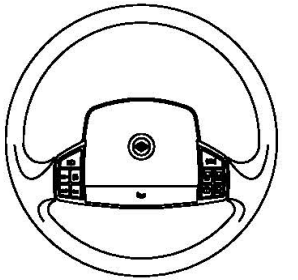
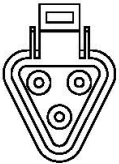
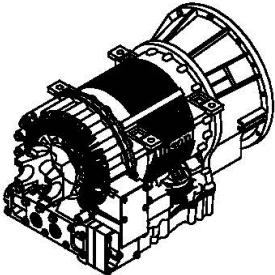
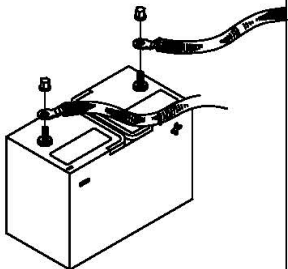
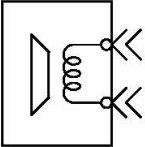
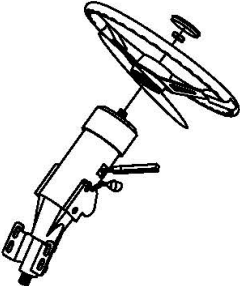
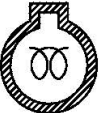
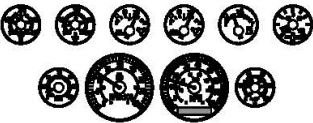
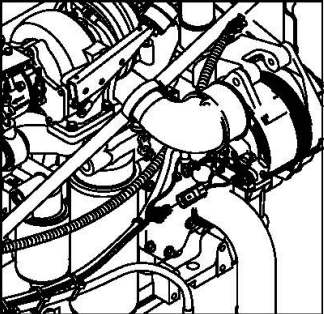
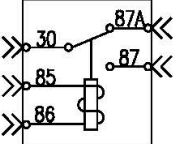
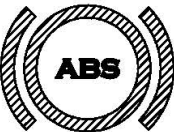
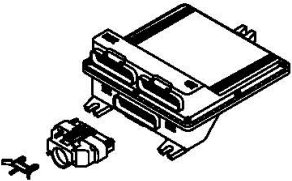
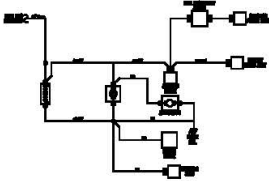
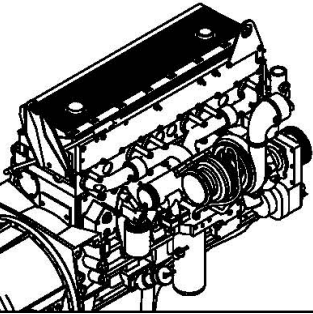
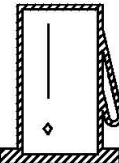
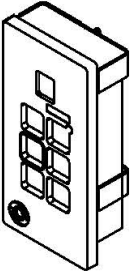
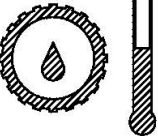
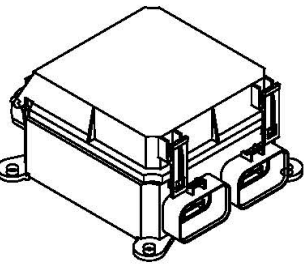


ELECTRICAL SYSTEMS GUIDE

								
								
		UTILIMASTER DRIVING INTELLIGENT VEHICLE SOLUTIONS						
								
								

CIRCUIT FUNCTION	GROUP NUMBER
INDEX	2
SYMBOLS	3
MODULAR LAYOUT	9
GROUND DISTRIBUTION CENTER	10
POWER DISTRIBUTION CENTER	12
LIGHTING	25
RADIO	38
HVAC	39
POWER WINDOW	44
HEATED MIRRORS	46
WIPER	53
POWER POINTS	62

GROUND DISTRIBUTION	
BODY GROUND	10-3
CAB GROUND	10-2
HEATED MIRRORS	46-2
HVAC CONTROL	39-2
LAYOUT - MODULAR	
LAYOUT 1	9-2
LAYOUT 2	9-3
LAYOUT 3	9-4
LIGHTING	
CARGO LIGHTS	25-2
FRONT LIGHTS	25-3
ILLUMINATION LIGHTS	25-4
REVERSE LIGHTS	25-5
STOP LIGHTS	25-7
TAIL LIGHTS	25-8
TURN LIGHTS	25-6
POWER DISTRIBUTION	12-2
POWER POINTS	62-2
POWER WINDOW CONTROL	44-2
RADIO CONTROL	38-2
WIPER MOTOR CONTROL	53-2

BATT HOT AT ALL TIMES

IGN HOT IN RUN OR START

ACC HOT IN ACC OR RUN

HARNESS DESCRIPTION	HARNESS DRAWING
HARNESS MAIN DASH STANDARD #43	16515123
HARNESS ROOF STANDARD CHART #43 (133 WB X 10)	16515124-01000
HARNESS ROOF STANDARD CHART #43 (151 WB X 12)	16515124-01200
HARNESS ROOF STANDARD CHART #43 (151 WB X 14)	16515124-01400
HARNESS FRONT OVERHEAD STD #43	16515125
HARNESS REAR LIGHTING STANDARD #43	16515126
HARNESS WIPER HVAC STD REACH #43	16515127
HARNESS FRONT LIGHT STD #43	16515128
HARNESS POWER SEAT REACH #43	16515129
HARNESS SGL CAB/CRGO LIGHT STD #43	16515130
HARNESS DUAL CAB LIGHT #43	16515131
HARNESS DUAL CARGO LIGHT #43	16515132
HARNESS POWER WINDOW #43	16515133
HARNESS 3-WAY SWITCH #43	16515134
HARNESS COND FAN PRESSURE SW #43	16515135
HARNESS CAB/CARGO LT SWITCH UPS #43	16515194
HARNESS CAB/CARGO LT SWITCH FDX #43	16515195
HARNESS FRONT LIGHT/FLASH MODULE #43	16515196
HARNESS FRONT OVERHEAD PARCEL #43	16515197
HARNESS ROOF PARCEL CHART #43 (133 WB X 10)	16515198-01000
HARNESS ROOF PARCEL CHART #43 (151 WB X 12)	16515198-01200
HARNESS ROOF PARCEL CHART #43 (151 WB X 14)	16515198-01400

LEGEND

BATT

HOT AT ALL TIMES

IGN

HOT IN RUN OR START

ACC

HOT IN ACC OR RUN

INTRODUCTION

The electrical schematics booklet contains information related to the systems listed below. A schematic book may not contain all of the sections.
Combining the information of these sections along with a good understanding of electricity will aid a qualified technician to solve the problem at hand.

- ELECTRICAL SCHEMATICS
- CONNECTOR VIEWS
- CIRCUIT OPERATION
- TROUBLESHOOTING

ELECTRICAL SCHEMATICS

Electrical schematics are pictorial representations of wire, switches, relays, etc... used to simplify the overall functionality of the device.

CONNECTOR VIEWS

Connector views are pictorial representations of electrical connectors. They are used to help locate a connector in the vehicle and locate individual wires. All connector views are shown as the wire insertion view of a connector.

CIRCUIT OPERATION

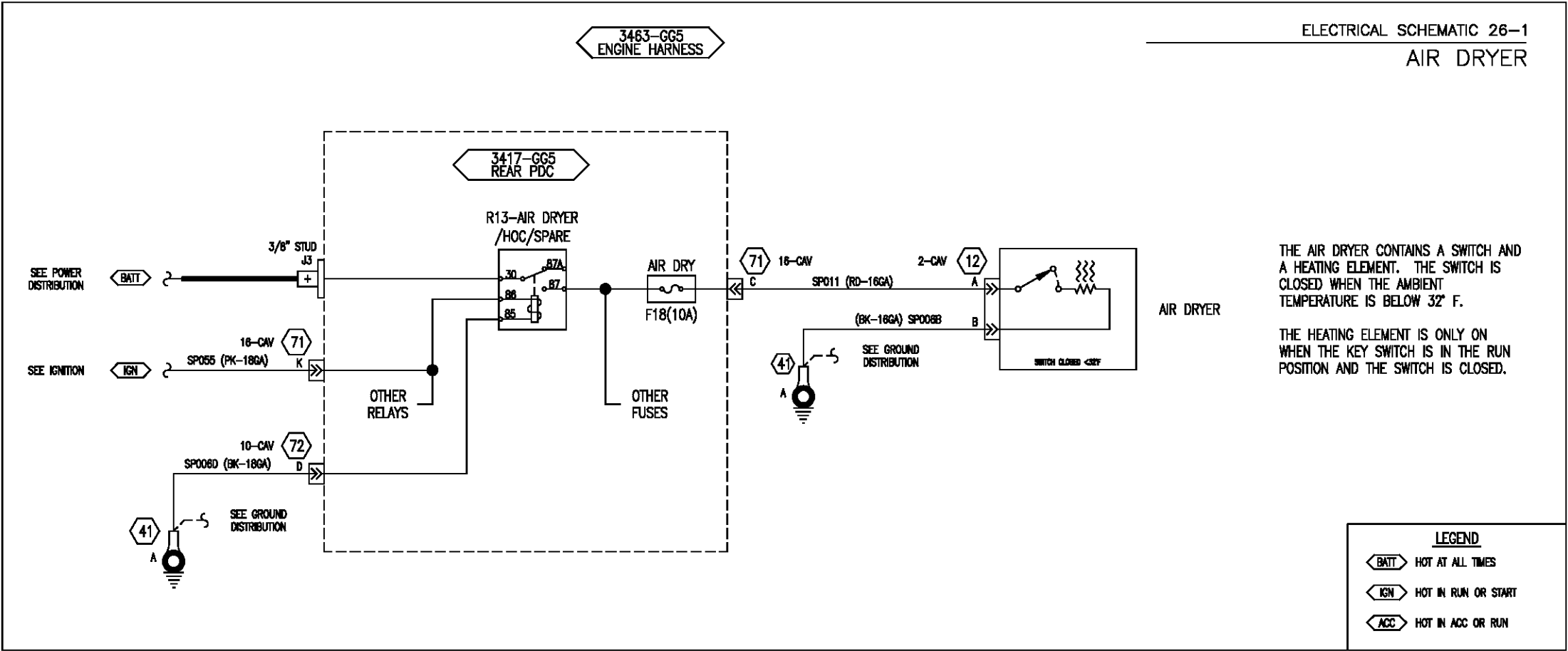
A circuit operation is a text description of the functionality of the circuit.

TROUBLESHOOTING

A troubleshooting section exists to guide the technician in a direction to solve the problem. This may be shown as a trouble tree or symtom—cause table.

SCHEMATIC ORGANIZATION

The electrical schematics are organized into groups. A group number represents a particular function. Within each group are individual pages. Each group will have at least one electrical schematic.



READING THE SCHEMATICS

Each schematic contains many pieces of information. Understanding each piece of information will give a better understanding of the entire circuit and aid in faster repairs.

A schematic contains lines that represent wire, pictorial views of relays, switches and fuses, to name a few, that represent components. There is no attempt made to represent an actual harness or harness routing within a vehicle in a schematic drawing.

The schematic shown above contains many of the symbols used throughout a schematic book.

PAGE NUMBER & NAME

The text in the upper right hand corner consists of the section number, the page within the section and the name of the schematic. In this case the Air Dryer has a schematic section number of 26 and is located on page 1 of that section.

COMPONENT PART NUMBER & DESCRIPTION

The harness or component part number is shown at the top center of the page along with the name of the harness. These two pieces of information can be used to locate a connector view and lead you to the location of the harness within the vehicle.

CONNECTORS

All connectors are labeled with a connector number, cavity number and the number of cavities within that connector. As an example, connector number 71 has 16 cavities and wire SP011 is in cavity C.

