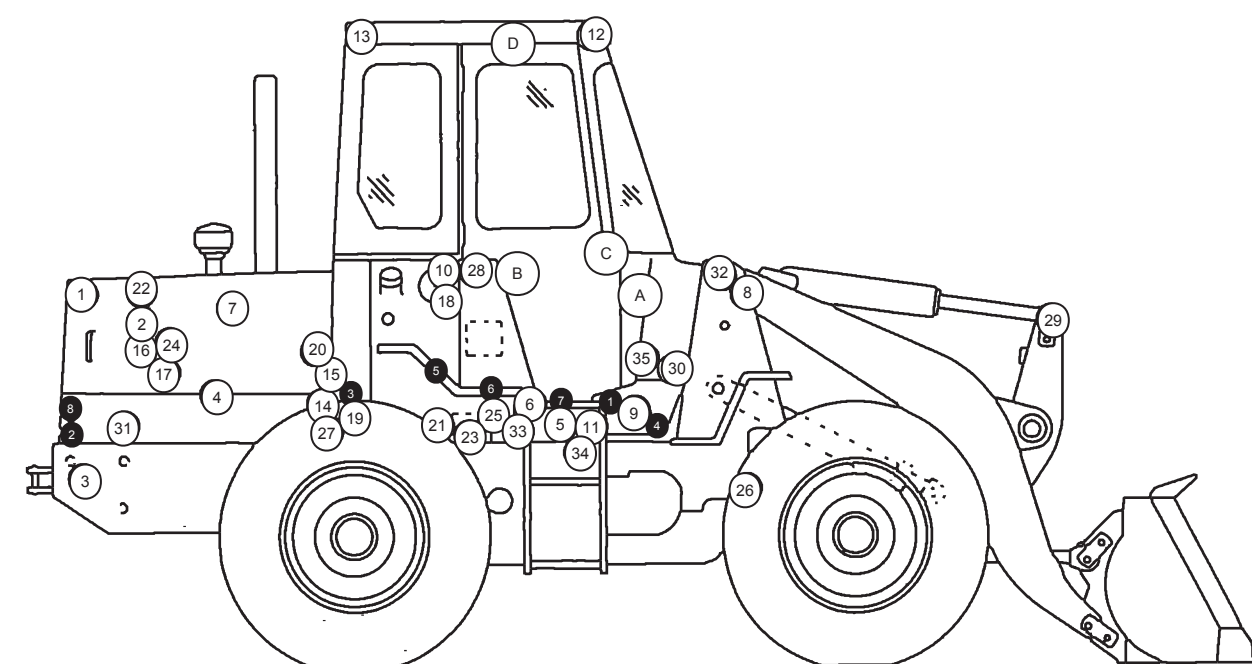
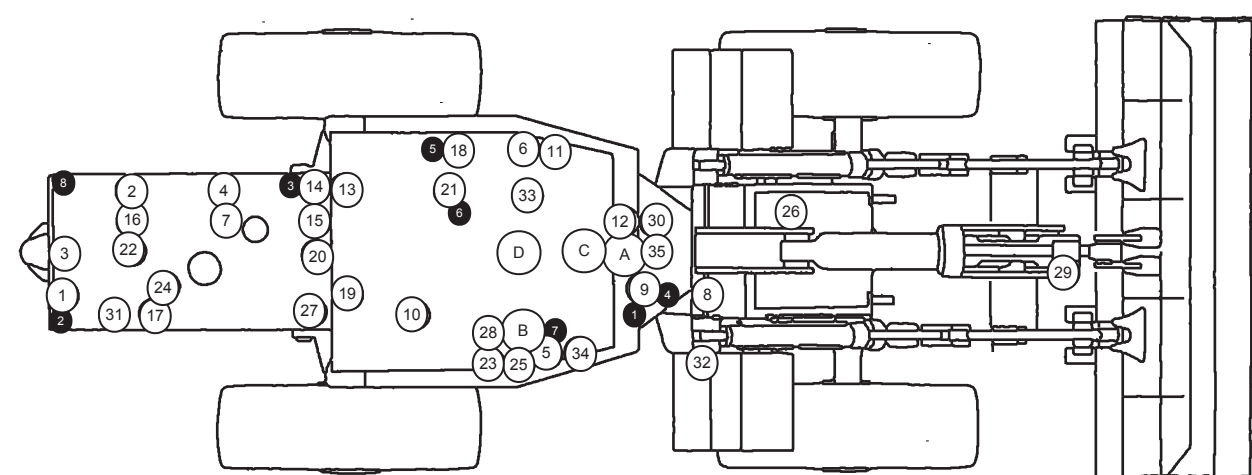


