

Component Identifiers (CID) ¹	
Module Identifier (MID) ²	
Caterpillar Monitoring System (MID No. 030)	
CID	Component
0096	Fuel Level Sender
0100	Engine Oil Pressure Sensor
0110	Engine Coolant Temperature Sensor
0177	Transmission Oil Temperature Sensor
0248	Data Link
0263	Sensor Power Supply
0271	Action Alarm
0380	Transmission Oil Temperature Sensor
0524	Action Lamp
0600	Hydraulic Oil Temperature Sensor
0819	Display Data Link
0821	Display Power Supply
1045	Power Train Oil Temperature Sensor
1425	Implement Tank Oil Temperature Sensor
Engine Control System (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
0042	Injection Actuation Control Valve
0091	Throttle Switch
0094	Fuel Pressure
0100	Engine Oil Pressure
0110	Engine Coolant Temperature
0164	Injector Actuation Pressure
0168	Electrical System Voltage
0172	Intake Manifold Air Temperature
0175	Engine Oil Temperature
0190	Engine Speed Signal
0248	CAT Data Link
0353	Personality Module
0254	Electronic Control Module
0261	Engine Timing Calibration
0262	5 Volt Sensor Supply
0263	Digital Sensor Supply
0267	Engine Shutdown Switch
0268	Check Programmable Parameters
0273	Turbo Outlet Pressure
0274	Atmospheric Pressure
0281	Engine Coolant Fan Solenoid
0296	Transmission ECM
0342	Secondary Engine Speed Signal
0444	Engine Cooling Fan Speed Signal
0562	Caterpillar Monitoring System
0617	Air Inlet Heater Relay
Power Train Control System (MID No. 113)	
0070	Park Brake Switch
0075	Steering System Oil Temperature Sensor
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
0296	Service Brake Switch
0399	Transmission Direction Lever Position Sensor
0388	Autoshift Switch
0468	Service Brake Pedal Position Sensor
0490	Implement Lockout Switch
0573	Inching Pedal Position Sensor
0618	Park Brake Switch
0621	Downshift Switch
0622	Upshift Switch
0623	Direction Switch
0626	Harvest Control
0668	Transmission Shift Lever
0671	Transmission Output Speed #1 Sensor
0672	Torque Converter Output Speed Sensor
0673	Transmission Output Speed #2 Sensor
0674	Transmission Intermediate Speed #1 Sensor
0675	Transmission Intermediate Speed #2 Sensor
0676	Left Track Steering Lever Position Sensor
0677	Right Track Steering Lever Position Sensor
0681	Parking Brake Solenoid
0689	Left Steering Brake Solenoid
0690	Right Steering 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

¹The CID is a diagnostic code that indicates which component is faulty.
²The MID is a diagnostic code that indicates which electronic control module diagnosed the fault.

