

SERVICE MANUAL

SERVICE MANUAL SECTION

**4200, 4300, 4400, 7300, 7400, 7500, 8500, 8600 SERIES Built January 1,
2002 To September 30, 2002 — ELECTRICAL CIRCUIT DIAGRAMS**

Truck Model: 4200

Start Date: 10/16/2000 End Date: 09/30/2002

Truck Model: 4300

Start Date: 10/16/2000 End Date: 09/30/2002

Truck Model: 4400

Start Date: 10/16/2000 End Date: 09/30/2002

Truck Model: 7300

Start Date: 12/01/2001 End Date: 09/30/2002

Truck Model: 7400

Start Date: 12/01/2001 End Date: 09/30/2002

Truck Model: 7500

Start Date: 12/01/2001 End Date: 09/30/2002

Truck Model: 8500

Start Date: 01/01/2002 End Date: 09/30/2002

Truck Model: 8600

Start Date: 01/01/2002 End Date: 09/30/2002

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1. INSTRUCTIONS AND CHARTS (CHAPTER 1)

1.1. CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 1

INTERNATIONAL TRUCK AND ENGINE CORPORATION		ELECTRICAL CIRCUIT DIAGRAM		CHAPTER 1				
THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.		INTERNATIONAL CIRCUIT NUMBER IDENTIFICATION AND LOCATION						
PREFIX DESIGNATIONS								
PREFIX	LOCATION							
A	Cab-Instrument Panel Module							
B	Cab-Driver Control Module							
C	Cab-Header/Clearance Lights							
D	Cab-Roof/Rear Panel							
E	Cab-Left Door/Doors							
F	Cab-Right Door/Doors							
H	Cab-Sleeper							
J	Cab-Dash(outside)							
K	Engine/Radiator							
L	Transmission							
M	Chassis/Front End (Cab Dash Panel Forward)							
N	Chassis/Center Section (Cab Dash Panel to Cab RR Xmbr)							
P	Chassis/Wheel Base Section							
R	Chassis/Suspension/Rear Axle/Axles							
S	Chassis/AF Section/Stop/Tail/Turn Lights							
CIRCUIT NUMBER AND IDENTIFICATIONS								
CIRCUIT NUMBER	COLOR	DESCRIPTION						
1	LTBL	ALTERNATOR - FIELD						
2	RD	ALTERNATOR - CHARGE						
3	DKBL GY	1708 DATA LINK, SWITCH DATA LINK (+) 1708 DATA LINK, SWITCH DATA LINK (-)						
4		SERIAL/DATA COMMUNICATION J1922						
5	YL GN	DRIVE TRAIN J1939 DATA LINK (+) DRIVE TRAIN J1939 DATA LINK (-)						
6	GY	LOW VOLTAGE ELECTRONIC FEED (< 9 VOLTS)						
7	RD	ALTERNATOR - RESISTANCE						
8								
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME		
PEC	16JAN01	PRODUCTION RELEASE.	A	P54304U	U00DLCK	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS		
					RELEASE NO.	DATE	PART NO.	SHEET
					P52778H	09AUG00	AE08-52365	01

Figure 1 Circuit Number Identification and Location Chart

1.2. CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 2

INTERNATIONAL TRUCK AND ENGINE CORPORATION				ELECTRICAL CIRCUIT DIAGRAM CHAPTER 1			
THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.				INTERNATIONAL CIRCUIT NUMBER IDENTIFICATION AND LOCATION (CONT.)			
CIRCUIT NUMBER AND IDENTIFICATIONS (CONT.)							
CIRCUIT NUMBER	COLOR	DESCRIPTION					
9	GY	ZERO VOLT REFERENCE (ZVR)					
10	WH	CHASSIS/ENGINE GROUND					
11	WH	CAB/SLEEPER GROUND					
12	LTBL	ACCESSORY FEED					
13	PK BK	IGNITION FEED IGNITION FEED (BODY BUILDER CONNECTOR)					
14	RD	BATTERY FEED					
15	RD	KEY SWITCH FEED					
16							
17	PK	STARTER CONTROL					
18	PK	GLOW PLUG/PRE-HEATER					
19	GY	ENGINE SHUTDOWN					
20	LTGN	REMOTE POWER MODULE					
21	TN	COLD START CONTROLS (ETHER)					
22							
23	TN	ENGINE FAN/SHUTTERS					
24	GY	ENGINE EXHAUST BRAKE					
25	TN	PYROMETER					
26	TN	AMMETER					
27	TN	VOLTMETER					
28	TN	INSTRUMENTS AND GAUGES					
29	TN	ENGINE WATER TEMPERATURE					
30	TN	ENGINE OIL TEMPERATURE					
31	TN	TRANSMISSION OIL TEMPERATURE					
32	TN	AXLE OIL TEMPERATURE					
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	
PEC	16JAN01	PRODUCTION RELEASE.	A	P54304U	U00JXP9	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS	
					RELEASE NO.	DATE	PART NO.
					P52778H	09AUG00	AE08-52365
							SHEET 02

Figure 2 Circuit Number Identification and Location Chart (Cont.)

1.3. CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 3

INTERNATIONAL TRUCK AND ENGINE CORPORATION		ELECTRICAL CIRCUIT DIAGRAM		CHAPTER 1				
THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.		INTERNATIONAL CIRCUIT NUMBER IDENTIFICATION AND LOCATION (CONT.)						
CIRCUIT NUMBER AND IDENTIFICATIONS (CONT.)								
CIRCUIT NUMBER	COLOR	DESCRIPTION						
33	TN	ENGINE OIL LEVEL						
34	TN	COOLANT LEVEL						
35	TN	ENGINE OIL PRESSURE						
36	TN	FUEL LEVEL						
37	TN	FUEL PUMP						
38								
39	GY	AIR DRYER HEATER						
40	GY	LOW AIR PRESSURE WARNING						
41	TN	AIR TEMPERATURE						
42	GY	FRONT AXLE ENGAGED						
43	GY	POWER DIVIDER LOCK (PDL) WARNING						
44	GY	PARK BRAKE WARNING						
45	LTGN	ANTI - THEFT WARNING						
46	GY	POWER TAKE - OFF WARNING						
47	GY	SPEEDOMETER						
48	GY	TACHOMETER						
49	GY	DIFFERENTIAL LOCK WARNING						
50	YL	LIGHT SWITCH FEED						
51	YL	DIMMER SWITCH FEED						
52	YL	HEADLIGHT HI - BEAM						
53	YL	HEADLIGHT LO - BEAM						
54	BN	PARKING/MARKER LIGHTS						
55	OR	TURN SIGNAL - FEED						
56	OR	TURN SIGNAL LIGHTS - LEFT						
	YL	TURN SIGNAL LIGHTS - LEFT (BODY BUILDER CONNECTION)						
57	OR	TURN SIGNAL LIGHTS - RIGHT						
	LT GN	TURN SIGNAL LIGHTS - RIGHT (BODY BUILDER CONNECTION)						
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME		
PEC	16JAN01	PRODUCTION RELEASE.	A	P54304U	U00DLCK	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS		
					RELEASE NO.	DATE	PART NO.	SHEET
					P52778H	15 MAY 00	AE08-52365	03

Figure 3 Circuit Number Identification and Location Chart (Cont.)

1.4. CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 4

INTERNATIONAL TRUCK AND ENGINE CORPORATION THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.				ELECTRICAL CIRCUIT DIAGRAM CHAPTER 1 INTERNATIONAL CIRCUIT NUMBER IDENTIFICATION AND LOCATION (CONT.)			
CIRCUIT NUMBER AND IDENTIFICATIONS (CONT.)							
CIRCUIT NUMBER	COLOR	DESCRIPTION					
58	BN	CLEARANCE/IDENTIFICATION LIGHTS					
59	GY	SOLENOID					
60	OR	HAZARD LIGHTS					
61	GY	AIR SUSPENSION					
62	DKBL	PANEL LIGHTS					
63	DKBL	COURTESY/DOME LIGHTS					
64	YL	FOG/DRIVING LIGHTS					
65	OR	CAB REAR FLOOD LIGHT					
66	YL	DAYTIME RUNNING LIGHTS					
67							
68	BN	TAIL LIGHTS					
69	BN	LICENSE PLATE LIGHT					
70	OR RD	STOP LIGHTS STOP LIGHTS (BODY BUILDER CONNECTION)					
71	OR LTBL	BACK - UP LIGHTS BACK - UP LIGHTS (BODY BUILDER CONNECTION)					
72	OR	TRAILER AUXILIARY FEED - BATTERY					
73	LTGN	PWM					
74	LTGN	HEATER RECIRC MOTOR					
75	LTGN	HEATER BLOWER MOTOR					
76	LTGN	AUXILIARY FAN					
77	LTGN	AIR CONDITIONER					
78	LTGN	MIRRORS - HEATED; MOTORIZED					
79	GY	SEAT BELTS					
80	BK	SLEEPER BOX RELAY - FEED					
81	LTGN	POWER DOOR LOCKS					
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	
PEC	16JAN01	PRODUCTION RELEASE.	A	P54304U	U00DLCK	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS	
					RELEASE NO.	DATE	PART NO.
					P52778H	15MAY00	AE08-52365
							SHEET 04

Figure 4 Circuit Number Identification and Location Chart (Cont.)

1.5. CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 5

INTERNATIONAL TRUCK AND ENGINE CORPORATION THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.				ELECTRICAL CIRCUIT DIAGRAM CHAPTER 1 INTERNATIONAL CIRCUIT NUMBER IDENTIFICATION AND LOCATION (CONT.)			
CIRCUIT NUMBER AND IDENTIFICATIONS (CONT.)							
CIRCUIT NUMBER	COLOR	DESCRIPTION					
82	GY	WINDSHIELD WIPER					
83	LTGN	POWER WINDOWS					
84	LTGN	CIGAR LIGHTER					
85	GY	HORN					
86	LTGN	RADIO - ENTERTAINMENT/CLOCK					
87	GY	WINDSHIELD WASHER					
88	LTGN	CLOCK/HOURMETER					
89	VT	AIR BAG					
90	GY	HYDRAULIC BRAKE PUMP					
91	VT	INTERCOMMUNICATIONS					
92	TN	TRANSMISSION CONTROLS - ELECTRONIC					
93	TN	AXLE SHIFT CONTROL					
94	GY	ANTILOCK BRAKE SYSTEM					
95	TN	EXHAUST EMISSION					
96	YL	SNOW PLOW LIGHTS/CRUISE CONTROL					
97	VT	ENGINE CONTROLS - ELECTRONIC					
98	BK	DATALINK AND DIAGNOSTICS					
99	VT	ACCELERATOR POSITION SENSOR (APS)					
100		AIR HORN (ELECTRIC SOLENOID ACTUATED)					
101		BRAKE APPLICATION AIR					
102		FLASH TO PASS					
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	
PEC	16JAN01	PRODUCTION RELEASE.	A	P54304U	U00DLCK	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS	
PEC	18JUN01	ADDED CLOCK TO #86.	B	P54634F	RELEASE NO. P52778H	DATE 15MAY00 PART NO. AE08-52365 SHEET 05	

Figure 5 Circuit Number Identification and Location Chart (Cont.)

1.6. NAVPAK/ECM I6 ENGINE CONTROLLER CONNECTOR PIN NUMBER IDENTIFICATION, P. 6

INTERNATIONAL TRUCK AND ENGINE CORPORATION				ELECTRICAL CIRCUIT DIAGRAM CHAPTER 1		
THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.				INTERNATIONAL NAVPAK/ECM I6 ENGINE CONTROLLER CONNECTOR PIN NUMBER IDENTIFICATION		
ECM PIN #	TERM	DESCRIPTION	ECM PIN #	TERM	DESCRIPTION	
12	AAT	AMBIENT AIR TEMP. SENSOR	27	IVS	IDLE VALIDATION SWITCH	
33	ACD	A/C DEMAND	54	OWL	OIL/WATER WARNING LIGHT	
8	APS	ACCELERATOR POS. SENSOR	25	PWR RLY	CEC MAIN POWER RELAY SIGNAL	
16	ATA(+)	J1708 DATALINK (+)	31	RAS	RESUME/ACCELERATE	
17	ATA(-)	J1708 DATALINK (-)	37	RPRF	PRESET SPEED	
29	BAP	BAROMETRIC AIR PRESS. SENSOR	30	RPS	REMOTE ACCELERATOR POS. SENS. SIG.	
43	BN01	BRAKE STATUS #1	6	RPS_RTN	REMOTE ACCELERATOR POS. SENS RTN.	
44	BN02	BRAKE STATUS #2	36	RVAR	VARIBLE SPEED SWITCH	
18	CAN SHLD	DRIVETRAIN J1939 DATALINK SHLD	32	SCS	SET/COAST	
19	CAN(+)	DRIVETRAIN J1939 DATALINK (+)	45	SIL	SERVICE INTERVAL LIGHT	
20	CAN(-)	DRIVETRAIN J1939 DATALINK (-)	34	STI	SELF TEST INPUT	
15	CBE_SEL1	RETARDER/EXHAUST BRAKE REQUEST	48	SUL	SHIFT UP LIGHT	
10	CLS	COOLANT LEVEL SENSOR	59	TACA	TACHOMETER A	
35	COD	CRUISE ON/OFF	60	TACB	TACHOMETER B	
21	DC (+)	POWER	38	TCSS	TORQUE CURVE SELECTION INPUT	
22	DC (+)	POWER	28	TSA	TWO SPEED AXLE	
1	DC (-)	GROUND	3	VBREF(5V)	ACCELERATOR SENSOR SUPPLY	
2	DC (-)	GROUND	11	VBREF GND	ACCELERATOR SENSOR GROUND	
26	DDS	DRIVELINE DISENGAUGED INPUT	5	VCREF(5V)	REMOTE ACCELERATOR SENS. SUPPLY	
42	DPS	GROUND	7	VCREF GND	REMOTE ACCELERATOR SENSOR GND	
46	ECI	ENGINE CRANK INHIBIT	24	VIGN	IGNITION FEED	
56	EDL	TRANSMISSION KICKDOWN	47	VRE	RETARDER/EXHAUST BRAKE ENABLE	
53	GPL	GLOW PLUG LIGHT	39	VSS(+)	VEHICLE SPEED SENSOR (+)	
4	HGE	HYD. PRESS GOVERNOR ENABLE	40	VSS(-)	VEHICLE SPEED SENSOR (-)	
49	HMI	HYDRAULIC PRESS GOVERNOR IND. LT	58	VSSCALA	SPEEDOMETER SIGNAL A	
13	HPS	HYDRAULIC PRESSURE SENSOR	57	VSSCALB	SPEEDOMETER SIGNAL B	
41	HSO (+)	POWER	55	WARN	ENGINE WARNING LIGHT	
23	HSO (-)	GROUND				
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME
PEC	16JAN01	PRODUCTION RELEASE.	A	P54304U	U00JXP9	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS
					RELEASE NO.	DATE
					P52778H	09AUG00
						PART NO.
						AE08-52365
						SHEET
						06

Figure 6 NAVPAK/ECM I6 Engine Controller Connector Pin Number Identification

1.7. CIRCUIT DIAGRAM INSTRUCTIONS, P. 7


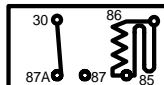


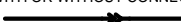
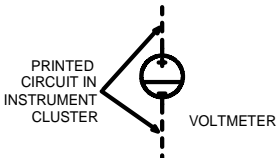
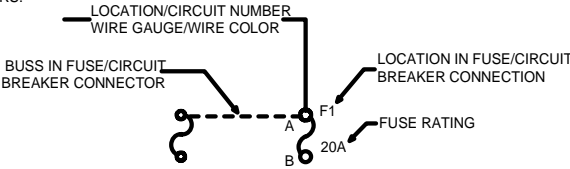
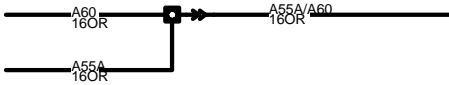
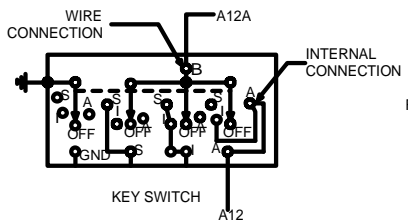
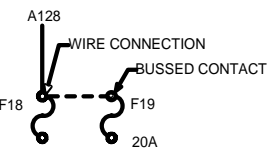
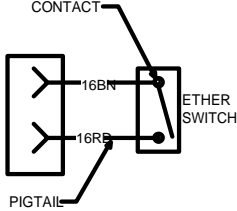
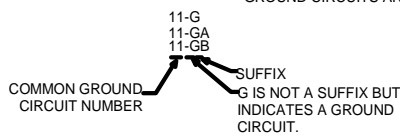
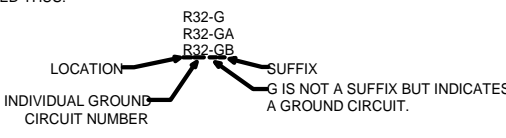
<p>INTERNATIONAL TRUCK AND ENGINE CORPORATION</p> <p>THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.</p>	<p>ELECTRICAL CIRCUIT DIAGRAM CHAPTER 1</p> <p>CIRCUIT DIAGRAM INSTRUCTIONS</p>																																																								
<p>A - SWITCH AND RELAY POSITIONS AS SHOWN ON CIRCUIT DIAGRAMS INDICATE NORMAL POSITION WITH IGNITION OFF UNLESS OTHERWISE NOTED.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>SWITCH: MANUAL/MECHANICAL</p> </div> <div style="text-align: center;">  <p>RELAY - SUPPRESSED</p> </div> <div style="text-align: center;">  <p>INDICATES CASE MAGNETIC GROUND SUPPRESSED</p> </div> </div>	<p>B - MULTIPLE CONNECTIONS ARE DISPLAYED ON SCHEMATIC AS SHOWN. REFER TO CONNECTOR COMPOSITE WITH APPLICABLE NUMBER FOR MORE COMPLETE INFORMATION.</p> <div style="text-align: center;">  <p>12 AND/OR 12</p> <p>SINGLE IN-LINE CONNECTORS DISPLAYED AS SHOWN WITH OR WITHOUT CONNECTOR NUMBER.</p>  </div>																																																								
<p>C - PHANTOM LINES INDICATE PRINTED CIRCUITS OR BUSSED CIRCUITS. THESE CIRCUITS EXIST IN THE INSTRUMENT CLUSTERS AND FUSE/CIRCUIT BREAKER CONNECTORS.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>PRINTED CIRCUIT IN INSTRUMENT CLUSTER</p> <p>VOLTMETER</p> </div> <div style="text-align: center;">  <p>LOCATION/CIRCUIT NUMBER WIRE GAUGE/WIRE COLOR</p> <p>BUSS IN FUSE/CIRCUIT BREAKER CONNECTOR</p> <p>LOCATION IN FUSE/CIRCUIT BREAKER CONNECTION</p> <p>F1</p> <p>20A</p> <p>FUSE RATING</p> </div> </div>																																																									
<p>D - MULTIPLE CIRCUIT NUMBERS ON A LINE INDICATE ONE WIRE DISTRIBUTING CURRENT TO TWO CIRCUITS.</p> <div style="text-align: center;">  <p>A60 16OR</p> <p>A55A/A60 16OR</p> </div>																																																									
<p>E - SWITCHES, RELAYS AND COMPONENTS INDICATE EXTERNAL WIRE CONNECTIONS AND/OR INTERNAL CONNECTIONS OR CONTACTS.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>WIRE CONNECTION</p> <p>A12A</p> <p>INTERNAL CONNECTION</p> <p>KEY SWITCH</p> <p>A12</p> </div> <div style="text-align: center;">  <p>WIRE CONNECTION</p> <p>A12B</p> <p>BUSED CONTACT</p> <p>F18</p> <p>F19</p> <p>20A</p> </div> <div style="text-align: center;">  <p>CONTACT</p> <p>16B1</p> <p>16B2</p> <p>ETHER SWITCH</p> <p>PIGTAIL</p> </div> </div>																																																									
<p>F - CIRCUIT "11" DENOTES ANY COMMON GROUND, (MORE THAN ONE CIRCUIT). ANY INDIVIDUAL GROUND CIRCUIT IS IDENTIFIED WITH THAT PARTICULAR CIRCUIT NUMBER. (E.G CIRCUIT 97 CRUISE CONTROL, IS IDENTIFIED PER EXAMPLE).</p> <p>NOTE: FOR CIRCUIT DESCRIPTION OTHER THAN GROUNDS, NEITHER THE LETTER "G" NOR THE COLOR WHITE SHALL BE USED.</p> <p style="text-align: center;">GROUND CIRCUITS ARE DESCRIBED THIS:</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>COMMON GROUND CIRCUIT NUMBER</p> <p>11-G 11-GA 11-GB</p> <p>SUFFIX G IS NOT A SUFFIX BUT INDICATES A GROUND CIRCUIT.</p> </div> <div style="text-align: center;">  <p>INDIVIDUAL GROUND CIRCUIT NUMBER</p> <p>R32-G R32-GA R32-GB</p> <p>LOCATION</p> <p>SUFFIX G IS NOT A SUFFIX BUT INDICATES A GROUND CIRCUIT.</p> </div> </div>																																																									
<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <th>CHK</th> <th>DATE</th> <th>CHANGE</th> <th>REV</th> <th>REFERENCE</th> <th>DRAWN</th> <th>NAME</th> </tr> <tr> <td>PEC</td> <td>16JAN01</td> <td>PRODUCTION RELEASE.</td> <td>A</td> <td>P54304U</td> <td>U00DLCK</td> <td>42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>RELEASE NO.</td> <td>DATE</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>P52778H</td> <td>15MAY00</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>PART NO.</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>AE08-52365</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>SHEET</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>07</td> </tr> </table>		CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	PEC	16JAN01	PRODUCTION RELEASE.	A	P54304U	U00DLCK	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS						RELEASE NO.	DATE						P52778H	15MAY00							PART NO.							AE08-52365							SHEET							07
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME																																																			
PEC	16JAN01	PRODUCTION RELEASE.	A	P54304U	U00DLCK	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS																																																			
					RELEASE NO.	DATE																																																			
					P52778H	15MAY00																																																			
						PART NO.																																																			
						AE08-52365																																																			
						SHEET																																																			
						07																																																			

Figure 7 Circuit Diagram Instructions

1.8. CIRCUIT DIAGRAM INSTRUCTIONS, P. 8

INTERNATIONAL TRUCK AND ENGINE CORPORATION THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.		ELECTRICAL CIRCUIT DIAGRAM CHAPTER 1 CIRCUIT DIAGRAM INSTRUCTIONS						
<p>G - ABBREVIATIONS: COLOR, NOUN AND ENGINE</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <p>COLOR ABBREVIATION</p> <p>AQ - AQUA BK - BLACK BL - BLUE BN - BROWN DK GN - DARK GREEN GD - GOLD GY - GRAY GN - GREEN LT BL - LIGHT BLUE</p> </td> <td style="width: 33%; vertical-align: top;"> <p>NOUN ABBREVIATION</p> <p>LT GN - LIGHT GREEN OR - ORANGE PK - PINK PL - PURPLE RD - RED SIL - SILVER TN - TAN VT - VIOLET WH - WHITE YL - YELLOW</p> </td> <td style="width: 33%; vertical-align: top;"> <p>NOUN ABBREVIATION</p> <p>A ACCESSORY ACC AIR CONDITIONER AC - AIR CONDITIONER AUX - AUXILIARY AWG - AMERICAN WIRE GAUGE B BATTERY BAT CONNECTION OR CONNECTOR CONN- CONNECTION OR CONNECTOR DRL - DAYTIME RUNNING LIGHTS ENG - ENGINE FWD - FORWARD GA - GAUGE</p> </td> <td style="width: 33%; vertical-align: top;"> <p>G GROUND GND GROUND I IGNITION IGN IGNITION IND - INDICATOR L - LEFT LT - LIGHT W/O - WITHOUT DRL - DAYTIME RUNNING LIGHTS OPT - OPTIONAL R - RIGHT S - START OR SENDER THERMO - THERMOSTAT W/ - WITH</p> </td> </tr> </table> <p>ENGINE ABBREVIATION</p> <p>ISM - MFG (CUMMINS) 10.8 LITER ELECTRONIC ENGINE CONTROL</p> <p>N14E PLUS - MFG (CUMMINS) 14 LITER ELECTRONIC ENGINE CONTROL</p> <p>C-10,C-12 - MFG (CATERPILLAR) 10.3 LITER ELECTRONIC ENGINE CONTROL</p> <p>V8-AVNT - MFG (INTERNATIONAL) V8 6.0 LITER ELECTRONIC ENGINE CONTROL</p> <p>I6-HEUI - MFG (INTERNATIONAL) NGD I6 DT466 & DT/HT530 ELECTRONIC ENGINE CONTROL</p>				<p>COLOR ABBREVIATION</p> <p>AQ - AQUA BK - BLACK BL - BLUE BN - BROWN DK GN - DARK GREEN GD - GOLD GY - GRAY GN - GREEN LT BL - LIGHT BLUE</p>	<p>NOUN ABBREVIATION</p> <p>LT GN - LIGHT GREEN OR - ORANGE PK - PINK PL - PURPLE RD - RED SIL - SILVER TN - TAN VT - VIOLET WH - WHITE YL - YELLOW</p>	<p>NOUN ABBREVIATION</p> <p>A ACCESSORY ACC AIR CONDITIONER AC - AIR CONDITIONER AUX - AUXILIARY AWG - AMERICAN WIRE GAUGE B BATTERY BAT CONNECTION OR CONNECTOR CONN- CONNECTION OR CONNECTOR DRL - DAYTIME RUNNING LIGHTS ENG - ENGINE FWD - FORWARD GA - GAUGE</p>	<p>G GROUND GND GROUND I IGNITION IGN IGNITION IND - INDICATOR L - LEFT LT - LIGHT W/O - WITHOUT DRL - DAYTIME RUNNING LIGHTS OPT - OPTIONAL R - RIGHT S - START OR SENDER THERMO - THERMOSTAT W/ - WITH</p>	
<p>COLOR ABBREVIATION</p> <p>AQ - AQUA BK - BLACK BL - BLUE BN - BROWN DK GN - DARK GREEN GD - GOLD GY - GRAY GN - GREEN LT BL - LIGHT BLUE</p>	<p>NOUN ABBREVIATION</p> <p>LT GN - LIGHT GREEN OR - ORANGE PK - PINK PL - PURPLE RD - RED SIL - SILVER TN - TAN VT - VIOLET WH - WHITE YL - YELLOW</p>	<p>NOUN ABBREVIATION</p> <p>A ACCESSORY ACC AIR CONDITIONER AC - AIR CONDITIONER AUX - AUXILIARY AWG - AMERICAN WIRE GAUGE B BATTERY BAT CONNECTION OR CONNECTOR CONN- CONNECTION OR CONNECTOR DRL - DAYTIME RUNNING LIGHTS ENG - ENGINE FWD - FORWARD GA - GAUGE</p>	<p>G GROUND GND GROUND I IGNITION IGN IGNITION IND - INDICATOR L - LEFT LT - LIGHT W/O - WITHOUT DRL - DAYTIME RUNNING LIGHTS OPT - OPTIONAL R - RIGHT S - START OR SENDER THERMO - THERMOSTAT W/ - WITH</p>					
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME		
PEC	16JAN01	PRODUCTION RELEASE.	A	P54304U	U00JXP9	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS		
					RELEASE NO.	DATE	PART NO.	SHEET
					P52778H	10AUG00	AE08-52365	08

Figure 8 Circuit Diagram Instructions (Cont.)

