

Component Identifiers (CID) ¹	
Module Identifier (MID) ²	Component
Component Identifiers (CID)¹ For Engine Control (MID² No. 36)	
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
0041	8V DC Supply
0042	Injector Actuation Control Valve
0091	Throttle Position
0094	Fuel Pressure
0100	Engine Oil Pressure
0110	Engine Coolant Temperature
0164	Injector Actuation Pressure
0168	System Voltage
0172	Intake Manifold Air Temperature
0175	Engine Oil Temperature
0190	Engine Speed
0253	Personality Module
0261	Engine Timing Calibration
0262	5V Sensor DC Power Supply
0273	Turbo Outlet Pressure
0274	Atmospheric Pressure
0286	EMC Oil Lamp
0342	Secondary Engine Speed
0617	Air Inlet Heater Relay
1601	Fuel Pump Relay
Component Identifiers (CID)¹ For Engine/Pump Control (MID² No. 69)	
CID	Component
0001	Throttle Position Signal
0006	Fuel Level Sensor
0110	Engine Coolant Temperature Sensor
0167	Alternator
0168	Voltage Of The Power Supply (Key/switch)
0190	Speed Sensor
0374	Swing Brake Solenoid Valve
0378	Travel Alarm
0561	Proportional Reducing Valve For The Power Shift Pressure
0566	Engine Speed Dial
0567	Feedback Sensor For The Governor Actuator
0590	Engine Control
0598	Travel Speed Solenoid
0600	Hyd. Oil Temperature Sensor
1161	Pump Delivery Pressure Sensor (Diwe)
1162	Pump Delivery Pressure Sensor 2 (Diwe)
1525	Straight Travel PRV
2002	Action Alarm

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.

Failure Mode Identifiers (FMI) ¹	
FMI No.	Failure Description
1	Data valid but above 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
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.

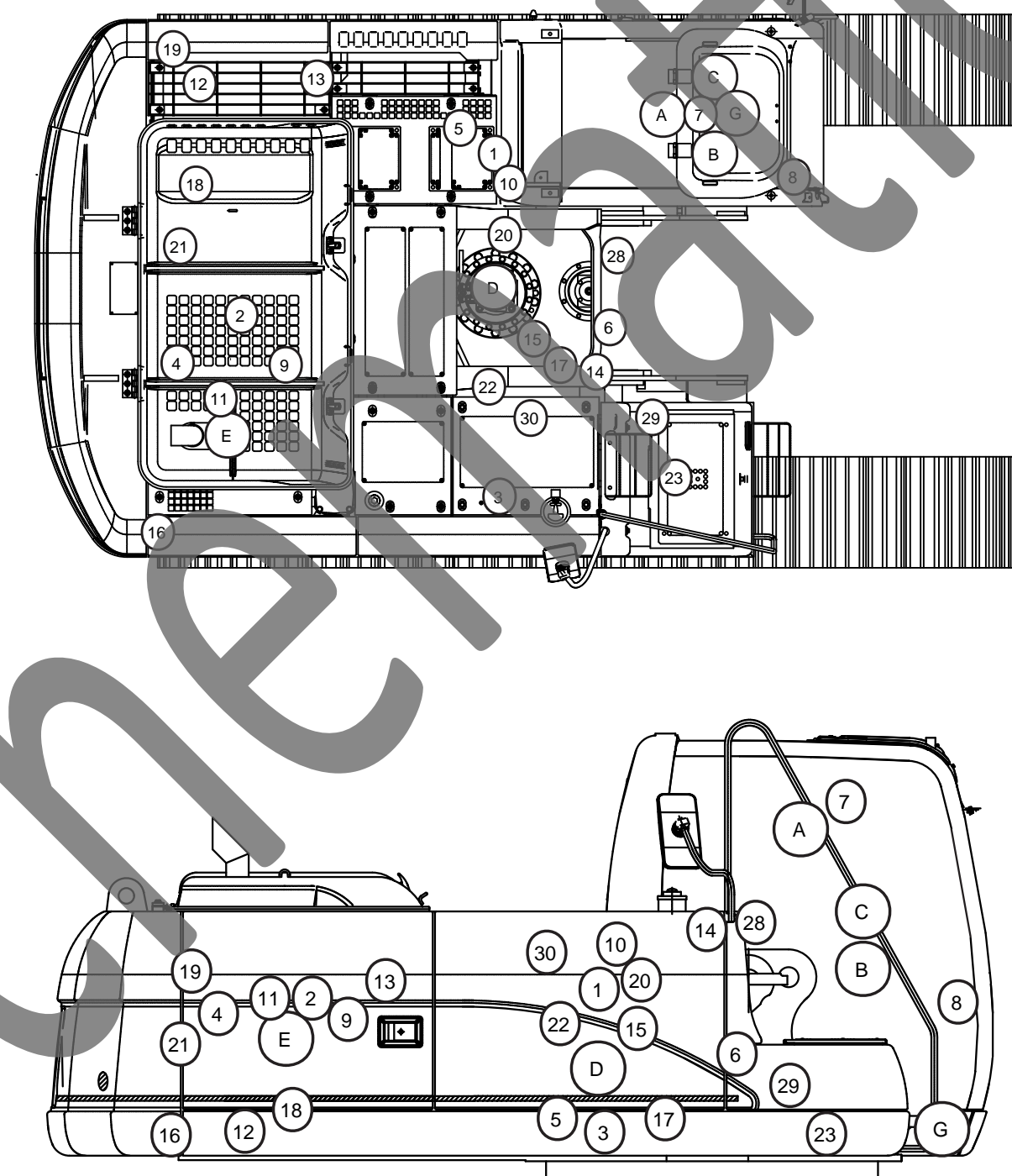
Event Codes	
Event Code	Condition
E005	Fuel Filter Restriction Decade
E015	High Engine Coolant Temperature Decade
E017	High Engine Coolant Temperature Warning
E025	High Inlet Air Temperature Decade
E027	High Inlet Air Temperature Warning
E029	Low Engine Oil Pressure Decade
E095	Fuel Filter Restriction Warning
E096	High Fuel Pressure
E100	Low Engine Oil Pressure Warning
E190	Engine Overspeed Warning
E265	User Defined Shutdown

