
TECHNICAL BULLETIN INSTALLATION INSTRUCTIONS

FOR SYSTEMS

SINGLE CHANNEL GROUND AND AIRBORNE RADIO SYSTEM (SINCGARS)

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)4

PRECISION LIGHTWEIGHT GPS RECEIVER (PLGR)

AN/PSN-11

ENHANCED POSITION LOCATION REPORTING SYSTEM (EPLRS)

AN/VSQ-2 (V)

VEHICULAR INTERCOMMUNICATION SET (VIS)

AN/VIC-3 (V)20

HF 150 WATT RADIO

TAC-SAT RADIO

FOR VEHICLE

**TRUCK, UTILITY: UP-ARMORED CARRIER, 4X4,
M1114 (2320-01-413-3739) (EIC: B6C).**

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HEADQUARTERS, DEPARTMENT OF THE ARMY

OCTOBER 2006

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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 vehicle:
 Truck, Utility: Up-Armored Carrier, 4x4, M1114
- 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), Radio Set AN/VRC-88F/89F/90F/91F/92F Series
 - b. Force XXI Battle Command, Brigade-and-Below (FBCB2), AN/UYK-128 (V)4
 - c. Precision Lightweight GPS Receiver (PLGR), AN/PSN-11
 - d. Enhanced Position Location Reporting System (EPLRS), AN/VSQ-2 (V)
 - e. HF 150 Watt Radio
 - f. TAC-SAT Radio
 - g. Vehicular Intercommunication Set (VIS), AN/VIC-3 (V)20
 - h. Additional terminal boards
- 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

- 2-1.** Remove batteries. (Refer to TM 9-2320-387-24.)
- 2-2.** Remove right-hand rear fixed door if desired. (Refer to TM 9-2320-387-24.)
- 2-3.** Remove right-hand rear cab enclosure panel. (Refer to TM 9-2320-387-24.)
- 2-4.** Remove standard rack.
- 2-5.** Remove right rear ammo storage tray.

Section III. LIST OF ITEMS TO BE RETAINED

- 3-1.** Batteries
- 3-2.** Right-hand rear cab enclosure (if applicable).
- 3-3.** Right-hand rear fixed door (if applicable).

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

PLGR:

(B): 57K4399

EPLRS:

(C): No kits available

FBCB2:

(D): No kits available

VIS:

(E): No kits available

HF 150 WATT RADIO:

(F): No kits available

TAC-SAT RADIO:

(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.	Bracket, Antenna	A3014546-1	5340-01-391-2742	(A)	1
2.	Bracket, Mounting	12480575	N/A	(B)	1
3.	Cable Assembly, Radio Frequency	A3014031-17	5995-01-225-1660	(A)	1
4.	Clamp, Loop	MS21333-67	5340-00-079-7837	(B)	2
5.	Clamp, Loop	MS21333-75	5340-00-050-2740	(A)	3
6.	Clamp, Loop	MS21333-77	5340-00-922-6300	(A)	2
7.	Clamp, Loop	MS21333-78	5340-00-958-8457	(B)	1
8.	Clamp, Loop	MS21333-96	5340-00-088-1255	(B)	1
9.	Gasket	A3013655-1	5330-01-205-2864	(A)	2
10.	Grommet	MS35489-31	5325-00-174-9336	(B)	1
11.	Grommet	12460299	5325-01-492-0008	(B)	1
12.	Mounting Base, Electrical Equipment	A3013367-1	5975-01-188-8873	(A)	1
13.	Nut, Lock	MS17829-3C	5310-00-689-3877	(B)	4
14.	Screw	MS35206-266	5305-00-984-6213	(B)	4
15.	Screw	MS35207-261	5305-00-990-6444	(B)	1
16.	Screw, Cap	MS35307-365	5305-00-847-1159	(A)	8
17.	Screw, Self-Tapping	9440025	5305-01-197-2320	(B)	2
18.	Terminal Lug	7728777	5940-00-983-4067	(B)	1
19.	Terminal Lug	7728780	5940-01-035-4212	(B)	1
20.	Washer, Lock	MS35338-43	5310-00-045-3296	(B)	1
21.	Washer, Lock	MS35338-44	5310-00-582-5965	(A)	20
22.	Washer, Lock	MS45904-72	5310-00-889-2527	(A)	29
23.	Washer, Lock	MS45904-76	5310-00-061-1258	(A)	8
24.	Washer, Lock	MS35338-43	5310-00-045-3296	(A)	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.	Adapter, Antenna	RF-1980-AT001	5985-01-519-6245	1
2.	Adapter Assembly, Interface Device (SIAD)	881331-1	4920-01-478-3722	1
3.	Antenna AS-3900/VRC	A3017889-2	5985-01-308-8988	1
4.	Antenna, AS-3499/VSQ-1	A3005031	5820-01-183-9462	1
5.	Antenna, Element (lower)	A3018230-1	5985-01-201-1498	2
6.	Antenna, Element (upper)	A3017901-2	5985-01-306-4622	2
7.	Antenna, HF	4245	N/A	1
8.	Antenna, PLGR	AT575-030	5985-01-375-4660	1
9.	Assembly, Display Lock	872843-1	N/A	1
10.	Bar, Support	10181-5213-002	N/A	1
11.	Bolt	MS35751-18	5306-00-108-9988	4
12.	Box, Stowage	889519-1	2540-01-499-0607	1
13.	Bracket, Antenna Base	RF292	5985-01-418-5247	1
14.	Bracket, Antenna, EPLRS	05A020ID	N/A	1
15.	Bracket, Mounting	889567-14	N/A	1
16.	Bracket, Mounting, Radio R/T	RF-5073VSM	5975-01-517-1766	1
17.	Bracket, Support	12460300	5340-01-456-6554	1
18.	Bracket, PLGR	986-0645-001	5975-01-375-1302	1
19.	Bracket, User Readout (URO)	A3006206	5340-01-386-7841	1
20.	Cable Assembly	A3206018-2	5995-01-392-6196	1
21.	Cable Assembly	A3206018-15	5995-01-392-6200	2
22.	Cable Assembly, Antenna, HF	10181-9824-020	5995-01-460-5697	1
23.	Cable Assembly, Antenna, HF	10564-3355-A004	N/A	1
24.	Cable Assembly, Antenna, EPLRS	SM-C-911480	5995-01-167-1269	1
25.	Cable Assembly, Antenna, PLGR	426-0141-050	6150-01-375-8662	1
26.	Cable Assembly, Control	10181-9823-020	N/A	1
27.	Cable Assembly, Ground	12480567-1	N/A	1
28.	Cable Assembly, Power	12480567-2	N/A	1
29.	Cable Assembly, Power	A3206017-3	5995-01-452-4309	1
30.	Cable Assembly, Power, EPLRS	A3004939	5995-01-198-0538	1
31.	Cable Assembly, Power, HF	10181-9826-020	5995-01-370-5985	1
32.	Cable Assembly, Power, PLGR	9728558-10	6150-01-375-8661	1
33.	Cable Assembly, Power, Speaker	10535-0708-A020	6150-01-519-6396	2
34.	Cable Assembly, Power, TAC-SAT	10570-0705-A021	N/A	1
35.	Cable Assembly, Speaker, R/T	10535-0707-A020	5995-01-514-6066	2
36.	Cable Assembly, TAC-SAT Antenna	10369-7211-020	N/A	1
37.	Cable Assembly, INC-EPUU	A3279383-3	5995-01-453-9171	1
38.	Cable Assembly, R/T	A3206019-3	5995-01-458-5334	1
39.	Cable Assembly, R/T	A3206127-3	5995-01-479-9739	1
40.	Cable Assembly, W3N	881336-1	5995-01-478-4913	1

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.
41.	Cable Assembly, W3P	881335-1	5995-01-478-4891	1
42.	Clamp, Loop	MS21333-69	5340-00-764-7051	5
43.	Clamp, Loop	MS21333-76	5340-00-724-7038	1
44.	Clamp, Loop	MS21333-104	5340-00-088-1254	1
45.	Clamp, Loop	MS21333-112	5340-00-057-3043	8
46.	Cover, Antenna Bracket	1018-5212-02	N/A	1
47.	Cover, Fuse	1209-9272	N/A	4
48.	CPU (Central Processing Unit)	881292-1	7021-01-474-3793	1
49.	Decal	12339060	7690-01-265-1135	1
50.	Decal	861868-2	N/A	1
51.	Display	881293-1	7025-01-475-0229	1
52.	Footrest Weldment	889567-21	N/A	1
53.	Fiber Rope Assembly	A3167672-1	4020-01-341-8795	2
54.	Gasket	A3013655-1	5330-01-205-2864	1
55.	Grommet, Nonmetallic	MS21266-1N	5325-00-960-2410	A/R
56.	Grommet, Nonmetallic	MS35489-19	5325-00-276-6091	1
57.	Grommet, Nonmetallic	MS35489-149	5325-01-309-7164	1
58.	Grommet, Nonmetallic	MS35489-150	5325-01-282-8245	1
59.	Grommet, Nonmetallic	12338098	5325-01-308-5424	1
60.	Grommet, Nonmetallic	2400	5325-01-289-7859	1
61.	Grommet, Nonmetallic	MS21266-2N	5325-00-074-3301	A/R
62.	Guard, Amp	872842-1	5935-01-487-2172	1
63.	Insert	ALS4-616-150	5325-01-483-7480	3
64.	Insert	12446871-1	5310-01-413-3276	6
65.	Insert	12446871-2	5310-01-411-3422	8
66.	Insert	12446871-8	5325-01-476-3041	5
67.	Insert	12446871-11	5325-01-505-3122	1
68.	Interface Unit, FFCS	A3206624	5895-01-469-6120	2
69.	Isolation Kit, CPU	872826-2	5340-01-481-5741	1
70.	Isolation Kit, Display	872870-1	5340-01-481-5757	1
71.	Lanyard	8925T5-7X19	4010-01-497-2675	1
72.	Left Rail Weldment	889567-12	N/A	1
73.	Locking Collar	Z52-0013-002	N/A	2
74.	Loudspeaker	10181-5180-01	5965-01-480-8784	2
75.	Master Control Station	A3206623	5895-01-469-3352	1
76.	Mount, Ramball	RAM-D-111U	5975-01-485-3615	1
77.	Mount, Resilient	MT-6146/VSQ-1	5340-01-167-8297	1
78.	Mount, TAC-SAT Radio	RF-5800H-V005	5820-01-512-2462	1
79.	Mounting Bracket, TAC-SAT Antenna	N/A	N/A	1
80.	Mounting Plate, Coupler	11080-0511-02	N/A	1

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.
81.	Nut	MS35649-2252	5310-00-997-1888	4
82.	Nut	MS35650-302	5310-00-934-9751	11
83.	Nut	MS51971-1	5310-00-903-5966	8
84.	Nut	MS51971-3	5310-00-913-8881	6
85.	Nut	13218E0320-293	5310-00-913-8881	8
86.	Nut	9418931	5310-01-187-7610	4
87.	Nut	9418892	5310-01-157-9819	10
88.	Nut	9417954	5310-00-931-8167	3
89.	Nut	9419143	5310-01-148-0240	2
90.	Nut	MS35649-63	5310-00-804-3859	5
91.	Nut, Lock	MS51943-31	5310-00-061-4650	4
92.	Nut, Lock	271175	5310-01-333-5245	6
93.	Nut, Nylon	10075-1397	N/A	2
94.	Nut, Plain-Assembled	271169	5310-00-124-9265	5
95.	Panel, Enclosure	12447141	2510-01-413-5993	1
96.	Right Rail Weldment	889567-22	N/A	1
97.	Rivet, Blind	12339355-1	5320-01-271-6357	2
98.	Rod	889567-16	N/A	1
99.	Screw, Cap	B1821BH025C063N	5305-01-457-8854	1
100.	Screw, Cap	B1821BH025C075N	5305-00-068-0508	7
101.	Screw, Cap	B1821BH025C088N	5305-00-071-2505	10
102.	Screw, Cap	B1821BH025C100N	5305-01-389-7984	13
103.	Screw, Cap	B1821BH025C150N	5305-00-071-2509	3
104.	Screw, Cap	B1821BH031C075N	5306-00-226-4825	4
105.	Screw, Cap	B1821BH031C100N	5306-00-226-4827	6
106.	Screw, Cap	B1821BH031C125N	5306-00-226-4829	2
107.	Screw, Cap	B1821BH031C150N	5305-00-226-4831	2
108.	Screw, Cap	B1821BH031F100N	5305-00-051-4076	2
109.	Screw, Cap	B1821BH031F125N	5305-00-051-4078	9
110.	Screw, Cap	B1821BH038C150N	5305-00-725-2317	4
111.	Screw, Cap	B1821BH038F175N	5305-00-269-3241	4
112.	Screw, Cap	B1821BH050C150N	5305-00-071-2069	4
113.	Screw, Machine	MS35190-287	5305-00-954-4295	2
114.	Screw, Machine	MS35190-291	5305-00-958-5247	2
115.	Screw, Machine	MS35206-230	5305-00-889-3000	5
116.	Screw, Machine	MS35207-263	5305-00-989-7434	2
117.	Screw, Machine	160046	5305-00-349-8534	1
118.	Screw, Cap	MS35207-265	5305-00-993-1848	4
119.	Screw, Cap	MS35207-269	5305-00-995-3441	6
120.	Screw, Cap	MS35207-270	5305-00-995-3440	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.
121.	Screw, Cap	MS35307-308	5305-00-207-8253	8
122.	Screw, Self-Tapping	12342499-2	5305-01-264-5809	11
123.	Screw, Self-Tapping	9416639	5305-01-197-2320	2
124.	Screw, Self-Tapping	9421073	5305-01-162-8512	9
125.	Spacer	10181-5214-01	N/A	13
126.	Spacer	10705AL315C	5365-01-487-3145	4
127.	Spacer	5579297	5365-01-194-0761	3
128.	Spacer	92510A318	N/A	4
129.	Strap, Tiedown	MS3367-1-0	5975-00-984-6582	A/R
130.	Strap, Ground	7147-1167-3	5999-01-486-1606	2
131.	Support, Rack	889509-22	N/A	1
132.	Terminal Lug	7728777	5940-00-983-4067	1
133.	Terminal Lug	7728780	5940-01-035-4212	1
134.	Terminal Board	MS27212-3-8	5940-00-950-7782	1
135.	Terminal Board	12480570	N/A	1
136.	Terminal Board Cover	MS18029-3S-2	5940-01-280-9304	1
137.	Terminal Board Cover	12480569-2	N/A	1
138.	Terminal Board Cover	12480569-1	N/A	1
139.	Terminal Link	MS25226-6N-2	6150-01-167-9267	1
140.	Terminal Lug	MS20659-108	5940-00-115-2674	2
141.	Terminal Lug	MS20659-141	5940-00-113-9825	4
142.	Tubing, Convuluted	Z52-0013-001	N/A	1
143.	Tubing, Shrink	MS23053/4-302-0	5970-01-161-6796	A/R
144.	Washer	MS27183-8	5310-00-809-8546	6
145.	Washer	MS27183-10	5310-00-809-4058	19
146.	Washer	MS27183-47	5310-01-312-4959	2
147.	Washer	MS51412-23	5310-01-333-0060	2
148.	Washer	12338095	5310-01-208-7576	3
149.	Washer	2436161	5310-01-102-3270	9
150.	Washer	2436162	5310-01-119-1024	8
151.	Washer	2436164	5310-01-278-9555	6
152.	Washer, Lock	MS35307-365	5305-00-847-1159	8
153.	Washer, Lock	MS35338-41	5310-00-045-4007	5
154.	Washer, Lock	MS35338-43	5310-00-045-3296	24
155.	Washer, Lock	MS35338-44	5310-00-582-5965	5
156.	Washer, Lock	MS35338-45	5310-00-407-9566	5
157.	Washer, Lock	MS35338-48	5310-00-584-5272	3
158.	Washer, Lock	MS35338-141	5310-00-984-7042	6
159.	Washer, Lock	MS45904-71	5310-00-947-6980	28
160.	Washer, Lock	MS45904-76	5310-00-061-1258	12

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.
161.	Washer, Lock	120217	5310-01-279-8319	1
162.	Wingnut	MS51553-420	5310-01-384-2546	4
163.	Wire Assembly, Fuse (12V)	12480568-2	N/A	1
164.	Wire Assembly, Fuse (24V)	12480568-1	N/A	3
165.	Wire, Braided	AA59569F30T0375	6145-00-191-8402	A/R
166.	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)
- Precision Lightweight Global Positioning System Receiver (PLGR)
- Enhanced Position Location Reporting System (EPLRS)
- Vehicular Intercommunications Set (VIS)
- Force XXI Battle Command, Brigade-and-Below (FBCB2)
- HF 150 Watt Radio
- TAC-SAT Radio
- Additional terminal boards in the vehicle

When installing C4ISR equipment, be sure to read and follow instructions and illustrations carefully.

Section II. INSTALLATION OF TERMINAL BOARDS

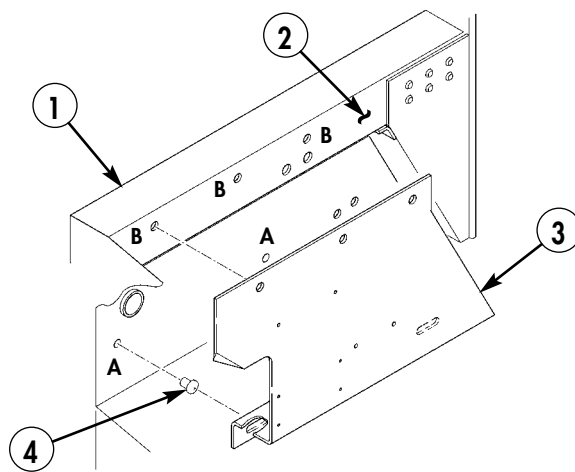
Use the following procedure to install additional terminal boards to provide adequate power connections. Vehicles must have dual-voltage alternators installed in order to have both 12V and 24V terminal boards installed.

Section III. CAB ENCLOSURE PANEL, TERMINAL BOARD, AND COVER MODIFICATION

NOTE

- Late model M1114 vehicles come with cab enclosure panel and 24V terminal board. For early model M1114 vehicles, perform sections III through VI. For late model M1114 vehicles begin, at section VII.
- For vehicles without cab enclosure panel, begin with step 3-1.
- For vehicles with cab enclosure panel, begin with step 3-3.
- All dimensions are in inches.

- 3-1.** Place enclosure panel (3) in position. Locate, mark, and drill five 0.159-in. diameter holes marked A and B in B-beam (1) and battery box (2).
- 3-2.** Enlarge two lower mounting holes marked A to 0.390-in. diameter, and install two inserts (4) in battery box (2).



- 3. ENCLOSURE PANEL – 12447141 – QTY. 1**
- 4. INSERT – 12446871-2 – QTY. 2**

Figure 5-1.

NOTE

Do not install cab enclosure panel.

- 3-3.** Locate, mark, and drill three 0.156-in. diameter holes marked A in cab enclosure panel (1).
- 3-4.** Locate, mark, and drill two 0.196-in. diameter holes marked B in cab enclosure panel (1).
- 3-5.** Locate, mark, and drill two 0.281-in. diameter holes marked C in cab enclosure panel (1).

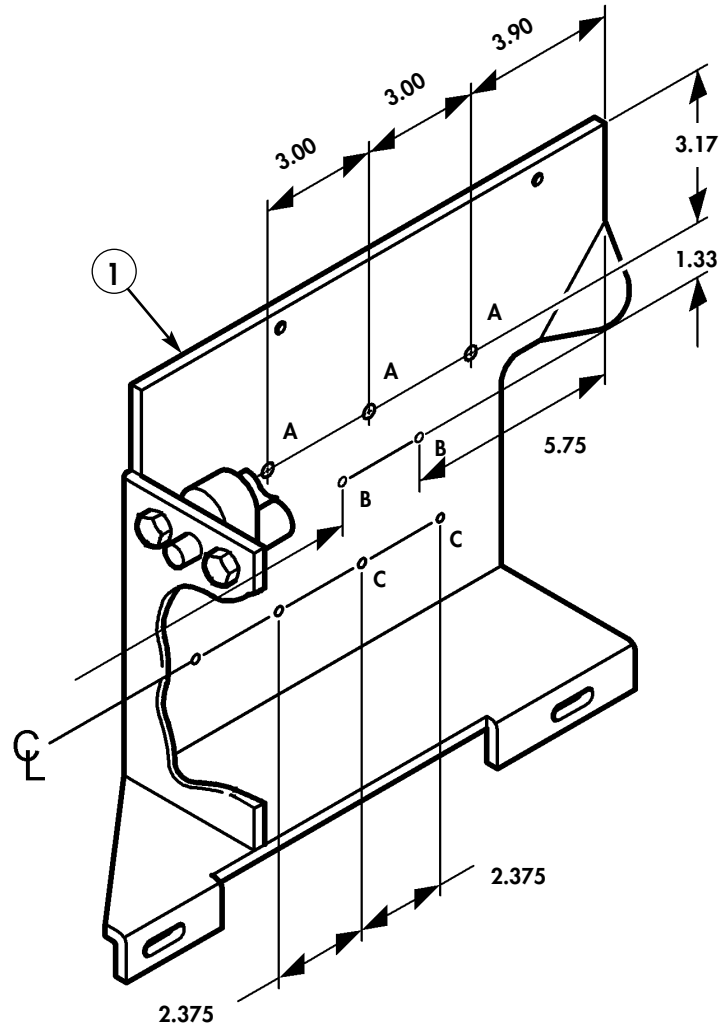


Figure 5-2.

NOTE

Perform steps 3-6 through 3-8 only if supplemental heater is installed.

- 3-6.** Locate, mark, and cut corner of cab enclosure panel (1).
3-7. Locate, mark, and drill 0.154-in. diameter hole (5) in cab enclosure panel (1).

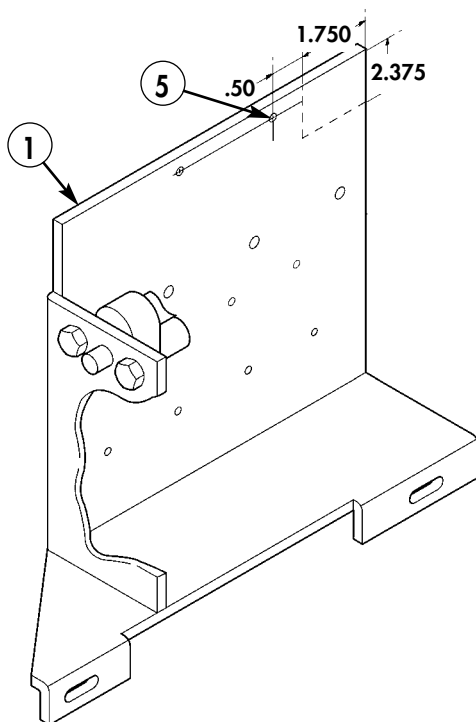
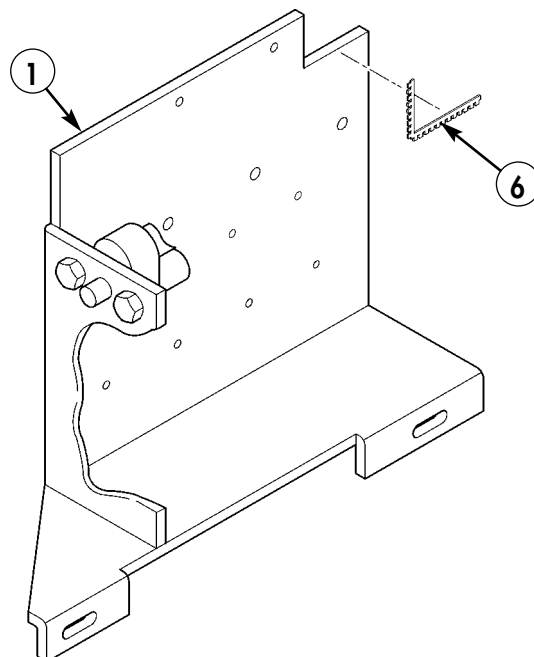


Figure 5-3.

- 3-8.** Install grommet material (6) on cab enclosure panel (1) with RTV compound.



6. GROMMET MATERIAL – MS21266-1N – QTY. A/R

Figure 5-4.

CAUTION

Do not cut raised sections of terminal board. Terminal board is not usable if cut on raised section.

- 3-9.** Measure and cut terminal board (6) in two places (7). Remove burrs and sharp edges.
- 3-10.** Install five nut sleeves (10) in terminal board covers (8), (9), and (11), and secure with five snaprings (12).

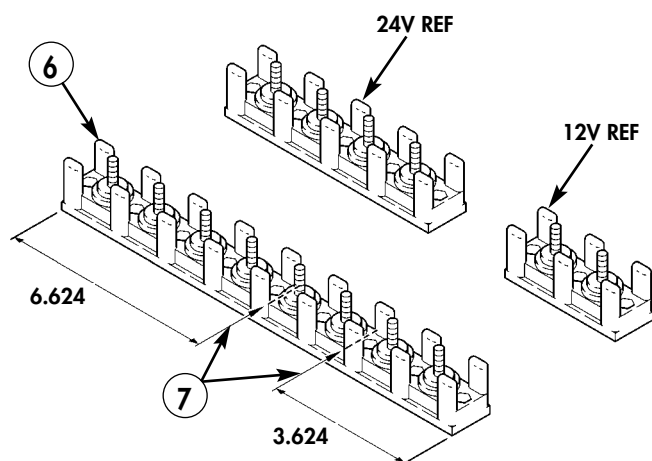


Figure 5-5.

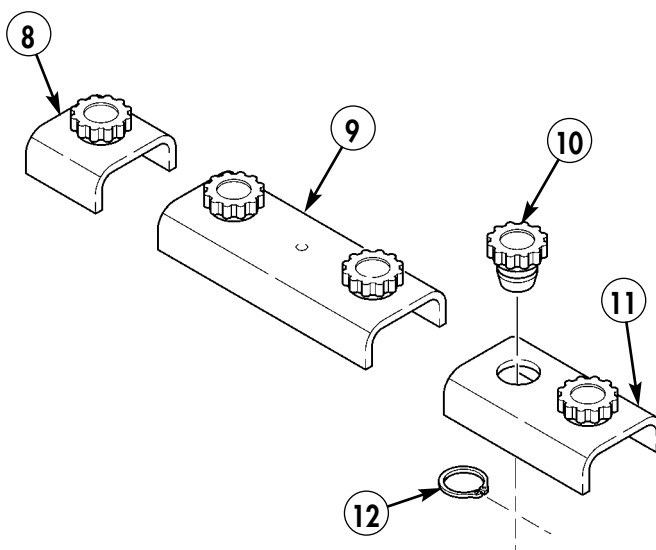
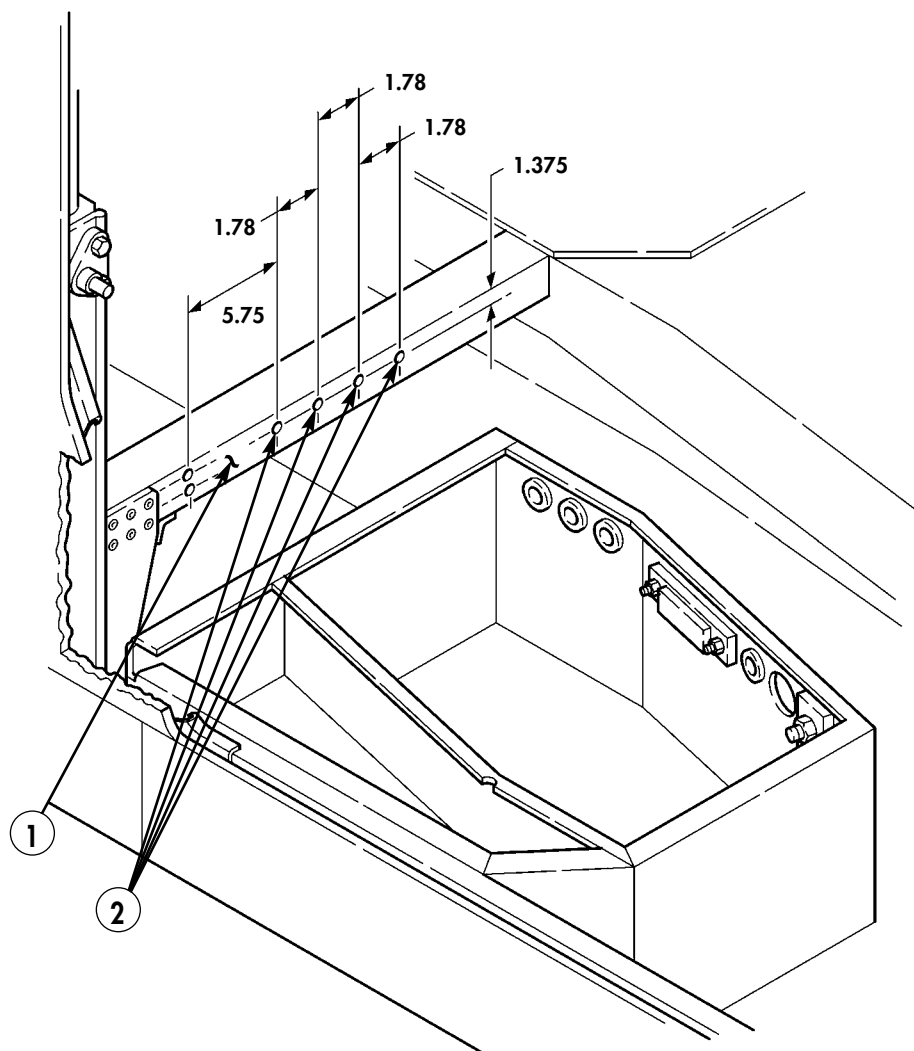


Figure 5-6.

- 6. TERMINAL BOARD – MS27212-3-8 – QTY. 1**
- 8. TERMINAL BOARD COVER – 12480569-1 – QTY. 1**
- 9. TERMINAL BOARD COVER – 12480569-2 – QTY. 1**
- 11. TERMINAL BOARD COVER – MS18029-3S-2 – QTY. 1**

Section IV. B-BEAM PREPARATION

Locate, mark, and drill four 0.159-in. diameter holes (2) in B-beam (1).



- 1. FUSE COVER – 1209-9272 – QTY. 3 OR 4
- 2. SELF-TAPPING SCREW – 12342499-2 – QTY. 3 OR 4

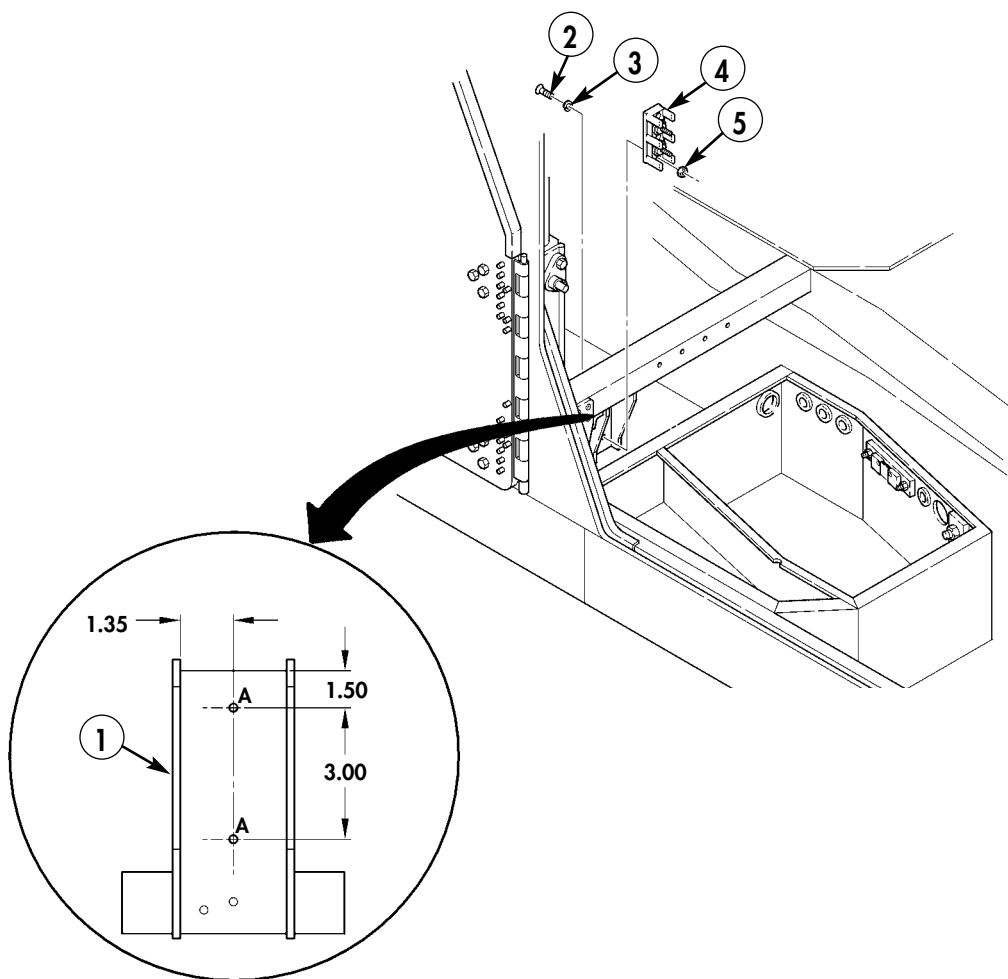
Figure 5-7.

Section V. ASSEMBLY OF CAB ENCLOSURE PANEL

NOTE

- For 12V terminal board installation on models with rifle mount bracket shown in figure 5-8, perform steps 5-1 through 5-3.
- If not installing 12V terminal board, begin with step 5-4.

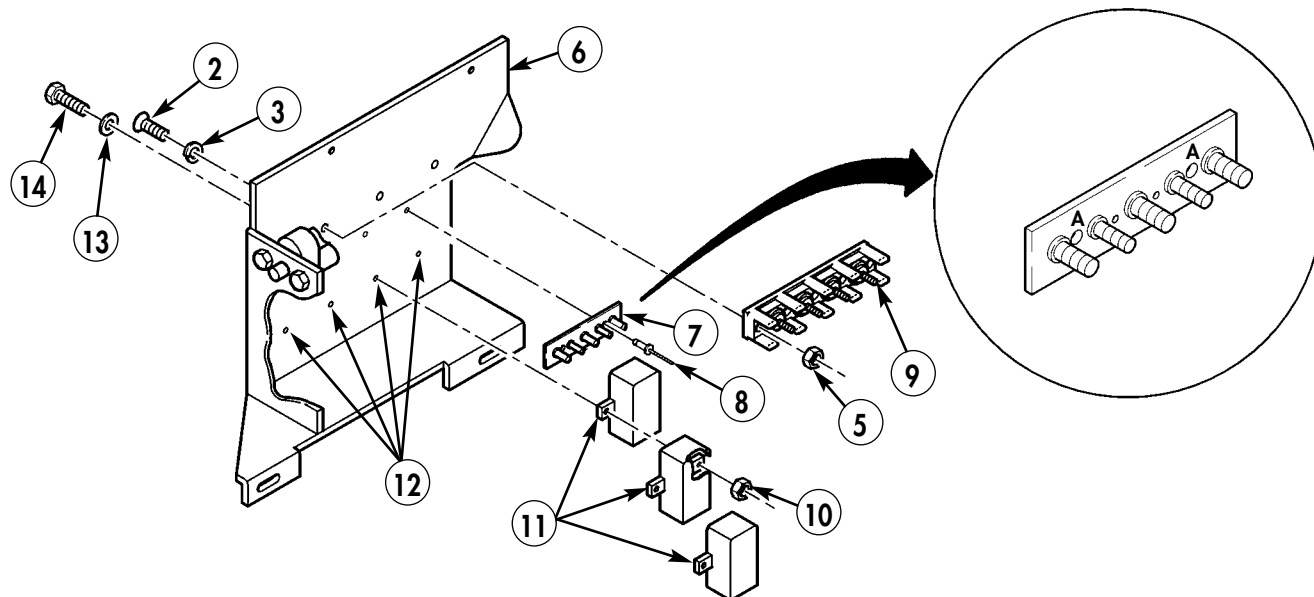
- 5-1. Remove lower rifle mount bracket (1) from B-beam. (Refer to TM 9-2320-387-24.)
- 5-2. Locate, mark, and drill two 0.159-in. diameter holes marked A in lower rifle mount bracket (1). Install 12V terminal board (4) on lower rifle mount bracket (1) with two screws (2), lockwashers (3), and nuts (5).
- 5-3. Install lower rifle mount bracket (1) on B-beam. (Refer to TM 9-2320-387-24.)



2. SCREW – MS35206-230 – QTY. 2
3. LOCKWASHER – MS35338-41 – QTY. 2
5. NUT– MS35649-63 – QTY. 2

Figure 5-8.

- 5-4.** Install 24V terminal board (9) on enclosure panel (6) with three screws (2), lockwashers (3), and nuts (5).
- 5-5.** Enlarge two holes marked A in terminal board (7) to 0.196 in., and secure terminal board (7) to panel (6) with two rivets (8).
- 5-6.** Install three existing relays (11) in holes (12) on panel (6) with four existing screws (14), washers (13), and locknuts (10).



- 2. SCREW – MS35206-230 – QTY. 3**
- 3. LOCKWASHER – MS35338-41 – QTY. 3**
- 5. NUT – MS35649-63 – QTY. 3**
- 7. TERMINAL BOARD – 12480570 – QTY. 1**
- 8. BLIND RIVET – 12339355-1 – QTY. 2**
- 10. LOCKNUT – MS51943-31 – QTY. 4**

Figure 5-9.

Section VI. FINAL ASSEMBLY, TERMINAL BOARD WIRING, AND TERMINAL LINK

NOTE

- Refer to figure 5-10 for wiring overview.
- Perform steps 6-1 and 6-2 if hole and grommet do not exist in battery box.
- If installing 24V terminal board only, begin with step 6-6.

- 6-1.** Locate, mark, and drill 2.00-in. diameter hole (3) in upper right corner of rear wall of battery box.
- 6-2.** Install grommet (4) in hole (3).
- 6-3.** Secure terminal link (8) and fuse wire (7) to 12V terminal board (1) with two locknuts (6), and install cover (5).
- 6-4.** Route wire (2) through battery box hole (3).

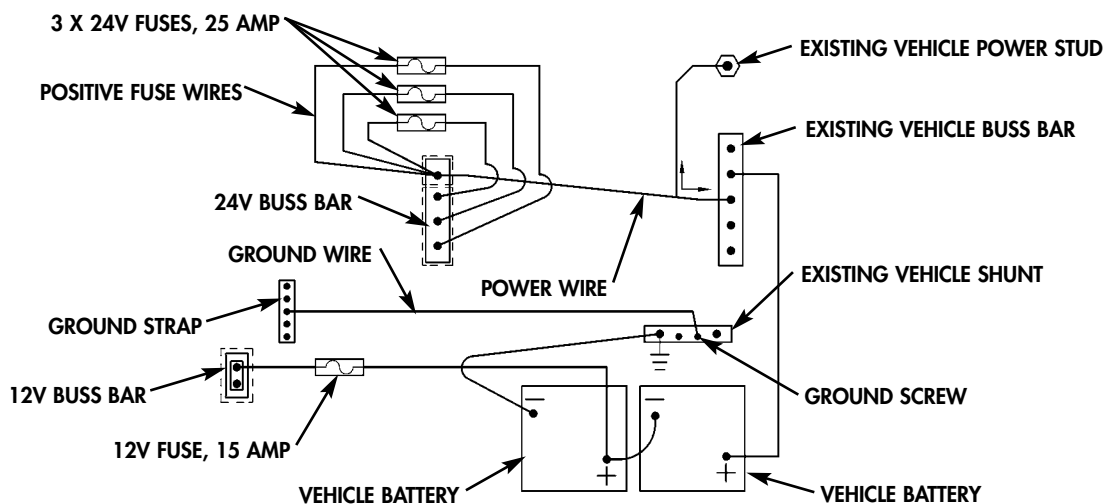


Figure 5-10.

- 4. GROMMET – 2400 – QTY. 1**
- 6. LOCKNUT – 271175 – QTY. 2**
- 7. FUSE WIRE ASSEMBLY (12V) – 12480568-2 – QTY. 1**
- 8. TERMINAL LINK – MS25226-6N-2 – QTY. 1**

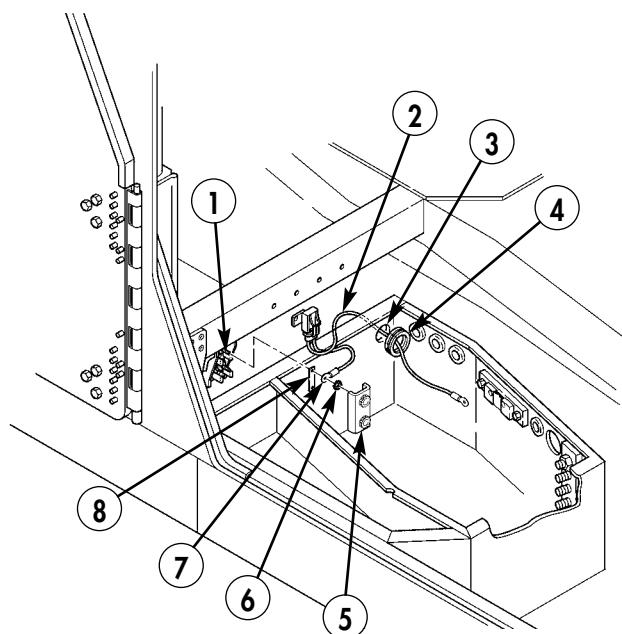


Figure 5-11.

- 6-5.** Connect wire (2) to existing positive 12V battery terminal end (10) with existing screw (9) and nut (11).

