TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST (INCLUDING DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS)

RADIO

TEST SET

AN/PRM-32

HEADQUARTERS, DEPARTMENT OF THE ARMY

DECEMBER 1973

WARNING

The fumes of trichloroethane are toxic. Provide thorough ventilation whenever used. DO NOT USE NEAR AN OPEN FLAME. Trichloroethane is not flammable, but exposure of the fumes to an open flame or hot metal surface forms highly toxic phosgene gas

TECHNICAL MANUAL
No. 11-6625-2632-14

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 11 December 1973

Operator's, Organizational, Direct Support, and General Support Maintenance Manual Including Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools)

RADIO TEST SET AN/PRM-32

Current as of 10 September 1973

LIST OF ILLUSTRATIONS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual covers operation, organizational, and general support maintenance of Radio Test Set AN/PRM-32 (fig. 1-1). The manual includes instructions for operating, organizational maintenance, testing and servicing procedures, and general support maintenance and repair of Radio Test Set AN/PRM-32 (test set).

b. The maintenance allocation chart (MAC) appears in appendix B; the repair parts list appears in appendix C.

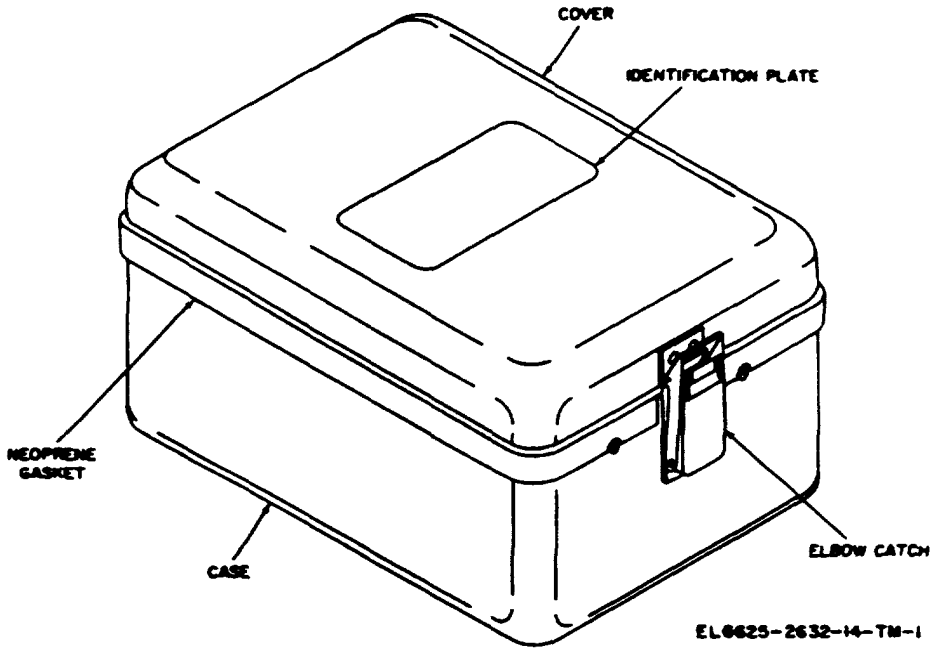


Figure 1-1. Radio Test Set AN/PRM-32 with cover closed.

1-2. Forms and Records

a. Report. of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army)/NAVSUP PUB 378 (Navy)/AFR 71-4 (Air Force)/and MCO P4030.29 (Marine Corps).

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38 (Army)/NAVSUP PUB 459 (Navy)/AFM 75-34 (Air Force)/and MCO P4610.19 (Marine Corps).

1-3. Destruction of Army Materiel to Prevent Enemy Use

Requirements for destruction will be those prescribed in TM 750-244-2.

1-4. Administrative Storage

Requirements and procedures for administrative storage will be those prescribed in TM 740-90-1.

1-5. Calibration

Radio Test Set AN/PRM-32 is simple to use but must be properly calibrated. Calibration is performed at general support maintenance, as prescribed in TB 750-236.

1-6. Reporting of Equipment Publication Improvements

The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commander, U.S. Army Electronics Command, ATTN: AMSEL-MA-AC, Fort Monmouth, NJ 07703.

Section II. DESCRIPTION AND DATA

1-7. Purpose and Use

Radio Test Set AN/PRM-32 is the primary piece of test equipment used to check out Radio Set AN/PRC-90 at organizational maintenance. Two cable assemblies (transmitter cable and receiver cable) (fig. 1-2) are provided for attachment of the test set to the radio sets being tested. One radio set under test serves as a transmitter and the other as a receiver. The test set serves as a fully-shielded test path between the two radios. There is no interference with operating channels during testing. Indications on the meter of the test set show the operating condition of the radio sets under test.

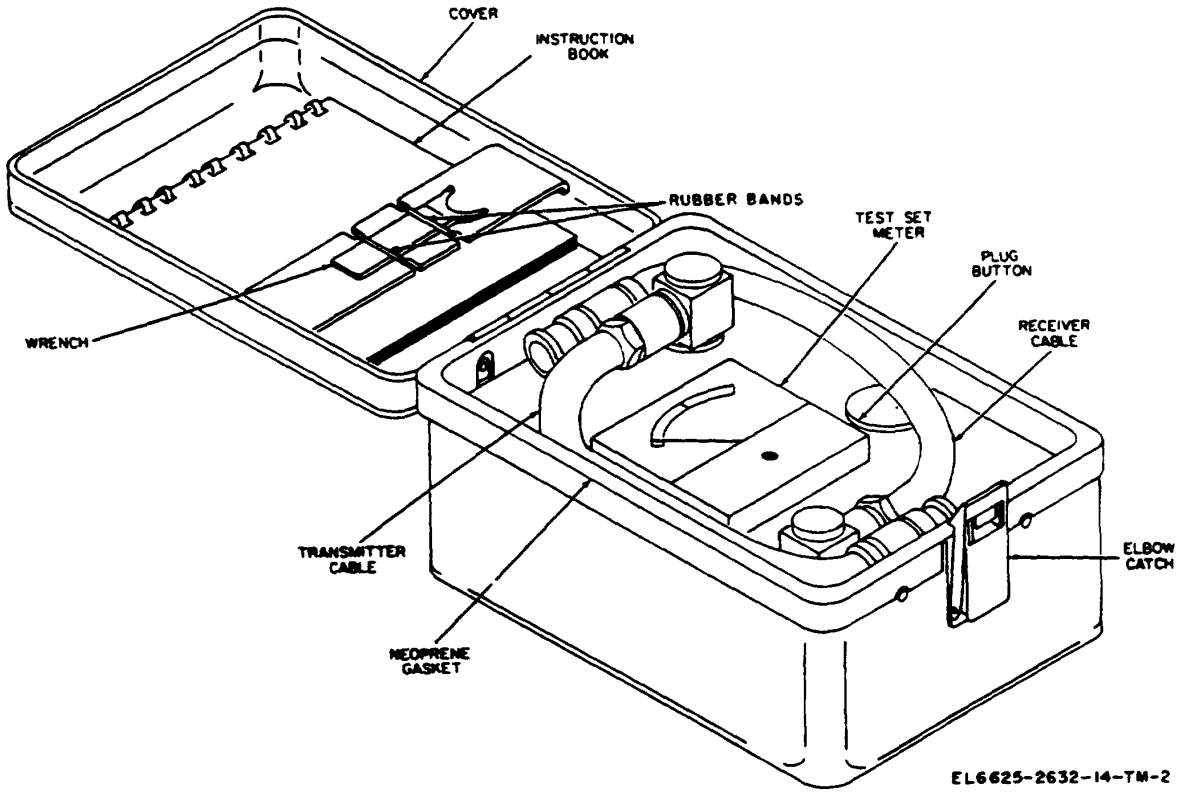


Figure 1-2. Radio Test Set AN/PRM-32 with cover open

1-8. Description (fig. 1-1 and 1-2)

Radio Test Set AN/PRM-32 is built into a case (fig. 1-2) which also contains two connector adapters and two accessories, a wrench used to remove antennas from radio sets under test, and an instruction book. The case is equipped with a cover (fig. 1-1), an elbow catch, and a neoprene gasket to protect it from moisture and dirt when it is not being used. The test set is self-contained and requires no batteries or other power source. It is made ready for use at any time by releasing the elbow catch and opening the hinged cover.

1-9. Technical Characteristics

Technical characteristics for Radio Test Set AN/PRM-32 are given in table 1-1.

1-10. Items Comprising an Operable Radio Test Set AN/PRM-32 (fig. 1-2)

The items in the table below make up an operable Radio Test Set AN/PRM-32. One copy of this manual is packed with each AN/PRM-32.

Table 1-1. Radio Test Set AN/PRM-32 Characteristics

Operating range:
- Temperature.....+5°C. to +40°C.
- Altitude.....Sea level to 12,000 feet
- Humidity.....95% maximum

Dimensions:
- Height .....2.95 inches
- Length.....5.40 inches
- Width.....3.50 inches

Weight, complete.....1-1/2 pounds
Operating frequencies .....243.0 and 282.8 MHz
Power required .....None

Table 1-2. Radio Test Set AN/PRM-32

FSN	Item	Quantity	Common name
6625-803-3399	Radio Test Set AN/PRM-32	1	Test Set
	consisting of:		
	Wrench, Spanner	1	Spanner wrench
	Book, Instruction	1	Instruction book
	Cable Assembly, Transmitter	1	Transmitter cable
	Cable Assembly, Receiver	1	Receiver cable
5820-478-7054	Adapter, Test MX-8802/PRC-90	2	Connector adapter

1-11. Additional Equipment Required

No additional equipment is required when the AN/PRM-32 is used with the equipment it is intended to test. Information concerning operation of the equipment under test, Radio Set AN/PRC-90, is contained in TM 11-5820-800-12.

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. General

Radio Test Set AN/PRM-32 is packaged for shipment in a standard moisture-proof container. It requires no special treatment upon receipt except removal by the operator from the package. There are no special siting or shelter requirements to be considered. It is available for use at any time. It should be used in a location as free from moisture, mud, dirt, and snow as possible, but can be used under such conditions if necessary.

2-2. Checking Unpacked Equipment

a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage in accordance with instructions in TM 38-750.

b. Check the equipment against the component listing in the operator's manual and the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions of TM 38-750. The equipment should be placed in service even though a minor assembly or part that does not affect proper functioning is missing.

c. Check to see whether the equipment has been modified. (Equipment which has been modified will have the MWO number on the identification plate on the top of the cover.) Check also to see whether all currently applicable MWO's have been applied. (Current MWO's applicable to the equipment are listed in DA Pam 310-7.)

2-3. Installation Instructions

There are no installation requirements for Radio Test Set AN/PRM-32. No preliminary adjustments, external connections, or circuit alignment are required.

Section II. CONTROLS AND INSTRUMENTS

2-4. General

There are no control settings on Radio Test Set AN/PRM-32. It serves as a link in testing.

2-5. Operator's Controls

Operator's controls and indicators on Radio Test Set AN/PRM-32 are identified in table 2-1 and shown in figure 1-2. Refer to TM 11-5820-800-12 for a description of the Radio Set AN/PRC-90 controls and indicators.

Table 2-1. Radio Test Set AN/PRM-32 Controls and Indicators

Control or Indicator	Function
Transmitter cable	Connects test set to antenna jack of transmitting radio under test.
Receiver cable	Connects test set to antenna jack of receiving radio under test.
Meter	Indicates power level of transmitted radio signal.

Section III. OPERATION UNDER USUAL CONDITIONS

2-6. Introduction

Radio Test Set AN/PRM-32 was designed specifically to test Radio Set AN/PRC-90. It can test a single set for transmission, or test one set for receiving the transmitted signal from a second set. The usual procedure for testing is to connect two radio sets to the test set and test them both as transmitters and receivers in one set of test procedures. In this procedure the

radio set to be used as a transmitter must be tested first. The receiving set is then tested against this transmitter, which is known to be operating properly. The two sets are then reversed and the test procedure is run through again.

2-7. Test Setup

a. Select a test area which is as free of moisture, dust, salt spray, snow, or other contaminants as possible. Testing can be performed in the presence of such contaminants, but it is best to avoid these conditions.

b. Check to be sure both Radio Sets AN/PRC-90 to be tested contain batteries in good condition.

c. Remove antennas (fig. 2-1) from both radio sets to be tested, using wrench supplied with test set.

