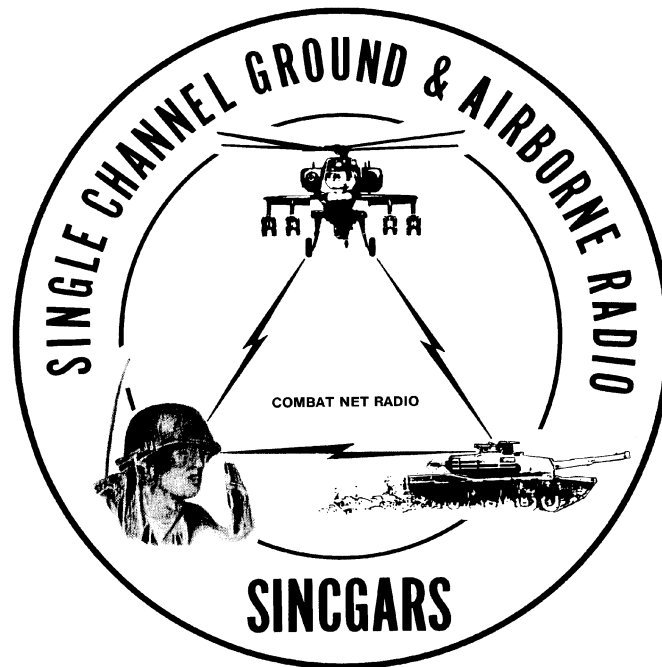# TECHNICAL BULLETIN

INSTALLATION INSTRUCTIONS FOR INSTALLATION KIT, ELECTRONIC EQUIPMENT, MK-2834/VRC (NSN 5895-01-423-7006) (EIC: N/A) TO PERMIT INSTALLATION OF RADIO SETS AN/VRC-89/91/92 SERIES IN A BATTALION MAINTENANCE EQUIPMENT AN/TSM-163 OR BATTERY MAINTENANCE GROUP AN/TSM-164

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HEADQUARTERS, DEPARTMENT OF THE ARMY

1 SEPTEMBER 1999

TECHNICAL BULLETIN

NO. 11-5820-890-20-95

<div align="right">
HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 1 SEPTEMBER 1999
</div>

INSTALLATION INSTRUCTIONS FOR
INSTALLATION KIT
ELECTRONIC EQUIPMENT MK-2834/VRC
(NSN 5895-01-423-7006) (EIC: N/A)
TO PERMIT INSTALLATION OF RADIO SETS
AN/VRC-89/91/92 SERIES
IN A
BATTALION MAINTENANCE EQUIPMENT AN/TSM-163 OR
BATTERY MAINTENANCE GROUP AN/TSM-164

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Communications-Electronics Command Fort Monmouth, ATTN: AMSEL-LC-LEO-D-CS-CFO, Fort Monmouth, NJ 07703-5000. The Fax number is 732-532-1413, DSN 992-1413. You may also e-mail your recommendation to AMSEL-LC-LEO-PUBS-CHG@cecom3.monmouth.army.mil.

In either case, a reply will be furnished direct to you.

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*This manual supersedes TB 11-5820-890-20-95, 1 July 1997

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0.1 SCOPE.

This technical bulletin provides installation instructions for Installation Kit, Electronic Equipment MK-2834/VRC, commonly referred to as the Mounting Kit (MK). The MK shall be installed into the following type of vehicle(s):

- Battalion Maintenance Equipment AN/TSM-163 or Battery Maintenance Group AN/TSM-164.

The MK is used for installation of radio set components at field locations. The information contained in this technical bulletin is the official authorization to perform the installation at the unit maintenance level.

NOTES

- This technical bulletin is not an authorization for requisition or turn-in of vehicles.

- This technical bulletin does not establish quantity or types of vehicles assigned to using units.

This technical bulletin does not contain information on the maintenance or replacement of the MKs. This information is contained in the MAC of TM 11-5820-890-20-2, TM 11-5820-890-20-4 and RPSTL of TM 11-5820-890-20P.

0.2 GENERAL INFORMATION.

The MK becomes operable when all the radio set components are installed in the vehicle and correct power is supplied. Refer to TM 11-5820-890-20-1 or TM 11-5820-890-20-4 for installation, Operational (OP) Check instructions, and required maintenance procedures. Refer to TM 11-5820-890-20P for repair parts.

Included in the radio set AN/VRC-89/91/92 Series is:

- Radio Set AN/VRC-89/91/92 Series (for RT-1523(C)/U)

0.3 MAINTENANCE FORMS, RECORDS, AND REPORTS.

0.3.1 Reports of Maintenance and Unsatisfactory Equipment. See Section 4.2.2.3 for information.

0.3.2 Report of Packing and Handling Deficiencies. See Section 4.2.2.1 for information.

0.3.3 Discrepancy in Transportation Deficiency Report (TDR) (SF361). See Section 4.2.2.2 for information.

0.4 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 equipment.

1. PURPOSE OF INSTALLATION.

The Installation Kit Electronic Equipment MK-2835/VRC (MK) contains the items needed to mount Radio Set AN/VRC-89/91/92 Series in a Battalion Maintenance Equipment AN/TSM-163 or Battery Maintenance Group AN/TSM-164. If Radio Set AN/VRC-92 Series is authorized, see Section 5.5 for instructions to install Mounting Base MT-6353/VRC.

2. END ITEM OR SYSTEM TO BE MODIFIED.

Not applicable.

3. APPLICATION TIMES.

3.1 Time for Completion of Installation. Using two people, a total of 4.0 work hours is required. Typical vehicle downtime is 4.5 hours.

3.2 Time for Installation of One Assembly or Component. The following table lists the time required to install one component. All times have been rounded off to the nearest half hour. The sum of these items will not reflect the typical vehicle downtime.

ITEM	SECTION	TIME
Antenna AS-3900/VRC	5.1	1.0
Mounting Base, Electrical Equipment MT-6352/VRC	5.3	1.5
Cables	5.4	0.5

4. PREPARATION FOR INSTALLATION.

This section explains how to prepare the vehicle and MK for installation.

4.1 Preparation of Vehicle. To prepare the vehicle for installation, insure 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 MK.

4.1.1 Items to be Removed. Remove existing AN/VRC-12 radio family installation kit/harness. See TM 11-5820-401-20-2 for removing items used with intercom systems, or TM 11-5820-401-20-1 (used without intercom systems), and TM 9-2320-289-20.

4.1.2 Items to be Retained. Not applicable.

4.2 Preparation of MK. To prepare MK, unpack, inspect and check inventory.

4.2.1 Precautions During Handling. Observe these steps to prevent equipment damage.

      a. Keep dust cover in place on connectors.

      b. Do not disassemble or modify parts in MK unless authorized to do so.

      c. Keep mounting hardware covered and protected until needed.

      d. When exposed to moisture, rain or salt water, keep all parts dry to prevent corrosion.

4.2.2 Unpack and Inspect Equipment.

4.2.2.1 Inspect Packaging for Evidence of Damage. 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 4430.3F.

4.2.2.2 Unpack and Inventory MK. 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 4500.15.

4.2.2.3 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 4430.3F. All damages should be reported as prescribed in DA Pam 738-750, as contained in Maintenance Management Update.

4.3 MK, Distribution and Consumables.

4.3.1 Items Supplied in MK and/or Required for Installation. Use Table 4-1 and Figure 4-1 to identify and inventory MK parts supplied to install Radio Set AN/VRC-89/91/92 Series.

4.3.2 Distribution and Issue Instructions.

  a. US Forces: Do not requisition MK. They will be shipped automatically.

  b. US Army Depots: Requisition MK through supply channels.

  c. Multiservice: Instructions shall be included for multiservice modifications.

  d. MAP/MAS Countries: Instructions shall be provided for MAP/MAS countries.

