TECHNICAL MANUAL

OPERATOR'S, AVIATION UNIT AND INTERMEDIATE MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) FOR FUEL QUANTITY GAGE TEST SET P/N 472090-002 NSN 4920-01-028-0624

HEADQUARTERS, DEPARTMENT OF THE ARMY

8 JANUARY 1981

CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 7 November 1986

Operator's Aviation Unit and
Intermediate Maintenance Manual
(Including Repair Parts and Special Tools List)
For
Fuel Quantity Gage Test Set
P/N 472090-002
NSN 4920-01-028-0624

TM 55-4920-399-13&P, 8 January 1981 is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages	Insert pages
i and ii	i and ii
1-1 and 1-2	1-1 and 1-2
3-1 thru 3-4	3-1 thru 3-4
- - - - -	3-5 thru 3-17/3-18
4-1 thru 4-4	4-1 thru 4-4
4-7/4-8	4-7 thru 4-9/4-10
C-3 thru C-6	C-3 thru C-6.l/C-6.2
C-9 and C-10	C-9 and C-10
- - - - -	C-19/C-20
Index 1 and Index 2	Index 1 and Index 2

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

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Personnel performing operations, procedures, and practices which are included or implied in this technical manual shall observe the following warnings. Disregard of these warnings and precautionary information can cause serious injury, death, or destruction of material.

WARNING

Voltages used in the operation of this Equipment may cause DEATH or PERSONAL INJURY if personnel fail to observe the safety precautions. Learn the areas containing these voltages in the equipment. Be careful not to contact voltage connections when installing or operating this equipment. Before working with the equipment, turn power off and ground points of high potential before touching them.

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WASHINGTON, D.C.

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REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake or if you knowof a way to improve the procedure, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publication and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, US Army Aviation Systems Command, ATTN: AMSAV-MPSD, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you.

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CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION

1-1. General. This technical manual describes operation and maintenance instructions for the Fuel Quantity Gage Test Set, Part Number 472090-002, (Refer to Fig. l-l), designed and manufactured by Simmonds Precision, Instrument Systems Division, Vergennes, VT 05491.

1-2. Scope. The purpose of the Fuel Quantity Gage Test Set is fourfold, as follows:

a. Measure tank unit capacitance values or fuel gage circuits.

b. Calibrate a fuel gage circuit by introduction of appropriate capacitances.

c. Simulate the compensator by introduction of appropriate capacitance.

d. Measure insulation resistance of tank units and cabling.

1-3. Maintenance Forms and Records. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenanc levels are listed in and prescribed by DA Pam 738-751.

1-3A. Destruction of Army Materiel to Prevent Enemy Use. Procedures for destroying Army materiel to prevent enemy use are listed in TM 750-244-1-4.

Section II. DESCRIPTION AND LEADING PARTICULARS

1-4. Operational Description. This description gives an account of the switches and controls on the front panel by function (Refer to Fig. 1-2).

1-5. Mode Select. This switch (1) controls the functions of the Test Set.

a. OFF(2): Power to Test Set is off.

b. MEAS EXT (3): Measures external capacitance through jacks labeled, TO PROBES (4).

c. SIM (5): Switches power off and switches pre-selected value of capacitance in SIMULATOR (6) section to jacks labeled, TO IND (7) (indicator).

d. MEAS INT (8): Switches capacitance measuring section to read SIMULATOR (6) section, which can then be set to the desired value.

e. MEG (9): Switches megohmmeter (10) into circuit.

1-6. Megohmmeter Select. This switch (11) functions when MODE SELECT (1) is placed in MEG (9) position. It is used to select one of seven points between which leakage resistance is to be measured.

a. LOZ - GND

b. LO Z COMP - GND

c. Hi Z - GND

d. LOZ - LOZ COMP

e. LOZ - Hi Z

f. LOZ COMP - Hi Z

g. EXT

1-7. T/U - COMP. This switch (12) selects the TANK UNIT (13) or COMPENSATOR (14) for external measurement (3) or for internal measurement (8).

1-8. X1000pf/X100pf. These thumbwheel switches (15) in the SIMULATOR (6) section select values of capacitance to be simulated, in hundredths or thousandths of picofarads.

1-9. 100pf IN/OUT. This switch (16) is used if 100pf is to be added to compensator simulator value.

1-10. Tank Unit Simulator Set. This vernier adjustment (17) provides a fine adjustment for values selected in tank unit simulator. Two ratios are available: normally 40:1, 1:1 if knob is pushed in.

1-11. Compensator Simulator Set. This vernier adjustment (18) is similar to (17) and provides a fine adjustment for values in compensator simulation. Two ratios are also available.

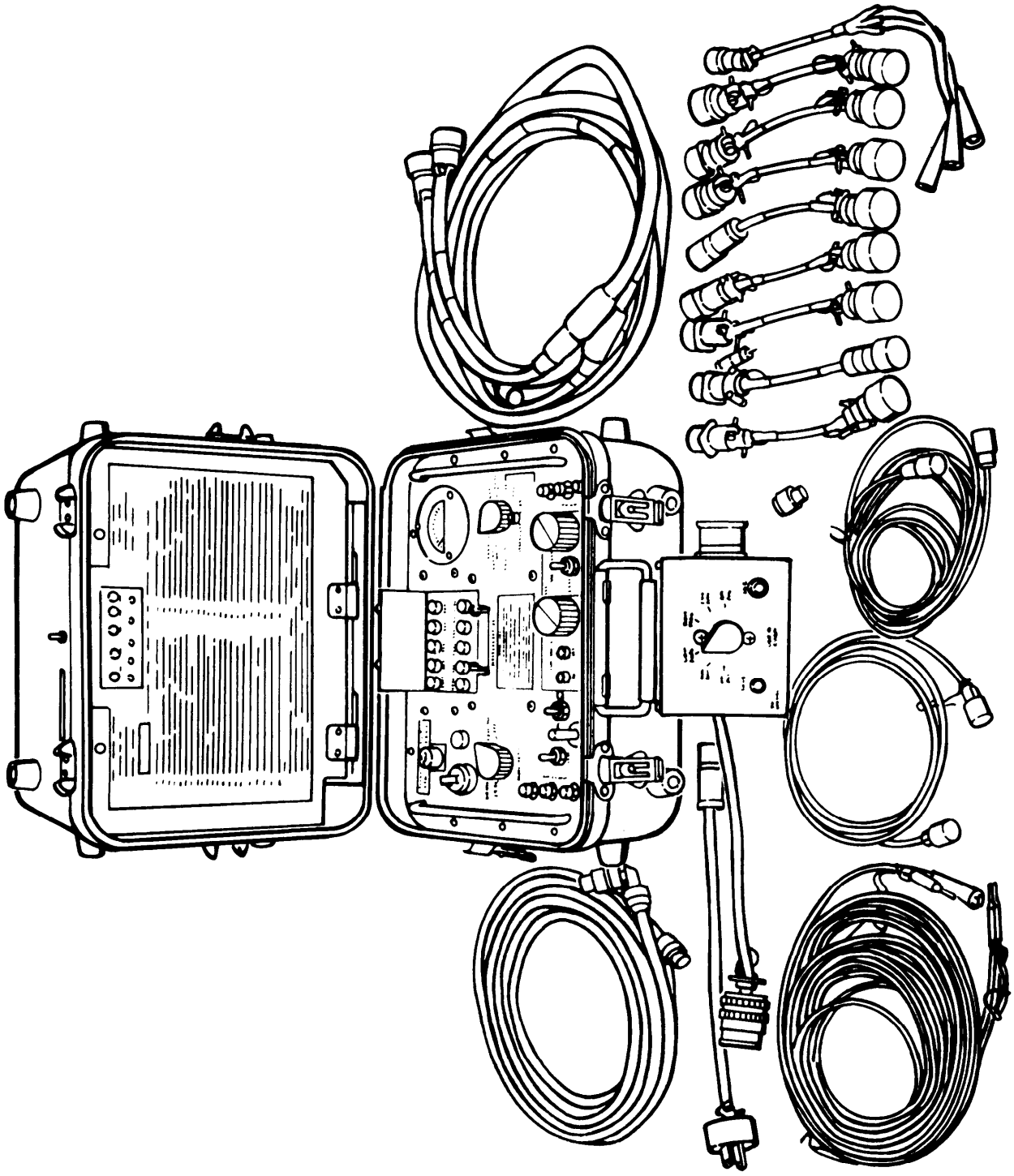


Figure 1-1. Fuel Quantity Test Set

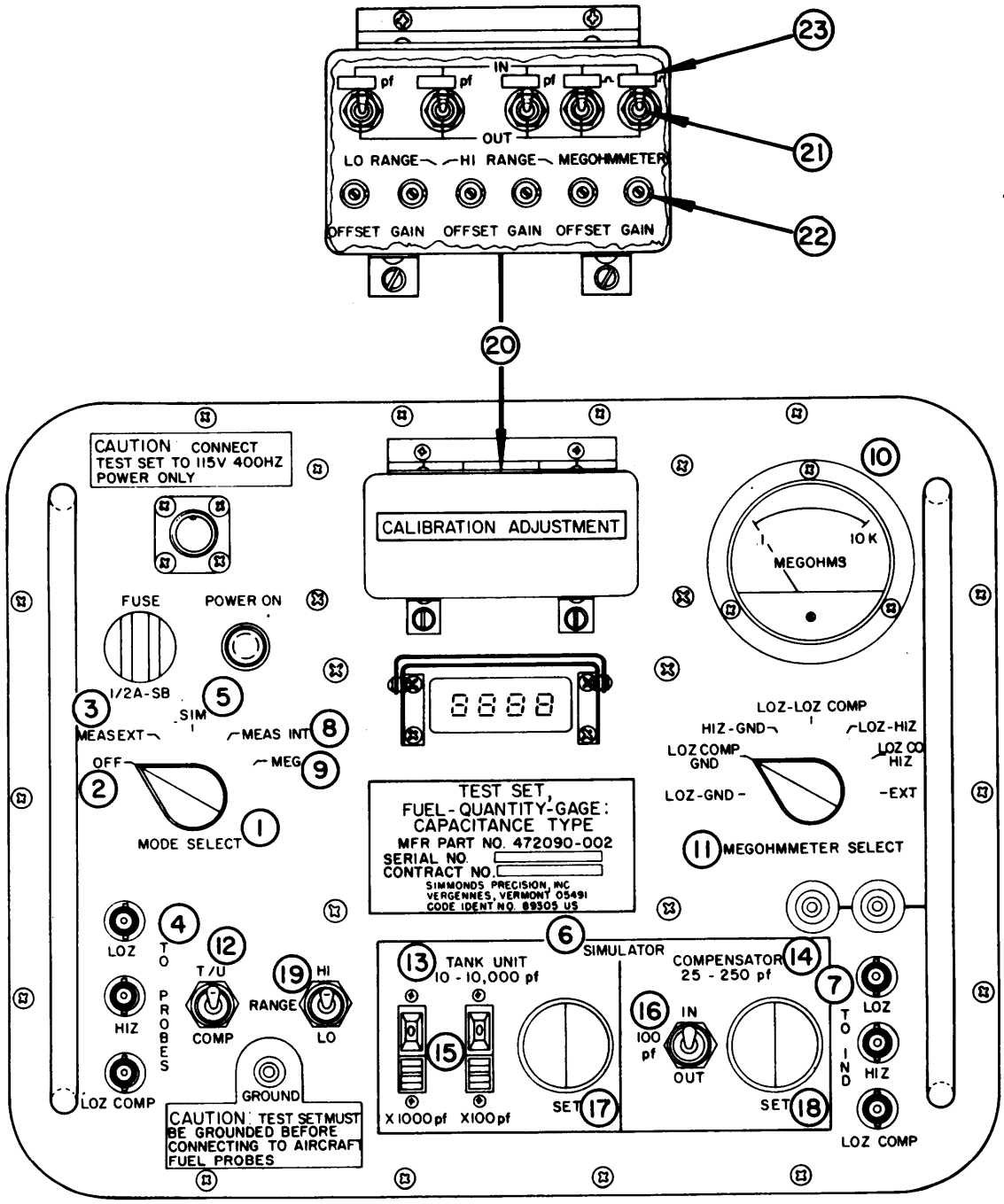


Figure 1-2. Front Panel Controls and Indicators

1-12. Range HI/LO. This switch (19) is used to select either the 10 to 999.9pF or the 1000 to 9999pF for the capacitance measuring section.

1-13. Calibration Adjustments. There are switches and potentiometers under this cover (20).

1-14. In/Out (pF and Ω) Switches. These switches (21) are designated S5 through S9 and select values of resistance in ohms (MEGOHM-METER) or capacitance in pF (LO-RANGE/HI-RANGE, capacitance measuring section) to be switched in for measurement for calibration.

1-15. Offset/Gain Potentiometers. These pots (22) are used to set high and low values on readout to correspond to values (23) stamped on panel above switches (21).

1-16. Leading Particulars. The following Table 1-1 gives technical characteristics and general information.

1-17. Cables, Adaptors, and Accessories. The following Table 1-2 summarizes the cables, adaptors, and accessories which are part of the Fuel Quantity Gage Test Set, Part Number 472090-002.

Table 1-1. Leading Particulars

Characteristic	Specification
Case size:	Height (closed) 11½ inches Width: 15⅓inches Depth: 12¾ inches
Power supply:	AC: 105 to 125 Volt 360 to 440 Hertz
Capacitance range: (direct readout)	LOW: 10 to 999.9pF High: 1000 to 9999pF
Tank simulator range:	Tank Unit: 5 to 10,000pF Compensator: 25 to 250pF
Megohmmeter range: (single logarithmic scale)	.1 to 10K megohms
Output signals:	Lo Z: Approx 5 KHz (4 to 6KHz) Voltage 15 VRMS approx. Megohmmeter: 15 VDC, short circuit current 1.5ma DC
Temperature range:	Operation: .40°C to +55°C Storage: -55°C to +71°C
Connectors:	BNC - Six total Four female Two Lo Z Two Lo Z Comp Two male Hi Z AC Power: MS3108R10SL-3S type

Table 1-2. Cables, Adaptors, and Acceesories

Part Number	Nomenclature	Used With	Function
1000850	Input Power Cable Wiring	either 1000851 or 1000852	Supply 115V 400 Hz to test set
1000851	Adaptor Cable I	1000850	Adapts to alternate power facility configuration
1000853	Test Cable	- - - - -	Ground between test set and aircraft
1000963	CH54B/Master Cable	(1) By itself	(1) Hookup with CH54B Main Tanks
		(2) 1000961-1 through 1000961-8 Adaptor Cables	(2) Hookup with the following 1000961-1 1000961-2 CH47A, B 1000961-3 CH54B 1000961-4 Aux Tanks 1000961-5 1000961-6 AH-1, UH-1 1000961-7 1000961-8 OV-1
1000961-1	CH47A, B to Indicator Adaptor Cable	1000963	Provide hookup to CH47A, B indicators
1000961-2	CH47A.B to AC Wiring Adaptor Cable	1000963	Provide hookup to CH47A, B wiring
1000961-3	CH54B Aux Tank to AC Wiring Adaptor Cable	1000963	Provide hookup to CH54B Aux Tank AC Wiring
10009P1-4	CH54B Aux Tank to Indicator Adaptor Cable	1000963	Provide hookup to CH54B Aux Tank
1000961-5	AH-1 and UH-1 to AC Wiring Adaptor Cable	1000963	Provide hookup to AH-1 and UH-1 AC Wiring
1000961-6	AH-1 and UH-1 to Indicator Adaptor Cable	1000963	Provide hookup to AH-1 and UH-1 Indicator
1000961-7	OV-1 to AC Wiring Adaptor	1000963	Provide hookup to OV-1 AC wiring

Table 1-2. Cables, Adaptors, and Accessories – Continued

Part Number	Nomenclature	Used With	Function
1000961-8	OV-1 to Indicator Adaptor Cable	1000963	Provide hookup to OV-1 Indicator
1001032	Switchbox (See Note)	387386-1200 384006-1200	Inserted in CH47C wiring for probe selector
387386-1200	Cable Assembly	1001032	Provide LO Z reading from CH47C wiring
384006-1200	Coaxial Cable Assembly	1001032	Provide Hi Z reading from CH47C wiring
387398	Shorting Plug	- - - - - -	To eliminate stray capacitance induced by unused LO Z or LO Z Comp.

NOTE: Switchbox ties in to AC fuel system wiring aft and above the cockpit (main fuselage) door. When measuring fuel tanks, connect switch box to aft portion of junction ONLY.

Section III. TEST EQUIPMENT, SPECIAL TOOLS, AND MATERIALS

1-18. General. Maintenance special tools and maintenance test equipment and special tools will be found in the Repair Parts and Special Tools List Appendix. They are also listed in Table 1-3 within this section.

Table 1-3. Special Tools and Test Equipment

Figure	Nomenclature	Part Number
	Oscilloscope, four-channel	Tektronix 7633
	Megohmmeter	General Radio 862B
	Multimeter	Simpson 260

1-19. Consumable Materials. Consumable Materials are listed in the following Table 1-4.

Table 1-4 Consumable Materials

Item Number	Nomenclature	Military Specification
1	Silica gel	MIL-S-14374B
2	Methyl-ethyl-ketone	TT-M-261D
3	Solder	QQ-S-571

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. GENERAL INFORMATION

2-1. General. Refer to Figure 1-2, closeup of Front Panel Assembly, for support of the following instructions.

WARNING

Test Set must be grounded before connecting to aircraft fuel probes.

a. Put the MODE SELECT switch in the OFF position.

b. Attach the Input Power Cable Wiring Harness to the Test Set and to either Adapter Cable I or Adapter Cable II, depending on the available power facility. Attach the Adapter Cable I or II to 115 volt, 400 Hertz power source.

2-2. Tank Unit Capacitance Measurements. For tank unit capacitance measurements use the following procedures.

a. Connect the Master Cable, Part Number 1000963, to the Test Set in six places.

b. Turn the MODE SELECT switch to the MEAS EXT position, the T/U COMP switch to the T/U position, and the RANGE switch to the LO position.

c. Lift the cover labelled CALIBRATION ADJUSTMENTS and put switch S-5 (farthest left of the five switches) to the IN position. All other switches (S-6 through S-9) should be in the OUT position.

d. Adjust LO-RANGE OFFSET for the capacitance value, approximately 20pF, shown above switch S5 and read that value on the digital CAPACITANCE display.

e. Switch S5 to the OUT position and switch S6 to the IN position.

f. Adjust LO-RANGE GAIN for the capacitance value, approximately 900pF, shown above switch S6 and read that value on the digital CAPACITANCE display.

g. Place the RANGE switch in the HI position.

h. Adjust HI-RANGE OFFSET for the capacitance value, approximately 900pF, shown above switch S6 and read that value on the digital CAPACITANCE display.

i. Switch S6 to the OUT position and switch S7 to the IN position.

j. Adjust HI-RANGE GAIN for the capacitance value, approximately 5000pF, shown above switch S7 and read that value on the digital CAPACITANCE display.

k. Switch S7 to the OUT position and close the CALIBRATION ADJUSTMENTS cover.

l. Turn the MODE SELECT switch to the OFF position.

m. Attach the proper Adaptor Cable Assembly to the Master Cable per the following Table 2-1 and Figure 2-1.

n. Turn the MODE SELECT switch to the MEAS EXT position. Turn RANGE switch to the proper range and read the digital CAPACITANCE display for T/U or COMP by toggling the T\U - COMP switch.

2-3. Tank Unit Insulation Resistance Measurements.

a. Turn the MODE SELECT switch to the MEG position.

b. Turn the MEGOHMMETER SELECT switch to the EXT position.

c. Open the CALIBRATION ADJUSTMENTS cover and put switch S8 to the IN position.

d. Adjust MEGOHMMETER OFFSET for the resistance value, approximately 1 megohm, shown above switch S8. Read that value on the megohmmeter on the panel.

e. Switch S8 to OUT position and S9 to the IN position.

f. Adjust MEGOHMMETER GAIN for the resistance value, approximately 100 megohms, shown above switch S9. Read that value on the megohmmeter on the panel.

g. Switch S9 to the OUT position and close the CALIBRATION ADJUSTMENTS cover.

h. Connect the proper cable and measure insulation resistance on megohmmeter.

Table 2-1. Cable Hookups

Aircraft	(1) Adaptor Cable Assembly (Master Cable To Indicator)	(2) Adaptor Cable Assembly (Master Cable To AC Wiring)
CH47A, B	1000961-1	1000961-2
CH54B (Main Tanks)	USE 1000963 MASTER CABLE ONLY	
CH54B (Aux Tanks)	1000961-4	1000961-3
AH-1 UH-1	1000961-6	1000961-5
OV-1	1000961-8	1000961-7
CH-47C	Switchbox 1001032 is connected to AC fuel system wiring aft and above the cockpit (main fuselage) door. When measuring fuel tanks, connect switchbox to aft portion of junction ONLY and use cables 387386-1200 and 384006-1200 for connection to test set.	

2-4. Capacitance Substitution. If not previously accomplished, perform steps per paragraph 2-2a through m.

a. Turn the MODE SELECT switch to the MEAS INT position.

b. Place the T/U - COMP switch in the T/U position.

c. Adjust TANK UNIT SIMULATOR for the desired value, using the SET knob.

NOTE

The SET knob is normally a 40:1 ratio but can be pressed and turned for a 1:1 ratio.

d. Place T/U - COMP switch in the COMP position.

e. Adjust COMPENSATOR SIMULATOR for the desired value, using its SET knob.

NOTE

If the compensator simulator will not be used, place the Shorting Plug, 387398, on LO-Z COMP.

f. Put the MODE SELECT switch in the SIM position to allow capacitance to be simulated to the aircraft indicator.

NOTE

If the capacitance meter flashes 8888, this indicates the capacitance is beyond the selected range.

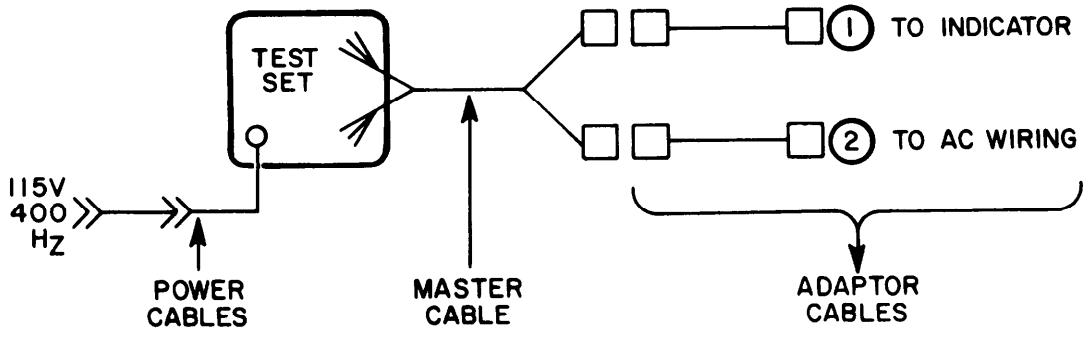


Figure 2-1. Typical cable connection block diagram

CHAPTER 3

AVIATION UNIT MAINTENANCE INSTRUCTIONS

Section I. PREPARATION FOR INSTALLATION, STORAGE, AND SHIPMENT

3-1. Preparation For Installation. There are no requirements for preparation once the Test Set is removed from the shipping container.

NOTE

Do not destroy shipping container and packing materials.

3-2. **Preparation For Storage.** Prepare test set for storage as follows:

NOTE

The carrying case of the Test Set is airtight and watertight, once the four clamp assemblies are clamped and the air valve is closed.

a. All knobs and controls should be set to zero, neutral, null, or off positions.

b. Seven cables, eight cable adapters, one shorting plug, and one switchbox shall be stored in the lid of the carrying case and the hinged inner lid shall be secured.

c. Clean any visible dust and dirt from the Test Set.

d. Close the lid and secure the four clamps and close the air valve on the cover to preclude entry of dust or other contaminants.

