SERVICE MANUAL

LW 110.B
Wheel Loader

NEW HOLLAND
CONSTRUCTION

Bur 6-72422

MidWestTech | New Holland LW 110.B Wheel Loader Service Manual | Publication 6-72402

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

LW 110.B Wheel Loader
Service Manual
6-72402

Table of Contents

Description	Section No.	Form No.
General	**Tab 1**	
Section Index - General		6-72440
Standard Torque Specifications	1001	6-49790
Fluids and Lubricants	1002	6-72451
Metric Conversion Chart	1003	6-49810
Engines	**Tab 2**	
Section Index - Engines		6-72460
Engine and Radiator Removal and Installation	2000	6-72470
Stall Tests	2002	6-72481
Engine		6-49731
Fuel System	**Tab 3**	
Section Index - Fuel System		6-72490
For Fuel System Repair, See the Engine Service Manual		
Electrical	**Tab 4**	
Section Index - Electrical		6-72500
Removal and Installation of Starter and Alternator	4001	6-72510
Electrical Specifications and Troubleshooting	4002	6-72520
Batteries	4003	6-72530
Instrument Cluster and Digital Display	4005	6-73550

NEW HOLLAND CONSTRUCTION, LLC.
245 E NORTH AVENUE
CAROL STREAM, IL 60188 U.S.A.

Bur 6-72422

Copyright © 2003 CNH America LLC.
All rights reserved.
Printed in U.S.A.

Issued October, 2003/Revised September, 2004

MidWestTech | New Holland LW 110.B Wheel Loader Service Manual | Publication 6-72402 Order the manual at mid-west-tech.com >

LW 110.B Wheel Loader
Service Manual
6-72402

Table of Contents

Description	Section No.	Form No.
Steering	**Tab 5**	
Section Index - Steering		6-72580
Removal and Installation of Steering Components	5001	6-72590
Steering Specifications, Pressure Checks, and Troubleshooting	5002	6-72600
Steering Control Valve	5003	6-72610
Steering Priority Valve	5004	6-72620
Steering Cylinders	5005	6-72630
Center Pivot	5006	6-72640
Auxiliary Steering Motor and Pump	5007	6-72650
Power Train	**Tab 6**	
Section Index - Power Train		6-72660
Removal and Installation of Power Train Components	6001	6-72670
Transmission Specifications, Pressure Checks, and Troubleshooting	6002	6-72680
Transmission	6003	6-72690
Front and Rear Axle	6004	6-72700
Drive Shafts, Center Bearing, and Universal Joints	6005	6-72720
Wheels and Tires	6006	6-72730
Transmission Control Valve	6007	6-72740
Brakes	**Tab 7**	
Section Index - Brakes		6-72750
Removal and Installation of Brake Components	7001	6-72760
Hydraulic Brake Troubleshooting	7002	6-72770
Brake Accumulators	7004	6-72780
Parking Brake	7008	6-72790
Hydraulics	**Tab 8**	
Section Index - Hydraulics		6-72800
Removal and Installation of Hydraulic Components	8001	6-72811
Hydraulic Specifications, Troubleshooting, and Pressure Checks	8002	6-72821
Cleaning the Hydraulic System	8003	6-72830
Loader Conrtol Valve	8005	6-72850
Cylinders	8006	6-72861
Coupler Solenoid Locking Valve	8007	6-72870
Pilot Pressure Accumulator and Ride Control Accumulator	8013	6-72890
Ride Control Valve	8014	6-72900

Bur 6-72422 Revised 9-04 Printed in U.S.A.

