FARMALL® 90C
FARMALL® 100C
FARMALL® 110C
FARMALL® 120C
Efficient Power
Tier 4B (final)
Tractor

SERVICE MANUAL

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CASE IH AGRICULTURE

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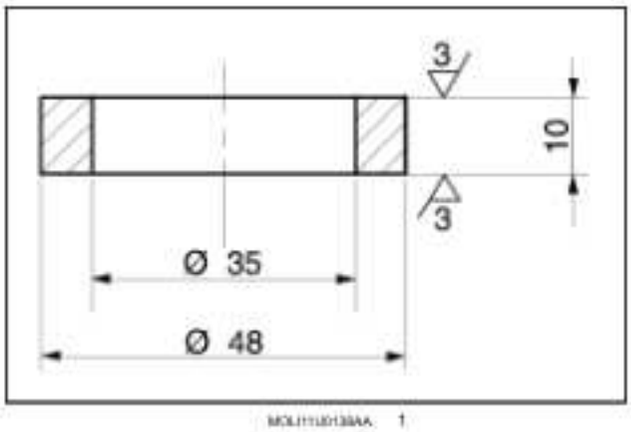
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Tool to be made to adjust the bevel drive pinion; to be used in conjunction with tool **380000248** (mark tool No. 50118 − measurements in mm).
Make in UNI C40.



Powered front axle - General specification

Bevel gear pair - differential

Type	steering, load bearing structure, pivoting at centre
Pinion-crown gear ratio **30 km/h**	8/30 = 1:3.75
Pinion-crown gear ratio **40 km/h**	10/30 = 1:3
Backlash between bevel drive teeth	**0.15 - 0.20 mm (0.01 - 0.0 in)**
Thickness of bevel pinion position adjustment spacer	**2.50 mm (0.098 in)- 2.60 mm (0.10 in) - 2.70 mm (0.106 in) - 2.80 mm (0.110 in) - 2.90 mm (0.114 in) - 3 mm (0.118 in) - 3.10 mm (0.122 in) - 3.20 mm (0.126 in) - 3.30 mm (0.130 in) - 3.40 mm (0.134 in) - 3.50 mm (0.138 in) - 3.60 mm (0.142 in) - 3.70 mm (0.146 in)**
Thickness of bevel pinion bearing adjustment spacer rings	**2.50 mm (0.098 in)- 2.55 mm (0.100 in) - 2.60 mm (0.102 in) - 2.65 mm (0.104 in) - 2.70 mm (0.106 in) - 2.75 mm (0.108 in) - 2.80 mm (0.110 in) - 2.85 mm (0.112 in) - 2.90 mm (0.114 in) - 2.95 mm (0.116 in) - 3 mm (0.118 in) - 3.05 mm (0.120 in) - 3.10 mm (0.122 in) - 3.15 mm (0.124 in) - 3.20 mm (0.126 in) - 3.25 mm (0.128 in) - 3.30 mm (0.130 in) - 3.35 mm (0.132 in) - 3.40 mm (0.134 in) - 3.45 mm (0.136 in) - 3.50 mm (0.138 in) - 3.55 mm (0.140 in) - 3.60 mm (0.142 in) - 3.65 mm (0.144 in) - 3.70 mm (0.146 in) - 3.75 mm (0.148 in) - 3.80 mm (0.150 in) - 3.85 mm (0.152 in) - 3.90 mm (0.154 in) - 3.95 mm (0.156 in) - 4 mm (0.157 in) - 4.05 mm (0.159 in) - 4.10 mm (0.161 in) - 4.15 mm (0.163 in) - 4.20 mm (0.165 in) - 4.25 mm (0.167 in) - 4.30 mm (0.169 in) - 4.35 mm (0.171 in) - 4.40 mm (0.173 in) - 4.45 mm (0.175 in) - 4.50 mm (0.177 in) - 4.55 mm (0.179 in) - 4.60 mm (0.181 in) - 4.65 mm (0.183 in) - 4.70 mm (0.185 in) - 4.75 mm (0.187 in) - 4.80 mm (0.189 in)**
Clearance between sides of sun and planet pinion teeth	**0.150 mm (0.006 in)**
Thickness of planet pinion thrust washers	**1.470 - 1.530 mm (0.058 - 0.060 in)**
Thickness of planet pinion thrust washers	**1.400 mm (0.055 in)- 0.150 mm (0.006 in) - 1.600 mm (0.063 in) - 1.700 mm (0.067 in) - 1.800 mm (0.071 in) - 1.900 mm (0.075 in) - 2.000 mm (0.079 in)**
Diameter of cross pin for planet pinions	**21.939 - 21.960 mm (0.864 - 0.865 in)**
Side diameter cross pin bore diameter	**22.040 - 22.061 mm (0.868 - 0.869 in)**
Assembly clearance between cross pin and bores	**0.080 - 0.122 mm (0.003 - 0.005 in)**
Ratio between the speed of the rear axle and the front axle for **30 km/h** (**18.64 mph**) models	1.362

