Wire Description

Wire Number	Wire Color	Description	Wire Number	Wire Color	Description
		Power Circuits			**Control Circuits**
101	RD	Battery (+)	709	OR	Sensor Power Supply
102	RD	Engine Control Power	751	GN	XMSN Reverse Clutch
103	RD	Rear Flood Power	752	YL	XMSN Forward Clutch
104	YL	Aux Ckt	754	BU	XMSN Third Gear Clutch
105	RD	Key Switch Power	755	OR	XMSN Second Gear Clutch
106	PU	Product Link	A700	OR	Engine Control Digital Sensor Power (+8V)
108	BU	Wipers	A701	GY	Injector #1
109	RD	Alternator Breaker	A702	PU	Injector #2
110	GN	Aux Ckt	A703	BR	Injector #3
111	YL	Aux Ckt	A704	GN	Injector #4
112	PU	Main Power Relay Output	A705	BU	Injector #5
113	OR	Monitor Panel Power	A706	GY	Injector #6
114	RD	Forward Horn Power	A745	WH	Fuel Pressure
115	RD	Front Flood Power	A746	PK	Turbo Outlet Pressure
116	BR	Fender Flood Power	A747	GY	Atmospheric Pressure
124	GN	A/C and Blower Power	A751	YL	Fuel Temperature
130	GN	Auxiliary Power	D786	BR	Engine Retarder Sol Cyl 1, 2, 5 , 6
140	BU	Powertrain Control Power	D787	GN	Engine Retarder Sol 3, 4
150	RD	Engine Control Power	D788	BK	Engine Retarder Sol Common
158	BR	Remote A/C Condenser Power	D789	WH	Injector Common 1 & 2
160	RD	Winch Power	D790	OR	Injector Common 3 & 4
176	YL	Seat Power	D791	YL	Injector Common 5 & 6
184	BU	Aux Ckt	E707	GN	Display +V
186	RD	Power Outlet Power	E708	PK	SPI Clock
197	GN	Aux Ckt	E735	PU	Cat Mon Sys Operator Switch
198	RD	Secondary Brake Power	E793	BU	ATA Datalink -
		Ground Circuits	E794	YL	ATA Datalink +
200	BK	Main Chassis Ground	E799	BR	Solenoid Return
201	BK	Operator Monitor Return	F700	BU	Demand Fan Actuator
202	BK	XMSN Ctrl	F701	BR	Retarder Solenoid
207	BK	Starter Ground Diagnostic	F702	GN	Decelerator Pedal
229	BK	Engine Control Ground	F704	OR	Use Shutdown
270	BK	Cat Mon Sys Ident Code 0	F708	YL	Flexxaire Fan Pull Solenoid
271	BK	Cat Mon Sys Ident Code 1	F710	BR	Start Aid Relay
272	BK	Cat Mon Sys Ident Code 2	F713	OR	Unused
273	BK	Cat Mon Sys Ident Code 3	F714	PK	Turbo Inlet Pressure
274	BK	Cat Mon Sys Ident Code 4	F715	PU	Throttle Switch (Low Idle)
275	BK	Cat Mon Sys Ident Code 5	F716	WH	Throttle Switch (Low Idle Parity)
276	BK	XMSN Ctrl Indent Code 0	F717	YL	Throttle Switch (High Idle)
277	BK	XMSN Ctrl Indent Code 1	F718	BU	Throttle Switch (High Idle Parity)
278	BK	XMSN Ctrl Indent Code 2	F719	BR	Crank w/o Inject (N.O.)
279	BK	XMSN Ctrl Indent Code 3	F720	GN	Crank w/o Inject (N.C.)
280	BK	XMSN Ctrl Indent Code 4	F721	GY	Start Aid Switch
290	BK	Cat Mon Sys Service	F723	PK	TDC Probe +
291	Bk	Cat Mon Clear	F724	PU	TDC Probe -
		Basic Machine Circuits	F732	PK	Backup Camshaft Speed/Timing
301	BU	Starter No. 1 Solenoid	F780	PK	Parking Brake SW
302	OR	Starter No. 1 Resistor to Diagnostic	F781	BR	Downshift SW (N.O.)
304	WH	Starter Relay No. 1 Output	F782	OR	Reverse SW (N.O.)
306	GN	Starter Relay Coil to Neutral Start SW or Key SW	F783	GN	Upshift SW (N.O.)
307	OR	Key Switch to Neutral Start Switch	F784	YL	Downshift SW (N.C.)
308	YL	Main Power Relay Coil	F785	WH	Upshift SW (N.C.)
310	PU	Start Aid Switch to Start Aid Solenoid	F786	GY	Reverse SW (N.C.)
321	BR	Backup Alarm	F788	PU	Left Steer Clutch
322	GY	Warning Horn (Forward)	F789	YL	Right Steer Clutch
326	PU	Key Start Switch OFF	F790	BR	Service Brake Pedal
