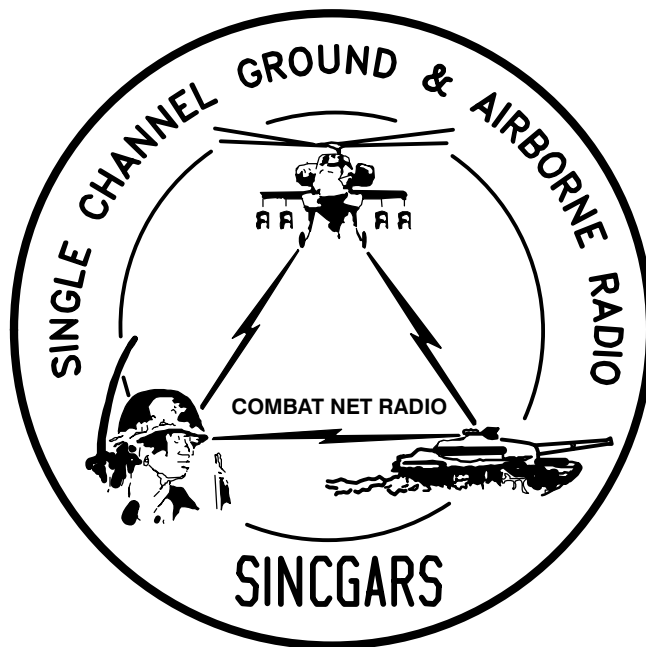


## TECHNICAL BULLETIN



**INSTALLATION INSTRUCTIONS FOR  
INSTALLATION KIT, ELECTRONIC EQUIPMENT,  
MK-2374/VRC (NSN 5895-01-225-0514) (EIC: N/A)  
TO PERMIT INSTALLATION OF  
RADIO SET AN/VRC-89/91/92 SERIES  
IN A  
CARRIER, 107 MM MORTAR, FULL TRACKED, M106A1  
AND  
CARRIER, 81 MM MORTAR, FULL TRACKED, M125A1**

Approved for public release; distribution is unlimited.

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**1 AUGUST 1999**

**INSTALLATION INSTRUCTIONS FOR  
 INSTALLATION KIT, ELECTRONIC EQUIPMENT,  
 MK-2374/VRC (NSN 5895-01-225-0514) (EIC: N/A)  
 TO PERMIT INSTALLATION OF  
 RADIO SET AN/VRC-89/91/92 SERIES  
 INTO A  
 CARRIER, 81 MM, MORTAL, FULL TRACKED, M125A1**

**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 2028-2 located in back of this manual direct to: Commander, US Army Communications-Electronics Command Fort Monmouth, ATTN: AMSEL-LC-LEO-D-CS-CFO, Fort Monmouth, New Jersey 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 11-5820-890-20-55, dated 1 September 1993

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## 0.1 SCOPE

This technical bulletin provides Installation Instructions for Installation Kit, Electronic Equipment, MK–2374/VRC, commonly referred to as the Mounting Kit (MK). The MK shall be installed into the following type of vehicle(s):

- Carrier, 107 MM Mortar, Full Tracked, M106A1
- Carrier, 81 MM Mortar, Full Tracked, M125A1

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, 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 Packaging 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–2374/VRC (MK) contains the items needed to mount Radio Set AN/VRC–89/91/92 Series in a Carrier, 107 MM Mortar, Full Tracked, M106A1 and Carrier, 81 MM Mortar, Full Tracked, M125A1 (vehicle). If Radio Set AN/VRC–92 Series is authorized, see section 5.5 for instructions to install MT–6353/VRC mounting base.

**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 3.0 work hours is required. Typical vehicle downtime is 3.5 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 times will not reflect the typical vehicle downtime.

ITEM	SECTION	TIME
Antenna AS–3916/VRC	5.1	1.0
Mounting Base, Electrical Equipment MT–6352/VRC	5.3	1.5
Cables	5.4	1.0

**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 9–2300–257–20.

**4.1.2 List of 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 covers 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 by 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. Refer to Table 4–2 and figure 4–2 to identify additional items required to install Radio Set AN/VRC–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.
5985-01-353-4943	Antenna, Vehicular, AS-3916/VRC (A3207487-1)	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 (Not Used)	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) (Not Used)	2	PAOZZA	
4010-01-381-1521	Wire Rope Assembly (A3207523-1)	1	PAOZZA	
5975-01-188-8873	Mounting Base, Electrical Equipment MT-6352/VRC (A3013367-1)	1	PAOOFA	4-1, 1
5306-00-225-9089	Bolt, Machine (5/16-24 x 1 in) MS90726-34	5	PAOZZA	
5310-00-889-2527	Washer, Lock, Internal/External-Toothed (5/16 in) MS45904-72 (5 Not Used)	10	PAOZZA	
5310-00-880-7746	Nut, Hexagon (5/16-24 in) MS51968-5 (Not Used)	5	PAOZZA	
5995-01-225-0503	Cable Assembly, Power, Electrical CX-13306/VRC (5 FT, 0 IN) (A3014043-6)	1	PAOZZA	
5995-01-219-7029	Cable Assembly, Radio Frequency CG-3855/VRC (5 FT, 0 IN) (A3014031-2)	1	PAOZZA	4-1, 8
5995-01-219-7030	Cable Assembly, Radio Frequency CG-3855/VRC (7 FT, 0 IN) (A3014031-3)	1	PAOZZA	4-1, 8
5995-01-303-4951	Cable Assembly, Special Purpose, Electrical CX-13313/VRC (2 FT, 7 IN) (A3018360-1)	1	PAOZZA	4-1,9
5995-01-227-0473	Cable Assembly, Special Purpose, Electrical CX-13300/VRC (4 FT, 0 IN) (A3014044-6)	2	PAOZZA	4-1,10
	Adapter, Antenna (A3050656-1)	1	XBOZZA	
	Bracket, Angle (A3014090-1)	1	XBOZZA	
5340-00-809-1490	Clamp, Loop (1/4-1/4 in) MS21333-98	1	PAOZZA	
5340-00-984-8540	Clamp, Loop (1/2-1/4 in) MS21333-102	1	PAOZZA	
5340-00-400-0002	Clamp, Loop (1 1/4-1/4 in) MS9350-19	2	PAOZZA	
5330-01-242-7461	Gasket SC-B-189039	1	PAOZZA	
5310-00-732-0558	Nut, Plain, Hexagon (3/8-16 in) MS51967-8	8	PAOZZA	

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

NSN	ITEM DESCRIPTION AND PART NUMBER	QUANTITY IN MK	SMR CODE	FIGURE, ITEM NO.
	Plate, Mounting, Flat (A3014088-1)	2	XBOZZA	4-1, 5
5305-00-068-0502	Screw, Cap, Hexagon (1/4-20 x 3/4 in) MS90725-6	3	PAOZZA	
5305-00-269-3211	Screw, Cap, Hexagon (3/8-16 x 1 in) MS90725-60	11	PAOZZA	
5305-00-984-6210	Screw, Machine, Pan-Head (No.10-24 x1/2 in) MS35206-263	1	PAOZZA	
5305-01-182-8333	Screw, Tapping, Hex-Head (3/8-16 x 1 in) MS51851-138	4	PAOZZA	
5975-00-111-3208	Shelf, Electrical Equipment (A3014087-1) Strap, Tiedown, Electrical Components MS3367-5-9	1 5	XBOZZA PAOZZA	4-1, 3
5310-00-582-5965	Washer, Lock (1/4 in) MS35338-44	3	PAOZZA	
5310-00-045-3296	Washer, Lock (No. 10) MS35338-43	1	PAOZZA	
5310-00-061-1258	Washer, Lock Internal/External-Toothed (3/8 in) MS45904-76	15	PAOZZA	