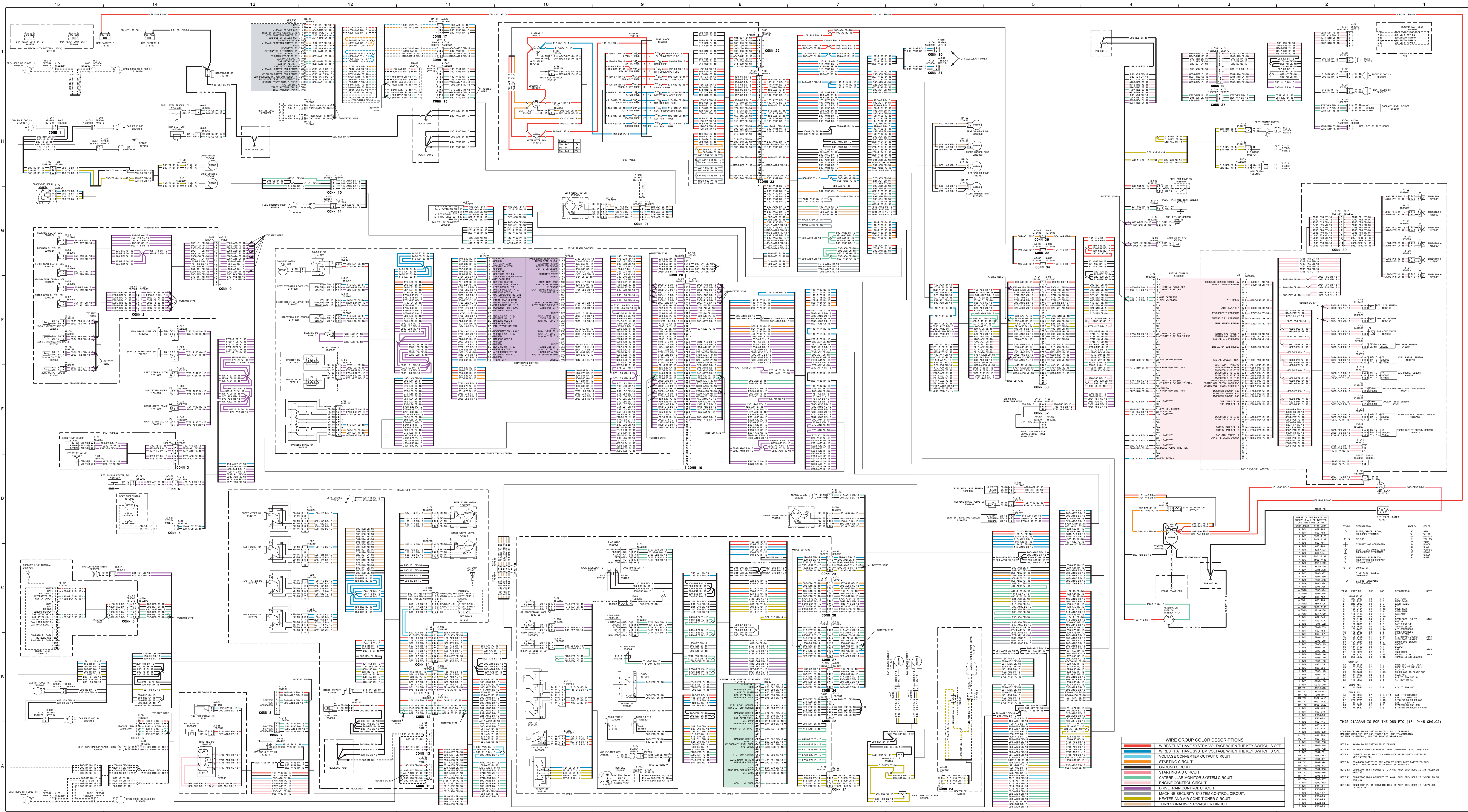
Failure Mode Identifiers (FMI) ¹	
FMI No.	Failure Description
0	Data valid but above normal operational range
1	Data valid but below normal operational range
2	Data erratic, intermittent, or incorrect
3	Voltage above normal or shorted high
4	Voltage below normal or shorted low
5	Current below normal 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

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

