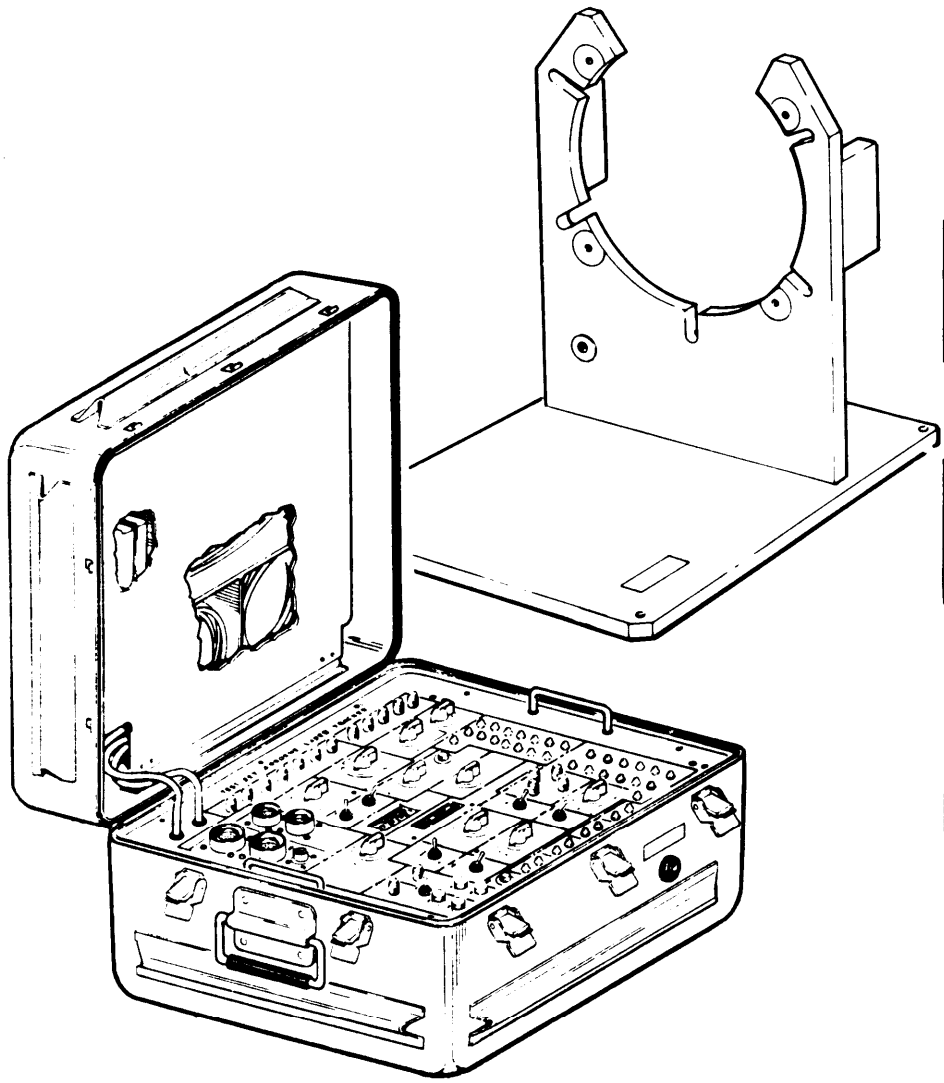
TM 11-6625-2638-30

DIRECT SUPPORT
MAINTENANCE MANUAL

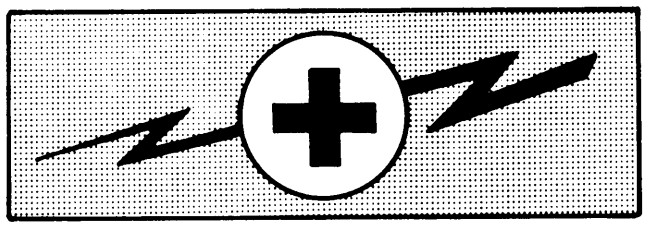


AIRBORNE LASER TRACKER TEST SET AN/AAM-55 (NSN 5860-01-070-3842)

HEADQUARTERS, DEPARTMENT OF THE ARMY

4 JUNE 1984

WARNING



ELSTN046

WARNING

Ensure 115 vdc and 28 vdc power source is off before connecting power cables. Contact with 115 vac may cause injury or death.

Technical Manual

No. 11-6625-2638-30

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 4 June 1984

DIRECT SUPPORT MAINTENANCE MANUAL

AIRBORNE LASER TRACKER TEST SET AN/AAM-55

(NSN 5860-01-070-3842)

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 the back of this manual direct to: Commander, US Army Communications - Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. A reply will be furnished to you.

LIST OF ILLUSTRATIONS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION

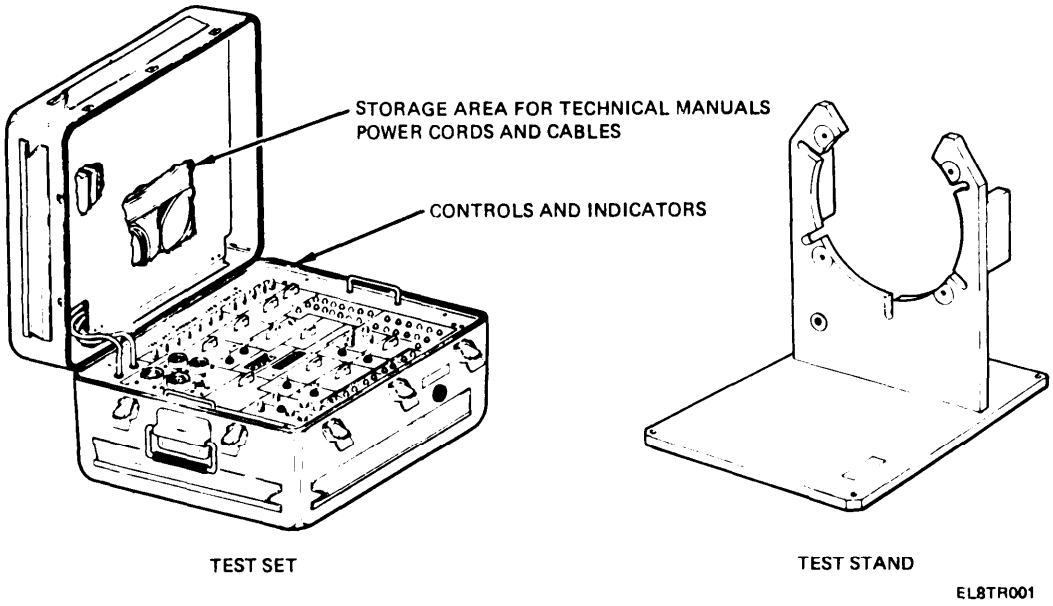


Figure 1. Airborne Laser Tracker Test Set AN/AAM-55.

1-1. Scope

a. The purpose of this manual is to tell you how to maintain the Airborne Laser Tracker Test Set, AN/AAM-55.

b. The test set is used to troubleshoot the Receiver-Tracker, Laser R-1920/AA5-32 (receiver) and the Electronic Components Assembly MX-9623/AAS-32 (electronic assembly).

1-2. 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 DA Pam 738-750 as contained in Maintenance Management Update.

b. Reports 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 4355.73A/AFR 400-54/MCO 4430.3F.

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

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

The destruction of Army materiel to prevent enemy use shall be in accordance with TM 750-244-2.

1-4. Preparation for Storage or Shipment

Prepare the ALT test set for storage or shipment as described in paragraphs 2-4, 2-5, 2-25, 2-26, and 2-27.

1-5. Nomenclature Cross-Reference List

official nomenclature and common names are listed in table 1-1.

Table 1-1. Nomenclature Cross-Reference

Official Nomenclature	Common Name
Test Set, Airborne Laser Tracker, AN/AAM-55	ALT Test Set
Test Set, Laser, TS-3482/AAM-55	Test Set
Test Stand, Receiver MT-4699/AAM-55	Test Stand

1-6. Reporting Equipment Improvement Recommendations (EIR)

If your ALT test set 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 it to Commander, US Army Communications - Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. We'll send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

1-7. Equipment Characteristics, Features and Capabilities

a. The characteristics and features of the test set are:

(1) The ALT test set is portable and can be used when the environmental and power requirements are available (para 1-9).

(2) All operating controls are on the front panel. Cables and technical manual are stored inside top cover.

(3) Calibration is not required.

b. Capabilities. The test set will fault isolate the ALT receiver and electronic assembly to the major subassembly level.

1-8. Location and Description of Major Components (fig. 1-2)

The major components of the test set are as follows:

a. Test Set Cover (1)	Provides a place to store power cords, technical manual and test cables (W1, W2, and W3).
b. Test Stand (2)	Provides a mounting surface for the ALT receiver during trouble shooting and repair.
c. Cable (3)	Cable W3 connects the test set to the ALT receiver.
d. Cable (4)	Cable W2 connects the test set to the ALT electronic assembly.
e. Cable (5)	Cable W1 connects the test set to the ALT electronic assembly.

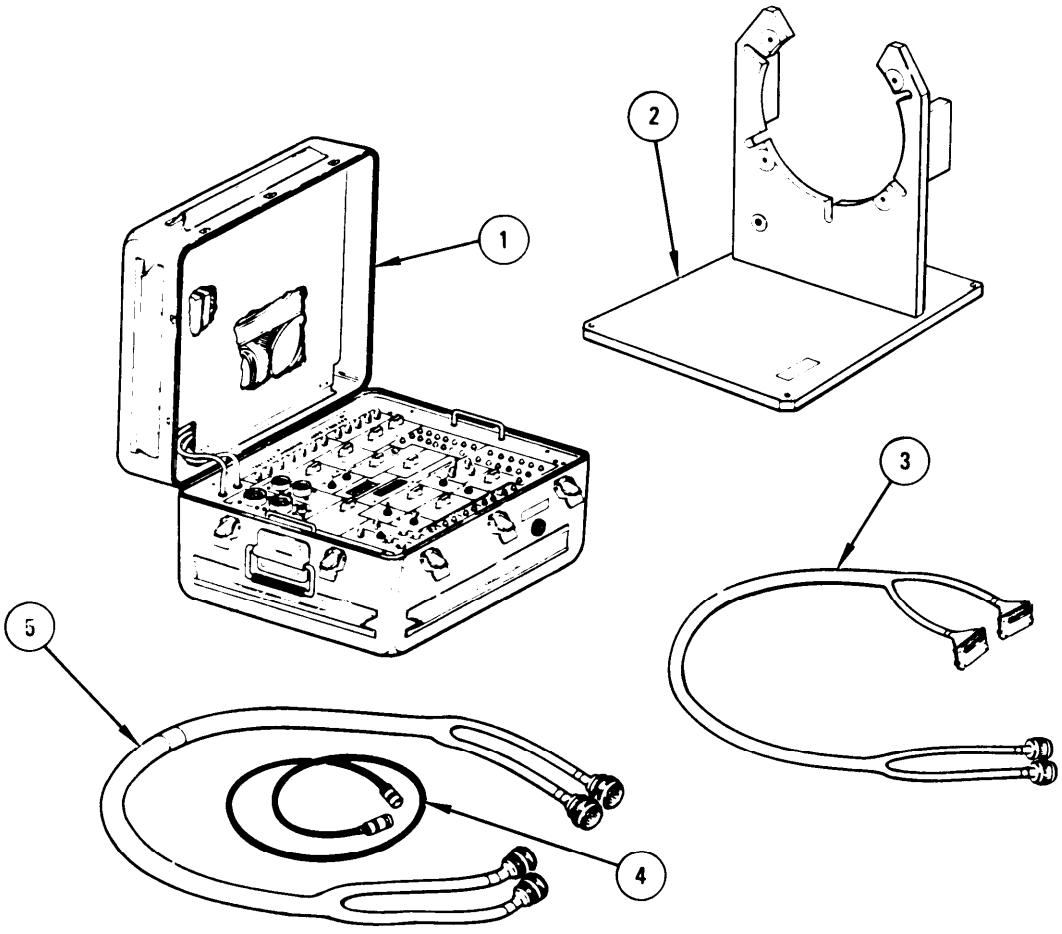


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Figure 1-2. ALT Major Components.

1-9. Equipment Data

	Test Set	Test Stand
WEIGHT (approximate)		
	30 pounds	3.5 pounds
DIMENSIONS		
Width	22 inches	12 inches
Height	13 inches	13 inches
Depth	22 Inches	12 inches
ENVIRONMENTAL OPERATING RANGES		
Temperature	-18° to + 55°C	
Humidity	O to 98%	
Altitude	10,000 ft maximum	

NOTE

No primary power connections are supplied with the test set. Refer to table 2-3 for power connections.

PRIMARY POWER REQUIREMENTS		
DC Power	28 vdc	None
AC Power	115 vac, 400 Hz	None
FUSES		
DC Power	10 amp	None
AC Power	2 amp	None

Section Ill. PRINCIPLES OF OPERATION

1-10. General Information

The following paragraphs present an overall block diagram analysis of the test set. The analysis is divided into eight major areas which describe the circuitry within the test set involved in troubleshooting the ALT receiver or electronic assembly. To supplement the narrative description, a block diagram is provided for each functional area.

1-11. Receiver Cage Test Functional Description (fig. 1-3)

a. Torque motor power (28 vdc) is supplied from the test set power supply through MOTOR PWR switch S19. Resolver outputs from the receiver are monitored from the SERVO jacks through SERVO switch S8.

b. The receiver high or low azimuth servo gain is selected by switching AZIMUTH GAIN switch S5 between -20 vdc for high gain and open for low gain.

c. When GIMBAL COMD switch S17 is in the CAGE position, the appropriate elevation and azimuth servo commands are selected from the circuit card assembly and applied to the receiver.

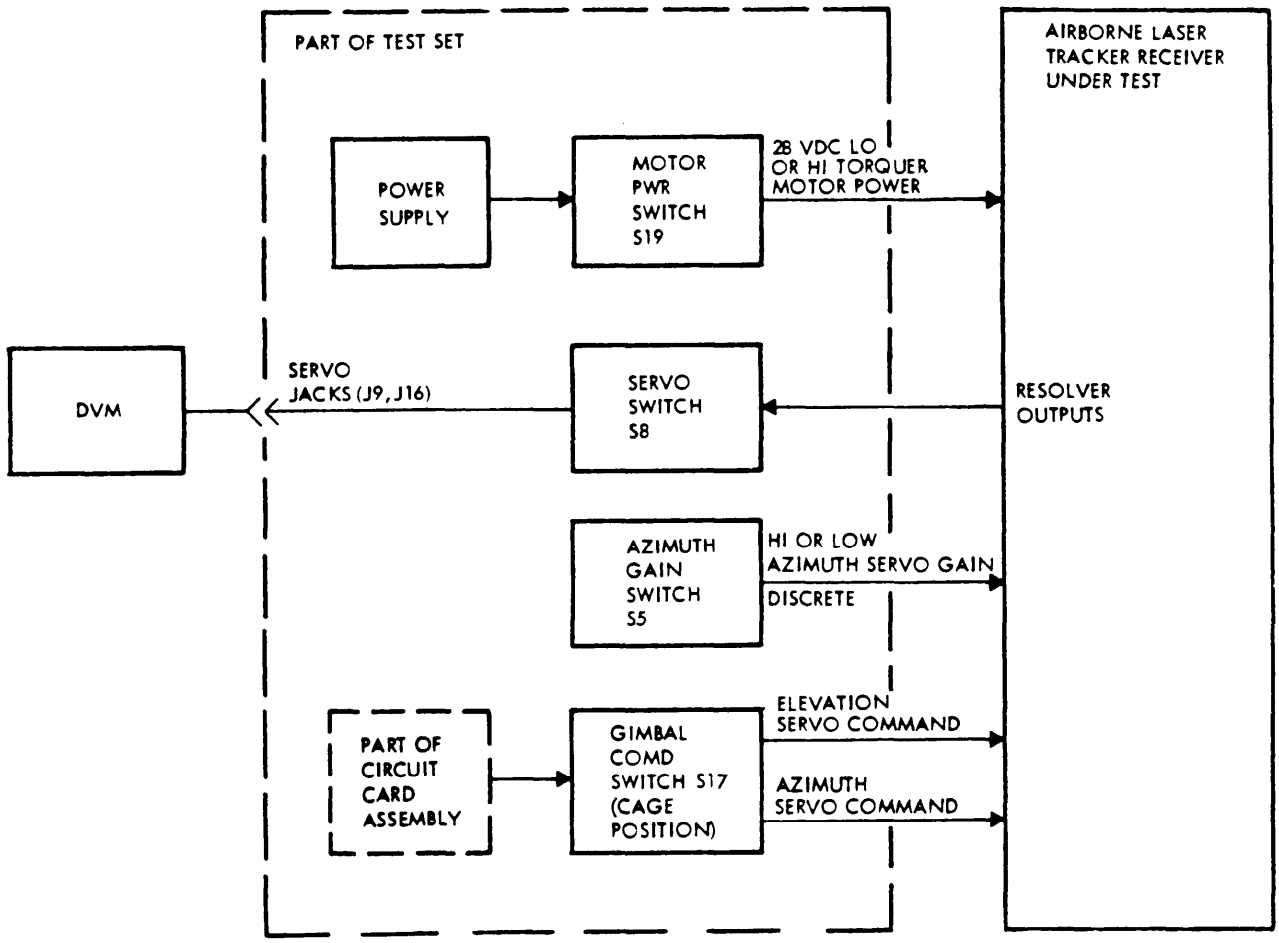


Figure 1-3. Receiver Cage Test Block Diagram.

1-12. Receiver Scan Test Functional Description (fig. 1-4)

a. To initiate the scanning mode, a plus or minus 5 vdc is applied to the EXT AZIMUTH (J24) or EXT ELEV (J23) jacks. The plus or minus 5 vdc is applied to the receiver under test through the GIMBAL COMD switch S17 as the elevation and azimuth servo commands. The plus and minus 5 vdc is supplied by power supply and the polarity is selected by the RCVR CURRENT switch S20.

b. When the servo commands are given, the platform responds with an appropriate movement. The time required for each platform excursion is timed by a stopwatch.

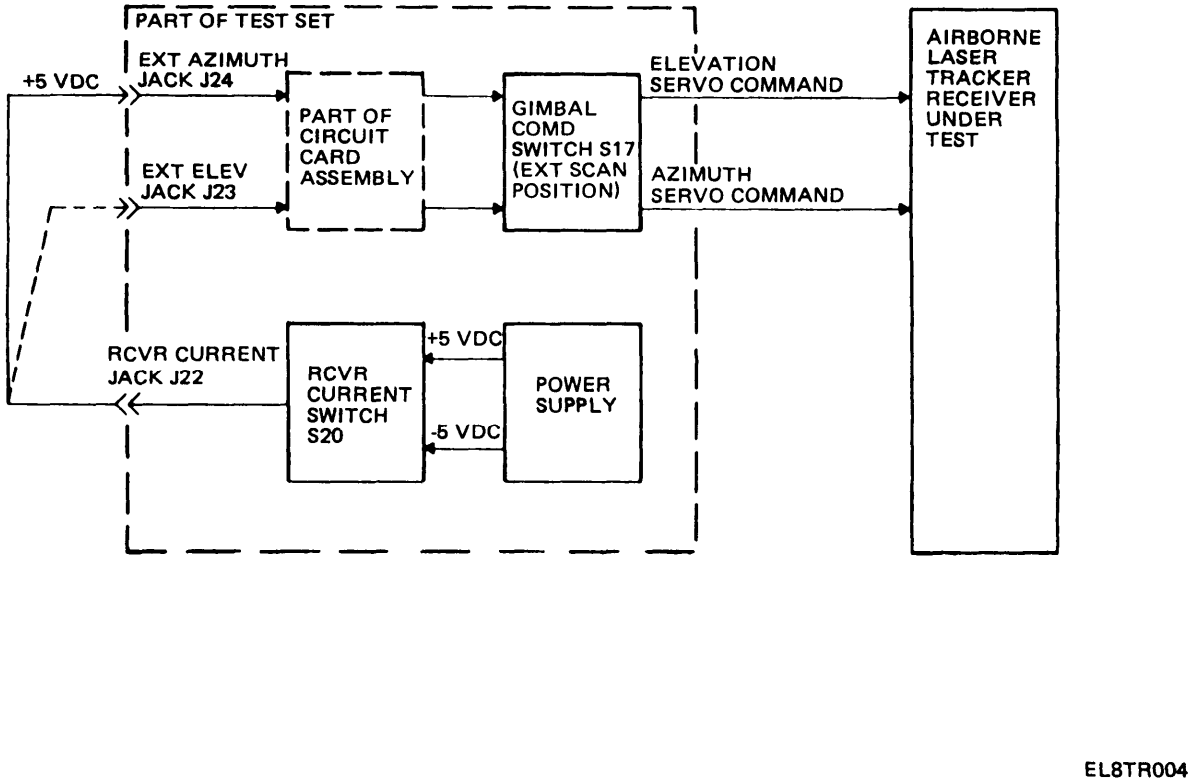
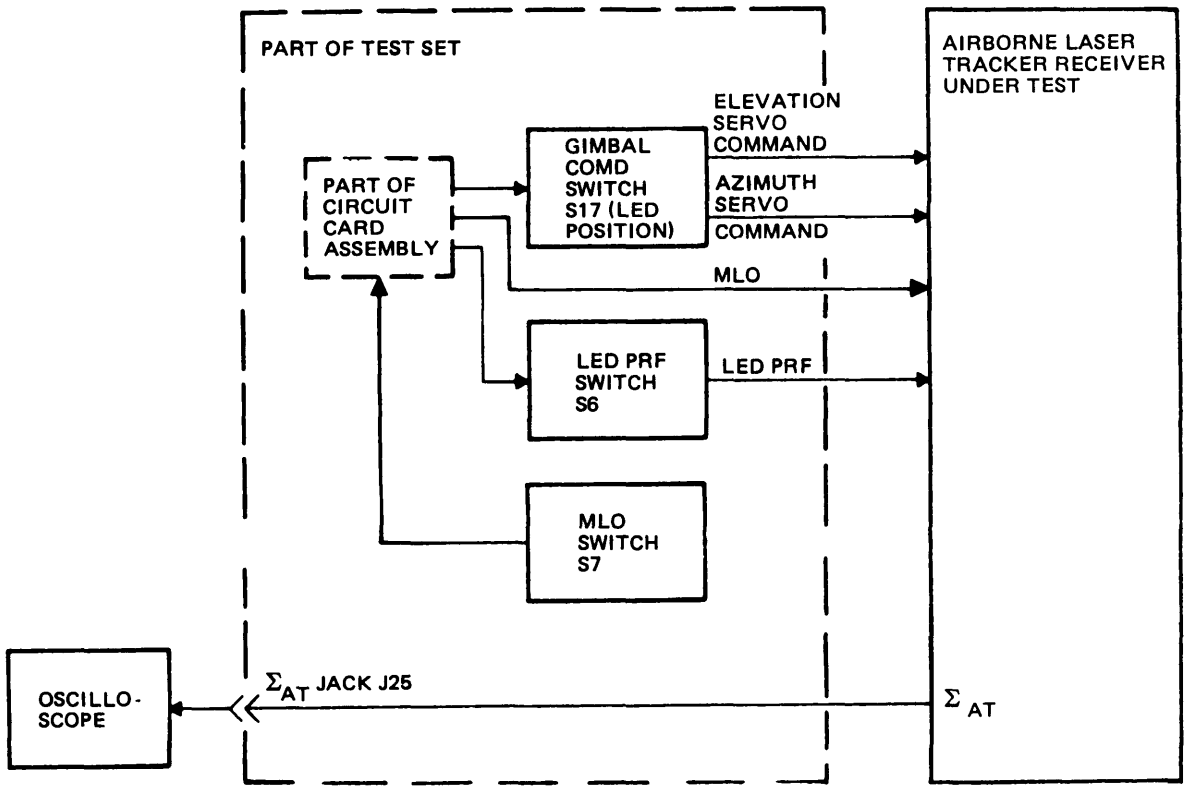


Figure 1-4. Receiver Scan Test Block Diagram.

1-13. Receiver LED Test Functional Description (fig. 1-5)

The circuit card assembly provides elevation and azimuth servo commands to the receiver through GIMBAL COMD switch S17. The circuit card assembly also provides to the receiver the LED PRF by the LED PRF switch S6, and the MLO signal by the MLO switch S7. The receiver Σ AT signal is monitored at the Σ AT jack (J25) by the oscilloscope.



EL8TR005

Figure 1-5. Receiver LED Test Block Diagram

1-14. Electronic Assembly Power Supply Test Functional Description (fig. 1-6)

The DVM/SCOPE switch (S3) takes the electronic assembly power supply voltages selected by ELEC VOLTAGE switch S21 and routes them to the ELECT DVM jacks. The DVM indications are used to determine if the voltages are within allowed tolerances.

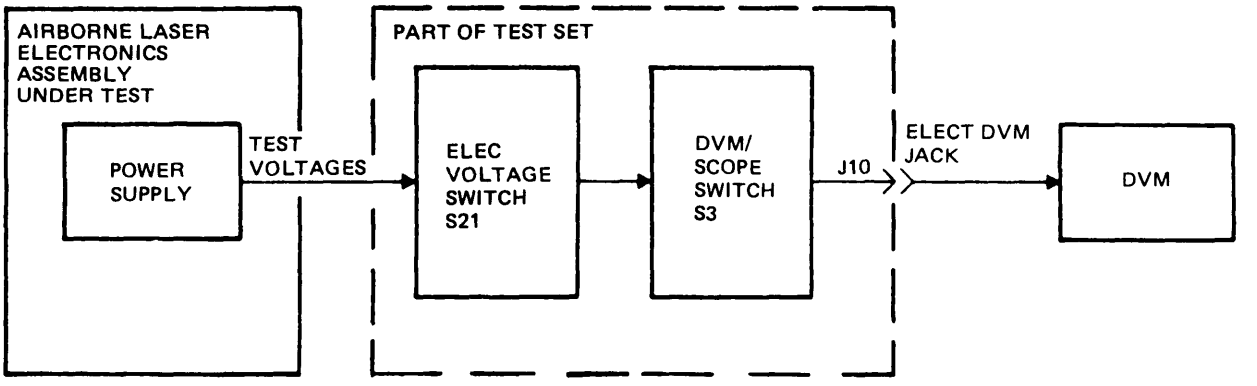


Figure 1-6. Electronic Assembly Power Supply Test Block Diagram.

1-15. Electronic Assembly Cage (Standby) Test Functional Description (fig. 1-7)

a. MODE switch S1 provides the logic commands to the circuit card which then generates simulated servo outputs to the electronic assembly to simulate the receiver cage positions.

b. The electronic assembly azimuth and elevation commands and discrete signals to be tested are selected by DVM/SCOPE switch S3 and are monitored at the ELECT DVM jacks.

c. CAGE lamp DS3 comes on to indicate that the electronic assembly has correctly decoded the simulated resolver outputs, and that the receiver is in the cage position.

