

TECHNICAL MANUAL

OPERATOR'S AND ORGANIZATIONAL

MAINTENANCE MANUAL

SIMULATOR, RADAR

SIGNAL SM-674/UPM

(NSN 6940-01-031-5887)

AND

TEST ADAPTER, RADAR

SIGNAL MX-9848/APR-39(V)

(NSN 5841-01-025-0379)

HEADQUARTERS, DEPARTMENT OF THE ARMY

16 JUNE 1977

WARNING

The fumes of trichloroethane are toxic. Do not use near an open flame. Trichloroethane is not flammable, but exposure to an open flame or hot metal forms highly toxic phosgene gas.

WARNING

With the test adapter connected to the ac source, 125 vac is present on exposed terminals inside the adapter.

Change }
No. 1 }

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 24 September 1982

**Operator's and Organizational Maintenance Manual
SIMULATOR, RADAR SIGNAL SM-674/UPM
(NSN 6940-01-031-5887)
AND
TEST ADAPTER, RADAR SIGNAL MX-9848/APR-39(V)
(NSN 5841-01-025-0379)**

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**5**

SAFETY STEPS TO FOLLOW IF SOMEONE
IS THE VICTIM OF ELECTRICAL SHOCK

1

DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL

2

IF POSSIBLE , TURN OFF THE ELECTRICAL POWER

3

IF YOU CANNOT TURN OFF THE ELECTRICAL
POWER, PULL, PUSH, OR LIFT THE PERSON TO
SAFETY USING A WOODEN POLE OR A ROPE OR
SOME OTHER INSULATING MATERIAL

4

SEND FOR HELP AS SOON AS POSSIBLE

5

AFTER THE INJURED PERSON IS FREE OF
CONTACT WITH THE SOURCE OF ELECTRICAL
SHOCK, MOVE THE PERSON A SHORT DISTANCE
AWAY AND IMMEDIATELY START ARTIFICIAL
RESUSCITATION

TECHNICAL MANUAL

No. 11-6940-211-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 16 June 1977

OPERATOR'S AND ORGANIZATIONAL MAINTENANCE MANUAL

SIMULATOR, RADAR SIGNAL SM-674/UPM

(NSN 6940-01-031-5887)

TEST ADAPTER, RADAR SIGNAL MX-9848/APR-39(V)

(NSN 5841-01-025-0379)

REPORTING 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 Forma), or DA form 2028-2 located in the back of this manual direct to: Commander, US Army Communication-Electronic Command and Fort Monmouth, ATTN: DRSEL-ME-MQ, Fort Monmouth, NJ 07703.

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

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1 Scope.

a. This manual describes and provides instructions for operation and organizational maintenance for Simulator, Radar Signal SM-674/UPM (figs. 1-1 and 1-2) and Test Adapter, Radar Signal MX-9849/APR-39(V) (fig. 1-3), items of special test equipment for Detecting Set, Radar Signal AN/APR-39(V)1. It includes instructions for preventive maintenance, testing, troubleshooting, and replacement of parts available at organizational maintenance level. It also lists the tools, materials, and test equipment required. A related classified manual, TM 11-6940-211-34, supplements this manual and contains classified information and higher category maintenance instructions for the SM-674/UPM and MX-9848/APR-39(V).

b. The organizational maintenance functions for the SM-674/UPM in this manual include Aviation Unit Maintenance functions and are to be performed by Aviation Unit Maintenance (AVUM) personnel. Organizational maintenance functions for the MX-9848/APR-39(V) in this manual are to be performed by direct/general support maintenance (Aviation Intermediate Maintenance (AVIM)) personnel.

c. Repair parts and special tools list are contained in TM 11-6940-211-24P.

d. Prescribed maintenance responsibilities apply as indicated in the maintenance allocation chart provided in Appendix B.

1-2. Index of Technical Publication

Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes or additional publications pertaining to the equipment.

1-3. Maintenance Forms, Records, and Reports

a. *Reports of Maintenance and Unsatisfactory Equipment.* Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance System.

b. *Report of Packaging and Handling Deficiencies.* Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73/AFR 400.54/MCO 4430.E.

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/NAVSUPINST 4610.33B/AFR 75-18/MCO P4610.19C/DLAR 4500.15.

1-4. Destruction of Army Electronic Materiel

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244.2.

1-5. Administrative Storage

Administrative storage information is contained in TM 740-90-1.

1-6. Reporting Equipment Improvement Recommendations (EIR)

If your SM-674/UPM and MX-9848/APR-39(V) needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Tell us why a procedure is hard to perform. Put it on an SF 368 (Quality Deficiency Report). Mail it to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MQ, Fort Monmouth, NJ 07703. We'll send you a reply.

1-6.1. Hand Receipt

This manual has a companion document with a TM number followed by -HR (which stands for Hand Receipt). The TM 11-6940-211-12-HR consists of preprinted hand receipt (DA Form 2062) that list end item related equipment (i.e., COEL, BII, and AAL) you must account for. As an aid to property accountability, additional -HR manuals may be requisitioned from the US Army Adjutant General Publications Center, Baltimore, MD in accordance with procedures in Chapter 3, AR 310-2 and DA Pam 310-10-2.

Section II. DESCRIPTION AND DATA

1-7. Purpose and Use

Simulator, Radar Signal SM-674/UPM and Test Adapter, Radar Signal MX-9848/APR-39(V) are items of special test equipment used for organizational and direct/general support maintenance of Detecting Set, AN/APR-39(V)1.

a. *Simulator, Radar Signal SM-674/UPM.* This unit comprises Simulator, Radar Signal SM-736/UPM (simulator) and Case, Simulator, Radar Signal CY-7583/UPM (transit case).

(1) *Simulator Radar Signal SM-736/UPM (Simulator).* The simulator is a hand-held, battery

powered, portable source of pulsed RF signals that simulate the signal characteristics of certain surface-to-air missile control radars. It generates and radiates pulse RF Test signals suitable for checking operation of the AN /APR-39(V)1. The simulator is used for flight line testing of the AN/APR-39(V)1 at the organization maintenance support level. It is also used at the direct/general maintenance support level for bench testing and troubleshooting the AN/APR-39(V)1.

(2) *Case, Simulator, Radar Signal CY-7538/UPM(Transit Case)*. The transit case contains and protects the simulator and accessories while in storage or transit.

(3) *Accessories* As part of the equipment supplied, the following accessories are provided and are stored in the cover of the transit case:

(a) *Power Cable* - Used to connect the simulator to an ac power source for recharging the batteries.

(b) *Five Spare Fuses* - Replacement fuses for protective in simulator battery charging circuit.

(c) *Two Rechargeable Size D Type Batteries*- Required for normal simulator operation.

b. *Test Adapter, Radar Signal MX-9848/APR-39(V) (Test Adapter)*. The test adapter provides mounting facilities for a complete AN/APR-39(V)1. It also provides the necessary

interconnecting cables and required primary operating power for the AN/APR-39(V)1 under test. Monitoring test points for various AN/APR-39(V)1 system signals and a speaker for monitoring audio are also provided. The test adapter is used in a bench Test Setup direct/general maintenance support testing and troubleshooting of the AN/APR-3W)1.

1-8. Description

a. *Simulator (fig 1.1)*. A hand held, portable, source of pulsed RF energy. It is normally powered by two self-contained chargeable batteries. The simulator is enclosed in a rectangular metal and plastic housing mounted on a pistol grip. A trigger switch on the grip energizes the simulator when it is depressed. F-band RF energy is radiated through the plastic front panel by an enclosed ridged waveguide horn antenna. A loaded stub antenna on the bottom of the housing radiates C-band RF energy. The bottom of the housing also contains a connector used to connect the power cable to an ac source when recharging the batteries. A protective fuse for the battery charging circuit in the simulator is also contained on the bottom of the housing. The rear of the housing mounts the controls, a battery rendition meter, and the cap for the battery compartment.

