

**TECHNICAL BULLETIN  
INSTALLATION INSTRUCTIONS**

**FOR SYSTEMS**

**SINGLE CHANNEL GROUND AND  
AIRBORNE RADIO SYSTEM (SINGARS)**

**AN/VRC-88F, AN/VRC-89F, AN/VRC-90F, AN/VRC-91F, AN/VRC-92F**

**FORCE XXI BATTLE COMMAND, BRIGADE-AND-BELOW (FBCB2)**

**AN/UYK-128(V)**

**DEFENSE ADVANCED GPS RECEIVER (DAGR)**

**AN/PSN-13**

**VEHICULAR INTERCOMMUNICATION SET (VIS)**

**AN/VIC-3(V)20**

**BLUE FORCE TRACKING (BFT)**

**ENHANCED POSITION LOCATION REPORTING SYSTEM (EPLRS)**

**AN/VSQ-2(V)**

**FOR VEHICLE**

**TRUCK, UTILITY: EXPANDED CAPACITY ARMAMENT CARRIER, IAP/ARMOR READY M1151A1**

**(2320-01-540-2038)**

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

---

**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**OCTOBER 2007**



## LIST OF EFFECTIVE PAGES

### NOTE

A vertical line in the outer margins of the page indicates the portion of text affected by the change.

Dates of issue for original and change pages are:

Original ..... 0 ..... 31 October 2007

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 94 PAGES.

| Page No.               | *Change No. |
|------------------------|-------------|
| i-iii/iv (blank) ..... | 0           |
| 1-1 – 5-78 .....       | 0           |

\*Zero in this column indicates original page.



TECHNICAL BULLETIN  
NO. 9-2320-387-35-6

HEADQUARTERS,  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 31 OCTOBER 2007

## TECHNICAL BULLETIN INSTALLATION INSTRUCTIONS

### FOR SYSTEMS

#### SINGLE CHANNEL GROUND AND AIRBORNE RADIO SYSTEM (SINGARS)

AN/VRC-88F, AN/VRC-89F, AN/VRC-90F,  
AN/VRC-91F, AN/VRC-92F

#### FORCE XXI BATTLE COMMAND, BRIGADE-AND-BELOW (FBCB2)

AN/UYK-128(V)

#### DEFENSE ADVANCED GPS RECEIVER (DAGR)

AN/PSN-13

#### VEHICULAR INTERCOMMUNICATION SET (VIS)

AN/VIC-3(V)20

#### BLUE FORCE TRACKING (BFT)

#### ENHANCED POSITION LOCATION REPORTING SYSTEM (EPLRS)

AN/VSQ-2 (V)

### FOR VEHICLE

TRUCK, UTILITY: EXPANDED CAPACITY ARMAMENT CARRIER, IAP/ARMOR READY, M1151A1  
(2320-01-540-2038)

#### REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028 (Recommended Changes to Publications and Blank Forms), through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is <http://aeps.ria.army.mil>. If you need a password, scroll down and click on "ACCESS REQUEST FORM." The DA Form 2028 is located in the ONLINE FORMS PROCESSING section of the AEPS. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax or E-mail your letter or DA Form 2028 direct to: TACOM Life Cycle Management Command, ATTN: AMSTA-LC-LMPP/TECH PUBS 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The E-mail address is [ROCK-TACOM-TECH-PUBS@conus.army.mil](mailto:ROCK-TACOM-TECH-PUBS@conus.army.mil). The fax number is DSN 793-0726 or Commercial (309) 782-0726.

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

**TABLE OF CONTENTS**

|  | <b>Page</b> |
|--|-------------|
| LIST OF TABLES .....   | iii         |
| CHAPTER 1. INTRODUCTION .....  | 1-1         |
| Section I. Scope .....   | 1-1         |
| Section II. Notes .....  | 1-1         |
| Section III. General Information .....   | 1-1         |
| Section IV. Maintenance Forms, Records, and Reports .....                                  | 1-1         |
| Section V. Consolidated Index of Army Publications .....                                   | 1-1         |
| CHAPTER 2. PURPOSE OF INSTALLATION .....   | 2-1         |
| CHAPTER 3. COMPLETION TIME FOR INSTALLATION .....  | 3-1         |
| CHAPTER 4. PREPARATION FOR INSTALLATION .....  | 4-1         |
| Section I. Preparation of Vehicle .....  | 4-1         |
| Section II. Items to be Removed .....  | 4-1         |
| Section III. List of Items to be Retained .....  | 4-1         |
| Section IV. Preparation of C4ISR Equipment .....   | 4-1         |
| Section V. Precautions During Handling .....   | 4-1         |
| Section VI. Unpack and Inspect Equipment .....   | 4-1         |
| Section VII. Inventory C4ISR Equipment .....   | 4-1         |
| Section VIII. Examine Each Item for Damage .....   | 4-1         |
| Section IX. C4ISR Equipment, Distribution, and Consumables .....                           | 4-2         |
| Section X. Distribution and Issue Instructions .....                                       | 4-2         |
| Section XI. Parts List .....   | 4-2         |
| CHAPTER 5. INSTALLATION PROCEDURES .....   | 5-1         |
| Section I. Scope .....   | 5-1         |
| Section II. Integrated Rack Installation .....   | 5-1         |
| Section III. SINCGARS Mounting Tray, Amp Guard, and FBCB2<br>Components Installation ..... | 5-15        |
| Section IV. DAGR Installation .....  | 5-28        |
| Section V. BFT Installation .....  | 5-39        |
| Section VI. EPLRS Resilient Mount and URO Mounting Bracket Installation .....              | 5-46        |
| Section VII. EPLRS Antenna Installation .....  | 5-49        |
| Section VIII. EPLRS Cabling .....  | 5-50        |
| Section IX. SINCGARS Antenna Installation .....  | 5-59        |
| Section X. SINCGARS Cables Installation .....  | 5-62        |
| Section XI. VIC-3 Mounting Installation: FFCS/L .....                                      | 5-68        |
| Section XII. DAGR Power Cable Routing .....  | 5-74        |

**LIST OF TABLES**

| <b>Table</b> | <b>Title</b>   | <b>Page</b> |
|--------------|--|-------------|
| 4-1.         | Kit Parts List for Installation of C4ISR Equipment .....     | 4-3         |
| 4-2.         | Non-Kit Parts List for Installation of C4ISR Equipment ..... | 4-5         |





# CHAPTER 1

## INTRODUCTION

### Section I. SCOPE

- 1-1.** This technical bulletin provides installation instructions for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) equipment. The C4ISR equipment shall be installed in the following vehicles:

Truck, Utility: Expanded Capacity Armament Carrier, IAP/Armor Ready, M1151A1 (2320-01-540-2038).

- 1-2.** The information contained in this technical bulletin is the official authorization to perform the installation of the C4ISR equipment at the direct support maintenance level through contract maintenance teams.

### Section II. NOTES

- 2-1.** This technical bulletin is not an authorization for requisition or turn-in of vehicles.
- 2-2.** This technical bulletin does not establish quantity or types of vehicles assigned to using units.

### Section III. GENERAL INFORMATION

- 3-1.** Included in the C4ISR equipment are:
- a. Single Channel Ground and Airborne Radio System (SINCGARS), AN/VRC-88F/89F/90F/91F/92F Series
  - b. Force XXI Battle Command, Brigade-and-Below (FBCB2), AN/UYK-128(V)
  - c. Defense Advanced GPS Receiver (DAGR), AN/PSN-13
  - d. Vehicular Intercommunication Set (VIS), AN/VIC-3(V)20
  - e. Blue Force Tracking (BFT)
  - f. Enhanced Position Location Reporting System (EPLRS) AN/VSQ-2(V)
- 3-2.** The C4ISR equipment becomes operable when all the components are installed in the vehicle and correct power is supplied.

### Section IV. MAINTENANCE FORMS, RECORDS, AND REPORTS

Use the following to report any discrepancies:

- a. Reports of Maintenance and Unsatisfactory Equipment. See chapter 4, sections VI through VIII for information.
- b. Report of Packaging and Handling Deficiencies. See chapter 4, sections VI through VIII for information.
- c. Discrepancy in Transportation Deficiency Report (TDR) (SF361). See chapter 4, sections VI through VIII for information.

### Section V. CONSOLIDATED INDEX OF ARMY PUBLICATIONS

Refer to the latest issue of DA PAM 25-30 to determine whether there are new changes or additional publications pertaining to the C4ISR equipment.



## CHAPTER 2

### PURPOSE OF INSTALLATION

The purpose of installing the C4ISR equipment is to provide the primary means of integrating command and control capability.



## **CHAPTER 3**

### **COMPLETION TIME FOR INSTALLATION**

A total of 20 man hours are required for two personnel to install the C4ISR equipment. Typical vehicle downtime is 12 hours.



## CHAPTER 4 PREPARATION FOR INSTALLATION

### Section I. PREPARATION OF VEHICLE

To prepare the vehicle for installation, ensure that the site includes adequate lighting and a power source when drilling is required. Inspect the vehicle for damage that could affect installation. Have any such damage repaired before installing the C4ISR equipment.

### Section II. ITEMS TO BE REMOVED

Remove batteries. (Refer to TM 9-2320-387-24.)

### Section III. LIST OF ITEMS TO BE RETAINED

Batteries.

### Section IV. PREPARATION OF C4ISR EQUIPMENT

To prepare C4ISR equipment, unpack, inspect, and check inventory.

### Section V. PRECAUTIONS DURING HANDLING

Observe the following precautions to prevent equipment damage.

- a. Keep dust covers in place on connectors.
- b. Do not disassemble or modify parts in the C4ISR equipment unless authorized to do so.
- c. Keep mounting hardware covered and protected until needed.

### Section VI. UNPACK AND INSPECT EQUIPMENT

- 6-1.** Unpack and inspect packaging for evidence of damage.
- 6-2.** Any shipping damage should be reported on SF364 Report of Discrepancy (ROD) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73A/AFR 400-64/MCO 4430.F.

### Section VII. INVENTORY C4ISR EQUIPMENT

If any item is missing, fill out and forward Transportation Deficiency Report (TDR) (SF361) as described in AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 450015.

### Section VIII. EXAMINE EACH ITEM FOR DAMAGE

If any item is damaged, fill out and forward SF364 Report of Discrepancy (ROD) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73A/AFR 400-64/MCO 4430.F. All damages should be reported as prescribed by DA PAM 750-8, as contained in the Maintenance Management Update.

### **Section IX. C4ISR EQUIPMENT, DISTRIBUTION, AND CONSUMABLES**

- 9-1. Use table 4-1 to identify and inventory C4ISR equipment installation parts supplied in kits.
- 9-2. Use table 4-2 to identify and inventory C4ISR equipment installation parts not supplied in kits.

### **Section X. DISTRIBUTION AND ISSUE INSTRUCTIONS**

- 10-1. U.S. Forces: Do not requisition C4ISR equipment. They will be shipped automatically.
- 10-2. U.S. Army Depots: Requisition C4ISR equipment through supply channels.
- 10-3. Multiservice: Instructions shall be included for multiservice modifications.
- 10-4. MAP/MAS countries: Instructions shall be provided for MAP/MAS countries.

### **Section XI. PARTS LIST**

#### **KITS REQUIRED FOR THIS INSTALLATION:**

#### **NOTE**

- Not all material in kits is required for this installation. Material not used during installation will be returned to stock for disposition in accordance with AR 725-50.
- If maintenance is to be performed on a vehicle with an existing kit, do not order entire kit for necessary reinstallation.

#### **SINGARS:**

(A): MK-2801

#### **DAGR:**

(B): 57K4886

#### **FBCB2:**

(D): No kits available

#### **VIS:**

(E): RCSK 23617

#### **BFT:**

(F): No kits available

#### **EPLRS:**

(G): No kits available



**MATERIAL REQUIRED FROM KITS:***Table 4-1. Kit Parts List for Installation of C4ISR Equipment.*

| ITEM NO. | NOMENCLATURE                  | PART NUMBER     | NSN              | KIT | QTY. |
|----------|-------------------------------|-----------------|------------------|-----|------|
| 1.       | Antenna, DAGR                 | 013-1981-010    | 5985-01-502-6692 | (B) | 1    |
| 2.       | Bracket, Antenna              | A3014546-1      | 5340-01-391-2742 | (A) | 2    |
| 3.       | Bracket, Mounting             | 12506679        |                  | (B) | 1    |
| 4.       | Bracket                       | RCSK 19914      | NA               | (E) | 1    |
| 5.       | Cable Assembly                | A3206018-2      | 5995-01-392-6196 | (E) | 1    |
| 6.       | Cable Assembly                | A3206018-15     | 5995-01-392-6200 | (E) | 2    |
| 7.       | Cable Assembly, Antenna DAGR  | 987-5016-001    | 5995-01-521-4244 | (B) | 1    |
| 8.       | Cable Assembly, Antenna DAGR  | 987-4640-001    | 5995-01-504-1762 | (B) | 1    |
| 9.       | Cable Assembly, SINCGARS      | A3014031-8      | 5995-01-219-7035 | (A) | 1    |
| 10.      | Cable Assembly, SINCGARS      | A3014031-17     | 5995-01-225-1660 | (A) | 1    |
| 11.      | Cable Assembly, R/T           | A3206019-3      | 5995-01-458-5334 | (E) | 1    |
| 12.      | Cable Assembly, R/T           | A3206127-3      | 5995-01-479-9739 | (E) | 1    |
| 13.      | Cable, Power, DAGR            | 987-5019-001    | 6150-01-521-6757 | (B) | 1    |
| 14.      | Capscrew                      | B1821BH031C150N | 5305-00-226-4831 | (E) | 1    |
| 15.      | Capscrew                      | B1821BH038C150N | 5305-00-725-2317 | (E) | 2    |
| 16.      | Capscrew                      | B1821BH038C175N | 5305-00-821-3869 | (E) | 5    |
| 17.      | Capscrew                      | MS35307-365     | 5305-00-847-1159 | (A) | 8    |
| 18.      | Clamp, Loop                   | MS21333-74      | 5340-00-989-9222 | (E) | 2    |
| 19.      | Clamp, Loop                   | MS21333-97      | 5340-00-080-9853 | (B) | 1    |
| 20.      | Clamp, Loop                   | MS21333-104     | 5340-00-088-1254 | (E) | 1    |
| 21.      | Clamp, Loop                   | MS21333-114     | 5340-00-057-3052 | (E) | 1    |
| 22.      | Clamp, Loop                   | MS21333-125     | 5340-00-725-5280 | (E) | 5    |
| 23.      | DAGR AN/PSN-13                | 822-1873-001    | 5285-01-516-8038 | (B) | 1    |
| 24.      | Full Function Control Station | A3206624        | 5895-01-469-6120 | (E) | 2    |
| 25.      | Gasket                        | A3013655-1      | 5330-01-205-2864 | (A) | 2    |
| 26.      | Master Control Station        | A3206623        | 5895-01-469-3352 | (E) | 1    |
| 27.      | Mount, Installation           | 987-5006-001    | 5975-01-521-3063 | (B) | 1    |
| 28.      | Mounting Base, MT-6352/VRC    | A3013367-1      | 5975-01-188-8873 | (A) | 1    |
| 29.      | Insert                        | 12446871-3      | 5325-01-411-0066 | (B) | 2    |
| 30.      | Nut, Lock                     | M45913/4-6CG8Z  | 5310-01-542-0395 | (E) | 5    |
| 31.      | Nut                           | 120376          | 5310-00-012-0376 | (E) | 1    |
| 32.      | Nut                           | 120377          | 5310-00-012-0377 | (E) | 2    |
| 33.      | Nut, Lock                     | MS17829-3C      | 5310-00-689-3877 | (B) | 4    |
| 34.      | Power Cable Assembly          | A3206017-3      | 5995-01-452-4309 | (E) | 1    |
| 35.      | Screw, Machine                | MS35206-263     | 5305-00-984-6210 | (B) | 4    |
| 36.      | Screw, Machine                | MS35206-267     | 5305-00-984-6214 | (B) | 4    |
| 37.      | Screw, Machine                | MS35207-261     | 5305-00-990-6444 | (B) | 1    |
| 38.      | Screw, Self-tapping           | 9421073         | 5305-01-162-8512 | (E) | 1    |
| 39.      | Spacer                        | RCSK 19913      | NA               | (E) | 1    |
| 40.      | Spacer                        | 12256277        | 5365-01-110-8163 | (E) | 2    |
| 41.      | Support                       | 12506676        | N/A              | (B) | 1    |

**MATERIAL REQUIRED FROM KITS:**

*Table 4-1. Kit Parts List for Installation of C4ISR Equipment (Contd).*

| ITEM NO. | NOMENCLATURE   | PART NUMBER     | NSN              | KIT | QTY.  |
|----------|----------------|-----------------|------------------|-----|-------|
| 42.      | Terminal Lug   | 7728777         | 5940-00-983-4067 | (B) | 1     |
| 43.      | Terminal Lug   | 7728780         | 5940-01-035-4212 | (B) | 1     |
| 44.      | Tie-Down Strap | MS3367-1-0      | 5975-00-984-6582 | (E) | 5     |
| 45.      | Tubing, Shrink | MS23054/4-103-0 |                  | (B) | 3 in. |
| 46.      | Washer         | 2436163         | 5310-01-412-4013 | (E) | 4     |
| 47.      | Washer, Lock   | MS35338-43      | 5306-00-959-0793 | (B) | 5     |
| 48.      | Washer, Lock   | MS35338-44      | 5310-00-582-5965 | (A) | 8     |
| 49.      | Washer, Lock   | MS35338-45      | 5310-00-407-9566 | (E) | 1     |
| 50.      | Washer, Lock   | MS45904-72      | 5310-00-889-2527 | (A) | 6     |
| 51.      | Washer, Lock   | 120382          | 5310-00-012-0382 | (E) | 2     |

**MATERIAL REQUIRED BUT NOT INCLUDED IN KITS:***Table 4-2. Non-Kit Parts List for Installation of C4ISR Equipment.*

| ITEM NO. | NOMENCLATURE              | PART NUMBER | NSN              | QTY.   |
|----------|---------------------------|-------------|------------------|--------|
| 1.       | Antenna Base              | A3017899-2  | 5985-01-308-8988 | 2      |
| 2.       | Antenna, AS-3499/VSQ-1    | A3005031    | 5820-01-183-9462 | 1      |
| 3.       | Antenna, Element (lower)  | A3018230-1  | 5985-01-306-8110 | 2      |
| 4.       | Antenna, Element (upper)  | A3017901-2  | 5985-01-306-4622 | 2      |
| 5.       | Antiseize                 | 12Z31001-1  | 8030-00-292-1102 | A/R    |
| 6.       | Assembly, Display Lock    | 872843-1    | N/A              | 1      |
| 7.       | Bar, Locking              |             |                  | 1      |
| 8.       | Bolt                      | MS35751-18  | 5306-00-108-9988 | 4      |
| 9.       | Box, Stowage              | 889519-1    | 2540-01-499-0607 | 1      |
| 10.      | Bracket, Locking          |             |                  | 1      |
| 11.      | Bracket, Mounting         | 889567-14   |                  | 1      |
| 12.      | Bracket, User-Readout     | A3006206-2  | 5340-01-386-7841 | 1      |
| 13.      | Cable, INC-EPUU           | A3279383-3  | 5995-01-453-9171 | 1      |
| 14.      | Cable, EPLRS Power        | A3004939    | 5995-01-198-0538 | 1      |
| 15.      | Cable, EPLRS Antenna      | SM-C-911480 | 5995-01-167-1269 | 1      |
| 16.      | Cable, Transceiver        | A1-35997D   | 5995-01-531-2166 | 1      |
| 17.      | Cable, URO                | A3109227    | 5995-01-417-8085 | 1      |
| 18.      | Cable, W3N                | 881336-1    | 5995-01-478-4913 | 1      |
| 19.      | Cable, W3P                | 881335-1    | 5995-01-478-4891 | 1      |
| 20.      | Clamp, Loop               | MS21333-68  | 5340-00-843-7825 | 5      |
| 21.      | Clamp, Loop               | MS21333-97  | 5340-00-080-9853 | 1      |
| 22.      | Clamp, Loop               | MS21333-98  | 5310-00-809-1490 | 3      |
| 23.      | Clamp, Loop               | MS21333-99  | 5340-00-993-6207 | 1      |
| 24.      | Clamp, Loop               | MS21333-101 | 5340-00-088-6655 | 1      |
| 25.      | Clamp, Loop               | MS21333-104 | 5340-00-088-1254 | 3      |
| 26.      | Clamp, Loop               | MS21333-108 | 5340-00-057-3025 | 2      |
| 27.      | Clamp, Loop               | MS21333-110 | 5340-00-057-3034 | 2      |
| 28.      | Clamp, Loop               | MS21333-111 | 5340-00-057-3037 | 2      |
| 29.      | Clamp, Loop               | MS21333-112 | 5340-00-057-3043 | 2      |
| 30.      | Clamp, Loop               | MS21333-125 | 5340-00-725-5280 | 2      |
| 31.      | Clamp, Loop               | MS21333-129 | 5340-00-151-9651 | 2      |
| 32.      | Conduit, Convolutd, 19 mm | M1889006    | —                | 20 in. |
| 33.      | CPU                       | 881292-1    | 7021-01-474-3793 | 1      |
| 34.      | Decal                     | 861868-2    | N/A              | 1      |
| 35.      | Display                   | 881293-1    | 7025-01-475-0229 | 1      |
| 36.      | EPLRS AN/VSQ-2(V)         | —           | —                | 1      |
| 37.      | Footrest Weldment         | 889567-21   | N/A              | 1      |
| 38.      | Gasket                    | A3013655-1  | 5330-01-205-2864 | 1      |
| 39.      | Grommet, Nonmetallic      | 12338098    | 5325-01-208-5424 | 2      |
| 40.      | Grommet, Nonmetallic      | MS21266-6N  | 5325-00-783-4753 | 3 in.  |
| 41.      | Grommet, Nonmetallic      | MS21266-5N  | 5325-00-783-4754 | 3 in.  |
| 42.      | Guard, Amp                | 872842-1    | 5935-01-487-2172 | 1      |
| 43.      | Insert                    | 12446871-3  | 5325-01-411-0066 | 2      |

**MATERIAL REQUIRED BUT NOT INCLUDED IN KITS (Contd):***Table 4-2. Non-Kit Parts List for Installation of CAISR Equipment (Contd).*

| ITEM NO. | NOMENCLATURE           | PART NUMBER     | NSN              | QTY. |
|----------|------------------------|-----------------|------------------|------|
| 44.      | Insert                 | 12446871-5      | 5325-01-483-7480 | 3    |
| 45.      | Insert                 | 12446871-7      | 5325-01-475-9697 | 4    |
| 46.      | Insert                 | 12446871-15     | 5325-01-353-5501 | 4    |
| 47.      | Insert                 | 12446871-16     | N/A              | 3    |
| 48.      | Integrated Rack        | 889509-1        | —                | 1    |
| 49.      | Isolation Kit, CPU     | 872826-2        | 5340-01-481-5741 | 1    |
| 50.      | Isolation Kit, Display | 872870-1        | 5340-01-481-5757 | 1    |
| 51.      | Keyboard               | 501395-1        | —                | 1    |
| 52.      | Lanyard                | 8925T5-7X19     | 4010-01-497-2675 | 1    |
| 53.      | Left Rail Weldment     | 889567-12       | N/A              | 1    |
| 54.      | Mount, Ramball         | RAM-D-111-M1U   | 5975-01-485-3615 | 1    |
| 55.      | Mount, Resilient       | MT-6146/VSQ-1   | 5340-01-167-8297 | 1    |
| 56.      | Nut                    | MS35649-2252    | 5310-00-997-1888 | 5    |
| 57.      | Nut                    | MS51967-6       | 5310-00-931-8167 | 1    |
| 58.      | Nut                    | 120376          | 5310-00-012-0376 | 4    |
| 59.      | Nut                    | 13218E0320-293  | 5310-00-913-8881 | 8    |
| 60.      | Nut                    | 9418892         | 5310-01-157-9819 | 6    |
| 61.      | Nut                    | 9417954         | 5310-00-931-8167 | 1    |
| 62.      | Nut                    | 9418931         | 5310-00-655-9335 | 5    |
| 63.      | Nut                    |                 | N/A              | 2    |
| 64.      | Nut                    | 9419143         | 5310-01-148-0240 | 2    |
| 65.      | Nut, Lock              | M45913/4-4CG8Z  | 5310-01-548-1269 | 2    |
| 66.      | Nut, Lock              | M45913/4-5CG8Z  | —                | 1    |
| 67.      | Nut, Lock              | M45913/4-6CG8Z  | 5310-01-542-0395 | 2    |
| 68.      | Nut, Lock              | 271166          | 5310-00-696-5172 | 1    |
| 69.      | Nut, Lock              | 271169          | 5310-00-124-9265 | 2    |
| 70.      | Nut, Lock              | 271172          | 5310-01-152-0598 | 4    |
| 71.      | Nut, Lock              | 271175          | 5310-01-333-5245 | 2    |
| 72.      | Nut, Lock              | 271178          | 5310-01-407-7198 | 1    |
| 73.      | Nut, Lock              | 9422279         | 5310-01-462-4393 | 1    |
| 74.      | Padlock                |                 | —                | 1    |
| 75.      | Rack Support           | 889509-22       | N/A              | 1    |
| 76.      | Right Rail Weldment    | 889567-22       | N/A              | 1    |
| 77.      | Rod                    | 889567-16       | N/A              | 1    |
| 78.      | Screw, Cap             | B1821BH025C075N | 5305-00-068-0508 | 5    |
| 79.      | Screw, Cap             | B1821BH031F100N | 5305-00-051-4076 | 2    |
| 80.      | Screw, Cap             | B1821BH031C100N | 5306-00-226-4827 | 4    |
| 81.      | Screw, Cap             | B1821BH031F125N | 5305-00-051-4078 | 8    |
| 82.      | Screw, Cap             | B1821BH025C150N | 5305-00-071-2509 | 2    |
| 83.      | Screw, Cap             | B1821BH025C100N | 5305-00-225-3843 | 4    |
| 84.      | Screw, Cap             | B1821BH025C088N | 5305-00-071-2505 | 7    |
| 85.      | Screw, Cap             | B1821BH025C125N | 5305-00-068-0509 | 2    |
| 86.      | Screw, Cap             | B1821BH025C200N | 5305-00-071-2511 | 3    |

**MATERIAL REQUIRED BUT NOT INCLUDED IN KITS (Contd):***Table 4-2. Non-Kit Parts List for Installation of CAISR Equipment (Contd).*

| ITEM NO. | NOMENCLATURE                    | PART NUMBER      | NSN               | QTY.   |
|----------|---------------------------------|------------------|-------------------|--------|
| 87.      | Screw, Cap                      | B1821BH038C200N  | 5305-00-782-9489  | 3      |
| 88.      | Screw, Cap                      | MS35307-367      | 5305-00-455-0315  | 1      |
| 89.      | Screw, Cap                      | MS35307-365      | 5305-00-847-1159  | 3      |
| 90.      | Screw, Machine                  | MS35207-265      | 5305-00-993-1848` | 4      |
| 91.      | Screw, Machine                  | MS35190-287      | 5305-00-954-4295  | 2      |
| 92.      | Screw, Machine                  | MS35190-291      | 5305-00-958-5247  | 2      |
| 93.      | Screw, Machine                  |                  |                   | 4      |
| 94.      | Screw, Machine                  | MS35206-267      | 5305-00-984-6214  | 1      |
| 95.      | Screw, Machine                  | MS35207-263      | 5305-00-989-7434  | 2      |
| 96.      | Screw, Self-tapping             | 9421073          | 5305-01-162-8512  | 4      |
| 97.      | Serial Interface Adapter Device | 881331-1         | 4920-01-478-3722  | 1      |
| 98.      | Spacer                          | 10705AL315C      | 5365-01-487-3145  | 4      |
| 99.      | Spacer                          | 51506-8070R      | N/A               | 3      |
| 100.     | Spacer                          | 12256277         | 5365-01-110-8163  | 1      |
| 101.     | Spacer                          | 51506-8097R      |                   | 3      |
| 102.     | Strap, Tiedown                  | MS3367-1-0       | 5975-00-984-6582  | A/R    |
| 103.     | Spiral Wrap                     | 11644992         | 9330-01-038-3486  | 20 in. |
| 104.     | Switch Box Assembly             | A1-36044D        |                   | 1      |
| 105.     | Tape, Electrical                | HH-I-595-A-108-0 | 5970-00-926-7219  | A/R    |
| 106.     | Terminal Lug                    | MS20659-108      | 5940-00-115-2674  | 2      |
| 107.     | Terminal Lug                    | MS20659-141      | 5940-00-113-9825  | 11     |
| 108.     | Terminal Lug                    | 7728777          | 5940-00-983-4067  | 1      |
| 109.     | Terminal Lug                    | 7728780          | 5940-01-035-4212  | 1      |
| 110.     | Transceiver                     | MT2010E          |                   | 1      |
| 111.     | Transceiver Bracket             | A1-38239D        | —                 | 1      |
| 112.     | Tubing, Shrink                  | MS23053/4-103-0  | N/A               | 3 in.  |
| 113.     | Washer                          | 2436161          | 5310-01-102-3270  | 7      |
| 114.     | Washer                          | MS27183-10       | 5310-00-809-4058  | 19     |
| 115.     | Washer                          | MS27183-13       |                   | 3      |
| 116.     | Washer                          | MS45904-71       | 5310-00-947-6980  | 1      |
| 117.     | Washer                          | 9416128          | 5310-00-402-2778  | 4      |
| 118.     | Washer                          | MS27183-47       | 5310-01-312-4959  | 2      |
| 119.     | Washer                          | 10910174-19      | 5310-00-964-3415  | 4      |
| 120.     | Washer                          | MS51412-36       | 5310-01-449-0628  | 3      |
| 121.     | Washer                          | 12338095         | 5310-01-208-7576  | 6      |
| 122.     | Washer                          | 2436163          | 5310-01-412-4013  | 3      |
| 123.     | Washer, Lock                    | MS35338-45       | 5310-00-407-9566  | 6      |
| 124.     | Washer, Lock                    | MS35338-44       | 5310-00-582-5965  | 21     |
| 125.     | Washer, Lock                    | MS35338-46       | 5310-00-637-9541  | 11     |
| 126.     | Washer, Lock                    | MS45904-72       | 5310-00-889-2527  | 22     |
| 127.     | Washer, Lock                    | MS35338-43       | 5306-00-959-0793  | 6      |
| 128.     | Washer, Lock                    | MS45904-76       | 5310-00-061-1258  | 25     |
| 129.     | Washer, Lock                    | —                | —                 | 4      |

**MATERIAL REQUIRED BUT NOT INCLUDED IN KITS (Contd):**

*Table 4-2. Non-Kit Parts List for Installation of C4ISR Equipment (Contd).*

| ITEM NO. | NOMENCLATURE  | PART NUMBER     | NSN              | QTY. |
|----------|---------------|-----------------|------------------|------|
| 130.     | Wingnut       | MS51553-420     | 5310-01-384-2546 | 4    |
| 131.     | Wire, Braided | AA59569F30T0375 | 6145-00-191-8402 | A/R  |
| 132.     | Wire, Lock    | MS20995C32      | 9505-00-293-4208 | A/R  |

## CHAPTER 5 INSTALLATION PROCEDURES

### Section I. SCOPE

This chapter provides instructions for installation of the following C4ISR equipment:

- Single Channel Ground and Airborne Radio System (SINCGARS)
- Defense Advanced Global Positioning System Receiver (DAGR)
- Vehicular Intercommunications Set (VIS)
- Force XXI Battle Command, Brigade-and-Below (FBCB2)
- Blue Force Tracking (BFT)
- Enhanced Position Location Reporting System (EPLRS)

Perform the steps in this chapter when installing SINCGARS, DAGR, VIS, FBCB2, BFT, and EPLRS. When installing C4ISR equipment, be sure to read and follow instructions and illustrations carefully.

### Section II. INTEGRATED RACK INSTALLATION

#### NOTE

- Mounting holes may already exist in tunnel insulation. If mounting holes exist, skip to step 2-18.
- Ensure existing rivet heads in tunnel floor are centered in the holes when finished drilling.
- Locate holes from support bracket, not front of insulation.

**2-1.** Locate, mark, and drill three 0.391-in. holes (1) in tunnel insulation (3).

**2-2.** Locate, mark, and drill three 0.531-in. holes (2) in tunnel insulation (3).

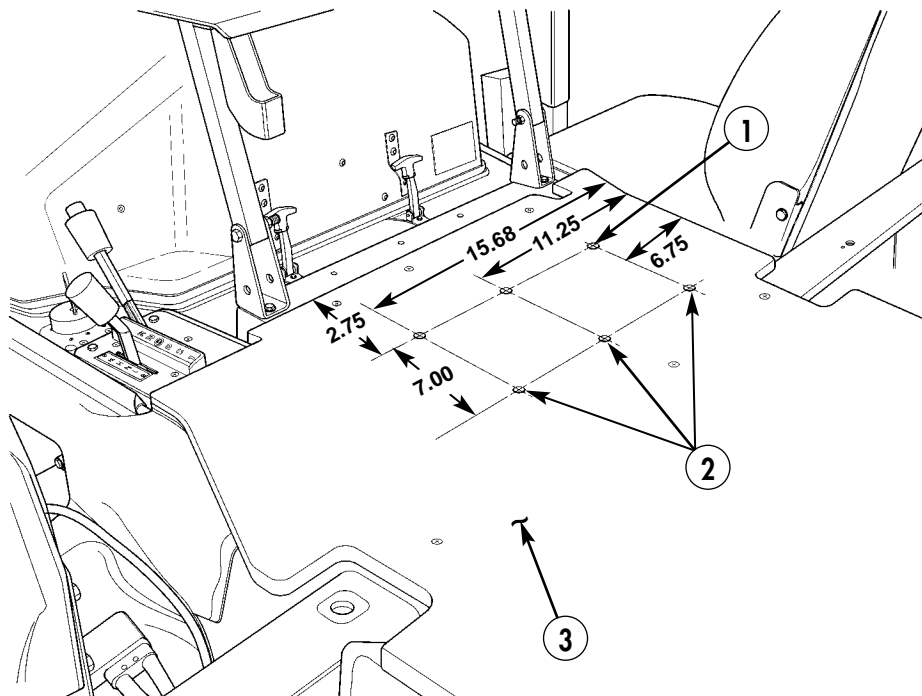


Figure 5-1.

- 2-3. Remove standard radio rack. (Refer to TM 9-2320-387-24.)
- 2-4. Remove eight screws (4), lockwashers (5), and washers (6) from air conditioning evaporator (7). Retain all hardware.
- 2-5. Disconnect A/C rear evaporator electrical cable (8) from air conditioning evaporator (7).

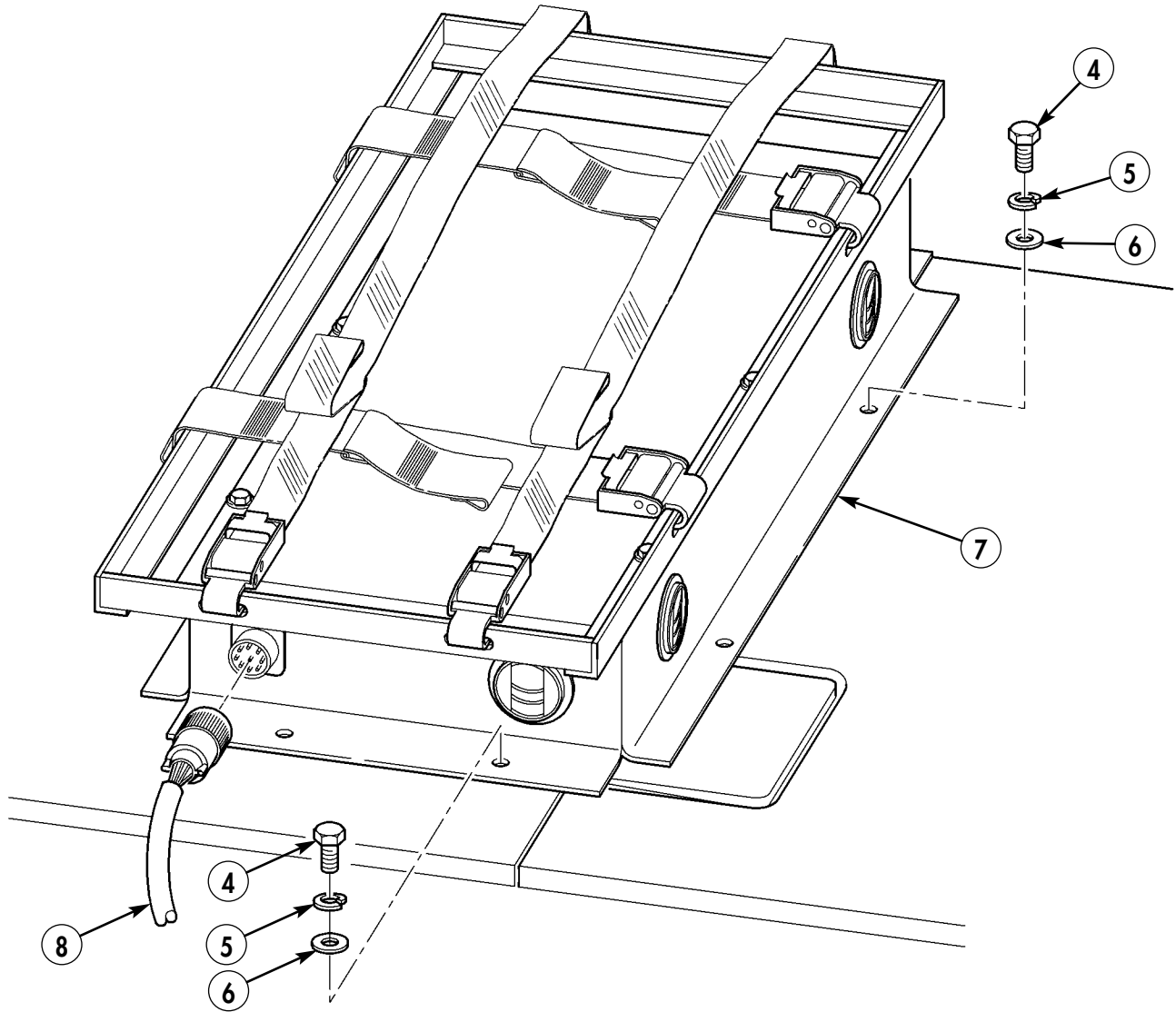


Figure 5-2.



2-6. Remove six screws (9) from tunnel insulation (3). Retain all hardware.

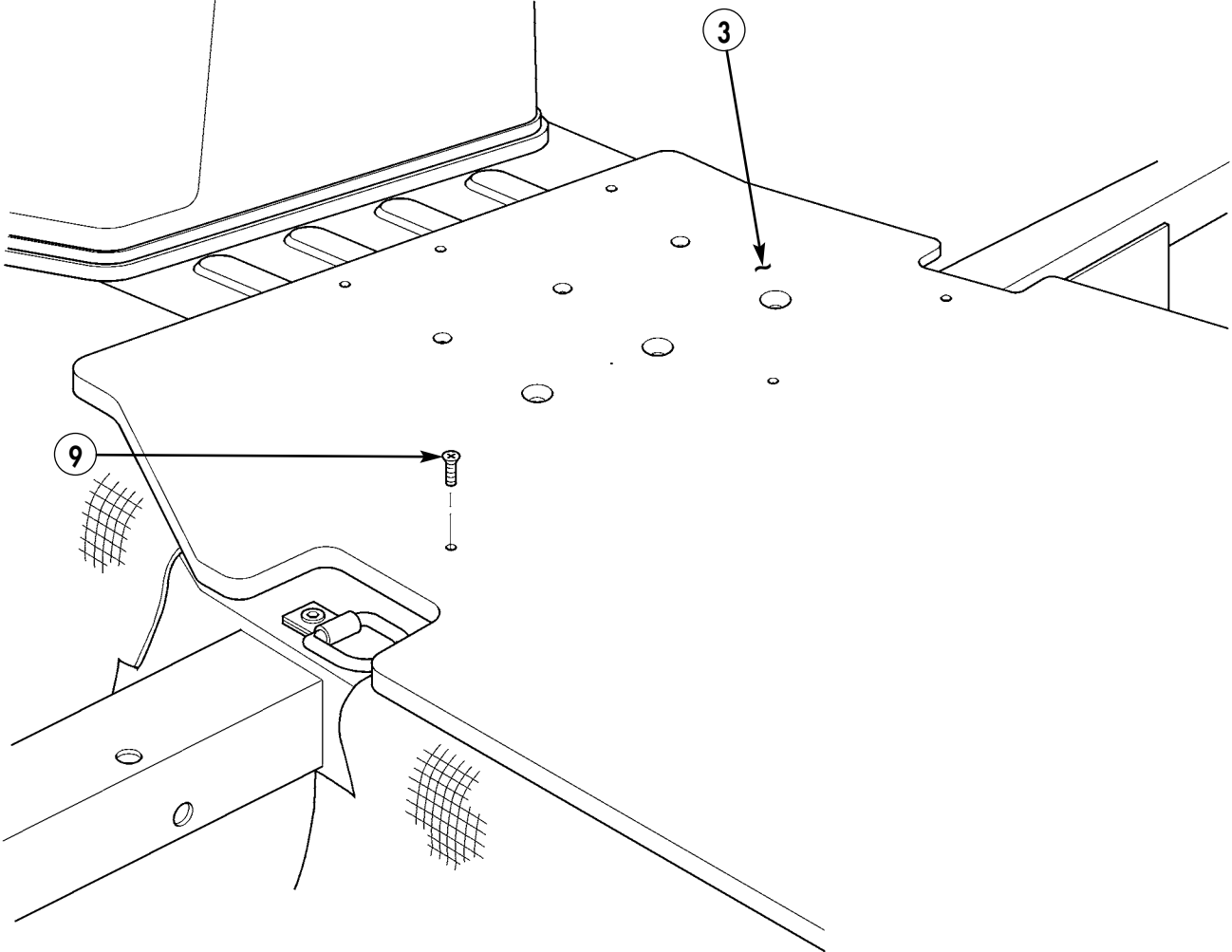
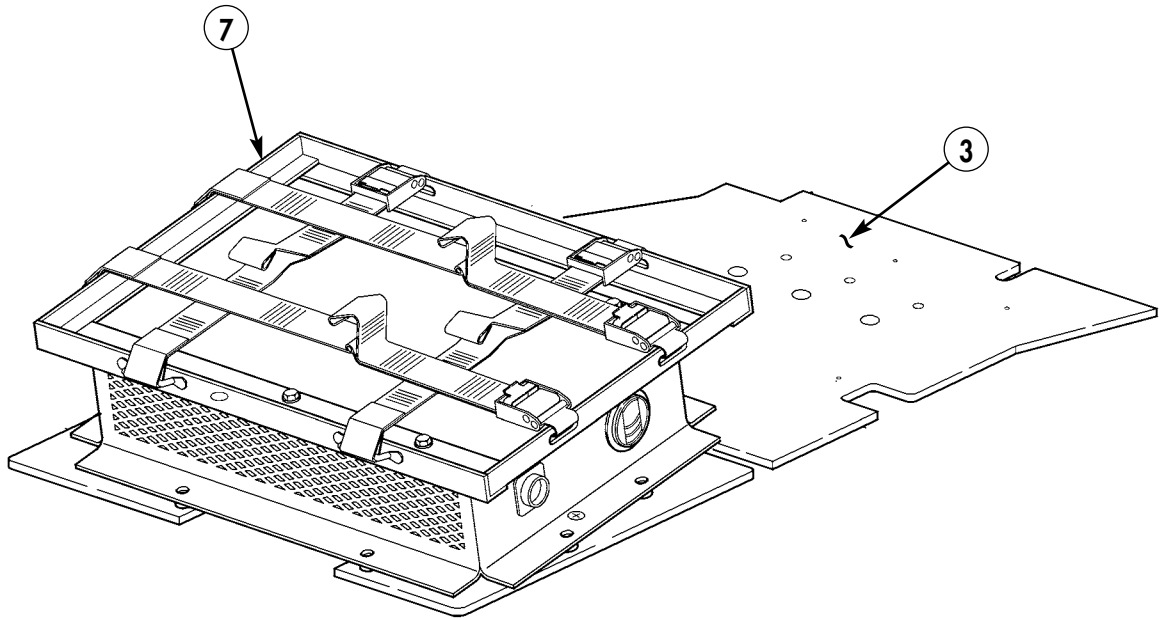


Figure 5-3.

**CAUTION**

Air conditioner hoses are still attached. Do not attempt to remove evaporator. Equipment damage may result.

2-7. Carefully lift air conditioning evaporator (7) and remove tunnel insulation (3).

