

TM 55-1520-210-20

TABLE 13-4. EQUIPMENT LIST - HELICOPTERS SERIAL NO. 68-15214 THROUGH 68-16628 (CONT)

ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
J16	Recept. Pilot Turn & Slip Ind.	J107	Recept. Copilot Coll. Stick
J17	Recept. Gas Prod. Tach.	J108	Recept. Fuel Diff. Press. Sw.
J20	Recept. Pilot Cyclic Stick	J109	Recept. Ext. Power
J21	Recept. Hydraulic Cont. Panel	J110	Recept. Anti-Coll. Lt. Disc.
J22	Recept. Copilot Cyclic Stick	J11	Recept. Anti-Coll. Lt.
J23	Recept. Engine Panel	J112	Recept. Mag. Brake Anti-Torque
J24	Recept. Caution Panel	J113	Recept. Mag. Brake Fore & Aft
J25	Recept. Pilot Coll. Stick	J114	Recept. Mag. Brake Lat
J26	Recept. Windshield Wiper	J115	Recept. Test-Eng. Vibration Meter
J28	Recept. Hyd. Bypass Solenoid	J127	Recept. Var. Mix Valve Disc.
J29	Recept. Hyd. Press. Warn. Sw.	J129	Recept. Displacement-Roll & Pitch Gyro
J31	Recept. Cargo Hook	J130	Recept. Rate Switching Gyro
J32	Recept. Cargo Slind Disc.	J131	Recept. Attitude Ind.
J35	Recept. Rotor, Tach. Gen.	J135	Recept. Ice Interpreter
J36	Recept. XMSN Oil Press. Sw.	J136	Recept. Ice Interpreter
J37	Recept. XMSN Oil Temp. Bulb	J138	Recept. Door Post Outlet Valve Act
J38	Recept. Copilot Windshield Wiper	J146	Recept. Bleed Air Valve
J39	Recept. XMSN Oil Press. XMTR	J147	Recept. Internal Aux. Fuel Disc L/H
J41	Recept. XMSN Disc.	J148	Recept. Internal Aux. Fuel Disc R/H
J42	Recept. Fuel Tank Disc R/H	J155	Recept. Hi-Lo RPM Warn.
J43	Recept. Compensator Fuel Tank Disc R/H	J156	Recept. Eng. Fuel Filter Bypass Sw.
J44	Recept. Fuel Tank Disc R/H	J166	Recept. Aft, Outlet Valve
J53	Recept. Bulkhead Feed-thru-aft Fuel Cell	J191	Recept. Main Inverter Pwr.
J54	Recept. Bulkhead Feed-thru-aft Fuel Cell	J192	Recept. Spare Inverter Pwr.
J57	Recept. Ext. Fuel Cont. Panel	J194	Recept. Engine Chip Detector
J60	Recept. Socket, Relay-Gen. Field	J267	Recept. Battery Disc. Aft
J64	Recept. Torque Press. XMTR	J1017	Recept. Ext. Fuel Disc. L/H
J65	Recept. Eng. Oil Press. XMTR	J1024	Recept. Ext. Fuel Disc. R/H
J66	Recept. Fuel Press. XMTR	K1	Relay, Ext. Pwr.
J68	Recept. Disc. Muff Heater	K2	Relay, Non-Ess Bus
J71	Recept. Eng. Fuel Valve	K3	Relay, Starter
J72	Recept. Eng. Oil Press. Sw.	K4	Relay, Bus Cont. (Gen Fail)
J74	Recept. Batt. Disc. Fwd.	K5	Relay, Reverse Curr. (Main)
J75	Recept. Nav. Lts. Flasher	K6	Relay, Overvoltage
J77	Recept. Ice Detector	K7	Relay, Gen. Field
J80	Recept. Eng. Air Filter Press. Sw.	K8	Relay, AC Failure
J81	Recept. Starter Deck	K9	Relay, Battery
J84	Recept. De-Icing Hot Air Valve	K10	Relay, Fuel Transfer
J85	Recept. Eng. Oil Temp. Bulb	K15	Relay, Standby Gen. Field
J86	Recept. Pwr. Turb. Tach.	K23	Relay, Standby Gen. Rev. Curr.
J87	Recept. Gas Turb. Tach.	K24	Relay, Cargo Hook Release
J88	Recept. Ignition Unit, Eng.	K27	Relay, Inverter
J89	Recept. Primer Valve (Fuel Ign. Sol.)	K35	Relay, Main Invtr. Pwr.
J90	Recept. Fuel Cont. Sol. Valve	K36	Relay, Spare Invtr. Pwr.
J91	Recept. Engine Disc.	K37	Relay, Lo-Fuel Caution Lt.
J92	Recept. Engine Fwd. Disc.	K28	Relay, Lo-Fuel Caution Lt.
J93	Recept. Fire Det. Fwd. Disc.	K46	Relay, Overheat
J94	Recept. Fire Det. Element R/H	K65	Relay, Battery, Aft Loc
J95	Recept. Fire Det. Element L/H	K66	Relay, Battery Feeder
J96	Recept. Fire Det. Element R/H	L1	Solenoid, Primer (Ignition)
J97	Recept. Fire Det. Element L/H	L2	Solenoid, Fuel Cont. Valve
J98	Recept. Tail Lt. Disc.	L4	Solenoid, Hyd. Bypass
J99	Recept. Thermocouple Disc.	L6	Solenoid, Hot-Air De-icer
J102	Recept. Standby Compass (Pt)	L7	Solenoid, Idle Stop Rel.
J105	Recept. Heated Blanket L/H		
J106	Recept. Heated Blanket R/H		

TABLE 13-4. EQUIPMENT LIST - HELICOPTERS SERIAL NO. 68-15214 THROUGH 68-16628 (CONT)

ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
L8	Mag. Brake - Anti-Torque Force Trim	P64	Plug, Torque Press. XMTR
L9	Mag. Brake - F & A Force Trim	P65	Plug, Eng. Oil Press. XMTR
L10	Mag. Brake - Lat Force Trim	P66	Plug, Fuel Press XMTR
L14	Solenoid, Door Post Htr. Outlet Valve	P68	Plug, Muff Heater Disc.
L15	Solenoid, Aft Outlet Valve Act.	P71	Plug, Fuel Valve Shut-Off
L21	Solenoid, Var. Mix Valve	P72	Plug, Eng. Oil Press Sw.
M1	Meter, DC Load (Stand-by-gen.)	P74	Plug, Battery Disc. Fwd.
M2	Meter, DC Volts	P75	Plug, Nav. Lts. Flasher
M3	Meter, AC Volts	P77	Plug, Ice Detector
M4	Meter, DC Load (Main Gen)	P80	Plug, Eng. Air Filter Press. Sw.
O2	Guard - Gen. Sw. DC Pwr. Panel	P81	Plug, Starter Deck
P2	Plug, Pitot Tube Heater	P84	Plug, De-Icing Hot Air Valve
P3	Plug, Inst. Panel Conn.	P85	Plug, Oil Temp. Bulb
P4	Plug, Fuel Qty Ind.	P86	Plug, Pwr. Turb. Tach.
P5	Plug, Fuel Press Ind.	P87	Plug, Gas Prod. Tach.
P6	Plug, Copilot Att. Ind.	P88	Plug, Ignition Unit-Eng.
P7	Plug, Engine Oil Temp. Ind.	P89	Plug, Ignition Sol. Valve
P8	Plug, Engine Oil Press. Ind.	P90	Plug, Fuel Cont. Sol. Valve
P9	Plug, Pilot Dual Tach. (Rotor)	P91	Plug, Engine Disc.
P10	Plug, Pilot Dual Tach. (Pwr. Turb.)	P92	Plug, Engine Fwd. Disc.
P11	Plug, XMSN Oil Temp. Ind.	P93	Plug, Fire Det. Fwd. Disc.
P12	Plug, XMSN Oil Press. Ind.	P94	Plug, Fire Det. Element R/H
P15	Plug, Pilot Torque Meter	±95	Plug, Fire Det. Element L/H
P16	Plug, Pilot Turn & Slip Ind.	P96	Plug, Fire Det. Element R/H
P17	Plug, Gas Prod. Turb. Tach.	P97	Plug, Fire Det. Element L/H
P20	Plug, Pilot's Cyclic Stick	P98	Plug, Tail Lt. Disc.
P21	Plug, Hyd. Cont. Panel	P99A	Plug, Thermocouple Disc - Eng.
P22	Plug, Copilot Cyclic Stick	P99B	Plug, Thermocouple Disc - Eng.
P23	Plug, Engine Panel	P102	Plug, Standby Compass (Pilot)
P24	Plug, Caution Panel	P107	Plug, Copilot Coll. Stick
P25	Plug, Pilot Coll. Stick	P108	Plug, Fuel Diff. Press. Sw.
P26	Plug, Windshield Wiper	P110	Plug, Anti-Coll. Lt. Disc.
P28	Plug, Hyd. Bypass Sol. Valve	P111	Plug, Anti-Coll. Lt.
P29	Plug, Hyd. Press. Warn. Sw.	P112	Plug, Mag. Brake Anti-Torque
P31	Plug, Cargo Hook	P113	Plug, Mag. Brake F & A
P32	Plug, Cargo Hook Disc.	P114	Plug, Mag. Brake - Lat.
P35	Plug, Rotor Tach. Gen.	P127	Plug, Var. Mix Valve Disc.
P36	Plug, XMSN Oil Press. Sw.	P129	Plug, Displacement, Roll & Pitch Gyro
P37	Plug, XMSN Oil Temp. Bulb	P130	Plug, Rate Switching Gyro
P38	Plug, Copilot Windshield Wiper	P131	Plug, Attitude Ind.
P39	Plug, XMSN Oil Press. XMTR	P135	Plug, Ice Interpreter
P41	Plug, XMSN Disc.	P136	Plug, Ice Interpreter
P42	Plug, Shielded Tank Unit Disc(R/H Tank)	P138	Plug, Door Post-Aft Outlet Valve Act.
P43	Plug, Monitor Tank Unit Disc(R/H Tank)	P146	Plug, Bleed Air Valve
P44	Plug, Unshielded Tank Unit Disc(R/H Tank)	P147	Plug, Unshielded Tank Coupler Disc.
P46	Plug, Fuel Tank Disc. R/H Cell	P148	Plug, Unshielded Tank Coupler Disc.
P47	Plug, Fuel Tank Disc R/H Cell	P149	Plug, Unshielded Tank Coupler Disc.
P48	Plug, Fuel Tank Disc R/H Cell	P151	Plug, Shielded Tank Coupler Disc.
P53	Plug, Unshielded Tank Unit-Aft Cell	P152	Plug, Shielded Tank Coupler Disc.
P54	Plug, Shielded Tank Unit-Aft Cell	P153	Plug, Shielded Tank Coupler Disc.
P55	Plug, Fuel Tank Disc - Aft Cell	P155	Plug, Hi-Lo RPM Warning
P56	Plug, Fuel Tank Disc - Aft Cell	P156	Plug, Eng. Fuel Filter Bypass
P57	Plug, Ext. Fuel Cont. Panel	P166	Plug, Aft Outlet Valve
P60	Plug, Field Relay Generator	P191	Plug, Inverter Disc. - Main
		P192	Plug, Inverter Disc. - Spare
		P194	Plug, Eng. Chip Detector

TABLE 13-4. EQUIPMENT LIST - HELICOPTERS SERIAL NO. 68-15214 THROUGH 68-16628 (CONT)

ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
P267	Plug, Battery Disc. Aft	S58	Switch, Fuel Diff Press
P1017	Plug, Ext. Fuel Disc. L/H	S59	Switch, Anti-Coll. Lt.
P1027	Plug, Ext. Fuel Disc. R/H	S62	Switch, Non-Ess Bus Cont
		S63	Switch, Ext. Fuel Jett
R1	Shunt, Ammeter (Stby Gen)	S68	Switch, Force Trim
R2	Shunt, Ammeter (Main Gen)	S70	Switch, Starter-Gen.
R3	Resistor, Windshield Wiper	S73	Switch, Overheat Bleed Air
R4	Rheostat, Pilot Inst. Lt. Dim	S75	Switch, Searchlight (ON-STOW)
R5	Rheostat, Sec. Instrument Lt. Dim	S76	Switch, Landing Lt. (ON-OFF)
R6	Rheostat, Overhead Console	S78	Switch, Cargo Rel. (Copilot)
R7	Resistor, Nav. Lts. Dim	S79	Switch, Fuel Ejector Flow Sw. L/H
R8	Rheostat, Ped. Lts. Dim	S80	Switch, Fuel Ejector Flow Sw. R/H
R9	Rheostat, Eng. Inst. Lts. Dim	S81	Switch, De-ice (ON-OFF)
R10	Rheostat, Copilot Inst. Lts. Dim	S83	Switch, Bleed Air (ON-OFF)
R11	Resistor, Fire Det. Cont.	S85	Switch, Aft Outlets (Htr)
R12	Resistor, Speel Thermocouple	S87	Switch, Aft-Outlet Limit
R21	Rheostat, Aft Dome Lts.	S93	Switch, Hi-Lo RPM
R26	Rheostat, Course Ind. Lt. Dim	S94	Switch, Fuel Filter Bypass
R27	Resistor, AC Load Balancing	S111	Switch, Fuel Trans. Pump
		S112	Switch, Pilot Hoist Cont.
S1	Switch, Aft Dome Lt.	S114	Switch, Fire Control
S2	Switch, Rotary (DC VM Sel)	S115	Switch, Fire Control
S4	Switch, XMSN Sump Insp. Lt.	S124	Switch, Sel-Windshield Wiper
S5	Switch, Fuel Qty. Test	S134	Switch, Chip Det. Sel.
S6	Switch, Starter (Plt Coll.)	S195	Switch, Diff. Press.
S7	Switch, Hyd. Boost Cont.		
S8	Switch, Gen. (On-Off Reset)	T1	Transformer 115/28V
S9	Switch, Pitot Heater	TB1	Term. Blk. Fwd. Inst. Panel
S10	Switch, Force Trim (Copilot Cyc.)	TB2	Term. Blk. Overhead Console R/H
S11	Switch, Rotary (AC VM Sel)	TB3	Term. Blk. Overhead Console L/H
S12	Switch, Searchlight Cont.	TB4	Term. Blk. Aft Fuel Cell
S13	Switch, Nav. Lts. (Flash Steady)	TB9	Term. Blk. Top Ext. & Dome Lts.
S14	Switch, Nav. Lts. (Bright-Dim)	TB12	Term. Blk. Ped. Panel Edge Lts.
S18	Switch, Force Trim (Plt-Cyc)	TB13	Term. Blk. Inst. Panel Lts.
S20	Switch, Test (Fire Det)	TB14	Term. Blk. Inst. Panel Sec. Lts.
S23	Switch, Windshield Wiper	TB15	Term. Blk. Cockpit Lts. L/H
S25	Switch, Landing Lt. (Ext-Retr)	TB16	Term. Blk. Cockpit Lts. R/H
S26	Switch, XMSN Oil Temp.	TB25	Term. Blk. Thermocouple Ind.
S27	Switch, Hyd. Press.	TB26	Term. Blk. DC Gnd. & Audio
S28	Switch, XMSN Oil Press Warn.	TB27	Term. Blk. Aft Thermo Lead
S29	Switch, Eng. Oil Press. Warn.	TB29	Term. Blk. Inst. Gnd.
S31	Switch, Limit (Ext. Pwr. Door)	TB34	Term. Blk. Aft Dome Lt. Panel
S32	Switch, Cargo Release (Plt)	TB35	Term. Blk. R/H Fuel Cell
S33	Switch, Gov. (Auto-Emer)	TB36	Term. Blk. Ext. Pwr. Diode
S36	Switch, Cargo Release	TB38	Term. Blk. L/H Fuel Cell
S37	Switch, RPM Gov. (Plt)	TB39	Term. Blk. Elect. Compt. Aft
S38	Switch, Fuel (ON-OFF)	TB45	Term. Blk. Pitot Htr. - Disc.
S39	Switch, Invtr (Main-Spare)	TB60	Term. Blk. Battery Voltage, Fwd.
S40	Switch, Battery (ON-OFF)	TB61	Term. Blk. Battery Voltage, Aft
S41	Switch, Upper Float		
S42	Switch, Lower Float	VR1	Regulator - Voltage (Main Gen)
S44	Switch, Fuel-Low Level	VR2	Regulator - Voltage (Stby Gen)
S45	Switch, Fuel-Transfer L/H		
S46	Switch, Fuel-Transfer R/H	W1	Cable Assy. Fire Det.
S50	Switch, Idle Stop Rel (Plt)		
S51	Switch, RPM Gov (Copilot)	Z2	Eng. Ignition Unit

TABLE 13-4. EQUIPMENT LIST - HELICOPTERS SERIAL NO. 68-15214 THROUGH 68-16628 (CONT)

ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
Z3	Flasher Unit - Nav. Lts.	Z13	Ice Detector
Z5	XMSN Oil Temp. Bulb	Z16	Fuel Qty. Tank Unit - Aft
Z6	Eng. Oil Temp. Bulb	Z17	Displacement-Roll & Pitch Gyro
Z8	Ice Interpreter	Z18	Rate Switch Gyro
Z9	Fire Det. Cont.	Z22	Fuel Qty. Tank Unit R/H Fwd.

TABLE 13-5. CONNECTOR REPLACEMENT CHART

WIRE NO.	RECEPTACLE	PIN	PLUG	WIRE NO.
D9A20	J3	A	P3	D9B20
X11A20	J3	B	P3	X11B20
X12A20	J3	C	P3	X12B20
D13B22	J3	D	P3	D13A22
D12A22	J3	E	P3	D12B22
D35A20	J3	F	P3	D35B20
D34B20	J3	G	P3	D34C20
L36A20	J3	H	P3	L36B20
L20F20	J3	J	P3	L20E20
W109A20	J3	R	P3	W109B20
E32A20	J3	S	P3	E32B20
W2B20	J3	T	P3	W2A20
W4B20	J3	U	P3	W4C20
M3F20	J3	V	P3	M3G20
E7D18N	J3	W	P3	E7E18N
M1C20	J3	X	P3	M1D20
W12A20	J3	Y	P3	W12B20
W6A20	J3	Z	P3	W6B20
L20A20	J3	a	P3	L20B20
L19A20	J3	b	P3	L19B20
L18A20	J3	c	P3	L18B20
C12A20	J20	A	P20	P/O Equipment
M4B20	J20	C	P20	P/O Equipment
M3E20	J20	E	P20	P/O Equipment
	J20	G	P20	P/O Equipment
	J20	H	P20	P/O Equipment
M29A20	J20	L	P20	P/O Equipment
M27A20	J20	M	P20	P/O Equipment
M30A20	J20	N	P20	P/O Equipment
M22A20	J20	P	P20	P/O Equipment
M28A20	J20	R	P20	P/O Equipment
RZ1714B20	J20	S	P20	P/O Equipment
RZ1853B20N	J20	T	P20	P/O Equipment
RZ1715C20	J20	U	P20	P/O Equipment
C1C20	J20	V	P20	P/O Equipment
M43C20	J21	A	P21	△ M25A20
	J21	B	P21	
	J21	C	P21	
L21C20	J21	D	P21	L21B20
C8B20	J21	E	P21	C8A20
C9A20	J21	F	P21	C9B20
L22E20N	J21	G	P21	L22D20N
W18B20	J21	H	P21	W18A20
W17A20	J21	I	P21	W17B20
M44A20	J21	J	P21	△ M26A20
W19C20	J21	K	P21	W19B20
C12B20	J21	L	P21	C12A20
C21A20	J21	M	P21	C21B20
	J21	N	P21	
M4C20	J22	A	P22	P/O Equipment
	J22	B	P22	P/O Equipment
	J22	C	P22	P/O Equipment
	J22	D	P22	P/O Equipment
C21B20	J22	E	P22	P/O Equipment

TABLE 13-5. CONNECTOR REPLACEMENT CHART (CONT)




WIRE NO.	RECEPTABLE	PIN	PLUG	WIRE NO.
C13A20	J22	F	P22	P/O Equipment
	J22	G	P22	P/O Equipment
M3C20	J22	H	P22	P/O Equipment
	J22	J	P22	P/O Equipment
RZ1752C20	J22	K	P22	P/O Equipment
RZ1854B20N	J22	L	P22	P/O Equipment
RZ1751B20	J22	M	P22	P/O Equipment
	J22	N	P22	P/O Equipment
	J22	U	P22	P/O Equipment
L22A20N	J23	A	P23	L22B20N
L21H20	J23	B	P23	L21G20
Q52A20	J23	C	P23	Q52B20
W102B20	J23	D	P23	W102A20
W103B20	J23	E	P23	W103A20
Q53D20	J23	F	P23	Q53C20
J3H20 	J23	H	P23	J3G20
J4A20 	J23	J	P23	J4B20
	J23	K	P23	
Q12D20	J23	L	P23	Q12E20
	J23	M	P23	
	J23	N	P23	
	J23	P	P23	
	J23	R	P23	
	J23	S	P23	
	J23	T	P23	
	J23	U	P23	
	J23	V	P23	
	J23	W	P23	
Q11A20	J23	X	P23	Q11B20
Q10B20	J23	Y	P23	Q10A20
Q12A20	J23	Z	P23	Q12B20
E37D20	J23	a	P23	E37C20
E46A20	J23	b	P23	E46B20
Q30A20	J23	c	P23	Q30B20
Q29B20	J23	d	P23	Q29A20
Q50A20	J23	e	P23	Q50B20
E44A20	J23	f	P23	E44B20
Q51A20	J23	g	P23	Q51B20
J2A20	J23	h	P23	J2B20
J1B20	J23	i	P23	J1A20
Q4A20	J23	j	P23	Q4B20
Q3B20	J23	k	P23	Q3A20
H61A16	J23	m	P23	H61B16
Q5A20	J23	n	P23	Q5B20
Q1B20	J23	p	P23	Q1A20
Q2A20	J23	q	P23	Q2B20
H60C16	J23	r	P23	H60B16
J2D20 J2B20 	J25	A	P25	J2E20
L43B20	J25	B	P25	L43A20
L42A20	J25	C	P25	L42B20
L30C20	J25	D	P25	L30B20
J3B20	J25	E	P25	J3A20
K2A20	J25	F	P25	K2B20
L34B20	J25	G	P25	L34A20
Q25B20	J25	H	P25	Q25A20

TABLE 13-5. CONNECTOR REPLACEMENT CHART (CONT)


























WIRE NO.	RECEPTABLE	PIN	PLUG	WIRE NO.
L51B20	J25	J	P25	L51A20
L20T20	J25	K	P25	L20U20
	J25	L	P25	
	J25	M	P25	
	J25	N	P25	
	J25	P	P25	
	J25	R	P25	
J3G20 	P25	S	P25	J3F20
Q24A20	J25	T	P25	Q24B20
L53A20N	J25	U	P25	L53B20
Q26B20	J25	V	P25	Q26A20
Q22B20	J25	W	P25	Q22A20
Q23B20	J25	X	P25	Q23A20
L33B20	J25	Y	P25	L33A20
K3B20	J25	Z	P25	K3A20
L44B20	J25	a	P25	L44A20
L31B20	J25	b	P25	L31A20
L38B20	J25	c	P25	P38A20
D16B20	J41	A	P41	D16A20
D17A20	J41	B	P41	D17B20
	J41	C	P41	
	J41	D	P41	
	J41	E	P41	
	J41	F	P41	
	J41	G	P41	
	J41	H	P41	
	J41	J	P41	
W19B20	J41	L	P41	W19A20
	J41	M	P41	
D5A20	J41	N	P41	D5B20
D6B20	J41	P	P41	D6C20
D1B20	J41	R	P41	D1A20
D22A20	J41	S	P41	D22B20
D2B20	J41	T	P41	D2A20
D25C20N	J41	U	P41	D25B20N
D23A20	J41	V	P41	D23B20
P/O Equipment	J91	B	P91	Q28A18
P/O Equipment	J91	C	P91	H61C18
P/O Equipment	J91	D	P91	E1A18
P/O Equipment	J91	E	P91	E2A18
P/O Equipment	J91	F	P91	E21A18
P/O Equipment	J91	G	P91	E22A18
P/O Equipment	J91	H	P91	J3E18
P/O Equipment	J91	J	P91	J4C18
P/O Equipment	J91	K	P91	Q12C18
P/O Equipment	J91	L	P91	Q11C18
P/O Equipment	J91	M	P91	E8A18
P/O Equipment	J91	N	P91	E9B18
P/O Equipment	J91	P	P91	
P/O Equipment	J91	R	P91	
P/O Equipment	J91	U	P91	
P/O Equipment	J91	V	P91	
P/O Equipment	J91	d	J91	
H56A20 	J92	A	P92	 H56A20
Q46B20	J92	B	P92	Q46C18

TABLE 13-5. CONNECTOR REPLACEMENT CHART (CONT)

WIRE NO.	RECEPTACLE	PIN	PLUG	WIRE NO.
P35A16	J92	C		
Q45B20	J92	D	P92	P35B16
Q47A20N	J92	E	P92	Q45C18
W16B20	J92	F	P92	Q17B18
Q15A20	J92	G	P92	W16A18
H61B16	J92	H	P92	Q15B18
Q67B20N	J92	J	P92	H61C16
Q66A20	J92	K	P92	Q67A18
E1B20	J92	L	P92	Q66B18
E2B20	J92	M	P92	E1A18
E21B20	J92	N	P92	E2A18
E22B20	J92	P	P92	E21A18
J3D20	J92	R	P92	E22A18
J4B20	J92	S	P92	J3E18
Q12B20	J92	T	P92	J4C18
Q28B16N	J92	U	P92	Q12C18
Q11B20	J92	V	P92	Q28A16
E8A20	J92	W	P92	Q11C18
E9A20	J92	X	P92	E8A18
E29B20N	J92	Z	P92	E9B18
Q17A20	J92	a	P92	E29A18
E15A20	P92	b	P92	Q17B18
H55A20 	P92	c	P92	E15B18
H54A20 	P92	d	P92 	H55B18
E5B20	J92	e	P92 	H54B18
E33C-CHROM	J92	f	P92	E5A18
Q18A20N	J92	g	P92	E33B-CHROM
E14A20	J92	h	P92	Q18B18
E31B20N	J92	j	P92	E14B18
E6A20	J92	k	P92	E31A18
E43C-ALML	J92	m	P92	E6B18
Q31A18N	J92	n	P92	E43B-ALML
H57A20N	J92	p	P92	Q31B18
H44A20 H52B20 	J92	r	P92	H57B18
H45A20 H53A20 	J92	s	P92 	H52C18 H44B18
			P92 	H53B18 H45B18
Q46B20	J107	A	P107	Q46A20
Q45B20	J107	B	P107	Q45A20
Q24D20	J107	C	P107	Q24E20
Q22B20	J107	D	P107	Q22C20
K2C20 	J107	E	P107	K2D20
J2D20 	J107	F	P107 	J2C20
J2B20	J107		P107 	
Q23B20	J107	G	P107	
J3B20 	J107	I	P107	Q23C20
J3D20 	J107		P107 	J3C20
K3B20 	J107	J	P107	
K3D20	J107		P107 	K3C20
			P107	

NOTES

-  EFF When Rescue Hoist Provisions are Installed.
-  EFF 65-9565 thru 66-16033
-  EFF 68-15214 thru 68-16628
-  EFF 65-9565 thru 66-16867
-  EFF 65-9565 thru 67-19537

SECTION II LOAD CHARTS AND WIRING DIAGRAMS

13-9. INDEX.

Note

13-10. DIAGRAMS.

13-11. The following load analysis charts, systems wiring diagrams and master wiring diagrams are utilized in this section:

Figures 13-42 through 13-49 are master electrical schematic and wiring diagrams of earlier ship blocks and will be integrated into existing and added system diagrams as necessary and installed in a later change of this TM 55-1520-210-20 manual.

FIGURE	TITLE
13-3	Load Analysis Chart (62-2106 thru 62-2113, 62-12351 thru 62-12372)
13-4	Load Analysis Chart (63-8739 thru 63-8859, 63-12956 thru 63-13002)
13-5	Load Analysis Chart (64-13492 thru 64-139001)
13-6	Load Analysis Chart (65-9565 thru 65-128951)
13-7	Load Analysis Chart (66-746 thru 66-8577)
13-8	Load Analysis Chart (67-17145 thru 67-19537)
13-9	Load Analysis Chart (68-15214 thru 68-16628)
13-10	Pitot Heater System
13-11	Temperature Bulb, Turn and Slip Indicator System
13-12	Attitude Indicator System
13-13	Tachometer Generator System
13-14	A.C. Pressure Indicator System
13-15	Exhaust Temperature Indicator System
13-16	Fuel Quantity System
13-17	Generator and Bus System
13-18	External Power System
13-19	Battery System
13-20	Starter System
13-21	R.P.M. Warning System
13-22	Force Trim and Hydraulic Control System
13-23	Ignition System
13-24	Fuel Boost and Fuel Valve System
13-25	Governor Control and Idle Stop Systems
13-26	A.C. Power System
13-27	Cockpit and Dome Lights System
13-28	Instrument, Console and Pedestal Lights System
13-29	Caution Lights System
13-30	De-Ice and Ice Detector System
13-31	External Fuel System
13-32	Fire Detector System
13-33	Landing and Search Lights System
13-34	Navigation, Fuselage and Anti-Collision Lights System
13-35	Cabin Heating System
13-36	Heated Blanket Receptacle Wiring Diagram
13-37	Windshield Wiper System
13-38	Cargo Hook System
13-39	Rescue Hoist System
13-40	Armament Wiring Diagram (63-8739 thru 63-8859, 63-12956 thru 63-13002)
13-41	Armament Wiring Diagram (64-13492 thru 64-13901)
13-42	Electrical Schematic (60-6028 thru 60-6034)
13-43	Electrical Wiring Diagram (60-6028 thru 60-6034)
13-44	Electrical Schematic (62-2106 thru 62-2113, 62-12351 thru 62-12372)
13-45	Electrical Wiring Diagram (62-2106 thru 62-2113, 62-12351 thru 62-12372)
13-46	Electrical Schematic (63-8739 thru 63-8859, 63-12956 thru 63-13002)
13-47	Electrical Wiring Diagram (63-8739 thru 63-8859, 63-12956 thru 63-13002)
13-48	Electrical Schematic (64-13492 thru 64-13901)
13-49	Electrical Wiring Diagram (64-13492 thru 64-13901)

EQUIPMENT	PART DESIGNATION	Number Of Units	Amperes Per Unit	Operating Time-Min.	OPERATING CONDITIONS																				
					START & WARM UP				TAKE OFF				CRUISE				LAND				EMERGENCY				
					Average Amps.				Average Amps.				Average Amps.				Average Amps.				Average Amps.				
					Amps	0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.	
C - FLIGHT CONTROLS	Magnetic Brake-Force Trim Solenoid-Hydraulic Sol.	Airborne Acc Corp R460M15 Ronson 1-U-1025	3	0.5	30.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
E - ENGINE INSTRUMENTS	Engine Oil Temp. XMSN Oil Temp.	Aerno 61-8833 (MS28009-1) Aerno 61-8842 (MS28009-2)	1	0.04	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
F - FLIGHT INSTRUMENTS	Gyro Compass Power Interlock Relay Heater, Pilot Tube Turn & Slip Type MD-8	Type J-2 204-075-363-3 Aerno 60-9660 (AN5812-1) Aerno 60-5704 (MS28024-3)	1	0.6	30.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8		
H - HEATING	Cabin Heater Motor-Bleed Air Valve Engine Anti-Icing Heated Blanket Outlets	Janitrol S-100 204-060-444 Cook Elec. 575-1022 & 447-20 Hubbel 7526	1	31.1	30.0	2.0	0.8	0.2	NEG	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1		
J - ENGINE IGNITION SYS.			1	1.5	0.5	1.5	1.5	0.4	NEG																
K - ENGINE CONTROLS	Starter Generator Relay Starter	Aerno 42-7031 Type Stu-6/A MS24172D1	1	4.5	0.5	4.5	4.5	1.1	0.2																
L - LIGHTING	Dome Light-Red Cockpit Light Inst. & Edge Lights Inst.-Sec. Lights Fus Light-Top & Bottom Fus Light-Side Fus Light-Tail Flasher-Fus Lights Master Caution Panel Search Light Landing Light Anti-Collision Light	MS25235R311 Lamp MS25231-313 Lamp MS25237-327 Lamp MS25069-1495 Lamp AN3120-1047 Lamp ASA 7512 Lamp MS25232-1683 Lamp Type C-2 MIL-F-7414 204-075-705 Type MA-3 MIL-L-26998 Grimes G8385-1 Grimes G8400A-8-24	4	1.28	30.0	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8		
M - MISCELLANEOUS	Windshield Wiper Solenoid-Cargo Hook Rel. Relay-Cargo Hook Rel.	204-070-907 Eastern Rotocraft MS24149D1	1	3.5	30.0	10.0	0.1			3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		
P - POWER	Battery Charging Relay-Battery Relay-Non Essential Bus Relay-Bus Control Inverter-Main Inverter-Spare Relay, Inverter Power	MS24498-1 34 Amp. Hr. MS24171D1 (206-075-137-1) MS24171D1 MS25024-2 MS21983-1 MS21983-1 MS21983-1 MS24164D1	1	0.6	30.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6		
Q - FUEL & OIL	Pump-Fuel Boost Pump-Aux. Fuel Pump-External Fuel Valve-Fuel Shut-Off Solenoid Valve-Igniter Solenoid Valve-Gov. Bypass Actuator-Gov. RPM Solenoid-Idle Stop Rel.	206-040-606 205-061-622 Lear Type RG-8160-2F 204-060-013 204-060-762 204-060-776	1	5.2	30.0	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2		
R - RADIO NAV. & COMM.	Radio Compass (ADF) Marker Beacon Revr. Vor. Receiver (V.H.F.) FM Homing Adapter FM Auxiliary Revr. FM Transceiver (Receive) (Additional Pwr. Limit) U.H.F. Transceiver (Receive) (Additional Pwr. Limit) V.H.F. Xmitr. (Standby) Relay-Intercom Signal Distb. Panel Signal Distb. Panel Aux. Relay-Aux. Sig. Distb. Pal.	AN/ARN-59 R-1041/ARN AN/ARN-30 AN/ARA-31 AN/ARA-49 (Pwr. Prov.) AN/ARC-44 AN/ARC-5B T-364/ARC MS24139-5 SB 329/AR MX-1646/AIC Cook Electric 645-4105	1	2.8	30.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8		
S - RADAR	IFF Transponder IFF Adapter Altimeter	AN/APX-44 (Pwr. Prov.) Mark XII (Pwr. Prov.) AN/APN-100 (Pwr. Prov.)	1	4.5	30.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2		
W - WARNING	Fire Detection Control-RPM Warning	Edison 227-28-5 206-074-001-1	1	0.07	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
TOTALS-Avg. Amperes					122.6	112.3	104.4	100.9	340.5	332.4	281.4	241.5	343.2	327.0	286.7	227.3	279.5	269.2	254.1	248.6	210.2	198.0	176.8	147.9	143.2

- GENERATOR:** (1) G.F.E. Aerno 42-2081 Type GEU-5/A DWG 58C52266 30 Volt 300 AMP. Gear Ratio Gen.: Eng. Power Turbine Output Shaft 1:1
- STARTER-GENERATOR:** (1) G.F.E. Aerno 42-7081 Type STU-6/A 30 Volt 200 AMP. Gear Ratio, Starter-Gen.: Eng. Gas Producer Section, 0.288:1
- VOLTAGE REGULATOR:** (2) E-1597-1 MIL-R-6809
- REVERSE CURRENT CUTOUT:** (2) AN3025-300
- BATTERY:** (1) MS24498-1 34 AMP.-HR., Nickel Cadmium.

