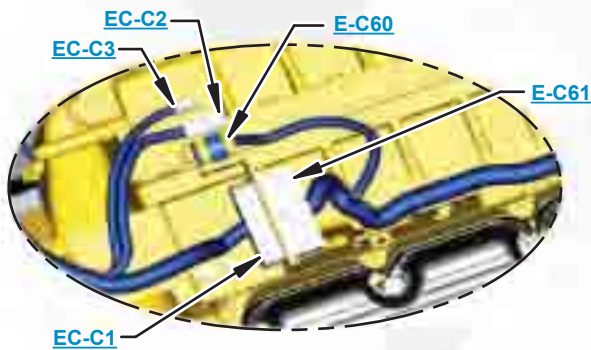


***This document is best viewed at a screen resolution of 1024 X 768.***

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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## **950H and 962H Wheel Loader IT62H Integrated Toolcarrier Electrical System**

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**950H:****N1A4215-UP****M1G2111-UP****K5K2188-UP****962H:****N4A2060-UP****M3G679-UP****K6K517-UP****IT62H:****M5G479-UP****Volume 1 of 2: Chassis****Volume 2 of 2: Cab**

# COMPONENT LOCATION

## Volume 1 of 2 - CHASSIS



Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
AIH	<a href="#">F-9</a>	<a href="#">1</a>	Sensor - Oil Pressure	<a href="#">D-13</a>	<a href="#">17</a>
Alarm - Backup	<a href="#">G-13</a>	<a href="#">2</a>	Sensor - Rail Pressure	<a href="#">D-13</a>	<a href="#">1</a>
Alternator	<a href="#">H-9</a>	<a href="#">3</a>	Sensor - Rear Axle Oil Temp.	<a href="#">A-9</a>	<a href="#">21</a>
Arc Suppressor - A/C	<a href="#">B-11</a>	<a href="#">3</a>	Sensor - Rotary Lift Position	<a href="#">J-2</a>	<a href="#">22</a>
Arc Suppressor - Quick Coupler	<a href="#">F-1</a>	<a href="#">4</a>	Sensor - Rotary Tilt Position	<a href="#">J-2</a>	<a href="#">23</a>
Arc Suppressor - Secondary Steering	<a href="#">I-8</a>	<a href="#">5</a>	Sensor - Speed Timing Group	<a href="#">C-13</a>	<a href="#">17</a>
Arc Suppressor - Start Relay	<a href="#">H-12</a>	<a href="#">6</a>	Sensor - Trans. Output Speed (Leading)	<a href="#">G-8</a>	<a href="#">24</a>
Batteries	<a href="#">J-10</a>	<a href="#">7</a>	Sensor - Trans. Output Speed (Trailing)	<a href="#">G-8</a>	<a href="#">24</a>
Block Asm.	<a href="#">J-10</a>	<a href="#">7</a>	Sensor - Transmission Input Speed	<a href="#">H-8</a>	<a href="#">25</a>
Breaker - AIH	<a href="#">H-12</a>	<a href="#">6</a>	Sensor - Transmission Oil Temperature	<a href="#">H-8</a>	<a href="#">26</a>
Breaker - Belly Guard Actuator	<a href="#">I-12</a>	<a href="#">6</a>	Sensor - Turbo Inlet Pressure	<a href="#">F-10</a>	<a href="#">27</a>
Breaker - Hood Actuator	<a href="#">I-12</a>	<a href="#">6</a>	Solenoid - A/C Clutch	<a href="#">A-11</a>	<a href="#">3</a>
Breaker - Main	<a href="#">H-12</a>	<a href="#">6</a>	Solenoid - Aux Third Function (Forward)	<a href="#">D-2, G-1</a>	<a href="#">20</a>
Breaker - Running Lamp	<a href="#">I-12</a>	<a href="#">6</a>	Solenoid - Aux Third Function (Rearward)	<a href="#">G-1</a>	<a href="#">20</a>
Breaker - Start	<a href="#">H-12</a>	<a href="#">6</a>	Solenoid - Axle Cooler Clutch	<a href="#">F-10</a>	<a href="#">1</a>
Breaker - Unswitched Bus (Cab)	<a href="#">H-12</a>	<a href="#">6</a>	Solenoid - Dump Anti-Drift	<a href="#">D-2, H-3</a>	<a href="#">20</a>
Control - Engine	<a href="#">F-12</a>	<a href="#">8</a>	Solenoid - Dump Prop	<a href="#">D-2, G-1</a>	<a href="#">20</a>
Control - Hood Raise/Lower	<a href="#">I-10</a>	<a href="#">6</a>	Solenoid - Lower Anti-Drift	<a href="#">G-3, C-2</a>	<a href="#">20</a>
Motor - Autolube Pump	<a href="#">B-4</a>	<a href="#">9</a>	Solenoid - Lower Prop	<a href="#">C-2, G-1</a>	<a href="#">20</a>
Motor - Belly Guard	<a href="#">J-12</a>	<a href="#">10</a>	Solenoid - Pilot Hydraulic Supply	<a href="#">C-2, G-1</a>	<a href="#">20</a>
Motor - Front Washer	<a href="#">C-4</a>	<a href="#">11</a>	Solenoid - Quick Coupler	<a href="#">E-1</a>	<a href="#">4</a>
Motor - Fuel Priming Pump	<a href="#">A-10</a>	<a href="#">1</a>	Solenoid - Rack Back Prop	<a href="#">D-2, H-1</a>	<a href="#">20</a>
Motor - Hood Actuator	<a href="#">H-13</a>	<a href="#">12</a>	Solenoid - Raise Prop	<a href="#">C-2, G-1</a>	<a href="#">20</a>
Motor - Rear Washer	<a href="#">C-4</a>	<a href="#">11</a>	Solenoid - Ether Aid	<a href="#">D-7</a>	<a href="#">29</a>
Motor - Secondary Steering	<a href="#">H-8</a>	<a href="#">5</a>	Solenoid - Variable Speed Fan	<a href="#">H-9</a>	<a href="#">28</a>
Motor - Starter	<a href="#">I-9</a>	<a href="#">13</a>	Solenoids - Cylinder Head ( 1 - 6)	<a href="#">E-14</a>	<a href="#">30</a>
Relay - AIH	<a href="#">F-10</a>	<a href="#">1</a>	Solenoids - Ride Control (1-3)	<a href="#">D-2, G-3</a>	<a href="#">20</a>
Relay - Backup	<a href="#">G-13</a>	<a href="#">63</a>	Solenoids - Trans. Clutch	<a href="#">G-8</a>	<a href="#">25</a>
Relay - Main	<a href="#">H-12</a>	<a href="#">6</a>	Switch - A/C Refrigerant	<a href="#">B-11</a>	<a href="#">3</a>
Relay - Secondary Steering Intermediate	<a href="#">I-8</a>	<a href="#">5</a>	Switch - Belly Guard Actuator	<a href="#">J-11</a>	<a href="#">6</a>
Relay - Start	<a href="#">H-12</a>	<a href="#">6</a>	Switch - Brake Oil Pressure	<a href="#">H-9</a>	<a href="#">3</a>
Resistor - CAN	<a href="#">D-8</a>	<a href="#">8</a>	Switch - Bucket Position	<a href="#">F-1</a>	<a href="#">32</a>
Sender - Fuel Level	<a href="#">I-13</a>	<a href="#">14</a>	Switch - Disconnect	<a href="#">J-10</a>	<a href="#">6</a>
Sender - T/C Temperature	<a href="#">E-8</a>	<a href="#">15</a>	Switch - Fork Position	<a href="#">F-1</a>	<a href="#">32</a>
Sensor - Atmospheric Pressure	<a href="#">D-13</a>	<a href="#">16</a>	Switch - Fuel Pressure	<a href="#">C-13</a>	<a href="#">1</a>
Sensor - Boost Pressure	<a href="#">D-13</a>	<a href="#">16</a>	Switch - Fuel Priming Pump	<a href="#">A-11</a>	<a href="#">1</a>
Sensor - Coolant Temperature	<a href="#">D-13</a>	<a href="#">17</a>	Switch - Ground Level Shutdown	<a href="#">G-13</a>	<a href="#">6</a>
Sensor - Front Axle Oil Temperature	<a href="#">I-2</a>	<a href="#">18</a>	Switch - Hood Actuator	<a href="#">G-13</a>	<a href="#">6</a>
Sensor - Fuel Pressure	<a href="#">C-13</a>	<a href="#">1</a>	Switch - Hydraulic Filter Bypass Pressure	<a href="#">C-4</a>	<a href="#">33</a>
Sensor - Hydraulic Oil Temperature	<a href="#">H-5</a>	<a href="#">19</a>	Switch - Park Brake Pressure	<a href="#">C-4</a>	<a href="#">34</a>
Sensor - Intake Manifold Air Temp	<a href="#">D-13</a>	<a href="#">16</a>	Switch - Primary Steering Pressure	<a href="#">I-7</a>	<a href="#">5</a>
Sensor - Lift Cylinder Head End Pressure	<a href="#">J-3</a>	<a href="#">20</a>	Switch - Secondary Steering Pressure	<a href="#">H-7</a>	<a href="#">5</a>
Sensor - Lift Position	<a href="#">F-2</a>	<a href="#">20</a>	Switch - Trans Filter Bypass	<a href="#">C-4</a>	<a href="#">33</a>

