SERVICE MANUAL

LOADALL (ROUGH TERRAIN VARIABLE REACH TRUCK)
533-105, 535-v125, 540-140, 540-170, 540-200, 540-v140, 540-v180, 550-140, 550-170

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This manual contains original instructions, verified by the manufacturer (or their authorized representative).

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Foreword

The Operator's Manual

⚠

You and others can be killed or seriously injured if you operate or maintain the machine without first studying the Operator's Manual. You must understand and follow the instructions in the Operator's Manual. If you do not understand anything, ask your employer or JCB dealer to explain it.

Do not operate the machine without an Operator's Manual, or if there is anything on the machine you do not understand.

Treat the Operator's Manual as part of the machine. Keep it clean and in good condition. Replace the Operator's Manual immediately if it is lost, damaged or becomes unreadable.

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Procedure 7 Equal Height Check
Repeat the start procedure
When the chain height equalisation is correct, go to 'tensioning small extend chains'

Tensioning Small Extend Chains

1. Carry out the key process points as required.
2. Fully extend the lift arm and retract to decal A. Refer to Figure 206.
3. Measure height of each large extension chain at the position indicated by the sticker B on intermediate section 1. Refer to Figure 206.
4. Is the distance less than the specified distance? If yes go to procedure 8. Refer to Table 40.

   Distance: 75 mm
5. Is the distance more than the specified distance? If yes go to procedure 9. Refer to Table 41.

   Distance: 75 mm
6. Is the distance within the specified range? If yes go to procedure 10. Refer to Table 42.

   Distance: 75 –85 mm

Table 40.

Procedure 8 (less than 50 mm)
Extend the lift arm fully out
Tighten the small retract chain to obtain the specified height. 50 mm
Extend and fully retract the lift arm
Repeat the chain tension check, if necessary repeat adjustment.
Repeat the small extend chains check procedure

Table 41.

Procedure 9 (greater than 60 mm)
Extend the lift arm fully out and retract to decal A
Loosen the large retract chain to obtain the specified height. 60 mm
Extend and fully retract the lift arm

Procedure 9 (greater than 60 mm)
Remeasure the small retract chain height and if necessary repeat the adjustment
Repeat the small extend chains check procedure

Table 42.

Procedure 10 Equal Height Check
Extend the lift arm fully out and retract the specified distance 1,000 mm.
Check each short extension chain for equal height. The maximum difference is (± 1 mm)
Adjust appropriate short extension chain until an equal chain height is achieved
Extend and fully retract the lift arm
Repeat the chain tension check, if necessary repeat adjustment.
When the chain height equalisation is correct, carry out the post phasing and tensioning steps

Post Phasing and Tensioning Steps

1. Make sure the lift arm is level and retracted.
2. Turn both bolts clockwise until bolts are finger tight against the boom back plate.
3. Torque Lock the boom back bolts.
4. Install the rear lift arm cover
5. Make sure all anchors are level and have not twisted.
6. Make sure all anchors have split pins correctly installed in the retaining pins.
7. Check chain lubrication and grease all roller pins using the correct lubricants.

   Refer to: PIL 75-00-00.

(For: 540-200 [T4F])

⚠ **Notice:** Once the lift arm has done a number of cycles with some weight involved, some 'bedding in' occurs and the chains slacken off. Further tightening using the adjustment procedure will be required.

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Cause	Remedy
Valve guide seals are leaking.	Replace valve guide stem seals as required.
Piston rings not sealing - lubricating oil being consumed by the engine (blue smoke from exhaust).	Check the engine compression
Worn cylinder bores - lubricating oil being consumed by the engine (blue smoke from exhaust).	Check the engine compression.
Glazed cylinder bores.	De-glaze bores as required.

Table 94. Lubricating Oil - Contaminated

Cause	Remedy
Coolant in the lubricating oil, internal engine component leaks.	Check oil cooler O-rings. If necessary change the oil cooler.
Lubricating oil sludge excessive.	Change oil and filter. Review oil and filter change period. If operating in arduous applications, change more frequently. Make sure the correct lubricating oil is being used.
Fuel in the lubricating oil, engine operating too cold.	Review the operation for excessive idling resulting in the engine running below normal temperature.
ECM or electrical sensor fault.	Check the electronic fault codes. Check the electrical connections at the ECM and sensors.
One or more fuel injectors worn or malfunctioning.	Check the electronic fault codes. Check the electrical connections at the injectors.

Table 95. Lubricating Oil - Pressure Low

Cause	Remedy
Oil level incorrect.	Check oil level.
Incorrect lubricating oil (specification of viscosity).	Make sure the correct lubricating oil is being used. Check for reduced viscosity from dilution with fuel. Fuel dilution in lubricating oil can originate from a defective high pressure fuel pump driveshaft seal. Review oil and filter change period. If operating in arduous applications, change more frequently.
Pressure switch or gauge fault.	Verify the pressure switch is functioning correctly.
Lubricating oil filter blocked.	Change lubricating oil filter. Review oil and filter change period. If operating in arduous applications, change more frequently.
Lubricating oil filter drain down valve not installed.	Change lubricating oil filter.
Suction pump pressure relief valve stuck open.	Check/replace seal.
Oil pump pressure relief valve stuck open.	Replace oil pump assembly.
Lubricating oil pump worn.	Replace oil pump assembly.