CAUTION
Do not lose sealing washer from antenna.

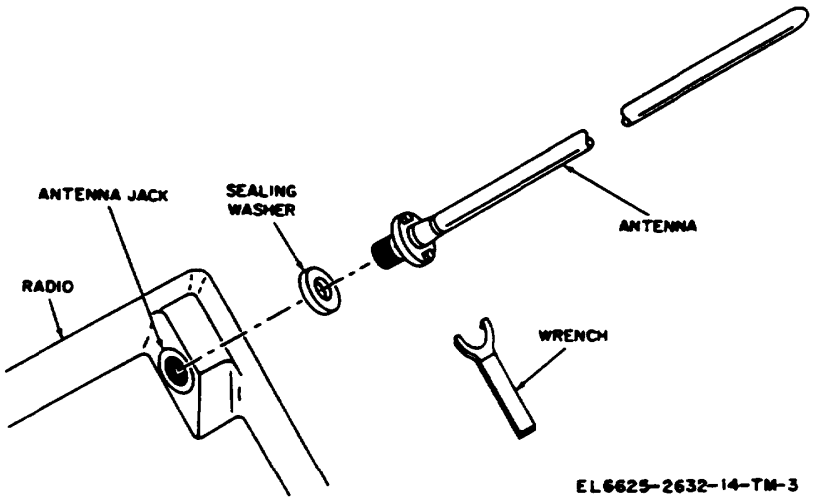


Figure 2-1. Antenna removal from Radio Set AN/PRC-90.

d. Install a connector adapter in each of the two radio antenna jacks. Avoid cross threading and seat connector adapters fingertight.

e. Connect transmitter cable of test set to the connector adapter on one Radio Set AN/PRC-90 (transmitting radio), and connect receiver cable to the connector adapter on the other (receiving radio) (fig. 2-2).

2-8. Beacon Battery and Transmitter Check

a. Set the function switch (fig. 2-3) of the transmitting radio to the BCN 243.0 position and observe the meter of the test set.

b. Meter should indicate in the green (GO) area to indicate that beacon power output is satisfactory and battery is good.

c. If meter indicates in the red (NO-GO) area, beacon power output is not satisfactory. Install a new battery in the transmitting radio.

d. Repeat step a. If meter now indicates in green area the problem has been corrected. If meter still indicates in red area (NO-GO), the transmitting radio is unsuitable for use and should be replaced.

2-9. Beacon Monitor Check

a. Set the function switch of the transmitting radio to the BCN 243.0 position.

b. A beacon tone should be barely audible from the speaker of the transmitting radio. If the beacon tone is not audible, replace the AN/PRC-90.

2-10. MCW Transmitter Check

a. Set the function switch of the transmitting radio to the VOICE/MCW 243.0 position. Depress and hold the MCW button of the radio set and observe the meter of the test set. Release the MCW button.

b. If meter indicated in the green area (GO) when the MCW button was pressed, MCW power output is satisfactory.

c.If meter indicated in the red area (NO-GO) when the MCW button was pressed, MCW power output is not satisfactory. Replace the AN/PRC-90.

2-11. 243.0 MHz Voice Transmitter Check

a. Set the function switch of the transmitting radio to the VOICE/MCW 243.0 position. Depress the PUSH TO TALK button. Make a steady clear whistle directly into the microphone from a distance of 2 to 3 inches away. Observe the meter of the test set. Release the PUSH TO TALK button.

b. If meter indicated in the green area (GO) briefly during whistle, voice power output is satisfactory.

NOTE

It is normal for the meter indication to fall back into the red area if the microphone is not held close to the mouth for full sound volume.

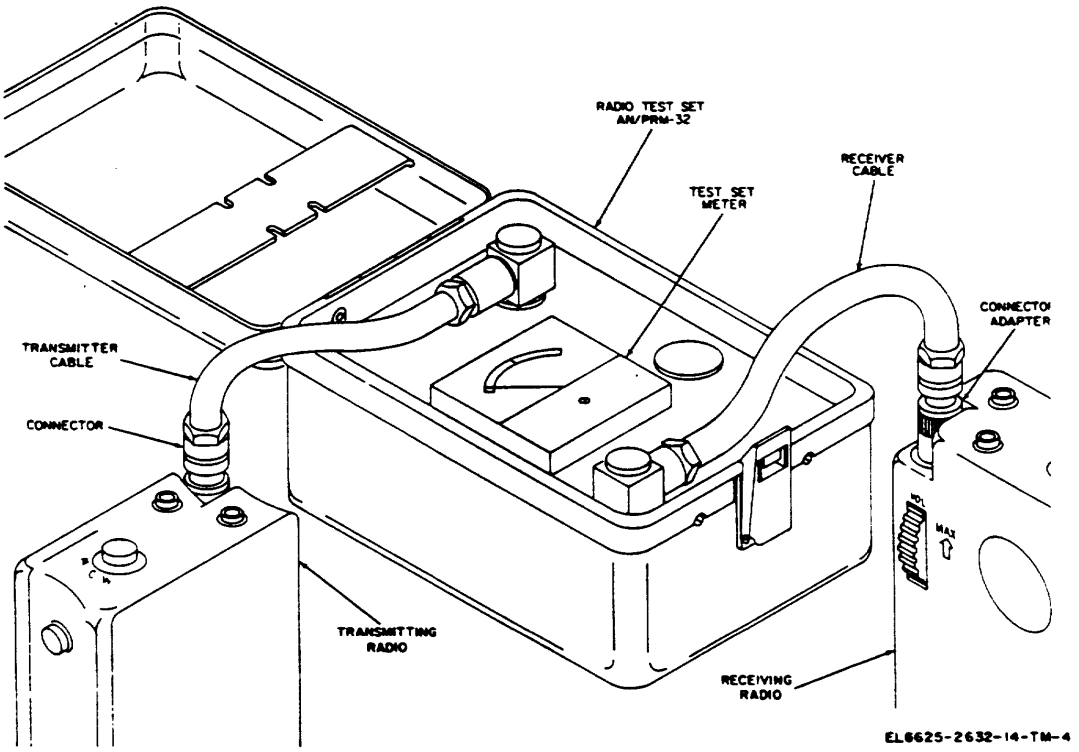


Figure 2-2. Connection of test set to radios under test.

c. If meter indicated in the red area (NO-GO) throughout the test, voice power output is not satisfactory. Repeat the test carefully. If meter still does not indicate in the green area, replace the AN/PRC-90.

2-12. 282.8 MHz Voice Transmitter Check

a. Set the function switch of the transmitting radio to the VOICE 282.8 position.

NOTE

To turn the knob of the function switch to the VOICE 282.8 position, press the button in the center of the knob while turning the knob in a counterclockwise direction.

b. Press the PUSH TO TALK button. Make a steady clear whistle directly into the microphone from a distance of 2 to 3 inches away. Observe the meter of the test set. Release the PUSH TO TALK button.

c. If meter indicated in the green area (GO) briefly during whistle, voice power output is satisfactory.

d. If meter indicated in the red area (NO-GO) throughout the test, voice power output is not satisfactory. Repeat the test carefully. If meter still does not indicate in the green area, replace the AN/PRC-90.

2-13. 243.0 MHz Receiver Check

a. For receiver tests, a Radio Set AN/PRC-90 with a transmitter known to be operating properly must be connected to the transmitter cable of Radio Test Set AN/PRM-32. If the transmitting radio under test in paragraphs 2-8 through 2-12 received a green (GO) indication on all tests, it is known to be operating properly and receiving radio testing can proceed.

b. Set the VOL control of the transmitting radio to minimum and the function switch to the BCN 243.0 (beacon) position.

c. Set the function switch of the receiving radio to the VOICE/MCW 243.0 position and the VOL control to MAX.

d. A beacon signal should be heard from the speaker of the receiving radio.

e. If no beacon signal can be heard from the speaker of the receiving radio, replace the receiving AN/PRC-90.

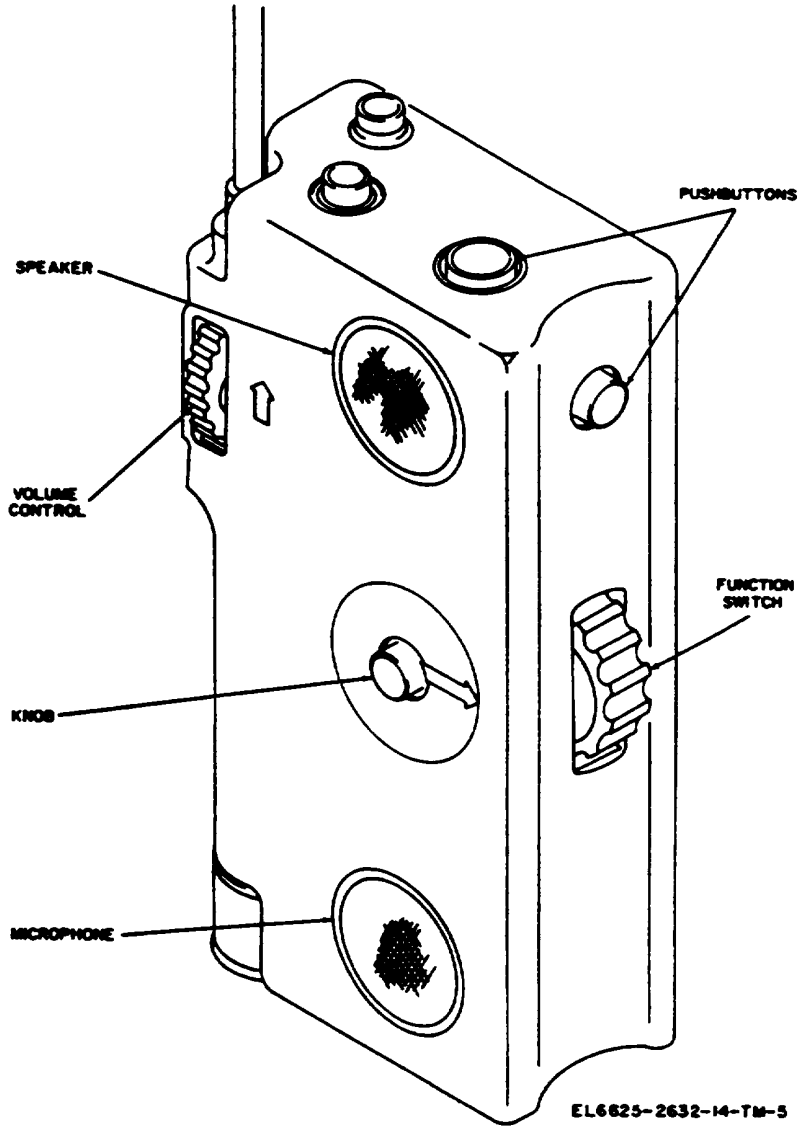


Figure 2-3. Radio Set AN/PRC-90 controls and indicators.

NOTE

The presence of an audible interfering signal from the speaker caused by a nearby 243.0 MHz transmitter generally will be a GO condition. This may not be a true indication if the interfering transmitter is of unusually higher power or its antenna is located within 100 feet.

2-14. 282.8 MHz Receiver Check

a. Using a transmitting radio known to be operating properly, set its function switch to the VOICE 282.8 position and its VOL control at minimum. Set the function switch of the receiving radio to the VOICE 282.8 position and its VOL control at MAX.

NOTE

To turn the knob of the function switch to the VOICE 282.8 position, press the button in the center of the knob while turning the knob in a counterclockwise direction.

b. Press the PUSH TO TALK button on the transmitting radio. A reduction in noise level from the speaker of the receiving radio indicates a satisfactory 282.8 MHz receiver.

c. Complete lack of noise, or no change in noise level indicates a NO-GO condition. Replace the receiving AN/PRC-90.

NOTE

The presence of an audible interfering signal from the speaker caused by a nearby 282.8 MHz transmitter generally will be a GO condition. This may not be a true indication if the interfering transmitter is of unusually high power or its antenna is located within 100 feet.