Related Electrical Service Manuals	
Title	Form Number
Alternator	8W-3043
Electric Starting Motor	207-1517
Engine / Pump Control	REN3814
Engine Control	SEN3852

Wire Description			
Wire Number	Wire Color	Description	Accessories Circuits (Continued)
101	RD	Battery +	
103	RD	Monitor	
105	RD	Key Switch	
109	RD	Alternator B+	
110	RD	Timer Relay B+	
112	PU	Main Power Relay Output	
113	GN	Switch Panel/Relay	
114	RD	Forward Horn	
115	RD	Cab Lamp	
118	GY	Wiper/Washer	
120	YL	12V 10A Converter 1	
123	WH	Seat Heater	
124	GN	A/C	
129	BU	Cigar Lighter	
130	RD	Coolant Temp Sensor	
135	BU	Switched Converter Output	
139	OR	12V Mem Out	
147	PU	Atch Sol	
149	RD	Boom Lamp	
150	OR	Quick Coupler	
151	GN	Hyd Lock Sol Relay	
152	BU	Lower Wiper/Washer	
154	RD	Neutral Start Relay	
160	PU	Chassis Lamp	
168	RD	Refueling Pump	
169	PK	Backup/Monitor Control	
175	RD	A/C Blower	
179	BU	12V 7A Converter 2	
180	GN	Aux Circuit	
184	RD	EEP Control	
188	WH	Fuel Pump	
189	RD	Hyd Lock Sol Relay	
191	WH	Rotary Switch	
196	BU	INSP Lamp	
199	OR	Beacon Lamp	
Ground Circuits			
200	BK	Main Chassis	
201	BK	Cab	
210	BK	Converter Ground	
211	BK	A/C Converter Ground	
229	BK	Battery	
235	BK	Chassis	
Basic Machine Circuits			
304	WH	Start Relay Output	
306	GN	Neutral Start Relay	
307	OR	Key Start Switch To Neutral Start Relay	
308	YL	Main Power Relay To Neutral Start Relay	
310	PU	Not Used	
320	RD	Horn Relay To Horn Switch	
321	BR	Backup Alarm Lamp Travel Alarm	
322	GY	Forward Horn	
323	WH	ATCH Refueling Power Relay	
325	PK	Not Used	
326	RD	Not Used	
Monitoring Circuits			
403	GN	Alternator R Terminal	
405	GY	Low Oil Pressure Output	
410	WH	Action Alarm	
412	BU	Coolant Level Switch	
430	BU	Air Filter Switch	
487	OR	Hyd. Oil Filter Switch	
491	PK	Hyd. Oil Temp Sensor	
495	GN	Fuel Level Sensor	
496	WH	Hyd. Oil Level Switch	
498	BU	Engine Oil Level Switch	
E472	GN	Ach. Joystick +12V	
E473	GY	Ach. Joystick PWM +	
E474	OR	Ach. Joystick PWM +	
E475	PK	Stem 3 Modulation	
E476	PU	Stem 4 Modulation	
E480	WH	Overload Alarm Cancel Sw	
F441	GN	Oil Temp	
H446	PK	O.I.H.D. Pressure Sensor	
H465	GN	Travel Alarm Cancel Indicator	
H466	BU	AEC Mode Indicator	
H467	WH	Travel Mode Indicator 1	
H473	BR	Travel Straight Pressure Switch	
H474	GN	Travel Right Pressure Switch	
H475	BU	Travel Left Pressure Switch	
H476	WH	Joystick Pressure Switch	
Accessory Circuits			
501	GN	Wiper - Front (Low)	
506	PU	Washer - Front	
508	PU	Radio Speaker - Left	
509	WH	Radio Speaker - Right (Common)	
511	BR	Radio Speaker - Right	
512	GN	Radio Speaker - Right (Common)	
530	OR	Washer	
578	BU	Not Used	
586	BR	Not Used	
590	GY	Wiper Switch To Wiper Control	
A537	PK	Ach. Seat Heater Switch	
A579	OR	Wiper Motor	
A580	GN	Wiper Motor	
A584	BU	Front Window Limit Switch To Wiper Cont.	