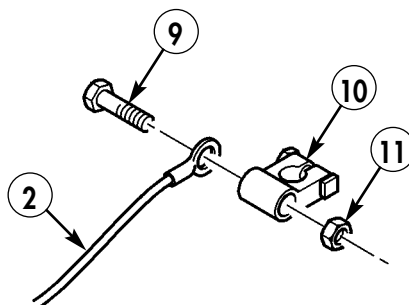
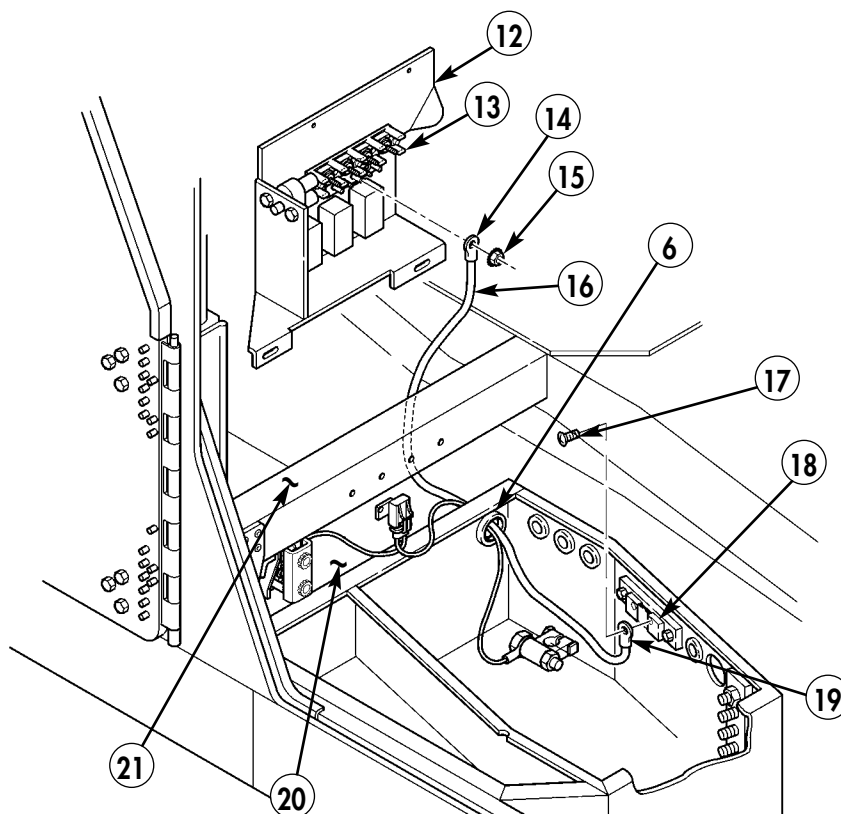


Figure 5-12.

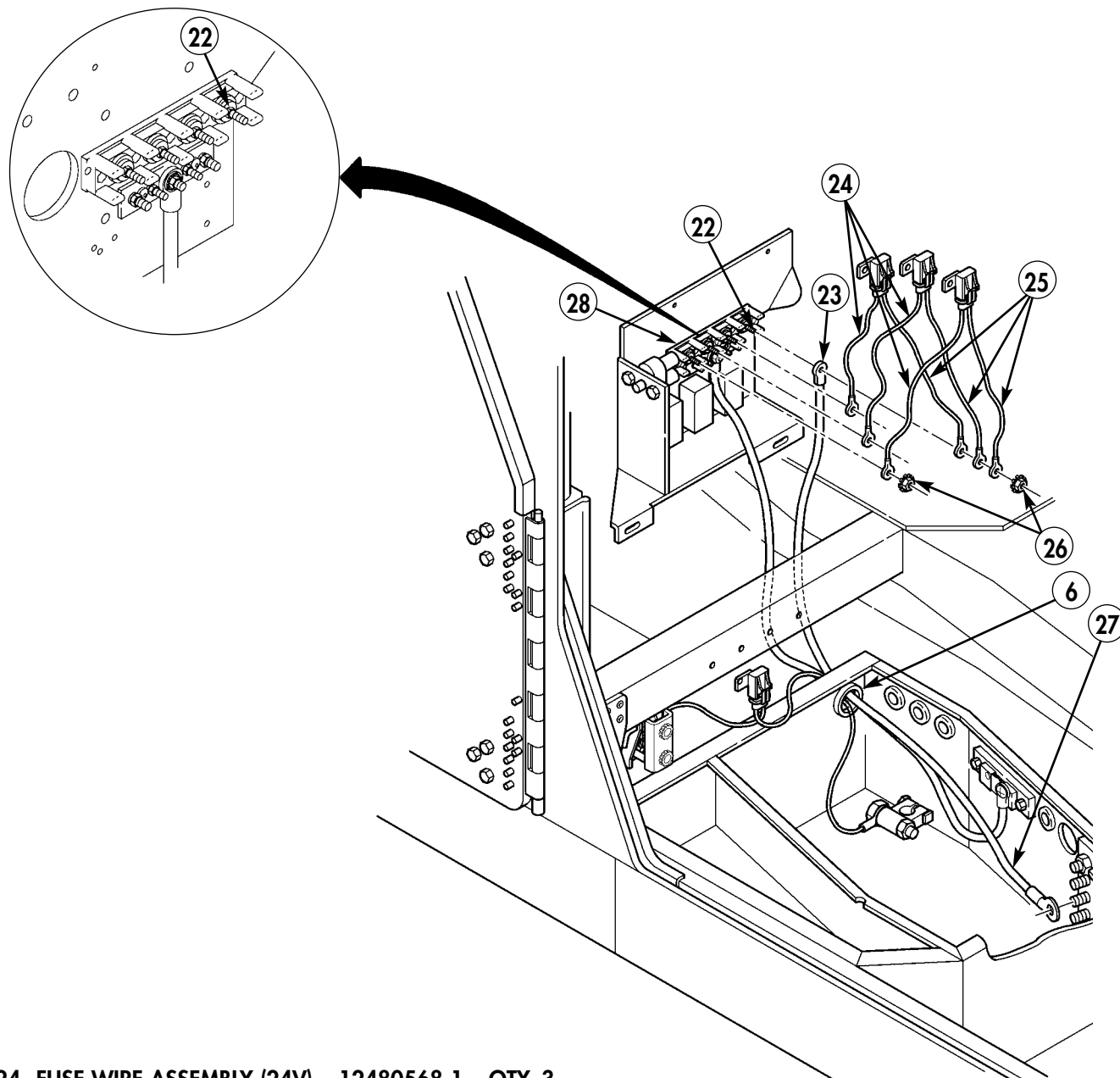
- 6-6.** Position cab enclosure panel (12) in rear floor pan (20) and rear of B-beam (21). Do not secure cab enclosure panel (12) at this time.
- 6-7.** Route ground cable (16) through battery box hole (6).
- 6-8.** Secure terminal lug (14) on center terminal of terminal board (13) with nut (15), and secure terminal lug (19) on shunt (18) with existing screw (17).
- 6-9.** Install four additional plain-assembled nuts (15) on terminal board (13).



- 15. PLAIN-ASSEMBLED NUT – 271169 – QTY. 5**
16. GROUND CABLE ASSEMBLY – 12480567-1 – QTY. 1

Figure 5-13.

- 6-10.** Route 24V power cable (27) through hole (6) and install 24V power cable terminal lug (23) on inboard stud (22) of terminal board (28). Do not secure 24V power cable terminal lug (23) at this time.
- 6-11.** Secure three fuse wires (25) and 24V power cable terminal lug (23) to inboard terminal board stud (22) with locknut (26).
- 6-12.** Secure three remaining fuse wires (24) to corresponding studs on 24V terminal board (28) with three locknuts (26).



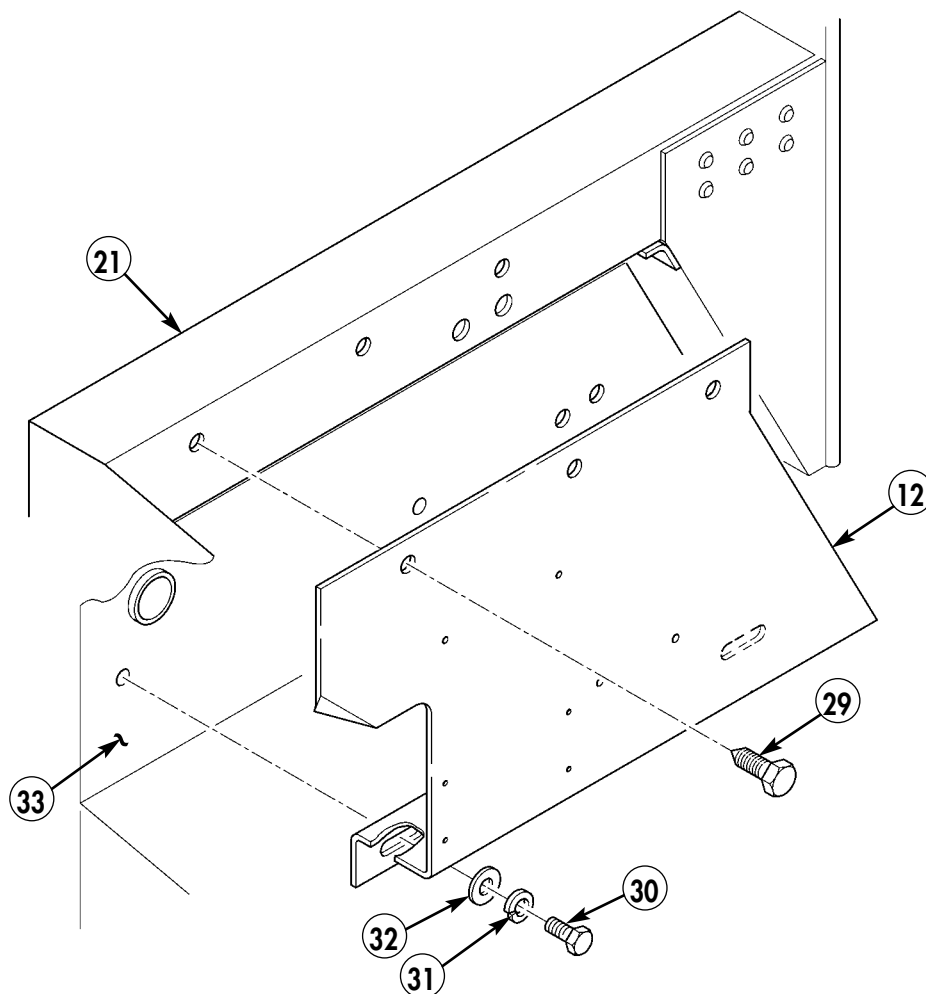
- 24. FUSE WIRE ASSEMBLY (24V) – 12480568-1 – QTY. 3**
- 26. LOCKNUT – 271175 – QTY. 4**
- 27. POWER CABLE ASSEMBLY – 12480567-2 – QTY. 1**

Figure 5-14.

NOTE

For vehicles with new enclosure panel, begin with step 6-14.

- 6-13.** Install cab enclosure panel (12). (Refer to TM 9-2320-387-24.)
- 6-14.** Secure cab enclosure panel (12) to B-beam (21) with three self-tapping screws (29).
- 6-15.** Secure cab enclosure panel (12) to battery box (33) with two capscrews (30), lockwashers (31), and washers (32).



- 29. SELF-TAPPING SCREW – 12342499-2 – QTY. 3**
- 30. CAPSCREW – B1821BH025C075N – QTY. 2**
- 31. LOCKWASHER – MS35338-48 – QTY. 2**
- 32. WASHER – MS51412-23 – QTY. 2**

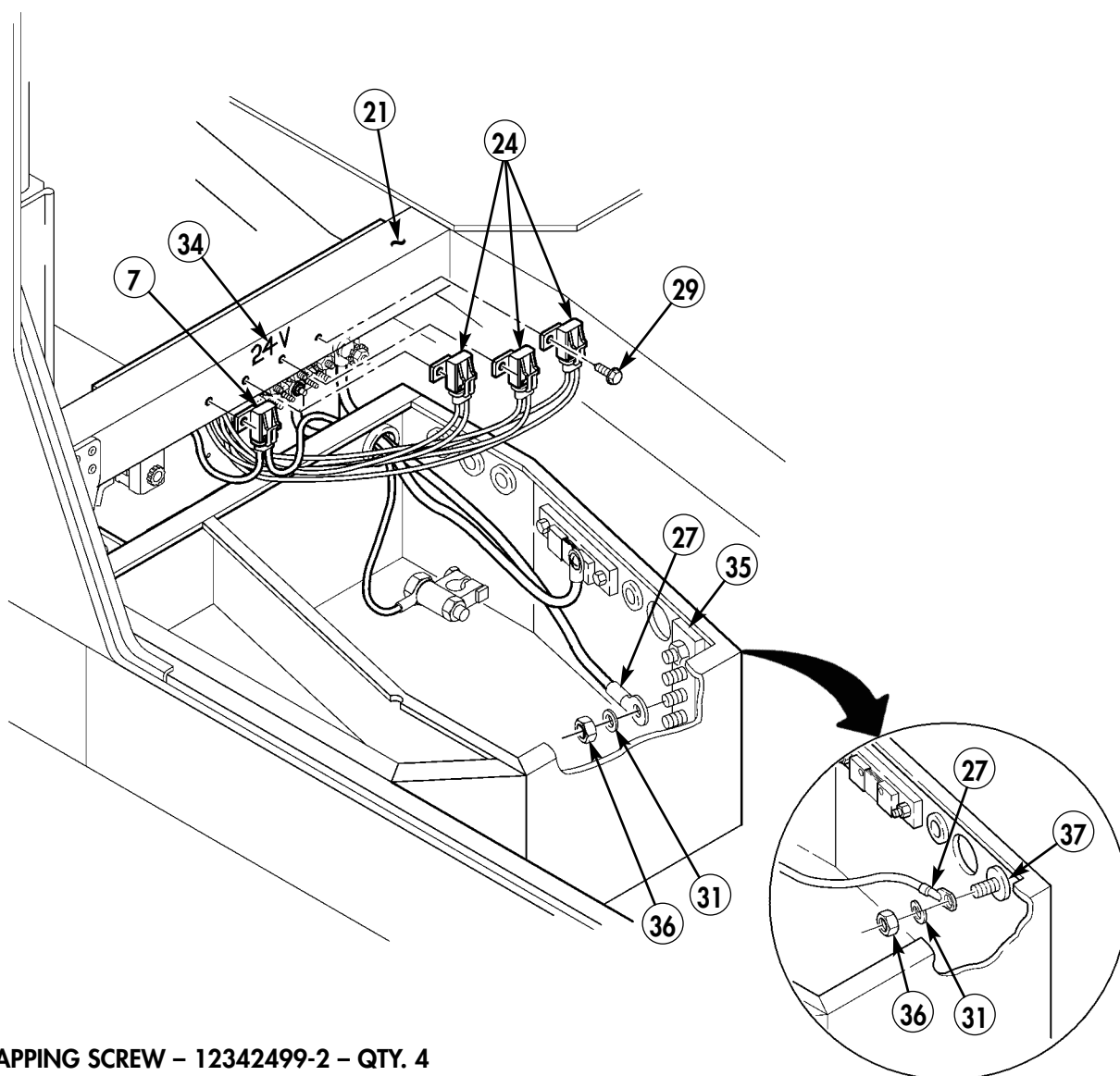
Figure 5-15.

- 6-16.** Secure three 24V fusewire assemblies (24) and one 12V fusewire assembly (7) to B-beam (21) with four self-tapping screws (29).

NOTE

For models equipped with power stud, perform step 6-17.
Otherwise, proceed to step 6-18.

- 6-17.** Secure 24V terminal board power wire terminal lug (27) to power stud (37) with lockwasher (31) and existing nut (36).
- 6-18.** Secure 24V terminal board power wire terminal lug (27) to terminal board (35) with lockwasher (31) and existing nut (36).
- 6-19.** Install decal (34) on B-beam (21).
- 6-20.** If previously removed, install right-hand rear fixed door. (Refer to TM 9-2320-387-24.)
- 6-21.** Install batteries. (Refer to TM 9-2320-387-24.)



- 29. SELF-TAPPING SCREW – 12342499-2 – QTY. 4**
31. LOCKWASHER – MS35338-48 – QTY. 1
34. DECAL – 12339060 – QTY. 1

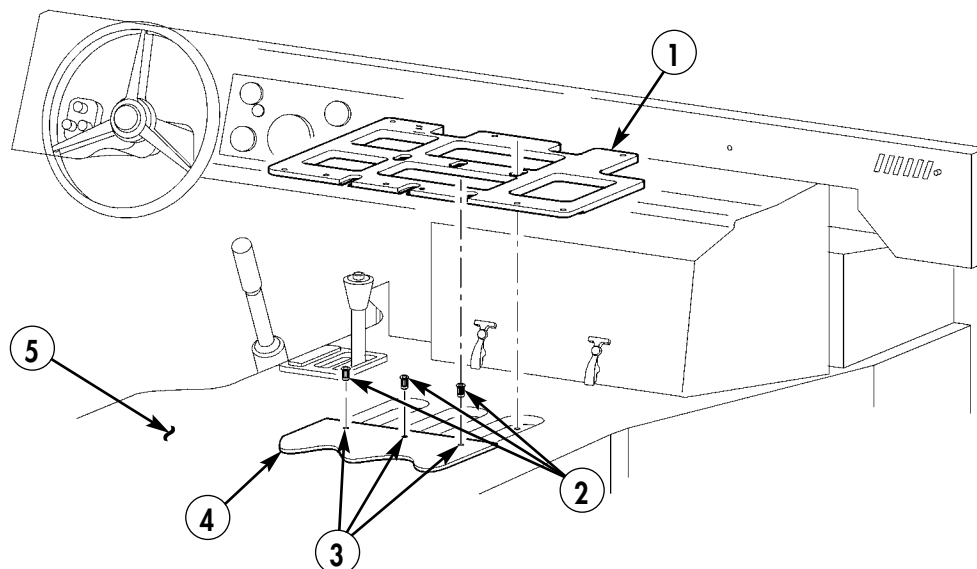
Figure 5-16.

Section VII. INTEGRATED RACK INSTALLATION

NOTE

Perform steps 7-1 and 7-2 if blast shield is installed. Perform steps 7-3 and 7-4 if blast shield is not installed.

- 7-1. Using rack support (1) as template, locate, mark, and drill three 0.375-in. diameter holes (3) in blast shield (4) and through tunnel (5).
- 7-2. Install three inserts (2) in holes (3) in blast shield (4).



1. RACK SUPPORT – 889509-22 – QTY. 1
2. INSERT – ALS4-616-150 – QTY. 3

Figure 5-17.

- 7-3. Using rack support (1) as template, locate, mark, and drill three 0.375-in. diameter holes (3) in tunnel (5).
- 7-4. Install three inserts (2) in holes (3) in tunnel (5).

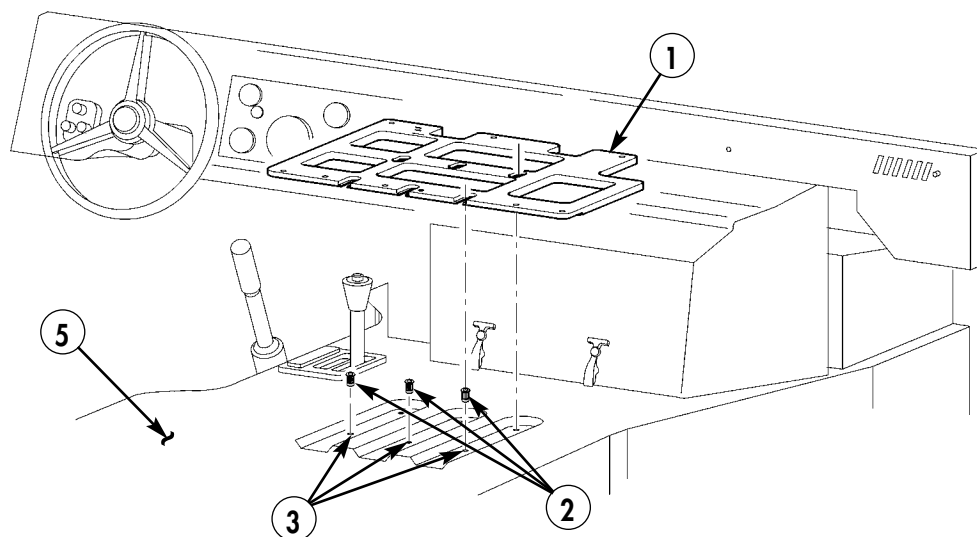
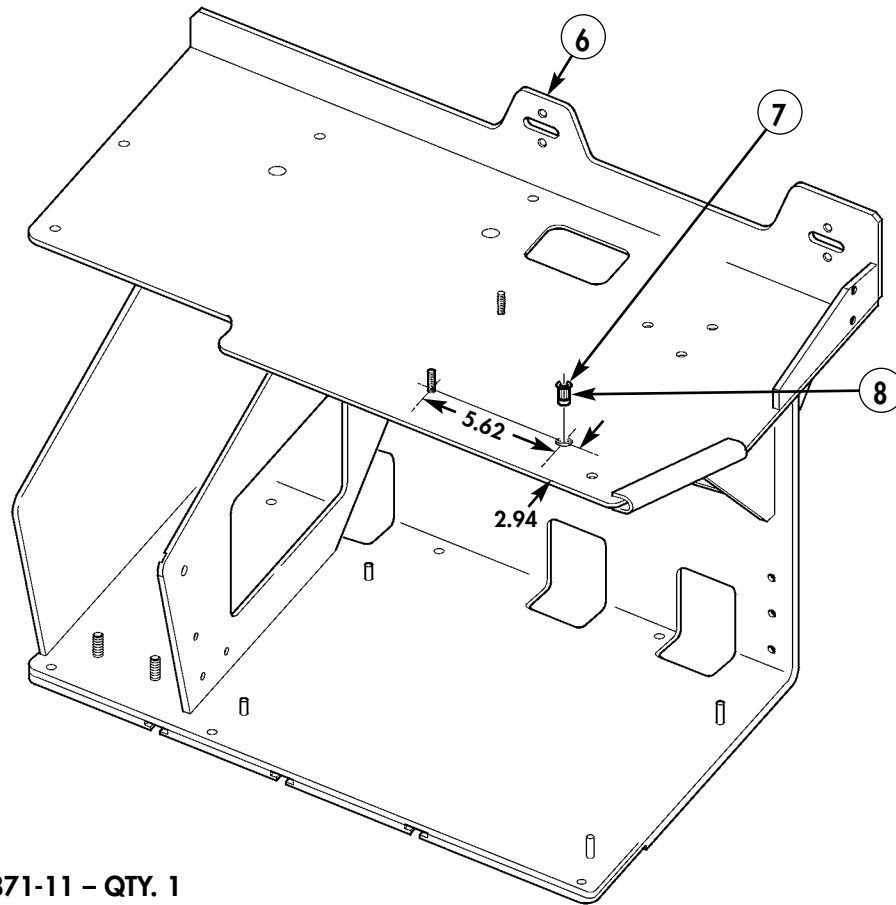


Figure 5-18.

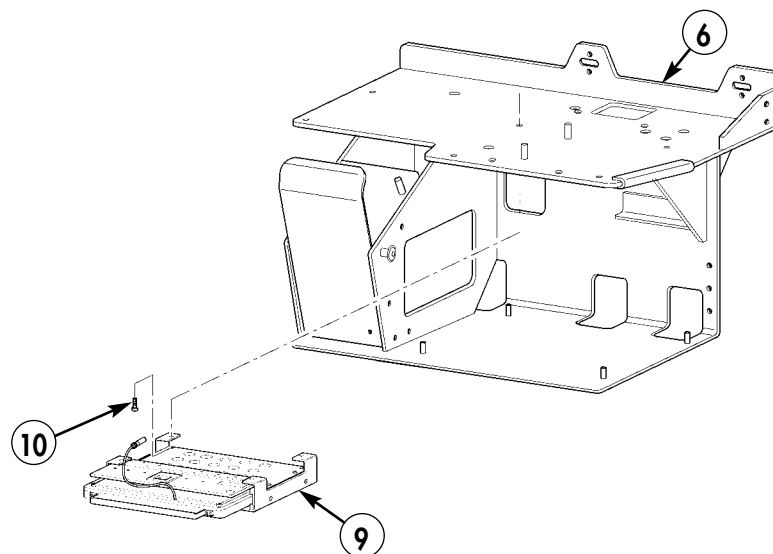
- 7-5. Locate, mark, and drill 0.531-in. diameter hole (8) in integrated rack (6).
7-6. Install insert (7) in hole (8) in integrated rack (6).



8. INSERT – 12446871-11 – QTY. 1

Figure 5-19.

- 7-7. Install keyboard stowage box (9) on integrated rack (6) using four existing captive screws (10).



9. KEYBOARD STOWAGE BOX – 889519-1 – QTY. 1

Figure 5-20.

- 7-8. Install W3 cable (16) to Serial Interface Adapter Device (SIAD) (17).
- 7-9. Install W3N cable (14) to SIAD (17).
- 7-10. Install W3P cable (15) to SIAD (17).
- 7-11. Install SIAD (17) on integrated rack (6) using two screws (13), lockwashers (12), and washers (11).

11. WASHER – MS27183-47 – QTY. 2
12. LOCKWASHER – MS35338-43 – QTY. 2
13. SCREW – MS35207-263 – QTY. 2
14. W3N CABLE – 881336-1 – QTY. 1
15. W3P CABLE – 881335-1 – QTY. 1
16. W3 CABLE P/O – 881331-1 – QTY. 1
17. SIAD – 881331-1 – QTY. 1

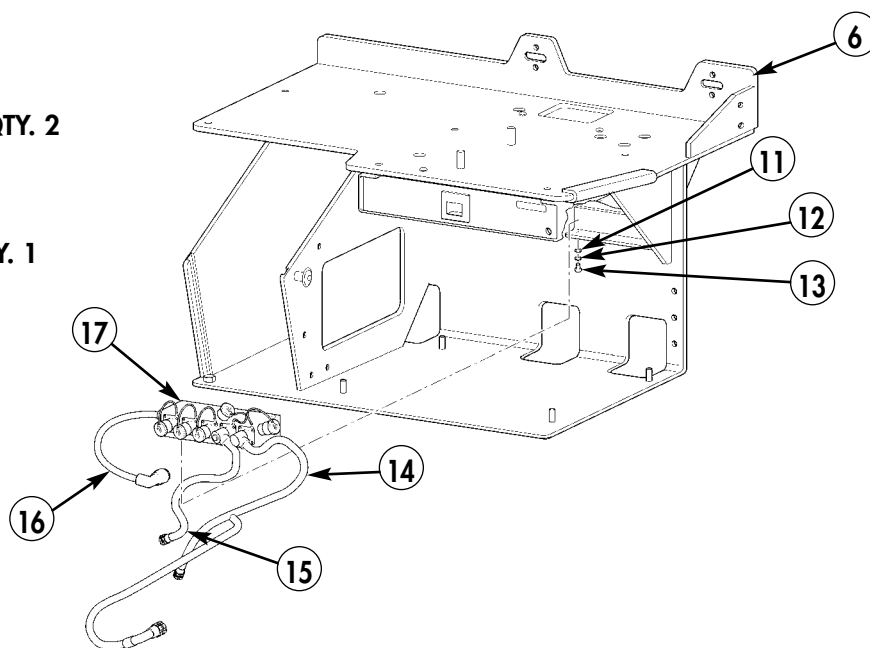


Figure 5-21.

- 7-12. Fabricate ground strap (23) from 8.00-in. length of braided wire and two terminal lugs.

NOTE

- Perform step 7-13 if blast shield is installed.
- Perform step 7-14 if blast shield is not installed.

- 7-13. Install rack support (1) on blast shield (4) and tunnel (5) with three capscrows (21), lockwashers (19), washers (20), and ground strap (23), and three existing capscrows (18), lockwashers (19), washers (20), and spacers (22). Do not tighten capscrows (21) and (18) at this time.

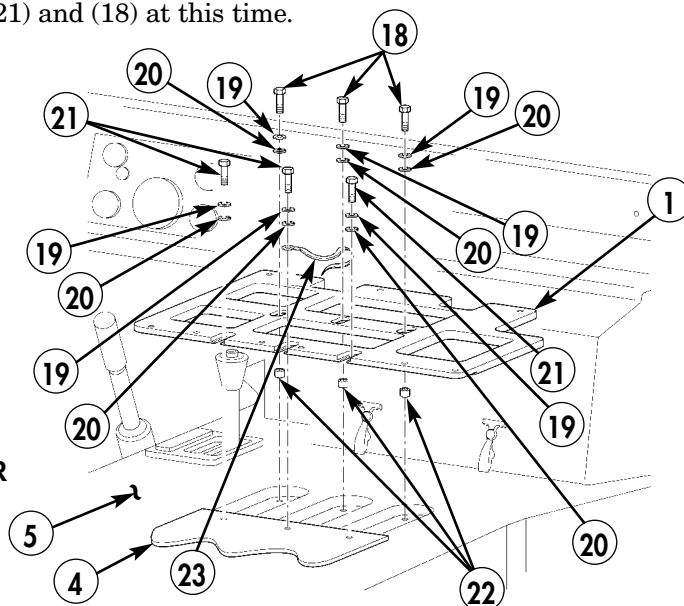


Figure 5-22.

18. CAPSCREW – B1821BH025C150N – QTY. 3
19. LOCKWASHER – MS35338-44 – QTY. 6
20. WASHER – 2436161 – QTY. 6
21. CAPSCREW – B1821BH025C100N – QTY. 3
22. SPACER – 5579297 – QTY. 3
23. GROUND STRAP
- BRAIDED WIRE – AA59569F30T0375 – QTY. A/R
 - TERMINAL LUG – MS20659-141 – QTY. 2

NOTE

Blast shield may not be present in steps 7-14 through 7-22.

- 7-14.** Install rack support (1) on tunnel (5) with three capscrews (21), lockwashers (19), washers (20), and ground strap (23), and three existing capscrews (18), lockwashers (19), washers (20), and spacers (22). Do not tighten capscrews (21) and (18) at this time.

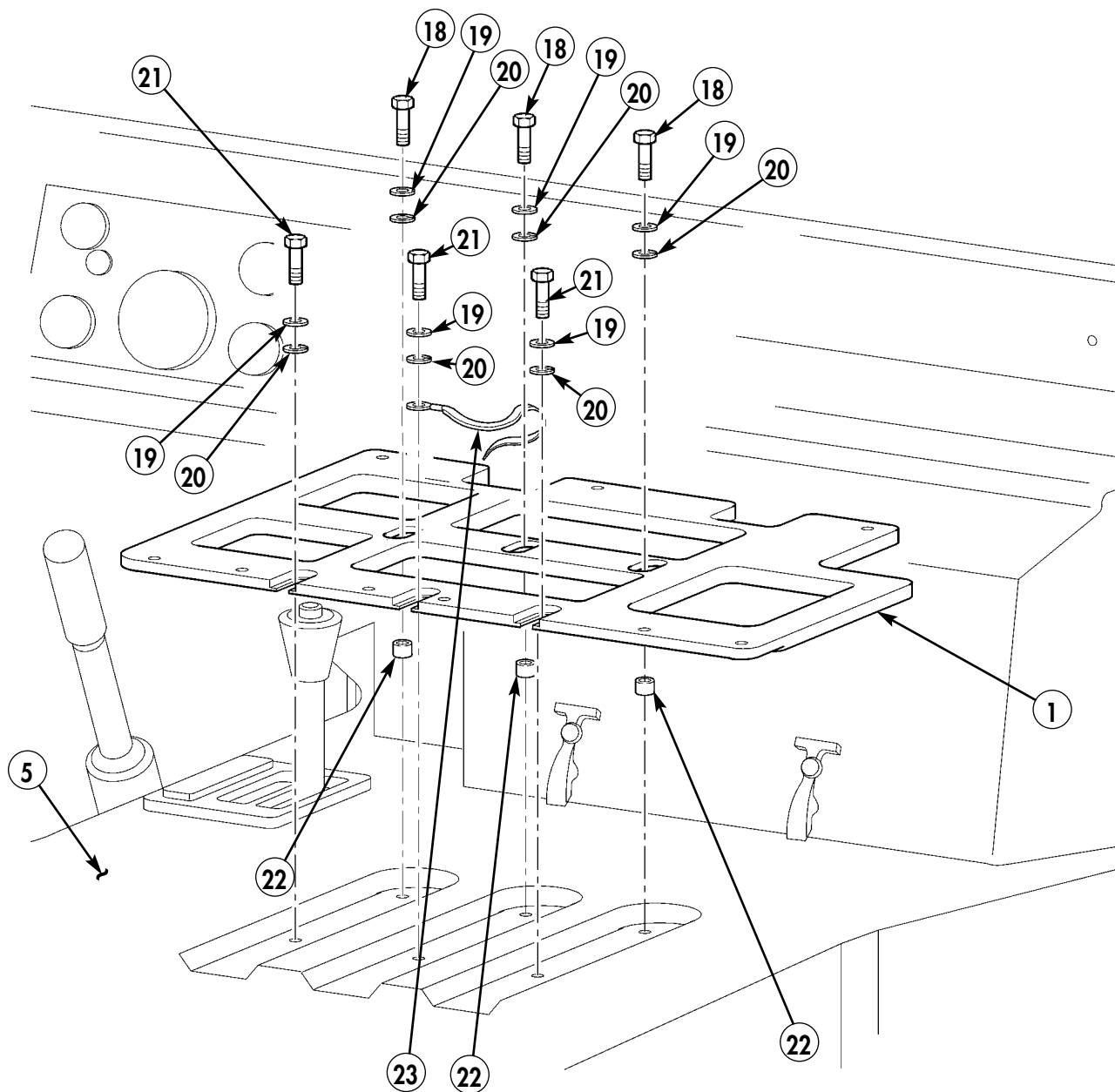


Figure 5-23.

- 7-15. Position integrated rack (6) on rack support (1).
- 7-16. Align integrated rack (6) top mounting holes (24) with holes (25) in dash panel (26).
- 7-17. Remove integrated rack (6) from rack support (1).
- 7-18. Tighten three capscrews (18) and three capscrews (21) securing rack support (1) to tunnel (5).

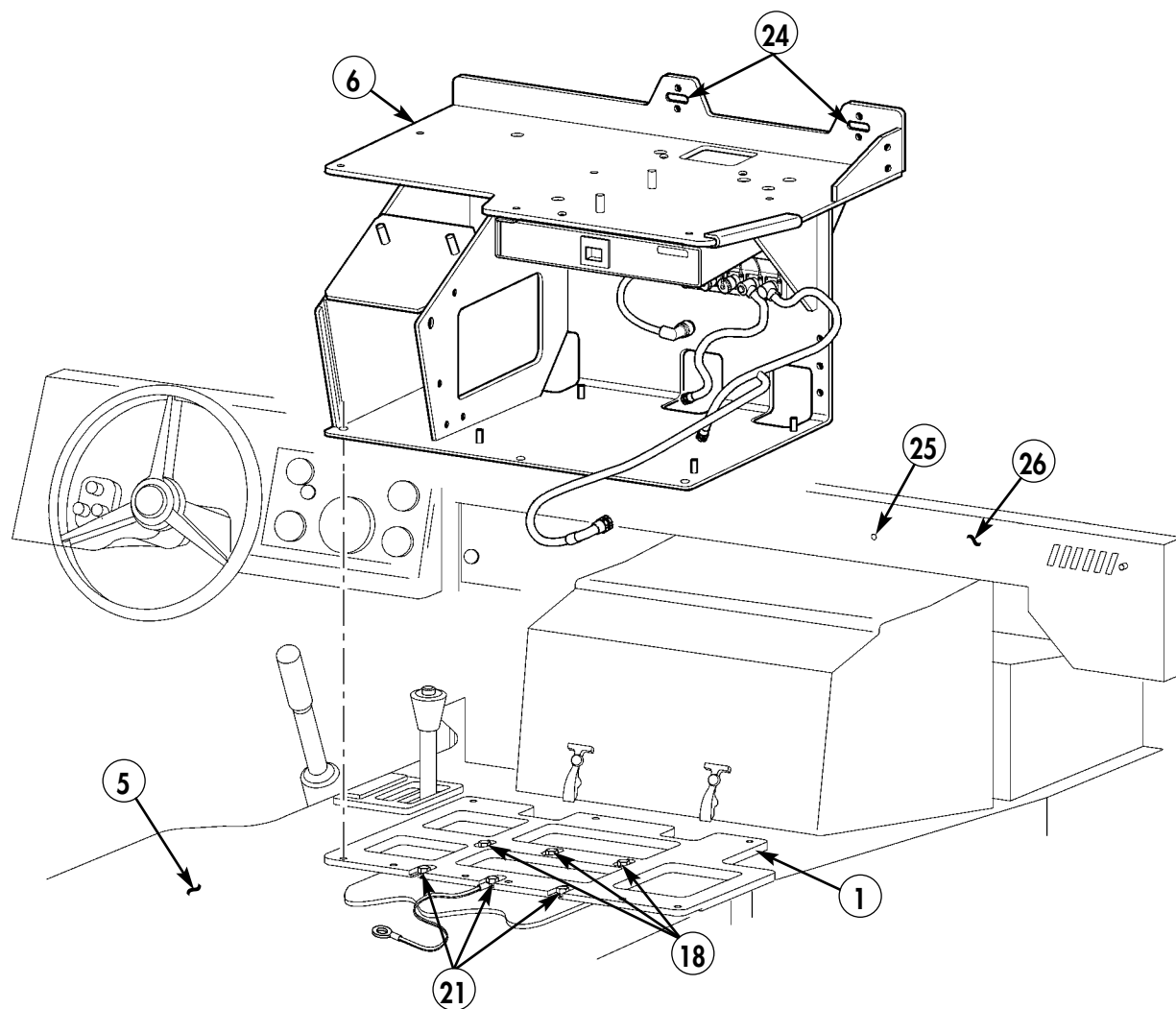
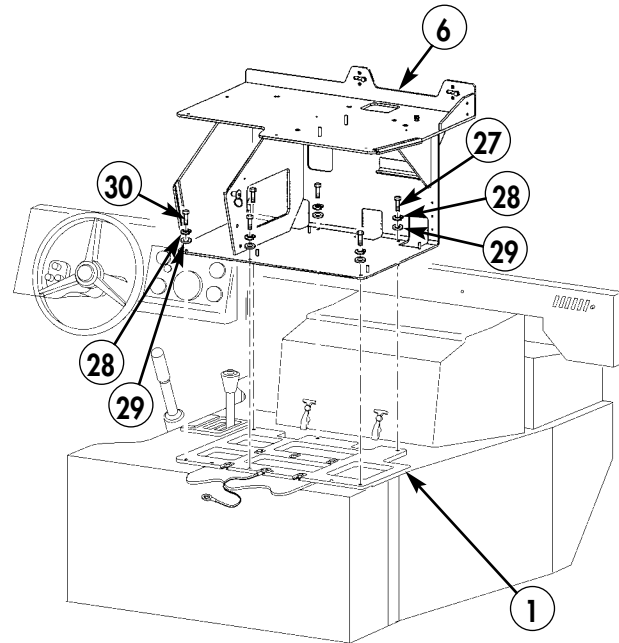


Figure 5-24.

- 7-19. Position integrated rack (6) on rack support (1).
- 7-20. Install integrated rack (6) on rack support (1) using five capscrews (27), lockwashers (28), and washers (29), and one capscrew (30), lockwasher (28), and washer (29).



27. CAPSCREW – B1821BH025C088N – QTY. 5
 28. LOCKWASHER – MS35338-44 – QTY. 6
 29. WASHER – MS27183-10 – QTY. 6
 30. CAPSCREW – B1821BH025C063N – QTY. 1

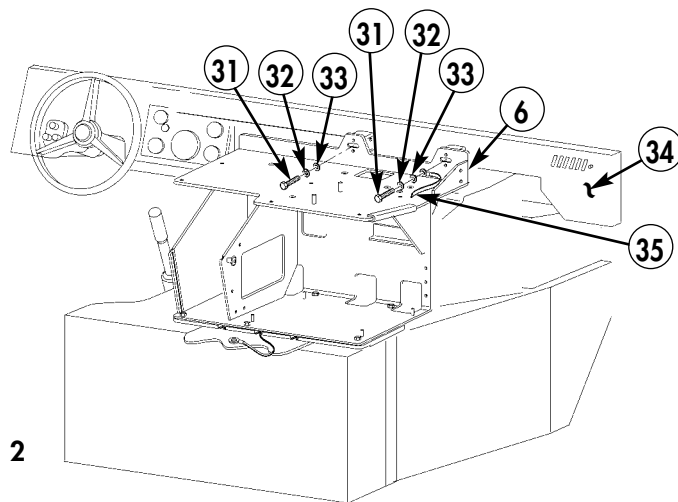
Figure 5-25.

- 7-21. Fabricate ground strap (35) from 8-in. length of braided wire and two terminal lugs.

NOTE

Remove paint from vicinity of integrated rack mounting hole before performing step 7-22. Apply antiseize compound as required.

- 7-22. Attach integrated rack (6) to dash panel (34) using two capscrews (31), lockwashers (32), washers (33), and ground strap (35).



31. CAPSCREW – B1821BH025C100N – QTY. 2
 32. LOCKWASHER – MS35338-44 – QTY. 2
 33. WASHER – 2436161 – QTY. 2
 35. GROUND STRAP
 • BRAIDED WIRE – AA59569F30T0375 – QTY. A/R
 • TERMINAL LUG – MS20659-141 – QTY. 2

Figure 5-26.

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

- 8-1. Install ramball mount (6) on integrated rack (8) with two screws (5), and one capscREW (12), lockwasher (11), lanyard (10), and washer (9).
- 8-2. Install display isolation kit (2) on display unit mount (1) with four bolts (13), spacers (14), one lanyard (10), and four wingnuts (15).
- 8-3. Install display unit (3) on display isolation kit (2) with four screws (4).
- 8-4. Install display unit mount (1) on ramball mount (6).
- 8-5. Install ground strap (7) on display ground stud (18) with existing lockwasher (17) and wingnut (16).

