	
		Service	0.1					
		Repair			1.1			

* C operator/crew O organizational F direct support H general support D depot

SMI FORM 1134, 1 FEB 75 PREVIOUS EDITION IS OBSOLETE

END ITEM: M175 GUIDED MISSILE LAUNCHER MOUNT

TOOL AND TEST EQUIPMENT REQUIREMENTS

Tool or Test Equipment Reference Code	Maintenance Category	Nomenclature	National/NATO Stock Number	Tool Number
1	F,D	Tool Kit GM Maint: Wire Guided Missile System MOS 27E	5180-00-179-3474	5180-95- CL-A52
2	O	Tool Kit, Mechanic Light Weight, MOS 63C	5180-00-177-7033	5180-90- CL-N26
3	F,D	Special Tool, 5/16 inch Allen wrench	5120-00-243-1674	

SMI FORM 1134-1, 1 FEB 75 PREVIOUS EDITION IS OBSOLETE

MAINTENANCE ALLOCATION CHART for
NIGHT VISION SIGHT - TRACKER, INFRARED AN/TAS -5

(1) GROUP NUM. BER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY*					(5) TOOLS AND EQUIP- MENT
			C	O	F	H	D	
0600	Night Vision Sight Tracker, Infrared AN/TAS-5 13036203	Inspect	0.1					1, 2
		Test			0.3			
		Service	0.1					
		Adjust	0.1					
		Align			0.6			
060102	SU-108 Basic Sight Assembly SMD772003	Inspect			1.0			See TM 9- 5855-247- 24
		Test						
		Adjust			0.5			
		Replace			1.0			
0700	Night Vision Sight Assembly, Infrared 13036206	Repair			0.2			3
		Overhaul			2.0			
		Inspect	0.1					
0800	Housing, Tracker Assembly 13036206	Replace			0.1			3
		Repair			3.5			
0200	Firing Mechanism 10276221	Inspect	0.1					See TM 9-1425- 480-24P
		Replace			1.0			
		Repair			4.0		5.0	
0300	Nutator, Tracker 10276495	Inspect			1.0			See TM 9-1425- 480-24P
		Test					1.5	
		Adjust					1.5	
		Replace			1.5			
		Repair					3.5	
0400	Control, Signal Comparator 10276490	Overhaul					4.0	See TM 9-1425- 480-24P
		Inspect			0.2			
		Test					1.0	
		Replace			0.5			
		Repair					1.5	
		Overhaul					6.0	

* C operator/crew O organizational F direct support H general support D depot

SMI FORM 1134, 1 FEB 75 PREVIOUS EDITION IS OBSOLETE

END ITEM NIGHT VISION SIGHT - TRACKER, INFRARED AN/TAS - 5

TOOL AND TEST EQUIPMENT REQUIREMENTS

Tool or Test Equipment Reference Code	Maintenance Category	Nomenclature	National/NATO Stock Number	Tool Number
1.	F, D	Guided Missile Infrared Tracker Test Set AN/TSM-114	4935-00-124-5585	0277930
2.	F, D	Test Set Group, GM, Infrared Tracker OQ-278/TSM-114	4935-01-063-9784	0276700
3.	F, D	Tool Kit GM Maint.: Wire Guided Missile System MOS 27E	5180-00-179-3574	5180-95-CL- 152
4.	F, D	Test Set, Night Vision Sight AN/TAM-3	5855-01-037-7341	5855-D-774995

SMI FORM 1134-1, 1 FEB 75 PREVIOUS EDITION IS OBSOLETE

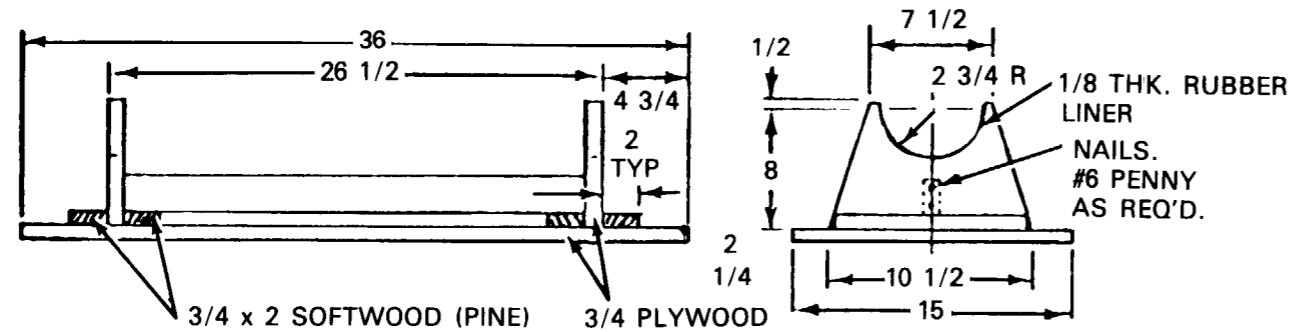
APPENDIX C

ILLUSTRATED LIST OF MANUFACTURED ITEMS

C-1. GENERAL

This appendix lists the items to be locally manufactured from bulk items.

C-2. FABRICATION DRAWING FOR TRAINER HOLDING FIXTURE



TRAINER HOLDING FIXTURE.



NOTE

All dimensions in inches. Exact measurements are not critical in assembly of the fixture. Any suitable lumber may be used for construction.

APPENDIX D
EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. SCOPE

This appendix lists expendable supplies and materials you will need to operate and maintain the DRAGON M47. These items are authorized to you by CTA 50-970, Expendable 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 narrative instructions to identify the material (e.g., "Use cleaning compound, item 5, App. D").

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

(Enter as applicable)

C - Operator/Crew

O - Organizational Maintenance

F - Direct Support Maintenance

H - General Support Maintenance

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

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

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

ITEM NO.	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/I
1.	F	5320-00-117-6836	RIVET, SOLID	LB
2.	F	8040-00-701-9616	PRIMER, (SS4004)	OT
3.	F	9320-00-257-3636	GASKET (CORK AND RUBBER) (MIL-T-6841), .032 THK	SH
4.		DELETED		
5.	F	6810-00-281-2785	METHYL ETHYL KETONE (MEK)	GL
6.	F	7920-00-205-3453	CLOTH, CLEANING	EA
7.	F	5120-00-293-2081	ORANGEWOOD STICK	BX
8.	F	6205-00-261-7256	ALCOHOL, ISOPROPYL	QT
9.	F	7920-00-514-2417	BRUSH, ACID SWABBING	EA
10.	F	8020-00-260-1306	BRUSH, VARNISH	EA
11.	F	3539-00-522-2625	SOLDER, SN63, WRMAP2, 00-S-571 (MIL-S-45743)	LB
12.	F	5970-00-828-3605	INSULATION, SLEEVING (MIL-I-22129, AWG 18 NAT)	FT
13.	F	5970-00-819-9569	INSULATION, SLEEVING (M23053/ 5-103-9)	FT
14.	F	9150-00-754-0064	SOLID FILM LUBRICANT (MIL-L-23398 MU)	QT
15.		DELETED		
16.	F	5305-00-598-5537	PAPER, ABRASIVE, FLINT (FINE)	SH
17.	F	5305-00-598-6105	PAPER, ABRASIVE, FLINT (MEDIUM)	SH
18.	F	8030-00-900-4415	SEALING COMPOUND (MIL-S-22473C)	BT
19.		DELETED		
20.	F	5940-00-549-6217	FERRULES	EA
21.		DELETED		

ITEM NO	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/I
22.	F	4720-00-835-4572	RUBBER, SYNTHETIC (MIL-S-6855, CL 2, GR 60, TY B, .250)	SH
23.	F	8040-00-142-9193	ADHESIVE (MIL-A-46050)	BT
24.	F	6850-00-880-7616	SILICONE COMPOUND (MIL-S-8660B)	TU
25.	F	8040-00-760-5999	ADHESIVE EPOXY (THERMOSET 101)	KT
26.	F	9320-00-580-6836	RUBBER, CHLOROPRENE (AMS 3197, .180 THK)	SH
27.	F	9525-00-803-3044	LOCK WIRE (MS20995NC32)	RL
28.	F	5970-00-834-9119	INSULATION, SLEEVING (MS23053/5-112-9)	RL
29.	F	8030-00-881-5238	SEALING, COMPOUND (MIL-S-8516, TY 2, CL 1)	KT
30.	F	8040-00-270-6490	ADHESIVE, EPOXY (MIS18636)	KT
31.	F	9320-00-456-1884	RUBBER SHEET (AMS 3195B) .125 THK	SH
32.	F	8020-00-246-8502	BRUSH, ARTIST	EA
33.	F	4020-00-212-0409	TAPE, LACING (MIL-T-43435 TY 2, SZ 3, FINISH BLACK)	RL
34.	F	8030-00-081-2330	SEALING, COMPOUND (MIL-S-22473CVV)	BT
35.	F	8030-00-081-2340	SEALING COMPOUND (MIL-S-22473D, GRAAEC)	BT
36.	F		INSULATION, SLEEVING (AMS-3636-125 WHT)	FT
37.		DELETED		
38.	F	5970-00-837-0647	INSULATION, SLEEVING (MIL-I-22129, AWG 22)	FT
39.		DELETED		
40.		DELETED		

ITEM NO	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/I
41.	F	8040-00-262-9011	ADHESIVE (MMM-A-1617, TY III)	PT
42.	F	5970-00-548-9520	INSULATING VARNISH (MIL-V-173) TY 1, CLEAR	QT
43.	F		RUBBER, SILICONE (11207544, CHO-SEAL 1212)	SH
44.		DELETED		
45.		DELETED		
46.	F	9320-00-241-9759	RUBBER SHEET, CLASS 2, GRADE 40 MIL-R-6855, .120 THK	SH
47.	F	6810-00-264-6614	ALCOHOL, ETHYL MIL-E-463	PT
		OR		
		6810-00-205-6786	ALCOHOL, DENATURED, GRADE IV (O-E-760b)	QT
48.	F	6515-00-303-8250	COTTON SWAB	BG
49.	F	4020-00-292-9920	NYLON CORD (MIL-C-5040, TY 1A, OD)	
50.	F	6810-00-264-6715	MOLYBDENUM DISULFIDE (MIL-M-7866)	LB
51.		DELETED		
52.	F	5970-00-954-1622	INSULATION, SLEEVING (MIL-I-2305/5-105-0)	FT
53.	F		INSULATION, SLEEVING (AMS3636-093 WHT)	RL
54.	F	8010-01-055-2319	COATING, POLYURETHANE (MIL-C-46168)	KT
55.	F	8010-00-935-7080	PRIMER, COATING (MIL-P-2337, CL 1 or 2)	KT
56.		DELETED		
57.	F	8010-00-087-0107	ENAMEL, WHITE COLOR, 37875	QT
58.	F	8010-00-079-2510	ENAMEL, LUSTERLESS BRONZE	QT

ITEM NO.	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/I
59.		DELETED		
60.	F	5970-00-181-0190	INSULATING COMPOUND (MIL-I-46058C, TY UR GSS)	KT
61.	F	6810-00-664-0387	TRICHLOROETHANE	GL
62.	F	7510-00-243-3437	RUBBER BANDS	BX
63.		DELETED		
64.		DELETED		
65.	F		INSULATION SLEEVING (AMS 3636-250 WHT)	RL
66.		DELETED		
67.	F	5970-01-049-9948	INSULATION SLEEVING, M23053/6-104-2	RL
68.	F	8315-00-935-6763	FASTENER (MFD FROM PILE TAPE MIS-F-21840 TY 2 CL 1)	RL
69.	F	8315-00-935-6762	FASTENER (MFD FROM PILE TAPE MIL-F-21840 TY 2 CL 1)	RL
70.	F	6580-01-046-3643	THERMAL COMPOUND MIL-C 47009	PT
71.	F	5340-00-437-6461	PROTECTIVE DUST CAP SP 386	EA
72.	F	6515-00-226-7692	GLOVES	BX
73.	F	8040-00-118-2695	ADHESIVE (MIL-A-46146, TY 1, STET)	TU
74.	F		PRIMER (MIL-A-46146, TY 1 RED)	
75.	F		SILICONE RUBBER, RTV (MIL-R- 47211 TY 3)	
76.	F	SEE NOTE 1.	INSULATION SLEEVING, SHRINKABLE PN RP4800-11 (MIL-I-23053/5, C1)	
77.		DELETED		
78.		DELETED		
79.	F	9150-01-040-1423	MOLYKOTE MIS-13144	CN
80.	F		ADHESIVE, CONTACT MMM-A-130, TYPE 1	QT

NOTE 1: Shrinkable tubing RP4800-11 may be requisitioned on DD1348-6, Non-NSN Requisition (Manual), SC B64. The manufacturer should be identified as "Raychem Corp., Electronics Div., 300 Constitution Dr., Menlo Park, CA 94025.

APPENDIX E
QUALITY ASSURANCE PROVISIONS

E-1. General

This appendix provides inspection criteria for use by quality assurance/quality control (QA/QC) inspection personnel at the direct (DS) and general support (GS) maintenance level.

E-2. Operations and Management

The primary responsibility for effective performance of quality work rests with designated supervisors who must assure that procedures followed are those prescribed by command policies. Commanders must insure that, as a part of command policy, supervisory and inspection personnel are provided latitude sufficient to allow independent assessment of the procedures and criteria presented in FM 9-59 and Department of the Army Pamphlet 750-19. It is the responsibility of the QC inspector to determine the depth and scope of the QC inspection. In all cases, it will be the prerogative of the QC inspection to inspect each maintenance or test operation performed by the repairman. However, the level of QA/QC checks will not exceed the scope of maintenance performed on the item, nor will QA/QC require repair to be accomplished to the extent of returning the item to an as-new condition when a repaired-as-received condition is adequate.

E-3. Tools and Equipment Required

All tools and equipment required for QA/QC checks are available in the organization. They are authorized to each inspector either through individual MOS tool kits or as a part of the major items of equipment.

E-4. Inspection Criteria

The paragraphs which follow contain inspection criteria to be used in Performing QA/QC checks on equipment tested and repaired by support maintenance. Where possible, procedures are provided by reference to documents available to the using activity and in which detail is presented at a level sufficient to establish confidence in the quality of the work performed. Where required procedures were not available for reference, supplementary procedures complete in their entirety were prepared and are provided in paragraph form below. For each piece of equipment tested, the final QA/QC check is successful completion of the final inspection given in this manual. In order to avoid repetitious testing or disassembly of the equipment the inspector should when possible, witness the test or repair while it is being accomplished. The QA/QC inspector will use DA Forms 2404 and/or 2407 to determine and annotate in-process inspection points, and to indicate that QA/QC inspection has been performed on the test or repair.

E-4. Inspection Criteria - Continued

- a. Adhesive bonding. Refer to TM 750-245-4.
- b. Adhesive priming. Refer to TM 750-245-4.
- c. Captive screw removal and installation. Refer to TM 750-245-4.
- d. Cleaning. Refer to TM 750-245-4.
- e. Crimping of terminals. Refer to TM 750-245-4.
- f. Electrical miscellaneous. Refer to TM 750-245-4.
- g. Gasket and pad fabrication. QA checks of gasket and pad fabrication may be conducted in process if the replacement gasket is not to be bonded to the equipment, or after installation and prior to equipment assembly if attachment by adhesive bonding is used. The gasket or pad should be checked in conformance to material type and thickness as specified in the TM and for general configuration of the surface to be sealed. The gasket or pad shall be free of nicks, cuts or abrasions that affect sealing quality. Alignment of holes through which components or mounting hardware will pass shall be such that bunching or waviness of the basket will not occur during trainer assembly.
- h. Sleeving and heat shrinkable sleeving. Sleeving and heat shrinkable sleeving shall exhibit the following characteristics. All steps below apply to sleeving of the heat shrinkable type, however, other types are required to conform to steps 1 and 2 only.
 - (1) Sleeving length is as specified in the TM, or if unspecified is sufficient to assure adequate insulation of the connection.
 - (2) Correct sizes and colors of tubing have been used.
 - (3) Identification marking which may be present is not obliterated by heat applied to tubing or is not covered by the tubing installation.
 - (4) Heat applied was sufficient to adequately shrink the tubing and that no melting or wrinkling has occurred.
 - (5) The tubing produces a non-mobile, smooth, continuous sheathing over the connection.
- i. Priming and painting. Refer to TM 750-245-4.
- j. Soldering. Refer to TM 750-245-4.
- k. Torquing. A torque check will be performed when steps in the repair procedure require the application of specific torque values. The QA inspector should observe the application of torque, as specified in the TM, while repair is in process. The TM procedure shall be followed closely to assure that critical alignment of mating surfaces is maintained.

QUALITY ASSURANCE PROVISIONS – CONTINUED

E-5. QA/QC Checks

Tables E-1 through E-7 contain a list of inspection points identified by references to the manual. The QA/QC inspection is not limited to the inspections listed in the tables nor will inspection be required on each listed inspection point depending on the extent of repair performed on the trainer. Mandatory checks are identified in tables E-1 through E-7 by an asterick.

TABLE E-1. INSPECTION CHECKLIST FOR MONITORING SET, GUIDED MISSILE SYSTEM, TRAINING AN/TSQ-T1, NSN 6920-00-165-6369

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
*Para. 3-49, Step 1	Gasket Fabrication	Para. E4, g
Para. 3-49, Step 2A, C	Sealing	TM 750-245-4
Para. 3-49, Step 3A	Adhesive Priming	TM 750-245-4
Para. 3-49, Step 3B	Sealing	TM 750-245-4
Para. 3-49, Step 4	Soldering	TM 750-245-4
Para. 3-50, Step 1B	Soldering	TM 750-245-4
Para. 3-50, Step 2B	Heat Shrinkable Sleeving	Para. E4, h
Para. 3-51, Step 5E	Sealing	TM 750-245-4
Para. 3-52, Step 1B, E	Heat Shrinkable Sleeving	Para. E4, h
Para. 3-52, Step 1C	Soldering	TM 750-245-4
Para. 3-52, Step 1E	Heat Shrinkable Sleeving	Para. E4, h
Para. 3-53, Step B	Soldering	TM 750-245-4
Para. 3-54, Step 2D	Heat Shrinkable Sleeving	Para. E4, h
Para. 3-54, Step 2C	Soldering	TM 750-245-4
Para. 3-55, Step A	Soldering	TM 750-245-4
*Para. 3-56, Step 1	Gasket Fabrication	Para. E4, g
Para. 3-56, Step 2B	Adhesive Priming	TM 750-245-4
Para. 3-56, Step 2C, D	Sealing	TM 750-245-4
Para. 3-56, Step 3A	Sealing	TM 750-245-4
Para. 3-56, Step 4A	Soldering	TM 750-245-4
Para. 3-57, Step 1B	Adhesive Priming	TM 750-245-4
Para. 3-57, Step 1B, C	Sealing	TM 750-245-4
Para. 3-57, Step 3B	Sealing	TM 750-245-4
Para. 3-57, Step 4C	Heat Shrinkable Sleeving	Para. E4, h
Para. 3-57, Step 4B	Soldering	TM 750-245-4
Para. 3-58, Step B	Adhesive Priming	TM 750-245-4

TABLE E--1. INSPECTION CHECKLIST FOR MONITORING SET, GUIDED MISSILE SYSTEM,
TRAINING AN/TSQ--T1, NSN 6920--00--165--6369 -- CONTINUED

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
Para. 3-58, Step 2A, B	Sealing	TM 750-245-4
Para. 3-61, Step 1C	Heat Shrinkable Sleeving.	Para. E4, h
Para. 3-61, Step 1B	Soldering	TM. 750-245-4
Para. 3-61, Step 2E	Sealing	TM 750-245-4
Para. 3-63, Step A, B	Sealing	TM 750-245-4
*Para. 3-64, Step 1A	Gasket Fabrication	Para. E4, g
Para. 3-64, Step 2B, C	Bonding	TM 750-245-4
Para. 3-66, Step C, D	Sealing	TM 750-245-4
Para. 3-67, Steps 1, 2A	Sealing	TM 750-245-4
Para. 3-68, Step A, B	Sealing	TM 750-245-4
Para. 3-71, Step 2A	Soldering	TM 750-245-4
Para. 3-72, Step B	Soldering	TM 750-245-4
Para. 3-73, Step 2	Soldering	TM 750-245-4
Para. 3-74, Step C	Soldering	TM 750-245-4
Para. 3-75, Step 2A, B	Sealing	TM 750-245-4
Para. 3-75, Step 2C	Soldering	TM 750-245-4
Para. 3-76, Steps 1B, C, 2D and 3A	Sealing	TM 750-245-4
Para. 3-77, Step 1B	Adhesive Priming	TM 750-245-2
Para. 3-77, Steps 2A, B and 3C	Sealing	TM 750-245-4
Para. 3-77, Step 3B	Heat Shrinkable Sleeving	Para. E4, h
Para. 3-77, Step 3A	Soldering	TM 750-245-4
Para. 3-78, Steps 1A, 2A and C	Sealing	TM 750-245-4
Para. 3-79, Step 2B	Soldering	TM 750-245-4
Para. 3-80, Step 2	Soldering	TM 750-245-4

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
*Para. 3-84, Step 1	Gasket Fabrication	Para. E4, g
Para. 3-84, Step 2B, C	Sealing	TM 750-245-4
Para. 3-85, Steps 2A, B and 4A	Sealing	TM 750-245-4
Para. 3-87, Step 1C	Adhesive Priming	TM 750-245-4
Para. 3-87, Step 2A, B and C	Bonding	TM 750-245-4
Para. 3-88, Step 2A, B and C	Bonding	TM 750-245-4
*Para. 3-89, Step 3A, B and C	Lockwiring	TM 750-245-4
Para. 3-90, Steps 3A, B and 4A	Bonding	TM 750-245-4

TABLE E-2. INSPECTION CHECKLIST FOR TRAINER, LAUNCH EFFECTS, GUIDED MISSILE:
M54, NSN 6920-00-1 75-6327

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
Para. 4-34, Step 3	Plate	Plate must be flush with surface of breech-block.
Para. 4-39, Step 2A	Sealing	TM 750-245-4
Para. 4-46, Step 1A	Sealing	TM 750-245-4
*Para. 4-47, Step 3	Torquing	15 to 18 in/lbs.
*Para. 4-48, Step 3B	Torquing	15 to 18 in/lbs.
Para. 4-50, Step 2A, B	Soldering	TM 750-245-4
Para. 4-50, Step 4A, B	Sealing	TM 750-245-4
Para. 4-50, Step 7	Crimping of Terminals	Para. E4, e
Para. 4-50, Step 8C	Heat Shrinkable Sleeving	Para. E4, h
*Para. 4-50, Step 9E	Torquing	15 to 18 in/lbs.
Para. 4-51, Step 4C	Crimping of Terminals	Para. E4, e
*Para. 4-51, Step 6C	Torquing	15 to 18 in/lbs.
Para. 4-51, Step 12B	Heat Shrinkable Sleeving	Para. E4, h
*Para. 4-55, Step 1	Switch Cable Assembly	Wire breakout, lower left side of switch.
*Para. 4-55, Steps 4B, 5	Lockwiring	TM 750-245-4
*Para. 4-56, Step 5	Lockwiring	TM 750-245-4
*Para. 4-58, Step 2B	Lockwiring	TM 750-245-4
Para. 4-59, Step 4	Lockwiring	TM 750-245-4
*Para. 4-67, Step 4	Torquing	9 to 11 in/lbs.
*Para. 4-68, Step C	Torquing	9 to 11 in/lbs.
*Para. 4-69	Safety Leaf Spring	Distortion or breakage.
Para. 4-70, Step A	Sealing	TM 750-245-4

Type of inspection: In-process _____

Final _____

Serial No. _____ i n s p e c t o r _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
Para. 4-72, Step 1B	Sealing	TM 750-245-4
*Para. 4-74, Step 2	Headspace	.000 to .003 inches
*Para. 4-74, Steps 5B, 6A	Torquing	50 to 70 in/lbs.
*Para. 4-76, b	Dummy Projectile	As specified
*Para. 4-76, d	Cartridge Extractor	As specified
*Para. 4-76, f1 and 2	Firing Operational Test	As specified
*Para. 4-76, g	Batteries	As specified

