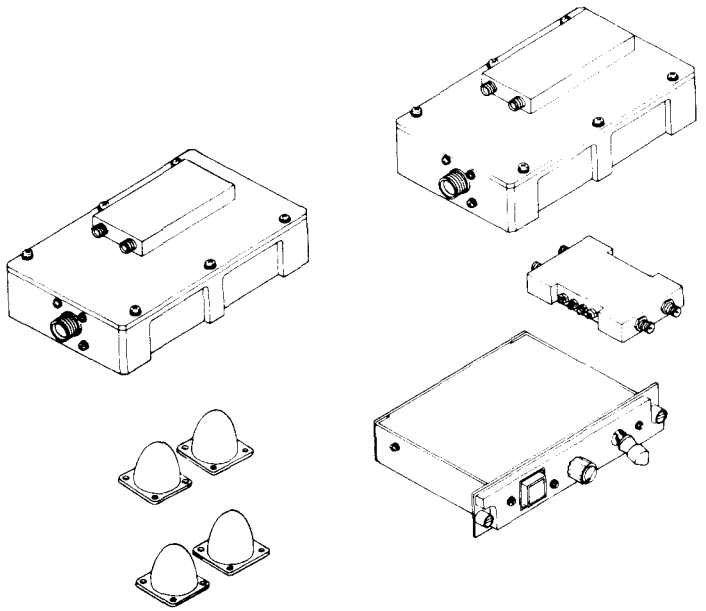
TM 11-5841-291-12

OPERATOR'S AND ORGANIZATIONAL
MAINTENANCE MANUAL
(AVIATION UNIT MAINTENANCE)

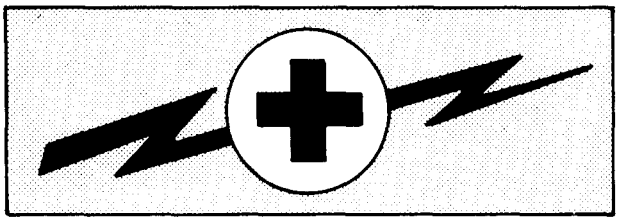


RADAR WARNING SYSTEMS
AN/APR-44(V)1
(NSN 5841-01-047-5398)
AND
AN/APR-44(V)3
(NSN 5841-01-047-5400)

HEADQUARTERS, DEPARTMENT OF THE ARMY

14 APRIL 1983

WARNING



Simulator, Radar Signal SM-757/APR-44(V) generates high frequency radio waves that can be dangerous. When using it, keep the front of it at least 2 inches from any part of your body.

WARNING

Adequate ventilation should be provided while using TRICHLOROTRI-FLUOROETHANE. 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 TRICHLOROTRI-FLUOROETHANE dissolve 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.

CAUTION

Before replacing any component of Radar Warning System AN/APR-44(V)1 or AN/APR-44(V)3, use aircraft circuit breaker to turn off (open) 28 Vdc to the system.

CAUTION

Before doing any tests, make sure aircraft is parked in a location free of high frequency radio waves that can interfere. If not sure of conditions where aircraft is parked, check with your supervisor.

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. 11-5841-291-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC
14 April 1983

Operator's and Organizational Maintenance Manual
(Aviation Unit Maintenance)
RADAR WARNING SYSTEMS
AN/APR-44(V)1
(NSN 5841-01-047-5398)
and AN/APR-44(V)3
(NSN 5841-01-047-5400)

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 Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, NJ 07703. A reply will be furnished direct to you.

*This manual supersedes TM 11-5841-291-12 dated 7 October 1981.

HOW TO USE THIS MANUAL

1. General. The information in this manual is presented in a manner to help you operate and maintain the equipment in the shortest possible time. Read the manual to become familiar with the content before using or working on the equipment. Operating instructions as well as both operator maintenance and organizational maintenance are covered in this manual.

2. Operation and Operator Maintenance. Information in chapter 2 is presented to the level necessary for you to operate the system and perform the authorized operator maintenance tasks. The maintenance action authorized at the operator level is preventive maintenance.

3. Organizational Maintenance. Chapter 3 contains instructions for the organizational level maintenance technician. These instructions include those for troubleshooting the system and for repairing the system by the replacement of authorized components and parts.

CHAPTER 1

INTRODUCTION

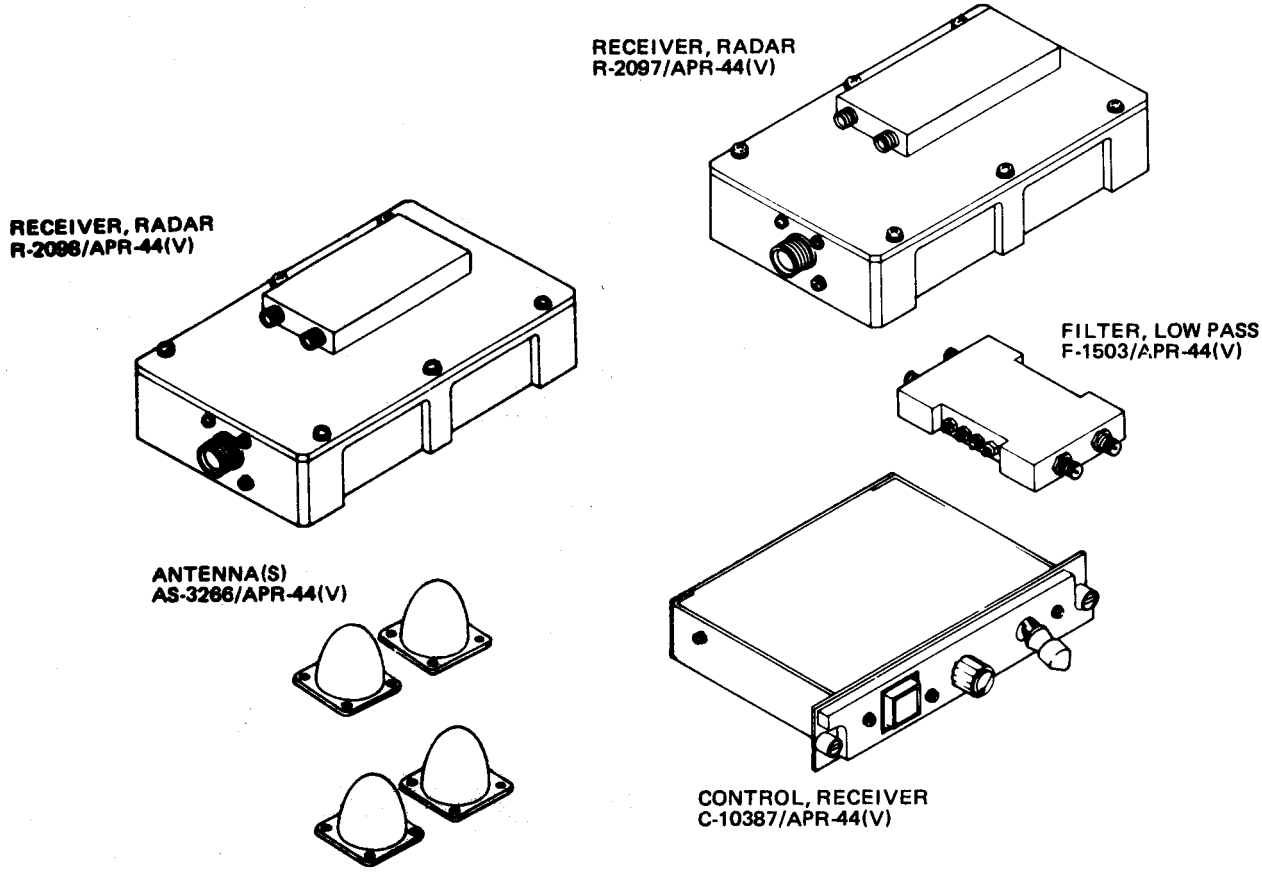
Section I. GENERAL INFORMATION

1-1. Scope. The purpose of this manual is to explain the operation and organizational maintenance (aviation unit maintenance (AVUM)) of Radar Warning Systems AN/APR-44(V)1 and AN/APR-44 (V)3. Use it to keep Radar Warning Systems AN/APR-44(V)1 and AN/APR-44 (V)3 in peak condition and maintain your proficiency. The operator's instructions in this manual are intended for maintenance personnel.

1-2. Purpose. Radar Warning Systems AN/APR-44(V)1 and AN/APR-44(V)3 are airborne systems used to detect cw radar signals aimed at the aircraft. Detection is indicated by a lighted lamp, a tone heard in the headset, and a logic signal produced for external use.

1-3. Maintenance Forms, Records and Reports. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, the Army Maintenance Management System (TAMMS).

1-4. Reporting Equipment Improvement Recommendations (EIR's). If your equipment 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. Put it on an SF 368 (Quality Deficiency Report). Mail to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, NJ 07703. We'll send you a reply.



1-5. Nomenclature Cross-Reference List.

Common Name	Official Nomenclature
Radar Warning System	Radar Warning System AN/APR-44(V)1 or AN/APR-44(V)3
SAM Receiver (low-band)	Receiver, Radar R-2097/APR-44(V)
AI Receiver (high-band)	Receiver, Radar R-2098/APR-44(V)
Control Unit	Control, Receiver C-10387/APR-44(V)
Antenna	Antenna AS-3266/APR-44(V)
Low Pass Filter	Filter, Low Pass F-1503/APR-44(V)

1-6. List of Abbreviations.

A	Ampere
acft	Aircraft
AI	Airborne interceptor
approx	Approximately
ant	Antenna
conn	Connector
cw	Continuous wave
dB	Decibels
fltr	Filter
HI BND	High band
ind	Indication
ICS	Intercommunication system
kHz	Kilohertz (one thousand cycles per second)
LO BND	Low band
max	Maximum
rcvr	Receiver
res	Resistance
rf	Radio frequency
SAM	Surface-to-air missile
Sec	Seconds
Sw	Switch
V	Volts
Vdc	Volts, direct current
VSWR	Voltage standing wave ratio

Section II. EQUIPMENT DESCRIPTION AND DATA

1-7. Characteristics, Capabilities, and Features of Radar Warning System AN/APR-44(V)1.

a. The radar warning system consists of five components: two antennas, a low pass filter, a SAM receiver, and a control unit. Table 1-1 gives the physical size and weight of each component.

b. Two antennas intercept cw signals from SAM threats. The output of each antenna passes through a dual low pass filter to the front end of the SAM receiver. An rf switch in the front end switches from one antenna to the other in 680 millisecond intervals. The SAM receiver responds to a cw signal in the 680 millisecond interval and detects and converts it to audio alert, lamp alert, and logic signals. All three signals are available at the same time when a cw signal is detected. The audio signal goes to the volume control in the control unit and from there, the signal passes through the aircraft interface circuits to the

aircraft ICS. Through the ICS, the audio can be heard by the pilot and copilot by means of their headsets. In the presence of a SAM threat, the lamp alert signal lights the SAM alert indicater on the panel of the control unit. A similar lamp signal for a remote indicater is available through the aircraft interface circuits. The logic signal generated by the receiver also passes through the aircraft interface circuits and is used by external equipment.

RADAR WARNING SYSTEM AN/APR-44(V)1:

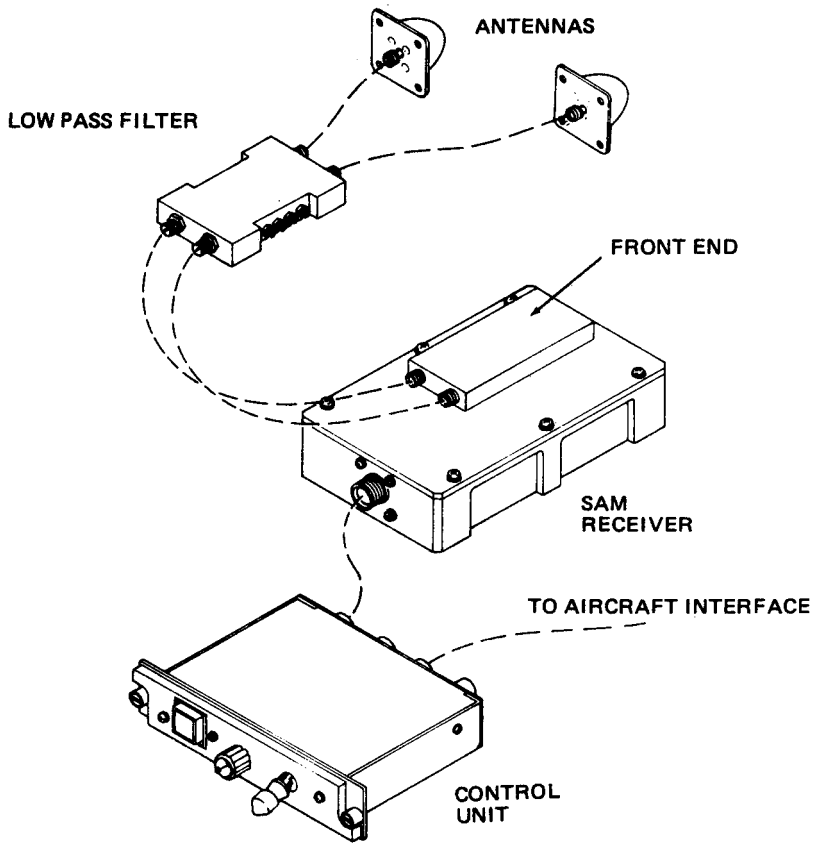


Table 1-1. Size and Weight of Components

Item	Height (in.)	Width (in.)	Depth (in.)	Weight (lbs)
Control Unit	1.20	5.75	5.50	0.75
Receiver	1.80	6.40	3.70	1.50
Antenna	1.03	1.25	1.25	0.04
Low Pass Filter	0.44	2.00	3.00	0.25