Table 4-1. Parts List for Installation of Radio Set AN/VRC-89/91/92 Series

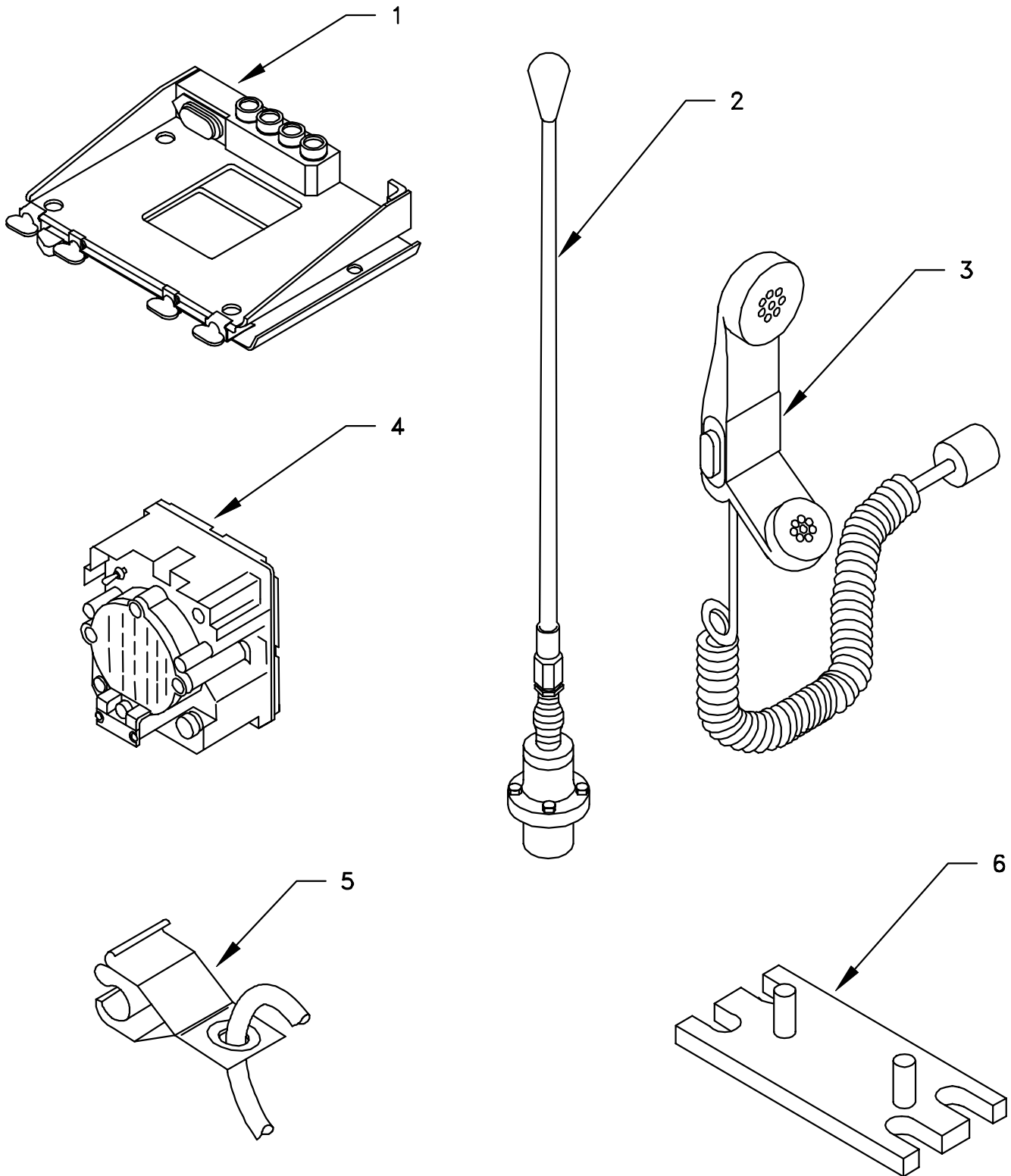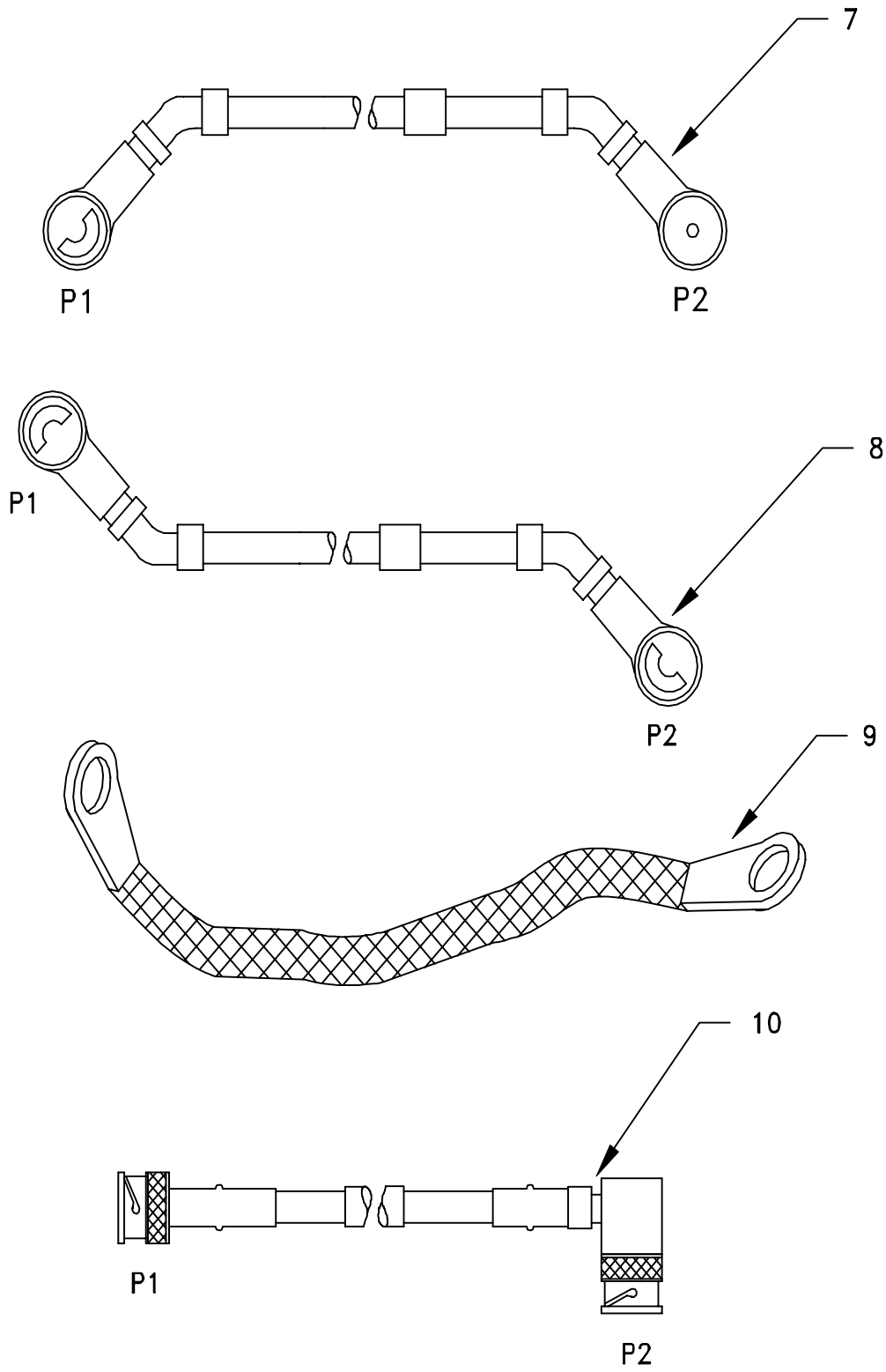| NSN	ITEM DESCRIPTION AND PART NUMBER	QUANTITY IN MK	SMR CODE	FIGURE, ITEM NO.
5985-01-297-2971	Antenna, Vehicular AS-3900/VRC (A3017899-1)	2	PAOOFA	4-1, 2
5305-00-847-1159	Screw, Cap, Hexagon (3/8-16 x 1-3/4 in) MS35307-365	8	PAOZZA	
5310-00-913-8881	Nut, Hexagon (3/8-16 in) MS51971-3	8	PAOZZA	
5310-00-061-1258	Washer, Lock, Internal/External-Toothed (3/8 in) MS45904-76	16	PAOZZA	
5310-00-889-2527	Washer, Lock, Internal/External-Toothed (5/16 in) MS45904-72 (Not Used)	4	PAOZZA	
5306-00-225-9086	Bolt, Machine (5/16-24 x 5/8 in) MS90726-31 (Not Used)	2	PAOZZA	
5330-01-205-2864	Gasket (A3013655-1)	2	PAOZZA	
5975-01-188-8873	Mounting Base, Electrical Equipment MT6352/VRC (A3013367-1)	1	PAOOFA	4-1, 1
5306-00-225-9089	Bolt, Machine (5/16-24 x 1 in) MS90726-34 (1 Not Used)	5	PAOZZA	
5310-00-889-2527	Washer Lock, Internal/External-Toothed (5/16 in) MS45904-72 (2 Not Used)	10	PAOZZA	
5310-00-880-7746	Nut, Hexagon (5/16-24 in) MS51968-5	5	PAOZZA	
5995-01-219-4704	Cable Assembly, Special Purpose, Electrical, CX-13292/VRC (6 FT, 0 IN) (A3014038-3)	2	PAOZZA	4-1, 8
5995-01-219-7035	Cable Assembly, Radio Frequency, CG-3855/VRC (18 FT, 0 IN) (A3014031-8)	1	PAOZZA	4-1, 10
5995-01-225-1662	Cable Assembly, Radio Frequency, CG-3855/VRC (12 FT, 0 IN) (A3014031-12)	1	PAOZZA	4-1, 10
5995-01-291-1130	Cable Assembly, Power Electrical, CX-13303/VRC (7 FT, 0 IN) (A3014040-11)	1	PAOZZA	4-1, 7
5965-01-222-1420	Loudspeaker, Control-Unit, LS-671/VRC (A3014065-1)	2	PAOZZA	4-1, 4
4020-01-341-8795	Fiber Rope Assembly, Single Leg (A3167672-1)	2	PAOZZA	4-1, 5
	Lead, Electrical (3 FT, 6 IN) (A3013552-7)	1	XBOZZA	4-1, 9
	Plate, Mounting (A3014550-1)	2	XBOZZA	4-1, 6
5965-00-043-3463	Handset, H-250/U	2	PAOZZA	4-1, 3
5306-00-225-9089	Bolt, Machine (5/16-24 x 1 in) MS90726-34	4	PAOZZA	
5305-00-225-3839	Screw, Cap, Hexagon (1/4-20 x 1 in) MS90725-8	2	PAOZZA	
5340-00-809-1490	Clamp, Loop (1/4-1/4 in) MS21333-98	2	PAOZZA	
5325-00-783-4754	Grommet, Nonmetallic MS21266-5N	2	PAOZZA	
5310-00-840-5785	Nut, Hexagon (1/4-20 in) MS35691-7	2	PAOZZA	
5310-00-880-7746	Nut, Hexagon (5/16-24 in) MS51968-5	4	PAOZZA	
5310-00-081-4219	Washer, Flat (5/16 in) MS27183-12	8	PAOZZA	
5310-00-407-9566	Washer, Lock (5/16 in) MS35338-45	4	PAOZZA	
5310-00-582-5965	Washer, Lock (1/4 in) MS35338-44	2	PAOZZA	
5975-00-111-3208	Strap, Tiedown,Electrical Components MS3367-5-9	10	PAOZZA	

Figure 4-1(1). MK Illustrated Parts List

Figure 4-1(2). MK Illustrated Parts List

Table 4-2. Additional Items Required for Installation of Radio Set AN/VRC-92 Series

| NSN	ITEM DESCRIPTION AND PART NUMBER	QUANTITY IN MK	SMR CODE	FIGURE, ITEM NO.
5975-01-235-1962	Mounting Base, Electrical Equipment MT-6353/VRC (A3014053-1)	1	PAOFFA	4-2, 1
5306-00-225-9089	Bolt, Machine (5/16-24 x 1 in) MS90726-34	4	PAOZZA	
5310-00-880-7746	Nut, Hexagon (5/16-24 in) MS51968-5 (1 Not Used)	2	PAOZZA	
5310-00-889-2527	Washer, Lock, Internal/External Toothed (5/16 in) MS45904-72 (Not Used)	6	PAOZZA	
5310-00-081-4219	Washer, Flat (5/16 in) MS27183-12 (Not Used)	2	PAOZZA	
	Nut Strip (A3014064-1) (Not Used)	1	XBOZZA	
5975-00-111-3208	Strap, Tiedown, Electrical Components MS3367-5-9	4	PAOZZA	
5995-01-300-9324	Cable Assembly, Power, Electrical CX-13303/VRC (4 FT, 6 IN) (A3014040-9) (Not Used)	1	PAOZZA	4-2, 4
5995-01-222-4209	Cable Assembly, Special Purpose, Electrical CX-13291/VRC (3 FT, 0 IN) (A3014037-1)	1	PAOZZX	4-2, 2
5995-01-219-7025	Cable Assembly, Radio Frequency CG-3856/VRC (5 FT, 0 IN) (A3014032-3	1	PAOZZA	4-2, 3
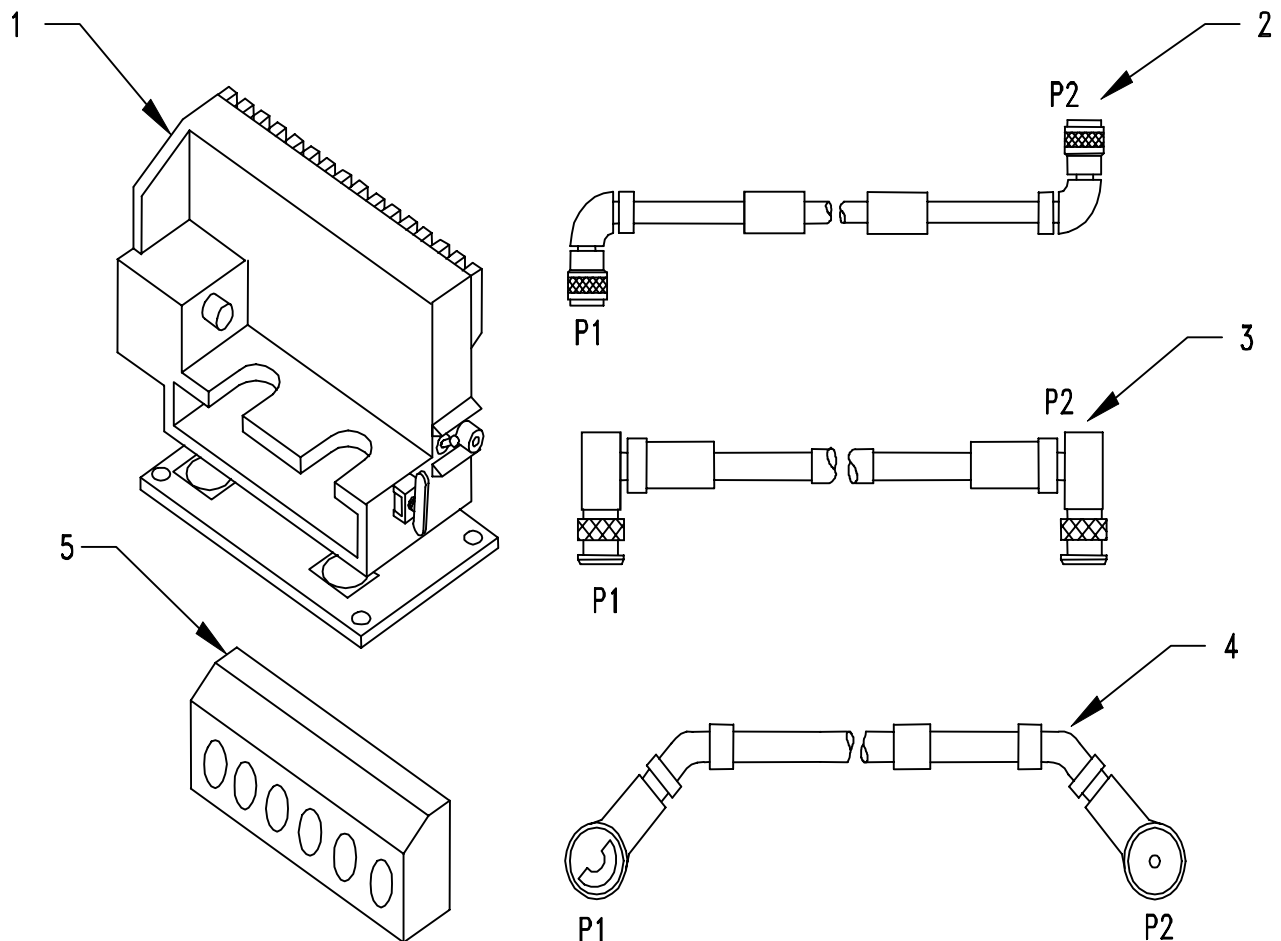
Figure 4-2. Illustrated Parts List for Table 4-2