3-3. **Preparation For Shipment.** Prepare test set for shipment as follows:

a. Follow instructions for PREPARATION FOR STORAGE except partially open the air valve.

b. If the original shipping container is available, repack the Test Set as originally received, using the styrofoam corners in eight places to cushion the Test Set in the wooden container.

c. If the original container is not available, obtain or make a wooden container with sufficient room for supportive packing materials inside the container. Allow space on the bottom, around the sides, and on the top so that the Test Set will be held securely in place during shipment.

d. Insert an adequate amount of prepackaged dissicant material (item 1, Table 1-4) in the shipping container.

e. Secure the container lid in place. Mark the container FRAGILE.

f. If the Test Set is being returned to the factory, affix a label containing the following information.

Test Set Part Number
Serial Number
Contract Number
Name of Contractor
National Stock Number

Section II. INSTALLATION

3-4. General. Because the Fuel Quantity Gage Test Set is a subsidiary piece of equipment and not part of a permanent installation, no installation procedures are applicable.

CAUTION

Test set must be grounded before connecting to aircraft fuel probes.

3-5. Test Set Connection. Connect test set to a power source of 115V 400HZ only.

3-6. Fuel Quantity Gage Test Set. The Fuel Quantity Gage Test Set is 11 1/2 inches high, 15 1/3 inches wide, and 12 3/4 inches deep and plans must be made to use the Test Set in an area that will accommodate these dimensions.

Section III. INSPECTIONS AND SERVICING

3-7. Daily Inspection. Daily inspections shall include visual inspection and a brief operational check, as follows:

3-8. Visual Inspections. Make sure there is no obvious dirt, dust, moisture, or other visible contaminants on or in the test set.

3-9. Operational Checkout. This checkout can be performed following the last operation of the day or preceding the next days operation. The Test Set can safely and efficiently perform its assigned mission if the steps of paragraphs 2-1 through 2-2 steps a through 1, Chapter 2 are successfully carried out.

3-10. Display Lighting Check. Turn the MODE SELECT switch to the ME AS INT position. Turn the T/U/COMP switch to T/U function and the RANGE switch to LO range.

3-11. Tank Unit Simulator. Set TANK UNIT SIMULATOR to any figure over 1000 pf. The CAPACITANCE -Pf display should flash all four eights (8888).

Section IV. PREVENTIVE MAINTENANCE

3-12. Cleaning. If cleaning of the Test Set is required, use a lintless cloth moistened with a mild soap and water solution to clean the carrying case, front panel, and cable assemblies.

a. A soft bristle brush moistened with a mild soap and water solution may be used to remove stubborn deposits.

b. Resinous or oily deposits may be removed using a lintless cloth or a soft brush moistened with methyl-ethyl-keytone (item 2, Table 1-4).

NOTE

Do not leave any cleaning fluid residue.

c. The Test Set is designed to be water-tight and air-tight, therefore it should not require internal cleaning.

d. However, occasional internal air drying maybe required, using warm air or compressed air at 15 psi or less. Refer to Troubleshooting Section.

3-13. Lubrication. Not required.

3-14. Extreme Environmental Maintenance. As indicated on Table 1-1, the operating temperature range of the Test Set is -40°C to + 55°C and any malfunction that occurs outside this temperature range will be corrected when the Test Set is operated within this design temperature range.

Section V. OPERATIONAL CHECKOUT

3-15. Performance Checks. Refer to paragraphs 3-7 through 3-10.

3-16. Troubleshooting. Table 3-1 gives probable cause/corrective action data. Refer to Fig. 4-8 for the wiring diagram and Table 3-2 for the wire list.

Table 3-1. Troubleshooting

Trouble	Probable Cause	Corrective Action
Display shows proper number but is unsteady,	Excessive moisture inside Test Set.	Remove panel and dry with low pressure warm or compressed air.
Display jumps randomly.	Failure Al, A3, A4, or A7 board.	Return to AVIM level of Maintenance.

Table 3-1. Troubleshooting – Cont.

Trouble	Probable Cause	Corrective Action
Display over-range regardless of capacitance being measured.	LO Z shorted to Hi Z	
	(1) Internal	(1) Check cables for leakage inside unit to LO Z, Hi Z, and LO Z Comp.
	(2) External	(2) Check Cable Assemblies with megohmmeter for leakage.
Displays zero regardless of input.	Hi Z shorted to ground	(1) Remove all external cables. Check HI Z - GND setting of megohmmeter. If it reads properly (R=00), re-attach cables and remeasure. If it still reads properly, check for presence of LO Z
	LO Z shorted to ground.	(1) Check for presence of LO Z using an AC meter or scope between LO Z and GND with T/U/COMP switch in T/U position; or Lo Z COMP jack to GND, T/U/COMP switch in COMP position.
		(2) Check 1.02 - GND and LOZ COMP - GND with megohmmeter with cables attached and then unattached. If it checks properly (R =00), check LO Z Filter Board A5 (See board checkout procedure).
Megohmmeter shows low reading.	(1) Internal leakage	(1) Remove cables, check readings, on all positions of MEGOHMMETER switch. It should read 00; if it doesn't, there is excessive moisture inside unit causing leakage. Dry with warm or compressed air.
	(2) External leakage	(2) Attach all cables, measure all positions of the MEGOHMMETER switch. If it reads less than 00, leakage is in cables. If it reads 00, check Megohmmeter Board A2.

Table 3-2. Wire List

WIRE LIST	PANEL WIRING	
FROM	TO	WIRE (1)
S1A1	J2, TS1-3	COAX (2)
S1A2	SPARE	
S1A3	A3-19, S1B5	COAX (2)
S1A4	SPARE	
S1A5	SPARE	
S1A6	S2A4	COAX (2)
S1B1	Cl (STATOR)	COAX (2)
S1B2	SPARE	
S1B3	SPARE	
S1B4	J5	COAX (2)
S1B6	SPARE	
S1C1	J3, S5-3	RED
S1C2	SPARE	
S1C3	S4-3, S1D5	RED
S1C4	SPARE	
S1C5	SlD3 S1E5	BLK
S1C6	S2A2	RED
S1D1	Cl, ROTOR	RED
S1D2	SPARE	
S1D3	S1F3	BLK
S1D4	J6	RED
S1D6	SPARE	
S1E1	J4	ORN
S1E2	SPARE	
S1E3	S4-1, S1F5	ORN
S1E4	SPARE	
S1E5	SP GND	BLK
S1E6	S2A3	ORN

VOTES:
(1) UNLESS OTHERWISE SPECIFIED ALL HOOKUP WIRE IS E24-l6378/4-(COLORS LISTED IN TABLE).
(2) TIE COAX SHIELDS TO S1A2 WITH JUMPER(BLK)TO SP GND.

Table 3-2. Wire List – Cont

WIRE LIST PANEL WIRING		
FROM	TO	WIRE
S1F1	C2 (ROTOR)	ORN
S1F2	SPARE	
S1F4	J7	ORN
S1F6	SPARE	
S1G1	LUG 1	BLK
S1G2	SP GND, S1G3	BLK
S1G3	S1G4	BLK
S1G4	S1G5	BLK
S1G5	S1G6	BLK
S2A1	A2-7	WHT - YEL
S2A2	S2A5	RED
S2A3	S2B5, S2A7	ORN, ORN
S2A4	S2B6	ORN
S2A5	S2A6	ORN
S2A8	TP1	RED
S2B1	A2-6	WHT - GRN
S2B2	LUG 1, S2B3	BLK, ORN
S2B3	S2B4	ORN
S2B6	S2B7	ORN
S2B8	TP2	BLK
S3-1	U3-C	WHT
S3-2	A7-3	YEL
S3-3	SPARE	
S3-4	R1-2	RED
S3-5	A3-10	ORN
S3-6	R3-2	RED
S3-7	R1-3	GRN
S3-8	SP GND	BLK

Table 3-2. Wire List - Cont

WIRE LIST PANEL WIRING		
FROM	TO	WIRE
S3-9	R3-3	GRN
S3-10	R2-1	YEL
S3-11	A3-11	YEL
S3-12	R4-1	YEL
S4-1	S4-6	ORN
S4-2	A3-9	WHT - RED
S4-3	S4-4	ORN
S4-5	SP GND	BLK
S5-1	TS1-1, S6-1	BLK, BLK
S5-2	C3	
S5-3	S6-3	RED
S6-1	S7-1	BLK
S6-2	C4	
S6-3	S7-3	RED
S7-2	C5	
S8-1	SPARE	
S8-2	R7	
S8-3	S9-3	BLK
S9-1	SPARE	
S9-2	R8	
S9-3	TP2	BLK
S10-1	SP GND	BLK
S10-2	100pf CAP BETWEEN PINS 2 & 5 OF S10	
S10-3	S1F1, 15pf CAP BETWEEN PINS 3 & 6 OF S10	ORN
S10-4	SPARE	
S10-5	S10-6	ORN
S10-6	C2(STATOR), COAX SHIELD TO S10-1	COAX
S11-X	S12-X	RED

Table 3-2. Wire List – Cont

WIRE LIST		PANEL WIRING
FROM	TO	WIRE
S11-Y	S12-Y	BLK
S11-1	A8-5	RED
S11-2	A8-6	RED
S11-4	A8-7	RED
S11-8	A8-9	RED
S12-X	C1 (ROTOR)	RED
S12-Y	SP GND	BLK
S12-1	A8-1	RED
S12-2	A8-2	RED
S12-4	A8-3	RED
S12-8	A8-4	RED
J1-A	DS1-1	WHT
J1-B	LUG 1	BLK
J1-C	F1-1	RED
C1 (STATOR)	C2 (STATOR), A8-8, COAX SHIELD TO S4-5	COAX
C2 (ROTOR)	S10-3	ORN
TS1-1	SP GND	BLK
TS1-2	SPARE	
TS1-3	C3, C4, C5	
TS2-1	SPARE	
TS2-2	SPARE	
TS2-3	R1, R2, TP1	RED
M1 +	SP GND	BLK
M1 –	A2-2	VIO
LUG1	T1-GRA	GRA
R1-3	S3-7	GRN
R1-2	S3-4	RED
R1-1	A3-6	YEL

Table 3-2. Wire List - (Cont)

WIRE LIST		PANEL WIRING
FROM	TO	WIRE
R2-3	R2-2	GRN
R2-2	A3-22	RED
R2-1	S3-10	YEL
R3-3	S3-9	GRN
R3-2	S3-6	RED
R3-1	A3-6	YEL
R4-3	R4-2	GRN
R4-2	A3-20	RED
R4-1	S3-12	YEL
R5-3	A2-4	GRN
R5-2	A2-5	RED
R5-1	A2-1	YEL
R6-3	A2-3	GRN
R6-2	A2-2	RED
R6-1	A2-2	YEL

Table 3-2. Wire List – (Cont)

WIRE LIST		BD A1 WIRING
FROM	TO	WIRE
A1-1	A7-20	WHT-BLK-GRA
A1-2	A7-19	WHT-BLK-BLU
A1-3	A7-18	WHT-BLK-YEL
A1-4	A7-17	WHT-BLK-ORN
A1-5	SPARE	
A1-6	A4-9	WHT
A1-7	A4-11	WHT-BLU
A1-8	A4-7	WHT-GRN-BLU
A1-9	A4-15	WHT-GRN-GRN
A1-10	A4-13	WHT-GRN-VIO
A1-11	A6-11	WHT-GRN-GRA
A1-12	A4-17	WHT-GRN-RED
A1-13	A7-22	WHT-BRN-ORN
A1-14	A1-9	WHT-BLU-GRN
A1-15	A7-21	WHT-BRN-RED
A1-16	A7-7	GRN
A1-17	A7-6	WHT-RED
A1-18	A7-5	RED
A1-19	A7-4	WHT-YEL
A1-20	A7-12	WHT-GRA
A1-21	A7-11	GRA
A1-22	A7-9	VIO
A1-23	A7-8	WHT-GRN
A1-24	A7-16	WHT-BLK-RED
A1-25	A7-15	WHT-BLK-BRN
A1-26	A7-14	WHT-ORN
A1-27	A7-13	ORN
A1-28	A1-10	WHT-BLU-BLU

Table 3-2. Wire List – Cont

WIRE LIST		BD AI WIRING
FROM	TO	WIRE
A1-29	A5-3	WHT-ORN-BLU
A1-30	A7-10	WHT-VIO
A1-31	U3-E	WHT-RED-BLU
A1-32	A4-1	WHT-BLU-YEL
A1-33	A4-5	WHT-BLU-GRA
A1-34	A5-6	WHT-ORN-GRN

Table 3-2. Wire List – Cont

WIRE LIST		BD A2 WIRING
FROM	TO	WIRE
A2-1	SP GND	BLK
A2-3	R6-2 & R6-3	RED, GRN
A2-4	R5-3	GRN
A2-5	R5-2	RED
A2-6	S2A1	WHT-GRN
A2-7	S2B1	WHT-YEL
A2-8	A6-8	RED
A2-9	A6-12	ORN
A2-10	SPARE	

Table 3-2. Wire List – Cont

WIRE LIST		BD A3 WIRING
FROM	TO	WIRE
A3-1	A4-10	WHT-BRN-GRA
A3-2	A4-12	WHT-BLK
A3-3	A4-14	WHT-RED-ORN
A3-4	A4-16	WHT-RED-GRA
A3-5	SP GND	BLK
A3-6	S3-8	RED
A3-7	A4-6	WHT-BLK-GRN
A3-8	A4-4	WHT-BRN-YEL
A3-9	A5-1	WHT-RED
A3-10	S3-5	ORN
A3-11	S3-11	GRN
A3-12	SP GND	BLK
A3-13	A6-12	WHT-YEL-GRA
A3-14	SP GND	BLK
A3-15	A4-8	WHT-YEL-GRN
A3-16	SP GND	BLK
A3-17	A4-19	WHT-BLU-RED
A3-18	SP GND	BLK
A3-19	S1A3	COAX
A3-20	R4-2	RED
A3-21	SP GND	BLK
A3-22	R2-2	RED
A3-23	U3-C	WHT-RED-GRN

Table 3-2. Wire List - Cont

WIRE LIST		BD A4 WIRING
FROM	TO	WIRE
A4-1	A1-32	WHT-BLU-YEL
A4-2	A6-11	WHT-ORN-ORN
A4-3	SP GND	BLK
A4-4	A3-8	WHT-BRN-YEL
A4-5	A1-33	WHT-BLU-GRA
A4-6	A3-7	WHT-BLK-GRN
A4-7	A1-8	WHT-GRN-BLU
A4-8	A3-15	WHT-YEL-GRN
A4-9	A1-6	WHT
A4-10	A3-1	WHT-BRN-GRA
A4-11	A1-7	WHT-BLU
A4-12	A3-2	WHT-BLK
A4-13	A1-10	WHT-GRN-VIO
A4-14	A3-3	WHT-RED-ORN
A4-15	A1-9	WHT-GRN-GRN
A4-16	A3-4	WHT-RED-GRA
A4-17	A1-12	WHT-GRN-RED
A4-18	U3-E	GRN
A4-19	A3-17	WHT-BLU-RED
A4-20	A6-12	VIO

Table 3-2. Wire List - Cont

WIRE LIST		BD A5 WIRING
FROM	TO	WIRE
A5-1	A3-9, S1-2	WHT-RED
A5-2	A5-7, SP GND	YEL, BLK
A5-3	A1-29	WHT-ORN-BLU
A5-4	SPARE	
A5-5	SPARE	
A5-6	A1-34	WHT-ORN-GRN
A5-7	A5-2	YEL
A5-8	A6-8	YEL
A5-9	A6-12	GRA
A5-10	SPARE	
A5-11	SPARE	

Table 3-2. Wire List – Cont

WIRE LIST		BD A6 WIRING
FROM	TO	WIRE
A6-1	A6-14	YEL
A6-2	A6-15	YEL
A6-3	T1-BRN	
A6-4	T1-YEL	
A6-5	T1-ORN, SP GND	BLK
A6-6	T1-WHT/RED	
A6-7	T1-WHT/BLK	
A6-8	T1-WHT	
A6-9	T1-GRN	
A6-10	T1-BLU	
A6-11	T1-VIO	
A6-13	SP-GND	BLK
A6-14	U3-C	WHT-RED
A6-15	U3-E	
A6-16	U3-B	

Table 3-2. Wire List – Cont

WIRE LIST		BD A7 WIRING
FROM	TO	WIRE
A7-1	U3-E	BRN
A7-2	U3-C	WHT-BRN
A7-3	S3-2	YEL
A7-4	A1-19	WHT-YEL
A7-5	A1-18	RED
A7-6	A1-17	WHT-RED
A7-7	A1-16	GRN
A7-8	A1-23	WHT-GRN
A7-9	A1-22	VIO
A7-10	A1-30	WHT-VIO
A7-11	A1-21	GRA
A7-12	A1-20	WHT-GRA
A7-13	A1-27	ORN
A7-14	A1-26	WHT-ORN
A7-15	A1-25	WHT-BLK-BRN
A7-16	A1-24	WHT-BLK-RED
A7-17	A1-4	WHT-BLK-ORN
A7-18	A1-3	WHT-BLK-YEL
A7-19	A1-2	WHT-BLK-BLU
A7-20	A1-1	WHT-BLK-GRA
A7-21	A1-15	WHT-BRN-RED
A7-22	A1-13	WHT-BRN-ORN
A7-23	U3-B	WHT-BRN-VIO

NOTES:
⚠1 UNLESS OTHERWISE SPECIFIED ALL HOOK UP WIRE IS E24-16878/4-(COLORS LISTED IN TABLE).
⚠2 TIE COAX SHIELDS TO S1A2 WITH JUMPER (BLK) TO SP GND.

Section VI. REPAIR AND REPLACEMENT OF AUTHORIZED PARTS

CAUTION

Make sure power is disconnected.

3-17. Removal of Front Panel Assembly. Remove fourteen pan head screws holding the Front Panel Assembly to the Carrying Case. Loosen the panel and carefully lift it out of the case.

CAUTION

Do not damage small components during handling.

3-18. Removal of Soldered Connections. Carefully unsolder wiring connections at the component using adequate heat sink procedures to avoid damage to nearby components. Annotate connections at this time to facilitate reconnection and to avoid possible errors during reconnection.

3-19. Removal of Electronic Components. Once the external connections to a component have been removed, most components can then be readily removed from the Front Panel Assembly. Some are held by mounting screws, others are held by locknuts.

3-20. Component Replacement. Components can be replaced on an individual basis once they are removed from the Front Panel Assembly.

3-21. Removal of Circuit Card Assemblies. Seven of the circuit cards are held in place by combinations of screws and self-locking nuts or of screws, flatwashers, lockwashers, and spacers, in the case of two of the cards.

3-22. Repair. No repairs of circuit cards are authorized at field level.

3-23. Replacement of Circuit Card Assemblies. Replace the Circuit Cards in their positions using the appropriate attaching hardware. Do not fully tighten at this time.

3-24. Resoldering. Resolder (item 3, Table 1-4) electrical connections as originally done. Refer to paragraph 3-18. Tighten attaching hardware to secure circuit cards in place.

3-25. Replacement of Electronic Components. Any components removed from the Front Panel Assembly per paragraph 3-19 can be replaced by the proper spare.

3-26. Replacement of Soldered Connections. Resolder (item 3, Table 1-4) connections broken during paragraph 3-18.

3-27. Adjustment After Replacement. Refer to paragraphs 3-7 through 3-10.

CHAPTER 4

AVIATION INTERMEDIATE MAINTENANCE INSTRUCTIONS

Section I. PREPARATION FOR MAINTENANCE, STORAGE, AND RESHIPMENT

4-1. Preparation For Maintenance. Preparation for maintenance proceed as follows:

a. Carefully remove the lid from the shipping container and remove the packing material.

b. Remove the Test Set from the shipping container.

4-2. Preparation For Storage. Preparation for storage proceed as follows:

a. All knobs and controls shall be set to zero, neutral, null, or off position and all cables, cable adaptors, shorting plugs, and switchbox shall be secured in the carrying case.

b. Clean any visible dust and dirt from the Test Set.

c. Close the lid and secure the four clamps and close the air valve on the cover.

4-3. Preparation For Reshipment. Follow instructions for PREPARATION FOR STORAGE except partially open the air valve.

a. If the original shipping container is available, repack the Test Set as originally received, using the styrofoam corners in eight places to cushion the Test Set in the wooden container.

b. If the original container is not available, obtain or make a wooden container with sufficient room for supportive packing materials inside the container. Allow space on the bottom, around the sides, and on the top so that the Test Set will be held securely in place during shipment.

c. Insert an adequate amount of prepackaged dissicant material (item 1, Table 1-4) in the shipping container.

d. Secure the container lid in place. Mark the container FRAGILE.

e. If the Test Set is being returned to the factory, affix a label containing the following information.

Test Set Part Number
Serial Number
Contract Number
Name of Contractor
National Stock Number

Section II. CHECKOUT AND ANALYSIS

4-4. Checkout And Trouble Analysis. The following procedures are necessary to verify proper operation of the designated circuit cards.

a. Use of a four channel oscilloscope will be necessary to check the waveforms in the following checkouts.

b. The checkouts consist of verifying that the outputs at the pins on each board are within specification, If not within specification, replace board. Refer to Figure 4-1 for circuit card location.

4-5. Digital Board A1. (Refer to FO-1 and FO-2.) FO-1 shows the Al schematic used on serial numbers 104, 106, 107, 109, 111, 112, 113, 117, and 123. FO-2 shows the Al schematic used on all other units. Pins 1, 2, 3 and 4 are outputs of the MSD counter and should produce a binary counting sequency from 0000 to 1001 (0-9).

a. Three other sets of pins (24-27, 20-23, 16-19) should also produce a binary counting sequence from 0000 to 1001 (0-9). Each set of four pins is a higher frequency and represents less significant digits.

b. Pins 5, 7 and 10 are outputs of the three-phase clock and should show the following waveforms (refer to fig. 4-2).

c. Pins 8, 6, 9 should produce the complement (refer to fig. 4-3).

d. Pins 32 and 33 should produce complementary square waves of approximately 5 Khz, related to LO Z voltage (refer to fig. 4-4).

e. Pin 34 shall produce a square wave of 5 Khz. Pin 29 shall produce a square wave corresponding to the LO Z Voltage as shown on Figure 4-5.

f. Pin 12 should show square wave with a positive going- edge, sometime when pin 10 is high (the phasing depending on the capacitance being measured, provided unit is not over-range).

g. Pin 30 should show a pulse of approximately 250ns width (possibly undetectable) when pin 12 goes high. Pin 13 should be high at all times, except it should be low when unit is over-range.

h. Pin 15 should be high except when unit is over-range. At those times, Pin 15 should toggle at a rate of one half the rate seen on pin 14.

i. Pin 31 is Vcc and is +5V referenced to -15V and is -10V referenced to system ground. Pin 11 is -15V, referenced to system ground.

4-6. Megohmmeter A2. (Refer to FO-3.) Power: pin 9 is +15V, pin 8 is -15V, and pins 1 and 10 are ground.

a. Pin 6 should be +15V and is the source for the unknown resistor to be measured. Pin 7 is the input to the megohmmeter and the unknown current from the resistor being measured flows there. It is a virtual ground and should be at OV.

b. Pin 2 is the output to the megohmmeter. It should vary logarithmically from lV to 10V, depending on the unknown resistance being measured.

c. Pins 4 and 5 go to the offset adjust pot. Pins 2 and 3 go to the gain adjust pot.

4-7. Analog/Digital Board A3. (Refer to FO-4.) Power: pin 13 is +15V, pin 23 is -15V, and pin 12 is ground.

a. Pin 9 should be the LO Z voltage. Pins 18, 5, 21, 16, and 14 should go to the single point ground (lugs on teflon sleeve, located next to mode switch).

b. Pin 7 should be a square wave, varying from -15V to ground and shall be approximately 5 Khz (equal to LO Z frequency). Pin 8 is the same square wave, except it is the complement of pin 7.

c. Pins 15, 1 and 4 shall correspond to the three-phase clock, except that they vary from -15V to ground. Pins 15, 1 and 4 correspond to pins 5, 6 and 10 respectively on the Al Digital Board, except for the voltage difference.

d. Pins 10, 6, 11, 20 and 22 go to the calibration adjustment pos.

e. Pin 17 should go high sometime during the period when pin 4 is at ground, unless the unit is over-range. If that is the case, it will go to ground and stay there.

f. Pin 19 is the input from the capacitance being measured. It is a virtual ground and shall be at OV.