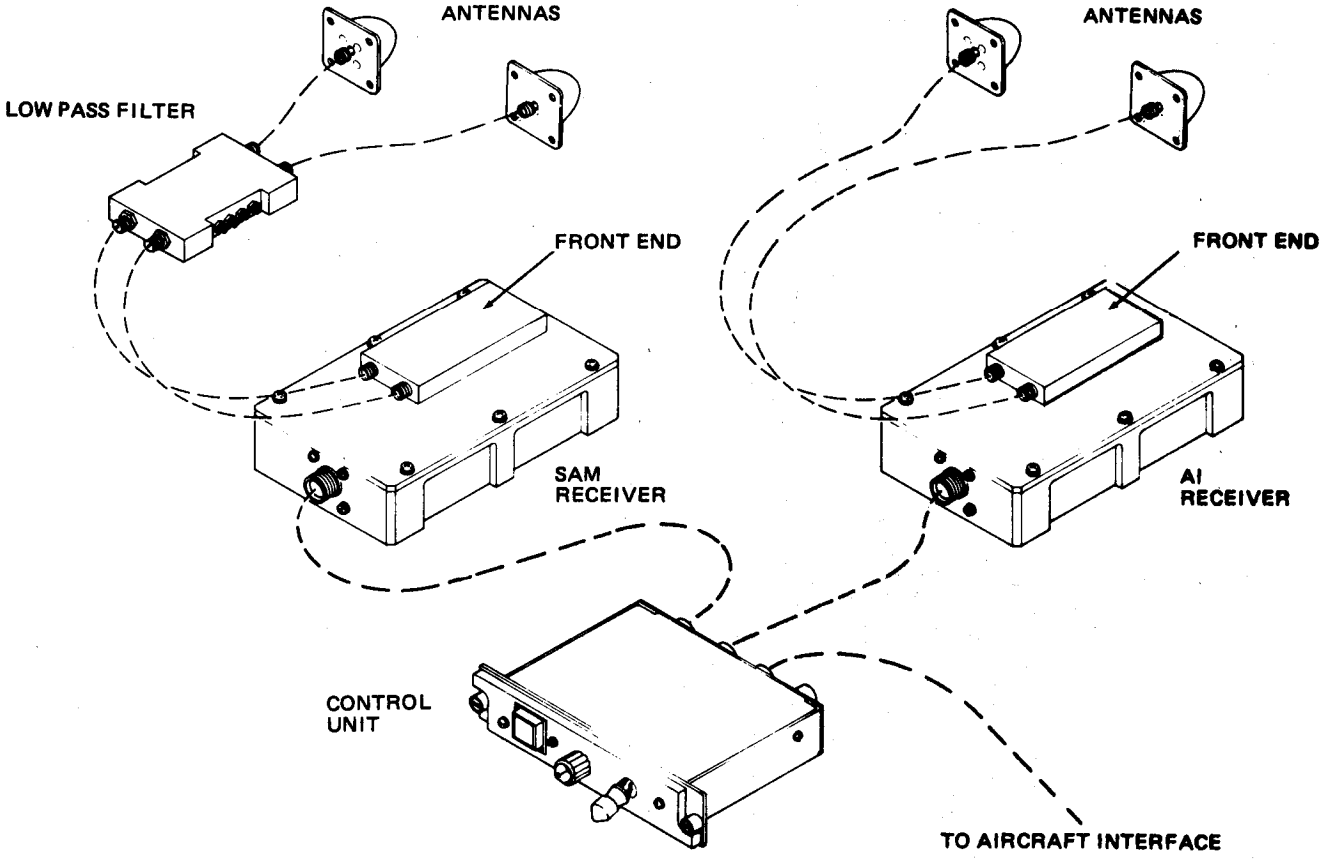
1-8. Characteristics, Capabilities, and Features of Radar Warning System AN/APR-44(V)3.

a. The radar warning system consists of eight components: four antennas, a low pass filter, a SAM receiver, an AI receiver, and a control unit. Table 1-1 gives the physical size and weight of each component.

b. Two antennas intercept cw signals from SAM threats. The output of each antenna passes through a dual low pass filter to the front end of the SAM receiver. An rf switch in the front end switches from one antenna to the other in 680 millisecond intervals. The SAM receiver responds to a cw signal in the 680 millisecond interval and detects and converts it to audio alert, lamp alert, and logic signals. All three signals are available at the same time when a cw signal is detected. The audio signal goes to the volume control in the control unit and from there, the signal passes through the aircraft interface circuits to the aircraft ICS. Through the ICS, the audio can be heard by the pilot and co-pilot by means of their headsets. In the presence of a SAM threat, the lamp alert signal lights the SAM alert indicator on the panel of the control unit. A similar lamp signal for a remote indicator is available through the aircraft interface circuits. The logic signal generated by the receiver also passes through the aircraft interface circuits and is used by external equipment.

c. Two additional antennas intercept cw signals from AI threats. The output of each antenna is applied directly to the front end of the AI receiver. The signal is processed as for the SAM threats but lights the AI alert indicator on the panel of the control unit. Audio, lamp, and logic signals are provided as for SAM threats.

RADAR WARNING SYSTEM AN/APR-44(V)3:



1-9. Location of Components. The control unit is located in the cockpit. The low pass filter and receivers are located elsewhere in the aircraft. The location of these components can be found in the technical manual associated with the aircraft.

1-10. Differences Between Models. Table 1-2 lists the items included in the two different radar waring systems.

Table 1-2. Differences Between Models

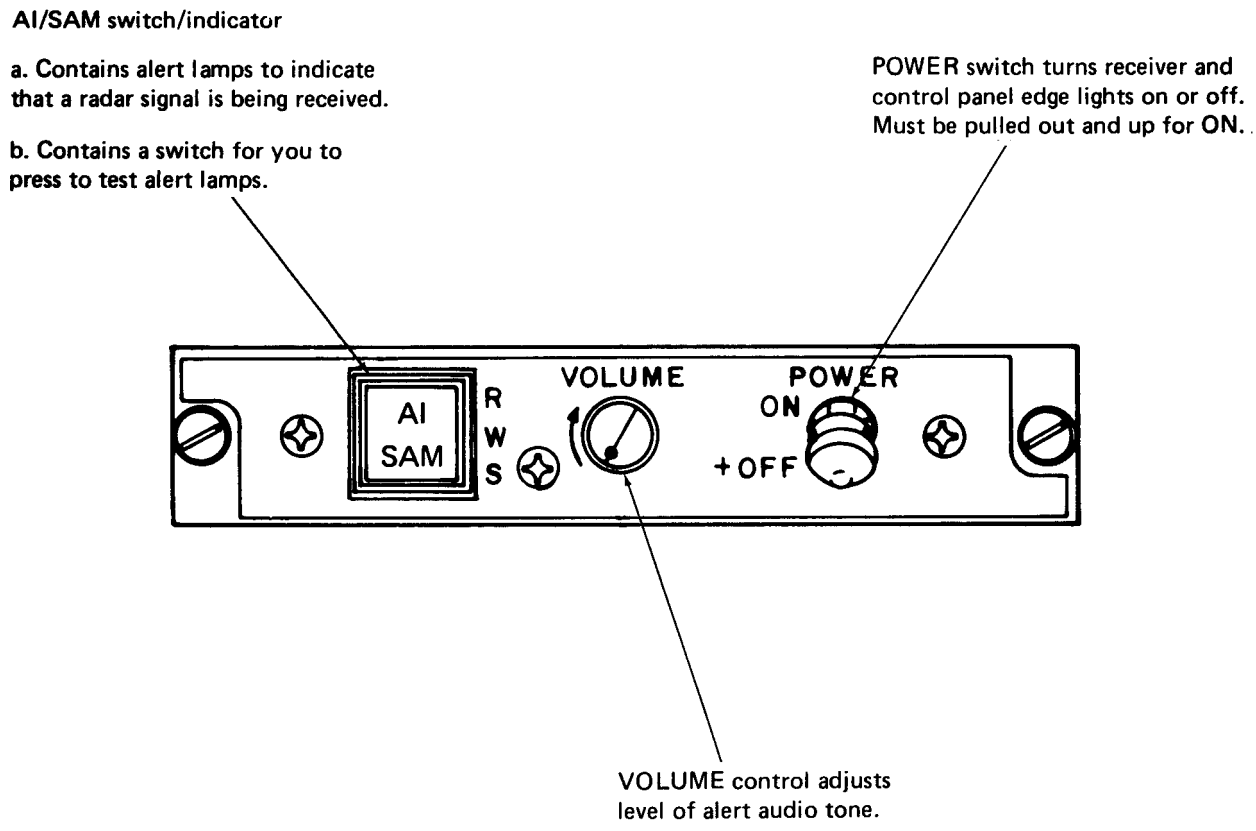
Item	AN/APR-44(V)1	AN/APR-44(V)3
Receiver, Radar R-2097/APR-44(V)	1 ea	1 ea
Receiver, Radar R-2098/APR-44(V)	Not used	1 ea
Control, Receiver C-10387/APR-44(V)	1 ea	1 ea
Filter, Low Pass F-1503/APR-44(V)	1 ea	1 ea
Antenna AS-3266/APR-44(V)	2 ea	4 ea

1-11. Consolidated Index of Army Publications. Refer to the latest issue of DA Pam 310-1 to determine whether there are new editions, changes or additional publications pertaining to the equipment.

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS



Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-1. General. To be sure that your radar warning system is always ready for operation, you must check it regularly and thoroughly. This lets you find troubles and correct them before they cause serious damage or failure.

2-2. Periodic Inspection. Perform the system test as given in paragraph 3-9a or 3-9b to make sure the system is capable of doing what it's supposed to do. You must do the system test at least every time the aircraft is given a periodic inspection as part of the inspection. There are times when mission requirements may make it necessary to do the system test more often, or even daily, to make sure all the equipment is working properly. If any malfunction happens, refer to organizational troubleshooting given in section III of chapter 3.

2-3. PMCS Procedures. Table 2-1 gives the radar warning systems PMCS which you should do as indicated.

a. Weekly and monthly, perform your (W) and (M) PMCS. These are important checks you make to keep serious problems from suddenly happening.

b. Routine checks such as: cleaning, dusting, washing, checking for frayed cables, stowing items not in use, covering unused receptacles, and checking for loose nuts and bolts are not listed as PMCS checks. Do these things whenever required.

c. If you find a routine check like one of those above listed in your PMCS, it was listed because other operators reported problems with this item.

d. If your equipment fails to operate, troubleshoot in accordance with paragraph 3-8. Report any deficiencies using the proper forms. See TM 38-750.

NOTE

When you are doing any PMCS or other check, remember the warnings and cautions.

NOTE

The PROCEDURES column in your PMCS chart instructs you to "Check for and have repaired or adjusted as necessary". Carefully follow these instructions and, when necessary, get organizational maintenance to do the necessary work.

NOTE

If your equipment must be in operation all the time, check and service those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shut down.

NOTE

Use the ITEM NO. column in your PMCS table to get the numbers for the TM ITEM NO. column on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) when you fill out the form.

Section III. OPERATION UNDER USUAL CONDITIONS

2-4. Operation. Power is available to the control unit when aircraft dc power and system circuit breaker are ON. Perform the procedures listed below:

a. Press AI/SAM switch/indicator for lamp test. Both sections of switch/indicator should light.

b. Place POWER switch to ON position by pulling out and then up. Panel edge lights should light. Audio tone should come on momentarily and then go off. If you have a Radar Warning System AN/APR-44 (V)1, SAM indicator should come on momentarily and go off. If you have a Radar Warning System AN/APR-44(V)3, SAM and AI indicators should come on momentarily and then go off.

c. Adjust VOLUME control to get a comfortable listening level in headset.

Table 2-1. PMCS Procedures

NOTE: Within designated interval, these checks are to be

B - Before A - After M - Monthly

D - During W - Weekly

Item no.	B	D	A	W	M	Item to be Inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment is not ready/available if:
1					•	Control unit with POWER switch OFF.	a. Inspect external surfaces for damage. b. Check POWER switch and VOLUME control for postive action and secure mounting.	Damage affects performance.
2					•	External connectors	Check for tightness	Connectors are loose.
3					•	Antennas	a. Clean surface b. Check for security of mounting and any signs of damage or fatigue.	Damage affects performance.
4				•		Control unit	a. Set POWER switch to ON. Panel edge lights come on. (1) Audio tone and SAM alert indicator come on momentarily and then go off [(V)1 only].	Abnormal operation is observed.