MidWestTech | New Holland LW 110.B Wheel Loader Service Manual | Publication 6-72402 Order the manual at mid-west-tech.com >

LW 110.B Wheel Loader
Service Manual
6-72402

Table of Contents

Description	Section No.	Form No.
Mounted Equipment	**Tab 9**	
Section Index - Mounted Equipment		6-72910
Pedal and Levers	9001	6-72920
Air Conditioning Troubleshooting and System Checks For Systems with HFC-134a Refrigerant	9002	6-72930
Air Conditioner System Service	9003	6-72940
Removal and Installation of Air Conditioning and Heater Components	9004	6-72950
Loader	9006	6-72961
ROPS Cab and ROPS Canopy	9007	6-72970
Cab Glass Installation	9010	6-72980
Electrical Schematic Foldouts and Hydraulic Schematic Foldout	**In Rear Pocket**	**6-72431**

NOTE: New Holland Construction 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.

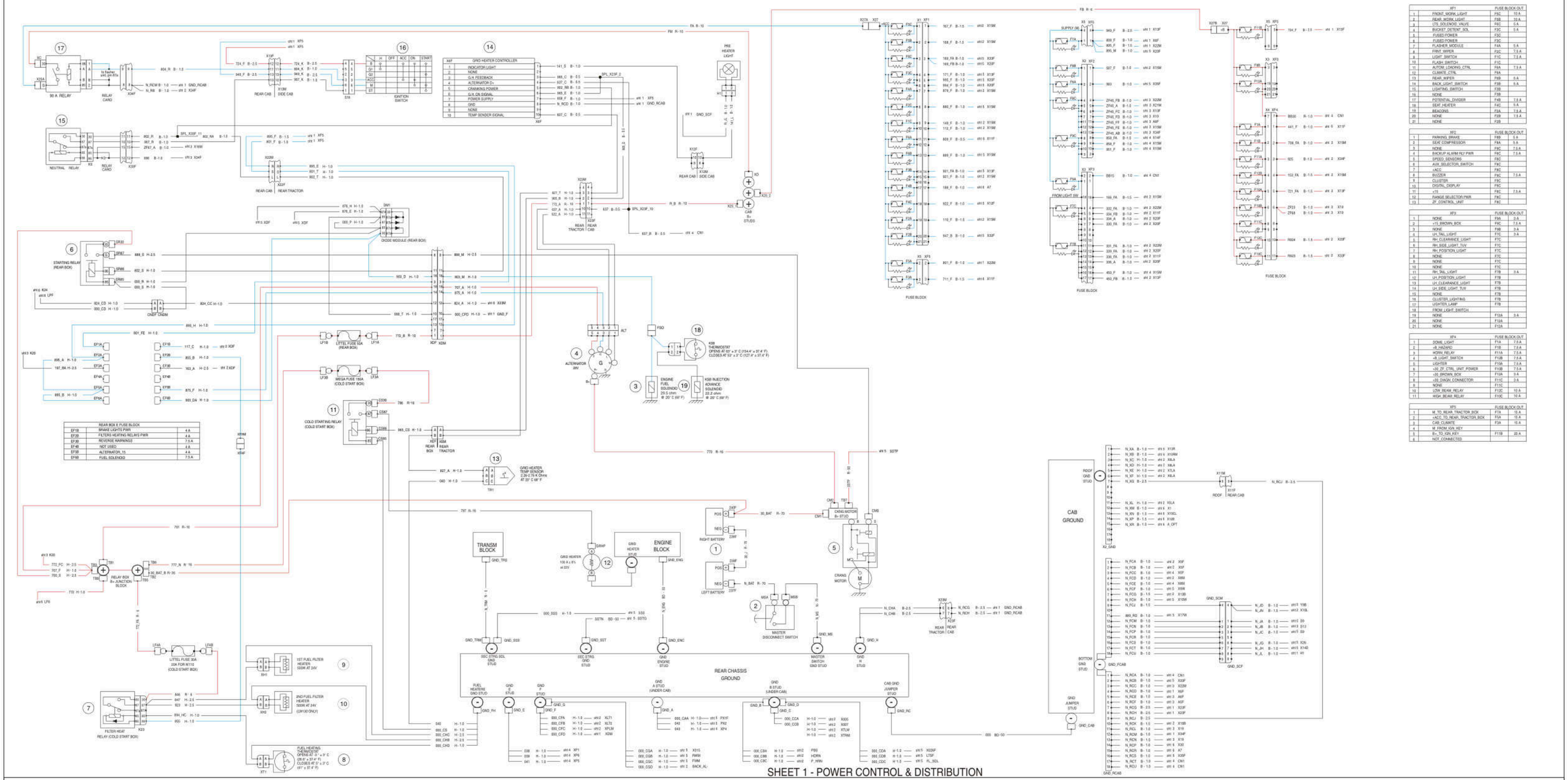
NEW HOLLAND CONSTRUCTION, LLC.
245 E NORTH AVENUE
CAROL STREAM, IL 60188 U.S.A.

