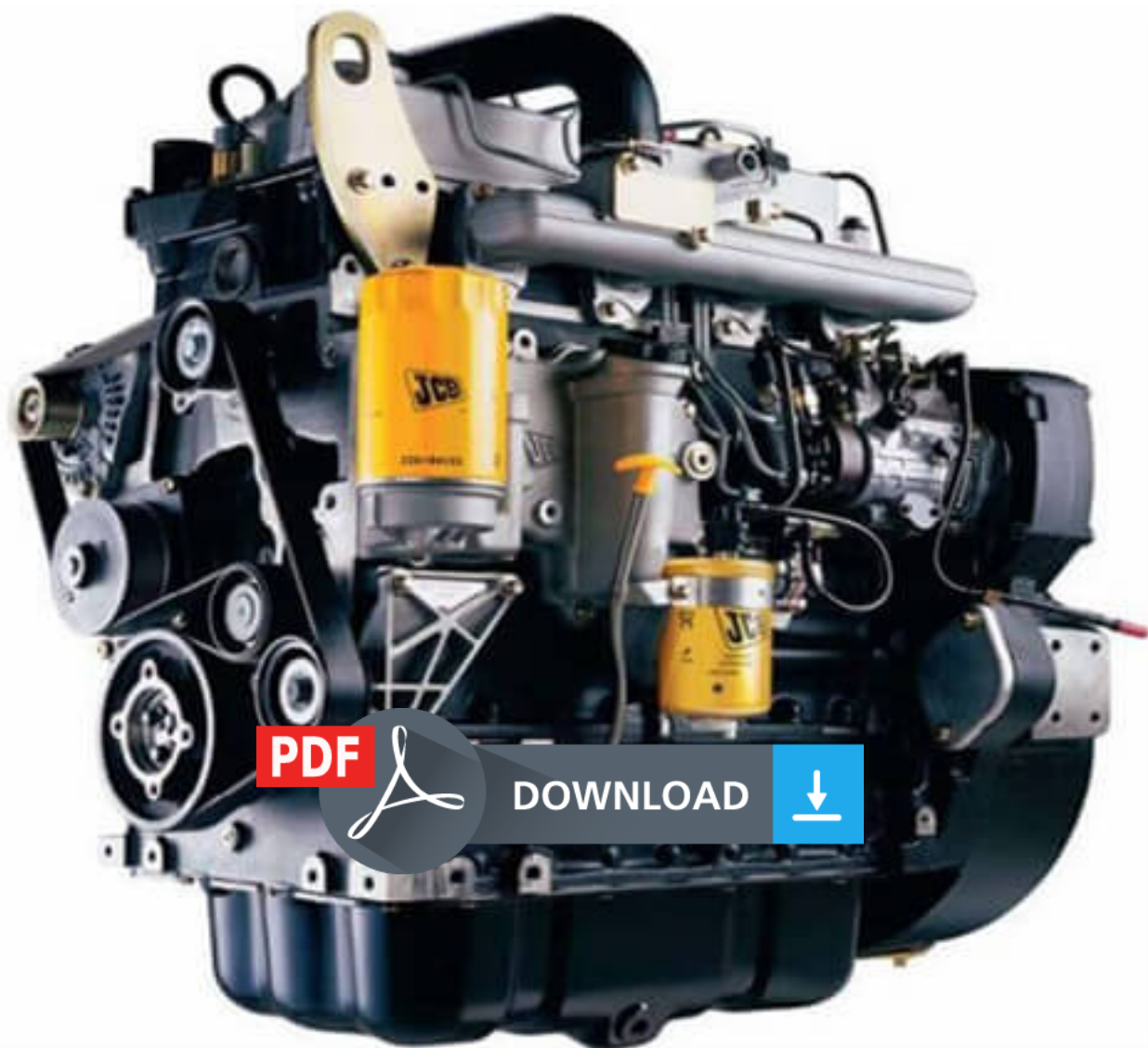


JCB JS115, JS130, JS145, JS160, JS180 Tracked Excavators Service Repair Manual



General Information

Service Manual - JCB Dieselmax Mechanical Engine

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Changing the Oil and Filter

Drain the oil when the engine is warm as contaminants held in suspension will then be drained with the oil.

