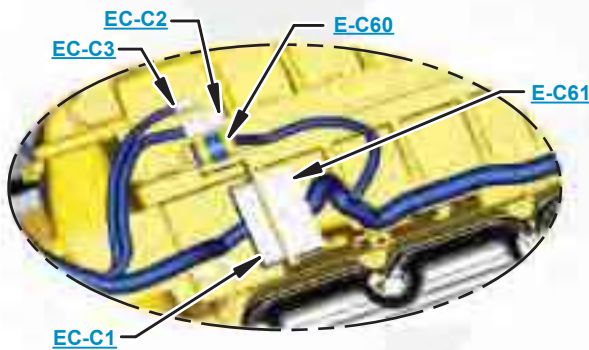


***This document is best viewed at a screen resolution of 1024 X 768.***

To set your screen resolution do the following:  
**RIGHT CLICK** on the **DESKTOP**.  
Select **PROPERTIES**.  
**CLICK** the **SETTINGS TAB**.  
**MOVE THE SLIDER** under **SCREEN RESOLUTION** until it shows **1024 X 768**.  
**CLICK OK** to apply the resolution.

The Bookmarks panel will allow you to quickly navigate to points of interest.



Click on any text that is BLUE and underlined. These are hyperlinks that can be used to navigate the schematic and machine views.

**VIEW ALL CALLOUTS**

When only one callout is showing on a machine view this button will make all of the callouts visible. This button is located in the top right corner of every machine view page.

HOTKEYS (Keyboard Shortcuts)		
	FUNCTION	KEYS
+	Zoom In	“CTRL” / “+”
-	Zoom Out	“CTRL” / “-”
□	Fit to Page	“CTRL” / “0” (zero)
☞	Hand Tool	“SPACEBAR” (hold down)
	Find	“CTRL” / “F”



# Schematic

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## **725, 730, & 730E Articulated Truck Electrical System**