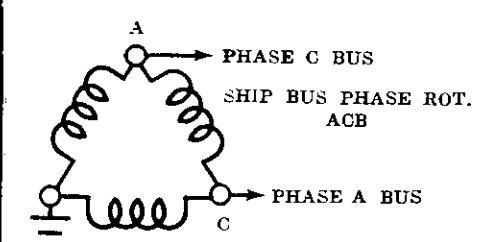
- ⚠ Loads not on essential bus. These loads may be obtained by use of bus override switch.
- ⚠ Part of auxiliary fuel system.
- ⚠ Power requirement shown is for 100,000 BTU heater used with winterisation kit.
- 6. The 30 volt, 200 amp. starter-generator is considered suitable for the essential loads listed in the emergency column (F-8).
- 5. Recommended capacity for ground power unit based on graph P-4, 500 amp. 28V DC, 1000 amp. overload capability.
- ⚠ GFE (part of Lycoming T63-L-11 engine).
- ⚠ Main & spare inverters are used interchangeably. One inverter only can be energized at one time.
- ⚠ This equipment normally de-energized.
- ⚠ See supplementary data chart.

NOTES-

Operating Conditions	Start & Warmup	Takeoff	Cruiase	Land	Emergency
Max. Operating Gen. RPM	6600	6400	6600	6600	
Gen. RPM Min. Operating	5000	5800	5800	5800	
Max. Altitude Feet		12,200	16,800	12,200	16,800

Figure 13-3. Load analysis chart - dc - electrical - UH-1D (62-2106 through 62-2113, and 62-12351 through 62-12372) (Sheet 1 of 2)

PART DESIGNATION	Total No. Of Units	Operating Time-Min.	ELECTRICAL REQUIREMENTS PER UNIT									Power Factor	Voltage Regulation	Frequency Range	CONNECTED LOADS					
			115 VOLTS 3 PH.			115 VOLTS 1 PH.			28 VOLTS 1 PH.						PHASE A TO B		PHASE C TO A		PHASE B TO C	
			VA.	WATTS	VAR.	VA.	WATTS	VAR.	VA.	WATTS	VAR.				WATTS	VAR.	WATTS	VAR.	WATTS	VAR.
MS21983-1	1		250									.80 LAG .95 LEAD	±2.2	390/410						
Aerno 61-2476, Type MO-2 Aerno 61-2497, Type TRU-20/A	1 1	30.0 30.0							1.72 2.29	0.47 0.66	1.65 2.20	0.28 0.29	±10 ±10	360/440 360/440					0.47 0.66	1.65 2.20
Aerno 61-2476, Type MO-2 Aerno 61-2497, Type TRU-20/A Aerno 61-2461 (MS28010-1) Aerno 61-3008 (MS28005-1) Aerno 61-2486, Type MO-3 Aerno 61-2487, Type MH-4 205-061-633 205-061-633	1 1 1 1 1 1 1 3	30.0 30.0 30.0 30.0 30.0 30.0 30.0 30.0							1.72 2.29 2.60 3.25 1.72 2.29 3.50	0.47 0.66 0.45 0.59 0.47 0.66 3.50	1.65 2.20 2.57 3.19 1.65 2.20 3.50	0.28 0.29 0.17 0.18 0.28 0.29 1.0	±10 ±10 ±10 ±10 ±10 ±10 ±10	360/440 360/440 360/440 360/440 360/440 360/440 360/440					0.47 0.66 0.45 0.59 0.47 0.66 3.50	1.65 2.20 2.57 3.19 1.65 2.20
Lear 4005G Lear 5404G Aerno 60-5937, Type MD-1 Aerno 60-5938, Type MC-1 Type J-8 MIL-I-5133 Aerno 60-1702, Type A-2 Aerno 60-1480, Type S-3A Aerno 60-1483, Type C-2 Aerno 60-1479 204-075-363-3 Sperry C-6H Sperry 1783867-1 ID-250A/ARN	1 1 1 1 1 1 1 1 1 1 1 1	30.0 30.0 30.0 30.0 30.0 30.0 30.0 30.0 30.0 30.0 30.0				15.00 4.80 9.00 27.70 1.60 17.40	14.10 4.50 7.70 25.56 0.80 14.80	5.10 1.60 4.70 8.08 -1.39 9.20				0.94 0.94 0.85 0.92 0.50 0.24 0.85 0.18	±10 ±10 ±10 ±10 ±10 ±10 ±10 ±10	380/420 380/420 360/440 360/440 380/440 360/440 360/440 360/440	14.10 7.80 4.50 2.57 6.61 0.40	5.10 2.80 1.60 1.57 5.49 -0.69		7.80 2.80 2.80 1.57 12.00 1.21	7.80 2.80 2.80 1.57 6.95 0.40	2.80 2.80 1.57 1.38 -0.69 21.90 9.20 6.57
CP53BIEE105K MIL-C-25 RW20G911 MIL-R-26	2 1	30.0 30.0				33.20 14.50		-33.20				0.0 1.0					14.50			-66.40
ARC Type B-18A	1	30.0							7.28	7.28		1.0							7.28	
Type DI AAF32471	1	30.0				13.20	0.80	13.10				0.06	±10	360/440					0.80	13.10
MS21983-1			250																	
TOTALS:													39.48	15.87	36.87	5.58	51.53	6.74		
TOTAL LOAD													131 VA @ 0.97 P.F. (LAG)							



MAIN & SPARE INVERTER
MS21983-1
PHASE ROTATION — ABC

- ⚠ Power interlock relay draws power from two phases only.
- ⚠ Obtained from 115/28 volt auto transformer.

NOTES—

Figure 13-3. Load analysis chart - ac - electrical - UH-1D (62-2106 through 62-2113, and 62-12351 through 62-12372) (Sheet 2 of 2)

EQUIPMENT	PART DESIGNATION	Number Of Units	Amperes Per Unit	Operating Time-Min.	OPERATING CONDITIONS																				
					START & WARM UP				TAKE OFF				CRUISE				LAND				EMERGENCY				
					Average Amps.			Amps	Average Amps.			Amps	Average Amps.			Amps	Average Amps.			Amps	Average Amps.				
					0.5 Min.	2.0 Min.	15.0 Min.		0.5 Min.	2.0 Min.	15.0 Min.		0.5 Min.	2.0 Min.	30.0 Min.		0.5 Min.	2.0 Min.	5.0 Min.		0.5 Min.	2.0 Min.	30.0 Min.	60.0 Min.	
R - RADIO NAV. & COMM.																									
Radio Compass	AN/ARN-59	1	2.8	30.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Marker Beacon Revr.	R-1041/ARN	1	0.04	30.0	NEG					NEG					NEG					NEG					2.8
VOR Receiver (VHF)	AN/ARN-30E	1	2.9	30.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
FM Homing Adapter	AN/ARA-31	1	1.0	1											1.0	1.0	1.0	1.0							2.9
FM Auxiliary Revr.	AN/ARR-49 (Prov. Only)	1	2.0	30.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
FM Transceiver (Rec.)	AN/ARC-44	1	4.92	30.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
(Additional Pwr. Xmit.)			1.43	1						1.4	1.4	0.7	0.1							1.4	1.4	0.7	0.3	1.4	0.1
FM Transcvr. Pwr. Rly.	MS24149D1	1	0.25	30.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Intercom Relay	C2A-126 (HI-G INC.)	2	0.02	1	NEG					NEG					NEG					NEG					0.3
VHF Xmtr. (Standby)	T-366/ARC	1	1.5	1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
VHF Transcvr. (Rec.)	AN/ARC-73	1	2.0	30.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
(Additional Pwr. Xmit.)			6.5	1	6.5	6.5	3.3	0.7		6.5	6.5	3.3	0.7		6.5	6.5	3.3	0.7		6.5	6.5	3.3	0.7	6.5	0.7
UHF Transcvr. (Rec.)	AN/ARC-51	1	0.25	30.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
(Additional Pwr. Xmit.)			0.2	30.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
VHF Transcvr. Pwr. Rly.	MS24149D1	1	0.25	30.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Signal Distribution Pnl.	C-1611/A1C	3	0.2	30.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
S - RADAR																									
IFF Transponder	AN/APX-44	1	4.5	30.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
IFF Adapter	Mark XII (Prov. Only)	1	4.2	30.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Radar Altimeter	AN/APN-100 (Prov. Only)	1	3.0	30.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
W - WARNING																									
Fire Detection-Eng.	Edison 227-28-5	1	0.07	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
RPM Limit	205-074-001-1	1	0.5	30.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
SHEET TOTAL - Average Amperes					36.1	36.1	32.9	30.3	37.5	37.5	33.8	30.6	37.5	37.5	34.1	31.5	37.5	37.5	33.8	30.6	37.5	37.5	33.8	30.6	30.6
TOTAL FROM SHEET 1					82.9	72.6	59.4	55.1	287.4	279.3	233.3	195.3	293.4	277.2	238.5	180.3	236.6	223.1	208.4	202.8	159.7	142.5	128.6	101.6	96.9
TOTAL - AVERAGE AMPERES					119.0	108.7	91.3	85.4	324.9	316.8	267.1	225.9	330.9	314.7	272.6	211.8	274.1	265.6	242.2	233.4	197.2	180.0	162.4	132.2	127.5
A ADDED EQUIPMENT - (S/N 63-12956 & SUBSEQUENT):																									
A - ARMAMENT																									
Rocket Launcher Sys.	XM-3	1	0.6																						
Sight	Mark VIII	1	5.0																						
Machine Gun System	XM-6	1	41.2																						
Fire Control Relay	MS25024-2	1	0.35										41.6	41.6	41.6	12.0									
TOTAL - AVERAGE AMPERES (S/N 63-12956 & Subsequent)					119.0	108.7	91.3	85.4	324.9	316.8	267.1	225.9	372.5	366.3	314.2	223.8	274.1	265.6	242.2	233.4	197.2	180.0	162.4	132.2	127.5

⚠ This equipment added by PCA 205-55 (CCN-MOD. 13) and is effective for S/N 63-12956 and subsequent helicopters.

⚠ Only one of these systems may be installed at any one time.

(Continued from sheet 1)

NOTES-

205-099-127
AV 054001-2

Figure 13-4. Load analysis chart - dc - electrical - UH-1D (63-8739 through 63-8859, and 63-12956 through 63-13002) (Sheet 2 of 3)

EQUIPMENT	PART DESIGNATION	Number Of Units	Amperes Per Unit	Operating Time-Min.	OPERATING CONDITIONS																			
					START & WARM UP			TAKE OFF			CRUISE			LAND			EMERGENCY							
					Average Amps.			Average Amps.			Average Amps.			Average Amps.			Average Amps.							
					0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.	Amps	0.5 Min.	2.0 Min.	5.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.	60.0 Min.
R - RADIO NAV. & COMM.																								
Radio Compass	AN/ARN-59	1	2.8	30.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	
Marker Beacon Rcvr.	R-1041/ARN	1	0.04	30.0	NEG				NEG				NEG				NEG			NEG				
VOR Receiver (VHF)	AN/ARN-30E	1	2.9	30.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	
FM Homing Adapter	AN/ARA-31	1	1.0	1									1.0	1.0	1.0	1.0								
FM Auxiliary Rcvr.	AN/ARR-49 (Prov. Only)	1	2.0	30.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
FM Transceiver (Rec.)	AN/ARC-44	1	4.92	30.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	
(Additional Pwr. Xmit.)			1.43	1					1.4	1.4	0.7	0.1					1.4	1.4	0.7	0.3	1.4	1.4	0.1	
FM Transcvr. Pwr. Rly.	MS24149D1	1	0.25	30.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Intercom Relay	C2A-126 (HI-G INC.)	2	0.02	1	NEG				NEG				NEG				NEG			NEG				
VHF Xmtr. (Standby)	T-366/ARC	1	1.5	1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
VHF Transcvr. (Rec.)	AN/ARC-73	1	2.0	30.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
(Additional Pwr. Xmit.)			6.5	1	6.5	6.5	3.3	0.7	6.5	6.5	3.3	0.7	6.5	6.5	3.3	0.7	6.5	6.5	3.3	0.7	6.5	6.5	0.7	
UHF Transcvr. (Rec.)	AN/ARC-51	1	6.5	1																				
(Additional Pwr. Xmit.)																								
VHF Transcvr. Pwr. Rly.	MS24149D1	1	0.25	30.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Signal Distribution Pnl.	C-1611/A1C	3	0.2	30.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
S - RADAR																								
IFF Transponder	AN/APX-44	1	4.5	30.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
IFF Adapter	Mark XII (Prov. Only)	1	4.2	30.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	
Radar Altimeter	AN/APN-100 (Prov. Only)	1	3.0	30.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
W - WARNING																								
Fire Detection-Eng.	Edison 227-28-5	1	0.07	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
RPM Limit	205-074-001-1	1	0.5	30.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
SHEET TOTAL - Average Amperes					36.1	36.1	32.9	30.3	37.5	37.5	33.8	30.6	37.5	37.5	34.1	31.5	37.5	37.5	33.8	30.6	37.5	37.5	33.8	30.6
TOTAL FROM SHEET 1					82.9	72.6	59.4	55.1	287.4	279.3	233.3	195.3	293.4	277.2	238.5	180.3	236.6	228.1	208.4	202.8	159.7	142.5	128.6	101.6
TOTAL - AVERAGE AMPERES					119.0	108.7	91.3	85.4	324.9	316.8	267.1	225.9	330.9	314.7	272.6	211.8	274.1	265.6	242.2	233.4	197.2	180.0	162.4	132.2
A (S/N 63-8804 thru 63-8859)																								
A ADDED EQUIPMENT - (S/N 63-12956 & SUBSEQUENT):																								
A - ARMAMENT																								
Rocket Launcher Sys.	XM-3	1	0.6																					
Sight	Mark VIII	1	5.0																					
Machine Gun System	XM-6	1	41.2									41.6	41.6	41.6	12.0									
Fire Control Relay	MS25024-2	1	0.35																					
TOTAL - AVERAGE AMPERES					119.0	108.7	91.3	85.4	324.9	316.8	267.1	225.9	372.5	356.3	314.2	223.8	274.1	265.6	242.2	233.4	197.2	180.0	162.4	132.2
(S/N 63-12956 & Subsequent)																								

⚠ This equipment added by PCA 205-55 (CCN-MOD. 13) and is effective for S/N 63-12956 and subsequent helicopters.

⚠ Only one of these systems may be installed at any one time.

(Continued from sheet 1)

NOTES-

205-099-127
AV 054001-2

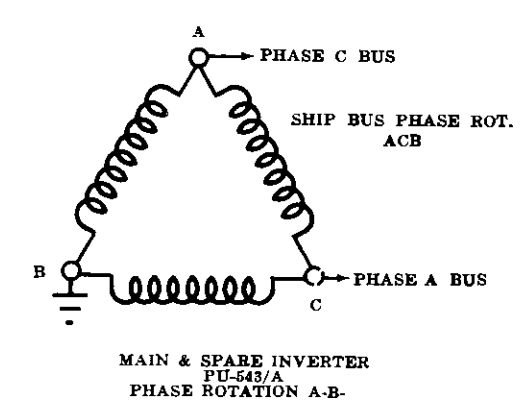
Figure 13-4. Load analysis chart - dc - electrical - UH-1D (63-8739 through 63-8859, and 63-12956 through 63-13002) (Sheet 2 of 3)

EQUIPMENT	PART DESIGNATION	Number Of Units	Amperes Per Unit	Operating Time-Min.	OPERATING CONDITIONS																				
					START & WARM UP				TAKE OFF				CRUISE				LAND				EMERGENCY				
					Average Amps.				Average Amps.				Average Amps.				Average Amps.				Average Amps.				
					Amps	0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.	Amps	0.5 Min.	2.0 Min.	5.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.	60.0 Min.
R - RADIO NAV. & COMM.																									
Radio Compass	AN/ARN-59	1	2.8	30.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8		
Marker Beacon Rcvr.	R-1041/ARN	1	0.04	30.0	NEG				NEG				NEG				NEG				NEG				
VOR Receiver (VHF)	AN/ARN-30E	1	2.9	30.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9		
FM Transceiver (Rcvr.)	AN/ARC-54	1	3.3	30.0	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		
(Additional Pwr. Xmit.)			4.2	30.0	4.2	4.2	2.1	0.6	4.2	4.2	2.1	0.6	4.2	4.2	2.1	0.4	4.2	4.2	2.1	0.8	4.2	4.2	2.1	0.4	
UHF Transceiver (Rcvr.)	AN/ARC-51X	1	5.8	30.0	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8		
(Additional Pwr. Xmit.)			3.8	30.0	3.8	3.8	1.9	0.5	3.8	3.8	1.9	0.5	3.8	3.8	1.9	0.4	3.8	3.8	1.9	0.8	3.8	3.8	1.9	0.4	
VHF Transceiver (Rcvr.)	AN/ARC-73	1	2.0	30.0																					
(Additional Pwr. Xmit.)			6.5	30.0																					
HF Transceiver (Rcvr.)	AN/ARC-102	1	7.5	30.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5		
(Additional Pwr. Xmit.)			31.6	30.0					31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6		
Signal Distribution Pnl.	C-1611/A1C	3	0.2	30.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6		
VHF Transceiver Pwr. Relay	MS24149-DL	1	0.25	30.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
Intercom Relay	C2A-126 (Hi-G. Inc.)	2	0.02	30.0	NEG				NEG				NEG				NEG				NEG				
FM Auxiliary Receiver	AN/AAR-49 (Prov. Only)	1	2.0	30.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
S - RADAR																									
IFF Transponder	AN/APX-44	1	4.5	30.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		
IFF Adapter	Mark XII (Prov. Only)	1	4.2	30.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2		
Radar Altimeter	AN/APN-100 (Prov. Only)	1	3.0	30.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
W - WARNING																									
Fire Detection-Eng.	Edison 227-29-5	1	0.07	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
RPM Limit	205-074-001-1	1	0.5	30.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
PAGE 3 TOTAL -- Average Amperes					45.5	45.5	41.5	38.6	45.5	45.5	41.5	38.6	45.5	45.5	41.5	38.3	45.5	45.5	41.5	43.1	45.5	45.5	43.5	38.3	38.3
TOTAL FROM PAGE 2 --					82.9	72.6	59.4	55.1	297.9	289.8	241.1	203.1	346.6	330.4	269.0	194.6	246.2	235.9	216.2	209.9	163.2	146.0	132.1	105.1	100.4
TOTAL -- Average D.C. Amperes --					128.4	118.1	100.9	93.7	343.4	335.3	282.6	241.7	392.1	375.9	310.5	232.9	291.7	281.4	257.7	253.0	208.7	191.5	173.6	143.4	138.7

AV 054002-2

Figure 13-5. Load analysis chart - dc - electrical - UH-1D (64-13492 through 64-13901) (Sheet 2 of 3)

A EQUIPMENT	B PART DESIGNATION	C Total No. of Units	D Operating Time-Min.	ELECTRICAL REQUIREMENTS PER UNIT-E									F Power Factor	G Voltage Regulator	H Frequency Range	CONNECTED LOADS-I										
				115 VOLTS 3 PH.			115 VOLTS 1 PH.			28 VOLTS 1 1 PH.						PHASE A TO B		PHASE C TO A		PHASE B TO C						
				VA.	WATTS	VAR.S.	VA.	WATTS	VAR.S.	VA.	WATTS	VAR.S.				WATTS	VAR.S.	WATTS	VAR.S.	WATTS	VAR.S.					
INVERTER -MAIN	PU-543/A	1		250									.80 LAG .95 LEAD		390/410											
D - INSTRUMENTS																										
Indicator—XMSN Oil Pressure	Aerno 6-2476, Type MO-2	1	30.0										0.28	±10	360/440								0.47	1.65		
Transmitter—XMSN Oil Pressure	Aerno 61-2497, Type TRU-20/A	1	30.0										0.29	±10	360/440								0.66	2.20		
E - ENGINE INSTRUMENTS																										
Indicator—Eng. Oil Pressure	Aerno 61-2476, Type MO-2	1	30.0										0.28	±10	360/440								0.47	1.65		
Transmitter—Fuel Pressure	Aerno 61-2497, Type TRU-20/A	1	30.0										0.29	±10	360/440								0.66	2.20		
Indicator—Fuel Pressure	Aerno 61-2461 (MS28010-1)	1	30.0										0.17	±10	360/440								0.45	2.57		
Transmitter—Fuel Pressure	Aerno 61-3008 (MS28005-1)	1	30.0										0.18	±10	360/440								0.59	3.19		
Indicator—Torque Pressure	Aerno 61-2186, Type MO-3	1	30.0										0.28	±10	360/440								0.47	1.65		
Transmitter—Torque Pressure	Aerno 61-2187, Type MH-4	1	30.0										0.29	±10	360/440								0.66	2.20		
Indicator—Fuel Quantity	205-061-633	1	30.0				3.50	3.50					1.00	±10	360/440	3.50										
Tank Unit—Fuel Quantity	205-061-633	3	30.0																							
F - FLIGHT INSTRUMENTS																										
Attitude Indicating System—Pilots																										
Indicator	Lear 40056	1	30.0					15.00	14.10	5.10			0.94	±10	380/420	14.10	5.10									
Amplifier	Lear 54046	1	30.0										0.94	±10	380/420	7.80	2.80	7.80	2.80	7.80	2.80					
Control Gyro	Aerno 60-5937, Type MD-1	1	30.0	25.00	23.50	8.50		4.80	4.50	1.60			0.94	±10	380/420	4.50	1.60									
Rate Gyro	Aerno 60-5936, Type MC-1	1	30.0										0.85	±10	380/420	2.57	1.57	2.57	1.57	2.57	1.57					
Attitude Indicator—Copilot	MIL-5133, Type J-8	1	30.0	9.00	7.70	4.70																				
Compass System—Type J-2																										
Amplifier	Aerno 60-1702, Type A-2	1	30.0										0.92	±10	360/440	6.61	5.49	12.00	1.21	6.95	0.38					
Control Gyro	Aerno 60-1480, Type S-3A	1	30.0	27.70	25.56	8.08																				
Transmitter	Aerno 60-1483, Type C-2	1	30.0																							
Compensator	Aerno 60-1479	1	30.0																							
Master Indicator	Sperry C-6H	1	30.0								22.50	5.30	21.90	0.24	±10	360/440							5.30	21.90		
Servo Amplifier	Sperry 1783867-1	1	30.0				17.40	14.80	9.20				0.85	±10	360/440								14.80	9.20		
Repeater Indicator	ID-250A/ARN	1	30.0								6.69	1.20	6.57	0.18	±10	360/440							1.20	0.57		
Power Interlock Relay	204-075-363-3	1	30.0	1.60	0.08	-1.39								±10	360/440	0.40	-0.69					0.40	-0.69			
M - MISCELLANEOUS																										
Capacitor—P.F. Correction	CP53BIEF105K, MIL-C-25	2	30.0				33.20			-33.20			0													
Resistor—Load Balancing	RW20GS11, MIL-R-26	1	30.0				14.50	14.50					1.0				14.50								-66.40	
R - RADIO NAVIGATION																										
RMI Converter	ARC Type B-18A	1	30.0										1.0												7.28	
X - AC POWER WARNING																										
AC Failure Relay	AAF 32471, Type D1	1	30.0				13.20	0.80	13.10				0.06	±10	360/440								0.80	13.10		
INVERTER—SPARE	PU-543/A	1		250																						
NOTE: Spare inverter loads are identical to main inverter loads.																										
TOTALS																39.48	15.87	36.87	5.58	51.53	6.74					
TOTAL AC LOAD—131VA @ 0.97 P.F. (LAGGING)																										



⚠ POWER INTERLOCK RELAY REQUIRES POWER FROM TWO PHASES ONLY.
 ⚠ OBTAINED FROM 115/28 VOLT AUTOTRANSFORMER.

NOTES—

Figure 13-5. Load analysis chart - ac - electrical - UH-1D (64-13492 through 64-13901) (Sheet 3 of 3)

EQUIPMENT	PART DESIGNATION	Number Of Units	Amperes Per Unit	Operating Time-Min.	OPERATING CONDITIONS																				
					START & WARM UP				TAKE OFF				CRUISE				LAND				EMERGENCY				
					Average Amps.				Average Amps.				Average Amps.				Average Amps.				Average Amps.				
					Amps	0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.	Amps	0.5 Min.	2.0 Min.	5.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.	60.0 Min.
R - RADIO NAV. & COMM.																									
Radio Compass	AN/ARN-59	1	2.8	30.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Marker Beacon Rcvr.	R-1041/ARN	1	0.04	30.0	NEG				NEG																
VOR Receiver (VHF)	AN/ARN-30E	1	2.9	30.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
FM Transceiver (RCVR)	AN/ARC-54	1	3.3	30.0	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
(Additional PWR XMIT)			4.2	30.0	4.2	4.2	2.1	0.6	4.2	4.2	2.1	0.6	4.2	4.2	2.1	0.4	4.2	4.2	2.1	0.8	4.2	4.2	2.1	0.4	0.4
UHF Transceiver (RCVR)	AN/ARC-51X	1	5.8	30.0	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
(Additional PWR XMIT)			3.8	30.0	3.8	3.8	1.9	0.5	3.8	3.8	1.9	0.5	3.8	3.8	1.9	0.4	3.8	3.8	1.9	0.8	3.8	3.8	1.9	0.4	0.4
VHF Transceiver (RCVR)	AN/ARC-73	1	2.0	30.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
(Additional PWR XMIT)			6.5	30.0																					
HF Transceiver (RCVR)	AN/ARC-102	1	7.5	30.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
(Additional PWR XMIT)			31.6	30.0																					
Signal Distribution PNL	C-1611/A1C	4	0.1	30.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
VHF Transceiver PWR Relay	MS24149-D1	1	0.25	30.0																					
Intercom Relay	C2A-126 (HI-G, INC)	2	0.02	4	NEG				NEG																
FM Auxiliary Receiver	AN/ARR-()	1	0.1	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Emergency Transmitter	T-366/ARC	1	2.0	30.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
S - RADAR																									
IFF Transponder	AN/APX-44	1	4.5	30.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
IFF Transponder	AN/APX-68	1	1.7	30.0																					
Computer Kit	1A/TEC	1	0.1	30.0																					
Test Set	TS-1843/APX	1	0.5	30.0																					
W - WARNING																									
Fire Detection-Eng.	Edison 227-29-5	1	0.07	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
RPM Limit	205-074-001-1	1	0.5	30.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
					37.9	37.9	33.9	31.0	37.9	37.9	33.9	31.0	37.9	37.9	33.9	30.7	37.9	37.9	33.9	31.5	37.9	37.9	33.9	30.7	30.7
					82.9	72.6	59.4	55.1	266.8	258.7	210.0	172.0	315.5	299.3	237.9	163.5	215.1	204.8	185.1	178.8	132.1	114.9	101.0	74.0	69.3
					120.8	110.5	93.3	86.1	304.7	296.6	243.9	203.0	353.4	337.2	271.8	194.2	253.0	242.7	219.0	210.3	170.0	152.8	134.9	104.7	100.0
15. Installed with and part of the AN/APX-68 System. 14. Either on AN/APX-44 or AN/APX-68 may be installed. NOTES -																									

Figure 13-6. Load analysis chart - dc - electrical - UH-1D (65-9565 through 65-12895) (Sheet 2 of 3)

EQUIPMENT	PART DESIGNATION	Number Of Units	Amperes Per Unit	Operating Time-Min.	OPERATING CONDITIONS																			
					START & WARM UP				TAKE OFF				CRUISE				LAND				EMERGENCY			
					Average Amps.				Average Amps.				Average Amps.				Average Amps.				Average Amps.			
					Amps	0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.	Amps	0.5 Min.	2.0 Min.	5.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.
C - FLIGHT CONTROLS Magnetic Brake-Force Trim Solenoid-Hyd. Control	Airborne ACC. R460M15 Ronson 1-U-1025	3 1	0.5 1.5	30.0 30.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E - ENGINE INSTRUMENTS Engine Oil Temp. Xmsn. Oil Temp.	Aerno 61-8833 (MS28009-1) Aerno 61-8842 (MS28009-2)	1 1	0.04 0.04	30.0 30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
F - FLIGHT INSTRUMENTS Gyro Compass Power Interlock Relay Heater-Pitot Tube Turn & Slip Ind. Type MD-8	Type J-2 204-075-363 Aerno 60-9660 (AN5813-1) Aerno 60-5704 (MS28024-3)	1 1 1 1	0.6 0.2 4.0 0.1	30.0 30.0 30.0 30.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
H - HEATING Heat Exchanger Motor-Bleed Air Valve Ice Detector System-Eng. Defrost Valve Aft Outlet Valve Heated Blanket Outlet Heated Blanket Outlet	204-072-263 204-060-444 Cook Elect. 575-1022 & 677-20 Leland A38153-001 Leland A38153-001 Hubbel 7540 Hubbel 7540	1 1 1 ea. 1 2 6 2	2.1 2.1 11.0 3.1 3.1 10.0 10.0	0.2 2 2 0.5 0.5 30.0 30.0	2.0	0.8	0.2	NEG	11.0	2.9	2.9	2.9	11.0	2.9	2.9	2.9	11.0	2.9	2.9	2.9	11.0	2.9	2.9	2.9
J - ENGINE IGNITION SYS.		1	1.5	0.5	1.5	1.5	0.4	NEG																
K - ENGINE CONTROLS Starter-Generator Relay-Starter	204-060-200 MS24172D1	1 1			4.5	4.5	1.1	0.2																
L - LIGHTING Dome Light-Red Cockpit Light Instrument & Edge Lights Instruments Sec. Lights Fus. Light-Top & Bottom Fus. Light-Side Fus. Light-Tail Flasher-Nav. Lights Master Caution Panel Search Light Landing Light Anti-Collision Light	MS25235R311 Lamp MS25231-313 Lamp MS25237-327 Lamp MS25069-1495 Lamp AN3120-1047 Lamp ASA 7512 Lamp MS25232-1683 Lamp MS24577-2 Type II 204-075-705 MIL-L-26998 Type MA-3 Grimes G8985-1 Grimes G8400A-8-24	4 2 132 4 3 4 1 1 1 1 1 1 1	1.28 0.17 0.04 0.34 2.7 0.83 1.15 0.20 17.00 16.50 3.00	30.0 30.0 30.0 30.0 30.0 30.0 30.0 30.0	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
M - MISCELLANEOUS Windshield Wiper Internal Rescue Hoist	204-070-907 205-706-030	2 1	3.5 70.0	30.0 30.0					7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
P - POWER Battery Charging Relay-Battery Relay-Non-Essential Bus. Relay-Bus. Control Inverter-Main Inverter-Spare Relay-Inverter Power Relay-Inverter	BB433A 34 Amp. Hour MS24171-D1 MS24171-D1 MS25925-2 PU-543/A PU-543/A MS24166-D1 MS24149-D1	1 1 1 1 1 1 2 1		30.0 30.0 30.0 30.0 30.0 30.0 30.0 30.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Q - FUEL AND OIL Pump-Fuel Boost Pump-Aux. Fuel Pump-External Fuel Valve-Fuel Shut-Off Solenoid Valve-Igniter Solenoid Valve-Gov. By-Pass Actuator-Gov. RPM Solenoid-Idle Stop Rel. Relay-Aux. Fuel Trans.	205-060-606 205-060-622 Lear Type RG8160-2F 204-060-013 204-060-762 204-060-775 MS24149-D1	1 2 2 1 1 1 1 1 1	5.2 3.5 3.7 1.0 0.75 1.0 0.9 6.5 0.2	30.0 22.0 22.0 0.02 0.5 30.0 1.0 0.03 7.0	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
PAGE 2 TOTAL - Average Amperes					82.9	72.6	59.4	55.1	262.5	254.4	205.7	167.7	325.6	317.5	280.4	181.7	210.8	200.5	180.8	174.5	121.9	112.8	100.5	74.0
PAGE 2 TOTAL Average Amperes					82.9	72.6	59.4	55.1	222.5	214.4	165.7	127.7	285.6	277.5	240.4	141.7	170.8	160.5	140.8	134.5	121.9	112.8	100.5	74.0

GENERATOR: (1) GFE Aerno 42-2031 Type GEU-5/A DWG 5806226, 30 Volt, 300 Amperes, Gear Ratio, Generator to Power Turbine Output Shaft: 1 to 1.