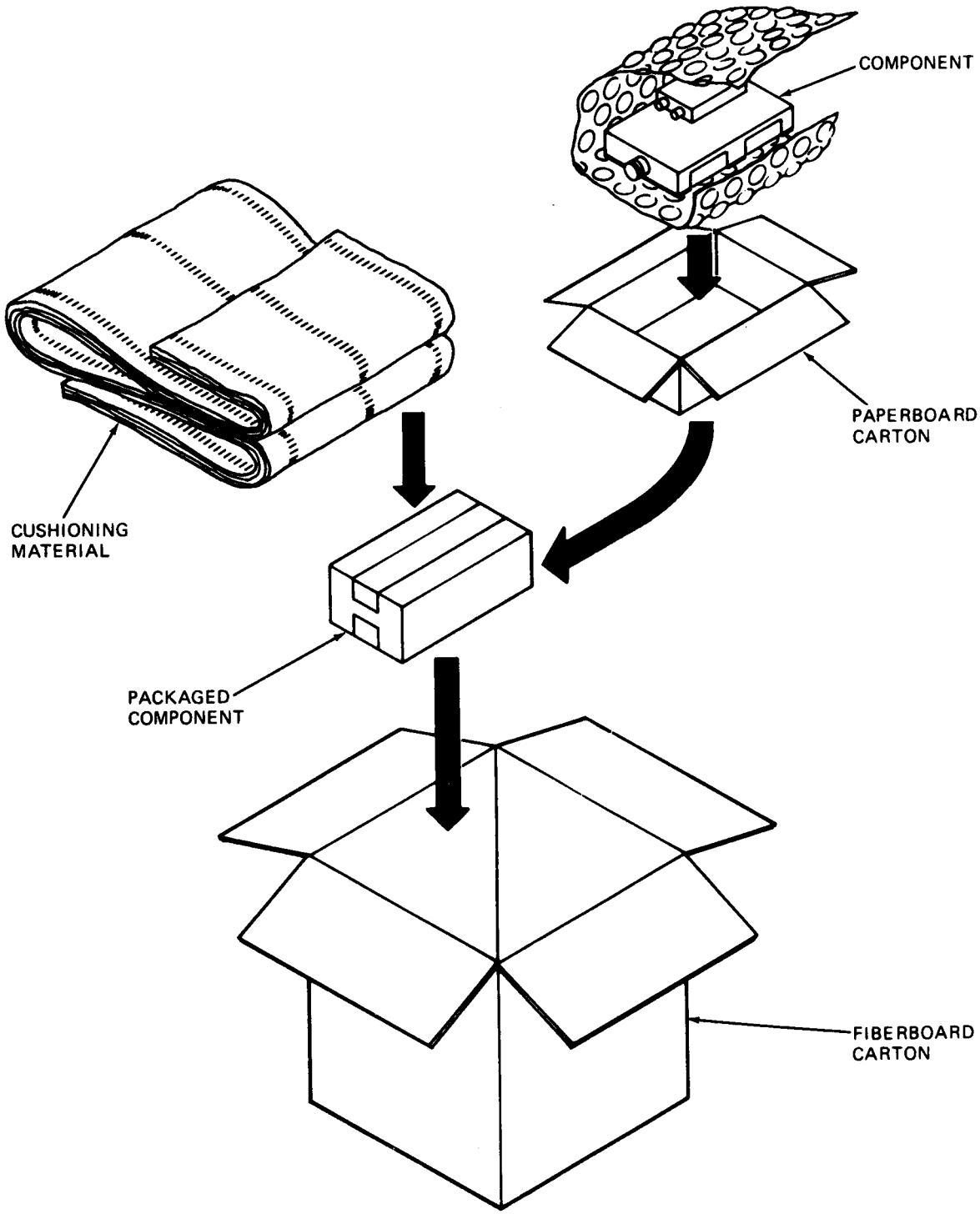
Table 2-1. PMCS Procedures - Continued

NOTE: Within designated interval, these checks are to be

B - Before A - After M - Monthly

D - During W - Weekly

Item no.	B	D	A	W	M	Item to be Inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment is not ready/available if:
							(2) Audio tone and AI/SAM alert indicators come on momentarily then go off [(V)3 only].  b. Press AI/SAM lens, both sections of indicator should light. 	
5				•		Radar warning system	Perform system test as given in paragraph 3-9.	Abnormal operation is observed.


COMPONENT
PAPERBOARD CARTON
CUSHIONING MATERIAL
PACKAGED COMPONENT
FIBERBOARD CARTON

CHAPTER 3

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

3-1. Common Tools and Equipment. For authorized common tools and equipment refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

3-2. Special Tools, TMDE, and Support Equipment. Table 3-1 identifies the tools and test equipment that you need to perform organizational-level maintenance on your radar warning system.

3-3. Repair Parts. Those repair parts authorized for organizational-level maintenance on the equipment are listed and illustrated in the repair parts and special tools list (RPSTL), TM 11-5841-291-20P.

Table 3-1. Special Tools and TMDE Required

Quantity required	Nomenclature	National stock number
1	Tool Kit, Electronic Equipment TK-101/G	5180-00-610-5178
1	Multimeter TS-352B/U	6625-00-242-5023
1	Simulator, Radar Signal SM-756/APR-44(V)	6940-01-058-1066
1	Torque Wrench, T8438 or equivalent	5120-00-169-5776

Section II. SERVICE UPON RECEIPT

3-4. Unpacking and Inspection. This is how either radar warning system is packed for shipment. When you get it, perform the procedures listed below.

a. Carefully remove components from containers so as not to cause damage.

b. Check the components received against those listed on the packing slip or listed in Appendix B.

c. Inspect equipment for damage that may have occurred during shipment. If equipment has been damaged, report the damage on SF 364, Report of Discrepancy.

3-5. Preparation for Administrative Storage.

a. Security of the stored equipment is required. The area used for storage must protect the equipment from being stolen.

b. The equipment in storage must be protected from the weather. Covered storage is required.

c. The equipment to be stored must be in good working order. Perform the operating procedure (paragraph 2-4) on the equipment prior to storage.

d. When putting the equipment into administrative storage (1 to 45 days) use a storage area that is accessible. Equipment in administrative storage must be able to be removed from storage and put into operation on 24-hour notice.

Section III. TROUBLESHOOTING

3-6. General Troubleshooting. Troubleshooting either radar warning system is based on finding a problem when you are doing the PMCS. Use the information in this section to find a faulty component if the PMCS indicates you have a problem.

3-7. Component Connectors and Fuseholder.

a. Notice the connectors on the control unit, receivers, and low pass filter. Also notice the fuseholder on the control unit. This is where the fuse for the system is located. The fuse is a normal-blow type with a 0.25A at 250V rating.

b. All connectors on the control unit are multi-pin connectors. J1 and J3 are used in Radar Warning System AN/APR-44(V)1; J1, J2, and J3 are used in Radar Warning System AN/APR-44(V)3. Tables 3-2 and 3-3 tell you what signals and voltages connect to the pins of these connectors.

c. Connectors A2J1 and A2J2 on the receivers and all connectors on the low pass filter are coaxial rf connectors. These connect to the system rf lines from the antennas.

d. Use the illustration and tables 3-2 and 3-3 to help in troubleshooting. Use the multimeter to measure voltages and to check continuity of the system's interconnecting cables when necessary.

3-8. Troubleshooting Data.

CAUTION

Before replacing any radar warning system component, use aircraft circuit breaker to turn off (open) 28 Vdc to control unit.

NOTE

The locations of antennas, low pass filter, and receivers vary from one type of aircraft to another. Refer to the aircraft technical manual for the exact locations of these components.

a. Common Troubles. Table 3-4 lists common troubles you may find during operation or maintenance of the radar warning systems. Where the corrective action column refers you to another table or paragraph, go there and do as instructed to perform additional tests or to correct a problem.

Table 3-2. Control Unit to Receiver Connectors (J1 and J2 to A1J3)

Connector pin (J1, J2, and A1J3)	Signal name or voltage
1	Logic audio in
2	Logic audio out
3	Audio drive
4	Audio return
5	SAM lamp drive
6	AI lamp drive
7	SAM logic out
8	AI logic out
9	+28V on/off out
10	Ground

Table 3-2. Control Unit to Receiver Connections (J1 and J2 to A1J3) Continued

Connector pin (J1, J2, and A1J3)	Signal name or voltage
11	Shield ground
12	Spare
13	Spare

Table 3-3. Control Unit J3 to Aircraft Interface Connections

Connector pin	Signal name or voltage
1	Remote AI indicator drive
2	Remote SAM indicator drive
3	Audio output (150-ohm load)
4	Audio return ground
5	SAM logic output
6	AI logic output
7	Spare
8	Master caution light power
9	Dimming from aircraft console control
10	Master caution light power
11	Ground
12	Shield ground
13	+28V power input

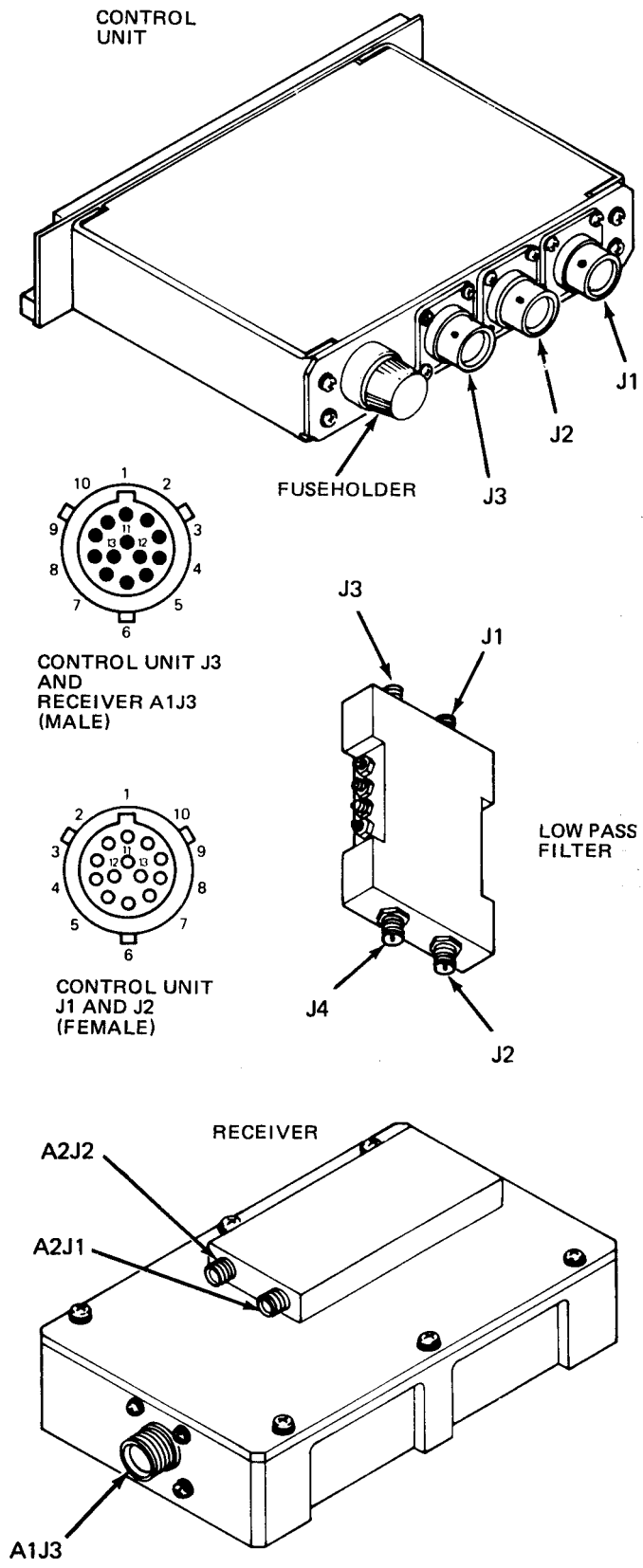


Table 3-4. List of Common Troubles

Malfunction	Probable cause	Corrective action
Panel edge lamps do not light.	a. Cockpit dimmer control set too dim.	a. Adjust cockpit dimmer control for visible edge lighting.
	b. Faulty bulbs	b. Replace control unit. (See paragraphs 3-13 and 3-14.)
	c. Defective POWER switch on control unit.	c. Replace control unit. (See paragraphs 3-13 and 3-14.)
Alert lamps do not light.	a. Faulty lamps.	a. Replace lamps. (See paragraph 3-19.)
	b. Defective indicator switch.	b. Replace control unit. (See paragraphs 3-13 and 3-14.)
Alert lamp does not light; audio not heard in headset.	a. Blown fuse in control unit.	a. Replace fuse.
	b. Defective receiver.	b. Perform system test through all antennas. (See paragraph 3-9a or 3-9b.) If alert lamp does not light, replace receiver. (See paragraphs 3-11 and 3-12.)
Alert lamp does not light, but audio is heard in headset.	a. Defective receiver.	a. Replace receiver. (See paragraphs 3-11 and 3-12).
	b. Defective wiring or connectors between receiver and control unit.	b. Check continuity. (See table 3-2.)
	c. Defective control unit.	c. Replace control unit. (See paragraphs 3-13 and 3-14.)
No audio, but alert lamp lights.	a. Defective wiring or improper connections between receiver and control unit.	a. Check continuity and interconnection between receiver and control unit. (See table 3-2.)
	b. Defective receiver.	b. Replace receiver. (See paragraphs 3-11 and 3-12.)
	c. Defective control unit.	c. Replace control unit. (See paragraphs 3-13 and 3-14.)

Table 3-4. List of Common Troubles - Continued

Malfunction	Probable cause	Corrective action
No signal from one antenna.	a. Defective antenna	a. Replace antenna. (See paragraphs 3-15 and 3-16.)
	b. Defective coaxial cable or low pass filter.	b. Perform threshold tests. (See paragraph 3-9c, 3-9d, or 3-9e.) Indication in control unit; replace antenna cable. No indication in control unit; replace low pass filter. (See paragraphs 3-17 and 3-18.)

b. Fault Isolation. Two technicians are required when using the organizational-level troubleshooting flow charts in figures FO-1 and FO-2 to isolate faulty components of the radar warning systems. The flow charts give you a logical sequence that can be followed step-by-step to identify the cause of a problem and to tell you what to do to correct the problem. To understand the flow charts, learn the meaning of the symbols which are illustrated and defined here. Then, to use the flow chart:

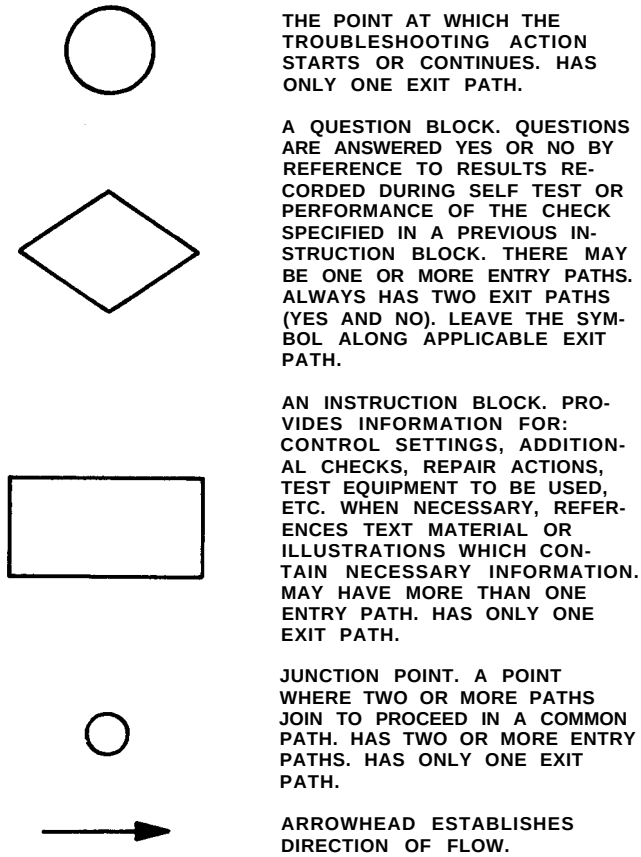
(1) Start the flow chart at the ENTER symbol in the upper left-hand corner.