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**725:  
B1L1-504**

**730:  
B1M1-410**

**730 Ejector:  
B1W1-184**

# COMPONENT LOCATION

## Page 1 of 2



Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
Actuator - Water Valve	<a href="#">B-7</a>	<a href="#">E</a>	Sensor - T/C Temp	<a href="#">C-3</a>	<a href="#">32</a>
Alarm - Action	<a href="#">H-14</a>	<a href="#">C</a>	Sensor - Throttle	<a href="#">C-8</a>	<a href="#">B</a>
Alarm - Backup	<a href="#">H-16</a>	<a href="#">53</a>	Sensor - Turbo Inlet Pressure	<a href="#">G-4</a>	<a href="#">12</a>
Alternator	<a href="#">G-4</a>	<a href="#">27</a>	Sensor - Xmsn Out Speed A	<a href="#">A-14</a>	<a href="#">22</a>
Arc Suppressor - A/C	<a href="#">G-4</a>	<a href="#">6</a>	Sensor - Xmsn Out Speed B	<a href="#">A-14</a>	<a href="#">22</a>
Arc Suppressor - Secondary Steering	<a href="#">F-2</a>	<a href="#">9</a>	Sensor - Xmsn T/C Output Speed	<a href="#">B-14</a>	<a href="#">12</a>
Battery - A	<a href="#">E-2</a>	<a href="#">3</a>	Socket - 12V Power	<a href="#">F-11</a>	<a href="#">C</a>
Battery - B	<a href="#">A-3</a>	<a href="#">3</a>	Socket - EEC Worklamp	<a href="#">F-11</a>	<a href="#">C</a>
Breaker - A/C	<a href="#">I-12</a>	<a href="#">C</a>	Solenoid - #1 Xmsn Clutch	<a href="#">B-14</a>	<a href="#">45</a>
Breaker - Alternator	<a href="#">E-4</a>	<a href="#">9</a>	Solenoid - #2 Xmsn Clutch	<a href="#">B-14</a>	<a href="#">45</a>
Breaker - Engine	<a href="#">H-12</a>	<a href="#">C</a>	Solenoid - #3 Xmsn Clutch	<a href="#">B-14</a>	<a href="#">45</a>
Breaker - Headlamp	<a href="#">I-12</a>	<a href="#">C</a>	Solenoid - #4 Xmsn Clutch	<a href="#">A-14</a>	<a href="#">45</a>
Breaker - Hood	<a href="#">F-4</a>	<a href="#">9</a>	Solenoid - #5 Xmsn Clutch	<a href="#">B-14</a>	<a href="#">45</a>
Breaker - Key	<a href="#">H-12</a>	<a href="#">C</a>	Solenoid - #1 Fuel Injector	<a href="#">H-3</a>	<a href="#">21</a>
Breaker - Main	<a href="#">E-4</a>	<a href="#">9</a>	Solenoid - #2 Fuel Injector	<a href="#">H-3</a>	<a href="#">21</a>
Coil - A/C Clutch	<a href="#">G-4</a>	<a href="#">6</a>	Solenoid - #3 Fuel Injector	<a href="#">H-3</a>	<a href="#">21</a>
Control - Powertrain	<a href="#">G-15</a>	<a href="#">E</a>	Solenoid - #4 Fuel Injector	<a href="#">G-3</a>	<a href="#">21</a>
Control - Engine	<a href="#">I-4</a>	<a href="#">4</a>	Solenoid - #5 Fuel Injector	<a href="#">G-3</a>	<a href="#">21</a>
Control - Hood Relay	<a href="#">B-2</a>	<a href="#">8</a>	Solenoid - #6 Fuel Injector	<a href="#">G-3</a>	<a href="#">21</a>
Control - Int Wiper Delay Mod	<a href="#">E-6</a>	<a href="#">B</a>	Solenoid - Crossaxle Diff Lock	<a href="#">F-16</a>	<a href="#">42</a>
Converter - 24V to 12V	<a href="#">A-9</a>	<a href="#">55</a>	Solenoid - Demand Fan	<a href="#">E-4</a>	<a href="#">42</a>
Display Cluster	<a href="#">C-7</a>	<a href="#">A</a>	Solenoid - Interaxle Diff Lock	<a href="#">F-16</a>	<a href="#">42</a>
Flasher	<a href="#">F-6</a>	<a href="#">B</a>	Solenoid - Lock Up Clutch	<a href="#">B-14</a>	<a href="#">1</a>
Fuse Block 1	<a href="#">G-13</a>	<a href="#">C</a>	Solenoid - Lower Valve	<a href="#">F-16</a>	<a href="#">45</a>
Fuse Blocks 2-4	<a href="#">F-13</a>	<a href="#">C</a>	Solenoid - Park Brake	<a href="#">D-4</a>	<a href="#">24</a>
Horn - High Tone	<a href="#">D-1</a>	<a href="#">17</a>	Solenoid - Raise Valve	<a href="#">F-16</a>	<a href="#">44</a>
Horn - Low Tone	<a href="#">D-1</a>	<a href="#">18</a>	Solenoid - Retarder	<a href="#">B-14</a>	<a href="#">21</a>
Lever - Shift/Hoist	<a href="#">D-8</a>	<a href="#">D</a>	Solenoid - Start Aid	<a href="#">F-4</a>	<a href="#">8</a>
Messenger	<a href="#">B-7</a>	<a href="#">A</a>	Switch - A/C Select	<a href="#">C-6</a>	<a href="#">A</a>
Motor - Blower	<a href="#">A-7</a>	<a href="#">28</a>	Switch - AC Pressure	<a href="#">F-4</a>	<a href="#">27</a>
Motor - Front Washer	<a href="#">C-5</a>	<a href="#">30</a>	Switch - Auto Lube Pressure	<a href="#">C-16</a>	<a href="#">57</a>
Motor - Front Wiper	<a href="#">C-5</a>	<a href="#">29</a>	Switch - Crossaxle Lock	<a href="#">D-6</a>	<a href="#">A</a>
Motor - Hood Actuator	<a href="#">B-2</a>	<a href="#">16</a>	Switch - Diff Lock	<a href="#">F-6</a>	<a href="#">A</a>
Motor - Rear Washer	<a href="#">C-5</a>	<a href="#">30</a>	Switch - Disconnect	<a href="#">A-3</a>	<a href="#">9</a>
Motor - Rear Wiper	<a href="#">H-15</a>	<a href="#">45</a>	Switch - Dome Lamp	<a href="#">F-6</a>	<a href="#">52</a>
Motor - Secondary Steer	<a href="#">F-3</a>	<a href="#">26</a>	Switch - Engine Shutdown	<a href="#">F-5</a>	<a href="#">9</a>
Motor - Starter	<a href="#">G-3</a>	<a href="#">10</a>	Switch - Fan Speed	<a href="#">D-6</a>	<a href="#">A</a>
Relay - Backup Alarm	<a href="#">C-10</a>	<a href="#">E</a>	Switch - Filter Bypass	<a href="#">B-14</a>	<a href="#">60</a>
Relay - Headlamp	<a href="#">F-7</a>	<a href="#">E</a>	Switch - Fuel Differential Pressure	<a href="#">F-2</a>	<a href="#">62</a>
Relay - Horn	<a href="#">C-9</a>	<a href="#">E</a>	Switch - Hazard Flasher	<a href="#">I-7</a>	<a href="#">A</a>
Relay - INT Wiper	<a href="#">C-10</a>	<a href="#">E</a>	Switch - Headlamp Tail	<a href="#">I-6</a>	<a href="#">A</a>
Relay - Main	<a href="#">I-12</a>	<a href="#">C</a>	Switch - Heated Mirror	<a href="#">C-7</a>	<a href="#">A</a>
Relay - Secondary Steer	<a href="#">C-10</a>	<a href="#">E</a>	Switch - Hood Locking	<a href="#">B-2</a>	<a href="#">9</a>
Relay - Secondary Steer	<a href="#">F-2</a>	<a href="#">26</a>	Switch - Horn	<a href="#">F-6</a>	<a href="#">F</a>
Relay - Start	<a href="#">F-4</a>	<a href="#">8</a>	Switch - Hydraulic Oil Tank Filter Bypass	<a href="#">E-3</a>	<a href="#">58</a>
Resistor - Blower Motor	<a href="#">B-8</a>	<a href="#">28</a>	Switch - Key Start	<a href="#">G-6</a>	<a href="#">A</a>
Resistor (2)	<a href="#">B-7</a>	<a href="#">51</a>	Switch - Low Brake Oil Pressure	<a href="#">D-4</a>	<a href="#">39</a>
Resistor - CAN	<a href="#">C-7</a>	<a href="#">A</a>	Switch - OTG Filter Bypass	<a href="#">B-16</a>	<a href="#">5</a>
Resistor - CAN	<a href="#">H-6</a>	<a href="#">56</a>	Switch - OTG Low Oil Pressure	<a href="#">B-16</a>	<a href="#">5</a>