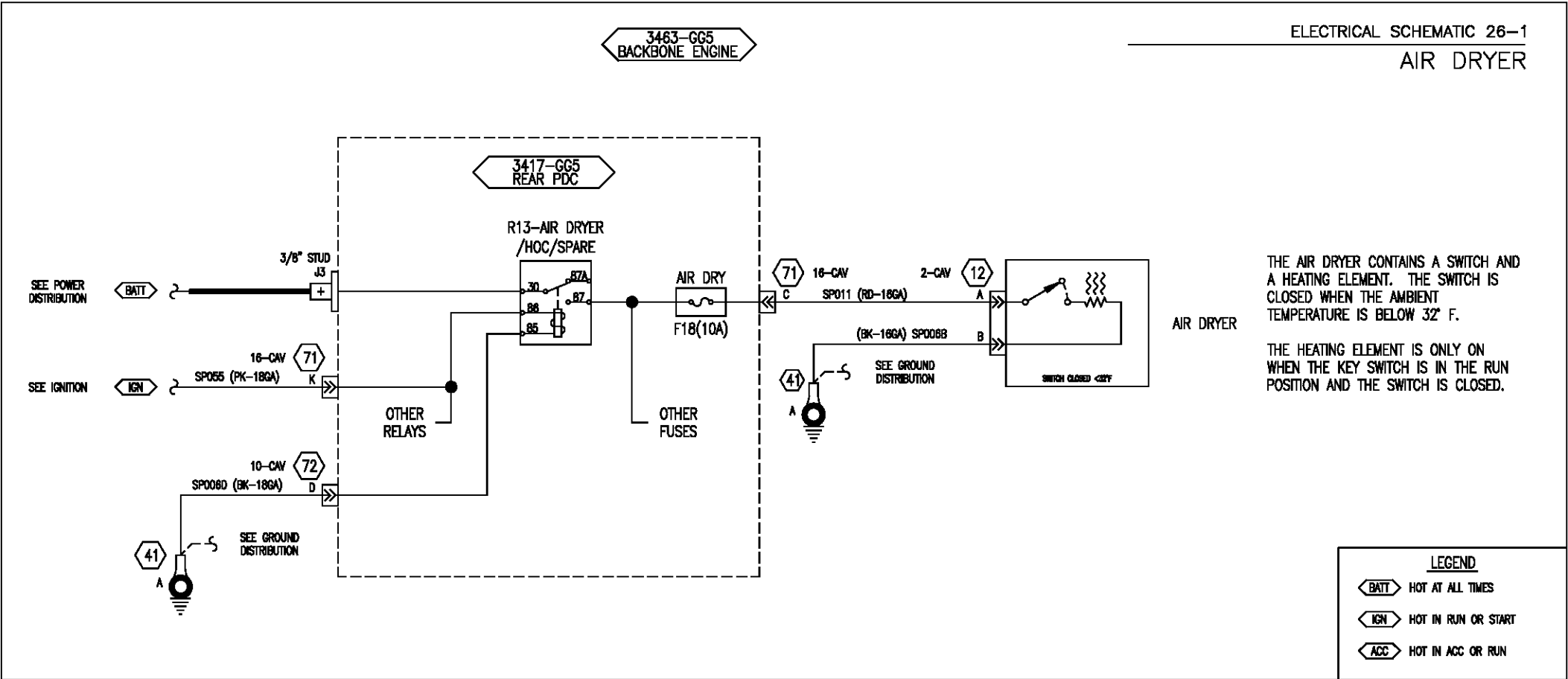
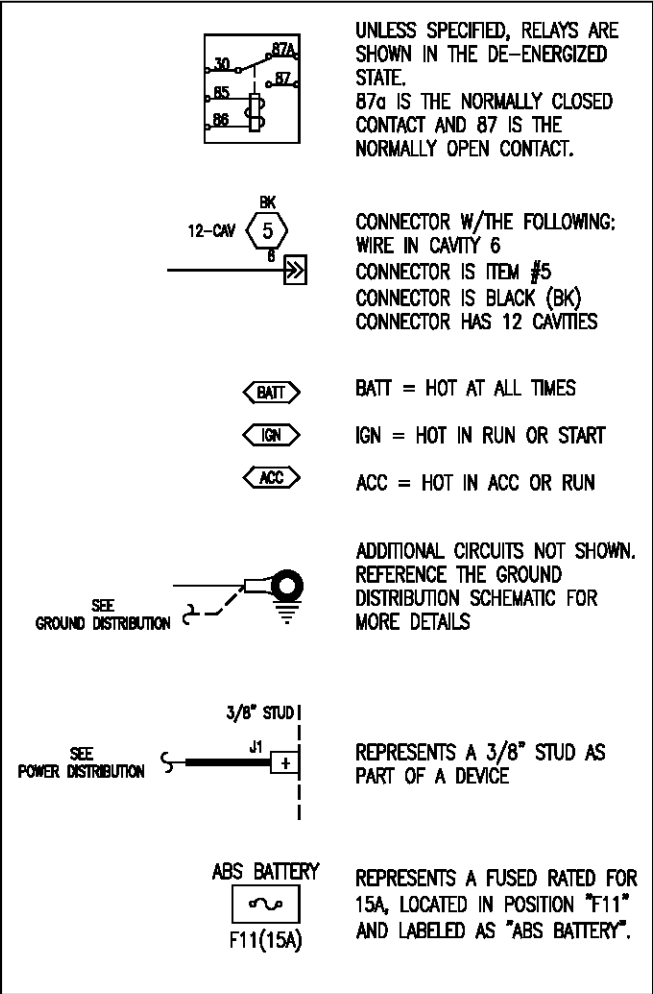
Take note that the Rear PDC also has a 3/8" stud labeled as J3.

RELAYS & FUSES

All relays and fuses are labeled with location identifier and a name. In this example the relay is at location R13 and is labeled as Air Dryer/HOC/Spare and the fuse is at location F18, it's a 10A fuse and is labeled as Air Dryer. Both of the items are located within the Rear PDC.

COMPONENT OUTLINES

Components such as the Rear PDC or Air Dryer are outlined with either solid or dashed lines. A solid line represents the entire component is shown and a dashed line represents only a portion of the component is shown.



READING THE SCHEMATICS

The schematic shown above is of a typical Air Dryer circuit. The symbols shown above are only as a quick reference and are not normally part of a schematic page.

CIRCUIT OPERATION

This particular schematic contains a short description of the Air Dryer thermal switch within the Air Dryer. Not all schematics have this additional information and is provided as when possible. The Air Dryer is used to remove moisture in the air system. Removing moisture is done mechanically. The electrical portion of the Air Dryer is in place to keep the condensed moisture from freezing within the Air Dryer.

The Air Dryer receives it's power from the Rear PDC. Rear PDC

stud J3 is powered by direct battery and powers Relay R13. Relay R13 is activated anytime SP055 is activated by the key switch. Fuse F18 is dedicated to the Air Dryer and is fused at 10 amps. Anytime the key switch is on, R13 is energized by SP055. When R13 is energized, power goes through the fuse and is at connector 71 cavity C. Wire SP011 is now powered and when the internal thermal switch of the Air Dryer is closed, the heater circuit is energized. The ground path is from connector 12 cavity B and is returned to a ring terminal attached to a ground. Although it is not shown, it can be assumed that this ground is located at a good grounding location. It may be a direct battery ground or grounded at a common grounding point.

LEGEND & SYMBOLS

A legend is provided on most schematic and is located in the lower right hand corner. in this example Battery, Ignition & Accessory are listed with a short description. The symbols shown in this example are a small representation of symbols available. The idea is to show you a symbol along with the description to aid in understanding this schematic example. You can find all of the available schematic symbols in section 3 of the schematic book.

CONNECTOR VIEW - 7
ENGINE HARNESS 41 THRU 73

ITEM: 41						
COMMON GROUND						
3/8"						
RING TERMINAL						
OPT: -001						
MAP: C81						
CAV	CIRCUIT	SIZE (mm²)	MAT.	COLOR	DESCRIPTION	WIRES NOTE
A	SP008B	1.0	GXL	BK	COMMON GND	---
A	SP008D	0.8	GXL	BK	COMMON GND	---
A	SP006J	1.0	GXL	BK	COMMON GND	---
A	SP006R	0.8	GXL	BK	COMMON GND	---
A	SP008N	8.0	GXL	BK	COMMON GND	---
NOTES:						

ITEM: 41						
COMMON GROUND						
3/8"						
RING TERMINAL						
OPT: -002						
MAP: C81						
CAV	CIRCUIT	SIZE (mm²)	MAT.	COLOR	DESCRIPTION	WIRES NOTE
A	SP008B	1.0	GXL	BK	COMMON GND	---
A	SP008D	0.8	GXL	BK	COMMON GND	---
A	SP006E	1.0	GXL	BK	COMMON GND	---
A	SP006J	1.0	GXL	BK	COMMON GND	---
A	SP006R	0.8	GXL	BK	COMMON GND	---
A	SP008N	8.0	GXL	BK	COMMON GND	---
NOTES:						



ITEM: 73						
J7						
15328849						
PACKARD						
OPT: ALL						
MAP: D80						
CAV	CIRCUIT	SIZE (mm²)	MAT.	COLOR	DESCRIPTION	WIRES NOTE
A	AT165	0.8	TXL	TN	REVERSE WARNING	---
B	AT141	0.8	TXL	TN	NEUTRAL START	---
C	SP056	0.8	GXL	PK	START SIGNAL	---
D	SP681	0.8	GXL	GY	BATT BOOST	---
E	SP1081	0.8	GXL	YW	INPUT L STP/TRN OR T	---
F	EN1005	0.5	TXL	BK	ECM RET GEN F	TWP-38
G	EN1004	0.5	TXL	PK	STARTER LOCKOUT	TWP-38
H	AT163D	0.8	GXL	YW	IGNITION SIG	---
J	EN1014	0.8	TXL	PK	DCU IGN	---
K	AT163A	0.8	TXL	YW	IGNITION SIG	---
L	EN439	0.5	TXL	PK	CLEAN IGN	---
M	SP515	0.8	GXL	GN	ABS BLINK IN	---
NOTES: TPA 15430803; 15328849 SHOWN AS RESTRICTED, REPLACED BY 13530777, USE AS NECESSARY.						



CONNECTOR VIEWS

Connector views are included in the schematic book to aid the technician in troubleshooting and repair of the electrical system.

PAGE NUMBER & NAME

The text in the upper right hand corner consists of the page within the section, the name of the harness and the range of connectors on the page. In this case these two connector views are on page 7 and is part of the engine harness.

CONNECTOR NUMBER

Each connector or "item" is given a number. The connector number is used in the design of the harness and is not repeated within that harness. The connector number can be used in other harnesses,

additional attention should be used when referencing connector numbers. CONNECTOR CAVITIES

All connectors are shown as wire insertion view. Exceptions are ring terminals and blunt cut wires.

The connector table include various pieces of information such as the cavity number, wire number, wire size, wire insulation material, wire color, circuit description and any special notes.

Wire sizes in these table are listed in metric. Use the conversion table within this section to translate into AWG sizes if needed.

Wire notes indicate special requirements for the wire such as Twisted Pair (TWP) or Twisted Triplet (TWT).

MULTIPLE CONNECTOR TABLES

Some connectors can have two or more tables associated with them.

Multiple tables are used for harness manufacturing and you can think of them as options. To determine the option number look in the fifth row from the top. As shown in the example above item 41 has two connector tables and the two options are -001 and -002. Option -002 includes one more wire than option -001 and that wire is SP006E. To determine if the vehicle includes the additional content, refer to "Harness List" page.

