

SERVICE MANUAL

SERVICE MANUAL SECTION

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built
After March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

**Truck Model: 3200
Start Date: 03/11/2004**

**Truck Model: 4200
Start Date: 03/11/2004**

**Truck Model: 4300
Start Date: 03/11/2004**

**Truck Model: 4400
Start Date: 03/11/2004**

**Truck Model: 7300
Start Date: 03/11/2004**

**Truck Model: 7400
Start Date: 03/11/2004**

**Truck Model: 7500
Start Date: 03/11/2004**

**Truck Model: 7600
Start Date: 03/11/2004**

**Truck Model: 8500
Start Date: 03/11/2004**

**Truck Model: 8600
Start Date: 03/11/2004**

S082854

06/17/2004

Table of Contents

INSTRUCTIONS AND CHARTS (CHAPTER 1).....	1
CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 1.....	1
CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 2.....	2
CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 3.....	3
CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 4.....	4
CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 5.....	5
NAVPAC/ECM I6 ENGINE CONTROLLER CONNECTOR PIN NUMBER IDENTIFICATION, P. 6.....	6
CIRCUIT DIAGRAM INSTRUCTIONS, P. 7.....	7
CIRCUIT DIAGRAM INSTRUCTIONS, P. 8.....	8
SCHEMATIC SYMBOL CHART, P. 9.....	9
RELAY FUNCTIONS, P. 10.....	10
LAMP BULB CHART, P. 11.....	11
INTERNATIONAL V8 AND I6 ECM CONTROLLER CONNECTORS PIN NUMBER IDENTIFICATION, P.12.....	12
12 VOLT POWER DISTRIBUTION CIRCUIT DIAGRAMS (CHAPTER 2).....	13
ACCESSORY, P. 1.....	13
BATTERY FEEDS, CAB, P. 2.....	14
BATTERY, P. 3.....	15
1708 DATA LINK, P. 4.....	16
SWITCH DATA LINK, P. 5.....	17
DRIVETRAIN 1939 DATA LINK (CAB), P. 6.....	18
DRIVETRAIN 1939 DATA LINK (CHASSIS), P. 7.....	19
GROUNDS CHASSIS, P. 8.....	20
GROUNDS CHASSIS, P. 9.....	21
GROUNDS IP, P. 10.....	22
GROUNDS IP, P. 11.....	23
IGNITION CAB, P. 12.....	24
IGNITION CAB, P. 13.....	25
IGNITION FEEDS, CHASSIS, P. 14.....	26
START, P. 15.....	27
CAB ACCESSORIES (CHAPTER 3).....	28
CIGAR LIGHTER AND POWER FEEDS, P. 1.....	28
CB POWER, P. 2.....	29
COMPASS AND TEMPERATURE DISPLAY, P. 3.....	30
FRONT DOORS WINDOWS AND LOCKS (POWER), P. 4.....	31
CREW DOORS WINDOWS AND LOCKS (POWER), P. 5.....	32
HORN, DUAL ELECTRIC, P. 6.....	33
MIRRORS (HEATED, LIGHTED AND POWER), P. 7.....	34
RADIO (ENTERTAINMENT), SPEAKERS, P. 8.....	35
WINDSHIELD WIPER AND WASHER PUMP, P. 9.....	36
2-WAY RADIO, P. 10.....	37
SWITCH PACK, OPTIONAL GAUGE PACK, P. 11.....	38
LIGHTED AIR SHIELD, P. 12.....	39
ROOF AUX. LOAD, P. 13.....	40
SATELLITE COMMUNICATION QUALCOMM-MCT AND IMCT SYSTEMS, P. 14.....	41

ii 3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

SELF CONTAINED AIR SEAT, P. 15.....	42
DIGITAL CLOCK PTC, P. 16.....	43
TRANSMISSION ALLISON LCT COLUMN SHIFTER, P. 17.....	44
HEATED SEATS FOR 7700 MODELS ONLY, P. 18.....	45
BACKUP CAMERA, P. 19.....	46
XATA COMPUTER, P. 20.....	47
KEYLESS IGNITION SYSTEM, P. 21.....	48
 12V CHARGING + CRANKING SYSTEM (CHAPTER 4).....	 49
I6 EGR ENGINES, P. 1.....	49
V8 AVNT ENGINES, P. 2.....	50
CATERPILLAR, CUMMINS ISM ENGINES, P. 3.....	51
I6 HEUI ENGINES, P. 4.....	52
CATERPILLAR ENGINES, CUMMINS ISM AND WITH EATON ULTRASHIFT/DM2, P. 5.....	53
I6 EGR ENGINES WITH AIR START, P. 6.....	54
 FANS AND ENGINE ACCESSORIES (CHAPTER 5).....	 55
FAN WIRING, P. 1.....	55
ETHER START, P. 2.....	56
SNOW VALVE, P. 3.....	57
FAN WIRING, CATERPILLAR AND CUMMINS, P. 4.....	58
 ELECTRONIC ENGINES (CHAPTER 6).....	 59
ELECTRONIC ENGINE CONTROLS, I6-EGR ENGINES, P. 1.....	59
ELECTRONIC ENGINE CONTROLS, I6-EGR ENGINE CRUISE CONTROL AND BODY BUILDER CONNECTIONS, P. 2.....	60
ELECTRONIC ENGINE CONTROLS, (V8-AVNT) ENGINES, P. 3.....	61
ELECTRONIC ENGINE CONTROLS, V8-AVNT ENGINE CRUISE CONTROL AND BODY BUILDER CONNECTIONS, P. 4.....	62
CATERPILLAR C10, C11, C12, AND C13 ENGINES, P. 5.....	63
CUMMINS ISM ENGINE, P. 6.....	64
I6 HEUI ENGINE, P. 7.....	65
I6 HEUI ENGINE CRUISE CONTROL AND BODY BUILDER CONNECTIONS WITH MANUAL TRANSMISSION, P. 8.....	66
 GAUGES WITH AND WITHOUT INTEGRAL WARNING LIGHT (CHAPTER 7).....	 67
IP/GAUGE LIST, P. 1.....	67
WARNING LIGHT LIST, P. 2.....	68
WARNING LIGHTS CONTROLLED BY ENGINE, TRANSMISSION, ABS CONTROLLER, P. 3....	69
ENGINE OIL PRESSURE AND TEMP, SPEEDOMETER, TACH, VOLTMETER AND WATER TEMP GAUGE CIRCUITS, P. 4.....	70
IP/GAUGES AND WARNING LIGHTS — GAUGE CLUSTER, P. 5.....	71
AIR PRESSURE INPUT CIRCUIT, P. 6.....	72
AXLE TEMPERATURE, FWD REAR AND REAR AXLES, GAUGE INPUT CIRCUIT, P. 7.....	73
FUEL GAUGE INPUT CIRCUIT (SINGLE TANK) DIFFERENTIAL LOCK WARNING LAMPS, P. 8.....	74
GAUGES AND WARNING LIGHTS — FUEL FILTER RESTRICTION AND WATER IN FUEL LIGHTS, P. 9.....	75
GAUGES AND WARNING LIGHTS — PARK BRAKE LIGHT AND TRANSMISSION OIL TEMP. GAUGE, P. 10.....	76
GAUGES AND WARNING LIGHTS — AMMETER, P. 11.....	77
ENGINE OIL TEMPERATURE GAUGE WITH CATERPILLAR, P. 12.....	78
FRONT AXLE ENGAGEMENT LAMP, P. 13.....	79

3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

iii

LIGHTS (CHAPTER 8).....	80
BACK UP LIGHTS, P. 1.....	80
LIGHT SYSTEMS — CLEARANCE, MARKER, PARK, TAIL, TURN AND STOP LAMPS, P. 2.....	81
LIGHT SYSTEMS — CLEARANCE, MARKER, PARK, TAIL, TURN AND STOP LAMPS (CONT.), P. 3.....	82
LIGHT SYSTEMS — TURN SIGNAL AND STOP SWITCHES, P. 4.....	83
DOME LIGHT, MAP LIGHT, P. 5.....	84
DOME LIGHT, MAP LIGHT (CONT.), P. 6.....	85
FOG LIGHT AND WORK LIGHT, P. 7.....	86
HEADLIGHTS, P. 8.....	87
AUX. HEADLIGHTS, AUX. PARK, AUX TURN, P. 9.....	88
PANEL LIGHTS, P. 10.....	89
CHASSIS ACCESSORIES (CHAPTER 9).....	90
AIR DRYER AND HEATED DRAIN VALVE, P. 1.....	90
ANTILOCK BRAKE SYSTEM (ABS), AIR, P. 2.....	91
ANTILOCK BRAKE SYSTEM (ABS), AIR, TRACTION CONTROL, P. 3.....	92
ANTILOCK BRAKE SYSTEM (ABS), HYDRAULIC, P. 4.....	93
ANTILOCK BRAKE SYSTEM (ABS), HYDRAULIC (CONT.), P. 5.....	94
ANTILOCK BRAKE SYSTEM (ABS), HYDRAULIC (CONT.), P. 6.....	95
TWO SPEED AXLE SWITCH WITH MANUAL TRANSMISSION AND I6 HEUI FUEL HEATER N/WARN LIGHTS, P. 7.....	96
BRAKE SYSTEM, HYDRAULIC, P. 8.....	97
FUEL TRANSFER PUMP, P. 9.....	98
BACK OF CAB BODY BUILDER AND TRAILER STOP, TAIL, MARKER, P. 10.....	99
BODY BUILDER AND TRAILER TURNS, CENTER PIN ABS, CENTER PIN AUX, P. 11.....	100
BODY BUILDER AND TRAILER SOCKET BACK OF CAB SOCKETS, P. 12.....	101
BODY BUILDER AND TRAILER SOCKET END OF FRAME (EOF) SOCKET AND BODY BUILDER, P. 13.....	102
AIR SOLENOID 4-WAY PACK, P. 14.....	103
REMOTE POWER UNITS, SOLENOID PACKS, REMOTE ENGINE SPEED CONTROLLER, P. 15.....	104
HYD POWER PARK, P. 16.....	105
AIR SUSPENSION, P. 17.....	106
AUX. TRAILER, ACC CONTROLLED, P. 18.....	107
AUX. TRAILER, BTRY CONTROLLED, P. 19.....	108
LIFT AXLES (NON-STEERABLE), P. 20.....	109
LIFT AXLES (STEERABLE), P. 21.....	110
AIR ACTUATED PARK BRAKE, P. 22.....	111
ANTILOCK BRAKE SYSTEM, WABCO AIR, P. 23.....	112
ANTILOCK BRAKE SYSTEM, WABCO AIR, P. 24.....	113
LIFT AXLES, WITH NON—STEERABLE FOR SS MODELS, P. 25.....	114
FUEL / WATER SEPARATOR WITH 12VDC FUEL PREHEATER, P. 26.....	115
ELECTRONIC TRAILER BRAKE ACCOMMODATION, P. 27.....	116
LECTRASHIFT ACCOMMODATION, P. 28.....	117
AUXILIARY 40 AMP CIRCUIT, P. 29.....	118
HOURMETER, CUSTOMER MOUNTED PTO, P. 30.....	119
REMOTE START/ STOP, P. 31.....	120
LIFT AXLE WITH 14RAR, P. 32.....	121
LIFT GATE, P. 33.....	122
LIFT AXLE MULTIPLEX, P. 34.....	123
TRANSMISSIONS (CHAPTER 10).....	124

ALLISON LCT TRANSMISSION OR ALLISON 1000, 2000, 2400, P. 1.....	124
ALLISON MD TRANSMISSION, P. 2.....	125
ALLISON MD TRANSMISSION (WTEC), P. 3.....	126
ALLISON MD TRANSMISSION (CONT.), P. 4.....	127
TRANSMISSION, WTEC MD W/AUTO NEUTRAL, P. 5.....	128
EATON AUTOSHIFT TRANSMISSION, P. 6.....	129
EATON AUTOSHIFT TRANSMISSION (CONT.), P. 7.....	130
EATON LIGHTNING TRANSMISSION, P. 8.....	131
ALLISON HD TRANSMISSION, P. 9.....	132
ALLISON HD TRANSMISSION, P. 10.....	133
ALLISON HD TRANSMISSION, P. 11.....	134
ALLISON HD TRANSMISSION WITH AUTO NEUTRAL, P. 12.....	135
ALLISON HD TRANSMISSION WITH AUTO NEUTRAL AND WITH 0013WUA, P. 13.....	136
ALLISON LCT TRANSMISSION (ALLISON 1000, 2000, 2400) WITH I6 HEUI, P. 14.....	137
TRANSMISSION RETARDER CONTROL WIRING WITH MD XMSN, HARD WIRED EFFECTS, P. 15.....	138
TRANSMISSION RETARDER CONTROL WIRING WITH MD XMSN, HARD WIRED EFFECTS, P. 16.....	139
 AIR CONDITIONING (CHAPTER 11).....	 140
HVAC SYSTEMS, P. 1.....	140
AIR CONDITIONING (ONLY), P. 2.....	141
AUTOTHERM SYSTEMS, P. 3.....	142
 CONNECTOR COMPOSITES (CHAPTER 12).....	 143
CONNECTOR COMPOSITES (10M), (71), (72), (345F), P. 1.....	143
CONNECTOR COMPOSITES (420F), (420M), (520), (521), (522), (523), (524), P. 2.....	144
CONNECTOR COMPOSITES (1002), (1003), (1010), P. 3.....	145
CONNECTOR COMPOSITE (1011), P. 4.....	146
CONNECTOR COMPOSITE (1012), P. 5.....	147
CONNECTOR COMPOSITE (1013), P. 6.....	148
CONNECTOR COMPOSITE (1014), P. 7.....	149
CONNECTOR COMPOSITES (1018), (1019M), (1020M), (1021M), (1022M), P. 8.....	150
CONNECTOR COMPOSITES (1027M, F), (1100), (1101A), (1101), (1102), P. 9.....	151
CONNECTOR COMPOSITES (1104), (1106), (1200), (1210), P. 10.....	152
CONNECTOR COMPOSITES (1300), (1301), (1400), (1402), (1410), (1500), (1510), P. 11.....	153
CONNECTOR COMPOSITES (1553), (1554F), (1555), (1600), (1601), (1650), P. 12.....	154
CONNECTOR COMPOSITES (1652), (1657M), (1658), (1659), (1800), P. 13.....	155
CONNECTOR COMPOSITES (1804), (1807), (1808), (1809), (1810), (1811), (1812), (1813), (1814), (1815), P. 14.....	156
CONNECTOR COMPOSITES (1820), (1822), (1823), (1824), (1828), (1860), (1861), (1901M), (1915), P. 15.....	157
CONNECTOR COMPOSITES (1918), (1935), (1920), (2000), (2002M), (2003M), (2004M), (2005M), P. 16.....	158
CONNECTOR COMPOSITES (2006M), (2007F), (2021F), (2021M), (2022F), (2022M), (2111M), (2112M), (2113M), (2114M), (2115M), (2116M), (2117M), (2301M), (2302M), (2303M), P. 17...	159
CONNECTOR COMPOSITES (2304M), (2305M), (2306M), (2307F), (2308F), (2502F), (2502M), (2503F, M), (2600F, M), P. 18.....	160
CONNECTOR COMPOSITES (2601M, F), (2602M, F), (3000M), (3000F), (3002M), (3003), (3100M), (3200F, M), (3201M), (3202), (3203M), P. 19.....	161
CONNECTOR COMPOSITES (3204M, F), (3209), (3210M), (3211M), (4000), P. 20.....	162
CONNECTOR COMPOSITE (4001), P. 21.....	163
CONNECTOR COMPOSITE (4002), P. 22.....	164

3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

v

CONNECTOR COMPOSITE (4003), P. 23.....	165
CONNECTOR COMPOSITES (4004), (4007), (4008), P. 24.....	166
CONNECTOR COMPOSITE (4014), P. 25.....	167
CONNECTOR COMPOSITE (4014/1700), P. 26.....	168
CONNECTOR COMPOSITES (4015), (4017), (4018), (4019), (4020), (4021), (4022), (4023), P. 27.....	169
CONNECTOR COMPOSITES (4024), (4030), (4031), (4032), (4033), (4040), (4041), P. 28.....	170
CONNECTOR COMPOSITES (4070), (4071), (4087), (4098), (4101), P. 29.....	171
CONNECTOR COMPOSITE (4103), P. 30.....	172
CONNECTOR COMPOSITES (4105), (4111), (4120), (4301), P. 31.....	173
CONNECTOR COMPOSITES (4305), (4410), (4410B), (4410C), (4410D), (4410E), (4410H), (4410M), (4411), P. 32.....	174
CONNECTOR COMPOSITES (4411A), (4411B), (4412), (4415), (4450), (4450A), (4460A), (4460), P. 33.....	175
CONNECTOR COMPOSITE (4705), P. 34.....	176
CONNECTOR COMPOSITES (4810), (4712F), (4820), (4713F), (4830), (4840), (4850), P. 35.....	177
CONNECTOR COMPOSITES (4900), (4910), (4950), (4951), P. 36.....	178
CONNECTOR COMPOSITES (6007), (6011), P. 37.....	179
CONNECTOR COMPOSITES (6013M), (6014), P. 38.....	180
CONNECTOR COMPOSITES (6015), (6020), (6021), P. 39.....	181
CONNECTOR COMPOSITES (6200), (6316), (6323), (6332), (6333), (6334), (6400), (6401M), (6401), (6406), (6407), (6407D), (6409), (6500), P. 40.....	182
CONNECTOR COMPOSITES (6550), (6703), (6704), (6708), (7103), (7104), (7104A), (7105), (7106), (7111), P. 41.....	183
CONNECTOR COMPOSITES (7200), (7202), (7203), P. 42.....	184
CONNECTOR COMPOSITES (7204), (7205), (7206), (7211), (7212), (7213), P. 43.....	185
CONNECTOR COMPOSITES (7214), (7300), (7301), P. 44.....	186
CONNECTOR COMPOSITES (7302), (7304), (7305), (7306), (7500), (7502), (7600), (7601), P. 45.....	187
CONNECTOR COMPOSITES (7603), (7604), (7605), (7606), (7607), (7608), (7609), (7610), (7611), (7612), (7613), (7615), (7700), (7702), (7703), (7703A), P. 46.....	188
CONNECTOR COMPOSITES (7800), (7801M), (7803), (7900), (7901), P. 47.....	189
CONNECTOR COMPOSITES (7905), (7906), (8000), (8001), (8102), (8150), (8151), (8200), P. 48.....	190
CONNECTOR COMPOSITES (8201), (8301), (8310), (8311), (8312), (8400), (8500), (8501), (8502), (8502A), P. 49.....	191
CONNECTOR COMPOSITES (8503), (8503A), (8505), (8506), (8507), (8508), (8509), (8600), (8601), (8602), P. 50.....	192
CONNECTOR COMPOSITES (8700), (8701), (8800), (8801), (8802), (8803), (8805), P. 51.....	193
CONNECTOR COMPOSITES (9001), (9002), (9100), (9101), (9102), (9103), (9104), (9254), (9255), P. 52.....	194
CONNECTOR COMPOSITES (9260), (9261), (9262), (9263), (9264), (9265), (9303A), P. 53.....	195
CONNECTOR COMPOSITES (9405), (9501), (9502), (9503), (9504), (9505), (9506), P. 54.....	196
CONNECTOR COMPOSITES (9507), (9508), (9509), (9510), (9511), (9512), (9513), (9514), (9515), P. 55.....	197
CONNECTOR COMPOSITES (9516), (9517), (9518), (9519), P. 56.....	198
CONNECTOR COMPOSITE (9700), P. 57.....	199
CONNECTOR COMPOSITE (9700), P. 58.....	200
CONNECTOR COMPOSITES (9715), (9715A), (9715B), P. 59.....	201
CONNECTOR COMPOSITES (9716), (9716A), (9716B), P. 60.....	202
CONNECTOR COMPOSITES (9717A), (9717B), P. 61.....	203
CONNECTOR COMPOSITES (9718), (9719), (9720), (9733), (9734), (9736), (9754), (9762), (9763), P. 62.....	204

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

CONNECTOR COMPOSITES (9777), (9778), (9800), P. 63.....	205
CONNECTOR COMPOSITES (9870), (9871), (9811), (9812), (9814), (9815), (9830), (9850), (9860), (9865M), (9900), (9900A), (9913A), P. 64.....	206
CONNECTOR COMPOSITES (9913B), (9914), (4100), (4109), (4112), (6502), (7107), (7208), (7615), P. 65.....	207

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

1

INSTRUCTIONS AND CHARTS (CHAPTER 1)

CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 1

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	
--	--	---	--

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
					P52778H	09AUG00
						PART NO.
						AE08-52365
						SHEET
						01

Figure 1 Circuit Number Identification and Location Chart

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

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.			SHEET				
					P52778H	09AUG00	AE08-52365			02				

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

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

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.	
						P52778H		15 MAY 00		AE08-52365	
SHEET 03											

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

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 4

INTERNATIONAL TRUCK AND ENGINE CORPORATION					ELECTRICAL CIRCUIT DIAGRAM				
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.					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.	SHEET	
					P52778H	15MAY00	AE08-52365	04	

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

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

5

CIRCUIT NUMBER IDENTIFICATION AND LOCATION CHART, P. 5

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 THE
INTERNATIONAL TRUCK AND ENGINE CORPORATION.