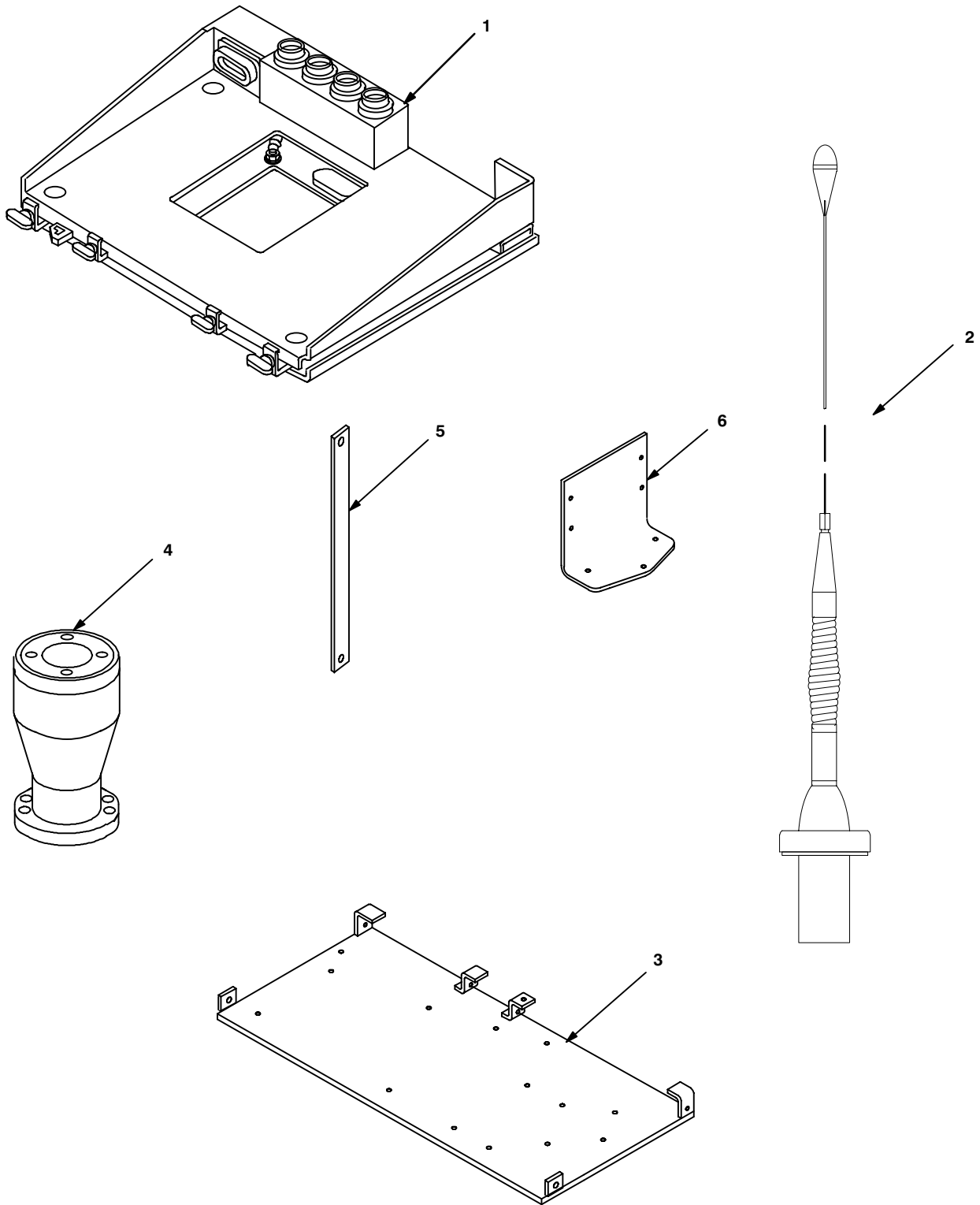


Figure 4-1 (1). MK Illustrated Parts List

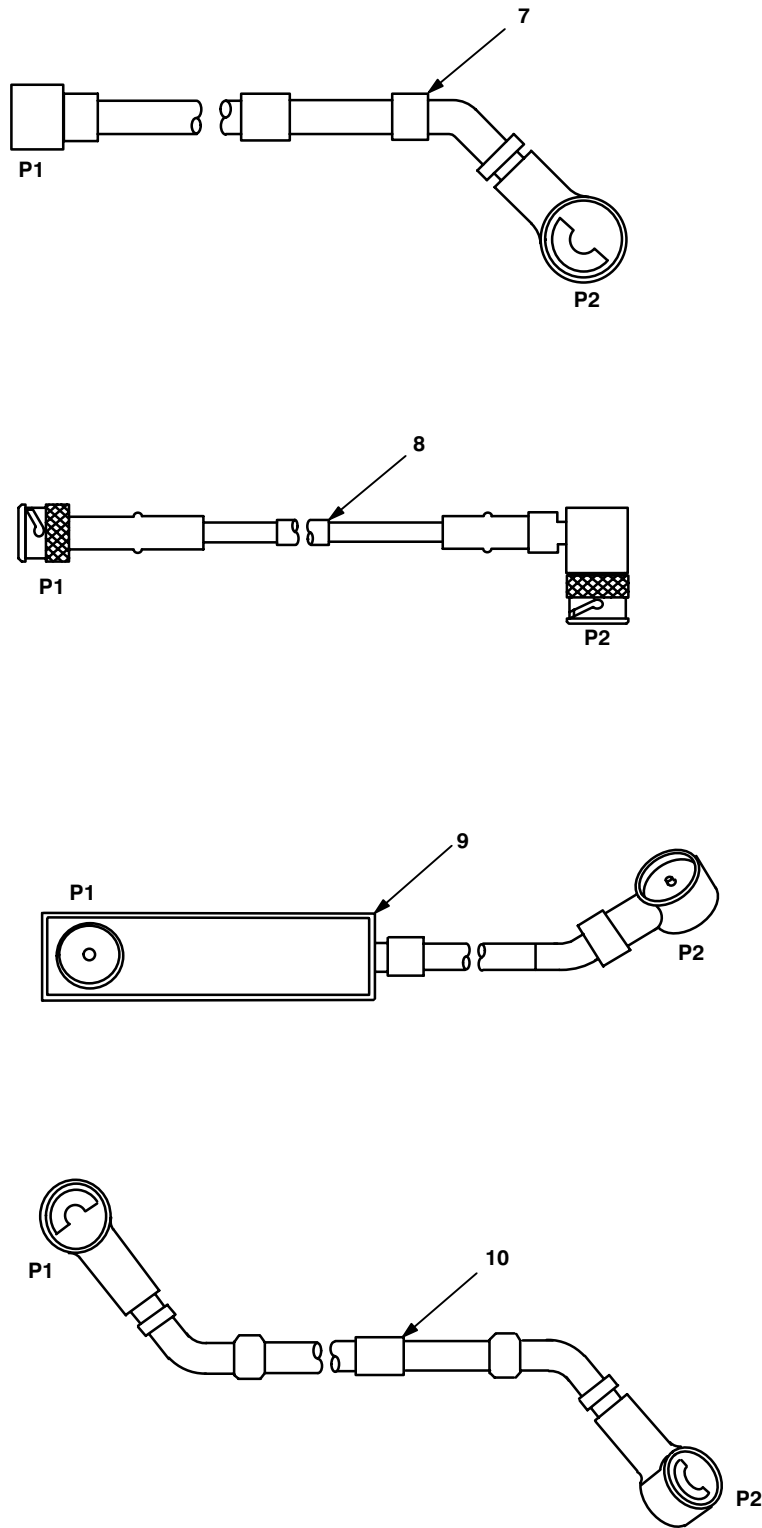


Figure 4-1 (2). MK Illustrated Parts List

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	PAOOHA	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 (Not Used)	2	PAOZZA	
5310-00-889-2527	Washer, Lock, Internal/External-Toothed (5/16 in) MS45904-72 (2 Not Used)	6	PAOZZA	
5310-00-081-4219	Washer, Flat (5/16 in) MS27183-12	2	PAOZZA	
5975-00-111-3208	Strap, Tiedown, Electrical Components MS3367-5-9	4	PAOZZA	
	Nut Strip (A3014064-1)	1	XBOZZA	4-2,5
5995-01-300-9324	Cable Assembly, Power, Electrical CX-13303/VRC (4 FT, 6 IN) (A3014040-9)	1	PAOZZA	4-2, 4
5995-01-222-4209	Cable Assembly, Special Purpose, Electrical CX-13291/VRC (3 FT, 0 IN) (A3014037-1)	1	PAOZZA	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

