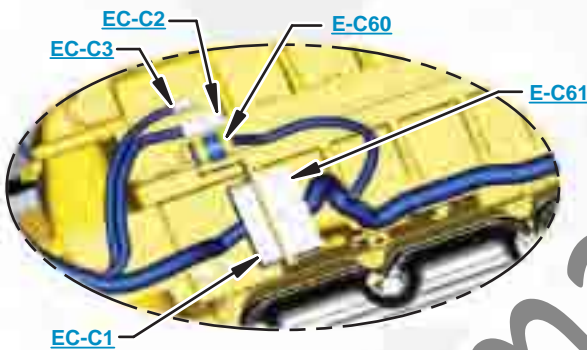


This document is best viewed at a screen resolution of 1024 X 768.

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

D8R Series II Track-Type Tractor Electrical System

AKA1-488
6YZ1-773

SchematicCat.com

COMPONENT LOCATION

Page 1 of 2



Component	Schematic Location	Machine Location
Alarm - Action	C-10	A
Alarm - Backup	A-15	15
Alternator	H-2	11
Assembly - Receptacle	F-7	32
Auxiliary Start	I-3	14
Battery - 12 V 1	I-9	22
Battery - 12 V 2	H-10	22
Battery - 12 V 3	I-10	22
Battery - 12 V 4	H-10	22
Breaker - Alternator	H-9	38
Breaker - Converter 1	F-7	32
Breaker - Converter 2	F-7	32
Breaker - Drive Train	I-8	38
Breaker - Engine ECM Switched	I-8	38
Breaker - Engine ECM Unswitched	I-8	38
Control - ADEM Engine	D-2	1
Control - ECB	G-13	C
Converter - 10 A	F-7	32
Converter - 20 A	G-8	22
Deceleration Pedal Position	B-9	35
Diode A/C	G-3	3
Electronic Monitoring System	C-9	A
Exciter Coil - MSS	C-10	A
Fuse - 24 V- 12V Converter	H-8	38
Fuse - AC Condensor	H-8	38
Fuse - Aux 1	H-8	38
Fuse - Aux 2	H-8	38
Fuse - Aux 3	H-8	38
Fuse - Aux 4	H-8	38
Fuse - Blowers	H-8	38
Fuse - Converter	H-8	38
Fuse - EMS 11	H-8	38
Fuse - Fender Floods	H-8	38
Fuse - Forward Horn	H-8	38
Fuse - Front Floods	H-8	38
Fuse - Key	H-8	38
Fuse - MSS Product Link	H-8	38
Fuse - Priming Pump	H-8	38
Fuse - Rear Floods	H-8	38
Fuse - Ripper Pin/Seat/Winch	H-8	38
Fuse - Service Brake	H-8	38
Fuse - Winch	H-8	38

Component	Schematic Location	Machine Location
Relay - Condensor (ROPS)	F-15	42
Relay - Main	H-9	38
Relay - Start	H-9	38
Relay - Start Aid	I-2	8
Resistor (Starter)	I-3	1
Resistor (Dash)	D-9	A
Resistor - Blower	E-10	A
Sender - Direction	G-15	C
Sensor - Atmospheric Pressure	E-1	37
Sensor - Brake Position	B-9	35
Sensor - Coolant Temperature	F-1	13
Sensor - Engine Oil Pressure	E-1	37
Sensor - Engine Speed	F-4	4
Sensor - Fuel Level	E-14	26
Sensor - Fuel Temperature	E-1	37
Sensor - Inlet Air Temperature	F-1	37
Sensor - Primary Speed Timing	F-2	8
Sensor - Transmission Input Speed	F-4	4
Sensor - Transmission Temperature	G-4	18
Sensor - Turbo Inlet Pressure	E-4	47
Sensor - Turbo Outlet Pressure	E-1	37
Solenoid - AC Clutch	G-3	3
Solenoid - ECPC Pump	G-4	48
Solenoid - First Gear Clutch	I-14	17
Solenoid - Forward Clutch	I-14	17
Solenoid - Injector 1	G-1	37
Solenoid - Injector 2	G-1	37
Solenoid - Injector 3	G-1	37
Solenoid - Injector 4	G-1	37
Solenoid - Injector 5	G-1	37
Solenoid - Injector 6	F-1	37
Solenoid - Left Brake	H-11	49
Solenoid - Parking Brake Dump	I-11	49
Solenoid - Reverse Clutch	I-14	17
Solenoid - Ripper Pin	B-15	16
Solenoid - Second Gear Clutch	I-14	17
Solenoid - Service Brake Dump	I-11	49
Solenoid - Start Aid	I-1	8
Solenoid - Third Gear Clutch	I-14	17
Solenoid - Winch	B-15	16
Suppressor - Arc 1	C-15	16
Suppressor - Arc 2	B-15	16

