SERVICE MANUAL

LW 170.B
Wheel Loader

NEW HOLLAND
CONSTRUCTION

Bur 6-49762

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Reprinted

CNH America LLC.
245 E NORTH AVENUE
CAROL STREAM, IL 60188 U.S.A.

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Issued January, 2004 Revised June, 2005

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Bur 6-49762 Revised 6-05 Printed in U.S.A.

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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.

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106 – Right Speaker (Option)

Check Points	Reading	Possible Cause of Bad Reading
NOTE: *Disconnect connector from right speaker. Put master disconnect switch and ignition switch in ON position. Turn radio on. Put balance control for RH and LH speakers to center position.*		
Terminal for wire MRP to ground	Voltage	Bad circuit between the right speaker and the radio or a bad radio.
Terminal for wire MP to ground	Continuity	Bad circuit between the right speaker and the radio.
NOTE: *If the readings are good, replace the right speaker.*		

107 – Beacon Switch

Check Points	Reading	Possible Cause of Bad Reading
NOTE: *Put master disconnect switch in ON position.*		
Terminal for wire 110_B to ground	24 volts	Check fuse F2A.
NOTE: *Put the beacon switch in the ON position.*		
Terminal for wire 121_B to ground	24 volts	Bad beacon switch.

108 – Rotating Beacon

Check Points	Reading	Possible Cause of Bad Reading
Bulb	Continuity	Bad bulb.
Terminal for wire N_FCG or N_RCK to ground	Continuity	Bad ground circuit.
NOTE: *Put master disconnect switch and beacon switch in ON position.*		
Terminal for wire 121_C or 121_F to ground	24 volts	Bad circuit between the beacon and the beacon switch. Also check the beacon switch (107).
NOTE: *If readings are good replace the rotating beacon (100).*		

109 – Brake Lamp Pressure Switch

Check Points	Reading	Possible Cause of Bad Reading
NOTE: *Put master disconnect switch in ON position.*		
Terminal for wire 117_B to ground	24 volts	Check fuse EF1, also check wires 117_A and 117_B.
Terminal for wire 175_A to ground	0 volt	Bad brake lamp pressure switch.
NOTE: *Put ignition switch in ON position. Have another person press and hold down brake pedal.*		
Terminal for wire 175_A to ground	24 volts	Bad brake lamp pressure switch.

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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.*

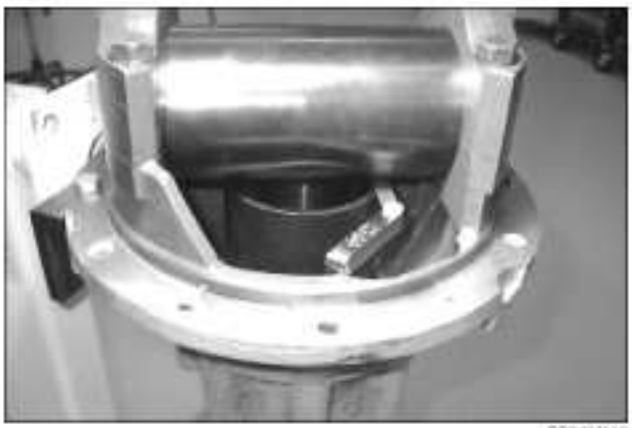
Determine Shim Thickness for Correct Tooth Contact Pattern

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 129

Install the CAS2872 pinion depth gauge set on the differential carrier.

STEP 130



BD20M349

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 131



BD20M350

Determine dimension C (bearing width).