Wire Description					
Wire Number	Wire Color	Description	Wire Number	Wire Color	Description
Power Circuits					
101	RD	Battery (+)			
102	BU	Floodlights			
105	BR	Key Switch			
106	WH	Product Link			
108	BU	Wipers			
109	OR	Air Output (+) Term.			
112	PU	Main Power Fly Output			
113	OR	Opp Mon Panel B (+) Switched			
114	GN	Forward Horn			
116	BR	Lamp Switch			
118	GY	Seat Suspension			
124	GN	Blower Switch			
130	GN	Aux Ckt			
134	YL	Beacon			
140	BU	XMSN Control			
143	BR	Beacon Switch			
150	OR	Engine Control			
158	BR	A/C Condenser Relay			
160	PU	A/H Relay			
174	PK	Steer			
176	OR	Console Switch			
186	WH	24V to 12V Converter			
197	GN	Aux Power #2			
198	PK	Service Brake Pedal Switch			
199	OR	Aux Power #1			
Ground Circuits					
200	BK	Mainassis			
201	BK	Operator Monitor Return			
202	BK	XMSN Control			
203	BK	Disconnect Switch			
205	BK	MSS Control			
207	BK	Starter Motor			
209	BK	Engine Control			
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 Control Harness Code 0			
277	BK	XMSN Control Harness Code 1			
278	BK	XMSN Control Harness Code 2			
279	BK	XMSN Control Harness Code 4			
280	BK	XMSN Control Harness Code 3			
291	BK	CAT Mon Sys Clear			
Basic Machine Circuits					
301	BU	Starter No. 1 Sol			
302	OR	Starter Resistor			
304	WH	Starter Relay No. 1 Output			
306	GN	Park Brake Switch to Start Relay Coil			
307	OR	Key Switch (Crank Position)			
308	YL	Key Switch (On Position)			
310	PU	Start Aid Relay			
311	WH	Start Aid Sol To Temp SW			
321	BR	Backup Alarm			
322	GY	Warning Horn (Forward)			
323	WH	Fuel Priming Pump			
334	BU	XMSN Control (Unused)			
337	WH	Park Brake Switch			
A346	BU	MSS Control			
A347	GN	Main Relay			
Monitoring Circuits					
403	GN	Alternator (R) Term.			
410	WH	Opp Mon Action Alarm			
411	PK	Opp Mon Action Lamp			
419	YL	Opp Mon Parking Brake			
426	BR	PTO Filter Bypass Switch			
442	GY	Hydraulic Oil Temperature Sender			
443	YL	PTO Temperature Sender			
447	PK	Fuel Level Sender			
450	YL	Engine Speed Sensor			
C413	YL	Display Data			
C414	BU	Display 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 (Hi)			
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	OR	A/C Compressor/Refrigerant Pressure SW			
515	GY	Blower Motor (Hi)			
516	GN	Blower Motor (Medium)			
517	BU	Blower Motor (Low)			
521	YL	A/C SW To Refrigerant SW			
522	WH	A/C Clutch To Thermostat SW			
523	BR	Left Wiper (Park)			
524	BU	Left Wiper (Low)			
525	GY	Left Wiper (High)			
526	YL	Right Wiper (Park)			
527	GN	Right Wiper (Low)			
528	PK	Right Wiper (High)			
529	WH	Washer - Left			
530	OR	Washer - Right			
532	BU	DCDC Converter Power Output			
593	GN	Condenser Relay to Condenser Motor			
AS13	PK	DCDC Converter Memory Output			
Lighting Circuits					
600	BR	Dash Lamps			
608	GN	Rope Flood Lamps			
610	OR	Front Flood Lamps			
663	GY	Quat Gauge Backlight			
Control Circuits					
709	OR	XMSN Temperature Sensor			
751	GN	XMSN Reverse Clutch			
752	YL	XMSN Forward Clutch			
754	BU	XMSN Third Gear Clutch			
755	OR	XMSN Second Gear Clutch			
A700	OR	Engine Control Digital Sensor Power (+5V)			
A701	GY	Injector #1			
A702	PU	Injector #2			
A703	BR	Injector #3			
A704	GN	Injector #4			
A705	BU	Injector #5			
A706	GY	Injector #6			
E707	GN	Display Module Power Supply			
E708	PK	Display Module Clock			
F702	GN	Decel Pedal Sensor			
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 IN (N.C.)			
F720	GN	Crank W/O IN (N.O.)			
F780	PK	Parking Brake Switch (N.C.)			
F781	BR	Downshift Switch (N.O.)			
F782	OR	Reverse Switch (N.O.)			
F783	GN	Upshift Switch (N.C.)			
F784	YL	Downshift Switch (N.C.)			
F785	WH	Upshift Switch (N.O.)			
