SERVICE MANUAL

T4020 / T4030 / T4040 / T4050
Deluxe / Supersteer
Tractors

Print No. 87666787B

NEW HOLLAND
AGRICULTURE

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CONSUMABLES

COMPONENT TO BE FILLED OR TOPPED UP	QUANTITY dm^3 (litres)	RECOMMENDED NEW HOLLAND PRODUCT	NEW HOLLAND SPECIFICATION	INTERNATIONAL SPECIFICATION
Cooling system: less cab: ..... with cab	14.0 16.0	Water and **AMBRA AGRIFLU fluid 50% + 50%**	NH 900 A	-
Windscreen wash reservoir	2.0	Water and antifreeze	-	-
Fuel tank:	88	Decanted, filtered diesel fuel	-	-
Engine oil sump: without filter: ..... with filter:	8.9 9.5	Oil **AMBRA MASTERGOLD HSP**	NH 324H (SAE 10W-30) NH 330H (SAE 15W-40))	API CI-4/CH-4 ACEA E7/E5
Brake circuit ..... With front brakes	0.7 1.0	**AMBRA BRAKE LHM** oil	NH 610 A	ISO 7308
Front axle: axle housing ..... final drives without brakes (each) ..... final drives with brakes (each)	4.5 1.0 1.5	**AMBRA MULTI G** oil	NH 410 B	API GL4 ISO 32/46 SAE 10W-30
Rear transmission (bevel drive, final drives and brakes), gearbox, hydraulic lift, PTO and hydraulic steering:	42			
Grease fittings	-	**AMBRA GR9** grease	NH 710 A	NLGI 2
Air conditioning system - coolant ..... - oil	- 0.80 0.15	-	-	R-134a SP20

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SECTION 10 - ENGINE

Chapter 1 - Engine

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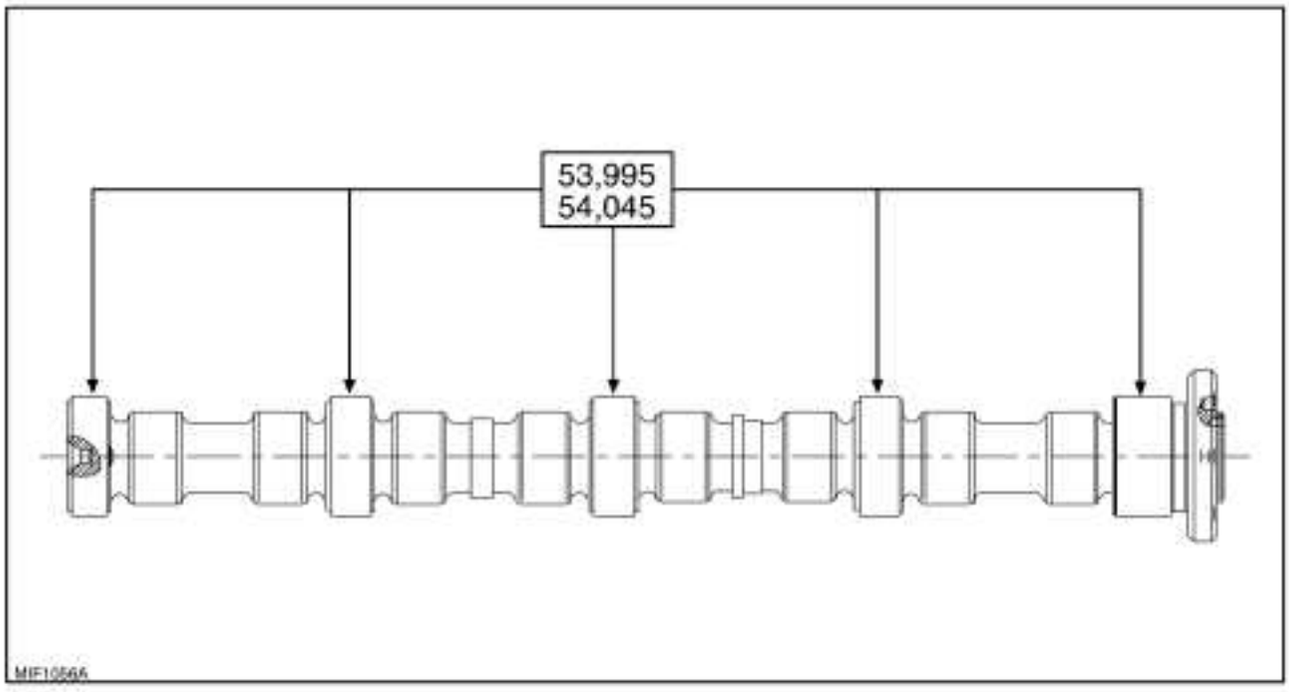
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GENERAL SPECIFICATIONS	
Engine, technical type:	
- Model T4040 type F4CE9484N*J601 (BOSCH pump)	
- Model T4050 - type F4CE9484M*J601 (BOSCH pump)	
Cycle	diesel, 4-stroke
Fuel injection	Direct
Number of cylinders in line	4
Piston diameter	104 mm
Piston stroke	132 mm
Total displacement	4485 cm^3
Compression ratio	16.5:1
Maximum Power Output:	
- Model T4040 - type F4CE9484N*J601	63 kW (86 Hp)
- Model T4050 - type F4CE0454C*D600/*D603	71 kW (97 Hp)
Maximum power speed	2300 rpm
- Maximum torque: Model T4040 - type F4CE9484N*J601	370 Nm
- Maximum torque: Model T4050 - type F4CE9484M*J601	418 Nm
Maximum torque speed	1300 rpm
Number of main bearings	5
Sump pan	structural, cast iron
Lube	forced, with lobe pump
Pump drive	from crankshaft
Engine speed/oil pump speed ratio	1:1
Oil filtration	mesh screen on oil pick-up and filter cartridge in delivery line
Normal oil pressure with motor warmed-up	
at slow idling	1.2 bar
at fast idling	3.9 bar