Diagnostic Code Conversion		
Code Flashed	CID - FMI	Description
11	No ACTIVE Faults	Not applicable.
12	No INACTIVE Faults	Not applicable.
21	368 - 02	Automanual switch signal not correct.
22	621 - 02	Downshift switch signal not correct.
24	190 - 08	Engine speed sensor signal not valid.
25	191 - 08	Transmission speed sensor signal not valid.
31	641 - 05	Solenoid 1 open circuit.
32	642 - 05	Solenoid 2 open circuit.
33	643 - 05	Solenoid 3 open circuit.
34	644 - 05	Solenoid 4 open circuit.
35	645 - 05	Solenoid 5 open circuit.
36	646 - 05	Solenoid 6 open circuit.
41	641 - 06	Solenoid 1 short to ground.
42	642 - 06	Solenoid 2 short to ground.
43	643 - 06	Solenoid 3 short to ground.
44	644 - 06	Solenoid 4 short to ground.
45	645 - 06	Solenoid 5 short to ground.
46	646 - 06	Solenoid 6 short to ground.
51	641 - 03	Solenoid 1 short to + battery.
52	642 - 03	Solenoid 2 short to + battery.
53	643 - 03	Solenoid 3 short to + battery.
54	644 - 03	Solenoid 4 short to + battery.
55	645 - 03	Solenoid 5 short to + battery.
56	646 - 03	Solenoid 6 short to + battery.
61	660 - 02	Invalid shift lever input line 12.
62	661 - 02	Invalid shift lever input line 13.
63	662 - 02	Invalid shift lever input line 14.
64	663 - 02	Invalid shift lever input line 15.
65	664 - 02	Invalid shift lever input line 16.
66	665 - 02	Invalid shift lever input line 17.
67	666 - 02	Invalid shift lever input line 18.
68	667 - 02	Invalid shift lever input line 19.
69	668 - 02	Invalid shift lever input.
71	168 - 00	System voltage above normal.
72	168 - 01	System voltage below normal.
74	650 - 02	Invalid harness code.



MACHINE HARNESS CONNECTOR AND COMPONENT LOCATIONS

ACTIVATION OF DIAGNOSTIC INDICATOR OPERATIONS (Quick Reference)			
Operation	Contact 1*	Contact 3*	Contact 5*
To Scroll ACTIVE Faults	Ground †	Open	Open
To Scroll INACTIVE Faults	Open	Open	Ground ‡
To Clear † Faults	Open	Ground	Open

\* These contacts are located in the harness code connector.  
 † Remove the connection to ground to place the desired information shown during scrolling on-hold.  
 ‡ Fault is cleared only while it is on-hold. A fault that is active cannot be cleared.