1.9. SCHEMATIC SYMBOL CHART, P. 9

INTERNATIONAL TRUCK AND ENGINE CORPORATION				ELECTRICAL CIRCUIT DIAGRAM CHAPTER 1			
THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.				SCHEMATIC SYMBOL CHART			
SYMBOL		DESCRIPTION		DESCRIPTION		SYMBOL	
		MALE/FEMALE IN-LINE CONNECTION		HORN			
		FEMALE TERMINAL		SPEAKER - SOUND SYSTEM			
		MALE TERMINAL		MAGNETIC SWITCH			
		GROUND		LIGHT - SINGLE FILAMENT			
		FUSE		LIGHT - DOUBLE FILAMENT			
		LIGHT EMITTING DIODE		SENDER - OIL, WATER, FUEL, TEMPERATURE			
		RESISTOR					
		SWITCH CONTACT, NORMALLY OPEN					
		SWITCH CONTACT, NORMALLY CLOSED					
		JUNCTION POINT					
		SPLICE					
		SWITCH-PRESSURE					
		SWITCH-MANUAL/MECHANICAL					
		RELAY-SUPPRESSED					
		SOLENOID - GENERAL USAGE					
		MOTOR - ELECTRIC					
		CIGAR LIGHTER					

CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	
PEC	16JAN01	PRODUCTION RELEASE.	A	P54304U	U00DLCK	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS	
					RELEASE NO.	DATE	PART NO.
					P52778H	19MAY00	AE08-52365
							SHEET 09

Figure 9 Schematic Symbol Chart

1.10. RELAY FUNCTIONS, P. 10

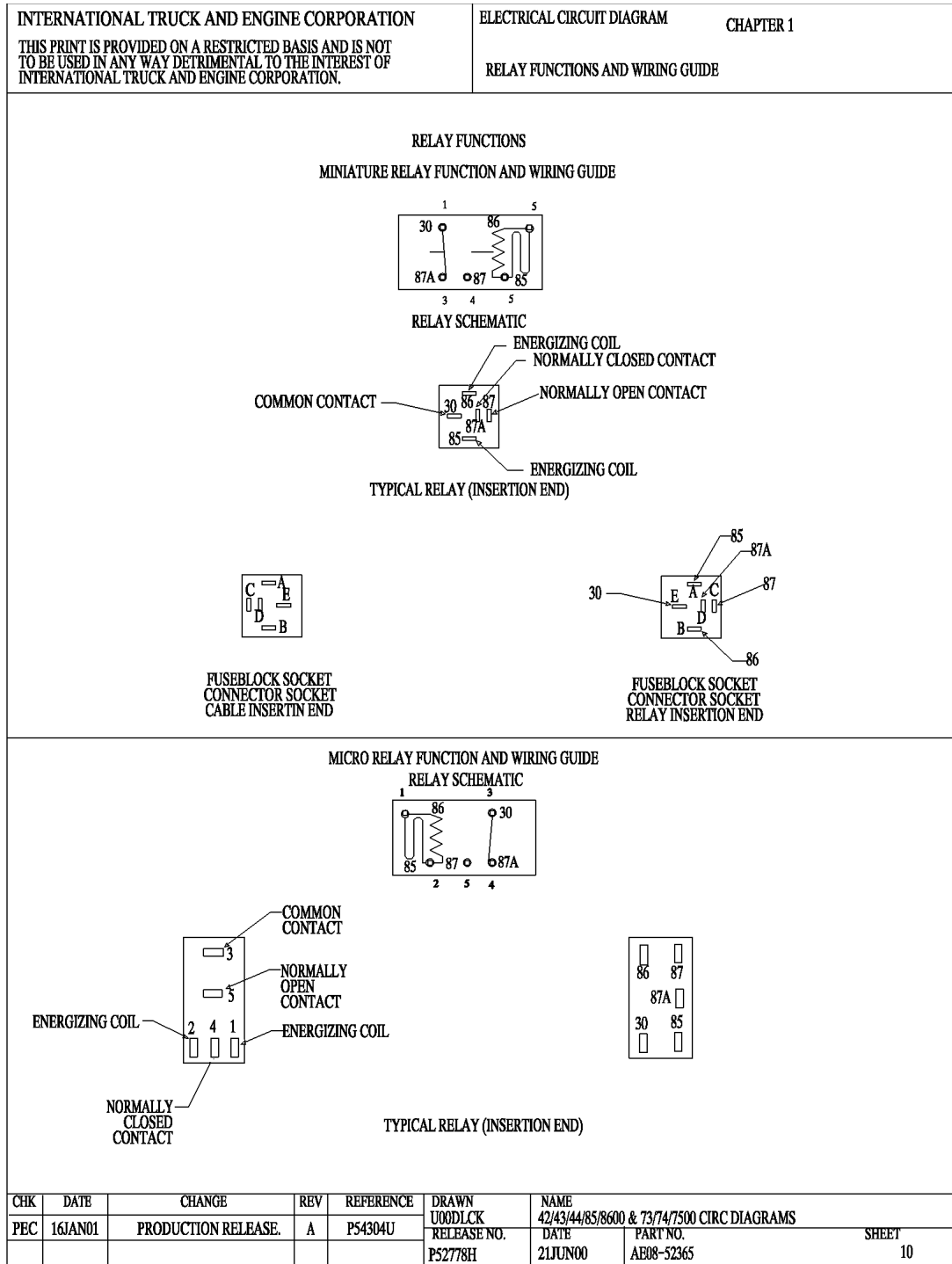


Figure 10 Relay Functions

1.11. LAMP BULB CHART, P. 11

INTERNATIONAL TRUCK AND ENGINE CORPORATION THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.				ELECTRICAL CIRCUIT DIAGRAM CHAPTER 1 LAMP BULB CHART		
BULB APPLICATION	CANDLEPOWER OR WATTS		BULB TRADE NUMBER			
BACK-UP LIGHTS	32 CANDLEPOWER		GE1156			
CLEARANCE & IDENTIFICATION	3 CANDLEPOWER		GE193			
COURTESY LIGHT	3 CANDLEPOWER		GE168			
DOVE LIGHTS	12 CANDLEPOWER		GE561			
FOG LIGHTS	55 CANDLEPOWER		VH550			
HEAD LIGHTS:						
LOW BEAMS	65 WATTS		GE9007			
HIGH BEAMS	65 WATTS		GE9007			
INSTRUMENT CLUSTER:						
GAUGE BACK LIGHT			082S270538-3			
GAUGE WARNING LED (RED)			082S272109-3			
RANGE INHIBIT LED (YELLOW)			082S272109-4			
COLD AMBIENT PROTECTION LED (YELLOW)			082S272109-4			
FUEL FILTER LED (YELLOW)			082S272109-4			
WARN ENGINE LED (YELLOW)			082S272109-4			
STOP ENGINE LED (RED)			082S272109-3			
BRAKE PRESSURE LED (RED)			082S272109-3			
BRAKE FLUID LED (RED)			082S272109-3			
WAIT TO START LED (YELLOW)			082S272109-4			
CHECK TRANSMISSION LED (YELLOW)			082S272109-4			
TRAILER ABS LED (YELLOW)			082S272109-4			
WASHER FLUID LED (YELLOW)			082S272109-4			
LEFT TURN SIGNAL LED (GREEN)			082S272109-2			
TRACTION CONTROL LED (GREEN)			082S272109-2			
WATER IN FUEL LED (YELLOW)			082S272109-4			
PARK FLUID LED LIGHT (RED)			082S272109-3			
CHECK ELECTRICAL SYSTEMS LED (YELLOW)			082S272109-4			
PARK BRAKE LED (RED)			082S272109-3			
CRUISE CTRL ACTIVE LED (GREEN)			082S272109-2			
ANTILOCK BRAKING SYSTEM LED (YELLOW)			082S272109-4			
RIGHT TURN LED (GREEN)			082S272109-2			
COOLANT LEVEL LED (RED)			082S272109-3			
SEAT BELT LED (RED)			082S272109-3			
HIGH BEAM ICON LED (BLUE)			082S272109-5			
CHECK AIR CONDITIONER LED (YELLOW)			082S272109-4			
RETARD OVER HEAT LED (RED)			082S272109-3			
PTO/THROTTLE LED (RED)			082S272109-3			
MAP LIGHT	3 CANDLEPOWER		1816			
SIDE MARKER			2458			
STOP & TURN/TAIL & LICENSE PLATE	32/3 CANDLEPOWER		1157			
TURN SIGNAL/MARKER (FENDER)			3157			
TURN SIGNAL & MARKER LIGHT			2356			
WORK (TRAILER HOOK-UP) LIGHT			4411			
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME
PEC	16JAN01	PRODUCTION RELEASE	A	P54304U	U00DLCK	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS
PEC	18JUN01	REVISED DRWG SHEET.	B	P54634F	RELEASE NO.	DATE
					P52778H	20JUN00
						PART NO.
						AE08-52365
						SHEET
						11

Figure 11 Lamp Bulb Chart

1.12. NAVPAK/ECM V8–AVNT CONTROLLER CONNECTORS X3 AND X4 PIN NUMBER IDENTIFICATION, P.12

INTERNATIONAL TRUCK AND ENGINE CORPORATION THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.				ELECTRICAL CIRCUIT DIAGRAM CHAPTER 1 INTERNATIONAL NAVPAK/ECM V8-AVNT CONTROLLER CONNECTORS X3 & X4 PIN NUMBER IDENTIFICATION			
CONNECTOR (X3)				CONNECTOR (X4)			
ECM PIN #	TERM	DESCRIPTION		ECM PIN #	TERM	DESCRIPTION	
1	FPM	FUEL PUMP MONITOR		1	KL.87	BATTERY POWER	
2	FLI	FUEL LEVEL INDICATOR		2	KL.87	BATTERY POWER	
3	KL.15	IGNITION FEED		3		NOT POPULATED	
4	ECL	ENGINE COOLANT LEVEL		4	VBREF	SENSOR REFERENCE VOLTAGE	
5	MPR	MAIN POWER RELAY		5		NOT POPULATED	
6	KL.31	GROUND		6	LSI_SPARE2	LOW SPEED INOUT 2	
7	KL.31	GROUND		7		NOT POPULATED	
8	DDS	DRIVELINE DISENGAGE SWITCH		8		NOT POPULATED	
9	FPC	FUEL PUMP CONTROL		9	VSS-	VEHICLE SPEED SENSOR-	
10	TCSS	TORQUE CURVE SELECT SWITCH		10	VSS+	VEHICLE SPEED SENSOR+	
11	TACH	TACHOMETER CONTROL		11		NOT POPULATED	
12	CAN1+	DRIVETRAIN J1939 DATALINK +		12	IVS	IDLE VALIDATION SWITCH	
13	CAN1-	DRIVETRAIN J1939 DATALINK -		13		NOT POPULATED	
14	RAS	RESUME/ACCELERATE		14	EFAN	ELECTRIC FAN CONTROL	
15	CAN1-SHLD	DRIVETRAIN 1939 DATALINK SHLD		15	LSO_SPARE4	LOW SIDE OUTPUT 4	
16		NOT POPULATED		16		NOT POPULATED	
17	VSS_CAL	VEHICLE SPEED SENSOR CALIBRATION		17		NOT POPULATED	
18	VRE	VEHICLE RETARDER ENABLE		18	APS	ACCELERATION POSITION SENSOR	
19	RPRE	REMOTE PRESET PTO ENABLE		19		NOT POPULATED	
20	RVAR	REMOTE VARIABLE PTO ENABLE		20	ATA+	J1708 DATALINK +	
21	SCS	SET/COAST		21	ATA-	J1708 DATALINK -	
22	ESHTR	ELECTRONIC SHUTTER RELAY		22		NOT POPULATED	
23	ECI	ENGINE CRANK INHIBIT		23	GSC	GENSET SPEED CONTROL	
24	BAP	BAROMETRIC AIR PRESSURE		24	KL.31B	SENSOR REFERENCE GROUND	
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	
					U00DLCK	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS	
					RELEASE NO.	DATE	PART NO.
					P54304U	16JAN01	AE08-52365
							SHEET 12

Figure 12 NAVPAK/ECM V8–AVNT Controller Connectors X3 and X4 Pin Number Identification

2. 12 VOLT POWER DISTRIBUTION CIRCUIT DIAGRAMS (CHAPTER 2)

