NEW HOLLAND

WHEEL LOADER

W130B
TIER 3

SERVICE MANUAL

84249884

Issued 12 - 2009

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(Replaces 87634759)

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136 – Thermostat

Check Points	Correct Reading	Possible Cause of Bad Reading
NOTE: *Disconnect wires from switch. Thermostat contacts closed at or above 5°C (40° F).*		
Terminal to terminal	Continuity	Bad thermostat switch

137 – Blower Switch

Check Points	Correct Reading	Possible Cause of Bad Reading
NOTE: *Put the master disconnect switch and the ignition switch in the ON position.*		
Terminal for wire DNS74 to ground	24 volts	Check fuse ECA-F11, check circuit 18N.
NOTE: *Turn the blower switch to position 1.*		
Terminal for wire DNS61 to ground	24 volts	Bad blower switch.
NOTE: *Turn the blower switch to position 2.*		
Terminal for wire DNS62 to ground	24 volts	Bad blower switch.
NOTE: *Turn the blower switch to position 3.*		
Terminal for wire DNS63 to ground	24 volts	Bad blower switch.
NOTE: *Turn the blower switch to position 4.*		
Terminal for wire DNS73 to ground	24 volts	Bad blower switch.

138 – Air Conditioning Switch

Check Points	Correct Reading	Possible Cause of Bad Reading
NOTE: *Put the master disconnect switch and the ignition switch in the ON position.*		
terminal for wire DNS-2 to ground	24 volts	Check fuse ECA-F11, check circuit 18N.
NOTE: *Push AC switch to turn ON.*		
Terminal for wire DNS-68 to ground	24 volts	Bad AC switch

139 – Control Panel Lights

Check Points	Correct Reading	Possible Cause of Bad Reading
NOTE: *Turn driving light switch to position 2 or 3.*		
Terminal for wire DNS-70 to ground	Continuity	Bad ground circuit
Terminal for wire DNS-69 to ground	24 volts	Bad control panel bulbs.

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STEP 81



Use tools to lift the end shim against snap ring (upward) until contact is obtained. Measure and record dimension (B) from carrier face to end shim using depth gauge as shown. Subtract this measurement from the measurement of Step 80. The difference is the running clearance.

Example
Dimension A . . . . . 7.25 mm (0.29 in)
Dimension B . . . . . 4.45 mm (0.18 in)

Difference = Running . . . . . 2.80 mm (0.11 in)
Clearance

Required running clearance is 2.7 to 2.9 mm (0.106 to 0.114 in). Use snap ring(s) of different thickness as necessary to obtain correct running clearance.

STEP 82

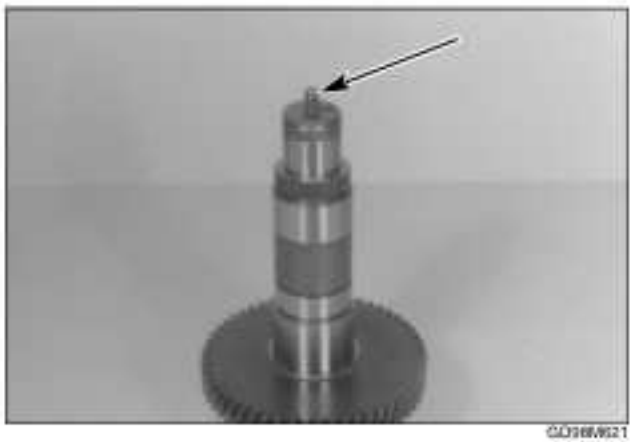
Remove clutch disc pack, apply oil to discs, and install clutch disc pack, end shim, and snap ring as determined in Step 81.

STEP 83



Install idler gear to align and engage all inner discs, then remove idler gear.

STEP 84



Apply Loctite 243 to stud. Tighten stud to a torque of 17 Nm (150 lb-in).

STEP 85



Install ball bearing until contact is obtained. Secure using snap ring.

STEP 86



Install needle bearing.

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STEP 33



BD060219

Close the vain so the upper cover can be removed.

STEP 34

Remove the upper box up and rest it against the console.

NOTE: *The wiring harness for the HVAC system goes through the upper cover, by resting the cover against the console the wiring harness will not need to be removed.*

STEP 35



BD060220

Pull the wiring harness loose from the upper PPE.

STEP 36



BD060203

Disconnect the solenoid driver.