(continued)

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Camshaft



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Camshaft data

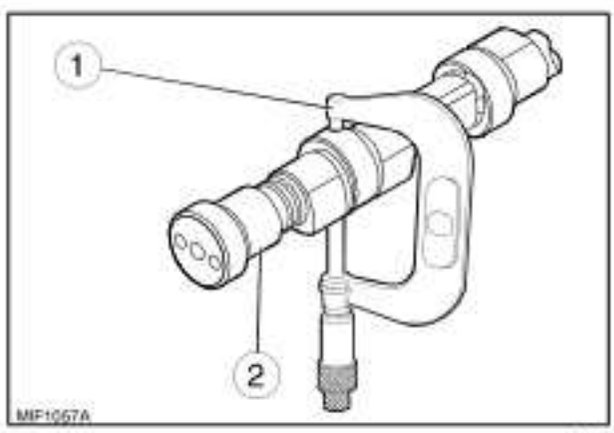
The data refer to the normal journal diameter (dimensions mm)

The support journal surfaces on the shaft and cams must be finely honed; if there are signs of seizing or scoring, replace the shaft and relative bushings.

Checking cam lift and pin alignment

Set the shaft on tailstocks and, using a dial gauge with a 1/100 mm scale placed on the central support, check that the alignment error is no greater than 0.04 mm; change the shaft if it is.

Check the diameter of the supporting pins of the camshaft (2) with the micrometer (1) on two perpendicular axis.