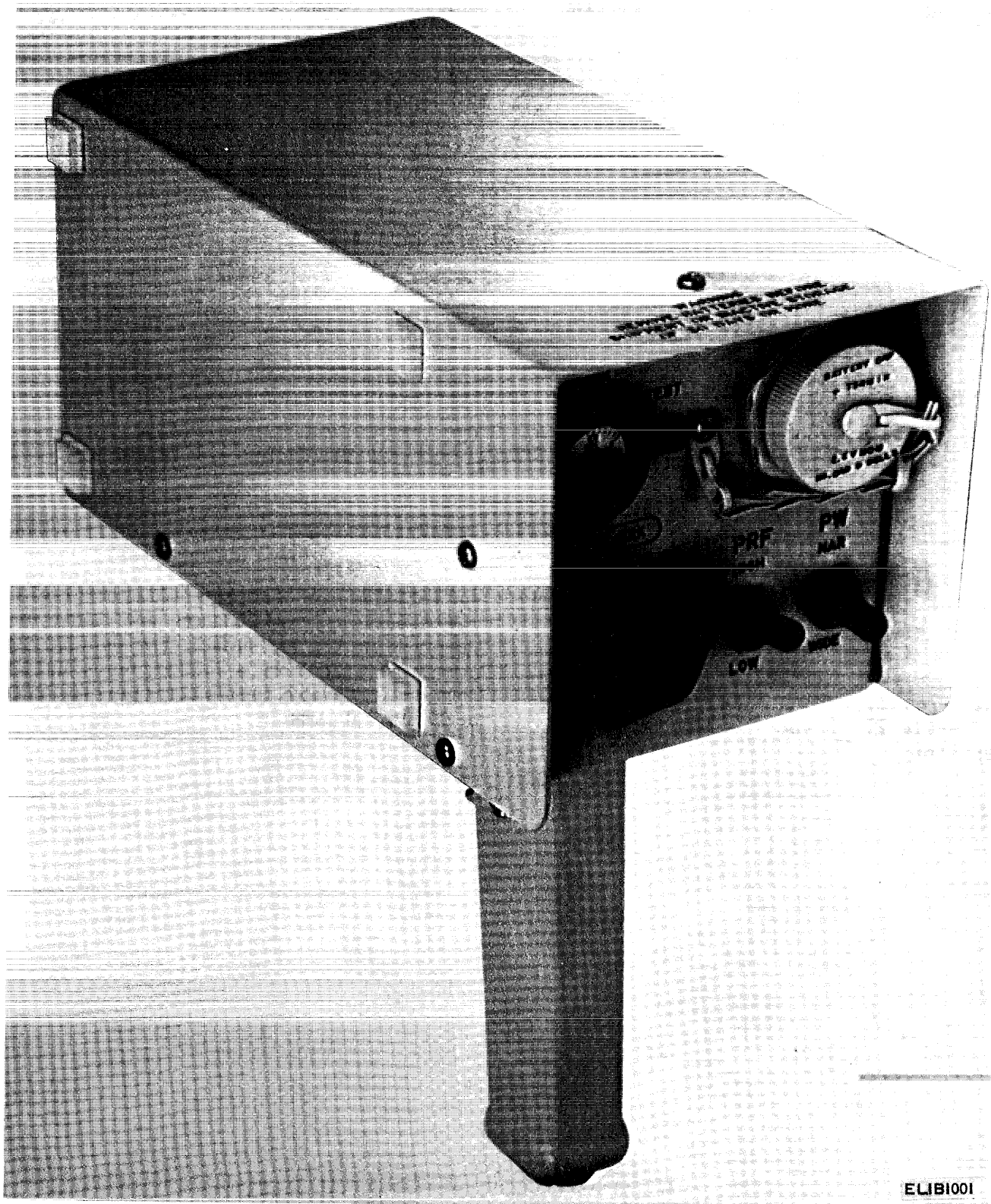


Figure 1-1. Simulator. Radar Signal SM-736/UPM.

b. Transit Case (fig. 1.2). The transit case consists of a rectangular metal box with a removable cover. A hinged lid in the cover secured by three press-to-release, press-to-lock fasteners.

provide access to the accessory storage space. A pocketed foam liner supports and protects the simulator. Handles are secured to both ends of the case. A pressure relief valve, located on the front

of the case, is used to equalize internal and external pressure before removing the cover. Eight over—center latches secure the cover to the case.

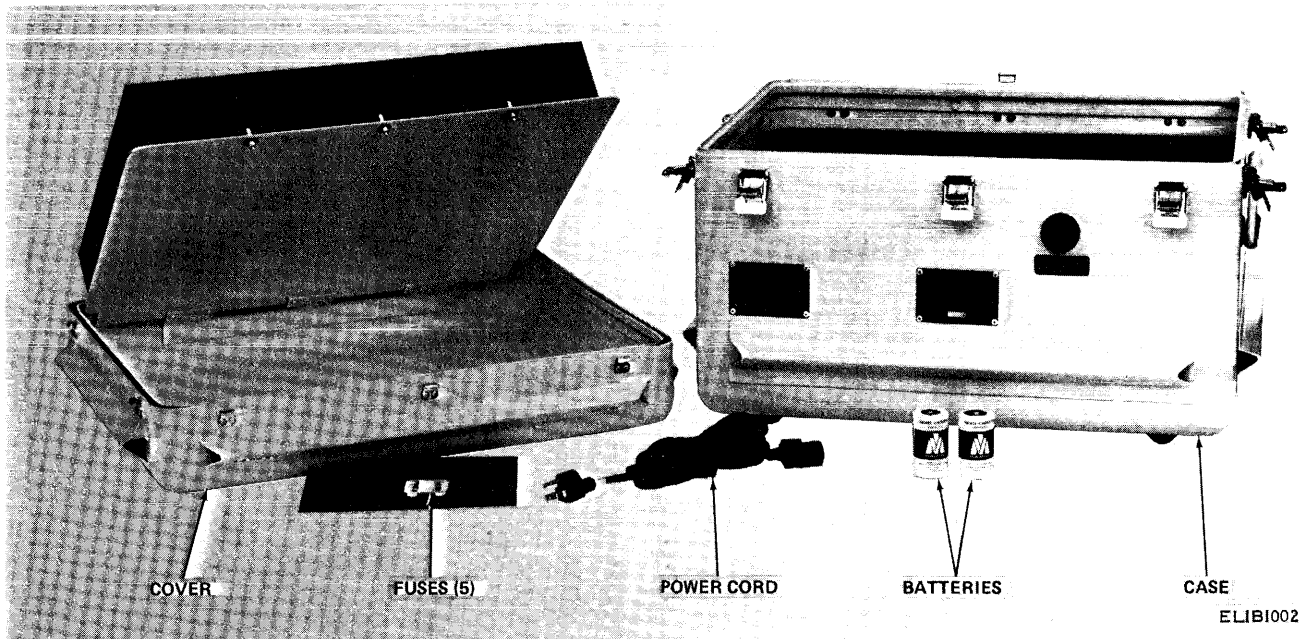
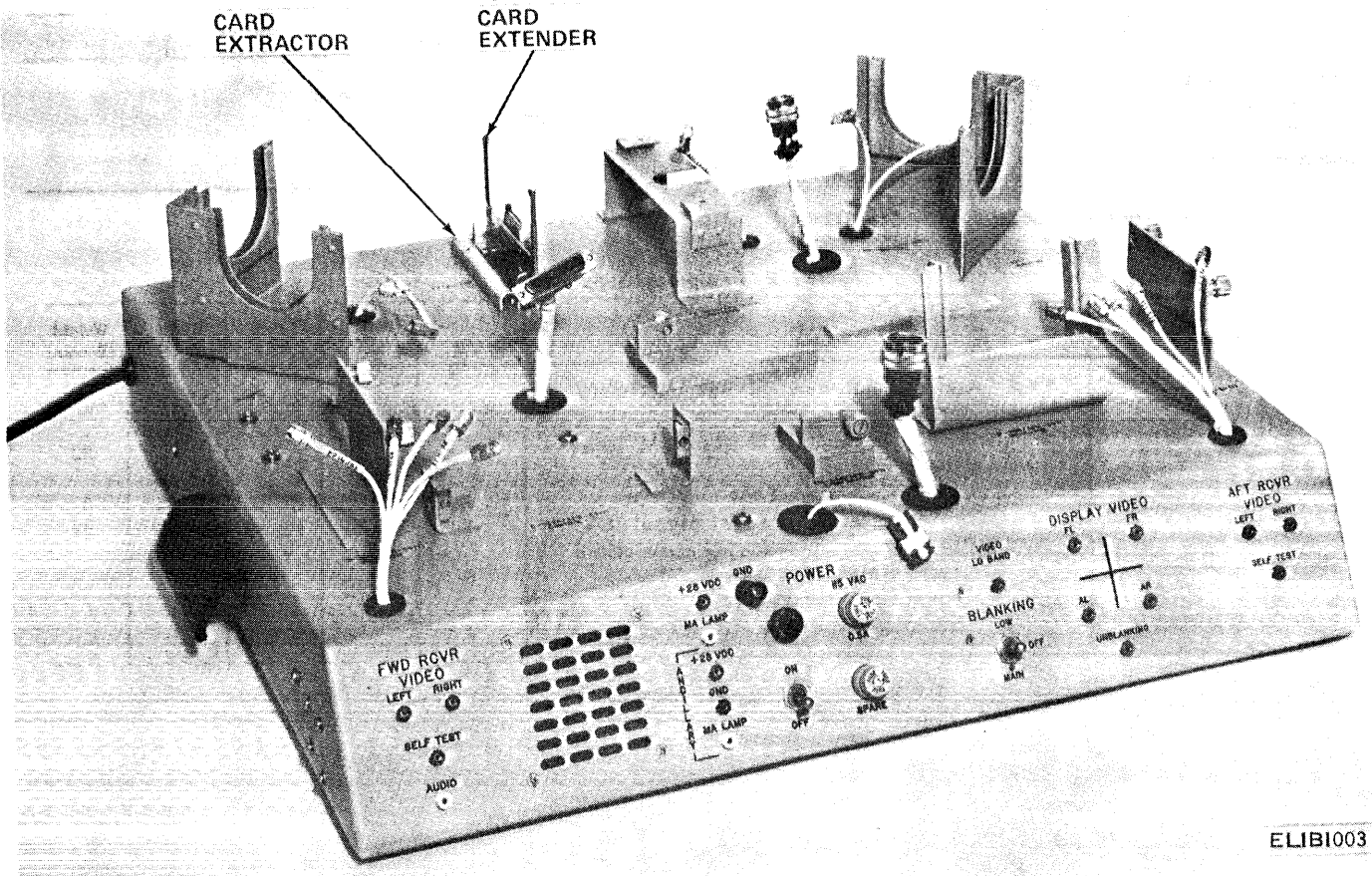


Figure 1-2. Case, Simulator, Radar Signal CY-7583/UPM with Accessories.

c. *Test Adapter (fig 1-3).* A rectangular metal box with brackets on the top surface for mounting the units of an AN/APR-39(V)1. A cable harness interconnects the units into an operational system. A self-contained power supply converts the 115 vac input to 27 ± 3 vdc for AN/APR-39(V)1 operation.