- 1 Place a container of suitable size beneath the drain plug 3C.

CAUTION

Oil will gush from the hole when the drain plug is removed. Hot oil and engine components can burn you. Keep to one side when you remove the plug.

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- 2 Remove drain plug 3C and its 'O' ring 3D. Let the oil drain out, then clean and refit the drain plug with a new 'O' ring. Torque tighten the plug to 40 - 60 Nm (30 - 44 lbf ft).
- 3 Loosen and remove filter housing drain plug 3E. Let the oil fully drain. Refit the plug. Torque tighten the plug to 40 - 60 Nm (30 - 44 lbf ft).
- 4 Unscrew the filter canister 3F, using a chain wrench if necessary.

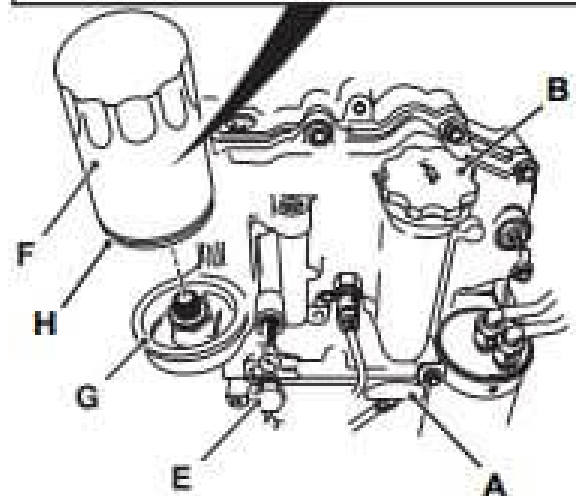
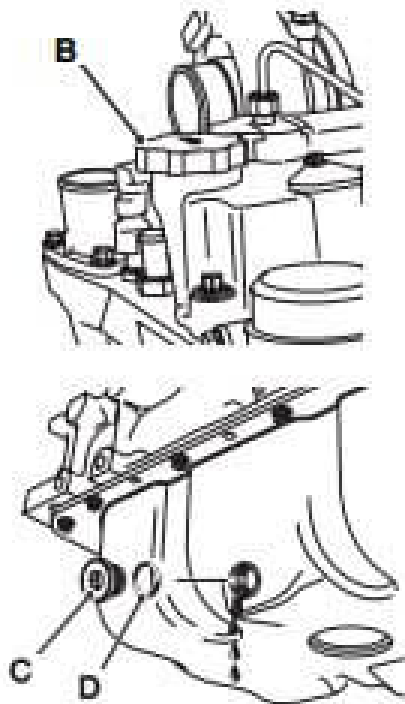


Fig 3.

- 5 Clean the seal face of the filter head 3G.
- 6 Smear the seal 3H on the new filter canister with clean engine oil.
- 7 Screw in the new filter canister - hand tight only.

CAUTION

It is illegal to pollute drains, sewers or the ground. Clean up all spilt fluids and/or lubricants.

Used fluids and/or lubricants, filters and contaminated materials must be disposed of in accordance with local regulations. Use authorised waste disposal sites.

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- 8 Through one of the the filler points 3B, fill the engine with the recommended oil to the MAX mark on the dipstick 3A. Wipe off any spilt oil, refit the filler cap and make sure it is secure.
- 9 Operate the engine until the oil pressure low warning light has extinguished. Check for oil leakage. When the oil has cooled, check the oil level again, and if necessary top up with clean engine oil.

Checking Solenoid Operation

The solenoids operate according to the steer mode selected (see table below). Operation (energisation) of a solenoid can be easily detected by placing a steel object (e.g. screwdriver blade) close to the outer casing. A magnetic attraction of the steel object towards the solenoid indicates energisation.

