SERVICE MANUAL

Workmaster™ 50 / Workmaster™ 60 / Workmaster™ 70
Tier 4B (final)
Tractor

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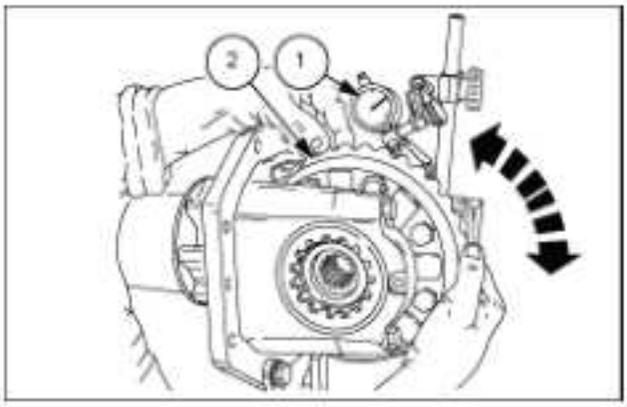
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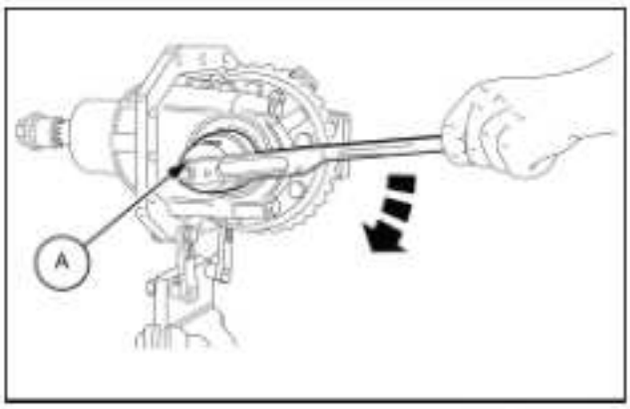
4. Measure the backlash between pinion and ring gear, using a dial gauge **(1)** perpendicular to the outer edge of a tooth on the ring gear **(2)**.

5. Repeat the measurement in two other positions 120° apart and compare the average of the three values (Gm) with the prescribed normal backlash specification of **0.18 mm** (**0.007 in**) - **0.23 mm** (**0.009 in**) average value **0.20 mm** (**0.008 in**).
If the measured backlash exceeds the prescribed value, adjust the threaded adjustment rings by screwing one of the rings in and the other out by the same amount to correct the axial preload and thus obtain the prescribed backlash.

6. With a dial gauge positioned perpendicular to the outside edge of one of the ring gear teeth, check that the backlash between the pinion and ring gear is within the tolerance limits of **0.18 mm** (**0.007 in**) - **0.23 mm** (**0.009 in**).



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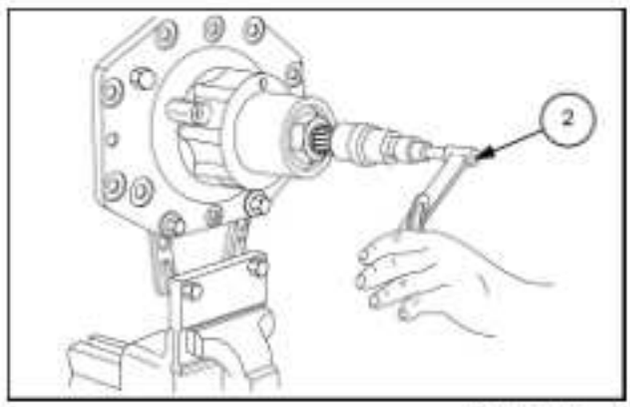
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7. Using a wrench, tool number **380000252 (A)** turn the threaded adjustment ring and check, using torque wrench **(2)** that the combined rolling resistance torque of the ring gear and pinion bearings is:
A2 = A1 + **1.0 N·m** (**0.74 lb ft**) to **1.5 N·m** (**1.11 lb ft**).
where:
A2 = combined ring gear/pinion rolling resistance torque
A1 = rolling resistance torque of pinion only as measured previously
1.0 N·m (**0.74 lb ft**) to **1.5 N·m** (**1.11 lb ft**) = rolling resistance torque of crown wheel only measured at the end of the pinion using wrench, tool number **380000257** and a torque wrench.

8. Tighten the cap bolts see figure in **Four-Wheel Drive (4WD) axle - Torque (25.100)** to a torque of **113 N·m** (**83 lb ft**).

9. Install the safety plate, screwing the threaded adjustment ring in or out up to the nearest notch.

10. Attach the bevel drive/differential to the axle casing after having carefully cleaned and degreased the mating surfaces and applied a bead of gasket eliminator **LOCTITE® 518**, approx. **2 mm** (**0.08 in**) wide along the line shown in the figure.