STARTER-GENERATOR: (1) CFE, BHC Specification 204-060-200-1, 30 Volt, 300 Amp., Gear Ratio of Starter-Generator to Engine Gas Producer, 0.283 to 1.

VOLTAGE REGULATOR: (2) E-1597-1, MIL-R-6809

REVERSE CURRENT CUTOFF: (2) AN3025-300.

BATTERY: (1) BB-433A, 34 Amp. Hr., Nickel-Cadmium.

11. Recommended capability of ground power unit: 28V DC, 500 amp., 1000 amp. overload capability.

10. The 30 volt, 300 amp. starter generator is considered suitable for the essential loads listed in the emergency column (F-8).

Ⓜ Power requirement not applicable. Listing is for reference only.

Ⓝ Either AN/ARC-51BX or AN/ARC-73 may be installed.

Ⓞ Loads not on essential bus. These loads may be obtained by use of bus override switch.

Ⓟ Part of auxiliary fuel system (not normally installed).

Ⓠ Operates with spare inverter only.

Ⓡ Main and spare inverters are used interchangeably. (Both cannot be operated at the same time.)

Ⓢ GFE (part of Lycoming T53-L-11 engine).

Ⓣ See supplementary data sheet.

Ⓤ This equipment normally de-energized.

NOTES: Also on sheet 2.

Operating Conditions	Start & Warmup	Takeoff	Cruise	Land	Emergency
Max. Operating Gen. RPM	6600	6600	6600	6600	
Min. Operating Gen. RPM	5000	6000	6000	6000	
Max. Altitude Feet		19,350	26,050	19,350	26,050

Figure 13-7. Load analysis chart - dc - electrical - UH-1D (66-746 through 66-8577) (Sheet 1 of 3)

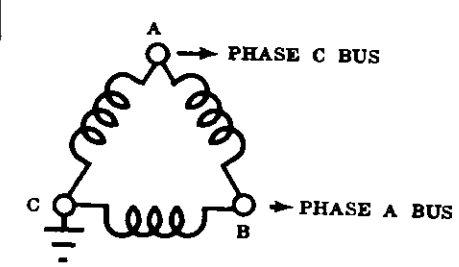
EQUIPMENT	PART DESIGNATION	Number Of Units	Amperes Per Unit	Operating Time-Min.	OPERATING CONDITIONS																			
					START & WARM UP				TAKE OFF				CRUISE				LAND				EMERGENCY			
					Average Amps.				Average Amps.				Average Amps.				Average Amps.				Average Amps.			
					Amps	0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	15.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.	Amps	0.5 Min.	2.0 Min.	5.0 Min.	Amps	0.5 Min.	2.0 Min.	30.0 Min.
R - RADIO NAV. & COMM.																								
Radio Compass	AN/ARN-83ADF	1	1.2	30.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		
Marker Beacon Rcvr.	R-1041/ARN	1	0.04	30.0	NEG				NEG				NEG				NEG							
VOR Receiver (VHF)	AN/ARN-82	1	1.0	30.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
FM Transceiver (Rcvr.)	AN/ARC-54	1	3.3	30.0	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		
(Additional Pwr. Xmit.)		1	4.2	30.0	4.2	4.2	2.1	0.6	4.2	4.2	2.1	0.6	4.2	4.2	2.1	0.4	4.2	4.2	2.1	0.4	4.2	4.2		
UHF Transceiver (Rcvr.)	AN/ARC-51BX	1	5.8	30.0	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8		
(Additional Pwr. Xmit.)		1	3.8	30.0	3.8	3.8	1.9	0.5	3.8	3.8	1.9	0.5	3.8	3.8	1.9	0.4	3.8	3.8	1.9	0.4	3.8	3.8		
VHF Transceiver (Rcvr.)	AN/ARC-73	1	2.0	30.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
(Additional Pwr. Xmit.)		1	6.5	30.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
HF Transceiver (Rcvr.)	AN/ARC-102	1	7.5	30.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5		
(Additional Pwr. Xmit.)		1	31.6	30.0	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6		
Signal Distribution Pnl.	C-1611/A1C	4	0.2	30.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8		
VHF Transceiver Pwr. Relay	MS-4149-D1	1	0.25	30.0	NEG				NEG				NEG				NEG							
Intercom Relay	C2A-126(HI-G, INC)	2	0.02	30.0	NEG				NEG				NEG				NEG							
FM Auxiliary Receiver	AN/ARR-()	1	0.1	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Emergency Transmitter	T-366/ARC	1	2.0	30.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
VHF Transceiver	AN/ARC 134	1	2.0	30.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
S - RADAR																								
IFF Transponder	AN/APX-44	1	4.5	30.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		
IFF Transponder	AN/APX-68	1	1.7	30.0																				
Computer Kit	1A/TSEC	1	0.1	30.0																				
Test Set	TS-1843/APX	1	0.5	30.0																				
W - WARNING																								
Fire Detection-Eng.	Edison 227-29-5	1	0.07	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
RPM Limit	205-074-001-1	1	0.5	30.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
PAGE 3 TOTAL - Average Amperes -					34.8	34.8	30.8	27.9	34.8	34.8	30.8	27.9	34.8	34.8	30.8	27.9	34.8	34.8	30.8	27.9	34.8	34.8	30.8	27.9
15 Total From Page 2 -					82.9	72.6	59.4	55.1	262.5	254.4	205.7	167.7	325.6	317.5	280.4	181.7	210.8	200.5	180.8	174.5	121.9	112.8	100.5	74.0
16 Total From Page 2 -					82.9	72.6	59.4	55.1	222.5	214.4	165.7	127.7	285.6	277.5	240.4	141.7	170.8	160.5	140.8	134.5	121.9	112.8	100.5	74.0
15 Total Average D.C. Amperes					117.7	107.4	90.2	83.0	297.3	289.2	236.5	195.6	360.4	352.3	311.2	209.6	245.6	235.3	211.6	202.4	156.7	147.6	131.3	101.9
16 Total Average D.C. Amperes					117.7	107.4	90.2	83.0	257.3	249.2	196.5	155.6	320.4	312.3	271.2	169.6	205.6	195.3	171.6	162.4	156.7	147.6	131.3	101.9

- 16 Totals are for the following ships: 66-16034 and sub.
- 15 Totals are for the following ships: 66-746 thru 66-16033.
- 14 Quantity shown is for ships 66-746 thru 66-16033. Three (3) dome lights only installed on 66-16034 & sub.
- 13 Installed with and part of the AN/APX-68 system.
- 12 Either AN/APX-44 or AN/APX-68 may be installed. See Page 2.

NOTES - Continued from sheet 1.

Figure 13-7. Load analysis chart - dc - electrical - UH-1D (66-746 through 66-8577) (Sheet 2 of 3)

EQUIPMENT	PART DESIGNATION	Total No. Of Units	Operating Time-Min.	ELECTRICAL REQUIREMENTS PER UNIT									Power Factor	Voltage Regulation	Frequency Range	CONNECTED LOADS									
				115 VOLTS 3 PH.			115 VOLTS 1 PH.			28 VOLTS 1 PH.						PHASE A TO B		PHASE C TO A		PHASE B TO C					
				VA.	WATTS	VAR.	VA.	WATTS	VAR.	VA.	WATTS	VAR.				Watts	Vars.	Watts	Vars.	Watts	Vars.				
INVERTER—MAIN	PU-543/A	1		250									.80 LAG .95 LEAD		390/410										
D. INSTRUMENTS																									
Indicator—XMSN Oil Pressure	Aerno 61-2476, Type MO-2	1	30.0										0.28	±10	360/440							0.47	1.65		
Transmitter—XMSN Oil Pressure	Aerno 61-2497, Type TRU-20/A	1	30.0										0.29	±10	360/440							0.66	2.20		
E. ENGINE INSTRUMENTS																									
Indicator—Engine Oil Pressure	Aerno 61-2476, Type MO-2	1	30.0										0.28	±10	360/440							0.47	1.65		
Transmitter—Engine Oil Pressure	Aerno 61-2497, Type TRU-20/A	1	30.0										0.29	±10	360/440							0.66	2.20		
Indicator—Fuel Pressure	Aerno 61-2461 (MS28010-1)	1	30.0										0.17	±10	360/440							0.45	2.57		
Transmitter—Fuel Pressure	Aerno 61-3008 (MS28005-1)	1	30.0										0.18	±10	360/440							0.59	3.19		
Indicator—Torque Pressure	Aerno 61-2186, Type MO-3	1	30.0										0.28	±10	360/440							0.47	1.65		
Transmitter—Torque Pressure	Aerno 61-2187, Type MH-4	1	30.0										0.29	±10	360/440							0.66	2.20		
Indicator—Fuel Quantity	205-061-633	1	30.0				3.50	3.50					1.00	±10	360/440	3.50									
Tank Unit—Fuel Quantity	205-061-633	3	30.0																						
F. FLIGHT INSTRUMENTS																									
Attitude Indicating System—Pilots																									
Attitude Indicator	Type IND-A5-NA-1	1	30.0				15.00	14.10	5.10				0.94	±10	380/420	14.10	5.10								
Control Gyro	Aerno 60-5937, Type MD-1	1	30.0	25.00	23.50	8.50							0.94	±10	380/420	7.80	2.80	7.80	2.80						
Rate Gyro	Aerno 60-5938, Type MC-1	1	30.0				4.80	4.50	1.60				0.94	±10	380/420	4.50	1.60								
Attitude Indicator—Copilot	MIL-5133, Type J-8	1	30.0	9.00	7.70	4.70							0.85	±10	380/420	2.57	1.57	2.57	1.57						
Compass System—Type J-2																									
Amplifier	Aerno 60-1702, Type A-2	1	30.0																						
Control Gyro	Aerno 60-1480, Type S-3A	1	30.0																						
Transmitter	Aerno 60-1483, Type C-2	1	30.0	27.70	25.56	8.08							0.92	±10	360/440	6.61	5.49	12.00	1.21			6.95	1.38		
Compensator	Aerno 60-1479	1	30.0																						
Master Indicator	Sperry C-6H	1	30.0																						
Servo Amplifier	Sperry 1788867-1	1	30.0							22.50	5.30	21.90	0.24	±10	360/440								5.30	21.90	
Repeater Indicator	ID-250A/ARN	1	30.0				17.40	14.80	9.20				0.85	±10	360/440								14.90	9.20	
Power Interlock Relay	204-075-363-3	1	30.0	1.60	0.80	-1.89				6.69	1.20	6.57	0.18	±10	360/440	0.40	-0.60						1.20	6.57	
M. MISCELLANEOUS																									
Capacitor—P.F. Correction	Sprague 143P16K 5.0 UF	1	30.0																						
Resistor—Load Balancing	RW20G911 MIL-R-26	1	30.0				14.50	14.50	-79.6															-79.6	
R. RADIO NAVIGATION																									
RMI Converter	ARC Type B-18A	1	30.0							7.28	7.28		1.0	±10	360/440									7.28	
VOR/LOC Receiver	AN/ARN-82	1	30.0							6.00	2.30	5.50	0.38	±10	360/440									2.30	5.50
Radio Compass	AN/ARN-83ADF	1	30.0							14.80	5.64	13.73	0.38	±10	360/440									5.64	13.73
S. RADAR																									
Computer Kit	1A/TSEC	1	30.0				25.0	25.0					1.0	±10		25.0									
X. AC POWER WARNING																									
AC Failure Relay	AAF 32471 Type D1	1	30.0				13.20	0.80	13.10				0.06	±10	360/440									0.80	13.10
INVERTER—SPARE	PU-543/A	1		250																					
NOTE: Spare Inverter loads are identical to main inverter loads.																									
TOTALS																64.48	15.87	36.87	5.58	59.47	12.77				
TOTAL AC LOAD: 164.4 VA @ 0.98 P.F. (LAGGING)																									



MAIN & SPARE INVERTER
PU-543/A
PHASE ROTATION A-B-C

- ⊗ Installed with and part of AN/APX-68 system.
- ⊗ Power interlock relay requires power from two phases only.
- ⊗ Obtained from 115/28 volt autotransformer.

NOTES—

Figure 13-7. Load analysis chart - ac - electrical - UH-1D (66-746 through 66-8577) (Sheet 3 of 3)

EQUIPMENT	PART DESIGNATION	NUMBER OF UNITS	AMPERES PER UNIT	OPERATING TIME MIN.	OPERATING CONDITIONS																					
					START & WARM UP				TAKE OFF				CRUISE				LAND				EMERGENCY					
					AVERAGE AMPS				AVERAGE AMPS				AVERAGE AMPS				AVERAGE AMPS				AVERAGE AMPS					
AMPS	0.5 MIN.	2.0 MIN.	15.0 MIN.	AMPS	0.5 MIN.	2.0 MIN.	15.0 MIN.	AMPS	0.5 MIN.	2.0 MIN.	30.0 MIN.	AMPS	0.5 MIN.	2.0 MIN.	5.0 MIN.	AMPS	0.5 MIN.	2.0 MIN.	30.0 MIN.	40.0 MIN.						
C-- FLIGHT CONTROLS																										
SOLENIOD--IDLE STOP REL	204-060-775	1	6.5	0.03	NEG					NEG						NEG					NEG					
SOLENIOD VALVE--GOV BY-PASS ACTUATOR--GOV RPM	204-060-762	1	1.0	30.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
MAGNETIC BRAKE--FORCE TRIM SOLENIOD--HYD CONTROL	AIRBORNE ACC R460M15 RONSON 1-U-1025	3 1	0.9 1.5	1.0 30.0	0.9 1.5	0.9 1.5	0.4 1.5	0.1 1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
E-- ENGINE INSTRUMENTS																										
ENGINE OIL TEMP	MS28009-1	1	0.04	30.0	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
XMSN OIL TEMP	MS28009-2	1	0.04	30.0																						
F-- FLIGHT INSTRUMENTS																										
HEATER--PITOT TUBE	AN5813-1	1	4.0	30.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
TURN & SLIP IND TYPE MD-8	MS28024-3	1	0.1	30.0	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
H-- HEATING																										
MOTOR--BLEED AIR VALVE	204-060-444	1	2.0	0.2	2.0	0.8	0.2	NEG									2.0	0.8	0.2	NEG						
ICE DETECTOR SYS--ENGINE	COOK ELECT 575-1022 & 677-20	1 EA	11.0	30.0	11.0	2.9	2.9	2.9		11.0	2.9	2.9	2.9	11.0	2.9	2.9	11.0	2.9	2.9	2.9	11.0	2.9	2.9	2.9	2.9	
DEFROST VALVE	LELAND A38153-001	1	3.1	0.5	3.1	3.1	0.8	0.1									3.1	3.1	0.8	0.1						
AFT OUTLET VALVE	LELAND A38153-001	2	3.1	0.5	6.2	6.2	1.6	0.2									6.2	6.2	1.6	0.2						
HEATED BLANKET OUTLET	HUBBELL 7540	1	10.0	30.0						20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
J-- ENGINE IGNITION SYS																										
IGNITER UNIT		1	1.5	0.5	1.5	1.5	0.4	NEG																		
SOLENIOD VALVE--IGNITER		1	0.75	0.5	0.8	0.8	0.2	NEG																		
K-- ENGINE CONTROLS																										
STARTER--GENERATOR	204-060-200	1																								
RELAY--STARTER	MS24172-D1	1	4.5	0.5	4.5	4.5	1.1	0.2																		
L-- LIGHTING																										
DOVE LIGHT	MS25235R311 LAMP	3	1.28	30.0	3.8	3.8	3.8	3.8		3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	
COCKPIT LIGHT	MS25231-313 LAMP	2	0.17	30.0	0.3	0.3	0.2	NEG		0.3	0.3	0.2	NEG	0.3	0.3	0.2	NEG				0.3	0.3	0.2	NEG	NEG	
INSTRUMENT & EDGE LIGHTS	MS25237-327 LAMP	132	0.04	30.0	5.3	5.3	5.3	5.3		5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	
INSTRUMENTS SEC LIGHTS	MS25069-1495 LAMP	4	0.34	30.0																						
FUS LIGHT--TOP & BOTTOM	AN3120-1047 LAMP	3	2.7	30.0																						
NAV LIGHTS	ASA-7512 LAMP	4	0.85	30.0	12.6	12.6	12.6	12.6		12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	
FUS LIGHT--TAIL	MS25232-1683 LAMP	1	1.15	30.0																						
FLASHER--NAVIG LIGHTS	MS24577-2, TYPE II	1																								
MASTER CAUTION PANEL	204-075-705	1	0.29	30.0	0.2	0.2	0.7	0.2		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
SEARCH LIGHT	MIL-L-26998, TYPE MA-3	1	17.00	5.0						17.0	17.0	17.0	2.8	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	
LANDING LIGHT	GRIMES G8385-1	1	16.50	5.0						3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
ANTI-COLLISION LIGHT	GRIMES G8400A-8-245	1	3.00	30.0						3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
M-- MISCELLANEOUS																										
WINDSHIELD WIPER	204-070-907	2	3.5	30.0						7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
INTERNAL RESCUE HOIST	205-706-030	1	53.0	30.0						53.0	53.0	53.0	33.3													
SOLENIOD--CARGO HOOK	EASTERN ROTOCRAFT SP400-3	1	10.0	0.1																	10.2	2.1	0.5	NEG	NEG	
RELAY--CARGO HOOK	MS24149-D1	1	0.2	0.1																						
P-- POWER CHARGING																										
BATTERY CHARGING	BB433A 34 AMP HOUR	1								122.4	122.4	76.5	40.8	91.8	91.8	57.4	21.7	30.6	30.6	19.1	15.3	30.6	30.6	19.1	7.2	4.0
RELAY--BATTERY	MS24171-D1	1	0.6	30.0	0.6	0.6	0.6	0.6		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
RELAY--NON-ESSENTIAL BUS	MS24171-D1	1	0.6	30.0	0.6	0.6	0.6	0.6		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
RELAY--BUS CONTROL	MS25024-2	1	0.35	30.0	0.4	0.4	0.4	0.4		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
INVERTER--MAIN	PU-543 1/A	1	16.26	30.0	16.6	16.6	16.6	16.6		16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	
RELAY--MAIN INVRT PWR	MS24166-D1	1	0.35	30.0																						
INVERTER--SPARE	PU-543 1/A	1	16.26	30.0																						
RELAY--SPARE INVRT PWR	MS24166-D1	1	0.35	30.0	16.8	16.8	16.8	16.8		16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	
RELAY--INVERTER	MS24149-D1	1	0.2	30.0																						

GENERATOR: (1) GFE TYPE GEU-57A
DWG 5606226, 30 VOLT 300 AMPERE, GEAR RATIO
GENERATOR TO POWER TURBINE OUTPUT SHAFT,
1 TO 1.

STARTER-GENERATOR: (1) CFE, BHC SPECIFICATION 204-060-200-1, 30
VOLT 300 AMP, GEAR RATIO OF STARTER GEN-
ERATOR TO ENGINE GAS PRODUCER, 0.293 TO 1.

VOLTAGE REGULATOR: (2) E-1597-1, M L R-6879

REVERSE CURRENT CUTOUT: (2) AN3025-300

BATTERY: (1) BB-433A, 34 AMP, HR, NICKEL CADMIUM.

Operating Conditions	Start & Warmup	Takeoff	Cruise	Land	Emergency
Max Operating Gen RPM	6600	6600	6600	6600	---
Min Operating Gen RPM	5000	6000	6000	6000	---
Max Altitude Feet	---	19,350	26,050	19,350	26,050

- △ EITHER AN AN/APX-44 OR AN/APX-68 MAY BE INSTALLED.
- △ INSTALLED WITH AND PART OF THE AN/APX-68 SYSTEM.
- △ MAIN AND SPARE INVERTERS ARE USED INTERCHANGABLY (BOTH INVERTERS CANNOT BE OPERATED AT ONE TIME).
- △ GFE (PART OF LYCOMING) T53-L-11 ENGINE
- △ SEE SUPPLEMENTARY DATA SHEET
- △ THIS EQUIPMENT NORMALLY DE-ENERGIZED

NOTES--

Figure 13-8. Load analysis chart - dc - electrical - UH-1D (67-17145 through 67-19537) (Sheet 1 of 4)

EQUIPMENT	PART DESIGNATION	NUMBER OF UNITS	AMPERE PER UNIT	OPERATING TIME MIN.	OPERATING CONDITIONS																								
					START & WARM UP				TAKE OFF				CRUISE				LAND				EMERGENCY								
					AVERAGE AMPS				AVERAGE AMPS				AVERAGE AMPS				AVERAGE AMPS				AVERAGE AMPS								
AMPS	0.5 MIN.	2.0 MIN.	15.0 MIN.	MIN.	AMPS	0.5 MIN.	2.0 MIN.	15.0 MIN.	MIN.	AMPS	0.5 MIN.	2.0 MIN.	30.0 MIN.	MIN.	AMPS	0.5 MIN.	2.0 MIN.	5.0 MIN.	MIN.	AMPS	0.5 MIN.	2.0 MIN.	30.0 MIN.	60.0 MIN.					
Q— FUEL AND OIL																													
PUMP—FUEL BOOST	205-060-606	1	5.2	30.0	5.2	5.2	5.2	5.2		5.2	5.2	5.2	5.2		5.2	5.2	5.2	5.2		5.2	5.2	5.2	5.2		5.2	5.2	5.2	5.2	
PUMP—AUX FUEL	205-060-626	2	3.5	22.0																									
VALVE—FUEL SHUTOFF		1	1.0	0.02	1.0	NEG	NEG	NEG							7.0	7.0	7.0	7.0											
SOLENOID VALVE—FUEL CONT		1	0.75	0.5	0.8	0.8	0.2	NEG													1.0	NEG	NEG	NEG		1.0	NEG	NEG	NEG
RELAY—AUX FUEL TRANSFER	MS24149-D1	1	0.2	7.0											0.2	0.2	0.2	0.1											
TOTAL AVERAGE AMPERES, SHEET 3					84.3	74.0	60.2	55.7		215.9	207.8	161.8	125.9		273.6	257.4	220.8	150.0		169.6	159.3	140.3	134.2		130.8	113.6	100.4	74.1	69.5
R— RADIO NAV & COMM																													
RADIO COMPASS	AN/ARN-83	1	1.2	30.0	1.2	1.2	1.2	1.2		1.2	1.2	1.2	1.2		1.2	1.2	1.2	1.2		1.2	1.2	1.2	1.2		1.2	1.2	1.2	1.2	
MARKER BEACON RCVR	R-1041/ARN	1	0.04	30.0	NEG					NEG					NEG						NEG	1.2	1.2	1.2		1.2	1.2	1.2	
VOR RECEIVER (VHF)	AN/ARN-82	1	1.0	30.0	1.0	1.0	1.0	1.0			1.0	1.0	1.0								NEG					NEG			
FM TRANSCEIVER (RCVR)	AN/ARC-54	1	3.3	30.0	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	
(ADDITIONAL PWR XMIT)		1	4.2	30.0	4.2	4.2	2.1	0.6		4.2	4.2	2.1	0.6		4.2	4.2	2.1	0.6		4.2	4.2	2.1	0.6		4.2	4.2	2.1	0.6	
UHF TRANSCEIVER (RCVR)	AN/ARC-518X	1	5.8	30.0	5.8	5.8	5.8	5.8		5.8	5.8	5.8	5.8		5.8	5.8	5.8	5.8		5.8	5.8	5.8	5.8		5.8	5.8	5.8	5.8	
(ADDITIONAL PWR XMIT)		1	3.8	30.0	3.8	3.8	1.9	0.5		3.8	3.8	1.9	0.5		3.8	3.8	1.9	0.5		3.8	3.8	1.9	0.5		3.8	3.8	1.9	0.5	
HF TRANSCEIVER (RCVR)	AN/ARC-102	1	7.5	30.0	7.5	7.5	7.5	7.5		7.5	7.5	7.5	7.5		7.5	7.5	7.5	7.5		7.5	7.5	7.5	7.5		7.5	7.5	7.5	7.5	
(ADDITIONAL PWR XMIT)		1	31.6	30.0	31.6	31.6	31.6	31.6		31.6	31.6	31.6	31.6		31.6	31.6	31.6	31.6		31.6	31.6	31.6	31.6		31.6	31.6	31.6	31.6	
SIGNAL DISTRIBUTION PANEL	C-1611()/AIC	4	0.2	30.0	0.8	0.8	0.8	0.8		0.8	0.8	0.8	0.8		0.8	0.8	0.8	0.8		0.8	0.8	0.8	0.8		0.8	0.8	0.8	0.8	
INTERCOM RELAY	GZA-126(HLG, INC)	2	0.02	30.0	NEG					NEG					NEG						NEG					NEG			
VHF TRANSCEIVER	AN/ARC-134	1	2.0	30.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	
(ADDITIONAL PWR XMIT)		1	5.5	30.0	5.5	5.5	2.8	0.7		5.5	5.5	2.8	0.7		5.5	5.5	2.8	0.6		5.5	5.5	2.8	1.1		5.5	5.5	2.8	0.6	
S— RADAR																													
IFF TRANSPONDER	AN/APX-44	1	4.5	30.0	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	
IFF TRANSPONDER	AN/APX-68	1	1.7	30.0																									
COMPUTOR KIT	IA/TSEC	1	0.1	30.0																									
TEST SET	TS-1843/APX	1	0.5	30.0																									
W— WARNING																													
FIRE DETECTION—ENG	EDISON 227-29-5	1	0.07	30.0	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1	
RPM WARNING LIMIT	205-074-001-1	1	0.5	30.0	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	
TOTAL AVERAGE AMPERES, SHEET 4					40.2	40.2	33.5	28.5		40.2	40.2	33.5	28.5		40.2	40.2	33.5	28.1		40.2	40.2	33.5	29.4		40.2	40.2	33.5	28.1	
TOTALS FROM SHEET 3					84.3	74.0	60.2	55.7		215.9	207.8	161.8	125.9		273.6	257.4	220.8	150.0		169.6	159.3	140.3	134.2		130.8	113.6	100.4	74.1	69.5
TOTAL AVERAGE AMPERES					124.5	114.2	93.7	84.2		256.1	248.0	195.3	154.4		313.8	297.6	254.3	178.1		209.8	199.5	173.8	163.6		171.0	153.8	133.9	102.2	97.6

205475-67-2
AV 054005-2

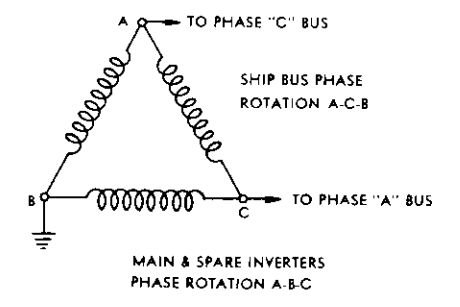
Figure 13-8. Load analysis chart - dc - electrical - UH-1D (67-17145 through 67-19537) (Sheet 2 of 4)

