NEW HOLLAND

WHEEL LOADER

W190B TIER 3

SERVICE MANUAL

842499253

Issued 12 - 2009

NEW HOLLAND CONSTRUCTION

www.newhollandconstruction.com

MidWestTech | New Holland W190B Tier 3 Wheel Loader Service Manual | Publication 842... Order the manual at mid-west-tech.com >

W190B Wheel Loader
Service Manual 84299253
(Replaces 87364105)

Table of Contents

Description	Section No.	Form No.
General	**Tab 1**	
Section Index - General		5-3770
Standard Torque Specifications	1001	6-49790
Fluids and Lubricants	1002	5-3780
Metric Conversion Chart	1003	6-49810
Engines	**Tab 2**	
Section Index - Engines		5-3790
Engine and Radiator Removal and Installation	2000	5-3370
Stall Tests	2002	5-3800
After Cooler	2003	6-49850
Engine		87519804
Fuel System	**Tab 3**	
Section Index - Fuel System		5-3810
For Fuel System Repair, See the Engine Service Manual		
Electrical	**Tab 4**	
Section Index - Electrical		5-3820
Removal and Installation of Starter and Alternator	4001	5-3410
Electrical Specifications and Troubleshooting	4002	5-3420
Batteries	4003	6-49900
Instrument Cluster	4005	5-3430
Steering	**Tab 5**	
Section Index - Steering		84299256 (Replaces 5-3830)
Removal and Installation of Steering Components	5001	5-3450
Steering Specifications, Pressure Checks, and Troubleshooting	5002	5-3460
Steering Cylinders	5005	5-3840
Center Pivot	5006	5-3850
Auxiliary Steering Motor and Pump	5007	6-72020
Joystick Steering	5009	5-15950

CNH America LLC.
700 State Street
Racine, WI 53404 U.S.A.

84299254

(Replaces 5-3760)

Copyright © 2009 CNH America LLC.
All rights reserved.
Printed in U.S.A.

Issued December 2009

MidWestTech | New Holland W190B Tier 3 Wheel Loader Service Manual | Publication 842... Order the manual at mid-west-tech.com >

W190B Wheel Loader
Service Manual 84299253
(Replaces 87364105)

Table of Contents

Description	Section No.	Form No.
Power Train	**Tab 6**	
Section Index - Power Train		5-3860
Removal and Installation of Power Train Components	6001	5-4000
Transmission Specifications, Pressure Checks, and Troubleshooting	6002	5-3510
Transmission	6003	5-3520
Front Axle	6004	5-3870
Rear Axle	6004	5-3880
Drive Shafts, Center Bearing, and Universal Joints	6005	5-3890
Wheels and Tires	6006	5-3900
Transmission Control Valve	6007	6-72110
Brakes	**Tab 7**	
Section Index - Brakes		5-3910
Removal and Installation of Brake Components	7001	5-3920
Hydraulic Brake Troubleshooting	7002	5-3930
Brake Pump	7003	5-3590
Brake Accumulators	7004	6-72150
Parking Brake	7008	5-3600
Hydraulics	**Tab 8**	
Section Index - Hydraulics		5-3940
Removal and Installation of Hydraulic Components	8001	5-4060
Hydraulic Specifications, Troubleshooting, and Pressure Checks	8002	5-3950
Cleaning the Hydraulic System	8003	6-72200
Hydraulic Pump	8004	5-3640
Loader Control Valve	8005	5-3650
Cylinders	8006	5-3960
Coupler Solenoid Locking Valve	8007	6-72240
Ride Control Accumulator	8013	5-3670
Ride Control Valve	8014	5-3680

CNH America LLC.
700 State Street
Racine, WI 53404 U.S.A.

84299254

(Replaces 5-3760)

Copyright © 2009 CNH America LLC.
All rights reserved.
Printed in U.S.A.

Issued December 2009

MidWestTech | New Holland W190B Tier 3 Wheel Loader Service Manual | Publication 842... Order the manual at mid-west-tech.com >

W190B Wheel Loader
Service Manual 84299253
(Replaces 87364105)

Table of Contents

Description	Section No.	Form No.
Mounted Equipment	**Tab 9**	
Section Index - Mounted Equipment		5-3970
Air Conditioning Troubleshooting and System Checks For Systems with HFC-134a Refrigerant	9002	5-4040
Air Conditioner System Service	9003	5-3700
Removal and Installation of Air Conditioning and Heater Components	9004	5-3710
Loader	9006	5-3980
Rollover Protective Structure (ROPS) Cab Structrual Frame (CSF)	9007	5-4080
Cab Glass Installation	9010	5-3740
Electrical Schematic Foldouts and Hydraulic Schematic Foldout	**In Rear Pocket**	**5-3990**

NOTE: CNH America LLC. reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

CNH America LLC.
700 State Street
Racine, WI 53404 U.S.A.