TABLE E-3. INSPECTION CHECKLIST FOR GUIDED MISSILE LAUNCHER MOUNT, M175, M54, NSN 6920-00-175-6327

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
*Para. 5-17, Step C	Torquing	15 to 20 in lb
*Para. 5-28, Step 6	Torquing	9 to 11 in lb
*Para. 5-30, Step 3D	Torquing	63 to 70 ft lb
Para. 5-30, Step 4	Lockwiring	TM 750-245-4
*Para. 5-31, Step 2E	Torquing	50 to 70 in lb
*Para. 5-32, Step 1C	Torquing	12 to 15 in lb
*Para. 5-32, Step 2D	Torquing	30 to 40 in lb
*Para. 5-34, Step E	Torquing	150 to 300 in lb
Para. 5-35, Step A, D	Bonding	TM 750-245-4
*Para. 5-36, Step 2C	Torquing	95 to 110 in lb
*Para. 5-37, Step 1A, C	Torquing	30 to 40 in lb
*Para. 5-37, Step 2	Torquing	30 to 40 in lb
*Para. 5-37, Step 3B	Torquing	30 to 40 in lb
*Para. 5-38, Step 3B	Torquing	18 to 35 in lb
*Para. 5-39, Step 1C	Torquing	30 to 40 in lb
*Para. 5-39, Step 4	Torquing	30 to 40 in lb
Para. 5-40, Step 1	Soldering	TM 750-245-4
Para. 5-40, Step 2	Heat Shrinkable Sleeving	Para. E4, h
*Para. 5-41, Step 4C	Torquing	18 to 35 in lb
*Para. 5-41, Step 5B	Torquing	18 to 35 in lb
*Para. 5-41, Step 7C	Torquing	18 to 35 in lb
*Para. 5-41, Step 8C	Torquing	4 to 5.5 in lb
Para. 5-41, Step 13A	Electrical Bonding	TM 750-245-4
*Para. 5-41, Step 9C	Torquing	5 to 7 in lb
*Para. 5-41, Step 10B	Torquing	4 to 5.5 in lb
*Para. 5-41, Step 11B	Torquing	10 to 12 in lb
*Para. 5-41, Step 11B	Torque Lanyard Screw	5 to 7 in lb

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
*Para. 5-41, Step 12C	Torquing	5 to 7 in lb
*Para. 5-41, Step 13B	Torquing	4 to 5.5 in lb
*Para. 5-42, Step C	Torquing	30 to 50 in lb
*para. 5-43, Step 3	Torquing	95 to 110 in lb
Para. 5-44, Step B, E	Dimension	1/2-inch
*Para. 5-45, Step C	Torquing	18 to 35 in lb
Para. 5-46, Step 1B	Adhesive Priming	TM 750-245-4
Para. 5-46, Step 1C	Bonding	TM 750-245-4
*Para. 5-46, Step 2B and D	Torquing	18 to 35 in lb
Para. 5-47, Step 1B	Adhesive Priming	TM 750-245-4
Para. 5-47, Step 1C	Bonding	TM 750-245-4
*Para. 5-47, Step 2C	Torquing	18 to 35 in lb

TABLE E-4. INSPECTION Checklist FOR TRAINER, Handling, GUIDED MISSILE LAUNCHER, M57, NSN 6920-00-339-1042

Type of Inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
Para. 6-6, Step 2	Sealing	TM 750-245-4
Para. 6-9, Step 2	Sealing	TM 750-245-4
*Para. 6-10, WARNING	Expendable Round Certification	As Specified in WARNING
Para. 6-10, Steps 13 and 14	Bonding	TM 750-245-4
*Para. 6-10, Steps 15, 16, 17 and 18	Ammunition Marking	As Specified in Para. 6-12, Steps 15 through 18.

TABLE E-5. INSPECTION CHECKLIST FOR TRACKER, INFRARED GUIDED MISSILE SU--36/P, NSN 1430-00-078-8340

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
Para. 7-23, Step B, C and D	Bonding	TM 750-245-4
Para. 7-24, Step 2B	Bonding	TM 750-245-4
Para. 7-24, Step 5	Bonding	TM 750-245-4
Para. 7-25, Step 1	Adhesive Priming	TM 750-245-4
Deleted		
Para. 7-25, Step 2A	Bonding	TM 750-245-4
Para. 7-25, Step 2B	Dimension	As Specified in Para. 7-25, Step 2B
Para. 7-25, Step 4	Bonding	TM 750-245-4
Para. 7-26, Step 1A	Adhesive Priming	TM 750-245-4
Para. 7-26, Step 1B	Bonding	TM 750-245-4
Para. 7-26, Step 3B	Bonding	TM 750-245-4
Para. 7-27, Step 3B, C	Heat Shrinkable Sleeving	Para. E4, h
Para. 7-28, Step 3A	Heat Shrinkable Sleeving	Para. E4, h
Para. 7-29, Step 1E	Adhesive Priming	TM 750-245-4
Para. 7-29, Step 2A, B	Bonding	TM 750-245-4
Para. 7-29, Step 3A, B and C	Sealing	TM 750-245-4
Para. 7-30, Step 1A	Adhesive Priming	TM 750-245-4
Para. 7-30, Step 1	Bonding	TM 750-245-4
Para. 7-30, Step 2B, C	Bonding	TM 750-245-4
*Para. 7-31, Step C	Torquing	2.0 to 3.5 in lb
*Para. 7-32, Step 2B	Torquing	2.0 to 3.5 in lb
*Para. 7-34, Step 2B	Torquing	4.5 to 5.5 in lb

TABLE E-5. INSPECTION CHECKLIST FOR TRACKER, INFRARED GUIDED MISSILE
SU-36/P, NSN 1430-00-078-8340 - CONTINUED

Type of inspection: in-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
*Para. 7-34, Step 3D	Torquing	70 to 90 in lb
Para. 7-35, Step 1	Soldering	TM 750-245-4
Para. 7-35, Step 2A, D	Heat Shrinkable Sleeving	para. E4, h
Para. 7-35, Step 2B, C	Soldering	TM-750-245-4
*Para. 7-35, Step 4B	Torquing	4 to 5.5 in/lbs.
Para. 7-35, Step 5A, B	Soldering	TM 750-245-4
Para. 7-35, Step 6A, B	Soldering	TM 750-245-4
Para. 7-35, Step 6C	Heat Shrinkable Sleeving	Para. E4, h
Para. 7-35, Step 7	Sealing	TM 750-245-4
Para. 7-35, Step 8A, B	Sealing	TM 750-245-4
*Para. 7-37, Step 2B	Torquing	4.5 to 5.5 in/lbs.
Para. 7-38, Step 1A, C	Soldering	TM 750-245-4
Para. 7-38, Step 1B	Heat Shrinkable Sleeving	Para. E4, h
Para. 7-38, Step 2A	Heat Shrinkable Sleeving	Para. E4, h
Para. 7-38, Step 2B	Soldering	TM 750-245-4
Para. 7-38, Step 3A	Adhesive Priming	TM 750-245-4
Para. 7-38, Step 3B	Sealing	TM 750-245-4
*Para. 7-38, Step 4D	Torquing	12 to 15 in/lbs.

TABLE E-6. INSPECTION CHECKLIST FOR TEST SET, GUIDED MISSILE INFRARED
TRACKER AN/TSM-114, NSN 4935-00-124-5585

Type of inspection: In-process _____

Final . _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
Para. 8-54, Step 1B	Adhesive Priming	TM 750-245-4
Para. 8-54, Step 2B	Bonding	TM 750-245-4
Para. 8-55, Step 1C	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-55, Step 1B	Soldering	TM 750-245-4
Para. 8-56, Step 1C	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-56, Step 1B	Soldering	TM 750-245-4
Para. 8-56, Step 2B, C and D	Bonding	TM 750-245-4
Para. 8-62, Step 1A and B	Crimping of Terminals	Para. E4, h
Para. 8-62, Step 4A	Sealing	TM 750-245-4
Para. 8-63, Steps 2A, 3F	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-63, Steps 1B, 3E	Soldering	TM 750-245-4
Para. 8-63, Step 3A	Sealing	TM 750-245-4
Para. 8-64, Step A	Sealing	TM 750-245-4
Para. 8-64, Step C	Soldering	TM 750-245-4
Para. 8-65, Step 2C	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-65, Step 2B	Soldering	TM 750-245-4
Para. 8-66, Step 2A	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-66, Step 2A	Soldering	TM 750-245-4
Para. 8-67, Step 2C	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-67, Step 2B	Soldering	TM 750-245-4
Para. 8-68, Step 2C	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-68, Step 2B	Soldering	TM 750-245-4
Para. 8-71, Step A	Sealing	TM 750-245-4
Para. 8-75, Step 2A, B	Bonding	TM 750-245-4
Para. 8-78, Step 1A	Priming and Painting	TM 750-245-4

TABLE E-6. INSPECTION CHECKLIST FOR TEST SET, GUIDED MISSILE INFRARED TRACKER AN/TSM-114, NSN 4935-00-124-5585 - CONTINUED

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
*Para. 8-79, Step 1A	Gasket Fabrication	Para. E4, g
Para. 8-79, Step 2A	Soldering	TM 750-245-4
Para. 8-79, Step 4B	Sealing	TM 750-245-4
Para. 8-80, Step 4A	Soldering	TM 750-245-4
Para. 8-82, Step 2A	Soldering	TM 750-245-4
Para. 8-82, Step 3A	Sealing	TM 750-245-4
*Para. 8-84, Step 1B	Gasket Fabrication	Para. E4, g
Para. 8-84, Step 2A, B	Bonding	TM 750-245-4
Para. 8-86, Step 1C	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-86, Step 1B	Soldering	TM 750-245-4
Para. 8-86, Step 2B	Sealing	TM 750-245-4
Para. 8-86, Step 4C	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-86, Step 4B	Soldering	TM 750-245-4
Para. 8-86, Step 4E	Sealing	TM 750-245-4
Para. 8-87, Step 1D	Soldering	TM 750-245-4
Para. 8-88, Steps 1, 2B	Soldering	TM 750-245-4
Para. 8-89, Step 1B	Soldering	TM 750-245-4
Para. 8-89, Step 2B, D	Bonding	TM 750-245-4
Para. 8-90, Step A, B, D	Crimping of Terminals	Para. E4, e
Para. 8-91, Step 1	Crimping of Terminals	Para. E4, e
Para. 8-92, Step A	Sealing	TM 750-245-4
Para. 8-93, Step 1B	Soldering	TM 750-245-4
Para. 8-93, Step 2A	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-93, Step 2C	Sealing	TM 750-245-4

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
Para. 8-94, Step 2C	Heat Shrinkable Sleeving	Para. E4, n
Para. 8-94, Step 2B	Soldering	TM 750-245-4
Para. 8-94, Step 3C	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-94, Step 3B	Soldering	TM 750-245-4
*Para. 8-94, Step 4D	Gasket Fabrication	Para. E4, g
*Para. 8-95, Step 1A	Gasket Fabrication	Para. E4, g
Para. 8-95, Step 2B	Heat Shrinkable Sleeving	Para. E4, h
Para. 8-95, Step 2A	Soldering	TM 750-245-4
*Para. 8-96, Step 1A	Gasket Fabrication	Para. E4, g
Para. 8-96, Step 1B	Bonding	TM 750-245-4
Para. 8-96, Step 2B	Bonding	TM 750-245-4
Para. 8-98, Step 1A	Sealing	TM 750-245-4
Para. 8-98, Step 3A	Sealing	TM 750-245-4

**TABLE E-7. INSPECTION CHECKLIST FOR NIGHT VISION SIGHT, INFRARED AN/TAS-5,
NSN 1430-01-046-9594**

**TABLE E-8. INSPECTION CHECKLIST FOR TEST SET GROUP, GUIDED MISSILE
INFRARED TRACKER: OQ-278/TSM-114 NSN 4935-01-083-9784**

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
Para. 9-21, Step 2B	Sealing	TM 750-245-4
Para. 9-22	Heat Shrinkable Sleeving	Para. E4, h
Para. 9-23	Heat Shrinkable Sleeving	Para. E4, h
Para. 9-24, Step 2E	Torquing	4 to 5.5 in/lbs.
Step 3	Soldering	TM 750-245-4
Step 4	Soldering	TM 750-245-4
Step 6	Sealing	TM 750-245-4
Para. 9-25, Step 4C	Torquing	4 to 5.5 in/lbs.
Step 8A	Torquing	70 to 90 in lb
Step 10B	Priming/Sealing	TM 750-245-4
Para. 9-26, Step 3A, 3B	Torquing	12 to 15 in/lbs.
Step 4A, 4B	Soldering	TM 750-245-4
Step 5	Sealing	TM 750-245-4
Para. 9-28, Step C	Torquing	4.5 to 5.5 in/lbs.
Para. 9-29, Step 8B	Torquing	9 to 15 in/lbs.

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

Inspection Point	Inspect	Acceptance Criteria or Standard
Para. 10-41, Step C	Soldering	TM 750-245-4
Para. 10-43, Step 1C	Soldering	TM 750-245-4
Step 1D	Heat Shrinkable Sleeving	Para. E4, h
Para. 10-44, Step 2A	Sealing	TM 750-245-4
Para. 10-45, Step 1C	Soldering	TM 750-245-4
Para. 10-47, Step 1C	Soldering	TM 750-245-4
Step 2B	Heat Shrinkable Sleeving	Para. E4, h
Step 2B	Soldering	TM 750-245-4
Para. 10-48, Step C	Soldering	TM 750-245-4
Step D	Heat Shrinkable Sleeving	Para. E4, h
Para. 10-51, Step 1B	Soldering	TM 750-245-4
Step 1B	Heat Shrinkable Sleeving	Para. E4, h
Para. 10-52, Step 2C	Soldering	TM 750-245-4
Step 2D	Heat Shrinkable Sleeving	Para. E4, h
Step 3C	Soldering	TM 750-245-4
Para. 10-53, Step 10	Soldering	TM 750-245-4

TABLE E-9. INSPECTION CHECKLIST FOR ADAPTER, TEST: MX 10078G
NSN 4935-01-087-2534

Type of inspection: In-process _____

Final _____

Serial No. _____ Inspector _____

Date _____

	Inspection Point	Inspect	Acceptance or Standard
Para.	11-15, Step 1B	Soldering	TM 750-245-4
Para.	11-16, Step 2B Step 2C	Soldering Heat Shrinkable Sleeving	TM 750-245-4 Para. E4, h
Para.	11-17, Step 1B	Adhesive Priming	TM 750-245-4
Para.	11-17, Step 3 Step 4	Soldering Sealing	TM 750-245-4 TM 750-245-4
Para.	11-18, Step 1A Step 1B	Soldering Heat Shrinkable Sleeving	TM 750-245-4 Para. E4, h
Para.	11-20, B	Adhesives	TM 750-245-4

APPENDIX F
SCHEMATICS, FUNCTIONAL AND WIRING DIAGRAMS

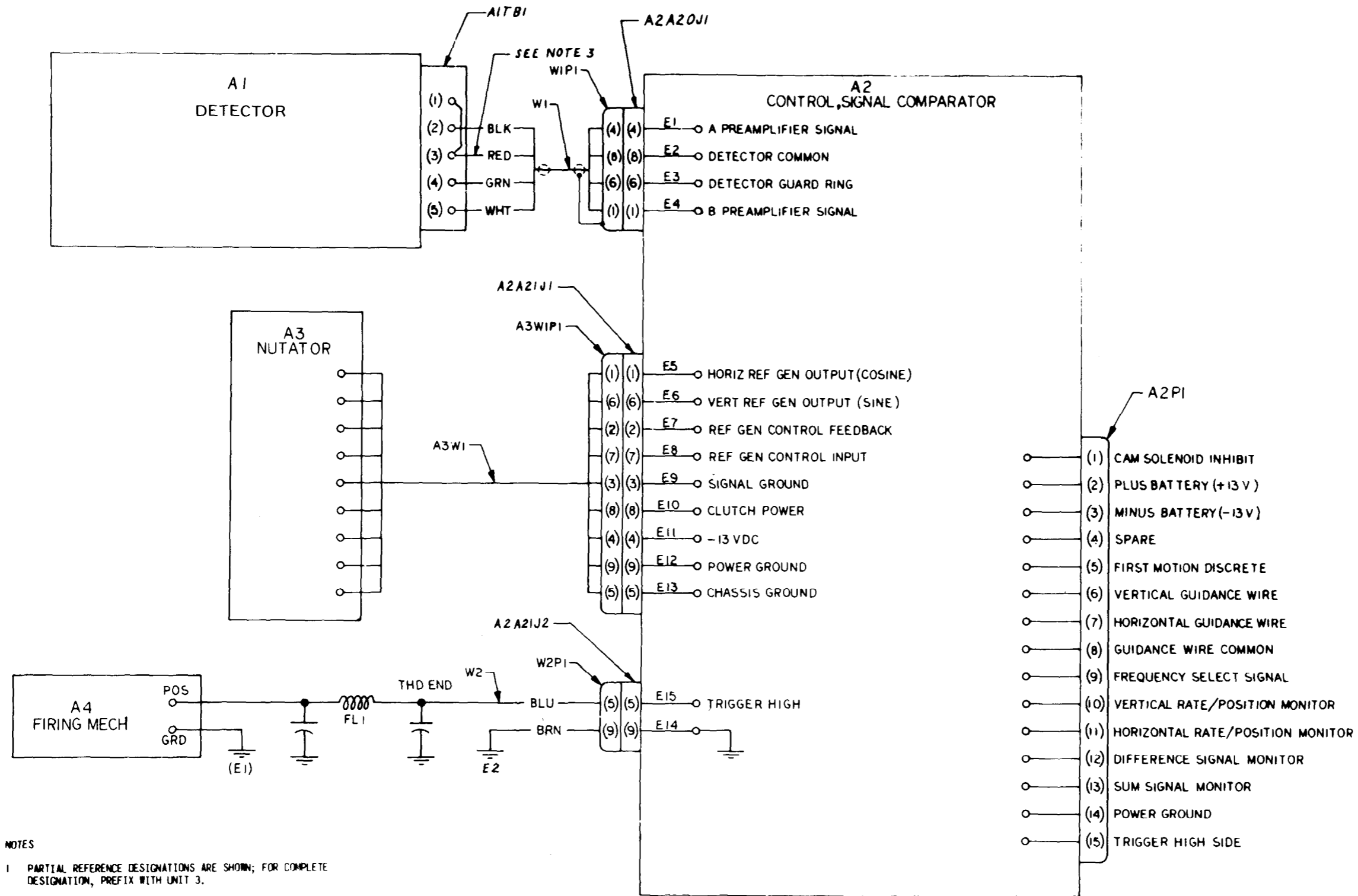
F-1. GENERAL

The applicable schematics, functional and wiring diagrams should be consulted frequently for troubleshooting the Tracker, Launch Effects Trainer, Monitoring Set, M175 Mount and Tracker Test Set Subassemblies.

F-2. LISTING OF SCHEMATICS, FUNCTIONAL AND WIRING DIAGRAMS

Figure	Title	Page
F-1	Tracker, Schematic Diagram	F-2
F-2	Tracker, Wiring Diagram	F-3
F-3	M175 Mount, Functional Diagram with Tracker and Round Installed	F-4
F-4	M175 Mount, Wiring Diagram	F-4
F-5	Launch Effects Trainer, Schematic and Wiring Diagram.	F-5
F-6	Monitoring Set (1A1), Schematic Diagram	F-6
F-7	Monitoring Set (1A1), Wiring Diagram.	F-8
F-8	Battery Charger (1A1A1), Schematic Diagram.	F-11
F-9	Battery Charger (1A1A1), Wiring Diagram	F-12
F-10	Relay Diode Assembly (1A1A3), Schematic Diagram	F-14
F-11	Relay Diode Assembly (1A1A3), Wiring Diagram.	F-15
F-12	Monitor Unit, Schematic Diagram	F-16
F-13	Monitor Unit, Wiring Diagram.	F-22
F-14	Collimator, Schematic Diagram	F-27
F-15	Optical Alignment Fixture, Schematic Diagram.	F-28
F-16	Optical Alignment Fixture, Wiring Diagram	F-29
F-17	Wiring Diagram, Test Adapter.	F-30
F-18	Schematic Diagram, Test Adapter	F-30
F-19	Schematic Diagram-Optical Alignment Fixture (SU).	F-31
F-20	Wiring Diagram-Fixture, Optical Alignment	F-34

COLOR CODE FOR SINGLE WIRES (MIL-STD-681C)	
0	black
1	brown
2	red
3	orange
4	yellow
5	green
6	blue
7	violet
8	gray
9	white

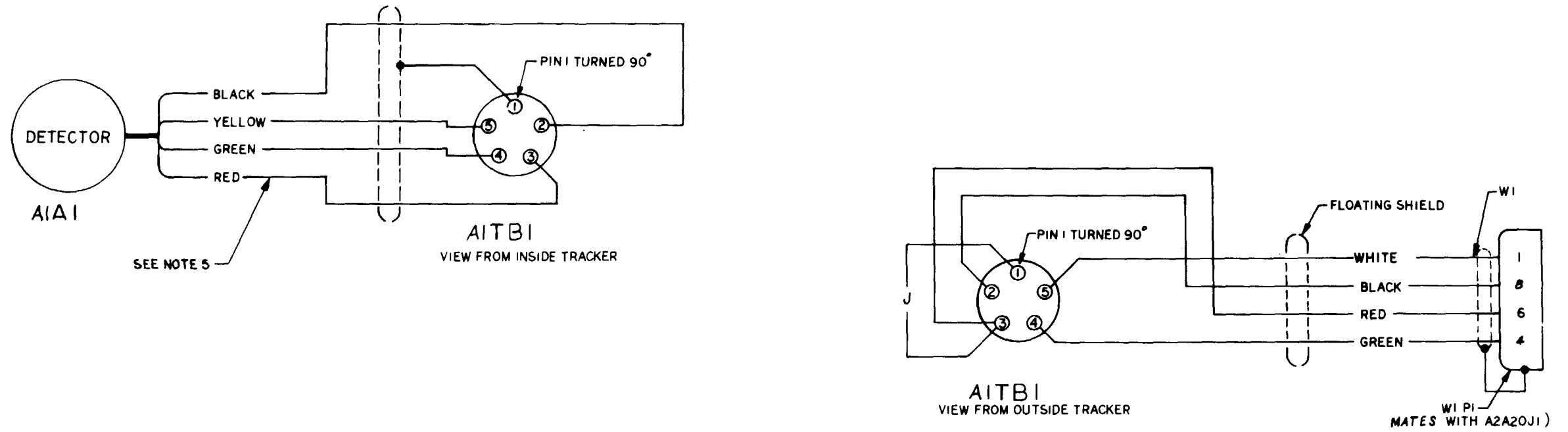


NOTES

- PARTIAL REFERENCE DESIGNATIONS ARE SHOWN; FOR COMPLETE DESIGNATION, PREFIX WITH UNIT 3.
- TERMINAL NUMBERS SHOWN IN PARENTHESIS ARE NOT MARKED ON COMPONENT AND ARE FOR REFERENCE ONLY.
- RED WIRE FROM DETECTOR A1A1 OMITTED LEAVING CIRCUIT OPEN (NON-FUNCTIONING) IF NO GUARD RING EXISTS ON A1A1.

