NEW HOLLAND

W170B

Workshop Manual

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PROVEN PERFORMANCE

MidWestTech | New Holland W170B Wheel Loader Service Manual | Publication 87614924

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W170B Wheel Loader
Service Manual
87614924

Table of Contents

Description	Section No.
General	**Tab 1**
Section Index - General	
Standard Torque Specifications	1001
Fluids and Lubricants	1002
Metric Conversion Chart	1003
Engines	**Tab 2**
Section Index - Engines	
Engine and Radiator Removal and Installation	2000
Stall Tests	2002
After Cooler	2003
Engine	
Fuel System	**Tab 3**
Section Index - Fuel System	
For Fuel System Repair, See the Engine Service Manual	
Electrical	**Tab 4**
Section Index - Electrical	
Removal and Installation of Starter and Alternator	4001
Electrical Specifications and Troubleshooting	4002
Batteries	4003
Instrument Cluster	4005

CNH Italia S.p.A.
Viale delle Nazioni, 55
41100 Modena
Italia

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W170B Wheel Loader
Service Manual
87614924

Table of Contents

Description	Section No.
Steering	**Tab 5**
Section Index - Steering	
Removal and Installation of Steering Components	5001
Steering Specifications, Pressure Checks, and Troubleshooting	5002
Steering Cylinders	5005
Center Pivot	5006
Auxiliary Steering Motor and Pump	5007
Power Train	**Tab 6**
Section Index - Power Train	
Removal and Installation of Power Train Components	6001
Transmission Specifications, Pressure Checks, and Troubleshooting	6002
Transmission	6003
Front Axle	6004
Rear Axle	6004
Drive Shafts, Center Bearing, and Universal Joints	6005
Wheels and Tires	6006
Transmission Control Valve	6007
Brakes	**Tab 7**
Section Index - Brakes	
Removal and Installation of Brake Components	7001
Hydraulic Brake Troubleshooting	7002
Brake Pump	7003
Brake Accumulators	7004
Parking Brake	7008
Hydraulics	**Tab 8**
Section Index - Hydraulics	
Removal and Installation of Hydraulic Components	8001
Hydraulic Specifications, Troubleshooting, and Pressure Checks	8002
Cleaning the Hydraulic System	8003
Hydraulic Pump	8004
Loader Control Valve	8005
Cylinders	8006
Coupler Solenoid Locking Valve	8007
Pilot Pressure Accumulator and Ride Control Accumulator	8013
Ride Control Valve	8014

MidWestTech | New Holland W170B Wheel Loader Service Manual | Publication 8761... Order the manual at mid-west-tech.com >

W170B Wheel Loader
Service Manual
87614924

Table of Contents

Description	Section No.
Mounted Equipment	**Tab 9**
Section Index - Mounted Equipment	
Air Conditioning Troubleshooting and System Checks For Systems with HFC-134a Refrigerant	9002
Air Conditioner System Service	9003
Removal and Installation of Air Conditioning and Heater Components	9004
Loader	9006
Rollover Protective Structure (ROPS) Cab Structural Frame (CSF)	9007
Cab Glass Installation	9010
Electrical Schematic Foldouts and Hydraulic Schematic Foldout	**In Rear Pocket**

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143 – Air Recirculation Motor

Check Points	Correct Reading	Possible Cause of Bad Reading
NOTE: *No information at time of print.*		

144 – Driver

Check Points	Correct Reading	Possible Cause of Bad Reading
NOTE: *No information at time of print.*		

145 – Electronic Water Valve

Check Points	Correct Reading	Possible Cause of Bad Reading
NOTE: *No information at time of print.*		

146 – Blower Motor Speed Resistors with Thermal Fuse

Check Points	Correct Reading	Possible Cause of Bad Reading
NOTE: *Disconnect the wiring harness connector DNS RESISTOR from the resistor.*		
Between terminals 1 and 4 of blower motor connector	Approximately x.x ohms	Bad blower motor resistor.
Between terminals 2 and 4 of blower motor connector	Approximately x.x ohms	Bad blower motor resistor.
Between terminals 3 and 4 of blower motor connector	Approximately x.x ohms	Bad blower motor resistor.