Bur 6-72422

Copyright © 2003 CNH America LLC.
All rights reserved.
Printed in U.S.A.

Issued October, 2003/Revised September, 2004

MidWestTech | New Holland LW 110.B Wheel Loader Service Manual | Publication 6-72402 Order the manual at mid-west-tech.com >



XF1		FUSE BLOCK OUT
1	FRONT_WORK_LIGHT	F6C 10 A
2	REAR_WORK_LIGHT	F5B 10 A
3	LTS SOLENOID_VALVE	F6C 5 A
4	BUCKET_DETENT_SOL	F3C 5 A
5	FUSED POWER	F3C
6	FUSED POWER	F3C
7	FLASHER_MODULE	F4A 5 A
8	FRNT_WIPER	F2C 7.5 A
9	LIGHT_SWITCH	F1C 7.5 A
10	FLASH_SWITCH	F1C
11	AUTOM_LOACKING_CTRL	F6A 7.5 A
12	CLIMATE_CTRL	F6A
13	REAR_WIPER	F6B 5 A
14	BACK_LIGHT_SWITCH	F3B 5 A
15	LIGHTING_SWITCH	F3B
16	NONE	F3B
17	POTENTIAL DIVIDER	F4B 7.5 A
18	SEAT_HEATER	F4C 5 A
19	BEACONS	F3A 7.5 A
20	NONE	F2B 7.5 A
21	NONE	F2B

XF2		FUSE BLOCK OUT
1	PARKING_BRAKE	F8B 5 A
2	SEAT_COMPRESSOR	F8A 5 A
3	NONE	F8C 7.5 A
4	BACKUP ALARM RLY PWR	F8C 7.5 A
5	SPEED_SENSORS	F8C
6	AUX_SELECTOR_SWITCH	F8C
7	+ACC	F8C
8	BUZZER	F9C 7.5 A
9	CLUSTER	F8C
10	DIGITAL_DISPLAY	F8C
11	+15	F8C 7.5 A
12	RANGE SELECTOR PWR	F8C
13	ZF_CONTROL_UNIT	F8C

XF3		FUSE BLOCK OUT
1	NONE	F9A 3 A
2	+15_BROWN_BOX	F9C 7.5 A
3	NONE	F9B 3 A
4	LH_TAIL_LIGHT	F7C 3 A
5	RH_CLEARANCE_LIGHT	F7C
6	RH_SIDE_LIGHT_TUV	F7C
7	RH_POSITION_LIGHT	F7C
8	NONE	F7C
9	NONE	F7C
10	NONE	F7C
11	RH_TAIL_LIGHT	F7B 3 A
12	LH_POSITION LIGHT	F7B
13	LH_CLEARANCE_LIGHT	F7B
14	LH_SIDE_LIGHT_TUV	F7B
15	NONE	F7B
16	CLUSTER_LIGHTING	F7B
17	LIGHTEN_LAMP	F7B
18	FROM_LIGHT_SWITCH	
19	NONE	F12A 3 A
20	NONE	F12A
21	NONE	F12A