(2) Follow the arrows to the first symbol.

(a) Perform the specified action, if an instruction block, and follow the arrow to the next symbol.

(b) Answer the question, if a question symbol, with reference to the results of the action of the previous instruction block or applicable test.

(3) Continue following the arrows with regard to question answers, performing the specified actions. Each replaceable item is checked; if it is faulty a repair action is cited. Upon completion of a repair action, the path loops back to test for effective repair. For removal and replacement procedures, refer to paragraphs 3-11 thorugh 3-19.



THE POINT AT WHICH THE TROUBLESHOOTING ACTION STARTS OR CONTINUES. HAS ONLY ONE EXIT PATH.

A QUESTION BLOCK. QUESTIONS ARE ANSWERED YES OR NO BY REFERENCE TO RESULTS RECORDED DURING SELF TEST OR PERFORMANCE OF THE CHECK SPECIFIED IN A PREVIOUS INSTRUCTION BLOCK. THERE MAY BE ONE OR MORE ENTRY PATHS. ALWAYS HAS TWO EXIT PATHS (YES AND NO). LEAVE THE SYMBOL ALONG APPLICABLE EXIT PATH.

AN INSTRUCTION BLOCK. PROVIDES INFORMATION FOR: CONTROL SETTINGS, ADDITIONAL CHECKS, REPAIR ACTIONS, TEST EQUIPMENT TO BE USED, ETC. WHEN NECESSARY, REFERENCES TEXT MATERIAL OR ILLUSTRATIONS WHICH CONTAIN NECESSARY INFORMATION. MAY HAVE MORE THAN ONE ENTRY PATH. HAS ONLY ONE EXIT PATH.

JUNCTION POINT. A POINT WHERE TWO OR MORE PATHS JOIN TO PROCEED IN A COMMON PATH. HAS TWO OR MORE ENTRY PATHS. HAS ONLY ONE EXIT PATH.

ARROWHEAD ESTABLISHES DIRECTION OF FLOW.

c. This manual cannot identify all troubles that may occur, nor all tests or inspections and corrective actions. If you find a trouble that is not identified, or is not corrected by actions given, notify your supervisor.

3-9. Troubleshooting Tests. In order to troubleshoot your radar warning system, you will have to run tests on the system using Simulator, Radar Signal SM-757/APR-44(V). Simulator, Radar Signal SM-757/APR-44(V), called the gun in the following paragraphs, lets you radiate and connect rf into the system. Even though one technician can operate the gun, another technician must be in the aircraft cockpit during the tests. This lets one of you operate the gun, while the other checks for test results in the cockpit. Consult TM-11-6940-214-12 to get familiar with the gun and its operation before using it. Table 3-5 tells you which tests should be done for Radar Warning System AN/APR-44(V)1 and for Radar Warning System AN/APR-44(V)3.

WARNING

The gun generates high frequency radio waves that can be dangerous. When using the gun, keep the front of it at least 2 inches away from any part of your body.

CAUTION

Before doing any tests, make sure aircraft is parked in a location free of high frequency radio waves that can interfere. If not sure of conditions where aircraft is parked, check with your supervisor.

a. Overall System Test (SAM). Perform the procedures listed below.

(1) Consult aircraft technical manual to find out where the SAM antennas are located.

(2) Ask technician in cockpit to make sure that system's circuit breaker is turned on (closed) and that POWER switch on control unit is set to ON.

NOTE

Check and adjust position of cockpit dimmer control for visible edge lighting and alert indicator.

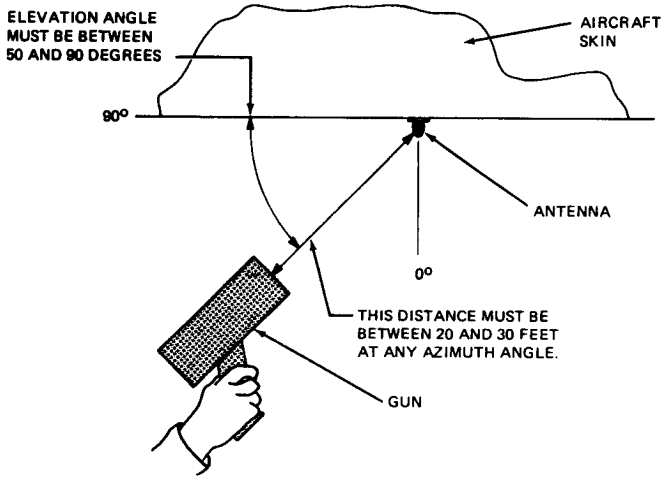
(3) Choose one SAM antenna to start with and set gun's function switch to LO BND.

(4) Make sure that nothing is between you and antenna. Then,

Table 3-5. Test Selection

Test	Radar warning system	
	AN/APR-44(V)1	AN/APR-44(V)3
Overall system test	Paragraph 3-9a	Paragraphs 3-9a, 3-9b
SAM receiver threshold (with low pass filter)	Paragraph 3-9c	Paragraph 3-9c
SAM receiver threshold (without low pass filter)	Paragraph 3-9d	Paragraph 3-9d
AI receiver threshold test	Not applicable	Paragraph 3-9e

hold gun between 20 and 30 feet away from antenna and aim directly at it. The illustration shows you how to position the gun within the distance at any azimuth angle around the antenna.



(5) Squeeze gun's trigger switch and observe that meter indicates between -2 and +2 dB. At this time, ask the technician in cockpit to verify that SAM indicator light is on and that warning tone can be heard in headset.

(6) Release trigger switch and check with the other technician that indicator light goes out and that warning tone stops.

(7) Repeat steps (4), (5), and (6) above for the other SAM antenna. Make sure that gun's function switch is set to LO BND when you go on to the other SAM antenna.

b. Overall System Test (AI). Perform the procedures listed below.

(1) Consult aircraft technical manual to find out where the AI antennas are located.

(2) Ask technician in cockpit to make sure that system's circuit breaker is turned on (closed) and that POWER switch on control unit is set to ON.

NOTE

Check and adjust position of cockpit dimmer control for visible edge lighting and alert indicator.

(3) Choose one AI antenna to start with and set gun's function switch to HI BND.

(4) Make sure that nothing is between you and antenna. Then, hold gun between 10 and 15 feet away from antenna and aim directly at it. The illustration shows you how to position the gun within the distance at any azimuth angle around the antenna.

(5) Squeeze gun's trigger switch and observe that meter indicates between -2 and +2 dB. At this time, ask the technician in cockpit to verify that AI indicator light is on and that warning tone can be heard in headset.

(6) Release trigger switch and check with the other technician that indicator light goes out and that warning tone stops.

(7) Repeat steps (4), (5), and (6) above for the other AI antenna. Make sure that gun's function switch is set to HI BND when you go on to the other AI antenna.

c. SAM Receiver Threshold Test (Low Pass Filter in Circuit). Perform the procedures listed below.

NOTE

On aircraft where low pass filter is connected in the rf path between SAM antennas and SAM receiver, use this procedure to test receiver threshold level.

(1) Consult aircraft technical manual to find out where low pass filter is located. Disconnect SAM antenna rf cables from input rf connectors on filter.

(2) Make test connections shown here to one input rf connector on low pass filter and RF TEST jack on gun. Connect 50-ohm termination to other input rf connector on filter.

NOTE

Microwave test cable and 50-ohm termination are components of Simulator, Radar Signal SM-756/APR-44(V).

(3) Ask technician in cockpit to make sure that system's circuit breaker is turned on (closed) and that POWER switch on control unit is set to ON.

NOTE

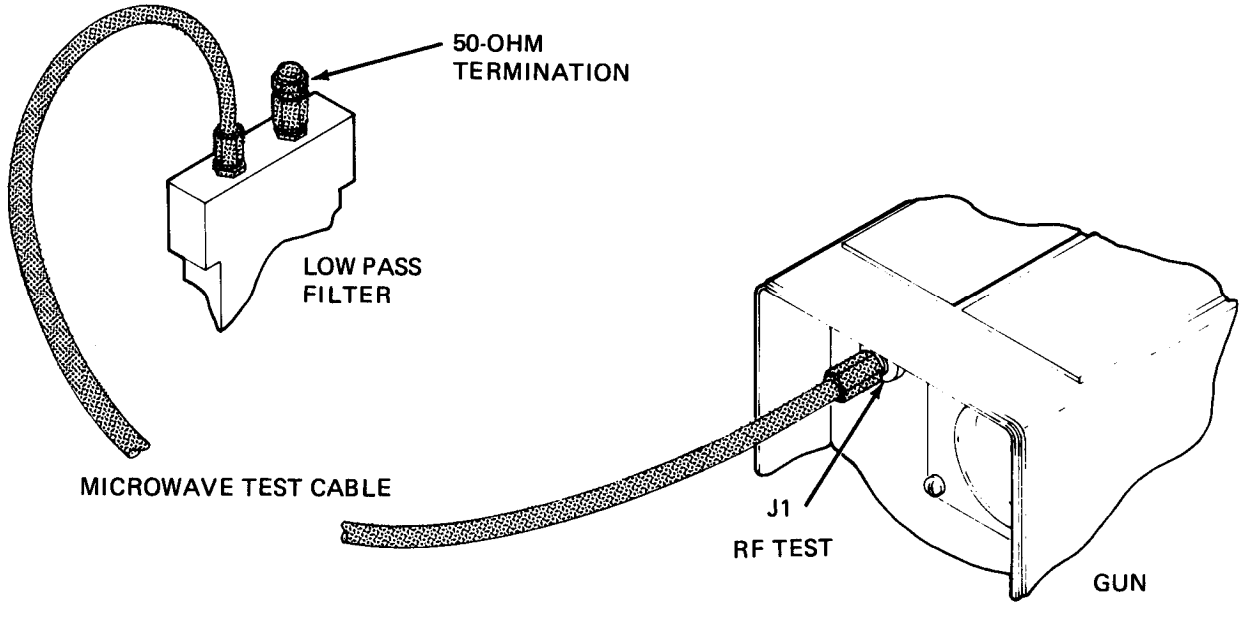
Check and adjust position of cockpit dimmer control for visible edge lighting and alert indicator.

(4) Set gun's function switch to LO BND.

(5) Squeeze gun's trigger switch and observe that meter indicates betwwen -2 and +2 dB. At this time, ask technician in cockpit to verify that SAM indicator light is on and that warning tone can be heard in headset.

(6) Release trigger switch and check with other technician that indicator light goes out and that warning tone stops.

(7) Repeat steps (2) through (6) above at other input rf connector on low pass filter.



d. SAM Receiver Threshold Test (Low Pass Filter not in Circuit). Perform procedures listed below.

NOTE

On aircraft where low pass filter is not connected in the rf path between SAM antenna and SAM receiver, use this procedure to test receiver threshold level.

(1) Consult aircraft technical manual to find out where receiver is located. Then, disconnect SAM antenna rf cables at the input rf connectors on receiver.

(2) Make test connections shown here to one of the input rf connectors on receiver and RF TEST jack on gun. Connect 50-ohm termination to other rf connector on receiver.

NOTE

Microwave test cable and 50-ohm termination are components of Simulator, Radar Signal SM-756/APR-44(V).

(3) Ask technician in cockpit to make sure that system's circuit breaker is turned on (closed) and that POWER switch on control unit is set to ON.

NOTE

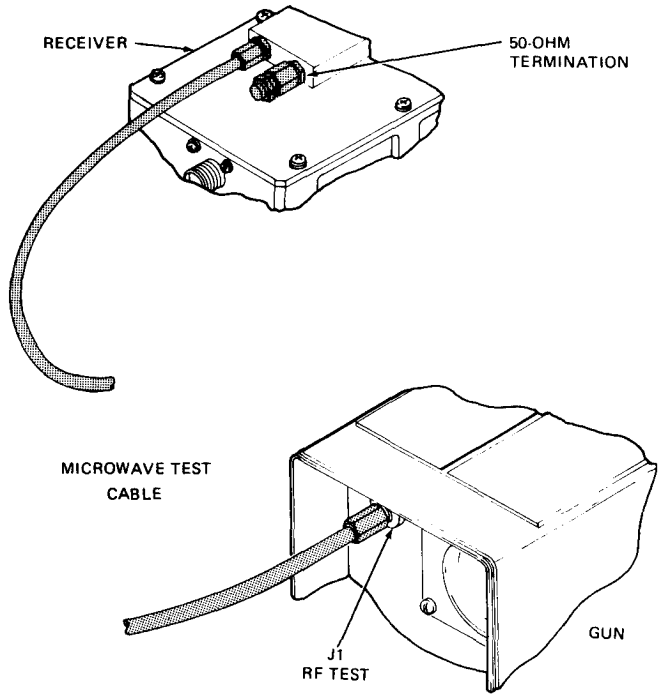
Check and adjust position of cockpit dimmer control for visible edge lighting and alert indicator.