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Wiring harnesses - Electrical schematic sheet 19 SH24-TRANSMISSION - 4WD DIFF.LOCK

Farmall® 100C without cab, with mechanical or Power shuttle transmission	
Farmall® 110C without cab, with mechanical or Power shuttle transmission	
Farmall® 120C without cab, with mechanical or Power shuttle transmission	
Farmall® 90C without cab, with mechanical or Power shuttle transmission	

Type	Component	Connector / Link	Description
ECU	**A-005**	**X-450**	ADIC LOW LINE
Switch	**S-011**	**X-368**	Diff. lock SW
Connector	X-300A	X-300A	Cab-transmission inline
Connector	X-300B	**X-300B**	Trasnmissison-cab inline
Connector	X-342	**X-342**	4WD solenoid
Connector	X-343	**X-343**	Diff.lock solenoid
Connector	X-368	**X-368**	Diff. lock SW
Connector	X-450	**X-450**	ADIC LOW LINE CN1
Solenoid	**Y-010**	**X-342**	4WD Solenoid
Solenoid	**Y-011**	**X-343**	Diff. lock solenoid

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1004-Wheel speed sensor - signal too high

Control Module : CCU

Possible failure modes:

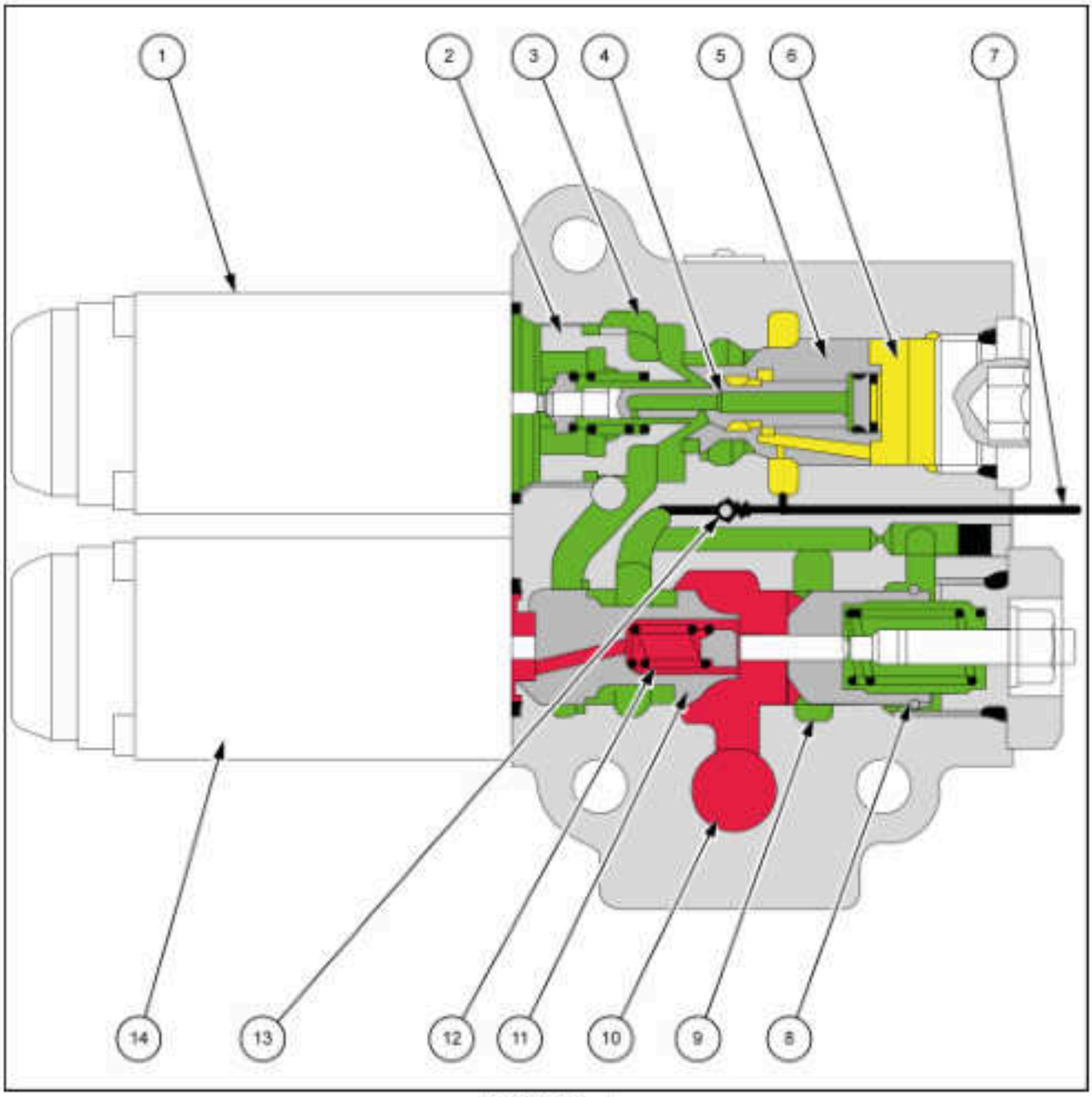
1. Faulty connector
2. Faulty speed sensor
3. Faulty harness
4. Faulty speed pickup gear