147 – Blower Motor

Check Points	Correct Reading	Possible Cause of Bad Reading
Terminals for wire DNS66 to ground	Continuity	Bad ground circuit.
NOTE: *Put the master disconnect switch and the ignition switch in the ON position. Turn the blower switch (149) to position 4.*		
Terminal for wire DNS65 to ground	24 volts	Check the blower switch (149).
NOTE: *If the readings are correct and the blower motor does not run, replace the blower motor. Turn the blower switch (149) to position 1. If the blower motor ran in position 4 but not in position 1, 2,or 3, check the blower motor resistor (146).*		

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CODE	DEFINITION	DESCRIPTION AND POSSIBLE STEPS FOR REPAIR
3281	Sensor supply voltage 1 low	Insufficient battery voltage, defect in wiring harness, electrical failure connected sensors or in the EDC. Check battery voltage, check wiring for correct voltage supply of the sensor and the EDC, replace EDC
3283	Sensor supply voltage 2 high	Excessive battery voltage, defect in wiring harness, electrical failure in connected sensors or in the EDC. Check battery voltage, check wiring for correct voltage supply of the sensor and the EDC, replace EDC
3284	Sensor supply voltage 2 low	Insufficient battery voltage, defect in wiring harness, electrical failure connected sensors or in the EDC. Check battery voltage, check wiring for correct voltage supply of the sensor and the EDC, replace EDC
3285	Sensor supply voltage 3 high	Excessive battery voltage, defect in wiring harness, electrical failure in connected sensors or in the EDC. Check battery voltage, check wiring for correct voltage supply of the sensor and the EDC, replace EDC
3286	Sensor supply voltage 3 low	Insufficient battery voltage, defect in wiring harness, electrical failure connected sensors or in the EDC. Check battery voltage, check wiring for correct voltage supply of the sensor and the EDC, replace EDC
3290	Turbo compound monitoring signal not plausible	No information available at time of print.

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DIFFERENTIAL CARRIER ASSEMBLY

NOTE: *The ring gear and the drive pinion are a matched gear set and cannot be serviced separately.*

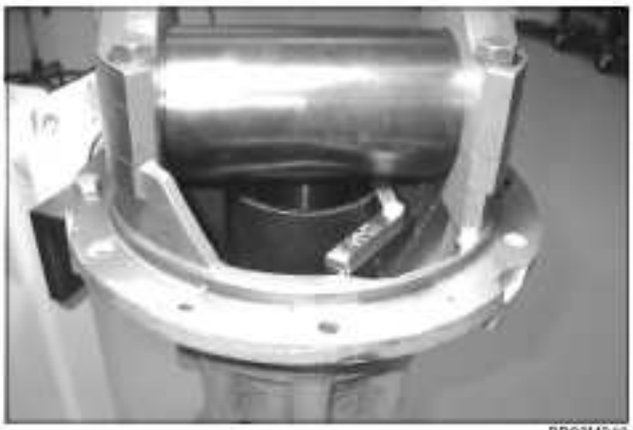
Determine Shim Thickness for Correct Tooth Contact Pattern

NOTE: *Make the following measurements at maximum accuracy. Inaccurate measurements will result in a faulty tooth contact pattern causing disassembly of the drive pinion and differential.*

STEP 126

Install the 380001570 pinion depth gauge set on the differential carrier.

STEP 127



BD00M349

Determine dimension B (gap between the measuring shaft and the measuring pin) using a thickness gauge.

Dimension B (Example) . . . . . 1.00 mm (0.039 inch)

Example A.:

Dimension A (tool constant)	181.75 mm (7.155 inch)
Dimension B (gap)	+1.00 mm (0.039 inch)
Results in Dimension X	**182.75 mm (7.195 inch)**

STEP 128

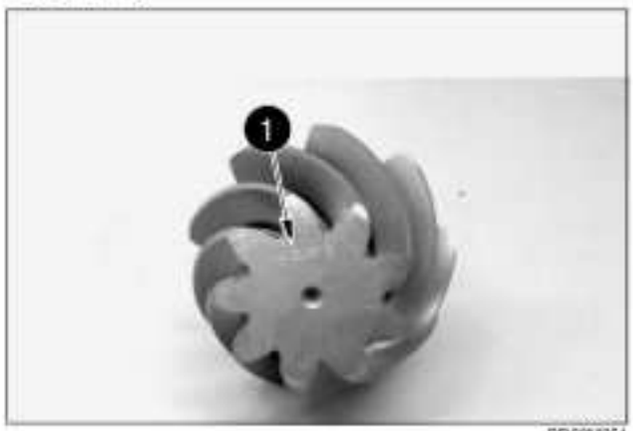


BD00M350

Determine dimension C (bearing width).