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	GY	AIR HORN (ELECTRIC SOLENOID ACTUATED)
101	TN	BRAKE APPLICATION AIR
102	YL	FLASH TO PASS
103	LTGN	BODY BUILDER AUX. FEED
104	DKBL	REMOTE START/STOP
105	LTGN	HEATED SEATS

CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME		
JKP	30MAY03	ADDED 103, 104, 105 & COLOR TO 100, 101, 102.	C	58205F	U00DLCK RELEASE NO.	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS	DATE	PART NO.
					P52778H	15MAY00	AE08-52365	05

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

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

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

INTERNATIONAL TRUCK AND ENGINE CORPORATION			ELECTRICAL CIRCUIT DIAGRAM		
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.			CHAPTER 1		
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	VARIABLE 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 DISENGAGED 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
CNA	12SEP03	ADDED PIN # CHART.	C	56774T	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

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

7

CIRCUIT DIAGRAM INSTRUCTIONS, P. 7

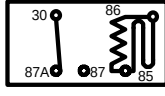
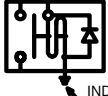
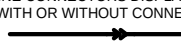
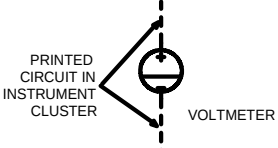
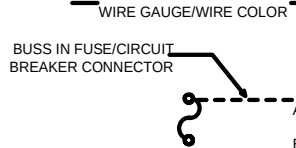
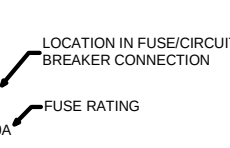
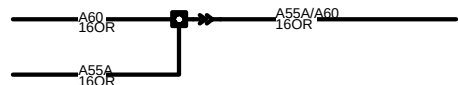
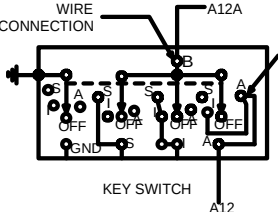
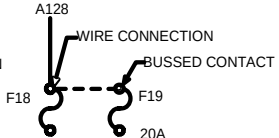
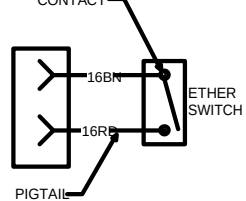
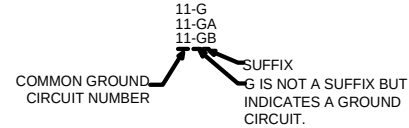
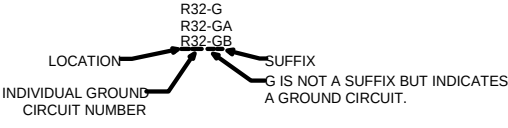
INTERNATIONAL TRUCK AND ENGINE CORPORATION THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.	ELECTRICAL CIRCUIT DIAGRAM CHAPTER 1 CIRCUIT DIAGRAM INSTRUCTIONS																																																								
A - SWITCH AND RELAY POSITIONS AS SHOWN ON CIRCUIT DIAGRAMS INDICATE NORMAL POSITION WITH IGNITION OFF UNLESS OTHERWISE NOTED.  SWITCH: MANUAL/MECHANICAL  RELAY - SUPPRESSED  INDICATES CASE MAGNETIC SUPPRESSED	B - MULTIPLE CONNECTIONS ARE DISPLAYED ON SCHEMATIC AS SHOWN. REFER TO CONNECTOR COMPOSITE WITH APPLICABLE NUMBER FOR MORE COMPLETE INFORMATION.  12 AND/OR 12 SINGLE IN-LINE CONNECTORS DISPLAYED AS SHOWN WITH OR WITHOUT CONNECTOR NUMBER. 																																																								
C - PHANTOM LINES INDICATE PRINTED CIRCUITS OR BUSSED CIRCUITS. THESE CIRCUITS EXIST IN THE INSTRUMENT CLUSTERS AND FUSE/CIRCUIT BREAKER CONNECTORS.   	D - MULTIPLE CIRCUIT NUMBERS ON A LINE INDICATE ONE WIRE DISTRIBUTING CURRENT TO TWO CIRCUITS. 																																																								
E - SWITCHES, RELAYS AND COMPONENTS INDICATE EXTERNAL WIRE CONNECTIONS AND/OR INTERNAL CONNECTIONS OR CONTACTS.   																																																									
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). NOTE: FOR CIRCUIT DESCRIPTION OTHER THAN GROUNDS, NEITHER THE LETTER "G" NOR THE COLOR WHITE SHALL BE USED. GROUND CIRCUITS ARE DESCRIBED THIS:  																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">CHK</td> <td style="width: 10%;">DATE</td> <td style="width: 20%;">CHANGE</td> <td style="width: 10%;">REV</td> <td style="width: 10%;">REFERENCE</td> <td style="width: 10%;">DRAWN</td> <td style="width: 30%;">NAME</td> </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

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

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

CIRCUIT DIAGRAM INSTRUCTIONS

CHAPTER 1

G - ABBREVIATIONS: COLOR, NOUN AND ENGINE

COLOR ABBREVIATION

AQ - AQUA

BK - BLACK

BL - BLUE

BN - BROWN

DK GN - DARK GREEN

GD - GOLD

GY - GRAY

GN - GREEN

LT BL - LIGHT BLUE

LT GN - LIGHT GREEN

OR - ORANGE

PK - PINK

PL - PURPLE

RD - RED

SIL - SILVER

TN - TAN

VT - VIOLET

WH - WHITE

YL - YELLOW

NOUN ABBREVIATION

A

ACC

AC

AUX

AWG

B

BAT

CONN

DRL

ENG

FWD

GA

ACCESSORY

AIR CONDITIONER

AUXILIARY

AMERICAN WIRE GAUGE

BATTERY

CONNECTION OR CONNECTOR

DAYTIME RUNNING LIGHTS

ENGINE

FORWARD

GAUGE

G

GND

I

IGN

IND

L

LT

W/O

OPT

R

S

THERMO

W/

GROUND

IGNITION

INDICATOR

LEFT

LIGHT

WITHOUT

OPTIONAL

RIGHT

START OR SENDER

THERMOSTAT

WITH

ENGINE ABBREVIATION

ISM

N14E PLUS

C-10,C-12

V8-AVNT

I6-HEUI

- MFG (CUMMINS) 10.8 LITER ELECTRONIC ENGINE CONTROL

- MFG (CUMMINS) 14 LITER ELECTRONIC ENGINE CONTROL

- MFG (CATERPILLAR) 10.3 LITER ELECTRONIC ENGINE CONTROL

- MFG (INTERNATIONAL) V8 6.0 LITER ELECTRONIC ENGINE CONTROL

- MFG (INTERNATIONAL) NGD I6 DT466 & DT/HT530 ELECTRONIC ENGINE CONTROL

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.)

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

9

SCHEMATIC SYMBOL CHART, P. 9

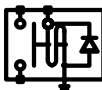
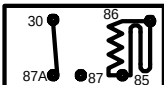
INTERNATIONAL TRUCK AND ENGINE CORPORATION					ELECTRICAL CIRCUIT DIAGRAM		CHAPTER 1	
THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF INTERNATIONAL TRUCK AND ENGINE CORPORATION.					SCHEMATIC SYMBOL CHART			
SYMBOL		DESCRIPTION			DESCRIPTION		SYMBOL	
		MALE/FEMALE IN-LINE CONNECTION			HORN			
		FEMALE TERMINAL			SPEAKER - SOUND SYSTEM			
		MALE TERMINAL			MAGNETIC SWITCH			
		GROUND			LIGHT - SINGLE FILMENT			
		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

RELAY FUNCTIONS, P. 10

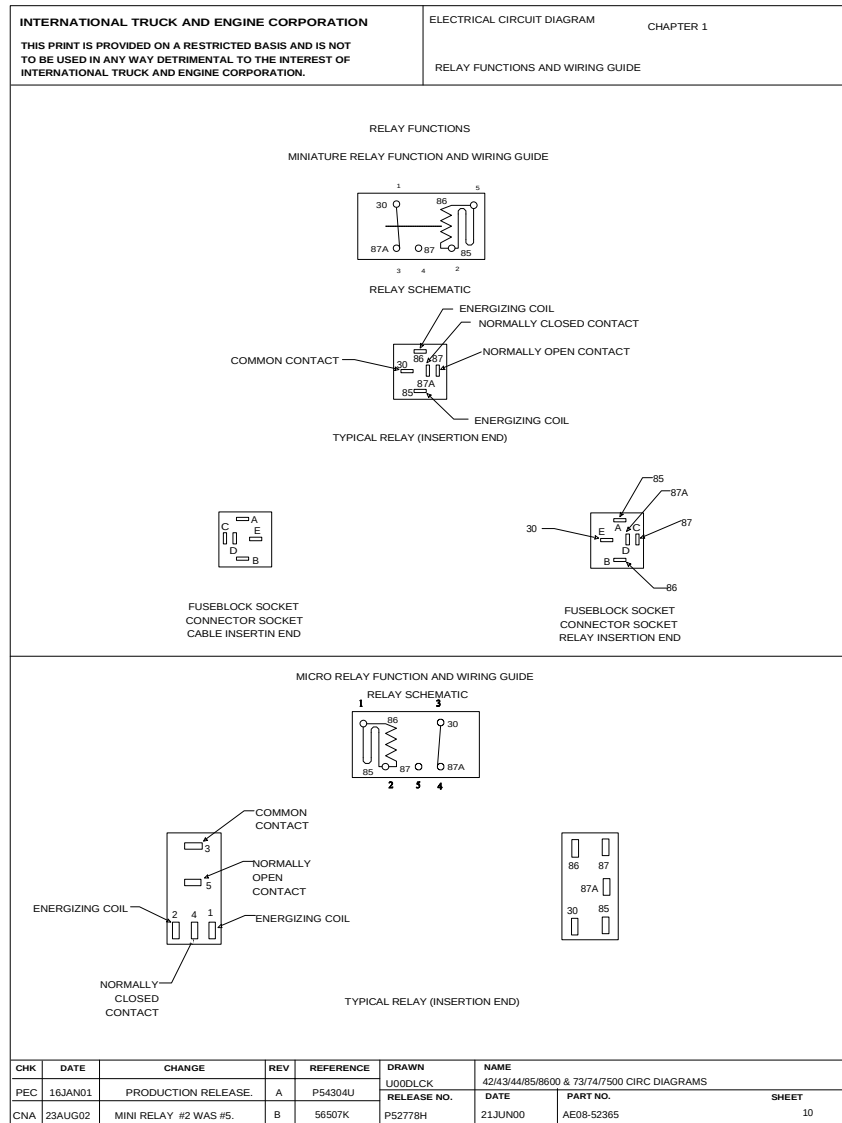


Figure 10 Relay Functions

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

11

LAMP BULB CHART, P. 11

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.				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	
DOME 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		
					RELEASE NO.	DATE	PART NO.	SHEET
PEC	18JUN01	REVISED DRWG SHEET.	B	P54634F	P52778H	20JUN00	AE08-52365	11

Figure 11 Lamp Bulb Chart

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

**INTERNATIONAL V8 AND I6 ECM CONTROLLER CONNECTORS 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 V8 & I6 ECM CONTROLLER CONNECTORS PIN NUMBER IDENTIFICATION		
CONNECTOR X3 REFERENCE (6020)					CONNECTOR X4 REFERENCE (6021)		
ECM PIN #	TERM	DESCRIPTION	ECM PIN #	TERM	DESCRIPTION		
1	FPM	FUEL PUMP MONITOR	1	KL.B7	BATTERY POWER		
2	FLI	FUEL LEVEL INDICATOR	2	KL.B7	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 INPUT 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 J1939 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	
CNA	25FEB03	PIN 6 OF CONN X4 INPUT CHANGED TO INPUT	B	58928S	U00DLCK RELEASE NO P54304U	42/43/44/85/9600 & 73/74/7500 CIRC DIAGRAMS DATE 16JAN01 PART NO. AE08-52365 SHEET 12	

Figure 12 International V8 and I6 ECM Controller Connectors Pin Number Identification

BATTERY FEEDS, CAB, P. 2

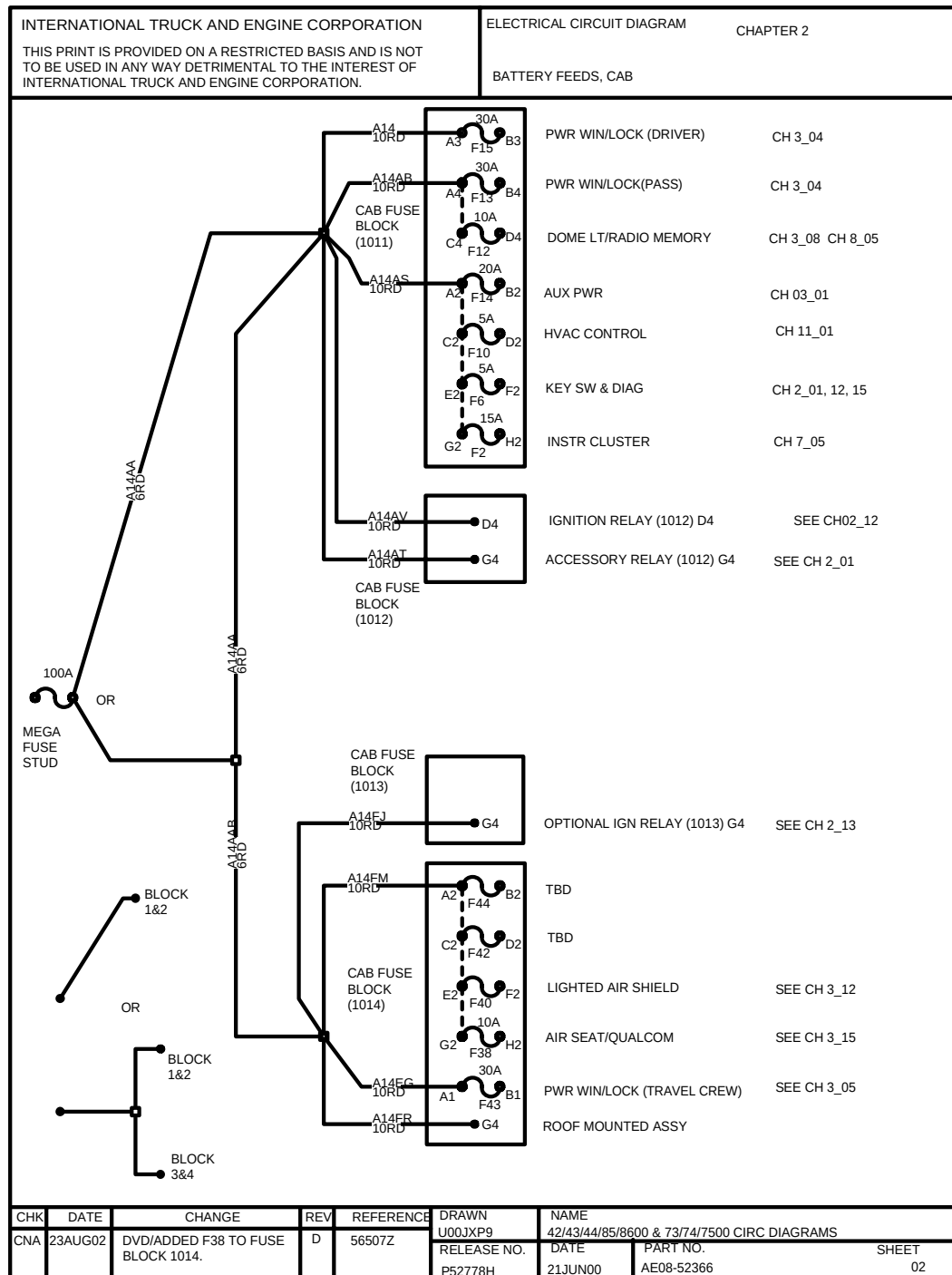
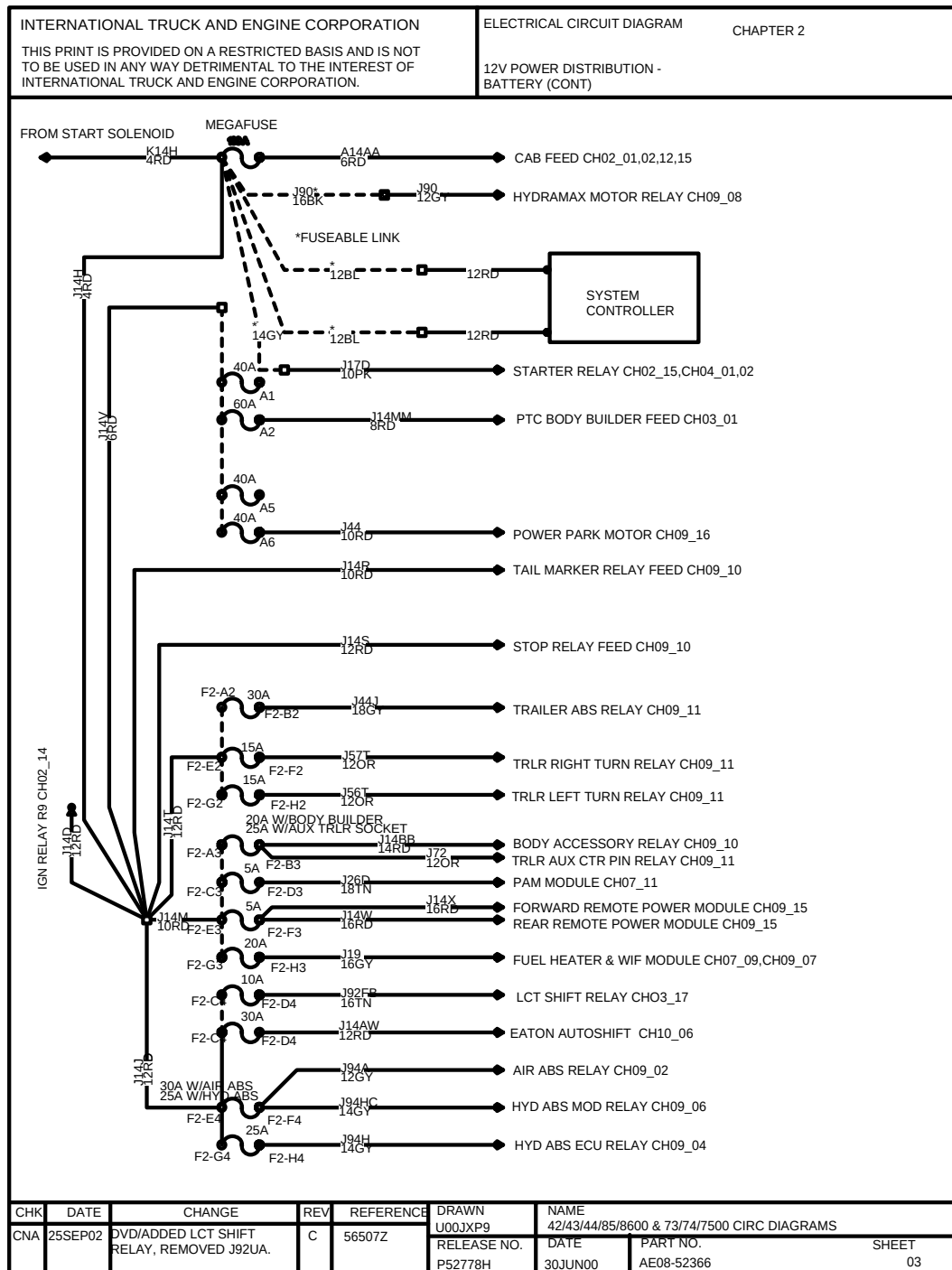


Figure 14 Battery Feeds, Cab

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

15

BATTERY, P. 3**Figure 15 Battery**

1708 DATA LINK, P. 4

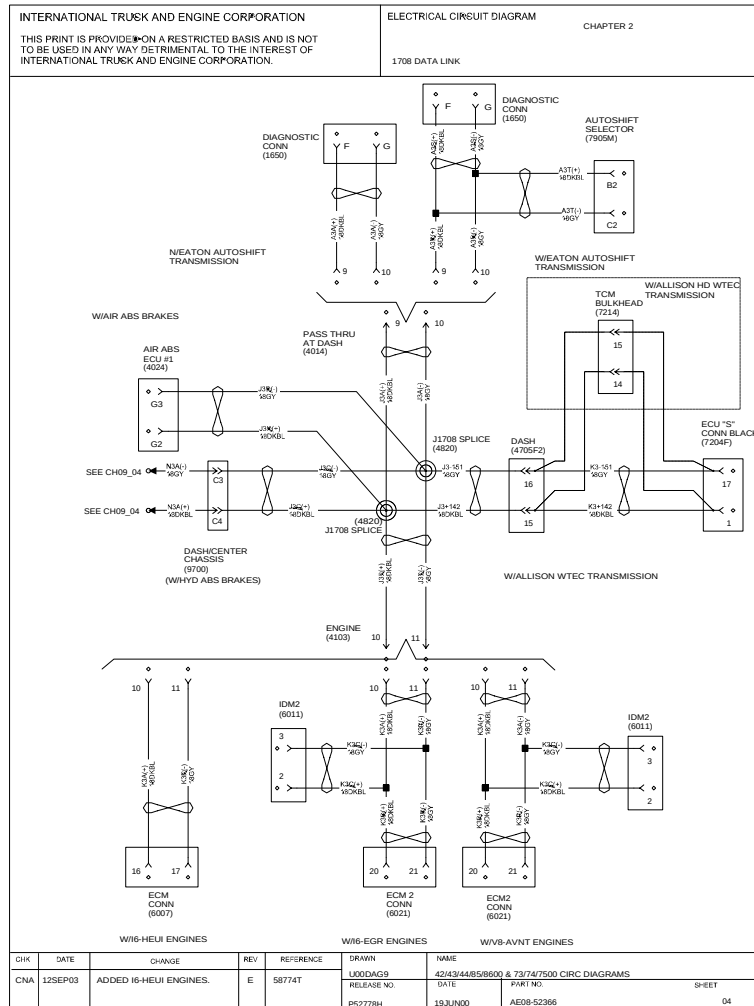


Figure 16 1708 Data Link

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

17

SWITCH DATA LINK, P. 5

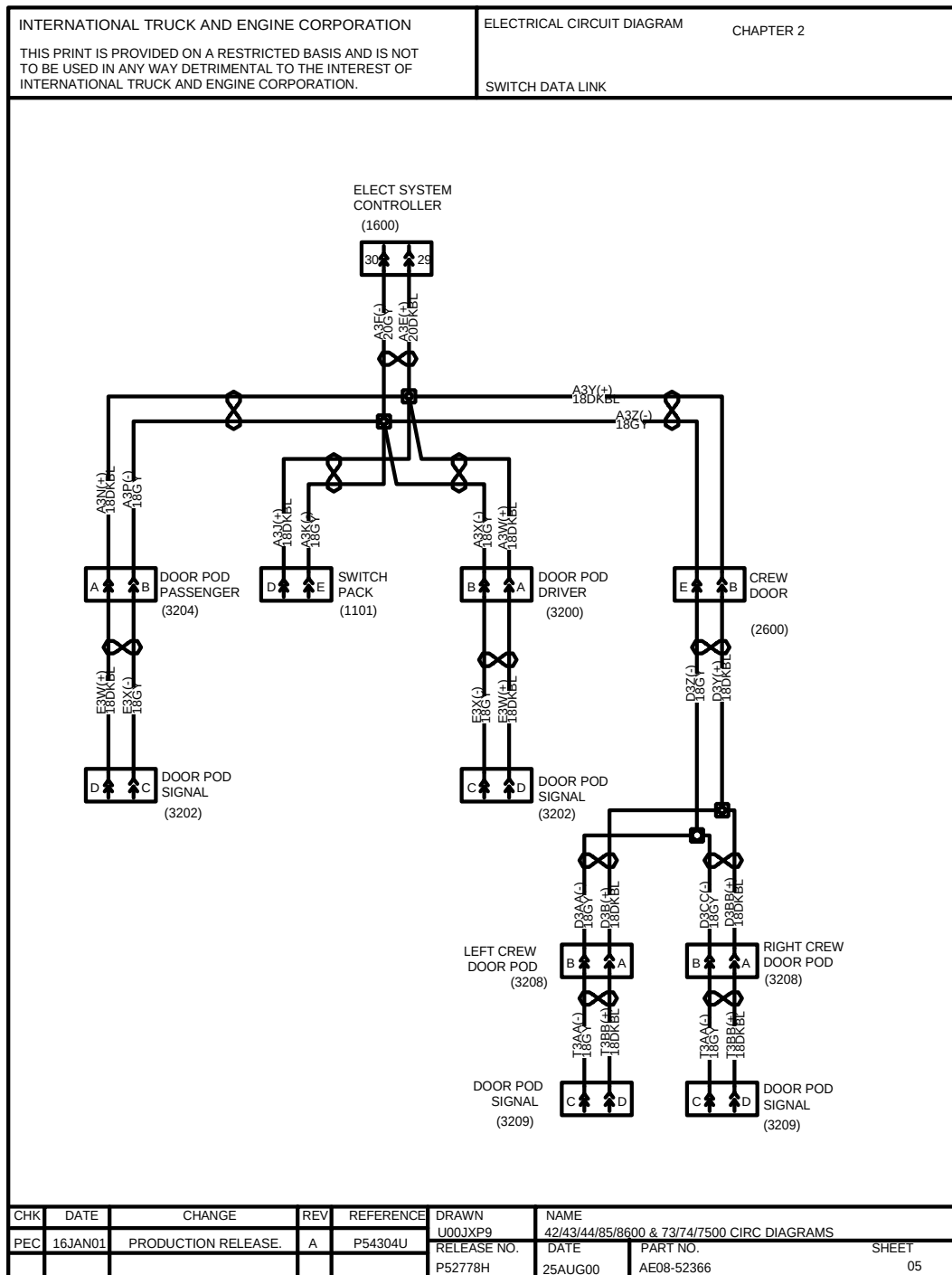


Figure 17 Switch Data Link

DRIVETRAIN 1939 DATA LINK (CAB), P. 6

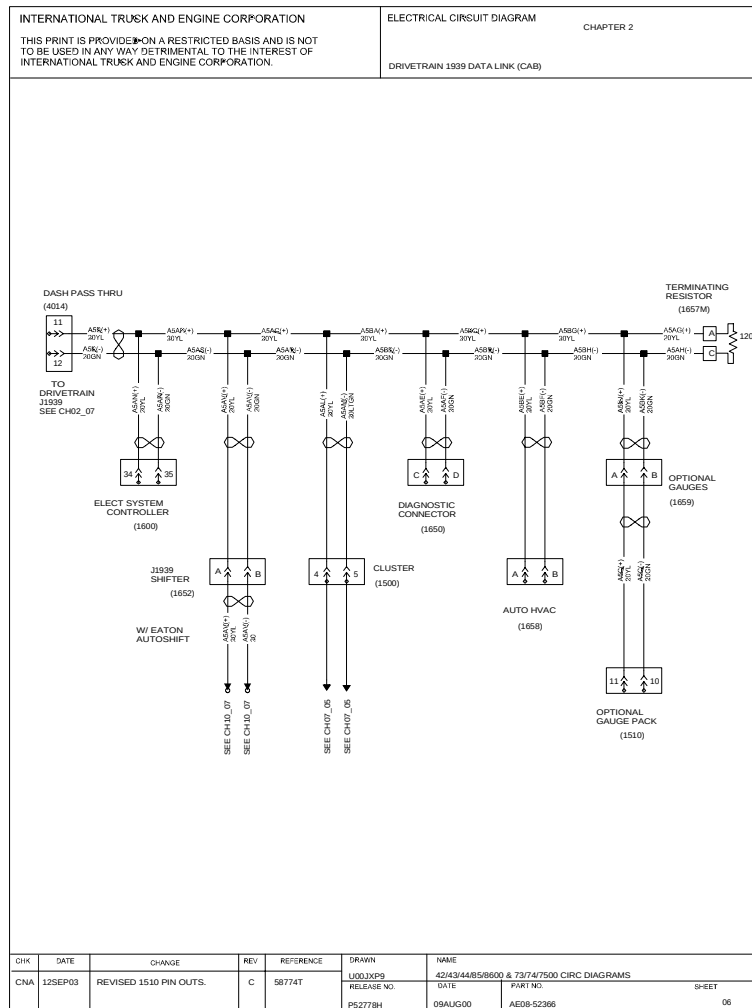


Figure 18 Drivetrain 1939 Data Link (Cab)