4-8. Interface Board A4 (Refer to Fig. 4-6). Power: pin 20 is +15V. Pin 18 is -10V (TTL supply), pin 2 is -15V, and pin 3 is ground.

a. Pins 1,5,7,9, 11, 13, and 15 are inputs from the Al Digital Board and are TTL level signals. Pins 4,6,8,10, 12,14, and 15 correspond to pins 1,5,7,9,11,13, and 15 respectively. The signals are complements of the input signals and vary from -15V to ground.

b. Pin 19 varies from 0 to +15V and pin 17 varies with pin 19 from -15V to -10V (TTL level).

4-9. LO Z Board A5. (Refer to FO-5.) Power: pin 9 is +15V, pin 8 is -15V, and pins 2 and 7 are ground.

a. Pin 6 is a 5 KHz square wave (approx) of TTL level. Pin 1 is a 5 KHz sine wave (approx.); it is the LO Z output.

b. Pin 3 is a square wave, corresponding to the LO Z voltage as shown on Figure 4-7. The output varies between -15V and -10V.

4-91 Power Supply Board A6. (R efer to Fig 4-9). Pin 12 is +15V, pin 14 is –15V and pin 15 is –10V (referenced to system ground). Pin 16 is –7V (unregulated). Pin 13 is ground. Pins 3 through 10 are on T1 secondary. Pins 1 and 2 not used.

4-10. Display Board A7. (Refer to FO-6.) Power: pin 1 is +5(–10V referenced to system gound) and pin 2 is OV (-15V, referenced to system ground). Pin 23 is -7V, unregulated.

a. Pin 10 should show a pulse, approximately 250ns wide (possibly undetectable), corresponding to pin 30 on Al Digital Board.

b. Pin 21 is connected to pin 15 on Al board and should be high unless unit is over-range and should then toggle at a rate half that of pin 10 on Al.

c. Pin 22, connected to pin 13 on A1 Digital board, should be high except when the unit is over-range, then pin 22 should be low.

d. Pins 4,5,6, and 7 represent the least significant digit and should have a BCD count from 1 to 9; the same for pins 8, 9,11,12 and 13,14,15,16 and 17,18,19,20. Each group of four represents a more significant digit and is connected to the outputs of the decade counter on the Al board.

Section III. REPAIR PROCEDURES

4-11. Field Repair. Field repair is limited to replacement of circuit cards and panel-mounted components. Refer to Chapter 3, Section VI.

Section IV. REASSEMBLY AND ALIGNMENT

4-12. Reassembly and Alignment. Not applicable.

Section V. PARTS LIST

4-13. Parts Listing. The following parts list details replaceable parts of the test set.

Table 4-1. Parts List

Fig 1-2 Index Number	Part Number	Nomenclature	Mfgrs. Code
(1)	MS91528-2K2B PA-600/PA-83	Knob Index/switch	 88557
(4) (7)	M39012/24-002 476933	HiZ connector Lo connector	89305
(10)	MR26-010DCVVR per MIL-M-10304/4	Megohmmeter	
(11)	MS91528-2K2B PA-6004	Knob Switch	 88557
(12) (16)	MS25100-23	Toggle switch	
(15)	24011	Thumbwheel switch	07126
(17) (18)	MV125-2B2G HFA-140-A	Microvernier knob Variable capacitor	49956 80583
(19)	MS24525-23	Toggle switch	
-	AGC 1/2	Fuse	71400
-	NE-51H	Glow lamp	71744
-	1000870	Circuit card (A1)	89305
-	1000871	Circuit card (A2)	89305
-	100872	Circuit card (A3)	89305
-	1000840	Circuit card (A4)	89305
-	1000874	Circuit card (A5)	89305
-	1000837	Circuit card (A6)	89305
-	1000876	Circuit card (A7)	89305
-	1000895	Circuit card (A8)	89305

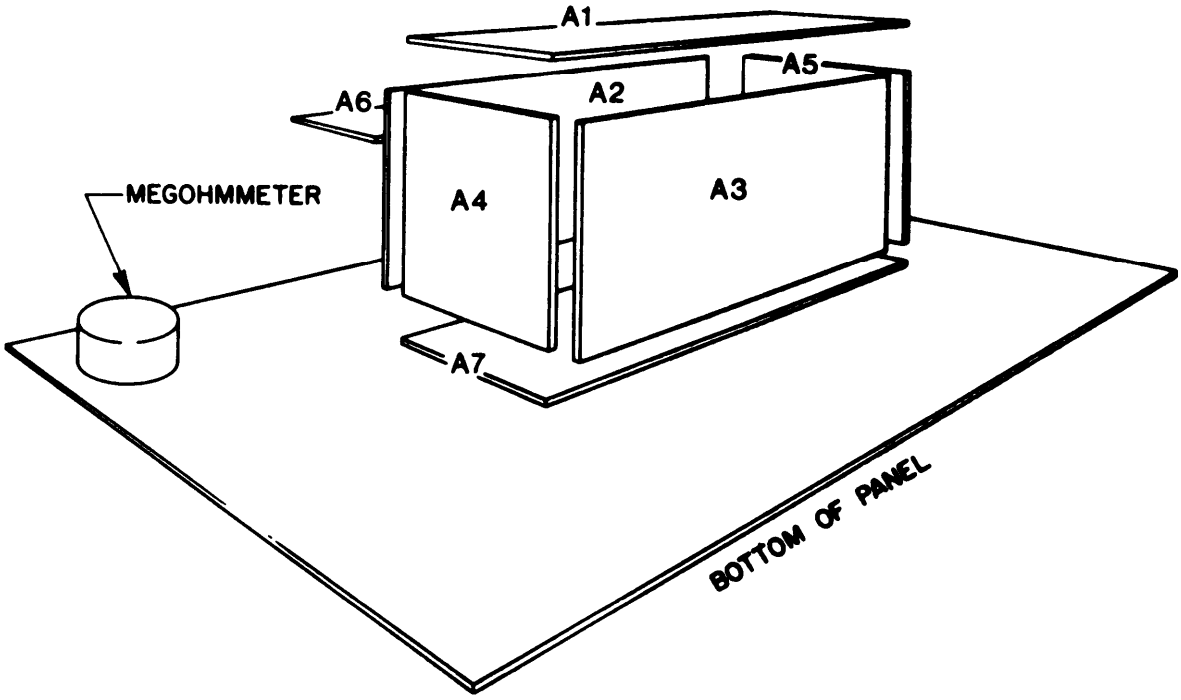


Figure 4-1. Circuit Card Location

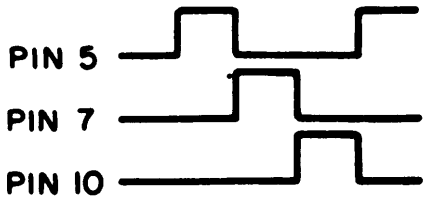


Figure 4-2. Pins 5, 7 and 10 Waveforms

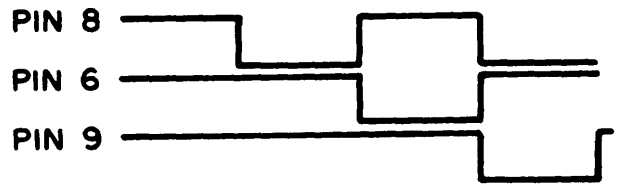


Figure 4-3. Pins 6, 8 and 9 Waveforms

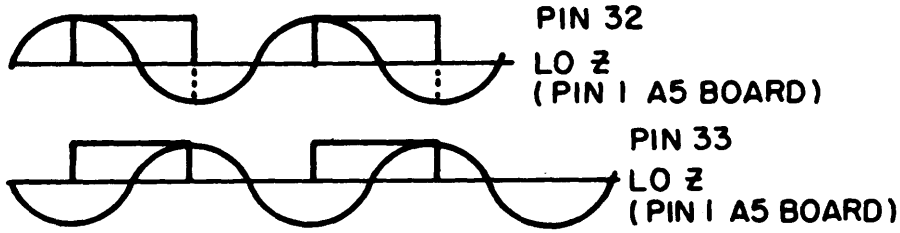
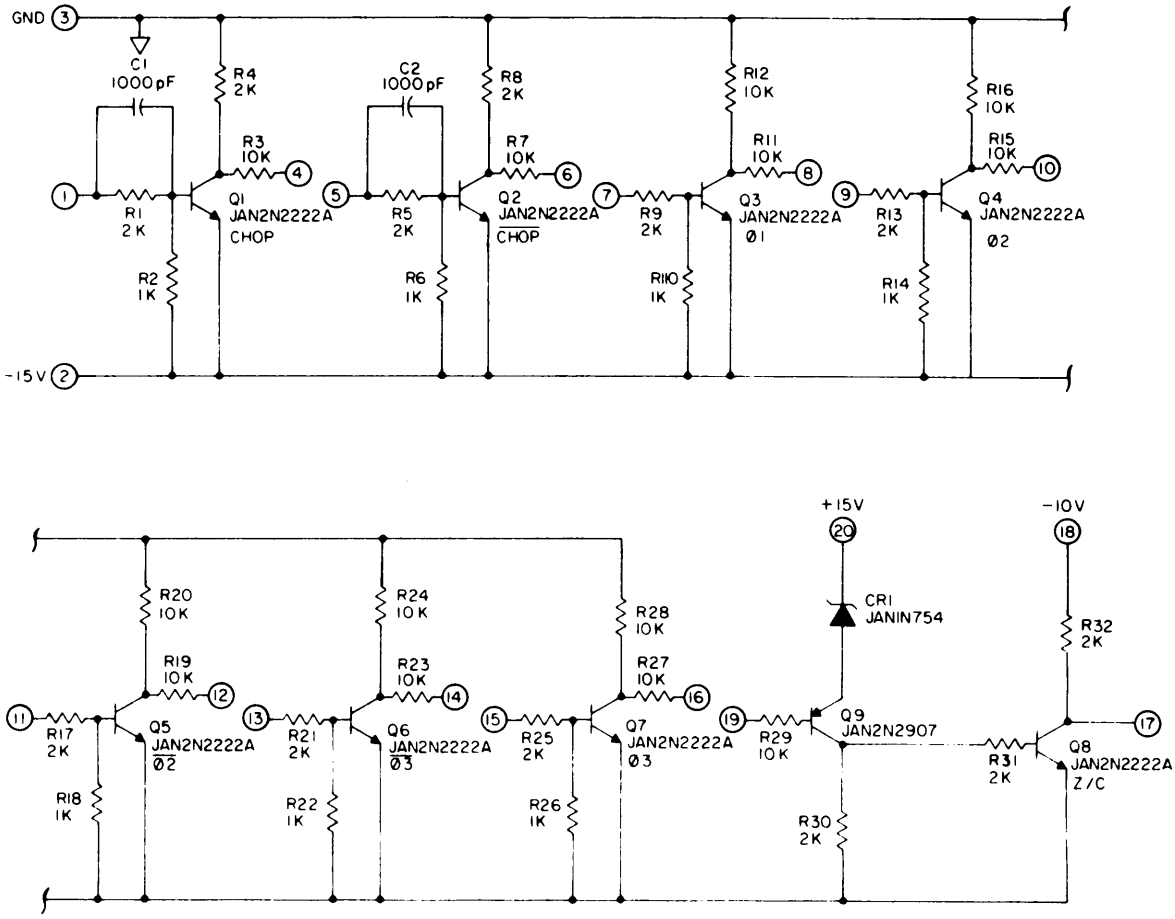
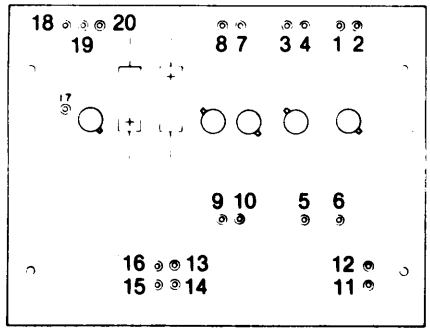


Figure 4-4. Pins 32, 33 Waveforms

Figure 4-5. Pin 29 Waveforms





PIN LOCATION DIAGRAM

Figure 4-6. Interface Board A4.

Figure 4-7. Pin 3 Square Waveforms

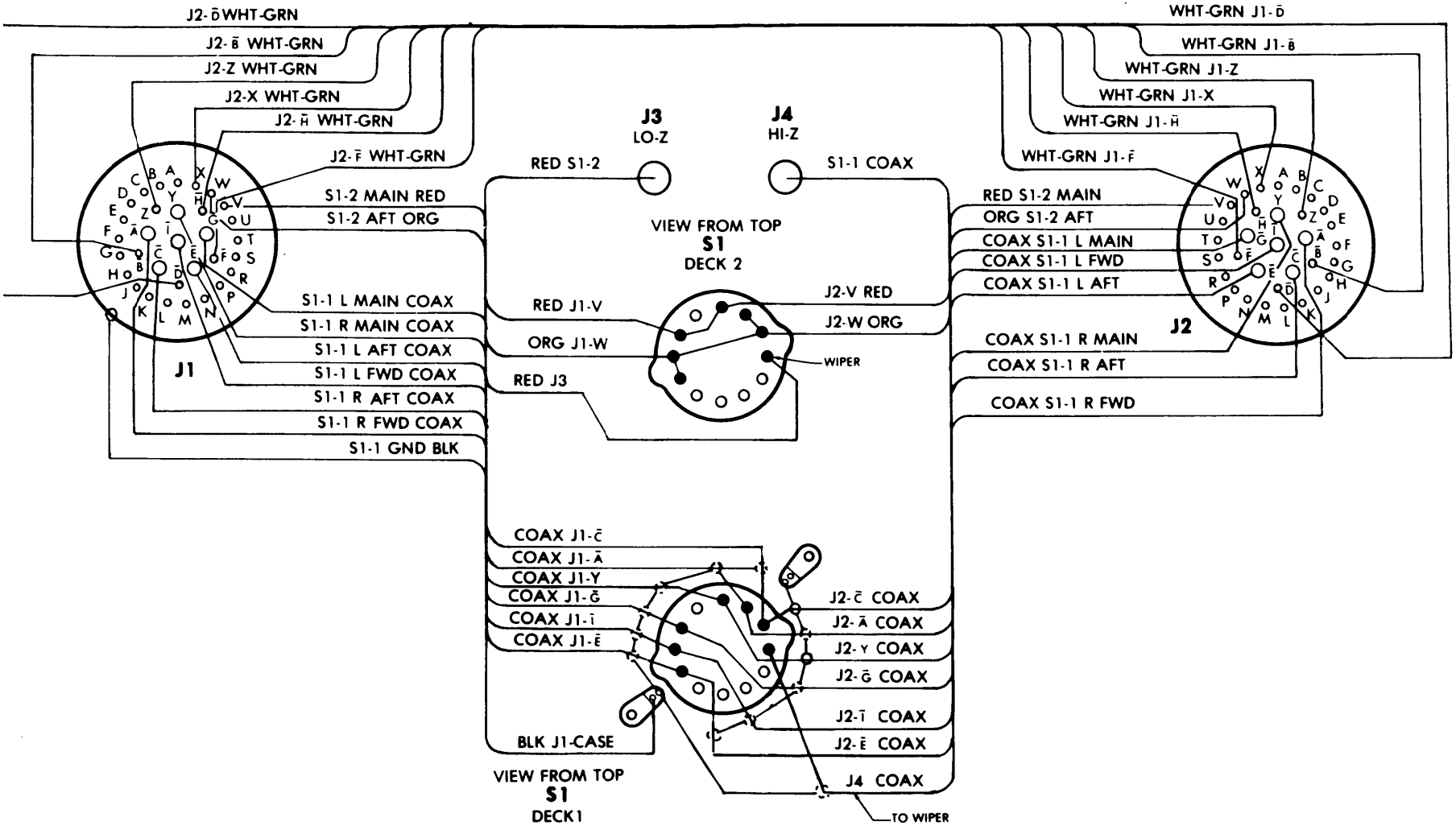


Figure 4-8. Wiring Diagram Test Set.

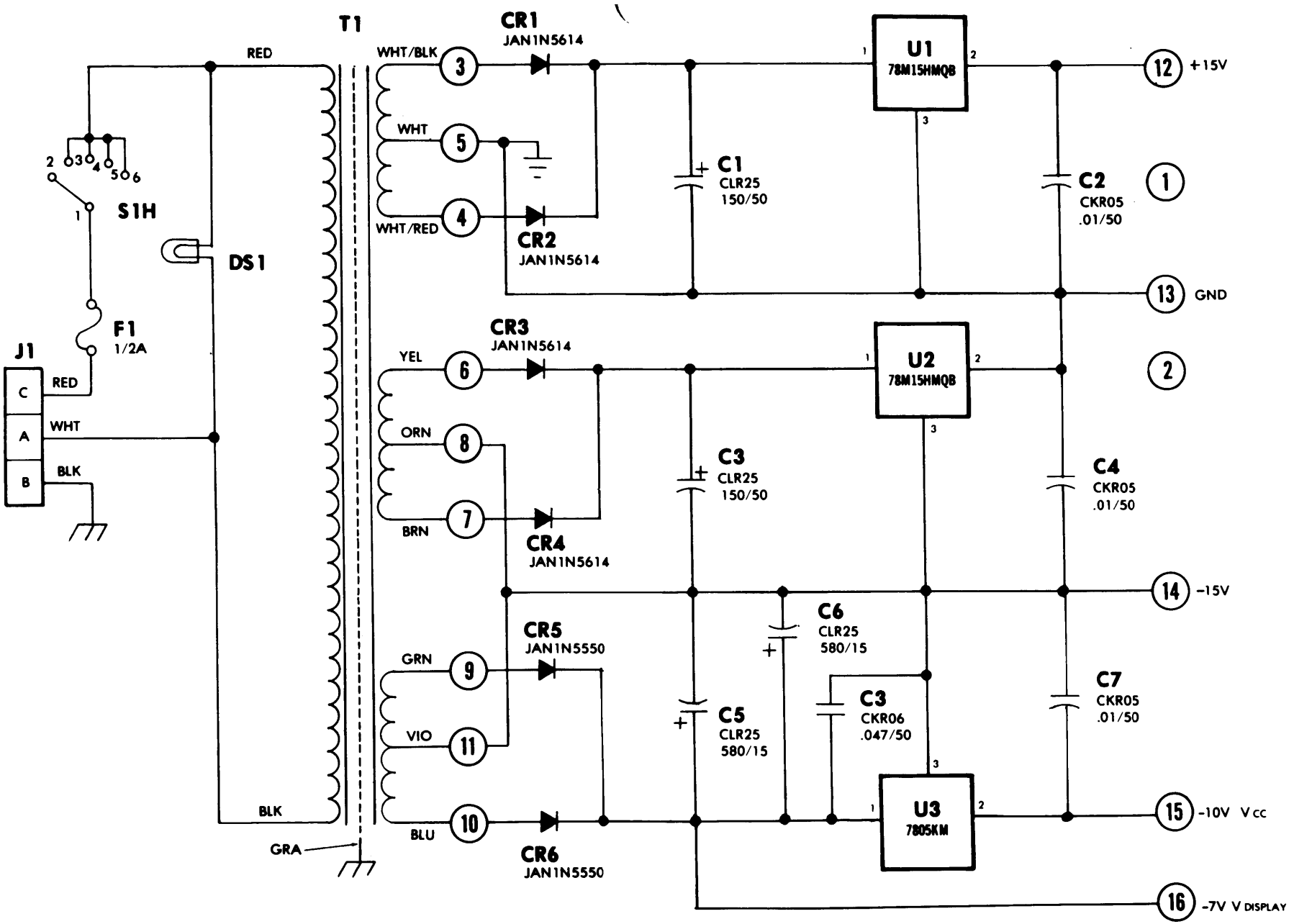


Figure 4-9. Power Supply Board A6.

APPENDIX A

REFERENCES

A-1. Dictionaries of Terms and Abbreviations.

AR 310-25	Dictionary of United States Army Terms
AR 310-50	Authorized Abbreviations and Brevity Codes

A-2. Publication Index.

DA PAM 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders

A-3. Logistics and Storage.

TM 740-00-1	Administrative Storage of Equipment
TM 743-200-1	Storage and Materials Handling

A-4. Maintenance of Supplies and Equipment.

AR 750-1	Army Material Maintenance Concepts and Policies
TM 38-750	The Army Maintenance Management System (TAMMS)
TM 9-213	Painting Instructions for Field Use
TM 55-405-10	Army Aviation Maintenance Engineering Manual; Ground Handling Test and Service Equipment

A-5. Other Publications.

TM 750-244-1-4	Procedures for the Destruction of Aviation Ground Support Equipment (FSC 9420) to Prevent Enemy Use
AR 420-90	Fire Prevention and Protection

APPENDIX B
MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. Maintenance Allocation Chart.

a. This Maintenance Allocation Chart (MAC) assigns maintenance functions in accordance with the Three Levels of Maintenance concept for army aircraft. These maintenance levels: Aviation Unit Maintenance (AVUM), Aviation Intermediate Maintenance (AVIM) and Depot Maintenance are depicted on the MAC as:

AVUM which corresponds to the O code in the Repair Parts and Special Tools List (RPSTL).

AVIM which corresponds to the F code in the Repair Parts and Special Tools List (RPSTL).

Depot which corresponds to the D code in the Repair Parts and Special Tools List (RPSTL).

b. The maintenance to be performed below depot and in the field is described as follows:

(1) Aviation Unit Maintenance (AVUM). AVUM activities will be staffed and equipped to perform high frequency "On-Equipment" maintenance tasks required to retain or return equipment to a serviceable condition. The maintenance capability of the AVUM will be governed by the MAC and limited by the amount and complexity of support equipment, facilities required, and number of spaces and critical skills available. The range and quantity of authorized spare modules/components will be consistent with the mobility requirements dictated by the air mobility concept. (Assignment of maintenance tasks to divisional company size aviation units will consider the overall maintenance capability of the division, the requirement to conserve personnel and equipment resources and air mobility requirements).

(a) Company Size Aviation Units. Perform those tasks which consist primarily of preventive maintenance and maintenance repair and replacement functions associated with sustaining a high level of equipment operational readiness. Perform maintenance inspections and servicing to include daily, intermediate, periodic and special inspections as authorized by the MAC or higher headquarters. Identify the cause of equipment/system malfunctions using applicable technical manual troubleshooting instructions, Built-In-Test Equipment (BITE), installed instruments, or easy to use Test Measurement and Diagnostic Equipment (TMDE). Replace worn or damaged modules/components which do not require complex adjustments or system alignment and which can be removed/installed with available skills, tools and equipment. Perform operational and continuity checks and make minor repairs. Perform servicing, functional adjustments, and minor repair/replacement. Evacuate unserviceable modules/components and end items beyond the repair capability of AVUM to the supporting AVIM.

(b) Less than Company Size Aviation Units. Aviation elements organic to brigade, group, battalion headquarters and detachment size "units are normally small and have less than ten aircraft assigned. Maintenance tasks performed by the aircraft crew chief or assigned aircraft repairman will normally be limited to preventive maintenance inspections, servicing, spot painting, spot drilling, minor adjustments, module/component fault diagnosis and replacement of selected modules/components. Repair functions will normally be accomplished by the supporting AVIM unit.

