Service Manual

Backhoe Loader

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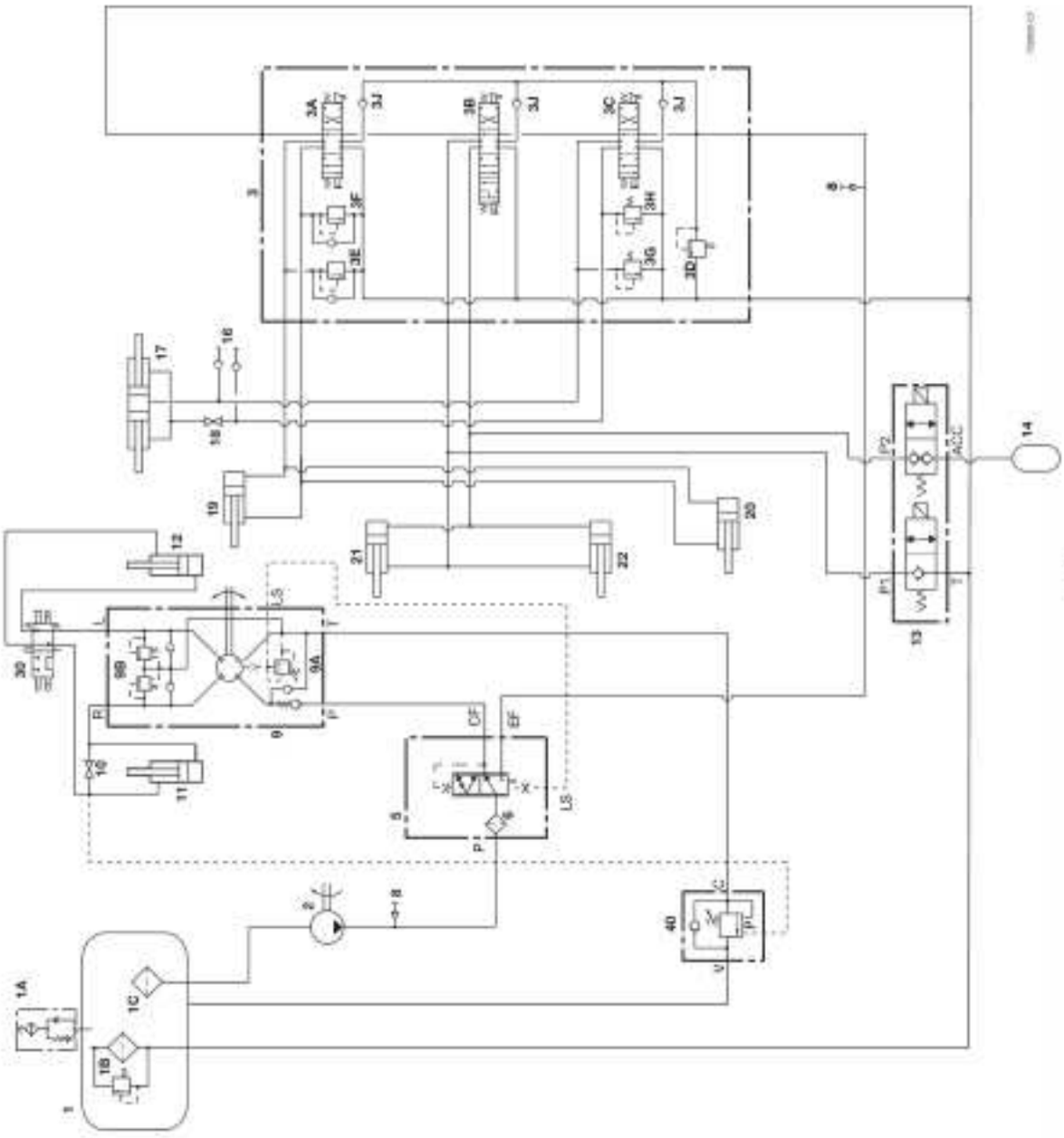


Fig 2.