WIRE SIZE	
AWG	mm2
20	0.5
18	0.8
16	1.0
14	2.0
12	3.0
10	5.0
8.0	8.0
6.0	13.0
4.0	21.0
2.0	34.0
1.0	42.0
1/0	54.0
2/0	67.0
3/0	85.0
4/0	105.0

DECIMAL		
ABBREVIATION	PREFIX	MULTIPLIER
G	giga	10 ⁹
M	mega	10 ⁶
k	kilo	10 ³
d	deci	10 ⁻¹
c	centi	10 ⁻²
m	milli	10 ⁻³
μ	micro	10 ⁻⁶
n	nano	10 ⁻⁹
p	pico	10 ⁻¹²
f	femto	10 ⁻¹⁵

ELECTRICAL SYMBOL		
ABBREVIATION	UNIT	QUANTITY
s	second	time
Hz	hertz	frequency
W	watt	power
A	ampere	current
V	volt	voltage
Ω	ohm	resistance

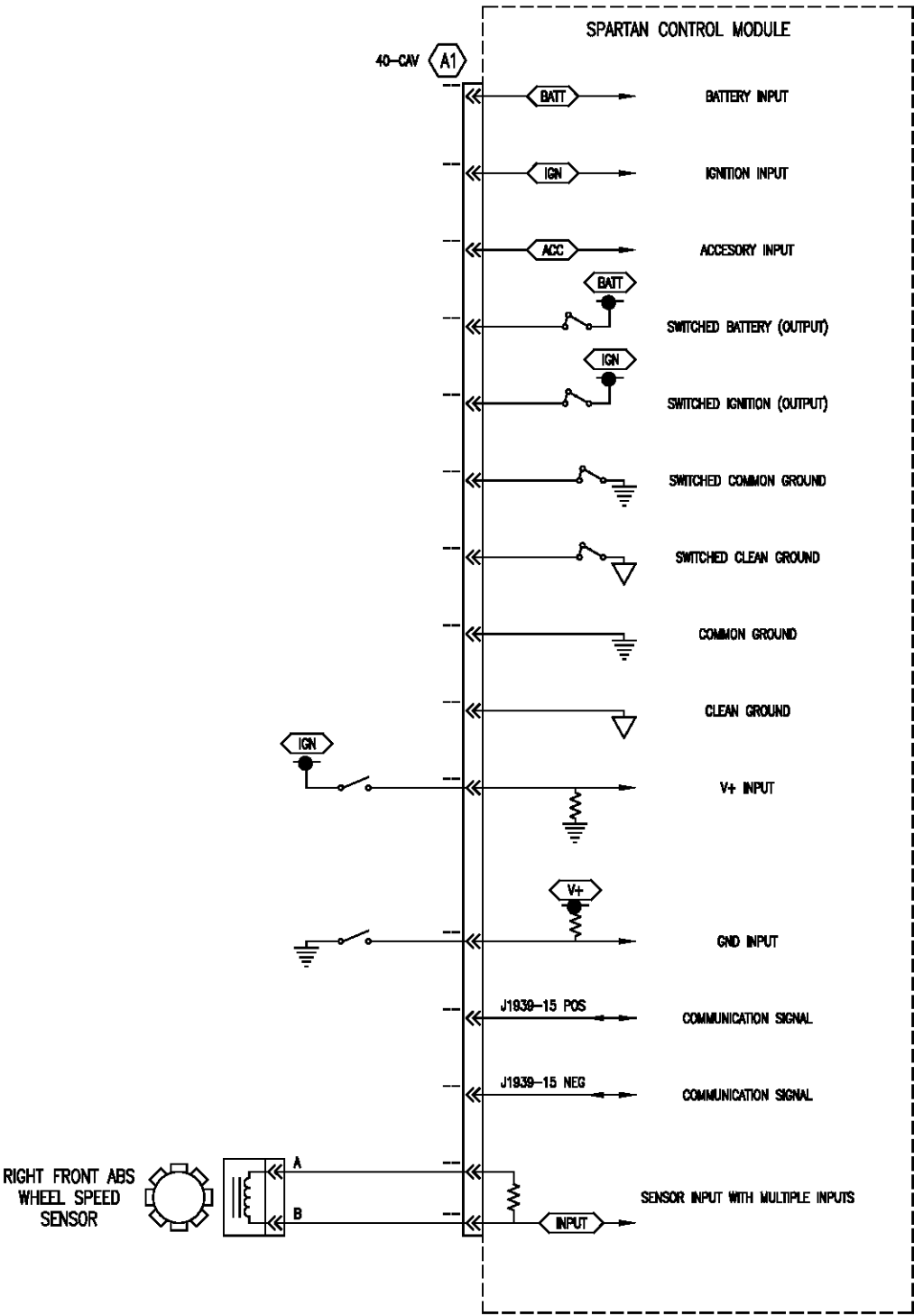
FORMULAS

VOLTS = AMPERE * RESISTANCE
 $V = I * R$

HERTZ = 1 / SECOND
 $Hz = 1 / s$

Watts = VOLTS * AMPERE
 $W = V * I$

STANDARD TO METRIC	
STANDARD	METRIC
1 in	25.4mm
1 ft	304.8mm
1 yd	914.4mm
1 in	0.0254m
1 ft	0.3048 m
1 yd	0.9144 m
1 mile	1.609 km



VARIOUS INPUT AND OUTPUT SYMBOLS USE TO REPRESENT THE INTERNAL OPERATION OF AN ELECTRONIC CONTROL MODULE (ECM).

EXAMPLE V+ INPUT SHOWN.
A V+ INPUT REQUIRES THE SWITCH OUTSIDE OF THE MODULE TO PROVIDE POWER WHEN THE SWITCH IS CLOSED.
THE INTERNAL CIRCUIT INTERPRETS THE INPUT AS TRANSITIONING FROM LOW (SWITCH OPEN) TO HIGH (SWITCH CLOSED) AND RESPONDS ACCORDINGLY.

EXAMPLE GROUND INPUT SHOWN.
A GND INPUT REQUIRES THE SWITCH OUTSIDE OF THE MODULE TO PROVIDE GROUND WHEN THE SWITCH IS CLOSED.
THE INTERNAL CIRCUIT INTERPRETS THE INPUT AS TRANSITIONING FROM HIGH (SWITCH OPEN) TO LOW (SWITCH CLOSED) AND RESPONDS ACCORDINGLY.

EXAMPLE SENSOR INPUT SHOWN.
A SENSOR HAVING MULTIPLE INPUTS MAY BE SHOWN LIKE THIS EXAMPLE. THE RESISTOR SYMBOL IS NOT A TRUE REPRESENTATION OF THE ACTUAL CIRCUIT AND IS SHOWN FOR SIMPLISTIC REASONS ONLY.

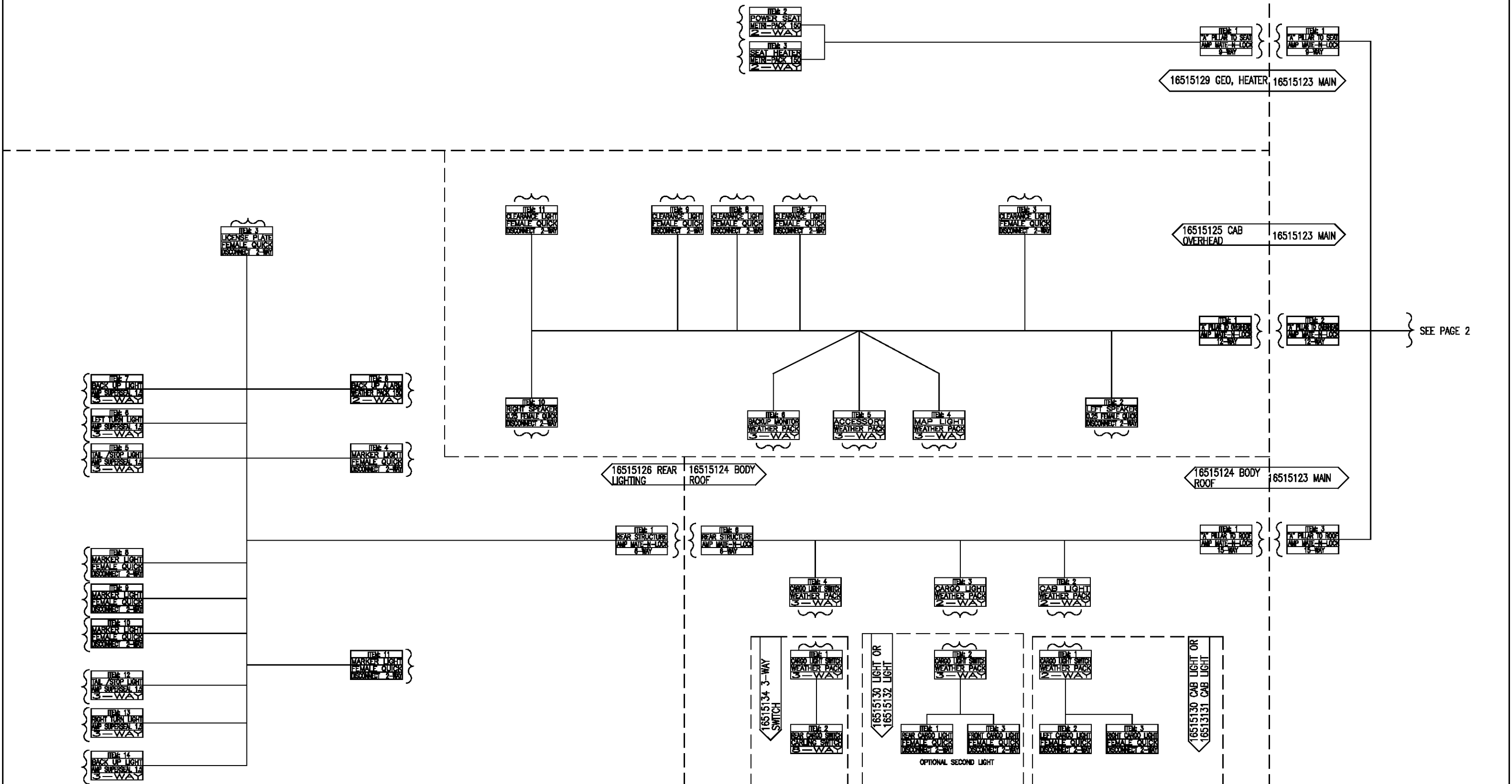
SCHEMATICS

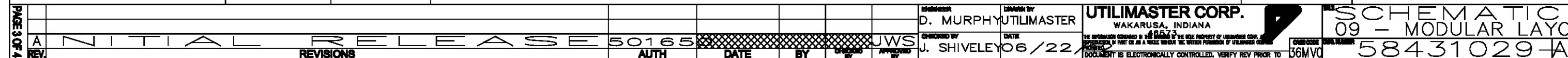
MODULAR LAYOUT

PAGE 1 OF 4							DESIGNED BY	DRAWN BY	UTILIMASTER CORP.			TITLE	SCHEMATIC 09 - MODULAR LAYO
							D. MURPHY	UTILIMASTER	WAKARUSA, INDIANA				
							CHECKED BY	DATE	48573				
							J. SHIVELEY	06/22/2012	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UTILIMASTER CORP. IT IS TO BE USED FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF UTILIMASTER CORP.				
REV		REVISIONS		AUTH	DATE	BY	CHECKED BY	APPROVED BY	DOCUMENT IS ELECTRONICALLY CONTROLLED. VERIFY REV PRIOR TO USE.		36MVA	58431029	AC
A		INITIAL RELEASE		50165				JWS					