4.3.3 Consumable Materials. The table below lists materials required for installation but not supplied with MK.

NSN	NOMENCLATURE
8040-00-117-8510	Adhesive-Sealant, Clear, RTV
6850-00-880-7616	Silicone Compound, MIL-S-8660
8030-00-292-1102	Conductive Anti-seize Compound

4.4 Tools and Test, Measurement, and Diagnostic Equipment (TMDE) Required. The following tools and TMDE are needed for installation.

NOMENCLATURE		NSN	QUANTITY
Radio Set*			1
Electric Grinder or equivalent			1
Pocket Knife, Electrician's		5110-00-240-5943	1
Screwdriver, No. 2 Point Phillips, 4 in		5120-00-234-8913	1
Screwdriver, 1/4 in Flatblade, 4 in		5120-00-222-8852	1
Pliers, Round Nose		5120-00-240-6172	1
Pliers, Diagonal Cutting		5110-00-965-0974	1
Wrench, Open/Box:	1/2 in	5120-00-228-9506	1
	9/16 in	5120-00-228-9607	1
	7/16 in	5120-00-228-9505	1
Handle, Socket Wrench:		5120-00-240-5364	1
Socket:	1/2 in	5120-00-237-0977	1
	7/16 in	520-00-227-6703	1
	9/16 in	5120-00-227-6704	1
Electric Drill		5130-00-889-8994	1
Drill Bit:	1/2 in	5133-00-203-6468	1
Hole Saw	2 in		1

* Use radio issued with your vehicle if available.

5. INSTALLATION PROCEDURES.

This section describes where and how to install MK items in the vehicle. See Figure 5-1 for an overall view of where vehicular and MK equipment, as well as radio components, typically will be installed.   When installing MK equipment, be sure to read and follow instructions and illustrations carefully.   To install MT-6353/VRC mounting base, see section 5.5 for instructions.
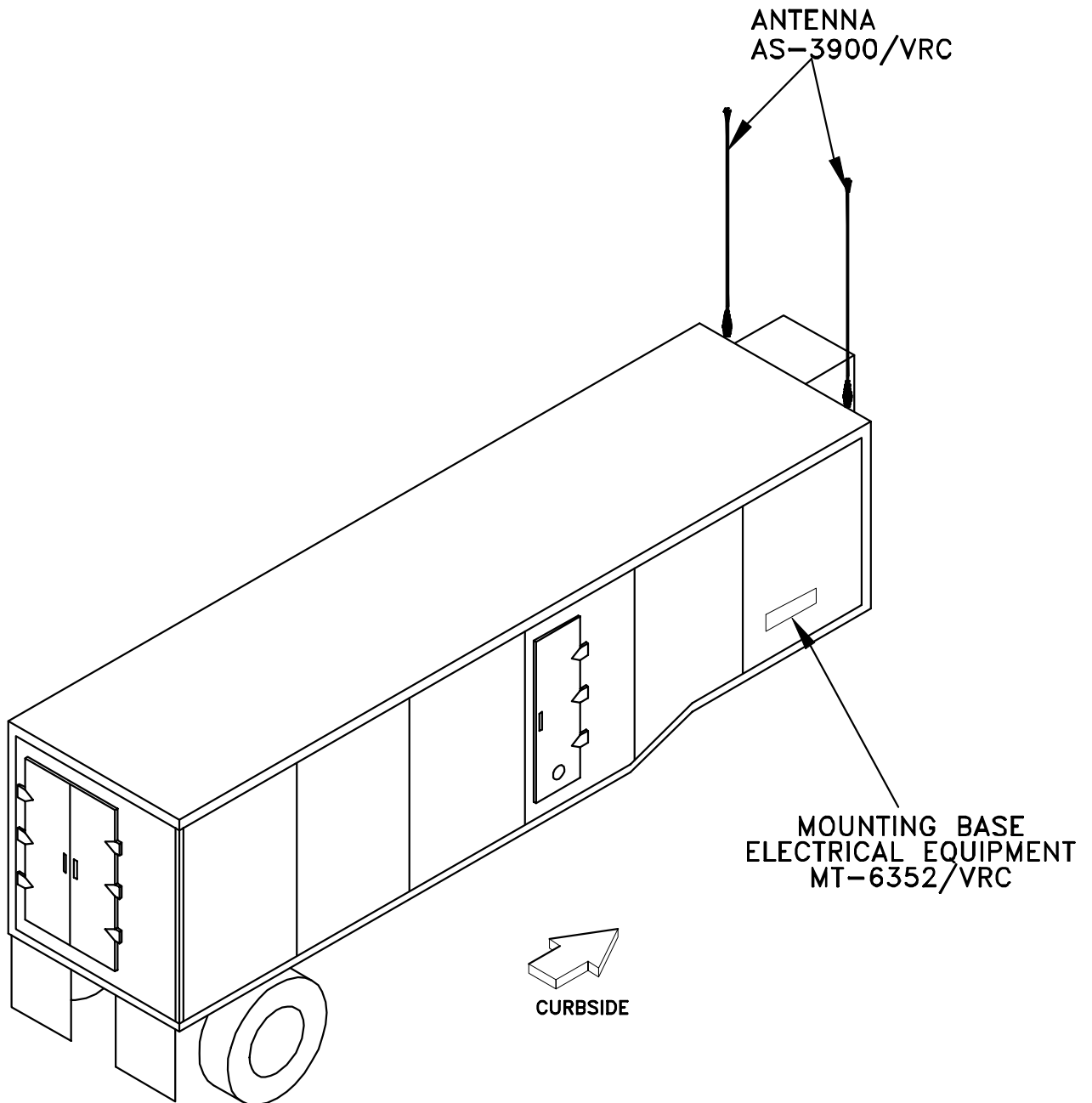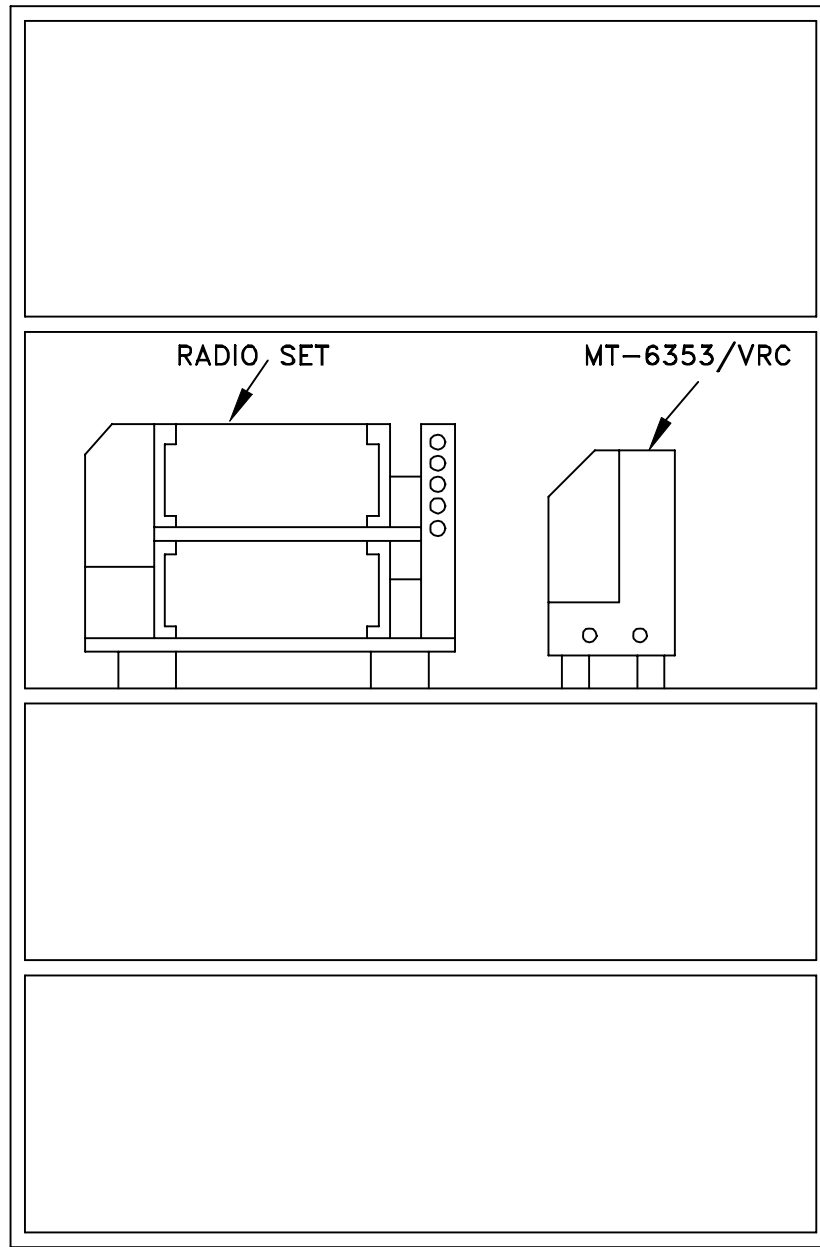

Figure 5-1(1). MK and Radio Installation: MK Equipment Locations

5. INSTALLATION PROCEDURES. Continued.

RADIO SET   MT—6353/VRC

COMMUNICATION'S CABINET

Figure 5-1(2). MK and Radio Installation: Radio Equipment Locations

5.1 Installation of Antenna, Vehicular, AS-3900/VRC (antenna).

5.1.1 Installation of Roadside Rear Antenna Base. Use the following procedures to install both antenna bases. See Figure 5-1(1) for locations.

ITEM	ACTION	REMARKS

NOTE

Apply a thin coat of adhesive-sealant to both sides of each internal/external toothed (IET) washer during installation and to the area of contact where IET washer is to be placed.