STEP 37

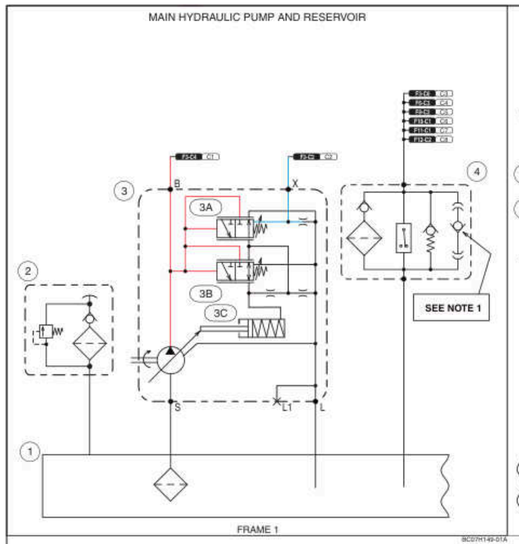


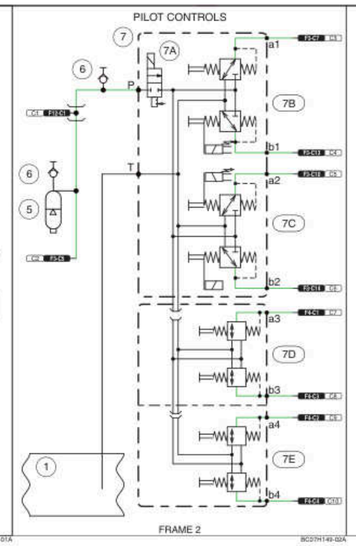
BD060236

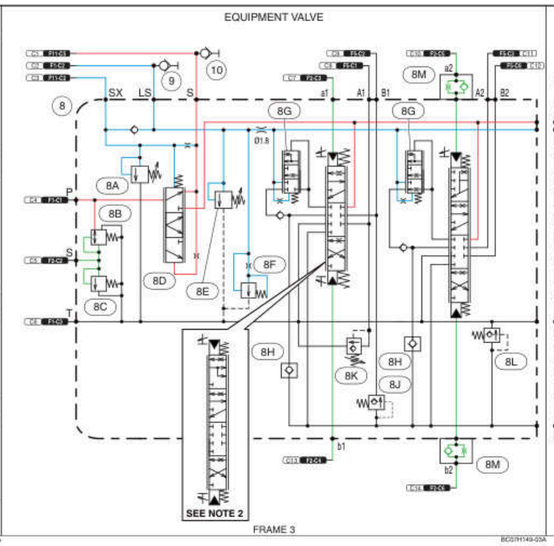
Remove the upper PPE from the heater and air conditioning cores.

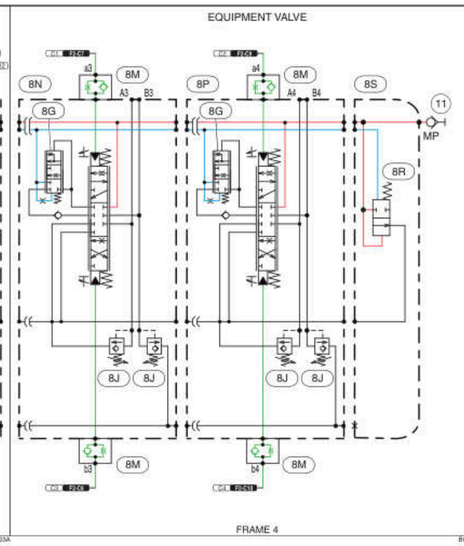
NOTE: *If testing on the electrical components are required the solenoid driver can be reconnected once the upper PPE is removed.*

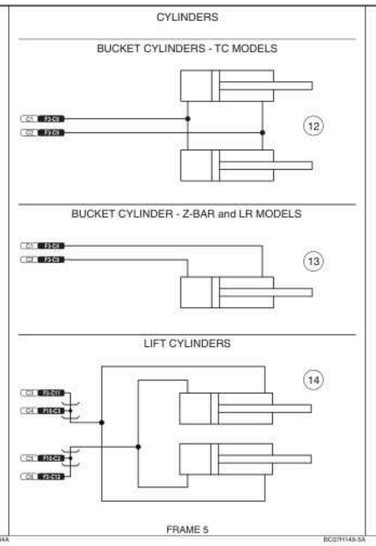
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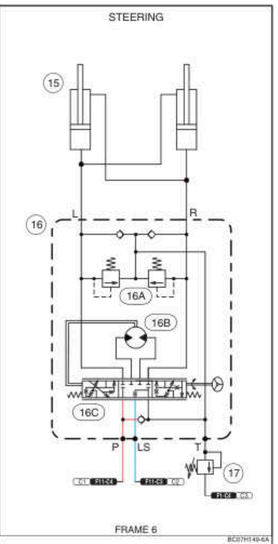


