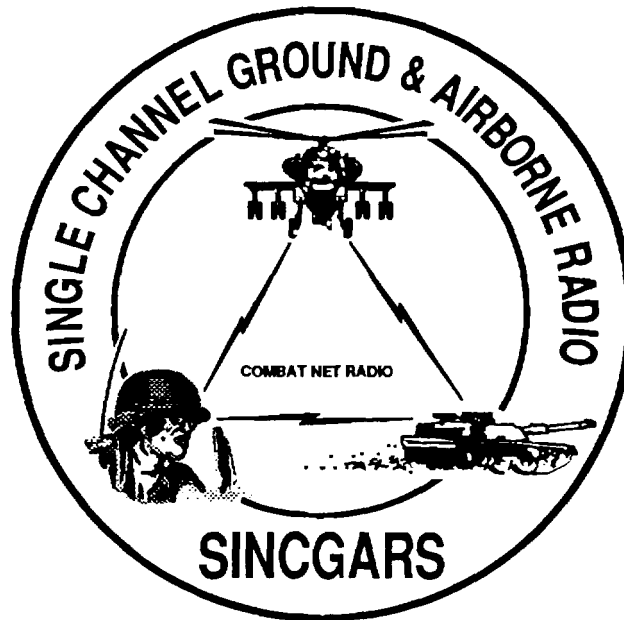


TECHNICAL BULLETIN



INSTALLATION INSTRUCTIONS FOR  
INSTALLATION KIT  
ELECTRONIC EQUIPMENT MK-2329/VRC  
(NSN 5895-01-285-2350) (EIC: N/A)  
TO PERMIT INSTALLATION OF RADIO SETS  
ANNRC-89/91 SERIES  
IN  
GUN, AIR DEFENSE ARTILLERY, SELF PROPELLED, M163

Approved for public release; distribution is unlimited.

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HEADQUARTERS, DEPARTMENT OF THE ARMY

1 SEPTEMBER 1993

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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 and Fort Monmouth, ATTN: AMSEL-LC-LM-LT, Fort Monmouth, New Jersey 07703-5007.

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

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## 0.1 SCOPE.

This technical bulletin provides installation Instructions for Installation Kit, Electronic Equipment MK-2329NRC, commonly referred to as the Mounting Kit (MK). The MK shall be installed into the following type of vehicle(s):

- Gun, Air Defense Artillery, Self Propelled, M163

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 ANNRC-89/91 Series are:

- Radio Set ANNRC-89/91 (for RT-1439NRC)
- Radio Set ANNRC-89A/91A (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-2329NRC (MK) contains the items needed to mount Radio Set ANNRC-89A/91 A in a Gun, Air Defense Artillery, Self Propelled M 163. H Radio Set ANNRC-89/91 is to be installed, communications security equipment (TSEC/KY-57) will need to be installed also; see Section 5.4 for information.

**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 4.5 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-3900NRC	5.1	0.5
Mounting Base, Electrical Equipment MT-6352/VRC	5.2	0.5
Cables	5.3	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 ANNRC-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.

#### **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 ANNRC-89/91 Series

NSN	ITEM DESCRIPTION AND PART NUMBER	QUANTITY IN MK	SMR CODE	FIGURE ITEM NO.
5985-01-297-2971	Antenna, Vehicular AS-3900NRC (A3017899-1)	2	PAOOF A	4-1, 2
5305-00-847-1159	Screw, Cap, Hexagon (3/8-16 x 1 3/4 in) MS35307-365 (4 Not Used)	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)	16	PAOZZA	
5310-00-889-2527	Washer, Lock, Internal/External Toothed (5/16 in) MS45904-76	4	PAOZZA	
5306-00-225-9086	Bolt, Machine (5/16-24 x 5/8 in) MS90726-31	2	PAOZZA	
5330-01-205-2864	Gasket (A3013655-1)	2	PAOZZA	
5975-01-188-8873	Mounting Base, Electrical Equipment MT-6352NRC (A3013367-1)	1	PAOOF A	4-1, 1
5306-00-225-9089	Bolt, Machine (5/16-24 x 1 in) MS90726-34 (A3013367-1)	5	PAOZZA	
5310-00-889-2527	Washer Lock, Internal/External Toothed (5/16 in) Not Used)	10	PAOZZA	
5310-00-880-7746	Nut, Hexagon (5/16-24) MS51968-5 (3 Not Used)	5	PAOZZA	
5995-01-219-7035	Cable Assembly, Radio Frequency CG-3855NRC (18 FT, 0 IN) (A3014031-8)	2	PAOZZA	4-1, 8
5995-01-225-0503	Cable Assembly, Power, Electrical CX-13306NRC	1	PAOZZA	4-1, 6
5995-01-225-1668	Cable Assembly, Radio Frequency CG-3856NRC (21 FT, 0 IN) (A3014032-7)	2	PAOZZA	4-1, 10
5995-01-303-4951	Cable Assembly, Special Purpose, Electrical CX-13313NRC (2 FT, 7 IN) (A3018360-1)	2	PAOZZA	4-1, 7
5995-01-219-2008	Cable Assembly, Special Purpose, Electrical CX-1330ONRC (3 FT, 0 IN) (A3014044-2)	2	PAOZZA	4-1, 9
4020-01-341-8795	Fiber Rope Assembly, Single Leg (A3167672-1)	2	PAOZZA	4-1, 5
5340-00-809-1490	Clamp, Loop (1/4-1/4 in) MS21333-98	3	PAOZZA	
5310-00-582-5965	Washer, Lock (1/4 in) MS35338-44	1	PAOZZA	
	Plate, Guide (A3018345-1)	1	PAOZZA	
	Bracket, Antenna Mounting (A3018344-1)	1	PAOZZA	4-1, 3
5305-00-455-0315	Screw, Cap, Hexagon (3/8-16 x 2-114) MS35307-367	4	PAOZZA	
5305-00-068-0501	Screw, Cap, Hexagon (1/4-20 x 5/8) MS90725-5	1	PAOZZA	
5306-00-225-8497	Bolt, Machine, (5/16-18 x 3/4) MS90725-32	5	PAOZZA	
5310-00-809-4058	Washer, Flat (1/4 in) MS27183-10	1	PAOZZA	

Table 4-1. Parts List for Installation of Radio Set ANNRC-89/91 Series (Cont.)

NSN	ITEM DESCRIPTION AND PART NUMBER	QUANTITY IN MK	SMR CODE	FIGURE ITEM NO.
5310-00-061-1258	Washer, Lock, Internal/External Toothed (3/8 in) MS45904-76	6	PAOZZA	
5310-00-761-6882	Nut, Hexagon (1/4-20) MS51967-2	1	PAOZZA	
5310-00-913-8881	Nut, Hexagon (3/8-16) MS51971-3	3	PAOZZA	
5305-01-847-1159	Screw, Cap, Hexagon (3/8-16 x 1 3/4 in) MS35307-365	3	PAOZZA	
4020-00-111-3208	Strap, Tiedown, Electrical Components MS3367-5-9	40	PAOZZA	
	5			