(2) Aviation Intermediate Maintenance (AVIM). AVIM provides mobile, responsive "One stop" maintenance support. (Maintenance functions which are not conducive to sustaining air mobility will be assigned to depot maintenance.) Performs all maintenance functions authorized to be done at AVUM. Repair of equipment for return to user will emphasize support or operational readiness requirements. Authorized maintenance includes replacement and repair of modules/components and end items which can be accomplished efficiently with available skills, tools, and equipment. Establishes the Direct Exchange (DX) program for AVUM units by repairing selected items for return to stock when such repairs cannot be accomplished at the AVUM level. Inspects, troubleshoots, tests, diagnoses, repairs, adjusts,

calibrates, and aligns system modules/components. Module/component disassembly and repair will support the DX program and will normally be limited to tasks requiring cleaning and the replacement of seals, fittings and items of common hardware. Unserviceable reparable modules/components and end items which are beyond the capability of AVIM to repair will be evacuated to Depot Maintenance. This level will perform special inspections which exceed AVUM capability. Provides quick response maintenance support, on-the-job-training, and technical assistance through the use of mobile maintenance contact teams. Maintenance authorized operational readiness float. Provides collections and classification services for serviceable/unserviceable material. Operates a cannibalization activity in accordance with AR 750-50. (The aircraft maintenance company within the maintenance battalion of a division will perform AVIM functions consistent with air mobility requirements and conservation of personnel and equipment resources. Additional intermediate maintenance support will be provided by the supporting non-divisional AVIM unit).

B-2. Use of the Maintenance Allocation Chart.

a. The MAC assigns maintenance functions to the lowest level of maintenance based on past experience and the following considerations:

(1) Skills available.

(2) Time required.

(3) Tools and test equipment required and/or available.

b. Only the lowest level of maintenance authorized to perform a maintenance function is indicated. If the lowest level of maintenance cannot perform all tasks of any single maintenance function (e.g., test, repair), then the higher maintenance level(s) that can accomplish. additional tasks will also be indicated.

c. A maintenance function assigned to a maintenance level will automatically be authorized to be performed at any higher maintenance level.

d. A maintenance function that cannot be performed at the assigned level of maintenance for any reason may be evacuated to the next higher maintenance organization. Higher maintenance levels will perform the maintenance functions of lower maintenance levels when required or directed by the appropriate commander.

e. The assignment of a maintenance function will not be construed as authorization to carry the associated repair parts in stock. Authority to requisition, stock, or otherwise secure necessary repair parts will be as specified in the repair parts and special tools list appendix.

f. Normally there will be no deviation from the assigned level of maintenance. In cases of operational necessity, maintenance functions assigned to a maintenance level may, on a one-time basis and at the request of the lower maintenance level, be specifically authorized by the maintenance officer to the level of maintenance to which the function is assigned. The special tools, equipment, etc. required by the lower level of maintenance to perform this function will be furnished by the maintenance level to which the function is assigned. This transfer of a maintenance function to a lower maintenance level does not relieve the higher maintenance level of the responsibility of the function. The higher level of maintenance will provide technical supervision and inspection of the function being performed at the lower level.

g. Organizational through depot maintenance of the US Army Electronics Command equipment will be performed by designated US Army Electronics Command personnel.

h. Changes to the MAC will be based on continuing evaluation and analysis by responsible technical personnel and on reports received from field activities.

B-3. Definitions.

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

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

c. Service. To clean, to preserve, to charge, and to add fuel, lubricants, cooling agents and air.

d. Adjust. To rectify to the extent necessary to bring into proper operating range.

e. Aline. To adjust specified variable elements of an item to bring to optimum performance.

f. Calibrate. To determine the corrections to be made in the readings of instruments or test equipment used in precise measurement. Consists of the comparison of two instruments, one of which is a certified standard of known accuracy, to detect

and adjust any discrepancy in the accuracy of the instrument or test equipment being compared with the certified standard.

g. Install. To set up for use in an operational environment such as an emplacement, site or vehicle.

h. Replace. To replace unserviceable items with serviceable assemblies, subassemblies or parts.

i. Repair. To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This includes, but is not limited to, inspection, cleaning, preserving, adjusting, replacing, welding, riveting, and strengthening.

j. Overhaul. To restore an item to a completely serviceable condition as prescribed by maintenance serviceability standards prepared and published for the specific item to be overhauled.

k. Rebuild. To restore an item to a standard as nearly as possible to the original or new condition in appearance, performance, and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements (items) using original manufacturing tolerances and specifications, and subsequent reassembly of the item.

B-4. Functional Groups. Standard functional groupings are not considered feasible for aviation ground support equipment due to variation and complexity. Therefore, variations to functional groupings may occur.

B-5. Maintenance Categories and Work Times. The maintenance categories (levels) AVUM, AVIM, and DEPOT are listed on the Maintenance Allocation Chart with individual columns that indicate the work times for maintenance functions at each maintenance level. Work time presentations such as 0.1 indicate the average time it requires a maintenance level to perform a specified maintenance function. If a work time has not been established, the columnar presentation shall indicate "-Ž-". Maintenance levels higher than the level of maintenance indicated are authorized to perform the indicated function.

B-6. Tools and Test Equipment (Section III). Common tool sets (not individual tools), special tools, test and support equipment required to perform maintenance functions are listed alphabetically with a reference number to permit cross-referencing to column 5 in the MAC. In addition, the maintenance category authorized to use the device is listed along with the item National Stock Number (NSN) and, if applicable, the tool number to aid in identifying the tool/device.

Section II. MAINTENANCE ALLOCATION CHART

NOMENCLATURE OF END ITEMS

Fuel Quantity Gage Test Set - PN 47090-002 - NSN 4920-01-028-0624

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY			(5) TOOLS AND EQUIPMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
00	Fuel Quantity Gage Test Set						
01	Carrying Case Assembly	Replace		2.0		106	
		Repair			1.	109	
		Service		.3			A
	Operating Instructions Placard	Replace				106	
02	Front Panel Assembly	Replace		1.5		106	
		Repair		2.0		109	B
	Panel Subassembly	Replace		.5		106	
		Repair		1.2		109	B
		Test		.5		109	C
	Calibration Adjustment Cover Plate	Replace		.5		106	
		Repair		1.		109	B
		Adjust		.2		106	C
	Support Stand Assembly	Replace		.1		106	
	Transformer Plate Assembly	Replace		.5		106	
		Repair		1.		109	
		Test		.5		109	
03	Circuit Card Assemblies	Replace		.2		106	
		Repair		2.0		109	
		Test		.5		109	B
04	Cables, Adapter Cables and Accessories						
	Cable Assemblies	Replace		.3		106	
		Repair		.5		109	B
		Test		.3		109	C
	Adapter Cables	Replace		.3		106	
		Repair		.5		109	B
		Test		.2		109	C
	Switch Box Assembly	Replace		.5		106	
		Repair		1.		109	B
	Shorting Plug	Replace		.2		106	
		Repair		1.		109	B
		Test		.3		109	C

REMARKS

FUEL QUANTITY GAGE TEST SET

Reference Code	Remarks
A	External only
B	Use available equipment from shop set
C	Operational test on unit

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENT

	MAINT. CAT.	REF. NO.	NATIONAL STOCK NUMBER	TOOL NO.
100	0	TOOL SET,AVUM, SET NO.1	4920-00-159-8727	SC492099CLA90
101	O	TOOL SET,AVUM, SET NO.2	4920-00-567-0476	SC492099CLA92
102	O	TOOL KIT,ACFT MECH GEN	5180-00-323-4692	SC518099CLA01
103	O	TOOL KIT,ARFRM RPMN	5180-00-323-4876	SC518099CLA02
104	O	TOOL KIT,HYD RPMN	5180-00-323-4891	SC518099CLA03
105	O	TOOL KIT,INSTR RPMN	5180-00-323-4913	SC518099CLA05
106	O	TOOL KIT,ELEC RPMN	5180-00-323-4915	SC518099CLA06
107	O	TOOL KIT,ENG RPMN	5180-00-323-4944	SC518099CLA07
108	O	TOOL KIT,PWR TRN	5180-00-003-5267	SC518099CLA13
109	F	SHOP SET,AVIM, ELEC-INSTR	4920-00-165-1453	SC492099CLA91ELAM
110	F	SHOP SET,AVIM,HYD	4920-00-165-1454	SC492099CLA91HYAM
111	F	SHOP SET,AVIM, MACHINE STOP	4920-00-405-9279	SC492099CLA91MAAM
112	F	SHOP SET,AVIM, PWR TRN	4920-00-001-4132	SC492099CLA91PTAM
113	AVIM	SHOP SET,AVIM, RTR SHOP	4920-00-405-9270	SC492099CLA91ROAM
114	AVIM	SHOP SET,AVIM, SHEET METAL	4920-00-166-5505	SC492099CLA91SMAM
115	AVIM	SHOP SET,AVIM, TOOL CRIB	4920-00-472-4183	SC492099CLA91TCAM
116	AVIM	SHOP SET,AVIM, TURBINE ENG	4920-00-224-3684	492099CLA91ENTAM
117	AVIM	SHOP SET,AVIM, WELDING	4920-00-1263-5093	492099CLA91WEAM

APPENDIX C
REPAIR PARTS AND SPECIAL TOOLS LIST
(Current as of 12 December 1980)

Section I. INTRODUCTION

C-1. Scope.

This appendix lists spares and repair parts required for performance of Aviation Intermediate Maintenance (AVIM) and Depot Maintenance of the Fuel Quantity Gage Test Set, P/N 472090-002. It authorizes the requisitioning and issue of spares and repair parts as indicated by the source and maintenance codes.

C-2. General.

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

a. Section II. Repair Parts List. A list of spares and repair parts authorized for use in the performance of maintenance. Parts list are composed of functional groups in numeric sequence, with the parts in each group listed in figure and item number sequence.

b. Section III. Special Tools List. Not applicable.

c. Section IV. National Stock Number and Part Number Index. A list in National Item Identification Number (NIIN) sequence of all National Stock numbers (NSN) appearing in the listings, followed by a list, in alphameric sequence, of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

C-3. Explanation of Columns.

a. ***Illustration.*** This column is divided as follows:

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

(2) Item Number. The number used to identify each item called out in the illustration.

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

(1) Source Code. Source codes indicate the manner of acquiring support items for maintenance, repair or overhaul of end items. Source codes are entered in the first and second positions of the Uniform SMR Code format as follows:

Code		Definition
PA	- - -	Item procured and stocked for anticipated or known usage.
PB	- - -	Item procured and stocked for insurance purpose because essentiality dictates that a minimum quantity be available in the supply systems.
PC	-——	Item procured and stocked and which otherwise would be coded PA except that it is deteriorative in nature.
XA	- - -	Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
XB	— --	Item is not procured or stocked if not available through salvage requisition.
XD	- - -	A support item that is not stocked. When required item will be procured throught normal supply channels.

NOTE

Cannibalization or 8alvage may be used as a source of supply for any items source coded above except the coded XA and aircraft support items as restricted by AR 700-42.

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

(a) The maintenance code entered in the third position will indicate the lowest maintenance

level authorized to remove, replace and use the support item. The maintenance code entered in the third position will indicate one of the following levels of maintenance:

Code	Application/Explanation
F — --	Support item is removed, replaced, used at the Aviation Intermediate Maintenance level.
D - - -	Support items that are removed replaced, used at depot, mobile depot, specialized repair activity only.

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

Code	Application/Explanation
F -——	The lowest maintenance level capable of complete repair of the support item is the Aviation Intermediate Maintenance level.
D - - -	The lowest maintenance level capable of complete repair of the support item is the depot level.
z -—-	Nonreparable. No repair is authorized.

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

Code	Definition
Z -—-	Nonreparable item. When unserviceable, condemn and dispose at the level indicated in position 3.
F - - -	Reparable item. When uneconomically reparable, condemn and dispose at the Aviation Intermediate Maintenance level.
D - - -	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal not authorized below depot level.

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

d. Part Number. Indicates the primary number used by the manufacturer (individual, company, firm corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards and inspection requirements, to identify an item or range of items.

NOTE

When a stock numbered item is requisitioned, the item received may have a different part number than the part being replaced.

e. Federal Supply Code for Manufacturer (FSCM). The FSCM is a 5-digit numeric code listed in SB 708-42 which is used to identify the manufacturer, distributor, or Government agency, etc.

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

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

h. Quantity Incorporated in Unit. Indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that no specific quantity is applicable (e.g., shims, spacers, etc.).

C-4. Special Information.

Not applicable.

C-5. How to Locate Repair Parts.

a. When National Stock Number or Part Number is Unknown:

(1) First. Find the illustration covering the assembly to which the item belongs.

(2) Second. Identify the item on the illustration and note the illustration figure and item number of the item.

(3) Third. Using the Repair Parts Listing, find the figure and item number noted on the illustration.

b. When National Stock Number or Part Number is known.

(1) First. Using the Index of National Stock

Numbers and Part Numbers, find the pertinent National stock number or part number. This index is in ascending NIIN sequence followed by a list of part numbers in alphameric sequence, cross-referenced to the illustration figure number and item number.

(2) Second After finding the figure and item number, locate the figure and item number in the repair parts list.

C-6. Abbreviation.

Not applicable.

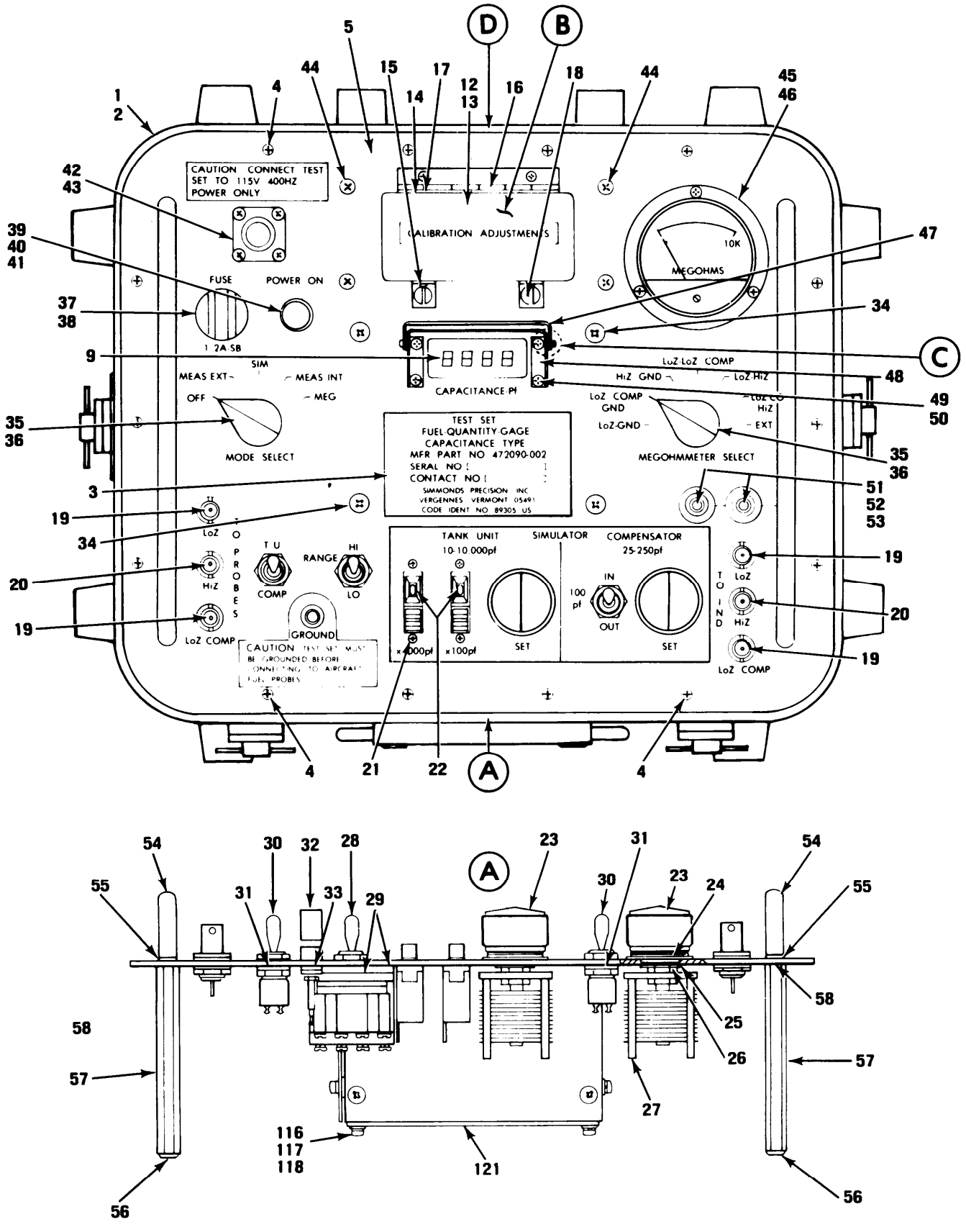


Figure C-1. Case and Front Panel Assembly (Sheet 1 of 4)

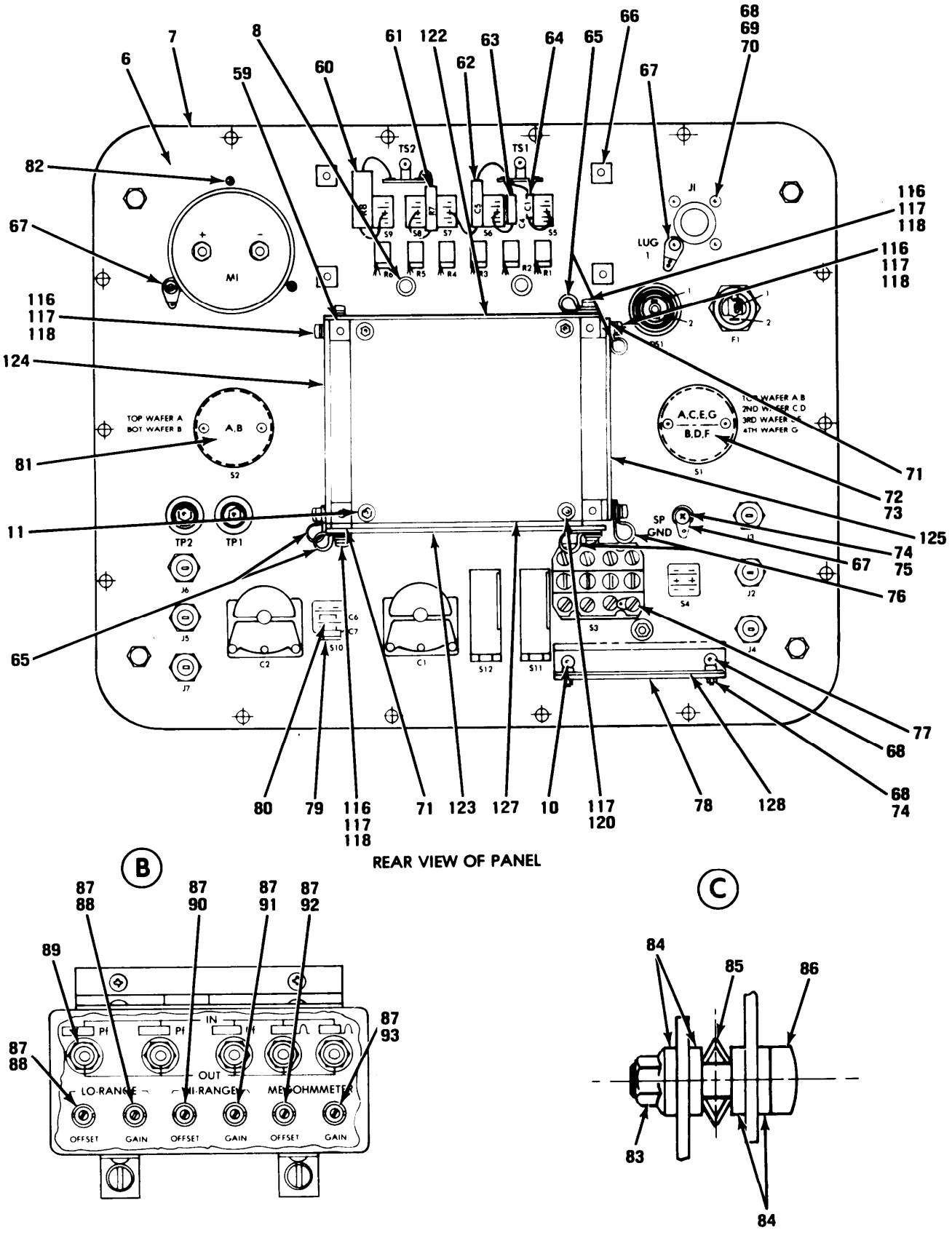


Figure C-1. Case and Front Panel Assembly (Sheet 2 of 4)

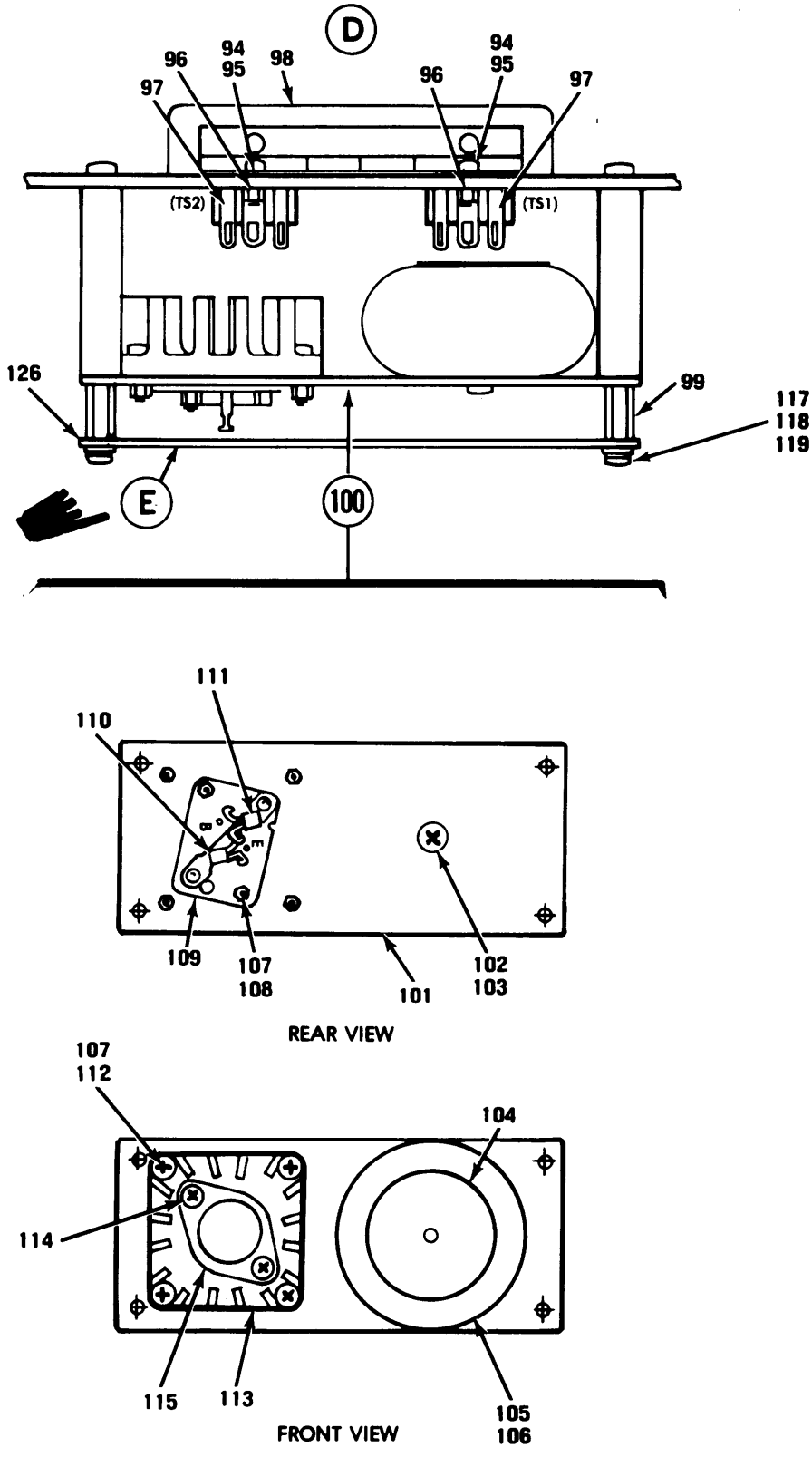


Figure C-1. Case and Front Panel Assembly (Sheet 3 of 4)