334	BU	Implement Detent	F791	BU	Right Brake Solenoid
337	WH	Prelube Pushbutton Switch to Prelube Timer	F792	WH	Left Brake Solenoid
		Monitoring Circuits	G730	PK	EPTC II - Park Brake Sol
403	GN	Alternator (R) Term.	G731	GY	EPTC II - Secondary Serivce Brake Sol
410	WH	Action Alarm	828	WH	FTC Left Steer Sensor
411	PK	Master Action Lamp	830	OR	FTC Right Steer Sensor
419	YL	Opr Mon Parking Brake	851	WH	Direction Sensor
426	BR	Powertrain Oil Filter Differential Pressure	892	BR	CAT Data Link (-)
442	GY	Hydraulic Oil Temperature	893	GN	CAT Data Link (+)
443	YL	Powertrain Oil Temperature	F842	BU	Implement Lockout SW 2
447	PK	Fuel Level	F843	YL	Inching Pedal Sensor
450	YL	Engine Speed	F846	PU	MSS LED
A447	PK	Engine Oil Prelube Pressure Switch	F847	YL	Aux Ckt
C413	YL	SPI Data	F848	OR	Bi Directional Mode SW (N.O.)
C414	BU	SPI Load	F849	WH	Bi Directional Mode SW (N.C.)
		Accessory Circuits	F850	PK	Implement Lockout SW
500	BR	Wiper - Front (Park)	900	PU	XMSN First Gear Clutch
501	GN	Wiper - Front (Low)	973	BR	CST Autoshift - Auto/Manual SW 2
502	OR	Wiper - Front (HI)	975	WH	CST Autoshift - Sol Return
503	BR	Wiper - Rear (Park)	977	YL	CST Auto Downshift Switch
504	YL	Wiper - Rear (Low)	993	BR	Engine Control Analog Sensor Common
505	BU	Wiper - Rear (HI)	994	GY	Engine Control Oil Pressure (Filtered)
506	PU	Washer - Front	995	BU	Engine Control Coolant Temperature
507	WH	Washer - Rear	996	GN	Engine Speed/Timing Sensor Power
508	PU	Radio Speaker - Left	997	OR	Engine Control Analog Sensor Power (+ 5V)
509	WH	Radio Speaker - Left (Common)	998	BR	Engine Digital Sensor Return
511	BR	Radio Speaker - Right	999	WH	Engine Primary Camshaft Speed/Timing
512	GN	Radio Speaker - Right (Common)	C967	BU	Inlet Air Temperature
513	GN	A/C Compressor/Refrigerant Pressure Switch	C987	RD	+Battery
515	GY	Blower Motor (HI)	C991	PK	Fuel Filter Monitor
516	GN	Blower Motor (Medium)	E900	WH	ECPC Trans Output SPD +
517	BU	Blower Motor (Low)	E901	GN	ECPC Trans Output SPD -
521	YL	A/C Switch to Refrigerant Switch	E902	PU	ECPC Trans Intermediate SPD +
522	WH	A/C Clutch to Thermostat Switch	E903	YL	ECPC Trans Intermediate SPD -
523	BR	Wiper - Left (Park)	E904	BR	ECPC Trans Intermediate SPD Q+
524	BU	Wiper - Left (Low)	E905	BU	ECPC Trans Intermediate SPD Q-
525	GY	Wiper - Left (HI)	E906	OR	ECPC Trans Output SPD Q+
526	YL	Wiper - Right (Park)	E907	GY	ECPC Trans Output SPD Q-
527	GN	Wiper - Right (Low)	E908	BR	ECPC Trans Input SPD +
528	PK	Wiper - Right (HI)	E909	WH	ECPC Trans Input SPD -
529	WH	Washer Left	G939	PK	MAC 14 Switch Return
530	OR	Washer Right	J992	YL	Miscellaneous Switch #1
567	WH	A/C SW Jumper	J993	PK	Unused
592	BU	DC/DC Converter Output +12V Switched	J994	GY	Unused
593	GN	Condenser Fan Relay to Motors	J995	PU	Unused
A513	PK	DC/DC Converter Memory Output +12V	K977	PK	ECPC Trans Oil Temp Sensor
C568	WH	Blower Motor (MAX)	K978	BU	ECPC Pump Sol
		Lighting Circuits	L983	WH	Injector Common 1 & 2
600	BR	Dash Lamp Basic	L984	OR	Injector Common 3 & 4
608	GN	Flood Lamp - Rear	L985	YL	Injector Common 5 & 6
609	YL	Flood Lamp - Side	N940	BU	Engine Analog Sensor Power (+5V)
610	OR	Flood Lamp - Front	N941	YL	Engine Analog Sensor Return
630	GY	Flood Lamp - Rear Ripper	N942	OR	Flexxaire Fan
663	GY	Gage Lamps - Cat Mon Sys	N944	PU	Engine Digital Sensor Return