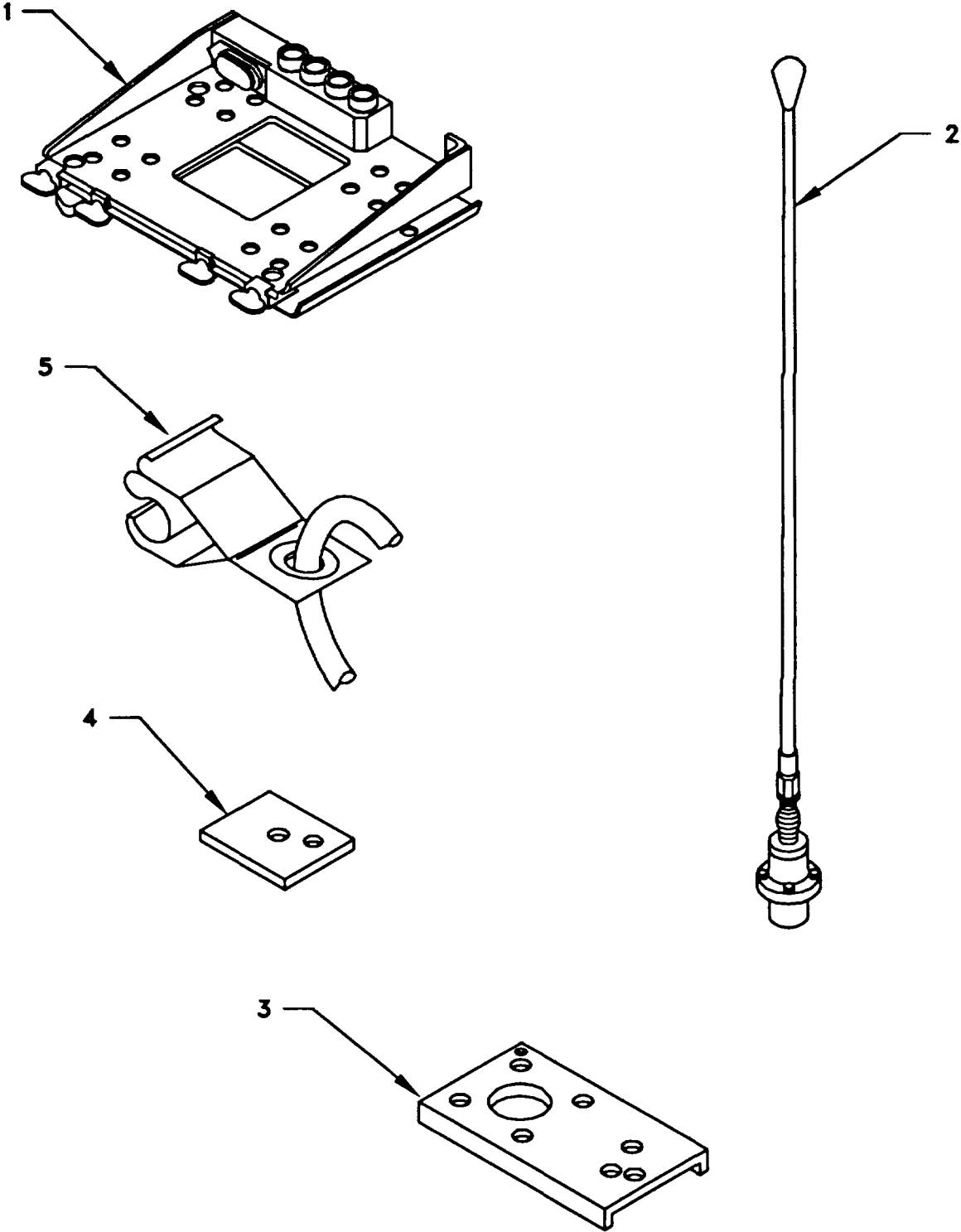


Figure 4-1(1). MK Illustrated Parts List

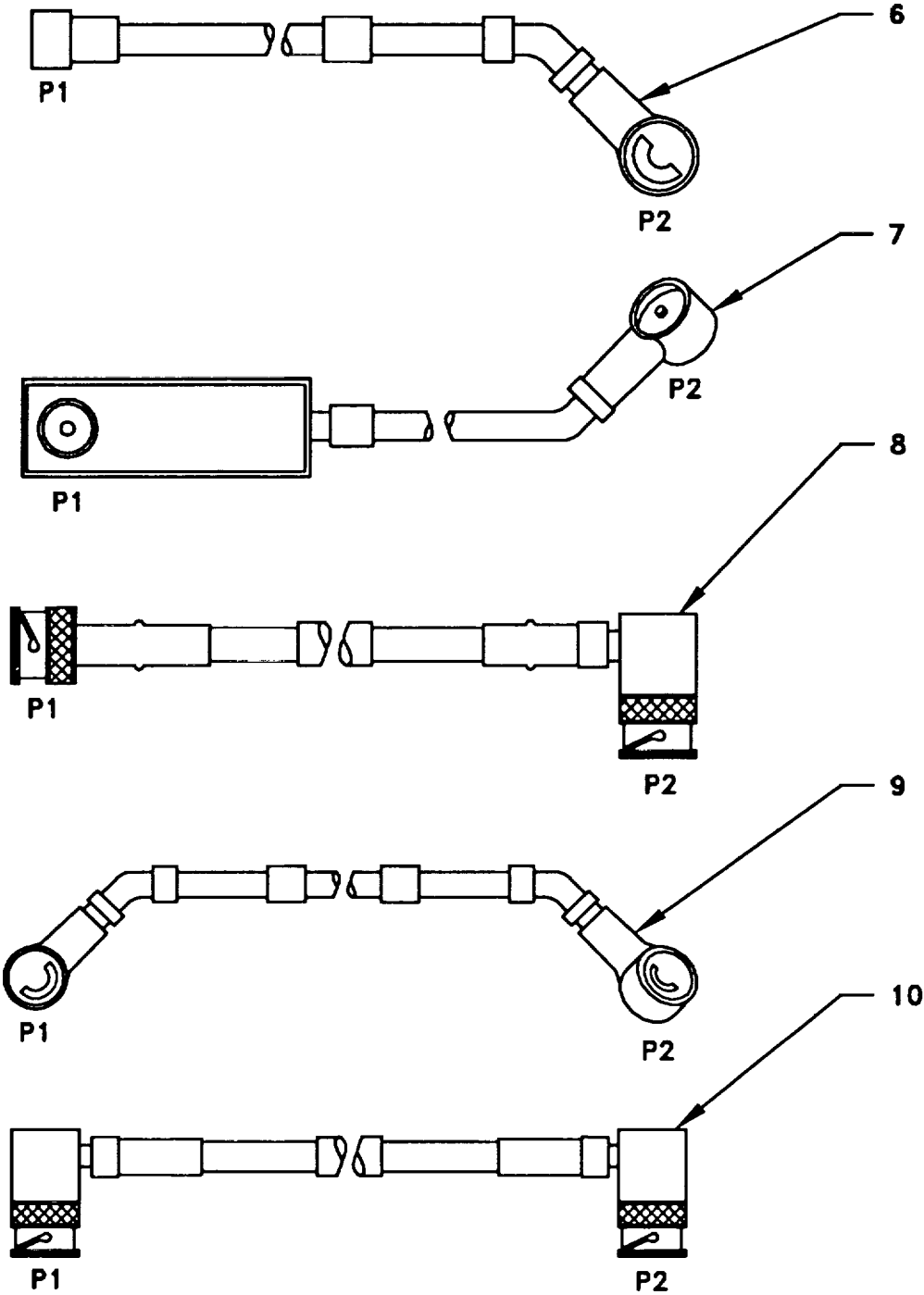


Figure 4-1(2). MK Illustrated Parts List

**Table 4-2.** Additional Items Required for Installation when using RT-1439NRC

NSN	ITEM DESCRIPTION AND PART NUMBER	QUANTITY IN MK	SMR CODE	FIGURE ITEM NO.
5995-01-222-4120	Plate, Mounting (A3050676-1)	1	XBOZZA	4-2, 1
	Cable Assembly, Special Purpose, Electrical CX-13293NRC (6 FT, 0 IN) (A3014034-2)	1	PAOZZA	4-2, 2
5995-01-226-5482	Cable Assembly, Power, Electrical CX-13303NRC (7 FT, 0 IN) (A3014040-11)	1	PAOZZA	4-2, 3
5305-00-984-7350	Screw, Machine, Flat-Head (5/16-24 x 1 in) MS35191-308	4	PAOZZA	