(4) Set gun's function switch to LO BND.

(5) Squeeze gun's trigger switch and observe that meter indicates between -2 and +2 dB. At this time, ask the technician in cockpit to verify that SAM indicator light is on and that warning tone can be heard in the headset.

(6) Release trigger switch and check with the other technician that indicator light goes out and that warning tone stops.

(7) Repeat steps (2) through (6) above at other input rf connector on SAM receiver.



e. AI Receiver Threshold Test. Perform procedures listed below.

(1) Consult aircraft technical manual to find out where AI receiver is located. Then, disconnect AI antenna rf cables at the input rf connectors on AI receiver.

(2) Make test connections shown here to one of the input rf connectors on AI receiver and RF TEST jack on gun. Connect 50-ohm termination to other rf connector on receiver.

NOTE

Microwave test cable and 50-ohm termination are components of Simulator, Radar Signal SM-756/APR-44(V).

(3) Ask technician in cockpit to make sure that system's circuit breaker is turned on (closed) and that POWER switch on control unit is set to ON.

NOTE

Check and adjust position of cockpit dimmer control for visible edge lighting and alert indicator.

(4) Set gun's function switch to HI BND.

(5) Squeeze gun's trigger switch and observe that meter indicates between -2 and +2 dB. At this time, ask the technician in cockpit to verify that AI indicator light is on and that warning tone can be heard in the headset.

(6) Release trigger switch and check with the other technician that indicator light goes out and that warning tone stops.

(7) Repeat steps (2) through (6) above at other input rf connector on AI receiver.

Section IV. MAINTENANCE PROCEDURES

3-10. Scope. This section contains procedures for removing and replacing the component units and those component parts that are authorized at the organizational level. A procedure for bypassing the low pass filter is also given in this section. Your supervisor will tell you when to use that procedure if necessary.

NOTE

Refer to the aircraft technical manual for locations and methods of mounting antennas, receiver, and low pass filter.

3-11. Receiver Removal. Remove either receiver as follows:

a. Disconnect three cables from receiver.

b. Remove bonding strap from receiver.

c. Remove four screws that secure receiver to aircraft.

3-12. Receiver Replacement. Replace the receiver in the aircraft as follows:

a. Secure receiver to aircraft with four screws.

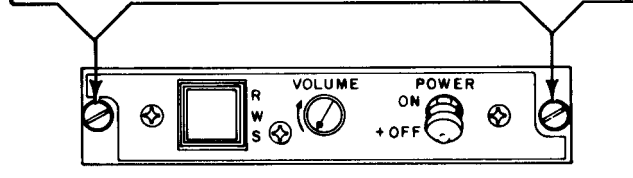
b. Connect control cable to multi-pin connector on receiver.

c. Carefully aline center pins of mating rf connectors and screw connectors finger tight. Using torque wrench T8438, or equivalent, tighten rf cable connectors to between 7 and 10 inch-pounds.

d. Secure bonding strap to receiver.

3-13. Control Unit Removal. Remove control unit as follows:

a. Loosen two captive turnlock fasteners that secure control unit to aircraft mounting panel.



b. Carefully pull unit from mounting panel and disconnect cables.

3-14. Control Unit Replacement. Replace the control unit in aircraft as follows:

a. Connect SAM receiver cable to J1, AI receiver cable to J2 (if used), and aircraft interface cable to J3.

b. Place unit into mounting panel and secure to panel with its two captive turnlock fasteners.

3-15. Antenna Removal. Remove an antenna as follows:

a. Remove four screws that secure antenna to aircraft.

b. Carefully pull antenna away from aircraft and disconnect cable.

3-16. Antenna Replacement. Replace an antenna as follows:

a. Carefully aline center pins of mating rf connectors and screw on cable connector finger tight. Using torque wrench T8438, or equivalent, tighten cable connector to between 7 and 10 inch-pounds.

b. Secure antenna to aircraft with four screws.

3-17. Low Pass Filter Removal. Remove low pass filter as follows:

a. Check all cables connected to low pass filter to see if they are labeled with reference designations of mating connectors on filter. Then, disconnect cables from filter.

NOTE

If cables are not labeled, temporarily mark them so you can identify them later.

b. Remove two screws that secure low pass filter to aircraft.

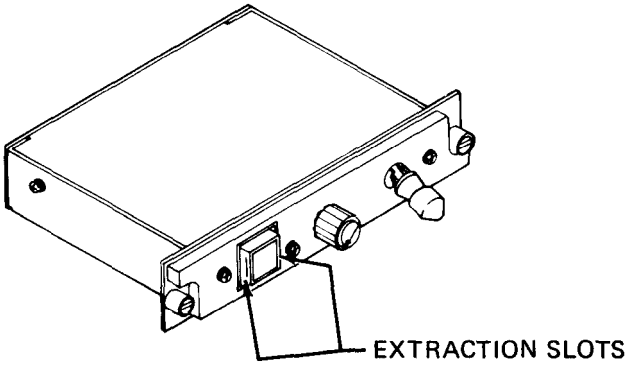
3-18. Low Pass Filter Replacement. Replace low pass filter as follows:

a. Secure low pass filter to aircraft with two screws.

b. Carefully aline center pins of mating rf connectors. After alining pins, screw connectors finger tight. Using torque wrench T8438, or equivalent, tighten rf cable connectors to between 7 and 10 inch-pounds.

3-19. Removal and Replacement of Alert Lamps. Remove and replace lamps in AI/SAM switch/indicator as follows:

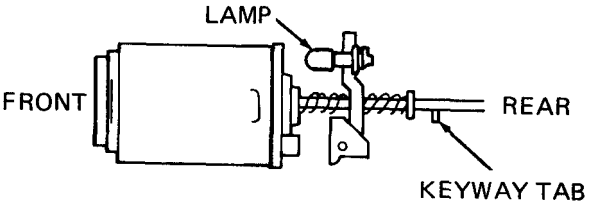
a. Remove indicator cap by inserting your fingernails in extraction slots at sides of indicator and pull it straight out.



NOTE

Use a flat non-metallic tool if your fingernails are not long enough to remove indicator cap.

b. Pull out defective lamp from rear of indicator.

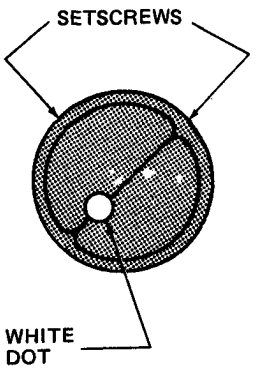


c. Install new lamp.

d. Reinstall indicator into control unit so that keyway tab is at bottom and the word TOP is at top.

3-20. Removal and Replacement of Volume Control Knob. Remove and replace the knob of the VOLUME control as follows:

a. Rotate VOLUME control to full counterclockwise position. This puts the white dot on knob at approximately 7 o'clock. It also puts two knob setscrews at approximately 10 o'clock and 1 o'clock.



b. Using 0.050-inch (across the flats) hex key, loosen both setscrews two or three turns and slip knob off VOLUME CONTROL shaft.

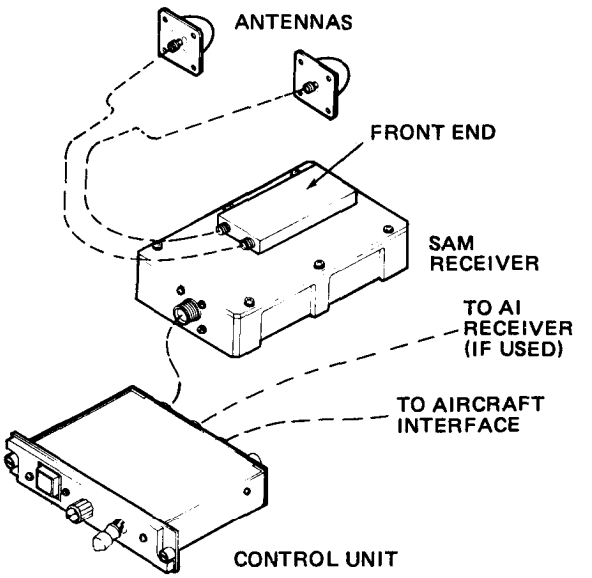
c. With knob removed, make sure that VOLUME control shaft is still at its full counterclockwise position.

d. Slip replacement knob onto VOLUME control shaft. Keep approximately 1/32-inch clearance (about thickness of paper match) between back of knob and edge-lit panel. Then rotate knob counterclockwise to position white dot to approximately 7 o'clock.

e. Using 0.050-inch hex key, tighten both setscrews with only enough tension to make firm contact with shaft.

f. Check for free rotation of knob and shaft in both directions.

3-21. Low Pass Filter Bypassing. Under certain conditions, the antenna cables are to be connected directly to the SAM receiver. When the cables are connected in this way, the low pass filter is completely bypassed. Your supervisor will know when the filter is to be bypassed and will tell you to make the connections that are needed. The procedure for making the connections to bypass the filter is as follows:



NOTE

Because specific locations of components vary from one aircraft to another, you may have to look up the cables that connect antennas, filter, and SAM receiver in aircraft technical manual to be sure you have correct ones.

a. At SAM receiver, disconnect both rf cables that come from filter.

b. At filter, disconnect two cables that come from antennas and reconnect them to SAM receiver front end.

c. Check your work against connections shown here.

APPENDIX A

REFERENCES

A-1. Scope. This appendix lists forms and publications which you can use as reference material.

A-2. Forms.

DA Form 2028	Recommended Changes to Publications and Blank Forms.
DA Form 2404	Equipment Inspection and Maintenance Worksheet.
DA Form 2407	Maintenance Request.
SF 368	Quality Deficiency Report (Category II).

A-3. Technical Manuals.

TM 11-5841-291-20P	Organizational Maintenance Repair Parts and Special Tools Lists for Radar Warning System AN/APR-44(V)1 (NSN 5841-01-047-5398).
TM 11-6940-214-12	Operator's and Organizational Maintenance Manual for Simulator, Radar Signal SM-756/APR-44(V) (NSN 6940-01-058-1066).
TM 38-230-1	Packaging of Materiel-Preservation (Vol I).
TM 38-230-2	Packaging of Materiel-Preservation (Vol II).
TM 38-260	Preparation of Industrial Plant Equipment for Storage or Shipment.
TM 38-750	The Army Maintenance Management System (TAMMS).
TM 740-90-1	Administrative Storage of Equipment.

A-4. Miscellaneous Publications.

DA Pam 310-1.	Consolidated Index of Army Publications.

APPENDIX B

COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS

Section I. INTRODUCTION

B-1. Scope. This appendix identifies integral components of and basic issue items for the radar warning systems to help you inventory items required for safe and efficient operation.

B-2. General. This appendix is divided into the following sections:

a. Section II, Integral Components of the End Item. These items, when assembled, make up your radar warning system and must accompany it whenever it is transferred or turned in.

b. Section III, Basic Issue Items (BII). These are the minimum essential items required to place your radar warning system in operation, to operate it, and to perform emergency repairs. They must accompany the radar warning system during operation and whenever it is transferred between accountable officers. This manual is your authority to requisition replacement BII.

B-3. EXPLANATION OF COLUMNS.

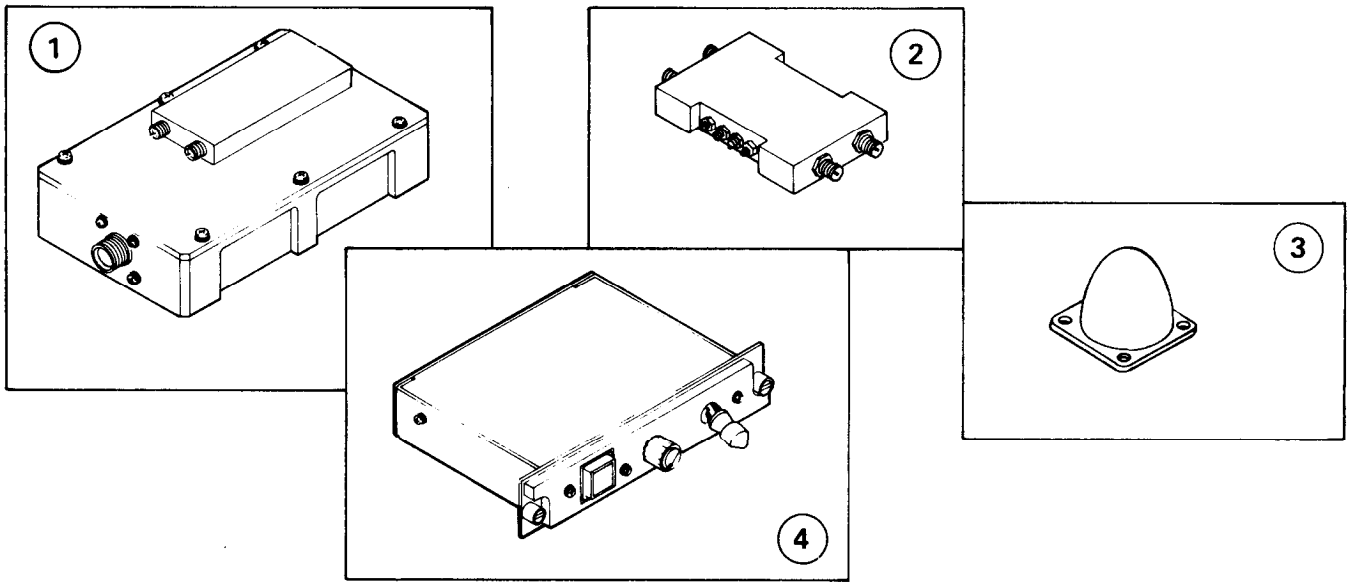
a. Illustration Number. This column indicates the number of the illustration in which the item is shown.