# COMPONENT LOCATION

## Page 2 of 2



Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
Sender - Fuel Level	<a href="#">B-2</a>	<a href="#">23</a>	Switch - OTG Temp	<a href="#">B-16</a>	<a href="#">5</a>
Sensor - Atmospheric Pressure	<a href="#">H-1</a>	<a href="#">19</a>	Switch - Park Brake	<a href="#">D-8</a>	<a href="#">D</a>
Sensor - Cam Speed/Timing	<a href="#">G-3</a>	<a href="#">6</a>	Switch - Park Brake Pressure	<a href="#">D-4</a>	<a href="#">24</a>
Sensor - Coolant Temp	<a href="#">F-1</a>	<a href="#">14</a>	Switch - Rear Flood	<a href="#">H-6</a>	<a href="#">A</a>
Sensor - Crank Speed/Timing	<a href="#">G-3</a>	<a href="#">54</a>	Switch - Rear Wiper	<a href="#">I-7</a>	<a href="#">A</a>
Sensor - Ejector Blade Retract	<a href="#">B-16</a>	<a href="#">61</a>	Switch - Retarder	<a href="#">F-6</a>	<a href="#">F</a>
Sensor - Engine Speed	<a href="#">A-14</a>	<a href="#">11</a>	Switch - Secondary Steer	<a href="#">C-7</a>	<a href="#">A</a>
Sensor - Fuel Pressure	<a href="#">F-2</a>	<a href="#">7</a>	Switch - Service Brake Pressure	<a href="#">C-5</a>	<a href="#">33</a>
Sensor - Fuel Temp	<a href="#">F-2</a>	<a href="#">7</a>	Switch - Steer Pressure	<a href="#">E-4</a>	<a href="#">15</a>
Sensor - Hoist Position	<a href="#">C-8</a>	<a href="#">D</a>	Switch - Stop Lamp Pressure	<a href="#">C-5</a>	<a href="#">33</a>
Sensor - Inlet Manifold Air Temp	<a href="#">F-2</a>	<a href="#">9</a>	Switch - Temp Selector	<a href="#">H-6</a>	<a href="#">A</a>
Sensor - Intake Air Pressure	<a href="#">H-1</a>	<a href="#">7</a>	Switch - Temperature	<a href="#">A-8</a>	<a href="#">A</a>
Sensor - Oil Pressure	<a href="#">H-1</a>	<a href="#">6</a>	Switch - Top Gear	<a href="#">D-8</a>	<a href="#">D</a>
Sensor - Oil Temp	<a href="#">A-14</a>	<a href="#">59</a>	Switch - Transmission Hold	<a href="#">D-8</a>	<a href="#">D</a>
Sensor - Shift Lever	<a href="#">D-8</a>	<a href="#">D</a>	Switch - Wiper/Washer Turn	<a href="#">F-6</a>	<a href="#">F</a>

Machine locations are repeated for components located close together.

A = Components located on dash of cab.

B = Components located behind dash of cab.

C = Components located on cab relay panel.

D = Components located on right side of cab.

E = Components located behind service panels on right side of cab.

F = Components located on the steering column

# CONNECTOR LOCATION



Connector Number	Schematic Location	Machine Location
CONN 1	<a href="#">C-15</a>	<a href="#">34</a>
CONN 2	<a href="#">C-15</a>	<a href="#">35</a>
CONN 3	<a href="#">C-15</a>	<a href="#">34</a>
CONN 4	<a href="#">C-15</a>	<a href="#">35</a>
CONN 5	<a href="#">C-14</a>	<a href="#">39</a>
CONN 6	<a href="#">C-14</a>	<a href="#">39</a>
CONN 7	<a href="#">H-14</a>	<a href="#">C</a>
CONN 8	<a href="#">I-14</a>	<a href="#">C</a>
CONN 9	<a href="#">I-13</a>	<a href="#">C</a>
CONN 10	<a href="#">H-13</a>	<a href="#">C</a>
CONN 11	<a href="#">A-13</a>	<a href="#">2</a>
CONN 12	<a href="#">A-12</a>	<a href="#">2</a>
CONN 13	<a href="#">I-11</a>	<a href="#">C</a>
CONN 14	<a href="#">H-11</a>	<a href="#">C</a>
CONN 15	<a href="#">H-11</a>	<a href="#">C</a>
CONN 16	<a href="#">G-11</a>	<a href="#">C</a>
CONN 17	<a href="#">A-11</a>	<a href="#">31</a>
CONN 18	<a href="#">F-10</a>	<a href="#">43</a>
CONN 19	<a href="#">A-9</a>	<a href="#">E</a>
CONN 20	<a href="#">B-8</a>	<a href="#">E</a>
CONN 21	<a href="#">D-8</a>	<a href="#">48</a>
CONN 22	<a href="#">E-8</a>	<a href="#">49</a>
CONN 23	<a href="#">E-8</a>	<a href="#">49</a>
CONN 24	<a href="#">E-8</a>	<a href="#">49</a>
CONN 25	<a href="#">I-8</a>	<a href="#">50</a>
CONN 26	<a href="#">A-6</a>	<a href="#">46</a>
CONN 27	<a href="#">B-6</a>	<a href="#">46</a>
CONN 28	<a href="#">H-5</a>	<a href="#">47</a>
CONN 29	<a href="#">G-5</a>	<a href="#">18</a>
CONN 30	<a href="#">A-5</a>	<a href="#">26</a>
CONN 31	<a href="#">C-4</a>	<a href="#">15</a>
CONN 32	<a href="#">E-4</a>	<a href="#">58</a>
CONN 33	<a href="#">E-4</a>	<a href="#">18</a>
CONN 34	<a href="#">G-3</a>	<a href="#">8</a>
CONN 35	<a href="#">D-2</a>	<a href="#">37</a>
CONN 36	<a href="#">F-2</a>	<a href="#">9</a>
CONN 37	<a href="#">G-1</a>	62

The connectors shown in this chart are for harness to harness connectors. Connectors that join a harness to a component are generally located at or near the component. See the Component Location Chart.