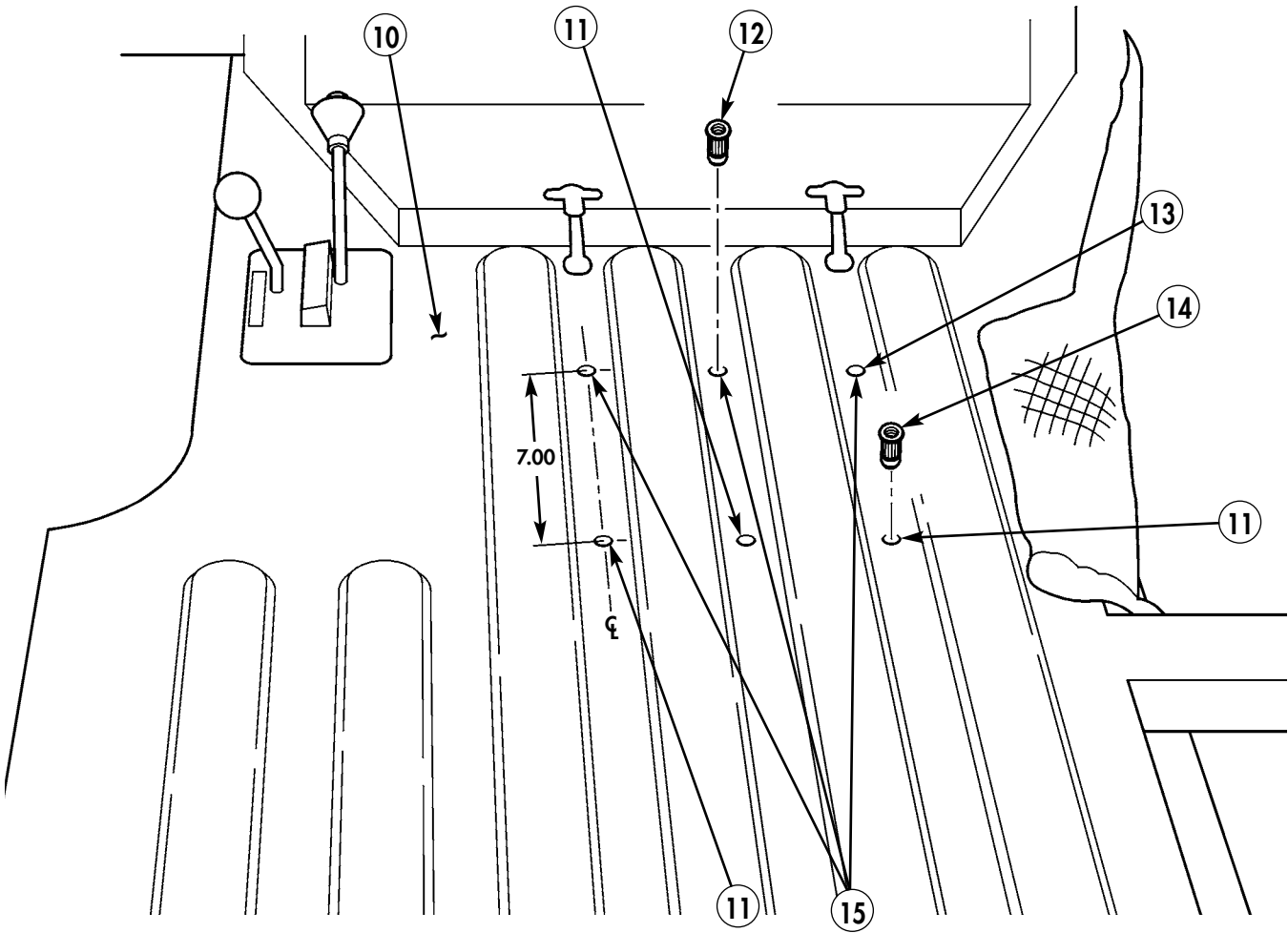


*Figure 5-4.*

**NOTE**

Perform steps 2-8 through 2-13 if inserts are not installed in tunnel floor.

- 2-8. Remove three existing rivets (13) from tunnel floor (10).
- 2-9. Locate and mark three holes (11) in tunnel floor (10).
- 2-10. Enlarge three holes (15) in tunnel floor (10) to 0.391-in.
- 2-11. Drill three 0.531-in. diameter holes (11) in tunnel floor (10).
- 2-12. Install three inserts (12) in tunnel floor (10).
- 2-13. Install three inserts (14) in tunnel floor (10).



- 12. INSERT - 12446871-16 - QTY. 3
- 14. INSERT - 12446871-5 - QTY. 3

Figure 5-5.

**CAUTION**

Air conditioner hoses are still attached. Do not attempt to remove evaporator. Equipment damage may result.

- 2-14. Carefully lift air conditioning evaporator (7) and install tunnel insulation (3) on tunnel floor (10).

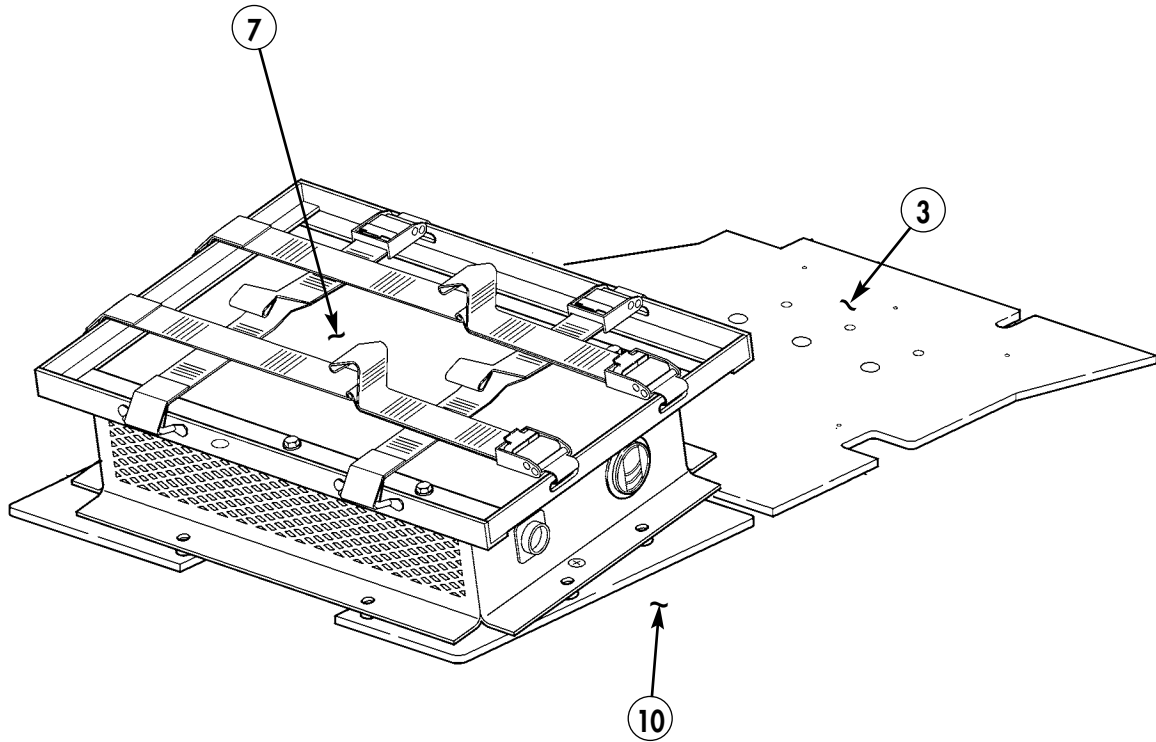


Figure 5-6.

2-15. Secure tunnel insulation (3) to tunnel floor (10) with six existing screws (9).

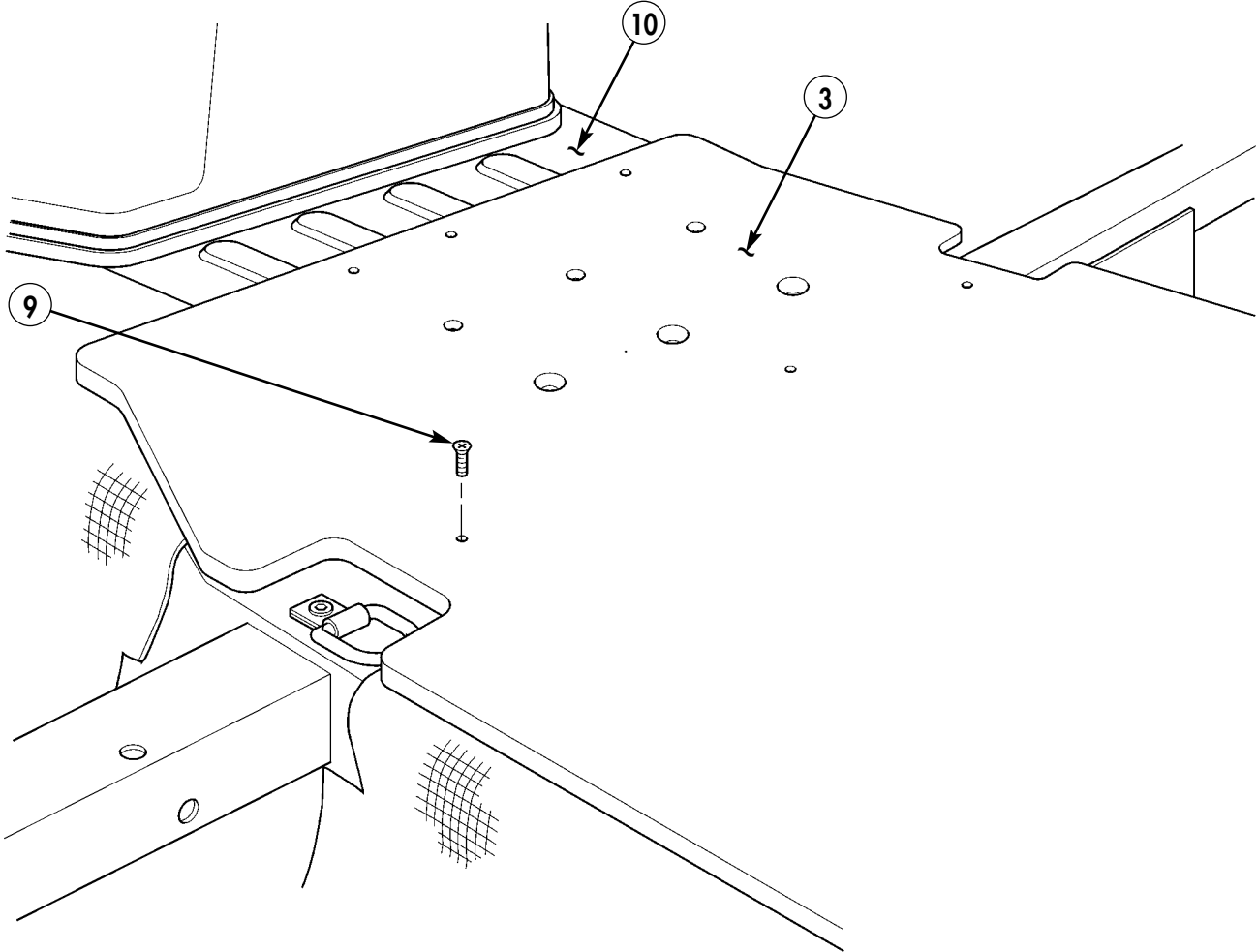
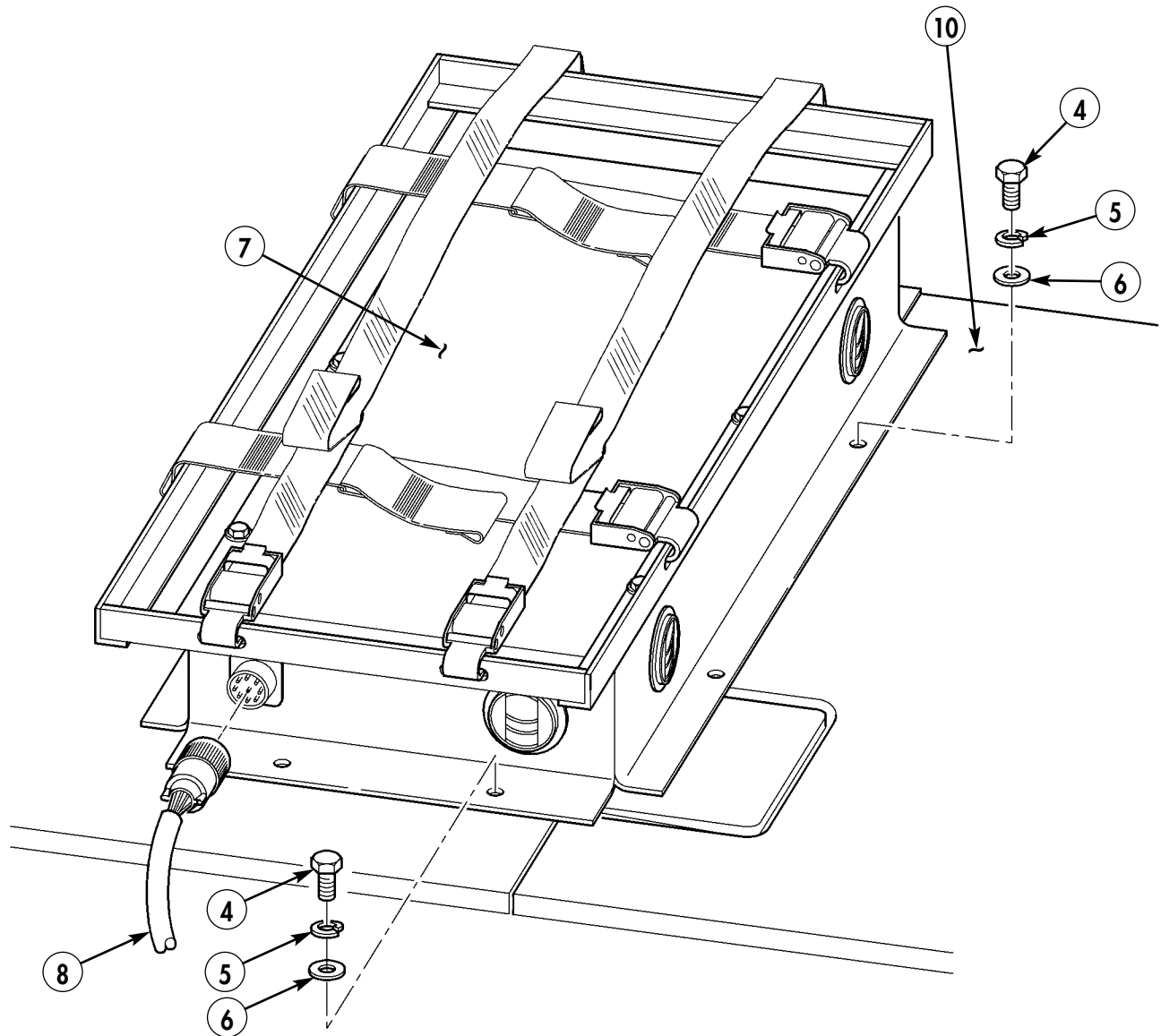


Figure 5-7.

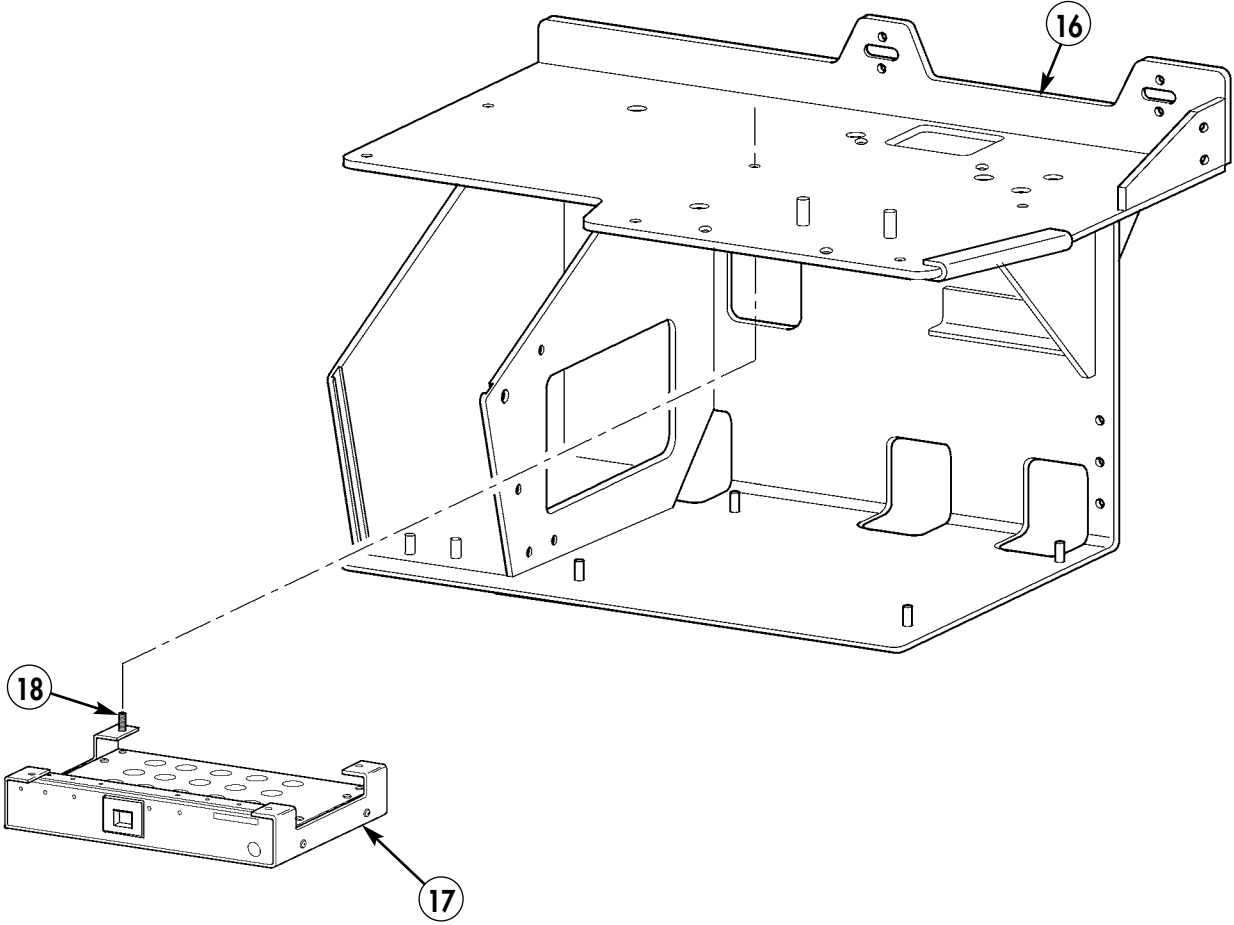
- 2-16. Secure air conditioning evaporator (7) to tunnel floor (10) with eight existing screws (4), lockwashers (5), and washers (6).
- 2-17. Connect A/C rear evaporator electrical cable (8) to air conditioning evaporator (7).



5. LOCKWASHER – MS35338-44 – QTY. 8

Figure 5-8.

2-18. Install keyboard stowage box (17) on integrated rack (16) using four existing captive screws (18).



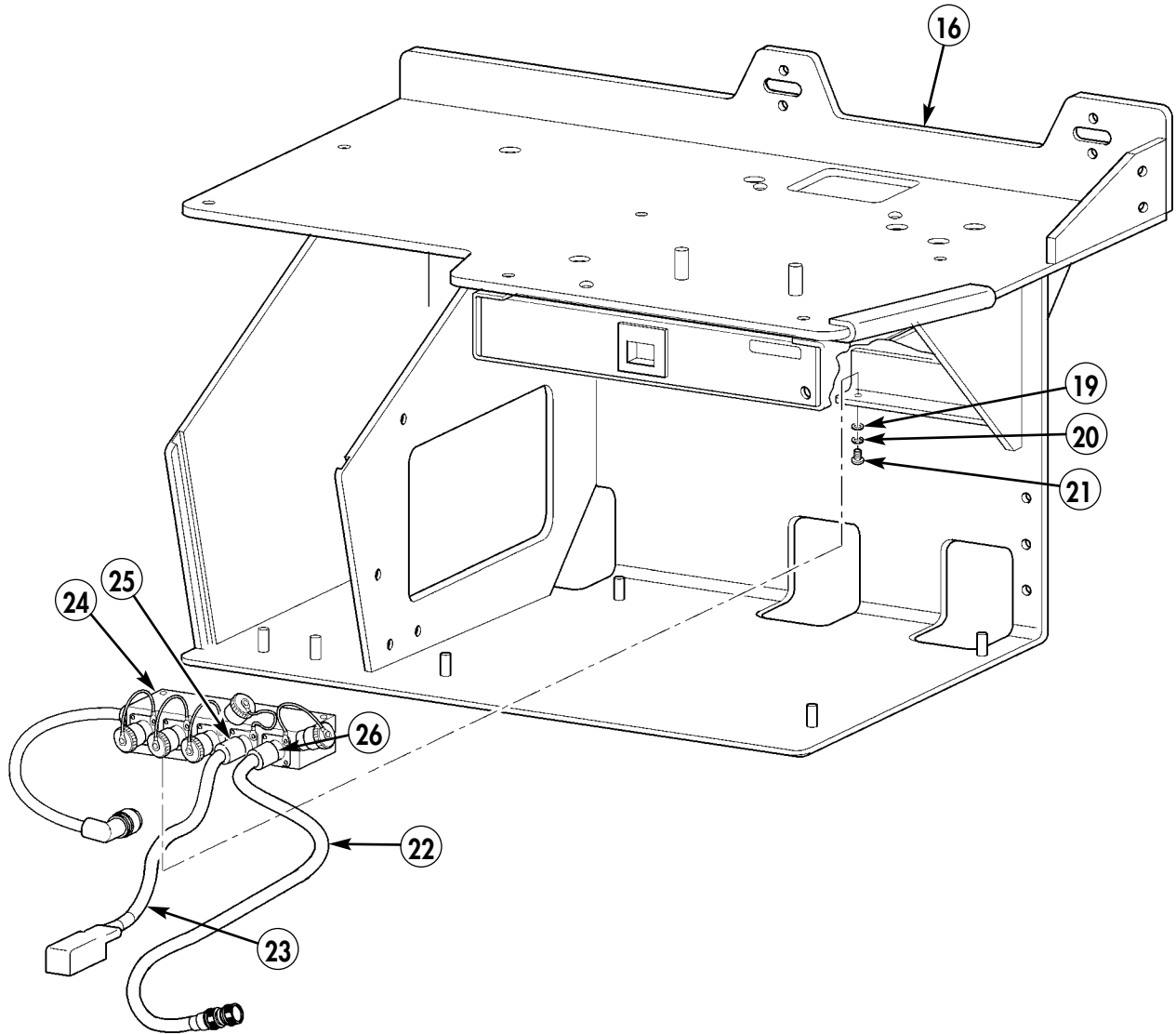
- 16. INTEGRATED RACK - 889509-1 - QTY. 1
- 17. KEYBOARD STOWAGE BOX - 889519-1 - QTY. 1

Figure 5-9.

**NOTE**

Install W3N cable if using BFT only.

- 2-19. Install W3N cable (22) to J1 connector (26) on SIAD (24).
- 2-20. Install W3P cable (23) to J2 connector (25) on SIAD (24). Route W3P cable (23) to DAGR.
- 2-21. Install Serial Interface Adapter Device (SIAD) (24) on integrated rack (16) using two screws (21), lockwashers (20), and washers (19).

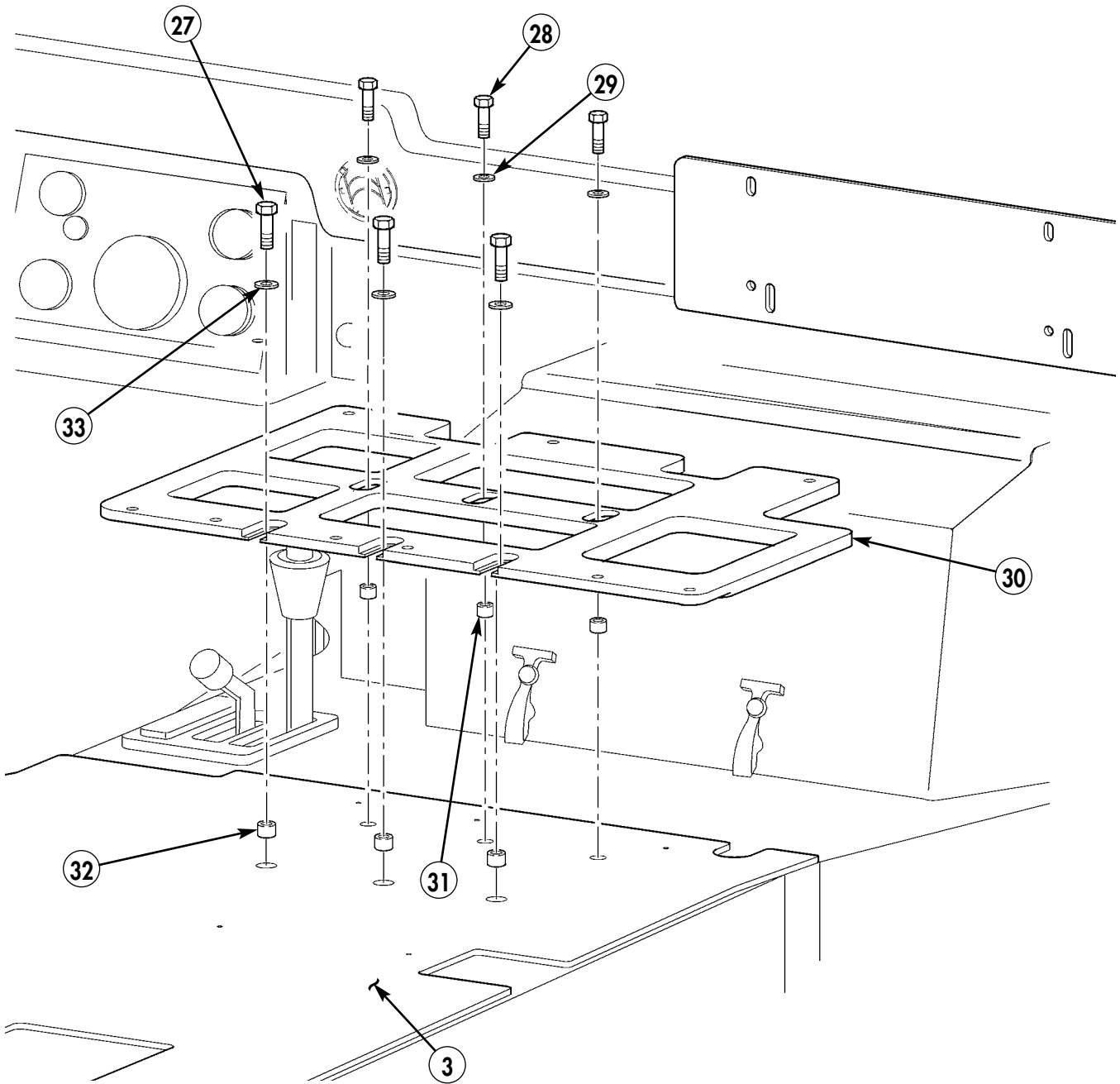


- 19. WASHER – MS27183-47 – QTY. 2
- 20. LOCKWASHER – MS35338-43 – QTY. 2
- 21. SCREW – MS35207-263 – QTY. 2
- 22. W3N CABLE – 881336-1 – QTY. 1
- 23. W3P CABLE – 881335-1 – QTY. 1
- 24. SIAD – 881331-1 – QTY. 1

Figure 5-10.



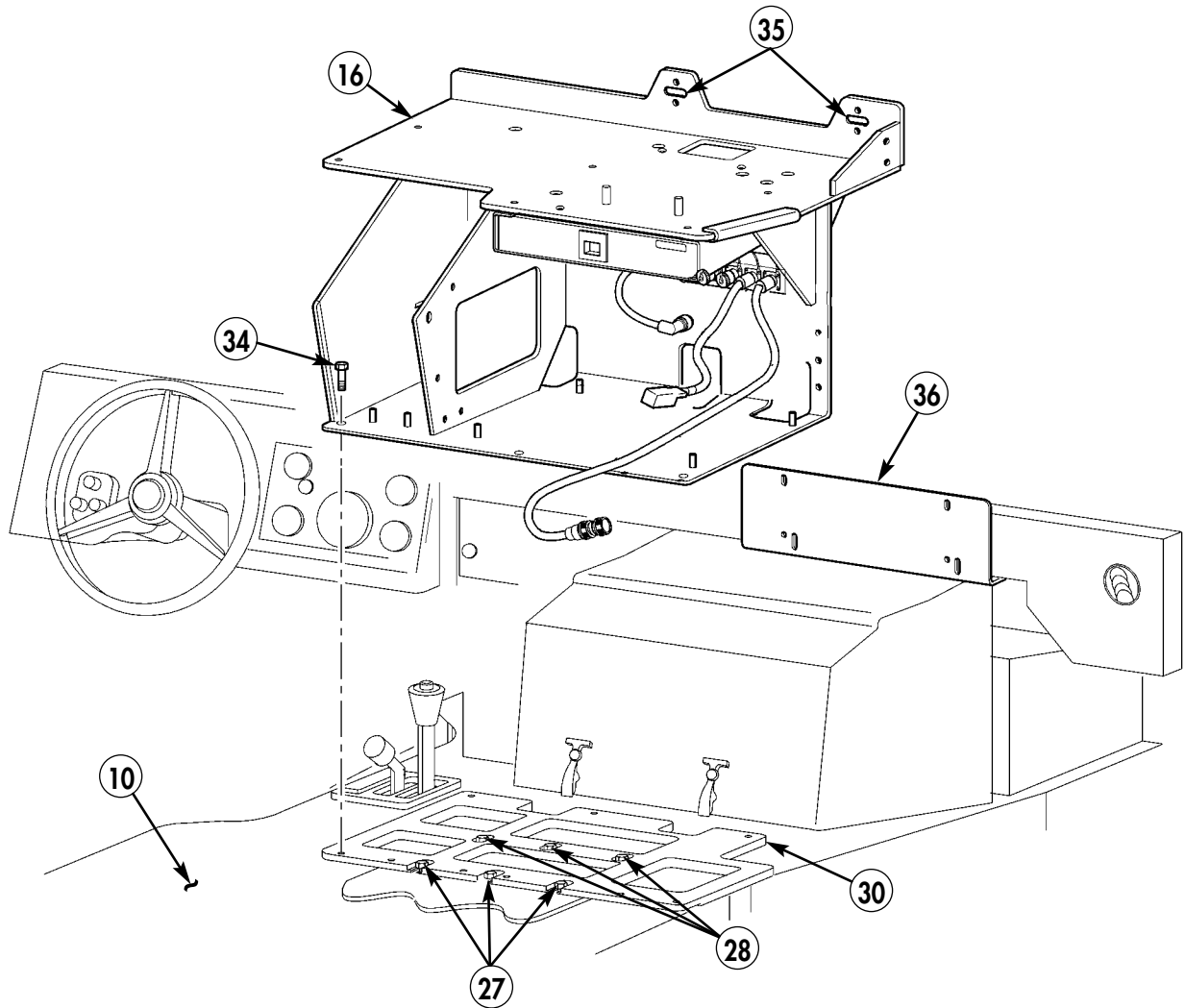
**2-22.** Install rack support (30) on tunnel insulation (3) with three capscrews (28), washers (29), spacers (31), three capscrews (27), washers (33), and spacers (32). Do not tighten capscrews (28) and (27) at this time.



- 27. CAPSCREW - B1821BH038C200N - QTY. 3
- 28. CAPSCREW - B1821BH025C200N - QTY. 3
- 29. WASHER - MS27183-10 - QTY. 3
- 30. RACK SUPPORT - 889509-22 - QTY. 1
- 31. SPACER - 51506-8070R - QTY. 3
- 32. SPACER - 51506-8097R - QTY. 3
- 33. WASHER - MS27183-13 - QTY. 3

Figure 5-11.

- 2-23. Temporarily install integrated rack (16) on rack support (30) with two capscrews (34).
- 2-24. Position rack support (30) and top mounting holes (35) of integrated rack (16) to radio rack support plate (36).
- 2-25. Remove two capscrews (34) and integrated rack (16) from rack support (30).
- 2-26. Tighten rack support (30) to tunnel floor (10) with six capscrews (28) and (27).



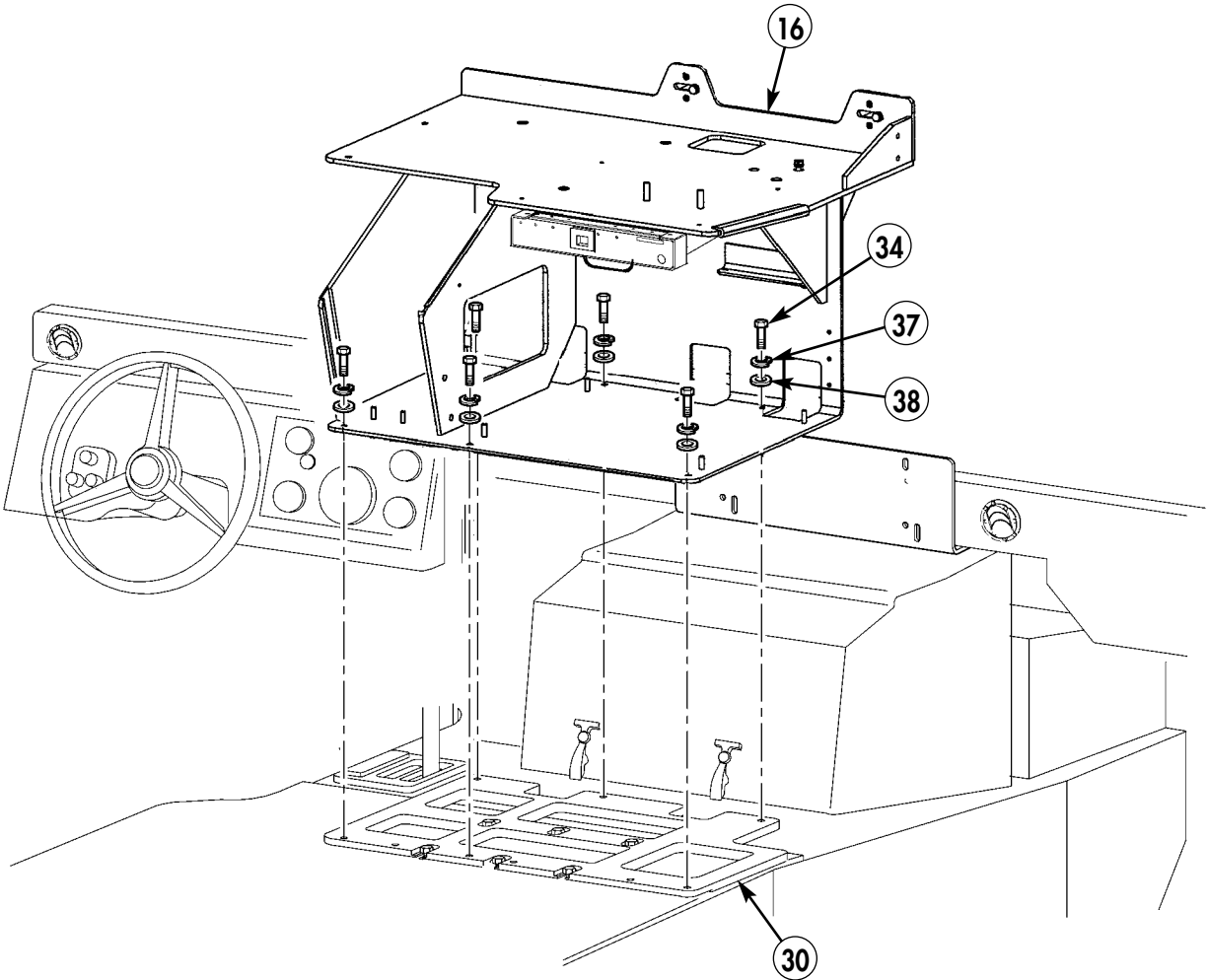
34. CAPSCREW – B1821BH025C088N – QTY. 6

Figure 5-12.

**NOTE**

SIAD and cables not shown for clarity.

**2-27.** Install integrated rack (16) on rack support (30) with six capscrews (34), lockwashers (37), and washers (38).



- 37. LOCKWASHER – MS35338-44 – QTY. 6
- 38. WASHER – MS27183-10 – QTY. 6

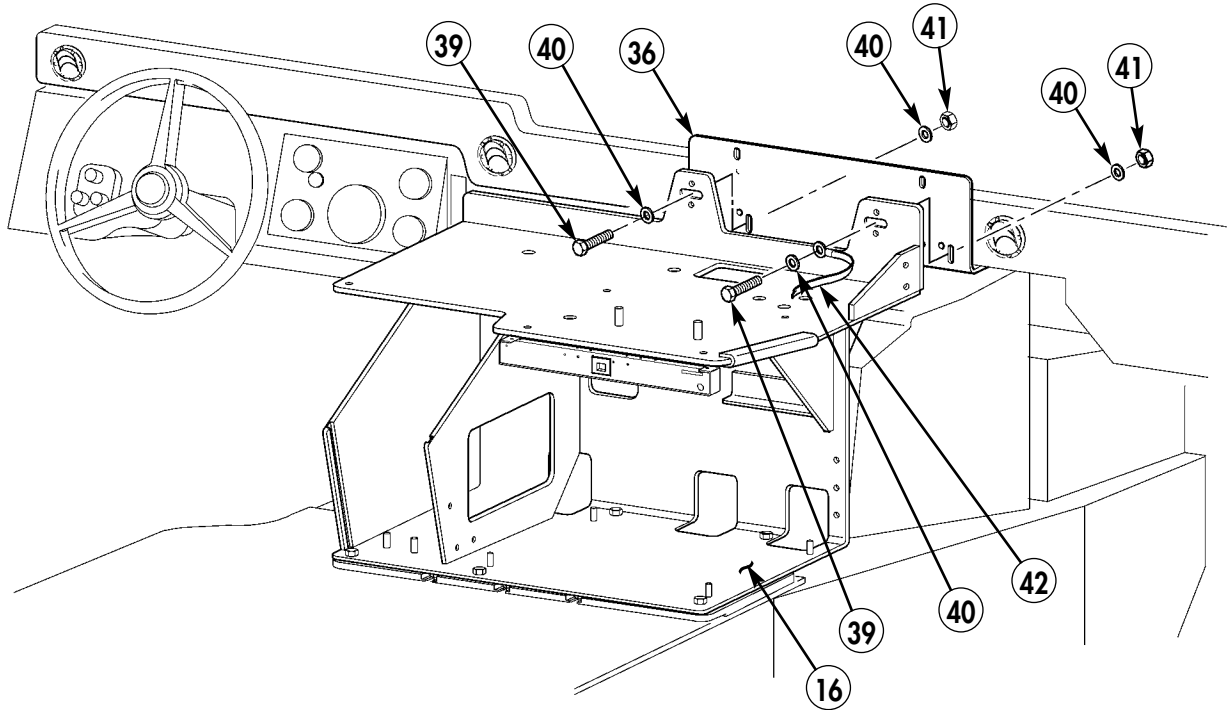
*Figure 5-13.*

2-28. Fabricate ground strap (42) from 8-in. length of braided wire and two terminal lugs.

**NOTE**

Remove paint from vicinity of integrated rack mounting holes before performing step 2-29. Apply antiseize compound as required.

2-29. Attach integrated rack (16) to radio rack support plate (36) using two capscrews (39), two washers (40), ground strap (42), two washers (40), and nuts (41).



- 39. CAPSCREW – B1821BH025C150N – QTY. 2
- 40. WASHER – 2436161 – QTY. 4
- 41. LOCKNUT – M45913/4-4CG8Z – QTY. 2
- 42. GROUND STRAP
  - BRAIDED WIRE – AA59569F30T0375 – QTY. A/R
  - TERMINAL LUG – MS20659-141 – QTY. 2

Figure 5-14.

### Section III. SINGARS MOUNTING TRAY, AMP GUARD, AND FBCB2 COMPONENTS INSTALLATION

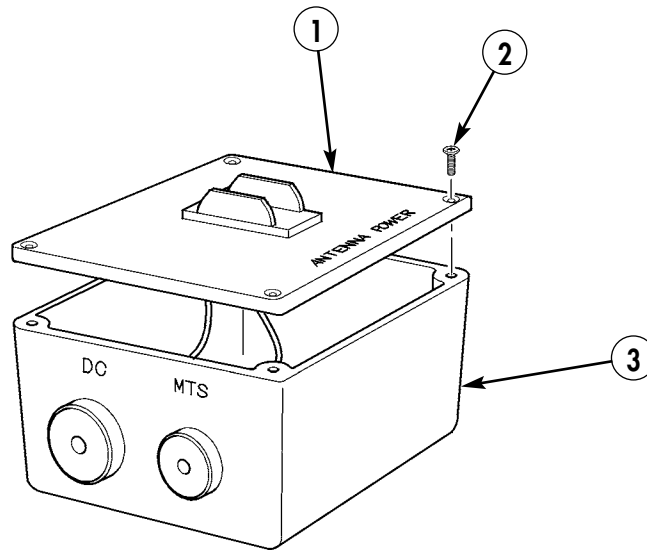
#### **CAUTION**

Take care when removing antenna power switch cover as antenna switch is still connected. Equipment damage may occur if antenna power switch cover is removed forcefully.

#### **NOTE**

Antenna switch box is for Blue Force Tracking (BFT). If not installing BFT, skip to step 3-5.

- 3-1. Remove four screws (2) and antenna power switch cover (1) from antenna power switch box (3). Retain all hardware.



#### 3. SWITCH BOX ASSEMBLY – A1-36044D – QTY. 1

*Figure 5-15.*

**NOTE**

- Antenna power switch box mounting holes may already exist. If antenna power switch box mounting holes exist, do not perform step 3-2.
- Antenna power switch box should be flush with cutout in integrated rack and against the rear flange of integrated rack.

- 3-2.** Using antenna power switch box (3) as template, locate and mark two hole positions (5) in integrated rack (4).
- 3-3.** Remove antenna power switch box (3) from integrated rack (4).
- 3-4.** Drill two 0.281-in. diameter holes (5) in integrated rack (4).