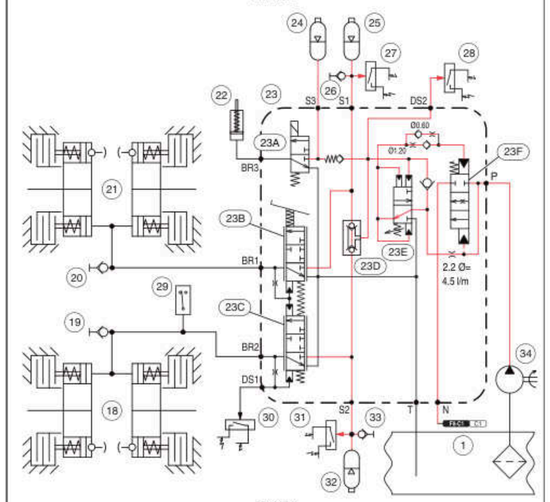


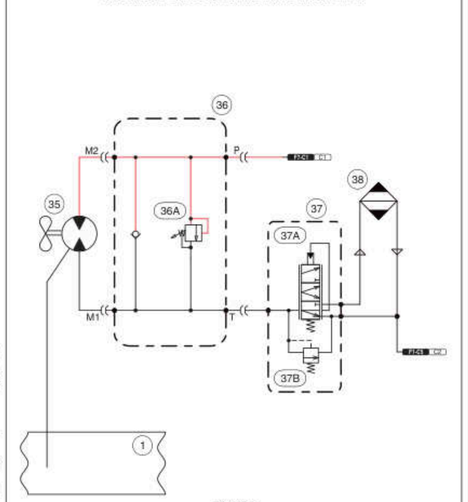


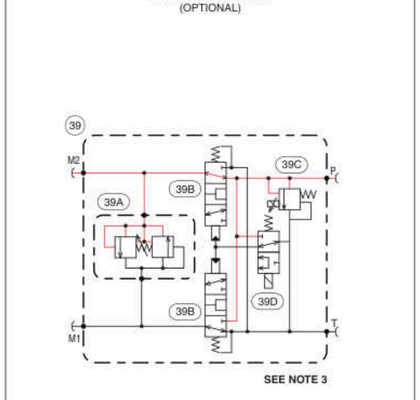


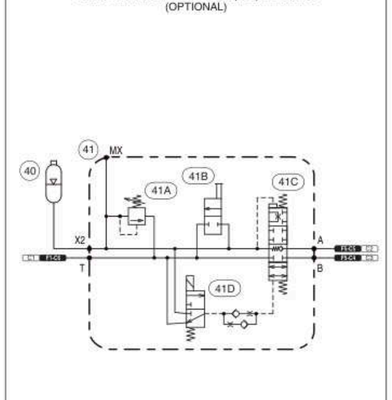


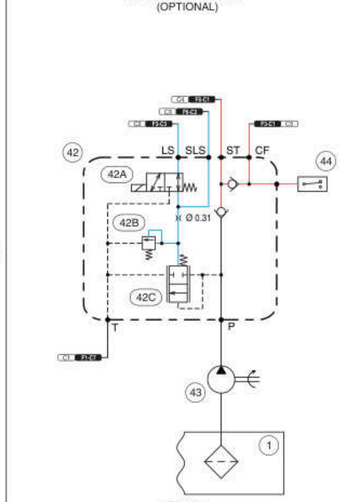


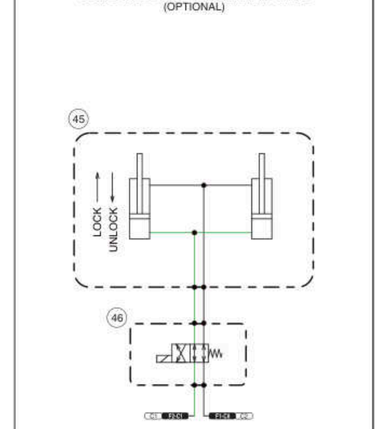












COMPONENTS

FRAME - COMPONENT NUMBERS	FRAME - COMPONENT NUMBERS	FRAME - COMPONENT NUMBERS	FRAME - COMPONENT NUMBERS	FRAME - COMPONENT NUMBERS	FRAME - COMPONENT NUMBERS
FRAME 1 COMPONENTS 1 - 1. Hydraulic Reservoir 1 - 2. Breather - Hydraulic Reservoir Check Valve (0.03 Bar/0.43 PSI) Relief Valve (0.35 Bar/5.07 PSI) 1 - 3. Implement Hydraulic Pump Displacement (90 cc rev/5.5 cu in rev) Cutoff (280 Bar/4061 psi) Delta (24 Bar/348 psi) 1 - 3A. Compensator Differential Spool 1 - 3B. Compensator High Pressure Cutoff Spool 1 - 3C. Control Piston with Spring 1 - 4. Hydraulic Filter Assembly Bypass (3.4 Bar/50 psi) Warning Switch (2.7 Bar/40psi) FRAME 2 COMPONENTS 2 - 1. Hydraulic Reservoir 2 - 5. Pilot Pressure Accumulator Pre-charge (13.8 Bar /200 psi) Capacity (0.75 liter/45.8 cu in) 2 - 6. Pilot Pressure Test Port 2 - 7. Controller (4-Spool Valve) 2 - 7A. Pilot ON/OFF Solenoid 2 - 7B. Bucket Control 2 - 7C. Lift Control 2 - 7D. Auxiliary Control #1 2 - 7E. Auxiliary Control #2	FRAME 3 COMPONENTS 3 - 8. Equipment Valve: 2-spool 3 - 8A. Steering Pressure Relief (217 Bar/3147 psi) 3 - 8B. Pilot Pressure Reducing Valve (30 Bar/435 psi) 3 - 8C. Pilot Pressure Relief (45 Bar/653 psi) 3 - 8D. Steering Priority Spool 3 - 8E. Loader Main Relief (227 Bar/3292 psi) 3 - 8F. Load Sense Bleed Down Orifice (0.7 L/min) 3 - 8G. Flow Compensator Spool 3 - 8H. Regeneration Check Valve 3 - 8J. Circuit Relief Valve with Anti-Cavitation (290 Bar/4206 psi) 3 - 8K. Circuit Relief Valve with Anti-Cavitation (TC Models: 183 Bar/2654 psi) (Z-Bar Models: 290 Bar/4206 psi) 3 - 8L. Regeneration Relief Valve (6.7 Bar/97 psi) 3 - 8M. Shuttle Check Valve 3 - 9. Load Sense Pressure Test Port 3 - 10. Steering Pressure Test Port FRAME 4 COMPONENTS 3 - 8G. Flow Compensator Spool 3 - 8J. Circuit Relief Valve with Anti-Cavitation (290 Bar/4206 psi) 4 - 8M. Shuttle Check Valve 4 - 8N. Auxiliary Valve #1 4 - 8P. Auxiliary Valve #2 4 - 8R. Pressure Differential Valve (40 Bar/580 psi) 4 - 8S. End Cover 