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PRIMARY HYDRAULIC POWER SYSTEM - Component identification of hydraulic valves

SR130, SR150

Component Name	Component ID (Schematic Reference Number)	Frame Location	Information (Tech Data)	Functional	Diagnostic Information (Testing)	Service
Boom Over Ride Valve	**(18)**	**PRIMARY HYDRAULIC POWER SYSTEM - Hydraulic schematic frame 02 Valve assembly (A.10.A)**	**Control valve - General specification of the EH and Mechanical boom override valve on all models (A.10.A)**			
Self Level Valve	**(10)** - 48% valve	**PRIMARY HYDRAULIC POWER SYSTEM - Hydraulic schematic frame 02 Valve assembly (A.10.A)**	**Control valve - General specification of the 48% self level valve on small frame (G.30.A)**			**Control valve - Remove Self level valve (G.30.A) Control valve - Install Self level valve (G.30.A)**
Ride Control Valve	**(9)**	**PRIMARY HYDRAULIC POWER SYSTEM - Hydraulic schematic frame 02 Valve assembly (A.10.A)**	**Control valve - General specification of the Ride / Glide Control Valve (A.10.A)**			**Ride control valve - Remove Glide Ride valve (H.40.B) Ride control valve - Install Glide Ride valve (H.40.B)**
Loader Control EH Valve	**(11)**	**PRIMARY HYDRAULIC POWER SYSTEM - Hydraulic schematic frame 02 Valve assembly (A.10.A)**	**Control valve - General specification of the EH Control Loader Valve for all models (A.10.A)**		**Charge pump - Pressure test (A.10.A)**	**Control valve - Remove loader control valve (H.20.B) Control valve - Install loader control valve (H.20.B)**

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PRIMARY HYDRAULIC POWER SYSTEM - Hydraulic schematic frame 02 Valve assembly

TR270 Mechanical hydraulic controls, TR320 Mechanical hydraulic controls, TV380 Mechanical hydraulic controls

(1)	Left hand hydraulic coupler cylinder	**(10)**	Self level
(2)	Right hand hydraulic coupler cylinder	**(11)**	Loader valve
(3)	Left hand lift cylinder	**(12)**	High flow valve
(4)	Right hand lift cylinder	**(13)**	Secondary auxiliary valve
(5)	Left hand bucket tip cylinder	**(14)**	Hydraulic oil supply filter
(6)	Right hand bucket tip cylinder	**(15)**	Oil cooler
(7)	Pilot operated (P/O) double check valve	**(16)**	Auxiliary pump
(8)	Hydraulic coupler valve	**(17)**	High flow pump
(9)	Ride control	**(18)**	Boom override valve
(A)	Case drain from pumps and motors	**(B)**	Pilot control pressure from charge pump
(C)	Charge pressure for port lock	**(D)**	Crossover pump suction line
(E)	Crossover pump suction line		

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Fuse and relay box - General specification Main Power Distribution Fuse Block 1

NOTE: *For more information on specific relays see* ***ELECTRICAL POWER SYSTEM - Component identification Relay Index (A.30.A)****.*

NOTE: *For more information on specific fuses see* ***ELECTRICAL POWER SYSTEM - Component identification Fuse Index (A.30.A)****.*

NOTE: *For access to fuse blocks see* ***Fuse and relay box - Overview Location and access (A.30.A)****.*

See schematic **Wiring harness - Electrical schematic frame 04 (A.30.A)**.

MAIN POWER DISTRIBUTION FUSE BLOCK 1 Z-2008 (EH)

Component Name	Component ID
CRANK RELAY	**K-007**
MAIN POWER RELAY	**K-009**
LIGHTS RELAY #1	**K-001**
LIGHTS RELAY #2	**K-002**
ACCESSORY RELAY	**K-018**
HVAC FUSE	**F-001**
COMPRESSOR FUSE	**F-002**
CRANK FUSE	**F-003**
REAR WORK LAMPS FUSE	**F-004**
SIDE LAMPS FUSE	**F-005**
LH TAIL LAMP FUSE	**F-006**
UCM BACKUP ALARM FUSE	**F-007**
INSTRUMENT CLUSTER FUSE	**F-008**
IGNITION FUSE	**F-009**
RH TAIL LAMP FUSE	**F-010**
UNSWITCHED BATTERY FUSE	**F-011**
FRONT WORK LAMPS FUSE	**F-012**
ACCESSORY FUSE	**F-013**
ACC / BEACON FUSE	**F-014**

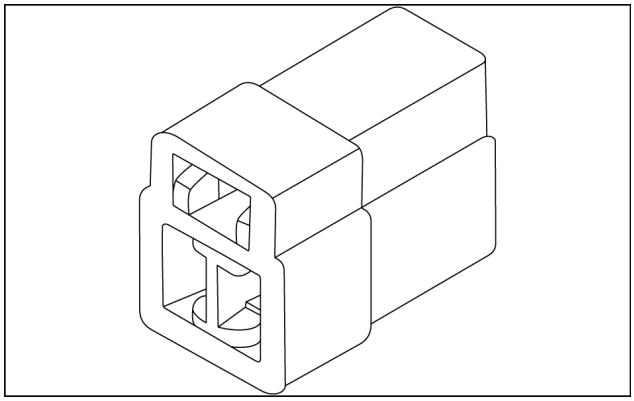
MAIN POWER DISTRIBUTION FUSE BLOCK 1 Z-2008 (Mech)

Component Name	Component ID
CRANK RELAY	**K-007**
MAIN POWER RELAY	**K-009**
LIGHTS RELAY #1	**K-001**
LIGHTS RELAY #2	**K-002**
ACCESSORY RELAY	**K-018**
HVAC FUSE	**F-001**
COMPRESSOR FUSE	**F-002**
CRANK FUSE	**F-003**
SIDE LAMPS FUSE	**F-004**
LH TAIL LAMP FUSE	**F-005**
RH TAIL LAMP FUSE	**F-006**
INSTRUMENT CLUSTER FUSE	**F-007**
IGNITION FUSE	**F-008**
ACC / BEACON FUSE	**F-009**
ACCESSORY FUSE	**F-010**
UNSWITCHED BATTERY FUSE	**F-011**
REAR WORK LAMPS FUSE	**F-012**
FRONT WORK LAMPS FUSE	**F-013**
WIPER WASHER FUSE	**F-014**

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Connector X-275 A/C Switch to Cab (EH) (Mechanical)



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A/C Switch to Cab (EH) (Mechanical)

Cavity	Circuit ID	Description	Frame
A	825 (OR)	HVAC clutch	**Wiring harness - Electrical schematic frame 17 (A.30.A)**
B	913 (BK)	HVAC compressor clutch switch ground	
C	829 (WH)	HVAC compressor switch	