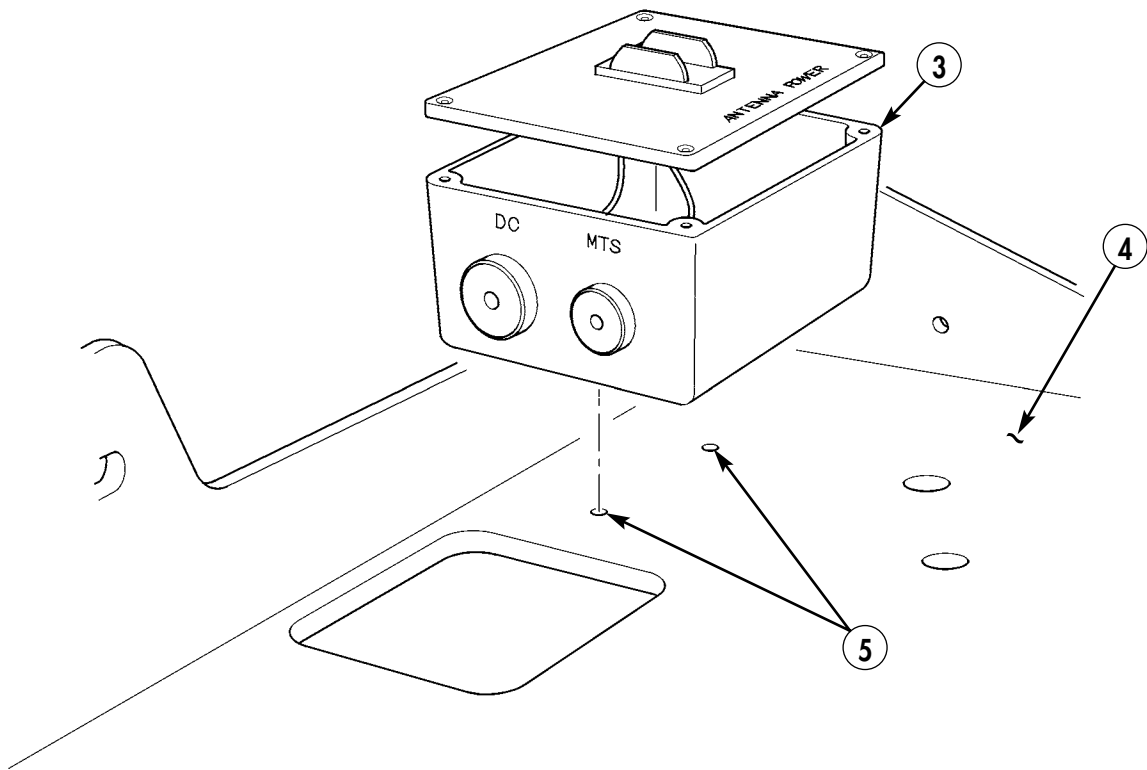
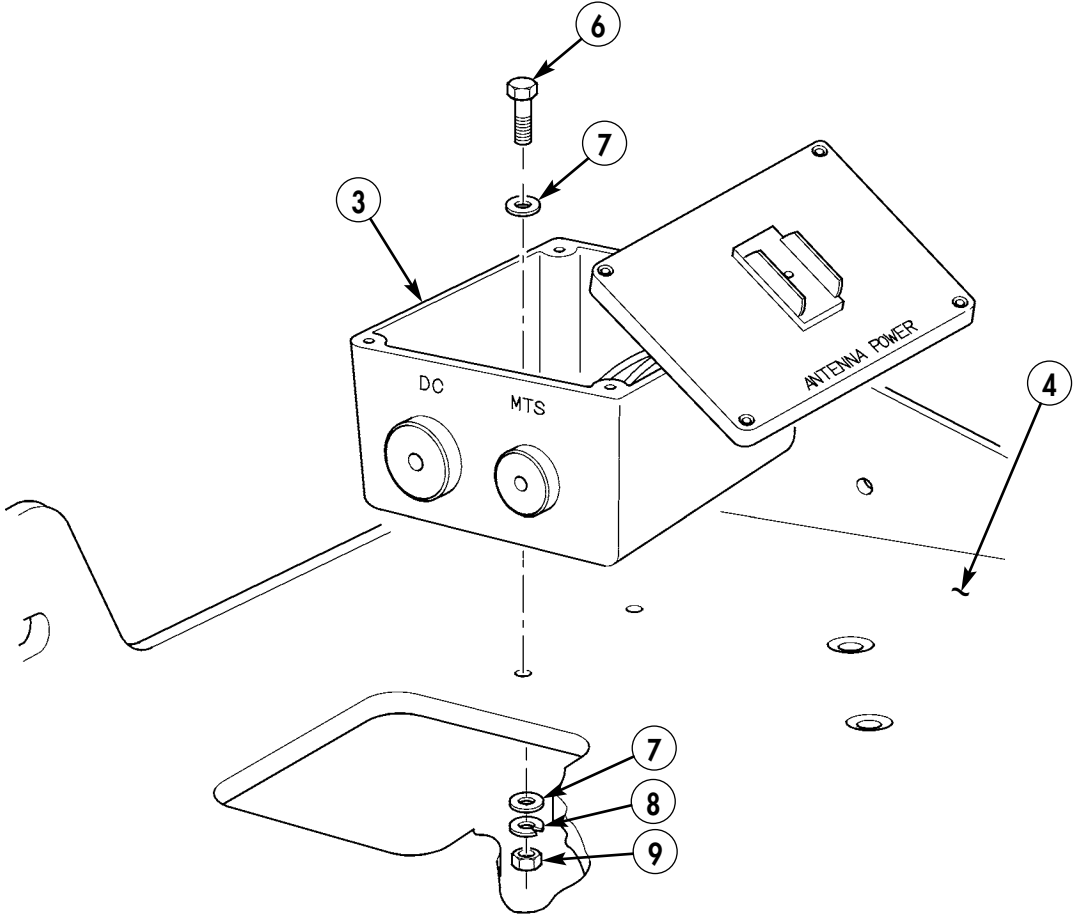


Figure 5-16.

3-5. Install antenna power switch box (3) on integrated rack (4) using two capscrews (6), four washers (7), two lockwashers (8), and nuts (9).



- 6. CAPSCREW – B1821BH025C075N – QTY. 2
- 7. WASHER – 2436161 – QTY. 4
- 8. LOCKWASHER – MS35338-44 – QTY. 2
- 9. NUT – 9419143 – QTY. 2

Figure 5-17.

- 3-6. Install antenna power switch cover (1) on antenna power switch box (3) with four existing screws (2).

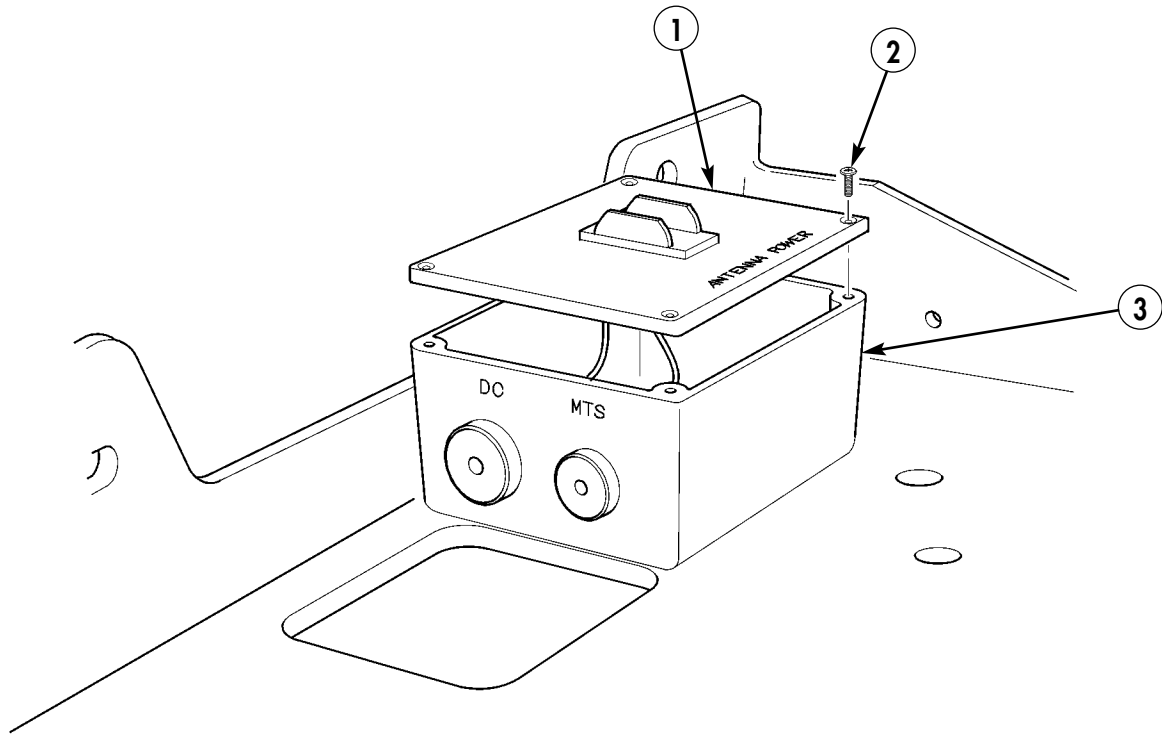
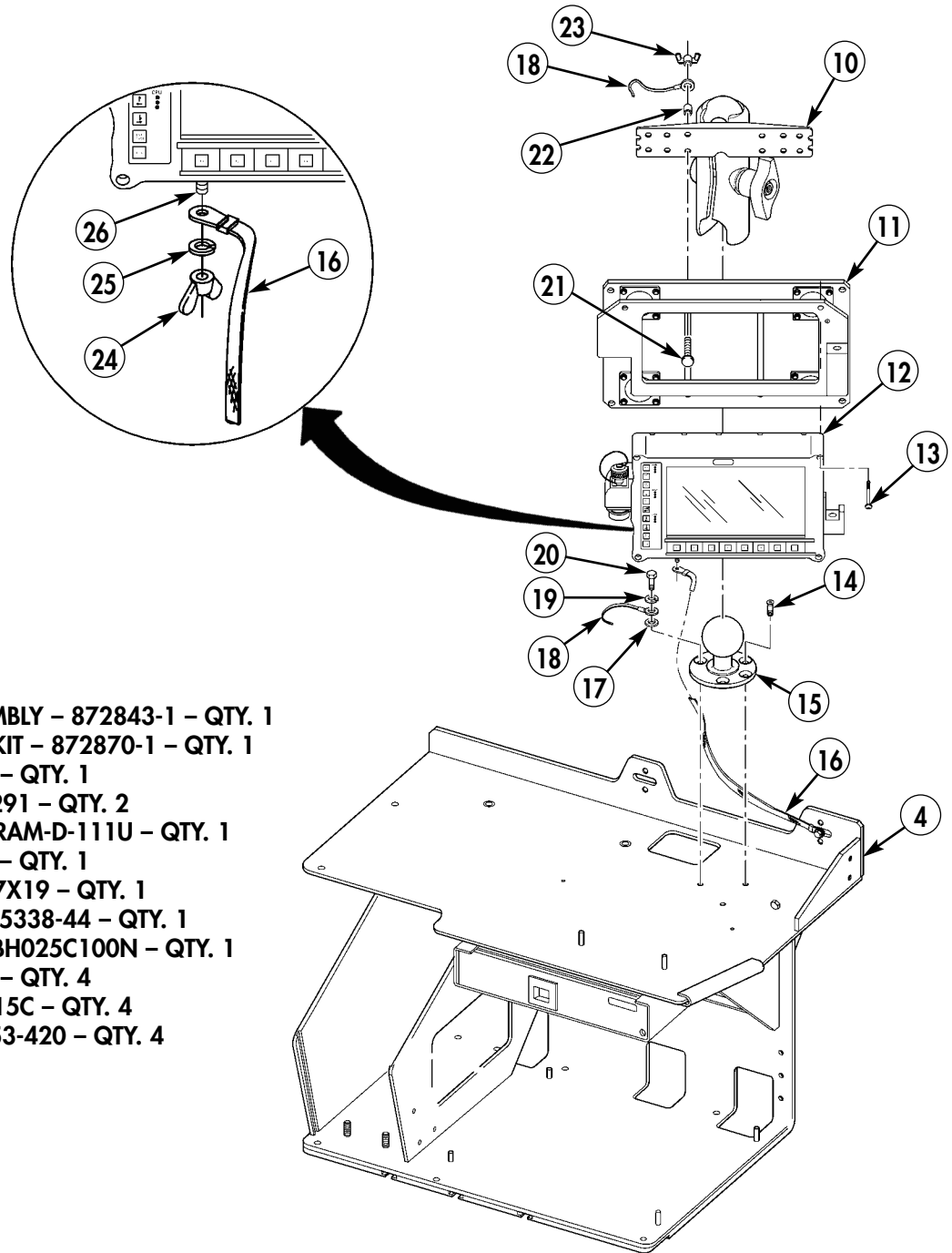


Figure 5-18.



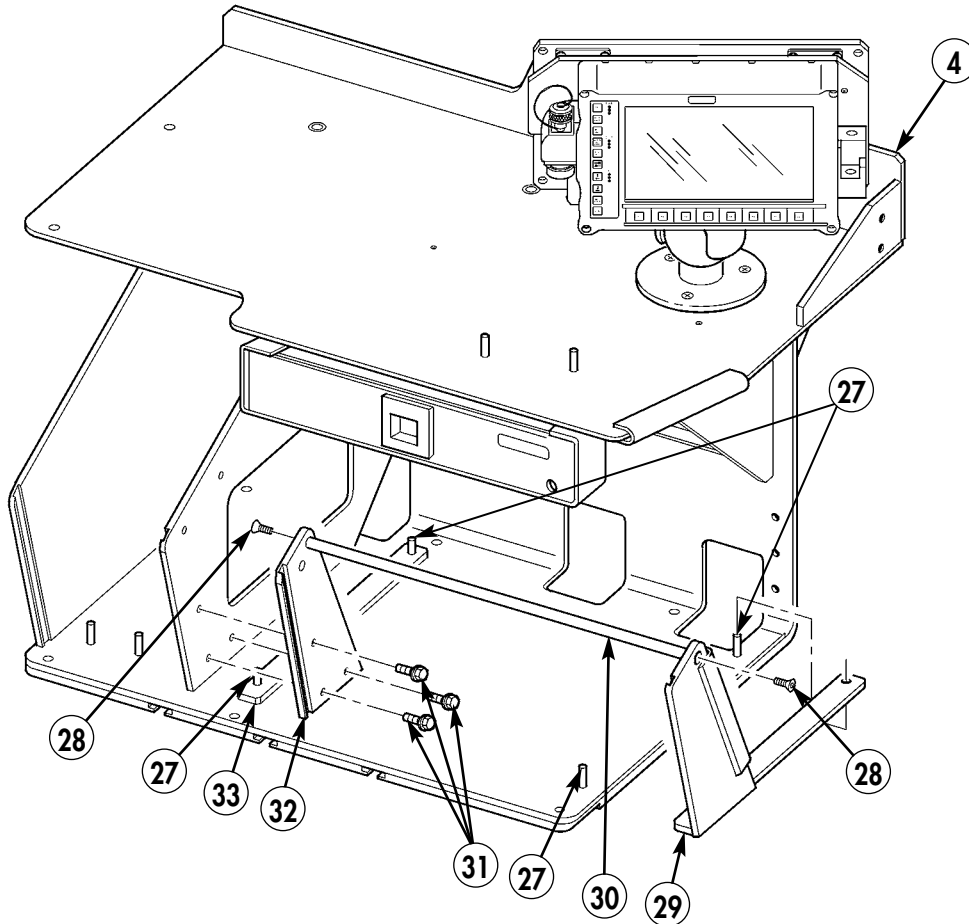
- 3-7. Install ramball mount (15) on integrated rack (4) with two screws (14), lockwasher (19), lanyard (18), and washer (17).
- 3-8. Install display isolation kit (11) on display lock assembly (10) with four bolts (21), spacers (22), lanyard (18), and four wingnuts (23).
- 3-9. Install display unit (12) on display isolation kit (11) with four existing screws (13).
- 3-10. Install display lock assembly (10) on ramball mount (15).
- 3-11. Install ground strap (16) on display ground stud (26) with existing lockwasher (25) and wingnut (24).



- 10. DISPLAY LOCK ASSEMBLY - 872843-1 - QTY. 1
- 11. DISPLAY ISOLATION KIT - 872870-1 - QTY. 1
- 12. DISPLAY - 881293-1 - QTY. 1
- 14. SCREW - MS35190-291 - QTY. 2
- 15. RAMBALL MOUNT - RAM-D-111U - QTY. 1
- 17. WASHER - 2436161 - QTY. 1
- 18. LANYARD - 8925T5-7X19 - QTY. 1
- 19. LOCKWASHER - MS35338-44 - QTY. 1
- 20. CAPSCREW - B1821BH025C100N - QTY. 1
- 21. BOLT - MS35751-18 - QTY. 4
- 22. SPACER - 10705AL315C - QTY. 4
- 23. WINGNUT - MS51553-420 - QTY. 4

Figure 5-19.

- 3-12. Place mounting bracket (33) on two existing studs (27).
- 3-13. Attach rod (30) to left rail weldment (32) and right rail weldment (29) with two screws (28).
- 3-14. Place rail assembly on two right-hand studs (27) on integrated rack (4) and attach left rail weldment (32) to integrated rack (4) with three capscrews (31).



- 28. SCREW - MS35190-287 - QTY. 2
- 29. RIGHT RAIL WELDMENT - 889567-22 - QTY. 1
- 30. ROD - 889567-16 - QTY. 1
- 31. CAPSCREW - B1821BH025C075N - QTY. 3
- 32. LEFT RAIL WELDMENT - 889567-12 - QTY. 1
- 33. MOUNTING BRACKET - 889567-14 - QTY. 1

Figure 5-20.

- 3-15.** Install CPU isolation kit (42) on integrated rack (4) and four existing studs (27), with three washers (46), lockwashers (47), and nuts (36).
- 3-16.** Position CPU (34) on CPU isolation kit (42).
- 3-17.** Install ground strap (38) on stud (35) of CPU (34) with existing wingnut (39), lockwasher (40), and washer (41).
- 3-18.** Secure ground strap (38) to stud (27) of integrated rack (4) with washer (37) and nut (36).
- 3-19.** Connect P1 connector (52) from Serial Interface Adapter Device (SIAD) (54) to J3 connector (49) on CPU (34).
- 3-20.** Connect W1P2 connector of W1 cable (51) to J1 connector (50) on CPU (34). Route W1 cable (51) through access cut out (44) of integrated rack (4) to top of integrated rack (4).
- 3-21.** Connect W2P1 connector of W2 cable (53) to J4 connector (48) on CPU (34). Route W2 cable (53) through access cut out (44) of integrated rack (4) towards FBCB2 display unit (43). Connect in step 3-33.
- 3-22.** Route W3N cable (55) from SIAD (54) through access cut out (44) of integrated rack (4). Connect to Vehicular Amplifier Adapter (VAA) in step 3-40.
- 3-23.** Secure CPU (34) to CPU isolation kit (42) with two locking devices (45).

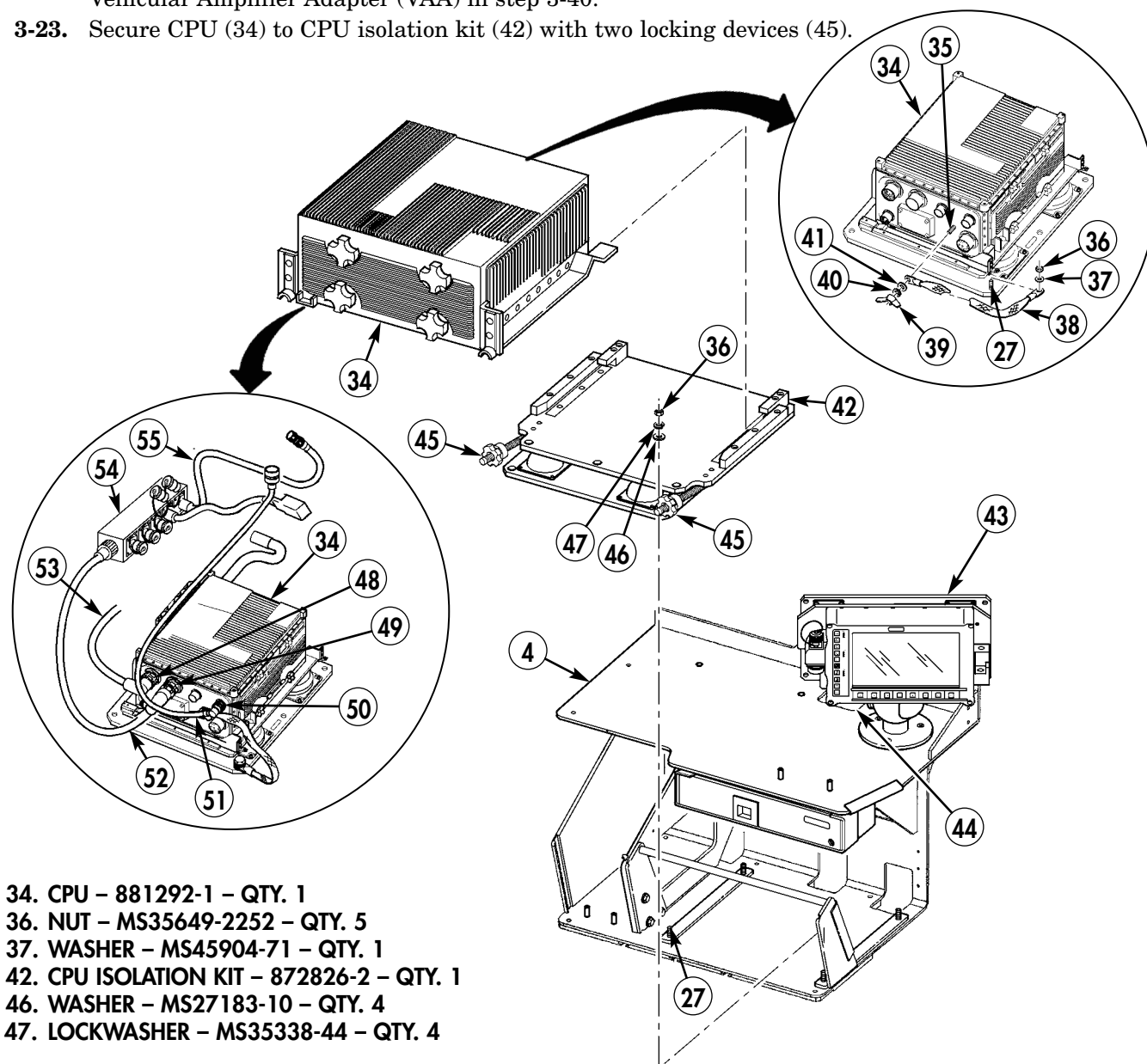


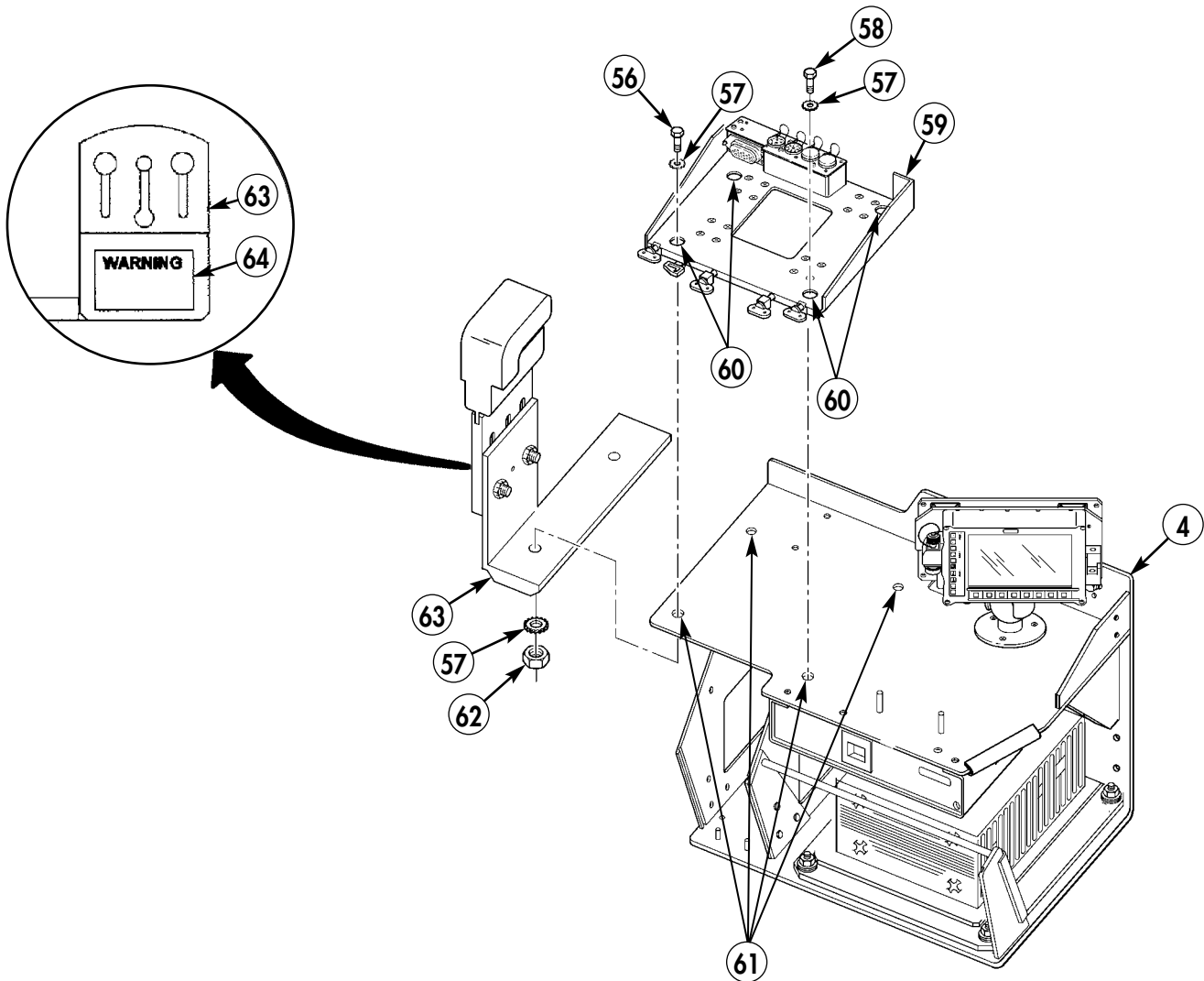
Figure 5-21.

- 3-24. Remove paint from four mounting holes (61) on integrated rack (4). Apply antiseize compound as required.
- 3-25. Remove paint from four mounting holes (60) on MT-6352/VRC mounting base (59). Apply antiseize compound as required.

**NOTE**

Two lockwashers and nuts are used on driver's side screws only.

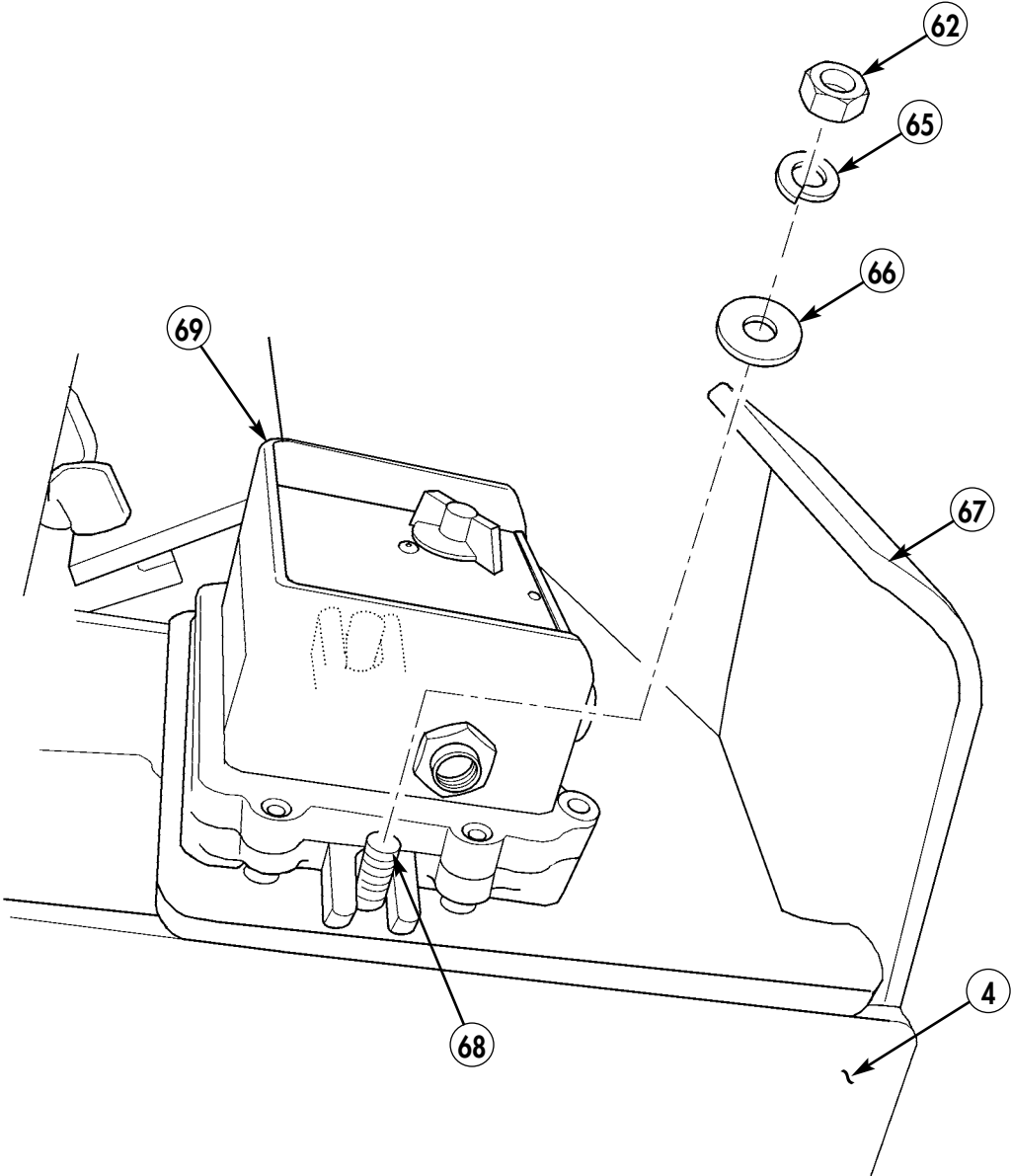
- 3-26. Mount MT-6352/VRC mounting base (59) and amp guard (63) on integrated rack (4) with two screws (56), four lockwashers (57), and two nuts (62). Secure mount MT-6352/VRC mounting base (59) on integrated rack (4) with two capscrews (58) and lockwashers (57).
- 3-27. Place warning decal (64) on amp guard (63).



- 56. CAPSCREW – B1821BH031F125N – QTY. 2
- 57. LOCKWASHER – MS45904-72 – QTY. 6
- 58. CAPSCREW – B1821BH031F100N – QTY. 2
- 59. MOUNTING BASE, MT-6352/VRC – A3013367-1 – QTY. 1
- 62. NUT – 9418892 – QTY. 2
- 63. AMP GUARD – 872842-1 – QTY. 1
- 64. DECAL – 861868-2 – QTY. 1

Figure 5-22.

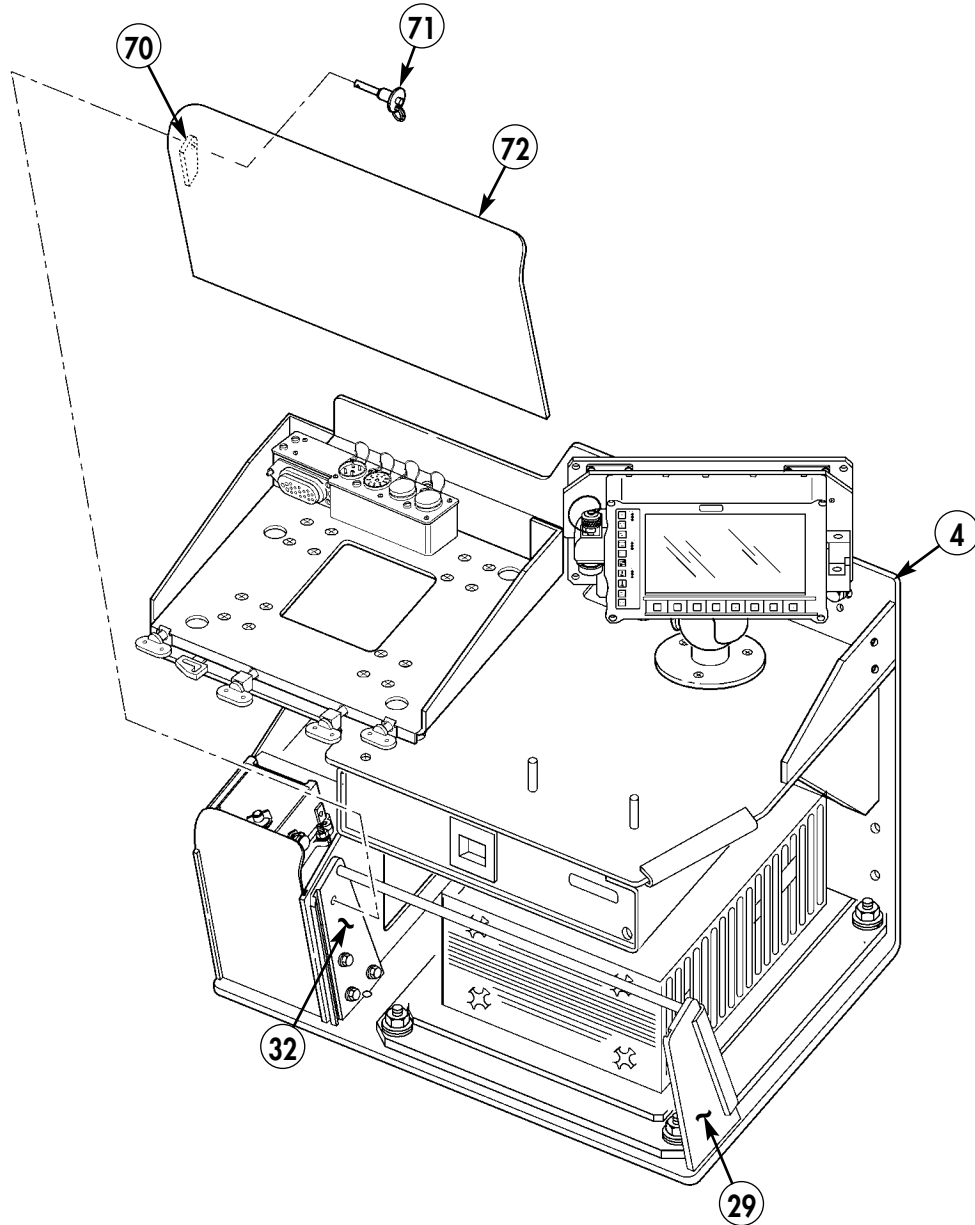
- 3-28. Insert kickplate (67) into grooves of integrated rack (4).
- 3-29. Install Master Control Station (MCS) (69) on mounting surface of kickplate (67) using two existing studs (68), washers (66), lockwashers (65), and nuts (62).



- 62. NUT - 120376 - QTY. 2
- 65. LOCKWASHER - MS35338-45 - QTY. 2
- 66. WASHER - 10910174-19 - QTY. 2
- 69. MCS - A3206623 - QTY. 1

Figure 5-23.

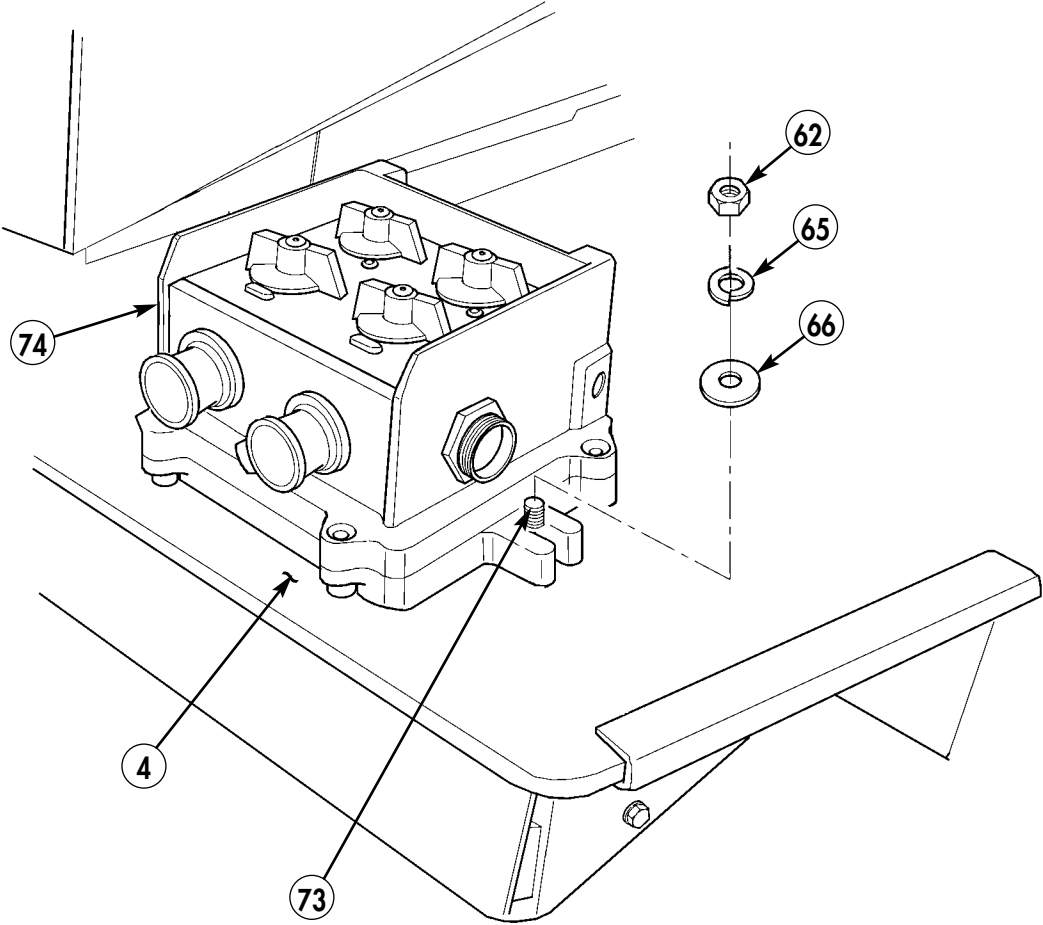
- 3-30. Insert kickplate (72) into grooves of right rail weldment (29) and left rail weldment (32).
- 3-31. Insert quick-release pin (71) through hole (70) in kickplate (72), left rail weldment (32), and integrated rack (4).



72. FOOTREST WELDMENT – 889567-21 – QTY. 1

Figure 5-24.

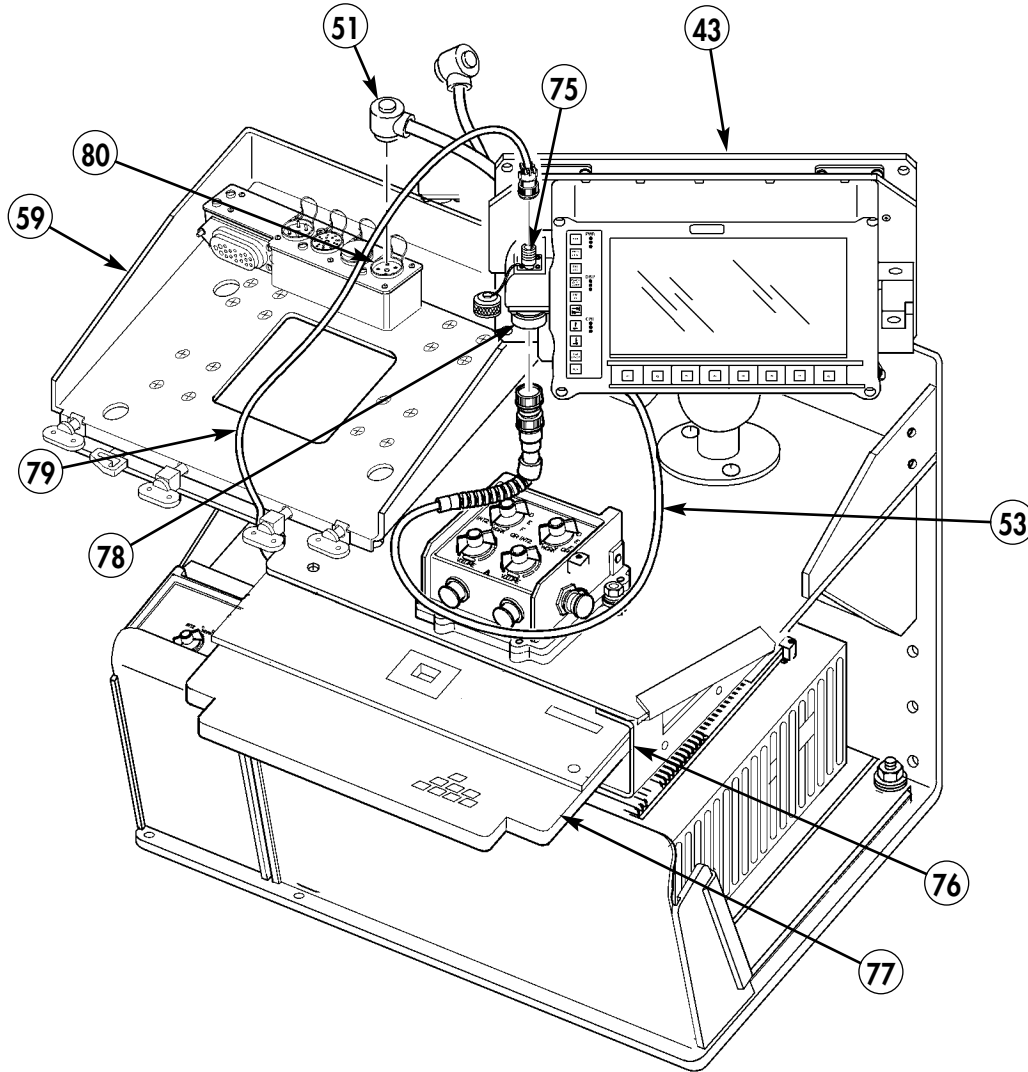
**3-32.** Install Full Function Control Station (FFCS) (74) on integrated rack (4) using two existing studs (73), washers (66), lockwashers (65), and nuts (62).



- 62. NUT - 120376 - QTY. 2
- 65. LOCKWASHER - MS35338-45 - QTY. 2
- 66. WASHER - 10910174-19 - QTY. 2
- 74. FULL FUNCTION CONTROL STATION - A3206624 - QTY. 1

Figure 5-25.

- 3-33. Connect W2P2 connector of W2 cable (53) to J1 connector (78) on FBCB2 display unit (43).
- 3-34. Connect W1P1 connector of W1 cable (51) to A4J2 connector (80) on MT-6352/VRC mounting base (59).
- 3-35. Install keyboard (77) in keyboard stowage box (76).
- 3-36. Connect keyboard cable (79) from keyboard (77) to J2 connector (75) on FBCB2 display unit (43).



77. KEYBOARD – 501395-1 – QTY. 1

Figure 5-26.



- 3-37. Install Vehicular Amplifier Adapter (VAA) AM-7239 (81) into SINCGARS mount (59).
- 3-38. Lock VAA (81) into position with locking bar (83).
- 3-39. Secure VAA (81) to SINCGARS mount (59) with two outer locking devices (82).

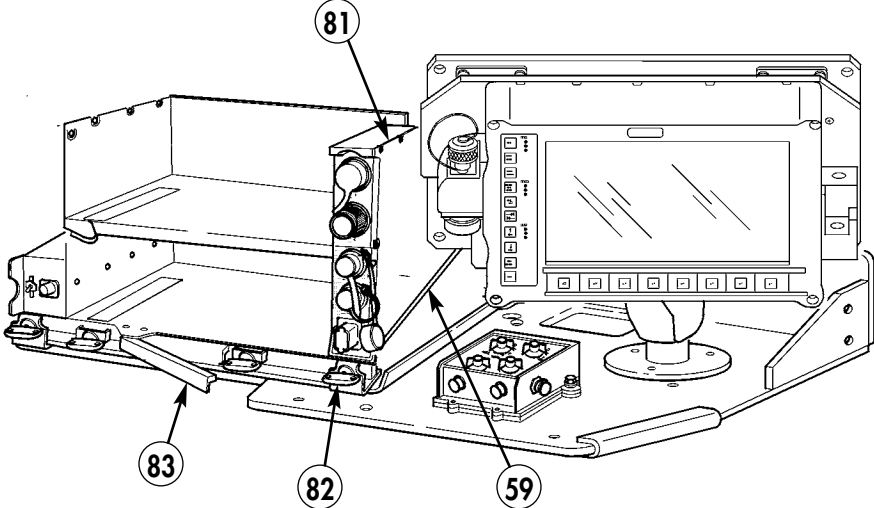


Figure 5-27.

- 3-40. Connect W3N cable (55) to J3 connector (84) on VAA (81).

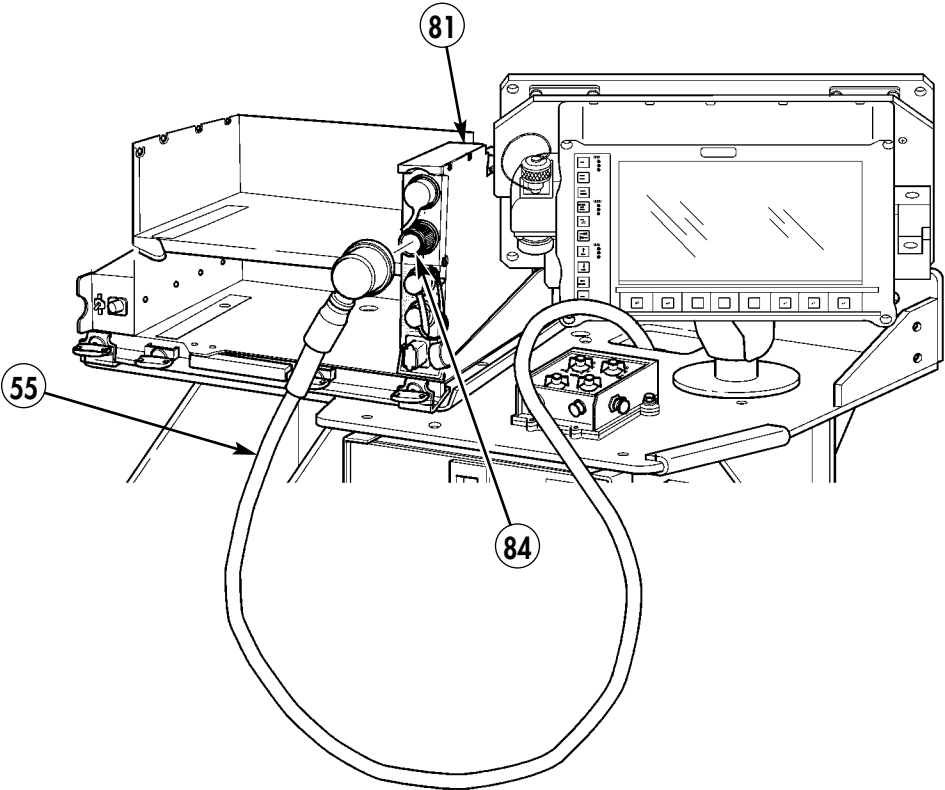


Figure 5-28.