Check Part Number in the Part Manual for your Specific Machine

# COMPONENT LOCATION

## Volume 2 of 2 - CAB



Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
Alarm - Action	<a href="#">E-12</a>	<a href="#">45</a>	Sensor - Tilt Lever Position	<a href="#">F-5</a>	<a href="#">47</a>
Alarm - Implement Audible Alert	<a href="#">E-12</a>	<a href="#">45</a>	Switch - Auto/Manual Gear Select	<a href="#">D-3</a>	<a href="#">46</a>
Alarm - Quick Coupler	<a href="#">E-1</a>	<a href="#">46</a>	Switch - Autodig Kickout Set	<a href="#">D-1</a>	<a href="#">46</a>
Arc Suppressor - Forward Horn	<a href="#">G-6</a>	<a href="#">47</a>	Switch - Autodig Mode	<a href="#">E-3</a>	<a href="#">46</a>
Control - Dimmer	<a href="#">E-12</a>	<a href="#">45</a>	Switch - Autodig Mode Select	<a href="#">D-1</a>	<a href="#">46</a>
Control - Implement	<a href="#">F-10</a>	<a href="#">49</a>	Switch - Autodig Trigger	<a href="#">G-5</a>	<a href="#">47</a>
Control - Payload Control System	<a href="#">E-4</a>	<a href="#">45</a>	Switch - Beacon	<a href="#">G-3</a>	<a href="#">52</a>
Control - Transmission Control	<a href="#">J-14</a>	<a href="#">51</a>	Switch - Blower Fan Speed	<a href="#">D-6</a>	<a href="#">48</a>
Converter - Voltage (10A)	<a href="#">F-12</a>	<a href="#">51</a>	Switch - Bucket/Fork Select	<a href="#">E-2</a>	<a href="#">46</a>
Diode - Hazard LED Panel	<a href="#">G-1</a>	<a href="#">53</a>	Switch - Cat Mon Sys Mode Select	<a href="#">D-6</a>	<a href="#">48</a>
Display - Groeneveld Autolube	<a href="#">F-6</a>	<a href="#">48</a>	Switch - Dimmer	<a href="#">H-1</a>	<a href="#">57</a>
Flasher - 24V	<a href="#">E-12</a>	<a href="#">45</a>	Switch - Downshift	<a href="#">F-5</a>	<a href="#">47</a>
Fuse - Block	<a href="#">C-12</a>	<a href="#">45</a>	Switch - Fine Modulation	<a href="#">F-6</a>	<a href="#">47</a>
Fuse - Thermal Cut Out	<a href="#">J-12</a>	<a href="#">51</a>	Switch - Forward Horn	<a href="#">H-3, G-2</a>	<a href="#">58</a>
Gateway	<a href="#">H-9</a>	<a href="#">51</a>	Switch - Forward Horn 2	<a href="#">G-5</a>	<a href="#">47</a>
Guage - Quad	<a href="#">H-1</a>	<a href="#">52</a>	Switch - Forward Horn 3	<a href="#">H-6</a>	<a href="#">47</a>
Indicator - Center Dash	<a href="#">I-1</a>	<a href="#">52</a>	Switch - Front Intermittent Wiper/Washer	<a href="#">C-6</a>	<a href="#">48</a>
Indicator - Left Hand Panel	<a href="#">J-1</a>	<a href="#">52</a>	Switch - Hazard Lamp	<a href="#">G-3</a>	<a href="#">52</a>
Indicator - Right Hand Panel	<a href="#">I-1</a>	<a href="#">52</a>	Switch - Heated Mirror	<a href="#">E-2</a>	<a href="#">46</a>
Joystick - Implement Control	<a href="#">H-6</a>	<a href="#">47</a>	Switch - Heated Mirror	<a href="#">I-3</a>	<a href="#">52</a>
Messenger	<a href="#">D-5</a>	<a href="#">50</a>	Switch - HVAC Select	<a href="#">E-6</a>	<a href="#">48</a>
MSS Transponder Reader Module	<a href="#">F-3</a>	<a href="#">52</a>	Switch - HVAC Temperature Select	<a href="#">D-6</a>	<a href="#">48</a>
Monitor	<a href="#">E-6</a>	<a href="#">48</a>	Switch - Implement Lockout	<a href="#">G-6</a>	<a href="#">47</a>
Monitor - Rear Vision	<a href="#">H-11</a>	<a href="#">62</a>	Switch - Key Start	<a href="#">F-3</a>	<a href="#">52</a>
Motor - Blend Door Actuator	<a href="#">J-12</a>	<a href="#">51</a>	Switch - Lift Tilt Kickout Set	<a href="#">E-1</a>	<a href="#">46</a>
Motor - Blower	<a href="#">J-12</a>	<a href="#">51</a>	Switch - Neutral Override	<a href="#">D-2</a>	<a href="#">46</a>
Motor - Front Wiper	<a href="#">H-1</a>	<a href="#">53</a>	Switch - PCS Clear Store	<a href="#">C-4</a>	<a href="#">47</a>
Motor - Rear Wiper	<a href="#">I-11</a>	<a href="#">54</a>	Switch - PCS Reweigh Zero	<a href="#">D-5</a>	<a href="#">62</a>
Radio - Product Link	<a href="#">I-9</a>	<a href="#">51</a>	Switch - Quick Coupler	<a href="#">E-1</a>	<a href="#">46</a>
Relay - Axle Cooler	<a href="#">D-12</a>	<a href="#">45</a>	Switch - Rear Wiper/Washer	<a href="#">D-3</a>	<a href="#">46</a>
Relay - Forward Cab Floodlamp	<a href="#">D-12</a>	<a href="#">45</a>	Switch - Remote FNR	<a href="#">H-6, G-5</a>	<a href="#">47</a>
Relay - Forward Horn	<a href="#">D-12</a>	<a href="#">45</a>	Switch - Reversing Fan	<a href="#">D-1</a>	<a href="#">46</a>
Relay - Heated Mirrors Timer	<a href="#">D-12</a>	<a href="#">45</a>	Switch - Ride Control	<a href="#">D-2</a>	<a href="#">46</a>
Relay - Rear Floodlamp	<a href="#">D-12</a>	<a href="#">45</a>	Switch - Running Lamp	<a href="#">J-3</a>	<a href="#">52</a>
Relay - Variable Pitch Fan	<a href="#">F-12</a>	<a href="#">45</a>	Switch - Secondary Steering Test	<a href="#">D-2</a>	<a href="#">46</a>
Resistor A/C (1)	<a href="#">J-11</a>	<a href="#">45</a>	Switch - Stop Lamp	<a href="#">G-1</a>	<a href="#">55</a>
Resistor A/C (2)	<a href="#">J-11</a>	<a href="#">45</a>	Switch - Third Function Control Flow	<a href="#">I-3</a>	<a href="#">52</a>
Resistor - Blower Motor	<a href="#">J-12</a>	<a href="#">51</a>	Switch - Third Function Diverter	<a href="#">F-6</a>	<a href="#">47</a>
Resistor - CAN	<a href="#">C-4</a>	<a href="#">45</a>	Switch - Turn Signal	<a href="#">H-2</a>	<a href="#">58</a>
Resistor - CAN A	<a href="#">I-4</a>	<a href="#">52</a>	Switch - Variable Shift Control	<a href="#">E-3</a>	<a href="#">46</a>
Sensor - 3rd Lever Position	<a href="#">F-5</a>	<a href="#">47</a>	Tach/Speedometer	<a href="#">I-1</a>	<a href="#">52</a>
Sensor - Left Hand Brake Pedal	<a href="#">G-1</a>	<a href="#">55</a>	Thermostat	<a href="#">I-12</a>	<a href="#">51</a>
Sensor - Lift Lever Position	<a href="#">F-5</a>	<a href="#">47</a>	Transmission Gear Selector	<a href="#">H-3</a>	<a href="#">58</a>
Sensor - Throttle Position	<a href="#">G-1</a>	<a href="#">56</a>	Wheel Gp - Steering	<a href="#">G-2</a>	<a href="#">58</a>