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Mechanical service brakes - Troubleshooting

Problem	Possible Cause	Correction
Brake actuate only when pedal is depressed fully	Incorrect Pedal adjustment	Check and adjust
Tractor pulls to one side when brakes applied	Brakes not equally adjusted	Adjust
	Wrong tire pressure	Inflate tires to correct pressure
	Wrong liners on one side	Replace discs
Brakes noisy	Oil contamination	Check and change with recommended oil.
	Wrong brake disc	Replace brake discs.
Brakes remain applied when pedals are released	Seized brake actuating linkages	Clean and lubricate linkages
Pedals are hard to operate	Seized brake actuating linkages	Clean and lubricate linkages

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Wiring harnesses - Electrical schematic sheet 03 – Engine sensors and fuel injection (engine schematics) (55.100.DP-C.20.E.03)

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B. Lifting phase

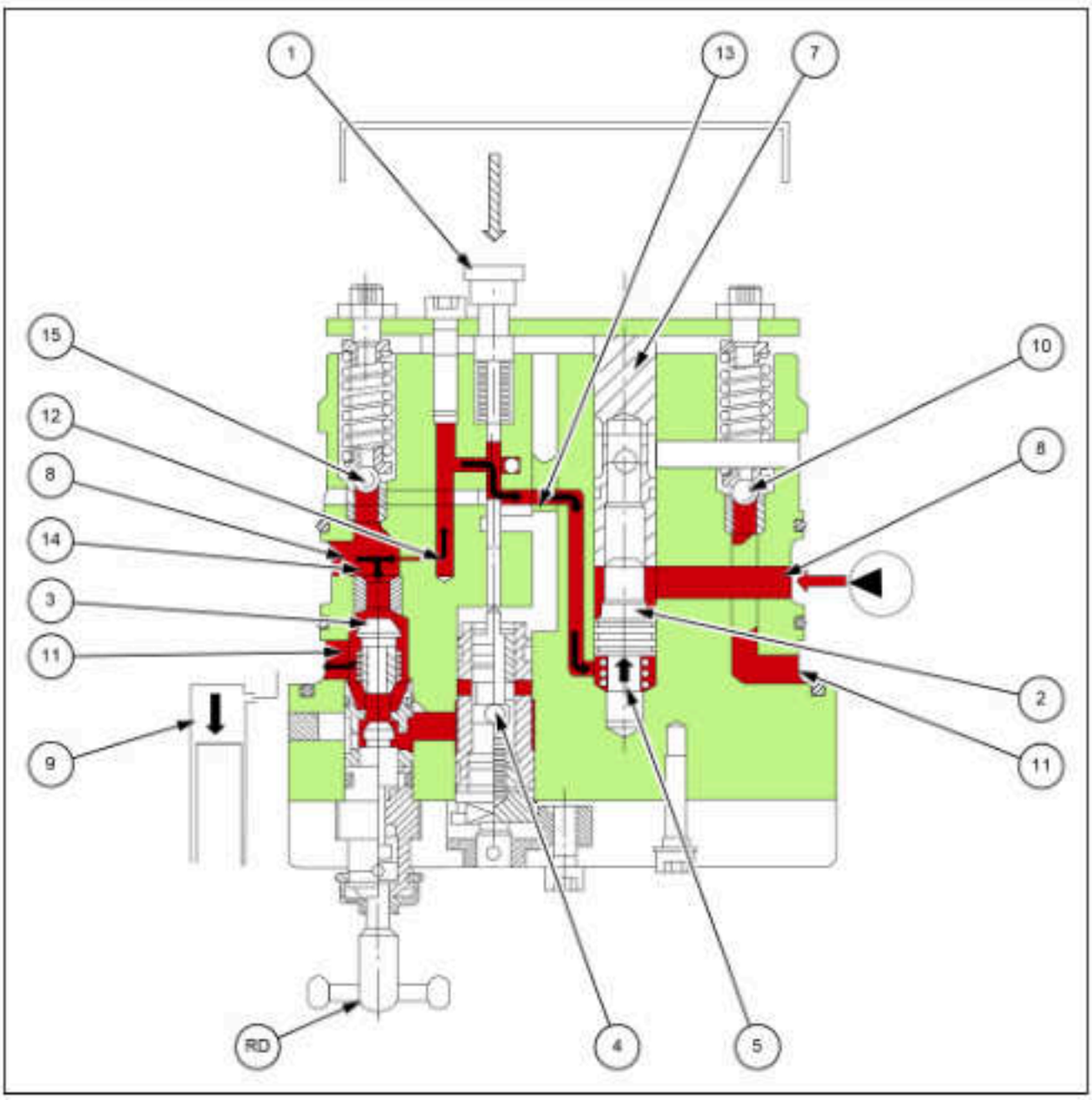
During this phase, the control valve supplies the oil under pressure to the cylinder **(9)** and it consequently lifts the arms.