An extender card and card extractor (used for AN/APR-39(V)1 maintenance) are stored in a receptacle on the top surface. The slanting front panel mounts controls, a speaker, fuses, and test points. A removable bottom cover provides access to the internal parts.



ELIB1003

Figure 1-3. Test Adapter, Radar Signal MX-9848/APR-39(V).

1-9. Performance Data

- a. *Simulator.* Table 1-1 lists the technical characteristics of the simulator.
- b. *Test Adapter.* The test adapter requires 115 vac, 50 or 60 Hz, single phase input power and outputs 27 ± 3 vdc to the equipment under test.

1-10. Equipment Supplied

Table 1-2 lists the physical characteristics of the equipment supplied.

Table 1-1. Simulator Characteristics

Characteristic	Specification
Operating power	Supplied by two self-contained, size D, rechargeable batteries. 2.2 to 3.0 vdc, 0.550A at 2.5V.
Battery charging power outputs:	115 vac, 50 or 60 Hz, single phase, 0.075A from external source.
F-Band	
Frequency*	
PRF*	
PRI*	
PW*	
Power*	
C-Band	
Frequency*	
PRF*	
PRI*	
PW*	
Power*	

Table 1-1. Simulator Characteristics -Continued

Characteristic	Specification
Radiating elements F-Band C-Band Pulse correlation	Internal ridged waveguide horn Loaded stub on bottom of case C-band leads F-band

*Refer to related classified manual TM 11-6940-211-34.

Table 1-2. Equipment Supplied

NSN	Item	Qty	Height (in.)	Depth (in.)	Width (in.)	Weight (lb max)
5841-01-025-0379	Test Adapter, Radar Signal MX9848/ APR-39(V)	1	8.00	21.25	25.25	30
6940-01-031-5887	Simulator, Radar Signal SM-674/UPM (con- sists of the following):	1				32
6940-01-031-5666	Simulator, Radar Signal SM-736/UPM	1	11.50	5.50	10.25	8
6940-C1-031-5880	Case, Simulator, Radar Signal CY- 7583/UPM (contains the following accessories):	1	14.00	17.25	21.50	24
5920-00-926-0621	Fuses-FM02- 125V 1-4A	5				
6150-01-004-8773	Power Cord-SM-C-877197	1				
6140-00-497-0490	Batteries-Type CH4, NICAD	2				

CHAPTER 2

SERVICE UPON RECEIPT

2-1. Unpacking

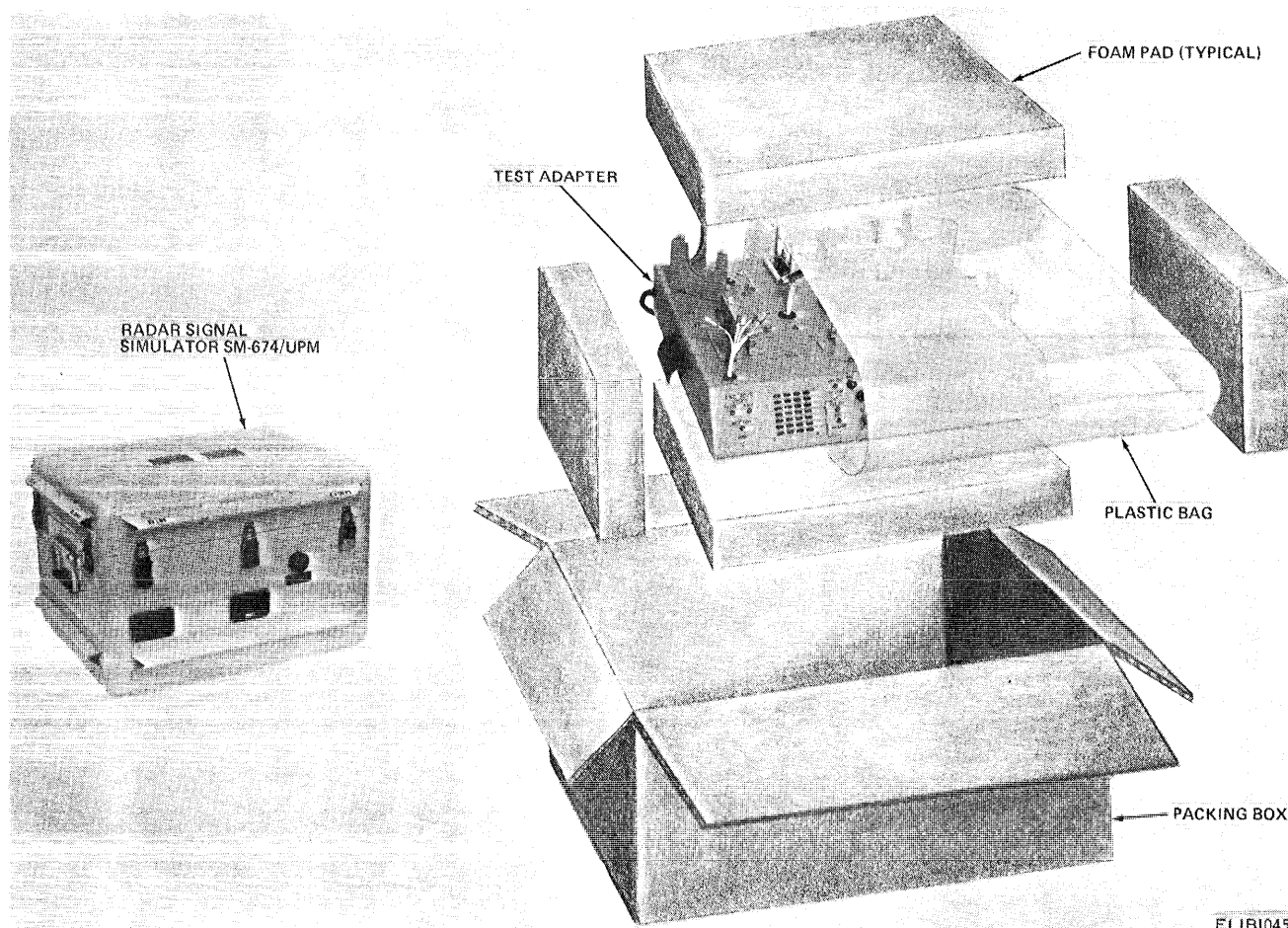
a. Simulator, Radar Signal SM-674/UPM. When packed for shipping, this unit is placed in a corrugated carton (not shown) approximately 15 by 18 by 22 inches. The gross weight of the carton is approximately 35 pounds and the volume is 3.6 cubic feet. No special procedures are required for unpacking. To remove the simulator from the transit case perform the following:

- (1) Depress the button in the center of the pressure relief valve.
- (2) Unfasten the eight clamps and lift the cover off.
- (3) Remove the simulator.

b. Test Adapter. When packed for shipping, this

unit is placed in a corrugated carton (packing box) approximately 15 by 26 by 29 inches. The gross weight of the packing box is approximately 38 pounds and the volume is 7.5 cubic feet. To remove the test adapter from the packing box perform the following:

- (1) Slit the tape securing the packing box cover (fig. 2-1).
- (2) Lift the top flaps and remove the foam pad.
- (3) Remove the foam pads from the sides as necessary.
- (4) Lift the bagged test adapter out of the box.
- (5) Cut the end off the plastic bag and remove the test adapter.



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Figure 2-1. Unpacking

2-2. Checking Unpacked Equipment

a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6, (para 1-3).

b. Check the equipment against the component listing and the packing slip to see if the shipment is complete. Report all discrepancies in accordance with paragraph 1-3. 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 front panel, near the nomenclature plate). Check to see whether all currently applicable MWO have been applied. (Current MWO applicable to the equipment are listed in DA PAM 310-7).

d. For dimensions, weight, and volume of the packaged items see SB 38-100.

2-3. Operational Checkout

a. *Simulator.*

(1) Remove the simulator BATTERY CAP.

(2) Inspect the antiseize tape on the threads of the battery tube for wear, rips, or other evidence of damage. Replace the tape if it is damaged (para 4-15).

(3) Remove the batteries from the accessory storage compartment in the transit case and install in the simulator battery tube, positive terminal first.

(4) Carefully screw the BATTERY CAP securely on the tube.