Component Identifiers (CID) <sup>1</sup>	
Module Identifier (MID <sup>2</sup> )	
Power Train ECM (MID No. 027)	
CID	Component
0041	Sensor Power Supply
0144	Backup Alarm Relay
0168	Electrical System Voltage
0177	Transmission Oil Temperature Sensor
0190	Engine Speed Sensor
0248	CAT Data Link
0420	Secondary Steering Relay
0444	Start Relay
0585	Xmsn Out Speed Sensor (A)
0590	Engine Control Module
0627	Parking Brake Pressure Switch
0672	Torque Converter Output Speed Sensor
0673	Xmsn Out Speed Sensor (B)
0681	Parking Brake Solenoid
0700	Transmission Gear Sensor
0702	Shift Lever Sensor
0704	Service Brake Pressure Switch
0707	Solenoid Valve (Up)
0708	Solenoid Valve (Down)
0709	Lockup Clutch Solenoid
0724	Body Raise Solenoid
0725	Body Lower Solenoid
0773	Hoist Position Sensor
0826	T/C Temperature Sensor
0971	Interaxle Diff Lock Solenoid
1100	Crossaxle Diff Lock Solenoid
1227	Retarder Lever Switch
1248	Retarder Solenoid
1326	ECM Location Code
1401	Transmission Clutch Modulating Valve No. 1
1402	Transmission Clutch Modulating Valve No. 2
1403	Transmission Clutch Modulating Valve No. 3
1404	Transmission Clutch Modulating Valve No. 4
1405	Transmission Clutch Modulating Valve No. 5
1406	Transmission Clutch Modulating Valve No. 6
1674	Solenoid Return No. 1
1675	Solenoid Return No. 2
Engine Control ECM (MID No. 036)	
CID	Component
0001	Fuel Injector Solenoid #1
0002	Fuel Injector Solenoid #2
0003	Fuel Injector Solenoid #3
0004	Fuel Injector Solenoid #4
0005	Fuel Injector Solenoid #5
0006	Fuel Injector Solenoid #6
0041	ECM 8V DC Supply
0091	Throttle Sensor
0094	Fuel Pressure Sensor
0100	Oil Pressure Sensor

0110	Engine Coolant Temperature Sensor
0168	Electrical Power Supply
0172	Inlet Air Temperature Sensor
0174	Fuel Temperature Sensor
0190	Engine Speed Sensor
0248	CAT Data Link Communications
0261	Engine Timing Calibration
0262	5 Volt Sensor Supply
0264	Decel Throttle Position Signal
0266	Incorrect Crank-without-inject inputs
0268	Check Programmable Parameters
0274	Atmospheric Pressure Sensor
0290	Engine Fan Pump Pressure
0291	Engine Cooling Fan Solenoid
0296	Unable to communicate with Transmission ECM
0338	Pre-Lube Relay
0342	Camshaft Position Sensor
0485	Engine Fan Rev Solenoid
1589	Turbo Inlet Air Pressure Sensor
1639	Machine Security System
2417	Start Aid Solenoid

<sup>1</sup> The CID is a diagnostic code that indicates which component is faulty.

<sup>2</sup> The MID is a diagnostic code that indicates which electronic control module diagnosed the fault.

Failure Mode Identifiers (FMI) <sup>1</sup>	
FMI No.	Failure Description
0	Data valid but above normal operational range.
1	Data valid but below normal operational range.
2	Data erratic, intermittent, or incorrect.
3	Voltage above normal or shorted high.
4	Voltage below normal or shorted low.
5	Current below normal or open circuit.
6	Current above normal or grounded circuit.
7	Mechanical system not responding properly.
8	Abnormal frequency, pulse width, or period.
9	Abnormal update.
10	Abnormal rate of change.
11	Failure mode not identifiable.
12	Bad device or component.
13	Out of calibration.
14	Parameter failures.
15	Parameter failures.
16	Parameter not available.
17	Module not responding.
18	Sensor supply fault.
19	Condition not met.
20	Parameter failures.

<sup>1</sup>The FMI is a diagnostic code that indicates what type of failure has occurred.

Event Codes Machine Control	
Event Code	Condition
E035	Loss of Coolant Flow Warning
E172	High Air Filter Restriction
E360	Low Engine Oil Pressure Warning
E361	High Engine Coolant Temperature
E362	Engine Overspeed
E390	Fuel Filter Restriction
E539	High Intake Manifold Air Temperature