Component Identifiers (CID[1]) Module Identifier (MID[2])

CID	Component
	Caterpillar Monitoring System (MID No. 030)
0096	Fuel Level Sender
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
826	Torque Converter Oil Temperature Sensor
	Engine Electronic Control Module (MID No. 036)
0001	Injector Cylinder 1
0002	Injector Cylinder 2
0003	Injector Cylinder 3
0004	Injector Cylinder 4
0005	Injector Cylinder 5
0006	Injector Cylinder 6
0041	8 Volt DC Supply
0091	Throttle Switch
0110	Engine Oil Pressure
0168	System Voltage
0172	Intake Manifold Air Temp
0174	Fuel Temperature
0190	Engine Speed Signal
0253	Personality Module
0261	Engine Timing
0262	5 Volt Sensor Supply
0264	Decel Throttle Position Signal
0266	Crank Without Inject Inputs
0268	Check Programmable Paramaters
0273	Turbo Outlet Pressure
0274	Atmospheric Pressure
0275	Right Turbo Inlet Pressure
0291	Engine Cooling Fan Solenoid
0296	Transmission ECM
0342	Secondary Engine Speed Signal
0544	Engine Cooling Fan Speed Signal
0545	Ether Start Relay
0799	Need Service Tool Update
1599	Engine Fan Pull Solenoid
1600	Engine Fan Push Solenoid
	Power Train Control System (MID No. 113)
0070	Parking Brake Switch
0168	Electrical System Voltage
0177	Transmission Oil Temperature Sensor
0190	Engine Speed Sensor
0248	CAT Data Link
0254	Electronic Control Module
0269	Sensor Power Supply
0298	Service Brake Pedal Switch
0299	Transmission Lever Position Sensor
0368	Autoshift Switch
0468	Service Brake Pedal Position Sensor
0490	Implement Lockout Switch
0618	Parking Brake Switch - Brake Backup
0621	Downshift Switch
0622	Upshift Switch
0623	Direction Switch
0650	Harness Code
0668	Transmission Shift Lever
0671	Transmission Output Speed Sensor I
0672	Torque Converter Output Speed Sensor
0673	Transmission Output Speed Sensor II
0674	Transmission Intermediate Speed Sensor I
0675	Transmission Intermediate Speed Sensor II
0676	Left Track Steering Lever Position Sensor
0677	Right Track Steering Lever Position Sensor
0681	Parking Brake Solenoid
0689	Left Brake Solenoid
0690	Right Brake Solenoid
0691	Reverse Clutch Solenoid Valve I
0692	Forward Clutch Solenoid Valve II
0693	Speed 3 Clutch Solenoid Valve III
0694	Speed 2 Clutch Solenoid Valve IV
0695	Speed 1 Clutch Solenoid Valve V
0697	Priority Valve Solenoid
0698	Left Steering Clutch Solenoid
0699	Right Steering Clutch Solenoid
0718	Transmission System
0722	Secondary Brake Solenoid
1488	Implement Lever Detent