### Section IV. DAGR INSTALLATION

- 4-1. Remove weather cap. (Refer to TM 9-2320-387-24.)
- 4-2. Remove locknut (5), two washers (6), and capscrew (11) from air intake stack support bracket (1) and mounting bracket (7). Discard locknut (5).
- 4-3. Loosen clamp (13) and remove air intake stack (12) from rubber boot (14) and mounting bracket (7).
- 4-4. Remove two capscrews (2) and (8), lockwashers (3) and (9), and washers (4) and (10) from mounting bracket (7). Remove mounting bracket (7) from vehicle (15). Discard lockwashers (3) and (9).

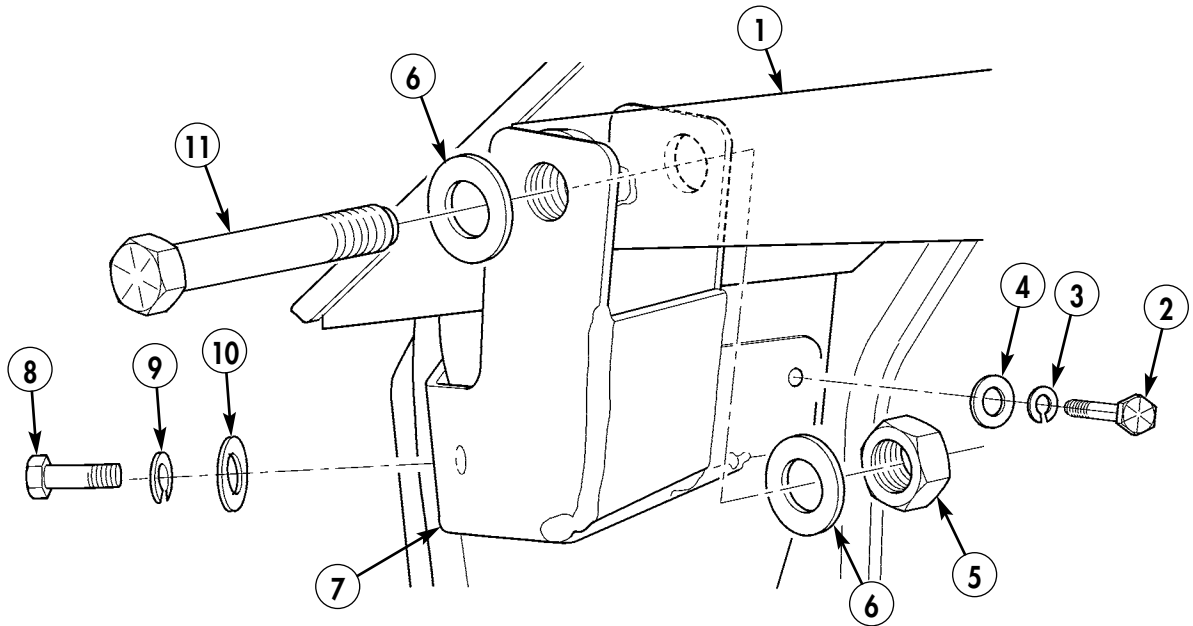


Figure 5-29.

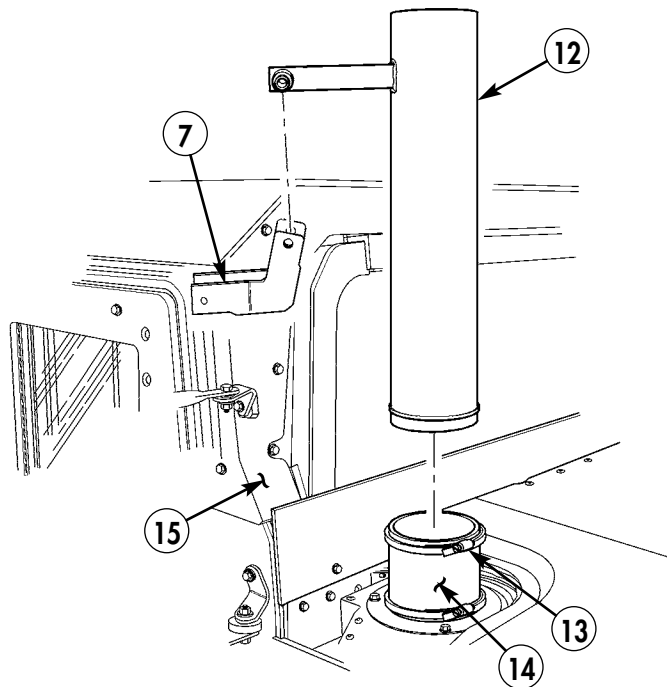


Figure 5-30.

- 4-5. Remove right-side windshield wiper. (Refer to TM 9-2320-387-24.)
- 4-6. Remove four screws (19), lockwashers (18), washers (17), and right-side front roof armor (16) from vehicle (15). Discard lockwashers (18).

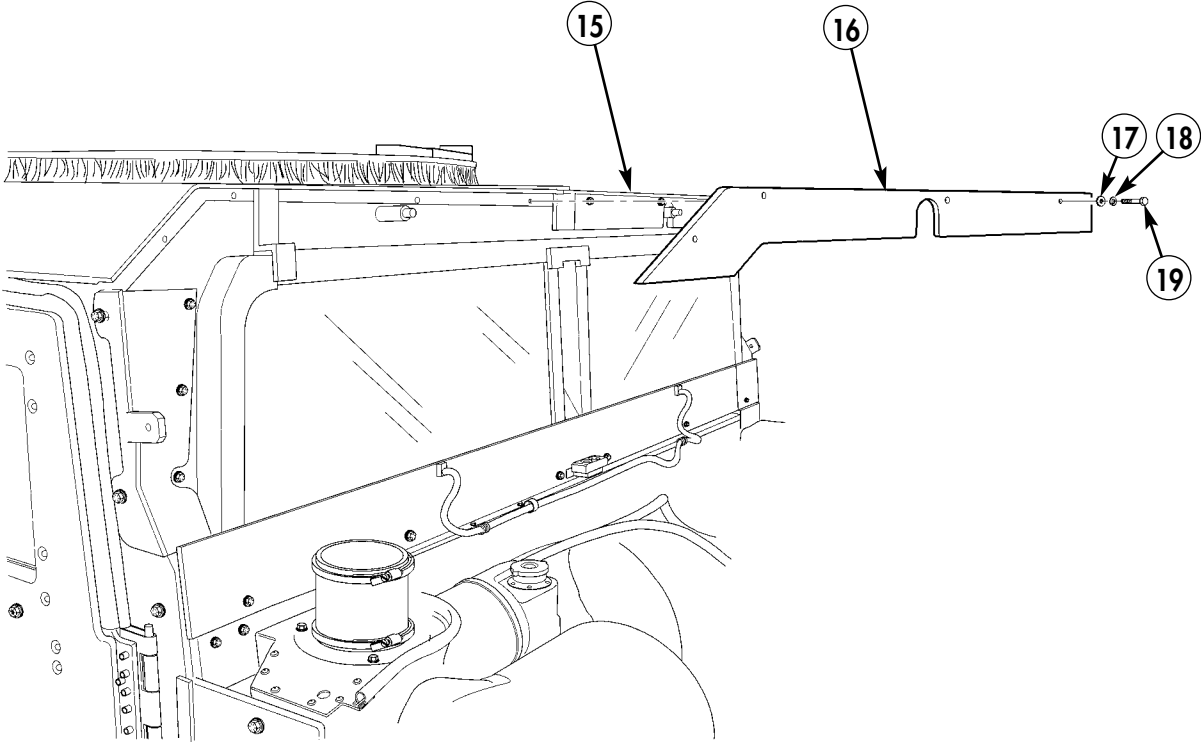


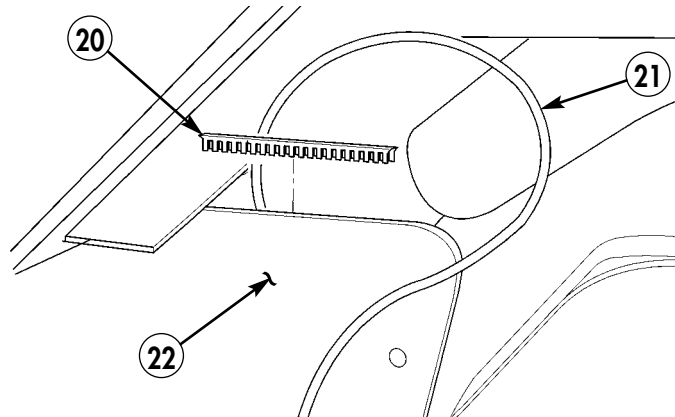
Figure 5-31.

4-7. Install grommet material (20) on armor plate (22).

**NOTE**

- Leave enough slack to connect cable to DAGR antenna.
- If installing BFT, install BFT cable with DAGR antenna cable at this time. See figure 5-44.

4-8. Route DAGR antenna cable (21) through gap in armor plate (22) to inside of vehicle.



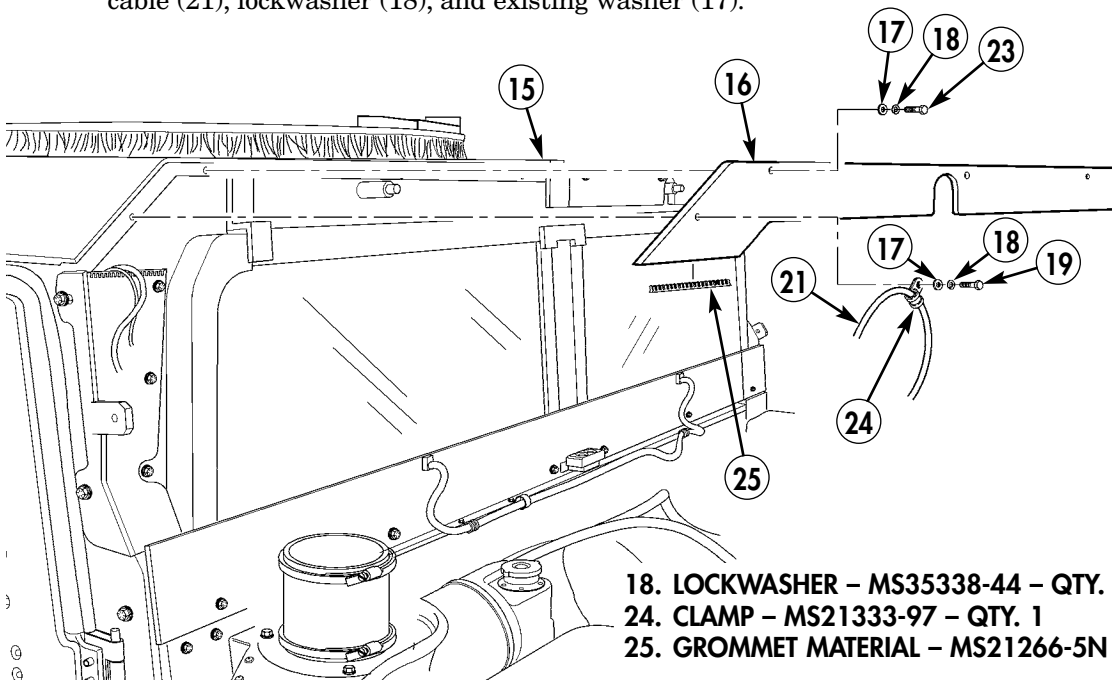
- 20. GROMMET MATERIAL – MS21266-6N – QTY. 3 IN.
- 21A. DAGR ANTENNA CABLE – 987-5016-001 – QTY. 1
- 21B. DAGR ANTENNA CABLE – 987-4640-001 – QTY. 1

Figure 5-32.

4-9. Install grommet material (25) on right-side roof armor (16).

4-10. Install right-side front roof armor (16) on vehicle (15) with three existing screws (23), lockwashers (18), and existing washers (17).

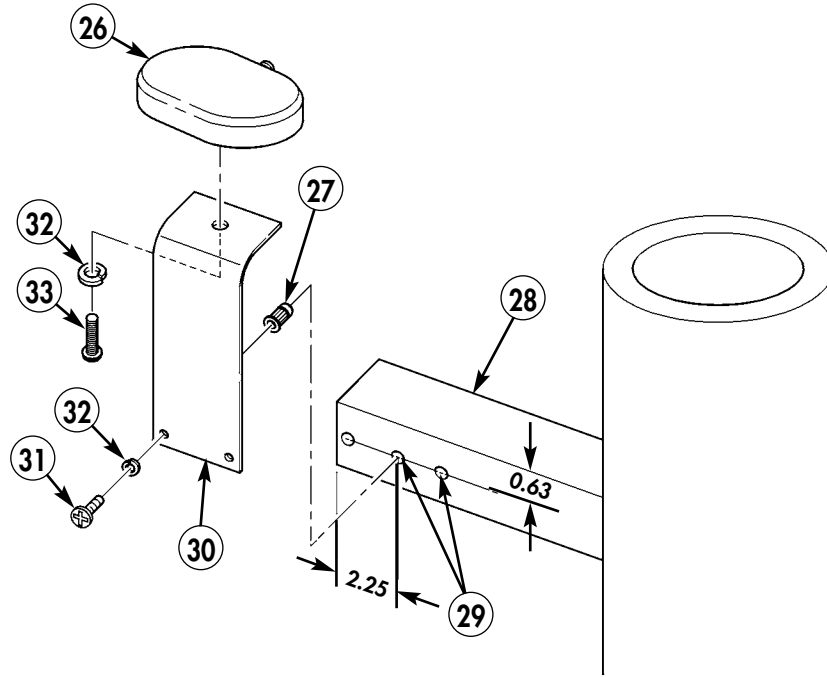
4-11. Secure right-side front roof armor (16) to vehicle with existing screw (19), clamp (24), DAGR antenna cable (21), lockwasher (18), and existing washer (17).



- 18. LOCKWASHER – MS35338-44 – QTY. 4
- 24. CLAMP – MS21333-97 – QTY. 1
- 25. GROMMET MATERIAL – MS21266-5N – QTY. 3 IN.

Figure 5-33.

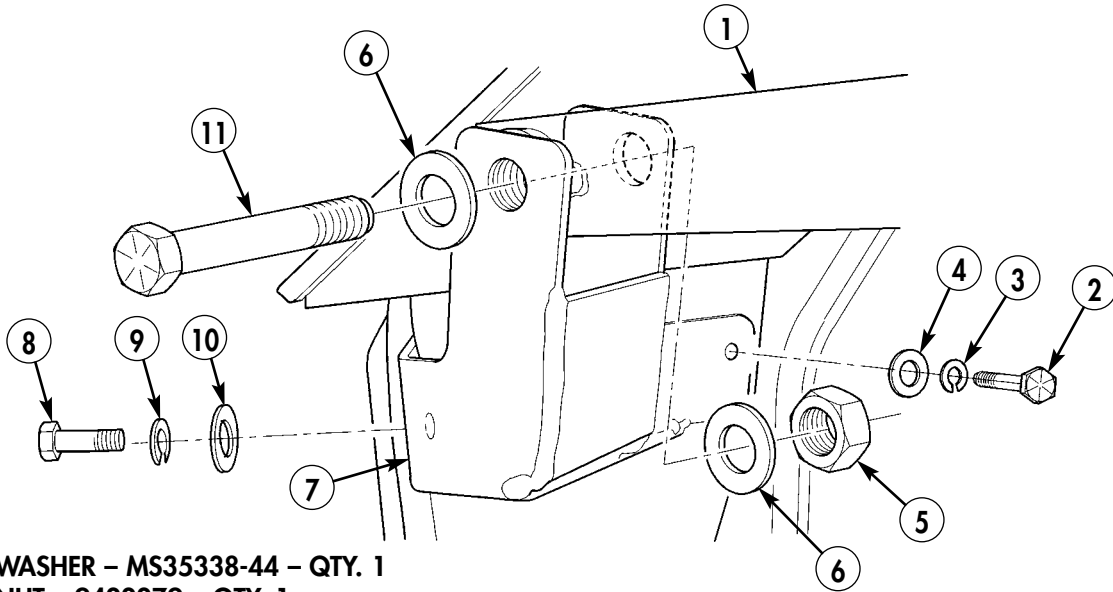
- 4-12. Locate, mark, and drill one 0.125-in. diameter pilot hole (29) in air intake stack support bracket (28).
- 4-13. Using support bracket (30) as template, drill 0.125-in. diameter pilot hole (29) in air intake stack support bracket (28).
- 4-14. Enlarge drilled holes (29) in air intake stack support bracket (28) to 0.297-in. diameter.
- 4-15. Install two inserts (27) in air intake stack support bracket (28).
- 4-16. Install antenna (26) on support bracket (30) with lockwasher (32) and screw (33).
- 4-17. Install support bracket (30) and antenna (26) on air intake stack support bracket (28) with two screws (31) and lockwashers (32).



- 26. ANTENNA - 013-1981-010 - QTY. 1
- 27. INSERT - 12446871-3 - QTY. 2
- 30. SUPPORT - 12506676 - QTY. 1
- 31. SCREW - MS35206-267 - QTY. 2
- 32. LOCKWASHER - MS35338-43 - QTY. 3
- 33. SCREW - MS35207-261 - QTY. 1

Figure 5-34.

- 4-18. Install mounting bracket (7) on vehicle (15) with capscrew (2), lockwasher (3), and washer (4).
- 4-19. Secure mounting bracket (7) to vehicle (15) with capscrew (8), lockwasher (9), and washer (10).
- 4-20. Install air intake stack (12) on rubber boot (14).
- 4-21. Secure air intake stack support bracket (1) to mounting bracket (7) with capscrew (11), two washers (6), and nut (5).
- 4-22. Tighten clamp (13).
- 4-23. Install right-side windshield wiper. (Refer to TM 9-2320-387-24.)



- 3. LOCKWASHER - MS35338-44 - QTY. 1
- 5. LOCKNUT - 9422279 - QTY. 1
- 9. LOCKWASHER - MS35338-45 - QTY. 1

Figure 5-35.

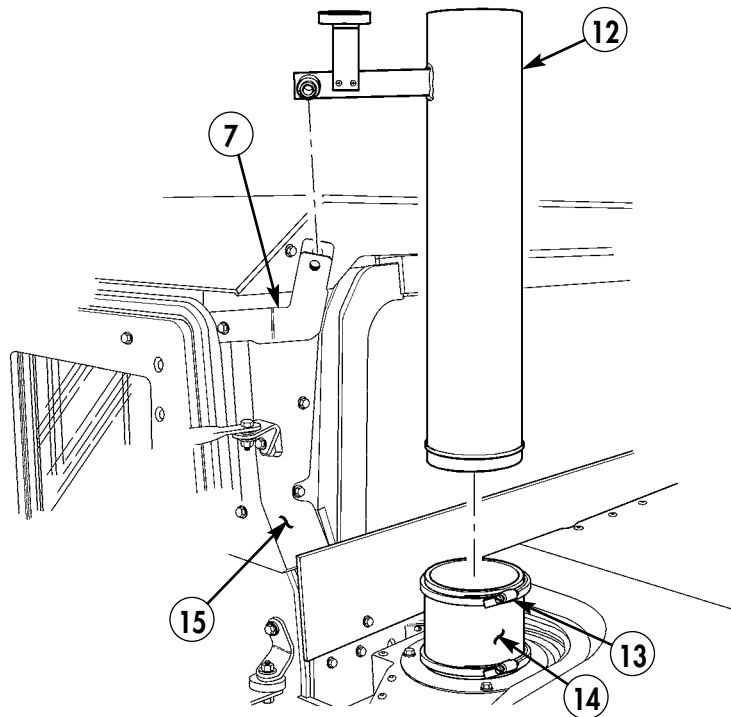


Figure 5-36.

- 4-24. Install weather cap. (Refer to TM 9-2320-387-24.)
- 4-25. Connect connector (34) of DAGR antenna cable (21) to DAGR antenna (26).

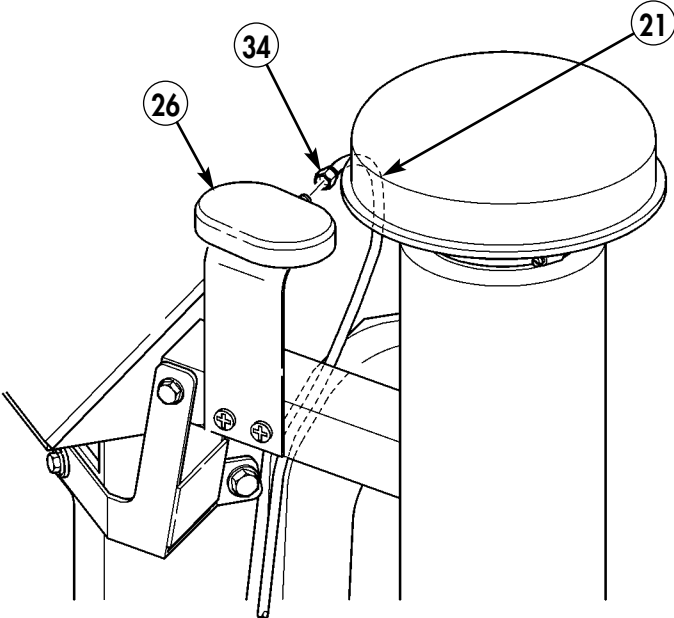
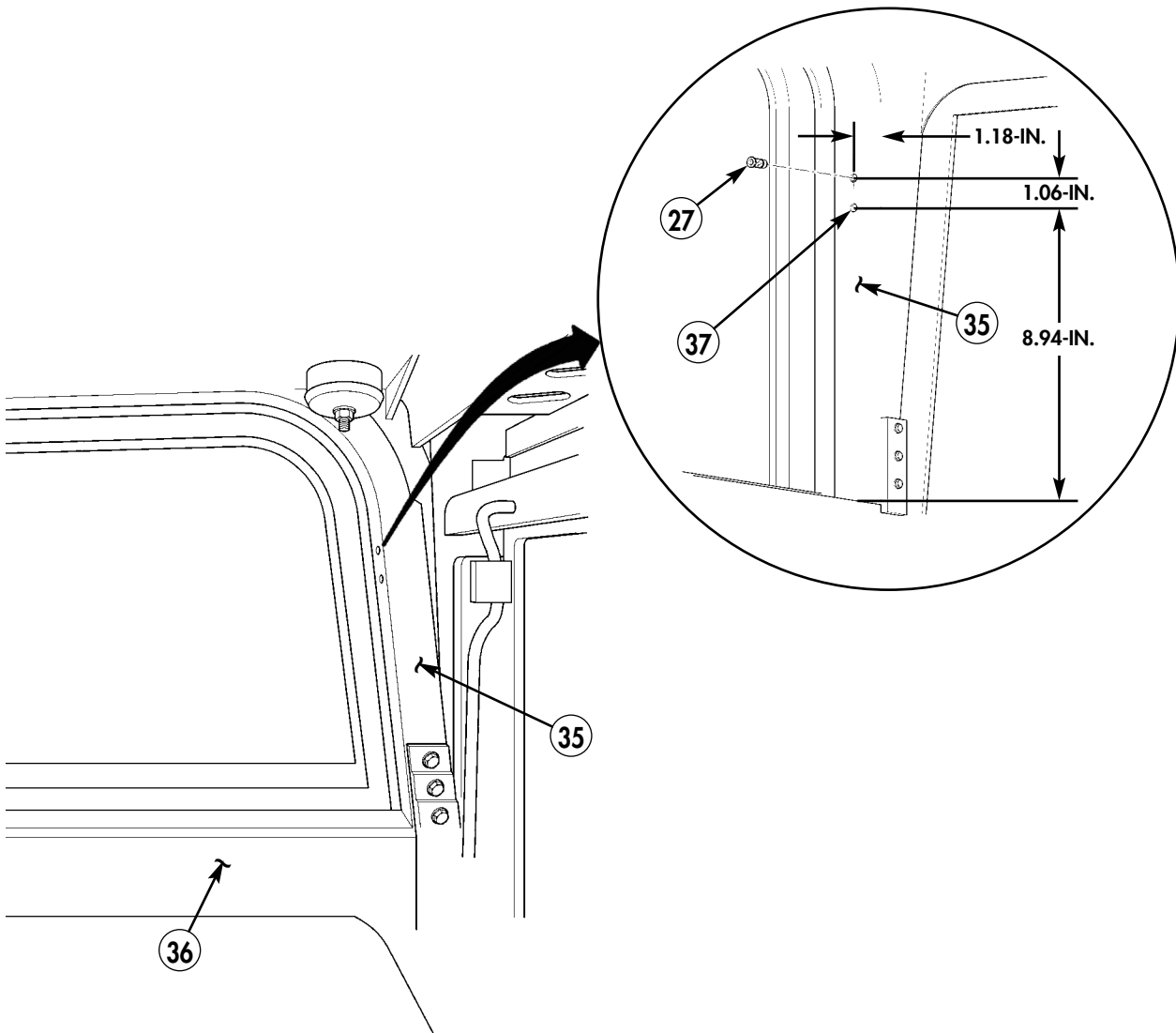


Figure 5-37.

- 4-26. Locate, mark, and drill two 0.297-in. diameter holes (37) in right-side windshield frame (35).
- 4-27. Install two inserts (27) in right-side windshield frame (35).
- 4-28. Install installation mount (39) on mounting bracket (41) with four screws (38) and locknuts (40).
- 4-29. Install mounting bracket (41) and installation mount (39) on right-side windshield frame (35) with two screws (31) and lockwashers (32).
- 4-30. Connect DAGR data cable (42) to DAGR (43).
- 4-31. Pull two spring loaded mounting pins (44) on installation mount (39) and align mount points (45) on DAGR (43) to installation mount (39) and seat properly.



27. INSERT - 12446871-3 - QTY. 2

Figure 5-38.



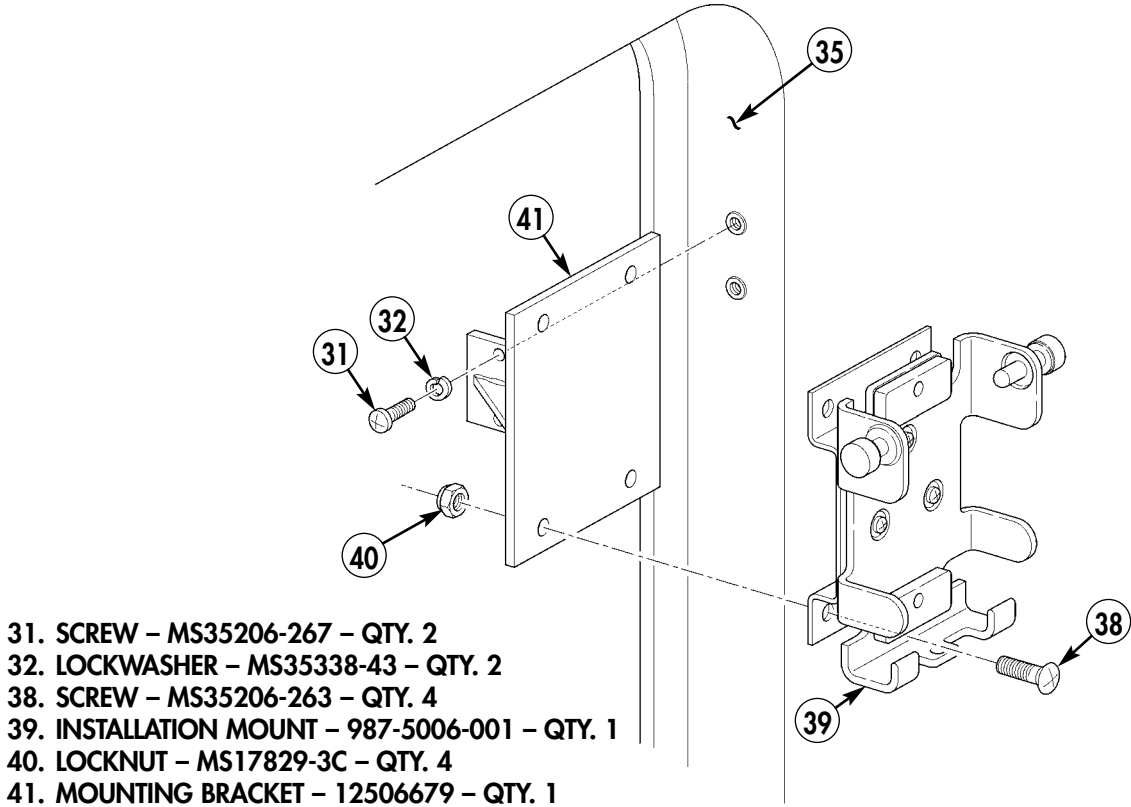


Figure 5-39.

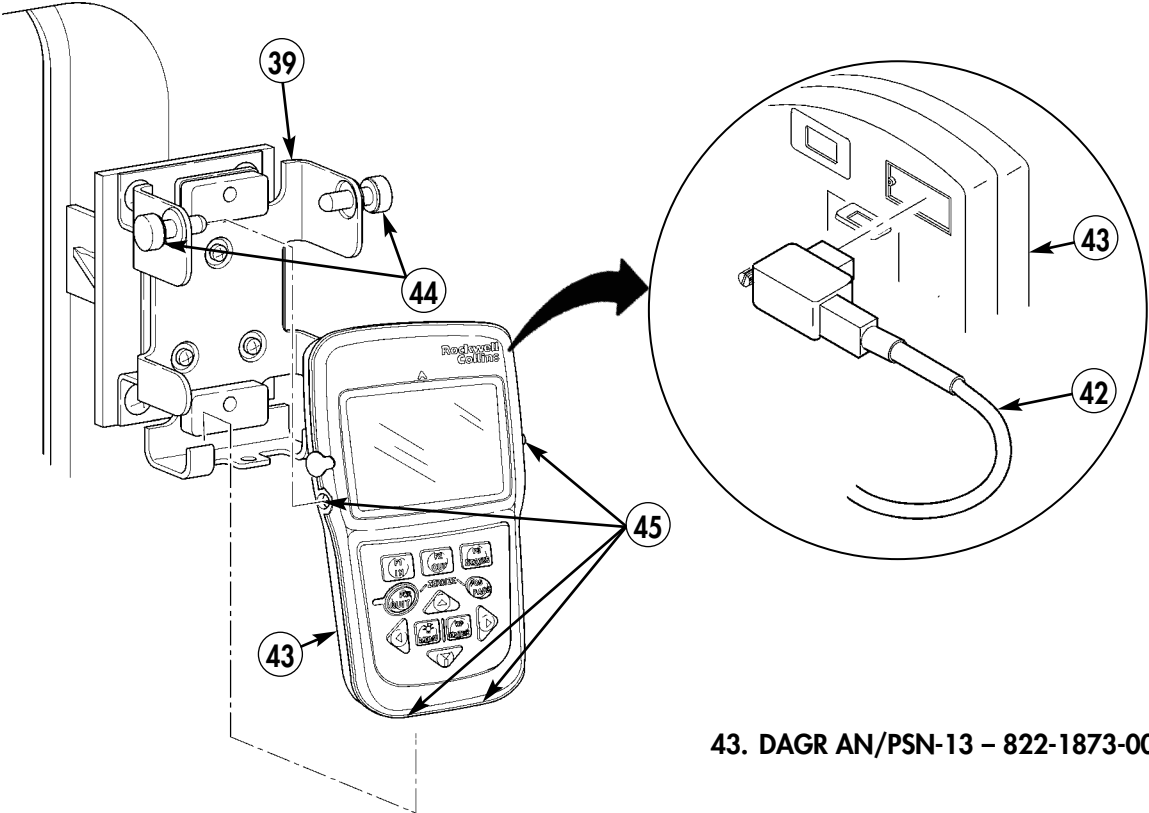


Figure 5-40.

4-32. Route DAGR antenna cable (21) behind insulation (46), along A-pillar (47).

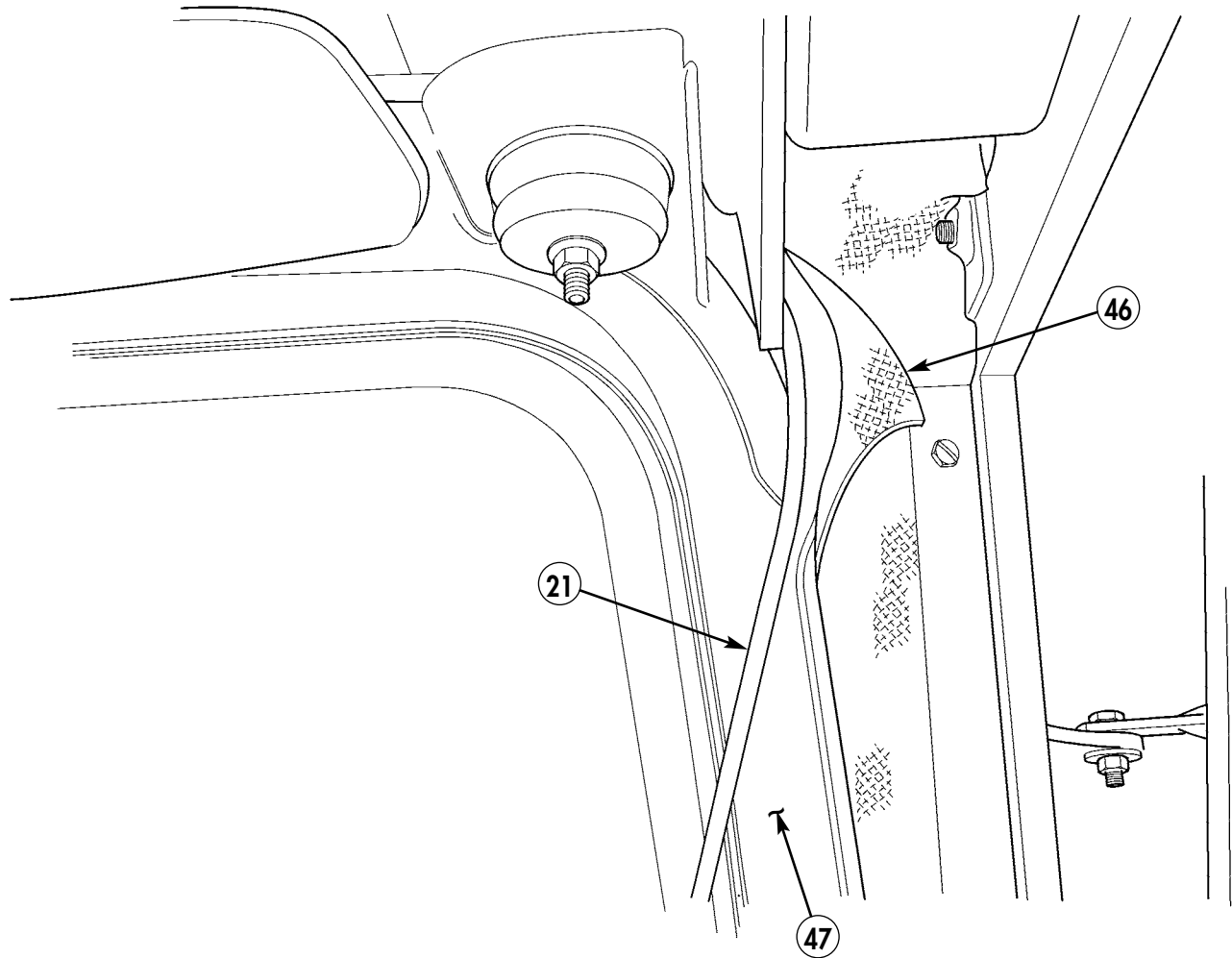


Figure 5-41.

4-33. Route DAGR antenna cable (21) along A-pillar (47) towards dashboard (55).

**NOTE**

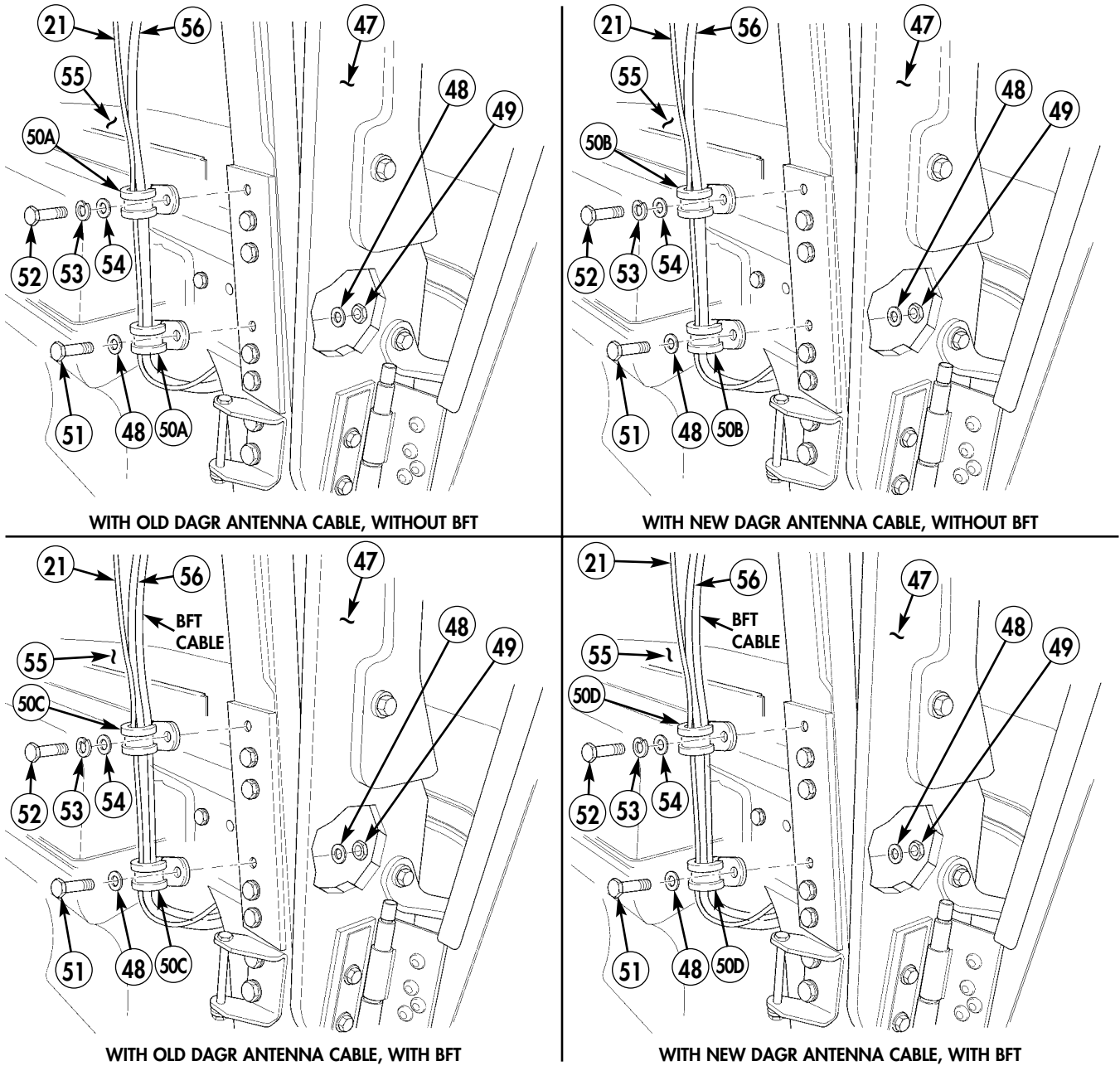
Route BFT cable if necessary.

4-34. Secure DAGR antenna cable (21) and DAGR power cable (56) to A-pillar (47) with clamp (50), existing screw (52), lockwasher (53), and washer (54).

**NOTE**

Leave DAGR power cable in position until connection is made in Section XII

4-35. Secure DAGR antenna cable (21) and DAGR power cable (56) to A-pillar (47) with clamp (50), existing screw (51), two washers (48), and locknut (49).

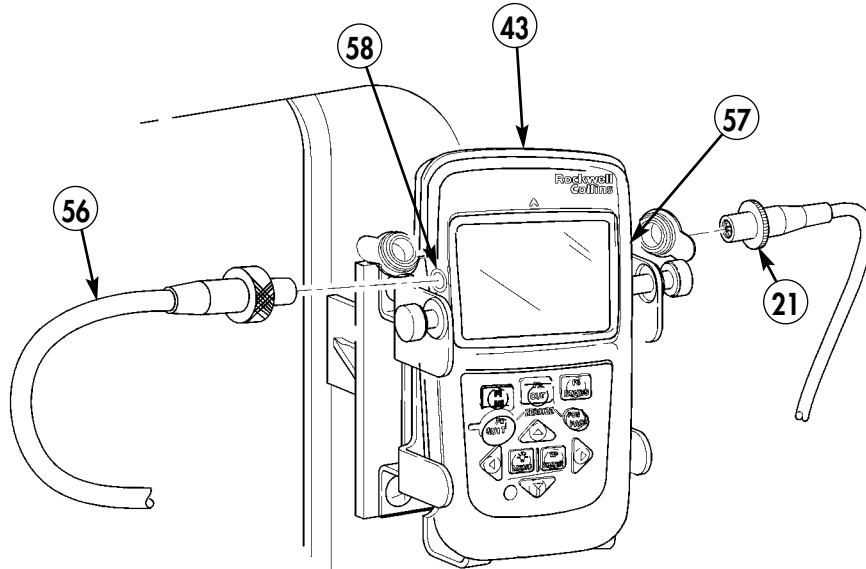


- 49. LOCKNUT - M45913/4-5CG8Z - QTY. 1
- 50A. CLAMP - MS21333-108 - QTY. 2
- 50B. CLAMP - MS21333-110 - QTY. 2

- 50C. CLAMP - MS21333-111 - QTY. 2
- 50D. CLAMP - MS21333-112 - QTY. 2
- 53. LOCKWASHER - MS35338-45 - QTY. 1

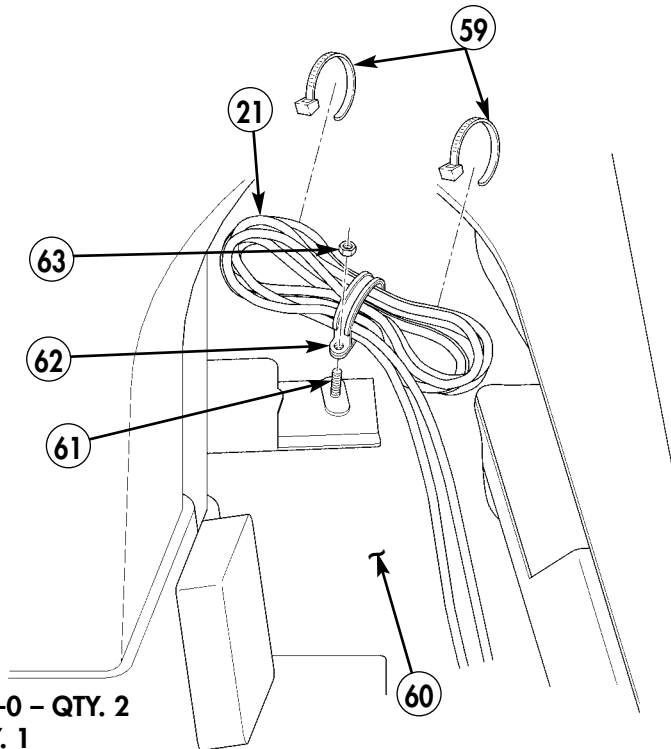
Figure 5-42.

- 4-36. Connect DAGR power cable (56) to J4 terminal (58) of DAGR (43).
- 4-37. Route DAGR antenna cable (21) to DAGR (43).
- 4-38. Connect DAGR antenna cable (21) to J3 terminal (57) on DAGR (43).



56. DAGR POWER CABLE – 987-5019-001 – QTY. 1

Figure 5-43.