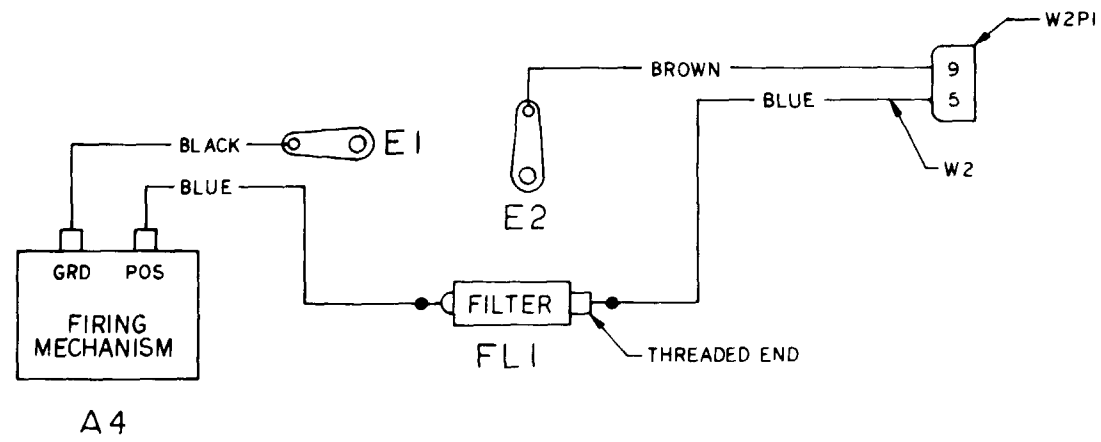
MS159301

FIGURE F-1 TRACKER, SCHEMATIC DIAGRAM



NOTES:

1. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN. FOR COMPLETE DESIGNATION, PREFIX WITH UNIT NUMBER 3.
2. TERMINAL NUMBERS ON AITBI, W1P1 AND W2P1 ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE NOT MARKED ON COMPONENTS.
3. LEADS ARE SUPPLIED WITH COMPONENTS A1A1, W1, W2 & W4.
4. WIRE IDENTIFIED WITH "J" IS 24 GAUGE TIN COATED WIRE PER QQ-W-343.
5. RED WIRE OMITTED IF NO GUARD RING EXISTS ON DETECTOR, A1A1.



MS159302

FIGURE F-2 TRACKER, WIRING DIAGRAM

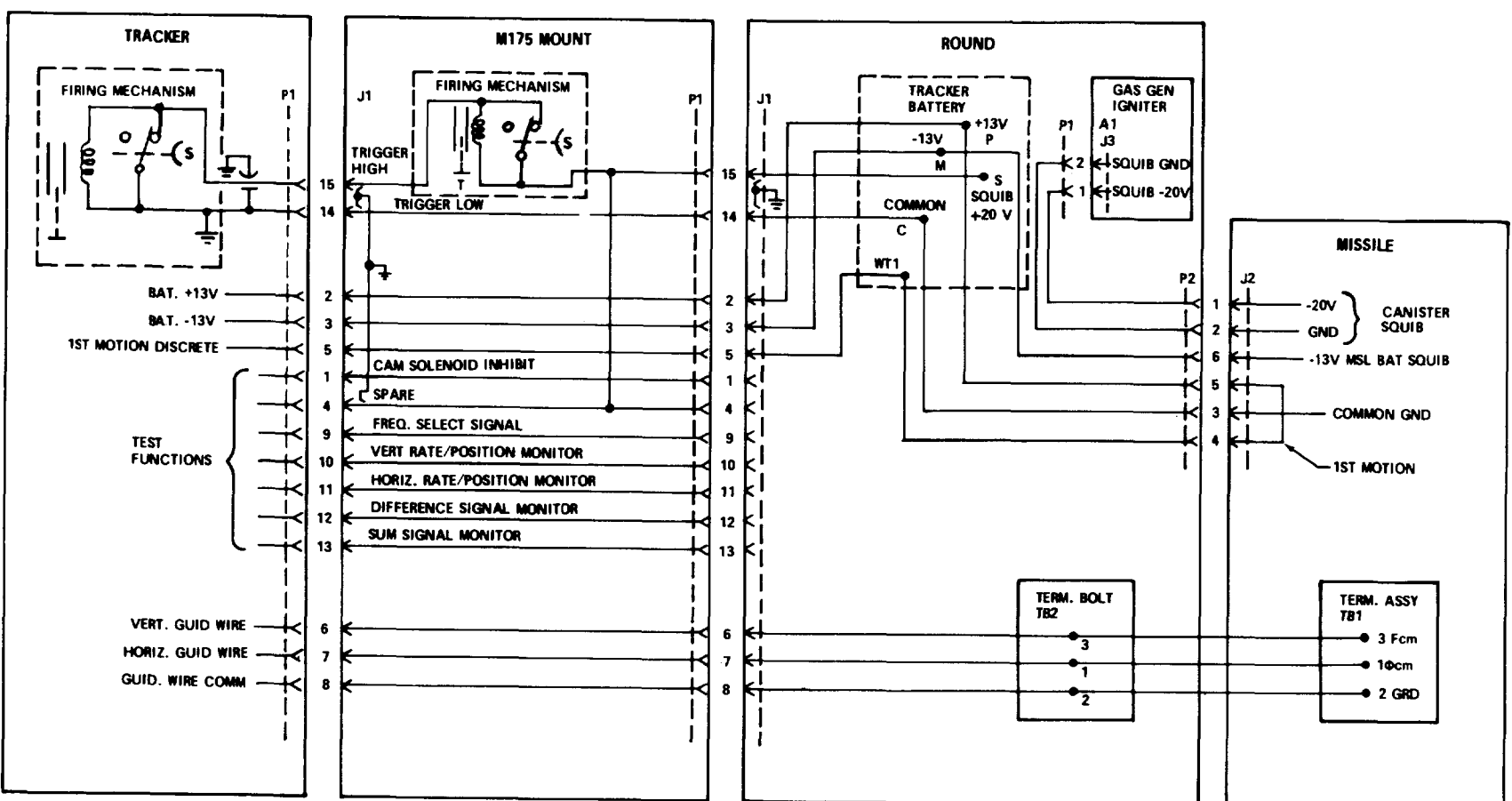
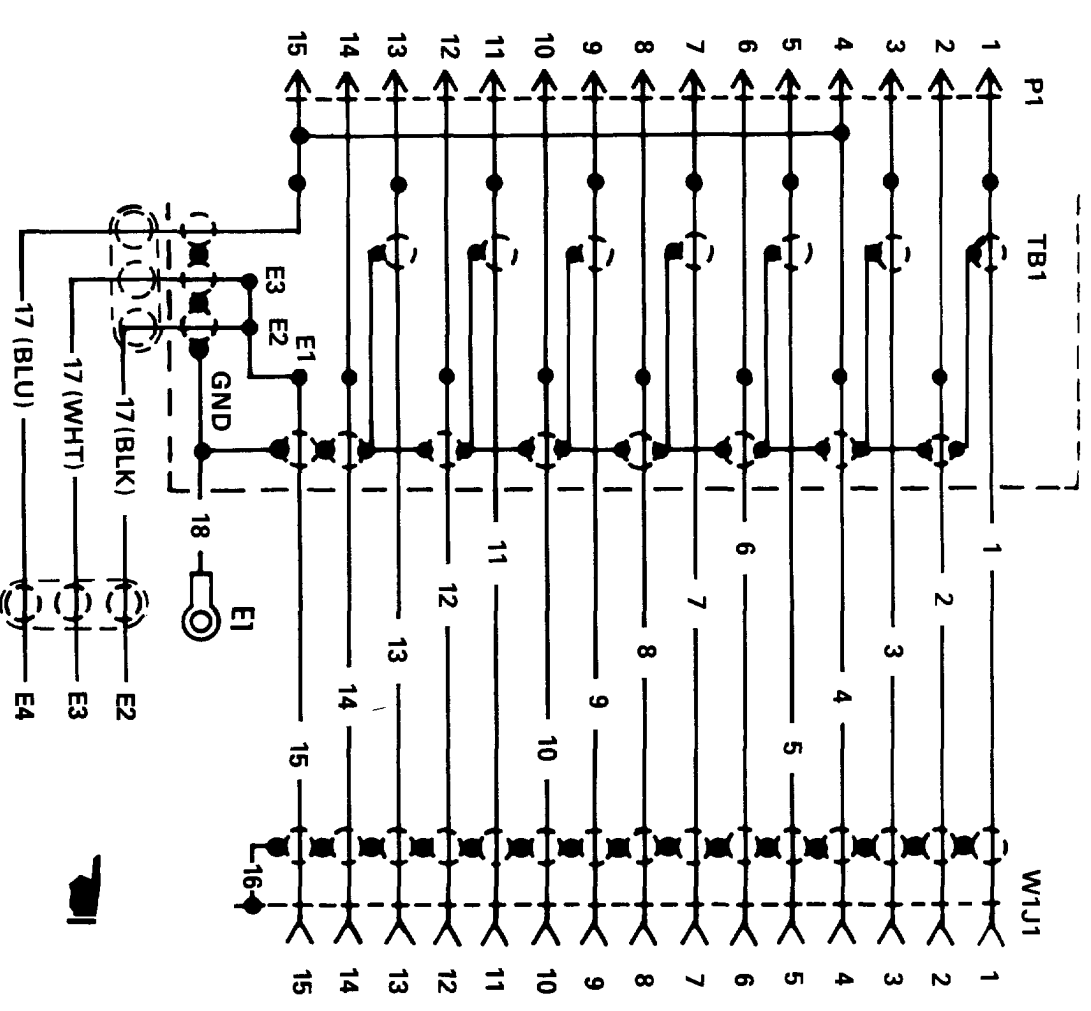


FIGURE F-3 M175 MOUNT FUNCTIONAL DIAGRAM WITH TRACKER AND ROUND INSTALLED

MS159303



WIRE LIST

WIRE NO.	FROM	TO	AWG	COLOR	LENGTH	WIRE FROM	TO	AWG	COLOR	LENGTH		
1	W1J1-1	TB1-1	26	WHT		W1J1-11	TB1-11	26	WHT			
2	W1J1-2	TB1-2	26	WHT		W1J1-12	TB1-12	26	WHT			
3	W1J1-3	TB1-3	26	WHT		W1J1-13	TB1-13	26	WHT			
4	W1J1-4	TB1-4	26	WHT		W1J1-14	TB1-14	26	WHT			
5	W1J1-5	TB1-5	26	WHT		W1J1-15	TB1-E1	26	WHT			
6	W1J1-6	TB1-6	26	WHT		W1J1 SHIELD	W1J1 SHIELD	20	WHT			
7	W1J1-7	TB1-7	26	WHT		TB1-E2	WT1	26	BLK	46.50		
8	W1J1-8	TB1-8	26	WHT		TB1-E3	WT1	26	WHT	46.50		
9	W1J1-9	TB1-9	26	WHT		TB1-15	WT2	26	BLU	46.50		
10	W1J1-10	TB1-10	26	WHT		TB1-GND	E1	24	WHT	6.00		
						JUMPERS	WIRE SHIELDS	TB1-GND	E1	24	WHT	AS REQD

FIGURE F-4 M175 MOUNT WIRING DIAGRAM

MS159304 A

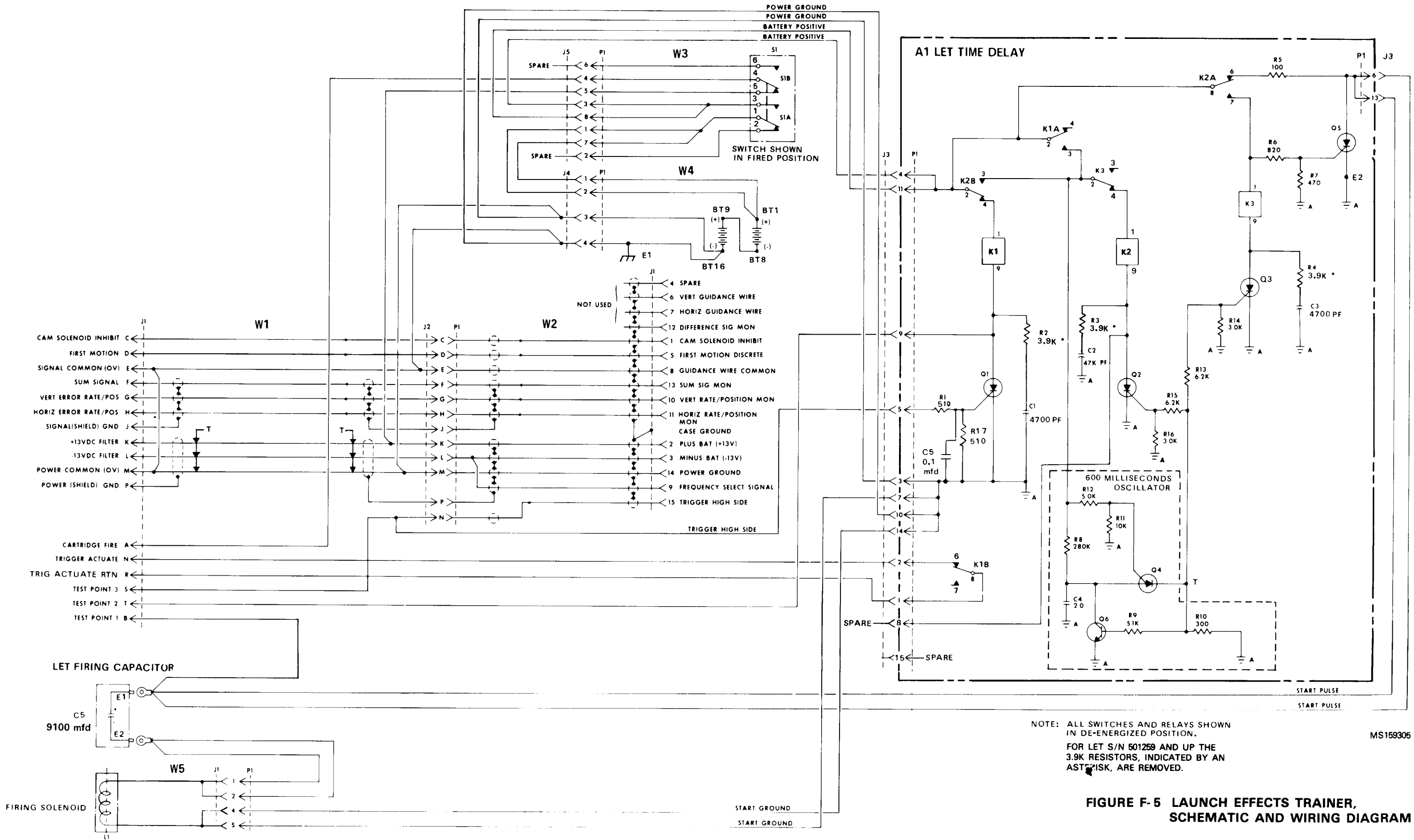
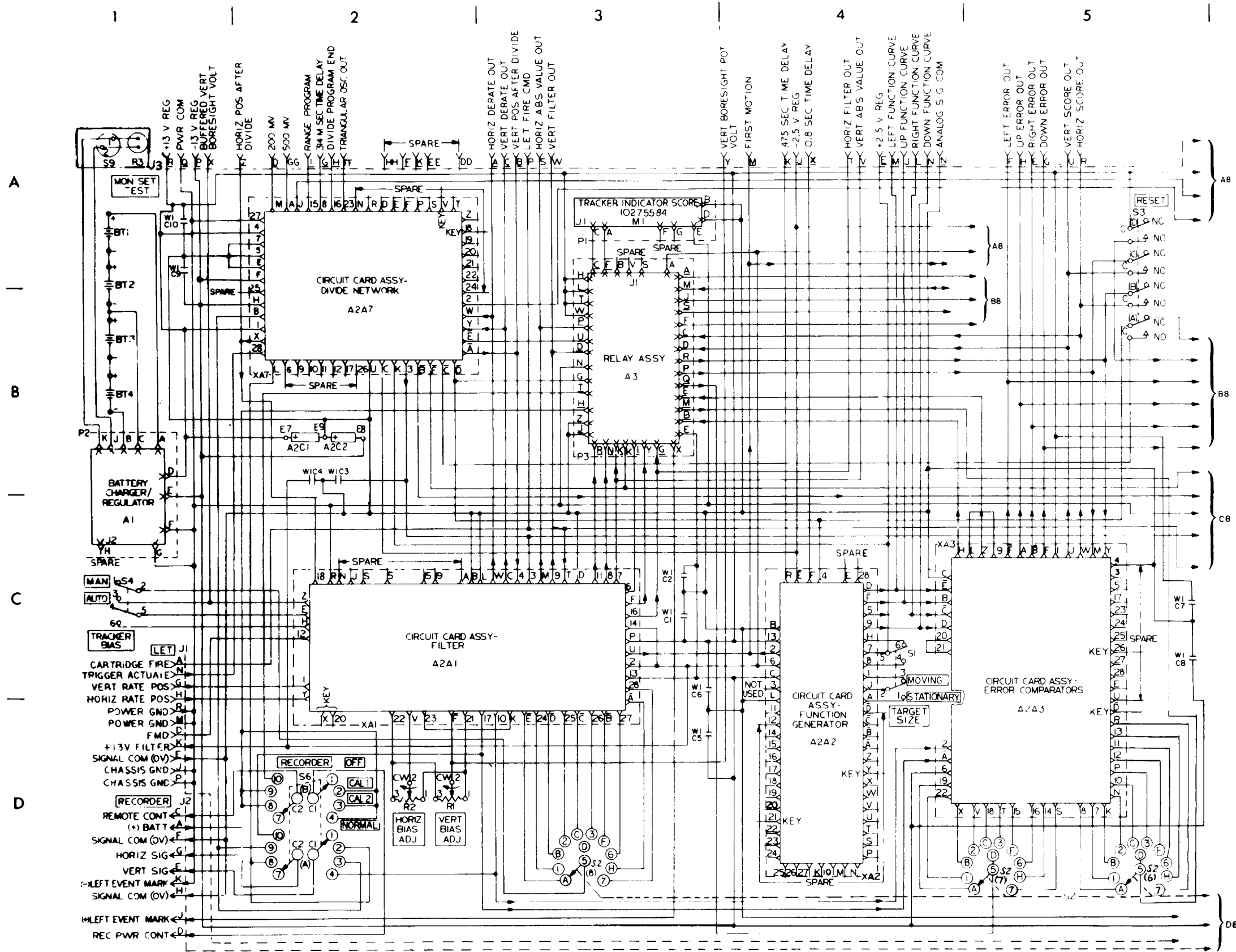


FIGURE F-5 LAUNCH EFFECTS TRAINER, SCHEMATIC AND WIRING DIAGRAM



- NOTES:
1. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN FOR COMPLETE DESIGNATION PREFIX WITH UNIT NUMBER OR SUBASSEMBLY DESIGNATIONS
 2. LOWER CASE PIN LETTERS ARE SHOWN AS UNDERLINED UPPER CASE LETTERS
 3. TERMINAL NUMBER ASSIGNMENT FOR S1, S4, S8, DS-1 THRU DS-8 ARE FOR REFERENCE ONLY ON THIS DIAGRAM AND WILL NOT BE MARKED ON THE HARDWARE
 4. PINS MARKED "NOT USED" MEAN FUNCTIONS AVAILABLE BUT NOT IN USE

FIGURE F-6 MONITORING SET (1A1), SCHEMATIC DIAGRAM (SHEET 1 of 2)

MS159306

7

8

9

10

11

12

A

B

C

D

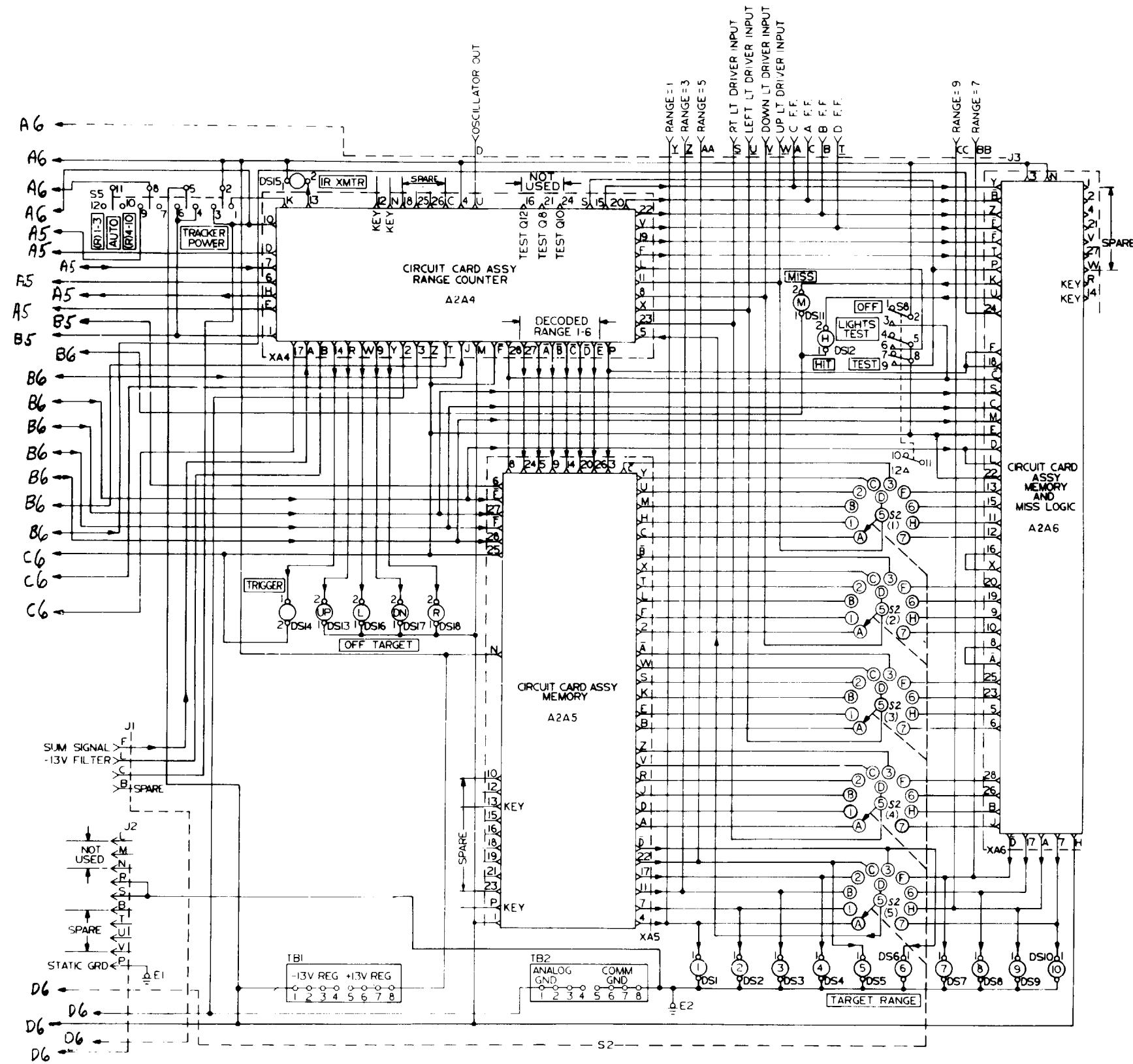


FIGURE F-6 MONITORING SET (1A1), SCHEMATIC DIAGRAM (SHEET 2 OF 2)