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

19

DRIVETRAIN 1939 DATA LINK (CHASSIS), P. 7

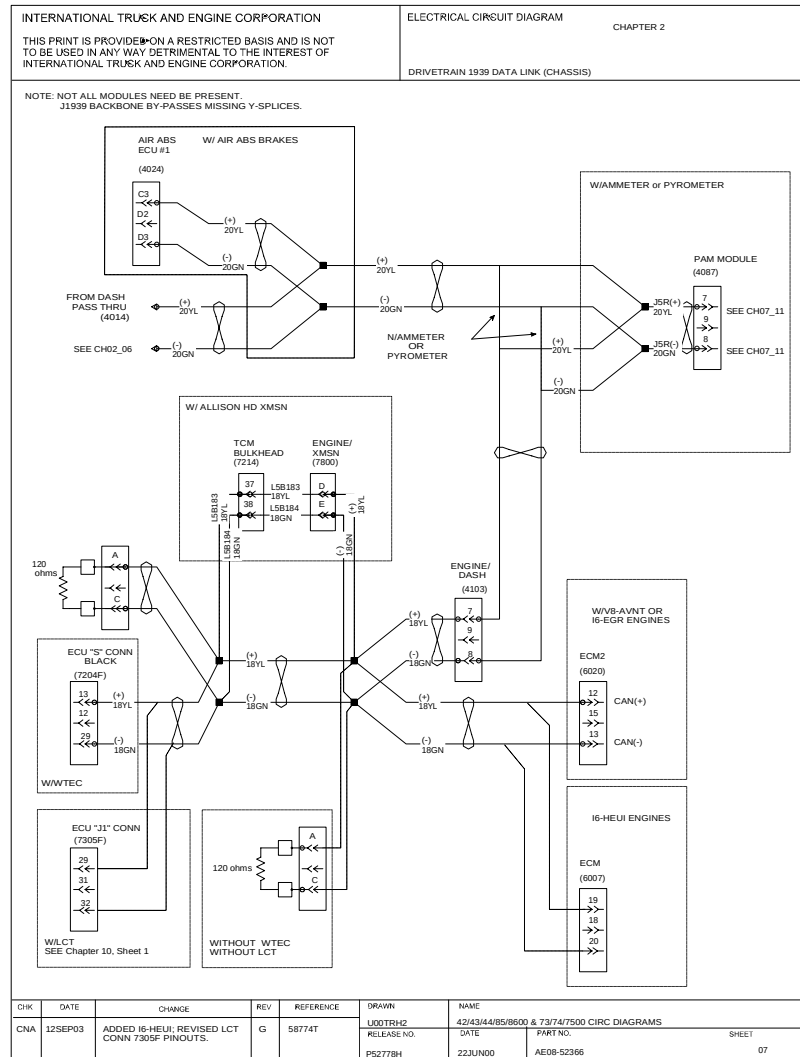


Figure 19 Drivetrain 1939 Data Link (Chassis)

GROUND S CHASSIS, P. 8

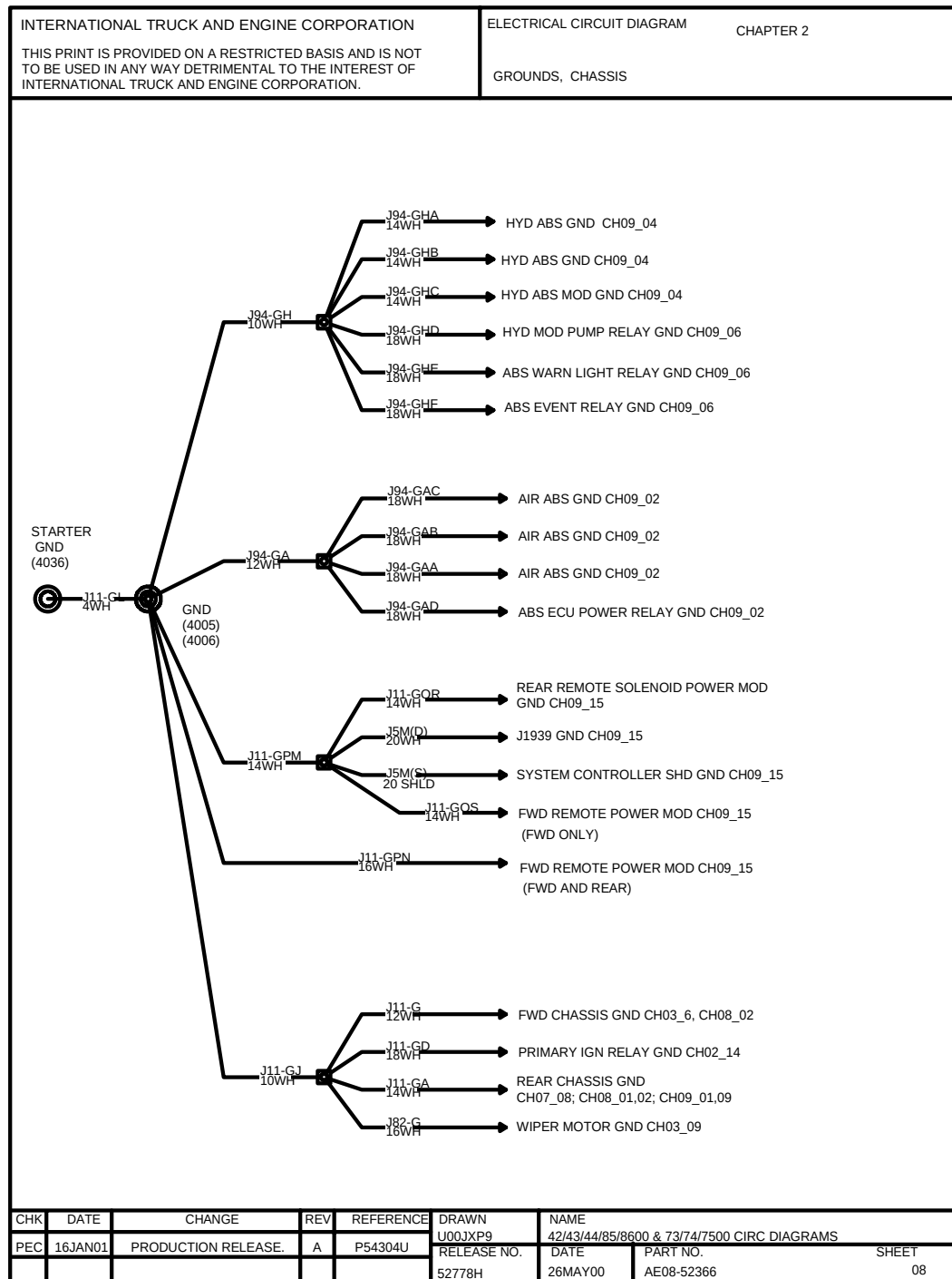


Figure 20 Grounds Chassis

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

21

GROUNDS CHASSIS, P. 9

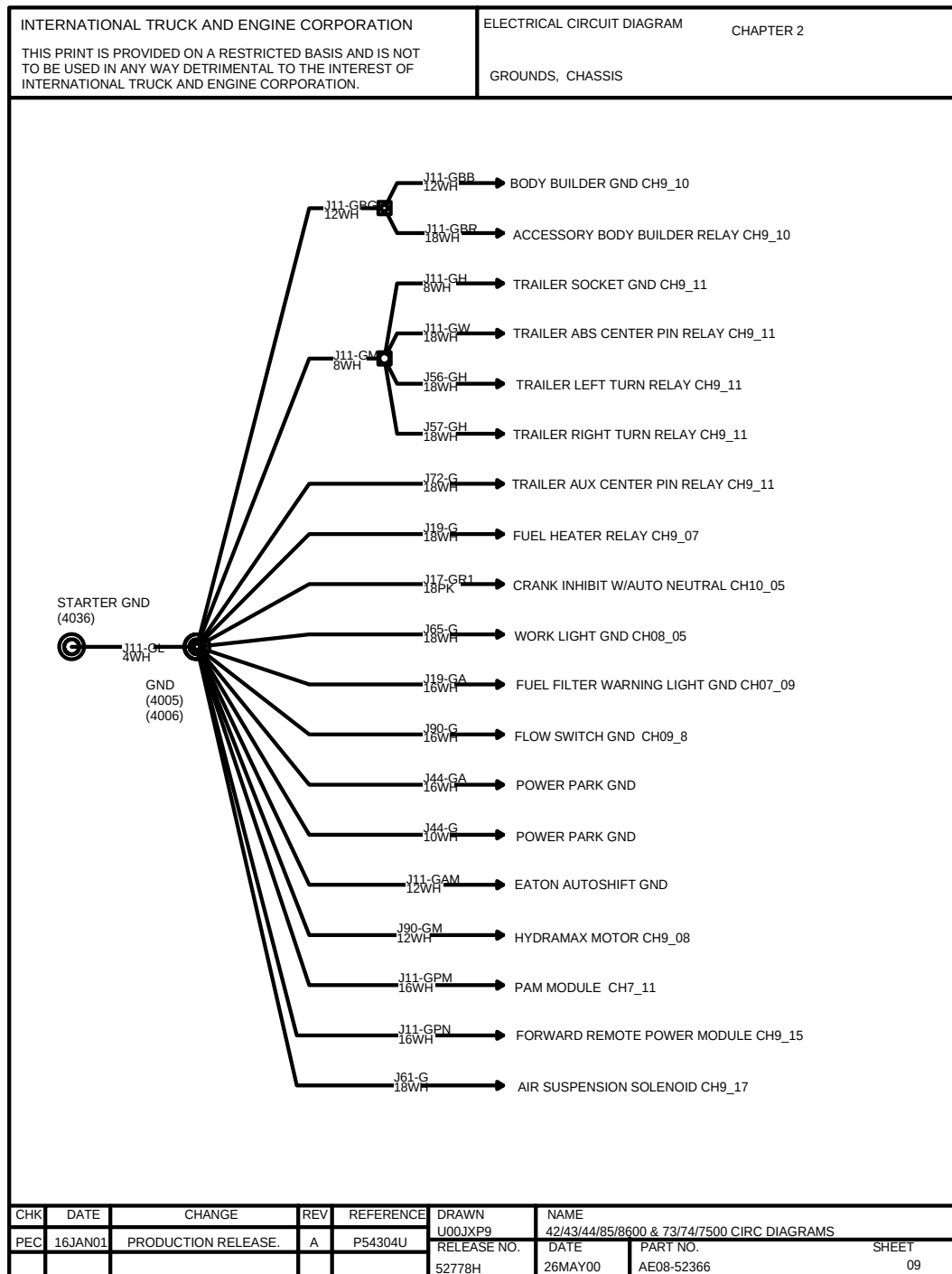


Figure 21 Grounds Chassis (Cont.)

GROUNDS IP, P. 10

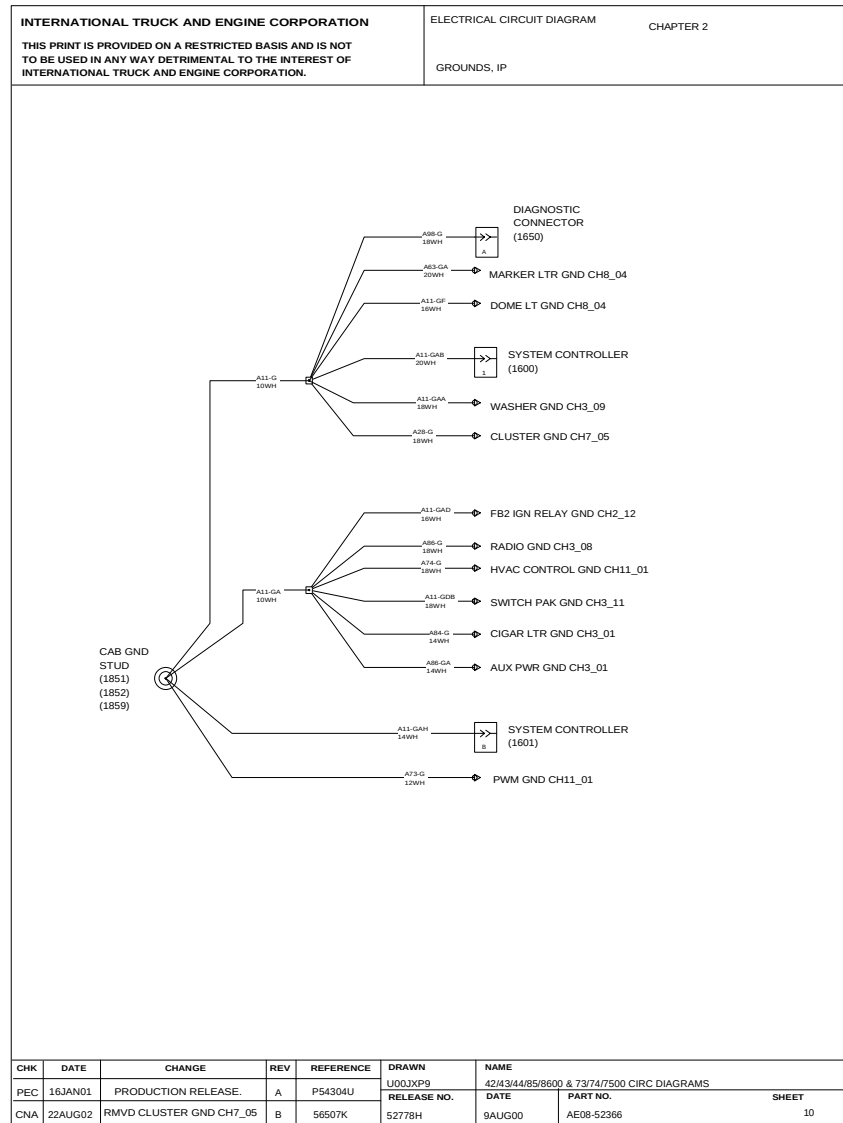


Figure 22 Grounds IP

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

23

GROUNDS IP, P. 11

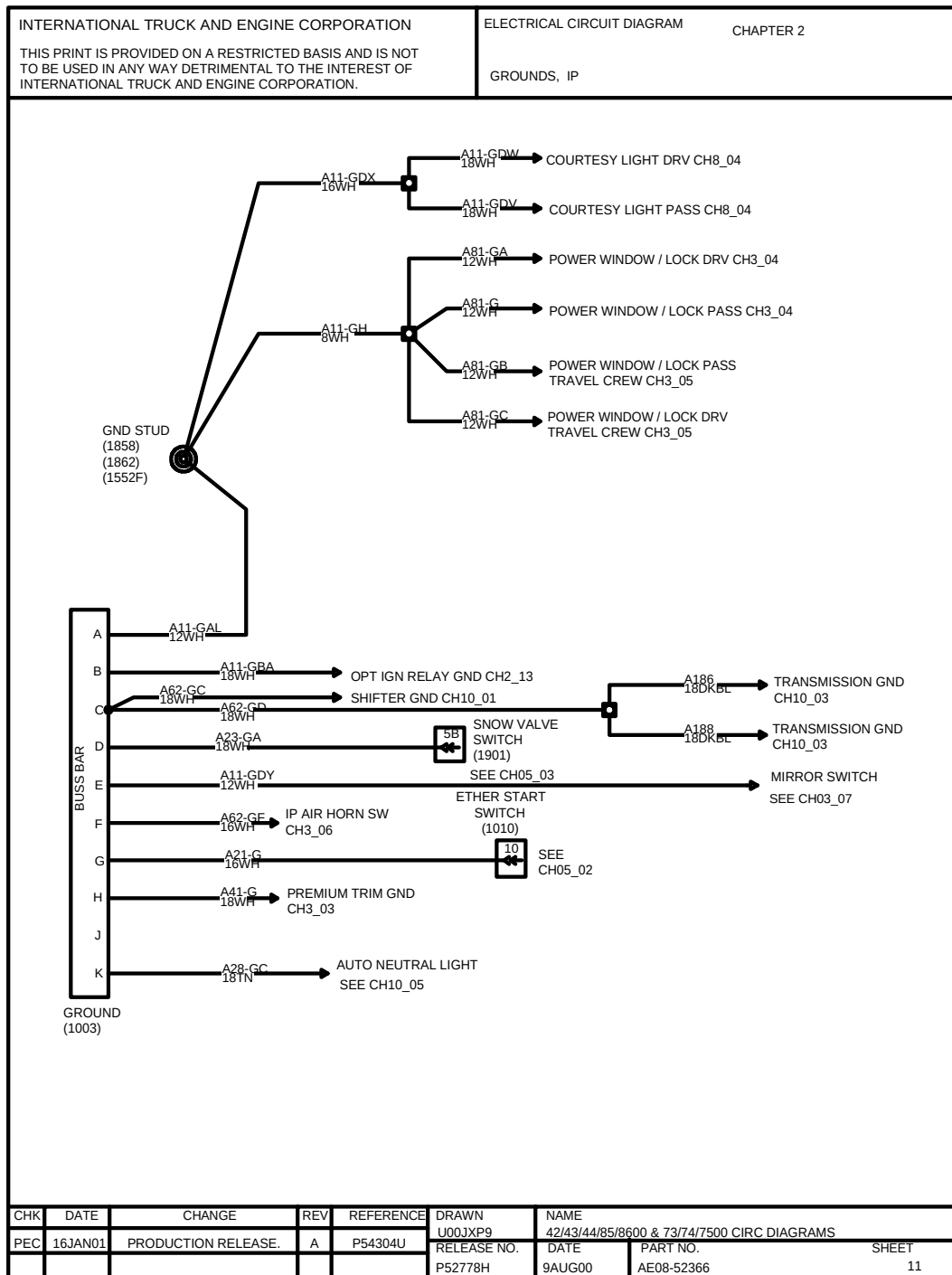


Figure 23 Grounds IP

IGNITION CAB, P. 12

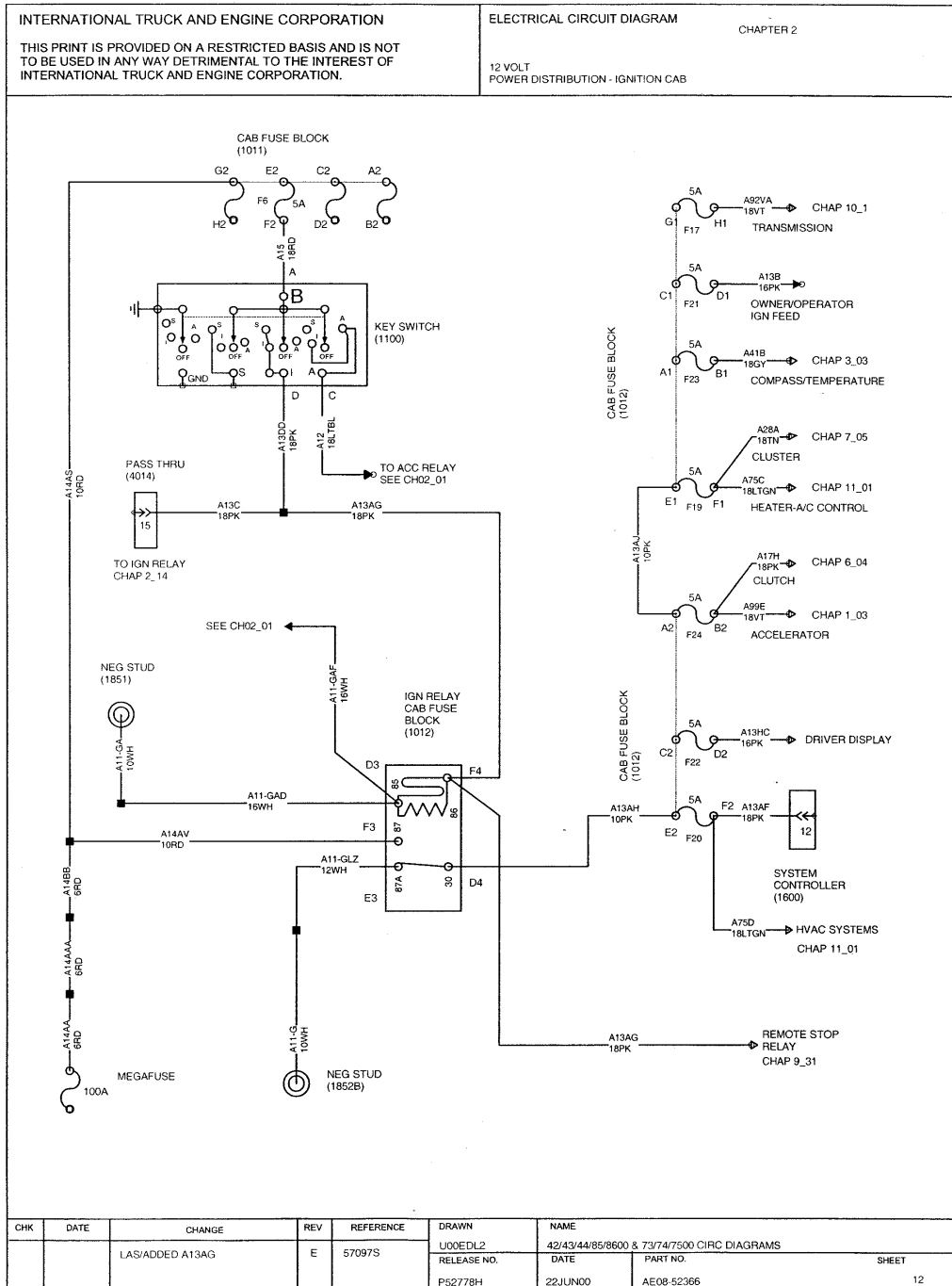


Figure 24 Ignition Cab

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

25

IGNITION CAB, P. 13

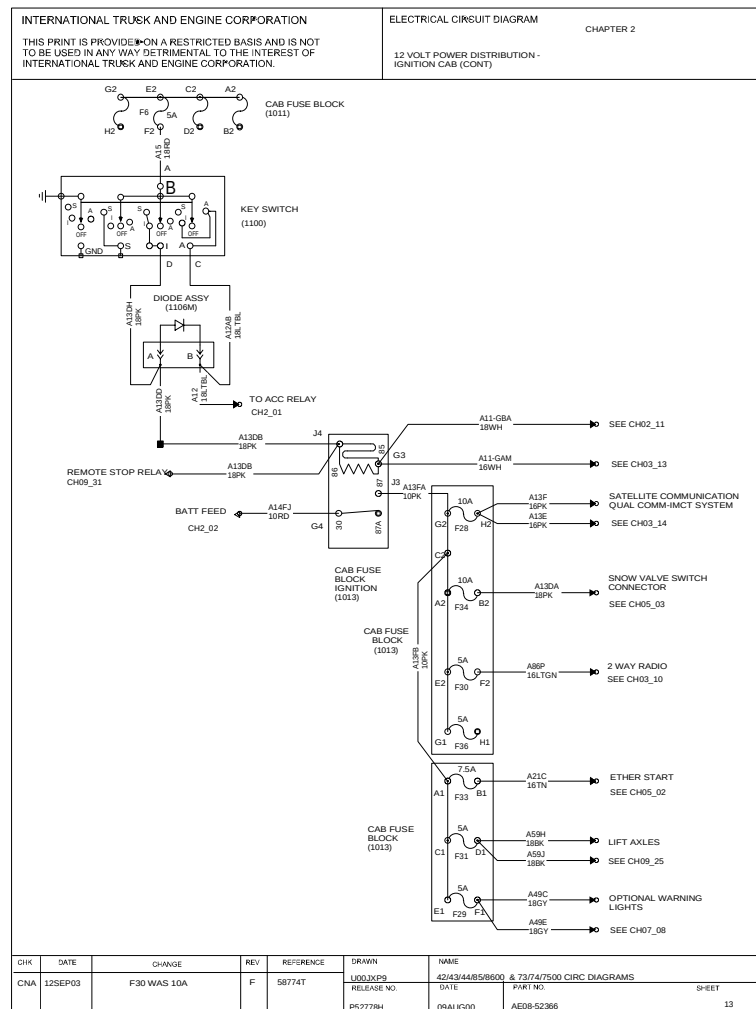


Figure 25 Ignition Cab (Cont.)

