SERVICE MANUAL

L213 / L215 / L218 / L220
L223 / L225 / L230
200 Series Skid Steer Loader

C227 / C232 / C238
200 Series Compact Track Loader

Part number 84423865
1st edition English
July 2011

NEW HOLLAND CONSTRUCTION

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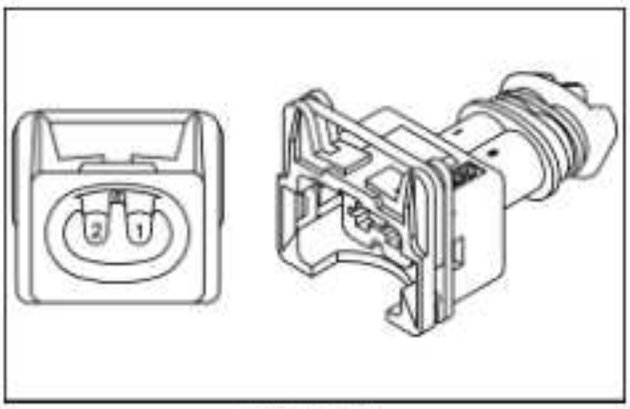
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Front Door Washer Pump to Cab (EH) (Mechanical)

Cavity	Circuit ID	Description	Frame
1	970 (BK)	Washer pump ground	Wiring harness - Electrical schematic frame 09 (A.30.A)
2	224 (WH)	Washer pump signal	

Connector X-508 Air Filter Restriction Switch (ISM) (F5C)



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Air Filter Restriction Switch (ISM) (F5C)

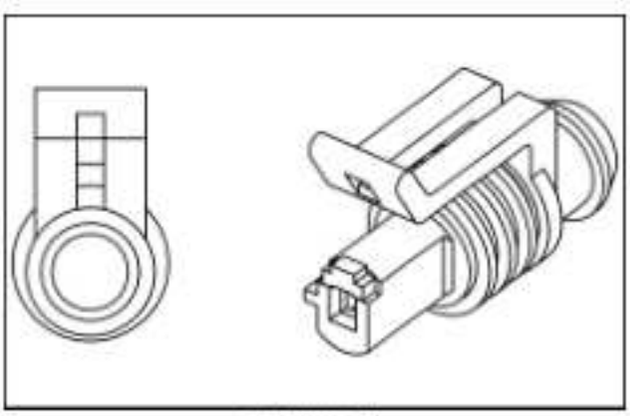
Cavity	Circuit ID	Description	Frame
1	268 (YE)	Air filter sw	Wiring harness - Electrical schematic frame 13 (A.30.A) Wiring harness - Electrical schematic frame 12 (A.30.A)
1	907 (BL)	Air filter sw ground	

Connector X-509 Air Filter Restriction Switch ground (ISM)

Air Filter Restriction Switch ground (ISM)

Cavity	Circuit ID	Description	Frame
1	907 (BL)		Wiring harness - Electrical schematic frame 13 (A.30.A)

Connector X-510 Engine Oil Pressure Switch (F5C)



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Engine Oil Pressure Switch (F5C)

Cavity	Circuit ID	Description	Frame
1	255 (YE)	Eng oil press sw	Wiring harness - Electrical schematic frame 12 (A.30.A)

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5145-Aux thumbwheel axis - Pin B STP

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Control Module : UCM

Context:
Diagnostic Trouble Code 5145 has an error priority of White. White errors are not displayed on the Instrument Cluster and are not known to the Owner/Operator. They will appear in the EST fault stack when the technician checks for active trouble codes while troubleshooting another fault.
Disable Aux operating mode is enabled with Diagnostic Trouble Code 5145.

Cause:
UCM has sensed higher than normal voltage on the Aux Thumbwheel Pin B. (The fault is only activated when Ignition is on and Aux Thumbwheel Pin B voltage is greater than **4.8 V**.)

