

Section XIII

Wiring Diagrams

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Section XIII

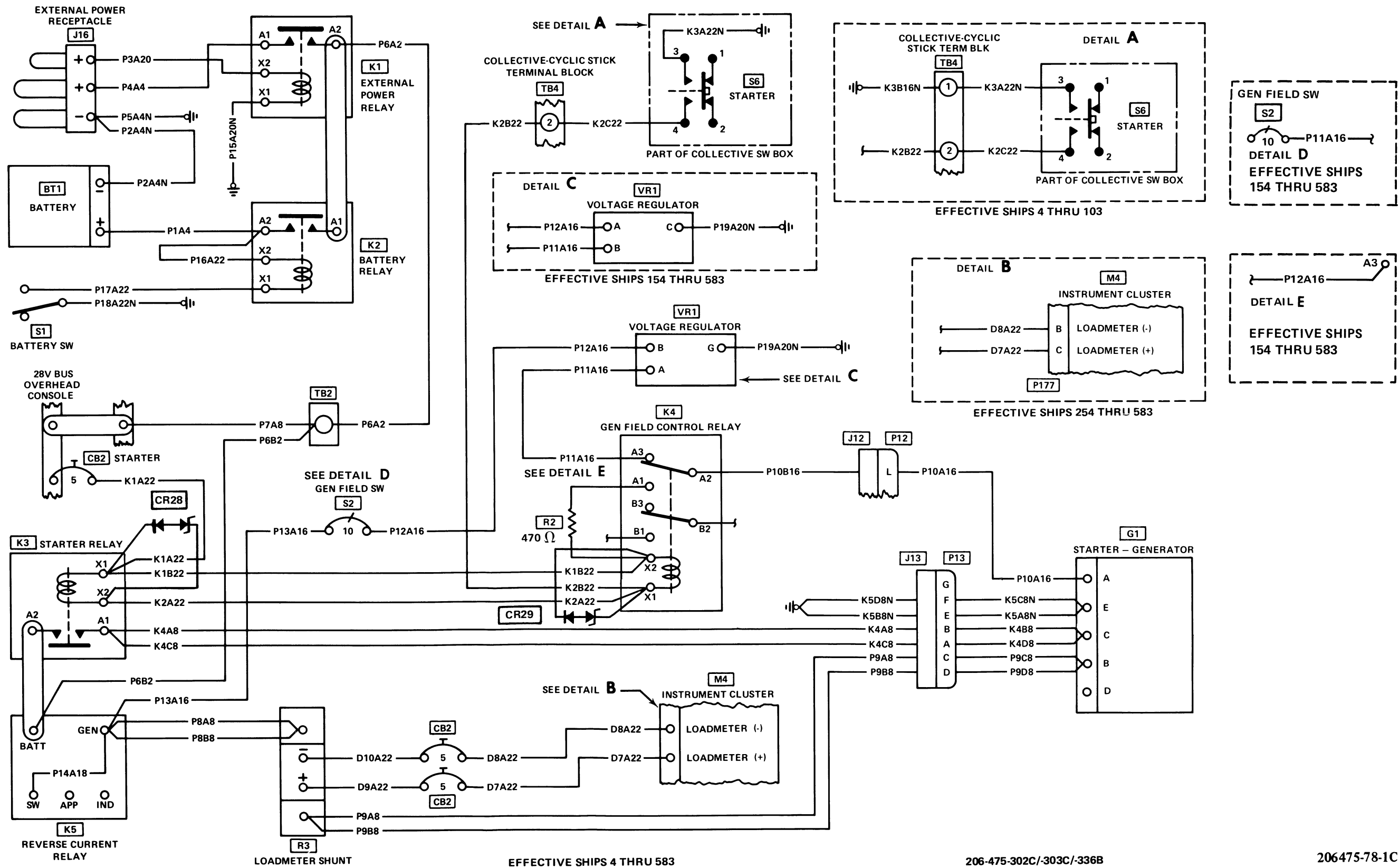
Wiring Diagrams

13-1. WIRING DATA.

13-2. INTRODUCTION. This section contains wiring diagrams and load analysis charts for all basic electrical circuits in the Model 206 helicopter. Individual circuit diagrams are provided to assist maintenance personnel in

understanding the circuits and components installed in the helicopter and in troubleshooting and tracing of inoperative and malfunctioning circuits. These diagrams are indexed to coincide as nearly as possible with the text and troubleshooting chart arrangement.

All data on pages 13-3/13-4 thru 13-16C/13-16D, including figure 13-1, deleted.



206-475-302C/-303C/-336B

206475-78-1C

Figure 13-2. DC Power System Circuit (Sheet 1 of 2)

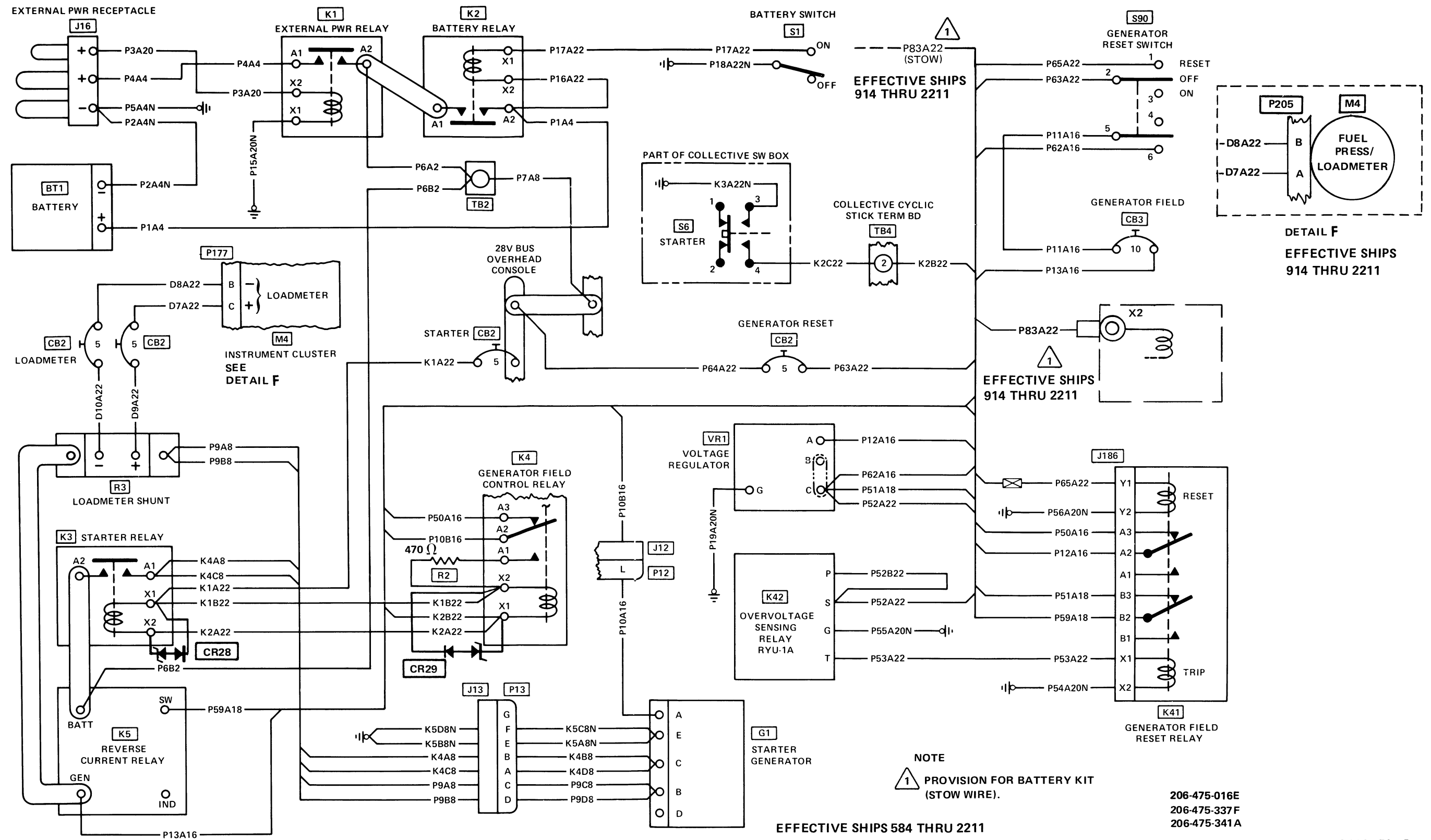
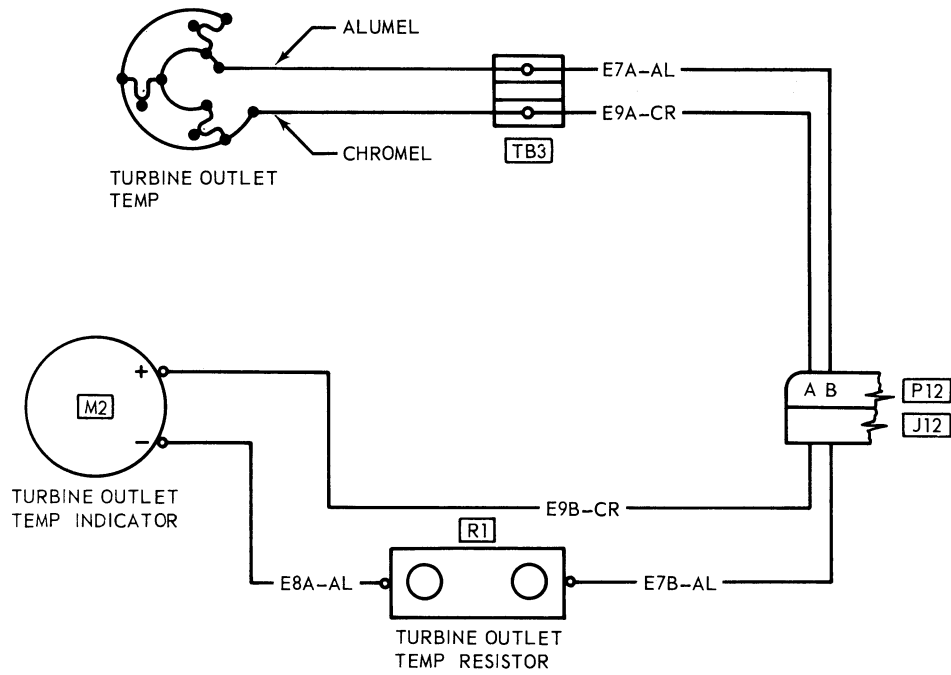


Figure 13-2. DC Power System Circuit (Sheet 2 of 2)

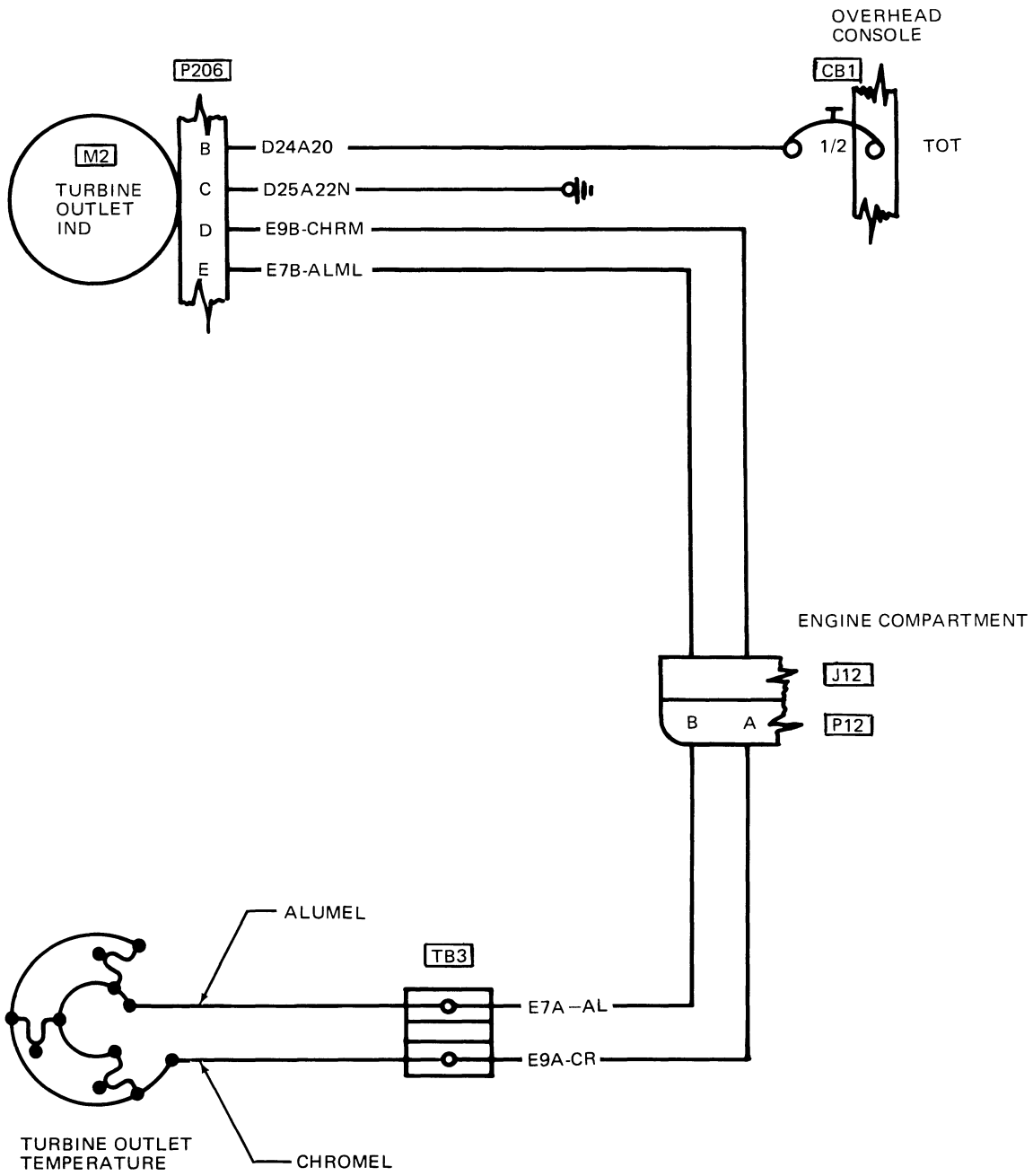
All data on pages 13-21/13-22, including figure 13-2 Sheet 3, deleted.