- 59. STRAP, TIEDOWN – MS3367-1-0 – QTY. 2
- 62. CLAMP – MS21333-129 – QTY. 1
- 63. NUT – MS51967-6 – QTY. 1

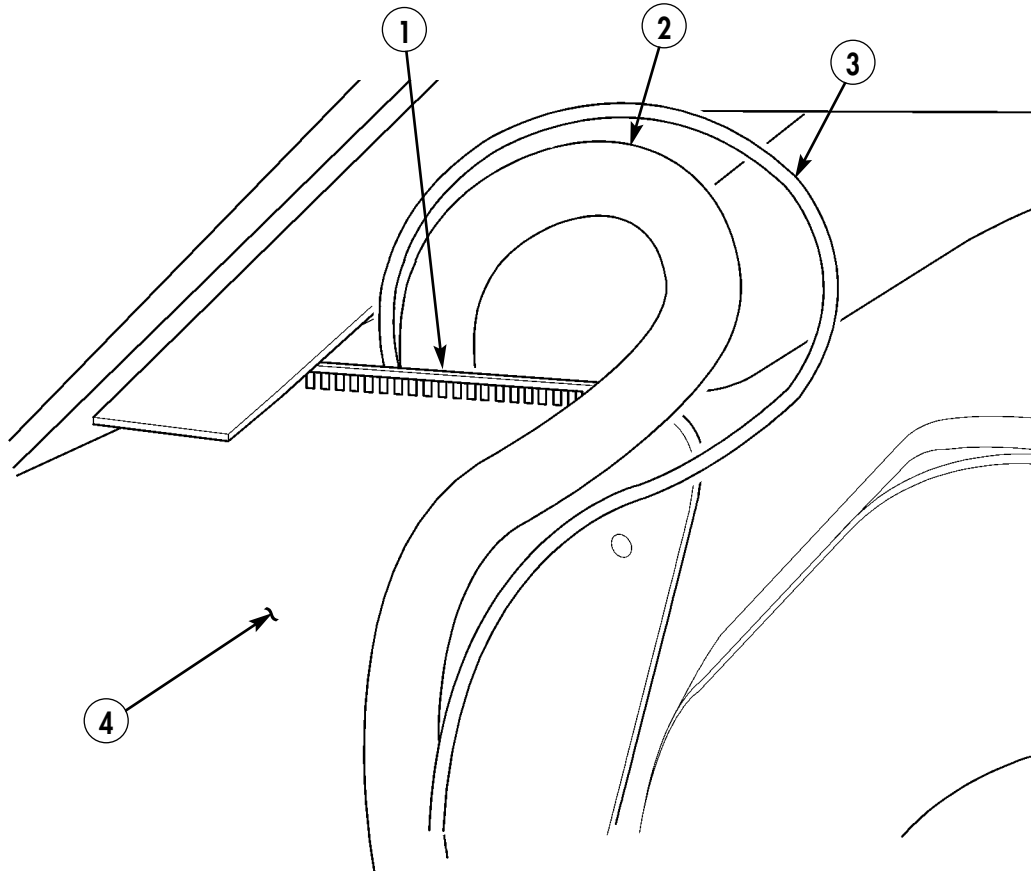
Figure 5-44.

**Section V. BFT INSTALLATION**

**NOTE**

- Perform either BFT installation or EPLRS installation. For EPLRS installation, see sections VI through VIII.
- Leave enough slack to connect cables to transceiver DAGR antenna.

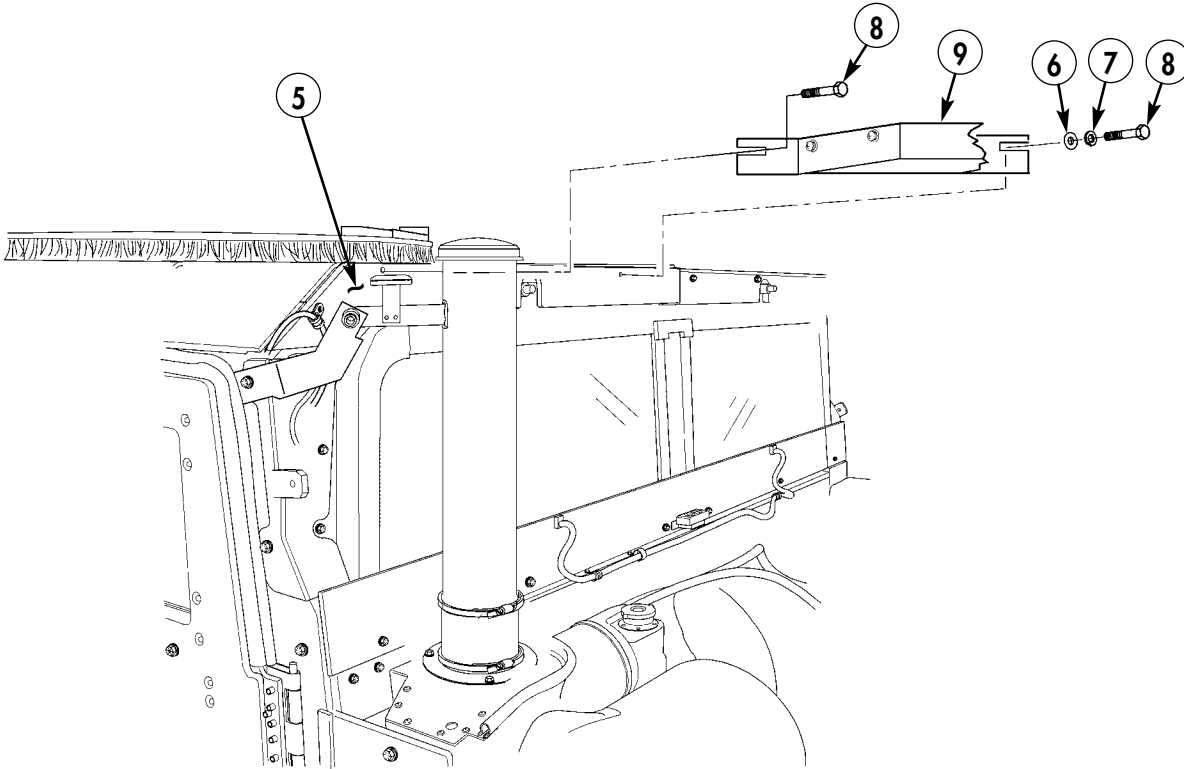
**5-1.** Route transceiver cable (2) with DAGR cable (3) through gap in armor plate (4) over grommet (1) to inside of vehicle.



**2. TRANSCEIVER CABLE – A1-35997D – QTY. 1**

*Figure 5-45.*

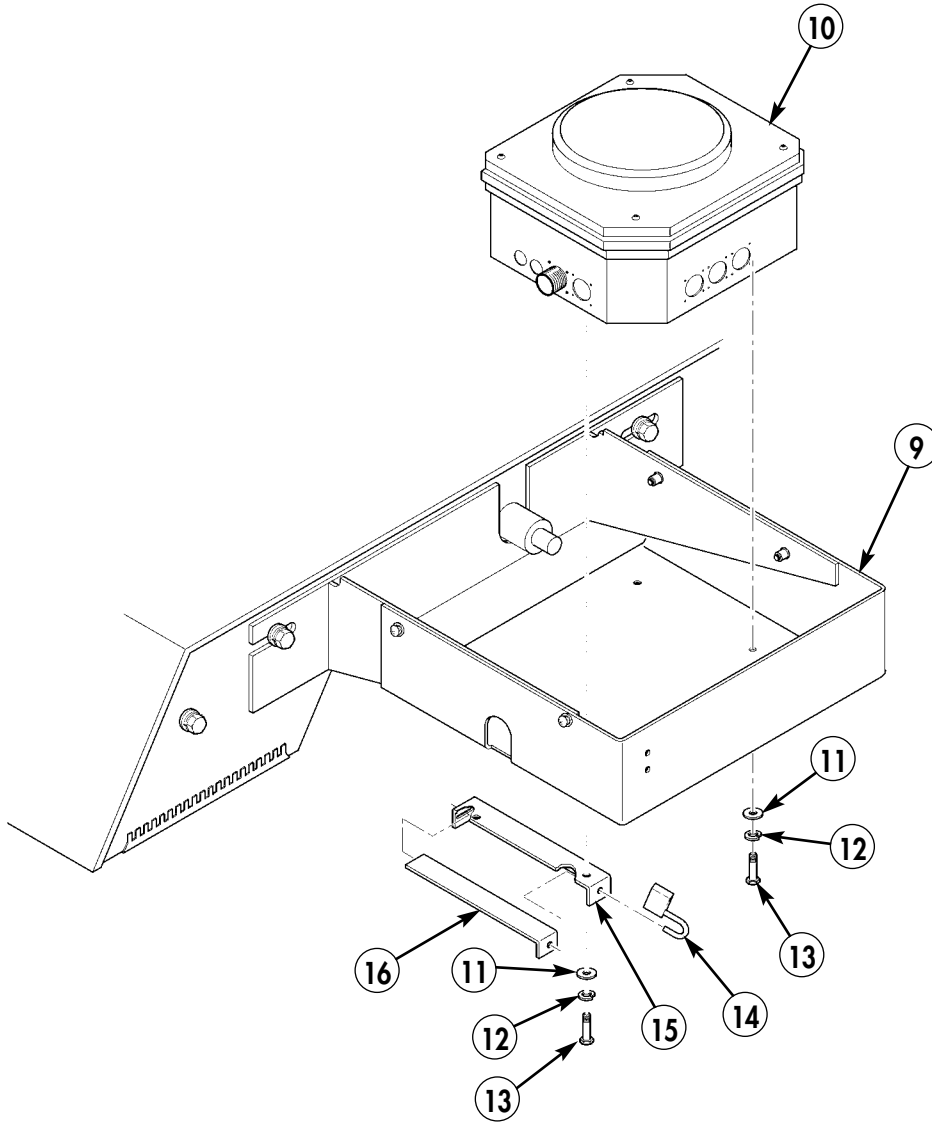
- 5-2. Remove two capscrews (8), lockwashers (7), and washers (6) from vehicle (5). Discard two capscrews (8) and lockwashers (7).
- 5-3. Install transceiver bracket (9) on vehicle (5) with two screws (8), lockwashers (7), and washers (6).



- 7. LOCKWASHER – MS35338-44 – QTY. 1
- 8. CAPSCREW – B1821BH025C125N – QTY. 2
- 9. TRANSCEIVER BRACKET – A1-38239D –QTY. 1

Figure 5-46.

- 5-4. Install transceiver (10) on transceiver bracket (9) with two screws (13), lockwashers (12), washers (11), screws (13), lockwashers (12), washers (11), and locking bracket (15).
- 5-5. Install locking bar (16) on locking bracket (15) and secure with padlock (14).



- 10. TRANSCEIVER – MT2010E – QTY. 1
- 11. WASHER – TBD – QTY. 4
- 12. LOCKWASHER – TBD – QTY. 4
- 13. SCREW – TBD – QTY. 4
- 14. PADLOCK – TBD – QTY. 1
- 15. LOCKING BRACKET – TBD – QTY. 1
- 16. LOCKING BAR – TBD – QTY. 1

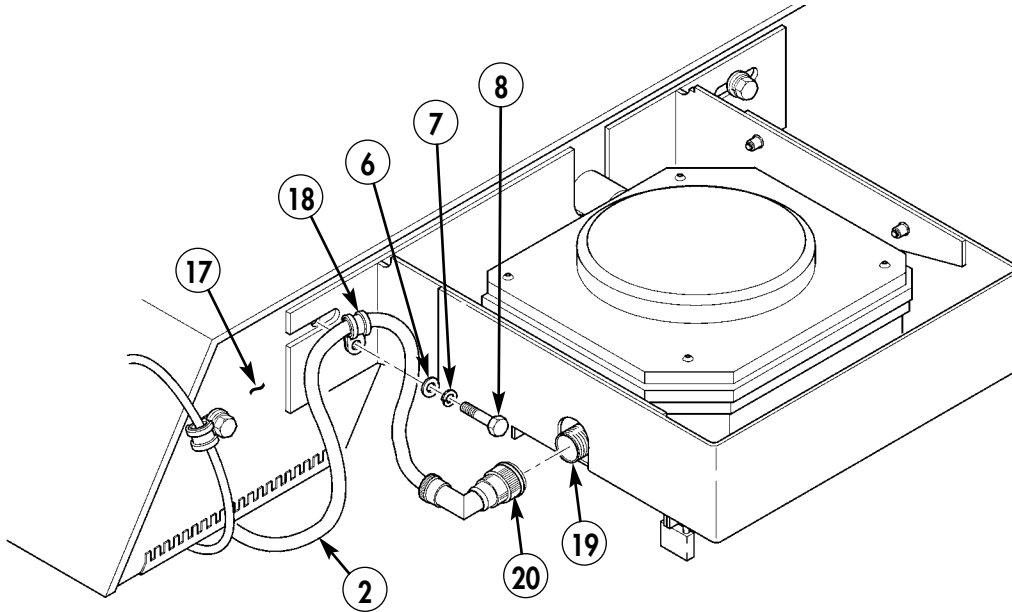
Figure 5-47.

- 5-6. Connect connector (20) of transceiver cable (2) to transceiver connector (19).
- 5-7. Remove screw (8) from right-side roof armor (17).

**NOTE**

Ensure all slack in cable is inside vehicle.

- 5-8. Route transceiver cable (2) along right-side roof armor (17) with loop clamp (18), existing screw (8), lockwasher (7), and existing washer (6).



- 7. LOCKWASHER – MS35338-44 – QTY. 1
- 18. CLAMP, LOOP – MS21333-101 – QTY. 1

*Figure 5-48.*



- 5-9. Remove screw (24) and air conditioning close out panel (23) from air conditioning duct (22).
- 5-10. Route transceiver cable (2) behind air conditioning duct (22) to radio rack (21).
- 5-11. Install air conditioning close out panel (23) on air conditioning duct (22) with screw (24).

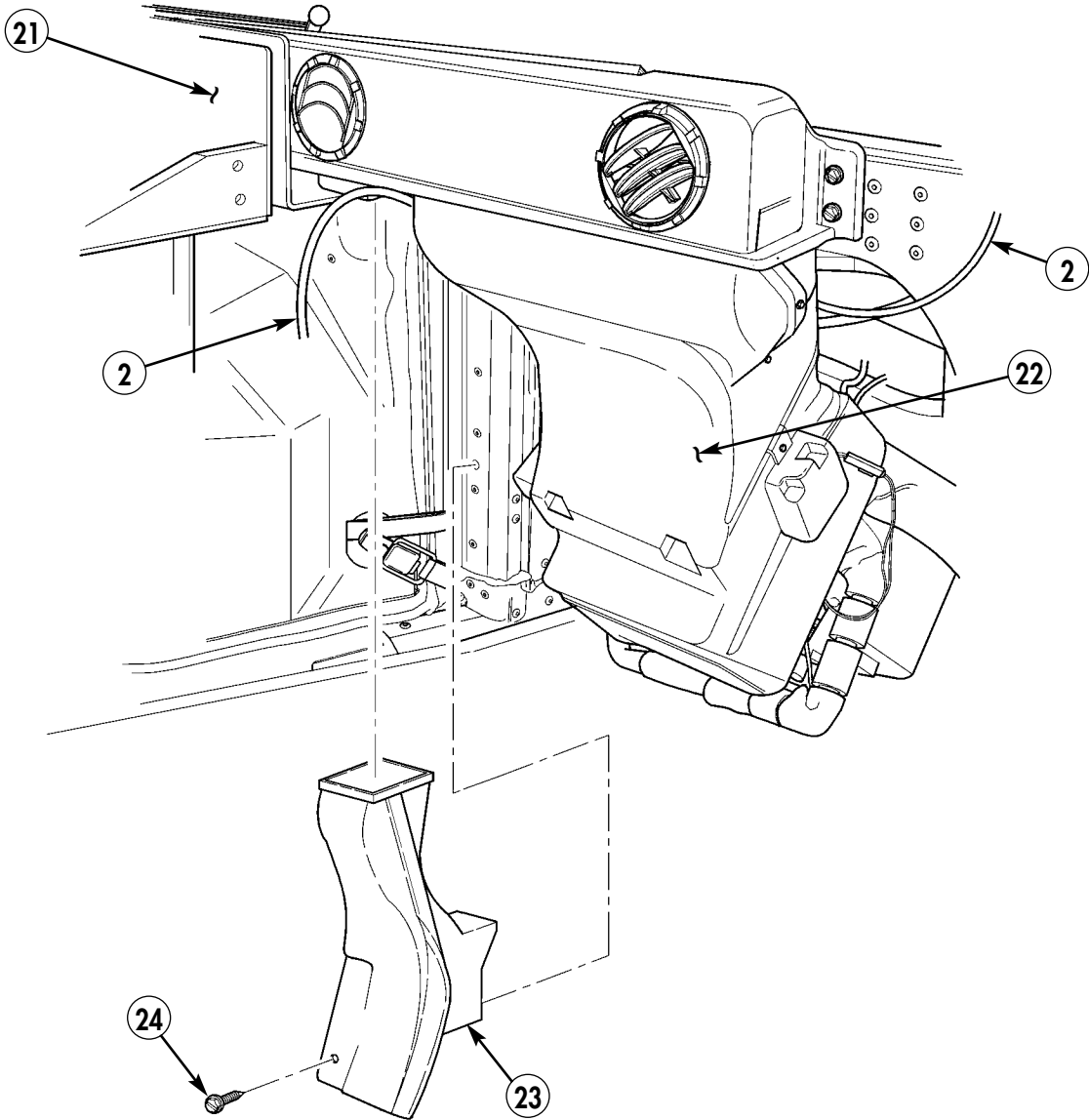


Figure 5-49.

**NOTE**

Previously installed equipment not shown for clarity.

- 5-12. Remove screws (26) from lid (25) of antenna switch box (27).
- 5-13. Route Data/Power with terminal ends (29) of transceiver cable (2) between radio rack (21) and engine cover (32) through radio rack access hole (28).
- 5-14. Insert Data/Power with terminal ends (29) of transceiver cable (2) into antenna switch box (27).
- 5-15. Route Data leg with connector end (35) of transceiver cable (2) between radio rack (21) and engine cover (32) through rear radio rack access hole (28).
- 5-16. Connect Data leg connector (35) of transceiver cable (2) to J3 connector (34) of SIAD (33).
- 5-17. Insert power cable with terminal ends (31) into antenna switch box (27).
- 5-18. Route power cable (31) through radio rack access hole (28) and to tunnel insulation (30).
- 5-19. Remove nut (37) and washer (38) from stud (41) in antenna switch box (27).
- 5-20. Connect negative lead (40) of power cable (31) to stud (41) in antenna switch box (27).
- 5-21. Connect negative lead (39) of Data/Power with terminal ends (29) of transceiver cable (2) to stud (41) in antenna switch box (27).
- 5-22. Secure negative leads (39) and (40) to stud (41) with existing washer (38) and nut (37).
- 5-23. Install positive lead (44) of Data/Power with terminal ends (29) of transceiver cable (2) to antenna switch (36) with existing screw (45).
- 5-24. Install positive lead (43) of power cable (31) to antenna switch (36) with existing screw (42).
- 5-25. Install lid (25) on antenna switch box (27) with screws (26).

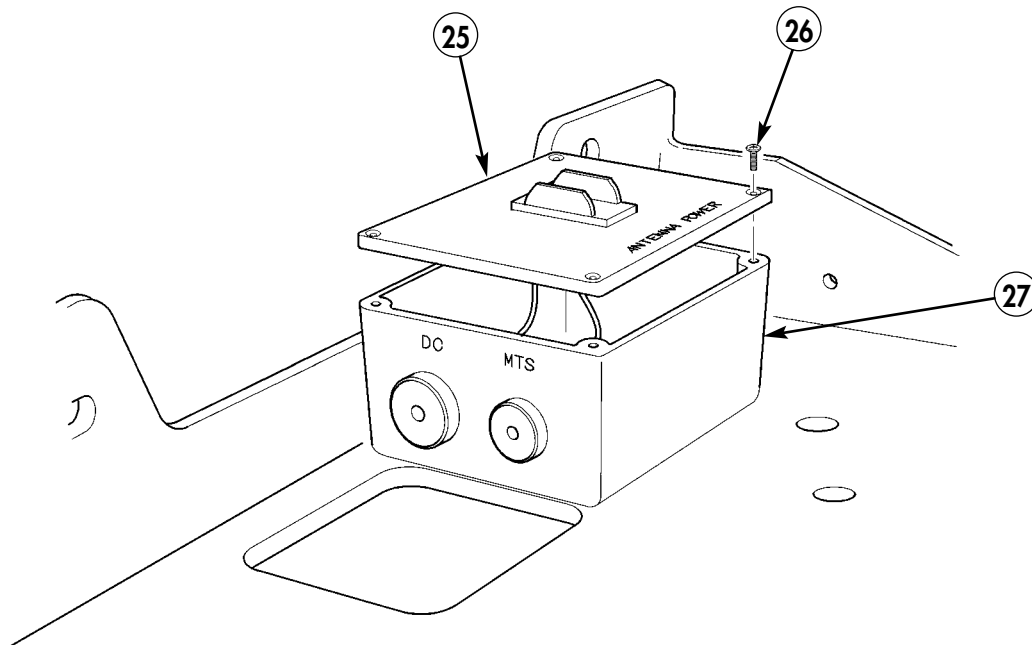
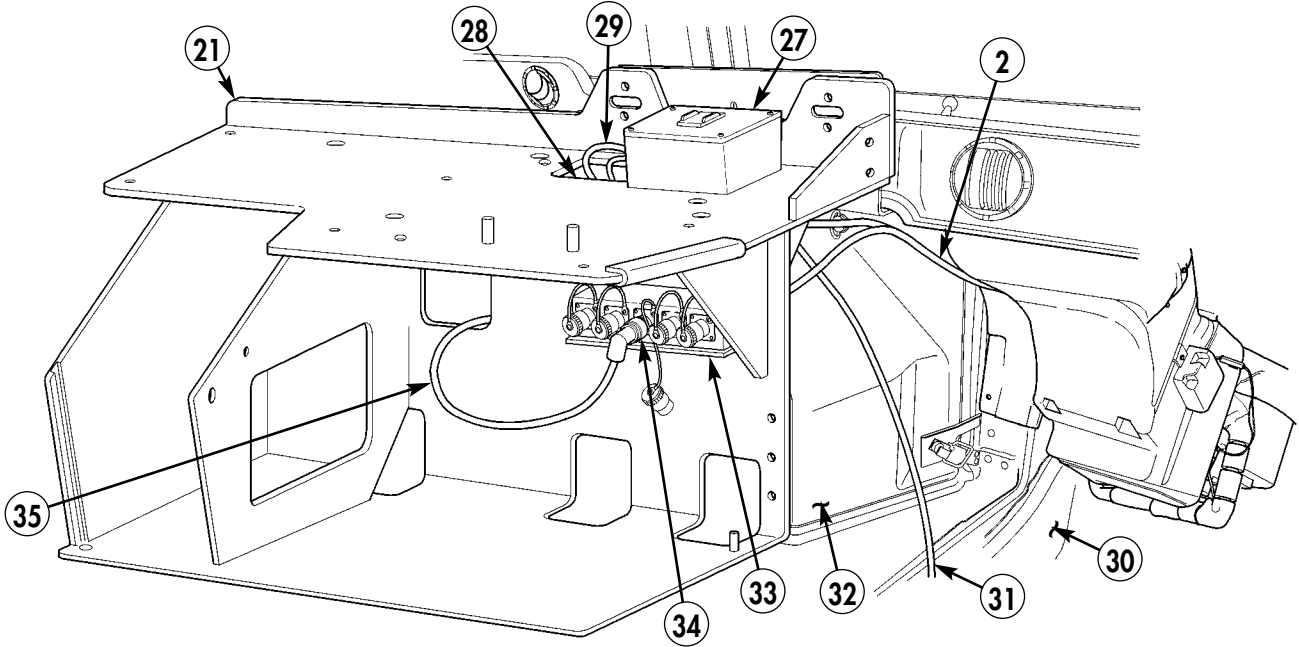


Figure 5-50.



- 29. MTS/V4/POWER CABLE - A1-35997D - QTY. 1
- 31. DC POWER CABLE - A1-35997D - 36004D-003 - QTY. 1

Figure 5-51.

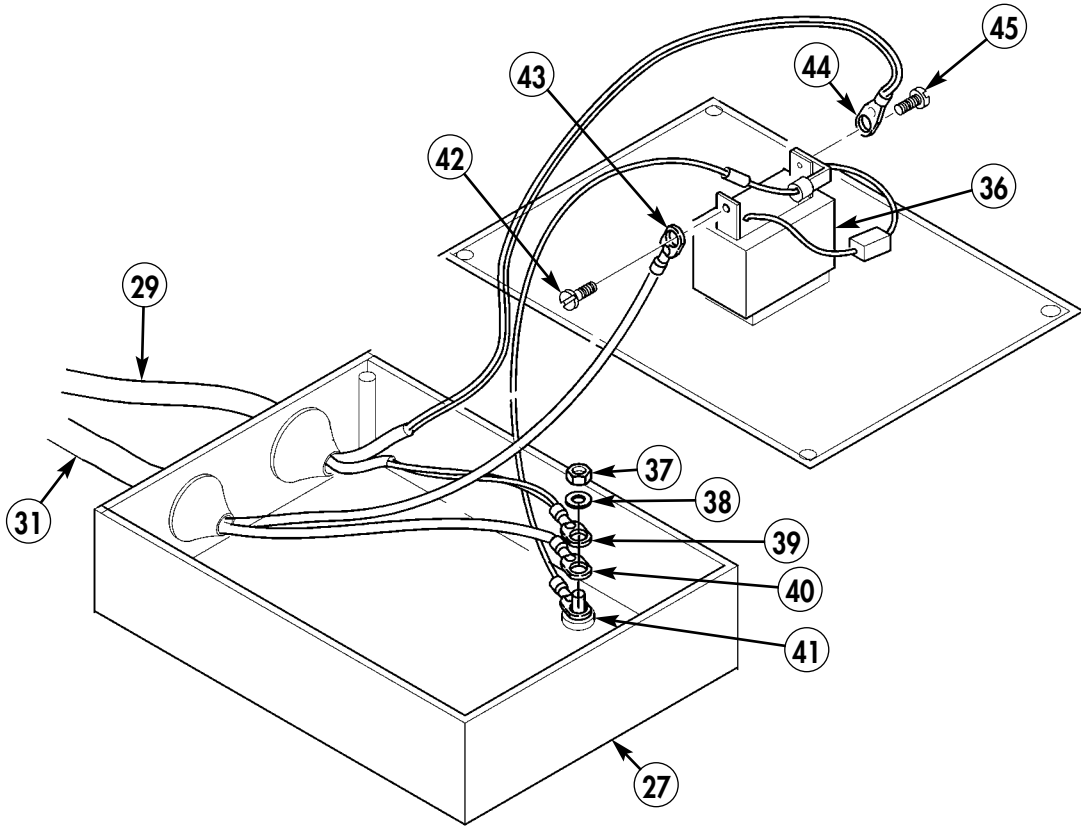


Figure 5-52.

## Section VI. EPLRS RESILIENT MOUNT AND URO MOUNTING BRACKET INSTALLATION

### NOTE

Perform either BFT installation or EPLRS installation. For BFT installation, see section V.

- 6-1.** Remove six screws (1) and right-side interface plate (2) from wheelwell (3).
- 6-2.** Position URO bracket (7) on forward position of interface plate (2). Locate, mark, and drill four 0.295-in. diameter holes (8) in interface plate (2).
- 6-3.** Install four inserts (9) in interface plate (2).
- 6-4.** Install URO bracket (7) on interface plate (2) with four capscrews (4), lockwashers (5), and washers (6).

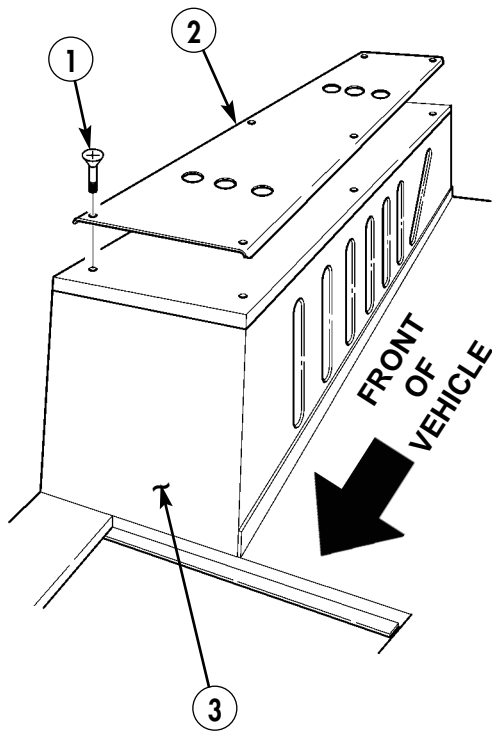
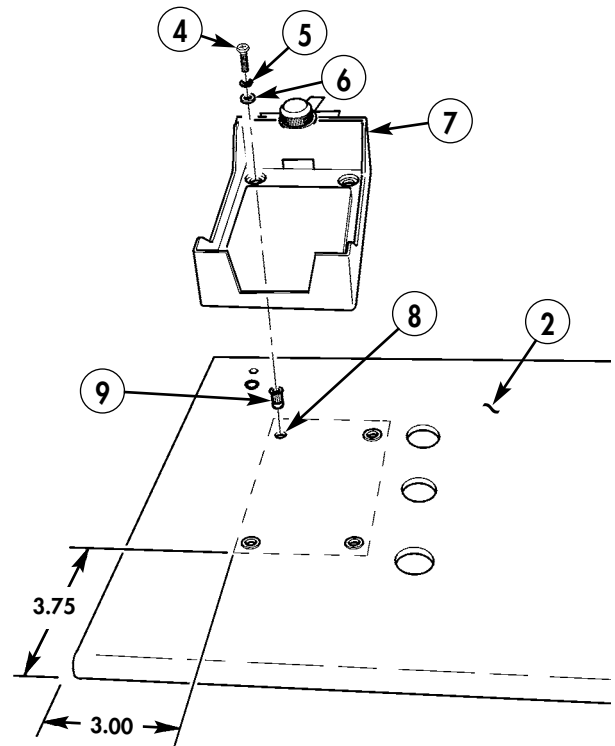


Figure 5-53.



- 4.** SCREW - MS35207-265 - QTY. 4
- 5.** LOCKWASHER - MS35338-43 - QTY. 4
- 6.** WASHER - 9416128 - QTY. 4
- 7.** URO BRACKET - A3006206-2 - QTY. 1
- 9.** INSERT - 12446871-15 - QTY. 4

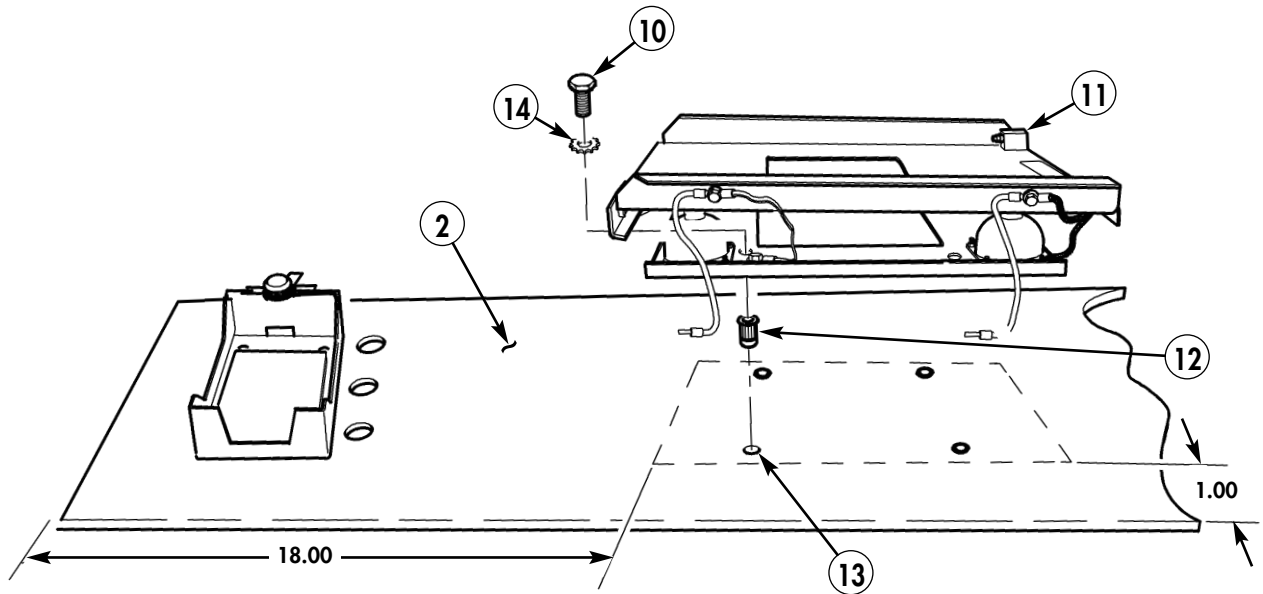
Figure 5-54.

- 6-5. Position EPLRS mount MT-6146/VSQ-1 (11) on interface plate (2).
- 6-6. Using EPLRS mount (11) as template, locate, mark, and drill four 0.531-in. diameter holes (13) in interface plate (2). Remove paint from vicinity of mounting holes in EPLRS mount (11) and interface plate (2).
- 6-7. Install four inserts (12) in holes (13) of interface plate (2).
- 6-8. Install EPLRS mount (11) on interface plate (2) with four capscrews (10) and lockwashers (14).
- 6-9. Install EPLRS unit (15) in EPLRS mount (11) and connect ground leads (16) to EPLRS unit (15).

**NOTE**

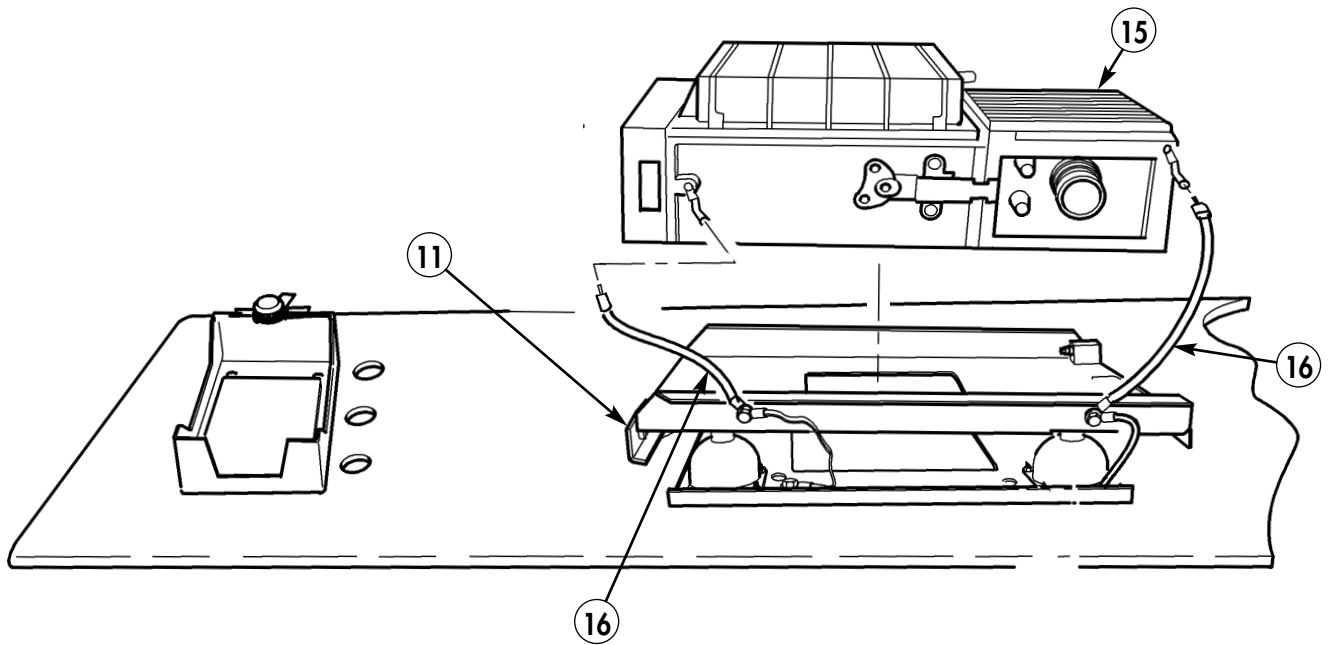
Three existing screw holes will be left empty for clamp installation.

- 6-10. Install interface plate (2) on wheelwell (3) with three screws (1) on outboard side of vehicle.



- 10. CAPSCREW - B1821BH031C100N - QTY. 4
- 11. RESILIENT MOUNT - MT-6146/VSQ-1 - QTY. 1
- 12. INSERT - 12446871-7 - QTY. 4
- 14. LOCKWASHER - MS45904-72 - QTY. 4

Figure 5-55.



15. EPLRS UNIT - AN/VSQ-2 (V) - QTY. 1

Figure 5-56.

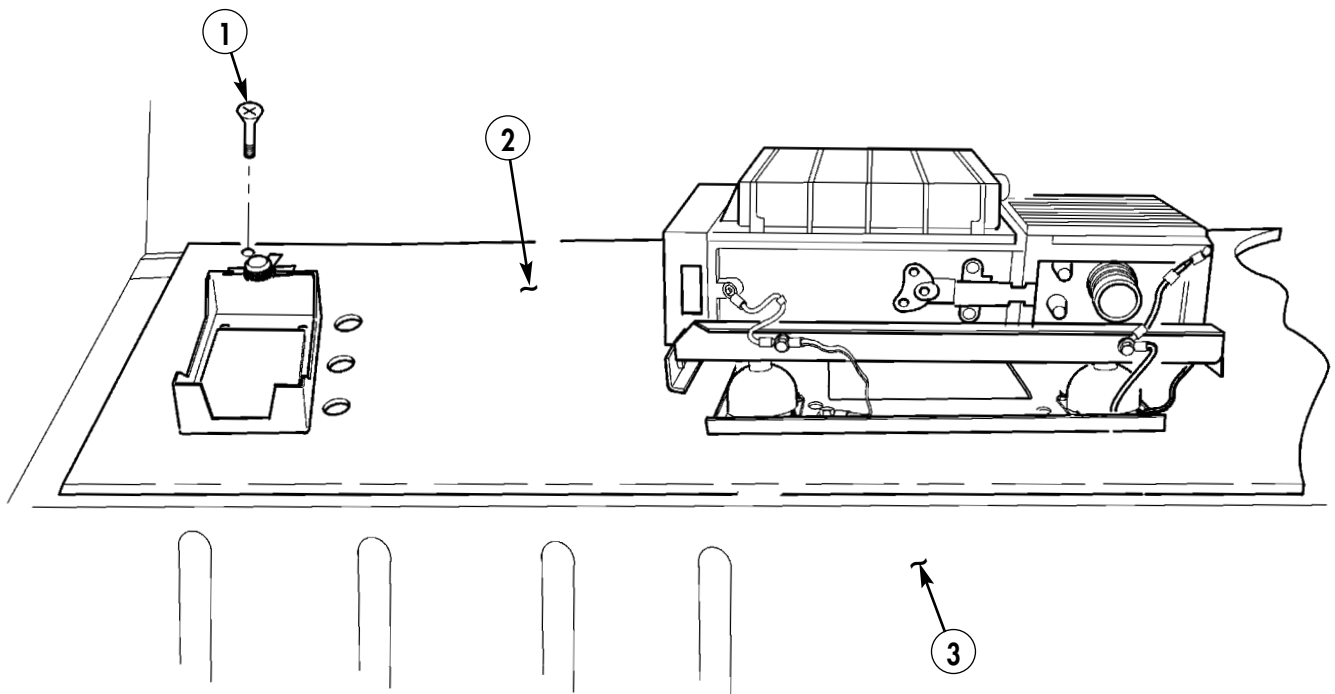


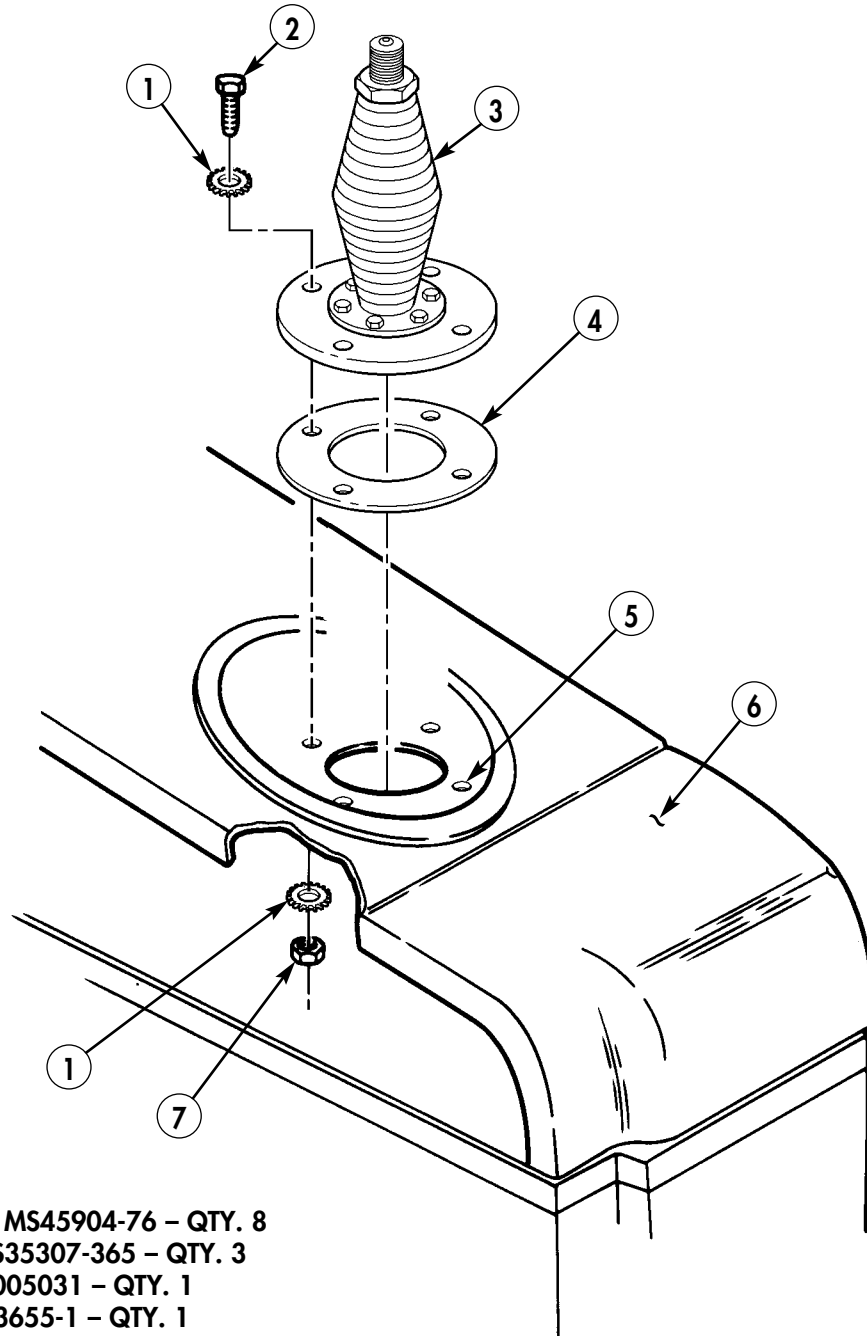
Figure 5-57.

**Section VII. EPLRS ANTENNA INSTALLATION**

**NOTE**

Perform either BFT installation or EPLRS installation. For BFT installation, see section V.

Install antenna base (3) on right rear cargo shell (6) with gasket (4), three capscrews (2), six lockwashers (1), and three nuts (7). Do not use rearmost hole (5).



- 1. LOCKWASHER - MS45904-76 - QTY. 8
- 2. CAPSCREW - MS35307-365 - QTY. 3
- 3. ANTENNA - A3005031 - QTY. 1
- 4. GASKET - A3013655-1 - QTY. 1
- 7. NUT - 9418931 - QTY. 4

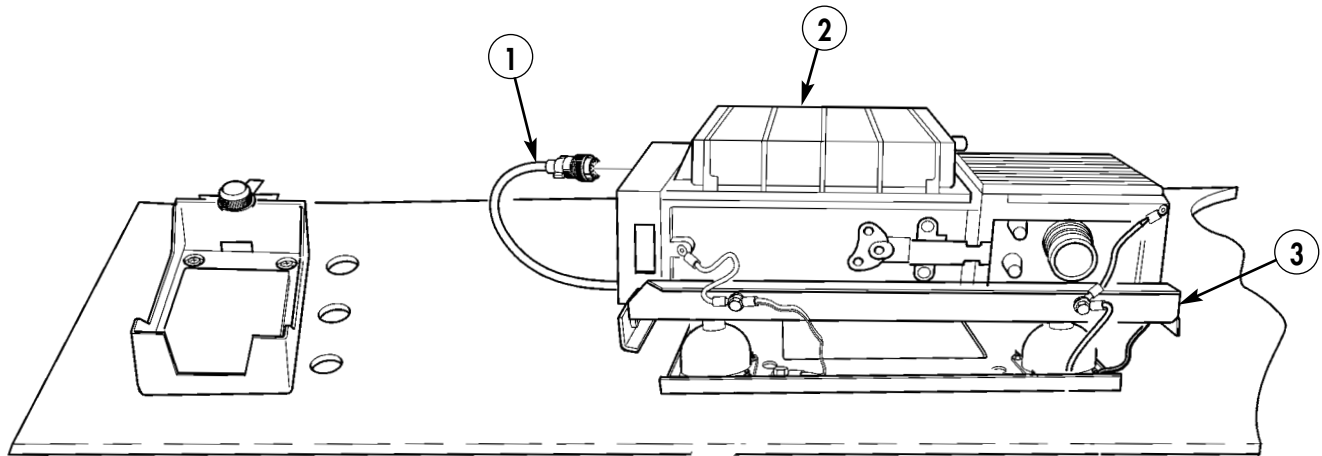
Figure 5-58.