A EQUIPMENT	B PART DESIGNATION	C NUMBER OF UNITS	D AMPERES PER UNIT	E OPERATING TIME - MIN.	START & WARM UP F-2				TAKE OFF F-4					CRUISE F-5					
					AVERAGE AMPS.				AVERAGE AMPS.					AVERAGE AMPS.					
					AMPS	0.5 MIN.	2.0 MIN.	15.0 MIN.	AMPS	0.5 MIN.	2.0 MIN.	15.0 MIN.	MIN.	AMPS	0.5 MIN.	2.0 MIN.	30.0 MIN.		
C—FLIGHT CONTROLS																			
SOLENOID—IDLE STOP	204-060-775	1	6.5	0.03	NEG					NEG					NEG	0.9	0.9	0.4	NEG
ACTUATOR—GOV. RPM	204-060-762	1	0.9	1.0	0.9	0.9	0.4	0.1											
MAG. BRAKE—FORCE TRIM	AIRBORNE ACC. R440M153	3	0.5	30.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
SOLENOID—HYD. CONTROL	RONSON I-U-1025	1																	
E—ENGINE INSTRUMENTS																			
ENGINE OIL TEMP.	MS28009-2	1	0.04	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
XMSN OIL TEMP.	MS28009-2	1	0.04	30.0															
F—FLIGHT INSTRUMENTS																			
HEATER—PILOT TUBE	AN5813-1	1	4.0	30.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
TURN & SLIP INDICATOR	MS28024-3 TYPE MD-8	1	0.1	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
H—HEATING																			
MOTOR—BLEED AIR VALVE	204-060-444	1	2.0	0.2	2.0	0.8	0.2	NEG											
DEFROST VALVE	LELAND A38163-001	1	3.1	0.5	3.1	3.1	0.8	0.1											
AFT OUTLET VALVE	LELAND A38163-001	2	3.1	0.5	6.2	6.2	1.6	0.2											
HEATED BLANKET OUTLET	HUBBELL 7524	2	10.0	30.0					20.0	20.0	20.0	20.0			20.0	20.0	20.0	20.0	
J—ENGINE IGNITION SYS.																			
IGNITOR UNIT		1	1.5	0.5	1.5	1.5	0.4	NEG											
SOLENOID VALVE—IGNITOR		1	0.75	0.5	0.8	0.8	0.2	NEG											
K—ENGINE CONTROLS																			
STARTER—GENERATOR	204-060-200	1																	
RELAY—STARTER	MS24172 D1	1	4.5	0.50	4.5	4.5	1.1	0.2											
L—LIGHTING																			
DOME LIGHT	MS25235R311	3	1.28	30.0	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
COCKPIT LIGHT	MS25231-313	2	0.17		0.3	0.3	0.2	NEG	0.3	0.3	0.2	NEG			0.3	0.3	0.2	NEG	
INSTRUMENT & EDGE LIGHTS	MS25237-327	132	0.04	30.0	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3		5.3	5.3	5.3	5.3		
INSTRUMENT SEC. LIGHTS	MS25069-1495	4	0.34																
POSITION LIGHTS—TOP & BOTTOM	AN3120-1047	3	2.7	30.0															
POSITION LIGHTS—TAIL	MS25232-1683	1	1.15	30.0	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6		12.6	12.6	12.6	12.6		
NAV. LIGHTS	ASA-7512	4	0.83	30.0															
FLASHER—NAV. LIGHTS	MS24577-2, TYPE II	1																	
MASTER CAUTION PANEL	204-075-705	1	0.20	30.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.2		
SEARCH LIGHT	MIL-L-26998 TYPE, MA-3	1	17.0	5.0										17.0	17.0	17.0	17.0		
LANDING LIGHT	GRIMES G8385-1	1	16.5	5.0															
ANTI-COLLISION LIGHT	GRIMES G8400A-8-245	1	3.0	30.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0		
M—MISCELLANEOUS																			
WINDSHIELD WIPER	204-070-907	2	3.5	30.0					7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0		
INTERNAL RESCUE HOIST	206-706-030	1	53.0											53.0	53.0	53.0	53.0		
SOLENOID—CARGO HOOK	EASTERN ROTOCRAFT SP400-3	1	10.0	0.1										10.2	2.1	0.5	NEG		
RELAY—CARGO HOOK	MS2414901	1	0.2	0.1															
P—POWER																			
BATTERY CHARGING	BB432A 34 AMP. HOUR	1							122.4	122.4	76.5	40.8		91.8	91.8	57.4	21.7		
RELAY—BATTERY	MS2417101	1	0.6	30.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6		0.6	0.6	0.6	0.6		
RELAY—NON-ESSENTIAL BUS	MS2417101	1	0.6	30.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6		0.6	0.6	0.6	0.6		
RELAY—BUS CONTROL	MS25024-2	1	0.35	30.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4		0.4	0.4	0.4	0.4		
INVERTER—MAIN	PU-543 [] / A	1	14.15	30.0	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5		14.5	14.5	14.5	14.5		
RELAY—MAIN INVT. PWR.	MS2416601	1	0.35	30.0															
INVERTER—SPARE	PU-543 [] / A	1	14.15	30.0															
RELAY—SPARE INVT. PWR.	MS2416601	1	0.35	30.0	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7		14.7	14.7	14.7	14.7		
RELAY—INVERTER	MS2414901	1	0.2	30.0															
Q—FUEL & OIL																			
PUMP—FUEL BOOST	205-060-605	1	6.2	30.0	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2		5.2	5.2	5.2	5.2		
PUMP—AUX. FUEL	205-060-626	2	3.5	22.0										7.0	7.0	7.0	5.2		
VALVE—FUEL SHUT OFF		1	1.0	0.02	1.0	NEG													
SOLENOID VALVE—FUEL CONT.		1	1.25	30.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3		1.3	1.3	1.3	1.3		
RELAY—AUX. FUEL TRANSFER	MS24149-D1	1	0.2	7.0										0.2	0.2	0.2	0.1		
TOTAL AVERAGE AMPERES THIS SHEET					73.7	71.5	58.3	54.0		203.1	203.1	157.1	121.2		260.8	257.7	216.1	143.8	

Figure 13-9. Load analysis chart - dc - electrical - UH-1D/H (68-15214 through 68-16628) (Sheet 1 of 3)

A EQUIPMENT	B PART DESIGNATION	C TOTAL NO. OF UNITS	D OPERATING TIME-MIN.	ELECTRICAL REQUIREMENTS PER UNIT-E									F POWER FACTOR	G VOLTAGE REGULATION %	H FREQUENCY RANGE	CONNECTED LOADS-I									
				115 VOLTS 3 PH.			115 VOLTS 1 PH.			26 VOLTS 1 PH. Δ						PHASE C A TO B		PHASE B C TO A		PHASE A B TO C					
				VA.	WATTS	VAR.	VA.	WATTS	VAR.	VA.	WATTS	VAR.				WATTS	VAR.	WATTS	VAR.	WATTS	VAR.				
INVERTER—MAIN	PU-543 (1/A) MS21983	1	30.0	250									10.80 LAG 10.95 LEAD	390/410											
INSTRUMENTS																									
INDICATOR—XMSN OIL PRESSURE	217A-100A MIL-I-25438	1	30.0																						
TRANSMITTER—XMSN OIL PRESSURE	318-100A MIL-T-26638	1	30.0																						
ENGINE INSTRUMENTS																									
INDICATOR—ENG. OIL PRESSURE	217A-100A MIL-I-25438	1	30.0																						
TRANSMITTER—ENG. OIL PRESSURE	318-100A MIL-T-26638	1	30.0																						
INDICATOR—FUEL PRESSURE	MS-2801D-1 MIL-I-7085	1	30.0																						
TRANSMITTER FUEL PRESSURE	MS-2800S-1 MIL-T-5882	1	30.0																						
INDICATOR—TORQUE PRESSURE	217A-100A MIL-I-25438	1	30.0																						
TRANSMITTER—TORQUE PRESSURE	318-100A MIL-T-26638	1	30.0																						
INDICATOR—FUEL QUANTITY	205-061-633	1	30.01																						
TRANSMITTER—FUEL QUANTITY	205-061-633	3	30.01				3.50	3.50	—				1.00	+10	360/440								3.50	—	
FLIGHT INSTRUMENTS																									
ATTITUDE INDICATING SYSTEM—PILOT																									
ATTITUDE INDICATOR	TYPE IND-AS-UH-1	1	30.0																						
CONTROL GYRO	TYPE MD-1	1	30.0	25.00	23.50	8.50	15.00	14.10	5.10				0.94	+10	380/420							14.10	5.10		
RATE GYRO	TYPE MC-1	1	30.0										0.94	+10	380/420	7.80	2.80	7.80	2.80			7.80	2.80		
ATTITUDE INDICATOR—CO-PILOT	MIL-I-5133 TYPE J-8	1	30.0	9.00	7.70	4.70	4.80	4.50	1.60				0.94	+10	380/420							4.50	1.60		
COMPASS SYSTEM																									
GYRO DIRECTIONAL	AN/ASN-43																								
TRANSMITTER	CN/998 (1)/ASN-43	1	30.01				20.70	19.66	6.46				0.95	+10	380/420	19.66	6.46								
SERVO AMPLIFIER	T-611 (1)/ASN	1	30.01																						
COURSE INDICATOR—PILOT	AM-3709 (1)/ASN	1	30.0				13.10	8.51	-9.96				-0.65	+10	360/440	8.51	-9.96								
COURSE INDICATOR—CO-PILOT	ID-998 (1)/ASN (C-6H)	1	30.0							22.50	5.30	21.90	0.24	+10	360/440	5.30	21.90								
	ID-250/ARN	1	30.0							8.69	1.20	6.57	0.18	+10	360/440	1.20	6.57								
MISCELLANEOUS																									
CAPACITOR—P.F. CORRECTION	CPS381EE105K (1.0 u.f., 600V)	2	30.0																						
RESISTOR—LOAD BALANCING	RW20G911 (910 Ω -20W)	1	30.0				14.50	14.50	—				0				66.44						14.50		
RADIO NAVIGATION																									
VOR/LOC RECEIVER	AN/ARN-82	1	30.0							6.00	2.30	5.50	0.38	+10	360/440	2.30	5.50								
VOR/ILS INDICATOR	ID-1347/ARN-82	1	30.0																						
RADIO COMPASS ADF	AN/ARN-83	1	30.0							14.80	5.64	13.73	0.38	+10	360/440	5.64	13.73								
AC POWER WARNING																									
AC POWER FAILURE RELAY	AF 32471 TYPE D1	1	30.0				13.20	0.80	13.10				0.06	+10	360/440	0.80	13.10								
TOTALS											18.87	65.01													
TOTAL 26VAC LOAD=67.7 VA@0.28 P.F. (LAG)																									
TOTALS											58.21	12.54	24.87	4.37	32.47	11.07									
PHASE VA =											59.6	25.3	34.2												
TOTAL VA LOAD =											119.0 VA @ 0.97 P.F. (LAG)														
INVERTER—SPARE	PU-543 (1/A)	1	250																						
SPARE & MAIN INVERTER LOADS ARE IDENTICAL																									

POWER SOURCE EQUIPMENT

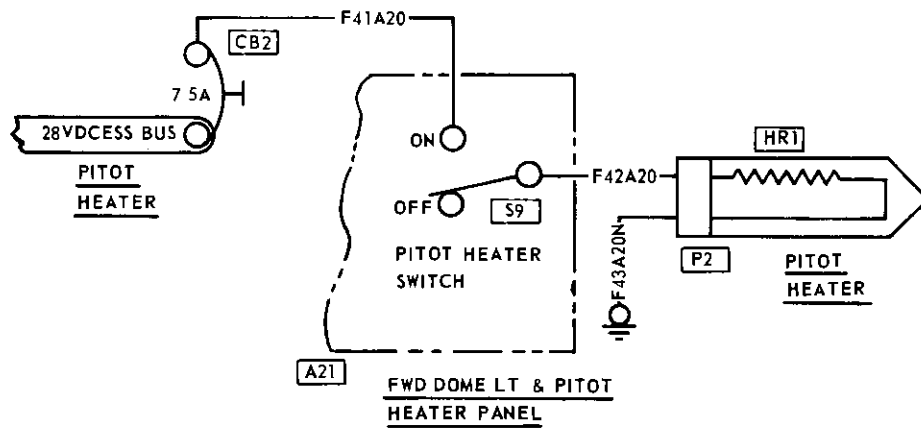


Δ MAIN & SPARE INVERTERS MAY BE USED INTERCHANGEABLY. BOTH INVERTERS CANNOT BE USED AT THE SAME TIME.
 Δ OBTAINED FROM 115/28 VAC AUTOTRANSFORMER.

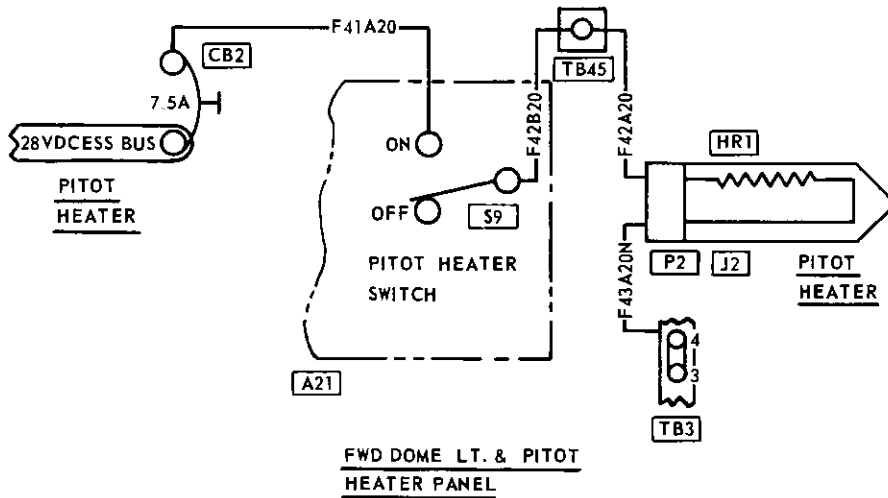
Figure 13-9. Load analysis chart - dc - electrical - UH-1D/H (68-15214 through 68-16628) (Sheet 2 of 3)

A EQUIPMENT	B PART DESIGNATION	C NUMBER OF UNITS	D AMPERS PER UNIT	E OPERATING TIME - MIN.	OPERATING CONDITIONS-F																					
					START & WARM UP F-2				TAKE OFF F-4					CRUISE F-5					LAND F-7				EMERGENCY F-8			
					AVERAGE AMPS.				AVERAGE AMPS.					AVERAGE AMPS.					AVERAGE AMPS.				AVERAGE AMPS.			
					AMPS	0.5 MIN.	2.0 MIN.	15.0 MIN.	AMPS	0.5 MIN.	2.0 MIN.	15.0 MIN.	AMPS	0.5 MIN.	2.0 MIN.	30.0 MIN.	AMPS	0.5 MIN.	2.0 MIN.	5.0 MIN.	AMPS	0.5 MIN.	2.0 MIN.	30.0 MIN.	60.0 MIN.	
NAV & COMM																										
NO COMPASS	AN/ARN-83	1	1.2	30.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2				
WATER BEACON RCVR	R-1041/ARN	1	0.04	30.0	NEG					NEG							NEG									
RECEIVER (VHF)	AN/ARN-82	1	1.0	30.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0				
TRANSCEIVER	AN/ARC-54	1	3.3	30.0	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3				
ADDITIONAL PWR XMTR					4.2	4.2	2.1	0.4	4.2	4.2	2.1	0.4	4.2	4.2	2.1	0.4	4.2	4.2	2.1	0.4	4.2	4.2				
TRANSCEIVER	AN/ARC-51BX	1	5.8	30.0	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8				
ADDITIONAL PWR XMTR					3.8	3.8	1.9	0.4	3.8	3.8	1.9	0.4	3.8	3.8	1.9	0.4	3.8	3.8	1.9	0.4	3.8	3.8				
TRANSCEIVER	AN/ARC-102	1	7.5	30.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5				
ADDITIONAL PWR XMTR					31.6																					
AL DIST. PANEL	C-1611 ()/AIC	4	0.2	30.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8				
RCOM. RELAY	C2A-126 (H.G. INC)	2	0.02		NEG					NEG							NEG									
TRANSCEIVER	AN/ARC-134	1	2.0	30.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
ADDITIONAL PWR XMTR					5.5	5.5	2.8	0.6	5.5	5.5	2.8	0.6	5.5	5.5	2.8	0.6	5.5	5.5	2.8	0.6	5.5	5.5				
SECURITY SET	TSEC/KY-28	1	2.0	30.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
LOCATION SET	AN/ASN-72	1	11.0																							
DRIVING SET	R-1297 ()/AR	1	0.1																							
TRANSponder	AN/APX-72	1	3.6	30.0																						
COMPUTER KIT	IA-TSEC	1	1.1	30.0	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4				
SET	TS-1843-APX	1	0.7	30.0																						
ENGINE DETECTION-ENG.	EDISON 227-28-5	1	0.07	30.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1				
WARNING LIMIT	205-074-001-1	1	0.5	30.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5				
TOTAL AVERAGE AMPERES THIS SHEET					43.1	43.1	36.4	31.0	43.1	43.1	36.4	31.0	43.1	43.1	36.4	31.0	43.1	43.1	36.4	32.3	43.1	43.1				
TOTALS FROM SHEET 1					73.7	71.5	58.3	54.0	203.1	203.1	157.1	121.2	260.8	252.7	216.1	143.5	156.8	154.6	135.6	129.5	118.0	108.9				
TOTAL AVERAGE AMPERES					116.8	114.6	94.7	85.0	246.2	246.2	193.5	152.2	303.9	295.8	252.5	174.5	199.9	197.7	172.0	161.8	161.1	152.0				

205475-145-2
AV 054243



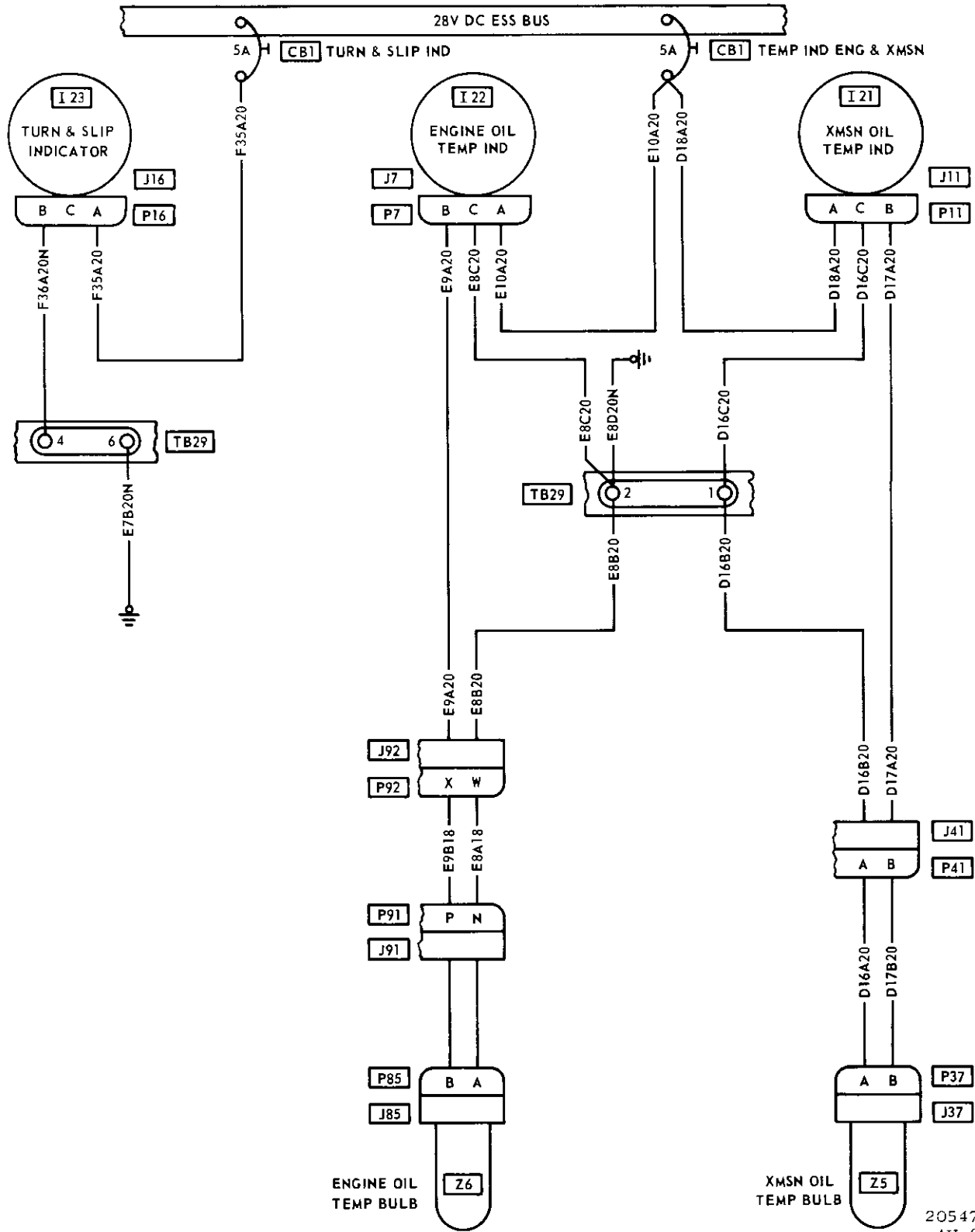
EFF 65-9565 THRU 65-12895



EFF 66-746 THRU 68-16628

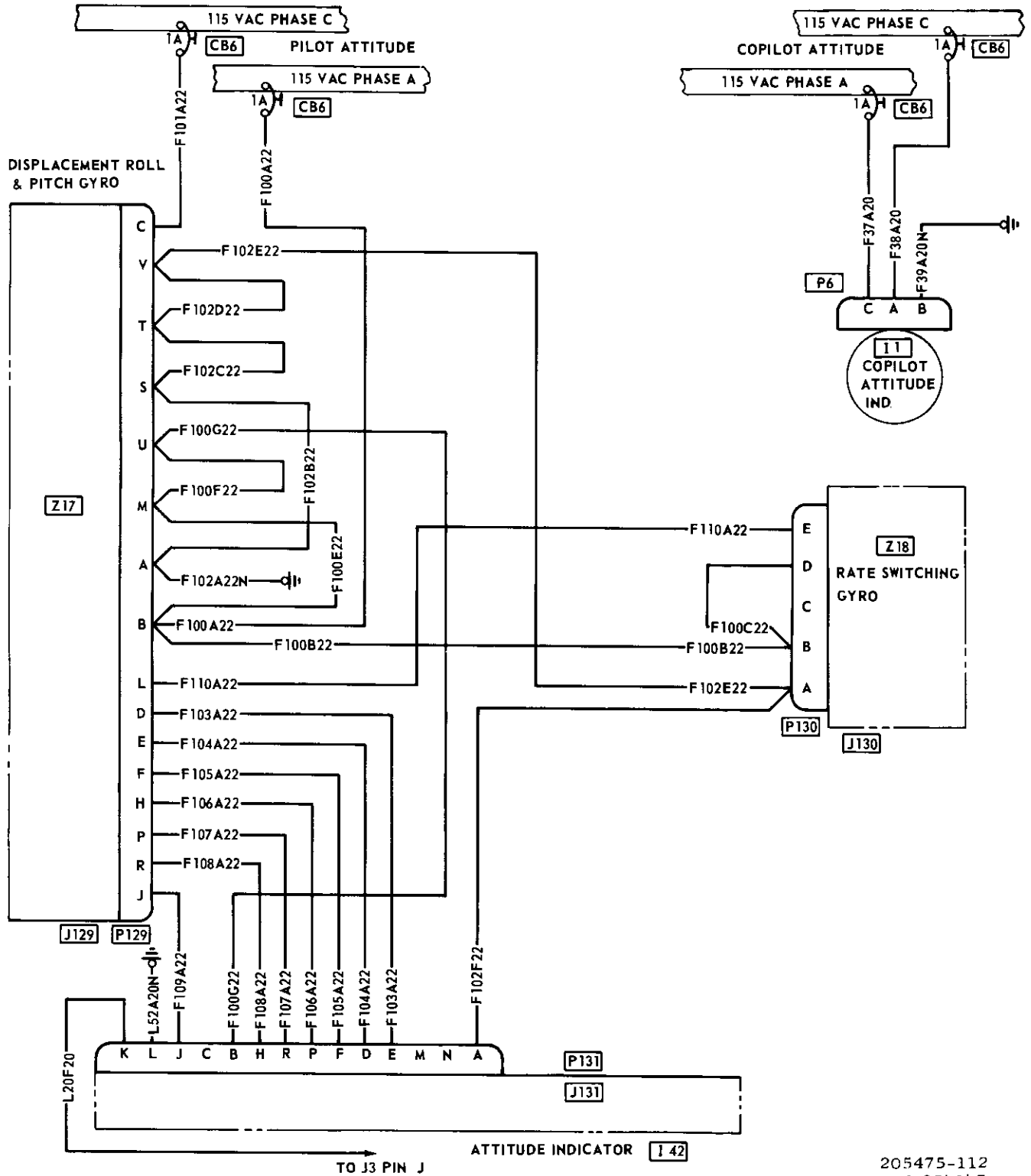
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Figure 13-10. Pitot heater system



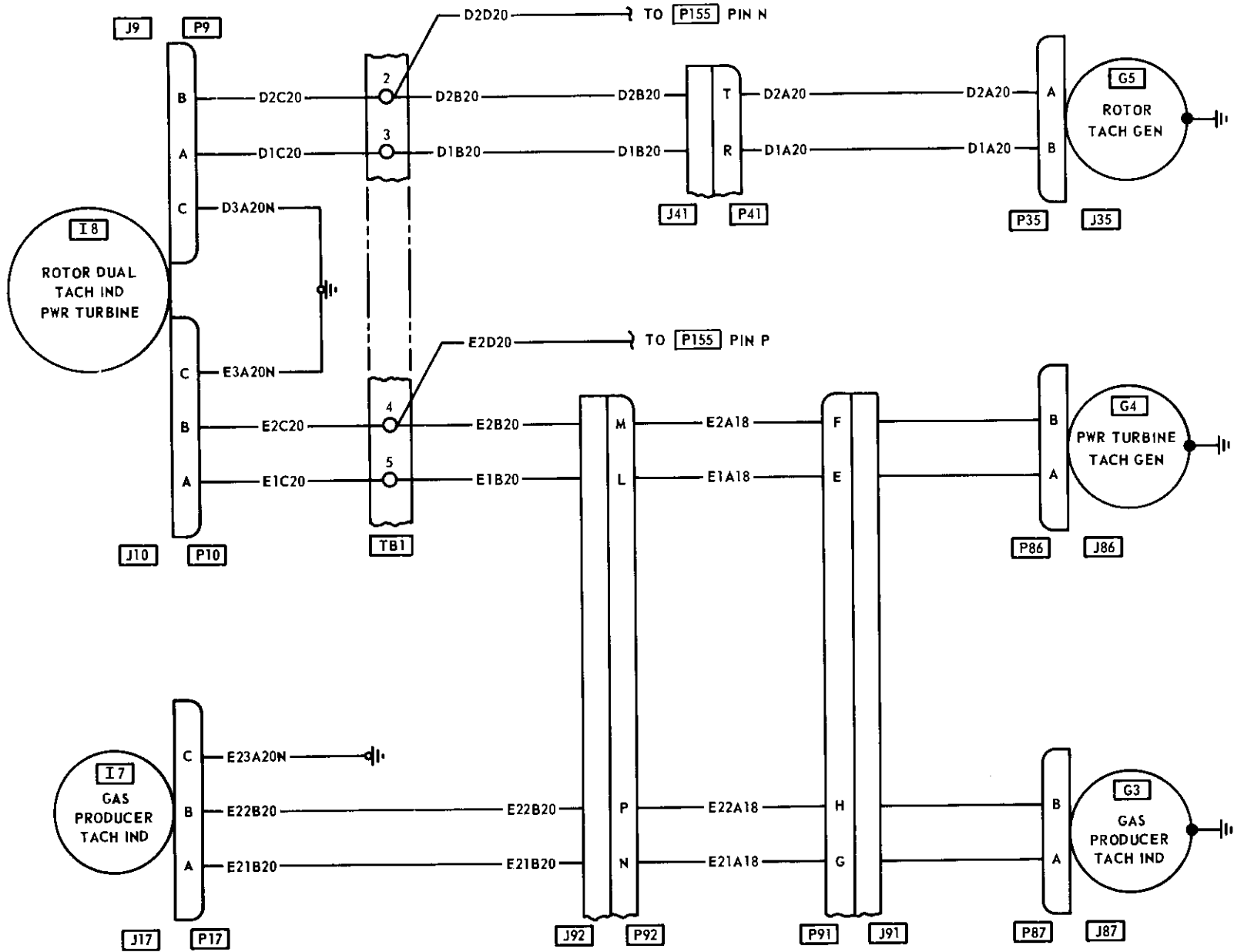
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Figure 13-11. Temperature bulb, turn and slip indicator system