EFFECTIVE SHIPS 4 THRU 913

B/P 206-475-302/-303/-336/-337 206475-79A

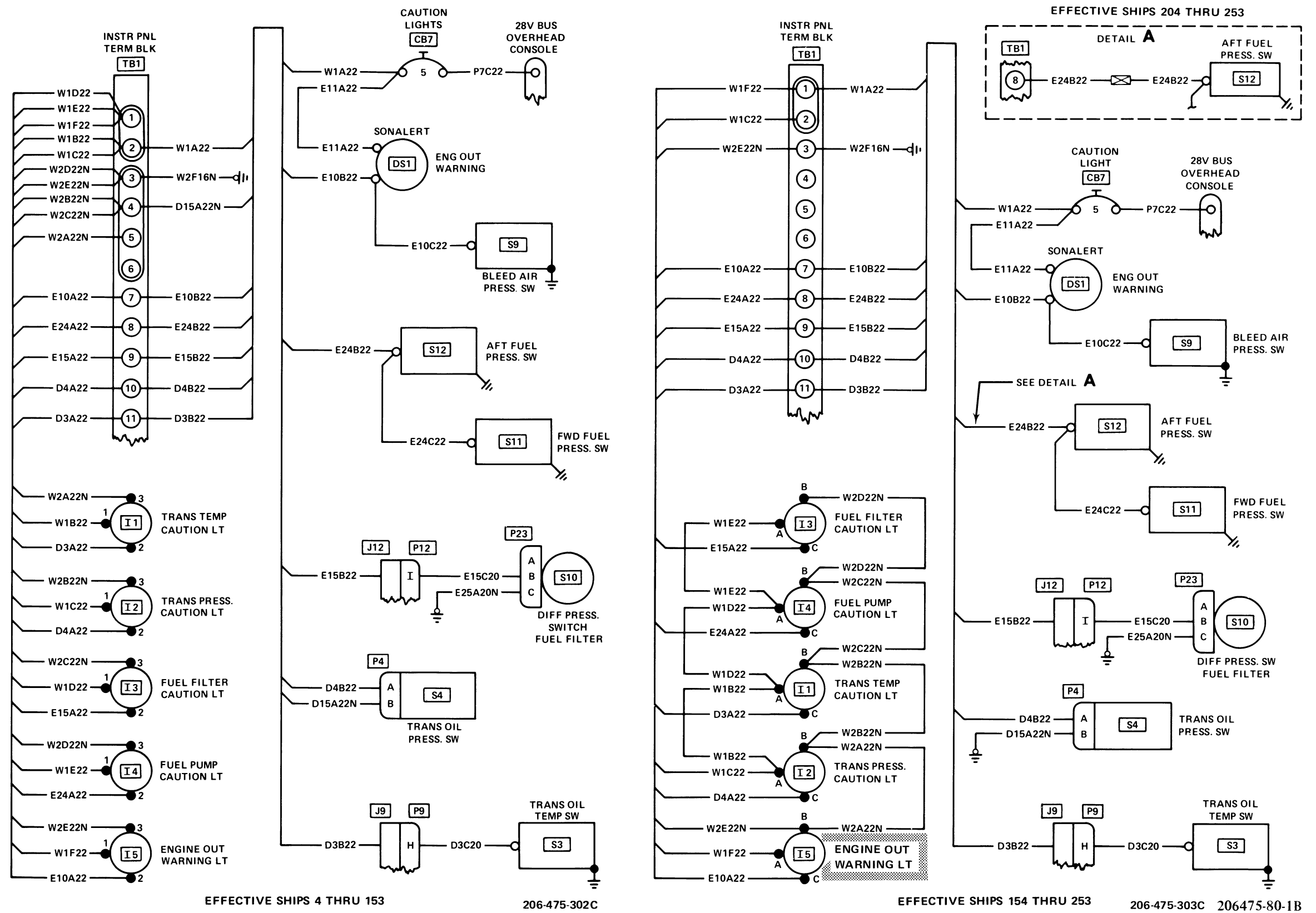
Figure 13-3. Turbine Outlet Temperature Circuit (Sheet 1 of 2)



B/P206-475-341
206475-79B

EFFECTIVE SHIPS 914 AND SUBS.

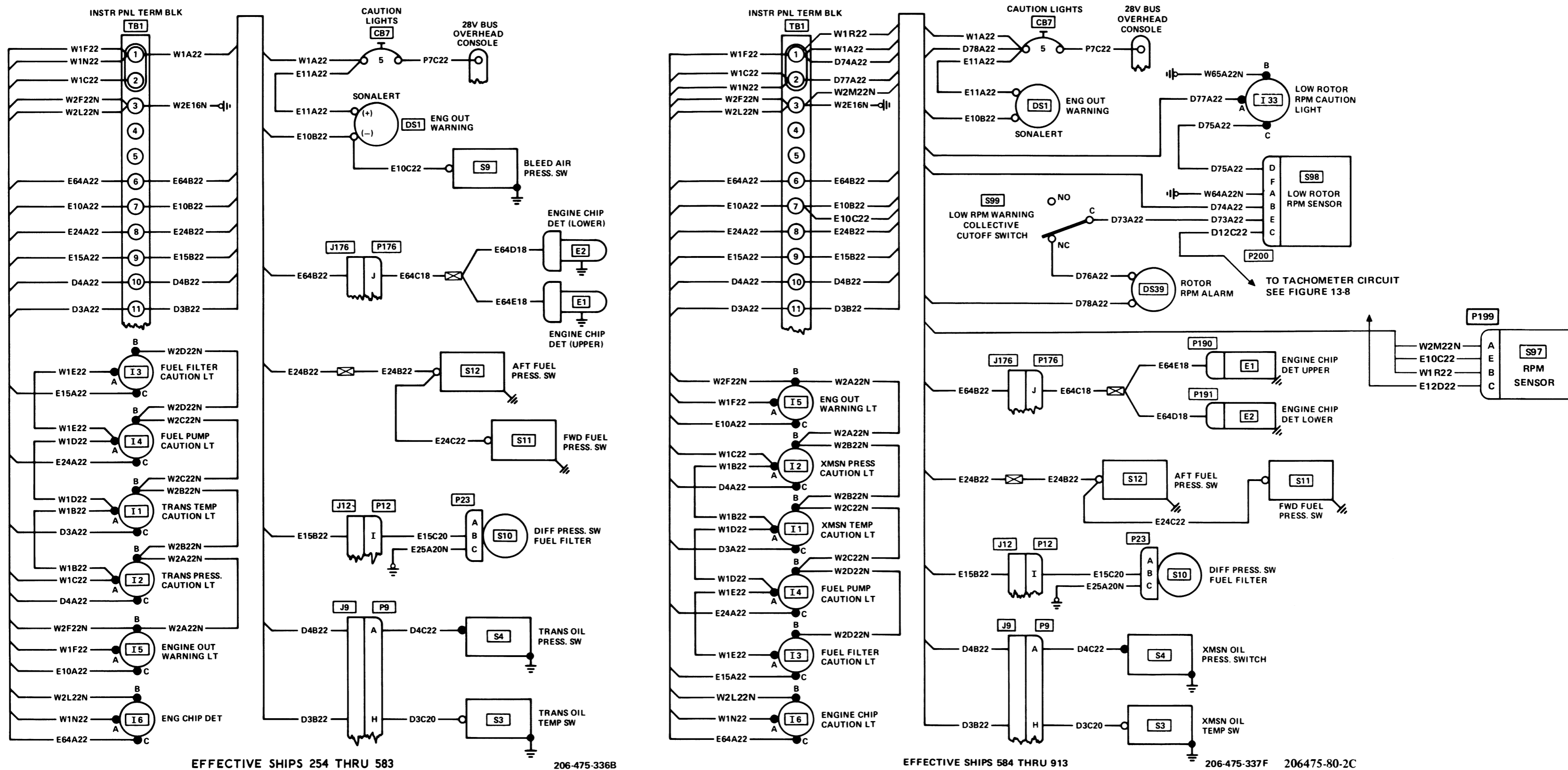
Figure 13-3. Turbine Outlet Temperature Circuit (Sheet 2 of 2)



EFFECTIVE SHIPS 4 THRU 153 206-475-302C

EFFECTIVE SHIPS 154 THRU 253 206-475-303C 206475-80-1B

Figure 13-4. Caution and Warning Light Circuit (Sheet 1 of 4)



EFFECTIVE SHIPS 254 THRU 583

206-475-336B

EFFECTIVE SHIPS 584 THRU 913

206-475-337F 206475-80-2C

Figure 13-4. Caution and Warning Light Circuit (Sheet 2 of 4)

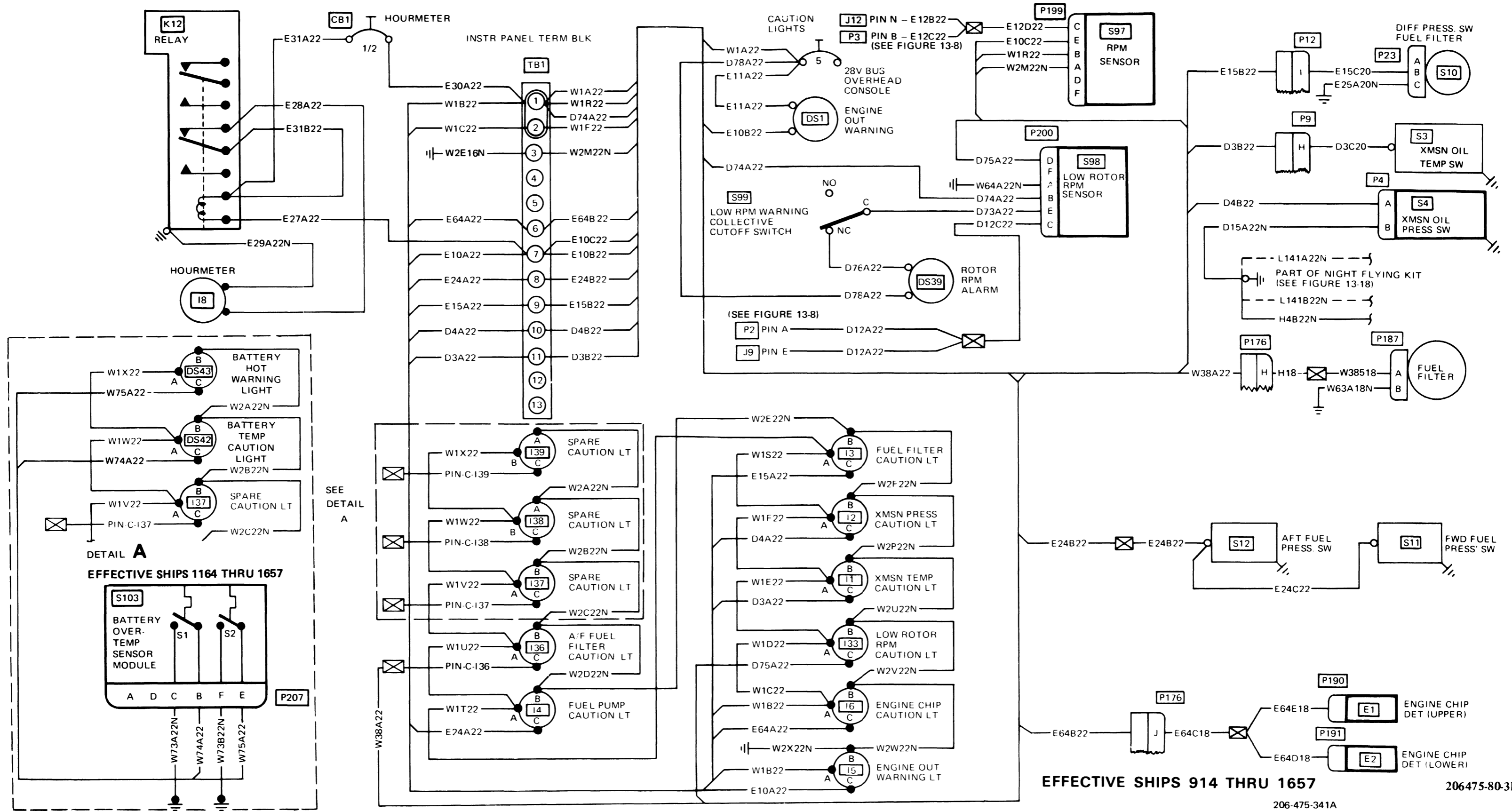
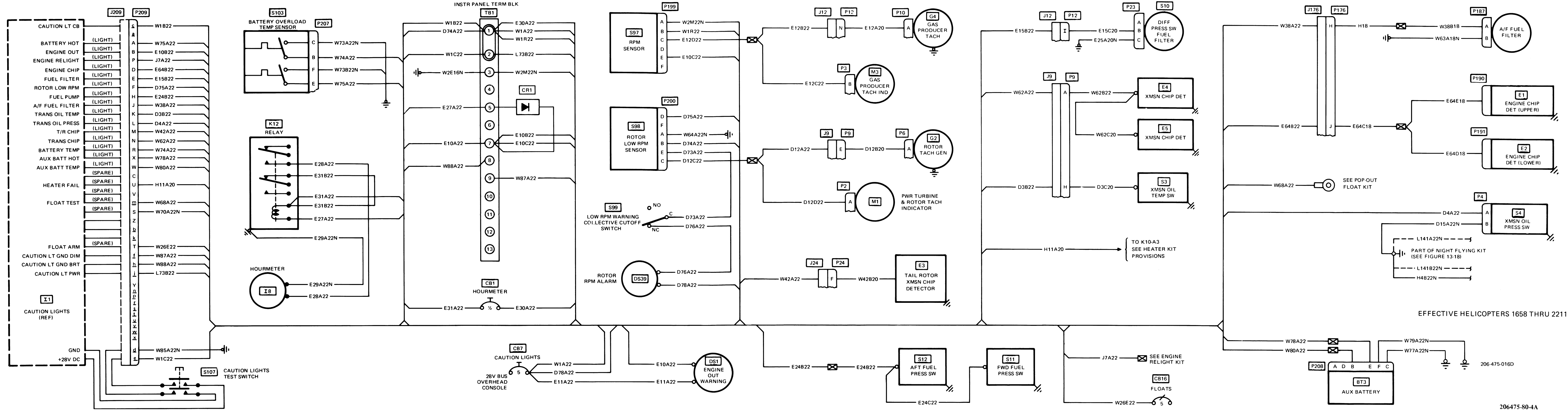


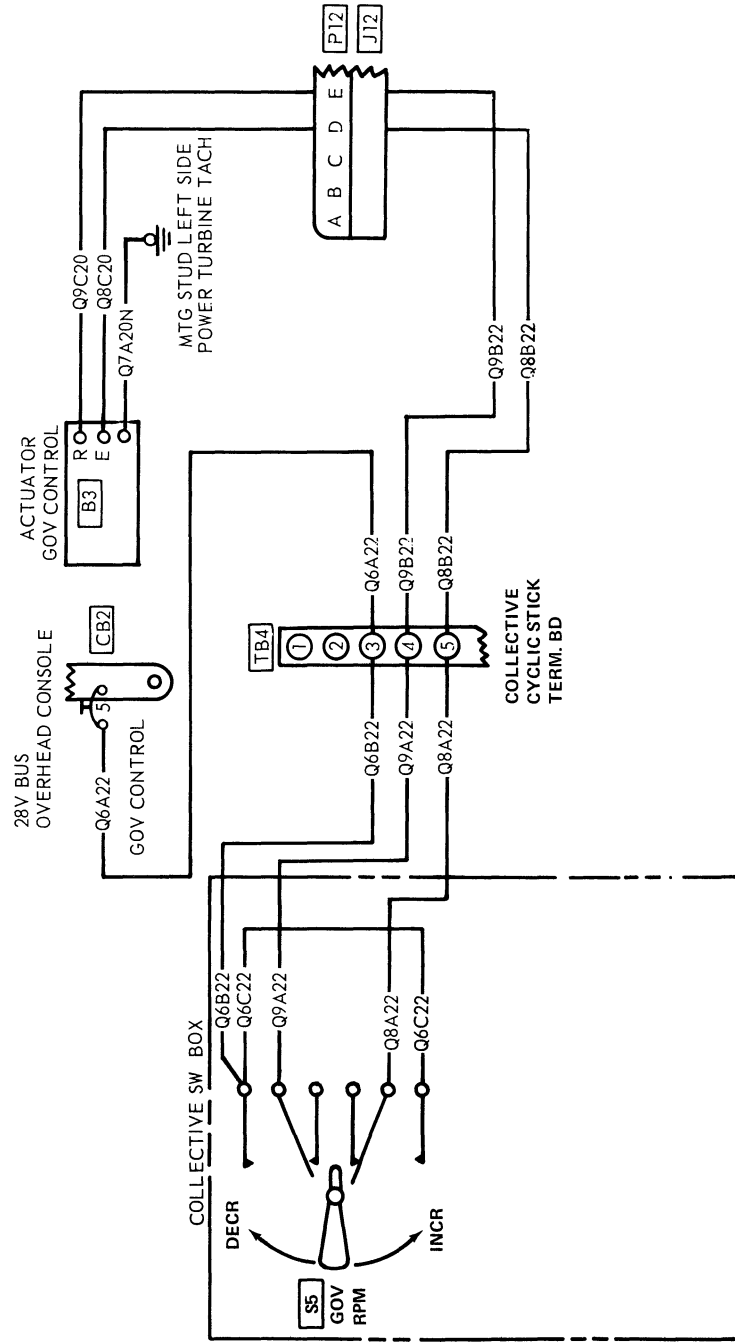
Figure 13-4. Caution and Warning Light Circuit (Sheet 3 of 4)



EFFECTIVE HELICOPTERS 1658 THRU 2211

206475-80-4A

Figure 13-4. Caution and Warning Light Circuit (Sheet 4 of 4)
All data on pages 13-30C/13-30D, including figure 13-4, sheet 4A, deleted.