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

STEP 132



BD20M351

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 133

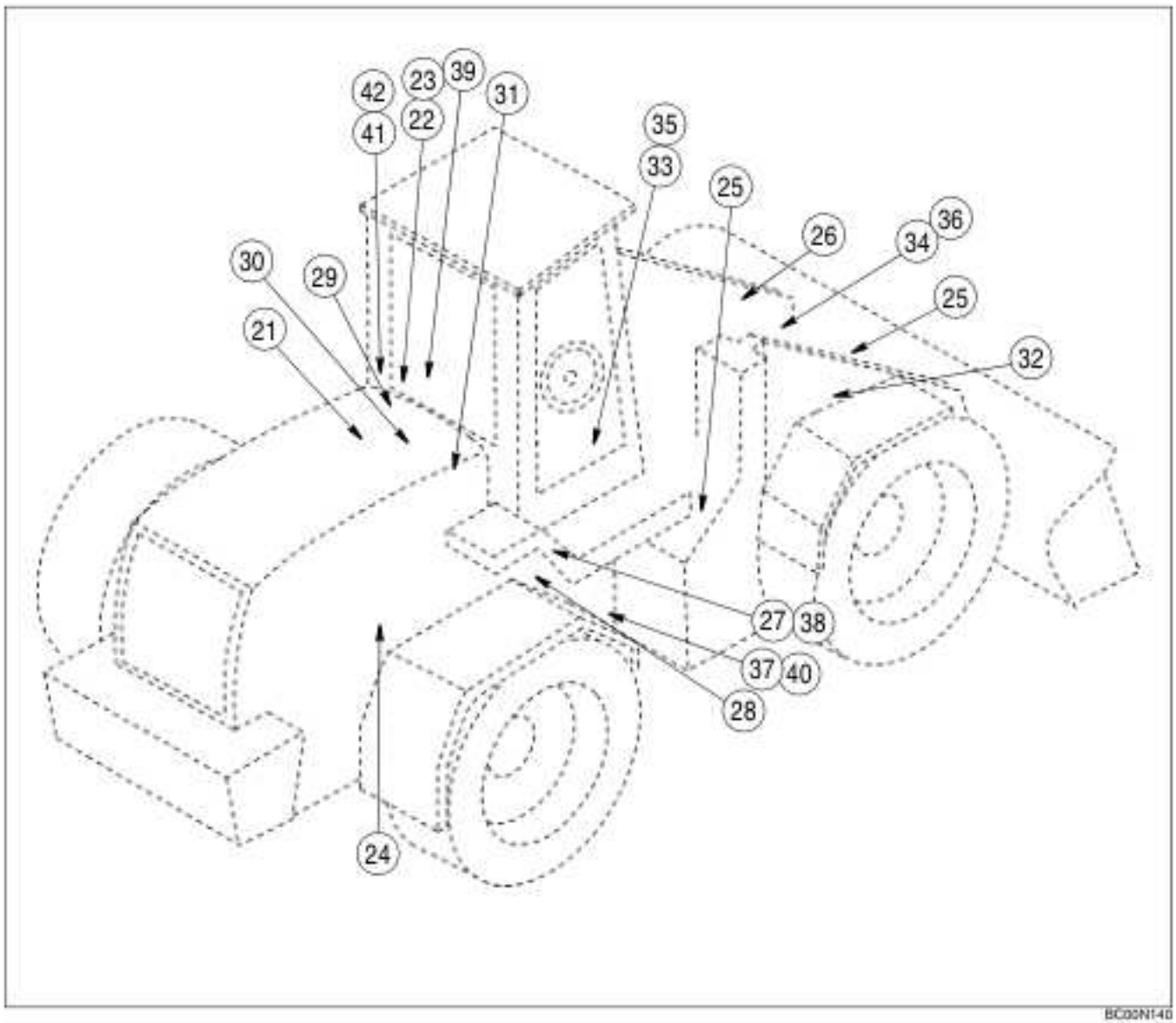
Subtract dimension Y from dimension X. The difference is the required shim thickness.

