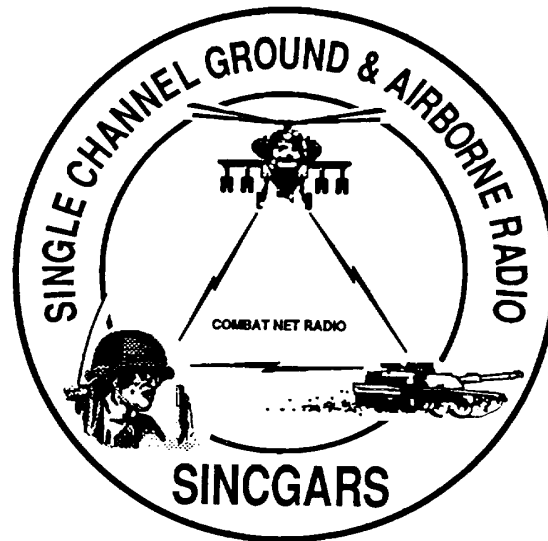

TECHNICAL BULLETIN



INSTALLATION INSTRUCTIONS FOR
INSTALLATION KIT
ELECTRONIC EQUIPMENT MK-2387/VRC
(NSN 5895-01-327-4601) (EIC: N/A)
TO PERMIT INSTALLATION OF RADIO SETS
AN/VRC-87/88/90 SERIES
IN A
U.S. ARMY WATERCRAFT LARC

Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

1 SEPTEMBER 1993

INSTALLATION INSTRUCTIONS FOR
 INSTALLATION KIT
 ELECTRONIC EQUIPMENT MK-2387/VRC
 (NSN: 5895-01-327-4601) (EIC: N/A)
 TO PERMIT INSTALLATION OF RADIO SETS
 AN/VRC-87/88/90 SERIES
 IN A
 U.S. ARMY WATERCRAFT LARC

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.

TABLE OF CONTENTS

Subject	Section	Page
Scope	0.1	1
General Information.....	0.2	1
Maintenance Forms, Records, and Reports	0.3	1
Reports of Maintenance and Unsatisfactory Equipment	0.3.1	1
Report of Packing and Handling Deficiencies	0.3.2	1
Discrepancy in Transportation Deficiency Report (TDR) (SF 361)	0.3.3	1
Consolidated Index of Army Publications.....	0.4	1
Purpose of Installation.....	1.	2
End Item or System to be Modified	2.	2
Application Times	3.	2
Time for Completion of Installation	3.1	2
Time for Installation of One Assembly or Component.....	3.2	2
Preparation for Installation.....	4.	2
Preparation of Vehicle	4.1	2
Preparation of MK.....	4.2	2
MK, Distribution, and Consumables	4.3	3
Tools and Test, Measurement, and Diagnostic Equipment (TMDE) Required	4.4	9
Installation Procedures.....	5.	10
Installation of Antenna AS-3900/VRC (antenna).....	5.1	12
Installation of Antenna Base.....	5.1.1	12
Installation of Top Antenna Assembly	5.1.2	14
Installation of Mounting Base, Electrical Equipment MT-6352/VRC (mounting base)	5.2	15
Installation of Control-Monitor, C-11291/VRC (control-monitor).....	5.3	17
Installation of Cables	5.4	18
Installation of MK-2499/VRC	5.5	21
Post-installation and Checkout.....	5.6	21
Appendix A References.....		A-1

LIST OF ILLUSTRATIONS

Figure	Title	Page
4-1(1)	MK Illustrated Parts List	6
4-1(2)	MK Illustrated Parts List.....	7
4-2	TSEC/KY-57 Illustrated Parts List.....	8
5-1(1)	MK and Radio Installation: MK Equipment Locations.....	10
5-1(2)	MK and Radio Installation: Radio Equipment Locations.....	11
5-2(1)	Antenna Base Installation	13
5-2(2)	Top Antenna Assembly Installation	14
5-3	Mounting Base Installation.....	16
5-4	Installation of Control-Monitor.....	17
5-5	Installation of Cables	19
5-6(1)	Cable Diagram: For AN/VRC-88A/88A/90A	22
5-6(2)	Cable Diagram: For AN/VRC-87/88/90	23

LIST OF TABLES

Table	Title	Page
4-1	Parts List for Installation of Radio Set AN/VRC-87/88/90 Series	4
4-2	Additional Items Required for Installation when using RT-1439/VRC	8

0.1 SCOPE.

This technical bulletin provides installation instructions for Installation Kit, Electronic Equipment MK-2387/VRC, commonly referred to as the Mounting Kit (MK). The MK shall be installed into the following type of vehicle(s):

- US Army Watercraft LARC

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 11-5820-890-204 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-87/88/90 Series are:

- Radio Set AN/VRC-87/88/90 (for RT-1439/VRC)
- Radio Set AN/VRC-87A/88A/90A (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-2387/VRC (MK) contains the items needed to mount Radio Set AN/VRC-87A/88A/90A in a US Army Watercraft LARC (vehicle). If Radio Set AN/VRC-87/88/90 is to be installed, communications security equipment (TSEC/KY-57) will need to be installed also; see Section 5.5 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 3.0 work hours is required. Typical vehicle downtime is 3.0 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, Vehicular AS-3900/VRC	5.1	1.0
Mounting Base, Electrical Equipment MT-6352/VRC	5.2	1.0
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 9-2320-289-20.

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. Multi service: Instructions shall be included for multi service 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-87/88/90 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)	1	PAOOF A	4-1, 6
5305-00-847-1159	Screw, Cap, Hexagon (3/8-16 x 1 3/4 in) MS35307-365	4	PAOZZA	
5310-00-913-8881	Nut, Hexagon (3/8-16 in) MS51971-3	4	PAOZZA	
5310-00-061-1258	Washer, Lock, Internal/External-Toothed (3/8 in) MS45904-76	8	PAOZZA	
5310-00-889-2527	Washer, Lock, Internal/External-Toothed (5/16 in) MS45904-72 (Not Used)	2	PAOZZA	
5306-00-225-9086	Bolt, Machine (5/16-24 x 5/8 in) MS90726-31 (Not Used)	1	PAOZZA	
5330-01-205-2864	Gasket (A3013655-1)	1	PAOZZA	
5975-01-188-8873	Mounting Base, Electrical Equipment MT-6352/VRC (A301 3367-1)	1	PAOOF A	4-1, 1
5306-00-225-9089	Bolt, Machine (5/16-24 x 1 in) MS90726-34 (Not Used)	5	PAOZZA	
5310-00-889-2527	Washer Lock, Internal/External-Toothed (5/16 in) MS45904-72	10	PAOZZA	
5310-00-880-7746	Nut, Hexagon (5/16-24) MS51968-5 (Not Used)	5	PAOZZA	
5995-01-303-4951	Cable Assembly, Special Purpose, Electrical CX-13313/VRC (2 FT, 7 IN) (A3018360-1)	1	PAOZZA	4-1, 2
5995-01-219-1845	Cable Assembly, Power, Electrical CX-13306/VRC (8 FT, 0 IN) (A3014043-4)	1	PAOZZA	4-1, 3
5995-01-225-0506	Cable Assembly, Special Purpose, Electrical CX-13300/VRC (8 FT, 0 IN) (A3014044-8)	1	PAOZZA	4-1, 4
5995-01-225-1662	Cable Assembly, Radio Frequency, CG-3855/VRC (12 FT, 0 IN) (A3014031-12)	1	PAOZZA	4-1, 8
5995-01-219-2009	Cable Assembly, Special Purpose, Electrical CX-13290/VRC (9 FT, 0 IN) (A3014035-1)	1	PAOZZA	4-1, 9
4020-01-341-8795	Fiber Rope Assembly, Single Leg (A3167672-1)	1	PAOZZA	4-1, 5
5895-01-151-9914	Control-Monitor, C-1 1291/VRC (A3148258-1)	1	PAOFDA	4-1, 7
	Bracket, Multiple Angle (A3050658-1)	1	XBOZZA	4-1, 10
	Bracket, Multiple Angle (A3050659-1)	1	XBOZZA	4-1, 11
	Bracket, Mounting (A3050660-1)	1	XBOZZA	4-1, 12
5975-00-074-2072	Strap, Tiedown, Electrical Components MS3367-5-9	10	PAOZZA	
5306-00-638-7719	Bolt, Machine (5/16-24 x 7/8 in) MS35308-333	10	PAOZZA	
5306-00-021-3912	Bolt, Machine (5/16-24 x 1 in) MS35308-334	7	PAOZZA	
5305-00-432-4201	Screw, Tapping, Thread Forming (No. 10-16 x 1/2 in) Pan Head MS51861-45	1	PAOZZA	