# SPECIFICATIONS AND RELATED MANUALS



Off Machine Switch Specification				
Part No.	Function	Actuate	Deactuate	Contact Position
3E-5464	Temperature Switch	-1.1 ± 0.8°C (30 ± 1.4°F)	2.2 ± 0.8°C (36 ± 1.4°F)	Normally Closed
3E-6449	OTG Temperature Switch	38 ± 3°C (100.4 ± 5.4°F)	27 °C (80.6 °C)	Normally Closed
3E-6450	Steering Pressure Switch	1200 kPa (174.05 psi)	700 ± 100kPa (101.5 ± 14.5psi)	Normally Open A-B Normally Closed A-C
3E-7688	Low Brake Oil Pressure Sw.	13800 kPa MAX (2002 psi MAX)	10300 ± 689 kPa (1494 psi ± 100 psi)	Normally Open A-B Normally Closed A-C
3E-7692	OTG Low Oil Pressure Switch	113 kPa (16.4 psi)	70 ± 20kPa (10.2 ± 2.9psi)	Normally Open
114-5333	A/C Pressure Switch	275 to 1750 kPa <sup>1</sup> (39.9 to 253.8 psi)	-	Normally Open <sup>2</sup>
117-7773	Hyd. Tank Filter Bypass Switch	138 ± 28 kPa (20 ± 4 psi)	89 ± 28 kPa (13 ± 4 psi)	Normally Closed
172-7071	Stop Lamp Pressure Switch Service Brake Pressure Switch	200 ± 50 kPa (29 psi ± 7psi)	140 kPa (20.3 psi)	Normally Open
212-2769	Fuel Diff. Pressure Switch	110.3 ± 13.8 kPa (16 ± 2 psi)	87.2 kPa (12.6 psi)	Normally Closed
213-6947	Park Brake Pressure Switch	13800 kPa MAX (2002 psi MAX)	12300 ± 345 kPa (1784 psi ± 50 psi)	Normally Open A-B Normally Closed A-C
227-6744	OTG Filter Bypass Switch	276 ± 28kPa (40 ± 4.1psi)	179 kPa (26 psi)	Normally Closed

<sup>1</sup> With increasing pressure the closed condition can be maintained up to 2800 kpa (405 psi), with decreasing pressure the closed condition can be maintained down to 170 kpa (25psi).

<sup>2</sup> Contact position at the contacts of the harness connector.

Resistor, Sender and Solenoid Specifications		
Part No.	Component Description	Resistance (Ohms) <sup>1</sup>
3E-6332	Solenoid: Start Aid	6
9X-3506	Resistor: Can Data Link	120 ± 6.0
125-9740	Resistor: Blower Motor Speed	A-C 2 ± 5% B-C 1 ± 5% C-D .36 ± 5%
134-3998	Solenoid: A/C Clutch Coil	17.6 ± 0.6
152-8385	Solenoid: Interaxle Diff Lock Crossaxle Diff Lock	32.6 ± 1.6
173-2056	Solenoid: Retarder	2.2 ± 0.2
191-7785	Solenoid: Demand Fan	5.0 ± 0.3
192-4315	Sender: Fuel Level	Full 0-3.5 Empty 92-98
201-0950	Solenoid: Park Brake	41.9 ± 2.1
216-5338	Solenoid: Clutch Solenoids Lockup Clutch	8.7 ± 0.4
239-9368	Resistor: Water Valve Actuator	27K ± 270
249-0712	Solenoid: Fuel Injectors	1.06 ± 5%
257-0267	Solenoid: Raise Valve Lower Valve	5.0 ± 0.3

<sup>1</sup> At room temperature unless otherwise noted.

Related Electrical Service Manuals	
Title	Form Number
Alternator: 200-2232 (Delco 34 SI)	SENR7508
Electric Starting Motor: 207-1556	
Consist: 207-1557 (Delco 42MT)	SENR3581
Consist: 6V-5582 (Nippondenso F8.0)	SENR4975
Engine Control:	REN5097
Powertrain Control:	REN8035