Component Location					
Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
Alarm - Backup	E-12	1	Sensor - Trans/Speedo	F-6	21
Alarm - Backup (CO2A Reading)	C-12	1	Solenoid - A/C Clutch	B-11	22
Alarm - Parking Brake	B-5	A	Solenoid - Bucket	A-8	23
Alternator	D-11	2	Solenoid - Engine Shutdown	C-11	24
Batteries	C-11, B-11	3	Solenoid - Lift	A-8	25
Breaker - Aux	E-11	4	Solenoid - Ride Control	E-2	26
Breaker - Lamp	E-6	A	Solenoid - Ride Control (CO2A Reading)	C-1	26
Breaker - Main	E-11	4	Solenoid - Ride Control (Japan Reading)	F-1	26
Control - Autoshift	C-3	8	Solenoid - Start Aid	A-11	27
Control - Primary Steering	E-5	A	Solenoids - (1-6) Transmission	A-9	19
Control - Secondary Steering	E-5	A	Speedometer	D-7	A
Control - Shift	E-8	C	Switch - A/C Blower	B-9	B
Converter - Voltage	D-5	D	Switch - A/C Refrigerant Pressure	B-11	22
Flasher	D-8	A	Switch - Beacon	D-8	C
Fuses	F-6, E-8	A	Switch - Brake Level	A-7	29
Gauge - Coolant Temp	C-7	A	Switch - Bucket Positioner	D-2	29
Gauge - Fuel Level	C-7	A	Switch - Bucket Positioner (CO2A Reading)	B-1	29
Gauge - Oil Pressure	C-7	A	Switch - Bucket Positioner (Japan Reading)	E-1	29
Gauge - Torque Converter Oil Temp	C-7	A	Switch - Coolant	C-11	16
Ground - Engine	D-11	4	Switch - Cromer	F-2	30
Ground - Frame	F-5, D-10	6	Switch - Disconnect (CO2A Attach)	B-11	31
Heater Air Intake	F-11	7	Switch - Disconnect (Japan Attach)	B-11	31
Horn - Forward	E-2	8	Switch - Flood Lamp	B-7	A
Horn - Forward (CO2A Reading)	C-1	8	Switch - Front Wiper	B-8	A
Horn - Forward (Japan Reading)	F-1	8	Switch - Horn	D-8	C
Lamp - Alternator	E-6	A	Switch - Key Start	C-9	A
Lamp - Brake Level	D-6	A	Switch - Lift Kickout	D-2	32
Lamp - Diagnostic (Autoshift)	C-3	9	Switch - Lift Kickout (CO2A Reading)	B-1	32
Lamp - Heater Air Intake	D-6	A	Switch - Lift Kickout (Japan Reading)	E-1	32
Lamp - Neutral Override	A	D-6	Switch - Neutral Override	B-6	A
Lamp - Parking Brake	C-6	A	Switch - Parking Brake	F-5	A
Lamp - Primary Steering	D-6	A	Switch - Primary Steering Flow	F-7	33
Lamp - Ride Control	D-6	A	Switch - Rear Wiper	C-8	A
Lamp - Secondary Steering	D-6	A	Switch - Ride control	C-8	A
Meter - Service Hour	C-7	A	Switch - Running Lamp	B-8	A
Motor - Blower A/C	D-8	10	Switch - Secondary Steering Flow (CO2A Reading)	C-2	34
Motor - Blower	D-9	10	Switch - Secondary Steering Flow (Japan Reading)	B-1	34
Motors - Front And Rear Washers	F-7	11	Switch - Secondary Steering Flow (Japan Reading)	E-1	34
Motor - Front Wiper	C-5	12	Switch - Start Aid	C-6	A
Motor - Rear Wiper	F-10	13	Switch - Stop Lamp	D-5	35
Motor - Starting	E-11	14	Switch - Thermostat	D-9	10
Relay - Heater Air Intake	F-11	15	Switch - Trans Auto/Manual (Autoshift)	D-9	C
Relay - Main	F-6	A	Switch - Trans Neutralizer	D-5	35
Relay - Parking Brake	B-5	A	Switch - Transmission Down Shift (Autoshift)	A-4	B
Relay - Start	E-11	4	Switch - Turn Signal	E-8	C
Resistor - Alternator	E-6	A	Switch - Wiper Intermittent	A-10	A
Resistor - Blower Motor Speed	D-9	10	Timer - Air Inlet Heater	B-6	A
Sender - Coolant	C-11	16			
Sender - Engine Oil Pressure	B-11	17			
Sender - Fuel Level	F-7	18			
Sender - Torque Converter Temp	E-10	19			
Sensor - Engine Speed	A-11	20			

Machine locations are repeated for components located close together.  
 A = Components located in the dash.  
 B = Components located on the right console.  
 C = Components located in steering column area.  
 D = Components located in the headrest.