2-15. Earphone Check

a. Using a transmitting radio known to be operating properly, set its function switch to the VOICE 282.8 position and its VOL control at minimum. Set the function switch of the receiving radio to the VOICE 282.8 position and its VOL control at MAX.

NOTE

To turn the knob of the function switch to the VOICE 282.8 position, press the button in the center of the knob while turning the knob in a counterclockwise direction.

b. Observe the noise level from the speaker of the receiving radio.

c. Plug the earphone connector into the EARPHONE JACK of the receiving radio. The speaker of the receiving radio should now be silent and the receiver noise should be heard clearly in the earphone.

d. If the earphone does not operate properly (c above), check the earphone connection for clean contacts. If this does not correct the problem, replace the earphone and cord assembly. If operation is still improper, replace the receiving AN/PRC-90.

2-16. Completion of Tests

a. Completion of the testing in paragraphs 2-8 through 2-15 with all GO indications assume that the transmitting radio set is operating properly as a transmitter, and the receiving radio set is operating properly as a receiver. Disconnect the transmitter cable and receiver cable and reconnect them with the radio sets reversed.

b. Repeat the test procedures in paragraphs 2-8 through 2-15. If the testing is completed with all GO indications, both radio sets are operating properly as transmitters and as receivers.

c. Disconnect the transmitter cable and receiver cable from the radio sets. Be sure the threads of the antennas and antenna jacks are free of moisture, dirt, or other contaminants. Install the antennas and antenna sealing washers. Avoid cross threading of the antennas. Use the wrench (fig. 2-1) to tighten each antenna to its case with just enough torque to compress the washer slightly.

CAUTION

Do not overtighten or the plastic threads on the antenna will be damaged.

d. Place the wrench and instruction manual in the cover (fig. 1-2) of the test set. Disconnect the two connector adapters and place them in the test set. Stow the cables and close the cover.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

2-17. Introduction

Radio Test Set AN/PRM-32 is designed to be resistant to damage from moisture, cold, heat, dust, sand, and snow. Consequently Radio Test Set AN/PRM-32 can be used for testing Radio Set AN/PRC-90 under severe field conditions. However, screw threads, switches, and knobs may be damaged from excessive contamination. Always select a test area which is as free of moisture, salt spray, dust, sand, snow, mud or other contaminants as possible. Under severe conditions, provide some form of shelter for the test area. If no other shelter is available, a poncho held over the units under test will reduce the amount of contamination from foreign matter.

2-18. Procedure After Testing

After testing is completed under severe conditions, wipe the screw threads on the antenna and radio, and the sealing washer, carefully with a clean, dry cloth to reduce the contamination before reassembling the antennas on the radio sets. Wipe off the connectors and connector adapters before closing the cover on the test set. After the cover is closed on the test set it is not likely to be damaged by contaminants.

2-19. Lubrication After Testing

No lubrication of Radio Test Set AN/PRM-32 is required. Under extreme conditions, such as the presence of salt spray, dust, sand, snow, or mud, wipe a very light oil over the surfaces of the two connectors to prevent damage to them.

CHAPTER 3
ORGANIZATIONAL MAINTENANCE

NOTE

The operator will perform organizational maintenance. All test set repairs will be referred to general support category.

Section I. GENERAL

3-1. Scope of Organizational Maintenance

This chapter provides instructions for organizational maintenance of the AN/PRM-32. Maintenance at the organizational category, beyond visual inspection and exterior cleaning and painting, is not authorized. The following instructions list the actions to be taken at the organizational maintenance category and the tools and materials required.

a. Preventive Maintenance Checks and Services (para 3-4).

b. Cleaning (para 3-5).

c. Painting Instructions (para 3-6).

d. Troubleshooting (para 3-7).

3-2. Tools, Materials, and Test Equipment Required for Organizational Maintenance

a. Tools. Tool Kit, Electronic Equipment TK-101/G.

b. Materials.

(1) Trichloroethane (cleaning compound) (FSN 6810-664-0273).

(2) Lint free cloth (FSN 8305-170-5062).

(3) Sandpaper, fine (FSN 5350-264-3485).

(4) Camel's-hair brush (FSN 8020-24-9625).

c. Equipment. The only test equipment required are two each Radio Sets AN/PRC-90.

Section II. ORGANIZATIONAL PREVENTIVE MAINTENANCE

3-3. Preventive Maintenance

Preventive maintenance is the systematic care and inspection of equipment to detect and prevent possible trouble, to reduce out-of-service time, and to maintain equipment serviceability. The AN/PRM-32 requires no lubrication.

3-4. Preventive Maintenance Checks and Services

To insure that Radio Test Set AN/PRM-32 is always ready for operation, .it must be inspected systematically so that defects may be discovered and corrected before they result in serious damage or failure. The organizational preventive maintenance checks and services to be performed are listed and described in table 3-1. The item numbers indicate the sequence of and minimum time for inspection required. Perform the preventive maintenance functions listed in the preventive maintenance chart once each month. A month is defined as approximately 30 calendar days of 8-hour-per-day operation. If the equipment is operated 16 hours a day, the monthly preventive maintenance checks should be performed at 15-day intervals. Adjustments of the maintenance interval must be made to compensate for any unusual operating conditions. Equipment maintained in a standby (ready for immediate operation) condition must have monthly preventive maintenance checks. Equipment in limited storage (requires service before operation) does not require monthly preventive maintenance. At the organizational category, monthly preventive maintenance consists of visual inspection, cleaning, operation and painting of the AN/PRM-32 as listed in table 3-1. Other corrective action will be taken at general support category.

Table 3-1. Organizational Preventive Maintenance Checks and Services

A - Monthly
Total man-hours required: 1.6

Sequence number	ITEM TO BE INSPECTED PROCEDURE	WORK TIME (M/H)
1	WRENCH	0.2
	Open cover and inspect to be sure wrench is in place on strap in cover. If wrench is not present, refer to general support maintenance.	
2	RUBBER BANDS	0.2
	Inspect rubber bands to be sure they are in serviceable condition and are holding wrench firmly. If rubber bands are not present, replace them.	
3	CASE	0.1
	Inspect all surfaces for dirt, grease, dents, or cracks.	
	Clean all exposed surfaces with a clean, dry, lint-free cloth. Do not use cleaning solvents. Wipe off dirt or grease which has collected. Wipe the surface of the neoprene gasket carefully so it will continue to act as a seal (para 3-5).	0.2
	WARNING **The fumes of trichloroethane are toxic. Provide thorough ventilation whenever used. DO NOT USE NEAR AN OPEN FLAME. Trichloroethane is not flammable, but exposure of the fumes to an open flame or hot metal surface forms highly toxic phosgene gas.**	
4	CABLES	0.1
	Inspect transmitter and receiver cables for dirt, cracks, loose connections, or evidence of deterioration of the covering.	
5	CONNECTOR ADAPTER	0.2
	Inspect connector adapters to be sure they are present and mated properly on ends of both cable connectors If they are damaged, or are not present, replace them.	
6	METER	0.1
	Inspect meter for cracks in cover, missing cover, or dirt lodged under cover.	
	TEST SET	
7	With cover open, inspect test set to be sure all visible components are in place. Inspect for loose or dirty connections, worn or deteriorated parts, or missing parts.	0.1
8	Clean all exposed components with a clean, dry, lint-free cloth. Do not use cleaning solvents. Wipe off dirt or grease which has collected (para 3-5).	
9	Test set operation (fig. 2-1 and 2-2). Connect the transmitter cable to a Radio Set AN/PRC-90 (para 2-7) known to be calibrated properly and the receiver cable to a second Radio Set AN/PRC-90 and perform the 243.0 MHz receiver check (para 2-13). Meter should indicate in the green area. If it does not, refer the test set to general support maintenance for repair.	0.1
10	If paint of case or cover is damaged, repaint as required (para 3-6).	0.2

3-5. Cleaning

a. Cleaning at the organizational category will consist of wiping the exterior of the case with a clean, lint-free cloth to remove moisture and loose dirt. If dirt is difficult to remove, dampen the cloth with warm water and, if necessary, use a mild soap.

WARNING

The fumes of trichloroethane are toxic. Provide thorough ventilation whenever used. DO NOT use near an open flame. Trichloroethane is not flammable, but exposure of the fumes to an open flame converts the fumes to highly toxic, dangerous gases.

b. Remove grease or fungus from the exterior surfaces with a clean cloth dampened (not wet) with trichloroethane.

3-6. Touchup Pointing Instructions

a. The outside of the case and cover of Radio Test Set AN/PRM-32 should be repainted if they become scratched or blistered.

CAUTION

Do not apply any paint or finish to the neoprene gasket, elbow catch or any surfaces inside the case.

b. Remove rust and corrosion from metal surfaces by sanding them lightly with fine sandpaper. Brush two thin coats of paint on the bare metal to protect it from further corrosion. Refer to the applicable cleaning and refinishing practices specified in TB 746-10.

3-7. Organizational Troubleshooting

Troubleshooting at the organizational category is confined to a visual indication of possible or actual trouble and is based on the monthly preventive maintenance checks and equipment performance during use. Any malfunction that is beyond the scope of organizational maintenance to correct shall be referred to general support category maintenance personnel.

CHAPTER 4
FUNCTIONING OF EQUIPMENT

4-1. Introduction

In use Radio Test Set AN/PRM-32 is connected between two Radio Sets AN/PRC-90. One radio set transmits and the other receives the transmitted signal through the test set. The test set performs two functions. It attenuates the signal level from the transmitting radio set so that only a weak signal is applied to the antenna of the receiving radio set. This permits more sensitive testing than would otherwise be possible. It also provides a meter indication of signal strength as visible evidence that a signal is being transmitted.

4-2. Theory of Operation (fig. 4-1)

a. The signal from the transmitting radio set is received by the test set at connector J1 and passed through an antenna coupler to J2 as an output to the receiving radio set's antenna (fig. 4-1). The antenna coupler consists of two parts, one of which is a feedthrough terminal which acts as an internal transmitting antenna. The signal from this terminal is picked up approximately 2 inches away by an internal receiving antenna, a wire connected to output connector J2. Transmission of the signal across this air gap provides the necessary attenuation.

b. The signal from connector J1 is also passes through a detector circuit, which is a half-way rectifying circuit, to potentiometer R6 and test set meter M1. Test set meter M1 is a 50-microampere dc ammeter. Potentiometer R6 adjusted during calibration so that test set meter M1 registers in the green portion of its dial marking when the signal passed through the antenna coupler is at an acceptable level.

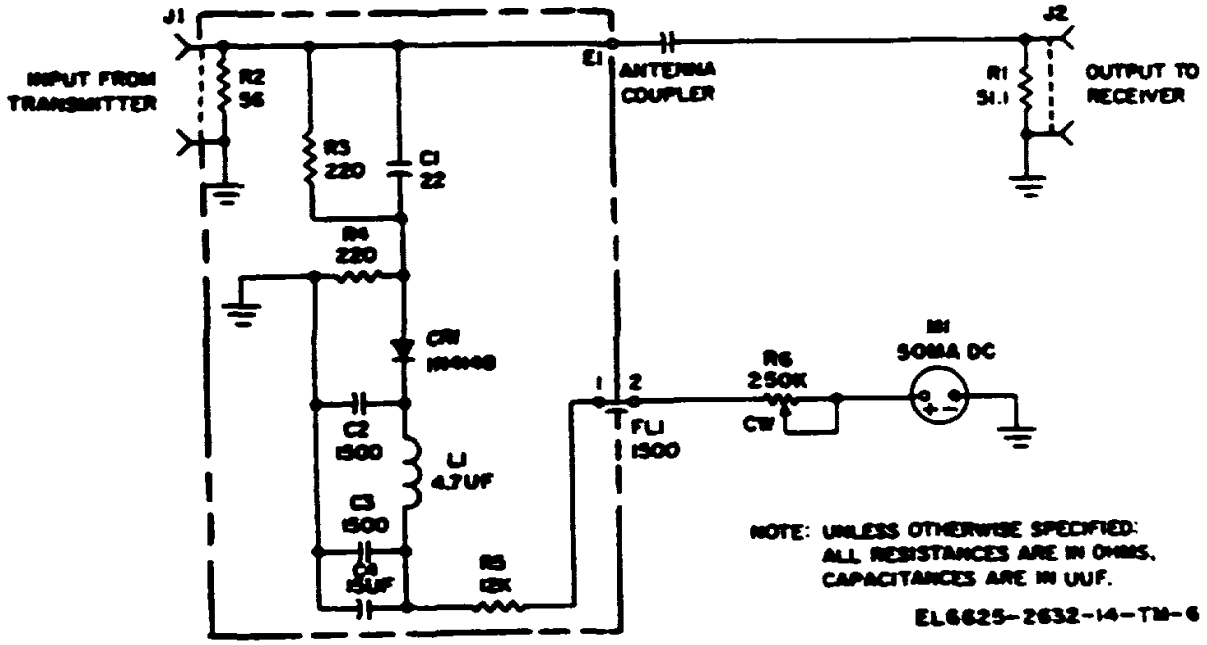


Figure 4-1. Radio Test Set AN/PRM-32 schematic diagram.