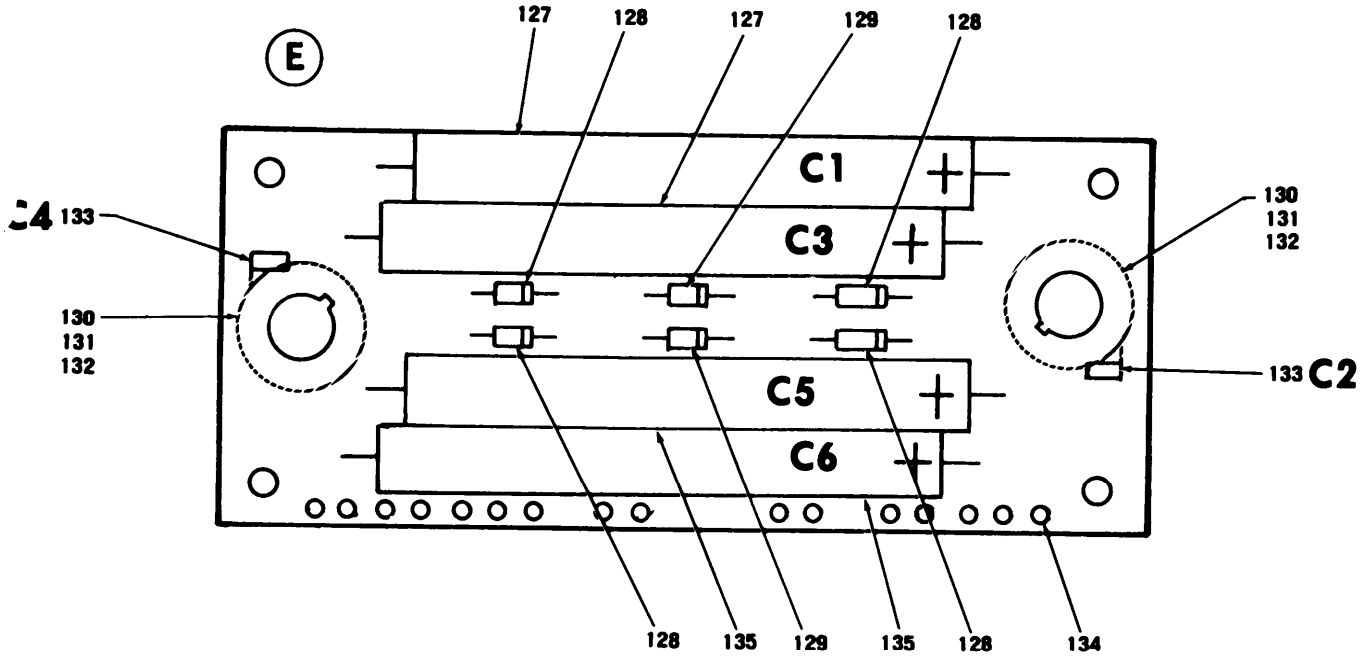


Figure C-1. Circuit Card Assembly, Power Supply A6 (Sheet 4 of 4)

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 01 CARRYING CASE			
C-1	1	XDFZZ		1000806	89305				
C-1	2	XDFZZ		1000976	89305	PLACARD,OPERATING INSTRUCTIONS		EA	1
C-1	3	XDFZZ		1000960	89305	PLATE,IDENTIFICATION		EA	1
C-1	4	XDFZZ		048282-036	89305	SCREW PANHEAD		EA	14
						GROUP 02 FRONT PANEL ASSEMBLY			
C-1	5	XDFZZ		1000868	89305	FRONT PANEL ASSEMBLY		EA	1
C-1	6	XDFFF		1000817	89305	.PANEL SUB ASSEMBLY		EA	1
C-1	7	XDFZZ		1000800	89305	..PANEL,TEST SET		EA	1
C-1	8	XDFZZ		BS-632-2	46384	..FASTENER,BLIND		EA	2
C-1	9	XDFZZ		1000914	89305	..FILTER,DISPLAY		EA	1
C-1	10	XDFZZ		CFHC-440-6	46384	..STUD,CLINCH		EA	5
C-1	11	XDFZZ		CFHC-632-6	46384	..STUD,CLINCH		EA	4
C-1	12	XDFFF		1000816	39305	..COVER ASSEMBLY		EA	1
C-1	13	XDFFF		1000815	89305	..COVER SUB ASSEMBLY		EA	1
C-1	14	XDFZZ		1000812	89305	...COVER		EA	1
C-1	15	XDFZZ		1000813	89305	...BRACKET FASTENER		EA	2
C-1	16	XDFZZ		1000814	89305	...HINGE,COVER		EA	1
C-1	17	XDFZZ		MS20470-83-3	96906	...RIVET,SOLID		EA	6
C-1	18	XDFZZ		51-18-406-24	94222	..SCREW ASSEMBLY		EA	2
C-1	19	XDFZZ		476933	89305	.CONNECTOR,RECEPTACLE-LO Z		EA	4
C-1	20	XDFZZ		M39012/24-0002	81349	.CONNECTOR,RECEPTACLE-HI Z		EA	2
C-1	21	PBFZZ	5305-00-455-2498	MS51959-48	96906	.SCREW,MACHINE		EA	4
C-1	22	XDFZZ		24011	07126	.SWITCH,THUMBWHEEL		EA	2
C-1	23	XDFZZ		MV125-282G	01803	.KNOB,MICROVERN		EA	2
C-1	24	XDFZZ		1000819	89305	.BUSHING,INSUL		EA	2
C-1	25	XDFZZ		1000907	89305	.GASKET SEAL		EA	2
C-1	26	XDFZZ		1000820	890305	.WASHER,INSULATING		EA	2
C-1	27	XDFZZ		HFA-140-A	80553	.CAPACITOR		EA	2
C-1	28	PBFZZ	5930-00-660-3954	MS24525-23	96906	.SWITCH,TOGGLE		EA	1
C-1	29	XDFZZ		1000845	89305	.GASKET SEAL		EA	2
C-1	30	PBFZZ	5930-00-655-1508	MS25100-23	96906	.SWITCH,TOGGLE		EA	2
C-1	31	XDFZZ		1000822-3	89305	.GASKET SEAL		EA	2
C-1	32	XDFZZ		0938-9731	24655	.BINDING POST ASSY		EA	1
C-1	33	XDFZZ		1000822-1	89305	.GASKET,SEAL		EA	1
C-1	34	XDFZZ		048350-035	89305	.SCREW,PAN HEAD		EA	4
C-1	35	XDFZZ		MS91528-2K2B	96906	.KNOB,CONTROL		EA	2
C-1	36	XDFZZ		M5423/09-02-2	81349	.BOOT,DUST		EA	2
C-1	37	PBFZZ	5920-01-085-4797	F02 1/2A	71400	.FUSE,CARTRIDGE		EA	1

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-1	38	XDFZZ	5920-00-881-6584	FH117C2	81349	.FUSEHOLDER,IND		EA	1
C-1	39	XDFZZ		LC14CN3	81349	.LENS,INDICATOR		EA	1
C-1	40	XDFZZ		NE-51H	71744	.LAMP,GLOW		EA	1
C-1	41	XDFZZ	6210-00-843-5378	LH76/1	81349	.HOUSING,INDICATOR		EA	1
C-1	42	PBFZZ	5935-00-726-0708	MS2102R10SL3P	96906	.CONNECTOR,RECEPTACL		EA	1
C-1	43	PBFZZ	5330-00-641-2389	10-40450-10	77820	.GASKET		EA	1
C-1	44	XDFZZ		048350-025	89305	.SCREW,PAN HEAD		EA	4
C-1	45	XDFZZ		MIL-M-10304/4	81349	.METER,PANEL		EA	1
C-1	46	PBFZZ	5330-01-082-8733	1000820	89305	.GASKET		EA	1
C-1	47	XDFZZ		1000829	89305	.SHIELD,SUN		EA	1
C-1	48	XDFZZ		048350-001	89305	.SCREW,PAN HEAD		EA	4
C-1	49	XDFZZ		1000828	89305	.BRACKET,MTG		EA	1
C-1	50	XDFZZ		1000824	89305	.GASKET,BRKT		EA	2
C-1	51	XDFZZ		0928-9734	24655	.BINDING POST		EA	2
C-1	52	XDFZZ		0938-9822	24655	.BINDING POST		EA	2
C-1	53	XDFZZ		1000906-1	89305	.GASKET,SEAL		EA	2
C-1	54	XDFZZ		H-9113-B	71213	.HANDLE,PANEL		EA	2
C-1	55	XDFZZ		1000906-2	89305	.GASKET SEAL		EA	4
C-1	56	XDFFF		1000827 PA-60C	89305	.SUPPORT,STND		EA	4
C-1	57	XDFZZ		1000825	89305	..STAND,SUPPORT		EA	1
C-1	58	XDFZZ		1000826	89305	..STUD,THREADED		EA	4
C-1	59	XDFZZ		1000833	89305	.POST,PWB		EA	4
C-1	60	XDDZZ		MOX-1A-100M	63060	.RESISTOR		EA	1
C-1	61	XDDZZ		RNR65H1004FM	81349	.RESISTOR		EA	1
C-1	62	XDDZZ		VY20CA512KA	95275	.CAPACITOR		EA	1
C-1	63	XDDZZ		VY15CA911KA	95275	.CAPACITOR		EA	1
C-1	64	XDDZZ		VY10CA100KA	95275	.CAPACITOR		EA	1
C-1	65	XDFZZ		1/4-2	95987	.CLAMP,CABLE		EA	2
C-1	66	XDFZZ		1000831	89305	.POST PWR SUPPLY		EA	4
C-1	67	XDFZZ		N0505	79963	.LUG,SOLDER		EA	1
C-1	68	PBFZZ	5310-00-845-2359	NAS1291004M	80205	.NUT,SELF-LOCKING,EX		EA	8
C-1	69	PBFZZ	5310-00-595-6211	MS15795-803	96906	.WASHER,FLAT		EA	4
C-1	70	XDFZZ		048350-005	09305	.SCREW,PANHEAD		EA	7
C-1	71	XDDZZ		1000908	89305	.SPACER,BOARD		EA	12
C-1	72	XDDZZ		PA-600	14623	.SWITCH,INDEX		EA	1
C-1	73	XDFZZ		PA-83	14623	.SWITCH,INDEX		EA	4
C-1	74	XDFZZ		MS15957-13	96906	.SCREW,PANHEAD		EA	3
C-1	75	XDFZZ		1000915	89305	.POST INSULATOR		EA	
C-1	76	XDFZZ		044295-2	89305	.CLAMP,CABLE		EA	2

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-1	77	XDFZZ		044405	89305	.LUG		EA	12
C-1	78	XDFZZ		1000910	89305	.BRACKET,MTG		EA	1
C-1	79	XDDOZ	CMR05C150JPDM	CMPC5C150JPDM	81349	.CAPACITOR		EA	
C-1	80	XDDZZ	CMR05F101FPDM	CMPC5F101FPDM	81349	.CAPACITOR		EA	1
C-1	81	XDDZZ		020902	89305	.SWITCH,CERAMIC		EA	1
C-1	82	XDFZZ		048282-015	89305	.SCREW,SEALING		EA	3
C-1	83	PBFZZ	5310-00-813-6950	NAS1291C02M	80205	.NUT,SELF-LOCKING,EX		EA	2
C-1	84	PBFZZ	5310-00-043-4708	NAS62CC2	80205	.WASHER,FLAT		EA	8
C-1	85	XDFZZ		06-20	00141	.WASHER,SPRING		EA	4
C-1	86	PBFZZ	5305-00-054-5637	MS51957-3	96906	.SCREW,MACHINE		EA	2
C-1	87	PBFZZ	5310-01-037-8168	469079	89305	.NUT,PLAIN,ROUND		EA	6
C-1	88	PBDZZ	5905-01-090-0348	16CS-2K	17826	.POTENTIOMETER		EA	1
C-1	89	PBDZZ	5930-00-225-7111	MS24655-231	96906	.SWITCH,TOGGLE		EA	5
C-1	90	XDDZZ		160S-500	17826	.POTENTIOMETER		EA	
C-1	91	PBDZZ	5905-01-090-0349	16CS-200	17826	.POTENTIOMETER		EA	1
C-1	92	PBDZZ	5905-00-760-9575	16CS-10K	17826	.RESISTOR,VARIABLE W		EA	1
C-1	93	PBDZZ	5905-01-087-0735	160S-20K	17826	.POTENTIOMETER		EA	1
C-1	94	PBFZZ	5310-00-934-9748	MS35649-244	96906	.NUT,PLAIN,HEXAGON		EA	2
C-1	95	XDFZZ		04835C-3	89305	.SCREW,PAN HEAD		EA	2
C-1	96	XDFZZ		LOCC822-4	89305	.GASKET,SEAL		EA	2
C-1	97	XDFZZ		864	83330	.TERMINAL STRIP		EA	2
C-1	98	XDFZZ		10CC959	89305	.CAL ADJ		EA	1
C-1	99	XDFZZ		9739-A-0632	06540	.STANDOFF		EA	4
C-1	100	PBDDD	5999-01-087-8549	10CC863	89305	.TRANSFORMER PLATE A		EA	1
C-1	101	XDDZZ		100832	89305	..PLATE MTG		EA	1
C-1	102	XDDZZ		MS51957-49	96906	..SCREW,MACHINE		EA	1
C-1	103	PBDZZ	5310-00-933-8119	MS35328-137	96906	...WASHER,LOCK		EA	1
C-1	104	XDDZZ		468587-012	89305	..RETAINER,TRANSFORMER		EA	1
C-1	105	PBDZZ	5950-01-086-9407	1000957	89305	..TRANSFORMER,POWER		EA	1
C-1	106	XDDZZ		469278-008	89305	..CUSHION,TRANSFORMER		EA	1
C-1	107	XDDZZ		MS21043-06	96906	..NUT, SELF-LOCKING		EA	6
C-1	108	PBFZZ	5305-00-763-6963	MS51959-28	96906	..SCREW,MACHINE		EA	2
C-1	109	XDDZZ		MK-15	04713	..MOUNTING,BRACKET		EA	1
C-1	110	XDDZZ		M39014/01-1474	81349	..CAPACITOR,FIXED		EA	1
C-1	111	XDDZZ		M39014/02-1240	81349	..CAPACITOR,FIXED		EA	1
C-1	112	PBDZZ	5305-00-054-6653	MS51957-29	96906	..SCREW,MACHINE		EA	4
C-1	113	XDDZZ		020922	89305	..HEAT, DISSIPATOR		EA	1
C-1	114	PBDZZ	5305-00-054-6655	MS51957-31	96906	..SCREW,MACHINE		EA	2
C-1	115	XDFZZ		78C5KM	07263	..VOLTAGE REGULATOR		EA	1
C-1	116	PBOZZ	5305-00-054-6654	MS51957-30	96906	SCREW,MACHINE		EA	20

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-1	117	PBDZZ	5310-00-773-7624	NAS62006	80205	.WASHER,FLAT	EA	14
C-1	118	PBDZZ	5310-00-929-6395	MS35338-136	96905	WASHER,LOCK	EA	24
C-1	119	PBDZZ	5305-00-054-6652	MS51857-28	96905	SCREW,MACHINE	EA	4
C-1	120	PBDZZ	5310-00-878-9518	NAS1291006M	80205	NUT, SELF-LOCKING,EX	EA	4
C-1	121	PBFZZ	4920-01-081-3008	1000870	89305	CIRCUIT CARD ASSEMB A1-DIGITAL BOARD	EA	1
C-1	122	PBFZZ	4920-01-088-6786	1000871	89305	CIRCUIT CARD ASSEMB A2-MEGOMMETER BOARD	EA	1
C-1	123	PBFZZ	4920-01-081-3009	1000872	89305	CIRCUIT CARD ASSEMB A3-ANALOG BOARD	EA	1
C-1	124	PBFZZ	4920-01-081-3010	1000840	89305	CIRCUIT CARD ASSEMB A-4 INTERFACE BOARD	EA	1
C-1	125	PBFZZ	4920-01-081-3011	1000874	89305	CIRCUIT CARD ASSSEMB A5-LO-Z FILTER BOARD	EA	1
C-1	126	PBFZZ	4920-01-086-1683	1000837	89305	CIRCUIT CARD ASSEMB A6-POWER SUPPLY	EA	1
C-1	127	PAFZZ	5910-00-161-3437	M39006-01-3046	81349	CAPACITOR	EA	2
C-1	128	PBDZZ	5961-00-237-2384	JAN1N5614	81349	DIODE	EA	4
C-1	129	PAFZZ	5961-00-421-3002	JAN N5550	81349	DIODE	EA	2
C-1	130	PAFZZ	5962-01-062-5813	78M15HMQB	34148	MICRO CIRCUIT	EA	2
C-1	131	PAFZZ	5999-00-147-9775	2226B	13103	HEAT SINK	EA	2
C-1	132	XDFZZ	5999-00-060-1681	7717-10G	13103	MOUNTING PAD	EA	2
C-1	133	PAFZZ		M39014/01-1514	81349	CAPACITOR	EA	2
C-1	134	PAFZZ	5940-00-082-4869	SE12XC01Z	81349	TERMINAL STUD	EA	16
C-1	135	PAFZZ	5910-00-004-5773	M39006/01-3033	81349	CAPACITOR	EA	2
C-1	136	PBFZZ	4920-01-081-3012	1000876	89305	CIRCUIT CARD ASSEMB A7-DISPLAY BOARD	EA	1
C-1	137	PBFZZ	4920-01-081-3013	1000895	89305	CIRCUIT CARD ASSEMB A8-CAP SUBSTITUTION	EA	1

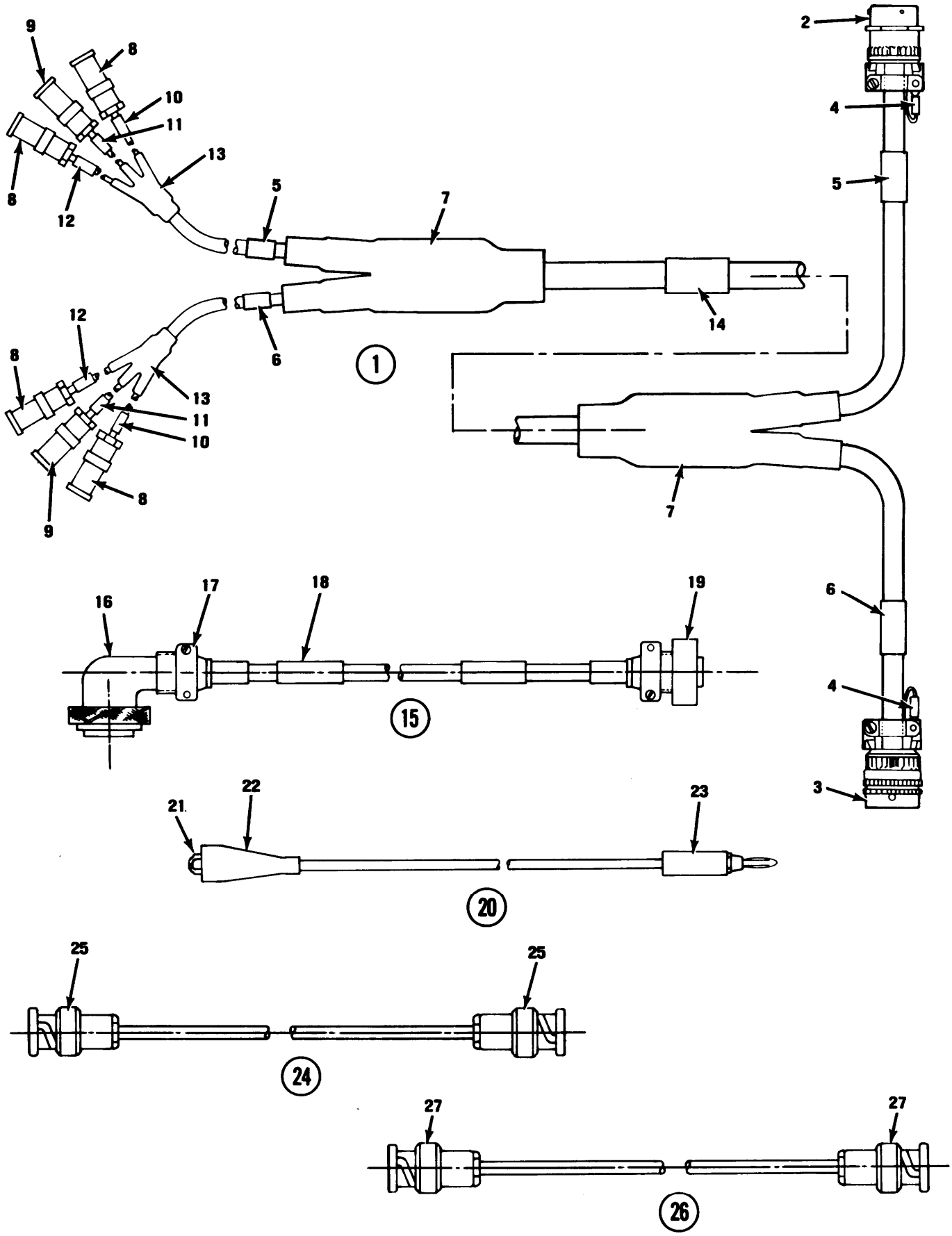


Figure C-2. Cables, Adapter Cables and Accessories (Sheet 1 of 3)

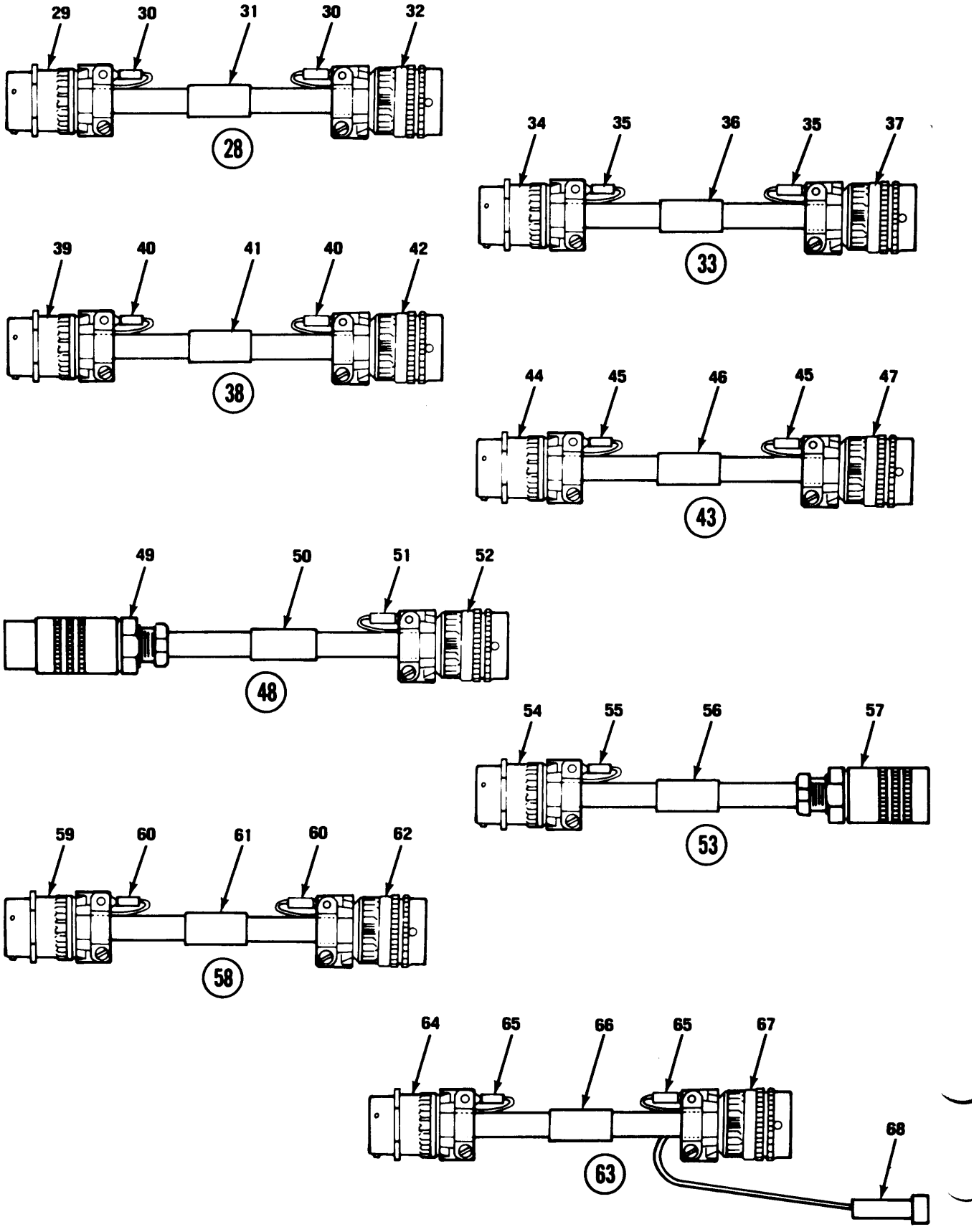


Figure C-2. Cables, Adapter Cables and Accessories (Sheet 2 of 3)