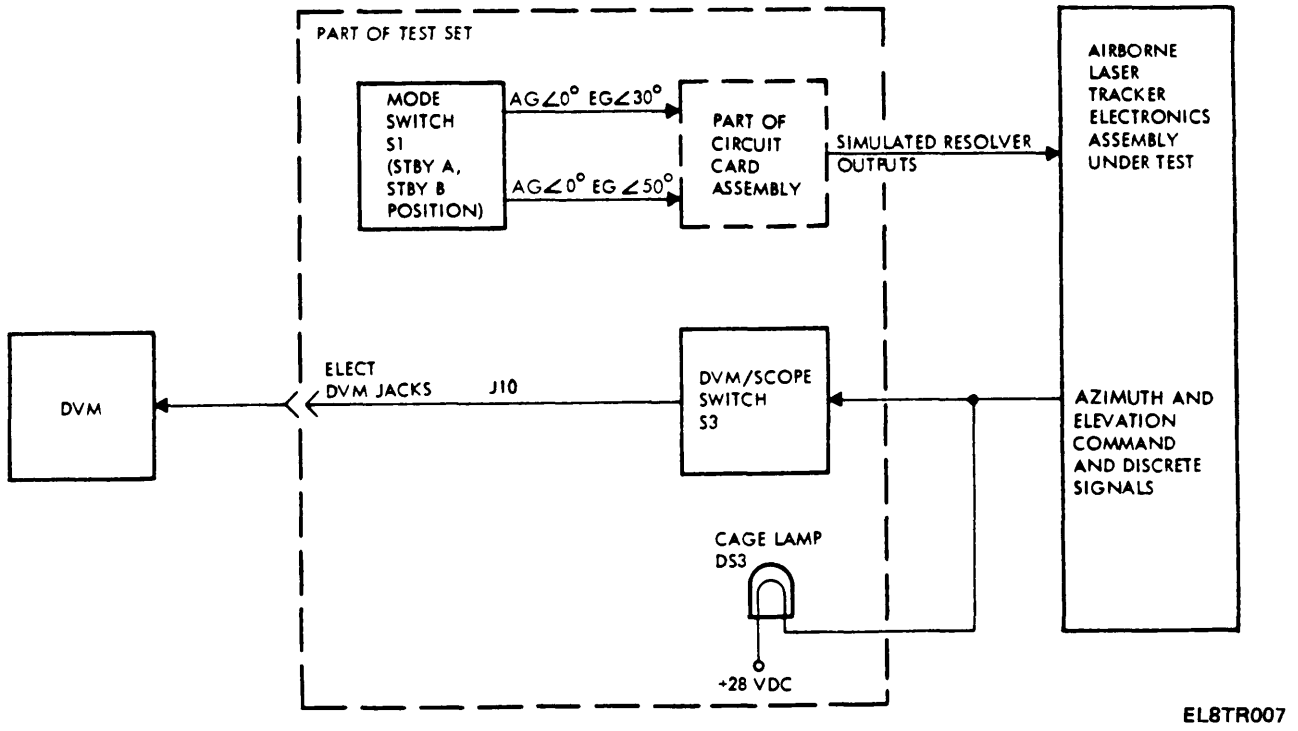


Figure 1-7. Electronic Assembly Cage Test Block Diagram.

1-16. Electronic Assembly Scan Test Functional Description (fig. 1-8)

a. MODE switch S1 provides the scan mode commands and logic to the circuit card to cause servo output simulations, and the modulator time constant to be generated.

b. SCAN switch S4 selects the azimuth servo commands and directs them as scanning commands to the circuit card. The circuit card servo simulations of step a are synchronized by the scanning commands.

c. SCAN lamp DS5 comes on when the electronic assembly scan logic indicator output has been received.

d. DVM/SCOPE switch S3 selects the azimuth and elevation commands and discrete signals to be monitored at the SCOPE test jacks.

e. FO from the electronic assembly is available for monitoring by a counter, at the FO test jack (J12).

f. CODE switch S2 provides the code select logic levels. TRACK, MLO, and Σ AT presence test jacks (J37, J35, J39) provides access to the electronic assembly track discrete, MLO, and Σ AT signals.

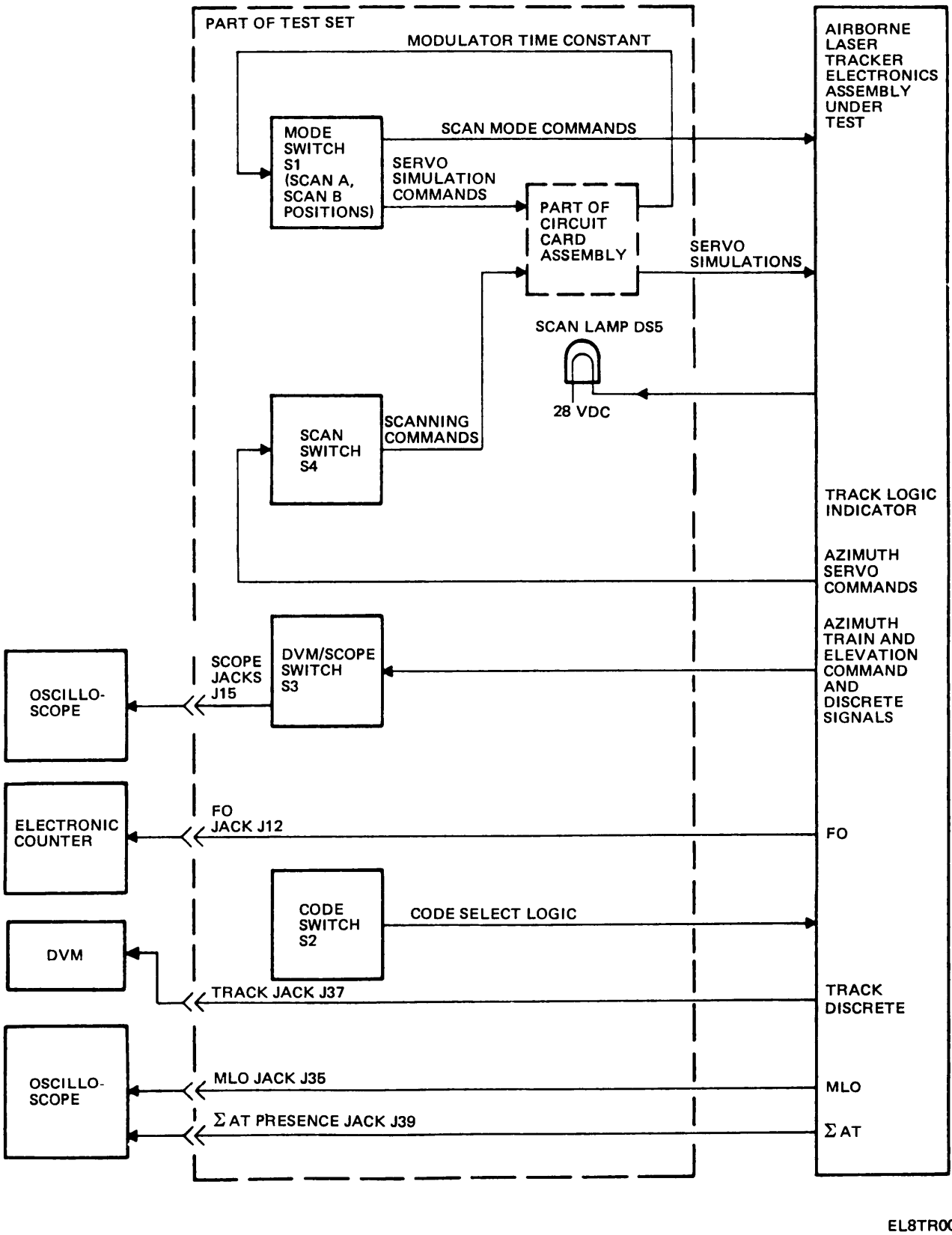


Figure 1-8. Electronic Assembly Scan Test Block Diagram.

1-17. Electronic Assembly Tracking Test Functional Description (fig. 1-9)

a. MODE switch S1 provides the scan mode commands to the electronic assembly.

b. The MLO signal is applied to the circuit card and Σ AT switch S11 connects the FO signal to the circuit card causing the coding the tracking signals to be generated.

c. Σ AT CODING/TRACKING switch S12 selects the coding or tracking signal and applies it to another section of the circuit card to cause the Σ AT signal to be generated.

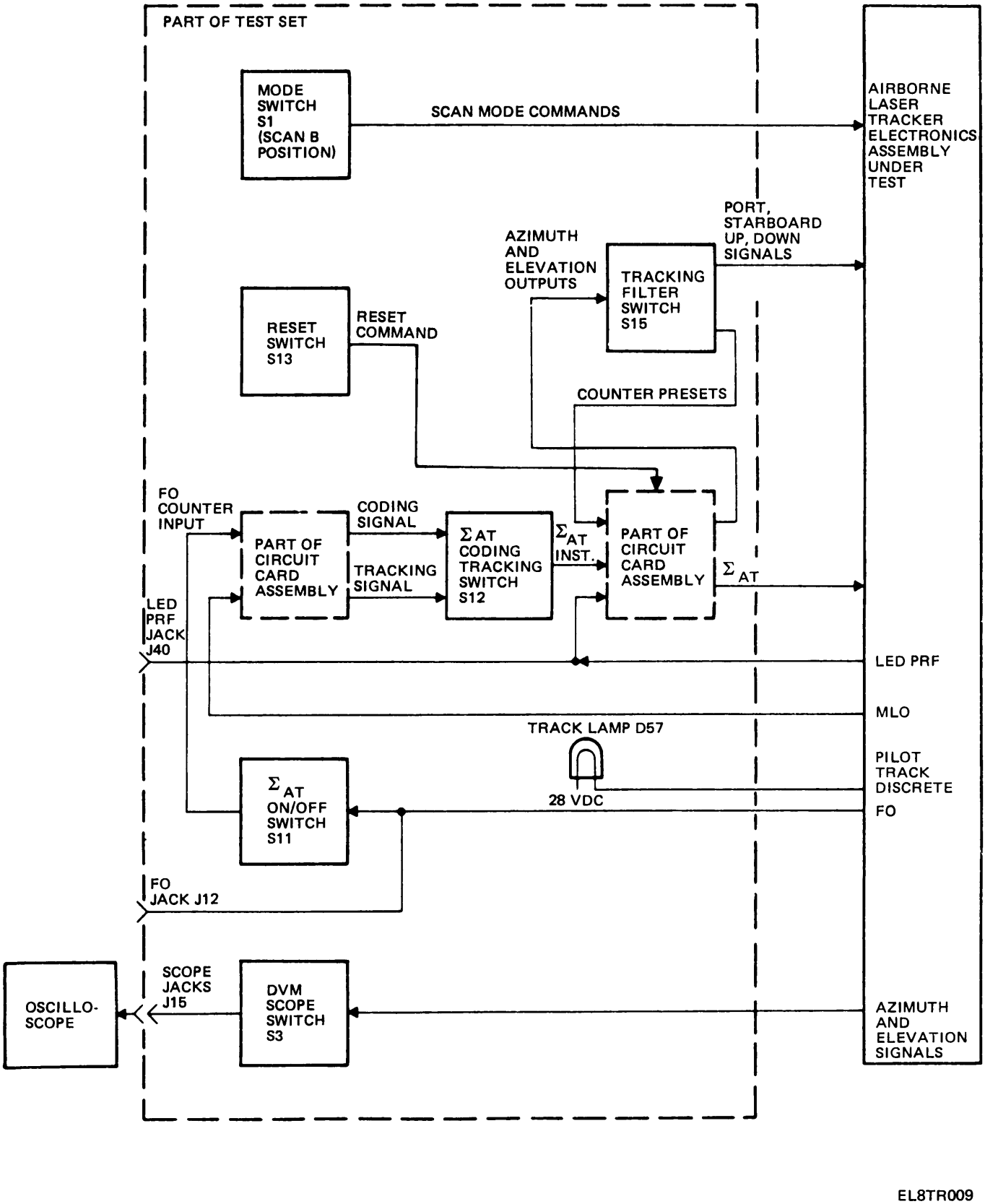
d. The LED PRF is applied to the circuit card for proper timing of the Σ AT signal and is also made available for monitoring at the LED PRF jack (J40).

e. The RESET switch S13 resets and starts the circuits that generate the azimuth and elevation outputs as well as the Σ AT output.

f. TRACKING FILTER switch S15 selects the azimuth and elevation outputs and directs them to the electronic assembly as the port, starboard, up, and down signals simulating the receiver servo output tracking patterns.

g. The pilot track discrete causes TRACK lamp DS7 to come on indicating that the system is in the track mode.

h. The electronic assembly azimuth and elevation signals to be monitored are selected by the DVM/SCOPE switch S3 and are monitored at the ELECT SCOPE jacks.



EL8TR009

Figure 1-9.Electronic Assembly Tracking Test Block Diagram.

1-18. Electronic Assembly BITE Test Functional Description (fig. 1-10)

a. MODE switch S1 provides the pilot test logic and the clock disable command. It also provides the test address activation to ADDRESS switches S16 and S18.

b. ADDRESS switches A and B select the test address by selecting the appropriate resolver simulator circuits of the circuit card assembly. The circuit card provides these selected simulted servo outputs to the electronic assembly.

c. The FT jack on the test set provides a monitoring point for the FT logic signal.

d. The MLO signal is applied to circuit card assembly and Σ AT switch S11 connects the FO signal to the circuit card assembly causing the coding and tracking signals to be generated.

e. Σ AT CODING/TRACKING switch S12 selects the coding or tracking signal and applies it to another section of the circuit card assembly to cause the Σ AT signal to be generated.

f. The LED PRF is applied to the circuit card for proper timing of the Σ AT signal and is also made available for monitoring at the LED PRF jack (J40).

g. TRACKING FILTER switch S15 selects the azimuth and elevation outputs and directs them to the electronic assembly as the port, starboard, up, and down signals simulating the receiver servo output tracking patterns.

h. The RESET switch S13 resets and starts circuits that generate the azimuth and elevation outputs as well as the Σ AT output.

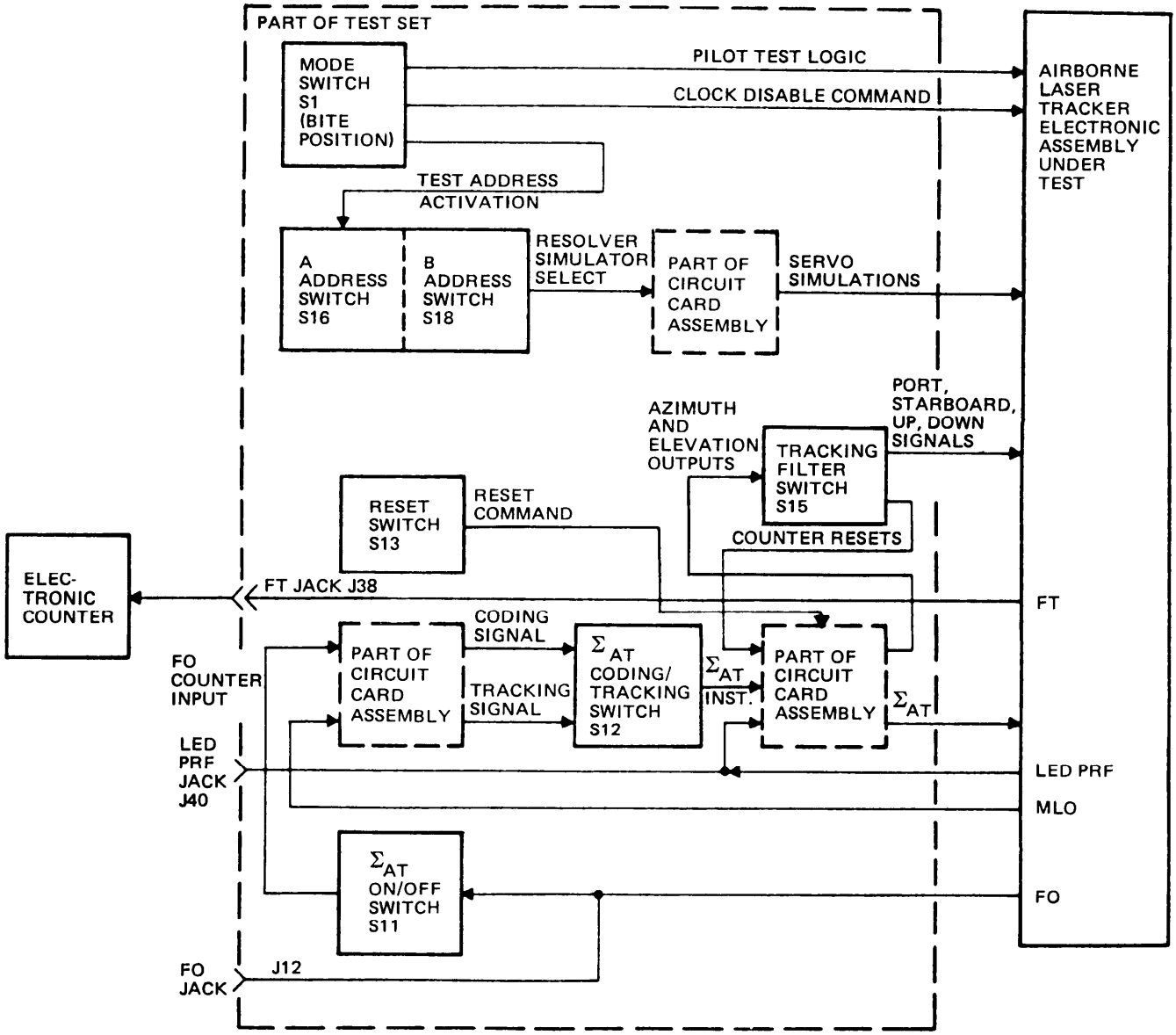


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Figure 1-10. Electronic Assembly BITE Track Block Diagram.

CHAPTER 2

MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

2-1. Common Tools and Equipment

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

2-2. Special Tools, TMDE, and Support Equipment

Refer to the Organizational and Direct Support Maintenance Repair Parts and Special Tools List (RPSTL), TM 11-6625-2638-23P. Also refer to the Maintenance Allocation Chart (MAC) in the Operations and Organizational Maintenance Manual, TM 11-6625-2638-12.

2-3. Repair Parts

Repair parts are listed and illustrated in the repair parts and special tools list. TM 11-6625-2638-23P covers organizational and direct support maintenance for this equipment.

Section II. SERVICE UPON RECEIPT

2-4. Unpacking

a. Remove the test set and test stand from containers.

b. Save container and packing material for reuse.

2-5. Checking Unpacked ALT Test Set

a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF 364, Report of Discrepancy (ROD).

b. Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions in DA Pam 738-750.

c. Check to see whether the equipment has been modified. Refer to DA Pam 310-1.

Section III. TROUBLESHOOTING PROCEDURE

2-7. Test Set Troubleshooting

a. If the fault is known, and can be related to a specific control, indicator, or test jack (fig. 2-1) troubleshoot per table 2-2.

b. If the fault is not known, troubleshoot per table 2-3.

c. After the test set has been repaired, perform the complete table 2-3 troubleshooting procedure to verify that there are no more faults.

Table 2-1. Preliminary Checks

Item No.	Items to be Inspected	Procedure
1	Fuses	Ensure that good 10 AMP, 2 AMP, and SPARE fuses are installed in proper locations.
2	Knobs	Ensure all control knobs are secured properly and are not broken.
3	Power Cords	Check 115 vac and 28 vdc power cord for damage.
4	Cables	Check cables and connectors for damage. Ensure that cables W1, W2, and W3 are stored in lid compartment.

2-8. Tools and Equipment

Refer to the Maintenance Allocation Chart (MAC), Tool and Test Equipment Requirements in TM 11-6625-2638-12.

2-9. Controls and Indicators

Refer to FO-1 for locations of the test set controls and indicators.

2-10. Connector Pin Locations

Refer to FO-2 for locations of J1, J2, J3, J4, and J5 connector pins.

2-11. Schematics and Wire Lists

Refer to Test Set Wire List table 2-4 to locate a component's schematic (FO-3) sheet number.

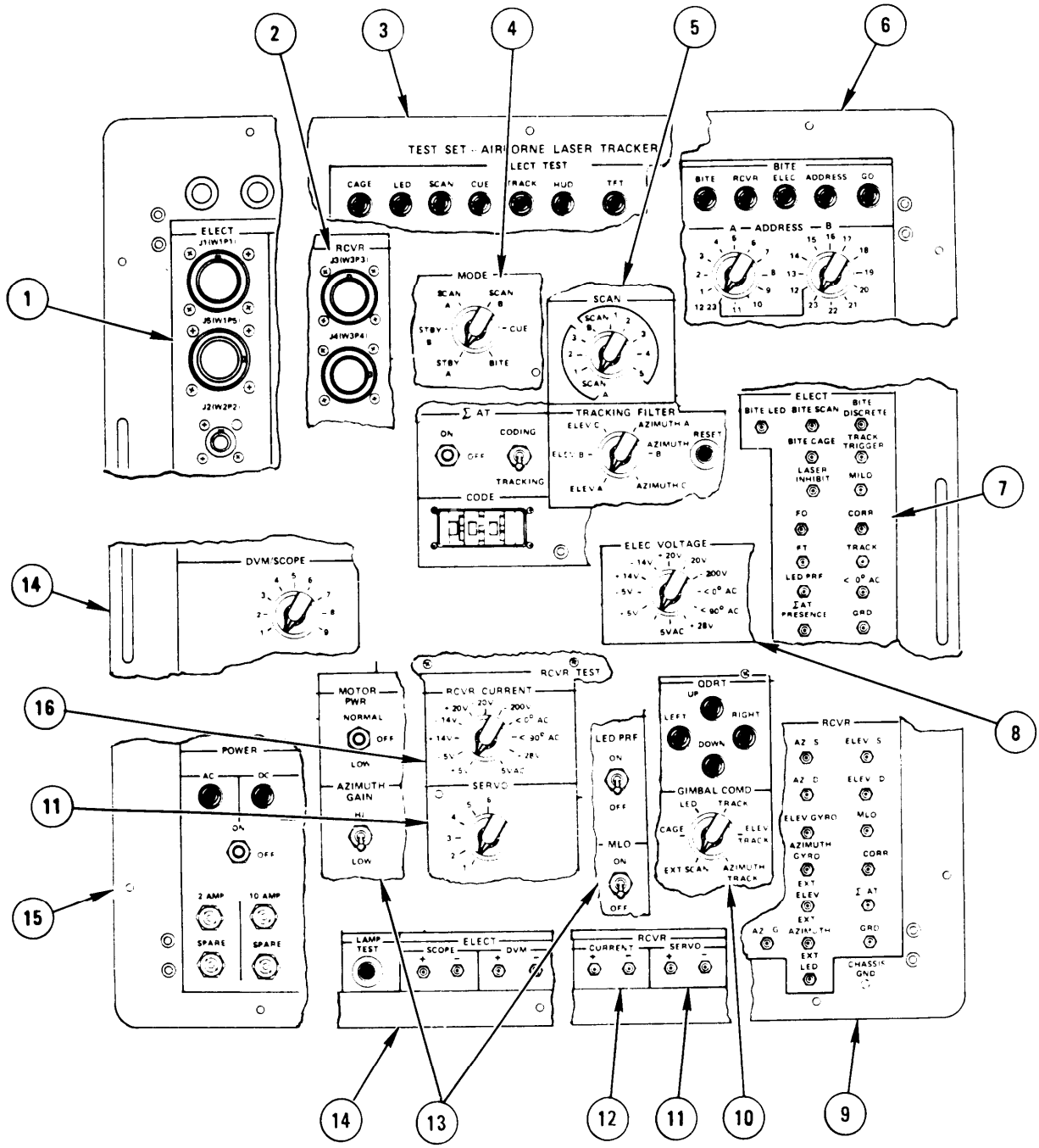


Figure 2-1. Fault Symptom Chart Key.

Table 2-2. Fault Symptom Chart

KEY (FIG. 2-1) GROUP CONTROL/INDICATOR/JACK CORRECTIVE ACTION
1 ELECT (J1, J5, J2 Connector Group) Perform steps 1 thru 10, 15 thru 19, and 22 thru 53 of table 2-3. Cable W1 (J1, J5), continuity check, table 2-5. Cable W2 (J2), continuity check, table 2-6.
2 RCVR (J3, J4 Connector Group) Perform steps 1 thru 21,52 thru 54, and 55d of table 2-3. If fault is related to SERVO and GIMBAL cored switches, notify higher category maintenance. Cable W3 (J3, J4), continuity check, table 2-7.
3 ELECT TEST Lamps Perform steps 1 thru 15 and 36 thru 46 of table 2-3.
4 MODE Switch Perform steps 1 thru 10, 22, 27 thru 32, and 45 thru 50 of table 2-3.
5 SCAN, ΣAT, Coding and TRACKING FILTER Switches SCAN switch Perform steps 1 thru 10, 22 thru 32 of table 2-3. TRACKING FILTER and RESET switches Perform steps 1 thru 10, 34 thru 44 of table 2-3. ΣAT switch and CODING/TRACKING switch Perform steps 1 thru 10, 34 thru 39 of table 2-3. CODE switch Perform steps 1 thru 10 and 33 thru 39 of table 2-3.
6 BITE/ADDRESS Group Perform steps 1 thru 15, and 51 thru 54 of table 2-3.
7 ELECT Group Test Jacks Check continuity of suspected jack per wirelist (table 2-4).
8 ELECT VOLTAGE switch Check continuity as required per wirelist (table 2-4).

Table 2-2. Fault Symptom Chart - Continued

KEY (FIG. 2-1) GROUP CONTROL/INDICATOR/JACK CORRECTIVE ACTION
9 RCVR Test Jacks Check continuity of suspected jack per wirelist (table 2-4).
10 QDRT and GIMBAL COMD Group QDRT lamps Perform steps 1 thru 13 of table 2-3. GIMBAL COMD switch Check continuity of switch per wirelist (table 2-3). Notify higher category maintenance.
11 SERVO Group + and – Jacks Check continuity of suspected jack per wirelist (table 2-4). SERVO Switch Check continuity of SERVO switch per wirelist (table 2-4). Notify higher category maintenance.
12 RCVR CURRENT Group Check continuity of suspected jack per wirelist (table 2-4).
13 MOTOR PWR, AZIMUTH GAIN, LED PRF and MLO Switches MOTOR PWR Perform steps 1 thru 10 and 16 thru 19 of table 2-3. AZIMUTH GAIN Perform steps 1 thru 10 and 53 of table 2-3. LED PRF Perform steps 1 thru 10 and 54 of table 2-3. MLO Perform steps 1 thru 10 and 54 of table 2-3.
14 DVM/SCOPE switch and ELECT SCOPE/DVM Jacks Check continuity as required per wirelist (table 2-4).
15 POWER Perform steps 1 thru 10 of table 2-3.
16 RCVR CURRENT Group Check continuity of suspected jack per wirelist (table 2-4)

Table 2-3. Test Set Troubleshooting

STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
NOTE Refer to FO-2 for connector pin locations.
1 Place test set on test bench with lid open.
2 Set all switches CCW, 1, down, off or minimum position.
WARNING Ensure 115 vac and 28 vdc power source is off before connecting power cables. Contact with 115 vac may cause injury or death.
3 Connect 28 vdc power as follows: a. Connect green wire to ground. b. Connect white wire to return. c. Connect black wire to 28 vdc.
4 Connect 115 vac power as follows: a. Connect green wire to ground. b. Connect white wire to return. c. Connect black wire to 115 vat.
5 Apply power to test equipment,
NOTE The test set power supply has a 10 second delay.
6 Place POWER switch to ON AC and DC POWER lamps on AC lamp off a. Verify that 115 vac power cord is connected to good 115 vac power. b. Check 2 AMP fuse and replace if blown. c. Check AC lamp and replace if open. d. Check continuity (para 2-12). DC lamp off a. Verify that 28 vdc power cord is connected to good 28 vdc power b. Check 10 AMP fuse and replace if blown. c. Check ac lamp and replace if open. d. Check continuity (para 2-12).

Table 2-3. Test Set Troubleshooting - Continued

STEP
PROCEDURE
NORMAL INDICATION
ABNORMAL INDICATION
CORRECTIVE ACTION

7

Press LAMP TEST switch.
All lamps shall be on.
One or more lamps off (but not all off).
Replace defective lamps.
One or more lamps still off.
Check continuity (para 2-12).
Replace circuit card (para 2-16).
All lamps off except AC and DC POWER.
Check 5 vdc per step 6 a.
Check LAMP TEST switch S14 (para 2-12).

