

# **SERVICE MANUAL**

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## **SERVICE MANUAL SECTION**

### **5000*i*, 9200*i*, 9400*i* and 9900*i* Chassis Built November 4, 2002 and After — ELECTRICAL CIRCUIT DIAGRAMS**

**Truck Model: 5000i  
Start Date: 11/04/2002**

**Truck Model: 9200i  
Start Date: 11/04/2002**

**Truck Model: 9400i  
Start Date: 11/04/2002**

**Truck Model: 9900i  
Start Date: 11/04/2002**

**s082252a, Formerly CTS-5298**

**11/01/2002**



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## 1. INSTRUCTIONS AND CHARTS (CHAPTER 1)

### 1.1. CIRCUIT IDENTIFICATION CHART, P. 1

NAVISTAR INTERNATIONALTRANSPORTATION CORP.				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 NAVISTAR INTERNATIONAL TRANSPORTATION CORP.				NAVISTAR CIRCUIT NUMBER IDENTIFICATION & COLOR			
CIRCUIT NUMBER	DESCRIPTION - COLOR			CIRCUIT NUMBER	DESCRIPTION - COLOR		
1	GENERATOR - FIELD - LIGHT BLUE			37	FUEL PUMP - TAN		
2	GENERATOR - CHARGE - RED			38			
3				39	AIR DRYER - GRAY		
4				40	LOW AIR PRESSURE WARNING - GRAY		
5				41			
6				42	FRONT AXLE - GRAY		
7	ALTERNATOR - RESISTANCE - RED			43	POWER DIVIDER LOCK (PDL) - GRAY		
8				44	PARK BRAKE WARNING - GRAY		
9				45	ANTI-THEFT WARNING - LIGHT GREEN		
10				46	POWER TAKE-OFF WARNING - GRAY		
11	GROUND - WHITE			47	SPEEDOMETER - GRAY		
12	ACCESSORY FEED - LIGHT BLUE			48	TACHOMETER - GRAY		
13	IGNITION FEED - PINK			49	DIFFERENTIAL LOCK - GRAY		
14	BATTERY FEED - RED			50	LIGHT SWITCH FEED - YELLOW		
15	KEY SWITCH FEED - RED			51	DIMMER SWITCH - YELLOW		
16				52	HEADLIGHT - HIGH BEAM - YELLOW		
17	STARTER CONTROL - PINK			53	HEADLIGHT - LOW BEAM - YELLOW		
18	GLOW PLUG/PRE-HEATER - PINK			54	PARKING/MARKER LIGHTS - BROWN		
19	ENGINE SHUT-OFF - GRAY			55	TURN SIGNAL - ORANGE		
20				56	TURN SIGNAL LIGHTS - LEFT - ORANGE		
21	ETHER START - TAN			57	TURN SIGNAL LIGHTS - RIGHT - ORANGE		
22				58	CLEARANCE AND IDENTIFICATION LIGHTS - BROWN		
23	ENGINE COOLING - TAN			59			
24	ENGINE BRAKE GRAY			60	HAZZARD LIGHTS - ORANGE		
25	PYROMETER - TAN			61	AIR SUSPENSION - GRAY		
26	AMMETER - TAN			62	PANEL LIGHTS - DARK BLUE		
27	VOLTMETER - TAN			63	COURTESY AND DOME LIGHTS - DARK BLUE		
28	INSTRUMENT FEED - TAN			64	AUXILIARY LIGHTS - YELLOW		
29	ENGINE WATER TEMPERATURE - TAN			65	5TH WHEEL/WORK LIGHT - ORANGE		
30	ENGINE OIL TEMPERATURE - TAN			66	DAYTIME RUNNING LIGHTS - YELLOW		
31	TRANSMISSION OIL TEMPERATURE - TAN			67			
32	AXLE OIL TEMPERATURE - TAN			68	TAIL LIGHTS - BROWN		
33	ENGINE OIL LEVEL - TAN			69	LICENSE PLATE LIGHT - BROWN		
34	WATER LEVEL - TAN			70	STOP LIGHTS - ORANGE		
35	ENGINE OIL PRESSURE - TAN			71	BACK-UP LIGHTS - ORANGE		
36	FUEL LEVEL - TAN			72	TRAILER AUXILIARY - ORANGE		
CHK	DATE	CHANGE	REV	REFERENCE	DESIGN	NAME	
					RROEPKE	INSTRUCTIONS AND CHARTS FOR ALL MODELS	
					RELEASE NO.	DATE	PART NO.
					P52600M	29JUL98	AE08-52011
							SHEET
							1

Figure 1 Circuit Identification Chart, page 1

1.2. CIRCUIT IDENTIFICATION CHART, P. 2

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

NAVISTAR CIRCUIT NUMBER IDENTIFICATION & COLOR

CHAPTER 1

CIRCUIT NUMBER	DESCRIPTION - COLOR	CIRCUIT NUMBER	DESCRIPTION - COLOR
73	COLLISION AVOIDANCE SYSTEM - LIGHT BLUE	87	WINDSHIELD WASHER - GRAY
74		88	CLOCK/HOURMETER - LIGHT GREEN
75	HEATER BLOWER MOTOR - LIGHT GREEN	89	
76	AUXILIARY FAN - LIGHT GREEN	90	HYDRAULIC BRAKE PUMP - GRAY
77	AIR CONDITIONER - LIGHT GREEN	91	INTERCOMMUNICATIONS - VIOLET
78	MIRRORS - HEATED * MOTORIZED - LIGHT GREEN	92	TRANSMISSION (ELECTRONIC) - TAN
79	SEAT BELTS - LIGHT GREEN	93	AXLE SHIFT CONTROL - TAN
80		94	ANTILOCK BRAKES - GRAY
81	POWER DOOR LOCKS - LIGHT GREEN	95	EXHAUST EMISSION - TAN
82	WINDSHIELD WIPERS - GRAY	96	SNOW PLOW LIGHTS - YELLOW
83	POWER WINDOW - LIGHT GREEN	97	CRUISE CONTROL AND ELECTRONIC ENGINE - VIOLET
84	CIGAR LIGHTER - LIGHT GREEN	98	DATA LINK AND DIAGNOSTICS - BLACK
85	HORN - ELECTRIC - GRAY	99	THROTTLE POSITION SENSOR - VIOLET
86	RADIO - ENTERTAINMENT - LIGHT GREEN		

\* NOTE:


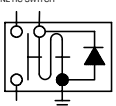
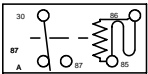
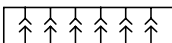
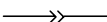
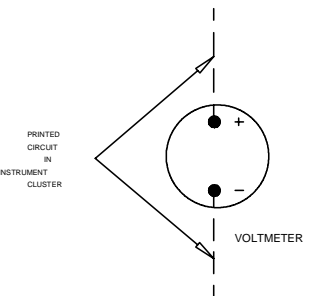
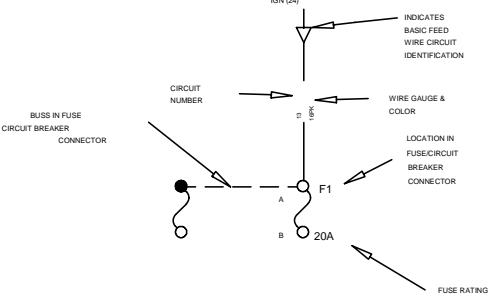
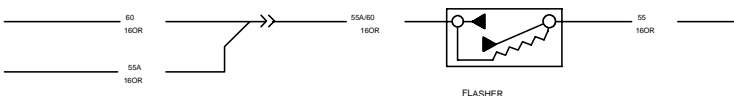
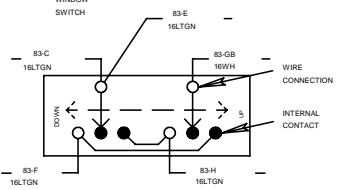
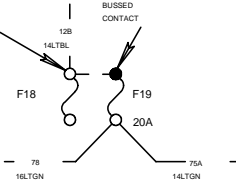
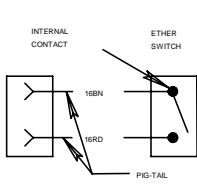
NOT ALL CIRCUITS MAY BE USED.

COLORS ABOVE ARE NEW STD COLORS FOR MAJOR HARNESSSES.

CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	INSTRUCTIONS AND CHARTS FOR ALL MODELS	
JPM	0DEC01	GSC2 ADDED CIR 73 DESC	A	P53583S	RROEPKE			
JKP	0MAR02	ADDED SEAT BELTS.	B	55093F	P52600M	DATE	PART NO.	SHEET
						29JUL98	AE08-52011	02

Figure 2    Circuit Identification Chart, page 2

### 1.3. CIRCUIT DIAGRAM INSTRUCTIONS, P. 3

<b>NAVISTAR INTERNATIONAL TRANSPORTATION CORP.</b> <small>THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE NAVISTAR INTERNATIONAL TRANSPORTATION CORP.</small>		<b>ELECTRICAL CIRCUIT DIAGRAM</b> <b>CHAPTER 1</b> <small>INSTRUCTIONS</small>	
<p><b>A</b> - 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;"> <div style="text-align: center;"> <p>SWITCH-MANUAL</p>  </div> <div style="text-align: center;"> <p>MAGNETIC SWITCH</p>  <p><small>INDICATES CASE GROUND</small></p> </div> </div> <div style="text-align: center; margin-top: 10px;">  <p><small>RELAY-SUPPRESSED</small></p> </div>		<p><b>B</b> - MULTIPLE CONNECTORS ARE DISPLAYED ON SCHEMATIC AS SHOWN. REFER TO CONNECTOR COMPOSITE WITH APPLICABLE NUMBER FOR MORE COMPLETE INFORMATION.</p> <div style="text-align: center; margin-top: 10px;">  </div> <p style="text-align: center; margin-top: 10px;">SINGLE IN-LINE CONNECTORS DISPLAYED AS SHOWN WITHOUT CONNECTOR NUMBER.</p> <div style="text-align: center;">  </div>	
<p><b>C</b> - 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; align-items: center;"> <div style="text-align: center;">  <p><small>PRINTED CIRCUIT IN INSTRUMENT CLUSTER</small></p> </div> <div style="text-align: center;">  <p><small>BUSSED IN FUSE CIRCUIT BREAKER CONNECTOR</small></p> </div> </div>			
<p><b>D</b> - MULTIPLE CIRCUIT NUMBERS ON A LINE INDICATE ONE WIRE DISTRIBUTING CURRENT TO TWO CIRCUITS.</p> <div style="text-align: center; margin-top: 10px;">  <p><small>FLASHER</small></p> </div>			
<p><b>E</b> - SWITCHES, RELAYS &amp; 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><small>WINDOW SWITCH</small></p> </div> <div style="text-align: center;">  <p><small>WIRE CONNECTION</small></p> </div> <div style="text-align: center;">  <p><small>BUSSED CONTACT</small></p> </div> </div>			

CHK	DATE	CHANGE	REV	REFERENCE	DRAWN RROEPKE	NAME INSTRUCTIONS AND CHARTS FOR ALL MODELS
					RELEASE NO. P52600M	DATE 29JUL98
						PART NO. AE08-52011
						SHEET 3

Figure 3 Circuit Diagram Instructions, page 3

1.4. CIRCUIT DIAGRAM INSTRUCTIONS, P. 4

NAVISTAR INTERNATIONALTRANSPORTATION CORP.

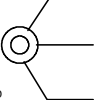
THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE NAVISTAR INTERNATIONAL TRANSPORTATION CORP.

ELECTRICAL CIRCUIT DIAGRAM


CHAPTER 1

INSTRUCTIONS


F - JUNCTIONS ARE USED TO IDENTIFY MULTIPLE CONNECTIONS WITH A COMMON FEED OR GROUND. THE JUNCTION MAY BE A STUD OR A CONNECTOR WITH ALL CIRCUITS CONNECTED INTERNALLY BY BUS BAR.



STUD  
OR  
ADAPTER



BUS ADAPTER



GROUND JUNCTION

THIS VEHICLE USES BUSSED CONNECTORS AND ARE REFERRED TO AS ADAPTERS - GROUND, FEED, IGNITION, ACCESSORY OR BATTERY.

G - CIRCUIT 11 DENOTES ANY COMMON GROUND, (MORE THAN ONE CIRCUIT). ANY DEDICATE GROUND CIRCUIT IS IDENTIFIED WITH THAT PARTICULAR SYSTEM CIRCUIT NUMBER. (E.G CIRCUIT 97 CRUISE CONTROL, IS IDENTIFIED PER EXAMPLE).

NOTE: FOR CIRCUIT DESCRIPTION OTHER THAN GROUNDS, NEITHER THE LETTER G OR THE COLOR WHITE WILL BE USED.

GROUND CIRCUITS ARE DESCRIBED THUS:

11-G

11-GA

11-GB

SUFFIX

G IS NOT A SUFFIX BUT INDICATES A GROUND CIRCUIT

COMMON GROUND CIRCUIT NUMBER

97-G

97-GA

97-GB

SUFFIX

G IS NOT A SUFFIX BUT INDICATES A GROUND CIRCUIT

DEDICATED GROUND CIRCUIT NUMBER

H - ABBREVIATIONS: COLOR,NOUN AND ENGINE

COLOR ABBREVIATION

AQ - AQUA

LT GN - LIGHT GREEN

BK - BLACK

OR - ORANGE

BL - BLUE

PK - PINK

BN - BROWN

PL - PURPLE

DK GN - DARK GREEN

RD - RED

GD - GOLD

SIL - SILVER

GY - GRAY

TN - TAN

GN - GREEN

VT - VIOLET

LT BL - LIGHT BLUE

WH - WHITE

YL - YELLOW

NOUN ABBREVIATION

A

ACC

AC - AIR CONDITIONER

AUX - AUXILIARY

AWG - AMERICAN WIRE GAUGE

B

BAT

CONN - CONNECTION OR CONNECTOR

DRL - DAYTIME RUNNING LIGHTS

ENG - ENGINE

FL - FUSIBLE LINK

FWD - FORWARD

GA - GAUGE

G

GND

I

IGN

IND - INDICATOR

L - LEFT

LT - LIGHT

N - NOT WITH

OPT - OPTIONAL

R - RIGHT

S - START OR SENDER

THERMO - THERMOSTAT

W - WITH

W/O - WITHOUT

CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME
					RROEPKE	INSTRUCTIONS AND CHARTS FOR ALL MODELS
					RELEASE NO.	DATE
					P52600M	29JUL98
					PART NO.	SHEET
					AE08-52011	4

Figure 4 Circuit Diagram Instructions, page 4

s082252a

## 1.5. SCHEMATIC SYMBOLS, P. 5

NAVISTAR INTERNATIONAL TRANSPORTATION CORP.				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 NAVISTAR INTERNATIONAL TRANSPORTATION CORP.				SCHEMATIC SYMBOL CHART			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	MALE/FEMALE IN-LINE CONNECTION		ALARM-ELECTRONIC		SOLENOID-GENERAL USAGE		MOTOR-ELECTRIC
	FEMALE TERMINAL		CIGAR LIGHTER		HORN		SPEAKER-SOUND SYSTEM
	MALE TERMINAL		FLASHER-TURN SIGNAL HAZARD		MAGNETIC SWITCH		LIGHT-SINGLE FILAMENT
	GROUND		LIGHT-DOUBLE FILAMENT		SENDER-OIL, WATER, FUEL, TEMPERATURE		
	FUSE / CIRCUIT BREAKER						
TYPE 1 TYPE 2 OR 3							
	CIRCUIT BREAKER						
	DIODE						
	LIGHT EMITTING DIODE (LED)						
	FUSIBLE LINK						
	RESISTOR						
	SWITCH CONTACT, NORMALLY OPEN						
	SWITCH CONTACT, NORMALLY CLOSED						
	JUNCTION POINT						
	SPLICE						
	SWITCH-PUSH BUTTON						
	SWITCH-PRESSURE						
	SWITCH-MANUAL/MECHANICAL						
	SWITCH-WITH LIGHT						
	RELAY-SUPPRESSED						
	ACCELERATOR POSITION SENSOR						
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	
					RROEPKE	INSTRUCTIONS AND CHARTS FOR ALL MODELS	
					RELEASE NO.	DATE	PART NO.
					P52600M	29JUL98	AE08-52011
							SHEET 5

Figure 5 Schematic Symbols

1.6. RELAY PINOUT, FUNCTION DATA & SEALED RELAY, P. 6

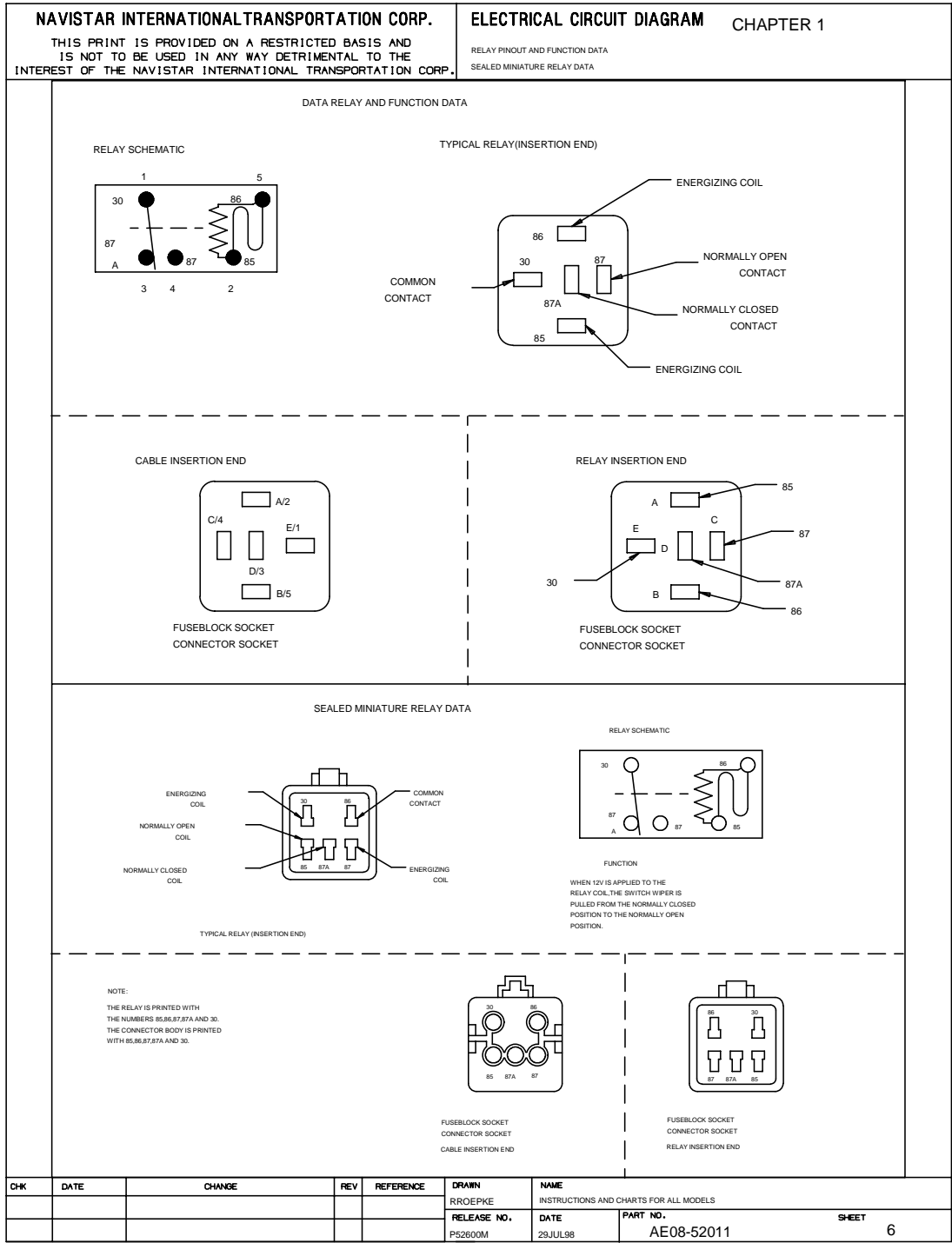


Figure 6 Relay Pinout, Function Data & Sealed Relay

## 1.7. LAMP BULB CHART, P. 7

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		WATTS OR CANDLEPOWER		TRADE NUMBER			
AIR RESTRICTION GAUGE.....		2 CANDLEPOWER.....		57			
BACK-UP LIGHTS.....		32 CANDLEPOWER.....		1156			
CIGAR LIGHTER.....		1 CANDLEPOWER.....		1455			
CLOCK - ANALOG.....		2 WATTS.....		VDO-600 802			
CLEARANCE/IDENTIFICATION LIGHTS - SMALL.....		2 CANDLEPOWER.....		194			
CLEARANCE/IDENTIFICATION LIGHTS - LARGE.....		4 CANDLEPOWER.....		904			
COURTESY LIGHT.....		21 CANDLEPOWER.....		1142			
DOME LIGHT.....		21 CANDLEPOWER.....		1142			
EXTERIOR MIRROR LIGHT.....		2 CANDLEPOWER.....		1895			
FOG LIGHT.....		100 WATTS.....		4921-1			
FRONT TURN SIGNAL							
9200/9400/9900.....		32/3 CANDLEPOWER.....		3157			
HEADLIGHTS							
9200/9400/9900 INCANDESCENT							
HIGH/LOW BEAMS.....		65/35 WATTS.....		6053			
HALOGEN (OPTIONAL)							
HIGH/LOW BEAM.....		65/35 WATTS.....		H5054			
HEATER AND AIR CONDITIONER CONTROLS.....		3 CANDLEPOWER.....		168			
HIGH BEAM INDICATOR.....		0.5 CANDLEPOWER.....		37			
INSTRUMENT CLUSTER							
ILLUMINATION LIGHT.....		1 CANDLEPOWER.....		161			
WARNING LIGHT.....		0.5 CANDLEPOWER.....		37			
READING LIGHT.....		15 CANDLEPOWER.....		1003			
SIDE TURN SIGNAL - 9200/9400/9900.....		32/3 CANDLEPOWER.....		3157			
SPEEDOMETER.....		1 CANDLEPOWER.....		161			
SPOTLIGHT.....		30 WATTS.....		4405			
STOP-TAIL-TURN SIGNAL.....		32/3 CANDLEPOWER.....		1157			
TACHOMETER.....		1 CANDLEPOWER.....		161			
TURN SIGNAL INDICATOR.....		0.5 CANDLEPOWER.....		37			
WORK LIGHT.....		35 WATTS.....		4411			
SLEEPER							
DOME LIGHT.....		15 WATTS.....		F15TB-CW			
LUGGAGE COMPARTMENT LIGHT.....		12 CANDLEPOWER.....		211-2			
READING LIGHT.....		12 CANDLEPOWER.....		912			
OVERHEAD CABINET LIGHT.....		12 CANDLEPOWER.....		211-2			
TV/VCR & MICROWAVE CABINET LIGHT.....		12 CANDLEPOWER.....		211-2			
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	
JKP	MAR02	ADDED & EDITED SLPR ITEMS	A	55093F	RROEPKE	INSTRUCTIONS AND CHARTS FOR ALL MODELS	
					RELEASE NO.	DATE	
					P52600M	29.JUL.98	
					PART NO.	AE08-52011	
						SHEET 07	

Figure 7 Lamp Bulb Chart

## 2.1. START FEED, P. 1





## 2.2. ACCESSORY, P. 2

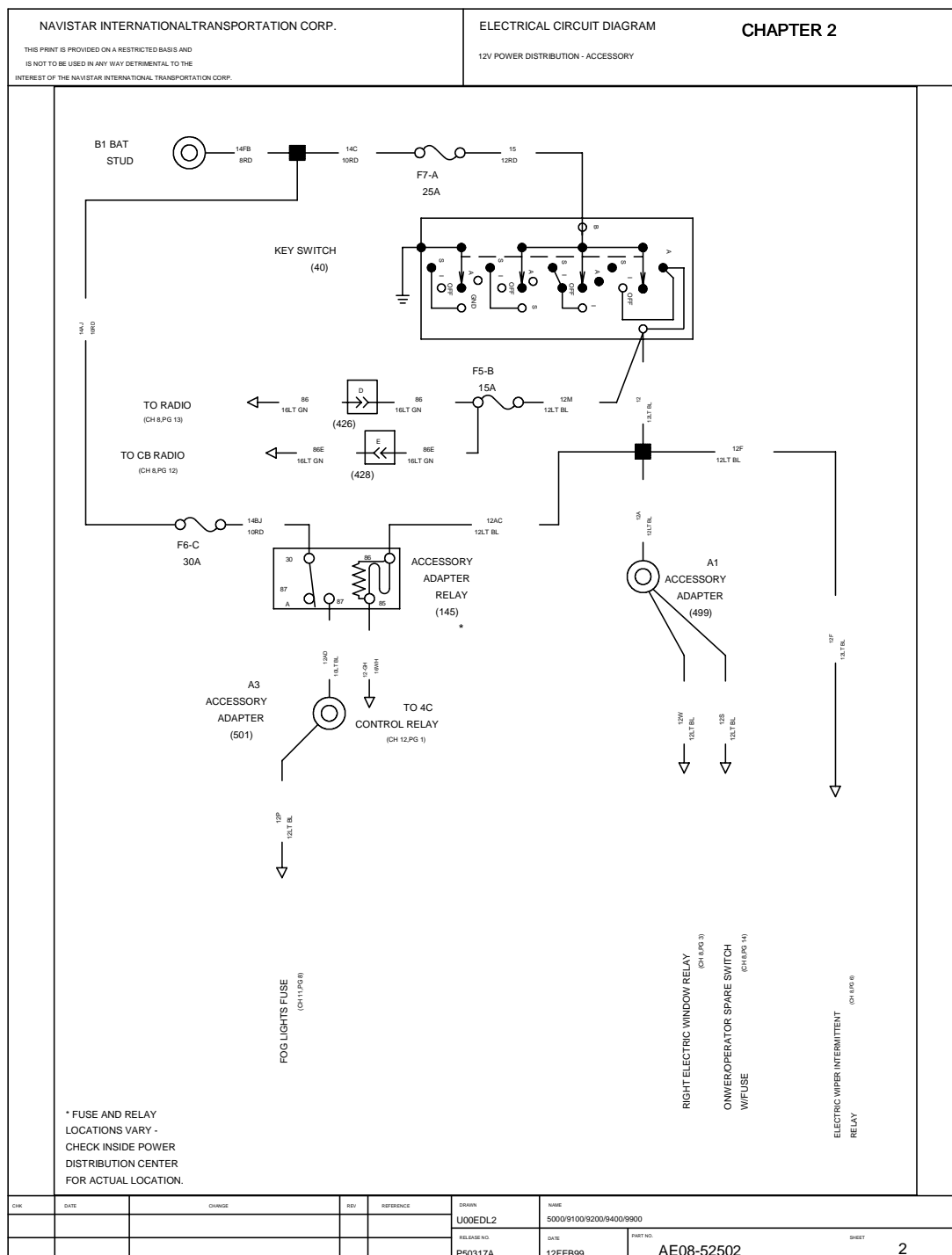
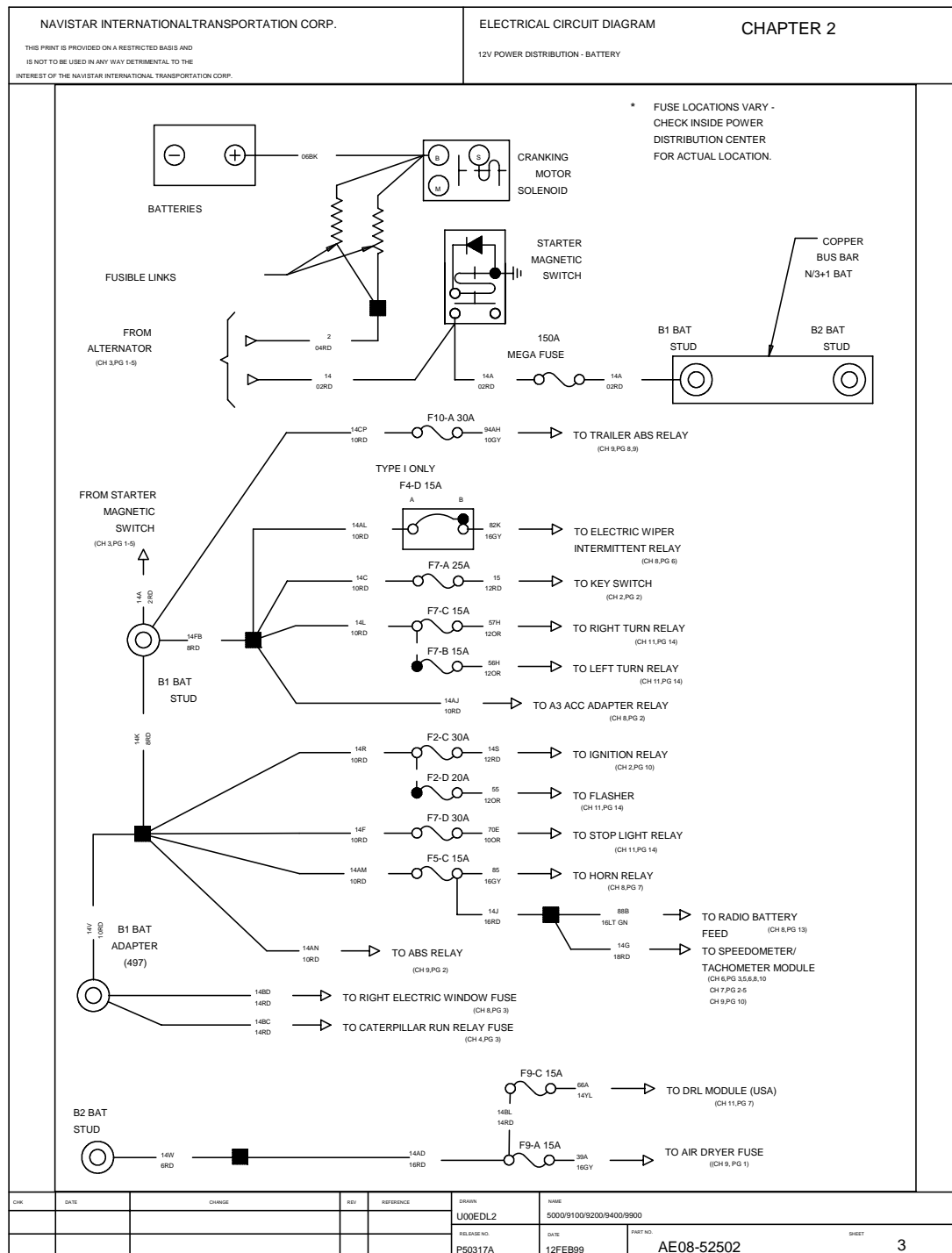