ITEM	ACTION	REMARKS
a. Gasket (5)	Place on existing antenna bracket and align mounting holes. See Figure 5-2.	
b. Antenna base (1).	Place on top of gasket (5) and antenna bracket; then align mounting holes. See Figure 5-2.	
c. Four cap screws (2), eight IET washers (3), and four nuts (4).	Install and secure to antenna base (1) and antenna bracket.	Tools: 9/16 in socket and 9/16 in open/box wrench.
d. Ground strap (6) and existing mounting hardware.	Install and secure to side of antenna bracket.	

5.1.1 Installation of Antenna Base. Continued.

FRONT WALL

EXISTING
ANTENNA BRACKET
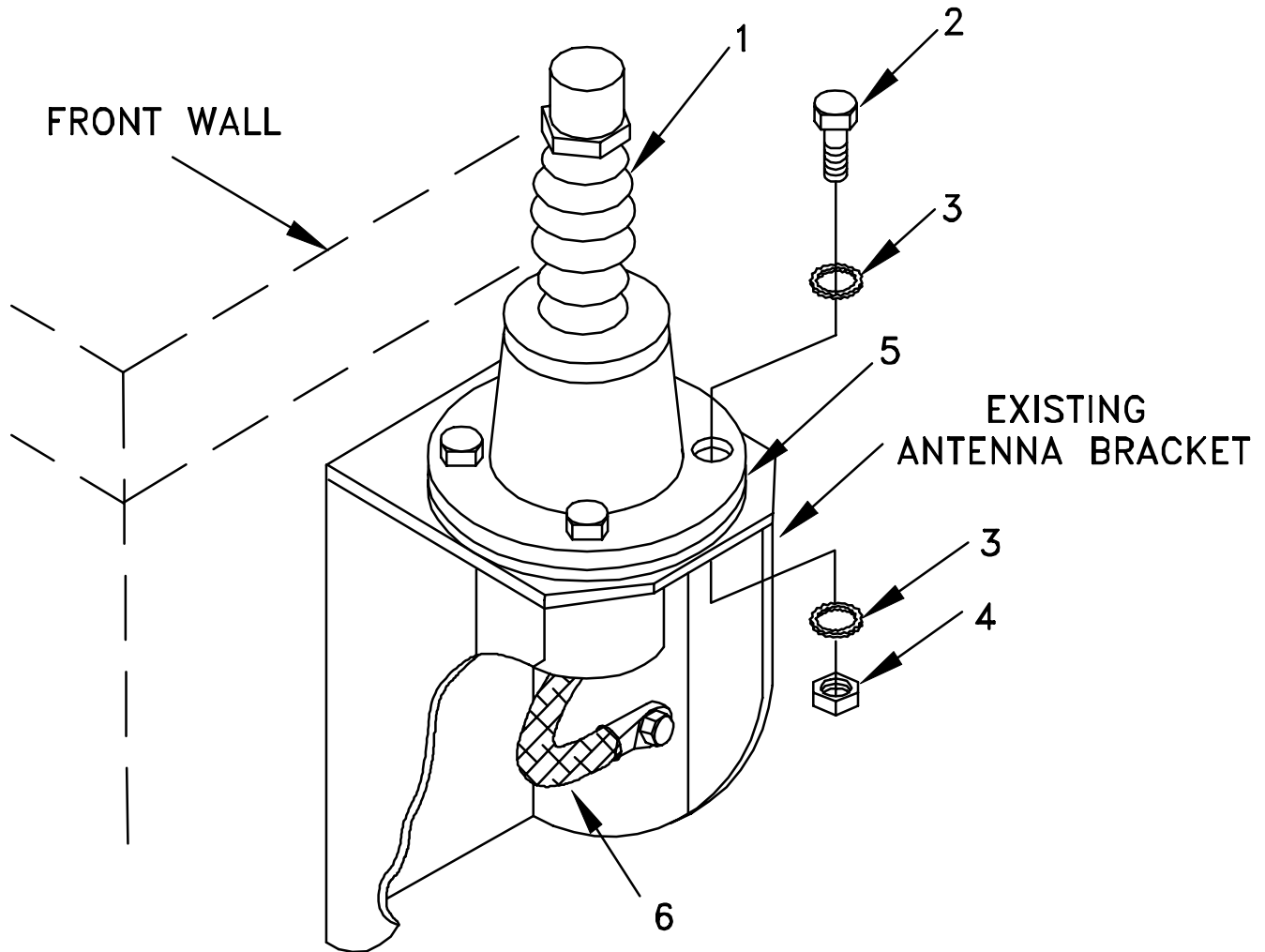
1. **ANTENNA BASE**
2. **CAP SCREW (3/8-16 X 1 3/4 IN)**
3. **IET WASHER (3/8 IN)**
4. **NUT (3/8-16 IN)**
5. **GASKET**
6. **GROUND STRAP (P/O ANTENNA)**

Figure 5-2. Antenna Base Installation

5.1.2 Installation of Top Antenna Assembly. The top portion of the antenna includes a lower element and an upper element (with installed cap). Use the following procedure to assemble, install and tie down all antennas.

ITEM	ACTION	REMARKS
a. Antenna elements (1, 2).	Apply silicone compound to element threads and assemble. See Figure 5-3.	
b. Antenna element (2).	Install and hand tighten to antenna base (3).	
c. Lock wire (4).	Install to antenna element (2) and antenna base (3). See Figure 5-3, Detail A.	
	Cut and remove excess wire with diagonal cutting pliers.	
d. Fiber rope assembly (5).	Attach clip to antenna element (1). Tie rope to vehicle to position antenna in desired location. See Figure 5-3, Detail B.	
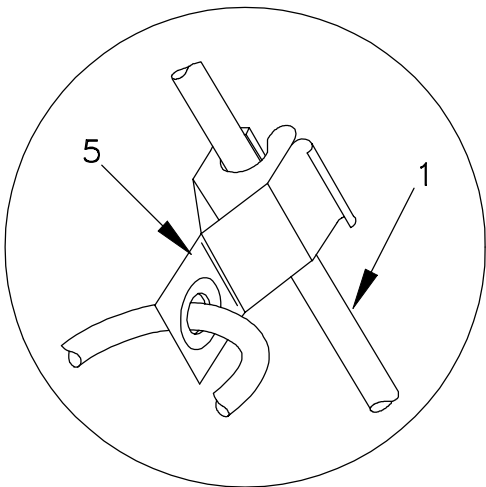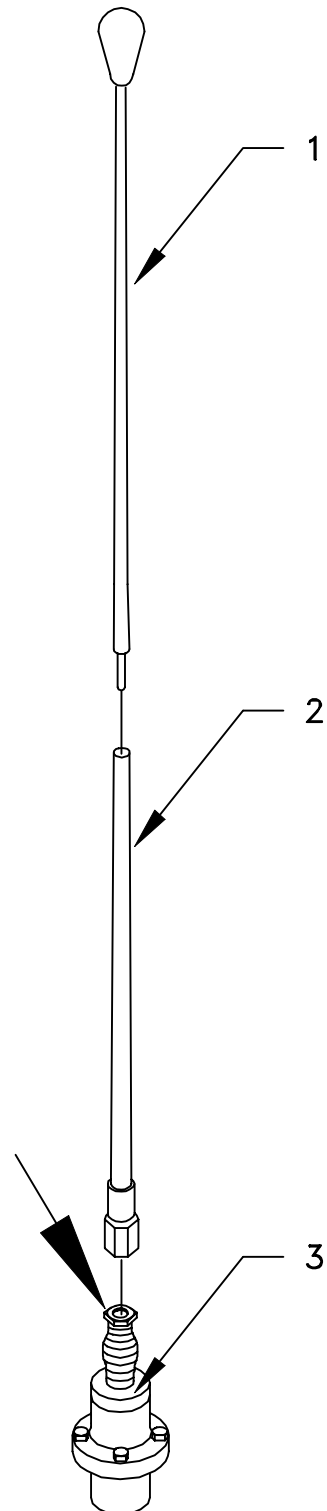
DETAIL B
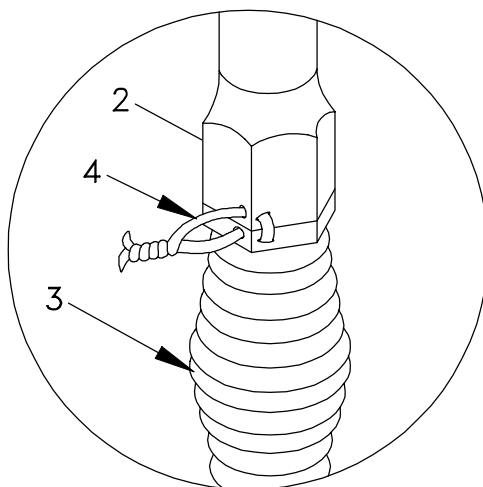
DETAIL A

1. **ANTENNA ELEMENT (UPPER)**
2. **ANTENNA ELEMENT (LOWER)**
3. **ANTENNA BASE**
4. **LOCK WIRE**
5. **FIBER ROPE ASSEMBLY**

Figure 5-3. Top Antenna Assembly Installation

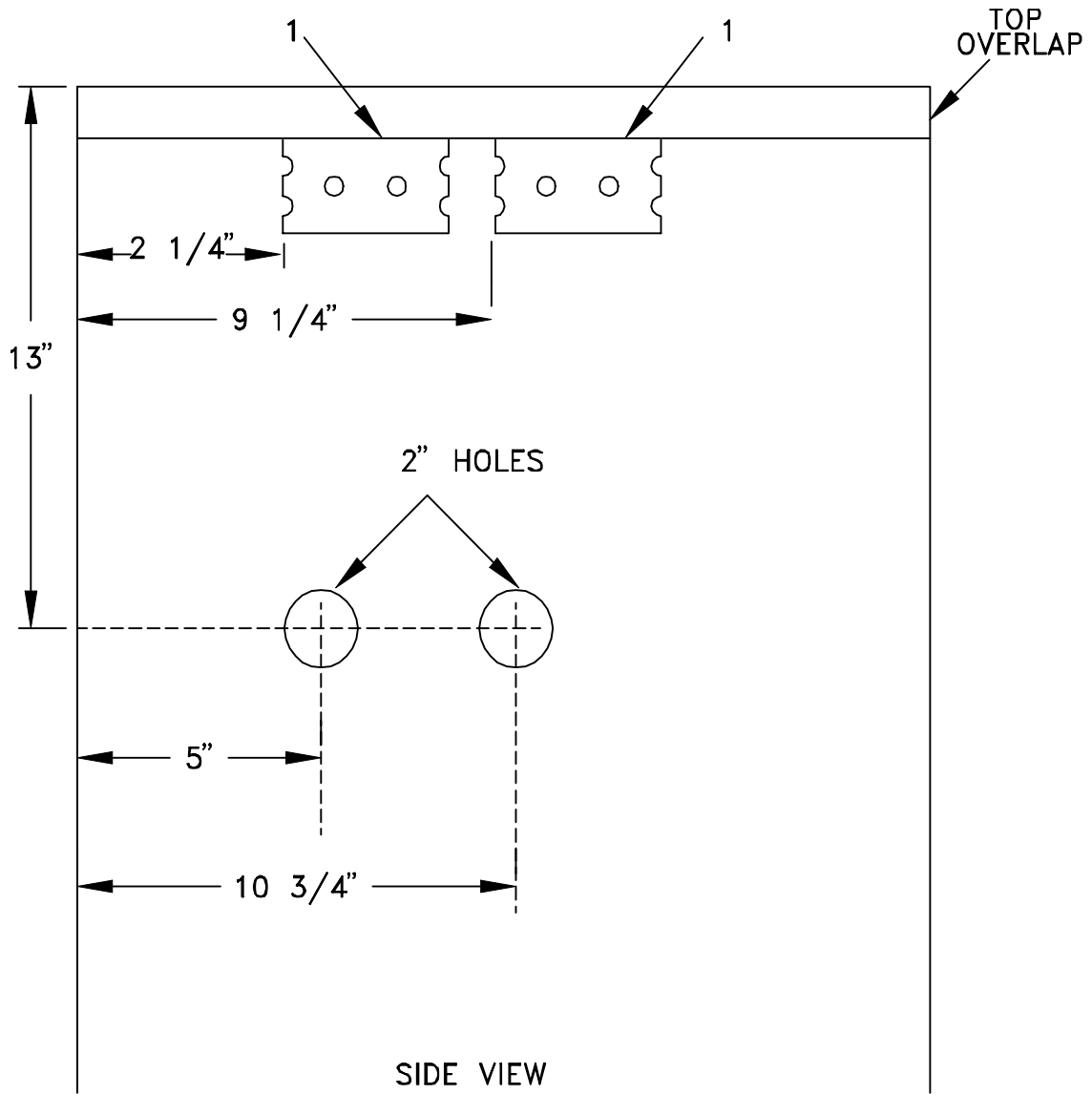**5.2 Installation of Loudspeaker, Control-Unit, LS-671/VRC (speaker).** Use the following procedures to install both speakers. See Figure 5-1 (1) for locations.

