

TECHNICAL BULLETIN



**INSTALLATION INSTRUCTIONS FOR
INSTALLATION KIT
ELECTRONIC EQUIPMENT MK-2382/VRC
(NSN 5895-01-330-5580) (EIC: N/A)
TO PERMIT UTILIZATION OF THE AM-1780/VRC
IN U.S. ARMY WATERCRAFT
IN CONJUNCTION WITH
MK-2347/VRC (AN/VRC-89/91/92 SERIES)**

Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

1 SEPTEMBER 1993

**INSTALLATION INSTRUCTIONS FOR
 INSTALLATION KIT
 ELECTRONIC EQUIPMENT MK-2382/VRC
 (NSN: 5895-01-330-5580) (EIC: N/A)
 TO PERMIT UTILIZATION OF THE AM-1780/VRC
 IN U.S. ARMY WATERCRAFT
 IN CONJUNCTION WITH
 MK-2347/VRC (AN/VRC-89/91/92 SERIES)**

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 MA	4.2	2
MK, Distribution, and Consumables.	4.3	3
Tools and Test, Measurement, and Diagnostic Equipment (TMDE) Required	4.4	6
Installation Procedures	5.	7
Installation of Cables	5.1	9
Post installation and Checkout	5.2	11
Appendix A References		A-1

LIST OF ILLUSTRATIONS

Figure	Title	Page
4-1	MK Illustrated Parts List	5
5-1(1)	MK and Radio installation: MK Equipment Locations	7
5-1(2)	MK and Radio installation: Radio Equipment Locations	8
5-2	Installation of Cables	10
5-3	Cable Diagram: For AM-1780/VRC Utilization	12

LIST OF TABLES

Table	Title	Page
4-1	Parts List for AM-1780/VRC Utilization in US Army Watercraft	4

0.1 SCOPE.

This technical bulletin provides installation instructions for Installation Kit, Electronic Equipment MK-238/VRC, commonly referred to as the Mounting Kit (MK). The MK shall be installed into the following type of vehicle(s):

- US Army Watercraft that utilize the AM-1780/VRC

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.

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-2382/VRC (MK) contains the items needed to utilize the AM-1780/VRC in US Army Watercraft (vehicle) and is used with MK-2347/VRC, general purpose kit for US Army Watercraft for installation of radio set AN/VRC-89A/91A/92A.

2. END ITEM OR SYSTEM TO BE MODIFIED.

Not applicable.

3. APPLICATION TIMES.

3.1 Time for Completion of Installation. Using one person, a total of 0.5 work hours is required. Typical vehicle downtime is 0.5 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
Cables	5.1	0.5

4. PREPARATION FOR INSTALLATION.

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

4.1 Preparation of Vehicle. To prepare the vehicle for installation, insure that the site includes adequate lighting and a power source when drilling is required. Inspect the vehicle for damage that could affect installation. Have any such damage repaired before installing MK.

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

4.1.2 Items to be Retained. Not applicable.

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

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

- a. Keep dust cover in place on connectors.
- b. Do not disassemble or modify parts in MK unless authorized to do so.
- c. Keep mounting hardware covered and protected until needed.
- d. When exposed to moisture, rain or salt water, keep all parts dry to prevent corrosion.

4.2.2 Unpack and Inspect Equipment.

4.2.2.1 Inspect Packaging for Evidence of Damage. Any shipping damage should be reported on SF364 Report of Discrepancy (ROD) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73A/AFR 400-64/MCO 4430.3F.

4.2.2.2 Unpack and Inventory MK. If any item is missing, fill out and forward Transportation Deficiency Report (TDR) (SF361) as described in AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

4.2.2.3 Examine Each Item for Damage. If any item is damaged, fill out and forward SF364 Report of Discrepancy (ROD) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73A/AFR-400-64/MCO 4430.3F. All damages should be reported as prescribed in DA Pam 738-750, as contained in Maintenance Management Update.

4.3 MK, Distribution and Consumables.

4.3.1 Items Supplied In MK and/or Required for Installation. Use Table 4-1 and Figure 4-1 to identify and inventory MK parts.