Figure 9 Accessory

## 2.3. BATTERY, B1, P. 3



**Figure 10 Battery, B1**

## 2.4. BATTERY, B2, P. 4

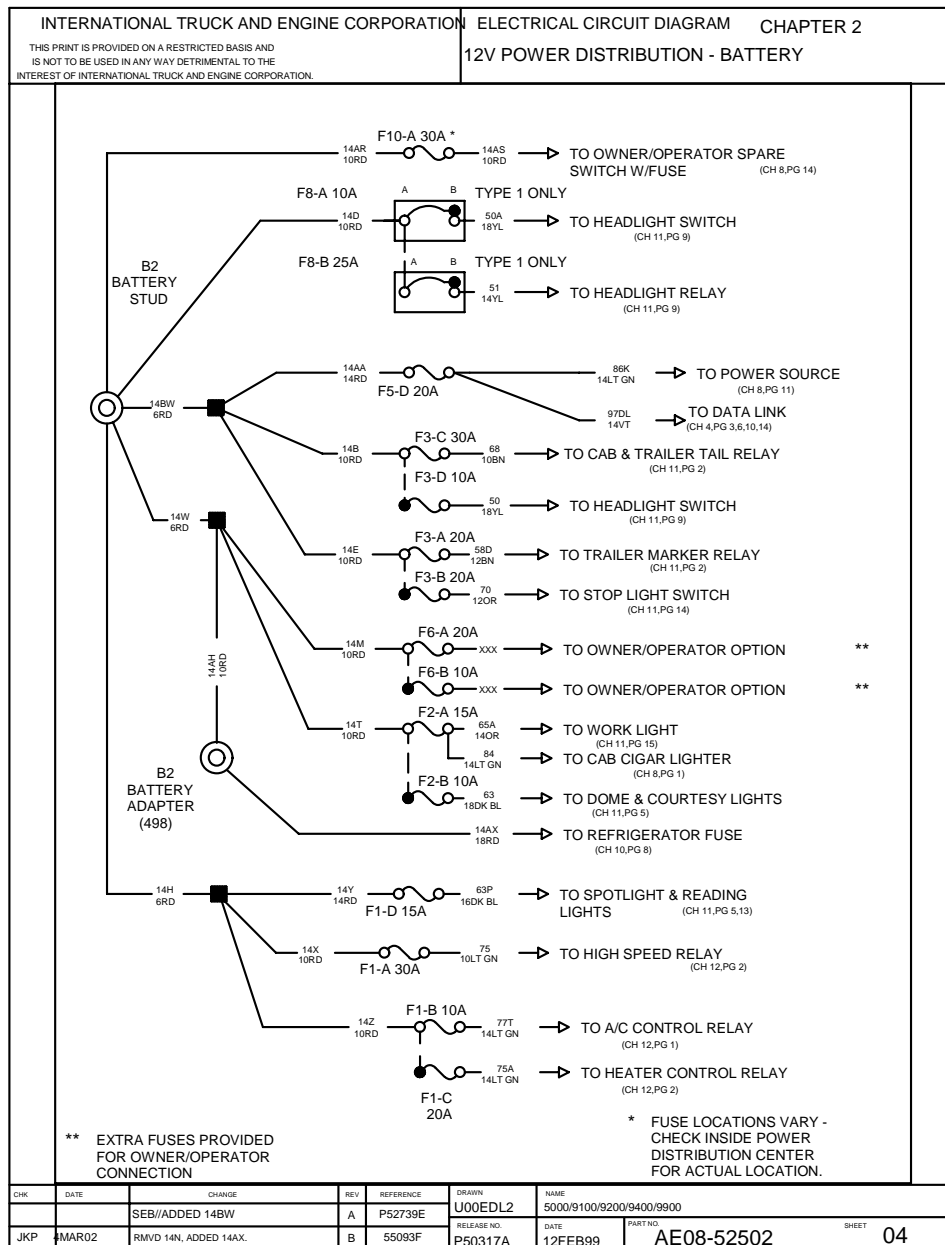


Figure 11 Battery, B2

2.5. BATTERY, B2 (CONT.), P. 5

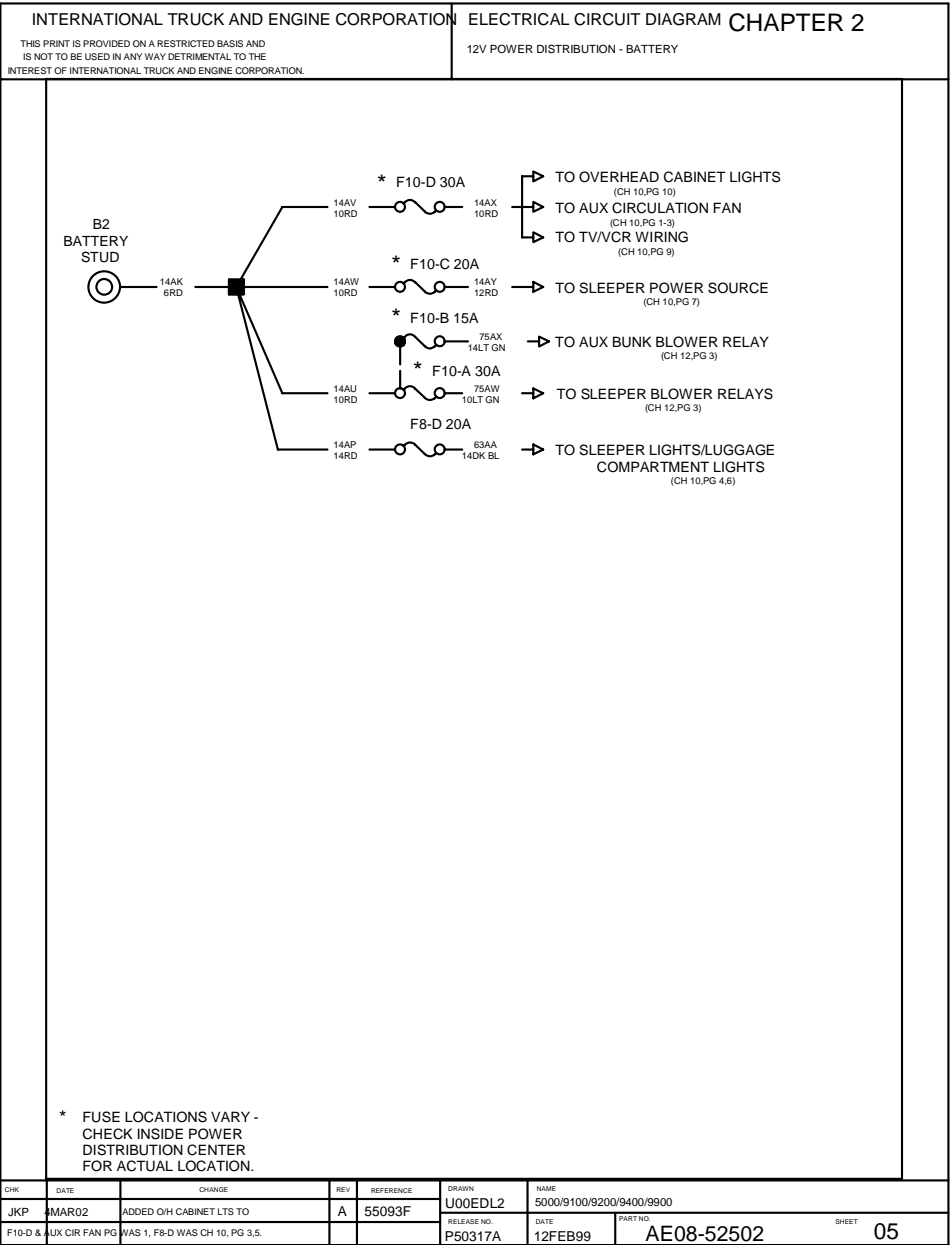


Figure 12 Battery, B2 (cont.)

[illegible]

**Figure 13 3+1 Battery System (Deep Cycle Battery – B2 Battery)**

2.7. GROUND ADAPTER COMPOSITE, P. 7

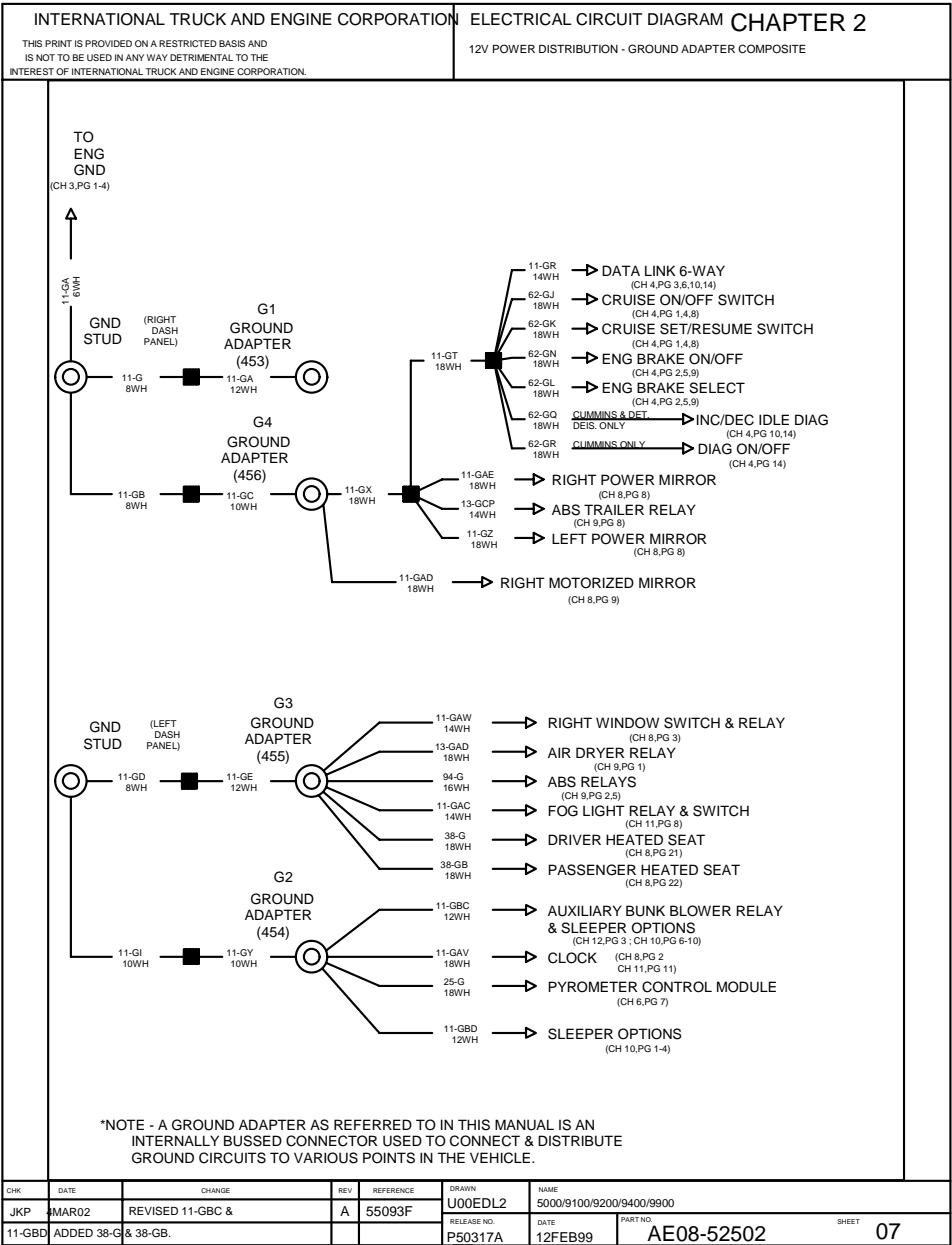


Figure 14 Ground Adapter Composite

## 2.8. GROUND STUD COMPOSITE, P. 8

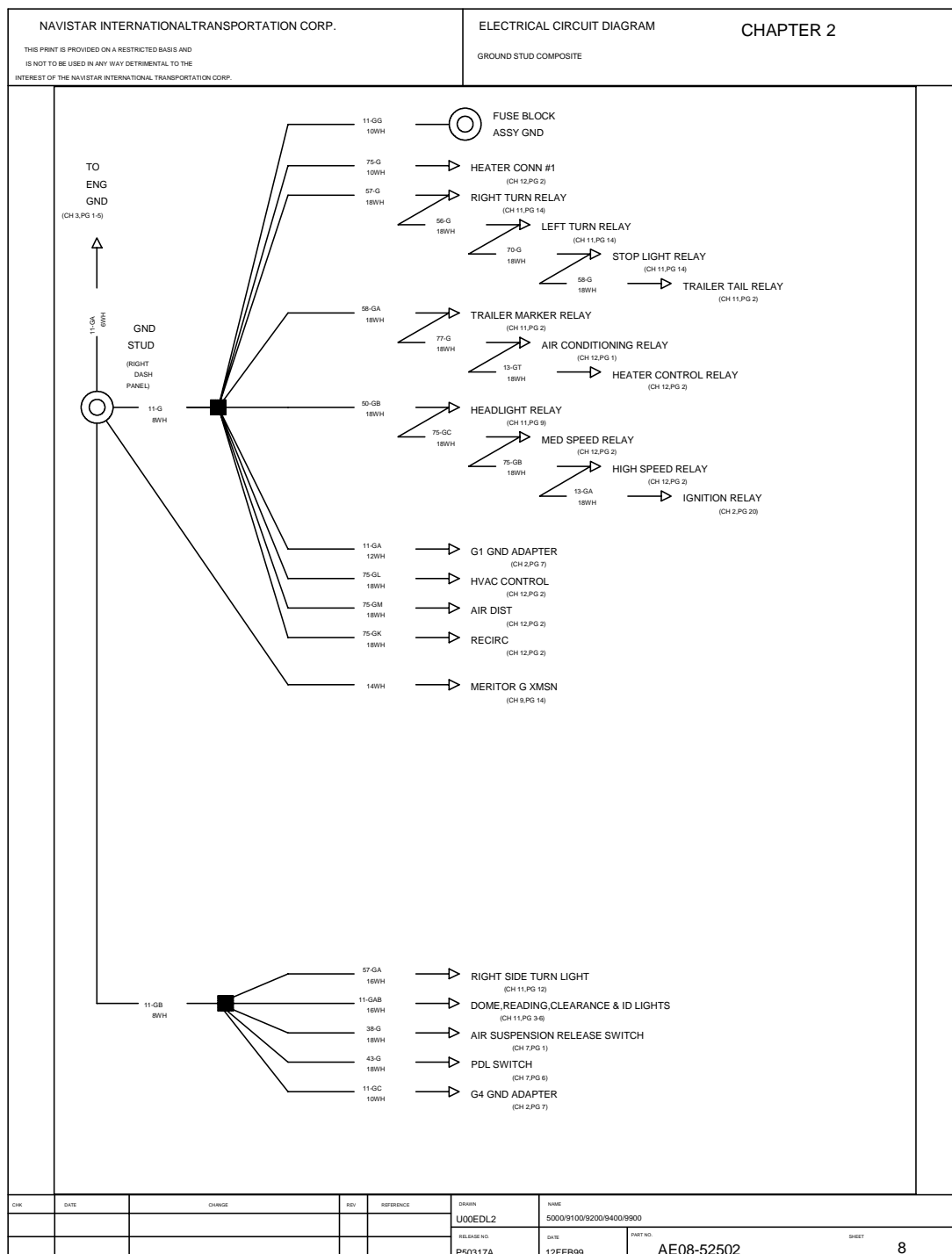


Figure 15 Ground Stud Composite

2.9. GROUND STUD COMPOSITE, P. 9

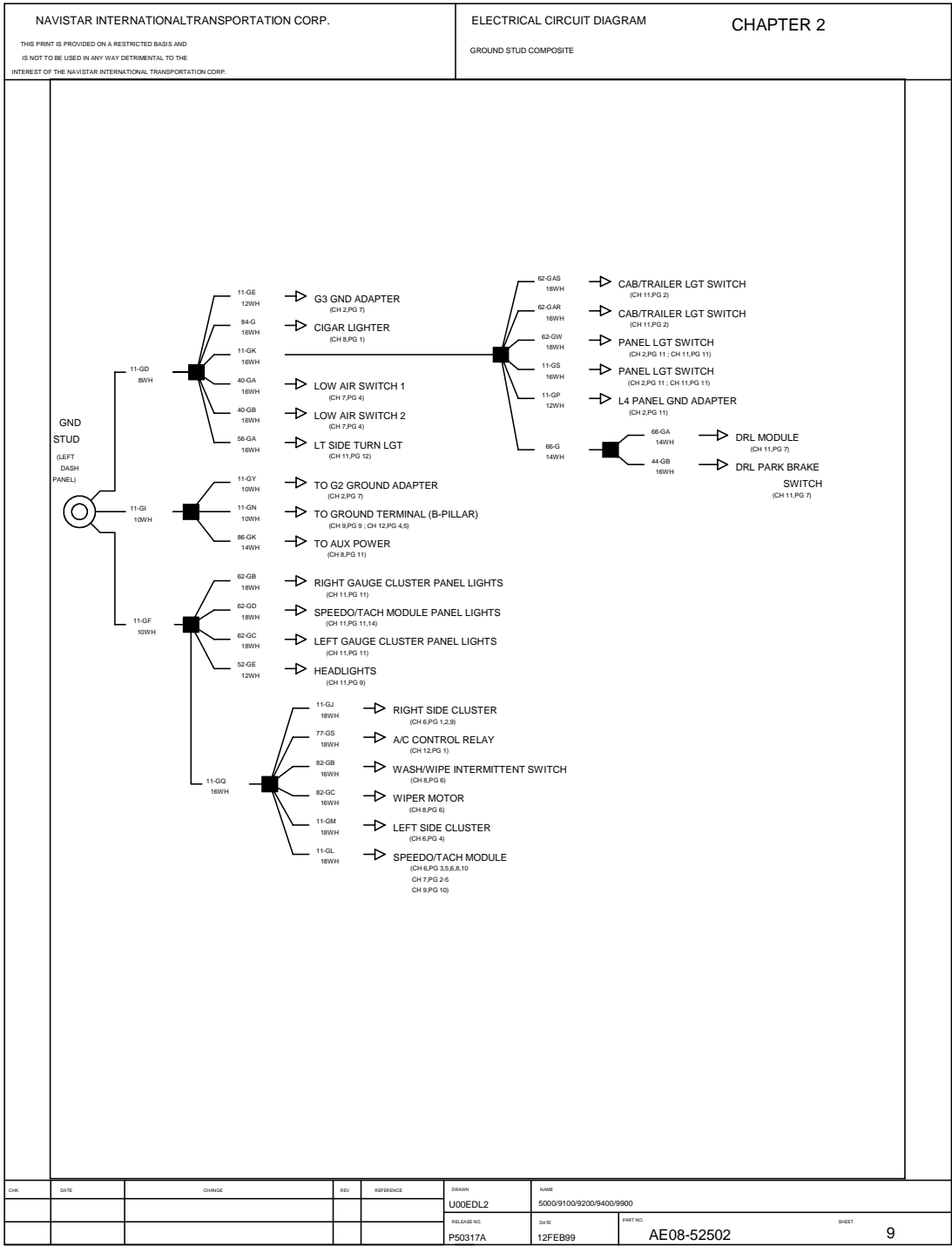


Figure 16 Ground Stud Composite



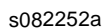
# INTERNATIONAL TRUCK AND ENGINE CORPORATION ELECTRICAL CIRCUIT DIAGRAM CHAPTER 2

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12V POWER DISTRIBUTION - IGNITION

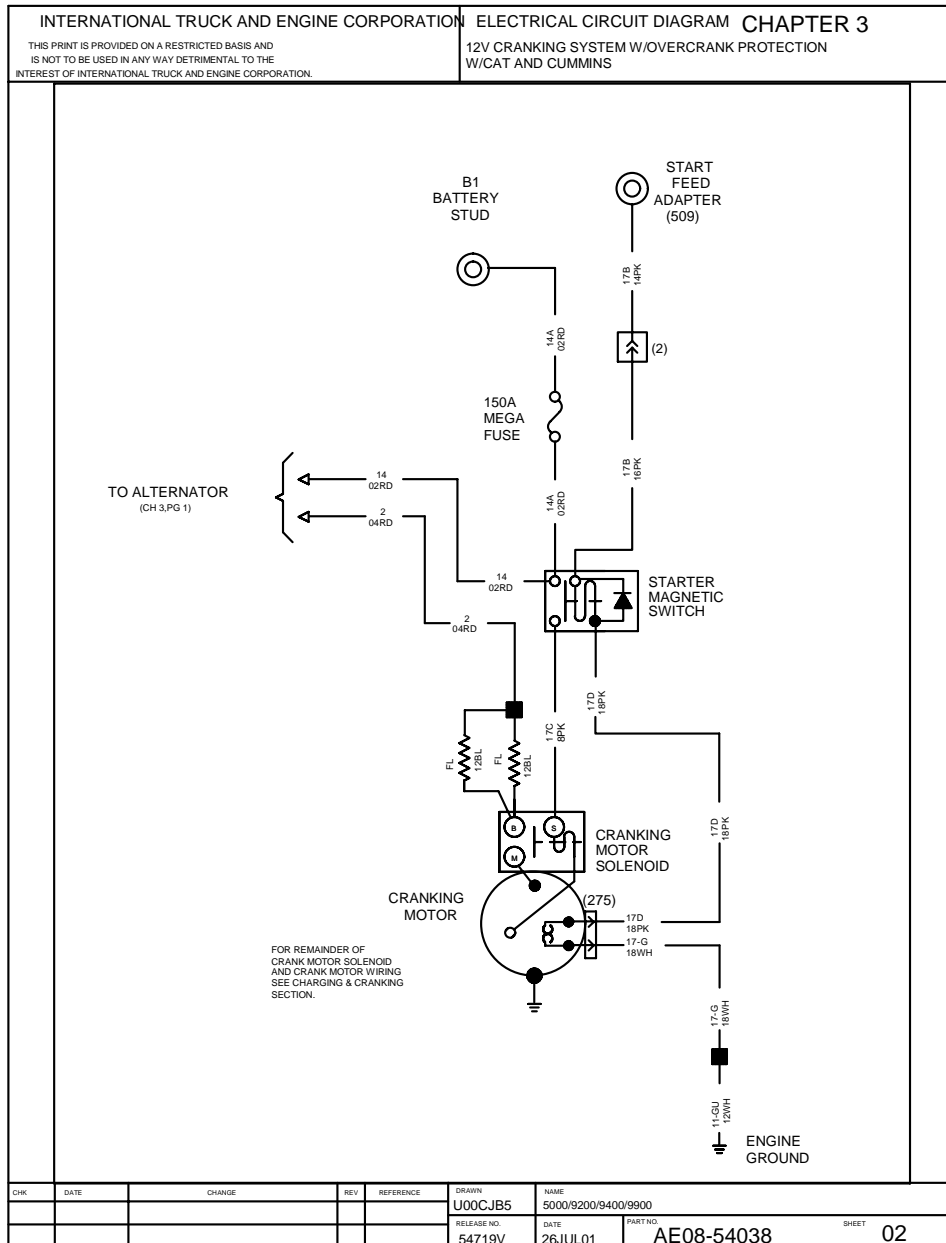
### Figure 17 Ignition

### Figure 18 Panel Lights Adapter Composite





### 3.2. W/OVERCRANK PROTECTION W/CAT AND CUMMINS ENGINES, P. 2



**Figure 20 W/Overcrank Protection W/Cat and Cummins Engines**

### 3.3. W/I6 HEUI ENGINE, P. 3

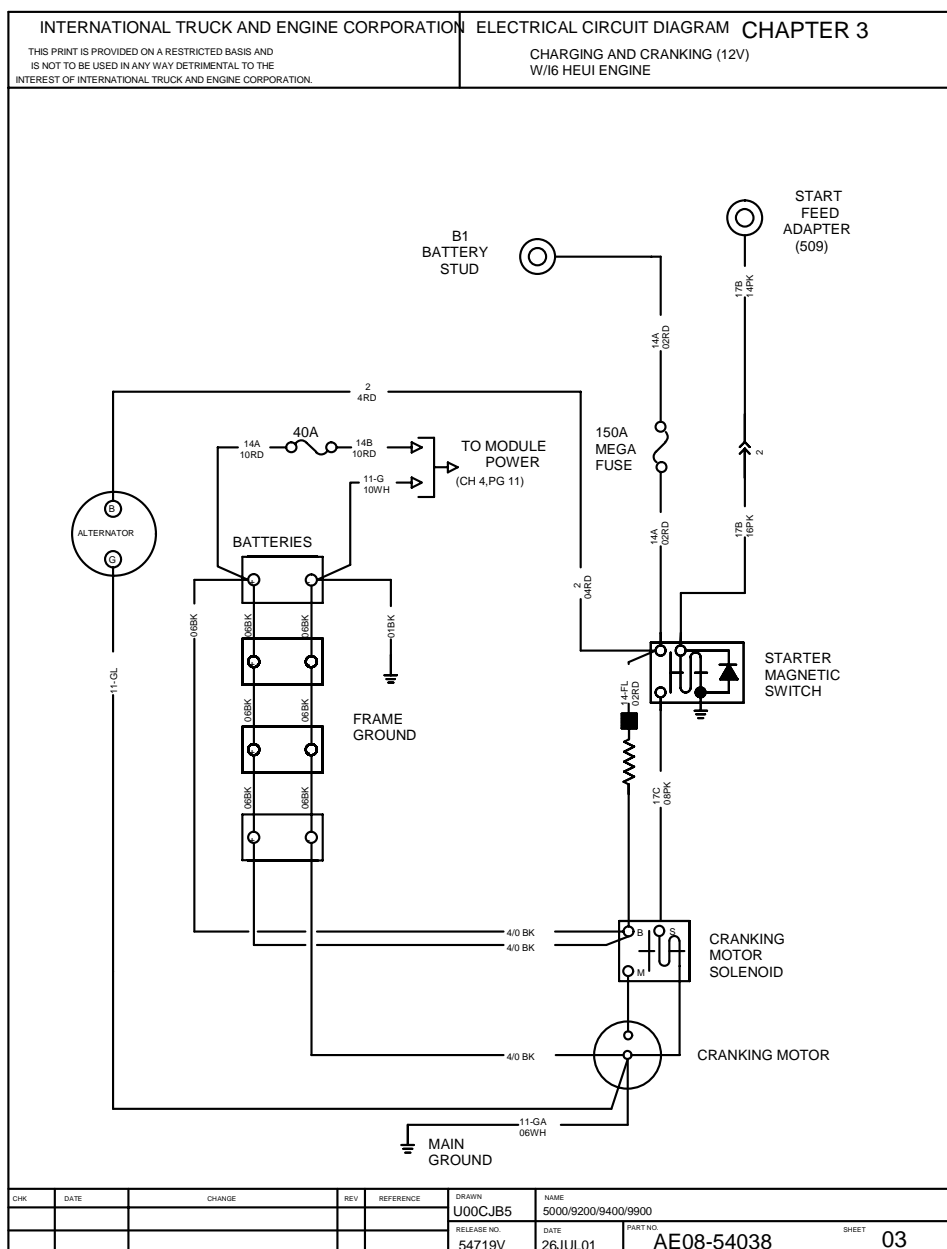
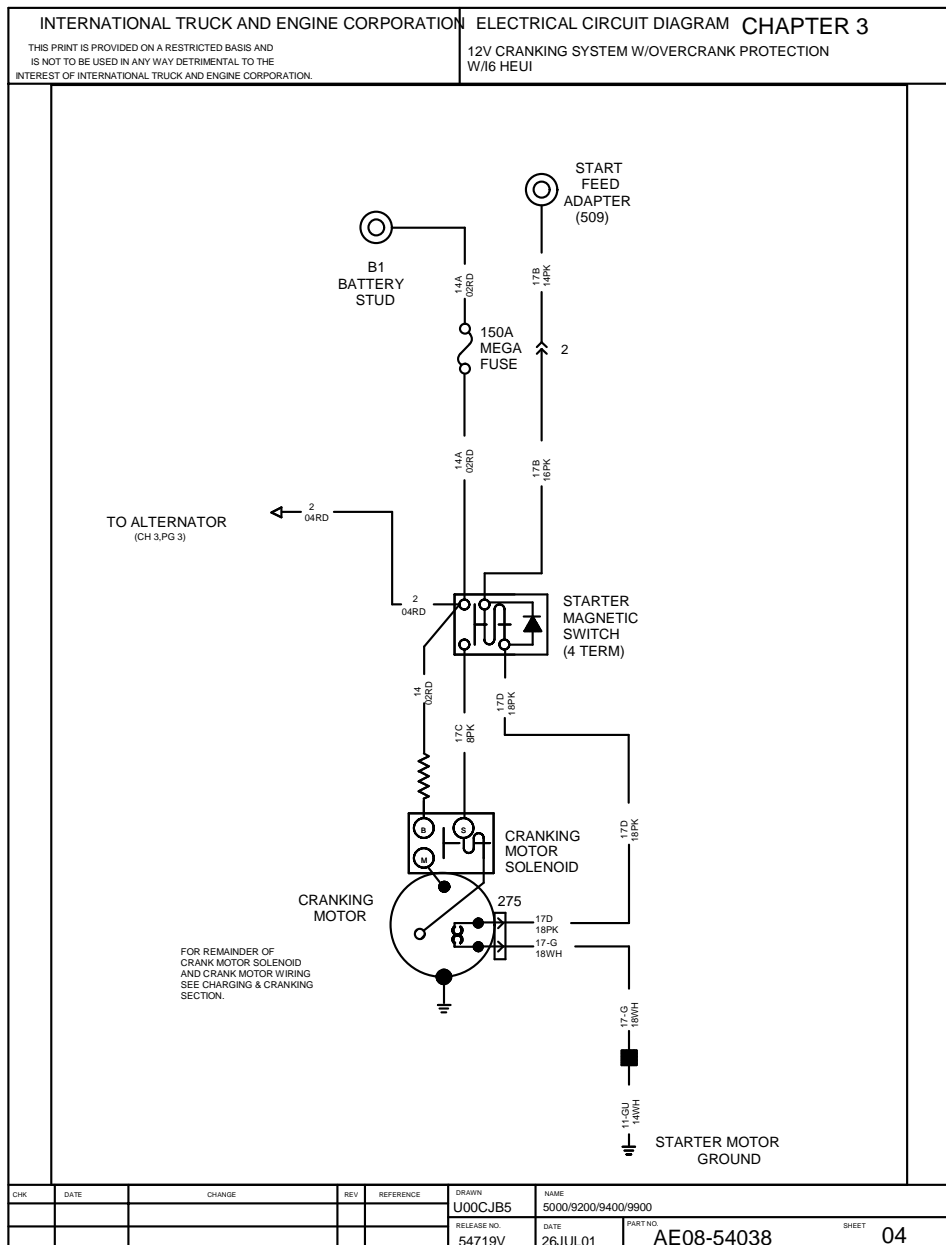