2.1. ACCESSORY, P. 1

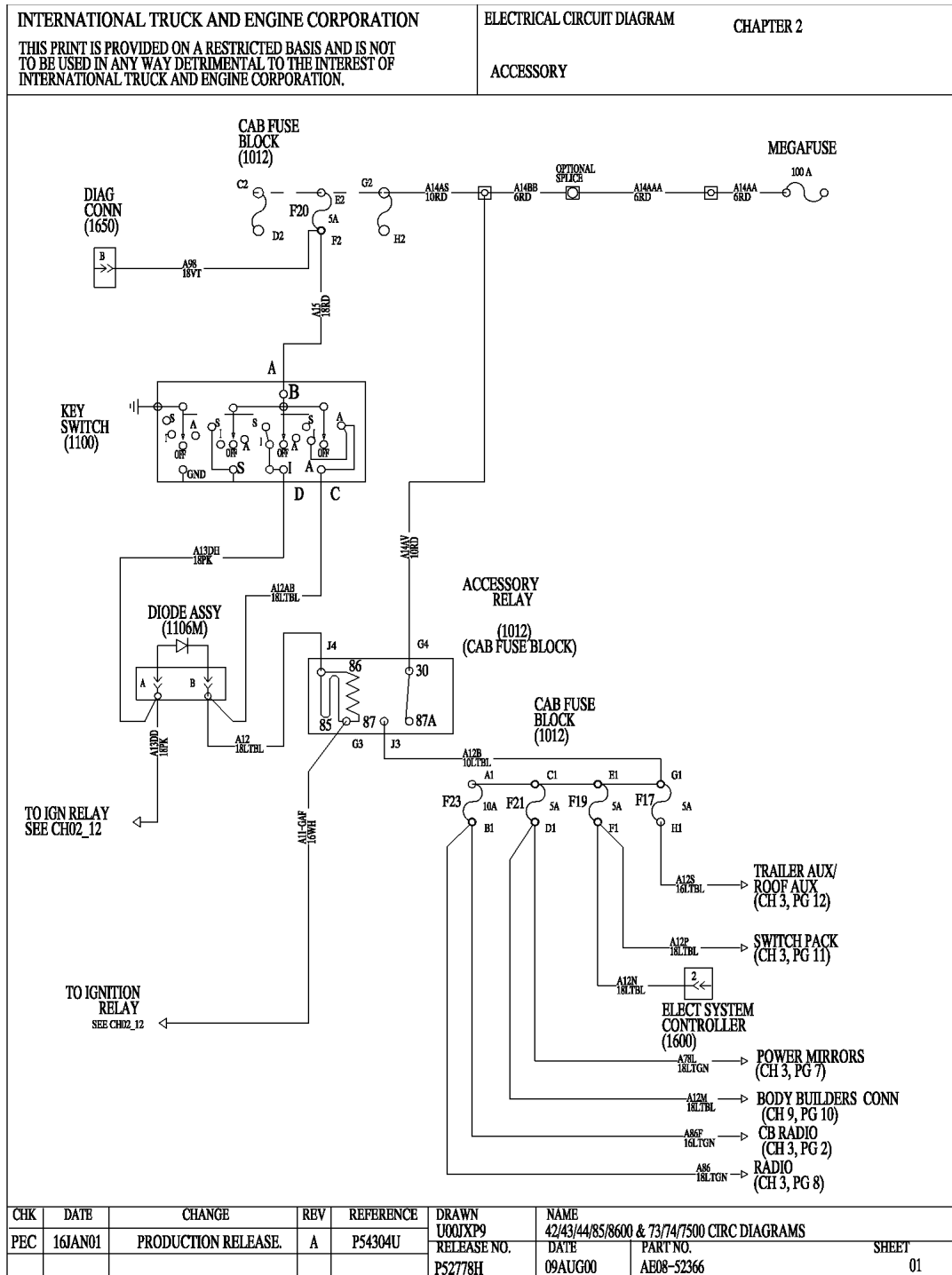


Figure 13 Accessory

2.4. 1708 DATA LINK, P. 4

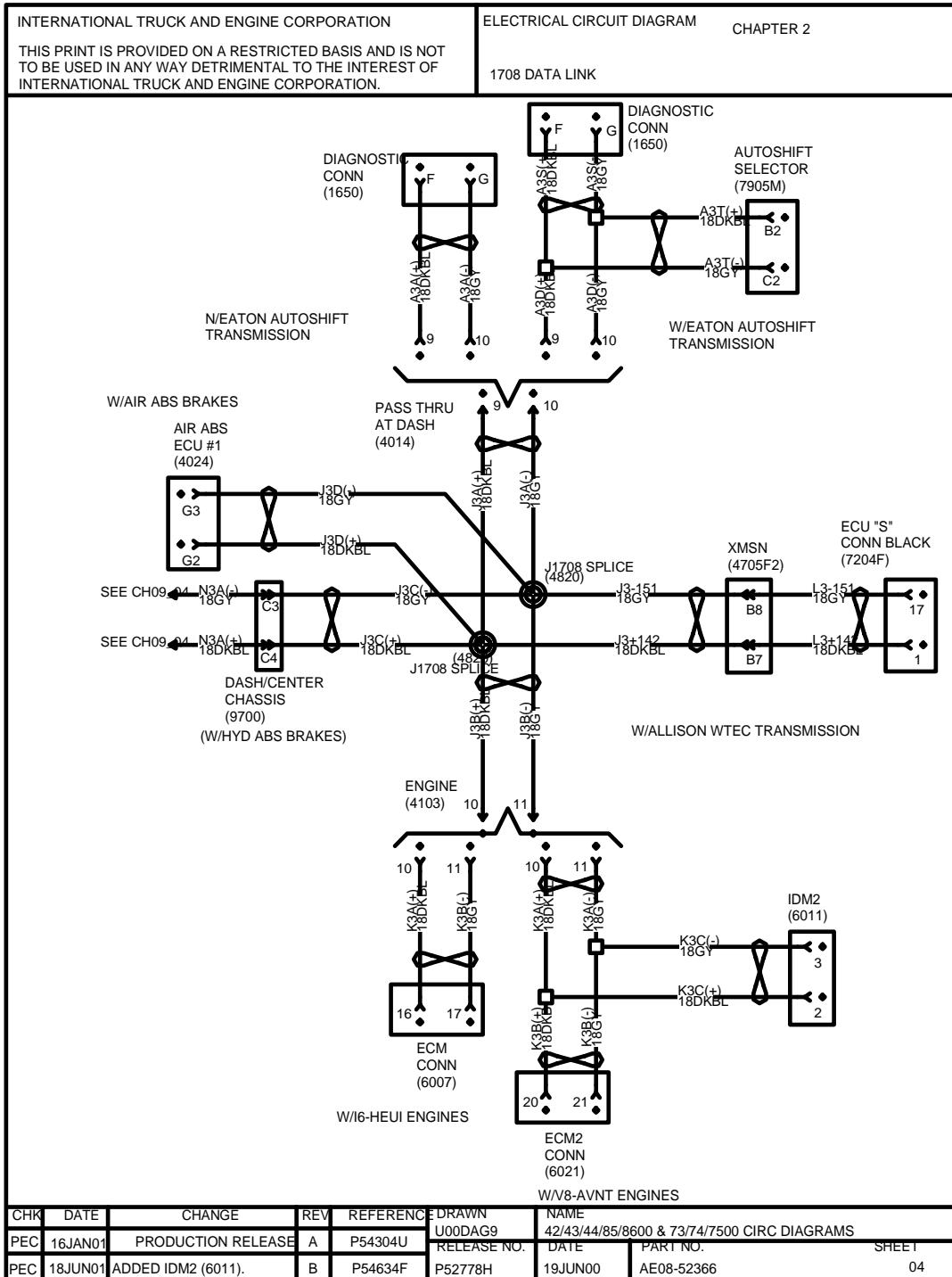


Figure 16 1708 Data Link

2.5. SWITCH DATA LINK, P. 5

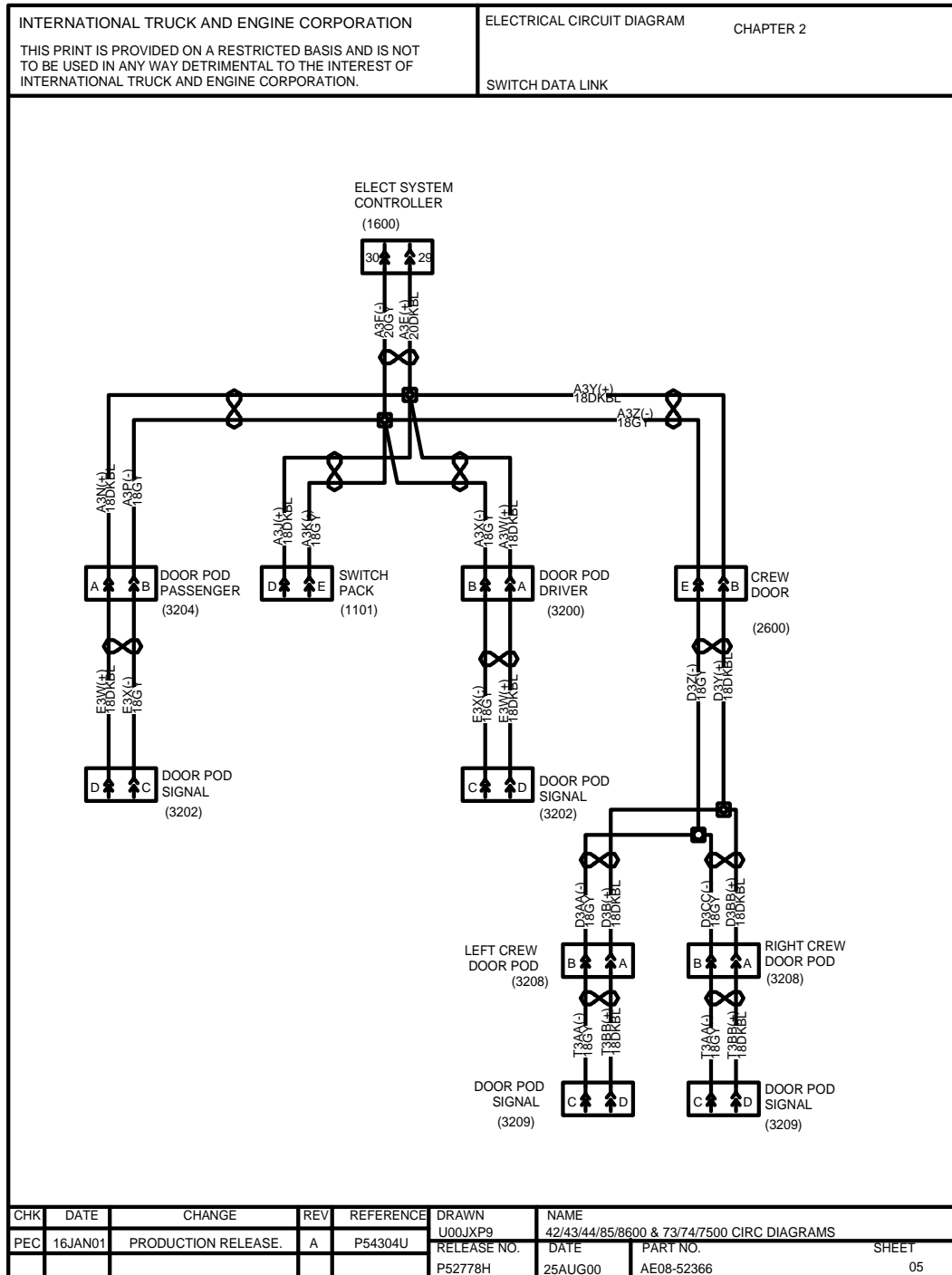


Figure 17 Switch Data Link

2.6. DRIVETRAIN 1939 DATA LINK (CAB), P. 6

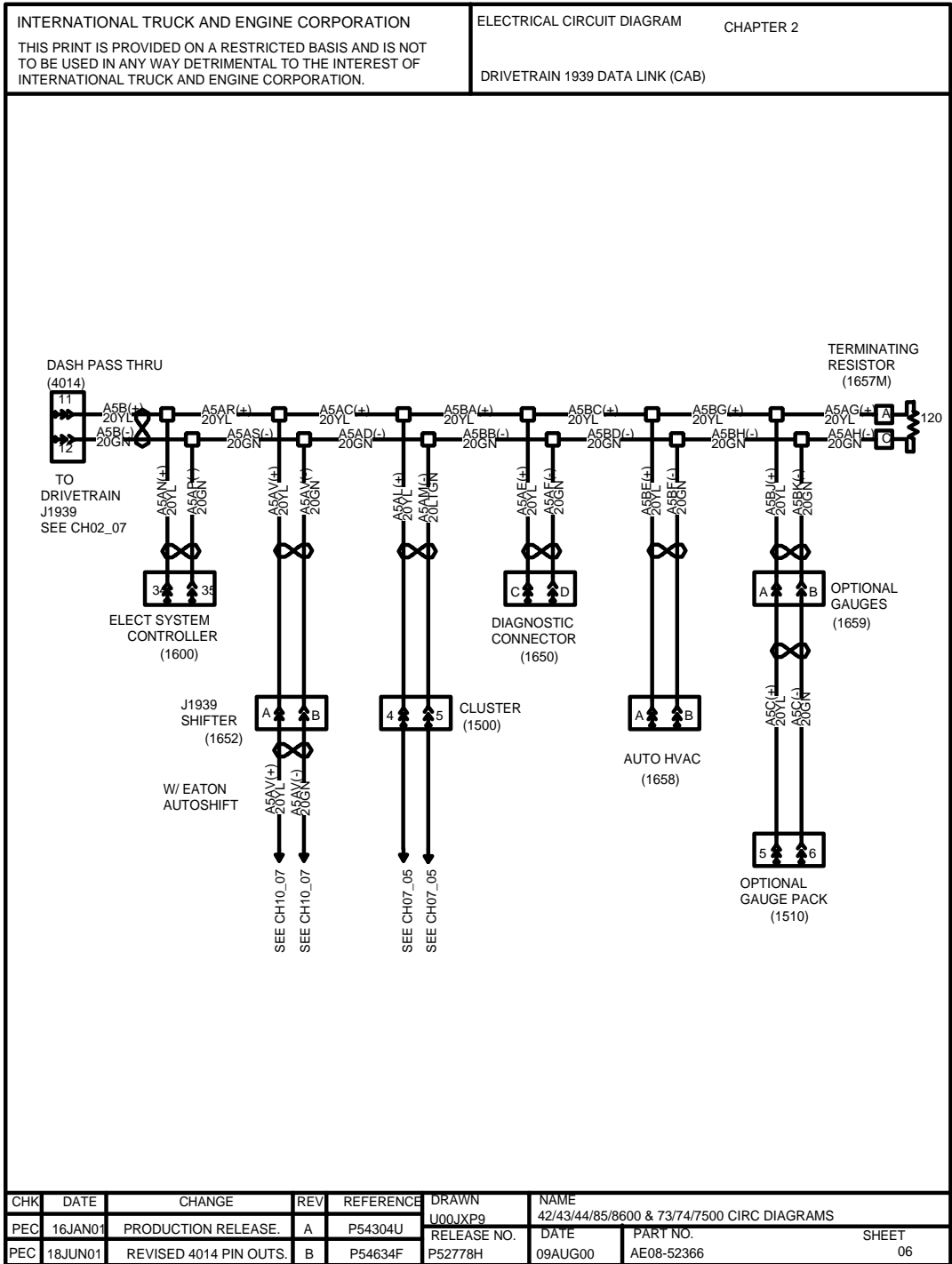


Figure 18 Drivetrain 1939 Data Link (Cab)

2.7. DRIVETRAIN 1939 DATA LINK (CHASSIS), P. 7

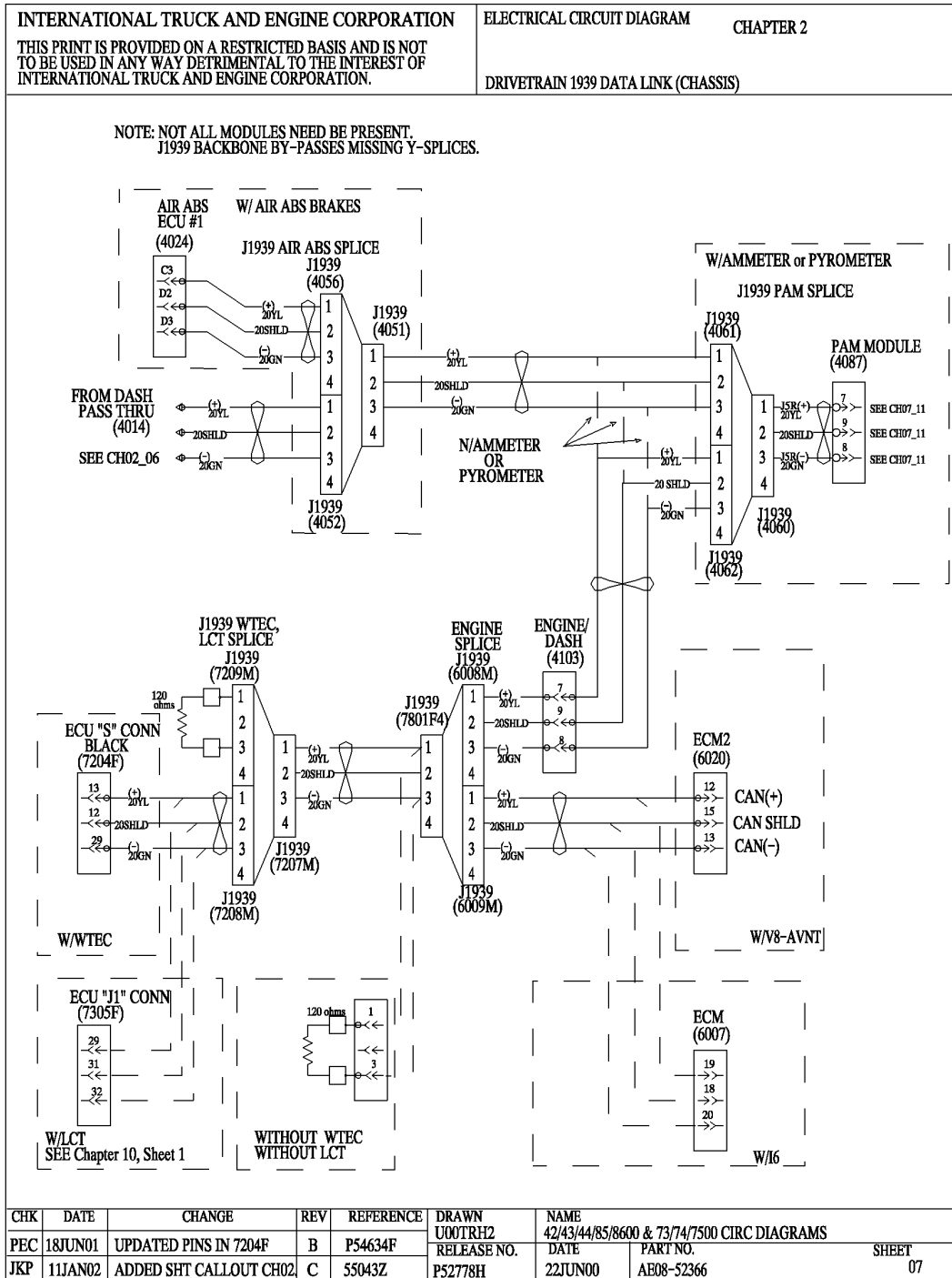


Figure 19 Drivetrain 1939 Data Link (Chassis)

2.8. GROUNDS CHASSIS, P. 8

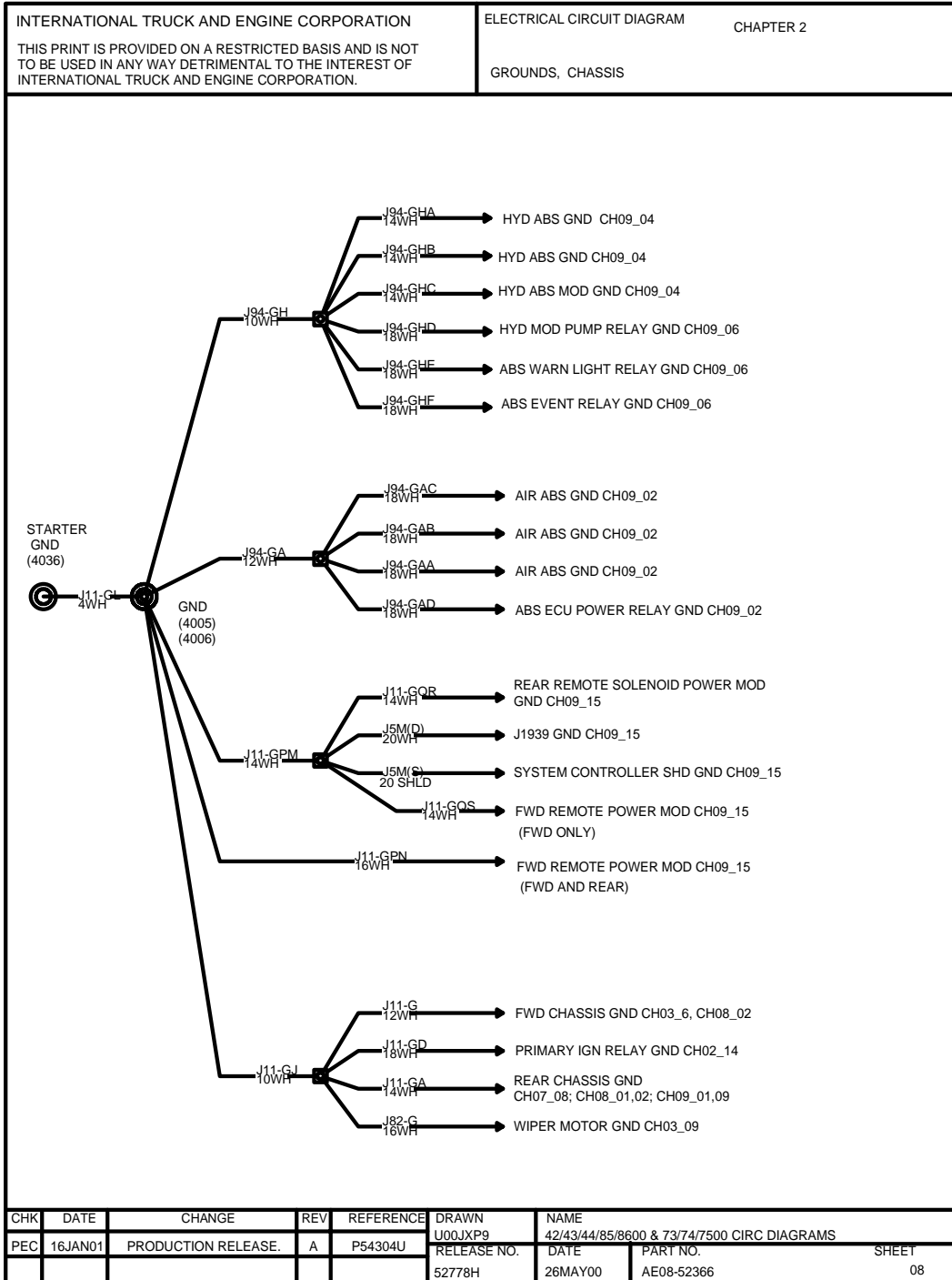


Figure 20 Grounds Chassis

2.9. GROUNDS CHASSIS, P. 9

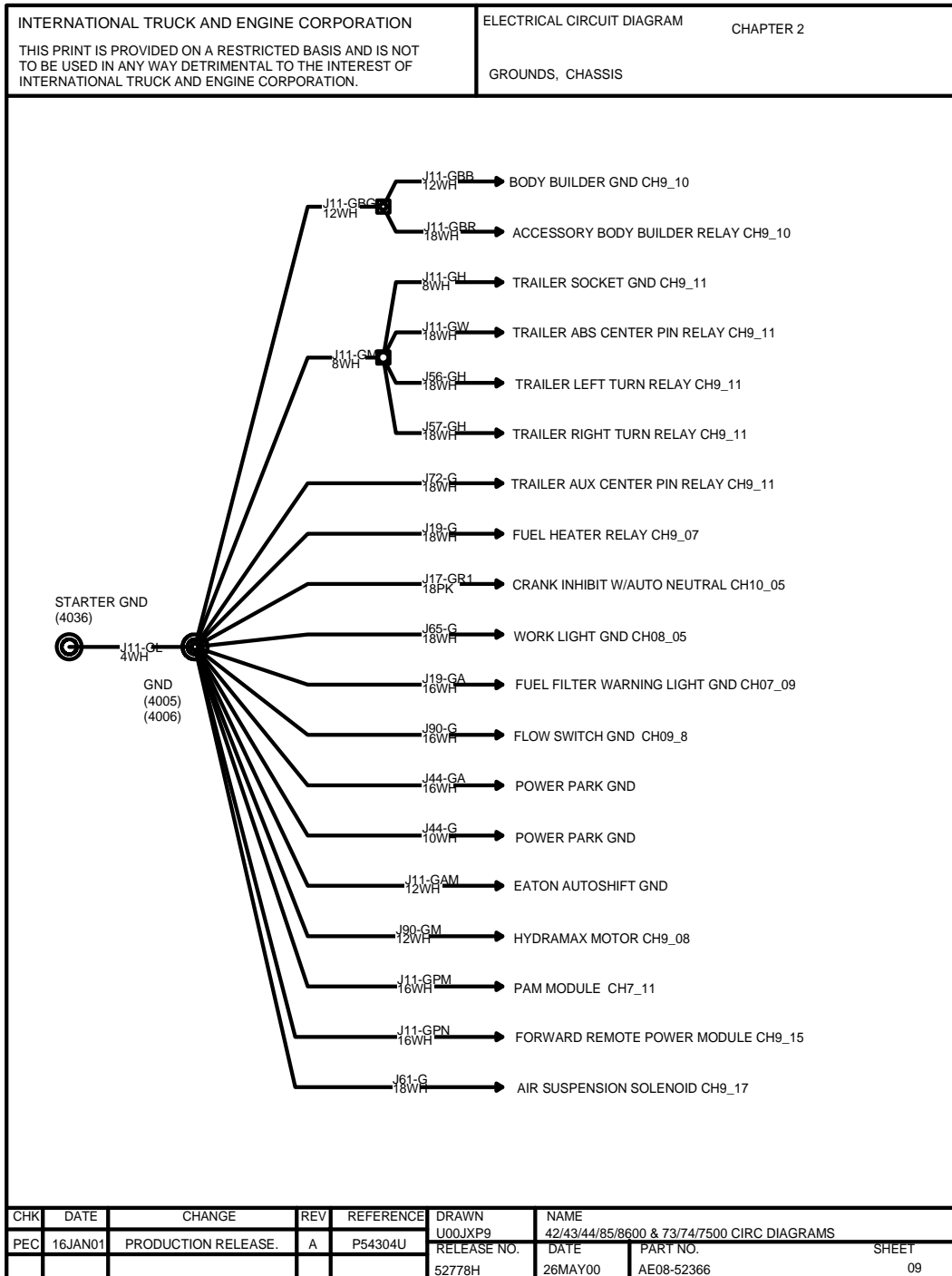


Figure 21 Grounds Chassis (Cont.)