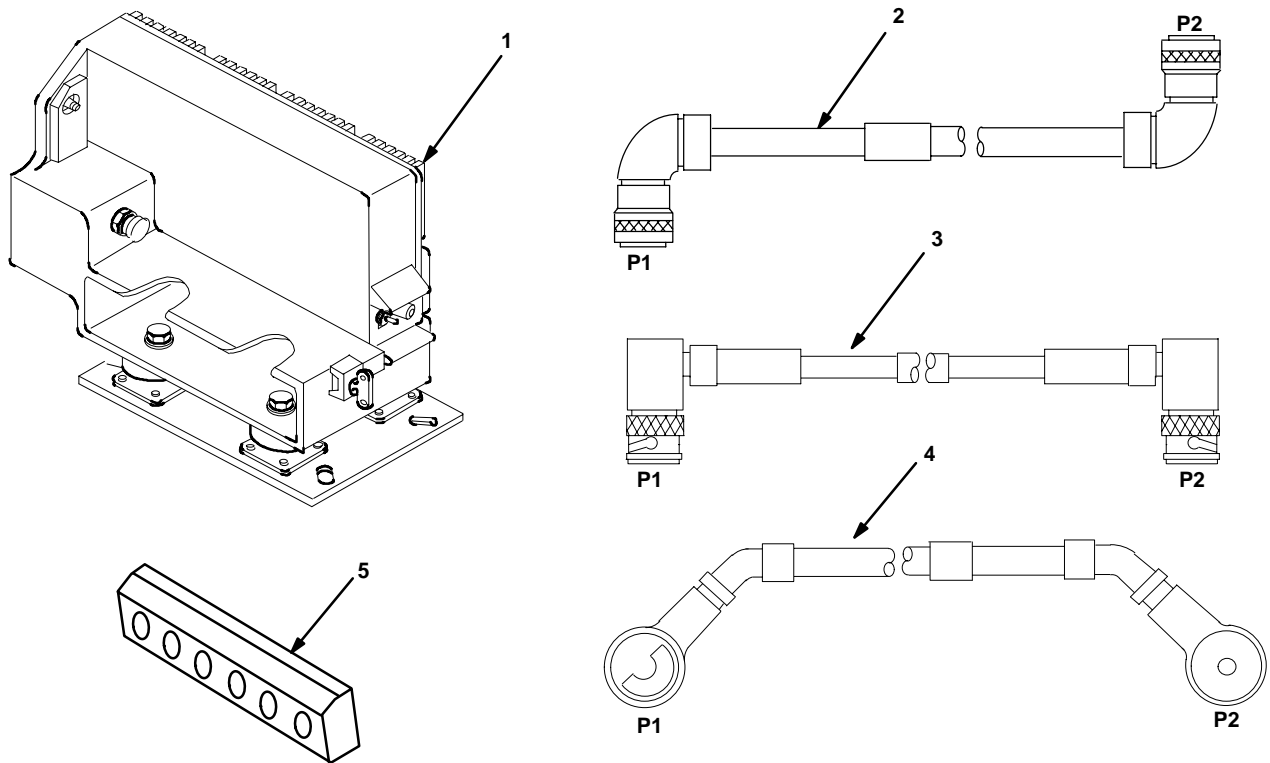


Figure 4-2. Illustrated Parts List for Table 4-2

**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: 7/16 in	5120-00-228-9505	1
1/2 in	5120-00-228-9506	1
9/16 in	5120-00-228-9507	1
Handle, Socket Wrench	5120-00-240-5364	1
Socket: 7/16 in	5120-00-227-6703	1
1/2 in	5120-00-237-0977	1
9/16 in	5120-00-227-6704	1
Electric Drill	5130-00-889-8994	1
Drill Bits: 5/8 in	5133-00-266-9466	1
Size L (.290 in)	5133-00-262-2160	1
Size T (.358 in)	5133-00-262-2168	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 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. If Radio Set AN/VRC-92 Series is authorized, see Section 5.5 for instructions to install MT-6353/VRC mounting base.

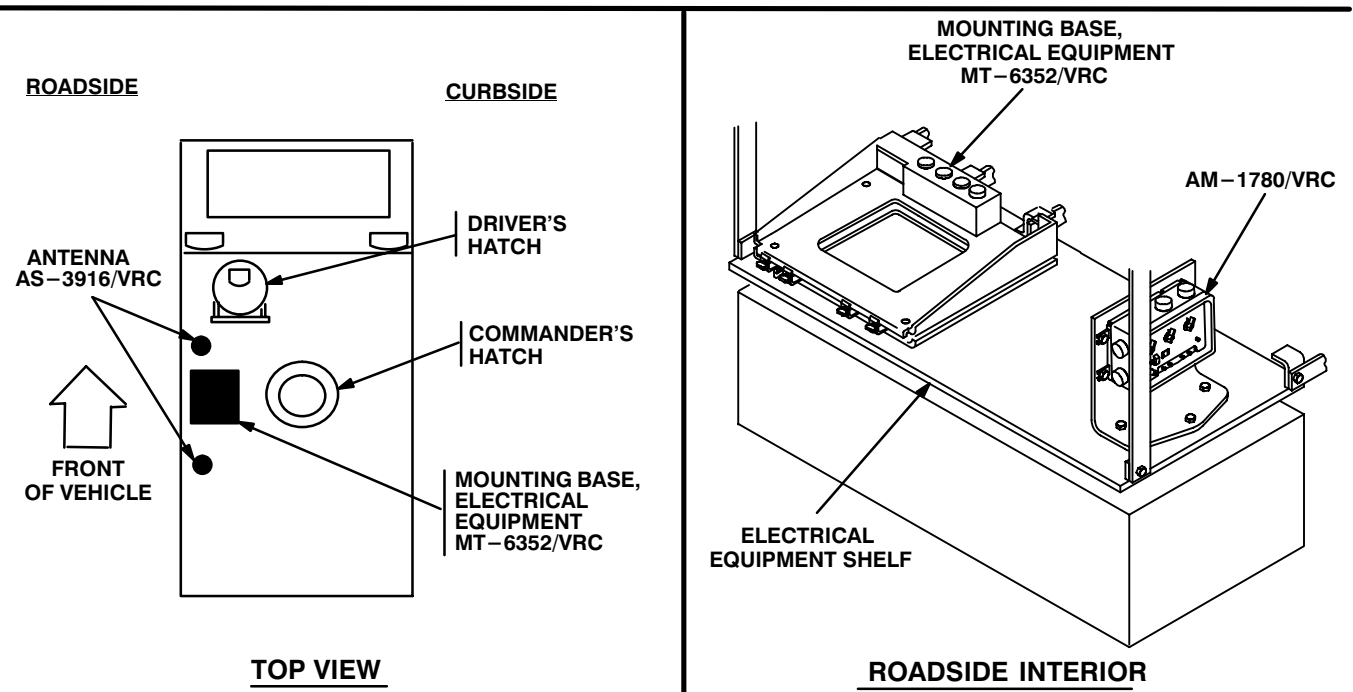
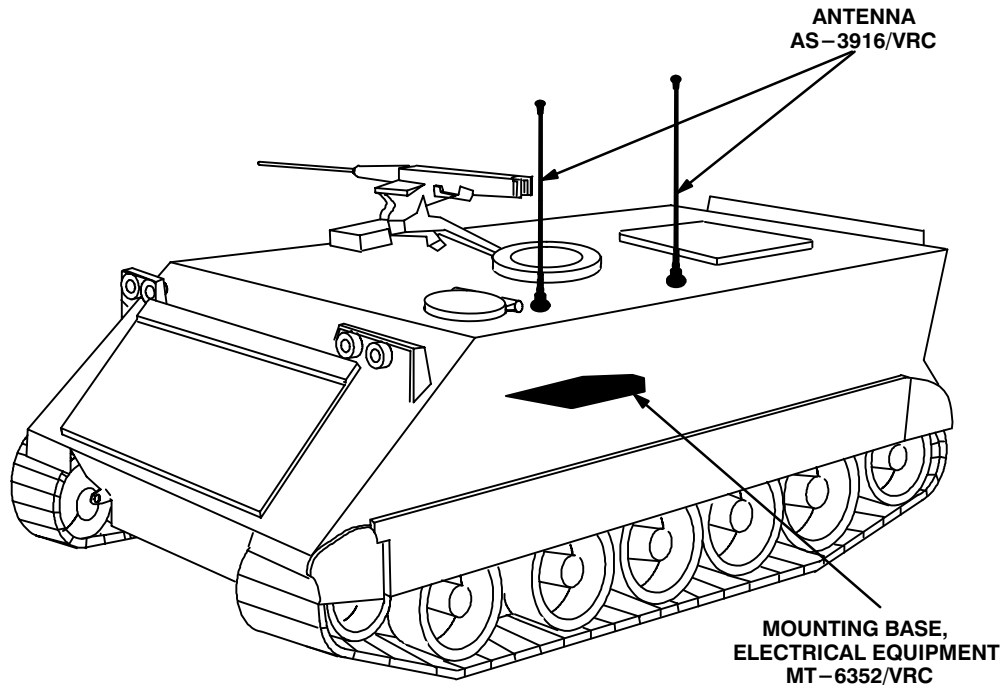