Figure 21 W/I6 HEUI Engine

### 3.4. W/OVERCRANK PROTECTION W/I6 HEUI, P. 4



**Figure 22 W/Overcrank Protection W/I6 HEUI**

## 4. ENGINE SYSTEMS (CHAPTER 4)

### 4.1. CATERPILLAR C10, C12, C15, AND C16 CRUISE CONTROL, P. 1

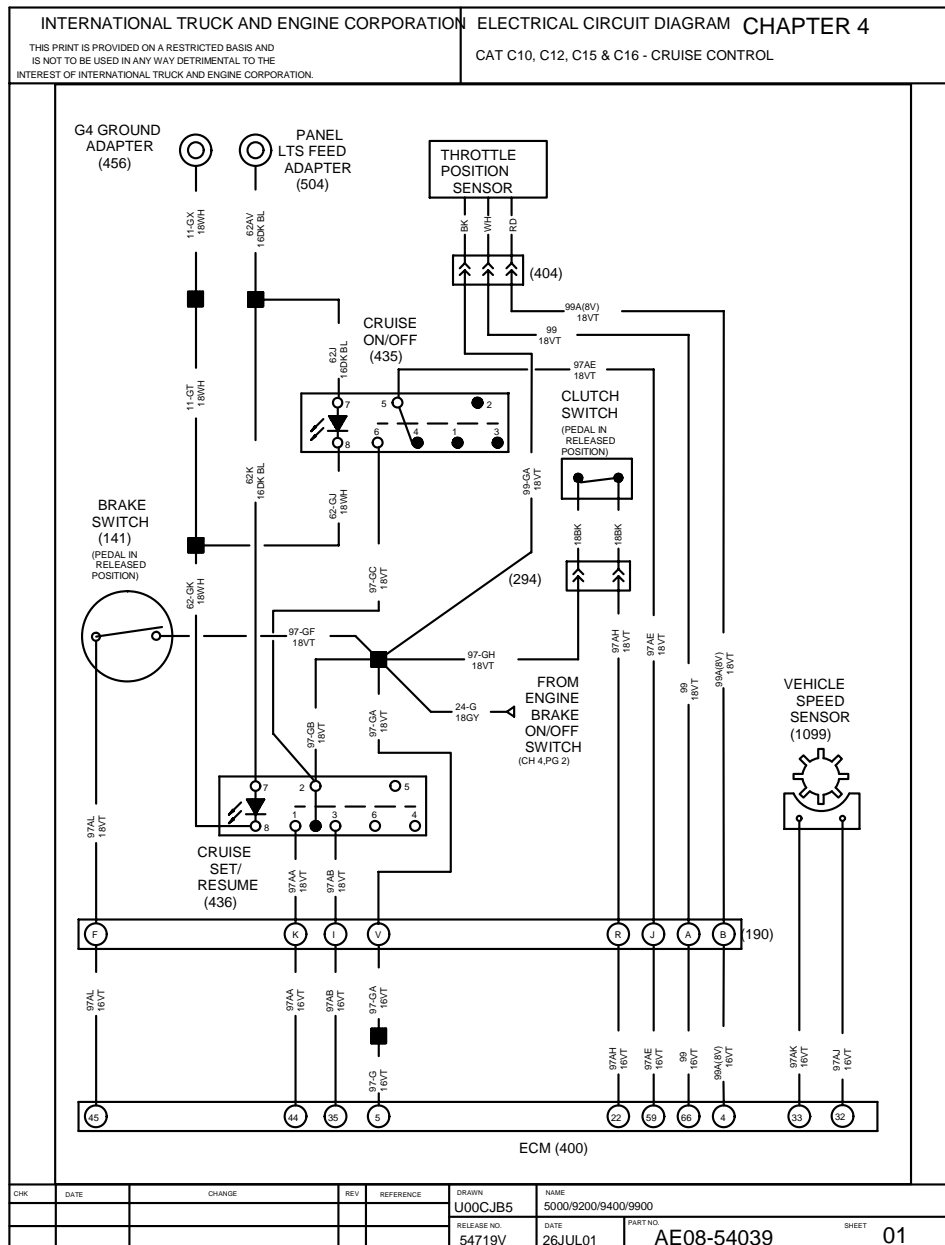
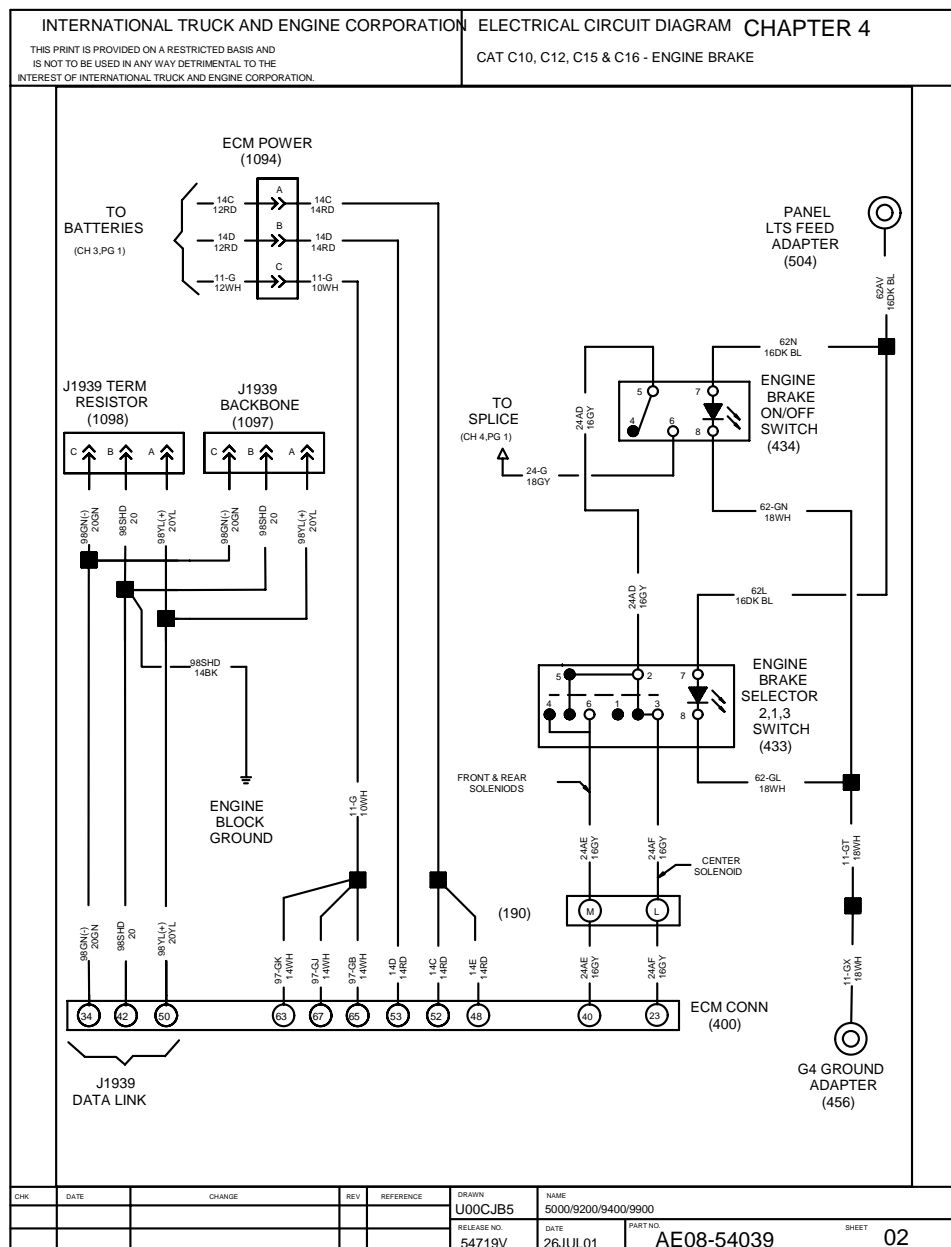


Figure 23 Caterpillar C10, C12, C15 and C16 – Cruise Control

## 4.2. CATERPILLAR C10, C12, C15 AND C16 – ENGINE BRAKE, P. 2



**Figure 24 Caterpillar C10, C12, C15 and C16 – Engine Brake**



### 4.3. CATERPILLAR C10, C12, C15 AND C16 – ENGINE CONTROLS, P. 3

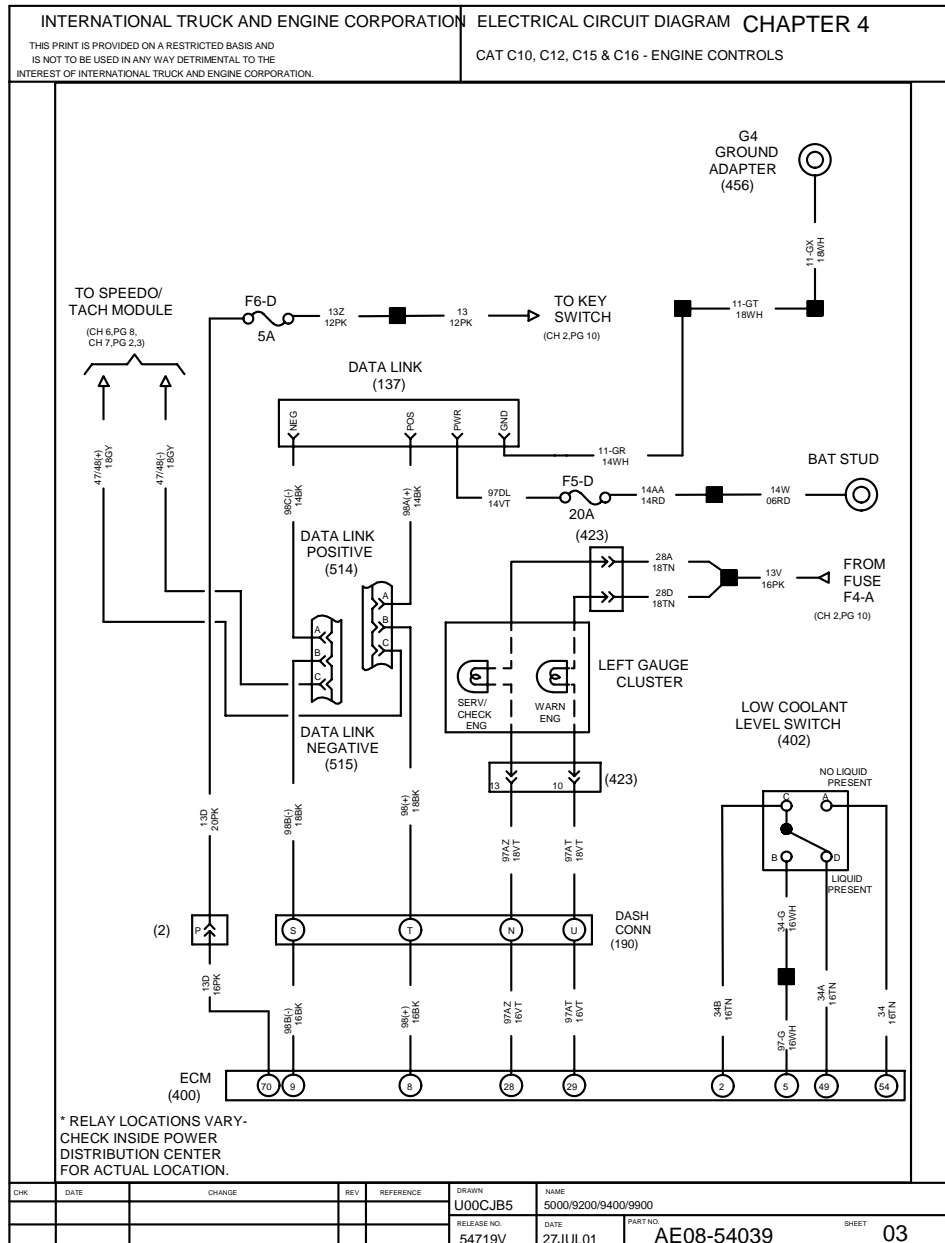


Figure 25 Caterpillar C10, C12, C15 and C16 – Engine Controls

#### 4.4. CUMMINS ISM , ISX — CRUISE CONTROL, P. 4

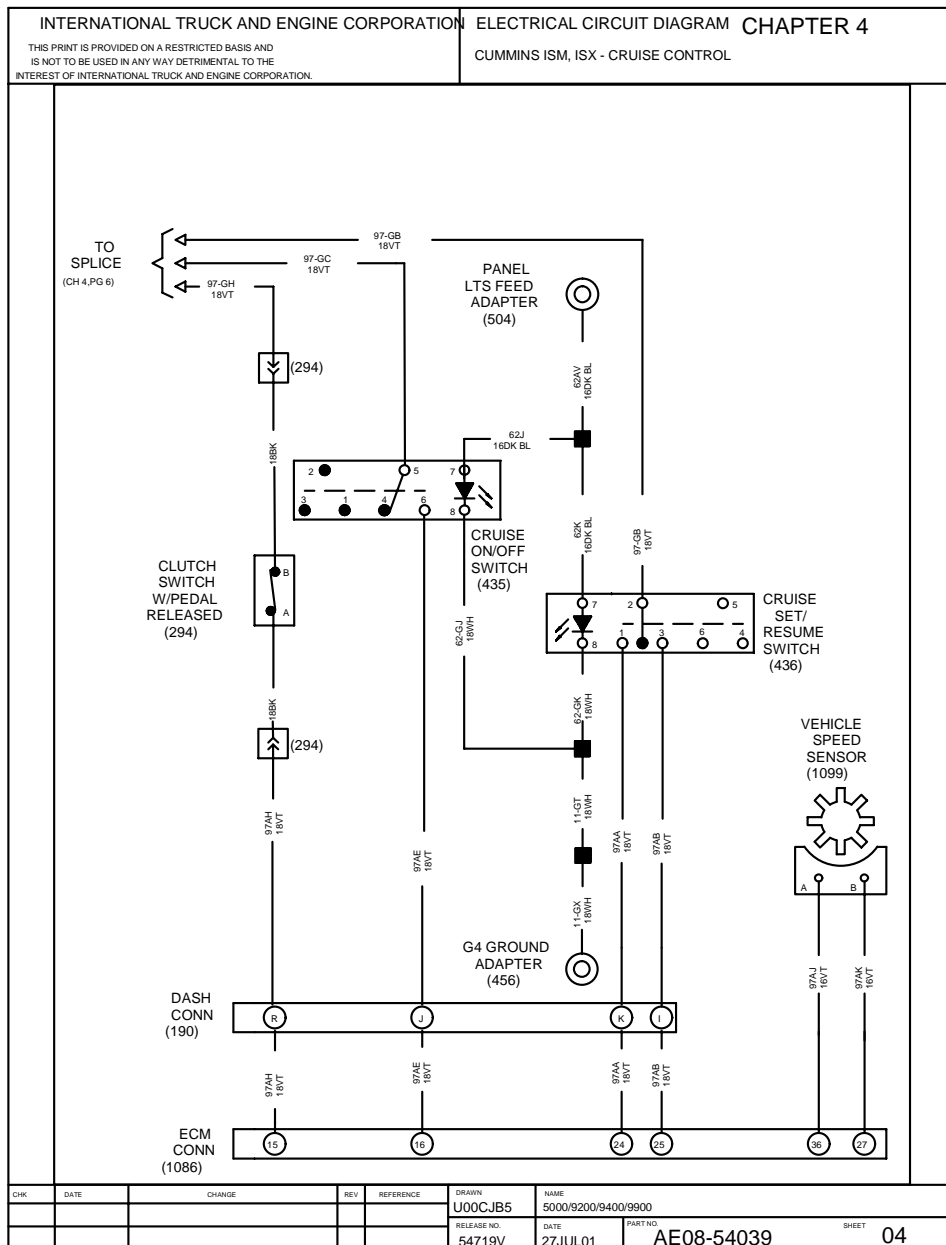
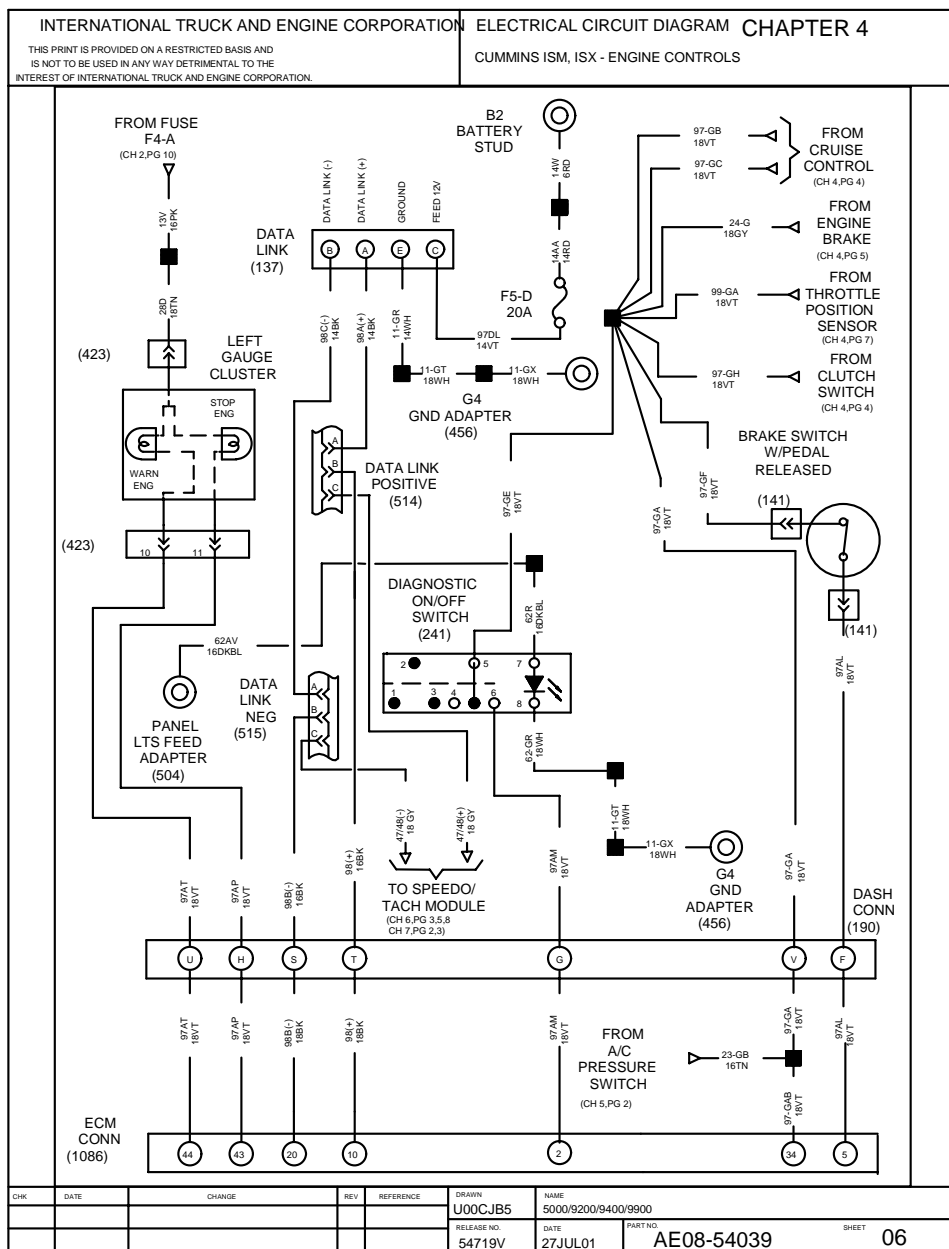


Figure 26 Cummins ISM, ISX – Cruise Control



## 4.6. CUMMINS ISM, ISX – ENGINE CONTROLS, P. 6



**Figure 28 Cummins ISM, ISX – Engine Controls**

## 4.7. CUMMINS AHD AND ISM – ENGINE CONTROLS, P. 7

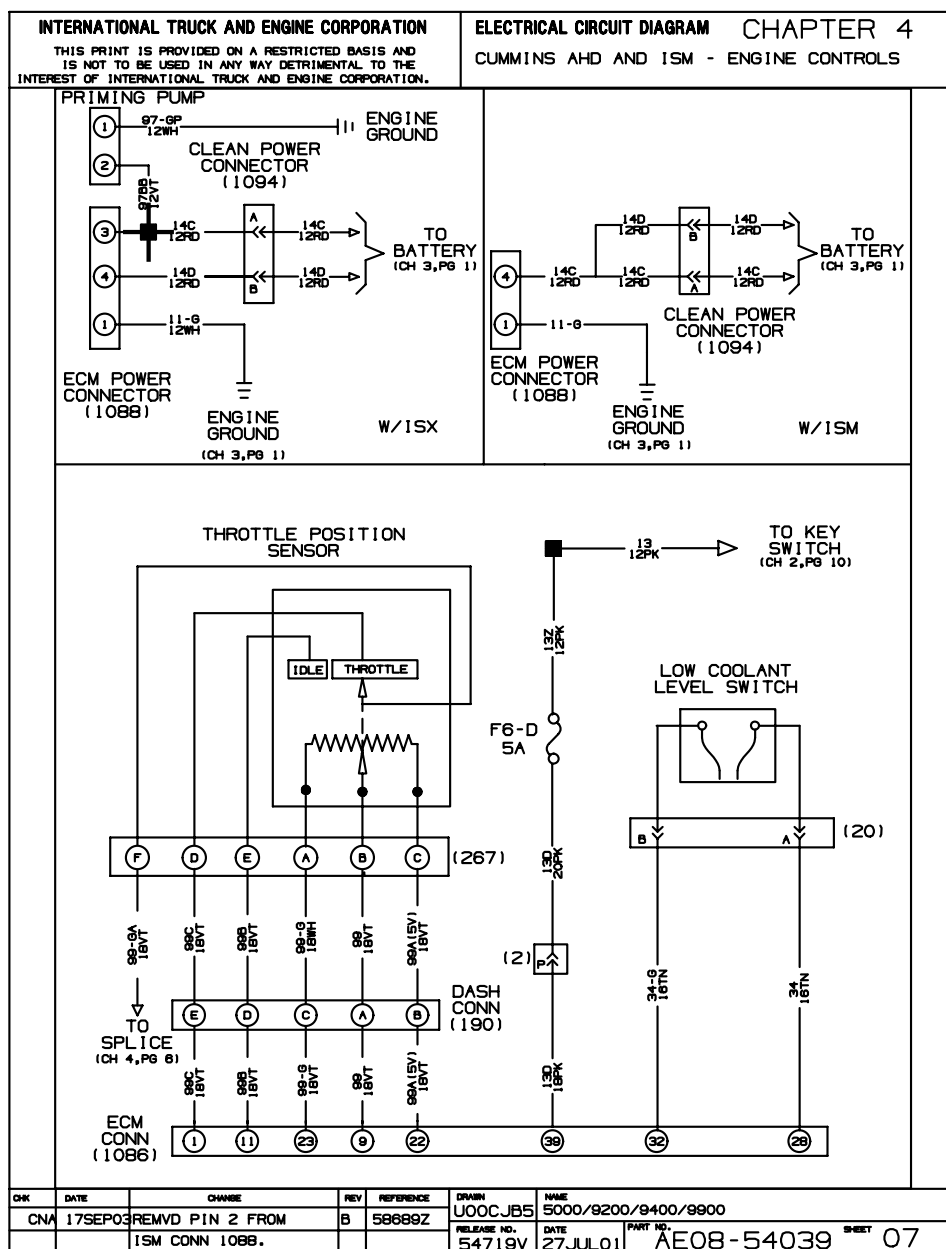
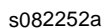