(5) Perform the operational check procedures (para 4-7d).

b. *Test Adapter.* Perform the operational test procedures (para 4-7c).

CHAPTER 3

OPERATING INSTRUCTIONS

Section I. CONTROLS AND INDICATORS

3-1. Scope

This chapter describes the controls and general operating procedures for the simulator and test adapter.

3-2. Simulator Operating Controls

Simulator controls are listed and described in table

3-1 . Figure 3-1 illustrates the control locations.

Any one of 19 possible simulator output signal characteristics can be selected by positioning the MODE, PRF, and PW switches. Table 3-2 lists all possible switch positions and describes the resulting typical outputs.

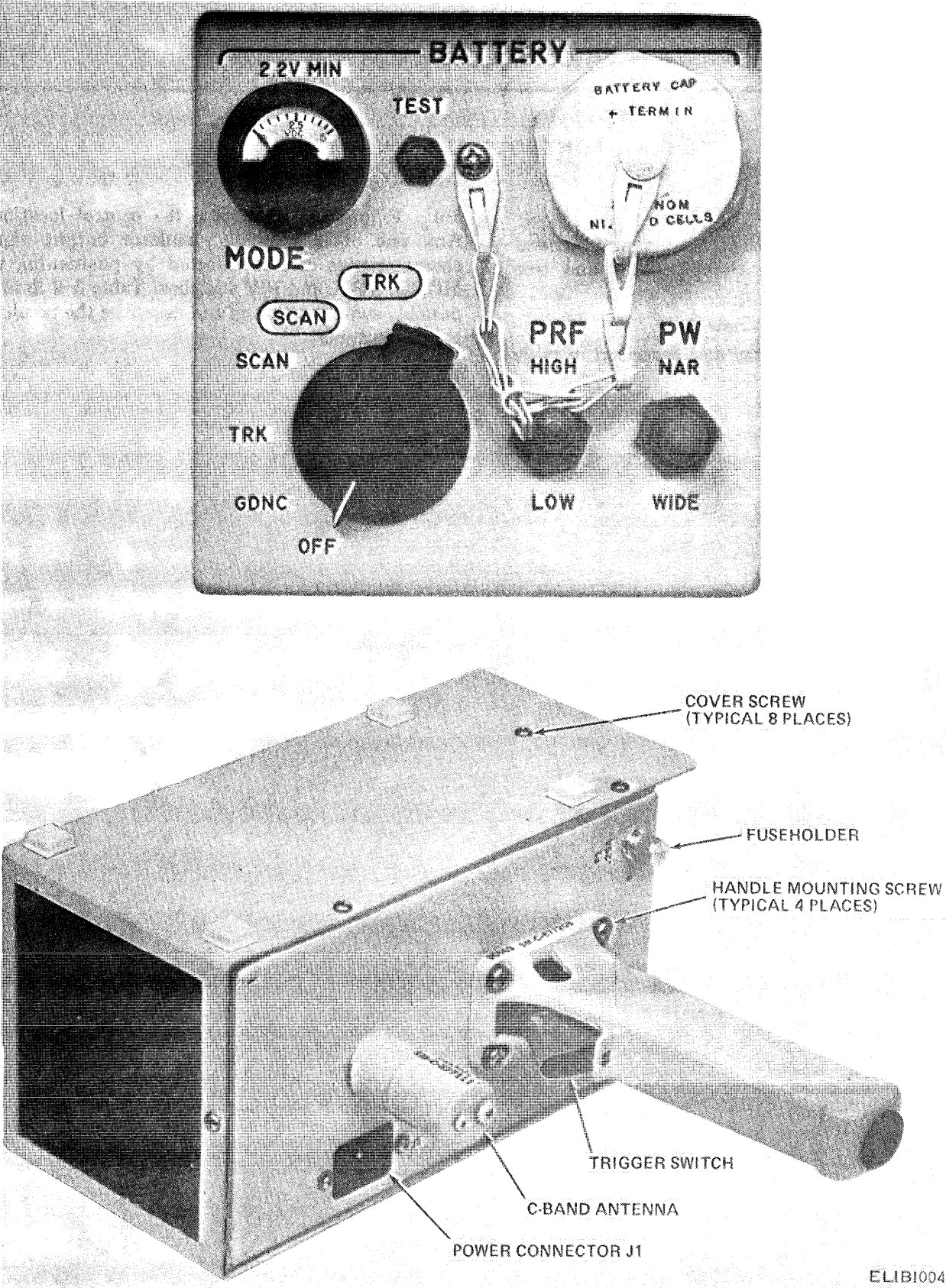
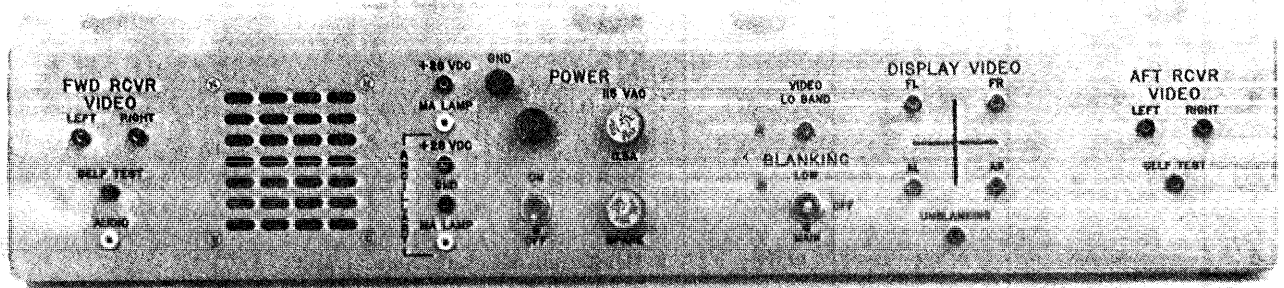


Figure 3-1. Simulator Operator Controls

3-3. Test Adapter Operating Controls

Test adapter controls and panel mounted test points

are listed and described in table 3-3. Figure 3-2 illustrates the control and test point locations.



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Figure 3-2. Test Adapter Operator Controls.

Table 3-1. Simulator Operator's Controls

Control, indicator or connector	Function
BATTERY meter	Indicates battery voltage when TEST switch is depressed.
NOTE	
To read battery voltage, simulator must not be connected to the ac source. If connected to ac source the meter will indicate output of battery charge circuit.	
TEST switch	Connects BATTERY meter to battery output when depressed.
MODE switch	Programs simulator output characteristics (table 3-2).
PRF switch	Selects either of two possible output pulse repetition frequencies (PRF).
PW switch	Selects either of two possible F-band output pulse widths (PW) and also burst width (BW) and burst repetition interval (BRI).
Trigger switch	Applies simulator operating power when depressed.
Power connector J 1	Connector for ac charging power input.
Fuseholder F1 .25A	Contains fuse protecting battery charger.

Table 3-2. Simulator Output Characteristics

R e f N o .	Control switches			P R F	Output
	Mode	PW			
1	OFF	Any		Any	No outputs
2	GDNC	Any		HIGH	F-Band-none C-Band-continuous pulse train PW*
3	GDNC	Any		LOW	PRF* F-Band-none C-Band-continuous pulse train PW*
4	TRK	NAR		HIGH	PRF* F-Band-continuous pulse train PW*
5	TRK	NAR		LOW	PRF* C-Band-none F Band continuous pulse train PW* PRF* C-Band-none

*See footnote at end of table.

Table 9-2. Simulator Output Characteristics-Continued

Ref No.	Control switches			Output
	Mode	PW	PRF	
6	TRK	WIDE	HIGH	F-Band-continuous pulse train PW* PRF*
7	TRK	WIDE	LOW	C-Band-none F-Band-continuous pulse train PW* PRF*
8	SCAN	NAR	HIGH	C-Band-none F-Band-train of pulse bursts BW* BRI* PW* PRF*
9	SCAN	NAR	LOW	C-Band-none F-Band-train of puke bursts BW* BRI* PW* PRF*
10	SCAN	WIDE	HIGH	C-Band-none F-Band-train of pulse bursts BW* BRI* PW* PRF*
11	SCAN	WIDE	LOW	C-Band- none F-Band-train of pulse bursts BW* BRI* PW* PRF*
12	SCAN	NAR	HIGH	C-Band-none F-Band-train of pulse bursts BW* BRI* PW* PRF* C-Band-continuous pulse train (C-band pulses lead F-band pulses) PW* PRF*
13	SCAN	NAR	LOW	F-Band-train of pulse bursts BW* BRI* PW* PRF* C-Band-continuous pulse train (C-band pulses lead F-band pulses). PW* PRF*
14	SCAN	WIDE	HIGH	F-Band-train of pulse bursts BW* BRI* PW* PRF* C-Band-continuous pulse train (C-band pulses lead F-band pukes). PW* PRF*
15	SCAN	WIDE	LOW	F-Band-train of pulse bursts BW* BRI* PW* PRF*

● See footnote. at end of table.