UTILIMASTER-ISUZU PRODUCTION MODULAR LAYOUT P2

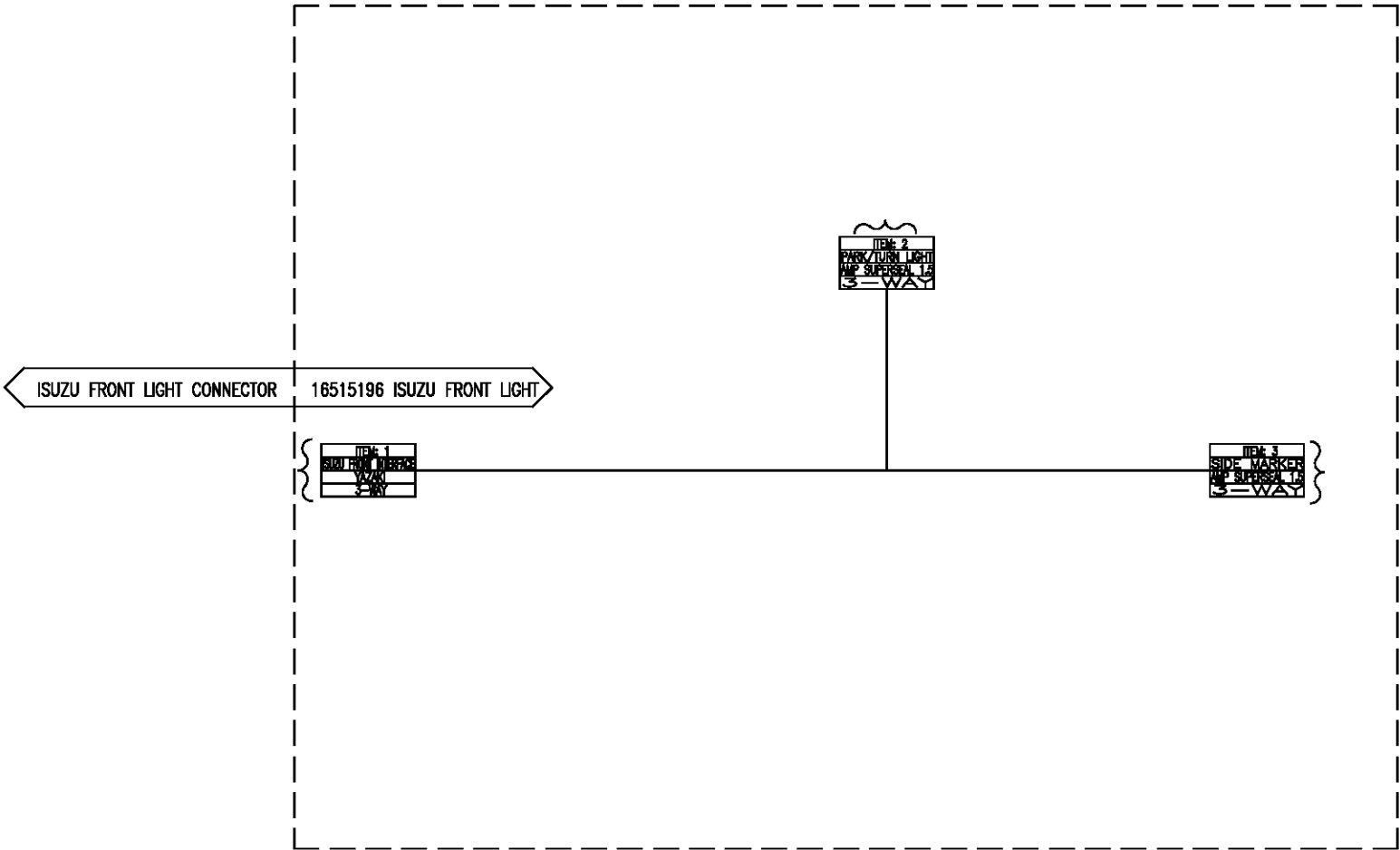
ELECTRICAL SCHEMATIC 9-2
MODULAR LAYOUT





UTILIMASTER-ISUZU PRODUCTION MODULAR LAYOUT P4

ELECTRICAL SCHEMATIC 9-4
MODULAR LAYOUT

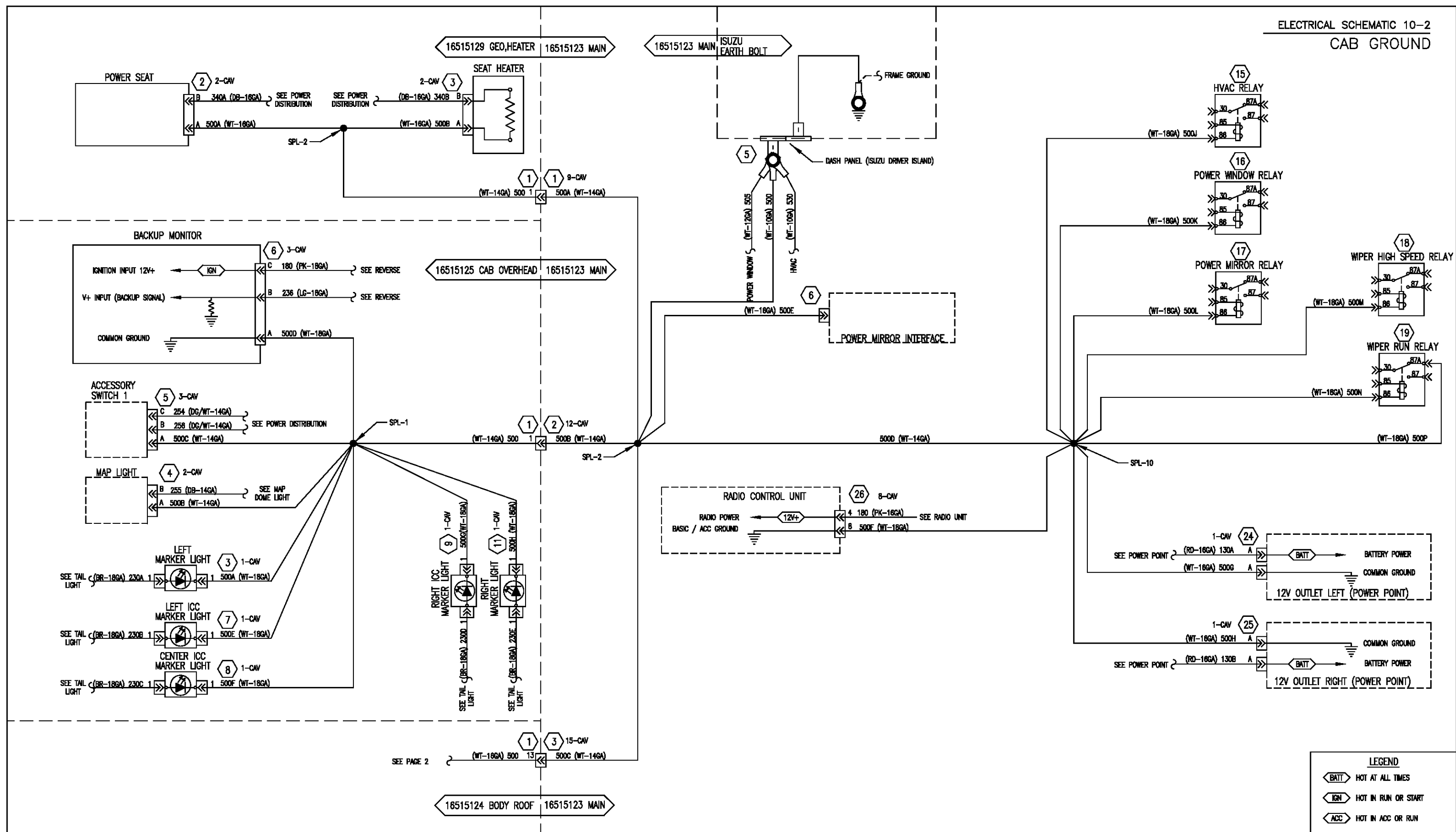


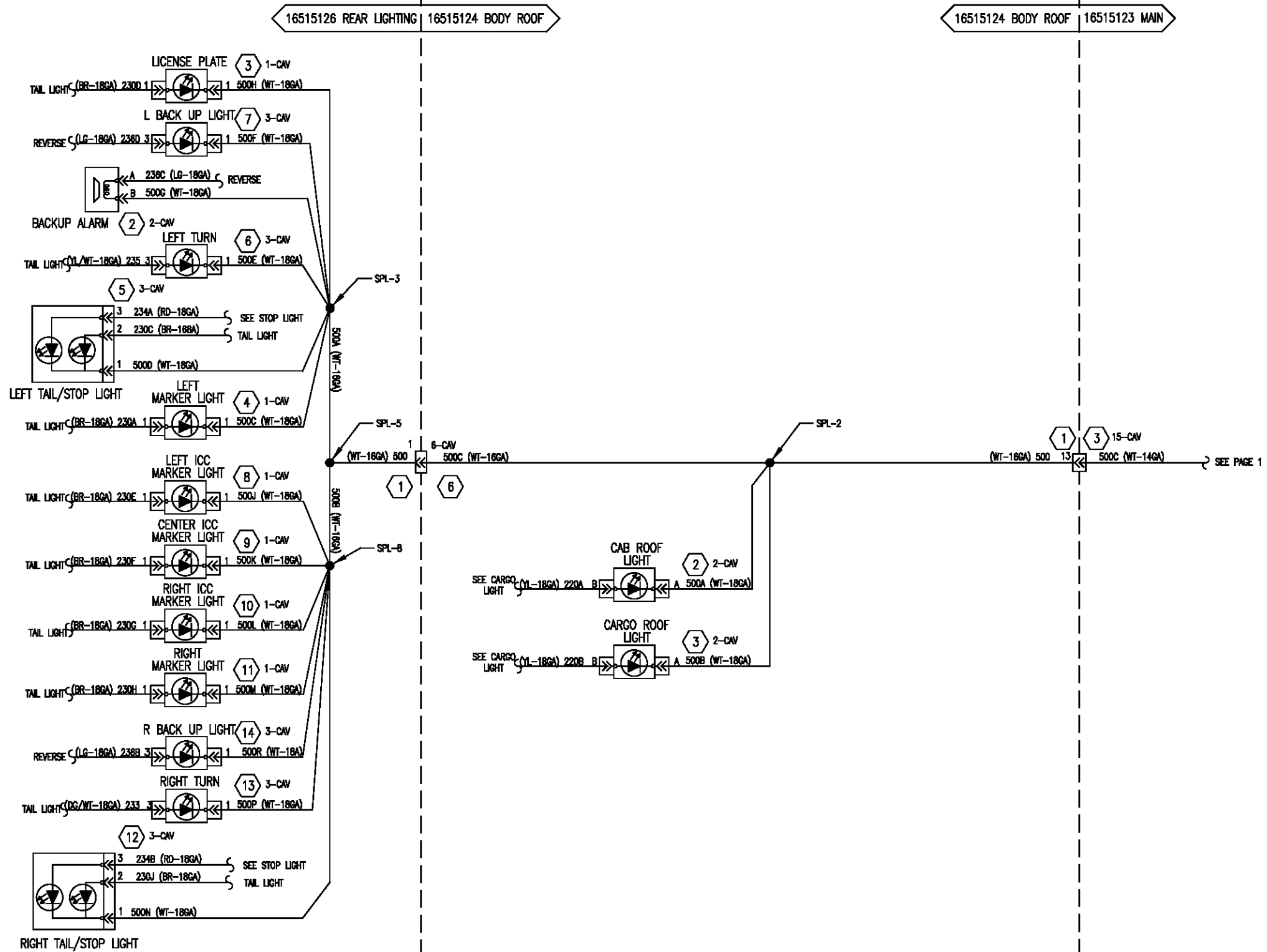
SCHEMATICS

GROUND DISTRIBUTION

PAGE 1 OF 3							DESIGNED BY M. CAMPEAU	DRAWN BY M. CAMPEAU	 UTILIMASTER CORP. WAKARUSA, INDIANA THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UTILIMASTER CORP. AND IS NOT TO BE REPRODUCED IN ANY MANNER OR FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF UTILIMASTER CORP. DOCUMENT IS ELECTRONICALLY CONTROLLED. VERIFY REV PRIOR TO USE.	TITLE SCHEMATIC 10 - GROUND DISTRIBUTION			
	INITIAL RELEASE 50165						CHECKED BY J. SHIVELEY	DATE 06/22/2012			CHG CODE 36MVQ		
REV	REVISIONS						AUTH	DATE	BY	CHG BY	APPROVED BY		
SHEET FORMAT PER A DATE: 02/02/2012													