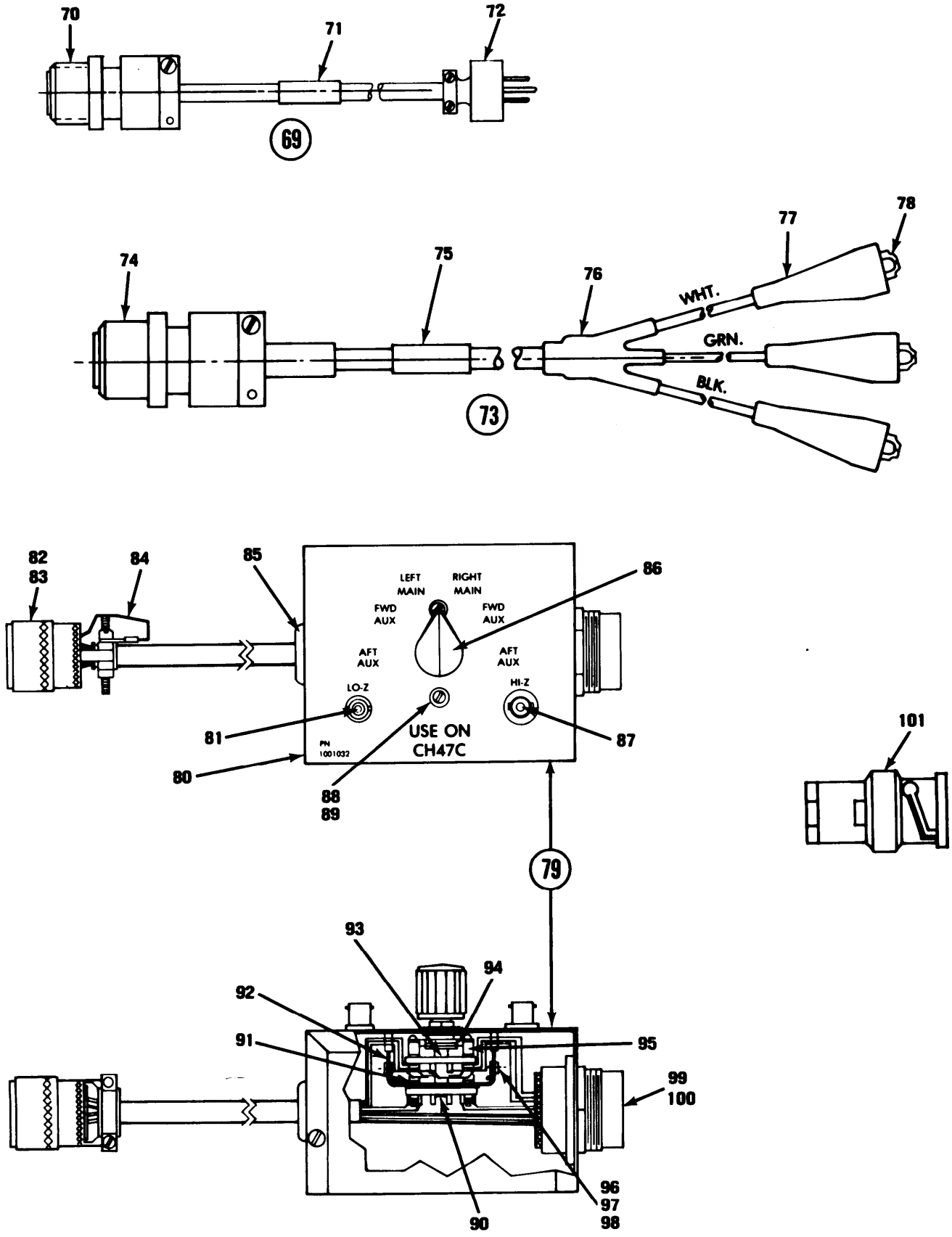


Figure C-2. Cables, Adapter Cables and Accessories (Sheet 3 of 3)

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 04 CABLES, ADAPTER CABLES AND ACCESSORIES			
C-2	1	PAFFF	4920-01-081-3001	1000963	89805	CABLE ASSEMBLY,SPEC MASTER-CH-548		EA	1
C-2	2	PAFZZ	5935-00-014-6523	MS2111F14-19P	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	3	PAFZZ	5935-00-779-8295	MS3116F14-19S	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	4	XDFZZ	5940-00-204-8966	2-36151-2	00779	.TERMINAL LUG		EA	2
C-2	5	XDFZZ		215511T73	95125	.MARKER		EA	2
C-2	6	XDFZZ		215511T74	95125	.MARKER		EA	2
C-2	7	XDFZZ		342A215-4	06090	.TRANSITION,VOLTAGE		EA	2
C-2	8	XDFZZ		384115	89305	.CONNECTOR		EA	4
C-2	9	XDFZZ		M39012/16-0001	81349	.CONNECTOR,PLUG		EA	2
C-2	10	XDFZZ		215511T77	95125	.MARKER		EA	2
C-2	11	XDFZZ		215511T76	95125	.MARKER		EA	2
C-2	12	XDFZZ		215511T78	95125	.MARKER		EA	2
C-2	13	XDFZZ		462A011-4	06090	.TRANSITION 1-3		EA	2
C-2	14	XDFZZ		215511T75	95125	.MARKER		EA	1
C-2	15	PBFFF	4920-01-081-2903	1000850	89305	WIRING HARNESS INPUT POWER CABLE		EA	1
C-2	16	PBFZZ	5935-00-754-8711	MS2108R10SL-3S	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	17	PBFZZ	5935-00-240-0173	MS3057-4A	96906	.CLAMP,CABLE,ELECTRI		EA	1
C-2	18	XDFZZ		215511T64	95125	.MARKER		EA	2
C-2	19	XDFZZ		MS3106F-10SL-3P	96906	.CONNECTOR		EA	1
C-2	20	XDFFF		1000853	89305	.TEST CABLE-GROUNDING		EA	1
C-2	21	XDFZZ		044602	89305	.CLIP PEE WEE		EA	1
C-2	22	XDFZZ		044604	89305	.INSULATOR		EA	1
C-2	23	XDFZZ		032239	89305	.CLIP BANANNA		EA	1
C-2	24	PAFFF	4920-01-081-2916	384006-120	89305	CABLE ASSEMBLY,SPEC PACITRON GAGE		EA	1
C-2	25	XDFZZ		032062	89305	.CONNECTOR		EA	2
C-2	26	XDFFF		387386-120	89305	CABLE ASSY PLUG TO PLUG-PACITON LINE		EA	1
C-2	27	XDFZZ		387542	89305	.CONNECTOR		EA	2
C-2	28	PBFFF	4920-01-086-1591	1000961-1	89305	CABLE ASSEMBLY,SPEC OH-47A&CH-47B TO INDICATOR		EA	1
C-2	29	PBFZZ	5935-00-014-6523	MS3111F14-19P	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	30	XDFZZ	5940-00-204-8966	2-36151-2	00779	.TERMINAL LUG		EA	2
C-2	31	XDFZZ		215511T67	95125	.MARKER		EA	1
C-2	32	PBFZZ	5935-00-779-8295	MS3116F14-19S	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	33	PBFFF	4920-01-081-2911	1000961-2	89305	CABLE ASSEMBLY,SPEC CH-47A&CH47B TO AIRCRAFT WIRING		EA	1
C-2	34	PBFZZ	5935-00-014-6523	MS3111F14-19P	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	35	XDFZZ	5940-00-204-8966	2-36151-2	00779	.TERMINAL LUG		EA	2
C-2	36	XDFZZ		215511T68	95125	.MARKER		EA	1
C-2	37	PBFZZ	5935-00-779-8295	MS3116F14-19S	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	38	PBFFF	4920-01-081-2914	1000961-3	89305	CABLE ASSEMBLY,SPEC CH54B,AUXILIARY TANK TO AIRCRAFT WIRING		EA	1

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-2	39	PBFZZ		MS3111F14-13P	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	40	XDFZZ	5940-00-204-8966	2-36151-2	00779	.TERMINAL LUG		EA	2
C-2	41	XDFZZ		215511T69	95125	.MARKER		EA	1
C-2	42	PBFZZ	5935-00-779-8295	MS3116F14-19S	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	43	PAFFF	4920-01-086-1592	1000961-4	89305	CABLE ASSEMBLY,SPEC CH-54B,AUXILIARY TANK TO INDICATOR		EA	1
C-2	44	PBFZZ	5935-00-014-6523	MS3111F14-19P	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	45	XDFZZ	5940-00-204-8966	2-36151-2	00779	.TERMINAL LUG		EA	2
C-2	46	XDFZZ		215511T70	95125	.MARKER		EA	1
C-2	47	XDFZZ	5935-00-779-8294	MS3116F14-18S	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	46	PBFFF	4920-01-081-2912	1000961-5	89305	CABLE ASSEMBLY,SPEC AH-1 & UH-1 TO AIRCRAFT WIRING		EA	1
C-2	49	XDFZZ		165-73-1001	13511	.CONNECTOR,PLUG,ELEC		EA	1
C-2	50	XDFZZ		215511T71	95125	.MARKER		EA	1
C-2	51	XDFZZ	5940-00-204-8966	2-36151-2	00779	.TERMINAL LUG		EA	1
C-2	52	PBFZZ	5935-00-779-8295	MS3116F14-19S	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	53	PBFFF	4920-01-081-2913	1000961-6	89305			EA	1
C-2	54	PBFZZ	5935-00-014-6523	MS3111F14-19P	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	55	XDFZZ	5940-00-204-8966	2-36151-2	00779	.TERMINAL LUG		EA	1
C-2	56	XDFZZ		215511T72	95125	.MARKER		EA	1
C-2	57	XDFZZ		165-61-1008	13571	.CONNECTOR,ELECTRICAL		EA	1
C-2	58	PBFFF	4920-01-081-2915	1000961-7	89305	CABLE ASSEMBLY,SPEC DV-1 TO AIRCRAFT WIRING		EA	1
C-2	59	PBFZZ	5935-00-014-6523	MS3111F14-19P	96906	.CONNECTION,PLUG,ELEC		EA	1
C-2	60	XDFZZ	5940-00-204-8966	2-36151-2	00779	.TERMINAL LUG		EA	2
C-2	61	XDFZZ		215511T80	95125	.MARKER		EA	1
C-2	62	PBFZZ	5935-00-779-8295	MS3116F14-19S	96906	.CONNECTION,PLUG,ELEC		EA	1
C-2	63	PBFFF	4920-01-084-2380	1000961-8	89305	CABLE ASSEMBLY,SPEC UV-1 TO INDICATOR		EA	1
C-2	64	PBFZZ	5935-00-014-6523	MS3111F14-19P	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	65	XDFZZ	5940-00-204-8966	2-36151-2	00779	.TERMINAL LUG		EA	2
C-2	66	XDFZZ		215511T79	15125	.MARKER		EA	1
C-2	67	PBFZZ	5935-00-779-8295	MS3116F14-19S	96906	.CONNECTOR,PLUG,ELEC		EA	1
C-2	68	XDFZZ		251	83330	.JACK BANANNA		EA	1
C-2	69	PBFFF	4920-01-081-2773	1000852	89305	POWER CABLE ADAPTER CABLE II		EA	1
C-2	70	XDFZZ		MS2101F-10SL-3S	96906	.CONNECTOR RCPT		EA	1
C-2	71	XDFZZ		215511T66	95125	.MARKER		EA	1
C-2	72	XDFZZ		5266	74545	.PLUG,ELECTRICAL		EA	1
C-2	73	XDFFF		1000851	89305	WIRING HARN ADPTR CABLE I		EA	1
C-2	74	XDFZZ		MS3101F-10SL-3S	96906	.CONNECTOR,ELECTRICAL		EA	1
C-2	75	XDFZZ		215511T65	95125	.MARKER		EA	1
C-2	76	XDFZZ		462A011-4	06090	.TRANSITION 1-3		EA	1
C-2	77	XDFZZ		044604	89305	.INSULATOR		EA	3
C-2	78	XDFZZ		044603	89305	.CLIP PEE WEE		EA	3

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) FEDERAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
C-2	79	XDFFF		1001032	89305	SWITCH BOX CH-47C		EA	1
C-2	80	XDFZZ		1001022	89305	.HOUSING SWITCH		EA	1
C-2	81	XDFZZ		476933	89305	.CONNECTOR		EA	1
C-2	82	XDFZZ		021022	89305	.SOCKET COAX		EA	1
C-2	83	XDFZZ		021020	89305	.PLUG		EA	1
C-2	84	XDFZZ		31883	34134	.LUG TERMINAL		EA	1
C-2	85	PBFZZ	5325-00-291-9366	MS35489-11	96906	.GROMMET,NONMETALLIC		EA	1
C-2	86	XDFZZ		MS91528-2K2B	96906	.KNOB,SWITCH		EA	1
C-2	87	XDFZZ		M39012/24-002	81349	.CONNECTOR		EA	1
C-2	88	PBFZZ	5305-00-054-6670	MS51957-45	96906	.SCREW,MACHINE		EA	2
C-2	89	XDFZZ	5310-00-225-5328	MS15795-841	96906	.WASHER,FLAT		EA	2
C-2	90	XDFFF		1001021	89305	.SWITCH ASSEMBLY		EA	1
C-2	91	XDFZZ		1001036	89305	..INSULATOR		EA	1
C-2	92	XDFZZ		1001024	89305	..SHIELD,SWITCH		EA	1
C-2	93	XDFZZ		020902	89305	..SWITCH CERAMIC		EA	1
C-2	94	PBFZZ	5325-00-291-9366	MS35489-11	96906	..GROMMET,NONMETALLIC		EA	2
C-2	95	XDFZZ		9209-8115	06540	..SPACER,INSULATION		EA	2
C-2	96	PBFZZ	5305-00-054-5647	MS51957-13	96906	..SCREW,MACHINE		EA	2
C-2	97	XDFZZ	5310-00-614-3500	68-1660-40	72962	..NUT,SELF-LOCKING		EA	2
C-2	98	PBFZZ	5940-00-682-2477	505	79963	..TERMINAL,LUG		EA	2
C-2	99	XDFZZ		021021	89305	..CONNECTOR,ELECTRICAL		EA	1
C-2	100	XDFZZ		021023	89305	..PIN COAX		EA	6
C-2	101	XDFZZ		387398	89305	PLUG SHORTING		EA	1

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	FIGURE NO	ITEM NO	STOCK NUMBER	FIGURE NO	ITEM NO
5935-00-014-6523	C-2	2	5935-00-779-8295	C-2	32
5935-00-014-6523	C-2	29	5935-00-779-8295	C-2	37
5935-00-014-6523	C-2	34	5935-00-779-8295	C-2	42
5935-00-014-6523	C-2	44	5935-00-779-8295	C-2	52
5935-00-014-6523	C-2	54	5935-00-779-8295	C-2	62
5935-00-014-6523	C-2	59	5935-00-779-8295	C-2	67
5935-00-014-6523	C-2	64	5310-00-813-6950	C-1	83
5310-00-043-4718	C-1	84	6210-00-843-5378	C-4	41
5305-00-054-5637	C-1	86	5310-00-845-2359	C-1	68
5305-00-054-5647	C-2	96	5310-00-878-9518	C-1	120
5305-00-054-6652	C-1	119	5920-00-881-6584	C-1	38
5305-00-054-6653	C-1	112	5310-00-929-6395	C-1	118
5305-00-054-6654	C-1	116	5310-00-933-8119	C-1	103
5305-00-054-6655	C-1	114	5310-00-934-9748	C-1	94
5305-00-054-6670	C-2	88	5310-01-037-8168	C-1	87
5940-00-204-8966	C-2	4	4920-01-081-2773	C-2	69
5940-00-204-8966	C-2	30	4920-01-081-2903	C-2	15
5940-00-204-8966	C-2	35	4920-01-081-2911	C-2	33
5940-00-204-8966	C-2	40	4920-01-081-2912	C-2	48
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5940-00-204-8966	C-2	60	4920-01-081-2916	C-2	24
5940-00-204-8966	C-2	65	4920-01-081-3001	C-2	1
5310-00-225-5328	C-2	89	4920-01-081-3008	C-1	121
5930-00-225-7111	C-1	89	4920-01-081-3009	C-1	123
5935-00-240-0173	C-2	17	4920-01-081-3010	C-1	124
5325-00-291-9366	C-2	85	4920-01-081-3011	C-1	125
5325-00-291-9366	C-2	94	4920-01-081-3012	C-1	127
5305-00-455-2498	C-1	21	4920-01-081-3013	C-1	128
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5930-00-660-3954	C-1	28	4920-01-086-1592	C-2	43
5940-00-682-2477	C-2	98	4920-01-086-1683	C-1	126
5935-00-726-0708	C-1	42	5950-01-086-9407	C-1	105
5935-00-754-8711	C-2	16	5905-01-087-0735	C-1	93
5905-00-760-9575	C-1	92	5999-01-087-8549	C-1	100
5305-00-763-6963	C-1	108	4920-01-088-6786	C-1	122
5310-00-773-7624	C-1	117	5905-01-090-0348	C-1	88
5935-00-779-8294	C-2	47	5905-01-090-0349	C-1	91
5935-00-779-8295	C-2	3			

PART NUMBER	FSCM	FIG NO	ITEM NO	PART NUMBER	FSCM	FIG NO	ITEM NO
BS-632-2	46384	C-1	8	MS3111F14-19P	96906	C-2	
CFCH-440-6	46384	C-1	10	MS3111F14-19P	96906	C-2	59
CFHC-632-6	46384	C-1	11	MS3111F14-19P	96906	C-2	64
CMR05C150JPDM	81349	C-1	79	MS3116F14-18S	96906	C-2	47
CMR05F101FPDM	81349	C-1	80	MS3116F14-19S	96906	C-2	3
06-20	00141	C-1	85	MS3116F14-19S	96906	C-2	32
FHL1/G2	81349	C-1	38	MS3116F14-19S	96906	C-2	37
F02 1/2A	71400	C-1	37	MS3116F14-19S	96906	C-2	42
H-9113-B	71218	C-1	54	MS3116F14-19S	96906	C-2	52
LC14UN3	81349	C-1	39	MS3116F14-19S	96906	C-2	62
LH/6/1	81349	C-1	41	MS3116F14-19S	96906	C-2	67
MIL-M-10304/4	81349	C-1	45	MS35338-136	96906	C-1	118
MK-15	04713	C-1	139	MS35338-137	96906	C-1	103
MUX-1A-100M	63060	C-1	60	MS35489-11	96906	C-2	85
MS15795-803	96906	C-1	69	MS35489-11	96906	C-2	94
MS15795-841	96906	C-2	89	MS35649-244	96906	C-1	94
MS1595?-13	96906	C-1	74	MS5195?-13	96906	C-2	96
MS2040-83-3	96906	C-1	117	MS5195?-28	96906	C-1	119
MS24525-23	96906	C-2	28	MS5195?-29	96906	C-1	112
MS24655-231	96906	C-1	89	MS51957-3	96906	C-1	86
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MS3101F-10SL-3S	96906	C-2	74	MS51959-28	96906	C-1	108
MS3102R10FL3P	96906	C-1	42	MS51959-48	96906	C-1	21
MS3106F-10SL-3P	96906	C-2	19	MV125-2B2G	01803	C-1	23
MS310BR10SL-3S	96906	C-2	16	M39012/16-0001	81349	C-2	9
MS3111F14-18P	96906	C-2	39	M39012/24-0002	81349	C-1	20
MS3111F14-19P	96906	C-2	2	M39012/24-002	81349	C-2	87
MS3111F14-19P	96906	C-2	29	M39014/C1-14/4	81349	C-13	110
MS3111F14-19P	96906	C-2	34	M39014/C2-1240	81349	C-1	111
MS3111F14-19P	96906	C-2	44	M5423/09-02-2	81349	C-1	36

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

PART NUMBER	FSCM	FIG NO	ITEM NO	PART NUMBER	FSCM	FIG NO	ITEM NO
NAS1291C04M	80205	C-1	68	1000908	89305	C-1	71
NAS1291C02M	80205	C-1	83	1000910	89305	C-1	78
NAS1291C06M	80205	C-1	120	1000914	89305	C-1	9
NAS620C2	80205	C-1	84	1000915	89305	C-1	75
NAS620C6	80205	C-1	117	1000957	89305	C-1	105
NF-51H	71744	C-1	40	1000959	89305	C-1	98
NO505	79963	C-1	67	1000960	89305	C-1	3
PA-83	14623	C-1	73	1000961-1	89305	C-2	28
RNR65H1004FM	81349	C-1	61	1000961-2	89305	C-2	33
VY10CA100KA	95275	C-1	64	1000961-3	89305	C-2	38
VY15CA911KA	95275	C-1	63	1000961-4	89305	C-2	43
VY20CA512KA	95275	C-1	62	1000961-5	89305	C-2	48
020902	89305	C-1	81	1000961-6	89305	C-2	53
020902	89305	C-2	93	1000961-7	89305	C-2	58
020922	89305	C-1	113	1000961-8	89305	C-2	63
021020	89305	C-2	83	1000963	89305	C-2	1
021021	89305	C-2	99	1000976	89305	C-1	2
021022	89305	C-2	82	1001021	89305	C-2	90
021023	89305	C-2	100	1001022	89305	C-2	80
032062	89305	C-2	25	1001024	89305	C-2	92
032239	89305	C-2	23	1001032	89305	C-2	79
044295-2	89305	C-1	76	1001036	89305	C-2	91
044409	89305	C-1	77	160S-10K	17826	C-1	92
044603	89305	C-2	21	160S-2K	17826	C-1	88
044603	89305	C-2	78	160S-20K	17826	C-1	93
044604	89305	C-2	22	160S-20C	17826	C-1	91
044604	89305	C-2	77	160S-50C	17826	C-1	90
048282-015	89305	C-1	82	165-61-1008	13511	C-2	57
048282-036	89305	C-1	4	165-73-1001	13511	C-2	49
048350-001	89305	C-1	48	2-36151-2	00779	C-2	4
048350-005	89305	C-1	70	2-36151-2	00779	C-2	30
048350-025	89305	C-1	44	2-36151-2	00779	C-2	35
048350-035	89305	C-1	34	2-36151-2	00779	C-2	40
048350-3	89305	C-1	95	2-36151-2	00779	C-2	45
0938-9731	24655	C-1	32	2-36151-2	00779	C-2	51
0938-9734	24655	C-1	51	2-36151-2	00779	C-2	55
0938-9822	24655	C-1	52	2-36151-2	00779	C-2	60
1/4-2	95987	C-1	65	2-36151-2	00779	C-2	65
10-40450-10	77820	C-1	43	215511T64	95125	C-2	18
1000800	89305	C-1	7	215511T65	95125	C-2	75
1000806	89305	C-1	1	215511T66	95125	C-2	71
1000812	89305	C-1	14	215511T67	95125	C-2	31
1000813	89305	C-1	15	215511T68	95125	C-2	36
1000814	89305	C-1	16	215511T69	95125	C-2	41
1000815	89305	C-1	13	215511T70	95125	C-2	46
1000816	89305	C-1	12	215511T71	95125	C-2	50
1000817	89305	C-1	6	215511T72	95125	C-2	56
1000819	89305	C-1	24	215511T73	95125	C-2	5
1000820	89305	C-1	26	215511T74	95125	C-2	6
1000822-1	89305	C-1	33	215511T75	95125	C-2	14
1000822-3	89305	C-1	31	215511T76	95125	C-2	11
1000822-4	89305	C-1	96	215511T77	95125	C-2	10
1000824	89305	C-1	50	215511T78	95125	C-2	12
1000825	89305	C-1	57	215511T79	15125	C-2	66
1000826	89305	C-1	58	215511T80	95125	C-2	61
1000827	89305	C-1	56	24011	07126	C-1	22
1000828	89305	C-1	49	251	83330	C-2	68
1000829	89305	C-1	47	31883	84134	C-2	84
1000830	89305	C-1	46	342A215-4	06090	C-2	7
1000831	89305	C-1	66	384006-120	89305	C-2	24
1000832	89305	C-1	101	384115	89305	C-2	8
1000833	89305	C-1	59	387386-120	89305	C-2	26
1000837	89305	C-1	"12,6"	387398	89305	C-2	101
1000840	89305	C-1	124	387542	89305	C-2	27
1000845	89305	C-1	29	462A011-4	06090	C-2	13
1000850	89305	C-2	15	462A011-4	06090	C-2	76
1000851	89305	C-2	73	468587-C12	89305	C-1	104
1000852	89305	C-2	69	469079	89305	C-1	87
1000863	89305	C-1	100	469278-008	89305	C-1	106
1000870	89305	C-1	121	476933	89305	C-1	19
1000871	89305	C-1	122	476933	89305	C-2	81
1000872	89305	C-1	123	505	79963	C-2	98
1000874	89305	C-1	125	51-18-406-24	94222	C-1	18
1000876	89305	C-1	127	5266	74545	C-2	72
1000895	89305	C-1	128	68-1660-40	72962	C-2	97
1000906-1	89305	C-1	53	7805KM	07263	C-1	115
1000906-2	89305	C-1	55	864	83330	C-1	97
1000907	89305	C-1	25	9209-P115	06540	C-2	95