COMPONENT LOCATION

Page 2 of 2



Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
Fuse - Wipers	H-8	38	Switch - 4 Speed Blower	D-11	A
Gage Cluster	C-9	A	Switch - AC	C-11	A
Ground - Alternator	H-2	11	Switch - Auto Downshift	C-10	A
Ground - Engine	E-3	1	Switch - Bi-Directional Mode	C-10	A
Ground - Engine Block	H-3	1	Switch - Coolant Flow	F-1	11
Ground - Frame	H-3	39	Switch - Disconnect	H-10	22
Ground Frame	H-10	40	Switch - Downshift	G-15	C
Ground - Headliner	B-13	30	Switch - Front Wiper	C-13	30
Ground - Module	I-6	40	Switch - Hydraulic Filter Bypass	I-9	22
Horn - Forward (SW)	B-11	B	Switch - Hydraulic Oil Temperature	A-13	50
Horn - Forward High	I-1	7	Switch - Implement Lockout 2	A-8	B
Horn - Forward Low	I-1	7	Switch - Key Start	D-10	A
Module - Lamp Gear	C-9	A	Switch - Lamp	B-11	A
Motor - Blower 1	E-10	A	Switch - Left Wiper	C-13	30
Motor - Blower 2	D-10	A	Switch - Operator Monitor	C-10	A
Motor - Condensor 1	A-15	41	Switch - Parking Brake	F-15	C
Motor - Condensor 2	A-15	41	Switch - Power Train Filter Pressure 1	A-13	29
Motor - Condensor Rops 1	F-14	42	Switch - Power Train Filter Pressure 2	A-13	29
Motor - Condensor Rops 2	E-14	42	Switch - Powertrain Oil Temperature	F-4	19
Motor - Front Washer	D-11	34	Switch - Prelube Oil Pressure	I-4	51
Motor - Front Wiper	C-12	43	Switch - Rear Wiper	D-13	30
Motor - Left Wiper	C-12	44	Switch - Refrigerant	G-3	3
Motor - Rear Wiper	D-12	46	Switch - Reverse	G-15	C
Motor - Right Wiper	C-12	45	Switch - Right Wiper	C-13	30
Motor - Left Washer	F-11	34	Switch - Ripper Flood	C-11	A
Motor - Rear Washer	D-11	34	Switch - Ripper Pin Pull	A-11	B
Motor - Right Washer	D-11	34	Switch - Service Brake Pedal	B-9	35
Motor - Seat	E-12	9	Switch - Start Aid	D-10	A
Motor - Starter	I-3	1	Switch - Throttle	B-10	B
Outlet - 12 V 1	F-13	23	Switch - Upshift	G-15	C
Outlet - 12 V 2	E-13	23	Switch - Winch	A-12	B
ACC Power CONN - Switched	E-7	38	Switch - Implement Lockout 1	A-8	B
ACC Power CONN - Unswitched	F-7	38	Thermostat	D-10	A
Prelube Starter	I-3	1	Timer - Prelube	H-4	8
Relay - Condenser (Fender)	A-15	41			

Machine locations are repeated for components located close together.

A = Located on dash.

B = Located inside of right console.

C = Located inside of left console.

D = Located around headliner.

CONNECTOR LOCATION



Connector Number	Schematic Location	Machine Location
CONN 1	E-15	24
CONN 2	E-14	25
CONN 3	E-14	26
CONN 4	D-14	27
CONN 5	B-14	16
CONN 6	B-14	16
CONN 7	A-14	16
CONN 8	A-14	28
CONN 9	A-13	29
CONN 10	C-13	30
CONN 11	D-13	16
CONN 12	D-13	16
CONN 13 Datalink Service Connector	E-13	23
CONN 14 Monitor Service Connector	E-13	23
CONN 15	H-13	31
CONN 16	I-10, F-10	31
CONN 17	F-12, F-8	31
CONN 18	H-12	20
CONN 19	E-12	32
CONN 20 Product Link	I-13, F-10	33
CONN 21	D-12	24
CONN 22	B-12	A
CONN 23	A-12	28
CONN 24	A-12	29
CONN 25	A-11	B
CONN 26	D-11	A
CONN 27	I-10	22
CONN 28	A-9	B
CONN 29	B-9	B
CONN 30	E-9	A
CONN 31	E-9	A
CONN 32	E-6	8
CONN 33	A-7	B
CONN 34	D-7	A
CONN 35	G-7	32
CONN 36	G-7	4
CONN 37	I-7	32
CONN 39	B-4	2
CONN 40	C-4	4
CONN 41	D-4	4
CONN 42	D-3	3
CONN 44	B-2, C-2	3
CONN 45	G-2	4
CONN 47	I-1, H-2	3
CONN 48	I-2	3
CONN 49	F-1	5
CONN 50 Starting/Charging Analyzer	I-7	32