ELECTRICAL SCHEMATIC 10-2
CAB GROUND



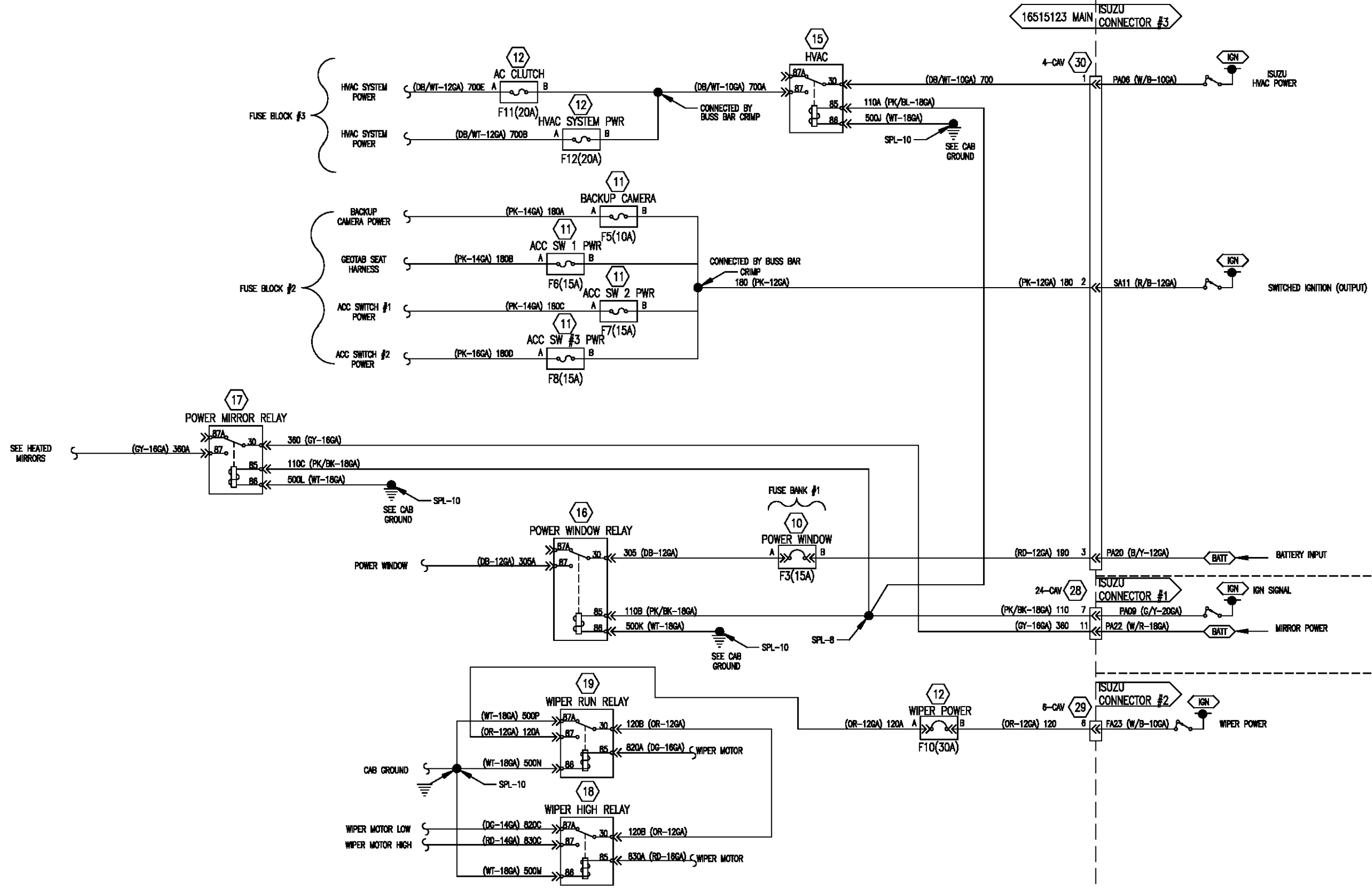


SCHEMATICS

POWER DISTRIBUTION

PAGE 1 OF 2							DESIGNED BY D. MURPHY	DRAWN BY UTILIMASTER	UTILIMASTER CORP. WAKARUSA, INDIANA 46083		TITLE SCHEMATIC 12 - POWER DISTRIBUTION
	INITIAL RELEASE 50165						CHECKED BY J. SHIVELEY	DATE 06/22/06			
REV	REVISIONS						AUTH	DATE	BY	CHECKED BY	APPROVED BY

ELECTRICAL SCHEMATIC 12-2
POWER DISTRIBUTION



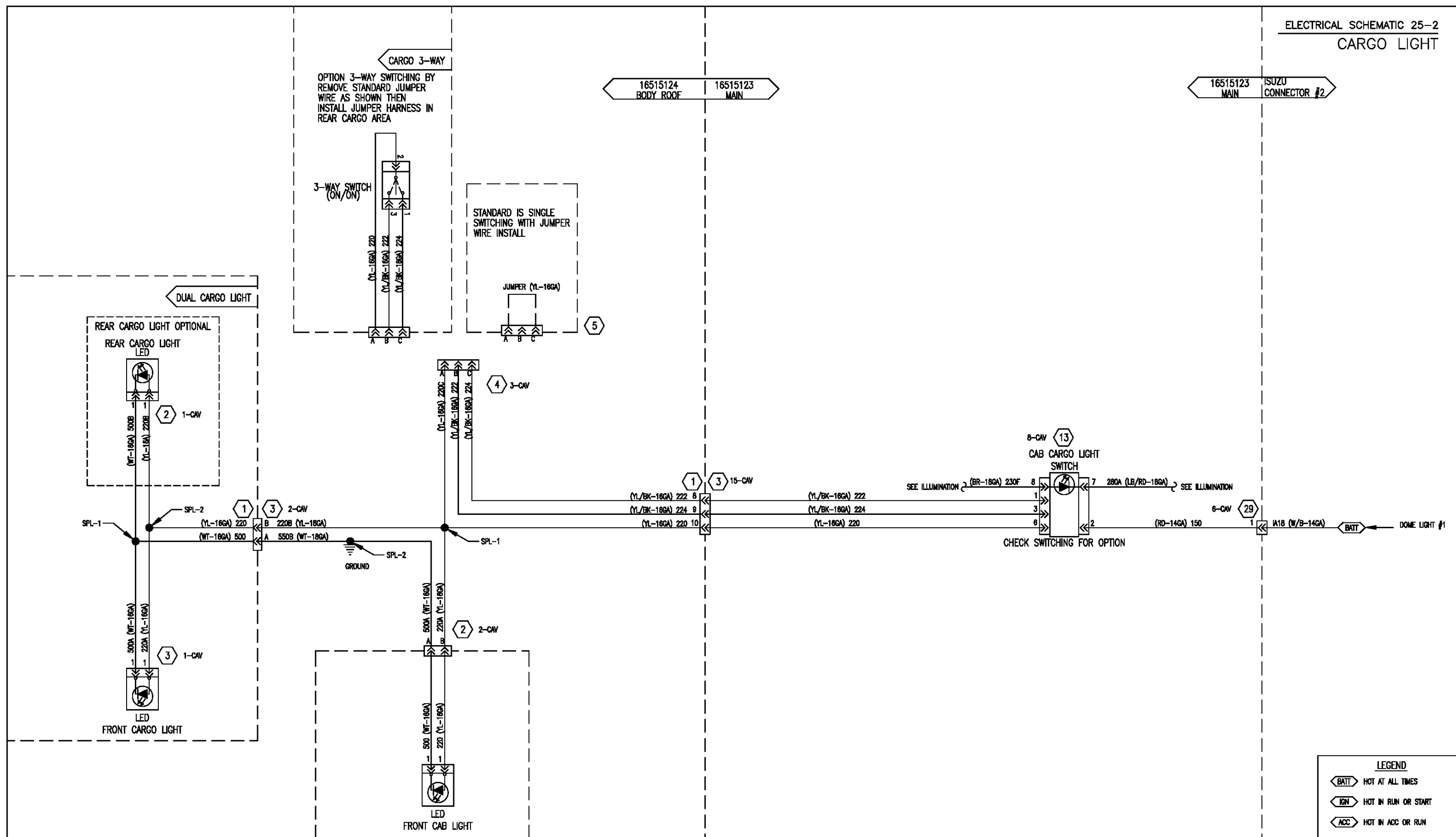
LEGEND
BATT HOT AT ALL TIMES
IGN HOT IN RUN OR START
ACC HOT IN ACC OR RUN

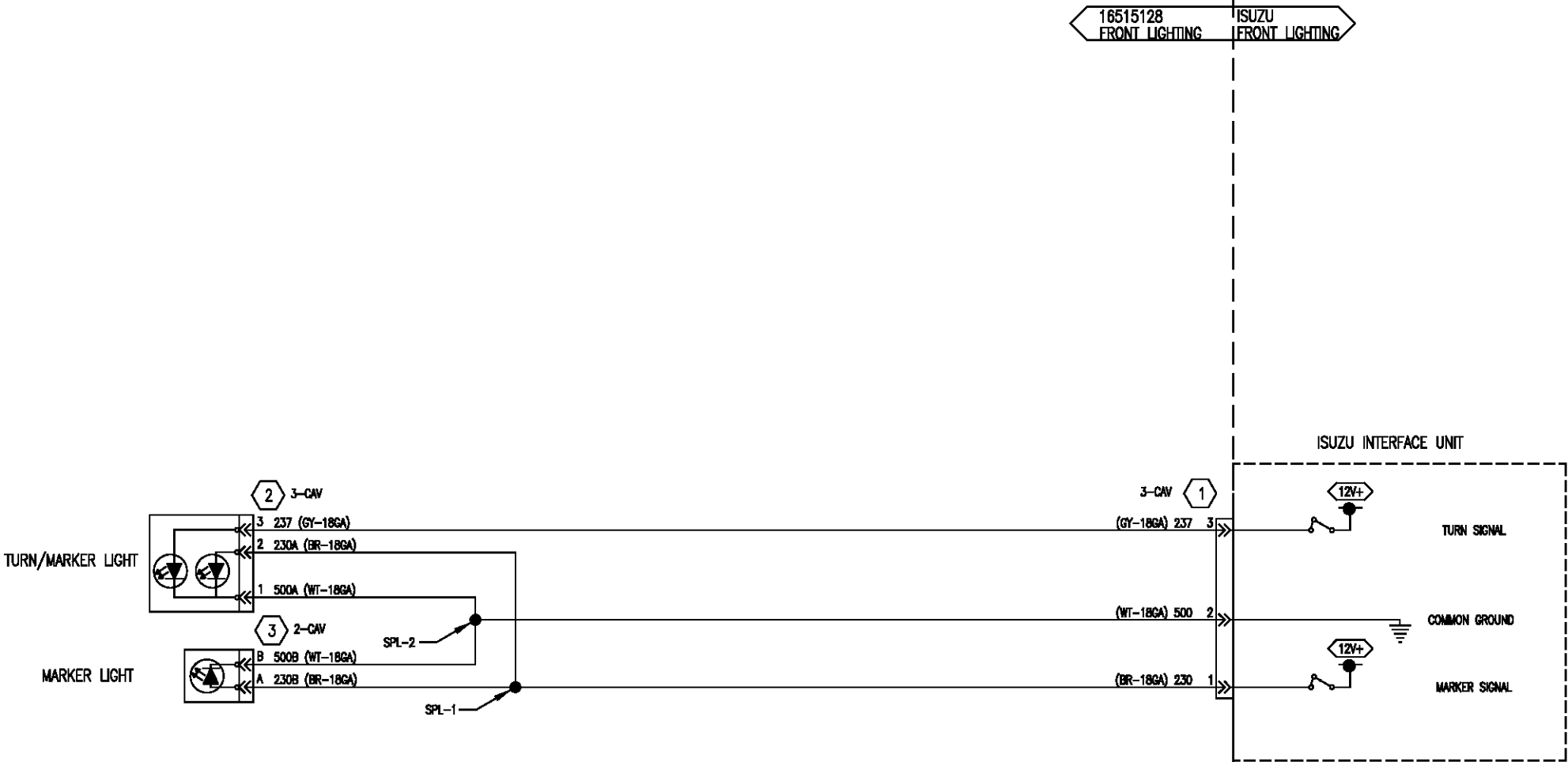
SCHEMATICS

LIGHTING

PAGE 1 OF 8										ENGINEER	DRAWN BY	 UTILIMASTER CORP. WAKARUSA, INDIANA	TITLE SCHEMATIC 25 - LIGHTING	
									D. MURPHY	UTILIMASTER				
	INITIAL RELEASE 50165									CHECKED BY	DATE	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UTILIMASTER CORP. A REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UTILIMASTER CORP. IS PROHIBITED.	GAGE CODE 36MVQ	
									J. SHIVELEY	06/22/2012				
	REV	REVISIONS							AUTH	DATE	BY	CHECKED BY	APPROVED BY	DOCUMENT IS ELECTRONICALLY CONTROLLED. VERIFY REV PRIOR TO USE.
														58431029-A2