Table 3-2. Simulator Output Characteristics — Continued

Ref No.	Control switches			
	Mode	PW	PRF	
15	Continued			C Band -continuous pulse train (C-band pukes lead F-band pulses). PW* PRF*
16	TRK	NAR	HIGH	F Band-continuous pulse train PW* PRF*
17	TRK	NAR	LOW	C Band -continuous pulse train (C-band puke lead F-band pulses). PW* PRF*
18	TRK	WIDE	HIGH	F Band-continuous pulse train PW* PRF*
19	TRK	WIDE	LOW	C -Band-continuous puke train (C-band puke lead F-band pubes). PW* PRF*
				F-Band-continuous pulse train PW* PRF*
				C-Band-continuous pulse train (C-band pulses lead F-band pulses) PW* PRF*

*Refer to related classified manual TM 11-6940-211-34.

Table 3-3. Test Adapter Operator Controls

Control, indicator, or connector	Function
POWER: Switch Lamp 115 VA, 0.5 A fuse BLANKING switch (Spring loaded)	Controls application of input power to the Teat Adapter. Indicates power on when illuminated. Protects input power. Applies +28 Vdc to either of two outputs momentarily.
Test points: FWD RCVR VIDEO LEFT (TP1) RIGHT (TP2) SELF TEST (TP3) AUDIO (TP12) +28 VDC (Tp14) MA LAMP (TP13)	Monitors forward receiver left video output. Monitors forward receiver right video output. Monitors forward receiver self test input. Monitors indicator audio output. Monitors Test Adapter power supply output. Monitors control panel MA lamp output to indicator.
ANCILLARY: +28 VDC (TP17) GND (TP18) MA LAMP (TP19) GND (TP15) VIDEO LO BAND (TP16)	Monitors control panel + 28.Vdc auxiliary output, Control panel ground bus. Monitors control panel MA lamp output. Test Adapter ground. Monitors comparator C-band video.
DISPLAY VIDEO: FL (TP7) FR (TP8) AL (TP9) AR (TP10)	Monitors comparator forward left video output to indicator. Monitors comparator forward right video output to indicator. Monitors comparator aft left video output to indicator. Monitors comparator aft right video output to indicator,
UNBLINKING (TP11) AFT RCVR VIDEO: LEFT (TP4) RIGHT (TP5) SELF TEST (TP6)	Monitors comparator unblinking output. Monitors aft receiver left video output. Monitors aft receiver right video output. Monitors aft receiver self test video input.

Section II. OPERATION UNDER USUAL CONDITIONS

3-4. General

These instructions provide generalized procedures for operating the simulator and test adapter. Specific information for using the components to test the AN/APR-39(V)1 is contained in TM 11-5841-283-20 and TM 11-5841-283-34.

3-5. Simulator Operation

- a* Press the TEST switch. If the BATTERY meter indicates less than 2.2 volts, charge the batteries (para 4. 12).
- b*. Position the MODE, PRF, and PW switches to program the desired output signal characteristic, table 3-2.
- c*. Orient the simulator so that it radiates into the target.
- d*. Depress the trigger switch. The simulator output is active as long as the switch is depressed.
- e*. To change output characteristics, release the trigger switch and position the controls as desired.
- f*. When the test is complete release the trigger switch and set MODE switch to OFF.

NOTE

When the simulator is not in use keep the MODE switch in OFF position. This will prevent radiation of RF signals if the trigger switch is accidentally depressed.

3-6. Test Adapter Operation

- a*. Mount a complete AN/APR-39(V)1 to the brackets on the test adapter top surface figure 3-3.
- b*. Connect all cables. A plastic band near each harness connector identifies the mating AN/APR-39(V)1 connector by reference designation. Example: 1J1.
- c*. Connect the test adapter power cord to a source of 115 vac, 50 or 60 Hz, single phase power.
- d*. Set the POWER switch to ON. The POWER lamp shall illuminate.
- e*. Perform the test specified in TM 11-5841-283-34.

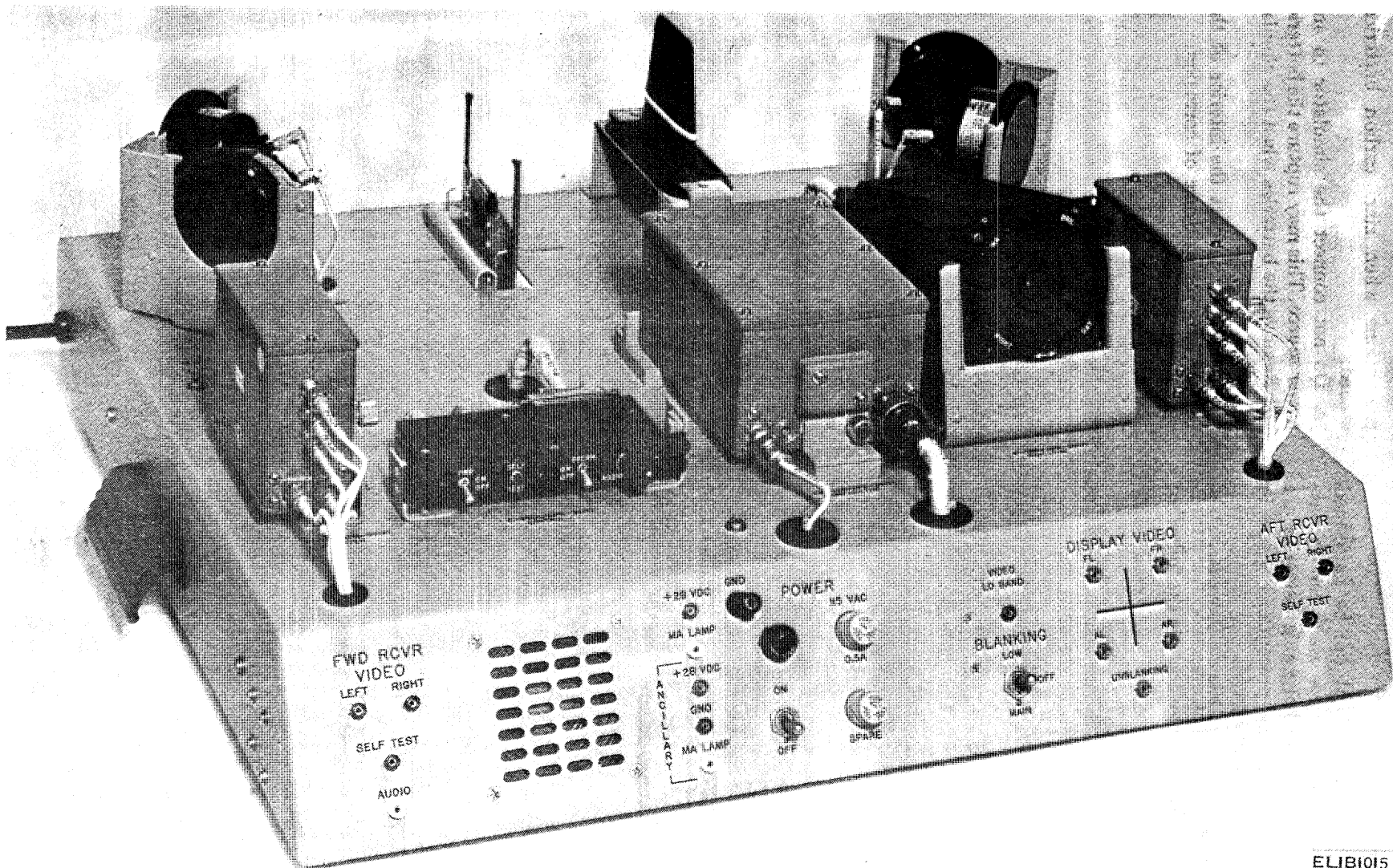


Figure 3-3. AN/APR-39(V) 1 Mounted on Test Adapter.

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Section III. OPERATION UNDER UNUSUAL CONDITIONS

3-7. Simulator

Simulator operation (para 3-5) can be performed using two standard size D type zinc—carbon batteries, if normally used rechargeable batteries are not available. However the precautions given in paragraph 3-8 must be observed.

3-8. Precautions

To prevent equipment damage observe the following

precautions when zinc—carbon batteries are installed:

- a.* Do not connect the simulator to an external power source. This may rupture the batteries.
- b.* Remove the batteries when the simulator is not in daily use.
- c.* Thoroughly inspect the interior of the battery tube weekly for evidence of corrosion.

CHAPTER 4

ORGANIZATIONAL MAINTENANCE

Section I. TOOLS, TEST EQUIPMENT, AND MATERIALS

4-1. Scope

This chapter contains instructions for performing organizational level maintenance on the simulator, transit case, and test adapter.

NOTE

Organizational maintenance on the test adapter is performed by direct/general support maintenance personnel (AVIM).

4-2. Tools and Test Equipment Required

Tools and test equipment required for organizational maintenance are listed below. Repair parts and special tools are listed in TM 11-6940-211-24P, and the maintenance allocation chart, appendix B of this manual.

a. Tools. Tool Kit, Electronic Equipment TK-101/G (NSN 5180-00-064-5178)

b. Test Equipment.

(1) Detecting Set, Radar Signal AN/APR-39(V)I (NSN 5841-01-023-7112).