### Section VIII. EPLRS CABLING

#### NOTE

Perform either BFT installation or EPLRS installation. For BFT installation see section V.

- 8-1. Connect P1/J2/BUU connector of EPLRS antenna cable (1) to J2 connector of EPLRS unit AN/VSQ-2(V) (2).
- 8-2. Route EPLRS antenna cable (1) under EPLRS mount (3).
- 8-3. Coil excess antenna cable (1) and stow under EPLRS mount (3).



1. ANTENNA CABLE - SM-C-911480 - QTY. 1

Figure 5-59.

- 8-4. Connect P2/J1/ANT connector of EPLRS antenna cable (1) to EPLRS antenna (4).

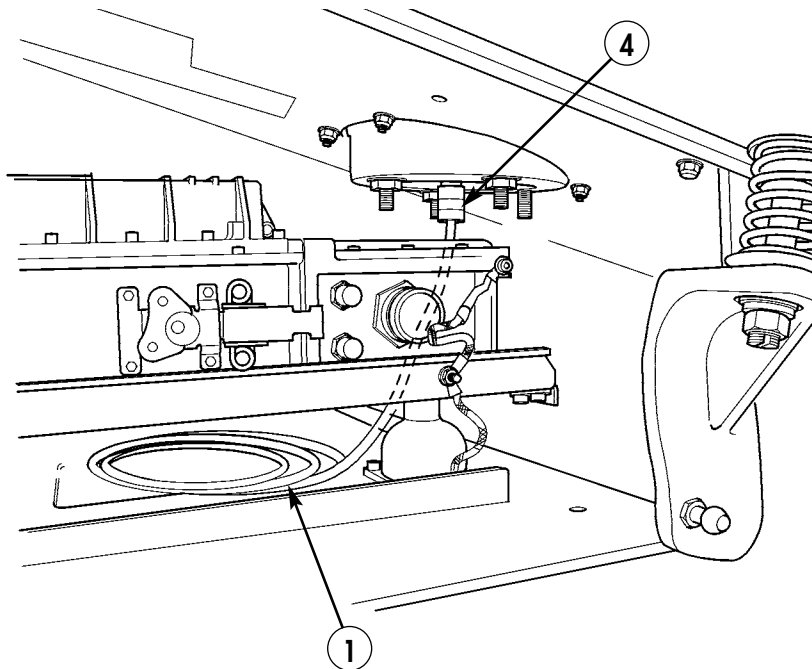
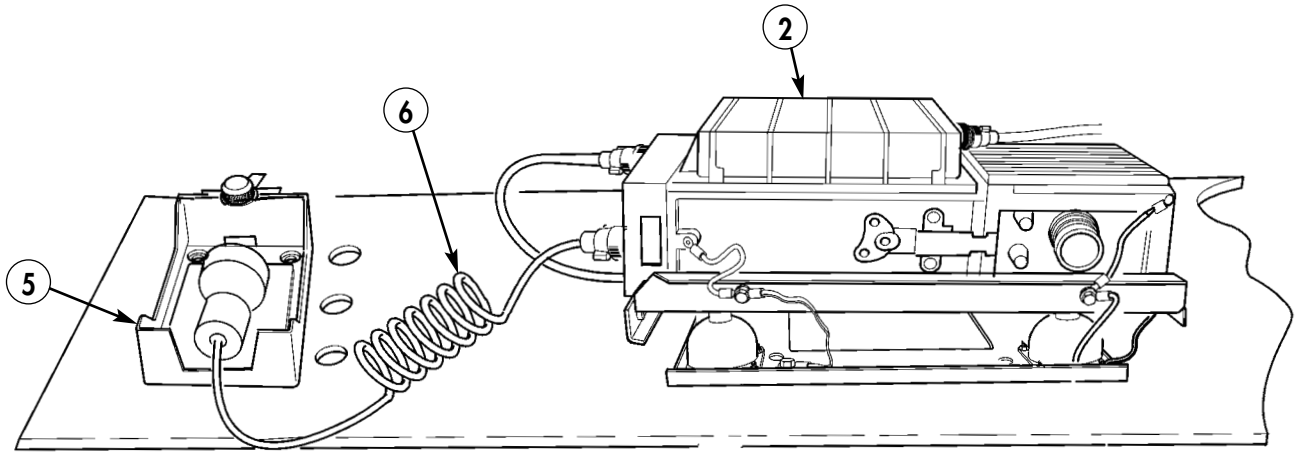


Figure 5-60.



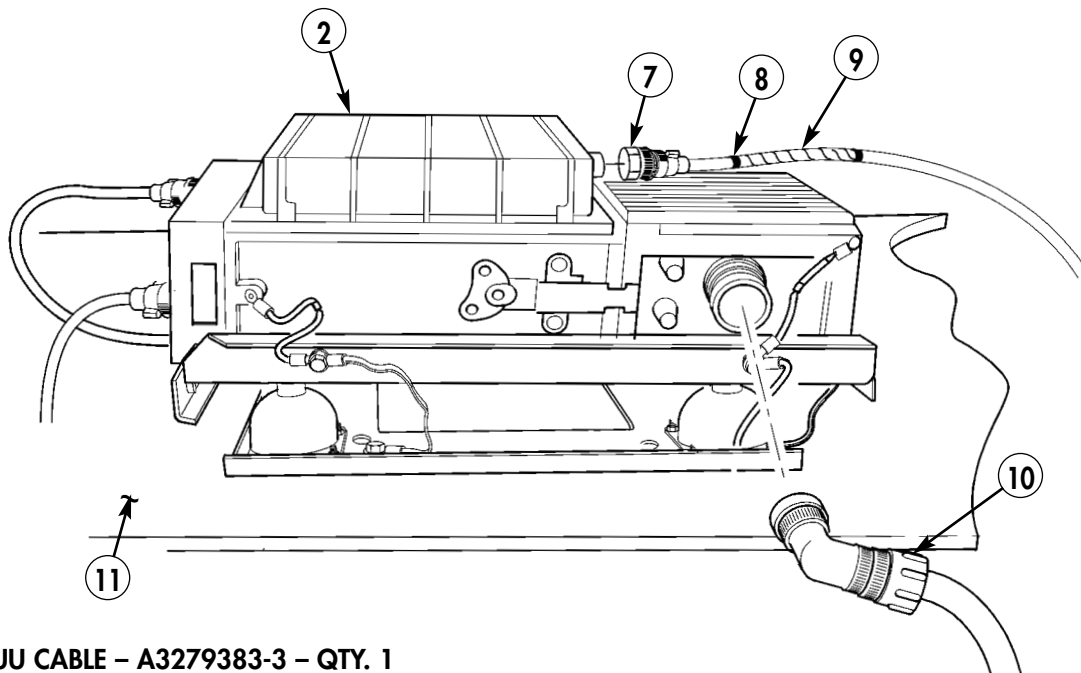
- 8-5. Connect URO cable (6) to J3 connector of EPLRS unit (2).
- 8-6. Route URO cable (6) to URO bracket (5).



**6. URO CABLE - A3109227 - QTY. 1**

*Figure 5-61*

- 8-7. Connect EPLRS power cable connector (10) to J1 connector of EPLRS unit (2).
- 8-8. Connect INC-EPUU cable (7) to J4 connector of EPLRS unit (2).
- 8-9. Install spiral wrap (9) on INC-EPUU cable (7).
- 8-10. Secure spiral wrap (9) to INC-EPUU cable (7) with electrical tape (8).
- 8-11. Route INC-EPUU cable (7) and EPLRS power cable (10) along interface plate (11)..



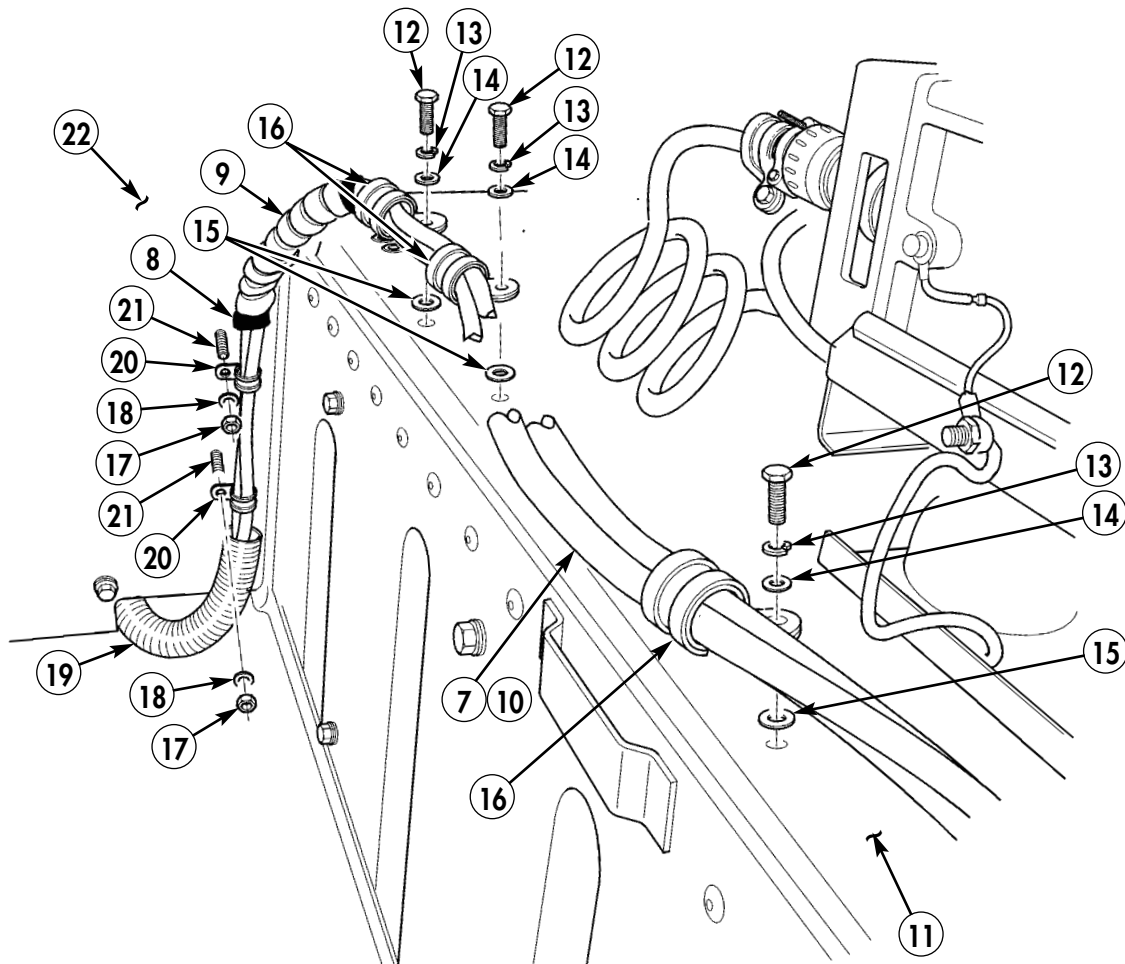
- 7. INC-EPUU CABLE - A3279383-3 - QTY. 1
- 8. ELECTRICAL TAPE - HH-I-595-A-108 - QTY. A/R
- 9. SPIRAL WRAP - 11644992 - 6 IN.
- 10. EPLRS POWER CABLE - A3004939 - QTY. 1

*Figure 5-62.*

**NOTE**

Position convoluted conduit through C-partition cutout, around wheelhouse armor to tunnel.

- 8-12. Install twenty inches of convoluted conduit (19) on EPLRS power cable (10) and INC-EPUU cable (7).
- 8-13. Route EPLRS power cable (10) and INC-EPUU cable (7) along interface plate (11) and through access hole in cargo wall (22).
- 8-14. Secure EPLRS power cable (10) and INC-EPUU cable (7) to interface plate (11) with three clamps (16), capscrews (12), lockwashers (13), washers (14), and washers (15).
- 8-15. Remove two nuts (17) and washers (18) from studs of capscrews (21) on cargo wall (22).
- 8-16. Secure EPLRS power cable (10) and INC-EPUU cable (7) to cargo wall (22) with two clamps (20), existing stud of capscrews (21), washers (18), and nuts (17).
- 8-17. Install spiral wrap (9) on cables (7) and (10).
- 8-18. Secure spiral wrap (9) on cables (7) and (10) with electrical tape (8).

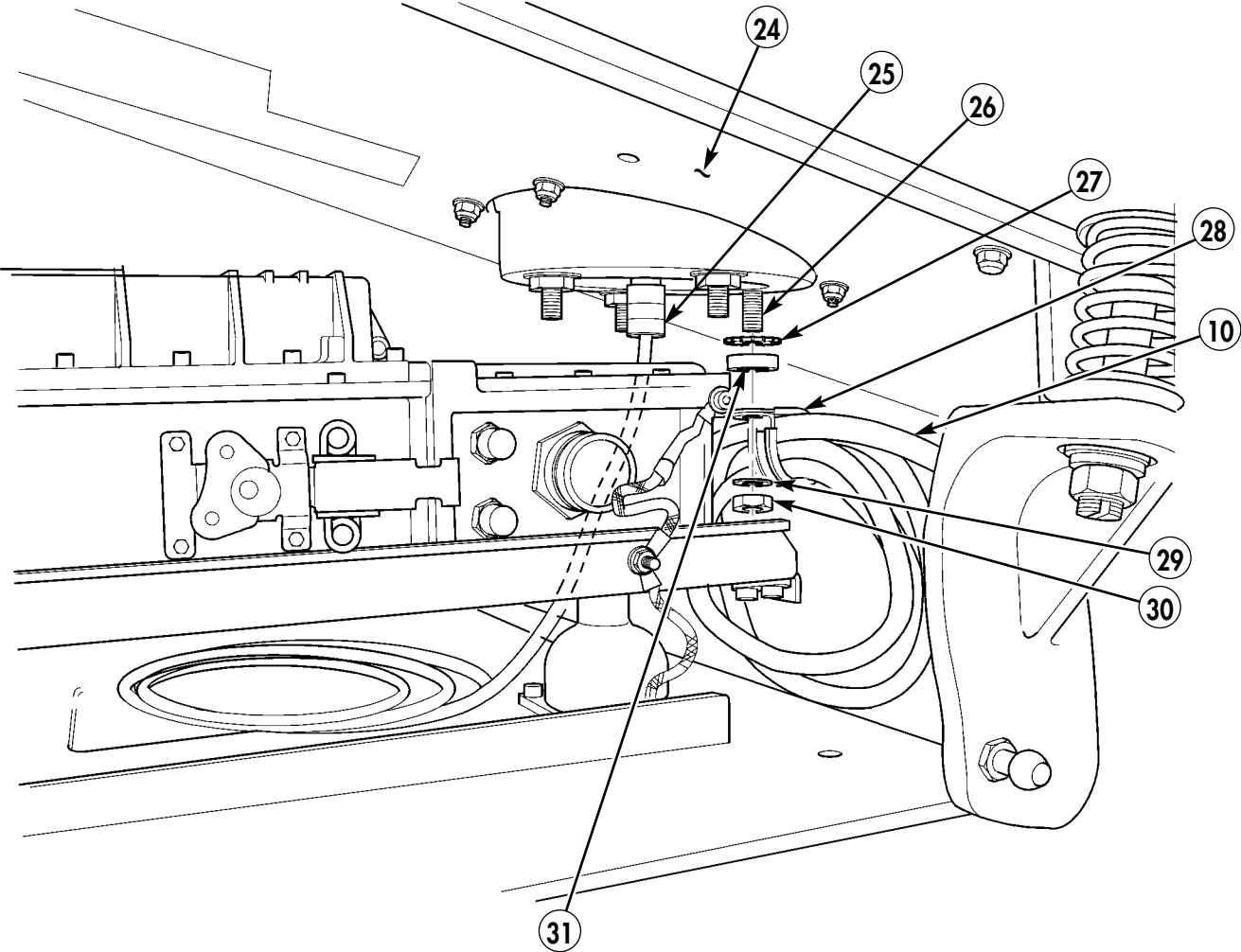


- 8. ELECTRICAL TAPE -HH-I-595-A-108-0 - QTY. A/R
- 9. SPIRAL WRAP - 11644992 - QTY. 8 IN.
- 12. CAPSCREW - B1821BH025C100N - QTY. 3
- 13. LOCKWASHER - MS35338-44 - QTY. 3
- 14. WASHER - MS27183-10 - QTY. 3
- 15. WASHER - MS51412-36 - QTY. 3

- 16. LOOP CLAMP - MS21333-104 - QTY. 3
- 17. LOCKNUT - M45913/4-6CG8Z - QTY. 2
- 19. CONVOLUTED CONDUIT, 19 mm - M1889006 - QTY. 20 INCHES
- 20. LOOP CLAMP - MS21333-125 - QTY. 2

Figure 5-63.

8-19. Secure antenna (25) and clamp (28) with excess power cable (10) to vehicle (24) with capscrew (26), lockwasher (27), spacer (31), washer (29), and nut (30).



- 26. CAPSCREW- MS35307-367 - QTY. 1
- 27. LOCKWASHER - MS45904-76 - QTY. 1
- 28. LOOP CLAMP - MS21333-129 - QTY. 1
- 29. WASHER - 2436163 - QTY. 1
- 30. NUT - 9418931 - QTY. 1
- 31. SPACER - 12256277 - QTY. 1

Figure 5-64.

- 8-20. Remove two screws (32) and washers (33) from each side of upper position of right-side rear seat support bracket (34).
- 8-21. Disconnect connector (42) of rear evaporator electrical harness (36) from front evaporator (35).
- 8-22. Remove three self-tapping screws (37), washers (39), clamps (38), and rear evaporator wiring harness (36) from tunnel insulation (40) and tunnel (41).
- 8-23. Route EPLRS power cable (10) and INC-EPUU cable (7) under tunnel insulation (40). Route EPLRS power cable (10) towards cab enclosure panel.
- 8-24. Connect connector (42) of rear evaporator electrical harness (36) to front evaporator (35).

**CAUTION**

Ensure EPLRS power cable and INC-EPUU cable are not pinched under tunnel insulation. Damage to equipment can occur.

- 8-25. Secure tunnel insulation (40), three clamps (38), and wiring harness (36) to tunnel (41) with three existing self-tapping screws (37) and washers (39).
- 8-26. Install two existing screws (32) and washers (33) to each side of upper position of right-side rear seat support bracket (34).

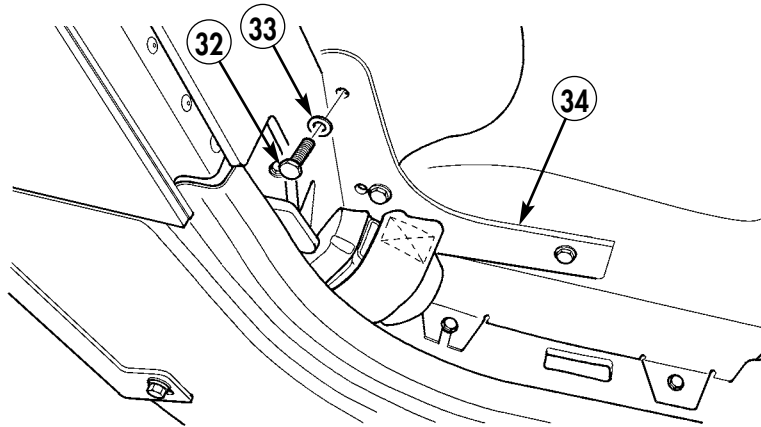


Figure 5-65.

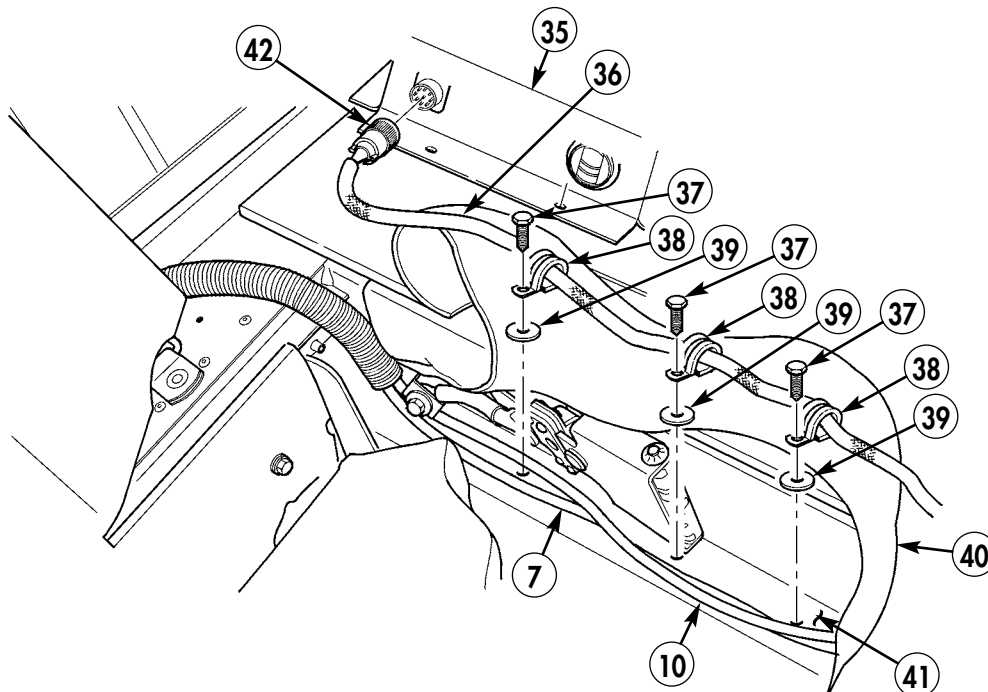


Figure 5-66.

- 8-27.** Loosen right-side tunnel insulation. (Refer to TM 9-2320-387-24.)
- 8-28.** Remove two self-tapping screws (43) from right-side cab enclosure panel (44) and B-beam (45).
- 8-29.** Remove two screws (49), lockwashers (48), and washers (47) from right-side cab enclosure panel (44) and rear of battery box (46).

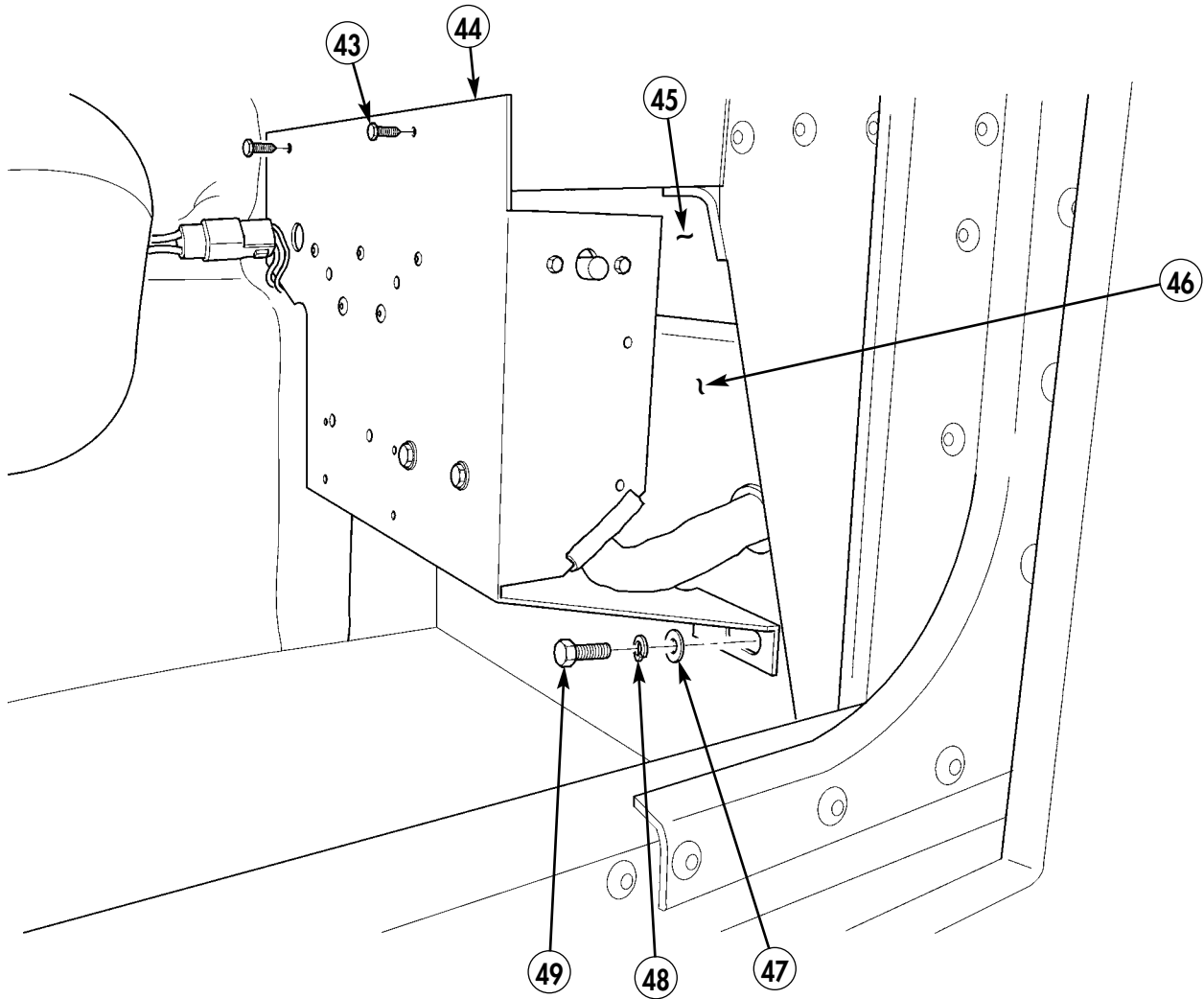
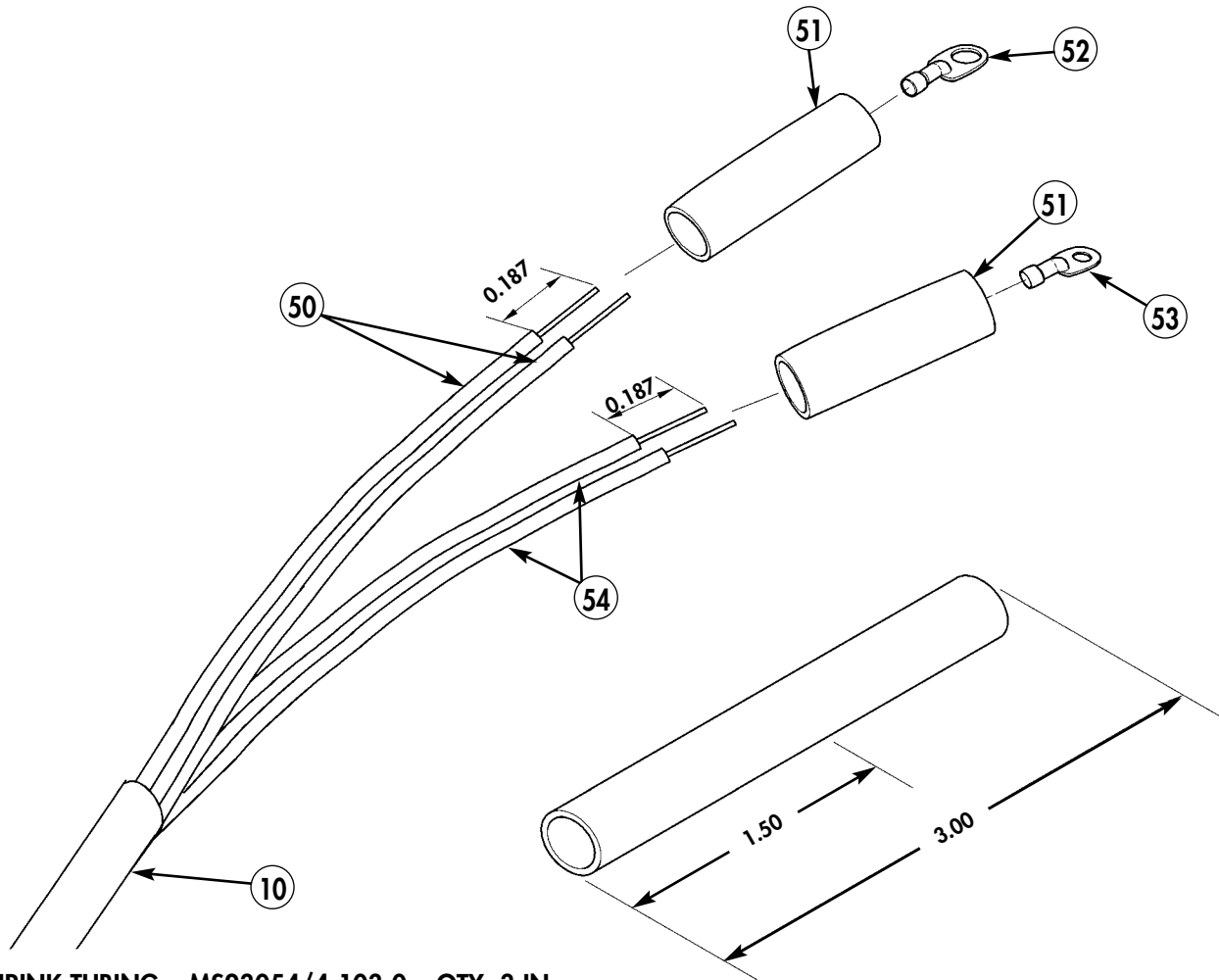


Figure 5-67.

**NOTE**

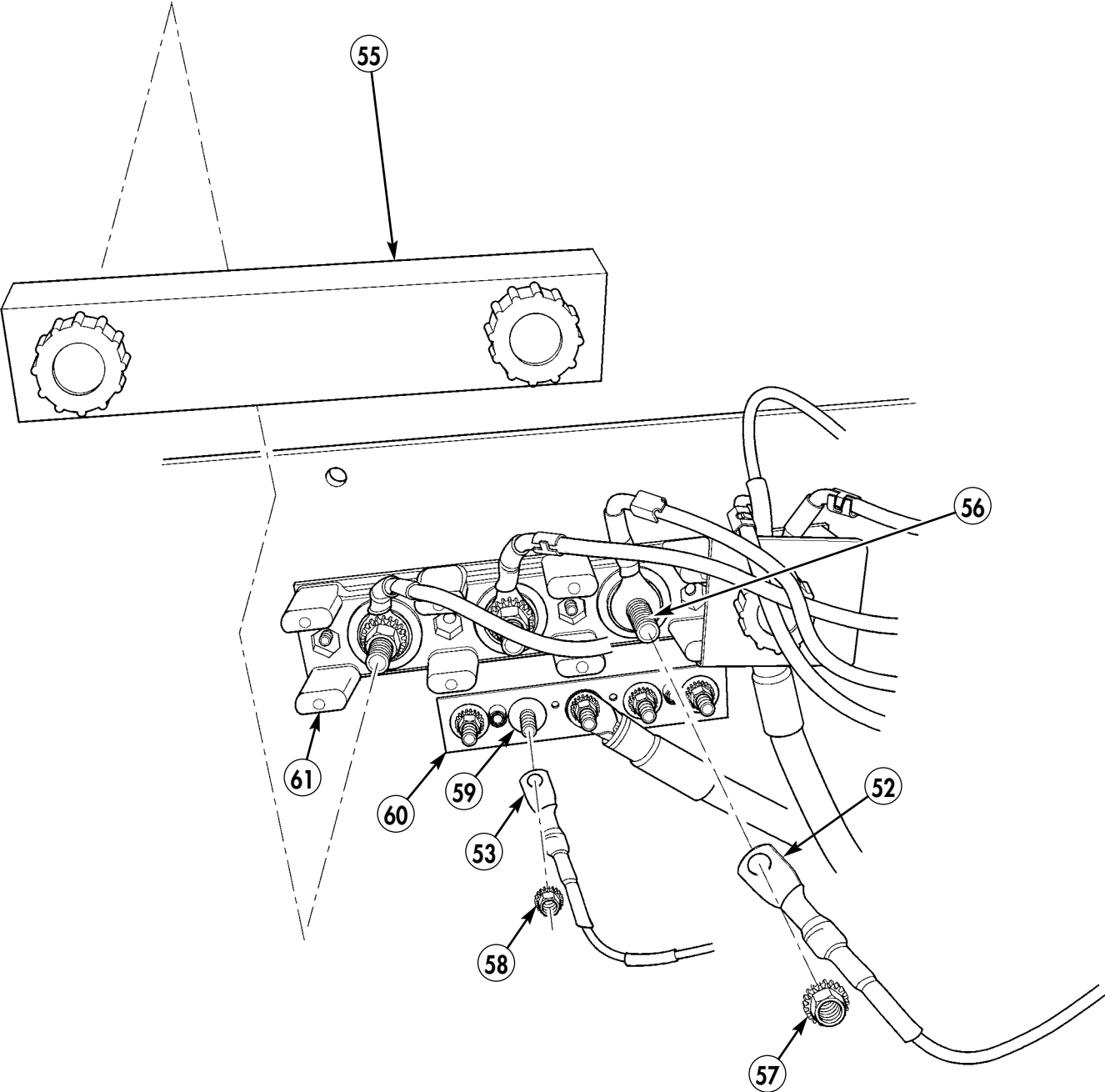
- Cut 1.50-in. piece of insulation from 3.00-in. piece.
- If EPLRS has 0.50-in. terminal or larger, remove existing terminal lugs and insulation and proceed with following steps.
- Do not install cab enclosure panel after installation of power terminals. Keep cab enclosure panel removed until DAGR power terminal installation.

- 8-30.** Remove 0.187-inch of insulation from negative (54) and positive (50) wires on power cable (10).
- 8-31.** Attach shrink tubing (51) and terminal lugs (53) and (52) to power cable negative leads (54) and power cable positive leads (50). (Refer to TM 9-2320-387-24 for terminal connector repair.)
- 8-32.** Remove terminal board cover (55) from positive terminal board (61).
- 8-33.** Remove locknut (57) from positive stud (56) on positive terminal board (61). Discard locknut (57).
- 8-34.** Remove locknut (58) from negative stud (59) on negative terminal board (60). Discard locknut (58).
- 8-35.** Connect positive terminal (52) to positive stud (56) on positive terminal board (61) with locknut (57).
- 8-36.** Connect negative terminal (53) to negative stud (59) on negative terminal board (60) with locknut (58).
- 8-37.** Install terminal board cover (55) on positive terminal board (61).



- 51.** SHRINK TUBING – MS23054/4-103-0 – QTY. 3 IN.  
**52.** TERMINAL LUG – 7728780 – QTY. 1  
**53.** TERMINAL LUG – 7728777 – QTY. 1

Figure 5-68.



- 57. LOCKNUT - 271175 - QTY. 1
- 58. LOCKNUT - 271169 - QTY. 1

Figure 5-69.

8-38. Route INC-EPUU cable (7) under tunnel insulation (64) towards front of vehicle.

8-39. Secure right-side tunnel insulation (64). (Refer to TM 9-2320-387-24.)

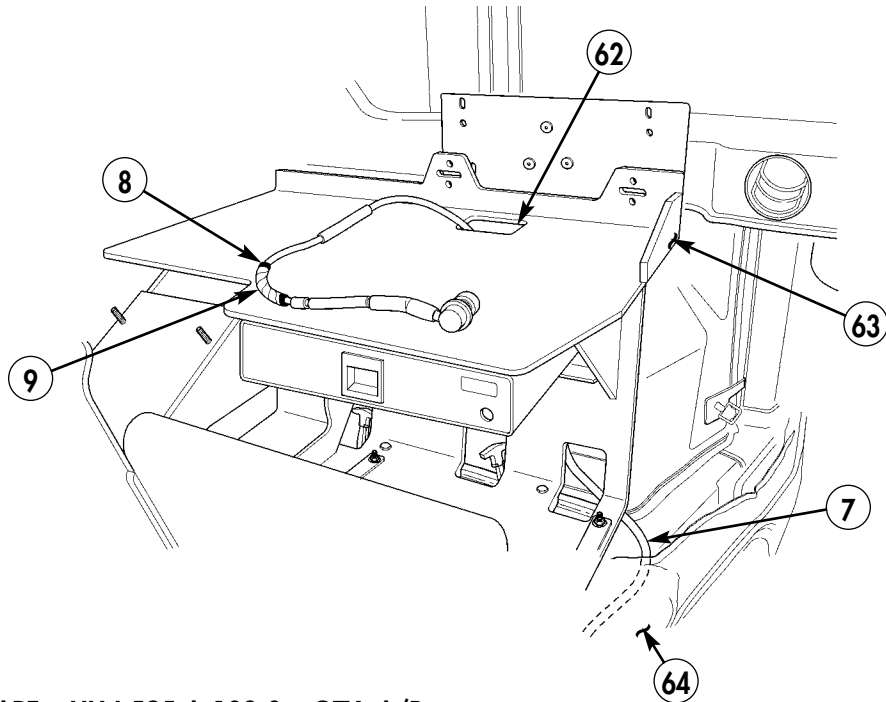
**NOTE**

Equipment not shown for clarity.

8-40. Route INC-EPUU cable (7) up through access hole (62) of integrated rack (63).

8-41. Install spiral wrap (9) on INC-EPUU cable (7).

8-42. Secure spiral wrap (9) to INC-EPUU cable (7) with electrical tape (8).



8. ELECTRICAL TAPE – HH-I-595-A-108-0 – QTY. A/R

9. SPIRAL WRAP – 11644992 – QTY. 6 IN.

*Figure 5-70.*

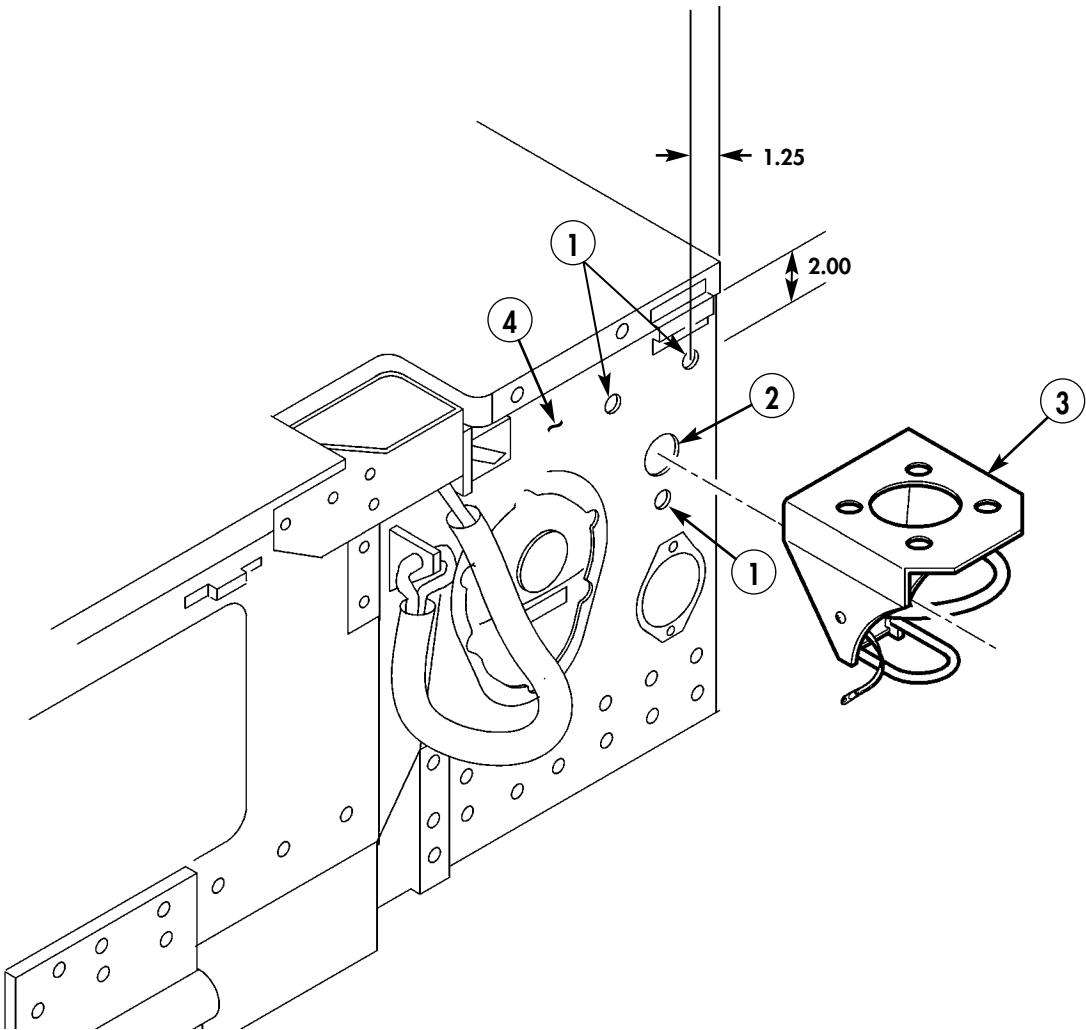


**Section IX. SINGARS ANTENNA INSTALLATION**

**NOTE**

Procedures for installing antennas are the same for both sides of vehicle. Right side shown.

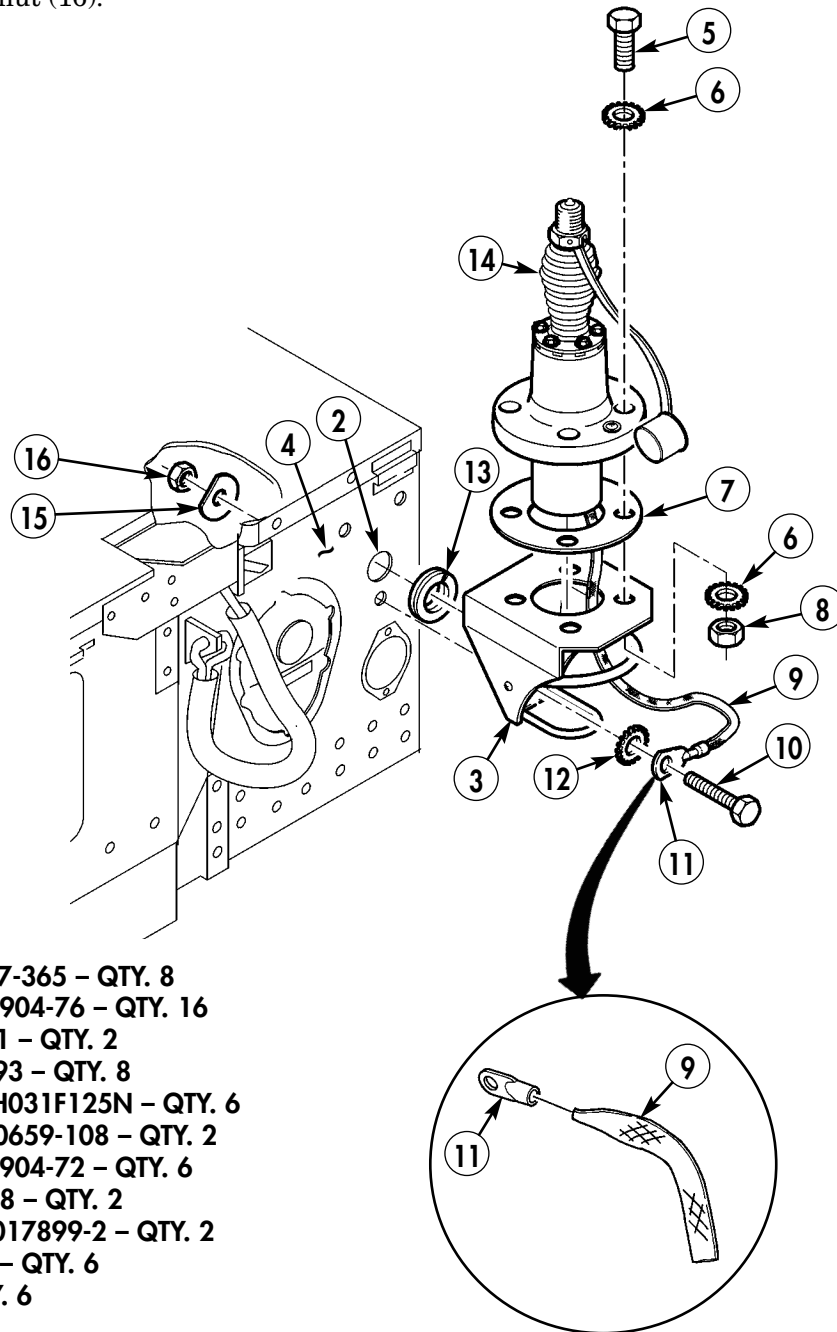
- 9-1. Using antenna mounting bracket (3) as template, locate and mark hole position (2) in rear wall (4).
- 9-2. Locate and mark hole positions (1) in rear wall (4).
- 9-3. Remove antenna mounting bracket (3) from rear wall (4).
- 9-4. Drill 1.375-in. diameter hole (2) in rear wall (4).
- 9-5. Drill three 0.343-in. diameter holes (1) in rear wall (4).
- 9-6. Remove paint from vicinity of three holes (1) and three holes in rear of antenna mounting bracket (3).
- 9-7. Apply antiseize compound to vicinity of three holes (1) and rear of antenna mounting bracket (3).