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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LW 170.B HYDRAULIC COMPONENT LOCATIONS



BC02N140

21. FAN DRIVE MOTOR
22. FAN REVERSING VALVE (OPTIONAL)
23. FAN VALVE (STANDARD)
24. BRAKE HYDRAULIC PUMP
25. COUPLER LOCKING VALVE
26. COUPLER LOCKING CYLINDERS
27. IMPLEMENT HYDRAULIC PUMP
28. HYDRAULIC FILTER
29. HYDRAULIC RESERVOIR
30. HYDRAULIC RESERVOIR BREATHER
31. HYDRAULIC COOLER
32. PILOT PRESSURE ACCUMULATOR
33. PILOT PRESSURE DIAGNOSTIC COUPLER
34. FLOAT SWITCH
35. CONTROLLER
36. LOADER CONTROL VALVE
37. PUMP PRESSURE DIAGNOSTIC COUPLER
38. LOAD SENSING DIAGNOSTIC COUPLER
39. BRAKE PRESSURE SWITCH (2)
40. AUXILIARY STEERING LOAD SENSE SOLENOID VALVE (OPTIONAL)
41. PARKING BRAKE ACCUMULATOR
42. PARKING BRAKE ACCUMULATOR DIAGNOSTIC COUPLER

NOTE: *The hydraulic schematic is located in the rear pocket. All numbers are coordinated with the hydraulic schematic for reference.*

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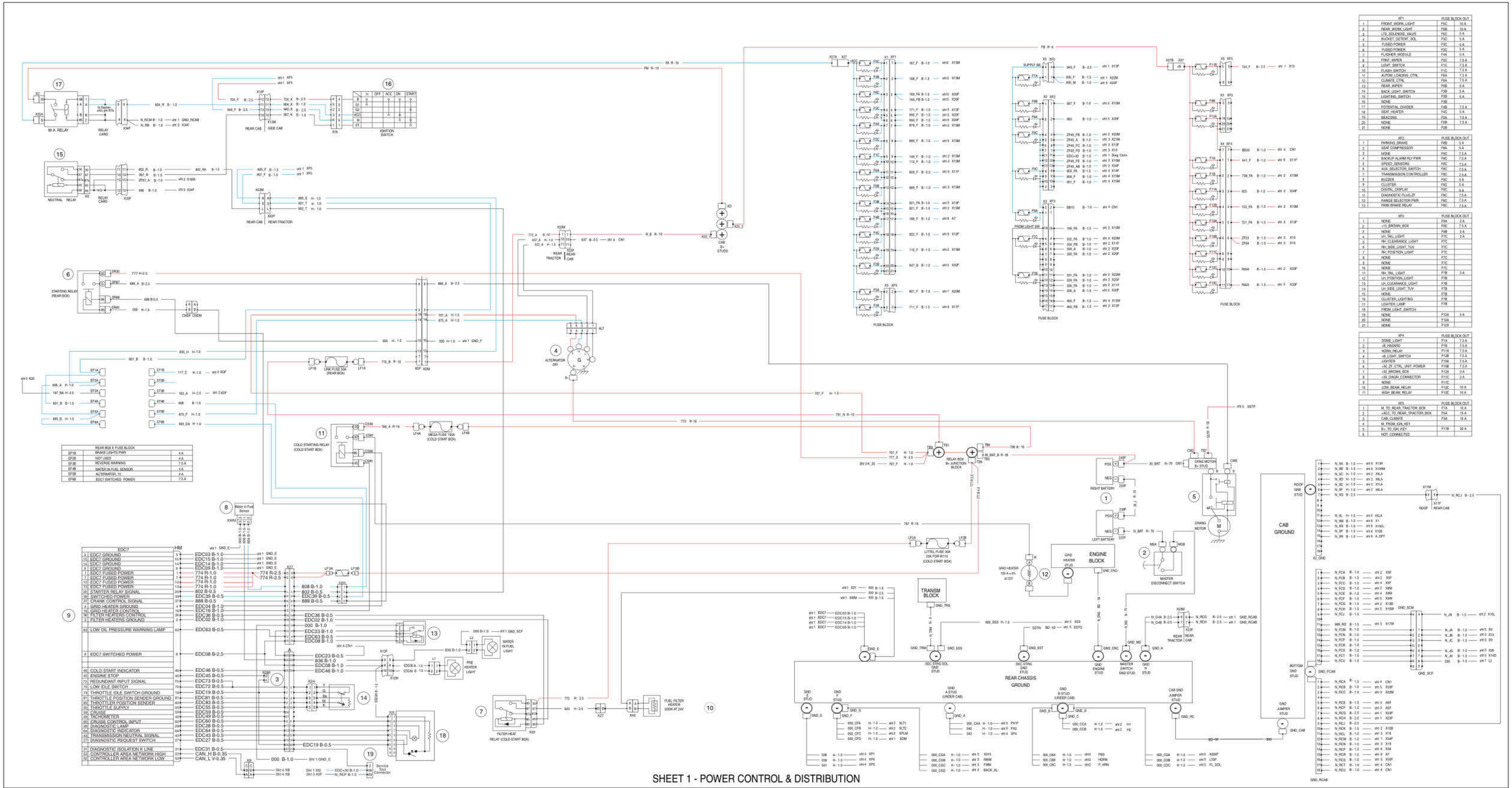
ENGINE SERVICE MANUAL