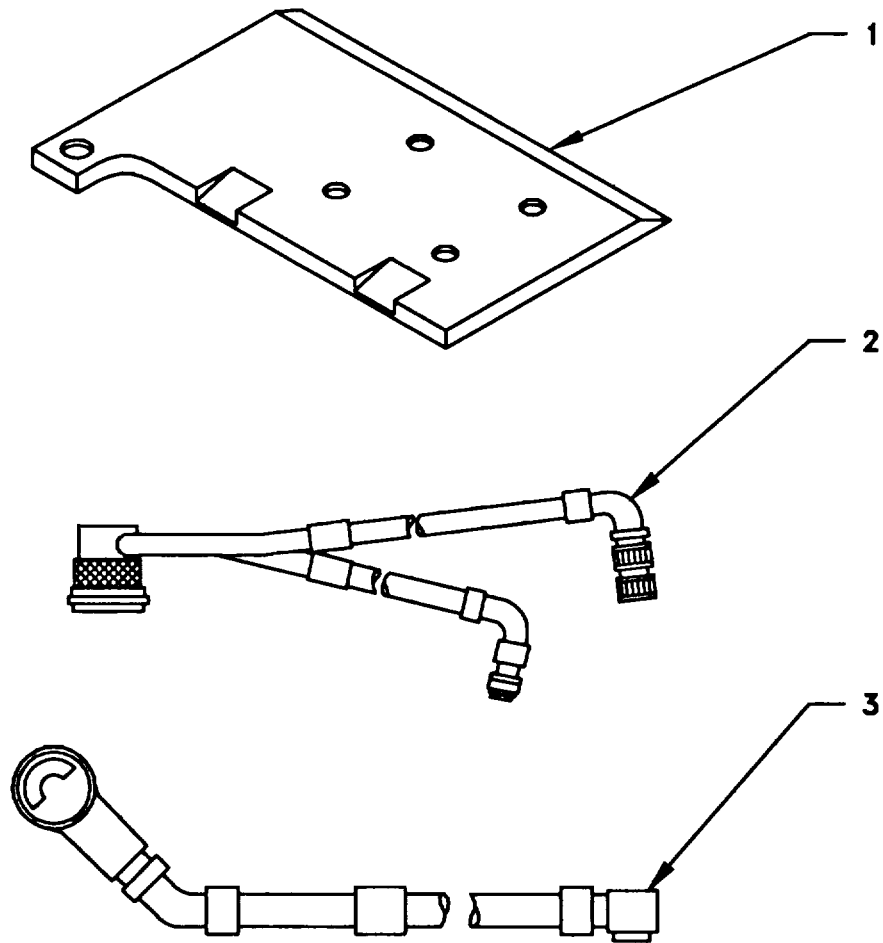


Figure 4-2. TSEC/KY-57 Illustrated Parts List

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

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
Pocket Knife, Electrician's	5110-00-240-5943	1
Screwdriver, No. 2 Point Phillips, 1 1/2 in	5120-00-227-7293	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

\* 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 , the MK equipment, as well as radio components, will be installed. When installing MK equipment, be sure to read and follow instructions and illustrations carefully

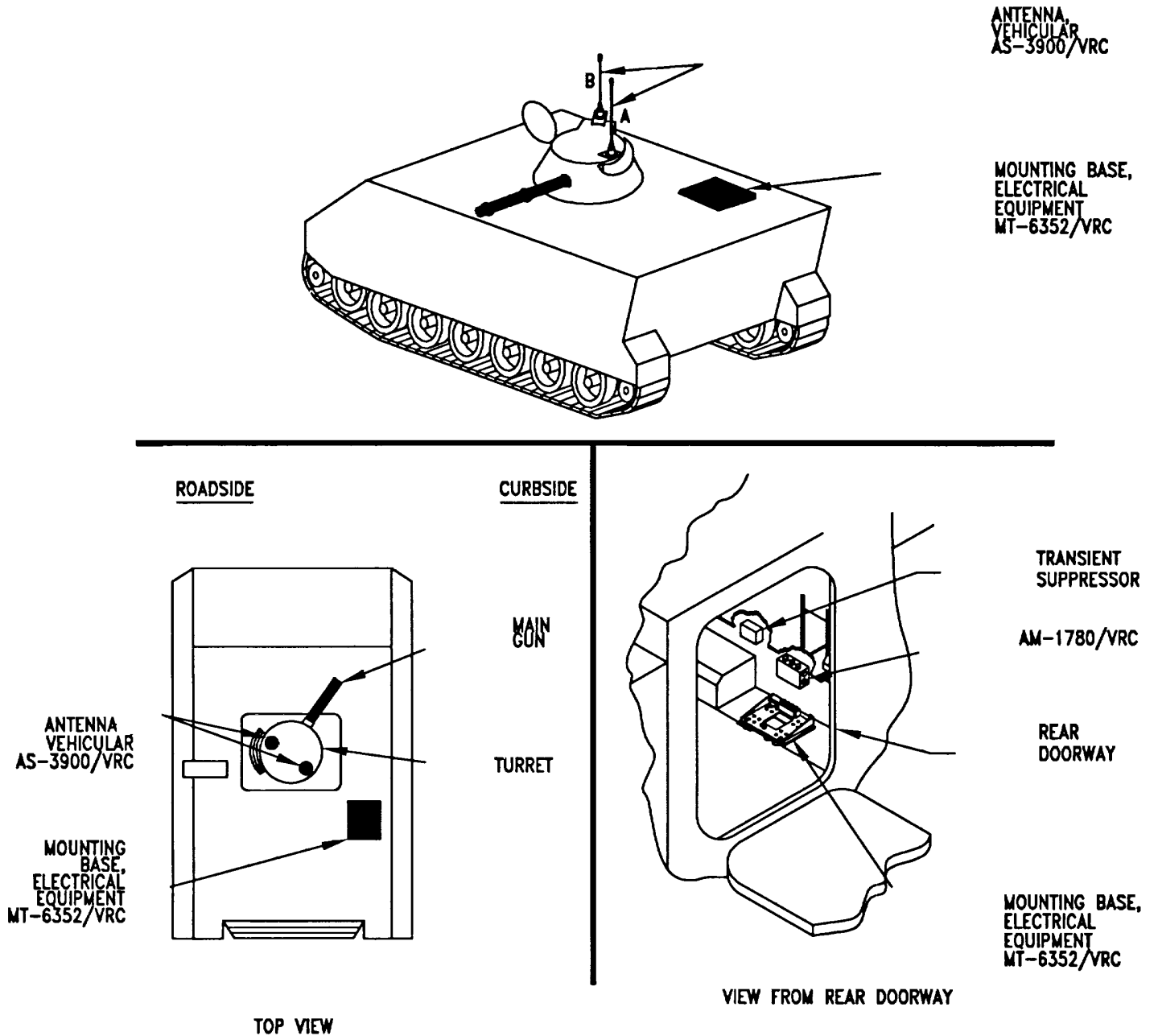
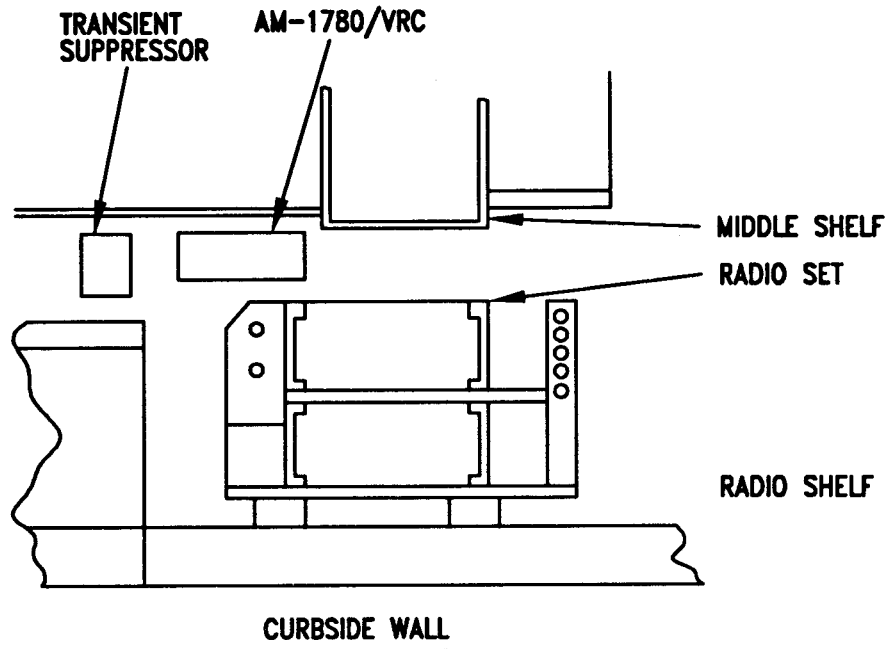