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

c. Description. Indicates the National item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number. If item needed differs for different models of this equipment, the model is given under the "Usable on code" heading in this column.

d. Unit of Measure. Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea. in., pr).

e. Quantity Required (Qty Reqd). This column lists the quantity of each item required for a complete radar warning system.



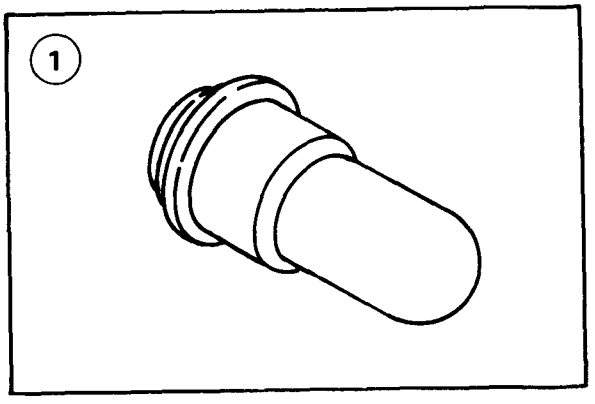
Section II. COMPONENTS OF END ITEM

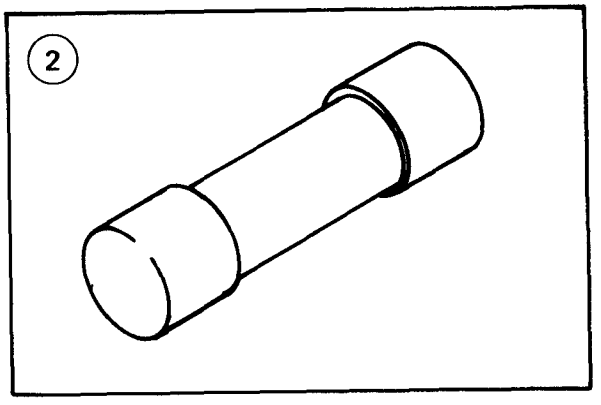
(1) Illus number	(2) National stock number	(3) Description FSCM and part number Usable on code	(4) Unit of meas	(5) Qty reqd
1	5841-01-047-5485	Receiver, Radar R-2097/APR-44(V) R-2097/APR-44(V) (in location dependin on aircraft) (93346) 4256501-501 A,B	Ea	1
1	5841-01-047-5486	Receiver, Radar R-2098/APR-44(V) R-2098/APR-44(V) (in location depending on aircraft) (93346) 4256501-502 B	Ea	1
2	5915-01-088-6773	Filter, Low Pass F-1503/APR-44(V) Pass F-1503/APR-44(V) (in location depending on aircraft) (03346) 3254598-501 A,B	Ea	1
3	5985-01-047-2770	Antenna AS-3266/APR-44(V) AS-3266/APR-44(V) (in location depending on aircraft) (93346) 3750694-501 A,B	Ea	*
4	5841-01-048-0705	Control, Receiver C-10387/APR-44(V) C-10387/APR-44(V) (in cockpit) (4256539-501 A,B	Ea	1

* Qty is two on Radar Warning System AN/APR-44(V)1,
Qty is four on Radar Warning System AN/APR-44(V)3.

A. Used on Radar Warning System AN/APR-44(V)1.

B. Used on Radar Warning System AN/APR-44(V)3.





Section III. BASIC ISSUE ITEMS

(1) Illus number	(2) National stock number	(3) Description FSCM and part number	Usable on code	(4) Unit of meas	(5) Qty reqd
1	6240-00-143-6558	Lamp, incandescent (based), 28V, 0.24A (96906) MS3338-6839		Ea	1
2	5920-00-235-8358	Fuse, cartridge (nonind), 250V, ¼A, NB (81349) F01A250V1/4A		Ea	1

APPENDIX C

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

C-1. General.

a. This section gives you a general explanation of all maintenance functions that are authorized at various maintenance categories on your radar warning system.

b. The maintenance allocation chart (MAC) in section II designates overall responsibility for doing the maintenance functions on your radar warning system or its components. Carrying out the maintenance functions on the radar warning system or its components will be done to agree with the assigned maintenance functions.

C-2. Maintenance Functions. The maintenance functions on your radar warning system are limited to those given on the MAC. These are 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 by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Replace. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

d. Repair. The application of maintenance services* or other maintenance actions** 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.

C-3. Explanation of Columns in the MAC.

a. Column 1, Group Number. Column 1 lists functional group code 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 names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Function. Column 3 lists the functions to be performed on the item listed in column 2.

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the category 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 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. The symbol designations for the various maintenance categories are as follows:

O . . . Organizational aviation unit maintenance (AVUM)

D . . . Depot maintenance

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

* Services - inspect, test, service, adjust, aline, calibrate, or replace.

** Actions - welding, grinding, riveting, straightening, facing, remachining, or resurfacing.

Section II. MAINTENANCE ALLOCATION CHART FOR RADAR WARNING SYSTEMS AN/APR-44(V)1 and AN/APR-44(V)3 and AN/APR-44(V)3

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY O (AVUM)	(4) MAINTENANCE CATEGORY D	(5) TOOLS AND EQPT.	(6) REMARKS
00	RADAR WARNING SYSTEM AN/APR-44(V)1 & (V)3	INSPECT	0.2			
		TEST	0.2		1	A
		REPLACE	2.0		2,3	
		REPAIR	0.5		1,2,4	B
		REPAIR		5.0	4,22	C
01	RADAR RECEIVER R-2097 /APR-44(V)	INSPECT	0.1			
		TEST	0.1		1	D
		TEST		0.3	6,9,10,11,12 13,22	
		REPLACE	0.5		2,3	
		REPAIR		5.0	4,5,6,9,10, 11,12,13,22	C,E
0101						F
0102	PROCESSOR ASSEMBLY	INSPECT		0.1		
		REPLACE		0.1	5	
		REPAIR		2.0	4,5,7,9,16, 19,20,21,22	C
010201	RECEIVER MODULE ASSEMBLY	INSPECT		0.1		
		TEST		1.0	4,5,7,9,16, 19,20,21,22	
		REPLACE		0.5	5	
		REPAIR		2.0	4,5,7,9,16, 19,20,21,22	C
02	RECEIVER CONTROL C- 10387 /APR-44(V)	INSPECT	0.1			
		TEST	0.5		4	G
		TEST		0.5	4,5,8,9,16, 18,19,20,21	
		REPLACE	0.5		2	
		REPAIR	0.5		2,4	H
		REPAIR		1.0	4,5,8,9,16, 18,19,20,21	C
0203	EDGE-LIT PANEL	INSPECT		0.1		
		TEST		0.1	4,5	
		REPLACE		0.3	5	
		REPAIR		0.4	4,5	C
03	RADAR RECEIVER R- 2098/APR-44(V)	INSPECT	0.1			
		TEST	0.1		1	D
		TEST		0.3	6,9,10,11,12 13,22	
		REPLACE	0.5		2,3	
		REPAIR		5.0	4,5,6,9,10, 11,12,13,22	C,E
0301						I
0302	PROCESSOR ASSEMBLY	INSPECT		0.1		
		REPLACE		0.1	5	
		REPAIR		1.0	4,5,7,9,16, 19,20,21,22	C
030201	RECEIVER MODULE ASSEMBLY	INSPECT		0.1		
		TEST		1.0	4,5,7,9,16, 19,20,21,22	
		REPLACE		0.5	5	
		REPAIR		1.0	4,5,7,9,16, 19,20,21,22	C
04	LOW-PASS FILTER F- 1503/APR-44(V)	INSPECT	0.1			
		TEST		0.5	4,5,10,11,14 15	C
		REPLACE	0.3		2,3	
		REPAIR				J

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR RADAR WARNING SYSTEMS AN/APR-44(V) and AN

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	O	SIMULATOR, RADAR SIGNAL SM-756/APR-44(V)	6940-01-058-1066	
2	O	TOOL KIT ELECTRONIC EQUIPMENT, TK-101/G	5180-00-064-5178	
3	O	WRENCH TORQUE T8438	5120-00-169-5776	
4	O,D	MULTIMETER TS-352B/U	6625-00-242-5023	
5	D	TOOL KIT ELECTRONIC EQUIPMENT TK-100/G	5180-00-605-0079	
6	D	RECEIVER TEST ADAPTER (DEPOT FABRICATION PER DMWR 11-5841-291)		
7	D	PROCESSOR TEST ADAPTER (DEPOT FABRICATION PER DMWR 11-5841-291)		
8	D	CONTROL UNIT TEST ADAPTER (DEPOT FABRICATION PER DMWR 11-5841-291)		
9	D	POWER SUPPLY PP-4728/FYA-10(V) (2 ea) POWER DESIGNS MODEL 36508)	7050-00-926-7842	
10	D	SWEEP OSCILLATOR SG-1121(V) 1/U	6625-01-019-7890	
11	D	OSCILLATOR PLUG-IN, HEWLETT-PACKARD 86920A	6625-00-138-9905	
12	D	POWER METER TS-3793/U	6625-01-033-5050	
13	D	POWER SENSOR, HEWLETT-PACKARD 8481A	6625-00-354-9762	
14	D	FREQUENCY RESPONSE TEST SET, HP 8755L	6625-00-605-4415	
15	D	DIRECTIONAL COUPLER, HEWLETT-PACKARD 11692D	5985-01-024-3832	
16	D	DIGITAL MULTIMETER, HEWLETT-PACKARD 3476A	6625-01-041-0218	
17	D	RMS VOLTMETER ME-318/U	6625-00-727-4706	
18	D	PULSE GENERATOR, DATA PULSE MODEL 101	6625-00-454-0708	
19	D	OSCILLOSCOPE TEKTRONIX 7704A	6625-00-115-2402	
20	D	PLUG-IN, TEKTRONIX 7B80	6625-00-032-4343	
21	D	PLUG-IN AM-6785/U	6625-00-361-5318	
22	D	FREQUENCY COUNTER, HEWLETT-PACKARD 5340A	6625-00-498-8946	

Section IV. REMARKS

RADAR WARNING SYSTEMS AN/APR-44(V)1 and AN/APR-44(V)3

REFERENCE CODE	REMARKS
A	IN PLACE SELF TEST AND OVERALL SYSTEM TEST.
B	REPAIR BY REPLACING MAJOR COMPONENT. ANTENNAS ARE THROWAWAY ITEMS.
C	DEPOT TEST FIXTURES, SKILL AND FACILITIES REQUIRED.
D	LIMITED TO RECEIVER THRESHOLD TEST.
E	REPAIR INCLUDES REPLACEMENT OF RF FRONT END WHICH IS A THROWAWAY ITEM.
F	GROUP NUMBER 0101 NOT USED.
G	TEST BY FUSE CHECK AND LAMP “PUSH TO TEST”.
H	REPAIR BY REPLACEMENT OF INDICATOR LAMPS, FUSE AND KNOB ONLY. THESE ARE THROWAWAY ITEMS.
I	GROUP NUMBER 0301 NOT USED.
J	CONTRACTOR REPAIR.

APPENDIX D

EXPENDABLE SUPPLIES AND MATERIALS

Section I. INTRODUCTION

D-1. Scope. This appendix identifies expendable supplies and materials you will need to operate and maintain your radar warning system. These items are authorized to you by Common Table of Allowances (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 1, App. D").

b. Column 2, Level. This column identifies the lowest level of maintenance that requires the listed item as follows:

C - Operator/Crew

O - Organizational/aviation unit maintenance

F - Direct support 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 part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses, if applicable.

e. Column 5, Unit of Measure. Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea - each; in. - inch; pr - pair). 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	Part no. and FS	(4) Description	(5) Unit of meas
1	O	6850-00-597-9765	------	Cleaning compound	GL
2	O	8305-00-267-3015	------	Cheese cloth	A
3	O	6510-00-303-8250	------	Cotton swabs	A/R
4	O	------	------	Trichlorotrif	A/R

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FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)
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Stateside Army Depot
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Stateside, N.J. 07703

DATE SENT
10 July 1975

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TM 11-5840-340-12	23 Jan 74	Radar Set AN/PRC-76

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2-25	2-28		
3-10	3-3		3-1
5-6	5-8		
		F03	

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

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

REASON: Experience has shown that with only a 1^{o} lag, the antenna servo system is too sensitive to wind gusting in excess of 25 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^{o} without degradation of operation.

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

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

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.