CHAPTER 5
GENERAL SUPPORT MAINTENANCE

Section I. GENERAL

5-1. Scope

General support maintenance includes requirements for performing physical inspection, operational check, troubleshooting, repair, removal and replacement, and testing of Radio Test Set AN/PRM-32. These requirements are expanded, when necessary, to include those maintenance functions assigned to organizational maintenance category.

5-2. Tools and Test Equipment

a. Tools. Tool Kit, Electronic Equipment TK-100/G.

b. Test Equipment. Multimeter AN/USM-223.

5-3. Physical Inspection

The purpose of visual inspection is to locate faults without testing of components. Many faults may be detected by sight, touch, or smell. All visual signs should be analyzed to help localize the fault to a particular part. Inspect the test set carefully for obvious defects. Inspection procedures are shown in table 5-1. Partial disassembly (panel assembly removal, para 5-8) will be required so that the electronic components on the back of the panel can be examined. After correction of any defects found by inspection, reassemble the test set and per form the checkout procedures.

Table 5-1. Physical Inspection

Step No.	Test procedure	Performance standard
1	Inspect all controls and mechanical assemblies for loose or missing screws, bolts, and nuts.	Screws, bolts, and nuts must be tight, with none missing
2	Inspect all metal parts and wiring for dirt, rust, and corrosion.	Metal parts and wiring must be clean and free of rust and corrosion
3	Inspect for loose or missing parts, and cracked or broken parts.	All parts must be intact, without cracks, with no loose connections, and no parts missing.
4	Inspect for frayed or broken insulation, broken wires, and bare wires or burned insulation.	All wires must be securely soldered, with no breaks. There must be no bare wires, or burned or broken insulation.
5	Inspect for shorted wires, or wires in contact with metal parts of panel	There must be no shorted wires, and no wires in contact with metal parts of case.

Section II. TROUBLESHOOTING

5-4. General

Troubleshooting at general support maintenance category consists of verifying and localizing troubles in defective equipment. It also includes a checkout of new equipment for proper operation before use. Troubleshooting by general support maintenance personnel is performed using the operational check specified in table 5-2. Refer to troubleshooting procedures (para 5-6) for corrective measures. Replace defective components.

5-5. Checkout Procedures

Checkout procedures are intended to localize the malfunction or determine that no malfunction exists. Perform the checkout steps shown in table 5-2. If the test set gives weak or

normal indications in this procedure, proceed to testing and calibration (sec IV). If an abnormal indication appears, record the step at which a malfunction occurred and proceed to the corresponding step in the troubleshooting procedure. After repair, perform the complete checkout procedure to be sure the test set is functioning properly. After completion of checkout procedure, refer to the calibration requirements shown in section IV.

Table 5-2. Operational Check

Step	Action	Normal indication	If indication is abnormal
1	Using connector adapters, connect the test set cables to antenna jacks of two Radio Sets An/PRC-90 known to be operating properly (para 2-7).		
2	Set function switch of transmitting radio to BCN 243.0 and VOL switch to minimum.		
3	Set function switch of receiving radio to VOICE/MCW 243.0 and VOL switch to MAX.	a. Audible tone in speaker of receiving radio. Proceed to step 3b. b. Observe test set meter. Needle should indicate slightly in green area of dial marking. Proceed to calibration (see IV).	a. Malfunction is in cables or antenna coupler circuit. Refer to table 5-3, step 3. b. Malfunction is in detector circuit or meter circuit. Refer to table 5-3, step 4.

Table 5-3. Troubleshooting Procedure

Step	Action	Normal indication	If indication is abnormal
1	Partially disassemble test set to remove panel from case (refer to Section III).		
2	Remove cover from detector assembly housing (see III).		
3	With test set connected, and switches set as in step 3 of table 5-2, observe test set meter.	Meter indicating in green area of dial marking.	Proceed to step 4 below.
4	Using bench testing equipment, check: a. Continuity of transmitter and receiver cables, connectors J1 and J2, and receiver wire. b. Resistance values of individual components.	See figure 4-1, schematic diagram, for values.	Replace faulty part. **NOTE** **If receiver wire is replaced, calibration of test set is required (para 5-16).**

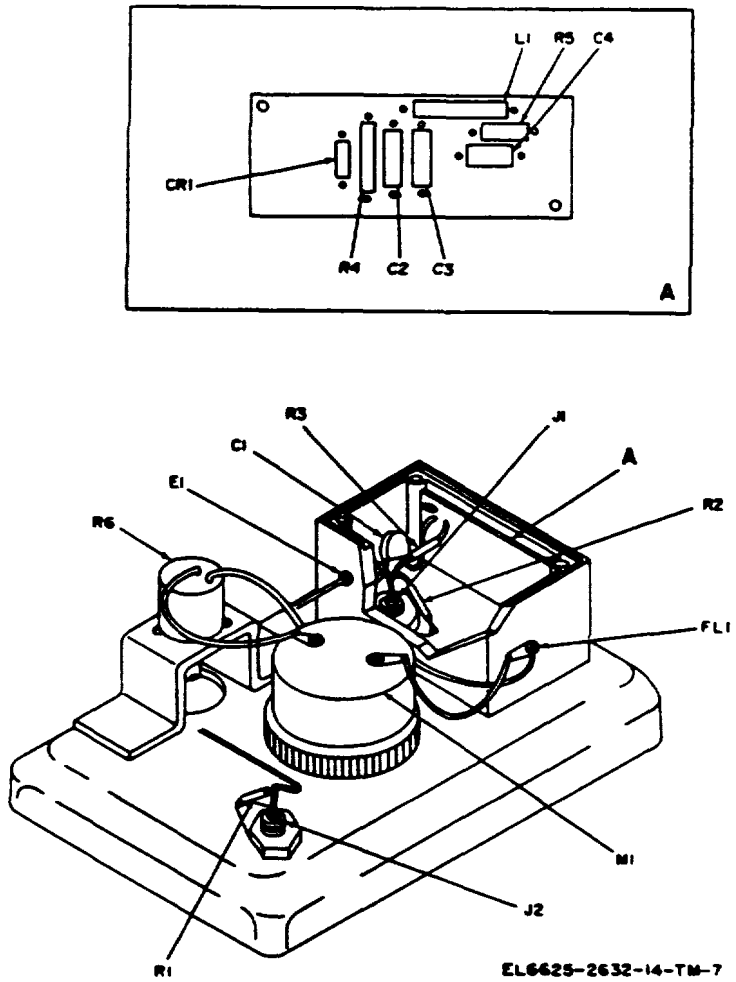


Figure 5-1. Radio Test Set AN/PRM-.2 component identification.

5-6. Troubleshooting Procedures

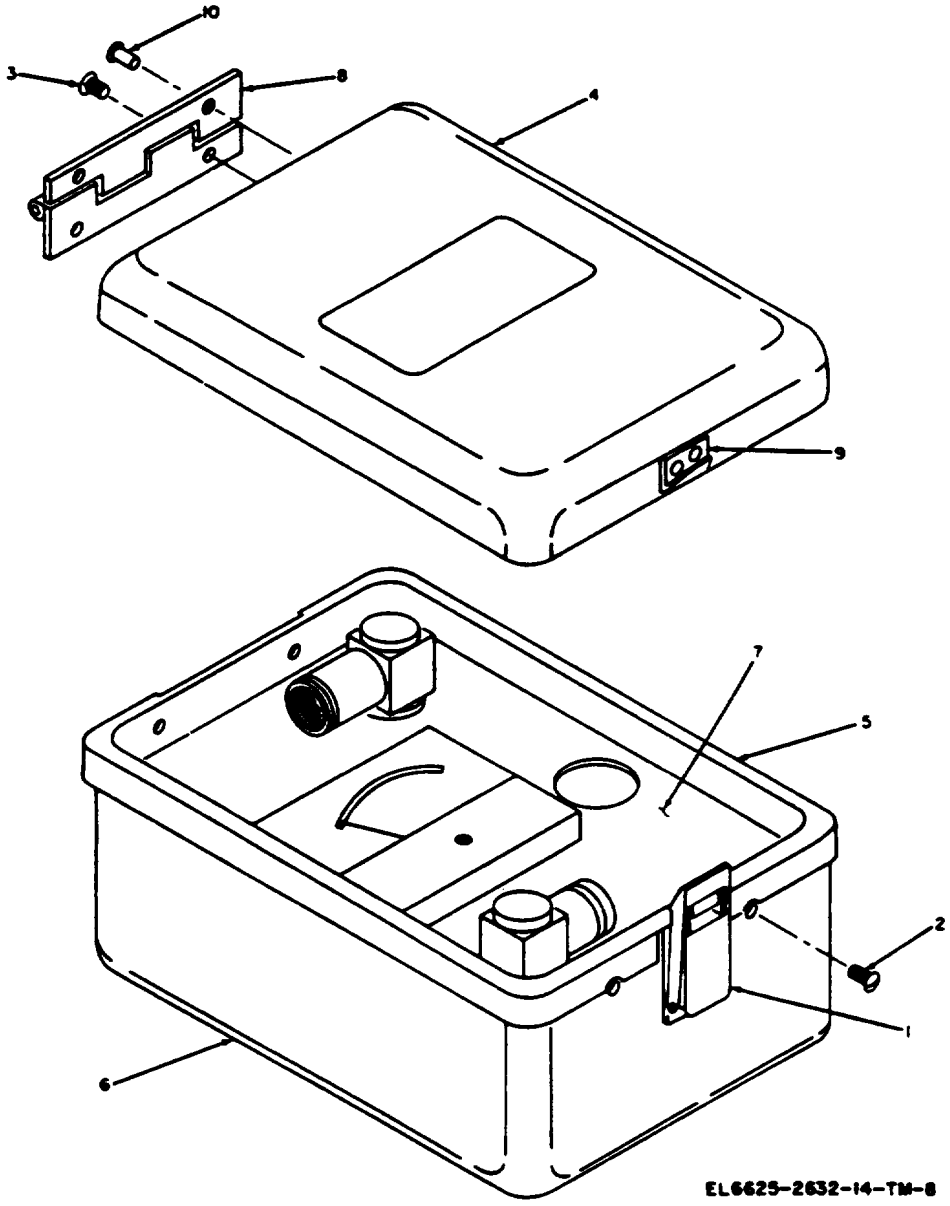
Troubleshooting procedures are intended to isolate the faulty part when a malfunction has been determined to exist through operational checks. When the operational checks of table 5-2 have been performed to localize the malfunction to a specific circuit, perform the appropriate step of the troubleshooting procedure in table 5-3 to determine which part needs replacement. Replacement procedures are described in section III. Component identification is shown in figure 5-1.

Section III. ADJUSTMENT, ALIGNMENT, REPAIR, REMOVAL, AND REPLACEMENT

5-7. General

Adjustment and alignment of the AN/PRM-32 is not authorized by genera] support maintenance personnel, but is included in calibration procedures (para 5-18). Repair is achieved by replacement of defective components. The electronic components of Radio Test Set AN/PRM-32 are grouped together on a panel in the of the test set. Partial disassembly is required to remove the panel assembly for troubleshooting and repair. Further disassembly may be required if components must be removed and replaced. The procedures for removing and replacing those parts which are replaceable are described below.