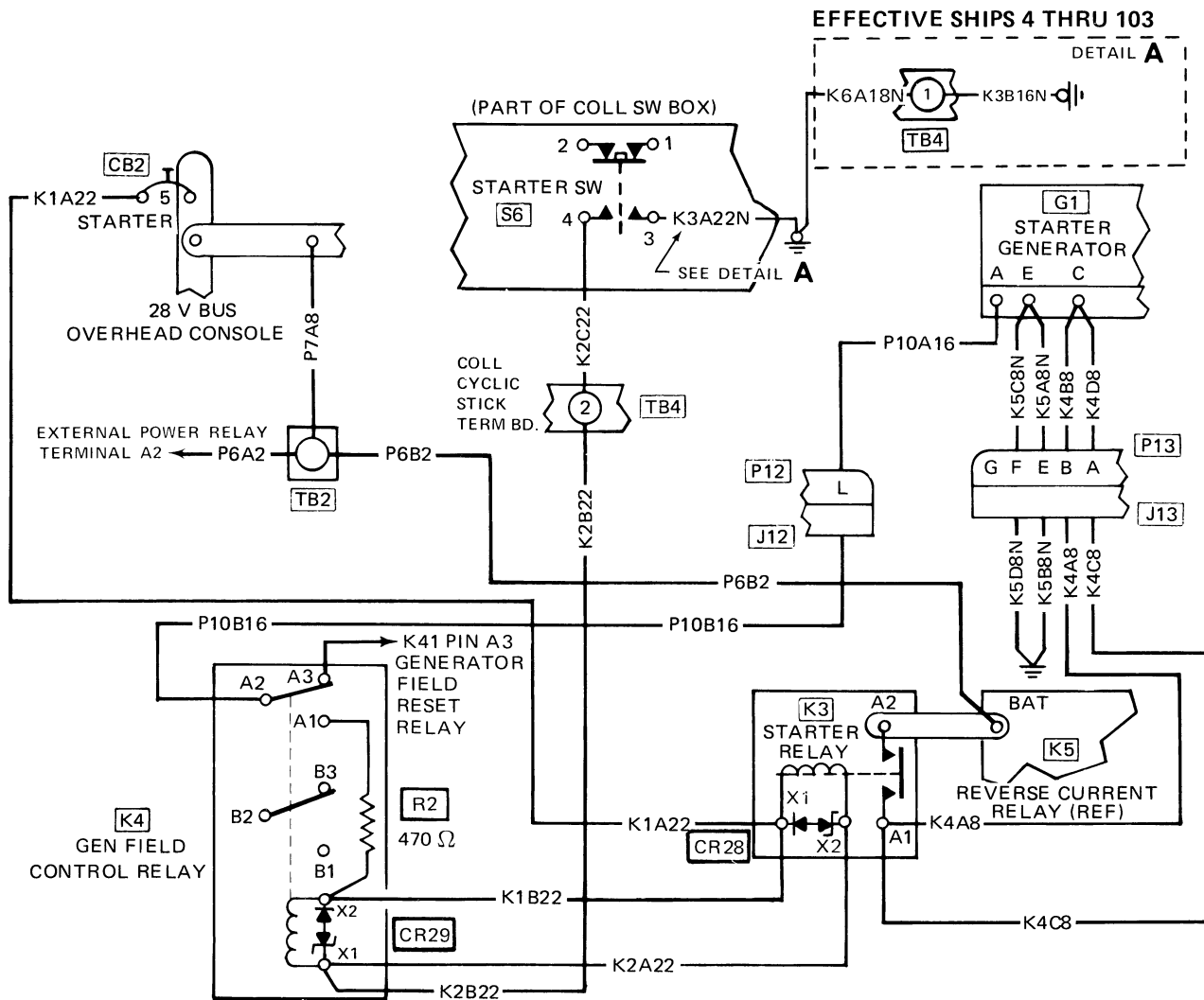


■ EFFECTIVE SHIPS 4 THRU 914 AND SUBS

206475-81C

B/P 206-475-302/-303/-336/-337

Figure 13-5. Governor Control Circuit



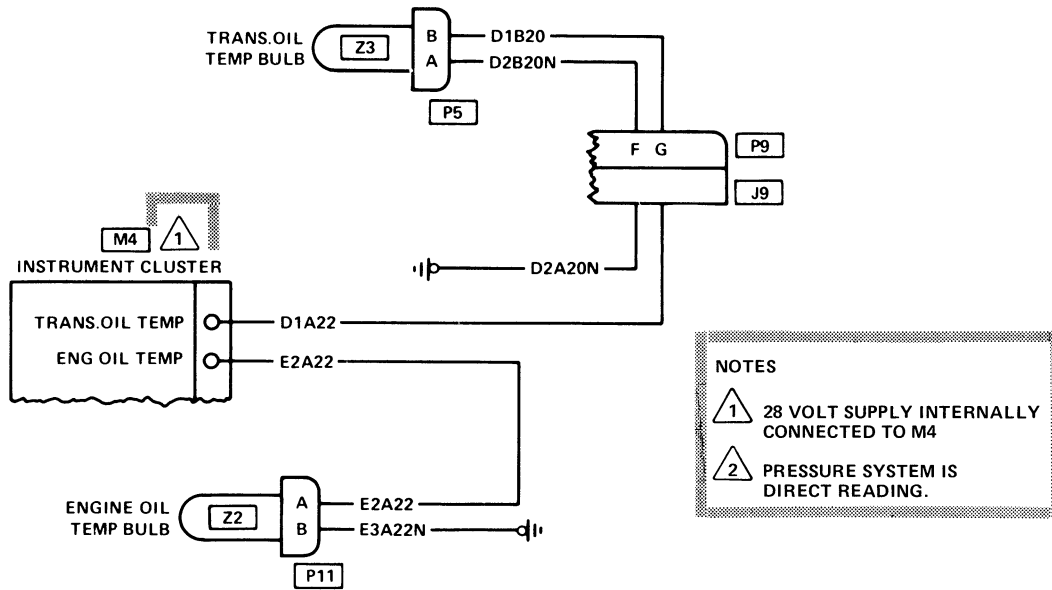
EFFECTIVE SHIPS 4 THRU 2211

206-475-302C/-303C/-336B
206-475-337F/-341A/-016D

206475-82H

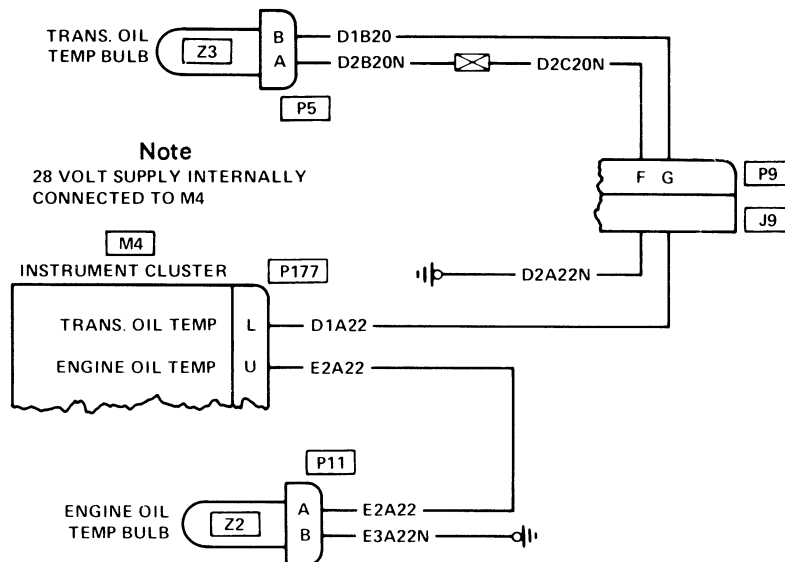
Figure 13-6. Starter Circuit

**MAINTENANCE & OVERHAUL
INSTRUCTIONS**



EFFECTIVE SHIPS 4 THRU 253

206-475-302C/303C



EFFECTIVE SHIPS 254 THRU 913

206-475-336B/-337F 206475-83-1B

Figure 13-7. Temperature Bulb Circuit (Sheet 1 of 2)

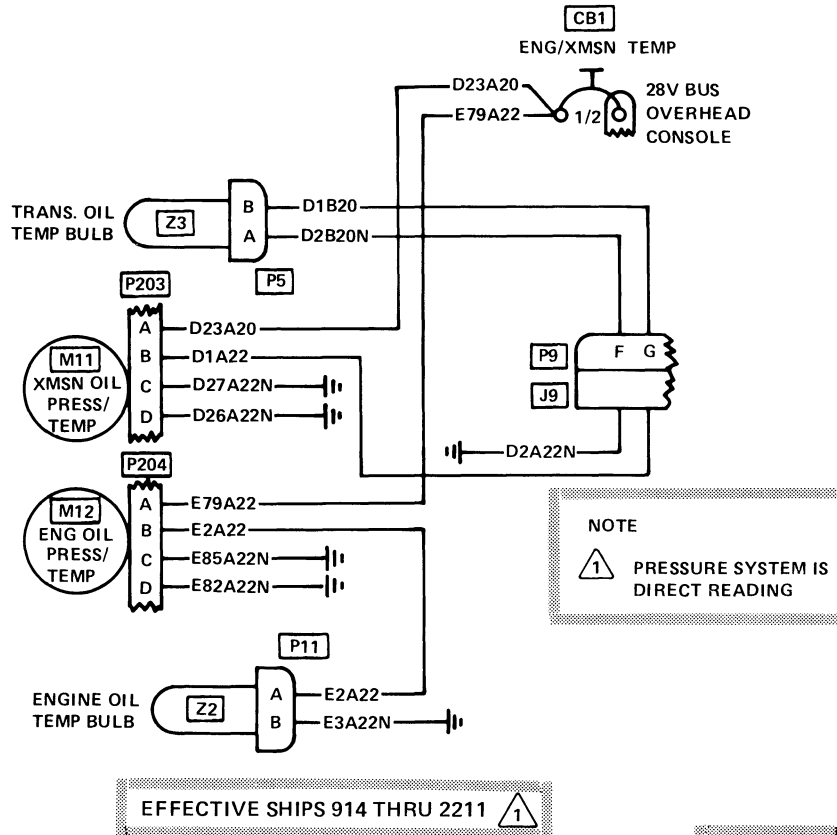


Figure 13-7. Temperature Bulb Circuit (Sheet 2 of 2)

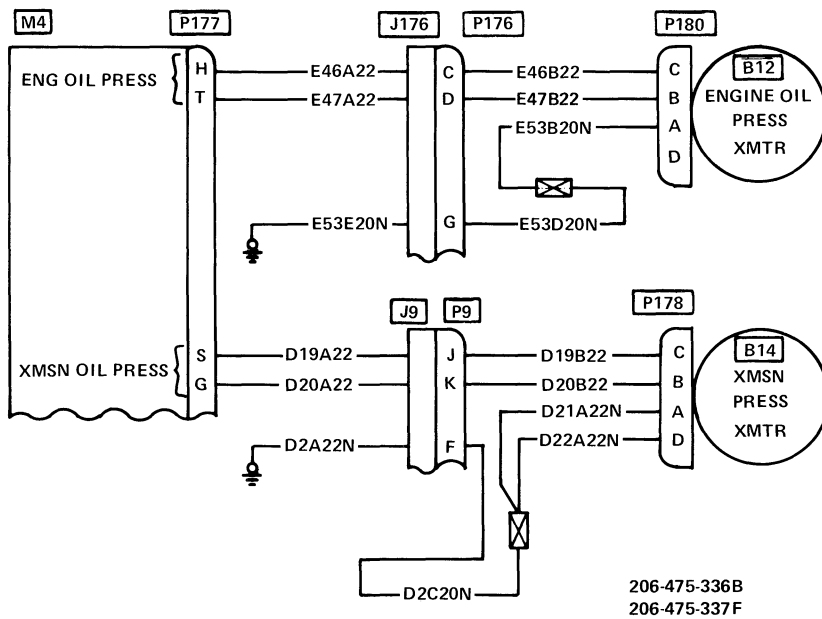
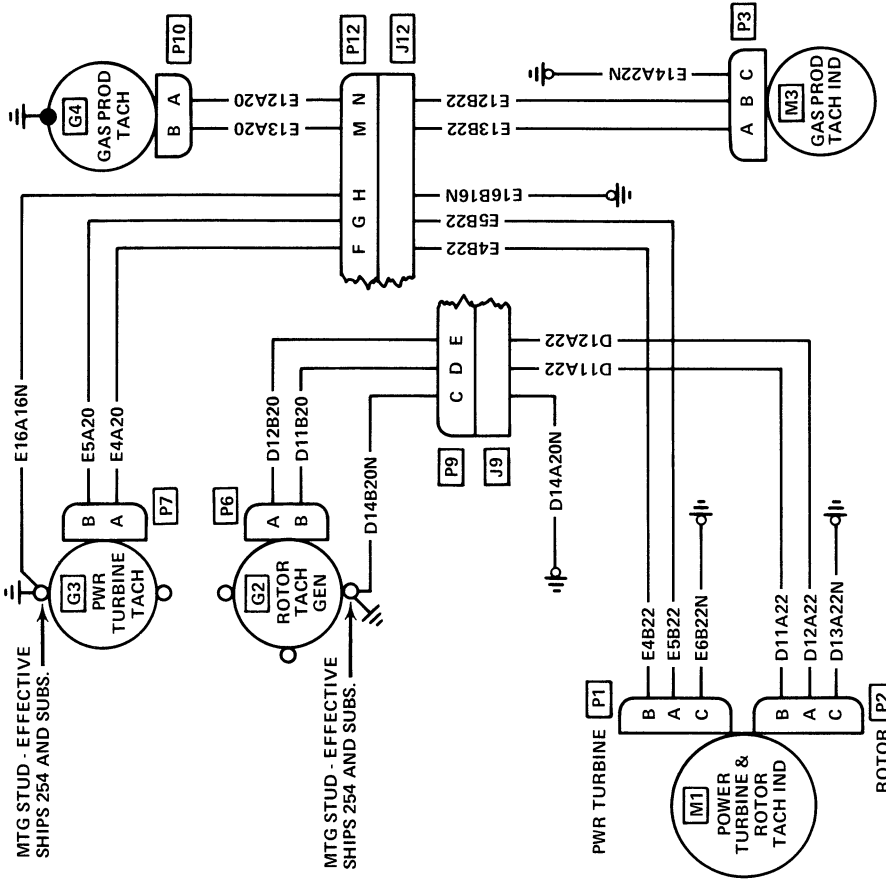