Check Part Number in the Part Manual for your Specific Machine

# CONNECTOR LOCATION

## Volume 1 of 2 - CHASSIS



Connector Number	Schematic Location	Machine Location
CONN 1	<a href="#">C-14</a>	<a href="#">2</a>
CONN 2	<a href="#">C-14, D-14</a>	<a href="#">2</a>
CONN 3	<a href="#">I-14, J-14</a>	<a href="#">35</a>
CONN 4	<a href="#">I-14, J-14</a>	<a href="#">35</a>
CONN 5	<a href="#">C-12</a>	<a href="#">16</a>
CONN 6	<a href="#">C-13</a>	<a href="#">16</a>
CONN 7	<a href="#">E-13</a>	<a href="#">1</a>
CONN 8	<a href="#">J-10</a>	<a href="#">6</a>
CONN 9	<a href="#">A-9</a>	<a href="#">36</a>
CONN 10	<a href="#">D-8</a>	<a href="#">37</a>
CONN 11	<a href="#">E-8</a>	<a href="#">13</a>
CONN 12	<a href="#">F-8</a>	<a href="#">13</a>
CONN 13	<a href="#">I-7</a>	<a href="#">5</a>
CONN 14	<a href="#">B-6</a>	<a href="#">38</a>
CONN 15	<a href="#">C-6</a>	<a href="#">34</a>
CONN 16	<a href="#">G-5</a>	<a href="#">39</a>
CONN 17	<a href="#">G-5</a>	<a href="#">39</a>
CONN 18	<a href="#">F-5</a>	<a href="#">39</a>
CONN 19	<a href="#">E-5</a>	<a href="#">39</a>
CONN 20	<a href="#">H-4</a>	<a href="#">40</a>
CONN 21	<a href="#">I-2, I-3, F-2</a>	<a href="#">41</a>
CONN 22	<a href="#">H-3, H-2, E-2</a>	<a href="#">22</a>
CONN 23	<a href="#">J-3</a>	<a href="#">42</a>
CONN 24	<a href="#">E-2</a>	<a href="#">20</a>
CONN 25	<a href="#">I-3, E-2</a>	<a href="#">20</a>
CONN 26	<a href="#">F-2</a>	<a href="#">43</a>

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.

# CONNECTOR LOCATION

## Volume 2 of 2 - CAB



Connector Number	Schematic Location	Machine Location
CONN 16	<a href="#">E-14</a>	<a href="#">54</a>
CONN 17	<a href="#">E-14</a>	<a href="#">59</a>
CONN 18	<a href="#">D-14</a>	<a href="#">54</a>
CONN 19	<a href="#">C-14</a>	<a href="#">54</a>
CONN 27	<a href="#">F-12</a>	<a href="#">45</a>
CONN 28	<a href="#">E-12</a>	<a href="#">45</a>
CONN 29	<a href="#">J-11</a>	<a href="#">51</a>
CONN 30	<a href="#">G-10</a>	<a href="#">51</a>
CONN 31	<a href="#">G-7, H-7</a>	<a href="#">47</a>
CONN 32	<a href="#">G-7, H-7</a>	<a href="#">47</a>
CONN 33	<a href="#">F-7</a>	<a href="#">45</a>
CONN 34	<a href="#">E-5</a>	<a href="#">48</a>
CONN 35	<a href="#">J-6</a>	<a href="#">60</a>
CONN 36	<a href="#">J-5</a>	<a href="#">61</a>
CONN 37	<a href="#">I-6</a>	<a href="#">60</a>
CONN 38	<a href="#">I-5</a>	<a href="#">62</a>
CONN 39	<a href="#">H-3</a>	<a href="#">52</a>
CONN 40	<a href="#">G-3, H-3</a>	<a href="#">52</a>
CONN 41	<a href="#">G-2</a>	<a href="#">58</a>
CONN 42	<a href="#">F-3</a>	<a href="#">52</a>
CONN 43	<a href="#">F-2</a>	<a href="#">52</a>
CONN 44	<a href="#">H-1</a>	<a href="#">57</a>
CONN 45	<a href="#">G-1</a>	<a href="#">55</a>