5-8. Panel Assembly Removal (fig. 5-2)



1. Elbow catch
2. Screws
3. Screws
4. Cover Assembly
5. Neoprene gasket
6. Case
7. Panel assembly
8. Hinge
9. Strike plate
10. Rivets

Figure 5-2. Radio Test Set AN/PRM-32 panel assembly.

a. Open the elbow catch (1) and remove two screws (2).

b. Remove two screws (3) and lift off cover assembly (4)

c. Pull neoprene gasket (5) off case (6) carefully and lift panel assembly (7) out of case.

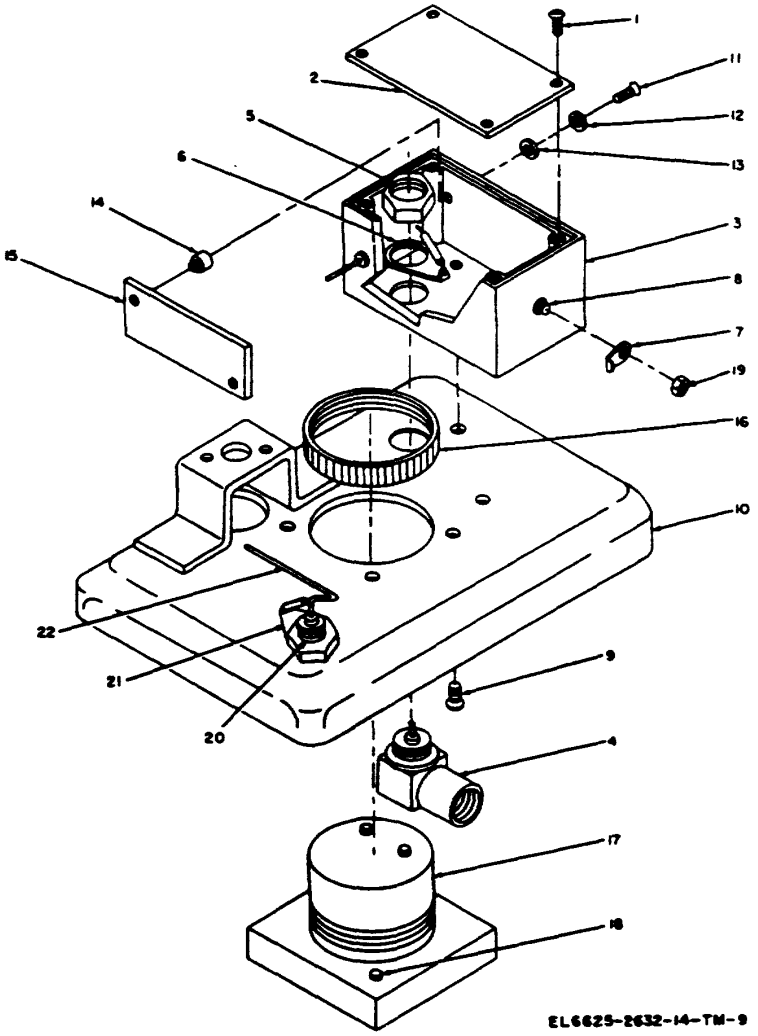
CAUTION

Avoid damage to the neoprene gasket which could prevent its functioning as a proper seal.

5-9. Detector Housing Assembly Removal (fig. 5-3)

a. Remove panel assembly from case (para 5-7).

b. Remove four screws (1) and lift cover (2) off detector housing assembly (3).



1. Screw
2. Cover
3. Detector housing assembly
4. Connector J1
5. Hex nut
6. Terminal lug and resistor R2
7. Terminal lug
8. Filter capacitor FL1
9. Screw
10. Panel
11. Screw
12. Lockwasher
13. Flat washer
14. Stepped spacer
15. Component board assembly
16. Mounting ring
17. Test set meter M1
18. Nonrotating lugs
19. Hex nut
20. Connector J2
21. Terminal lug and resistor R1
21. Terminal lug and resistor R1
22. Receiver wire

Figure 5-3. Radio Test Set AN/PRM-32 detector housing assembly.

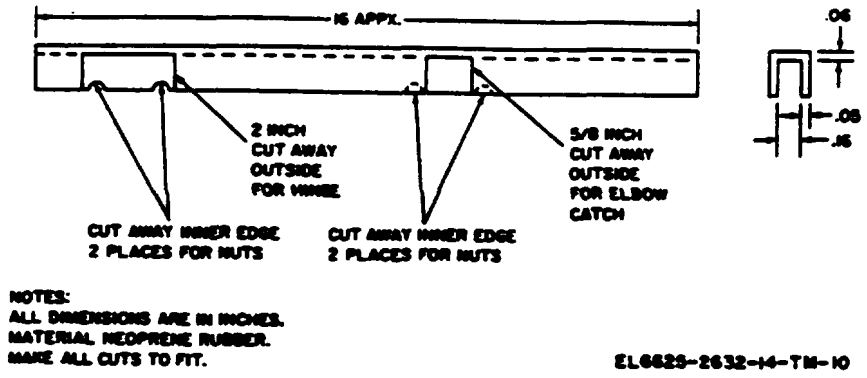


Figure 5-4. Neoprene gasket fabrication detail.

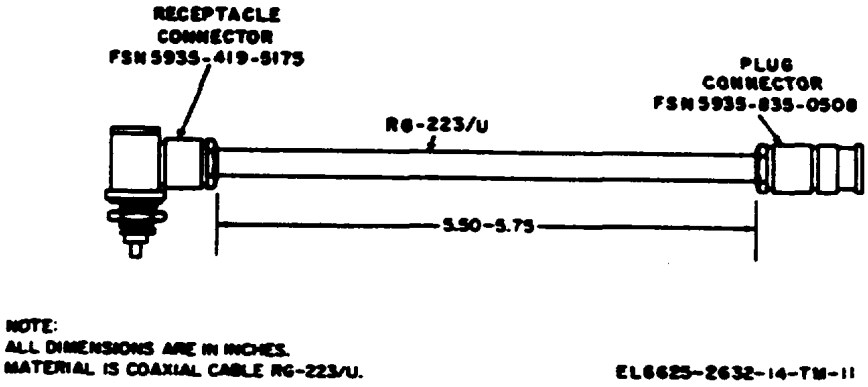


Figure 5-5. Cable assembly fabrication details.

c. Tag and unsolder three wires from connector J1 (4).

d. Unscrew hex nut (5) and remove terminal lug and resistor (6) and connector J1 (4).

e. Tag and unsolder wires from terminal lug (7) and filter capacitor FL1 (8).

f. Remove two screws (9) from panel (10) and lift detector housing assembly (3) off panel assembly.

5-10. Component Board Assembly Removal (fig. 5-3)

a. Remove detector housing assembly from panel assembly (para 5-8).

b. Tag and unsolder wire from filter capacitor FL1 (8).

c. Remove two screws (11), lockwashers (12), flat washers (13), and stepped spacers (14), and lift component board assembly (15) out of detector housing assembly (3).

5-11. Component Replacement

a. and replacement of meter M1 (fig. 5-3):

(1) Remove panel assembly from case (para 5-7).

(2) Tag wires Unscrew terminal nuts and remove wires from terminals of test set meter M1 (17).

(3) Unscrew mounting ring (16) from test set meter M1, and lift test set meter M1 (17) out of top of panel assembly.

(4) Install replacement test set meter M1 in panel assembly so that two nonrotating lugs (18) fit into holes in panel (10).

(5) Place mounting ring (16) over test set meter M1 and tighten snugly (finger tight).

(6) Untag wires, place them on terminals of meter, and tighten terminal nuts.

b. Customary electronic repair procedures are used for the replacement of all remaining components of Radio Test Set AN/PRM-32 after the component board assembly has been removed (para 5-9).

5-12. Repair Procedures

a. Physical Damage. Repair of physical dam-

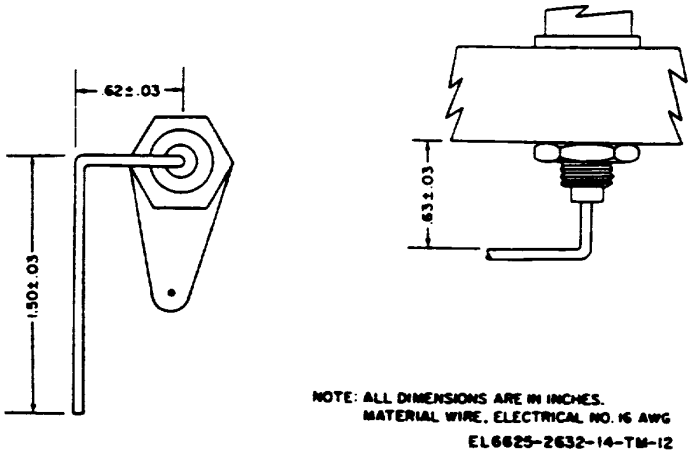


Figure 5-6. Receiver wire fabrication details.

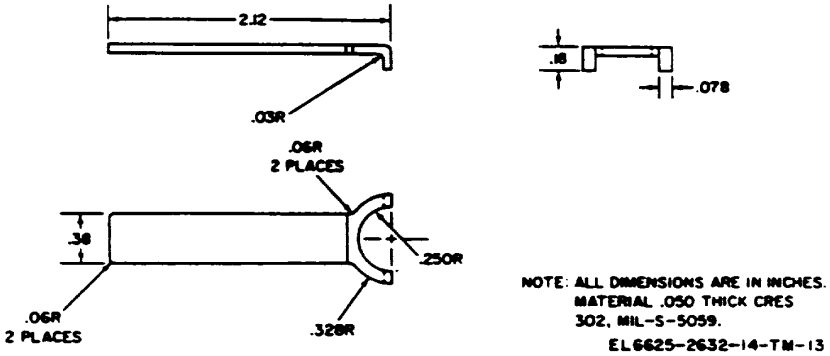


Figure 5-7. Wrench fabrication details.

age to the case, cover assembly, or panel of Radio Test Set AN/PRM-32 should be performed if required. Such repair consists of straightening out dents, and repainting.

b. Cover Assembly (fig. 5-2). The hinge (8) and strike plate (9) are each fastened to the cover assembly (4) with two rivets (10). Remove the rivets and replace the hinge or strike plate by riveting the replacement part in position.

c. Case (fig. 5-2). The elbow catch (1) is fastened to the case (6) with two rivets (10). Remove the rivets and replace the elbow catch by riveting the replacement part in position.

5-13. Fabrication of Replacement Parts

The following parts may be fabricated by the general support repairman:

a. Neoprene Gasket. Using the data in figure 5-4, a replacement neoprene gasket can be made locally.

b. Cable Assembly. A replacement cable assembly can be made locally from repair parts as shown in figure 5-5.

c. Receiver Wire. Using the data in figure 5-6, a replacement receiver wire can be made locally.

NOTE

Whenever the receiver wire is replaced, calibration of the test set is required; refer to section IV.

d. Wrench. Using the data in figure 5-7, a replacement spanner wrench can be made locally.

5-14. Component Board Assembly Installation (fig. 5-2)

a. Place two screws (11) through lockwashers (12) and flat washers (13) and into detector housing assembly (3).

b. Place stepped spacer (14) over each screw (11).

c. Place assembled component board assembly (15) into position in detector housing assembly (3) and tighten two screws (11).

d. Untag and resolder wire from component board assembly (15) to filter capacitor FL1 (8).

5-15. Detector Housing Assembly Installation (fig. 5-3)

a. Place detector housing assembly (3) on panel (10).

b. Insert two screws (9) through panel (10) and tighten.

c. Untag and resolder wires to terminal lug (7) and filter capacitor FL1 (8).

d. Place connector J1 (4) in position through panel (10) into detector housing assembly (3).

e. Install terminal lug and resistor (6) and hex nut (5) on connector J1 (4).

f. Untag and resolder three wires to connector J1 (4).

g. Place cover (2) on detector housing assembly (3). Install four screws (1) through cover.

5-16. Panel Assembly Installation (fig. 5-2)

a. Place panel assembly (7) in position in case (6) and install two screws (2).

b. Place cover assembly (4) in position and install two screws (3).

c. Fit neoprene gasket (5) down carefully over edge of case (6).

d. Close cover assembly (4) down over neoprene gasket (5) and fasten elbow catch (1).