Figure 5-1(1). MK and Radio Installation: MK Equipment Locations

5. INSTALLATION PROCEDURES. Continued.

INSTALLATION  
FOR  
AN/VRC-89A/91A



INSTALLATION  
FOR  
AN/VRC-89/91

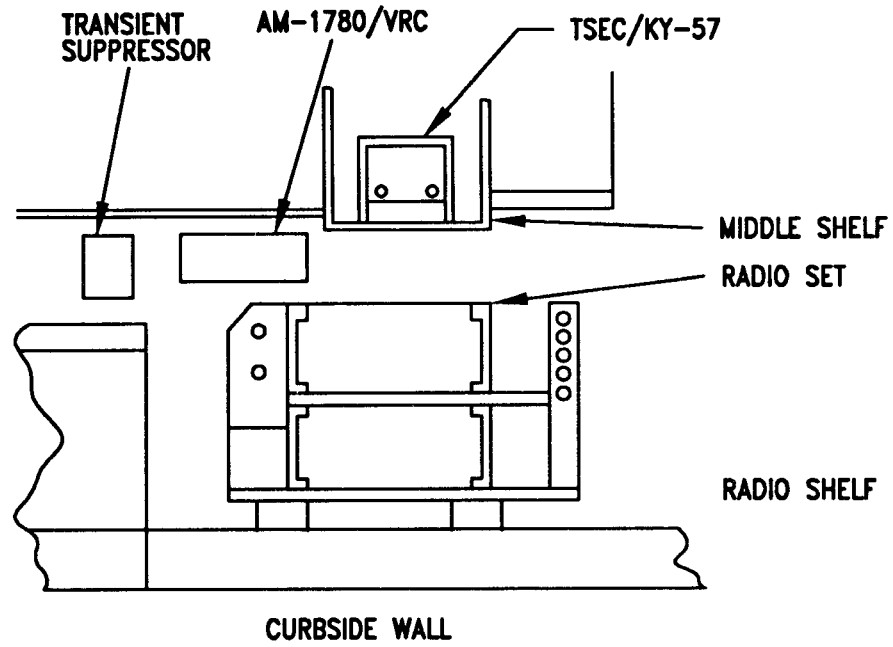


Figure 5-1(2). MK and Radio Installation: Radio Equipment Locations

**5.1 Installation of Antenna, Vehicular AS-3900NRC (antenna).**

**5.1.1 Installation of Antenna Mounting Bracket.** Use the following procedure to install mounting bracket. 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. Loop clamp (4), cap screw (6), lock washer (9), flat washer (5) and nut (10).	Install (without securing) to mounting bracket (3). See Figure 5-2(1) for location.	Tools: 7/16 in open/box wrench and 7/16 in socket.
b. Mounting bracket (3).	Place on top of existing antenna bracket; then align mounting holes. See Figure 5-2(1), Detail A for location.	
c. Guide plate (8), three cap screws (1), six Internal/external-toothed (IET) washers (2) and three nuts (7).	Install and secure to mounting bracket (3) and existing antenna bracket. See Figure 5-2(1).	Tools: 9/16 open/box wrench and 9/16 in socket.

- 1. CAP SCREW (3/8-16 X 1 3/4 IN)
- 2. IET WASHER (3/8 IN)
- 3. MOUNTING BRACKET
- 4. LOOP CLAMP (1/4-1/4 IN)
- 5. FLAT WASHER (1/4 IN)
- 6. CAP SCREW (1/4-20 X 5/8 IN)
- 7. NUT (3/8-16 IN)
- 8. GUIDE PLATE
- 9. LOCK WASHER (1/4 IN)
- 10. NUT (1/4-20 IN)

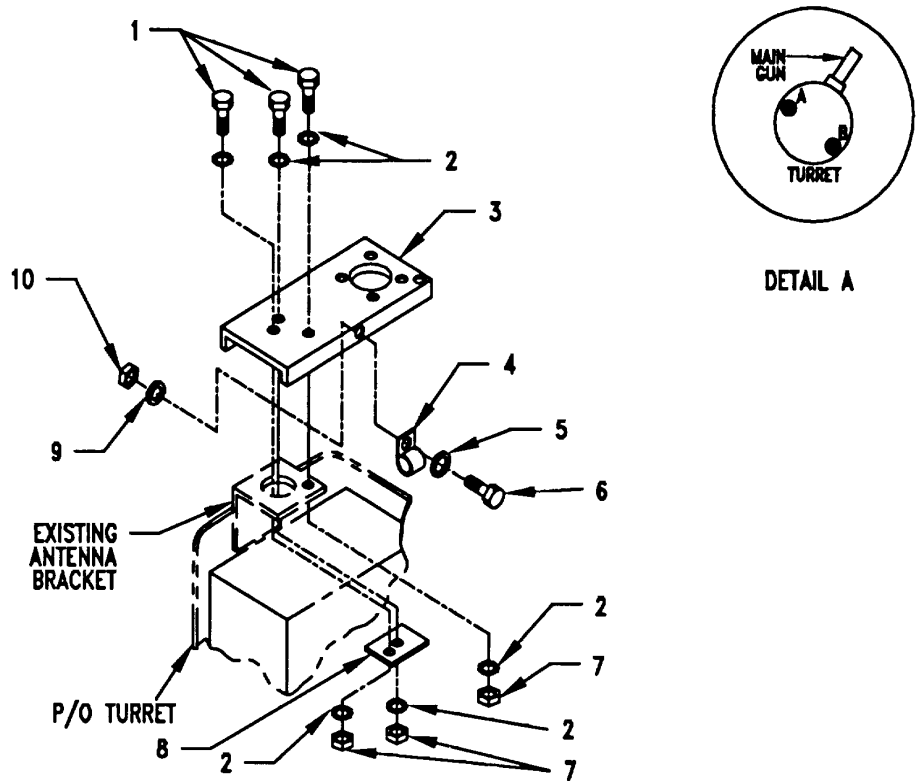


Figure 5-2(1). Antenna Mounting Bracket Installation: Location B

**5.1.2 Installation of Antenna Base.** Use the following procedures to install antenna base. See Figure 5-1(1) for locations.

ITEM	ACTION	REMARKS
a. Gasket (10).	Place on mounting bracket (9) and aline over mounting holes. See Figure 5-2(2).	
b. Antenna base (3).	Place on top of gasket (10) and mounting bracket (9); then aline mounting holes.	
c. Four cap screws (1), eight IET washers (2) and four nuts (8).	Install and secure to antenna base (3) and mounting bracket (9).	Tools: 9/16 in openbox wrench and 9/16 in socket.
d. Ground strap (6), machine bolt (4), three IET washers (5) and nut (7)	Install and secure to mounting bracket (9).	Tools: 1/2 in open/box wrench And 1/2 in socket.

1. CAP SCREW (3/8-16 X 1 3/4 IN)
2. IET WASHER (3/8 IN)
3. ANTENNA BASE
4. MACHINE BOLT (5/16-24 X 5/8 IN)
5. IET WASHER (5/16 IN)
6. GROUND STRAP
7. NUT (5/16-24 IN)
8. NUT (3/8-16 IN)
9. MOUNTING BRACKET
10. GASKET

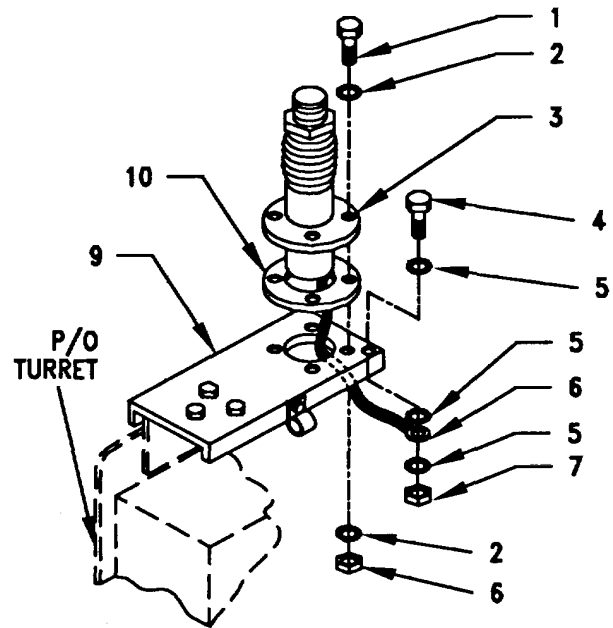
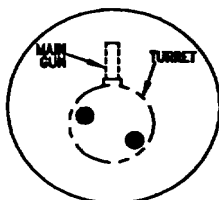