Possible failure modes:

1. Shorted wire in circuit.
2. Right Hand Control Handle has internal failure.
3. UCM has internal failure.

Solution:

1. Use the machine to recreate conditions for error. Use the **EST** to verify **5145 - Aux thumbwheel axis - Pin B STP** is active.
   - A. If the fault is active, continue with step **2**.
   - B. If the fault is not active, the fault may be intermittent and not currently active, continue with step **6**.
2. Check for short to high. Disconnect connector **X-403** from the **RIGHT HAND CONTROL HANDLE**. Disconnect connector **X-CN4B** from the **UCM**. Using a multi-meter, check for voltage between connector **X-403** pin 11, or connector **X-CN4B** pin 21 and ground.
   - A. If there is no voltage, continue with step **4**.
   - B. If there is voltage, there is a short to high source on wire 546 (Yellow) between connector **X-403** pin 11 and connector **X-CN4B** pin 21. Continue with step **3**.
3. Locate the short to high. Disconnect connector **X-ECC6A** from **X-ECC6B**. Using a multi-meter, check for voltage between connector **X-403** pin 11 and ground.
   - A. If there is no voltage, there is a short to high source on wire 546 (Yellow) between connector **X-ECC6B** pin 11 and connector **X-CN4B** pin 21. Repair or replace the wire.
   - B. If there is voltage, there is a short to high source on wire 546 (Yellow) between connector **X-403** pin 11 and connector **X-ECC6A** pin 11. Repair or replace the wire.
4. Check for proper operation of the **RIGHT HAND CONTROL HANDLE**. Reconnect connector **X-403** to the **RIGHT HAND CONTROL HANDLE**. Disconnect connector **X-ECC6B** from connector **X-ECC6A**. Using a multi-meter, check for voltage between connector **X-ECC6A** pin 11 and ground.
   - A. If voltage is greater than **4.8 V**, the **RIGHT HAND CONTROL HANDLE** has failed. Replace the **RIGHT HAND CONTROL HANDLE**.
   - B. If voltage is less than **4.8 V**, continue with step **5**.
5. Check for proper operation of the **UCM**. Reconnect connector **X-CN4B** to the **UCM**. Using a multi-meter, check for voltage between connector **X-ECC6B** pin 11 and ground.
   - A. If voltage is greater than **4.8 V**, the **UCM** has failed. Replace the **UCM**.

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Control valve - General specification of the 50% self level valve on medium frame

C227

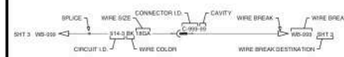
Manufacturer	Eaton - Part Number 39055-EEH
Proportional Flow Divider Settings:	Port D = **50 %**
	Port B = **50 %**
Hydraulic Requirements:	Flow = **57 l/min (15 US gpm)**
	System Pressure = **210 bar (3050 psi)**
	Intermittent Pressure Spikes = **276 bar (4000 psi)**
	Maximum Pressure Drop Across Valve = **10 bar (150 psi) @ 57 l/min (15 US gpm)**
Electrical Requirements:	Operating Voltage = **14 V**
	Maximum Power = **22 W**
	Self Level Override Solenoid Connection Type: Deutsch DT series.
Proportional Flow Divider Adjustment:	Remove plastic cap.
	Turn counter clockwise to increase flow to the tilt cylinders.
	Turn clockwise to decrease flow to the tilt cylinders.
Operating Temperature Range:	**-30 - 107 °C (-22 - 225 °F)**
Port Identification Chart:	**(A)** Lift Cylinder Rod End
	(B) CV Work Port B1
	(C) Tilt Cylinder Rod End
	(D) Tilt Cylinder Base End

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200 Series Compact Track Loader - Electrohydraulic
84526431
ELECTRICAL SCHEMATIC, WORLDWIDE
2011 PRODUCTION—