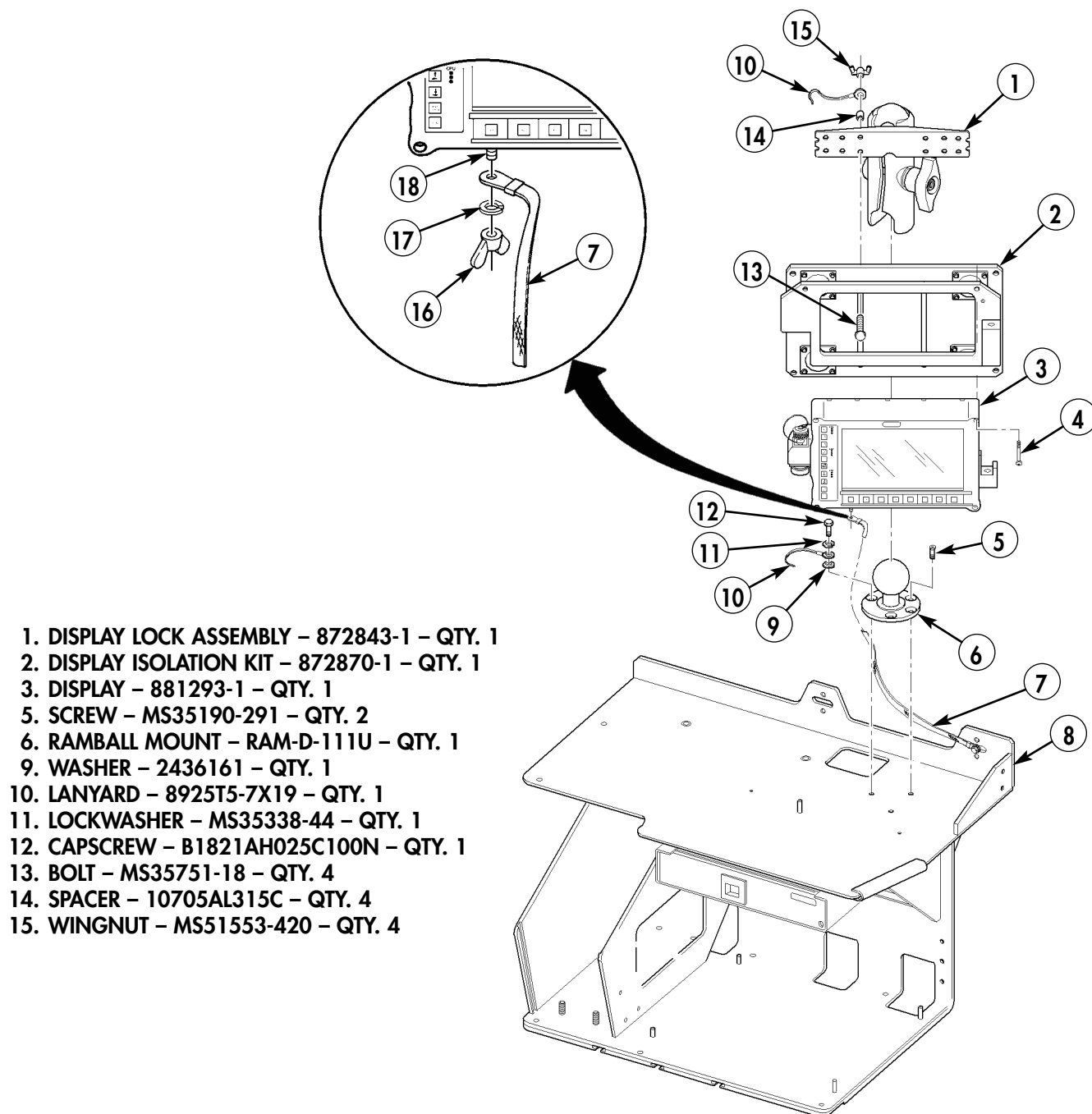
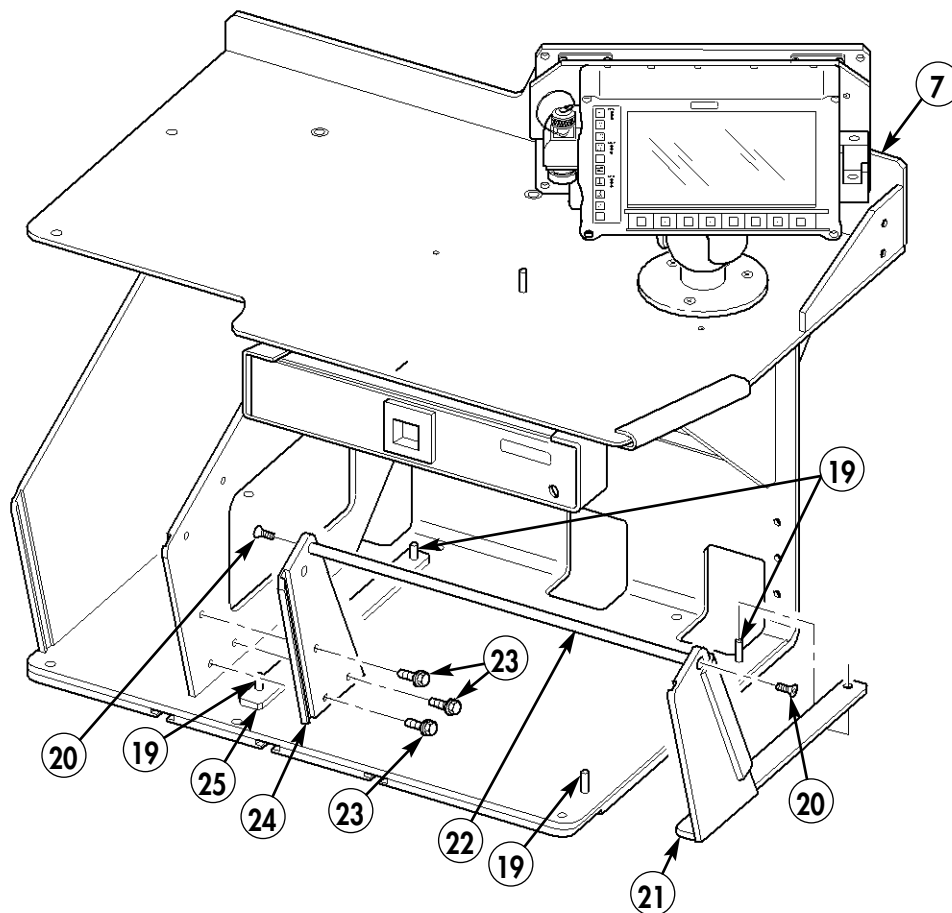


Figure 5-27.

- 8-6. Place mounting bracket (25) on two existing studs (19).
- 8-7. Attach rod (22) to left rail weldment (24) and right rail weldment (21) with two screws (20).
- 8-8. Place rail assembly on two right-hand studs (19) on integrated rack (7) and attach left rail weldment (24) to integrated rack (7) with three capscrews (23).



- 19. SCREW – MS35190-287 – QTY. 2
- 21. RIGHT RAIL WELDMENT – 889567-22 – QTY. 1
- 22. ROD – 889567-16 – QTY. 1
- 23. CAPSCREW – B1821BH025C075N – QTY. 3
- 24. LEFT RAIL WELDMENT – 889567-12 – QTY. 1
- 25. MOUNTING BRACKET – 889567-14 – QTY. 1

Figure 5-28.

- 8-9. Install CPU isolation kit (33) on integrated rack (7) with four existing studs (19), washers (35), lockwashers (36), and nuts (37).
- 8-10. Install CPU (26) on CPU isolation kit (33) with two existing fastener guards (34).
- 8-11. Install existing ground strap (28) on stud (27) on CPU (26) with existing wingnut (29), lockwasher (30), and washer (31).
- 8-12. Connect W3 cable (42) from Serial Interface Adapter Device (SIAD) (44) to J3 connector (39) on FBCB2 processor (26).
- 8-13. Connect W1 cable (41) to J1 connector (40) on FBCB2 processor (26).
- 8-14. Connect W2 cable (43) from J4 connector (38) on FBCB2 processor (26) to FBCB2 display unit (32).
- 8-15. Route W3N cable (45) from SIAD (44) to integrated rack (7).

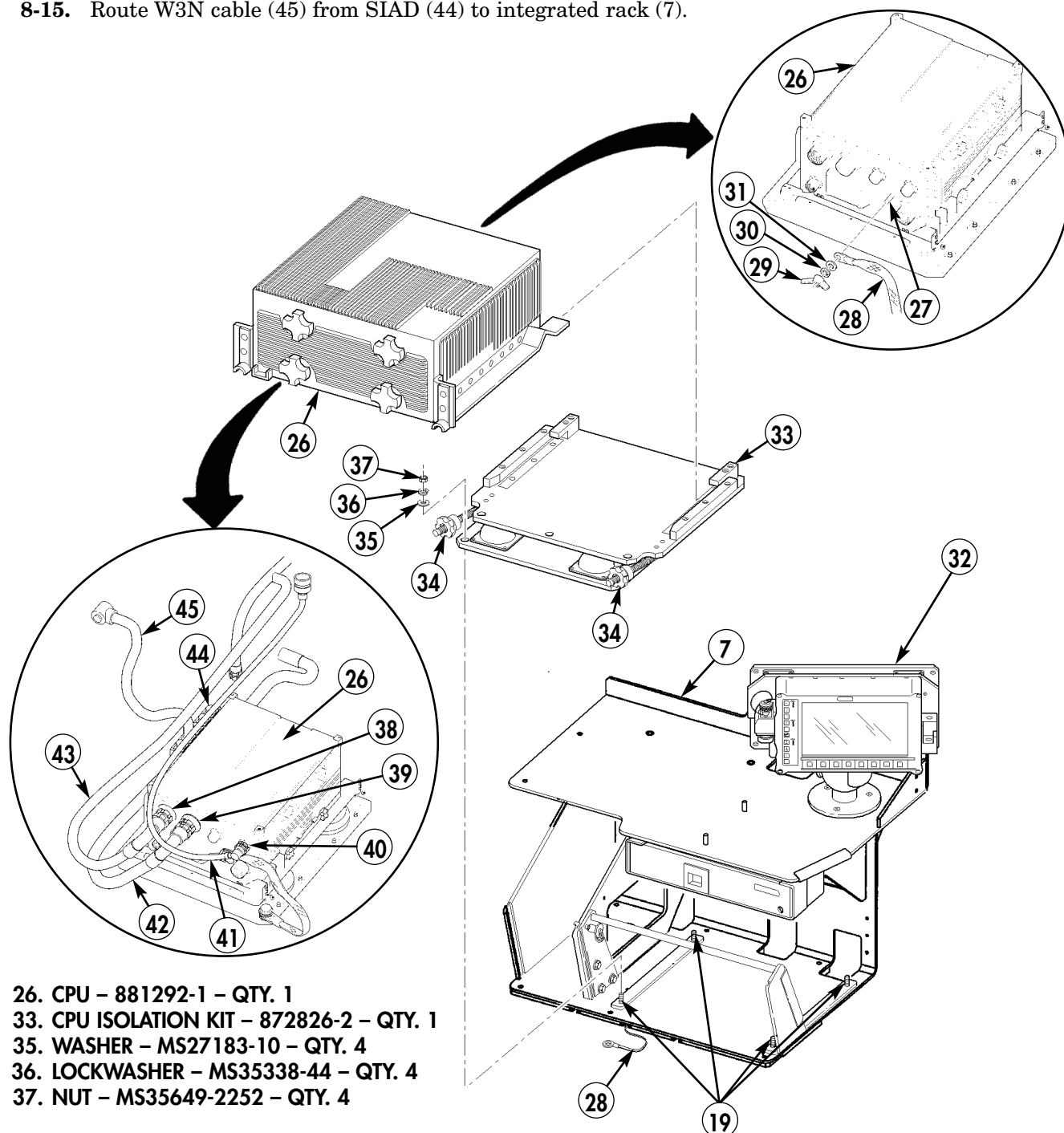


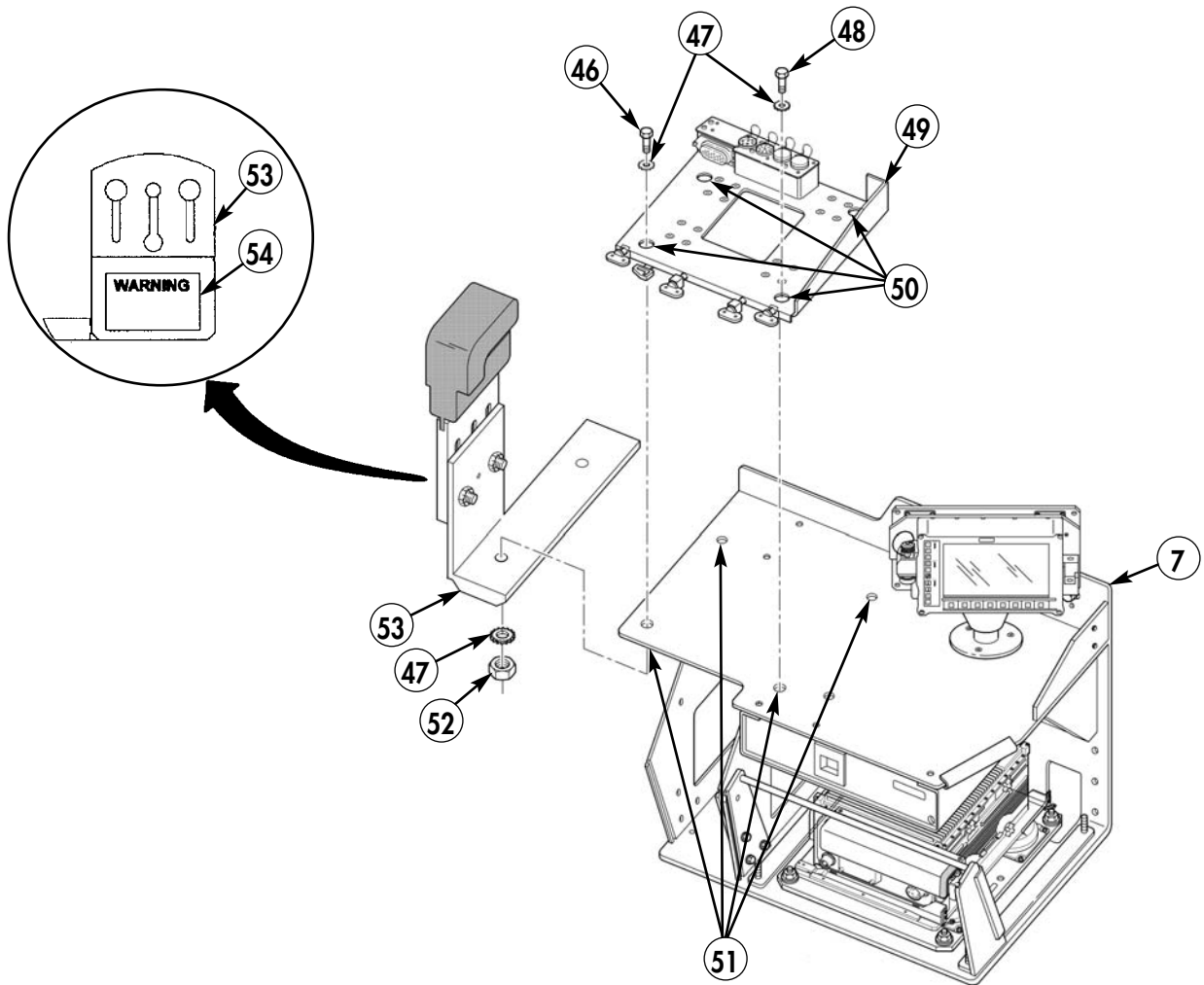
Figure 5-29.

- 8-16. Remove paint from four mounting holes (51) on integrated rack (7). Apply antisieze compound as required.
- 8-17. Remove paint from four mounting holes (50) on MT-6352/VRC mounting base (49). Apply antisieze compound as required.

NOTE

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

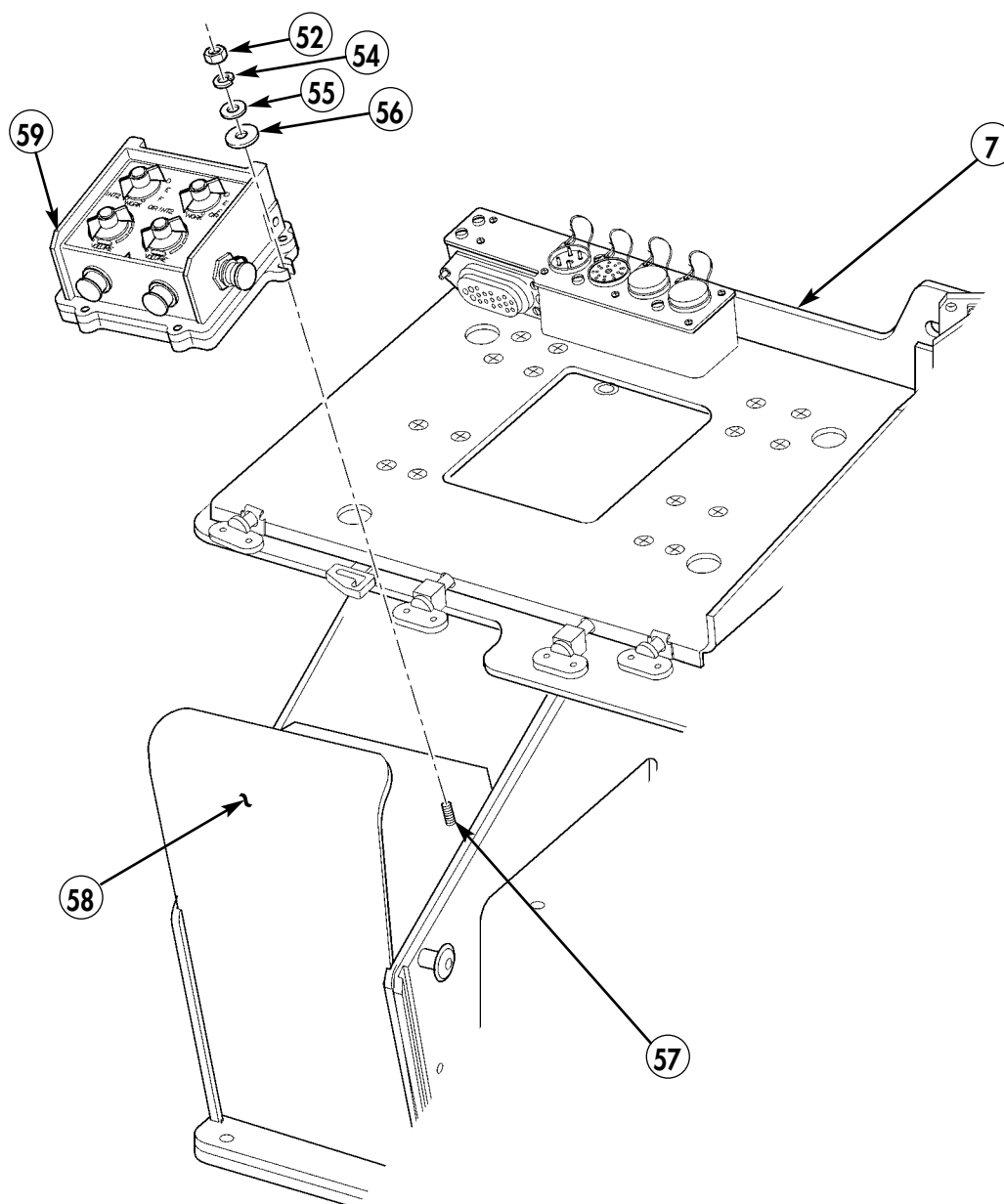
- 8-18. Mount MT-6352/VRC mounting base (49) and amp guard (53) on integrated rack (7) with two screws (46), four lockwashers (47), two nuts (52). Secure mount MT-6352/VRC mounting base (49) on integrated rack (7) with two capscrews (48) and two lockwashers (47).
- 8-19. Place warning decal (54) on amp guard (53).



- 46. CAPSCREW – B1821BH031F125N – QTY. 2
- 47. LOCKWASHER – MS45904-72 – QTY. 6
- 48. CAPSCREW – B1821BH031F100N – QTY. 2
- 49. MOUNTING BASE, MT-6352/VRC – A3013367-1 – QTY. 1
- 52. NUT – 9418892 – QTY. 2
- 53. AMP GUARD – 872842-1 – QTY. 1
- 54. DECAL – 861868-2 – QTY. 1

Figure 5-30.

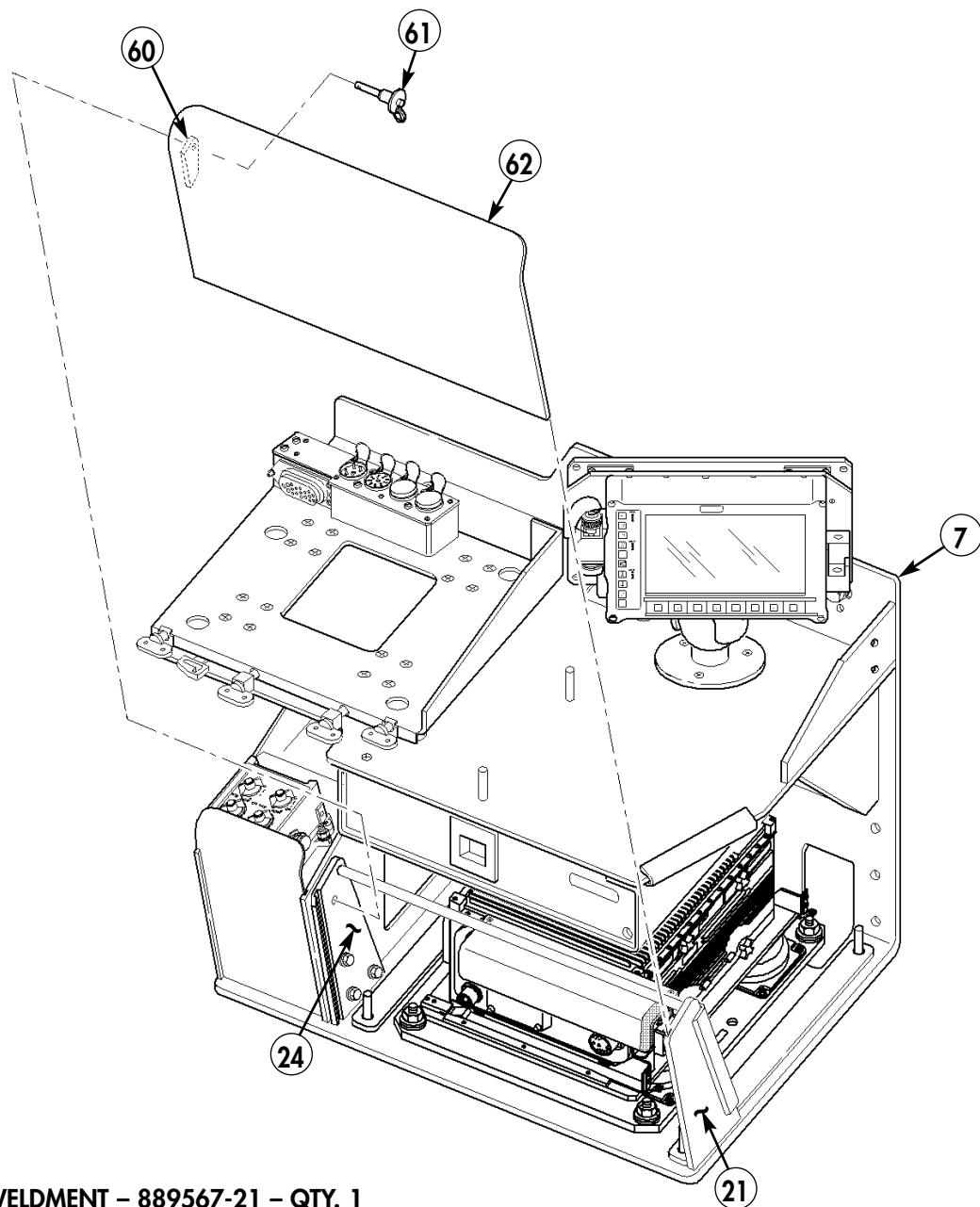
- 8-20.** Insert weldment (58) into grooves of integrated rack (7).
- 8-21.** Install Full Function Control Station (FFCS) (59) on weldment (58) using two existing studs (57), two washers (56), two washers (55), lockwashers (54), and nuts (52).



52. NUT - 9418892 - QTY. 2
 54. LOCKWASHER - MS35338-45 - QTY. 2
 55. WASHER - 2436162 - QTY. 2
 56. WASHER - 2436164 - QTY. 2
 59. FFCS - A3206624 - QTY. 1

Figure 5-31.

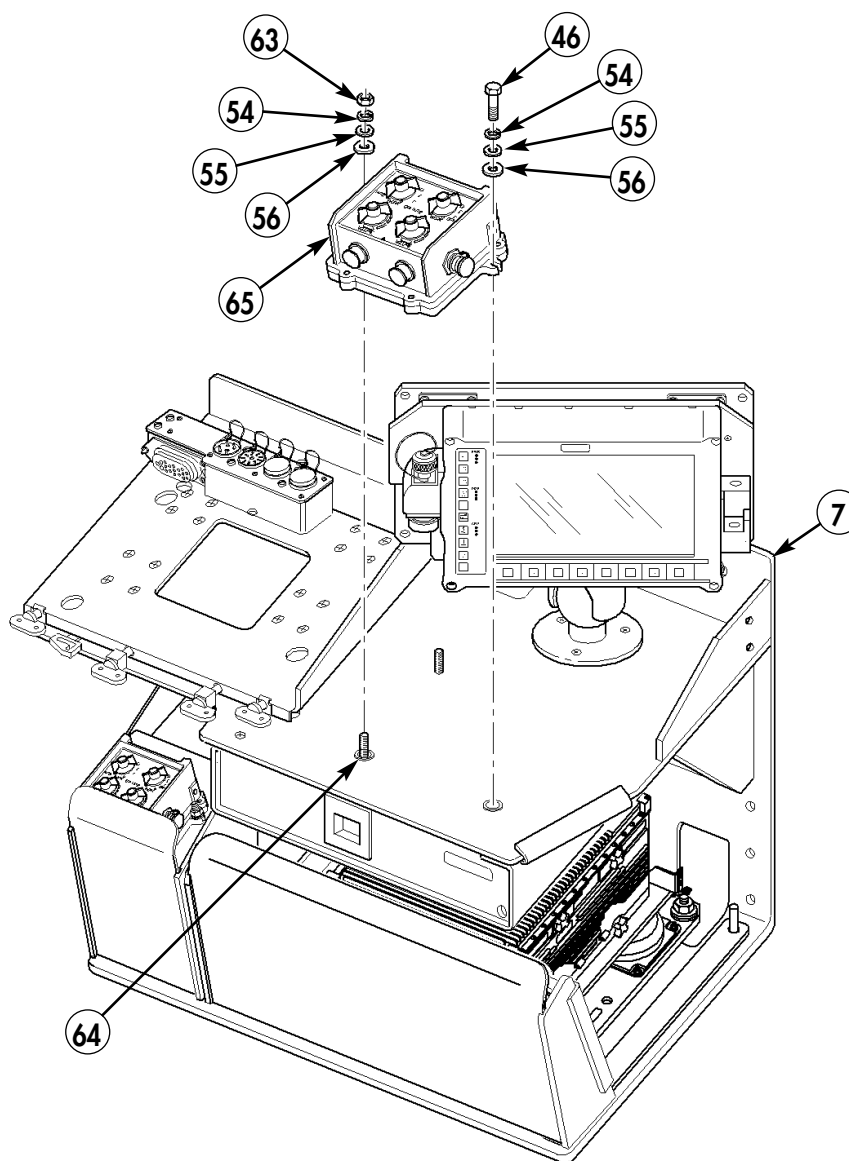
- 8-22. Insert footrest weldment (62) into grooves of right rail weldment (21) and left rail weldment (24).
- 8-23. Insert quick-release pin (61) through hole (60) in footrest weldment (62), left rail weldment (24), and integrated rack (7).



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

Figure 5-32.

- 8-24.** Install master control station (65) on integrated rack (7) using existing stud (64), washer (56), washer (55), lockwasher (54), and nut (63), and capscrew (46), lockwasher (54), washer (55), and washer (56).



46. CAPSCREW – B1821BH031F125N – QTY. 1
 54. LOCKWASHER – MS35338-45 – QTY. 2
 55. WASHER – 2436162 – QTY. 2
 56. WASHER – 2436164 – QTY. 2
 63. NUT – 9417954 – QTY. 1
 65. MASTER CONTROL STATION – A3206623 – QTY. 1

Figure 5-33.

Section IX. HF 150 WATT RADIO ANTENNA BRACKET AND ANTENNA INSTALLATION

NOTE

Do not tighten screws at this time.

- 9-1. Attach antenna mounting bracket (5) to rear wall of right rear wheelhouse (3) with three capscrews (6), six lockwashers (2), three aluminum spacers (4), and nuts (1).
- 9-2. Temporarily install support bar (7) on antenna mounting bracket (5).
- 9-3. Using support bar (7) as template, locate and mark two hole locations (8). Remove support bar (7).
- 9-4. Drill two 0.281-in. diameter holes (8) in right rear wheelhouse (3).

NOTE

Do not tighten bolts at this time.

- 9-5. Attach support bar (7) to antenna mounting bracket (5) with two capscrews (13), lockwashers (10), and washers (11).

NOTE

Do not tighten capscrews at this time.

- 9-6. Attach support bar (7) to right rear wheelhouse (3) with two capscrews (12), washers (11), spacers (4), lockwashers (10), and nuts (9).
- 9-7. Tighten top two capscrews (6) securing antenna mounting bracket (5) to right rear wheelhouse (3).
- 9-8. Tighten two capscrews (13) securing support bar (7) to antenna mounting bracket (5).
- 9-9. Tighten two capscrews (12) securing support bar (7) to right rear wheelhouse (3).

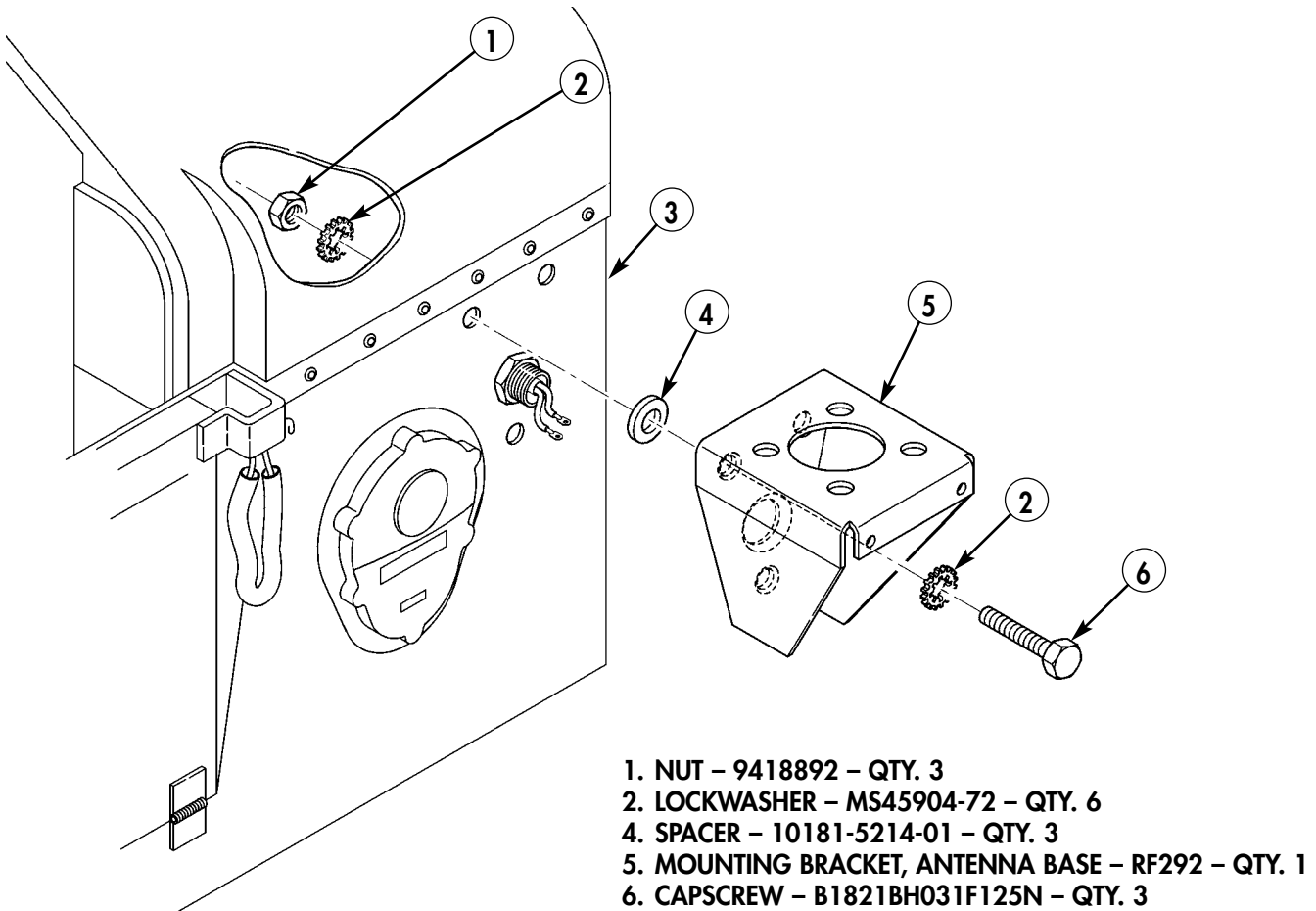


Figure 5-34.

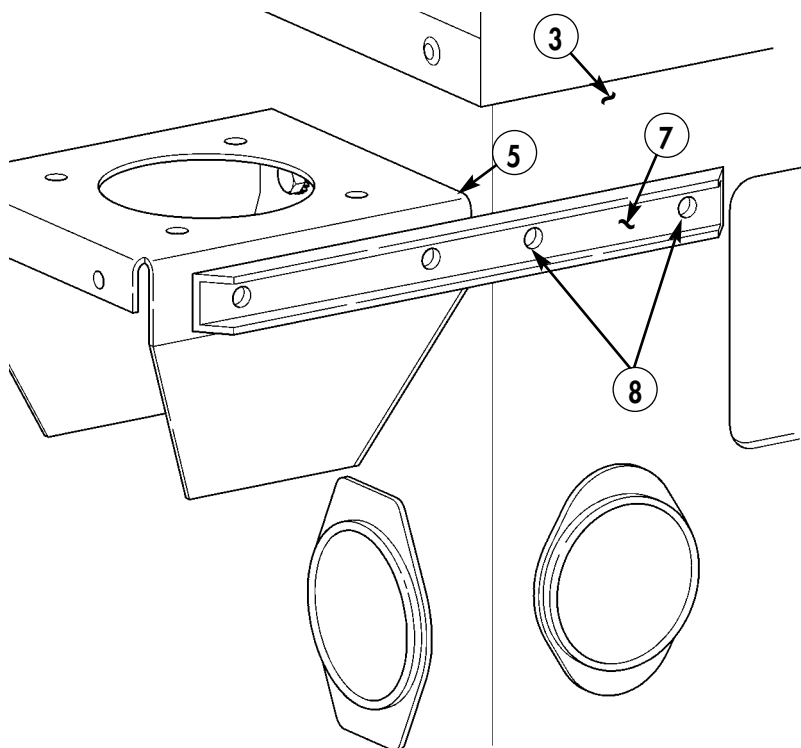
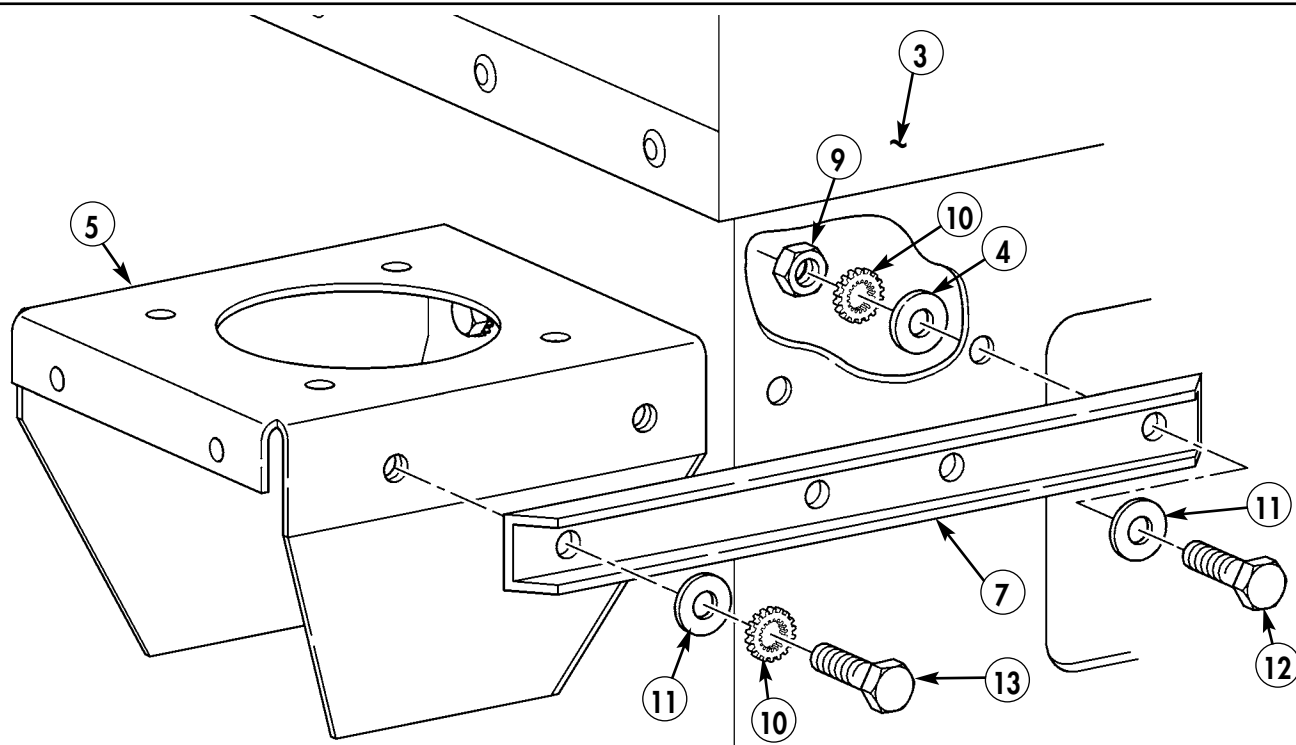


Figure 5-35.

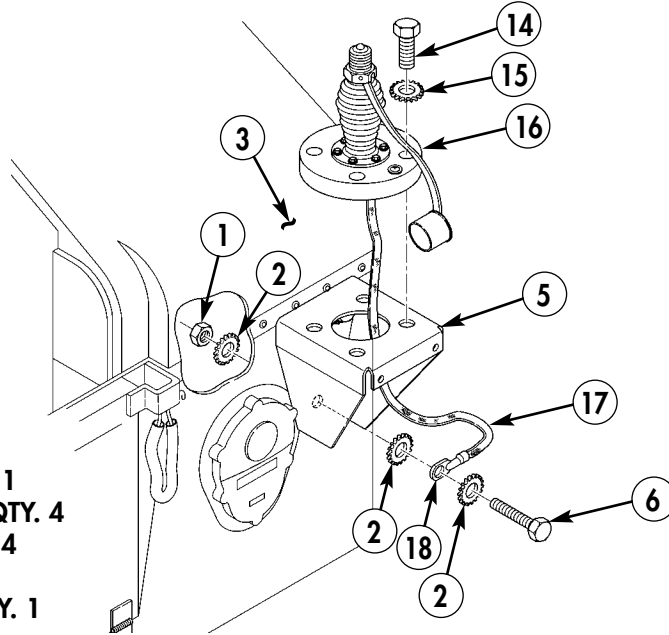


4. SPACER - 10181-5214-01 - QTY. 2
 7. BAR, SUPPORT - 10181-5213-002 - QTY. 1
 9. NUT - 9419143 - QTY. 2
 10. LOCKWASHER - MS45904-72 - QTY. 4

11. WASHER - MS27183-10 - QTY. 6
 12. CAPSCREW - B1821BH025C100N - QTY. 2
 13. CAPSCREW - B1821BH025C088N - QTY. 2

Figure 5-36.

- 9-10. Attach ground strap (17) to antenna base (16) and position antenna base (16) on antenna mounting bracket (5).
- 9-11. Install terminal lug (18) on ground strap (17).
- 9-12. Remove bottom capscrew (6) and lockwashers (2) from antenna mounting bracket (5). Secure antenna ground strap (17) to right rear wheelhouse (3) and antenna mounting bracket (5) with existing capscrew (6), three lockwashers (2), and nut (1).
- 9-13. Secure antenna base (16) to antenna mounting bracket (5) with four capscrews (14) and lockwashers (15).



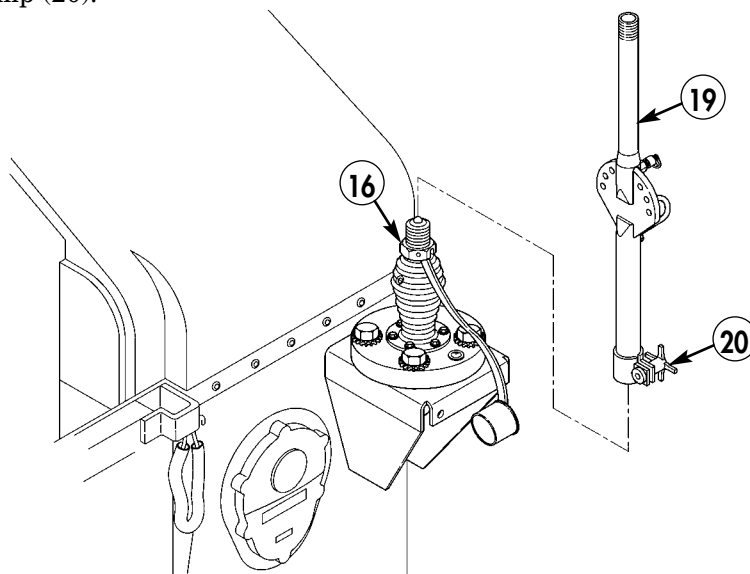
- 2. LOCKWASHER – MS45904-72 – QTY. 1
- 14. CAPSCREW – B1821BH038F175N – QTY. 4
- 15. LOCKWASHER – MS45904-76 – QTY. 4
- 16. HF ANTENNA – 4245 – QTY. 1
- 18. TERMINAL LUG – MS20659-108 – QTY. 1

Figure 5-37.

NOTE

Ensure antenna adapter tilts fore and aft of vehicle after tightening.

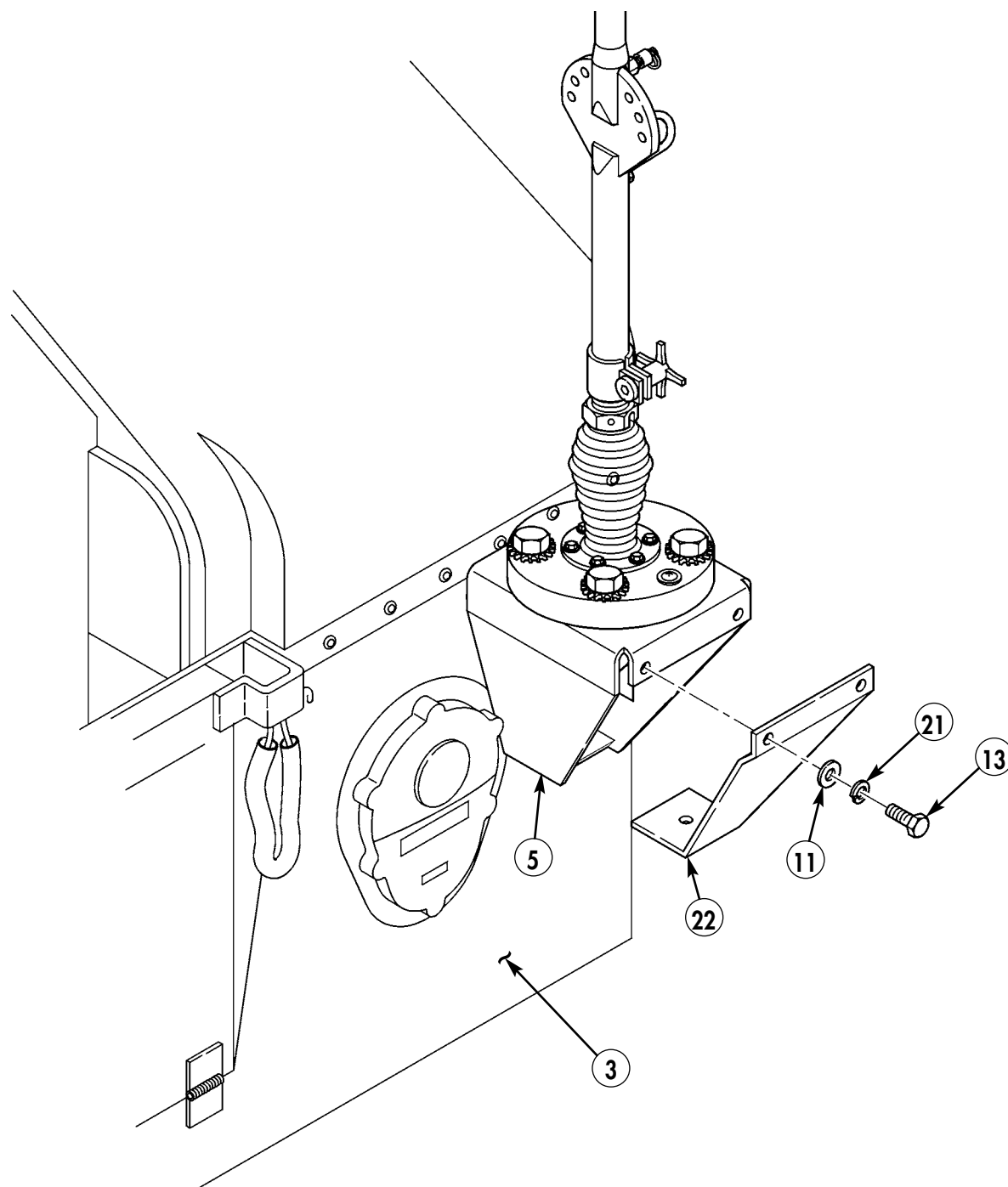
- 9-14. Install antenna adapter (19) on antenna base (16) by screwing on until tight.
- 9-15. Secure with existing clamp (20).