[1] The CID is a diagnostic code that indicates which component is faulty.

[2] The MID is a diagnostic code that indicates which electronic control module diagnosed the fault.

Machine Codes

Machine	Code
D7R	35

Related Electrical Service Manuals

Title		Form Number
21 SI Alternator:	132-2156 (70A)	SENR4757
42MT Electric Starting Motor:	6V-5227	SENR3581
Engine Control:		SENR5003
Drive Train Control:		SENR8367
Caterpillar Monitoring System:		SENR2014
Starting and Charging:		SENR2947

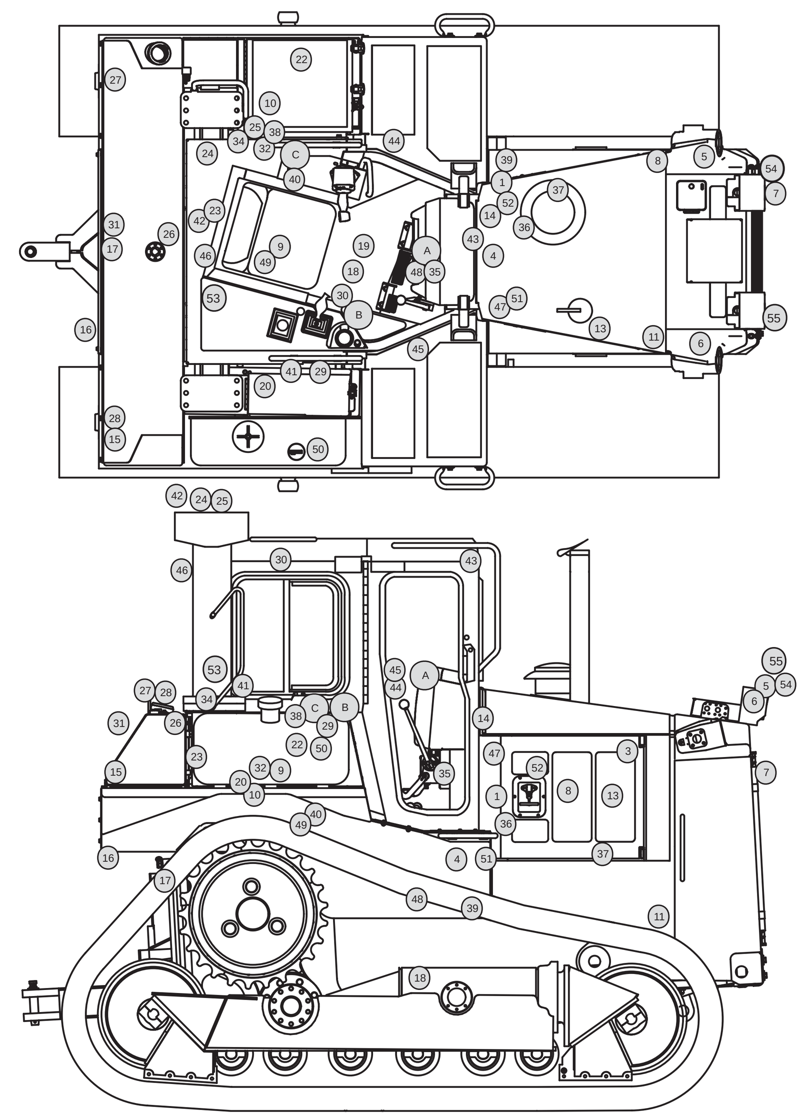
Event Codes

Number	Event Description
E017	High Engine Coolant Temperature
E025	High Inlet Air Temperature
E027	High Intake Air Temperature
E035	Loss Of Coolant Flow Warning
E039	Low Engine Oil Pressure
E100	Low Engine Oil Pressure
E190	Engine Overspeed
E265	User Defined Shutdown
E272	Inlet Air Restriction