MS159307

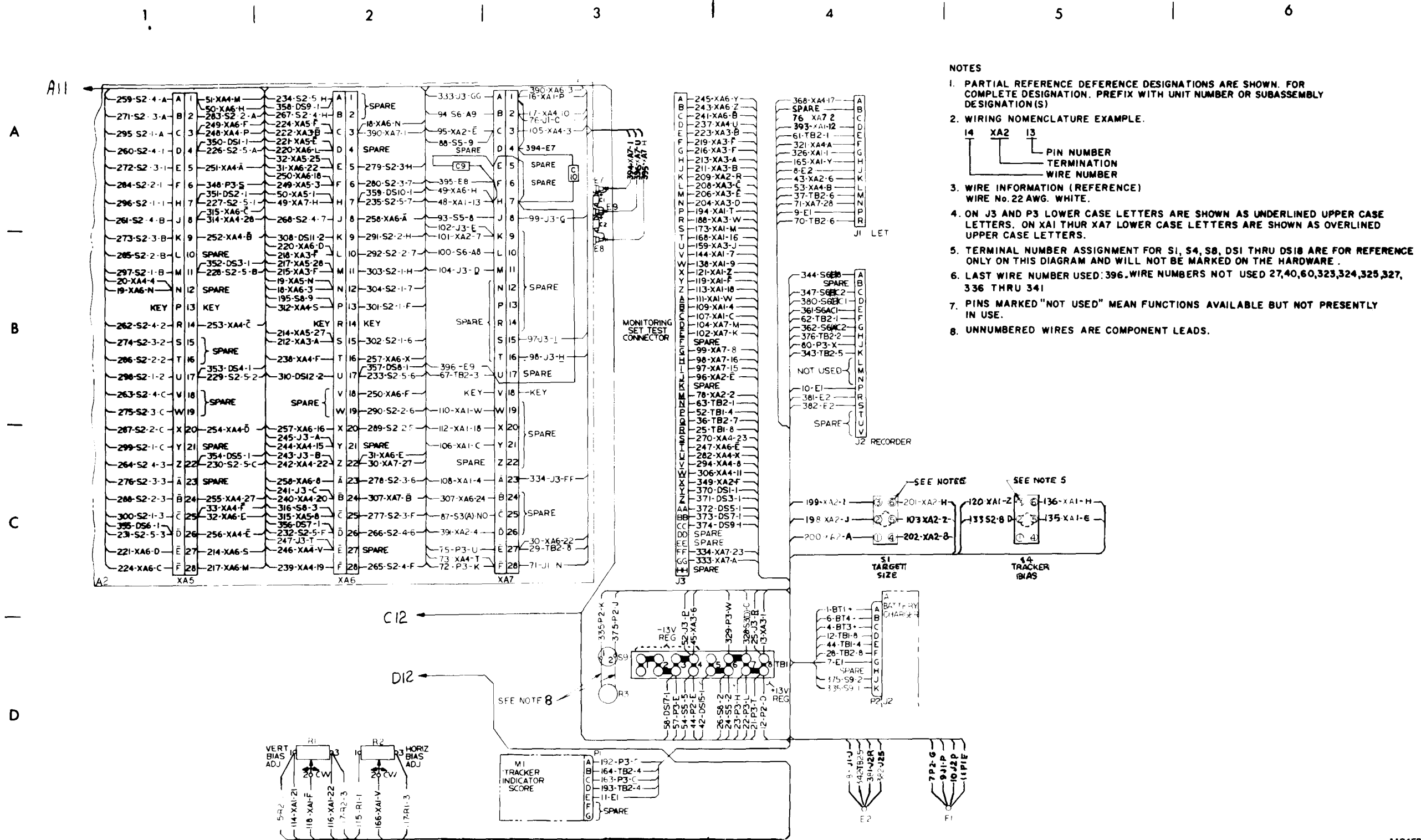


FIGURE F-7 MONITORING SET (1A1), WIRING DIAGRAM (SHEET 1 OF 3)

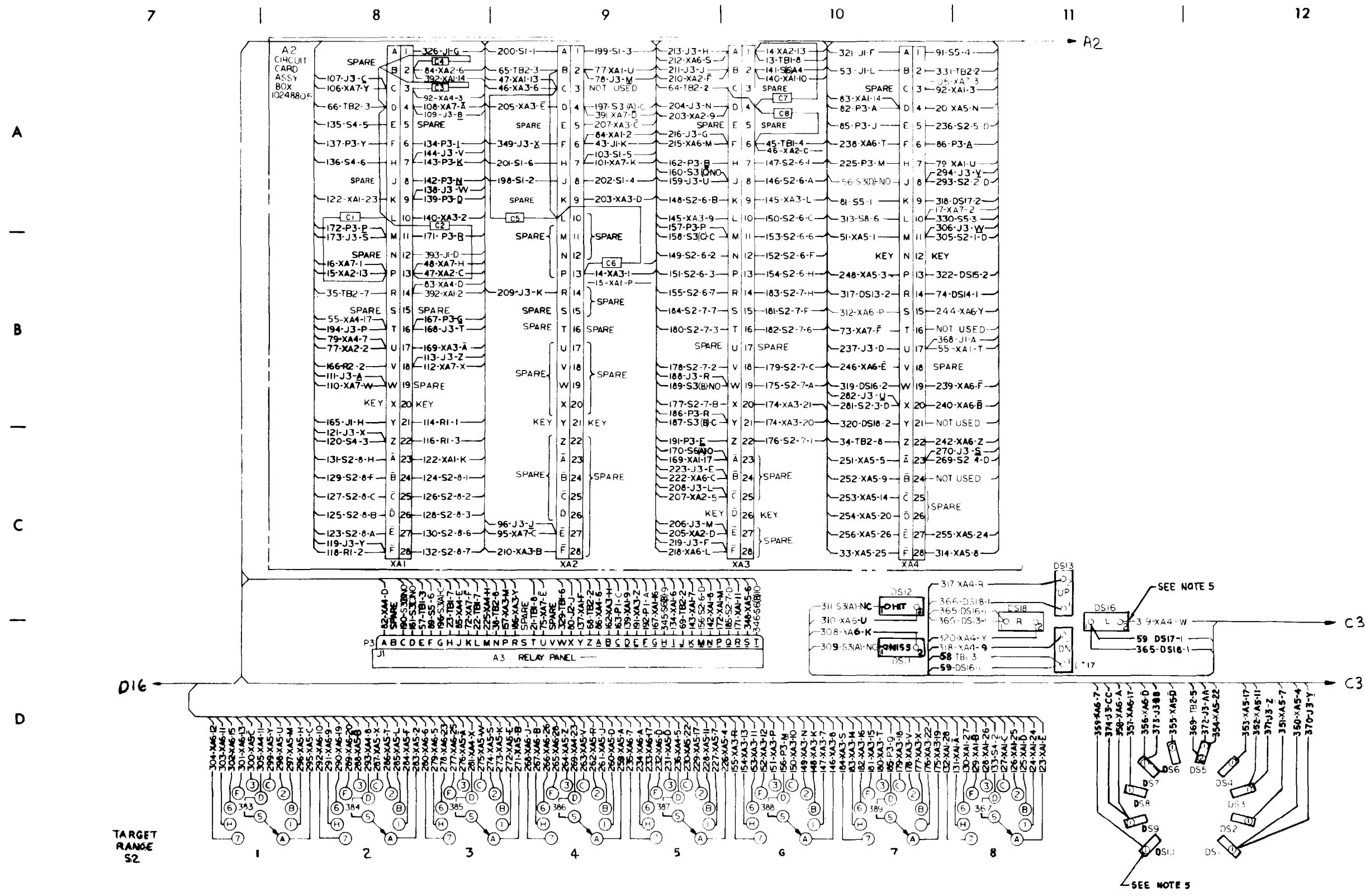


FIGURE F-7 MONITORING SET (1A1), WIRING DIAGRAM (SHEET 2 OF 3)

MS159309

13

14

15

16

17

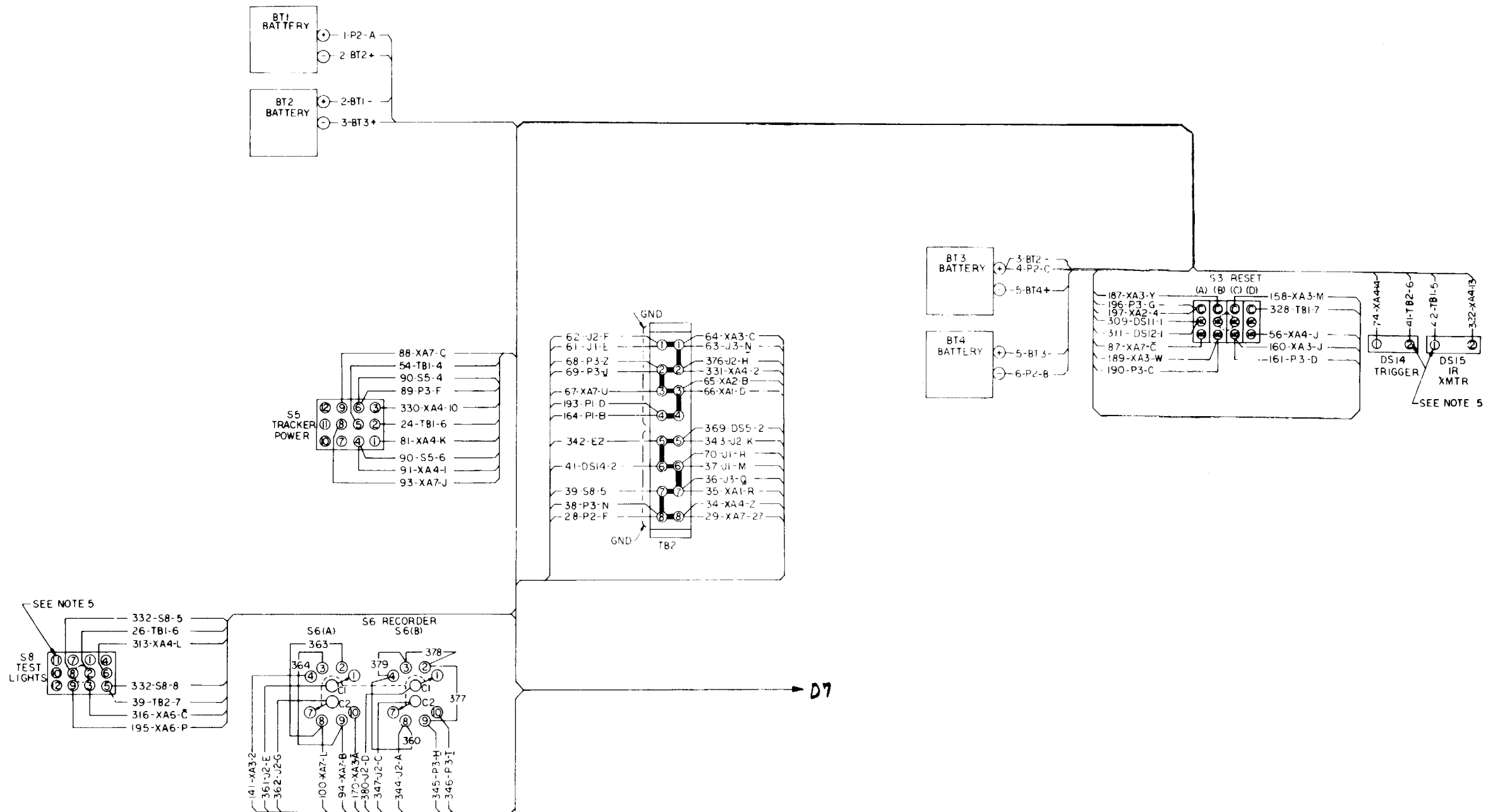
18

A

B

C

D



D7

MS158310

FIGURE F-7 MONITORING SET (1A1), WIRING DIAGRAM (SHEET 3 OF 3)

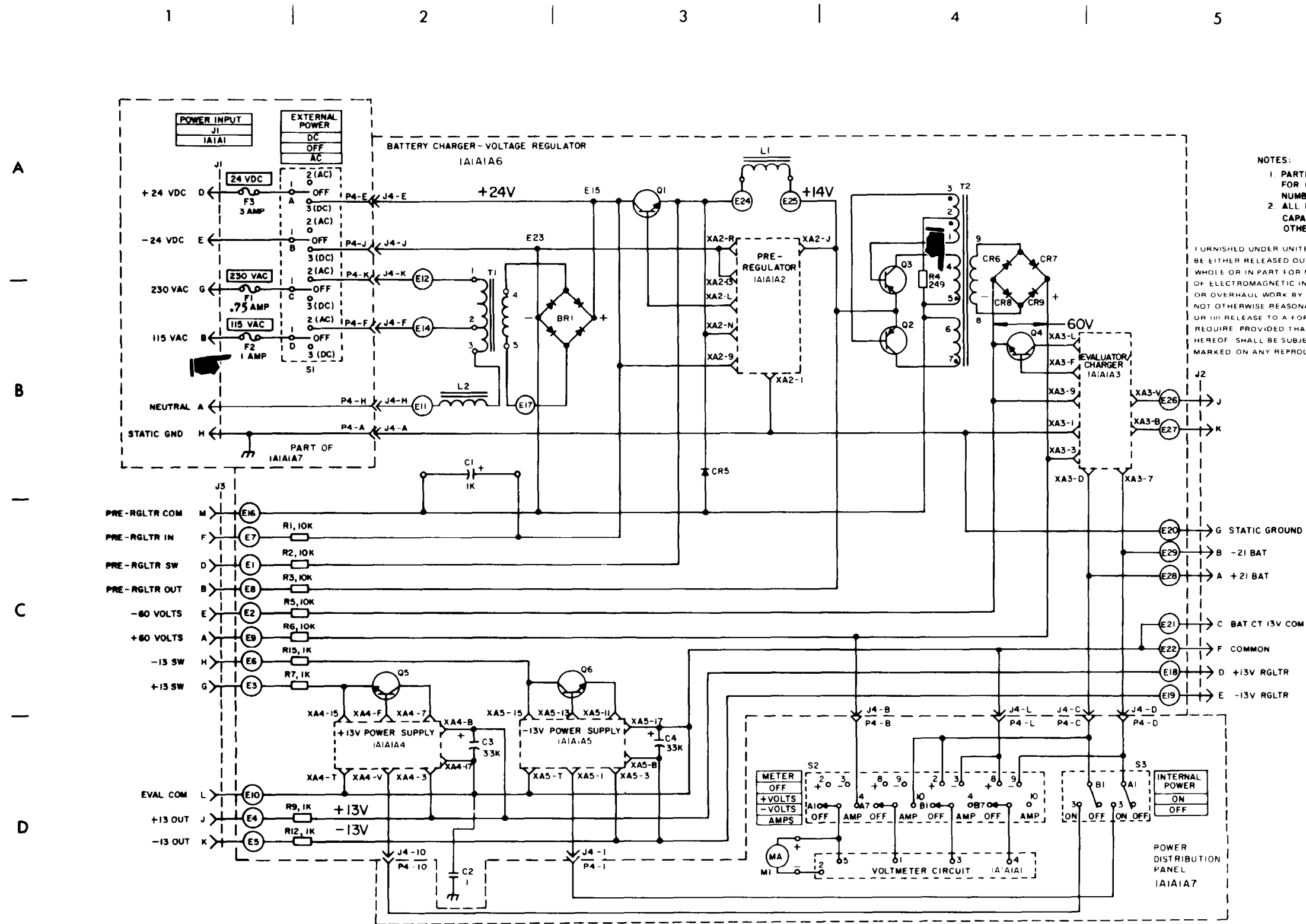


FIGURE F-8 BATTERY CHARGER (1A1A1), SCHEMATIC DIAGRAM

MS159311

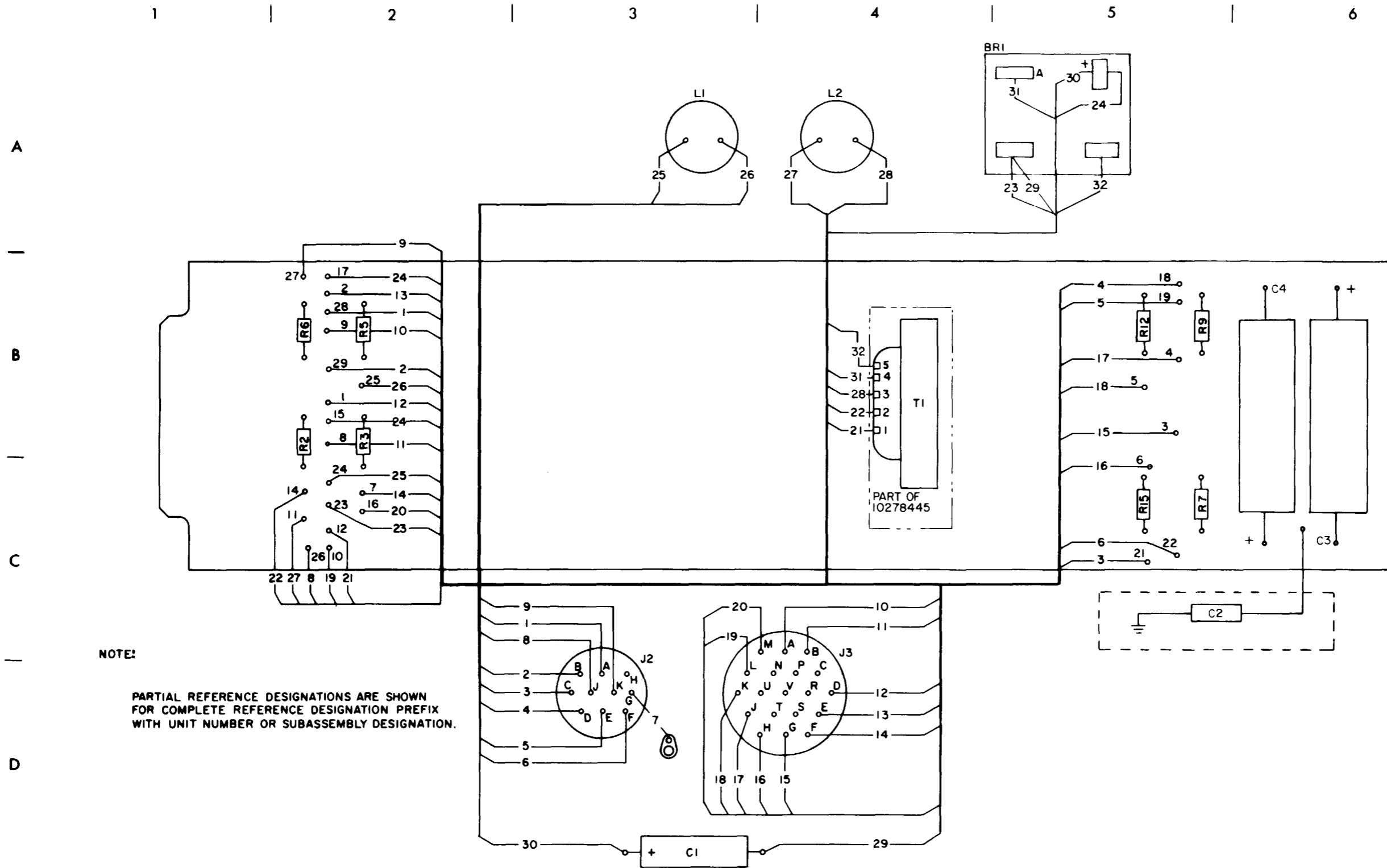
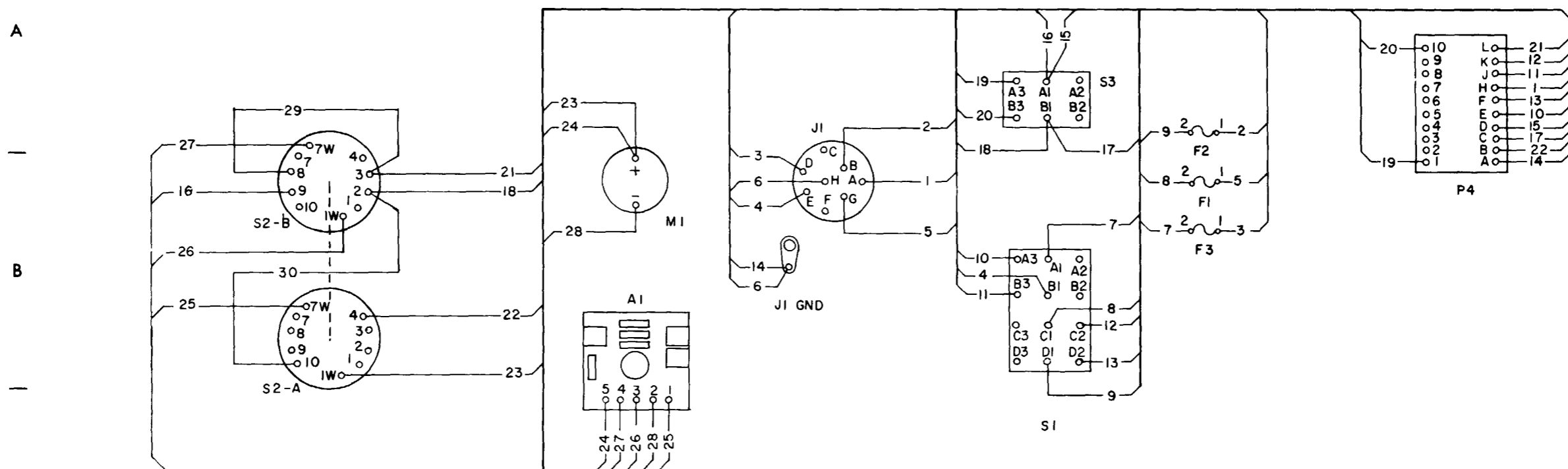


FIGURE F-9 BATTERY CHARGER (1A1A1), WIRING DIAGRAM (SHEET 1 OF 2)

7 | 8 | 9 | 10 | 11 | 12



NOTE:

PARTIAL REFERENCE DESIGNATIONS ARE SHOWN.
FOR COMPLETE REFERENCE DESIGNATION PREFIX
WITH UNIT NUMBER OR SUBASSEMBLY DESIGNATION.