Component Location					
Component	Schematic Location	Machine Location	Component	Schematic Location	Machine Location
Alarm - Action	F-2	B	Sensor - Dual Cam SP/IMG (LOW)	B-11	2
Alarm - Travel	A-4	3	Sensor - Engine Oil Pressure	C-11	2
Alternator	E-10	4	Sensor - Engine Oil Temperature	B-11	2
Battery	E-11	5	Sensor - FLY T/MG Cal	B-11	2
Breaker - Alternator	H-9	1	Sensor - Fuel Level	A-4	22
Control - Engine / Pump	E-8	1	Sensor - Fuel Pressure	C-11	2
Control - Wiper	F-2	A	Sensor - Hy. Actuation Pressure	B-11	2
Converter - 12V 7A	F-3	10	Sensor - Intake Air Temperature	B-11	2
Diode	I-11	1	Sensor - OLWD Pressure	B-3	E
Diode	I-8	1	Sensor - Turbo Outlet Pressure	B-10	2
Engine Control	F-12	4	Sensor - WTR Separator Level	H-7	13
Engine Speed Pickup	D-10	11	Solenoid - A/C Clutch	D-10	21
Heater Lamp	D-5	1	Solenoid - Fine Swing	C-3	15
Horn	C-1	6	Solenoid - High Pressure Quick Cqr (A2)	B-2	20
Ind Unit	H-1	B	Solenoid - High Pressure Quick Cqr (A1)	B-2	14
Joystick - LH	I-3	C	Solenoid - Hyd Lock	C-8	17
Joystick - RH	H-1	B	Solenoid - Injector 1-6	C-10	2
Lamp - Dome	G-1	7	Solenoid - Low Pressure Quick Cqr (A3)	B-2	D
Lighter	F-2	A	Solenoid - Power Shift Cont	A-10	E
Motor - Service	F-2	A	Solenoid - Swing Brake	C-9	17
Monitor	F-1	8	Solenoid - Travel Speed	C-9	17
Motor - Fuel Pump	H-7	22	Solenoid - Travel Straight	C-9	17
Motor - Lower Wiper	E-11	G	Switch - A/C Panel	D-1	B
Motor - Starter	D-10	9	Switch - Backup EPR Valve	D-2	B
Motor - Washer	G-7	12	Switch - Backup Governor	H-2	B
Product Link	G-12	20	Switch - Boom Float Exchange	D-2	B
Relay - Beacon	G-8	1	Switch - Coolant Level	H-7	18
Relay - Boom	I-8	20	Switch - Disconnect	C-9	19
Relay - Cab Lamp	G-8	20	Switch - Engine Oil Level	D-10	9
Relay - Chassis Lamp	I-8	20	Switch - Fine Swing Control	D-2	B
Relay - Fuel Pump	I-8	1	Switch - Horn	I-3	C
Relay - Heater	I-8	20	Switch - Hydraulic Filter	A-5	E
Relay - Horn	G-8	20	Switch - Joystick Pressure	H-3	G
Relay - Hydraulic Lock	E-11	20	Switch - Key	G-4	B
Relay - Main	I-8	20	Switch - Neutral Start Limit	I-3	G
Relay - Neutral Start	H-8	20	Switch - OLWD Alarm Cancel	D-3	B
Relay - Operator Acceleration	H-11	20	Switch - One Touch Low Idle	H-1	B
Relay - Start	H-8	20	Switch - Panel	F-1	B
Relay - Travel	I-8	1	Switch - Quick Coupler	G-4	B
Relay - Wiper	H-2	23	Switch - Rotary	D-3	B
Seat with Seat Heater	A-5	2	Switch - Seat Heater	D-2	B
Sender - Hydraulic Temperature	B-11	2	Switch - Str Pressure	I-2	C
Sensor - Coolant Temperature	B-11	2	Switch - Throttle Position	H-1	B
Sensor - Discharge Pressure 1	A-10	E	Switch - Travel Lmt	H-1	G
Sensor - Discharge Pressure 2	A-10	E	Switch - Travel Right	H-1	G
Sensor - Dual Cam SP/IMG (HIGH)	B-11	2	Switch - Window Limit	G-1	8