Section IV. TESTING AND CALIBRATION

5-17. Testing

After repair or replacement of components, perform the operational checks (table 5-2) to make sure that Radio Test Set AN/PRM-32 is functioning properly. However, the performance of the test set may be considerably less than satisfactory unless the receiver wire has been correctly adjusted and the test set meter has been properly calibrated.

5-18. Calibration

The adjustment of the receiver wire and the calibration of the test set meter are performed in accordance with TB 750-236.

APPENDIX A

REFERENCES

The following publications contain information applicable to the maintenance of Radio Set AN/PRM-32.

AR 746-5	Color, Marking, and Preparation of Equipment for Shipment of Army Materiel.
DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	US Army Equipment Index of Modification Work Orders.
SB 11-573	Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment.
SB 38-100	Preservation, Packaging, Packing and Marking Materials, Supplies, and Equipment Used by the Army.
SC 5180-91-CL-R13	Sets, Kits, and Outfits Components List: Tool Kit, Electronic Equipment TK-101/G.
SC 5180-91-CL-S21	Sets, Kits, and Outfits Components List: Tool Kit, Electronic Equipment TK-100/G.
TB 746-10	Field Instructions for Painting and Preserving Electronics Command Equipment.
TB 750-236	Calibration Requirements for the Maintenance of Army Materiel
TM 38-750	The Army Maintenance Management System (TAMMS).
TM 740-90-1	Administrative Storage of Equipment.
TM 750-244-2	Procedures for Destruction of Electronic Materiel to Prevent Enemy U (Electronics Command).

APPENDIX B

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

B-1. General

This appendix provides a summary of the maintenance operations covered in the equipment literature for Radio Test Set AN/PRM-32. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

B-2. Maintenance Functions

Maintenance functions shall be limited to and defined as follows:

a. Adjust. Maintain within prescribed limits by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

b. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.

c. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

d. inspect. To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination.

e. Install The act of emplacing, seating, or fixing into position an item, part, module (component or assembly) in a manner to allow the proper functioning of the equipment/system.

f. Overhaul. That maintenance effort (service/ action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (e.g., DMWR) in pertinent technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

g. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standard Rebuild is the highest degree of materiel maintenance applied to Army equipment. The build operation includes the act of returning zero those age measurements (hours, mil etc.) considered in classifying Army equipment components.

h. Repair. The application of maintenance services (inspect, test, service, adjust, align calibrate, replace) or other maintenance corrections (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to store serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module/component/assembly, end item or system.

i. Replace. The act of substituting a serviceable like-type part, subassembly, module (component or assembly) in a manner to allow the proper functioning of an equipment/system.

j. Service. Operations required periodically to keep an item in proper operating condition; i.e., to clean, preserve, drain, paint, or to replenish fuel/lubricants/hydraulic fluids or compressed air supplies.

k. Test. To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

i. Symbols. The uppercase letter placed in the appropriate column indicates the lowest level at which that particular maintenance function is to be performed.

B-3. Explanation of Format for Maintenance Allocation Chart

Purpose and use of the format are as follows:

a. Column 1. Group Number. Column 1 lists group numbers, the purpose of which is to match components, assemblies, subassemblies and modules with the next higher assembly.

b. Column 2. Functional Group. Column 2 lists the next higher assembly group and the item names of components, assemblies, subassemblies and modules within the group for which maintenance is authorized.

c. Column 3. Maintenance Function. Column 3 lists the twelve maintenance functions defined in paragraph B-2. Each maintenance function required for an item shall be specified by the symbol among those listed in d below which indicates the level responsible for the required maintenance. Under this symbol there shall be listed an appropriate work measurement time value determined as indicated in e below.

d. Use of Symbols. The following symbols shall be used to prescribe work function responsibility:

C-Operator/Crew
O-Organization
F-Direct Support
H-General Support
D-Depot

e. Work Measurement Time. The active repair time required to perform the maintenance function is included directly below the symbol identifying the category of maintenance. The manpower figures are developed under conditions (real or simulated) corresponding to those that are considered normal for TOE units operating in the field. The skill levels used to obtain the measurement times approximate those found in typical TOE units. Active repair time is the average aggregate time required to restore an item (subassembly, assembly, component, module, end item or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, fault isolation/diagnostic time, and QA/QC time in addition to the time required to perform specific maintenance functions identified for the tasks authorized in the maintenance allocation chart. This time is expressed in man-hours and carried to one decimal place (tenths of hours).

f. Column 4, Tools and Equipment. This column specifies, by code, those tools and test equipments required to perform the designated function.

g. Column 5, Remarks. Self-explanatory.

B-4. Explanation of Format for Tool and Test Equipment Requirements

a. Tools and Equipment. The numbers used in the tools and equipment column of the maintenance allocation chart indicate the applicable tool for the maintenance function.

b. Maintenance Category. The codes in this column indicate the maintenance category normally allocated the facility.

c. Nomenclature. This column lists tools, test and maintenance equipment required to perform the maintenance functions.

d. Federal Stock Number. This column lists the Federal stock number of the specific tool or test equipment.

e. Tool Number. Not used.

(Next printed page is B-3)

SECTION II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY NOMENCLATURE	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
01	Group, Radio Test Set AN/PRM-32	0 0.1	0 0.1	0 0.2			 *			0 0.1 H 0.4			1,2 3,4	Replace MX-8802/PRC-90.
101	Case	0 0.1		0 0.2						 H 0.5			1 3	 Replace hinge and latch.
0102	Cable assembly	0 0.1	 H 0.1							 H 0.3			1 3, 4	 Replace cable and connector.
0103	Connector, Adapter MX-8802/PRC-90	0 0.1							0 0.1				1	Non-repairable.
104	Meter	0 0.1	 H 0.5				 *		 H 0.3				1 3, 4	 Non-repairable.
0105	Detector		H 0.3							H 1.0			3, 4	Piece part replacement.
106	Potentiometer		H 0.3						H 0.3				3, 4	
107	Receiver section		H 0.3				 *			H 0.3			3, 4	

* For calibration refer to TB 760-236.

AMSEL-MA
1 Aug 72

Form 6031 (Edition of 1 Feb 72 is obsolete)

TABLE I. TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOLS AND EQUIPMENT	MAINTENANCE CATEGORY	NOMENCLATURE	FEDERAL STOCK NUMBER	TOOL NUMBER
1	O	Tool Kit, Electronic Equipment TK-101/G	5180-064-5178	
2	0	Radio Set AN/PRC-90	5820-782-5308	
3	H	Tool Kit, Electronic Equipment TK-100/G	5180-605-0079	
4	H	Multimeter AN/USM-223	6625-999-7465	

APPENDIX C

ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT

MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

(INCLUDING DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS)

Section I. INTRODUCTION

C-1. Scope

This appendix lists repair parts and special tools required for the performance of organizational, general support, and depot maintenance of AN/PRM-32.

C-2. General

This Repair Parts and Special Tools List is divided into the following sections:

a. Repair Parts List-Section II. A list of repair parts authorized at the organizational level for the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending numerical sequence, with the parts in each group listed in figure and item number sequence.

b. Special Tools List-Section III. A list of special tools, test, and support equipment authorized for the performance of maintenance at the organizational level.

c. Repair Parts List-Section IV. A list of repair parts authorized at the general support and depot levels for the performance of maintenance. The list also includes parts which must be removed for the replacement of the authorized parts. Parts lists are composed of functional groups in ascending numerical sequence, with parts in each group listed in figure and item number sequence.

d. Special Tools List-Section V. A list of special tools, test, and support equipment authorized for the performance of maintenance at the general support and depot levels.

e. Federal Stock Number and Reference Number Index-Section VI. A list, in ascending numerical sequence, of all Federal stock numbers appearing in the listings, followed by a list, in alphanumeric sequence, of all reference numbers appearing in the listings. Federal stock numbers and reference numbers are cross-referenced to each illustration figure and item number appearance.

C-3. Explanation of Columns.

The following provides an explanation of columns found in the tabular listings:

a. Source, Maintenance, and Recoverability Codes (SMR).

(1) Source code. Source codes are assign to support items to indicate the manner acquiring support items for maintenance, pair, or overhaul of end items. Source codes a entered in the first and second positions of t Uniform SMR Code Format as follows:

Code	*Definition*
PA	-Item procured and stocked for anticipated or known usage
PB	-Item procured and stocked for insurance purposes because essentiality dictates that a minimum quantity be available in the supply systems.
PC	-Item procured and stocked and which otherwise would be coded PA except that it is deteriorative in nature
PD	-Support item, excluding support equipment, procured for initial issue or outfitting and stocked only for subsequent or additional initial issues or outfittings. Not subject to automatic replenishment
PE	-Support equipment procured and stocked for initial issue or outfitting to specified maintenance repair activities.

Code	*Definition*
PF	-Support equipment which will not be stocked but which will be centrally procured on demand.
PG	-Item procured and stocked to provide for sustained support for the life of the equipment. It is applied to an item peculiar to the equipment which, because of probable discontinuance or shutdown of production facilities, would prove uneconomical to reproduce at a later time.
KD	-An item of depot overhaul/repair kit and not purchased separately. Depot kit defined as a kit that provides items required at the time of overhaul or repair.
KF	-An item of a maintenance kit and not purchased separately. Maintenance kit defined as a kit that provides an item that can be replaced at organizational or intermediate levels of maintenance.
KB	-Item included in both a depot overhaul/ repair kit and a maintenance kit.
MO	-Item to be manufactured or fabricated at organizational maintenance level.
MF	-Item to be manufactured or fabricated at direct support maintenance level.
MH	-Item to be manufactured or fabricated at general support maintenance level.
MD	-Item to be manufactured or fabricated at depot maintenance level.
AO	-Item to be assembled at organizational maintenance level.
AF	-Item to be assembled at direct support maintenance level.
AH	-Item to be assembled at general support maintenance level.
AD	-Item to be assembled at depot maintenance level.
XA	-Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
XB	-Item is not procured or stocked. If not available through salvage, requisition.
XD	-Support item that is not stocked when required; item will be procured through normal supply channels.

NOTE

Cannibalization or salvage may be used as a source of supply for any items source coded above except those coded XA, XD, and aircraft support items as restricted by AR 700-42.

(2) Maintenance code. Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the Uniform SMR Code Format as follows:

USE (THIRD POSITION): The maintenance code entered in the third position indicates the lowest maintenance level authorized to remove. replace, and use the support item. The maintenance code entered in the third position indicates one of the following levels of maintenance.

Code	*Application/Explanation*
C	-Crew or operator maintenance performed within organizational maintenance.
O	-Support item is removed, replaced, used at the organizational level.
I	-Support item is removed, replaced, used by the direct support element of integrated direct support maintenance.
F	-Support item is removed, replaced, used at the direct support level.
H	-Support item is removed, replaced, used at the general support level.
D	-Support items that are removed, replaced, used at depot, mobile depot, Specialized Repair Activity only.

NOTE

Codes "I" and "F" will be considered the same by direct support units.

REPAIR (FOURTH POSITION): The maintenance code entered in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). This position will contain one of the following maintenance codes:

Code *Application/Explanation*

O - The lowest maintenance level capable of complete repair of the support item is the organizational level.

F - The lowest maintenance level capable of complete repair of the support item is direct support level.

H - The lowest maintenance level capable of complete repair of the support item is general support level.

D - The lowest maintenance level capable of complete repair of the support item is the depot level performed by (enter applicable activity depot, mobile depot, or Specialized Repair Activity.

Code	*Application/Explanation*
L	-Repair. restricted to designated Specialized Repair Activity.
Z	-Nonrepairable. No repair is authorized.
B	-No repair is authorized. The item may be reconditioned by adjusting, lubricating, etc., at the user level. No parts or special tools are procured for the maintenance of this item.