Figure 5-2(2). Antenna Base Installation: Location B

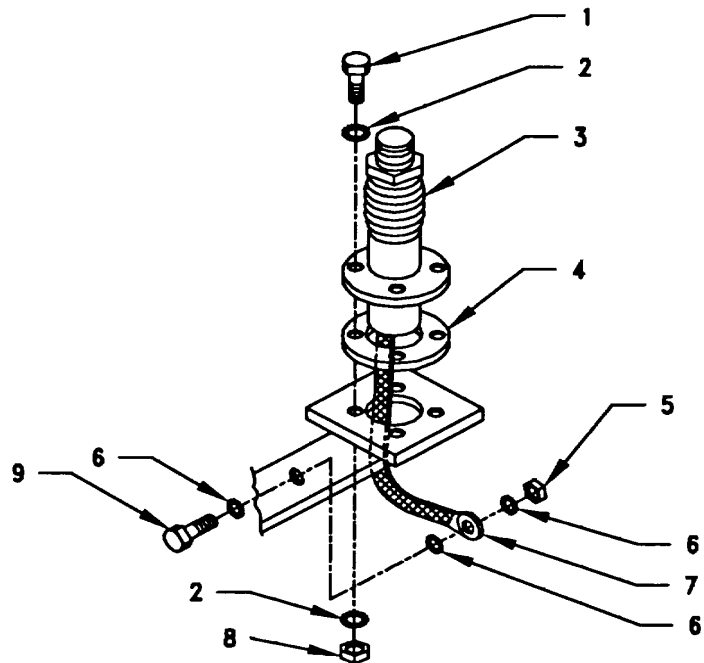


5.1.2 Installation of Antenna Base. Continued.

ITEM	ACTION	REMARKS
a. Gasket (4).	Place on existing antenna bracket and align over mounting holes. See Figure 5-2(3), Detail A for location.	
b. Antenna base (3).	Place on top of gasket (4) and antenna bracket; then align mounting holes.	
c. Four cap screws (1), eight IET washers (2) and four nuts (8)	Install and secure to antenna base (3) and antenna bracket	Tools: 9/16 in open/box wrench and a 9/16 in socket.
d. Ground strap (7), machine bolt (9), three IET washers (6) and nut (5).	Install and secure to antenna bracket.	Tools: 1/2 in open/box wrench 1/2 in socket.



DETAIL A

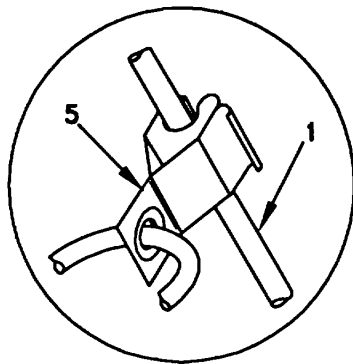


- 1. CAP SCREW (3/8-16 X 2 1/4 IN)
- 2. IET WASHER (3/8 IN)
- 3. ANTENNA BASE
- 4. GASKET
- 5. NUT (5/16-24 IN)
- 6. IET WASHER (5/16 IN)
- 7. GROUND STRAP
- 8. NUT (3/8-16 IN)
- 9. MACHINE BOLT (5/16-24 x 5/8 IN)

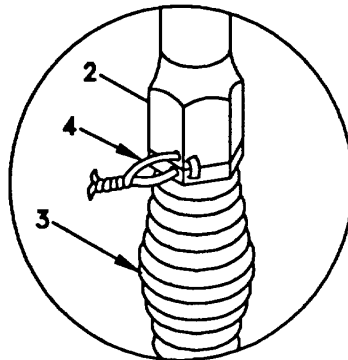
Figure 5-2(3). Antenna Base Installation: Location A

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

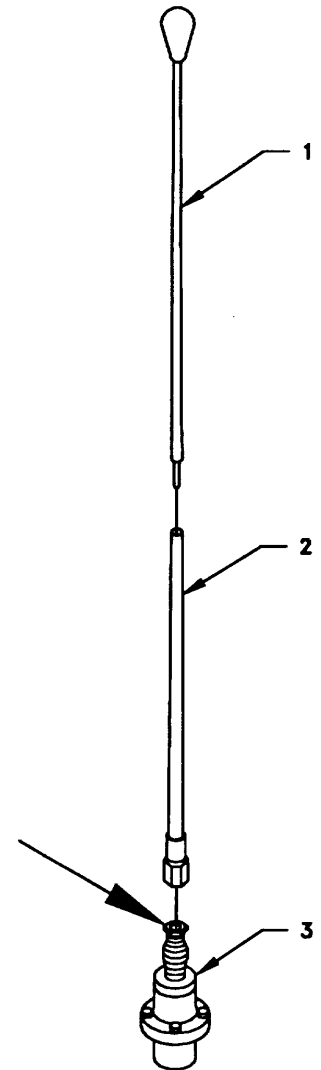
ITEM	ACTION	REMARKS
a. Antenna elements (1,2).	Apply silicone compound to element threads and assemble. See Figure 5-2(4).	
b. Antenna element (2).	Install and hand-tighten to antenna base (3)	
c. Lock wire (4)	Install to antenna element (2) and antenna base (3). See Figure 5-2(4), Detail A.	
	Cut and remove excess 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 5-2(4), Detail B.	



DETAIL B



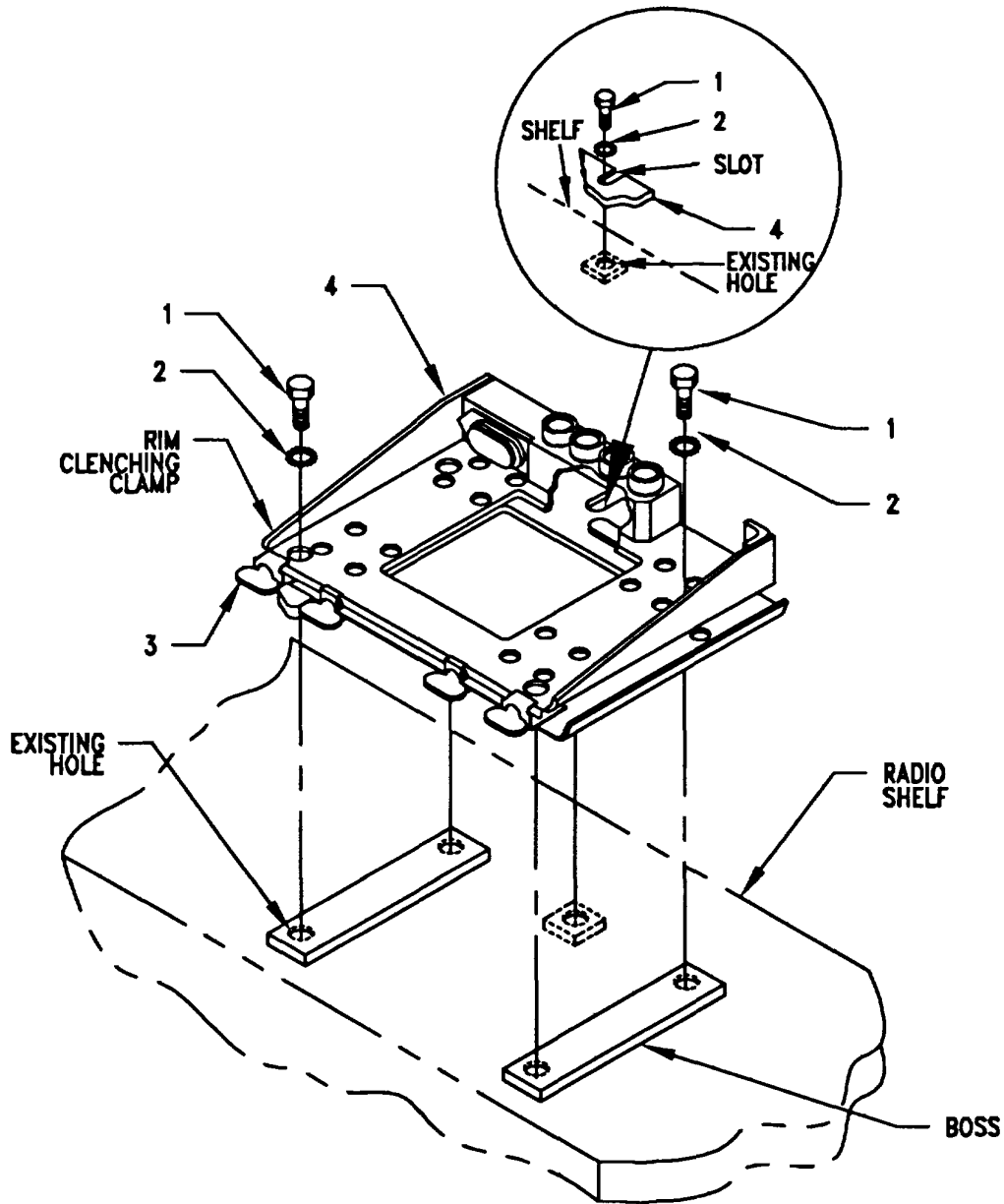
DETAIL A



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

Figure 5-2(4). Top Antenna Assembly Installation

5.2 **Installation of Mounting Base, Electrical Equipment MT-6352NRC (mounting base).** Remove and retain attaching bag of 5/16 in mounting hardware for installation. See Figure 5-1 (1) for location; then see Figure 5-3 and perform the following steps. To insure good electrical grounding, any rust, corrosion or paint around mounting holes in radio shelf should be removed before installing the mounting base.