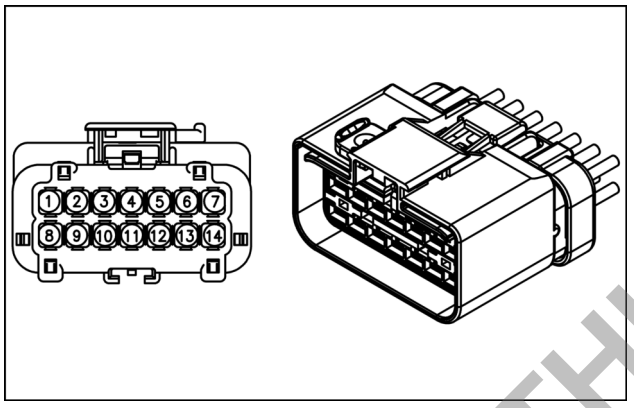
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Connector - Component diagram 24 - Connector X-ECC2B to Connector X-ECC6B

SR130 Electro hydraulic controls, SR150 Electro hydraulic controls, SR175 Electro hydraulic controls, SV185 Electro hydraulic controls, SR200 Electro hydraulic controls, SR220 Electro hydraulic controls, SR250 Electro hydraulic controls, SV250 Electro hydraulic controls, SV300 Electro hydraulic controls, TR270 Electro hydraulic controls, TR320 Electro hydraulic controls, TV380 Electro hydraulic controls

Connector X-ECC2B EH Chassis / Cab Interface -2- to Chassis (EH)

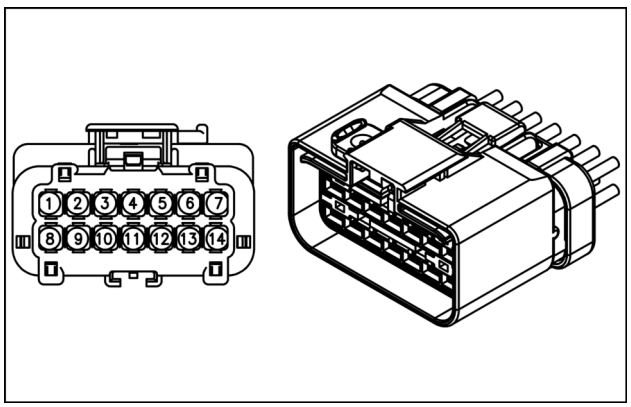


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EH Chassis / Cab Interface -2- to Chassis (EH)

Cavity	Circuit ID	Description	Frame
1	134 (OR)	Wiper / seat acc / radio / dome lamp / dfrst sw / HVAC relay / self level sw power	**Wiring harness - Electrical schematic frame 02 (A.30.A)**
2	641 (WH)	Engine preheat signal	
3	329 (YE)	Seat switch UCM input	
4	309 (OR)	Instrument cluster switched power	
5	303 (WH)	Hydraulic loader interlock signal	
6	261 (YE)	Hydraulic oil filter	
7	267 (YE)	Air filter / engine malfunction	
8	255 (YE)	Engine oil pressure	
9	843 (OR)	HVAC fuse to HVAC box voltage drop parallel circuit	
10	628 (WH)	Instrument cluster / key switch to start relay	
11	133 (OR)	Main power relay signal	
12	175 (WH)	EH ACC relay chassis interface signal	
13	257 (YE)	Engine coolant temperature sender	
14	822 (OR)	HVAC water valve power	

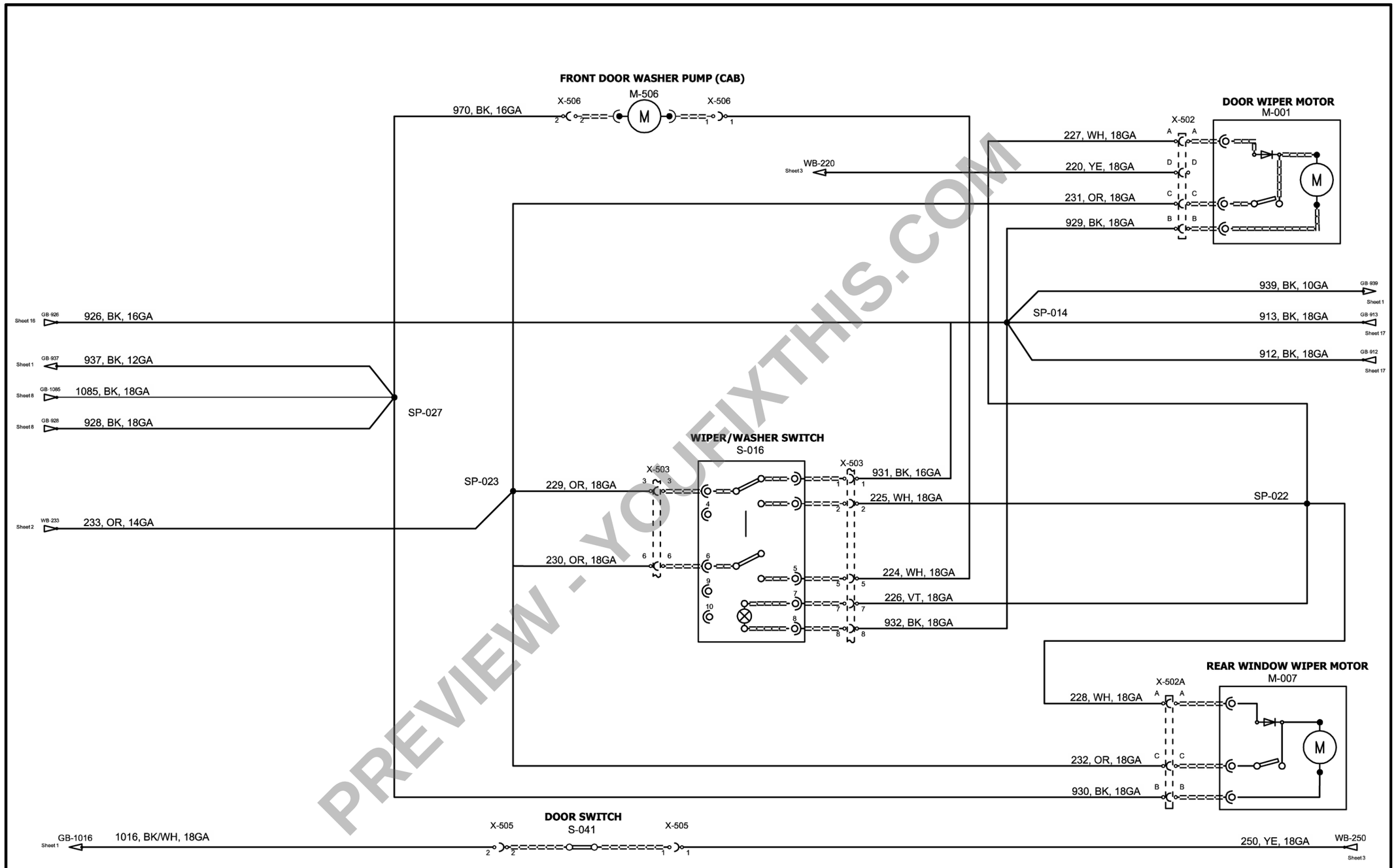
Connector X-ECC3A EH Chassis / Cab Interface -3- to Cab (EH)



