SERVICE MANUAL

B100C / B100C LR / B100C TC / B110C / B110C TC / B115C TC
Stage IV
Tractor Loader Backhoe

Part number 48126557
English
February 2017

NEW HOLLAND CONSTRUCTION

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Power shuttle transmission - Pressure test 2 Wheel drive, test one engine at idle, 900 to 1100 RPM

B100C LR
B100C TC
B100C
B110C STAGE IV, STRAIGHT LOADER ARM (SLA), FOUR-WHEEL DRIVE (4WD)
B110C TC
B115C TC STAGE IV, CENTER PIVOT (CP)
B115C TC STAGE IV, SIDE SHIFT (SS)

NOTE: *All specifications shown were taken from a sampling of new production machines with less than 20 engine hours, your figures may differ slightly.*

Test Port	Item	Specifications - 2 wheel Drive	Actual
1 and 2	Supply Pump Flow	27 to 28 L/min at 1379 kPa 14 bar at 49° C (7.02 to 7.28 gpm at 200psi at 120° F)	
1 and 2	Cold Oil By-Pass	2875 kPa to 3137 kPa 29.3 bar to 32.0 bar at 49° C (417 to 455 psi l at 120° F)	
7	Differential Lock Pressure (FNR must be in forward or reverse	1262 to 1317 kPa, 12.7 to 13.4 bar (183 to 191 psi)	
Forward			
10	Pump Supply Pressure	1393 to 1427 kPa 14.2 to 14.6 bar (202 to 207 kPa)	
4	Regulated Clutch Pressure	1276 to 1317 kPa 13.0 to 13.4 bar (185 to 191 psi)	
6	Torque Converter IN	545 to 607 kPa 5.6 to 6.2 bar (79 to 88 psi)	
8	Torque Converter OUT	393 to 414 kPa 4.0 to 4.2 bar (57 to 60 psi)	
9	Lubrication Pressure	269 to 283 kPa 2.7 to 2.9 bar (39 to 42 psi)	
Neutral			
10	Pump Supply Pressure	690 to 758 kPa 7.0 to 17.7 bar (194 to 202 psi)	
6	Torque Converter IN	517 to 579 kPa 5.3 to 5.9 bar (75 to 84 psi)	
8	Torque Converter OUT	414 to 427 kPa 4.2 to 4.4 bar (60 to 62 psi)	
9	Lubrication Pressure	352 to 365 kPa 3.4 to 3.7 bar (51 to 53 psi)	
Reverse			
10	Pump Supply Pressure	1400 to 1434 kPa 14.2 to 14.6 psi (203 to 208 psi)	
5	Regulated Clutch Pressure	1276 to 1317 kPa 13.0 to 13.4 bar (185 to 191 psi)	
6	Torque Converted IN	517 to 565 kPa 5.3 to 5.8 bar (75 to 82 psi)	
8	Torque Converter OUT	331 to 345 kPa 3.4 to 3.5 bar (48 to 50 psi)	
9	Lubrication Pressure	214 to 228 kPa 2.2 to 2.3 bar (31 to 33 psi)	

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Wiring harnesses - Electrical schematic sheet 02 Sheet 2 Solenoid valves cable

B100C LR	Transmission - Powershift transmission
B100C STAGE IV, STRAIGHT LOADER ARM (SLA), FOUR-WHEEL DRIVE (4WD), MARBLE CUTTING	Transmission - Powershift transmission
B100C STAGE IV, STRAIGHT LOADER ARM (SLA), FOUR-WHEEL DRIVE (4WD)	Transmission - Powershift transmission
B100C TC STAGE IV, TOOL CARRIER (TC), FOUR-WHEEL DRIVE (4WD)	Transmission - Powershift transmission
B110C STAGE IV, STRAIGHT LOADER ARM (SLA), FOUR-WHEEL DRIVE (4WD)	Transmission - Powershift transmission
B110C TC STAGE IV, TOOL CARRIER (TC), FOUR-WHEEL DRIVE (4WD)	Transmission - Powershift transmission

1	Connects with sheet 9
2	Fuse panel

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1045 - Fuel level sensor open circuit

B100C LR
B100C STAGE IV, STRAIGHT LOADER ARM (SLA), FOUR-WHEEL DRIVE (4WD), MARBLE CUTTING
B100C STAGE IV, STRAIGHT LOADER ARM (SLA), FOUR-WHEEL DRIVE (4WD)
B100C TC STAGE IV, TOOL CARRIER (TC), FOUR-WHEEL DRIVE (4WD)
B110C STAGE IV, STRAIGHT LOADER ARM (SLA), FOUR-WHEEL DRIVE (4WD)
B110C TC STAGE IV, TOOL CARRIER (TC), FOUR-WHEEL DRIVE (4WD)

Context:
The instrument cluster has detected an open circuit in the fuel sender signal. The instrument cluster will illuminate the warning lamp and will sound the alarm for **1 s** on the next system power up following the event.