Table 4-1. Parts List for Installation of Radio Set AN/VRC/87/88/90 Series

NSN	ITEM DESCRIPTION AND PART NUMBER	QUANTITY IN MK	SMR CODE	FIGURE ITEM NO.
5340-00-922-6302	Clamp, Loop (1 1/2-13/64 in) MS21333-81	1	PAOZZA	
5310-00-933-8120	Washer, Lock No. 10 MS35338-138	1	PAOZZA	
5810-00-880-5977	Washer, Flat (5/16 in) MS15795-811	4	PAOZZA	
5310-00-889-2527	Washer, Lock, Internal/External-Toothed (5/16 in) MS45904-72	21	PAOZZA	
5310-00-974-6623	Washer, Lock (5/16 in) MS35338-140	4	PAOZZA	
5310-00-939-2655	Nut, Hexagon (5/16-24) MS51972-2	17	PAOZZA	

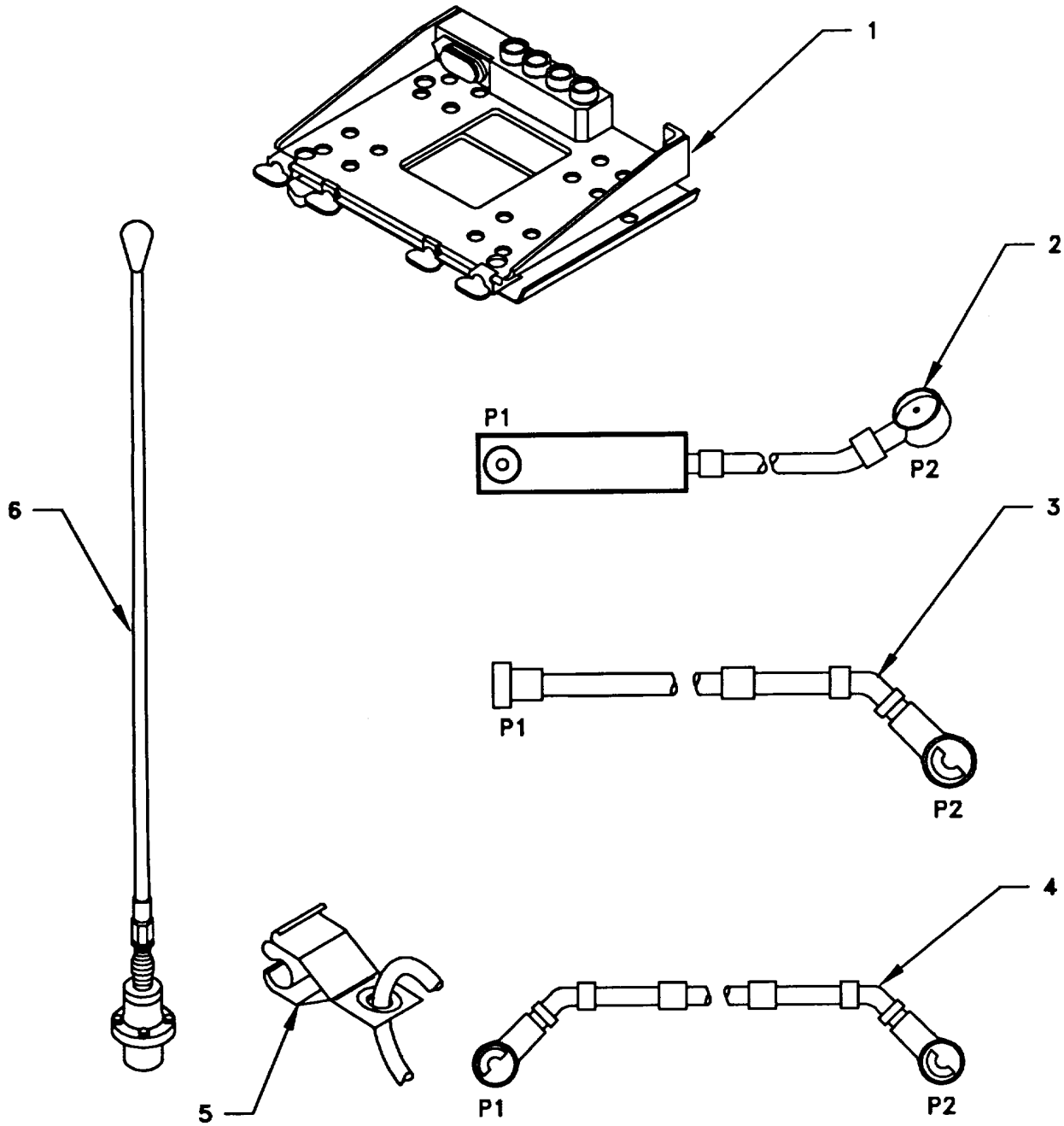


Figure 4-1 (1). MK Illustrated Parts List

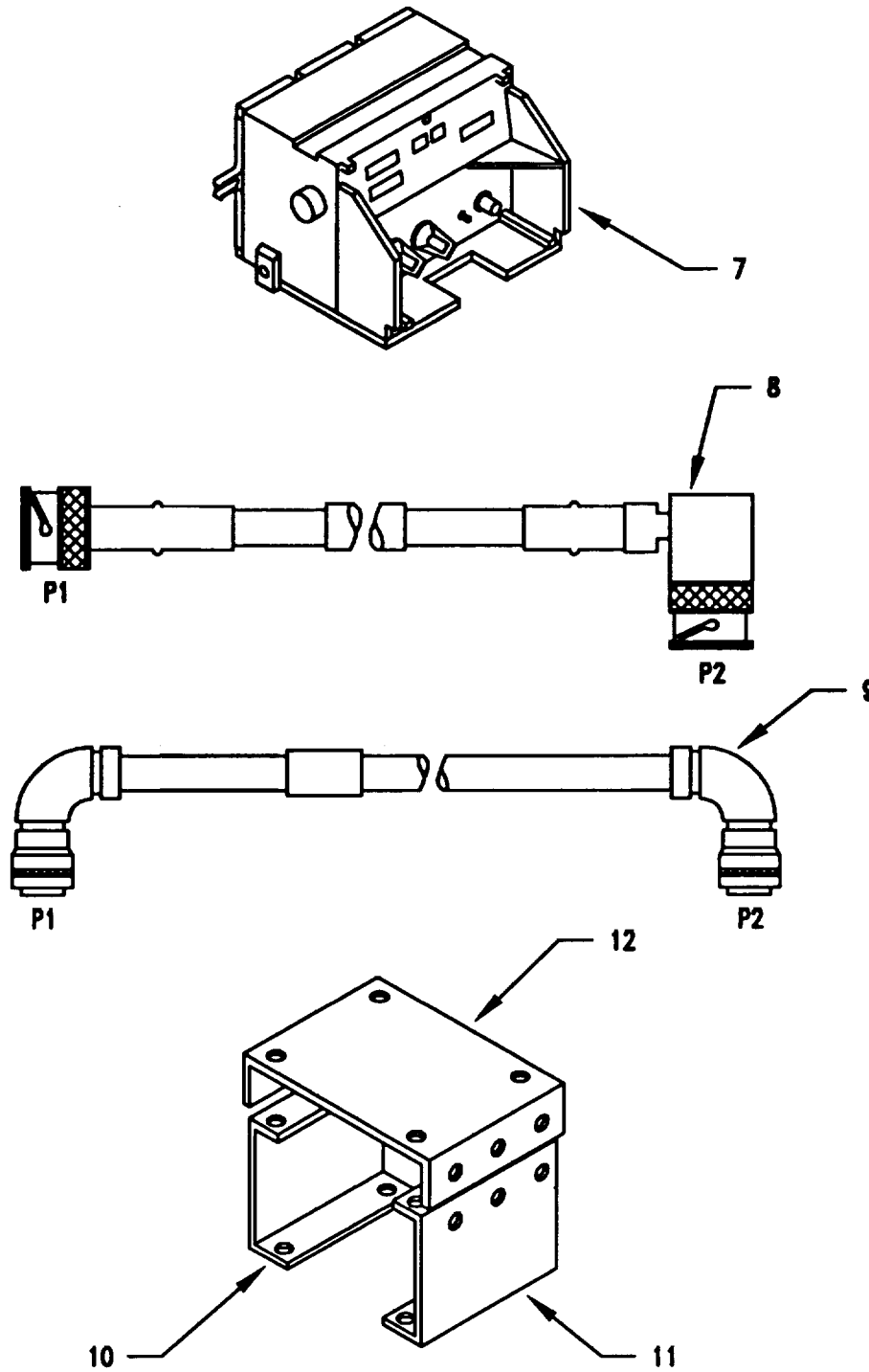


Figure 4-1 (2). MK Illustrated Parts Lists

Table 4-2. Additional Items Required for Installation when using RT-1439/VRC

NSN	ITEM DESCRIPTION AND PART NUMBER	QUANTITY IN MK	SMR CODE	FIGURE ITEM NO.