# CID / MID / FMI

## Volume 1 of 2 - CHASSIS



Component Identifiers (CID) <sup>1</sup>	
Module Identifier (MID) <sup>2</sup>	
Engine Control System (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
0042	Injector Actuation Valve
0091	Throttle Sensor
0094	Fuel Pressure Sensor
0100	Oil Pressure Sensor
0110	Engine Coolant Temperature Sensor
0164	Injector Actuation Pressure Sensor
0168	Electrical Power Supply
0172	Intake Manifold Air Temperature Sensor
0190	Engine Speed Sensor
0253	Personality Module
0261	Engine Speed Sensor
0262	5 Volt Sensor Supply
0267	Engine Shutdown Switch
0268	Check Programmable Parameters
0269	Sensor Power Supply
0274	Atmospheric Pressure Sensor
0275	Right Turbo Inlet Pressure Sensor
0283	Filter Restrict Lamp
0291	Engine Cooling Fan Solenoid
0296	Transmission ECM
0342	Camshaft Position Sensor
0596	Implement Control
1639	Machine Security System
1785	Intake Manifold Pressure Sensor

<sup>1</sup> The CID is a diagnostic code that indicates which circuit 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 Engine Control	
Event Code	Condition
E096	High Fuel Pressure
E172	High Air Filter Restriction
E194	High Exhaust Temperature
E198	Low Fuel Pressure
E360	Low Engine Oil Pressure
E361	High Engine Coolant Temperature
E362	Engine Overspeed
E390	Fuel Filter Restriction
E441	Idle Elevated to Increase Battery Voltage
E539	High Intake Manifold Air Temperature



<b>Component Identifiers (CID<sup>1</sup>) Module Identifier (MID<sup>2</sup>)</b>	
<b>Caterpillar Monitoring System (MID No. 030)</b>	
CID	Component
0096	Fuel Level Sender
0100	Engine Oil Pressure Sensor
0110	Engine Coolant Temperature Sensor
0177	Torque Converter Oil Temperature Sensor
0248	Data Link
0263	Sensor Power Supply
0271	Action Alarm
0324	Action Lamp
0600	Hydraulic Oil Temperature Sensor
0819	Display Data Link
0821	Display Power Supply
0826	T/C Oil Temperature Sensor
0830	Brake Oil Temperature Sensor
<b>Payload Control System (MID No. 074)</b>	
CID	Component
0248	CAT Data Link
0364	Head End Lift Cylinder Pressure Sensor
0591	PCS EEPROM
0769	Rod End Lift Cylinder Pressure Sensor
1964	Lift Position Sensor
<b>Electronic Transmission Control System (MID No. 081)</b>	
CID	Component
0041	8 Volt DC Supply
0168	Electrical System Voltage
0177	Transmission Oil Temperature Sensor
0190	Engine Speed Sensor
0262	5 Volt DC Supply
0268	Programmed Parameter Fault
0367	Ride Control Switch
0368	Transmission Auto/Manual Switch
0444	Start Relay
0562	Electronic Monitoring System
0585	Transmission Output Speed Sensor 1
0590	Engine Control Module
0596	Implement Control
0623	Directional Switch
0627	Parking Brake Pressure Sw.
0672	Transmission Input Speed Sensor
0673	Transmission Output Speed Sensor 2
0702	Lever Switch (Transmission Shifting/Direction)
0737	Left Brake Pedal Position Sensor
0793	Primary Steering Pressure Switch
0794	Secondary Steering Pressure Switch
0795	Secondary Steering Relay
0967	Machine Application
1326	ECM Location Code
1400	Rear Axle Oil Cooler Solenoid
1401	Reverse Solenoid
1402	Forward Solenoid
1403	Fourth Speed Clutch
1404	Third Speed Clutch
1405	Second Speed Clutch
1406	First Speed Clutch
1521	Part-Throttle Autoshift Selector Switch
1960	Ignition Key Reader
2129	Ride Control Solenoid (1)
2274	Transmission Direction Switch #2
2347	Ride Control Solenoid (2)
2684	Ride Control Solenoid (3)

<b>Electronic Implement Control (MID No. 082)</b>	
CID	Component
0041	8 Volt DC Supply
0168	Electrical System Voltage
0268	Programmed Parameter Fault
0296	Transmission Control
0350	Lift Linkage Position Sensor
0351	Tilt Linkage Position Sensor
0352	Lift Lever Position Sensor
0353	Tilt Lever Position Sensor
0354	Raise Solenoid
0355	Lower Solenoid
0356	Dump Solenoid
0357	Rackback Solenoid
0358	Pilot Pressure Solenoid
0364	Lify Cylinder Head End Oil Pressure Sensor
0365	Kickout Set Switch
0487	3rd Lever Position Sensor
0490	Implement Lockout Switch
0491	3rd Function Forward Solenoid
0492	3rd Function Rearward Solenoid
0562	Caterpillar Monitoring System
0590	Engine Electronic Control Module
0965	Autodig Dig Mode Switch
0967	Machine Application
1187	Continuous Flow Rocker Switch
1324	Autodig Operation Mode Select Switch
1325	Autodig Trigger Switch
1326	ECM Location Code
1592	Autodig Kickout Set Switch
1639	Machine Security System ECM
1718	Fine Modulation Switch
2326	Lower Anti-Drift Solenoid Valve
2328	Dump Anti-Drift Solenoid Valve
<b>Product Link Radio (MID No. 122)</b>	
CID	Component
0168	Electrical System Voltage
0254	Electronic Control Module
0269	Sensor Power Supply
1250	Remote Communication Module
1251	Alternator "R" Terminal
<b>Machine Security System (MID No. 124)</b>	
CID	Component
0168	Electrical System Voltage
0248	Data Link
0817	ECM Internal Backup Battery
1391	Theft Deterent Output Driver #1
1392	Theft Deterent Output Driver #2

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

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





<b>Failure Mode Identifiers (FMI)<sup>1</sup></b>	
<b>FMI No.</b>	<b>Failure Description</b>
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.