The fuel level sensor/transmission temperature sensor error icon  will illuminate while the fault is active.

Cause:
The instrument cluster has detected an open circuit in the fuel sender signal.

Possible failure modes:

1. Open circuit in the fuel level sender signal wire.
2. Faulty fuel level sensor.
3. Faulty instrument cluster.

Solution:

1. Verify that the fault code is active.

   Connect the Electronic Service Tool to the service tool connector.

   To check for fault codes: Start and operate the machine.

   A. The fault code is not recorded again. Go to step **6**.

   B. Fault code 1045 is recorded again. Go to step **2**.
2. Verify that the wiring and connectors are free of damage.

   Inspect the instrument cluster and the fuel level sensor connections. All connections should be secure, tight, free of corrosion, abrasion and damage.

   Inspect the harness from the instrument cluster to the fuel level sensor. Verify that the harness is free of damage, corrosion, abrasion and incorrect attachment.

   A. The connectors are secure and the harness is free of damage. Go to step **3**.

   B. The connectors or the harness has damage. Repair or replace the harness or connectors as required. Return to step **1** to confirm elimination of fault.
3. Measure the resistance of the fuel level signal to chassis ground.

   Disconnect the fuel level sensor connector X005.

   Measure the resistance between X005 pin 1 and X005 pin 2.
   Refer to the fuel tank level. The resistance should between **4.5 Ω** and **330 Ω**.

Level	Resistance
Full	**2.5 Ω** to **6.5 Ω**
Empty	**320 Ω** to **340 Ω**

   A. The resistance measurements were within tolerances. Go to step **4**.

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Loader bucket control cylinder - Remove

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B115C TC STAGE IV, SIDE SHIFT (SS)

⚠ DANGER

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

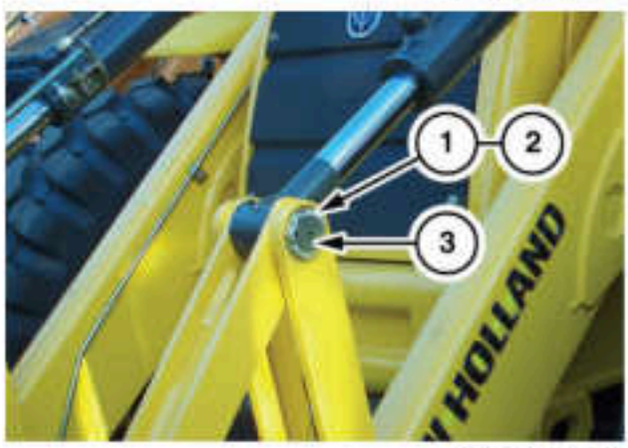
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1. Move the machine to a level and firm ground.
2. Place the bucket firmly on the ground.
3. Relieve the residual pressure in the system by moving the loader control lever through all operating positions.
4. Support the cylinder using a sling and a suitable support.
5. Disconnect the hoses.
6. Cap or plug all exposed openings.



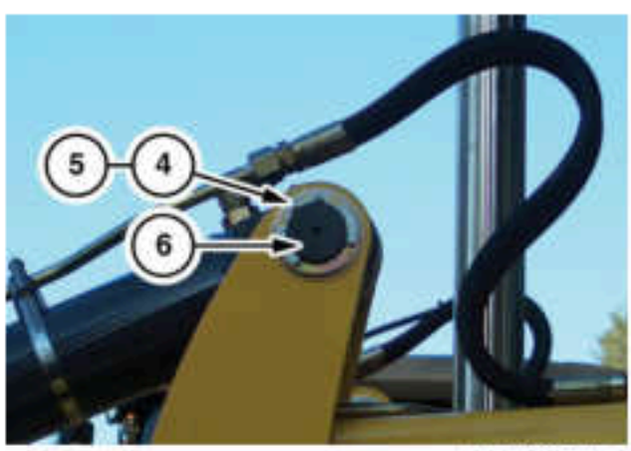
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7. Support the bucket linkage and rods.
8. Remove the snap ring **(1)** and spacer **(2)**.
9. Drive the pin **(3)** out with a hammer.