SHEET 1 OF 5

SCHEMATIC SYMBOLS			
DIODE	FUSE	LAMP	MOTOR
COIL	CHASSIS GROUND (EARTH)	TWISTED WIRES	



WIRING REFERENCES

431 - YE - 18GA
- WIRE GAUGE (SQUARE MM)
- WIRE COLOR
- CIRCUIT NUMBER

COMPONENT	ABBREVIATION
CONNECTOR	X-001
DIODE	D-001
FUSE	F-001
LAMP	E-001
MOTOR	M-001
RELAY	K-001
SENSOR/SENDER	B-001
SPLICE	SP-001
SWITCH	B-001
WIRE BREAK	WB-001

COLOR	ABBREVIATION
BLACK	BK
BLUE	BL
LIGHT BLUE	LB
BLACK/WHITE	BK/WH
GREEN	GN
LIGHT GREEN	LG
ORANGE	OR
PINK	PK
VIOLET	VT
RED	RD
GREY	GY
TAN	TN
WHITE	WH
YELLOW	YE

WIRE CHART SIZE	
Square mm	AWG
0.5	20
0.8	18
1.0	16
2.0	14
3.0	12
5.0	10
8.0	8

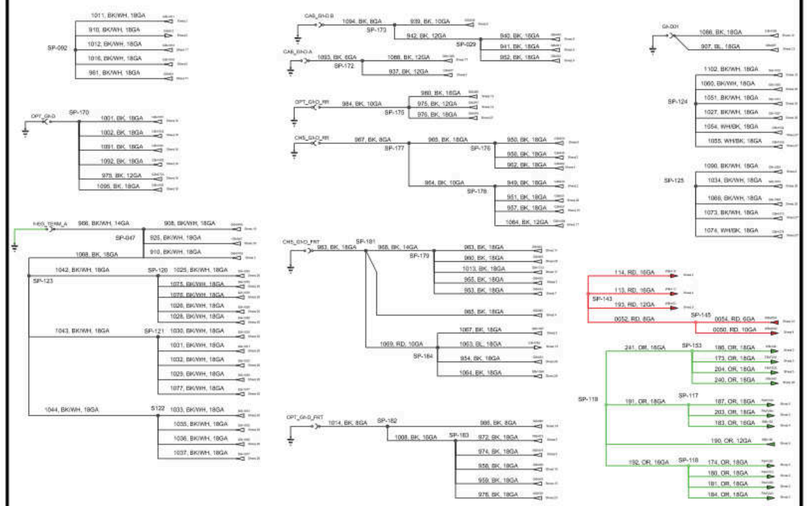
LEGEND

INDICATES CONSTANT POWER

INDICATES POWER WHEN KEY SWITCH IS ON

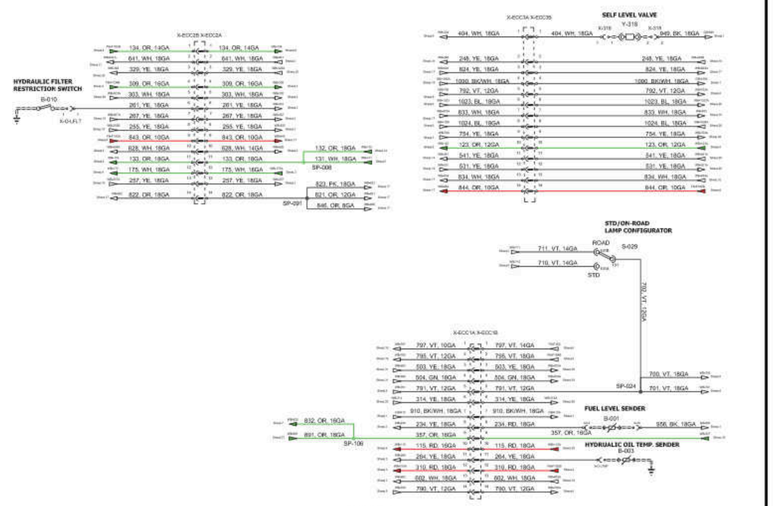
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GROUNDS