# SPECIFICATIONS AND RELATED MANUALS

## Volume 1 of 2 - CHASSIS



Resistor, Sender and Solenoid Specifications		
Part No.	Component Description	Resistance (Ohms) <sup>1</sup>
134-2540	Resistor: CAN Data Link	120 ± 12
145-7028	Sender: T/C Temperature	1249.5 @ 20°C (68°F)
148-2350	Solenoid: Variable Speed Fan	5.0 ± 0.3
163-0872	Solenoid: A/C Compressor Clutch	17.6 ± 0.6
183-7595	Solenoid: Axle Cooler Clutch	5.0 ± 0.3
225-0300	Solenoid: Pilot Hydraulic Supply	38.12 ± 1.9
241-5895	Solenoid: Auto/Reverse Fan	33.75 ± 1.6
245-4659	Sender: Fuel Level	Empty: 240 - 250 Full: 28 - 33
244-3114	Solenoid: Transmission Clutch	8.7 ± 0.4
239-1134	Solenoid: Start Aid	20.0
262-5265	Solenoid: Dump Anti-Drift Lower Anti-Drift Ride Control 3	33.8
285-5730	Solenoid: Aux 3rd Function Forward Aux 3rd Function Rearward Dump Prop Racback Prop Raise Prop	5.0 ± 0.3

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

Off Machine Switch Specification				
Part No.	Function	Actuate	Deactuate	Contact Position
114-5333	A/C (High / Low) Pressure	275 to 1750 kPa <sup>1</sup> (39.9 to 253.8 psi)	170 ± 55 kPa (25 ± 8 psi)	Normally Open <sup>2</sup>
117-7773	Hydraulic Filter Bypass Pressure	138 ± 28 kPa (20 ± 4 psi)	89 ± 20 kPa (12.9 ± 2.9 psi)	Normally Closed
174-4312	Park Brake Pressure	8270 kPa MAX (1200 psi MAX)	6890 ± 345 kPa (1000 ± 50 psi)	A-B, Normally Open A-C, Normally Closed
175-3244	Brake Oil Pressure	10700 kPa MAX (1550 psi MAX)	8960 ± 537 kPa (1300 ± 79 psi)	A-B, Normally Open A-C, Normally Closed
230-5771	Primary Steering Pressure Secondary Steering Pressure	1200 kPa MAX (174.0 psi MAX)	700 ± 100 kPa (102 ± 14.5 psi)	A-B Normally Open A-C Normally Closed
258-0883	Fuel Differential Pressure	110.3 ± 13.8 kPa (16 ± 2 psi)	69 kPa MIN (10 psi MIN)	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.

Related Electrical Service Manuals	
Title	Form Number
Cross Reference for Electrical Connectors:	REHS0970
Alternator: 177-9953 197-8820	SENR4130
Electric Starting Motor: 207-1517	SENR3581
Engine Control:	REN9319

# SPECIFICATIONS AND RELATED MANUALS

## Volume 2 of 2 - CAB



Off Machine Switch Specification				
Part No.	Function	Actuate	Deactuate	Contact Position
3E-5464	A/C Thermostat	-1.1 ± 0.8°C (30 ± 1.4°F)	2.2 ± 0.8°C (36 ± 1.4°F)	Normally Closed

Resistor, Sender and Solenoid Specifications		
Part No.	Component Description	Resistance (Ohms) <sup>1</sup>
9G-1950	Resistor: Blower Motor Speed	Overall: 2.0 ± 0.1 Tap 1.0 ± .05
134-2540	Resistor: CAN	120 ± 12

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

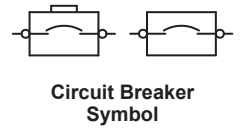
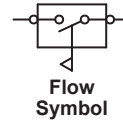
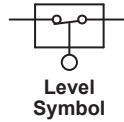
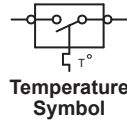
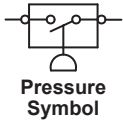
Related Electrical Service Manuals	
Title	Form Number
Cross Reference for Electrical Connectors:	REHS0970
Machine Security System:	REN2462
Product Link Radio:	REN7911
Power Train Control:	REN8846
Implement Control:	REN8858
Caterpillar Monitoring System:	SEN1394
Payload Control System:	REN6293

# HARNESS and WIRE

## Electrical Schematic Symbols



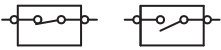
### Symbols



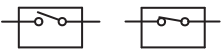
### Symbols and Definitions



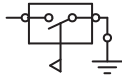
**Fuse:** A component in an electrical circuit that will open the circuit if too much current flows through it.



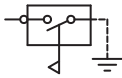
**Switch (Normally Open):** A switch that will close at a specified point (temp, press, etc.). The circle indicates that the component has screw terminals and a wire can be disconnected from it.



**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.



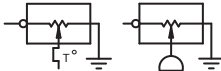
**Ground (Wired):** This indicates that the component is connected to a grounded wire. The grounded wire is fastened to the machine.



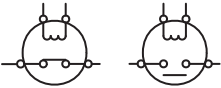
**Ground (Case):** This indicates that the component does not have a wire connected to ground. It is grounded by being fastened to the machine.



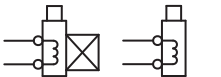
**Reed Switch:** A switch whose contacts are controlled by a magnet. A magnet closes the contacts of a normally open reed switch; it opens the contacts of a normally closed reed switch.



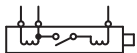
**Sender:** A component that is used with a temperature or pressure gauge. The sender measures the temperature or pressure. Its resistance changes to give an indication to the gauge of the temperature or pressure.



**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.



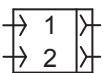
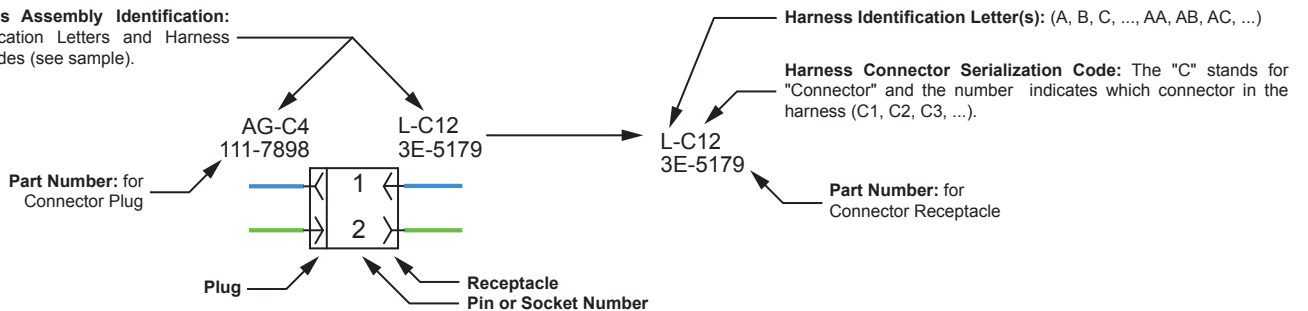
**Solenoid:** A solenoid is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close a valve or move a piece of metal that can do work.