XF4		FUSE BLOCK OUT
1	DOME_LIGHT	F1A 7.5 A
2	+B_HAZARD	F1B 7.5 A
3	HORN_RELAY	F11A 7.5 A
4	+B_LIGHT_SWITCH	F12B 7.5 A
5	LIGHTER	F10A 7.5 A
6	+30_ZF_CTRL_UNIT_POWER	F10B 7.5 A
7	+30_BROWN_BOX	F12A 3 A
8	+30_DIAGN_CONNECTOR	F11C 3 A
9	NONB	F11C
10	LOW_BEAM_RELAY	F12C 10 A
11	HIGH_BEAM_RELAY	F10C 10 A

XF5		FUSE BLOCK OUT
1	M_TO_REAR_TRACTOR_BOX	F7A 15 A
2	+ACC_TO_REAR_TRACTOR_BOX	F5A 15 A
3	CAB_CLIMATE	F3A 15 A
4	M_FROM IGN KEY	
5	B+_TO_IGN_KEY	F11B 25 A
6	NOT_CONNECTED	

SHEET 1 - POWER CONTROL & DISTRIBUTION

COMPONENTS

1. Batteries
2. Master Disconnect Switch
3. Fuel Solenoid
4. Alternator
5. Starter Motor
6. Starting Relay
7. Filter Heater Relay
8. Fuel Filter Heater Thermostat
9. 1st Filter Heater
10. 2nd Fuel Filter Heater (LW130)
11. Cold Start Relay
12. Grid Heater
13. Grid Heater Temperature Sensor
14. Grid Heater Controller
15. Neutral Start Relay
16. Ignition Switch
17. Accessory Relay
18. KSB Thermostat
19. KSB Solenoid
20. Output Speed Sensor
21. Engine Speed Sensor
22. Intermediate Speed Sensor
23. Turbine Speed Sensor
24. Filter Maintenance Switch
25. Torque Converter Output Temperature Sender
26. Transmission Solenoid Valve and Temperature Sensors
27. Transmission Electronic Control Module
28. Transmission Shifter
29. Diagnostic Connector
30. Transmission Kick-down Switch
31. Transmission Automatic Switch
32. Declutch Switch
33. Declutch Pressure Switch
34. Transmission Enable Switch
35. FNR Switch
36. Backup Alarm Relay
37. Backup Alarm
38. Brake Warning Pressure Switch
39. Brown Box
40. Fuel Level Sender
41. Engine Coolant Temperature Sender
42. Air Filter Restriction Switch
43. Parking Brake Switch
44. Instrument Cluster
45. Digital Display Panel
46. Engine Oil Pressure Switch
47. Parking Brake Pressure Switch
48. Parking Brake Relay
49. Parking Brake Solenoid
50. Fan Reversing Switch (Option)
51. Fan Reversing Solenoid (Option)
52. Detent Switch
53. Bucket Control Valve Electromagnetic Detents
54. Boom Control
55. Bucket Control
56. Float Solenoid
57. Secondary Steering Pressure Switch (Option)
58. Secondary Steering Motor (Option)
59. Secondary Steering Solenoid (Option)
60. Secondary Steering Relay (Option)
61. Pin Engage Switch (Option)
62. Pin Engage Solenoid (Option)
63. LTS Control Switch
64. LTS Control Relay Number 1
65. LTS Control Relay Number 2
66. LTS Control Solenoid
67. Front Wiper Motor
68. Front Wiper and Washer Switch
69. Front Wiper Timer
70. Front Washer Motor
71. Rear Wiper Switch
72. Rear Washer Switch
73. Rear Washer Pump Motor
74. Rear Wiper Motor
75. Rear Wiper Timer
76. Horn Relay - Number 1
77. Horn Relay - Number 2
78. Horn
79. Central Grease Lubrication Switch (Option)
80. Seat Compressor and Switch (Option)
81. Seat Heater Switch (Option)
82. Blower Switch
83. Blower Motor Speed Resistors
84. Blower Motor
85. Air Conditioning Pressure Switch
86. Thermostat Switch
87. Compressor Clutch Relay
88. Compressor Clutch
89. Conditioner Switch
90. Heater Control Unit
91. Circuit Control Switch
92. Circuit Control Motor
93. Warm Cold Stop Cock Knob
94. Warm Cold Stop Cock Motor
95. Climate Control Unit (Option)
96. Temperature Senors (Option)
97. Climate Control Relays (Option)
98. Recycling Motor (Option)
99. Power Converter, Recycling Motor (Option)
100. Water Valve Motor (Option)
101. Cigar Lighter
102. Power Converter - 24 volts to 12 volts (Option)
103. Power Outlet (Option)
104. 12 Volt Radio (Option)
105. Left Speaker (Option)
106. Right Speaker (Option)
107. Beacon Switch (Option)
108. Rotating Beacon (Option)
109. Brake Lamp Pressure Switch
110. Hazard Switch
111. Turn Signal, Hi/Low Beam Switch
112. Flasher Module
113. Left-Hand Rear Combination Lamp
114. Right-Hand Rear Combination Lamp
115. Left-Hand Front Combination Lamp
116. Right-Hand Front Combination Lamp
117. Rear Work Light Switch
118. Front Work Light Switch
119. Left-Hand Front Work Lamp
120. Right-Hand Front Work Lamp
121. Lamp Switch
122. High Beam Relay
123. Low Beam Relay
124. License Plate Lamp
125. Dome Lamp
126. TUV Lamps (Option)
127. Italian Road Circulation Lamps (Option)