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 ¹) Module Identifier (MID ²)	
Caterpillar Monitoring System (MID No. 030)	
CID	Component
0096	Fuel Level Sender
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
Engine Control System (MID No. 036)	
CID	Component
0001	Injector Cylinder 1
0002	Injector Cylinder 2
0003	Injector Cylinder 3
0004	Injector Cylinder 4
0005	Injector Cylinder 5
0006	Injector Cylinder 6
0091	Throttle Position
0100	Oil Pressure
0110	Coolant Temperature
0168	Battery Voltage
0172	Intake air Temperature
0174	Fuel Temperature
0190	Engine Speed
0248	CAT Data Link Communications
0253	Personality Module
0254	ECM Fault
0261	Engine Timing Calibration
0262	Analog Sensor
0263	Digital Sensor Supply Short
0264	Deceleration Throttle Output
0266	Crank Without Inject Inputs
0268	Program Parameters/ECM Fault
0273	Turbo Out Pressure
0274	Atmospheric Pressure
0275	Turbo Inlet Air Pressure
0545	Start Aid
0799	Service Tool
Transmission Control System (MID No. 013)	
CID	Component
0070	Parking Brake Switch
0075	Steering Oil Temperature Sensor
0168	Electrical System Voltage
0177	Transmission Temperature Sensor
0190	Engine Speed Sensor
0248	CAT Data Link
0254	Power Train ECM
0269	Steering Temperature Sensor
0298	Service Brake
0299	Transmission Direction Selector
0368	Transmission Auto/Manual Switch
0468	Brake Pedal Position Sensor
0490	Implement Lockout
0573	Inching Pedal Position Sensor
0618	Park Brake Switch
0621	Downshift Switch
0622	Upshift Switch
0623	Directional Switch
0650	Harness Code

0668	Transmission Lever Position Sensor
0671	Transmission Output Speed Sensor
0672	Torque Converter Speed Sensor
0673	Transmission Speed Sensor
0674	Transmission Intermediate Speed Sensor
0675	Transmission Intermediate Speed Sensor
0676	Left Steering Position Sensor
0677	Right Steering Position Sensor
0689	Left Steering Brake Solenoid
0690	Right Steering Brake Solenoid
0691	Reverse Clutch Solenoid
0692	Forward Clutch Solenoid
0693	Third Gear Clutch Solenoid
0694	Second Gear Clutch Solenoid
0695	First Gear Clutch Solenoid
0697	Priority Valve Solenoid
0698	Left Steering Clutch Solenoid
0699	Right Steering Clutch Solenoid
0718	Third Gear Sensor
0722	Secondary Brake Solenoid
1327	Left Brake Pedal Attachment
1328	Right Service Brake Position Sensor
1329	Left Brake Pedal Switch
1330	Right Brake Pedal Switch
1488	Implement Detent
1870	Position Thumb Lever Blade Control
1933	Left Blade Angle Solenoid
1934	Right Blade Angle Solenoid

¹ The CID is a diagnostic code that indicates which circuit is faulty.

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

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.

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

Monitoring System Service Modes	
Service Mode	Number
Hour Meter	0
Harness Code Display	1
Parameter Display	2
Service Mode	3
Digital Tattletale	4
US/SI	5
Calibration	6
Calibration	7
Calibration	8
Charging	9

Related Service Manuals	
Title	Form Number
Alternator: 3E-7577 (75A)	REN1252
Alternator: 165-5140 (100A)	SENR7508
Electric Starting Motor: 6V-0890	SENR3860
Caterpillar Monitoring System:	REN2014
Engine ECM:	SENR5003
Transmission:	SENR8367

Off Machine Switch Specification				
Part No.	Function	Actuate	Deactuate	Contact Position
134-6054	Coolant Flow Switch	362 ± 29 mN (1.3 ± 0.1 oz)	303 mN (1.1 oz MIN)	Normally Open
114-5333	A/C (High / Low) Pressure	275 to 1750 kPa ¹ (39.9 to 253.8 psi)	-	Normally Open ²
105-9152	Pre Lube Oil Pressure	30±7 kPa ¹ (39.9 to 253.8 psi)	30±7 kPa ¹ (39.9 to 253.8 psi)	Normally Closed

¹ With increasing pressure the closed condition can be maintained up to 2800 kPa (406 psi), with decreasing pressure the closed condition can be maintained down to 170 kPa (25 psi).

² Contact position at the contacts of the connector.

Resistor, Sender and Solenoid Specifications		
Part No.	Component Description	Resistance (Ohms) ¹
3E-1906	Solenoid: A/C Clutch	17.6 ± 0.6
3E-7842	Resistor: Starter Motor	150 ± 7.5
3E-8575	Solenoid: Ripper Pin	24.9 ± 0.4
4W-9972	Sender: XMSN Oil Temperature	560 to 716 @ 54°C (130°F) 72 to 82 @ 110°C (230° F)
116-6203	Resistor: Resistor	20 ± 1.0
125-3716	Solenoid: Hyd. Fan	3
136-1679	Solenoid: ECPC Pump	31 ± 3
160-8408	Forward Clutch Reverse Clutch Solenoid: First Gear Clutch Second Gear Clutch Third Gear Clutch	8.7 ± 0.4
172-2392	Solenoid: Park Brake Dump	41.9 ± 2.1
172-2392	Solenoid: Service Brake Dump	41.9 ± 2.1
174-4909	Solenoid: Left Brake	8.7 ± 0.4

¹ At room temperature unless otherwise noted.