8

Release LAMP TEST switch
All lamps off except AC and DC POWER. TFT lamp may be on or off.
All lamps on.
Check for shorted LAMP TEST switch S14 (para 2-12).

9

Connect return (–) lead of DVM (DC mode) to J4-h.

10

Measure the power supply voltages at the following connector pins:

J3-D	4.9 to 5.5 vdc
RCVR Current + jack	4.9 to 5.5 vdc
J3-C	-4.9 to -6.1 vdc
J4-d	13.3 to 14.7 vdc
J3-L	-14.0 to –16.0 vdc
J3-K	19.0 to 25 vdc
J4-E	–1 9.0 to -25 vdc
J1-h	26.0 to 30.0 vdc
J5-b	13.0 to 15.0 vdc
Move DVM Return (–) to J4-q	(DVM to AC mode)
J4-n	26.0 to 34.0 vac
J4-p	26.0 to 34.0 vac

One or more voltage is higher than maximum.
Replace power supply (para 2-19).
All voltages missing.
Check relay K1 and interlock S9.
One or more voltages missing but not all.
Check wiring and associated resistor (para 2-12).
Replace power supply (para 2-19).

11

Verify that the RCVR CURRENT switch is in the + 5V position.

CAUTION

Do not let the 5 vdc probe short to anything to prevent damage to power supply or test set.

12

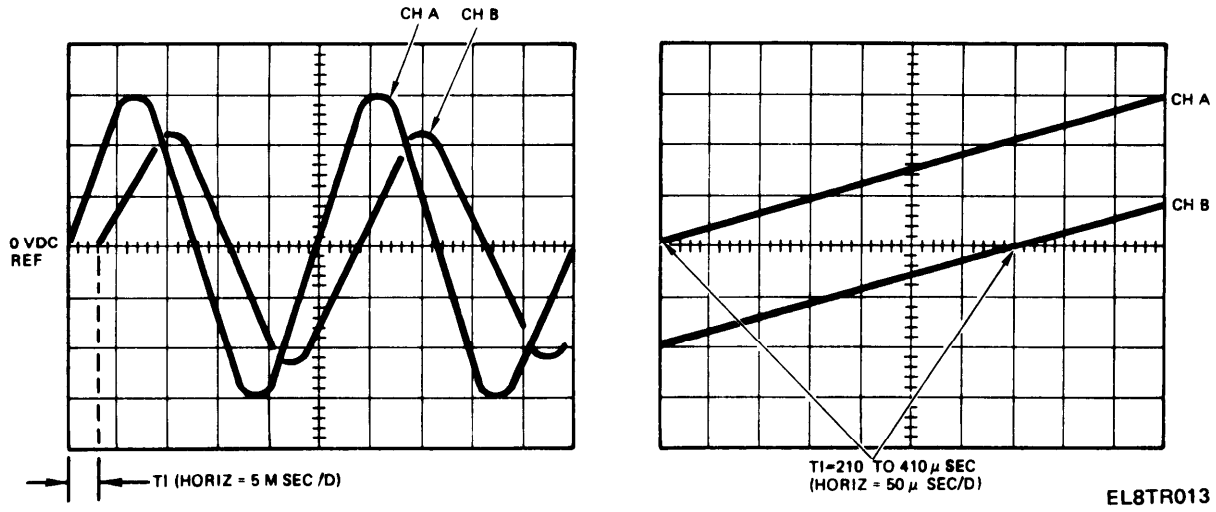
Connect one end of a test lead with probe to RCVR CURRENT + jack (5 vdc).

Table 2-3. Test Set Troubleshooting - Continued

STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
13 Apply + 5 vdc with probe to each of the connector pins while observing the associated lamp. J5-j CAGE J5-z LED J5-DD SCAN J5-AA CUE J5-L ADDRESS J4-Y UP J4-X DOWN J4-s LEFT J4-r RIGHT Each individual lamp came on when 5 volts were applied, then went off when 5 volts were removed. One or more lamps did not come on or more than one lamp came on at the same time. Replace circuit card (para 2-16).
14 a. Disconnect test lead from RCVR CURRENT jack. b. Connect the test lead with probe to RCVR GRD jack.
15 Use probe to ground each of the following connector pins while observing while observing associated lamp. J1-v TRACK J5-h BITE J1-h RCVR J1-LL ELEC J1-z GO Each individual lamp came on when the pin was grounded, then went off when ground was removed. One or more lamps did not come on or more than one lamp came on at a time. Replace circuit card (para 2-16).
16 Connect DVM to J4-N (-) and J4-L (+).
17 Set MOTOR POWER switch to LOW. 22.5 to 28.5 vdc. 0 vdc. Continuity check wires and S19 (para 2-12).
18 Set MOTOR POWER switch to NORMAL. 22.5 to 28.5 vdc. Continuity check wires and S19 (para 2-12).

Table 2-3. Test Set Troubleshooting - Continued

STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
19 Set MOTOR POWER switch to OFF. 0 vdc. Continuity check wires and S19 (para 2-12).
20 a. Connect oscilloscope to test set as follows. **Test Set** → **Scope** **J1-j** → **Channel A Input** **J1-k** → **Grd** **J4-p** **J4-q** **J4-n** → **Channel B Input** b. Set oscilloscope controls as follows: Channel A (CH A) = 10 volts per division (10 V/DIV). Channel B (CH B) = 20 volts per division (20 V/DIV). CH A and CH B 0.0 vdc reference = the center grid line. Slope + Sync on CH A Horizontal time base: 0.5 msec/division (initial) then 50 µsec division.



CH A less than 50v p-p.

Clock wiring (para 2-12).

CH B less than 80v p-p.

Check wiring (para 2-12).

Table 2-3. Test Set Troubleshooting - Continued

STEP
PROCEDURE
NORMAL INDICATION
ABNORMAL INDICATION
CORRECTIVE ACTION

20 (Cont)

T1 More than 410 μsec or less than 210 μsec.

Check wiring and C1, R18 and R19 (para 2-12).

Notify higher category maintenance.

21

Disconnect SCOPE and jumper wires.

22

Check voltages using DVM in AC mode per following table.

SUB STEP	SWITCH POSITIONS		DVM		VOLTAGE	
	MODE	SCAN	RETURN	HIGH	MINIMUM	MAXIMUM
1	STBY A	–	J5-r	J5-s	4.03 vac	4.63 vac
2	STBY A	–	J5-u	J5-t	2.30 vac	2.70 vac
3	STBY A	–	J5-e	J5-A	4.03 vac	4.63 vac
4	STBY B	–	J5-r	J5-s	3.05 vac	3.29 vac
5	STBY B	–	J5-u	J5-t	3.60 vac	4.00 vac
6	STBY B	–	J5-e	J5-A	3.05 vac	3.29 vac
7	SCAN A	–	J5-r	J5-s	4.75 vac	5.25 vac
8	SCAN A	–	J5-e	J5-A	4.75 vac	5.25 vac
9		SCAN A	J5-t	J5-u	0.00 vac	0.25 vac
10		1	J5-t	J5-u	0.66 vac	0.74 vac
11		2	J5-t	J5-u	0.00 vac	0.25 vac
12		3	J5-t	J5-u	0.66 vac	0.74 vac
13	SCAN B	–	J5-r	J5-s	4.75 vac	5.25 vac
14	SCAN B	–	J5-e	J5-A	4.75 vac	5.25 vac
15	–	SCAN B	J5-t	J5-u	2.01 vac	2.21 vac
16	–	1	J5-t	J5-u	2.01 vac	2.21 vac
17	–	2	J5-t	J5-u	1.38 vac	1.52 vac
18	–	3	J5-t	J5-u	0.64 vac	0.74 vac
19	–	4	J5-t	J5-u	0.00 vac	0.25 vac
20	–	5	J5-t	J5-u	2.01 vac	2.21 vac

Per table
Out of tolerance
Replace circuit card (para 2-16).

Table 2-3. Test Set Troubleshooting - Continued

STEP
PROCEDURE
NORMAL INDICATION
ABNORMAL INDICATION
CORECTIVE ACTION

23

Connect SCOPE to J5-t (-) and J5-HH (+).

NOTE

- A separate power supply is needed for the following test.
- Be sure power supply outputs are not grounded.

24

Set power supply to 10 vdc ± 0.1 v and connect to test set per step 25.

25

Check peak to peak levels of square waves per following table.

SUB STEP	SCAN SW. POSITION	10 VDC POWER SUPPLY		SCOPE		PEAK TO PEAK SQUARE WAVE	
		-	+	RETURN	CH-A	MINIMUM	MAXIMUM
1	SCAN A	GND	J5-y	J5-t	J5-HH	0.0	0.5
2	SCAN A 2	GND	J5-y	J5-t	J5-HH	16.0	24.0
3	SCAN B	GND	J5-y	J5-t	J5-HH	8.0	12.5
4	SCAN B 2	GND	J5-y	J5-t	J5-HH	18.0	22.0
5	SCAN B 4	GND	J5-y	J5-t	J5-HH	18.0	22.0
6	SCAN A 1	J5-y	GND	J5-t	J5-HH	16.0	24.0
7	SCAN A 3	J5-y	GND	J5-t	J5-HH	16.0	24.0
8	SCAN B 1	J5-y	GND	J5-t	J5-HH	18.0	22.0
9	SCAN B 3	J5-y	GND	J5-t	J5-HH	18.0	22.0
10	SCAN B 5	J5-y	GND	J5-t	J5-HH	18.0	22.0

Per table
High or low
Replace circuit board (para 2-16).

26

Disconnect power supply from test set.

27

Place POWER switch to OFF.
AC and DC POWER lamps off.

28

Set MODE switch to SCAN A.

Table 2-3. Test Set Troubleshooting - Continued

STEP
PROCEDURE
NORMAL INDICATION
ABNORMAL INDICATION
CORRECTIVE ACTION

29

Use DVM to measure resistance between J1-EE and J5-B.
Less than one ohm.
One ohm or more.
Check wiring (para 2-12).

30

Set MODE switch to SCAN B.

31

Use DVM to measure resistance between J1-HH and J5-B.
Less than one ohm.
One ohm or more.
Check wiring (para 2-12).

32

Place POWER switch to ON.
AC and DC POWER lamps on.

33

Use DVM to verify logic levels between J5-B (–) and the following connector pins with corresponding CODE switch settings.

NOTE

1 = 3.0 vdc min.
0 = 0.5 vdc max.
- = any

CODE SWITCH	J1-X	J1-Y	J1-p
1 - -	1	1	1
2 - -	o	1	1
3 - -	1	0	1
4 - -	0	0	1
5 - -	1	1	0
6 - -	0	1	0
7 - -	1	0	0
8 - -	0	0	0

Table 2-3. Test Set Troubleshooting - Continued

STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
33 (cont)

CODE SWITCH	J1-B	J1-Z	J1-W
-1-	1	1	1
-2-	0	1	1
-3-	1	0	1
-4-	0	0	1
-5-	1	1	0
-6-	0	1	0
-7-	1	0	0
-8-	0	0	0

CODE SWITCH	J1-D	J1-b	J1-A
--1	1	1	1
--2	0	1	1
--3	1	0	1
--4	0	0	1
--5	1	1	0
--6	0	1	0
--7	1	0	0
--8	0	0	0

Per above table.
Other than table.
Check wiring to CODE switch S2 per schematic (FO-3).
Notify higher category maintenance.

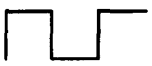
34

a. Place Σ AT ON/OFF switch to ON.
b. Place Σ AT CODING/TRACKING switch to CODING.
c. Set CODE switch to 688.

35

Set up signal generator for the following square wave output.

Frequency: 800.00 ± 0.01 KHZ
5.0 ± 0.5 vdc
0.0 ± 0.5 vdc



36

Connect signal generator to test set as follows:

SIGNAL GEN		Test Set
High	to	J5-K
Low	to	J5-B

Table 2-3. Test Set Troubleshooting – Continued

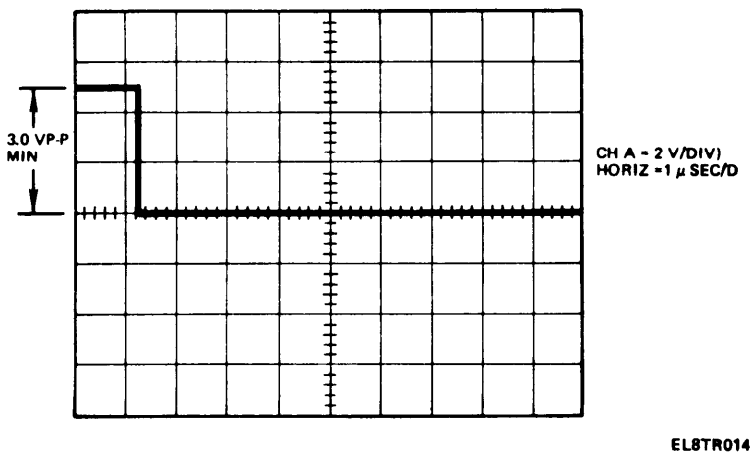
STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
37 a. Connect LED PRF jack to GRD jack. b. Connect scope and counter returns to GRD jack. **NOTE** It may be necessary to dim the oscilloscope grid and to increase the display brightness above normal in order to see some of the waveforms.
38 Use oscilloscope and counter to verify voltage and frequency of the pulse at J5-JJ. Peak to Peak voltage is 3.0 volts minimum. Frequency is 9.9 to 10.1 Hz. No pulse. Check wiring (para 2-12). Less than 3 v p-p pulse.      No pulse Check wiring (para 2-12). Less than 3 volt pulse. Replace circuit card (para 2-19). Frequency off. Replace circuit card (para 2-19).

Table 2-3. Test Set Troubleshooting - Continued

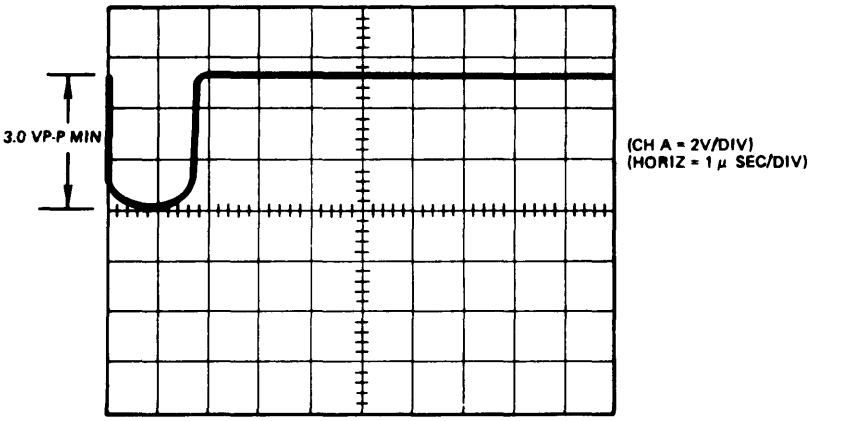
STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
39 Use oscilloscope and counter to verify the pulse at J5-w. Peak to peak voltage is 3.0 volts minimum. Frequency is 9.9 to 10.1 Hz.      No pulse. Check wiring (para 2-12). Less than 3 volt pulse. Replace circuit card (para 2-16). Frequency off. Replace circuit card (para 2-16).
40 Connect J5-JJ to J5-C.
41 Connect scope to TRACK TRIGGER test jack.

Table 2-3. Test Set Troubleshooting - Continued

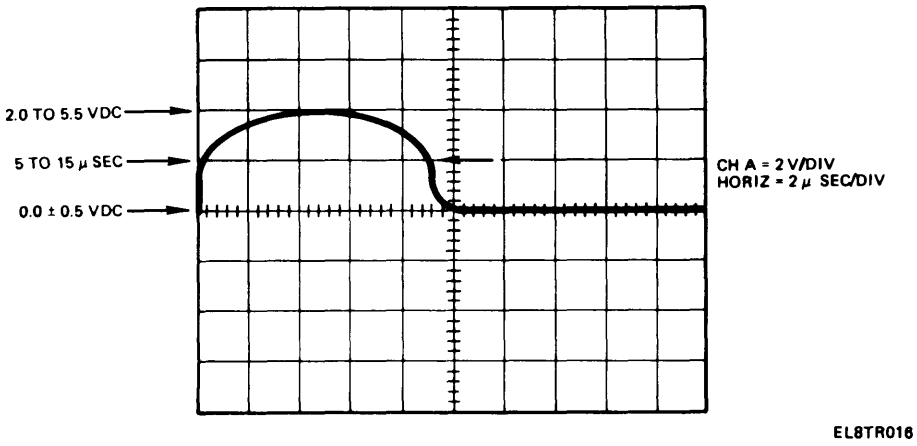
STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
42 Verify that the following pulse occurs when the TRACKING FILTER RESET switch is depressed.    Pulse missing. Check wiring (para 2-12). Wrong voltage levels. Replace circuit card (para 2-16). Wrong pulse width. Replace circuit card (para 2-16).
43 a. Remove jumper wires (do not disconnect signal generator). b. Connect DVM negative lead to GRD jack.
44 Use DVM to verify logic levels for TRACKING FILTER switch positions as follows: a. Set TRACKING FILTER switch to ELEV A. b. Depress and release TRACKING FILTER RESET switch. TFT lamp goes off, then comes back on. J5-d is 3.5 to 5.5 vdc. J5-Z is 3.5 to 5.5 vdc. J5-c is 0.0 ± 0.5 vdc. J5-a is 0.0 to 0.5 vdc. Other than above. Check wiring (para 2-12). Replace circuit card (para 2-16).

Table 2-3. Test Set Troubleshooting - Continued

STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
44 (cont) c. Set TRACKING FILTER switch to ELEV B. d. Depress and release TRACKING FILTER RESET switch. TFT lamp goes off, then comes back on. J5-d is 3.0 to 5.5 vdc. J5-Z is 3.0 to 5.5 vdc. J5-c is 0.0 to 0.5 vdc. J5-a is 0.0 to 0.5 vdc. Other than above. Replace circuit card (para 2-16). e. Set TRACKING FILTER switch to ELEV C. f. Depress and release TRACKING FILTER RESET switch. TFT lamp goes off then comes back on. J5-d is 0.0 to 0.5 vdc. J5-Z is 0.0 to 0.5 vdc. J5-c is 0.0 to 0.5 vdc. J5-a is 0.0 to 0.5 vdc. Other than above. Replace circuit card (para 2-16). g. Set TRACKING FILTER switch to AZIMUTH A. h. Depress and release TRACKING FILTER RESET switch. TFT lamp goes off then comes back on. J5-d is 3.0 to 5.5 vdc. J5-Z is 3.0 to 5.5 vdc. J5-c is 0.0 to 0.5 vdc. J5-a is 0.0 to 0.5 vdc. Other than above. Replace circuit card (para 2-16). i. Set TRACKING FILTER switch to AZIMUTH B. j. Depress and release TRACKING FILTER RESET switch. TFT lamp goes off, then comes back on. J5-d is 3.0 to 5.5 vdc. J5-Z is 3.0 to 5.5 vdc. J5-c is 0.0 to 0.5 vdc. J5-a is 0.0 to 0.5 vdc. Other than above. Replace circuit card (para 2-16).

Table 2-3. Test Set Troubleshooting – continued

STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
44 (cont) k. Set TRACKING FILTER switch to AZIMUTH C. 1. Depress TRACKING FILTER RESET switch. TFT lamp goes off, then comes back on. J5-d is 0.0 to 0.5 vdc. J5-Z is 0.0 to 0.5 vdc. J5-c is 0.0 to 0.5 vdc. J5-a is 0.0 to 0.5 vdc. Other than above. Replace circuit card (para 2-16).
45 Set MODE switch to CUE.
46 Disconnect signal generator.
47 Set SCAN switch to SCAN A. a. Use DVM (AC mode) to measure voltage between; b. J1-t and J1-s 5.0 ± 0.5 vac c. J1-u and J1-c 5.0 ± 0.5 vac Other than above. Check wiring (para 2-12). Replace circuit card (para 2-16).
48 Set the MODE switch to BITE.
49 Connect SCOPE input to J5-LL.

Table 2-3. Test Set Troubleshooting – Continued

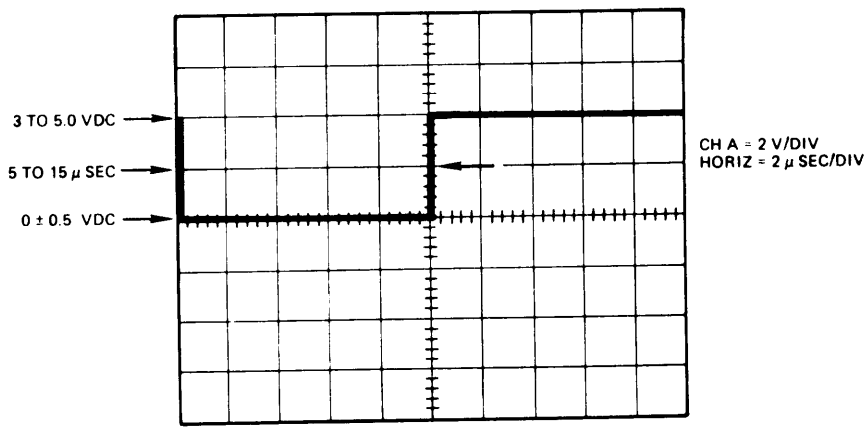
STEP	PROCEDURE	NORMAL INDICATION	ABNORMAL INDICATION	CORRECTIVE ACTION
50	Verify that the following pulse occurs when the TRACK FILTER RESET switch is depressed.	 EL8TR017	Other than above.	Check wiring (para 2-12). Replace circuit card (para 2-16).

Table 2-3. Test Set Troubleshooting - Continued

STEP
PROCEDURE
NORMAL INDICATION
ABNORMAL INDICATION
CORRECTIVE ACTION

51

Use DVM in AC mode (return to GRD) to verify voltages with ADDRESS A and B switches set as follows:

ADDRESS A	ADDRESS B	J5 PIN		
1	12	r	is	0.0 ± 0.25 vac
2	12	r	is	0.0 ± 0.25 vac
3	12	r	is	4.33 to 4.73 vac
4	12	r	is	0.0 ± 0.25 vac
5	12	r	is	0.0) ± 0.25 vac
6	12	r	is	4.33 to 4.73 vac
7	12	r	is	4.33 to 4.73 vac
8	12	r	is	4.33 to 4.73 vac
9	12	r	is	0.0 ± 0.25 vac
10	12	r	is	4.75 to 5.25 vac
11	12	r	is	4.75 to 5.25 vac
12-23	12	r	is	0.0 ± 0.25 vac
12-23	13	r	is	0.0 ± 0.25 vac
12-23	14	r	is	4.75 to 5.15 vac
12-23	15	r	is	0.0 ± 0.25 vac
12-23	16	r	is	0.0 ± 0.25 vac
12-23	17	r	is	0.0 ± 0.25 vac
12-23	18	r	is	0.0 ± 0.25 vac
12-23	19	r	is	4.75 to 5.15 vac
12-23	20	r	is	0.0 ± 0.25 vac
12-23	21	r	is	4.75 to 5.25 vac
12-23	22	r	is	4.75 to 5.25 vac
12-23	23	r	is	0.0 ± 0.25 vac

Table 2-3. Test Set Troubleshooting - Continued

STEP / PROCEDURE / NORMAL INDICATION / ABNORMAL INDICATION / CORRECTIVE ACTION				
51 (cont)				
A	B	PIN		
1	12	u	is	0.0 ± 0.25 vac
2	12	u	is	0.0 ± 0.25 vac
3	12	u	is	2.01 to 2.21 vac
4	12	u	is	2.01 to 2.21 vac
5	12	u	is	2.01 to 2.21 vac
6	12	u	is	2.01 to 2.21 vac
7	12	u	is	2.01 to 2.21 vac
8	12	u	is	2.01 to 2.21 vac
9	12	u	is	0.0 ± 0.25 vac
10	12	u	is	0.0 ± 0.25 vac
11	12	u	is	0.0 ± 0.25 vac
12-23	12	u	is	0.0 ± 0.25 vac
12-23	13	u	is	0.65 to 0.73 vac
12-23	14	u	is	0.0 ± 0.25 vac
12-23	15	u	is	0.0 ± 0.25 vac
12-23	16	u	is	0.0 ± 0.25 vac
12-23	17	u	is	0.0 ± 0.25 vac
12-23	18	u	is	0.0 ± 0.25 vac
12-23	19	u	is	0.0 ± 0.25 vac
12-23	20	u	is	0.65 to 0.73 vac
12-23	21	u	is	0.0 ± 0.25 vac
12-23	22	u	is	0.0 ± 0.25 vac
12-23	23	u	is	0.0 ± 0.25 vac
1	12	A	is	0.0 ± 0.25 vac
2	12	A	is	0.0 ± 0.25 vac
3	12	A	is	2.16 to 2.36 vac
4	12	A	is	0.0 ± 0.25 vac
5	12	A	is	0.0 ± 0.25 vac
6	12	A	is	2.16 to 2.36 vac
7	12	A	is	2.16 to 2.36 vac
8	12	A	is	2.16 to 2.36 vac
9	12	A	is	0.0 ± 0.25 vac
10	12	A	is	4.75 to 5.25 vac
11	12	A	is	4.75 to 5.25 vac
12-23	12	A	is	0.0 ± 0.25 vac
12-23	13	A	is	0.0 ± 0.25 vac
12-23	14	A	is	0.0 ± 0.25 vac
12-23	15	A	is	0.0 ± 0.25 vac
12-23	16	A	is	0.0 ± 0.25 vac
12-23	17	A	is	0.0 ± 0.25 vac
12-23	18	A	is	0.0 ± 0.25 vac
12-23	19	A	is	0.0 ± 0.25 vac
12-23	20	A	is	0.0 ± 0.25 vac
12-23	21	A	is	4.75 to 5.25 vac
12-23	22	A	is	4.75 to 5.25 vac
12-23	23	A	is	0.0 ± 0.25 vac

Table 2-3. Test Set Troubleshooting - Continued

STEP	PROCEDURE	NORMAL INDICATION	ABNORMAL INDICATION	CORRECTIVE ACTION

51 (cont)

A	B	PIN		
1	12	NN	is	0.0 ± 0.25vac
2	12	NN	is	0.0 ± 0.25vac
3	12	NN	is	0.0 ± 0.25vac
4	12	NN	is	0.0 ± 0.25vac
5	12	NN	is	0.0 ± 0.25vac
6	12	NN	is	0.0 ± 0.25vac
7	12	NN	is	0.0 ± 0.25vac
8	12	NN	is	0.0 ± 0.25vac
9	12	NN	is	0.0 ± 0.25vac
10	12	NN	is	0.0 ± 0.25vac
11	12	NN	is	0.0 ± 0.25vac
12-23	12	NN	is	0.0 ± 0.25vac
12-23	13	NN	is	0.0 ± 0.25vac
12-23	14	NN	is	4.75 to 5.15 vac
12-23	15	NN	is	0.0 ± 0.25 vac
12-23	16	NN	is	0.0 ± 0.25 vac
12-23	17	NN	is	0.0 ± 0.25 vac
12-23	18	NN	is	0.0 ± 0.25 vac
12-23	19	NN	is	4.75 to 5.15 vac
12-23	20	NN	is	0.0 ± 0.25 vac
12-23	21	NN	is	0.0 ± 0.25 vac
12-23	22	NN	is	0.0 ± 0.25 vac
12-23	23	NN	is	0.0 ± 0.25 vac
12-23	14	HH	is	0.00 to 0.35 vac
12-23	19	HH	is	0.0 to 0.35 vac

Per table
Most voltages good, but some missing.
Continuity from applicable connector pin (para 2-12).
Repair wiring.
All voltages missing.
Replace circuit card (para 2-16).