Figure 29 Cummins AHD and ISM – Engine Controls

**Figure 30 I6 HEUI — Cruise Control**



## 4.9. I6 HEUI — ENGINE BRAKE, P. 9

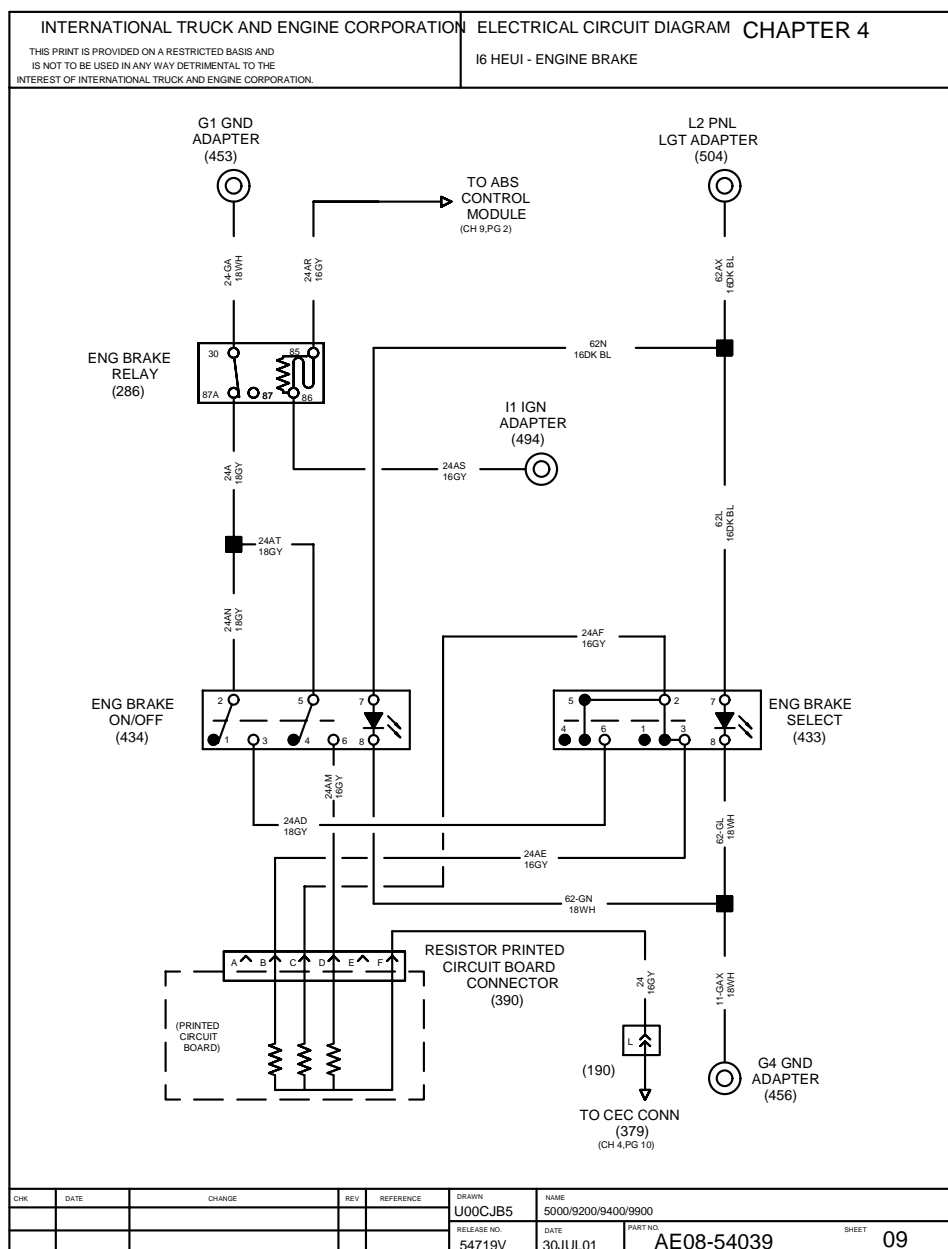
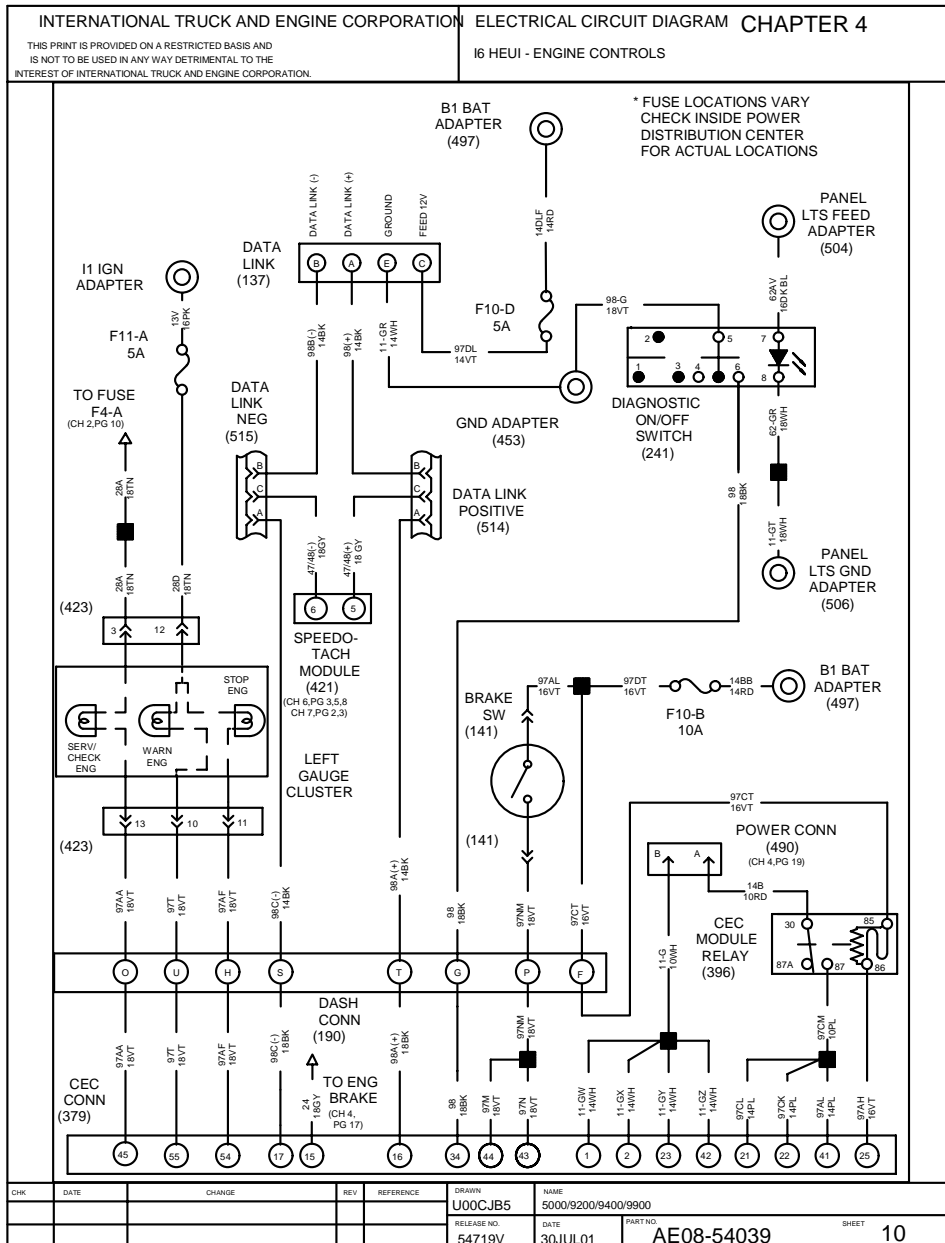


Figure 31 I6 HEUI — Engine Brake

## 4.10. I6 HEUI — ENGINE CONTROLS, P. 10



**Figure 32 I6 HEUI — Engine Controls**



## 4.11. I6 HEUI — MODULE POWER & GROUND SYSTEM, P. 11

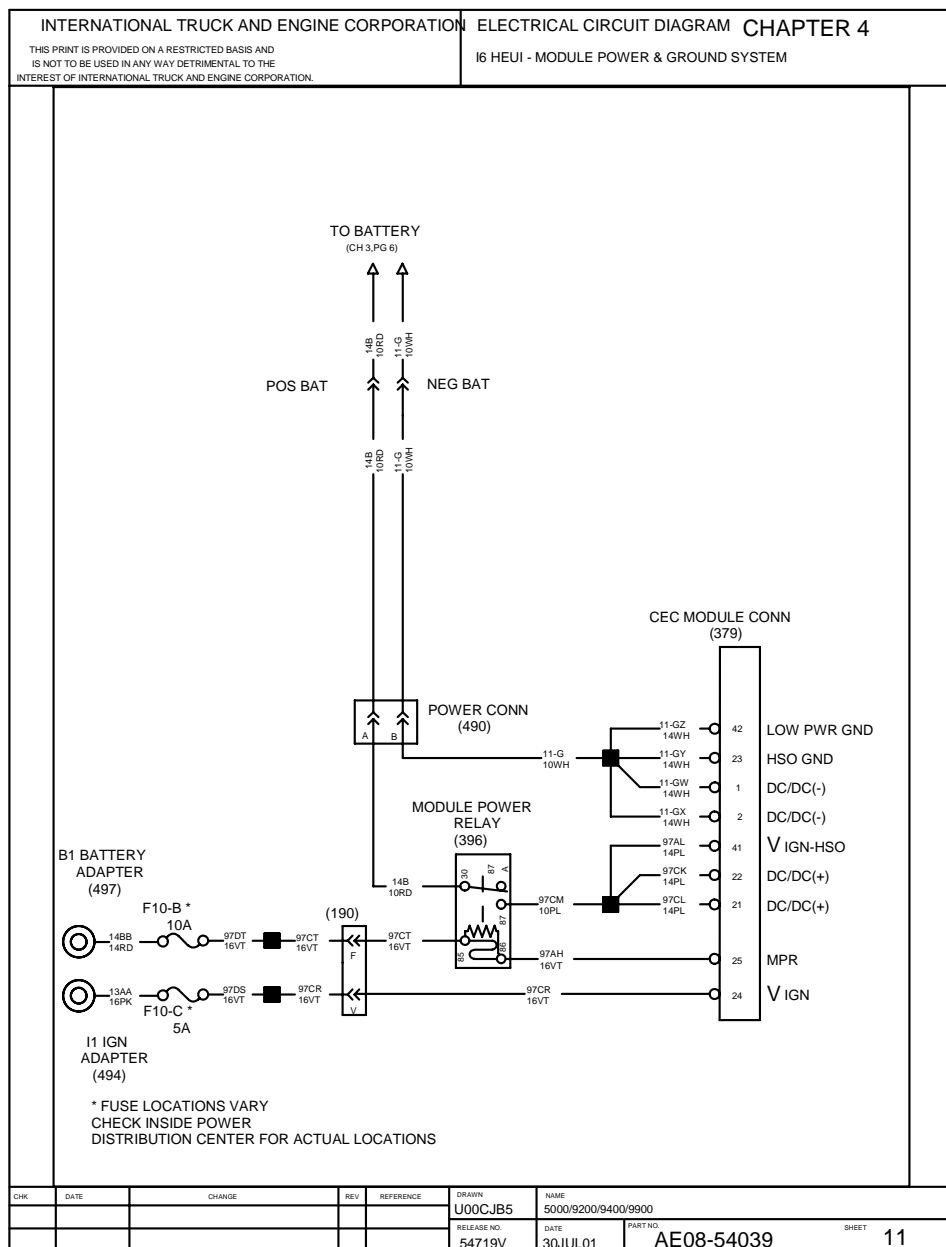
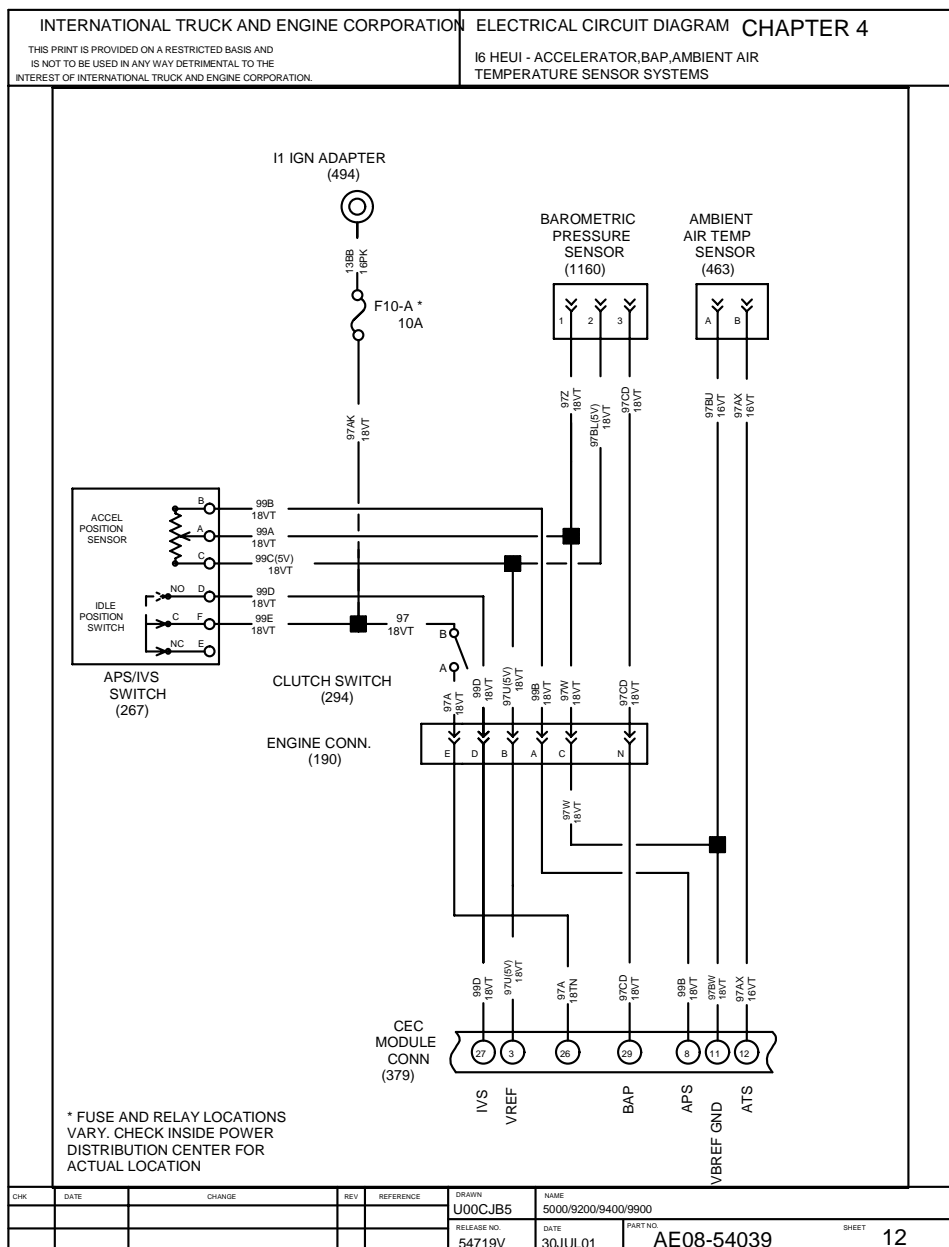


Figure 33 I6 HEUI — Module Power & Ground System

## 4.12. I6 HEUI — ACCELERATOR, BAP, AMBIENT AIR TEMP SENSOR SYSTEM, P. 12



**Figure 34 I6 HEUI — Accelerator, BAP, Ambient Air Temp Sensor System**

## 4.13. I6 HEUI — SURGE TANK & EXHAUST BRAKE SOLENOID, P. 13

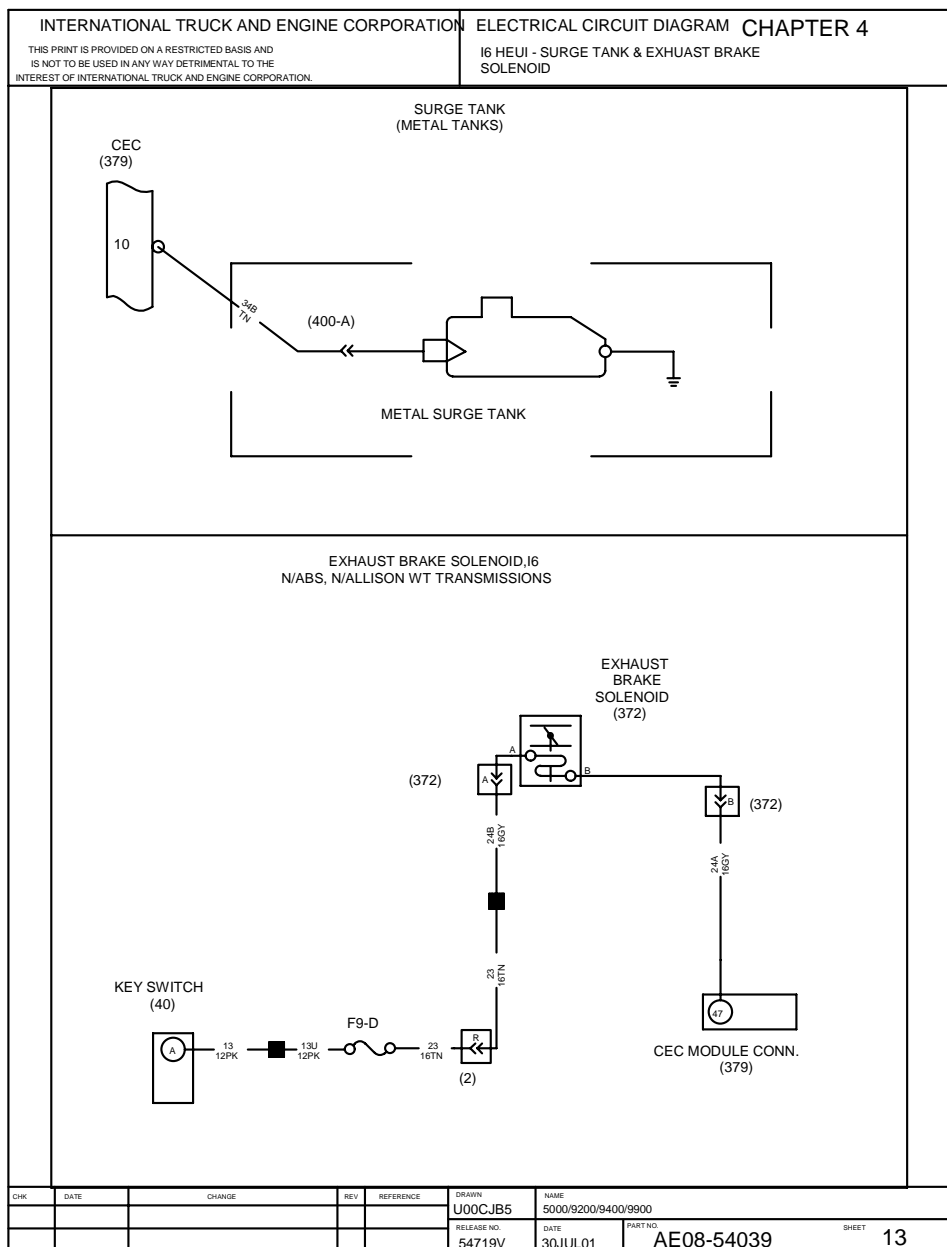


Figure 35 I6 HEUI — Surge Tank & Exhaust Brake Solenoid

## 5. FANS (CHAPTER 5)

### 5.1. HORTON AND KYSOR ENGINE FAN WITH CAT C10, C12, C15 AND C16 W/ AND N/ A/C, W/ AND N/ MANUAL FAN OVERRIDE SWITCH, P. 1

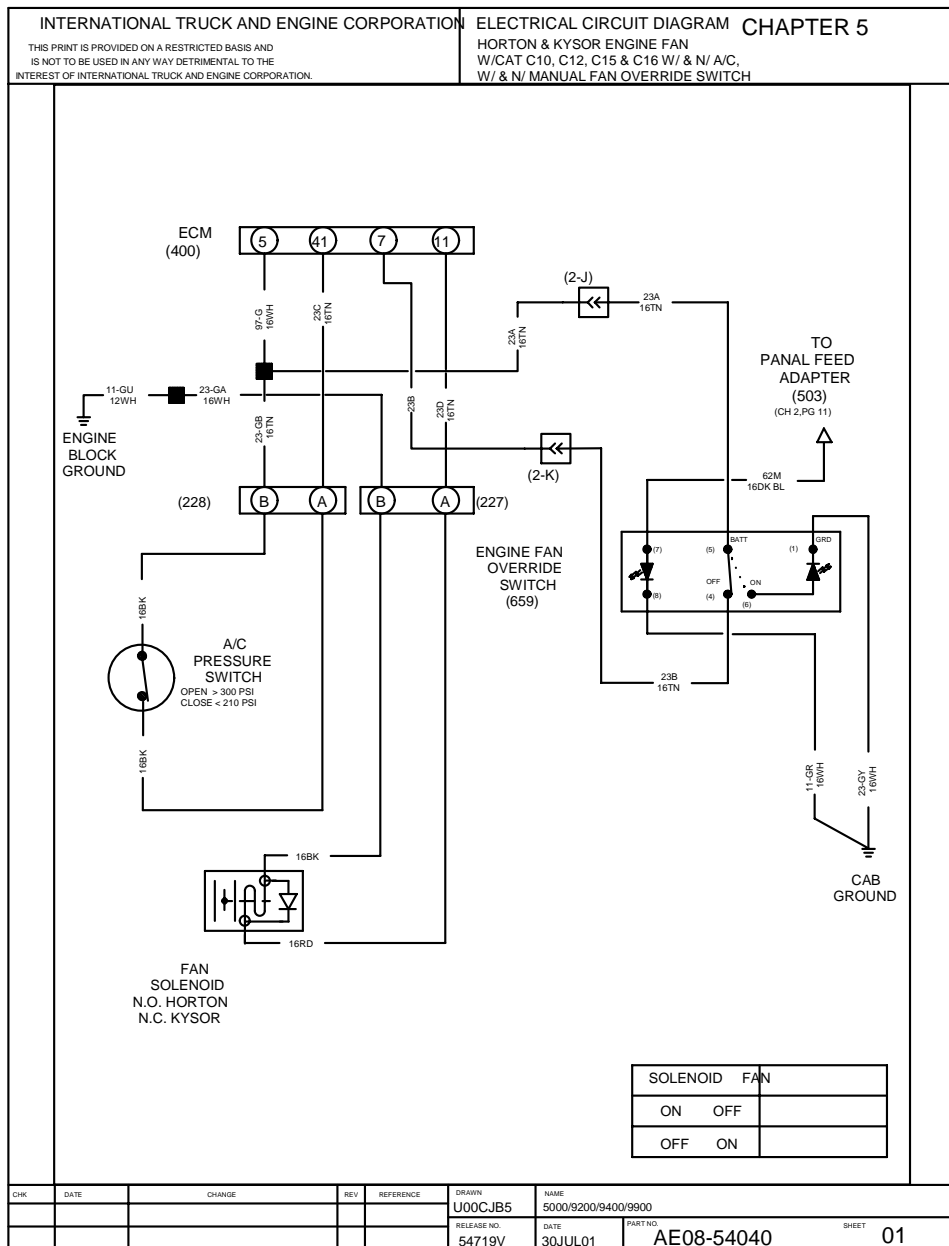


Figure 36 Horton and Kysor Engine Fan With Cat C10, C12, C15 and C16 W/ and N/ A/C, W/ and N/ Manual Fan Override Switch



5.3. HORTON AND KYSOR ENGINE FAN WITH I6 HEUI ENGINES W/SHUTTER, P. 3

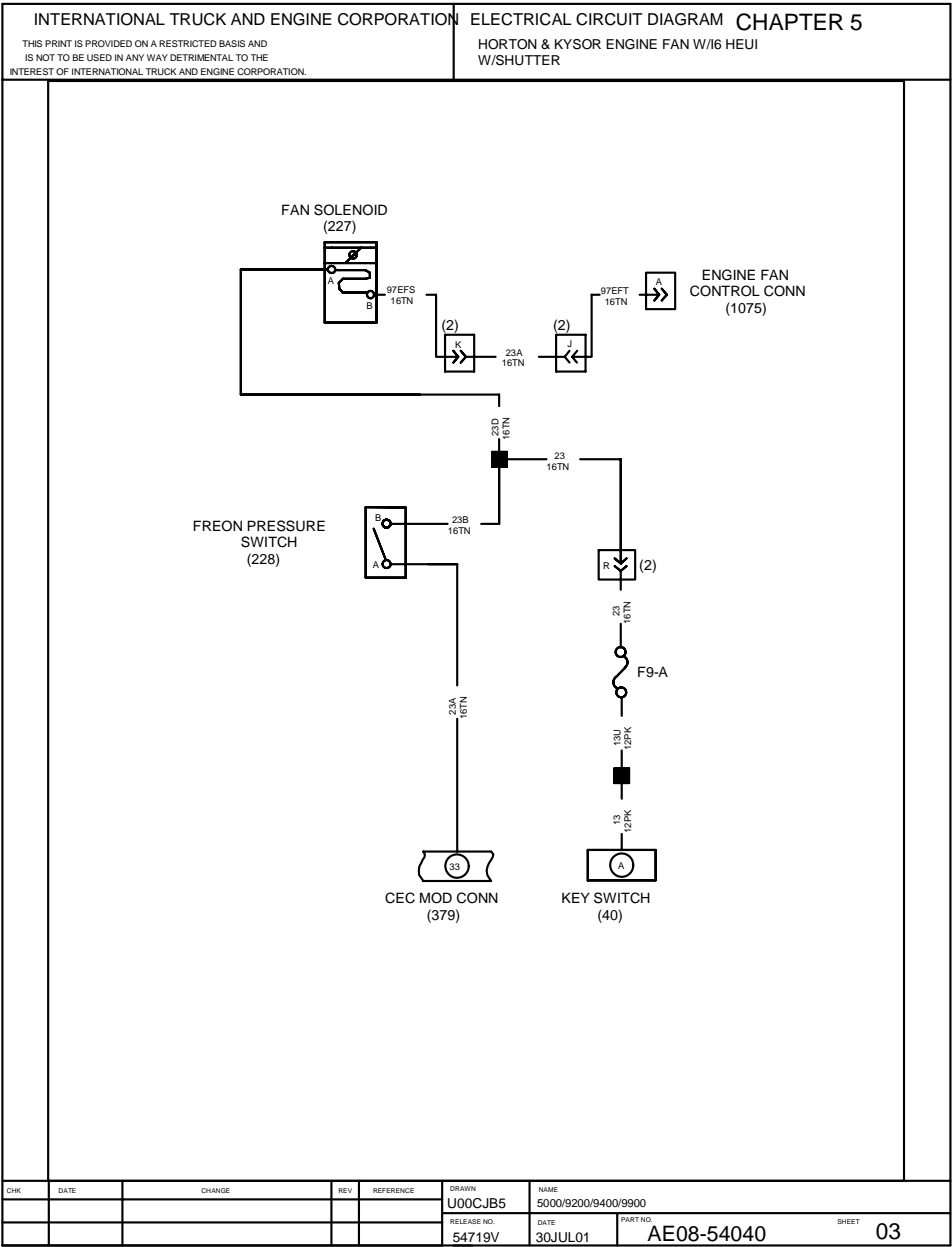
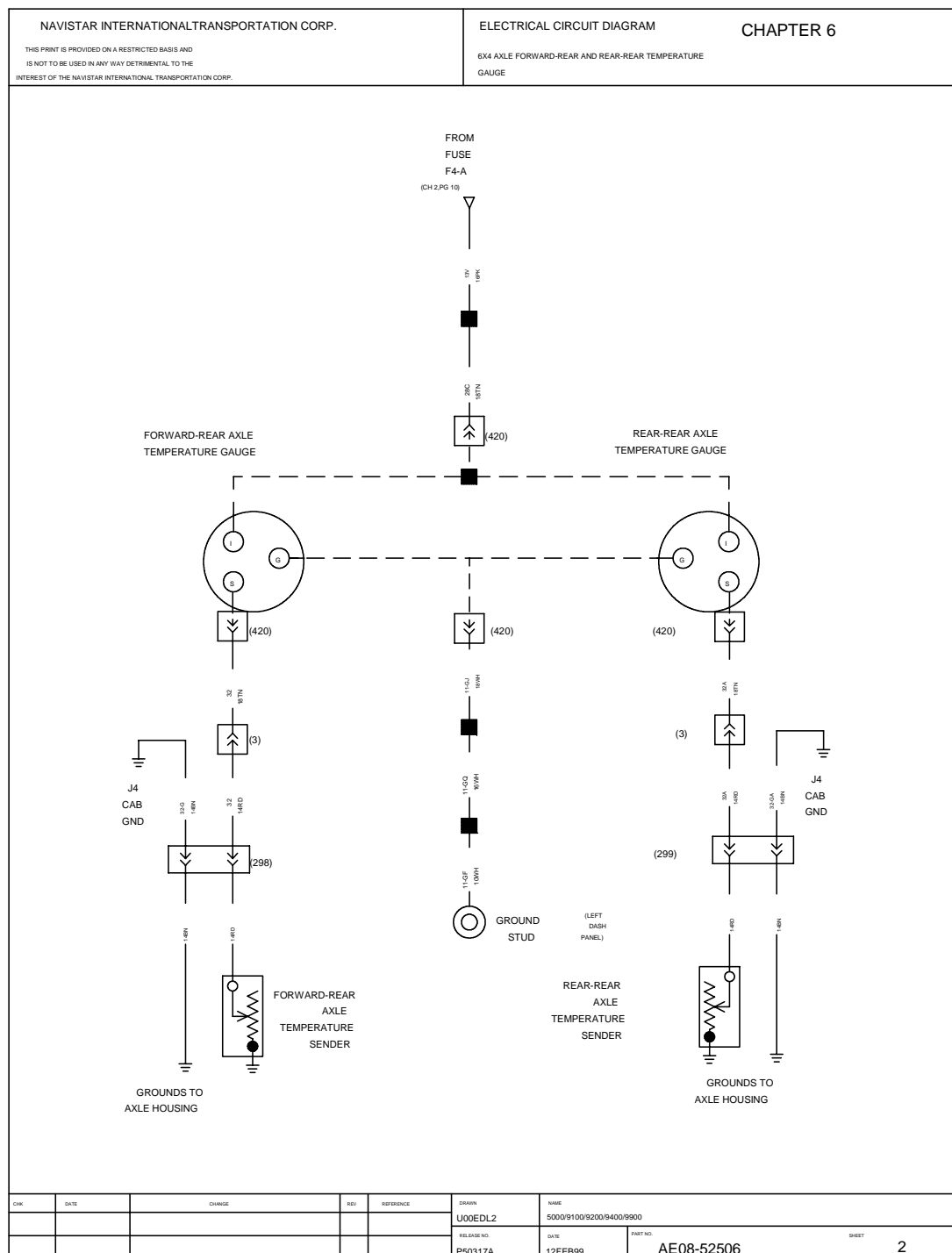