- 19. ANTENNA ADAPTER – RF-1980-AT001 – QTY. 1

Figure 5-38.

- 9-16.** Install cover plate (22) on antenna mounting bracket (5) with three screws (13), washers (11), and lockwashers (21).

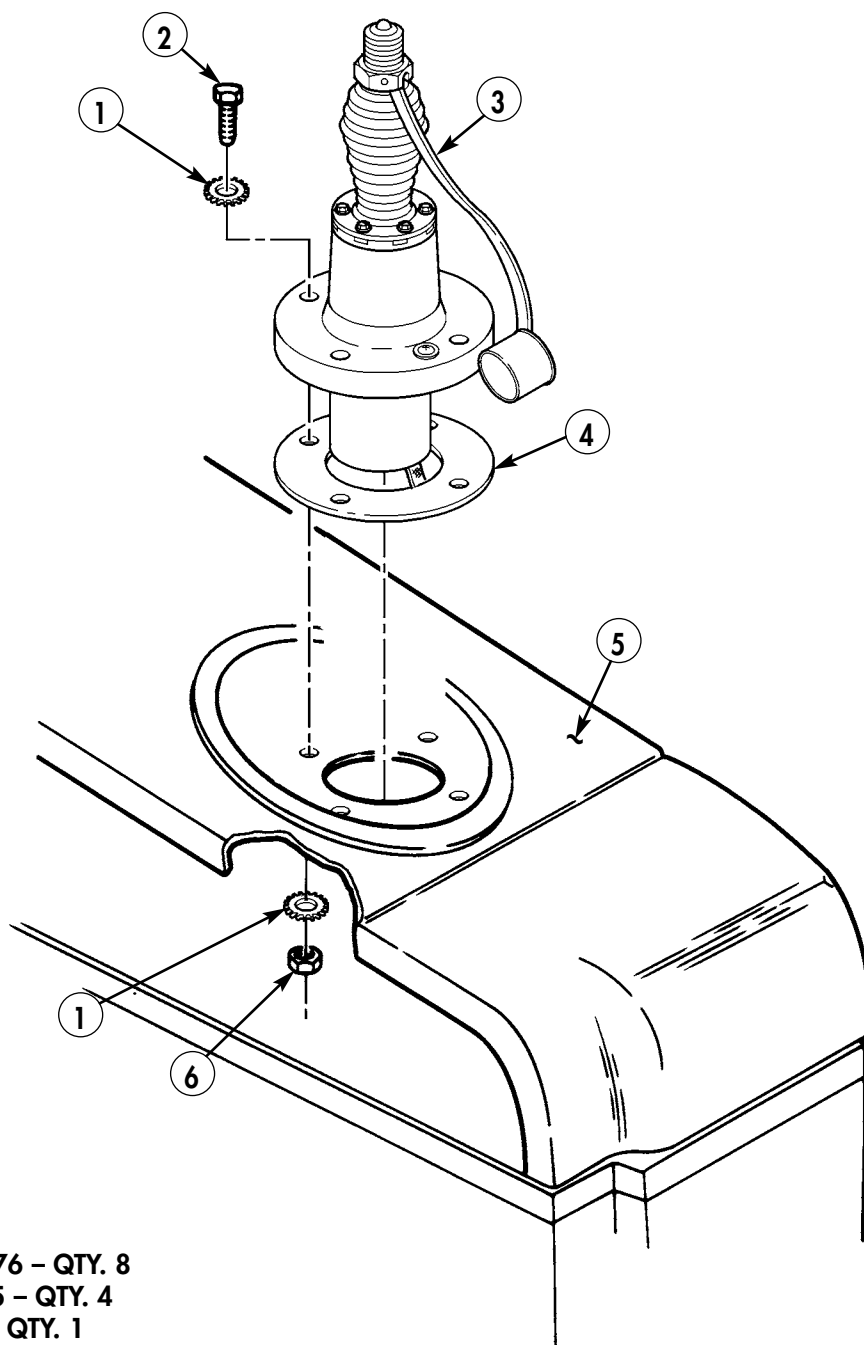


11. WASHER - MS27183-10 - QTY. 3
13. CAPSCREW - B1821BH025C088N - QTY. 3
21. LOCKWASHER - MS35338-44 - QTY. 3
22. COVER, ANTENNA BRACKET - 1018-5212-02 - QTY. 1

Figure 5-39.

Section X. SINGARS ANTENNA INSTALLATION

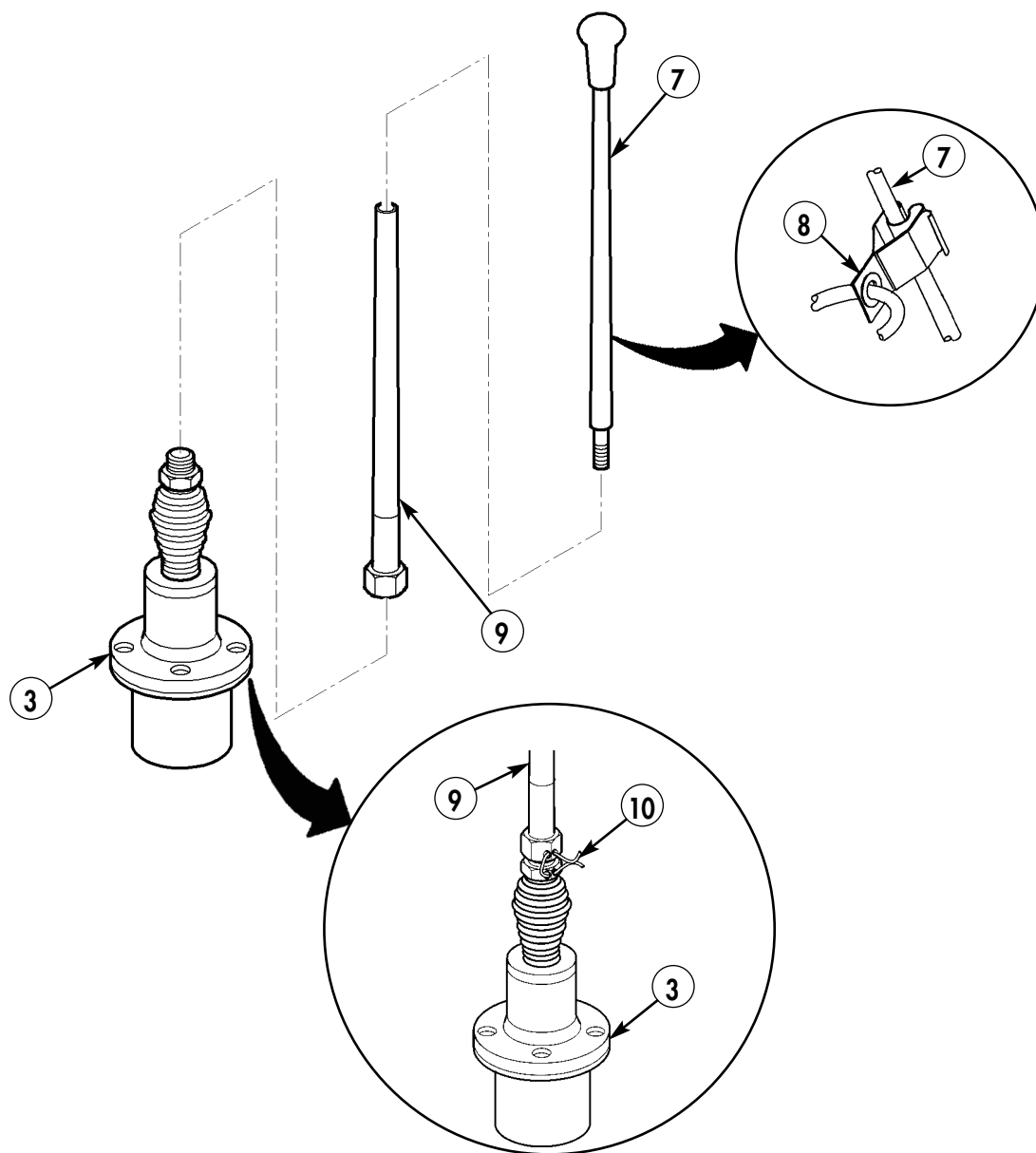
- 10-1.** Install antenna (3) on right rear cargo shell (5) with gasket (4), four capscrews (2), eight lockwashers (1), and four nuts (6).



- 1. LOCKWASHER – MS45904-76 – QTY. 8
- 2. CAPSCREW – MS35307-365 – QTY. 4
- 3. ANTENNA – A3017889-2 – QTY. 1
- 4. GASKET – A3013655-1 – QTY. 1
- 6. NUT – 9418931 – QTY. 4

Figure 5-40.

- 10-2. Attach upper antenna element (7) to lower antenna element (9).
- 10-3. Attach antenna assembly to antenna base (3).
- 10-4. Attach fiber rope assembly (8) to upper antenna element (7).
- 10-5. Secure lower antenna element (9) to antenna base (3) with lock wire (10).



- 7. UPPER ANTENNA ELEMENT – A3017901-2 – QTY. 1
- 8. FIBER ROPE ASSEMBLY – A3167672-1 – QTY. 1
- 9. LOWER ANTENNA ELEMENT – A3018230-1 – QTY. 1
- 10. LOCK WIRE – MS20995C32 – QTY. A/R

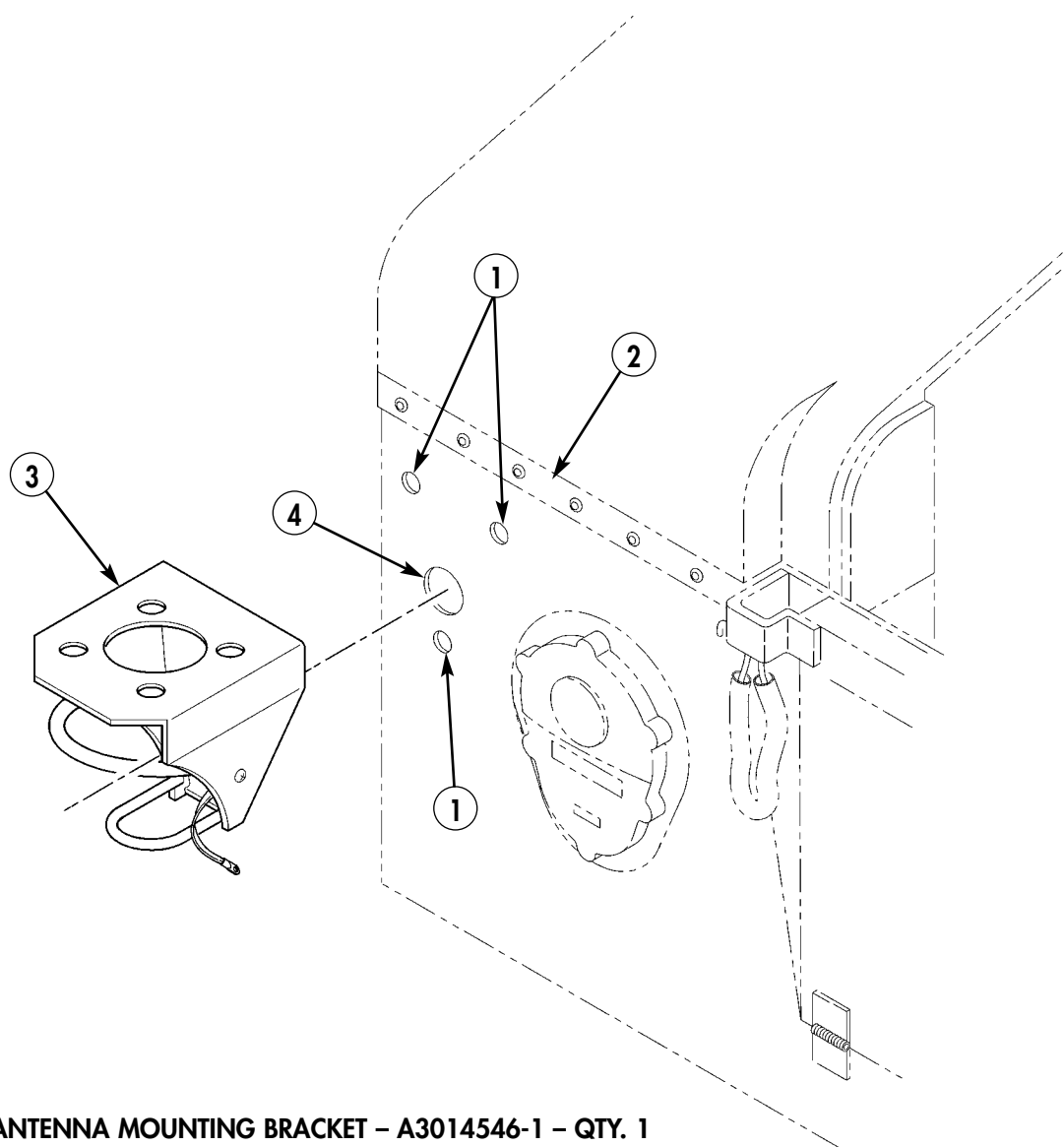
Figure 5-41.

Section XI. REAR SINGARS ANTENNA INSTALLATION

NOTE

This procedure applies to vehicles without existing antennas. For vehicles with existing antennas, remove all control cables. (Refer to TM 9-2320-387-24.)

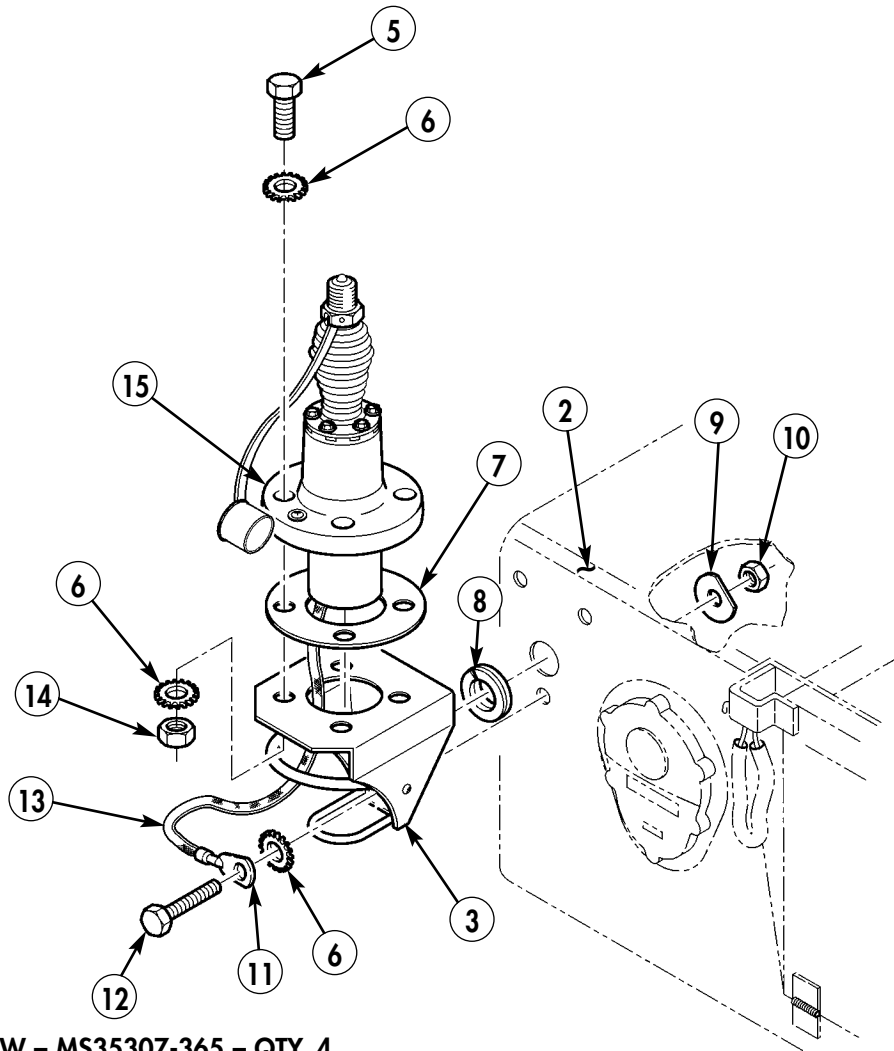
- 11-1. Using antenna mounting bracket (3) as template, locate, mark, and drill one 1.375-in. diameter hole (4) in left rear wall (2).
- 11-2. Locate, mark, and drill three 0.343-in. diameter holes (1) in rear wall (2).
- 11-3. Remove paint from vicinity of three holes (1) and three matching holes in antenna mounting bracket (3).
- 11-4. Apply anti-seize compound to vicinity of three holes (1) and rear of antenna mounting bracket (3).



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

Figure 5-42.

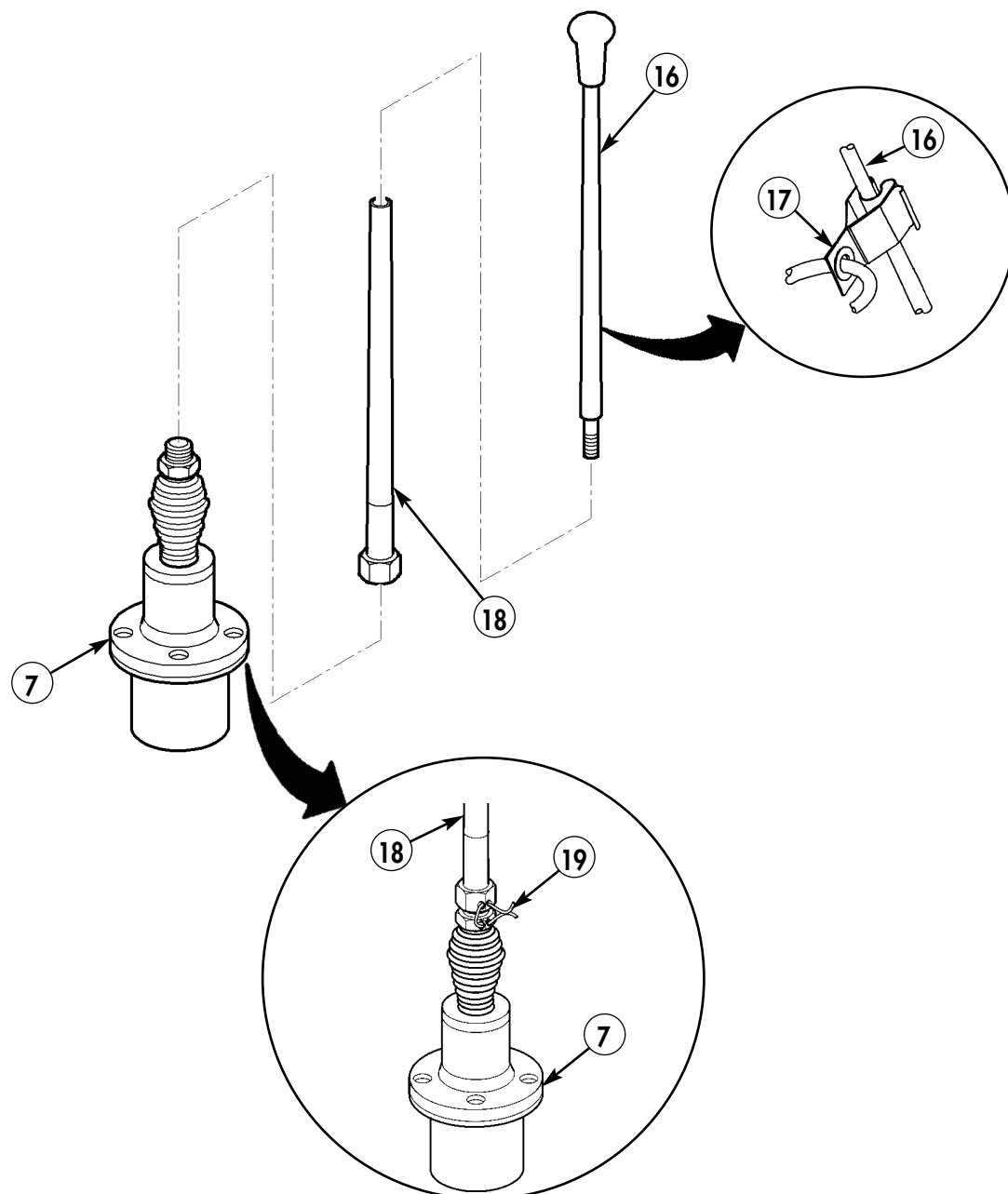
- 11-5. Install grommet (8) in hole of rear wall (2).
- 11-6. Position antenna (15) and gasket (7) on antenna mounting bracket (3) and route existing ground strap (13) through antenna mounting bracket (3).
- 11-7. Install antenna (15) on antenna mounting bracket (3) with four capscrews (5), eight lockwashers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



- 5. CAPSCREW – MS35307-365 – QTY. 4
- 6. LOCKWASHER – MS45904-72 – QTY. 11
- 7. GASKET – A3013655-1 – QTY. 1
- 8. GROMMET – 12338098 – QTY. 1
- 9. WASHER – 12338095 – QTY. 3
- 10. NUT – 9418892 – QTY. 3
- 11. TERMINAL LUG – MS20659-108 – QTY. 1
- 12. CAPSCREW – B1821BH031F125N – QTY. 3
- 14. NUT – 13218E0320-293 – QTY. 4
- 15. ANTENNA – A3017889-2 – QTY. 2

Figure 5-43.

- 11-10. Attach upper antenna element (16) to lower antenna element (18).
- 11-11. Attach antenna assembly to antenna base (7).
- 11-12. Attach fiber rope assembly (17) to upper antenna element (16).
- 11-13. Secure lower antenna element (18) to antenna base (7) with lockwire (19).

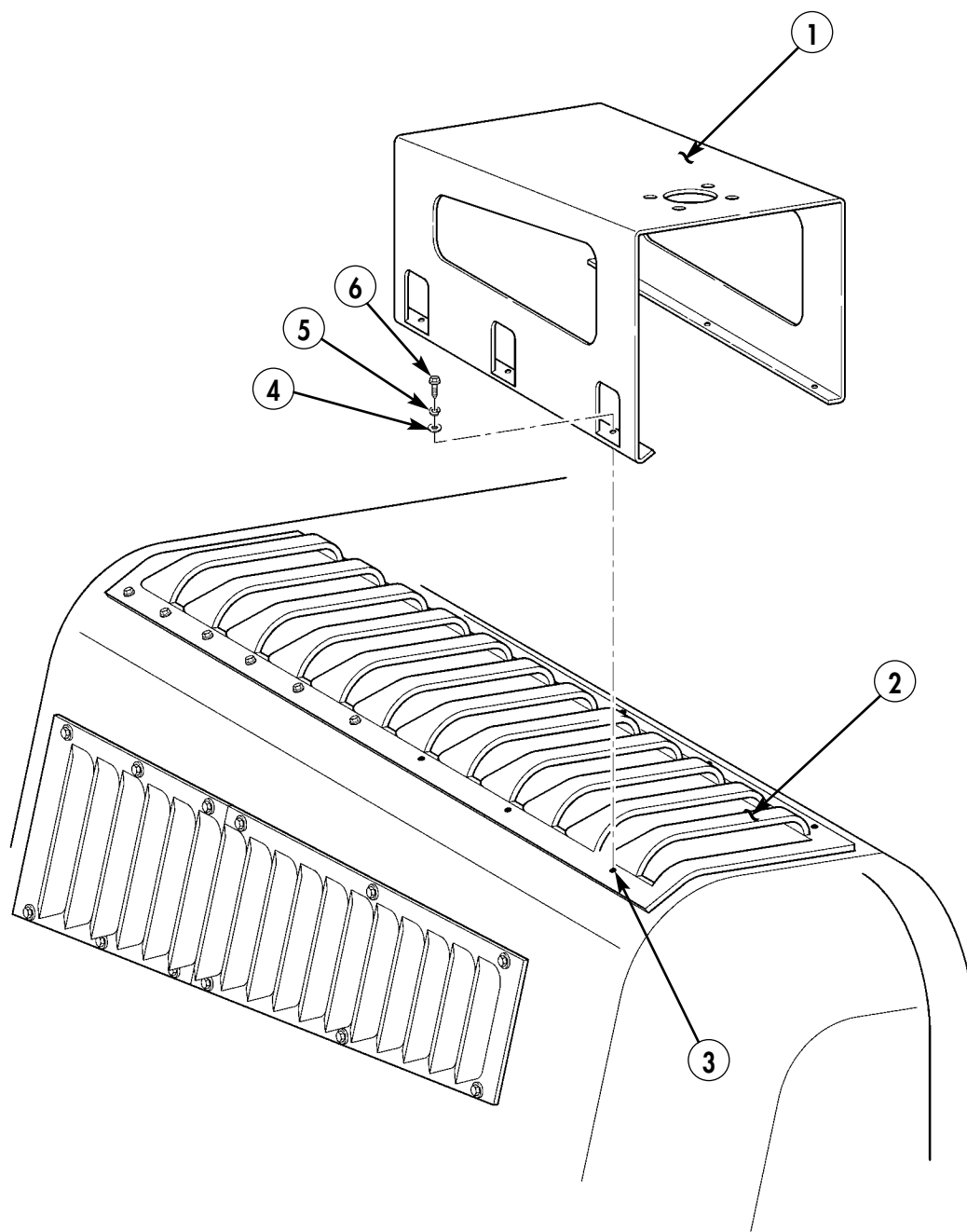


- 16. UPPER ANTENNA ELEMENT – A3017901-2 – QTY. 1
- 17. FIBER ROPE ASSEMBLY – A3167672-1 – QTY. 1
- 18. LOWER ANTENNA ELEMENT – A3018230-1 – QTY. 1
- 19. LOCKWIRE – MS20995C32 – QTY. A/R

Figure 5-44.

Section XII. EPLRS ANTENNA AND BRACKET INSTALLATION

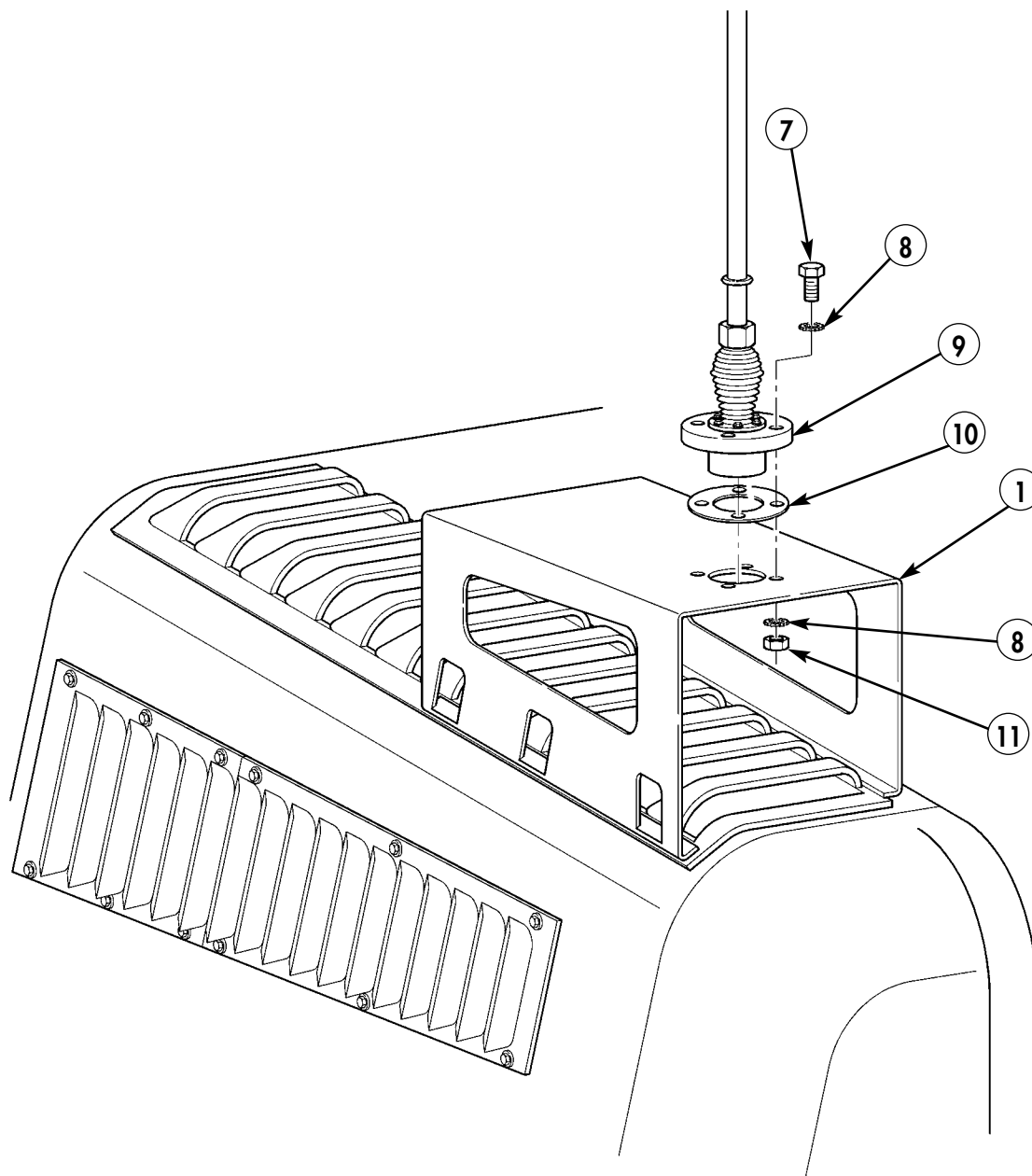
- 12-1. Remove six capscrews (6), lockwashers (5), and washers (4) from A/C louvres (2).
- 12-2. Enlarge holes (3) to 0.375 in. diameter.
- 12-3. Install EPLRS antenna bracket (1) on A/C louvres (2) with six capscrews (6), lockwashers (5), and washers (4).



- 1. EPLRS ANTENNA BRACKET – 05A020ID – QTY. 1
- 4. WASHER – MS27183-8 – QTY. 6
- 5. LOCKWASHER – MS35338-43 – QTY. 6
- 6. CAPSCREW – MS35207-269 – QTY. 6

Figure 5-45.

- 12-4.** Install EPLRS antenna (9) and gasket (10) on bracket (1) with four capscrews (7), eight lockwashers (8), and four nuts (11).



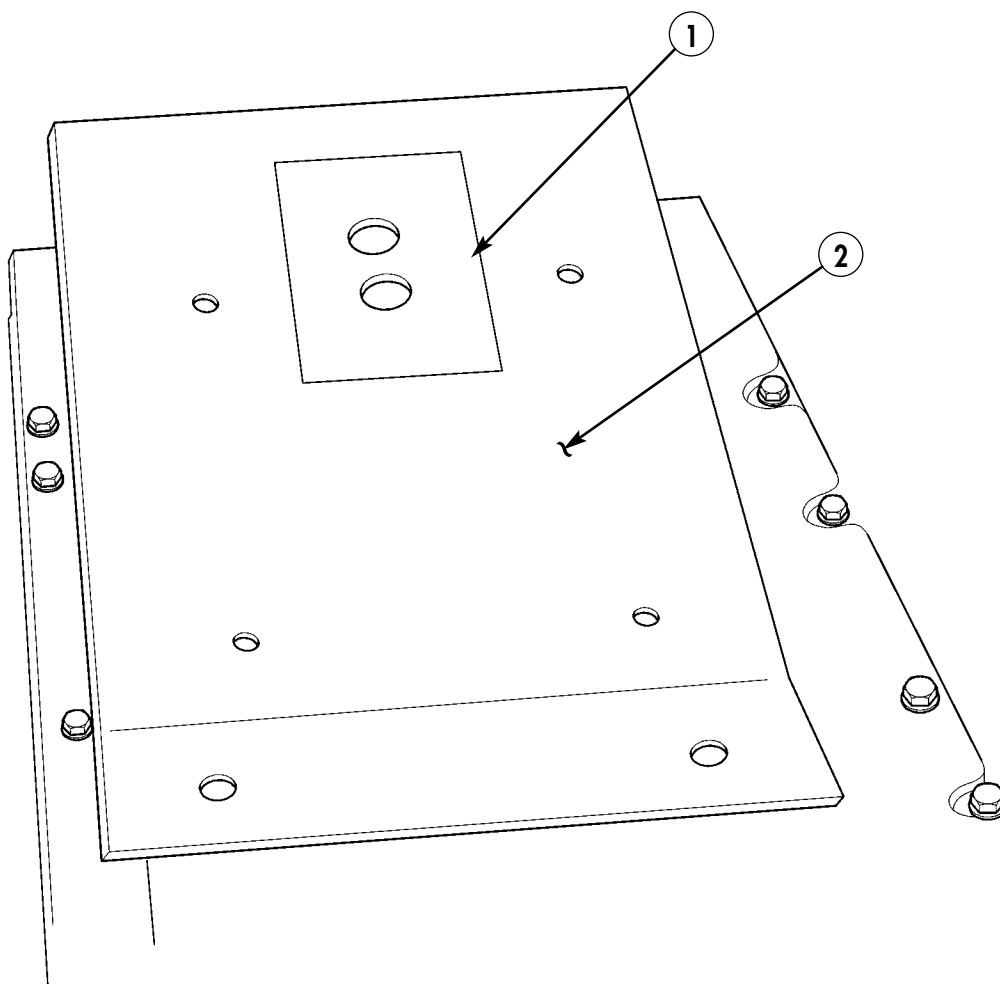
7. CAPSCREW – B1821BH038C150N – QTY. 4
8. LOCKWASHER – MS45904-76 – QTY. 8
9. ANTENNA – A3005031 – QTY. 1
10. GASKET – A3013655-1 – QTY. 1
11. NUT – 13218E0320-293 – QTY. 4

Figure 5-46.

Section XIII. INSTALLATION OF TAC-SAT BRACKET AND ANTENNA**NOTE**

- Entire area under antenna base must be free of paint.
- Do not remove any excess paint. Spot paint as necessary.

13-1. Using TAC-SAT antenna base as template, sketch outline on mounting bracket (2). Remove all paint within this area (1) on mounting bracket.



2. TAC-SAT ANTENNA MOUNTING BRACKET – N/A – QTY. 1

Figure 5-47.

- 13-2.** Position TAC-SAT antenna mount 1.00 in. from left edge of cargo door. Locate, mark, and drill 0.375-in. diameter hole (3) in cargo door (4).
- 13-3.** Using TAC-SAT antenna bracket as template, locate, mark, and drill remaining three holes (5) in cargo door (4).

NOTE

Align hole in cargo door with rear hole in bracket.

- 13-4.** Locate, mark, and drill one 0.75-in. diameter hole (6) in cargo door (4).

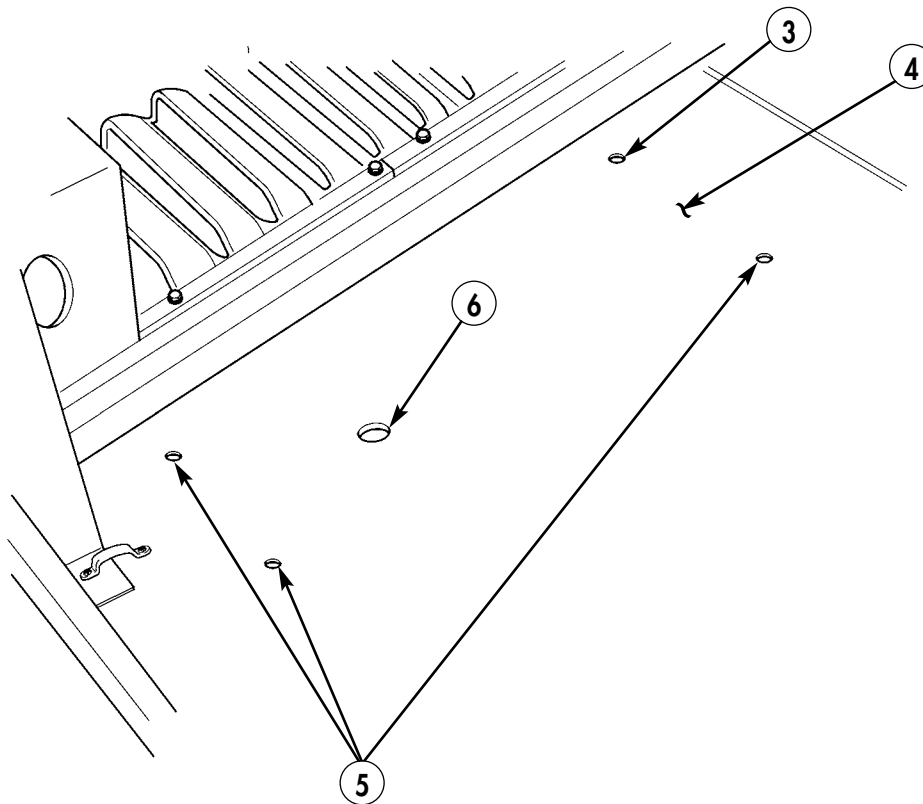
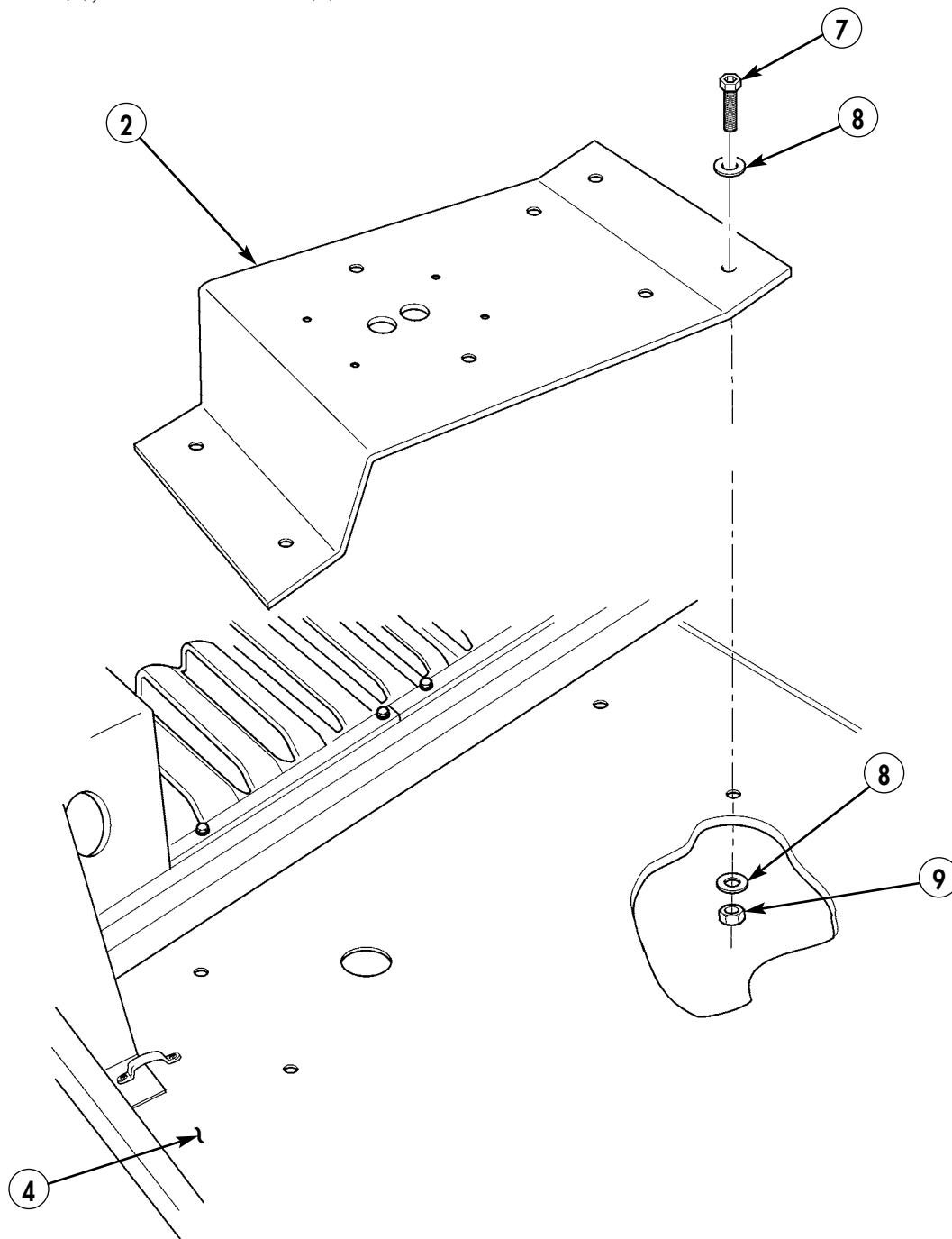


Figure 5-48.

NOTE

Remove any footman loop that interferes with installation of antenna bracket.