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 AM-1780/VRC Utilization in US Army Watercraft

NSN	ITEM DESCRIPTION AND PART NUMBER	QUANTITY IN MK	SMR CODE	FIGURE, ITEM NO.
5995-01-303-4951	Cable Assembly, Special Purpose, Electrical, CX-13313/VRC (2 FT, 7 IN) (A3018360-1)	1	PAOZZA	4-1, 1
5995-01-219-2009	Cable Assembly, Special Purpose, Electrical, CX-13300/VRC (9 FT, 0 IN) (A3014035-1)	2	PAOZZA	4-1, 2
5975-00-111-3208	Strap, Tiedown, Electrical Components MS3367-5-9	5	PAOZZA	

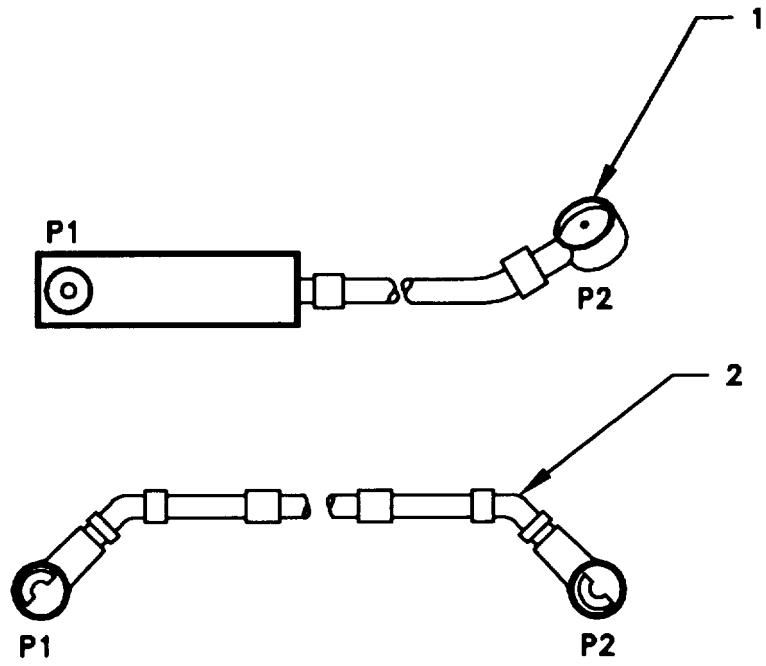


Figure 4-1. MK Illustrated Parts List

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.

Not applicable.

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 will be installed and the location of radio components. When installing MK equipment, be sure to read and follow instructions and illustrations carefully.