Table 2-3. Test Set Troubleshooting - Continued

STEP	PROCEDURE	NORMAL INDICATION	ABNORMAL INDICATION	CORRECTIVE ACTION
52	a. Connect SCOPE as follows: Channel A to J3-X Channel B to J5-HH Sync on Channel A b. Verify voltage and phase with ADDRESS A switches set as follows: ADDRESS A / B 2 / 12 3 / 12 7 / 12 8 / 12	Channel B is 7.0 to 10.5 VP-P. Channel B is 180° out of phase with Channel A. Channel B is 7.0 to 10.5 VP-P. Channel A to B phase changes when RESET is depressed. Channel B is 7.0 to 10.5 VP-P. Channel A to B phase changes when RESET is depressed. Channel B is 7.0 to 10.5 VP-P. Channel A to B phase changes when RESET is depressed.		Continuity check wires and S16, S18 and S13 (para 2-12). Replace circuit card (para 2-17 and 2-18).

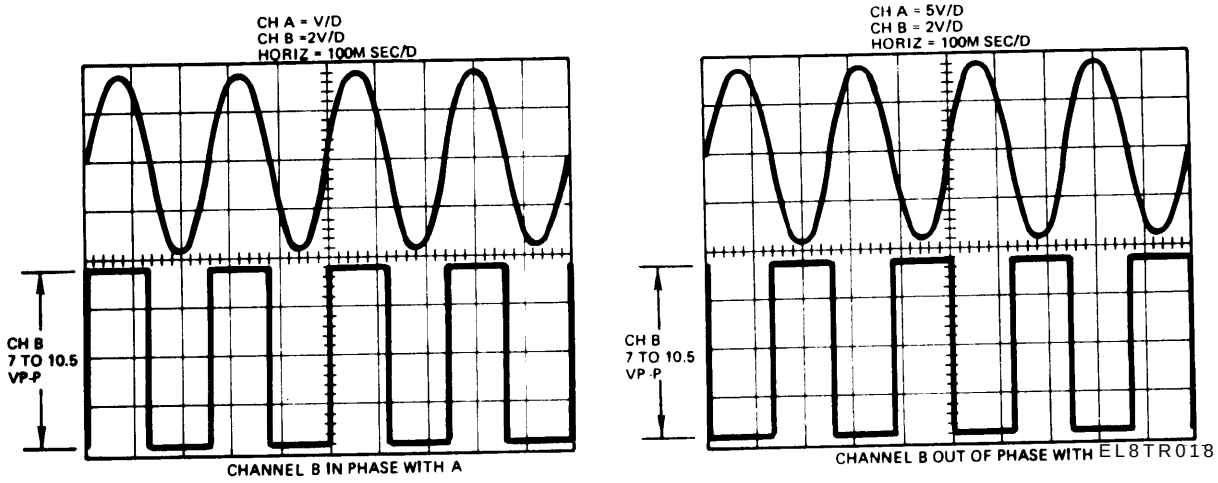


Table 2-3. Test Set Troubleshooting - Continued

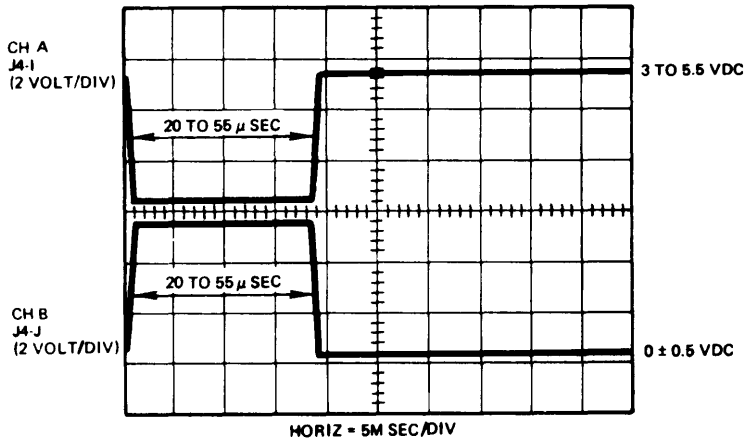
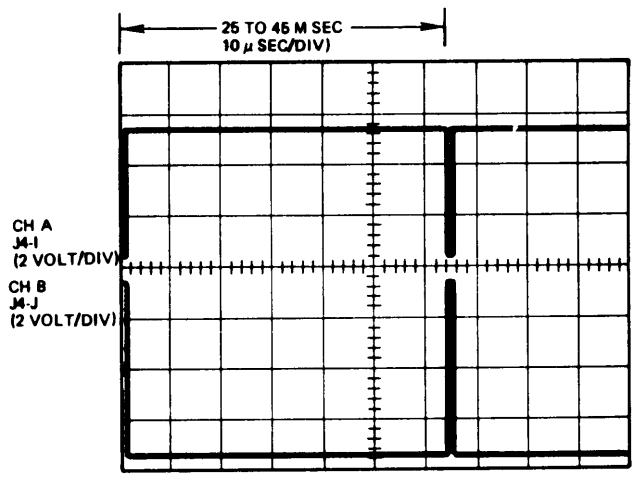
STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
53 a. Connect DVM (DC Mode) between J4-K (+) and J5-B (-). b. Place AZIMUTH GAIN switch to HIGH. –19 to –25 vdc. O vdc. Check wiring (para 2-12). c. Place AZIMUTH GAIN switch to LOW 0 vdc (open circuit). Check wiring (para 2-12). –19 to -25 vdc. Replace AZIMUTH GAIN switch (para 2-21).
54 a. Place the LED PRF and MLO switches to ON. Connect SCOPE as follows: Channel A to J4-i Channel B to J4-j Sync on Channel A Slope + b. Verify the Pulse widths and levels of the following wave forms.      EL8TR019

Table 2-3. Test Set Troubleshooting - Continued

STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
54 (cont)

Missing pulse.
Check wiring (para 2-12).
Replace circuit card (para 2-17 and 2-1 8).
Voltage levels or wrong pulse width.
Replace circuit card (para 2-17 and 2-18).

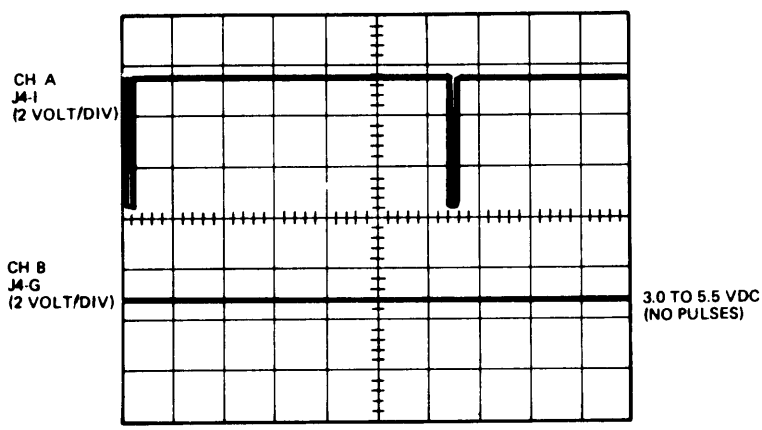
c. Verify the following periods.



EL8TR020

Period is less than 25 or more than 45 Msec.
Replace circuit card (para 2-17 and 2-18).

d. Move the scope Channel B load to J4-G.



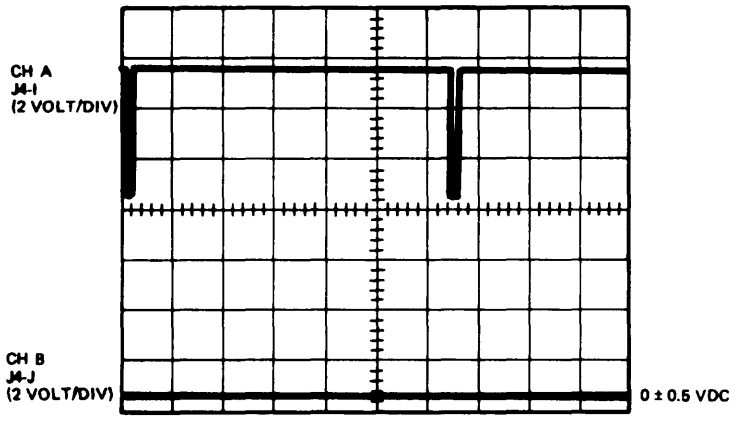
EL8TR021

Table 2-3. Test Set Troubleshooting - Continued

STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
54 (cont)

0 vdc on J4-G.
Check wiring (para 2-12).
Pulses on J4-G.
Replace circuit card (para 2-17 and 2-18).

e. Move the scope Channel B load to J4-F.



EL6TR022

Pulses on J4-J or more than 0.5 vdc.
Replace circuit card (para 2-17 and 2-18).

Table 2-3. Test Set Troubleshooting - Continued

STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
WARNING High voltages are measured in the following steps. Contact with these voltages may cause death.
55 Use DVM to verify voltages between the following connector pins. a. J2-4 and J2-10. 112to118vac. Voltage missing. Check wiring (para 2-12). b. J2-7 (+) and J2-8 (-). 112 to 118vac. Voltage missing. Check wiring (para 2-12). c. J2-1 (+) and J2-2 (-). 25 to 29 vdc. Voltage missing. Check wiring (para 2-12). d. J4-t (+) and J4-k (-). -200 vdc minimum. Voltage missing. Check wiring (para 2-12). Replace power supply (para 2-20).

Table 2-3. Test Set Troubleshooting - Continued

STEP PROCEDURE NORMAL INDICATION ABNORMAL INDICATION CORRECTIVE ACTION
56 Use DVM to measure voltages between each of the following pairs of pins. J3-Z and J3-q. 8.94 to 9.04 vat. Out of tolerance. Adjust R196 per para 2-13. J3-j and J3-m. 3.03 to 3.13 vat. Out of tolerance. Adjust R197 per para 2-14. J3-p and J3-b. 3.03 to 3.13 vat. Out of tolerance. Same voltage as J3-m, check continuity and correct wiring as required.
57 Place POWER switch to OFF. AC and DC lamps off.

Section IV. MAINTENANCE PROCEDURES

2-12. Checking Continuity – General Instructions

WARNING

Ensure that the test set power cords (115 vac and 28 vdc) are disconnected from power source. Contact with 115 vac or the internal 300 vdc may cause injury or death.

a. Place test set POWER switch to OFF.

b. Remove test set from the case (para 2-15).

NOTE

Refer to schematic diagram (FO-3) and wire lists (tables 2-4 and 2-5) when continuity checking.

c. Check the continuity of each wire, switch, or component as applicable to the circuit.

d. Replace components as required (para 2-17 through para 2-24).

2-13. R196 Adjustment Procedure (fig. 2-3)

Perform adjustment of R196 as follows:

a. Remove test set from case (para 2-15).

WARNING

High voltage is present. When power is applied to test set, voltages as high as 115 vac and 300 vdc are present. Contact with high voltages may cause injury or death.

b. Manually activate interlock switch S9.

c. Reconnect ac and dc POWER cords.

d. Connect DVM (AC mode) between J3-z and J3-q.

e. Place POWER switch to ON.

f. Adjust RI 96 on circuit board to 8.99 vac ± 0.05 vat.

9. Place POWER switch to OFF.

h. Disconnect ac and dc POWER cords.

i. Install test set into case (para 2-16).

j. Place POWER switch to ON,

k. Repeat table 2-3, step 56.

2-14. R197 Adjustment Procedure (fig. 2-3)

Perform adjustment of RI 97 as follows:

a. Remove test set from case (para 2-15).

WARNING

High voltage is present. When power is applied to test set, voltages as high as 115 vac and 300 vdc are present. Contact with high voltages may cause injury or death.

b. Manually activate interlock switch **S9.**

c. Reconnect ac and dc POWER cords.

d. Connect DVM (AC mode) between J3-z and J3-q.

e. Place POWER switch to ON.

f. Adjust R197 on circuit board to 3.08 vac ± 0,05 **vat.**

g. **Place** POWER switch to OFF.

h. Disconnect ac and dc POWER cords.

i. Install test set into case (para 2-16).

j. Place POWER switch to ON.

k. Repeat table 2-3, step 56.

2-15. Removing Test Set from Case (fig. 2-2)

a. Remove ac and dc power cords from inner case cover storage compartment.

b. Remove the twelve screws and washer from the front panel edge.

NOTE

It maybe necessary to carefully pry the edge of the panel to break the seal if the gasket is stuck.

c. Lift test set from case using handles provided.

2-16. Installing Test Set into Case (fig. 2-2)

a. Place gasket in position on case.

b. Carefully lift test set and install into case. Check that interlock switch is actuated by bracket inside case.

c. Install the twelve screws with washers that secure the panel to the case.

d, Torque screws to approximately 18 inch-pounds.

2-17. Removing Circuit Card (fig. 2-3)

a. Remove test set from case (para 2-15).

b. Loosen screws (5, 10, 11) securing connectors P1, P2 and P3 to circuit card and remove connectors.

c. Remove the twelve screws (9) with washers (6, 7, 8) that hold the circuit board to the twelve standoffs (4). Do not lose the plastic washers that are located between the circuit board and standoffs.

d. Carefully lift circuit card from test set.

e. Install new circuit card (para 2-18).

2-18. Installing Circuit Card (fig. 2-3)

a Install twelve plastic washers (6) on spacers.

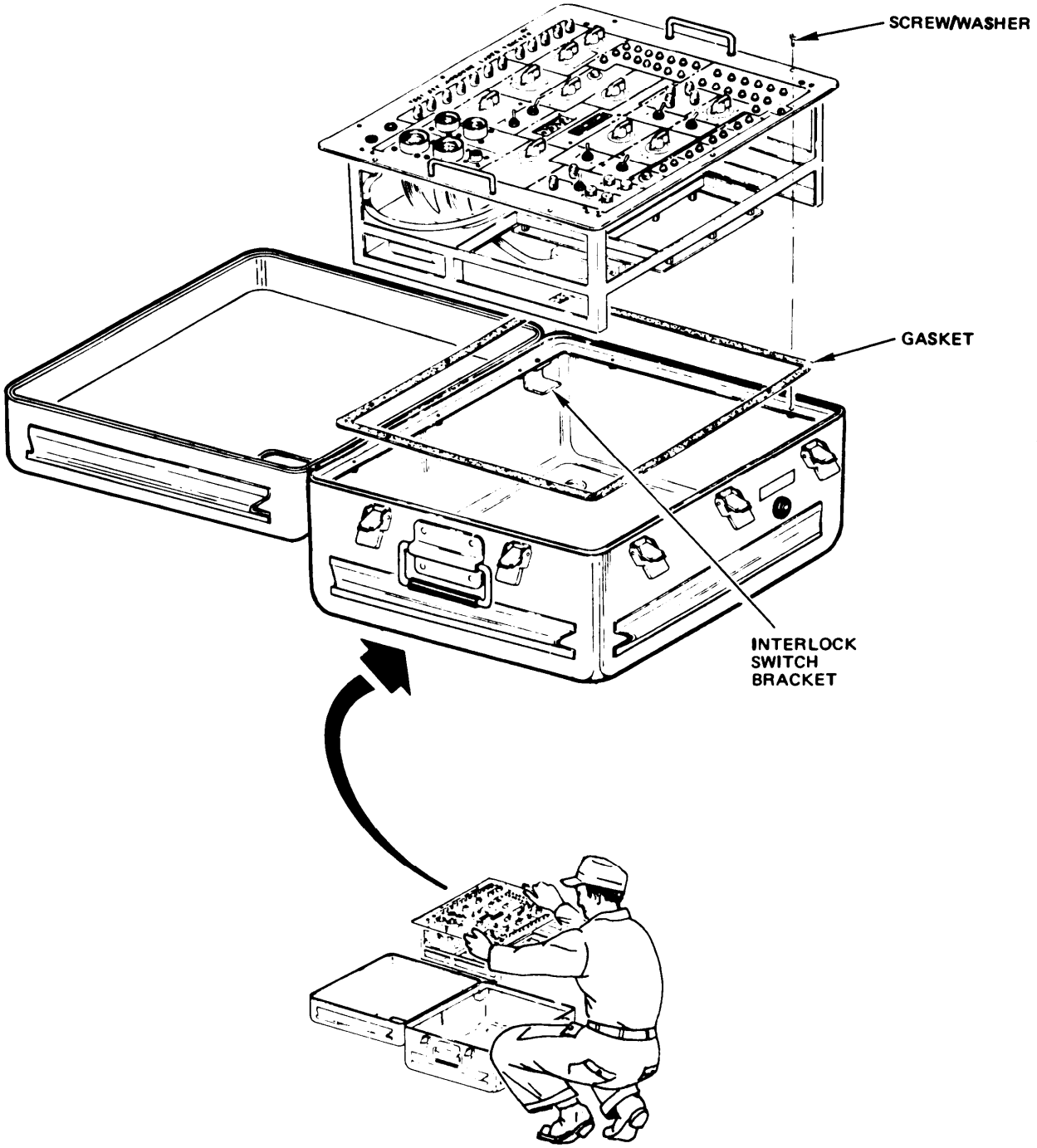
b Carefully lay circuit card assembly on plastic washers.

c Align holes in circuit card with holes in washers and spacers.

d. Install twelve plastic washers (6), twelve steel washers (7), twelve Iockwashers (8), and twelve screws.

e. Install connectors P1, P2 and P3 on circuit card and tighten retaining screws (5, 10, 11).

f. Replace test set into case (para 2-16).



EL8TR024

Figure 2-2. Test Set to Case Details.

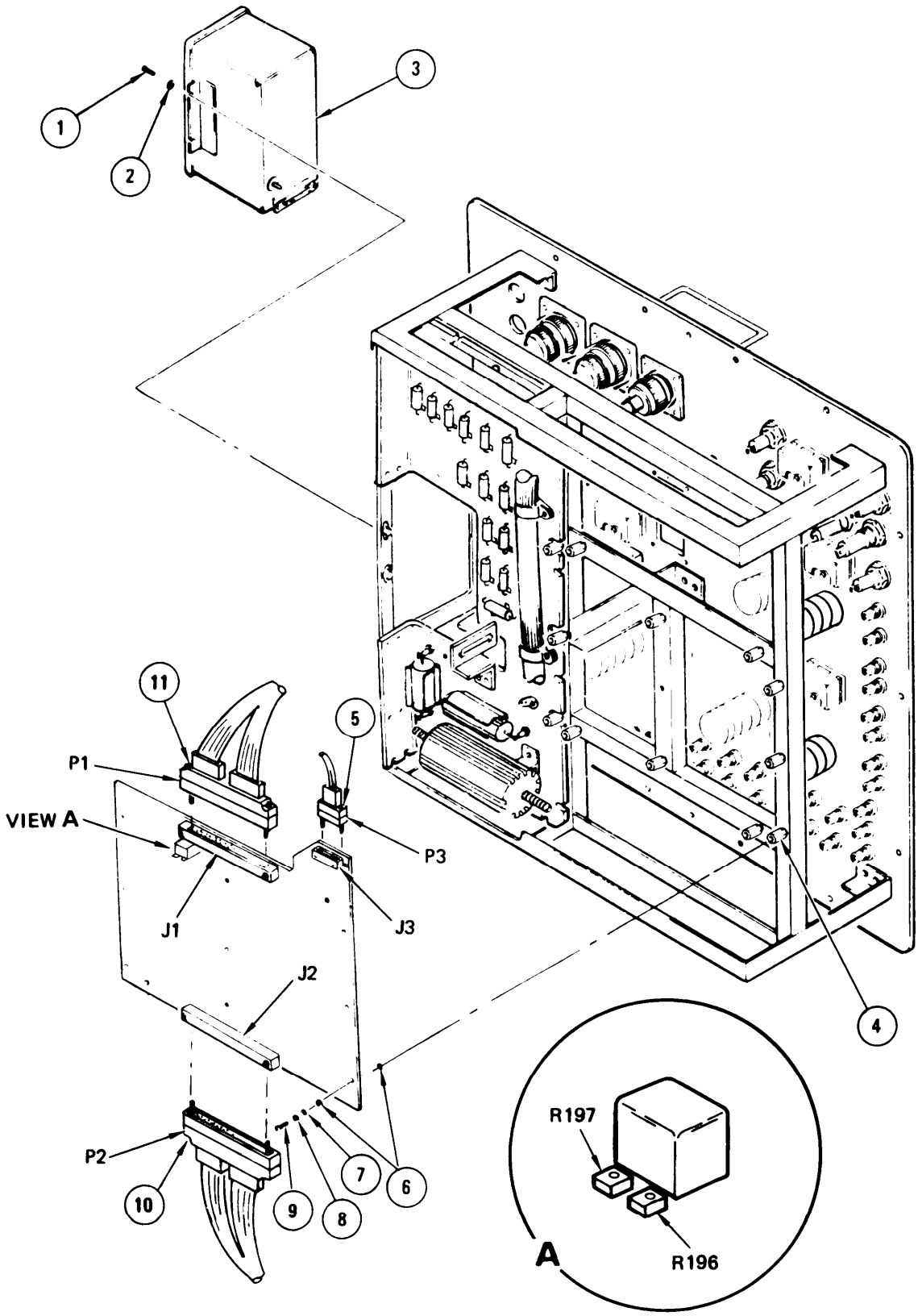


Figure 2-3. Test Set Components.

2-19. Removing Power Supply (fig. 2-3)

a. Remove test set from case (para 2-15).

b. Remove the four screws (1) with washers (2) that secure power supply (3) to assembly.

c. Remove power supply (3) by pulling straight out.

d. Install replacement power supply (para 2-20).

2-20. Installing Power Supply (fig. 2-3)

CAUTION

Be sure that power supply connector pins align with socket in chassis, to prevent bending or breaking of pins.

a. Align power supply with connector and install power supply.

b. install four screws (1) with washers (2).

c. install test set into case (para 2-16).

2-21. Switch Replacement (fig. 2-4)

a. If necessary to gain access to switch, remove circuit board (para 2-17).

b. Tag wires for reinstallation and unsolder wires.

c. Remove attaching hardware (1).

d. Install replacement switch (2) using attaching hardware (1).

e. Reconnect and solder wires.

f. To be sure, check continuity reinstalled wires (table 2-4 or 2-5).

g. If removed, install circuit card (para 2-18).

h. Install test set into case (para 2-16).

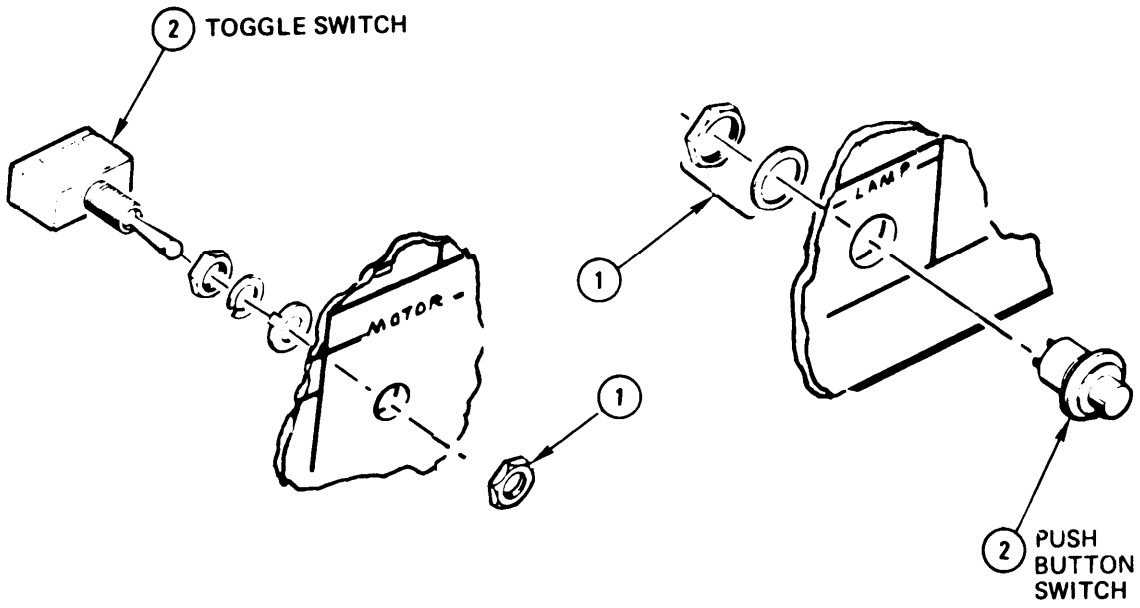


Figure 2-4. Switches.

2-22. Lamp Holder Replacement (fig. 2-5)

a. If necessary to gain access to lamp holder, remove circuit card (para 2-17),

b. Tag wires for reinstallation and unsolder wires.

c. Remove attaching hardware (1).

d. Replace lamp holder (2) using attaching hardware (1).

e. Reconnect and solder wires.

f. To be sure, check continuity reinstalled wires (table 2-4 or 2-5).

g. If removed, install circuit card (para 2-18).

h. Install test set into case (para 2-16).

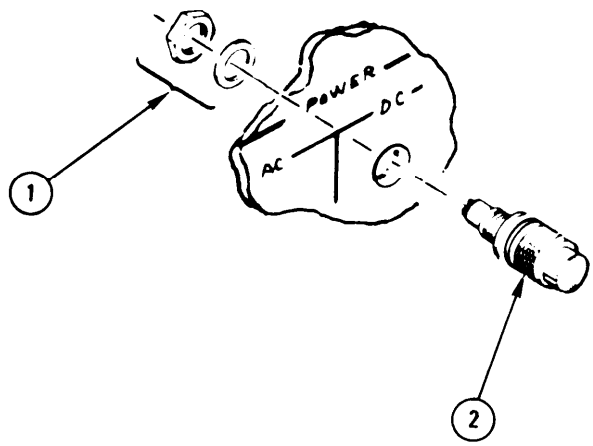


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Figure 2-5. Lamp Holders.

2-23. Fuse Holder Replacement (fig. 2-6)

a. If necessary to gain access to fuse holder, remove circuit card (para 2-17).

b. Tag wires for reinstallation and unsolder wires.

c. Remove attaching hardware (1).

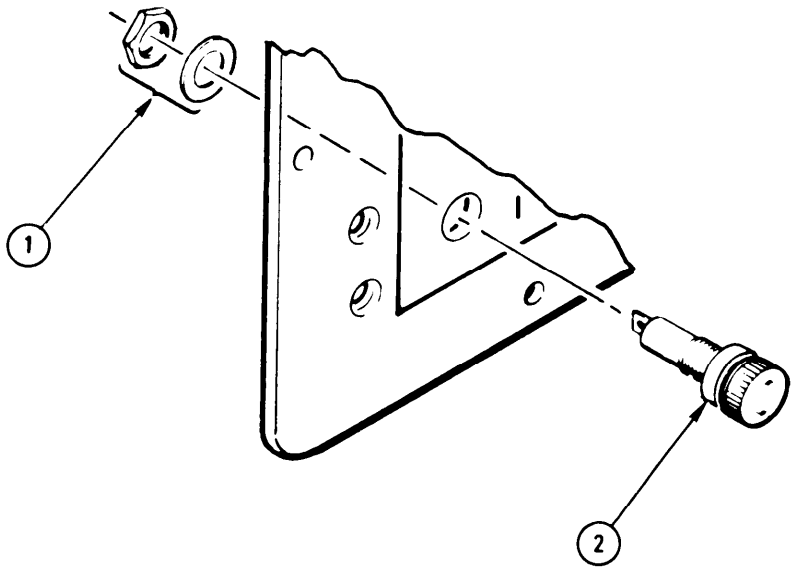
d. Install replacement fuse holder (2) using attaching hardware (1).

e. Reconnect and solder wires.

f. To be sure, check continuity reinstalled wires (table 2-4 or 2-5).

g. If removed, install circuit card (para 2-18).

h. Install test set into case (para 2-16).