668T/M2
668TA/E4

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6-49750NA

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17
90 A RELAY
RELAY CARD
X35A
X35F
X34F
804_R B- 1.0
N_RCM B - 1.0
N_RB B- 1.0
shl 1 GND_RCAB
shl 2 X34F
X11M
REAR CAB
SIDE CAB
724_F B- 2.5
724_K B- 2.5
804_K B- 1.0
949_K B- 2.5
967_K B- 1.0
S18
IGNITION SWITCH
H OFF ACC ON START
B
G1
G2
ACC
M
ST
16
15
K3
NEUTRAL RELAY
X35F
802_R B-1.0
967_B B-1.0
ZF67_A B-1.0
890 B-1.2
802_NA B-1.0
shl 2 X16M
shl 2 X34F
895_F B-1.5
801_F B-1.0
shl 1 XF5
shl 1 XF5
X22M
X22F
REAR CAB
REAR TRACTOR
888_E H- 1.0
801_T H- 1.0
802_T H- 1.0
X23M
X23F
REAR TRACTOR CAB
772_A R-10
637_A H-1.0
637_A H-1.0
637 B-0.5
shl 4 CN1
R_B R-10
X2
CAB B+ STUDS
X27A
X27
+ACC
FB R-c
FM R-10
FA R-10
X1 XF1
X5 XF5
X2 XF2
X3 XF3
X4 XF4
FUSE BLOCK
X5 XF5
SUPPLY (M)
FROM LIGHT SW
X27B
+B
X5 XF5
X3 XF3
X4 XF4
FUSE BLOCK
6
STARTING RELAY (REAR BOX)
SPR30
SPR87
SPR86
SPR85
777 H-2.5
888_A B-2.5
888 B-0.5
000 H-1.0
CNBF CNDM
888_A B- 2.5
707_A H-1.0
875_A H-1.0
000 H- 1.0
000 H-1.0
shl 1 GND_F
ALT
4
ALTERNATOR 28V
B+
895_H H-1.0
801_B B-1.0
LF1B
LINK FUSE 50A (REAR BOX)
LF1A
772_B R-10
XDF
X2M
707_F H- 1.0
701_N R-10
773 R-16
707_F H- 1.0
777_S H- 2.5
SH 2 K_30 707_F H- 1.0
TB3
TB1
RELAY BOX B+ JUNCTION BLOCK
TB6
796 R- 16
30_BAT_B R-35
TB2
TB8
779 R-2.5
779 R-4.5
787 R-16
LF2A
LF2B
LITTEL FUSE 30A 20A FOR W110 (COLD START BOX)
shl 5 SSTP
CM5
TB7
CRANK MOTOR B+ STUD
CM5
30_BAT R-70
CM1
CRANK MOTOR
M1
5
POS
NEG
240F
RIGHT BATTERY
220F
1
POS
NEG
238F
LEFT BATTERY
237F
30_BAT R- 70
N_BAT R- 70
M6A
M6B
MASTER DISCONNECT SWITCH
2
GND HEATER 100 A at 8% at 32V
12
R
GND HEATER STUD
ENGINE BLOCK
GND_ENG
GND ENGINE STUD
MASTER SWITCH GND STUD
GND_MS
GND_H
GND H STUD
X23M
X23F
REAR TRACTOR CAB
N_CHA B-2.5
N_CHB B-2.5
N_RCG B-2.5
N_RCH B-2.5
shl 1 GND_RCAB
shl 1 GND_RCAB
REAR CHASSIS GROUND