ELECTRICAL SCHEMATIC 25-2
CARGO LIGHT

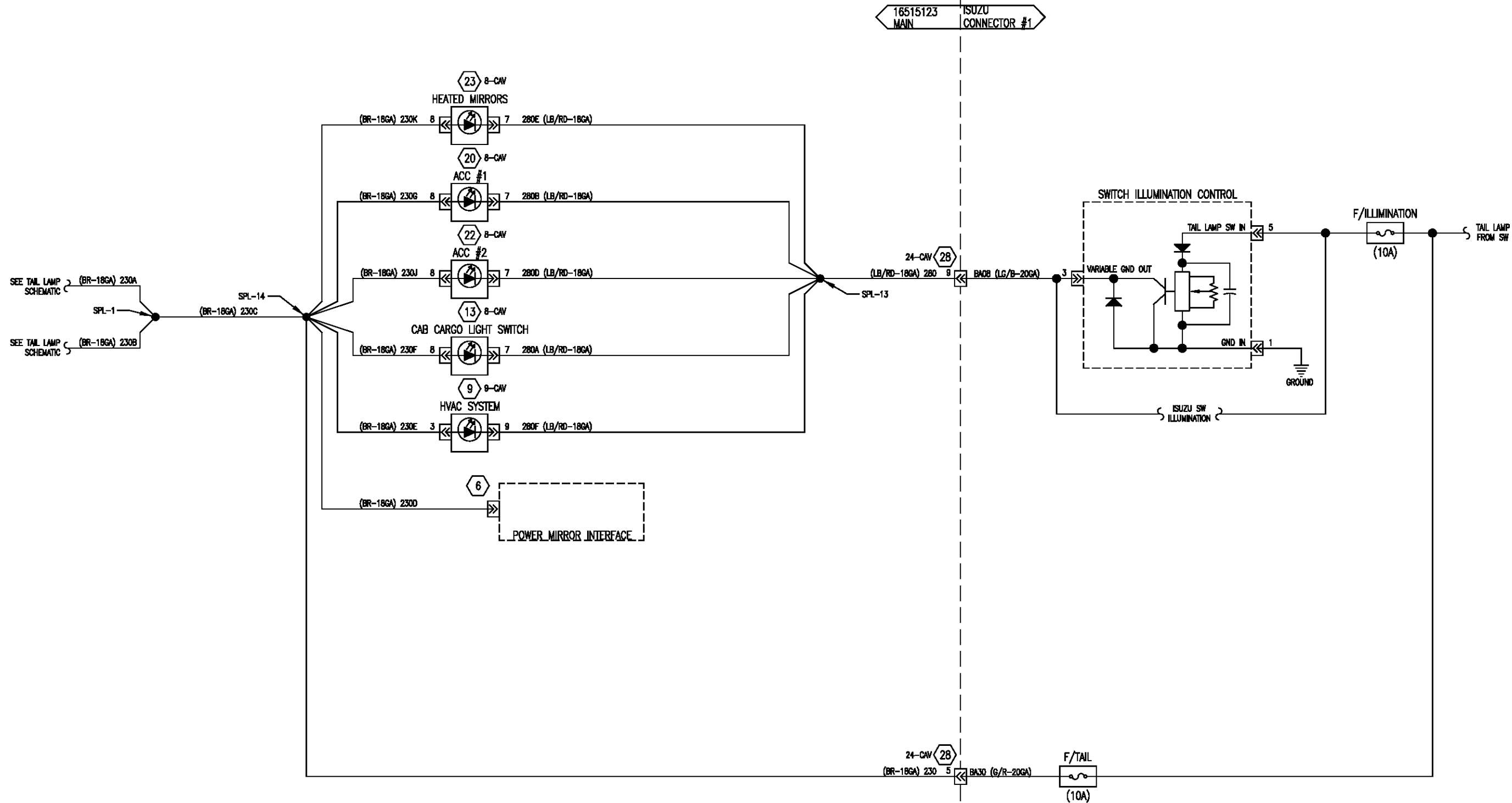




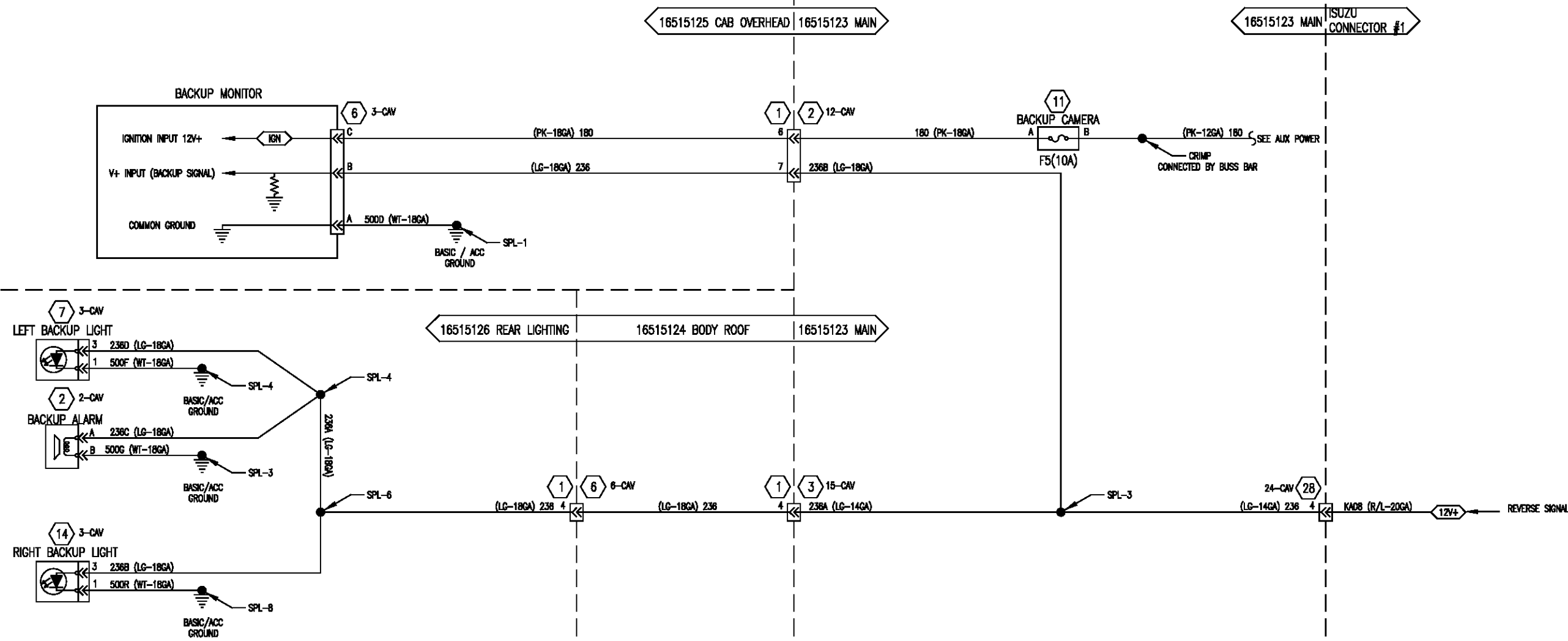
LEGEND	
BATT	HOT AT ALL TIMES
IGN	HOT IN RUN OR START
ACC	HOT IN ACC OR RUN

INITIAL RELEASE 50165										ENGINEER D. MURPHY		DRAWN BY UTILIMASTER		UTILIMASTER CORP. WAKARUSA, INDIANA 48573		TITLE SCHEMATIC 25 - LIGHTING			
A										CHECKED BY J. SHIVELEY		DATE 06/22/82		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UTILIMASTER CORP. IT IS TO BE USED FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. IT IS NOT TO BE REPRODUCED IN ANY MANNER OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF UTILIMASTER CORP.		CAGE CODE 36MVC		DWG. NUMBER 58431029-A	
REVISIONS										AUTH		DATE		BY		CHECKED BY		APPROVED BY	
REV.																			

UTILIMASTER CORP.		WAKARUSA, INDIANA		48573		SCHEMATIC		25 - LIGHTING		58431029-A	
THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE SOLE PROPERTY OF UTILIMASTER CORP. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.		DOCUMENT IS ELECTRONICALLY CONTROLLED. VERIFY REV PRIOR TO USE.		CAGE CODE		DWG. NUMBER		36MVC			