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Table 1.

Fault	Possible Cause	Action
Machine drives but lacks power in all gears. Gearbox oil may also be overheating.	Gearbox oil level low.	Check for leaks and top up oil level as required.
	Gearbox oil contaminated or wrong grade.	Investigate the reason for the contamination and rectify as required. Drain the oil and flush the gearbox, refer to ***Service Procedures - Synchro Shuttle Gearbox, Flushing the Transmission Oil***.
	Suction strainer restricted or blocked.	Remove the suction strainer and clean or renew as applicable, refer to ***Section 3, Routine Maintenance***.
	Pressure maintenance valve defective.	Carry out oil pressure and flow tests, refer to ***Pressure and Flow Tests - Mainline Pressure***.
		Remove the pressure maintenance valve and inspect for signs of damage or excessive wear. Clean or renew as applicable.
	Torque converter relief valve defective.	Carry out oil pressure and flow tests, refer to ***Pressure and Flow Tests - Converter IN Pressure***.
		Remove the torque converter relief valve and inspect for signs of damage or excessive wear. Clean or renew as applicable.
	Oil cooler lines restricted or blocked. Internal blockage within the oil cooler matrix due to contamination.	Carry out oil pressure and flow tests, refer to ***Pressure and Flow Tests - Converter OUT Pressure*** and ***Lubrication Pressure***.
		Clear the restriction. Inspect the hose routing and renew the hoses or oil cooler matrix as applicable.
	Faulty torque converter.	Carry out torque converter stall tests to confirm stall speeds are within specification, refer to ***Torque Converter Stall Test***.
		Remove the gearbox and renew the torque converter. Note that the torque converter assembly is a non serviceable item.
	Failure of oil pump assembly.	Carry out oil pressure and flow tests, refer to ***Pressure and Flow Tests - Pump Flow***.

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Fig 3.

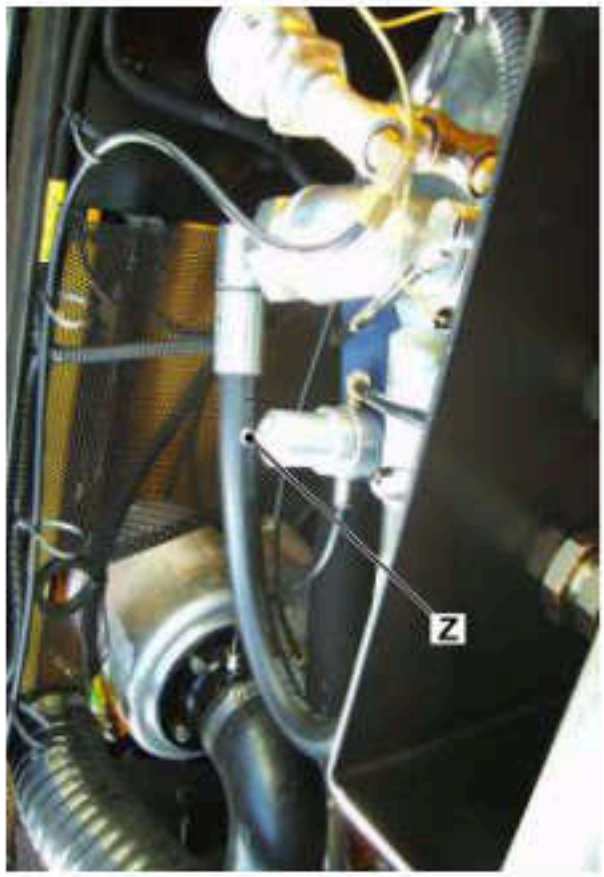


Fig 4.

