W36 Loader

PIN 177540000 and After

Service Manual

8-70000

CASE CONSTRUCTION

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ENGINE SPECIFICATION DETAILS

	Metric Value
Cylinder Block	
Type	Wet Sleeved
Material	Cast Iron
Main Bearing Bore	104.987 to 105.013 mm
Maximum Service Limit	105.013 mm
Camshaft Bore	63.987 to 64.013 mm
Maximum Service Limit	64.013 mm
Lifter Bore	16.000 to 16.030 mm
Maximum Service Limit	16.055 mm
Cylinder Bore	132.900 to 132.950 mm
Maximum Service Limit	132.950 mm
Cylinder Counterbore	132.938 to 132.958 mm
Maximum Service Limit	132.958 mm
Cylinder Sleeve	
Type	Wet, Can Be Replaced
Material	Cast Iron
ID of Cylinder	114.000 to 114.040mm
Maximum Service Limit	114.117 mm
Maximum Out of Round (Installed in Block)	0.04 mm
Maximum Taper (Installed in Block)	0.04 mm
Sleeve Protrusion	0.013 to 0.109 mm
Piston	
Type	Cam Ground
Material	Aluminum Alloy
OD at 12 mm From the Bottom, 90 Degrees From Piston Pin	
Standard Size Piston	113.833 to 113.847
Minimum Service limit	113.776 mm
ID of Piston Pin Bore	45.006 to 45.012 mm
Maximum Service Limit	45.025 mm
Width of 1st Ring Groove (Top)	3.50 mm
Width of 2nd Ring Groove (Intermediate)	3.08 to 3.10 mm
Width of 3rd Ring Groove (Oil Ring)	4.040 to 4.060 mm
Protrusion Above Cylinder Block (Maximum)	0.018 to 0.380 mm
Piston Pin	
Type	Full Float
OD of Pin	44.997 to 45.003 mm
Minimum Service Limit	44.993 mm

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Piston Rings

No. 1 Compression 6T830 and 6TA830	Key Stone Type (Barrel Face)
End Gap in 114.020 ID	0.40 to 0.70 mm
No. 1 Compression 6-830 Engine	Key Stone Type Barrel Face
End Gap in 114.020 ID	0.40 to 0.70 mm
Maximum Service Limit	0.70 mm
No. 2 Compression	Rectangular Type (Taper Face)
End Gap in 114.020 ID	0.40 to 0.70 mm
Maximum Service Limit	0.70 mm
Side Clearance	0.70 to 0.125 mm
No. 3 Oil Control Rings	Two Piece
End Gap in 114.020 ID	0.30 to 0.60 mm
Maximum Service Limit	0.60 mm
Side Clearance	0.020 to 0.065 mm

Cylinder Head

Warpage (Maximum)	0.20 mm
Valve Guide Bore	15.931 to 15.971 mm
Maximum Service Limit	15.971 mm
Insert Bore (Intake)	53.897 to 53.927 mm
Maximum Service Limit	53.927 mm
Insert Bore Depth (Intake)	12.00 to 12.20 mm
Maximum Service Limit	12.20 mm
Insert Bore (Exhaust)	46.997 to 47.027 mm
Maximum Service Limit	47.027 mm
Insert Bore Depth (Exhaust)	9.63 to 9.83 mm
Maximum Service Limit	9.83 mm

Lifters

Material	Hardened Iron
ID of Lifter	15.929 to 15.960 mm
Minimum Service Limit	15.925 mm
Bore Diameter in Block	16.000 to 16.030 mm
Maximum Service Limit	16.055 mm