3. ANTENNA MOUNTING BRACKET – A3014546-1 – QTY. 2

Figure 5-71.

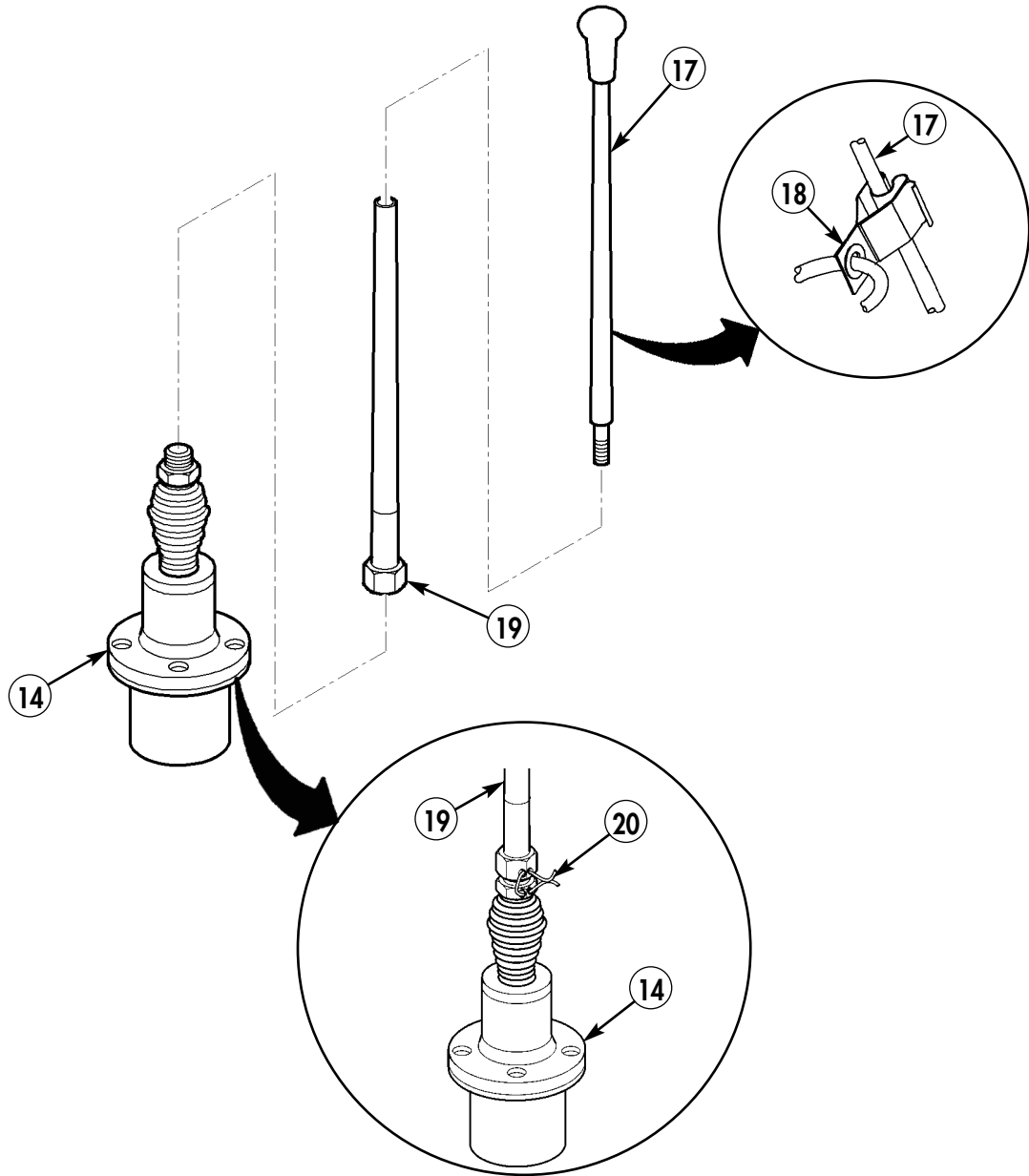
- 9-8. Install grommet (13) in hole (2) of rear wall (4).
- 9-9. Position antenna base (14) and gasket (7) on antenna mounting bracket (3) and route existing ground strap (9) through antenna mounting bracket (3).
- 9-10. Install antenna base (14) on antenna mounting bracket (3) with four capscrews (5), eight lockwashers (6), and four nuts (8).
- 9-11. Install antenna mounting bracket (3) on rear wall (4) with two capscrews (10), lockwashers (12), washers (15), and nuts (16).
- 9-12. Remove old terminal lug and install new terminal lug (11) on ground strap (9). Install ground strap (9) and antenna mounting bracket (3) on rear wall (4) with capscrew (10), lockwasher (12), washer (15), and nut (16).



- 5. CAPSCREW – MS35307-365 – QTY. 8
- 6. LOCKWASHER – MS45904-76 – QTY. 16
- 7. GASKET – A3013655-1 – QTY. 2
- 8. NUT – 13218E0320-293 – QTY. 8
- 10. CAPSCREW – B1821BH031F125N – QTY. 6
- 11. TERMINAL LUG – MS20659-108 – QTY. 2
- 12. LOCKWASHER – MS45904-72 – QTY. 6
- 13. GROMMET – 12338098 – QTY. 2
- 14. ANTENNA BASE – A3017899-2 – QTY. 2
- 15. WASHER – 12338095 – QTY. 6
- 16. NUT – 9418892 – QTY. 6

Figure 5-72.

- 9-13. Attach upper antenna element (17) to lower antenna element (19).
- 9-14. Attach antenna assembly to antenna base (14).
- 9-15. Attach fiber rope assembly (18) to upper antenna element (17).
- 9-16. Secure lower antenna element (19) to antenna base (14) with lock wire (20).
- 9-17. Repeat steps 9-1 through 9-16 for left of vehicle, if applicable.



- 17. UPPER ANTENNA ELEMENT – A3017901-2 – QTY. 2
- 19. LOWER ANTENNA ELEMENT – A3018230-1 – QTY. 2
- 20. LOCK WIRE – MS20995C32 – QTY. A/R

Figure 5-73.

## Section X. SINGARS CABLES INSTALLATION

### NOTE

Tag capscrews, lockwashers, and washers for installation.

- 10-1. Remove thirteen bolts (5), lockwashers (4), fender washers (3), and wheelwell plate (1) from body of vehicle (2).

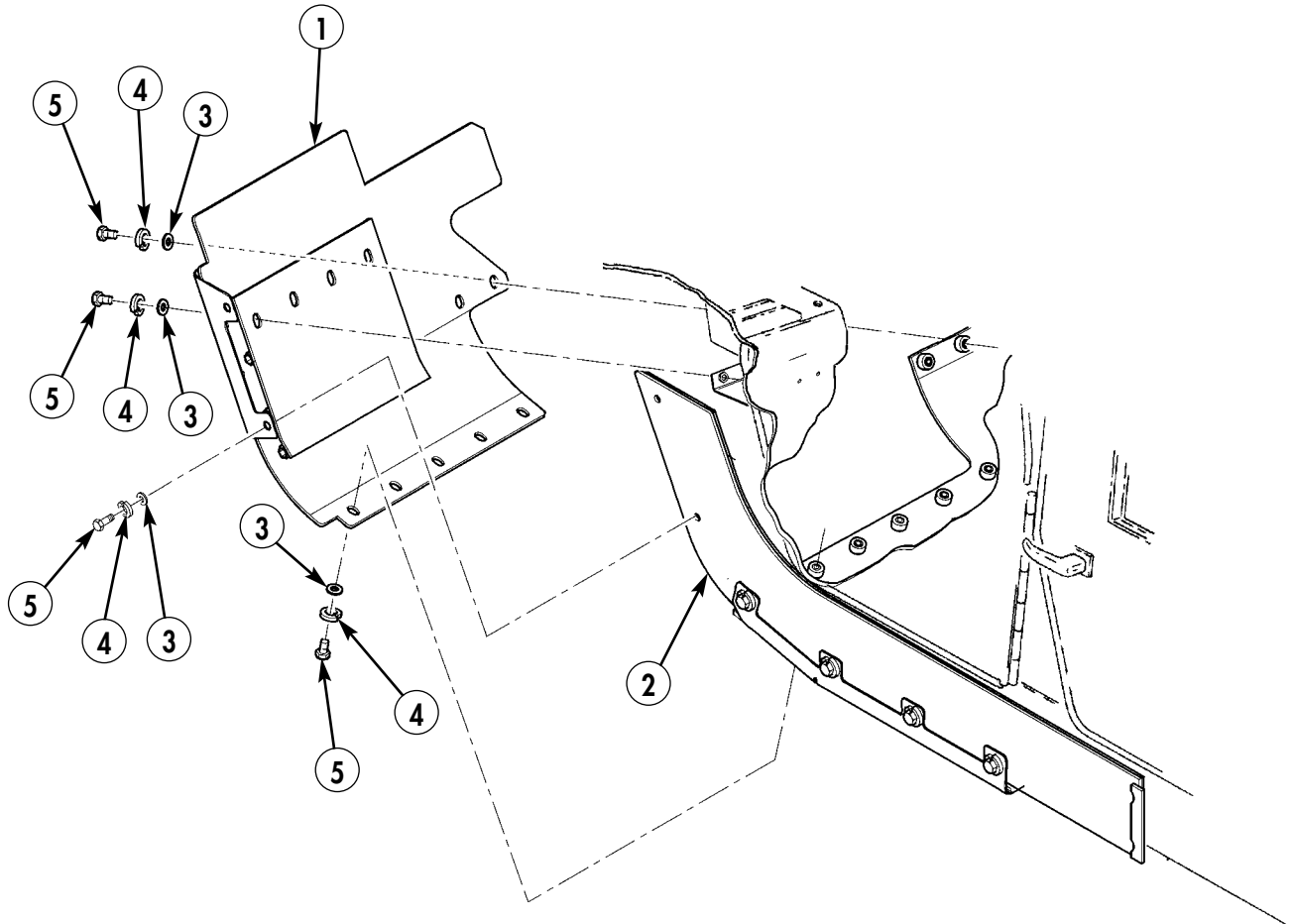


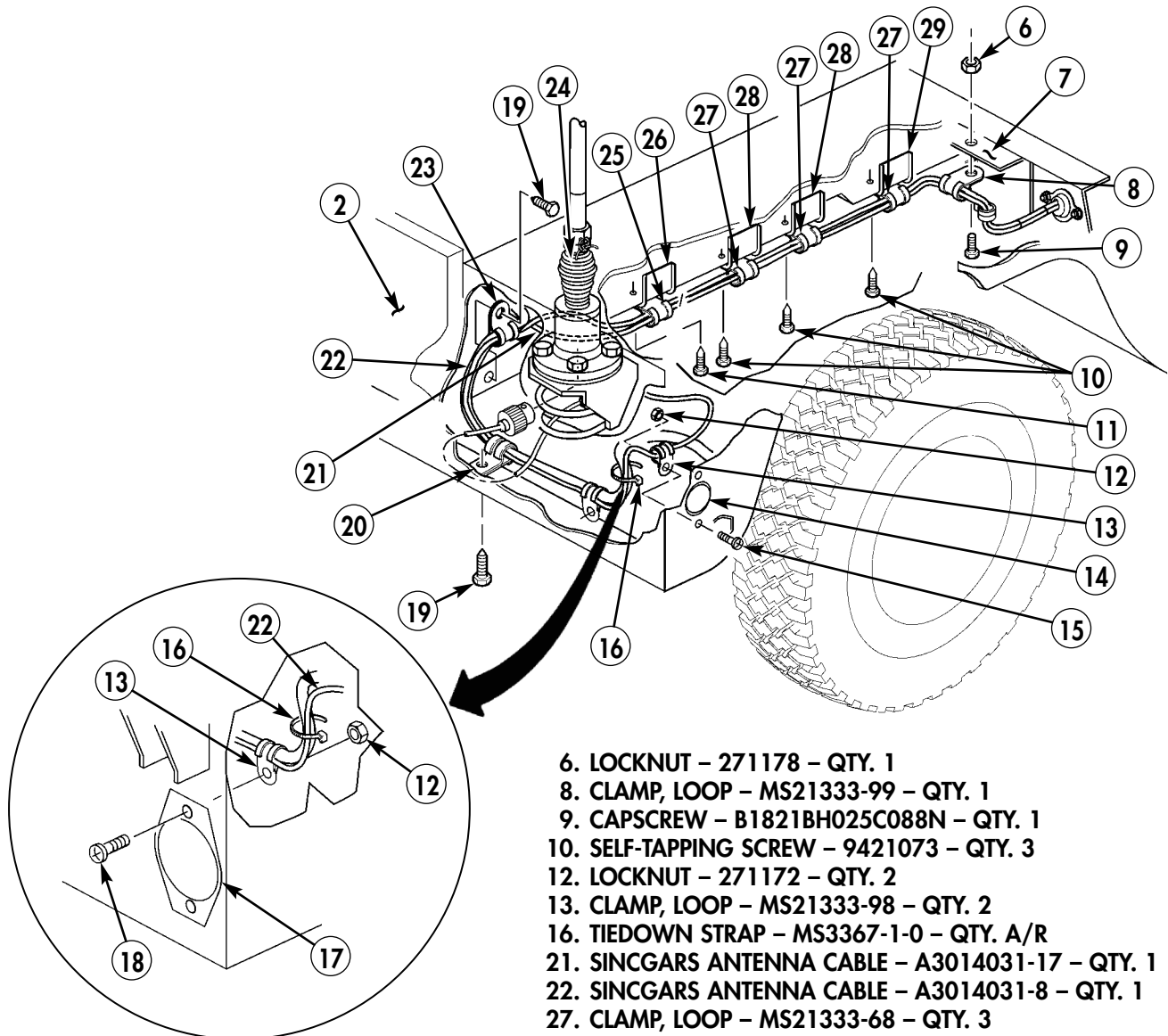
Figure 5-74.

- 10-2. Route antenna cable (22) through vehicle body (2) to antenna base (24).
- 10-3. Attach antenna cable (22) to antenna base (24).
- 10-4. Remove locknut (12) from screw (15) on lower mounting position of reflector (14). Discard locknut (12).
- 10-5. Install clamp (13) on antenna cable (22) and secure to existing screw (15) with locknut (12).
- 10-6. Route antenna cable (22) along taillight wiring harness with two existing loop clamps (23) and (20), and secure with self-tapping screws (19).

**NOTE**

Left-side antenna cable may not apply.

- 10-7. Route two antenna cables (21) and (22) along rear (26), two intermediate (28), and front (29) cargo bed supports and along front wheelwell seam (7). Secure with three self-tapping screws (10) and loop clamps (27), existing self-tapping screw (11) and loop clamp (25), screw (9), loop clamp (8), and nut (6).
- 10-8. Coil antenna cable (22) and secure to inside of taillight closeout cover with tiedown strap (16).
- 10-9. Remove locknut (12) from screw (18) on upper mounting position of reflector (17). Discard locknut (12).
- 10-10. Install clamp (13) on antenna cable (22) and secure to existing screw (18) with locknut (12).



- 6. LOCKNUT - 271178 - QTY. 1
- 8. CLAMP, LOOP - MS21333-99 - QTY. 1
- 9. CAPSCREW - B1821BH025C088N - QTY. 1
- 10. SELF-TAPPING SCREW - 9421073 - QTY. 3
- 12. LOCKNUT - 271172 - QTY. 2
- 13. CLAMP, LOOP - MS21333-98 - QTY. 2
- 16. TIEDOWN STRAP - MS3367-1-0 - QTY. A/R
- 21. SINGGARS ANTENNA CABLE - A3014031-17 - QTY. 1
- 22. SINGGARS ANTENNA CABLE - A3014031-8 - QTY. 1
- 27. CLAMP, LOOP - MS21333-68 - QTY. 3

Figure 5-75.

**NOTE**

If installing right-side antenna cable only, proceed to step 10-22.

**10-11.** Route antenna cable (21) to antenna base (30).

**10-12.** Attach antenna cable (21) to antenna base (30).

**NOTE**

Steps 13 and 14 apply to reflector on side of vehicle. Reflector not shown.

**10-13.** Remove locknut (12) from screw (42) on lower mounting position of reflector. Discard locknut (12).

**10-14.** Install clamp (13) on antenna cable (21) and secure to existing screw (42) with locknut (12).

**NOTE**

Steps 15 and 16 apply to reflector on rear of vehicle.

**10-15.** Remove locknut (12) from screw (41) on lower mounting position of reflector (40). Discard locknut (12).

**10-16.** Install clamp (13) on antenna cable (21) and secure to existing screw (41) with locknut (12).

**10-17.** Remove five existing screws (31) securing taillight wiring harness (32) and SINCGARS antenna cable (21) on rear cargo bed support (26) and secure with five existing loop clamps (33), (34), (35), (36), (37) and existing self-tapping screws (31).

**10-18.** Route antenna cable (21) along existing taillight wiring harness (32) on rear cargo bed support (26) and secure with five existing loop clamps (33), (34), (35), (36), (37) and existing self-tapping screws (31).

**10-19.** Remove two existing screws (31) securing taillight wiring harness (32) on side of body (2) and D-beam.

**10-20.** Route antenna cable (21) along existing taillight wiring harness on left-side bed and D-beam with two existing loop clamps (38) and (39), and existing self-tapping screws (31).

**10-21.** Coil antenna cable (21) and secure to inside of taillight closeout cover with tiedown strap (16).

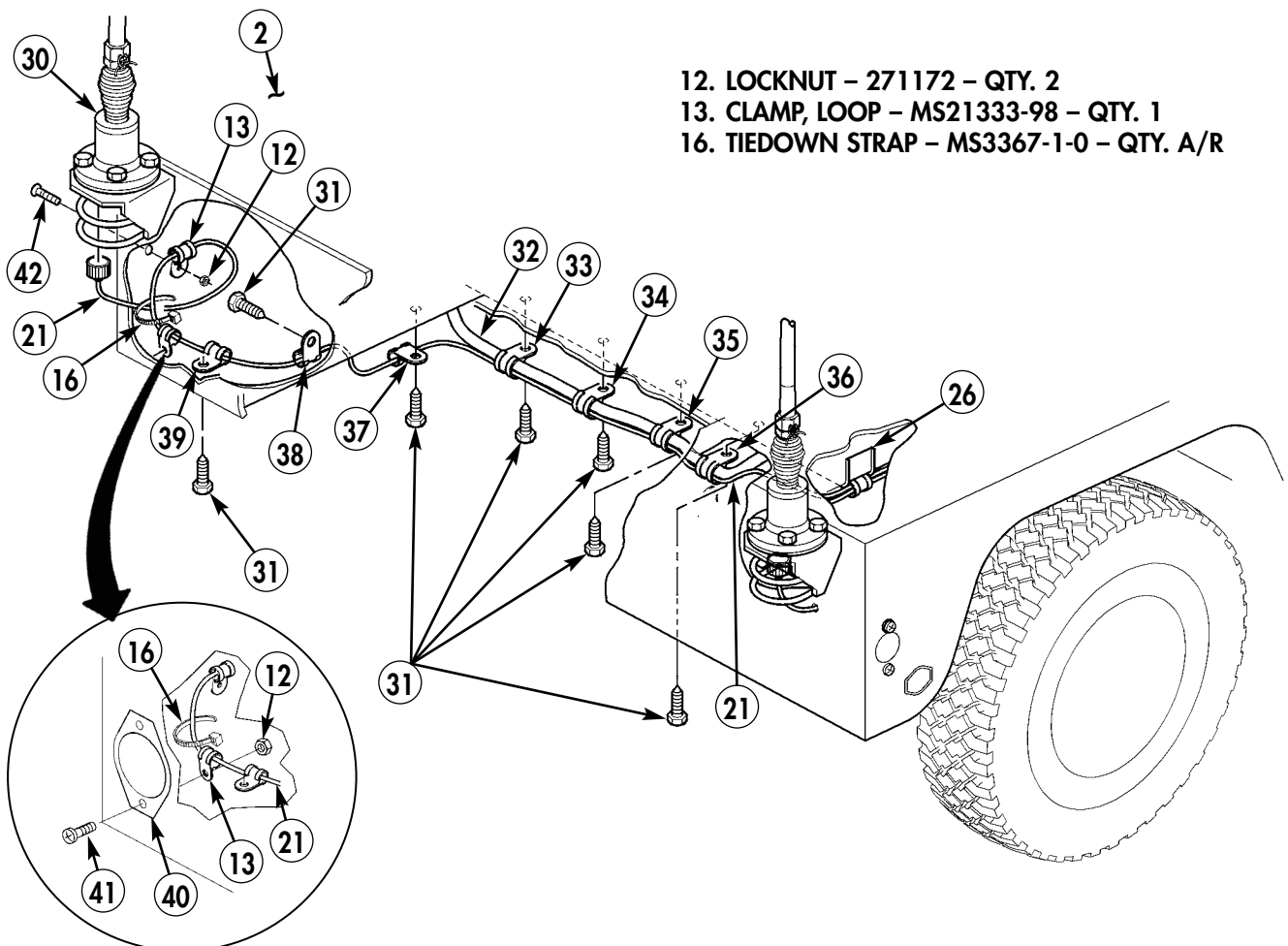


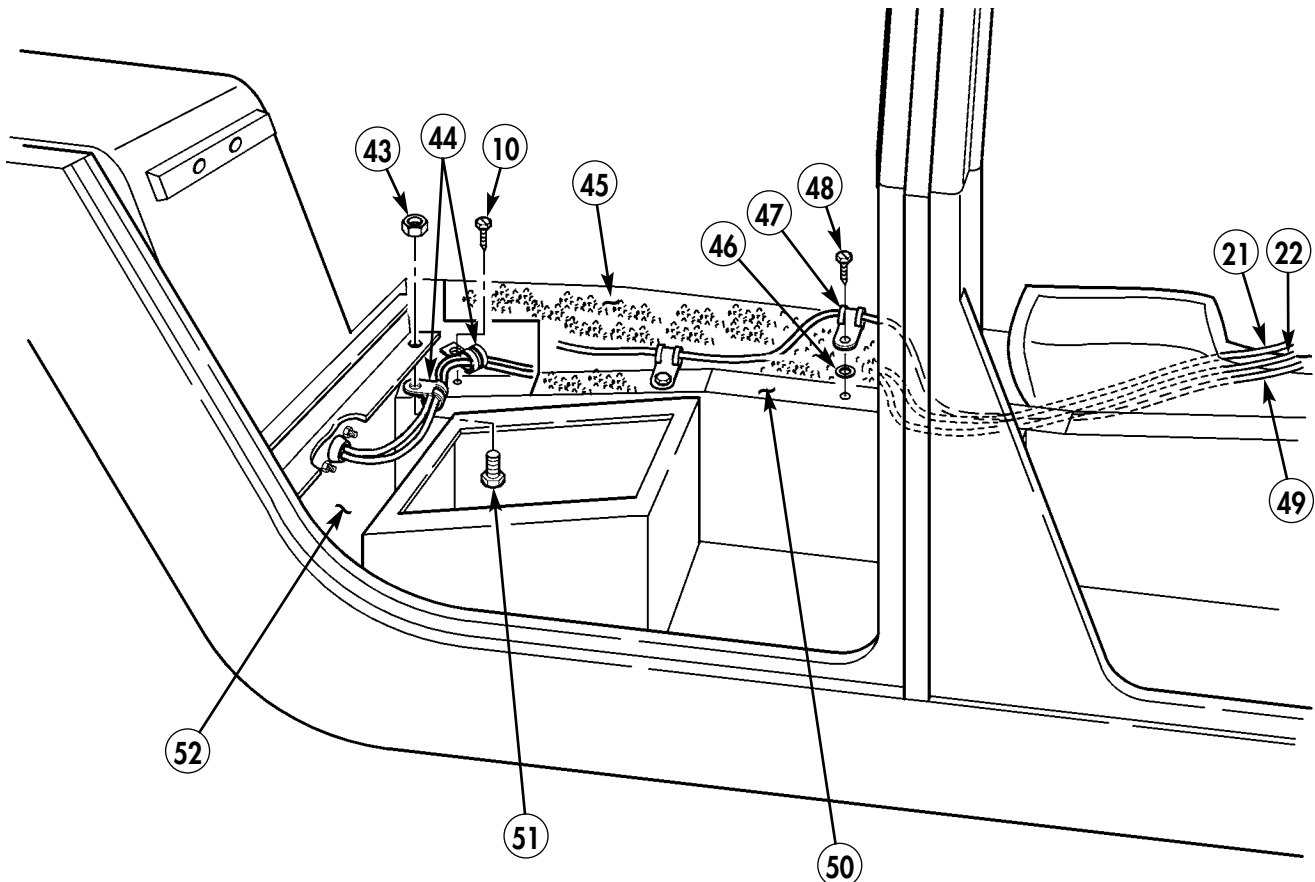
Figure 5-76.

- 10-22.** Route two antenna cables (21) and (22) through right wheelwell/utility area with existing grommet, retainer, screws, and plain-assembled nuts. (Refer to TM 9-2320-387-24.)

**NOTE**

Early production vehicles do not have SINCGARS installed.  
Loop clamps and hardware on right rear seat/utility area and tunnel shelf may or may not exist.

- 10-23.** Remove screw (51), loop clamp (44), and locknut (43) from right wheelwell utility area (52). Discard locknut (43).
- 10-24.** Remove loop clamp (44) and self-tapping screw (10) from tunnel shelf (50).
- 10-25.** Remove three self-tapping screws (48), loop clamps (47), washers (46), and evaporator wiring harness (49) from tunnel insulation (45) and tunnel shelf (50).
- 10-26.** Route two antenna cables (21) and (22) along right rear seat/utility area (52).
- 10-27.** Secure two antenna cables (21) and (22) to tunnel shelf (50) with existing loop clamp (44) and self-tapping screw (10).
- 10-28.** Secure two antenna cables (21) and (22) to rear seat/utility area (52) with existing loop clamp (44), screw (51), and locknut (43).
- 10-29.** Route two antenna cables (21) and (22) under tunnel insulation (45) towards integrated rack.
- 10-30.** Install tunnel insulation (45), and evaporator wiring harness (49) to tunnel shelf (50) with three existing self-tapping screws (48), loop clamps (47), and washers (46).



10. SELF-TAPPING SCREW – 9421073 – QTY. 1  
43. LOCKNUT – 271166 – QTY. 1

44. CLAMP, LOOP – MS21333-68 – QTY. 2  
51. SCREW – MS35206-267 – QTY. 1

Figure 5-77.

10-31. Route antenna cables (21) and (22) through integrated rack (54) to VAA (53).

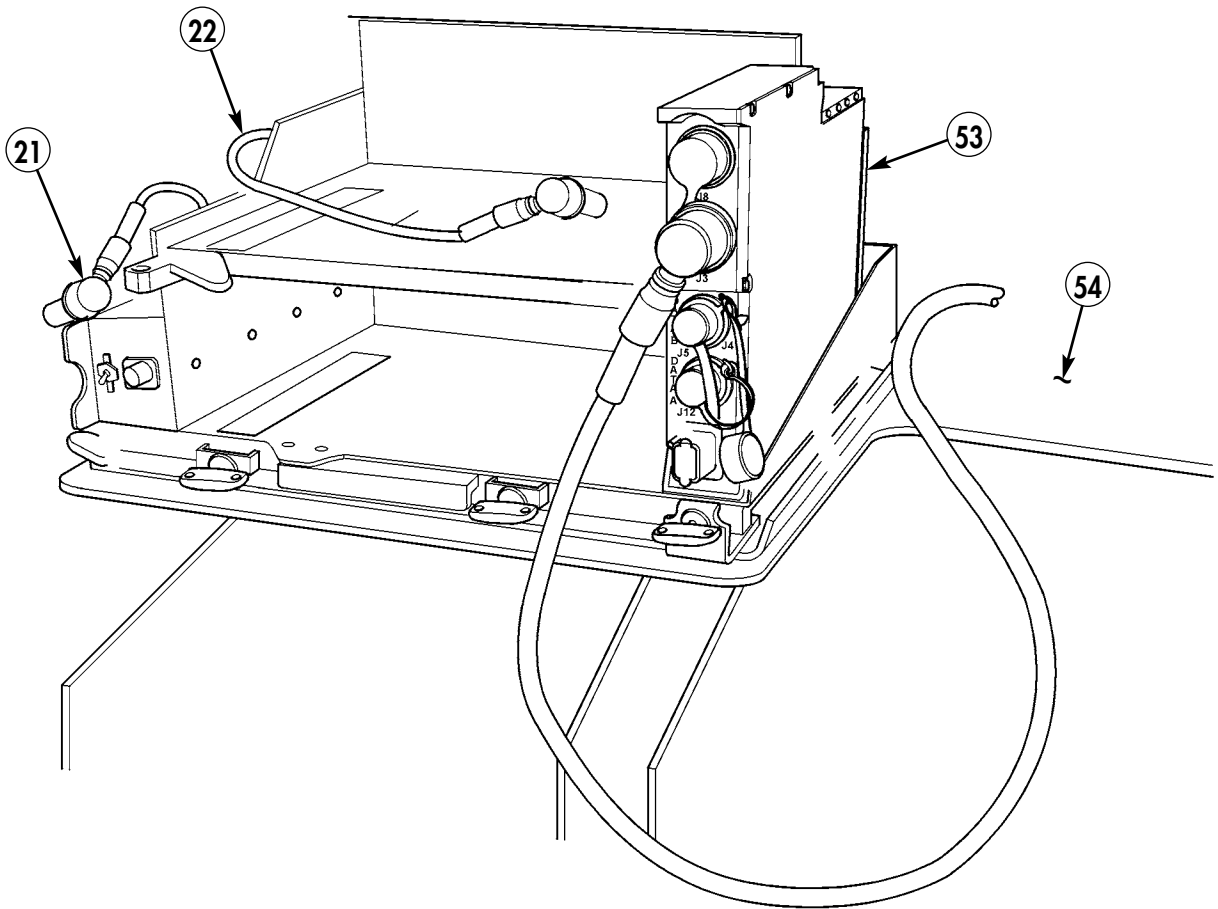
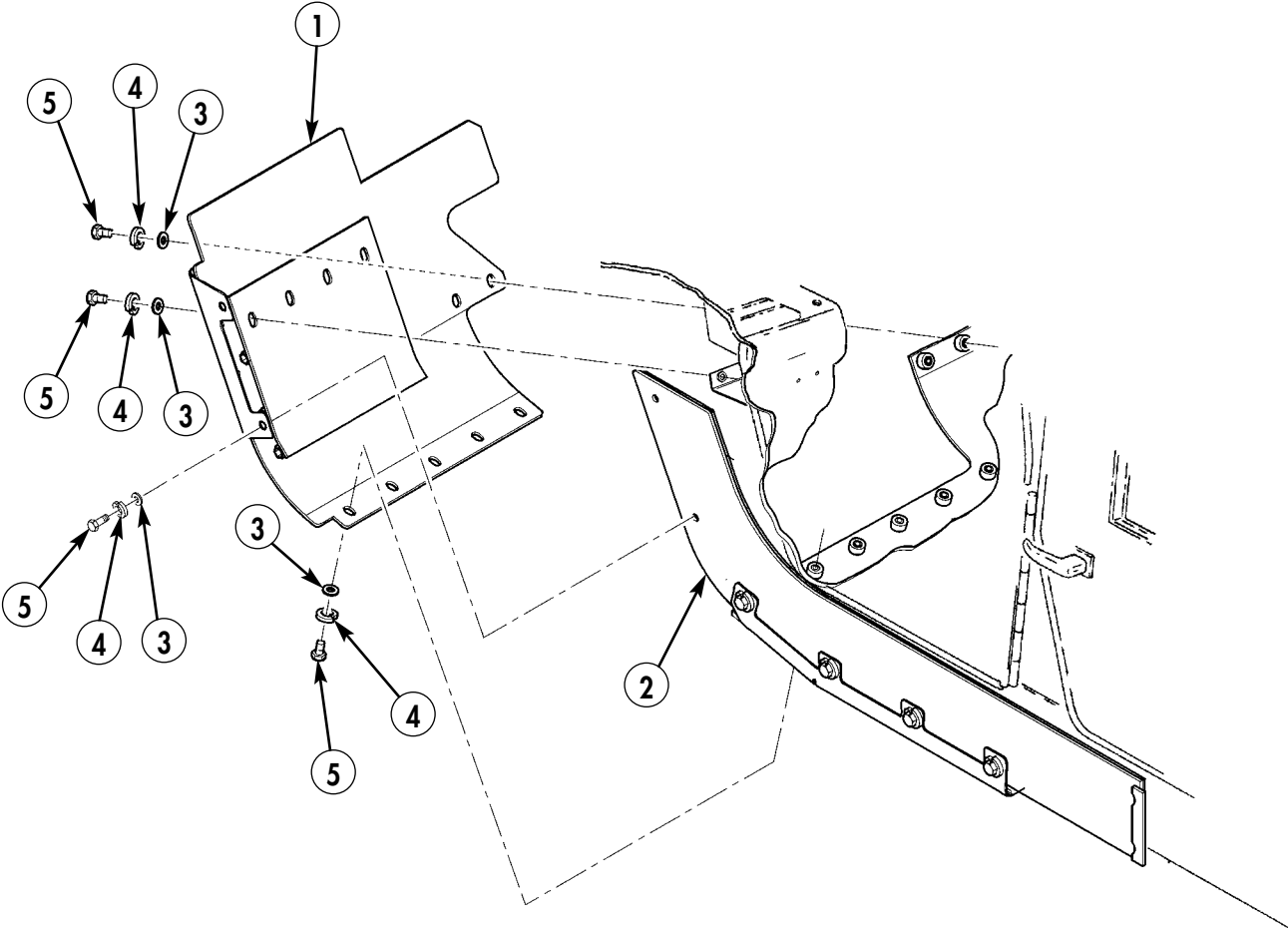


Figure 5-78.



**10-32.** Install wheelwell plate (1) on vehicle (2) with thirteen existing bolts (5), lockwashers (4), and fender washers (3).



**4. LOCKWASHER – MS35338-46 – QTY. 11**

*Figure 5-79.*

**Section XI. VIC-3 MOUNTING INSTALLATION: FFCS/L**

- 11-1.** Remove two screws (4), locknuts (2), and four washers (3) from turret support (1). Discard screws (4) and locknuts (2).

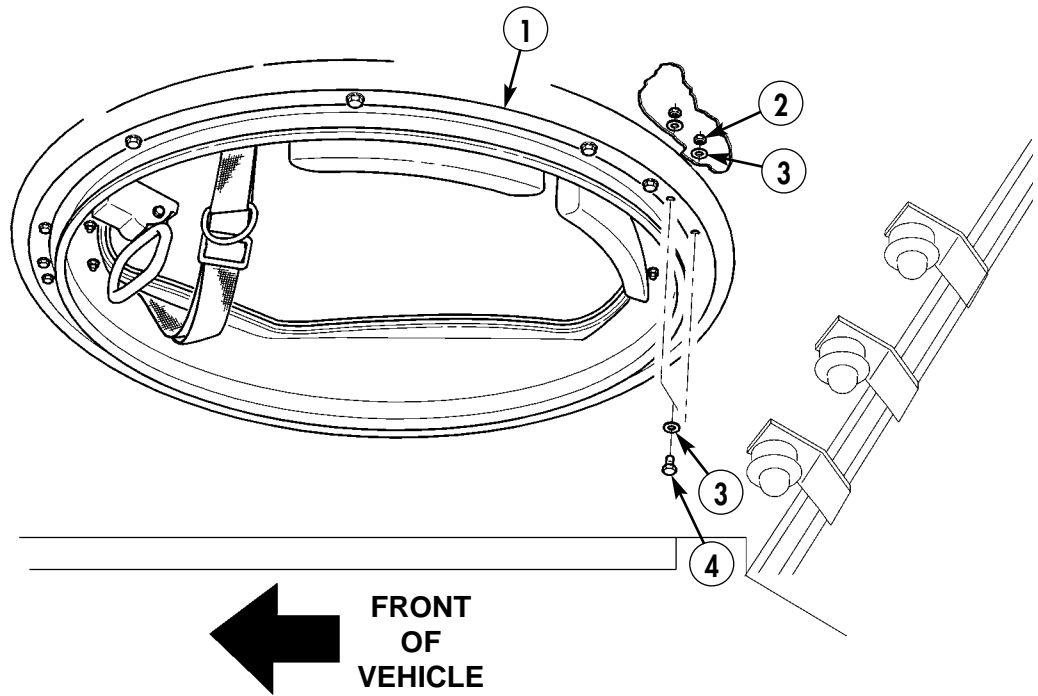


Figure 5-80.

- 11-2.** Remove three screws (7), locknuts (5), and six washers (6) from turret support (1). Discard screws (7) and locknuts (5).

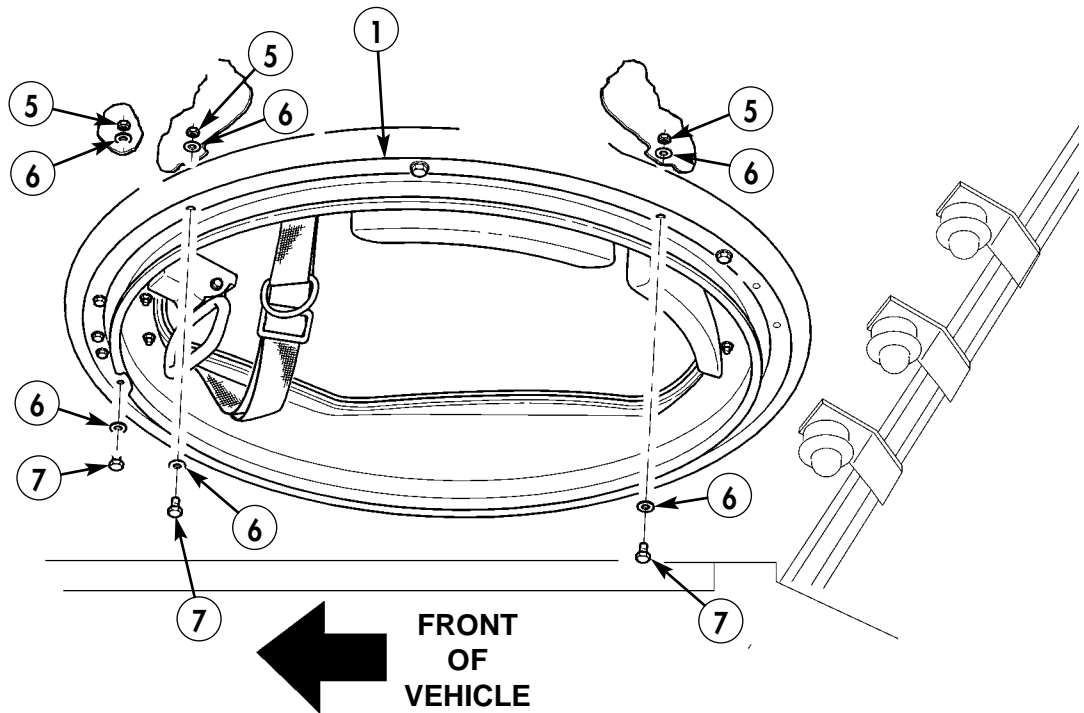
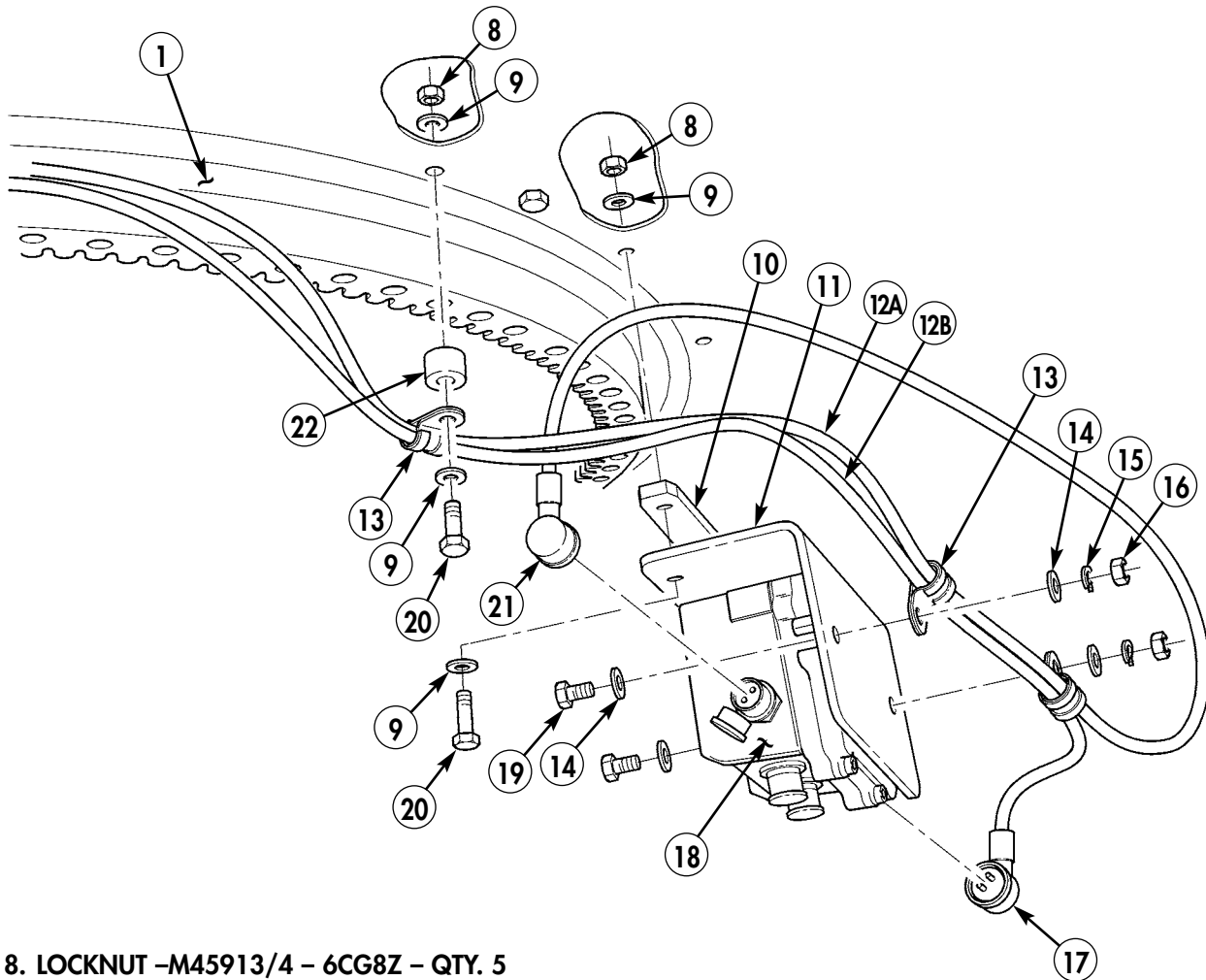


Figure 5-81.