Figure 13-7A. Engine and Transmission Oil Pressure Circuit

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206475-84-1C

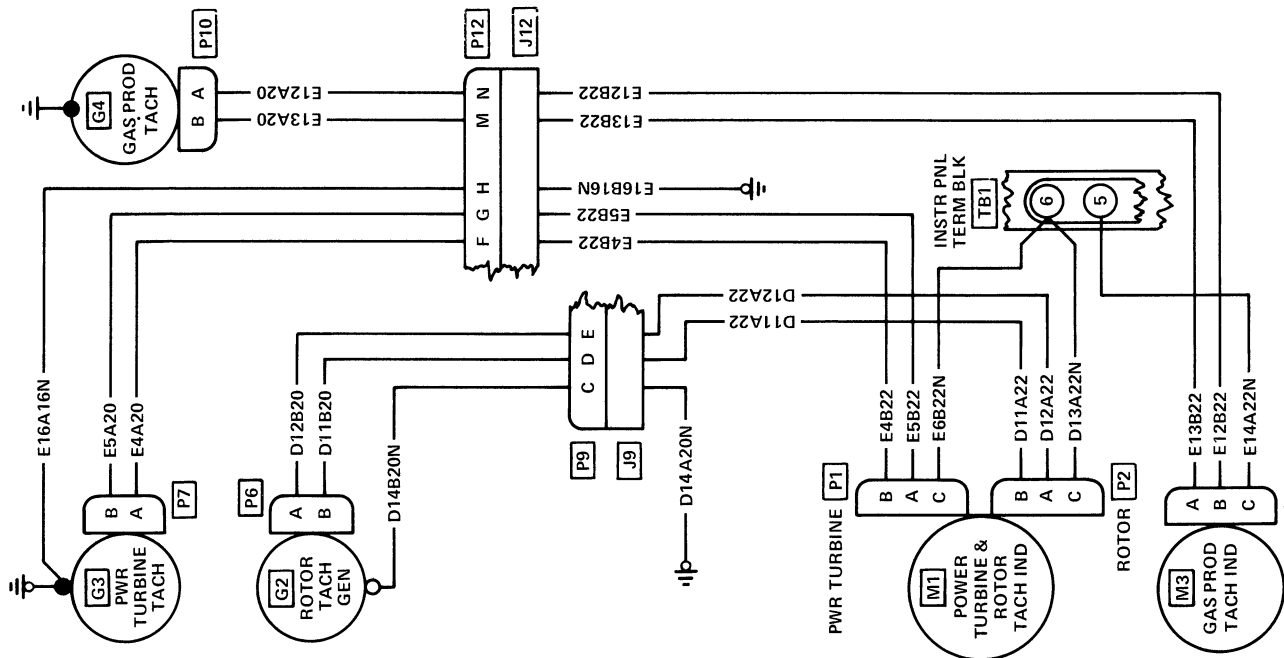


Figure 13-8. Tachometer Circuit (Sheet 1 of 2)

MAINTENANCE & OVERHAUL INSTRUCTIONS

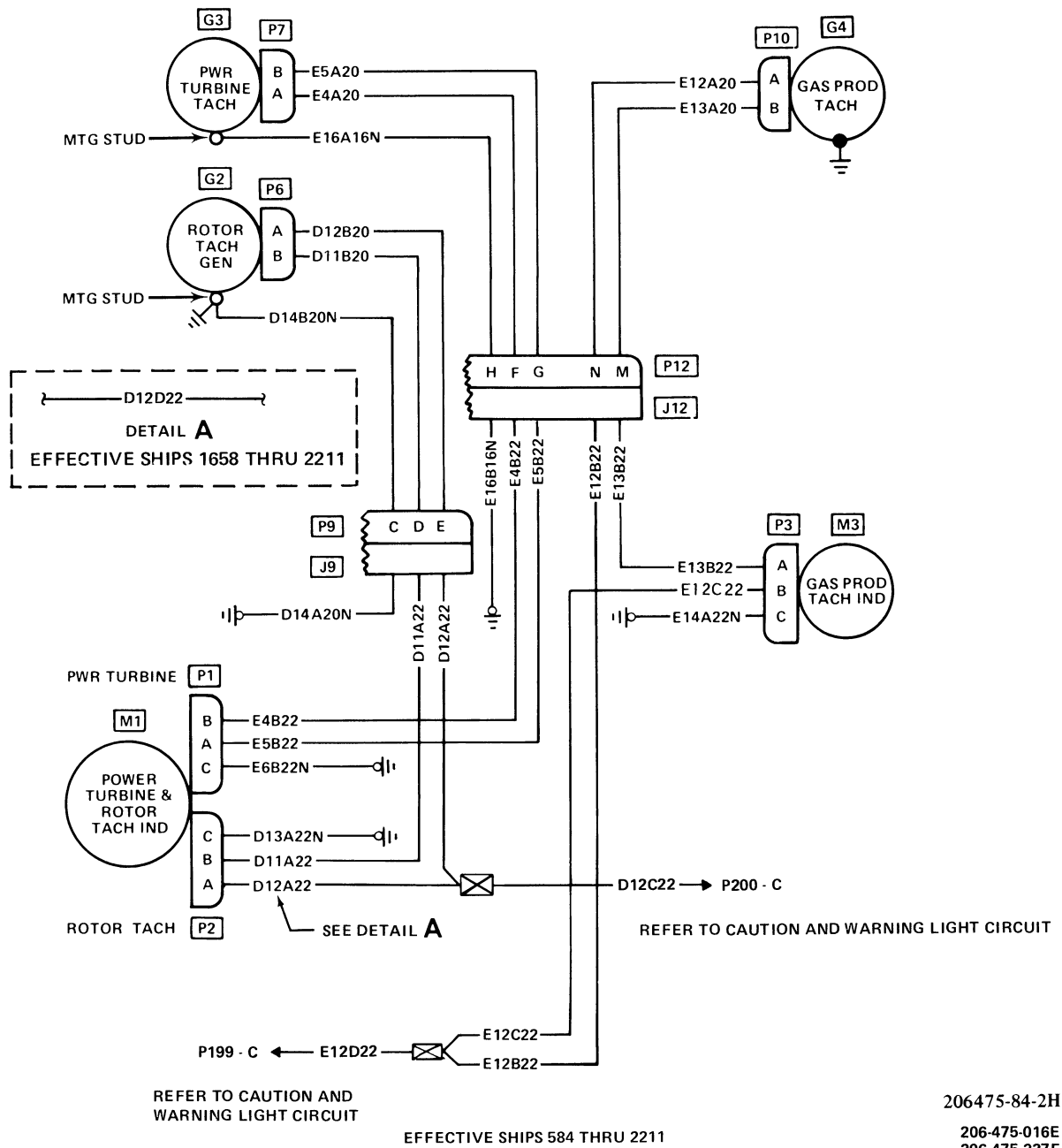
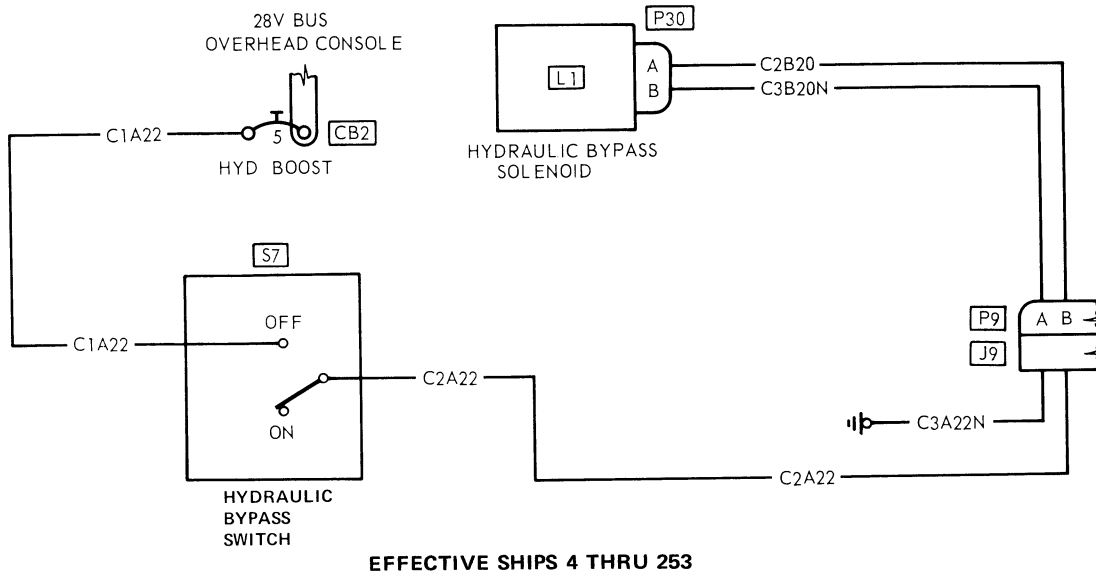
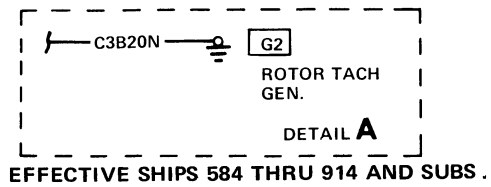
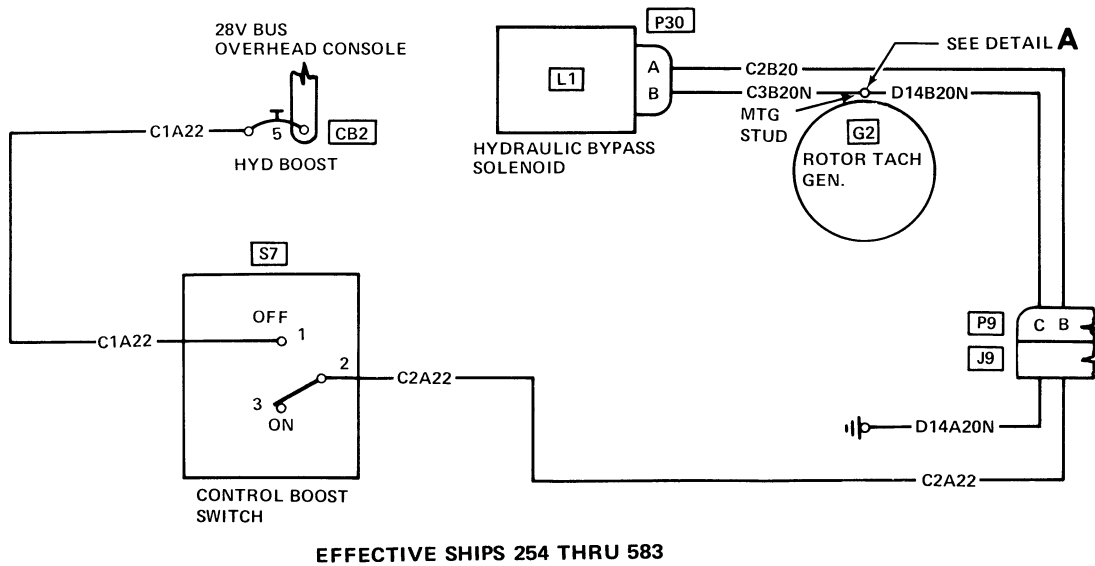


Figure 13-8. Tachometer Circuit (Sheet 2 of 2)

206475-84-2H
206-475-016E
206-475-337F
206-475-341A



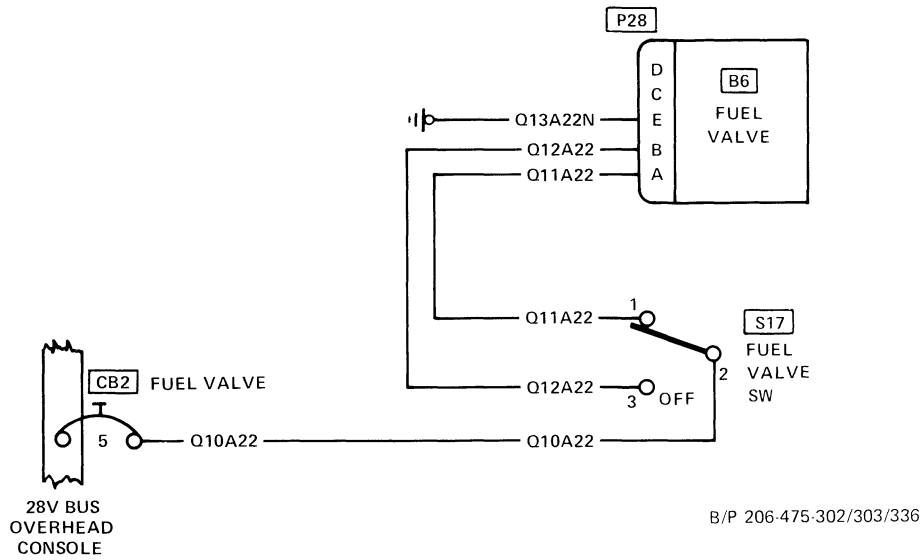
B/P 206-475-302/-303



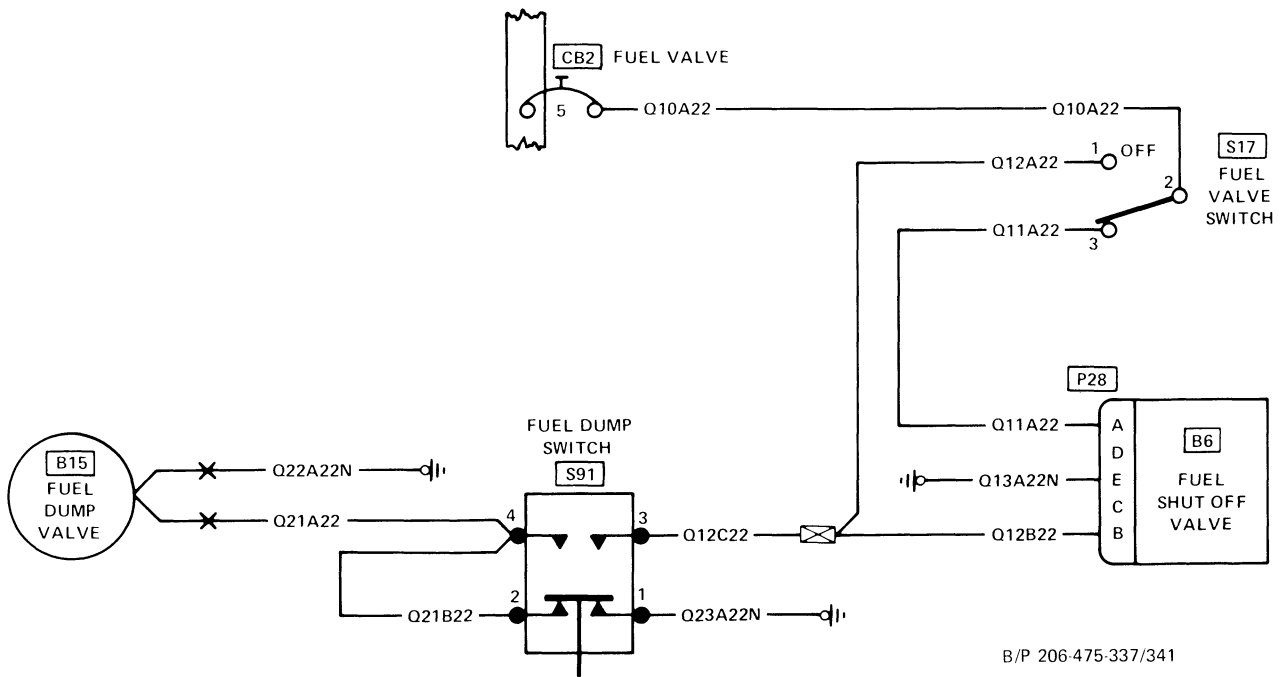
B/P 206-475-336/-337

206475-85B

Figure 13-9. Hydraulic Control Circuit



EFFECTIVE SHIPS 4 THRU 583



EFFECTIVE SHIPS 584 THRU 914 AND SUBS.