ITEM	ACTION	REMARKS
a. Plate, Mounting (1).	Use plate, mounting (1) as a template and drill four 11/32 in diameter holes in the right side of the communications cabinet near the top. See Figure 5-4(1). Drill the holes for the top slots of plate, mounting.	Tools: Electric drill and 11/32 in drill bit.
b. Two machine bolts (6), four flat washers (3), two lock washers (4), and two nuts (5).	Install and secure to plate, mounting (2) and mounting surface. See Figure 5-4(2).	Tools: 1/2 in socket and Phillips screwdriver.
c. Speaker (1).	Place on plate, mounting (2). See Figure 5-4(2).	
d. Two externally-relieved body screws (7).	Thread through and secure to speaker (1) and plate, mounting (2).	Tools: Flatblade screwdriver.
e. Handset.	Connect and secure to speaker (1) connector J2.	

5.2 Installation of Loudspeaker, Control-Unit, LS-671/VRC (speaker). Continued

1.   PLATE, MOUNTING

Figure 5-4 (1) Speaker Installation: Plate, Mounting

5.2 Installation of Loudspeaker, Control-Unit, LS-671/VRC (speaker).   Continued**.**
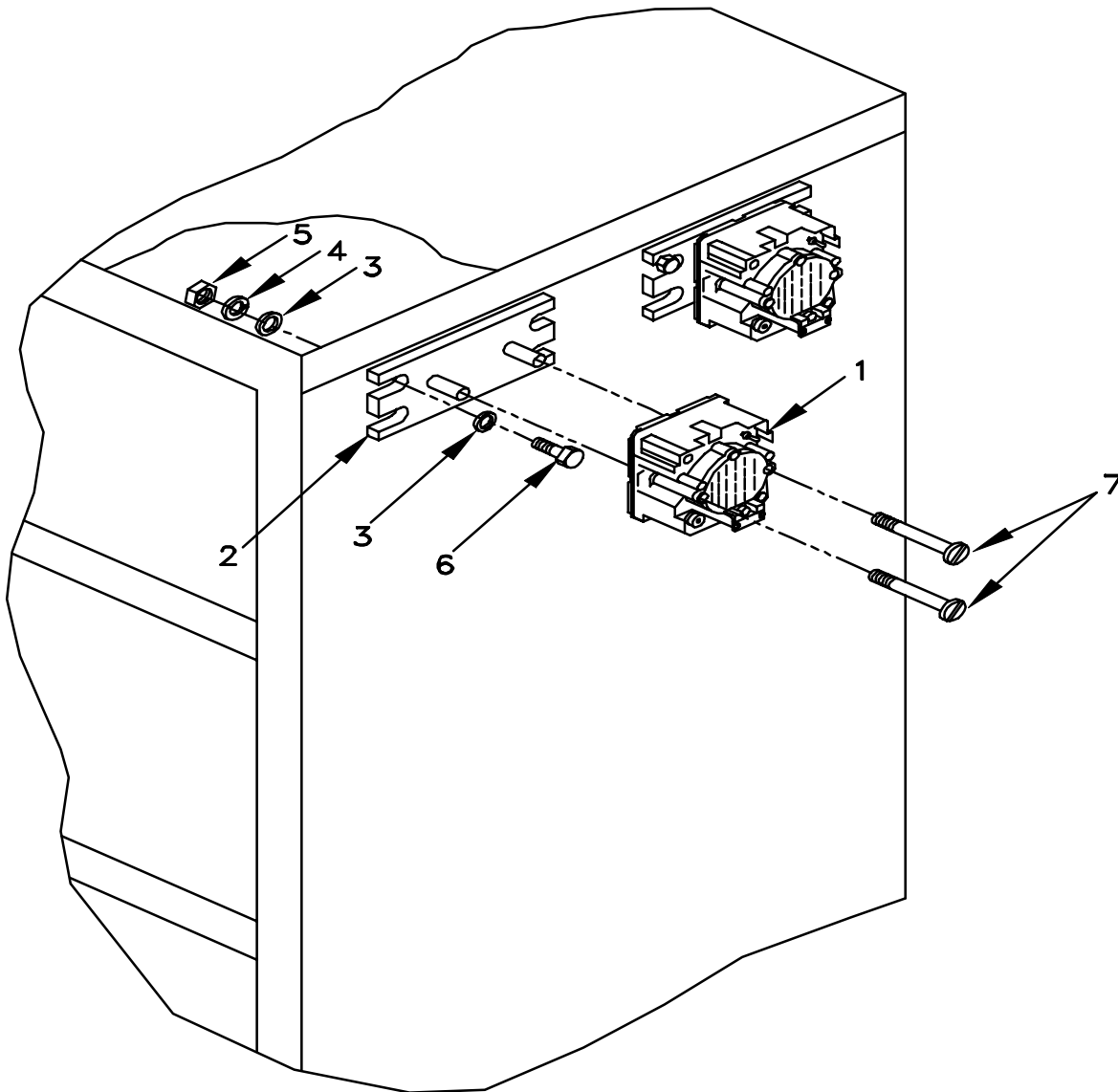
1. SPEAKER
2. PLATE, MOUNTING
3. FLAT WASHER (5/16 IN)
4. LOCK WASHER (5/16 IN)(

5. NUT (5/16-24 IN)
6. MACHINE BOLT (5/16-24 X 1 IN)
7. EXTERNALLY RELIEVED BODY SCREW
    (P/O SPEAKER)

Figure 5-4 (2) Speaker Installation: Speaker

5.3 Installation of Mounting Base, Electrical Equipment MT-6352/VRC (mounting base). Remove and retain attaching bag of 5/16 mounting hardware. To insure good electrical grounding, any rust, corrosion or paint around mounting holes in radio rack should be removed before installing the mounting base. See Figure 5-1(1) for location; then see Figure 5-5 and perform the following steps.

ITEM	ACTION	REMARKS
	NOTE	
	Apply a thin coat of adhesive-sealant to both sides of each internal/external-toothed (IET) washer during installation, and to the area of contact where IET washer is to be placed.	
a. Existing shelf and mounting base (1).	Remove a 2" square area of paint on the underside of the mounting base (3) around left front and rear mounting holes. Remove a 2" square area of paint on the existing shelf around the mounting holes that mate with left front and rear mounting holes of mounting base (3). Clean the paint removed areas and apply a thin coat of conductive anti-seize compound.	Tools: Electric grinder or equivalent.
b. Mounting base (1).	Place on existing mounting plate over existing holes. See Figure 5-5(1).	
c. Two outer thumbscrews (4).	Turn ccw until both sets of threads have cleared center of holes.	
d. Mounting base (1).	Align four holes and rear slot with matching hole pattern in existing mounting plate.	
e. Five machine bolts (6), ten internal/external toothed (IET) washers (3), and five nuts (2).	Install and secure to mounting base (1) and rack.	Tools: 1/2 in socket and 1/2 in open/box wrench.
f. Two outer thumbscrews (4).	Tighten and secure to rim clenching clamps (5) and mounting base (1).	
g. Ground strap (7).	Attach one end of ground strap (7) to the mounting base (1) and secure using existing hardware. See Figure 5-5(1).	
h. Hole through side of communications cabinet(1).	Drill one 1/2 in diameter hole through the right side of the communications cabinet (1) approximately midway to the rear just under the metal flange bracket that supports the table immediately to the right of the cabinet. See Figure 5-5 (2).	Tools: Electric drill and 1/2 in drill bit.
i. Ground strap (2)	Route the ground strap (2) to the right to the edge of the sliding tray and down to the hole drilled in step g. Then route the ground strap through the hole and secure to the metal flange bracket with existing hardware.	

5.2 Installation of Mounting Base, Electrical Equipment MT-6352/VRC (mounting base). Continued.
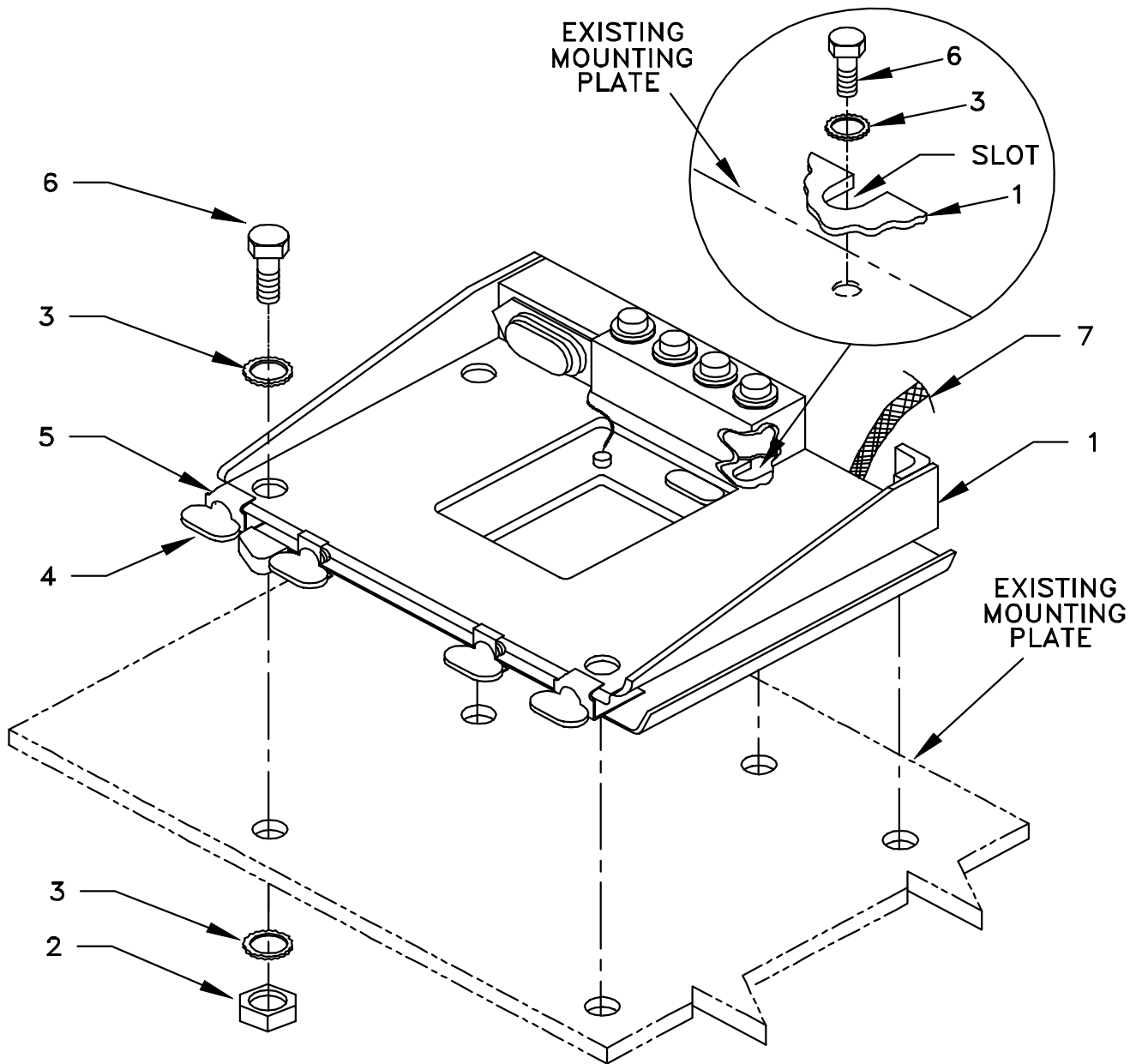
1. MOUNTING BASE
2. NUT (5/16-24 IN)
3. IET WASHER (5/16 IN)
4. THUMBSCREW