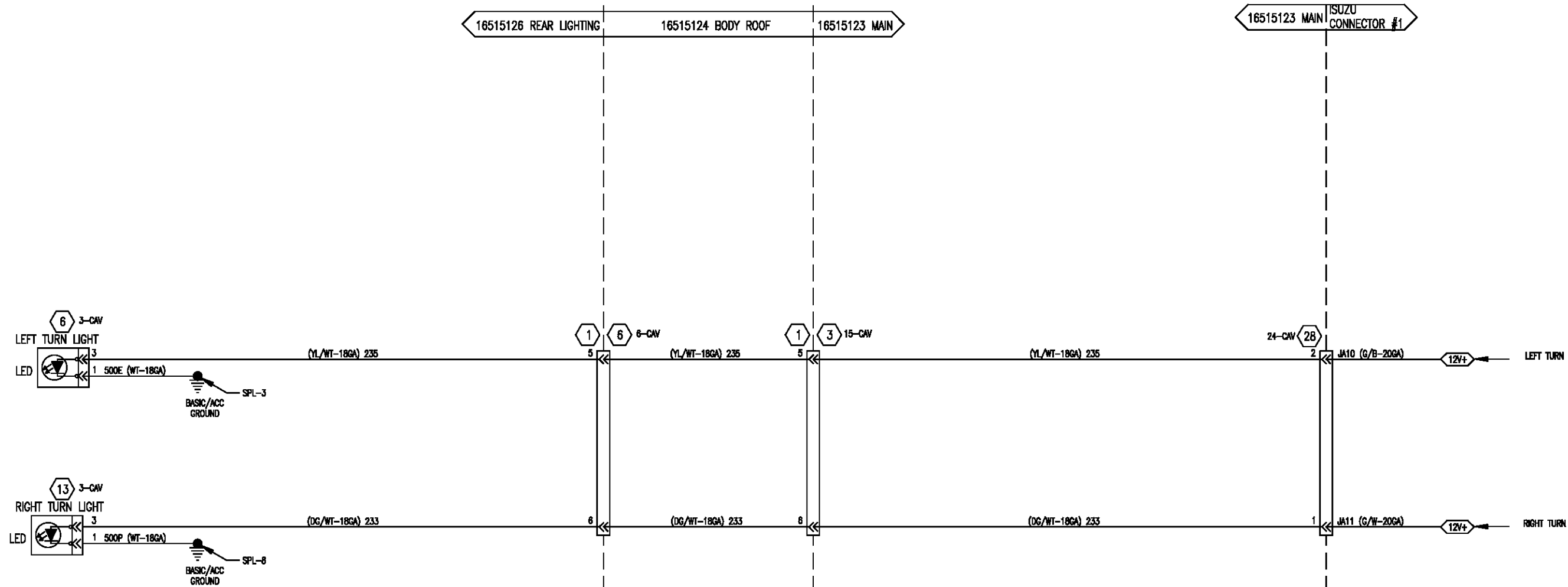


LEGEND
<BATT> HOT AT ALL TIMES
<IGN> HOT IN RUN OR START
<ACC> HOT IN ACC OR RUN



LEGEND
BATT HOT AT ALL TIMES
IGN HOT IN RUN OR START
ACC HOT IN ACC OR RUN

ELECTRICAL SCHEMATIC 25-6
TURN LIGHT

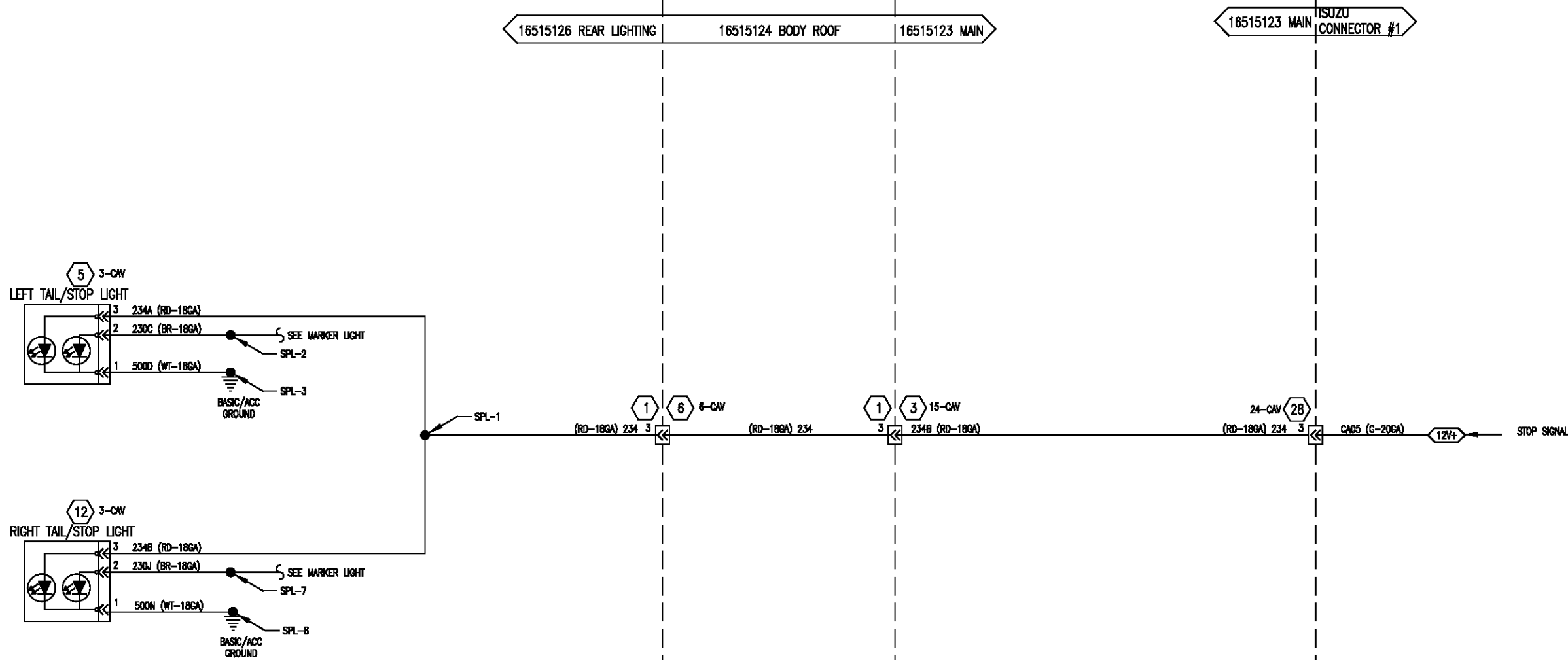


REV.	REVISIONS	AUTH	DATE	BY	CHANGED BY	APPROVED BY
A	INITIAL RELEASE	50165			JWS	

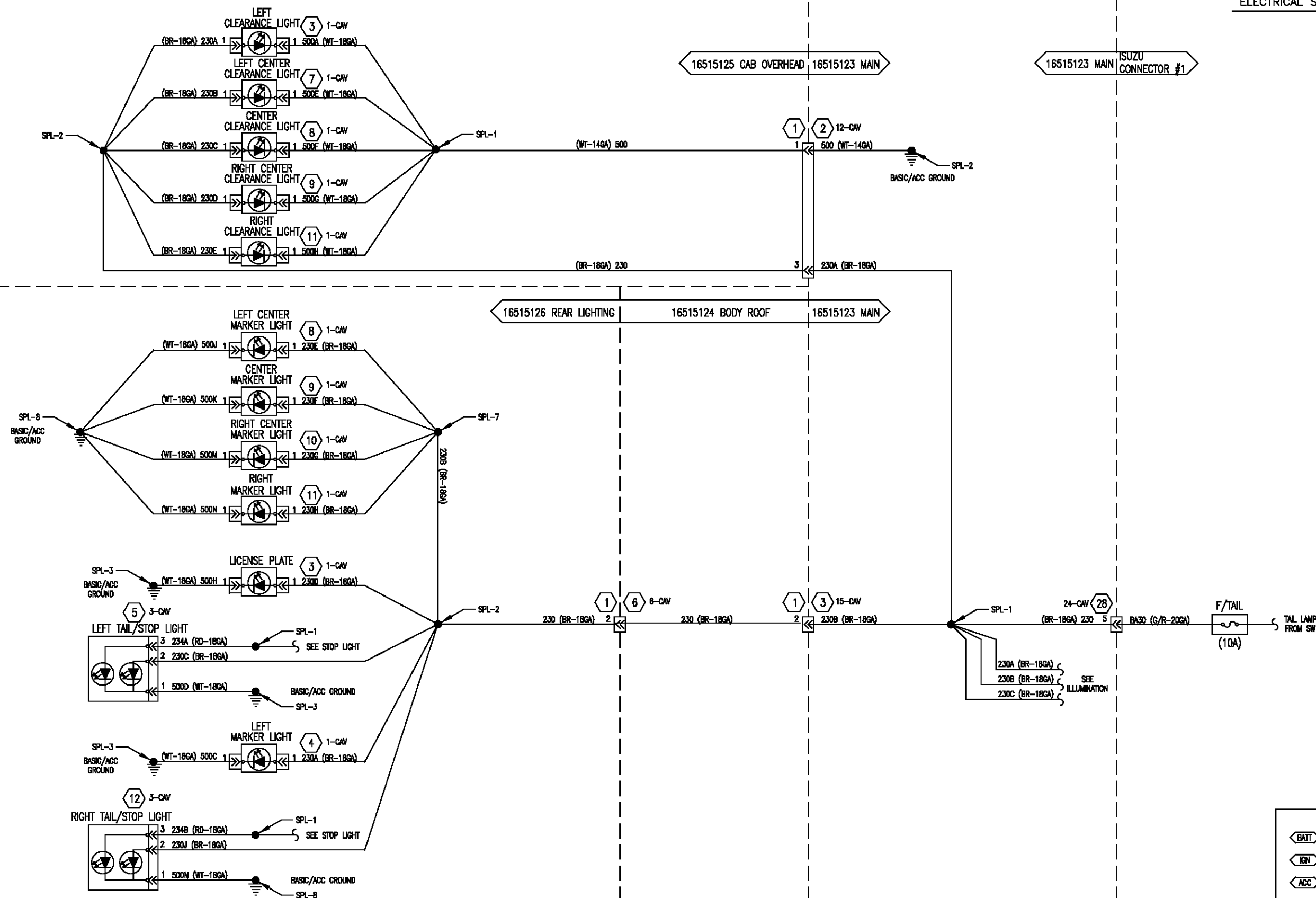
DESIGNED BY	D. MURPHY
CHECKED BY	J. SHIVELEY
DATE	06/22/06

UTILIMASTER CORP.
WAKARUSA, INDIANA 46573
THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE SOLE PROPERTY OF UTILIMASTER CORP. IT IS TO BE USED IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UTILIMASTER CORP.
DOCUMENT IS ELECTRONICALLY CONTROLLED. VERIFY REV PRIOR TO USE.

SCHEMATIC 25 - LIGHTING
58431029-A



LEGEND
BATT HOT AT ALL TIMES
IGN HOT IN RUN OR START
ACC HOT IN ACC OR RUN



PAGE 8 OF 8

A
REV.

INITIAL

REVISIONS

50165
AUTH

DATA

BY

CHECK BY

AP

WS
PROVED
BY

ENGINEER	D. M.
CHECKED BY	J. SH

DRAWN BY	YUTLIN
DATE	06

MASTER
/22.

UTILIMASTER CORP.
WAKARUSA, INDIANA 46573

THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE SOLE PROPERTY OF UTILIMASTER CORPORATION. IT IS LOANED TO YOU IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UTILIMASTER CORPORATION.

THIS DOCUMENT IS ELECTRONICALLY CONTROLLED. VERIFY REPRODUCTION.