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PART NUMBER	DRAWN BY	LOCAL NOUN	SHT	OF	
		DESCRIPTION: DOOR AND WINDOW	9	36	

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Mechanical Machines

Components/Devices On Frame

Component	Connector	Description	Component	Connector	Description
NONE			NONE		

Wire Color Codes

Abbreviation	Color	Abbreviation	Color	Abbreviation	Color
RD	Red	TN	Tan	WH	White
YE	Yellow	BK	Black	GN	Green
GY	Grey	OR	Orange	PK	Pink
VT	Violet	BL	Blue	LB	Light Blue
BK/WH	Black/White	LG	Light Green		

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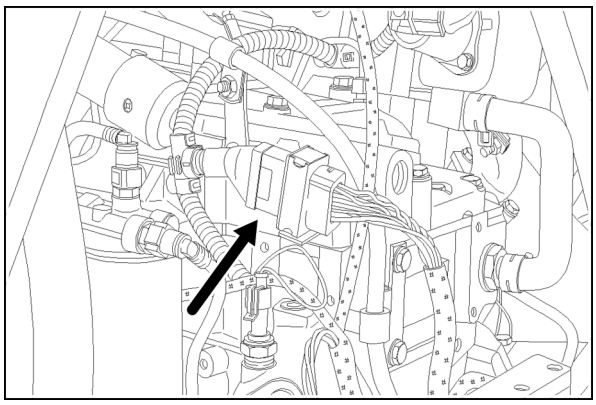
HYDRAULIC, PNEUMATIC, ELECTRICAL, ELECTRONIC SYSTEMS - A

ELECTRONIC SYSTEM - 50.A

SR130 , SR150 , SR175 , SR200 , SR220 , SR250 , SV185 , SV250 , SV300 , TR270 , TR320 , TV380

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BD08F228-01 4

(1) Take a continuity reading from pin 12 **X-EGR** controller connector to pin 6A at **X-FPT** connector (also see connector **X-FPT**), a reading of continuity should be obtained.

(2) Take a continuity reading from pin 10 **X-EGR** controller connector to pin 5A at **X-FPT** connector (also see connector **X-FPT**) , a reading of continuity should be obtained.

(3) Take a continuity reading from pin 3 **X-EGR** controller connector to pin 1B at **X-FPT** connector (also see connector **X-FPT**), , a reading of continuity should be obtained.

(4) Take a continuity reading from pin 6A at **X-FPT** connector (also see connector **X-FPT**), to pin 1 at **Boost pressure/temperature sensor** sensor connector, a reading of continuity should be obtained.

(5) Take a continuity reading from pin 5A at **X-FPT** connector (also see connector **X-FPT**), to pin 4 at **EGR valve**, a reading of continuity should be obtained.

(6) Take a continuity reading from pin 1B at **X-FPT** connector (also see connector **X-FPT**) to pin 5 at **EGR valve** connector, a reading of continuity should be obtained.

(7) Take a continuity reading from pins 3, 10 and 12 **X-EGR** controller connector to all other EGR controller pins, all circuits should be open.

(8) Take a continuity reading from pins 5A, 6A and 1B at **X-FPT** connector (also see connector **X-FPT**) to all other engine EGR harness pins, all circuits should be open.

A. NOT OK – Repair or replace harness as needed. Return to Step **1** to confirm elimination of fault.

B. OK – Go to Step **5**.

5. Replace EGR controller.

   A. Return to Step **1** to confirm elimination of fault. If fault is recorded again, contact Technical Services Group for assistance.

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6. Locate the open circuit. Disconnect connector **X-ECC1A** from connector **X-ECC1B**. Using a multi-meter, check continuity between connector **X-ECC1A** pin 4 and connector **X-C23** pin 6.

   A. If there is no continuity, there is an open wire condition on wire 505/504 (Green) between connector **X-ECC1A** pin 4 and connector **X-C23** pin 6. Repair or replace the wire.

   B. If there is continuity, continue with step **7**.

7. Locate the open circuit. Using a multi-meter, check continuity between connector **X-ECC1B** pin 4 and connector **X-CN1B** pin 25.

   A. If there is no continuity, there is an open wire condition on wire 507 (Green) between connector **X-ECC1B** pin 4 and connector **X-CN1B** pin 25. Repair or replace the wire.

   B. If there is continuity, connectors **X-ECC1A** and **X-ECC1B** are not making a good connection at pin 4. Repair the connector.

8. Check for a short to ground. Disconnect connector **X-CN1B** from the **UCM**. Disconnect connector **X-C23** from the **INSTRUMENT CLUSTER**. Disconnect connector **X-DIAG** from the **CAN DIAGNOSTIC CONNECTOR**. Disconnect connector **X-TELE** from the **TELEMATICS CONNECTOR**. Using a multi-meter, check for continuity between connector **X-CN1B** pin 34, or connector **X-C23** pin 4 and ground.

   A. If there is no continuity, continue with step **9**.

   B. If there is continuity, there is a short to ground condition on wire 500/503/502 (Yellow) between connector **X-CN1B** pin 25 and connector **X-C23** pin 6. Continue with step **10**.

9. Check for a short to ground. Disconnect connector **X-CN1B** from the **UCM**. Disconnect connector **X-C23** from the **INSTRUMENT CLUSTER**. Using a multi-meter, check for continuity between connector **X-CN1B** pin 25, or connector **X-C23** pin 6 and ground.

   A. If there is no continuity, continue with step **12**.

   B. If there is continuity, there is a short to ground condition on wire 505/504/507 (Green) between connector **X-CN1B** pin 25 and connector **X-C23** pin 6. Continue with step **11**.

10. Locate the short to ground. Disconnect connector **X-ECC1A** from connector **X-ECC1B**. Using a multi-meter, check for continuity between connector **X-ECC1A** pin 3, or connector **X-C23** pin 4 and ground.

    A. If there is no continuity, there is a short to ground on wire 502 (Yellow) between connector **X-CN1B** pin 34 and **X-ECC1B** pin 3 or between **SPLICE 188** and connector **X-TELE** pin M, or between **SPLICE 89** and connector **X-DIAG** pin C. Repair or replace the shorted wire.

    B. If there is continuity, there is a short to ground condition on wire 500/503 (Yellow) between connector **X-ECC1A** pin 3 and connector **X-C23** pin 4. Repair or replace the shorted wire.

11. Locate the short to ground. Disconnect connector **X-ECC1A** from connector **X-ECC1B**. Using a multi-meter, check for continuity between connector **X-ECC1A** pin 4, or connector **X-C23** pin 6 and ground.