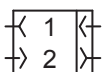
**Magnetic Latch Solenoid:** A magnetic latch solenoid is an electrical component that is activated by electricity and held latched by a permanent magnet. It has two coils (latch and unlatch) that make electromagnet when current flows through them. It also has an internal switch that places the latch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

### Harness and Wire Symbols

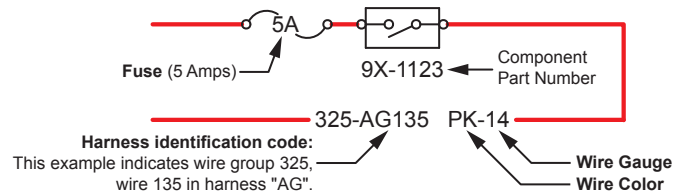
**Wire, Cable, or Harness Assembly Identification:** Includes Harness Identification Letters and Harness Connector Serialization Codes (see sample).

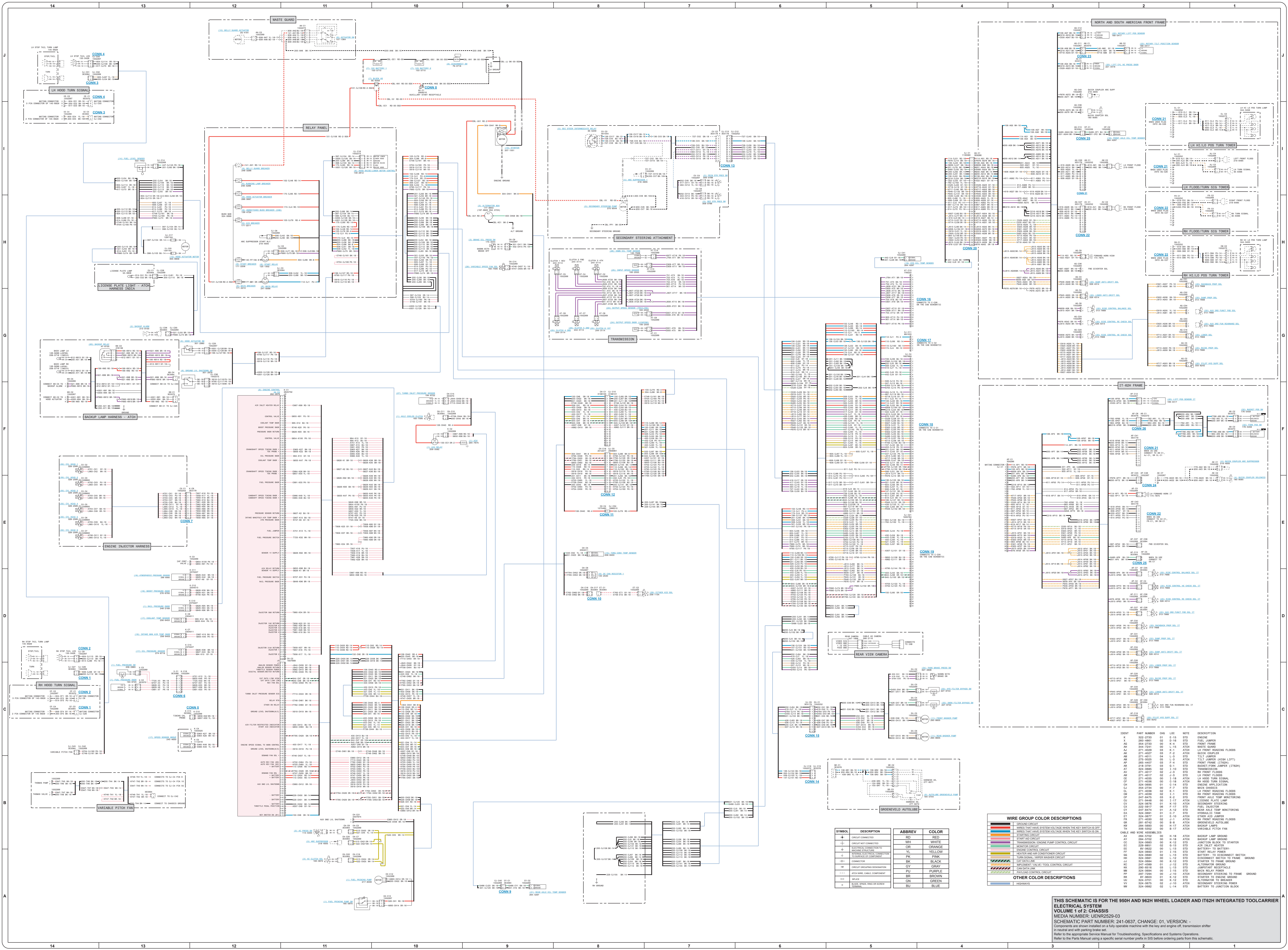


**Deutsch connector:** Typical representation of a Deutsch connector. The plug contains all sockets and the receptacle contains all pins.