EL8TR028

Figure 2-6. **Fuse Holder.**

2-24. Test Jack Replacement (fig. 2-6)

a. If necessary to gain access to test jack, remove circuit card (para 2-17).

b. Tag wires for reinstallation and unsolder wires.

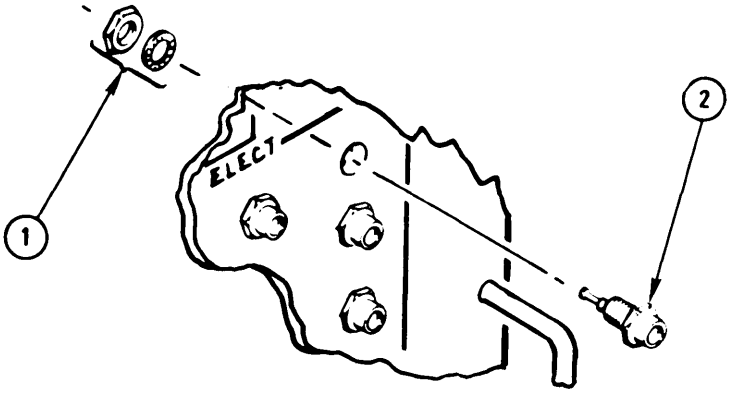
c. Remove attaching hardware (1).

d. Install replacement test jack (2) using attaching hardware (1).

e. Reconnect and solder wires.

f. To be sure, check continuity reinstalled wires (table 2-4 or 2-5).

g. Install test set into case (para 2-16).



EL8TRO29

Figure 2-7. Test Jacks.

Table 2-4. Test Set Wire List (Listed by Component)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
371	C1-A		J6-6			7
372	C1-A		R9-A			7
373	C1-B		R1O-A			7
208	C2-A		P2-23			8
291	C2-A		S1-c-c			8
382	C2-B		E6			8
541	CR3-C		R5-A			8
424	CR2-A		K1-B1			8
364	CR2-C		J6-3			8
390	E1		TB1-12			2
399	E1		TB1-4			2
406	E1		E2			2
446	E1O		E19			4
447	E11		E19			4
443	E12		E19			4
414	El 3		E22			4
413	E14		E22			4
444	E15		E19			4
448	E16		E18			4
412	E17		E22			4
410	E18		E19			4
448	E18		E16			4
415	E18		TB1-5			4
453	E18		E39			4
443	E19		E12			4
444	E19		E15			4
445	E19		E9			4
446	E19		E10			4
447	E19		E11			4
410	E19		E18			4
381	E2		J6-16			2
406	E2		El			2
539.3	E2		W4-GRN			2
540.3	E2		W5-GRN			2
454	E20		E42			4
411	E21		E22			4
411	E22		E21			4
412	E22		E17			4

Table 2-4. Test Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
413	E22		E14			4
414	E22		E13			4
416	E22		TB1-5			4
433	E23		E33			4
434	E24		E33			4
435	E25		E33			4
436	E26		E33			4
437	E27		E33			4
438	E28		E40			4
439	E29		E40			4
59	E3		J2-5			2
99	E3		J4-A			2
127	E3		J5-D			2
215	E3		J3-S			2
297	E3		TB1-3			2
440	E30		E34			4
441	E31		E34			4
442	E32		E34			4
433	E33		E23			4
434	E33		E24			4
435	E33		E25			4
436	E33		E26			4
437	E33		E27			4
449	E33		E7			4
440	E34		E30			4
441	E34		E31			4
442	E34		E32			4
450	E34		E7			4
455	E35		E42			4
456	E36		E42			4
457	E37		E42			4
142.2	E38		P1-31		WHT WIRE	6
157	E38		J39			6
430	E38		J5-JJ			6
173	E39		J5-e			4
453	E39		E18			4
93	E4		J4-Z			2
94	E4		J4-H			2
298	E4		TB1-10			2
438	E40		E28			4
439	E40		E29			4

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
451	E40		E7			4
452	E40		E41			4
452	E41		E40			4
454	E42		E20			4
455	E42		E35			4
456	E42		E36			4
457	E42		E37			4
432	E42		TB1-4			4
14A	E43		J1-p			1
14	E43		S2-A-4			1
458A	E43		S2			1
467A	E43		P3-4			1
15A	E44		J1-Y			1
15	E44		S2-A-2			1
459A	E44		S2			1
468A	E44		P3-5			1
16A	E45		J1-X			1
16	E45		S2-A-1			1
460A	E45		S2			1
469A	E45		P3-3			1
17A	E46		J1-W			1
17	E46		S2-B-4			1
461A	E46		S2			1
470A	E46		P3-8			1
18A	E47		J1-Z			1
18	E47		S2-B-2			1
462A	E47		S2			1
471 A	E47		P3-9		JUMPER	1
19A	E48		J1-B			1
19	E48		S2-B-1			1
463A	E48		S2			1
472A	E48		P3-10		JUMPER	1
20A	E49		J1-A			1
20	E49		S2-C-4			1
464A	E49		S2			1
473A	E49		P3-2			1
5	E5		J1-c			2
6	E5		J1-s			2
295	E5		TB1-10			2
21A	E50		J1-b			1
21	E50		S2-C-2			1
465A	E50		S2			1

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
474A	E50		P3-1			1
22A	E51		J1-D			1
22	E51		S2-C-1			1
466A	E51		S2			1
475A	E51		P3-6			1
324	E6		S15-D-6			2
382	E6		C2-B			2
383	E6		J13			2
386	E6		J17			2
389	E6		TB1-12			2
209	E7		P2-58			4
222	E7		P2-11			4
400	E7		TB1-12			4
449	E7		E33			4
450	E7		E34			4
451	E7		E40			4
129	E8		J5-t			2
130	E8		J5-B			2
132	E8		J5-s			2
296	E8		TB1-10			2
445	E9		E19			4
49	J1-a		STOWED			
21A	J1-b		E50			1
5	J1-c		E5			2
4	J1-d		S1-A-6			1
23	J1-e		S3-A-6			2
47	J1-f		STOWED			
8	J1-h		P1-12			6
36	J1-i		S21-A-1			8
32	J1-j		S21-A-9		*J2-8	8
37	J1-k		R19-A			8
31	J1-m		S21-A-8		*J2-7	8
33	J1-n		S21-A-1O			8
14A	J1-p		E43			1
26	J1-q		S9-C			3
45	J1-r		STOWED			
6	J1-s		E5			2
12	J1-t		P2-22			6
13	J1-u		S1-B-C	E36		1
11	J1-v		P1-14			6
40	J1-w		STOWED			
44	J1-x		STOWED			

*Twist with

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
24	J1-y		S3-A-5			2
10	J1-z		P1-13			6
20A	J1-A		E49			1
52	J1-AA		S21-B-1O			8
19A	J1-B		E48			1
7	J1-BB		S21-B-11			8
48	JI-C		S19-2			7
34	J1-CC		S21-A-11			8
22A	J1-D		E51			1
46	J1-DD		STOWED			
3	J1-EE		S1-A-3			1
41	J1-FF		STOWED			
27	J1-GG		P1-39			6
2	J1-HH		S1-A-4			1
30	J1-J		S21-A-6			8
38	J1-JJ		J34			8
25	J1-K		S3-A-2			2
43	J1-KK		STOWED			
51	J1-L		STOWED			
9	J1-LL		P1-11			6
35	J1-M		S21-A-2			8
42	J1-MM		STOWED			
29	J1-N		S21-A-4			8
39	J1-NN		STOWED			
28	J1-P		S21-A-3			8
1	J1-PP		S1-A-5			1
50	J1-R		STOWED			
17A	J1-W		E46			1
16A	J1-X		E45			1
15A	J1-Y		E44			1
18A	J1-Z		E47			1
282	J1O		S3-A-C			8
388	J1O		J15			8
112	J11		J4-M			8
287	J11		S6-5			8
151	J12		J5-K			8
300	J12		S11-1			3
383	J13		E6			8
384	J13		J14			8
384	J14		J13			8
385	J14		S3-B-C			8

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
388	J15		J10			8
89	J16		J3-g			8
386	J17		E6			8
387	J17		J18			8
387	J18		J17			8
57	J2-1		XDS1-A		*J2-2	3
55	J2-10		TB1-1		*J2-4	2
61	J2-11		STOWED			
60	J2-12		STOWED			
58	J2-2		TB1-6		*J2-1	2
56	J2-4		TB1-8		*J2-10	2
59	J2-5		E3			2
54	J2-7		TB1-8		*J2-8	2
53	J2-8		TB1-1		*J2-7	2
152	J21		J5-i			8
271	J22		P1-69			8
264	J23		P2-56			8
263	J24		P2-54			8
113.2	J25		J4-V		WHT WIRE	8
67	J26		J3-J			8
68	J27		J3-H			8
114	J28		J4-D			8
69	J29		J3-E			8
83	J3-a		S8-A-1			2
78	J3-b		P2-9			5
81	J3-c		S8-A-3			2
75	J3-d		P2-68			6
90	J3-e		STOWED			
82	J3-f		S8-A-2			2
89	J3-g		J16			8
87	J3-h		STOWED			
79	J3-i		S8-E-C			2
72	J3-j		P2-43			5
85	J3-k		P2-35			6
73	J3-m		P2-44			5
86	J3-n		STOWED			
77	J3-p		P2-8			5
88	J3-q		P2-6			5
71	J3-s		J32			8
84	J3-t		TB1-11			5
65	J3-C		S20-B-2			7

*Twist with

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
66	J3-D		S20-B-1			7
69	J3-E		J29			8
70	J3-F		J31			8
92	J3-G		STOWED			
68	J3-H		J27			8
67	J3-J		J26			8
63	J3-K		S20-B-5			7
62	J3-L		S20-B-4			7
91	J3-R		P2-31			6
215	J3-S		E3			2
76	J3-T		S17-C-3			5
64	J3-X		S20-B-11			7
80	J3-Y		S8-A-4			2
74	J3-Z		P2-7			5
115	J30		J4-C			8
70	J31		J3-F			8
71	J32		J3-s			8
153	J33		J5-CC			8
38	J34		J1-JJ			8
154	J35		J5-C			8
236	J35		P1-64			8
155	J36		J5-PP			8
281	J37		S3-A-9			8
156	J38		J5-BB			8
157	J39		E38			8
110	J4-d		S20-B-3			7
121	J4-e		STOWED			
122	J4-f		STOWED			
123	J4-g		STOWED			
98	J4-h		TB1-3			5
116	J4-i		J41			8
105	J4-j		P2-46			6
111	J4-k		S20-B-7			7
118	J4-m		P2-38			5
107	J4-n		S20-B-8		*J4-/P	7
108	J4-p		S20-B-9		*J4-IN	7
96	J4-q		J6-11			5
102.1	J4-r		P1-3		BLK WIRE	6
102.2	J4-s		P1-2		WHT WiRE	6
95	J4-t		J6-24			5
99	J4-A		E3			2

*Twist with

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
115	J4-C		J30			8
114	J4-D		J28			8
106	J4-E		S20-6-6			7
104	J4-F		P2-45			6
117	J4-G		J42			8
94	J4-H		E4			2
119	J4-J		S17-B-C			5
120	J4-K		S5-2			1
109	J4-L		S2O-B-1O			7
112	J4-M		J11			8
97	J4-N		TB1-7			2
124	J4-T		STOWED			
125	J4-U		STOWED			
113.2	J4-V		J25		WHT WIRE	8
113.1	J4-W		TP1		BLK WIRE	8
101.2	J4-X		P1-36		WHT WiRE	6
100.1	J4-Y		P1-1		BLK WiRE	6
93	J4-Z		E4			2
158	J40		J5-v			8
265	J40		P1-34			8
116	J41		J4-i			8
261	J41		P2-48			8
117	J42		J4-G			8
260	J42		P2-49			8
353	J43		S21-A-8			8
354	J43		R18-B			8
159.2	J5-a		S15-D-C		WHT WiRE	5
131	J5-b		P2-10			5
161.2	J5-c		S15-D-C		WHT WiRE	5
161.1	J5-d		S15-C-C		BLK WiRE	5
173	J5-e		E39			2
172	J5-f		S21-B-1			8
146	J5-g		S3-A-7			2
138	J5-h		P1-16			6
152	J5-i		J21			8
133	J5-j		P1-51			6
174	J5-k		STOWED			6
128	J5-m		S1-A-6			1
144	J5-n		S3-A-9			2
145	J5-p		S3-A-8			2
169	J5-q		STOWED			
139	J5-r		P1-29			6

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
132	J5-s		E8			2
129	J5-t		E8			2
140	J5-u		P1-27			6
158	J5-v		J40			8
142.1	J5-w		P1-30		BLK WIRE	6
168	J5-x		S3-B-2			2
147	J5-y		S3-A-4			2
134	J5-z		P1-49			6
163	J5-A		P1-26			6
136	J5-AA		P1-41			6
130	J5-B		E8			2
156	J5-BB		J38			8
154	J5-C		J35			8
153	J5-CC		J33			8
127	J5-D		E3			2
135	J5-DD		P1-43			6
170	J5-EE		STOWED			6
167	J5-FF		STOWED			
149	J5-GG		S21-A-5			8
165	J5-HH		S18-B-3			6
166	J5-J		P1-57			3
430	J5-JJ		E38			6
151	J5-K		J12			8
171	J5-KK		STOWED			
137	J5-L		P1-37			6
141	J5-LL		P1 -68			6
178	J5-M		STOWED			
148	J5-MM		S3-A-3			2
177	J5-N		STOWED			
164	J5-NN		P1-28			6
155	J5-PP		J36			8
176	J5-R		STOWED			
175	J5-S		STOWED			6
179	J5-X		S21-B-7			8
150	J5-Y		P2-16			6
159.1	J5-Z		S15-c-c		BLK WIRE	5
360	J6-1		XDS1-B			5
377	J6-10		S19-2			5
96	J6-11		J4-q			5
378	J6-12		R3-A			5
379	J6-13		R4-A			5

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
380	J6-14		R6-A			5
428	J6-15		TB1-3			5
381	J6-16		E2			5
417	J6-17		STOWED			5
418	J6-18		STOWED			5
419	J6-19		STOWED			5
362	J6-2		XDS2-B		*J6-4	5
420	J6-20		STOWED			5
421	J6-21		STOWED			5
422	J6-22		STOWED			5
423	J6-23		STOWED			5
95	J6-24		J4-t			5
346	J6-25		S20-A-7			5
364	J6-3		CR2-C			5
366	J6-4		K1-A1		*J6-2	5
369	J6-5		R5-A			5
371	J6-6		C1-A			5
374	J6-7		R7-A			5
375	J6-8		R8-A			5
376	J6-9		TB1-7			5
334.2	J7		S20-B-C		WHT WIRE	8
334.1	J8		S20-A-C		BLK WIRE	8
283	J9		S8-A-C			8
366	K1-A1		J6-4		● J6-2	3
367	K1-A1		XDS2-A			3
405	K1-A2		XF2-B			3
424	K1-B1		CR2-A			3
365	K1-B1		XDS1-A			3
401	K1-B2		XF1-B			3
402	K1-X1		XF1-B			3
404	K1 -X2		S10-1			3
100.1	P1-1		J4-Y		BLK WIRE	6
199	P1-10		XDS11-B			3
9	P1-11		J1-LL			6
8	P1-12		J1-h			6
10	P1-13		J1-z			6
11	P1-14		J1-v			6
194	P1-15		XDS10-B			3
138	P1-16		J5-h			6
193	P1-17		XDS9-B			3

*Twist with

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
427	P1-18		S4-B-7			1
204	P1-19		S18-A-2			6
102.2	P1-2		J4-s		WHT WIRE	6
181	P1-20		S4-B-C			1
184	P1-21		S1-B-3			1
201	P1-22		S18-A-8			6
203	P1-23		S16-A-3			6
182	P1-24		S1-B-1			1
183	P1-25		S1-B-2			1
163	P1-26		J5-A			6
140	P1-27		J5-u			6
164	P1-28		J5-NN			6
139	P1-29		J5-r			6
102.1	P1-3		J4-r		BLK WIRE	6
142.1	P1-30		J5-w		BLK WIRE	6
142.2	P1-31		E38		WHT WIRE	6
251	P1-32		S6-3			1
227.3	P1-33		S12-2		RED WIRE	3
265	P1-34		J40			8
230	P1-35		S13-2			3
101.2	P1-36		J4-X		WHT WIRE	6
137	P1-37		J5-L			6
195	P1-38		XDS16-B			3
27	P1-39		J1-GG			6
214	P1-4		S14-2			3
192	P1-40		XDS8-B			3
136	P1-41		J5-AA			6
191	P1-42		XDS6-B			3
135	P1-43		J5-DD			6
190	P1-44		XDS5-B			3
259	P1-45		XDS17-B			3
258	P1-46		XDS18-B			3
262	P1-47		XDS15-B			3
257	P1-48		XDS7-B			3
134	P1-49		J5-z			6
206	P1-5		S17-B-4			5
189	P1-50		XDS4-B			3
133	P1-51		J5-j			6
188	P1-52		XDS3-B			3
202	P1-55		S16-A-10			6
166	P1-57		J5-J			3

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
241.1	P1-58		S15-D-1		BLK WIRE	5
241.2	P1-59		S15-C-1		WHT WIRE	5
207	P1-6		S17-A-4			5
239.2	P1-60		S15-C-5		WHT WIRE	5
239.1	P1-61		S15-D-5		BLK WIRE	5
227.1	P1-62		S12-3		BLK WIRE	3
227.2	P1-63		S12-1		WHT WIRE	3
236	P1-64		J35			8
226	P1-65		S11-2			3
243	P1-66		S15-B-C			5
232	P1-67		S15-A-C			5
141	P1-68		J5-LL			6
271	P1-69		J22			8
197	P1-7		XDS13-B			3
267	P1-70		S16-B-3			6
198	P1-8		XDS12-B			3
196	P1-9		XDS14-B			3
186	P2-1		S2-A-Y			1
131	P2-10		J5-b			5
222	P2-11		E7			6
231	P2-12		R11-A			7
268.3	P2-14		S21-A-7		RED WIRE	7
150	P2-16		J5-Y			6
224	P2-18		TB1-8		*P2-19	2
225	P2-19		TB1-2		*P2-18	2
223	P2-2		S20-A-2			7
268.1	P2-20		S20-A-7		BLK WIRE	7
268.2	P2-21		S20-B-7		WHT WIRE	7
12	P2-22		J1-t			6
208	P2-23		C2-A			8
200	P2-24		S18-B-8			6
233.2	P2-27		S17-A-2		WHT WIRE	5
212	P2-28		S20-A-3			7
213	P2-29		S20-A-4			7
266	P2-3		S16-B-2			6
233.1	P2-30		S17-A-3		BLK WIRE	5
91	P2-31		J3-R			6
255	P2-32		S8-B-C			2
256	P2-33		S8-A-4			2
237	P2-34		S17-B-3			5
85	P2-35		J3-k			6
275	P2-36		S17-A-C			5
273	P2-37		S17-C-1			5

*Twist with

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
118	P2-38		J4-m			5
272	P2-39		S8-E-C			2
248	P2-4		S1-C-6			1
180	P2-40		S4-A-C			1
185	P2-41		S1-C-4			1
274	P2-42		S8-D-C			2
72	P2-43		J3-j			5
73	P2-44		J3-m			5
104	P2-45		J4-F			6
105	P2-46		J4-j			6
249	P2-47		S1-B-C			1
261	P2-48		J41			8
260	P2-49		J42			8
253	P2-5		S7-2			1
252	P2-50		S6-6			1
250	P2-51		S6-2			1
263	P2-54		J24			8
238	P2-55		S17-B-1			5
264	P2-56		J23			8
209	P2-58		E7			6
88	P2-6		J3-q			5
235	P2-61		S17-A-1			5
246.1	P2-62		S4-B-8		BLK WIRE	1
246.2	P2-63		S4-B-1O		WHT WIRE	1
245	P2-64		S4-A-10			1
244	P2-65		S4-A-9			1
254	P2-66		S3-A-4			2
278	P2-67		S8-D-5			2
75	P2-68		J3-d			6
187	P2-69		S8-A-3			2
74	P2-7		J3-Z			5
205	P2-70		S17-B-2			5
77	P2-8		J3-p			5
78	P2-9		J3-b			5
474A	P3-1		E50			1
472A	P3-10		E48		JUMPER	1
473A	P3-2		E49			1
469A	P3-3		E45			1
467A	P3-4		E43			1
468A	P3-5		E44			1
475A	P3-6		E51			1
470A	P3-8		E46			1

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
471A	P3-9		E47		JUMPER	1
392	R1-A		R17-A			8
356	R1-B		S21-A-10			8
331	R10-A		S20-A-9			7
373	R10-A		C1-B			7
342	R10-B		S20-B-9			7
231	R11-A		P2-12			7
333	R11-A		S20-A-11			7
344	R11-B		S20-B-11			7
397	R12-A		R13-A			8
398	R12-A		TB1-4			8
347	R12-B		S21-A-8			8
396	R13-A		R14-A			8
397	R13-A		R12-A			8
348	R13-B		S21-A-2			8
395	R14-A		R15-A			8
396	R14-A		R13-A			8
349	R14-B		S21-A-3			8
394	R15-A		R16-A			8
395	R15-A		R14-A			8
350	R15-B		S21-A-4			8
393	R16-A		R17-A			8
394	R16-A		R15-A			8
351	R16-B		S21-A-5			8
392	R17-A		R1-A			8
393	R17-A		R16-A			8
352	R17-B		S21-A-6			8
391	R18-A		R19-A			8
426	R18-A		S21-B-8			8
354	R18-B		J43			8
37	R19-A		J1-k			8
391	R19-A		R18-A			8
355	R19-B		S21-A-9			8
359	R2-A		R20-B			7
343	R2-B		S20-B-10			7
358	R20-A		S19-1			7
332	R20-B		S20-A-10			7
357	R20-B		S19-3			7
359	R20-B		R2-A			7
327	R3-A		S20-A-3			7
378	R3-A		J6-12			7
337	R3-B		S20-B-3			7
328	R4-A		S20-A-4			7

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
379	R4-A		J6-13			7
338	R4-B		S20-B-4			7
325	R5-A		S20-A-1			7
369	R5-A		J6-5			7
541	R5-A		CR3-C			7
345	R5-B		S20-B-1			7
326	R6-A		S20-A-2			7
380	R6-A		J6-14			7
336	R6-B		S20-B-2			7
329	R7-A		S20-A-5			7
374	R7-A		J6-7			7
339	R7-B		S20-B-5			7
375	R8-A		J6-8			7
409	R8-A		S20-A-6			7
340	R8-B		S20-B-6			7
330	R9-A		S20-A-8			7
372	R9-A		C1-A			7
341	R9-B		S20-B-8			7
3	S1-A-3		J1-EE			1
2	S1-A-4		J1-HH			1
1	S1-A-5		J1-PP			1
4	S1-A-6		J1-d			1
128	S1-A-6		J5-m			1
294	S1-A-C		S4-A-1			1
460	S1-A-C		S1-C-2		JUMPER	1
182	S1-B-1		P1-24			1
183	S1-B-2		P1-25			1
184	S1-B-3		P1-21			1
464	S1-B-3		S1-B-4		JUMPER	1
464	S1-B-4		S1-B-3		JUMPER	1
293	S1-B-4		S4-B-5			1
292	S1-B-6		S16-A-6			1
13	S1-B-C		J1-u			1
249	S1-B-C		P2-47			1
461	S1-C-l		S1-C-2		JUMPER	1
462	S1-C-1		S1-C-5		JUMPER	1
460	S1-C-2		S1-A-C		JUMPER	1
461	S1-C-2		S1-C-1		JUMPER	1
463	S1-C-3		S1-C-4		JUMPER	1
185	S1-C-4		P2-41			1
463	S1-C-4		S1-C-3		JUMPER	1
284	S1-C-5		S2-A-X			1
462	S1-C-5		S1-C-1		JUMPER	1
248	S1-C-5		P2-4			1

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
291	S1-C-C		C2-A			1
404	S10-1		K1-X2			3
403	S1O-2		S9-NO			3
300	S11-1		J12			3
226	S11-2		P1-65			3
227.2	S12-1		P1-63		WHT WIRE	3
227.3	S12-2		P1-33		RED WIRE	3
227.1	S12-3		P1-62		BLK WIRE	3
301	S13-1		S16-B-c			3
230	S13-2		P1-35			3
290	S14-1		S7-1			3
370	S14-1		S20-A-1			3
214	S14-2		P1-4			3
477	S15-A-1		S15-A-3		JUMPER	5
478	S15-A-1		S15-B-2		JUMPER	5
477	S15-A-3		S15-A-1		JUMPER	5
479	S15-A-3		S15-A-4		JUMPER	5
479	S15-A-4		S15-A-3		JUMPER	5
490	S15-A-4		S15-A-6		JUMPER	5
289	S15-A-6		S7-3			5
490	S15-A-6		S15-A-4		JUMPER	5
232	S15-A-C		P1-67			5
478	S15-B-2		S15-A-1		JUMPER	5
491	S15-B-2		S15-B-3		JUMPER	5
491	S15-B-3		S15-B-2		JUMPER	5
492	S15-B-3		S15-B-5		JUMPER	5
492	S15-B-5		S15-B-3		JUMPER	5
493	S15-B-5		S15-B-6		JUMPER	5
493	S15-B-6		S15-B-5		JUMPER	5
494	S15-B-6		S15-c-3		JUMPER	5
243	S15-B-C		P1-66			5
241.2	S15-C-1		P1-59		WHT WIRE	5
495	S15-C-1		S15-C-4		JUMPER	5
496	S15-C-2		S15-C-5		JUMPER	5
494	S15-C-3		S15-B-6		JUMPER	5
497	S15-C-3		S15-C-6		JUMPER	5
495	S15-C-4		S15-C-1		JUMPER	5
239.2	S15-C-5		P1-60		WHT WIRE	5
496	S15-C-5		S15-C-2		JUMPER	5
497	S15-C-6		S15-C-3		JUMPER	5
498	S15-C-6		S15-D-3		JUMPER	5
159.1	S15-C-C		J5-Z		BLK WIRE	5
161.1	S15-C-C		J5-d		BLK WIRE	5
241.1	S15-D-1		P1-58		BLK WIRE	5

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
499	S15-D-1		S15-D-4		JUMPER	5
500	S15-D-2		S15-D-5		JUMPER	5
498	S15-D-3		S15-C-6		JUMPER	5
501	S15-D-3		S15-D-6		JUMPER	5
499	S15-D-4		S15-D-1		JUMPER	5
239.1	S15-D-5		P1-61		BLK WIRE	5
500	S15-D-5		S15-D-2		JUMPER	5
501	S15-0-6		S15-D-3		JUMPER	5
324	S15-D-6		E6			5
159.2	S15-D-C		J5-a		WHT WIRE	5
161.2	S15-D-C		J5-c		WHT WIRE	5
202	S16-A-10		P1-55			6
509	S16-A-1O		S16-A-11		JUMPER	6
509	S16-A-11		S16-A-1O		JUMPER	6
323	S16-A-11		S18-A-11			6
322	S16-A-12		S18-A-C			6
203	S16-A-3		P1-23			6
502	S16-A-3		S16-A-6		JUMPER	6
292	S16-A-6		S1-B-6			6
502	S16-A-6		S16-A-3		JUMPER	6
503	S16-A-6		S16-A-7		JUMPER	6
503	S16-A-7		S16-A-6		JUMPER	6
504	S16-A-7		S16-A-8		JUMPER	6
504	S16-A-8		S16-A-7		JUMPER	6
512	S16-A-C		S16-C-C		JUMPER	6
321	S16-B-12		S18-B-C			6
266	S16-B-2		P2-3			6
267	S16-B-3		P1-70			6
510	S16-B-3		S16-B-7		JUMPER	6
510	S16-B-7		S16-B-3		JUMPER	6
511	S16-B-7		S16-B-8		JUMPER	6
511	S16-B-8		S16-B-7		JUMPER	6
301	S16-B-C		S13-1			6
513	S16-C-3		S16-C-4		JUMPER	6
513	S16-C-4		S16-C-3		JUMPER	6
514	S16-C-4		S16-C-5		JUMPER	6
514	S16-C-5		S16-C-4		JUMPER	6
515	S16-C-5		S16-C-6		JUMPER	6
515	S16-C-6		S16-C-5		JUMPER	6
516	S16-C-6		S16-C-7		JUMPER	6
516	S16-C-7		S16-C-6		JUMPER	6
517	S16-C-7		S16-C-8		JUMPER	6
302	S16-C-8		S4-B-C			6