SUPPLEMENTAL
NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	FIGURE NO	ITEM NO	STOCK NUMBER	FIGURE NO	ITEM NO
5910-00-004-5773	C-1	135	5961-00-237-2384	C-1	128
5990-00-060-1681	C-1	132	5961-00-421-3002	C-1	129
5940-00-082-4869	C-1	134	5962-01-062-5813	C-1	130
5999-00-147-9775	C-1	131			
5910-00-161-3437	C-1	127			

PART NUMBER	FSCM	FIGURE NO.	ITEM NO.
JAN1N5550	81349	C-1	129
JAN1N5614	81349	C-1	128
M39006/01-3033	81349	C-1	135
M39006-01-3046	81349	C-1	127
M39014/01-1514	81349	C-1	133
SE12XC01Z	81349	C-1	134
2226B	13103	C-1	131
7717-10G	13103	C-1	132
78M15HMQB	34148	C-1	130

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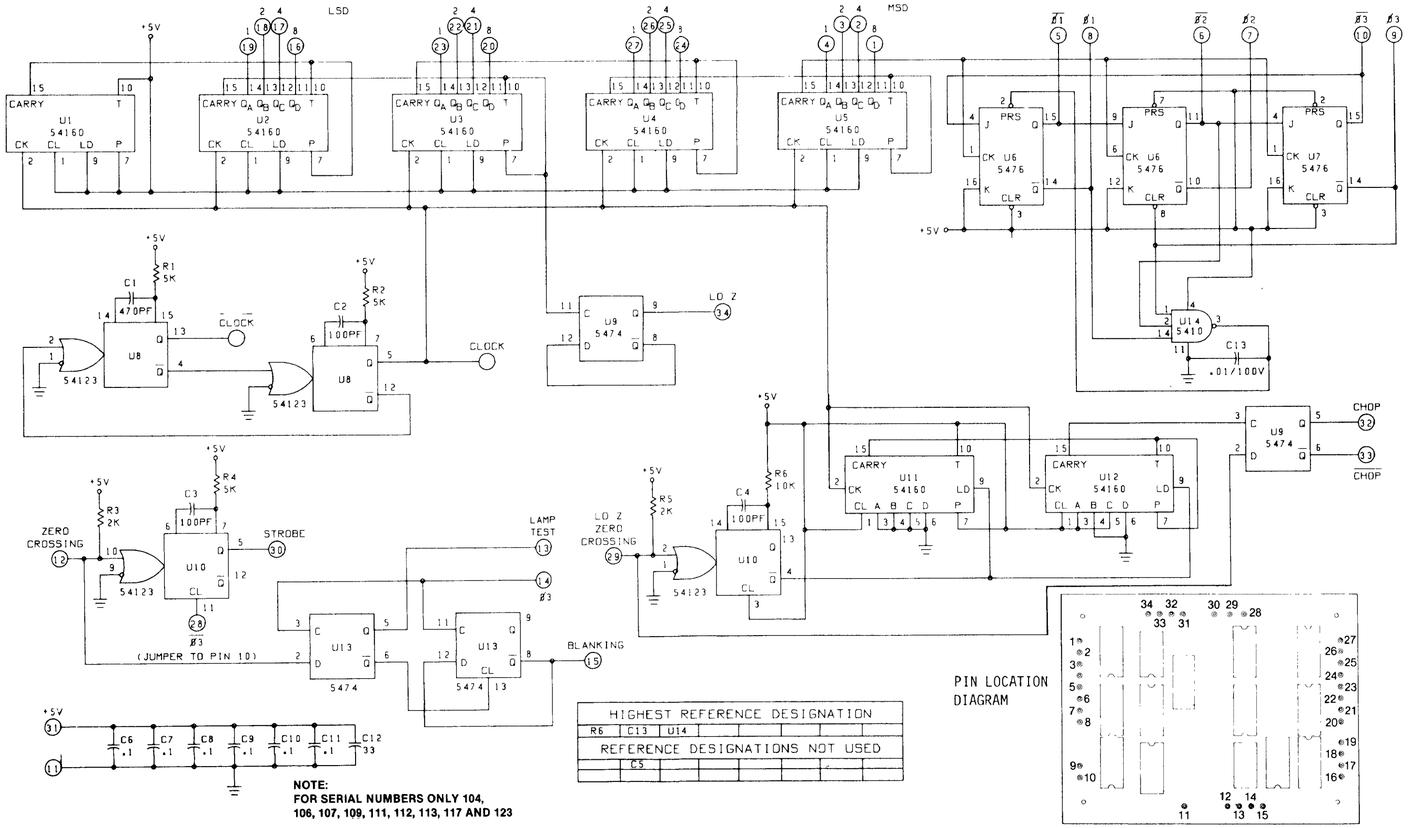
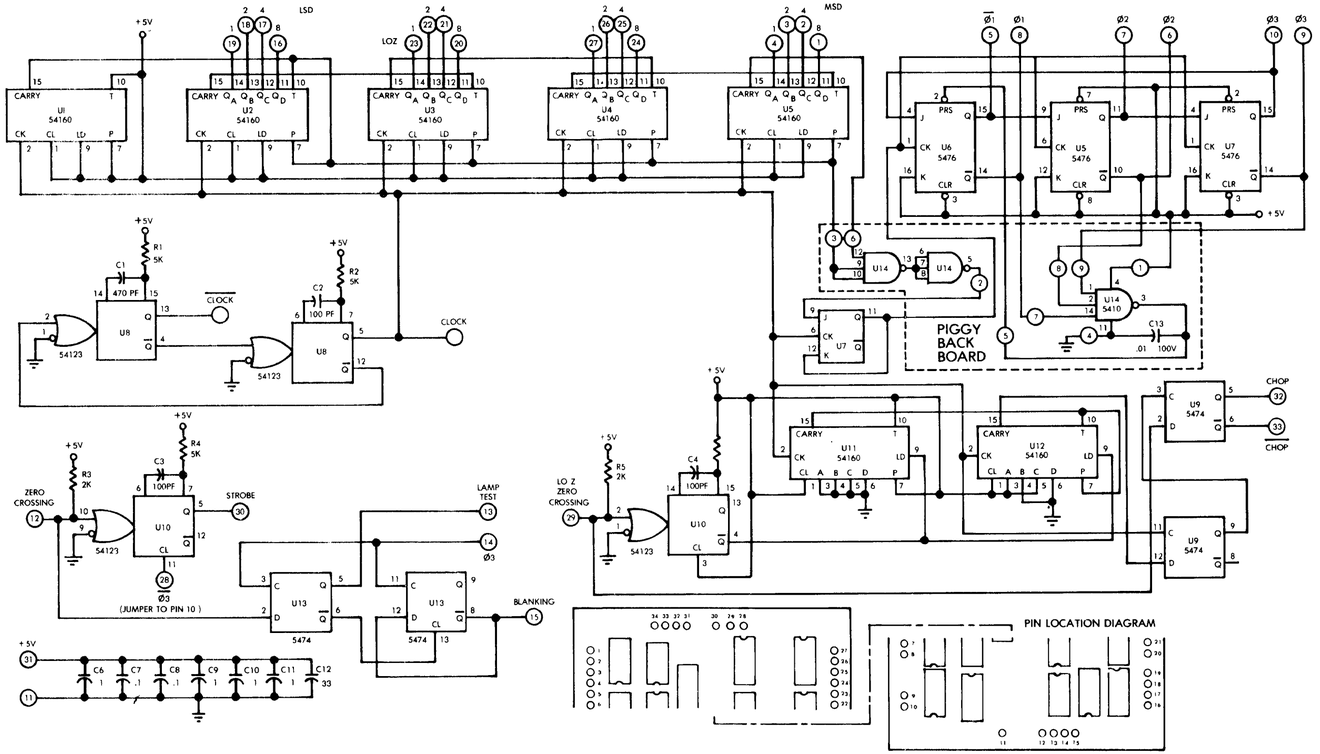
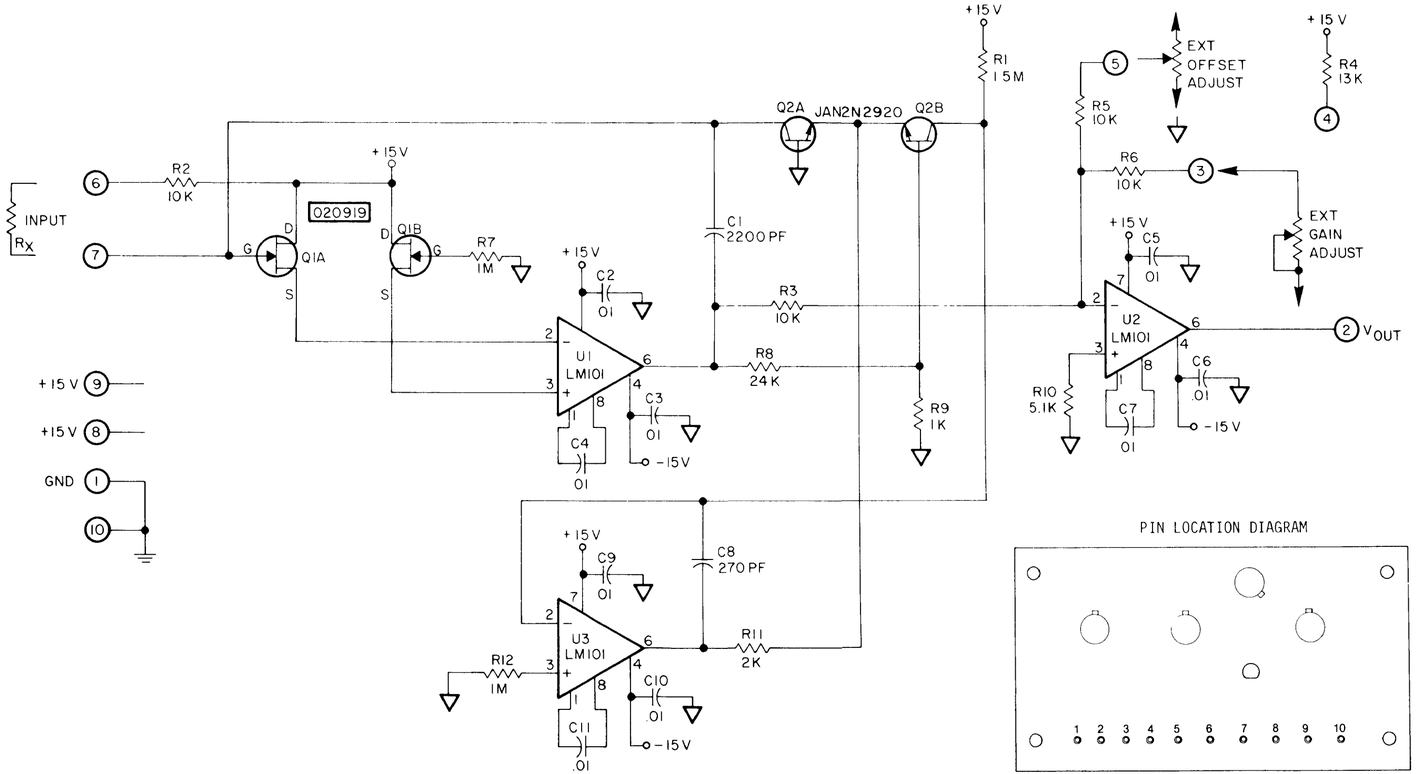


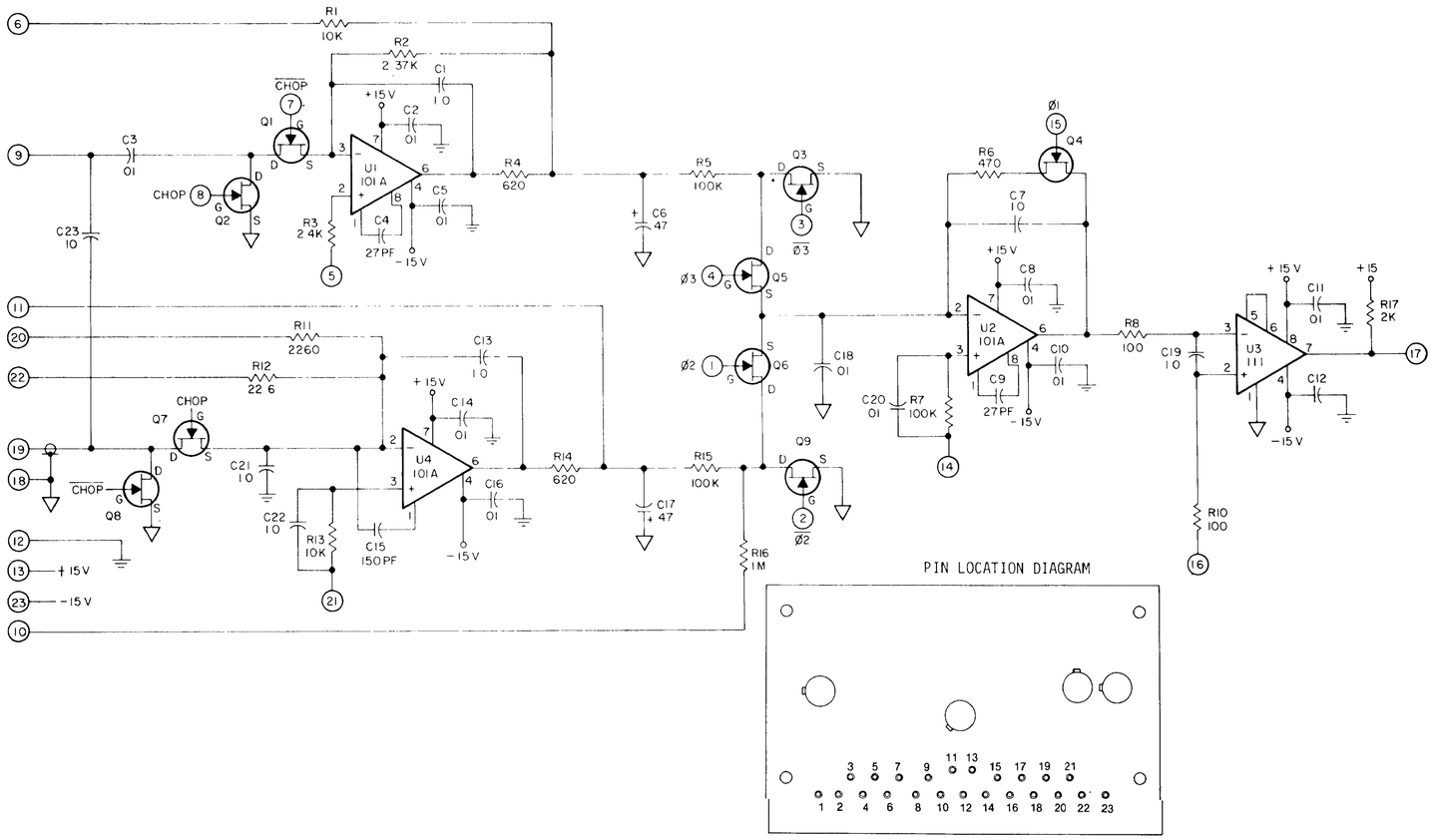
FO-1. Digital Board A1 Schematic



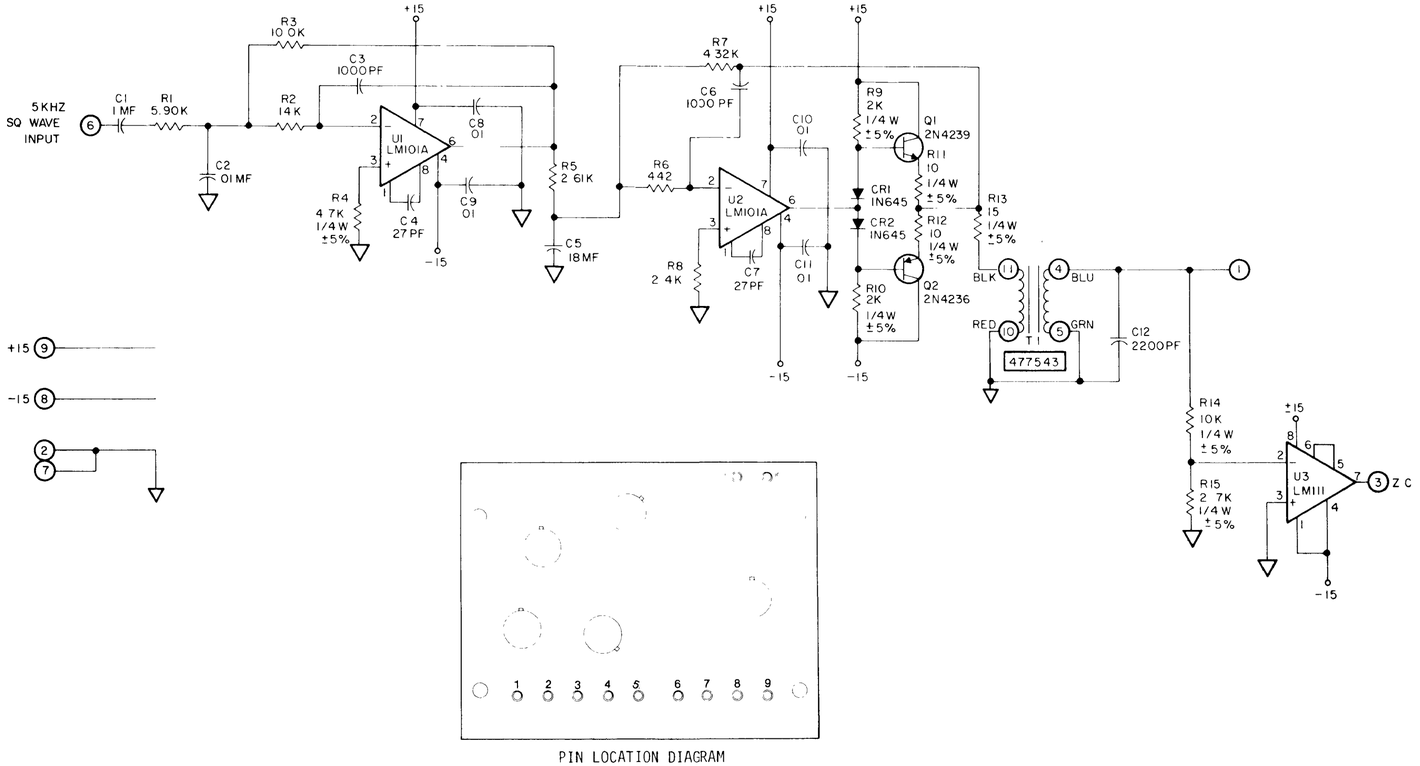
FO-2. Digital Board A1 Schematic



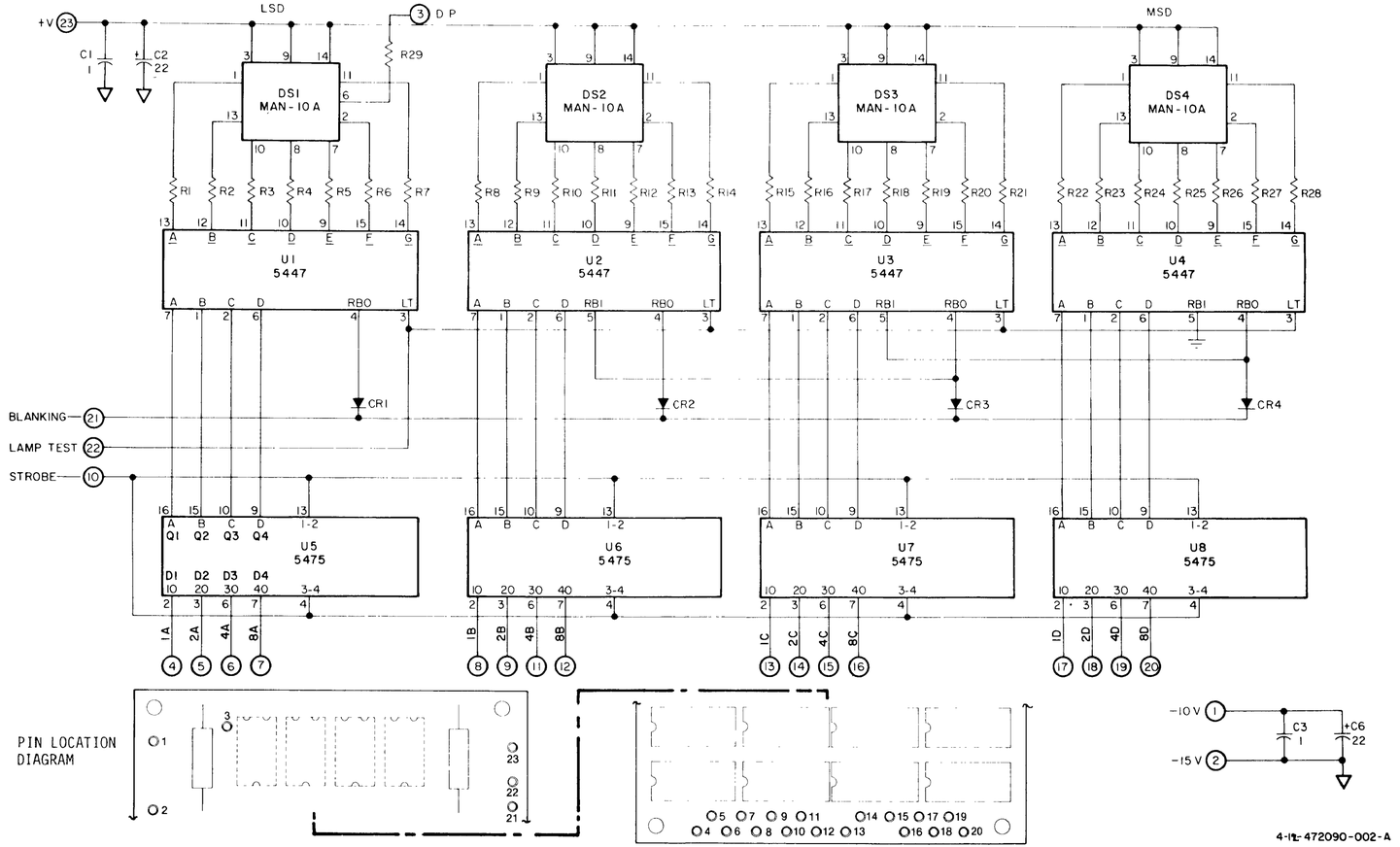
FO-3. Megohmmeter Board A2



FO-4. Analog/Digital Board A3



FO-5. LO Z Board A5



FO-6. Display Board A7

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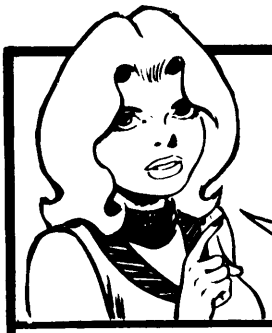

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TM 55-4920-379-13&P	8 Jan 81	Fuel Quantity Gage Test Set, PN 12690-002

BE EXACT . . . PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
6	2-1 a		
B1		4-3	
125	line 20		

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

In line 6 of paragraph 2-1a the manual states the engine has 6 Cylenders. The engine on my set only has 4 Cylenders. Change the manual to show 4 Cylenders.