SEN9545  
March 1993

# Schematic

## 910F Wheel Loader Electrical System

1S1F104-UP

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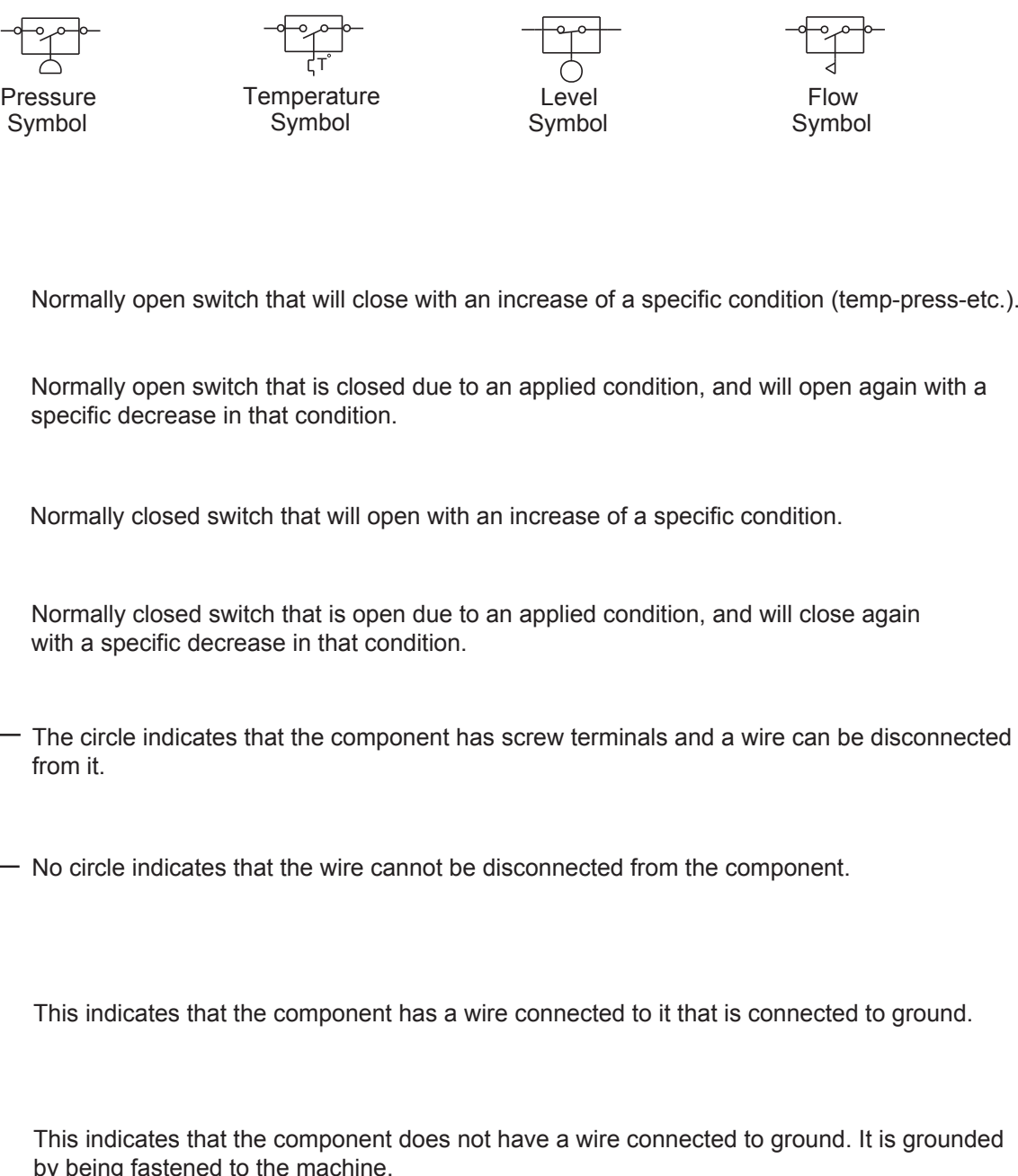
Related Electrical Service Manuals	
Title	Form Number
Alternator K1/NT	SEN93685
Electronic Transmission Control System	SEN93751
Steering Motor, Reduction Type RS 5	SEN93828