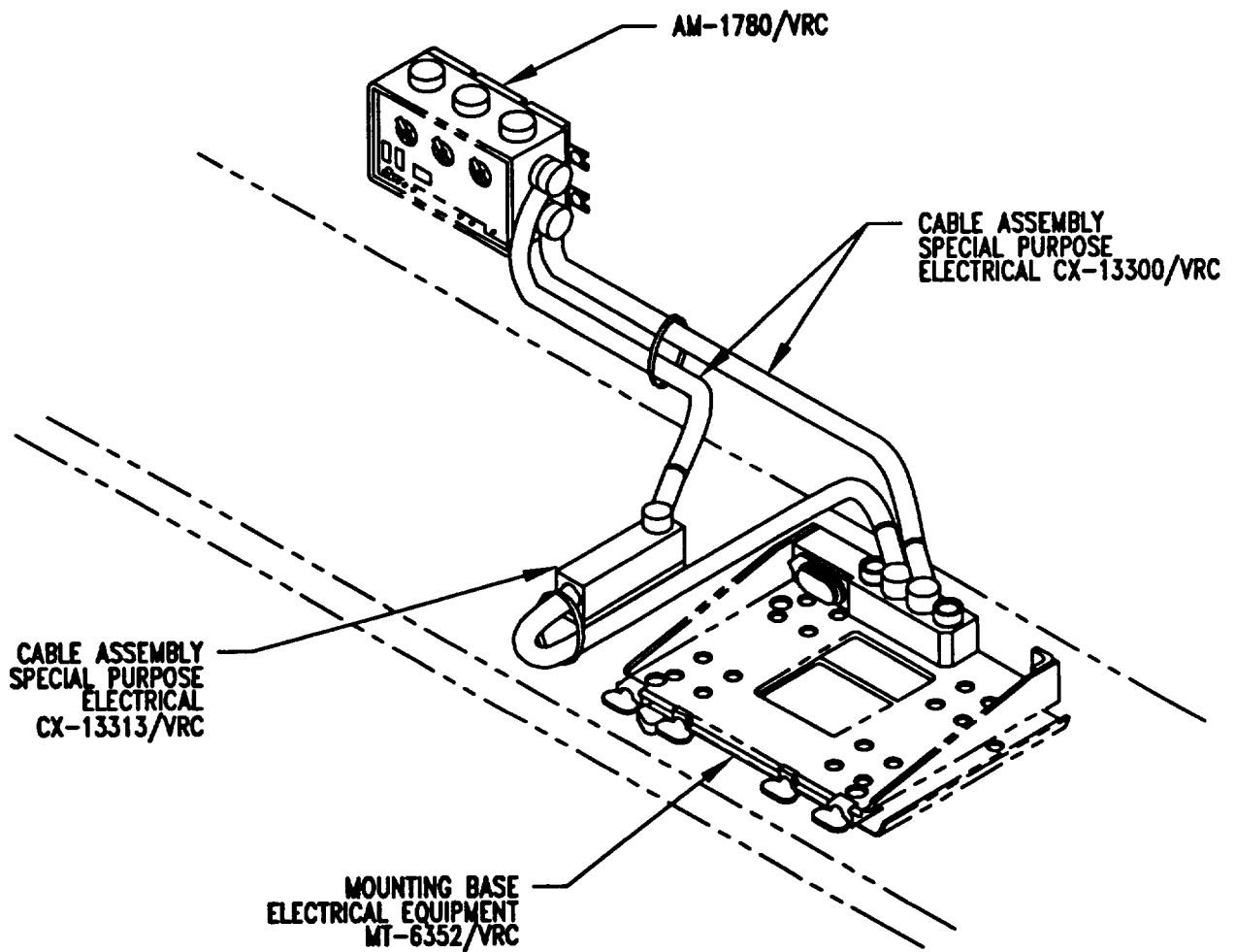


Figure 5-1(1). MK and Radio Installation: MK Equipment Locations