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
517	S16-C-8		S16-C-7		JUMPER	6
512	S16-C-C		S16-A-C		JUMPER	6
235	S17-A-1		P2-61			5
233.2	S17-A-2		P2-27		WHT WIRE	5
233.1	S17-A-3		P2-30		BLK WIRE	5
521	S17-A-3		S17-A-6		JUMPER	5
207	S17-A-4		P1-6			5
522	S17-A-4		S17-A-5		JUMPER	5
522	S17-A-5		S17-A-4		JUMPER	5
521	S17-A-6		S17-A-3		JUMPER	5
275	S17-A-C		P2-36			5
238	S17-B-1		P2-55			5
205	S17-B-2		P2-70			5
237	S17-B-3		P2-34			5
523	S17-B-3		S17-B-5		JUMPER	5
206	S17-B-4		P1-5			5
524	S17-B-4		S17-B-6		JUMPER	5
523	S17-B-5		S17-B-3		JUMPER	5
524	S17-B-6		S17-B-4		JUMPER	5
119	S17-B-C		J4-J			5
273	S17-C-1		P2-37			5
508	S17-C-1		S17-C-2		JUMPER	5
508	S17-C-2		S17-C-1		JUMPER	5
507	S17-C-2		S17-C-4		JUMPER	5
76	S17-C-3		J3-T			5
507	S17-C-4		S17-C-2		JUMPER	5
506	S17-C-4		S17-C-5		JUMPER	5
506	S17-C-5		S17-C-4		JUMPER	5
505	S17-C-5		S17-C-6		JUMPER	5
505	S17-C-6		S17-C-5		JUMPER	5
277	S17-C-C		TB1-11			5
527	S18-A-1O		S18-A-11		JUMPER	6
323	S18-A-11		S16-A-11			6
527	S18-A-11		S18-A-1O		JUMPER	6
204	S18-A-2		P1-19			6
526	S18-A-2		S18-A-9		JUMPER	6
525	S18-A-3		S18-A-8		JUMPER	6
201	S18-A-8		P1-22			6
525	S18-A-8		S18-A-3		JUMPER	6
526	S18-A-9		S18-A-2		JUMPER	6
322	S18-A-c		S16-A-12			6
165	S18-B-3		J5-HH			6
528	S18-B-3		S18-B-8		JUMPER	6

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
200	S18-B-8		P2-24			6
528	S18-B-8		S18-B-3		JUMPER	6
321	S18-B-C		S16-B-12			6
358	S19-1		R20-A			7
48	S19-2		J1-C			7
318	S19-2		XDS11-A			7
377	S19-2		J6-10			7
357	S19-3		R20-B			7
458A	S2		E43			1
459A	S2		E44			1
460A	S2		E45			1
461 A	S2		E46			1
462A	S2		E47			1
463A	S2		E48			1
464A	S2		E49			1
465A	S2		E50			1
466A	S2		E51			1
16	S2-A-1		E45			1
15	S2-A-2		E44			1
14	S2-A-4		E43			1
284	S2-A-X		S1-C-5			1
458	S2-A-X		S2-B-X		JUMPER	1
186	S2-A-Y		P2-1			1
465	S2-A-Y		S2-A-Y		JUMPER	1
465	S2-A-Y		S2-A-Y		JUMPER	1
19	S2-B-1		E48			1
18	S2-B-2		E47			1
17	S2-B-4		E46			1
458	S2-B-X		S2-A-X		JUMPER	1
459	S2-B-X		S2-C-X		JUMPER	1
466	S2-B-Y		S2-C-Y		JUMPER	1
22	S2-C-1		E51			1
21	S2-C-2		E50			1
20	S2-C-4		E49			1
459	S2-C-X		S2-B-X		JUMPER	1
285	S2-C-X		S7-3			1
466	S2-C-Y		S2-B-Y		JUMPER	1
286	S2-C-Y		S7-1			1
370	S20-A-1		S14-1			7
325	S20-A-1		R5-A			7
332	S20-A-10		R20-B			7
333	S20-A-11		R11-A	E37		7

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
28	S21-A-3		J1-P			8
349	S21-A-3		R14-B			8
29	S21-A-4		J1-N			8
350	S21-A-4		R15-B			8
149	S21-A-5		J5-GG			8
351	S21-A-5		R16-B			8
30	S21-A-6		J1-J			8
352	S21-A-6		R17-B			8
268.3	S21-A-7		P2-14		RED WIRE	8
31	S21-A-8		J1-m		*J2-7	8
347	S21-A-8		R12-B			8
353	S21-A-8		J43			8
32	S21-A-9		J1-j		*J2-8	8
355	S21-A-9		R19-B			8
280	S21-A-C		S3-A-1			8
172	S21-B-1		J5-f			8
518	S21-B-1		S21-B-2		JUMPER	8
52	S21-B-10		J1-AA			8
7	S21-B-11		J1-BB			8
518	S21-B-2		S21-B-1		JUMPER	8
519	S21-B-2		S21-B-3		JUMPER	8
519	S21-B-3		S21-B-2		JUMPER	8
520	S21-B-3		S21-B-4		JUMPER	8
520	S21-B-4		S21-B-3		JUMPER	8
529	S21-B-4		S21-B-5		JUMPER	8
529	S21-B-5		S21-B-4		JUMPER	8
530	S21-B-5		S21-B-6		JUMPER	8
530	S21-B-6		S21-B-5		JUMPER	8
179	S21-B-7		J5-X			8
429	S21-B-7		TB1-3			8
426	S21-B-8		R18-A			8
531	S21-B-8		S21-B-9		JUMPER	8
531	S21-B-9		S21-B-8		JUMPER	8
425	S21-B-C		S3-B-1			8
280	S3-A-1		S21-A-C			2
25	S3-A-2		J1-K			2
148	S3-A-3		J5-MM			2
147	S3-A-4		J5-y			2
254	S3-A-4		P2-66			2
24	S3-A-5		J1-y			2

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
223	S20-A-2		P2-2			7
326	S20-A-2		R6-A			7
212	S20-A-3		P2-28			7
327	S20-A-3		R3-A			7
213	S20-A-4		P2-29			7
328	S20-A-4		R4-A			7
329	S20-A-5		R7-A			7
288	S20-A-6		S5-3			7
409	S20-A-6		R8-A			7
268.1	S20-A-7		P2-20		BLK WIRE	7
346	S20-A-7		J6-25			7
330	S20-A-8		R9-A			7
331	S2U-A-9		R10-A			7
334.1	S20-A-C		J8		BLK WIRE	7
66	S20-B-1		J3-D			7
345	S20-B-1		R5-B			7
109	S20-B-10		J4-L			7
343	S20-B-10		R2-B			7
64	S20-B-11		J3-X			7
344	S20-B-11		R11-B			7
65	S20-B-2		J3-C			7
336	S20-B-2		R6-B			7
110	S20-B-3		J4-d			7
337	S20-B-3		R3-B			7
62	S20-B-4		J3-L			7
338	S20-B-4		R4-B			7
63	S20-B-5		J3-K			7
339	S20-B-5		R7-B			7
106	S20-B-6		J4-E			7
340	S20-B-6		R8-B			7
111	S20-B-7		J4-k			7
268.2	S20-B-7		P2-21		WHT WIRE	7
107	S20-B-8		J4-n		* J4-p	7
341	S20-B-8		R9-B			7
108	S20-B-9		J4-p		*J4-n	7
342	S20-B-9		R10-B			7
334.2	S20-B-C		J7		WHT WIRE	7
36	S21-A-1		J1-i			8
33	S21-A-10		J1-n			8
356	S21-A-10		R1-B			8
34	S21-A-11		J1-CC			8
35	S21-A-2		J1-M			8
348	S21-A-2		R13-B			8

*Twist with

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
23	S3-A-6		J1-e			2
146	S3-A-7		J5-g			2
145	S3-A-8		J5-p			2
144	S3-A-9		J5-n			2
281	S3-A-9		J37			2
282	S3-A-C		J10	E21		2
425	S3-B-1		S21-B-C			2
168	S3-B-2		J5-x			2
532	S3-B-2		S3-B-3		JUMPER	2
532	S3-B-3		S3-B-2		JUMPER	2
533	S3-B-3		S3-B-4		JUMPER	2
533	S3-B-4		S3-B-3		JUMPER	2
534	S3-B-4		S3-B-5		JUMPER	2
534	S3-B-5		S3-B-4		JUMPER	2
535	S3-B-5		S3-B-6		JUMPER	2
535	S3-B-6		S3-B-5		JUMPER	2
536	S3-B-6		S3-B-7		JUMPER	2
536	S3-B-7		S3-B-6		JUMPER	2
537	S3-B-7		S3-B-8		JUMPER	2
537	S3-B-8		S3-B-7		JUMPER	2
538	S3-B-8		S3-B-9		JUMPER	2
538	S3-B-9		S3-B-8		JUMPER	2
385	S3-B-C		J14			2
294	S4-A-1		S1-A-C			1
245	S4-A-10		P2-64			1
470	S4-A-10		S4-A-8		JUMPER	1
467	S4-A-2		S4-A-4		JUMPER	1
471	S4-A-3		S4-A-7		JUMPER	1
467	S4-A-4		S4-A-2		JUMPER	1
468	S4-A-4		S4-A-6		JUMPER	1
431	S4-A-5		S7-1			1
468	S4-A-6		S4-A-4		JUMPER	1
469	S4-A-6		S4-A-8		JUMPER	1
471	S4-A-7		S4-A-3		JUMPER	1
472	S4-A-7		S4-A-9			1
469	S4-A-8		S4-A-6		JUMPER	1
470	S4-A-8		S4-A-10		JUMPER	1
244	S4-A-9		P2-65			1
472	S4-A-9		S4-A-7			1
180	S4-A-C		P2-40			1
246.2	S4-B-10		P2-63		WHT WIRE	1
475	S4-B-10		S4-B-6		JUMPER	1

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
474	S4-B-2		S4-B-4		JUMPER	1
476	S4-B-2		S4-B-8		JUMPER	1
474	S4-B-4		S4-B-2		JUMPER	1
293	S4-B-5		S1-B-4			1
473	S4-B-5		S4-B-6		JUMPER	1
473	S4-B-6		S4-B-5		JUMPER	1
475	S4-B-6		S4-B-10		JUMPER	1
427	S4-B-7		P1-18			1
246.1	S4-B-8		P2-62		BLK WIRE	1
476	S4-B-8		S4-B-2		JUMPER	1
181	S4-B-C		P1-20			1
302	S4-B-C		S16-C-8			1
120	S5-2		J4-K			1
288	S5-3		S20-A-6			1
250	S6-2		P2-51			1
251	S6-3		P1-32			1
287	S6-5		J11			1
252	S6-6		P2-50			1
286	S7-1		S2-C-Y			1
290	S7-1		S14-1			1
431	S7-1		S4-A-5			1
253	S7-2		P2-5			1
285	S7-3		S2-C-X			1
289	S7-3		S15-A-6			1
83	S8-A-1		J3-a			2
486	S8-A-1		S8-B-1		JUMPER	2
82	S8-A-2		J3-f			2
488	S8-A-2		S8-A-5		JUMPER	2
81	S8-A-3		J3-c			2
187	S8-A-3		P2-69			2
80	S8-A-4		J3-Y			2
256	S8-A-4		P2-33			2
489	S8-A-4		S8-A-6		JUMPER	2
488	S8-A-5		S8-A-2		JUMPER	2
487	S8-A-5		S8-B-5		JUMPER	2
489	S8-A-6		S8-A-4		JUMPER	2
283	S8-A-C		J9			2
486	S8-B-1		S8-A-1		JUMPER	2
485	S8-B-1		S8-B-2		JUMPER	2
485	S8-B-2		S8-B-1		JUMPER	2
484	S8-B-2		S8-B-3		JUMPER	2
484	S8-B-3		S8-B-2		JUMPER	2
483	S8-B-3		S8-B-4		JUMPER	2

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
483	S8-B-4		S8-B-3		JUMPER	2
487	S8-B-5		S8-A-5		JUMPER	2
482	S8-B-5		S8-B-6		JUMPER	2
482	S8-B-6		S8-B-5		JUMPER	2
255	S8-B-C		P2-32			2
278	S8-D-5		P2-67			2
481	S8-D-5		S8-D-6		JUMPER	2
481	S8-D-6		S8-D-5		JUMPER	2
274	S8-D-C		P2-42			2
279	S8-E-5		XDS3-A			2
480	S8-E-5		S8-E-6		JUMPER	2
480	S8-E-6		S8-E-5		JUMPER	2
79	S8-E-C		J3-i			2
272	S8-E-C		P2-39			2
26	S9-C		J1-q			3
408	S9-C		TB1-6			3
403	S9-NO		S10-2			3
299	SI6-B-C		TB1-11			
39	STOWED		J1-NN			
40	STOWED		J1-w			
41	STOWED		J1-FF			
42	STOWED		J1-MM			
43	STOWED		J1-KK			
44	STOWED		J1-x			
45	STOWED		J1-r			
46	STOWED		J1-DD			
47	STOWED		J1-f			
49	STOWED		J1-a			
50	STOWED		J1-R			
51	STOWED		J1-L			
60	STOWED		J2-12			
61	STOWED		J2-11			
86	STOWED		J3-n			
87	STOWED		J3-h			
90	STOWED		J3-e			
92	STOWED		J3-G			
121	STOWED		J4-e			
122	STOWED		J4-f			
123	STOWED		J4-g			
124	STOWED		J4-T			
125	STOWED		J4-U			
167	STOWED		J5-FF			

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
169	STOWED		J5-q			
170	STOWED		J5-EE			
171	STOWED		J5-KK			
174	STOWED		J5-k			
175	STOWED		J5-S			
176	STOWED		J5-R			
177	STOWED		J5-N			
178	STOWED		J5-M			
417	STOWED		J6-17			
418	STOWED		J6-18			
419	STOWED		J6-19			
420	STOWED		J6-20			
421	STOWED		J6-21			
422	STOWED		J6-22			
423	STOWED		J6-23			
53	TB1-1		J2-8		*J2-7	2
55	TB1-I		J2-10		*J2-4	2
540.1	TB1-1		W5-WHT			2
295	TB1-10		E5			2
296	TB1-10		E8			2
298	TB1-10		E4			2
84	TB1-11		J3-t			2
277	TB1-11		S17-C-C			2
299	TB1-11		S16-B-C			2
389	TB1-12		E6			2
390	TB1-12		E1			2
400	TB1-12		E7			2
225	TB1-2		P2-19		* P2-18	2
363	TB1-2		XDS2-B			2
98	TB1-3		J4-h			2
297	TB1-3		E3			2
428	TB1-3		J6-15			2
429	TB1-3		S21-B-7			2
398	TB1-4		R12-A			2
399	TB1-4		E1			2
432	TB1-4		E42			2
415	TB1-5		E18			2
416	TB1-5		E22			2
58	TB1-6		J2-2		* J2-1	2
361	TB1-6		XDS1-B			2
539.1	TB1-6		W4-WHT			2
408	TB1-6		S9-C			2

***Twist with**

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
97	TB1-7		J4-N			2
376	TB1-7		J6-9			2
54	TB1-8		J2-7		*J2-8	2
56	TB1-8		J2-4		* J2-1O	2
224	TB1-8		P2-18		*P2-19	2
368	TB1-8		XDS2-A			2
113.1	TP1		J4-W		BLK WIRE	8
539.2	W4-BLK		XF1-A			2
539.3	W4-GRN		E2			2
539.1	W4-WHT		TB1-6			2
540.2	W5-BLK		XF2-A			2
540.3	W5-GRN		E2			2
540.1	W5-WHT		TB1-1			2
57	XDS1-A		J2-1		*J2-2	3
365	XDS1-A		K1-B1			3
360	XDS1-B		J6-1			3
361	XDS1-B		TB1-6			3
309	XDS1O-A		XDS9-A			3
310	XDS1O-A		XDS18-A			3
194	XDS1O-B		P1-15			3
317	XDS11-A		XDS12-A			3
318	XDS11-A		S19-2			3
199	XDS11-B		P1-10			3
316	XDS12-A		XDS13-A			3
317	XDS12-A		XDS11-A			3
198	XDS12-B		P1-8			3
315	XDS13-A		XDS14-A			3
316	XDS13-A		XDS12-A			3
197	XDS13-B		P1-7			3
314	XDS14-A		XDS15-A			3
315	XDS14-A		XDS13-A			3
196	XDS14-B		P1-9			3
313	XDS15-A		XDS16-A			3
314	XDS15-A		XDS14-A			3
262	XDS15-B		P1-47			3
312	XDS16-A		XDS17-A			3
313	XDS16-A		XDS15-A			3
195	XDS16-B		P1-38			3
311	XDS17-A		XDS18-A			3
312	XDS17-A		XDS16-A			3
259	XDS17-B		P1-45			3

*** Twist with**

Table 2-4. Test Set Wire List (Listed by Component) - Continued

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS	SCHEMATIC SHEET (FO-3)
310	XDS18-A		XDS1O-A			3
311	XDS18-A		XDS17-A			3
258	XDS18-B		P1-46			3
367	XDS2-A		K1-A1			3
368	XDS2-A		TB1-8			3
362	XDS2-B		J6-2		*J6-4	3
363	XDS2-B		TB1-2			3
279	XDS3-A		S8-E-5			3
303	XDS3-A		XDS4-A			3
188	XDS3-B		P1-52			3
303	XDS4-A		XDS3-A			3
304	XDS4-A		XDS5-A			3
189	XDS4-B		P1-50			3
304	XDS5-A		XDS4-A			3
305	XDS5-A		XDS6-A			3
190	XDS5-B		P1-44			3
305	XDS6-A		XDS5-A			3
306	XDS6-A		XDS7-A			3
191	XDS6-B		P1-42			3
306	XDS7-A		XDS6-A			3
307	XDS7-A		XDS8-A			3
257	XDS7-B		P1-48			3
307	XDS8-A		XDS7-A			3
308	XDS8-A		XDS9-A			3
192	XDS8-6		P1-40			3
308	XDS9-A		XDS8-A			3
309	XDS9-A		XDS10-A			3
193	XDS9-B		P1-17			3
539.2	XF1-A		W4-BLK			2
401	XF1-B		K1-B2			2
402	XF1-B		K1-X1			2
540.2	XF2-A		W5-BLK			2
405	XF2-B		K1-A2			2

***Twist with**

Table 2-5. Test Set Wire List (Listed by Wire Number)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
1	J1-PP		S1-A-5		
2	J1-HH		S1-A-4		
3	J1-EE		S1-A-3		
4	J1-d		S1-A-6		
5	J1-c		E5		
6	J1-s		E5		
7	J1-BB		S21-B-11		
8	J1-h		P1-12		
9	J1-LL		P1-11		
10	J1-z		P1-13		
11	J1-V		P1-14		
12	J1-t		P2-22		
13	J1-u		S1-B-C		
14	E43		S2-A-4		
14A	J1-p		E43		
15	E44		S2-A-2		
15A	J1-Y		E44		
16	E45		S2-A-1		
16A	J1-X		E45		
17	E46		S2-B-4		
17A	J1-W		E46		
18	E47		S2-B-2		
18A	J1-Z		E47		
19	E48		S2-B-1		
19A	J1-B		E48		
20	E49		S2-C-4		
20A	J1-A		E49		
21	E50		S2-C-2		
21A	J1-b		E50		
22	E51		S2-C-1		
22A	J1-D		E51		
23	J1-e		S3-A-6		

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
24	J1-y		S3-A-5		
25	J1-K		S3-A-2		
26	J1-q		S9-C		
27	J1-GG		P1-39		
28	J1-P		S21-A-3		
29	J1-N		S21-A-4		
30	J1-J		S21-A-6		
31	J1-m		S21-A-8		*J2-7
32	J1-j		S21-A-9		*J2-8
33	J1-n		S21-A-10		
34	J1-CC		S21-A-11		
35	J1-M		S21-A-2		
36	J1-i		S21-A-1		
37	J1-k		R19-A		
38	J1-JJ		J34		
39	J1-NN		STOWED		
40	J1-w		STOWED		
41	J1-FF		STOWED		
42	J1-MM		STOWED		
43	J1-KK		STOWED		
44	J1-x		STOWED		
45	J1-r		STOWED		
46	J1-DD		STOWED		
47	J1-f		STOWED		
48	J1-C		S19-2		
49	J1-a		STOWED		
50	J1-R		STOWED		
51	J1-L		STOWED		
52	J1-AA		S21-B-10		
53	J2-8		TB1-1		*J2-7
54	J2-7		TB1-8		*J2-8
55	J2-10		TB1-1		*J2-4
56	J2-4		TB1-8		*J2-10
57	J2-1		XDS1-A		*J2-2
58	J2-2		TB1-6		*J2-1

*** Twist with**

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
59	J2-5		E3		
60	J2-12		STOWED		
61	J2-11		STOWED		
62	J3-L		S20-B-4		
63	J3-K		S20-B-5		
64	J3-X		S20-B-11		
65	J3-C		S20-B-2		
66	J3-D		S20-B-1		
67	J3-J		J26		
68	J3-H		J27		
69	J3-E		J29		
70	J3-F		J31		
71	J3-s		J32		
72	J3-j		P2-43		
73	J3-m		P2-44		
74	J3-Z		P2-7		
75	J3-d		P2-68	E27	
76	J3-T		S17-C-3		
77	J3-p		P2-8		
78	J3-b		P2-9		
79	J3-i		S8-E-C		
80	J3-Y		S8-A-4		
81	J3-c		S8-A-3		
82	J3-f		S8-A-2		
83	J3-a		S8-A-1		
84	J3-t		TB1-11		
85	J3-k		P2-35	E-27	
86	J3-n		STOWED		
87	J3-h		STOWED		
88	J3-q		P2-6		
89	J3-g		J16		
90	J3-e		STOWED		
91	J3-R		P2-31	E26	
92	J3-G		STOWED		
93	J4-Z		E4		

Table 2-5. Test Set Wire List (Listed by Wire Number) – (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
94	J4-H		E4		
95	J4-t		J6-24		
96	J4-q		J6-11		
97	J4-N		TB1-7		
98	J4-h		TB1-3		
99	J4-A		E3		
100.1	J4-Y		P1-1	E31	BLK WIRE
101.2	J4-X		P1-36		WHT WIRE
102.1	J4-r		P1-3	E31	BLK WIRE
102.2	J4-s		P1-2		WHT WIRE
104	J4-F		P2-45	E23	
105	J4-j		P2-46	E23	
106	J4-E		S20-B-6		
107	J4-n		S20-B-8		*J4-/P
108	J4-p		S20-B-9		*J4-/N
109	J4-L		S20-B-10		
110	J4-d		S20-B-3		
111	J4-k		S20-B-7		
112	J4-M		J11	E35	
113.1	J4-W		TP1		BLK WIRE
113.2	J4-V		J25		WHT WIRE
114	J4-D		J28		
115	J4-C		J30		
116	J4-i		J41		
117	J4-G		J42		
118	J4-m		P2-38		
119	J4-J		S17-B-C		
120	J4-K		S5-2		
121	J4-e		STOWED		
122	J4-f		STOWED		
123	J4-g		STOWED		
124	J4-T		STOWED		
125	J4-U		STOWED		
126					
127	J5-D		E3		

*** Twist with**

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
128	J5-m		S1-A-6		
129	J5-t		E8		
130	J5-B		E8		
131	J5-b		P2-10		
132	J5-s		E8		
133	J5-j		P1-51		
134	J5-z		P1-49		
135	J5-DD		P1-43		
136	J5-AA		P1-41		
137	J5-L		P1-37		
138	J5-h		P1-16		
139	J5-r		P1-29		
140	J5-u		P1-27		
141	J5-LL		P1-68		
142.1	J5-w		P1-30		BLK WIRE
142.2	E38		P1-31		WHT WIRE
144	J5-n		S3-A-9		
145	J5-p		S3-A-8		
146	J5-g		S3-A-7		
147	J5-y		S3-A-4		
148	J5-MM		S3-A-3		
149	J5-GG		S21-A-5		
150	J5-Y		P2-16		
151	J5-K		J12		
152	J5-i		J21		
153	J5-CC		J33		
154	J5-C		J35		
155	J5-PP		J36		
156	J5-BB		J38		
157	E38		J39		
158	J5-v		J40		
159.1	J5-Z		S15-C-C		BLK WIRE
159.2	J5-a		S15-D-C		WHT WIRE
161.1	J5-d		S15-C-C		BLK WIRE
161.2	J5-c		S15-D-C		WHT WIRE

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
163	J5-A		P1-26		
164	J5-NN		P1-28		
165	J5-HH		S18-B-3		
166	J5-J		P1-57		
167	J5-FF		STOWED		
168	J5-x		S3-B-2		
169	J5-q		STOWED		
170	J5-EE		STOWED		
171	J5-KK		STOWED		
172	J5-f		S21-B-1		
173	J5-e		E39		
174	J5-k		STOWED		
175	J5-S		STOWED		
176	J5-R		STOWED		
177	J5-N		STOWED		
178	J5-M		STOWED		
179	J5-X		S21-B-7		
180	P2-40		S4-A-C		
181	P1-20		S4-B-C		
182	P1-24		S1-B-1		
183	P1-25		S1-B-2		
184	P1-21		S1-B-3		
185	P2-41		S1-C-4		
186	P2-1		S2-A-Y		
187	P2-69		S8-A-3		
188	P1-52		XDS3-B		
189	P1-50		XDS4-B		
190	P1-44		XDS5-B		
191	P1-42		XDS6-B		
192	P1-40		XDS8-B		
193	P1-17		XDS9-B		
194	P1-15		XDS10-B		
195	P1-38		XDS16-B		
196	P1-9		XDS14-B		
197	P1-7		XDS13-B		

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
198	P1-8		XDS12-B		
199	P1-10		XDS11-B		
200	P2-24		S18-B-8		
201	P1-22	E32	S18-A-8		
202	P1-55	E30	S16-A-10		
203	P1-23	E30	S16-A-3		
204	P1-19	E32	S18-A-2		
205	P2-70	E27	S17-B-2		
206	P1-5	E31	S17-B-4		
207	P1-6	E31	S17-A-4		
208	P2-23		C2-A		
209	P2-58		E7		
210					
211					
212	P2-28		S20-A-3		
213	P2-29		S20-A-4		
214	P1-4		S14-2		
215	J3-S		E3		
216					
217					
218					
219					
220					
221					
222	P2-11		E7		
223	P2-2		S20-A-2		
224	P2-18		TB1-8		*P2-19
225	P2-19		TB1-2		*P2-18
226	P1-65	E28	S11-2		
227.1	P1-62	E28	S12-3		BLK WIRE
227.2	P1-63		S12-1		WHT WIRE
227.3	P1-33		S12-2		RED WIRE
230	P1-35	E41	S13-2		
231	P2-12	E23	R11-A	E37	
232	P1-67		S15-A-C		