Connector Location

Connector Number	Schematic Location	Machine Location
CONN 1	F-14	24
CONN 2	F-14	26
CONN 3	E-14	26
CONN 4	E-14	27
CONN 5	D-14	16
CONN 6	C-14	16
CONN 7	C-14	16
CONN 8	A-13	29
CONN 9	C-13	A
CONN 10	D-12	30
CONN 11	D-13	16
CONN 12	E-13	16
CONN 13	E-13	23
CONN 14	E-13	23
CONN 15	F-13	23
CONN 16	H-13	31
CONN 17	I-13	31
CONN 18	I-13	31
CONN 19	I-12	31
CONN 20	H-12	20
CONN 21	G-12	32
CONN 22	C-12	34
CONN 23	C-12	A
CONN 24	A-12	29
CONN 25	A-11	B
CONN 26	I-10	22
CONN 27	D-10	A
CONN 28	A-10	B
CONN 29	A-10	B
CONN 30	E-9	A
CONN 31	I-9	51
CONN 32	B-8	35
CONN 33	A-7	B
CONN 34	D-7	A
CONN 35	F-7	32
CONN 36	F-7	32
CONN 37	G-7	34
CONN 38	G-7	4
CONN 39	H-7	32
CONN 40	I-7	37
CONN 41	E-6	14
CONN 42	E-4	47
CONN 43	I-5	52
CONN 44	I-5	52
CONN 45	I-5	52
CONN 46	G-4	3
CONN 47	G-4	19
CONN 48	F-4	47
CONN 49	D-4	52
CONN 50	C-4	52
CONN 51	C-4	1
CONN 52	E-3	1
CONN 53	E-2	36
CONN 54	I-2	8
CONN 55	E-1	37
CONN 56	F-1	37
CONN 57	A-11	53
CONN 58	I-1	54
CONN 59	C-3	55

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.



Machine Harness Connector And Component Locations

Failure Mode Identifiers (FMI)[1]

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.

[1]The FMI is a diagnostic code that indicates what type of failure has occurred.

Monitoring System Service Modes

Service Mode	Number
Operator Mode Sequence	0
Harness Code	1
Numeric Readout	2
Service	3
Digital Tattletale	4
Units (US/SI)	5
Calibration 1 (Transmission Control)	6
Calibration 2 (Transmission Control)	7
Calibration 3 (Transmission Control)	8
Charging System Display	9

Monitoring System Operator Modes

Operator Mode	Number
Service Meter	1
Tachometer	2
Odometer	3
Scrolling (Diagnostic)	4