5. INSTALLATION PROCEDURES. Continued.

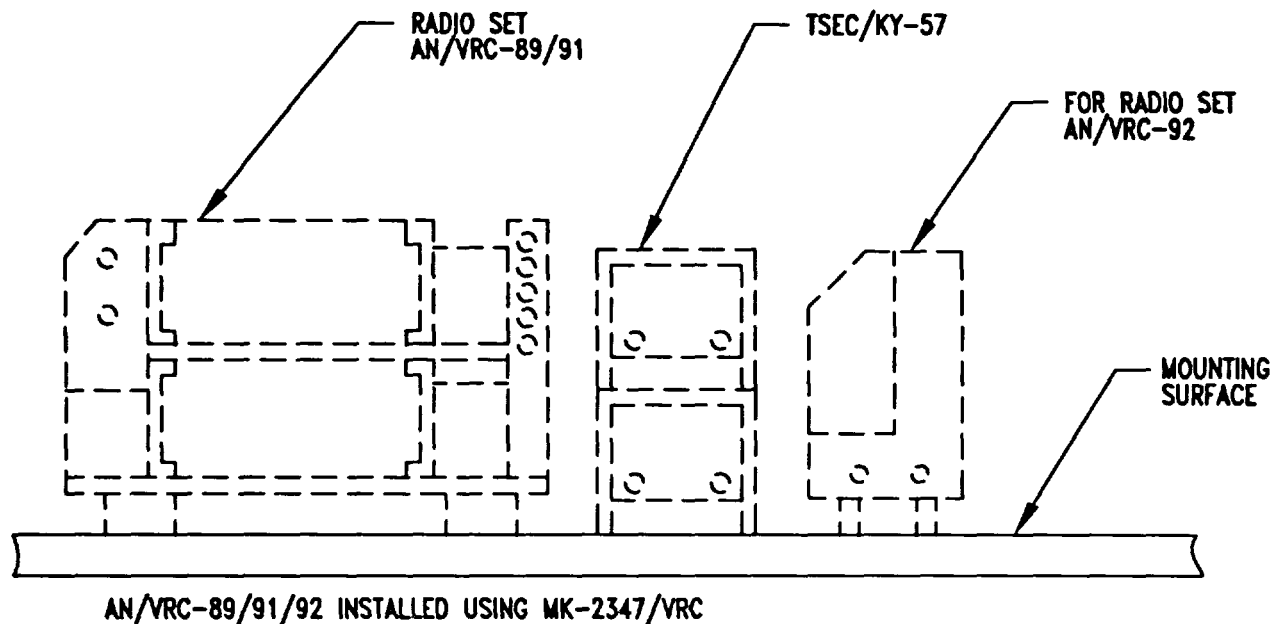
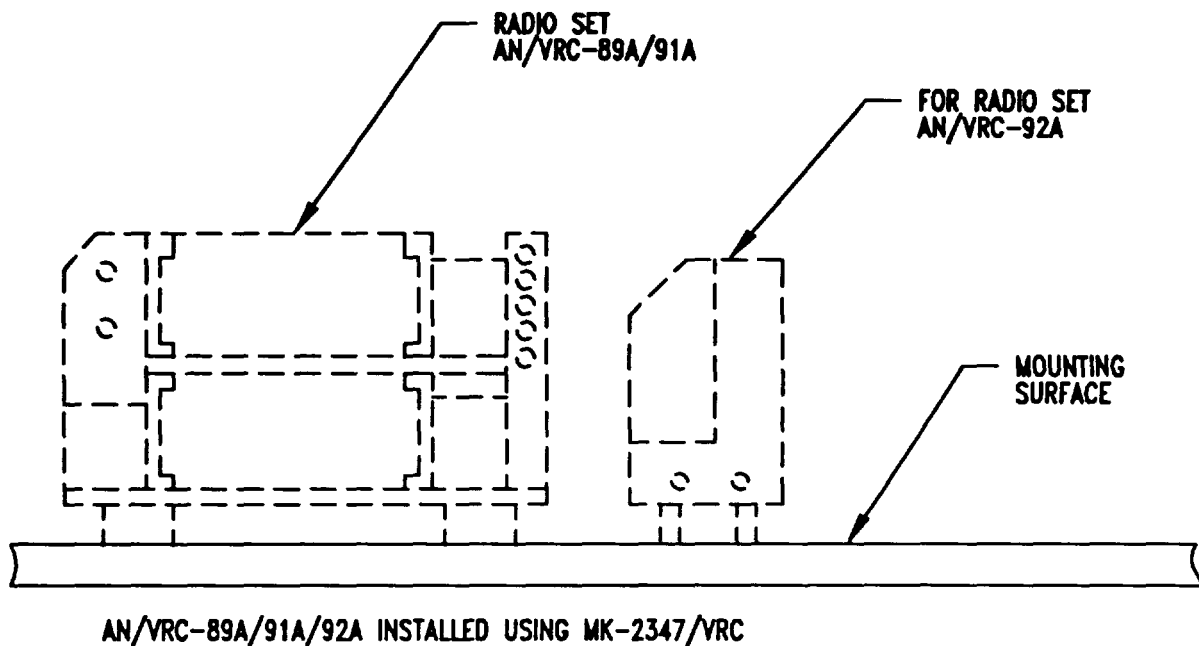