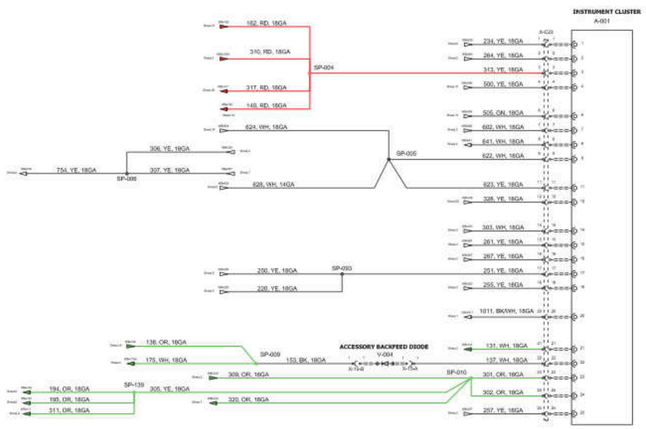
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BULKHEAD CONNECTION



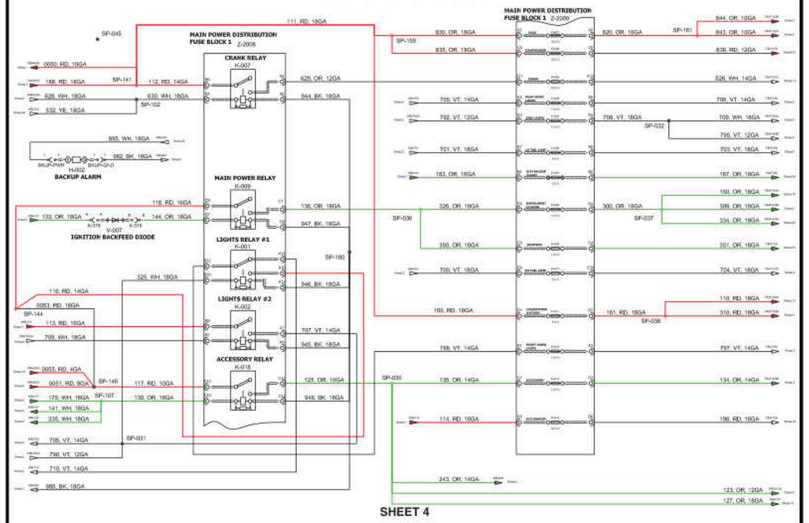
SHEET 2

INSTRUMENT CLUSTER



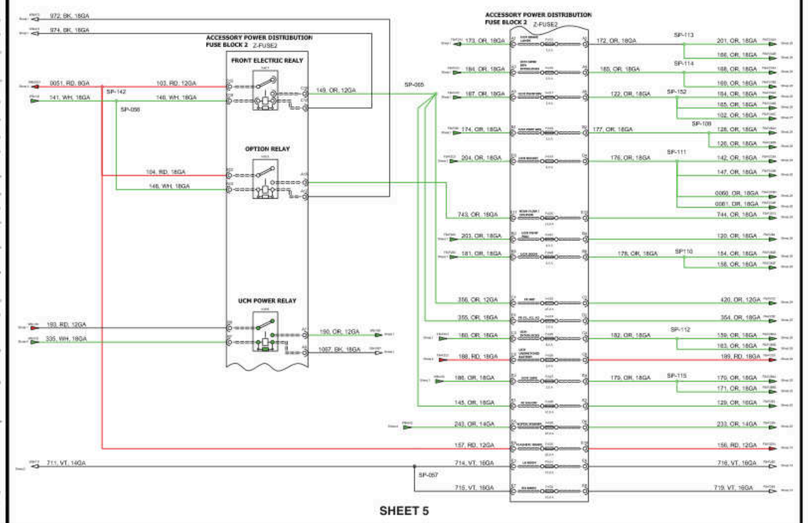
SHEET 3

MAIN POWER DISTRIBUTION



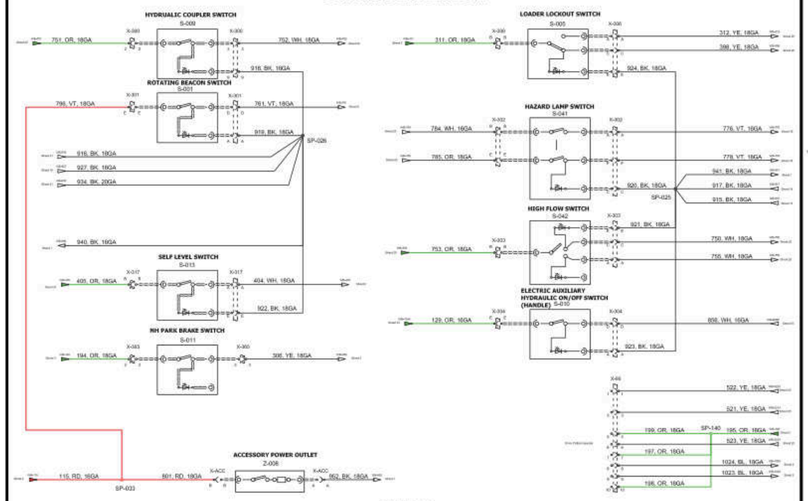
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ACCESSORY POWER DISTRIBUTION