2.10. GROUNDS IP, P. 10

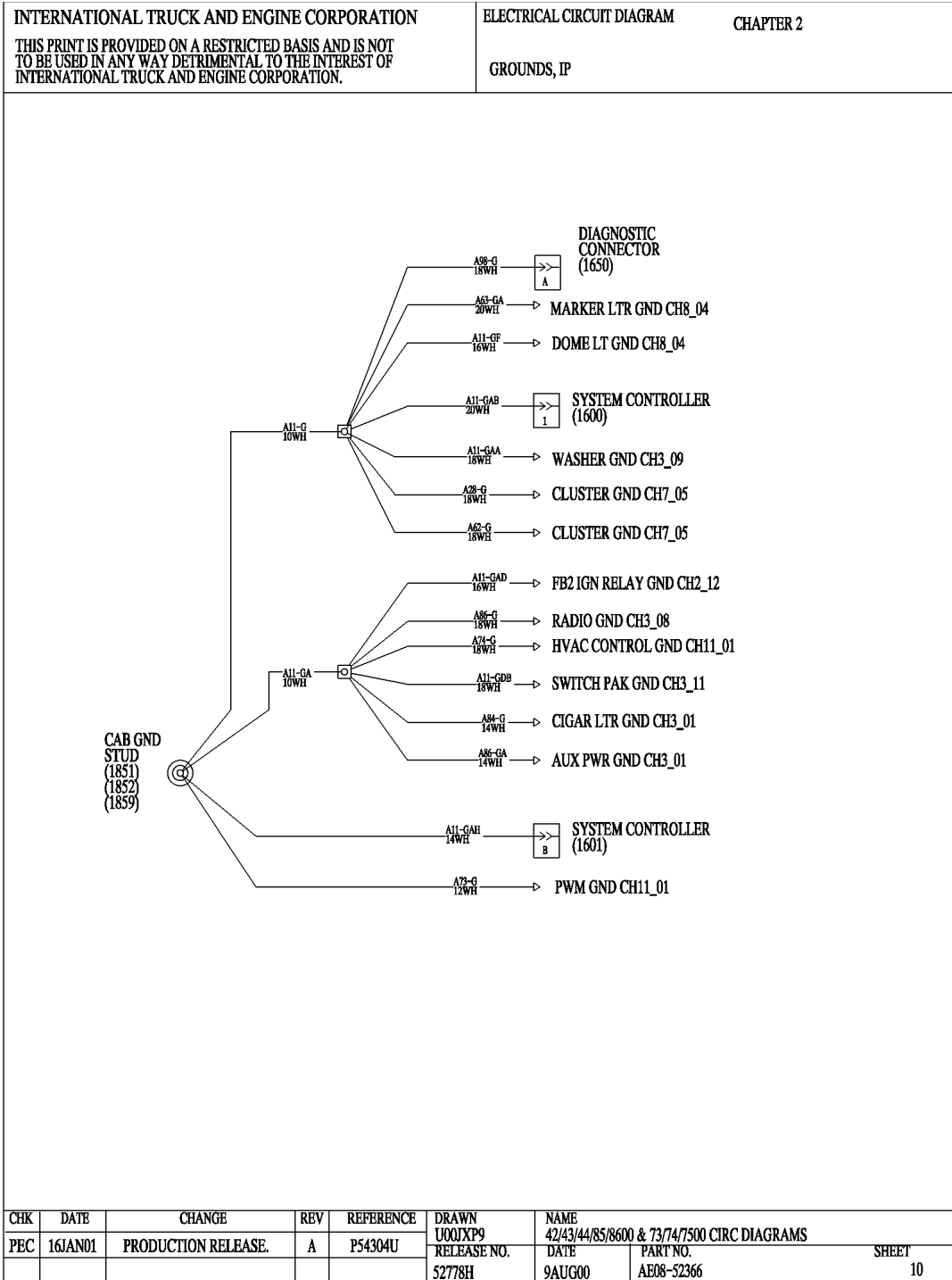


Figure 22 Grounds IP

2.11. GROUNDS IP, P. 11

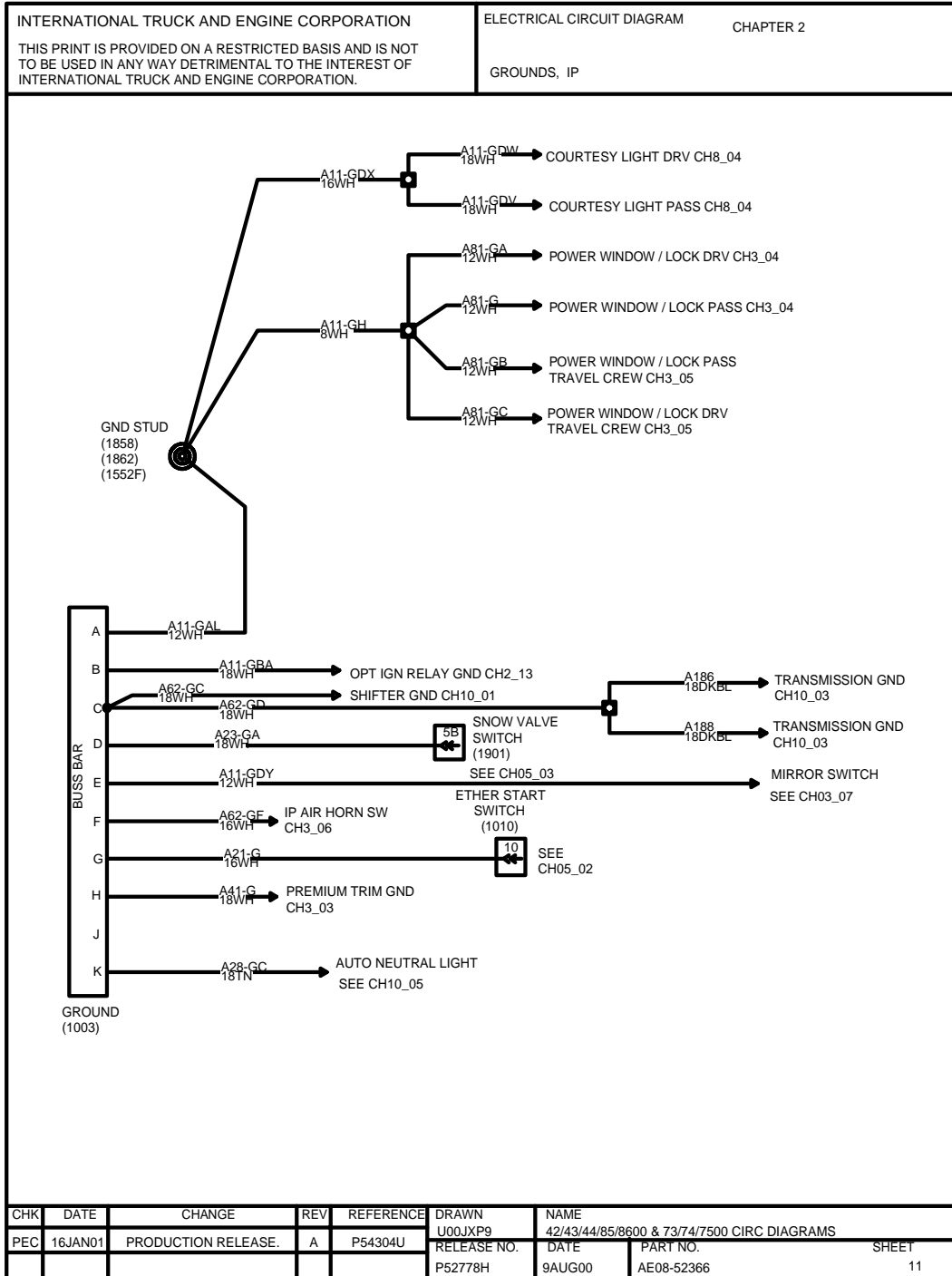


Figure 23 Grounds IP

2.12. IGNITION CAB, P. 12

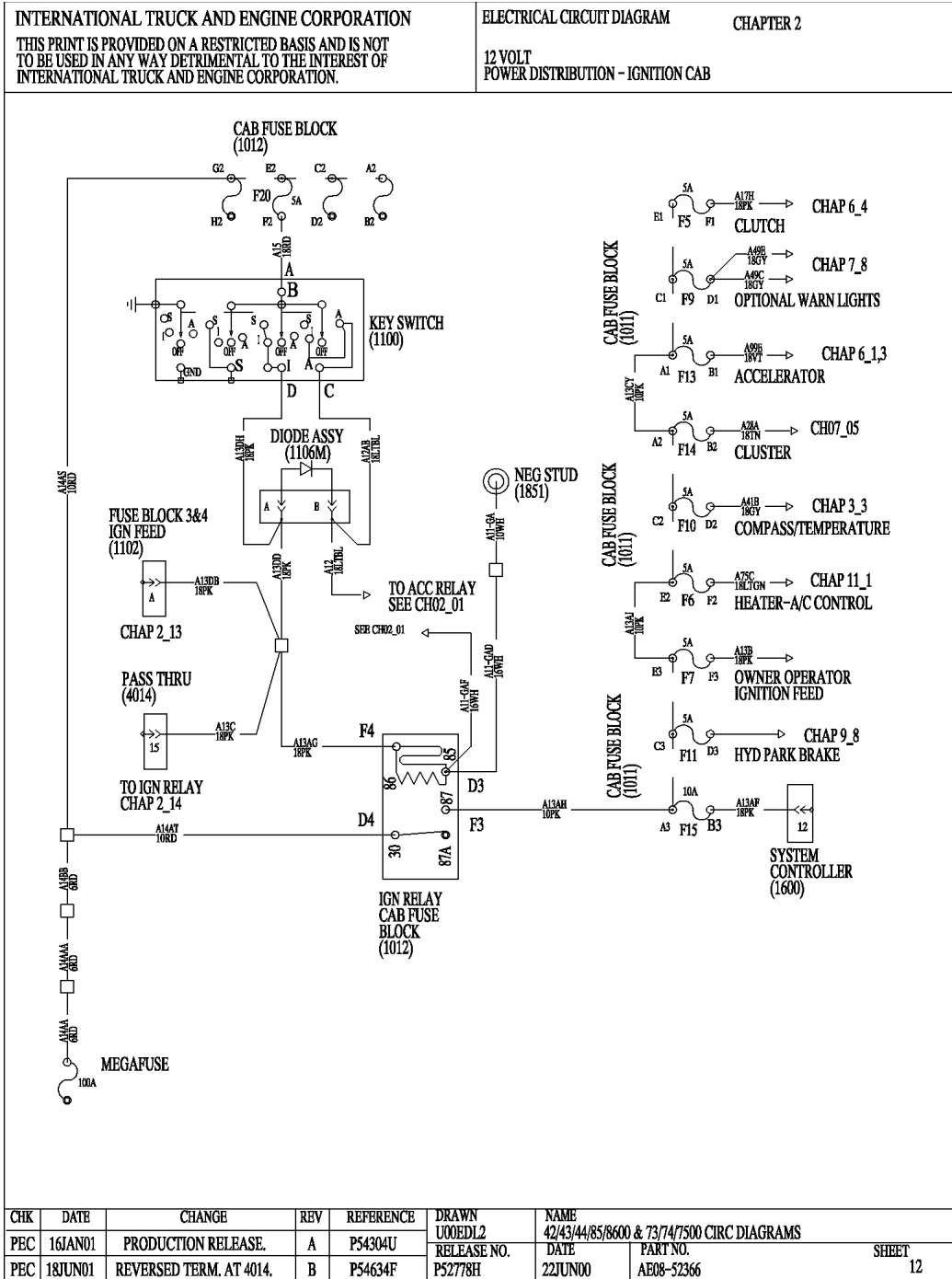


Figure 24 Ignition Cab

2.14. IGNITION FEEDS, CHASSIS, P. 14

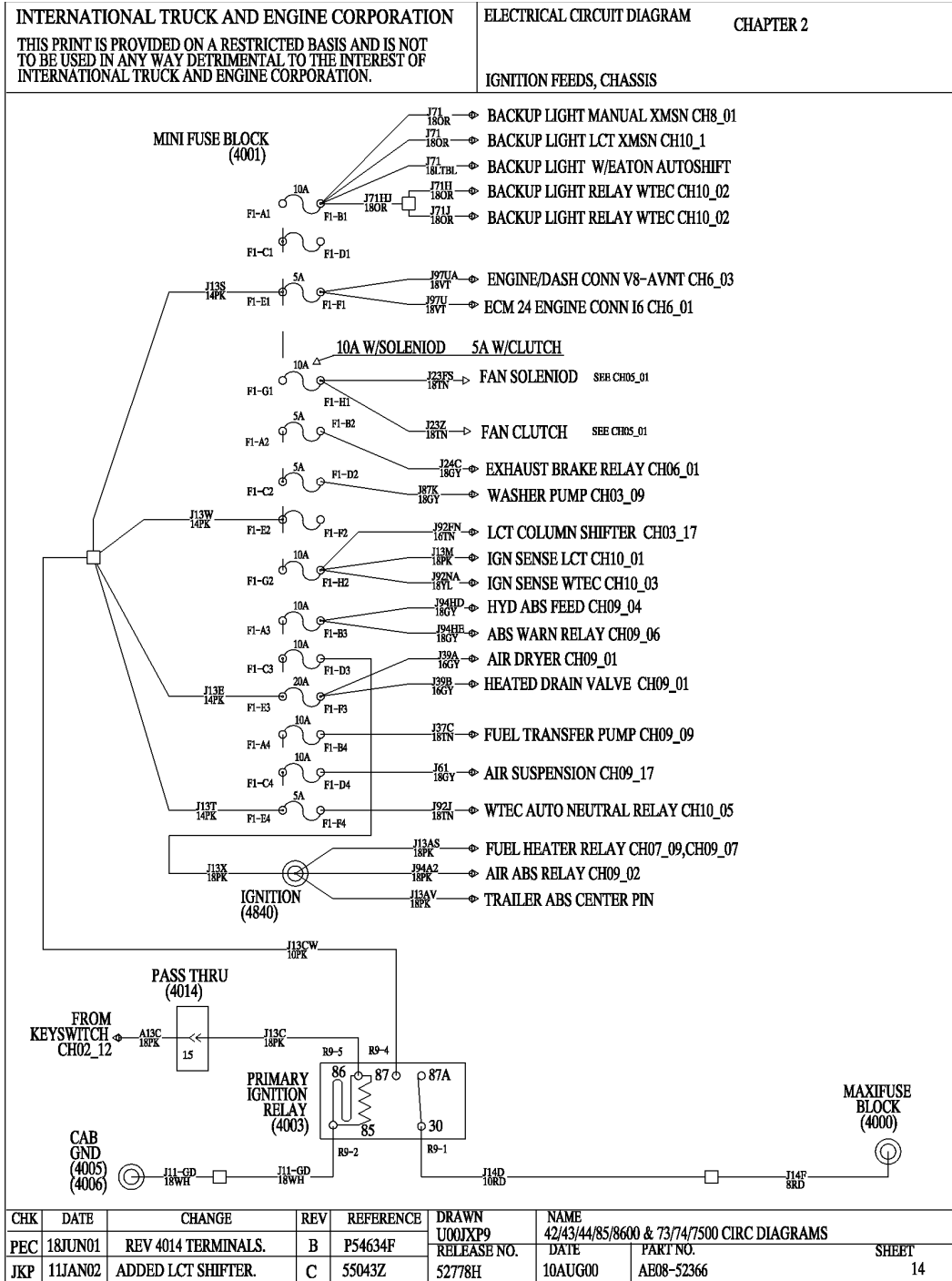


Figure 26 Ignition Feeds, Chassis

2.15. START, P. 15

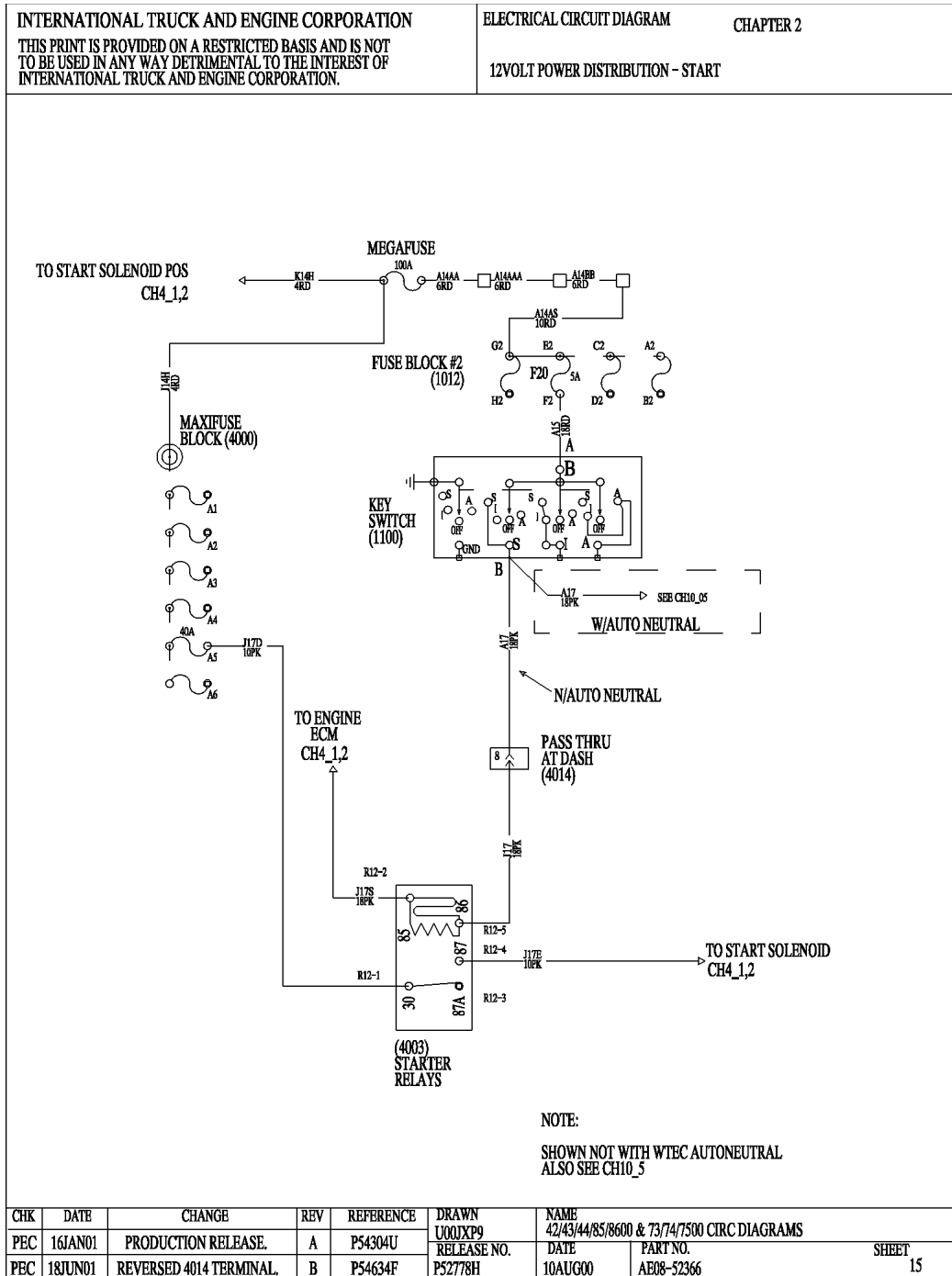


Figure 27 Start

3. CAB ACCESSORIES (CHAPTER 3)

3.1. CIGAR LIGHTER AND POWER FEEDS, P. 1

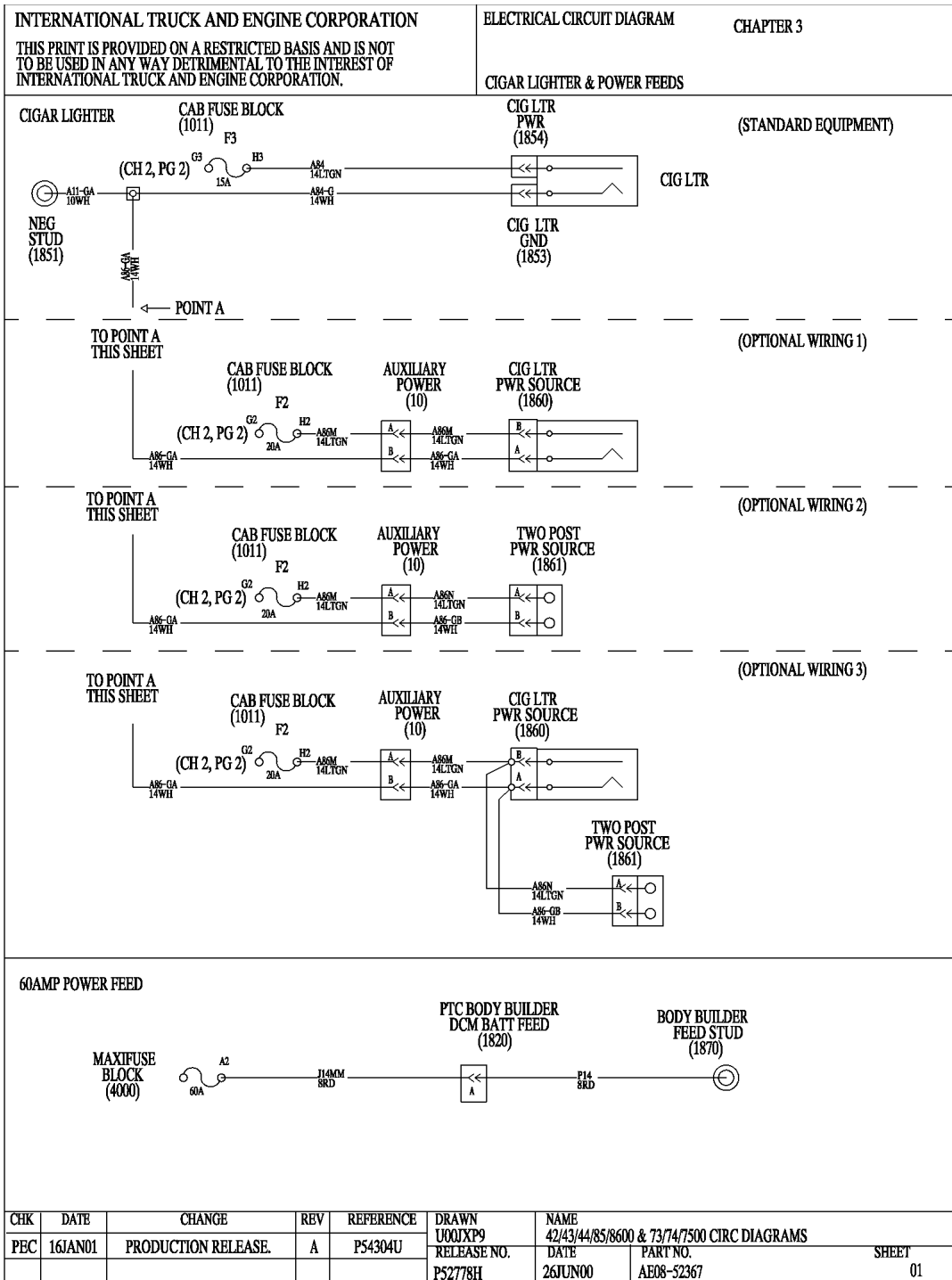


Figure 28 Cigar Lighter and Power Feeds

3.2. CB POWER, P. 2

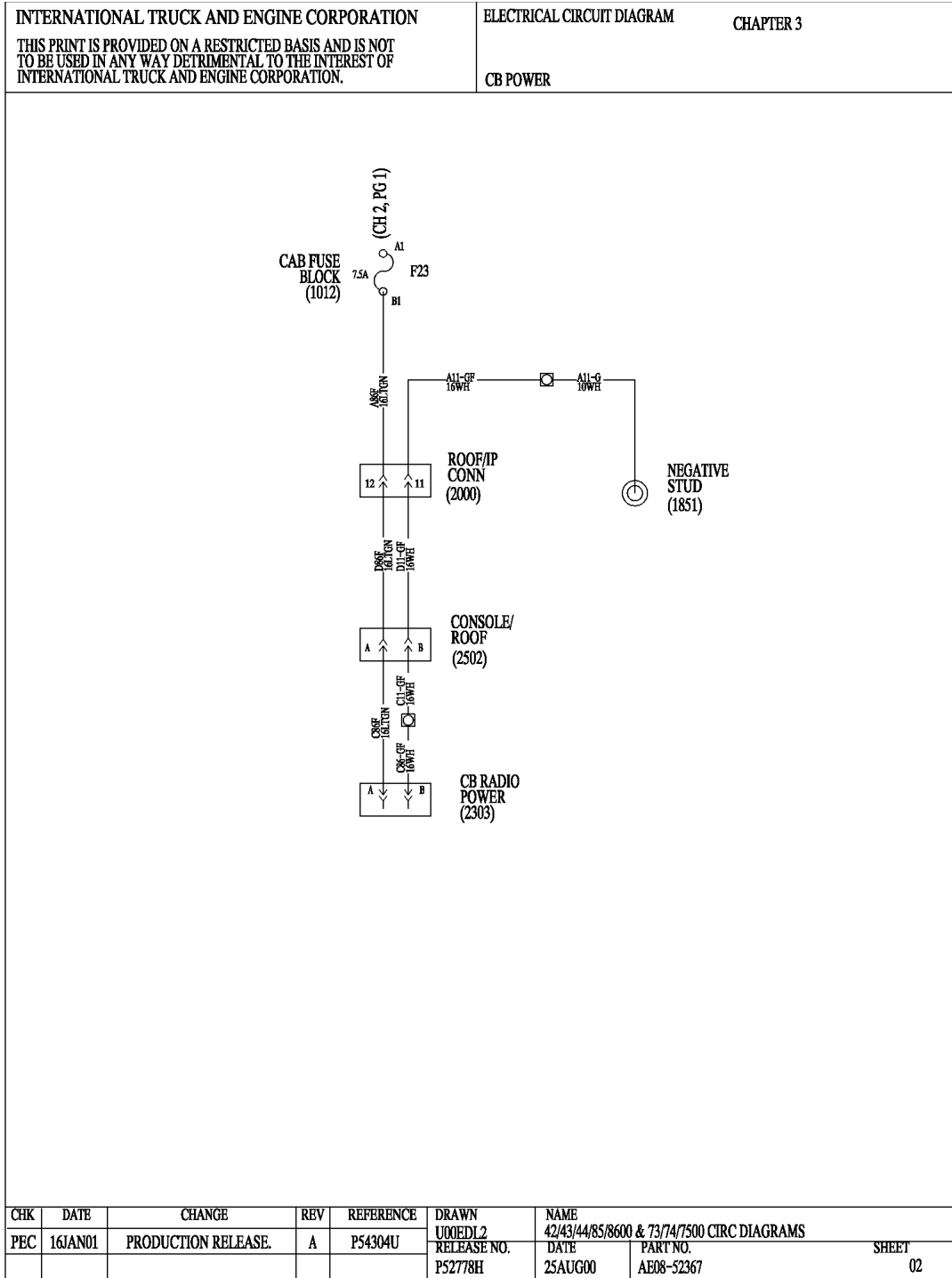