GND A STUD (UNDER CAB)
GND B STUD (UNDER CAB)
GND_A
GND_B
GND_C
GND_D
GND_E
GND_F
GND_G
GND_INC
CAB GND JUNCTION STUD
000_CAA H- 1.0
042 H- 1.0
043 H- 1.0
shl 5 PX1F
shl 5 PX2
shl 4 XP4
000_CBA H-1.0
000_CBB H-1.0
000_CBC H-1.0
shl 2 PBS
shl 2 HORN
P_HRN
000_CCA H-1.0
000_CCB H-1.0
shl 2 H1
shl 2 H2
000_CDA H-1.0
000_CDB H-1.0
000_CDC H-1.0
shl 5 X30XF
shl 5 LTSF
shl 5 FL_SOL
000_CFA H- 1.0
000_CFB H- 1.0
000_CFC H- 1.0
000_CFD H- 1.0
shl 2 XLT1
shl 2 XLT2
shl 2 XPLM
shl 1 XDM
026 H- 1.0
039 H- 1.0
041 H- 1.0
shl 4 XP1
shl 4 XP6
shl 4 XP5
000_CGA H- 1.0
000_CGB H- 1.0
000_CGC H- 1.0
000_CGD H- 1.0
shl 5 XD1S
shl 5 RWM
shl 5 FWM
shl 2 BACK_AL
GND_SSS
GND_SST
GND_TRM
GND_TRB
TRANSM BLOCK
SEC STRG SOL GND STUD
SEC STRG GND STUD
shl 1 X27
shl 1 XWM
800 B-1.0
800 B-2.5
000_SSS H- 1.0
shl 5 SSS
SSTN BD-SS
shl 5 SSTG
shl 1 EDC7
shl 1 EDC7
shl 1 EDC7
shl 1 EDC7
EDC03 B-1.0
EDC15 B-1.0
EDC14 B-1.0
EDC09 B-1.0
shl 1 Diag Conn
shl 3 X15M
shl 3 X34F
shl 4 X15M
shl 4 X15M
shl 1 X15M
shl 6 X11F
shl 5 X15M
shl 2 X15M
shl 3 X22M
shl 2 X11F
shl 2 X20F
shl 4 X15M
shl 2 X15M
shl 2 X22M
shl 2 X20F
shl 2 X11F
shl 2 X20F
shl 4 X15M
shl 2 X13F
X1 XF1
X5 XF5
X2 XF2
X3 XF3
X4 XF4
FUSE BLOCK
X5 XF5
X3 XF3
X4 XF4
FUSE BLOCK
X27B X27
+B
X5 XF5
724_F B- 2.5
shl 1 X13
BB50 R-1.0
shl 4 CN1
441_F B-1.0
shl 6 X11F
706_FA B-1.0
shl 2 X15M
925 B-1.0
shl 2 X34F
153_FA B-1.5
shl 2 X15M
721_FA B-1.5
shl 2 X13F
ZF23 B-1.0
ZF68 B-1.0
shl 3 X13
shl 3 X13
BB15 B-1.0
shl 4 CN1
169_FA B-1.5
shl 2 X15M
932_FA B-1.0
334_FB B-1.0
334_A B-1.2
330_FA B-1.0
shl 2 X22M
shl 2 X11F
shl 2 X20F
shl 2 X20F
331_FA B-1.0
333_FA B-1.0
336_FA B-1.0
336_A B-1.0
shl 2 X22M
shl 2 X20F
shl 2 X11F
shl 2 X20F
450_F B-1.0
450_FB B-1.0
shl 4 X15M
shl 2 X13F
BB04 B-1.5
shl 2 X20F
RB23 B-1.5
shl 2 X33F
FUSE BLOCK
8
Water in Fuel Sensor
XWIF
X35F
X35M
X35F
X35M
X35F
X35M