84299254

(Replaces 5-3760)

Copyright © 2009 CNH America LLC.
All rights reserved.
Printed in U.S.A.

Issued December 2009

MidWestTech | New Holland W190B Tier 3 Wheel Loader Service Manual | Publication 842... Order the manual at mid-west-tech.com >

80 – Work Lamps Switch

Located on right side console.

Check Points	Correct Reading	Possible Cause of Bad Reading
Terminal for wire 0-B14 to ground	Continuity	Bad ground circuit
NOTE: *Put master disconnect witch in the ON position.*		
Terminal for wire 42-A and 42-B to ground	24 volts	Bad fuse ECC-F2.
NOTE: *Put the work lamps switch in position 2 for front work lamps.*		
Terminal for wire 42FS to ground	24 volts	Bad work lamps switch.
NOTE: *Put the wok lamps switch in position 3 for rear work lamps.*		
Terminal for wire 42RS to ground	24 volts	Bad work lamps switch.

81 – Door Switch

Located above door in cab.

Check Points	Correct Reading	Possible Cause of Bad Reading
NOTE: *Put the master disconnect switch in the ON position.*		
Terminal for wire 19U-F to ground	24 volts	Bad fuse ECC-F1.
NOTE: *Disconnect connector DS at door switch.*		
Between pins on door switch with door open	Continuity	Bad door switch.
Between pins on door switch with door closed	Open circuit	Bad door switch

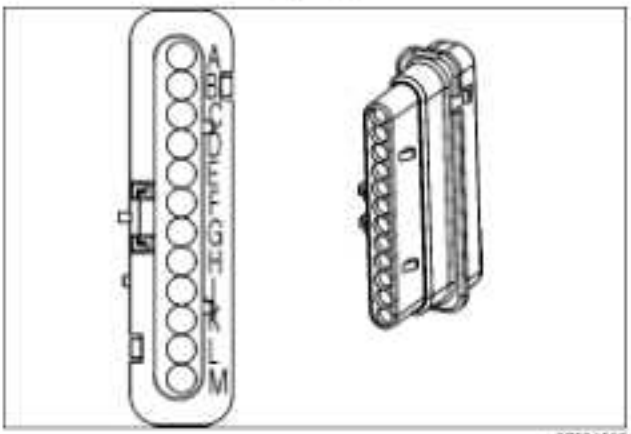
82 – Rotating Beacon (Option)

Plug is located on left side front of cab.

Check Points	Correct Reading	Possible Cause of Bad Reading
Bulb	Continuity	Bad bulb.
Terminal for wire 0-MC to ground	Continuity	Bad ground circuit.
NOTE: *Put master disconnect switch and beacon switch (84) in ON position.*		
Terminal for wire 46-D to ground	24 volts	Bad circuit between the beacon and the beacon switch (84). Also check the beacon switch (84).
NOTE: *If readings are good replace the rotating beacon.*		

MidWestTech | New Holland W190B Tier 3 Wheel Loader Service Manual | Publication 842... Order the manual at mid-west-tech.com >

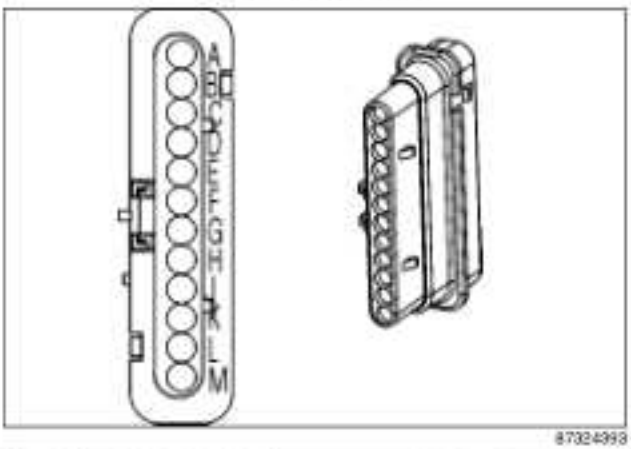
CONNECTOR GND-CAB-SPL - CAB GROUND SPLICE