# WIRE DESCRIPTION

## Page 1 of 2



Wire Number	Wire Color	Description	Wire Number	Wire Color	Description
<b>Power Circuits</b>			<b>Lighting Circuits (Continued)</b>		
101	RD	Bat (+)	610	OR	Head Lamp Basic
102	RD	Hd Lmp	611	PU	Head Lamp Hi
103	RD	Dash Lamps / Flasher	612	GY	Backup Lamp
105	RD	Key Sw	614	PU	Park / Tail / Dash Lamp
108	BU	Air Seat	619	GN	Head Lamp Lo
109	RD	Alt Output (+) Term.	624	YL	Flood Lamp Bowl
110	GN	Product Link / Rear Wiper	<b>Control Circuits</b>		
111	RD	Transmission Control / ET CONN / Display Cluster	703	BU	Xmsn Up Sol
112	PU	Main Power Rly Output	704	GY	Xmsn Down Sol
113	OR	Opr Mon Panel Vmis B+ Switched	705	PK	Xmsn Lockup Clutch Sol Basic
114	RD	Warning Horn (forward)	708	YL	Xmsn Hold Sw
115	RD	Dome Lamp / Converter	709	OR	Sensor Power Supply
116	BR	Beacon / Rear Flood	720	PU	Xmsn Brake Sw
118	GY	Front Wiper	721	BR	Xmsn Gear Code 1
121	RD	Back Alarm To Lamp	722	WH	Xmsn Gear Code 2
123	WH	Heated Seat	723	OR	Xmsn Gear Code 3
124	GN	A/C Breaker	724	YL	Xmsn Gear Code 4
129	RD	Cigar Lighter / EEC	725	GN	Xmsn Gear Code 5
136	GN	Suppl Ster	726	BU	Xmsn Gear Code 6
150	RD	Engine Breaker	727	GN	Suppl Ster Motor Relay
165	YL	Start Aid / Converter	728	BU	Suppl Ster Cont Sw
170	RD	Product Link	751	GN	Xmsn Shift Sol No. 1 Or 3
173	RD	Stop Lamps	752	YL	Xmsn Shift Sol No. 2
175	RD	Hood Breaker	754	BU	Xmsn Shift Sol No. 3 Or 1
177	RD	Main Brkr	755	OR	Xmsn Shift Sol No. 4 Or 5
<b>Ground Circuits</b>			A701	GY	Injector #1
200	BK	Main Chassis	A702	PU	Injector #2
201	BK	Operator Monitor Return	A703	BR	Injector #3
202	BK	Xmsn Ctrl	A704	GN	Injector #4
277	BK	Xmsn Ctrl Ident Code 1	A705	BU	Injector #5
278	BK	Xmsn Ctrl Ident Code 2	A706	GY	Injector #6
279	BK	Xmsn Ctrl Ident Code 3	A746	PK	Turbo Outlet Pressure
280	BK	Xmsn Ctrl Ident Code 4	A747	GY	Atmospheric Pressure
281	BK	Xmsn Ctrl Ident Code 5	A751	YL	After Cooler Temp
290	BK	Service	E737	PU	Filter W/I To Temp Sw
291	BK	Clear	E789	PU	Load Return
C215	BK	Autolube Pressure Switch Ground	E790	PK	Raise / Lower Solenoid Valves
<b>Basic Machine Circuits</b>			F710	BR	Start Aid Relay
304	WH	Starter Relay No. 1 Output	F711	GN	Can Link +
306	GN	Starter Relay Coil To Neut Start Sw Or Key Sw	F712	GY	Can Link -
307	OR	Key Sw To Neutral Start Sw Or Vmis Sensor Module	F715	PU	Shutdown
308	YL	Main Power Relay Coil	F716	WH	Shutdown
310	PU	Start Aid Sw To Start Aid Sol	G704	YL	Body Raise Sol
317	YL	Start Aid Relay To Start Aid Sol	G705	GN	Body Lower Sol
320	OR	Horn Relay Coil To Sw	G706	BU	Retarder Sol No. 1
322	GY	Warning Horn (forward)	G707	GN	Retarder Sol No. 2
324	BU	Differential Lock Sol	G708	GY	Retarder Sol No. 3
331	OR	Backup Alarm Relay Coil	J700	BR	Engine Retarder Sol Cyl 1 2 5 6
368	OR	Diff Lock (front)	J701	GN	Engine Retarder Sol 3 4
369	PU	Diff Lock (rear)	J702	BK	Engine Retarder Sol Common
374	PK	Neutral Start Sw To Park Brake Sw	J764	BR	Switch/sensor Return #1
397	OR	Hood Raise Motor	K737	BR	Engine Retarder Sol Cyl 1 2 5 6
398	BU	Hood Raise Motor	K738	GN	Engine Retarder Sol 34
A300	GN	Hood Raise Relay Coil	K739	BU	Engine Retarder Sol Common
A301	WH	Hood Raise Relay Coil	K742	OR	Top Gear Switch (up)
A323	GY	Interaxle Diff Lock Solenoid	K744	BU	Retarder Proportional Solenoid



# WIRE DESCRIPTION

## Page 2 of 2



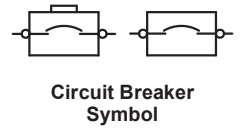
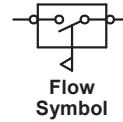
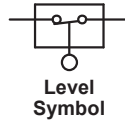
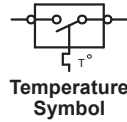
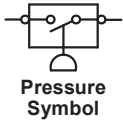
Wire Number	Wire Color	Description	Wire Number	Wire Color	Description
A324	PK	Diff Lock Selector Sw Jumper	L730	OR	Analog Sensor Power (+5v)
<b>Monitoring Circuits</b>			M739	YL	Solenoid Return 2
403	GN	Alternator (r) Term.	N787	BU	Hydraulic Tank Filter Bypass Switch
406	PU	Opr Mon Coolant Temp	N788	PK	Steer Tank Filter Bypass Switch
410	WH	Opr Mon Fault Alarm	802	YL	Auto Lube Press. Sw
417	GY	Primary Ster Sw	892	BR	Cat Data Link (-)
419	YL	Opr Mon Parking Brake	893	GN	Cat Data Link (+)
426	BR	Opr Mon Power Train Oil Filter	G828	WH	Engine Control Pressure Sensor +5v
432	PK	Opr Mon Brake Press. (oil)	G829	GN	Engine Control Pressure Sensor Common
447	PK	Fuel Level Gage	G833	PK	Engine Temperature Sensor Common
C452	WH	Fuel Press Sw	G834	PU	Cooling Fan Speed +
F400	GY	Low Oil Pressure	G835	OR	Cooling Fan Speed -
G485	BU	Opr Mon Front Brake Temperature	G850	BU	Inlet Air Heater
G486	GN	Opr Mon Rear Brake Temperature	G856	WH	TDC Probe +
<b>Accessory Circuits</b>			G857	YL	TDC Probe -
500	BR	Wiper - Front (park)	J812	PK	Fan Drive Oil Filter Bypass Switch
501	GN	Wiper - Front (low)	K884	YL	Economy Power Mode 1
502	OR	Wiper - Front (hi)	K885	PU	Economy Power Mode 2
503	BR	Wiper - Rear (park)	R800	OR	+8v Digital Sensor Power
504	YL	Wiper - Rear (low)	R816	PK	Autolube Cab Control
505	BU	Wiper - Rear (hi)	900	PU	Xmsn Shift Sol No. 5 Or 4
506	PU	Washer - Front	901	WH	Xmsn Shift Sol No. 6
507	WH	Washer - Rear	921	WH	Xmsn Sol No 1 Or 3 Return
508	PU	Radio Speaker - Left	922	BR	Xmsn Sol No 2 Return
509	WH	Radio Speaker - Left (commom)	993	BR	Analog Sensor Common
511	BR	Radio Speaker - Right	994	GY	Oil Pressure (filtered)
512	GN	Radio Speaker - Right (common)	995	BU	Coolant Temperature
513	OR	A/C Compressor Pressure Sw	998	BR	Digital Sensor Return
515	GY	Blower Motor (hi)	A958	WH	Park Brake Sol
516	GN	Blower Motor (medium)	C912	GN	Throttle Position
517	BU	Blower Motor (low)	C967	BU	Inlet Air Temperature
522	WH	A/C Clutch to Thermostat Sw	C991	PK	Fuel Filter Monitor
537	GN	Turn Signal Sw To Flasher	E900	WH	Trans Output Spd +
575	YL	Wiper - Aux (park)	E901	GN	Trans Output Spd -
590	GY	Wiper Sw To Intermittent Module	E906	OR	Trans Output Spd Q+
591	WH	Intermittent Module To Wiper Motor	E907	GY	Trans Output Spd Q-
592	BU	Dc/dc Converter Power Output	E963	BK	Engine Speed/timing A-
A513	PK	Dc/dc Converter Memory Output	E964	WH	Engine Speed/timing A+
A523	PU	Temp Potentiometer Pos 1	E965	BU	Engine Speed/timing B-
A524	BR	Temp Potentiometer Pos 2	E966	YL	Engine Speed/timing B+
A525	GN	Temp Potentiometer Pos 3	E971	GN	A/C High Pressure Switch
A526	PK	Electronic Water Valve Actuator	K952	BR	Sol Return 3
C542	GN	Heated Mirror Power	K977	PK	Ecpc Trans Oil Temp Sensor
C547	OR	Blower Motor (med-low)	L910	PK	Torque Converter Output Speed +
E528	PU	HVAC On/off Sw To Blower Speed Sw And A/C Sw	L911	YL	T/C Output Speed -
<b>Lighting Circuits</b>			L983	WH	Injector Common 1 & 2
602	WH	Dome Lamp	L984	OR	Injector Common 3 & 4
604	OR	Stop Lamp	L985	YL	Injector Common 5 & 6
605	YL	Turn Lamp - Left	M996	PK	Hoist Lever Position
606	GY	Turn Lamp - Right	M997	PU	Shift Lever Position