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10. Remove the snap ring **(4)** and shims **(5)**.
11. Drive out the pin **(6)** with a hammer.



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Two or more hydraulic systems operating

When two or more hydraulic systems operate, each system operates at a different pressure.

If pump flow to a specific system is not controlled, the system requiring a lower operating pressure will work faster than the system requiring a higher pressure, because the flow will have to overcome less resistance.

To prevent this situation, the pressure compensating valve regulates the oil flow directed to the system operating at a lower load.

When two spools are operated simultaneously pump pressure is applied to the metering element of the pressure compensating valve in both valve sections.

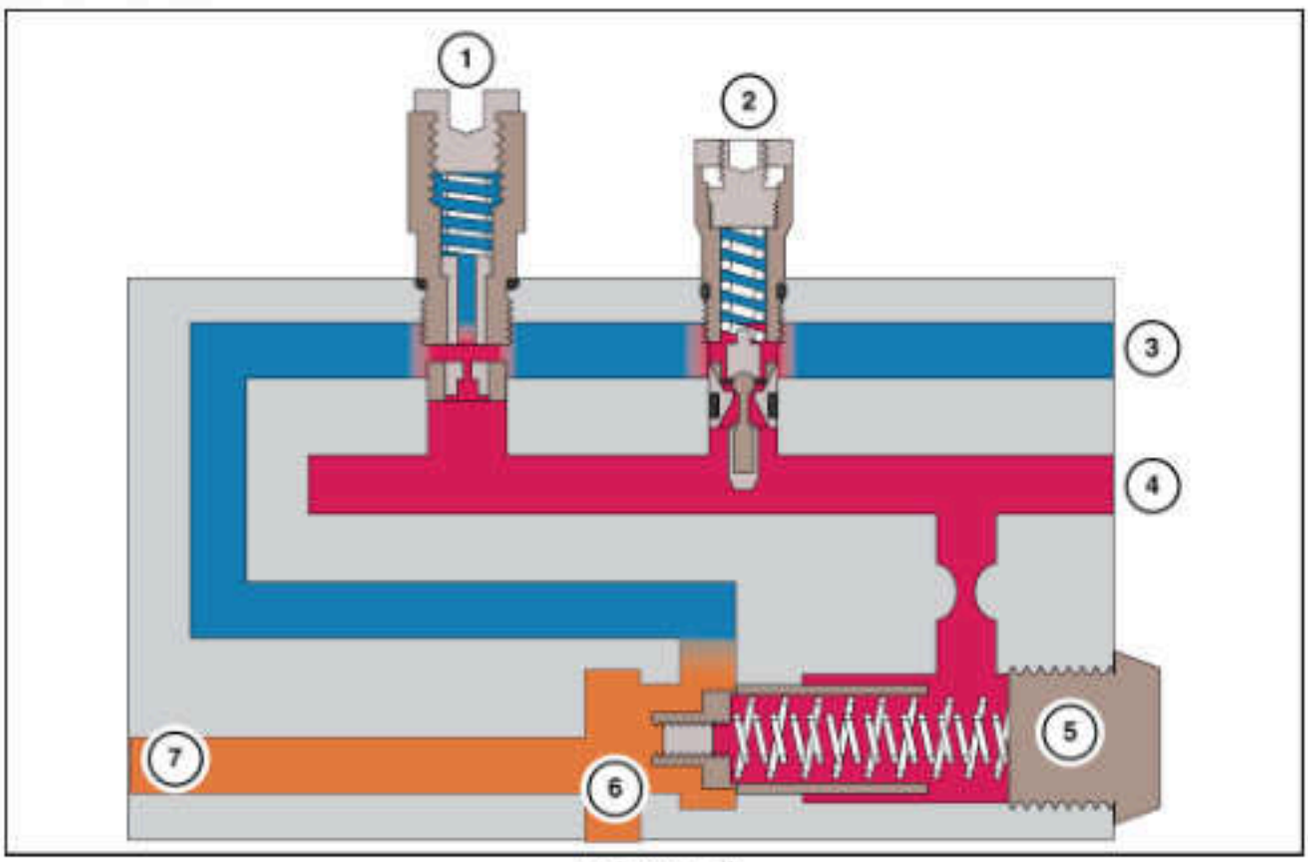
Both metering elements therefore move upwards allowing oil to flow to the load check valves. At the same time, the port in the spool section of the pressure compensating valve is uncovered to allow operating pressure to be sensed in the load-sensing gallery.

Pump pressure will rise until it exceeds the pressure of the check valve of the system operating at the heaviest load and the pressure in the load sensing line has a value similar to that of the high pressure.