(2) Multimeter AN/USM-223 or TS-352/BU (NSN 6625-00-999-7465 or 6625-00-533-0142).

4-3. Materials Required

WARNING

Adequate ventilation should be provided while using TRICHLOROTRIFLUOROETHANE.

THANE. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since TRICHLOROTRIFLUOROETHANE dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

a. Trichlorotrifluoroethane (NSN 6850-00-984-5853).

b. Camel-hair brush (NSN 8020-00-242-9625).

c. Lint free cloth (NSN 8305-00-170-5062).

d. Sandpaper, fine (NSN 5350-00-264-3485).

e. Primer (MIL-P-23377, class 2).

f. Topcoat, epoxy polyamide, yellow (MIL-C-22750, class 2, color number 13538 per FED-STD-595).

g. Enamel, black (TT-E-529, color number 27058 per FED-STP-595).

h. Topcoat, epoxy polyamide, grey (MIL-C-22750, class 2, color number 26307 per FED-STD-595).

i. Antiseize tape (MIL-T-27730, size I).

Section II. REPAINTING AND REFINISHING INSTRUCTIONS

4-4. Repainting and Refinishing Procedure

Procedures for repainting or touching up the painted surfaces of this equipment and supplies available will be as prescribed in TB 43-0118 and SB 11-573 and as described below.

a. Thoroughly clean the component to be repainted or refinished (para. 4-8). Allow equipment to dry thoroughly.

b. Apply one coat of primer to bare metal surfaces.

c. Apply one coat of appropriate color topcoat to the area to be painted. Allow to dry thoroughly.

4-5. Painting and Refinishing Precautions

Do not paint any of the areas listed below.

a. Simulator:

- (1) Plastic front cover (marked DO NOT PAINT).
- (2) Trigger switch.
- (3) Knobs.
- (4) Interior surfaces.

(5) Nameplates.

(6) AC Connector (JI).

(7) Battery tube threads.

b. Transit Case:

(1) Latches.

(2) Relief valve.

(3) Interior surfaces.

(4) Nameplate.

c. Test Adapter.

(1) Handles

(2) Interior surfaces.

(3) Nameplates.

(4) Cables.

(5) Connectors.

(6) Test points.

(7) Speaker.

Section III. PREVENTIVE MAINTENANCE

4-6. General

To ensure that the special test equipment 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 required monthly preventive maintenance checks and services are listed and detailed in paragraph 4-7.

4-7. Preventive Maintenance Checks and Services

a. Before Use. Check the charge on the simulator batteries:

(1) Assure that the simulator is not connected to an ac source and that batteries are installed.

(2) Depress the TEST switch while monitoring the battery meter.

(a) Meter indicates 2.2 volts or greater, charge sufficient for operation.

(b) Meter indicates less than 2.2 volts, charge batteries before use, (para 4-12).

b. Monthly. Perform the checks and services listed in table 4-1.

c. Test Adapter Operational Test. Perform the following test adapter operational test. Record all malfunctions.

(1) Set the test adapter POWER switch to OFF and connect the power cord to an active 115 vat, 50 or 60 Hz, single phase source.

(2) Mount a known good Detecting Set, Radar Signal AN/APR-39(V)1 on the test adapter (fig. 3-3) and make the cable connections (para 3-6).

(3) Set the AN/APR-39(V)1 control panel PWR switch to OFF.

(4) Set the test adapter POWER switch to ON. The test adapter POWER lamp and AN/APR-39(V) 1 control panel illumination lamp should light.

(5) Set the AN/APR-39(V)1 control panel PWR and DSCRM switches to ON.

(6) Depress and hold the AN/APR-39(V)1 SELF TEST switch while monitoring the AN/APR-39(V)1 indicator and test adapter loud-speaker. Within a few seconds the indicator should display a forward or aft strobe extending to the third circle and a PRF audio should be audible. After several more seconds the opposite strobe will appear and the audio frequency will double. Several seconds later the MA lamp will start flashing and alarm audio is present.

(7) Release the SELF TEST switch.

(8) Set the test adapter and AN/APR-39(V)1 PWR switches to OFF.

(9) If any malfunctions have been noted refer to paragraph 4-10.

d. Simulator Operational Check. Perform the following simulator power supply check. Record observed malfunctions and refer to paragraph 4-9.

(1) Set MODE switch to OFF and remove batteries.

(2) Connect J1 on simulator to ac source (115 vac, 50 or 60 Hz, single phase) with power cord.

(3) Depress TEST switch; BATTERY meter should peg. Release TEST switch.

(4) Install batteries, paragraph 4-13.

(5) Press TEST switch; BATTERY meter should indicate 2.4 to 2.8 volts. Release TEST switch.

(6) Disconnect power cord from J1 and ac source.

(7) Press TEST switch; BATTERY meter should indicate 2.2 to 2.6 volts.

Table 4-1. Organizational Preventive Maintenance Checks and Services

M-Monthly or as required
Total task hours required: 1.05

Sequence No.			ITEM TO BE INSPECTED PROCEDURE	Worktime (T/H)
Simulator	Transit Case	Test Adapter		
1	1	1	EXTERIOR SURFACES Remove all dirt, grease, corrosion, and moisture from all exterior surfaces as required (para 4-8). Check general condition of each component.	0.25
2	-	2	CABLES AND CONNECTORS Inspect cable insulation for damage or deterioration. Check connectors for secure attachment and signs of damage. Clean cables and connectors as required (para 4-8).	0.1
3	-	3	CONTROLS AND INDICATORS Check controls for proper mechanical action (positive action without backlash, binding, or, scraping). Inspect knobs for damage indicators for signs of damage (cracked or broken lens or meter glass).	0.1

Table 4-1. Organizational Preventive Maintenance Checks and Services-Continued

Sequence No.			Worktime (T/H)
Simulator	Transit Case	Test Adapter	
4	—		0.1
5	-	4	0.5

BATTERIES
Check batteries for signs of corrosion. Replace if necessary (para 4-13).
OPERATIONAL TEST
Perform test adapter and simulator operational tests (para 4-7c and 4-7d)

4-8. Cleaning

WARNING

Adequate ventilation should be provided while using TRICHLOROTRIFLUOROETHANE. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since TRICHLOROTRIFLUOROETHANE dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot

penetrate. If the solvent is taken internally, consult a physician immediately.

- Remove moisture and loose dirt with a clean cloth.
- Remove grease, corrosion, and ground-in dirt with a cloth dampened (not wet) with trichlorotrifluoroethane. Wipe dry with a clean, dry lint-free cloth.
- Remove dirt from the connectors with a brush; remove moisture with a dry cloth.
- Remove rust from metal surfaces by lightly sanding with fine sandpaper.

Section IV. TROUBLESHOOTING

4-9 Simulator.

Table 4-2 lists the malfunctions (symptoms) which may be observed during the operational check (paragraph 4-7d) or in the normal use of the

simulator. Probable causes of the observed malfunctions are listed, and each references a corrective action.

Table 4-2. Simulator Power Supply Troubleshooting

Symptom	Probable cause	Corrective action
<p>NOTE Simulator connected to ac source—batteries not installed</p>		
1. Meter indicates 0 in voltage test.	a. Fuse F1	a. Check fuse replace if defective. (para 4-14).
2. Meter indicates more than 0 but does not peg in voltage test.	b. Power cable	b. Check cable replace if defective.
	c. Battery charger Battery charger	c. Refer to higher echelon maintenance. Refer to higher echelon maintenance
<p>NOTE Simulator connected to ac source-batteries installed</p>		
3. Meter indicates more than 0 but less than 2.4 volts in voltage test.	Battery charger	Refer to higher echelon maintenance
<p>NOTE Simulator not connected to ac source-batteries installed</p>		
4. Battery test indicates 2.2 volts or less.	a. Battery charge low, or defective batteries	a. Recharge batteries (para 4-12) or replace batteries (para 4-13).
	b. Battery charger	b. Refer to higher echelon maintenance.

4-10. Test Adapter

Table 4-3 lists the malfunctions (symptoms) which may be observed during the operational test

(paragraph 4-7c) or in normal use of the test adapter. Probable causes of the observed malfunction are listed, and each references a corrective action.

Table 4-3. Test Adapter Troubleshooting

Symptom	Probable cause	Corrective action
POWER lamp off and AN/APR-39(V)1 control panel illumination lamp	a. Fuse F1 in test adapter. b. Test adapter power supply or wire harness.	a. Check F1; replace if faulty (para 4-17). b. Refer to higher level maintenance.

Table 4-3. Test Adapter Troubleshooting-Continued

Symptom	Probable cause	Corrective action
POWER lamp off but AN/APR-39(V)1 operation is correct.	a. POWER lamp DS1.	a. Check DS1; replace if faulty (para 4-17).
POWER lamp on but AN/APR-39(V)1 control panel illumination lamps off.	b. Test adapter wire harness. Test adapter wire harness.	b. Refer to higher level maintenance. Refer to higher level maintenance.
POWER lamp on. AN/APR-39(V)1 control panel illuminated but operation incorrect.	Test adapter wire harness.	Refer to higher level maintenance.

