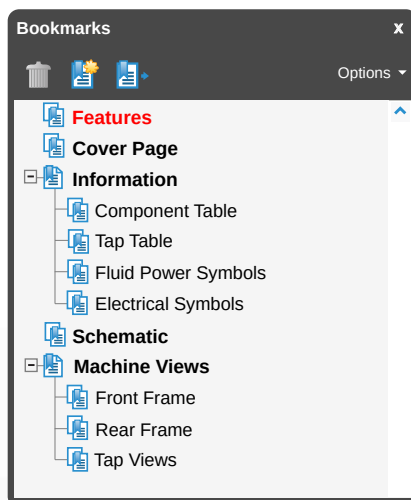


INTERACTIVE SCHEMATIC



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**.

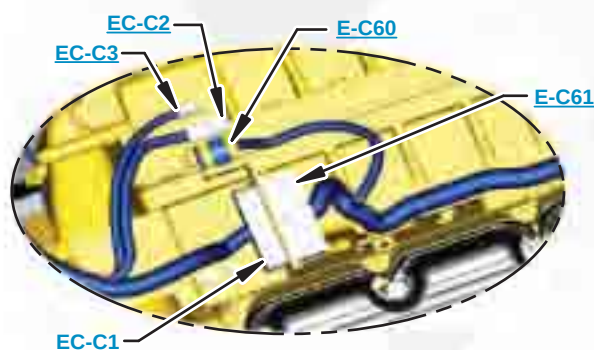
Select **PROPERTIES**.

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

950F Wheel Loader Electrical System

7ZF1-UP
6YG1-UP
4DJ1-UP

COMPONENT LOCATION



Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
Alarm -Backup	D-12	1	Sensor -Hydraulic Temp	A-2	14
Alarm -Backup	F-12	1	Sensor -Trans Oil Temp	A-11	15
Alarm -Fault	E-3	C	Sensor -Trans Output Speed	B-1	16
Alternator	E-10	2	Solenoid -A/C Clutch	A-12	17
Battery	E-11	3	Solenoid -Bucket Float	B-5	F
Battery	F-11	4	Solenoid -Bucket Kickout	B-5	F
Breaker -Alternator	C-12	E	Solenoid -Engine Shutdown	A-12	18
Breaker -Blower Motors	B-5	F	Solenoid -Lift Kickout	B-4	F
Breaker -Condenser Fan Motors	C-5	F	Solenoid -Ride Control	A-1	19
Breaker -Main	C-12	E	Solenoid -Ride Control (German Rooding)	D-1	19
Breaker -Running Lamp	C-12	E	Solenoid -Start Aid	A-11	20
Buffer -Fuel Level	B-2	5	Switch -Backup Alarm	B-1	21
Converter -Voltage	F-4	A	Switch -Beacon	C-3	A
Dryer -Brake Air	A-10	6	Switch -Blower	F-7	D
Flasher	C-5	A	Switch -Brake Oil	A-11	22
Fuse -Holder	B-4	F	Switch -Bucket Positioner	A-1	23
Fuse -Holder	C-12	E	Switch -Bucket Positioner (German Rooding)	D-1	23
Ground -Engine To Frame	E-11	7	Switch -Dimmer	F-2	A
Ground -Platform (Cab)	A-7	F	Switch -Disconnect	F-11	7
Ground -Platform (Cab) To Frame	A-7	8	Switch -Engine Oil Press	A-12	24
Horn -Forward (German Rooding)	D-1	9	Switch -Ether Aid Coolant Temp	E-11	2
Lamp -Master Warning (CMS)	B-3	B	Switch -Flood Lamp	E-6	C
Meter -Service	E-7	D	Switch -Front Wiper	D-3	B
Monitor -Computerized System (CMS)	E-4	B	Switch -Horn	D-2	A
Motor -Blower	D-8	F	Switch -Hydraulic Oil Level	A-2	25
Motor -Blower	E-8	A	Switch -Key Start	D-6	C
Motor -Front Washer	C-10	10	Switch -Lift Positioner	A-1	26
Motor -Front Wiper	E-3	B	Switch -Lift Positioner (German Rooding)	D-1	26
Motor -Rear Washer	C-10	10	Switch -Parking Brake	C-1	27
Motor -Rear Wiper	E-6	A	Switch -Primary Steering Flow	B-11	28
Motor -Starter	F-11	7	Switch -Primary Steering Flow (German Rooding)	B-11	28
Motors -Condenser Fan	A-5	F	Switch -Rear Wiper	D-3	B
Receptacle -Auxiliary Start	F-11	7	Switch -Refrigerant	A-7	F
Relay -Condenser Fan	A-6	F	Switch -Ride Control	C-3	B
Relay -Main	C-12	E	Switch -Running Lamp	D-6	C
Relay -Start	C-12	E	Switch -Secondary Brake Air Press	F-8	29
Resistor -Blower Speed	D-8	A	Switch -Start Aid	D-6	C
Resistor -Monitor System Voltage (CMS)	C-11	E	Switch -Stoplamp Press	B-2	30
Resistor -Starting System Diagnostics	F-10	7	Switch -Supplemental Steering Flow (German Rooding)	B-11	27
Sender -Fuel Level	B-1	11	Switch -Thermostat	E-7	D
Sensor -Brake Air Pressure	C-1	12	Switch -Trans Neutral	B-1	21
Sensor -Coolant Temp	E-11	2	Switch -Turn Signal	C-5	A
Sensor -Engine Speed	A-11	13			