4 - 11. Pump Pressure Test Port	FRAME 5 COMPONENTS 5 - 12. Bucket Cylinders Bore: 114 mm (4.49 in) Rod: 63.5 mm (2.5 in) Stroke: 820 mm (32.28 in) 5 - 13. Bucket Cylinder Bore: 127 mm (5 in) Rod: 76.2 mm (3 in) Stroke: 619.7 mm (24.5 in) 5 - 14. Lift Cylinders Bore: 120.9 mm (4.9 in) Rod: 63.5 mm (2.5 in) Stroke: 787.7 mm (31 in) FRAME 6 COMPONENTS 6 - 15. Steering Cylinders Bore: 76.2 mm (3 in) Rod: 44.5 mm (1.75 in) Stroke: 486.9 mm (19 in) 6 - 16. Steering Control Valve Displacement: 983 cc/rev (60 cu in/rev) 6 - 16A. Circuit Relief Valve (290 Bar/4206 psi) 6 - 16B. Gerotor Pump 6 - 16C. Steering Spool 6 - 17. Back Pressure Valve (8-10 Bar/115-145 psi)	FRAME 7 COMPONENTS 7 - 1. Hydraulic Reservoir 7 - 18. Rear Brakes Modulation Pressure: (87 to 94 Bar/1262 to 1363 psi) 7 - 19. Rear Brake Pressure Test Port 7 - 20. Front Brake Pressure Test Port 7 - 21. Front Brake Modulation Pressure: (90 to 97 Bar/1350 to 1406 psi) 7 - 22. Parking Brake Cylinder 7 - 23. Brake Valve and Accumulator Charging Valve Cut-in Pressure: (157 to 167 Bar/2277 to 2422 psi) Cut-out Pressure: (190 to 196 Bar/2755 to 2843 psi) 7 - 23A. Park Brake Solenoid 7 - 23B. Front Brake Valve 7 - 23C. Rear Brake Valve 7 - 23D. Accumulator Isolation Check Valve 7 - 23E. Accumulator Charging Spool 7 - 23F. Priority Spool 7 - 24. Parking Brake Accumulator Pre-charge (96 Bar/1392 psi) Capacity: 0.16 liter/9.7 cu/in) 7 - 25. Front Axle Accumulator Pre-charge (55 Bar (800 psi) Capacity (2.8 liter/170.8 cu/in) 7 - 26. Front Accumulator Test Port 7 - 27. Redundant Brake Pressure Switch (NO, Closes at 62 Bar/900 psi) 7 - 28. Low Brake Pressure Switch Rising (128 Bar/1856 psi) Falling (103 Bar/1494 psi) 7 - 29. Adjustable Brake Declutch Switch Factory Setting: (NC, Opens at 24 Bar/350 psi) 7 - 30. Brake Lamp Switch (NO, Closes at 4.1 Bar/60 psi)	7 - 31. Redundant Brake Pressure Switch (NO, Closes at 62 Bar/900 psi) 7 - 32. Rear Axle Accumulator Pre-charge (55 Bar/800 psi) Capacity (2.8 liter/170.8 cu/in) 7 - 33. Rear Accumulator Test Port 7 - 34. Brake and Cooling Fan Pump 23cc/rev (0.77 cu/in) FRAME 8 COMPONENTS 8 - 1. Hydraulic Reservoir 8 - 35. Fan Drive Motor Displacement: 23 cc/rev (1.4 cu/in) 8 - 36. Fan Valve Fan Speed: 1200 ± 25 rpm 8 - 36A. Fan Relief (162 