5995-01-222-4210	Cable Assembly, Special Purpose, Electrical CX-13293/VRC (4 FT, 0 IN) (A3014034-1)	1	PAOZZA	4-2, 1
5995-01-226-5482	Cable Assembly, Power, Electrical CX-13303/VRC (2 FT, 6 IN) (A3014040-5)	1	PAOZZA	4-2, 2

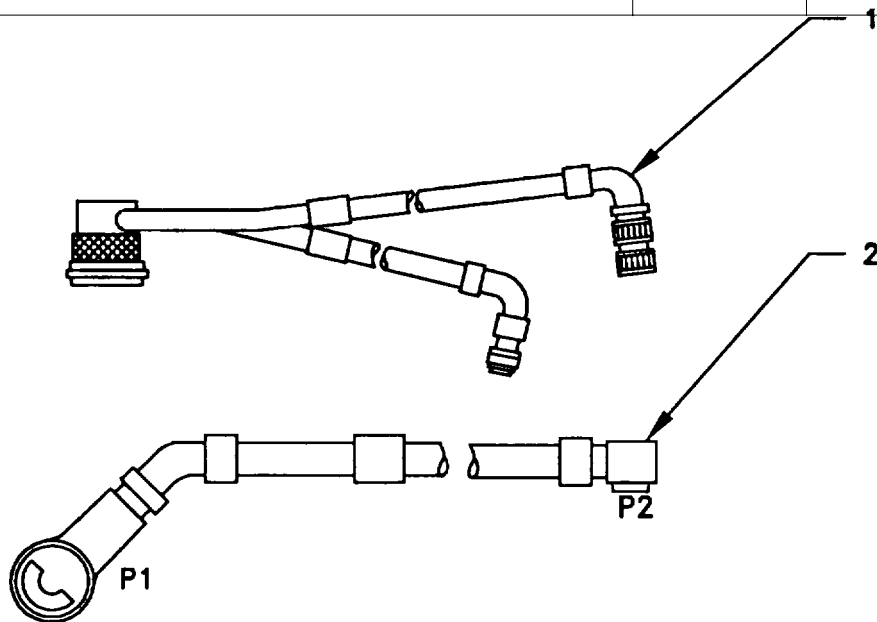


Figure 4-2. TSEC/KY-57 Illustration Parts List

4.3.3 Consumable Materiels. The table below lists materiels 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, 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	5120-00-227-6703	1
1/2 in	5120-00-237-0977	1
9/16 in	5120-00-227-6704	1
Electric Drill	5120-00-889-8994	1
Drill Bit		
11/32 in	5133-00-227-9664	1
0.170 in	5133-00-189-9249	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. If Radio Set AN/VRC-87/88/90 is to be installed communications security equipment (TSEC/KY-57) will need to be installed also; see Section 5.5 for information.

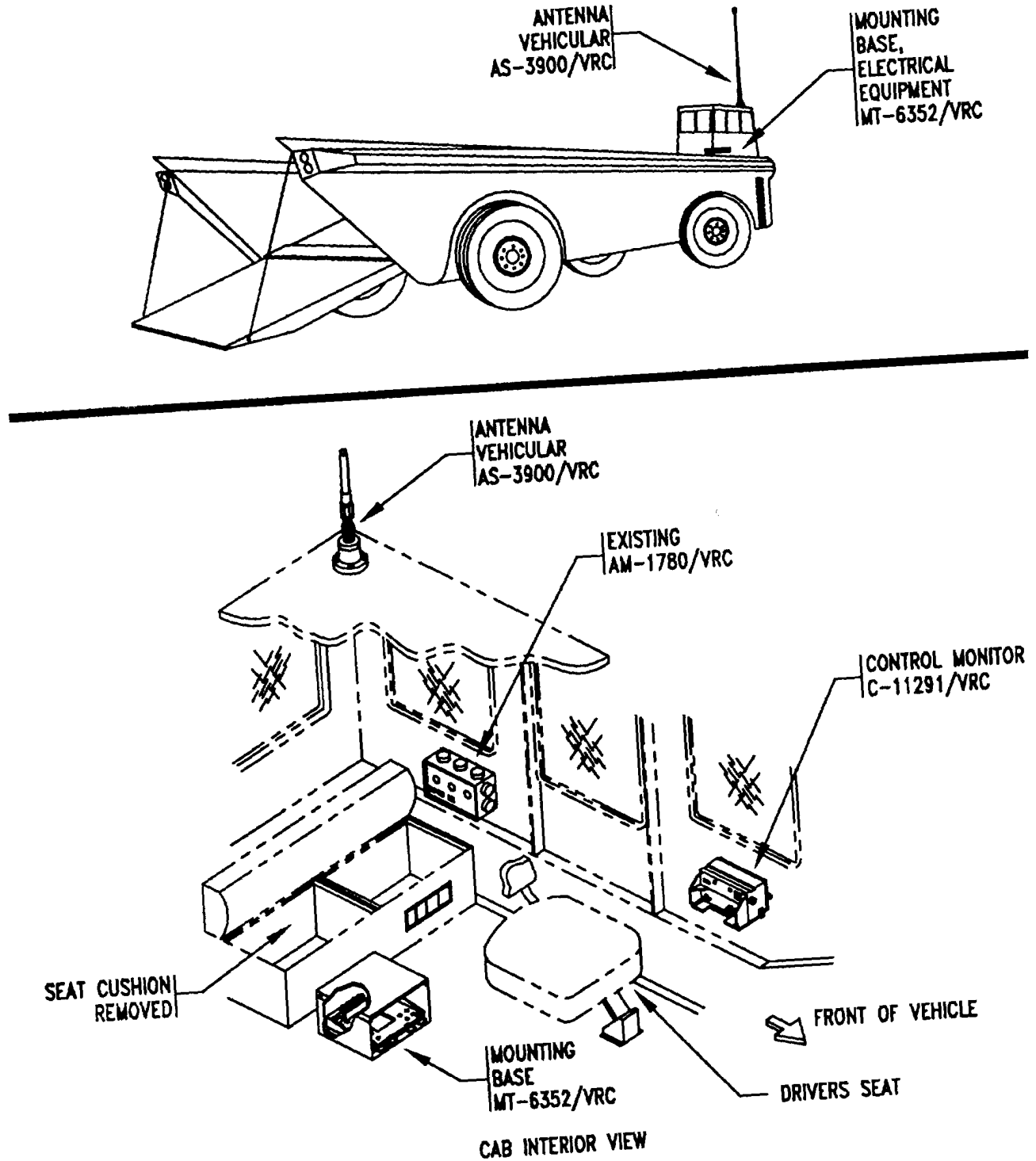
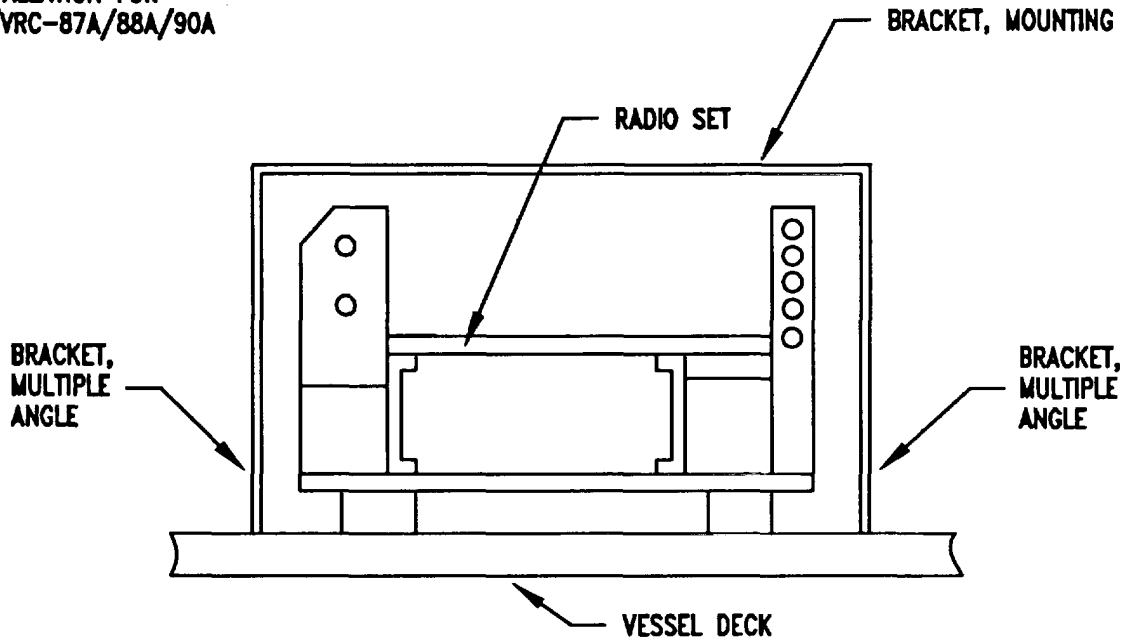