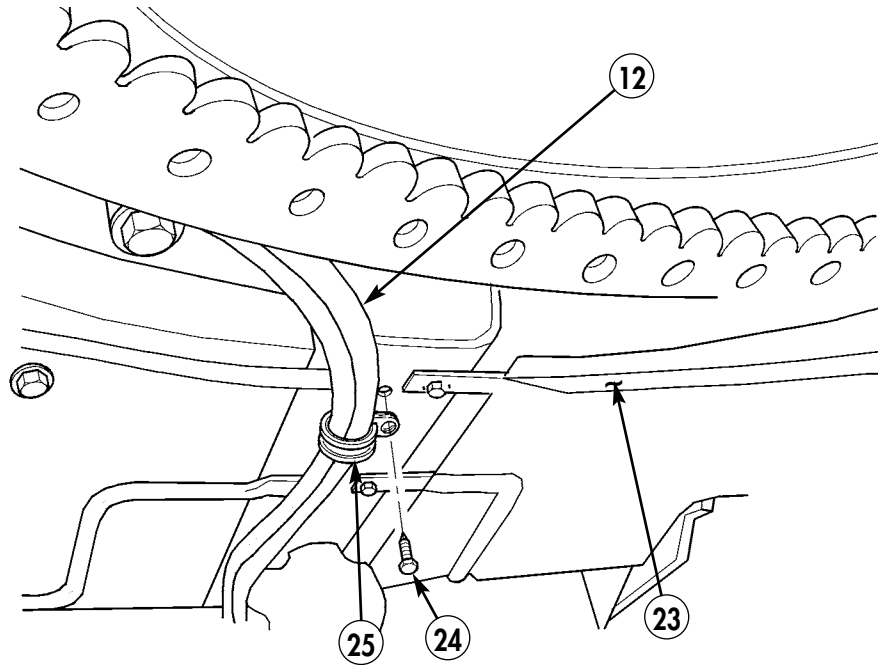
- 11-3. Install spacer (10) and bracket (11) for rear FFCS/L (18) using two screws (20), four existing washers (9), and two locknuts (8).
- 11-4. Insert two highway cables (12A) and (12B) into two clamps (13).
- 11-5. Install rear FFCS/L (18) on bracket (11) using two screws (19), four washers (14), two lockwashers (15), clamps (13), and nuts (16).
- 11-6. Connect P1 connector (17) of cable (12B) to “station out” on rear FFCS/L (18).
- 11-7. Connect P2 connector (21) of cable (12A) to “station in” on rear FFCS/L (18).
- 11-8. Secure two highway cables (12A) and (12B) from rear FFCS/L (18) on turret support (1) with three clamps (13), spacers (22), capscrews (20), six existing washers (9), and three locknuts (8).



8. LOCKNUT -M45913/4 - 6CG8Z - QTY. 5  
 10. SPACER - RCSK 19913 - QTY. 1  
 11. BRACKET - RCSK 19914 - QTY. 1  
 12. CABLE ASSEMBLY - A3206018-15 - QTY. 2  
 13. CLAMP, LOOP - MS21333-125 - QTY. 5  
 14. WASHER - 2436163 - QTY. 4  
 15. LOCKWASHER - 120382 - QTY. 2  
 16. NUT - 120377 - QTY. 2  
 18. FULL FUNCTION CONTROL STATION - A3206624 - QTY. 1  
 19. CAPSCREW - B1821BH038C150N - QTY. 2  
 20. CAPSCREW - B1821BH038C175N - QTY. 5  
 22. SPACER - 12256277 - QTY. 3

Figure 5-82.

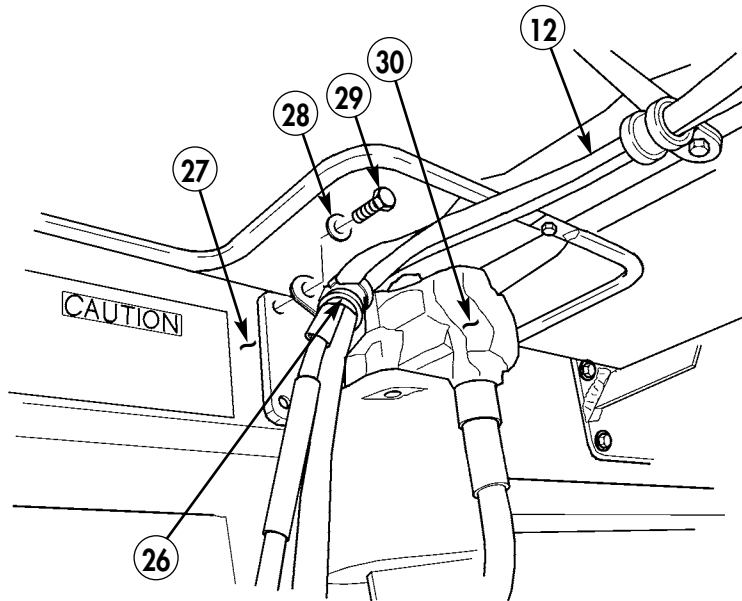
- 11-9. Secure two highway cables (12) on roof insulation support ring (23) with loop clamp (25) and existing screw (24) from roof insulation ring (23).



25. CLAMP, LOOP – MS21333-74 – QTY. 1

Figure 5-83.

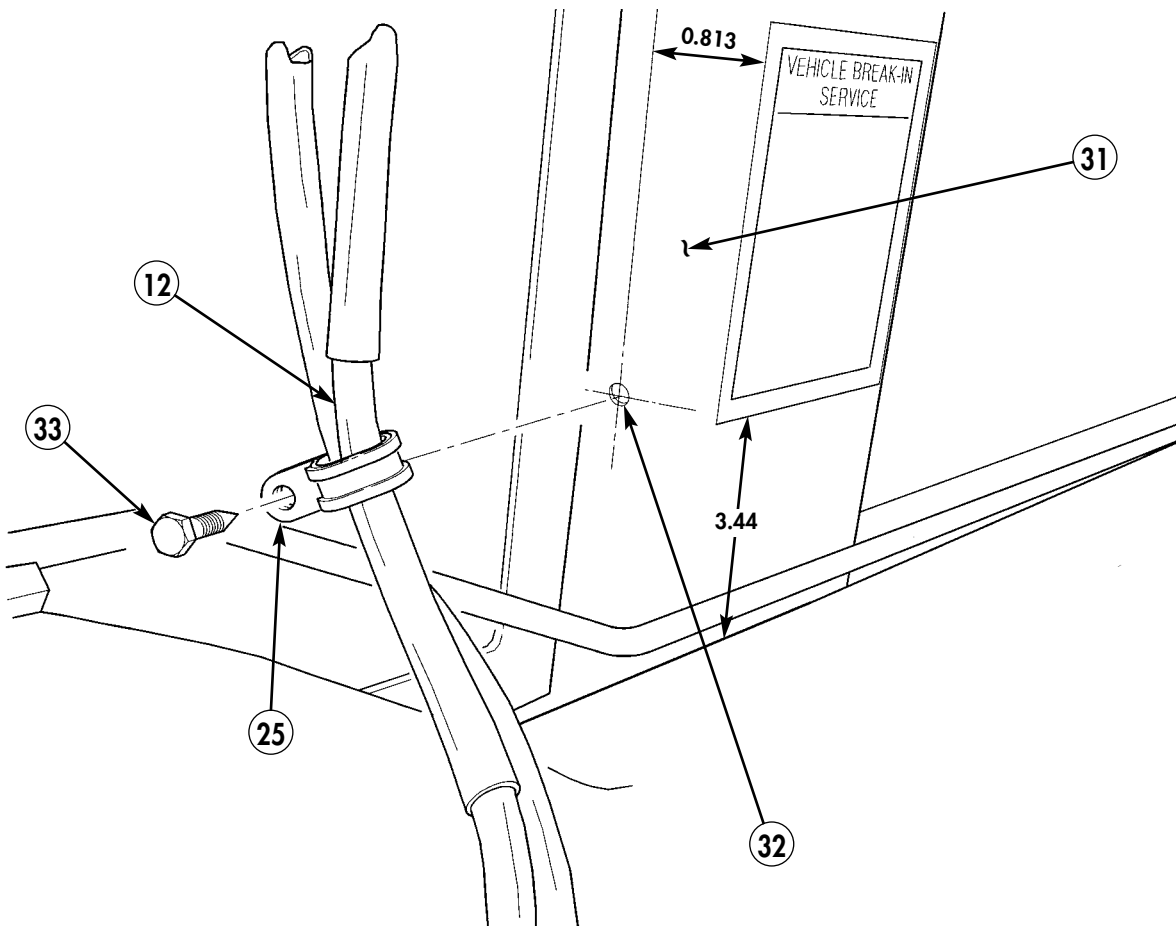
- 11-10. Secure two highway cables (12) to top of center windshield frame (27) with loop clamp (26), existing screw (29) from wiper motor (30), and existing washer (28) from wiper motor (30).



26. CLAMP, LOOP – MS21333-104 – QTY. 1

Figure 5-84.

- 11-11. Locate, mark, and drill 0.147 in. diameter hole (32) on left side of center windshield frame (31).
- 11-12. Secure two highway cables (12) to left side of windshield frame (31) with loop clamp (25) and self-tapping screw (33).



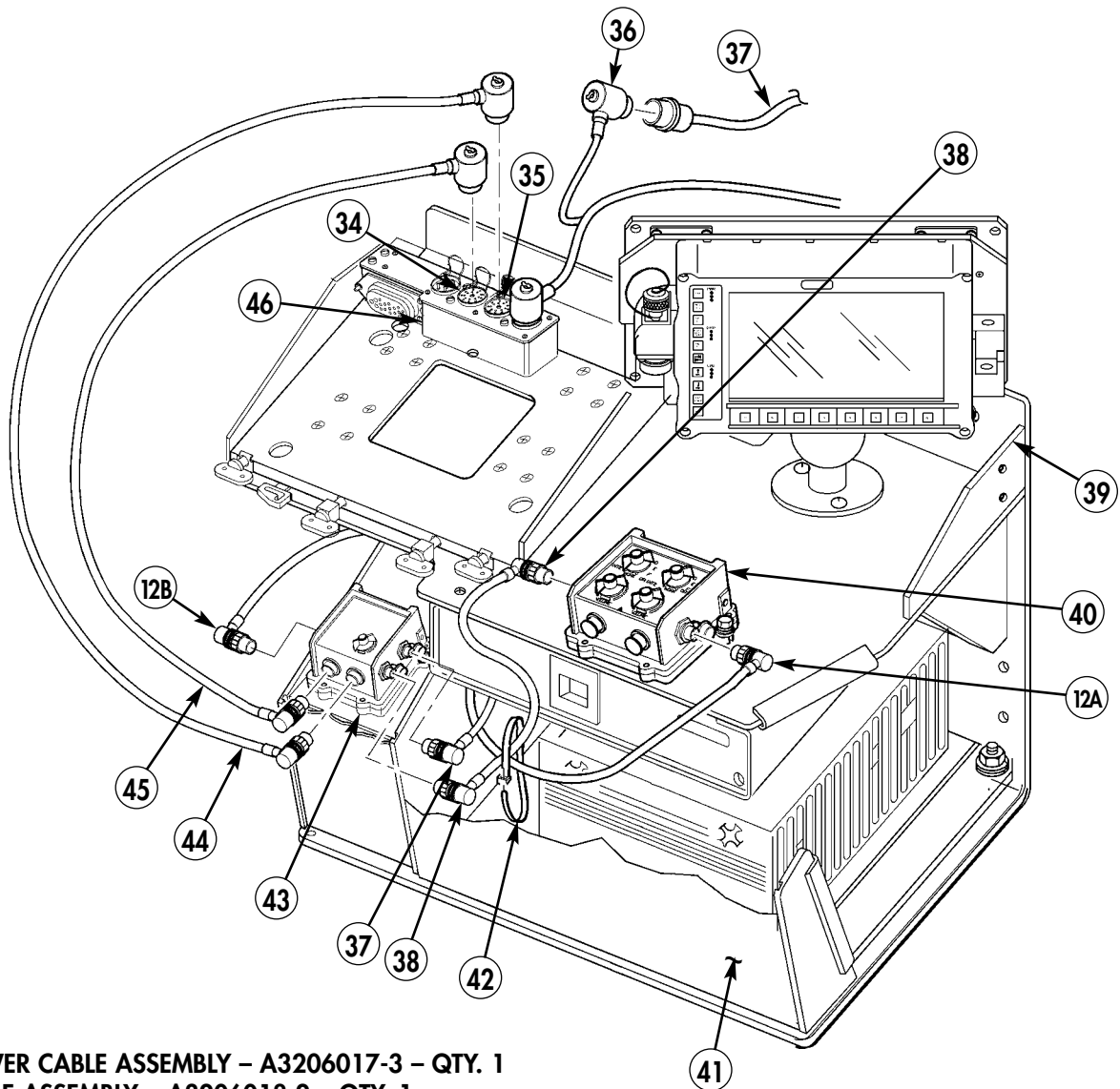
- 25. CLAMP, LOOP - MS21333-74 - QTY. 1
- 33. SCREW, SELF-TAPPING - 9421073 - QTY. 1

Figure 5-85.

**NOTE**

Cables removed for clarity.

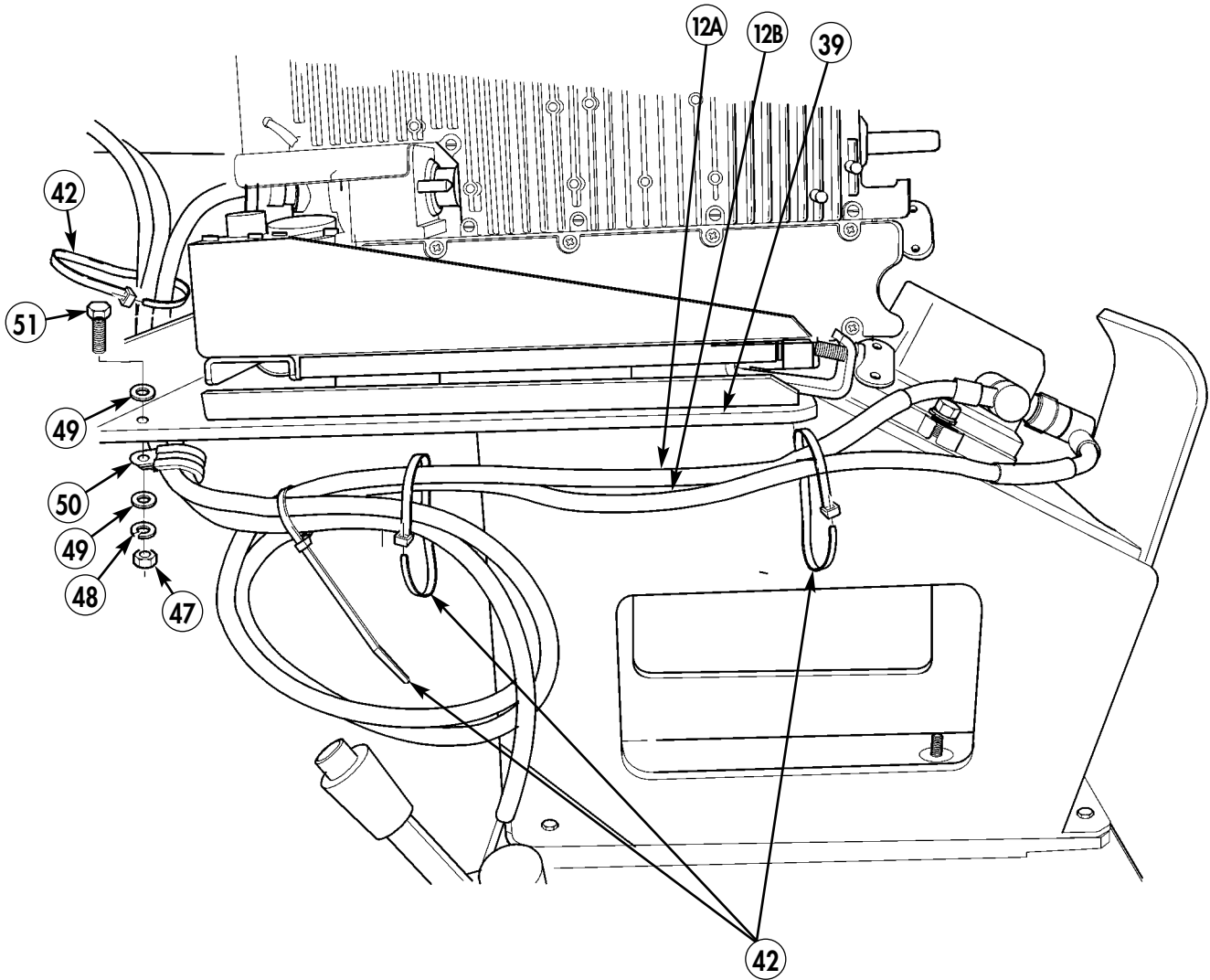
- 11-13. Install P2 connector of cable assembly (38) to "Station Out" on front FFCS/L (40).
- 11-14. Install P1 connector of cable assembly (38) to "Station In" on MCS/L (43).
- 11-15. Install P2 connector of cable assembly (12A) to "Station In" on front FFCS/L (40).
- 11-16. Install P1 connector of cable assembly (12B) to "Station Out" on MCS/L (43).
- 11-17. Install P1 connector of power cable assembly (37) to "Power" on MCS/L (43).
- 11-18. Route power cable (37) to power connection (36).
- 11-19. Install P1 connector of R/T cable assembly (44) to "Radio B" on MCS/L (43). Connect P2 connector of R/T cable assembly (44) to A4J4 connector (35) on SINGARS mount (46).
- 11-20. Install P1 connector of R/T cable assembly (45) to "Radio A" on MCS/L (43). Connect P2 connector of R/T cable assembly (45) to A4J3 connector (34) on SINGARS mount (46). Secure cables (12) and (37) to kickplate (41) of integrated rack (39) with tiedown strap (42).



- 37. POWER CABLE ASSEMBLY – A3206017-3 – QTY. 1
- 38. CABLE ASSEMBLY – A3206018-2 – QTY. 1
- 42. TIE-DOWN STRAP – MS3367-1-0 – QTY. 1
- 44. CABLE ASSEMBLY, R/T – A3206019-3 – QTY. 1
- 45. CABLE ASSEMBLY, R/T – A3206127-3 – QTY. 1

Figure 5-86.

- 11-21.** Route two cable assemblies (12A) and (12B) along underside of radio rack (39). Secure cable assemblies (12A) and (12B) to radio rack (39) with clamp (50), capscrew (51), two washers (49), lockwasher (48), nut (47), and four tiedown straps (42).



42. TIEDOWN STRAP - MS3367-1-0 - QTY. 4  
 47. NUT - 120376 - QTY. 1  
 48. LOCKWASHER - MS353338-45 - QTY. 1  
 49. WASHER - 2436163 - QTY. 2  
 50. LOOP CLAMP - MS21333-114 - QTY. 1  
 51. CAPSCREW - B1821BH031C150N - QTY. 1

Figure 5-87.

## Section XII. DAGR POWER CABLE ROUTING

### NOTE

- Positive wire includes fusible link.
- Refer to TM 9-2320-387-24 for terminal-type connector repair.

- 12-1.** Remove screw (5) and air conditioning close out panel (4) from air conditioning duct (3).
- 12-2.** Route DAGR power cable (2) behind air conditioning duct (3) to radio rack (1).
- 12-3.** Install air conditioning close out panel (4) on air conditioning duct (3) with screw (5).

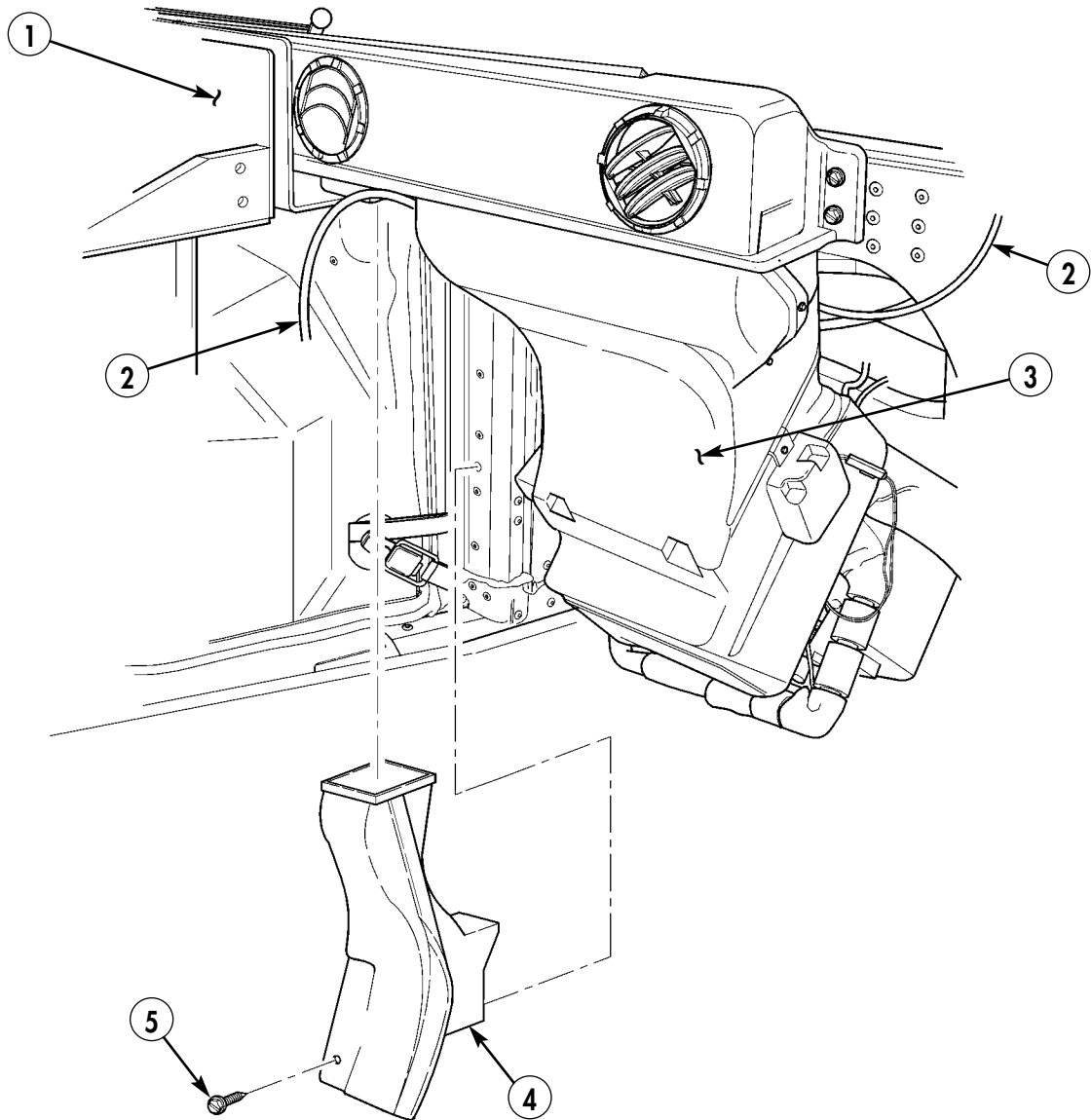


Figure 5-88.



**NOTE**

Keep excess power cable under insulation.

**12-4.** Route power cable (2) behind A/C unit (6), under right tunnel insulation (7), to right-hand cab enclosure panel (8).

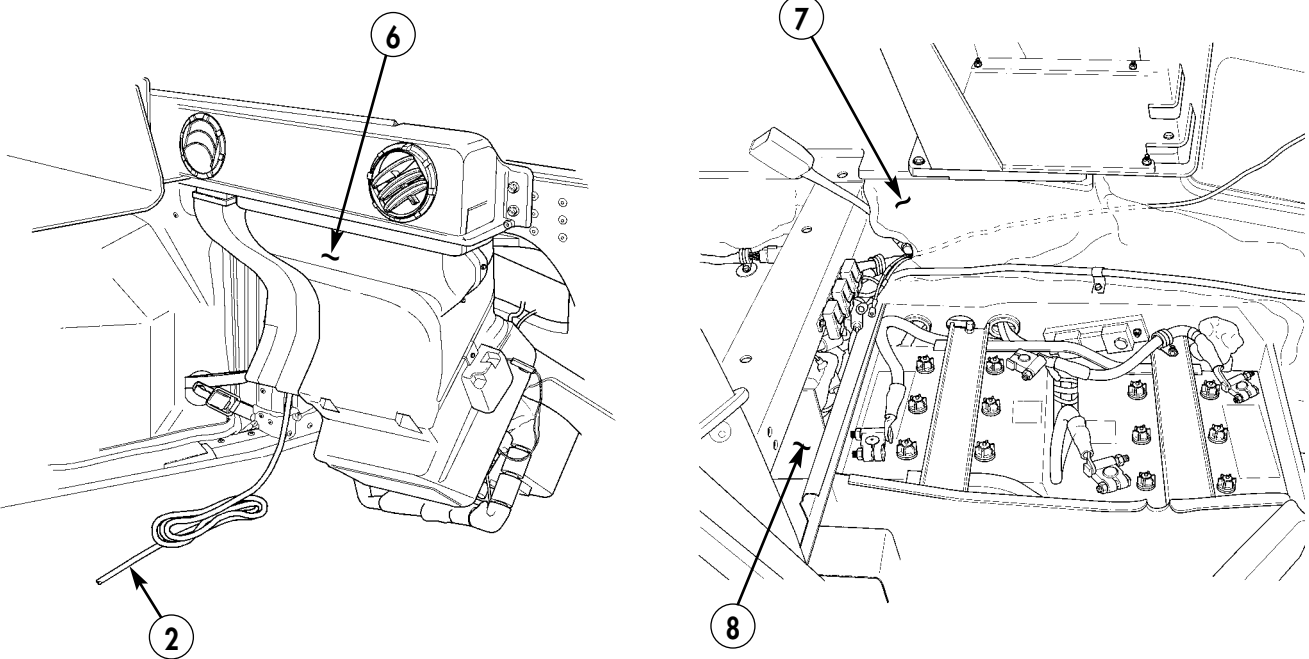
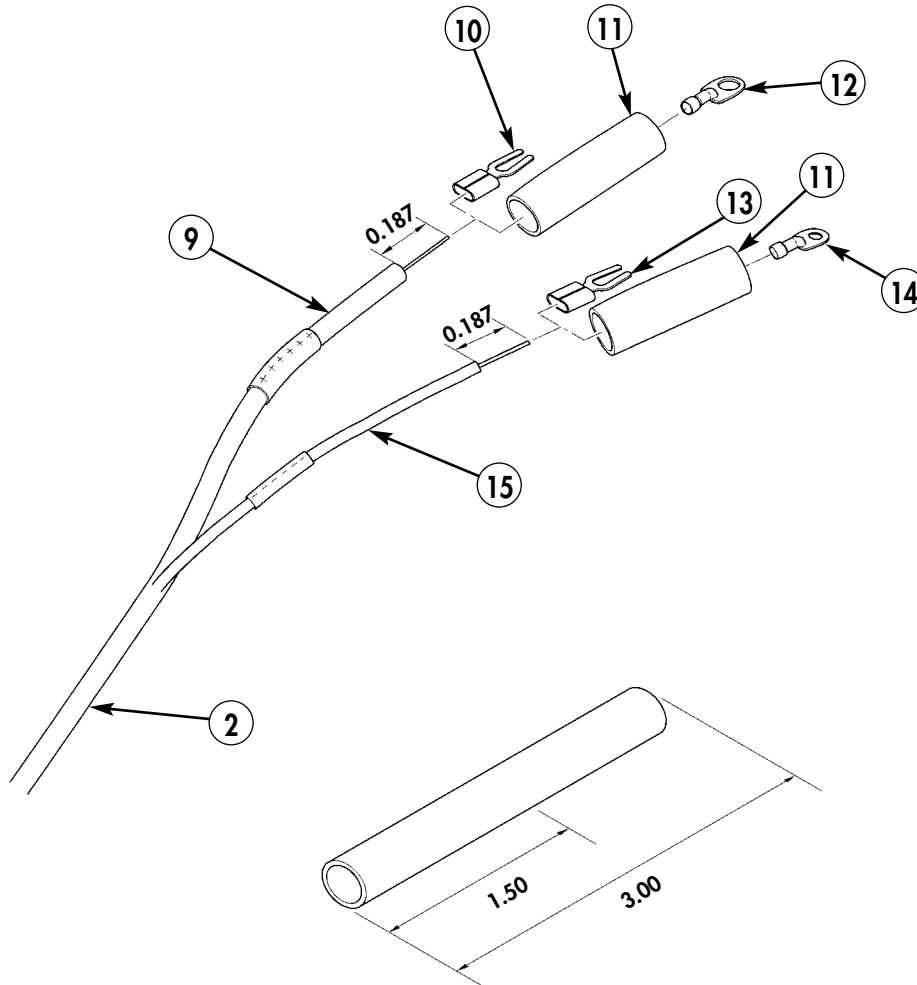


Figure 5-89.

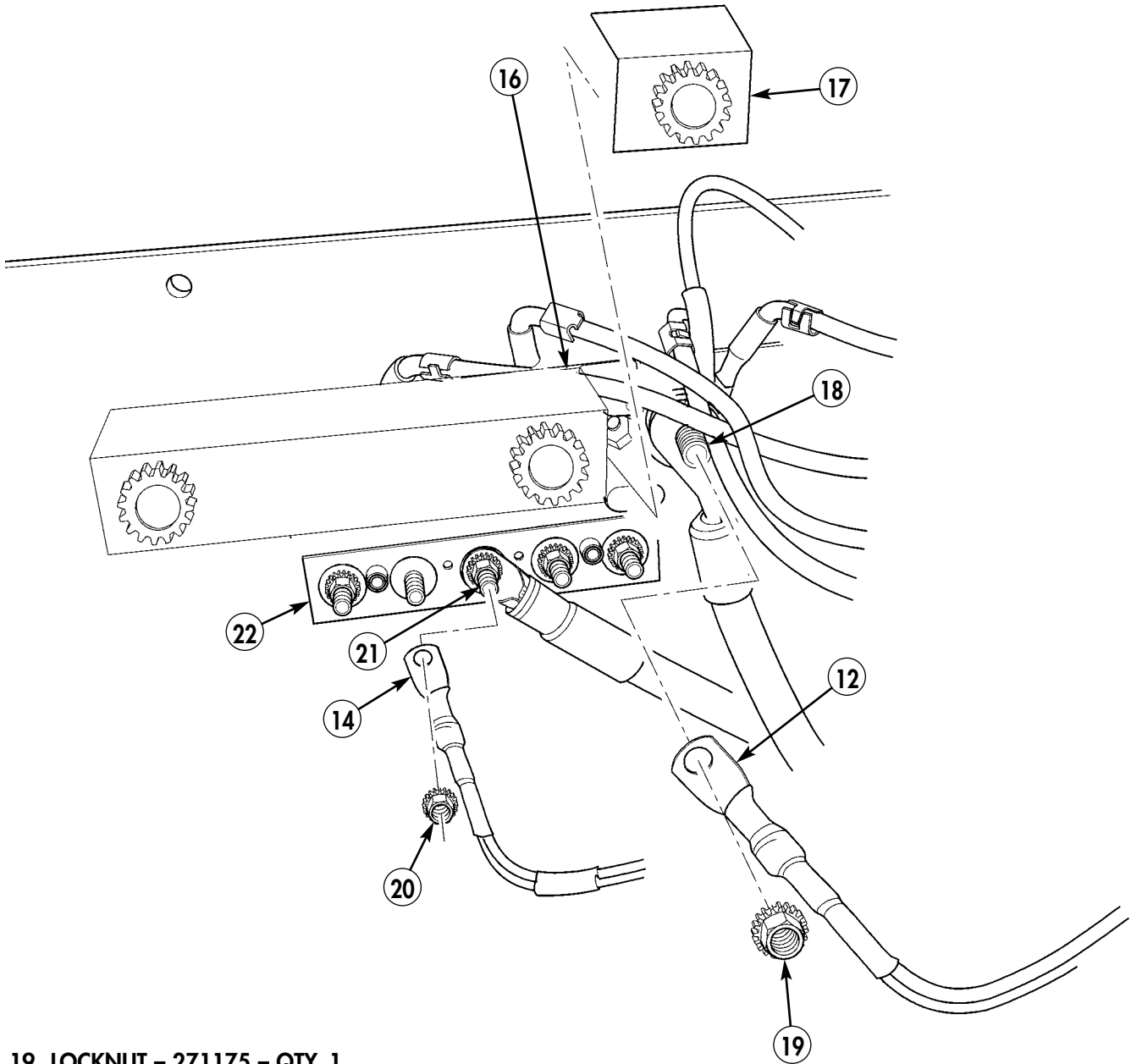
- 12-5. Remove two electrical connectors (10) and (13) from positive (9) and negative (15) wires on DAGR power cable (2).
- 12-6. Remove 0.187-inch of insulation from positive (9) and negative (15) wires on power cable (2).
- 12-7. Attach shrink tubing (11) and terminal lugs (12) and (14) to power cable positive lead (9) and power cable negative lead (15). (Refer to TM 9-2320-387-24 for terminal connector repair.)



- 11. SHRINK TUBING – MS23054/4-103-0 – QTY. 3 IN.
- 12. TERMINAL LUG – 7728780 – QTY. 1
- 14. TERMINAL LUG – 7728777 – QTY. 1

Figure 5-90.

- 12-8. Remove terminal board cover (17) from positive terminal board (16).
- 12-9. Remove locknut (19) from positive stud (18) on positive terminal board (16). Discard locknut (19).
- 12-10. Remove locknut (20) from negative stud (21) on negative terminal board (22). Discard locknut (20).
- 12-11. Connect positive terminal (12) to positive stud (18) on positive terminal board (16) with locknut (19).
- 12-12. Connect negative terminal (14) to negative stud (21) on negative terminal board (22) with locknut (20).
- 12-13. Install terminal board cover (17) on positive terminal board (16).



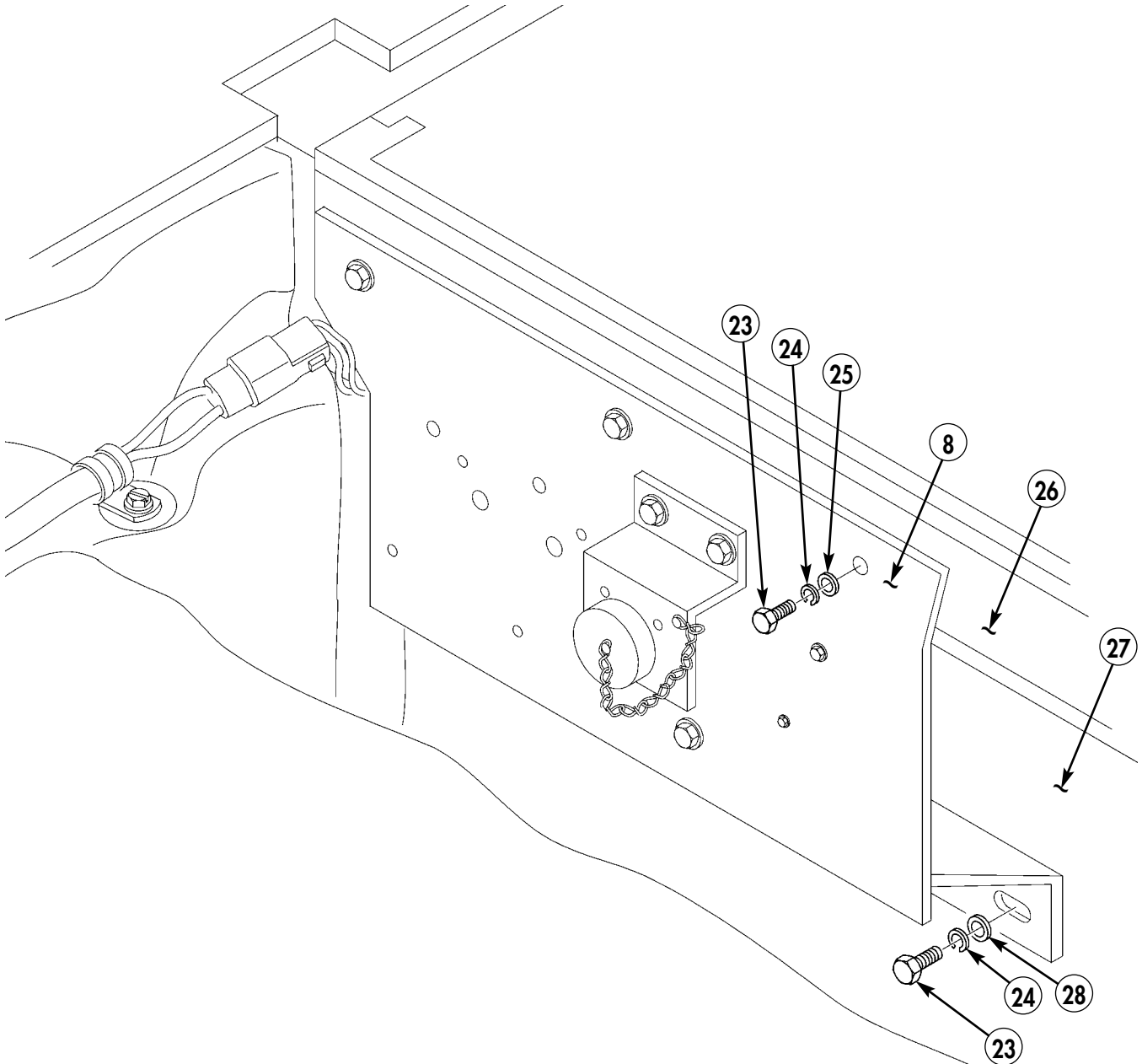
- 19. LOCKNUT - 271175 - QTY. 1
- 20. LOCKNUT - 271169 - QTY. 1

Figure 5-91.

**NOTE**

Vehicles with serial number SN248732 and above will not have 200 amp power connector.

- 12-14. Install right-side cab enclosure panel (8) on rear of battery box (27) with two existing capscrews (23), lockwashers (24), and existing washers (28).
- 12-15. Secure right-side cab enclosure panel (8) to B-beam (26) with three existing capscrews (23), lockwashers (24), and existing washers (25).



24. LOCKWASHER – MS35338-44 – QTY. 5

Figure 5-92.

By Order of the Secretary of the Army:

GEORGE W. CASEY  
*General, United States Army*  
*Chief of Staff*

Official:

A handwritten signature in black ink that reads "Joyce E. Morrow". The signature is written in a cursive style with a large initial "J" and "M".

JOYCE E. MORROW  
*Administrative Assistant to the*  
*Secretary of the Army*  
0725302

Distribution:

To be distributed in accordance with the Initial Distribution Number (IDN) 344826 requirements for TB 9-2320-387-35-6.



|   |  |   |
|---|--|---|
| <b>RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS</b><br>For use of this form, see AR 25-30; the proponent agency is ODISC4. | Use Part II (reverse) for Repair Parts and Special Tools Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM). | DATE:<br><p style="text-align: center;"><b>16 NOV. 2007</b></p> |
|---|--|---|

|  |   |
|--|---|
| TO: <i>(Forward to proponent of publication or form) (include ZIP code)</i><br><b>TACOM LIFE CYCLE MANAGEMENT COMMAND</b><br><b>ATTN: AMSTA-LC-LPIT/Tech Pubs,</b><br><b>1 Rock Island Arsenal, Rock Island, IL 61299-7630</b> | FROM: <i>(Activity and location) (include ZIP code)</i><br><p style="text-align: center;"><b>Co. B, 1st BN, 2nd Brigade</b><br/><b>Ft. Hood, TX 76445</b></p> |
|--|---|

PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

|   |  |   |
|---|--|---|
| PUBLICATION/FORM NUMBER<br><p style="text-align: center;"><b>TB 9-2320-387-35-6</b></p> | DATE<br><p style="text-align: center;"><b>31 OCT. 2007</b></p> | TITLE<br><p style="text-align: center;"><b>TECHNICAL BULLETIN<br/>INSTALLATION INSTRUCTIONS</b></p> |
|---|--|---|

| ITEM NO.        | PAGE NO.    | PARA-GRAPH | LINE NO.* | FIGURE NO.  | TABLE NO. | RECOMMENDED CHANGES AND REASON<br><i>(Provide exact wording of recommended changes, if possible)</i> |
|-----------------|-------------|------------|-----------|-------------|-----------|--|
|                 | <b>5-37</b> |            |           | <b>5-42</b> |           | <b>Item 50A should be MS21333-108</b>  |
| <h1>SAMPLE</h1> |             |            |           |             |           |  |

*\*Reference to line numbers within the paragraph or subparagraph.*

|  |  |  |
|--|--|--|
| TYPED NAME, GRADE, OR TITLE<br><p style="text-align: center;"><b>Pat Smith</b></p> | TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION<br><p style="text-align: center;"><b>AV272-4162</b></p> | SIGNATURE<br><p style="text-align: center;"><i>Pat Smith</i></p> |
|--|--|--|

|  |   |                              |
|--|---|------------------------------|
| TO: <i>(Forward direct to addressee listed in publication)</i><br>TACOM LIFE CYCLE MANAGEMENT COMMAND<br>ATTN: AMSTA-LC-LPIT/Tech Pubs,<br>1 Rock Island Arsenal, Rock Island, IL 61299-7630 | FROM: <i>(Activity and location) (include ZIP code)</i> | DATE:<br><b>16 NOV. 2007</b> |
|--|---|------------------------------|

PART II - REPAIR PARTS AND SPECIAL TOOLS LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

|  |                             |  |
|--|-----------------------------|--|
| PUBLICATION/FORM NUMBER<br><b>TB 9-2320-387-35-6</b> | DATE<br><b>31 OCT. 2007</b> | TITLE<br><b>TECHNICAL BULLETIN<br/>INSTALLATION INSTRUCTIONS</b> |
|--|-----------------------------|--|

| PAGE NO.      | COLM NO. | LINE NO. | NATIONAL STOCK NUMBER | REFERENCE NO. | FIGURE NO. | ITEM NO. | TOTAL NO. OF MAJOR ITEMS SUPPORTED | RECOMMENDED ACTION |
|---------------|----------|----------|-----------------------|---------------|------------|----------|------------------------------------|--------------------|
| <b>SAMPLE</b> |          |          |                       |               |            |          |                                    |                    |

PART III - REMARKS *(Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)*

|                             |  |           |
|-----------------------------|--|-----------|
| TYPED NAME, GRADE, OR TITLE | TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION | SIGNATURE |
|-----------------------------|--|-----------|



|   |          |            |                      |  |  |  |
|---|----------|------------|----------------------|--|--|--|
| <b>RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS</b><br>For use of this form, see AR 25-30; the proponent agency is ODISC4.   |          |            |                      | Use Part II (reverse) for Repair Parts and Special Tools Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM). |  | DATE:  |
| TO: <i>(Forward to proponent of publication or form) (include ZIP code)</i><br>TACOM LIFE CYCLE MANAGEMENT COMMAND<br>ATTN: AMSTA-LC-LPIT/Tech Pubs,<br>1 Rock Island Arsenal, Rock Island, IL 61299-7630 |          |            |                      | FROM: <i>(Activity and location) (include ZIP code)</i>  |  |  |
| PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS  |          |            |                      |  |  |  |
| PUBLICATION/FORM NUMBER<br>TB 9-2320-387-35-6   |          |            | DATE<br>31 OCT. 2007 |  | TITLE<br>TECHNICAL BULLETIN<br>INSTALLATION INSTRUCTIONS |  |
| ITEM NO.  | PAGE NO. | PARA-GRAPH | LINE NO.*            | FIGURE NO.   | TABLE NO.  | RECOMMENDED CHANGES AND REASON<br><i>(Provide exact wording of recommended changes, if possible)</i> |
|   |          |            |                      |  |  |  |
| <i>*Reference to line numbers within the paragraph or subparagraph.</i>   |          |            |                      |  |  |  |
| TYPED NAME, GRADE, OR TITLE   |          |            |                      | TELEPHONE EXCHANGE/AUTOVON,<br>PLUS EXTENSION  |  | SIGNATURE  |

|  |   |       |
|--|---|-------|
| TO: <i>(Forward direct to addressee listed in publication)</i><br>TACOM LIFE CYCLE MANAGEMENT COMMAND<br>ATTN: AMSTA-LC-LPIT/Tech Pubs,<br>1 Rock Island Arsenal, Rock Island, IL 61299-7630 | FROM: <i>(Activity and location) (include ZIP code)</i> | DATE: |
|--|---|-------|

PART II - REPAIR PARTS AND SPECIAL TOOLS LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

|   |                          |  |
|---|--------------------------|--|
| PUBLICATION/FORM NUMBER<br><br>TB 9-2320-387-35-6 | DATE<br><br>31 OCT. 2007 | TITLE<br><br>TECHNICAL BULLETIN<br>INSTALLATION INSTRUCTIONS |
|---|--------------------------|--|

| PAGE NO. | COLM NO. | LINE NO. | NATIONAL STOCK NUMBER | REFERENCE NO. | FIGURE NO. | ITEM NO. | TOTAL NO. OF MAJOR ITEMS SUPPORTED | RECOMMENDED ACTION |
|----------|----------|----------|-----------------------|---------------|------------|----------|------------------------------------|--------------------|
|          |          |          |                       |               |            |          |                                    |                    |

PART III - REMARKS *(Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)*

|                             |   |           |
|-----------------------------|---|-----------|
| TYPED NAME, GRADE, OR TITLE | TELEPHONE EXCHANGE/AUTOVON,<br>PLUS EXTENSION | SIGNATURE |
|-----------------------------|---|-----------|