Figure 29 CB Power

3.3. COMPASS AND TEMPERATURE DISPLAY, P. 3

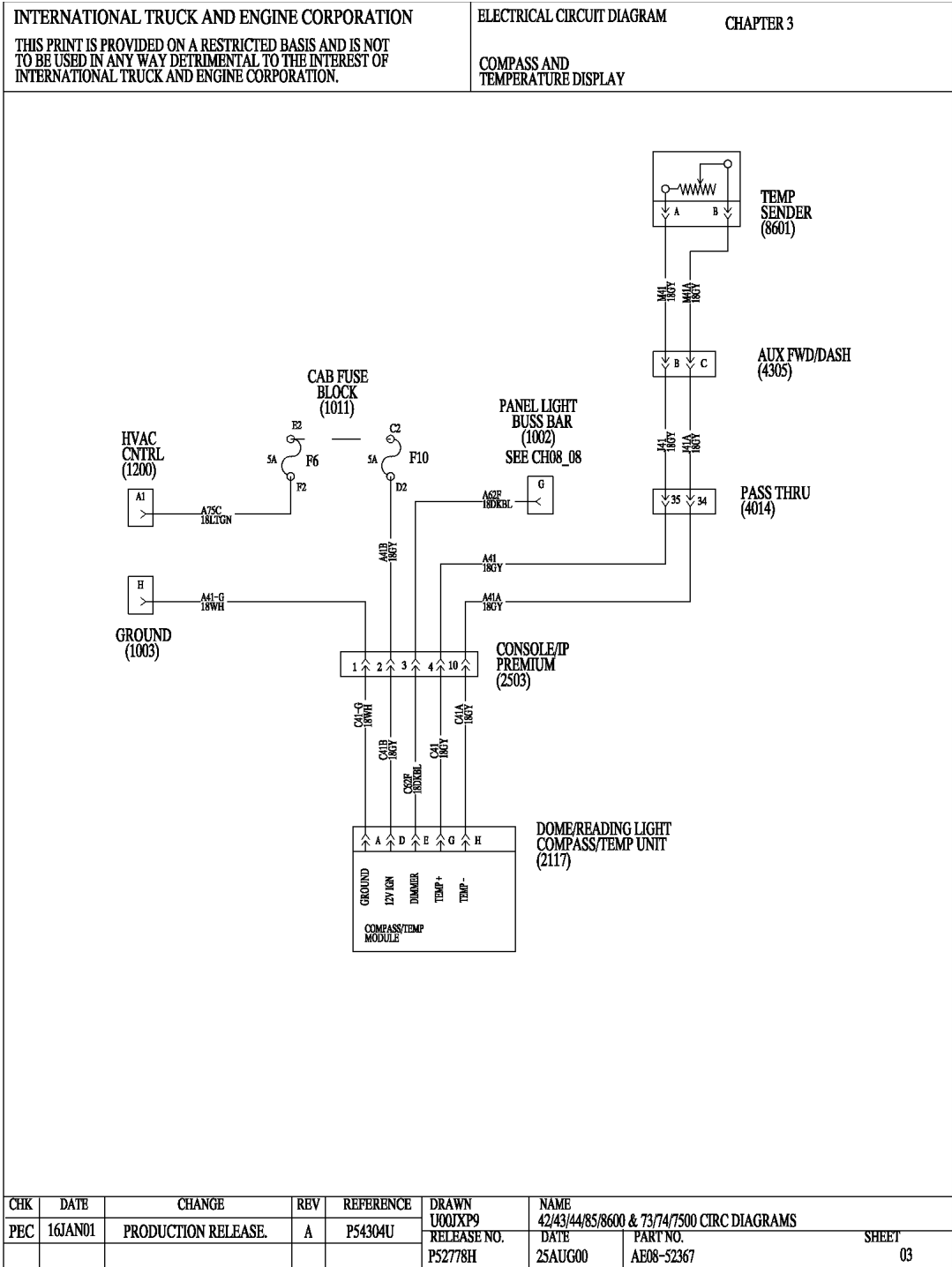


Figure 30 Compass and Temperature Display

3.4. FRONT DOORS WINDOWS AND LOCKS (POWER), P. 4

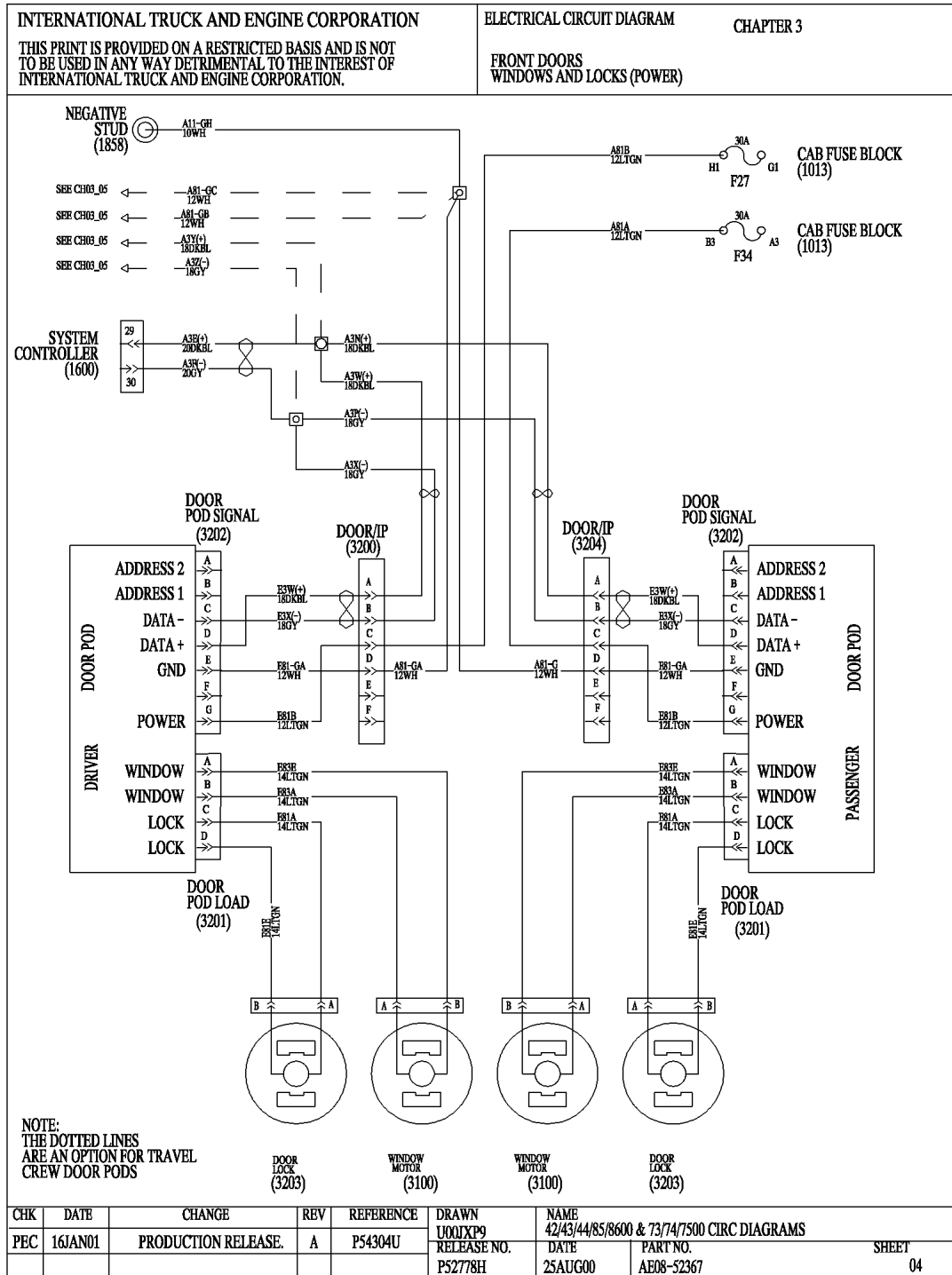


Figure 31 Front Doors Windows and Locks (Power)

3.5. CREW DOORS WINDOWS AND LOCKS (POWER), P. 5

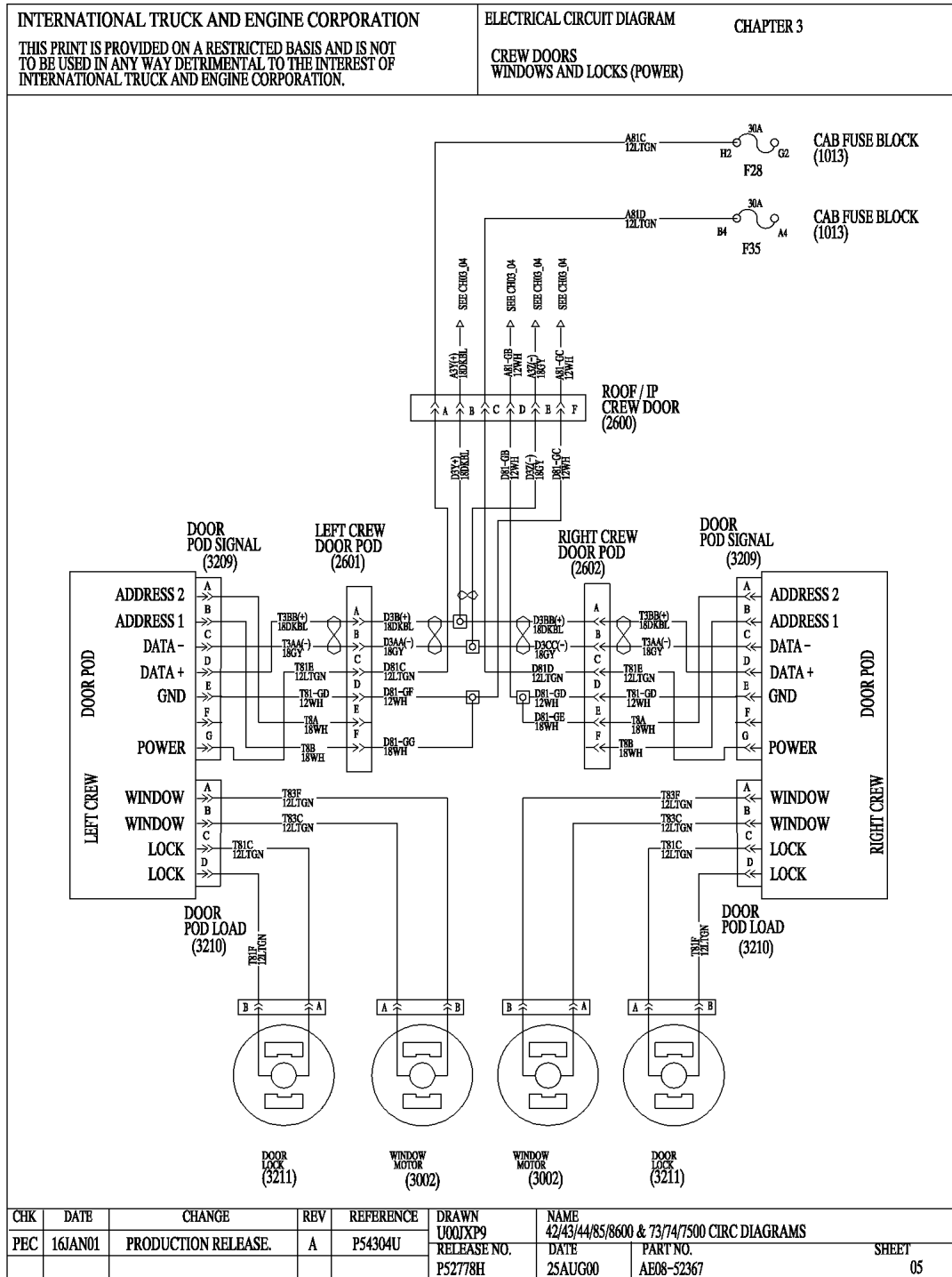


Figure 32 Crew Doors Windows and Locks (Power)

3.6. HORN, DUAL ELECTRIC, P. 6

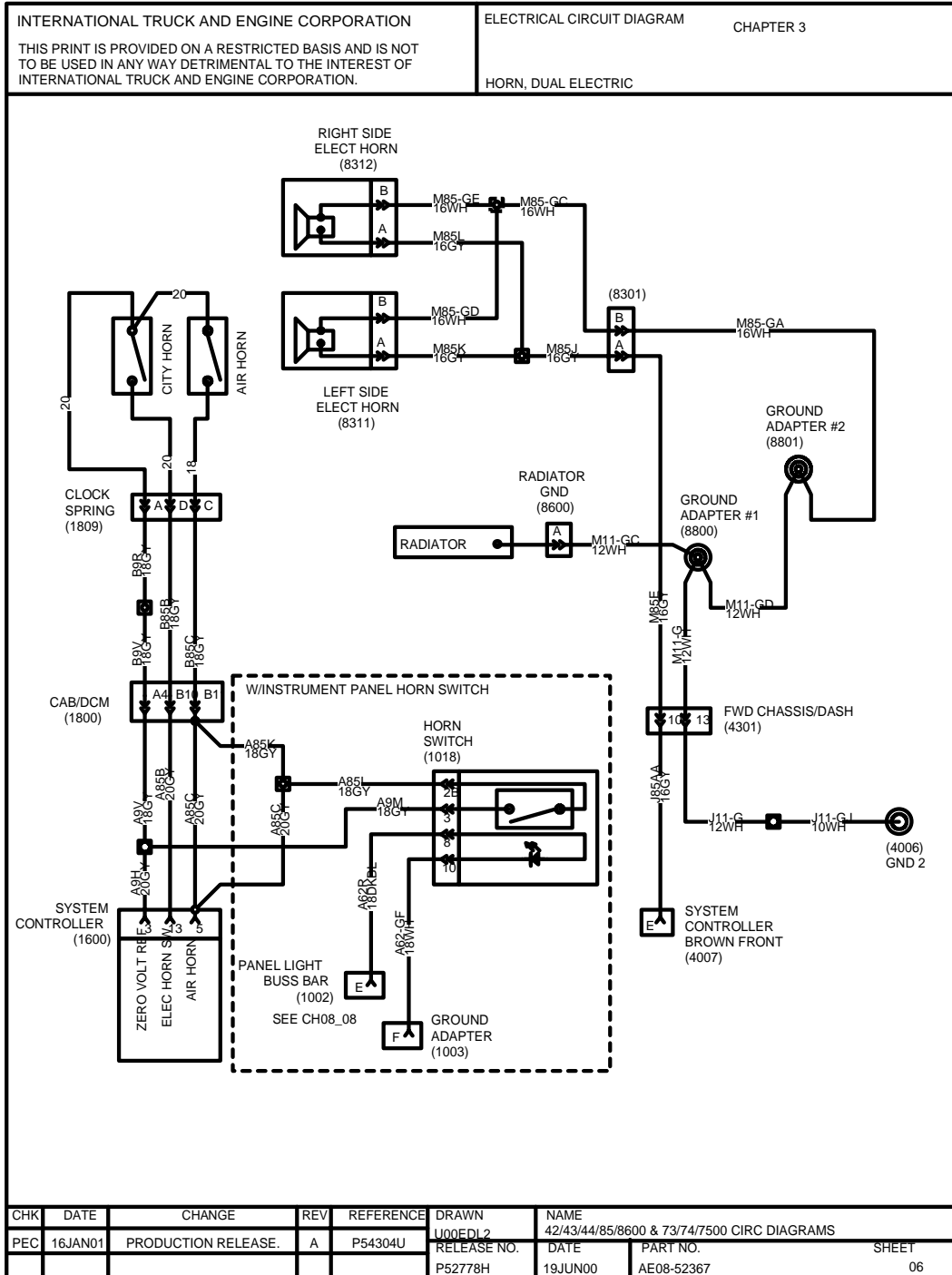


Figure 33 Horn, Dual Electric

3.7. MIRRORS (HEATED, LIGHTED AND POWER), P. 7

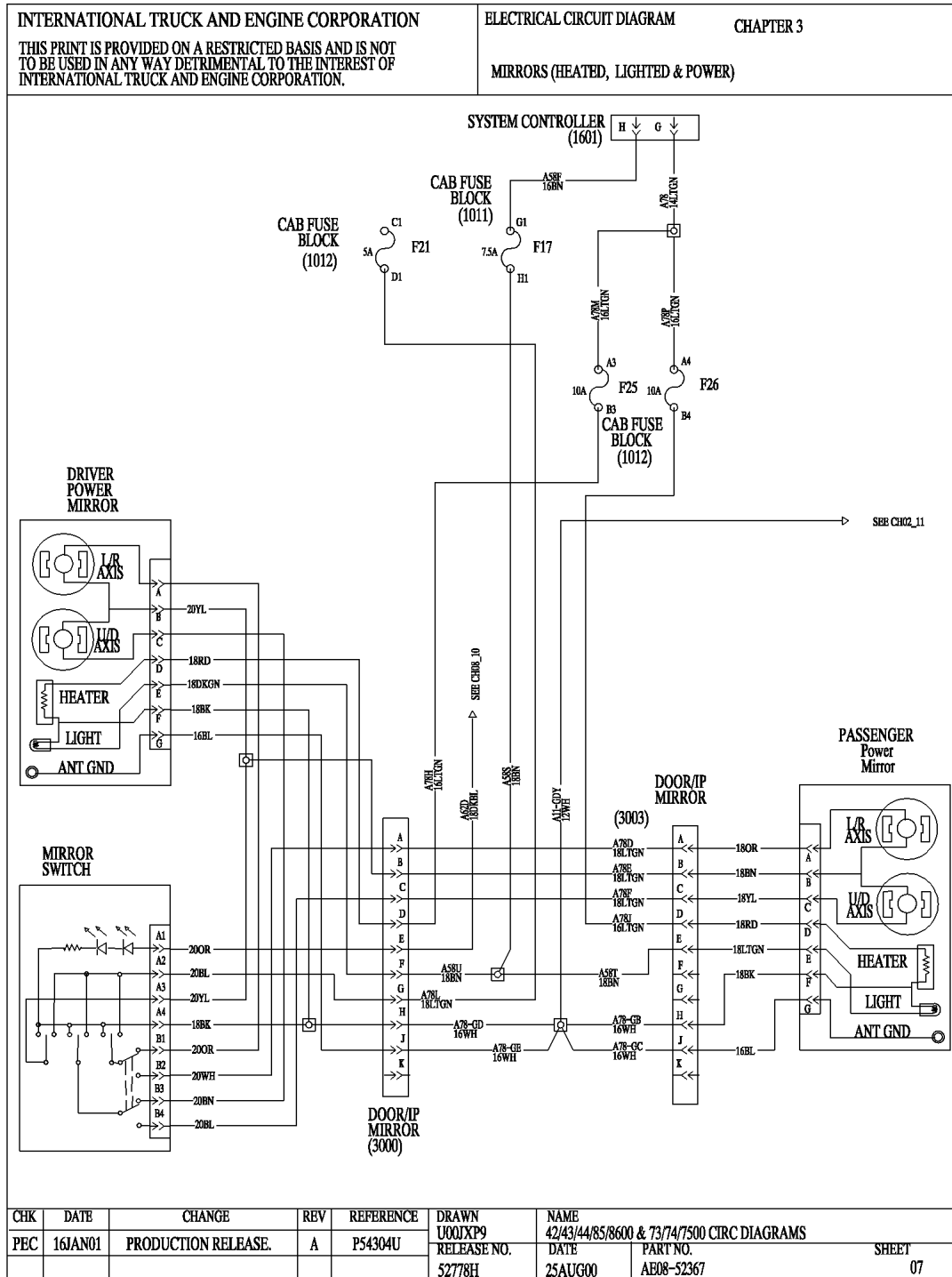


Figure 34 Mirrors (Heated, Lighted and Power)