RUNNING LIST			
WIRE NO.	BODY	FROM	TO
29	INSUL	S2-B8	S2-B3
30	INSUL	S2-B3	S2-A10

MS158313

FIGURE F-9 BATTERY CHARGE (1A1A1), WIRING DIAGRAM
(SHEET 2 OF 2)

1

2

3

4

5

6

A

B

C

D

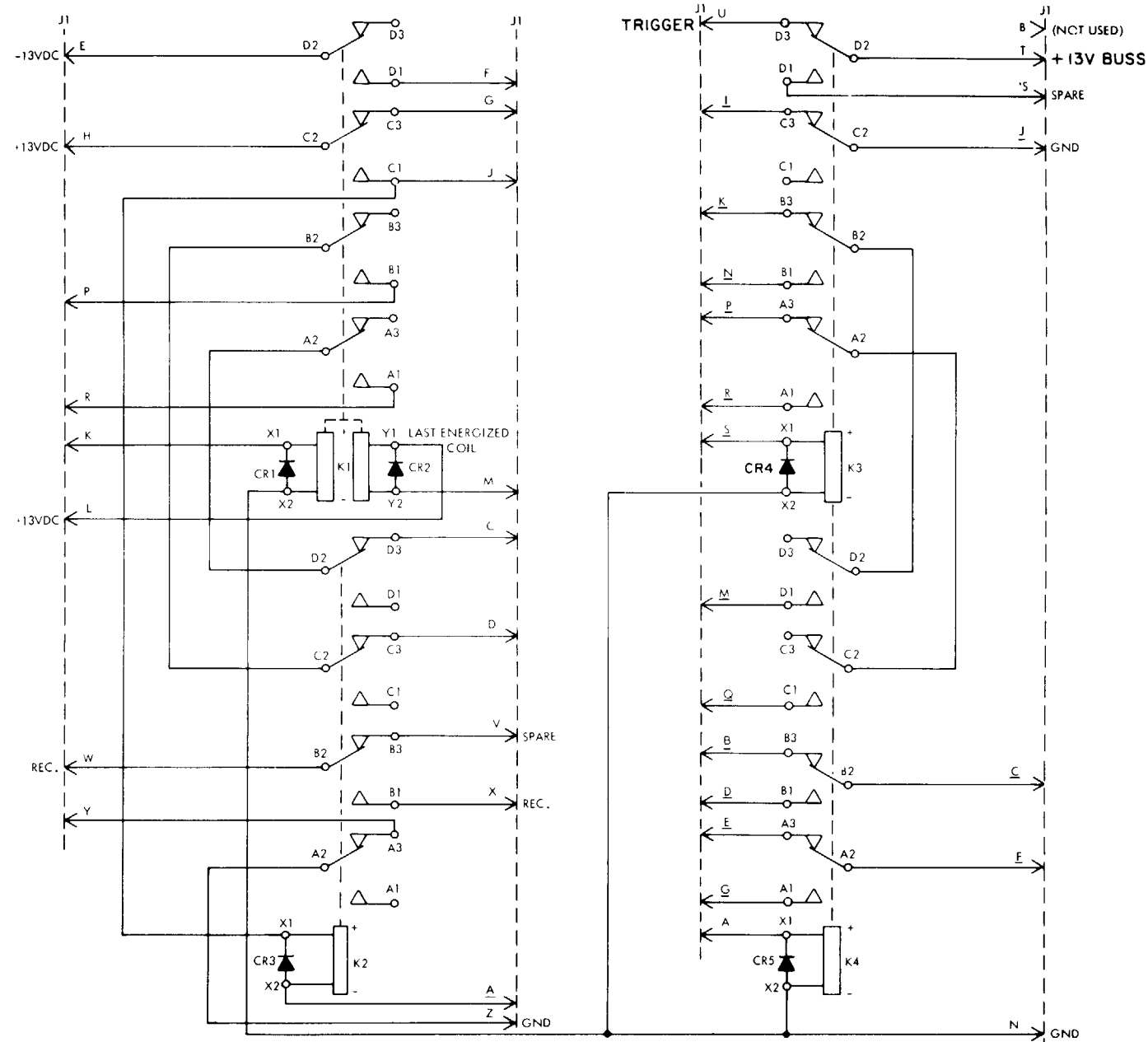


FIGURE F-10 RELAY DIODE ASSEMBLY (1A1A3), SCHEMATIC DIAGRAM

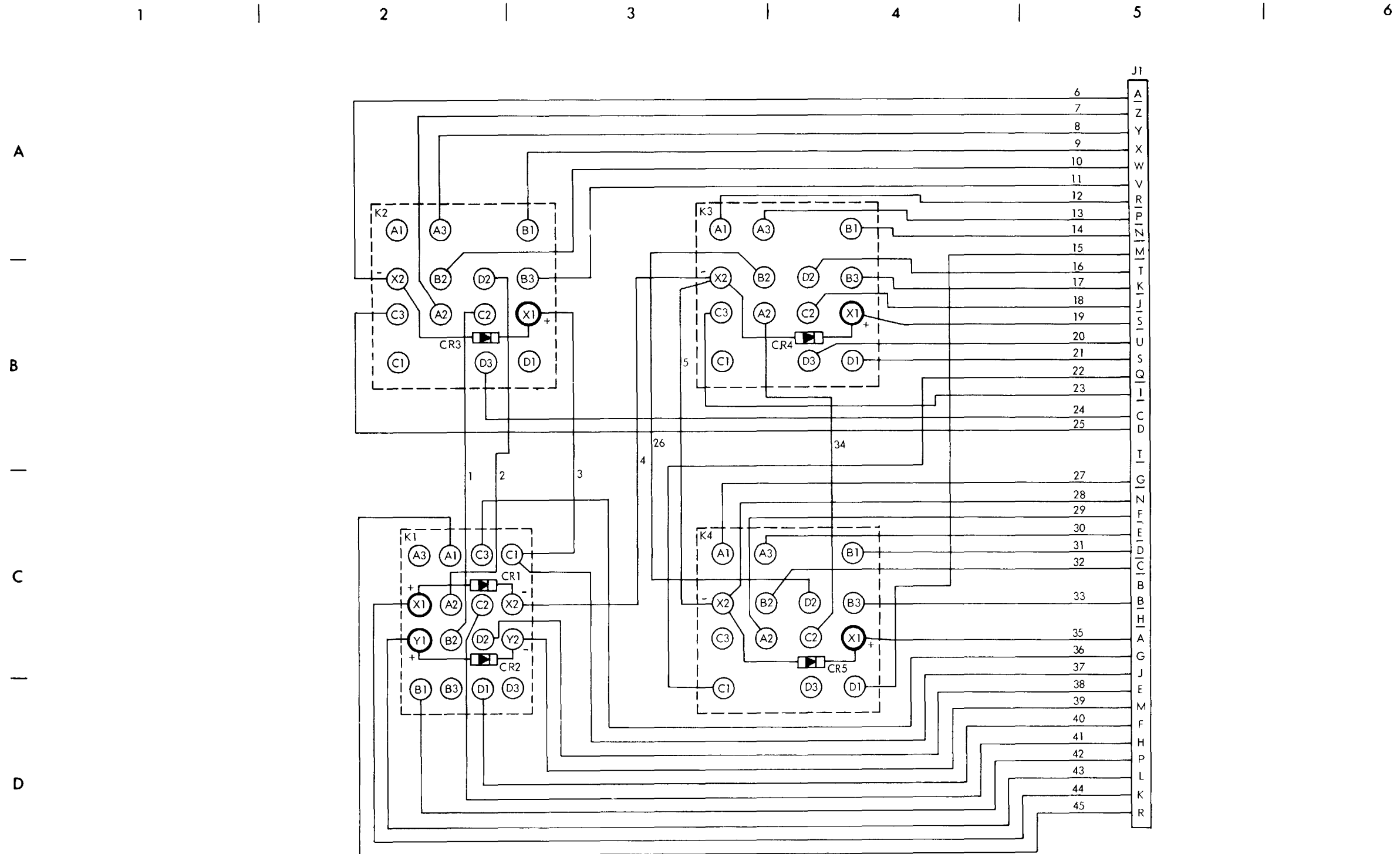
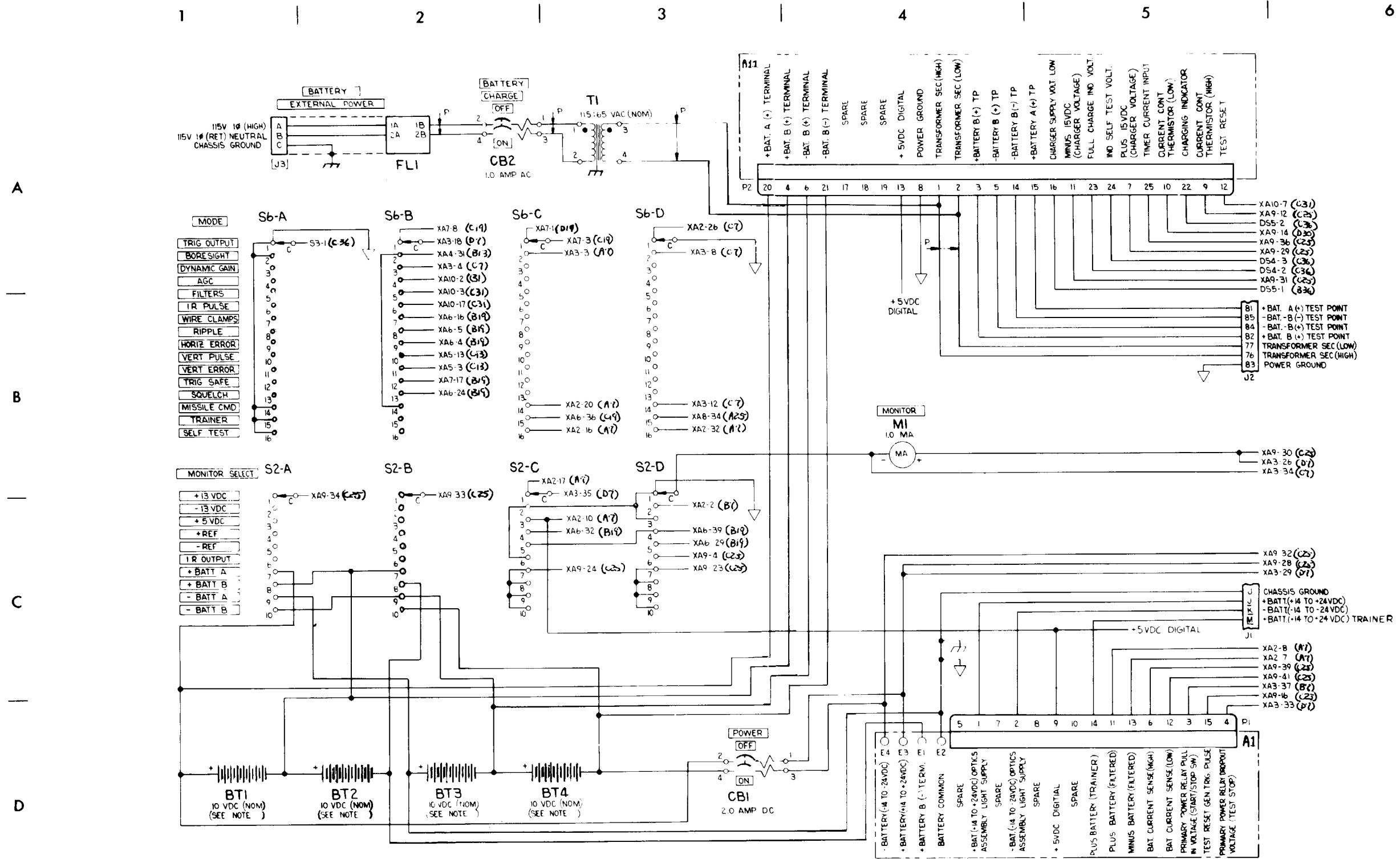


FIGURE F-11 RELAY DIODE ASSEMBLY (1A1A3), WIRING DIAGRAM

MS159315



MS158316

FIGURE F-12 MONITOR UNIT, SCHEMATIC DIAGRAM (SHEET 1 OF 6)

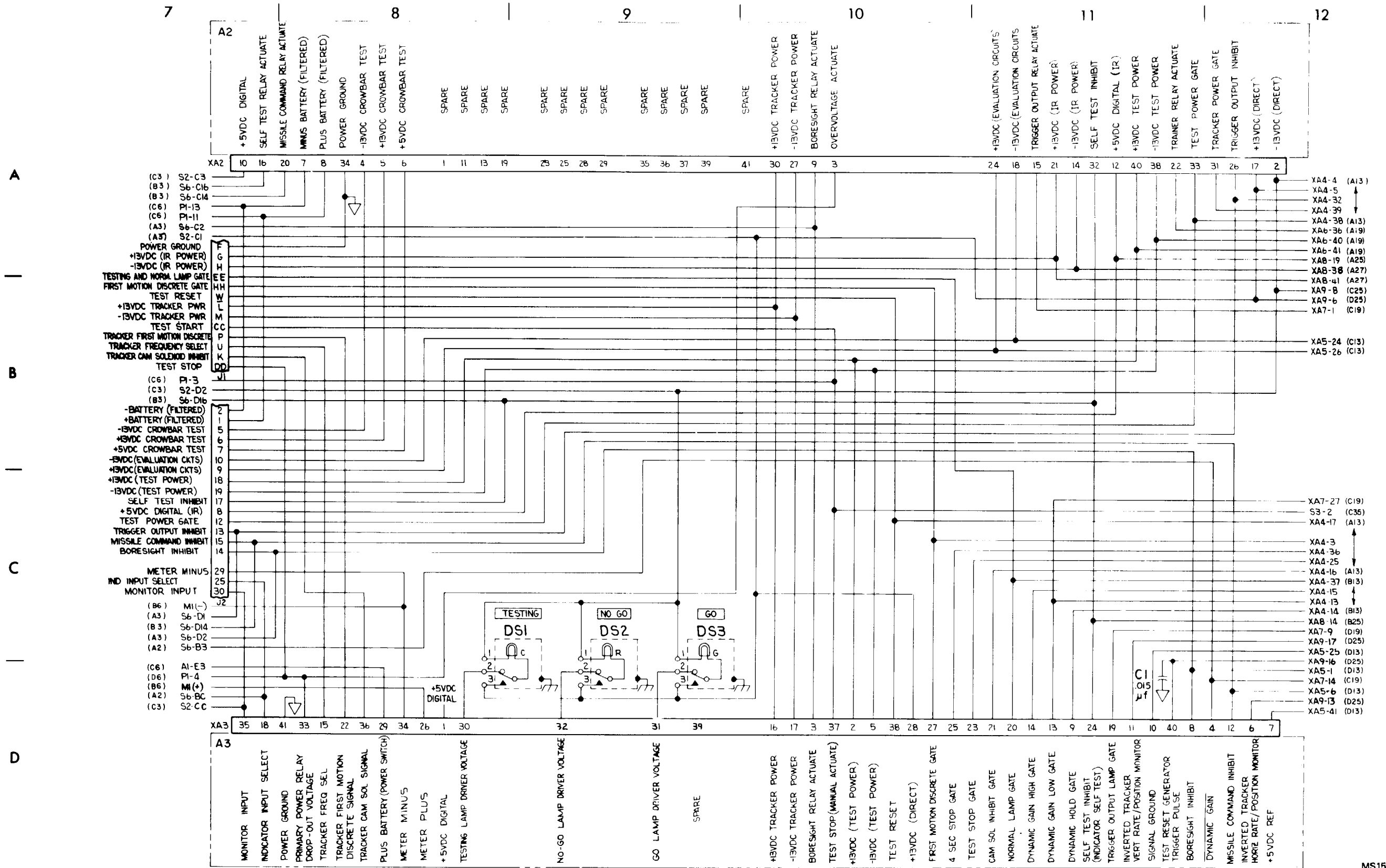


FIGURE F-12 MONITOR UNIT, SCHEMATIC DIAGRAM (SHEET 2 OF 6)

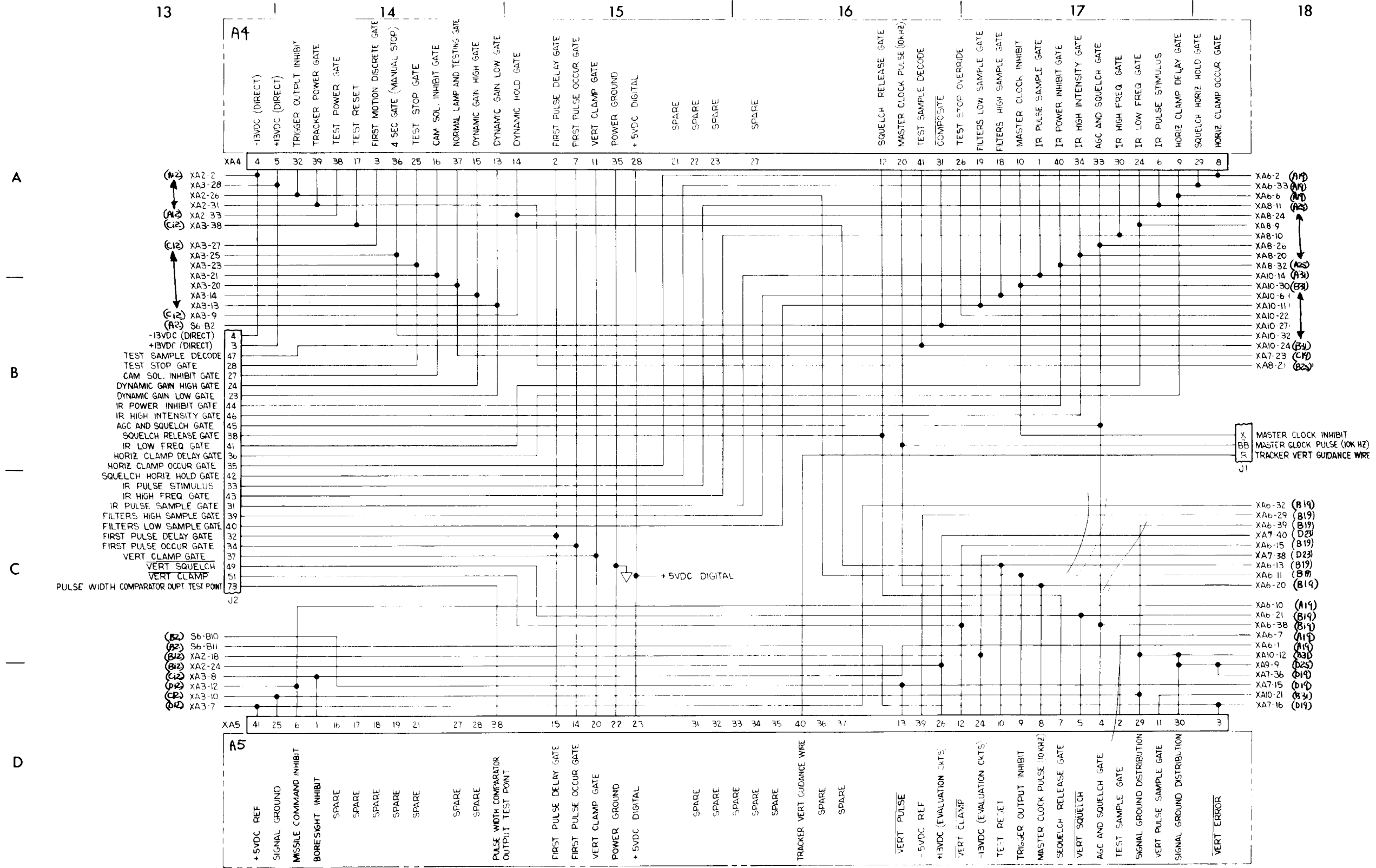


FIGURE F-12 MONITOR UNIT, SCHEMATIC DIAGRAM (SHEET 3 OF 8)

MS158318

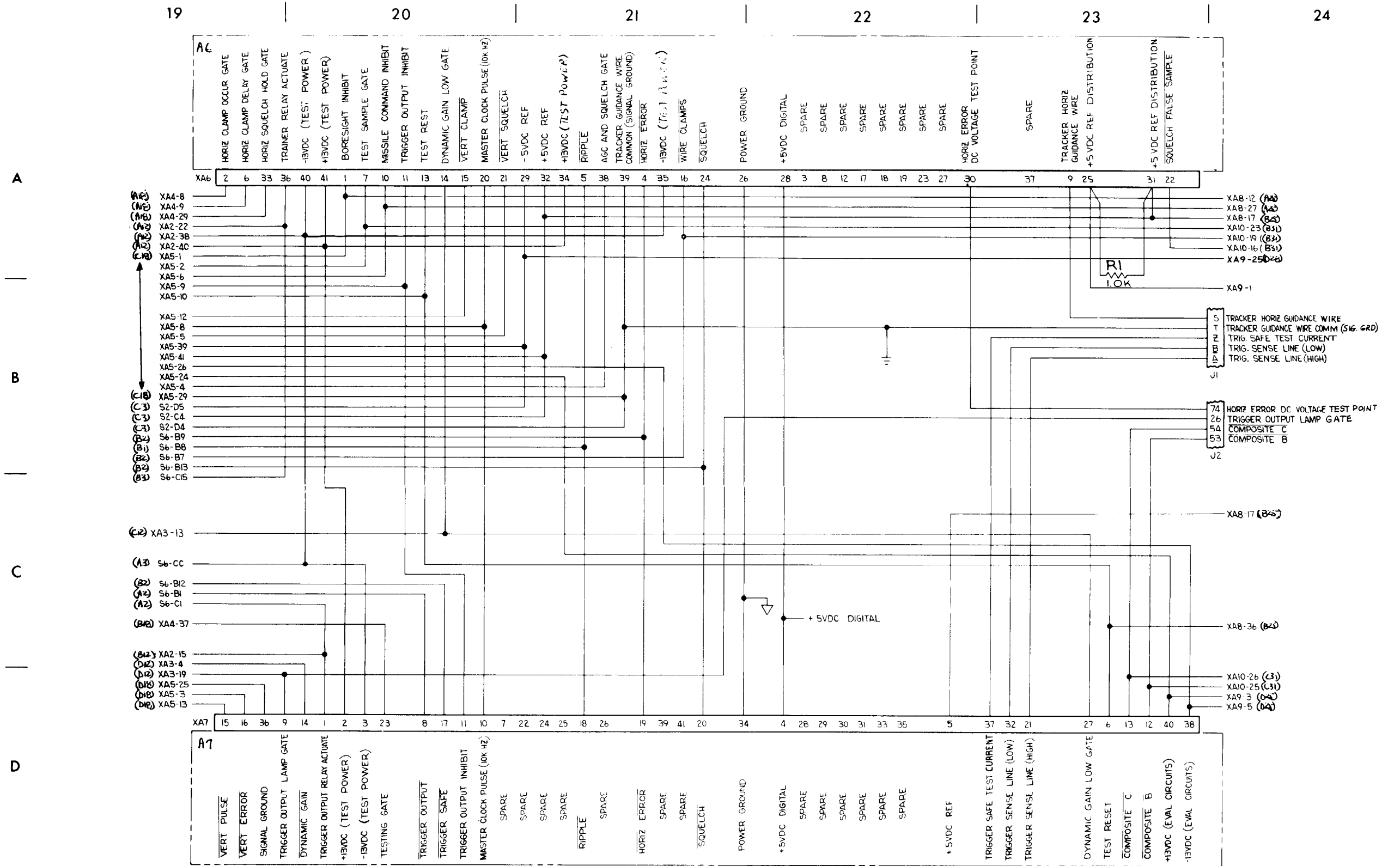


FIGURE F-12 MONITOR UNIT, SCHEMATIC DIAGRAM (SHEET 4 OF 6)

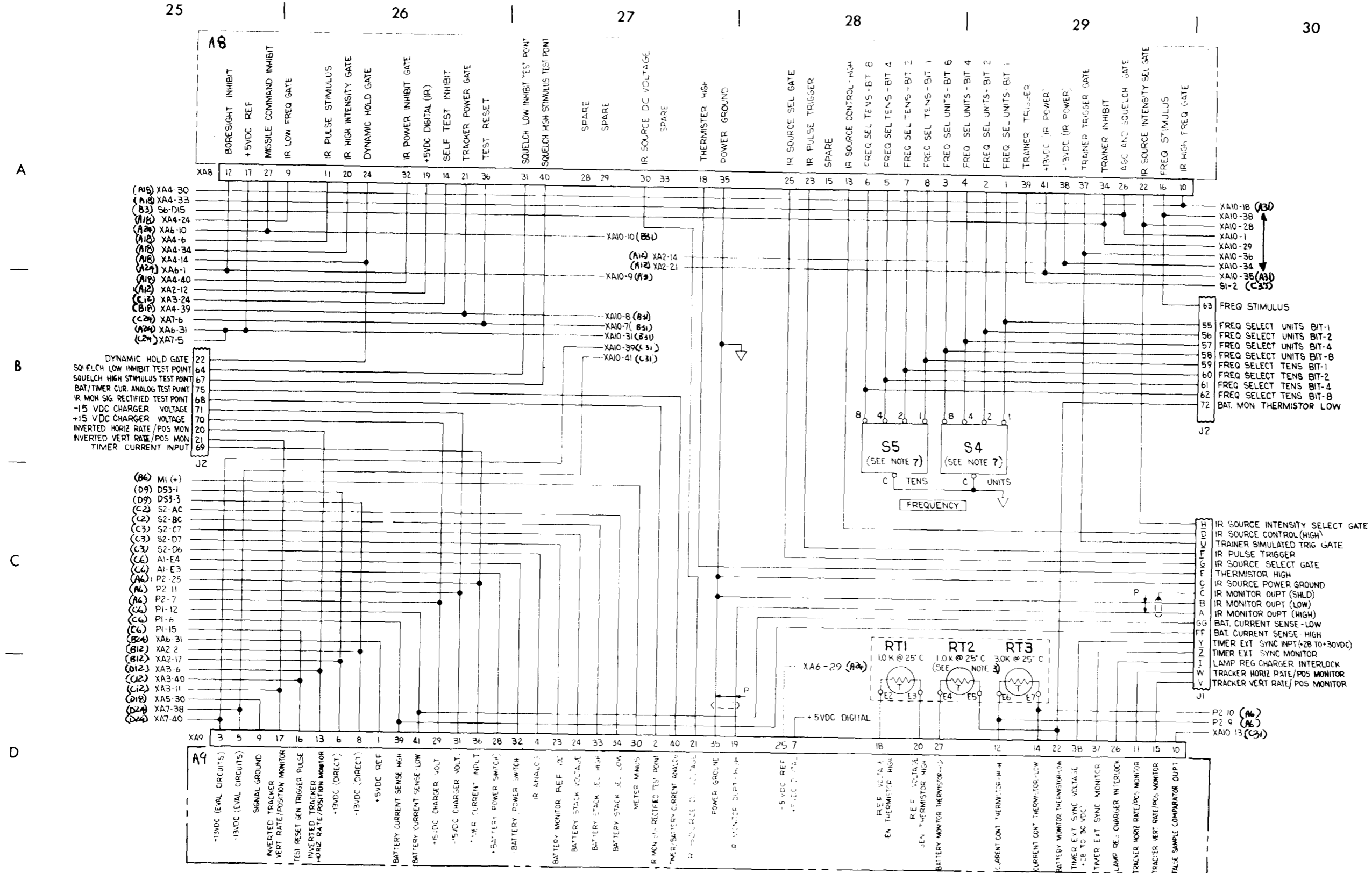
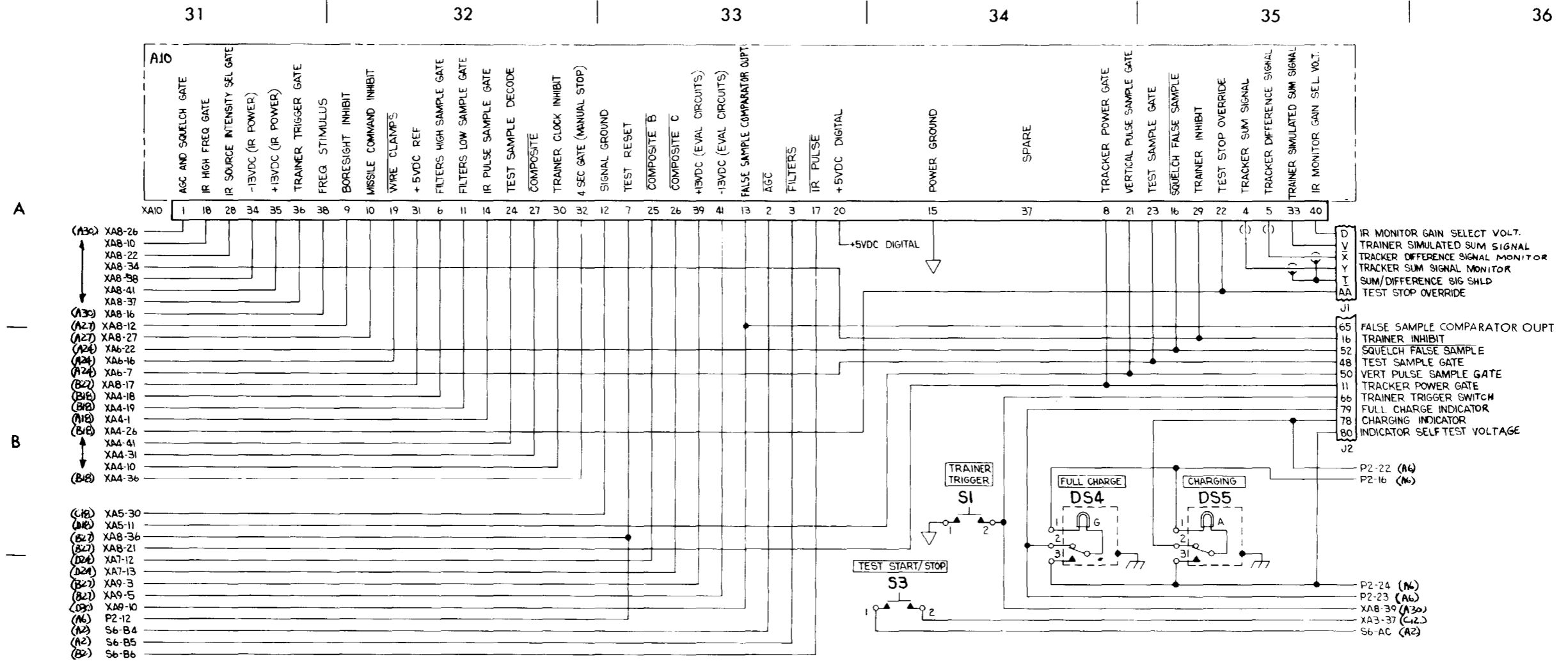