The control spool **(1)** is in such a position to connect the chamber **(5)** of the differential valve **(2)** with the oil coming from the pump through annular duct **(8)** and holes **(12)** and **(13)** making in this way the valve itself to close.

The oil from the pump finding the differential valve **(2)** closed goes to cylinder, pass the hole **(14)** opens the check valve **(3)** enters in the annular duct **(11)** and enters the chamber **(9)**.

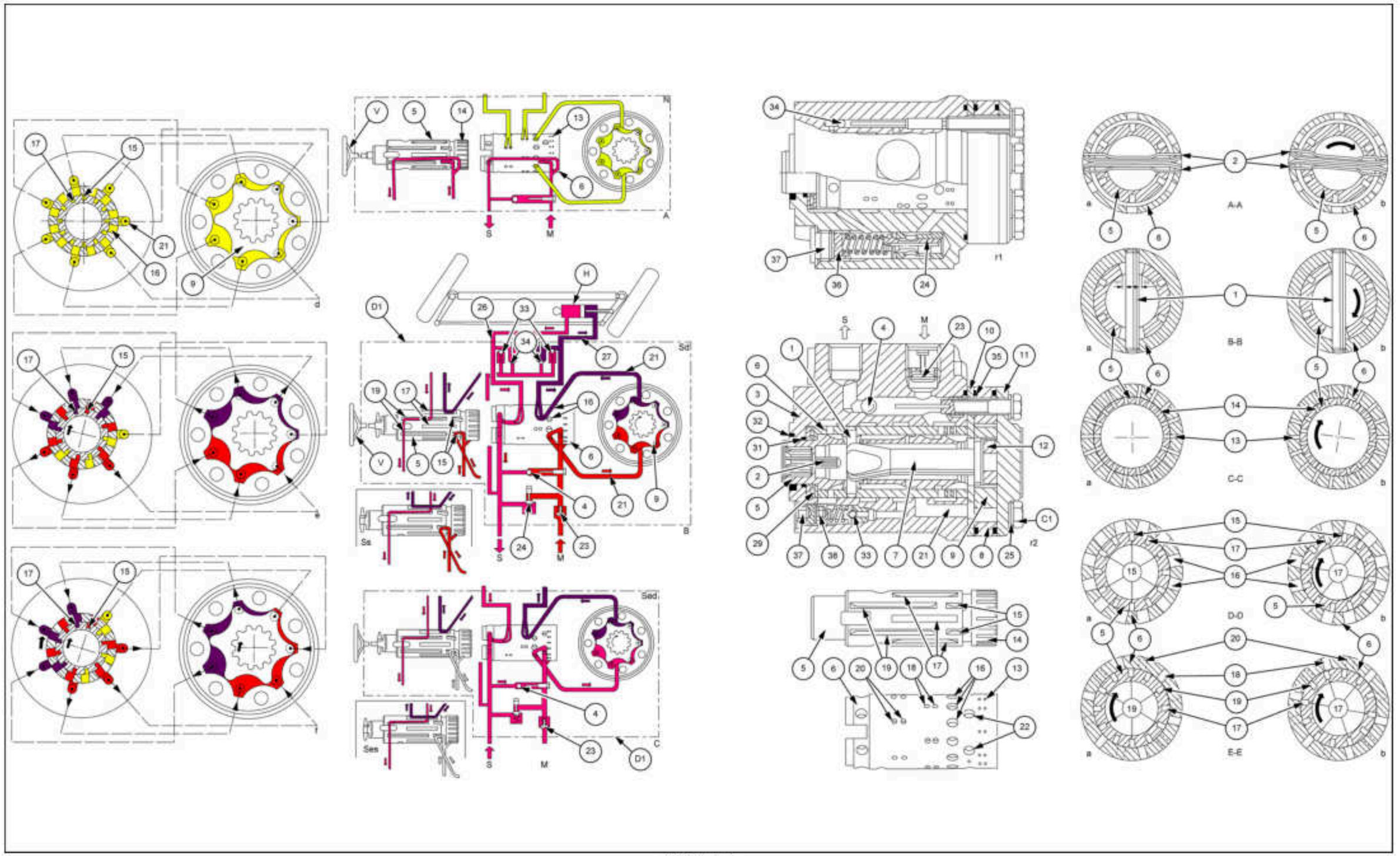
The lifting speed depends on the pump RPM.

In this phase the maximum lifting pressure is controlled by the safety valve **(15)** that is connected to annular duct **(8)** through hole **(14)** and then to the oil inlet.



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