Figure 5-1 (1). MK and Radio Installation: MK Equipment Locations

5. INSTALLATION PROCEDURES. Continued

INSTALLATION  
FOR  
AN/VRC-89/91/92 Series

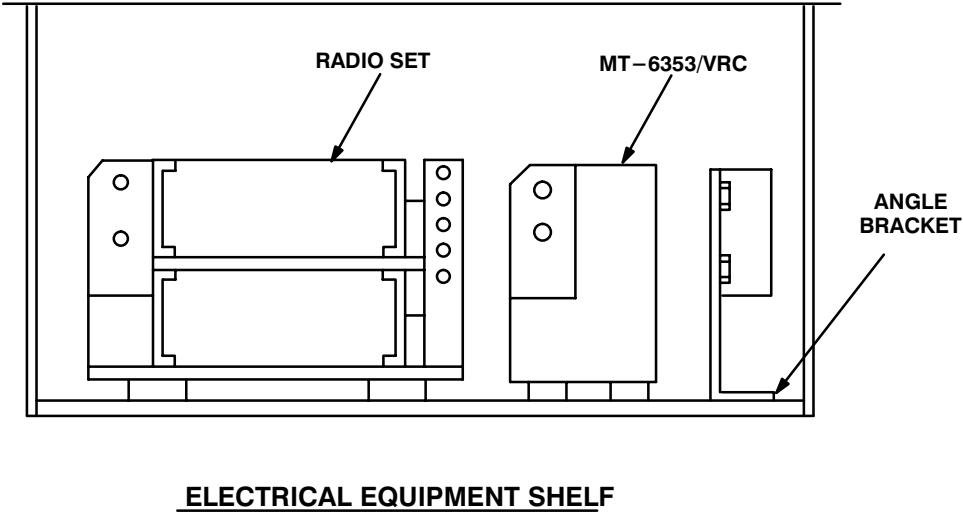


Figure 5-1 (2). MK and Radio Installation: Radio Equipment Locations

**5.1 Installation of Antenna AS-3900/VRC (antenna).** See figures 5-1 (1) for locations.

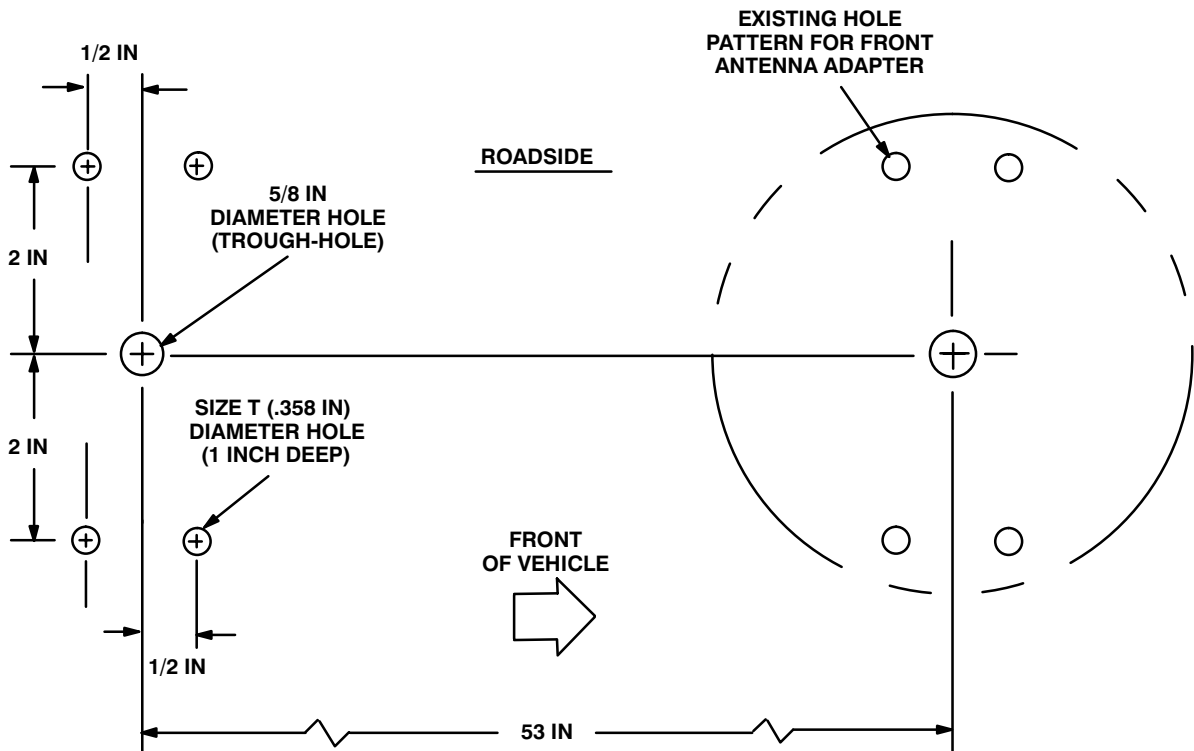
**5.1.1 Installation of Antenna Base.** Perform steps a through h to install rear antenna base. Perform steps i through m to install front antenna base. See Figure 5-1(1) for locations. Remove ground strap from antenna base(s).

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. Mounting holes for antenna adapter and through-hole for RF cable. | Using dimensions shown and antenna adapter as a template, drill four Size T (.358 in) diameter holes, 1 in deep, in roof and one 5/8 in diameter hole through roof. See figure 5-2 (1). | Tools: Electric drill, 5/8 in and size T drill bits. |
|--|---|--|



**Figure 5-2 (1). Rear Antenna Base Installation: Drill Pattern**

- |  |  |                        |
|--|--|------------------------|
| b. Gasket (5).                                       | Apply silicone to both sides; then align with four holes (Size T) drilled in step a. See figure 5-2 (2).   |                        |
| c. Antenna adapter (4).                              | Place on gasket (5) and align mounting holes.  |                        |
| d. Four tapping screws (8) and four IET washers (7). | Install and secure to antenna adapter (4), gasket (5) and roof.  | Tools: 9/16 in socket. |
| e. Antenna adapter (4).                              | Remove the paint (1" strip) for 360° centered around the four mounting holes. Clean the paint removed areas and apply a thin coat of conductive anti-seize compound. |                        |

5.1.1 Installation of Antenna Base. Continued

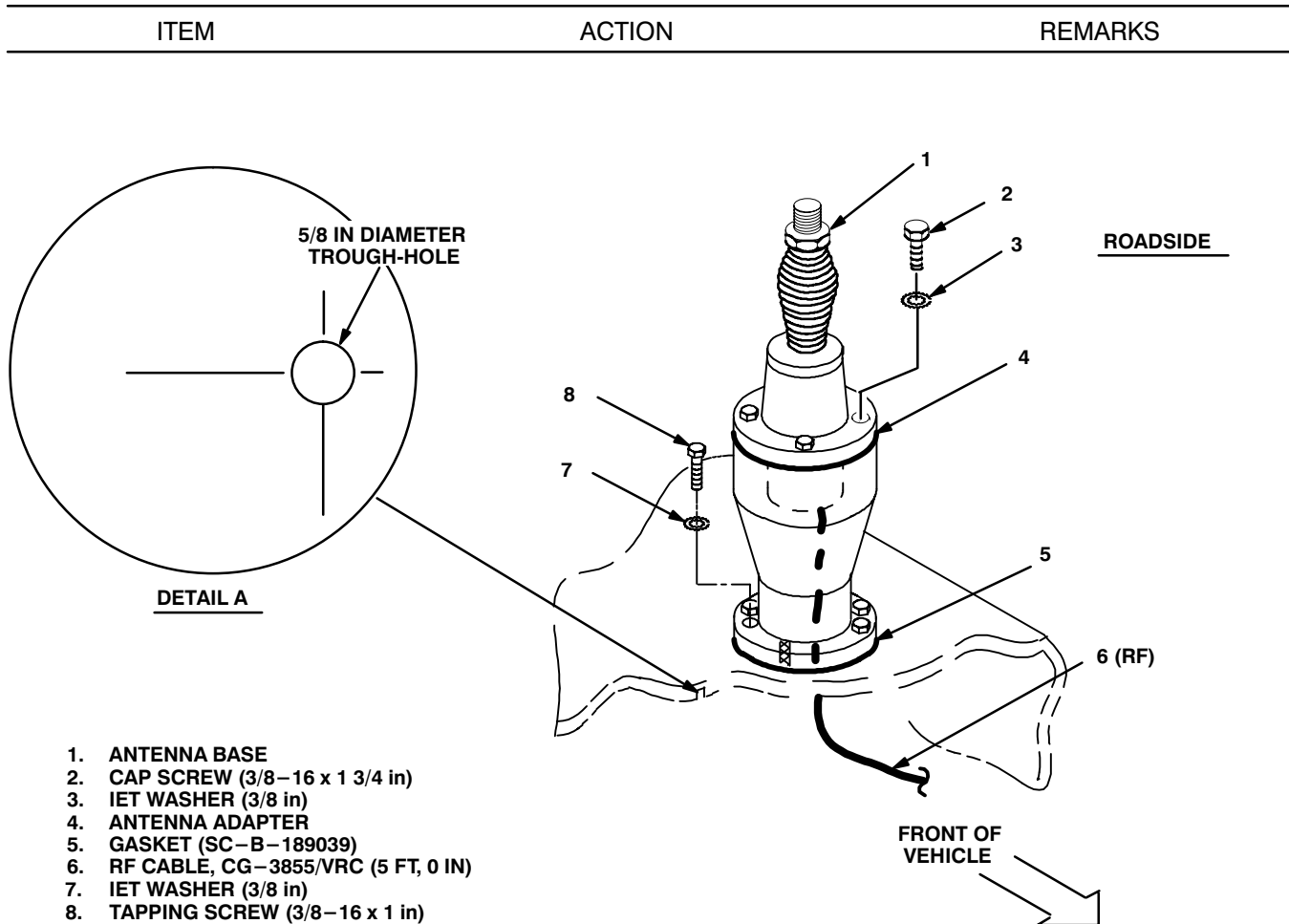


Figure 5–2 (2). Rear Antenna Base Installation: Installing Antenna Base

- |  |   |                        |
|--|---|------------------------|
| f. RF cable (6) connector P1.                    | From inside vehicle, insert through antenna adapter (4) to exterior of vehicle; then connect and secure to antenna base (1) connector J1. See Figure 5–2 (2).                       |                        |
| g. Antenna base (1).                             | Place on top of antenna adapter (5) and align mounting holes.   |                        |
| h. Four cap screws (2) and four IET washers (3). | Install and secure to antenna base (1) and antenna adapter (4) .  | Tools: 9/16 in socket. |
| i. Existing antenna mounting adapter.            | Remove the paint (1" strip for 360° centered around the four mounting holes. Clean the paint removed areas and apply a thin coat of conductive anti-seize compound. See Figure 5–3. |                        |