Solution:

1. Check for other fault codes being displayed.
   A. If other error codes are indicated, continue to test for these errors.
   B. If no other error code is displayed,Continue to step **2**
2. Check the wheel speed sensor in H9, ch. 99 mode.
   A. If the values shown are regular, again in H9, ch. 99 mode, shake the wiring harness and the control panel connector **X-240**, the main cable - transmission intermediate connection connector **X-300B** and finally the sensor connector **X-309**, to check for an intermittent circuit. The values of ch 99 will change if an intermittent circuit is indicated;
   B. If the values displayed are not between 40 and 55, Continue to step **3**
3. Visually check the wheel speed sensor
   A. If the sensor is loose, tighten it in the rear transmission housing; if it is damaged, remove and/or replace as required.
   B. If the sensor is okay, Continue to step **4**
4. Visually check the connectors **X-240**, **X-300B**, **X-309**
   A. Disconnect and check that the connectors are connected and not damaged, that the pins are in the correct position and the fit is tight.
   If there are any faults, Repair or replace the unit as needed.
   B. If the connectors are okay, Continue to step **5**
5. Check the sensor power supply
   A. Disconnect the **X-240** connector from the control panel and the sensor connector **X-309**;
   Turn the starter key to ON and measure the voltage between:
   Connector **X-309**, pin 1 and ground.
   If approximately + **12 V** is not indicatedRepair or replace the wiring harness as required.
   B. If wiring harness test is good, .Continue to step **6**
6. Check the signal continuity
   A. Turn the starter key to OFF and measure the continuity between:
   X-309 pin 2 and **X-240** pin 22.
   If there was no continuity,Repair or replace the wiring harness as required.
   B. If wiring harness test is good, .Continue to step **7**
7. Check for an open ground circuit.
   A. Check between connector **X-309**, pin 3 and ground. If an open circuit is indicated, repair or replace the wiring as necessary.

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Front hitch hydraulic system valve - Static description



MOIL14TR0034GB 1

Functional schematic of electronically controlled front lift. Neutral phase

Trapped oil
Pressure oil
Exhaust oil

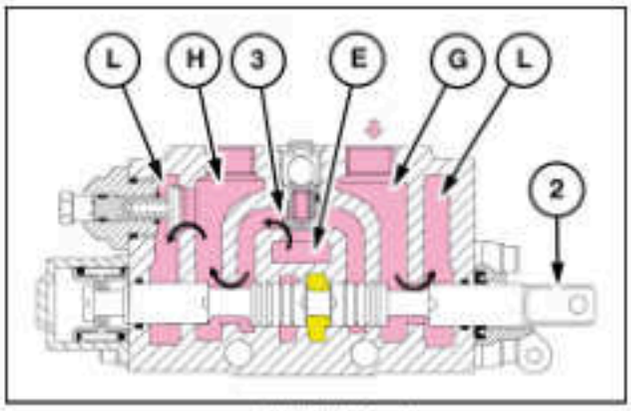
1. Lowering control solenoid valve
2. Fixed seat of lowering control valve
3. Discharge compartment
4. Lowering control valve actuator
5. Lowering control valve
6. Lowering control valve compartment
7. To lift cylinder
8. Pressure Compensator Valve
9. Excess pressure discharge compartment
10. Oil coming from the pump
11. Lifting control valve
12. Valve calibration spring **(11)**
13. Non-return valve
14. Lifting control solenoid valve