Callout 16 on figure 4-3 is pointing at a bolt. In key to figure 4-3, item 16 is Called a shim - Please Correct one or the Other.

Ordered a gasket, item 19 on figure B-16 by NSN 2910-00-762-3001. I got a gasket but it doesn't fit. Supply says I got what I ordered, so the NSN is wrong. Please give me a good NSN

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER
JOHN DOE, PFC (268) 317-7111

SIGN HERE John Doe
JOHN DOE

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TM 55-4920-399-13&P	8 Jan 81	Fuel Quantity Gage Test Set, P/N 472090-002

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

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

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SIGN HERE:

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

DRSTS-M Overprint 2, 1 Mar 80.

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

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TEAR ALONG PERFORATED LINE

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

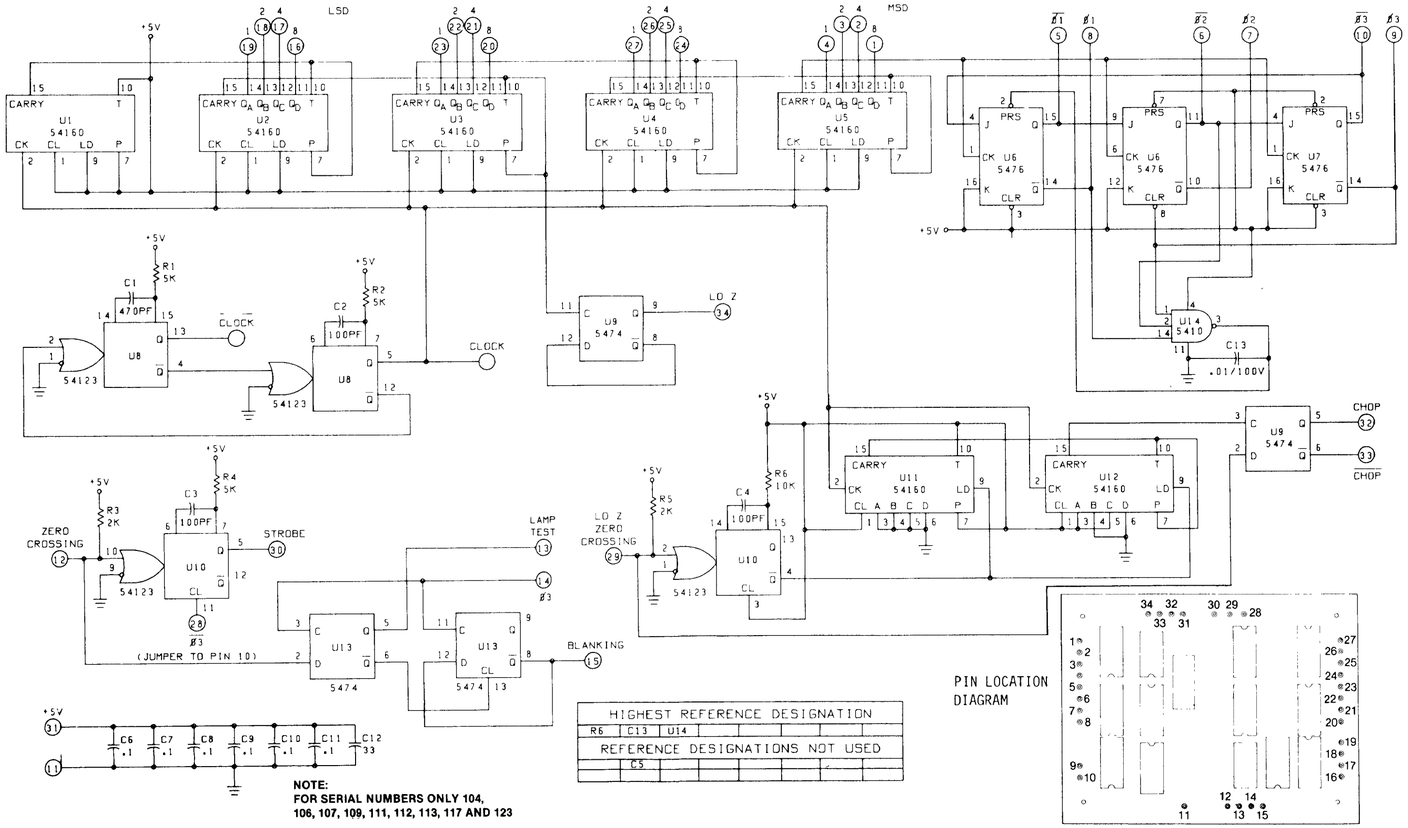
1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

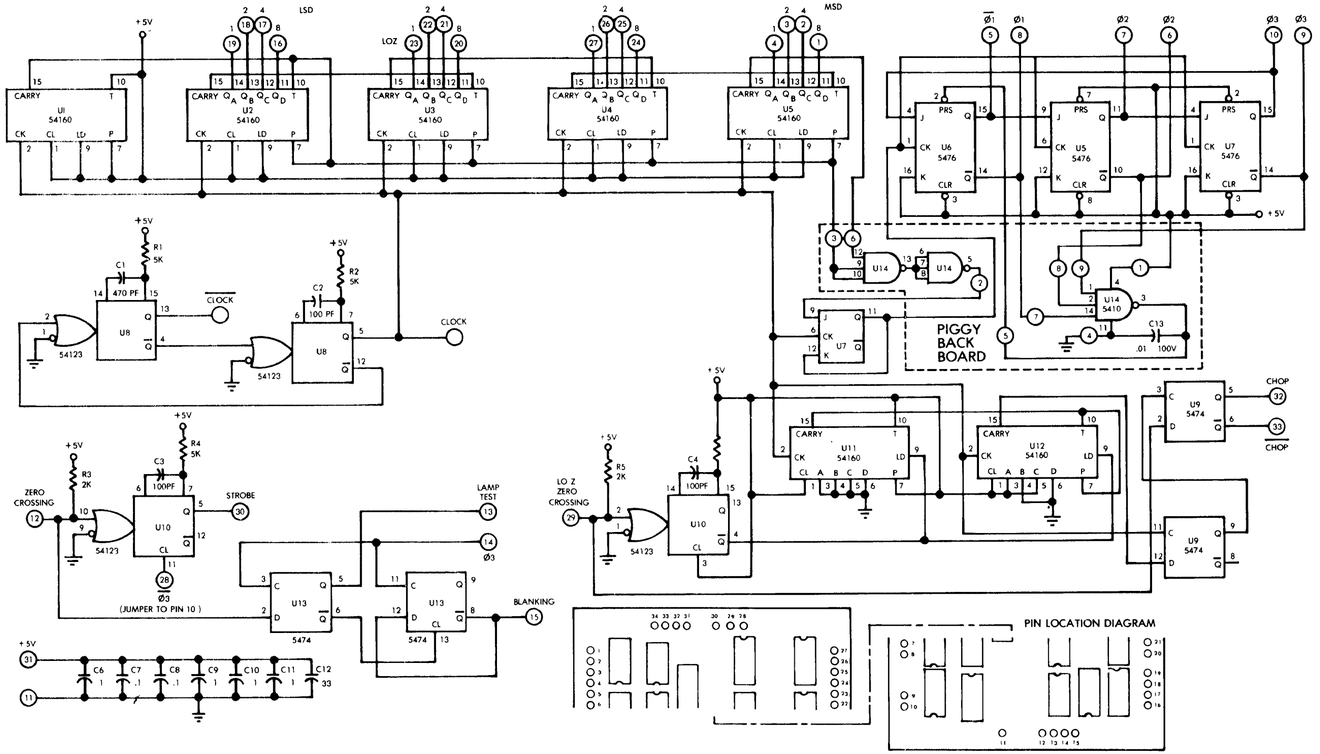
To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.365	metric tons	short tons	1.102
pound-inches	mewton-meters	.11375			

Temperature (Exact)

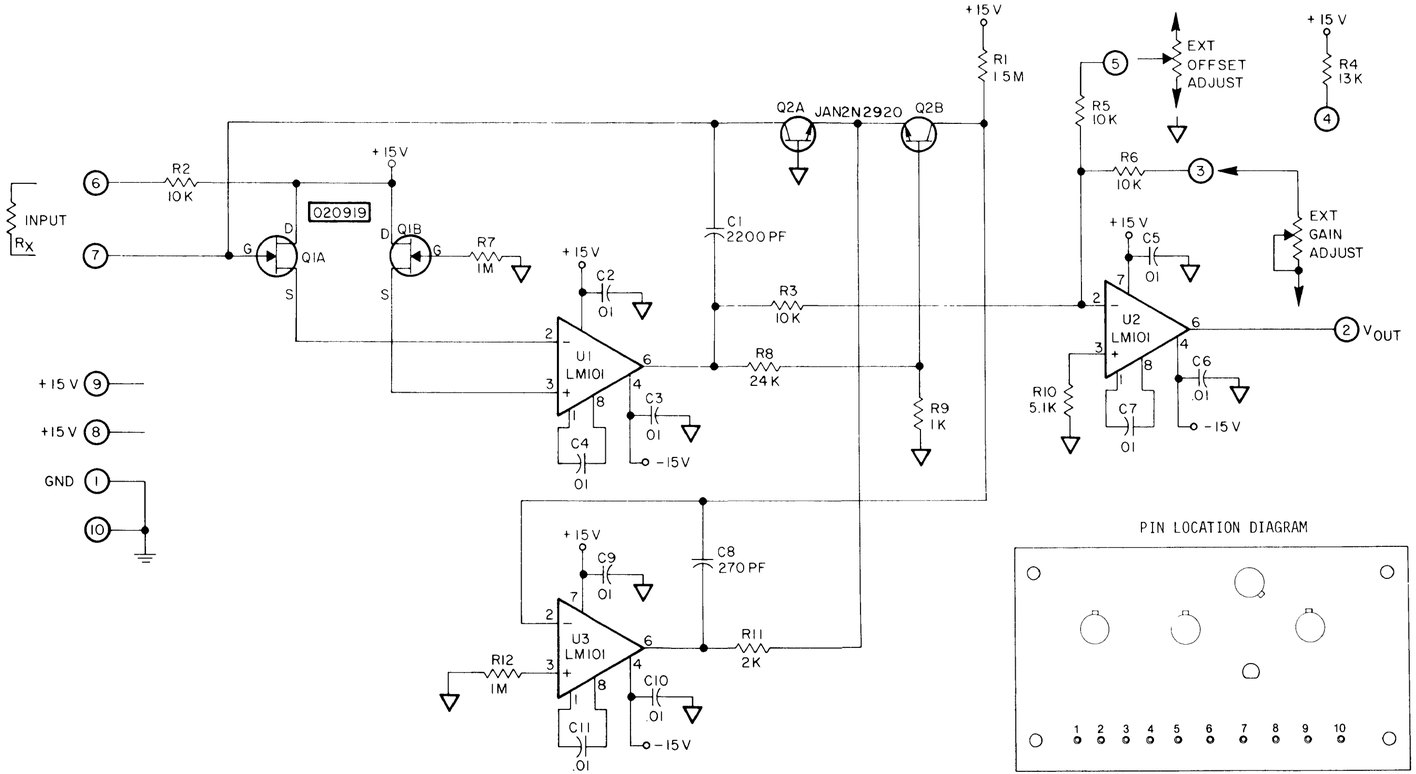
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C



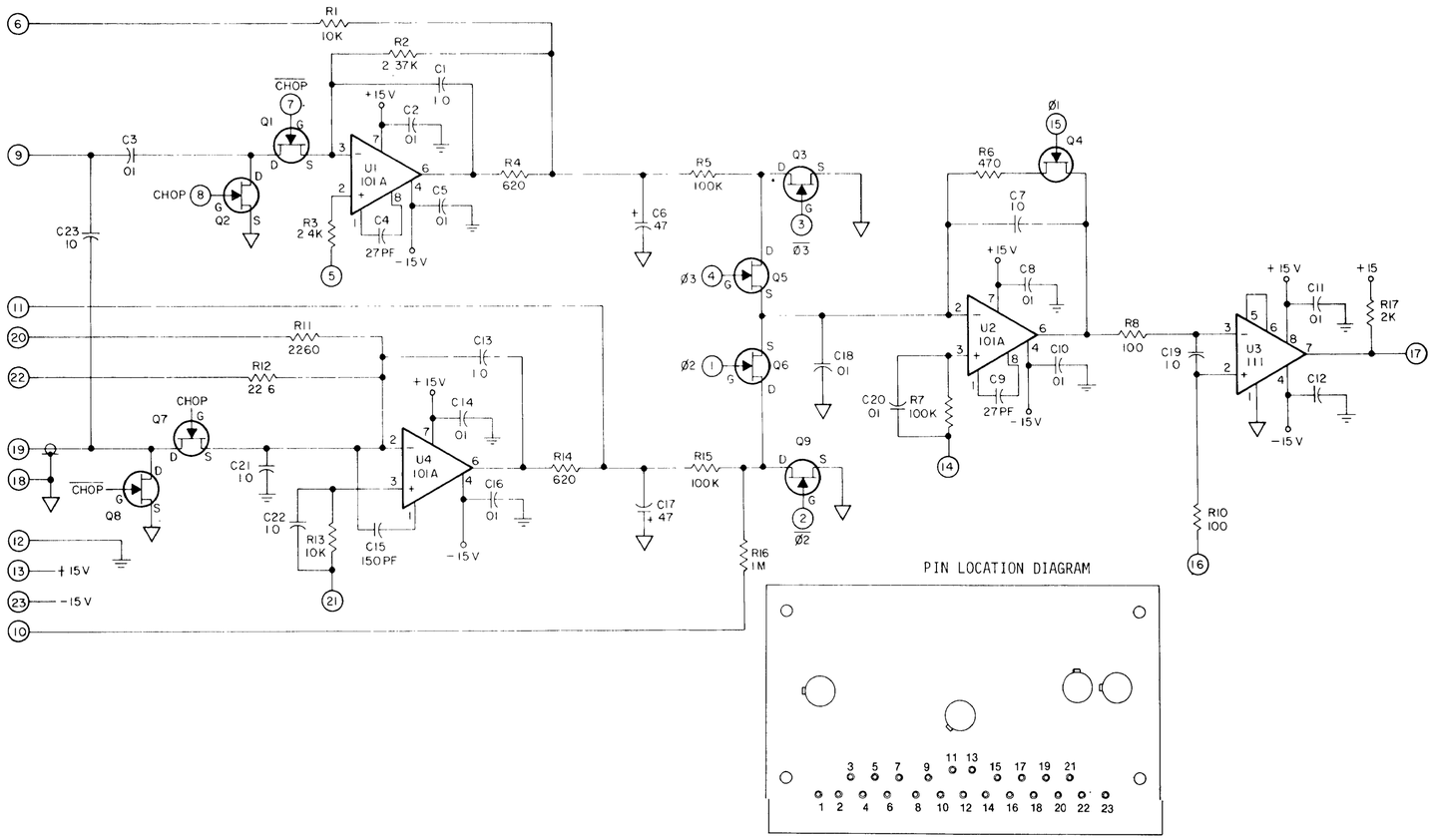
FO-1. Digital Board A1 Schematic



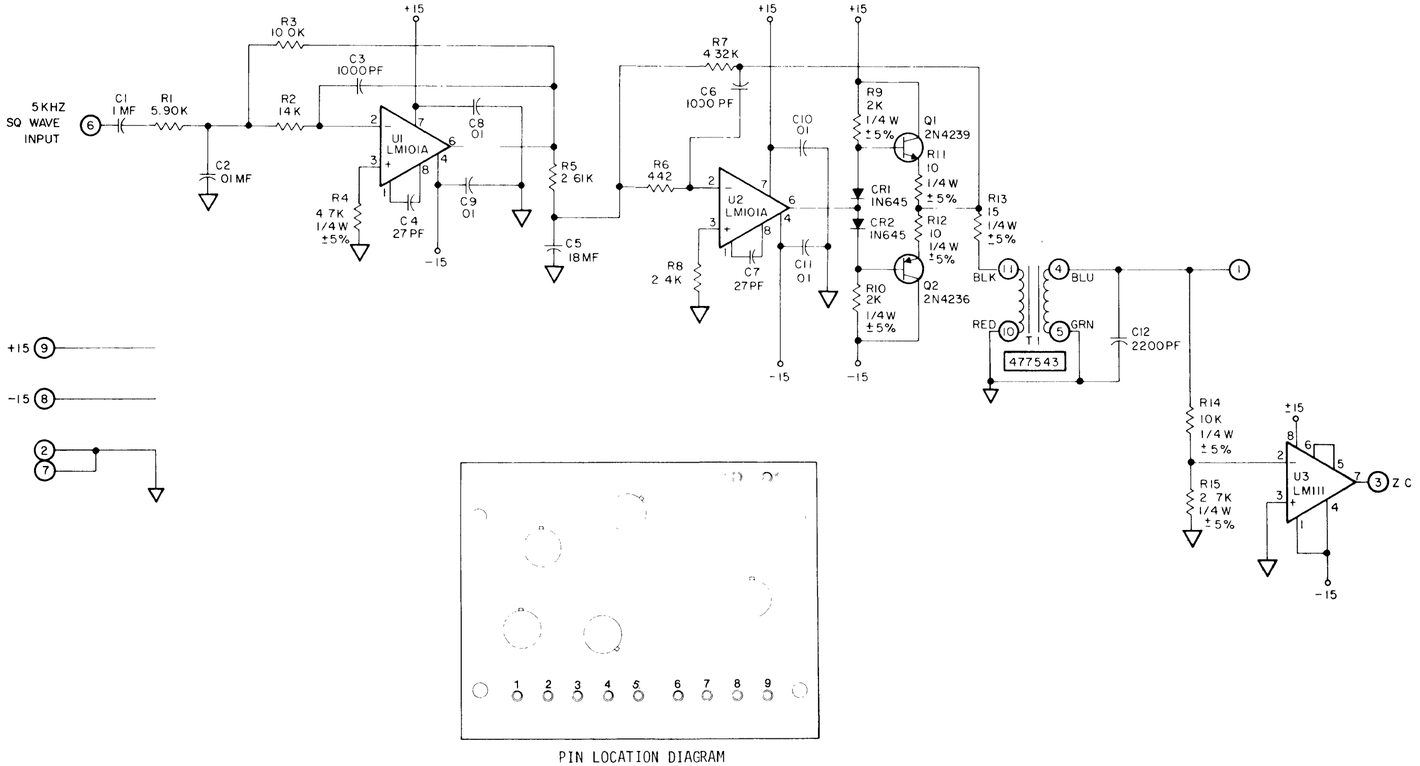
FO-2. Digital Board A1 Schematic



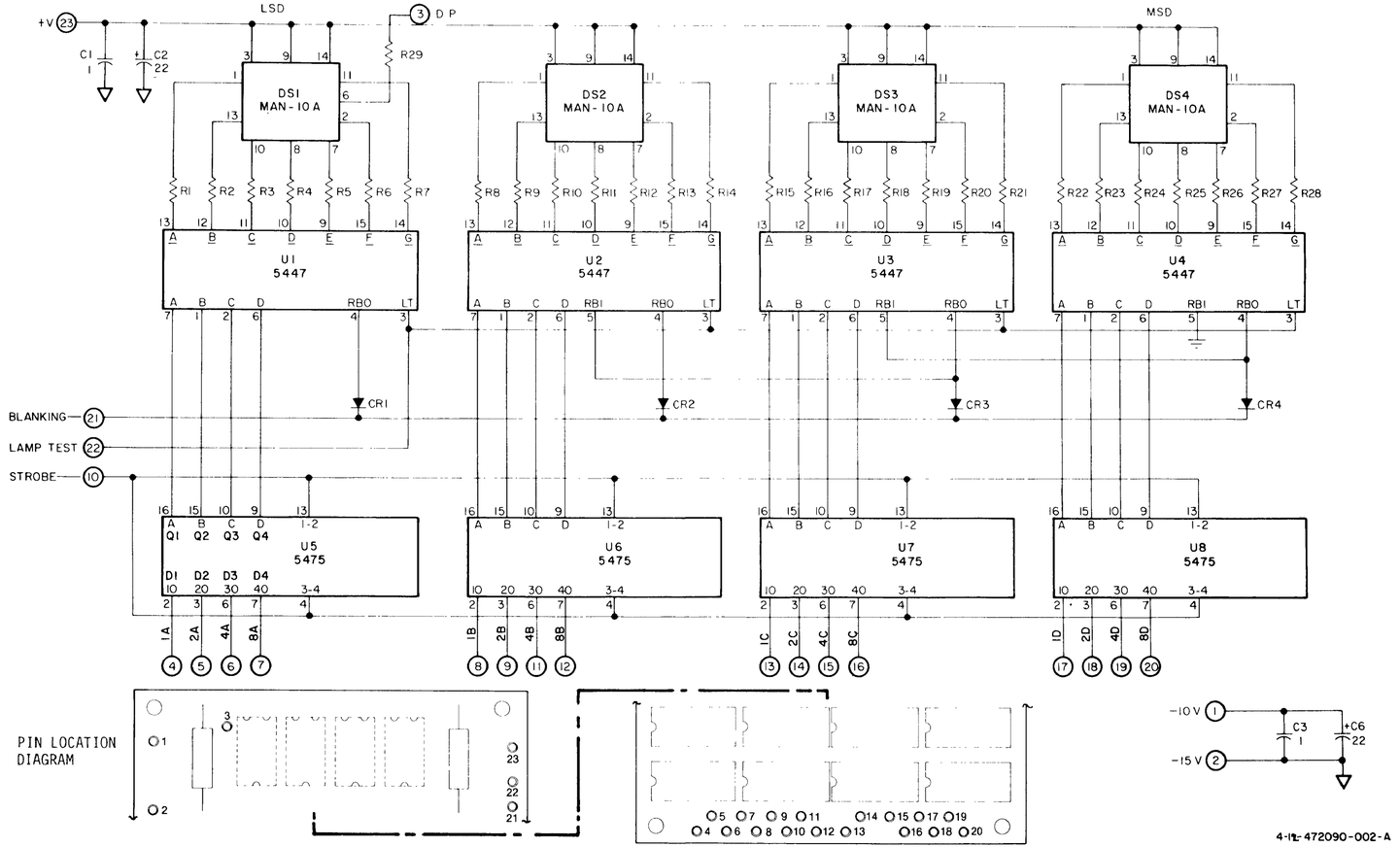
FO-3. Megohmmeter Board A2



FO-4. Analog/Digital Board A3



FO-5. LO Z Board A5



FO-6. Display Board A7