5.1.1 Installation of Antenna Base. Continued

ITEM	ACTION	REMARKS
j. RF cable (4) connector P1.	From inside vehicle, insert through antenna mounting adapter to exterior of vehicle; then connect and secure to antenna base (3) connector J1.	
k. Antenna base (3).	Place on top of antenna mounting adapter and align mounting holes.	
l. Four cap screws (1) and four IET washers (2).	Install and secure to antenna base (3) and antenna mounting adapter (5).	Tools: 9/16 in socket.
m. Antenna base (3) and antenna mounting adapter.	Apply a bead of adhesive–sealant/silicon compound 360° around the seam between antenna base (3) and antenna adapter.	Tools: Electric grinder or equivalent.

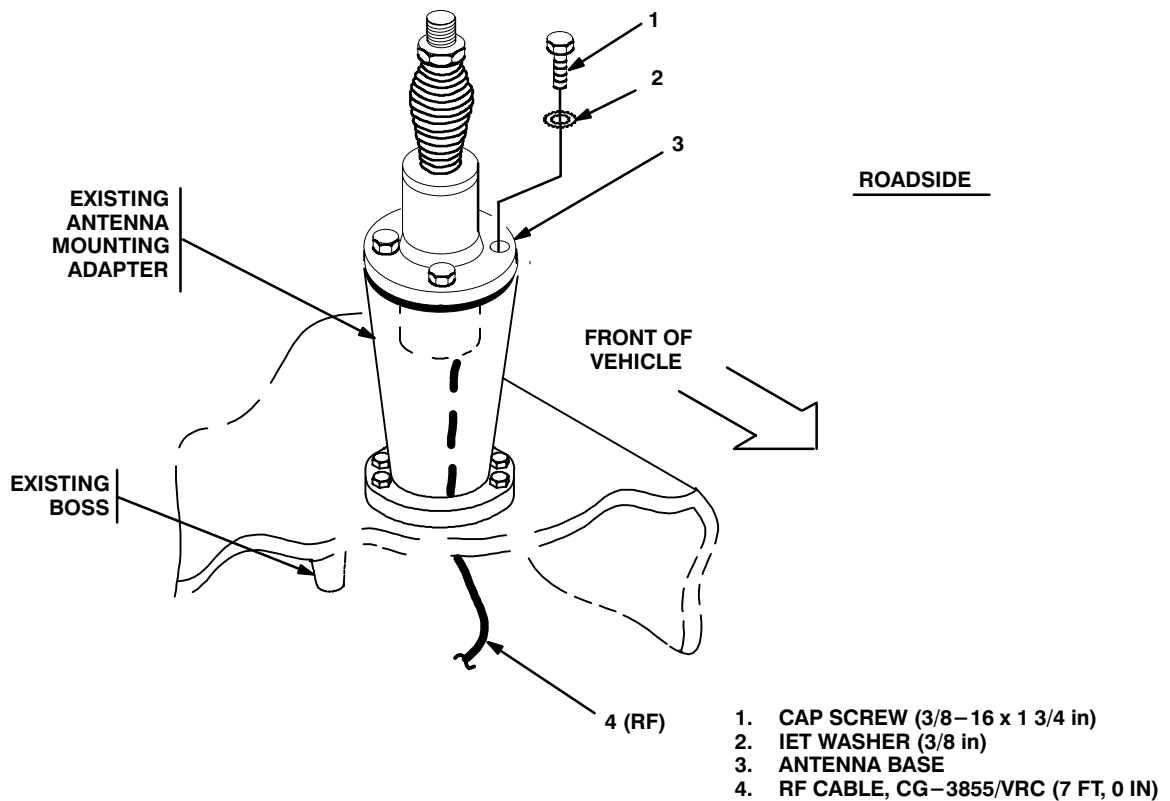
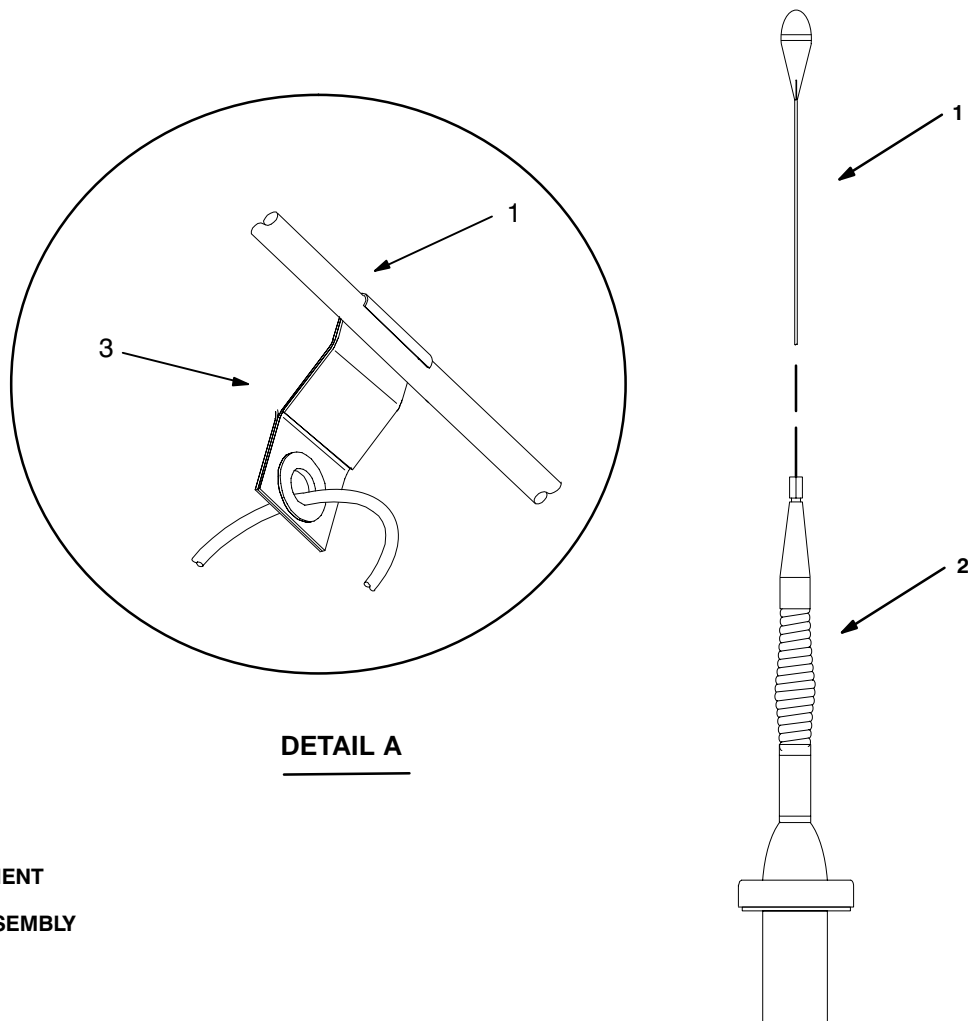


Figure 5–3. Front Antenna Base Installation

**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).	Install and secure to antenna base (2).	
b. Wire rope assembly.	Install and hand-tighten to antenna	



- 1. ANTENNA ELEMENT
- 2. ANTENNA BASE
- 3. WIRE ROPE ASSEMBLY

**Figure 5-4. Top Antenna Assembly Installation**

**5.2 Installation of Electrical Equipment Shelf.** See Figure 5–1 (1) for location.

ITEM	ACTION	REMARKS
<b>NOTE</b>		
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. Electrical equipment shelf (1) four rear shelf mounts and four existing wall mounts.	Remove the paint (1” square) on the out–side of the four mounting holes in rear shelf mounts and four existing wall mounts. Clean the paint removed areas and apply a thin coat of anti–seize compound.	
b. Electrical equipment shelf (1) two front shelf mounts, two flat mounting plates (5) and two existing wall/roof mounts.	Remove the paint (1” square) around the mating side of two mounting holes in front shelf mounts, two mounting holes in wall/roof mounts, and four mounting holes in flat mounting plates (5). Clean the paint removed and apply a thin coat of conductive anti–seize compound.	Tools: 9/16 in socket and 9/16 open/box wrench.
c. Angle bracket (6) electrical equipment shelf (1), and existing AM–1780/VRC.	Remove a 1” square area of paint on the underside of angle bracket around three mounting holes. Remove a 1” square area of paint on the electrical equipment shelf around the existing mounting holes that mate with three mounting holes of angle bracket (6). Remove the paint (1” square) around the mating side of four AM–1780/VRC mounting holes in angle bracket (6) and four flanges on AM–1780/VRC. Clean the paint removed areas and apply a thin coat of conductive anti–seize compound.	Tools: 9/16 in socket and 9/16 open/box wrench.
d. AM–1780/VRC and existing mounting hardware.	Install and secure to angle bracket (6).	
e. Angle bracket (6), three cap screws (4), and three (IET) washers (3).	Install and secure to electrical equipment shelf (1) mounting holes.	
f. Electrical equipment shelf (1).	Align mounting holes in four rear shelf mounts with holes in existing wall mounts.	
g. Four cap screws (4), eight (IET) washers (3), and four nuts (2).	Install and to rear shelf mounts and wall mounts.	
h. Two flat mounting plates (5), four cap screws (4), eight (IET) washers (3), and four nuts.	Install and secure to front shelf mounts of electrical equipment shelf (1) and exisint wall/roof mounts.	