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Lower

To operate the lowering stage, you need to pull the control lever forward and trigger the following actions:

- The control cable moves and shifts the spool **(2)** of the control valve.
- The movement of the spool allows:
  - The oil in the cylinder to flow to the drain **(L)** through line **(G)**
  - The entire flow of oil from the pump to run to the drain **(L)** through check valve **(3)** and line **(H)**.



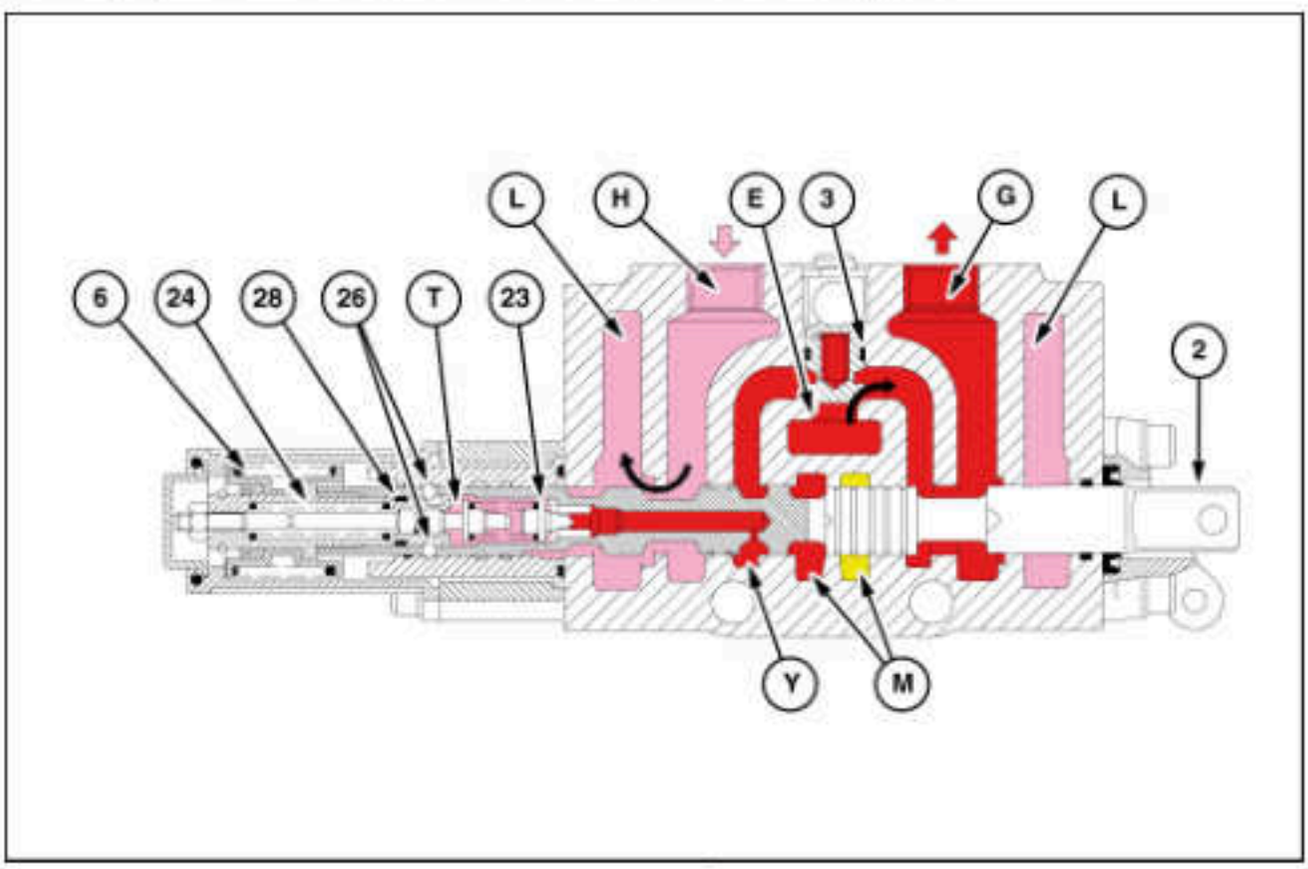
Pressure oil

Oil in suction, delivery or return

Trapped oil

NOTE: *To operate the single-acting cylinder, loosen the switching valve* ***(1)****; see Fig.* ***3****.*