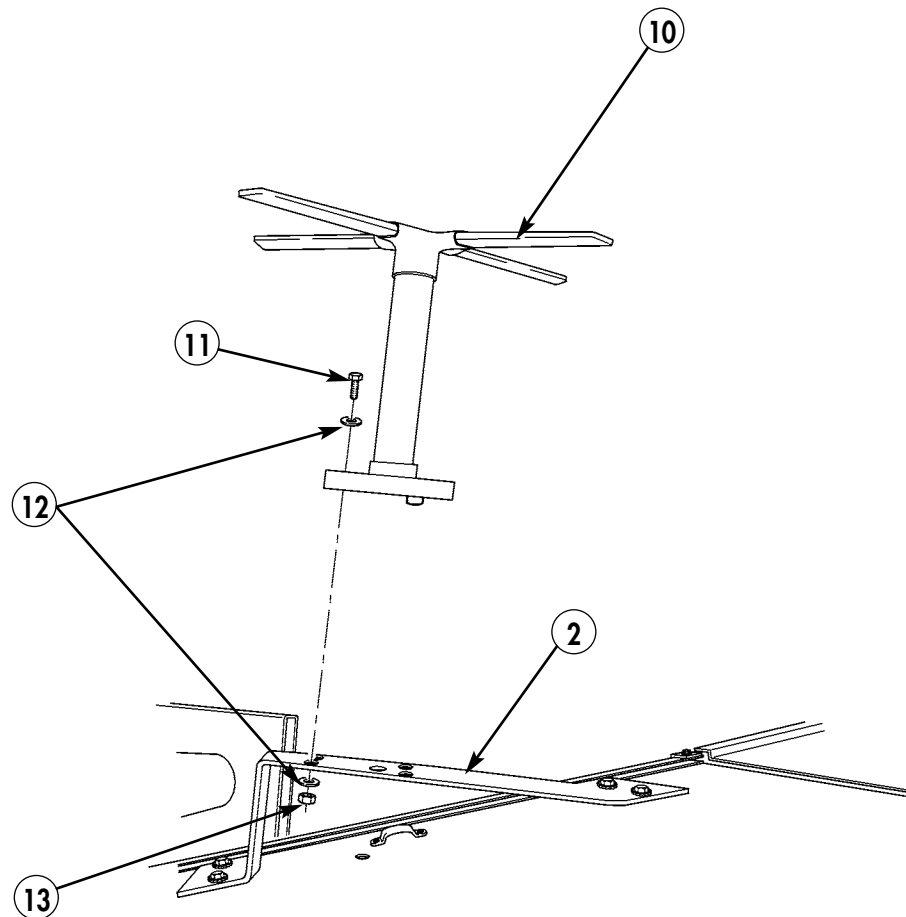
- 13-5.** Install TAC-SAT antenna mounting bracket (2) on cargo door (4) with four capscrews (7), eight lockwashers (8), and four locknuts (9).



7. CAPSCREW – B1821BH050C150N – QTY. 4
8. LOCKWASHER – MS35338-43 – QTY. 8
9. NUT – MS35650-302 – QTY. 4

Figure 5-49.

- 13-6.** Install antenna (10) on antenna bracket (2) with four capscrews (11), eight lockwashers (12), and four nuts (13).

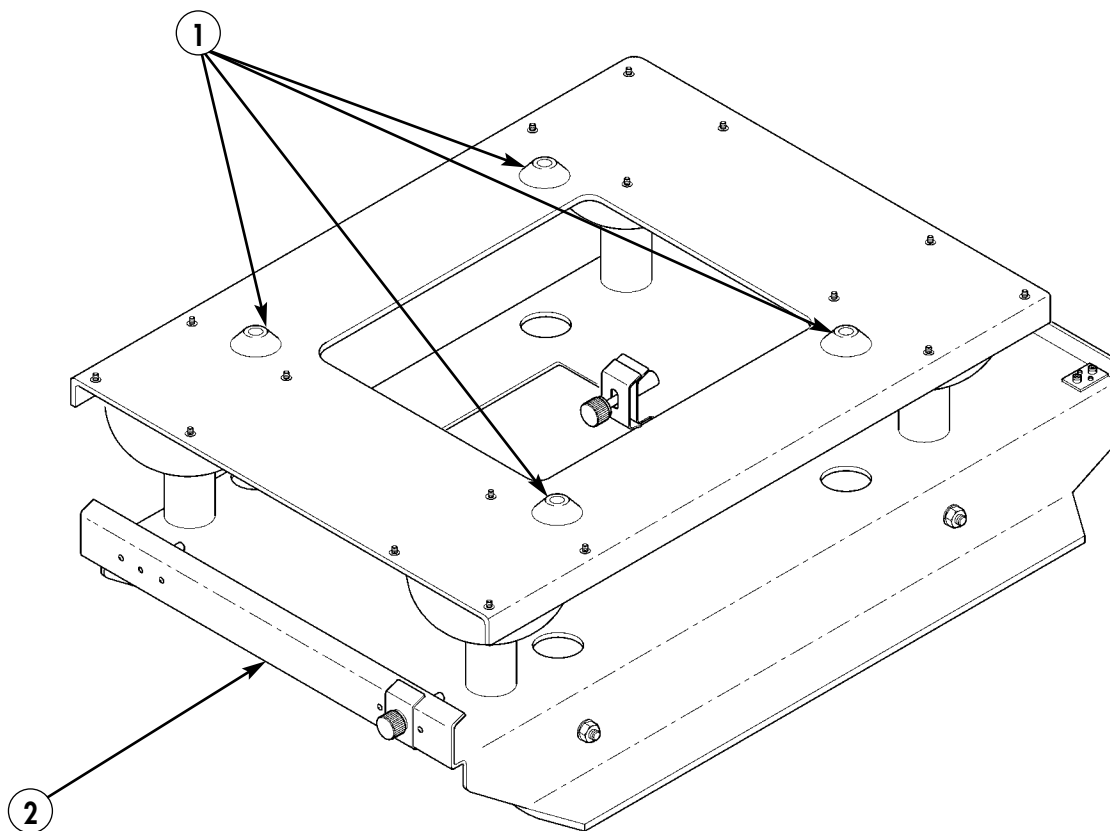


11. CAPSCREW – MS35207-270 – QTY. 4
12. LOCKWASHER – MS35338-43 – QTY. 8
13. NUT – MS35650-302 – QTY. 4

Figure 5-50.

Section XIV. EPLRS MOUNTING INSTALLATION

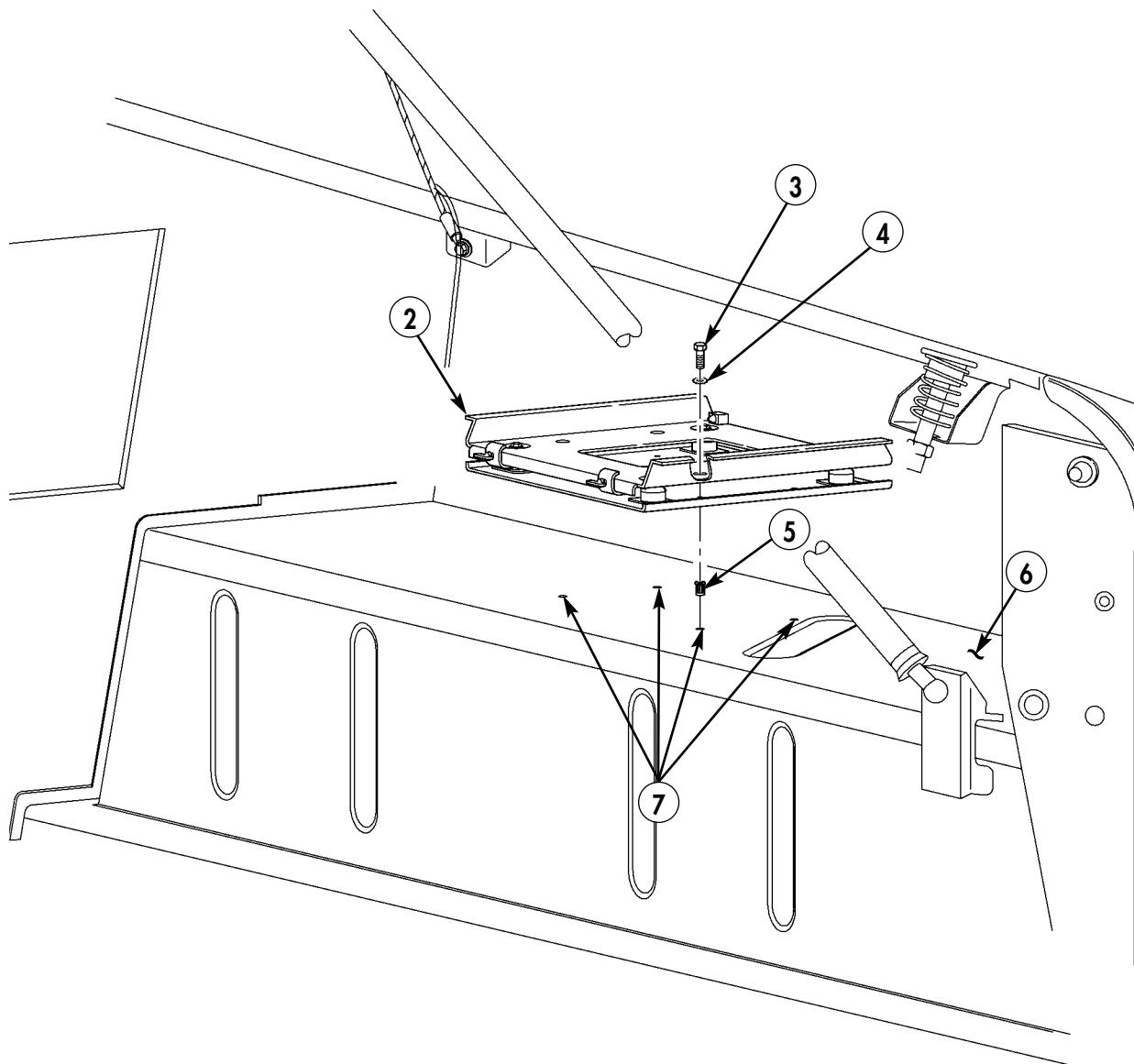
14-1. Remove paint from vicinity of four mounting holes (1) on bottom of MT-6146/VSQ-1 mount (2).



2. RESILIENT MOUNT – MT-6146/VSQ-1 – QTY. 1

Figure 5-51.

- 14-2.** Using EPLRS mount (2) as template, locate, mark, and drill four 0.531-in. diameter holes (7) in right rear wheelhouse (6).
- 14-3.** Install four inserts (5) in right rear wheelhouse (6).
- 14-4.** Install EPLRS mount (2) on right rear wheelhouse (6) with four capscrews (3) and lockwashers (4).

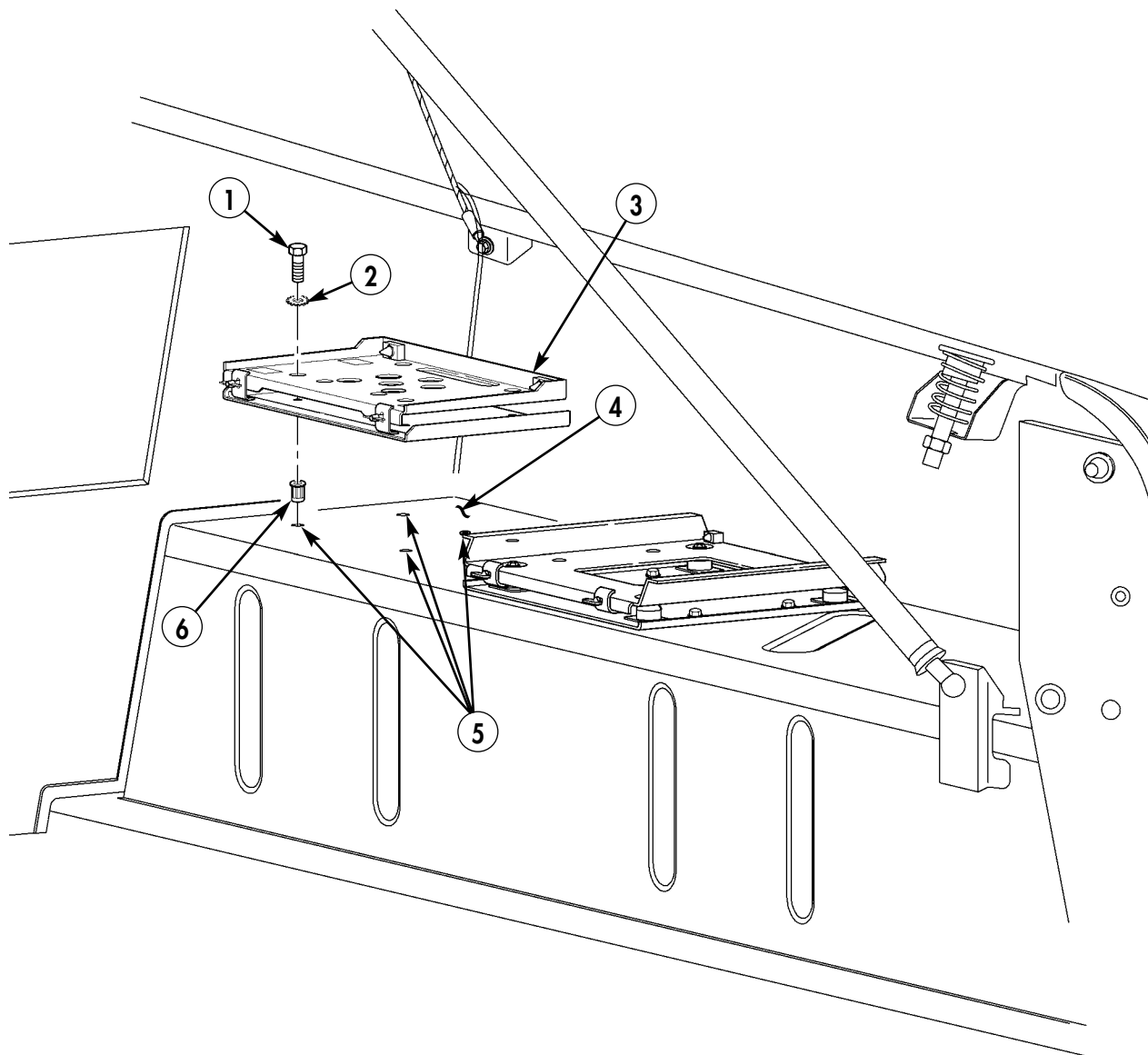


- 3. CAPSCREW – B1821BH031C075N – QTY. 4**
- 4. LOCKWASHER – MS45904-72 – QTY. 8**
- 5. INSERT – 12446871-1 – QTY. 4**

Figure 5-52.

Section XV. HF 150 WATT RADIO MOUNTING BRACKET INSTALLATION

- 15-1. Using HF 150 watt radio mounting bracket (3) as template, locate, mark, and drill four 0.391-in. diameter holes (5) in right rear wheelhouse (4).
- 15-2. Install four inserts (6) in right rear wheelhouse (4).
- 15-3. Install HF 150 watt radio mounting bracket (3) on wheelhouse (4) with four capscrews (1) and lockwashers (2).



1. CAPSCREW – B1821BH025C100N – QTY. 4
2. LOCKWASHER – MS45904-71 – QTY. 8
3. R/T RADIO MOUNTING BRACKET – RF-5073VSM – QTY. 1
6. INSERT – 12446871-2 – QTY. 4

Figure 5-53.

Section XVI. EPLRS USER READOUT (URO) INSTALLATION

16-1. Remove two existing screws (2) and connector bracket (3) from URO bracket (1).

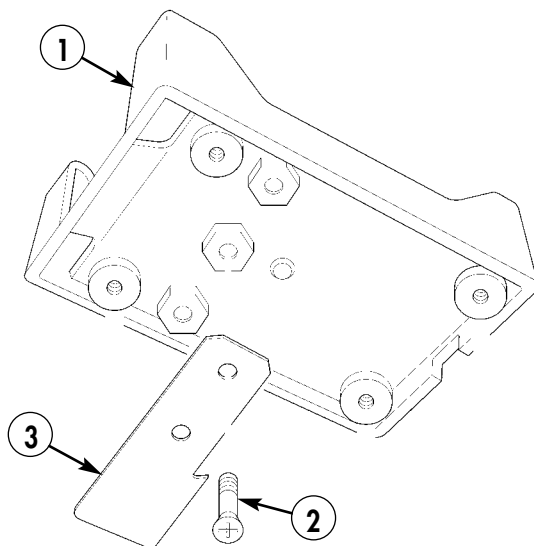
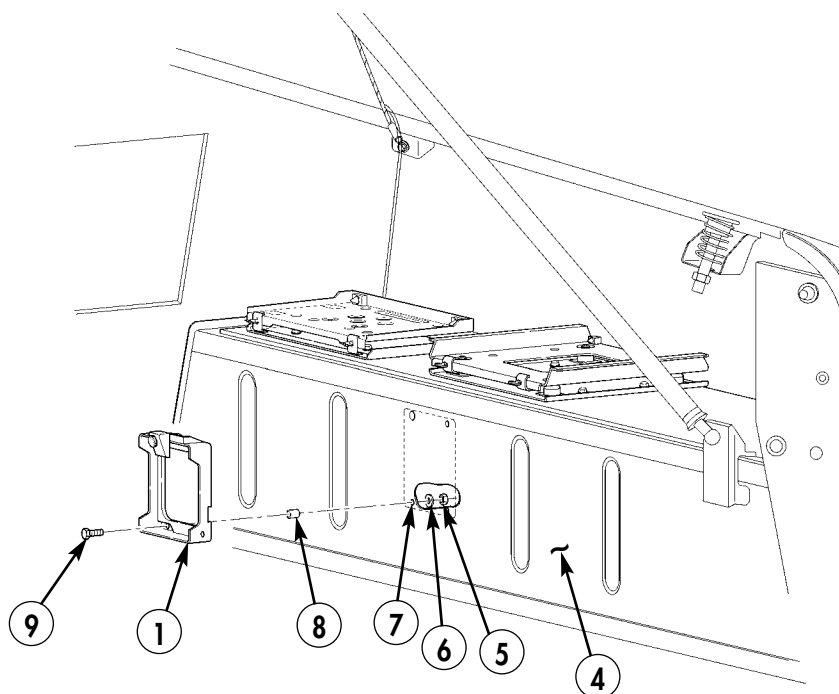


Figure 5-54.

16-2. Using URO bracket (1) as template, locate, mark and drill four 0.218-in. diameter holes (7) in right rear wheelhouse (4).

16-3. Install URO bracket (1) on right rear wheelhouse (4) with four capscrews (9), spacers (8), washers (6), and locknuts (5).



- 1. USER READOUT BRACKET (URO) – A3006206 – QTY. 1
- 5. NUT – MS35650-302 – QTY. 3
- 6. LOCKWASHER – MS35338-43 – QTY. 3
- 8. SPACER – 92510A318 – QTY. 4
- 9. CAPSCREW – MS35207-265 – QTY. 4

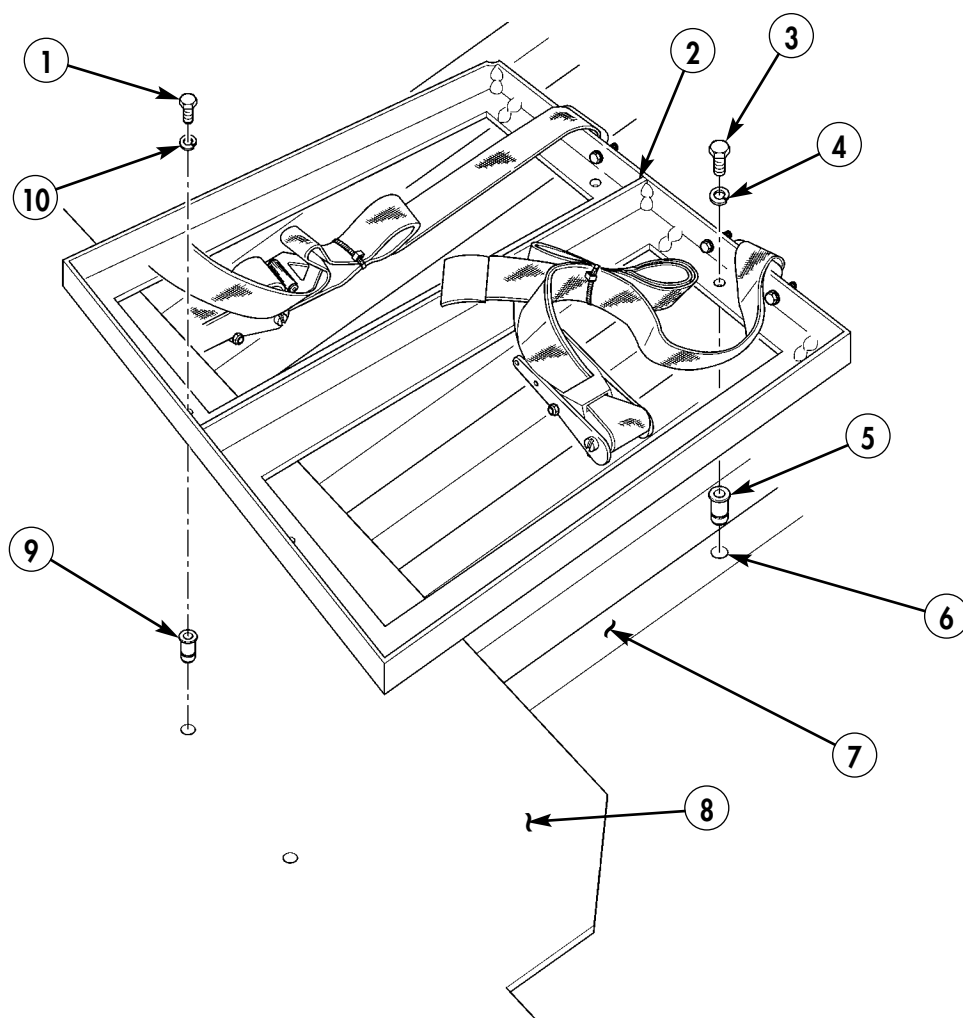
Figure 5-55.

Section XVII. TAC-SAT RADIO MOUNT INSTALLATION

NOTE

It is necessary to relocate ammo box tray to install TAC-SAT radio mount. Perform steps 17-1 through 17-7 to relocate ammo box tray.

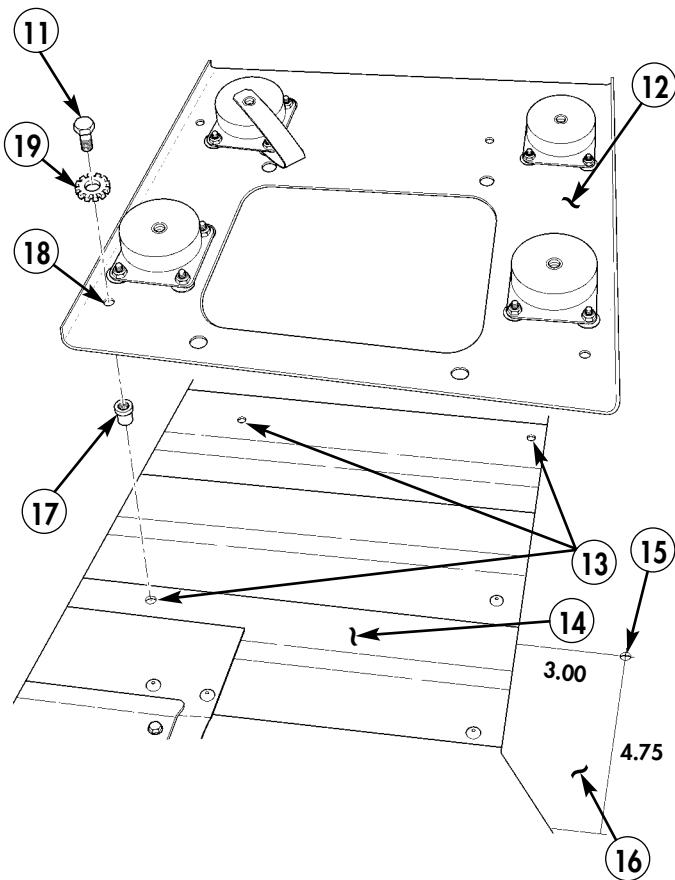
- 17-1. Remove four capscrews (1) and (3), lockwashers (10) and (4), and ammo box tray (2) from cargo floor (7).
- 17-2. Modify tray (2) to match holes in armor plate (8).
- 17-3. Using ammo box tray (2) as template, locate, mark and drill two 0.531-in. diameter holes (6) in cargo floor (7).
- 17-4. Install two inserts (5) in cargo floor (7).
- 17-5. Install two inserts (9) in armor plate (8).
- 17-6. Install ammo box tray (2) on armor plate (8) with two capscrews (1) and lockwashers (10).
- 17-7. Secure ammo box tray (2) on cargo floor (7) with two capscrews (3) and lockwashers (4).



1. CAPSCREW – B1821BH025C075N – QTY. 2
3. CAPSCREW – B1821BH031C100N – QTY. 2
4. LOCKWASHER – MS45904-72 – QTY. 2
5. INSERT – 12446871-1 – QTY. 2
9. INSERT – 12446871-2 – QTY. 2
10. LOCKWASHER – MS35338-44 – QTY. 2

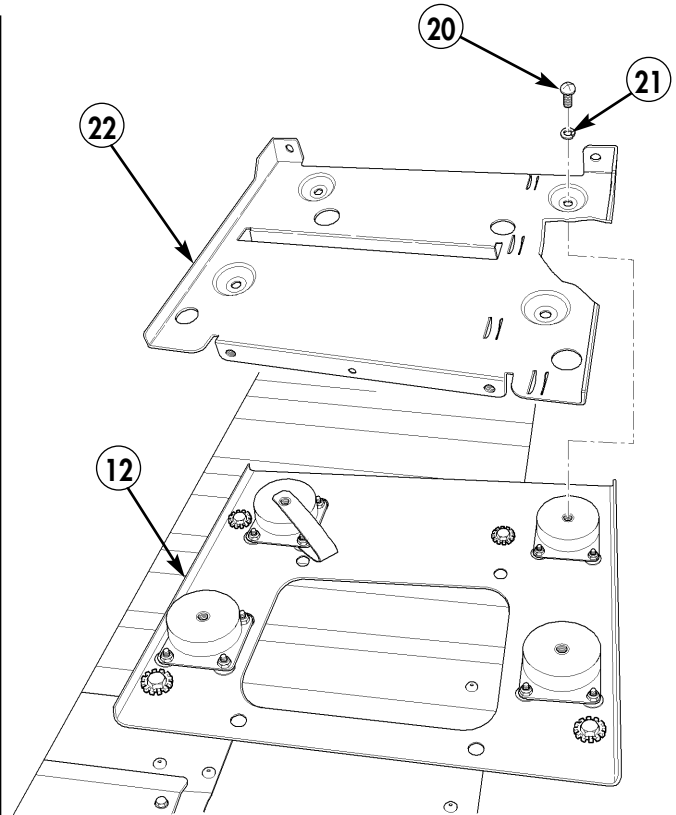
Figure 5-56.

- 17-8. Locate, mark, and drill one 0.531 in. diameter hole (15) in armor plate (16).
- 17-9. Using resilient mount (12) as template, locate, mark and drill three 0.531-in. diameter holes (13) in cargo floor (14).
- 17-10. Install four inserts (17) in cargo floor (14).
- 17-11. Enlarge holes (18) in resilient mount (12) to 0.50 in. diameter.
- 17-12. Install resilient mount (12) on cargo floor (14) and armor plate (16) with four capscrews (11) and lockwashers (19).
- 17-13. Install TAC-SAT mount (22) to resilient mount (12) with four capscrews (20) and lockwashers (21).



- 11. CAPSCREW – B1821BH031C100N – QTY. 4
- 12. TAC-SAT RADIO MOUNT – RF-5800H-V005 – QTY. 1
- 17. INSERT – 12446871-8 – QTY. 4
- 19. LOCKWASHER – MS45904-72 – QTY. 4

Figure 5-57.



- 22. TAC-SAT RADIO MOUNT P/O – RF-5800H-V005 – QTY. 1

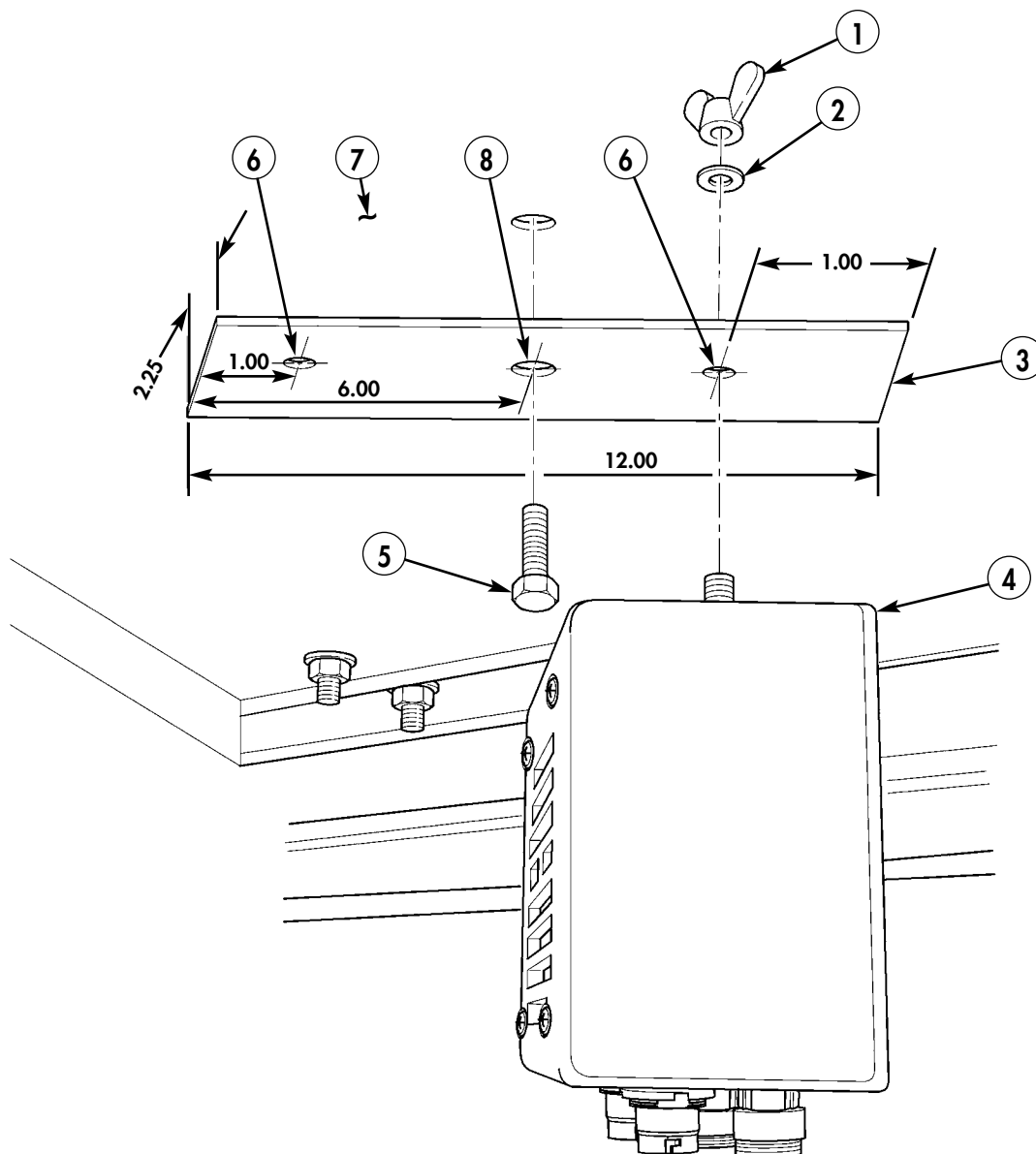
Figure 5-58.

Section XVIII. TAC-SAT RADIO AND HF RADIO SPEAKER INSTALLATION

NOTE

- Fabricate bracket from 0.125-in. barstock.
- The following procedure applies to TAC-SAT radio loudspeaker or HF radio loudspeaker.

- 18-1. Drill one 0.391-in. diameter hole (8) in bracket (3).
- 18-2. Drill two 0.531-in. diameter holes (6) in bracket (3).
- 18-3. Install speaker (4) on bracket (3) with existing washer (2) and wingnut (1).
- 18-4. Install bracket (3) and speaker (4) into turret support beam (7) with bolt (5).



4. SPEAKER – 10181-5180-01 – QTY. 2
5. CAPSCREW – B1821BH031C125N – QTY. 2

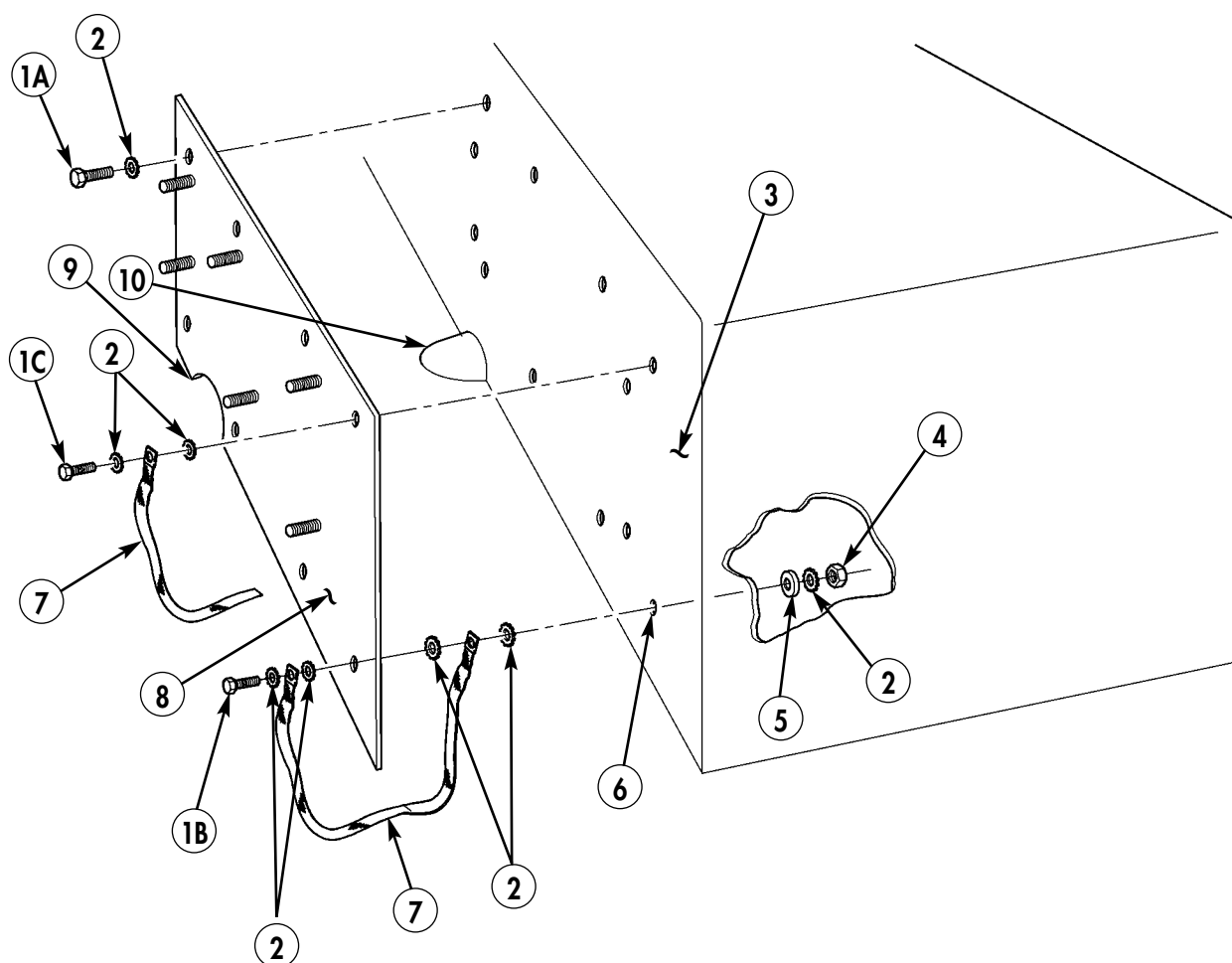
Figure 5-59.

Section XIX. COUPLER INSTALLATION

NOTE

Position coupler mounting plate flush against gas spring bracket.

- 19-1. Locate, mark, and drill eight 0.281-in. diameter holes (6) in side of wheelhouse (3).
- 19-2. Cut notch (9) in coupler plate (8) for bump (10) on bottom of wheelhouse (3).
- 19-3. Install coupler plate (8) on wheelhouse (3) with six capscrews (1A), twelve lockwashers (2), six spacers (5), and six nuts (4).
- 19-4. Secure coupler plate (8) to wheelhouse (3) with capscrew (1B), five lockwashers (2), ground strap (7), spacer (5), and nut (4).
- 19-5. Secure coupler plate (8) to wheelhouse (3) with capscrew (1C), two lockwashers (2), ground strap (7), spacer (5), and nut (4).



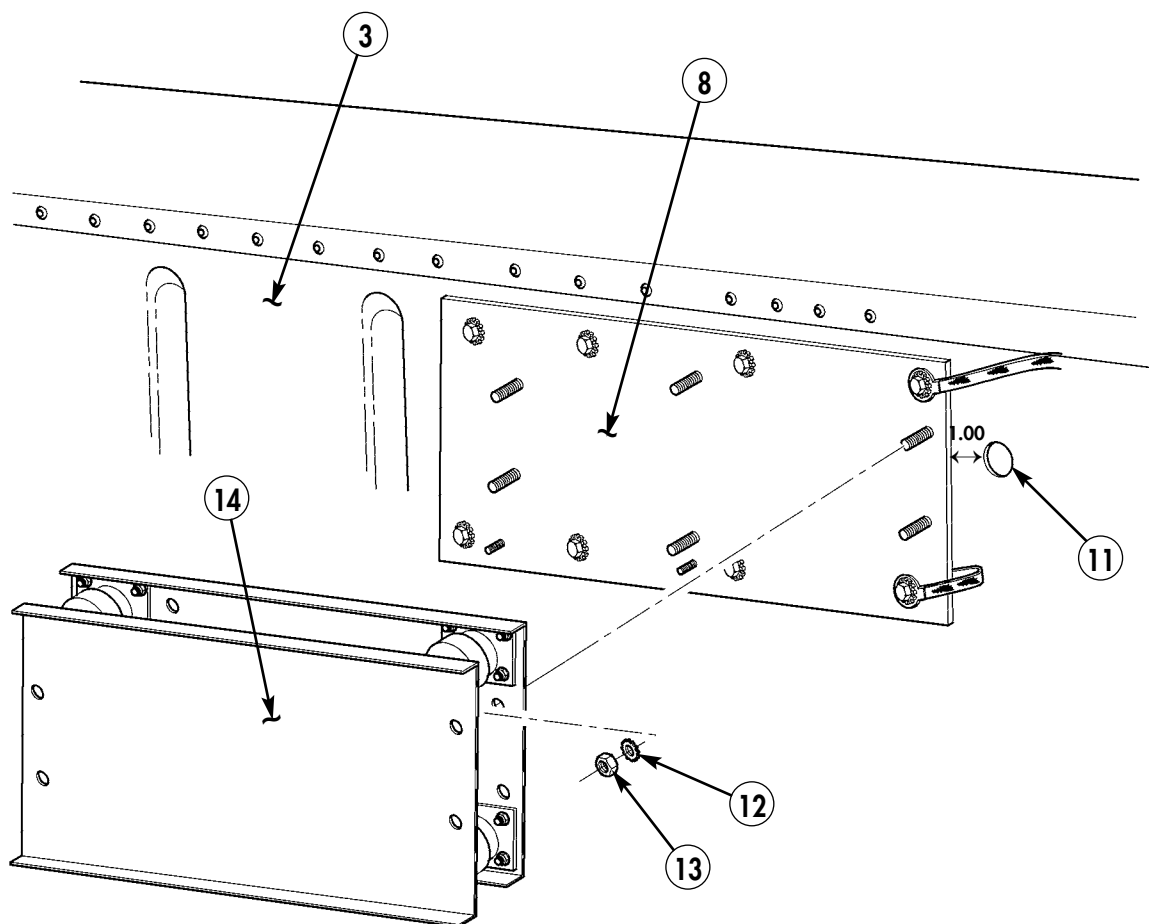
1. CAPSCREW – MS35307-308 – QTY. 8
2. LOCKWASHER – MS45904-71 – QTY. 20
4. NUT – MS51971-1 – QTY. 8
5. SPACER – 10181-5214-01 – QTY. 8
7. GROUND STRAP – 7147-1167-3 – QTY. 2
8. COUPLER MOUNTING PLATE – 11080-0511-02 – QTY. 1

Figure 5-60.

NOTE

Remove top plate of coupler mounting bracket to tighten capscrews.

- 19-6.** Locate, mark, and drill 1.625-in. diameter hole (11) in right rear wheelhouse (3).
19-7. Install resilient mount (14) on coupler plate (8) with six lockwashers (12) and nuts (13).



- 12. LOCKWASHERS** – MS35338-141 – QTY. 6
13. NUT – MS51971-3 – QTY. 6
14. RESILIENT MOUNT – P/O 11080-0511-02 – QTY. 1

Figure 5-61.

NOTE

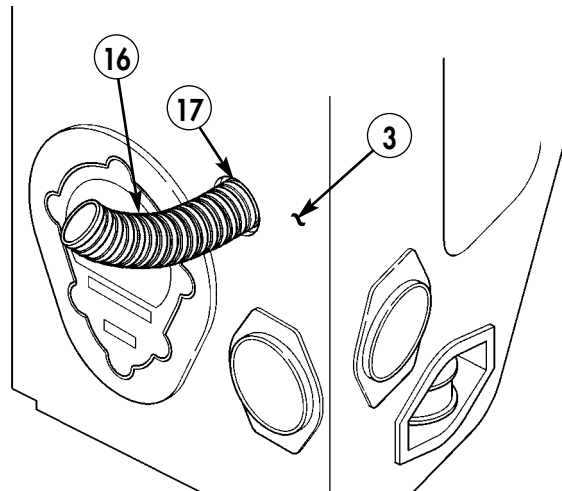
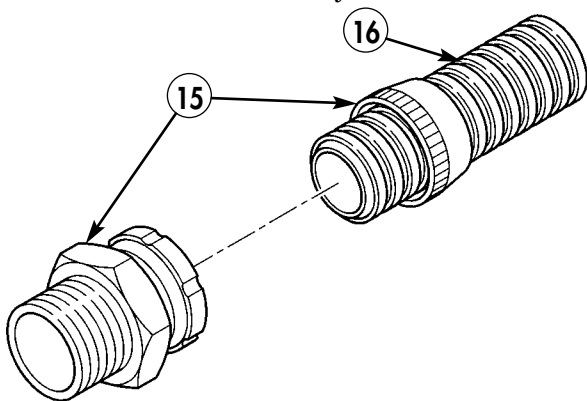
Ensure convoluted tubing is cut straight and even to allow proper fit of locking collar.

- 19-8. Install locking collar (15) on one end of convoluted tubing (16).
- 19-9. Place convoluted tubing and grommet assembly (16) in hole (17) of right wheelhouse (3), through wheelhouse (3), and through hole (11) in right wheelhouse (3). Mark convoluted tubing (16) at proper length.
- 19-10. Remove convoluted tubing (16) from wheelhouse (3) and cut to proper length.