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

27

START, P. 15

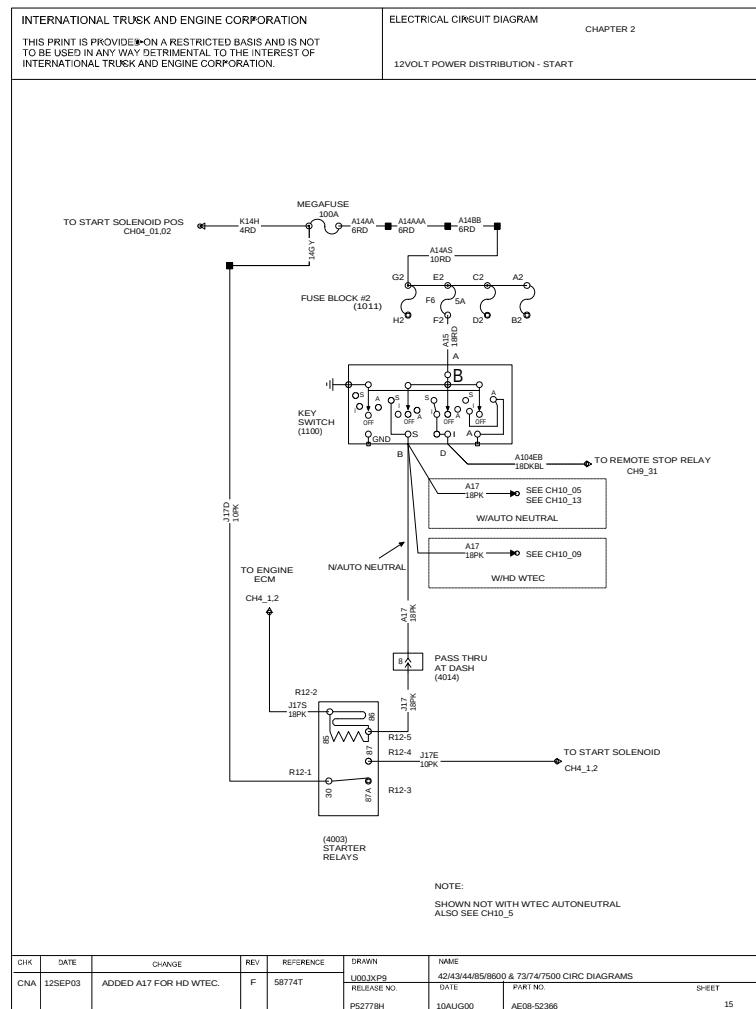


Figure 27 Start

CAB ACCESSORIES (CHAPTER 3)

CIGAR LIGHTER AND POWER FEEDS, P. 1

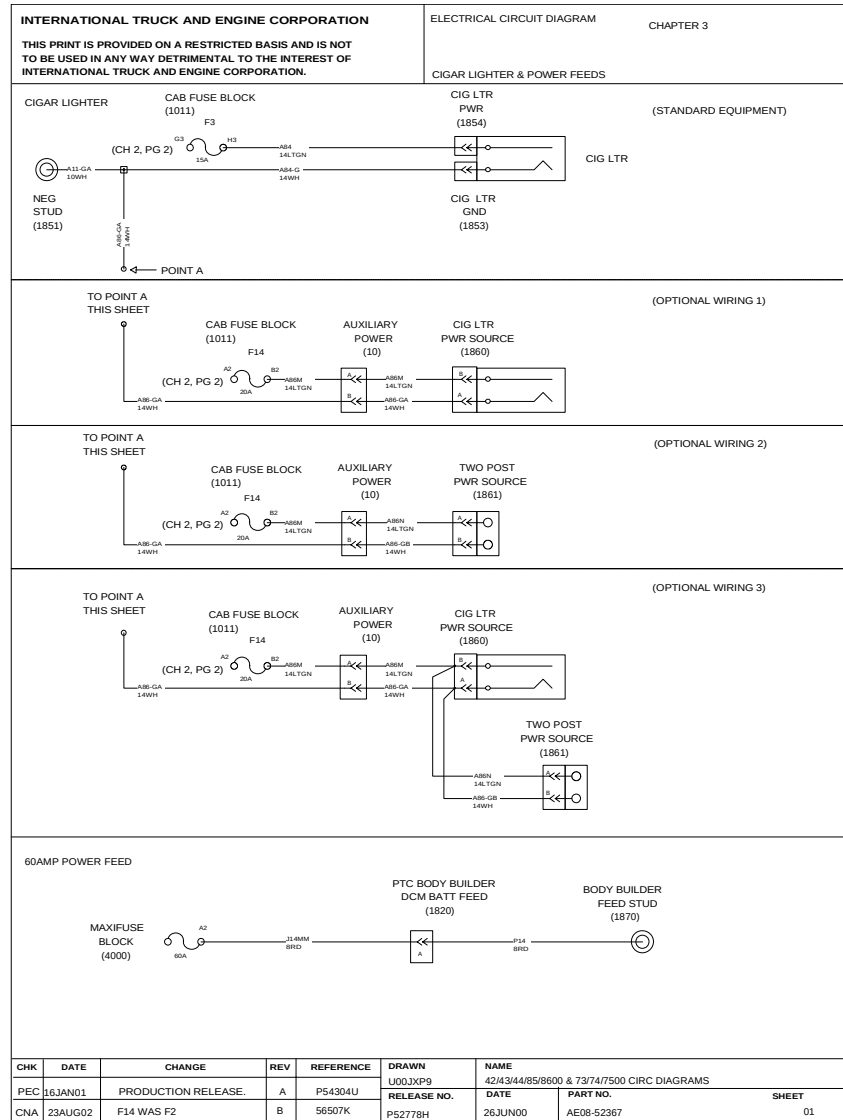


Figure 28 Cigar Lighter and Power Feeds

3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

29

CB POWER, P. 2

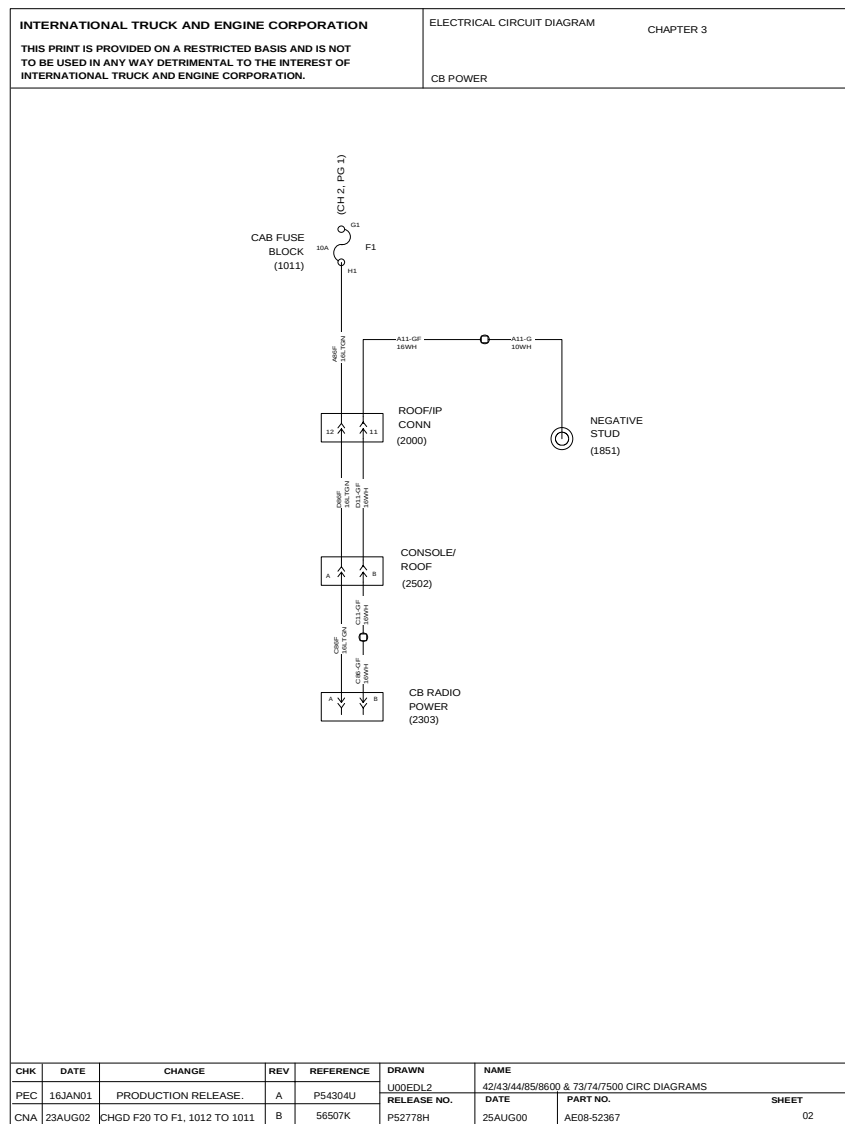


Figure 29 CB Power

COMPASS AND TEMPERATURE DISPLAY, P. 3

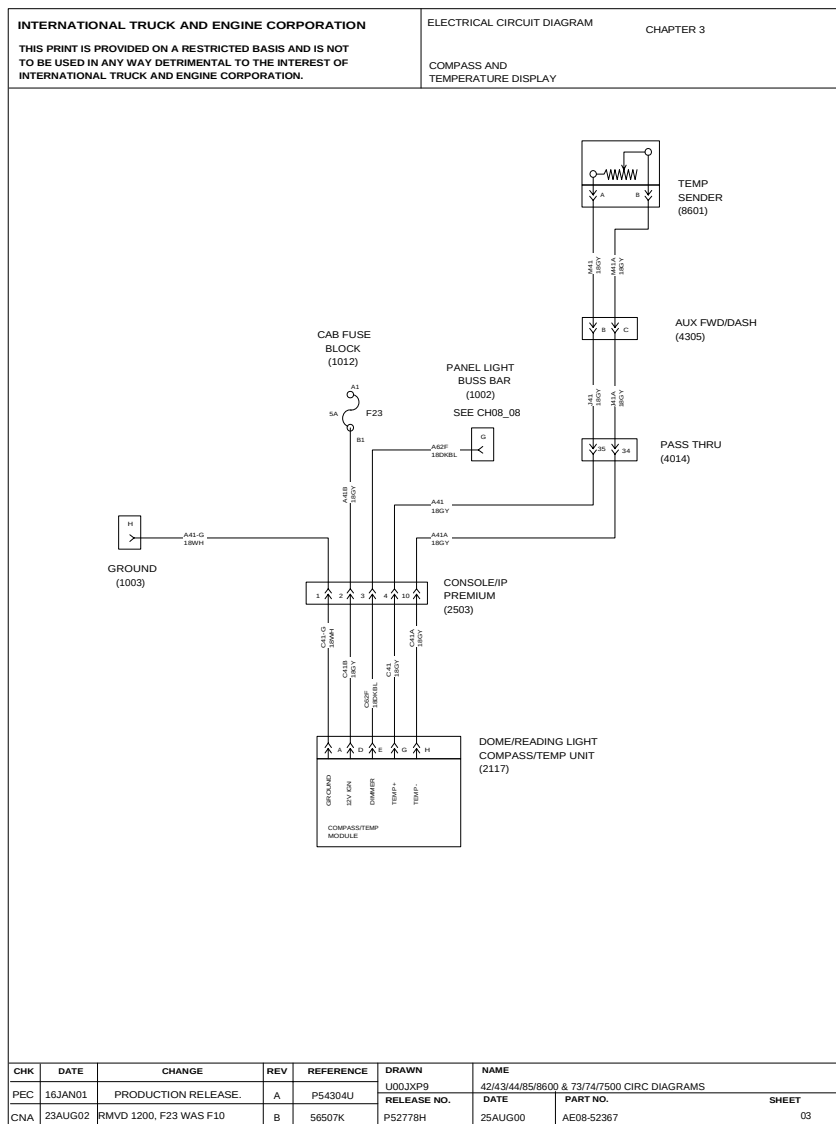


Figure 30 Compass and Temperature Display

3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

31

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

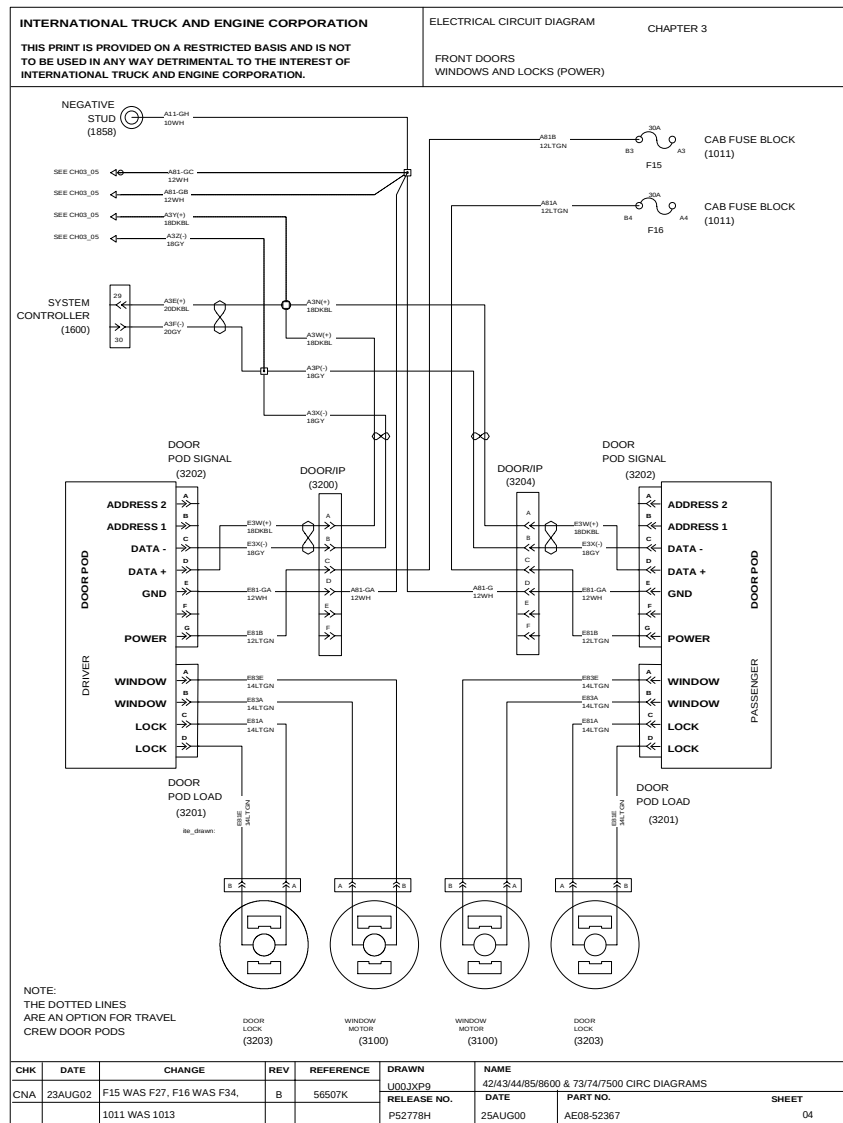


Figure 31 Front Doors Windows and Locks (Power)

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

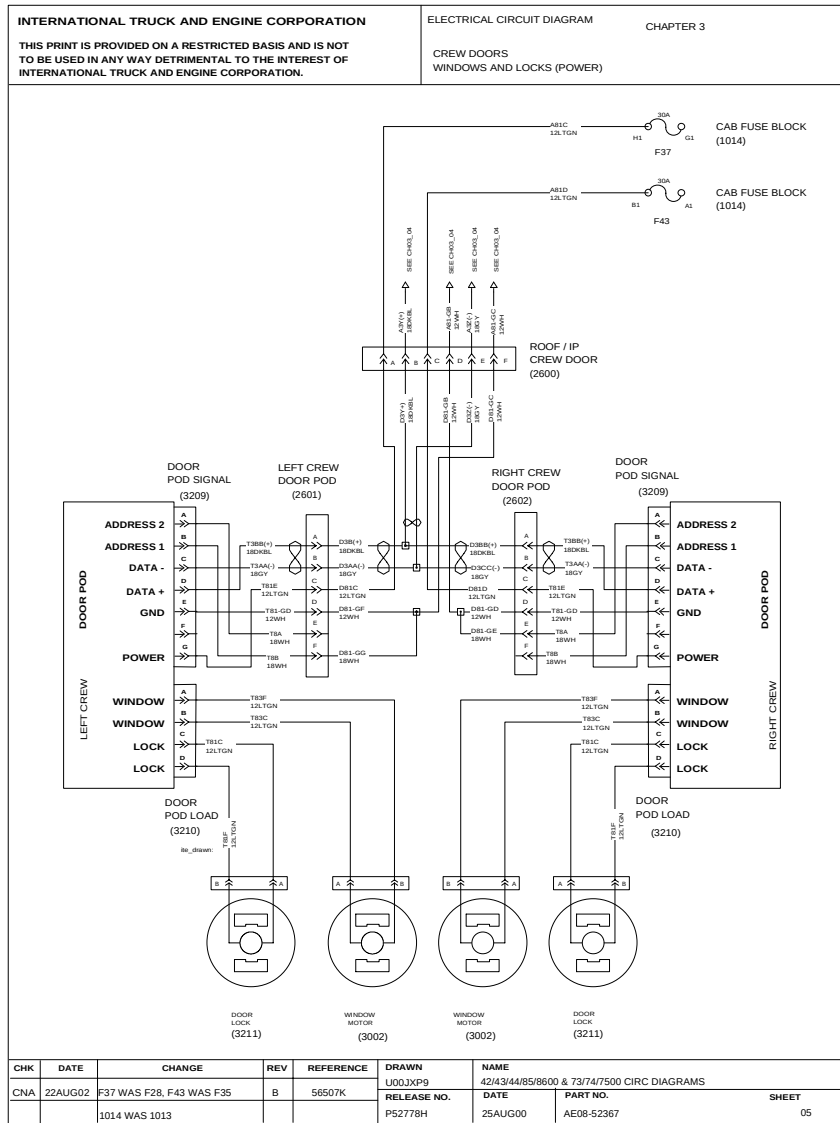


Figure 32 Crew Doors Windows and Locks (Power)