Vechile locations are repeated for components located close together

A = Components in operator compartment.

B = Components in operator compartment - Dash.

C = Components in operator compartment - Right console.

D = Components in operator compartment - Left console

E = Components on relay panel.

F = Components in service compartment - Right Side.

CONNECTOR LOCATION



Connector Number	Schematic Location	Machine Location
CONN 1	B-8	31
CONN 2	B-12	32
CONN 3	B-8	31
CONN 4	F-6	33
CONN 5	D-3	34
CONN 6	B-5	35
CONN 7	D-6	36
CONN 8	F-7	37
CONN 9	F-6	33
CONN 10	F-2	38
CONN 11	A-11	39
CONN 12	E-10	40
CONN 13	A-6	41
CONN 14	D-12	42
CONN 15	C-4	34
CONN 16	D-8	35
CONN 17	A-3	34
CONN 18	C-3	34
CONN 19	D-2	43
CONN 20	D-5	44
CONN 21	D-6	36
CONN 22	A-2	38
CONN 23	D-5	44
CONN 24	E-3	34
CONN 25	B-2	42

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

Off Machine Switch Specification

Part No.	Function	Actuate	Deactuate	Contact Position
2M9346	Stoplamp Pressure	45 kPa MAX (6.5 psi MAX)	5 kPa MIN (0.5 psi MIN)	N.O.
8C3569	Coolant Temperature Switch (Ether Aid)	37.8 ± 2.8°C (100 ± 5°F)	26.7°C Min (81°F Min)	N.C.
8T9792	Secondary Brake Air Pressure (CMS)	517 ± 35kPa (75 ± 5 psi)	448 ± 35kPa (65 ± 5 psi)	*
9X1 159	Steering (Primary-Secondary) Flow (CMS)	4 grams (.14 oz.)	1.5 grams (.05 oz)	N.O.
9X3210	Parking Brake Pressure (CMS)	517 ± 35kPa (75.0 ± 5.0 psi)	448 ± 35kPa (65.0 ± 5.0 psi)	N.O.
9X4276	Engine Oil Pressure (CMS)	93.0 ± 20.8 kPa (14.0 ± 3.0 psi)	68.9 ± 20.8 kPa (10.0 ± 3.0 psi)	*

* = Pins 1-2 N.O.; Pins 1-3 N.C.

N.O. = NORMALLY OPEN

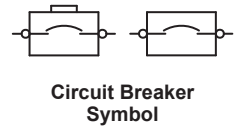
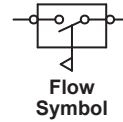
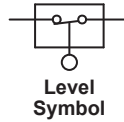
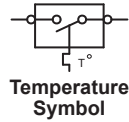
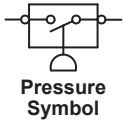
N.C. = NORMALLY CLOSED

HARNESS and WIRE

Electrical Schematic Symbols



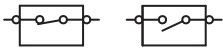
Symbols



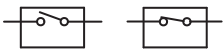
Symbols and Definitions



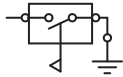
Fuse: A component in an electrical circuit that will open the circuit if too much current flows through it.



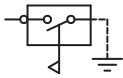
Switch (Normally Open): A switch that will close at a specified point (temp, press, etc.). The circle indicates that the component has screw terminals and a wire can be disconnected from it.