Section V. MAINTENANCE OF SIMULATOR

4-11. General

Organizational level maintenance is limited to:

- Battery charging
- Replacing defective batteries.
- Replacing defective fuse.
- Replacing defective power cable.

4-12. Battery Charging Procedure

CAUTION

Charge the batteries when a test (paragraph 4-7a) indicates less than 2.2 volts but do not recharge when the indication is 2.2 volts or greater. If the batteries are regularly recharged at a higher test level, or at specific time intervals, regardless of level, they may develop a memory for this cycle. In this case they may cut off if an attempt is made to discharge to a lower level.

- Depress the TEST switch and note BATTERY meter reading.

CAUTION

Do not connect the simulator to an ac source if zinc — carbon batteries are installed.

- Connect the power cable between J1 and a 115 vat, 50 or 60 Hz, single phase source.
- After about four hours disconnect power cord from J1 and depress TEST switch.

(1) If meter indication is higher than reading noted in a above, indicating that the batteries are accepting a charge, reconnect power cord to J 1 and proceed with d below.

(2) If meter does not read higher than level noted in a above replace batteries, (para 4-13).

- Continue charging batteries; about every two hours disconnect simulator from ac source and check level. Discontinue charging when meter indicates 2.5 to 2.6 volts.

4-13. Battery Replacement

- Unscrew BATTERY CAP.
- Remove batteries.
- Replace antiseize tape on battery tube threads (para 4-15).
- Install new batteries, positive terminal in first.
- Install BATTERY CAP.

4-14. Fuse Replacement

- Remove fuseholder cap (fig 3-1).
- Pull old fuse straight out.
- Align fuse pins with fuseholder contacts and push in.
- Replace fuseholder cap.

4-15. Battery Tube Antiseize Tape Installation.

- Peel the old tape off the threads of the battery tube.
- Wrap one layer of sealing tape around the battery tube threads (fig. 4-1). Overlap ends about 1/2 inch.
- Trim excess tape width even with end of battery tube. Do not allow any tape to cover end of tube.

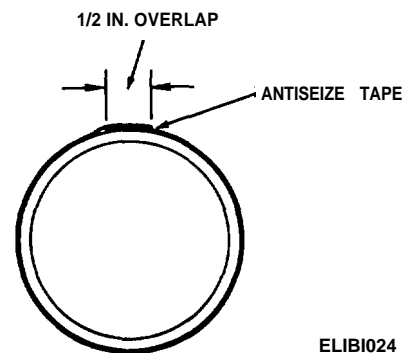


Figure 4-1. Antiseize Tape Installation.

Section VI. MAINTENANCE OF TEST ADAPTER**4-16. General**

Organizational level maintenance is limited to replacement of fuse F1, light indicator, and lamp DS1. Procedures for replacement of these items are given in paragraph 4-17.

4-17. Replacement Procedures*a. Fuse Replacement.*

- (1) Remove the fuseholder cap.

- (2) Pull out the old fuse.

- (3) Install the new fuse.

- (4) Replace the fuseholder cap.

b. Lamp Replacement.

- (1) Unscrew the light indicator.

- (2) Remove the old lamp.

- (3) Install the new lamp.

- (4) Replace the light indicator.

APPENDIX A

REFERENCES

DA Pam 310-4	Index of Technical Publications.		Multimeter TS-353BU (NSN 6625-00-533-0142).
SB 11-573	Painting and preservation Supplies Available for Field Use for Electronics Command Equipment.	TM 11-6940-211-24P	organizational, Direct support, and General Support Maintenance Repair Parts and Special Tools List for Simulator, Radar Signal SM-674/UPM (NSN 6940-01-031-5887) and Teat Adapter, Radar Signal MX-9848/APR-39(V) (NSN 5841-01-025-0379).
SB 38-100	Preservation, Packing, Packing and Marking Materials, Supplies and Equipment Used by the Army.		The Army Maintenance Management System (TAMMS).
TB 43-0118	Field Instructions for Painting and preserving Electronics coremand Equipment Including Camouflage Pattern Painting of Electrical Equipment Shelters.	TM 38-750	Administrative Storage of Equipment.
TM 11-5841-283-20	Organizational Maintenance Manual Detecting Set, Radar Signal AN/APR-39(V)1 (NSN 5841-01-023-7112).	TM 740-90-1	Procedures for Destruction of Electronics Materiel to Prevent Enemy Use (Electronics Command).
TM 11-6625-366-15	Operator's, Organization:	TM 750-244-2	

APPENDIX B

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

B-1. General

This appendix provides a summary of the maintenance operations for the SM-674/UPM and MX-9848/APR-39(V). 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 Function

Maintenance functions will be limited to and defined as follows:

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

b. 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.

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

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

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

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipments 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.

g. 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 or system.

h. Replace. The act of substituting a serviceable

like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services (inspect, test, service, adjust, align, calibrate, replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system. This function does not include the trial and error replacement of running spare type items such as fuses, lamps, or electron tubes.

j. Overhaul. That maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate 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.

k. Rebuild. Consists of those service/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours, miles, etc.) considered in classifying Army equipment s/components.

B-3. Column Entries

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

b. Column 2, Component/Assembly. Column 2 contains the noun names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in column 2. When items are listed without maintenance functions, it is solely for purpose of having the group numbers in the MAC' and RPSTI, coincide.

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a "work time" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate "work time" figures will be shown for each category. The number of task-hours specified by the "work time" figure represents the average time required to restore an item (assembly, subassembly, component, module, end item or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. Subcolumns of column 4 are as follows:

C - Operator/Crew

O - Organizational- (Avionics Unit Maintenance (AVUM))

F/H - Direct /General Support-(Avionics Intermediate Maintenance (AVIM))

D - Depot

e. Column 5, Tools and Equipment. Column 5 specifies by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

B- 4. Tool and Test Equipment Requirements (Table 1)

a. Tool or Test Equipment Reference Code. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.

b. Maintenance Category. The codes in this column indicate the maintenance category allocated the tool or test equipment.

c. Nomenclature. This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.

d. National/NAXI Stock Number. This column lists the National/NATO stock number of the specific tool or test equipment.

e. Tool Number. This column lists the manufacturer's part number of the tool followed by the Federal Supply Code for manufacturers (5-digit) in parentheses.

(Next printed page is B-3)

SPECIAL TEST SETS
SM-674/UPM & MX-9848/APR-39(V)

(1) GROUP NUMBER	(2) COMPONENT, ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) (Note 1) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT
			C	O	F	H	D	
00	Special Test Sets SM-674/UPM & MX-9848/APR-39(V)	See 01 & 02 below						
01	Simulator, Radar Signal SM-674/UPM (SM-C-877251)	Inspect Test (Note 2) Test		0.2 0.25				1 1,7 3,4,5,6,7, 8,9
		Replace (Note 3) Repair		0.1	0.4 0.7			1,7 2
0101	Simulator, Radar Signal SM-736/UPM (SM-D-877123)	Same as 01 above						
0102	Case, Simulator, Radar Signal CY-7583/UPM (SM-D-877016)	Repair			0.6			2
02	Test Adapter, Radar Signal MX-9848/APR-39(V) (SM-D-877147)	Inspect Test (Note 4) Test		0.1 0.25		0.3		1 1,7 1,2,3,4,7, 10
		Replace (Note 5) Repair		0.1	0.8			1,7 2,3,7
NOTES: 1. Maintenance Category Code: O= Aviation Unit Maintenance (AVUM) F/H= Aviation Intermediate Maintenance (AVIM) 2. Operational Test of Simulator power supply. 3. Replacement limited to batteries, fuse, knob, and power cable. 4. Operational Test for Test Adapter requires a complete operable AN/APR-39(V)1. 5. Replacement limited to fuse, power lamp, and light indicator lens. 6. Maintenance concept is based on one designated AVIM shop per theater.								

TABLE 1. TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR

Simulator. Radar Signal SM-674/UPM & Test Adapter, Radar Signal MX9848/APR-39(V)

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	O	Tool Kit, Electronic Equipment TK-101/G	5180-00-064-5178	
2	F	Tool Kit, Electronic Equipment TK-105/G	5180-00-610-8177	
3	F	Wrench, Torque T8438	5120-00-169-5776	
4	F	Oscilloscope AN/USM-281C	6625-00-106-9622	
5	F	Detector, Crystal, HP 420A	6625-00-964-9248	
6	F	Antenna, 4", #12 Solid Wire	NSN	
7	O,F	Multimeter AN/USM-223 or TS-352B/U	6625-00-999-7465 or 6625-00-242-5023	
8	F	Attenuator, HP 8491B (Option 20)	6625-00-454-6924	
9	F	Resistor, Carbon, 300 Ohms, $\frac{1}{4}$ W, RCR05G301JS	5905-00-111-4750	
10	F	Data Pulse 101 or equivalent	6625-00-454-0708	
		Optional Items A* List:		
A1	F	Antenna, C-Band SM-C-877111	THD	
A2	F	Antenna, F-Band R367170-1 or Local Manufacture	THD	
		* For use in locally fabricated test fixture.		
		Optional Items, B List:		
B1	F	Special Test Set R539833	THD	

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APPENDIX C

COMPONENTS OF END ITEM LIST

Section I. INTRODUCTION

C-1. Scope

This appendix lists integral components of and basic issue items for the SM-674/UPM and MX-9848/APR-39(V) to help you inventory items required for safe and efficient operation.