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

33

HORN, DUAL ELECTRIC, P. 6

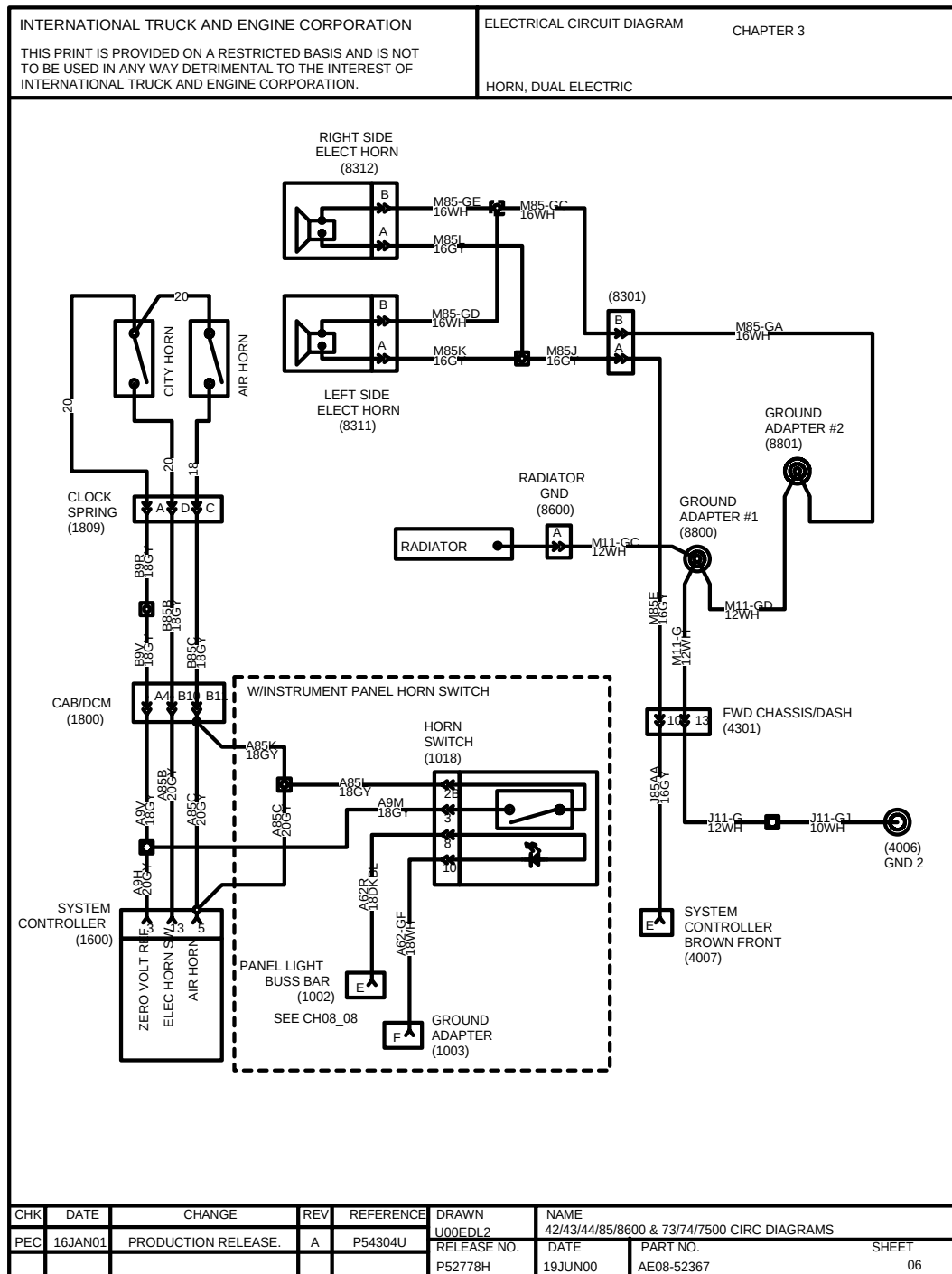
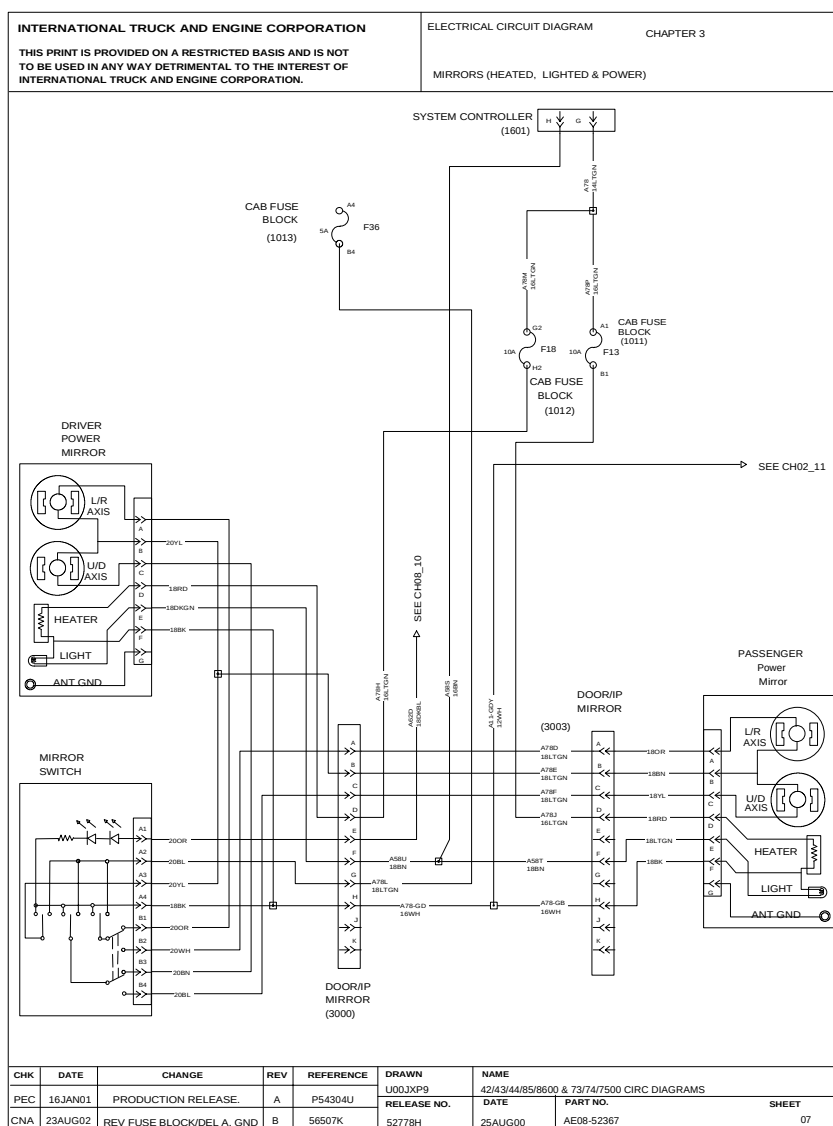
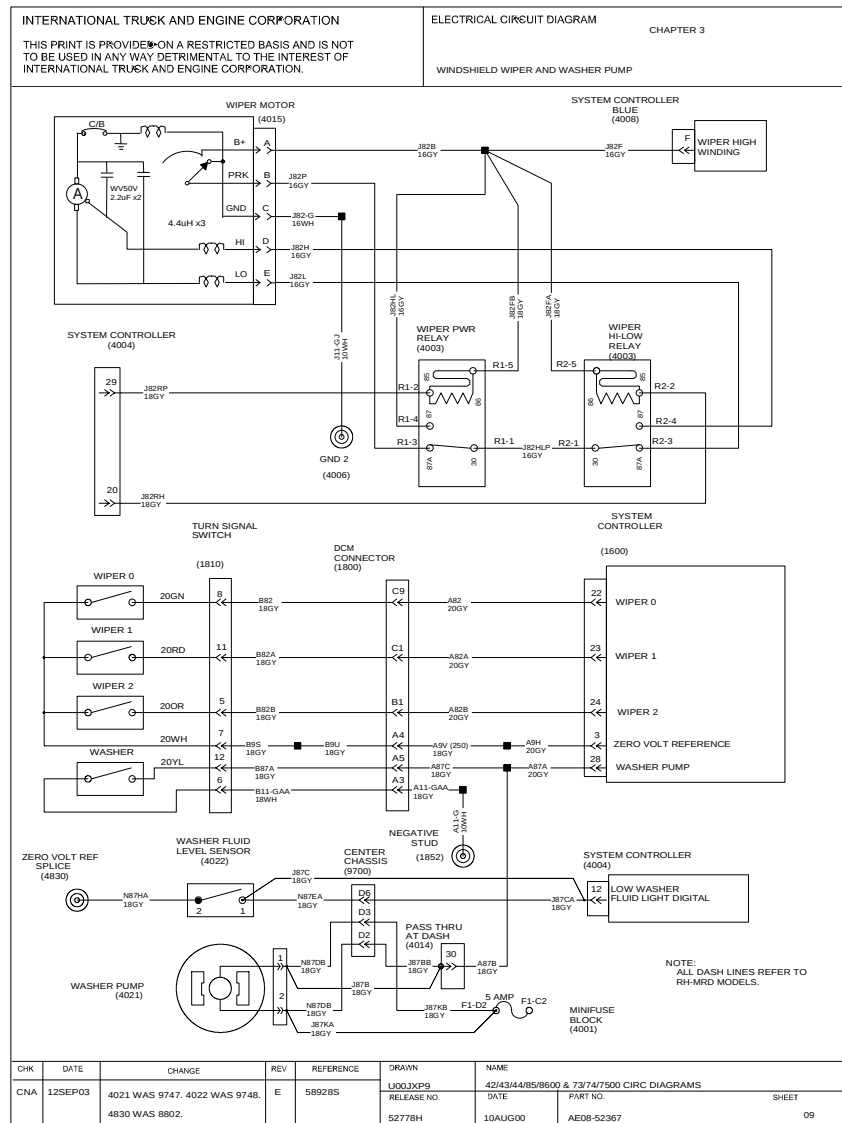


Figure 33 Horn, Dual Electric



WINDSHIELD WIPER AND WASHER PUMP, P. 9

Figure 36 Windshield Wiper and Washer Pump

3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

37

2-WAY RADIO, P. 10

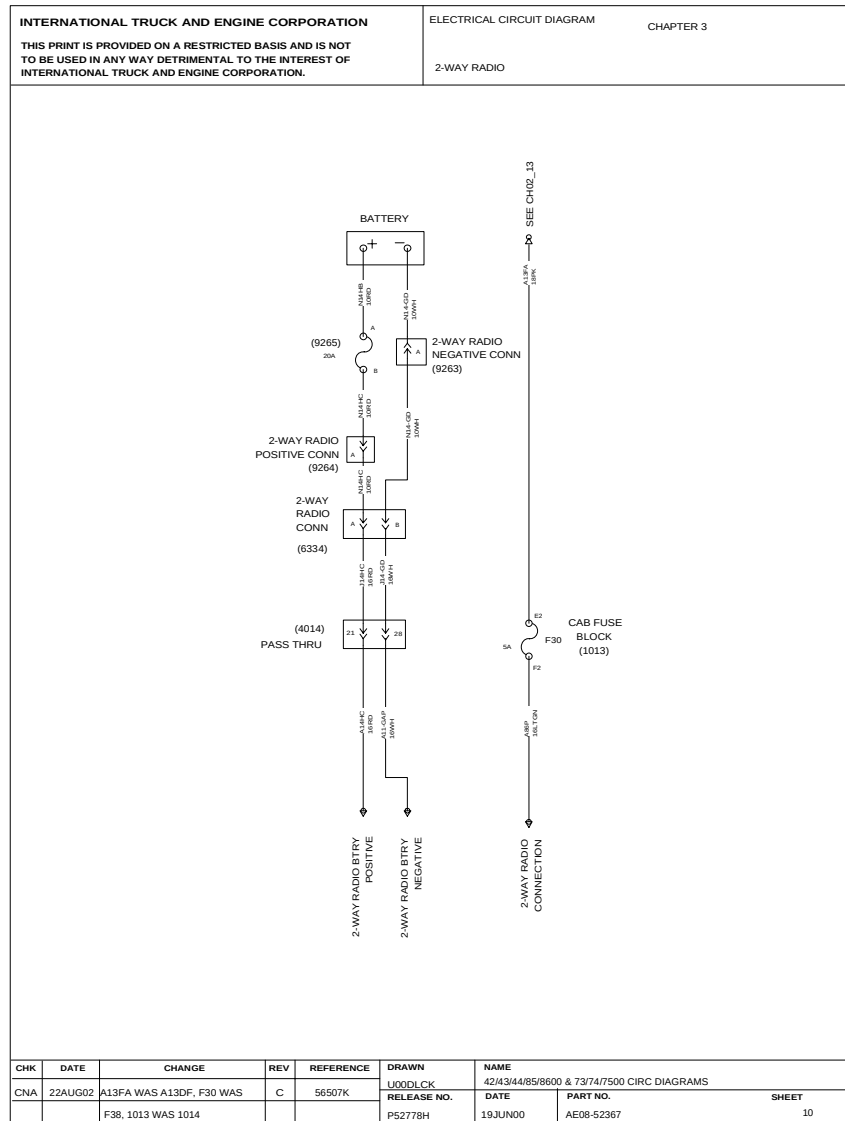


Figure 37 2-Way Radio

SWITCH PACK, OPTIONAL GAUGE PACK, P. 11

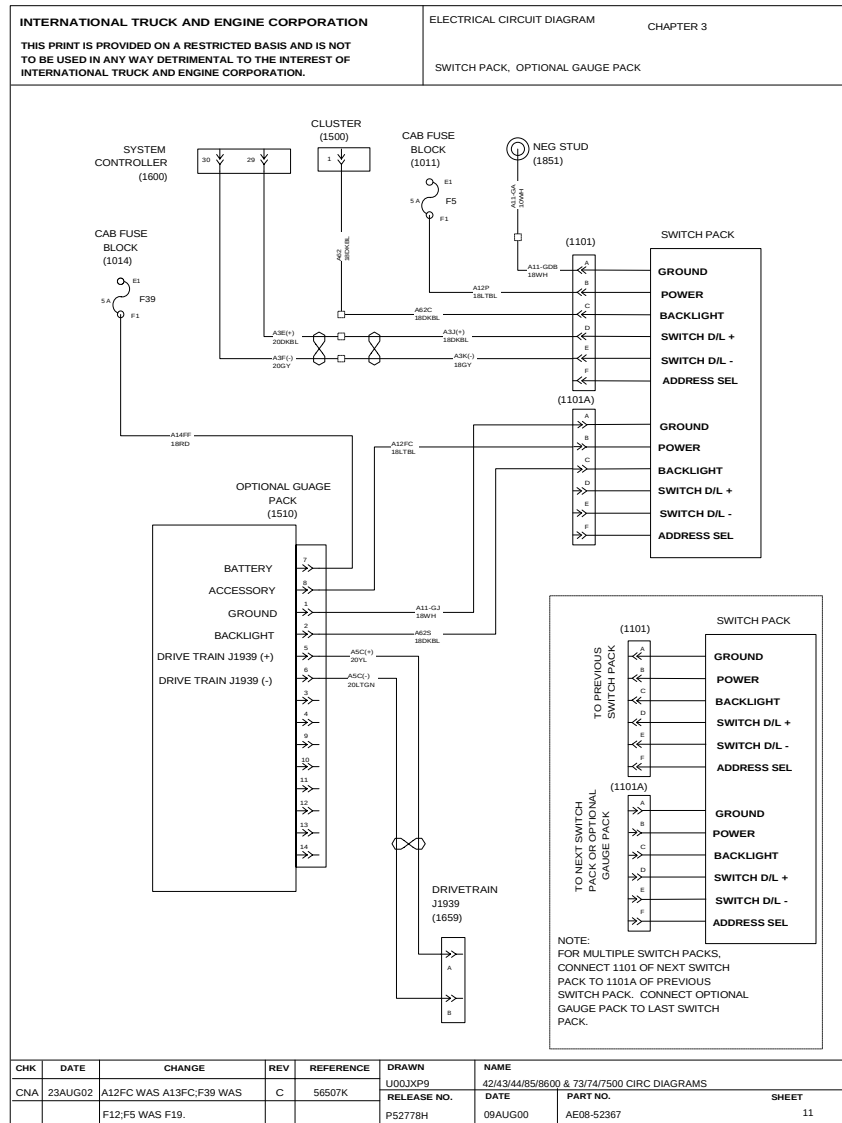


Figure 38 Switch Pack, Optional Gauge Pack

3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

39

LIGHTED AIR SHIELD, P. 12

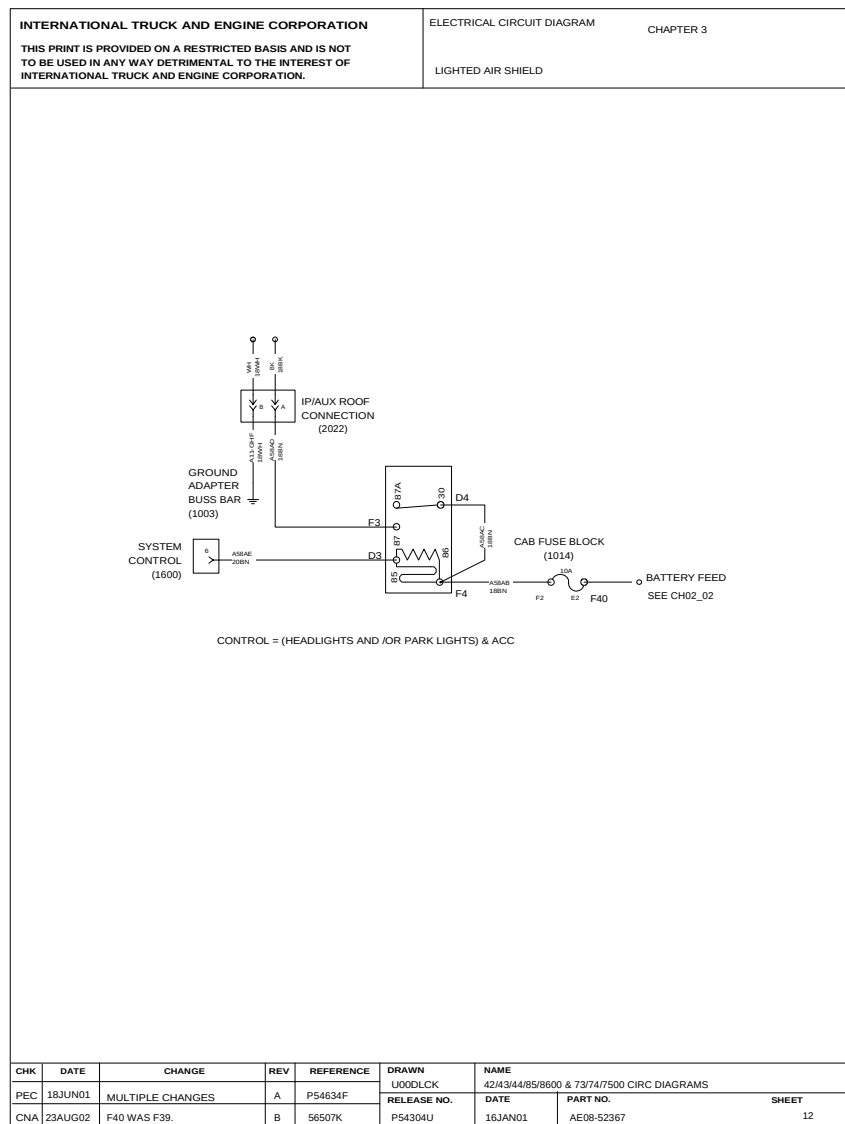


Figure 39 Lighted Air Shield

ROOF AUX. LOAD, P. 13

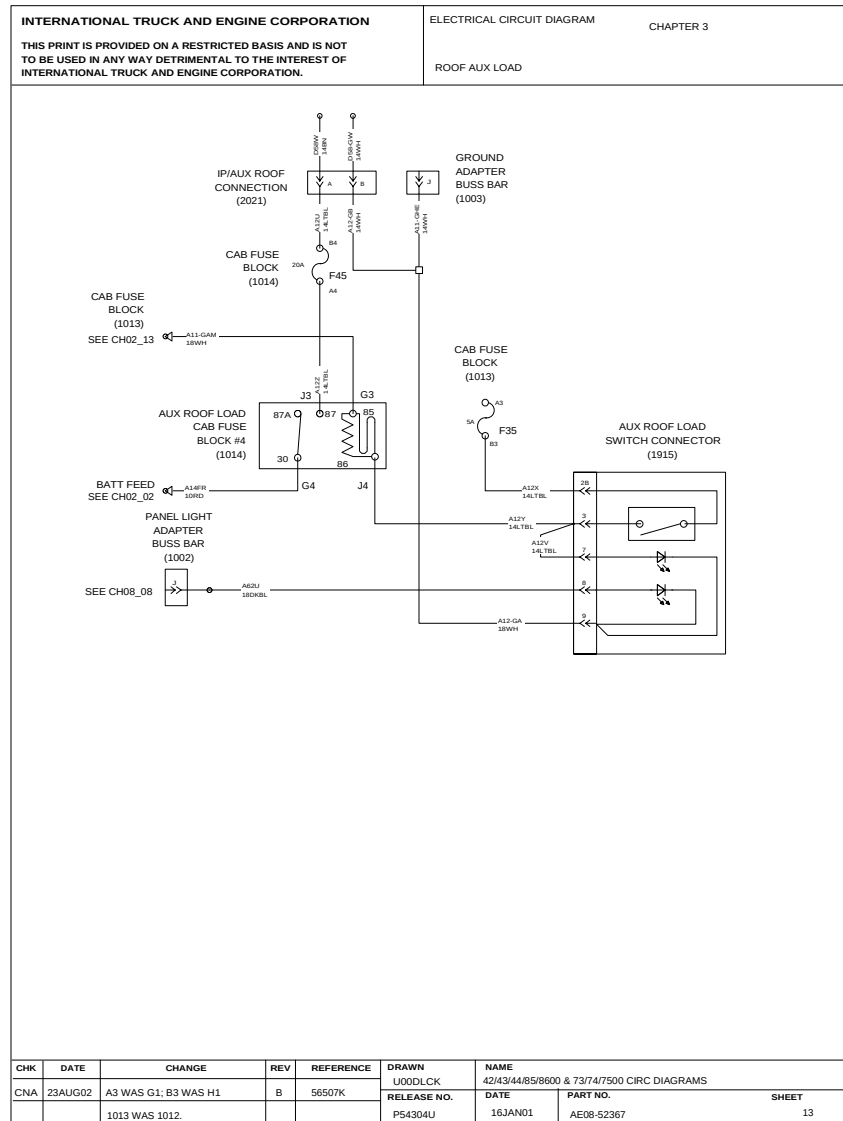


Figure 40 Roof Aux. Load

3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

41

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

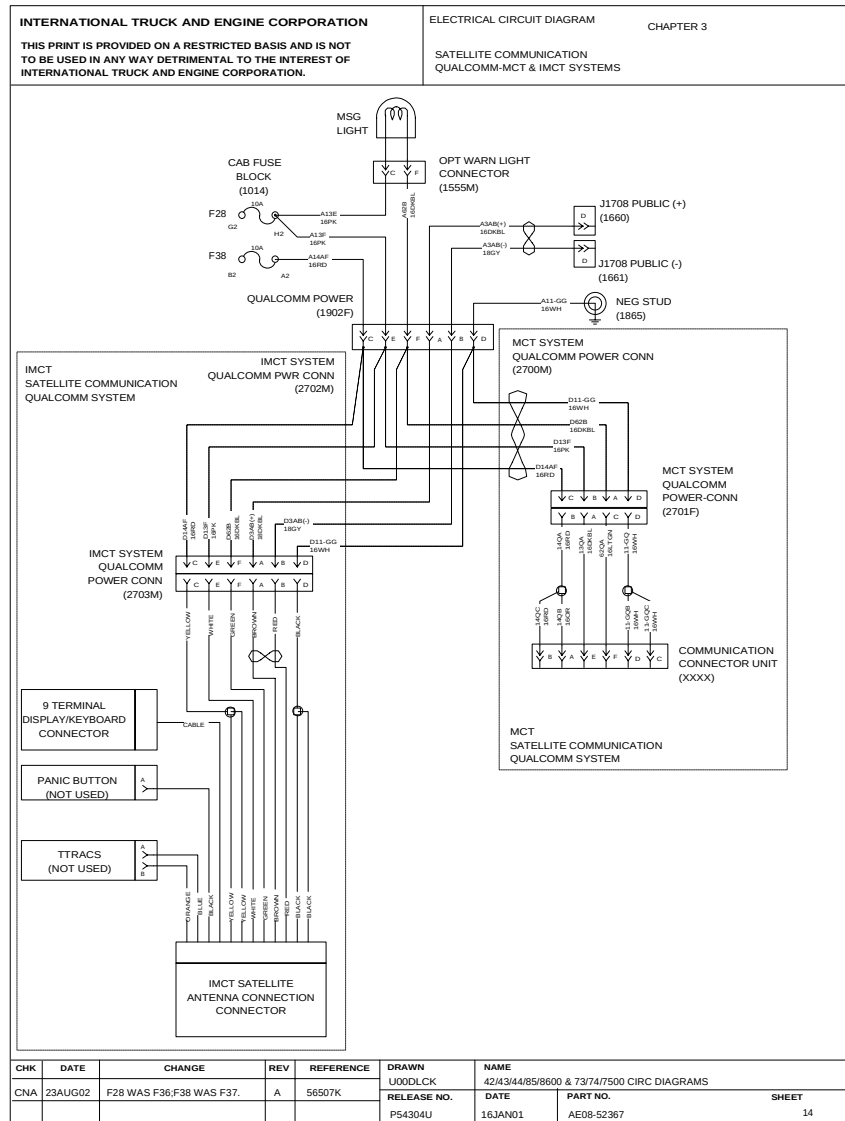
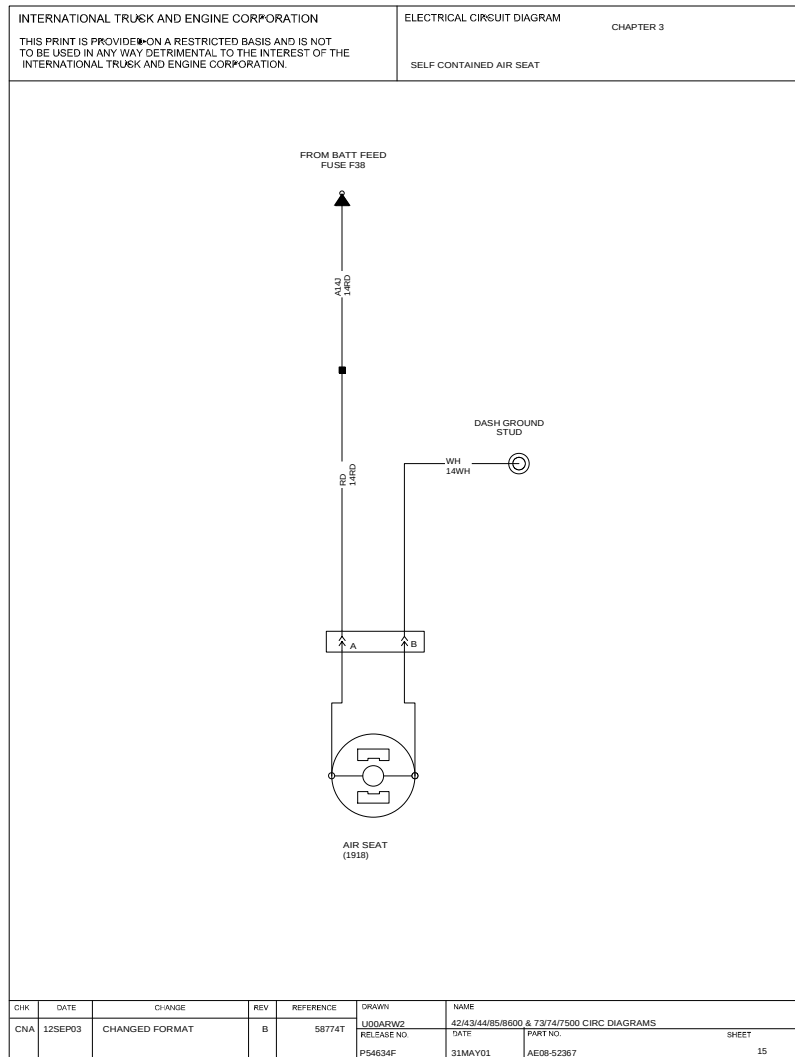


Figure 41 Satellite Communication Qualcomm-MCT and IMCT Systems

SELF CONTAINED AIR SEAT, P. 15**Figure 42 Self Contained Air Seat**

DIGITAL CLOCK PTC, P. 16

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 THE INTERNATIONAL TRUCK AND ENGINE CORPORATION.				ELECTRICAL CIRCUIT DIAGRAM CHAPTER 3 DIGITAL CLOCK PTC			
GEOMETRY WAS REMOVED							
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	
CNA	12SEP03	CHANGED FORMAT	8	58774T	U000DLCK	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS	
					RELEASE NO.	DATE	PART NO.
					P54634F	05MAY01	AE08-52367
						SHEET	16

Figure 43 Digital Clock PTC

3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

45

HEATED SEATS FOR 7700 MODELS ONLY, P. 18

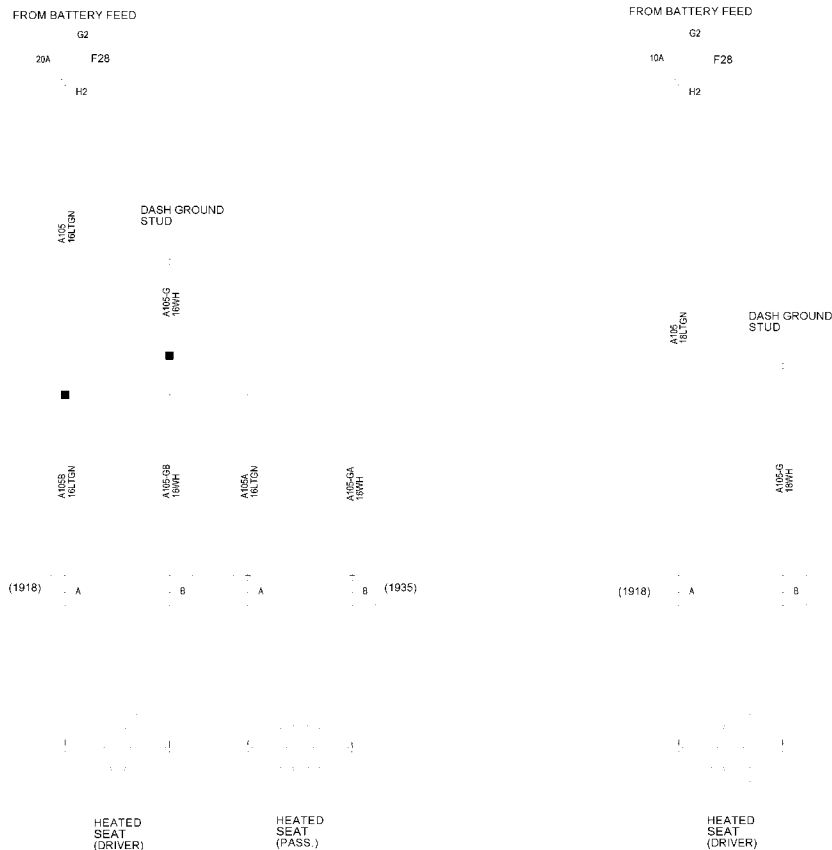
INTERNATIONAL TRUCK AND ENGINE CORPORATION

ELECTRICAL CIRCUIT DIAGRAM

CHAPTER 3

THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT
TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE
INTERNATIONAL TRUCK AND ENGINE CORPORATION.