(3) Recoverability code. Recoverability codes are assigned to support items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the Uniform SMR Code Format as follows:

Code	*Definition*
Z	-Nonrepairable item. When unserviceable, condemn and dispose at the level indicated in position three.
O	-Repairable item. When uneconomically repairable, condemn and dispose at organizational level.
F	-Repairable item. When uneconomically repairable, condemn and dispose at the direct support level.
H	-Repairable item. When uneconomically repairable, condemn and dispose at the general support level.
D	-Repairable item. When beyond lower level repair capability, return to depot. Condemnation and disposal not authorized below depot level.
L	-Repairable item. Repair, condemnation, and disposal not authorized below depot/Specialized Repair Activity level.
A	-Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material or hazardous material). Refer to appropriate manual/directive for specific instructions.

b. Federal Stock Number. Indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description. Indicates the Federal item name and a minimum description required to identify the item. The last line indicates the reference number followed by the applicable Federal Supply Code for Manufacturer (FSCM) in parentheses. The FSCM is used as an element in item identification to designate manufacturer or distributor or Government agency, etc., and is identified in SB 708-42.

d. Unit of Measure (U/M). Indicates the standard or basic quantity by which the listed item is used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation; e.g., ea, in, pr, etc., and is the basis used to indicate quantities and allowances in subsequent columns. When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

e. Quantity Incorporated in Unit. Indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly.

f. 15-Day Organizational Maintenance Allowances.

(1) The repair parts indicated by an asterisk in the allowance columns represent those authorized for use at the organizational category and will be requisitioned on an "as required" basis until stockage is based on demand in accordance with AR 710-2.

(2) Major Army commanders are authorized to approve reduction in range of support items authorized for use in units within the commands. Recommendations for increase range of items authorized for use will be forwarded to Commander, US Army Electronic Command, ATTN: AMSEL-MA-A, Fort Monmouth, NJ 07703. Any changes approved will reflected in a revision to the RPSTL.

(3) Allowance quantities are indicated the Special Tools List section for special too TMDE, and other support equipment.

g. 30-Day GS Maintenance Allowances.

(1) The repair parts indicated by asterisk entries in separate allowance columns for GS represent those authorized for use at that category of maintenance to be requisitioned on an "as required" basis.

(2) Allowance quantities are indicated in the Special Tools List section for special tools, TMDE, and other support equipment.

h. 1-Year Allowances Per 100 Equipments/ Contingency Planning Purposes. Column intentionally left blank.

i. Depot Maintenance Allowance Per 100 Equipments. This column indicates that the items identified with an asterisk are authorized to be requisitioned as required.

j. Illustration. This column is divided as follows:

(1) Figure number. Indicates the figure number of the illustration on which the item is shown.

(2) Item number. Indicates the callout number used to reference the item on the illustration.

C-4. Special Information (Not Applicable)

C-5. How to Locate Repair Parts

a. When Federal stock number or reference number is unknown:

(1) First. Using the table of contents, determine the functional group within which the repair part belongs; i.e., case, detector assembly, or receiver section. This is necessary since illustrations are prepared for functional groups, and listings are divided into the same groups.

(2) Second. Find the illustration covering the functional group to which the repair part belongs.

(3) Third. Identify the repair part on the illustration and note the illustration figure and item number of the repair part.

(4) Fourth. Using the Repair Parts Listing, find the functional group to which the repair part belongs and locate the illustration figure and item number noted on the illustration.

b. When Federal stock number or reference number is known:

(1) *First.* Using the Index of Federal Stock Numbers and Reference Numbers find the pertinent Federal stock number or reference number. This index is in ascending FSN sequence, followed by a list of reference numbers in ascending alphanumeric sequence, cross-referenced to the illustration figure number and item number.

(2) *Second*. Using the Repair Parts Listing, find the functional group of the repair part and the illustration figure number and item number reference in the Index of Federal Stock Number and Reference Numbers.

C-6. Abbreviations

Abbreviation	*Explanation*
cd pltd	Cadmium-plated
tant	tantalum
tin pltd	tin plated

(Next printed page is C-6)

Section II. REPAIR PARTS LIST

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION *Reference Number & Mfr Code Usable on Code*	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-150	(d) 51-100	(7) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
		GROUP 02, CABLES								
PAOZZ	5820-478-7054	ADAPTER, TEST MX8902PRC90 (80052)	EA	2	*	*	*	*	2	4

SECTION III. SPECIAL TOOLS LIST

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION *Reference Number & Mfr Code Usable on Code*	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW				(7) ILLUSTRATION	
					(a) 1-5	(b) 6-20	(c) 21-150	(d) 51-100	(a) FIGURE NO.	(b) ITEM NO.
PDOZL	5820-782-5308	RADIO SET AN/PRC-90 01-524840-1 (04855)	EA	1	1	1	1	2	3	

SECTION IV. REPAIR PARTS LIST

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION Reference Number & Mfr Code Usabl	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALWPER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALWPER 100 EQUIP	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
		GROUP 01. CASE												
PAHZZ	5340-909-1955	CATCH, ELBOW, CRES 302, 1/2 IN. WIDE VHC340-2 (98093)	EA	1				*	*	*		*	1	1
PANZZ	5320-117-6937	RIVET, SOLL M320426AD-3 (96906)	EA	4				*	*	*		*	1	2
PAHZZ	5340-824-9713	HINGE, 2-IN. LONG MS35821-1A (96906)	EA	1				*	*	*		*	1	3
PAHZZ	5340-886-6158	PIN, HINGE, 2-IN. LONG MS27990-2A (96906)	EA	1				*	*	*		*	1	4
PAHZZ	5320-119-6754	RIVET, SOLI UNIVERSAL HD MS20470AD2-3 (96906)	EA	2				*	*	*		*	1	5
PAHZZ	5305-054-5647	SCREW, MCH, PAN HD, 1/4--40 U/C-2A MS51957-13 06)	EA	2				*	*	*		*	1	6
PAHZZ	5305-770-2533	SCREW, MCH, FLAT CSK 5/16-40 NC-2A MS51959-12 06)	EA	2				*	*	*		*	1	7
		GROUP 02, CABLES												
PAHZZ	5935-419-5175	CONNECTOR, RECEP-TACLE, ELECTRICAL 101Y6100A6 (94375)	EA	2				*	*	*		*	2	1
PAHZZ	5310-239-7634	NUT, PLAIN, HEX STEEL MS25082-S20 (96906)	EA	2				*	*	*		*	2	2
PAHZZ	5310-180-0277	WASHER, LOCK MS25082-S20 (96906)	EA	2				*	*	*		*	2	3
PAOZZ	5820-478-7054	ADAPTER, TEST MX8802PRC90 (80058)	EA	2				*	*	*		*	2	4
PAHZZ	5935-835-0508	CONNECTOR, PLUG, ELECTRICAL M39012/16-001 (81349)	EA	2				*	*	*		*	2	5
PAHZZ	6145-681-7849	CABLE, RADIO FRE-QUENCY RG-223/U, (80058)	IN	20				*	*	*		*	2	6

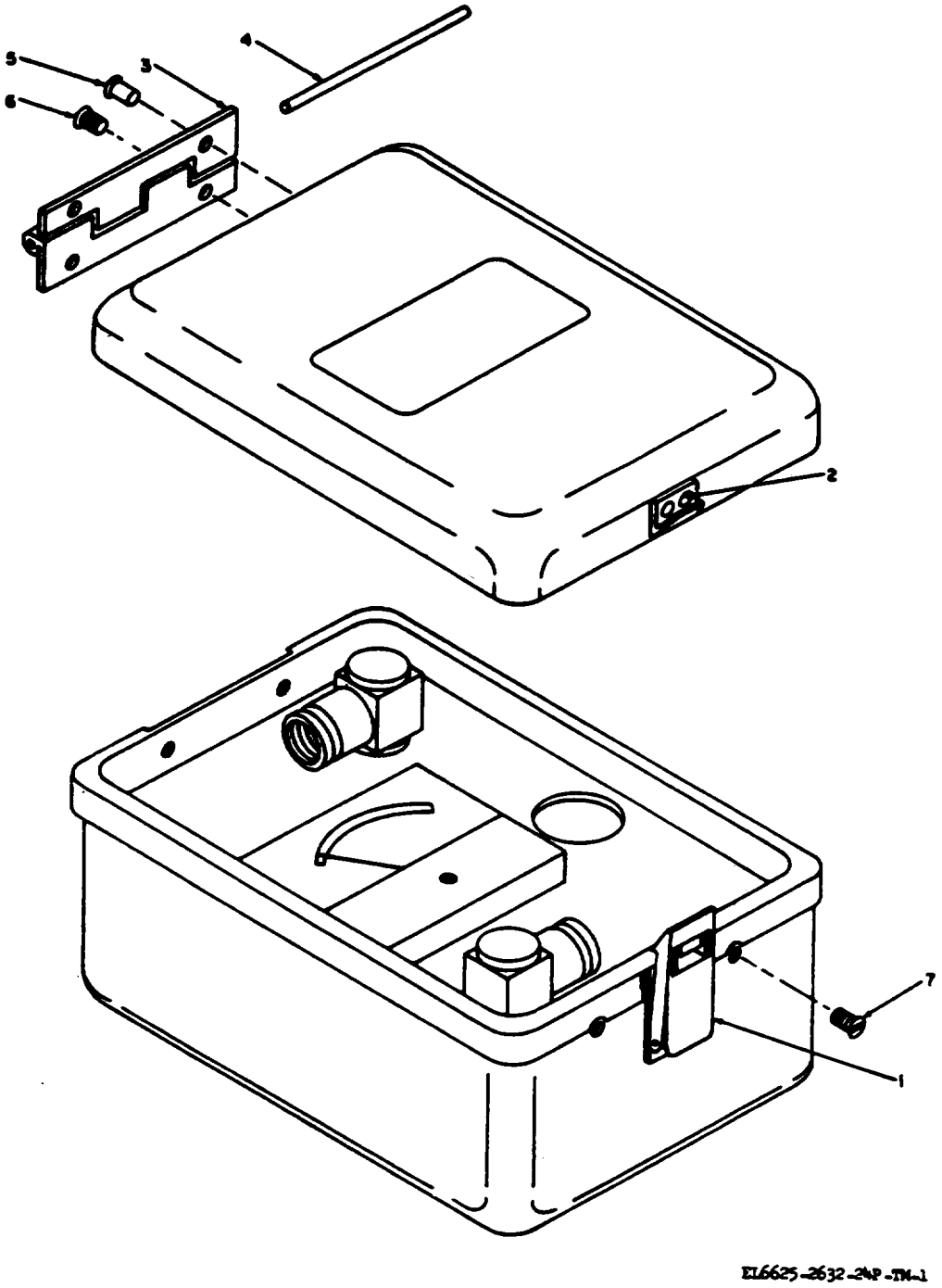


Figure 1. Case group

SECTION IV. REPAIR PARTS LIST (cont)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION *Reference Number & Mfr Code* *Usabl*	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALWPER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALWPER 100 EQUIP	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
		GROUP 03. METER												
PAHZZ	6625-459-5258	METER, 0-50 UA DC, SPECIAL SCALE, INC, RING, MOUNTING, KNURLED, PHENOLIC 25-520493-3 (04655)	EA	1				*	*	*		*	2	7
PAHZZ	5406-00-0124	TERMINAL LUG, BRASS, TIN PLTD 1497 (83330)	EA	2				*	*	*		*	2	8
		GROUP 04, DETECTOR ASSEMBLY												
PAHZZ	5530-064-5647	SCREW, MCH, PAN HD, 1/4--40 UNC-2A MS51957-13 (96906)	EA	2				*	*	*		*	2	9
PAHZZ	5910-S0-983	CAPACITOR, FIXED, CERAMIC, 160 IN DLA. .310 IN LONG, 22 UUF CK60BX220K (81349)	EA	1				*	*	*		*	2	10
PAHZZ	5905-433-2240	RESISTOR, FIXED, 56 OHM ± 5% .25 WATT RC07GF221J (81349)	EA	1				*	*	*		*	2	11
PAHZZ	5905-279-1897	RESISTOR, FIXED 56 OHM ± 5% .5 WATT RC20GF560J (81349)	EA	1			*	*	*			*	2	12
PAHZZ	5310-934-9759	NUT, PLAN, HEX STEEL MS35649-284S (96906)	EA	1			*	*	*			*	2	13
PAHZZ	5940-502-7452	TERMINAL LUG, BRONZE, TIN PLTD 2103-06-00 (78189)	EA	1			*	*	*			*	2	14
PAHZZ	5915-917-9424	CAPACITOR, FIXED CERAMIC, 1500PF 1250-005 (15450)	EA	1			*	*	*			*	2	15
PAHZZ	5305-054-5637	SCREW, MCH, PAN HD, 1/4-56 UNC-2A MS51957-3 (96906)	EA	2			*	*	*			*	2	16