F786	GY	Reverse Switch (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			
F797	BU	Coolant Level Sensor			
G730	PK	Park Brake Dump Solenoid			
G731	GY	Service Brake Dump Solenoid			
H746	YL	Demand Fan Solenoid (Supply)			
H747	BR	Demand Fan Solenoid (Return)			
M732	OR	Start Relay			
M733	PK	Main Relay Flyback Diode			
R746	PK	Turbo Outlet Pressure Sensor			
R747	GY	Atmospheric Pressure Sensor			
X743	GY	Not Used			
X858	WH	Left Steering Lever Sensor			
X830	OR	Right Steering Lever Sensor			
851	WH	Direction Sensor			
892	BR	CAT Data Link (-)			
893	GN	CAT Data Link (+)			
F843	YL	Not Used			
F846	PU	MSS LED			
F847	YL	Not Used			
F848	OR	Bi Directional Switch (N.O.)			
F849	WH	Bi Directional Switch (N.C.)			
F850	PK	Not Used			
G826	BR	Engine Oil Pressure Sensor (Power)			
G827	BR	Engine Oil Pressure Sensor (Return)			
G828	WH	Injector Act Pressure Sensor (Power)			
G829	BU	Injector Act Pressure Sensor (Return)			
G833	PK	Temperature Sensor (Return)			
G834	PU	Fan Speed Sensor			
G848	GN	MSS LED			
G849	BR	Injector Act Pressure Sensor (Signal)			
G850	BU	A/H Relay			
G853	OR	Intake Manifold Air Temperature			
G854	PK	IAP Control Valve Solenoid (Signal)			
G855	PU	IAP Control Valve Solenoid (Return)			
G856	WH	Timing Cal. Probe			
O857	YL	Timing Cal. Probe (-)			
900	PU	XMSN First Gear Clutch			
973	BR	Not Used			
975	WH	XMSN Control Solenoid Return			
977	YL	Auto Downshift Switch			
995	BU	Coolant Temperature Sensor			
998	BR	Engine Digital Sensor Return			
C084	YL	Coolant Level Sensor			
C087	RD	A/H Relay			
C090	YL	Oil Pressure Sensor			
C091	PK	Fuel Pressure Sensor			
E800	WH	XMSN Output Speed (-)			
E901	GN	XMSN Output Speed (+)			
E902	PU	XMSN Intermediate Speed (+)			
E903	YL	XMSN Intermediate Speed (-)			
E904	BR	XMSN Intermediate Speed Q (+)			
E905	BU	XMSN Intermediate Speed Q (-)			
E906	OR	XMSN Output Speed (+)			
E907	GY	XMSN Output Speed (-)			
E908	BR	XMSN Input Speed (+)			
E909	WH	XMSN Input Speed (-)			
E963	BK	Top S/T Sensor (-)			
E964	WH	Top S/T Sensor (+)			
E965	BU	Bot S/T Sensor (-)			
E966	YL	Bot S/T Sensor (+)			
G939	PK	XMSN Switch/Sensor Return			
J992	YL	Not Used			
J993	PK	Not Used			
J994	GY	PTO Filter Bypass Switch			
J995	PU	Not Used			
K977	PK	XMSN Oil Temperature Sensor			
K978	BU	Priority Valve			
L983	WH	Injector Common 1 & 2			
L984	OR	Injector Common 3 & 4			
L985	YL	Injector Common 5 & 6			
N931	GY	Not Used			
T901	YL	MSS Exciter Coil			
T902	PK	MSS Exciter Coil			

Engine Event Codes		
Event Code	Condition	Description
E015	High Engine Coolant Temperature Derate	
E017	High Engine Coolant Temperature Warning	
E025	High Inlet Air Temperature Derate	
E027	High Inlet Air Temperature Warning	
E039	Low Engine Oil Pressure Derate	