HEATED SEATS FOR 7700 MODELS ONLY



CHK	DATE	CHANGE	REV	REFERENCE	DRIVER	NAME
JKP	30MAY03	RELEASE FOR PRODUCTION		58205F	U00DLCK	42/43/44/85/8600 & 73/74/7500 CIRC DIAGRAMS
					RELEASE NO.	DATE
					58205F	28MAY03
						PART NO.
						AE08-52367

SHEET 18

Figure 45 Heated Seats for 7700 Models Only

BACKUP CAMERA, P. 19

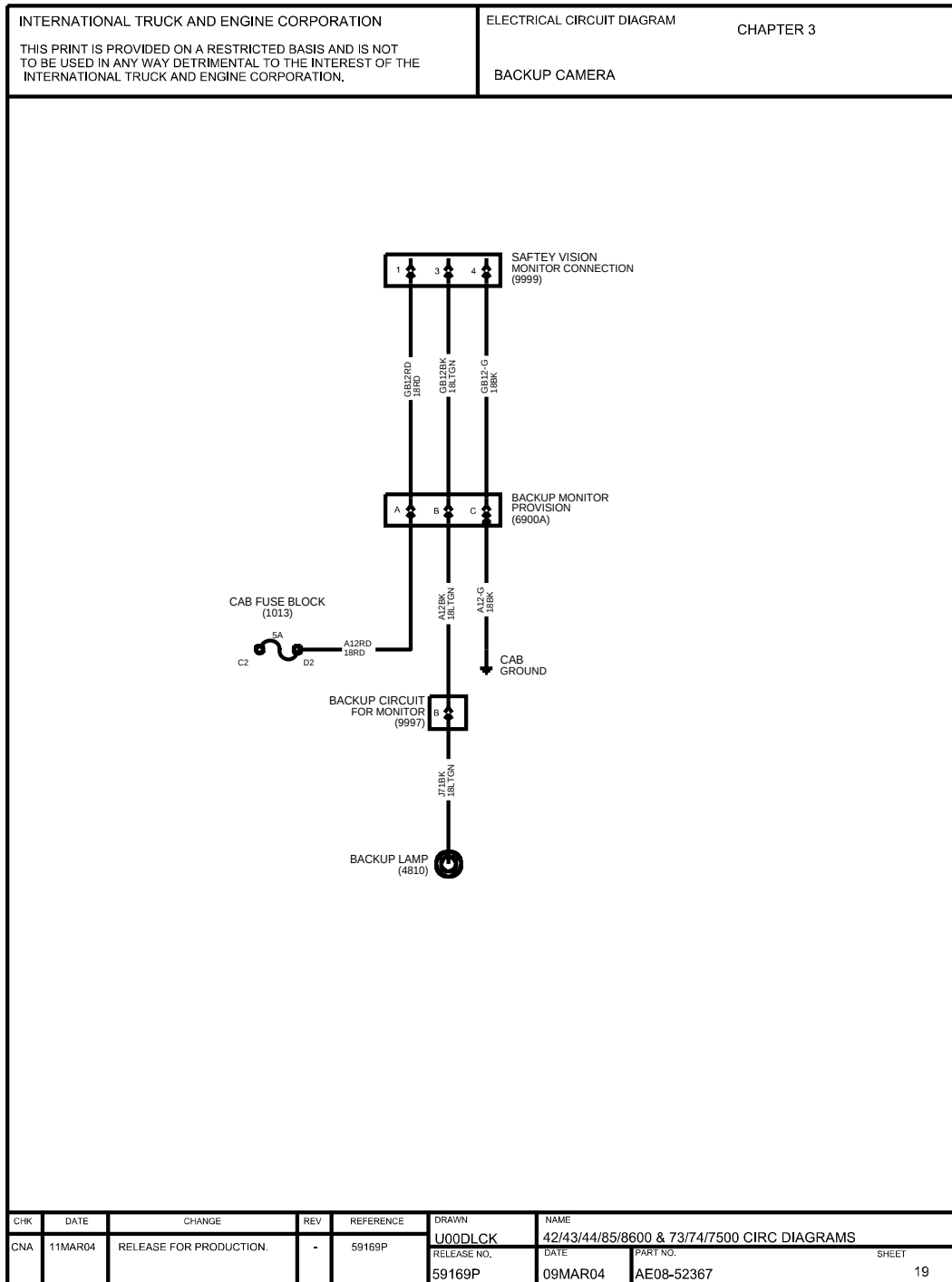


Figure 46 Backup Camera

3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

47

XATA COMPUTER, P. 20

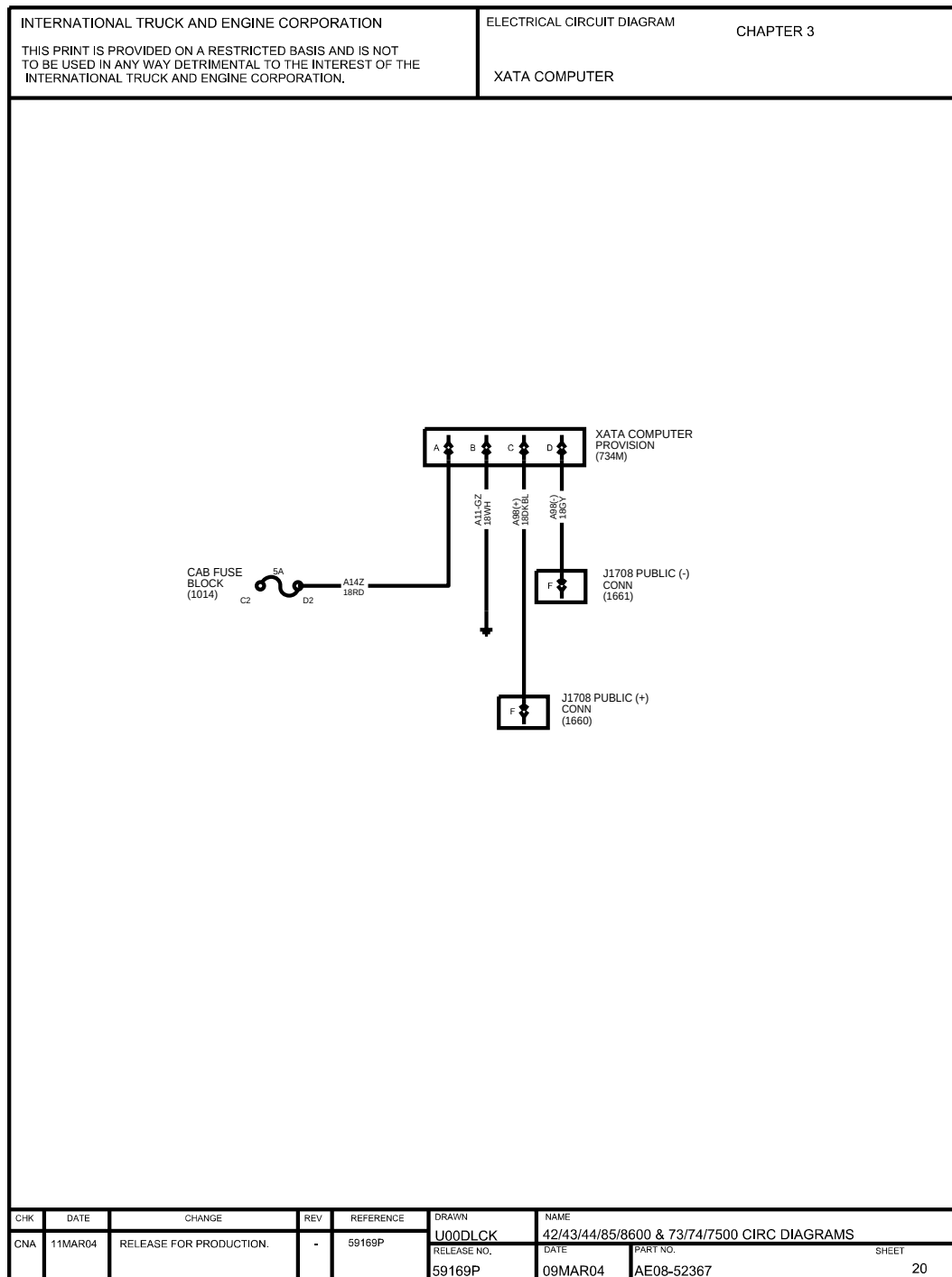
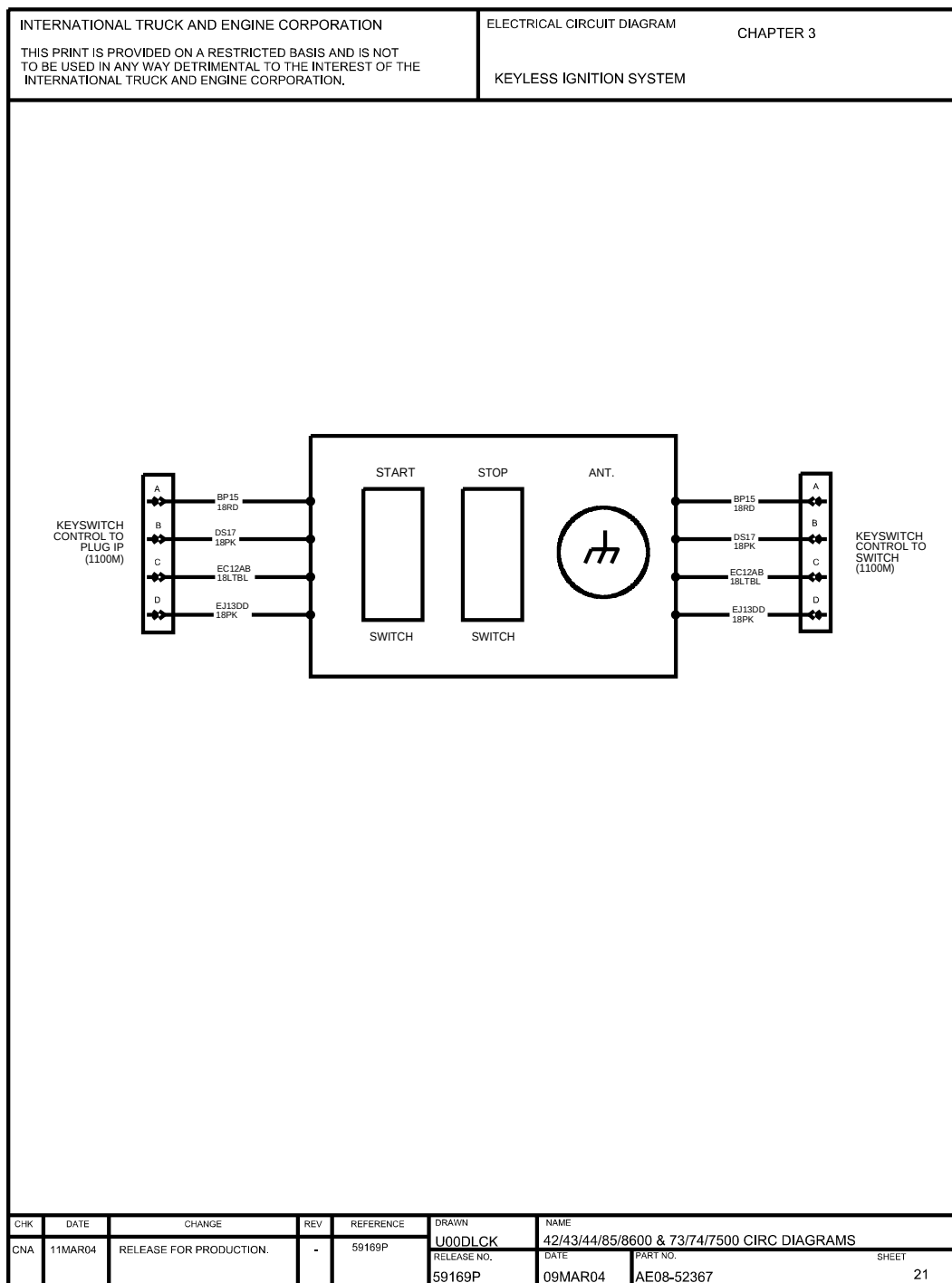


Figure 47 XATA Computer

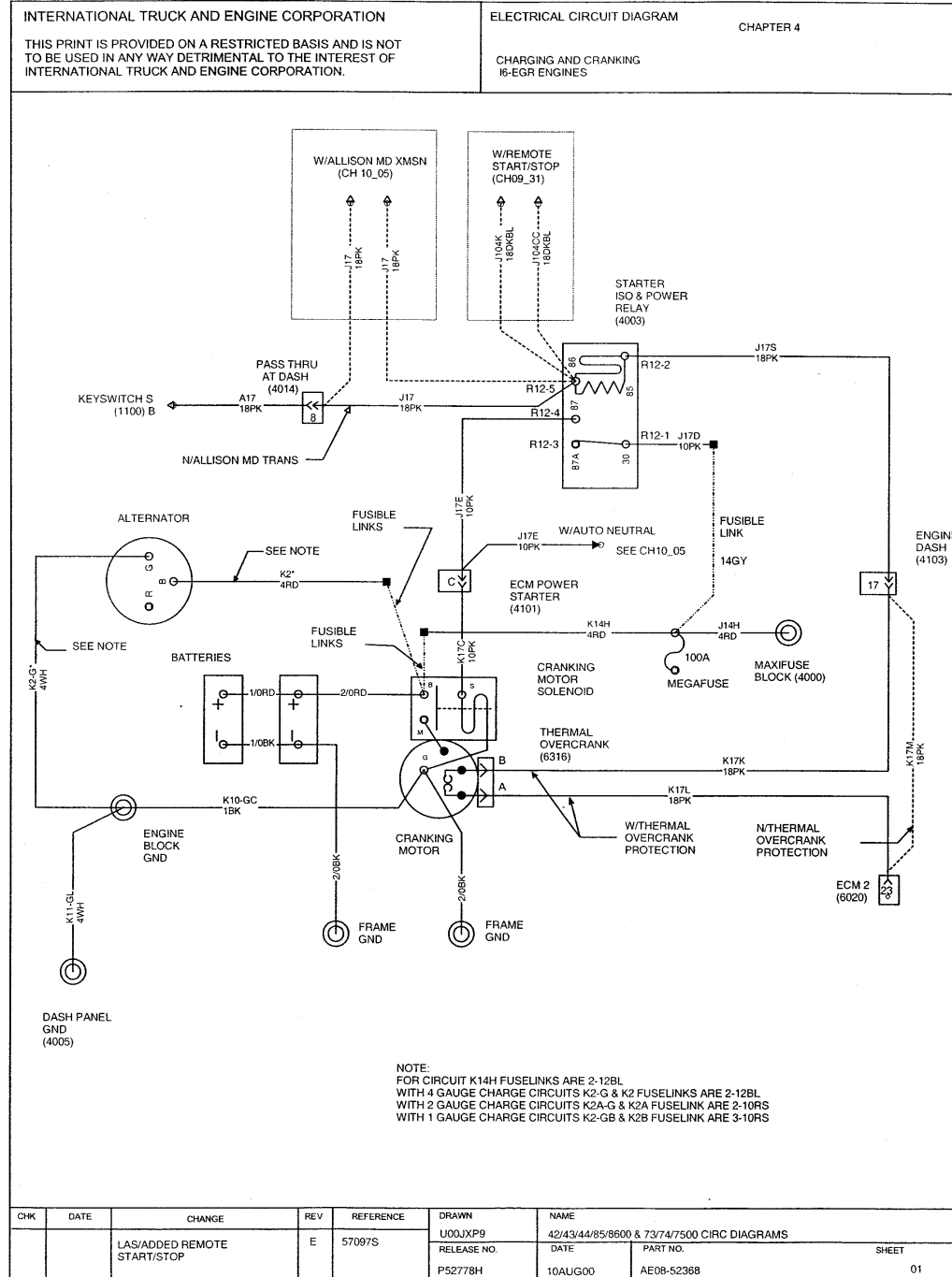
KEYLESS IGNITION SYSTEM, P. 21**Figure 48 Keyless Ignition System**

3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

49

12V CHARGING + CRANKING SYSTEM (CHAPTER 4)