5. RIM CLENCHING CLAMP
6. MACHINE BOLT (5/16-24 X 1 IN)
7. GROUND STRAP

Figure 5-5(1). Mounting Base Installation

5.2 Installation of Mounting Base, Electrical Equipment MT-6352/VRC (mounting base). Continued.
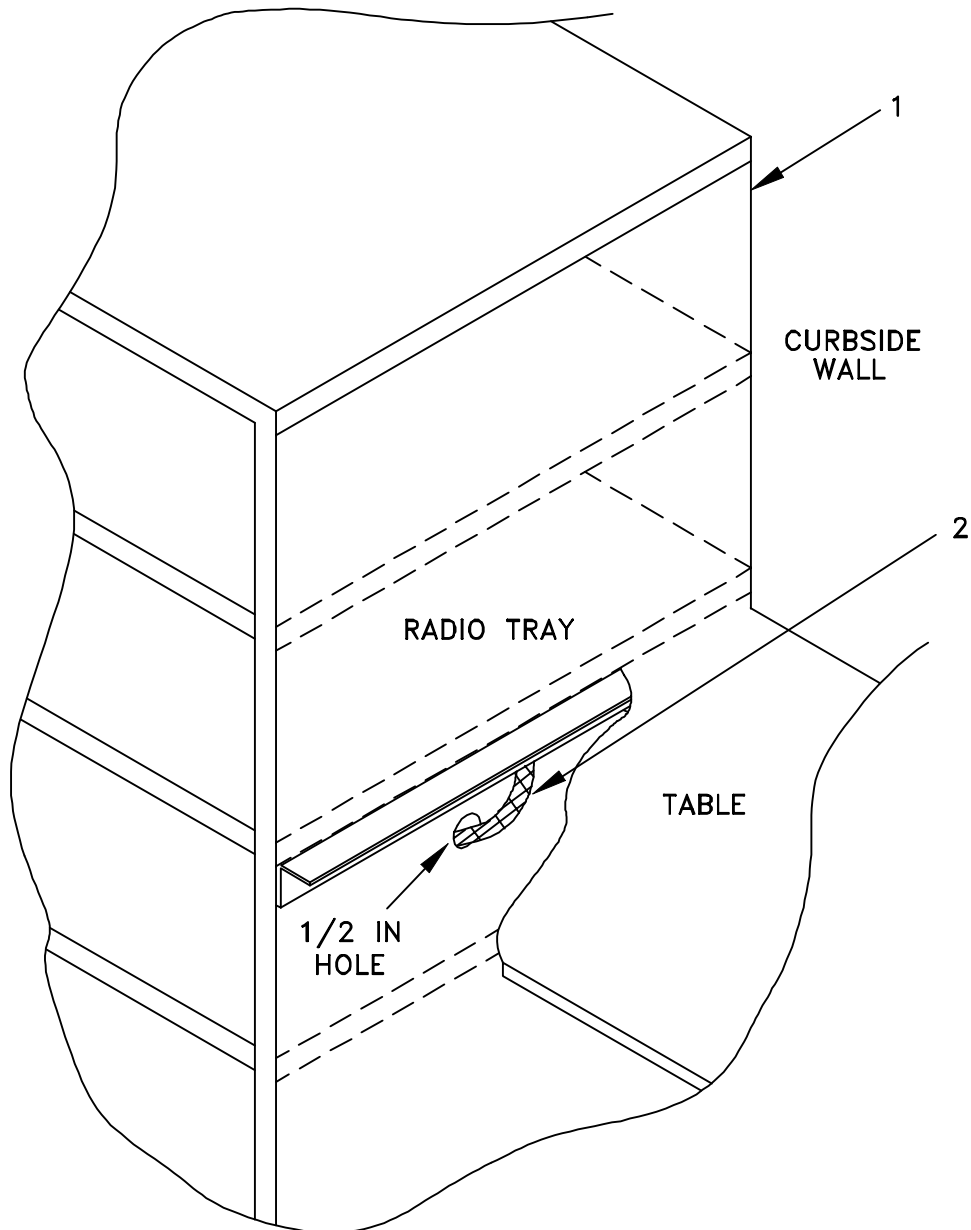
1.   COMMUNICATIONS CABINET
2.   GROUND STRAP

**Figure 5-5(2). Mounting Base Installation: Ground Strap**

5.4 Installation of Cables. To accomplish the installation, leave loop clamps and tiedown straps loose enough to adjust cable slack and allow easy adjustment of equipment. When installation is complete, tighten and secure all clamps, clips and tiedown straps.

WARNING

Make sure vehicle power source is positioned OFF or disconnected before installing cables.

ITEM	ACTION	REMARKS
a. RF cable (1) connector P1.	Connect and secure to antenna base (2) connector J1. See Figure 5-6(1).	
b. RF cable (1).	Route cable through the existing hole in the antenna bracket and through the shelter wall.	
c. RF cable (1), loop clamp (3), machine screw (4), lock washer (5), and nut (6).	Wrap clamp (3) around RF cable (1); then install to hole in antenna bracket. See Figure 5-6(1).	Tools: 7/16 in socket and 7/16 in open/box wrench.
d.	Repeat steps a, b, and c for the second RF cable.	
e. RF cable (1) and tie strap (2).	Route cable toward the curbside to the existing hole in the wall to the top right of the front wall. Tie strap to existing wiring duct as required. See Figure 5-6(2).	
f. RF cable (1), RF cable (2) and tie strap (3)	Route both RF cables from hole in wall to the curbside wall near the ceiling along the wiring duct. Then route both cables rearward along the duct and down the wiring duct to approximately two (2) feet from the floor. Route both cables through the hole in the left side of the communications cabinet and up to the right front of the mounting base (4). Tie strap to existing wiring duct as required. See Figure 5-6(3).	
g. Power cable (5).	Connect and secure to connector J1 of mounting base (2) and route to existing power supply. See Figure 5-6(3).	
h. Holes in right side of communications cabinet.	Drill two (2) each two (2) in diameter holes through the right side of the communications cabinet. See Figure 5-4(1).	Tools: Electric drill and 2 in holesaw.
i. Four grommets (8)	Cut to 6 1/4 in length; then install to the holes drilled in step h.	Tools: Pocketknife.
j. Speaker cable(6) connector P1.	Connect and secure to right speaker connector J1. Then route down and through right grommeted hole and connect and secure connector P2 to mounting base (4) connector J3.	
k. Speaker cable (7) connector P1.	Connect and secure to left speaker Connector J1. Then route down and through left grommeted hole and connect and secure connector P2 to mounting base (4) connector J4.	

5.4 Installation of Cables. Continued.
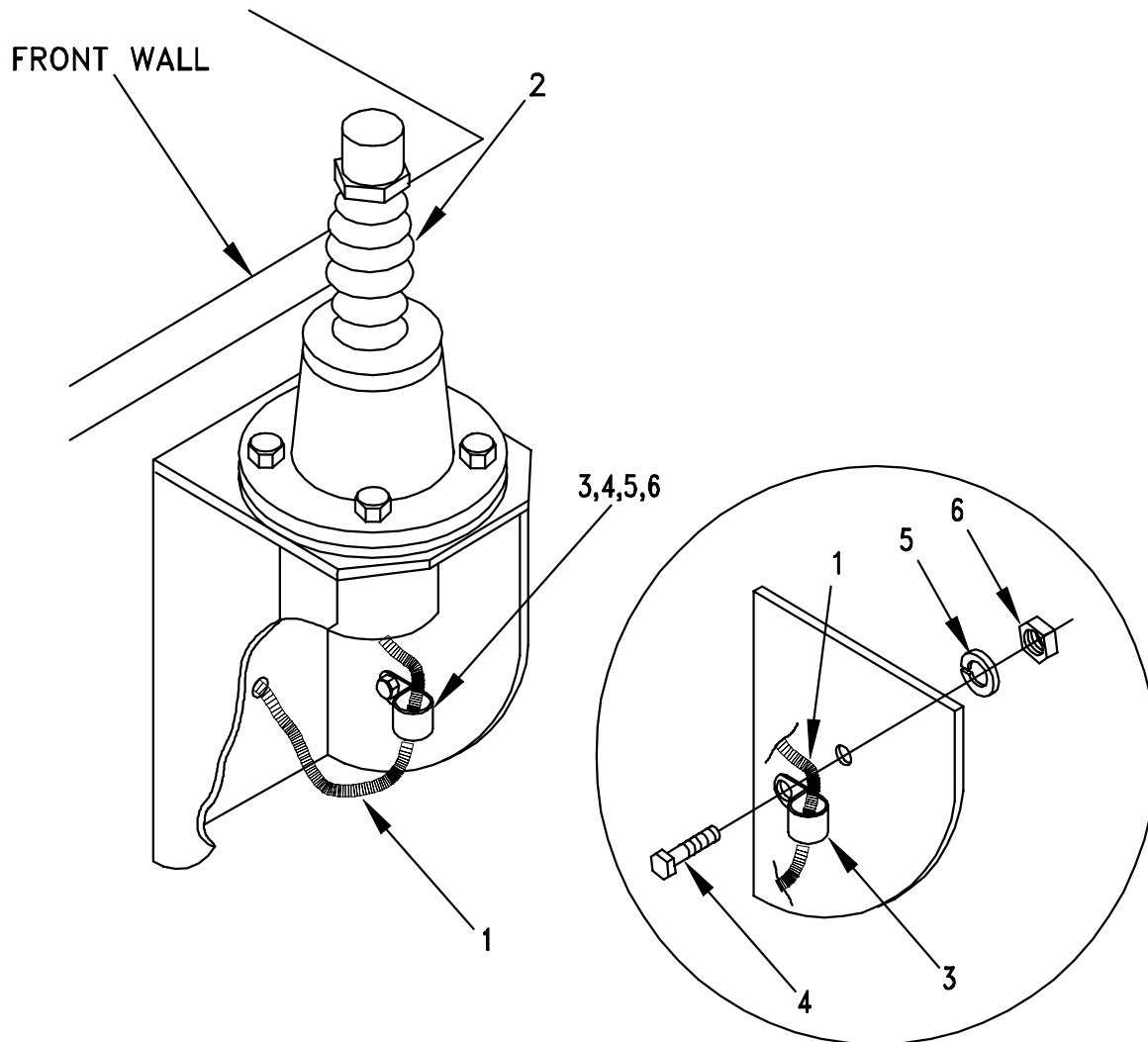
1. **RF CABLE CG-3855/VRC (18 FT, 0 IN)**
2. **ANTENNA BASE**
3. **LOOP CLAMP (1/4-1/4 IN)**
4. **MACHINE SCREW (1/4-20 X 1 IN)**
5. **LOCK WASHER (1/4 IN)**
6. **NUT (1/4-20 IN)**