EV PRIOR TO 36MV

TITLE	SCHEMATIC 25 - LIGHTING
DWG. NUMBER	58431029-A

LEGEND

BATT HOT AT ALL TIMES

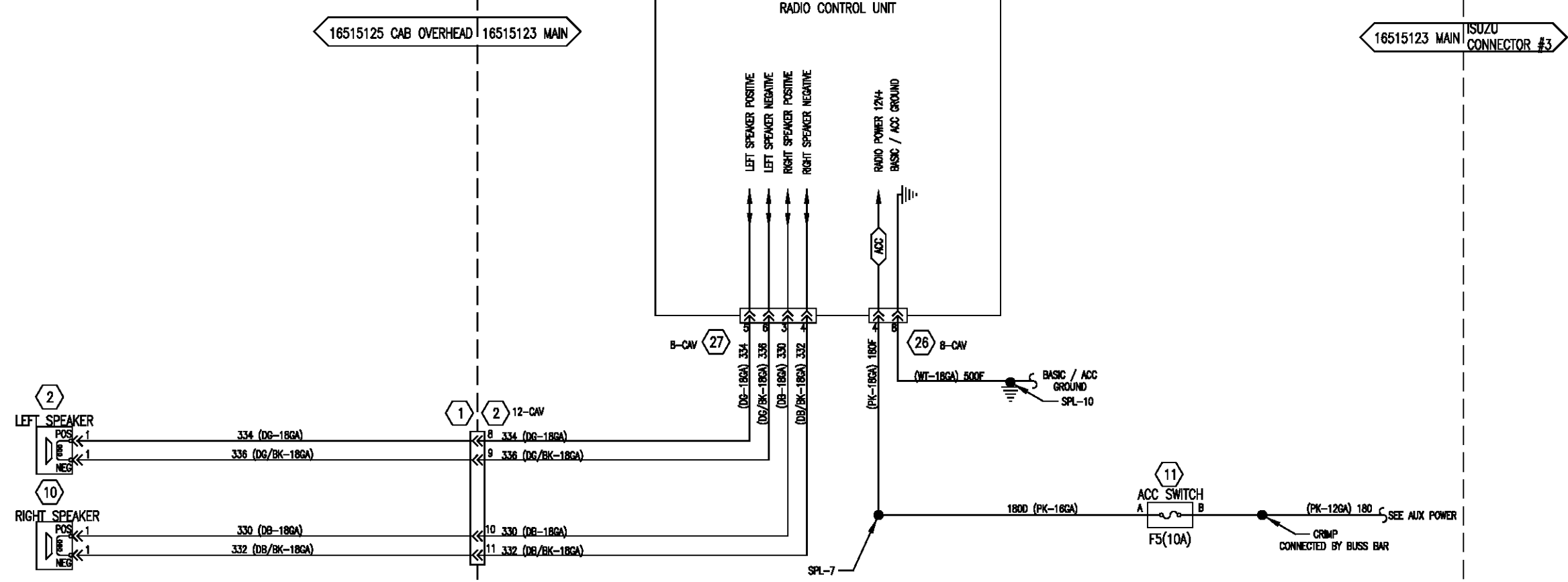
IGN HOT IN RUN OR START

ACC HOT IN ACC OR RUN

SCHEMATICS

RADIO

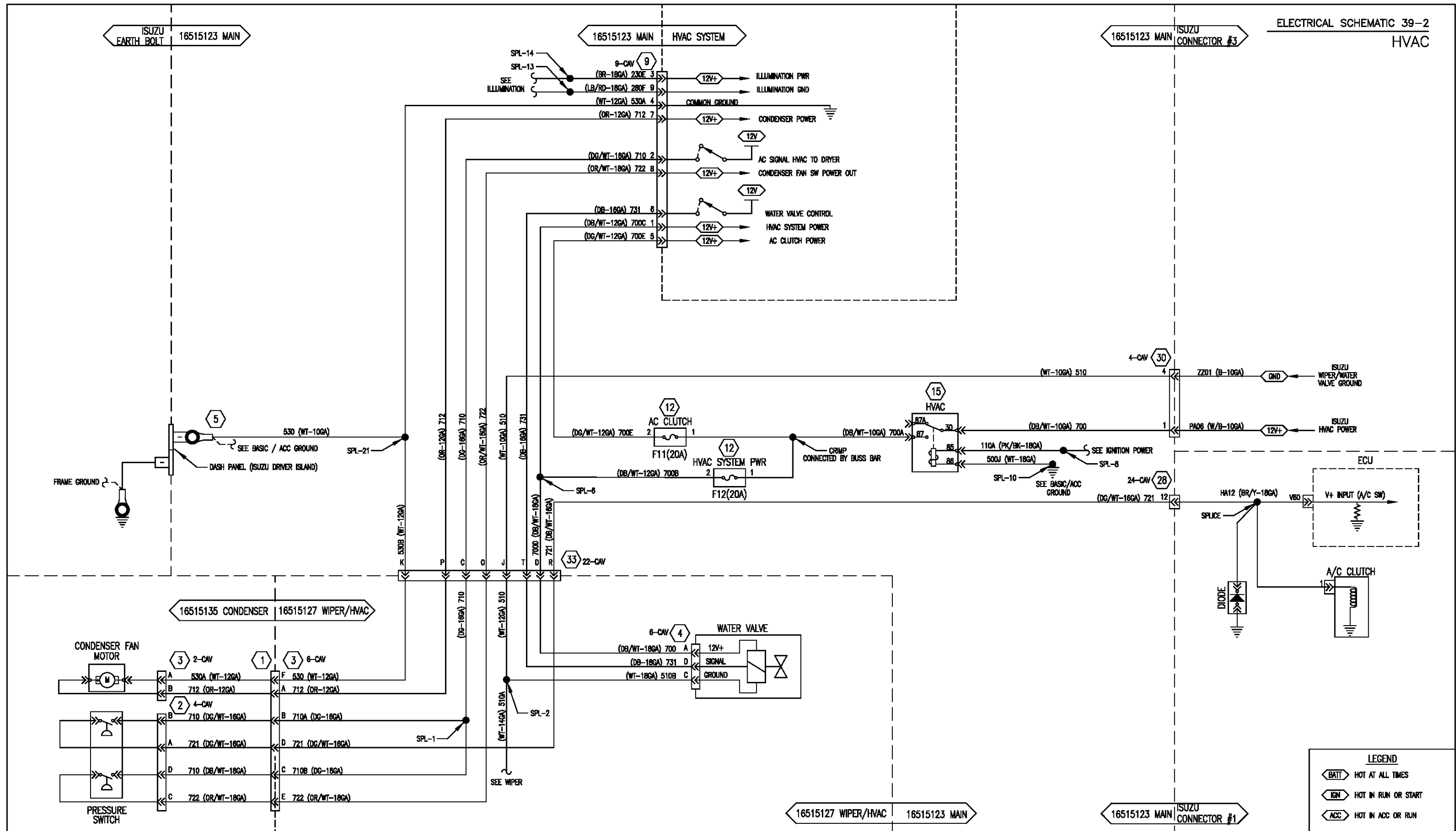
PAGE 1 OF 2										ENGINEER	DRAWN BY	 UTILIMASTER CORP. WAKARUSA, INDIANA	FILE # SCHEMATIC 38 - RAD	
									D. MURPHY	UTILIMASTER				
	INITIAL RELEASE 50165									CHECKED BY	DATE	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UTILIMASTER CORP. A REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UTILIMASTER CORP. THIS DOCUMENT IS ELECTRONICALLY CONTROLLED. VERIFY REV PRIOR TO USE.	GAGE CODE 36MVQ	DRAW NUMBER 58431029-A
REV									J. SHIVELEY	06/22/				
SHEET FORMAT PER A DWG 02/02/2012														



SCHEMATICS

HVAC

[illegible]

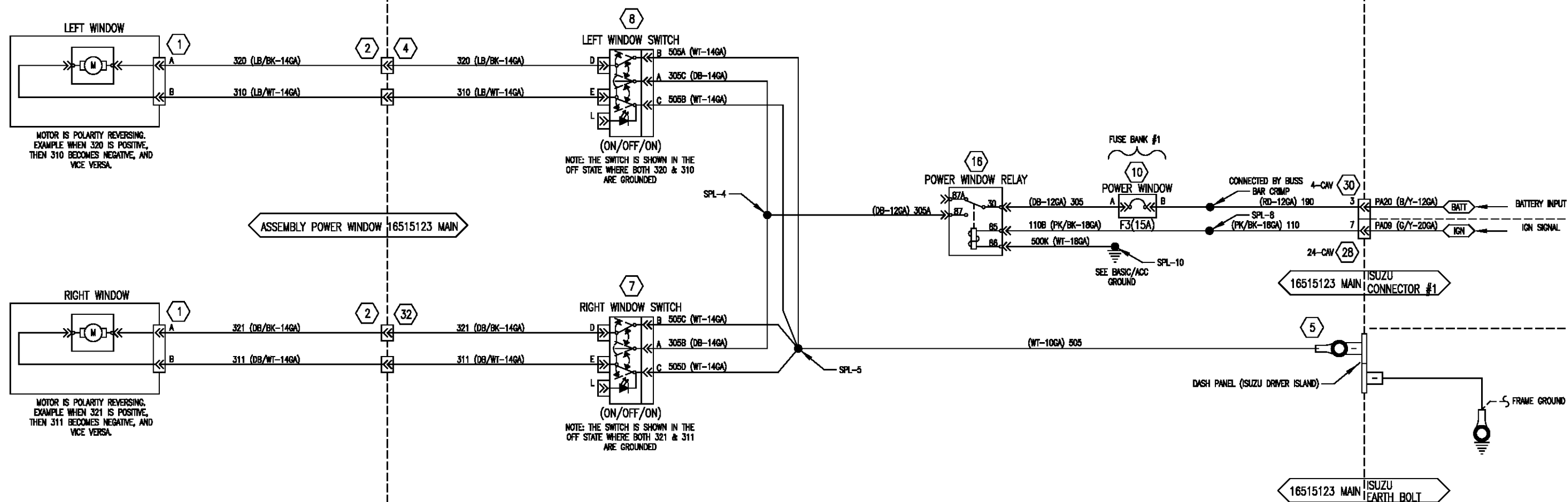


SCHEMATICS

POWER WINDOW

PAGE 1 OF 2						DESIGNED BY D. MURPHY	DRAWN BY UTILIMASTER	UTILIMASTER CORP. WAKARUSA, INDIANA 47880		TITLE SCHEMATIC 44 - POWER WINDC
	INITIAL RELEASE 50165					CHECKED BY J. SHIVELEY	DATE 06/22/2012			
REV.	REVISIONS					AUTH	DATE	BY	CHECKED BY	APPROVED BY
SHEET FORMAT PER A DATE: 02/02/2012										

ELECTRICAL SCHEMATIC 44-2
POWER WINDOW

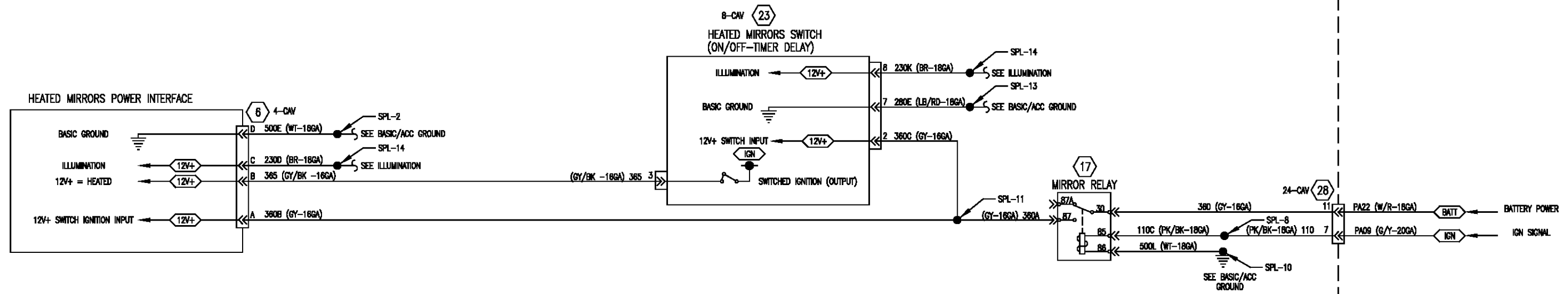


LEGEND

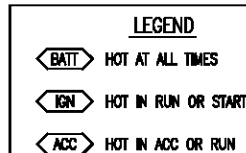
	HOT AT ALL TIMES
	HOT IN RUN OR START
	HOT IN ACC OR RUN

ELECTRICAL SCHEMATIC 46-2
HEATED MIRRORS

16515123 MAIN ISUZU
CONNECTOR #1



LEGEND
BATT HOT AT ALL TIMES
IGN HOT IN RUN OR START
ACC HOT IN ACC OR RUN

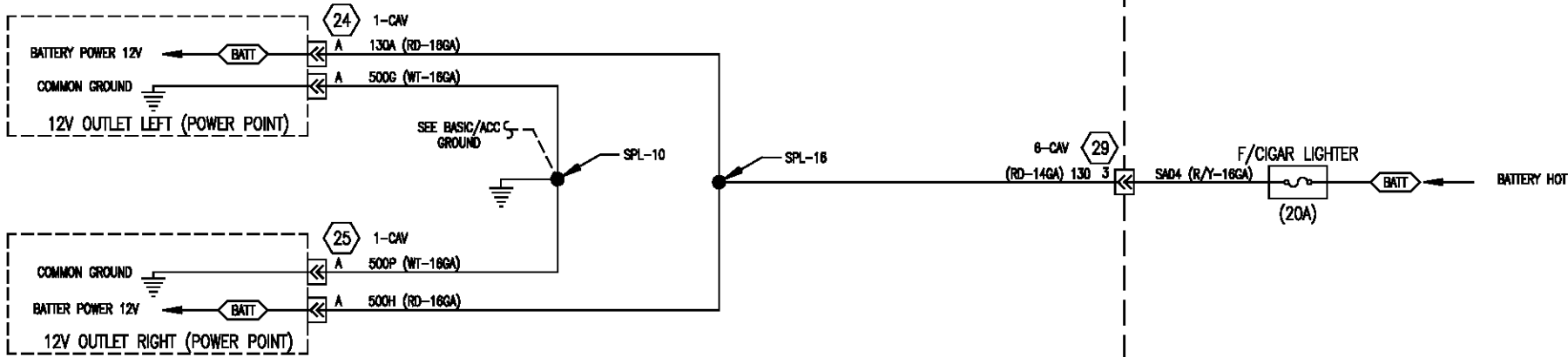


SCHEMATICS

POWER POINTS

PAGE 1 OF 2										ENGINEER	DRAWN BY	 UTILIMASTER CORP. WAKARUSA, INDIANA	TITLE SCHEMATIC 62 - POWER POINT
									D. MURPHY	UTILIMASTER			
	INITIAL RELEASE 50165									CHECKED BY	DATE	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UTILIMASTER CORP. A REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UTILIMASTER CORP. 36MVQ	DRAWING NUMBER 58431029-1A
REV										J. SHIVELEY	06/26/2012		
SHEET FORMAT PER A DATE: 02/02/2012 REVISIONS AUTH DATE BY CHECKED BY APPROVED BY													

16515123 MAIN ISUZU
CONNECTOR #2



LEGEND
BATT HOT AT ALL TIMES
IGN HOT IN RUN OR START
ACC HOT IN ACC OR RUN

REV.	REVISIONS	AUTH	DATE	BY	CHKD	APP'D
A	INITIAL RELEASE	50165				JWS

DESIGNED BY
D. MURPHY
UTILIMASTER
CHECKED BY
J. SHIVELEY
DATE
06/26/00

UTILIMASTER CORP.
WAKARUSA, INDIANA 46573
THIS INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF UTILIMASTER CORP. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. DOCUMENT IS ELECTRONICALLY CONTROLLED. VERIFY REV PRIOR TO USE.

SCHEMATIC
62 - POWER POINT
58431029-A6
36MVC