16 EGR ENGINES, P. 1



V8 AVNT ENGINES, P. 2

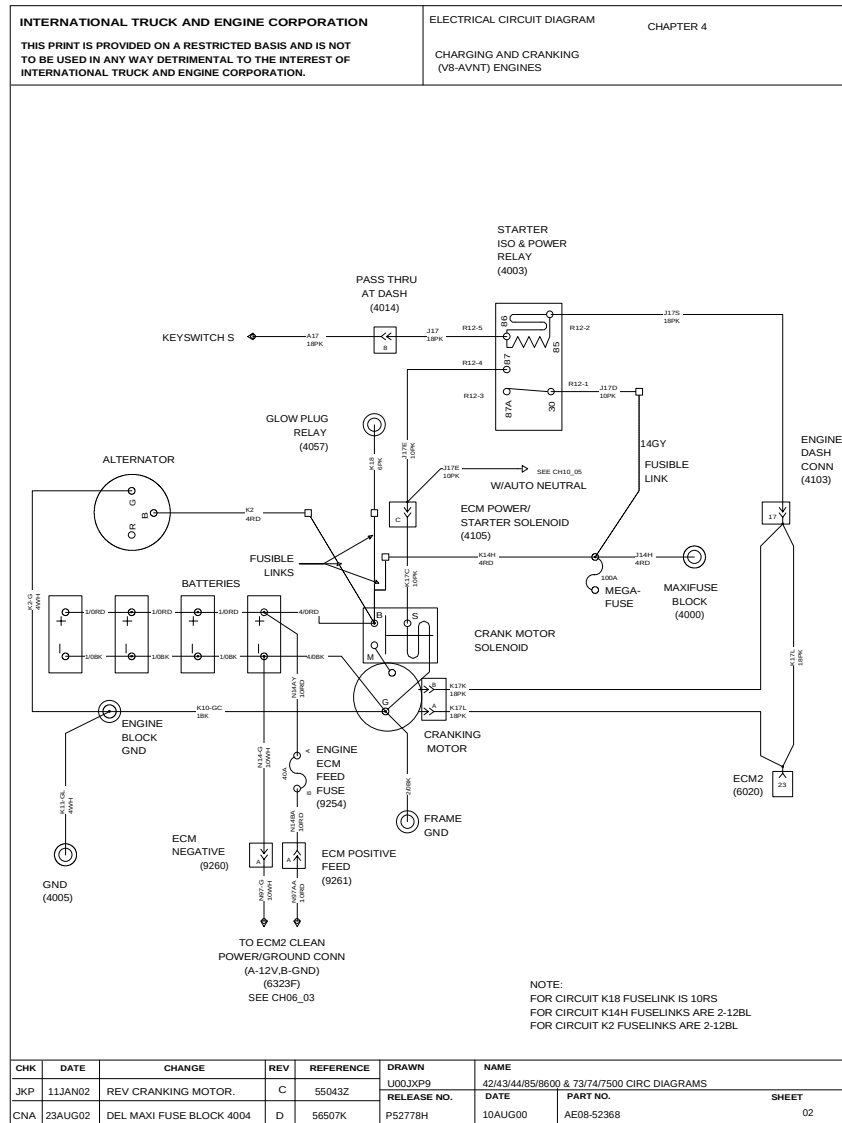


Figure 50 V8 AVNT Engines

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

51

CATERPILLAR, CUMMINS ISM ENGINES, P. 3

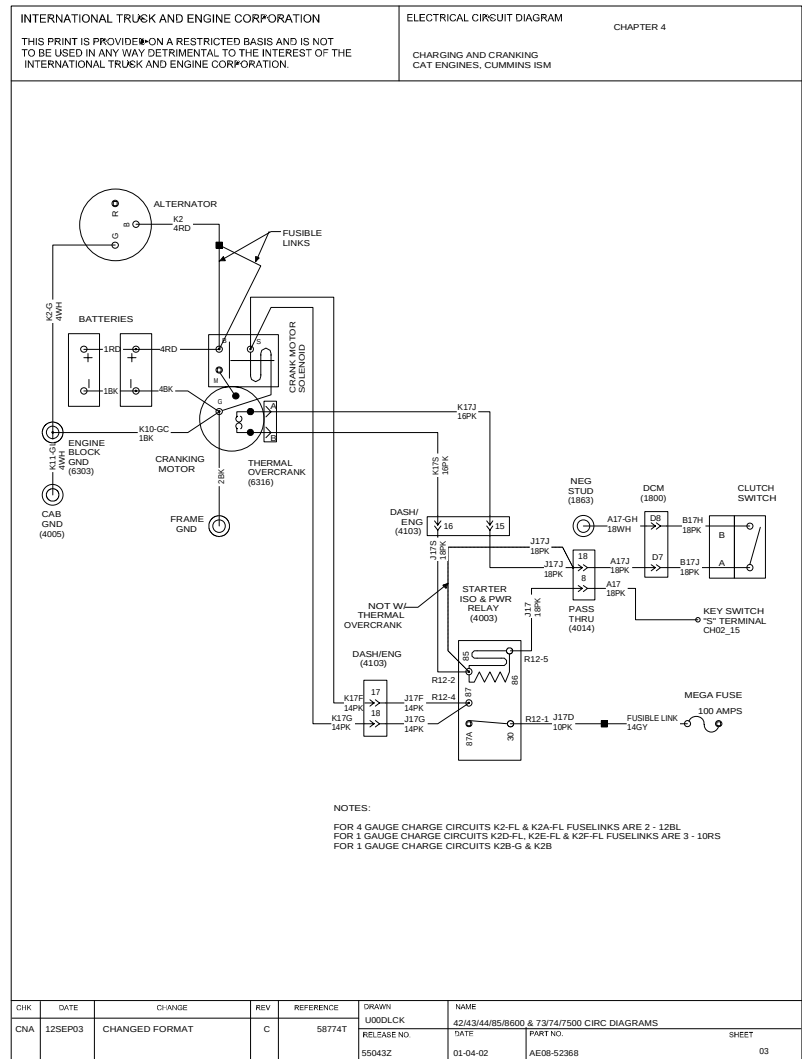


Figure 51 Caterpillar, Cummins ISM Engines

I6 HEUI ENGINES, P. 4

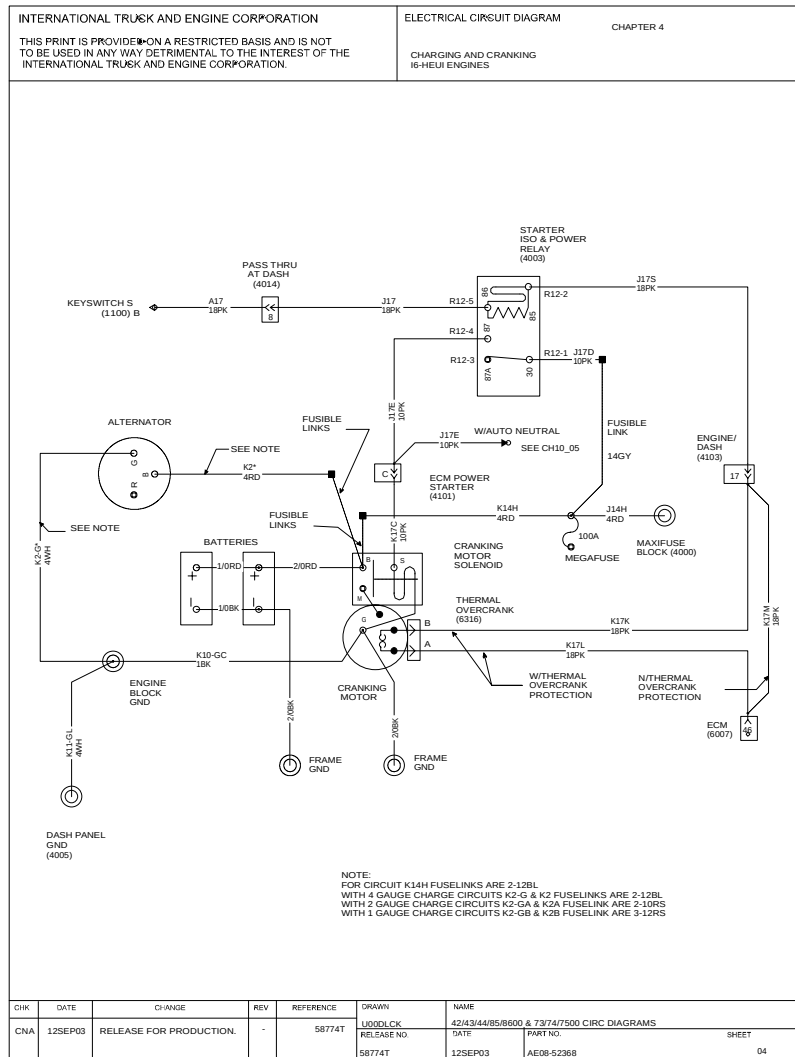


Figure 52 I6 HEUI Engines

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

53

CATERPILLAR ENGINES, CUMMINS ISM AND WITH EATON ULTRASHIFT/DM2, P. 5

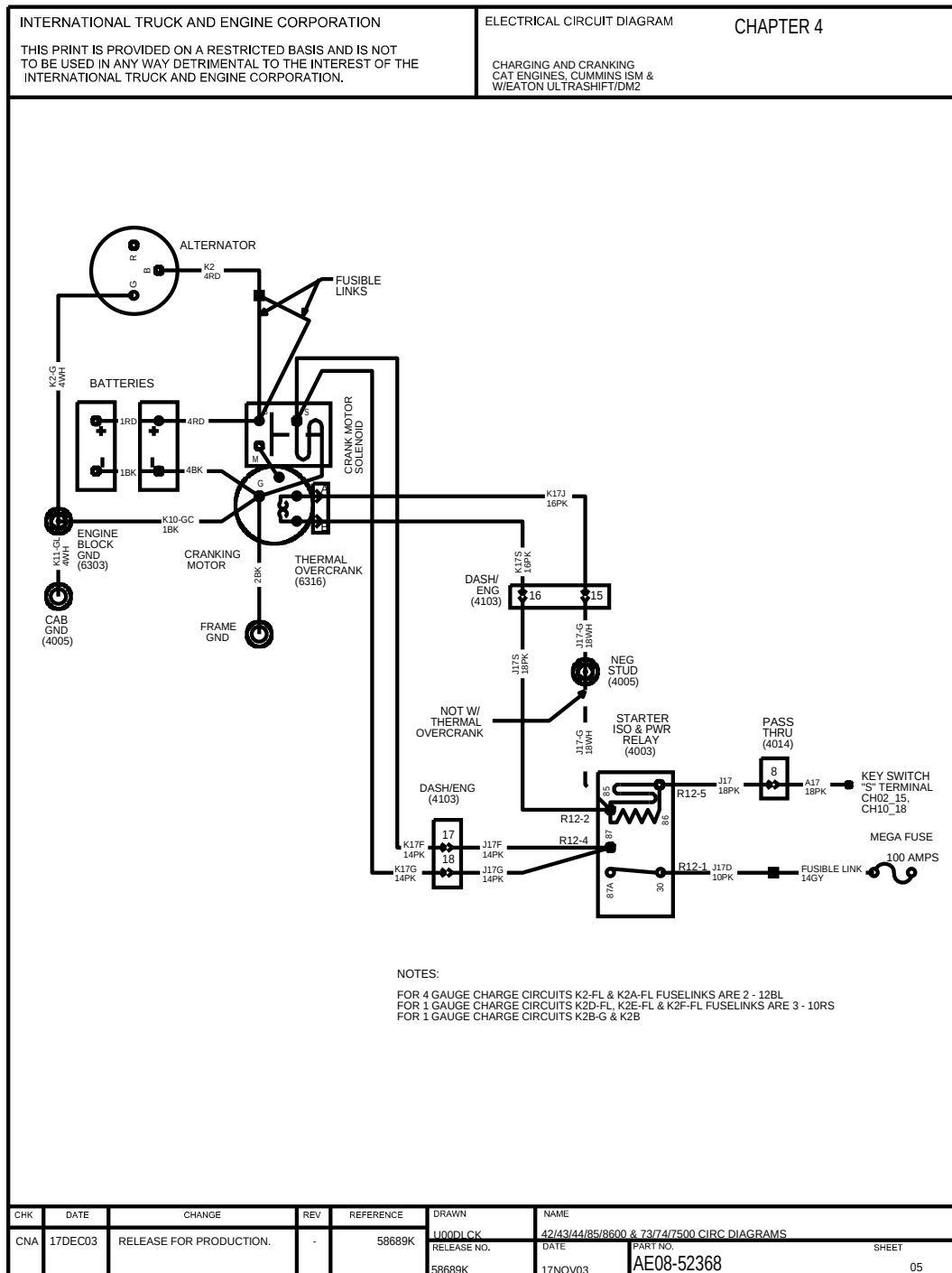


Figure 53 Caterpillar Engines, Cummins ISM and with Eaton Ultrashift/DM2

16 EGR ENGINES WITH AIR START, P. 6

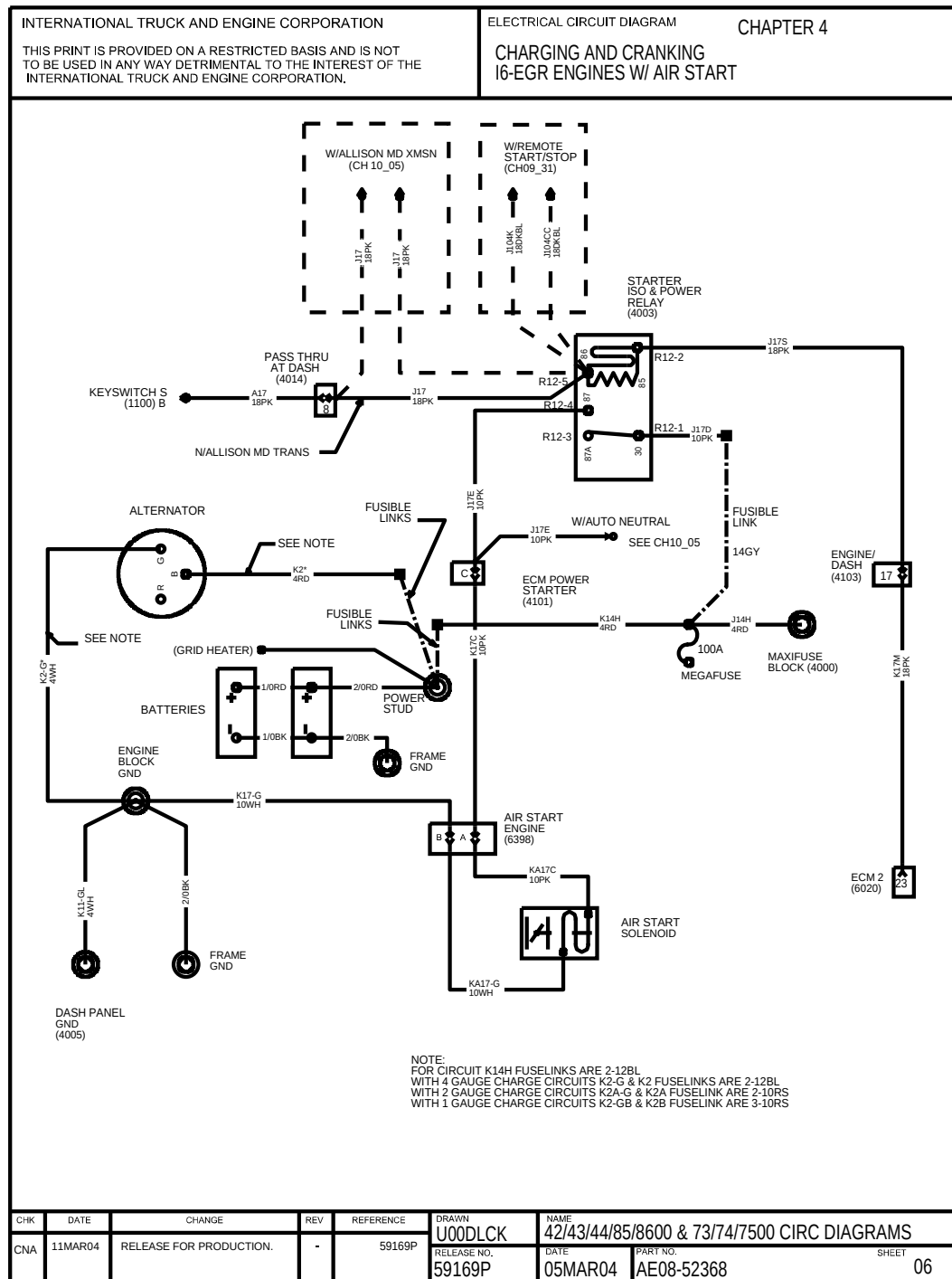


Figure 54 16 EGR Engines with Air Start

FANS AND ENGINE ACCESSORIES (CHAPTER 5)

FAN WIRING, P. 1

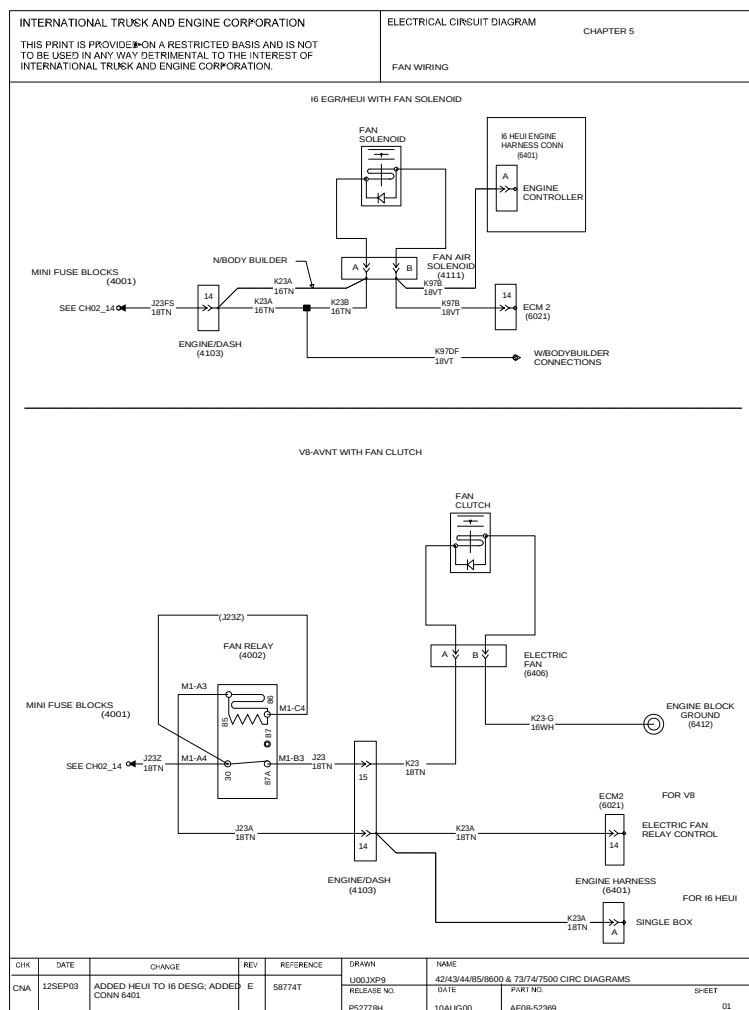


Figure 55 Fan Wiring

ETHER START, P. 2

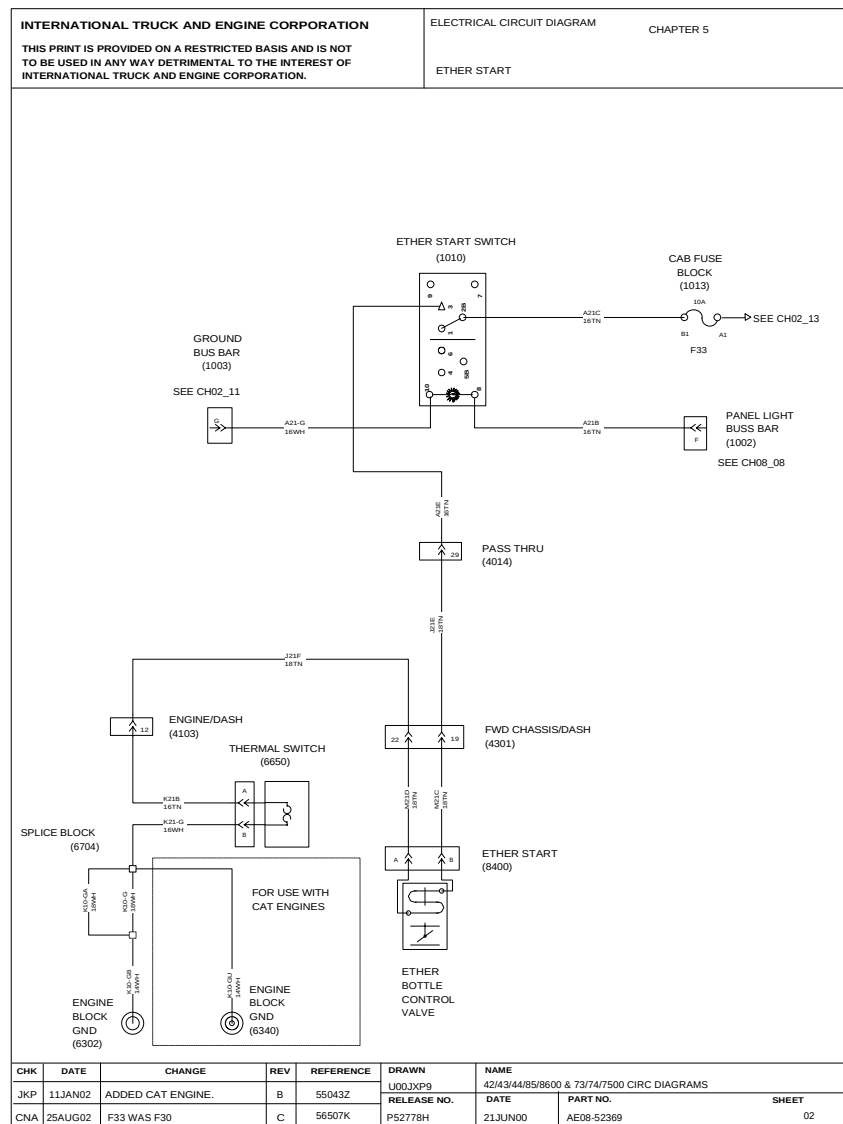


Figure 56 Ether Start

3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

57

SNOW VALVE, P. 3

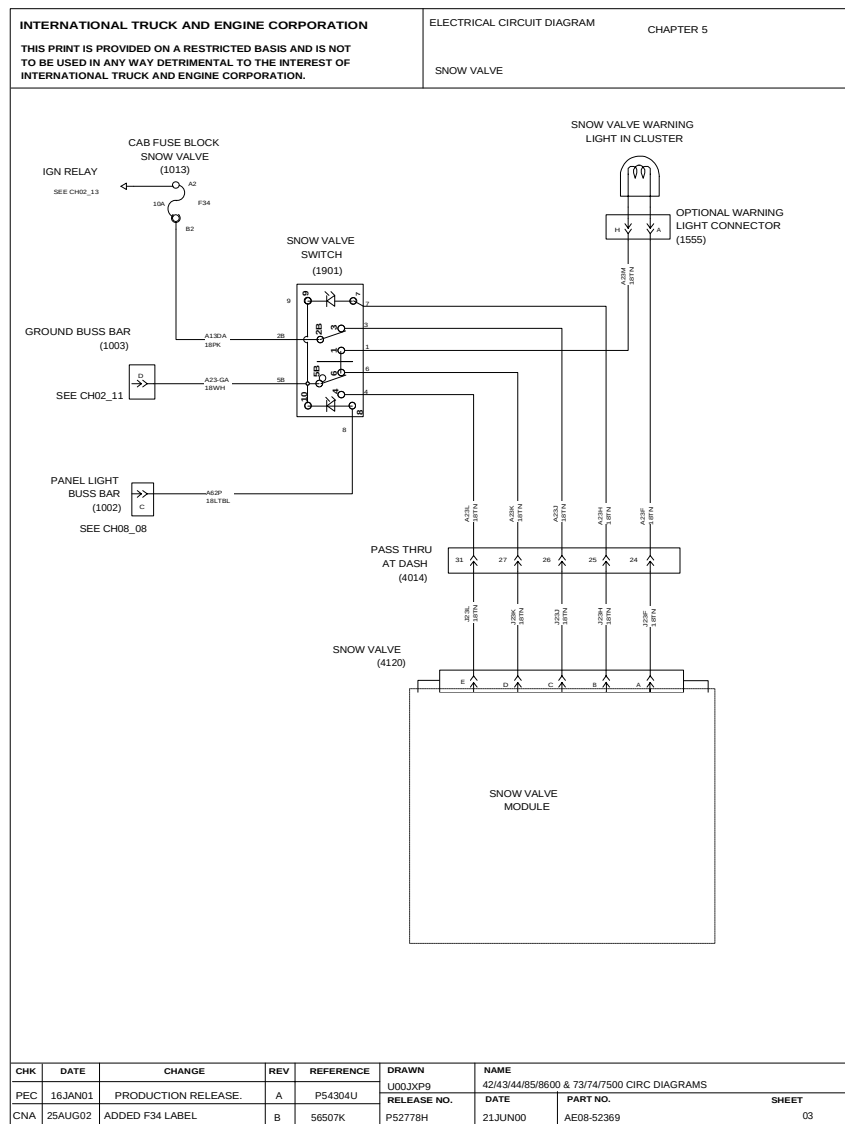


Figure 57 Snow Valve

FAN WIRING, CATERPILLAR AND CUMMINS, P. 4

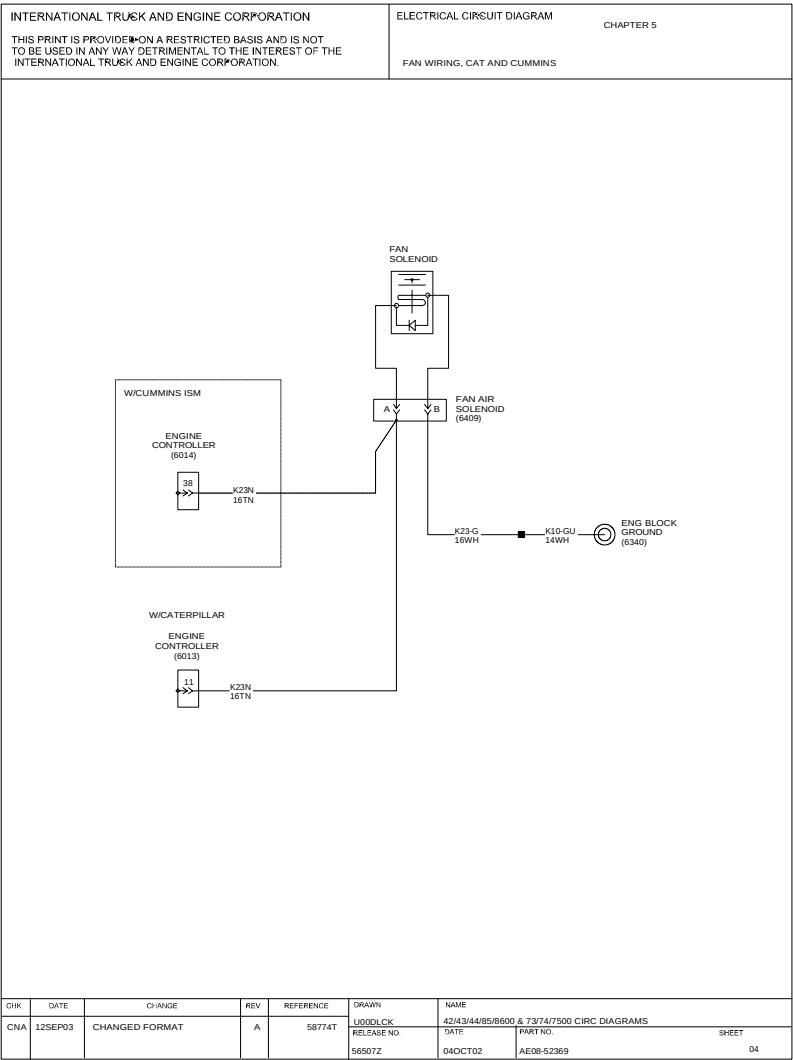


Figure 58 Fan Wiring, Caterpillar and Cummins

ELECTRONIC ENGINES (CHAPTER 6)