206475-175

Figure 13-10. Fuel Valve Circuit

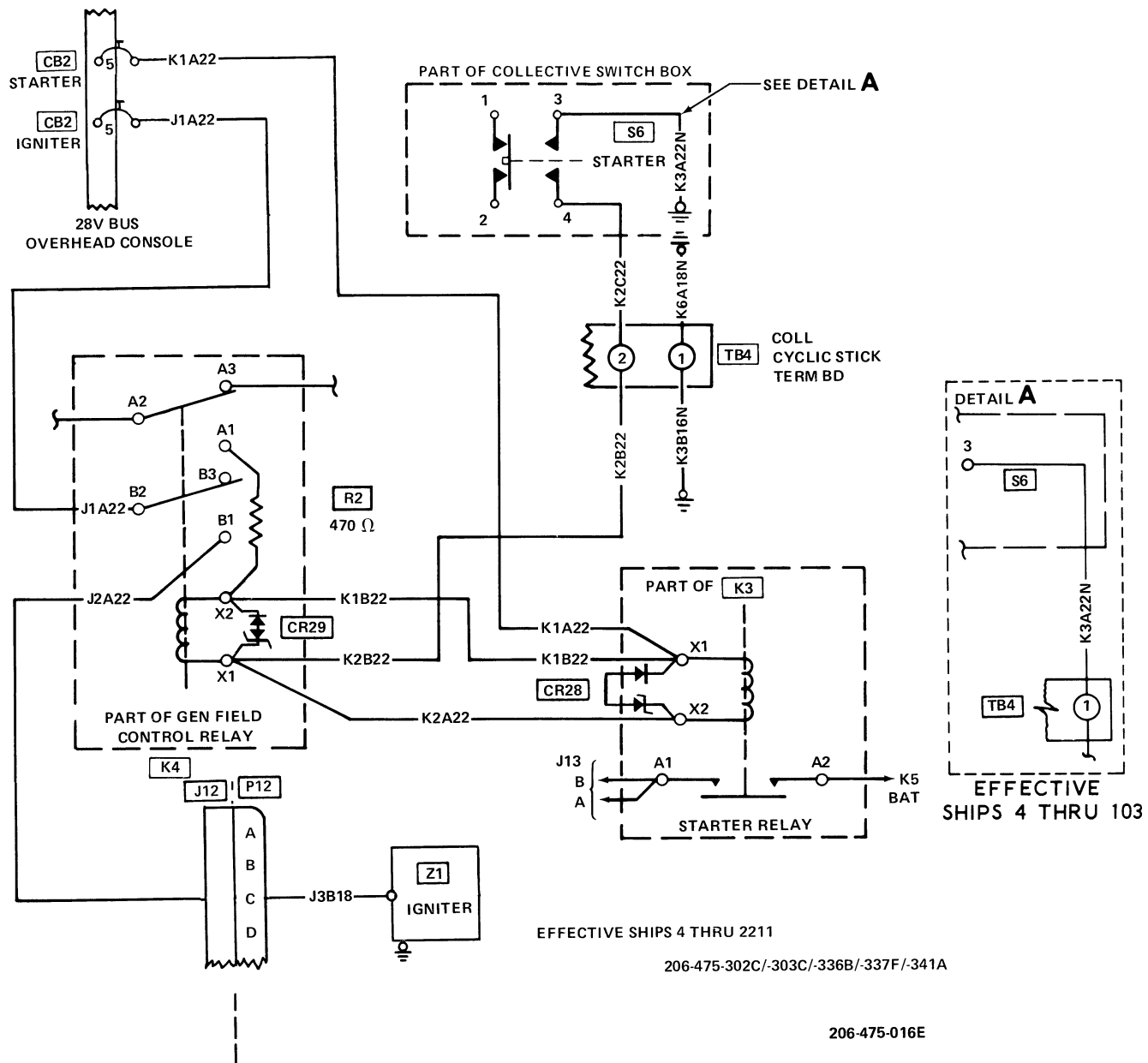


Figure 13-11. Igniter Circuit

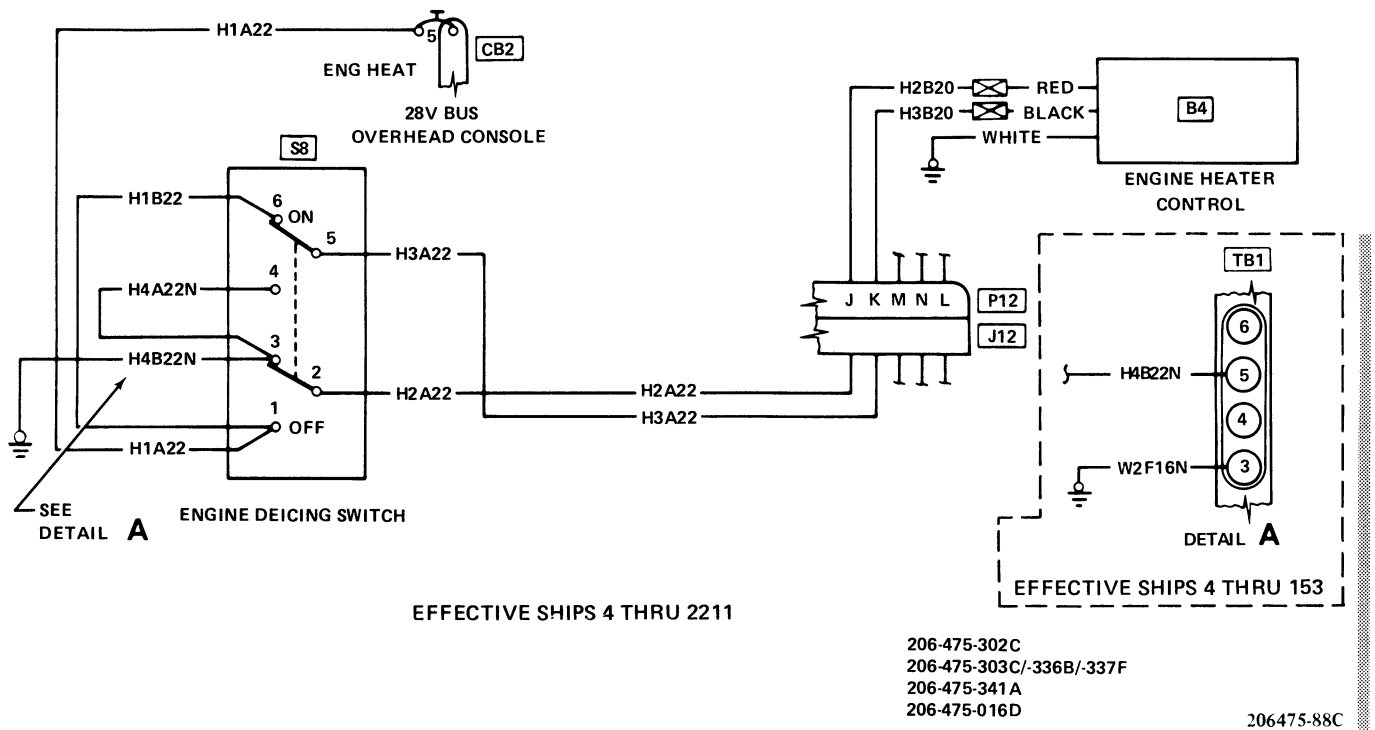
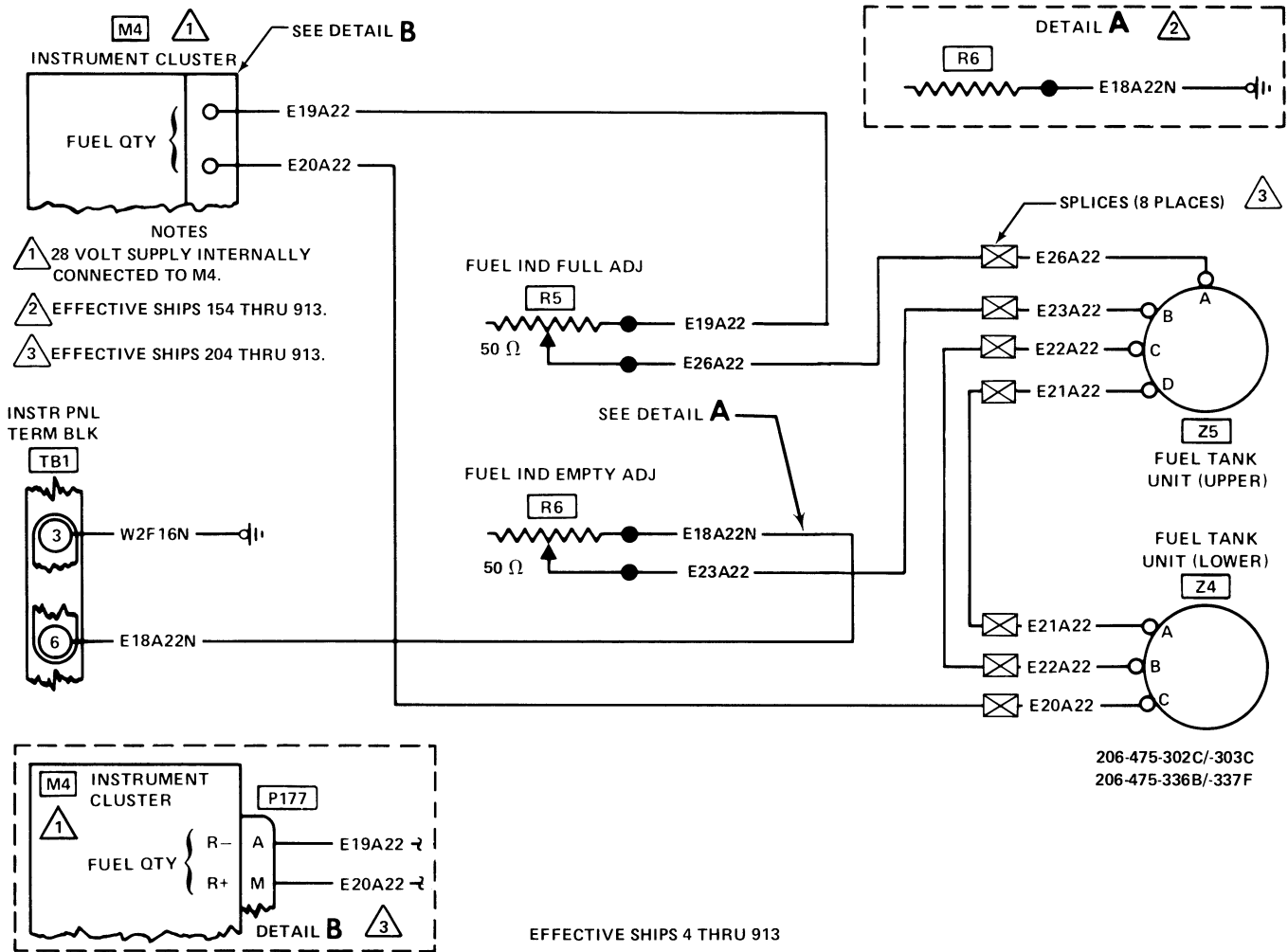


Figure 13-12. Engine Heater/Engine Deicing Control Circuit



206475-89-1C

Figure 13-13. Fuel Quantity Circuit (Sheet 1 of 2)

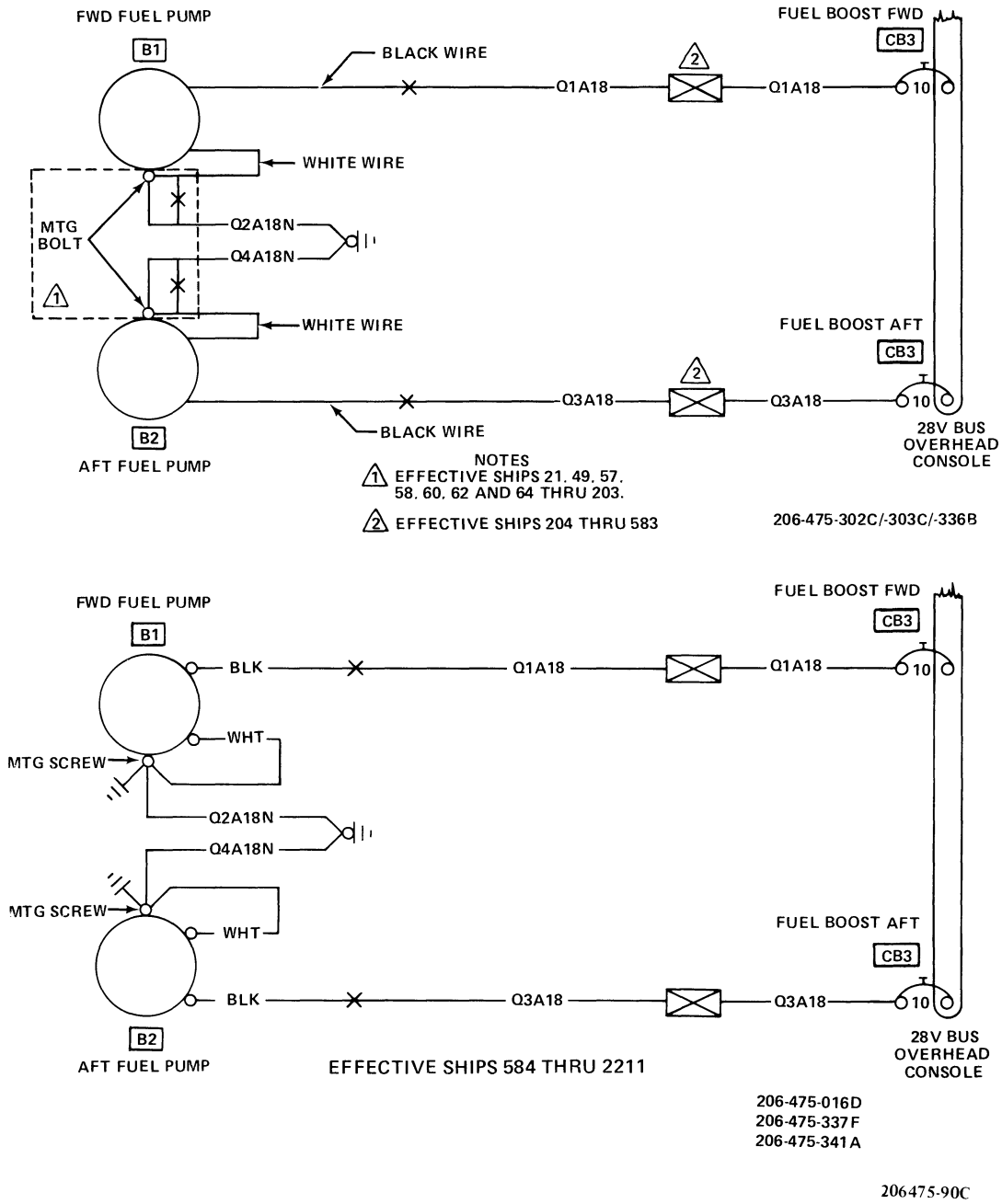
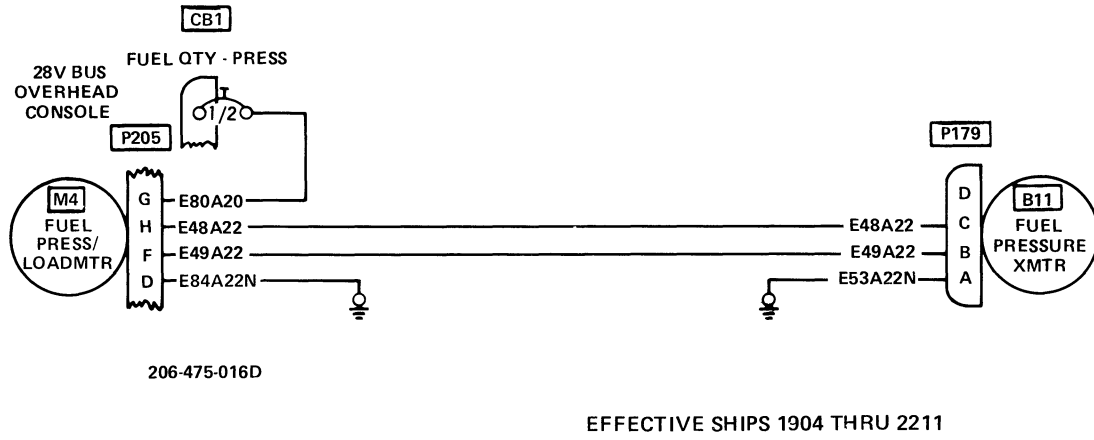
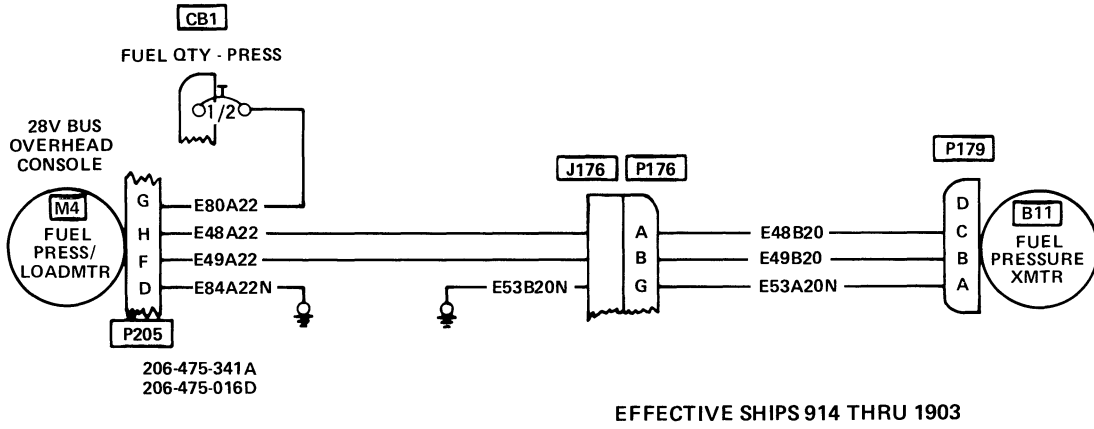