Connecting Rod

Bushing	Steel Backed Leaded Bronze
Bushing ID Installed (Ream to Size)	45.023 to 45.035 mm
Maximum Service Limit	45.035 mm
Bearing Liners	Replaceable
Journal ID Without Bearing Liners	80.987 to 81.013 mm
Maximum Service Limit	81.013 mm
Bearing Oil Clearance	0.033 to 0.117 mm
Maximum Service Limit	0.117 mm
Side Clearance	0.100 to 0.300 mm
Maximum Service Limit	0.330 mm
Connecting Rod Bend (Maximum)	
Without Bushing	0.200 mm
With Bushing	0.150 mm
Connecting Rod Twist (Maximum)	
Without Bushing	0.500 mm
With Bushing	0.300 mm

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Crankshaft

Type	Hardened Steel, Balanced
Main Bearing Liners	Replaceable
Crankshaft End Clearance	0.157 to 0.334 mm
Maximum Service Limit	0.381 mm
Center Main Bearing Thrust Surface Thickness	3.447 to 3.530 mm
Connecting Rod Journal	
OD Standard	75.987 to 76.013 mm
Maximum Service Limit	75.962 mm
0.25 mm OD Undersize, Grind to	75.737 to 75.763 mm
Maximum Service Limit	75.712 mm
0.50 mm OD Undersize, Grind to	75.487 to 75.513 mm
Maximum Service Limit	75.462 mm
0.75 mm OD Undersize, Guide to	75.237 to 75.263 mm
Maximum Service Limit	75.212 mm
1.00 mm OD Undersize, Grind to	74.987 to 75.013 mm
Maximum Service Limit	74.962 mm
Connecting Rod Journal Maximum Taper	0.013 mm
Journals Out of Round Maximum	0.050 mm
Undersize Main Bearing Liners For Service	0.25,0.50, 0.75 and 1.00 mm
Main Bearing Oil Clearance	0.66 to 0.134 mm
Maximum Service Limit	0.134 mm
Main Bearing Journal	
OD, Standard	97.987 to 98.013 mm
Maximum Service Limit	97.962 mm
0.25 mm OD Undersize, Grind to	97.737 to 97.763 mm
Maximum Service Limit	97.712 mm
0.50 mm OD Undersize, Grind to	97.487 to 97.513 mm
Maximum Service Limit	97.462 mm
0.75 mm OD Undersize, Grind to	97.237 to 97.263 mm
Maximum Service Limit	97.212 mm
1.00 mm OD Undersize, Grind to	96.987 to 97.013 mm
Maximum Service Limit	96.972 mm
Main Bearing Journal Bore ID No Liners	104.987 to 105.013 mm
Main Journal Width:	
1st, 2nd, 3rd, 5th and 6th	42.924 to 43.076 mm
4th	42.975 to 43.025 mm
Connecting Rod Journals Width	45.950 to 46.050 mm

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CAB

SPLICE
Connects one or more circuits that do the same function.

CIRCUIT BREAKER
Heat actuated, automatic or manual reset, protects electrical circuits from overload.

RELAY
A magnetic switch that directs electrical current.

CHASSIS GROUND
Completes battery circuit.

CONNECTOR
Connects one harness to another harness.

ELECTRIC MOTOR AND SWITCH (REAR WIPER)
An electric motor.

ROTARY SWITCH (DEFROSTER FAN AND ROTATING BEACON)
Directs electric current to a circuit.

RESISTOR BOARD
Controls the amount of electrical current to an electrical motor for different motor speeds.

ELECTRIC MOTOR (BLOWER AND DEFROSTER)
An electric motor.

ROTATING BEACON
A flashing type of warning lamp.