Figure 5-6(1).   RF Cable Routing

5.4 Installation of Cables. Continued.
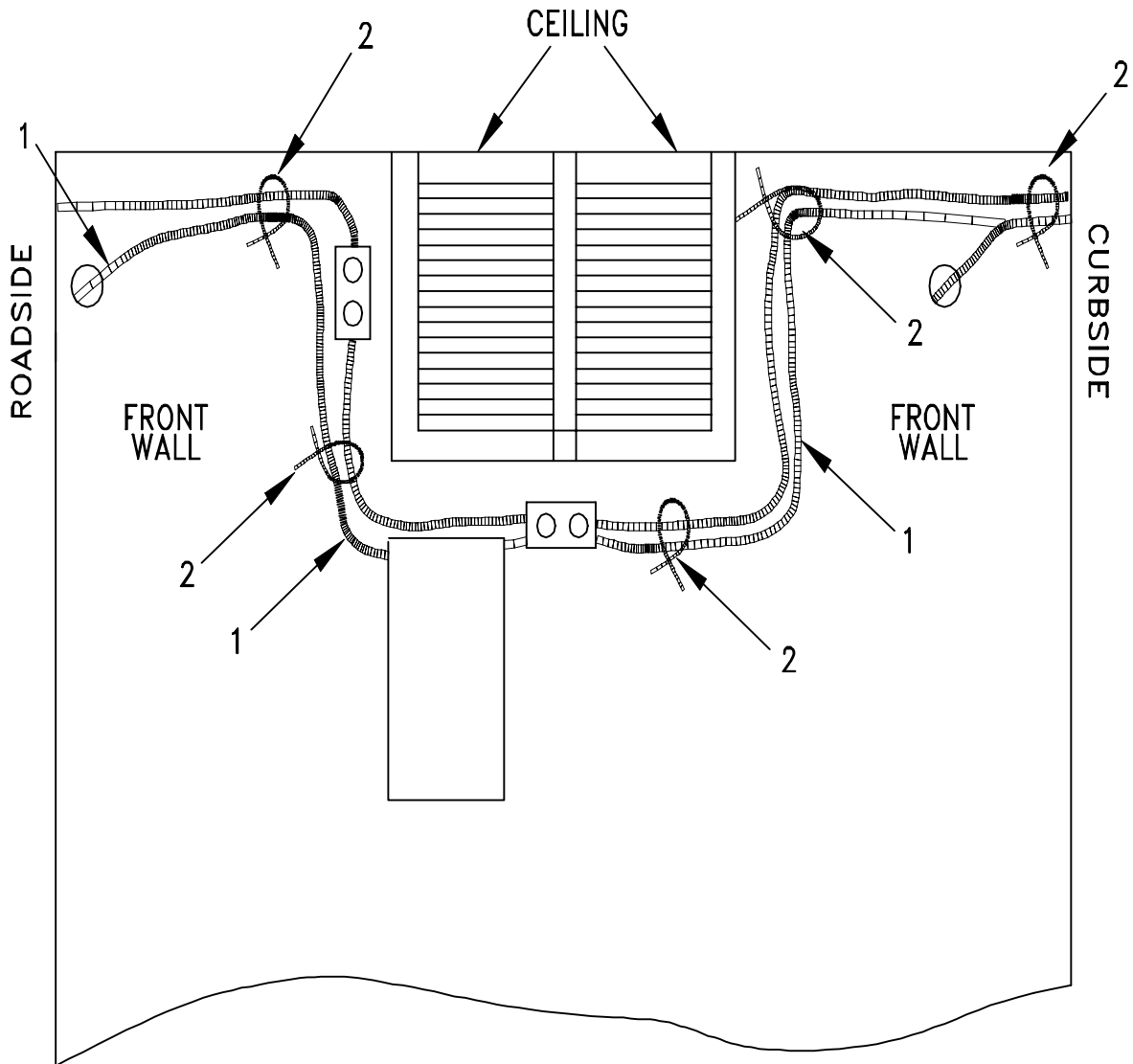
1. **RF CABLE CG-3855/VRC (18 FT, 0 IN)**
2. **TIE STRAP**

Figure 5-6(2).   RF Cable Routing

5.4 Installation of Cables. Continued.

FRONT VIEW

PP—6224 A/U
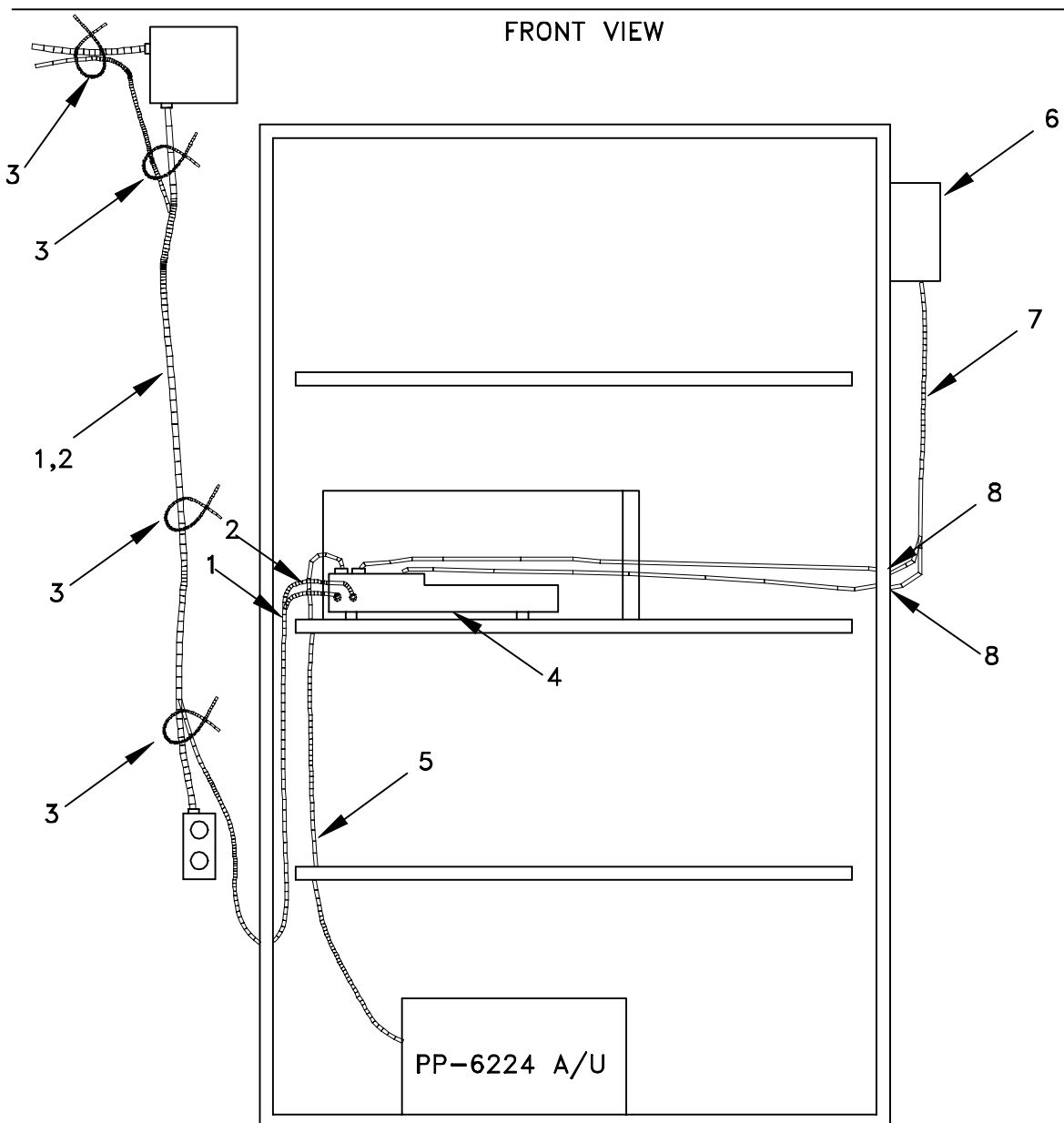
1. RF CABLE CG-3855/VRC (18 FT, 0 IN)
2. RF CABLE CG-3855/VRC (12 FT, 0 IN)
3. TIE STRAP
4. MOUNTING BASE
5. POWER CABLE CX-13303/VRC (7 FT, 0 IN)
6. SPEAKER
7. SPEAKER CABLE CX-13292/VRC (6 FT, 0 IN)
8. GROMMET

Figure 5-6(3). Cable Routing

5.5 Installation of Mounting Base, Electrical Equipment MT-6353/VRC. Use the following instructions to install MT-6353/VRC mounting base. Refer to Section 5.6 for connection of cables.

ITEM	ACTION	REMARKS

NOTE

Apply a thin coat of adhesive-sealant to both sides of each internal/external-toothed (IET) washer during installation, and to the area of contact where IET washer is to be placed. Before proceeding, connect and secure CX-13291/VRC control cable and existing power cable to MT-6353/VRC mounting base. (Refer to Section 5.6, step b.)

|		
a. Existing shelf and MT-6353/VRC mounting base (1)	Remove a 2" square area of paint on the underside of mounting base (1) around the front two mounting holes. Remove a 2" square area of paint on the shelf around the two front mounting holes. Clean the paint removed areas and apply a thin coat of conductive anti-seize compound.	Tools: Electric grinder or equivalent.
a. MT-6353/VRC mounting base (1).	Place on roadside radio shelf over existing holes. See Figure 5-7.	
b. MT-6353/VRC mounting base (1).	Align front holes and rear slots with matching hole pattern in radio shelf.	
c. Two machine bolts (2), two IET washers (3), and nut strip (5).	Install and secure to rear slots in MT-6353/VRC mounting base (1) and radio shelf.	Tools: 1/2 in socket.
d. Two machine bolts (2), four IET washers (3) and two nuts (4).	Install and secure to front two holes in MT-6353/VRC mounting base and radio shelf.	Tools: 1/2 in socket and 1/2 in open/box wrench.