Harness Connector Location			
Connector	Machine Location	Harness And/Or Components	Schematic Location
40 CONTACTS	-	Adjuster Control N-877558	B-3
	1	A-101866 B-877586	A-6
	2	A-1018766 K-1019156 (Japan Reading)	A-11
	3	A-1018166 L-1019168 (CO2A Reading)	A-11, C-12
12 CONTACTS	-	B-877588 Standard E-1019168 Standard C-877583 N-877586 S-1019167	F-9
	1	B-877588 C-877583 N-877586 S-1019167	E-8
	2	B-877588 Standard E-1019168 Standard N-877586 Attachment C-877583 S-1019167	A-6, A-4
	3	B-877588 C-877583 N-877586 Attachment	A-6, A-3
9 CONTACTS	-	B-877588 Cluster Cage Group N-877588 Dash Link Plug	C-8
	1	B-877588 N-877588 C-877583 S-1019167	C-2
	2	B-877588 D-877586 (Japan Reading)	A-5
	3	B-877588 S-1019167 (CO2A Reading)	A-5,F-2
8 CONTACTS	A	B-877588 C-877583 N-877586 PP-1019161	B-6
	1	B-877588 PP-1019161	B-5
	2	C-877583 PP-1019161	C-3
	3	C-1019168 Attachment Intermittent Wiper Switch	A-10

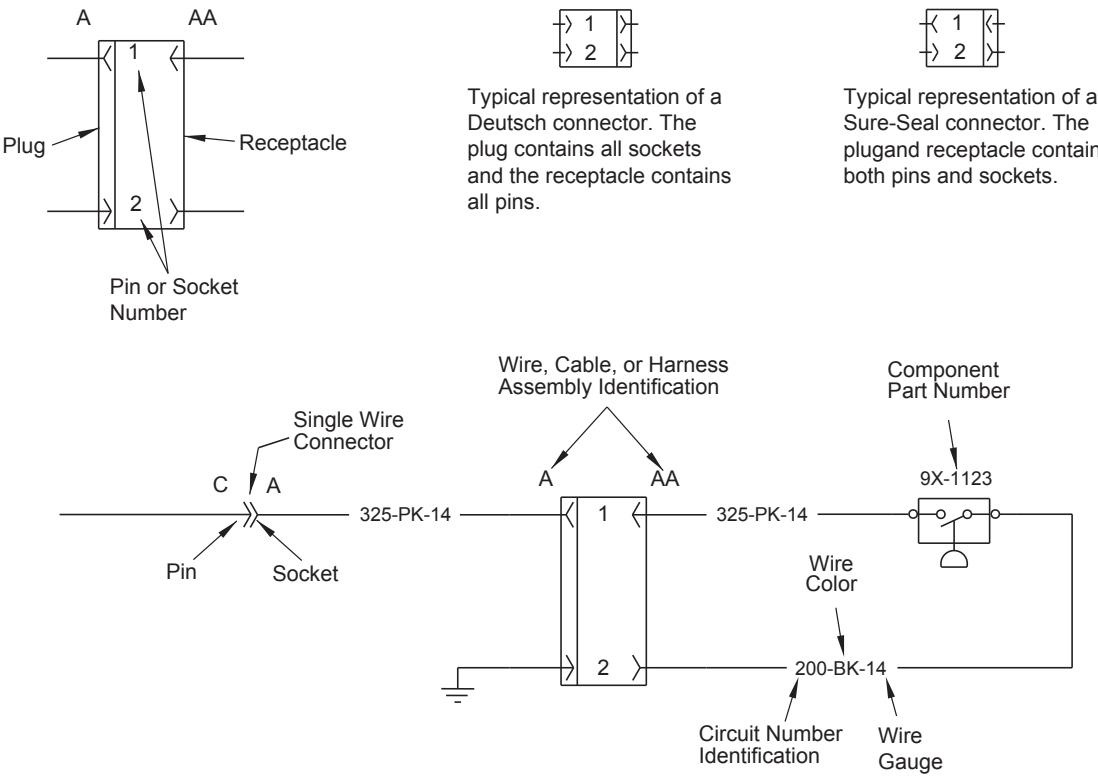
Machine locations are repeated for connectors located close together.  
 \* = Connector is located at the connector.  
 A = Components located in the dash.