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

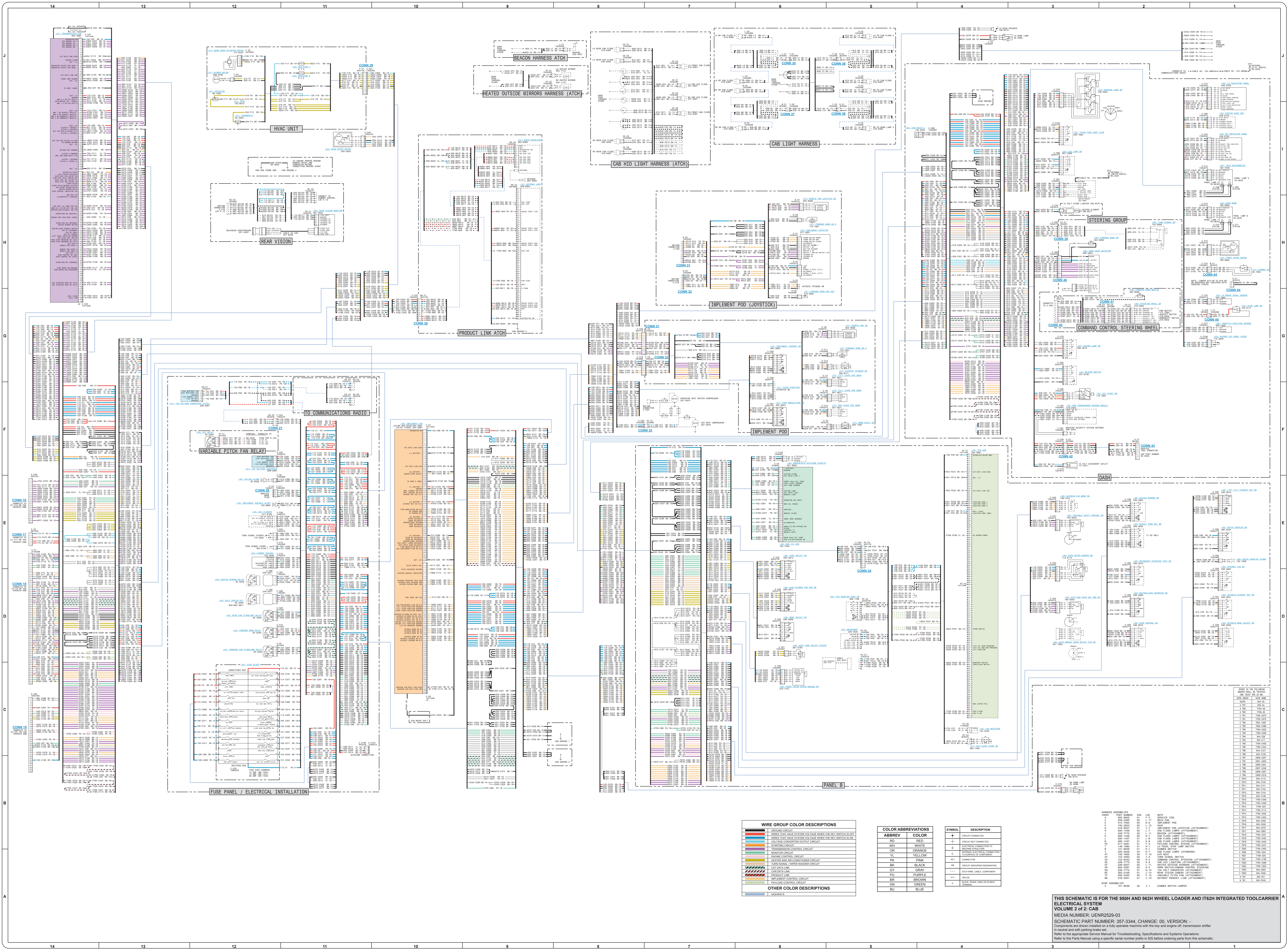




**WIRE GROUP COLOR DESCRIPTIONS**

SYMBOL	DESCRIPTION	ABBREV	COLOR
+	GROUP IDENTIFIER	RD	RED
-	GROUP NOT IDENTIFIED	WH	WHITE
0	GROUND	OR	ORANGE
1	STARTING CIRCUIT	YL	YELLOW
2	TRANSMISSION/ENGINE PUMP CONTROL CIRCUIT	PK	PINK
3	ENGINE CONTROL CIRCUIT	BLK	BLACK
4	HEATER AND/OR CROWTHER CIRCUIT	GY	GRAY
5	CONNECTION	PU	PURPLE
6	SEPARATE WIRE TOOL CONTROL CIRCUIT	BRN	BROWN
7	OTHER COLOR DESCRIPTIONS	GN	GREEN
8	OTHER COLOR DESCRIPTIONS	BLU	BLUE

THIS SCHEMATIC IS FOR THE 950H AND 962H WHEEL LOADER AND IT62H INTEGRATED TOOLCARRIER ELECTRICAL SYSTEM  
 VOLUME 1 of 2: CHASSIS  
 MEDIA NUMBER: UEN2529-03  
 SCHEMATIC PART NUMBER: 241-0637, CHANGE: 01, VERSION: -  
 Components are shown installed on a fully operable machine with the key and engine off, transmission shift in neutral and with parking brake set.  
 Refer to the appropriate Service Manual for Troubleshooting, Specifications and Systems Operations.  
 Refer to the Parts Manual using a specific serial number prefix in SIG before ordering parts from this schematic.



**WIRE COLOR DESCRIPTIONS**

[Red line]	IGNITION CIRCUIT
[Blue line]	WIRING THAT TAKES SYSTEM VOLTAGE WHEN THE KEY SWITCH IS OFF
[Green line]	WIRING THAT TAKES SYSTEM VOLTAGE WHEN THE KEY SWITCH IS ON
[Yellow line]	VOLTAGE CONVERTER OUTPUT CIRCUIT
[Orange line]	STARTING CIRCUIT
[Purple line]	TRANSMISSION CONTROL CIRCUIT
[Pink line]	IGNITION CIRCUIT
[Black line]	ENGINE CONTROL CIRCUIT
[White line]	HEATED AND HELO COMPRESSOR CIRCUIT
[Light Blue line]	TURN SIGNAL / WIPER WASHERS CIRCUIT
[Light Green line]	CRUISE CONTROL
[Light Yellow line]	CAN DATA LINE
[Light Purple line]	PRODUCT LINK
[Light Orange line]	WARRANTY CONTROL CIRCUIT
[Light Brown line]	ENGINE CONTROL CIRCUIT

**OTHER COLOR DESCRIPTIONS**

[Blue dashed line]	INDICATOR
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**COLOR ABBREVIATIONS**

ABBREV	COLOR
RD	RED
WH	WHITE
OR	ORANGE
YL	YELLOW
PK	PINK
BK	BLACK
GR	GRAY
PU	PURPLE
BR	BROWN
GN	GREEN
BL	BLUE

**SYMBOL DESCRIPTION**

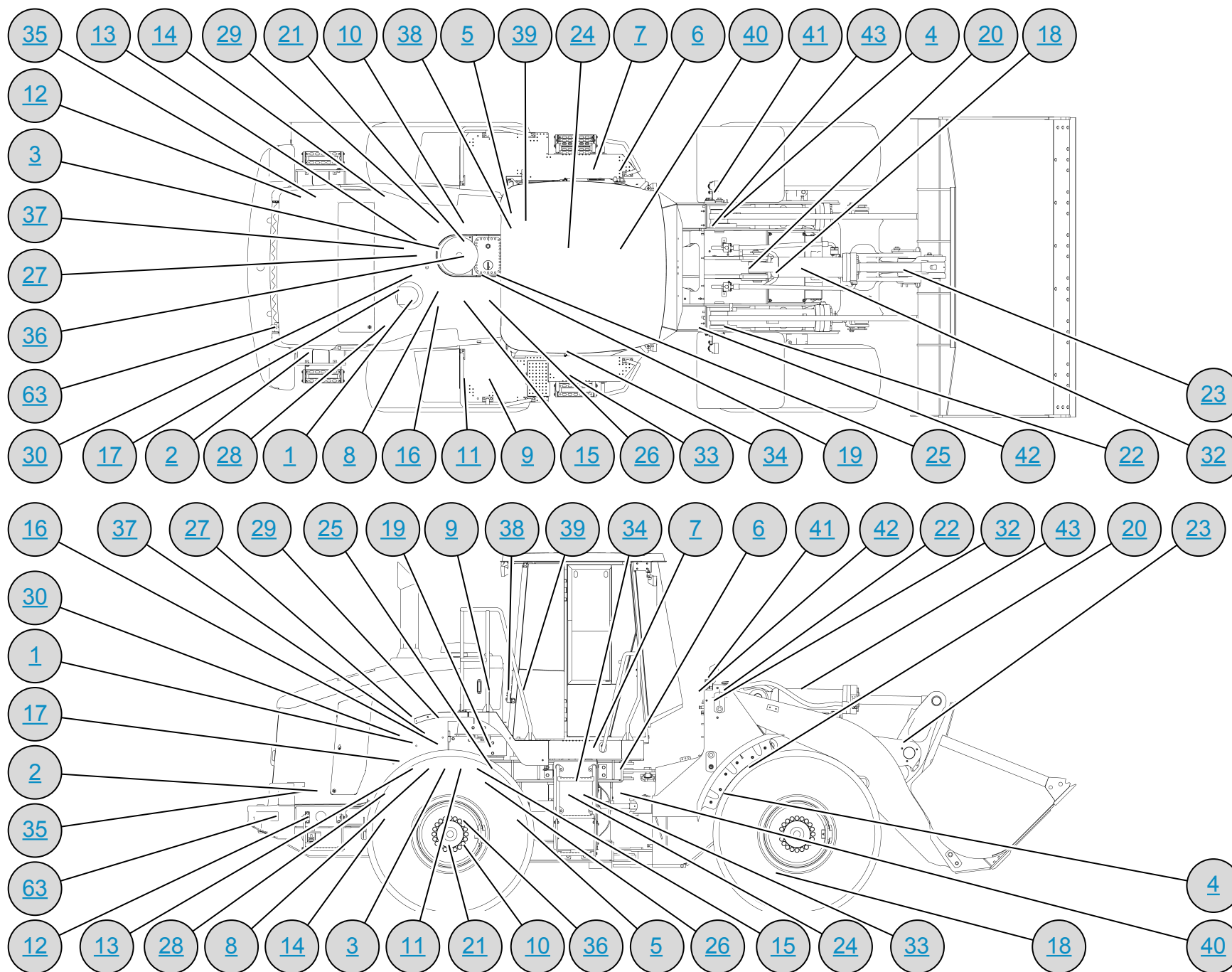
[Circuit symbol]	CIRCUIT CONNECTED
[Circuit symbol]	CIRCUIT NOT CONNECTED
[Circuit symbol]	ELECTRICAL CONNECTIVITY
[Circuit symbol]	MAKING STRUCTURE
[Circuit symbol]	INTERNAL ELECTRICAL CONNECTION
[Circuit symbol]	COMMON
[Circuit symbol]	CIRCUIT GROUPED SEPARATION
[Circuit symbol]	ANALOG/DIGITAL SEPARATION
[Circuit symbol]	SEAL TYPE WIRE/BUS TERMINAL