# HARNESS and WIRE

## Electrical Schematic Symbols



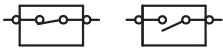
### Symbols



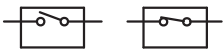
### Symbols and Definitions



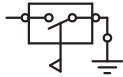
**Fuse:** A component in an electrical circuit that will open the circuit if too much current flows through it.



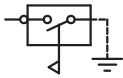
**Switch (Normally Open):** A switch that will close at a specified point (temp, press, etc.). The circle indicates that the component has screw terminals and a wire can be disconnected from it.



**Switch (Normally Closed):** A switch that will open at a specified point (temp, press, etc.). No circle indicates that the wire cannot be disconnected from the component.



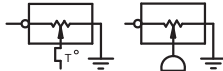
**Ground (Wired):** This indicates that the component is connected to a grounded wire. The grounded wire is fastened to the machine.



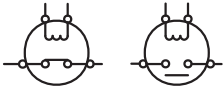
**Ground (Case):** This indicates that the component does not have a wire connected to ground. It is grounded by being fastened to the machine.



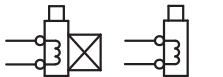
**Reed Switch:** A switch whose contacts are controlled by a magnet. A magnet closes the contacts of a normally open reed switch; it opens the contacts of a normally closed reed switch.



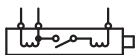
**Sender:** A component that is used with a temperature or pressure gauge. The sender measures the temperature or pressure. Its resistance changes to give an indication to the gauge of the temperature or pressure.



**Relay (Magnetic Switch):** A relay is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close the switch part of the relay.



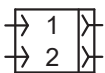
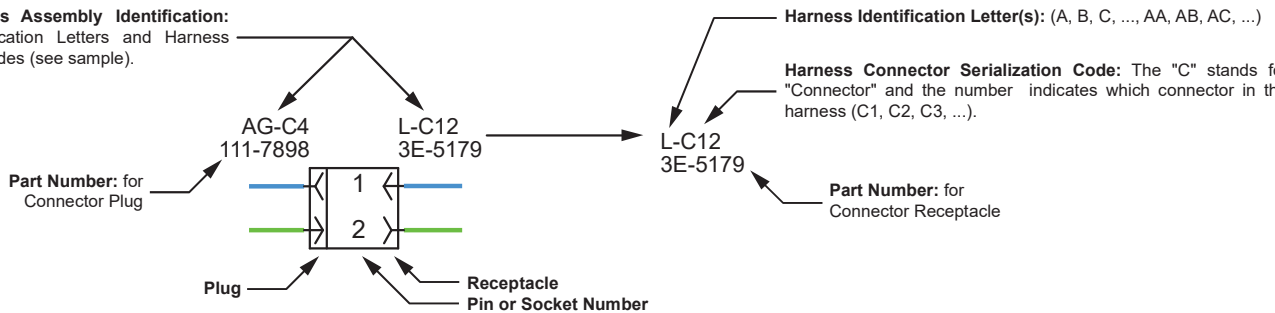
**Solenoid:** A solenoid is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close a valve or move a piece of metal that can do work.



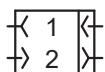
**Magnetic Latch Solenoid:** A magnetic latch solenoid is an electrical component that is activated by electricity and held latched by a permanent magnet. It has two coils (latch and unlatch) that make electromagnet when current flows through them. It also has an internal switch that places the latch coil circuit open at the time the coil latches.