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER	SIGN HERE
SSG I. M. DeSpiritof 999-1776	I. M. DeSpiritof

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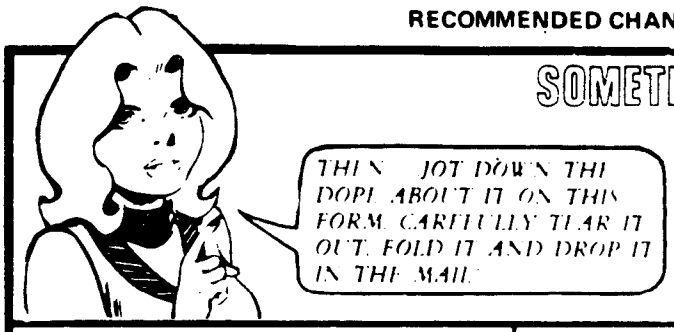

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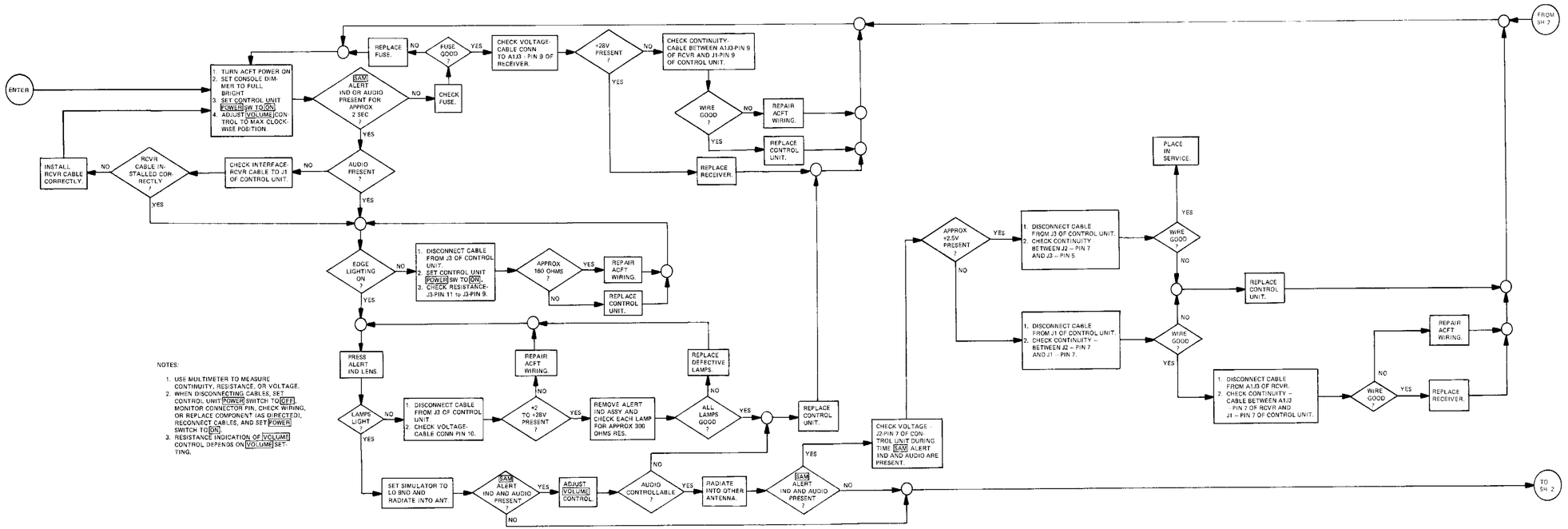

Figure FO 1. Organizational Level Troubleshooting Flow Chart, Radar Warning System AN/APR-44(V)1 (Sheet 1 of 2)

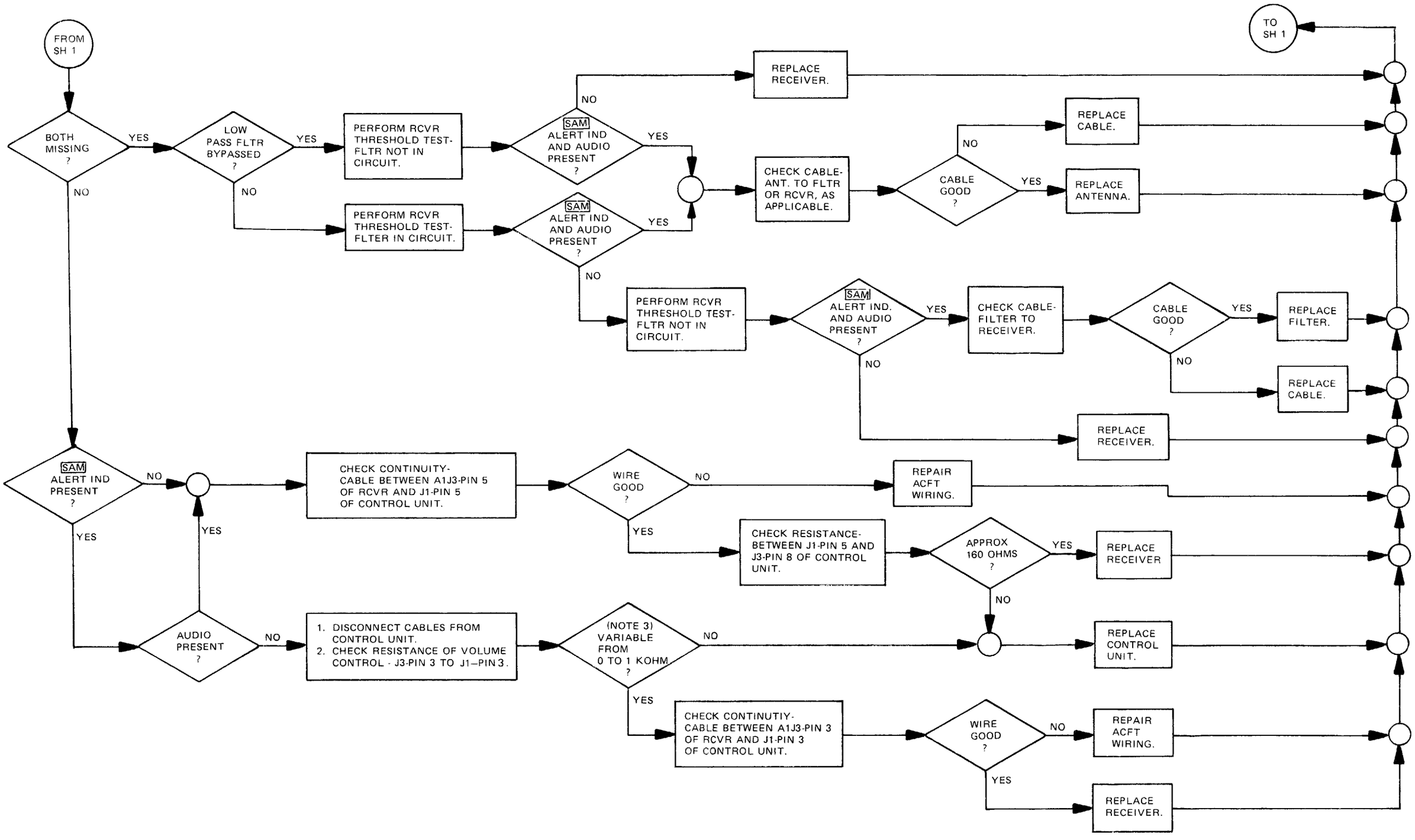

Figure FO-1. Organizational Level Troubleshooting Flow Chart, Radar Warning System AN/APR-44(V)1 (Sheet 2 of 2)

Fold Out 1 Sheet 2

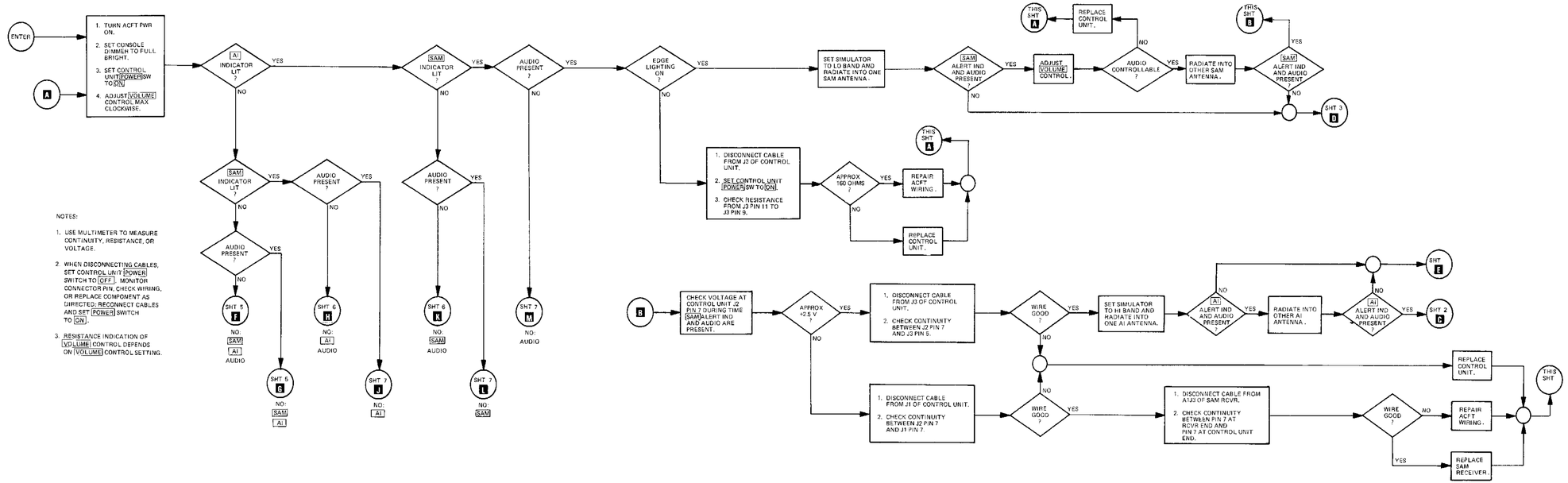

Figure FO-2. Organizational Level Troubleshooting Flow Chart, Radar Warning System AN/APR-44(V)3(Sheet 1 of 2)

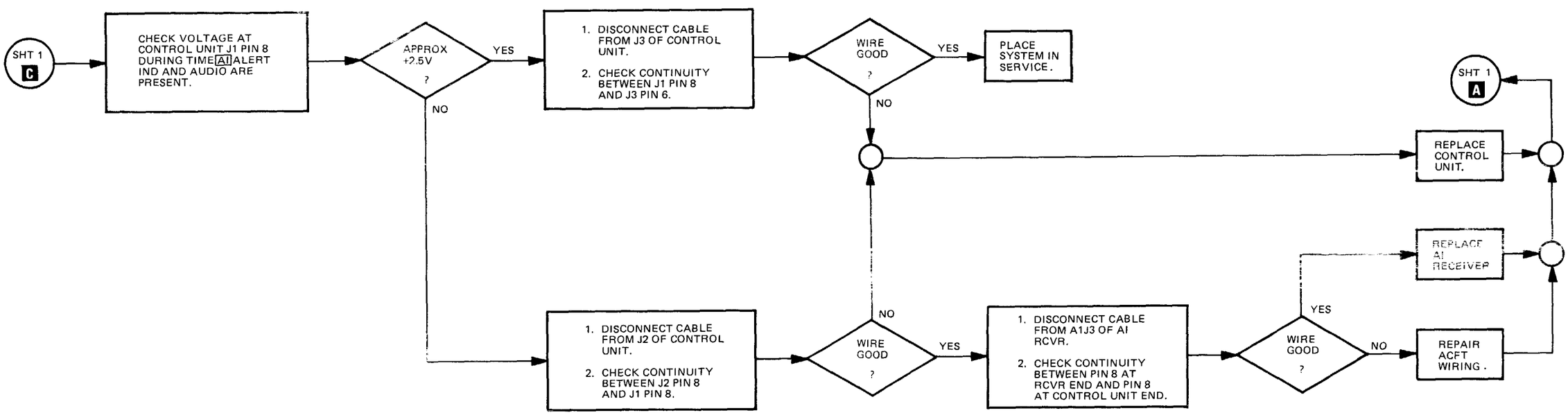

Figure FO-2. Organizational Level Troubleshooting Flow Chart, Radar Warning System AN/APR-44(V)3 (Sheet 2 of 7)

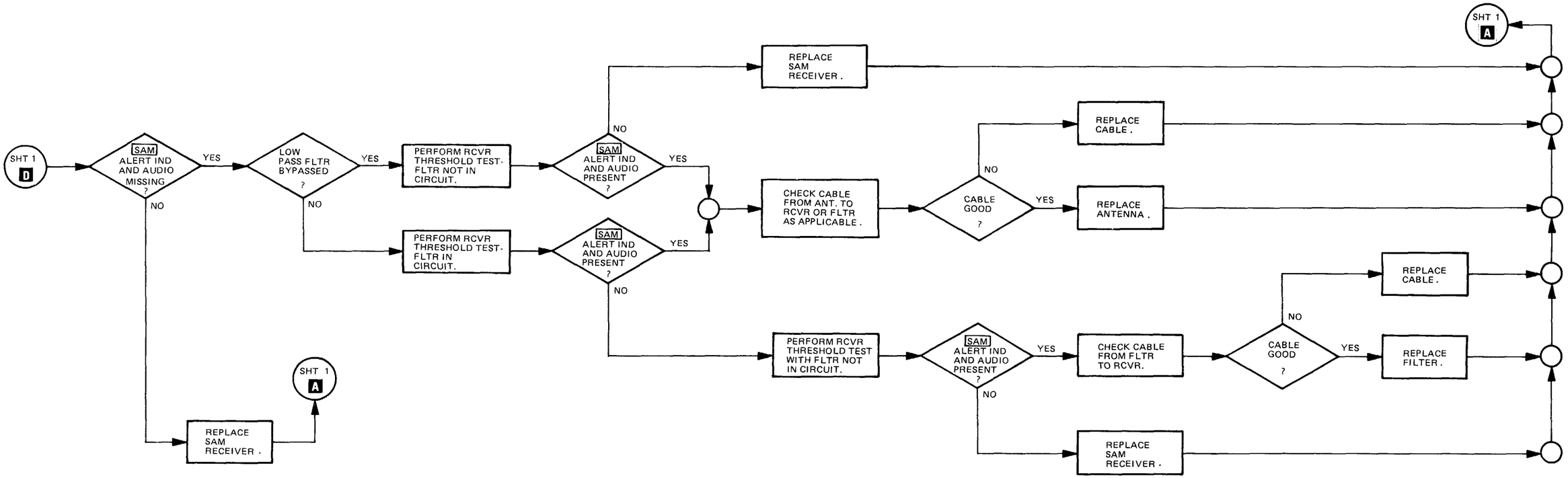

Figure FO-2. Organizational Level Troubleshooting Flow Chart, Radar Warning System AN/APR-44(V)3 (Sheet 3 of 7)