    A. If there is no continuity, there is a short to ground on wire 507 (Green) between connector **X-CN1B** pin 25 and **X-ECC1B** pin 4 or between **SPLICE 189** and connector **X-TELE** pin N, or between **SPLICE 90** and connector **X-DIAG** pin B. Repair or replace the shorted wire.

    B. If there is continuity, there is a short to ground condition on wire 505/504 (Green) between connector **X-ECC1A** pin 3 and connector **X-C23** pin 6. Repair or replace the shorted wire.

12. Check for proper resistance of the **INSTRUMENT CLUSTER**.
    Using a multi-meter, check for resistance between **INSTRUMENT CLUSTER** pins 4 and 20.

    A. If resistance is about **1.19 M Ω**, continue with step **13**.

    B. If resistance is **0 Ω**, the **INSTRUMENT CLUSTER** has shorted internally. Replace the **INSTRUMENT CLUSTER**.

    C. If resistance is greater than **1.5 M Ω**, the **INSTRUMENT CLUSTER** has opened internally. Replace the **INSTRUMENT CLUSTER**.

13. Check for proper resistance of the **INSTRUMENT CLUSTER**.
    Using a multi-meter, check for resistance between **INSTRUMENT CLUSTER** pins 6 and 20.

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4056- Park Brake Valve (On/Off) - Solenoid Supply STG

SR130 Electro hydraulic controls, SR150 Electro hydraulic controls, SR175 Electro hydraulic controls, SV185 Electro hydraulic controls, SR200 Electro hydraulic controls, SR220 Electro hydraulic controls, SR250 Electro hydraulic controls, SV250 Electro hydraulic controls, SV300 Electro hydraulic controls, TR270 Electro hydraulic controls, TR320 Electro hydraulic controls, TV380 Electro hydraulic controls

Control Module : UCM

Context:
Diagnostic Trouble Code 4056 has an error priority of Red.
Ground Drive operating mode is disabled with Diagnostic Trouble Code 4056.

Cause:
The UCM has sent a signal to the Park Brake Valve solenoid to energize, but there is no voltage detected. (The fault is only activated when Hydraulics are Enabled and the Park Brake is disabled and Park Brake Valve solenoid output current is high.)

Possible failure modes:

1. Park Brake Valve solenoid failed.
2. Shorted wire in circuit.
3. UCM has an internal failure.

Solution:

1. Use the machine to recreate conditions for error. Use the **EST** to verify **4056 - Park Brake Valve (On/Off) - Solenoid Supply STG** 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 **5**.
2. Check for a short to ground. Disconnect connector **X-CN3A** from the **UCM**. Disconnect connector **X-BRK** from the **BRAKE VALVE SOLENOID**. Using a multi-meter, check for continuity between connector **X-BRK** pin 1, or connector **X-CN3A** pin 4 and ground.
   A. If there is no continuity, continue with step **3**.
   B. If there is continuity, there is a short to ground condition on wire 258 (White) between connector **X-BRK** pin 1 and connector **X-CN3A** pin 4. Repair or replace the wire.
3. Check for proper resistance in the **BRAKE VALVE SOLENOID**. Using a multi-meter to check for resistance between **BRAKE VALVE SOLENOID** pins 1 and 2.
   A. If resistance is normal, continue with step **4**.
   B. If resistance is infinite, the **BRAKE VALVE SOLENOID** has developed an open. Replace the **BRAKE VALVE SOLENOID**.
   C. If resistance is **0 Ω**, the **BRAKE VALVE SOLENOID** has shorted internally. Replace the **BRAKE VALVE SOLENOID**.
4. Check for proper resistance of the **UCM**. Completely power down the **UCM** by removing all six connectors. Using a multi-meter, check for resistance between **UCM** pins CN3A-4 and CN1A-1.
   A. If resistance is normal, continue with step **5**.
   B. If resistance is **0 Ω**, the **UCM** has shorted internally. Replace the **UCM**.
5. Visually inspect the relevant harnesses and connectors for damage, bent or dislocated pins, corroded terminals or broken wires. Verify that the connectors are fully installed. Flex the harnesses involved to reveal intermittent breaks or shorts in the wiring concerned. Operate the machine while monitoring the EST and Display. Investigate nearby wiring. This Diagnostic Trouble Code resolution procedure does not completely rule out the UCM

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5063- Port Lock Valve (On/Off) - Solenoid Supply STP

SR130 Electro hydraulic controls, SR150 Electro hydraulic controls, SR175 Electro hydraulic controls, SV185 Electro hydraulic controls, SR200 Electro hydraulic controls, SR220 Electro hydraulic controls, SR250 Electro hydraulic controls, SV250 Electro hydraulic controls, SV300 Electro hydraulic controls, TR270 Electro hydraulic controls, TR320 Electro hydraulic controls, TV380 Electro hydraulic controls

Control Module : UCM

Context:
Diagnostic Trouble Code 5063 has an error priority of Red.
Disable Loader Hydraulics operating mode is enabled with Diagnostic Trouble Code 5063.

Cause:
UCM has sensed higher than normal voltage on the Port Lock Valve Solenoid. (The fault is only activated when Hydraulics are off or Loader Lock is on or Aux Override is on and Port Lock Valve voltage is high.)

Possible failure modes:

1. Shorted wire in circuit.
2. Failure of Port Lock Valve Solenoid.
3. UCM has internal failure.

Solution:

1. Use the machine to recreate conditions for error. Use the **EST** to verify **5063 - Port Lock Valve (On/Off) - Solenoid Supply 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 **4**.
2. Check for a short to high. Disconnect connector **X-PORT_LK** from **Port Lock Valve Solenoid**. Disconnect connector **X-CN2A** from the **UCM**. Disconnect connector **X-TELE** from the **Telematics Connector**. Using a multi-meter, check voltage between connector **X-PORT_LK** pin 1 and ground.

   A. If there is no voltage, continue with step **3**.

   B. If there is voltage, there is a short to high condition on wire 537 (White) between **Splice 187** and connector **X-CN2A** pin 5, or on wire 304 (White) between **Splice 187** and connector **X-PORT_LK** pin 1, or on wire 308 (Yellow) between connector **X-TELE** pin E and **Splice 187**. Use Frames 15 and 32 to troubleshoot and isolate the fault. Visually inspect the affected wires for damage. Repair or replace faulty wire.
3. Check for proper operation of the **UCM**. Reconnect connector **X-CN2A** to the **UCM**. Using a multi-meter, check for voltage between connector **X-PORT_LK** pin 1 and ground.

   A. If voltage is greater than **8 V**, the **UCM** has failed. Replace the **UCM**.

   B. If voltage is less than **8 V**, continue with step **4**.
4. Visually inspect the relevant harnesses and connectors for damage, bent or dislocated pins, corroded terminals or broken wires. Verify that the connectors are fully installed. Flex the harnesses involved to reveal intermittent breaks or shorts in the wiring concerned. Operate the machine while monitoring the EST and Display. Investigate nearby wiring.