**WIRING ASSEMBLIES**

IDENT	PART NUMBER	QTY	LOC	NOTE
1	200-0000	01	P.10	WIRELESS TOOL
2	200-0000	01	P.10	WIRELESS TOOL
3	200-0000	01	P.10	WIRELESS TOOL
4	200-0000	01	P.10	WIRELESS TOOL
5	200-0000	01	P.10	WIRELESS TOOL
6	200-0000	01	P.10	WIRELESS TOOL
7	200-0000	01	P.10	WIRELESS TOOL
8	200-0000	01	P.10	WIRELESS TOOL
9	200-0000	01	P.10	WIRELESS TOOL
10	200-0000	01	P.10	WIRELESS TOOL
11	200-0000	01	P.10	WIRELESS TOOL
12	200-0000	01	P.10	WIRELESS TOOL
13	200-0000	01	P.10	WIRELESS TOOL
14	200-0000	01	P.10	WIRELESS TOOL
15	200-0000	01	P.10	WIRELESS TOOL
16	200-0000	01	P.10	WIRELESS TOOL
17	200-0000	01	P.10	WIRELESS TOOL
18	200-0000	01	P.10	WIRELESS TOOL
19	200-0000	01	P.10	WIRELESS TOOL
20	200-0000	01	P.10	WIRELESS TOOL
21	200-0000	01	P.10	WIRELESS TOOL
22	200-0000	01	P.10	WIRELESS TOOL
23	200-0000	01	P.10	WIRELESS TOOL
24	200-0000	01	P.10	WIRELESS TOOL
25	200-0000	01	P.10	WIRELESS TOOL
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51	200-0000	01	P.10	WIRELESS TOOL
52	200-0000	01	P.10	WIRELESS TOOL
53	200-0000	01	P.10	WIRELESS TOOL
54	200-0000	01	P.10	WIRELESS TOOL
55	200-0000	01	P.10	WIRELESS TOOL
56	200-0000	01	P.10	WIRELESS TOOL
57	200-0000	01	P.10	WIRELESS TOOL
58	200-0000	01	P.10	WIRELESS TOOL
59	200-0000	01	P.10	WIRELESS TOOL
60	200-0000	01	P.10	WIRELESS TOOL
61	200-0000	01	P.10	WIRELESS TOOL
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63	200-0000	01	P.10	WIRELESS TOOL
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65	200-0000	01	P.10	WIRELESS TOOL
66	200-0000	01	P.10	WIRELESS TOOL
67	200-0000	01	P.10	WIRELESS TOOL
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69	200-0000	01	P.10	WIRELESS TOOL
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71	200-0000	01	P.10	WIRELESS TOOL
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77	200-0000	01	P.10	WIRELESS TOOL
78	200-0000	01	P.10	WIRELESS TOOL
79	200-0000	01	P.10	WIRELESS TOOL
80	200-0000	01	P.10	WIRELESS TOOL
81	200-0000	01	P.10	WIRELESS TOOL
82	200-0000	01	P.10	WIRELESS TOOL
83	200-0000	01	P.10	WIRELESS TOOL
84	200-0000	01	P.10	WIRELESS TOOL
85	200-0000	01	P.10	WIRELESS TOOL
86	200-0000	01	P.10	WIRELESS TOOL
87	200-0000	01	P.10	WIRELESS TOOL
88	200-0000	01	P.10	WIRELESS TOOL
89	200-0000	01	P.10	WIRELESS TOOL
90	200-0000	01	P.10	WIRELESS TOOL
91	200-0000	01	P.10	WIRELESS TOOL
92	200-0000	01	P.10	WIRELESS TOOL
93	200-0000	01	P.10	WIRELESS TOOL
94	200-0000	01	P.10	WIRELESS TOOL
95	200-0000	01	P.10	WIRELESS TOOL
96	200-0000	01	P.10	WIRELESS TOOL
97	200-0000	01	P.10	WIRELESS TOOL
98	200-0000	01	P.10	WIRELESS TOOL
99	200-0000	01	P.10	WIRELESS TOOL
100	200-0000	01	P.10	WIRELESS TOOL

**THIS SCHEMATIC IS FOR THE 950H AND 962H WHEEL LOADER AND IT62H INTEGRATED TOOLCARRIER**  
**ELECTRICAL SYSTEM**  
**VOLUME 2 of 2: CAB**  
 MEDIA NUMBER: UENR2520-03  
 SCHEMATIC PART NUMBER: 357-3344, CHANGE: 00, VERSION: -  
 Components are shown installed on a fully operable machine with the key and engine off, transmission in the 'N' neutral and with parking brake set.  
 Refer to the appropriate Service Manual for Troubleshooting, Specifications and Systems Operations.  
 Refer to the Parts Manual using a specific serial number prefix in SIS before ordering parts from this schematic.

# MACHINE HARNESS CONNECTOR AND COMPONENT LOCATIONS



# MACHINE HARNESS CONNECTOR AND COMPONENT LOCATIONS