Machine Codes	
Machine	Code
D8R	15

WIRE DESCRIPTION

Page 1 of 3



Wire Number	Wire Color	Description
Power Circuits		
101	RD	Battery (+)
102	RD	Front Flood Power
103	RD	Aux Ckt
104	YL	Aux Ckt
105	RD	Key Switch Power
106	PU	Aux Ckt
110	GN	Aux Ckt
111	YL	Aux Ckt
112	PU	Main Power Relay Output
113	OR	Monitor Panel Power
114	RD	Warning Horn Power
115	RD	Aux Ckt
116	BR	Rear Flood Power
122	BU	Aux Ckt
124	GN	A/C and Blower Power
130	GN	Auxiliary Power
140	BU	Powertrain Control Power
150	RD	Engine Control Power
158	BR	Remote A/C Condenser Power
160	RD	Aux Ckt
176	YL	Seat Power
184	BU	Attachment Power
186	RD	Power Outlet Power
197	GN	Implement Control Power
198	RD	Secondary Brake Power
Ground Circuits		
200	BK	Main Chassis Ground
201	BK	Operator Monitor Return
202	BK	XMSN Ctrl
203	BK	Chassis Ground Diagnostic
205	BK	Instr
207	BK	Starter Ground Diagnostic
229	BK	Engine Control Ground
270	BK	Cat Mon Sys Ident Code 0
271	BK	Cat Mon Sys Ident Code 1
272	BK	Cat Mon Sys Ident Code 2
273	BK	Cat Mon Sys Ident Code 3
274	BK	Cat Mon Sys Ident Code 4
275	BK	Cat Mon Sys Ident Code 5
276	BK	XMSN Ctrl Indent Code 0
277	BK	XMSN Ctrl Indent Code 1
278	BK	XMSN Ctrl Indent Code 2
279	BK	XMSN Ctrl Indent Code 3
280	BK	XMSN Ctrl Indent Code 4
290	BK	Cat Mon Sys Service
A234	BK	J1939 Shield Ground
Basic Machine Circuits		
301	BU	Starter No. 1 Solenoid
302	OR	Starter No. 1 Resistor to Diagnostic

Wire Number	Wire Color	Description
Control Circuits (Continued)		
D791	YL	Injector Common 5 & 6
E707	GN	Display +V
E708	PK	SPI Clock
E735	PU	Cat Mon Sys Operator Switch
E793	BU	ATA Datalink -
E794	YL	ATA Datalink +
E795	YL	Crankcase Press
E799	BR	Solenoid Return
F700	BU	Demand Fan Actuator
F701	BR	Unused
F702	GN	Decelerator Pedal
F703	GY	Fan Speed
F704	OR	Unused
F705	PK	Unused
F706	PU	Unused
F707	WH	Unused
F708	YL	Unused
F709	BU	Unused
F710	BR	Start Aid Relay
F711	GN	Unused
F712	GY	Unused
F713	OR	Unused
F714	PK	Turbo Inlet Pressure
F715	PU	Throttle Switch (Low Idle)
F716	WH	Throttle Switch (Low Idle Parity)
F717	YL	Throttle Switch (High Idle)
F718	BU	Throttle Switch (High Idle Parity)
F719	BR	Crank w/o Inject (N.O.)
F720	GN	Crank w/o Inject (N.C.)
F721	GY	Start Aid Switch
F722	OR	Demand Fan A/C Status
F723	PK	TDC Probe +
F724	PU	TDC Probe -
F725	WH	Unused
F732	PK	Backup Camshaft Speed/Timing
F780	PK	Parking Brake SW
F782	OR	Reverse Sw N.O.
F783	GN	Upshift SW N.O.
F784	YL	Downshift SW N.O.
F785	WH	Upshift SW N.C.
F786	GY	Reverse Sw N.C.
F788	PU	Left Steer Clutch
F789	YL	Right Steer Clutch
F790	BR	Service Brake Pedal
F791	BU	Right Brake Solenoid
F792	WH	Left Brake Solenoid
G703	GN	Quick Drop Valve
G730	PK	EPTC II - Park Brake Sol
G731	GY	EPTC II - Secondary Service Brake Sol