6 Fit the Compressor outlet muffler.

7 Start the Engine.

8 Set the Engine revs to 900rpm.

9 Get assistant **2** to Start the Compressor **A**.. ⇨ *Fig 7. (A-21)*.

10 Set the Compressor pressure to 100 psi **Z**. ⇨ *Fig 4. (A-19)*.

11 Open the Outlet taps so that the compressor increases engine revs to maximum.

12 Adjust the throttle cable **F** in compressor box to set the maximum speed of compressor to 2120rpm (allowable tolerance is + or - 20 rpm). ⇨ *Fig 5. (A-20)*.

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Pressure Switch Renewal

The overload warning pressure switch **A** is located in the steel pipe at the boom ram.

Removal

1 Lower the excavator to the ground. Engage the park brake, stop the engine and remove the starter key.

2 Operate the control levers back and forth several times to vent any residual hydraulic system pressure. Slowly release the hydraulic tank filler cap.

3 Clean off all debris and dirt from around the pressure switch **A**.

4 Disconnect the harness electrical connector at the pressure switch, then carefully unscrew the pressure switch from the pipe.

Plug the open port to prevent loss of fluid and ingress of dirt.

Replacement

Replacement is the opposite of the removal procedure, but note the following:

The pressure switches are non-adjustable, and are colour coded to indicate their pressure setting:

Colour Code:	Pressure Setting:
Khaki	130 bar; 132 kg cm²; 1885 lb in²
Mint Green	145 bar; 148 kg cm²; 2100 lb in²
Lilac/Purple	155 bar; 158 kg cm²; 2250 lb in²
Yellow	170 bar; 173 kg cm²; 2450 lb in²
Red	180 bar; 184 kg cm²; 2600 lb in²
Blue	190 bar; 194 kg cm²; 2750 lb in²
Silver/Grey	215 bar; 219 kg cm²; 3100 lb in²

Important: *DO NOT replace a pressure switch with one that has a different pressure setting. If you are unsure about the type of pressure switch contact JCB Service.*

On completion, operate the excavator and check for hydraulic leaks. Set the overload warning system switch to ON, and check that the overload warning functions correctly.

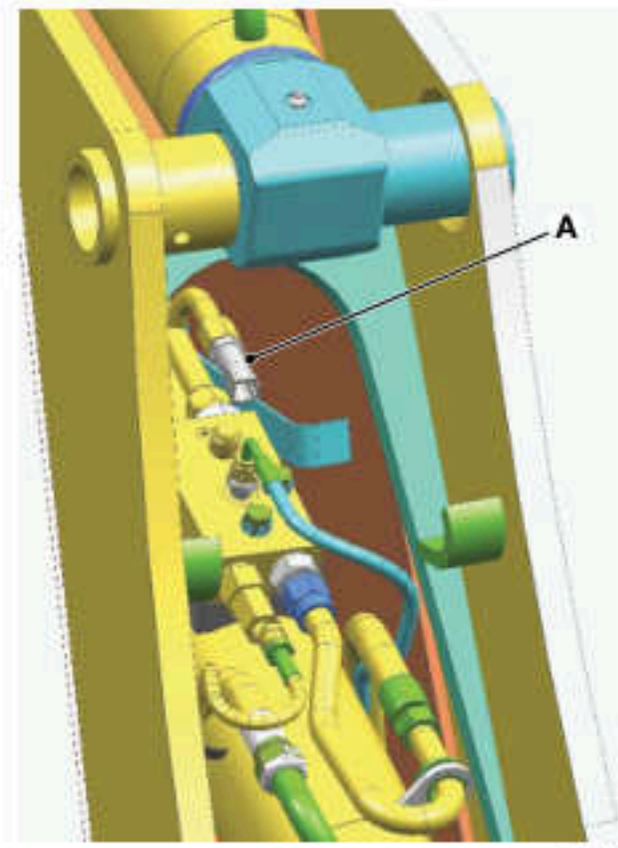


Fig 6. Excavator with Boom Hose Burst Check Valve shown.

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