*** Twist with**

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
233.1	P2-30		S17-A-3		BLK WIRE
233.2	P2-27		S17-A-2		WHT WIRE
235	P2-61		S17-A-1		
236	P1-64		J35		
237	P2-34		S17-B-3		
238	P2-55		S17-B-1		
239.1	P1-61		S15-D-5		BLK WIRE
239.2	P1-60		S15-C-5		WHT WIRE
241.1	P1-58		S15-D-1		BLK WIRE
241.2	P1-59		S15-C-1		WHT WIRE
243	P1-66		S15-B-C		
244	P2-65		S4-A-9		
245	P2-64		S4-A-10		
246.1	P2-62		S4-B-8		BLK WIRE
246.2	P2-63		S4-B-10		WHT WIRE
248	P2-4		S1-C-6		
249	P2-47		S1-B-C		
250	P2-51		S6-2		
251	P1-32		S6-3		
252	P2-50		S6-6		
253	P2-5		S7-2		
254	P2-66		S3-A-4		
255	P2-32		S8-B-C		
256	P2-33		S8-A-4		
257	P1-48		XDS7-B		
258	P1-46		XDS18-B		
259	P1-45		XDS17-B		
260	P2-49		J42		
261	P2-48		J41		
262	P1-47		XDS15-B		
263	P2-54		J24		
264	P2-56		J23		
265	P1-34		J40		
266	P2-3		S16-B-2		
267	P1-70		S16-B-3		

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
268.1	P2-20		S20-A-7		BLK WIRE
268.2	P2-21		S20-B-7		WHT WIRE
268.3	P2-14		S21-A-7		RED WIRE
271	P1-69		J22		
272	P2-39		S8-E-C		
273	P2-37		S17-C-1		
274	P2-42		S8-D-C		
275	P2-36		S17-A-C		
277	S17-C-C		TB1-11		
278	P2-67		S8-D-5		
279	XDS3-A		S8-E-5		
280	S3-A-1		S21-A-C		
281	S3-A-9		J37		
282	S3-A-C		J10		
283	S8-A-C		J9		
284	S2-A-X		S1-C-5		
285	S2-C-X		S7-3		
286	S2-C-Y		S7-1		
287	S6-5		J11		
288	S5-3		S20-A-6		
289	S7-3		S15-A-6		
290	S7-1		S14-1		
291	S1-C-C		C2-A		
292	S1-B-6		S16-A-6		
293	S1-B-4		S4-B-5		
294	S1-A-C		S4-A-1		
295	E5		TB1-10		
296	E8		TB1-10		
297	E3		TB1-3		
298	E4		TB1-10		
299	TB1-11		S16-B-C		
300	S11-1		J12		
301	S13-1		S16-B-C		
302	S4-B-C		S16-C-8		
303	XDS3-A		XDS4-A		

Table 2-5. Test Set Wire List (Listed by Wire Number) – (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
304	XDS4-A		XDS5-A		
305	XDS5-A		XDS6-A		
306	XDS6-A		XDS7-A		
307	XDS7-A		XDS8-A		
308	XDS8-A		XDS9-A		
309	XDS9-A		XDS10-A		
310	XDS10-A		XDS18-A		
311	XDS18-A		XDS17-A		
312	XDS17-A		XDS16-A		
313	XDS16-A		XDS15-A		
314	XDS15-A		XDS14-A		
315	XDS14-A		XDS13-A		
316	XDS13-A		XDS12-A		
317	XDS12-A		XDS11-A		
318	XDS11-A		S19-2		
321	S16-B-12		S18-B-C		
322	S16-A-12		S18-A-C		
323	S16-A-11		S18-A-11		
324	S15-D-6		E6		
325	S20-A-1		R5-A		
326	S20-A-2		R6-A		
327	S20-A-3		R3-A		
328	S20-A-4		R4-A		
329	S20-A-5		R7-A		
330	S20-A-8		R9-A		
331	S20-A-9		R10-A		
332	S20-A-10		R20-B		
333	S20-A-11		R11-A	E37	
335.1	S20-A-C		J8	E21	BLK WIRE
335.2	S20-B-C		J7		WHT WIRE
336	S20-B-2		R6-B		
337	S20-B-3		R3-B		
338	S20-B-4		R4-B		
339	S20-B-5		R7-B		
340	S20-B-6		R8-B		

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
341	S20-B-8		R9-B		
342	S20-B-9		R10-B		
343	S20-B-10		R2-B		
344	S20-B-11		R11-B		
345	S20-B-1		R5-B		
346	S20-A-7		J6-25		
347	S21-A-8		R12-B		
348	S21-A-2		R13-B		
349	S21-A-3		R14-B		
350	S21-A-4		R15-B		
351	S21-A-5		R16-B		
352	S21-A-6		R17-B		
353	S21-A-8		J43		
354	J43		R18-B		
355	S21-A-9		R19-B		
356	S21-A-10		R1-B		
357	S19-3		R20-B		
358	S19-1		R20-A		
359	R20-B		R2-A		
360	J6-1		XDS1-B		
361	XDS1-B		TB1-6		
362	J6-2		XDS2-B		*J6-4
363	XDS2-B		TB1-2		
364	J6-3		CR2-C		
365	K1-B1		XDS1-A		
366	J6-4		K1-A1		*J6-2
367	K1-A1		XDS2-A		
368	XDS2-A		TB1-8		
369	J6-5		R5-A		
370	S14-1		S20-A-1		
371	J6-6		C1-A		
372	C1-A		R9-A		
373	C1-B		R10-A		
374	J6-7		R7-A		
375	J6-8		R8-A		

***Twist with**

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
376	J6-9		TB1-7		
377	J6-10		S19-2		
378	J6-12		R3-A		
379	J6-13		R4-A		
380	J6-14		R6-A		
381	J6-16		E2		
382	C2-B		E6		
383	E6		J13		
384	J13		J14		
385	J14		S3-B-C		
386	E6		J17		
387	J17		J18		
388	J10		J15		
389	E6		TB1-12		
390	E1		TB1-12		
391	R19-A		R18-A		
392	R1-A		R17-A		
393	R17-A		R16-A		
394	R16-A		R15-A		
395	R15-A		R14-A		
396	R14-A		R13-A		
397	R13-A		R12-A		
398	R12-A		TB1-4		
399	E1		TB1-4		
400	E7		TB1-12		
401	XF1-B		K1-B2		
402	XF1-B		K1-X1		
403	S9-NO		S11-2		
404	S10-1		K1-X2		
405	XF2-B		K1-A2		
406	E1		E2		
408	TB1-6		S9-C		
409	S20-A-6		R8-A		
410	E19		E18		
411	E21		E22		

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
412	E17		E22		
413	E14		E22		
414	E13		E22		
415	E18		TB1-5		
416	E22		TB1-5		
417	J6-17		STOWED		
418	J6-18		STOWED		
419	J6-19		STOWED		
420	J6-20		STOWED		
421	J6-21		STOWED		
422	J6-22		STOWED		
423	J6-23		STOWED		
424	CR2-A		K1-B1		
425	S3-B-1		S21-B-C		
426	R18-A		S21-B-8		
427	P1-18		S4-B-7		
428	J6-15		TB1-3		
429	S21-B-7		TB1-3		
430	E38		J5-JJ		
431	S7-1		S4-A-5		
432	E42		TB1-4		
433	E23		E33		
434	E24		E33		
435	E25		E33		
436	E26		E33		
437	E27		E33		
438	E28		E40		
439	E29		E40		
440	E30		E34		
441	E31		E34		
442	E32		E34		
443	E12		E19		
444	E15		E19		
445	E9		E19		
446	E10		E19		

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
447	E11		E19		
448	E16		E18		
449	E7		E33		
450	E7		E34		
451	E7		E40		
452	E40		E41		
453	E18		E39		
454	E20		E42		
455	E35		E42		
456	E36		E42		
457	E37		E42		
458	S2-A-X		S2-B-X		JUMPER
458A	E43		S2		
459	S2-B-X		S2-C-X		JUMPER
459A	E44		S2		
460	S1-A-C		S1-C-2		JUMPER
460A	E45		S2		
461	S1-C-2		S1-C-1		JUMPER
461 A	E46		S2		
462	S1-C-1		S1-C-5		JUMPER
462A	E47		S2		
463	S1-C-3		S1-C-4		JUMPER
463A	E48		S2		
464	S1-B-3		S1-B-4		JUMPER
464A	E49		S2		
465	S2-A-Y		S2-A-Y		JUMPER
465A	E50		S2		
466	S2-B-Y		S2-C-Y		JUMPER
466A	E51		S2		
467	S4-A-2		S4-A-4		JUMPER
467A	E43		P3-4		
468	S4-A-4		S4-A-6		JUMPER
468A	E44		P3-5		
469	S4-A-6		S4-A-8		JUMPER
469A	E45		P3-3		

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
470	S4-A-8		S4-A-10		JUMPER
470A	E46		P3-8		
471	S4-A-3		S4-A-7		JUMPER
471 A	E47		P3-9		JUMPER
472	S4-A-7		S4-A-9		
472A	E48		P3-10		JUMPER
473	S4-B-5		S4-B-6		JUMPER
473A	E49		P3-2		
474	S4-B-2		S4-B-4		JUMPER
474A	E50		P3-1		
475	S4-B-6		S4-B-10		JUMPER
475A	E51		P3-6		
476	S4-B-2		S4-B-8		JUMPER
477	S15-A-1		S15-A-3		JUMPER
478	S15-A-1		S15-B-2		JUMPER
479	S15-A-3		S15-A-4		JUMPER
480	S8-E-5		S8-E-6		JUMPER
481	S8-D-5		S8-D-6		JUMPER
482	S8-B-5		S8-B-6		JUMPER
483	S8-B-3		S8-B-4		JUMPER
484	S8-B-2		S8-B-3		JUMPER
485	S8-B-1		S8-B-2		JUMPER
486	S8-A-1		S8-B-1		JUMPER
487	S8-A-5		S8-B-5		JUMPER
488	S8-A-2		S8-A-5		JUMPER
489	S8-A-4		S8-A-6		JUMPER
490	S15-A-4		S15-A-6		JUMPER
491	S15-B-2		S15-B-3		JUMPER
492	S15-B-3		S15-B-5		JUMPER
493	S15-B-5		S15-B-6		JUMPER
494	S15-B-6		S15-C-3		JUMPER
495	S15-C-1		S15-C-4		JUMPER
496	S15-C-2		S15-C-5		JUMPER
497	S15-C-3		S15-C-6		JUMPER
498	S15-C-6		S15-D-3		JUMPER

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
499	S15-D-1		S15-D-4		JUMPER
500	S15-D-2		S15-D-5		JUMPER
501	S15-D-3		S15-D-6		JUMPER
502	S16-A-3		S16-A-6		JUMPER
503	S16-A-6		S16-A-7		JUMPER
504	S16-A-7		S16-A-8		JUMPER
505	S17-C-5		S17-C-6		JUMPER
506	S17-C-4		S17-C-5		JUMPER
507	S17-C-2		S17-C-4		JUMPER
508	S17-C-1		S17-C-2		JUMPER
509	S16-A-10		S16-A-11		JUMPER
510	S16-B-3		S16-B-7		JUMPER
511	S16-B-7		S16-B-8		JUMPER
512	S16-A-C		S16-C-C		JUMPER
513	S16-C-3		S16-C-4		JUMPER
514	S16-C-4		S16-C-5		JUMPER
515	S16-C-5		S16-C-6		JUMPER
516	S16-C-6		S16-C-7		JUMPER
517	S16-C-7		S16-C-8		JUMPER
518	S21-B-1		S21-B-2		JUMPER
519	S21-B-2		S21-B-3		JUMPER
520	S21-B-3		S21-B-4		JUMPER
521	S17-A-3		S17-A-6		JUMPER
522	S17-A-4		S17-A-5		JUMPER
523	S17-B-3		S17-B-5		JUMPER
524	S17-B-4		S17-B-6		JUMPER
525	S18-A-3		S18-A-8		JUMPER
526	S18-A-2		S18-A-9		JUMPER
527	S18-A-10		S18-A-11		JUMPER
528	S18-B-3		S18-B-8		JUMPER
529	S21-B-4		S21-B-5		JUMPER
530	S21-B-5		S21-B-6		JUMPER
531	S21-B-8		S21-B-9		JUMPER
532	S3-B-2		S3-B-3		JUMPER
533	S3-B-3		S3-B-4		JUMPER

Table 2-5. Test Set Wire List (Listed by Wire Number) - (Continued)

WIRE NO.	FROM	TIE SHIELD TO	TO	TIE SHIELD TO	REMARKS
534	S3-B-4		S3-B-5		JUMPER
535	S3-B-5		S3-B-6		JUMPER
536	S3-B-6		S3-B-7		JUMPER
537	S3-B-7		S3-B-8		JUMPER
538	S3-B-8		S3-B-9		JUMPER
539.1	W4-WHT		TB1-6		
539.2	W4-BLK		XF1-A		
539.3	W4-GRN		E2		
540.1	W5-WHT		TB1-1		
540.2	W5-BLK		XF2-A		
540.3	W5-GRN		E2		
541	R5-A		CR3-C		

Table 2-6. Cable Assembly W1 Wire List

WIRE NO.	FROM	TO	REMARKS	WIRE NO.	FROM	TO	REMARKS
1	P2-1	P1-HH		44	P3-10	P1-cc	TW WITH 44
2	P2-2	P1-NN		45	P3-ll	P1-n	
3	P2-3	P1-PP		46	P3-13	P1-R	
4	P2-4	P1-JJ		47	P3-15	P1-P	
5	P2-5	P1-w		48	P3-16	P1-N	
6	P2-6	P1-v		49	P3-18	P1-M	
7	P2-7	P1-GG		50	P3-19	P1-L	
8	P2-8	P1-FF		51	P3-32	P1-K	
9	P2-9	P1-EE		52	P3-1	P1-J	
10	P2-10	P1-MM		53	P3-2	P1-i	
11	P2-11	P1-KK		54 WHT	P3-34	P5-HH	TIE SH TO E1 & E4
12	P2-12	P1-Y		54 BLK	P3-35	P5-NN	
13	P2-13	P1-x		55 WHT	P3-3	P5-JJ	TIE SH TO E1 & E4
14	P2-14	P1-e		55 BLK	P3-8	P5-w	
15	P2-15	P1-d		56	P3-4	P5-v	TIE SH TO E1 & E4
16	P2-16	P1-c	TW WITH 17	57	P3-5	P5-GG	
17	P2-20	P1-u	TW WITH 16	58 WHT	P3-14	P5-FF	TIE SH TO E1 & E4
18	P2-18	P1-t	TW WITH 19	58 BLK	P3-17	P5-PP	
19	P2-19	P1-s	TW WITH 18	59	P3-20	P5-x	
20	P2-17	P1-r		60	P3-21	E3	
21	P2-21	P1-q		61 WHT	P3-22	P5-d	TIE SH TO E1 & E4
22	P2-22	P1-p		61 BLK	P3-37	P5-c	
23	P2-23	P1-DD		62 WHT	P3-23	P5-u	TIE SH TO E2 & E5
24	P2-24	P1-LL		62 BLK	P3-24	P5-t	
25	P2-25	P1-z		63 WHT	P3-25	P5-s	TIE SH TD E2 & E5
26	P2-26	P1-h		63 BLK	P3-26	P5-r	
27	P2-27	P1-g		64 WHT	P3-28	P5-EE	TIE SH TO E2 & E5
				64 BLK	P3-33	P5-MM	
28	P2-28	P1-f		64 BLK	P3-33	P5-MM	
29	P2-29	P1-D		65 WHT	P3-29	P5-KK	TIE SH TO E2 & E5
30	P2-39	P1-C		66	P3-30	P5-f	
31	P2-31	P1-B		67 WHT	P3-40	P5-e	TIE SH TO E3 & E6
32	P2-32	P1-A		67 BLK	P3-41	P5-C	
33	P2-33	P1-b		68	P3-38	P5-B	
34	P2-34	P1-a		69 WHT	P3-39	P5-A	TIE SH TO E3 & E6
35	P2-35	P1-z		69 BLK	P3-44	P5-b	
36	P2-36	P1-Y		70 WHT	P3-42	P5-a	TIE SH TO E3 & E6
37	P2-37	P1-x		70 BLK	P3-43	P5-Z	
38	P2-38	P1-w		71 WHT	P3-54	P5-Y	
39	P3-6	P1-m	TW WITH 40 & 41	71 BLK	P3-55	P5-X	
40	P3-12	P1-k	TW WITH 39 & 41	72			
41	P3-27	P1-j	TW WITH 39 & 40	73	P2-41	P5-p	
42	P3-7	P1-AA		74	P2-42	P5-DD	
43	P3-9	P1-BB	TW WITH 44	75	P2-48	P5-n	

Table 2-6. Cable Assembly W1 Wire List - Continued

WIRE NO.	FROM	TO	REMARKS	WIRE NO.	FROM	TO	REMARKS
76	P2-51	P5-CC		89	P3-46	P5-S	
77	P3-48	P5-m		90			
78	P3-49	P5-LL	TIE SH TO E7 & E7	91			
79	P3-52	P5-BB	TIE SH TO E7 & E8	92			
80	P3-53	P5-k		93			
81	P2-43	P5-AA		94	P2-52	P5-L	TIE SH TO E7 & E7
82	P2-50	P5-j		95	P5-D	E7	
83	P2-44	P5-z		96	E1	E2	
84	P2-49	P5-i		97	E2	E3	
85	P2-45	P5-g		98	E4	E5	
86	P2-46	P5-h		99	E5	E6	
87	P2-47	P5-K	TIE SH TO E7 & E8	100	E6	E7	
88	P3-47	P5-J		101	E3	E8	

Table 2-7. Cable Assembly W2 Wire List

WIRE NO.	FROM	TO	REMARKS	WIRE NO.	FROM	TO	REMARKS
1	P1-1	P2-4		6 WHT	P1-7	P2-7	
2	P1-2	P2-12		6 WHT	P1-8	P2-8	
3	P1-3	P2-11		7	SHIELD	P2-5	
4	P1-4	P2-10		8	SHIELD	SHIELD	
5 BLK	P1-5	P2-1			WIRE 5	WIRE 6	
5 WHT	P1-6	P2-2					

Table 2-8. Cable Assembly W3 Wire List

WIRE NO.	FROM	TO	REMARKS	WIRE NO.	FROM	TO	REMARKS
1	P1-6	P3-t		28 WHT	P2-1	P4-t	TIE SH TO E5 & E7
2	P1-15	P3-Y		28 BLK	P2-18	P4-k	
3	E3	E4		29 WHT	P2-4	P4-m	TIE SH TO E5 & E7
4	P1-5	P3-s		29 BLK	P2-5	P4-Z	
5	E5	E6		30 WHT	P2-9	P4-X	TIE SH TO E5 & E7
6 WHT	P1-2	P3-m	TIE SH TO E1 & E3	30 BLK	P2-10	P4-Y	
6 BLK	P1-1	P3-j		31 WHT	P2-11	P4-r	TIE SH TO E5 & E7
7 WHT	P1-12	P3-n	TIE SH TO E1 & E3	31 BLK	P2-15	P4-s	
7 BLK	P1-36	P3-X		32	P2-12	P4-q	TW/ WITH 33 & 34
7 RED	P1-4	P3-k		33	P2-13	P4-p	TW WITH 32 & 34
8	E7	E8		34	P2-14	P4-n	TW WITH 32 & 33
9 WHT	P1-21	P3-q	TIE SH TO E1 & E3	35	P2-22	P4-d	
9 BLK	P1-20	P3-Z		36	P2-24	P4-e	
10 WHT	P1-35	P3-b	TIE SH TO E1 & E3	37	P2-25	P4-f	
10 BLK	P1-33	P3-p		38	P2-26	P4-g	
11 WHT	P1-10	P3-h	TIE SH TO E2 & E4	39	P2-27	P4-h	
11 BLK	P1-29	P3-1		40 WHT	P2-30	P4-i	TIE SH TO E5 & E7
11 RED	P1-31	P3-T		40 BLK	P2-31	P4-j	
12 WHT	P1-13	P3-f	TIE SH TO E2 & E4	41 WHT	P2-32	P4-F	TIE SH TO E6 & E8
12 BLK	P1-26	P3-R		41 BLK	P2-33	P4-G	
13 WHT	P1-18	P3-c	TIE SH TO E2 & E4	42	P2-34	P4-C	
13 BLK	P1-28	P3-d		43	P2-35	P4-D	
14	P1-22	P3-g		44	P2-36	P4-E	
15	P1-23	P3-e		45	P2-40	P4-N	
16	P1-30	P3-a		46 WHT	P2-41	P4-H	TIE SH TO E6 & E8
17	P1-25	E2		46 BLK	P2-42	P4-J	
18	E4	P3-S		47	P2-43	P4-K	
19	P2-2	P3-C		48	P2-45	P4-L	
20	P2-3	P3-D		49	P2-46	P4-M	TIE SH TO E6 & E8
21	P2-6	P3-E		50	P2-47	P4-T	TW WITH 51
22	P2-7	P3-F		51	P2-48	P4-U	TW WITH 50
23	P2-8	P3-G		52 WHT	P2-49	P4-V	TIE SH TO E6 & E8
24	P2-16	P3-H		52 BLK	P2-50	P4-W	
25	P2-17	P3-J		53	P2-39	E5	
26	P2-19	P3-K		54	E7	P4-A	
27	P2-21	P3-L		55	E1	E2	

Section VI. PREPARATION FOR STORAGE OR SHIPMENT

2-25. Preparing Test Set for Storage or Shipment (fig. 1-2)

a. Roll up power cords and stow inside lid storage compartment

b. Be sure that W1, W2 and W3 are stowed in lid storage compartment.

c. Be sure that the Operations and Organizational Maintenance Manual is stowed in the lid storage compartment.

d. Close lid and secure all latches.

2-26. Packing the Test Set

a. Wrap the test set in a minimum of one-half inch of resilient cushioning material.

b. Overpack in a container.

2-27. Packing the Test Stand

a. Wrap the test stand in a minimum of one-half inch of resilient cushioning material.

b. Overpack in a container.

APPENDIX A

REFERENCES

A-1. PUBLICATIONS INDEXES

Consult indexes for latest changes and revisions to the forms, records, and publications listed in this Appendix.

Consolidated Index of Army publications and Blank Forms ..... DA Pam 310-1

The Army Maintenance Management System (TAMMS) ..... DA Pam 738-750

A-2. FORMS AND RECORDS

Recommended Changes to Publications ..... DA Form 2028

Discrepancy in Shipment Report ..... SF 361

Report of Discrepancy (ROD) ..... SF 364

Quality Deficiency Report ..... SF 368

A-3. GENERAL PUBLICATIONS

Destruction of Army Materiel to Prevent Enemy Use ..... TM 750-244-2

Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment ..... SB 11-573

Federal Supply Codes for Manufacturers ..... SB 708-42

Field Instructions for Painting and Preserving Electronics Command Equipment ..... TB 746-10

Storage and Shipment of Supplies and Equipment, Administrative Storage of Equipment ..... TM 740-90-1

Painting Instructions for Field Use ..... TM 9-213

Operations and Organizational Maintenance Manual ..... TM 11-6625-2638-12

Organizational and Direct Support Maintenance Repair Parts and Special Tools List ..... TM 11-6625-2638-23P

Depot Maintenance Work Requirements Manual ..... DMWR 11-6625-200

Operator's Manual Army Model AH-1S (Modernized Cobra) Helicopter ..... TM 55-1520-239-10

Direct Support Maintenance Manual ..... TM 11-6625-2638-30

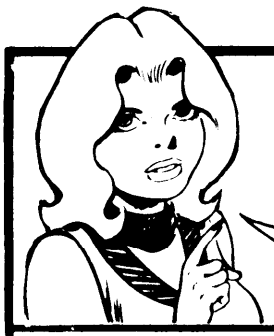
Operator's Manual Army Model AH-1S (PROD), AH-1S (ECAS), and AH-1S (Modernized Cobra) Helicopters ..... TM 55-1520-236-10

GLOSSARY

ABBREVIATIONS

AC	Alternating Current
ALT	Airborne Laser Tracker
Az	Azimuth
BITE	Built-In Test Equipment
COMD	Command
CORR	Correlate
DC	Direct Current
DIV	Division
DVM	Digital Volt Meter
EIR	Equipment Improvement Recommendations
ELECT or ELEC	Electronics Assembly
EXT	External
FO	Clock Signal from Decoder Circuit Card
FT	Clock Signal from BITE Circuit Card
Gyro	Gyroscope
HI	High
HUD	Heads Up Display
LED	Light-Emitting Diode
MLO	Master Lock Out
MTOE	Modified Table of Organization and Equipment
MWO	Modification Work Order
PMCS	Preventive Maintenance Checks and Services
PRF	Pulse-Repetition Frequency
QDRT	Quadrant
GRD	Ground
RCVR	Receiver
TAMMS	The Army Maintenance Management System
TFT	Track Test Terminate
VAC	Voltage Alternating Current
VDC	Voltage Direct Current
ΣAT	Sum After Threshold

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



SOMETHING WRONG WITH THIS PUBLICATION?

FROM (PRINT YOUR UNIT'S COMPLETE ADDRESS)
Commander
Stateside Army Depot
ATTN: AMSTA-US
Stateside, N.J. 07703

DATE SENT
10 July 1975

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 11-5840-340-12	23 Jan 74	Radar Set AN/PRC-76

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO	IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:
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 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° 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			Add new step f.1 to read, "Replace cover plate removed in step e.1, above." REASON: To replace the cover plate.
		F03		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.

SAMPLE

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

SIGN HERE
I. M. DeSpiritof

DA FORM 1 JUL 79 2028-2 PREVIOUS EDITIONS ARE OBSOLETE.