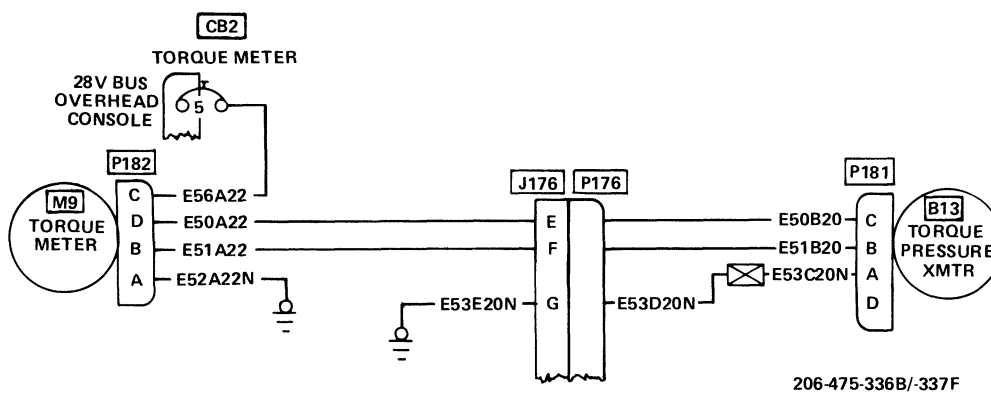
Figure 13-14. Fuel Pump Circuit

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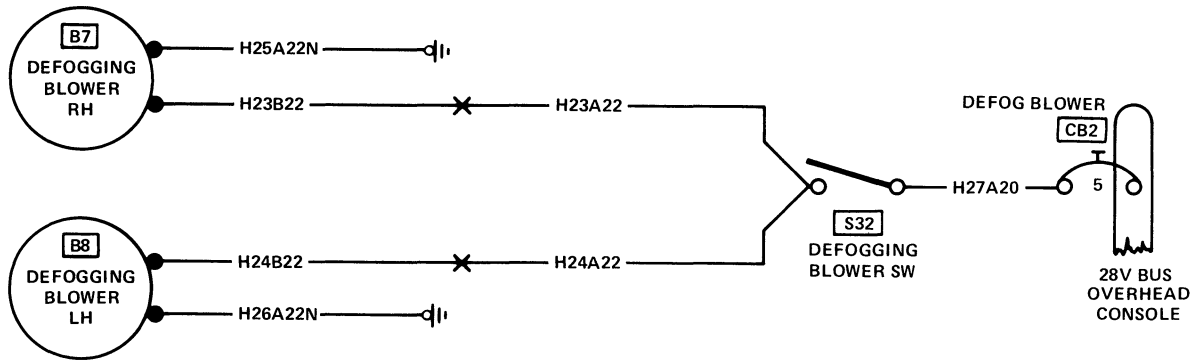
Figure 13-15. Fuel Pressure Circuit (Sheet 2 of 2)



EFFECTIVE SHIPS 254 THRU 913

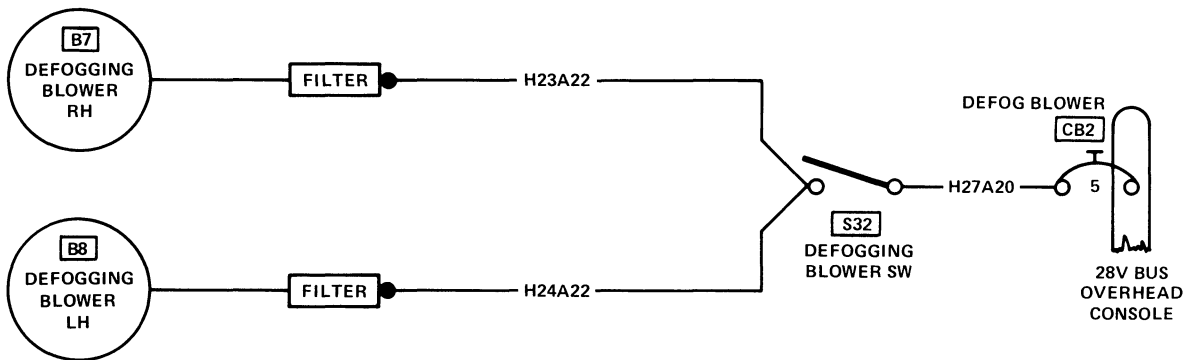
206475-209

Figure 13-15A. Torque Meter Circuit



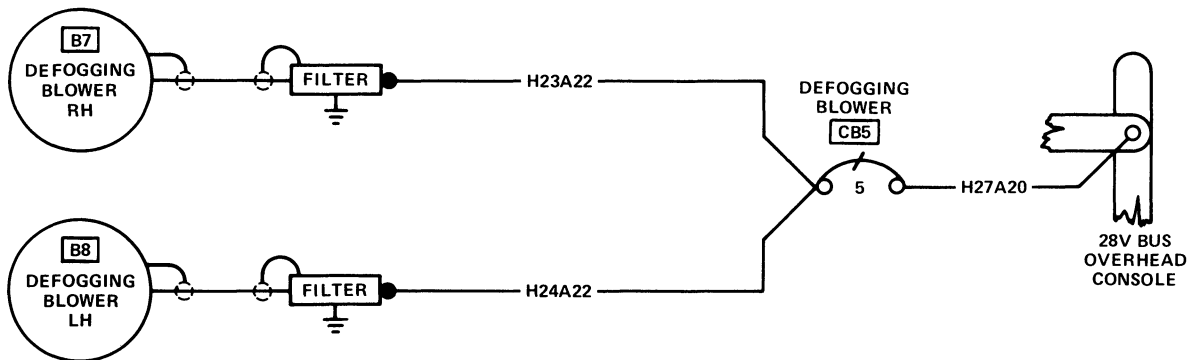
EFFECTIVE SHIPS 4 THRU 153

B/P 206-475-302



EFFECTIVE SHIPS 154 THRU 253

B/P 206-475-303



EFFECTIVE SHIPS 254 THRU 914 AND SUBS.

B/P 206-475-336/-337

206475-92B

Figure 13-16. Defogging Blower Circuit

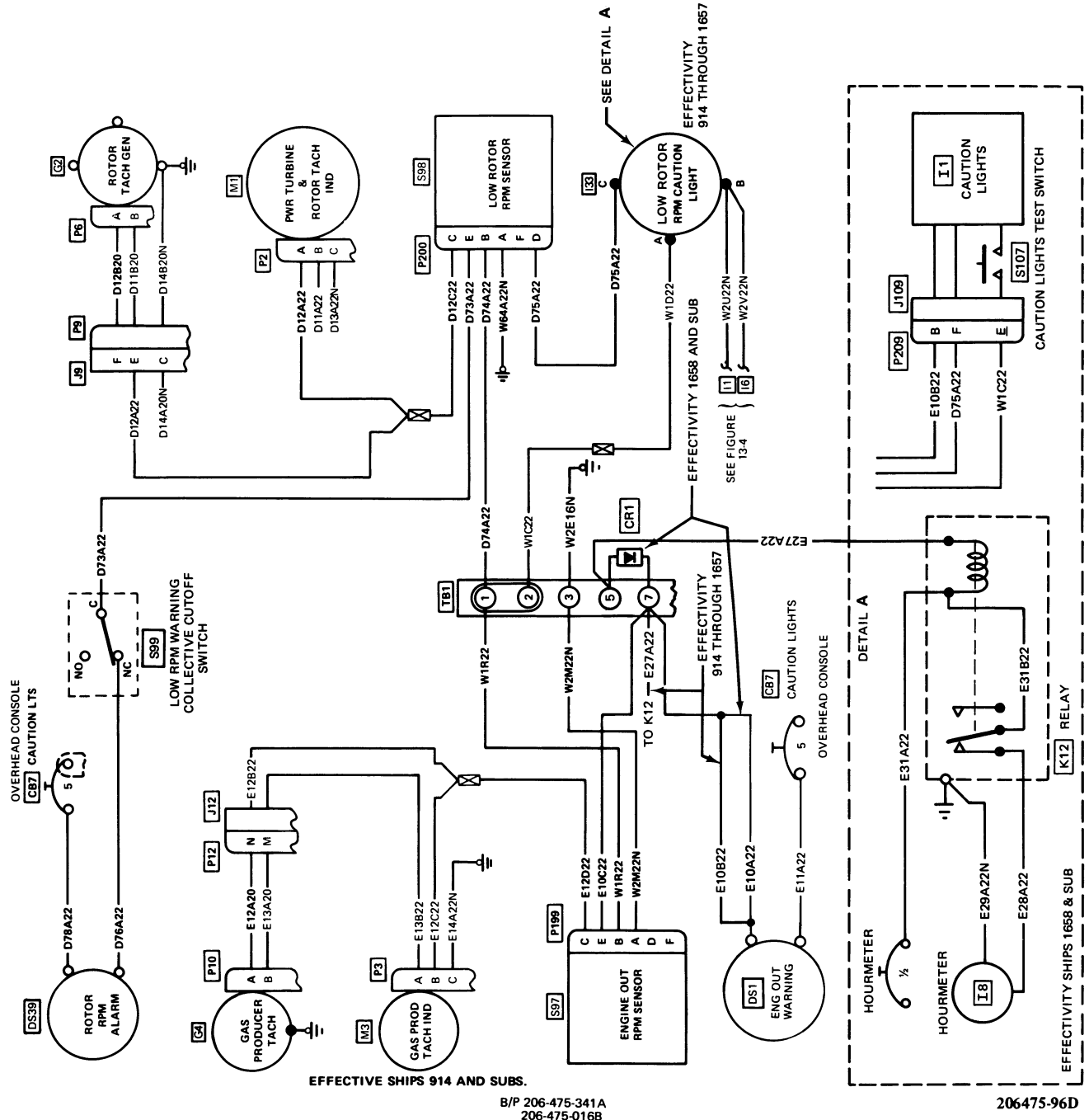
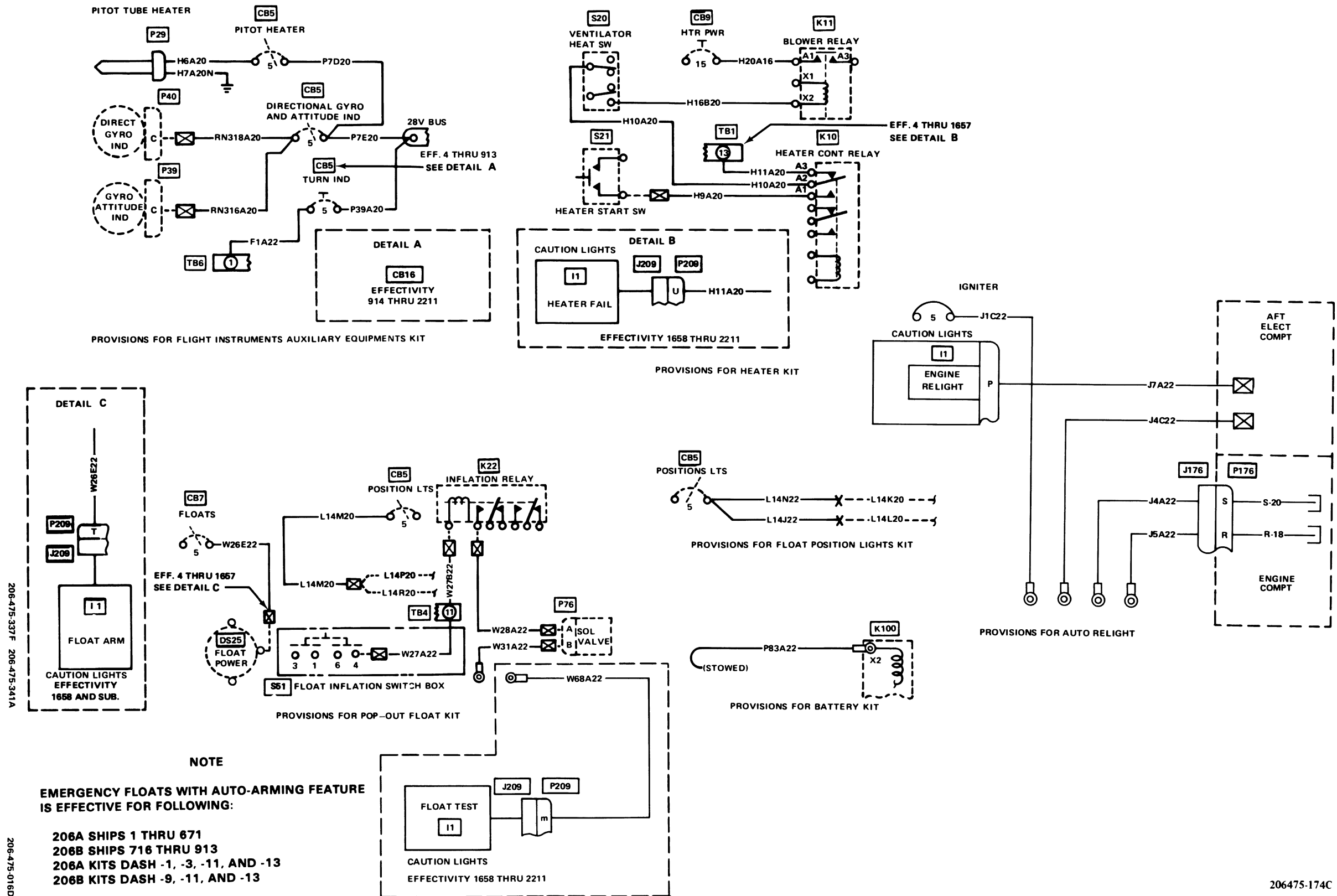