Fold Out 2 Sheet 3

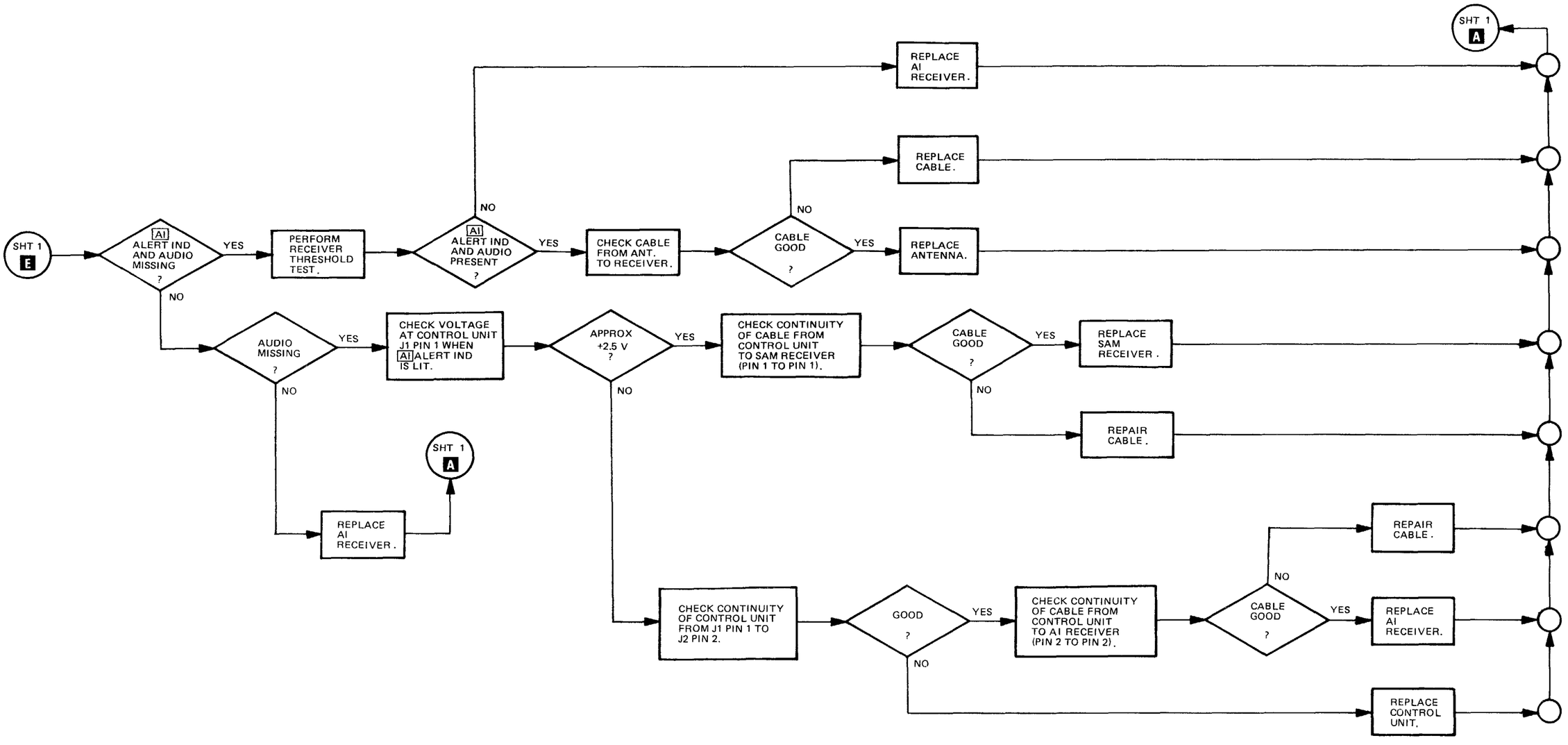

Figure FO-2. Organizational Level Troubleshooting Flow Chart, Radar Warning System AN/APR-44(V)3 (Sheet 4 of 7)

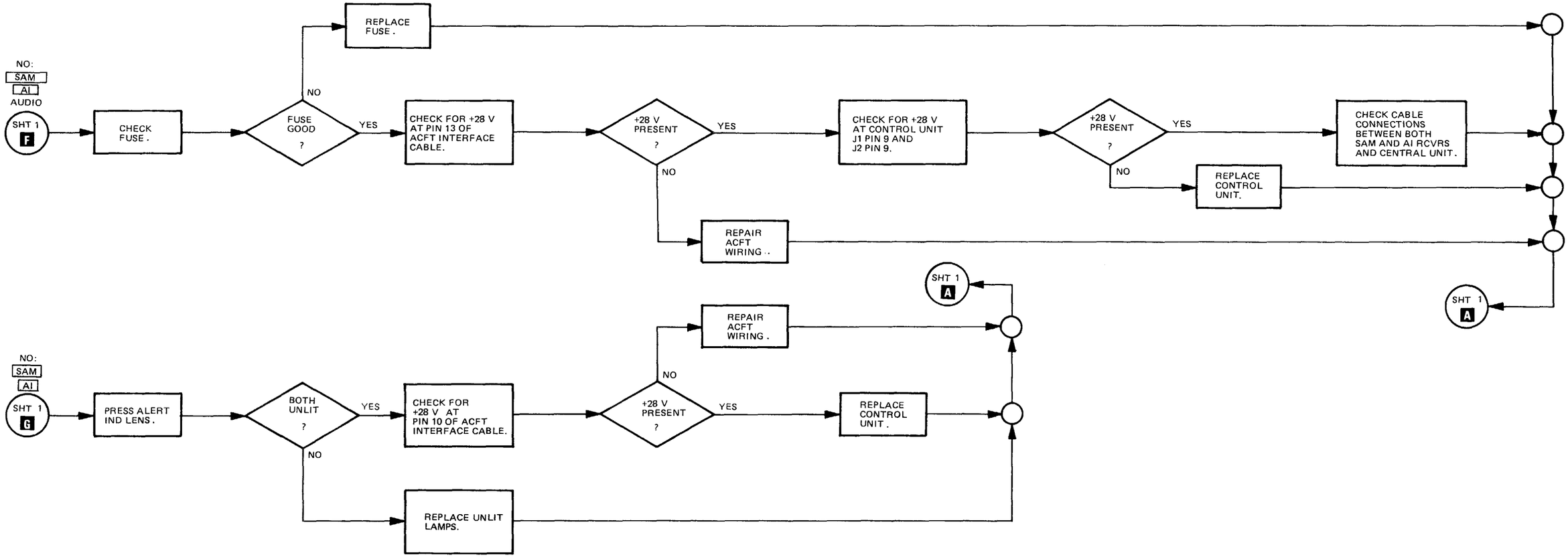

Figure FO-2. Organizational Level Troubleshooting Flow Chart, Radar Warning System AN/APR-44(V)3 (Sheet 5 of 7)

Fold Out 2 Sheet 5

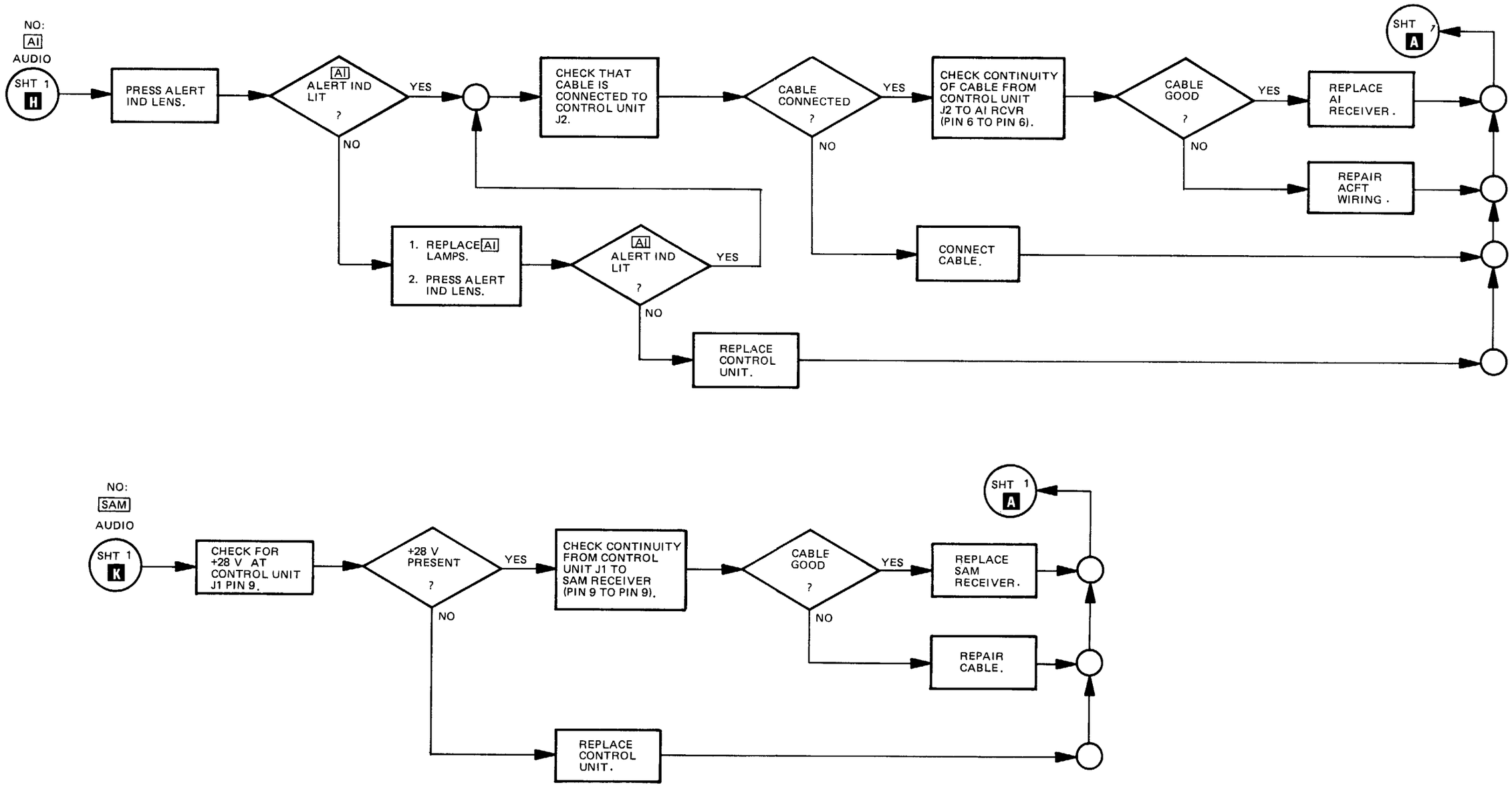

Figure FO-2. Organizational Level Troubleshooting Flow Chart, Radar Warning System AN/APR-44(V)3 (Sheet 6 of 7)

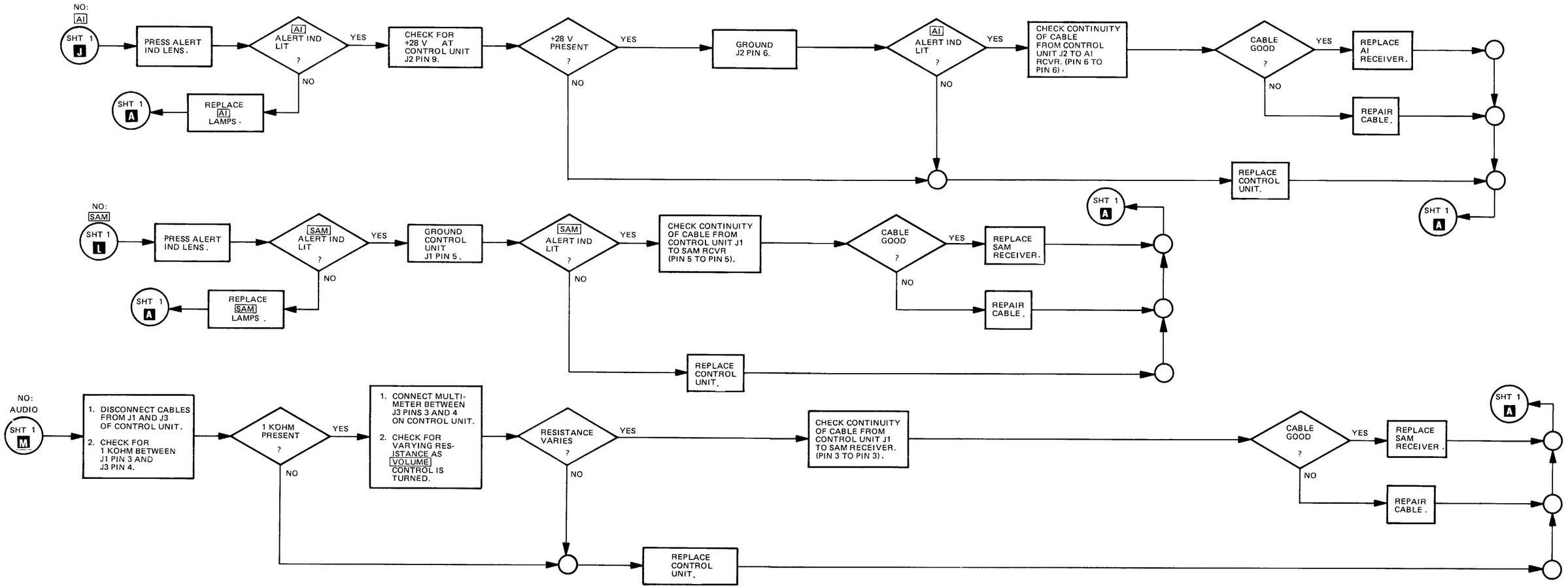

Figure FO-2. Organizational Level Troubleshooting Flow Chart, Radar Warning System AN/APR-44(V)3 (Sheet 7 of 7)

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