A = Inside of Cab Area
 B = Inside of Right Console Area
 C = Inside of Left Console Area
 D = Swing Motor Area
 E = Inside of Pump Compartment
 G = Around Dash Area
 H = Under Operators Platform



Machine Harness Connector And Component Locations



KENR8209
March 2007

Schematic

325C MHPU Excavator Electrical System

MSG1-UP

Electrical Schematic Symbols And Definitions

Symbols

Pressure Symbol

Temperature Symbol

Level Symbol

Flow Symbol

Circuit Breaker Symbol

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 when the coil latches.

Harness And Wire Symbols

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

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

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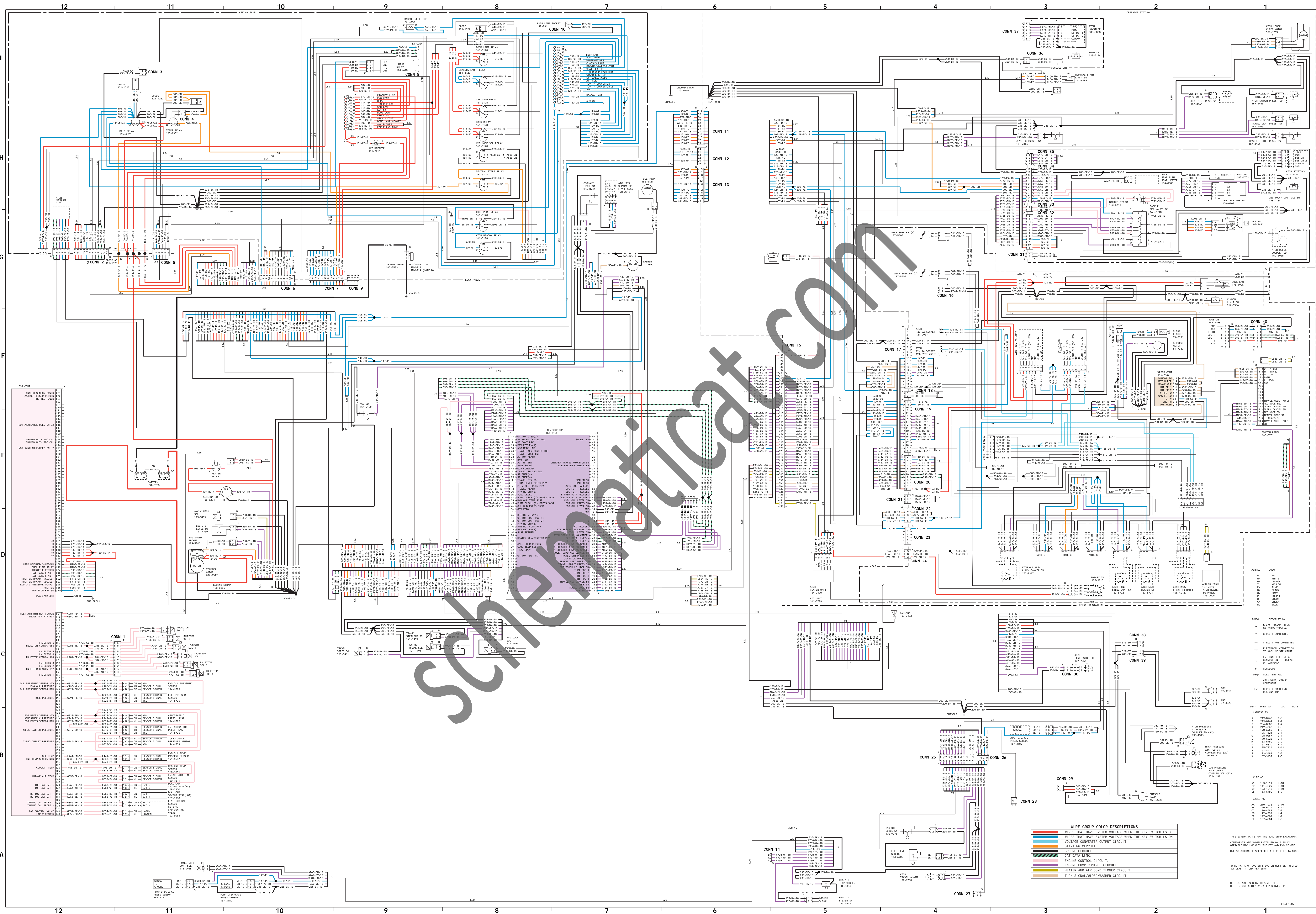
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Connector Location		
Connector Number	Schematic Location	Machine Location
CONN 1	C-11	2
CONN 2	G-12	23
CONN 3	I-11	23
CONN 4	H-11	23
CONN 5	G-11	23
CONN 6	G-10	23
CONN 7	G-10	23
CONN 8	I-9	23
CONN 9	G-9	23
CONN 10	I-7	23
CONN 11	H-6	H
CONN 12	H-6	H
CONN 13	H-6	H
CONN 14	A-6	E
CONN 15	E-5	H
CONN 16	G-4	G
CONN 17	F-4	G
CONN 18	F-4	G
CONN 19	E-4	G
CONN 20	E-4	G
CONN 21	E-4	G
CONN 22	D-4	G
CONN 23	D-4	G
CONN 24	D-4	G
CONN 25	B-4	26
CONN 26	B-4	26
CONN 27	A-4	30
CONN 28	B-3	29
CONN 29	B-3	29
CONN 30	C-3	D
CONN 31	G-3	H
CONN 32	G-3	H
CONN 33	G-3	H
CONN 34	H-3	H
CONN 35	H-3	H
CONN 36	I-3	C
CONN 37	I-3	C
CONN 38	C-2	28
CONN 39	C-2	28
CONN 40	F-1	G