NOTE

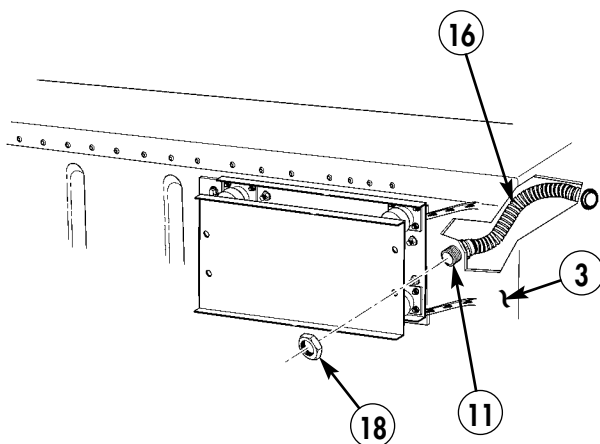
Ensure convoluted tubing is cut straight and even to allow proper fit of locking collar.

- 19-11. Install locking collar (15) on other end of convoluted tubing (16).
- 19-12. Place convoluted tubing and grommet assembly (16) in hole (11) on inside of right wheelhouse (3), through wheelhouse (3), and through hole (17) in rear wall (3). Secure convoluted tubing (16) to rear wall (3) with nylon nuts (18).



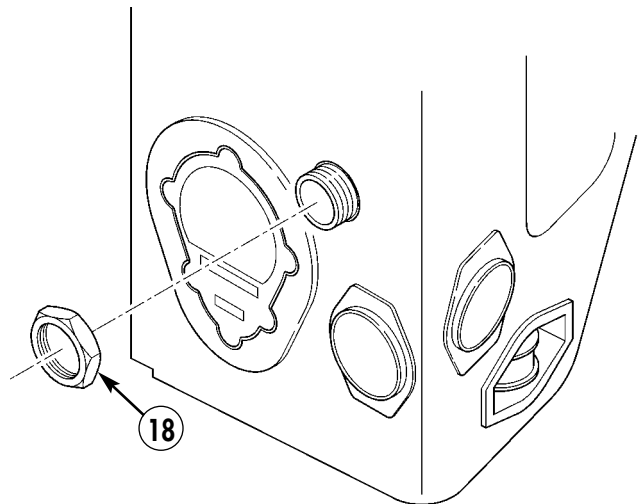
- 15. LOCKING COLLAR - Z52-0013-002 - QTY. 2
- 16. CONVOLUTED TUBING - Z52-0013-001 - QTY. 1

Figure 5-62.



- 18. NYLON NUT - 10075-1397 - QTY. 1

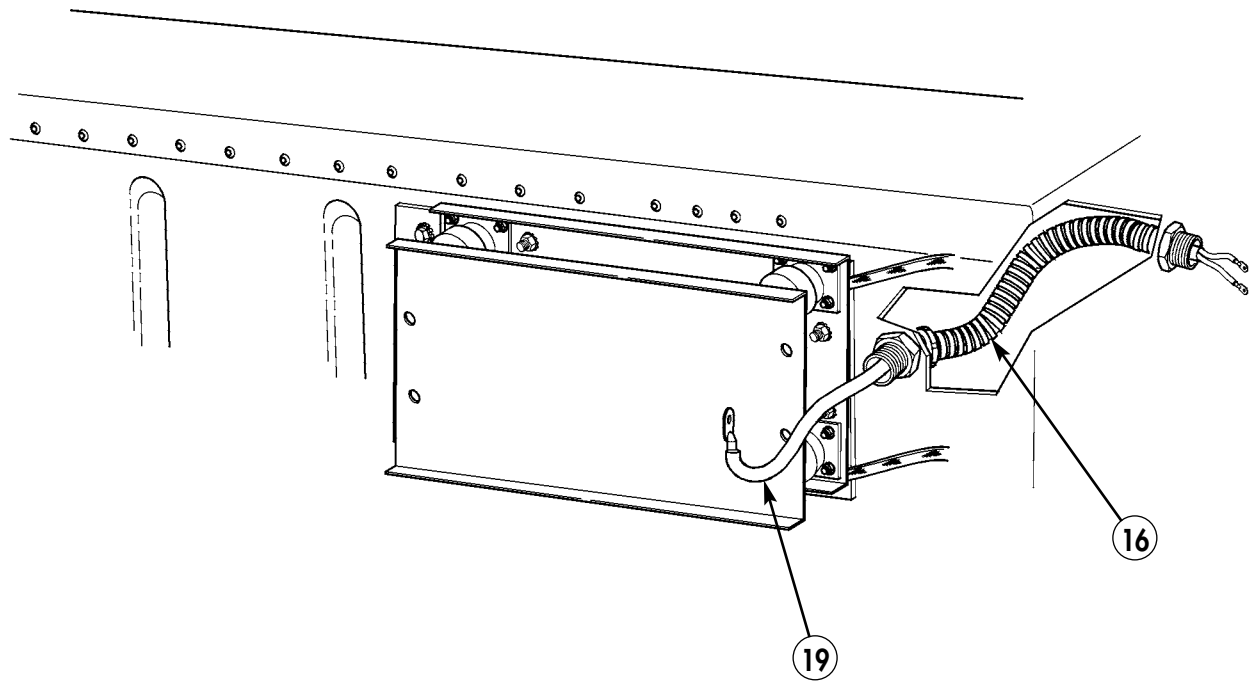
Figure 5-63.



- 18. NYLON NUT - 10075-1397 - QTY. 1

Figure 5-64.

19-13. Route antenna cable (19) through convoluted tubing (16).

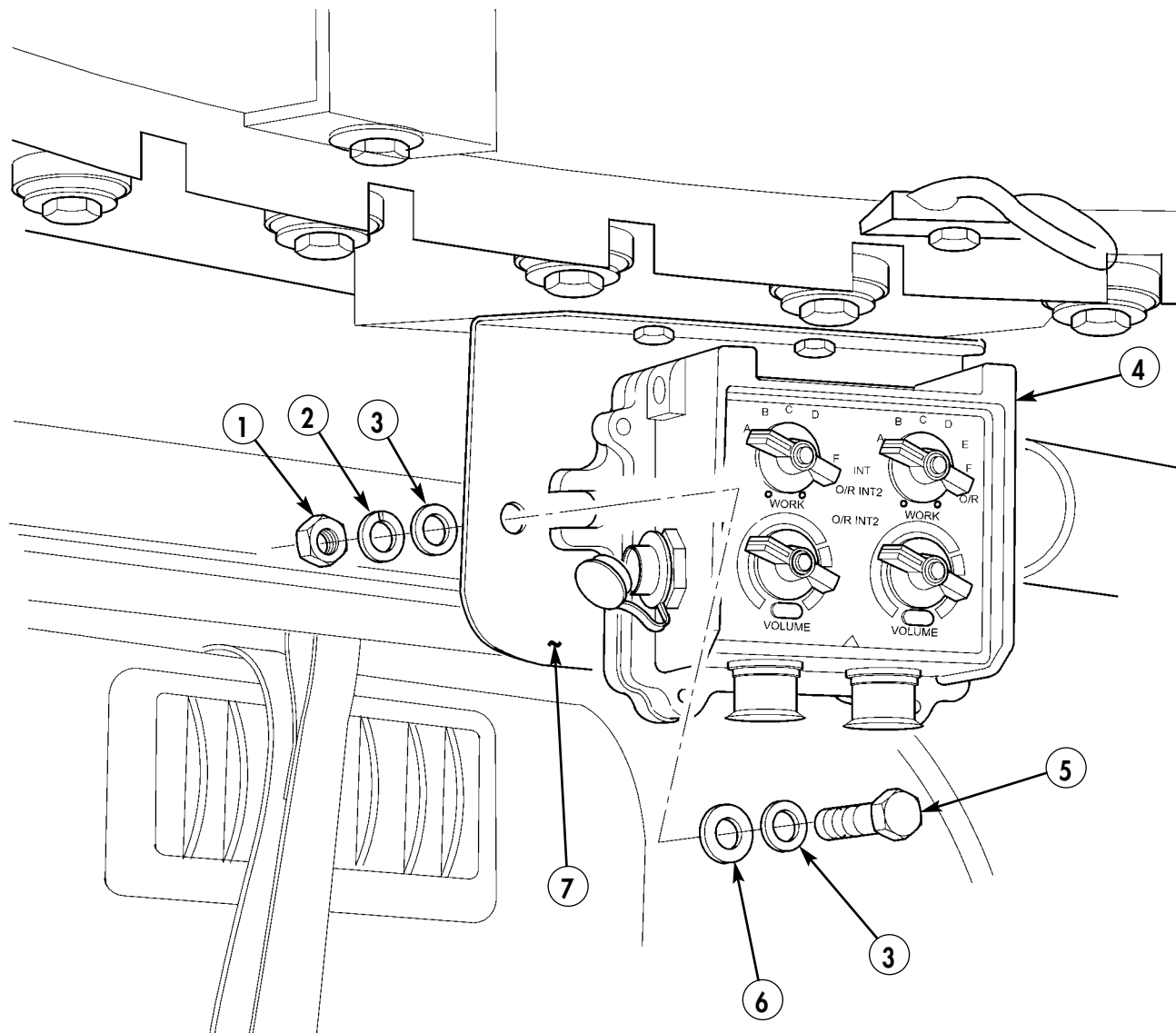


19. HF ANTENNA CABLE – 10564-3355-A004 – QTY. 1

Figure 5-65.

Section XX. VIC-3 MOUNTING INSTALLATION: REAR FFCS/L AND CABLES

- 20-1.** Install rear FFCS/L module (4) on existing bracket (7) with two cap screws (5), four washers (3), two washers (6), lockwashers (2), and nuts (1).



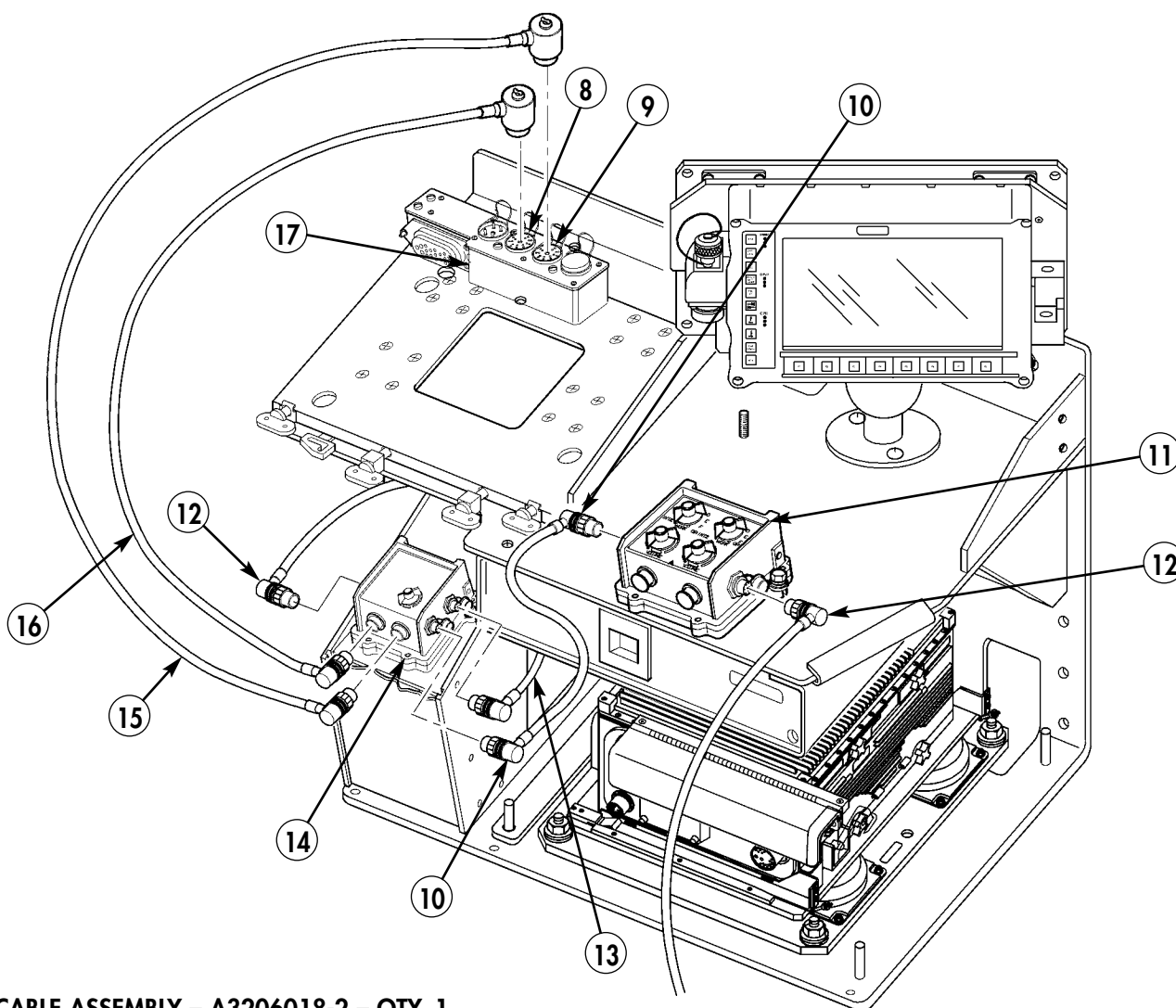
1. NUT - 9417954 - QTY. 2
2. LOCKWASHER - MS35338-45 - QTY. 2
3. WASHER - 2436162 - QTY. 4
4. FFCS/L MODULE - A3206624 - QTY. 1
5. CAPSCREW - B1821BH031C150N - QTY. 2
6. WASHER - 2436164 - QTY. 2

Figure 5-66.

NOTE

Cables removed for clarity.

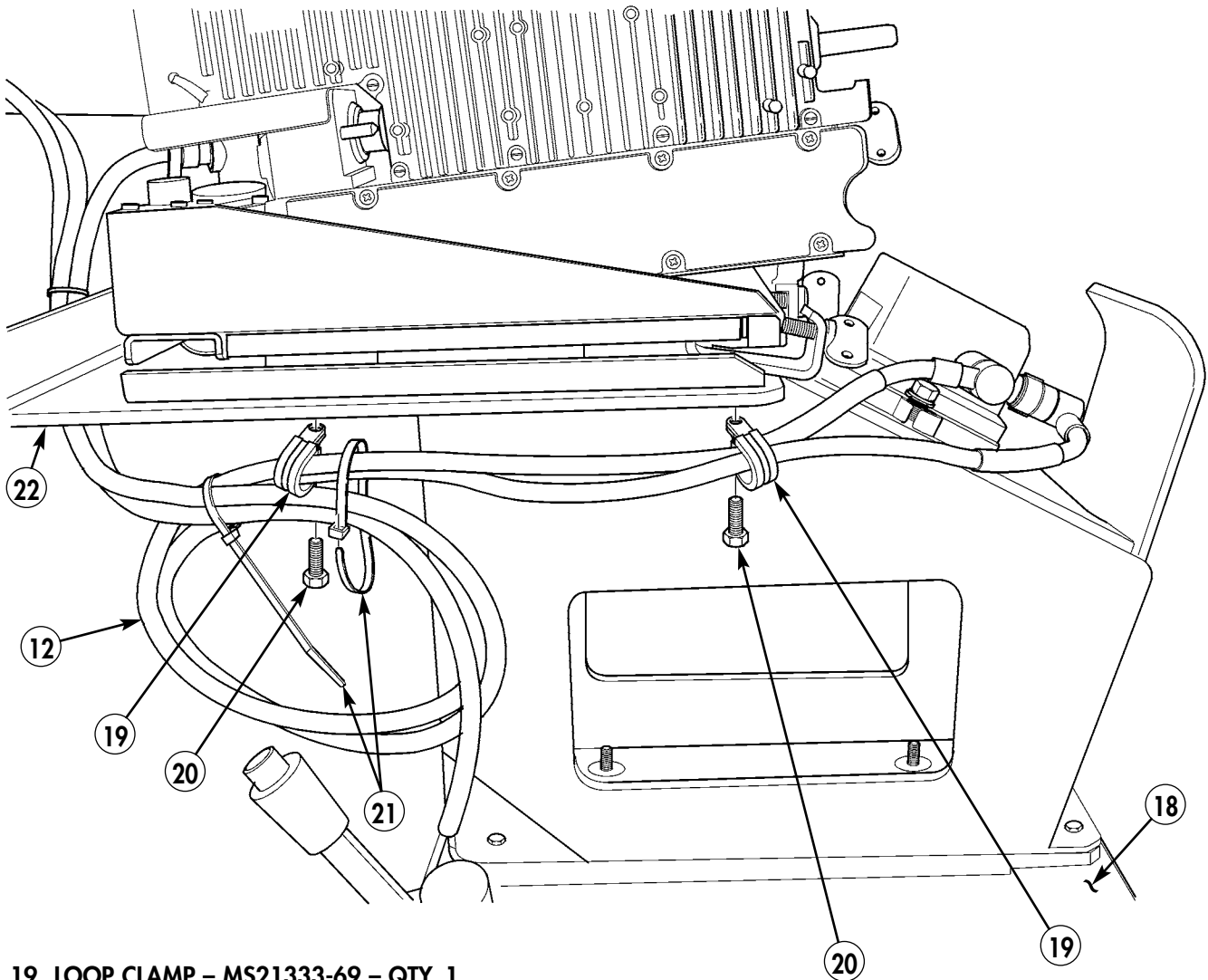
- 20-2.** Install cable assembly (10) to front FFCS/L (11).
- 20-3.** Install cable assembly (10) to MCS/L (14).
- 20-4.** Install cable assembly (12) to front FFCS/L (11).
- 20-5.** Install cable assembly (12) to MCS/L (14).
- 20-6.** Install power cable assembly (13) to MCS/L (14).
- 20-7.** Install R/T cable assembly (15) to MCS/L (14). Connect R/T cable assembly (15) to A4J4 connector (9) on SINCGARS mount (17).
- 20-8.** Install R/T cable assembly (16) to MCS/L (14). Connect R/T cable assembly (16) to A4J3 connector (8) on SINCGARS mount (17).



- 10. CABLE ASSEMBLY – A3206018-2 – QTY. 1**
- 12. CABLE ASSEMBLY – A3206018-15 – QTY. 2**
- 13. POWER CABLE ASSEMBLY – A3206017-3 – QTY. 1**
- 15. CABLE ASSEMBLY, R/T – A3206019-3 – QTY. 1**
- 16. CABLE ASSEMBLY, R/T – A3206127-3 – QTY. 1**

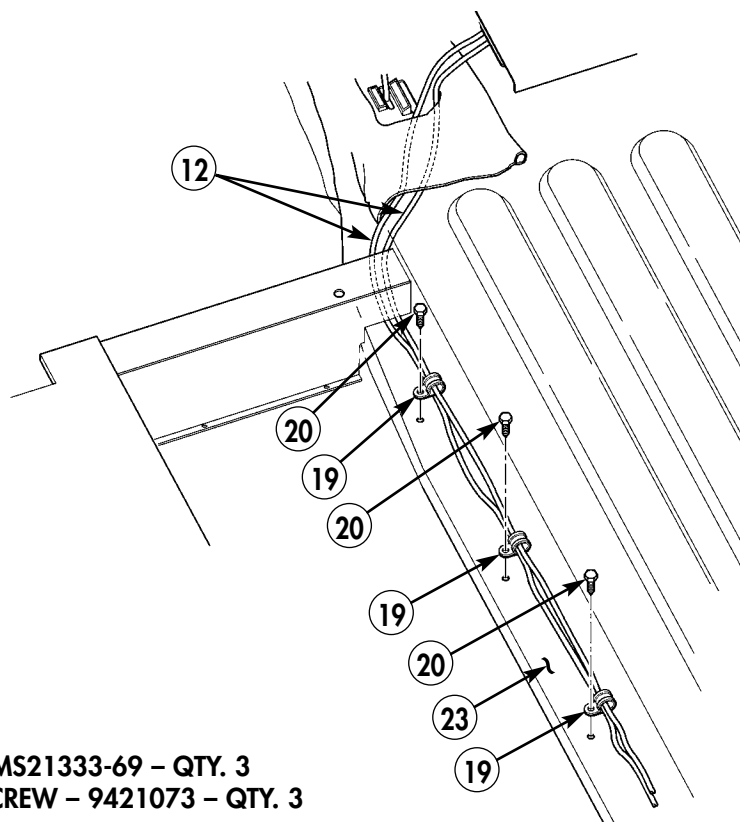
Figure 5-67.

- 20-9.** Route two cable assemblies (12) along underside of radio rack (22). Secure cable assemblies (12) to radio rack (22) with two loop clamps (19), self-tapping screws (20), and tiedown straps (21).
- 20-10.** Route cable assemblies (12) under left side tunnel insulation (18).
- 20-11.** Route cable assemblies (12) along tunnel (23). Secure cable assemblies (12) to tunnel (23) with three loop clamps (19) and self-tapping screws (20).
- 20-12.** Route cable assemblies (12) behind left rear seat (25) and up rear wall (24) to rear FFCS/L (4). Secure cable assemblies (12) to rear wall with loop clamp (19) and self-tapping screw (20).
- 20-13.** Connect cable assemblies (12) to rear FFCS/L (4).



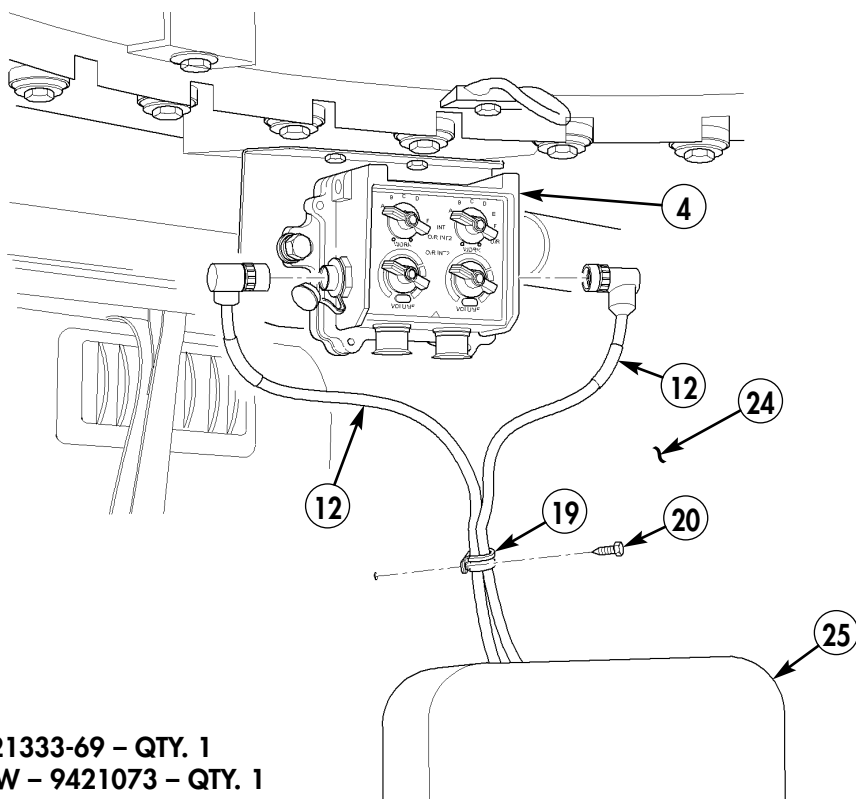
- 19. LOOP CLAMP – MS21333-69 – QTY. 1**
- 20. SELF-TAPPING SCREW – 9421073 – QTY. 1**
- 21. TIEDOWN STRAP – MS3367-1-0 – QTY. 2**

Figure 5-68.



19. LOOP CLAMP – MS21333-69 – QTY. 3
 20. SELF-TAPPING SCREW – 9421073 – QTY. 3

Figure 5-69.



19. LOOP CLAMP – MS21333-69 – QTY. 1
 20. SELF-TAPPING SCREW – 9421073 – QTY. 1

Figure 5-70.

Section XXI. PLGR BRACKET INSTALLATION

21-1. Locate, mark, and drill two 0.218-in. diameter holes (2) in integrated rack (1).

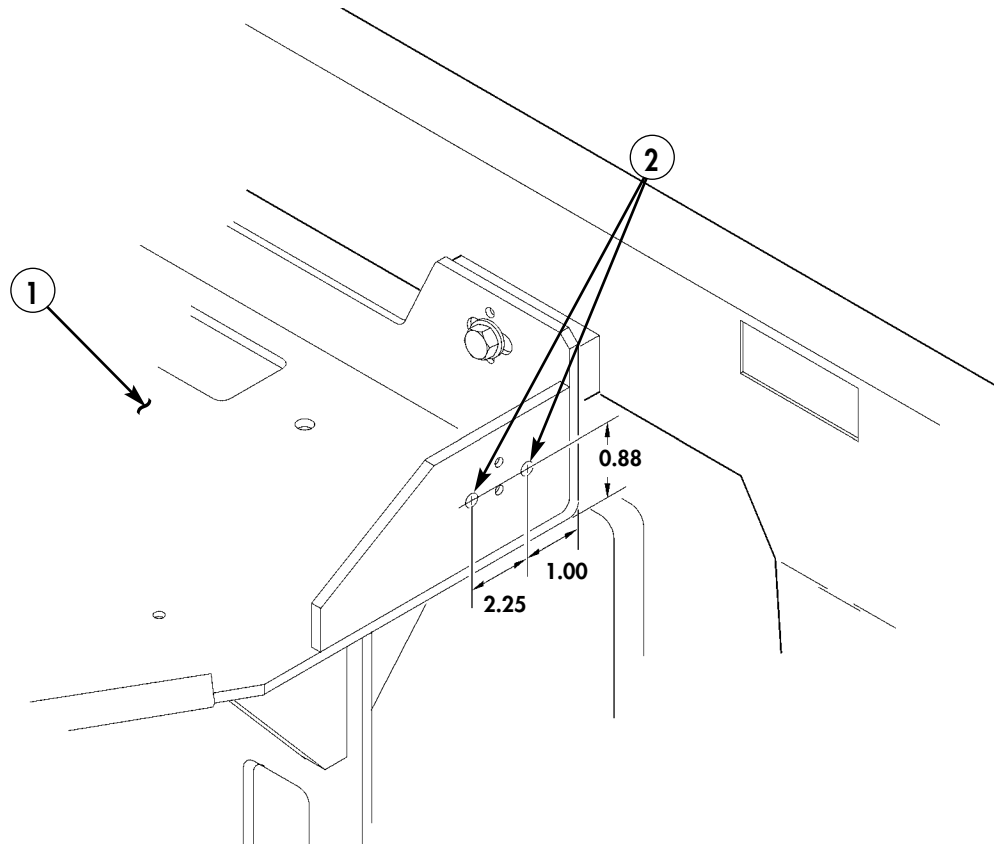
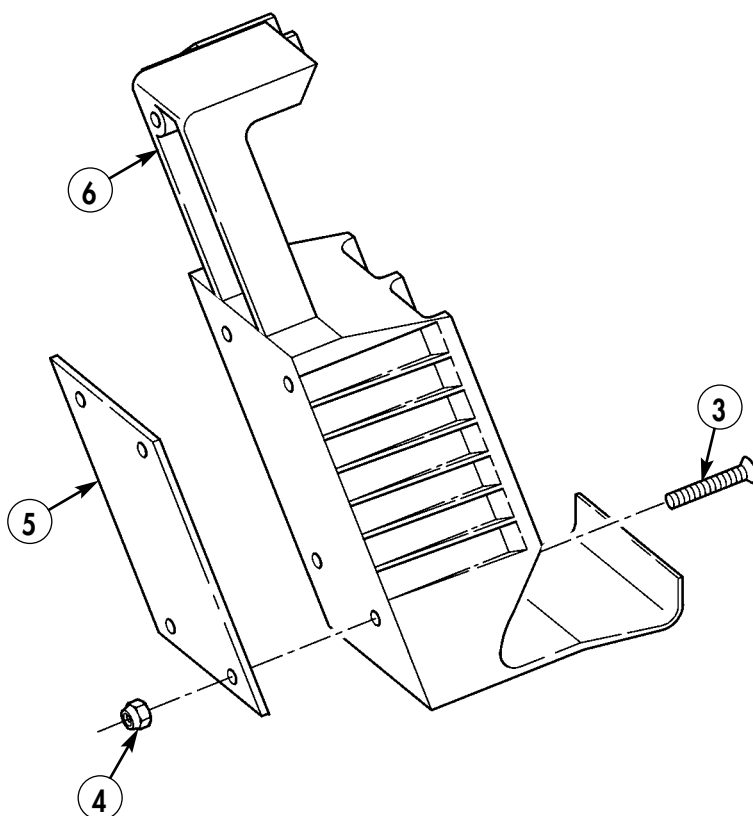


Figure 5-71.

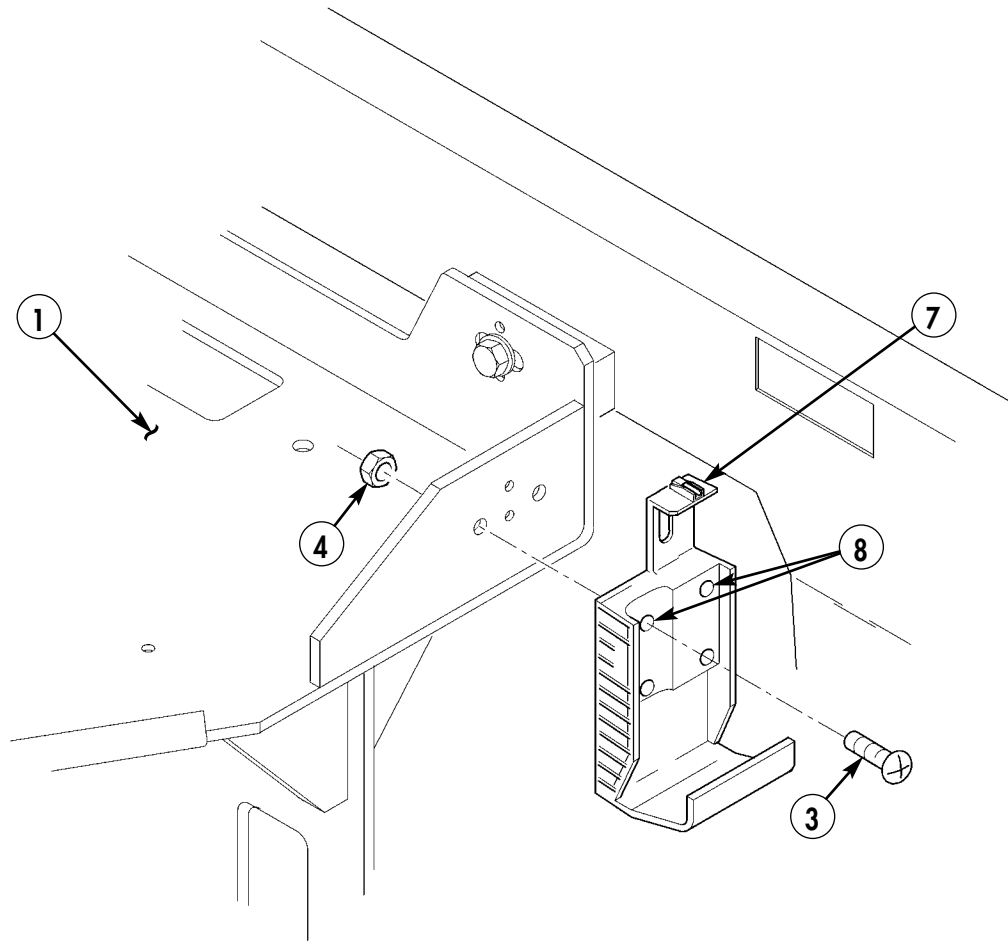
- 21-2.** Secure mounting bracket (5) to two lower holes in PLGR bracket (6) with two screws (3) and locknuts (4). Do not tighten locknuts (4).



- 3. SCREW – MS35206-266 – QTY. 2
- 4. LOCKNUT – MS17829-3C – QTY. 2
- 5. MOUNTING BRACKET – 12480575 – QTY. 1
- 6. PLGR BRACKET – 986-0645-001 – QTY. 1

Figure 5-72.

- 21-3.** Install PLGR mount assembly (7) on integrated rack (1) with two screws (3) and locknuts (4), using upper holes (8) only. Do not tighten locknuts (4).

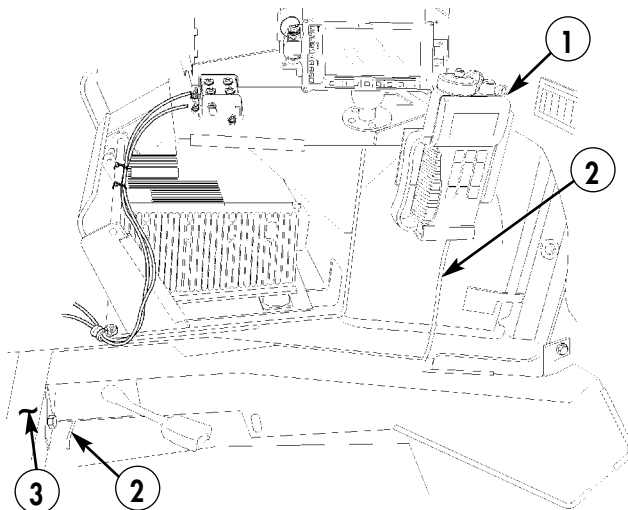


- 3. SCREW – MS35206-266 – QTY. 2**
4. LOCKNUT – MS17829-3C – QTY. 2

Figure 5-73.

Section XXII. PLGR POWER CABLE INSTALLATION

22-1. Route PLGR power cable (2) from PLGR assembly (1) to B-beam (3).



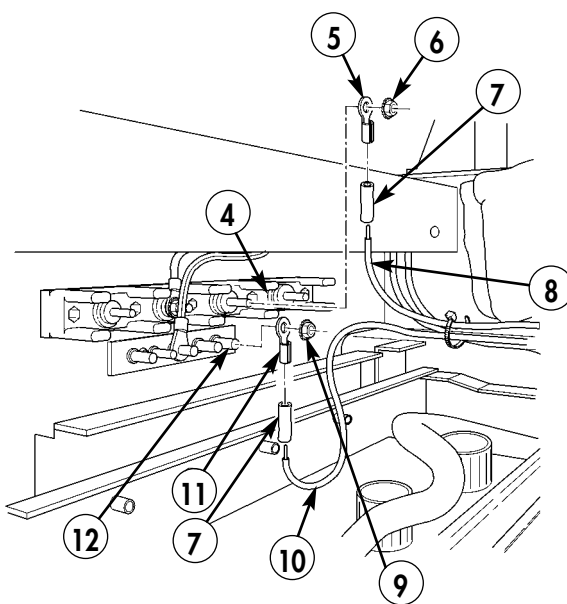
2. PLGR POWER CABLE – 9728558-10 – QTY. 1

Figure 5-74.

22-2. Attach shrink tubing (7) and terminal lugs (5) and (11) to PLGR power cable negative lead (10) and PLGR power cable positive lead (8). (Refer to TM 9-2320-387-24 for terminal connector repair.)

22-3. Attach PLGR power cable positive lead (8) to 24-volt terminal board stud (4) with existing nut (6).

22-4. Attach PLGR power cable negative lead (10) to ground strap stud (12) with existing nut (9).



5. TERMINAL LUG – 7728780 – QTY. 1

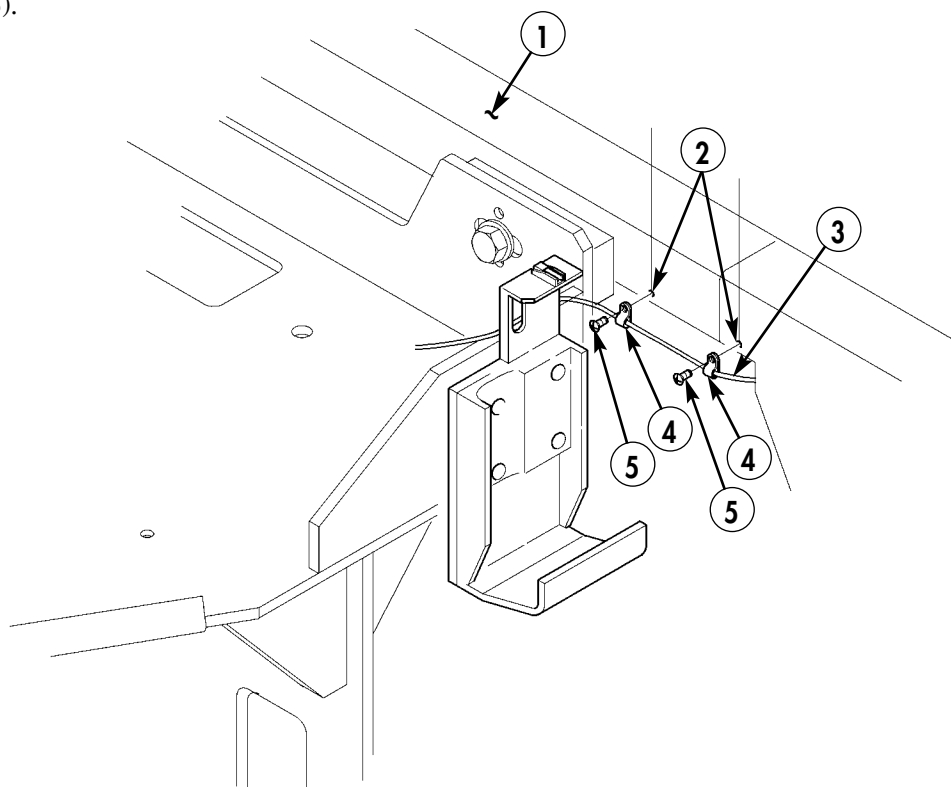
7. SHRINK TUBING – MS23053/4-302-0 – QTY. A/R

11. TERMINAL LUG – 7728777 – QTY. 1

Figure 5-75.

Section XXIII. PLGR ANTENNA AND CABLE INSTALLATION

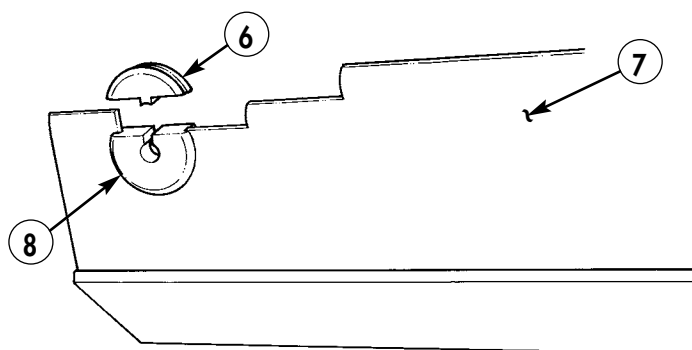
- 23-1.** Remove deep water fording intake stack. (Refer to TM 9-2320-387-24.)
- 23-2.** Remove right windshield deflector. (Refer to TM 9-2320-387-24.)
- 23-3.** Locate, mark, and drill two 0.147-in. diameter holes (2) in plenum (1).
- 23-4.** Route PLGR antenna cable (3) along plenum (1) using two loop clamps (4) and self-tapping screws (5).



- 3. PLGR ANTENNA CABLE – 426-0141-050 – QTY. 1**
- 4. LOOP CLAMP – MS21333-67 – QTY. 2**
- 5. SELF-TAPPING SCREW – 9440025 – QTY. 2**

Figure 5-76.

- 23-5.** Cut grommet (6) to fit opening (8) and install in right windshield deflector (7).



- 6. GROMMET – 12460299 – QTY. 1**

Figure 5-77.

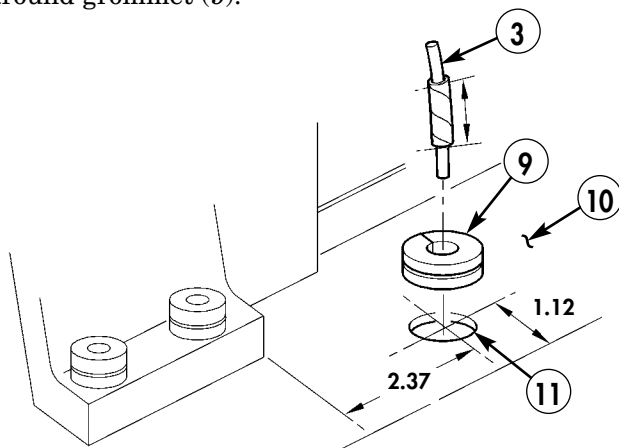
- 23-6.** Locate, mark, and drill 0.562-in. diameter hole (11) in A-frame pillar (10).

NOTE

Wrap a section of PLGR antenna cable with tape to prevent PLGR antenna cable from being pulled into vehicle.

- 23-7.** Split grommet (9) and insert PLGR antenna cable (3) and grommet (9) in hole (11) in A-frame pillar (10).

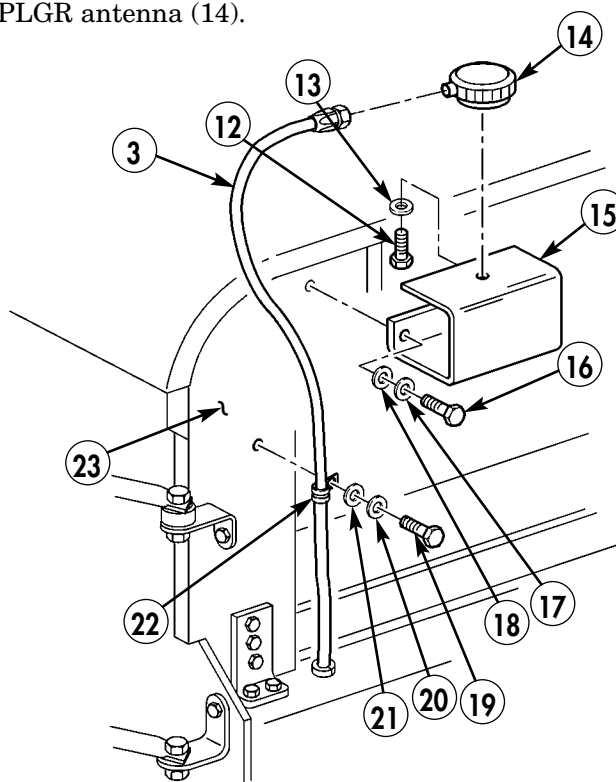
- 23-8.** Apply RTV sealant around grommet (9).



9. GROMMET – MS35489-31 – QTY. 1

Figure 5-78.