Figure 5-1(2). MK and Radio Installation: Radio Equipment Locations

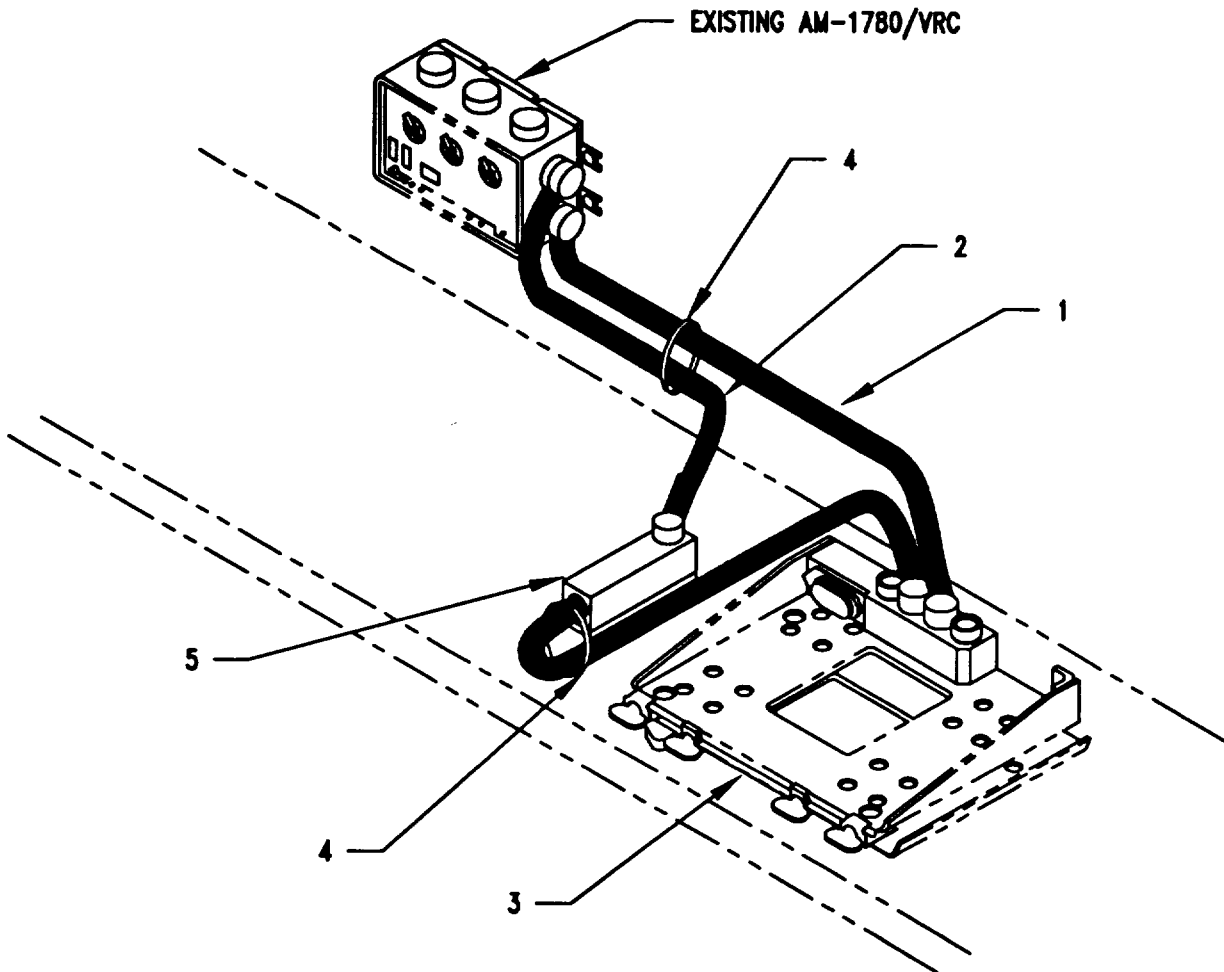
5.1 Installation of Cables. To accomplish the installation, leave loop dampers and tiedown straps loose enough to adjust cable slack and allow easy adjustment of equipment. When installation is complete, tighten and secure all clamps, clips and tiedown straps.

WARNING

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

ITEM	ACTION	REMARKS
a. SP cable (1) connector P1.	Connect and secure to AM-1780/VRC connector J503. See Figure 5-2.	
b. SP cable (2) connector P1.	Connect and secure to AM-1780/VRC connector J501. See Figure 5-2.	
c. SP cables (1, 2).	Route along mounting surface and position near existing mounting base (3).	
d. Tiedown strap (4).	Wrap around SP cables (1, 2) loosely. See Figure 5-2 for approximate location.	
e. SP cable (1) connector P2.	Connect and secure to existing mounting base (3) connector J4.	
f. SP cable (2) connector P2.	Connect and secure to SP cable (5) connector P1. See Figure 5-2.	
g. SP cable (5) connector P2.	Connect and secure to existing mounting base (3) connector J3.	
h. Tiedown straps (4).	Tightly secure after cable slack has been adjusted. See Figure 5-2 for locations.	