   A. If damage is found or other than normal display readings are indicated, repair the damage discovered during the inspection or locate and repair the other than normal display condition and verify that the error has been resolved.

   B. If no damage or other than normal display readings are indicated, erase the Diagnostic Trouble Code and continue operation.

Wiring harness - Electrical schematic frame 26 (A.30.A.88-C.20.E.26)
Wiring harness - Electrical schematic frame 15 (A.30.A.88-C.20.E.15)
Wiring harness - Electrical schematic frame 30 (A.30.A.88-C.20.E.30)

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5281- Aux Valve (Directional) - Solenoid Forward (A) Supply OC

SR130 Electro hydraulic controls, SR150 Electro hydraulic controls, SR175 Electro hydraulic controls, SV185 Electro hydraulic controls, SR200 Electro hydraulic controls, SR220 Electro hydraulic controls, SR250 Electro hydraulic controls, SV250 Electro hydraulic controls, SV300 Electro hydraulic controls, TR270 Electro hydraulic controls, TR320 Electro hydraulic controls, TV380 Electro hydraulic controls

Control Module : UCM

Context:
Diagnostic Trouble Code 5281 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 5281.

Cause:
UCM has sensed improper Loader Auxiliary Valve solenoid current. (The fault is only activated when Hydraulics are enabled and solenoid supply current is incorrect.)

Possible failure modes:

1. Open wire in circuit.
2. Failure of Proportional Aux Valve Extend solenoid.
3. UCM has internal failure.

Solution:

1. Use the machine to recreate conditions for error. Use the **EST** to verify **5281 - Aux Valve (Directional) - Solenoid Forward (A) Supply OC** 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 **8**.

2. Check for open circuit. Disconnect connector **X-24** from the **PROPORTIONAL AUX VALVE EXTEND SOLENOID**. Disconnect connector **X-CN1B** from the **UCM**. Using a multi-meter, check continuity between connector **X-24** pin 1 and connector **X-CN1B** pin 33.

   A. If there is continuity, continue with step **5**.

   B. If there is no continuity, there is an open wire condition on wire 514 (White) between connector **X-24** pin 1 and connector **X-CN1B** pin 33. Continue with step **3**.

3. Locate the open circuit. Disconnect connector **X-10** from connector **X-88**. Using a multi-meter, check continuity between connector **X-10** pin 12 and connector **X-CN1B** pin 33.

   A. If there is no continuity, there is an open wire condition on wire 514 (White) between connector **X-10** pin 12 and connector **X-CN1B** pin 33. Repair or replace the wire.

   B. If there is continuity, continue with step **4**

4. Locate the open circuit. Using a multi-meter, check continuity between connector **X-88** pin 12 and connector **X-24** pin 1.

   A. If there is no continuity, there is an open wire condition on wire 514 (White) between connector **X-88** pin 12 and connector **X-24** pin 1. Repair or replace the wire.

   B. If there is continuity, connectors **X-10** and **X-88** are not making a good connection at pin 12. Repair the connector.

5. Check for proper resistance in the **PROPORTIONAL AUX VALVE EXTEND SOLENOID**. Using a multi-meter to check for resistance between **PROPORTIONAL AUX VALVE EXTEND SOLENOID** pins 1 and 2.

   A. If resistance is normal, continue with step **6**.

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1910- UCM - Rail 12VH - Ldr Plt Interlk & Port Lock Input Power OFF

SR130 Electro hydraulic controls, SR150 Electro hydraulic controls, SR175 Electro hydraulic controls, SV185 Electro hydraulic controls, SR200 Electro hydraulic controls, SR220 Electro hydraulic controls, SR250 Electro hydraulic controls, SV250 Electro hydraulic controls, SV300 Electro hydraulic controls, TR270 Electro hydraulic controls, TR320 Electro hydraulic controls, TV380 Electro hydraulic controls

Control Module : UCm

Context:
Diagnostic Trouble Code 1910 has an error priority of Red.
Disable Loader Hydraulics is enabled with Diagnostic Trouble Code 1910.

Cause:
UCM has sensed that a 12 V UCM input has failed low. (The fault is only activated when Ignition is On, crank pin is low, Diagnostic Code 1903 is not active, and UCM input voltage is less than **9 V**.)

Possible failure modes:

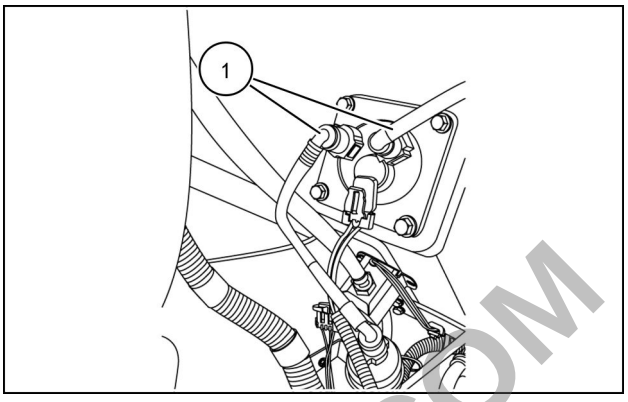
1. Blown fuse.
2. Open wire in circuit.
3. Shorted wire in circuit.
4. Failure of UCM.

Solution:

1. Before troubleshooting this Trouble Code electrically, ensure the battery and charging system are working properly. Due to the nature of the fault, and the design of the 12 VDC distribution system, this Trouble Code can be caused by a short in a number of different places. Use information regarding other active trouble codes to logically determine possible fault locations. This resolution procedure does not fully isolate the fault, it only tests the most likely components.
   Use the machine to recreate conditions for error. Use the **EST** to verify **1910 - UCM - Rail 12VH - Ldr Plt Interlk & Port Lock Input Power OFF** 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 **8**.
2. Check for blown fuse. Remove fuse **F-25** from **ACCESSORY POWER DISTRIBUTION FUSE BLOCK 2**. Using a multi-meter, check for resistance across the fuse.
   A. If resistance is **0 Ω**, continue with step **3**.
   B. If resistance is infinite, the fuse has blown. Replace with fuse of same type and amp rating.
3. Check for open circuit. Disconnect connector **X-CN2A** from the **UCM**. Using a multi-meter, check continuity between connector **X-CN2A** pin 7 and **ACCESSORY POWER DISTRIBUTION FUSE BLOCK 2** pin C4.
   A. If there is continuity, continue with step **4**.
   B. If there is no continuity, there is an open wire condition on wire 182/159 (Orange) between **ACCESSORY POWER DISTRIBUTION FUSE BLOCK 2** pin C4 and connector **X-CN2A** pin 7. Repair or replace the wire.
4. Check for open circuit. Using a multi-meter, check continuity between connector **X-CN2A** pin 13 and **ACCESSORY POWER DISTRIBUTION FUSE BLOCK 2** pin C4.
   A. If there is continuity, continue with step **5**.
   B. If there is no continuity, there is an open wire condition on wire 163 (Orange) between **SPLICE 112** and connector **X-CN2A** pin 13. Repair or replace the wire.
5. Check for a short to ground. Using a multi-meter, check for continuity between connector **ACCESSORY POWER DISTRIBUTION FUSE BLOCK 2** pin C4 and ground.
   A. If there is no continuity, continue with step **6**.