87324993

CAV	WIRE IDENT	CIRCUIT
A	0-EE	Diode Suppression Grounds
B	0-EM	Radio Ground
C	0-EP	Horn Switch Ground
D		Not Used
E		Not Used
F	0-DG	Cab Splice Grounds
G	0-DT	Front Wiper/Washer Sw Gnd
H	0-DL	Power Converter Relay Ctrl Gnd
I	0-DK	Seat Compressor Motor Ground
K	0-DJ	AC Relay Control Ground
L	0-DU	Pilot Pressure Solenoid Gnd
M	0-DH	Diagnostic Connector Ground

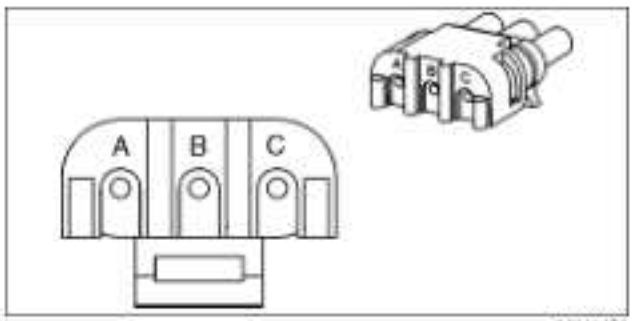
CONNECTOR GND-CAB-SPL2 - SPLICE BACK LIGHT GROUND



87324993

CAV	WIRE IDENT	CIRCUIT
A	0-DC	Time Delay Module Ground
B	0-EA	Time Delay Relay Control Gnd
C	0-EB	Ignition Relay Control Ground
D	0-EC	ACC Relay Control Ground
E	0-DD	Voltmeter Relay Control Gnd
F	0-DF	Crank Request Relay Control Gnd
G	0-DE	Neutral Start Relay Control Gnd
H	0-EQ	Splice Pack Gnd Cab SPL2 GND
J		Not Used
K	0-EH	Flasher Module Ground
L	0-EG	Flasher Module Ground
M	0-EF	Brake Lights Relay Control Gnd

CONNECTOR HD-E - HOOD HARNESS TO TRANSMISSION HARNESS



245484C1

CAV	WIRE IDENT	CIRCUIT
A	18G-E	License Plate Light Fused Pwr
B	35A-H	Backup Alarm Relay Out
C	0-JA	Hood Ground (EURO)

MidWestTech | New Holland W190B Tier 3 Wheel Loader Service Manual | Publication 842... Order the manual at mid-west-tech.com >

SPECIFICATIONS

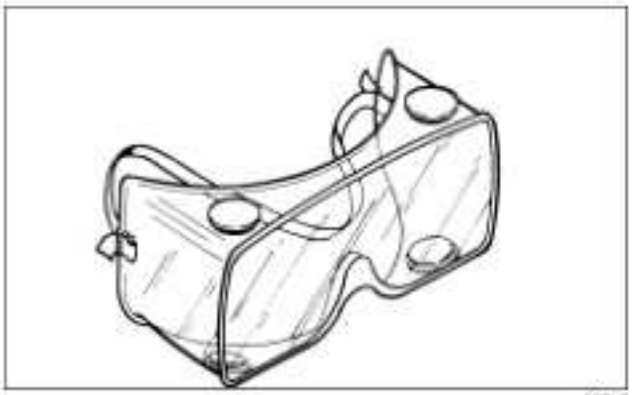
Air conditioning system refrigerant capacity ..... 1.7 kg (3.75 lbs)