Figure 5-1(1). MK and Radio Installation: MK Equipment locations

5. INSTALLATION PROCEDURES. Continued

INSTALLATION FOR
AN/VRC-87A/88A/90A



INSTALLATION FOR
AN/VRC-87/88/90

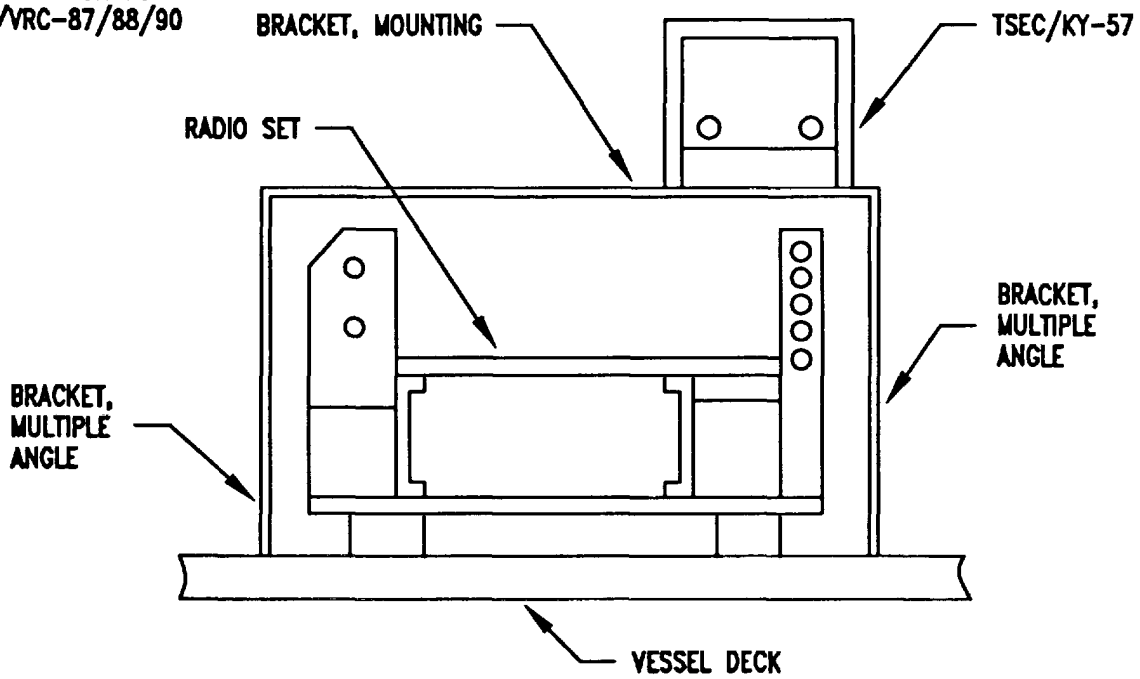


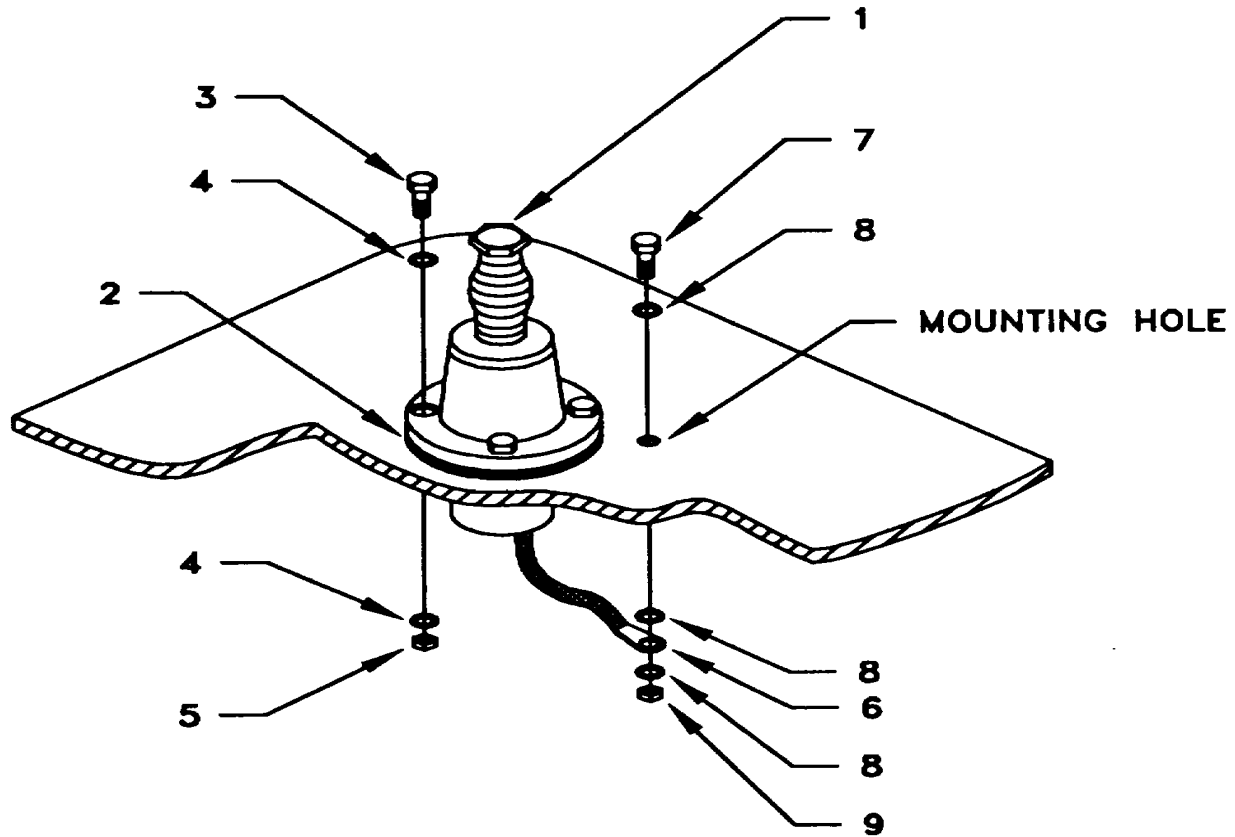
Figure 5-1(2). MK and Radio Installation: Radio Equipment Location