1. MACHINE BOLT (5/16-18 x 3/4 IN)
2. IET WASHER (5/16 IN)
3. THUMBSCREW
4. MOUNTING BASE

Figure 5-3. Mounting Base Installation

**5.2 Installation of Mounting Base, Electrical Equipment MT352/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 (4).	Place on radio shelf over existing bosses Figure 5-3.	
b. Two outer thumbscrews (3).	Turn ccw until both sets of threads have cleared center of holes.	
c. Mounting base (4).	Aline four holes and rear slot with existing holes in bosses.	
d. Five machine bolts (1) and five internal/ external-toothed (IET) washers (2).	Install and secure to mounting base (4) and radio shelf.	Tools: 1/2 in socket.
e. Two outer thumbscrews (3).	Tighten and secure.	

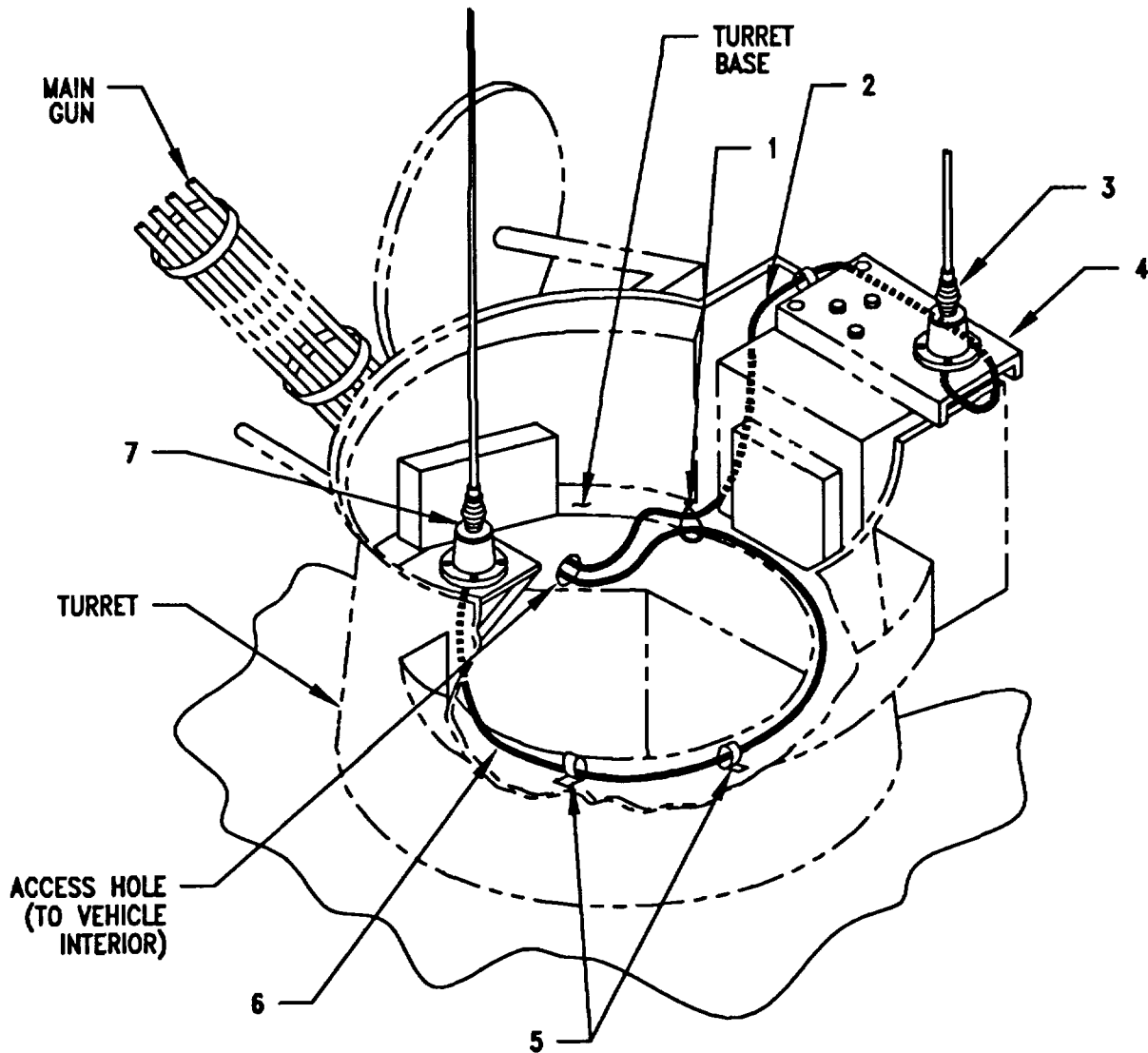
**5.3 Installation of Cables.** To accomplish the installation, leave loop clamps and tiedown straps loose enough to adjust cable slack and allow easy adjustment of equipment. When installation is complete, tighten and secure; all clamps and tiedown straps.

**WARNING**

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

ITEM	ACTION	REMARKS
a. RF cable (2) connector P1.	Insert through loop clamp temporarily installed in step a, paragraph 5.1.1, (do not secure loop clamps); then connect and secure to antenna base (4) connector J1. See Figure 5-4(1).	
b. RF cable (2).	Route down to turret base.	
c. RF cable (6) connector P1.	Connect and secure to antenna base (7) connector J1.	
d. RF cable (6).	Route down to turret base and along existing cable harness to access hole.	
e. RF cables (2, 6).	Route down through access hole to vehicle interior.	
f. Two loop clamps (5).	Install and secure to existing holes in turret base using existing hardware. See Figure 5-4(1) for locations.	
g. Tiedown strap (5).	Wrap around RF cables (2, 6); then secure to existing cable harness on turret base.	
h. Loop clamp.	Tighten and secure loop clamp cited in step a above.	Tools: 7/16 in socket and 7/16 in open/box wrench.
i. RF cables (2, 6).	Route from access hole along existing cable harness down to slip ring assembly. See Figure 5-4(2).	
j. RF cable (2) connector P2.	Connect and secure to slip ring assembly connector J5.	
k. RF cable (6) connector P2.	Connect and secure to slip ring assembly connector J4.	
l. Tiedown strap(s) (1).	Wrap around RF cables (2, 6); then secure to existing cable harness. See Figure 5-4(2) for locations.	