Bar/2350 psi) 8 - 37. Cooler Bypass Valve (Optional) 8 - 37A. Priority Valve 8 - 37B. Relief Valve 0.3 ± 0.6 Bar/ 5 ± 8 psi 8 - 38. Hydraulic Cooler FRAME 9 COMPONENTS 9 - 39. Fan Reversing Valve Fan Speed: 1200 ± 25 rpm 9 - 39A. Fan Crossover Relief (234 BAR/3394 psi) 9 - 39B. Reversing Spools 9 - 39C. Pulse Width Modulator (PWM) Relief Solenoid 9 - 39D. ON/OFF Reverse Solenoid	FRAME 10 COMPONENTS 10 - 40. Ride Control Accumulator Pre-charge (17 Bar/247 psi) Capacity (3.78 liter/231 cu/in) 10 - 41. Load Travel Stabilization (LTS) Control Valve 10 - 41A. Pressure Relief Valve (280 BAR/4061 psi) 10 - 41B. Manual Bleed Valve 10 - 41C. Load Travel Stabilization (LTS) Control Spool Valve 10 - 41D. Load Travel Stabilization (LTS) Control Solenoid FRAME 11 COMPONENTS 11 - 1. Hydraulic Reservoir 11 - 42. Auxiliary Steering Priority Valve Relief Pressure: (241 Bar/3495 psi) 11 - 42A. Auxiliary Steering Activation Solenoid 11 - 42B. Relief Valve (241 BAR/3495 psi) 11 - 42C. Priority Spool 11 - 43. Auxiliary Steering Pump Displacement: 11 cc/rev (0.671 cu/in) 11 - 44. Auxiliary Steering Pressure Switch NO (Normally Open) Closes at 2.00-2.75 Bar/30-40 psi FRAME 11 COMPONENTS 12 - 45. Coupler Locking Cylinders 12 - 46. Coupler Locking Valve

HYDRAULIC SYMBOLS

54 / 36D — COMPONENT NUMBER

SHOWS CIRCUIT CROSSING NOT CONNECTED

SHOWS CIRCUIT CONNECTED

CHECK VALVE

RESTRICTOR

FILTER OR SCREEN

OIL COOLER

DIRECTION OF FLOW

CIRCUIT

COMPONENT

PRESSURE

LOAD SENSE

PILOT PRESSURE

LINE TYPES

CIRCUIT CONTINUATION

Frame Number and Circuit Number where Circuit continues.

CIRCUIT TAGS

FRAME - CIRCUIT

CIRCUIT

Circuit Number assigned to Circuit in Frame.

NOTES

NOTE 1. Reverse Control Check Valve.
Used with Load Travel Stabilization (LTS) Control equipped Models ONLY.
NOTE 2. Used for TC Model Machines ONLY.
NOTE 3. This will replace Item 36 in Frame 8 when this Option is installed on machine.
NOTE 4. See the Repair Manual for the proper Testing and Adjustment for Hydraulic Components.

HYDRAULIC SCHEMATIC
W130B WHEEL LOADER

Additional copies of this Hydraulic and Electrical Schematic can be ordered through Technical Publications Distribution System.
The part number is 5-7300

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