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

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

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.	Gasket (2).	Locate existing hat section on roof of cab. Place gasket on hat section and align mounting holes. See Figure 5-2(1).
b.	Antenna base (1).	Place on top of gasket (2) and align mounting holes.
c.	Four cap screws (3), eight internal/external toothed (IET) washers (4) and four nuts (5).	Install and secure antenna base to roof. See Figure 5-2(1). Tools: 9/16 in socket and 9/16 in open/box wrench.
d.	Mounting hole for antenna ground strap. Figure 5-2(1).	Drill one 11/32 in diameter hole through the cab roof approximately as shown in Figure 5-2(1). Tools: Electrical drill and 11/32 in drill bit.
e.	Ground strap (6), one machine bolt (7), three Internal/external-toothed (IET) washers (8) and one nut (9).	Install and secure to hole drilled in step d. See Figure 5-2(1). Tools: 1/2 in socket and 1/2 in open/box wrench.

5.1.1 Installation of Forward Antenna Base. Continued.

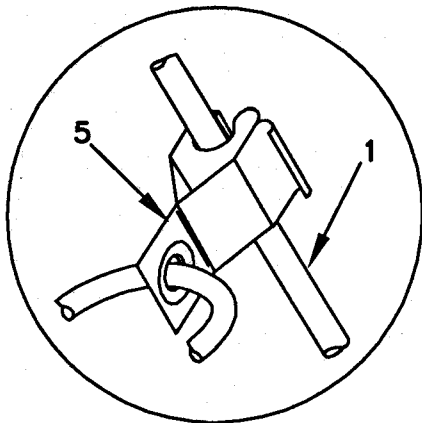


- 1. ANTENNA BASE
- 2. GASKET
- 3. CAP SCREW (3/8-16 X 1 3/4 IN)
- 4. IET WASHER (3/8 IN)
- 5. NUT (3/8-16 IN)
- 6. GROUND STRAP (P/O ANTENNA)
- 7. MACHINE BOLT (5/16-24 X 1 IN)
- 8. IET WASHER (5/16 IN)
- 9. NUT (5/16-24 IN)

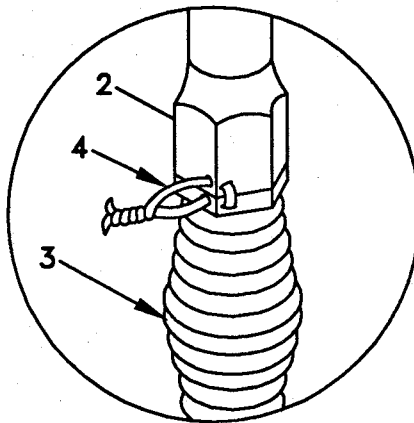
Figure 5-2(1). Antenna Base Installation

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 5-2(2).	
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(2), Detail A. Cut and remove excess with diagonal cutting pliers.	
d. Fiber rope assembly (5)	Attach clip to antenna element (1). The rope to vehicle to position antenna in desired location. See Figure 5-2(2), Detail B.	



DETAIL B



DETAIL A

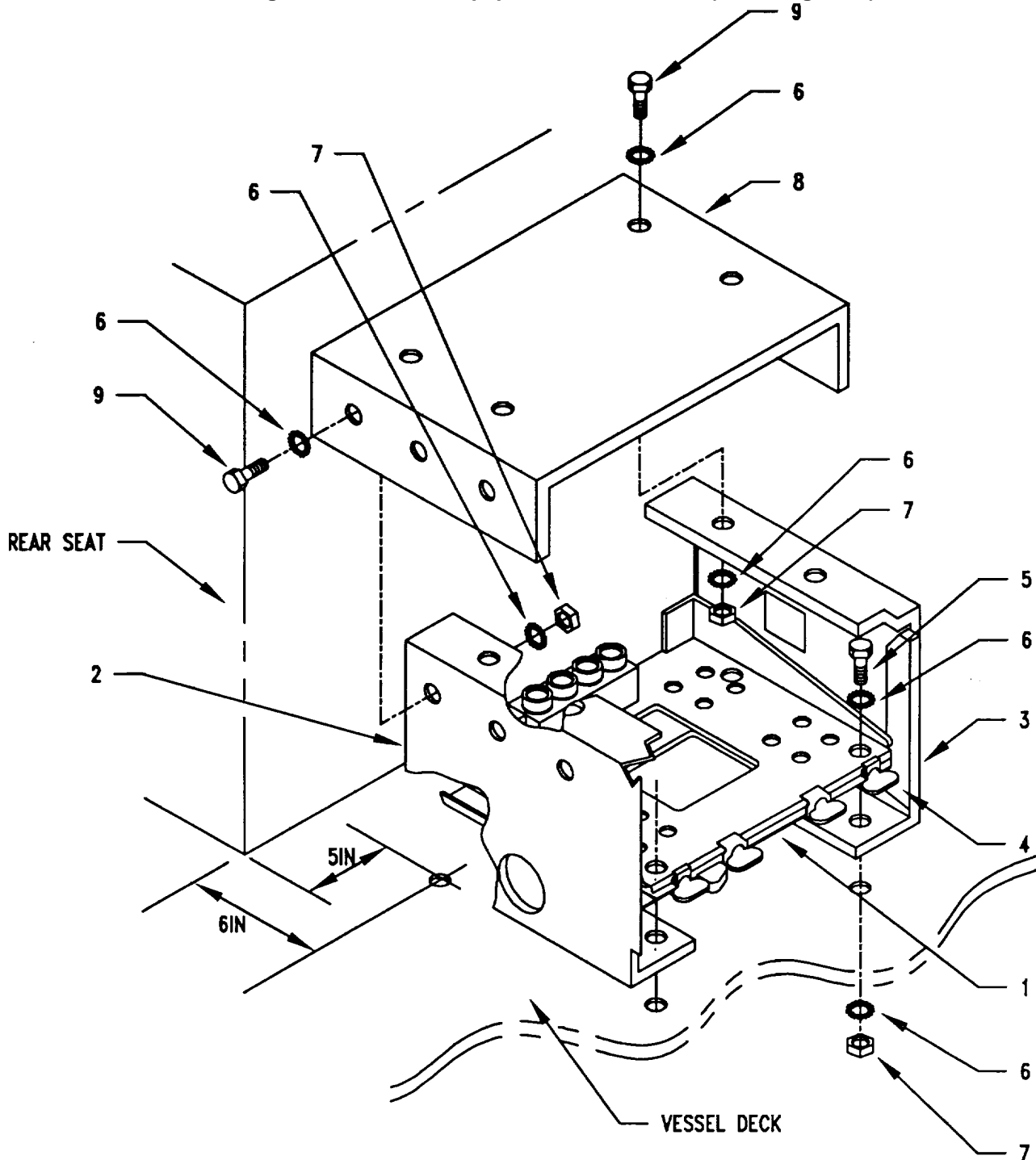
- 1. ANTENNA ELEMENT (UPPER)**
- 2. ANTENNA ELEMENT (LOWER)**
- 3. ANTENNA BASE**
- 4. LOCK WIRE**
- 5. FIBER ROPE ASSEMBLY**