205475-112
AV 054247

Figure 13-12. Attitude indicator system



205475-135
AV 054248

Figure 13-13. Tachometer general system

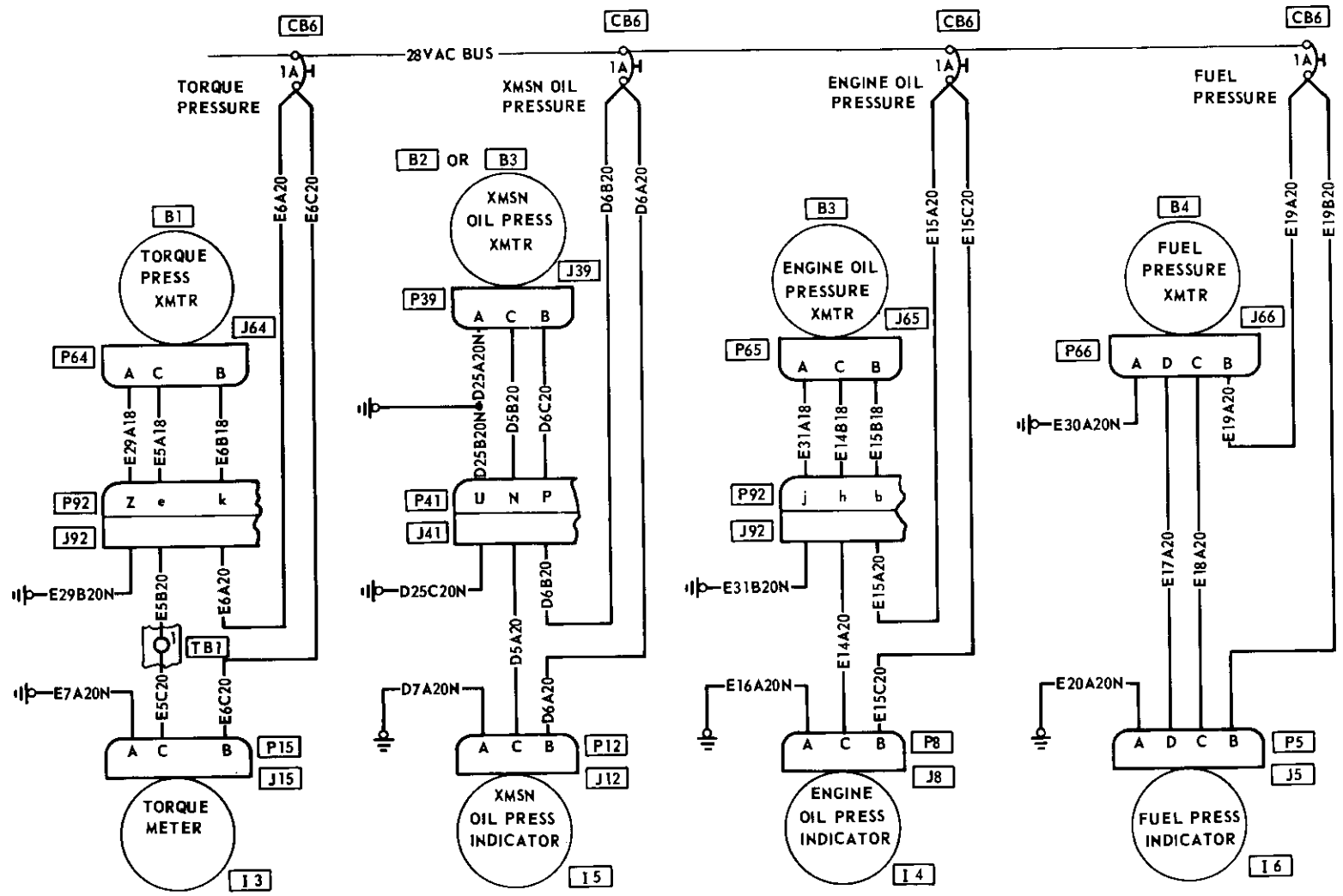


Figure 13-14. A.C. pressure indicator system

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AV 054249

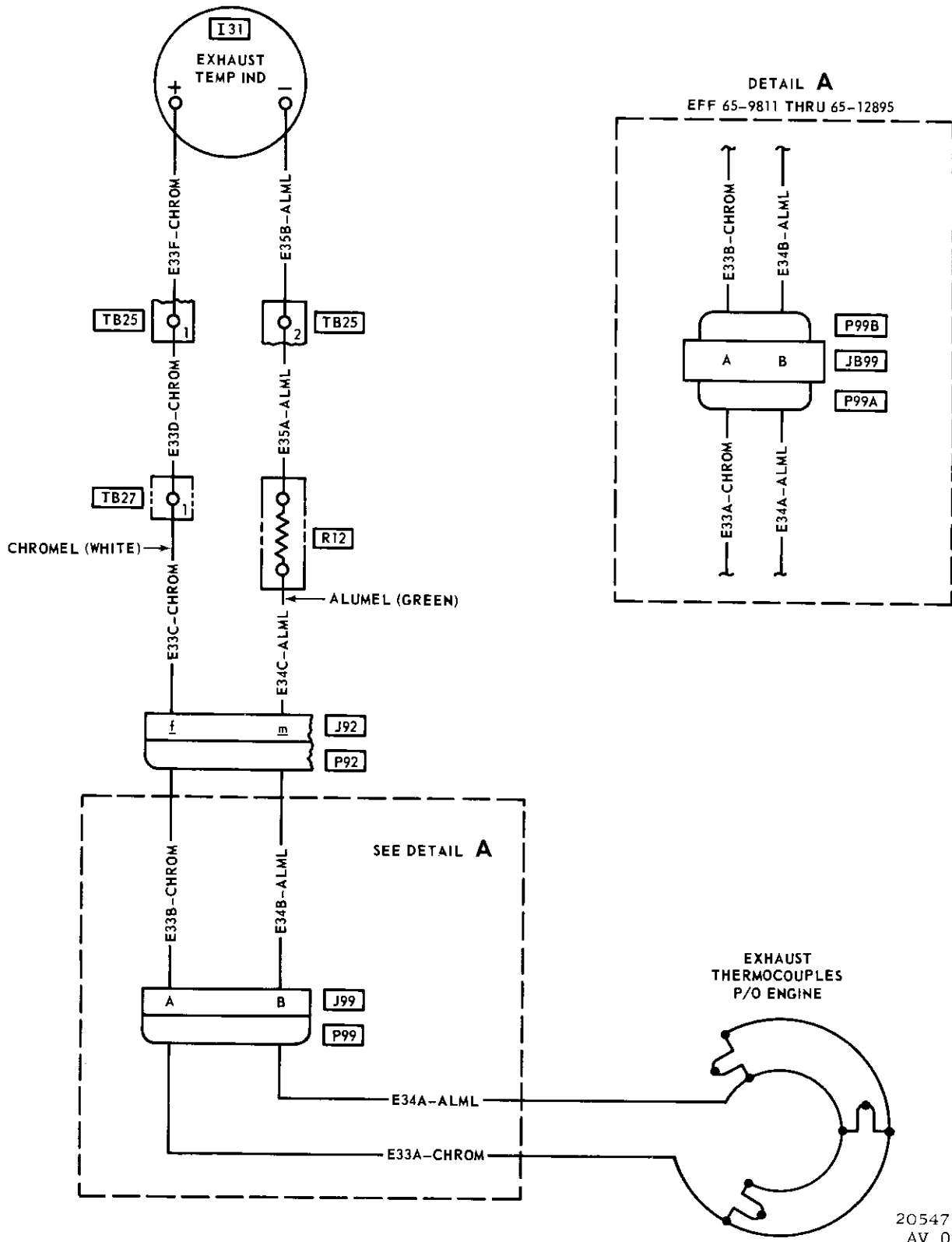
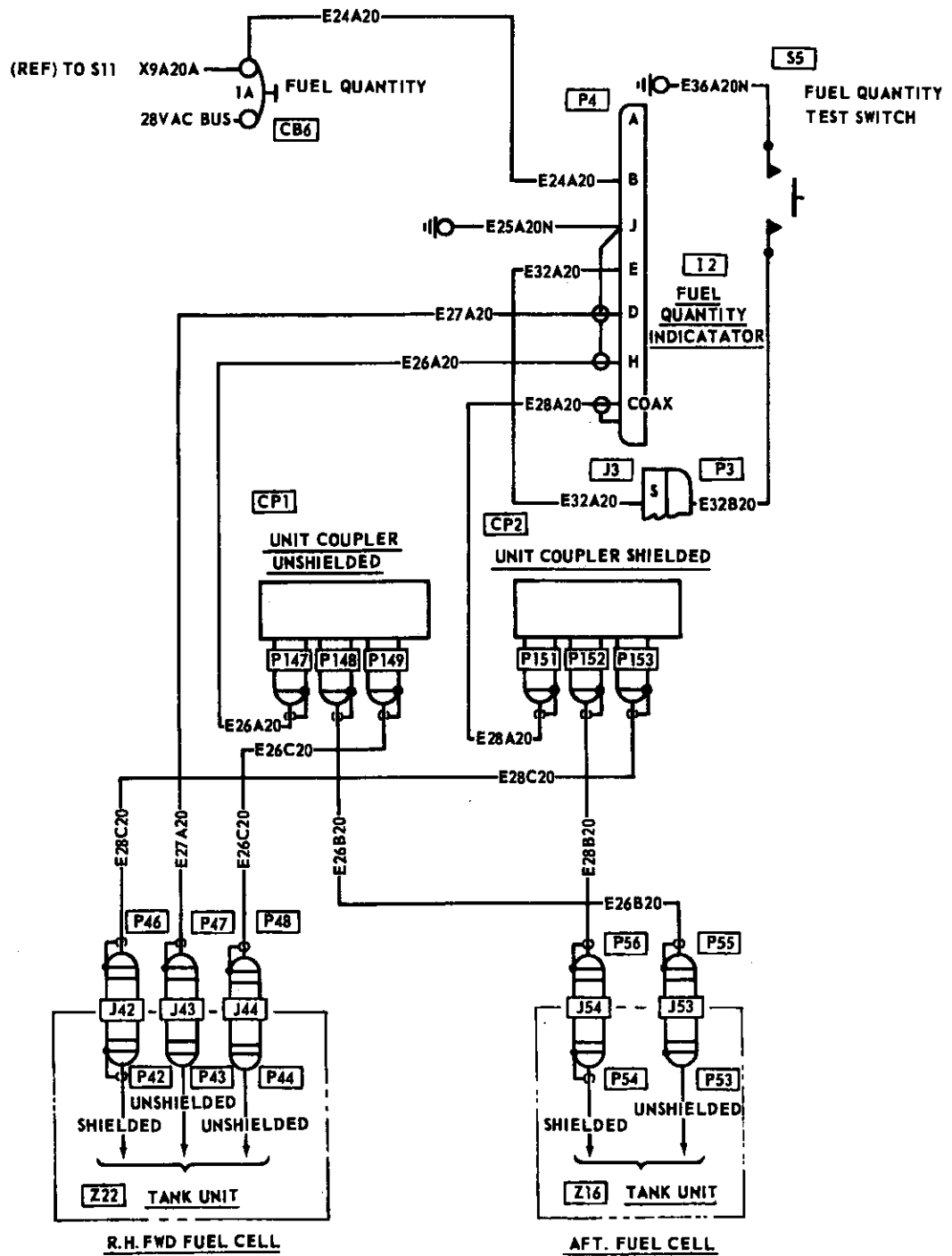


Figure 13-15. Exhaust temperature indicator system



205475-132
AV 054251

Figure 13-16. Fuel quantity system

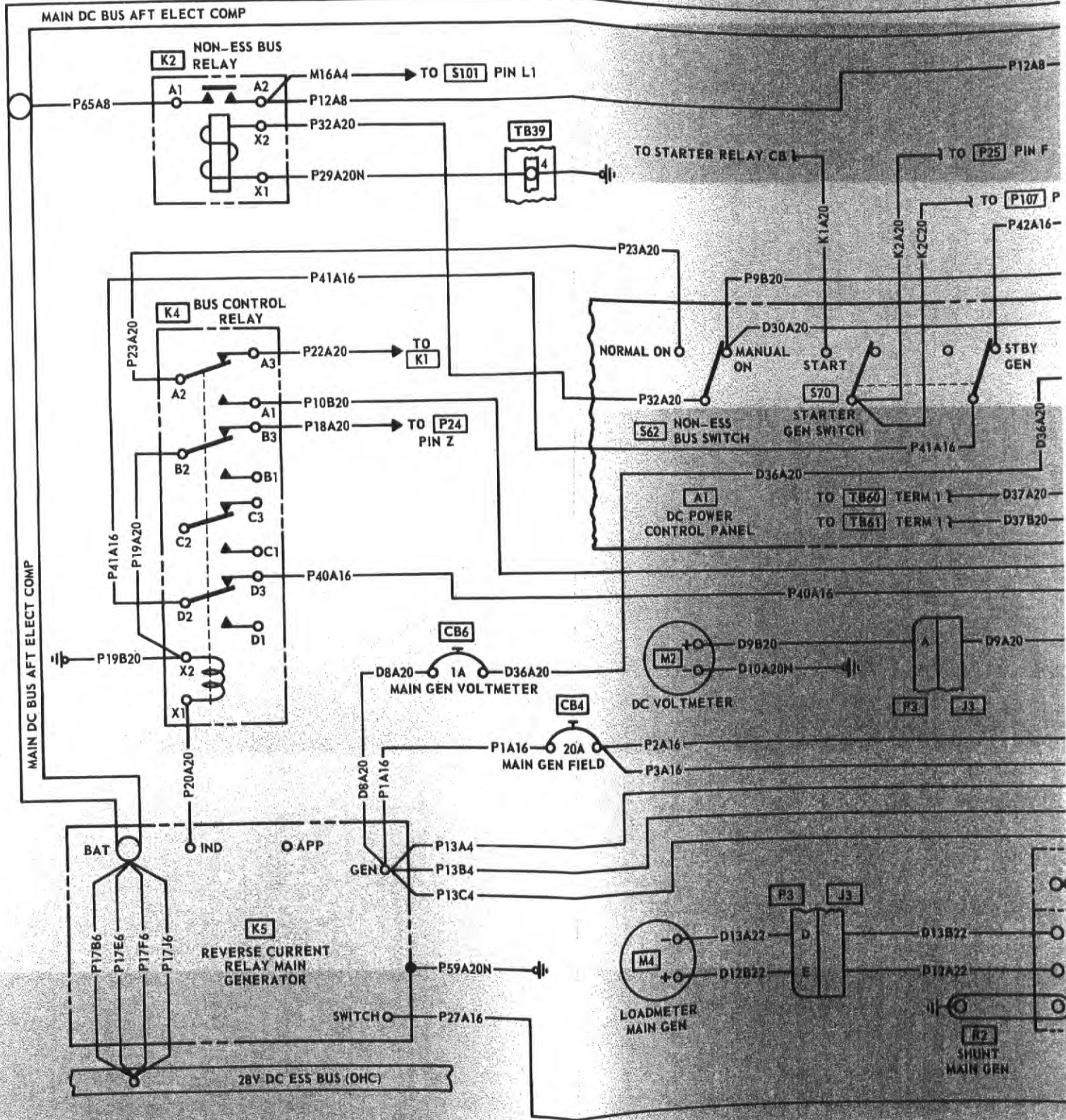
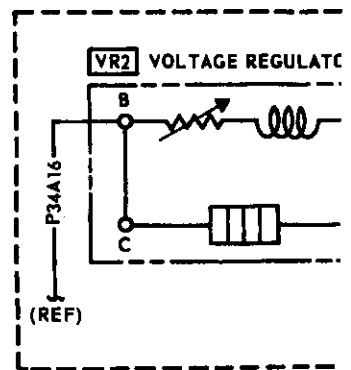
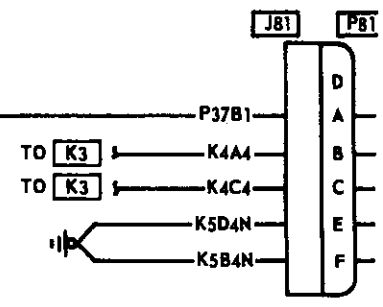
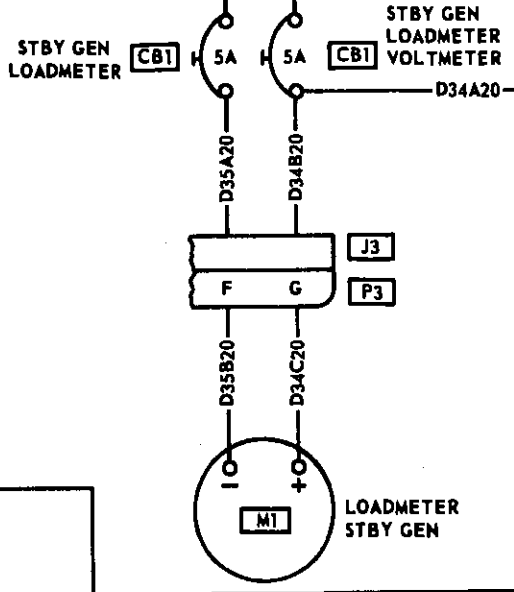
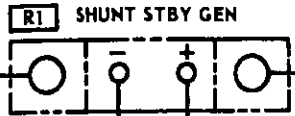
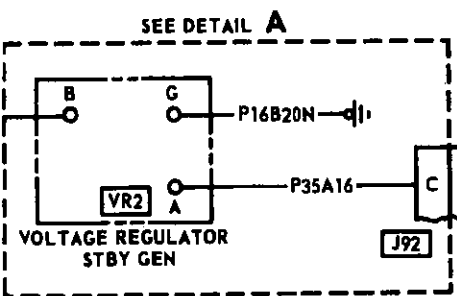
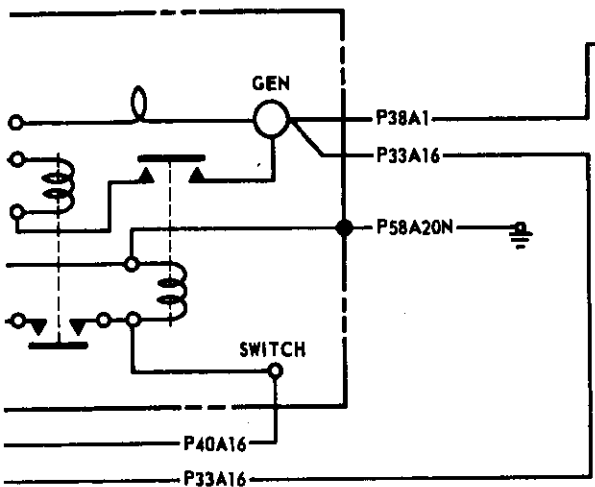
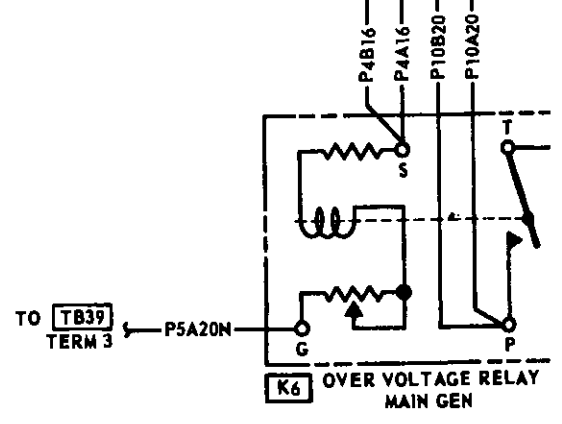
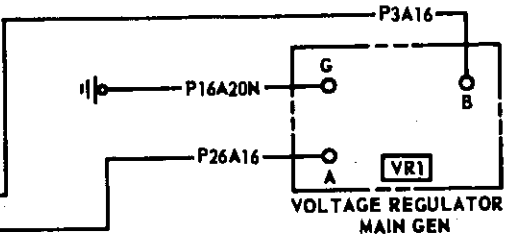
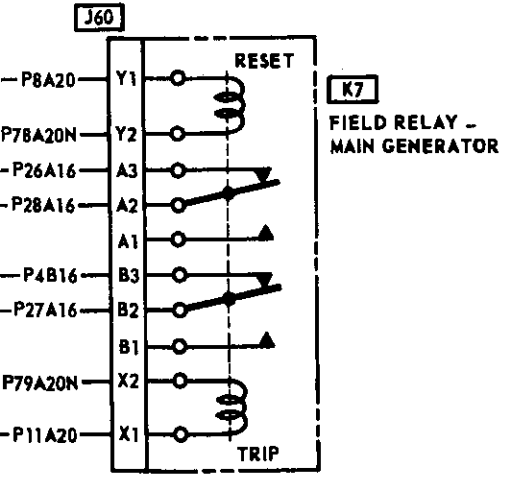
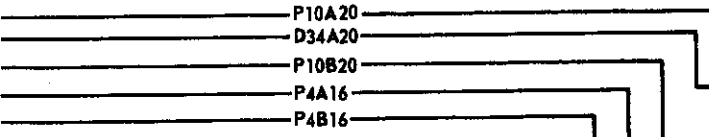


Figure 13-17. Generator and bus system

E CURRENT RELAY STBY GEN



DETAIL A
EFF 66-746 THRU 68-1662



P11A20

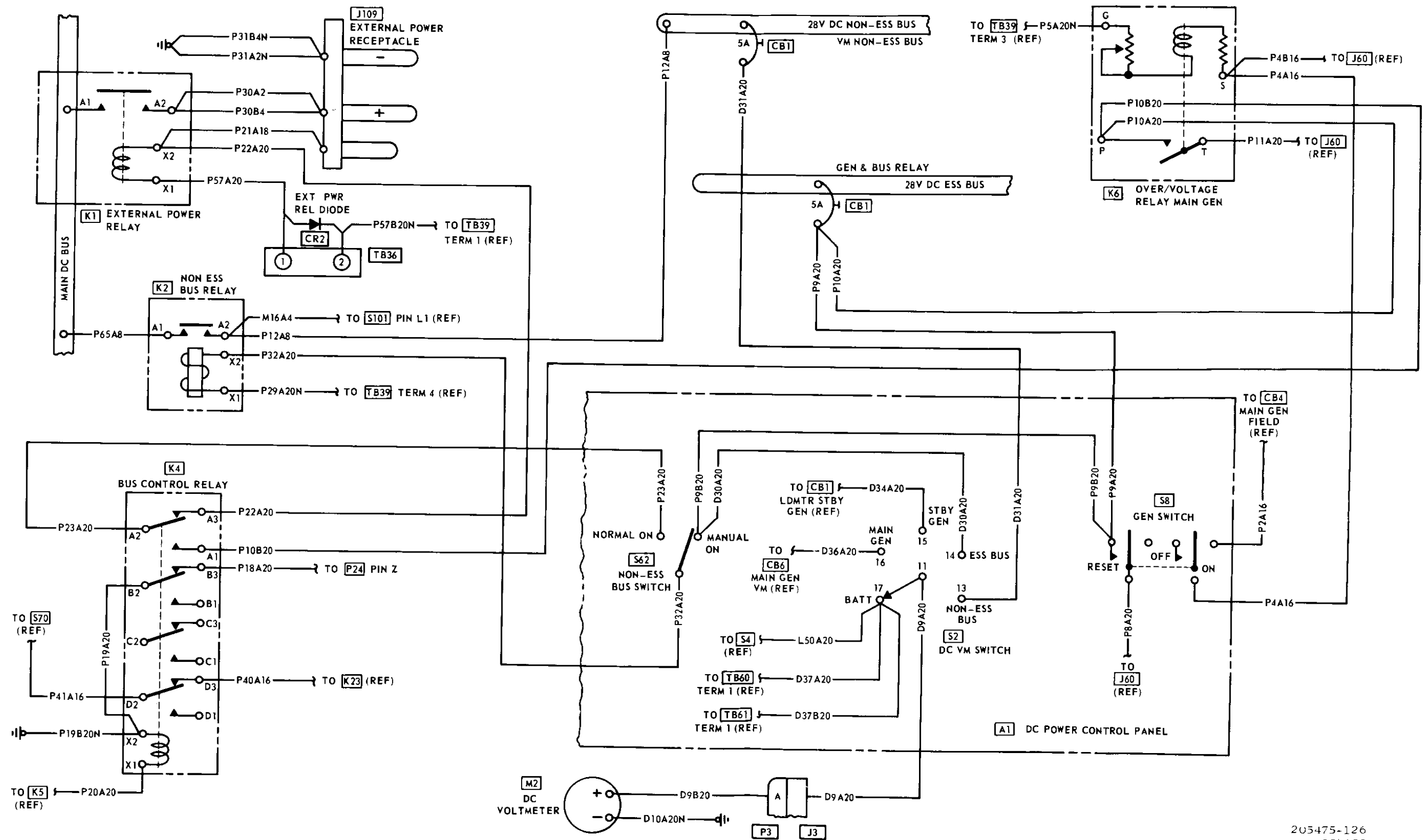
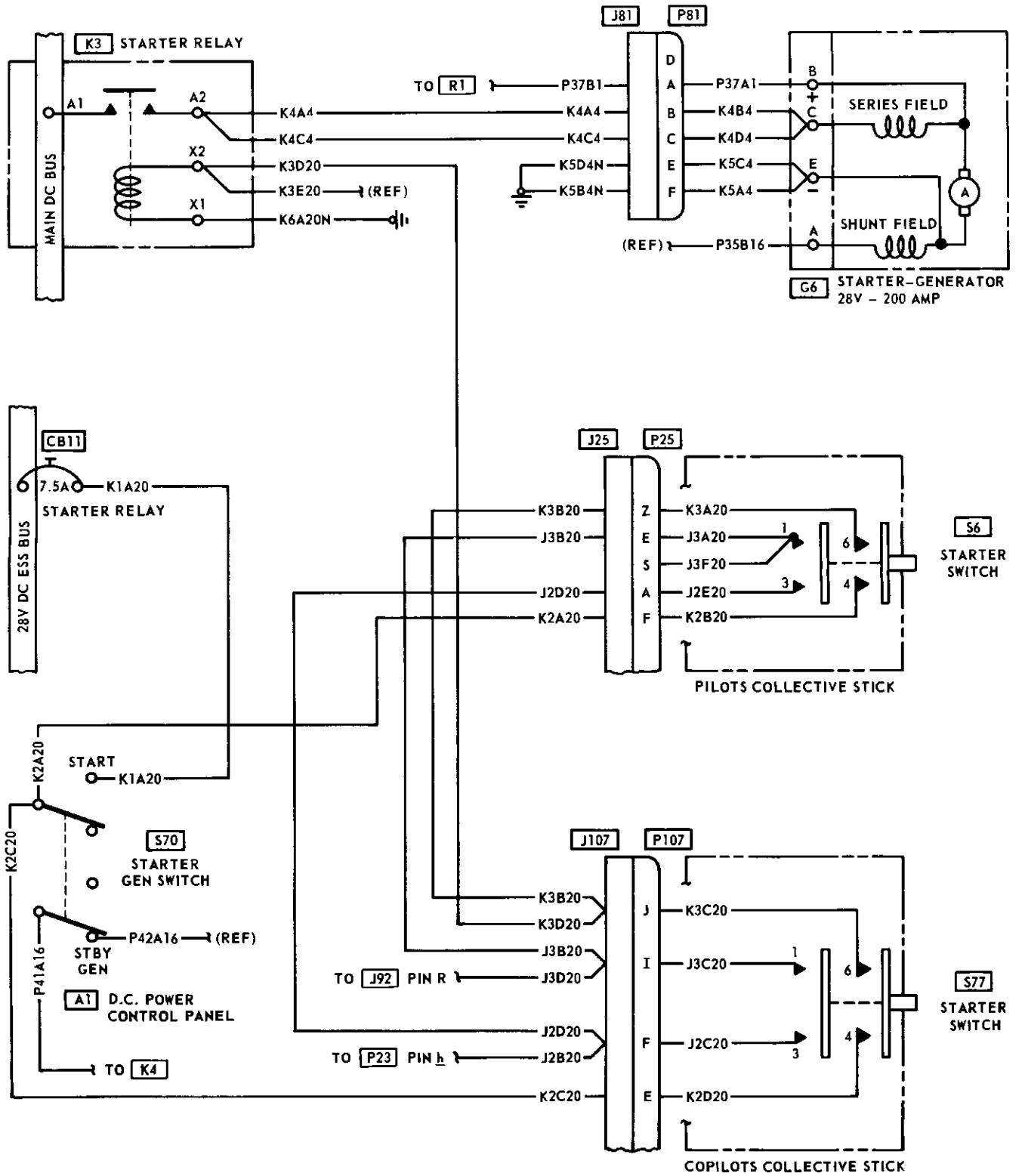


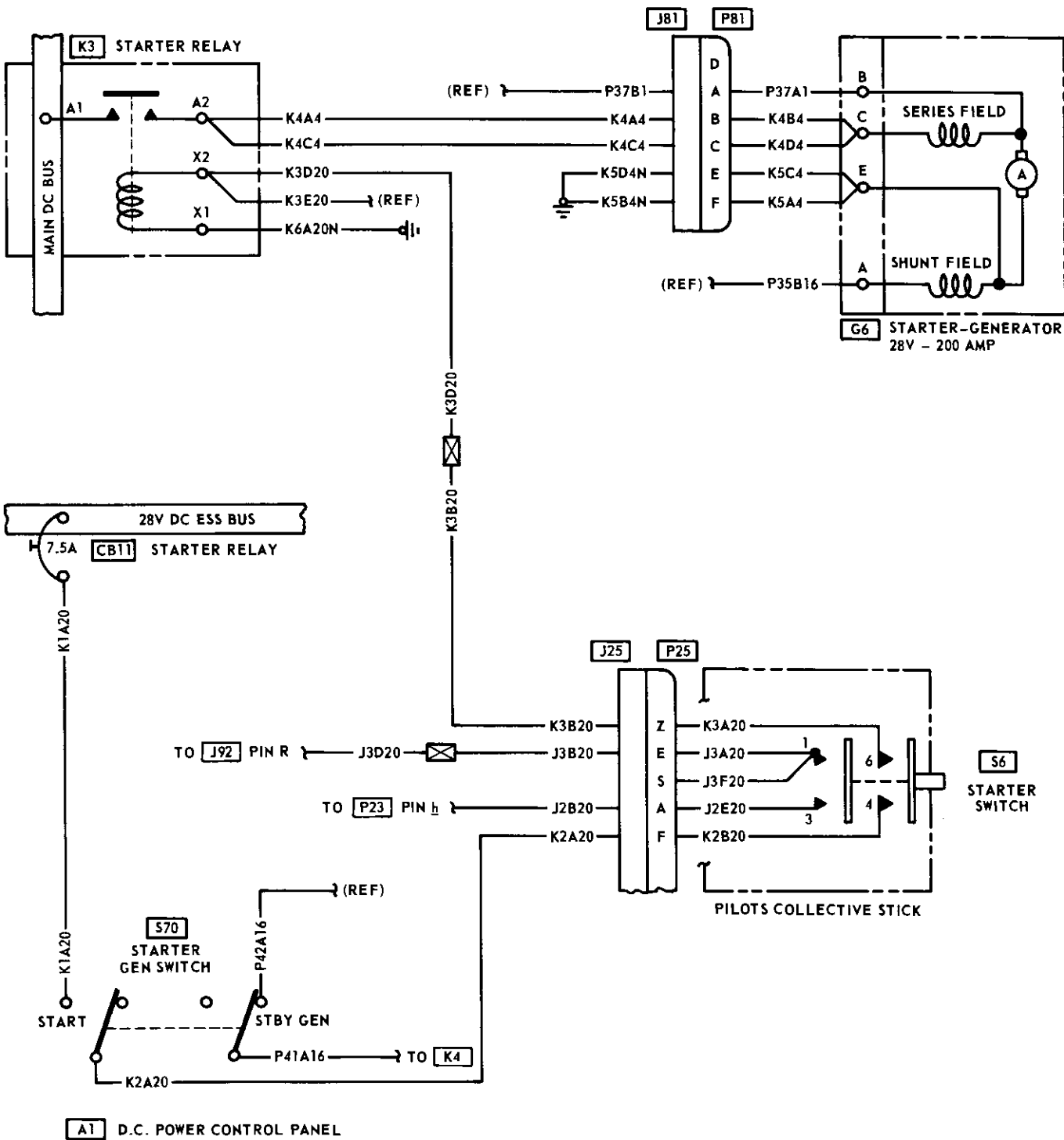
Figure 13-18. External power system

205475-126
AV 054253



205475-110
AV 054255

Figure 13-20. Starter system (effective 65-9565 through 67-19537) (Sheet 1 of 2)



205475-111
AV 054256

Figure 13-20. Starter system (effective 68-15214 through 68-16628) (Sheet 2 of 2)