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

TEAR ALONG PERFORATED LINE

REVERSE OF DA FORM 2028-2

FILL IN YOUR UNIT'S ADDRESS

FOLD BACK

DEPARTMENT OF THE ARMY

POSTAGE AND FEES PAID
DEPARTMENT OF THE ARMY
DOD 314

U.S. MAIL

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

SAMPLE

Commander
US Army Communications-Electronics Command
and Fort Monmouth
ATTN: DRSEL-ME-MP
Fort Monmouth, New Jersey 07703

TEAR ALONG PERFORATED LINE

TEAR ALONG PERFORATED LINE

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

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

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 11-6625-2638-30	JUNE 1984	AIRBORNE LASER TRACKER TEST SET AN/AAM-55

BE EXACT PIN-POINT WHERE IT IS

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

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

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Chief of Staff

Official:

ROBERT M. JOYCE
Major General, United States Army
The Adjutant General

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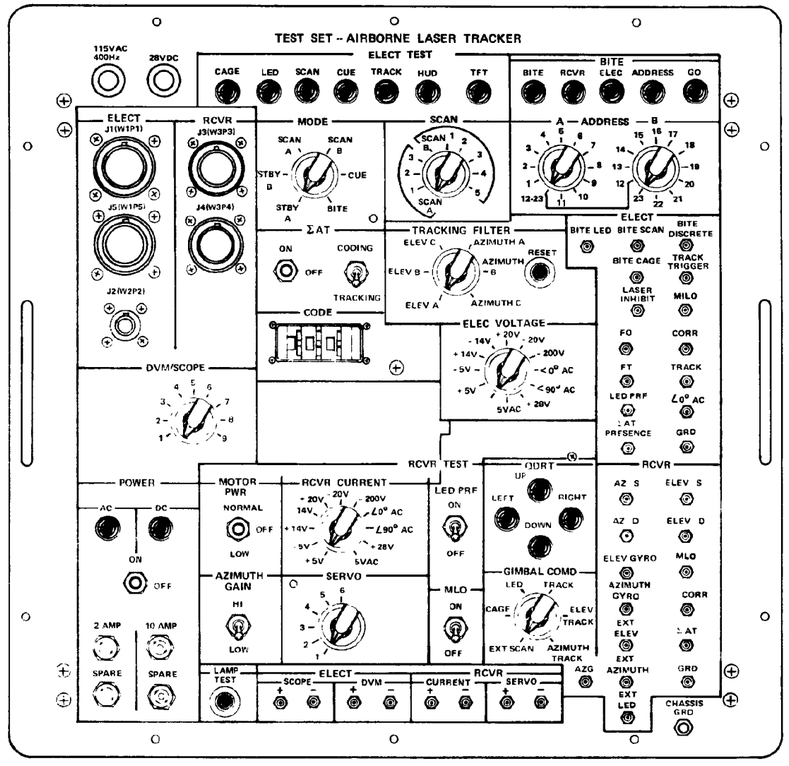
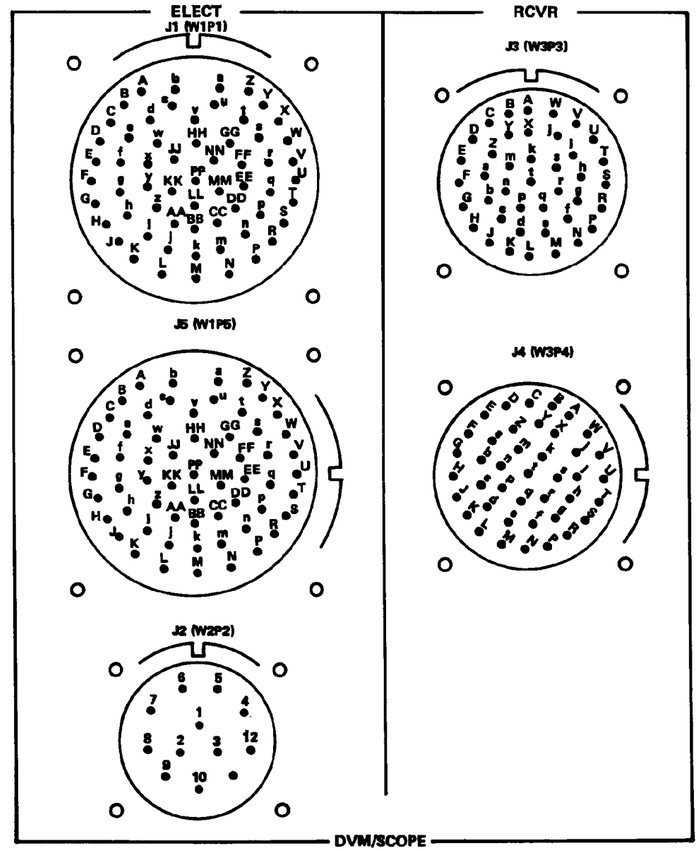


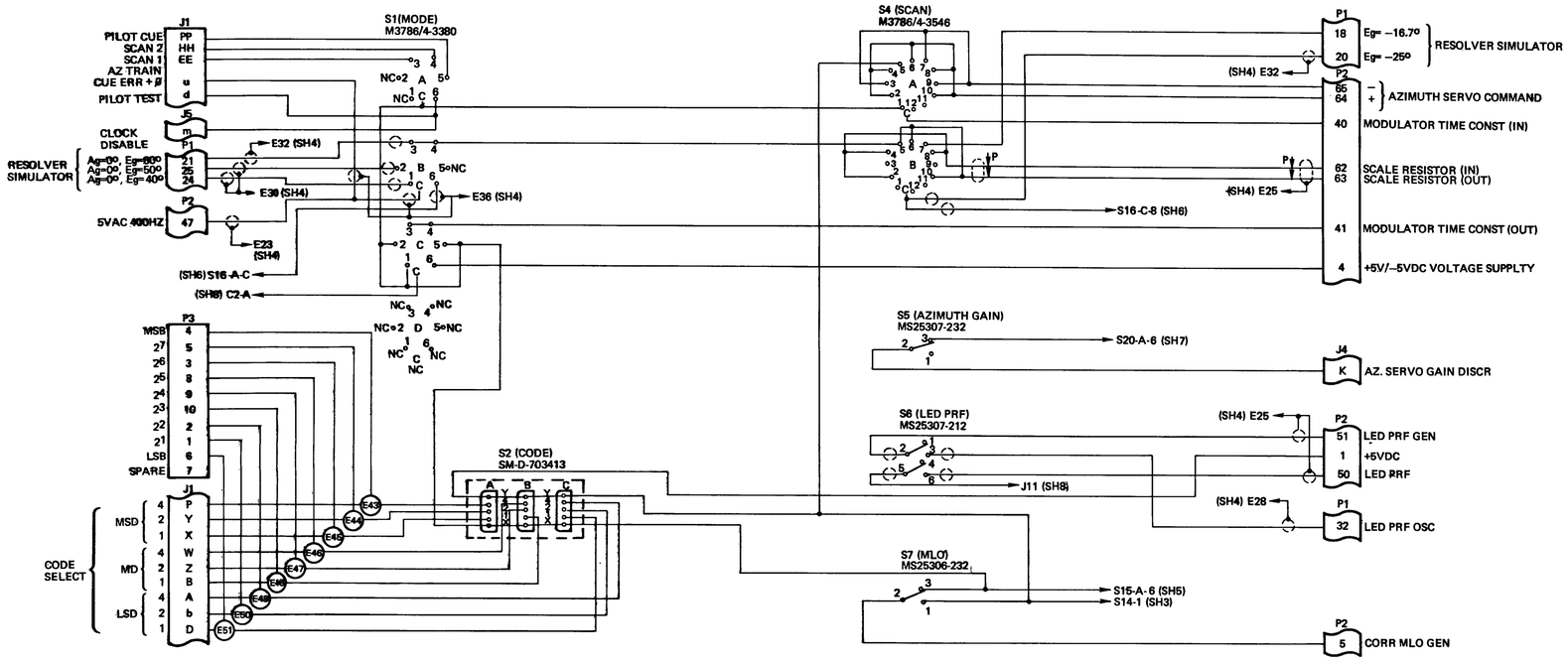
EL8TR030

FO-1. Test Controls and Indicators.



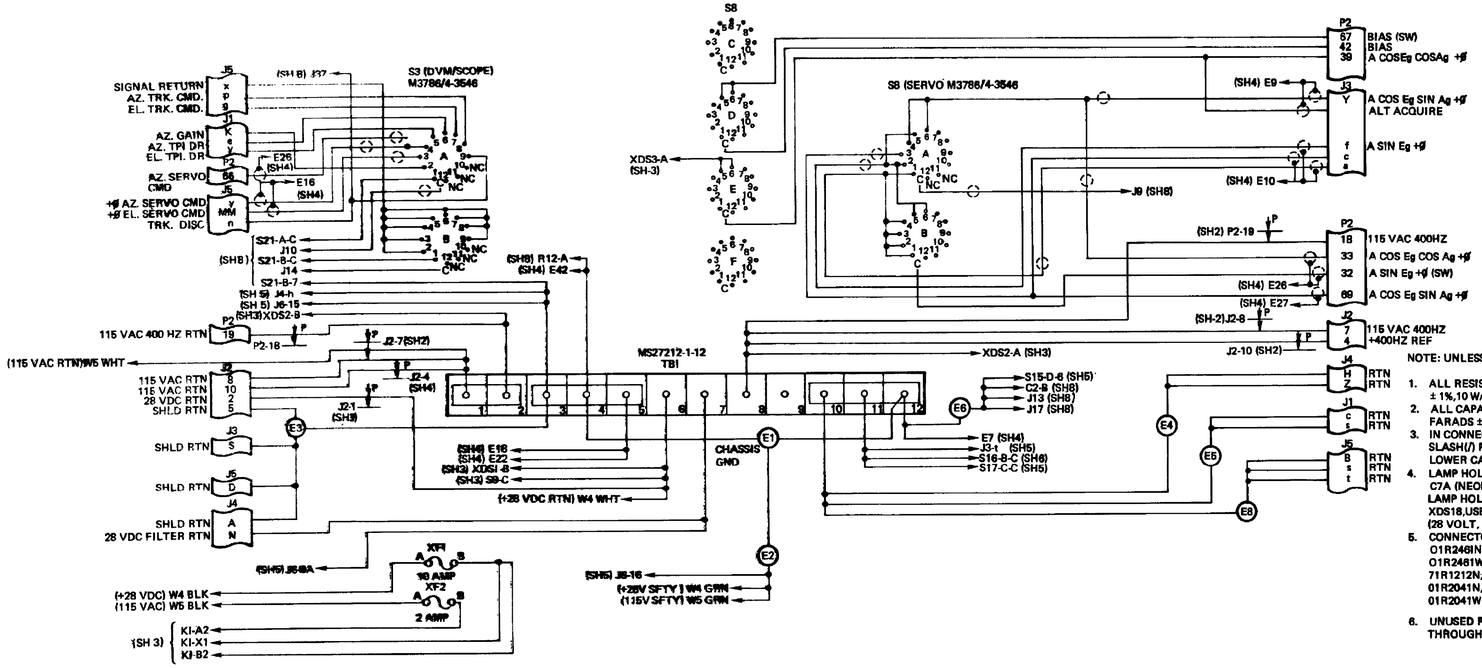
EL8TR031

FO-2. Connector Pin Locator.



EL8TR032

FO-3. Test Set Schematic Diagram (Sheet 1 of 8).

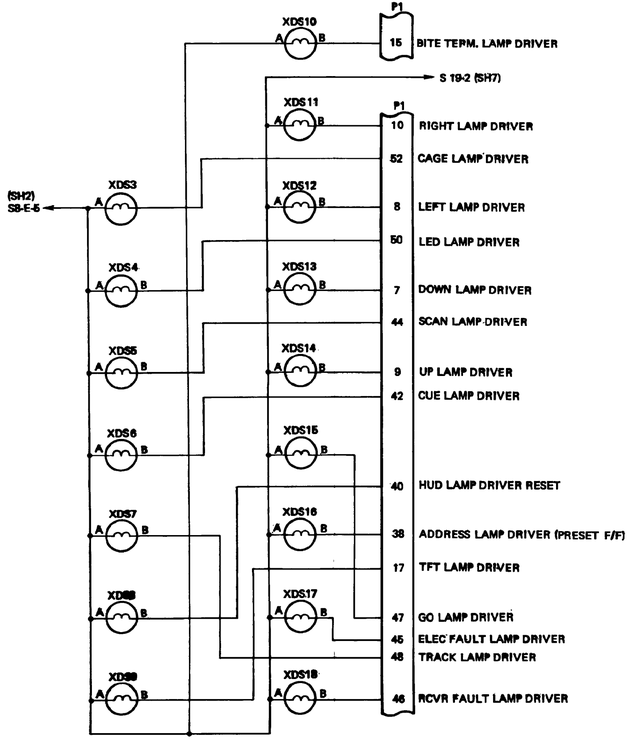


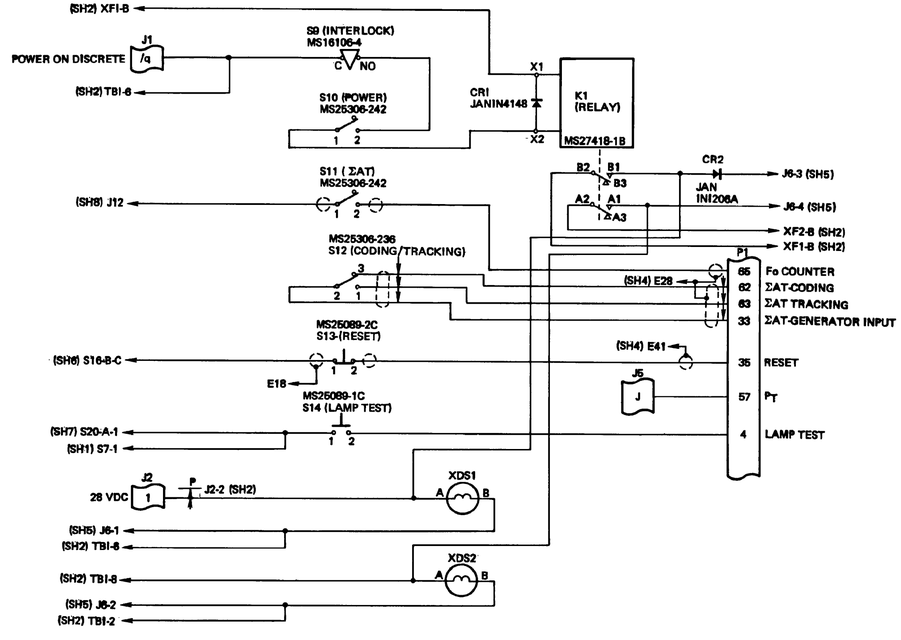
NOTE: UNLESS OTHERWISE SPECIFIED

1. ALL RESISTANCE VALUES ARE IN OHMS ± 1%,10 WATT.
2. ALL CAPACITOR VALUES ARE IN MICRO-FARADS ± 10%,200 VOLTS.
3. IN CONNECTOR PIN DESIGNATIONS A SLASH(/) PREFIXING PIN LETTER DENOTES LOWER CASE.
4. LAMP HOLDER XDS2 USE LAMP MS25252-C7A (NEON GLOW,105-125 VAC LAMP HOLDERS XDS1,XDS2,3 THROUGH XDS18,USE LAMP MS252537 MS25237-327 (28 VOLT, .04 AMP.).
5. CONNECTOR J1 (W1P1) IS M83723-01R2468N,J5 (W1P1 IS M83723-01R2461W, J2 (W2P2) IsIS M83723-71R1212N, J3 (W3P3) IS M83723-01R2041N, J4 (W3P4) IS M83723-01R2041W & J6 (P1) IS M24308-2-25.
6. UNUSED PINS IN CONNECTORS J1 THROUGH J5 ARE STOWED.

EL8TR033

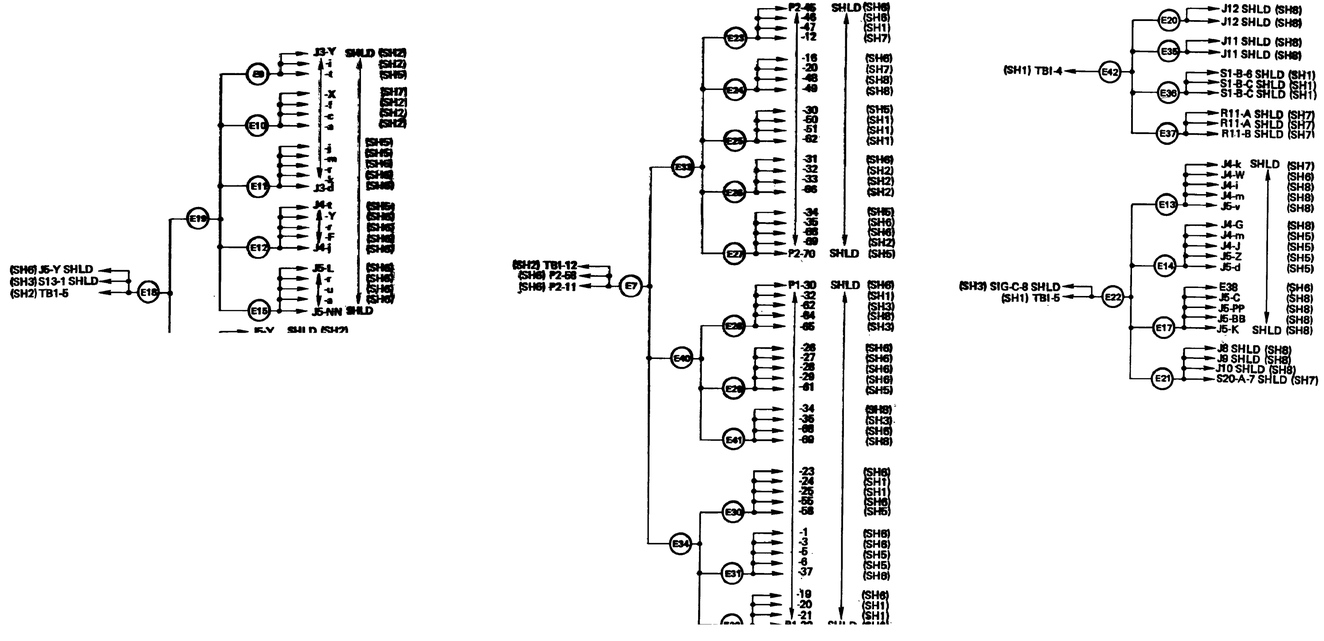
FO-3. Test Set Schematic Diagram (Sheet 2 of 8).





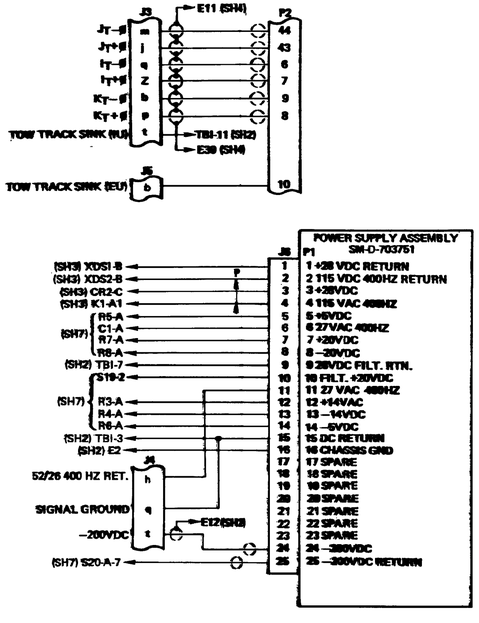
EL8TR034

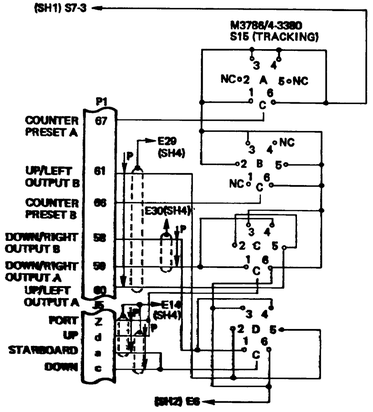
FO-3. Test Set Schematic Diagram (Sheet 3 of 8).

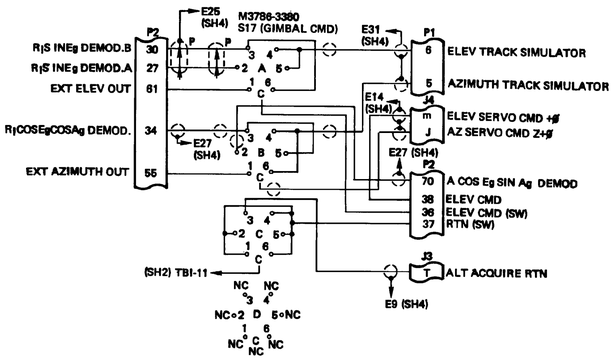


EL8TR035

n (Sheet 4 of 8).

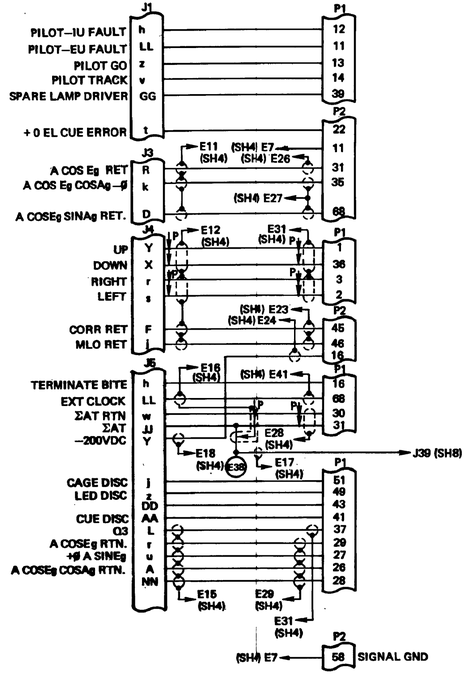


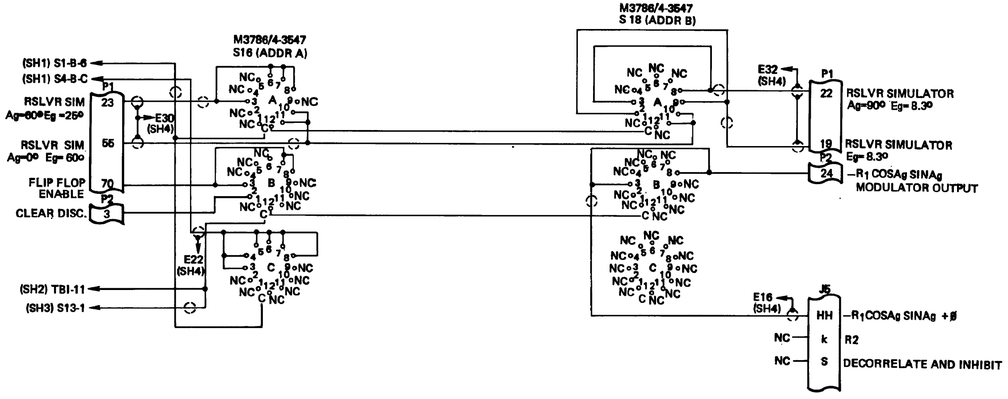




EL8TR036

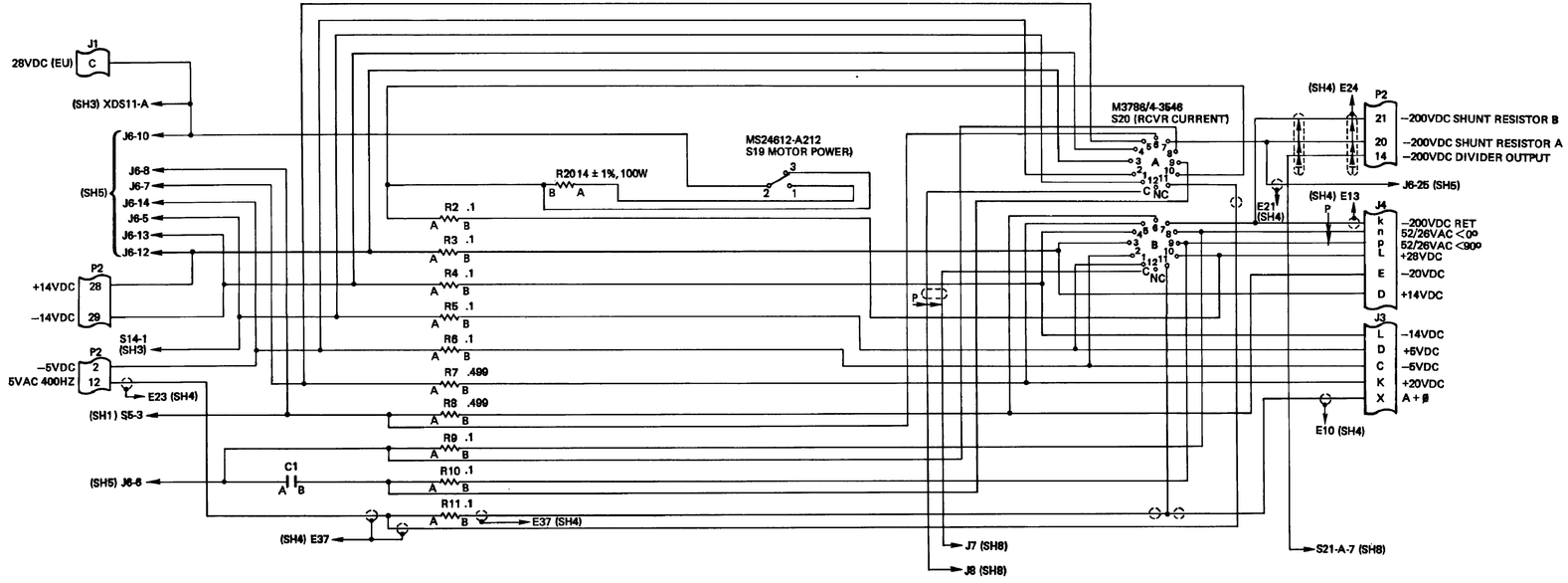
FO-3. Test Set Schematic Diagram (Sheet 5 of 8).





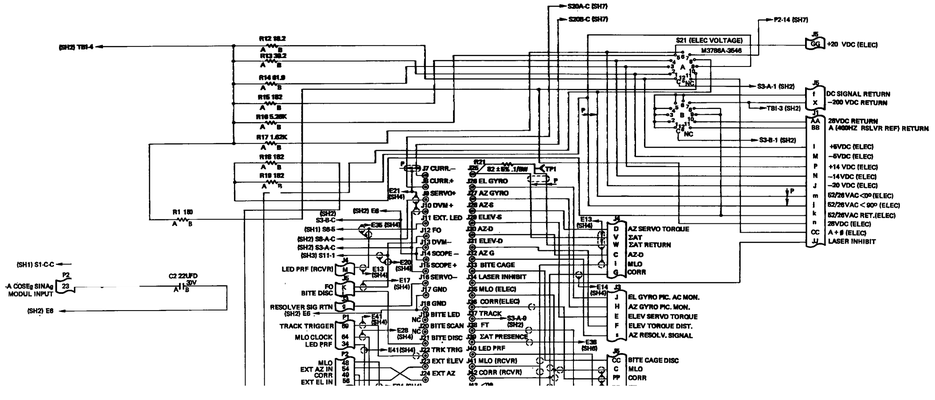
EL8TR037

FO-3. Test Set Schematic Diagram (Sheet 6 of 8).



EL8TR038

FO-3. Test Set Schematic Diagram (Sheet 7 of 8).


S20A-C (SH7)
S20B-C (SH7)
P2-14 (SH7)
S21 (ELEC VOLTAGE)
M3786A-3546
+20 VDC (ELEC)
S3-A-1 (SH2)
TB1-3 (SH2)
S3-B-1 (SH2)
DC SIGNAL RETURN
–300 VDC RETURN
28VDC RETURN
A (400HZ RSLVR REF) RETURN
+5VDC (ELEC)
–5VDC (ELEC)
+14 VDC (ELEC)
–14VDC (ELEC)
–20 VDC (ELEC)
52/26VAC <0° (ELEC)
52/26VAC < 90° (ELEC)
52/26VAC RET.(ELEC)
28VDC (ELEC)
A + B (ELEC)
LASER INHIBIT
(SH2) TB1-4
R12 39.2
R13 39.2
R14 61.9
R15 182
R16 5.36K
R17 1.62K
R18 182
R19 182
R1 1IB
(SH11) S1-C-C
-A COS(q SINAq MODUL INPUT
C2 22UFD 50V
(SH2) E8
(SH2) E6
(SH2) S3-C
(SH11) S6-5
(SH2) S3-A-C
(SH2) S3-A-C
(SH2) S11-1
LED PRF (RCVR)
FO
BITE DISC
RESOLVER SIG RTN (SH3) S2
TRACK TRIGGER
MLO CLOCK
LED PRF
MLO
EXT AZ IN
CORR
EXT EL IN
CURR.–
CURR.+
SERVO+
DVM +
EXT. LED
FO
DVM–
SCOPE –
SCOPE +
SERVO–
GND
GND
BITE LED
BITE SCAN
BITE DISC
TRK TRIG
EXT ELEV
EXT AZ
EL GYRO
AZ GYRO
AZ-G
ELEV-G
AZ-O
ELEV-O
AZ G
BITE CAGE
LASER INHIBIT
MLO (ELEC)
CORR(ELEC)
TRACK
FT
ZAT PRESENCE
LED PRF
MLO (RCVR)
CORR (RCVR)
S3-A-D (SH2)
AZ SERVO TORQUE
ZAT
ZAT RETURN
AZ-O
MLO
CORR
EL GYRO PIC. AC MON.
AZ GYRO PIC. MON.
ELEV SERVO TORQUE
ELEV TORQUE DIST.
AZ RESOLV. SIGNAL
BITE CAGE DISC
MLO
PF
CORR