WIRE DESCRIPTION

Page 2 of 3



Wire Number	Wire Color	Description
304	WH	Starter Relay No. 1 Output
306	GN	Starter Relay to Neutral Start SW or Key SW
307	OR	Key Switch to Neutral Start Switch
308	YL	Main Power Relay Coil
310	PU	Start Aid Switch to Start Aid Solenoid
321	BR	Backup Alarm
322	GY	Warning Horn (Forward)
337	WH	Prelube Pushbutton Switch to Prelube Timer
374	PK	Neutral Start SW To Park Brake SW
A346	BU	+V Crank Driver Out (MSS)
A347	GN	+V SW On Driver Out (MSS)
Monitoring Circuits		
403	GN	Alternator (R) Term.
410	WH	Action Alarm
411	PK	Master Fault Lamp
412	BU	Engine Coolant Flow
419	YL	Opr Mon Parking Brake
426	BR	Powertrain Oil Filter Differential Pressure
442	GY	Hydraulic Oil Temperature
443	YL	Powertrain Oil Temperature
447	PK	Fuel Level
450	YL	Engine Speed
451	BR	Tach Sender (=)
A447	PK	Engine Oil Prelube Pressure Switch
C413	YL	SPI Data
C414	BU	SPI Load
Accessory Circuits		
500	BR	Wiper - Front (Park)
501	GN	Wiper - Front (Low)
502	OR	Wiper - Front (HI)
503	BR	Wiper - Rear (Park)
504	YL	Wiper - Rear (Low)
505	BU	Wiper - Rear (HI)
506	PU	Washer - Front
507	WH	Washer - Rear
508	PU	Radio Speaker - Left
509	WH	Radio Speaker - Left (Common)
511	BR	Radio Speaker - Right
512	GN	Radio Speaker - Right (Common)
513	GN	A/C Compressor/Refrigerant Pressure Switch
515	GY	Blower Motor (HI)
516	GN	Blower Motor (Medium)
517	BU	Blower Motor (Low)
521	YL	A/C Switch to Refrigerant Switch
522	WH	A/C Clutch to Thermostat Switch
523	BR	Wiper - Left (Park)
524	BU	Wiper - Left (Low)
525	GY	Wiper - Left (HI)
526	YL	Wiper - Right (Park)
527	GN	Wiper - Right (Low)

Wire Number	Wire Color	Description
J702	BK	Engine Retarter Sol Cyl 1, 2, 5, 6
M732	OR	+V Crank Driver Rtm (MSS)
M733	PK	+V Sw On Driver Rtn (MSS)
828	WH	Left Steer EDC Sol To Right Steer EDC Sol
830	OR	Propel Balance Pot. To EDC Sol Resistor
851	WH	Diode To Right Flow Gate SW
892	BR	CAT Data Link (-)
893	GN	CAT Data Link (+)
F842	BU	Implement Lockout SW 2
F843	YL	Inching Pedal Sensor
F846	PU	MSS LED
F847	YL	Aux Ckt
F848	OR	Bi Directional Mode SW
F849	WH	Bi Directional Mode SW
F850	PK	Amp Signal To Recording Module
G808	BU	Vehicle Speed+/TDC Service Probe+
G833	PK	Engine Temperature Sensor Common
G848	GN	LED Driver 2
G849	BR	Engine Inj Actuation Pressure
G850	BU	Inlet Air Heater
G854	PK	Inj Actuation Press Cont Valve
G855	PU	IAP Cont Valve Common
G856	WH	TDC Probe +
G857	YL	TDC Probe -
900	PU	XMSN Shift Sol No. 5 Or 4
973	BR	CST Autoshift - Auto/Manual SW 2
975	WH	CST Autoshift - Sol Return
977	YL	CST Autoshift - Slow Mode SW 1
993	BR	Engine Control Analog Sensor Common
994	GY	Engine Control Oil Pressure (Filtered)
995	BU	Engine Control Coolant Temperature
996	GN	Engine Speed/Timing Sensor Power
997	OR	Engine Control Analog Sensor Power (+ 5V)
998	BR	Engine Digital Sensor Return
999	WH	Engine Primary Camshaft Speed/Timing
C967	BU	Inlet Air Temperature
C987	RD	+Battery
C991	PK	Fuel Filter Monitor
E900	WH	ECPC Trans Output SPD +
E901	GN	ECPC Trans Output SPD -
E902	PU	ECPC Trans Intermediate SPD +
E903	YL	ECPC Trans Intermediate SPD -
E904	BR	ECPC Trans Intermediate SPD Q+
E905	BU	ECPC Trans Intermediate SPD Q-
E906	OR	ECPC Trans Output SPD Q+
E907	GY	ECPC Trans Output SPD Q-
E908	BR	ECPC Trans Input SPD +
E909	WH	ECPC Trans Input SPD -
E963	BK	Engine Speed/Timing A-
E964	WH	Engine Speed/Timing A+