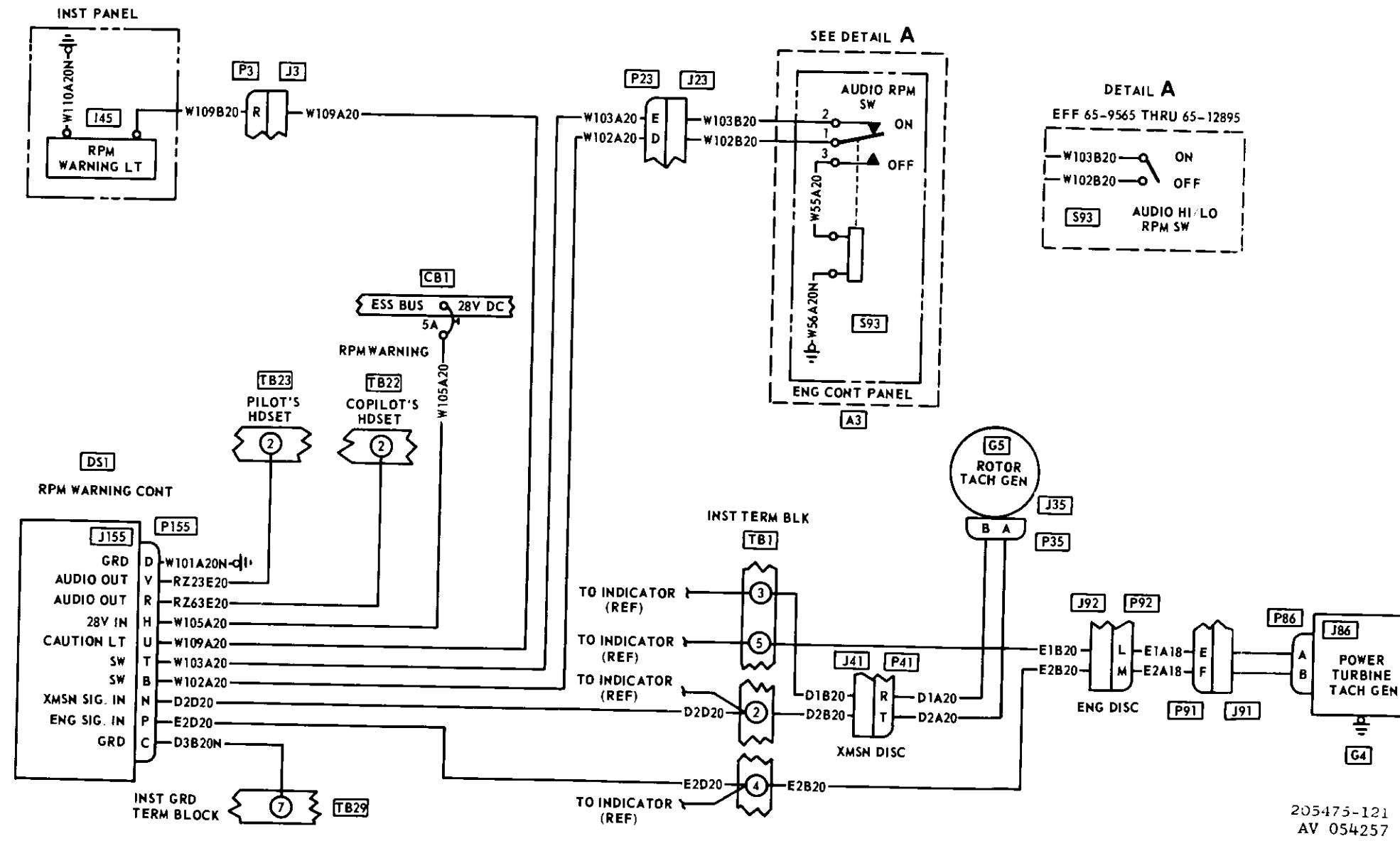


Figure 13-21. R.P.M. warning system

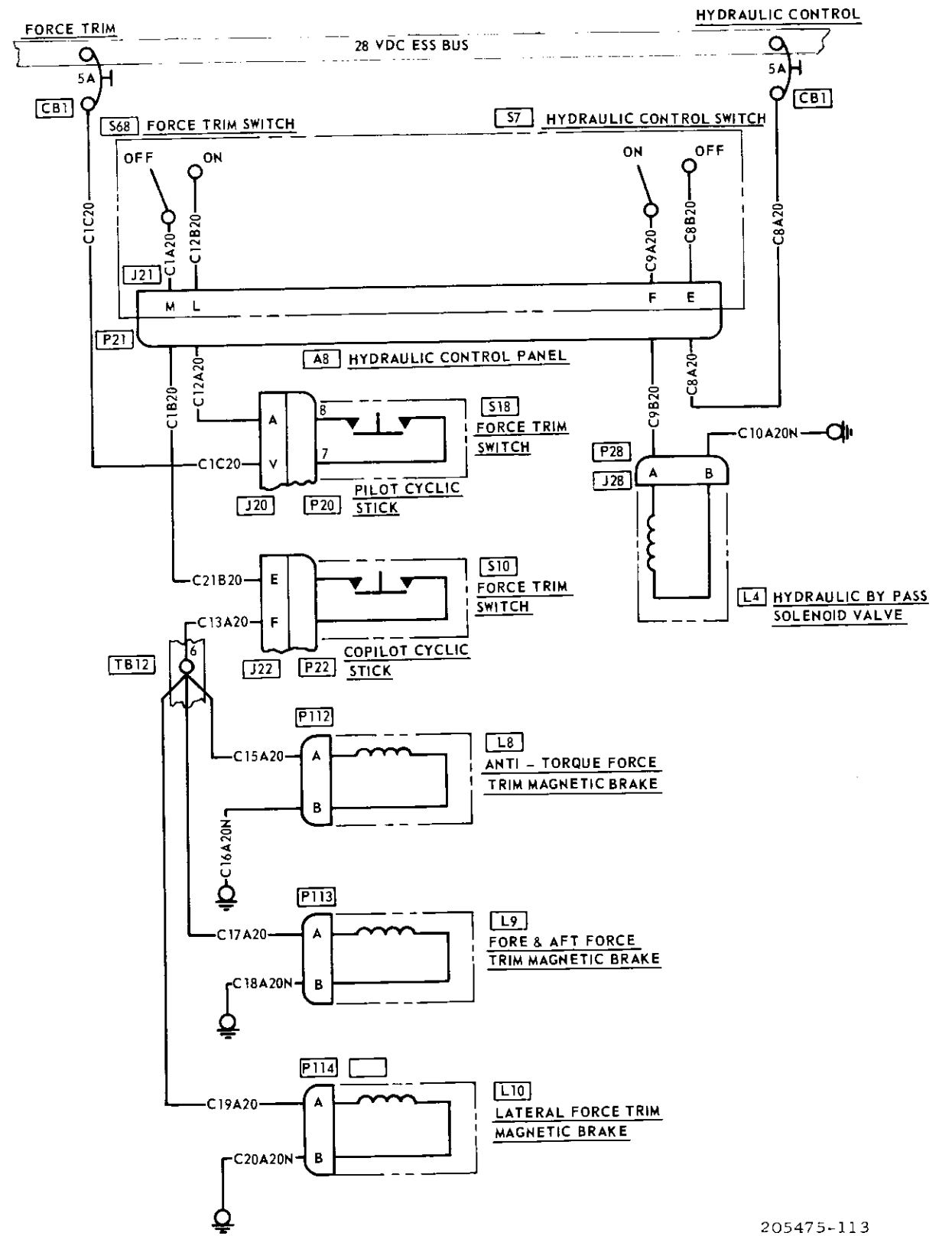


Figure 13-22. Force trim and hydraulic control system

205475-113
AV 054258

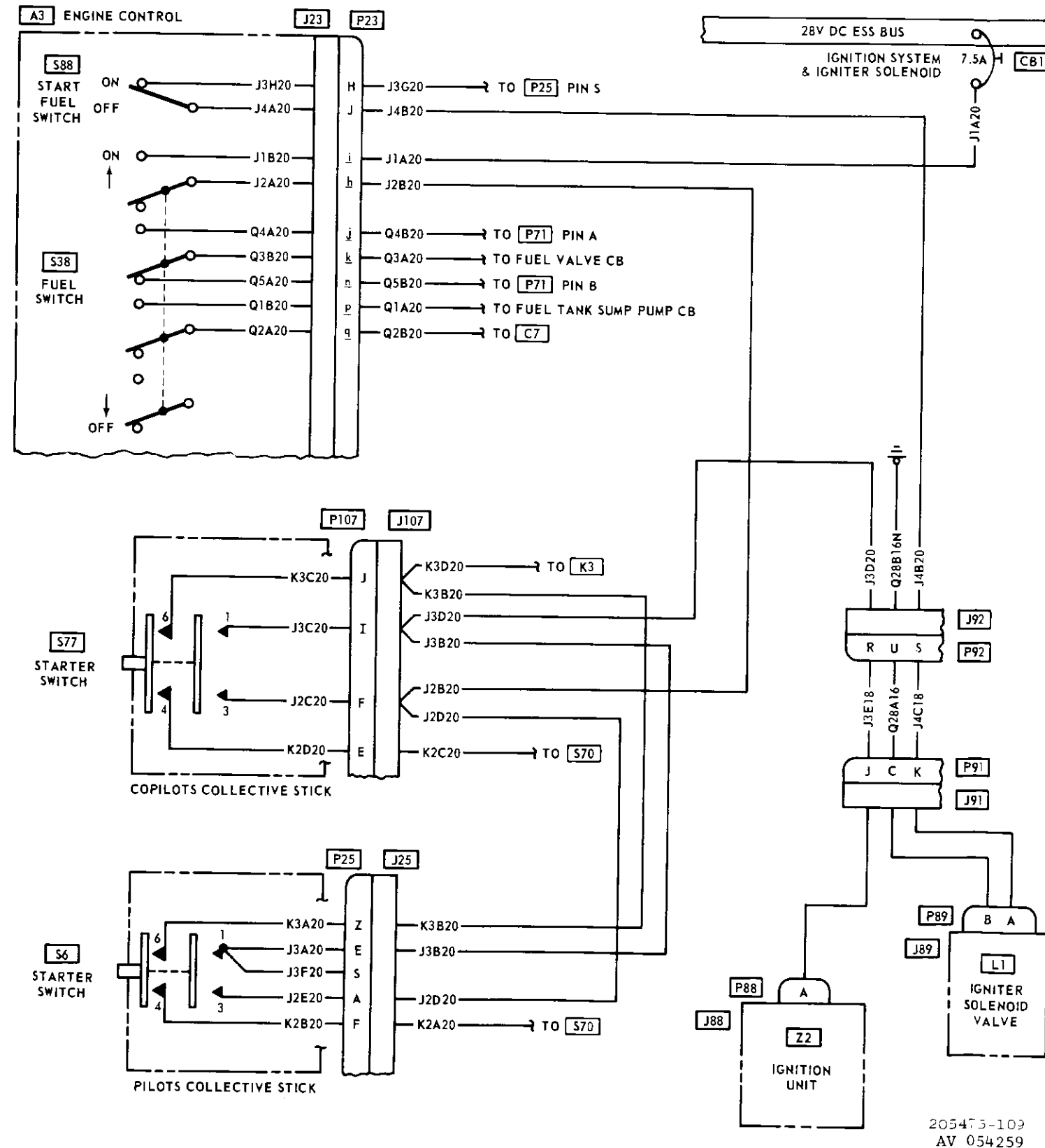
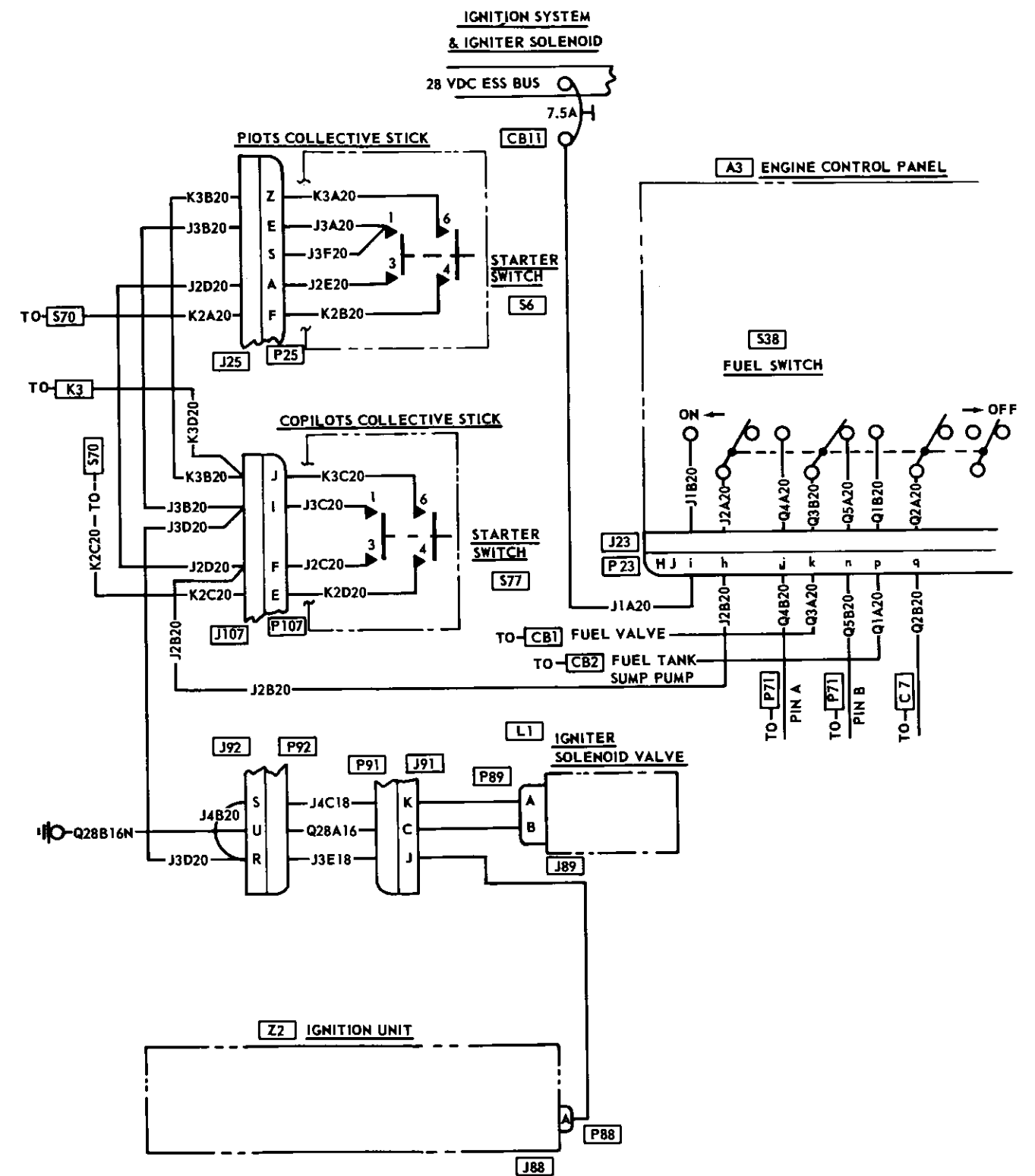


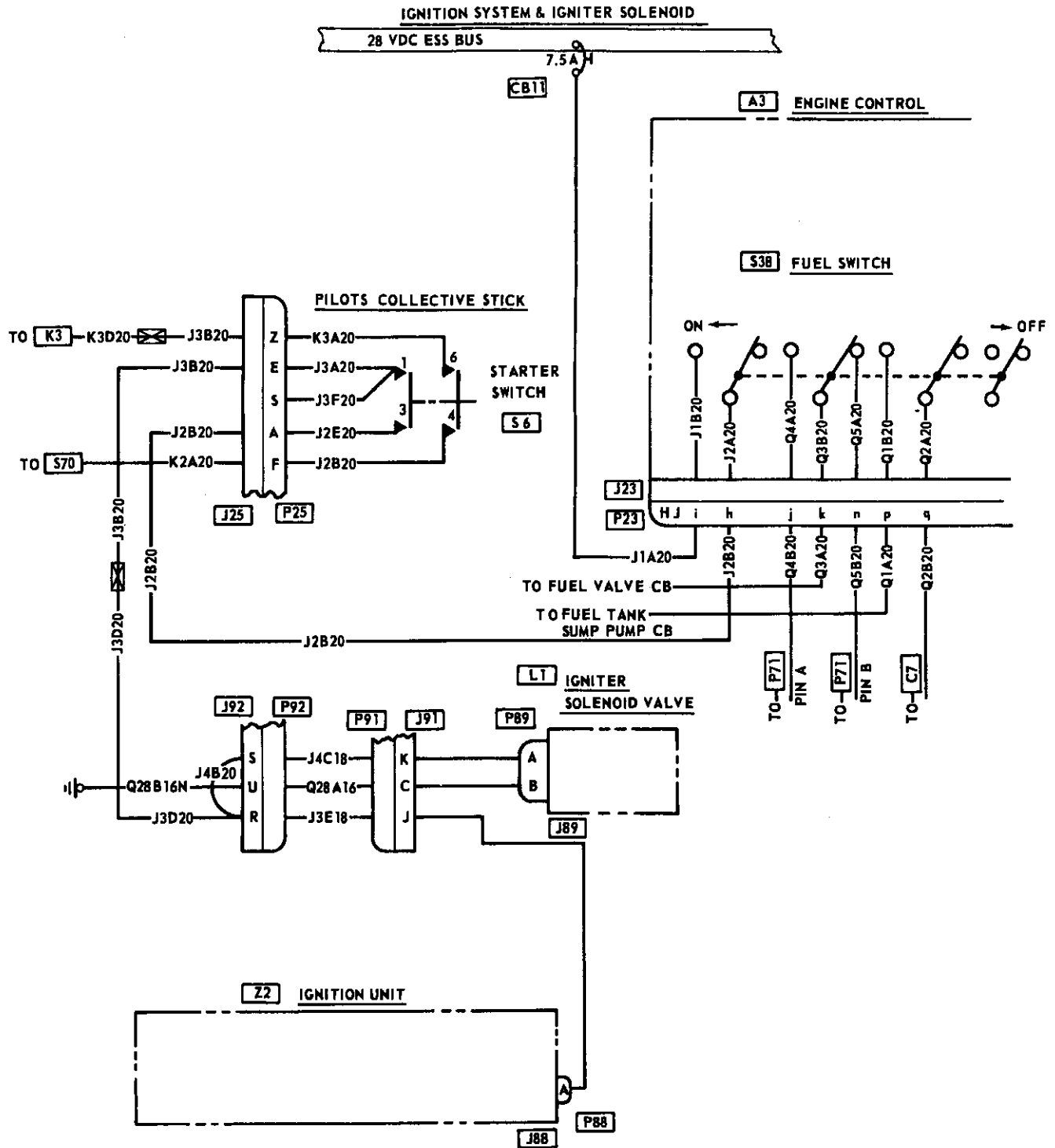
Figure 13-23. Ignition system (effective 65-9565 through 66-16033) (Sheet 1 of 3)



EFF 66-16034 THRU 67-19537

205475-143
AV 054260

Figure 13-23. Ignition system (effective 66-16034 through 67-19537) (Sheet 2 of 3)



EFF 68-15214 THRU 68-16628

205475-142
AV 054261

Figure 13-23. Ignition system (effective 68-15214 through 68-16628) (Sheet 3 of 3)

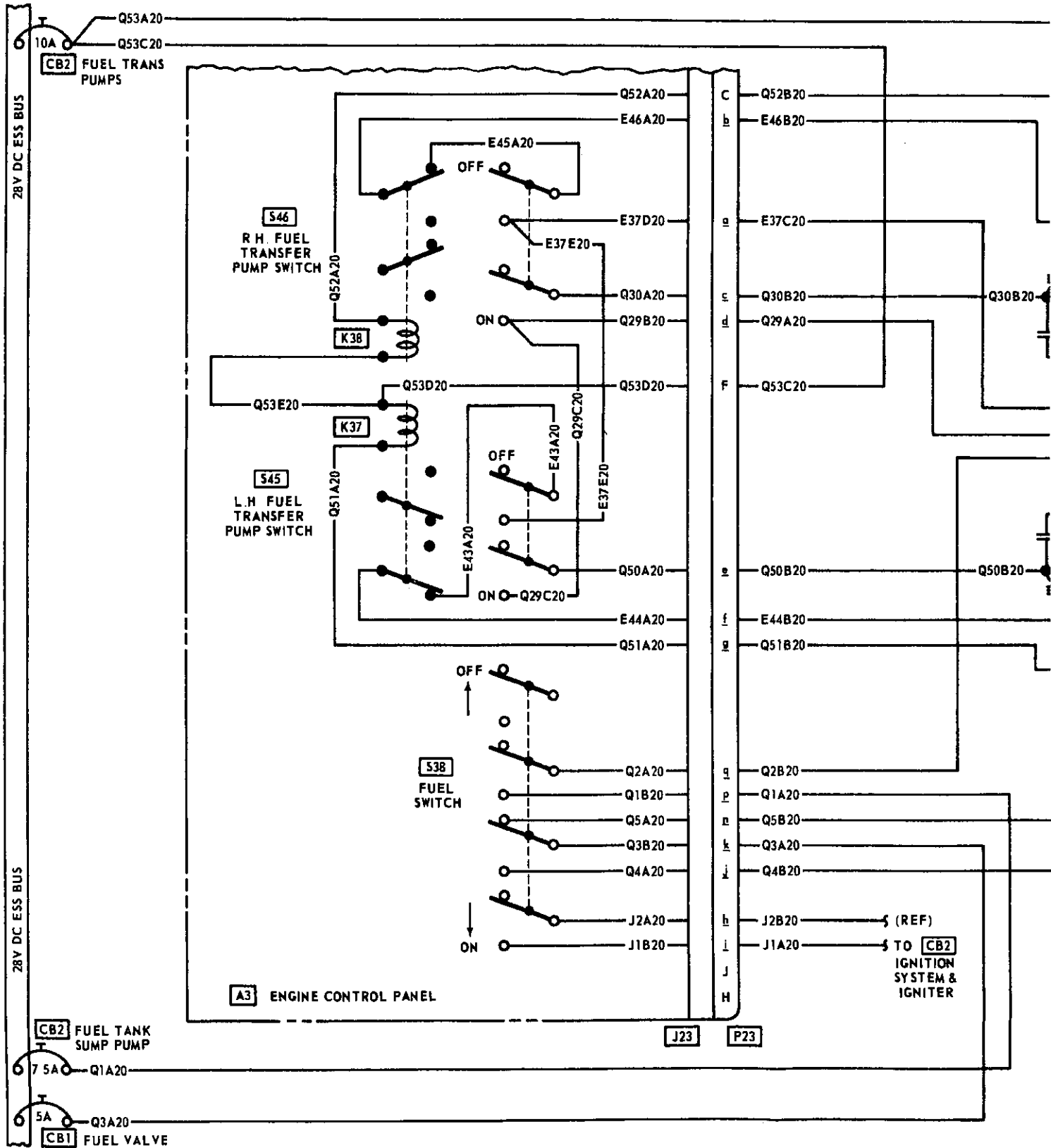
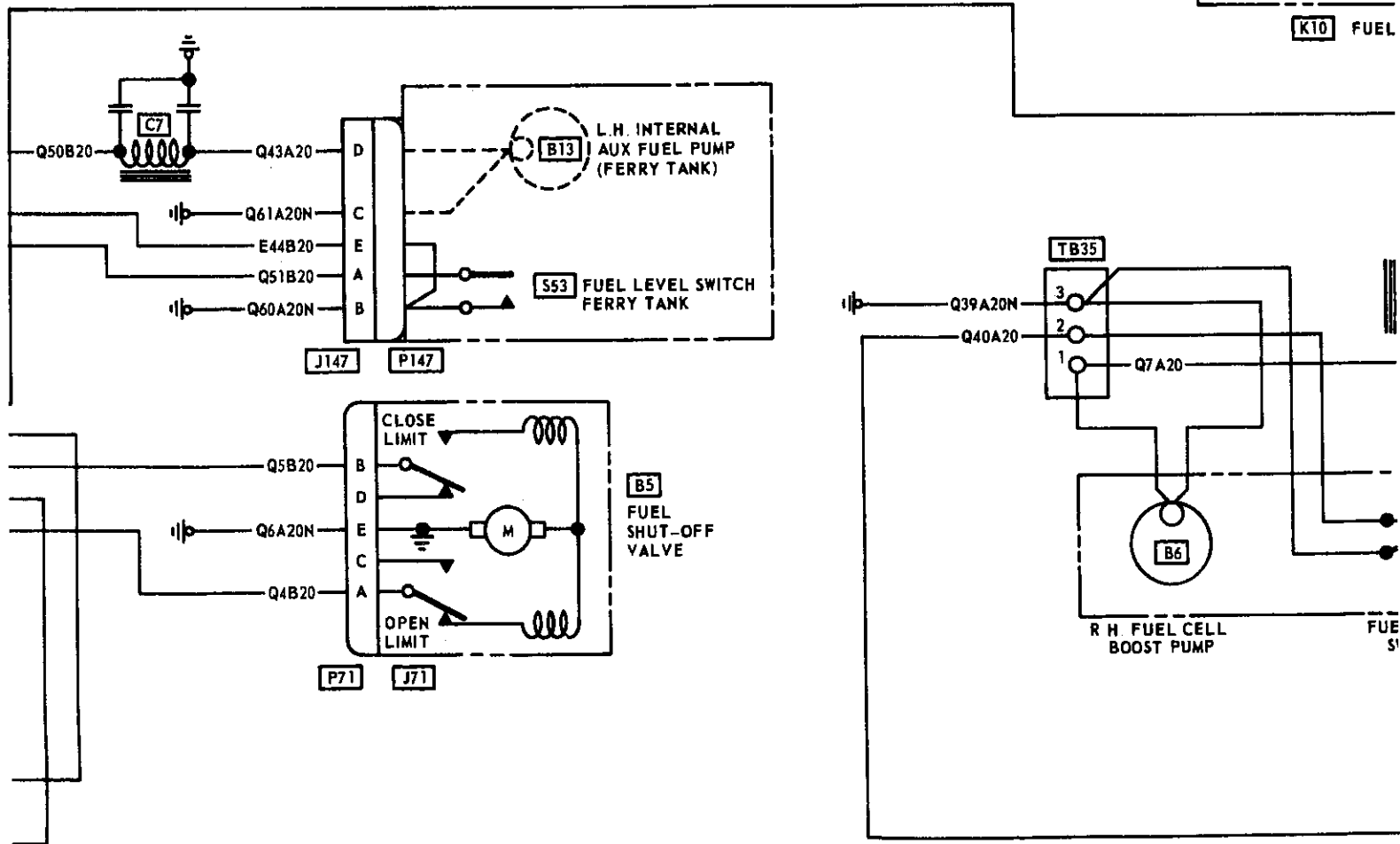
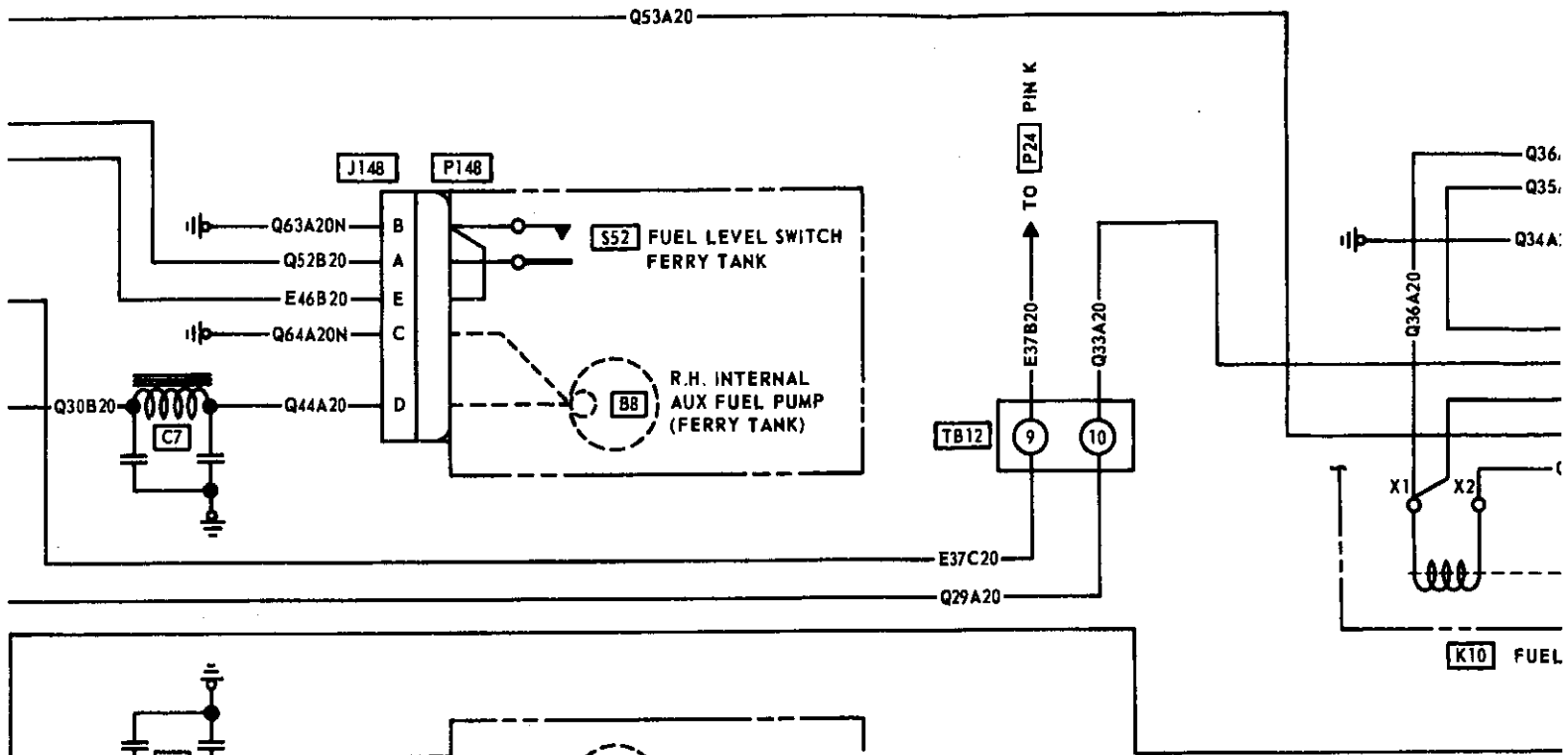
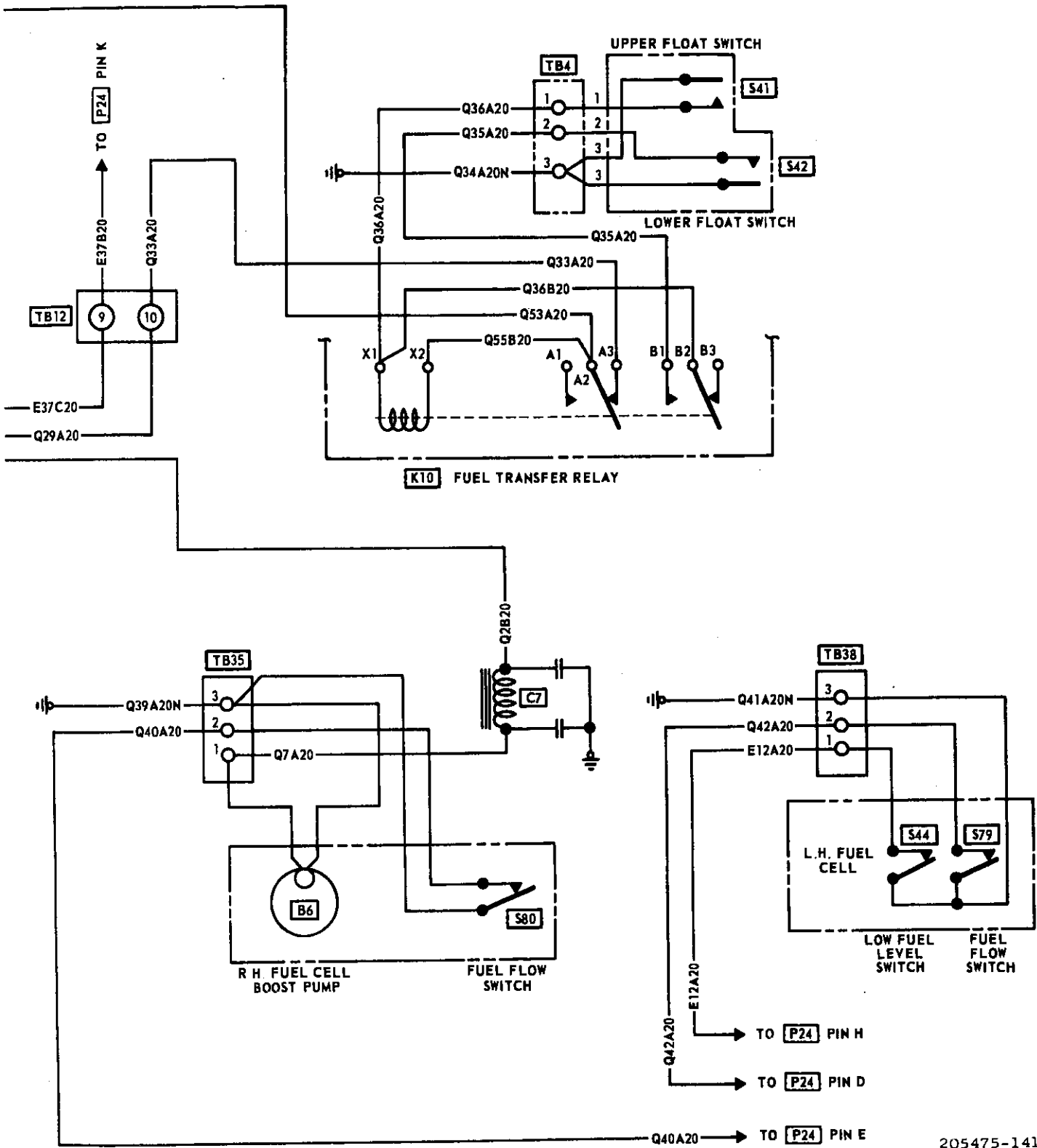