Figure 38 Horton and Kysor Engine Fan With I6 HEUI Engines W/Shutter









6.4. ENGINE OIL TEMPERATURE GAUGE, P. 4

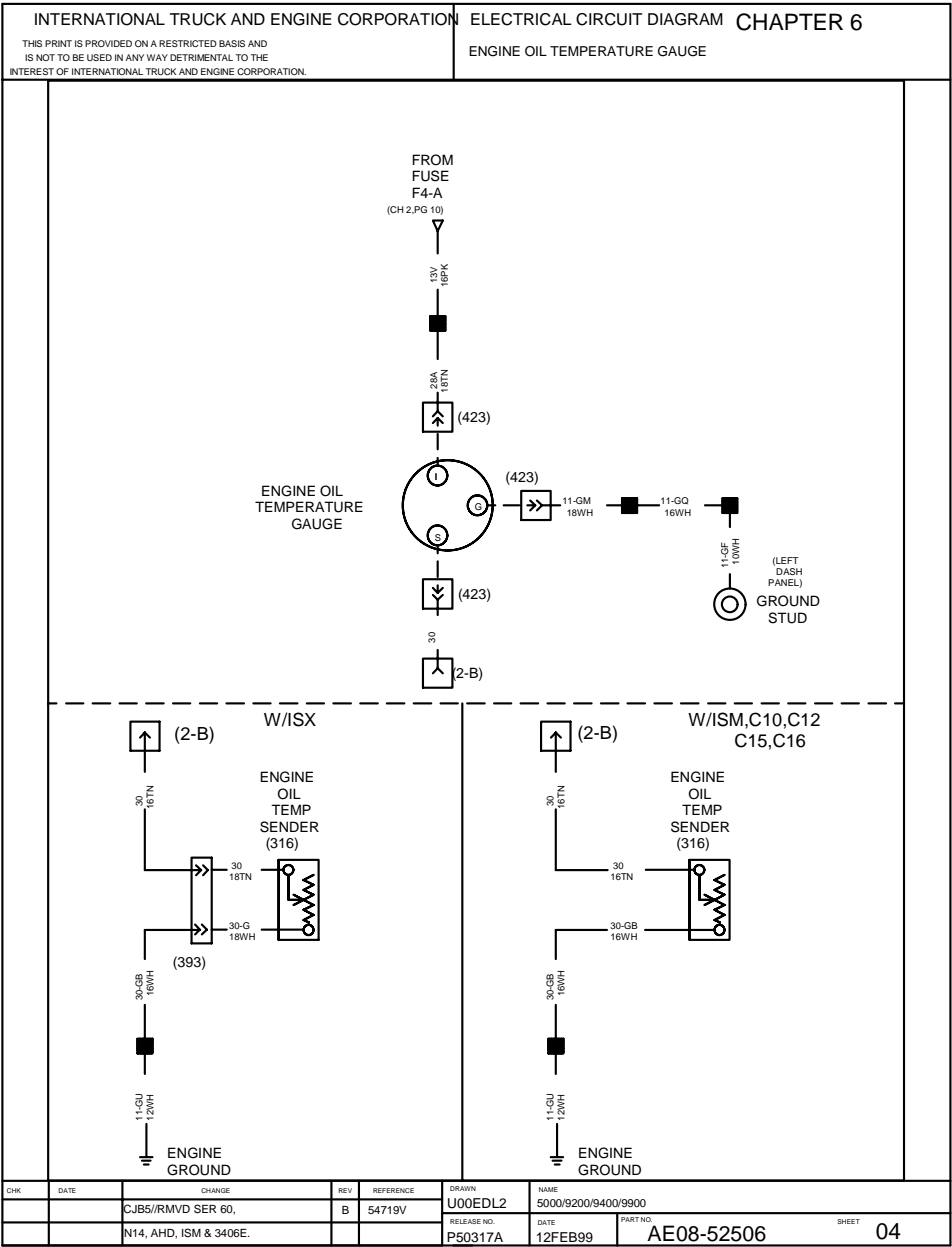


Figure 42 Engine Oil Temperature Gauge

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ELECTRICAL CIRCUIT DIAGRAM

ENGINE WATER TEMPERATURE GAUGE

CHAPTER 6

The diagram illustrates the electrical circuit for the Engine Water Temperature Gauge. It shows the gauge connected to a 12V/100W fuse (F4-A) and a 14V/100W fuse (F5-C). The gauge is connected to a 12V/100W fuse (F4-A) and a 14V/100W fuse (F5-C). The gauge is connected to a 12V/100W fuse (F4-A) and a 14V/100W fuse (F5-C). The gauge is connected to a 12V/100W fuse (F4-A) and a 14V/100W fuse (F5-C).

NOTE: CIRCUITS 47/48(+) & 47/48(-) PROVIDE DATA FROM THE ECM FOR THE ENGINE WATER TEMPERATURE GAUGE.

CHG	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	PART NO.	SHEET
					U00EDL2	5000/9100/9200/9400/9900		
					RELEASE NO.	DATE		
					D50117A	12EER99	AF08-52506	5

**Figure 43 Engine Water Temperature Gauge**

6.6. FUEL LEVEL GAUGE, P. 6

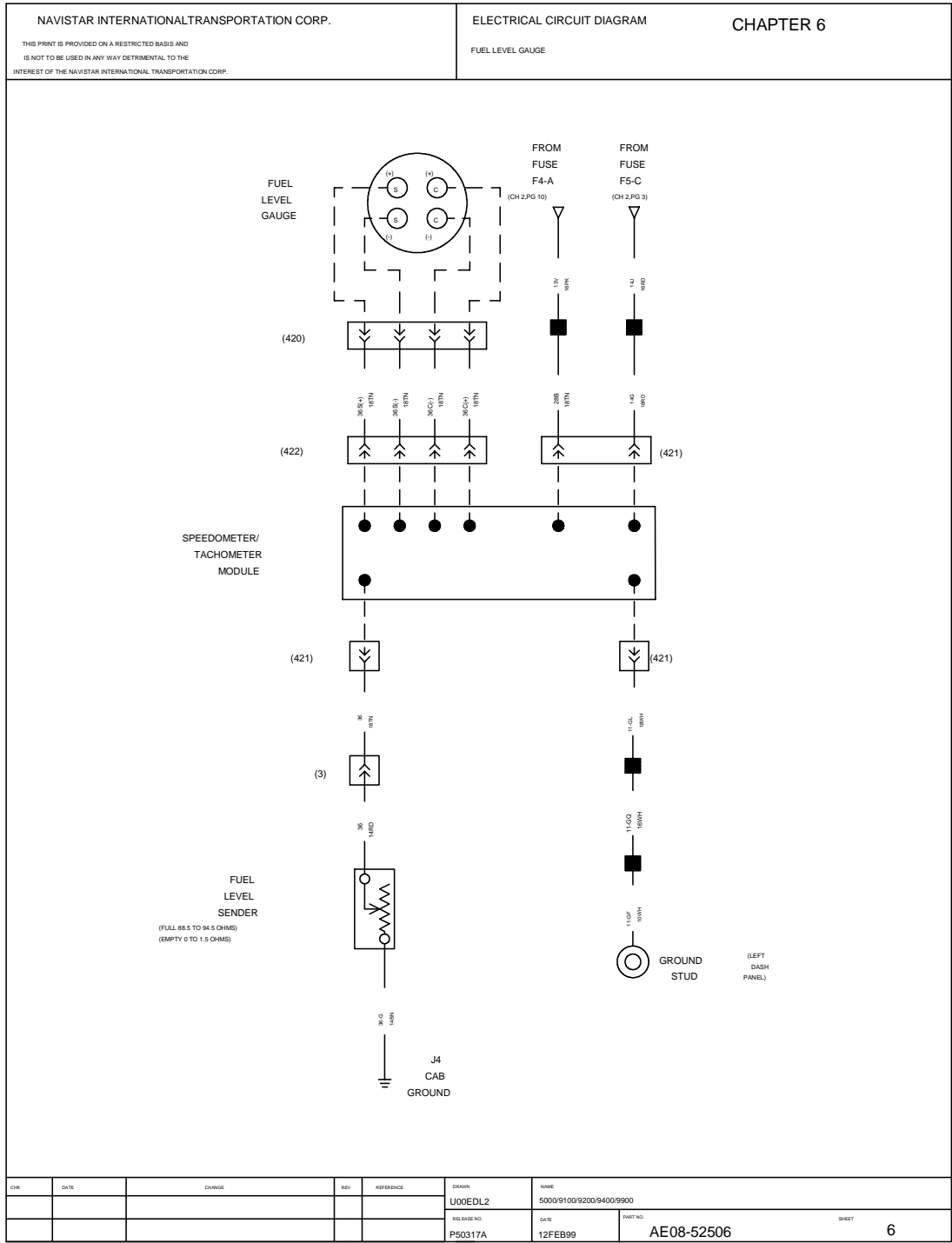


Figure 44 Fuel Level Gauge

[illegible]