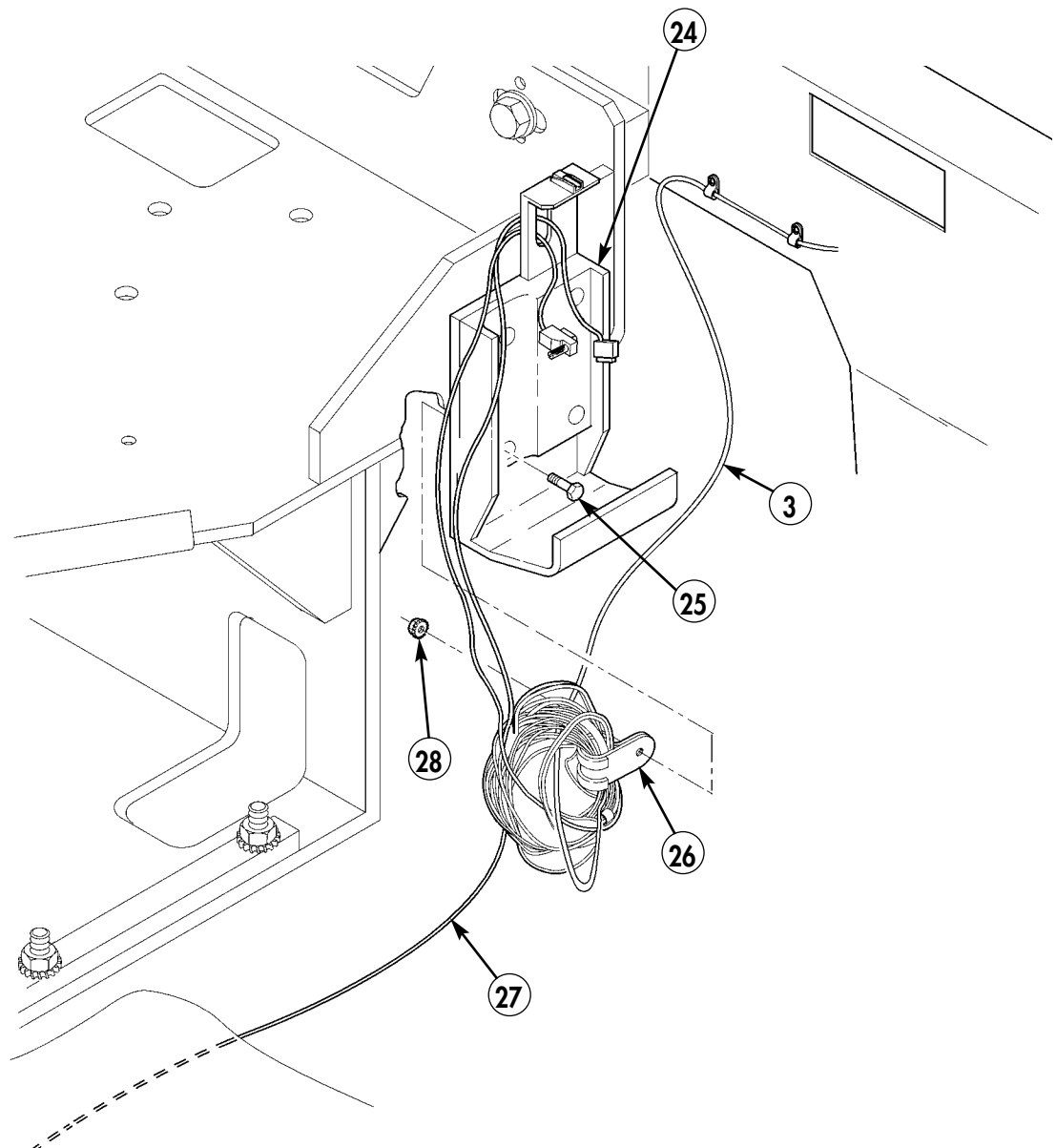
- 23-9.** Attach PLGR antenna (14) to support bracket (15) with screw (12) and lockwasher (13).
- 23-10.** Attach support bracket (15) to right windshield armor plate (23) with two existing screws (16), lockwashers (17), and washers (18).
- 23-11.** Route PLGR antenna cable (3) along right windshield armor plate (23) with loop clamp (22), existing screw (19), lockwasher (20), and washer (21).
- 23-12.** Connect PLGR antenna cable (3) to PLGR antenna (14).



- 12. SCREW – MS35207-261 – QTY. 1**
- 13. LOCKWASHER – MS35338-43 – QTY. 1**
- 14. PLGR ANTENNA – AT575-030 – QTY. 1**
- 15. SUPPORT BRACKET – 12460300 – QTY. 1**
- 22. LOOP CLAMP – MS21333-96 – QTY. 1**

Figure 5-79.

- 23-13.** Secure PLGR power cable (27) and PLGR antenna cable (3) to PLGR mount assembly (24) with loop clamp (26), existing locknut (28), and screw (25).
- 23-14.** Install right windshield deflector. (Refer to TM 9-2320-387-24.)
- 23-15.** Install deep water fording stack. (Refer to TM 9-2320-387-24.)

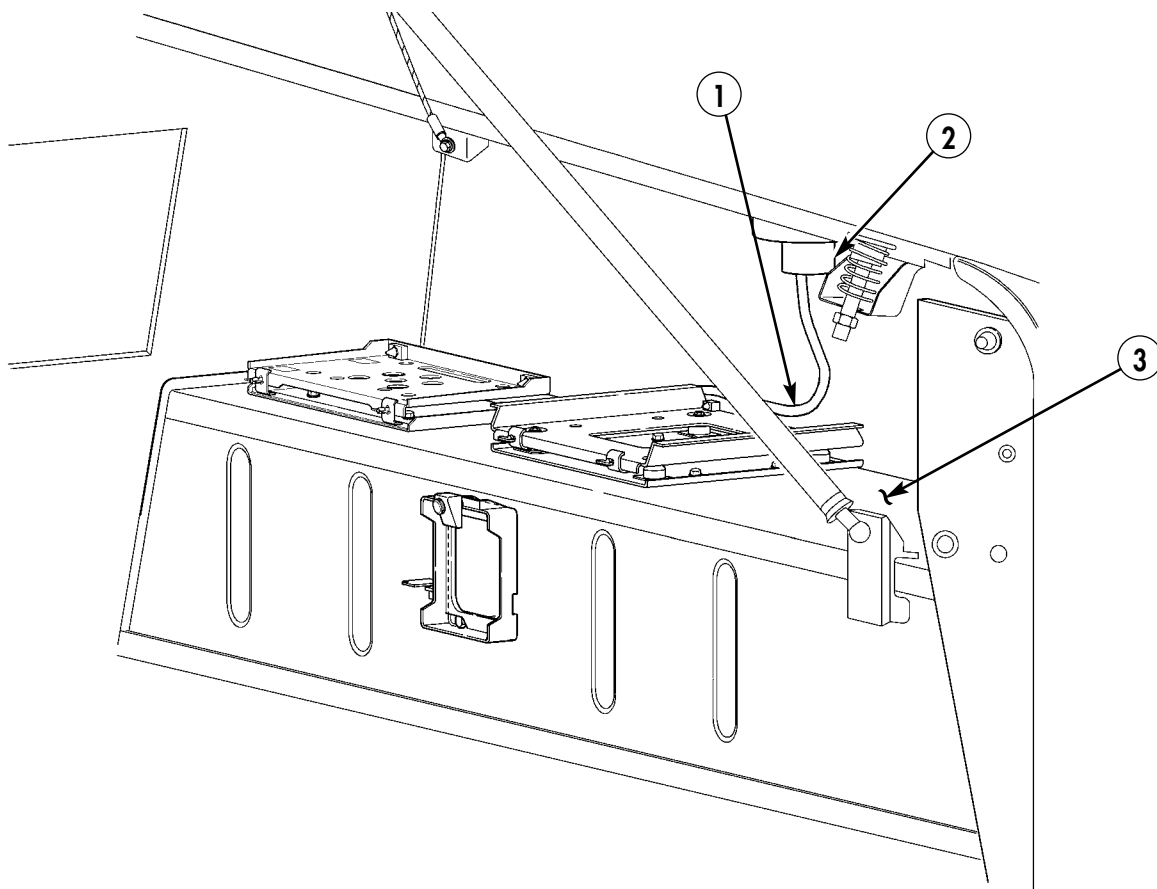


26. LOOP CLAMP – MS21333-78 – QTY. 1

Figure 5-80.

Section XXIV. CABLES INSTALLATION

- 24-1.** Connect SINCGARS antenna cable (1) to antenna (2).
24-2. Route SINCGARS antenna cable (1) down to top of right rear wheelwell (3).



1. SINCGARS ANTENNA CABLE – A3014031-17 – QTY. 1

Figure 5-81.

- 24-3.** Remove twelve screws (4), four screws (6), and cargo floor cover (5) from cargo floor (7). Retain all screws (4) and (6).

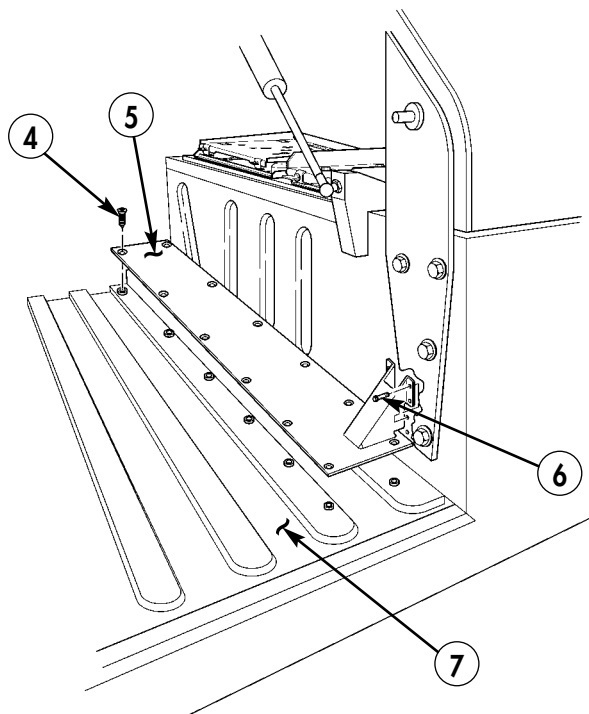
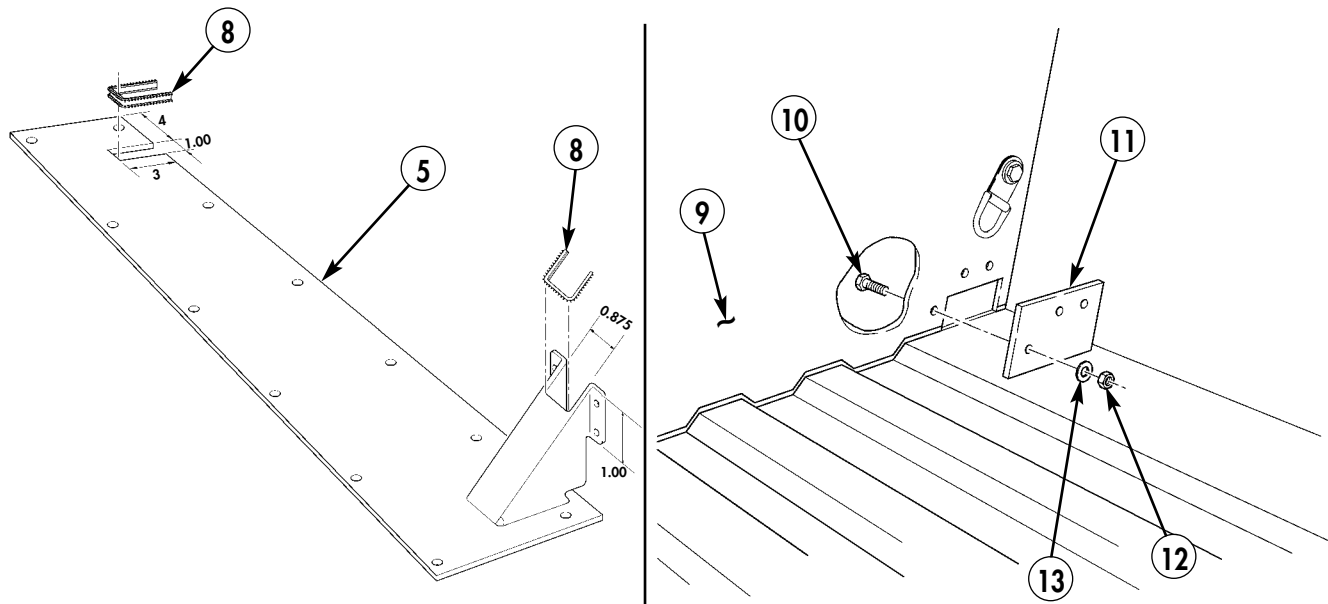


Figure 5-82.

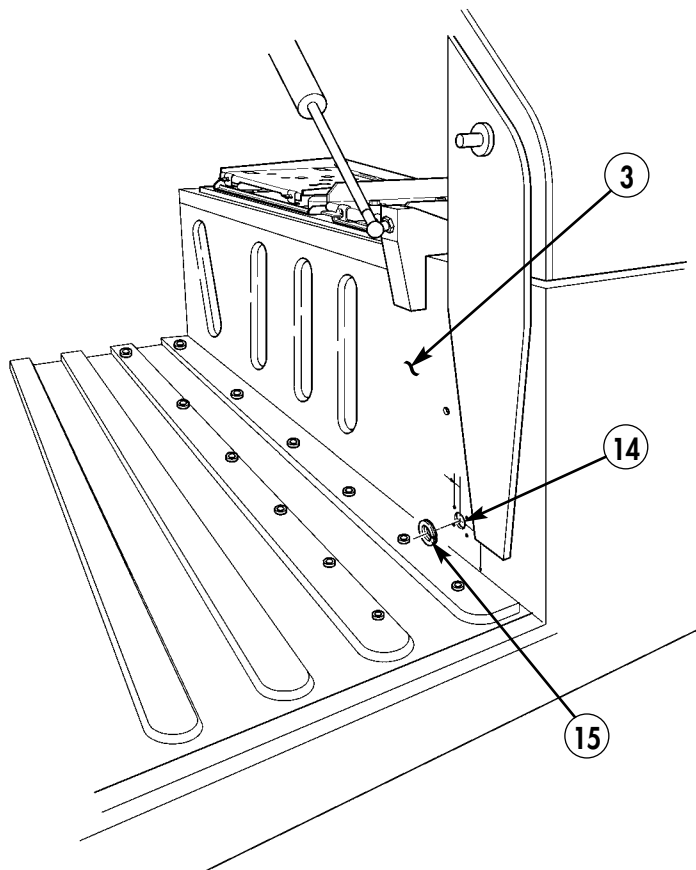
- 24-4.** Cut notches in cargo floor cover (5) as shown.
24-5. Cut and install grommet material (8) to fit. Secure with RTV compound.
24-6. Remove three screws (10), washers (13), nuts (12), and rear partition access cover (11) from rear partition (9).



8. GROMMET MATERIAL – MS21266-1N – QTY. A/R

Figure 5-83.

- 24-7.** Locate, mark, and drill a 0.750-in. hole (14) in right rear wheelhouse (3).
- 24-8.** Insert grommet (15) into hole (14) in right rear wheelhouse (3).



15. GROMMET – MS35489-149 – QTY. 1

Figure 5-84.

- 24-9.** Remove three screws (16) and cargo floor cover (5) from cargo floor (7) behind right rear seat (17).

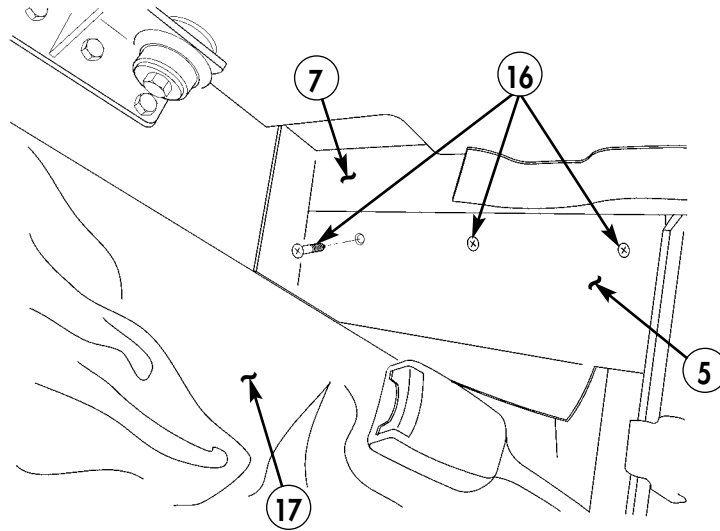
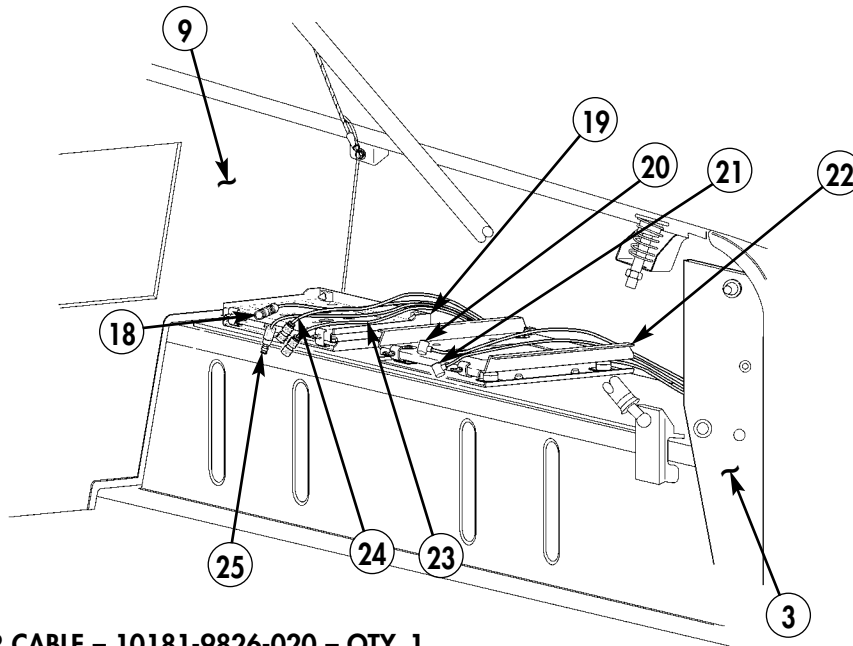


Figure 5-85.

- 24-10.** Lay EPLRS power cable (20) and INC-EPUU cable (21) connectors in vicinity of EPLRS mount (22). Ensure enough slack in cables to connect to equipment when installed.

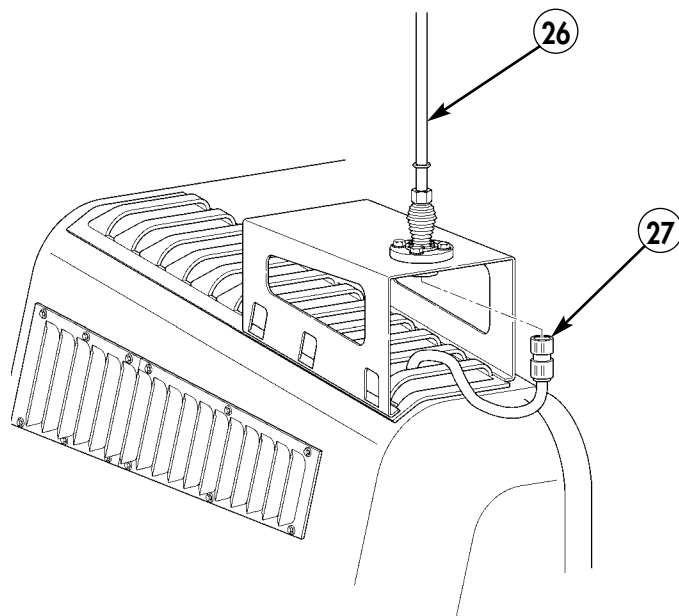


18. HF POWER CABLE – 10181-9826-020 – QTY. 1
 20. EPLRS POWER CABLE – A3004939 – QTY. 1
 21. INC-EPUU CABLE – A3279383-3 – QTY. 1
 23. HF RADIO SPEAKER CABLE – 10535-0707-A020 – QTY. 1
 24. COUPLER CONTROL CABLE – 10181-9823-020 – QTY. 1
 25. HF ANTENNA CABLE – 10181-9824-020 – QTY. 1

Figure 5-86.

- 24-11.** Route HF power cable (18) behind mounts (22) and (19) along wheelhouse (3) to rear partition (9).
24-12. Position HF antenna cable (25), speaker cable (23), and control cable (24) in vicinity of HF 150 watt radio mount (19).

24-13. Connect EPLRS antenna cable (27) to EPLRS antenna (26).

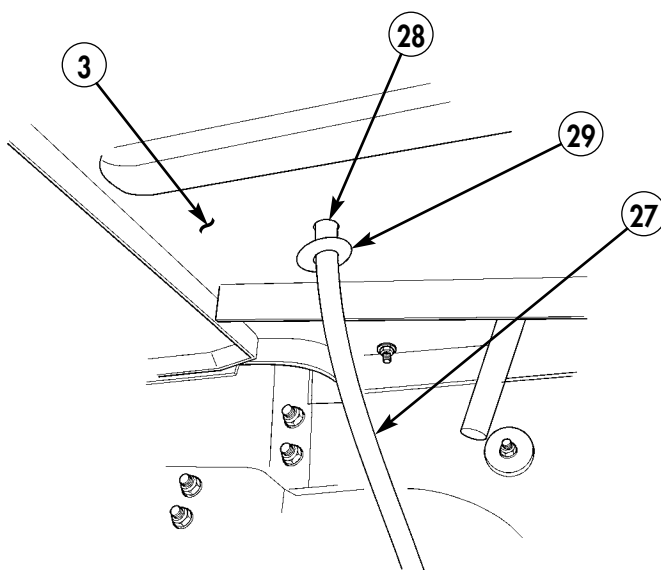


27. EPLRS ANTENNA CABLE – SM-C-911480 – QTY. 1

Figure 5-87.

24-14. Drill 1.00-in. hole (28) in wheelhouse (3).

24-15. Route EPLRS antenna cable (27) through grommet (29) in wheelhouse (3).



29. GROMMET – MS35489-19 – QTY. 1

Figure 5-88.

24-16. Route EPLRS antenna cable (27) through bracket (30) and along frame (31).

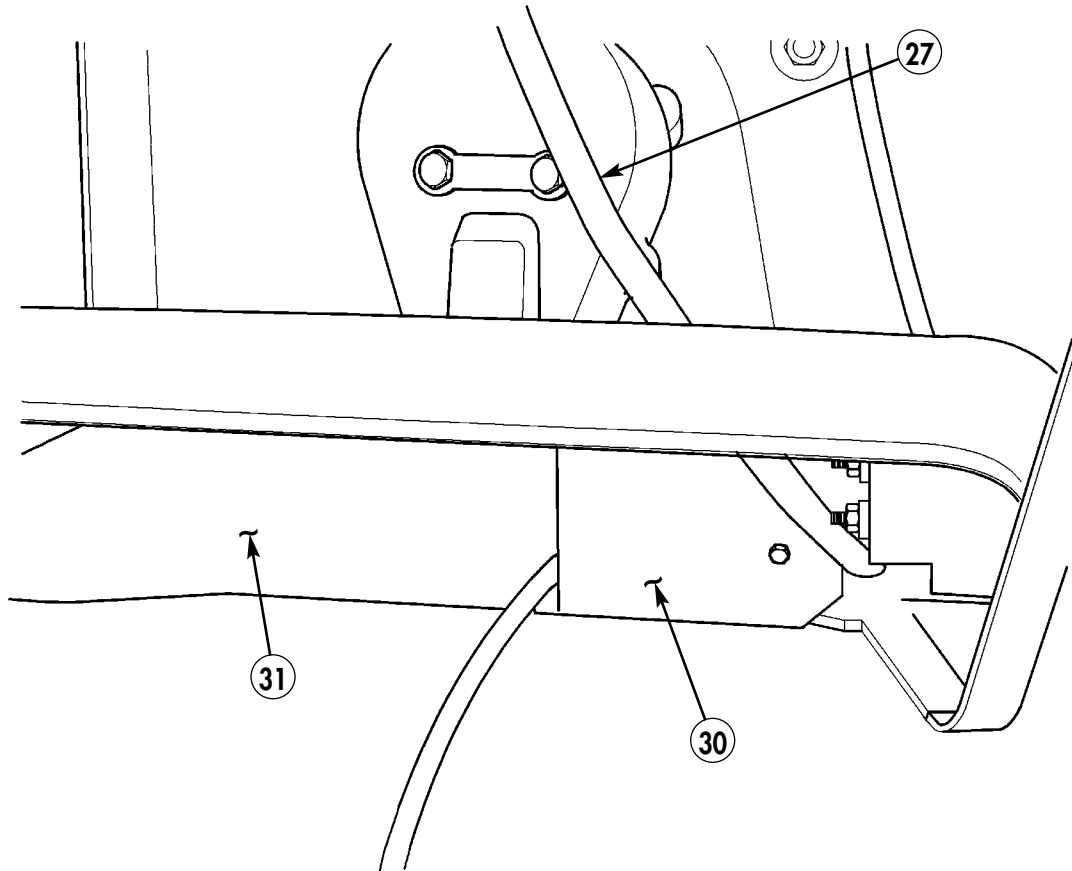
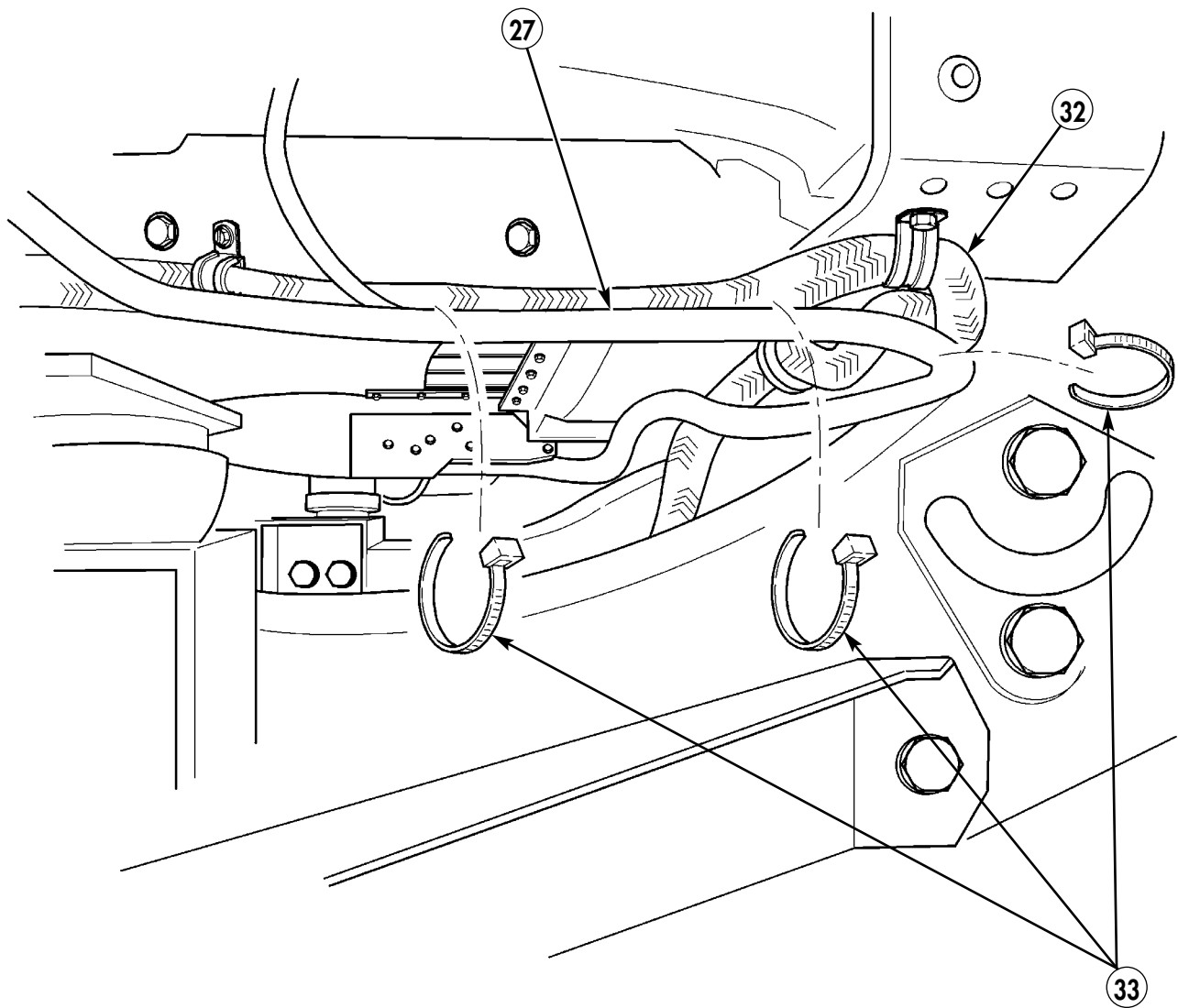


Figure 5-89.

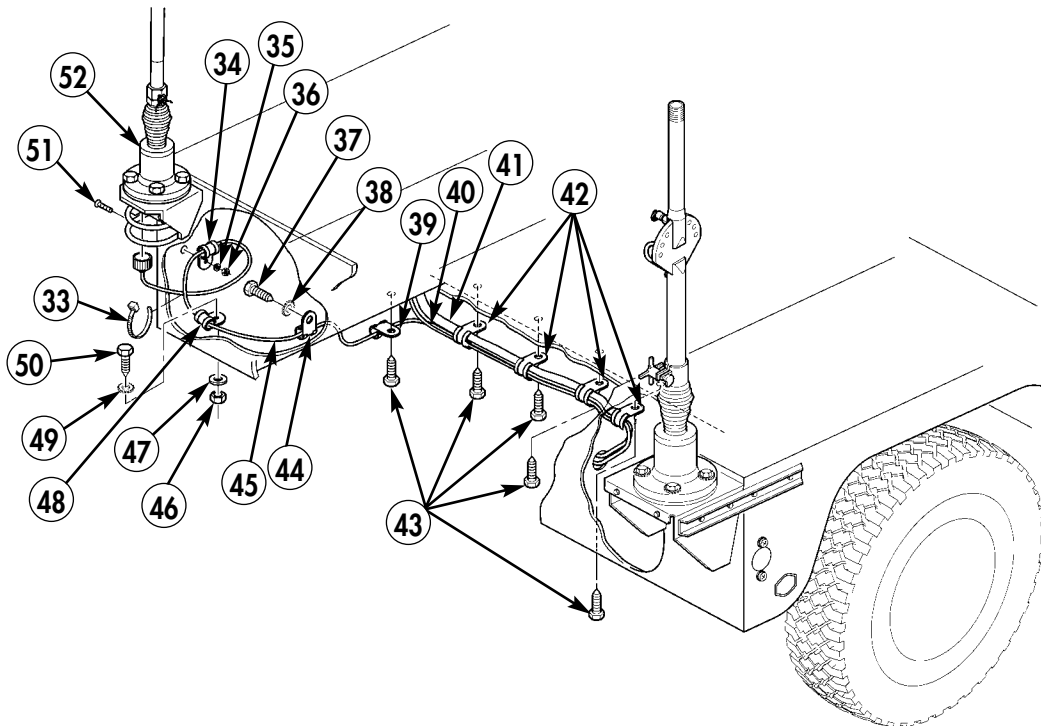
24-17. Secure EPLRS antenna cable (27) to taillight wiring harness (32) with tie-down straps (33).



33. TIE-DOWN STRAP – MS3367-1-0 – QTY. A/R

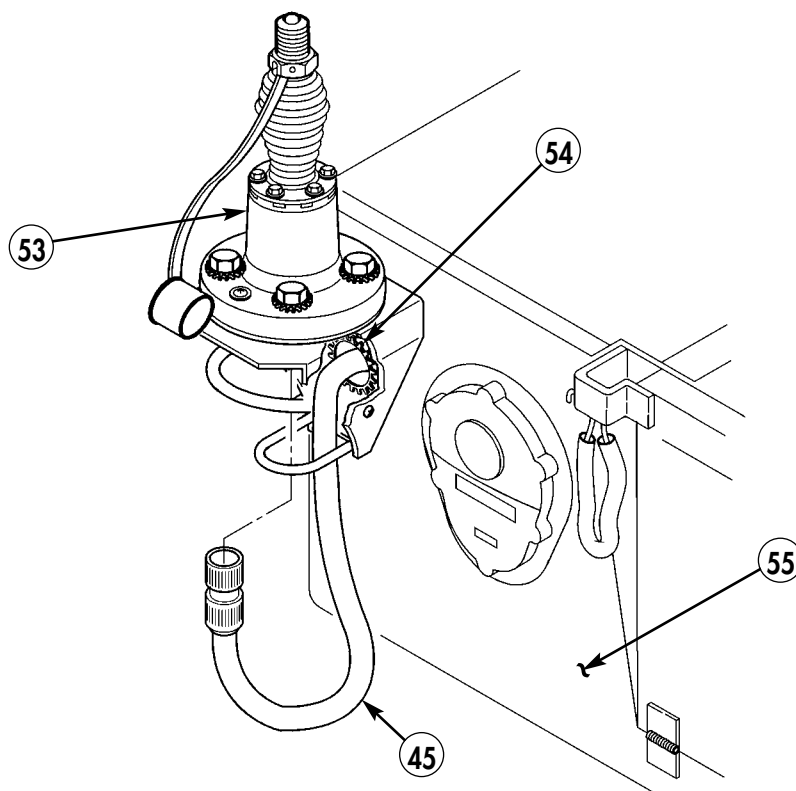
Figure 5-90.

- 24-18.** Route antenna cable (45) along existing taillight wiring harness (41) and EPLRS antenna cable (40) and secure with four existing loop clamps (42) and existing self-tapping screws (43).
- 24-19.** Route antenna cable (45) along existing taillight wiring harness on left-side frame rail and secure with existing loop clamp (39), and existing self-tapping screw (43).
- 24-20.** Route antenna cable (45) along existing taillight wiring harness and secure with existing loop clamp (44), self-tapping screw (37) and lockwasher (38).
- 24-21.** Route antenna cable (45) along existing taillight wiring harness and secure with existing loop clamp (48), screw (50), lockwasher (49), washer (47), and nut (46).
- 24-22.** Route antenna cable (45) to antenna base (52) with existing loop clamp (34), screw (51), lockwasher (35), and nut (36).
- 24-23.** Route SINCGARS antenna cable (45) through hole (54) in rear wall (55).
- 24-24.** Attach SINCGARS antenna cable (45) to antenna base (53).
- 24-25.** Coil excess antenna cable (45) and secure to inside of taillight closeout cover with tiedown strap (33).



33. TIEDOWN STRAP – MS3367-1-0 – QTY. A/R

Figure 5-91.



45. SINCGARS ANTENNA CABLE – A3014031-17 – QTY. 1

Figure 5-92.

24-26. Feed SINCGARS antenna cable (45) and EPLRS antenna cable (27) through hole and grommet (15) in right-rear wheelwell (3).

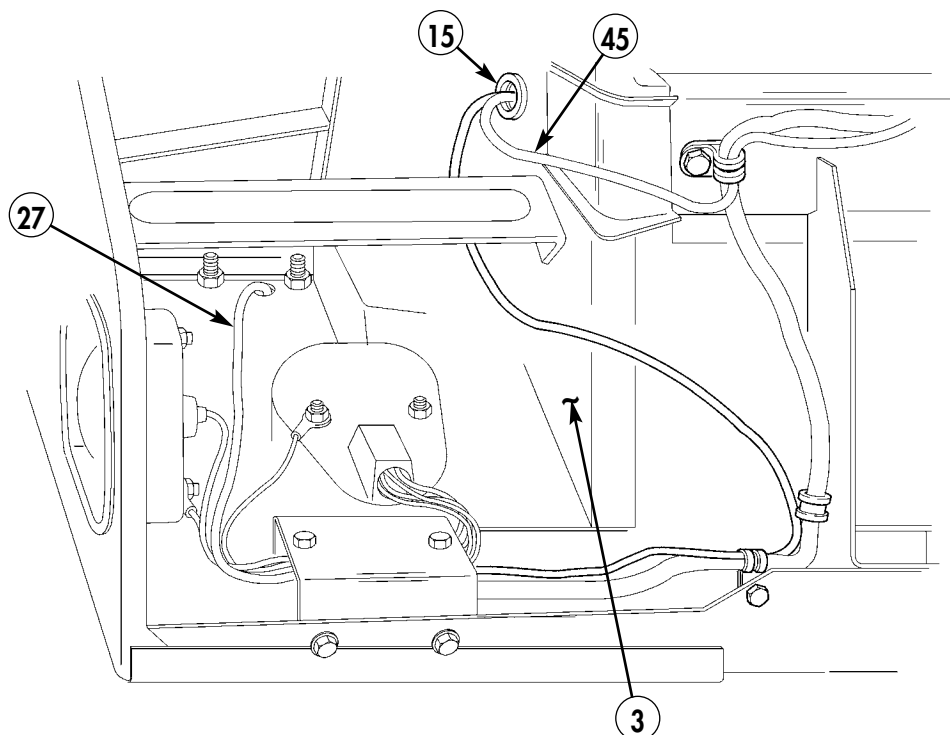
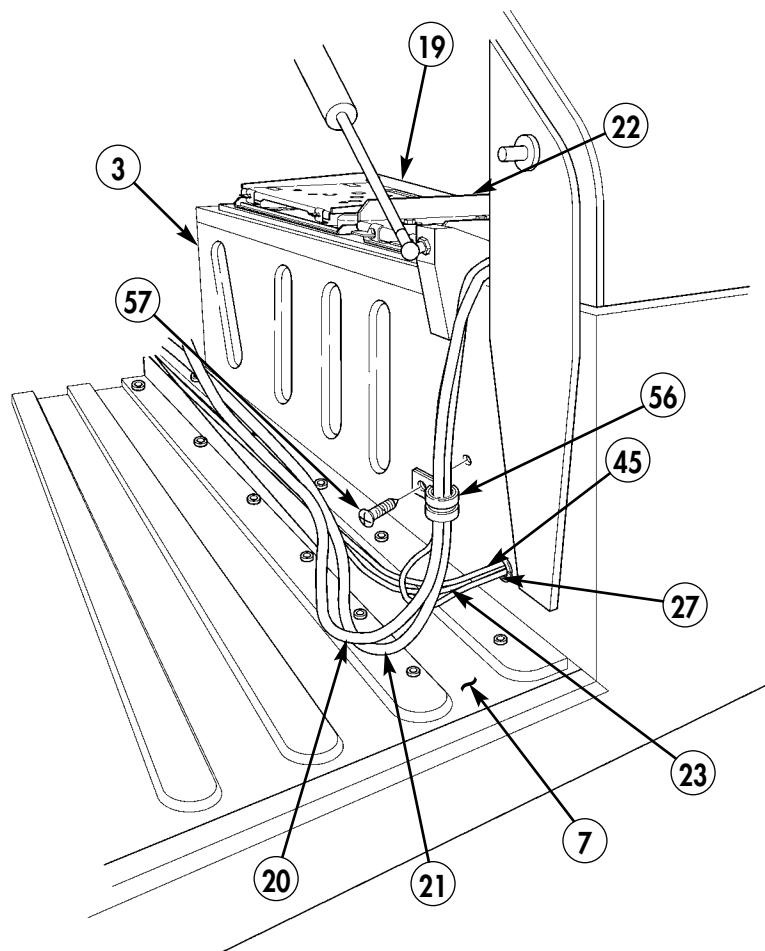


Figure 5-93.

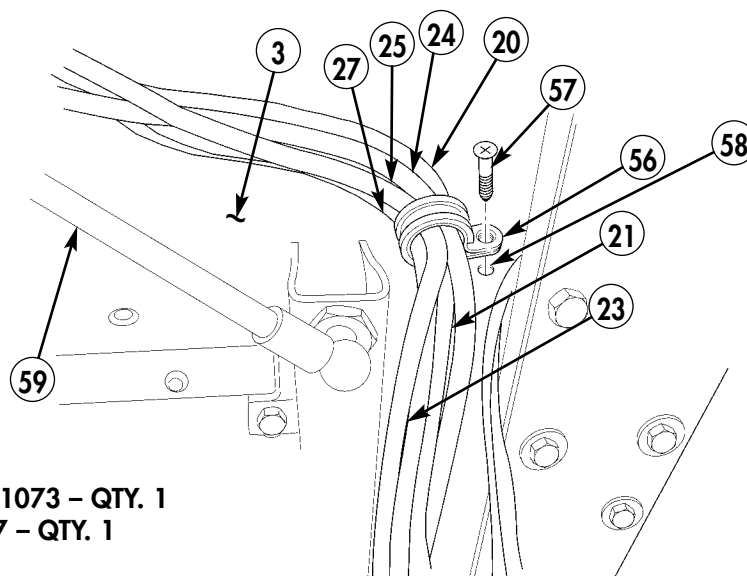
- 24-27.** Route EPLRS power cable (20), INC-EPUU cable (21), HF radio speaker cable (23) and SINCGARS antenna cables (45) along channel of cargo floor (7) towards front of vehicle.
- 24-28.** Route EPLRS antenna cable (27) up wheelhouse (3) to vicinity of EPLRS mount (22) behind HF 150 watt radio mount (19).
- 24-29.** Secure cables to wheelhouse (3) with loop clamp (56) and self-tapping screw (57).



- 56. LOOP CLAMP – MS21333-77 – QTY. 1**
- 57. SELF-TAPPING SCREW – 9421073 – QTY. 1**

Figure 5-94.

- 24-30.** Drill one 0.147-in. diameter hole (58) in right rear wheelhouse (3) near right gas spring (59).
- 24-31.** Secure EPLRS power cable (20) and INC-EPUU cable (21), EPLRS antenna cable (27), coupler control cable (24), HF radio speaker cable (23), and HF 150 watt radio antenna cable (25) to right rear wheelhouse (3) with loop clamp (56) and self-tapping screw (57).



56. SELF-TAPPING SCREW – 9421073 – QTY. 1

57. LOOP CLAMP – MS21333-77 – QTY. 1

Figure 5-95.

- 24-32.** Drill one 0.147-in. diameter hole (60) in right rear wheelhouse (3).