Figure 13-24. Fuel boost and fuel valve system





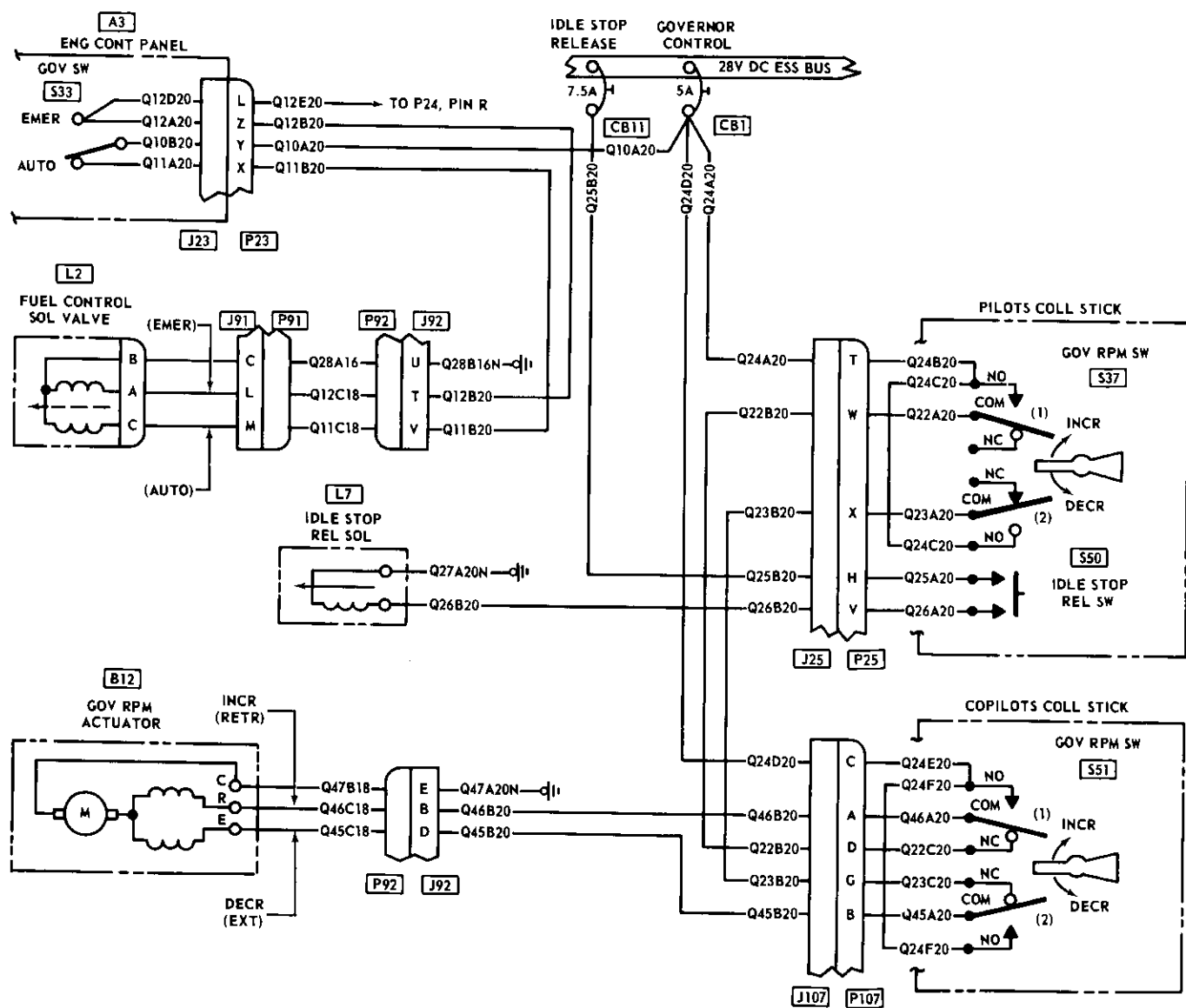


Figure 13-25. Governor control and idle stop systems

205475-117
AV 054263

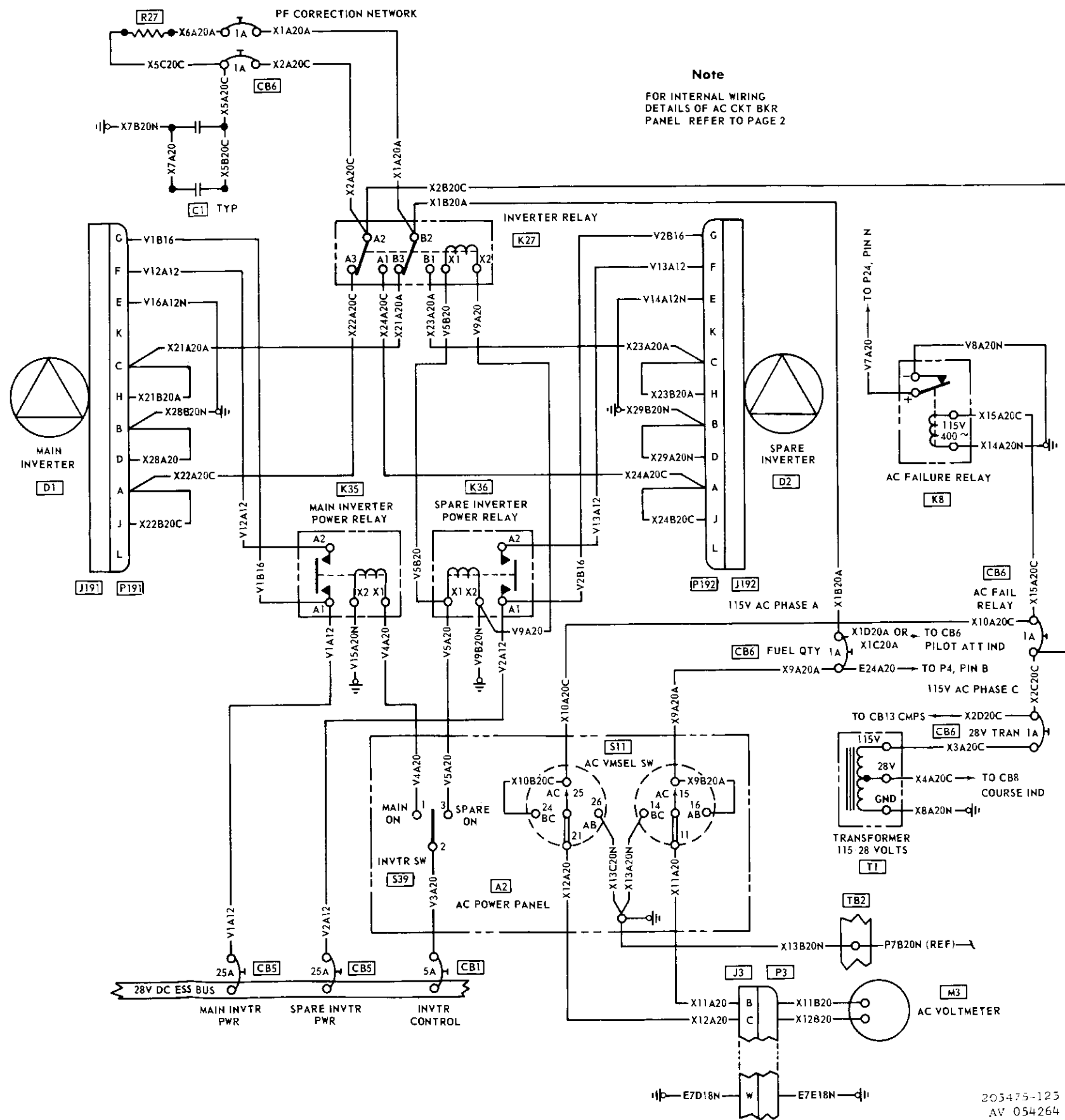


Figure 13-26. AC power system (Sheet 1 of 2)

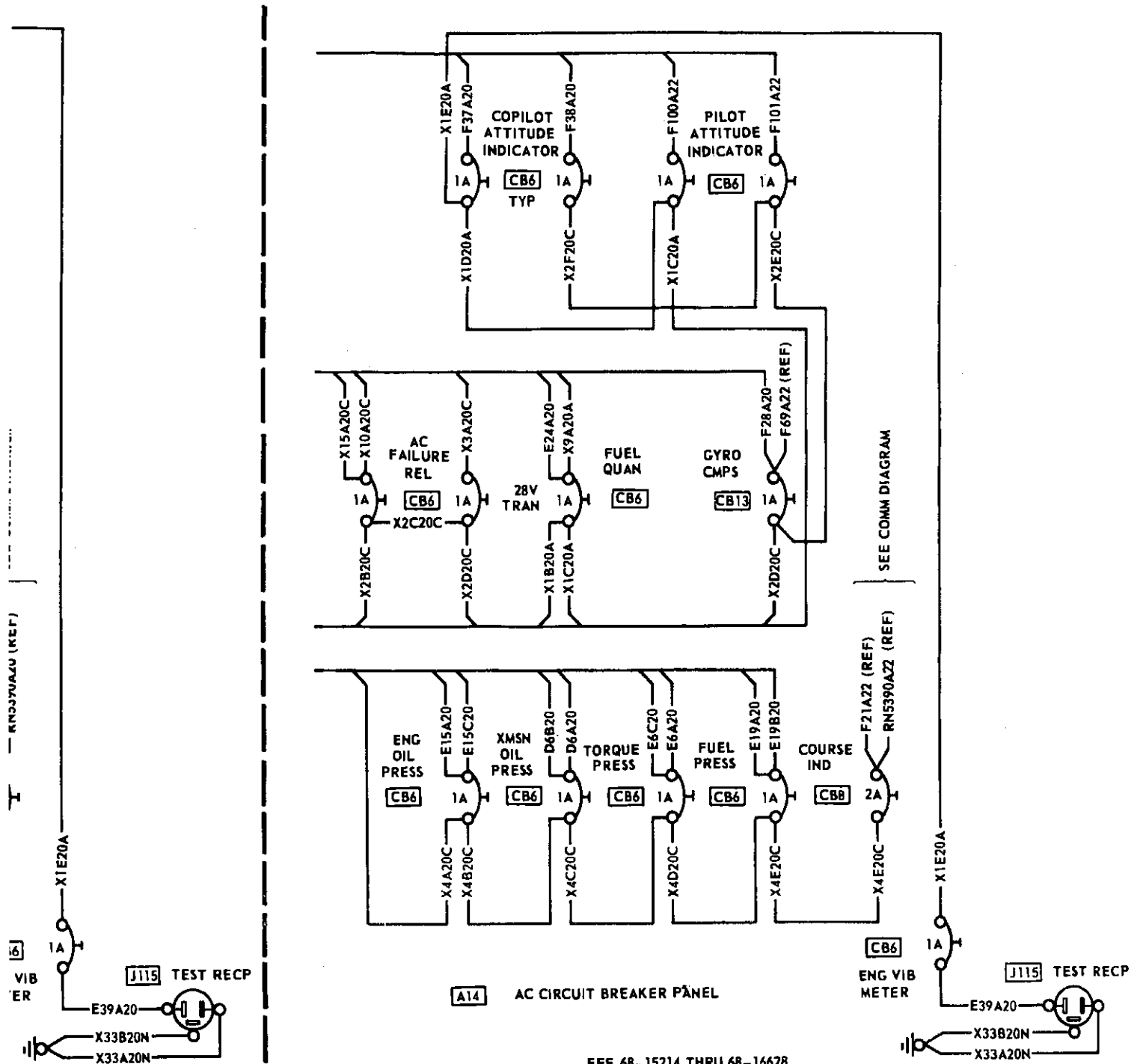
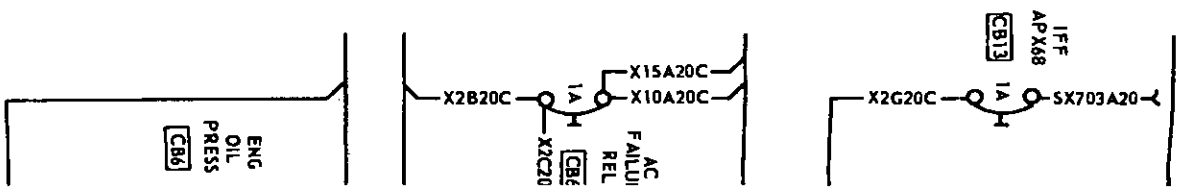
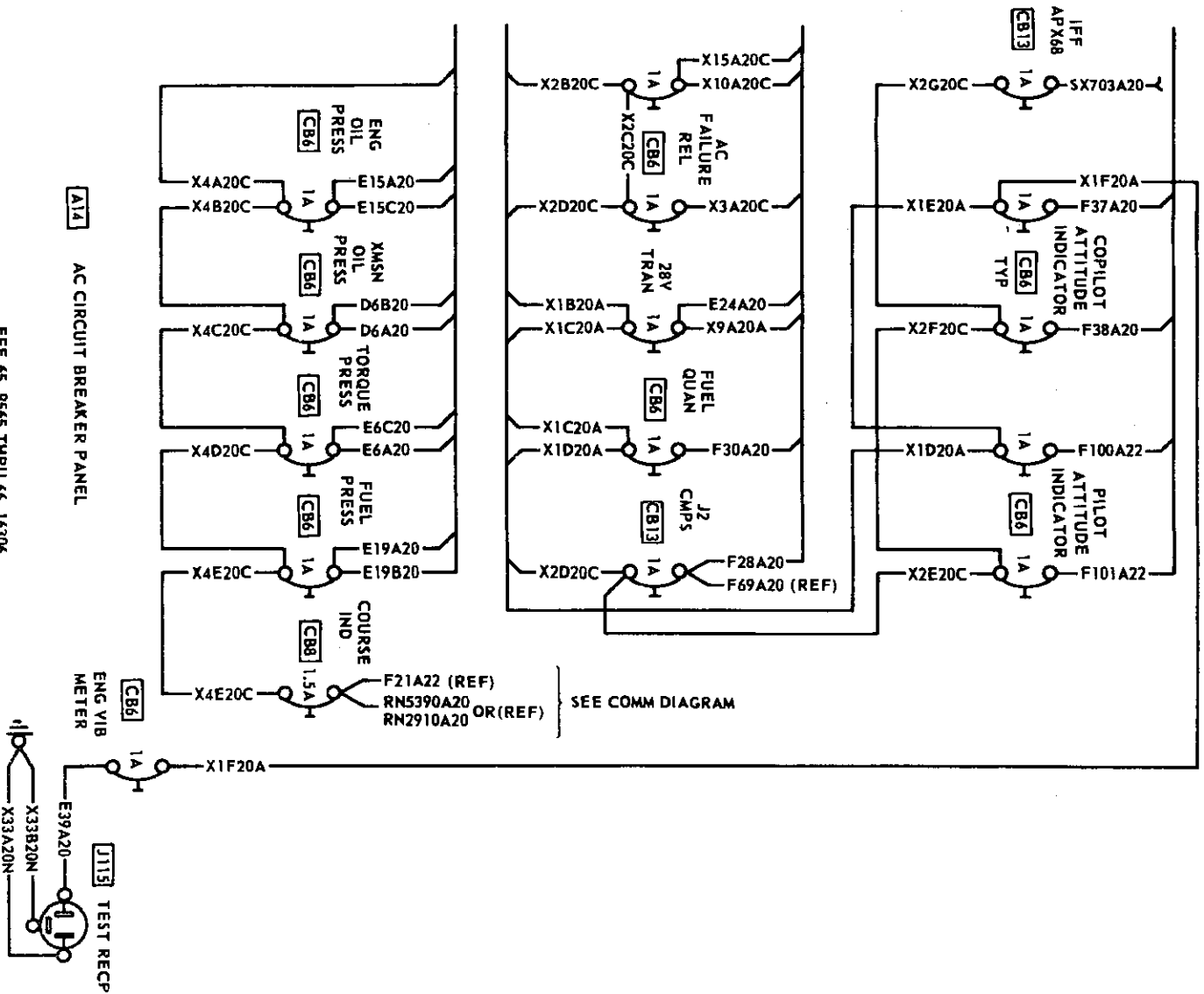


Figure 13-26. AC power system (Sheet 2 of 2)



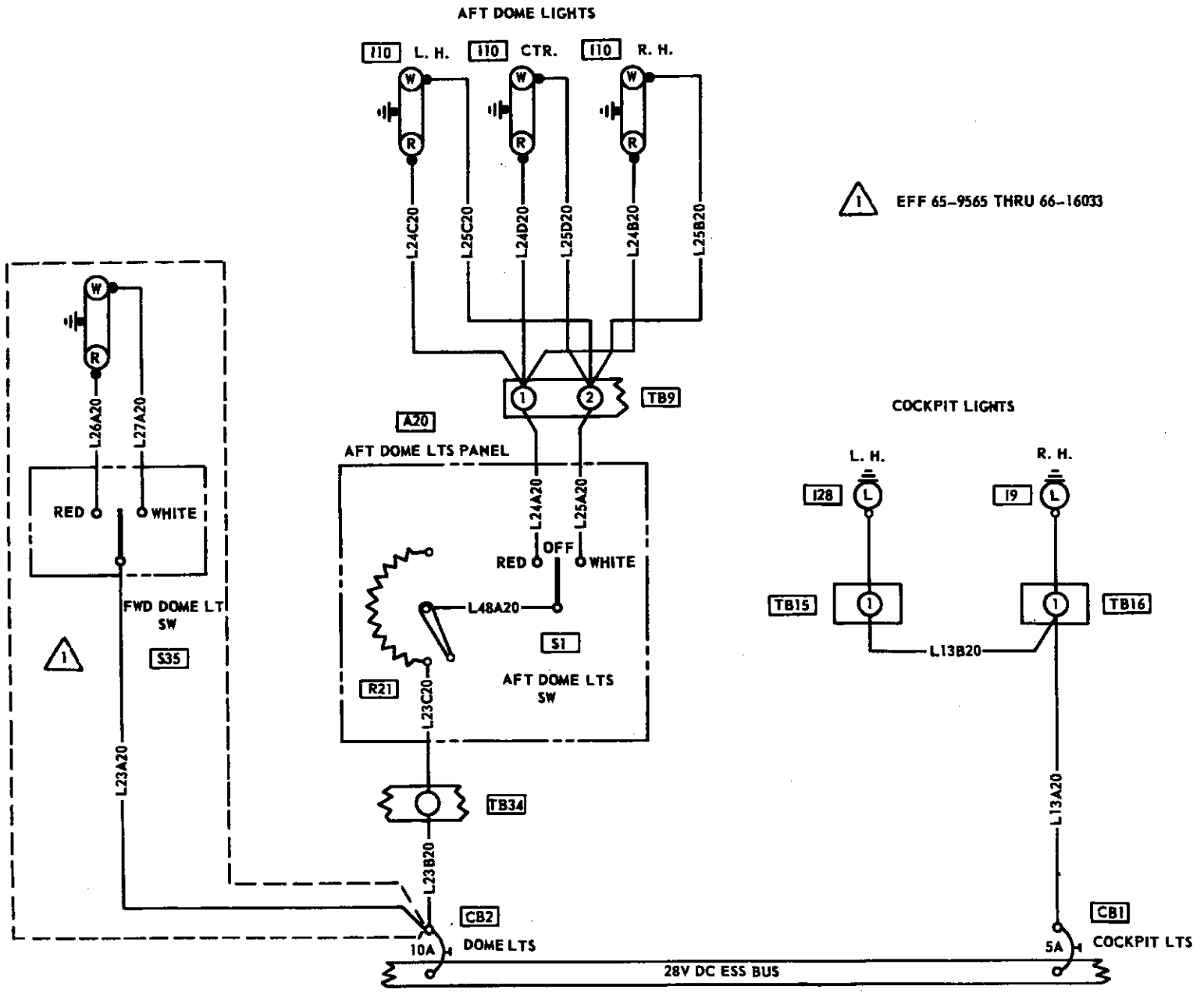


Figure 13-27. Cockpit and dome lights system

205475-122
AV 054266

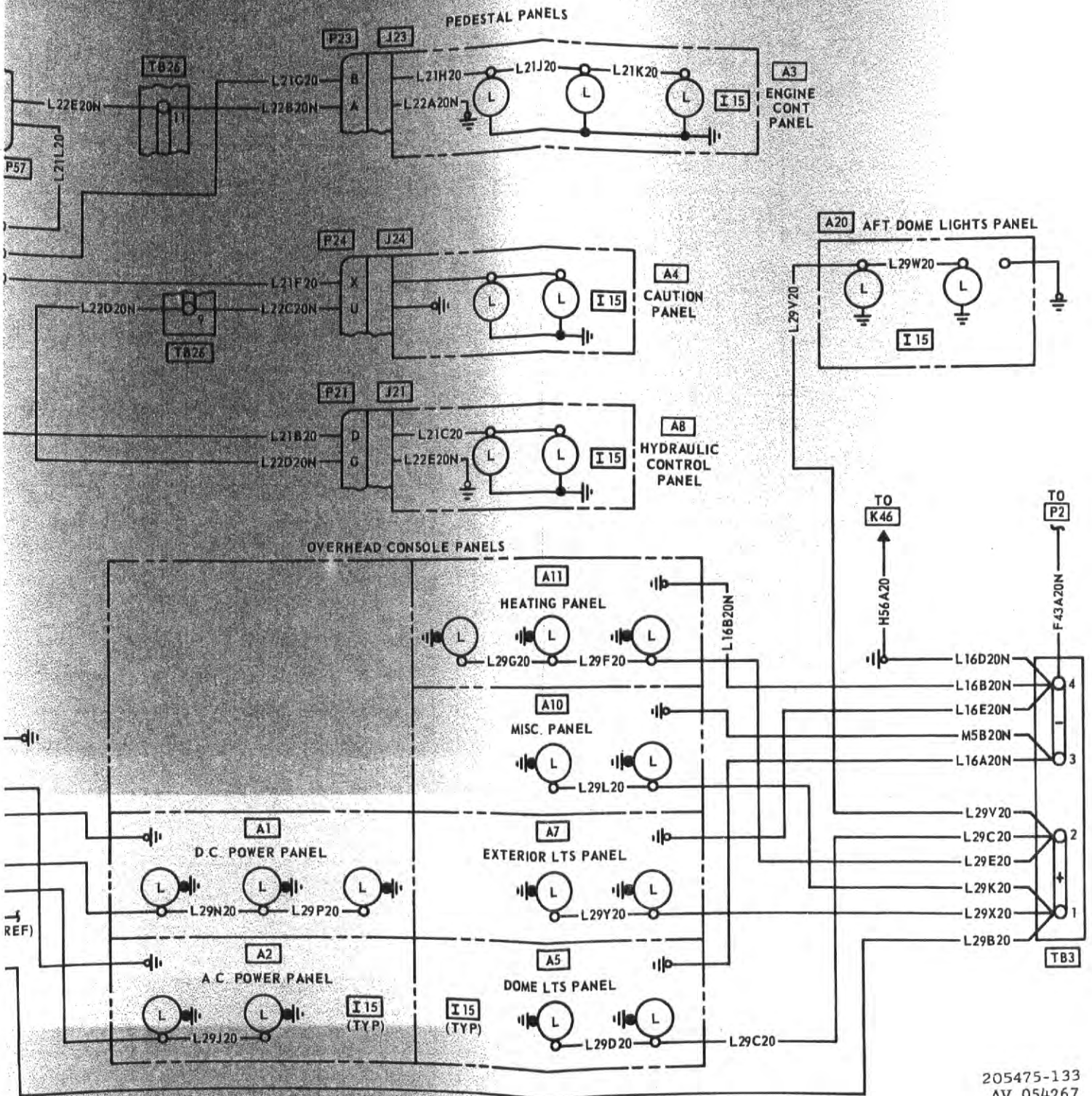
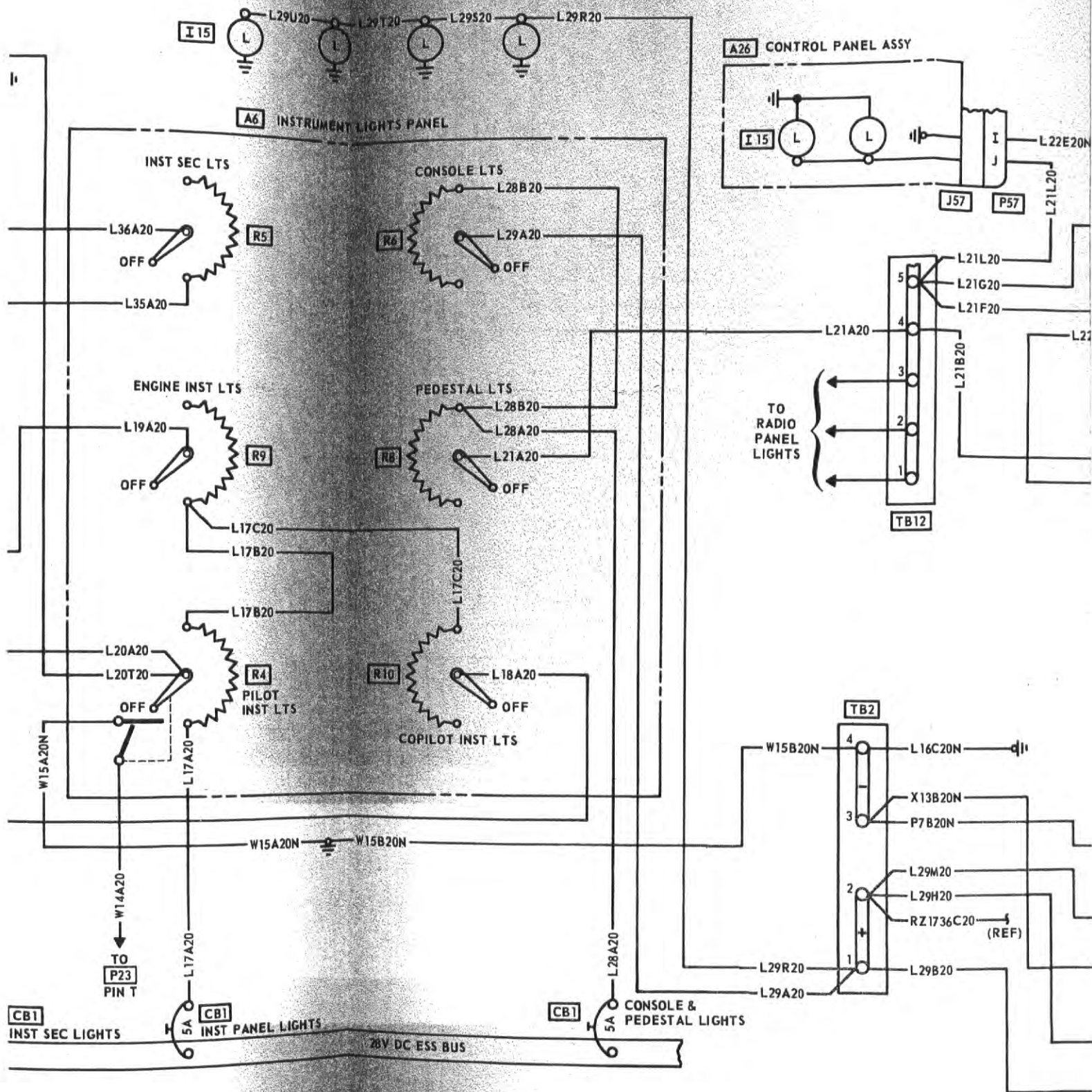
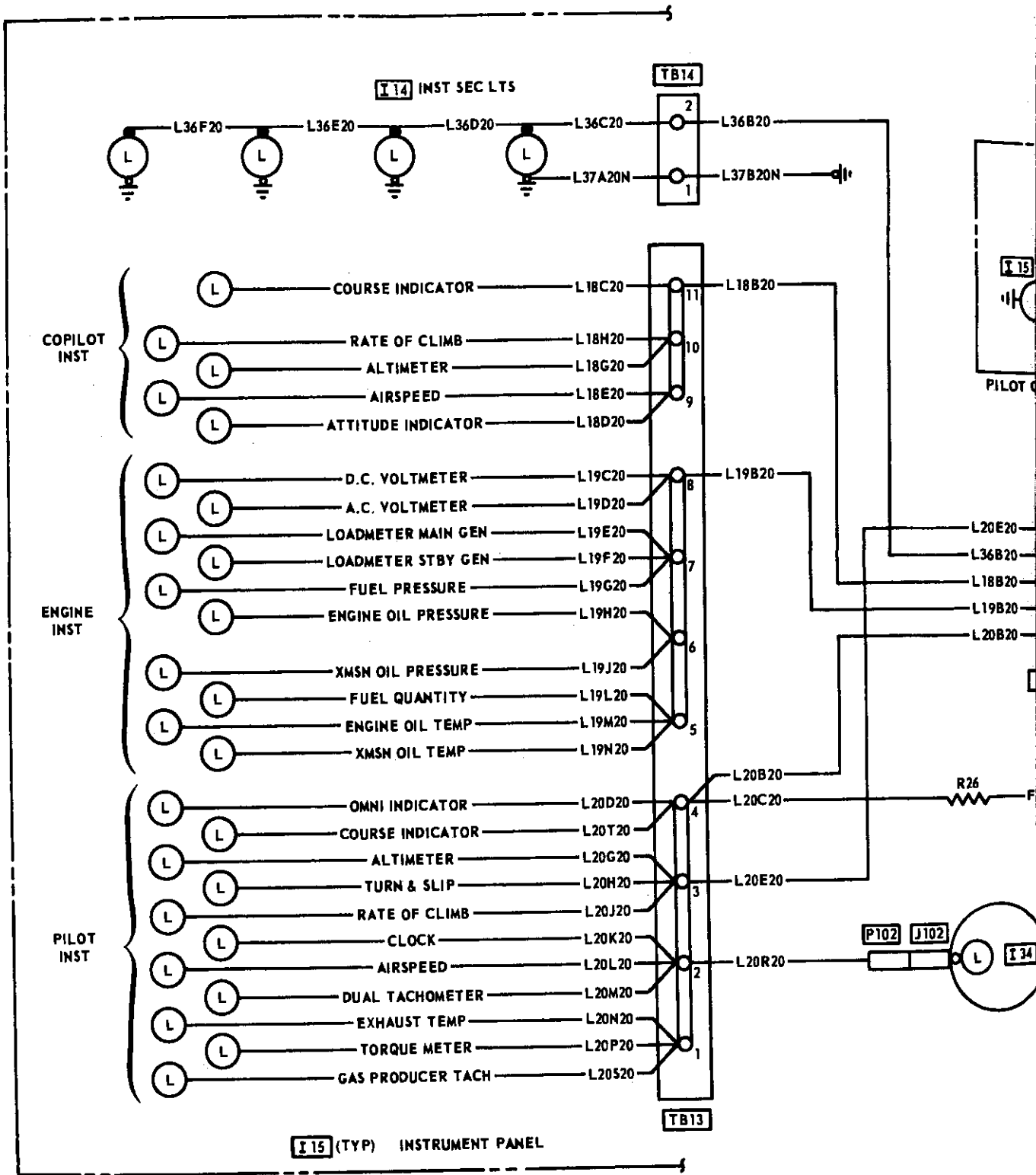