3.8. RADIO (ENTERTAINMENT), SPEAKERS, P. 8

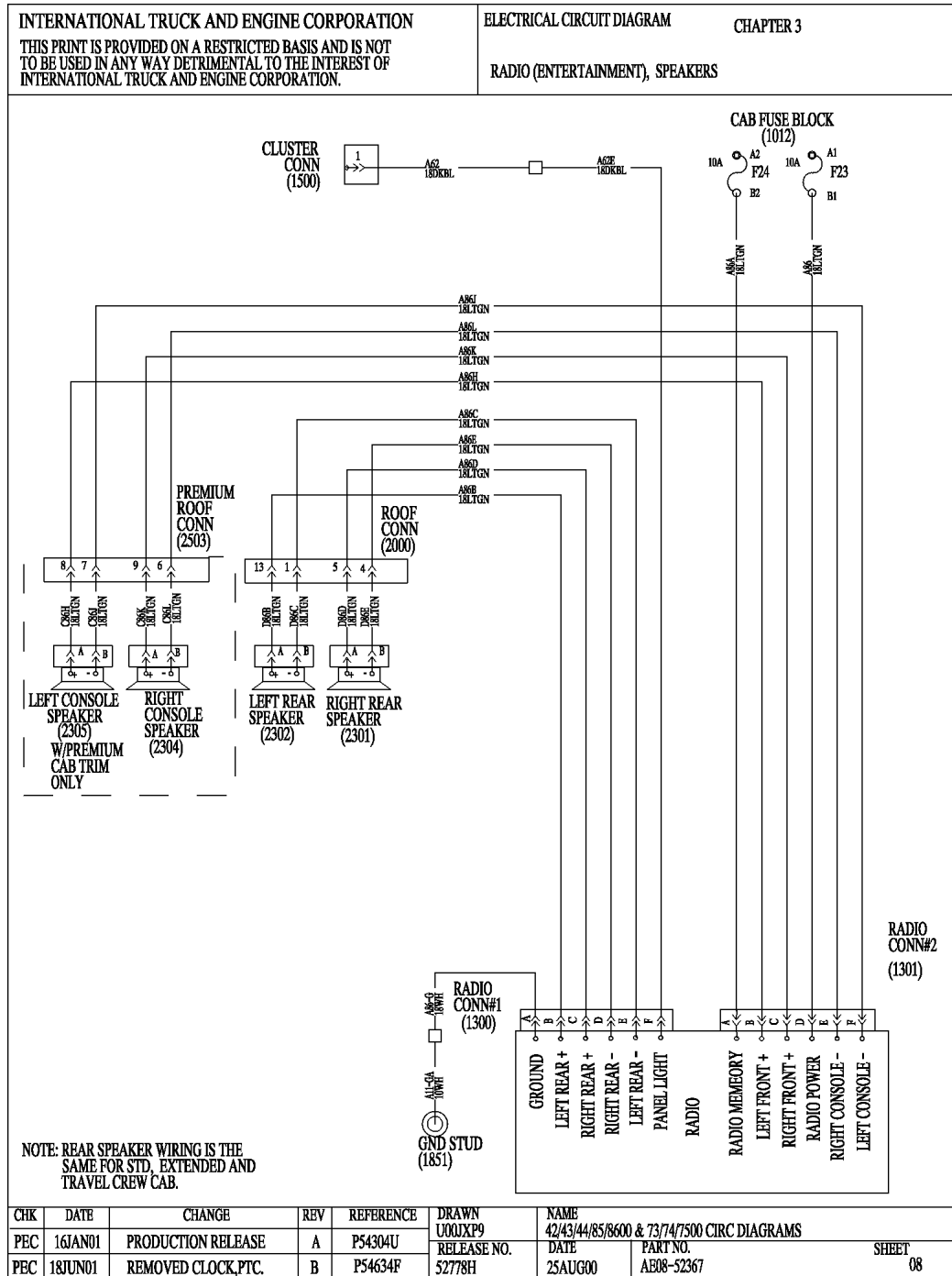


Figure 35 Radio (Entertainment), Speakers

3.9. WINDSHIELD WIPER AND WASHER PUMP, P. 9

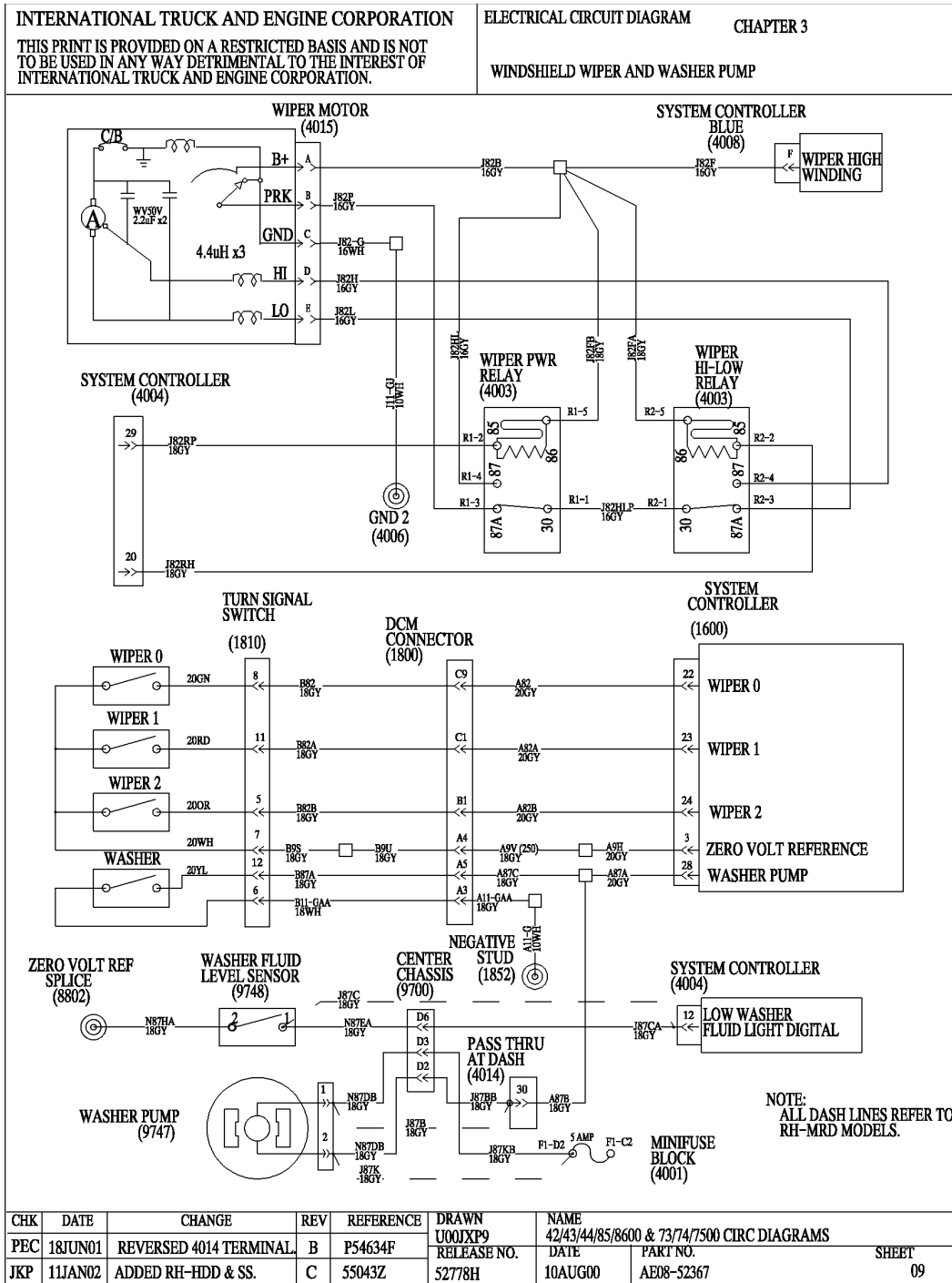


Figure 36 Windshield Wiper and Washer Pump

3.10. 2-WAY RADIO, P. 10

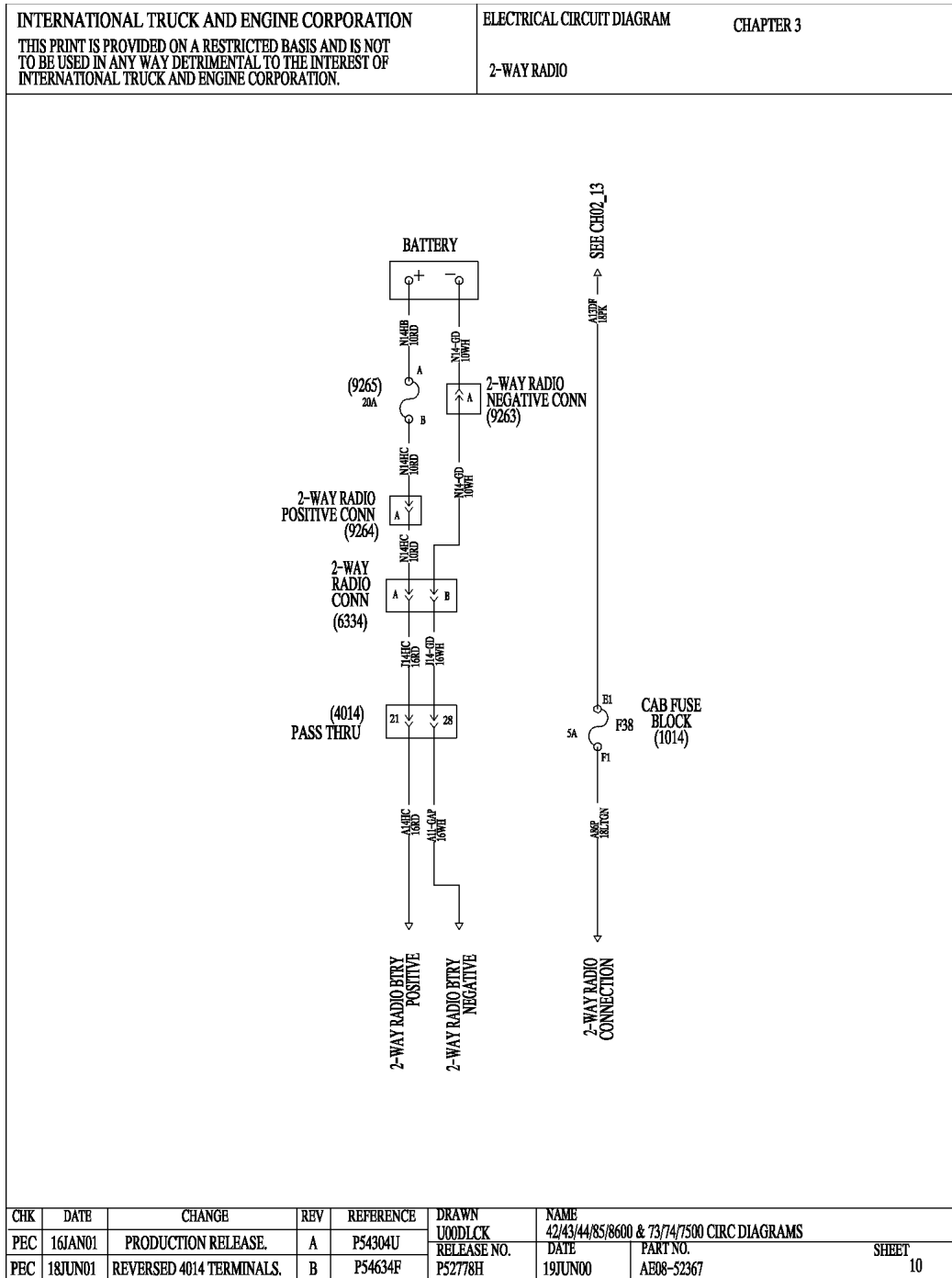


Figure 37 2-Way Radio

3.11. SWITCH PACK, OPTIONAL GAUGE PACK, P. 11

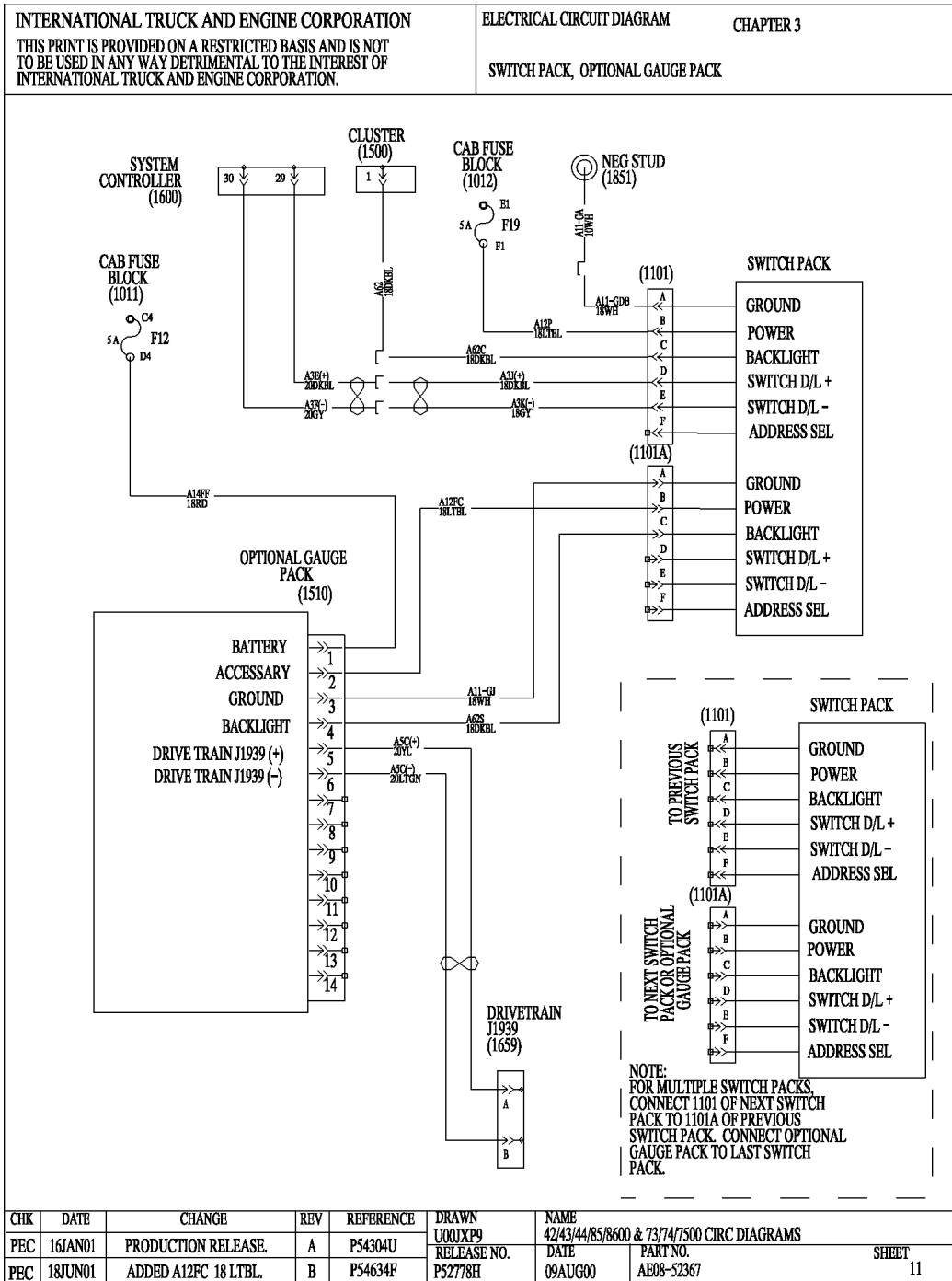


Figure 38 Switch Pack, Optional Gauge Pack

3.12. LIGHTED AIR SHIELD, P. 12

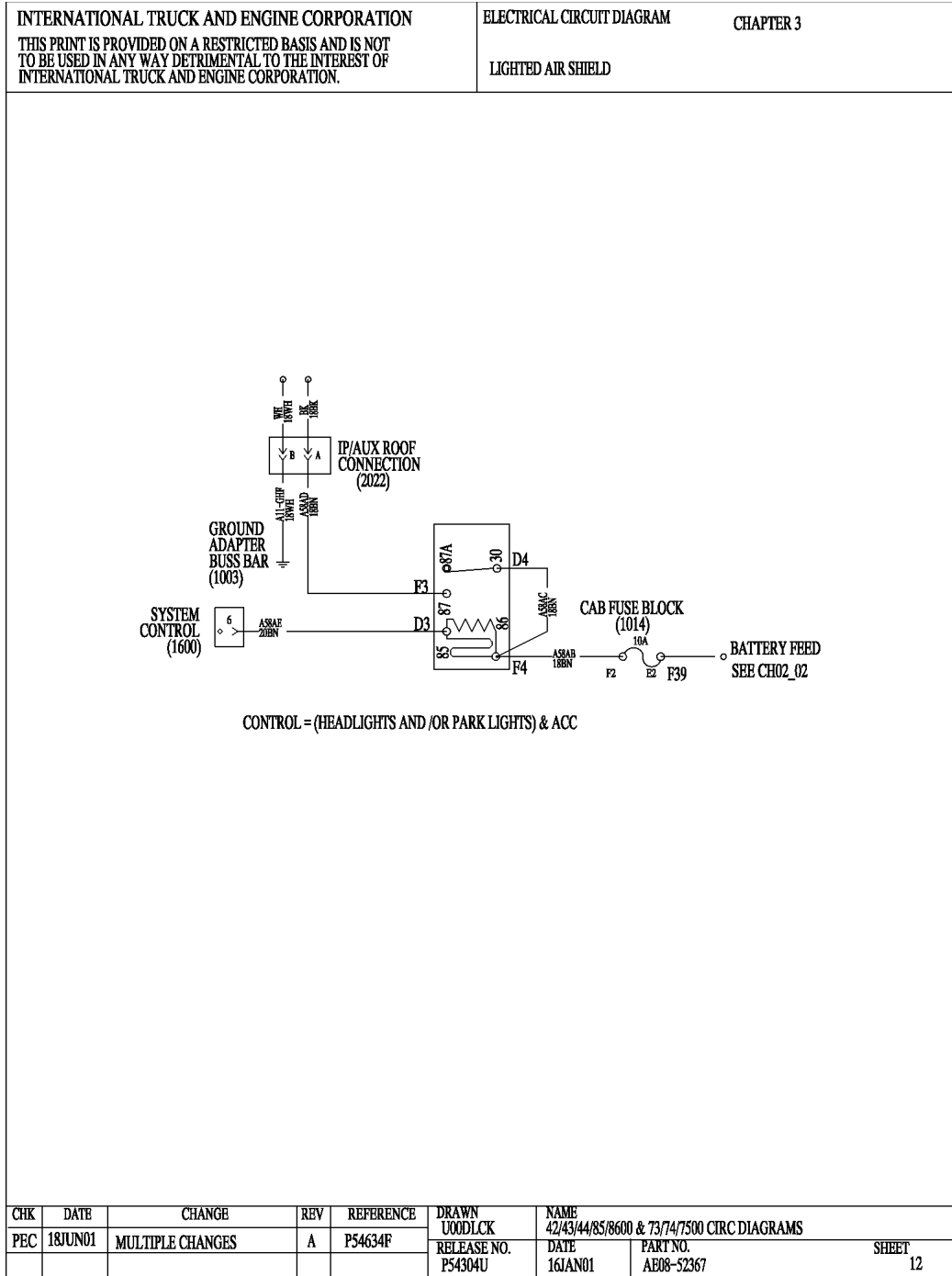
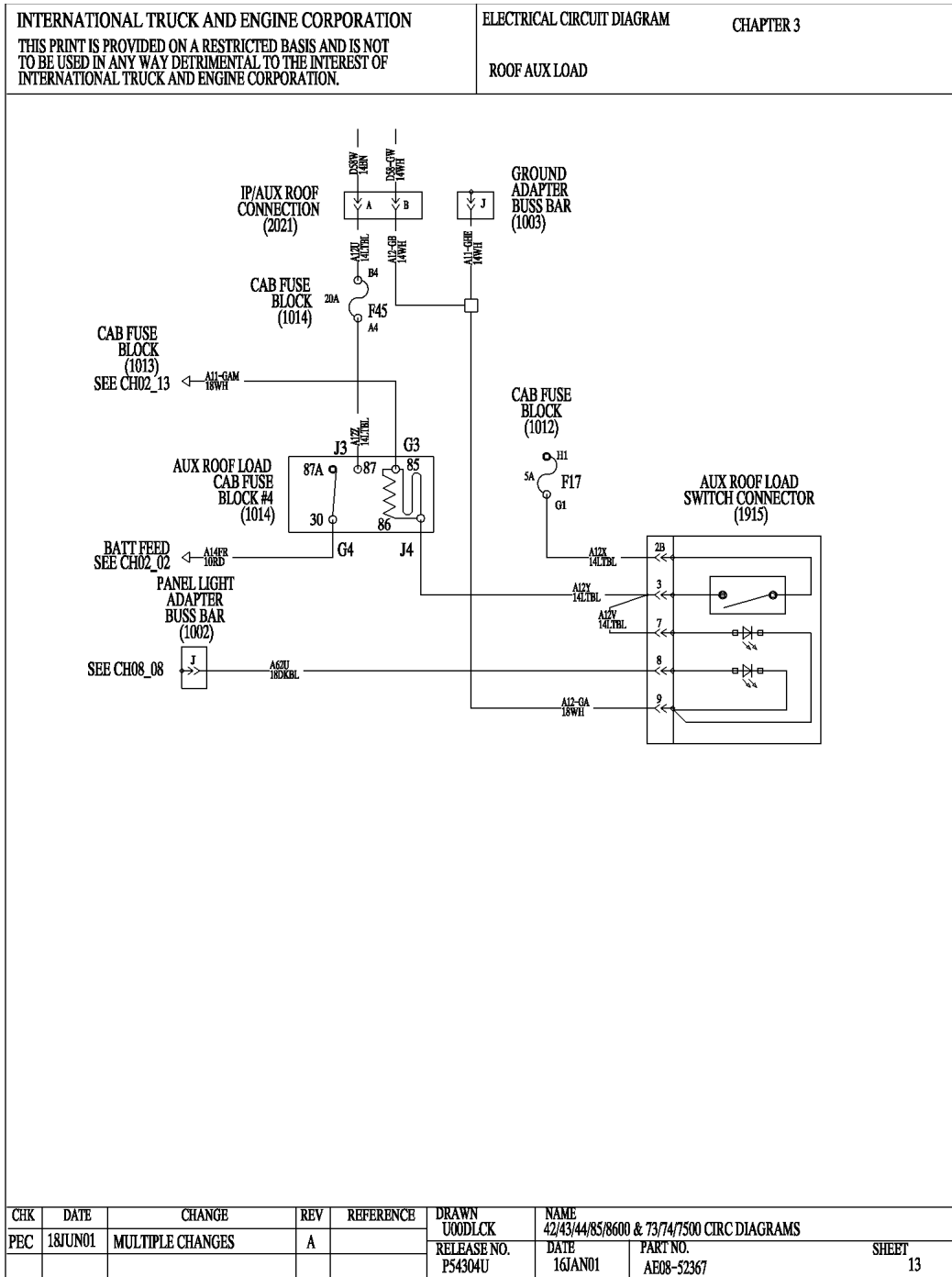