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.

Off Machine Switch Specification				
Part No.	Function	Actuate	Deactuate	Contact Position
154-0498	ACL Switch	635 ± 58 mm H ₂ O	-	Normally Open
167-3466	Joystick Pressure Switch ATCH Str Pressure Switch Travel Left Pressure Switch Travel Right Pressure Switch	490 ± 49 kPa (71.07 ± 7.11 psf)	290 kPa MIN (42.06 psf)	Normally Open

Resistor, Sender and Solenoid Specifications		
Part No.	Component Description	



WIRE GROUP COLOR DESCRIPTIONS

- Red: WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS OFF
- Blue: WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS ON
- Green: VOLTAGE CONVERTER OUTPUT CIRCUIT
- Yellow: STARTING CIRCUIT
- Black: GROUND CIRCUIT
- White: CAT DATA LINK
- Purple: ENGINE CONTROL CIRCUIT
- Orange: ENGINE PUMP CONTROL CIRCUIT
- Brown: HEATER AND AIR CONDITIONER CIRCUIT
- Grey: TURN SIGNAL/WIPER/WASHER CIRCUIT

WIRE NUMBER AND DESCRIPTION

WIRE NO.	DESCRIPTION
100-00-18	IGNITION SWITCH
100-00-19	IGNITION SWITCH
100-00-20	IGNITION SWITCH
100-00-21	IGNITION SWITCH
100-00-22	IGNITION SWITCH
100-00-23	IGNITION SWITCH
100-00-24	IGNITION SWITCH
100-00-25	IGNITION SWITCH
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100-00-97	IGNITION SWITCH
100-00-98	IGNITION SWITCH
100-00-99	IGNITION SWITCH
100-00-100	IGNITION SWITCH

THIS SCHEMATIC IS FOR THE 3000 WHP EXHAUSTOR COMPONENTS ARE SHOWN INSTALLED ON A FULLY EQUIPPED CHASSIS WITH THE 457 AND 458A 457. UNLESS OTHERWISE SPECIFIED ALL WIRING IS 16 GAGE.

WIRE GAUGE OF 16 GAGE AND 18 GAGE CAN BE TWISTED AT LEAST 1/8 INCH PER JOINT.

NOTE: C NOT USED IN THIS VERSION.

NOTE: USE WITH 107A 2 X CONNECTOR.

1083-1000