Table 96. Lubricating Oil - Pressure High

Cause	Remedy
Incorrect lubricating oil (specification of viscosity).	Make sure the correct lubricating oil is being used.
Pressure switch or gauge fault.	Verify the pressure switch is functioning correctly.
Engine running too cold.	Check and if necessary replace the engine thermostat.
Oil pump pressure relief valve stuck closed.	Replace oil pump assembly.

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Operation

(For: JCB Tier 4F Engine 4 Cyl)

Fixed speed

The schematic diagram shows an general overview of the system. Your machine may have a triple pump installed but the system will be similar.

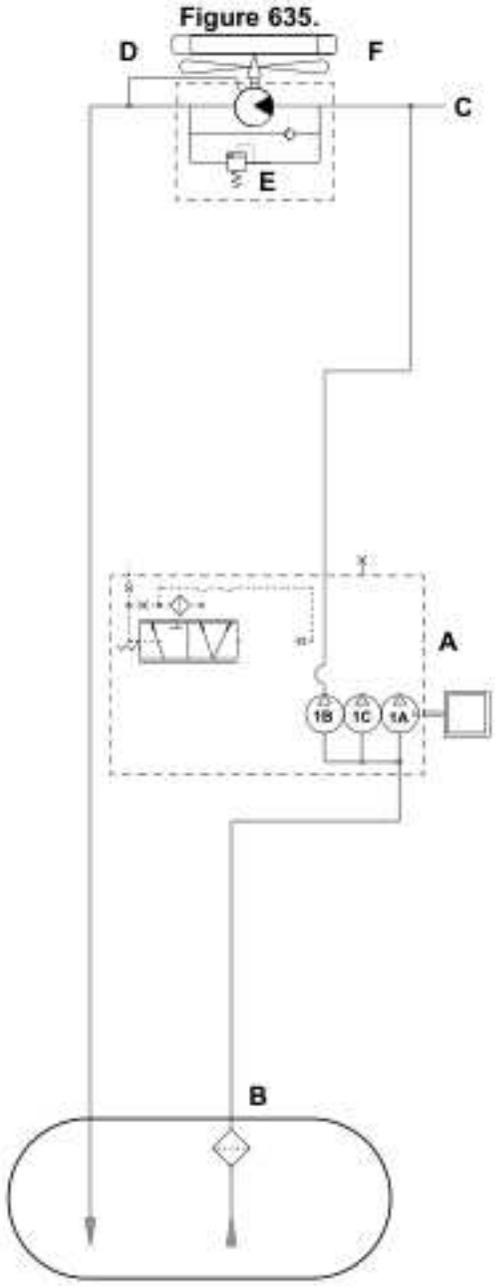
The cooling fan motor is hydraulically driven. The motor turns the cooling fan and air is drawn through the radiators in the machine cooling pack.

Hydraulic oil from the pump supplies the fan motor and pilot pressure supply valve.

The pressure relief valve prevents component damage.

Schematic diagram

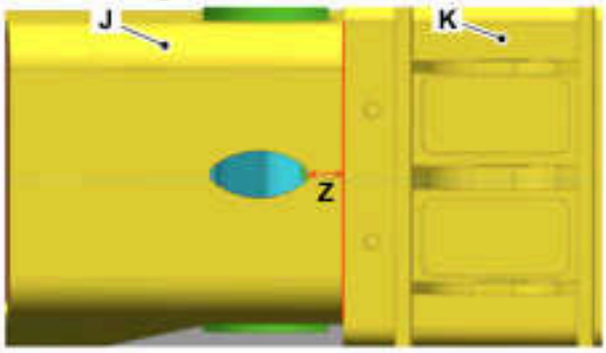
Figure 635.



A Main pump
B Hydraulic tank
C Pump pressure supply
D Fan motor case drain line
E Fan motor pressure relief valve
F Fan motor

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Figure 214. Measurement Z



J Inner top side
K Third intermediate top side
Z 30 –35 mm

Figure 215. Measurement X set up- side view



Figure 216. Measurement X set up- view from underside of machine



Figure 217. Measurement Y set up

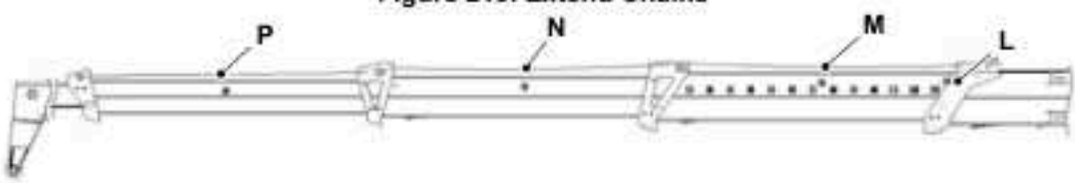


Figure 218. Measurement Z set up



Phasing and Tensioning Procedure.

Figure 219. Extend Chains



L Retract decal marker A 0.5 m

M First intermediate measuring point 73 –83 mm

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(For: 540-v180 [T4F])

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