1088
Excavator

Service Manual

8-86382

CASE CONSTRUCTION

MidWestTech | Case 1088 Excavator Service Manual | Publication 8-86382

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Sectional Index

	1 GENERAL	SECTION NO.
C	Capacities	1002
D	Dimensions	1002
	Drawbar Pull	1002
	Drive Speed	1002
E	Electrical System Specifications	1002
	Engine Cooling System Specifications	1002
	Engine Lubricant Specifications	1002
	Engine Lubricating System Specifications	1002
	Engine Special Torques	1002
	Engine Specifications	1002
F	Fluids and Lubricants Specifications	1002
	Fuel Specifications	1002
	Fuel System Specifications	1002
G	General Dimensions	1002
	General Information	1001
H	Hydraulic System Specifications	1002
M	Model and PIN Numbers	1002
R	Run-in Instructions	1002
S	Safety Warnings	1001
T	Torque Data	
	Engine Special Torques	1002
	Hydraulic Fittings Special Torques	1001
	Standard Nut and Bolt Torques	1001
	Track, Rollers and Idlers Specifications	1002
	Transport Dimensions	1002
W	Weights	1002

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1088 EXCAVATOR QUICK HYDRAULIC TEST SHEET

START HERE

1 PREPARATION

Tools Required: Multi-Tester or two pressure gauges, one 600 bar (10000 PSI) and one 40 bar (600 PSI), one tachometer and one stop watch. (Refer to Special Tools Page 4)
Check the hydraulic oil level with the cylinders rods half-way out.
Oil temperature for checks 50°C (122°F)
To heat the oil: engage the swing lock and operate the swing.
All checks are done with the engine at full speed.

2 ENGINE R.P.M. — YES

Hydraulic hand control in NEUTRAL: the rpm must be 2140 to 2280.

NO

Check the engine

3 CHECK PILOT PRESSURE — YES

Connect a Multi-Tester or a 40 bar (600 PSI) pressure gauge to M4 (see drawing). Hydraulic hand control in NEUTRAL: check the pilot pressure. It must be between 26 and 28 bar (377 and 406 PSI).

NO

Adjust the P25: see drawing

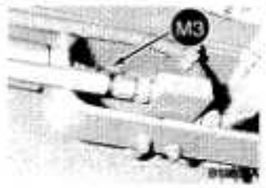
Circuit Relief Valves:
9 : Boom Down
8 : Boom Up
7 : Bucket Open
6 : Bucket Close
9 : Dipper Out
10 : Dipper In
11 : Right travel Forward
12 : Left travel Forward
13 : Right travel Reverse
14 : Left travel Reverse
16 : Right Swing
17 : Left Swing

Flow Adjustment
18 : Boom
19 : Bucket
20 : Dipper
21 : Right Travel
22 : Left Travel

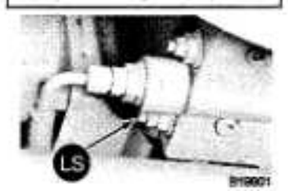
4 LOAD SENSING — YES

Connect a Multi-Tester or a 40 bar (600 PSI) pressure gauge at M3.
Note the pressure.
Connect Multi-Tester or a pressure gauge at M1.
Note the pressure.
The difference between M3 and M1 must be 18 to 20 bars (260 to 290 PSI).

NO



Adjust the load sensing valve (L.S.)

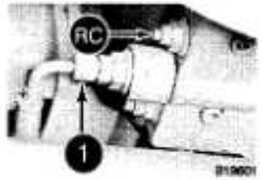


5 TORQUE REGULATOR VALVE — YES

Connect a Multi-Tester or a 600 bar (10000 SI) pressure gauge to M4.
Operate the dipper retract control until the cylinder rod moves to stop position. Set the pressure of the circuit relief valve 10 (see picture Step 7) to 275 bar (3988 PSI) and check the running speed of the engine. It must not be lower than 2020 rpm.

NO

Adjust the torque regulator valve (RC).



L.S : Load Sensing Valve
R.C : Torque Regulator Valve
A.D : Flow Cutoff Valve
4 : Main Regulator Valve (Safety)
15 : Main Regulator for Swing Valve

6 MAIN REG. VALVE (SAFETY) — YES

Connect a Multi-Tester or a 600 bar (10000 PSI) pressure gauge to M1. Disconnect and plug pilot 1, remove the connection 2, loosen the nut 3 and turn the adjusting screw 4 in two full turns (photo step 9).
Turn the circuit relief valve 9 all way in.
Extend the dipper and maintain it until the cylinder reaches stop position.
Pressure must be 425 to 440 bar (6164 to 6381 PSI).

NO

Adjust the main regulator valve 4 (safety).



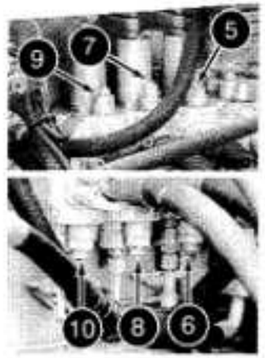
SWING PUMP
MAIN PUMP
M 1
R.C.
A.D.
SWING VALVE
L.S.
PILOT PUMP
M 2
M 3
P25
T.T.L. CONTROL VALVE
TRAVEL VALVE
ATTACHMENT VALVE
M 4

7 ATTACH. CIR. REL. VALVES — YES

Connect a Multi-Tester or a 600 bar (10000 PSI) pressure gauge to M4. Check the relief valves of boom(s) 5 and 6, bucket(s) 7 and 8. Reset the pressure at 395 and 420 bar (5729 to 6091 PSI) for boom lowering and between 380 and 400 (5511 to 5880 psi) for the other circuit relief valves.