C-2. General

This Components of End Item List is divided into the following sections:

a. Section II. Integral Components of the End Item. These items, when assembled, comprise the SM-674/UPM and MX-9848/APR-39(V) and must accompany it whenever it is transferred or turned in. The illustrations will help you identify these items,

b. Section III. Basic Issue Items. These are the minimum essential items required to place the SM-674/UPM and MX-9848/APR-39(V) in operation, to operate it, and to perform emergency repairs. Although shipped separately packed they must accompany the SM-674/UPM and MX-9848/APR-39(V) during operation and whenever it is transferred between accountable officers. The illustrations will assist you with hard-reidentify items. This manual is your authority to requisition replacement BII, based on TOE/MTOE authorization of the end item.

C-3. Explanation of Columns

a. 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.* The number used to identify item called out in the illustration.

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

c. Part Number. Indicates the primary number used by the manufacturer, which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items. Following the part number, the Federal Supply Code for Manufacturers (FSCM) is shown in parentheses.

d. Description. Indicates the Federal item name and, if required, a minimum description to identify the item.

e. Location. The physical location of each item listed is given in this column. The lists are designed to inventory all items in one area of the major item before moving on to an adjacent area.

f. Usable on Code. Not applicable,

g. Quantity Required (Qty Reqd). This column lists the quantity of each item required for a complete major item,

h. Quantity. This column is left blank for use during an inventory. Under the Rcvd column, list the quantity you actually receive on your major item. The Date columns are for your use when you inventory the major item at a later date; such as for shipment to another site.

SECTION II INTEGRAL COMPONENTS OF END ITEM
 SIMULATOR, RADAR SIGNAL SM-674/UPM AND TEST ADAPTER, RADAR SIGNAL MX-9648/APR-39(V)

(1) ILLUSTRATION		(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION PART NUMBER (FSCM)	(4) LOCATION	(5) USABLE ON CODE	(6) QTY REQD	(7) QUANTITY	
(A) FIG NO.	(B) ITEM NO.						RCVD	DATE
1-1		6940-01-031-5886	SIMULATOR, RADAR SIGNAL SM-736/UPM SM-D-877123			1		
1-2		6940-01-031-5880	CASE, SIMULATOR RADAR SIGNAL CY-7538/UPM D100386			1		
1-2			POWER CABLE 17250	AC POWER FOR RECHARGING BATTERIES		1		
1-2			FUSE, INDICATING FMO2-125V1-4A	BOTTOM OF SM-736/VPM		5		
1-3		5841-01-025-0379	TEST ADAPTER, RADAR SIGNAL MX-9848/APR-39(V)1 SM-D-878147			1		

SECTION III BASIC ISSUE ITEMS

(1) ILLUSTRATION		(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION	(4) LOCATION	5) USABLE ON CODE	6) QTY REQD	(7) QUANTITY	
(A) FIG NO.	(B) ITEM NO.						RCVD	DATE
1-2			PART NUMBER (FSCM) BATTERY, STORAGE 1.2V CH4			2		

APPENDIX D

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. Scope

This appendix lists expendable supplies and materials you will need to operate and maintain the SM-674/UPM and MX-9848/APR-39(V). These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

D-2. Explanation of Columns

a. Column 1—Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning compound, item 5, App. D").

b. Column 2 – Level. This column identifies the lowest level of maintenance that requires the listed item.

C – Operator/Crew

O – Organizational Maintenance/Aviation Unit Maintenance

F – Direct Support Maintenance/Aviation Intermediate Maintenance

H – General Support Maintenance

c. Column 3 – National Stock Number. This is the National stock number assigned to the item, use it to request or requisition the item,

d. Column 4 – Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by a part number.

e. Column 5 – Unit of Measure (U.). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

SECTION II EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION PART NO. AND FSCM	(5) UNIT OF MEAS
1 2	F A11	8040-00-426-0652	ADHESIVE SEALANT SILICONE, RTV MIL-A-46146 TYPE 1 TAPE, PRESSURE SENSITIVE ADHESIVE	AR RL

By Order of the Secretary of the Army:

Official:

PAUL T. SMITH
Major General, United States Army
The Adjutant General

BERNARD W. ROGERS
General United States Army
Chief of Staff

DISTRIBUTION:

To be distributed in accordance with DA Form 12-31, Organizational maintenance requirements for AH-1G, CH-47A, CH-47B/C, OH-58, UH-1B, UH-1C/M and UH-1 D/H Aircraft.

GLOSSARY

Burst Repetition Interval (BRI)	<p>The interval, expressed as a unit of time, between the leading edges of sequential bursts of pulses.</p> $\text{BRI} = \frac{1}{\text{BRF}}$
Burst Width (BW)	The time interval between the leading and trailing edges of pulse burst.
Pulse Repetition Interval (PRI)	<p>The interval, expressed as a unit of time, between the leading edges of sequential pulses in a train.</p> $\text{PRI} = \frac{1}{\text{PRF}}$
Pulse Burst	A group of pulses.
Pulse Correlation	Describes the time relationship between the pulses of the F-band and C-band Simulator outputs. Pulses are correlated when the C-band pulses lead F-band pulses by the specified time.
Special Test Equipment (STE)	Items of test equipment (Simulator, Radar Signal SM-674/UPM and Test Adapter, Radar Signal MX-9848/APR-39(V) provided for maintenance of Detecting Set, Radar Signal AN/APR-39(V) 1.



SOMETHING WRONG WITH THIS MANUAL?

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

FROM: (YOUR UNIT'S COMPLETE ADDRESS)

Commander
Stateside Army Depot
ATTN: AMSTA-US
Stateside, N.J. 07703

DATE 10 July 1975

PUBLICATION NUMBER

TM 11-5840-340-12

DATE

23 Jan 74

TITLE

Radar Set AN/SPS-76

BE EXACT...PIN-POINT WHERE IT IS

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

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

2-25	2-28		
------	------	--	--

Recommend that the installation antenna alignment procedure be changed throughout to specify a 2° IFF antenna lag rather than 1°.

REASON: Experience has shown that with only a 1° lag, the antenna servo system is too sensitive to wind gusting in excess of 45 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting the lag to 2° without degradation of operation.

3-10	3-3		
------	-----	--	--

3-1

Item 5, Function column. Change "2 db" to "3db."

REASON: The adjustment procedure for the TRANS POWER FAULT indicator calls for a 3 db (500 watts) adjustment to light the TRANS POWER FAULT indicator.

5-6	5-8		
-----	-----	--	--

F03

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

REASON: To replace the cover plate.

Zone C 3. On J1-2, change "+24 VDC to "+5 VDC."

REASON: This is the output line of the 5 VDC power supply. + 24 VDC is the input voltage.

TYPED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SSG I. M. DeSpirito 999-1776

SIGN HERE:

SSG I. M. DeSpirito

DA FORM 2028-2 (TEST)

1 AUG 74

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR MANUAL "FIND," MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

HISA 1686-75

TEAR ALONG DOTTED LINE

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

DATE _____

DATE _____

TITLE

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

PAGE
NO.

PARA-
GRAPH

FIGUR
NOTABLE
NO.

TYPED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

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TEAR ALONG DOTTED LINE

FOLD BACK

REVERSE OF DA FORM 2026-2 (TEST)

THE METRIC SYSTEM AND EQUIVALENTS

LENGTH MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
 1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
 1 Kilogram = 1000 Grams = 2.2 lb.
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
 1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
 1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
 1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

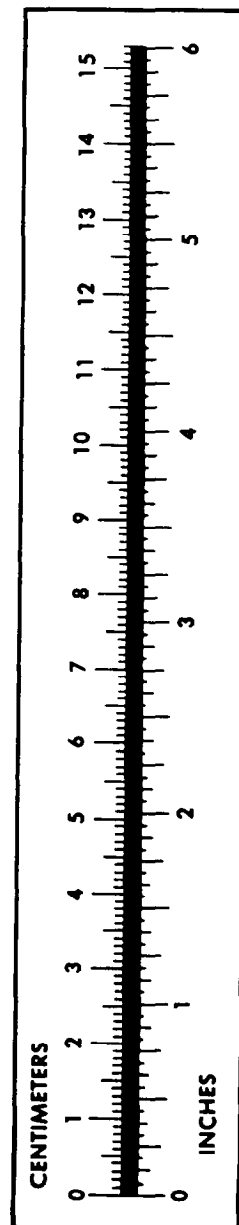
TEMPERATURE

$5/9(^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Quarts	Liters	0.473
Gallons	Liters	0.946
Ounces	Liters	3.785
Pounds	Grams	28.349
Short Tons	Kilograms	0.454
Pound-Feet	Metric Tons	0.907
Pounds per Square Inch	Newton-Meters	1.356
Miles per Gallon	Kilopascals	6.895
Miles per Hour	Kilometers per Liter	0.425
	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Grams	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



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