E053	Low Fuel Pressure Warning	
E095	High Fuel Pressure Warning	
E100	Low Engine Oil Pressure Warning	
E190	Engine Overspeed Warning	
E272	Inlet Air Restriction Warning	

Component Location					
Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
12V Battery #1	I-14	22	Sensor - Inj. Action Press	E-1	21
12V Battery #2	I-14	22	Sensor - Bot. S/T	F-2	30
12V Power Outlet (LH)	A-13	13	Sensor - Coolant Level	H-2	51
12V Power Outlet (RH)	B-13	B	Sensor - Coolant Temperature	E-1	24
Alarm - Action	C-15	23	Sensor - Decel Pedal Position	D-5	16
Alarm - Backup (Open Rope)	A-14	D	Sensor - Directional Position	F-12	C
Alarm - Backup (Open Rope)	A-14	D	Sensor - Engine Speed	G-4	52
Alternator	C-4	24	Sensor - Fuel Pressure	F-1	21
Assembly - Fan Drive	I-1	25	Sensor - Hydraulic Oil Temperature	H-14	53
Auxiliary Power	I-6	26	Sensor - Intake Manifold Air Temperature	E-1	21
Beacon	H-14	27	Sensor - Left Steering Lever Position	F-12	C
Breaker - Alternator	H-10	15	Sensor - Oil Pressure	E-1	21
Bus Bar "A"	I-10	15	Sensor - Oil Temperature	F-1	21
Bus Bar "C"	I-10,10	15	Sensor - Right Steering Lever Position	F-12	C
Coil - Fan/ta	H-13	28	Sensor - Top S/T	F-2	30
Coil - MSS Exciter	A-9	A	Sensor - Turbo Outlet Pressure	E-1	21
Connector - Monitor Service	A-13	13	Sensor - XMSN Input Speed	G-4	54
Connector - Service Tool	B-13	13	Sensor - XMSN Inter Spd #1	F-15	54
Control - Caterpillar Monitoring System	A-8,B-6	A	Sensor - XMSN Inter Spd #2	F-15	54
Control - Drivetrain	F-10	C	Sensor - XMSN Out Spd #1	F-15	54
Control - Engine ECM	F-1,F-3	29	Sensor - XMSN Out Spd #2	E-15	54
Control - MSS	I-13	28	Sensor - XMSN Temperature	E-15	54
Converter - 24V to 12V	G-11	17	Sensor - Service Brake Pedal Position	D-5	16
Diode - A/C	H-3	30	Solenoid - A/C Clutch	H-3	37
Diode - Flyback	I-10	15	Solenoid - First Gear Clutch	G-15	54
Fuse Block	I-9	15	Solenoid - Forward Clutch	G-15	54
Ground - Air Inlet Heater	C-3	34	Solenoid - IAP Control	F-2	21
Ground - Alternator	C-3	32	Solenoid - Injector #1	G-1	21
Ground - Engine (LH)	A-1	31	Solenoid - Injector #2	G-1	21
Ground - Front Frame	C-4	35	Solenoid - Injector #3	G-1	21
Ground - Headliner	A-12	D	Solenoid - Injector #4	G-1	21
Ground - Platform #1	H-11	8	Solenoid - Injector #5	G-1	21
Ground - Platform #2	H-11	8	Solenoid - Injector #6	G-1	21
Ground - Rear Frame	H-13	36	Solenoid - Left Brake	E-14	55
Ground - Starter	C-3	33	Solenoid - Left Steer Clutch	E-14	55
Heater - Inlet Air	D-1	37	Solenoid - Park Brake Dump	F-14	55
Horn	I-2	38	Solenoid - Priority Valve	D-15	56
Lamp - Action	B-9	A	Solenoid - Reverse Clutch	G-15	54
Module - Lamp Gear	C-9	A	Solenoid - Right Brake	E-14	55
Module - Quad Gage	C-9	A	Solenoid - Right Steer Clutch	E-14	55
Motor - Cab Blower #1	B-6	39	Solenoid - Second Gear Clutch	F-15	54