WIRE DESCRIPTION

Page 3 of 3



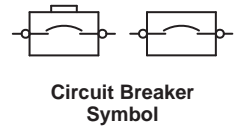
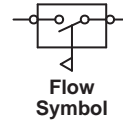
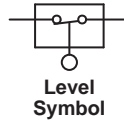
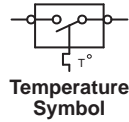
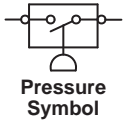
Wire Number	Wire Color	Description	Wire Number	Wire Color	Description
528	PK	Wiper - Right (HI)	E965	BU	Engine Speed/Timing B-
529	WH	Washer Left	E966	YL	Engine Speed/Timing B+
530	OR	Washer Right	G939	PK	Reverse Switch Return
567	WH	A/C SW Jumper	J992	YL	Unused
592	BU	DC/DC Converter Output	J993	PK	Unused
593	GN	Condenser Fan Relay to Motors	J994	GY	Unused
A513	PK	DC/DC Converter Memory Output	J995	PU	Unused
C568	WH	Blower Motor (MAX)	K977	PK	ECPC Trans Oil Temp Sensor
Lighting Circuits			K978	BU	ECPC Pump Sol
600	BR	Dash Lamp Basic	L983	WH	Injector Common 1 & 2
608	GN	Flood Lamp - Rear	L984	OR	Injector Common 3 & 4
609	YL	Flood Lamp - Side	L985	YL	Injector Common 5 & 6
610	OR	Flood Lamp - Front	N931	GY	Hydraulic Pump Pressure
630	GY	Flood Lamp - Rear Ripper	N940	BU	Engine Analog Sensor Power (+5V)
663	GY	Gage Lamps - Cat Mon Sys	N941	YL	Engine Analog Sensor Return
Control Circuits			N942	OR	Flexxaire Fan
709	OR	Sensor Power Supply	N943	BR	Unused
751	GN	XMSN Shift Sol No. 1 Or 3	N944	PU	Engine Digital Sensor Return
752	YL	XMSN Shift Sol No. 2	T901	YL	MSS Exciter Coil In
754	BU	XMSN Shift Sol No. 3 Or 1	T902	PK	MSS Exciter Coil Out
755	OR	XMSN Shift Sol No. 4 Or 5	T920	YL	Digital Sensor 5A
779	WH	Ripper Pin Engage Solenoid	T945	GY	Brake Return 1
780	PU	Ripper Pin Disengage Solenoid	T946	PU	Brake Return 2
A700	OR	Engine Control Digital Sensor Power (+8V)	T947	YL	Brake Return 3
A701	GY	Injector #1	T948	BR	Brake Return 4
A702	PU	Injector #2	T949	BU	Brake Return 5
A703	BR	Injector #3	T950	GN	Brake Return 6
A704	GN	Injector #4	T951	YL	Inj 1 High Side
A705	BU	Injector #5	T952	BR	Inj 2 High Side
A706	GY	Injector #6	T953	BU	Inj 3 High Side
A745	WH	Fuel Pressure	T954	GY	Inj 4 High Side
A746	PK	Turbo Outlet Pressure	T955	GN	Inj 5 High Side
A747	GY	Atmospheric Pressure	T956	GY	Inj 6 High Side
A751	YL	Fuel Temperature	T957	PU	Inj 1 Return
D786	BR	Engine Retarder Sol Cyl 1, 2, 5, 6	T958	YL	Inj 2 Return
D787	GN	Engine Retarder Sol 3, 4	T959	BR	Inj 3 Return
D788	BK	Engine Retarder Sol Common	T960	BU	Inj 4 Return
D789	WH	Injector Common 1 & 2	T961	GN	Inj 5 Return
D790	OR	Injector Common 3 & 4	T962	WH	Inj 6 Return

HARNESS and WIRE

Electrical Schematic Symbols



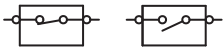
Symbols



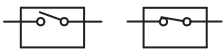
Symbols and Definitions



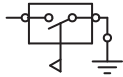
Fuse: A component in an electrical circuit that will open the circuit if too much current flows through it.



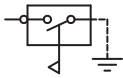
Switch (Normally Open): A switch that will close at a specified point (temp, press, etc.). The circle indicates that the component has screw terminals and a wire can be disconnected from it.



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.



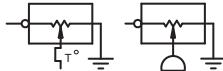
Ground (Wired): This indicates that the component is connected to a grounded wire. The grounded wire is fastened to the machine.



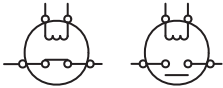
Ground (Case): This indicates that the component does not have a wire connected to ground. It is grounded by being fastened to the machine.



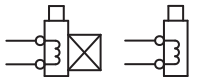
Reed Switch: A switch whose contacts are controlled by a magnet. A magnet closes the contacts of a normally open reed switch; it opens the contacts of a normally closed reed switch.



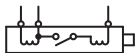
Sender: A component that is used with a temperature or pressure gauge. The sender measures the temperature or pressure. Its resistance changes to give an indication to the gauge of the temperature or pressure.



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.