The pressure required to operate the system with a lower load is now too high and, if not limited, it will result in this system operating instead of and faster than the system with a higher load.

To compensate for this condition, the load sensing pressure moves the metering element of the pressure compensating valve in the system with a lower load downwards and restricts the flow to the system.

This balancing of flow and pressure according to the load ensures that both systems operate simultaneously and at a balanced flow rate.



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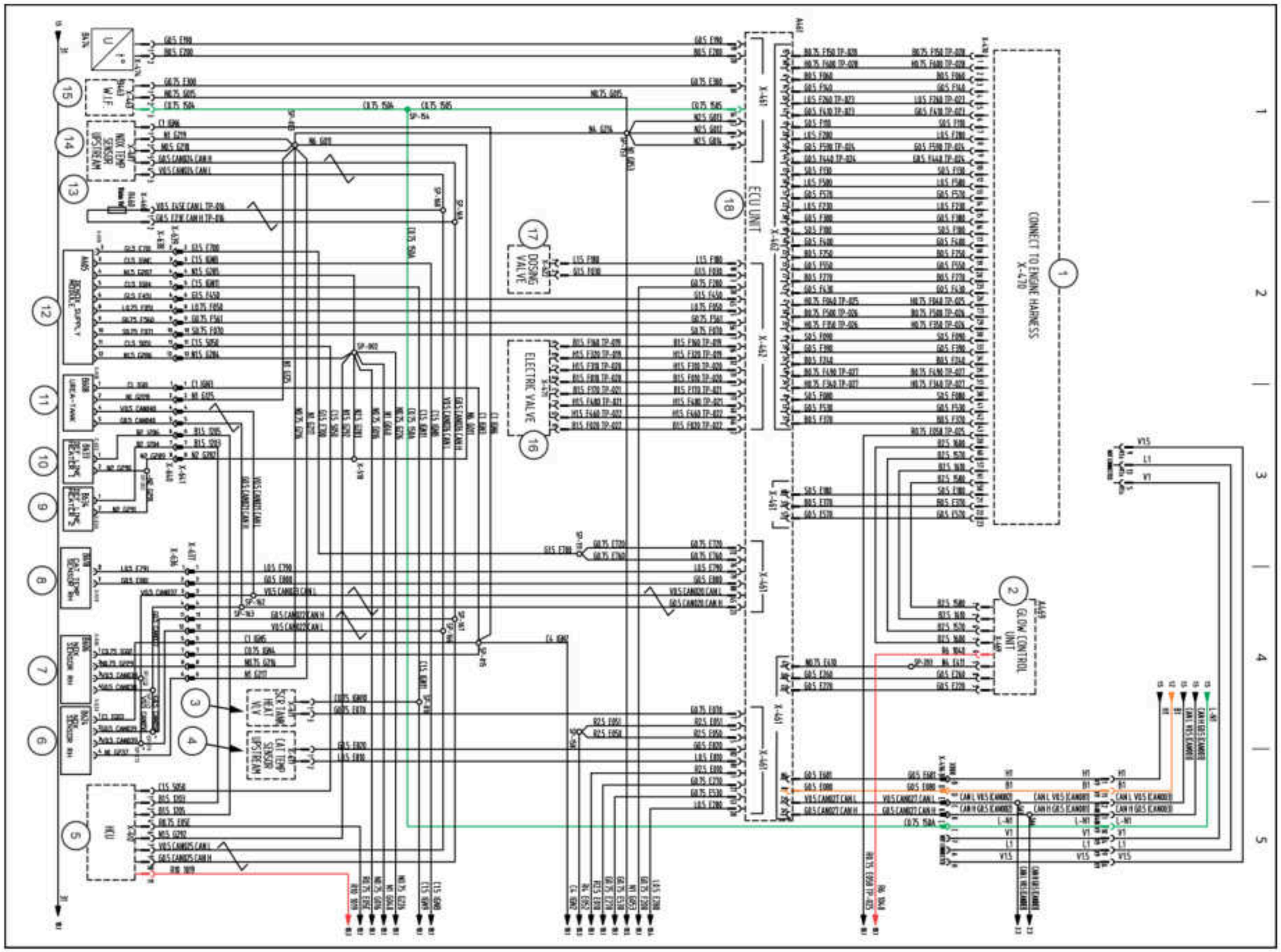
Load sense relief valve operating

Pump pressure at **210 bar** (**3045 psi**)

Return to oil tank

Load sense pressure at **195 bar** (**2828 psi**)

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