**Figure 45 Pyrometer Gauge**

6.8. SPEEDOMETER GAUGE — TACHOMETER GAUGE, P. 8

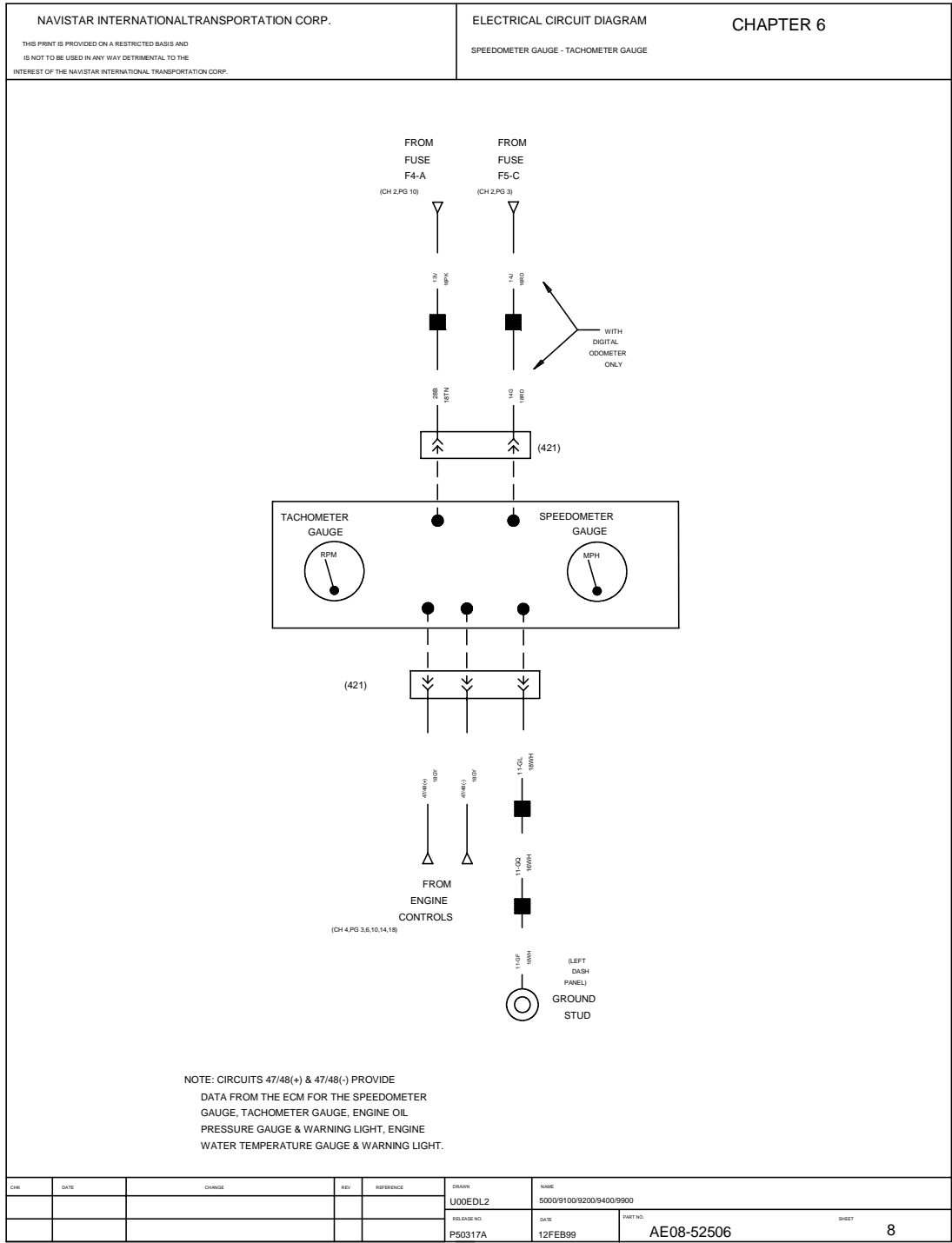


Figure 46 Speedometer Gauge — Tachometer Gauge

## 6.9. TRANSMISSION OIL TEMPERATURE GAUGE, P. 9

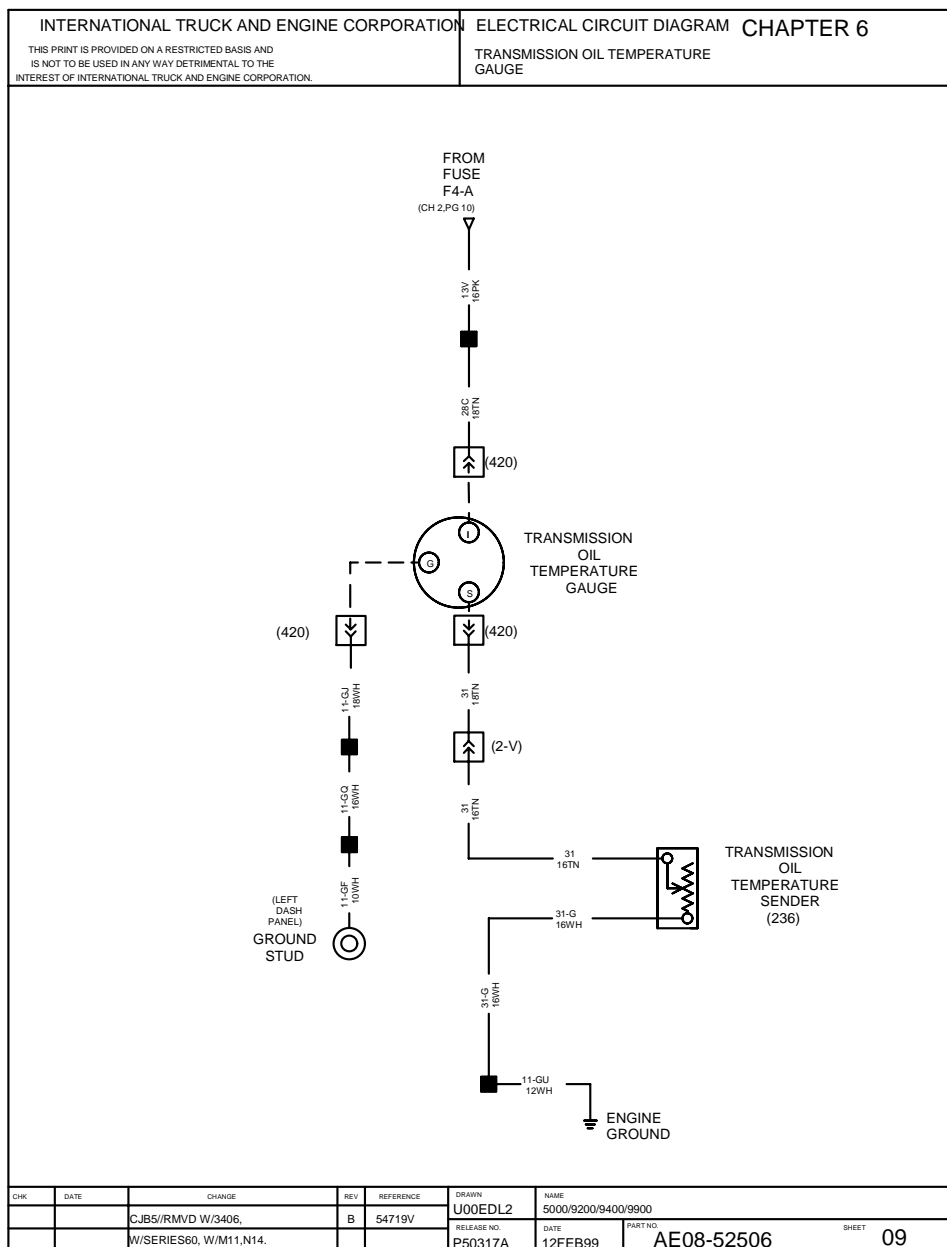


Figure 47 Transmission Oil Temperature Gauge

6.10. VOLTMETER GAUGE, P. 10

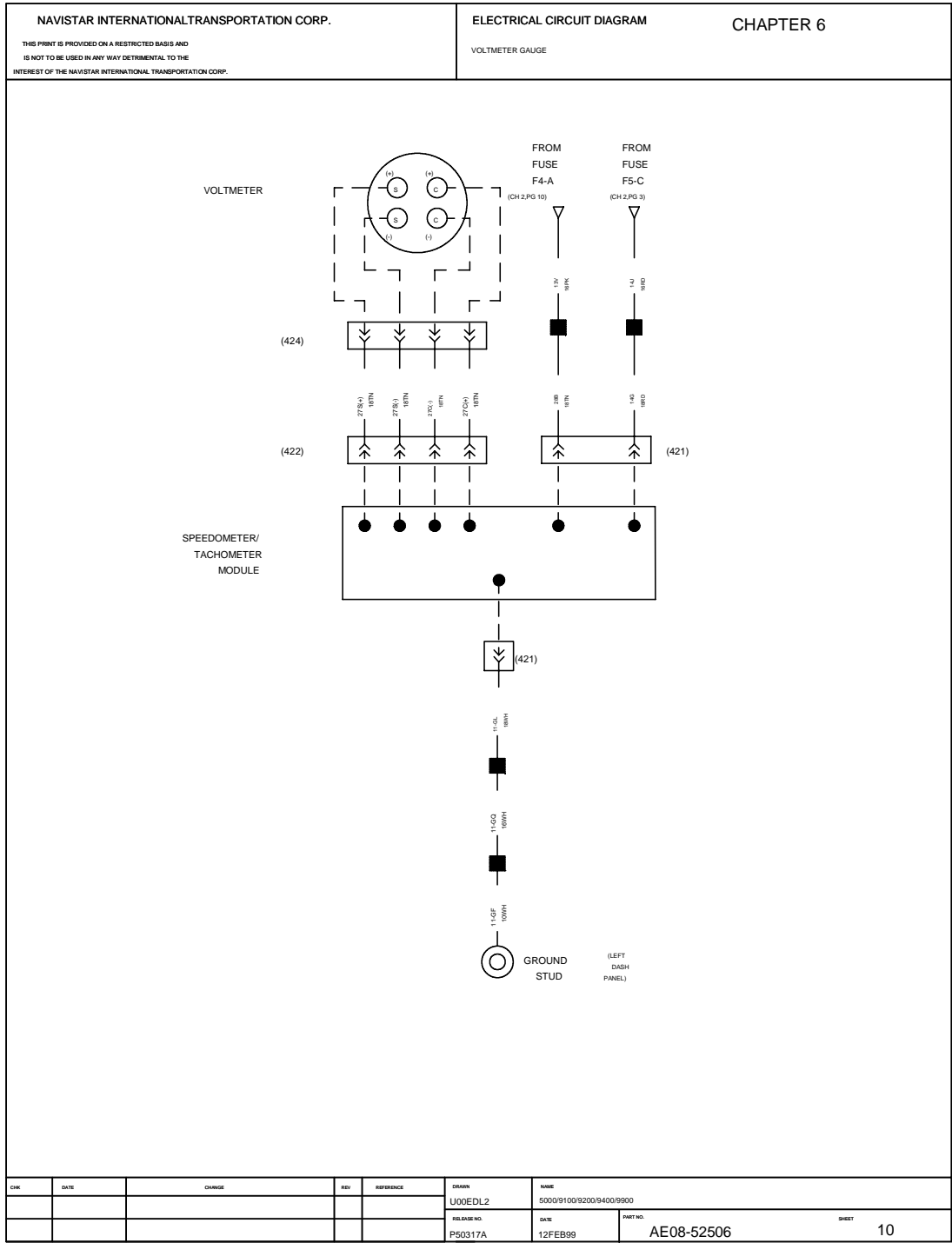


Figure 48 Voltmeter Gauge



## 6.11. ETHER START, P. 11

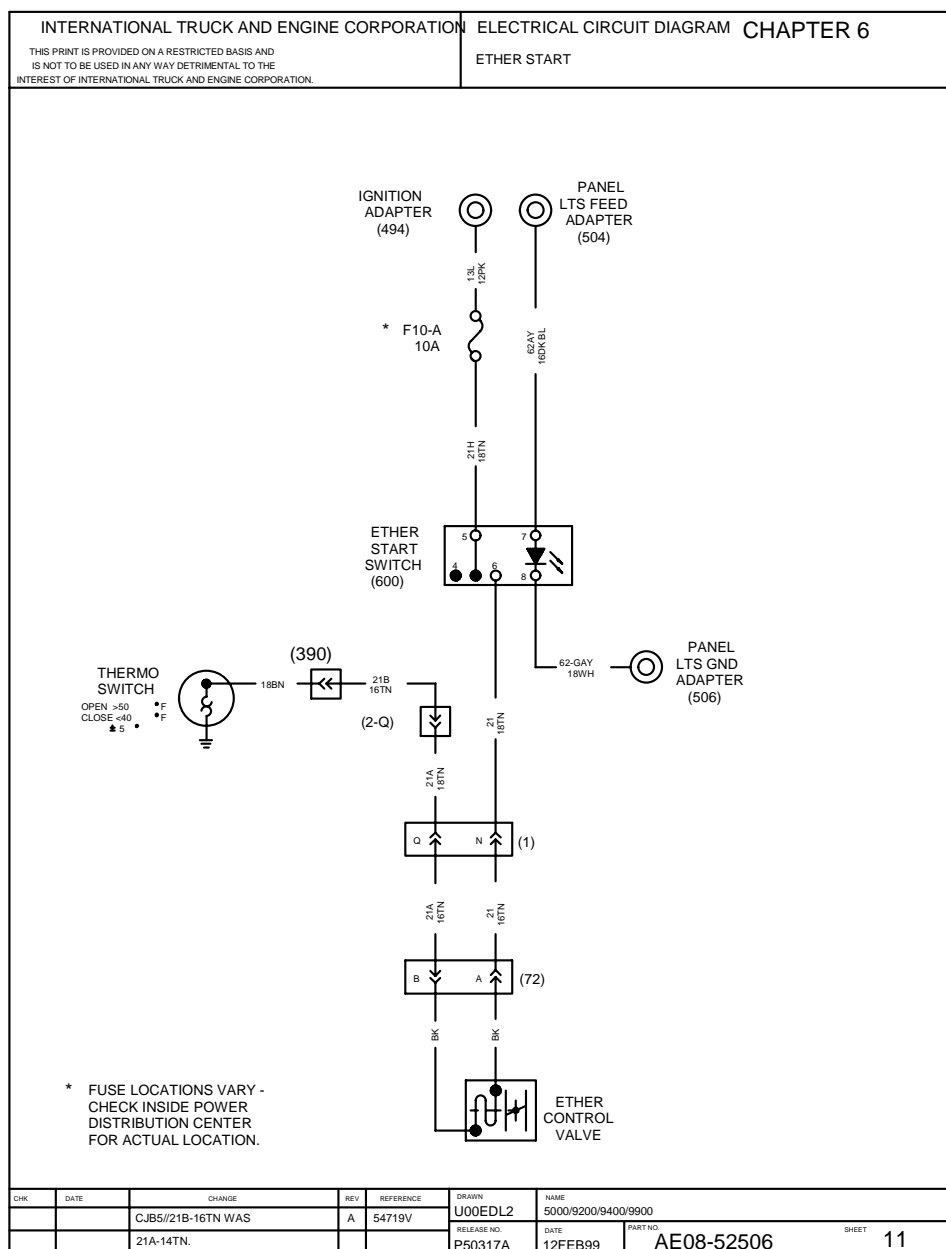


Figure 49 Ether Start

6.12. MANIFOLD PRESSURE GAUGE, P. 12

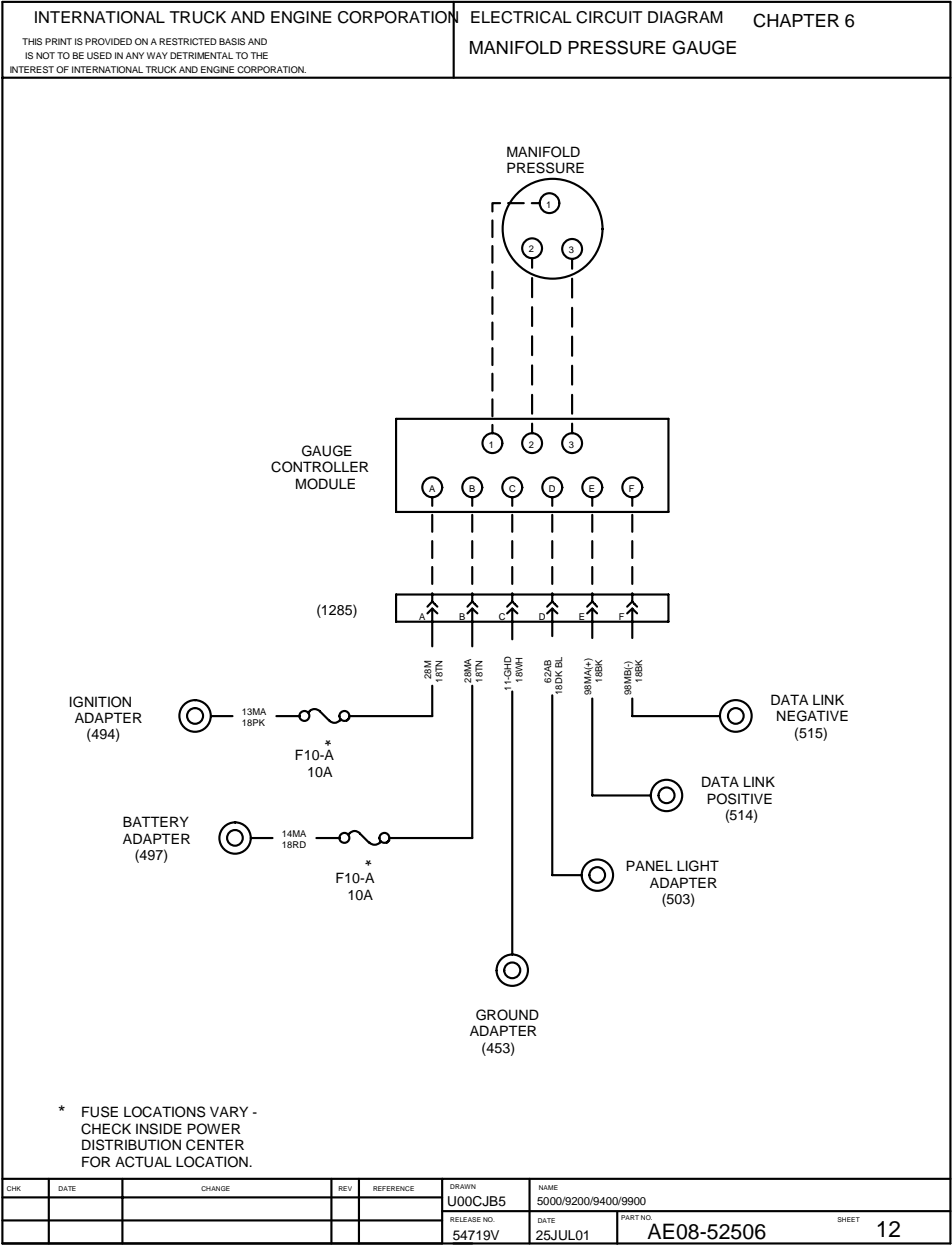


Figure 50 Manifold Pressure Gauge



7.2. ENGINE OIL PRESSURE WARNING LIGHT, P. 2

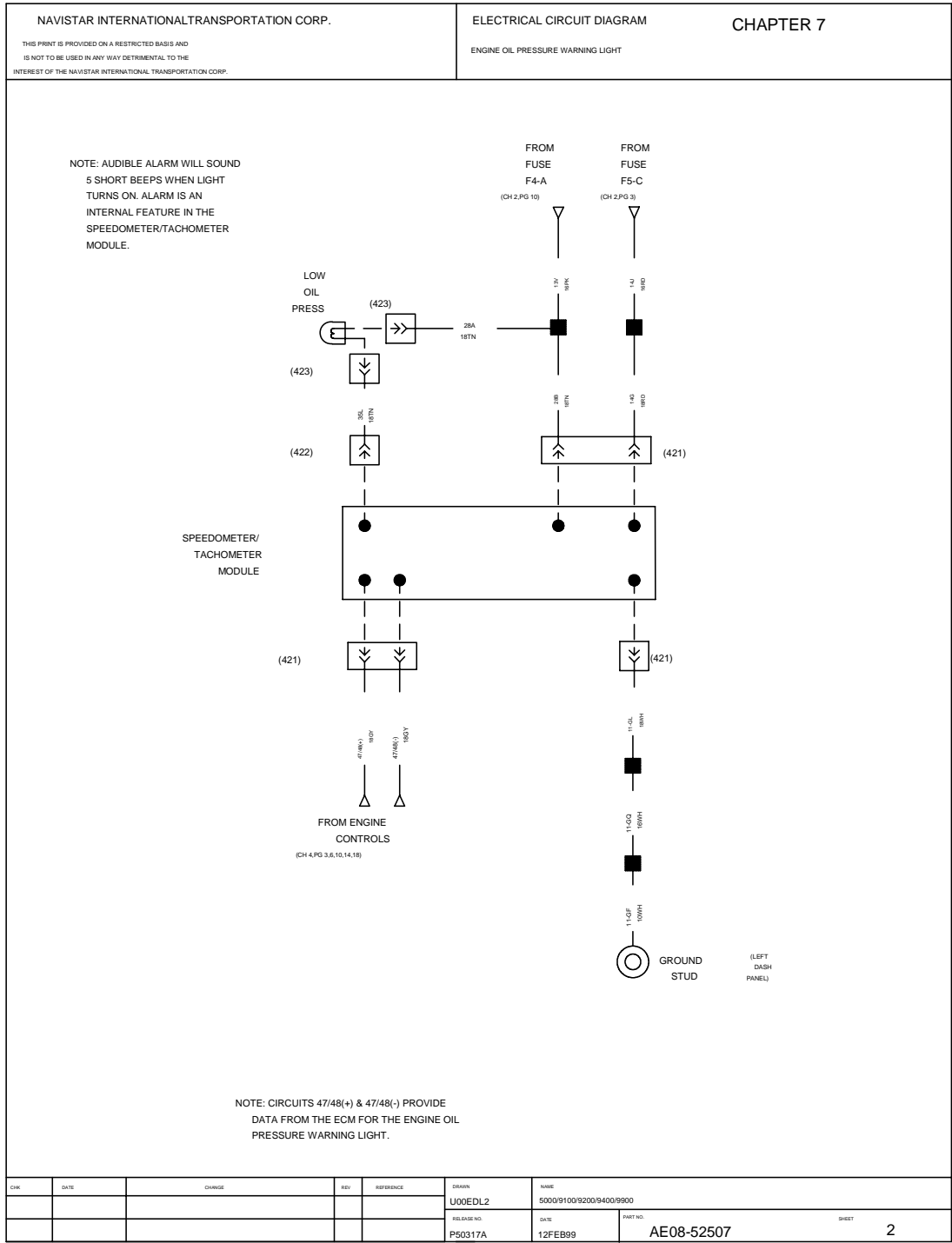


Figure 52 Engine Oil Pressure Warning Light

### 7.3. ENGINE WATER TEMPERATURE WARNING LIGHT, P. 3

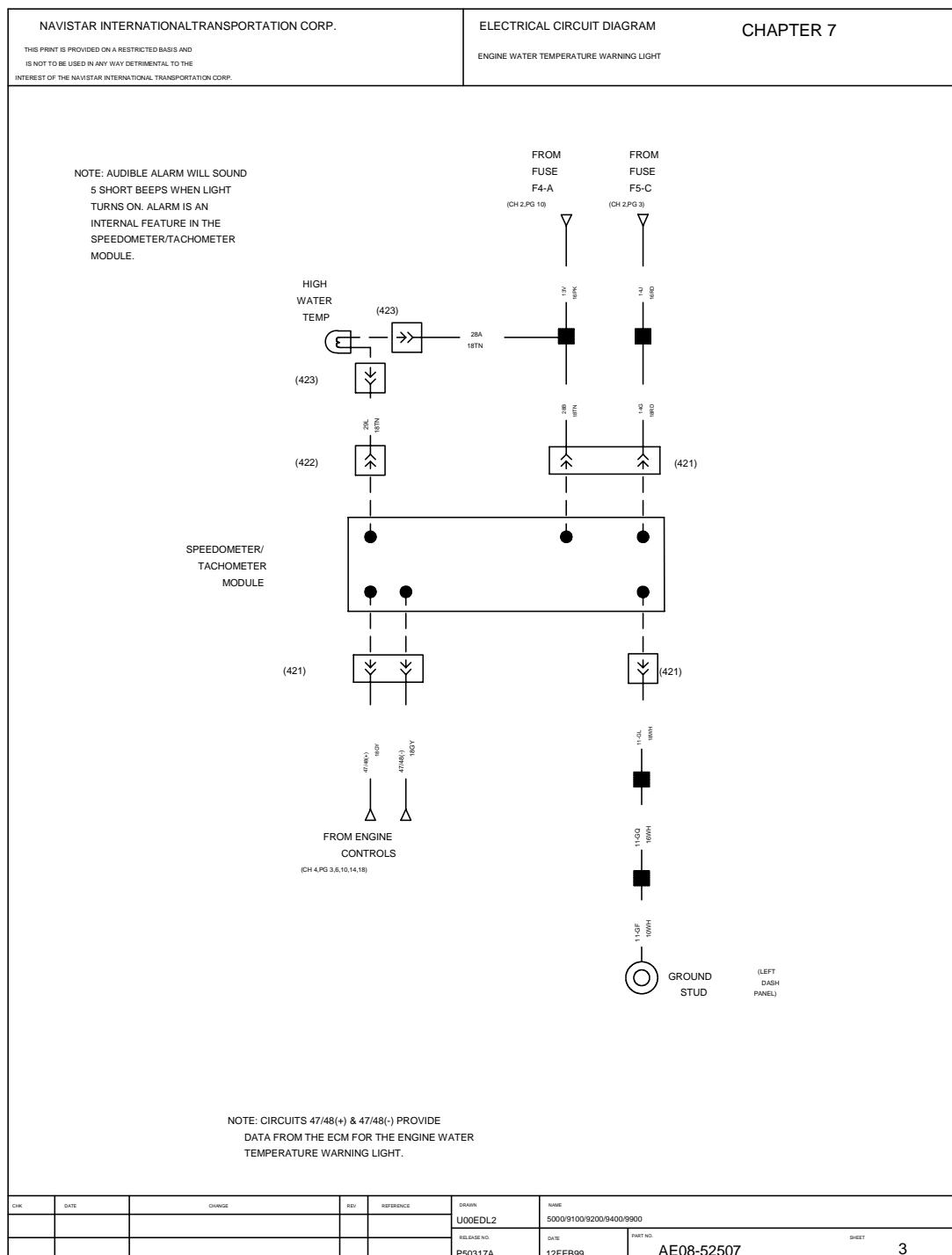


Figure 53 Engine Water Temperature Warning Light





7.6. POWER DIVIDER LOCK (PDL) WARNING LIGHT AND BUZZER, P. 6

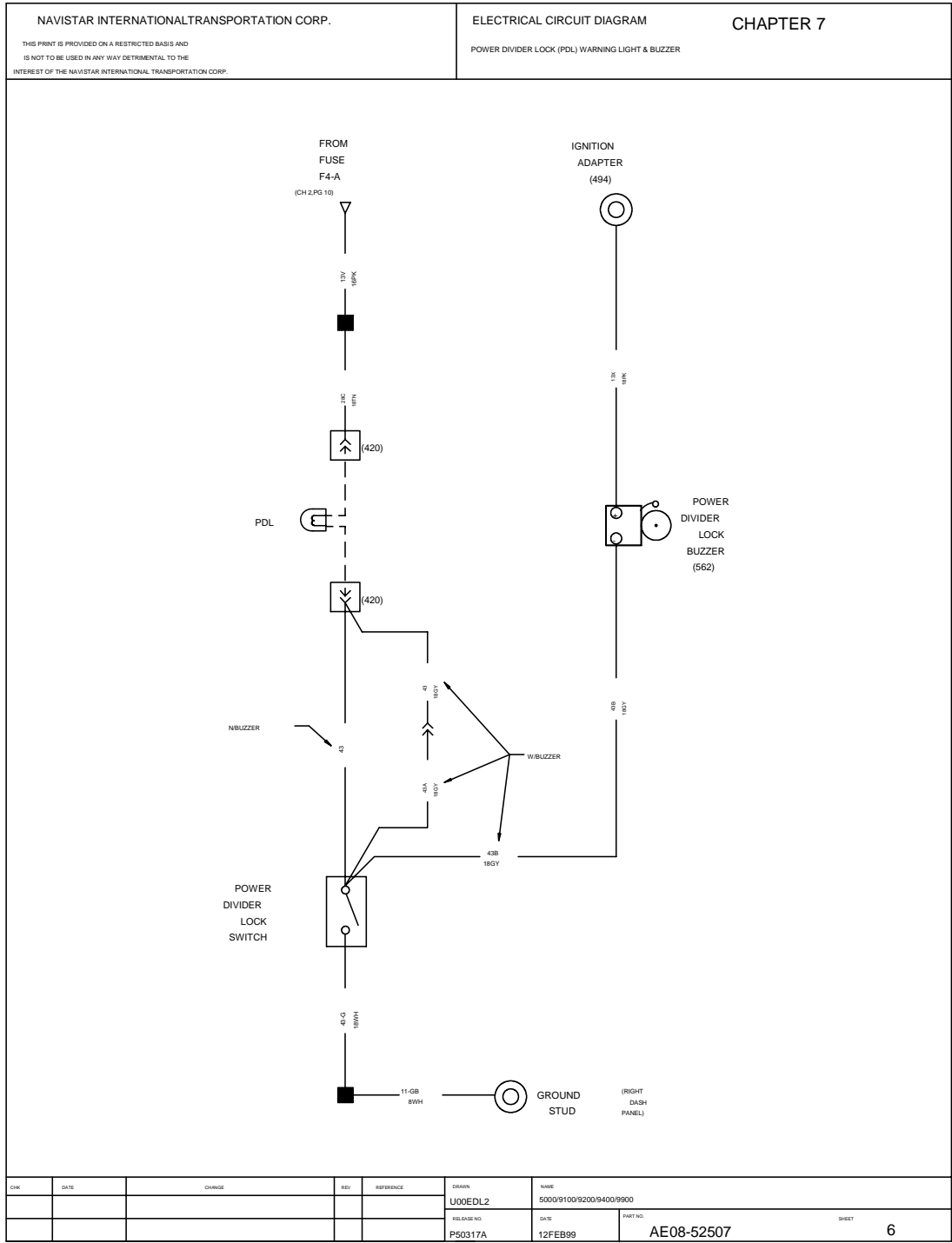


Figure 56 Power Divider Lock (PDL) Warning Light and Buzzer



## 7.7. DIFFERENTIAL LOCK WARN LIGHT — 4X2, P. 7

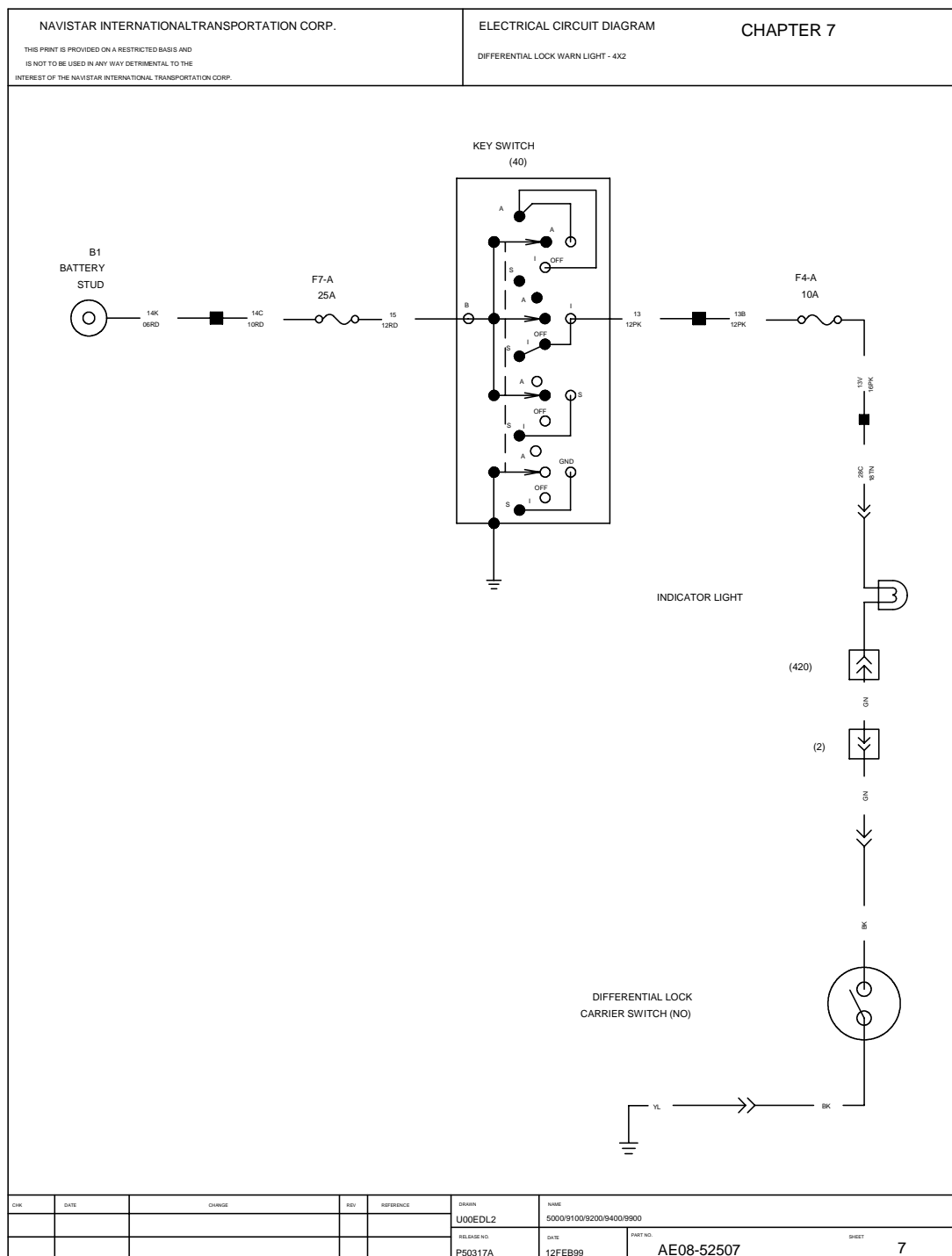
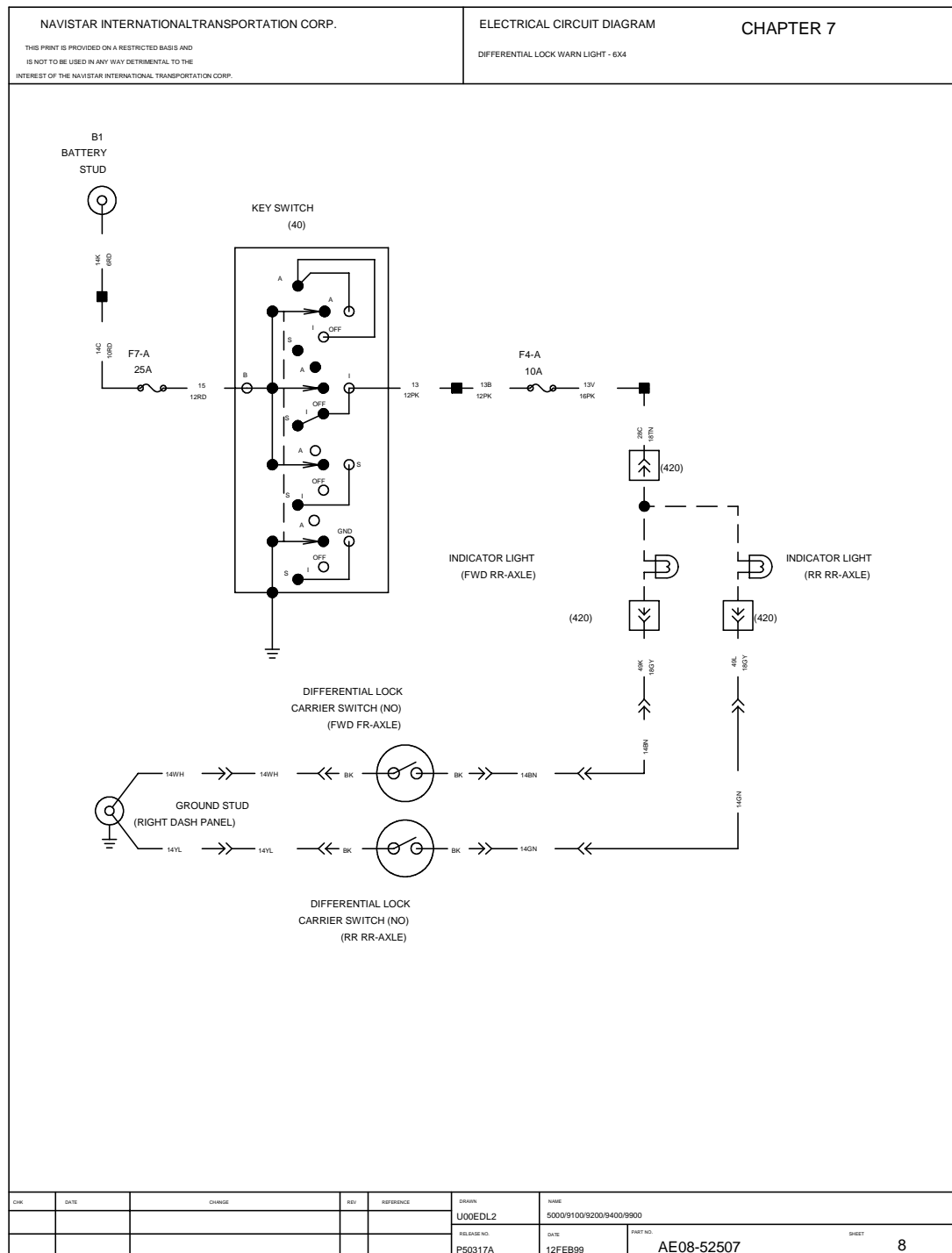


Figure 57 Differential Lock Warn Light — 4x2

## 7.8. DIFFERENTIAL LOCK WARN LIGHT — 6X4, P. 8



**Figure 58 Differential Lock Warn Light — 6x4**

## 8. CAB ACCESSORIES (CHAPTER 8)

### 8.1. CIGAR LIGHTER, P. 1

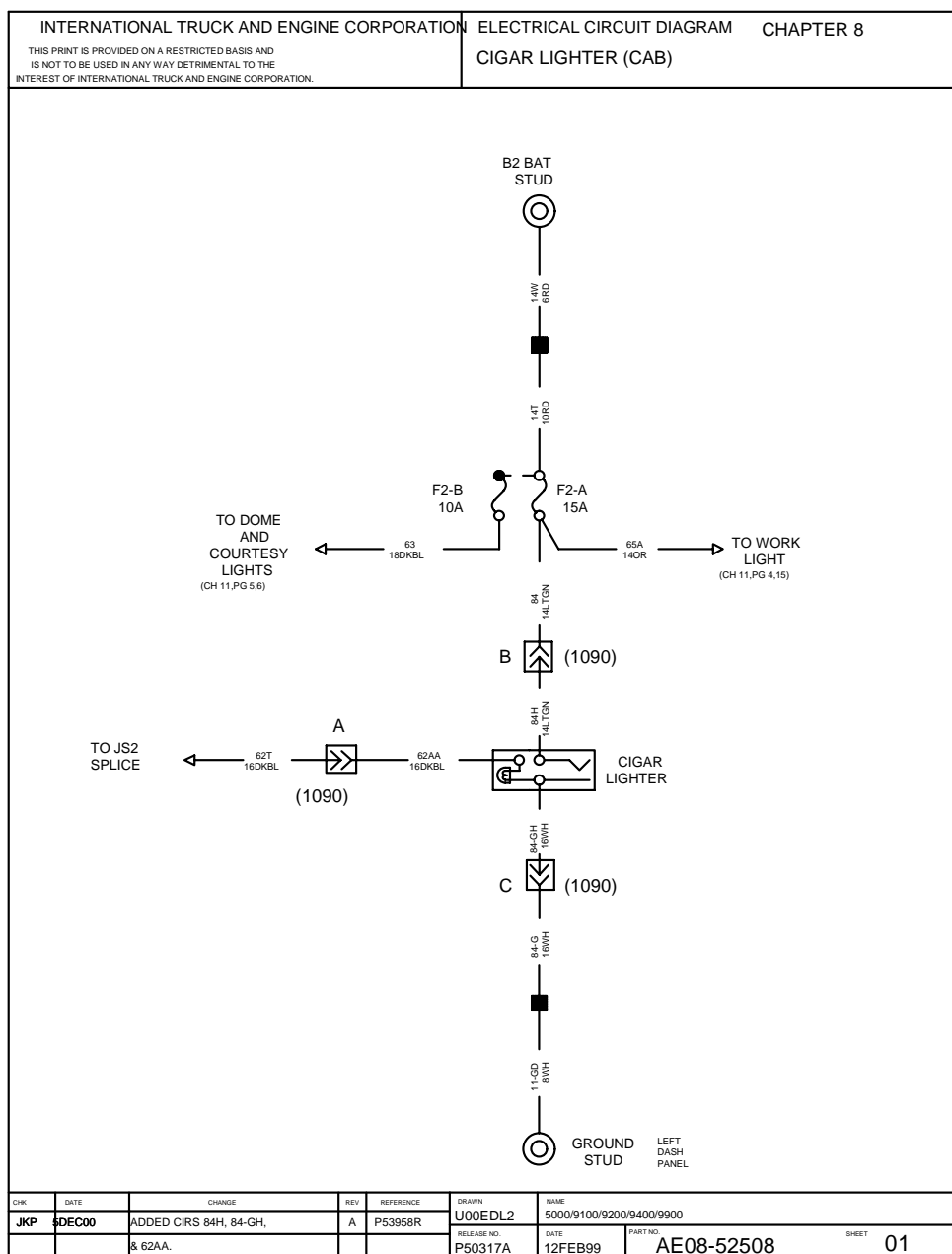


Figure 59 Cigar Lighter

8.2. CLOCK, P. 2

INTERNATIONAL TRUCK AND ENGINE CORPORATION				ELECTRICAL CIRCUIT DIAGRAM    CHAPTER 8			
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<div>LEFT BLANK INTENTIONALLY</div>							
CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME	
JKP	MAR02	REMOVED GEOMETRY	A	55093F	U00EDL2	5000/9100/9200/9400/9900	
					RELEASE NO.	DATE	PART NO.
					P50317A	12FEB99	AE08-52508
							SHEET 02

Figure 60    Clock



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ELECTRICAL CIRCUIT DIAGRAM

CHAPTER 8

ELECTRIC WINDOW - RIGHT & LEFT

**NOT OFFERED WITH 9100**

**DRIVER SIDE RIGHT (1040)**

**DRIVER SIDE LEFT (1039)**

**PANEL LTS FEED ADAPTER (503)**

**B1 BATTERY ADAPTER (497)**

**A1 ACCESSORY ADAPTER (499)**

**F4-B 20A**

**ELECTRIC WINDOW RELAY (1138)**

**PASS SIDE (1041)**

**LEFT WINDOW MOTOR**

**RIGHT WINDOW MOTOR**

**GROUND ADAPTER (455)**

**\* FUSE AND RELAY LOCATIONS VARY - CHECK INSIDE POWER DISTRIBUTION CENTER FOR ACTUAL LOCATION.**

**Figure 62 Electric Window — Right and Left**

## 8.5. DEFROSTER FAN(S), P. 5

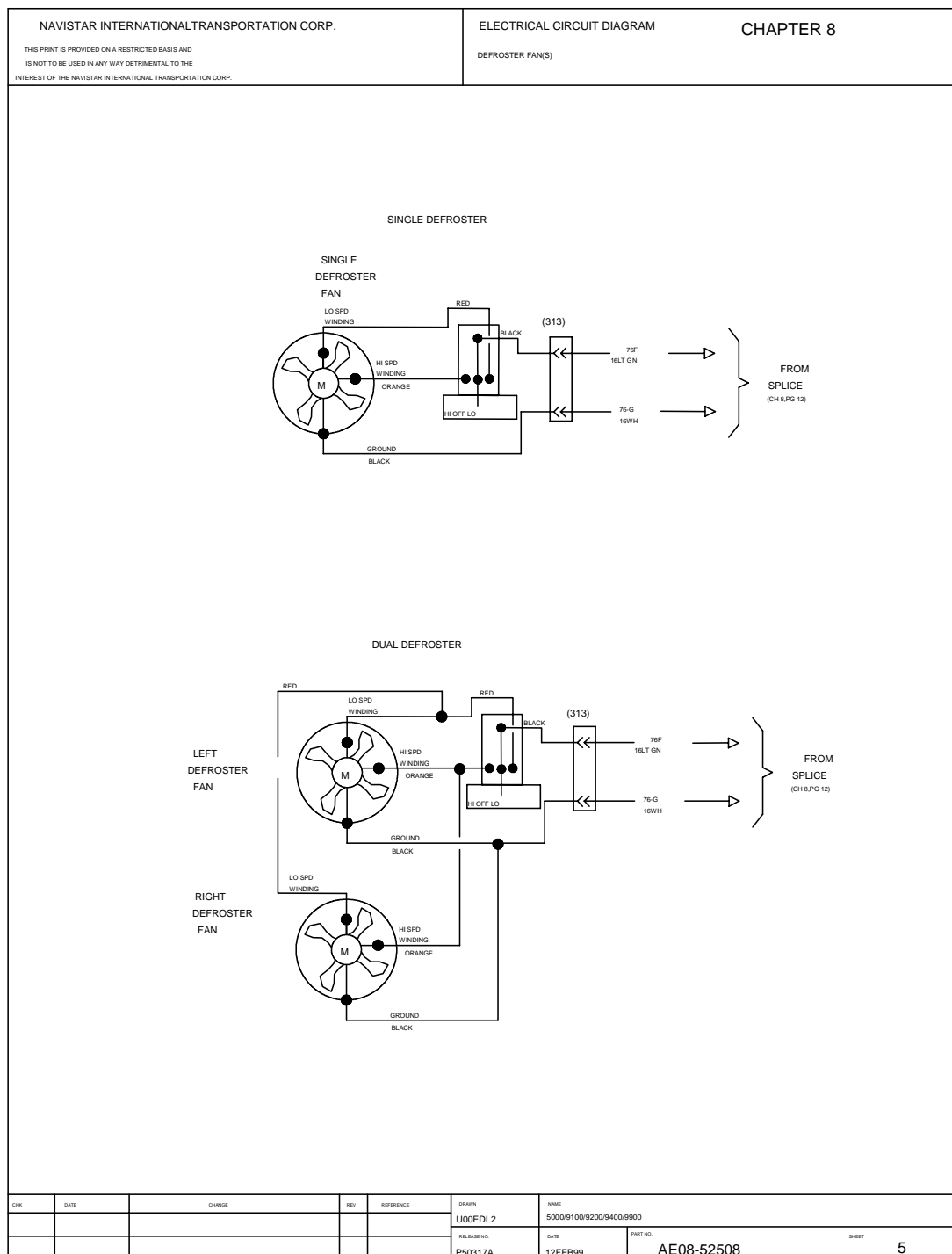
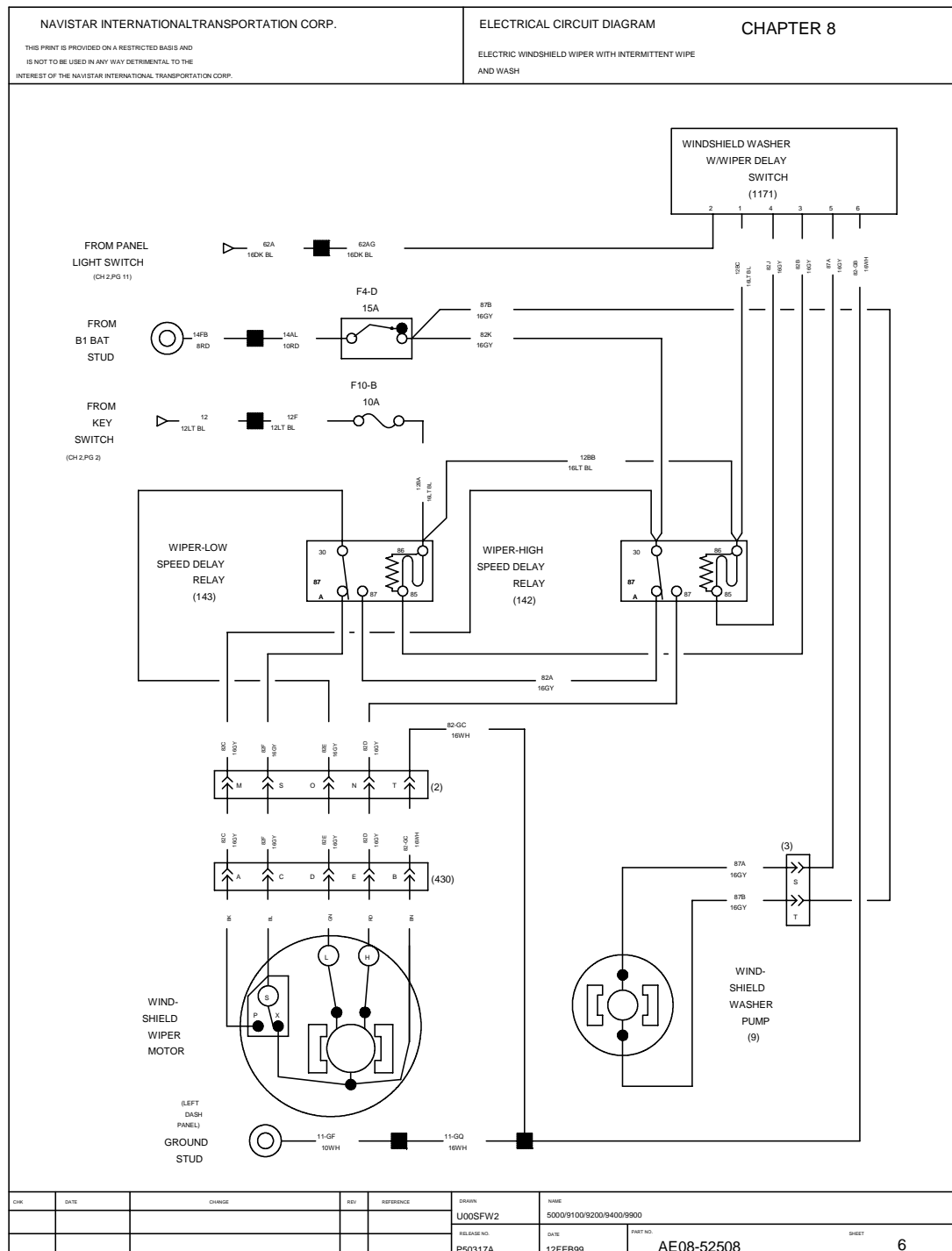