Dimension C (Example) . . . . 33.50 mm (1.319 inch)

STEP 129



BD00M351

1. 148.00 MM (+0.05 MM)

Read dimension D (dimension for pinion).

Dimension D (Example) . . . . 148.05 mm (5.83 inch)

Example B:

Dimension C	33.50 mm (1.319 inch)
Dimension D	+148.05 mm (5.829 inch)
Results in Dimension Y	**181.55 mm (7.148 inch)**

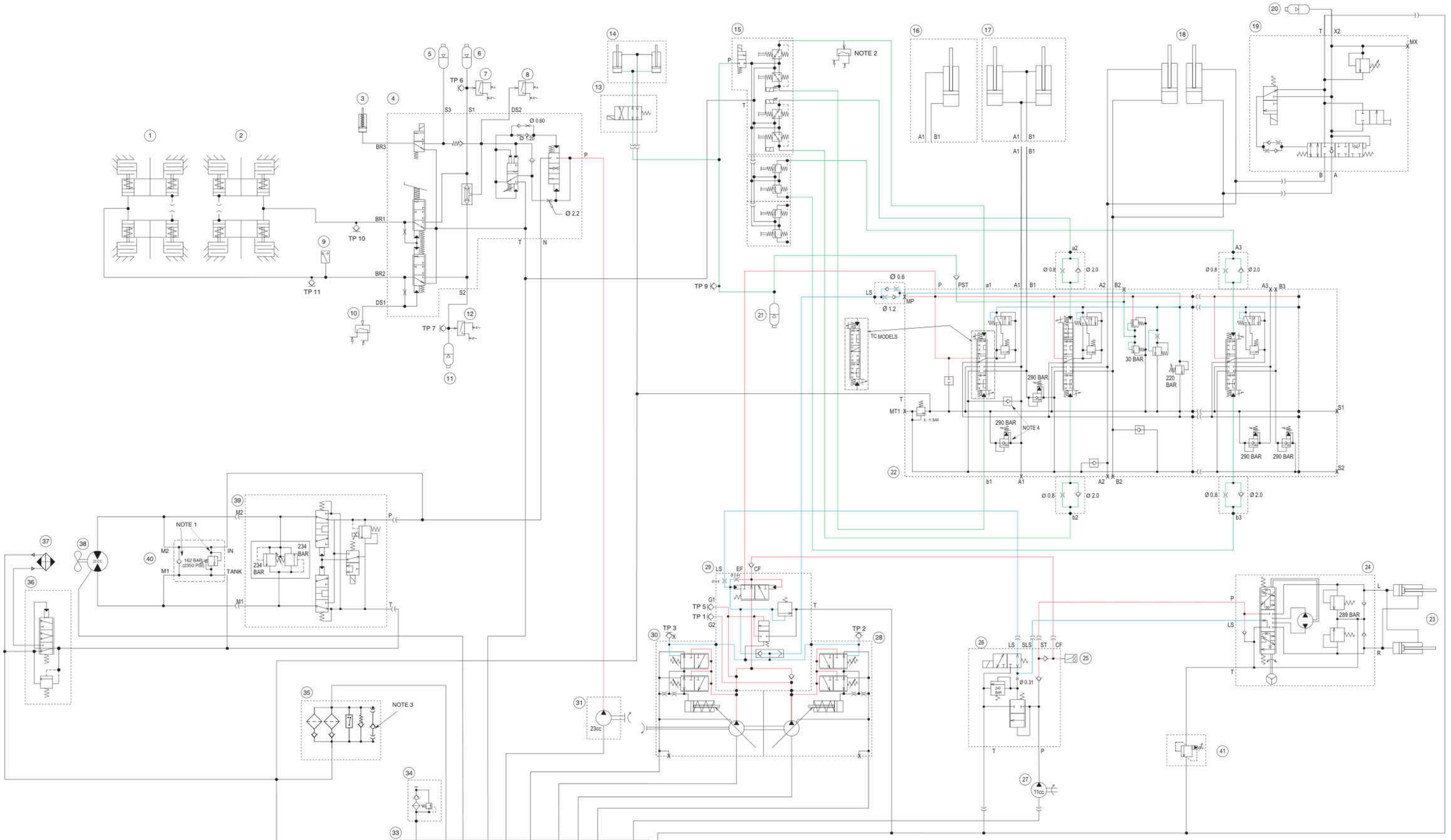
STEP 130

Subtract dimension Y from dimension X. The difference is the required shim thickness.