5.2 Installation of Electrical Equipment Shelf. Continued.

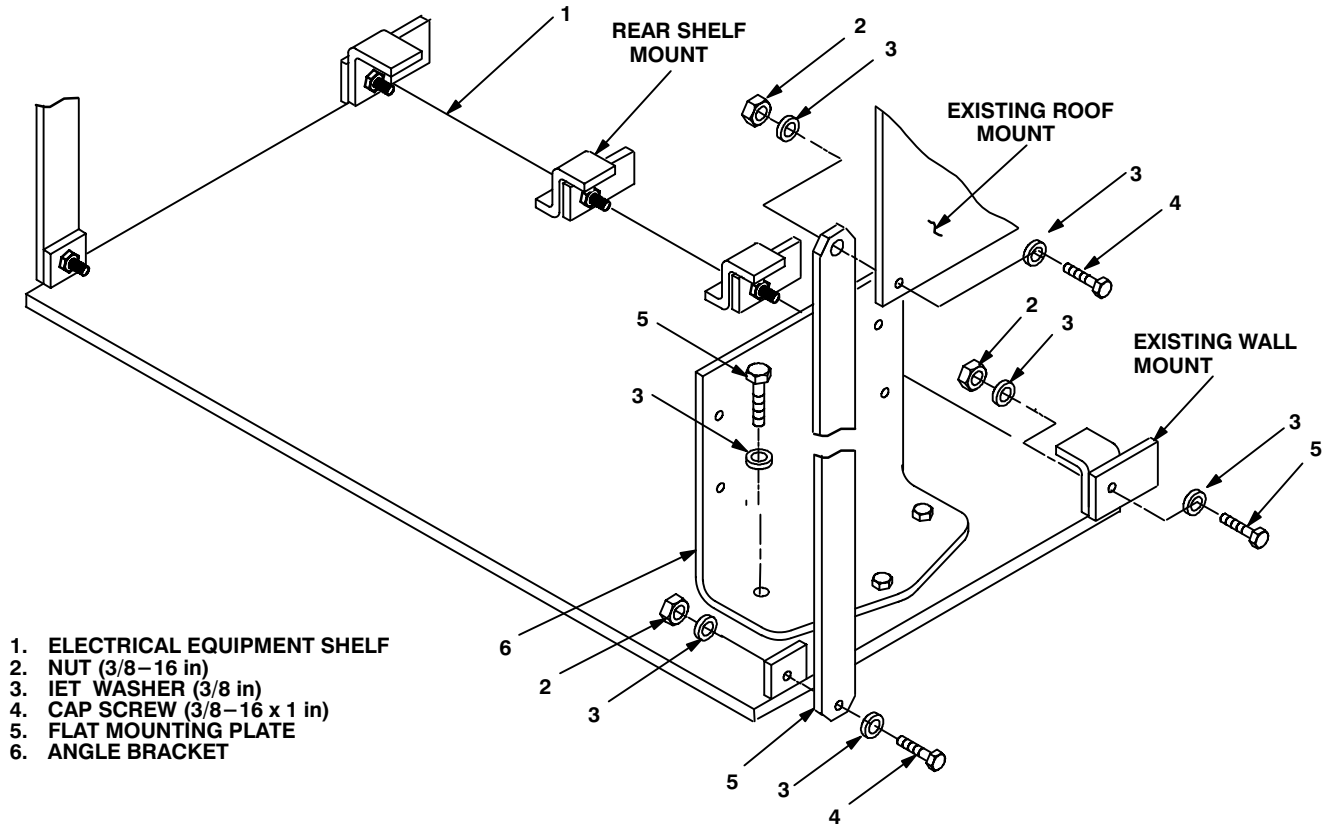


Figure 5-5. Electrical Equipment Shelf Assembly and Installation

**5.3 Installation of Mounting Base, Electrical Equipment MT-6352/VRC (mounting base).** Remove and retain attaching bag of 5/16 in mounting hardware for installation. To insure good electrical grounding, any rust, corrosion or paint around mounting holes in electrical equipment shelf should be removed before installing the mounting base. See figure 5-6 and perform the following steps.

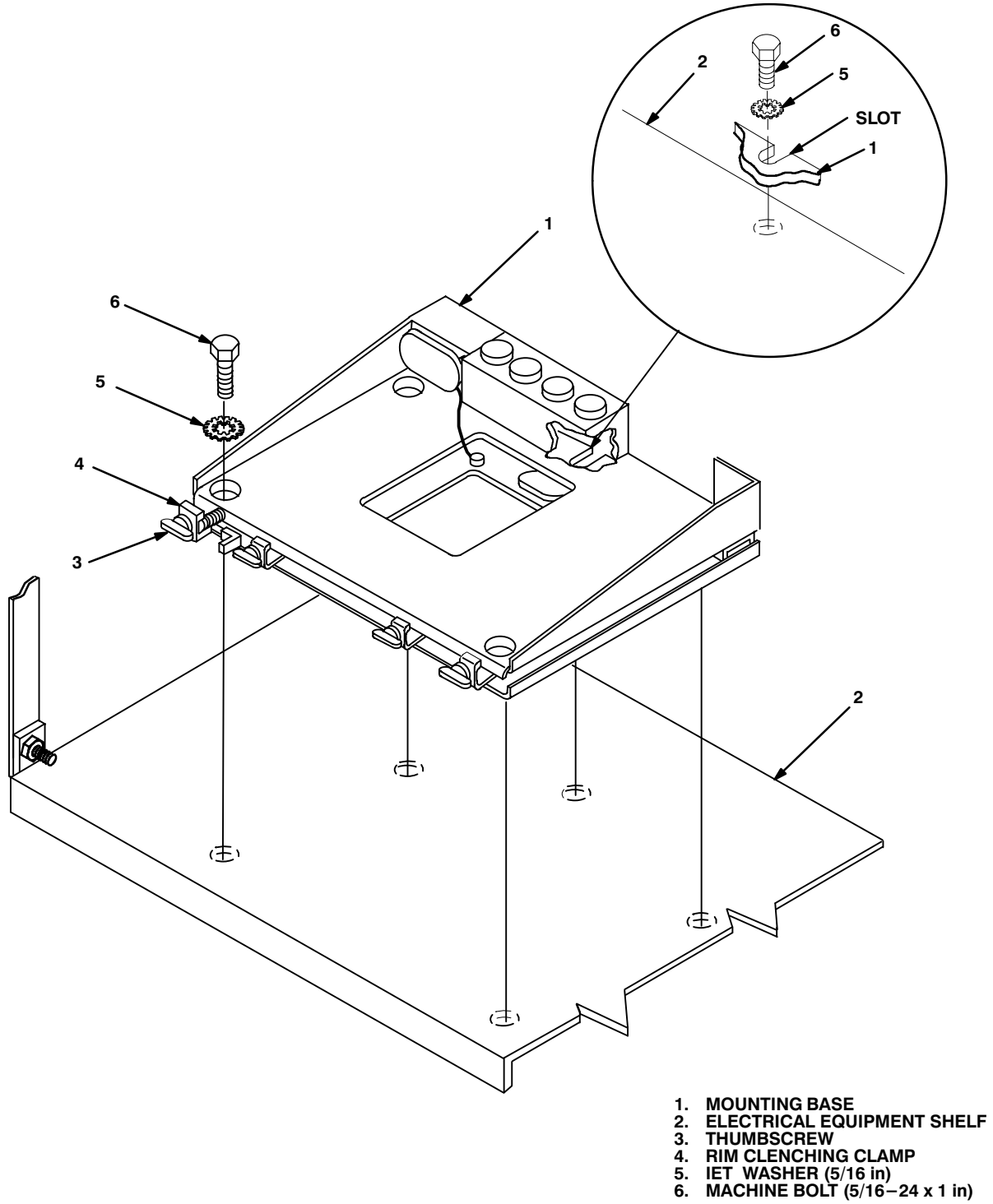


Figure 5-6. Mounting Base Installation: Roadside

**5.3 Installation of Mounting Base, Electrical Equipment MT–6352/VRC (mounting base).** Continued

ITEM	ACTION	REMARKS
<b>NOTE</b>		
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. Mounting base (1) and electrical equipment shelf (2).	Remove a 2” square area of paint on the underside of the mounting base (1) around left front and rear mounting holes. Remove a 2” square area of paint on the electrical equipment shelf (2) around the existing mounting holes that mate with front and rear mounting holes of mounting base (1). 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 electrical equipment shelf (2). See Figure 5–6.	
c. Two outer thumbscrews (3).	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 shelf (2).	Tools: 1/2 in socket and 1/2 in open/box wrench.
e. Five machine bolts (6) and five (IET) washers (5).	Install and secure to mounting base (1) and shelf (2).	
f. Two outer thumbscrews (3).	Tighten and secure to rim clenching clamps (4) and mounting base.	