Figure 63 Defroster Fan(s)

## 8.6. ELECTRIC WINDSHIELD WIPERS WITH INTERMITTENT WIPE AND WASH, P. 6



**Figure 64 Electric Windshield Wipers with Intermittent Wipe and Wash**



## 8.7. HORN, P. 7

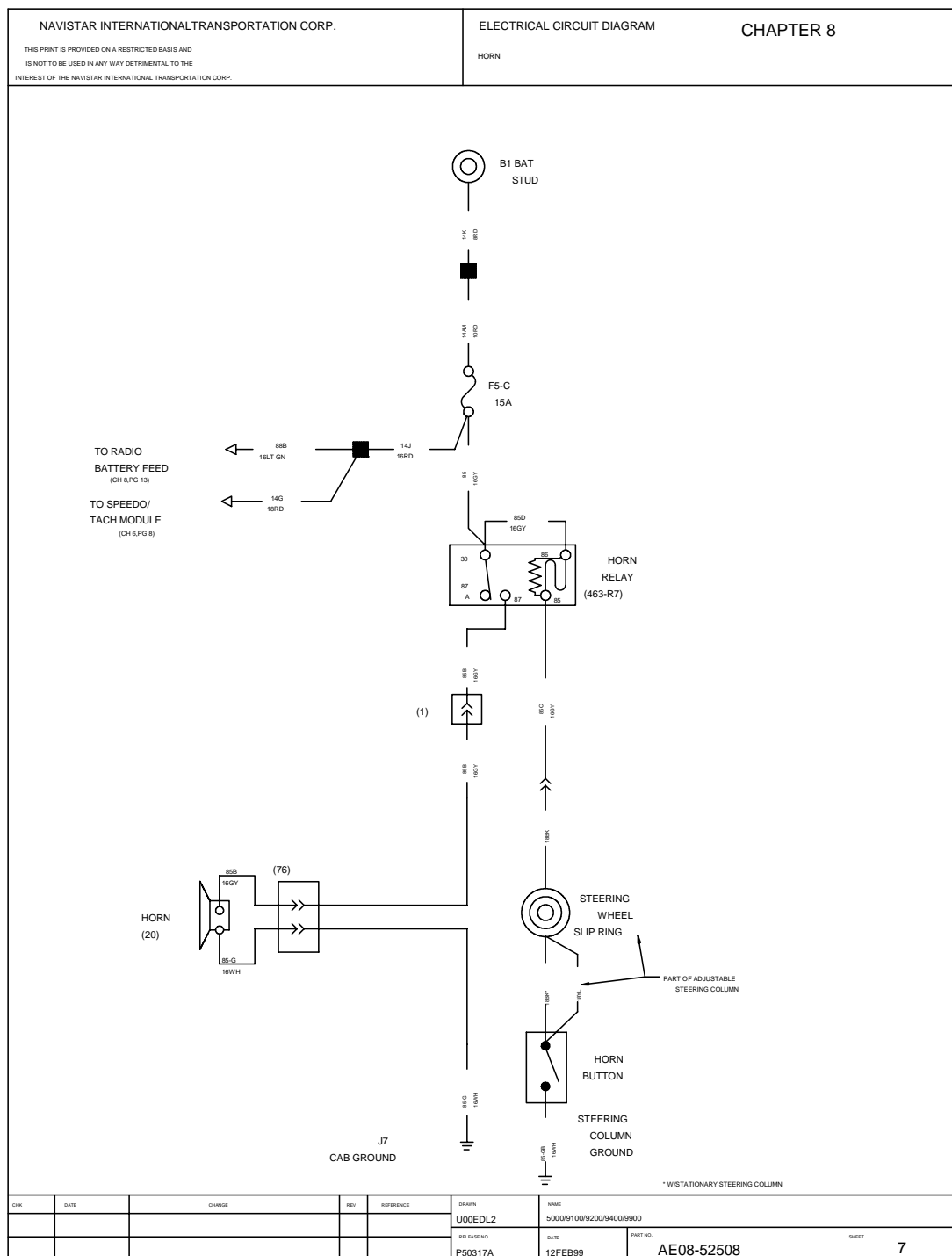
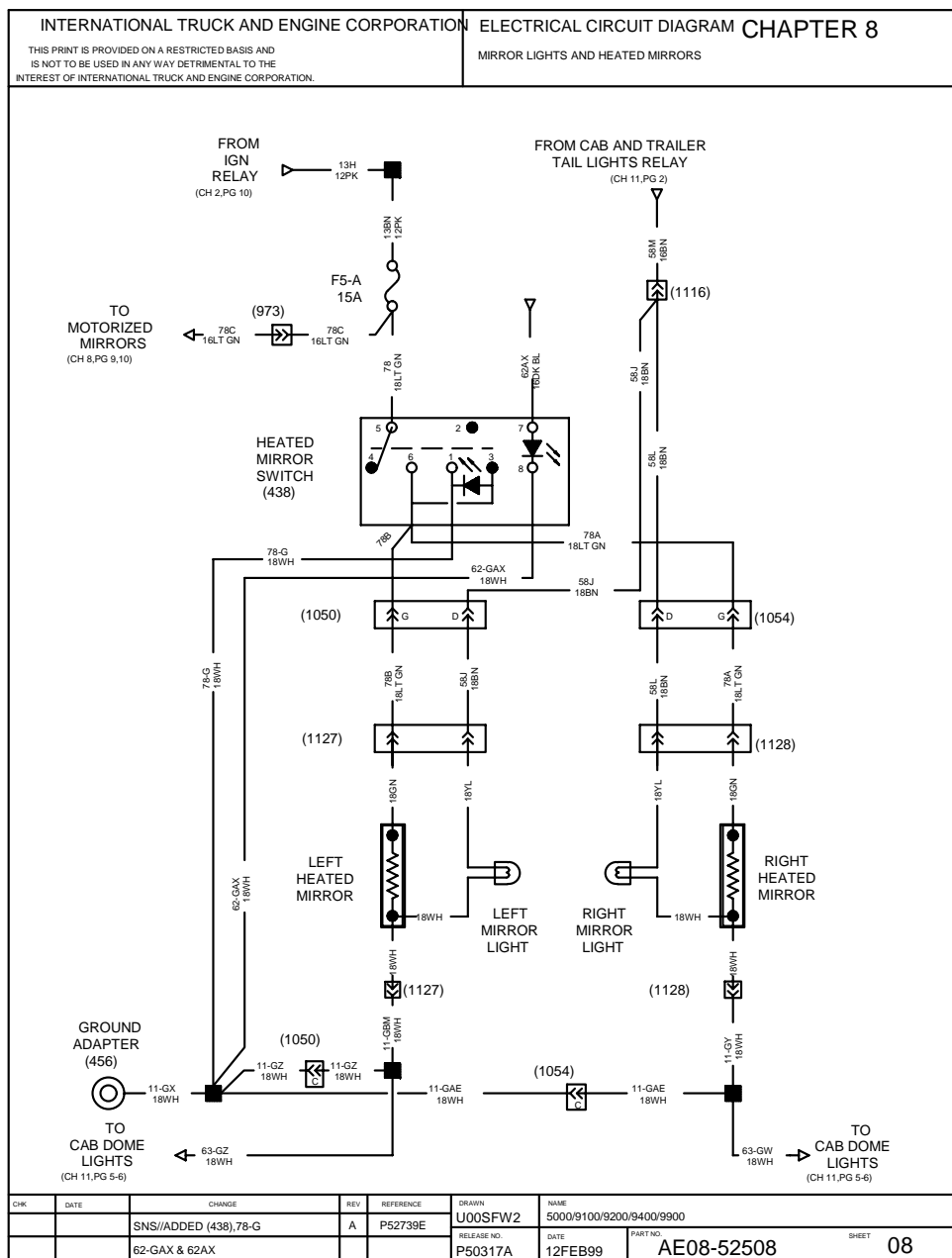


Figure 65 Horn

## 8.8. MIRROR LIGHTS AND HEATED MIRRORS, P. 8



**Figure 66 Mirror Lights and Heated Mirrors**

## 8.9. RIGHT MOTORIZED MIRROR, P. 9

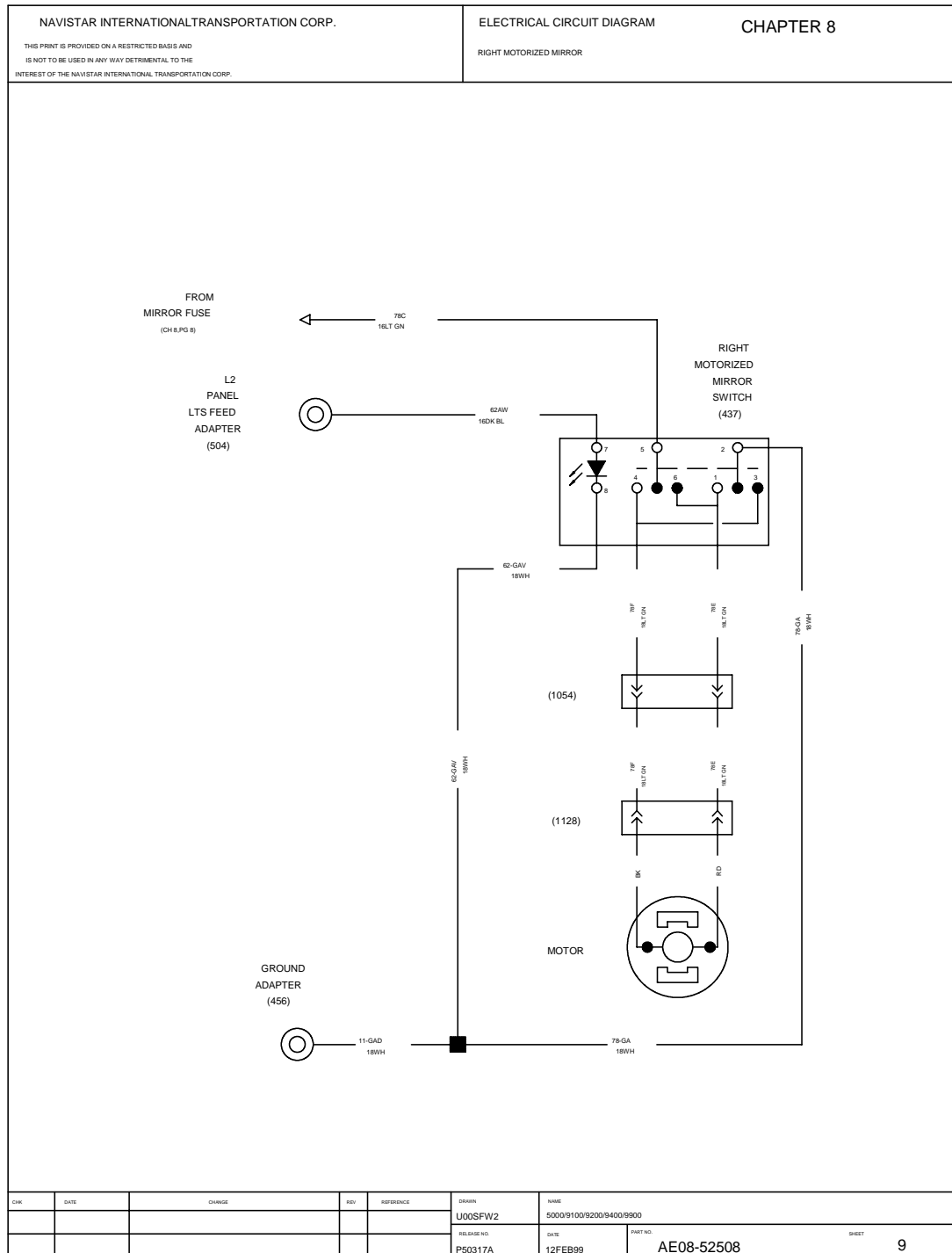


Figure 67 Right Motorized Mirror

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ELECTRICAL CIRCUIT DIAGRAM

CHAPTER 8

DUAL AXIS MOTORIZED MIRRORS

**LEFT HAND MIRROR**

L/R      U/D

**RIGHT HAND MIRROR**

L/R      U/D

**SWITCH FUNCTION**

SWITCH FUNCTION	LEFT MIRROR	RIGHT MIRROR
LEFT	(78P+78C) (78R+78-GA)	(78F+78C) (78S+78-GA)
RIGHT	(78R+78C) (78P+78-GA)	(78S+78C) (78F+78-GA)
UP	(78N+78C) (78P+78-GA)	(78E+78C) (78F+78-GA)
DOWN	(78P+78C) (78N+78-GA)	(78F+78C) (78E+78-GA)

**DUAL AXIS MOTORIZED MIRROR SWITCH**

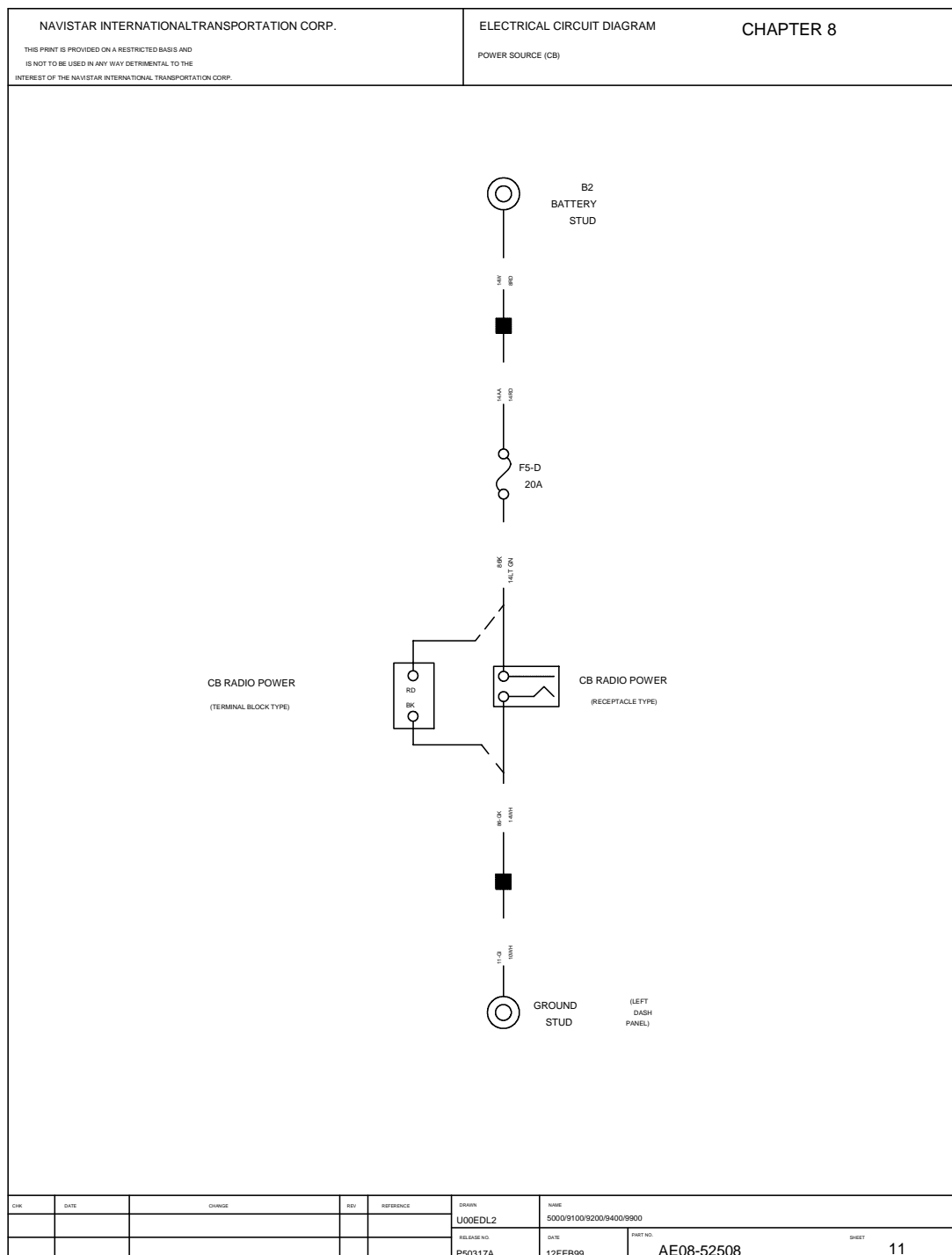
**FROM MOTORIZED MIRROR FUSE**

(CH 8, PG 8)

CHK	DATE	CHANGE	REV	REFERENCE	NAME	DATE	PAGE NO.	SHEET
				U00SF2	5000/9100/9200/9400/9500			
				P50317A	12FEB99		AE08-52508	10

### Figure 68 Dual Axis Motorized Mirrors

## 8.11. POWER SOURCE (CB), P. 11



**Figure 69 Power Source (CB)**

NAVISTAR INTERNATIONALTRANSPORTATION CORP.				ELECTRICAL CIRCUIT DIAGRAM		CHAPTER 8	
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FROM FUSE F5-B (CH 2,PG 2)

(428)

(525)

CB RADIO (PROVIDED BY CUSTOMER)

CB SPEAKER

TO DEFROSTER FAN(S) (CH 8,PG 4)

GROUND STUD (RIGHT DASH PANEL)

**Figure 70 Radio-CB, Accommodation Package**

## 8.13. RADIO-CAB, SPEAKERS, P. 13

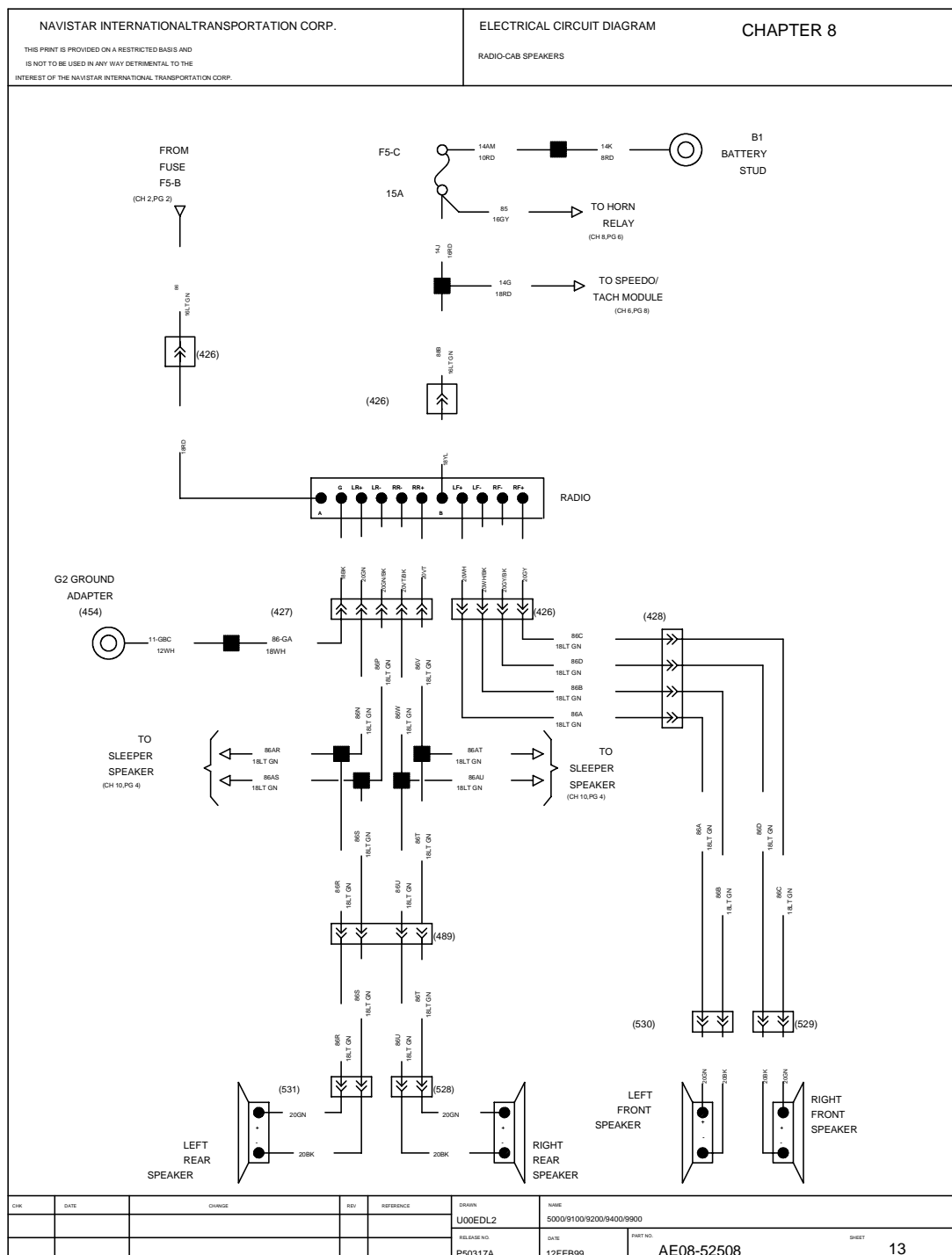
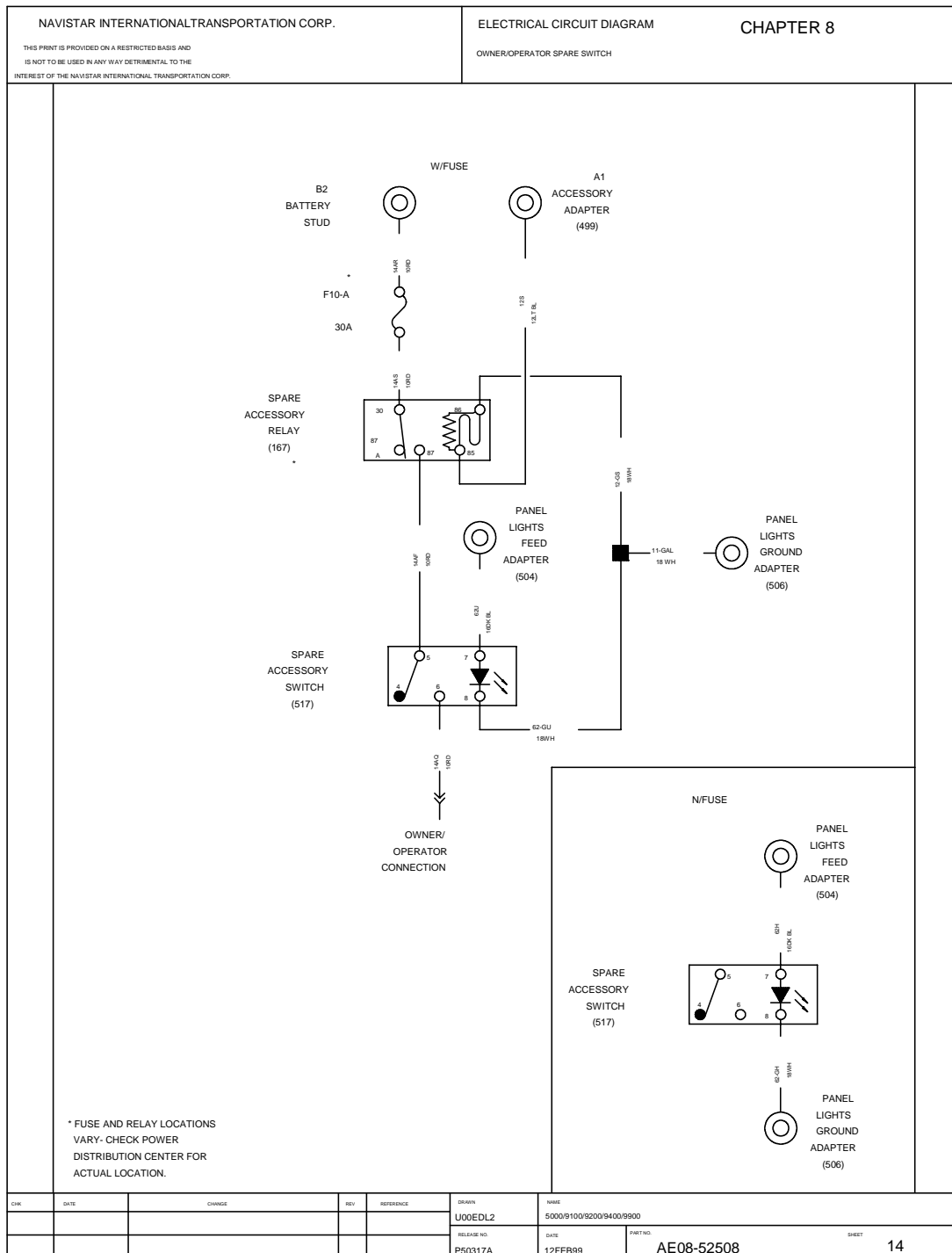