Example C:

Dimension X	182.75 mm (7.195 inch)
Dimension Y	– 181.55 mm (7.148 inch)
Difference = Shim	**1.20 mm (0.047)**

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COMPONENTS

1. Front Axle Brakes
2. Rear Axle Brakes
3. Parking Brake
4. Brake Valve
   - Cut-In Pressure 157 to 167 BAR (2277 to 2422 PSI)
   - Cut-Off Pressure 190 to 196 BAR (2755.7 to 2842.7 PSI)
5. Parking Brake Accumulator
   - 0.16 Liter (0.17 Quart)
   - 96 BAR (1392 PSI) Precharge
6. Rear Brake Accumulator
   - 2.8 Liter (2.95 Quart)
   - 55 BAR (797.7 PSI) Precharge
7. Redundant Accumulator Pressure
8. Low Brake Pressure Warning
9. Brake Declutch
10. Brake Light
11. Front Brake Accumulator
    - 2.8 Liter (2.95 Quart)
    - 55 BAR (797.7 PSI) Precharge
12. Redundant Accumulator Pressure
13. Coupler Locking Valve (Optional)
14. Coupler Locking Cylinders (Optional)
15. Pilot Control Valve
16. Bucket Cylinder Z Bar
17. Bucket Cylinder TC
18. Lift Cylinders
19. Lift Cylinders
20. Ride Control Accumulator
    - 3.78 Liter (4 Quarts)
    - 14.5 Bar (210.3 PSI) Precharge
21. Pilot Control Accumulator
    - 0.75 Liter (0.79 Quarts)
    - 13.8 BAR (200 PSI) Precharge
22. Loader Valve
23. Steering Cylinders
24. Steering Control Valve
25. Auxiliary Steering Pressure Switch
26. Auxiliary Steering Control Valve
27. Auxiliary Steering Pump
28. Low Pressure Pump
    - 86 LPM (22.5 GPM)
    - Cut Off 200 BAR (2900 PSI)
    - Delta 25 to 28 BAR (362 to 406 PSI)
29. Priority Valve
30. High Pressure Pump
    - 120 LPM (31.6 GPM)
    - Cut Off 280 BAR (4060 PSI
    - Delta 24 to 27 BAR (348 to 391 PSI)
31. Brake Pump
32. 100 Mesh Strainers
33. Reservoir
34. Reservoir Vent
35. Filter 10 Micron Media
    - Bypass 3.4 BAR (49.3 PSI)
    - Warning Switch 2.7 Bar (39 PSI)
36. Oil Cooler Thermal Valve
37. Oil Cooler
38. Oil Cooler Fan
39. Fan Reversing and Variable Valve
40. Standard Fan Valve
41. Steering Back Pressure Valve
    - 8 to 10 BAR (115 to 145 PSI).

CIRCUIT DIAGRAM LEGEND

- SHOWS CIRCUIT CROSSING NOT CONNECTED
- SHOWS CIRCUIT CONNECTED
- 54 COMPONENT NUMBER
- CHECK VALVE
- RESTRICTOR
- FILTER OR SCREEN
- OIL COOLER
- LINE TYPES: CIRCUIT; COMPONENT; PUMP SUPPLY; LOAD SENSE; PILOT

NOTES

NOTE1. Check and relief valves not used with fan reverser.
NOTE2. TC Models with ride control only.
NOTE3. Optional check valve for ride control only.
NOTE4. On TC models, the regeneration check valve and passage are removed and the A1 port

NOTES. For proper testing and adjustments of hydraulic components see section 8002 in the Service Manual.

HYDRAULIC SCHEMATIC
W170B WHEEL LOADER

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