**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 clamps and tiedown straps.

**WARNING**

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

ITEM	ACTION	REMARKS
a. RF cable (4).	From antenna base (2), route along rear of electrical equipment shelf (7) to left side of mounting base (8). See figure 5–7.	
b. RF cable (4) connector P2.	Position on top of mounting base (8).	
c. RF cable (9).	From antenna base (12), route down to electrical equipment shelf (7) and to left side of mounting base (8).	
d. RF cable (9) connector P2.	Position on top of mounting base (8).	
e. Loop clamp (11), pan-head screw (no.10–24 x 1/2 in) and lock washer (no. 10).	Wrap clamp around RF cable (9); then install to existing boss on wall. See figure 5–7 for location(s).	Tools: Phillips screwdriver.
f. Loop clamp (10), cap screw (1/4–20 x 3/4 in), and lock washer (1/4 in).	Wrap clamp around RF cables (4, 9); then install to tapped hole in shelf.	Tools: 7/16 in socket or 7/16 in open/box wrench.
g. SP cable (5) connector P1.	Connect and secure to AM–1780/VRC connector J503. See figure 5–7.	
h. SP cable (6) connector P1.	Connect and secure to AM–1780/VRC connector J501.	
i. SP cables (5, 6).	Route across electrical equipment shelf (7) to rear of mounting base (8).	
j. SP cable (5) connector P2.	Connect and secure to mounting base (8) connector J4.	
k. SP cable (13) connector P2.	Connect and secure to mounting base (8) connector J3. See figure 5–7, detail A.	
l. SP cable (6) connector P2.	Connect and secure to SP cable (13) connector P1; then position behind mounting base (8).	
m. Power cable (3) connector P1.	Connect and secure to power Bendix connector. See figure 5–7.	

5.4 Installation of Cables. Continued

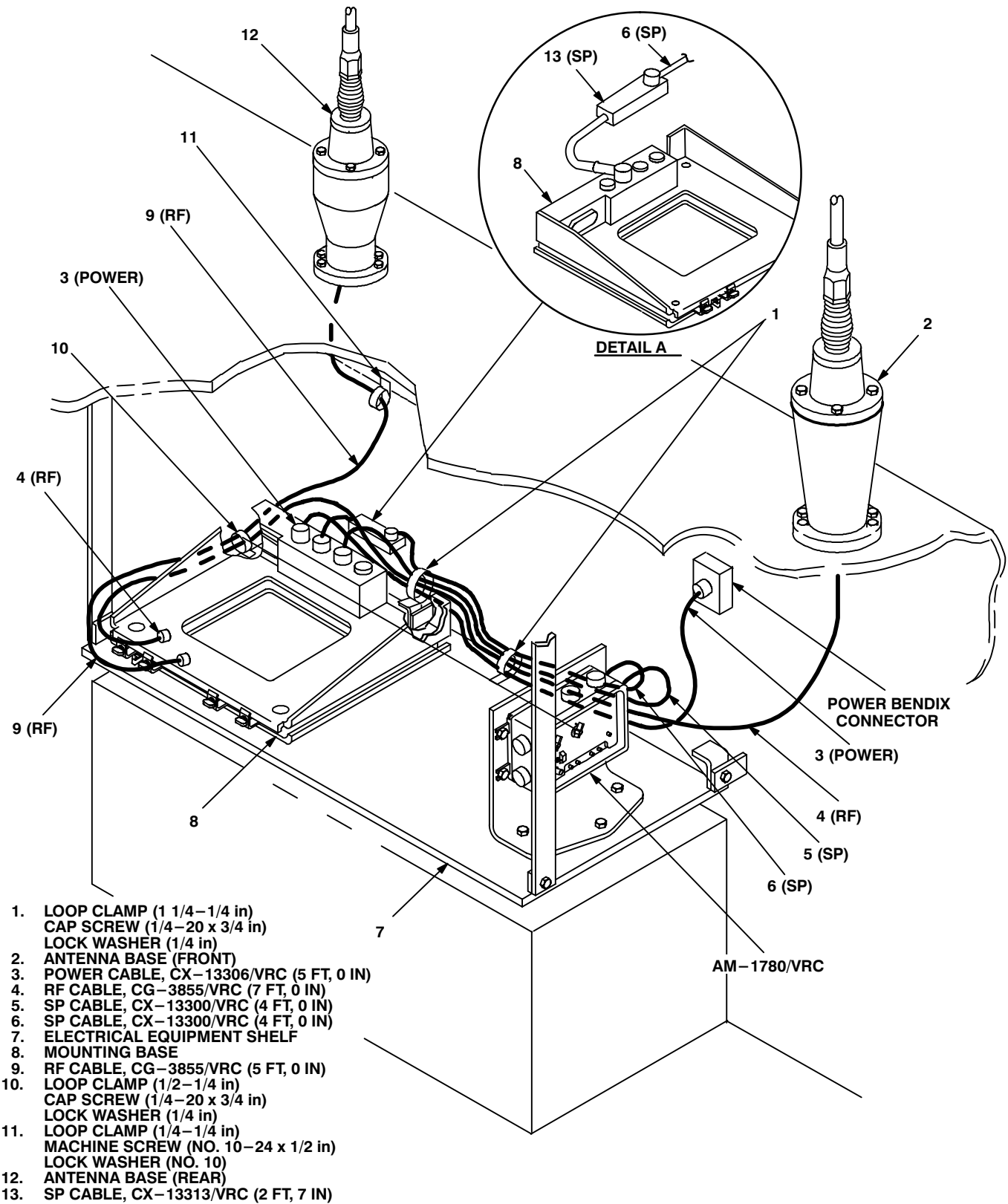


Figure 5-7. Cable Installation: Roadside Interior



**5.4 Installation of Cables.** Continued

ITEM	ACTION	REMARKS
n. Power cable (3).	Route across electrical equipment shelf (7) to rear of mounting base (8). See figure 5–7.	
o. Two loop clamps (1), two cap screws (1/4–20 x 3/4 in) and two lock washers (1/4 in).	Wrap clamps around power cable (3), SP cables (5, 6) and RF cable (4); then install to tapped holes in electrical equipment shelf (7). See figure 5–7 for location(s).	Tools: 7/16 in socket.
p. Power cable (3) connector P2.	Connect and secure to mounting base (8) connector J1. See figure 5–7.	

**5.5 Installation of Mounting Base, Electric 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
<b>NOTE</b>		
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 CX–13303/VRC power cable to MT–6353/VRC mounting base. (Refer to Section 5.6, step b.)		
a. MT–6353/VRC mounting base (1) and electrical equipment shelf (4).	Remove a 2” square area of paint on the underside of the mounting base (1) around the front two mounting holes. Remove a 2” square area of paint on the electrical equipment shelf (4) 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.
b. MT–6353/VRC mounting base (1).	Place on electrical equipment shelf (4) over existing holes. See figure 5–8.	
c. MT–6353/VRC mounting base (1).	Align front holes and rear slots with matching hole pattern in electrical equipment shelf (4). See Figure 5–8.	
d. Two machine bolts (2) two (IET) washers (3) and two flat washers (5).	Install and secure to rear slots in MT–6353/VRC mounting base (1) and electrical equipment shelf (4).	Tools: 1/2 in open/box wrench.
e. Two machine bolts (2) two (IET) washers (3).	Install and secure to front holes in MT–6353/VRC mounting base (1) and electrical equipment shelf (4).	Tools: 1/2 in socket or 1/2 in open/box wrench.