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

5.2 Installation of Mounting Base, Electrical Equipment MT-6352/VRC (mounting base). Remove and discard attaching bag of 5/16 in mounting hardware. To insure good electrical grounding, any rust, corrosion or paint around mounting holes in vessel deck should be removed before installing the mounting base. See Figure 5-1(1) for location; then see Figure 5-3 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 before it is installed, and to the area of contact where IET washer is to be placed.		
a.	Mounting base (1).	Using the dimensions shown and mounting base (1) as a template, drill four 11/32 in diameter holes through the vessel deck. See Figure 5-3.
		Tools: Electric drill and 11/32 in drill bit.
b.	Two brackets, multiple angle (left and right) (2, 3).	Place on vessel deck over mounting holes. See Figure 5-3.
c.	Mounting base (1). over mounting holes.	Place on multiple angle brackets (2, 3) See Figure 5-3.
d.	Two outer thumbscrews (4).	Turn ccw until both sets of threads have cleared center of holes.
e.	Mounting base (1), bracket, multiple angle (2) and bracket, multiple angle (3).	Aline four holes with matching hole pattern in vessel deck.
f.	Four machine bolts (5), eight Internal/external-toothed (IET) washers (6) and four nuts (7).	Install and secure to mounting base (1), multiple angle brackets (2, 3) and vessel deck. See Figure 5-3.
		Tools: 1/2 in socket and 1/2 in open/box wrench.
g.	Two outer thumbscrews (5).	Tighten and secure.
h.	Bracket, mounting (8). (2, 3); aline mounting holes.	Place on top of multiple angle brackets
i.	Ten machine bolts (9), twenty internal external-toothed (IET) washers (6) and ten nuts (7).	Install and secure to bracket, mounting (8) and multiple angle brackets (2, 3). See Figure 5-3.
		Tools: 1/2 in socket and 1/2 in open/box wrench.

5.2 Installation of Mounting Base, Electrical Equipment MT-6352/VRC (mounting base). Continued.

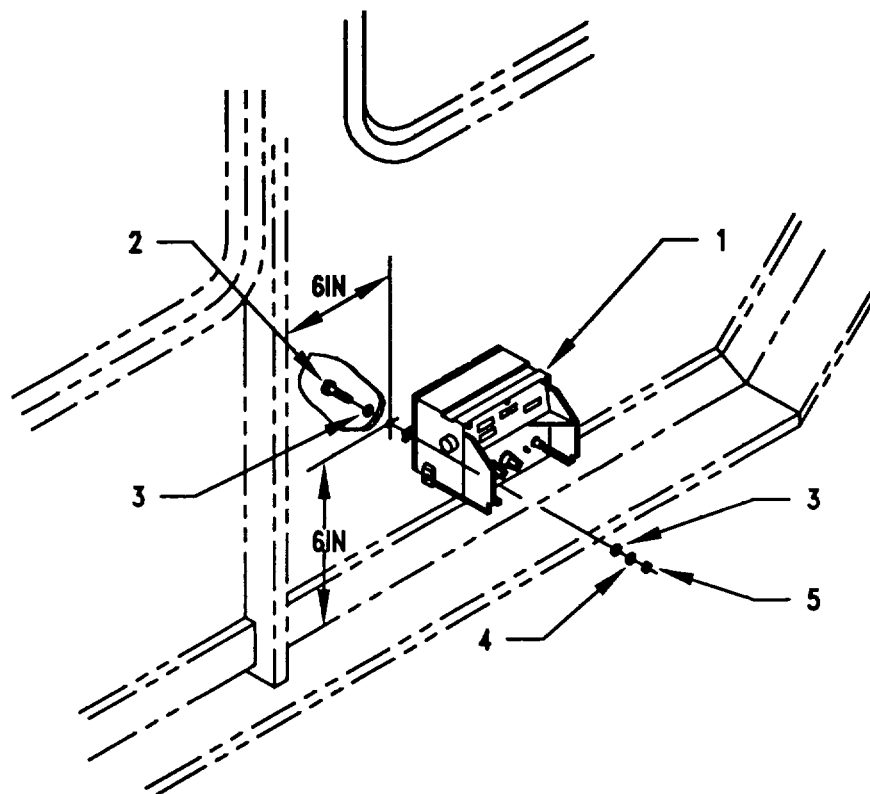


- | | |
|------------------------------------|------------------------------------|
| 1. MOUNTING BASE | 6. IET WASHER (5/16 IN) |
| 2. BRACKET, MULTIPLE ANGLE (LEFT) | 7. NUT (5/16-24 IN) |
| 3. BRACKET, MULTIPLE ANGLE (RIGHT) | 8. BRACKET, MOUNTING |
| 4. THUMBSCREW | 9. MACHINE BOLT (5/16-24 X 7/8 IN) |
| 5. MACHINE BOLT (5/16-24 X 1 IN) | |

Figure 5-3. Mounting Base Installation

5.3 Installation of Control-Monitor, C-11291/VRC (control-monitor). Use the following procedures to install control-monitor. See Figure 5-1(1) for location.

ITEM	ACTION	REMARKS
a. Mounting holes for control-monitor (1).	Using the dimensions shown and the control-monitor as a template, drill two 11/32 in diameter holes through the left cab wall. See Figure 5-4.	Tools: Electric drill and 11/32 in drill bit.
b. Control-Monitor (1), two machine bolts (2), four flat washers (3), two lock washers (4) and two nuts (5).	Install and secure.	Tools: 1/2 in socket and 1/2 in open/box wrench.



1. CONTROL-MONITOR
2. MACHINE BOLT (5/16-24 X 1 IN)
3. FLAT WASHER (5/16 IN)
4. LOCK WASHER (5/16 IN)
5. NUT (5/16-24 IN)