5.3 Installation of Cables. Continued



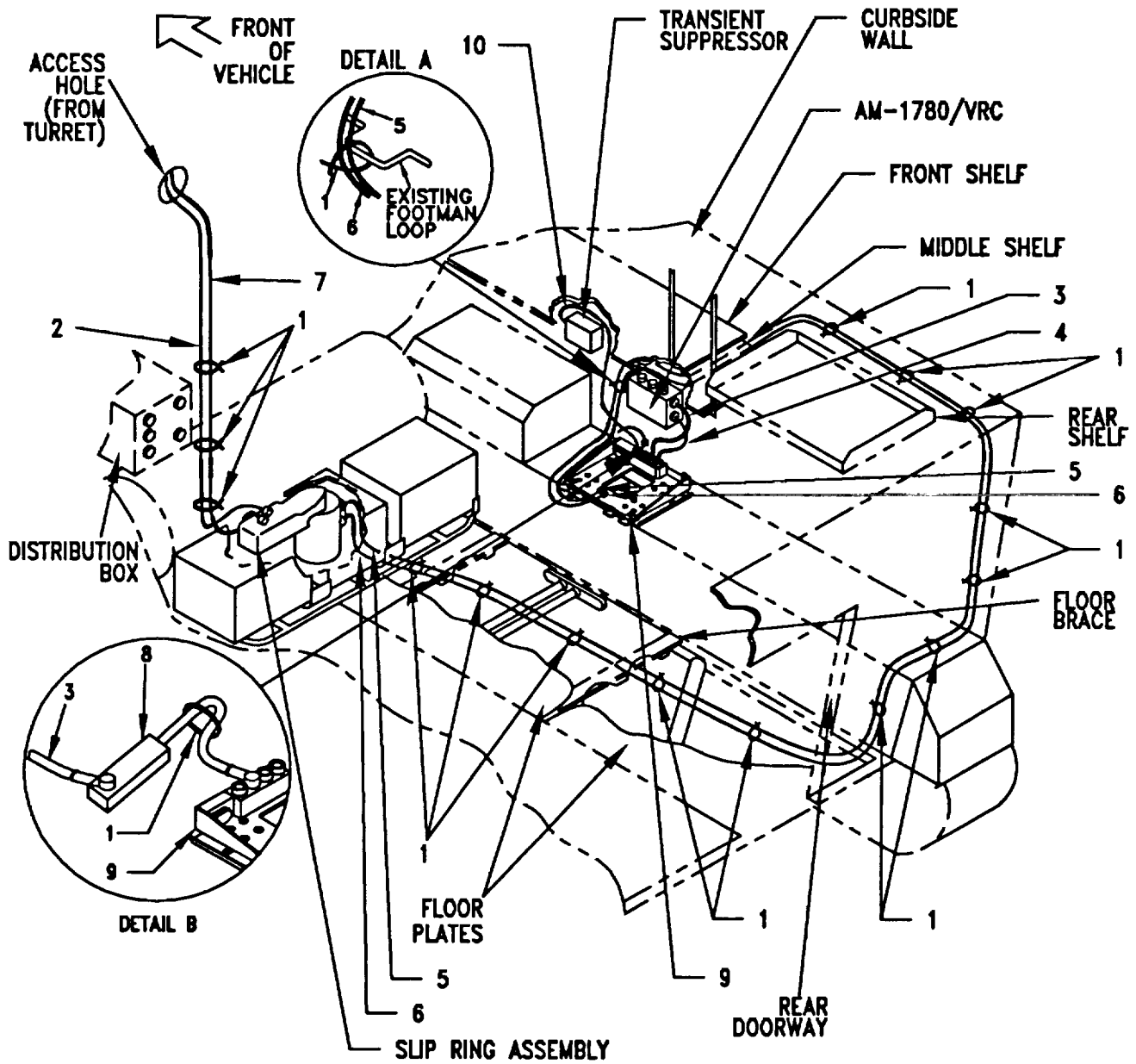
1. TIE-DOWN STRAP
2. RF CABLE, CG-3855/VRC (18 FT, 0 IN)
3. ANTENNA BASE (LOCATION B)
4. MOUNTING BRACKET
5. LOOP CLAMP (1/4-1/4 IN)
6. RF CABLE, CG-3855/VRC (18 FT, 0 IN)
7. ANTENNA BASE (LOCATION A)

Figure 5-4(1). Cable Installation: Turret Cabling

### 5.3 Installation of Cables. Continued.

ITEM	ACTION	REMARKS
m. Two floor plates.	Remove and retain.	Tools: Phillips screwdriver.
n. RF cable (6) connector P1.	Connect and secure to slip ring assembly connector J3. See Figure 5-4(2).	
o. RF cable (5) connector P1.	Connect and secure to slip ring assembly connector J2.	
p. RF cables (5, 6).	Route along existing cable harness under three floor braces to rear curbside corner; then position on lower curbside shelf.	
q. Tiedown strap(s) (1).	Wrap around RF cables (5, 6); then secure to existing cable harness. See Figure 5-4(2) for locations.	
r. Two floor plates.	Reinstall.	Tools: Phillips screwdriver.
s. RF cables (5, 6).	Route along existing cable harness up to ceiling and position on rear shelf. See Figure 5-4(2).	
t. Tiedown strap(s) (1)	Wrap around RF cables (5, 6); then secure to existing cable harness. See Figure 5-4(2) for locations.	
u. RF cables (5, 6).	Route down wall (behind middle shelf) to radio shelf. See Figure 5-4(2).	
v. RF cables (5, 6) connector P1.	Position on top of mounting base (10).	
w. Three tiedown straps (1).	Wrap around RF cables (5, 6); then secure to existing cable harness. See Figure 5-4(2) for locations.	
x. Tiedown strap (1).	Wrap around RF cables (5, 6); then secure to existing footman loop near left side of AM-1780NRC. See Figure 5-4(2), Detail A.	
y. SP cable (3) connector P1.	Connect and secure to AM-1780NRC connector J501. See Figure 5-4(2).	
z. SP cable (3) connector P2 and SP cable (8) connector P1.	Connect and secure. See Figure 5-4(2), Detail B.	

5.3 Installation of Cables. Continued.



- |  |   |
|--|---|
| 1. TIEDOWN STRAP                       | 6. RF CABLE, CG-3856/VRC (21 FT, 0 IN)    |
| 2. RF CABLE, CG-3855NRC (18 FT, 0 IN)  | 7. RF CABLE, CG3855NRC (18 FT, 0 IN)      |
| 3. SP CABLE, CX-1330ONRC (3 FT, 0 IN)  | 8. SP CABLE, CX-13313NRC (2 FT, 7 IN)     |
| 4. SP CABLE, CX-13300NRC (3 FT, 0 IN)  | 9. MOUNTING BASE                          |
| 5. RF CABLE, CG-3856NVRC (21 FT, 0 IN) | 10. POWER CABLE, CX-13306NRC (5 FT, 0 IN) |

Figure 5-4(2). Cable Installation: Interior Cabling



5.3 **Installation of Cables.** Continued.

ITEM	ACTION	REMARKS
aa. SP cable (8) connector P2.	Connect and secure to mounting base (11) connector J3.	
ab. SP cable (4) connector P1.	Connect and secure to AM-1780NRC connector J503.	
ac. SP cable (4) connector P2.	Connect and secure to mounting base (11) connector J4.	
ad. Power cable (12) connector P1.	Connect and secure to transient suppressor on curbside wall.	
ae. Power cable (12) connector P2.	Connect and secure to mounting base (11) connector J1.	

**5.4 Installation of MK-2499/VRC.** When required, install MK-2499NRC (TSEC/KY-57 security equipment) in the location shown in Figure 5-1(2). Connect cables as shown in Figure 5-5. Due to systems requirements, only one (TSEC/KY-57 security equipment) is utilized.