Wire Description			
Wire Number	Wire Color	Description	Wire Color
101	RD	BAT	BR
102	BU	HD LAMP	DN
103	BR	KEY START SW	CR
106	WH	ALX OHT	BR
109	GR	AL1 OUTPUT (+) TERM	YL
112	PU	WASHER RELAY OUTPUT	BU
114	GN	WASHER HORN (FORWARD)	506
115	PK	ALX OHT	FU
118	BR	ALX OHT	112
119	GY	ALX OHT	515
120	YL	ALX OHT	516
121	BU	ALX OHT	517
123	WH	ALX OHT	521
124	GN	ALX OHT	522
127	CR	ALX OHT	523
128	PK	ALX OHT	538
129	BU	ALX OHT	603
130	GN	ALX OHT	604
136	GN	SUPPL/STER	605
144	GN	SHR Control	611
160	PU	ALX OHT	608
200	BR	AMN CHASSIS	610
202	BR	AMN OHT	612
276	BR	AMN OHT	614
277	BR	AMN OHT	615
278	BR	AMN OHT	617
279	BR	AMN OHT	618
280	BR	AMN OHT	619
281	BR	AMN OHT	710
301	BU	STARTER NO. 1 SOL	720
304	WH	STARTER RELAY NO. 1 OUTPUT	751
306	GN	STARTER RELAY COIL TO WET START SW OR KEY TO KEY START SW OR VMS SENSOR MODULE	752
307	CR	ALX OHT	753
308	YL	AMN POWER RELAY COIL	754
309	GY	ALX OHT	755
310	PU	START AID SW TO START AID SOL	756
311	WH	START AID SOL TO TEMP SW	757
321	BR	ROCK ALARM LAMP TRAVEL ALARM	760
322	GY	WASHER HORN (FORWARD)	761
323	PU	KEY SW C TERM	762
373	GN	START AID SW	763
403	GN	ALX OHT	764
409	CR	OPR MCH NEUT	765
410	WH	OPR MCH FAULT ALARM	766
418	CR	SUPPL/STER SW	767
419	GY	PRIMARY STER SW	768
419	YL	OPR MCH PARKING BRAKE	769
443	YL	POWER TRAIN TEMP-GAGE	770
447	PK	FUEL LEVEL GAGE	771
448	GY	OPR MCH PARKING BRAKE (NORMAL NO. 1)	772
450	YL	TACH SENDER (V)	773
453	PK	SUPPL/STER FAULT LAMP	774
463	BR	OPR MCH PARKING BRAKE (NO. 2) PRESS. SENSOR	775
464	YL	PRIMARY STER LAMP	776
465	CR	OPR MCH NEUT	777
466	BR	OPR MCH NEUT	778
467	BR	OPR MCH NEUT	779
468	BR	OPR MCH NEUT	780
469	BR	OPR MCH NEUT	781
470	BR	OPR MCH NEUT	782
471	BR	OPR MCH NEUT	783
472	BR	OPR MCH NEUT	784
473	BR	OPR MCH NEUT	785
474	BR	OPR MCH NEUT	786
475	BR	OPR MCH NEUT	787
476	BR	OPR MCH NEUT	788
477	BR	OPR MCH NEUT	789
478	BR	OPR MCH NEUT	790
479	BR	OPR MCH NEUT	791
480	BR	OPR MCH NEUT	792
481	BR	OPR MCH NEUT	793
482	BR	OPR MCH NEUT	794
483	BR	OPR MCH NEUT	795
484	BR	OPR MCH NEUT	796
485	BR	OPR MCH NEUT	797
486	BR	OPR MCH NEUT	798
487	BR	OPR MCH NEUT	799
488	BR	OPR MCH NEUT	800