Figure 13-17. Engine Out RPM Sensor/Low Rotor RPM Sensor (Sheet 2 of 2)

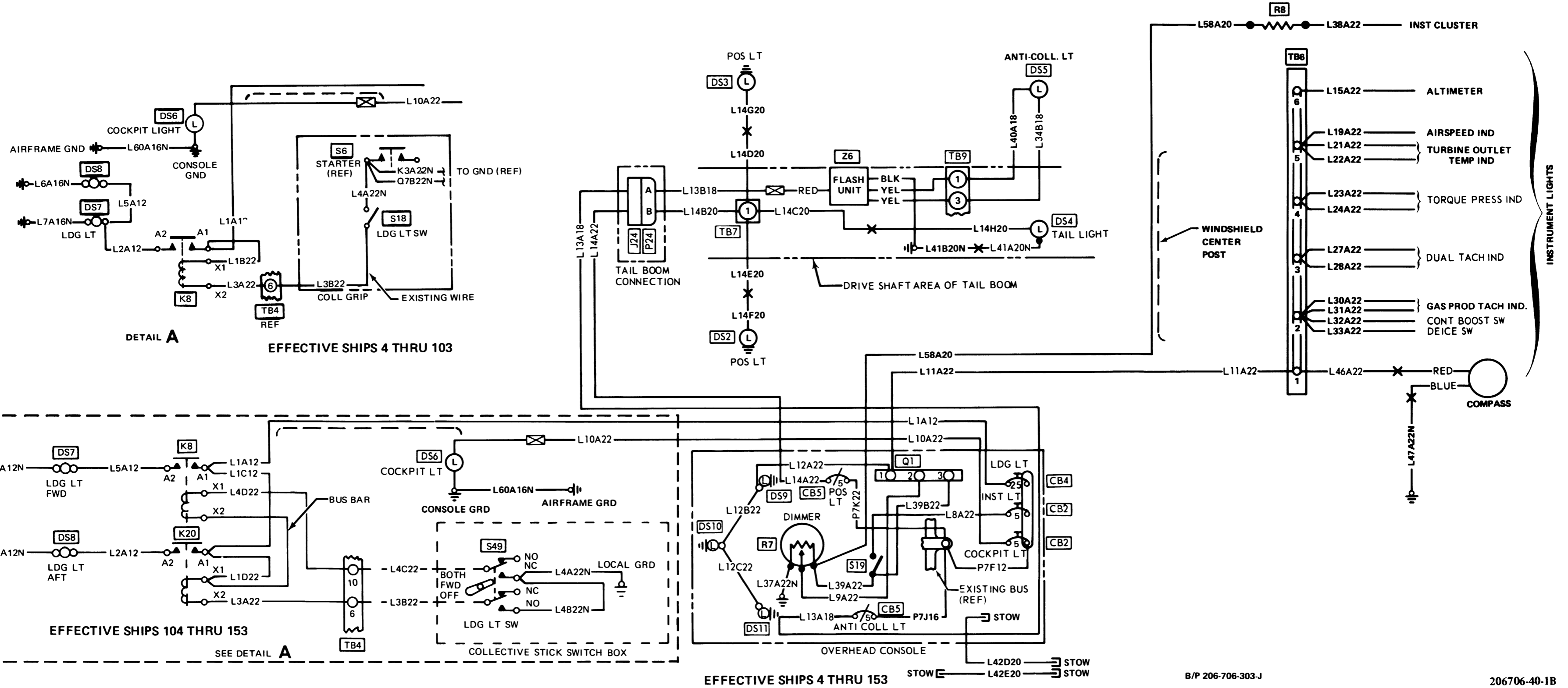


206-475-337F 206-475-341A

206-475-016D

206475-174C

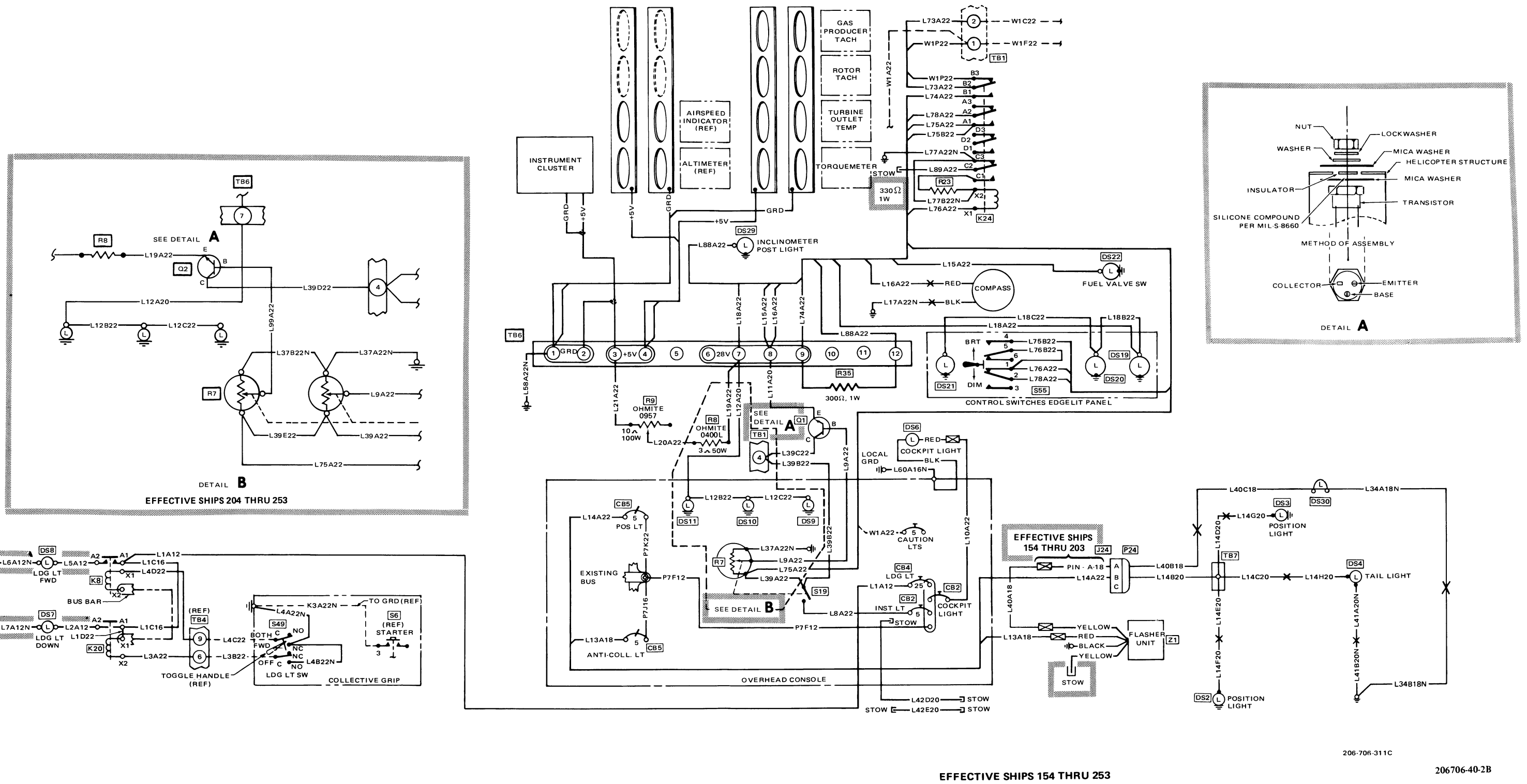
Figure 13-17A. Kit Provisions Wiring Diagram



B/P 206-706-303-J

206706-40-1B

Figure 13-18. Night Flying System Wiring Diagram (Sheet 1 of 5)



EFFECTIVE SHIPS 154 THRU 253

206-706-311C

206706-40-2B

Figure 13-18. Night Flying System Wiring Diagram (Sheet 2 of 5)

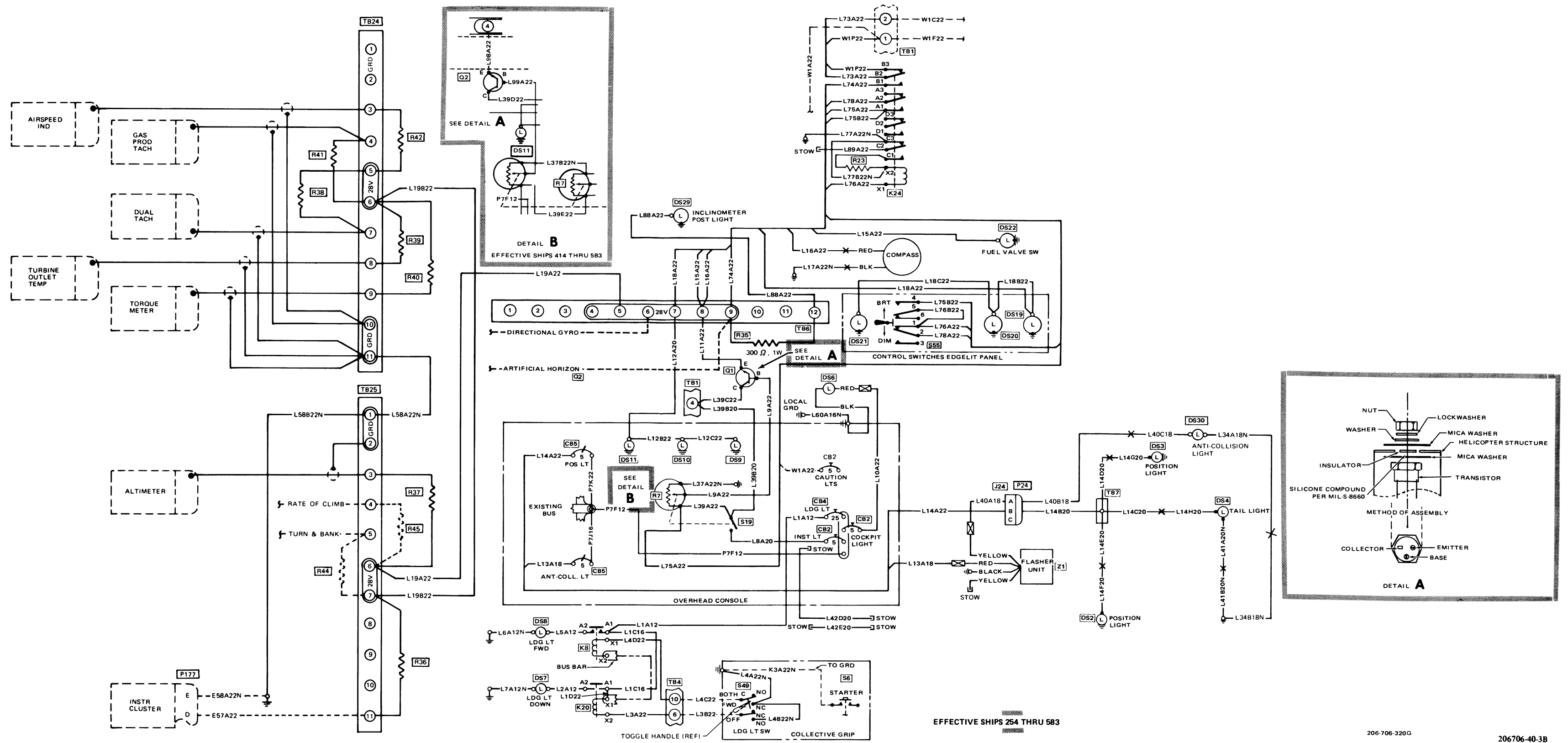


Figure 13-18. Night Flying System Wiring Diagram (Sheet 3 of 5)

206-706-320G

206706-40-3B

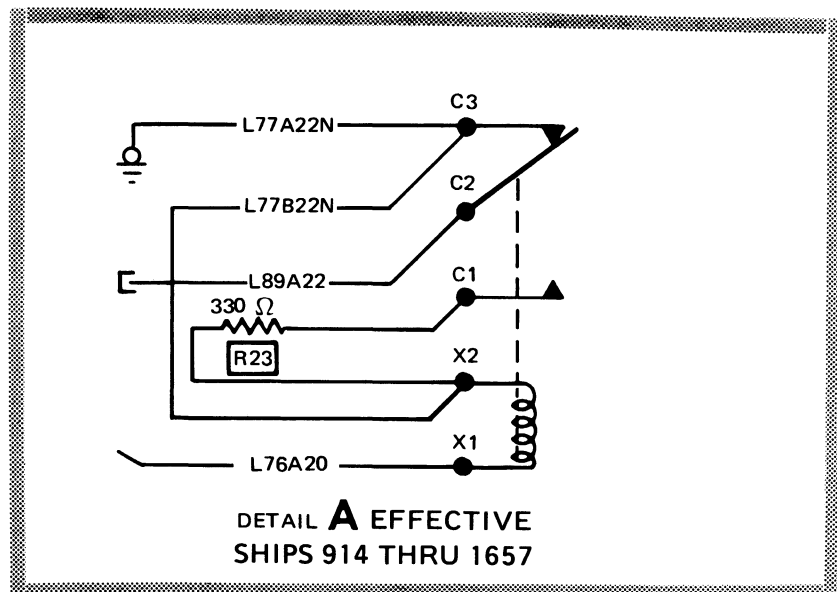
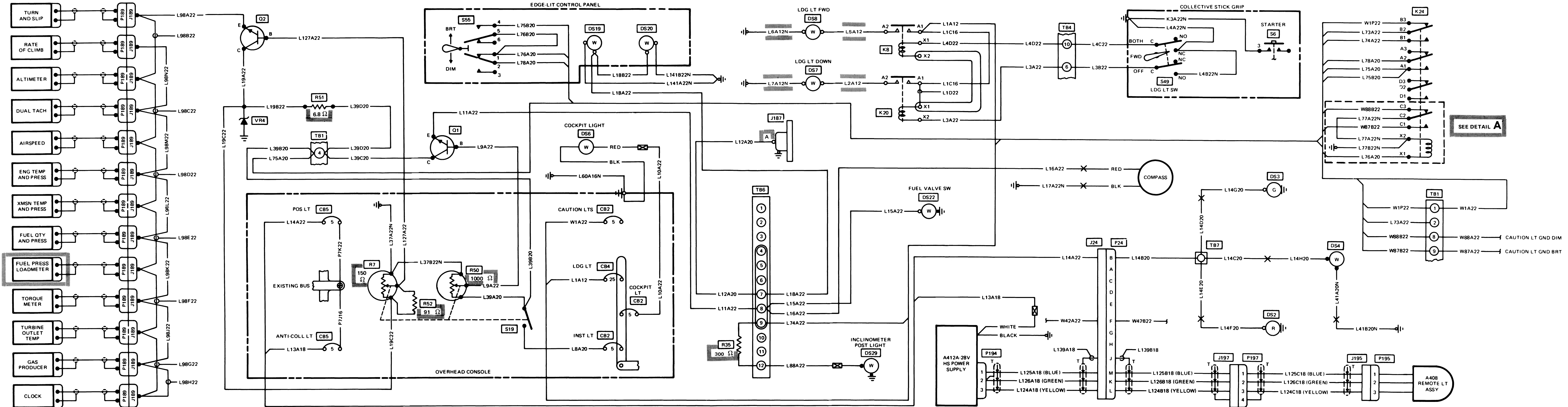


Figure 13-18. Night Flying System Wiring Diagram (Sheet 5 of 5)

All data on pages 13-63/13-64 thru 13-66C/13-66D, including figure 13-18, sheets 6 thru 9, deleted.