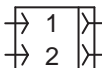
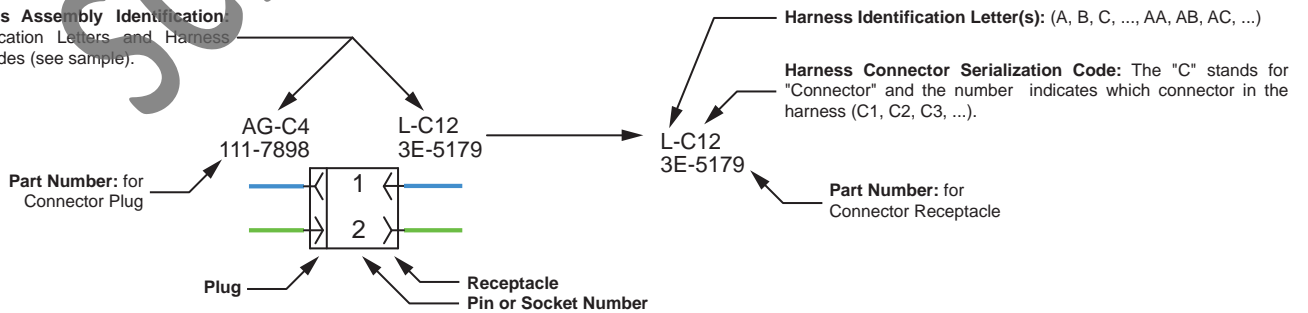
Solenoid: A solenoid is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close a valve or move a piece of metal that can do work.



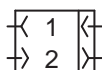
Magnetic Latch Solenoid: A magnetic latch solenoid is an electrical component that is activated by electricity and held latched by a permanent magnet. It has two coils (latch and unlatch) that make electromagnet when current flows through them. It also has an internal switch that places the latch coil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

Harness and Wire Symbols

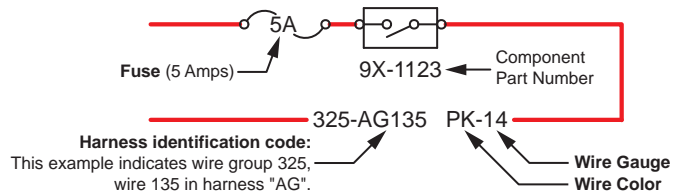
Wire, Cable, or Harness Assembly Identification: Includes Harness Identification Letters and Harness Connector Serialization Codes (see sample).