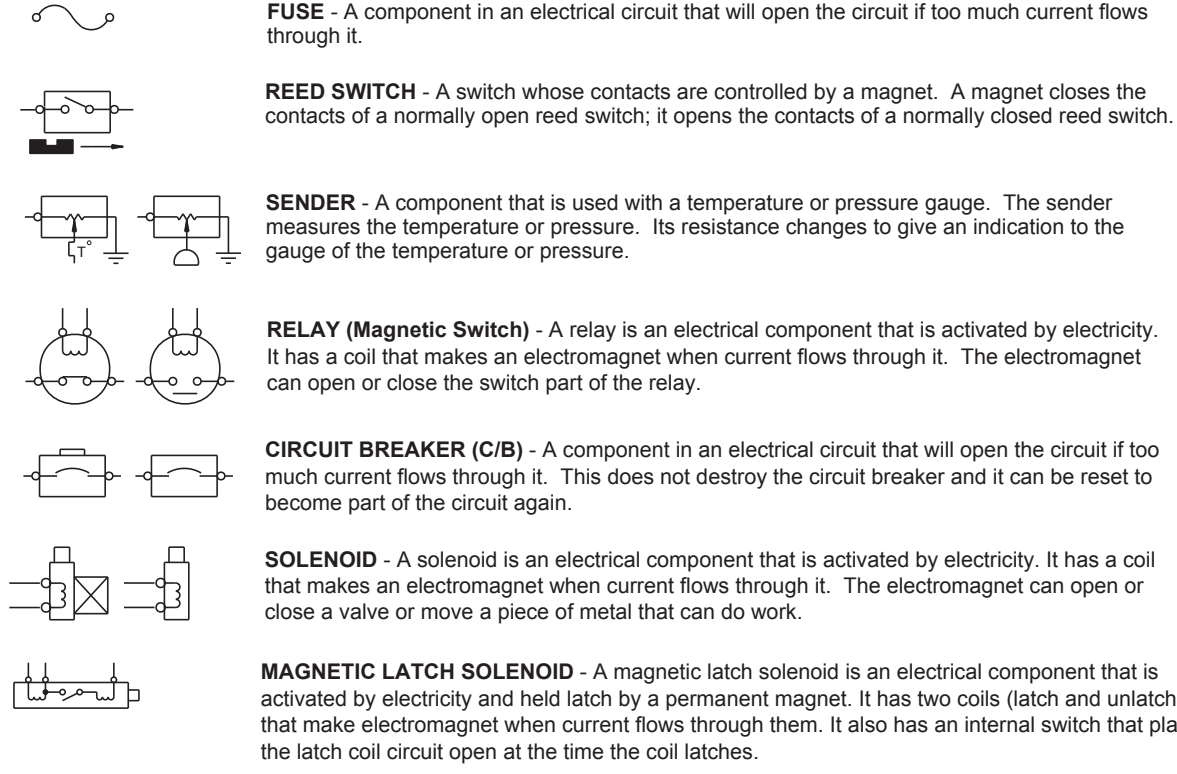
### Electrical Schematic Symbols And Definitions



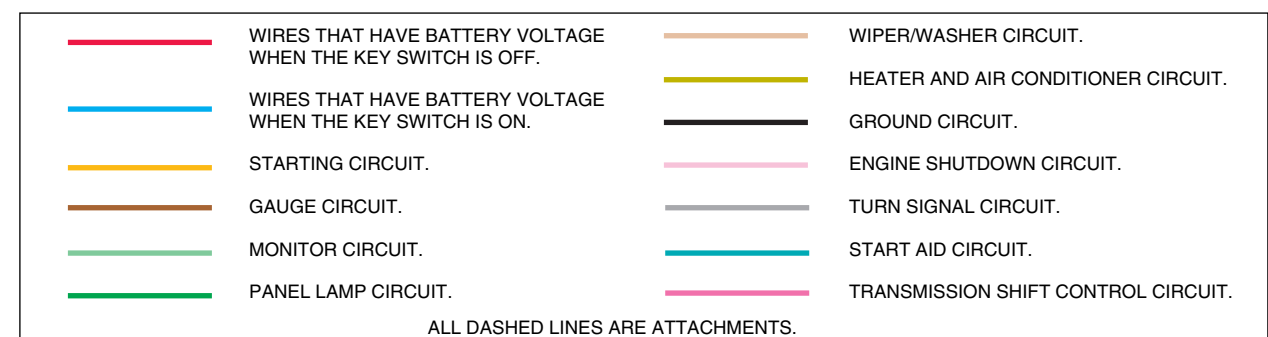
### Harness And Wire Electrical Schematic Symbols