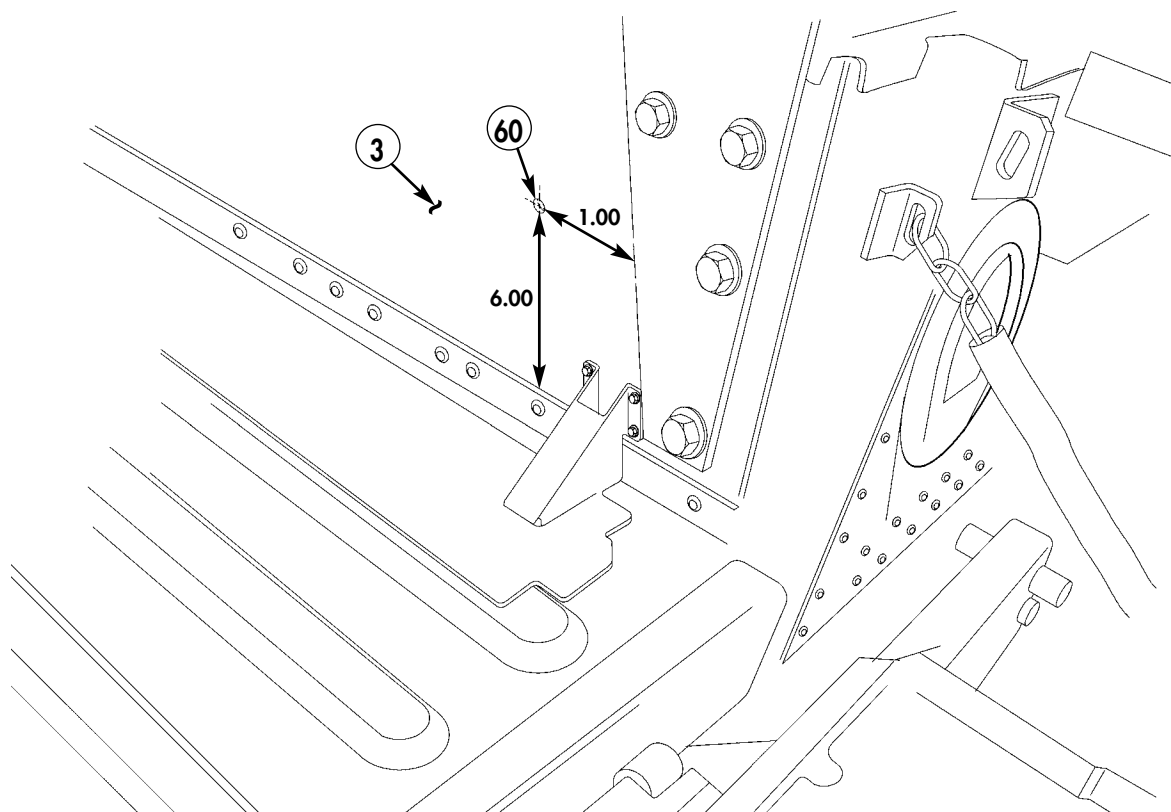
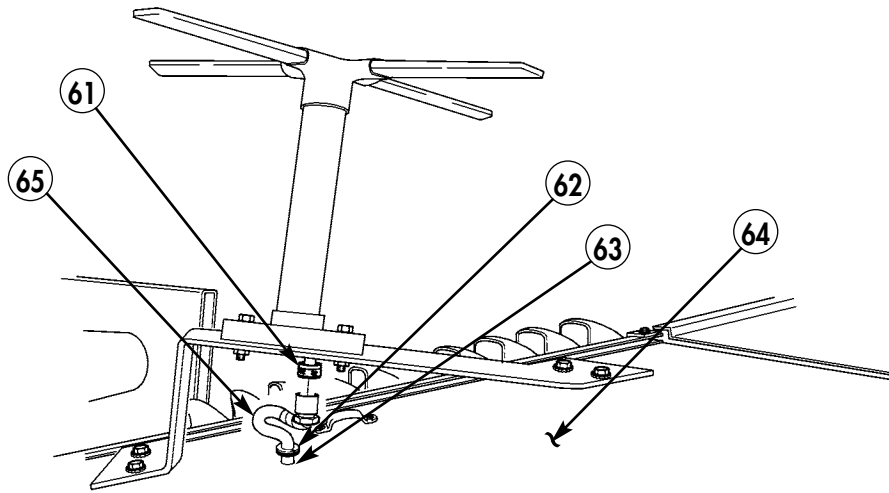


Figure 5-96.

- 24-33.** Route TAC-SAT antenna cable (65) through hole (63) in cargo door (64).
- 24-34.** Install grommet (62) on cable (65).
- 24-35.** Connect TAC-SAT antenna cable (65) to TAC-SAT antenna (61).
- 24-36.** Install grommet (62) in hole (63).



- 62. GROMMET – MS35489-150 – QTY. 1**
- 65. CABLE – 10369-7211-20 – QTY. 1**

Figure 5-97.

- 24-37.** Secure antenna cable (65) to underside of cargo door (64) on existing stud (66) with loop clamp (67), ground strap (69), and nut (68).
- 24-38.** Install ground strap (69) to body of vehicle (73) with existing stud (72), washer (70), and nut (71).
- 24-39.** Secure antenna cable (65) to rear partition (9) with five loop clamps (67) and existing capscrews (74).
- 24-40.** Route antenna cable (65) to right rear wheelhouse.

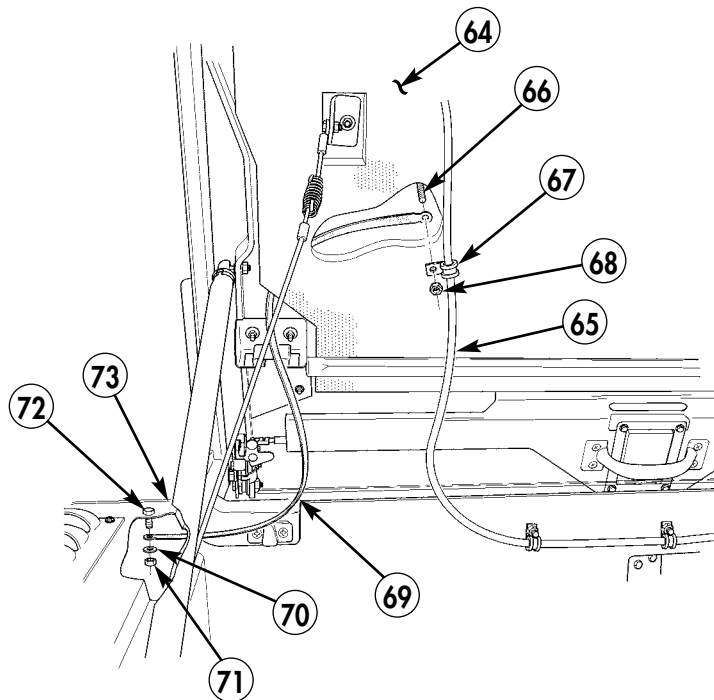
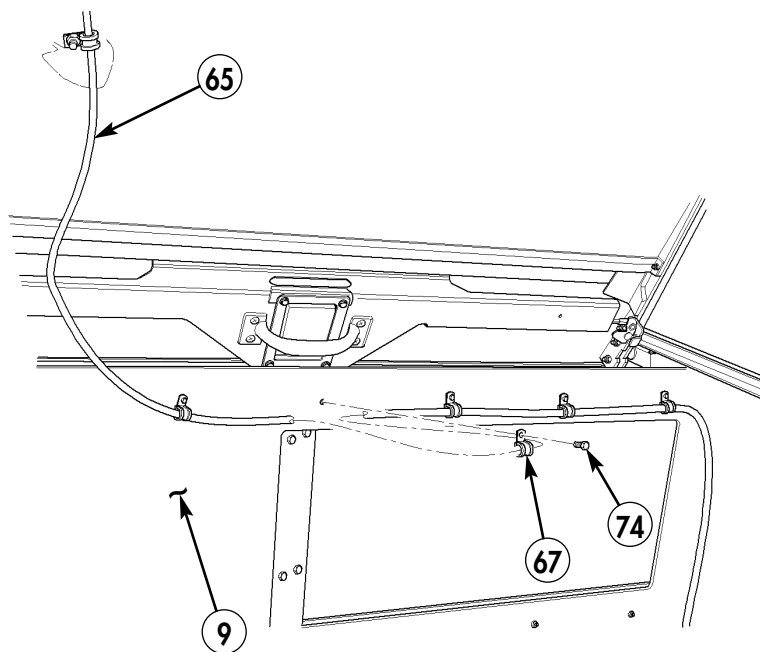


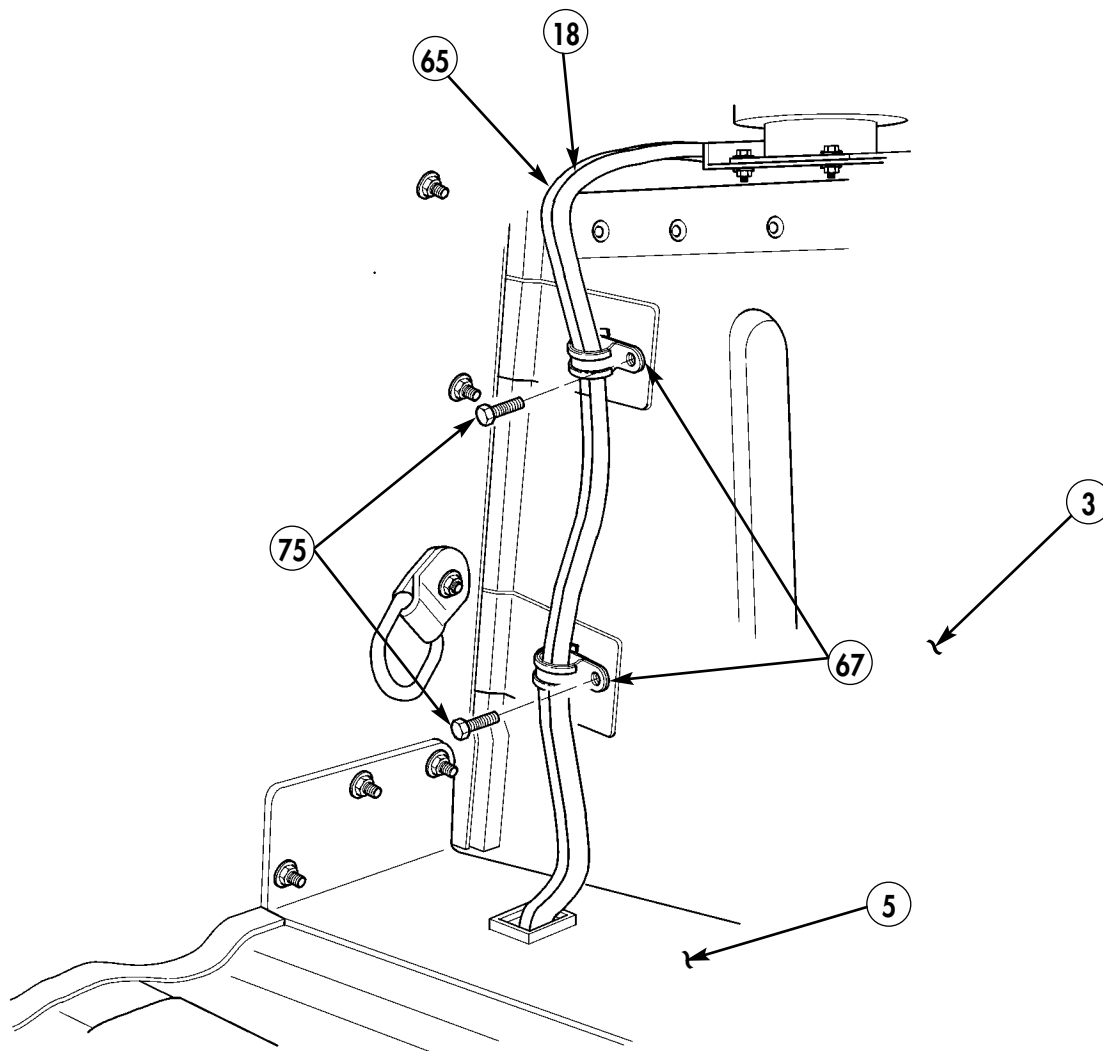
Figure 5-98.



67. LOOP CLAMP – MS21333-112 – QTY. 6

Figure 5-99.

- 24-41.** Route TAC-SAT antenna cable (65) and HF 150 watt power cable (18) down side of wheelhouse (3) and through cutout in cargo floor cover (5).
- 24-42.** Secure cables (65) and (18) to wheelhouse (3) with two loop clamps (67) and existing screws (75).

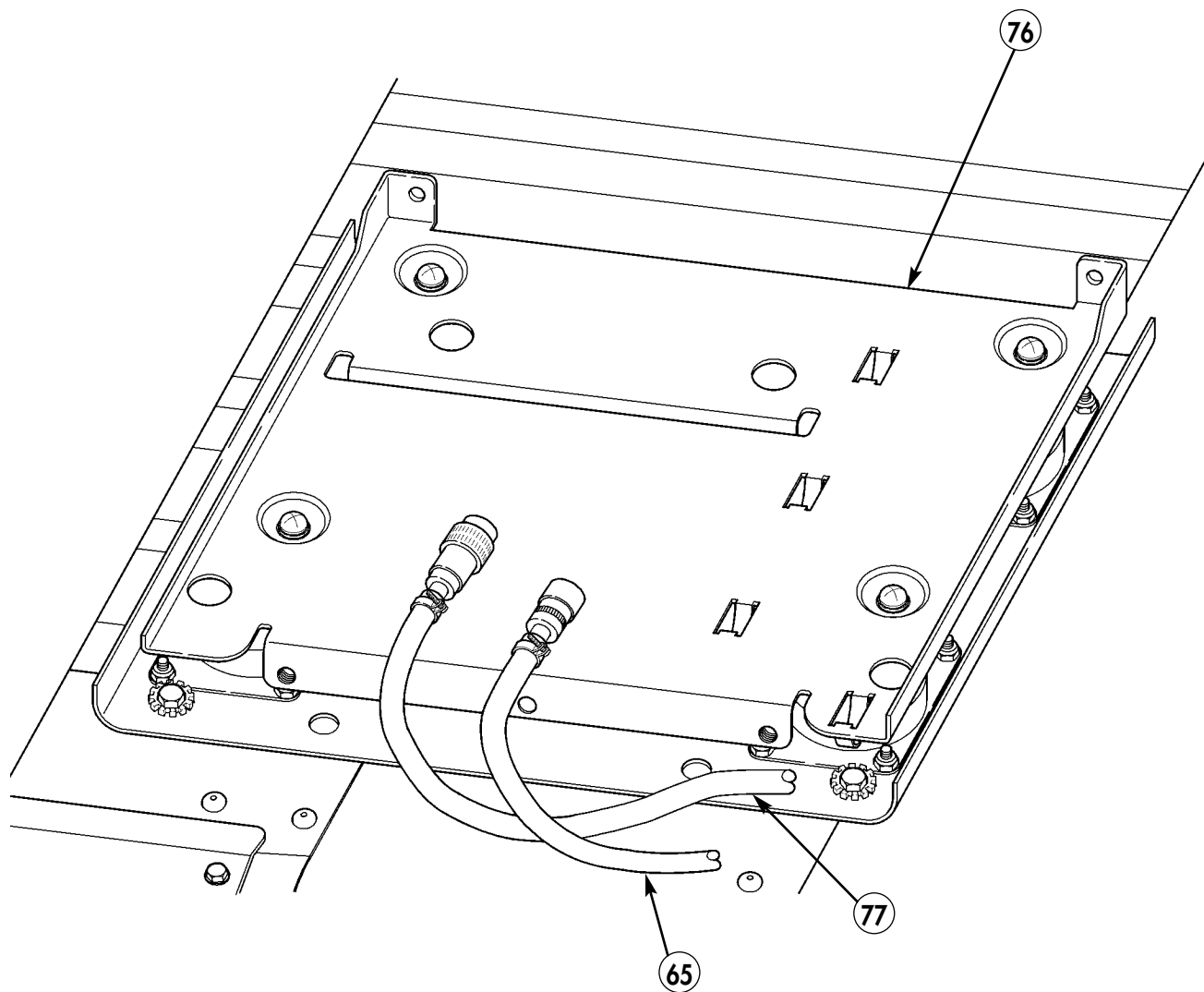


67. LOOP CLAMP – MS21333-112 – QTY. 2

Figure 5-100.

24-43. Route TAC-SAT antenna cable (65) to TAC-SAT radio mount (76).

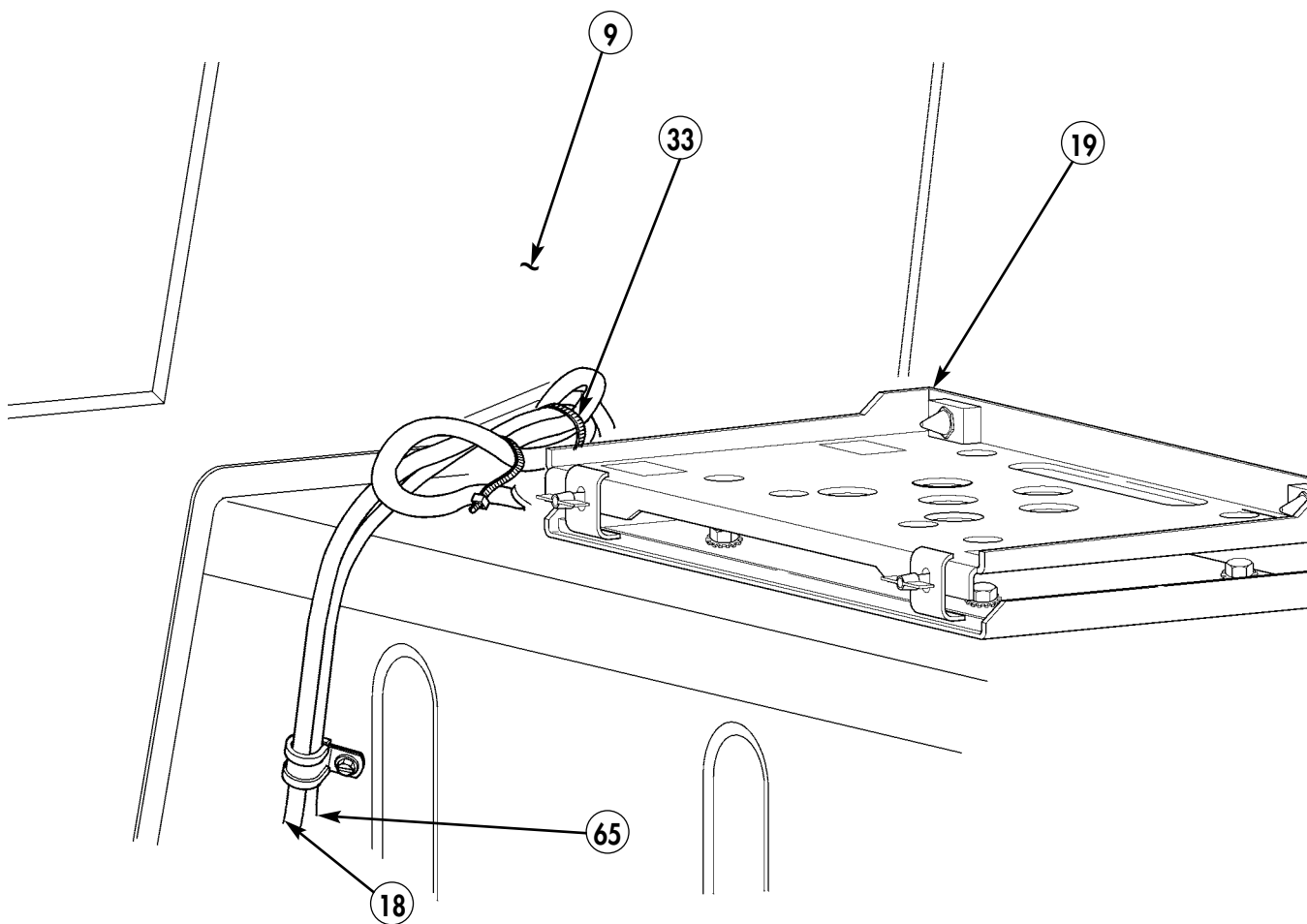
24-44. Route TAC-SAT power cable (77) from TAC-SAT radio mount (76) to tunnel.



77. TAC-SAT POWER CABLE – 10570-0705-A021 – QTY. 1

Figure 5-101.

- 24-45.** Bundle TAC-SAT antenna cable (65) and HF 150 watt radio power cable (18) with tie-down straps (33) and position between HF 150 watt radio mount (19) and rear partition (9).



33. TIE-DOWN STRAP – MS33367-1-0 – QTY. A/R

Figure 5-102.

- 24-46.** Bundle all cables (79) and install in side channel (78) of cargo floor cover (5).

NOTE

Ensure all cables fit neatly within cargo floor channel before installing cargo floor cover.

- 24-47.** Install cargo floor cover (5) on cargo floor (7) with twelve existing screws (4) and four screws (6) retained in step 24-3.

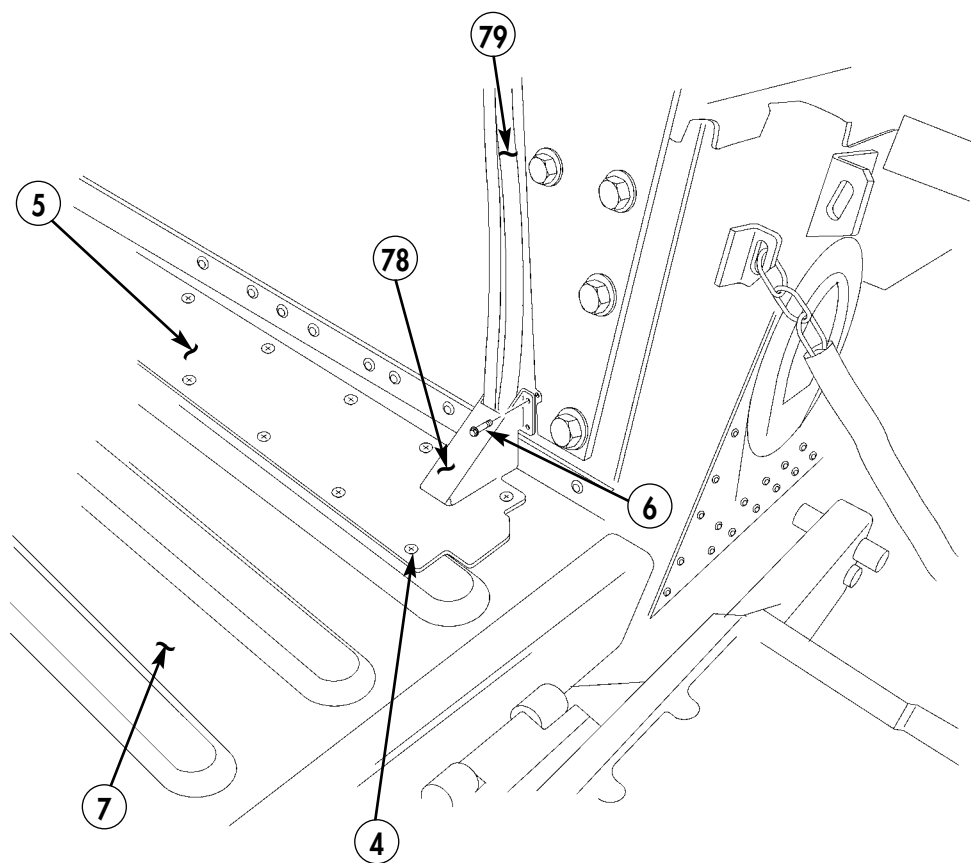


Figure 5-103.

- 24-48.** Route all cables (79) forward from step 24-28 through cargo access hole (81) and in between tunnel (82) and right rear seat (80).

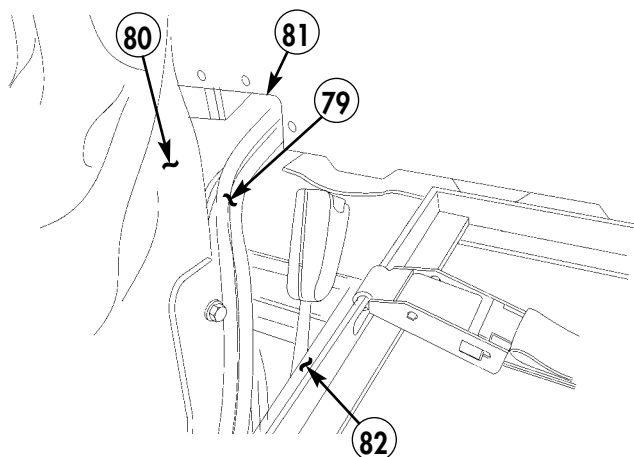


Figure 5-104.

NOTE

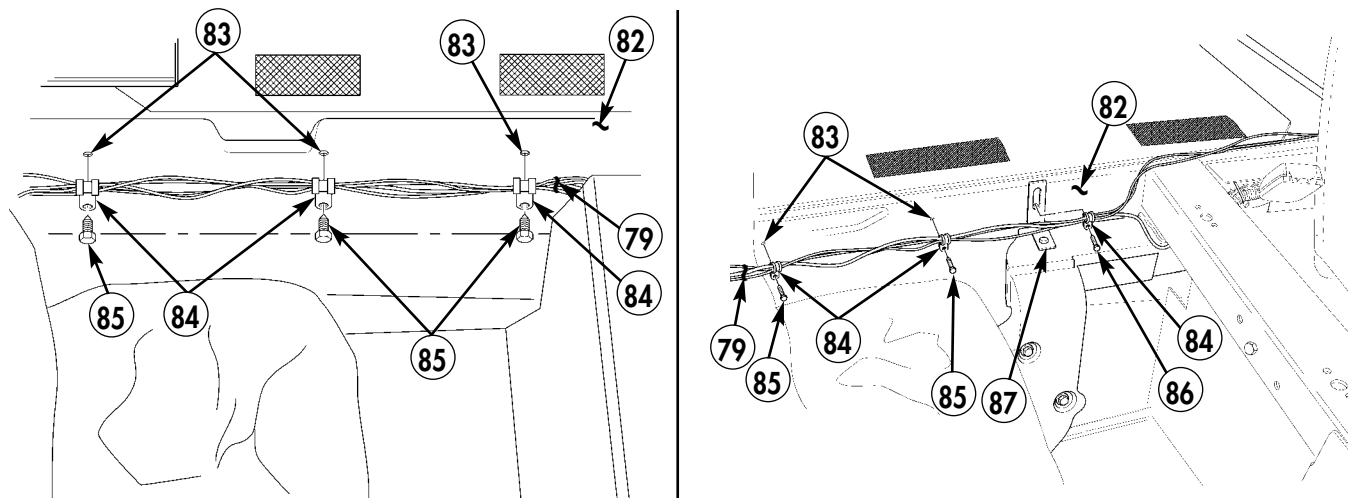
- Perform steps 24-49 and 24-50 if supplemental heater is not installed. Perform 24-51 and 24-52 if supplemental heater is installed.
- Do not route TAC-SAT or HF radio speaker cables through tunnel.

- 24-49.** Locate, mark, and drill three 0.147-in. diameter holes (83) in side of tunnel (82), evenly spaced apart.

- 24-50.** Secure cables (79) to side of tunnel (82) with three clamps (84) and self-tapping screws (85).

- 24-51.** Locate, mark, and drill two 0.147-in. diameter holes (83) in side of tunnel (82), evenly spaced apart.

- 24-52.** Secure all cables (79) to side of tunnel (82) with two loop clamps (84) and self-tapping screws (85), and clamp (84), existing bracket (87), and screw (86).



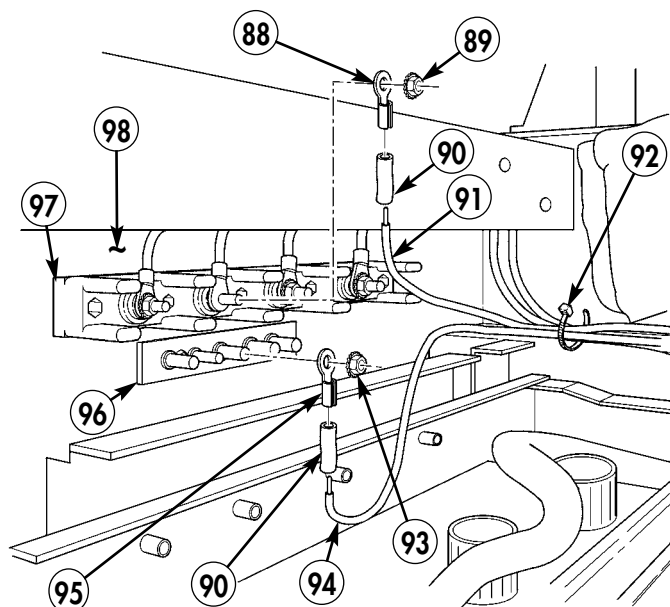
- 84. LOOP CLAMP – MS21333-75 – QTY. 3**
85. SELF-TAPPING SCREW – 9421073 – QTY. 2

Figure 5-105.

NOTE

Remove terminal board cover before connecting leads, and reinstall cover after leads are connected.

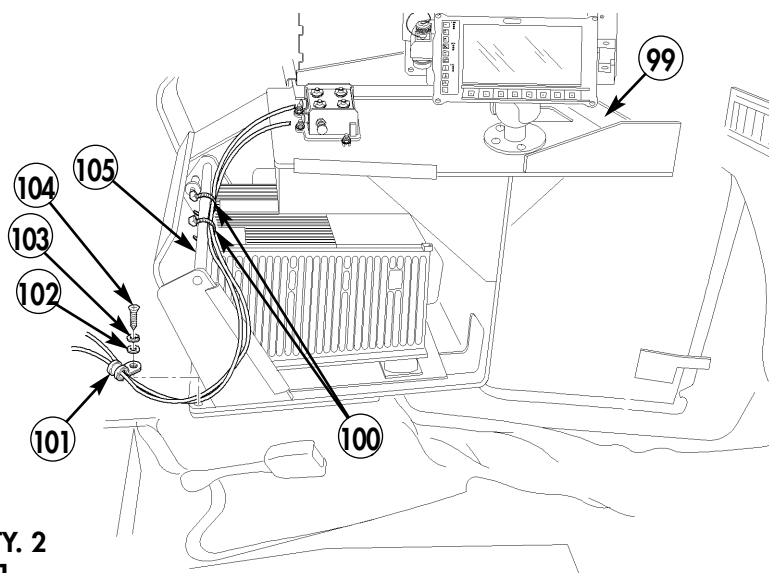
- 24-53.** Attach heat shrink tubing (90) and two terminal lugs (88) and (95) to power cable negative lead (94) and power cable positive lead (91). (Refer to TM 9-2320-387-24 for terminal connector repair.)
- 24-54.** Connect power cable positive lead (91) to 24-volt terminal board (97), located on cab enclosure panel (98), with existing nut (89).
- 24-55.** Connect power cable negative lead (94) to ground strap (96), located on cab enclosure panel (98), with existing nut (93). Secure leads (91) and (94) together with tiedown strap (92).



- 88. TERMINAL LUG - 7728780 - QTY. 1**
- 90. SHRINK TUBING - MS23053/4-302-0 - QTY. A/R**
- 92. TIEDOWN STRAP - MS3367-1-0 - QTY. A/R**
- 95. TERMINAL LUG - 7728777 - QTY. 1**

Figure 5-106.

- 24-56.** Route remaining cables to integrated rack (99) using one loop clamp (101), existing capscrew (104), lockwasher (103), and washer (102).
- 24-57.** Route cables along bar (105) to top of integrated rack (99) with two tiedown straps (100).



- 100. TIEDOWN STRAP - MS53367-1-0 - QTY. 2**
- 101. LOOP CLAMP - MS21333-104 - QTY. 1**

Figure 5-107.

- 24-58.** Install fuse (109) inside case (107). Secure with nut (108).
- 24-59.** Install case (107) inside holder (106).
- 24-60.** Install holder (106) on HF 150 watt radio power cable.

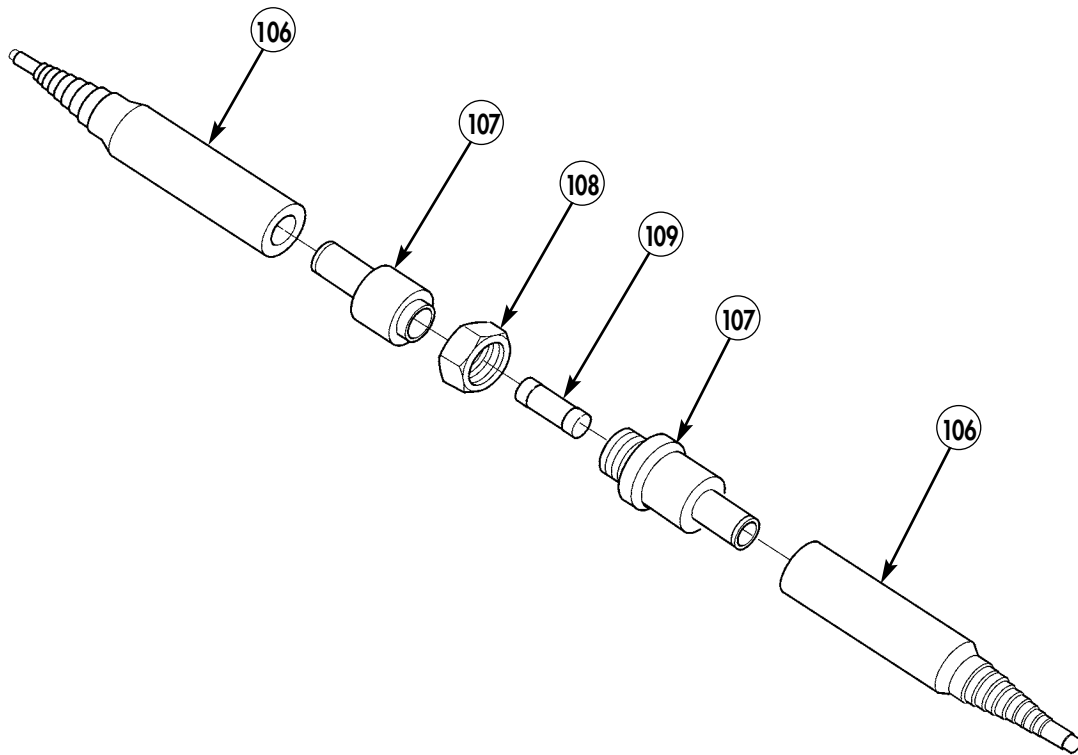
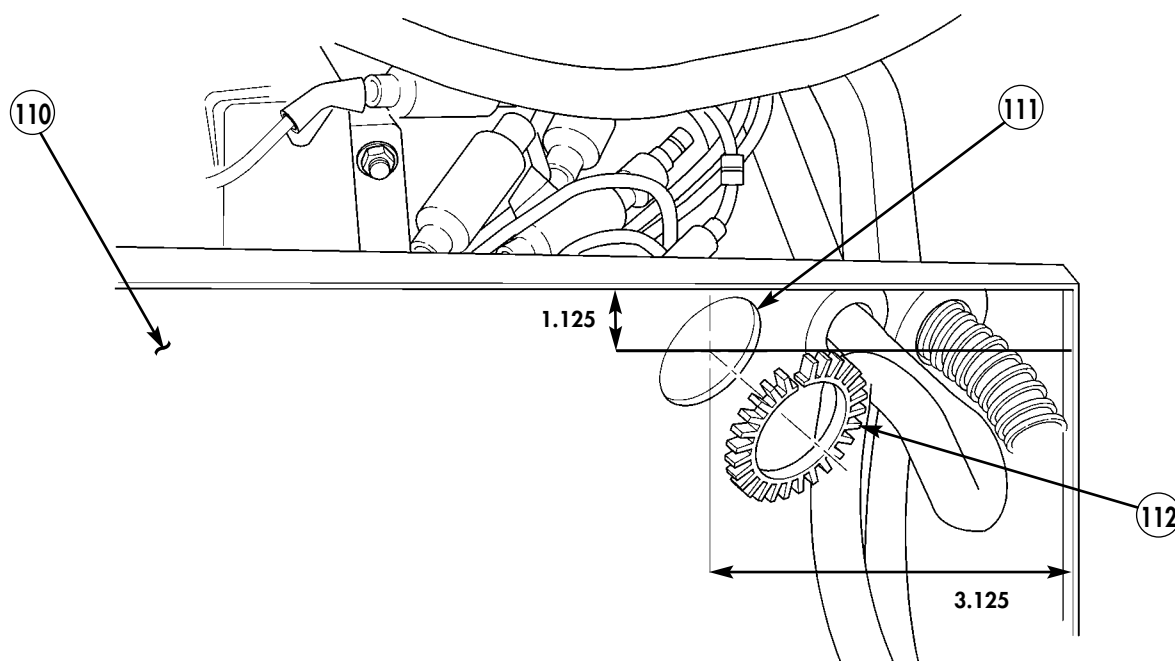


Figure 5-108.

- 24-61.** Locate, mark, and drill 1.50-in. diameter hole (111) in front battery box (110).
- 24-62.** Cut grommet (112) to a length of 4.68 in. Install grommet (112) in battery box (110).
- 24-63.** Route HF 150 watt power cable (18) through hole (111) in battery box (110).



112. GROMMET – MS21266-2N – QTY. 1

Figure 5-109.

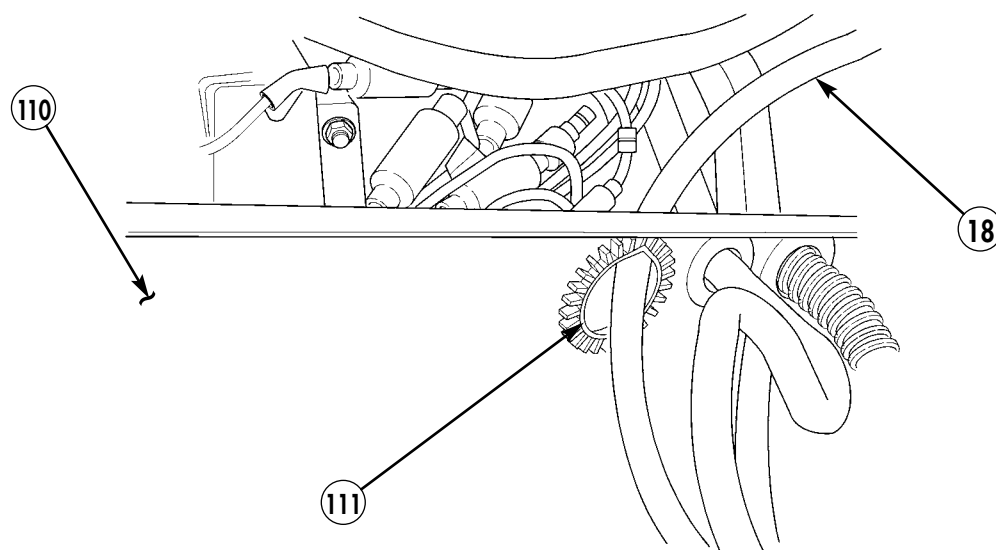


Figure 5-110.

24-64. Route URO extension cable (113) from EPLRS bracket (22) to URO bracket (117).

24-65. Connect URO extension cable (113) to URO bracket (117) with four screws (114), lockwashers (115), and nuts (116).

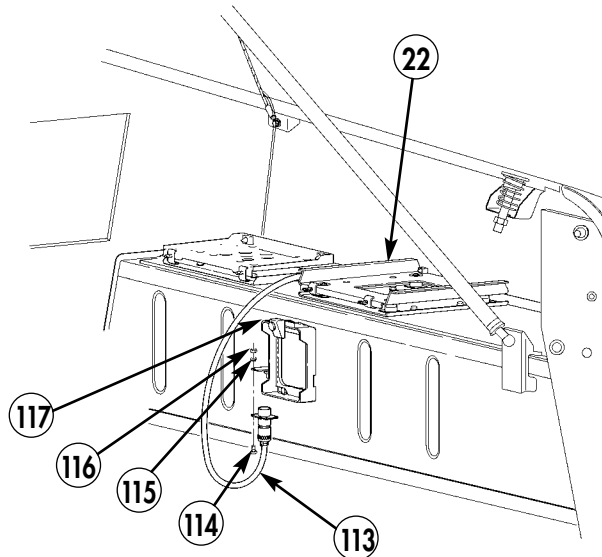


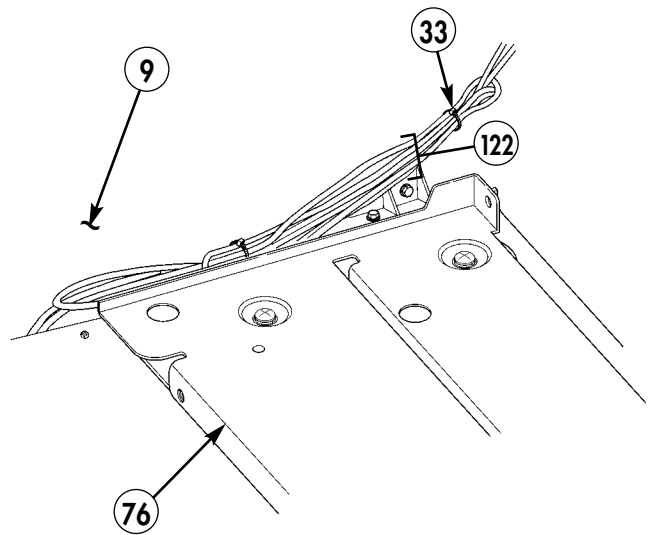
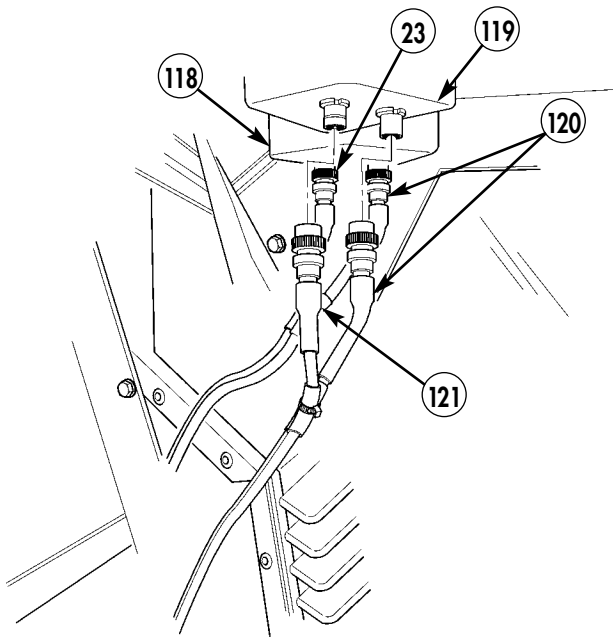
Figure 5-111.

24-66. Connect two speaker cables (120) and (121) to TAC-SAT radio speaker (119).

24-67. Connect two speaker cables (23) and (120) to HF radio speaker (118).

24-68. Route speaker cables (122) down rear partition (9) behind TAC-SAT radio mount (76).

24-69. Bundle speaker cables (122) with tie-down straps (33) as necessary.



33. TIE-DOWN STRAP – MS3367-1-0 – QTY. A/R

120. SPEAKER POWER CABLE – 10535-0708-A020 – QTY. 2

121. TAC-SAT SPEAKER R/T CABLE – 10535-0707-A020 – QTY. 1

Figure 5-112.

By Order of the Secretary of the Army:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

Official:

A handwritten signature in black ink, reading "Joyce E. Morrow". The signature is fluid and cursive, with the first name "Joyce" and last name "Morrow" clearly legible.

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
0620108

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