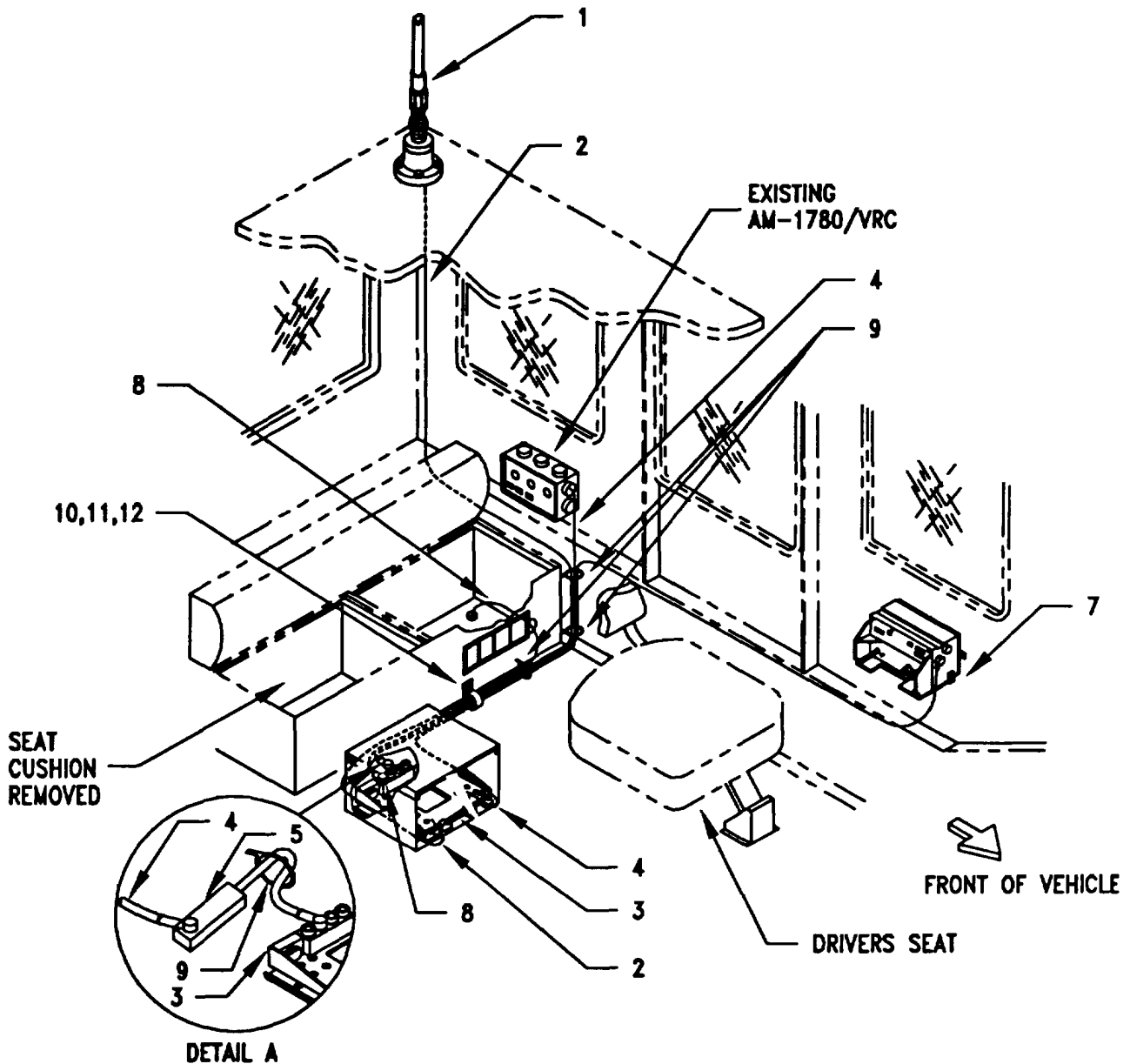
Figure 5-4. Installation of Control-Monitor

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 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.	Connect and secure to antenna base (1) connector J1.	
b. RF cable (2).	Route through vehicle cab and position on left side of mounting base (3). See Figure 5-5.	
c. SP cable (4) connector P1.	Connect and secure to AM-1780/VRC connector J501.	
d. SP cable (4).	Route through vehicle cab and position in vicinity of mounting base (3). See Figure 5-5.	
e. SP cable (4) connector P2 and SP cable (5) connector P1.	Connect and secure. See Figure 5-5, Detail A.	
f. Control cable (6) connector P1.	Connect and secure to control-monitor (7) connector J1.	
g. Control cable (6).	Route through vehicle cab and position in vicinity of mounting base (3). See Figure 5-5.	
h. Power cable (8) connector P2.	Insert through hole in rear seat and position in the vicinity of power bendix connector. See Figure 5-5.	
i. Power cable (8).	Route through vehicle cab and position in vicinity of mounting base (3).	
j. Two tiedown straps (9).	Wrap loosely around RF cable (2), SP cable (4) and control cable (6) approximately as shown in Figure 5-5.	



- | | |
|---|--|
| 1. ANTENNA BASE | 7. CONTROL-MONITOR, C-11291/VRC |
| 2. RF CABLE, CG-3855/VRC (12 FT, 0 IN) | 8. POWER CABLE, CX-13306/VRC (8 FT, 0 IN) |
| 3. MOUNTING BASE | 9. TIEDOWN STRAP |
| 4. SP CABLE, CX-13300/VRC (8 FT, 0 IN) | 10. LOOP CLAMP (1 1/2-13/64) |
| 5. SP CABLE, CX-13313/VRC (2 FT, 7 IN) | 11. SCREW TAPPING (NO. 10-16 X 1/2) PAN HEAD |
| 6. CONTROL CABLE, CX-13290/VRC (9 FT, 0 IN) | 12. LOCK WASHER (NO. 10) |

Figure 5-5. Installation of Cables

5.4 Installation of Cables. Continued.

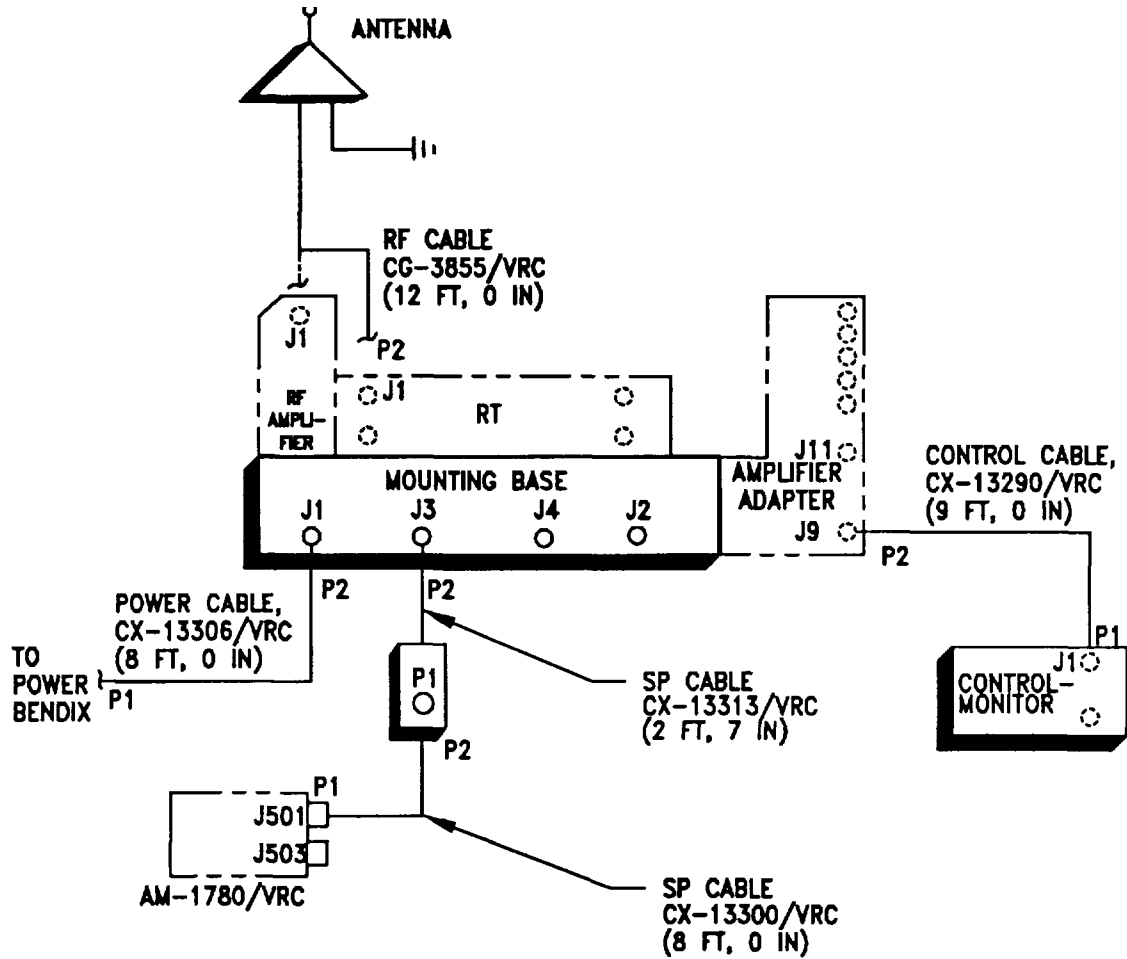
ITEM	ACTION	REMARKS
k.	One tiedown strap (9).	Wrap loosely around RF cable (2), SP cable (4), control cable (6) and power cable (8) approximately as shown in Figure 5-5.
l.	Mounting hole for loop clamp (10).	Drill one .170 (no. 18) diameter hole approximately as shown in Figure 5-5.
m.	Loop clamp (10), screw, tapping (11) and lock washer (12).	Wrap loop clamp around RF cable (2), SP cable (4), control cable (6) and power cable (8). Install (without securing) to hole drilled in step 1.
n.	SP cable (5) connector P2.	Connect and secure to mounting base (3) connector J3.
o.	Power cable (8) connector P1.	Connect and secure to power bendix connector.
p.	Power cable (8) connector P2.	Connect and secure to mounting base (3) connector J1.
q.	Previously installed loop clamp and tiedown straps.	Tighten and secure.