### Electrical Schematic Symbols And Definitions







Resistor, Sender and Solenoid Specifications		
Component	Part No.	Resistance (Ohms)
Resistor - Alternator	27754	1.0
Resistor - Power Window	27755	1.0
Solenoid - Air Conditioner Clutch	27813	14.4 ± 0.6
Solenoid - Starter	27814	100 ± 5
Solenoid - Engine Shutdown	27815	1.0
Solenoid - Fuel Injector	27816	1.0
Solenoid - Fuel Injector	27817	1.0
Solenoid - Fuel Injector	27818	1.0
Solenoid - Fuel Injector	27819	1.0
Solenoid - Fuel Injector	27820	1.0
Solenoid - Fuel Injector	27821	1.0
Solenoid - Fuel Injector	27822	1.0
Solenoid - Fuel Injector	27823	1.0
Solenoid - Fuel Injector	27824	1.0
Solenoid - Fuel Injector	27825	1.0
Solenoid - Fuel Injector	27826	1.0
Solenoid - Fuel Injector	27827	1.0
Solenoid - Fuel Injector	27828	1.0
Solenoid - Fuel Injector	27829	1.0
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Solenoid - Fuel Injector	27837	1.0
Solenoid - Fuel Injector	27838	1.0
Solenoid - Fuel Injector	27839	1.0
Solenoid - Fuel Injector	27840	1.0
Solenoid - Fuel Injector	27841	1.0
Solenoid - Fuel Injector	27842	1.0
Solenoid - Fuel Injector	27843	1.0
Solenoid - Fuel Injector	27844	1.0
Solenoid - Fuel Injector	27845	1.0
Solenoid - Fuel Injector	27846	1.0
Solenoid - Fuel Injector	27847	1.0
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Solenoid - Fuel Injector	27850	1.0
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Solenoid - Fuel Injector	27897	1.0
Solenoid - Fuel Injector	27898	1.0
Solenoid - Fuel Injector	27899	1.0
Solenoid - Fuel Injector	27900	1.0

Off Machine Switch Specifications			
Part No.	Function	Wires	Contact Position
26444	Control Start Temperature (Start Aid)	36, 37C	Normally Closed
26445	Control Start Temperature (Start Aid)	36, 37C	Normally Open
26446	Primary Steering Oil Flow	1, 2	Normally Open
26447	Particulate Pressure (A/C)	170, 170A, 170B	Normally Closed
26448	Secondary Steering Oil Flow	1, 2	Normally Open
26449	Secondary Steering Oil Flow	1, 2	Normally Open
26450	Secondary Steering Oil Flow	1, 2	Normally Open
26451	Secondary Steering Oil Flow	1, 2	Normally Open
26452	Secondary Steering Oil Flow	1, 2	Normally Open
26453	Secondary Steering Oil Flow	1, 2	Normally Open
26454	Secondary Steering Oil Flow	1, 2	Normally Open
26455	Secondary Steering Oil Flow	1, 2	Normally Open
26456	Secondary Steering Oil Flow	1, 2	Normally Open
26457	Secondary Steering Oil Flow	1, 2	Normally Open
26458	Secondary Steering Oil Flow	1, 2	Normally Open
26459	Secondary Steering Oil Flow	1, 2	Normally Open
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26496	Secondary Steering Oil Flow	1, 2	Normally Open
26497	Secondary Steering Oil Flow	1, 2	Normally Open
26498	Secondary Steering Oil Flow	1, 2	Normally Open
26499	Secondary Steering Oil Flow	1, 2	Normally Open
26500	Secondary Steering Oil Flow	1, 2	Normally Open