ELECTRONIC ENGINE CONTROLS, I6-EGR ENGINES, P. 1

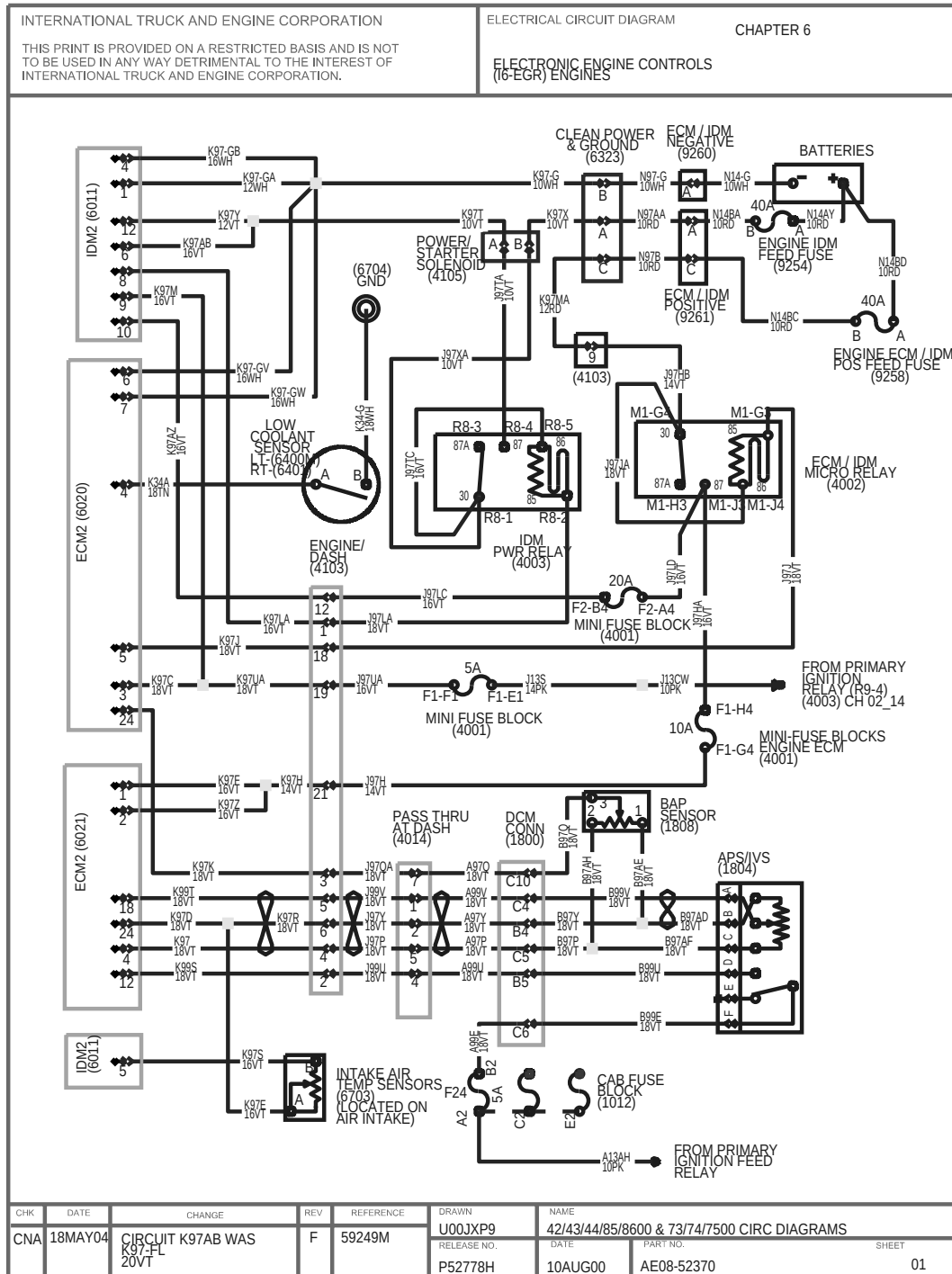


Figure 59 Electronic Engine Controls, I6-EGR Engines

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

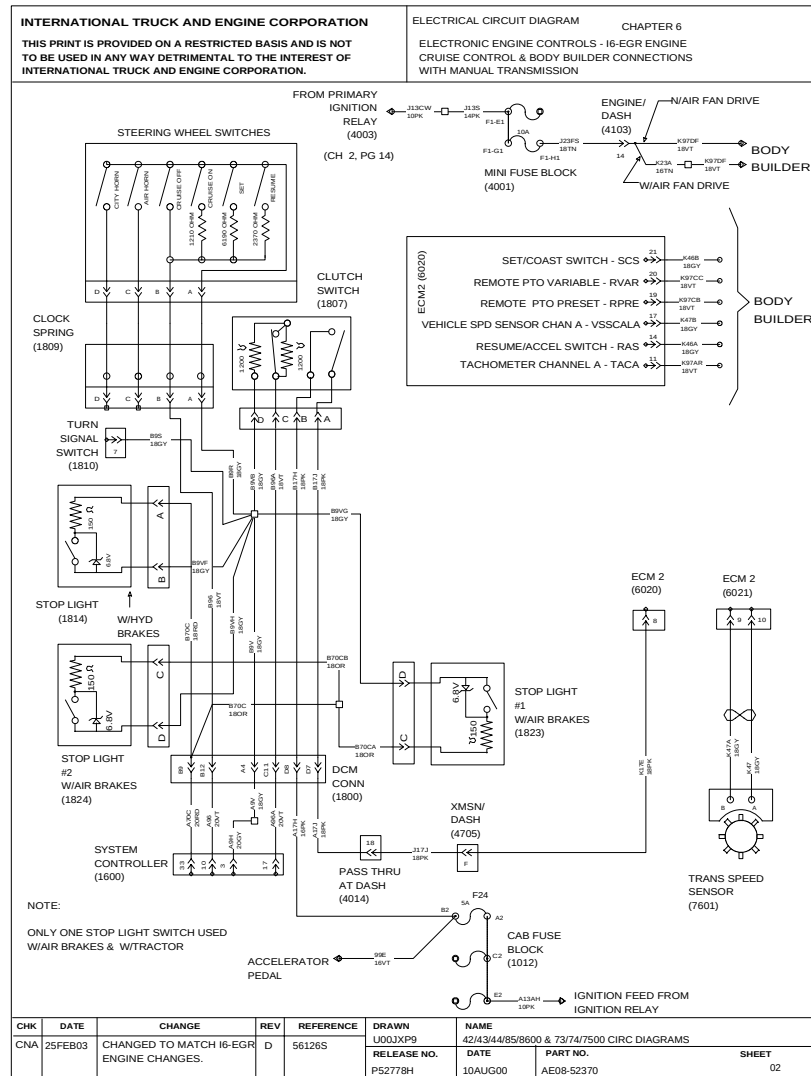


Figure 60 Electronic Engine Controls, I6-EGR Engine Cruise Control and Body Builder Connections

**3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS**

61

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

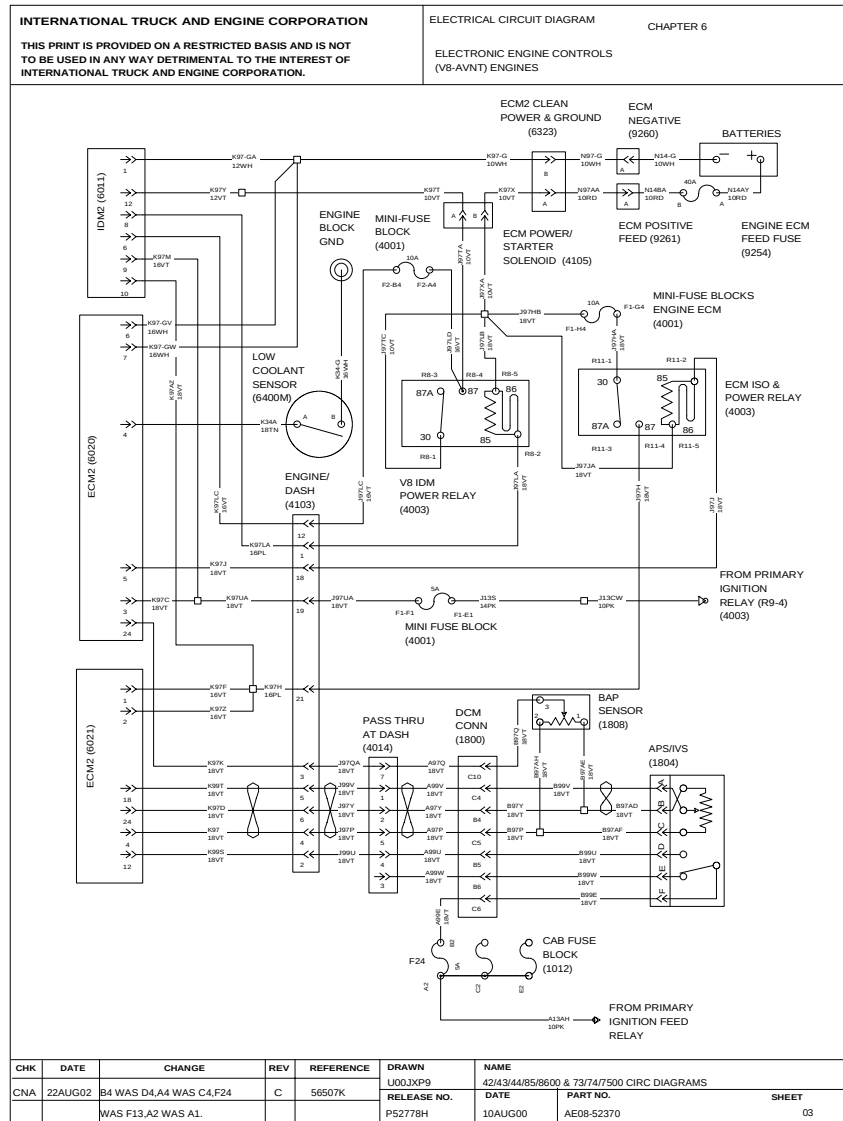


Figure 61 Electronic Engine Controls, (V8-AVNT) Engines

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

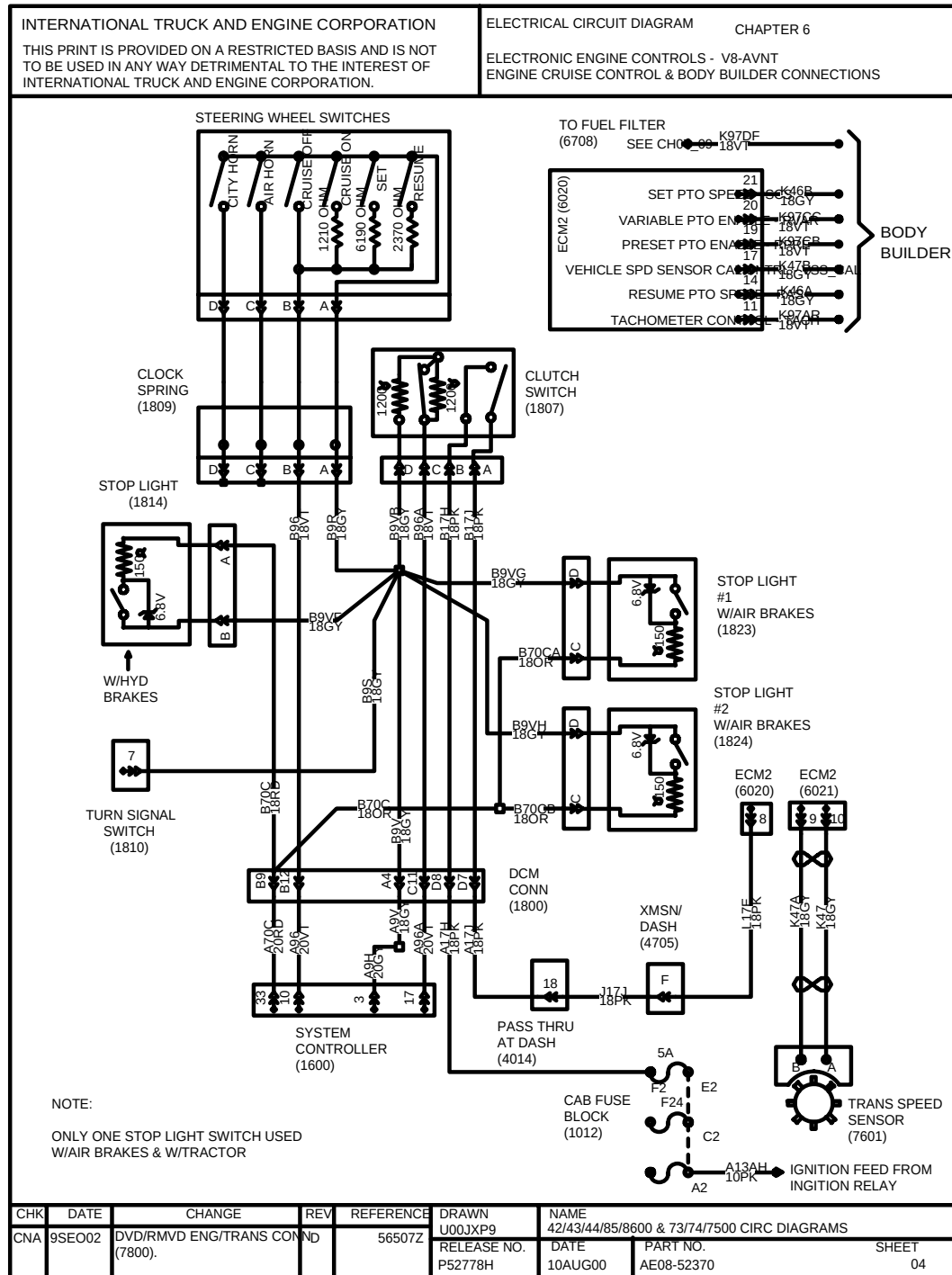


Figure 62 Electronic Engine Controls, V8-AVNT Engine Cruise Control and Body Builder Connections

CATERPILLAR C10, C11, C12, AND C13 ENGINES, P. 5

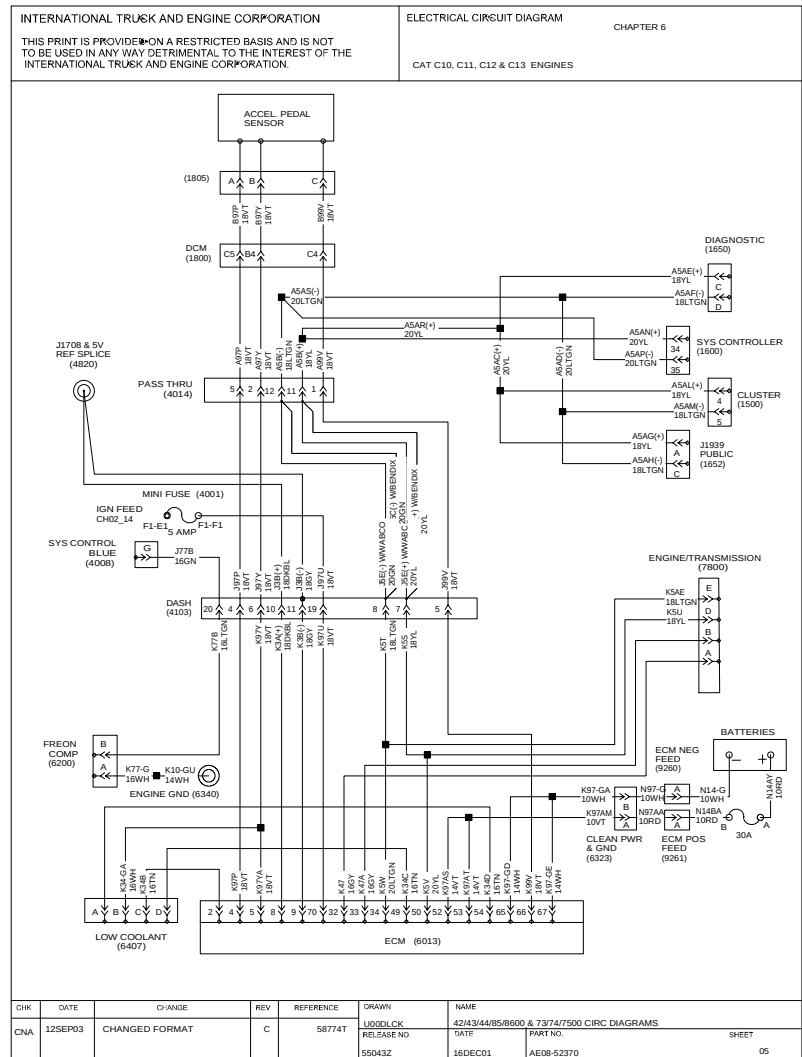
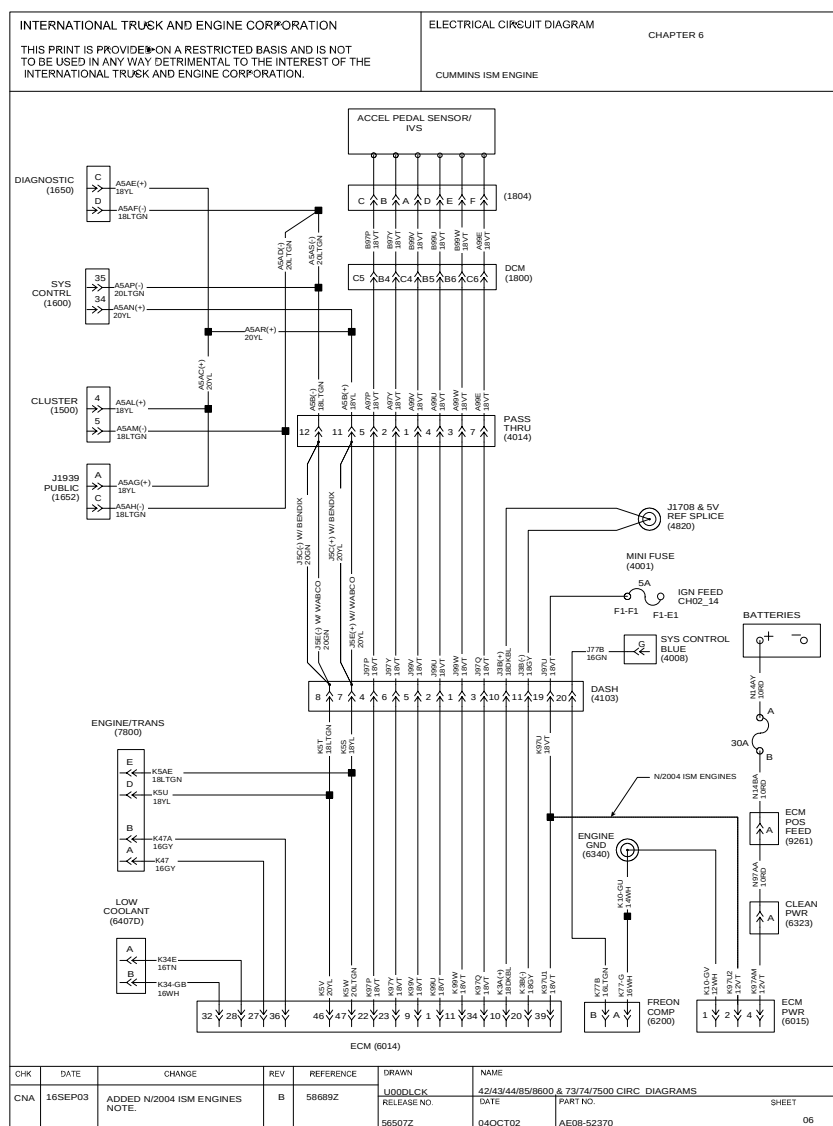


Figure 63 Caterpillar C10, C11, C12, and C13 Engines



3200, 4200, 4300, 4400, 7300, 7400, 7500, 7600, 8500, 8600 SERIES Built After
March 10, 2004 — ELECTRICAL CIRCUIT DIAGRAMS

65

I6 HEUI ENGINE, P. 7

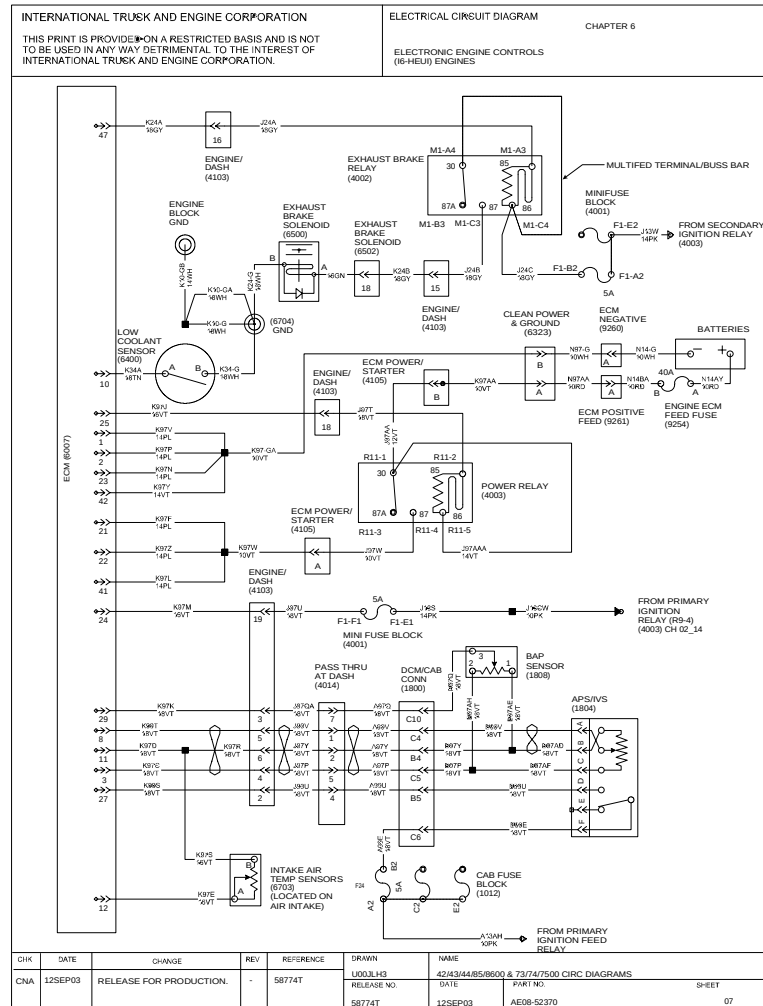


Figure 65 I6 HEUI Engine

16 HEUI ENGINE CRUISE CONTROL AND BODY BUILDER CONNECTIONS WITH MANUAL TRANSMISSION, P. 8

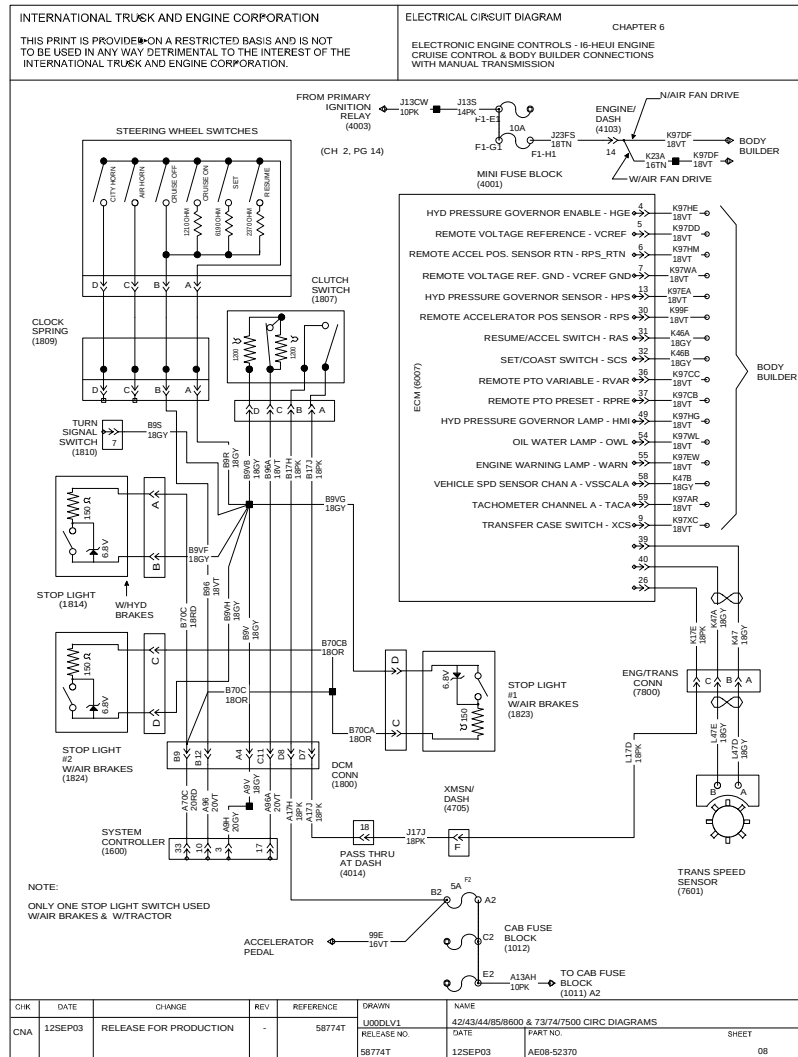


Figure 66 16 HEUI Engine Cruise Control and Body Builder Connections with Manual Transmission