WIRE IDENTIFICATION

1. WIRE NUMBER
2. WIRE COLOR SYMBOL
3. WIRE SIZE (mm²) TYP/CAL

Example: 23F_A W-2.0 (1 2 3)

N = BLACK	RT = RED	H = GREY
L = BLUE	M = BROWN	BL = BLUE
GN = GREEN	SW = BLACK	B = WHITE
GE = YELLOW	V = GREEN	G = YELLOW
RN = RED/BLACK DOTTED	R = RED	

SHOWS POWER - MASTER DISCONNECT SWITCH IN ON POSITION

SHOWS POWER - KEY SWITCH IN ON POSITION

CIRCUIT LEGEND

1. SPLICE IDENTIFICATION
2. CIRCUIT CROSSING (NOT CONNECTED)
3. CIRCUIT CONNECTED
4. WIRE IDENTIFICATION
5. MALE CONNECTOR
6. FEMALE CONNECTOR
7. CONNECTOR IDENTIFICATION
8. HARNESS IDENTIFICATION
9. INDICATES PARTIAL CONNECTOR
10. CIRCUIT IDENTIFICATION
11. SCHEMATIC SHEET NUMBER FOR CIRCUIT CONTINUATION
12. CONNECTION POINT ON SCHEMATIC
13. COMPONENT NUMBER (IF ASSIGNED)
14. COMPONENT NUMBER
15. INDICATES INTERNALLY GROUNDED COMPONENT

ACTUATOR SYMBOLS

1. PRESSURE
2. HAND OPERATED
3. TEMPERATURE
4. COIL
5. VARIABLE RESISTOR
6. RESISTOR
7. DIODE
8. LIGHT EMITTING DIODE
9A. MOMENTARY CONTACT
9B. MAINTAINED CONTACT

HOUSINGS

1. VACUUM SWITCH
2. PRESSURE SWITCH
3. TEMPERATURE SWITCH
4. MOTOR
5. LAMP

CONTACT SYMBOLS

1. SINGLE POLE, SINGLE THROW
2. SINGLE POLE, DOUBLE THROW
3. DOUBLE POLE, SINGLE THROW
4. DOUBLE POLE, DOUBLE THROW

FUSE AND CIRCUIT BREAKER

1. FUSE
2. CIRCUIT BREAKER, AUTOMATIC RESET
3. CIRCUIT BREAKER, MANUAL RESET

NOTES

-

ELECTRICAL SCHEMATIC LW 110.B and 130.B Wheel Loaders

Additional copies of this Hydraulic and Electrical Schematic can be ordered throughTechnical Publications Distribution System.
The Part Number is 6-72431

BC0309235

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