NO

Adjust the circuit relief valves 5, 6, 7, 8, 9 and 10.

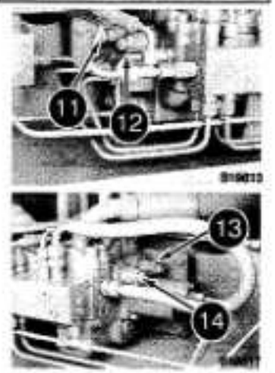


8 CIRCUIT REL. VALVE (Travel) — YES

Connect a Multi-Tester or a 600 bar (10000 PSI) pressure gauge to M1. Install blocks between the sprocket and frame. (Refer to Tool To Be Made Page 3). Check circuit relief valves right travel (11 and 13) then left travel (12 and 14).

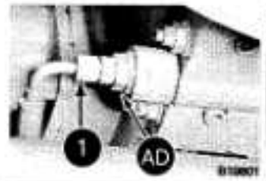
NO

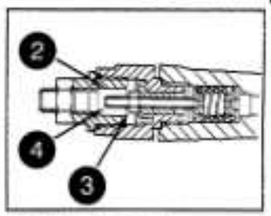
Adjust the circuit relief valves 11, 12, 13 and 14.



9 FLOW CUTOFF VALVE

Connect a Multi-Tester or a 600 bar (10000 PSI) pressure gauge to M1. To raise the boom: operate the cylinder to stop position. Using special tool CAS-1962 (Refer to Special Tools Page 3) adjust the flow cutoff valve to 360 to 380 bar (5076 to 5221 PSI). Stop the engine. Install the connection 2 and the pilot hose 1 on the valve.





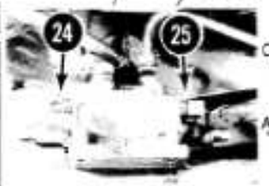
Set the relief valves 24 and 25 if necessary

16 TTL RELIEF VALVES

NO

Connect a Multi-Tester or 600 bar pressure gauge to Test Point M1. Test the relief valves with the control pedal pushed down hard in one direction and then in the other. The pressure should read between 345 and 365 bar (5002 to 5147 PSI).

YES





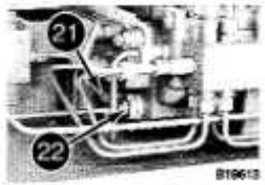
Adjust the spool by turning the screw 23

15 TRAVEL SPOOL ADJUSTMENT

NO

Drive the machine in reverse for 30m (100 feet). The machine must travel straight.

YES



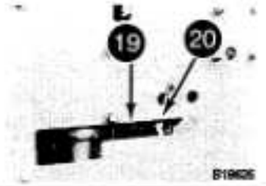
Adjust the flow control valves 21 and 22

14. FLOW CONTROL VALVE TRAVEL

NO

Remove the blocks. Using the attachment, raise a track clear of the ground. Press down the forward drive pedal of the track concerned. Mark the sprocket wheel and count the number of revolutions in a minute. The number of revolutions must be 29 to 32. Do the same operation for the other track.

YES



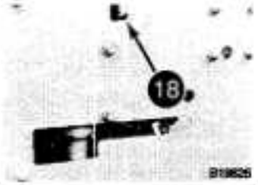
Adjust the flow control valves 19 and 20

13. DIPPER & BUCKET FLOW CONTROL VALVE

NO

Use a stop watch and measure the time to close the bucket. Measure the time to move the dipper in.
Time to close the bucket = 3 to 3.5 seconds.
Time to move the dipper in = 3 to 3.5 seconds.

YES



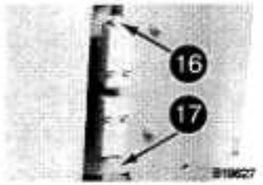
Adjust the flow control valve 18.

12. BOOM FLOW CONTROL VALVE

NO

Close the bucket and extend the dipper. Put the bucket on the ground. Use a stop watch and measure the time to raise the boom to the end of its stroke.
Time to raise the boom: = 3 to 3.5 seconds.

YES



Adjust the swing relief valves 16 and 17.

11. SWING CIRCUIT. RELIEF. VALVE

NO

Connect a Multi-Tester or a 600 bar (10000 PSI) pressure gauge to M2. Engage swing lock. Feed the swing. Check the pressure for the swing circuit relief valves 16 and 17. Pressure must be 360 to 380 bar (5076 to 5221 PSI).

YES



Adjust the main regulator for swing valve 15.

10. MAIN REG. SWING VALVE

NO

Connect a Multi-Tester or a 600 bar (10000 PSI) pressure gauge to M2. Make sure the blocks are installed between the sprocket and frame on each side. Push down and hold the travel pedals. Check the pressure for the main regulator for swing valve 16. Pressure must be 370 to 380 bar (5366 to 5511 PSI).

YES

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