Operating stages of an auxiliary control valve for operation of a single-acting cylinder/double-acting cylinder with automatic detent release and float position



Pressure oil

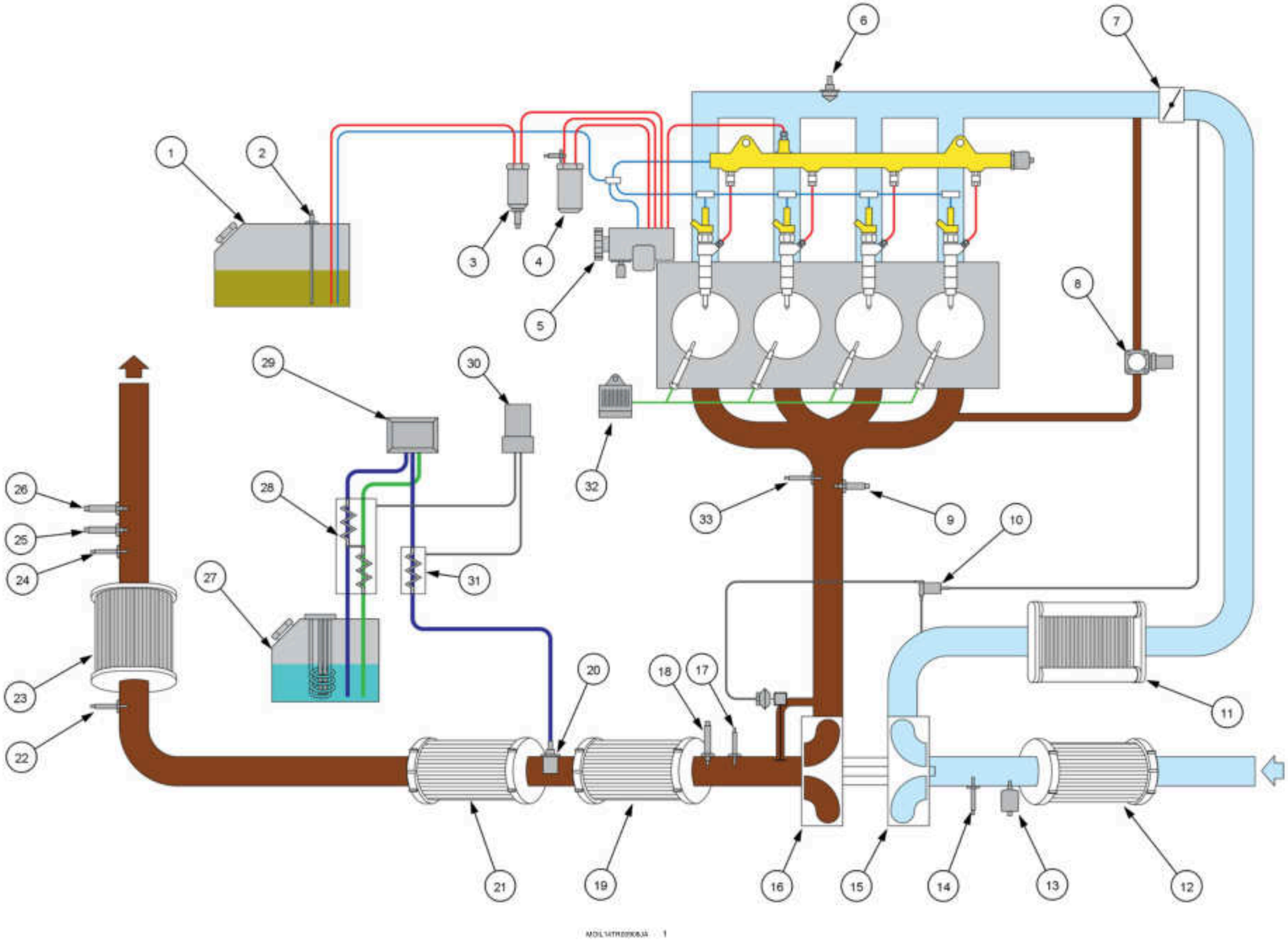
Oil in suction, delivery or return

Trapped oil

Raising

To operate the lifting stage, you need to pull the control lever back and trigger the following actions:

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