B/P 206-207-340-F

206706-40-5B

DC LOAD ANALYSIS 206 A/B

EQUIPMENT	NO. OF UNITS				
	1	2	3	4	
FLIGHT CONTROLS					
HYDRAULIC SOLENOID	1	1.5	1.5	1.5	1.5
ENGINE INSTRUMENTS					
IND. — ENG. AND XMSN OIL TEMP	1	0.08	—	—	—
XMTR. — FUEL QUAN., UPPER	1	0.1	0.1	—	—
XMTR. — FUEL QUAN., LOWER	1				
IND. — FUEL QUANTITY	1	—	0.08	—	—
IND. — XMSN OIL TEMP.	1				
IND. — ENG. OIL TEMP.	1	—	0.08	—	—
IND. — XMSN OIL PRESS.	1				
IND. — FUEL PRESS.	1	—	0.3	0.5	0.5
IND. — ENG. OIL PRESS.	1				
IND. — TORQUE PRESS.	1	—	—	0.1	0.1
IND. — ENG. HOURMETER	1	—	—	0.04	0.04
HEATING					
MOTOR — DEFOGGING BLOWER	2	—	—	1.4	1.4
ACTUATOR — ENG. HEAT CONTROL	1	0.11	0.11	0.11	0.11
IGNITION					
IGNITOR	1	1.6	1.6	1.6	1.6
ENGINE CONTROLS					
STARTER RELAY	1	0.6	0.6	0.6	0.6
START. — GEN. SHUNT FIELD RELAY	1	0.35	0.35	0.35	0.35
STARTER (AVERAGE)	1	305	305	166	166
POWER					
BATTERY CHARGING (T.O.)	1	46.8	12.5	12.5	13.0
BATTERY RELAY	1	0.6	0.6	0.6	0.6
REV. CURRENT RELAY	1	0.4	0.4	0.4	0.4
FUEL AND OIL					
FUEL BOOST PUMP	2	5.5	5.5	4.3	4.3
GOV. RPM ACTUATOR	1	0.11	0.9	0.9	0.9
FUEL SHUT-OFF VALVE	1	1.3	1.3	2.0	2.0
FUEL DUMP VALVE	1	—	—	1.0	1.0
WARNING AND EMERGENCY					
LOW ROTOR RPM SENSOR	1	—	—	0.2	0.1
RPM SENSOR	1	—	—		0.1
BASIC SHIP TOTALS		364.05	330.92	193.1	194.6

- EFFECTIVITIES:
- ① S/N 4 THRU 153 (206-099-043)
 - ② S/N 154 THRU 583 (206-099-091)
 - ③ S/N 584 THRU 1657 (206-099-238)
 - ④ S/N 1658 THRU 2211 (206-099-693)

206099-3

Figure 13-19. Power Loading Chart, Basic

KIT LOAD ANALYSIS 206 A/B

EQUIPMENT

NIGHT FLYING

COCKPIT LIGHT
INSTRUMENT AND EDGE LIGHTS
SIDE POSITION LIGHTS
TAIL POSITION LIGHT
LANDING LIGHT
LANDING LIGHT RELAY
ANTI-COLLISION SYSTEM
ANTI-COLLISION LIGHT

TOTALS

FLIGHT INSTRUMENTS

PITOT HEATER (AN5813-1)
IND. — ATTITUDE
(AVIATION INSTR. 500 DC)
IND. — HEADING
(AVIATION INSTR. 200 DC)
IND. — TURN AND SLIP
INVERTER

TOTALS

CARGO HOOK

CARGO HOOK SOLENOID
CARGO HOOK RELAY (MS24149D1)

TOTALS

RESCUE HOIST AND CONTROL

HEATER ASSEMBLY

COMBUSTION BLOWER
VENT BLOWER
FUEL SHUT-OFF VALVE
FUEL PUMP
HEATER ASSEMBLY
IGNITOR
ENVIRONMENTAL CONT SYS.

TOTALS

POWER

BATTERY CHARGING
(22 AMP-HR) (AVG)
BATTERY CHARGING
(13 AMP-HR) (AVG)
BATTERY RELAY

TOTALS

EQUIPMENT	NO. OF UNITS	AMPS/UNIT			
		1	2	3	4
COCKPIT LIGHT	1	0.17	0.17	0.17	0.17
INSTRUMENT AND EDGE LIGHTS	25	0.04	0.04	0.04	0.04
SIDE POSITION LIGHTS	2	0.83	0.83	0.83	0.93
TAIL POSITION LIGHT	1	1.15	1.15	1.15	1.15
LANDING LIGHT	2	9.1	9.1	9.1	9.1
LANDING LIGHT RELAY	1	0.35	0.35	0.25	0.25
ANTI-COLLISION SYSTEM	1	—	3.0	3.0	1.5
ANTI-COLLISION LIGHT	2	1.5	—	—	—
TOTALS		25.5	25.5	25.4	24.13
FLIGHT INSTRUMENTS					
PITOT HEATER (AN5813-1)	1	4.1	4.1	4.1	4.0
IND. — ATTITUDE (AVIATION INSTR. 500 DC)	1	—	1.1	0.8	0.8
IND. — HEADING (AVIATION INSTR. 200 DC)	1	—	1.1	0.8	0.8
IND. — TURN AND SLIP	1	—	—	0.2	0.2
INVERTER	1	2.6	—	—	—
TOTALS		6.7	6.3	5.9	5.8
CARGO HOOK					10.4
CARGO HOOK SOLENOID	1	10.0	10.0	10.0	—
CARGO HOOK RELAY (MS24149D1)	1	0.35	0.35	0.35	—
TOTALS		10.35	10.35	10.35	10.4
RESCUE HOIST AND CONTROL	1	—	27.5	27.5	27.5
HEATER ASSEMBLY					
COMBUSTION BLOWER	1	2.8	2.8	2.8	—
VENT BLOWER	1	8.7	8.7	8.7	—
FUEL SHUT-OFF VALVE	1	1.0	1.0	1.0	—
FUEL PUMP	1	1.7	1.7	1.7	—
HEATER ASSEMBLY	1	—	—	—	16.7
IGNITOR	1	1.4	1.4	1.4	—
ENVIRONMENTAL CONT SYS.	1	—	—	—	39.0
TOTALS		15.6	15.6	15.6	55.7
POWER					
BATTERY CHARGING (22 AMP-HR) (AVG)	1	30	30	30	—
BATTERY CHARGING (13 AMP-HR) (AVG)	1	—	—	30	30
BATTERY RELAY	1	—	—	0.6	—
TOTALS		30	30	60.6	30

206099-2-1

Figure 13-19A. Power Loading Chart, Kits (Sheet 1 of 4)

KIT LOAD ANALYSIS 206A/B

EQUIPMENT		NO. OF UNITS				AMPS/UNIT			
		1	2	3	4	1	2	3	4
ENGINE IGNITION AUTO RELIGHT	1	—	—	—	0.05				
RADAR AVIONIC KIT TRANSPONDER	1	—	—	—	1.3				
WARNING AND EMERGENCY EMERGENCY FLOATS	1	—	—	—	1.17				
FLIGHT CONTROLS STABILIZATION AUGMENTATION	1	—	—	2.2	2.2				
FIRE DETECTION AMPLIFIER	1	—	—	} 0.1	—				
DETECTOR	2	—	—		—				
FIRE EXTINGUISHING FIRE EXT. BOTTLE (SQUIB)	1	—	—	1.5	—				
POWER AUGMENTATION VALVE — WATER/ALCOHOL CONTROL	1	—	—	1.5	—				
LIGHT — WATER/ALCOHOL INJECT	1	—	—	0.04	—				
LIGHT — LOW LEVEL	1	—	—	0.04	—				
POPOUT FLOAT ARMING RELAY	2	—	0.05	0.05	—				
FLOAT WARNING LIGHT	2	—	0.04	0.04	—				
LOWER POSITION LIGHT	2	—	0.08	0.08	—				
SOLENOID VALVE	1	—	1.0	1.0	—				
TURN AND SLIP KIT	1	—	0.2	—	—				
HOURMETER KIT	1	—	0	—	—				
RADIO VHF TRANSCEIVER (KING KX-160)	1	1.5	1.5	1.5	—				
ADDITIONAL XMIT POWER		5.0	5.0	5.0	—				
RELAY PANEL	1	—	0.1	—	—				
OMNI/GLIDE SLOPE (KI-211)	1	—	0.2	0.2	—				
RADIO COMPASS (ADF) KR-80)	1	—	0.4	0.4	—				
ICS SWITCHING PANEL	1	—	0.1	0.1	—				
SPEAKER AMPLIFIER (KA-25)	1	—	1.1	1.1	—				
DME RCVR—TRANS/IND (KN-60B)	1	—	1.4	1.4	—				
MARKER BEACON (KR-20)	1	—	0.3	0.3	—				
OMNI IND. (KI-201)	1	—	0.1	0.1	—				
VHF TRANSCEIVER (KING KX-160)	1	—	1.5	1.5	—				
OMNI IND. (KI-201)	1	—	0.1	0.1	—				
TOTALS		6.5	11.8	11.7	—				

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Figure 13-19A. Power Loading Chart, Kits (Sheet 2 of 4)

KIT LOAD ANALYSIS 206A/B
EQUIPMENT

	NO. OF UNITS	AMPS/UNIT			
		①	②	③	④
VHF TRANSCEIVER (MARK 24)	1	—	1.0	1.0	—
ADDITIONAL XMIT POWER	—	—	3.0	3.0	—
RELAY PANEL	1	—	0.1	—	—
OMNI RECEIVER/ GLIDE SLOPE/IND.	1	—	0.35	0.35	—
OMNI RECEIVER/ GLIDE SLOPE (UGR-2)	1	—	0.23	0.23	—
RADIO COMPASS (ADF) (ADF-31A)	1	—	0.8	0.8	—
ICS SWITCHING PANEL	1	—	0.1	0.1	—
SPEAKER AMPLIFIER (KA-25)	1	—	1.1	1.1	—
DME RCVR—TRANS/IND (UDI-4)	1	—	3.4	3.4	—
MARKER BEACON (MBT-R)	1	—	0.24	0.24	—
OMNI/INDICATOR (VOA-8)	1	—	0.15	0.15	—
VHF TRANSCEIVER (MARK 24)	1	—	1.0	1.0	—
OMNI IND (VOA-8)	1	—	0.15	0.15	—
RADIO COMPASS (ADF) (KR-80)	1	—	0.4	0.4	—
VHF TRANSCEIVER (RT-522A)	1	—	2.3	—	—
ADDITIONAL XMIT POWER	—	—	3.3	—	—
OMNI/GLIDE SLOPE/IND	1	—	0.2	—	—
OMNI RECEIVER/GLIDE SLOPE	1	—	0.35	—	—
RADIO COMPASS (ADF) (R521B)	1	—	1.1	—	—
ICS SWITCHING PANEL	1	—	0.1	—	—
MARKER BEACON (R502B)	1	—	0.17	—	—
OMNI/IND. (IN 522A)	1	—	0.1	—	—
RADIO COMPASS (ADF)	1	—	0.4	—	—
DME RCVR/TRANS/IND (KN60B)	1	—	1.4	—	—
DME RCVR/TRANS/IND (UDI-4)	1	—	3.2	—	—
VHF TRANSCEIVER (RT-522A)	1	—	2.3	—	—
OMNI INDICATOR (IN 522A)	1	—	0.1	—	—
RADAR					
IFF TRANSPONDER (KXP-750)	1	—	1.7	1.7	—
IFF TRANSPONDER (UAT-1)	1	—	1.75	1.8	—
IFF TRANSPONDER (506A)	1	—	1.5	1.2	—
TRANSPONDER (KT76)	1	—	—	—	1.3
SPEAKER—AMPLIFIER KA-25)	1	—	—	1.1	—
ICS SWITCH PANEL VP-22B3	1	—	—	0.1	—
CABIN SPEAKER INSTL.	1	—	—	—	—
ISOLATION AMP (FT-25)	1	—	—	—	1.1
HF RADIO RECEIVER (SUNAIR ASB100)	1	—	—	—	2.5
HF RADIO XMTR (SUNAIR ASB100)	1	—	—	—	6.5
ANTENNA (AC-31)	1	—	—	—	0.8
COMMUNICATION CONTROL	1	—	—	—	0.5
SPEAKER AMPLIFIER	1	—	—	—	0.68
LOUDHAILER	1	—	—	—	3.0

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Figure 13-19A. Power Loading Chart, Kits (Sheet 3 of 4)

KIT LOAD ANALYSIS 206A/B

EQUIPMENT

VHF TRANSCEIVER (XK-170B)
 VHF TRANSCEIVER (KX-170)
 ADDITIONAL XMIT POWER
 VOLTAGE CONVERTER (KA-39)
 CONVERTER/IND. (KJ-201C)
 VHF NAV RCVR (KX-170B)
 OMNI IND. (KI-201B)
 ADF RCVR (KR-85)
 ADF IND. (KI-225)

TOTAL

RADAR
ENCODER ALTIMETER

EFFECTIVITIES: **1** S/N 4 THRU 153
 2 S/N 154 THRU 583
 3 S/N 584 THRU 1657
 4 S/N 1658 THRU 2211

	NO. OF UNITS	AMPS/UNIT	AMPS/UNIT	AMPS/UNIT	AMPS/UNIT
	1	2	3	4	
VHF TRANSCEIVER (XK-170B)	1	—	—	—	4.5
VHF TRANSCEIVER (KX-170)	1	—	—	1.0	—
ADDITIONAL XMIT POWER	—	—	3.1	—	—
VOLTAGE CONVERTER (KA-39)	1	—	0.1	—	0.1
CONVERTER/IND. (KJ-201C)	1	—	—	—	0.2
VHF NAV RCVR (KX-170B)	1	—	—	—	0.52
OMNI IND. (KI-201B)	1	—	0.1	—	—
ADF RCVR (KR-85)	1	—	—	—	—
ADF IND. (KI-225)	1	—	—	1.0	—
TOTAL	—	—	5.3	—	20.4
RADAR ENCODER ALTIMETER	1	—	—	—	0.3

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Figure 13-19A. Power Loading Chart, Kits (Sheet 4 of 4)

All data on pages 13-73 thru 13-82, deleted.