**5.5 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 5-7. 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.	

5.5 Post-Installation and Checkout. Continued.

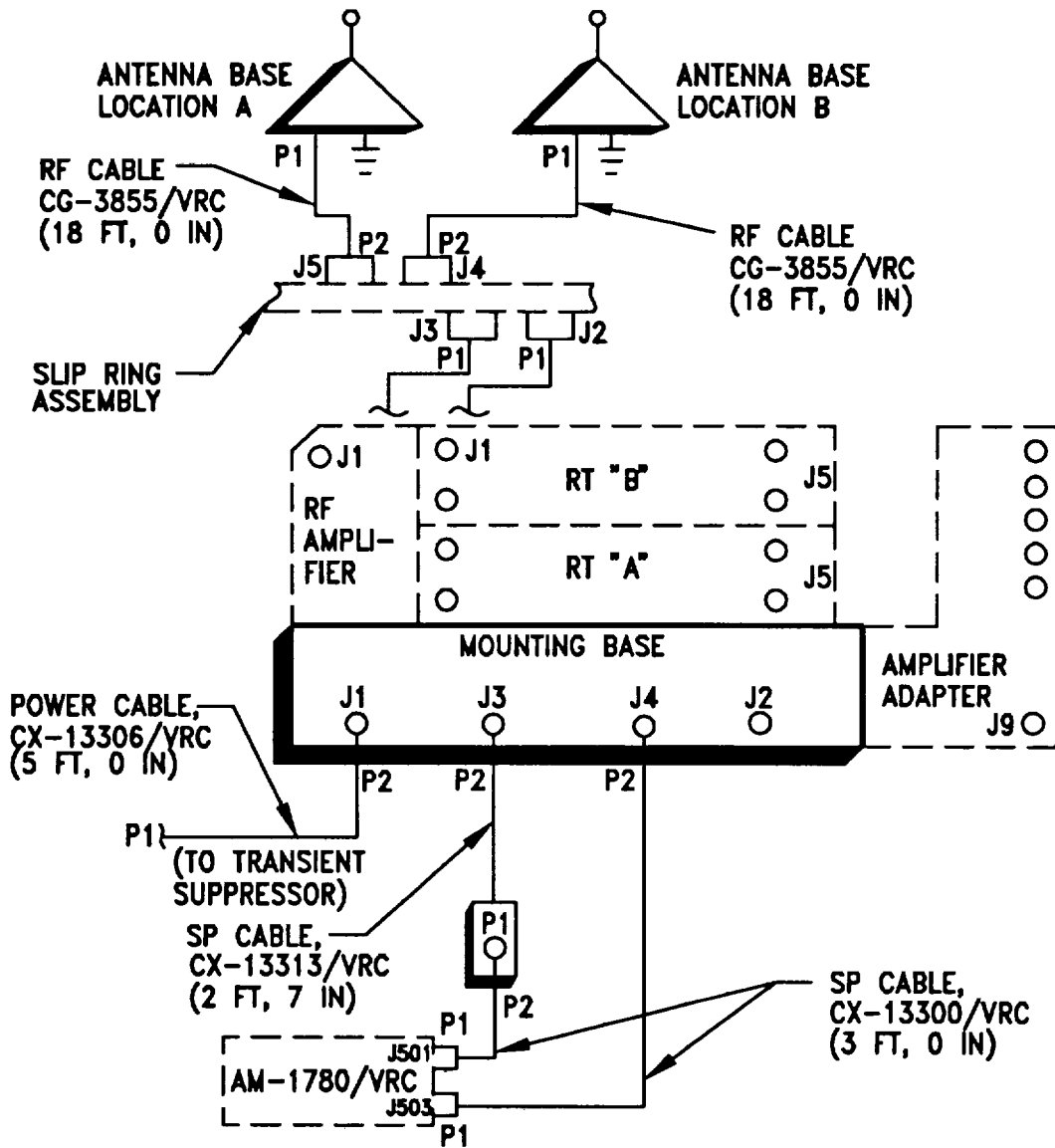


Figure 5-5(1). Cable Diagram: For AN/VRC-89A/91A

## 5.5 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	Transient suppressor	
CG-3855/VRC (18 FT, 0 IN)	P2	Slip ring assembly	J5	P1	Antenna base Location A	J1
CG-3855/VRC (18 FT, 0 IN)	P2	Slip ring assembly	J4	P1	Antenna base Location B	J1
CG-3856/VRC (21 FT, 0 IN)	P2	RF amplifier	J1	P1	Slip ring assembly	J3
CG-3856/VRC (21 FT, 0 IN)	P2	RT "B"	J1	P1	Slip ring assembly	J2
CX-13300/VRC (3 FT, 0 IN)	P2	CX-13313/VRC	P1	P1	AM-1780/VRC	J501
CX-13300/VRC (3 FT, 0 IN)	P2	Mounting base	J4	P1	AM-1780/VRC	J503
CX-13313/VRC	P1	CX-13300/VRC	P2	P2	Mounting base	J3

Figure 5-5(1). Cable Diagram: For AN/VRC-89A/91A (Cont.)

5.5 Post-Installation and Checkout. Continued.

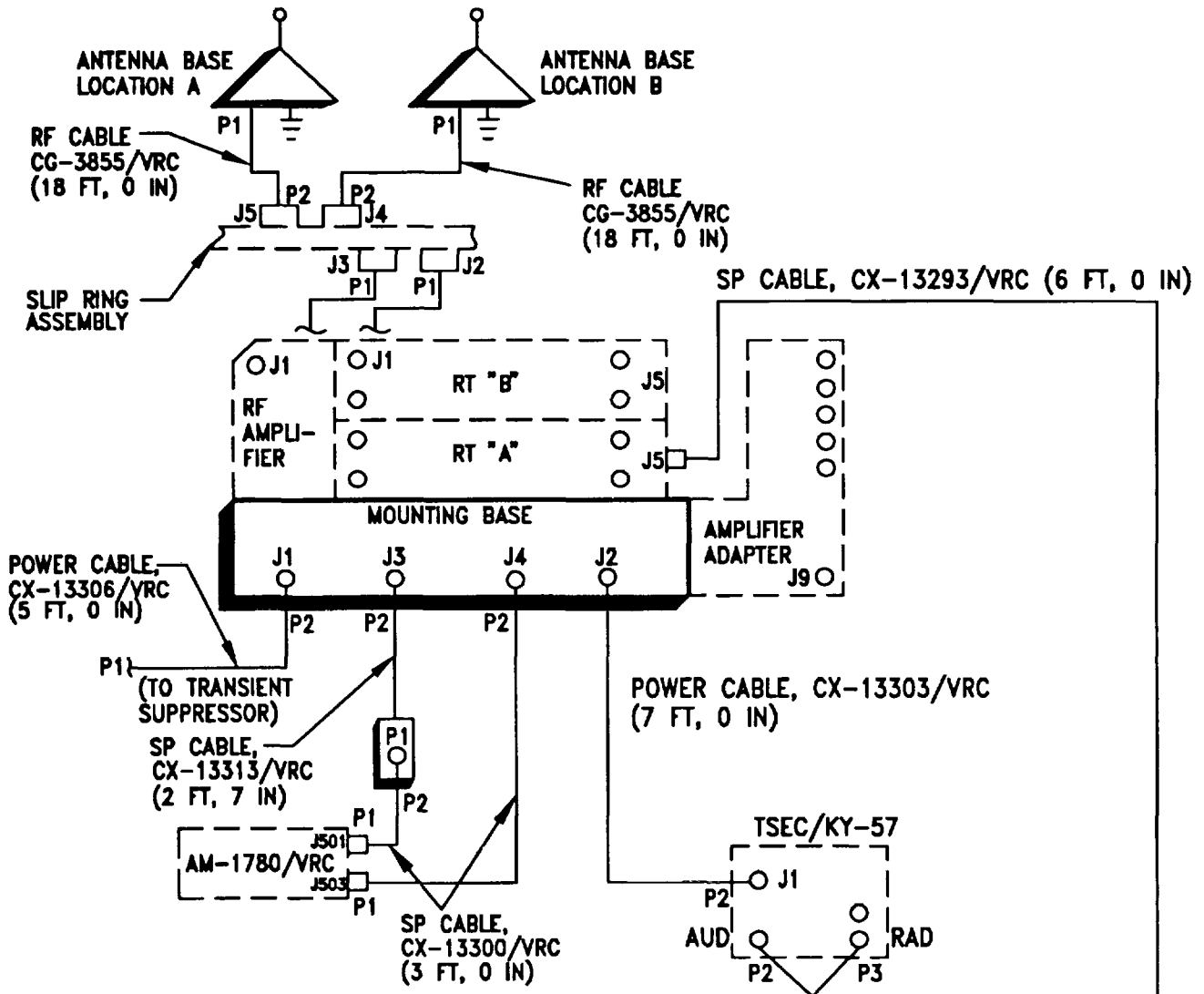


Figure 5-5(2). Cable Diagram: For ANNRC89/91

## 5.5 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	Transient suppressor	
CG-3855/VRC (18 FT, 0 IN)	P2	Slip ring assembly	J5	P1	Antenna base Location A	J1
CG-3855/VRC (18 FT, 0 IN)	P2	Slip ring assembly	J4	P1	Antenna base Location B	J1
CG-3856/VRC (21 FT, 0 IN)	P2	RF amplifier	J1	P1	Slip ring assembly	J3
CG-3856/VRC (21 FT, 0 IN)	P2	RT "B"	J1	P1	Slip ring assembly	J2
CX-13300/VRC (3 FT, 0 IN)	P2	CX-13313/VRC	P1	P1	AM-1780/VRC	J501
CX-13300/VRC (3 FT, 0 IN)	P2	Mounting base	J4	P1	AM-1780/VRC	J503
CX-13313/VRC (2 FT, 0 IN)	P1	CX-13300/VRC	P2	P2	Mounting base	J3
*CX-13303/VRC (7 FT, 0 IN)	P1	Mounting base	J2	P2	MT-6429/VRC	J1
*CX-13293/VRC (6 FT, 0 IN)	P1	RT "A"	J5	P2 P3	TSEC/KY-57	AUD RAD

Figure 5-5(2). Cable Diagram: For AN/VRC-89/91 (Cont.)

**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)
TM 11-5820-890-20-2	Unit Maintenance Manual (ICOM Radio Sets)
TM 1 1-5820-890-20-4	Unit Maintenance Manual (Non-ICOM Radio Sets)
TM 11-5820-890-20P	Repair Parts and Special Tools List

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