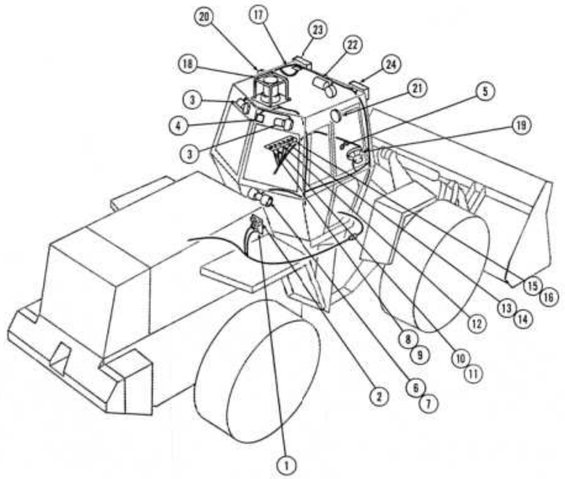
THERMOSTAT SWITCH
A switch with a temperature sensing probe. The switch is pre-set by the operator. The probe senses evaporator core temperature. The switch also controls current to the electric clutch.

ROTARY SWITCH (Blower)
Directs electrical current to one or more circuits.

ROTARY SWITCH (WIPER)
Directs electric current to one or more circuits.

ELECTRIC MOTOR (FRONT WIPER)
An electric motor.

LAMP
Produces heat that emits artificial light.



B+
From Battery Terminal of Starter Motor. See page 5.
CAB HARNESS CONNECTOR
A
B
C
RED-WHITE 70A
RED-WHITE 70B
WHITE-PURPLE 976B
1 30 AMPERE CIRCUIT BREAKERS
RED 2
STARTER RELAY
2 CAB RELAY
RED 96
BLACK 15
CHASSIS GROUND
To Condenser Fan Motor Relay. See page 13.
From Turn Signal Switch and Flood Lamp Switch. See page 29.
POWER CONNECTOR
RED-WHITE 70C
RED-WHITE 70J
RED-WHITE 70H
RED-WHITE 70E
RED-WHITE 70G
LIGHT BLUE 1B
DARK GREEN 11J
WHITE-BLUE 19
3 REAR WIPER MOTORS
4 3 AMPERE CIRCUIT BREAKERS
From Ignition Terminal of Key Switch. See page 21.
96A
5 5 AMPERE CIRCUIT BREAKER
IGNITION CONTROLLED POWER CONNECTOR
PURPLE 3A
PURPLE 3F
FRONT AND REAR HARNESS CONNECTOR
YELLOW-BLACK 941
RED-WHITE 70C
8 DEFROSTER SWITCH
9 6 AMPERE CIRCUIT BREAKER
BROWN-WHITE 946
10 ROTATING BEACON SWITCH
11 10 AMPERE CIRCUIT BREAKER
AIR CONDITIONING TEMPERATURE SWITCH
12
PURPLE-RED 960
13 15 AMP CIRCUIT BREAKER
60A
BLOWER SWITCH
14
WHITE 943
FRONT WIPER SWITCH
15
60B
16 3 AMPERE CIRCUIT BREAKER
WHITE-PURPLE 976B
BLUE-YELLOW 958
BLACK-ORANGE 942
BLACK-RED 945
WHITE 943
BLACK-WHITE 944
TAN-BLACK 949
ORANGE-BLUE 950
BLACK-YELLOW 951
LEFT TURN SIGNAL LAMP
20
RIGHT TURN SIGNAL LAMP
21
WHITE-BLUE 19
LIGHT BLUE 18
CONSOLE AND CAB HARNESS CONNECTOR
17 DOME LAMP AND SWITCH
YELLOW-BLACK 941
BLUE-YELLOW 958
BLACK-YELLOW 951
ORANGE-BLUE 950
TAN-BLACK 949
LIGHT BLUE 18
WHITE-BLUE 19
BROWN-WHITE 946
22 FRONT WIPER MOTOR
BLUE-YELLOW 958
BLACK-YELLOW 951
ORANGE-BLUE 950
TAN-BLACK 949
LEFT FLOOD LAMP
23
11A
RIGHT FLOOD LAMP
24
6 BLOWER MOTOR
RESISTOR BOARD
7
2 ohms 1.2 ohms
ROTATING BEACON
18
BLACK-ORANGE 942
DARK GREEN 11J
19 DEFROSTER FAN
CHASSIS GROUND
B872473

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