SPECIAL TOOLS



A22034

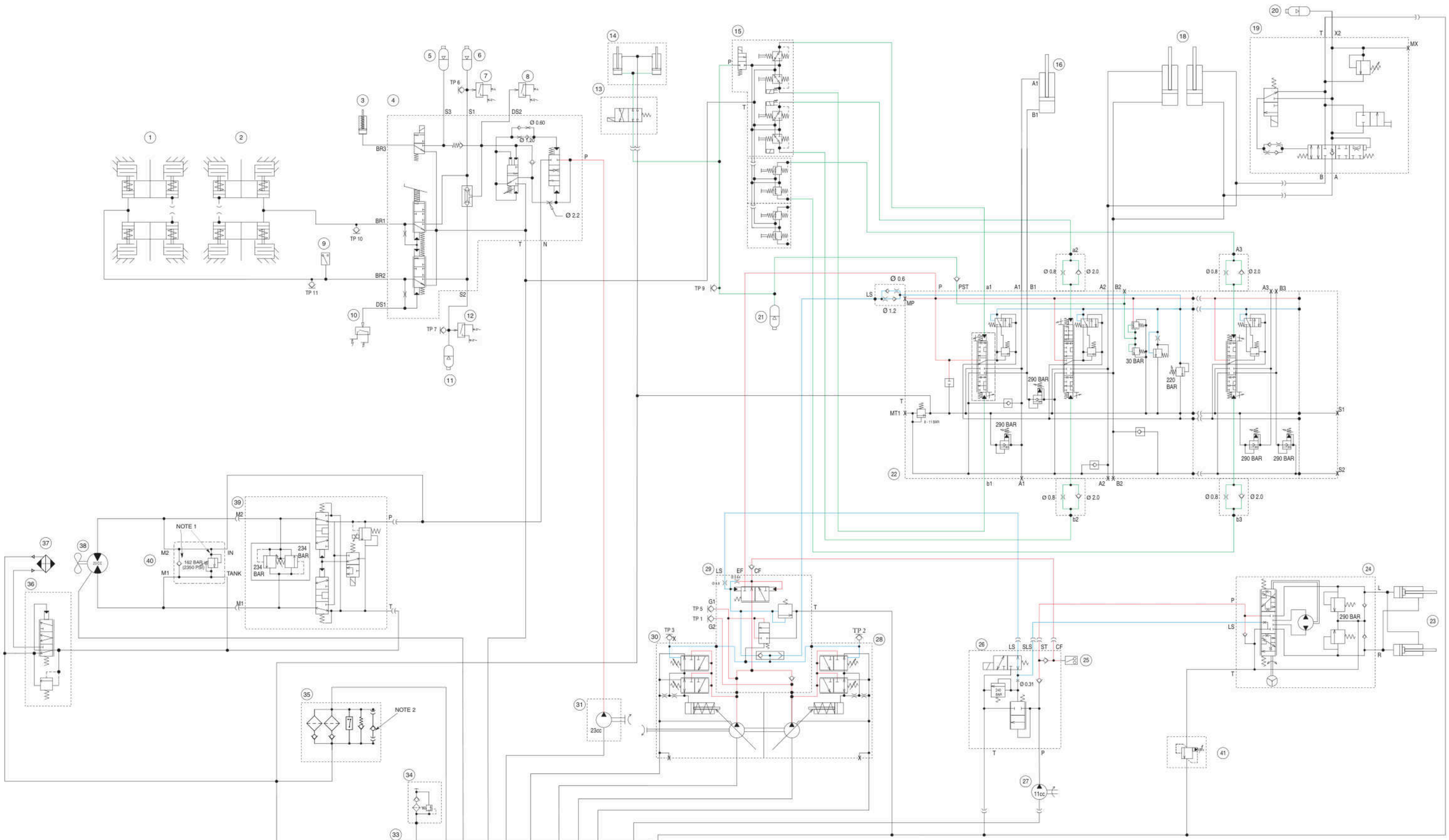
REFRIGERANT RECOVERY, RECYCLING AND RECHARGING STATION OEM-1415



109L7

SAFETY GOGGLES CAS-10073-3

MidWestTech | New Holland W190B Tier 3 Wheel Loader Service Manual | Publication 842... Order the manual at mid-west-tech.com >



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. Not Used
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
    120 LPM (31.6 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
CIRCUIT
COMPONENT
PUMP SUPPLY
LOAD SENSE
PILOT
LINE TYPES

NOTES

NOTE 1. Check and relief valves not used with fan reverser.
NOTE 2. Optional check valve for ride control only.
NOTE 3. For proper testing and adjustments of hydraulic components see section 8002 in the Service Manual.

HYDRAULIC SCHEMATIC
W190B WHEEL LOADER

Additional copies of this Hydraulic and Electrical Schematic can be ordered through Technical Publications Distribution System. The part number is 5-3990

Copyright © 2008. CNH America, LLC. All Rights Reserved.
BC06J473-00A

Order the manual at mid-west-tech.com >