Component Location

Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
10A Converter	F-7	32	Receptacle As	F-7	32
12V Battery	I-10	22	Relay - Cond	F-15	41
12V Outlet	F-13	23	Relay - Main	H-9	38
12V Outlet #2	F-13	23	Relay - Prelube	I-4	8
12VBattery #2	I-10	22	Relay - Start	H-9	38
20A Converter 24V-12V	F-8	32	Relay - Start Aid	I-2	8
Accessory Power Connector (Switched)	E-7	38	Resistor	D-9	A
Accessory Power Connector (Unswitched)	F-7	38	Resistor - Blower	E-10	A
Alarm - Action	C-10	A	Resistor - Starter	I-3	1
Alarm - Backup	C-14	15	Seat Suspension Motor & Switches	F-12	9
Alternator	H-2	11	Sender - Direction	H-15	C
Aux Start	I-9	14	Sender - Fuel Level	D-14	26
Block Assy	G-7	38	Sensor - ATM Pressure	E-1	37
Breaker - Alternator	H-9	38	Sensor - Backup Speed Timing	G-1	4
Breaker - Conv #1	F-7	32	Sensor - Brake Position	B-9	35
Breaker - Conv #2	F-7	32	Sensor - Coolat Temperature	F-1	13
Breaker - Drivetrain	I-8	38	Sensor - Decel Pedal Position	A-9	35
Breaker - ENG ECM Switched	I-8	38	Sensor - ECPC XMSN Input Speed	G-4	4
Breaker - ENG ECM Unswitched	I-8	38	Sensor - Engine Oil Pressure	E-1	37
Connector - Datalink Service	E-13	23	Sensor - Engine Speed	F-4	3
Connector - Monitor Service	E-13	23	Sensor - Fuel Pressure	G-1	37
Control - Blade Float	A-8	B	Sensor - Fuel Temperature	E-1	37
Control - ECB (Drivetrain)	G-13	C	Sensor - Inching Pedal Position	B-9	35
Diode	G-4	3	Sensor - Inlet Air Temperature	F-1	37
Diode - Flyback	H-9	38	Sensor - LH/RH Steering Lever Pos	H-15	C
EEC Code Plug	E-9	A	Sensor - Speed Timing	F-1	8
EMS II	C-9,D-9	A	Sensor - Turbo Inlet Pressure	E-4	47
Engine control ADEM II	D-2,D-3	1	Sensor - Turbo Outlet Pressure	F-1	37
Flood - 3 Const	G-1	51	Sensor - XMSN Inter Spd #1	I-14	17
Flood - 4 Const	G-1	51	Sensor - XMSN Inter Spd #2	I-14	17
Flood - Cyl. #1 FRH	B-12	6	Sensor - XMSN Out Spd #1	H-14	17
Flood - Cyl. #2 FRH	A-12	6	Sensor - XMSN Out Spd #2	H-14	17
Flood - Cyl. #3 FLH	H-1	5	Sensor - XMSN Temperature	G-4	18
Flood - Cyl. #4 FLH	H-1	5	Solenoid - A/C Clutch	H-4	3
Flood - Cyl. STD1 FRH	C-2	6	Solenoid - D7 Priority Valve	G-4	48
Flood - Cyl. STD2 FLH	H-1	5	Solenoid - Ether Start Valve	I-2	8
Flood - Ripper	C-14	31	Solenoid - First Gear Clutch	I-14	17
Flood - Sweep #1 FRH	B-12	6	Solenoid - Flexxaire Fan	E-4	13
Flood - Sweep #2 FRH	B-12	6	Solenoid - Forward Clutch	I-14	17
Flood - Sweep #3 FLH	H-1	5	Solenoid - Injector #1-#6	G-2,F-2	37
Flood - Sweep #4 FLH	H-1	5	Solenoid - Left Brake	H-11	49
Flood #1 Fuel Tank RLH	A-15	27	Solenoid - Left Steer Clutch	H-11	49
Flood #1 Fuel Tank RLH	C-15	27	Solenoid - Park Brake Dump	I-11	49
Flood #1 Fuel Tank RLH	E-15	27	Solenoid - Reverse Clutch	I-14	17
Flood #1 Rops RLH	B-15	24	Solenoid - Right Brake	H-11	49
Flood #1 Rops STD WD RLH	E-14	24	Solenoid - Right Steer Clutch	I-11	49
Flood #1 Side Sweep LH	B-15	10	Solenoid - Second Gear Clutch	I-14	17
Flood #2 Fuel Tank RRH	A-15	28	Solenoid - Service Brake Dump	I-11	49
Flood #2 Fuel Tank RRH	B-15	28	Solenoid - Third Gear Clutch	I-14	17
Flood #2 Fuel Tank RRH	E-15	28	Solenoid - Winch	C-15	16
Flood #2 Rops RLH	A-14	24	Starter	I-3	1
Flood #2 Rops STD WD RRH	D-14	25	STD Code Plug	E-8	B
Flood #2 Side Sweep RH	B-15	20	Switch - 4 Speed Blower	E-11	A
Flood #3 Rops RRH	A-15	25	Switch - A/C	D-11	A
Flood #4 Rops RRH	A-14	25	Switch - Auto Downshift	C-10	A
Floods - Fender LH	I-10	10	Switch - Bi Directional Mode	C-10	A
Floods - Fender RH	A-10	20	Switch - Disconnect	H-10	22
Gauge Cluster	C-9,D-9	A	Switch - Downshift	G-15	C
Ground - Case	H-10	22	Switch - Ether Start Aid	D-10	A
Ground - Engine Block	H-3	1	Switch - Flexxaire Fan	F-4	A
Ground - Frame	H-3	39	Switch - Horn- Forward	B-11	B
Ground - Headliner	B-13	30	Switch - Hyd. Oil Temperature	A-13	50
Ground - Module	I-6	40	Switch - Implement Lockout	A-8	B
Ground - Module #1	I-6	40	Switch - Implement Lockout #2	A-8	B
Ground - Module #2	H-10	22	Switch - Key Start	D-10	A
Horn - FWD HI	I-1	7	Switch - Lamp	C-11	A
Horn - FWD LOW	I-1	7	Switch - Operator Monitor	C-10	A
Jacket Water Heater	C-3	52	Switch - Parking Brake	F-15	C
JCT BLK	I-9	52	Switch - Power Train Filter Pressure	A-13	29
Lamp - Action	D-9	A	Switch - Power Train Oil Temp	F-4	19
Lamp - Rear Action	A-11	53	Switch - Pressure - Prelube Oil	I-4	51
Module - Lamp Gear	C-9,D-9	A	Switch - Rear Floods and Ripper	D-11	A
Motor - Blower #1	E-10	A	Switch - Refrigerant	H-4	3
Motor - Blower #2	E-10	A	Switch - Reverse	G-15	C
Motor - Console	H-15	C	Switch - Service Brake Pedal	B-9	35
Motor - Rops Cond	F-15	42	Switch - Throttle	A-10,B-10	B
Motor - Rops Cond #2	E-15	42	Switch - Upshift	G-15	C
Motor - Washer Front	E-12	34	Switch - Winch	A-12	B
Motor - Washer Left	E-12	34	Switch - Wiper Front	C-13	30
Motor - Washer Rear	D-12	34	Switch - Wiper Left	C-13	30
Motor - Washer Right	D-12	34	Switch - Wiper Rear	D-13	30
Motor - Wiper Front	C-12	43	Switch - Wiper Right	C-13	30
Motor - Wiper Left	C-12	44	Thermostat	E-10	A
Motor - Wiper Rear	D-12	46	Timer - Prelube	H-4	8
Motor - Wiper Right	C-12	45	Transducer - Magnetic	F-1	37
Product Link	I-15	54	Winch Free Spool	A-8	B