FIGURE F-12 MONITOR UNIT, SCHEMATIC DIAGRAM (SHEET 5 OF 6)

MS168320



A
B
C
D

NOTES:

- PARTIAL REFERENCE DESIGNATIONS ARE SHOWN, FOR COMPLETE DESIGNATION PREFIX WITH UNIT NUMBER, OR SUBASSEMBLY DESIGNATION OR BOTH.
- GROUND SYMBOLS TO BE USED ARE:
 ↓ POWER GROUND
 ⏏ CHASSIS GROUND
 ⊥ SIGNAL GROUND
- RT1, RT2 AND RT3 SENSE THE TEMPERATURE OF AND ARE ATTACHED TO BT 3
- INTERCONNECTION INFORMATION LEDGEND:
 XA9-39 (C7)
 — ZONE
 — TERMINATION POINT OF PART
 — COMPONENT REFERENCE DESIGNATION OF PART AT OPPOSITE END.

- EACH BATTERY STACK (BT1, BT2, BT3 AND BT4) CONSISTS OF EIGHT (8) SERIES CONNECTED 'D' SIZE NICKEL-CADMIUM SEALED CELLS, 1.25V NOMINAL, 30 AMP-HOUR (NOMINAL) SERVICE RATING.
- RESISTANCE VALUES ARE IN OHMS, ±5% AND 1/4 W AND CAPACITANCE VALUES ARE IN PICO FARADS, ±10% AND 200VDCW.
- DECADE TO BCD DECODE SWITCH

DIAL READS	DIAL POS	COMMON C- CONNECTED TO:			
		1	2	4	8
0	0				
1	1	•			
2	2		•		
3	3	•	•		
4	4			•	
5	5	•		•	
6	6		•	•	
7	7	•	•	•	
8	8				•
9	9	•			•

FIGURE F-12 MONITOR UNIT, SCHEMATIC DIAGRAM (SHEET 6 OF 6)

MS159321

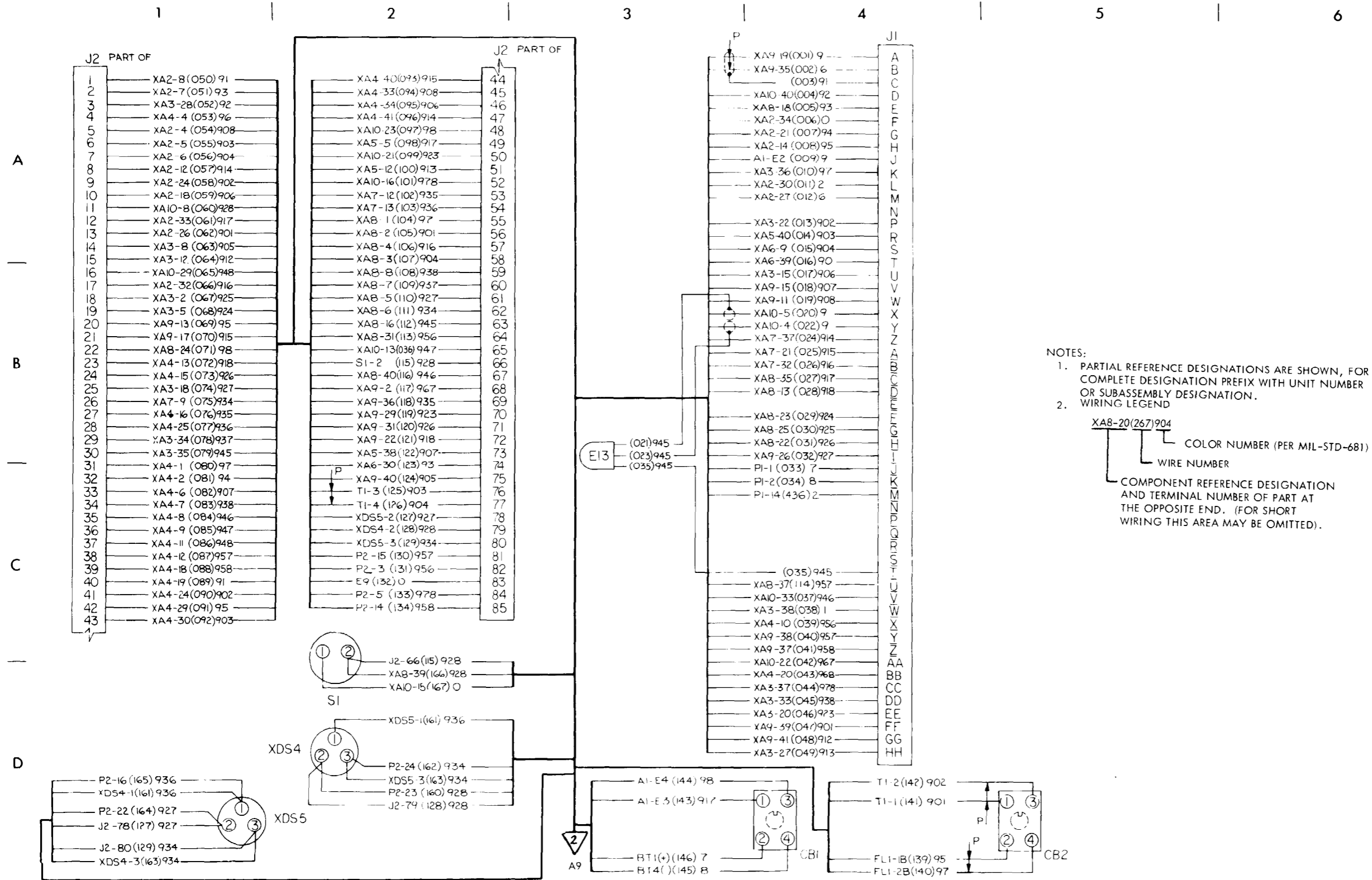


FIGURE F-13 MONITOR UNIT, WIRING DIAGRAM (SHEET 1 OF 5)

MS159322

7 | 8 | 9 | 10 | 11 | 12

A

B

C

D

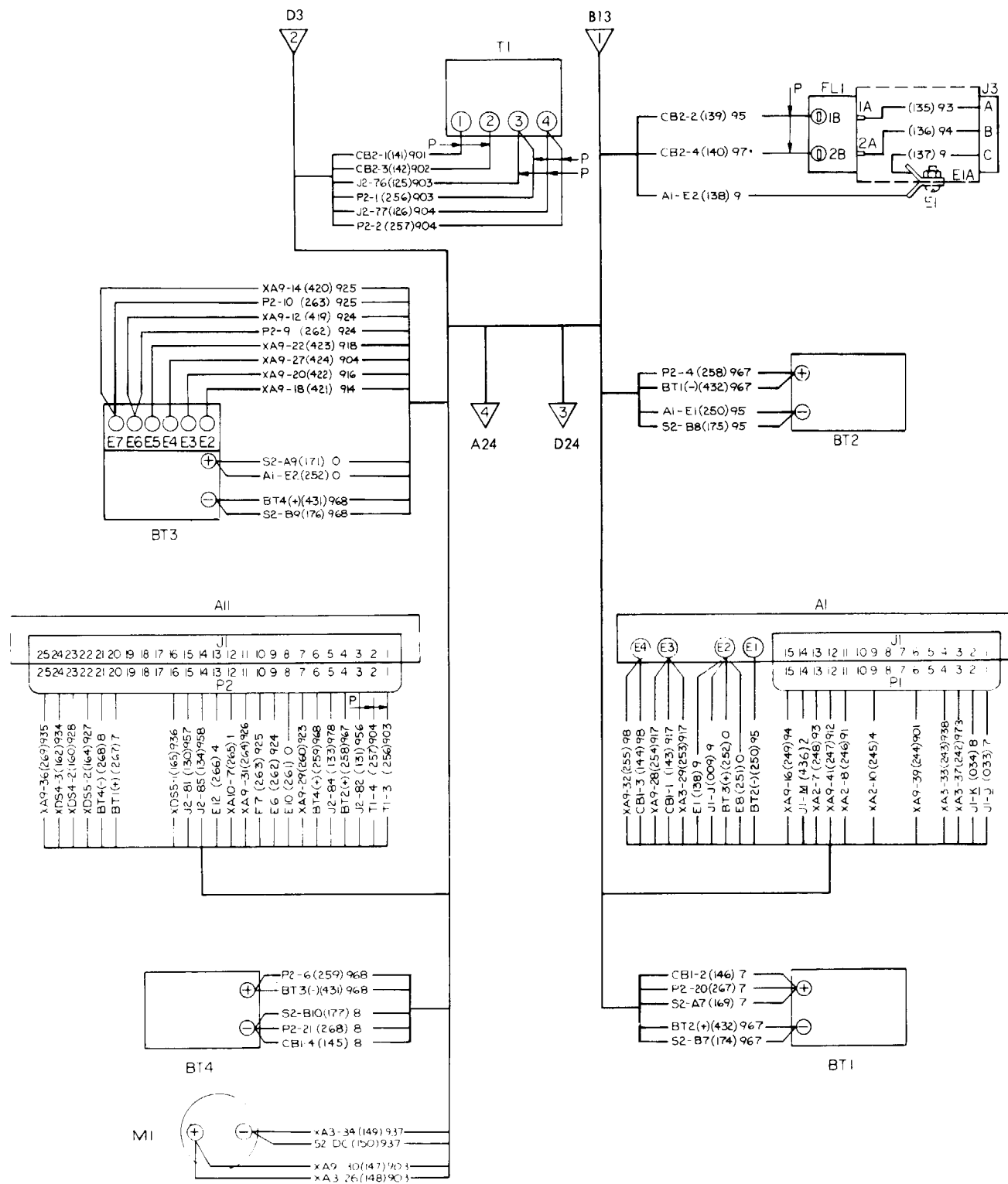


FIGURE F-13 MONITOR UNIT, WIRING DIAGRAM (SHEET 2 OF 5)

MS159323

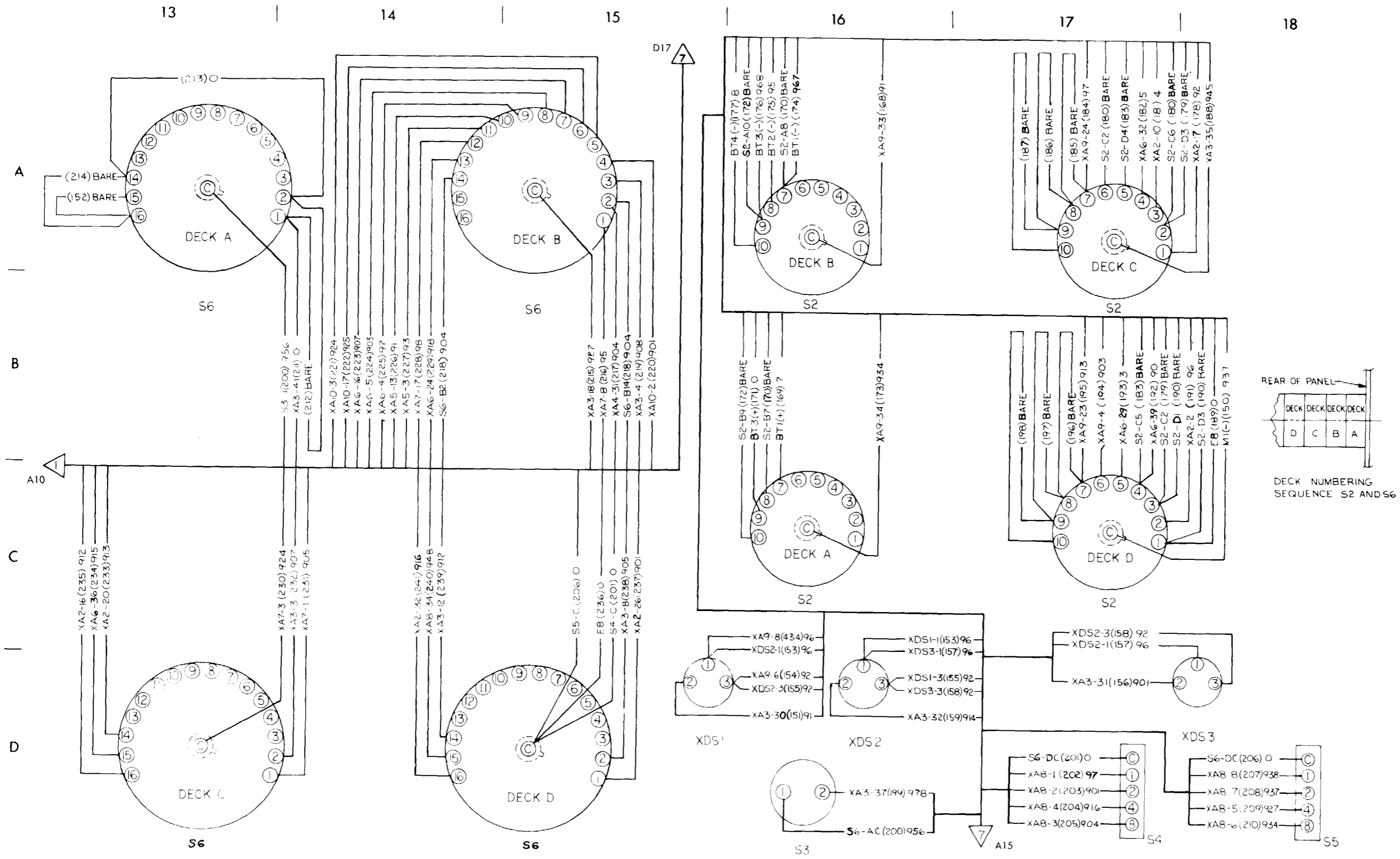


FIGURE F-13 MONITOR UNIT, WIRING DIAGRAM (SHEET 3 OF 5)

MS158324

19

20

21

22

23

24

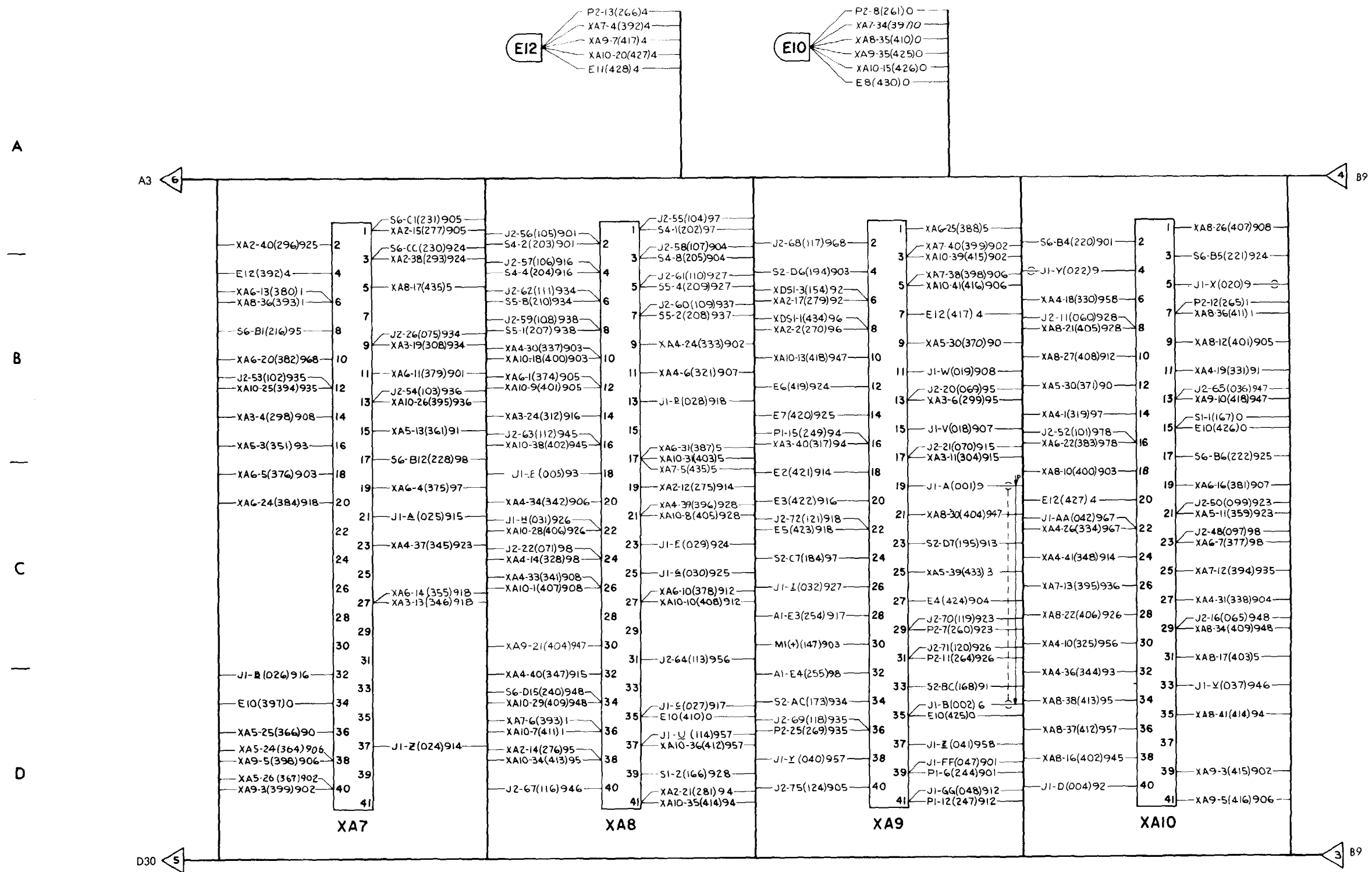


FIGURE F-13 MONITOR UNIT, WIRING DIAGRAM (SHEET 4 OF 5)