Figure 39 Lighted Air Shield

3.13. ROOF AUX. LOAD, P. 13



3.14. SATELLITE COMMUNICATION QUALCOMM-MCT AND IMCT SYSTEMS, P. 14

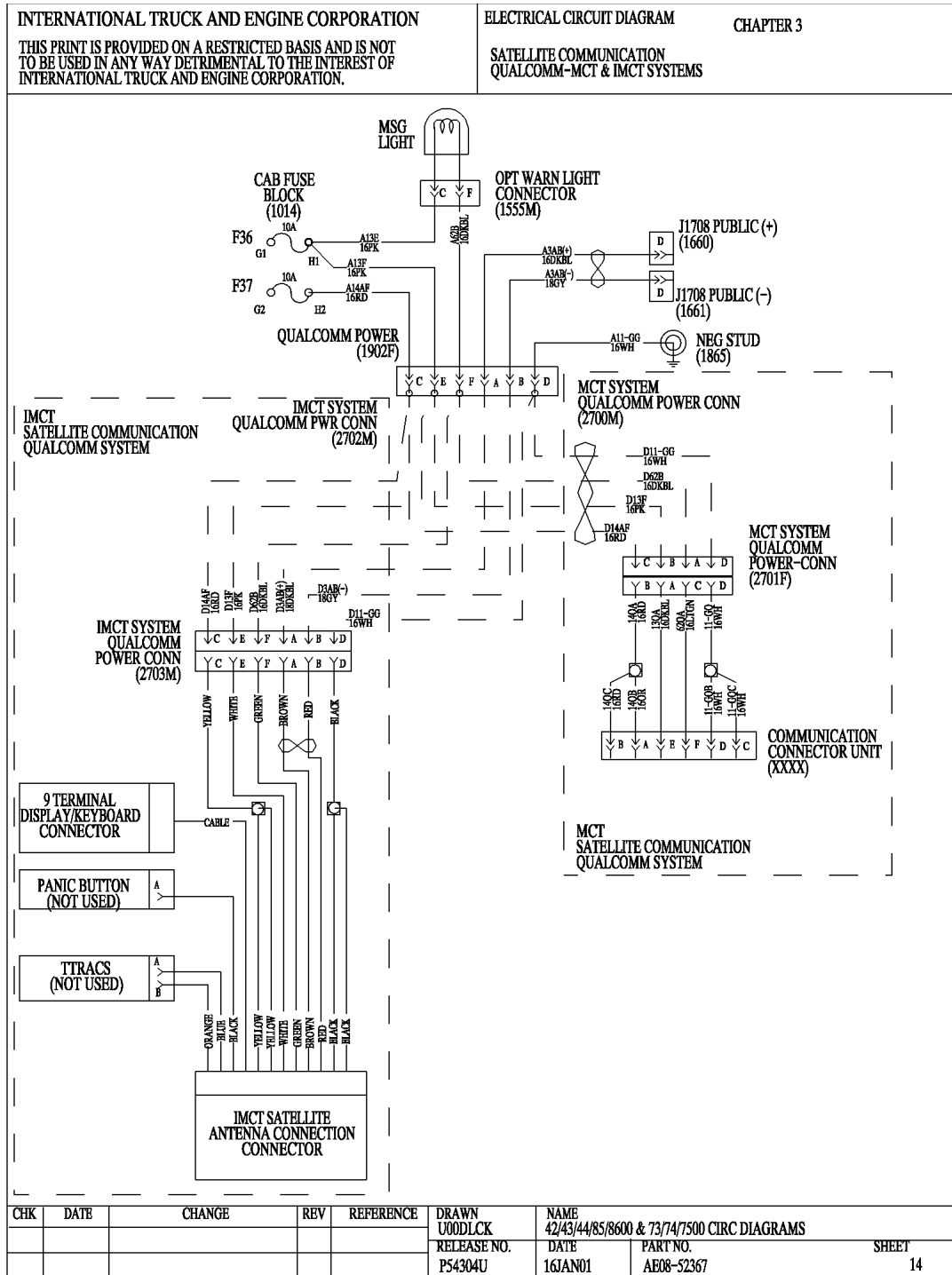


Figure 41 Satellite Communication Qualcomm-MCT and IMCT Systems

3.15. SELF CONTAINED AIR SEAT, P. 15

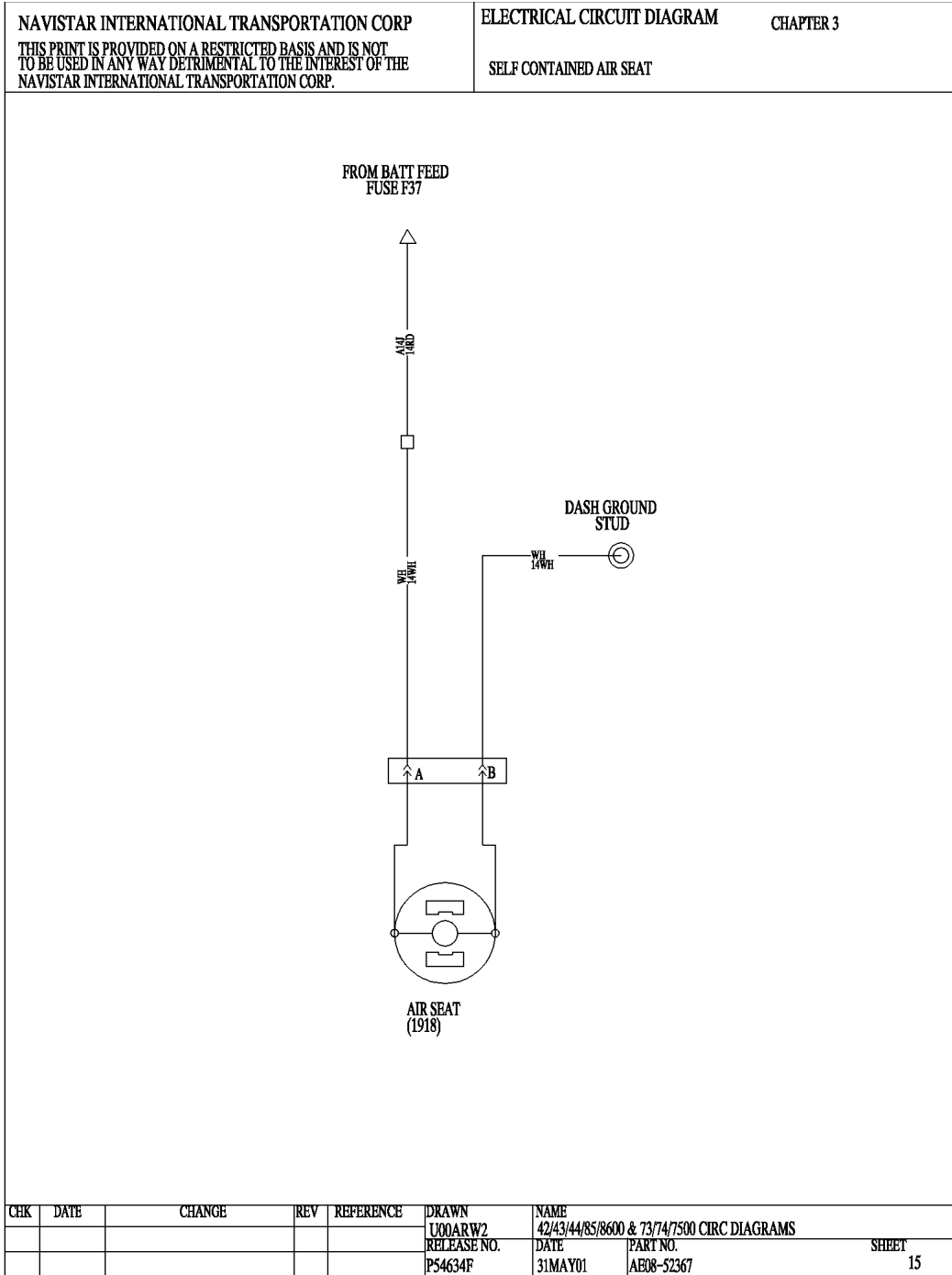


Figure 42 Self Contained Air Seat

3.16. DIGITAL CLOCK PTC, P. 16

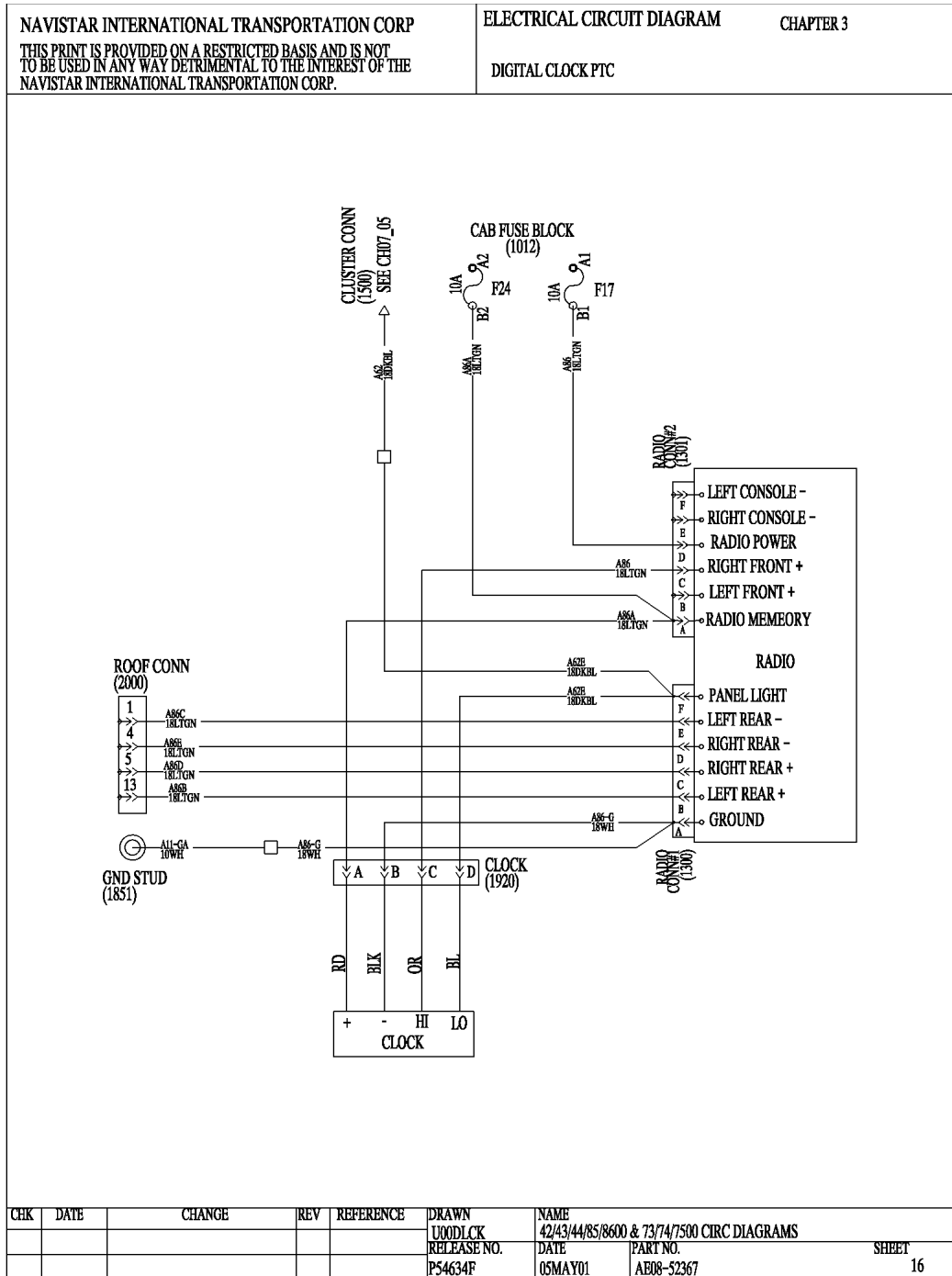


Figure 43 Digital Clock PTC

3.17. TRANSMISSION ALLISON LCT COLUMN SHIFTER, P. 17

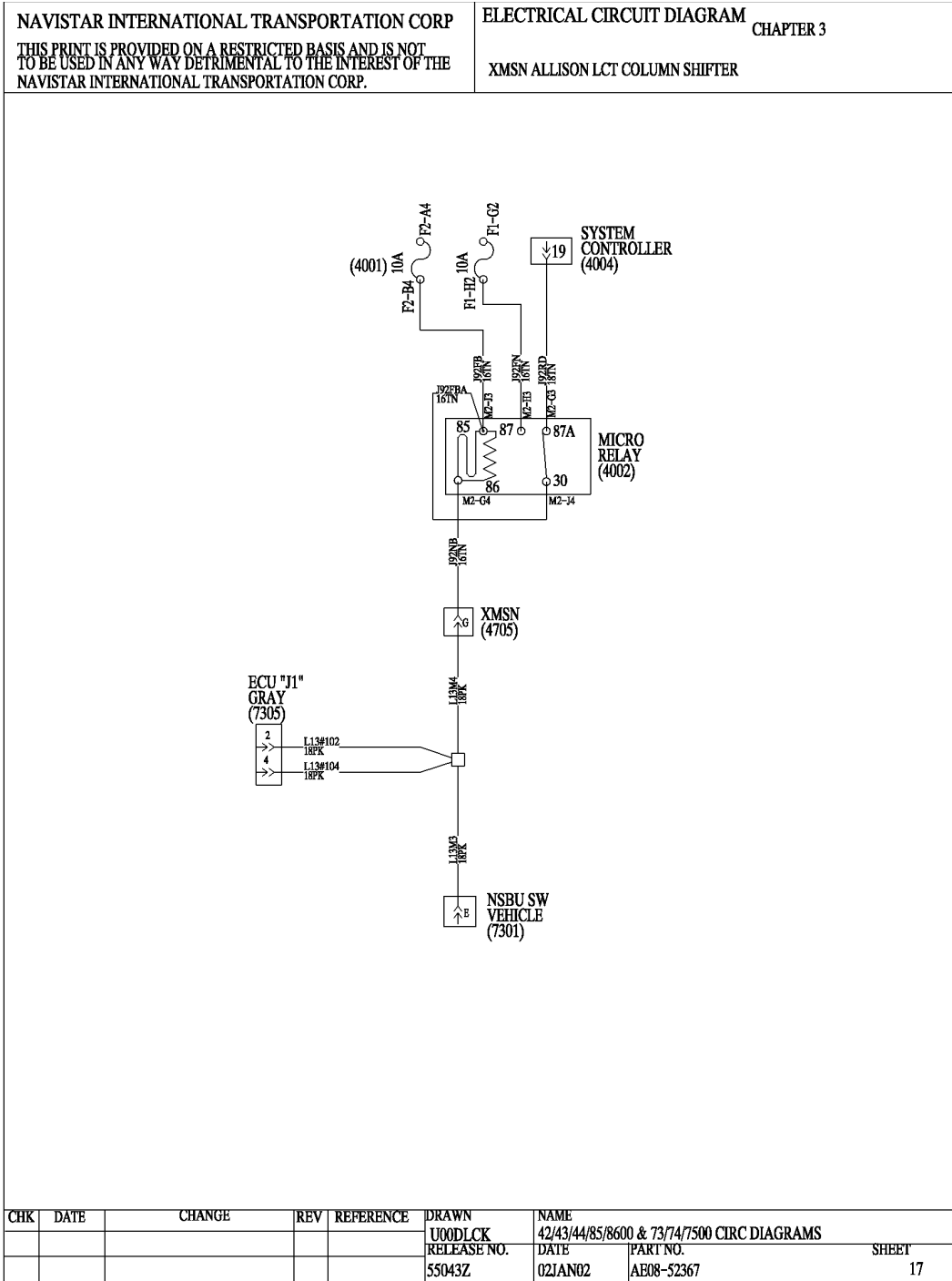


Figure 44 Transmission Allison LCT Column Shifter

4. 12V CHARGING + CRANKING SYSTEM (CHAPTER 4)