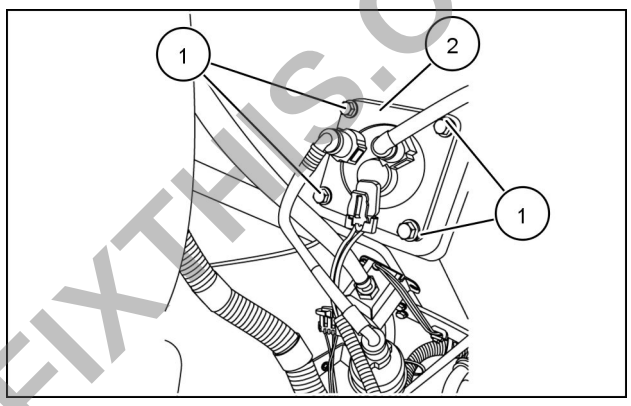
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4. Label and disconnect the fuel lines **(1)**.



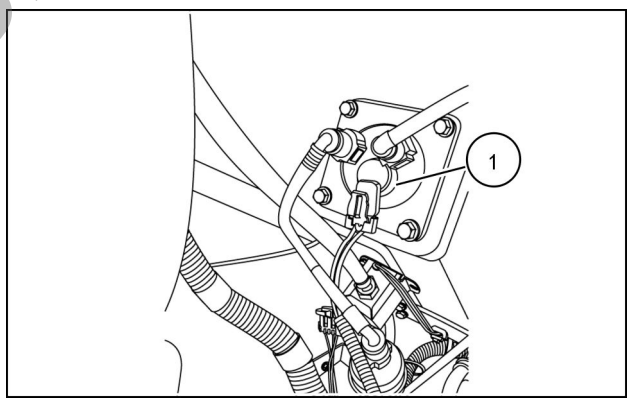
931002098 4

5. Remove hardware **(1)** and fuel level sender retainer **(2)**.



931002098 5

6. Remove fuel level sender **B-001 (1)** from fuel tank.



931002098 6

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Pressure release valve - Remove Low pressure relief

SR130 Electro hydraulic controls, SR150 Electro hydraulic controls, SR175 Electro hydraulic controls, SV185 Electro hydraulic controls, SR200 Electro hydraulic controls, SR220 Electro hydraulic controls, SR250 Electro hydraulic controls, SV250 Electro hydraulic controls, SV300 Electro hydraulic controls, TR270 Electro hydraulic controls, TR320 Electro hydraulic controls, TV380 Electro hydraulic controls

⚠ WARNING

Pressurized hydraulic fluid can penetrate the skin and cause severe injuries.
Hydraulic fluid can also infect a minor cut or opening in the skin. Serious infection or reaction can result without immediate medical treatment. If injured by leaking fluid, see your doctor immediately.
Failure to comply could result in death or serious injury.

W0358A

⚠ DANGER

Crushing hazard!
Always install the safety lock before working under the raised attachment.
Failure to comply will result in death or serious injury.

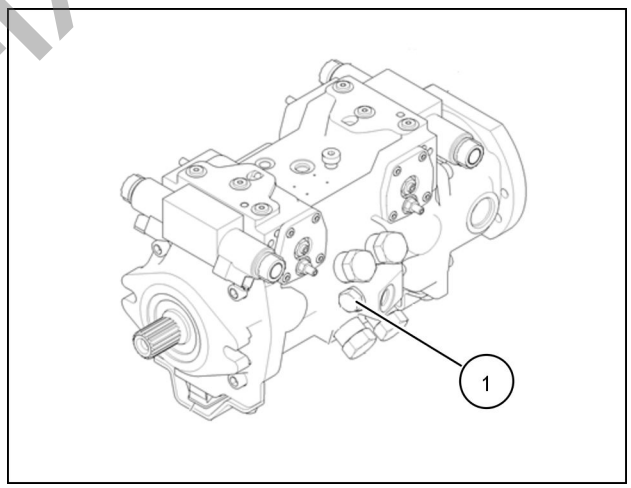
D0075A

Prior operation:
To depressurize the system, refer to **PRIMARY HYDRAULIC POWER SYSTEM - Depressurising (A.10.A)**.

NOTE: *Currently the Bosch Rexroth electro-hydraulic pump is limited to certain serviceable parts.*

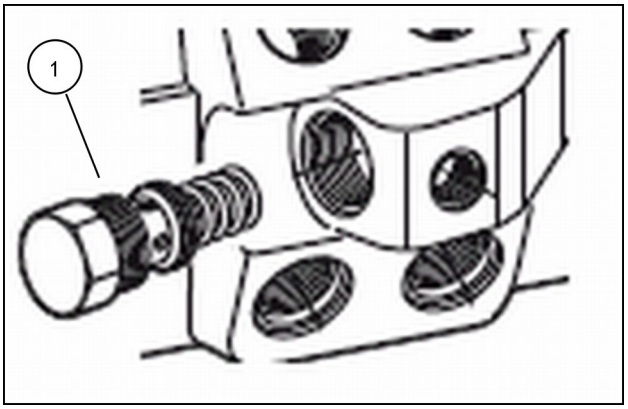
NOTICE: *The pictures below may vary from the pump you are working on. The removal procedure is the same.*

1. Locate the low pressure relief valve **(1)**.



20115485 1

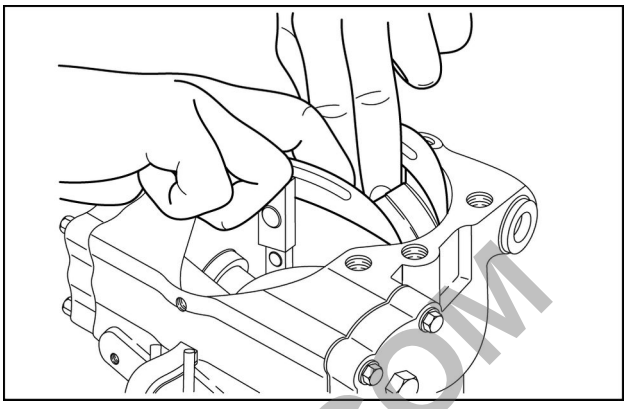
2. Remove the low pressure relief valve **(1)**.