5.5 Installation of Mounting Base, Electrical Equipment MT-6353/VRC. Continued
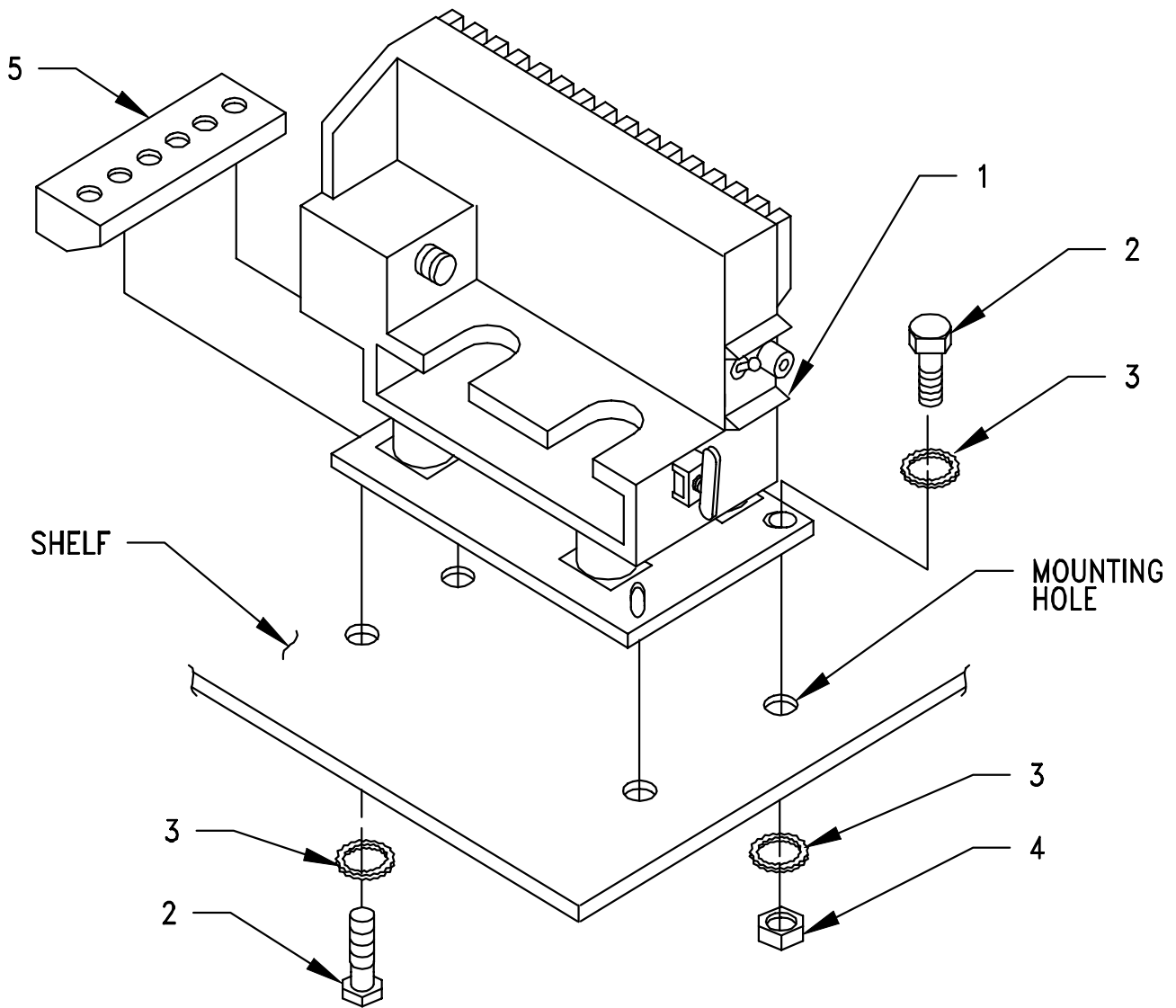
1.   **MOUNTING BASE**
2.   **MACHINE BOLT (5/16-24 X 1 IN)**
3.I **ET WASHER (5/16 IN**
4.   **NUT (5/16-24 IN)**
5.   **NUT STRIP**

Figure 5-7. MT-6353/VRC Mounting Base Installation

5.6 Post-Installation and Checkout. After equipment is installed and cables are connected, perform the following steps.

ITEM	ACTION	REMARKS
a. Equipment.	Check for secure mounting. Check for loose parts, connectors, and mounting hardware.	
b. Cables.	Check for proper installation and connection of cables. See figure 5-8 for cable connections. Unused cables should be stowed in appropriate place inside the vehicle.	
c. Loop clamps.	Check that all have been properly installed and tightened.	
d. Protective covers.	Insure that all installed cables are covered when not in use or connected.	
e. Radio issued with vehicle.	Install and connect cables. See TM 11-5820-890-20-1 or TM 11-5820-890-20-4 for installation and operational (OP) checks and instructions.	
f. MK line replaceable units.	See TM 11-5820-890-20P for Repair Parts and Special Tools List (RPSTL) information.	

5.6 Post-Installation and Checkout. Continued.
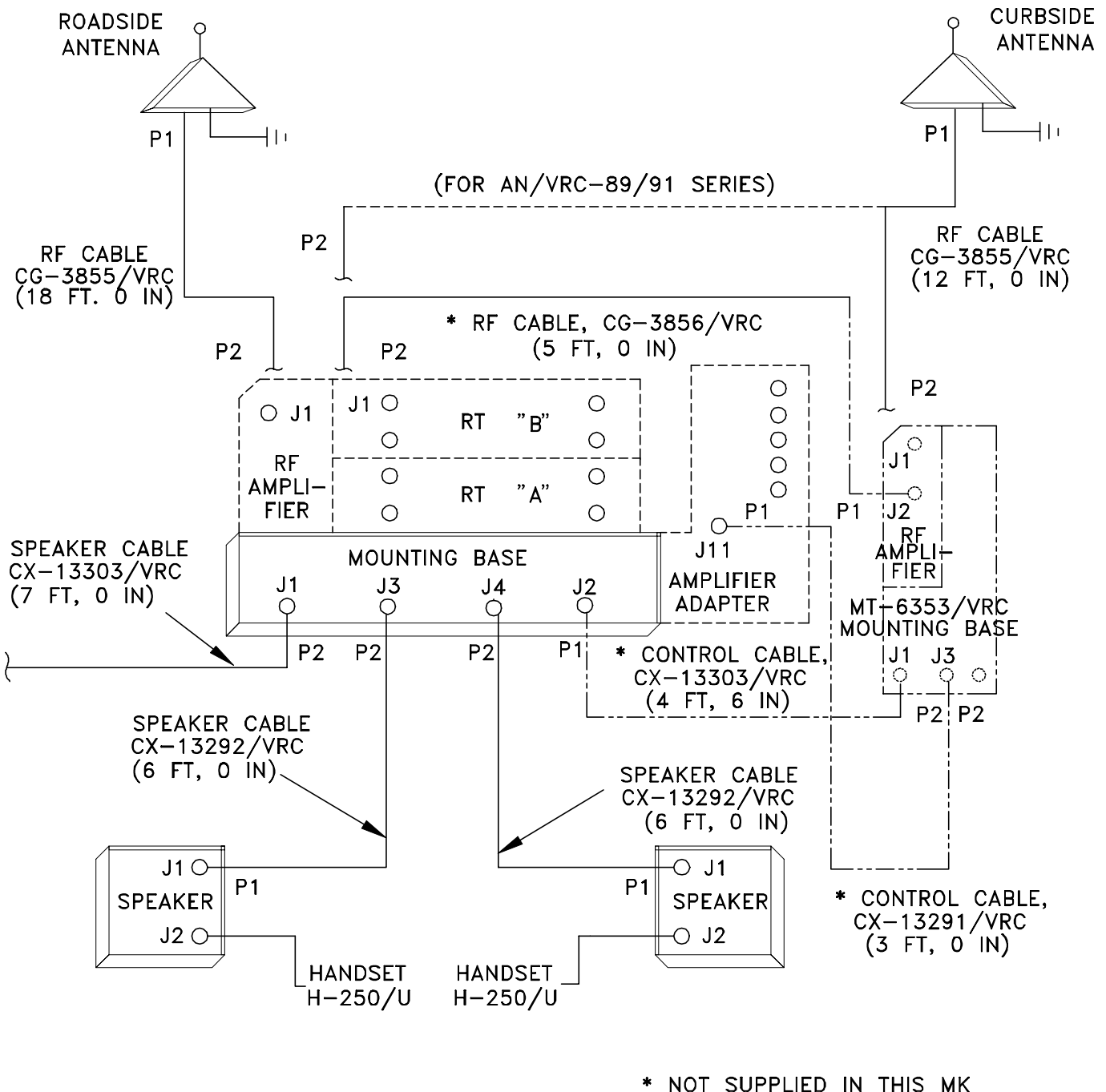
Figure 5-8. Cable Diagram: For AN/VRC-89/91/92 Series

5.6 Post-Installation and Checkout. Continued.

CABLE ASSEMBLY	FROM			TO		
	CABLE CONN.	UNIT	UNIT CONN.	CABLE CONN.	UNIT	UNIT CONN.
CX-13303/VRC (4 FT, 6 IN)	P2	Mounting base	J1	P1	Existing power supply	
CX-13292/VRC (6 FT, 0 IN)	P1	Mounting base	J3	P1	Speaker	J1
CX-13292/VRC (6 FT, 0 IN)	P2	Mounting base	J4	P1	Speaker	J1
CG-3855/VRC (18 FT, 0 IN)	P2	RF amplifier	J1	P1	Roadside antenna base	J1
CG-3855/VRC (12 FT, 0 IN)	P2	RT " B" or RF amplifier (MT-6353/VRC)	J1	P1	Curbside antenna base.	J1
*CX-13291/VRC (3 FT, 0 IN)	P1	Amplifier-adapter	J11	P2	MT-6353/VRC mounting base	J3
*CG-3856/VRC (5 FT, 0 IN)	P2	RT "B"	J1	P1	RF amplifier (MT-6353/VRC)	J2
*CX-13303/VRC (4 FT, 6 IN)	p1	J2	P2	P2	MT-6353/VRC mounting base	J1

*Not supplied in this MK.

Figure 5-8. Cable Diagram: For AN/VRC-89/91/92 Series. Continued

APPENDIX A
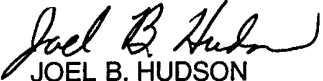
REFERENCES

AMDF	Army Master Data File (Microfiche)
AR 710-2	Supply Policy Below the Wholesale Level as Contained in Unit Supply UPDATE
AR 725-50	Requisitioning, Receipt and Issuing System in UPDATE
DA PAM 25-30	Consolidated Index of Army Publications (Microfiche)
DA PAM 710-2-1	Using Unit Supply System Manual Procedures as Contained in Unit Supply UPDATE
SB 11-131-2	Vehicular Radio Sets and Authorized Installations (SINCGARS)
TM 11-5820-890-10-1	Operator's Manual (ICOM Radio Sets)
TM 11-5820-890-10-3	Operator's Manual (Non-ICOM Radio Sets)
TM 11-5820-890-20-1	Unit Maintenance Manual (ICOM Radio Sets, Vol. 1)
TM 11-5820-890-20-2	Unit Maintenance Manual (ICOM Radio Sets, Vol. 2)
TM 11-5820-890-20-3	Unit Maintenance Manual Handbook (ICOM Radio Sets)
TM 11-5820-890-20-4	Unit Maintenance Manual (Non-ICOM Radio Sets)
TM 11-5820-890-20P	Repair Parts and Special Tools List

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TM 11−5840−340−12	23 Jan 74	Radar Set AN/PRC−76

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BE EXACT PIN-POINT WHERE IT IS				IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:
PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO	
2−25	2−28			Recommend that the installation antenna alignment procedure be changed throughout to specify a 20 IFF antenna lag rather than 10
				REASON: Experience has shown that with only a 10 lag, the antenna servo system is too sensitive to gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting timing to 20 without degradation of operation.
3−10	3−3		3−1	Item 5, Functional column. Change ☐ 2 dB" to ☐ 3 dB".
				REASON: The adjustment procedure for the TRANS POWER FAULT indicator call for a 3 dB (500 watts) adjustment to light the TRANS POWER FAULT indicator.
5−6	5−8			Add new step f.1 to read, ☐ Replace cover plate removed in step d above."
				REASON: To replace the cover plate.
		FO−3		ZONE C 3. On J1−2, change ☐ +24 VDC" to ☐ +5 VDC".
				REASON: This is the output line of the 5 VDC power supply. +24 VDC is the input voltage.

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