MS159325

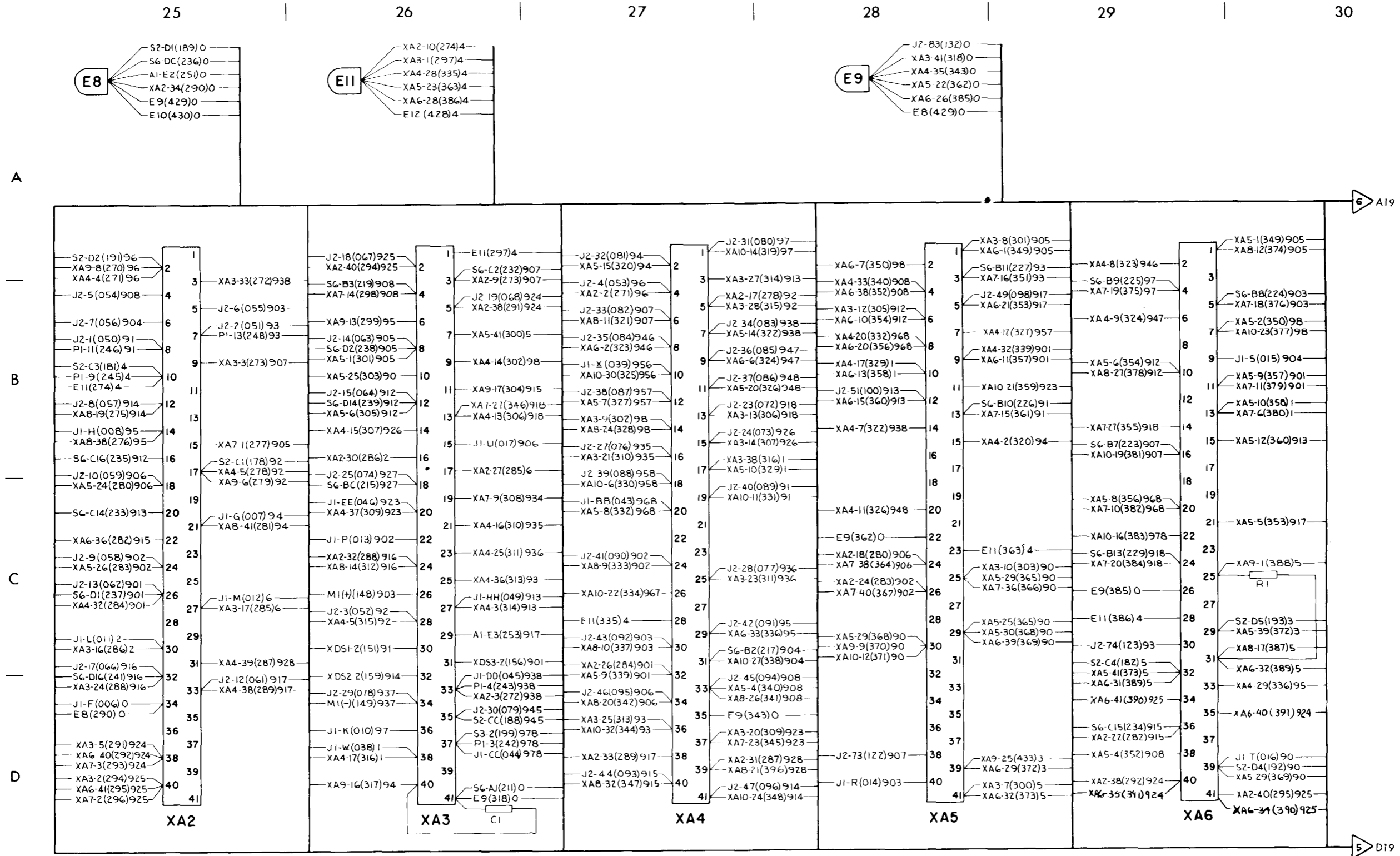
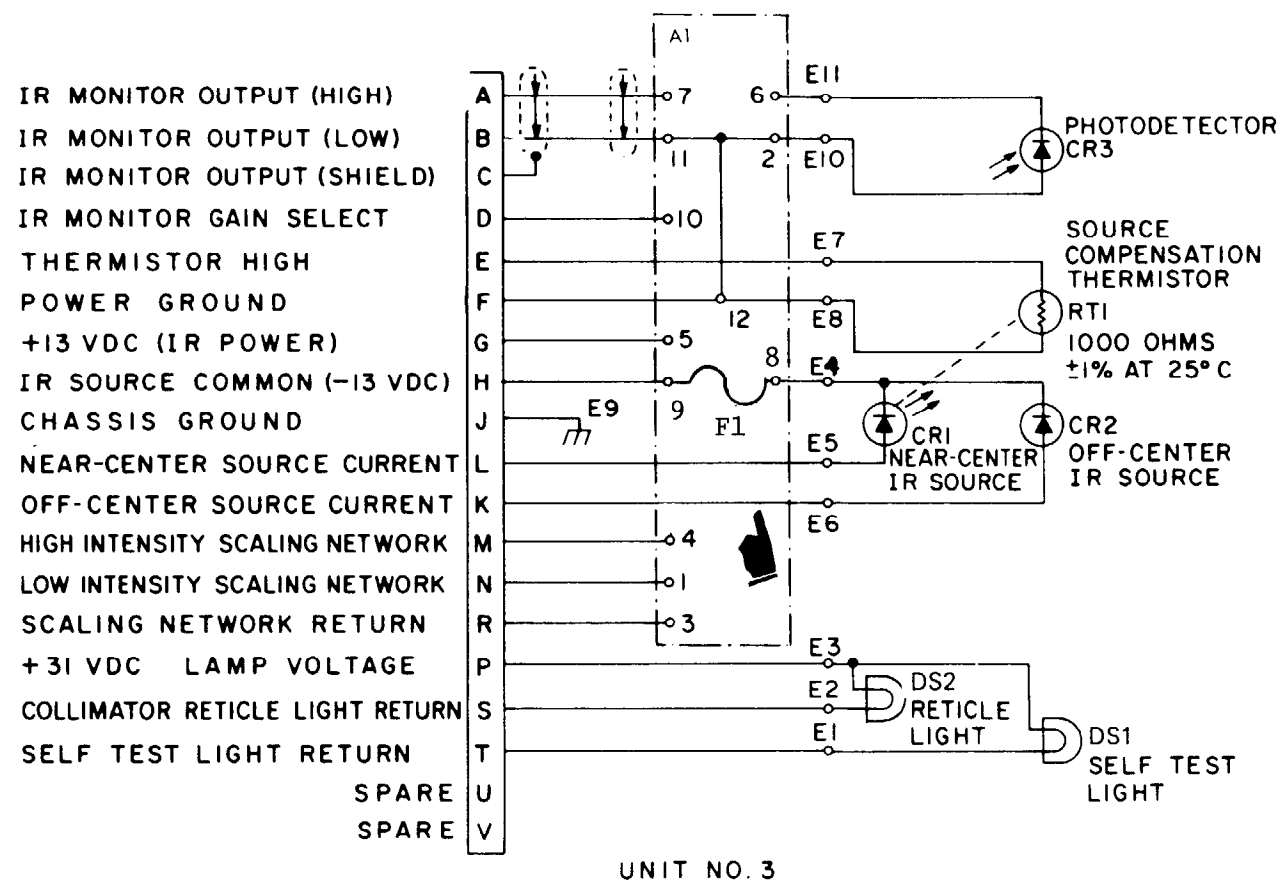


FIGURE F-13 MONITOR UNIT, WIRING DIAGRAM (SHEET 5 OF 5)

MS159326



NOTES:

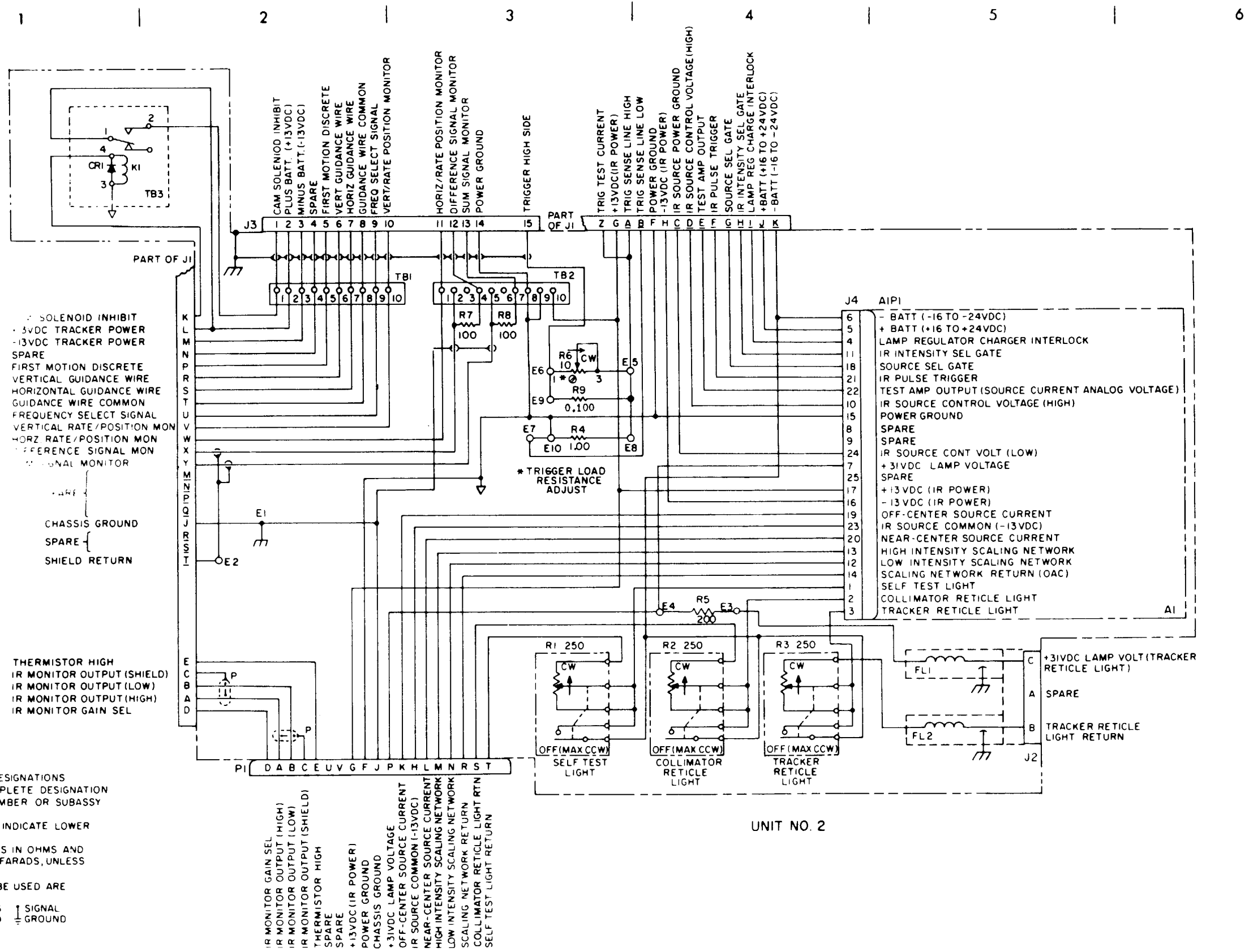
1. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN. FOR COMPLETE DESIGNATION, PREFIX WITH UNIT NUMBER AND SUBASSEMBLY DESIGNATIONS.

2. GROUND SYMBOLS TO BE USED ARE AS SHOWN
CHASSIS
GROUND



WIRE COLOR	CONNECTED TO
WHITE/YELLOW/BLUE	A1-1
BLACK	A1-2
WHITE/YELLOW/VIOLET	A1-3
WHITE/BROWN/RED	A1-4
WHITE/YELLOW	A1-5
WHITE WIRE FROM E 11	A1-6
WHITE	A1-7
WHITE/ORANGE/YELLOW	A1-8
WHITE/ORANGE/VIOLET	A1-9
WHITE/RED	A1-10
BLUE	A1-11
BLACK	A1-12

FIGURE F-14 COLLIMATOR, SCHEMATIC DIAGRAM



C

D

NOTES

- 1 PARTIAL REFERENCE DESIGNATIONS ARE SHOWN, FOR COMPLETE DESIGNATION PREFIX WITH UNIT NUMBER OR SUBASSY DESIGNATION
- 2 UNDERLINED LETTERS INDICATE LOWER CASE LETTERS
- 3 ALL RESISTANCE VALUES IN OHMS AND CAPACITANCE IN MICROFARADS, UNLESS OTHERWISE SPECIFIED
- 4 GROUND SYMBOLS TO BE USED ARE AS SHOWN
 ↓ POWER GROUND ⊥ CHASSIS GROUND ⊥ SIGNAL GROUND

- IR MONITOR GAIN SEL
- IR MONITOR OUTPUT (HIGH)
- IR MONITOR OUTPUT (LOW)
- IR MONITOR OUTPUT (SHIELD)
- THERMISTOR HIGH
- SPARE
- +13VDC (IR POWER)
- POWER GROUND
- CHASSIS GROUND
- +31VDC LAMP VOLTAGE
- OFF-CENTER SOURCE CURRENT
- IR SOURCE COMMON (-13VDC)
- NEAR-CENTER SOURCE CURRENT
- HIGH INTENSITY SCALING NETWORK
- LOW INTENSITY SCALING NETWORK
- SCALING NETWORK RETURN
- COLLIMATOR RETICLE LIGHT RTN
- SELF TEST LIGHT RETURN

UNIT NO. 2

FIGURE F-15 OPTICAL ALIGNMENT FIXTURE, SCHEMATIC DIAGRAM

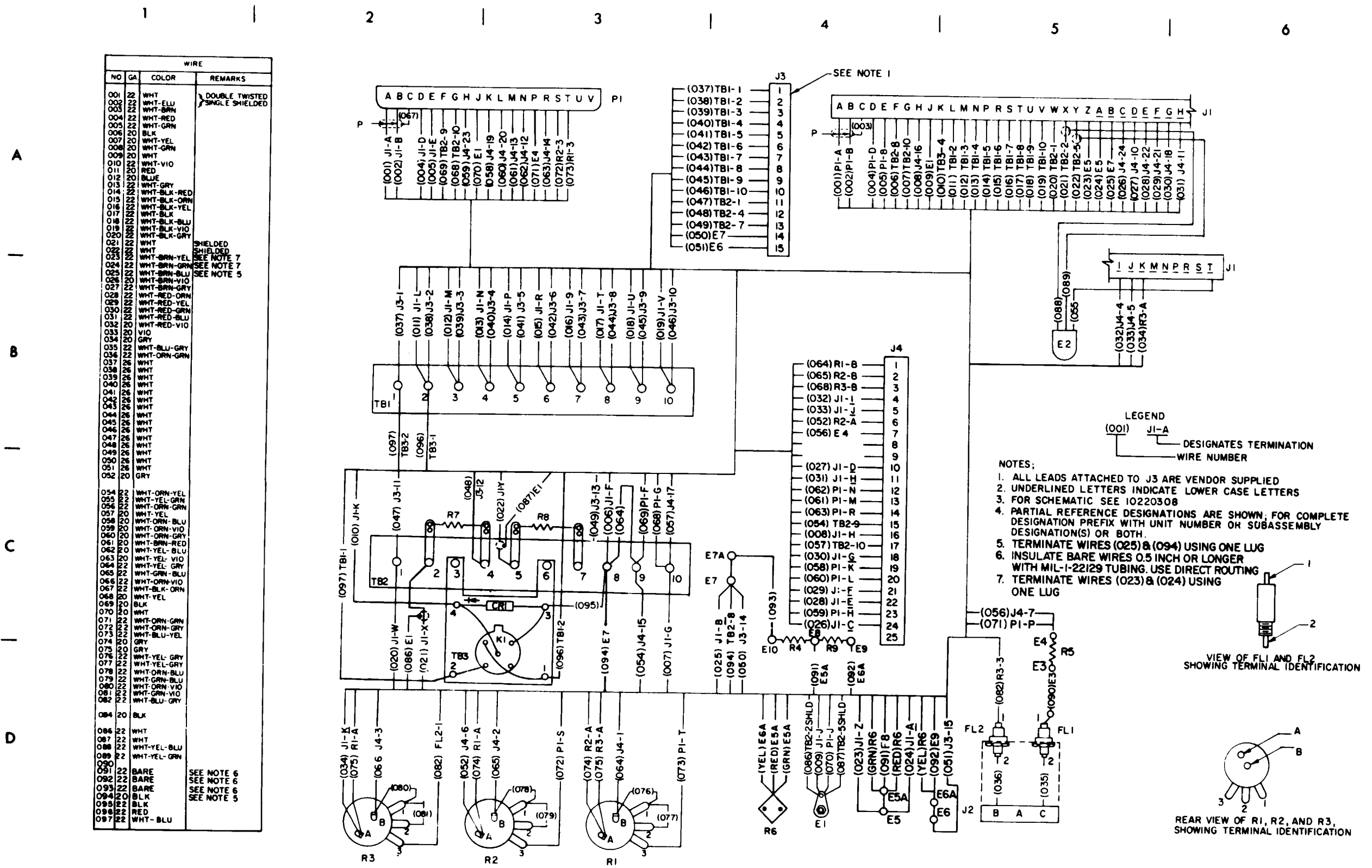


FIGURE F-16 OPTICAL ALIGNMENT FIXTURE, WIRING DIAGRAM

MS168329

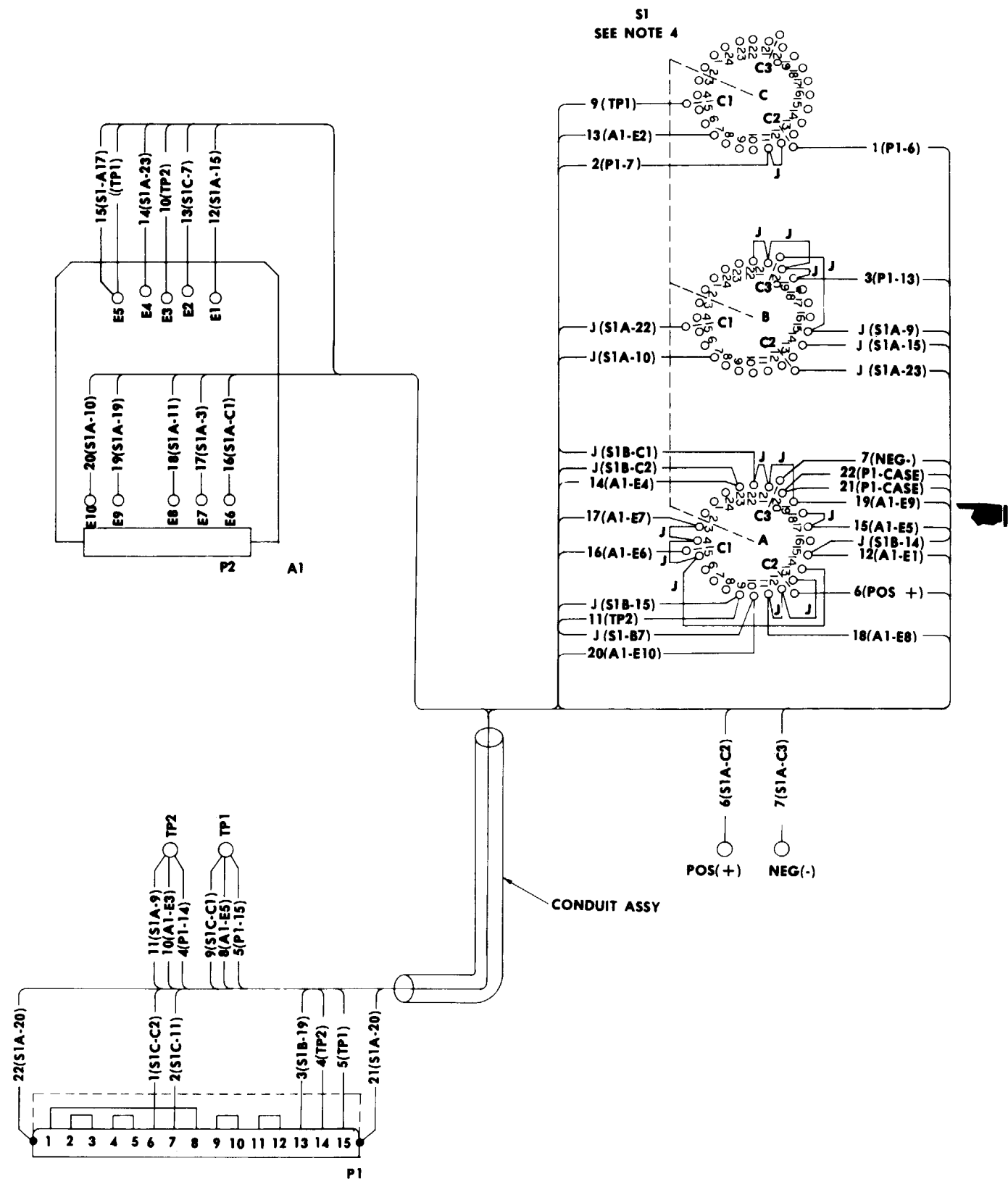


FIGURE F-17 WIRING DIAGRAM, TEST ADAPTER

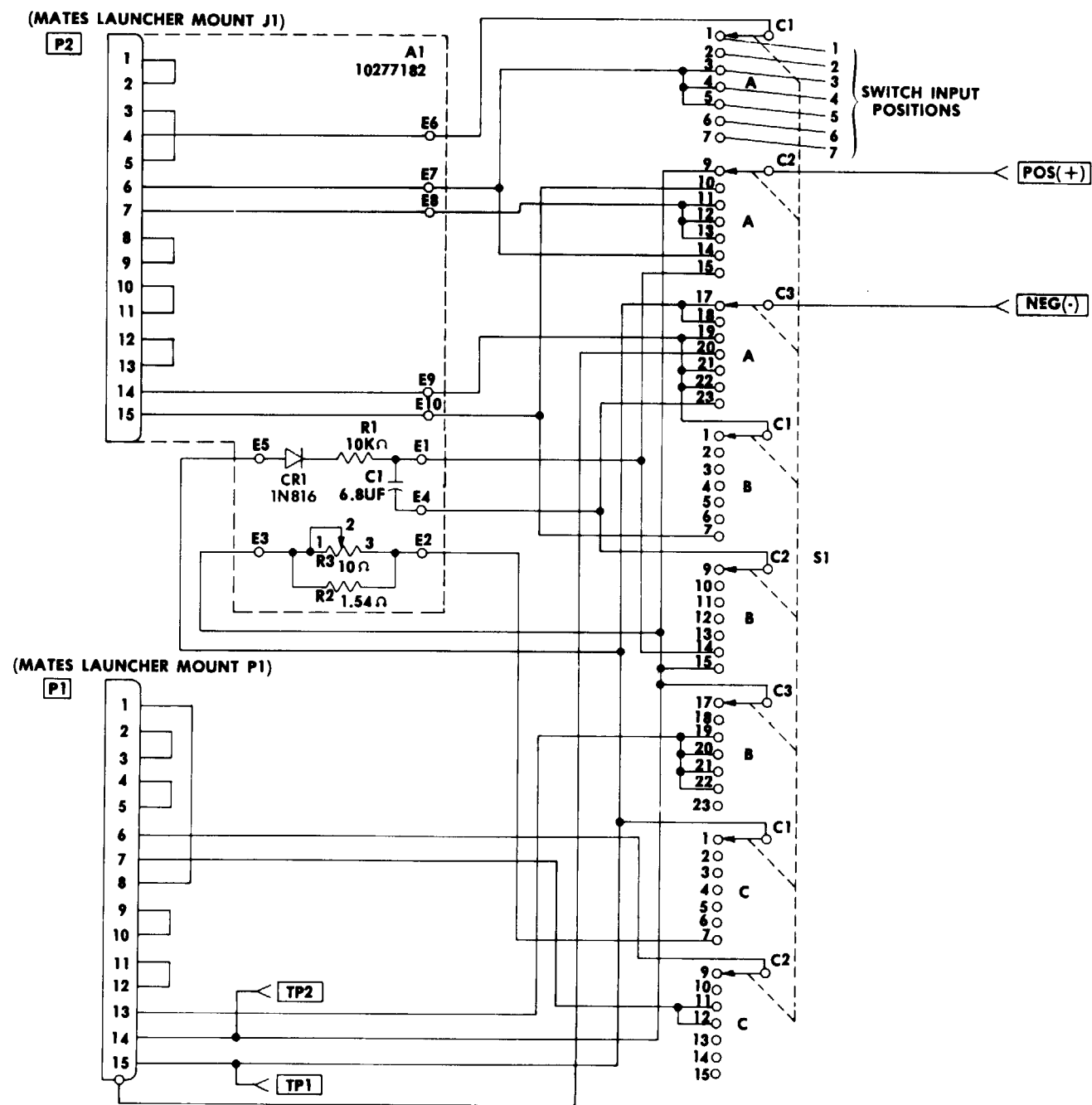


FIGURE F-18 SCHEMATIC DIAGRAM, TEST ADAPTER.