20115786 2

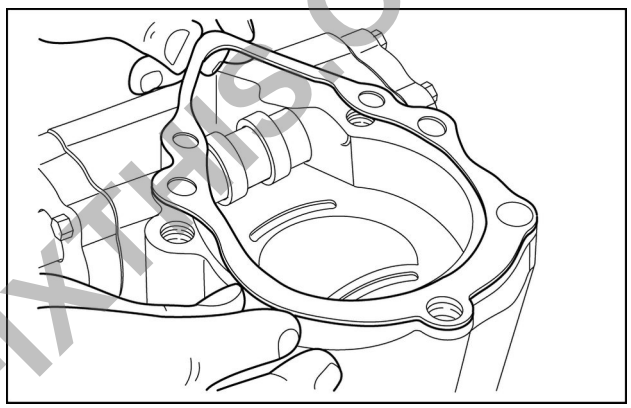
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48. Install the swash plate. The pin must engage the slot in the body of the control valve. The retainer must engage the groove in the piston.



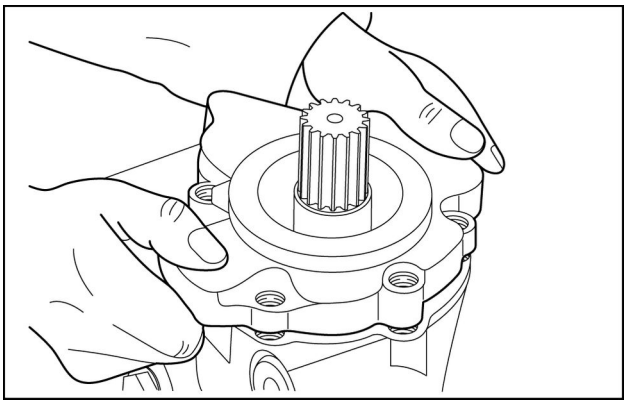
83111576CV 48

49. Place a new gasket on the outside rim.



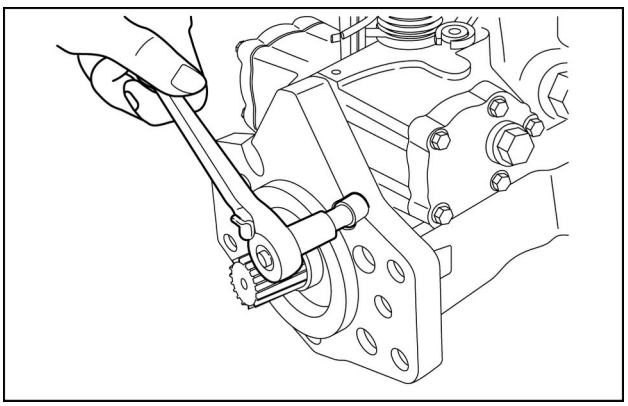
83115483FN 49

50. Carefully place the cover and the shaft assembly onto the gasket. Rotate the shaft to align the support with the cylinder block.



83115484I 50

51. Secure the cover with special bolts. Use the bolts to evenly draw the cover to the housing. Tighten the **3/8 in** special bolt to a torque of **53 - 64 Nm 39 - 47 lb ft**. Tighten the **7/16 in** special bolts to a torque of **81 - 100 Nm** (**60 - 74 lb ft**).

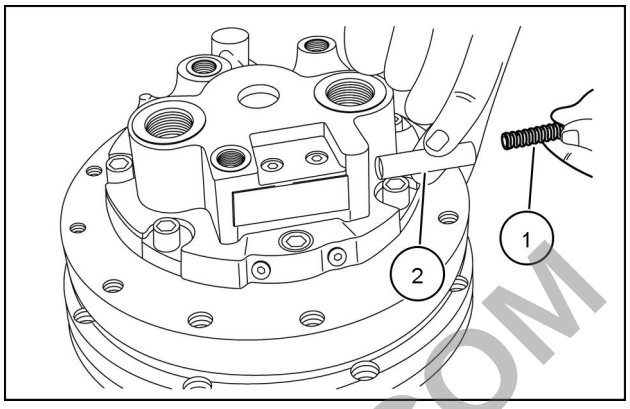


83111574WER 51

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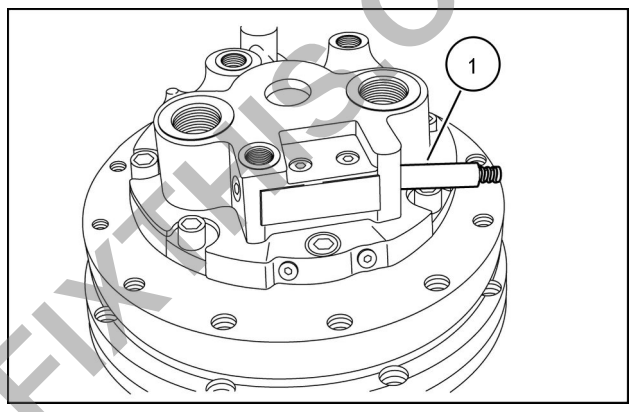
35. Install the spring **(1)** into the two-speed spool **(2)** .



83115727 33

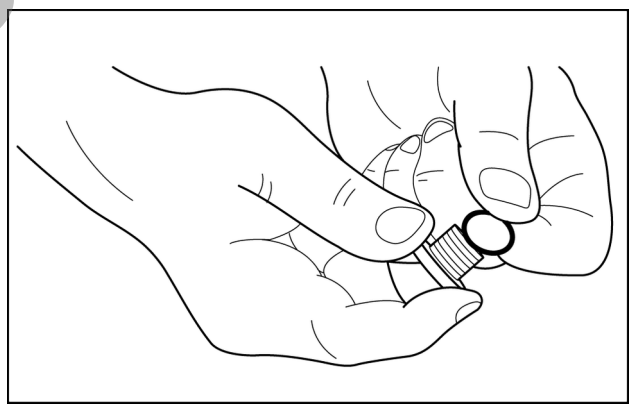
36. Install the two speed spool **(1)** into the base plate.