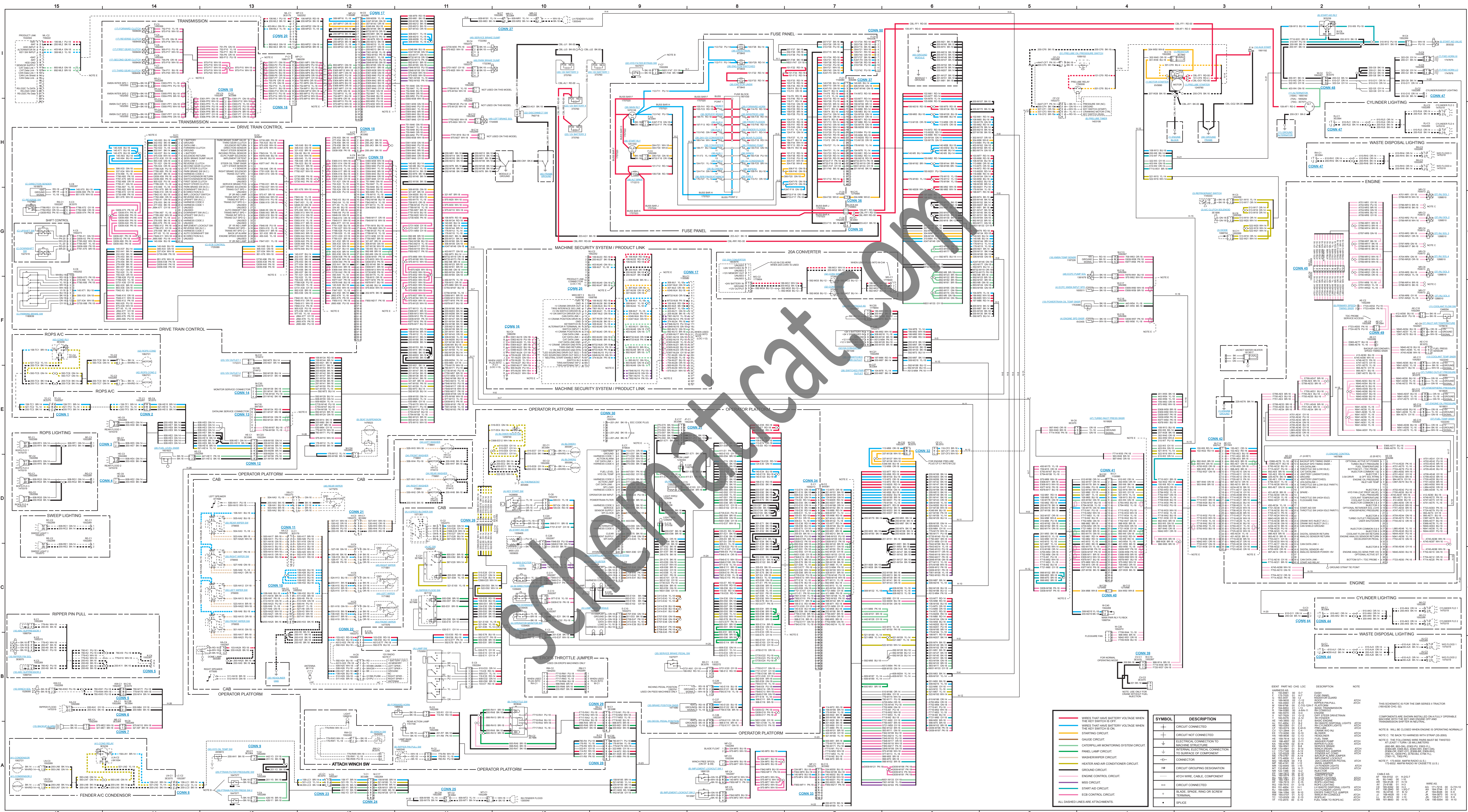


Deutsch connector: Typical representation of a Deutsch connector. The plug contains all sockets and the receptacle contains all pins.



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





- WIRES THAT HAVE BATTERY VOLTAGE WHEN CIRCUIT NOT CONNECTED
- WIRES THAT HAVE BATTERY VOLTAGE WHEN THE KEY SWITCH IS ON
- STARTING CIRCUIT
- GAUGE CIRCUIT
- CATERPILLAR MONITORING SYSTEM CIRCUIT
- PANEL LAMP CIRCUIT
- WASH/WIPER CIRCUIT
- HEATER AND AIR CONDITIONER CIRCUIT
- GROUND CIRCUIT
- ENGINE CONTROL CIRCUIT
- MISC CIRCUIT
- START AIR CIRCUIT
- EGB CONTROL CIRCUIT
- ALL DASHED LINES ARE ATTACHMENTS

SYMBOL	DESCRIPTION
+	CIRCUIT CONNECTED
-	CIRCUIT NOT CONNECTED
+	ELECTRICAL CONNECTION TO MACHINE STRUCTURE
+	INTERNAL ELECTRICAL CONNECTION TO SURFACE OF COMPONENT
+	CONNECTOR
HR	CIRCUIT GROUPING DESIGNATION
—	ATTACH WIRE CABLE COMPONENT
—	SLIDE SWITCH RING OR SCREW TERMINAL
•	SPLICE

ID#	PART NO	CHG	LOC	DESCRIPTION	NOTE
1	100-0001	01	DASH	DASH	
2	100-0002	01	START	START	
3	100-0003	01	STOP	STOP	
4	100-0004	01	STOP	STOP	
5	100-0005	01	STOP	STOP	
6	100-0006	01	STOP	STOP	
7	100-0007	01	STOP	STOP	
8	100-0008	01	STOP	STOP	
9	100-0009	01	STOP	STOP	
10	100-0010	01	STOP	STOP	
11	100-0011	01	STOP	STOP	
12	100-0012	01	STOP	STOP	
13	100-0013	01	STOP	STOP	
14	100-0014	01	STOP	STOP	
15	100-0015	01	STOP	STOP	
16	100-0016	01	STOP	STOP	
17	100-0017	01	STOP	STOP	
18	100-0018	01	STOP	STOP	
19	100-0019	01	STOP	STOP	
20	100-0020	01	STOP	STOP	
21	100-0021	01	STOP	STOP	
22	100-0022	01	STOP	STOP	
23	100-0023	01	STOP	STOP	
24	100-0024	01	STOP	STOP	
25	100-0025	01	STOP	STOP	
26	100-0026	01	STOP	STOP	
27	100-0027	01	STOP	STOP	
28	100-0028	01	STOP	STOP	
29	100-0029	01	STOP	STOP	
30	100-0030	01	STOP	STOP	
31	100-0031	01	STOP	STOP	
32	100-0032	01	STOP	STOP	
33	100-0033	01	STOP	STOP	
34	100-0034	01	STOP	STOP	
35	100-0035	01	STOP	STOP	
36	100-0036	01	STOP	STOP	
37	100-0037	01	STOP	STOP	
38	100-0038	01	STOP	STOP	
39	100-0039	01	STOP	STOP	
40	100-0040	01	STOP	STOP	
41	100-0041	01	STOP	STOP	
42	100-0042	01	STOP	STOP	
43	100-0043	01	STOP	STOP	
44	100-0044	01	STOP	STOP	
45	100-0045	01	STOP	STOP	
46	100-0046	01	STOP	STOP	
47	100-0047	01	STOP	STOP	
48	100-0048	01	STOP	STOP	
49	100-0049	01	STOP	STOP	
50	100-0050	01	STOP	STOP	

MACHINE HARNESS CONNECTORS AND COMPONENT LOCATIONS