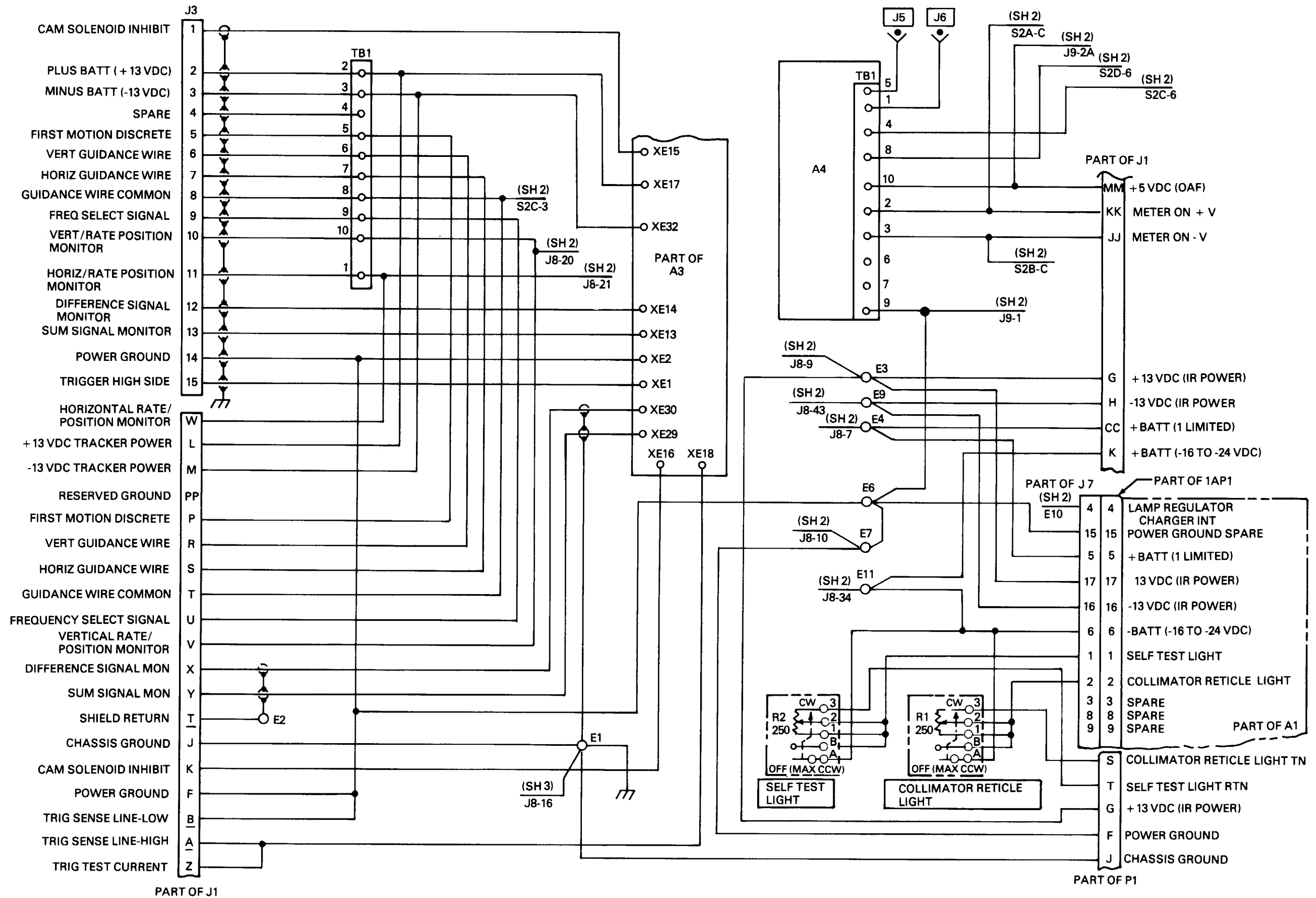


Figure F-19. Schematic diagram - optical alignment fixture (SU) . (sheet 1 of 3)

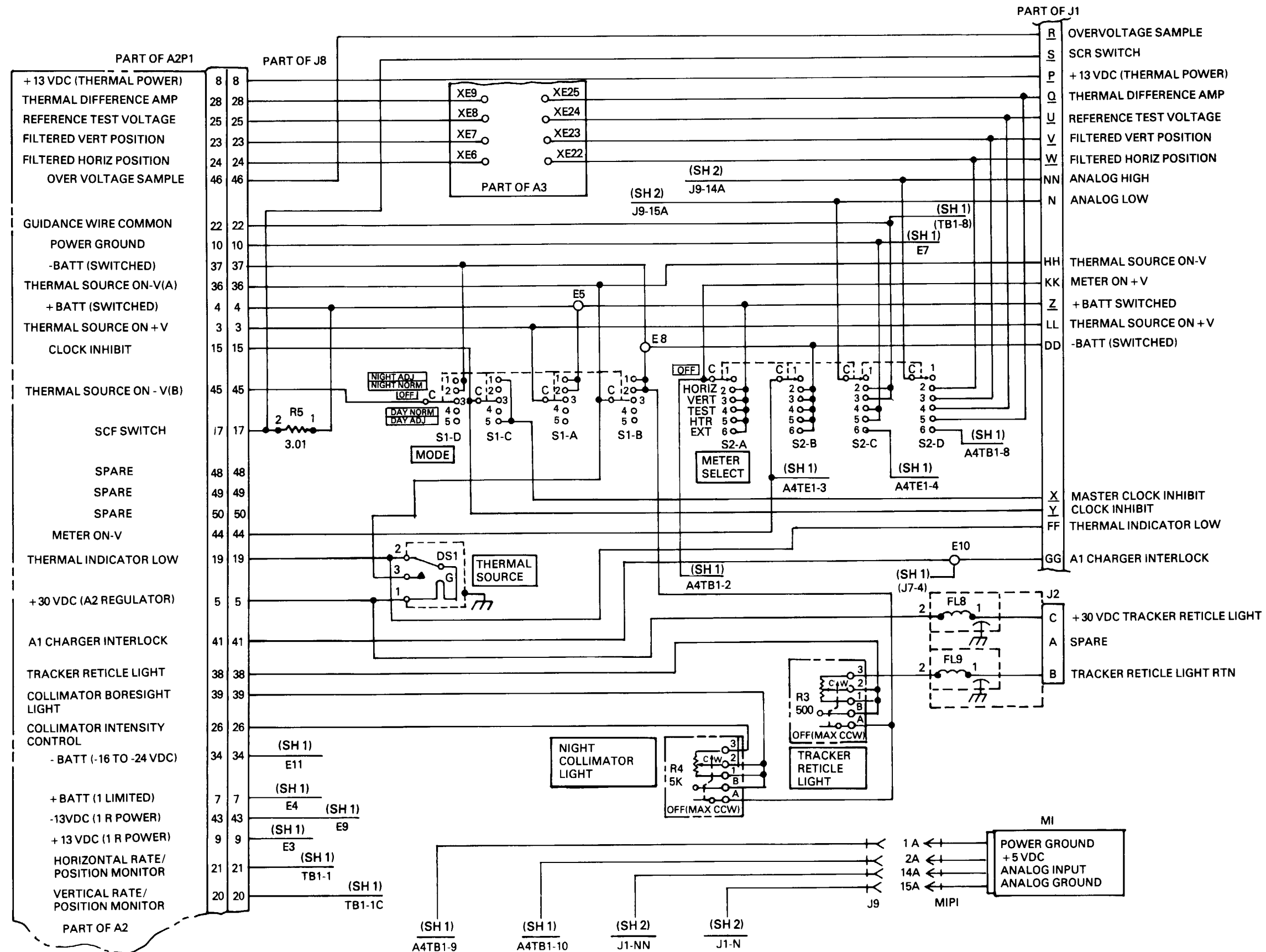


Figure F-19. Schematic diagram - optical alignment fixture (SU).
(sheet 2 of 3)

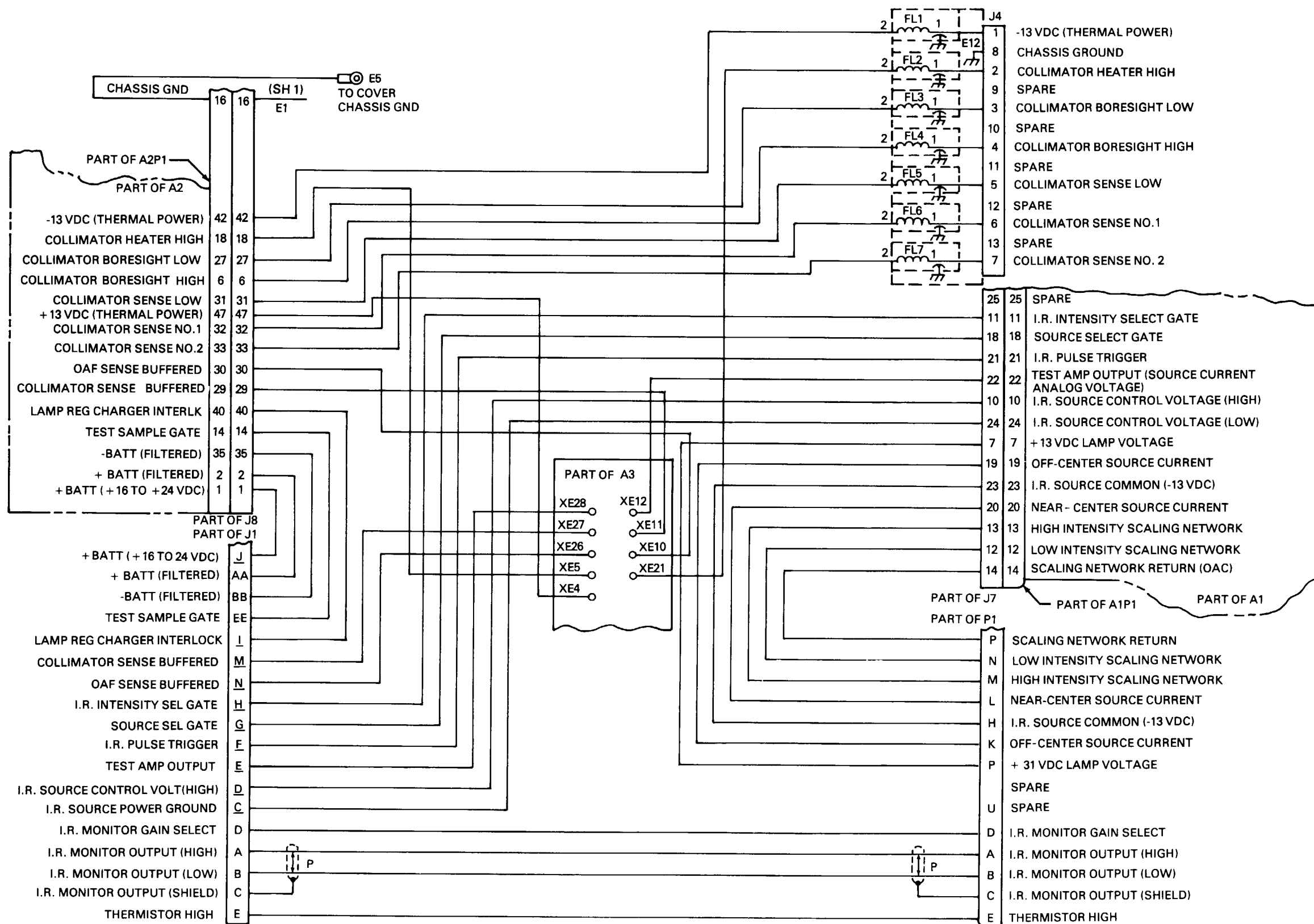


Figure F-19. Schematic diagram - optical alignment fixture (SU). (sheet 3 of 3)

WIRE				WIRE				WIRE			
NO.	GA.	COLOR	REMARKS	NO.	GA.	COLOR	REMARKS	NO.	GA.	COLOR	REMARKS
001	22	WHT	} DOUBLE TWISTED SINGLE SHIELDED	078	26	WHT		156	20	WHT/RED	
002	22	WHT/BLU			079	26	WHT		157	22	WHT
003	22	WHT/BRN		080	26	WHT		158	22	WHT	
004	22	WHT/RED		081	22	WHT/BRN		159	20	BLK	
005	22	WHT/ORN		082	22	WHT/RED		160	22	WHT/BRN/RED	
006	20	BLK		083	22	WHT/ORN		161	22	BARE	
007	20	WHT/YEL		084	22	WHT/YEL		162	20	WHT/BRN/GRN	
008	20	WHT/GRN		085	22	WHT/GRN		163	20	WHT/BLK/GRN	
009	20	WHT		086	22	WHT/BLU		164	22	BARE	
010	22	WHT/VIO		087	22	WHT/VIO		165	20	WHT/BLK/GRN	
011	20	RED		088	22	WHT/RED		166	22	BARE	
012	20	BLU		089	22	WHT/BLK		167	22	BARE	
013	22	WHT/BRN		090	22	WHT/BRN/BLU		168	22	BARE	
014	22	WHT/BLK/RED		091	22	WHT/YEL/GRY		169	22	BARE	
015	22	WHT/BLK/ORN		092	22	ORN		170	22	BARE	
016	22	WHT/BLK/YEL		093	22	YEL		171	22	WHT/GRN/VIO	
017	22	WHT/BLK		094	20	GRY		172	22	BARE	
018	22	WHT/BLK/BLU		095	22	WHT/ORN/GRN		173	22	BARE	
019	22	WHT/BLK/VIO		096	20	WHT/YEL/BLU		174	22	BARE	
020	22	WHT/BLK/GRY		097	20	WHT/BRN/RED		175	22	BARE	
021	22	WHT	SHIELDED SHIELDED	098	20	WHT/YEL/VIO		176	22	WHT/BLK/GRN	
022	22	WHT			099	20	BLK		177	22	WHT/BRN/ORN
023	22	WHT/BRN/YEL		100	20	WHT/GRN		178	22	BARE	
024	22	WHT/BRN/YEL		101	20	WHT/YEL		179	22	BARE	
025	22	BLK		102	20	WHT/ORN/BLU		180	22	BLK	
026	20	WHT/BRN/VIO		103	20	WHT/ORN/GRY		181	22	WHT/YEL/VIO	
027	22	WHT/BRN/GRY		104	20	WHT/ORN/VIO		182	22	WHT/YEL/BLU	
028	22	WHT/RED/ORN		105	22	WHT/BRN/BLU		183	22	GRY	
029	22	WHT/RED/YEL		106	20	WHT/BRN/GRN		184	22	GRY	
030	22	WHT/RED/ORN		107	22	WHT/GRY		185	22	WHT/YEL/GRY	
031	22	WHT/RED/BLU		108	22	WHT/BLK/YEL		186	22	WHT/YEL/GRY	
032	22	WHT/RED/VIO		109	22	YEL		187	22	WHT/GRN/BLU	
033	20	VIO		110	22	WHT/YEL		188	22	WHT/GRN/BLU	
034	20	GRY		111	20	BLK		189	22	WHT/BLK/GRN	
035	22	WHT/ORN/GRN		112	22	WHT/BRN		190	22	WHT/RED	
036	22	WHT/ORN/BLU		113	22	WHT/ORN/YEL		191	22	WHT/RED	
037	22	WHT/ORN/VIO		114	22	WHT/RED/GRY		192	22	WHT/GRN/VIO	
038	22	WHT/ORN/GRY		115	22	WHT/BLU/GRY		193	22	WHT/GRN/VIO	
039			NOT USED NOT USED	116	22	WHT		194	20	BLK	
040					117	20	WHT/BRN/GRY		195	22	WHT/ORN/YEL
041	22	WHT/YEL/GRN		118	22	WHT/BLK/RED		196	22	WHT/BRN	
042	22	WHT/YEL/GRY		119	22	BRN		197	22	WHT/RED/GRY	
043	22	WHT/GRN/GRY		120	22	WHT/BLK/VIO		198	22	WHT/BRN/GRN	
044	22	WHT/BLU/VIO		121	22	WHT/BLK/GRY		199	22	WHT/BLK	
045	22	WHT/GRN/BLU		122	22	WHT/BLK		200	22	WHT/BLK/GRN	
046	22	WHT/BLU/GRY		123	22	WHT/GRN/GRY		201	22	GRY	
047	22	WHT/BRN/GRN		124	22	WHT/BLU/VIO		202	22	WHT/GRY	
048	20	WHT/BLK/BRN		125	22	WHT/YEL/GRY		203	22	BARE	
049	20	WHT/VIO/GRY		126	22	WHT/YEL/VIO		204	22	BARE	
050	22	YEL		127	22	WHT/BLK/ORN		205	22	WHT	
051	22	WHT/BLK/GRN		128	22	WHT/ORN/GRY		206	22	WHT/RED/YEL	
052	22	GRN		129	22	WHT/BLK/BLU		207	22	WHT/BRN/ORN	
053	22	BRN		130	22	WHT/BLU		208	22	WHT/GRN/VIO	
054	22	ORN		131	22	WHT/VIO					
055	22	WHT/BRN/RED		132	20	GRY					
056	22	WHT/BRN/ORN		133	22	WHT/BRN/RED					
057	22	WHT/GRN/VIO		134	20	WHT/BLK/GRN					
058	22	WHT/BRN/BLU		135	22	WHT/RED					
059	22	WHT/RED/GRY		136	22	WHT/GRN/VIO					
060	22	WHT/ORN/YEL		137	22	GRN					
061	22	WHT/RED/ORN		138	22	WHT/BRN/YEL					
062	22	WHT/YEL/GRN		139	22	WHT/GRN					
063	22	WHT/YEL/GRN		140	22	WHT/BRN/ORN					
064	22	WHT/ORN/GRN		141	22	WHT/GRY					
065	22	WHT/BLU/GRY		142	22	WHT/ORN					
066	26	WHT		143	22	WHT/BLK/BRN					
067	26	WHT		144	20	BLK					
068	26	WHT		145	20	WHT/YEL					
069	26	WHT		146	20	WHT					
070	26	WHT		147	22	WHT/GRN/GRY					
071	26	WHT		148	22	WHT/BLU/VIO					
072	26	WHT		149	22	WHT/BRN/GRY					
073	26	WHT		150	22	WHT					
074	26	WHT		151	20	WHT/BRN/GRN					
075	26	WHT		152	20	WHT/BRN/GRN					
076	26	WHT		153	22	RED					
077	26	WHT		154	22	BLU					
				155	22	WHT/BLK					

Figure F-20. Wiring diagram - fixture, optical alignment (SU). (sheet 1 of 3)

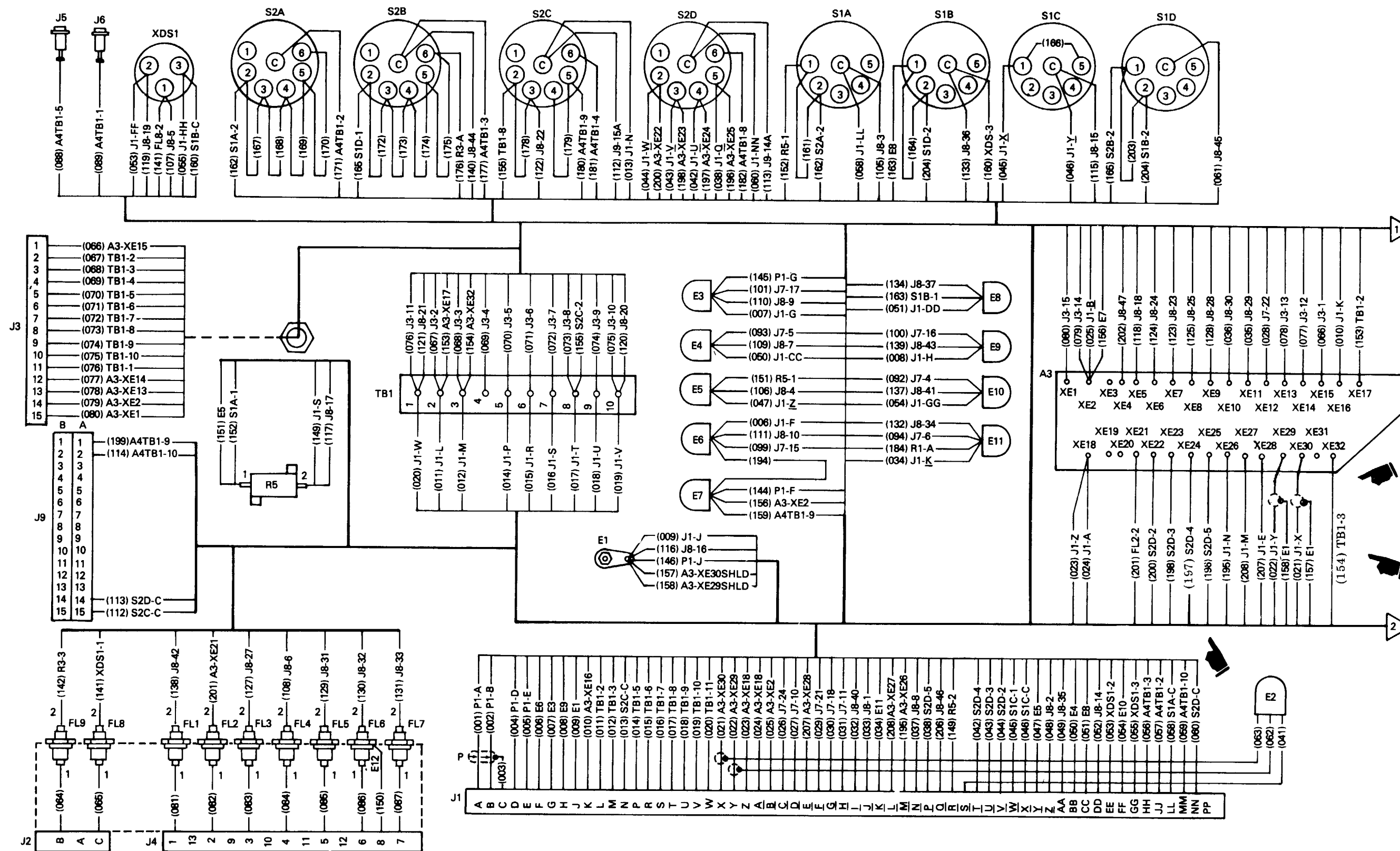


Figure F-20. Wiring diagram - fixture, optical alignment (SU). (sheet 2 of 3)

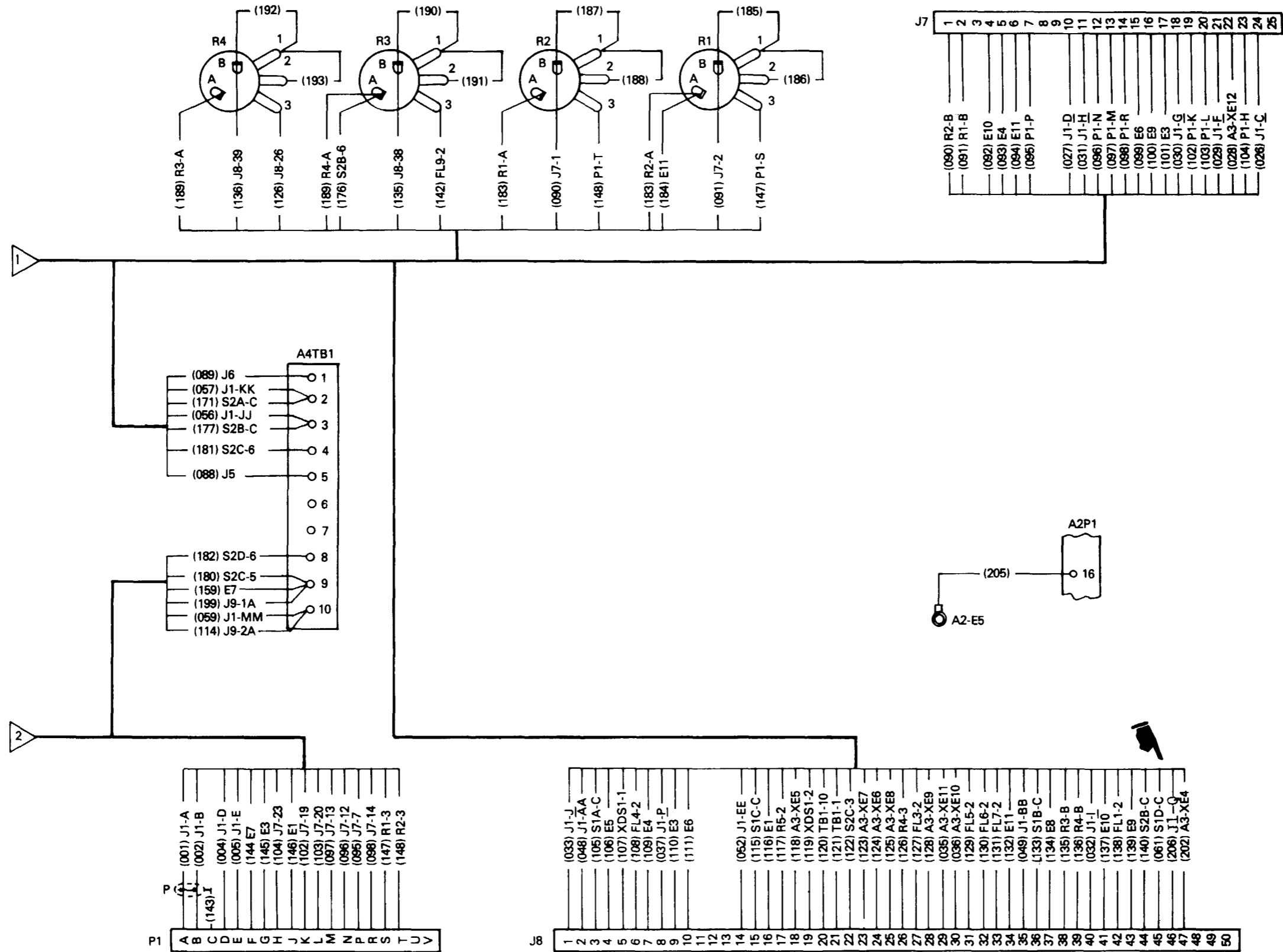


Figure F-20. Wiring diagram - fixture, optical alignment (SU). (sheet 3 of 3)

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