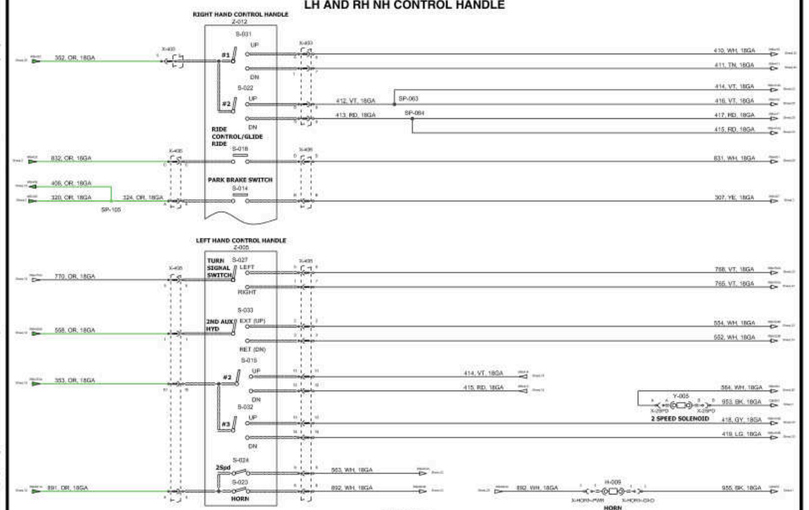
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LEFT HAND CAB CONSOLE



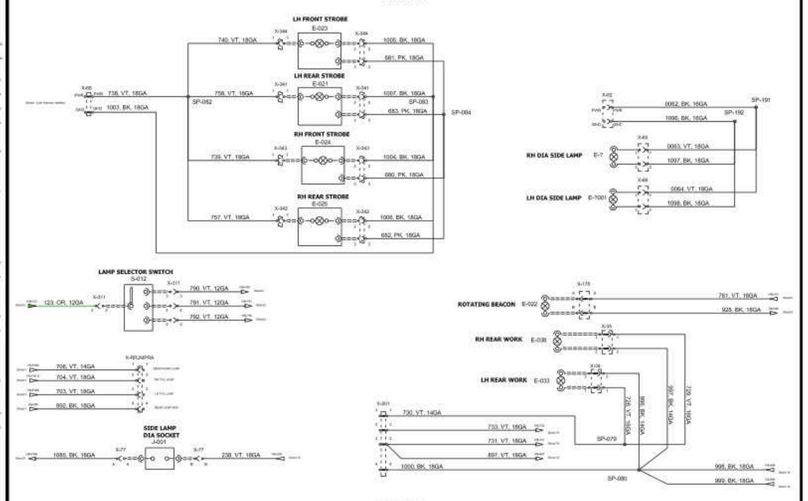
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LH AND RH NH CONTROL HANDLE



SHEET 7

LAMPS



SHEET 8

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