4.1. 16 HEUI ENGINES, P. 1

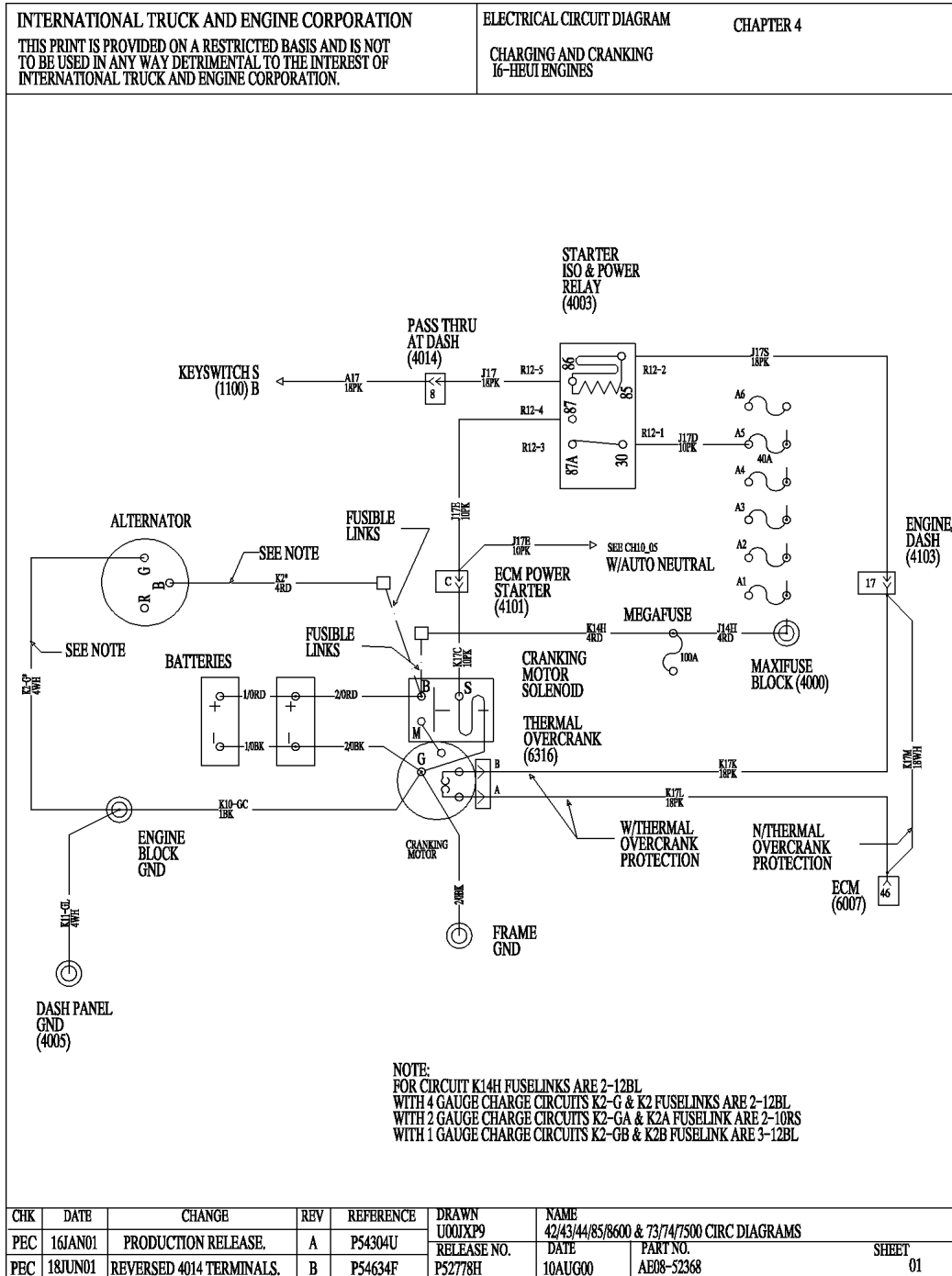


Figure 45 16 HEUI Engines

4.2. V8 AVNT ENGINES, P. 2

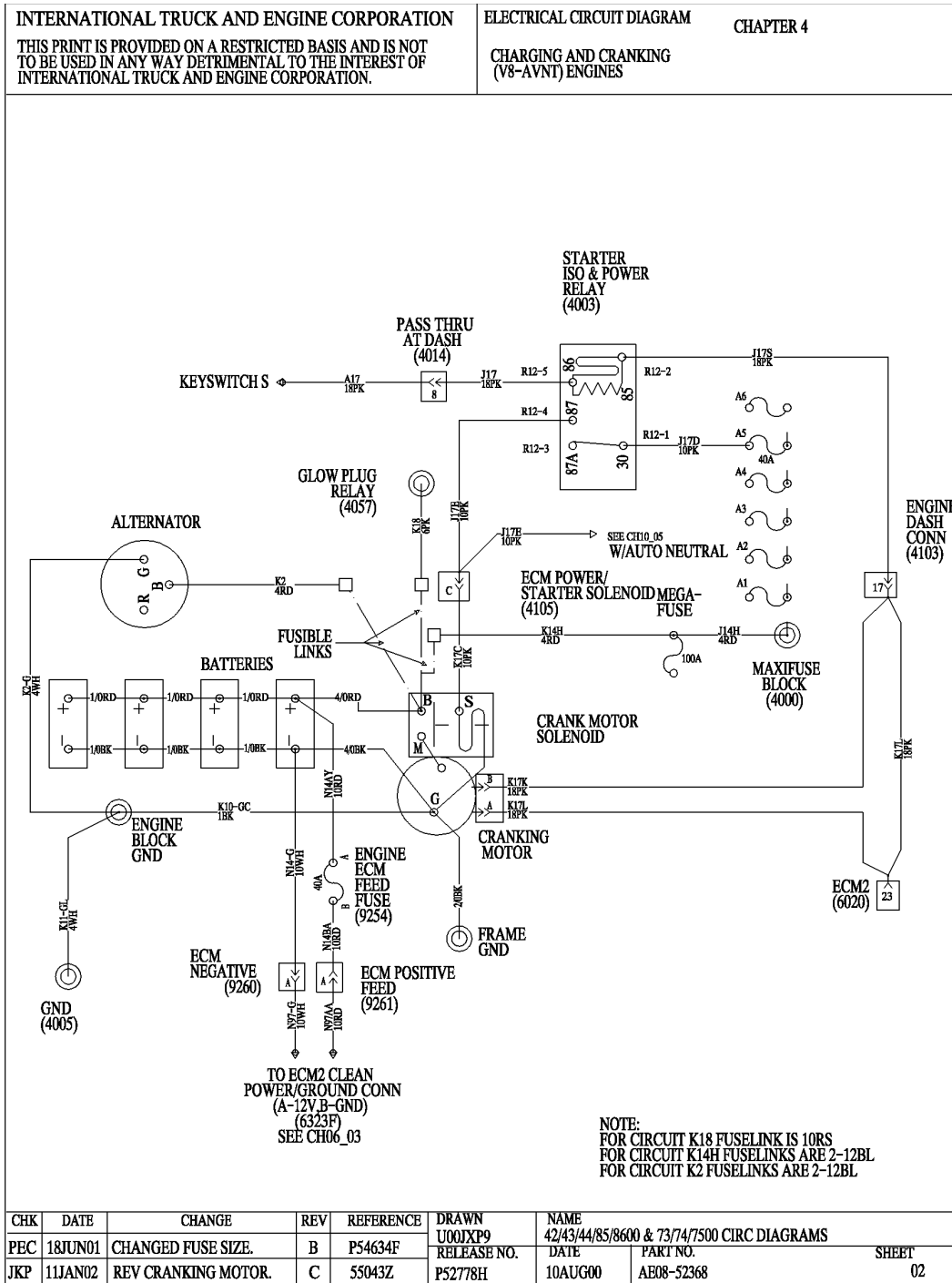


Figure 46 V8 AVNT Engines

4.3. CATERPILLAR ENGINES, P. 3

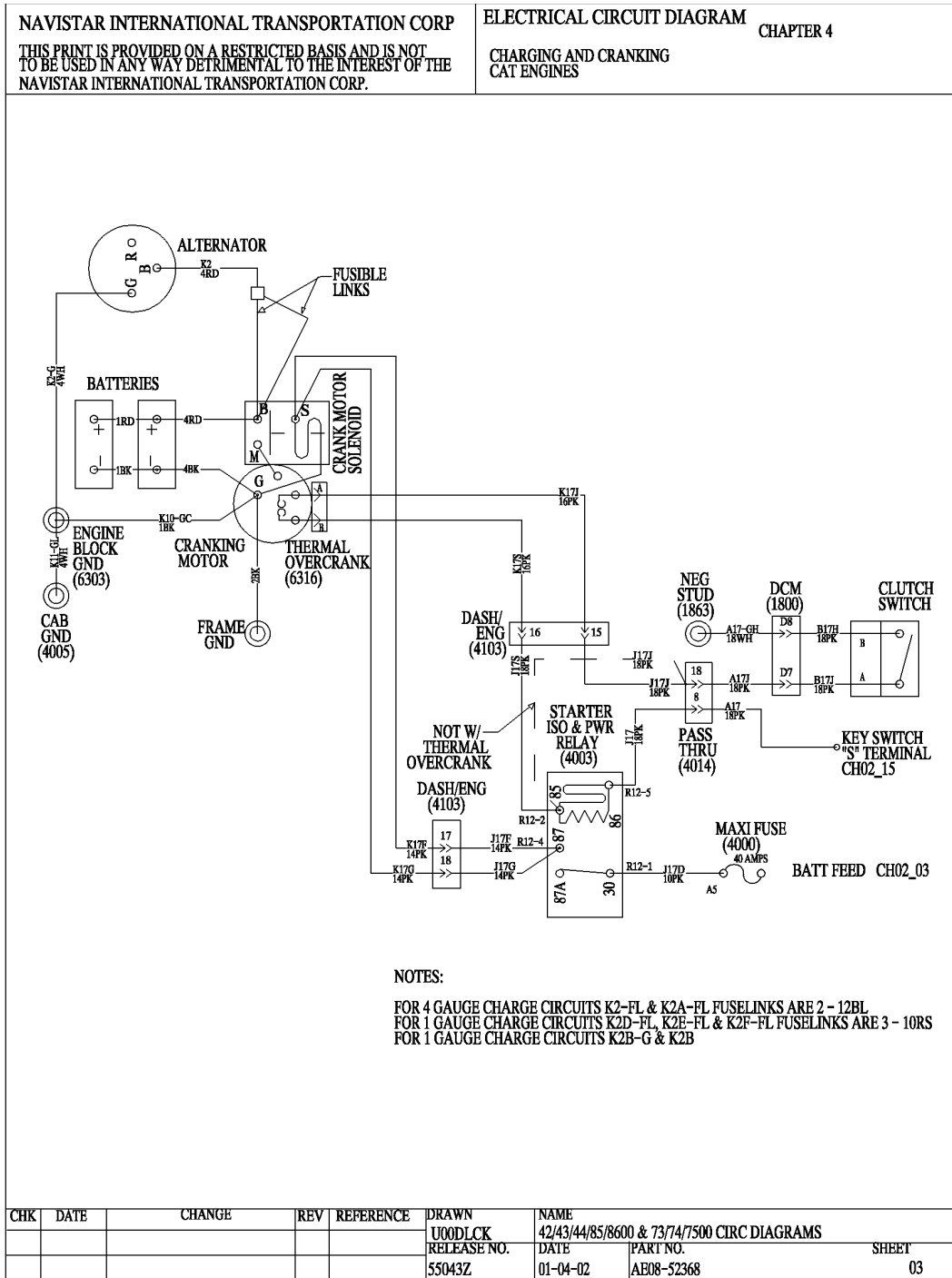


Figure 47 Caterpillar Engines

5. FANS AND ENGINE ACCESSORIES (CHAPTER 5)

5.1. FAN WIRING, P. 1

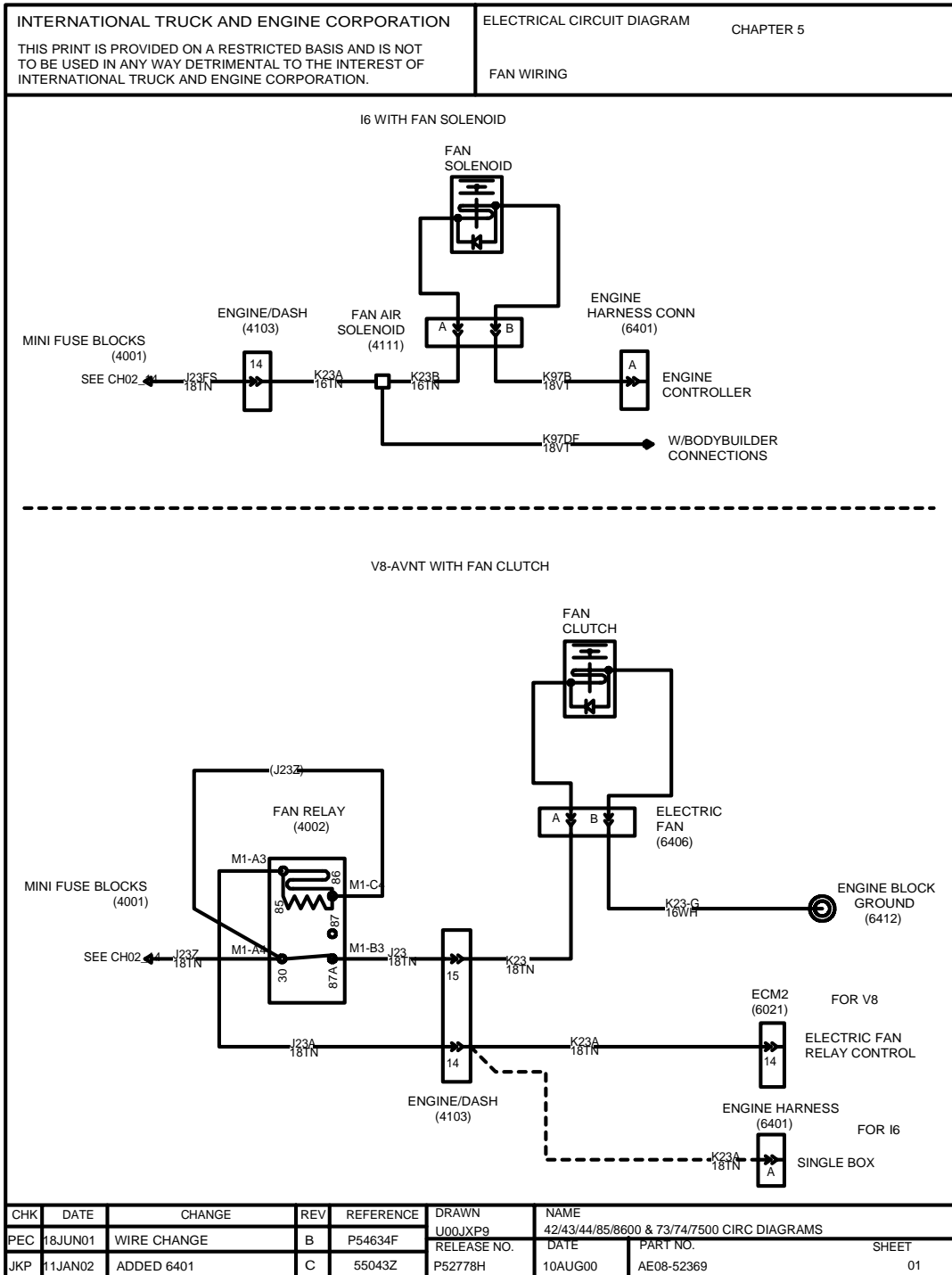


Figure 48 Fan Wiring

5.2. ETHER START, P. 2

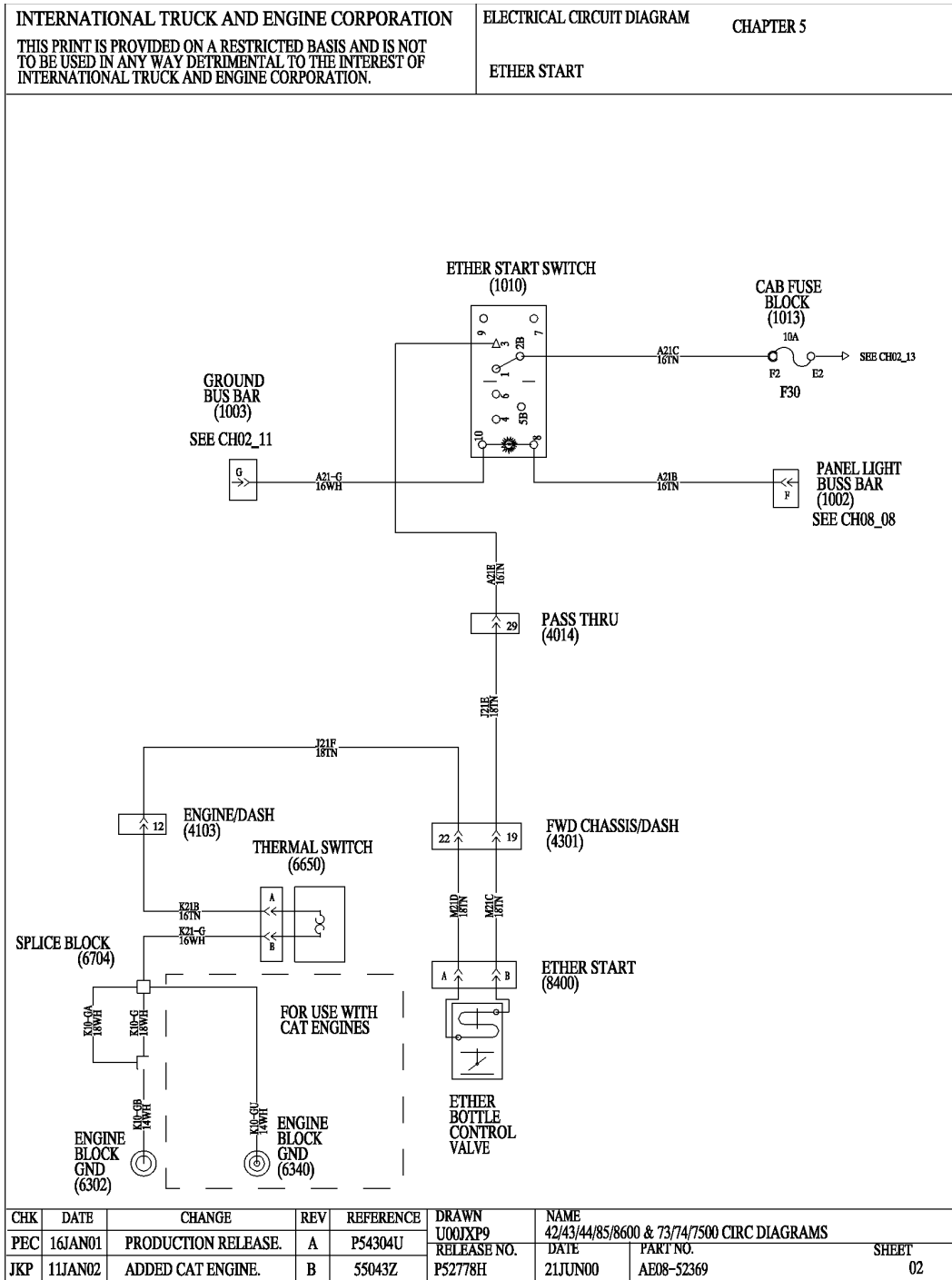


Figure 49 Ether Start

5.3. SNOW VALVE, P. 3

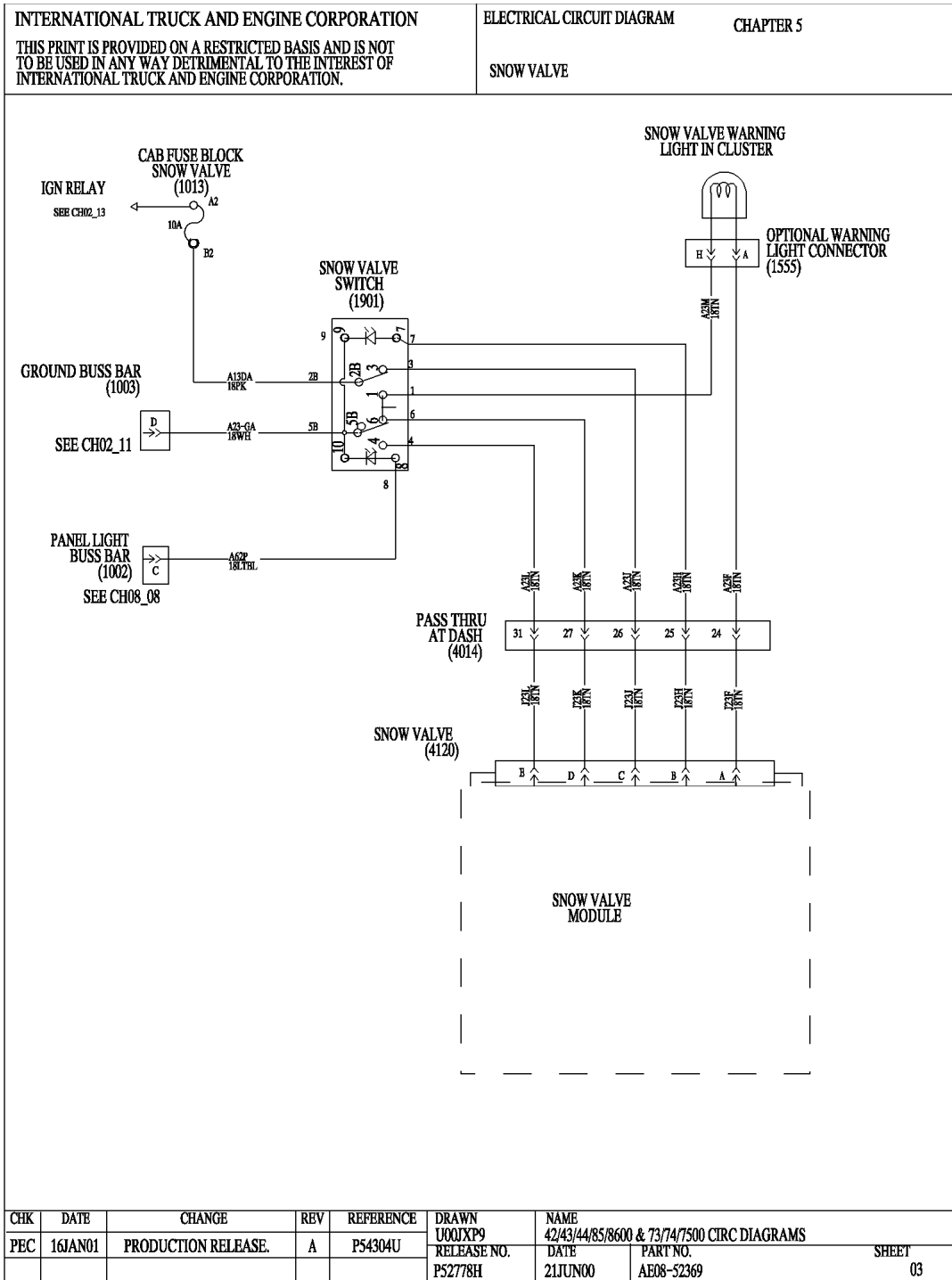


Figure 50 Snow Valve

6. ELECTRONIC ENGINES (CHAPTER 6)

6.1. ELECTRONIC ENGINE CONTROLS, I6–HEUI ENGINES, P. 1

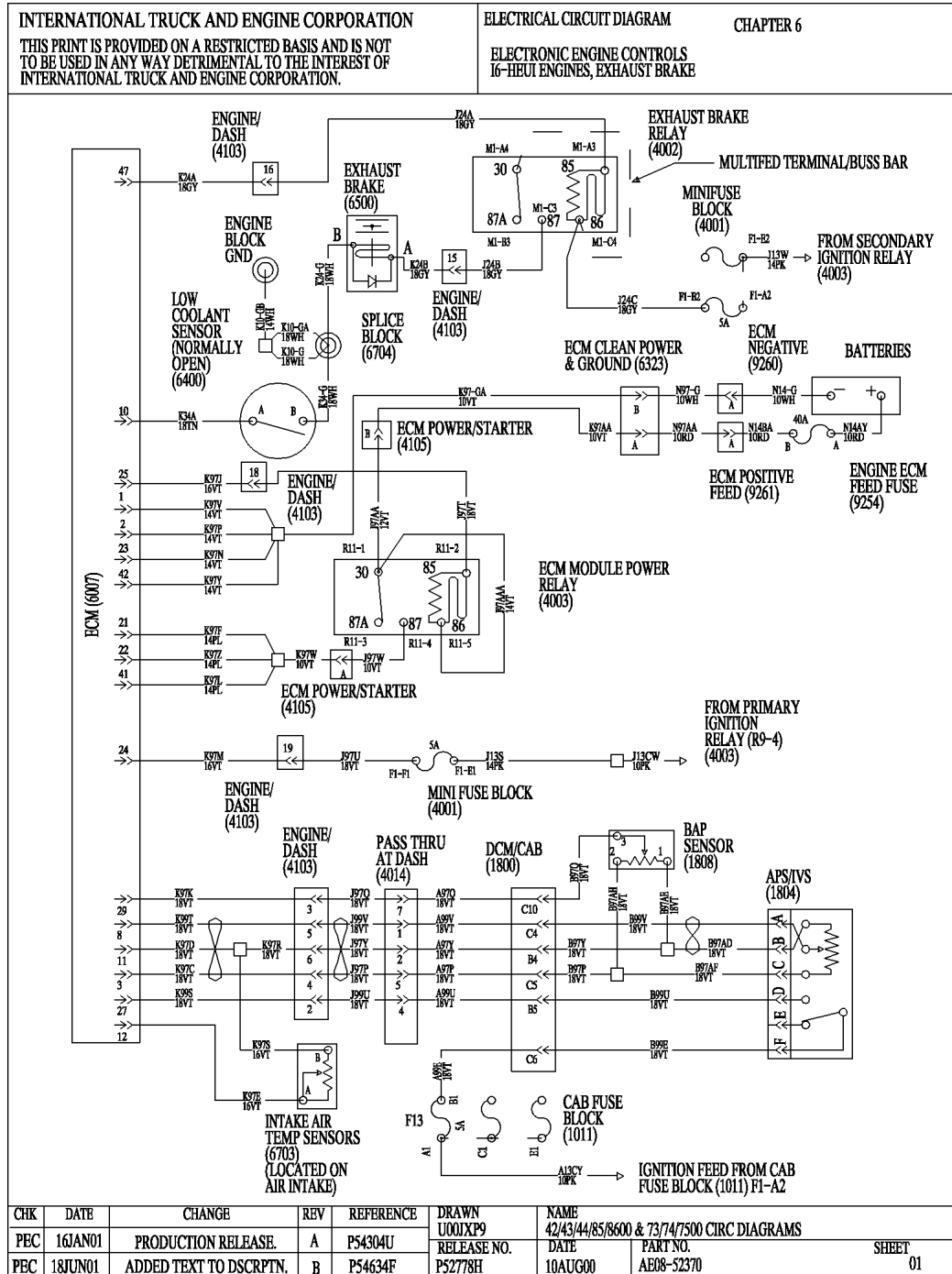


Figure 51 Electronic Engine Controls, I6–HEUI Engines

6.2. ELECTRONIC ENGINE CONTROLS, I6-HEUI ENGINE CRUISE CONTROL AND BODY BUILDER CONNECTIONS, P. 2

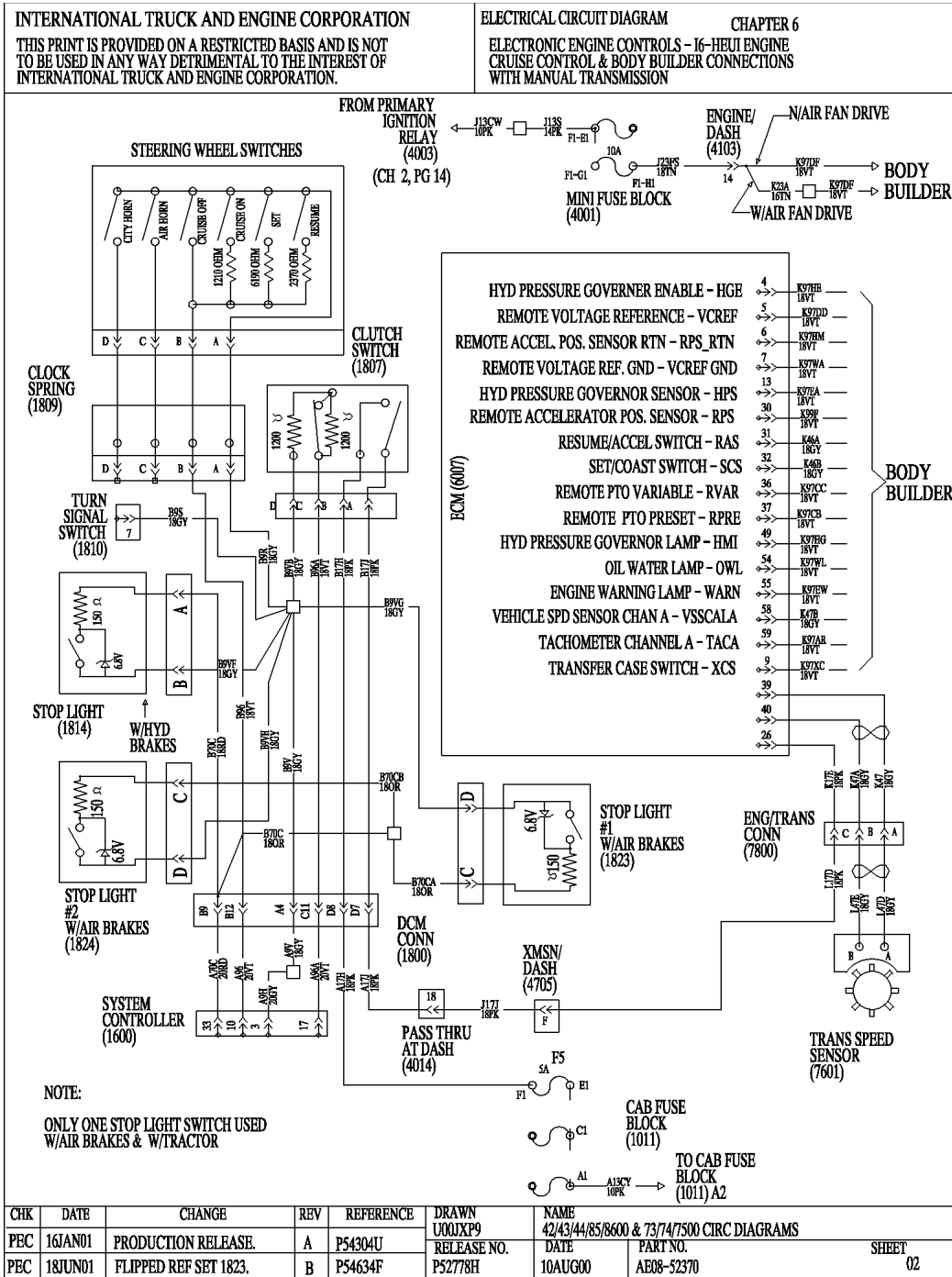


Figure 52 Electronic Engine Controls, I6-HEUI Engine Cruise Control and Body Builder Connections

6.3. ELECTRONIC ENGINE CONTROLS, (V8-AVNT) ENGINES, P. 3

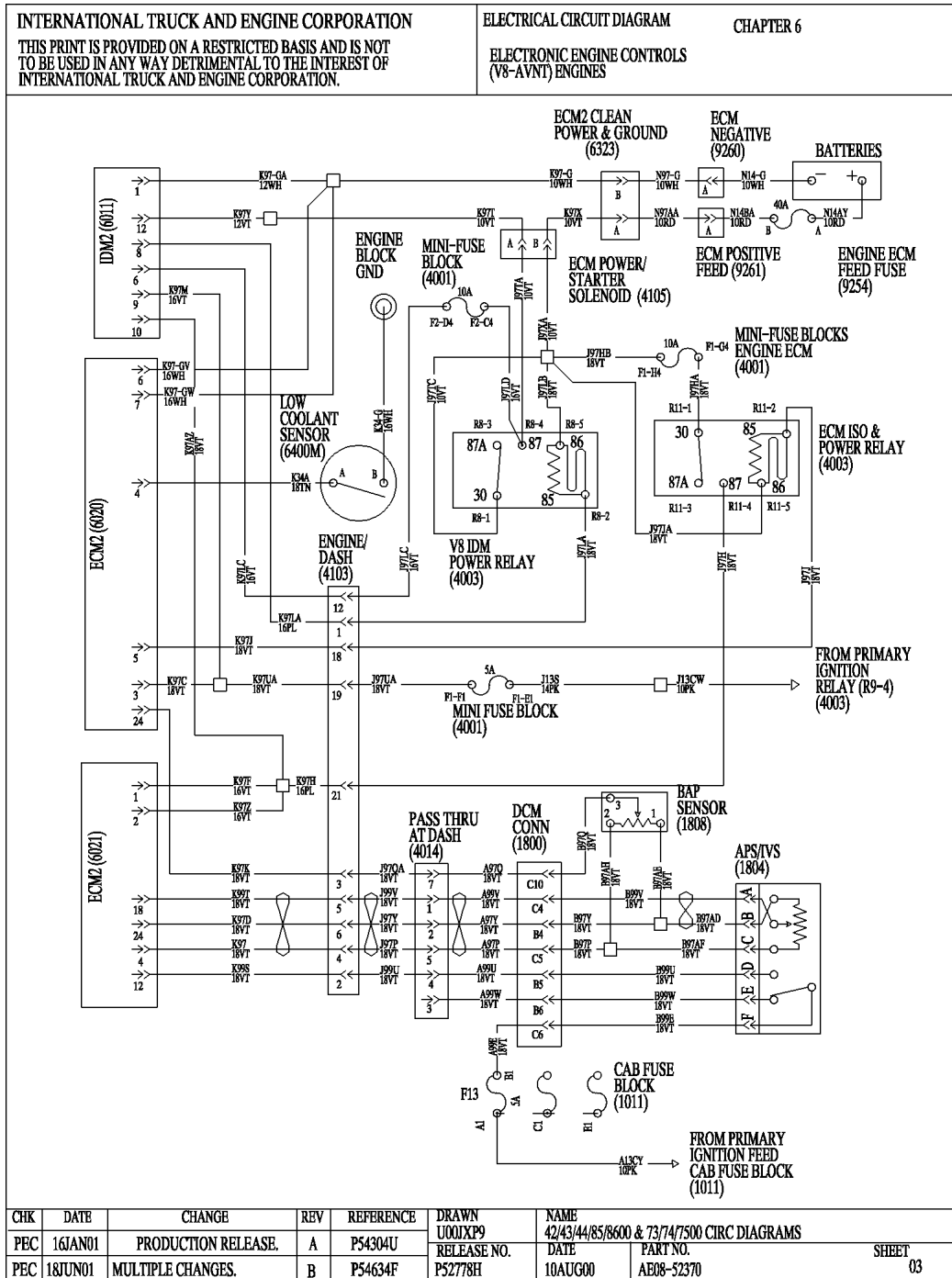


Figure 53 Electronic Engine Controls, (V8-AVNT) Engines

6.4. ELECTRONIC ENGINE CONTROLS, V8-AVNT ENGINE CRUISE CONTROL AND BODY BUILDER CONNECTIONS, P. 4

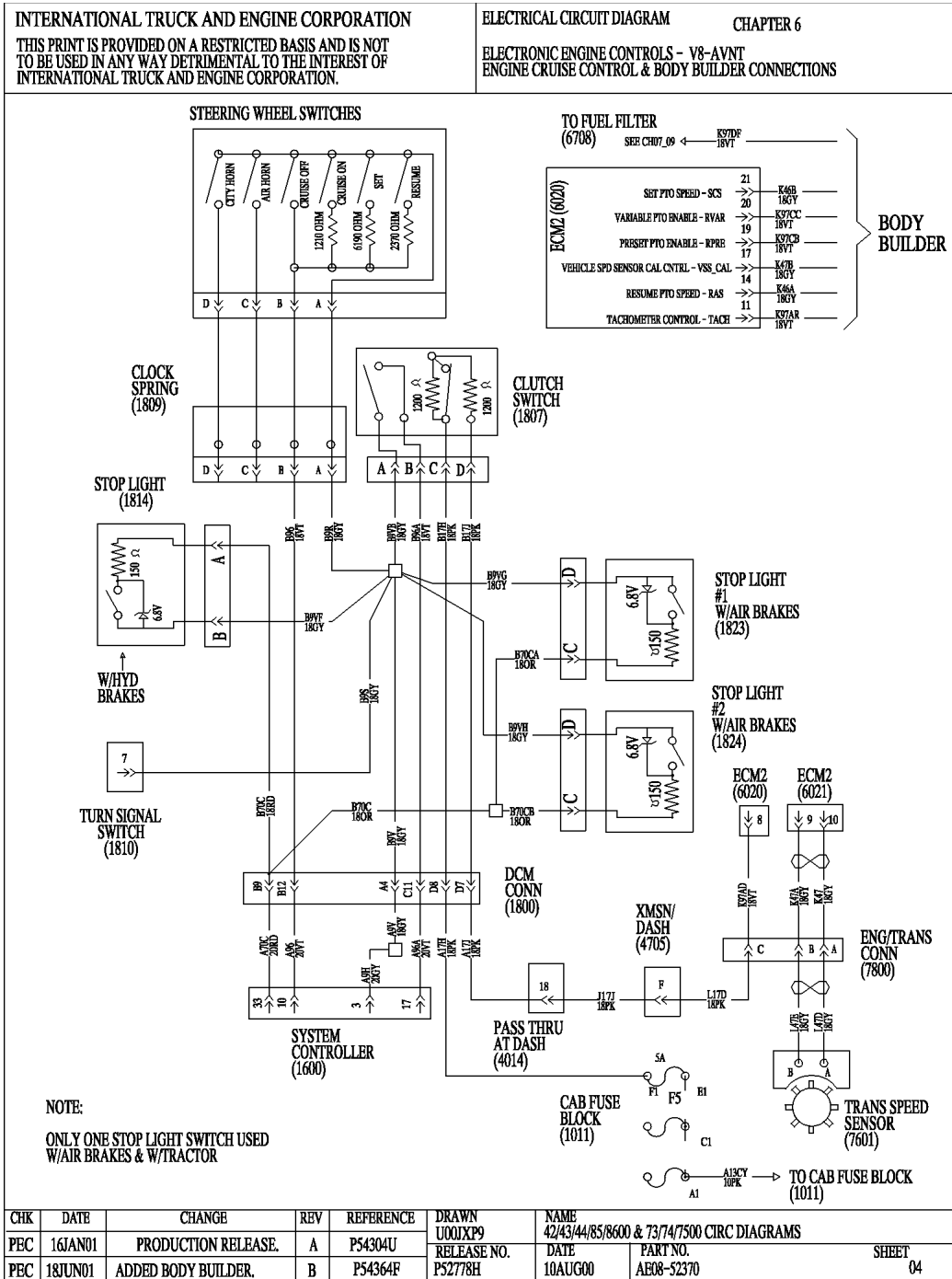


Figure 54 Electronic Engine Controls, V8-AVNT Engine Cruise Control and Body Builder Connections

6.5. CATERPILLAR C10 AND C12 ENGINES, P. 5

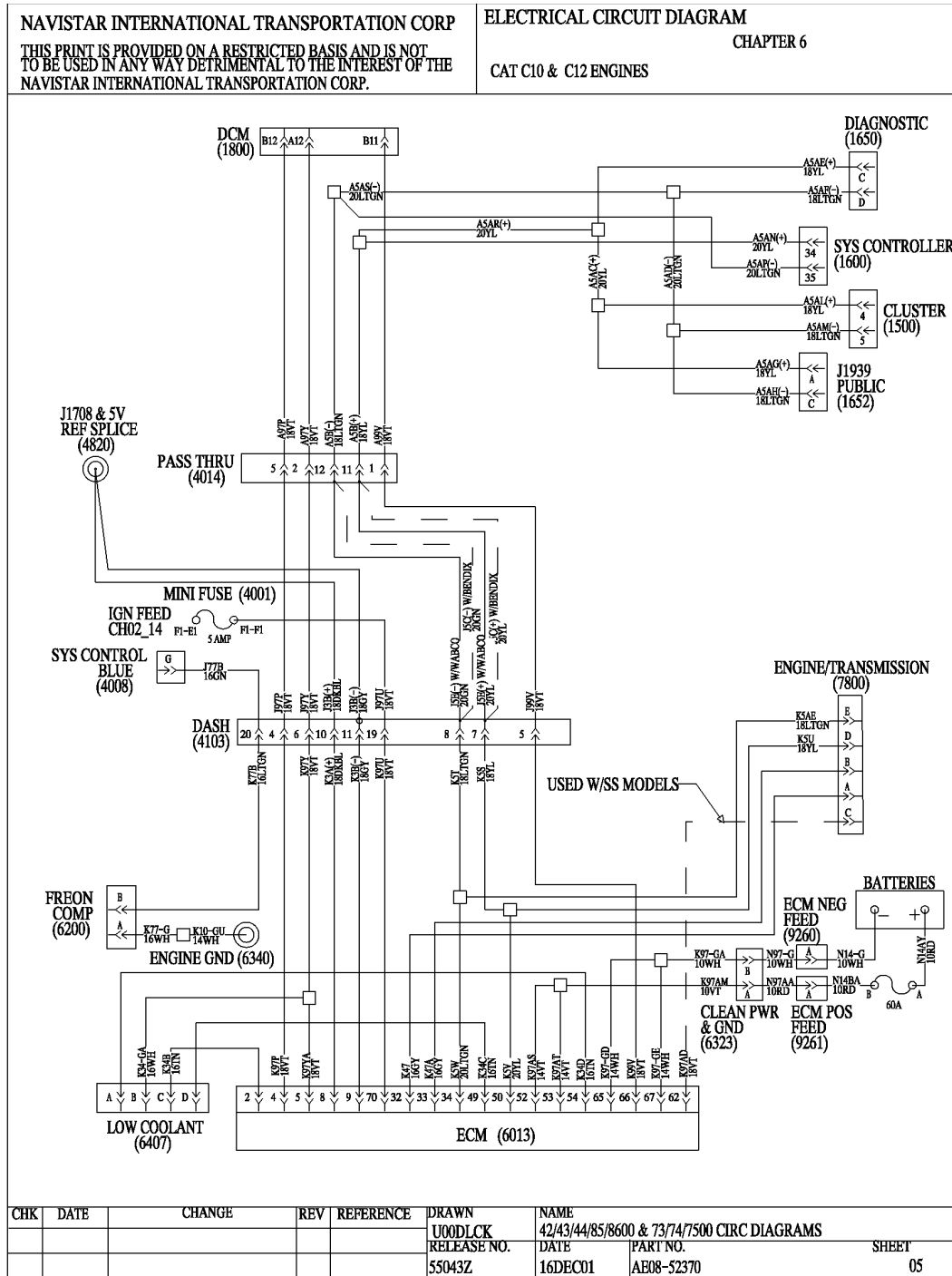


Figure 55 Caterpillar C10 and C12 Engines