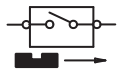
Switch (Normally Closed): A switch that will open at a specified point (temp, press, etc.). No circle indicates that the wire cannot be disconnected from the component.



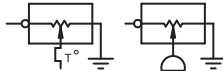
Ground (Wired): This indicates that the component is connected to a grounded wire. The grounded wire is fastened to the machine.



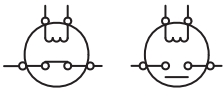
Ground (Case): This indicates that the component does not have a wire connected to ground. It is grounded by being fastened to the machine.



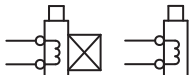
Reed Switch: A switch whose contacts are controlled by a magnet. A magnet closes the contacts of a normally open reed switch; it opens the contacts of a normally closed reed switch.



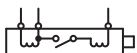
Sender: A component that is used with a temperature or pressure gauge. The sender measures the temperature or pressure. Its resistance changes to give an indication to the gauge of the temperature or pressure.



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.



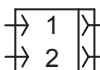
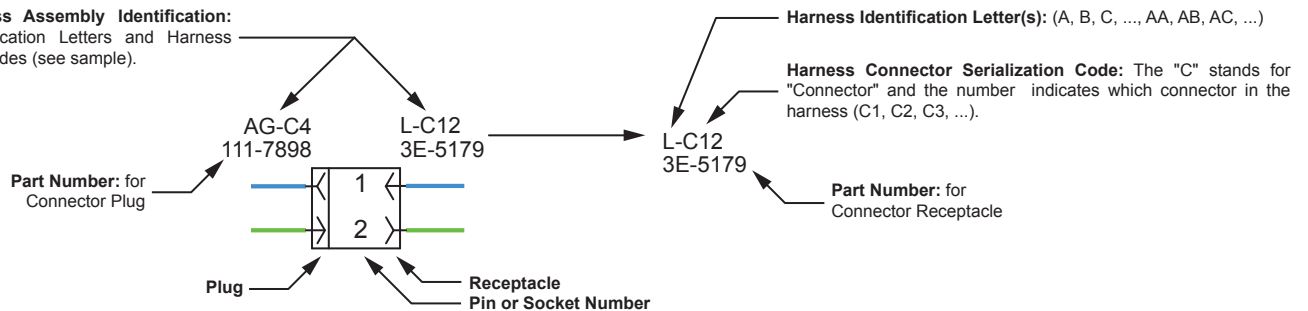
Solenoid: A solenoid is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close a valve or move a piece of metal that can do work.



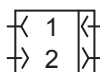
Magnetic Latch Solenoid: A magnetic latch solenoid is an electrical component that is activated by electricity and held latched by a permanent magnet. It has two coils (latch and unlatch) that make electromagnet when current flows through them. It also has an internal switch that places the latch coil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

Harness and Wire Symbols

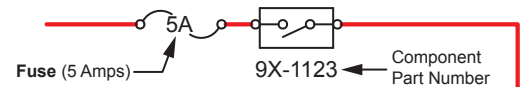
Wire, Cable, or Harness Assembly Identification:
Includes Harness Identification Letters and Harness Connector Serialization Codes (see sample).



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.



Harness identification code:
This example indicates wire group 325, wire 135 in harness "AG".

325-AG135 PK-14

Wire Gauge
Wire Color



SYMBOL	DESCRIPTION
	CIRCUIT CONNECTED
	CIRCUIT NOT CONNECTED
	ELECTRICAL CONNECTION TO MACHINE STRUCTURE
	INTERNAL ELECTRICAL CONNECTION TO SURFACE OF COMPONENT
	CONNECTOR
	GROUPING DESIGNATION
	ATCH WIRE, CABLE, COMPONENT
	SPLICE
	BLADE, SPADE, RING OR SCREW TERMINAL

THIS SCHEMATIC IS FOR THE 950F WHEEL LOADER ELECTRICAL SYSTEM
MEDIA NUMBER: SENR4935-01
SCHEMATIC PART NUMBER: 7T-1086, CHANGE: 00, VERSION: -
 Components are shown installed on a fully operable machine with the key and engine off, transmission shifter in neutral and with parking brake set.
 Refer to the appropriate Service Manual for Troubleshooting, Specifications and Systems Operations.

MACHINE HARNESS CONNECTOR AND COMPONENT LOCATIONS **CAT**[®]