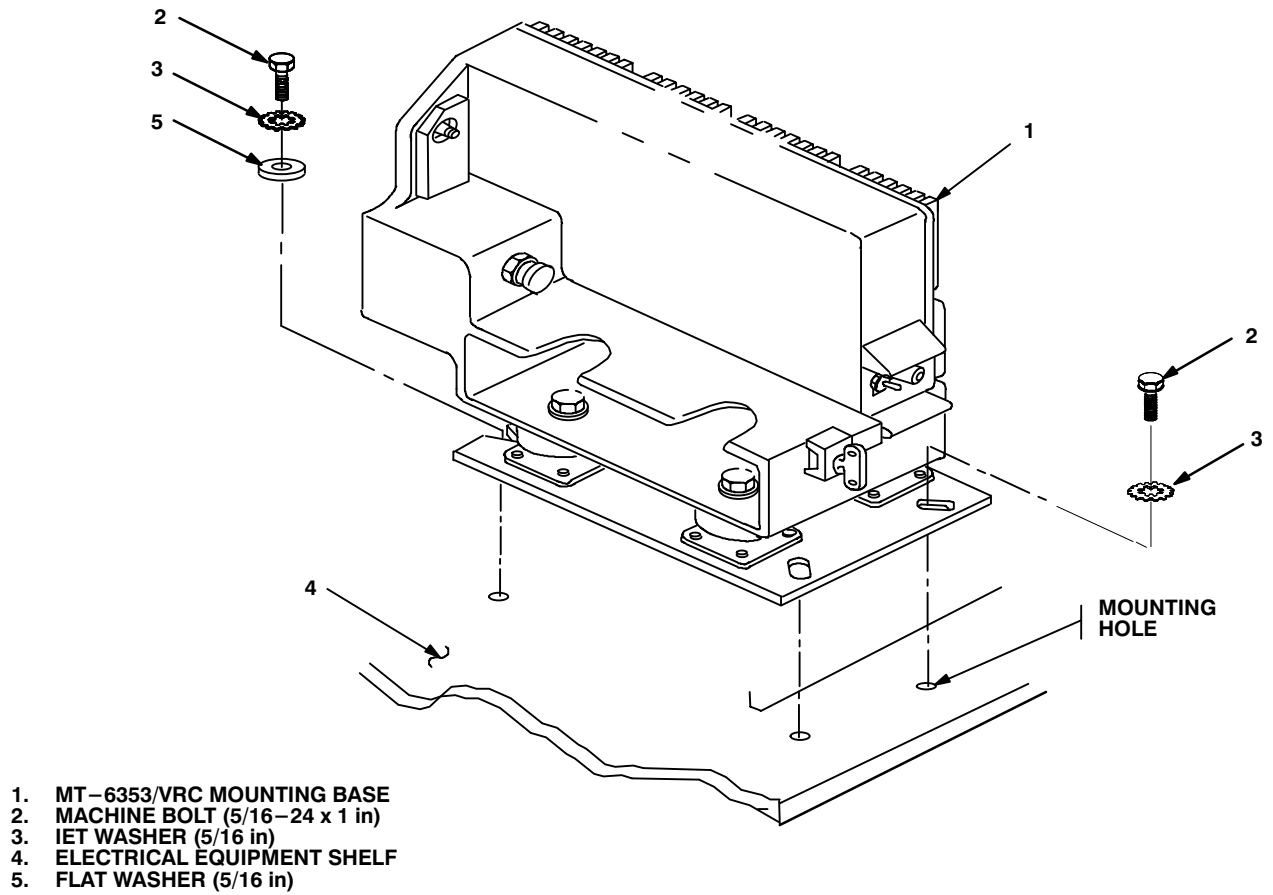
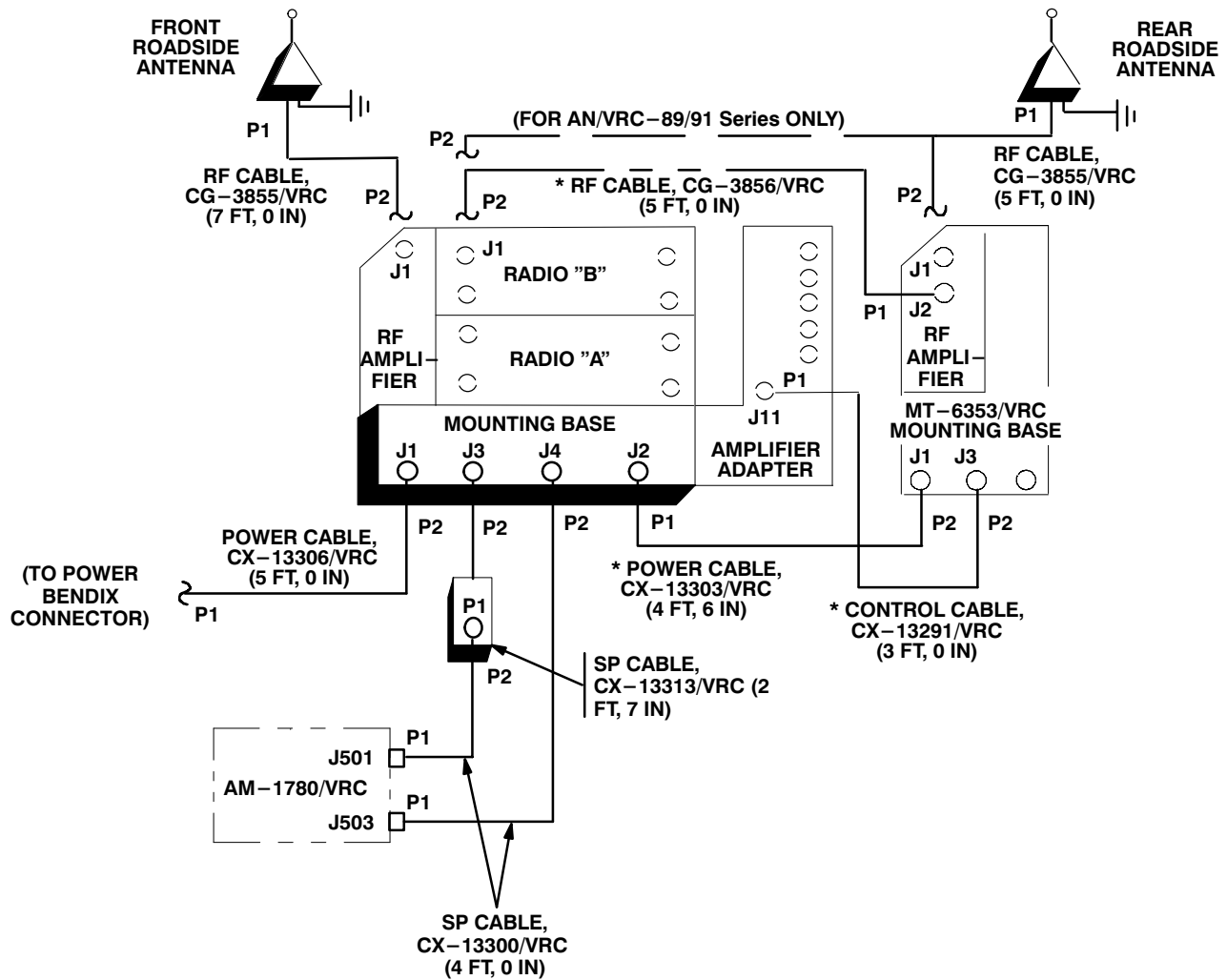


Figure 5-8. MT-6353/VRC Mounting Base Installation

**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 5–9 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) Check 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



CABLE ASSEMBLY	FROM			TO		
	CABLE CONN.	UNIT	UNIT CONN.	CABLE CONN.	UNIT	UNIT CONN.
CX-13306/VRC (5 FT, 0 IN)	P2	Mounting base	J1	P1	Power Bendix connector	
CX-13300/VRC (4 FT, 0 IN)	P2	CX-13313/VRC (2 FT, 7 IN)	P1	P1	AM-1780/VRC	J501
CX-13300/VRC (4 FT, 0 IN)	P2	Mounting base	J4	P1	AM-1780/VRC	J503
CX-13313/VRC (2 FT, 7 IN)	P1	CX-13300/VRC (4 FT, 0 IN)	P2	P2	Mounting base	J3

Figure 5-9. 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.
CG-3855/VRC (7 FT, 0 IN)	P1	Front Antenna base	J1	P2	RF Amplifier (RT)	j1
CG-3855/VRC (5 FT, 0 IN)	P1	Rear Antenna base	J1	P2	RF amplifier (MT-6353/VRC) or RT "B"	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	Mounting base	J2	P2	MT-6353/VRC mounting base	J1

\* NOT SUPPLIED IN THIS MK.

Figure 5-9. Cable Diagram: For AN/VRC-89/91/92 Series

## APPENDIX A

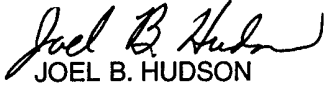
### REFERENCES

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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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5-6	5-8		
		FO-3	

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 the lag to 20 without degradation of operation.

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.

Add new step f.1 to read,  Replace cover plate removed in step d above."

REASON: To replace the cover plate.

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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