### Harness and Wire Symbols

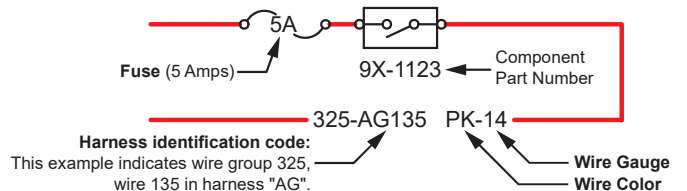
**Wire, Cable, or Harness Assembly Identification:** Includes Harness Identification Letters and Harness Connector Serialization Codes (see sample).

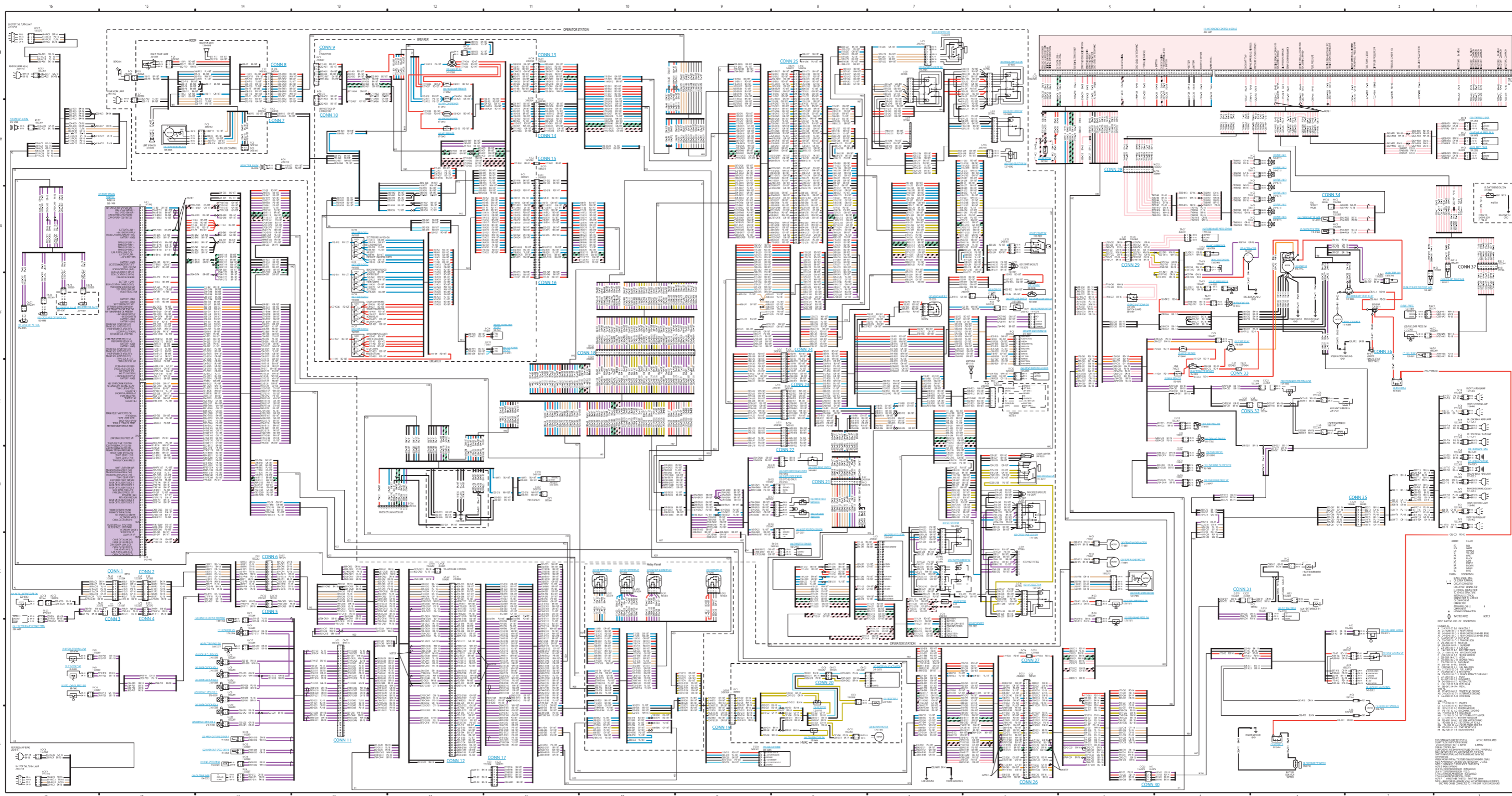


**Deutsch connector:** Typical representation of a Deutsch connector. The plug contains all sockets and the receptacle contains all pins.



**Sure-Seal connector:** Typical representation of a Sure-Seal connector. The plug and receptacle contain both pins and sockets.





WIRE GROUP COLOR DESCRIPTIONS	
[Red]	WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS OFF
[Blue]	WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS ON
[Orange]	VOLTAGE CONVERTER OUTPUT CIRCUIT
[Green]	STARTING CIRCUIT
[Yellow]	GROUNDING CIRCUIT
[Purple]	STARTING AID CIRCUIT
[Black]	DATA LINE
[White]	CAN DATA LINE
[Light Blue]	ENGINE CONTROL CIRCUIT
[Light Green]	TRANSMISSION CONTROL CIRCUIT
[Light Orange]	HEATER AND AIR CONDITIONER CIRCUIT
[Light Purple]	TURN SIGNAL/WIPER/WASHER CIRCUIT

# MACHINE COMPONENT LOCATIONS