Mode Selected	Solenoid(s) Energised
2WS	W
4WS	X, Y
CRAB	X, Z

If a solenoid is not energised proceed as follows until the reason is established:

- Check that fuse C6 is intact. If not, renew and then check that all steer mode solenoid combinations function correctly.
- If the fuse is intact remove the electrical connector from the malfunctioning solenoid(s) and check that the 24V supply is present across the connector pins. If not, check the supply circuit.
- Check the solenoid resistance which should measure a few ohms (if unsure compare with a known good solenoid). Renew the solenoid if the reading indicates a short circuit (zero ohms) or open circuit (infinite resistance). If a reading somewhere between the two is obtained reverse the two instrument probes and repeat for a valid check.

Removal

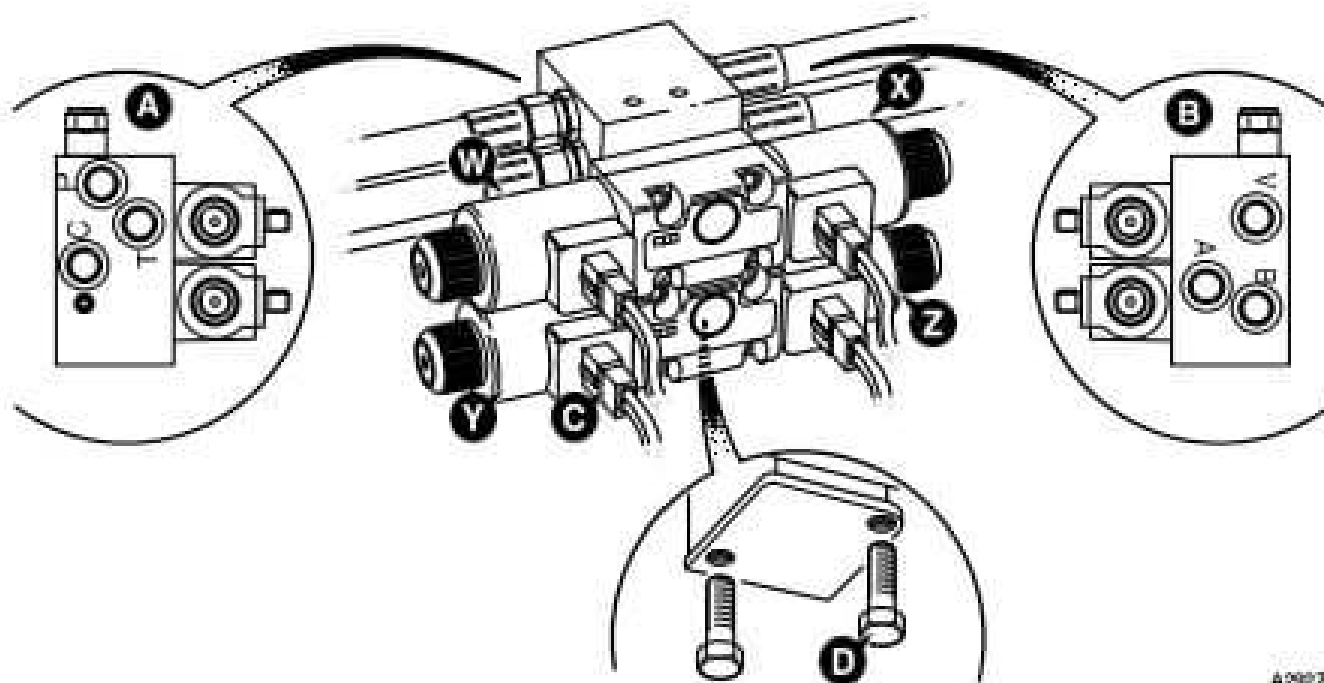
- Disconnect the hoses at A and B. Label the hoses and cap the ends to prevent the ingress of dirt.
- Disconnect the electrical connection C to each of the solenoids. Label each connector before removal.
- Unscrew retaining screws D and remove the valve.

Replacement

Replacement is the reverse of Removal.

Torque Settings

Item	Nm	kgf m	lbf ft
D	28	2.9	21



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Thank you very much
for your reading.
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to get more information.