5.1 Installation of Cables. Continued.



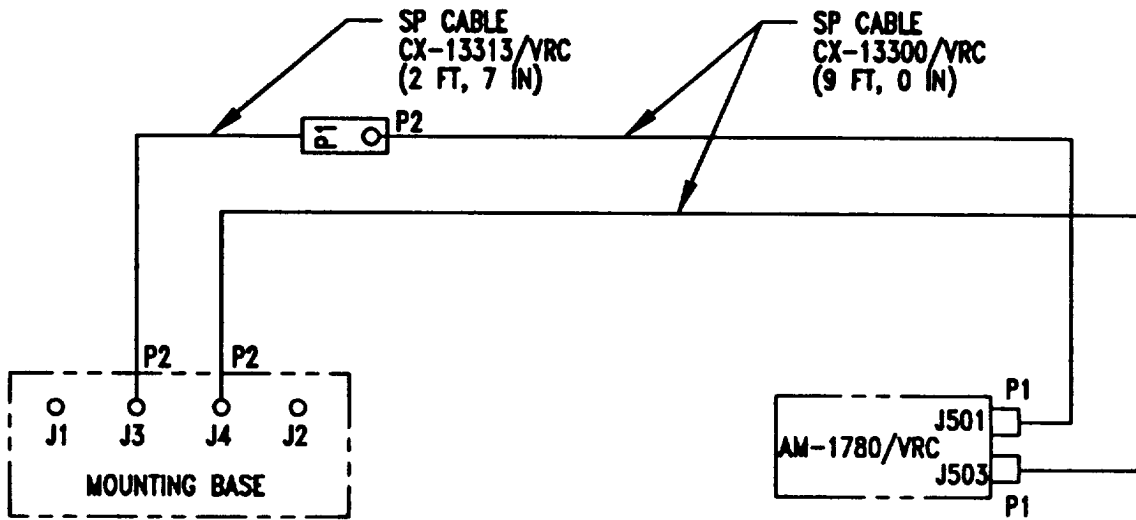
- 1. SP CABLE, CX-13300/VRC (9 FT, 0 IN)
- 2. SP CABLE, CX-13300/VRC (9 FT, 0 IN)
- 3. EXISTING MOUNTING BASE
- 4. TIEDOWN STRAP
- 5. SP CABLE, CX-13313/VRC (2 FT, 7 IN)

Figure 5-2. Installation of Cables

5.2 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 5-3 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 11-5820-890-20-44 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.	

5.2 Post-Installation and Checkout. Continued.



CABLE ASSEMBLY	FROM			TO		
	CABLE CONN.	UNIT	UNIT CONN.	CABLE CONN.	UNIT	UNIT CONN.
CX-13300/VRC (9 FT, 0 IN)	P2	Existing mounting base	J4	P1	AM-1780/VRC	J503
CX-13300/VRC (9 FT, 0 IN)	P2	CX-13313/VRC	P1	P1	AM-1780/VRC	J501
CX-13313/VRC (2 FT, 7 IN)	P1	CX-13300/VRC	P2	P2	Existing mounting base	J3

Figure 5-3. Cable Diagram: For AM-1780/VRC Utilization

APPENDIX A

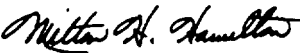
REFERENCES

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

By Order of the Secretary of the Army:

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

Official:


MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army
06480

DISTRIBUTION:

To be distributed in accordance with DA Form 12-36-E, block 9673 requirements for TB 11-5820-890-20-44.

SOMETHING WRONG WITH THIS PUBLICATION



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

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER

TB 11-5820-890-20-44

PUBLICATION DATE

1 SEPTEMBER 1993

PUBLICATION TITLE

RADIO SETS AN/VRC-89/91/92 SERIES

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 DOTTED LINE

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER

SIGN HERE

REVERSE OF DA FORM 2028-2

FILL IN YOUR
UNIT'S ADDRESS

FOLD BACK

DEPARTMENT OF THE ARMY



OFFICIAL BUSINESS

**Commander
U.S. Army Communications-Electronics Command
and Fort Monmouth
ATTN: AMSEL-LC-LM-LT
Fort Monmouth, New Jersey 07703-5007**

TEAR ALONG DOTTED LINE