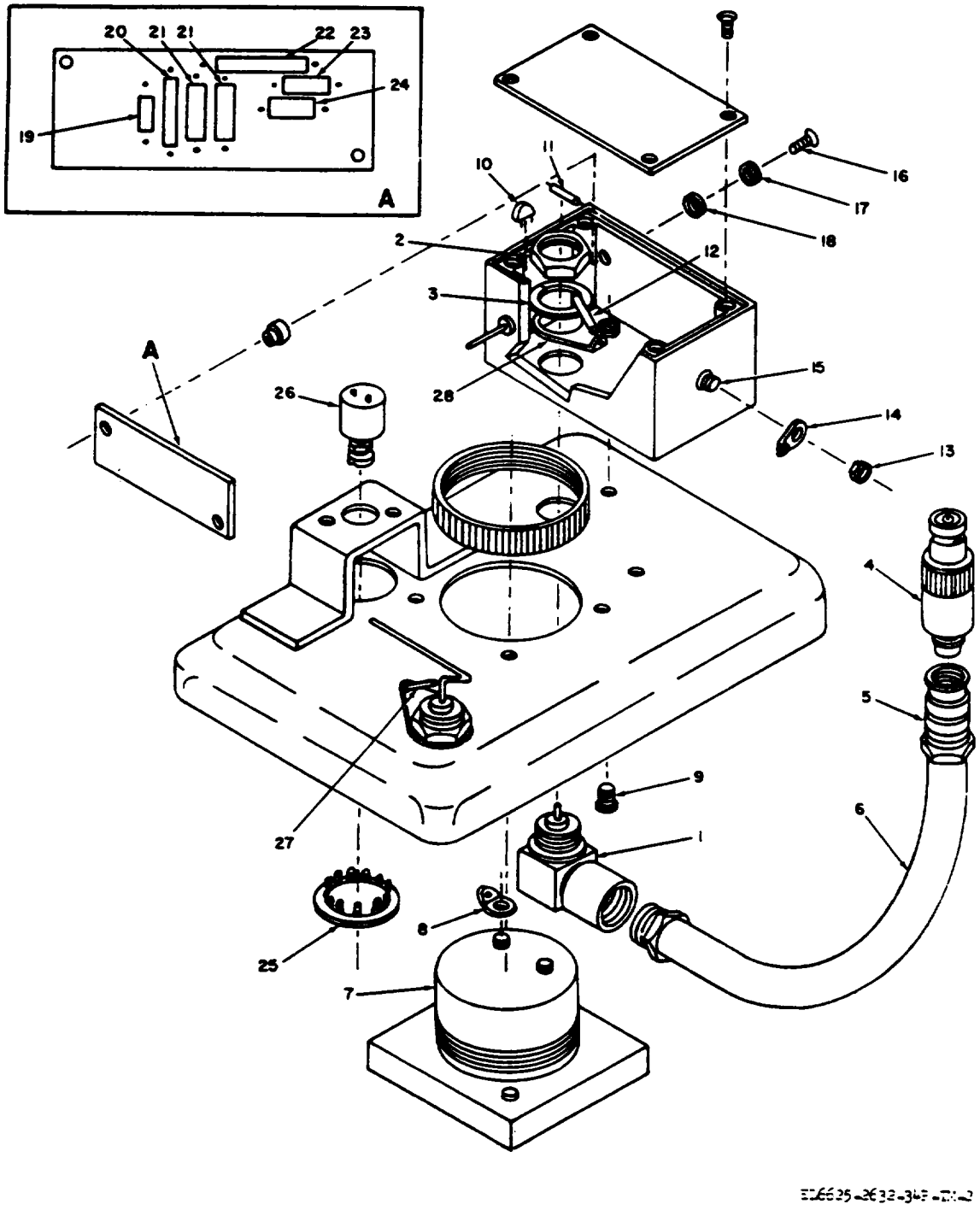


Figure 2. Detector assembly, cables, meter, potentiometer and receiver section

SECTION IV. REPAIR PARTS LIST (cont)

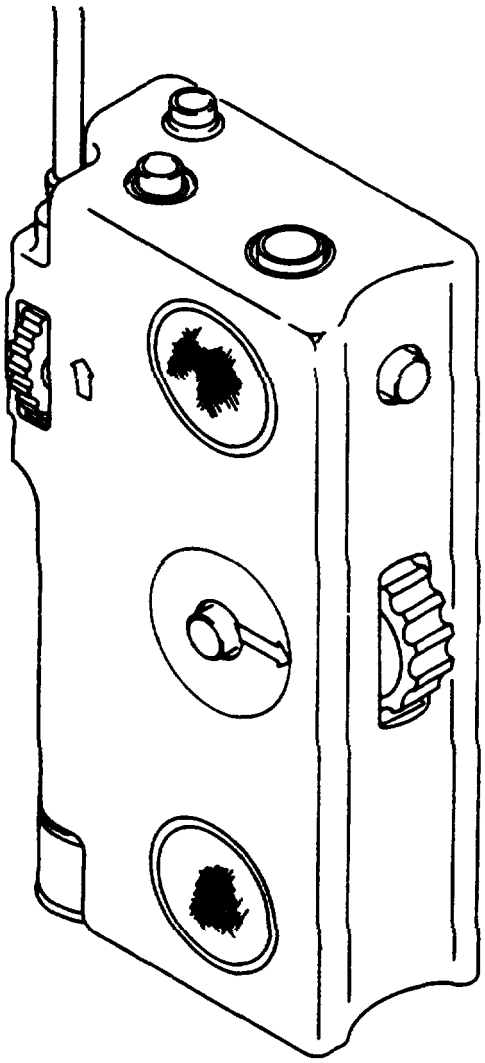
(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION *Reference Number & Mfr Code* *Usabl*	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALWPER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALWPER 100 EQUIP	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
PAHZZ	5310-928-2690	WASHER, LOCK SPRING, HELICAL MS35338-134 (96906)	EA	2				*	*	*		*	2	17
PAHZZ	5310-595-6761	WASHER, FLAT, ROUND, GENL. PURPOSE MS15795-802 (96906)	EA	2				*	*	*		*	2	18
PAHZZ	5961-938-1135	SEMICONDUCTOR DEVICE, DIODE, SILICON IN4148 (81349)	EA	1				*	*	*		*	2	19
PAHZZ	5905-683-2240	RESISTOR, FIXED, 220 OHM ± 5% .25 WATT RC07GF221J (81349)	EA	1				*	*	*		*	2	20
PAHZZ	5910-837-2577	CAPACITOR, FIXED, CERAMIC, .160 IN DIA. .310 IN. LONG, 1500 UUF CK60AW152M (81349)	EA	2				*	*	*		*	2	21
PAHZZ	5950-724-6214	COIL, RF, MOLDED, TYPE LT4K089, 4.70 UH ± 10% MS18130-16 (96906)	EA	1				*	*	*		*	2	22
PAHZZ	5905-726-4413	RESISTOR, FIXED, 12000 OHM ± 5% .25 WATT RC07GF123J (81349)	EA	1				*	*	*		*	2	23
PAHZZ	5830-11.2-305S	CAPACITOR, FIXED, ELECTROLYTIC, TART, 15 UF ± 20% RADIAL LEADS L15GR (17554) GROUP 05, POTENTI-OMETER	EA	1				*	*	*		*	2	24
PAHZZ	5340-685-0765	BUTTON, PLUG, BRASS, CD PLTD 1/16 IN. THICK, 23/32 IN. DIA. 7/32 IN. PRONGS BS48172 (83058)	EA	1				*	*	*		*	2	25
PAHZZ	5905-577-0434	POTENTIOMETER, 250000 OHM ± 10% 0.5 WATT RV6LAYSA254A (81349)	EA	1				*	*	*		*	2	26

SECTION IV. REPAIR PARTS LIST (cont)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION *Reference Number & Mfr Code* *Usabl*	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALWPER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALWPER 100 EQUIP	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
		GROUP 06, RECEIVER SECTION												
PAHZZ	590-957-8633	RESISTOR FIXED, 51.1 OHM ±1% .25 WATT RN60D51R1F (81349)	EA	1				*	*	*		*	2	27
PAHZZ	5940-159-1265	TERMINAL LUG, BRONZE, TIN PLTD 2103-06-00 (78189)	EA	2				*	*	*		*	2	28
		GROUP 07, BULK MATERIAL												
PAHZZ		WIRE, ELECTRICAL, SOLID, AWG16, SOFT COPPER, TINNED, UNINSULATED 19-290291-16 (04655)	IN	3				*	*	*		*		
PAHZZ		WIRE, ELECTRICAL, AWG 20, TINNED 19-0291-20 (04655)	FT	1				*	*	*		*		
PAHZZ		SLEEVING, INSULATION, ELECTRICAL 19-201032-2009 (04655)	FT	1				*	*	*		*		

SECTION V. SPECIAL TOOLS LIST (cont)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION Reference Number & Mfr Code Usabl	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALWPER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALWPER 100 EQUIP	(10) ILLUSTRATION (a) FIGURE NO.	(b) ITEM NO.
PDOZL	5820-782-5308	RADIO SET AN/PRC-90 01-524860-1 (04655)	EA	1				1	1	1		1	3	



EL6625-2632-34P-TM-3

Figure 3. Radio set AN/PRC-90

Section VI. FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

Stock Number	Figure No.	Item No.	Stock Number	Figure No.	Item No.
5305-054-5637	2	16	5905-577-0434	2	26
5305-054-5647	1	6	5905-483-2240	2	11
5305-054-5617	2	9	5905-726-4413	2	20
S305-770-2533	1	7	5905-726-4413	2	23
5310-180-0277	2	3	5905-957-9633	2	27
5310-239-7634	2	2	5910-112-3435	2	24
5310-595-6761	2	18	5910-837-2577	2	21
5310-928-2690	2	17	5910-950-9873	2	10
5310-934-9759	2	13	5915-917-9424	2	15
5320-117-4937	1	2	5935-419-5175	2	1
5320-119-6754	1	5	5935-853-0508	2	5
5340-415-0765	2	25	5940-159-1265	2	28
5340-824-9713	1	3	5940-502-7452	2	14
5340-186-41S8	1	4	5940-960-0124	2	8
5340-909-1955	1	1	5960-724-6214	2	22
5820-478-7054	2	4	5961-938-1135	2	19
			6145-681-7849	2	6
5905-279-1897	2	12	6625-459-5258	2	7

Reference No.	Mfg Code	Fig. No.	Item No.	Reference No.	Mfg Code	Fig. No.	Item No.
BS48172	83058	2	25	RC07GF123J	81349	2	2
CK60AW152M	81349	2	21	RC07GF221J	81349	2	1
CK60BX220K	8134	2	10	RC07GF221J	81349	2	2
L156R	17554	2	24	RC20GF560J	81349	2	1
MS15795-802	96906	2	18	RG-223/U	80058	2	
MS18130-16	81349	2	22	RN60D51R1F	81349	2	2
MS20426AD3-3	96906	1	2	RV6LAYSA254A	81349	2	2
MS20470AD2-3	96906	1	5	VHC340-2	98003	1	
MS25082-S20	96906	2	2				
MS27990-2A	96906	1	4	1N4148	81349	2	1
MS35333-76	96906	2	3	101Y6100A60	94375	2	
MS35338-134	96906	2	17	1250-005	15450	2	1
MS35821-1A	96906	2	13	1497	83330	2	
MS51957-3	96906	1	3				
MS51957-13	96906	2	16				
MS51957-13	96906	1	6				
MS51957-13	96906	2	9	2103-06-00	78189	2	28
MS51959-13	96906	1	7	2103-08-00	78189	2	14
MX8802PRC90	80058	2	4	25-520493-3	04655	2	7
M39012/16-001	81349	2	S				

By Order of the Secretary of the Army

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:

VERNE L. BOWERS
Major General, United States Army
The Adjutant General

Distribution:
To be distributed in accordance with DA Form 1231 (qty rqr block No. 392) organizational maintenance requirements for all Fixed and Rotor Wing Aircraft.

☆U.S. GOVERNMENT PRINTING OFFICE: 1997 - 418-292/65051