5.5 Installation of MK-2499/VRC. For radio set AN/VRC-87/88/90, install MK-2499/VRC (TSEC/KY-57 security equipment) in the location shown in Figure 5-1(2). Refer to Section 5.6 for connection of cables.

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 5-5 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.

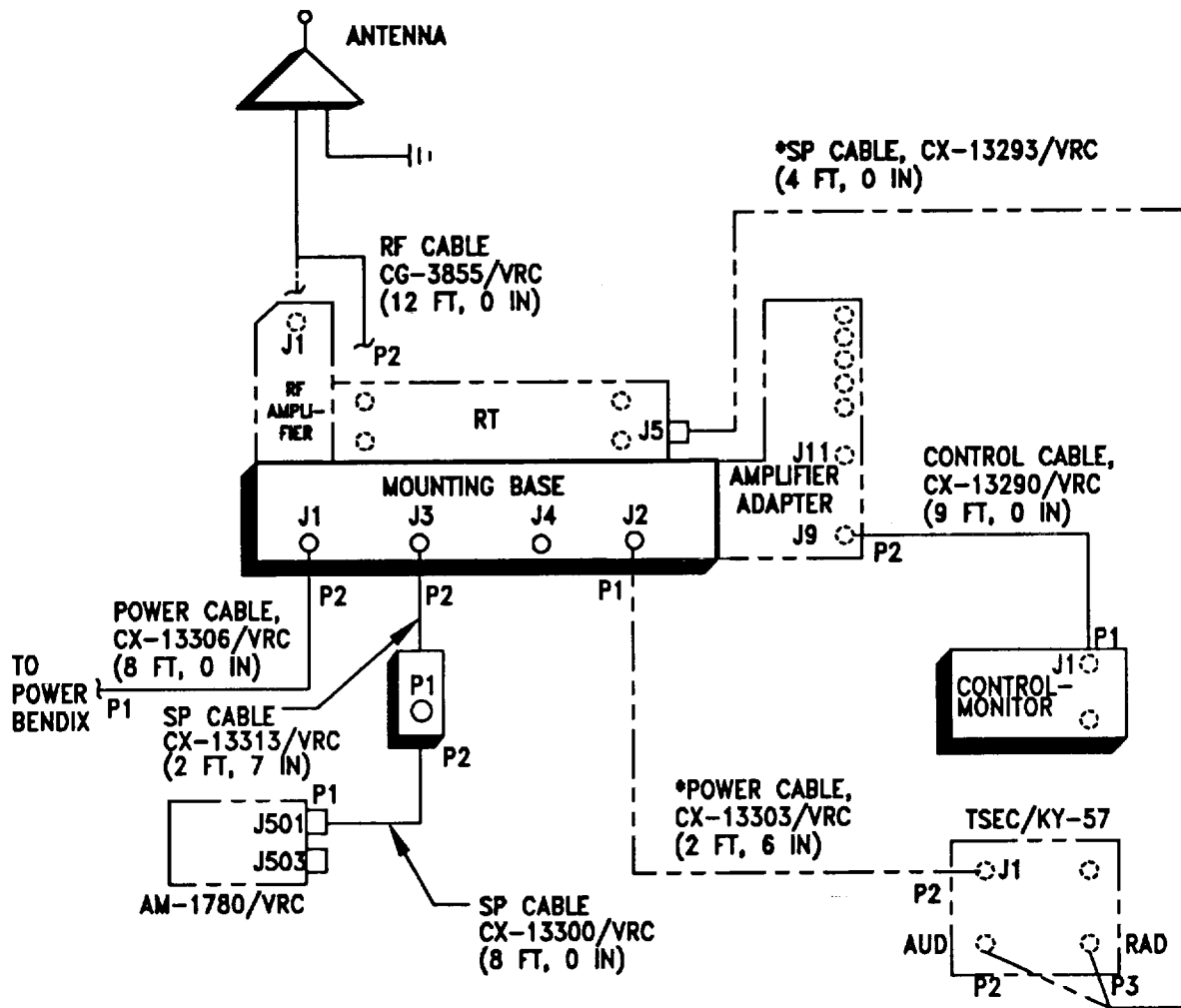
5.6 Post Installation and Checkout. Continued



CABLE ASSEMBLY	FROM			TO		
	CABLE CONN.	UNIT	UNIT CONN.	CABLE CONN.	UNIT	UNIT CONN.
CX-13306/VRC (8 FT, 0 IN)	P2	Mounting base	J1	P1	Power bendix connector	
CX-13300/VRC (8 FT, 0 IN)	P2	CX-13313/VRC (2 FT, 7 IN)	P1	P1	AM-1780/VRC	J501
CX-13313/VRC (2 FT, 7 IN)	P2	Mounting base	J3	P1	CX-13300/VRC (8 FT, 0 IN)	P2
CG-3855/VRC (12 FT, 0 IN)	P2	RF amplifier or RT	J1	P1	Antenna base	J1
CX-13290/VRC (9 FT, 0 IN)	P1	Control monitor	J1	P2	Amplifier adapter	J9

Figure 5-6(1). Cable Diagram: For AN/VRC-87A/88A/90A

5.6 Post Installation and Checkout. Continued.



* NOT SUPPLIED IN THIS MK

Figure 5-6(2). Cable Diagram: For AN/VRC-87/88/90

5.6 Post Installation and Checkout. Continued

CABLE ASSEMBLY	FROM			TO		
	CABLE CONN.	UNIT	UNIT CONN.	CABLE CONN.	UNIT	UNIT CONN.
CX-13306/VRC (8 FT, 0 IN)	P2	Mounting base	J1	P1	Power bendix connector	
CX-13300/VRC (8 FT, 0 IN)	P2	CX-13313/VRC (2 FT, 7 IN)	P1	P1	AM-1780/VRC	J501
CX-13313/VRC (2 FT, 7 IN)	P2	Mounting base	J3	P1	CX-13300/VRC (8 FT, 0 IN)	P2
CG-3855/VRC (12 FT, 0 IN)	P2	RF amplifier or RT	J1	P1	Antenna base	J1
CX-13390/VRC (9 FT, 0 IN)	P1	Control-monitor	J1	P2	Amplifier adapter	J9
*CX-13303/VRC (2 FT, 6 IN)	P1	Mounting base	J2	P2	MT-6429/VRC	J1
*CX-13293/VRC (4 FT, 0 IN)	P1	RT	J5	P2 P3	TSEC/KY-57	AUD RAD

* Not supplied in this MK.

Figure 5-6(2). Cable Diagram: For AN/VRC-87/88/90 (Cont.)

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


A-1/(A-2 blank)

TB 11-5820-890-20-59

By Order of the Secretary of the Army:

Official:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff


MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army
06472

DISTRIBUTION:

To be distributed in accordance with DA Form 12-36-E,
block 9671 requirements for TB 11-5820-890-20-59.

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



THEN... JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER

PUBLICATION DATE

PUBLICATION TITLE

BE EXACT... PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.
----------	------------	------------	-----------

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

TEAR ALONG PERFORATED LINE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SIGN HERE:

DA FORM 2028-2
1 JUL 79

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.—IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

PIN: 072517-000