A = Located inside of cab.

B = Located inside of right console.

C = Located inside of left console.

CATERPILLAR®

RENR3662-02
July 2006

Schematic

D7R Series II Track-Type Tractor FTC Electrical System

AFG1-529
ACS1-632
ADW1-532
BRP1-738
BPK1-512
BNM1-516

Resistor, Sender and Solenoid Specifications

Part No.	Component Description		Resistance (Ohms)[1]
116-6203	Resistor:	Resistor	20 ± 1
3E-6332	Solenoid:	Start Aid Valve	6
3E-7842	Resistor:	Starter	150 ± 7.5
3E-9205	Solenoid:	Flexxaire Fan	24.9 ± 0.4
4W-9972	Sender:	Hydraulic Oil / TC Out Temp	54ºC (130ºF) = 638 ± 78 110ºC (230ºF) = 77 ± 5
125-9740	Resistor:	Blower	A-C 2 ± 0.1 B-C 1 ± 0.05 C-D 0.36 ± .018
157-8851	Sender:	Fuel Level	Empty 92 - 98 Full 0 - 3.5
134-3998	Solenoid:	A/C Clutch	17.6 ± 0.6
136-1679	Solenoid:	D7 Priority Valve	31 ± 3
152-9095	Solenoid:	Winch	10
160-8408	Solenoid:	Forw/Rev, 1st, 2nd, 3rd Gear Clutch	8.7 ± 0.4
172-2392	Solenoid:	Service / Park Break Dump	41.9 ± 2.1
190-6017	Solenoid:	Injectors 1-6	2.2 ± 0.2
200-0189	Solenoid:	Blade Float	76.3 ± 3.8
174-4909	Solenoid:	Right/Left Steer, Left/Right Brake Clutch	8.7