Motor - Cab Blower #2	B-6	39	Solenoid - Service Brake Dump	F-14	55
Motor - Condenser #1	H-13	40	Solenoid - Third Gear Clutch	F-15	54
Motor - Condenser #2	H-13	40	Switch - Auto Downshift	G-10	A
Motor - Console	G-13	C	Switch - Beacon	B-9	A
Motor - Fuel Priming Pump	G-13	41	Switch - Bi Directional Mode	C-10	A
Motor - Rops Blower	B-6	39	Switch - Blower	B-10	A
Motor - Seat Suspension	D-14	42	Switch - Console	G-12	C
Motor - Starter	D-4	43	Switch - Disconnect	I-13	57
Motor - Washer Front	H-6	44	Switch - Downshift	E-12	C
Motor - Washer Left	H-6	44	Switch - Forward Horn		



WIRE NO.	DESCRIPTION	WIRE COLOR
100-100-01	IGNITION SWITCH	Blue
100-100-02	IGNITION SWITCH	Red
100-100-03	IGNITION SWITCH	Black
100-100-04	IGNITION SWITCH	White
100-100-05	IGNITION SWITCH	Yellow
100-100-06	IGNITION SWITCH	Purple
100-100-07	IGNITION SWITCH	Orange
100-100-08	IGNITION SWITCH	Light Blue
100-100-09	IGNITION SWITCH	Light Green
100-100-10	IGNITION SWITCH	Light Purple
100-100-11	IGNITION SWITCH	Light Orange
100-100-12	IGNITION SWITCH	Light Yellow
100-100-13	IGNITION SWITCH	Light Cyan
100-100-14	IGNITION SWITCH	Light Magenta
100-100-15	IGNITION SWITCH	Light Brown
100-100-16	IGNITION SWITCH	Light Grey
100-100-17	IGNITION SWITCH	Light Pink
100-100-18	IGNITION SWITCH	Light Blue-Grey
100-100-19	IGNITION SWITCH	Light Green-Grey
100-100-20	IGNITION SWITCH	Light Purple-Grey
100-100-21	IGNITION SWITCH	Light Orange-Grey
100-100-22	IGNITION SWITCH	Light Yellow-Grey
100-100-23	IGNITION SWITCH	Light Cyan-Grey
100-100-24	IGNITION SWITCH	Light Magenta-Grey
100-100-25	IGNITION SWITCH	Light Brown-Grey
100-100-26	IGNITION SWITCH	Light Grey-Grey
100-100-27	IGNITION SWITCH	Light Pink-Grey
100-100-28	IGNITION SWITCH	Light Blue-Grey
100-100-29	IGNITION SWITCH	Light Green-Grey
100-100-30	IGNITION SWITCH	Light Purple-Grey
100-100-31	IGNITION SWITCH	Light Orange-Grey
100-100-32	IGNITION SWITCH	Light Yellow-Grey
100-100-33	IGNITION SWITCH	Light Cyan-Grey
100-100-34	IGNITION SWITCH	Light Magenta-Grey
100-100-35	IGNITION SWITCH	Light Brown-Grey
100-100-36	IGNITION SWITCH	Light Grey-Grey
100-100-37	IGNITION SWITCH	Light Pink-Grey
100-100-38	IGNITION SWITCH	Light Blue-Grey
100-100-39	IGNITION SWITCH	Light Green-Grey
100-100-40	IGNITION SWITCH	Light Purple-Grey
100-100-41	IGNITION SWITCH	Light Orange-Grey
100-100-42	IGNITION SWITCH	Light Yellow-Grey
100-100-43	IGNITION SWITCH	Light Cyan-Grey
100-100-44	IGNITION SWITCH	Light Magenta-Grey
100-100-45	IGNITION SWITCH	Light Brown-Grey
100-100-46	IGNITION SWITCH	Light Grey-Grey
100-100-47	IGNITION SWITCH	Light Pink-Grey
100-100-48	IGNITION SWITCH	Light Blue-Grey
100-100-49	IGNITION SWITCH	Light Green-Grey
100-100-50	IGNITION SWITCH	Light Purple-Grey