NOTE: *The spool will only fit through 1 of the 2 orifices.*



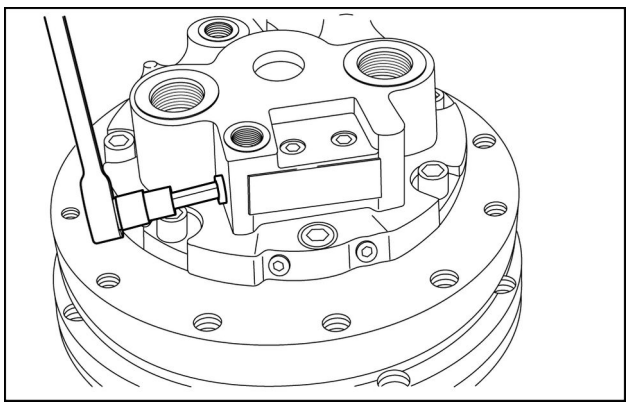
83115726 34

37. Install the O-rings on the plugs.



83115721 35

38. Install and tighten the plugs to a torque of **49 - 59 N·m** (**36.1 - 43.5 lb ft**).



83115725 36

NOTE: *Assembly of the flushing valve*

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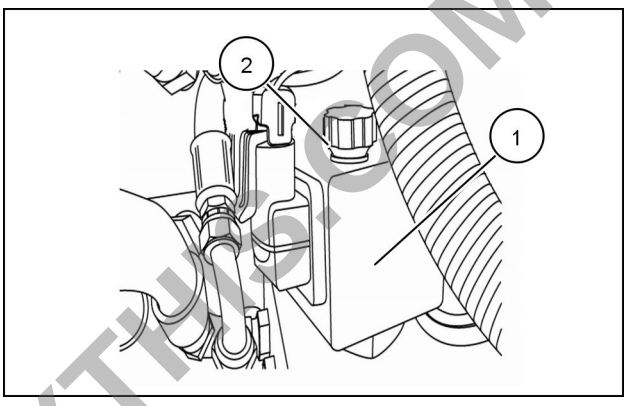
Command - Install Brake valve solenoid for models with single speed

⚠ DANGER

Crushing hazard!
Always install the safety lock before working under the raised attachment.
Failure to comply will result in death or serious injury.

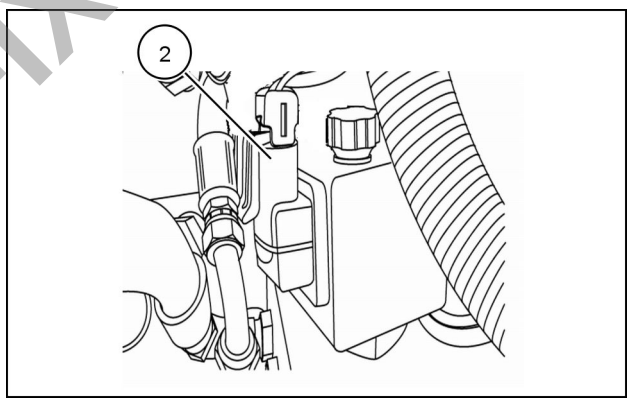
D0075A

1. Place solenoid **(1)** onto valve block . Thread cap **(2)** onto valve body.



931001725A 1

2. Connect the electrical connector **(2)** to the solenoid.



931001725A 2

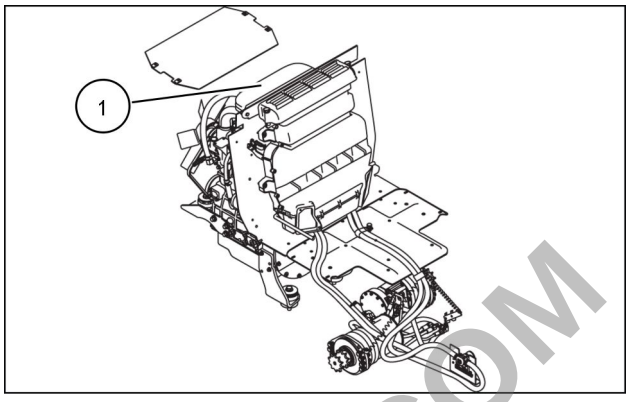
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17. Remove air intake duct **(1)**, from firewall.



93104663 13

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Index

TOOL POSITIONING - G

LIFTING - 10.A

Cylinder - General specification 3
SR130, SR150
Cylinder - General specification 4
SR175
Cylinder - General specification 5
SR200, TR270
Cylinder - General specification 6
SR220, SR250, TR320
Cylinder - General specification 7
SV250, SV300, TV380
Cylinder - General specification 8
SV185
Cylinder - General specification 9
SV185
Cylinder - General specification 10
SV250, SV300, TV380

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SINGLE ARM Lift - Pressure test

1. If the hydraulic oil is not at operating temperature run the engine at full throttle and hold the bucket control lever in the ROLLBACK position for 30 seconds. Then return the bucket control lever to NEUTRAL for 15 seconds. Repeat this cycle until the temperature of the oil is at least 52°C (125°F).
2. Disconnect the hydraulic lines from the implement controller where they connect to the loader control valve.
3. Connect a 4,137 kPa (41 bar) (600 psi) pressure gauges to pilot line at spool ends.
4. Start the engine and run at high idle. Read the pressure gauge and record the EH Pressure reading at high idle. Pressure should be **0 bar** (**0.0 psi**) with lever in neutral.
5. Move the implement controller lever (1) to raise the loader control arms. Read the pressure gauge and record the EH pressure reading.
6. Move the implement controller lever (1) to lower the loader control arms. Read the pressure gauge and record the EH pressure reading.
7. Move the implement controller lever (1) to tilt the loader bucket. Read the pressure gauge and record the EH pressure reading.
8. Move the implement controller lever (1) to dump the loader bucket. Read the pressure gauge and record the EH pressure reading.
9. The pressure readings should vary from 0 kPa (0 bar) (0 psi) to 2482 kPa (24.8 bar) (360 psi) at high idle for a given angle on the implement control handle.
10. If the pressure readings are correct, the test is complete. If the pressure readings are not correct, repair or replace the charge/hydrostatic pump assembly or the loader control valve.

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SINGLE ARM TOOL ATTACHMENT Tilt - Troubleshooting

Problem	Possible Cause	Correction
Incorrect or No Loader Function	1. Check to ensure the cab door is fully closed.	A. Is there still a problem? No: Troubleshooting complete. Yes: Go to Step 2.
	2. Check the cab door switch (If equipped with cab door).	A. Check power to and from the cab door switch. B. Is there still a problem? No: Troubleshooting complete. Yes: Go to Step 3.
	3. Check the Implement Controller interlock valve power/function.	A. Check power to and from the Implement Controller interlock valve. Repair as required. B. Check the Implement Controller interlock valve function. Repair or replace as required. C. Is there still a problem? No: Troubleshooting complete. Yes: Go to Step 4.
	4. Check the charge pressure.	A. Do - Checking the Charge Pressure/ Flow. Refer to **Charge pump - Pressure test (A.10.A)** for the procedure. B. Charge pressure OK? Stroke the control lever. A 20 psi or greater drop indicates a leaky servo. Repair as required. C. Is there still a problem? No: Troubleshooting complete. Yes: Go to Step 5.
	5. Check the pilot pressure from the Implement Controller to the Loader Control Valve.	Go to step 6.
	6. Do Check 1 - Checking the Pilot Pressure. Refer to **SINGLE ARM Lift - Pressure test (H.40.B)**	A. Is there still a problem? No: Troubleshooting complete. Yes: Go to Step 7.
	7. If the pressure readings are correct, the test is complete. If the pressure readings are not correct, repair or replace the charge/hydrostatic pump assembly or the loader control valve.	
	8. Check the loader control valve function.	A. Is there still a problem? No: Troubleshooting complete. Yes: Go to Step 9.
	9. Repair or replace the loader control valve.	

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