Figure 13-28. Instrument, console and pedestal lights system

205475-133
AV 054267





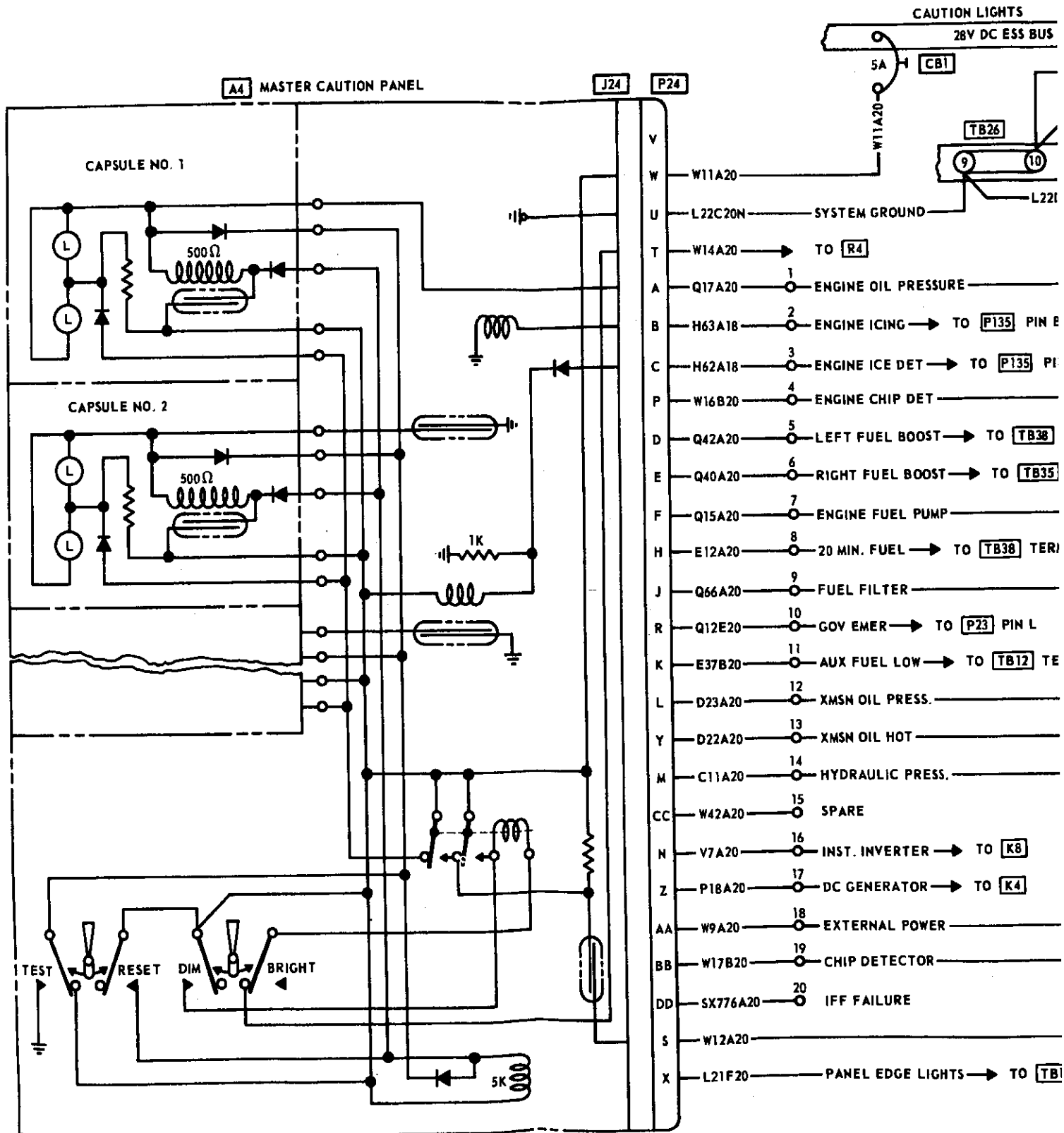
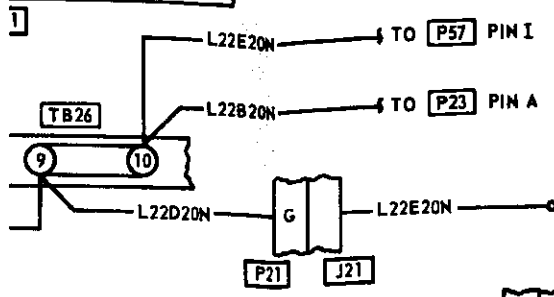
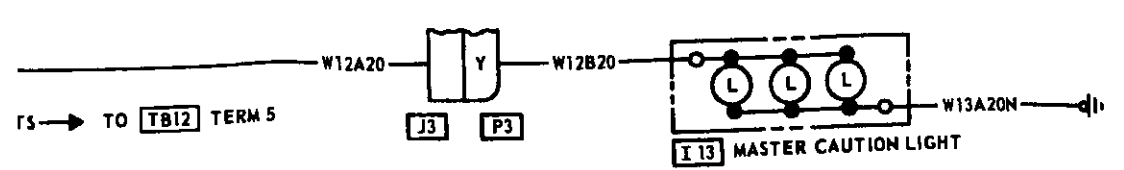
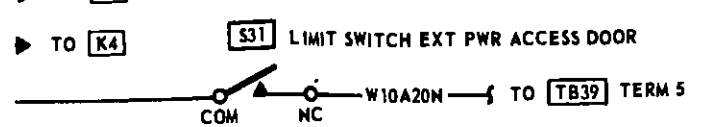
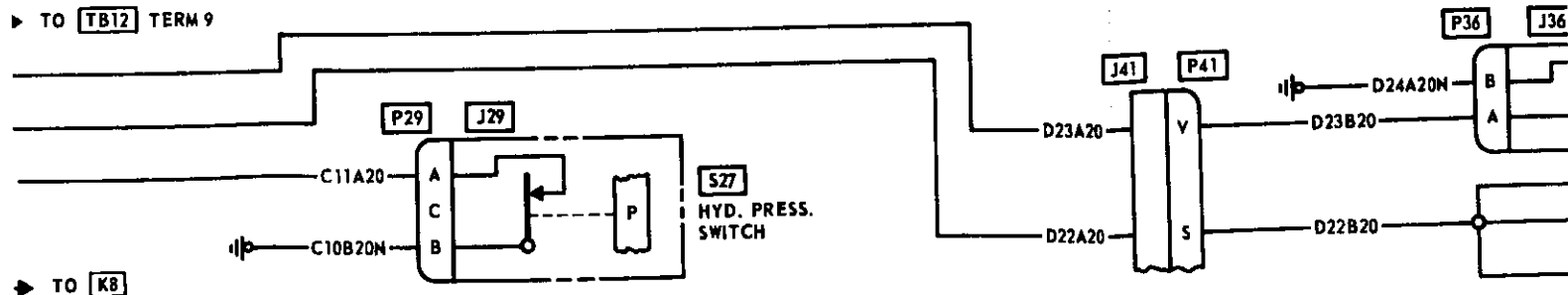
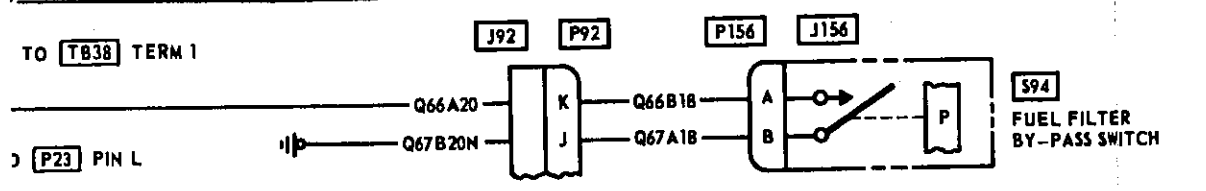
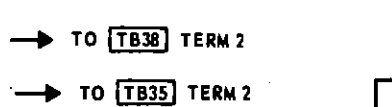
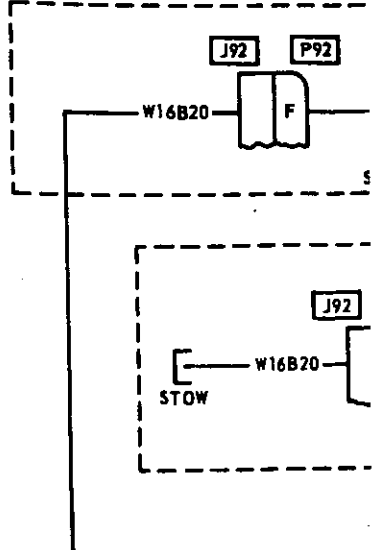
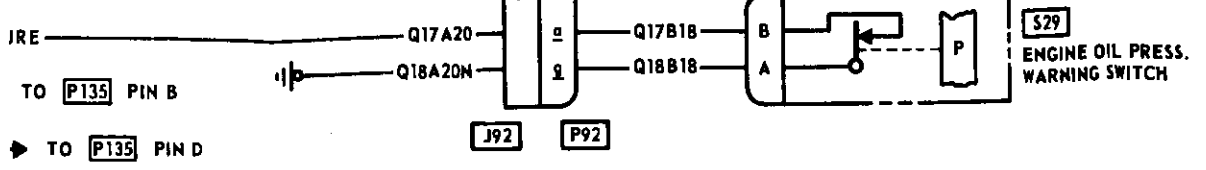


Figure 13-29. Caution lights system (effective 65-9565 through 66-16867) (Sheet 1 of 2)

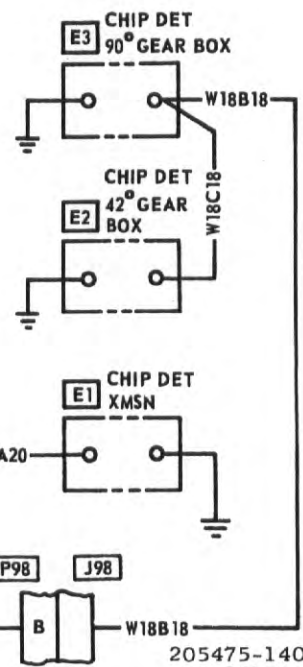
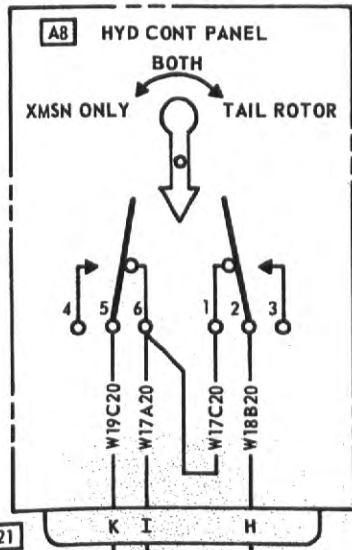
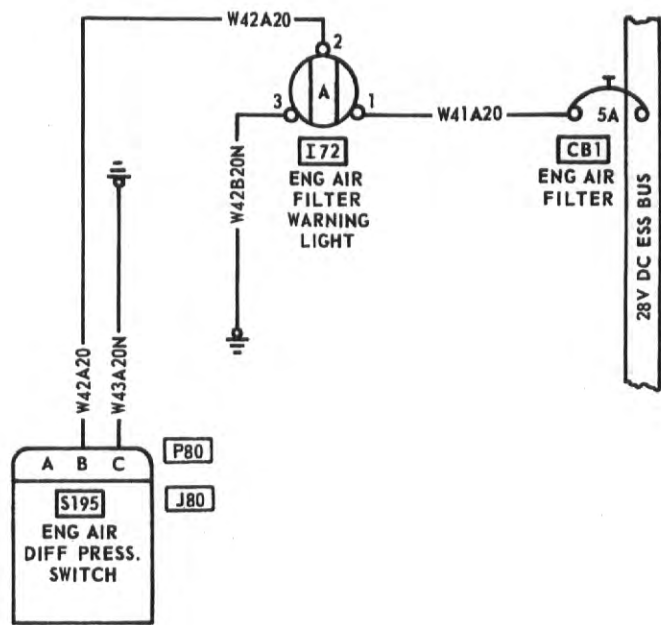
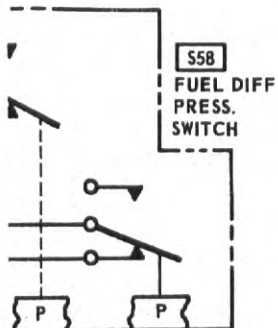
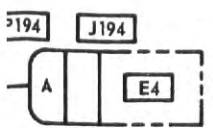
CAUTION LIGHTS
28V DC ESS BUS



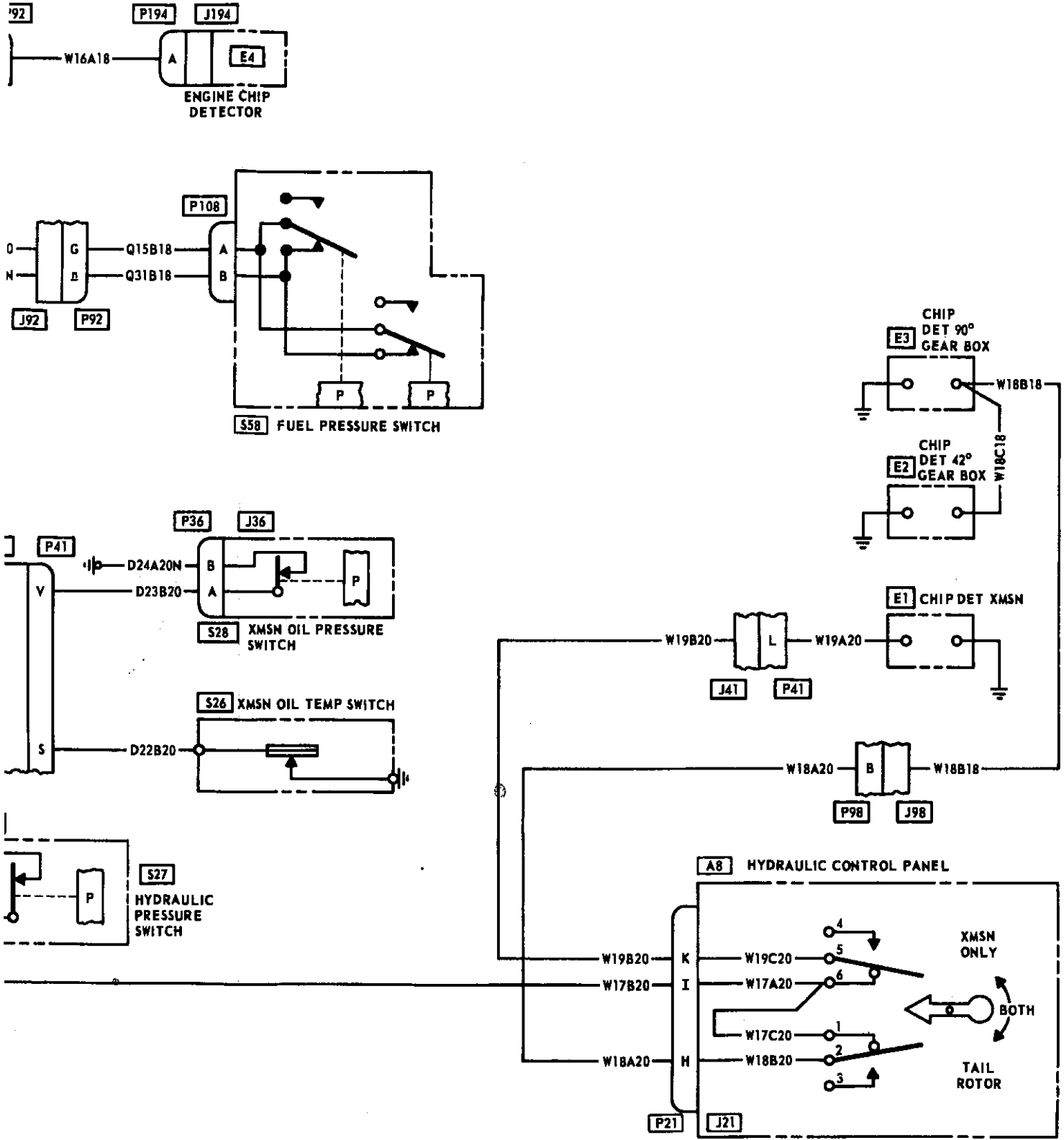
Note
⚠ EFF 65-9565 THRU 65-12895



SINE
P DET



205475-140
AV 054268



205475-139
AV 054269

Figure 13-29. Caution lights system (effective 66-16868 through 68-16628) (Sheet 2 of 2)

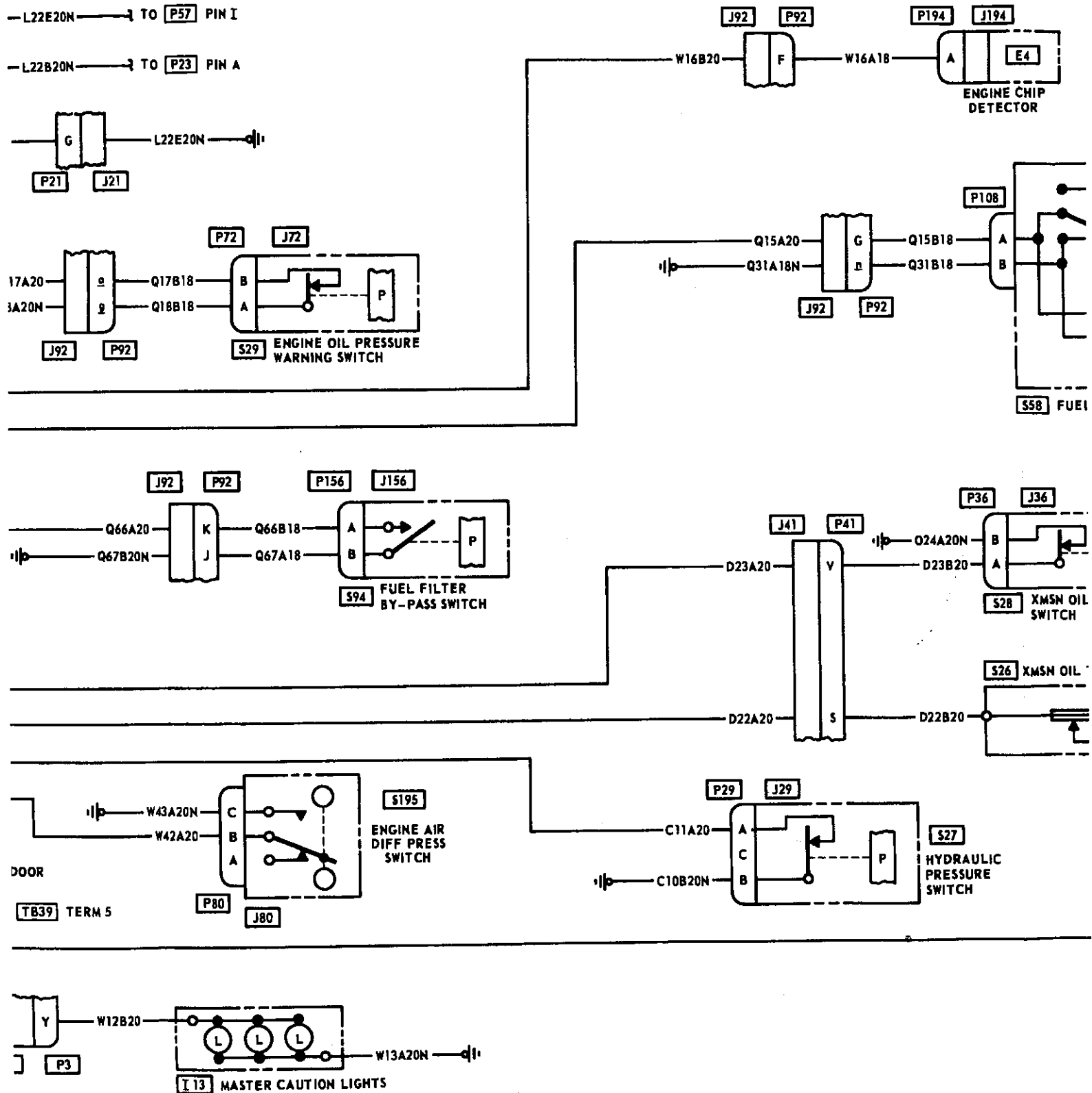
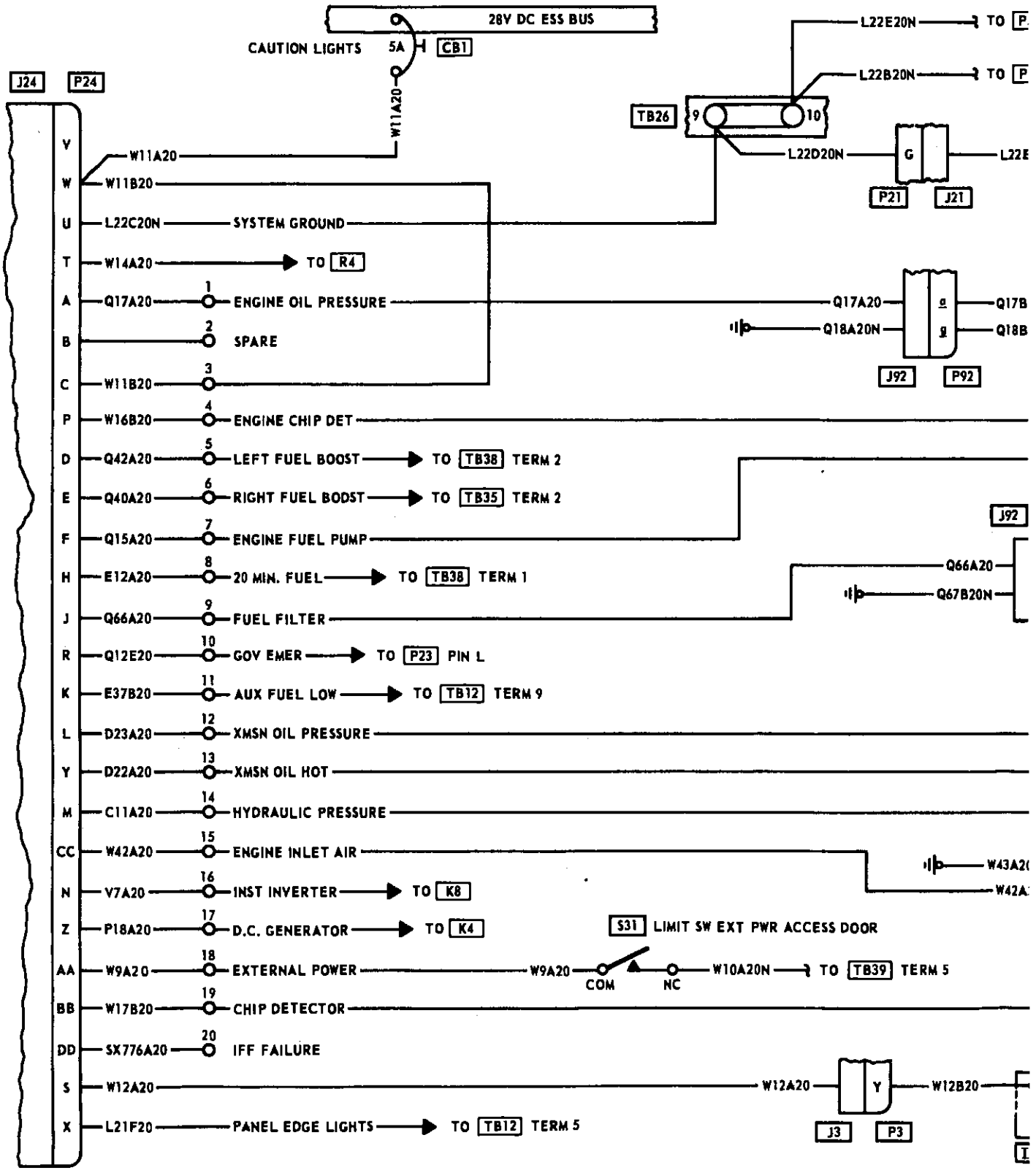
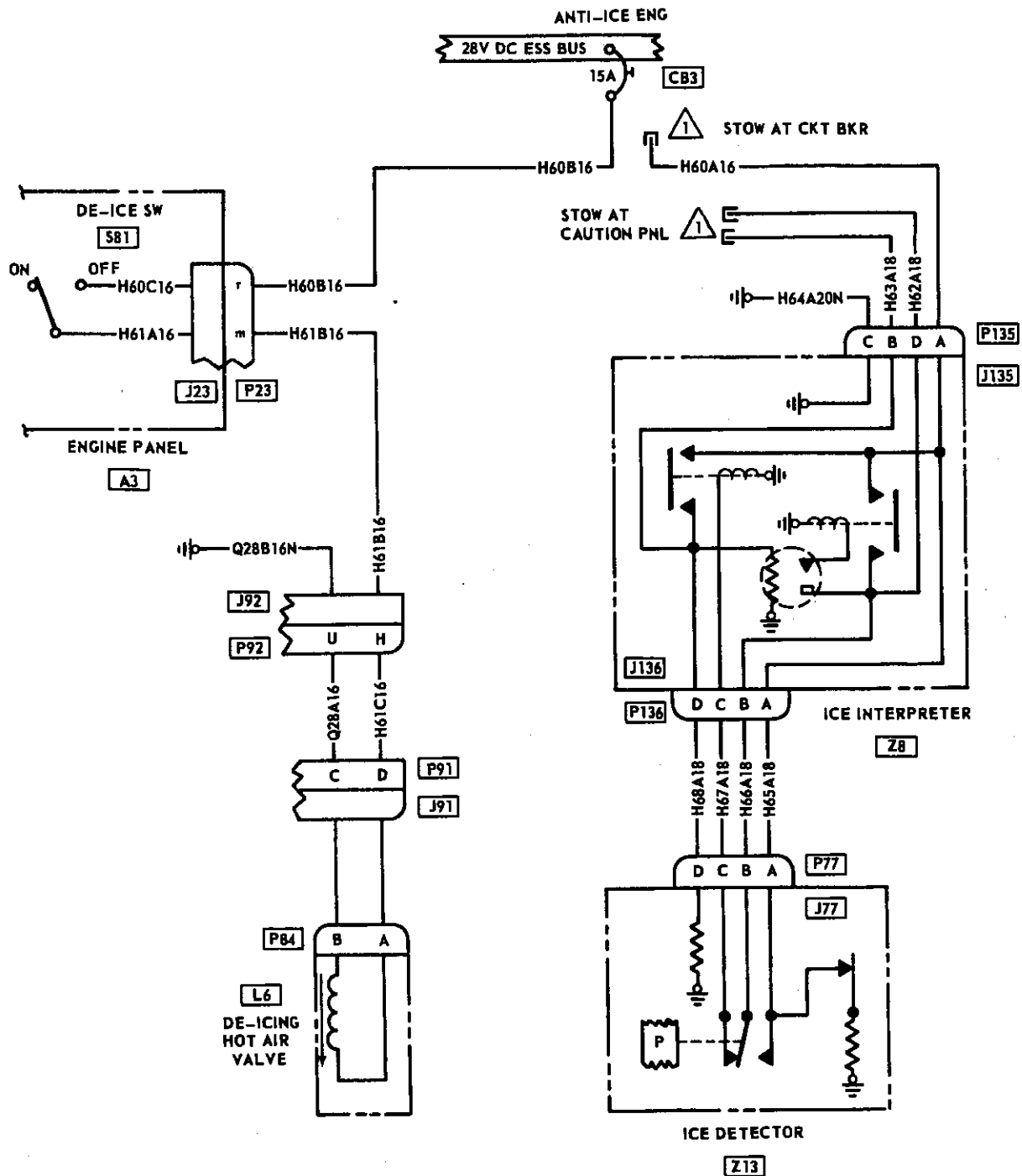


Figure 13-29

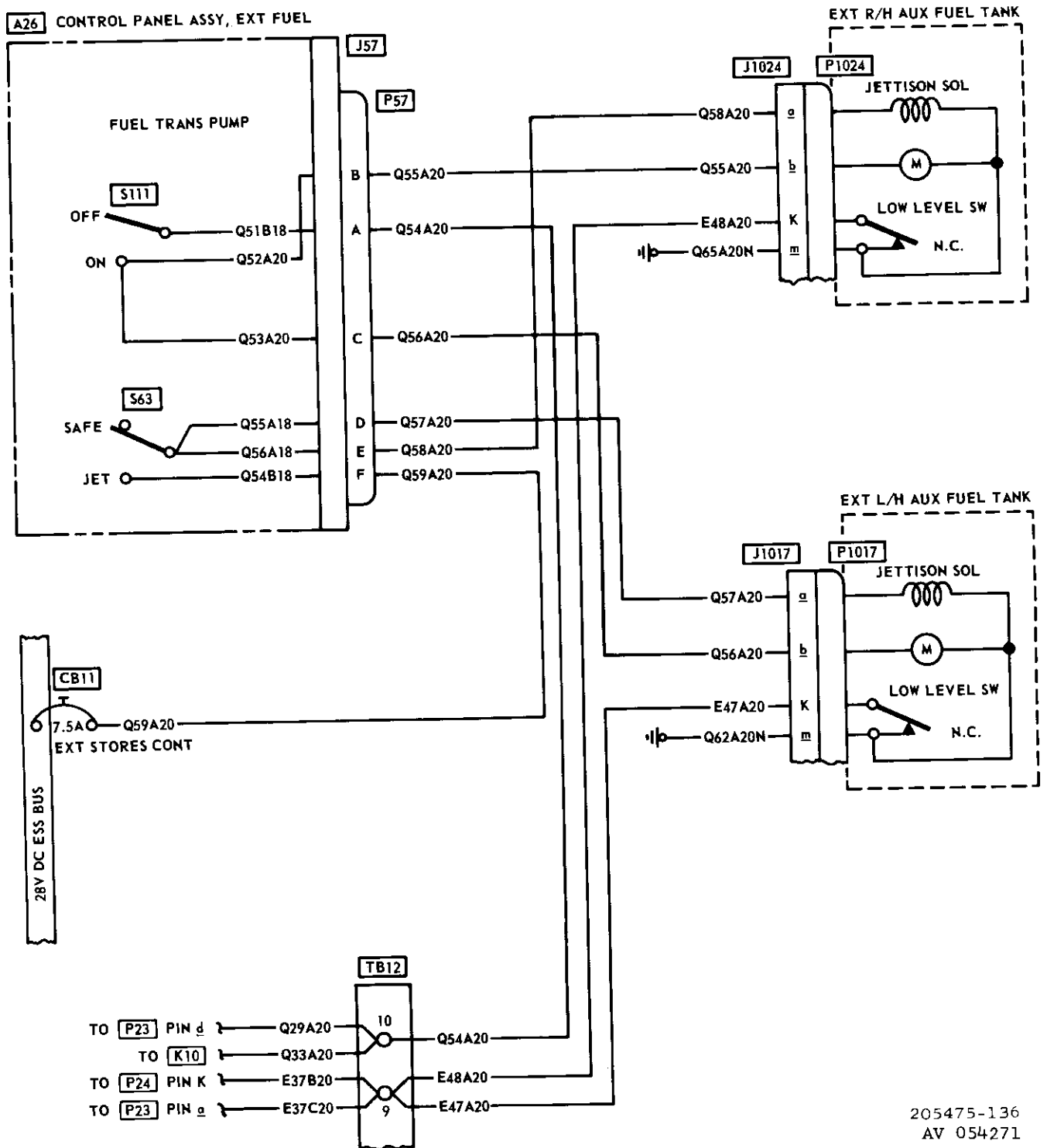


⚠ EFF 65-9565 THRU 66-16867 - WIRE H60A16 CONNECTED TO CIRCUIT BREAKER, WIRE H62A18 CONNECTED TO PIN C, P24, WIRE H63A18 CONNECTED TO PIN B, P24



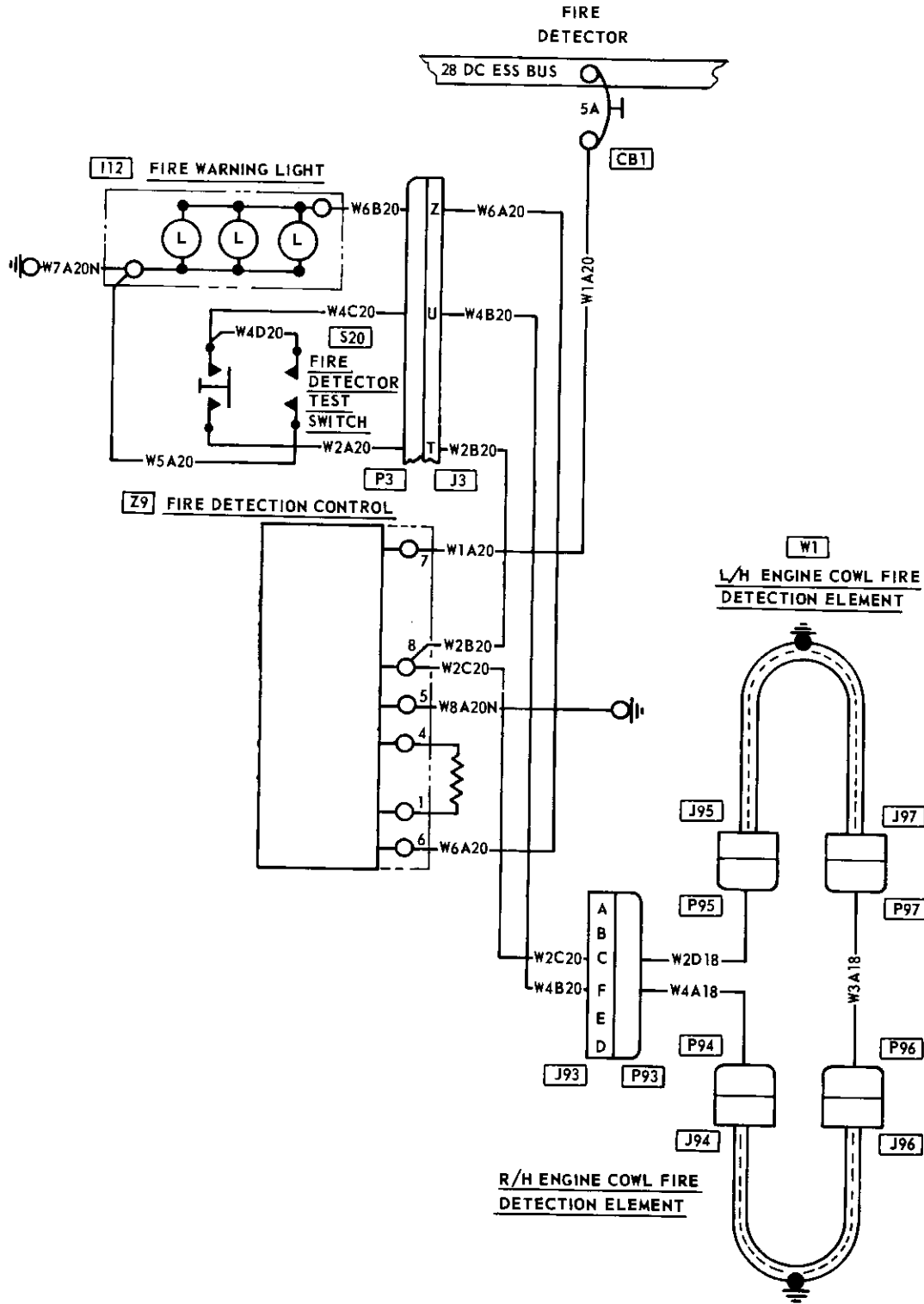
205475-123
AV 054270

Figure 13-30. De-ice and ice detector system



205475-136
AV 054271

Figure 13-31. External fuel system



205475-134
AV 054272

Figure 13-32. Fire detector system