Figure 71 Radio-Cab, Speakers

## 8.14. OWNER/OPERATOR SPARE SWITCH, P. 14



### Figure 72 Owner/Operator Spare Switch



## 8.15. ELECTRIC LOCK — RIGHT AND LEFT, P. 15

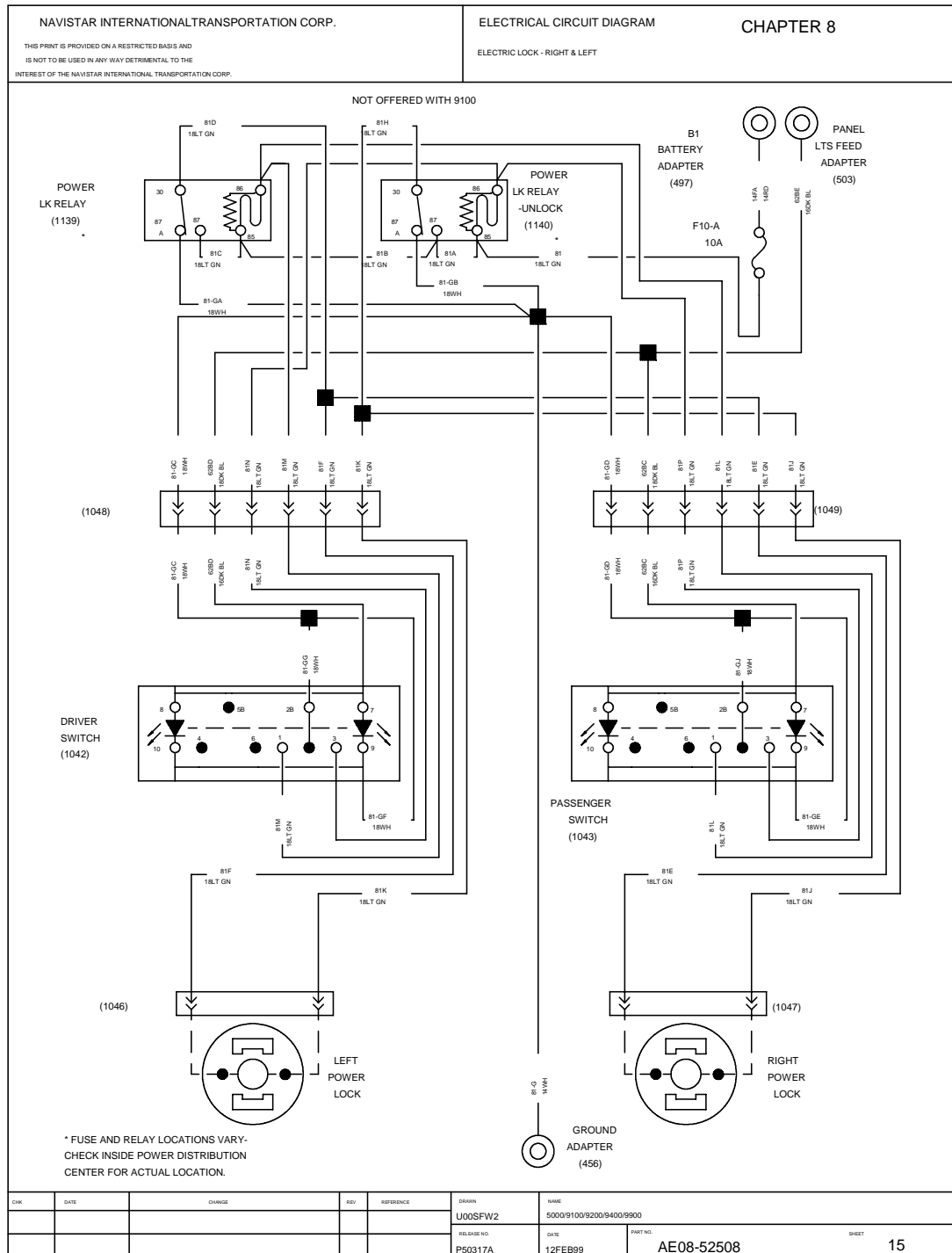
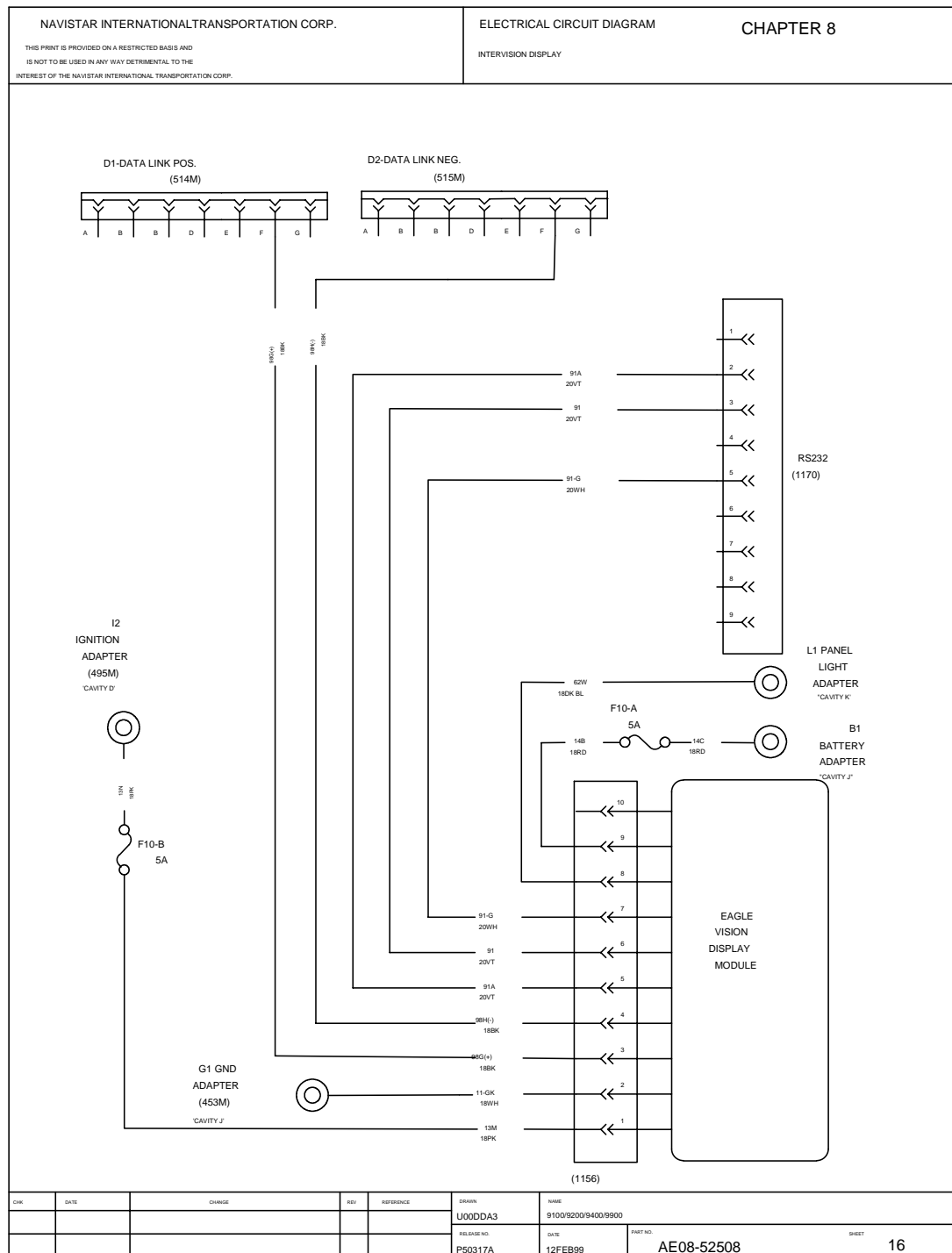


Figure 73 Electric Lock — Right and Left

## 8.16. INTERVISION DISPLAY, P. 16



**Figure 74 Intervision Display**

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CHAPTER 8

EATON VORAD-COLLISION AVOIDANCE

**D1-DATA LINK POS. (514M) 'CAVITY F'**

**D2-DATA LINK NEG. (515M) 'CAVITY F'**

**G1 GND ADAPTER (453M) 'CAVITY F'**

**I2 IGNITION ADAPTER (495M) 'CAVITY D'**

**FRONT ANTENNA**

**RIGHT SIDE SENSOR**

**RIGHT SIDE DISPLAY**

**EATON VORAD COLLISION AVOIDANCE SYSTEM CPU**

Key components and connections include:

- CONN 1226F** (73G 16WH, 73GB 16WH, 73A 16LTBL, 73B 16LTBL, 73C 16LTBL, 73D 16LTBL, 73E 16LTBL)
- CONN 1227 ECU** (C1-C16)
- CONN 1229** (73AF 16BN, 73AM 16GN, 73AR 16BL, 73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1240** (73AF 16BN, 73AM 16GN, 73AR 16BL)
- CONN 1230** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1231** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1232** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1233** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1234** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1235** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1236** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1237** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1238** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1239** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1240** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1241** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1242** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1243** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1244** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1245** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1246** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1247** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1248** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1249** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1250** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1251** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1252** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1253** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1254** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1255** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1256** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1257** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1258** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1259** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1260** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1261** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1262** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1263** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1264** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1265** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1266** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1267** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1268** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1269** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1270** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1271** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1272** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1273** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1274** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1275** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1276** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1277** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1278** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1279** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1280** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1281** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1282** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1283** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1284** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1285** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1286** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1287** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1288** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1289** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1290** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1291** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1292** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1293** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1294** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1295** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1296** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1297** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1298** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1299** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)
- CONN 1300** (73AF 16LTBL, 73AR 16LTBL, 73AL 16LTBL)

CHK	DATE	CHANGE	REV	REFERENCE	DRAWN	NAME
JPM	APR02	CAV C OF CONN1 WAS E				

**Figure 75 Eaton Vorad — Collision Avoidance**

8.18. EATON VORAD — COLLISION AVOIDANCE, P. 18

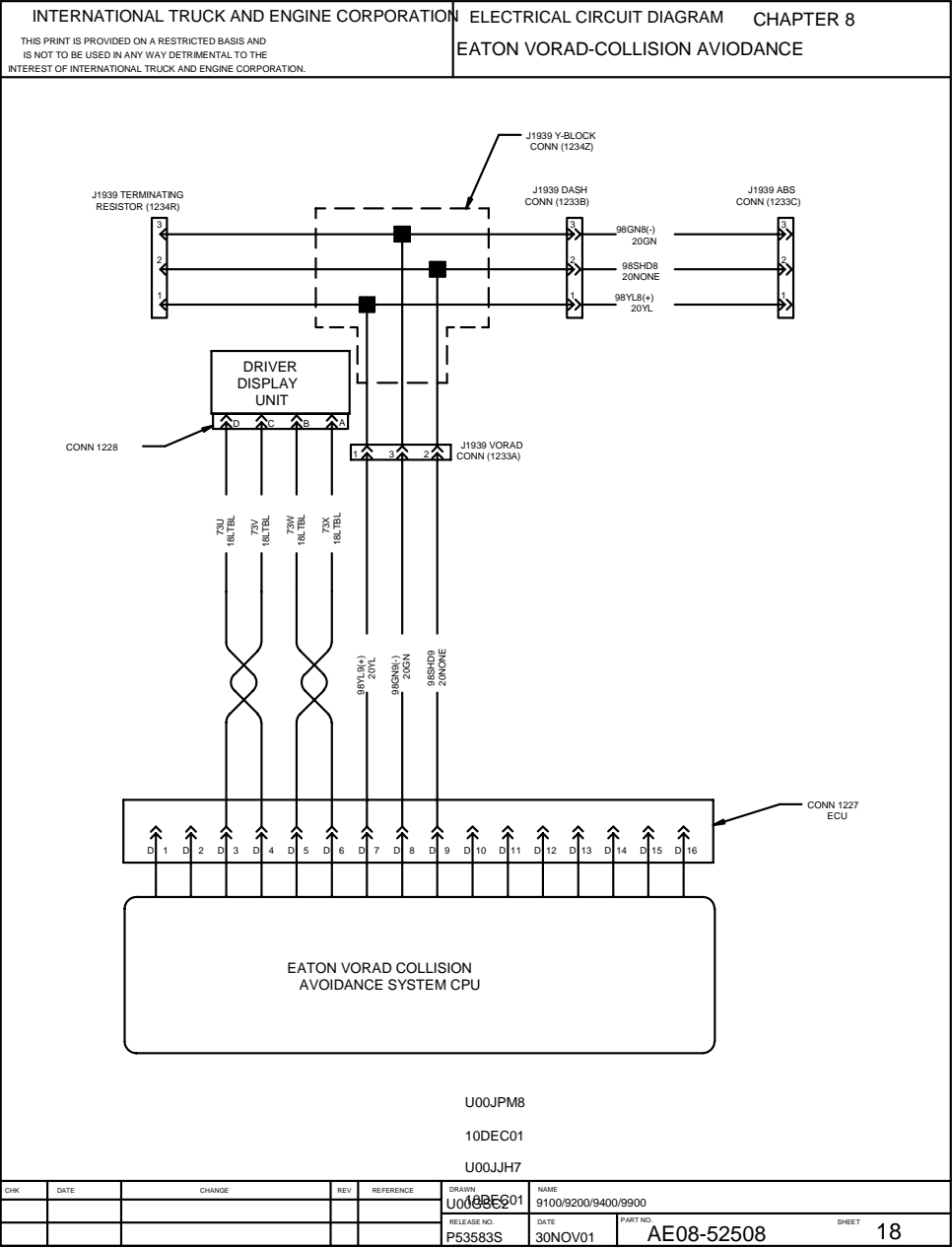


Figure 76 Eaton Vorad — Collision Avoidance

## 8.19. TEMPERATURE/COMPASS DISPLAY, P. 19

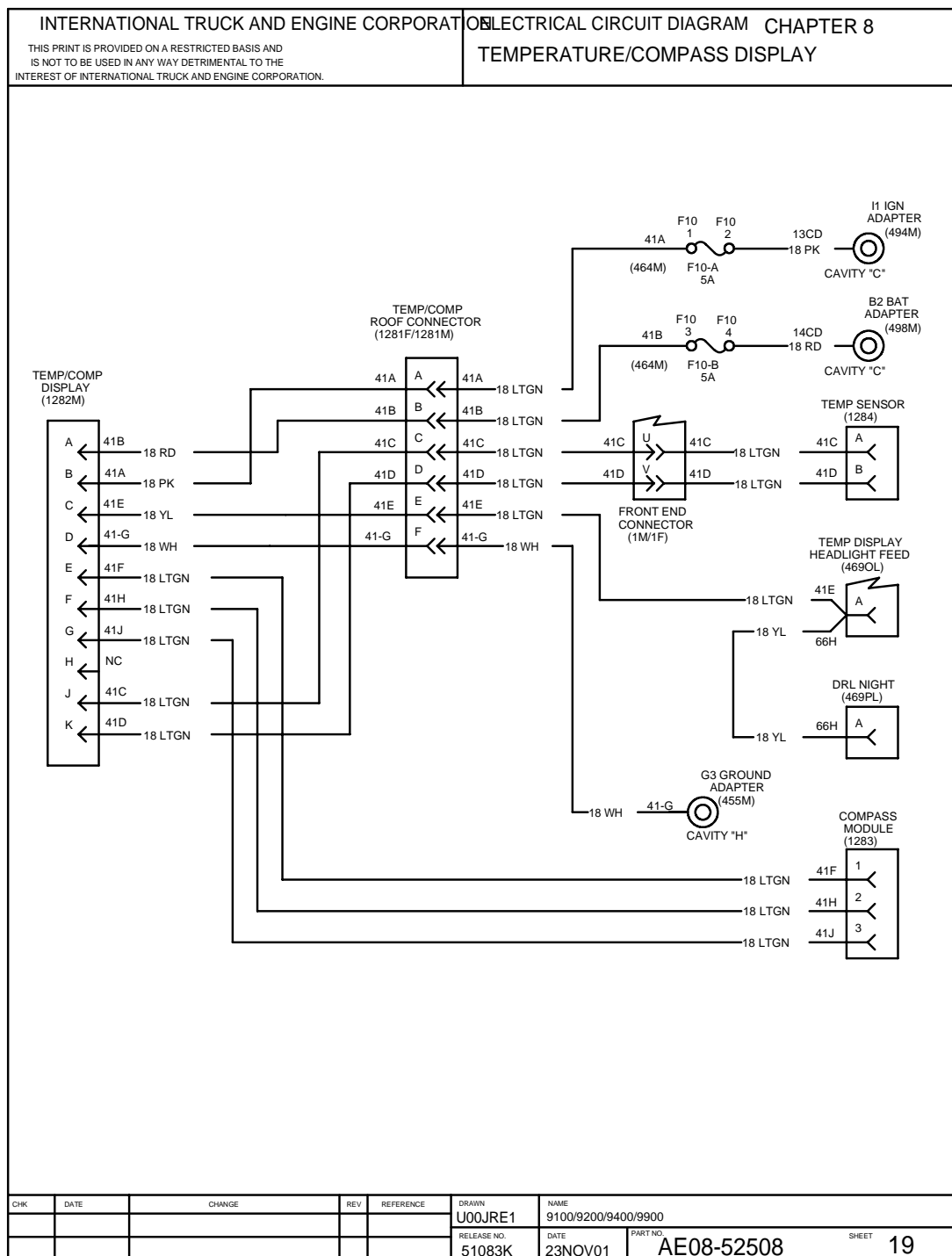
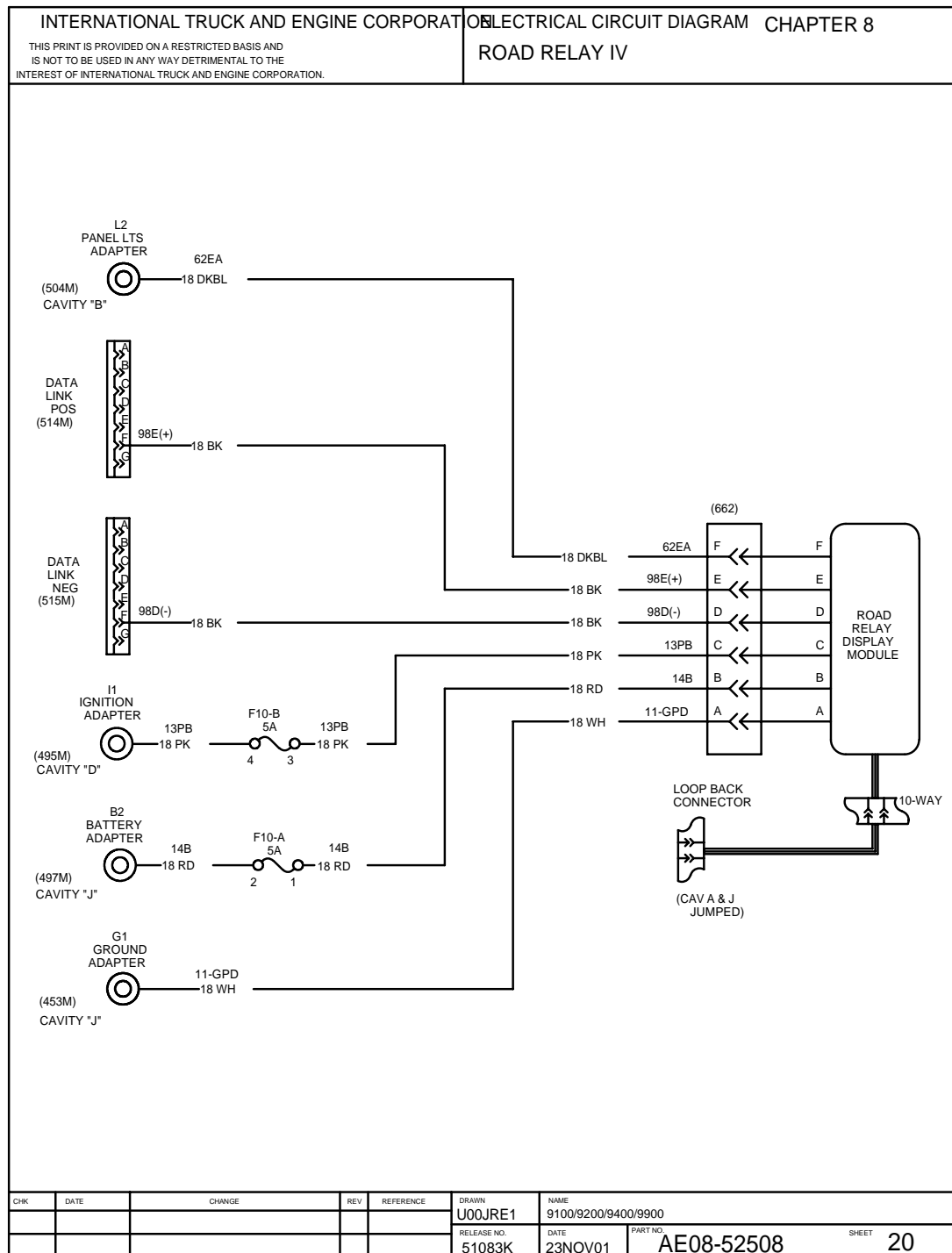


Figure 77 Temperature/Compass Display

## 8.20. ROAD RELAY IV, P. 20



**Figure 78 Road Relay IV**

## 8.21. HEATED SEAT — DRIVER, P. 21

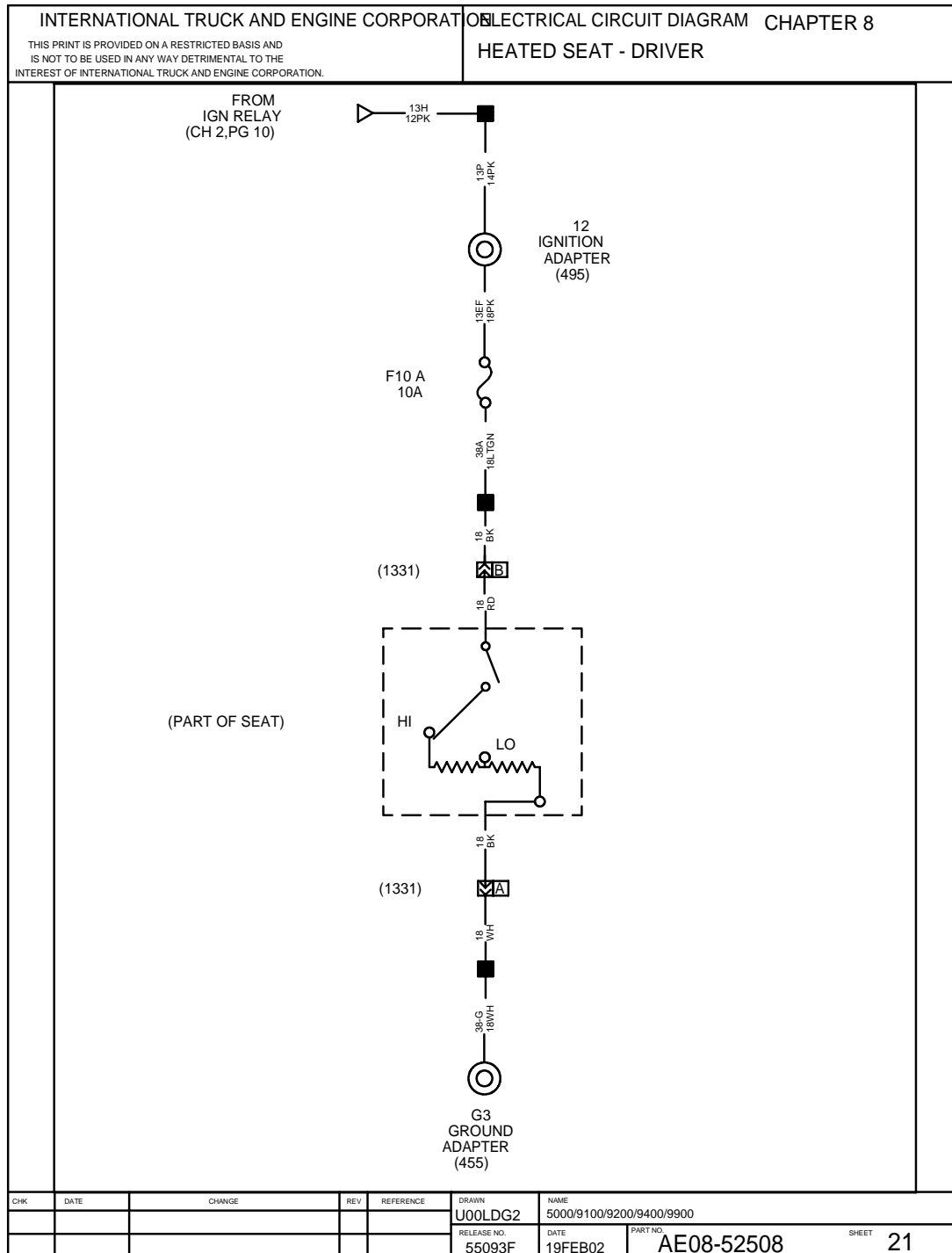
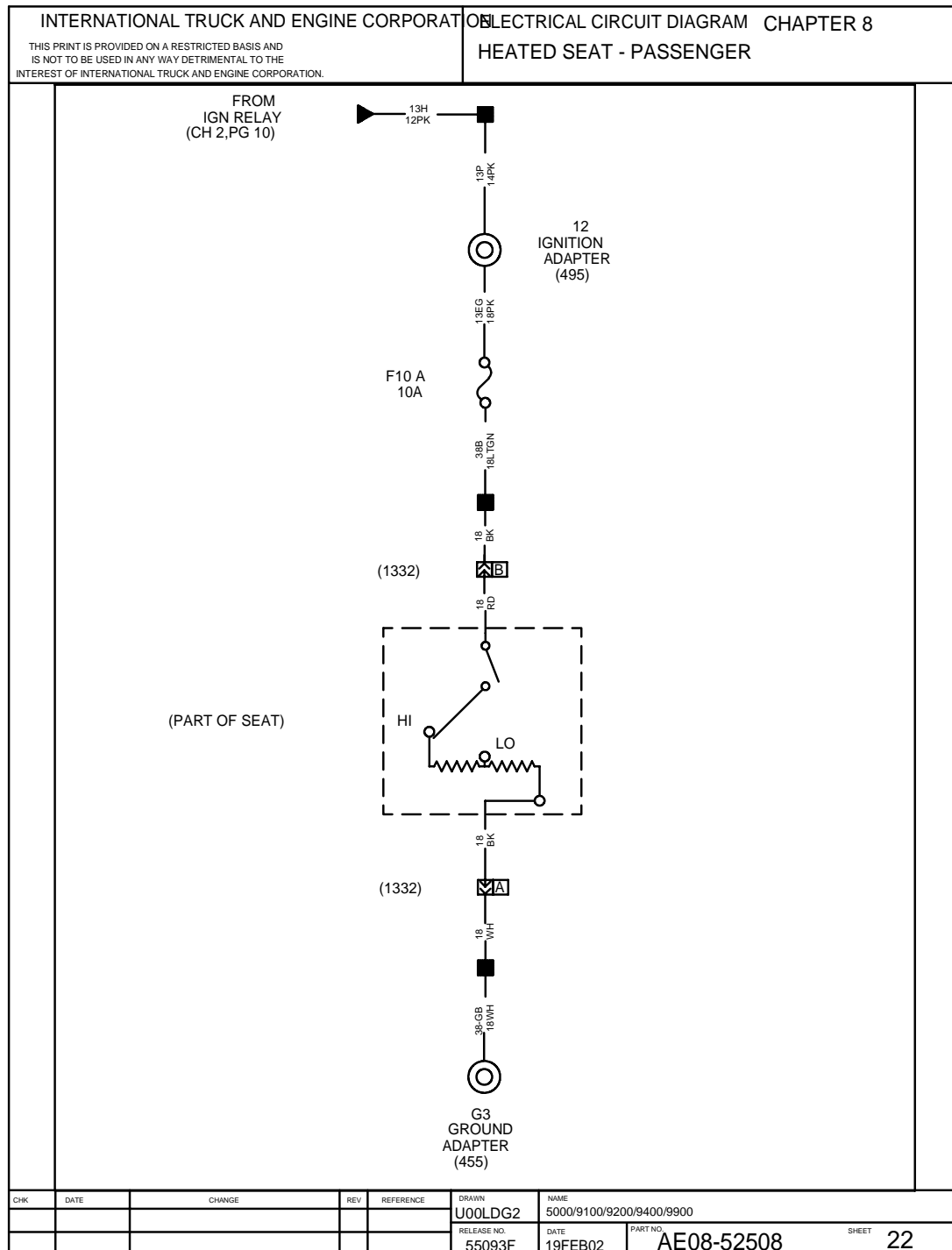


Figure 79 Heated Seat — Driver

## 8.22. HEATED SEAT — PASSENGER, P. 22



**Figure 80 Heated Seat — Passenger**