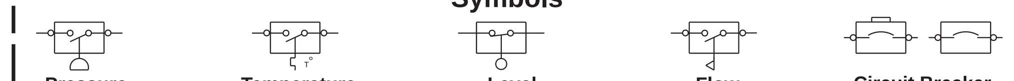
[1] At room temperature unless otherwise noted.

Off Machine Switch Specification

Part No.	Function	Actuate	Deactuate	Contact Position
3E-5464	Thermostat	-1.1 ± 0.8ºC (30 ± 1.4 ºF)	2.2 ± 0.8 ºC (36 ± 1.4ºF)	Normally Closed
105-9152	Pre Lube Oil Pressure	30 ± 7 kPa (39.9 to 253.8 psi)	30 ± 7 kPa (39.9 to 253.8 psi)	Normally Closed
164-7577	Powertrain Fltr Pressure	-	-	Normally Open

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.

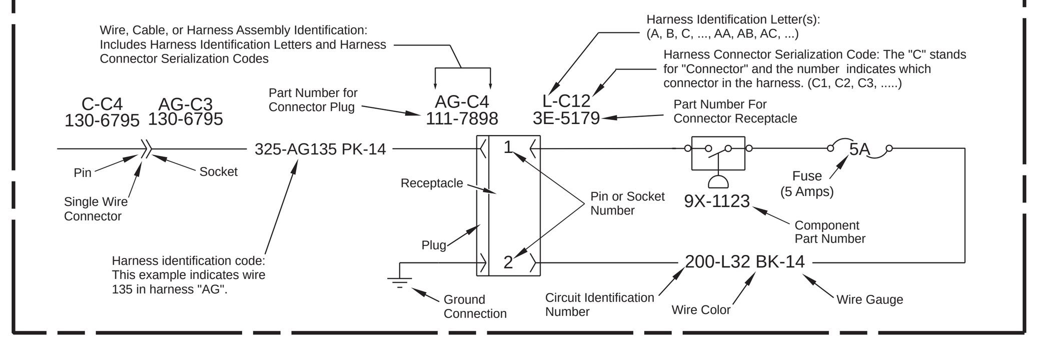
Solenoid: A solenoid is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close a valve or move a piece of metal that can do work.

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

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.



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TRANSMISSION
DRIVE TRAIN CONTROL
FUSE PANEL
20A CONVERTER
OPERATOR PLATFORM
CAB
ROPS A/C
ROPS LIGHTING (STD,WD)
SWEEP LIGHTING (SIDE)
ROPS LIGHTING (10) FOR WDA OR CONSTRUCTION APPLICATIONS
WINCH SW
THROTTLE JUMPER
FLEXXAIRE FAN
ENGINE
CYL LIGHTS (STD/WD)
CYLINDER LIGHTS (10) FOR WDA
SWEEP LIGHTING (60)
CYLINDER LIGHTS (10) FOR CONSTRUCTION APPL
WIRE GROUP COLOR DESCRIPTIONS
WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS OFF.
WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS ON.
VOLTAGE CONVERTER OUTPUT CIRCUIT.
STARTING CIRCUIT.
GROUND CIRCUIT.
STARTING AID CIRCUIT.
CAT DATA LINK.
CAN DATA LINK.
MONITOR CIRCUIT.
ENGINE CONTROL CIRCUIT.
TRANSMISSION CONTROL CIRCUIT.
HEATER AND AIR CONDITIONER CIRCUIT.
WIPER/WASHER CIRCUIT.
ABBREV COLOR
RD RED
WH WHITE
OR ORANGE
YL YELLOW
PK PINK
BK BLACK
GY GREY
PU PURPLE
BR BROWN
GN GREEN
BU BLUE