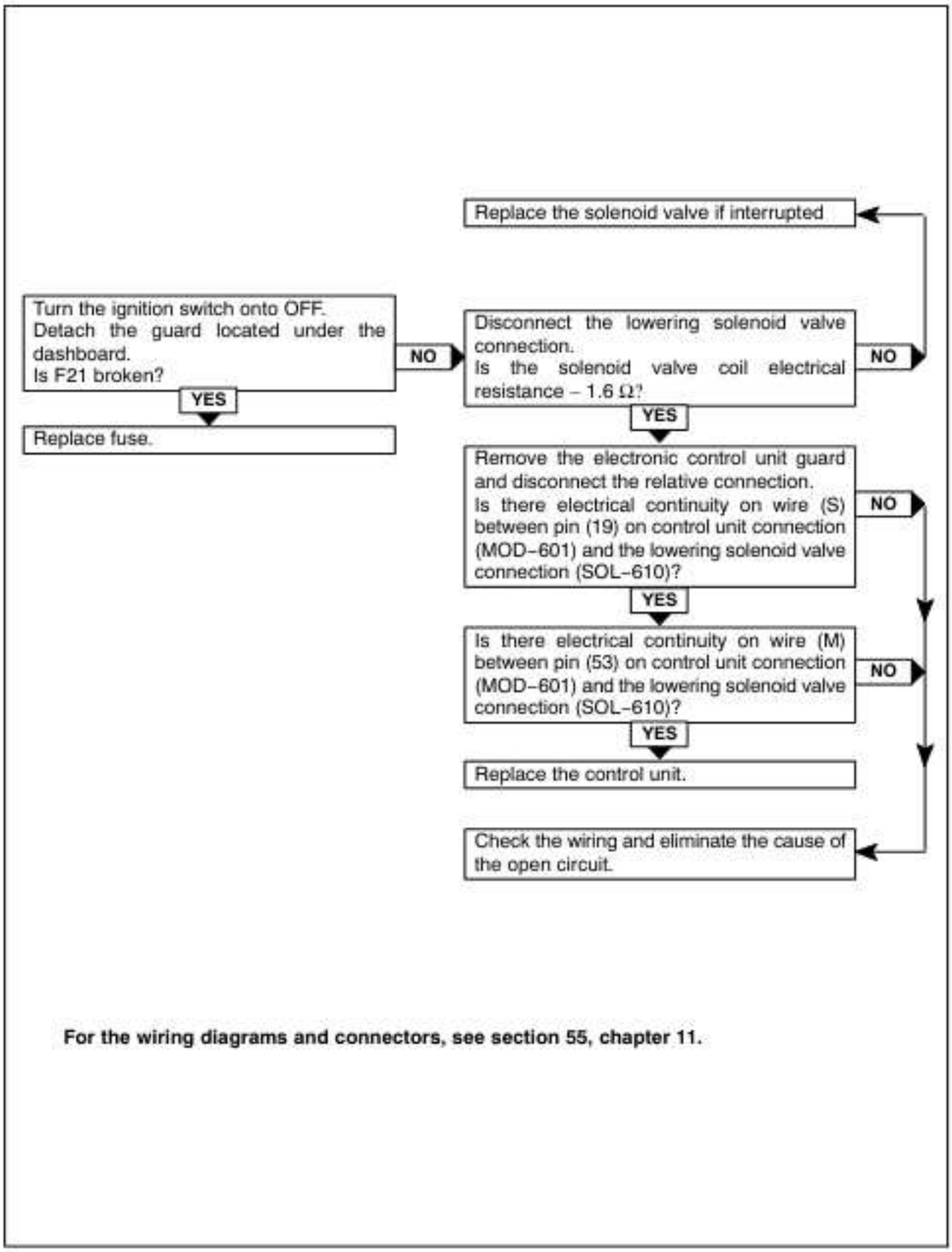


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ERROR CODE 12

The lowering solenoid valve (SOL–610) is faulty or the relevant circuit is open.
The front lift does not work.



For the wiring diagrams and connectors, see section 55, chapter 11.

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9063 - OPEN CIRCUIT IN THE LOWERING SOLENOID VALVE.

Control module: Four Wheel Drive ECU

NOTE: *The ECU disables the front lift.*

Possible fault modes:

1. Faulty solenoid valve.
2. Faulty wiring harness.
3. Faulty ECU.

Remedies:

NOTE: *Once the cause of the error code has been removed, clear the error code and test the system for normal operation.*

1. Check the front lift lowering solenoid valve **SOL-100**, the intermediate connector **C-13** and the ECU connector **MOD-204**.

   A. Make sure all connectors are connected, not damaged, the pins are in the correct position and that the fit is tight. Repair or replace as necessary.

   B. If the connectors are ok, go to the next step.
2. Check the front lift lowering solenoid valve **SOL-100.**

   A. Disconnect the solenoid valve and measure between:
   SOL-100 pin **1** and pin **2**
   if the resistance is not about 6.50 Ω replace the solenoid valve.

   B. If the solenoid valve is ok, go to the next step.
3. Check for an open circuit.

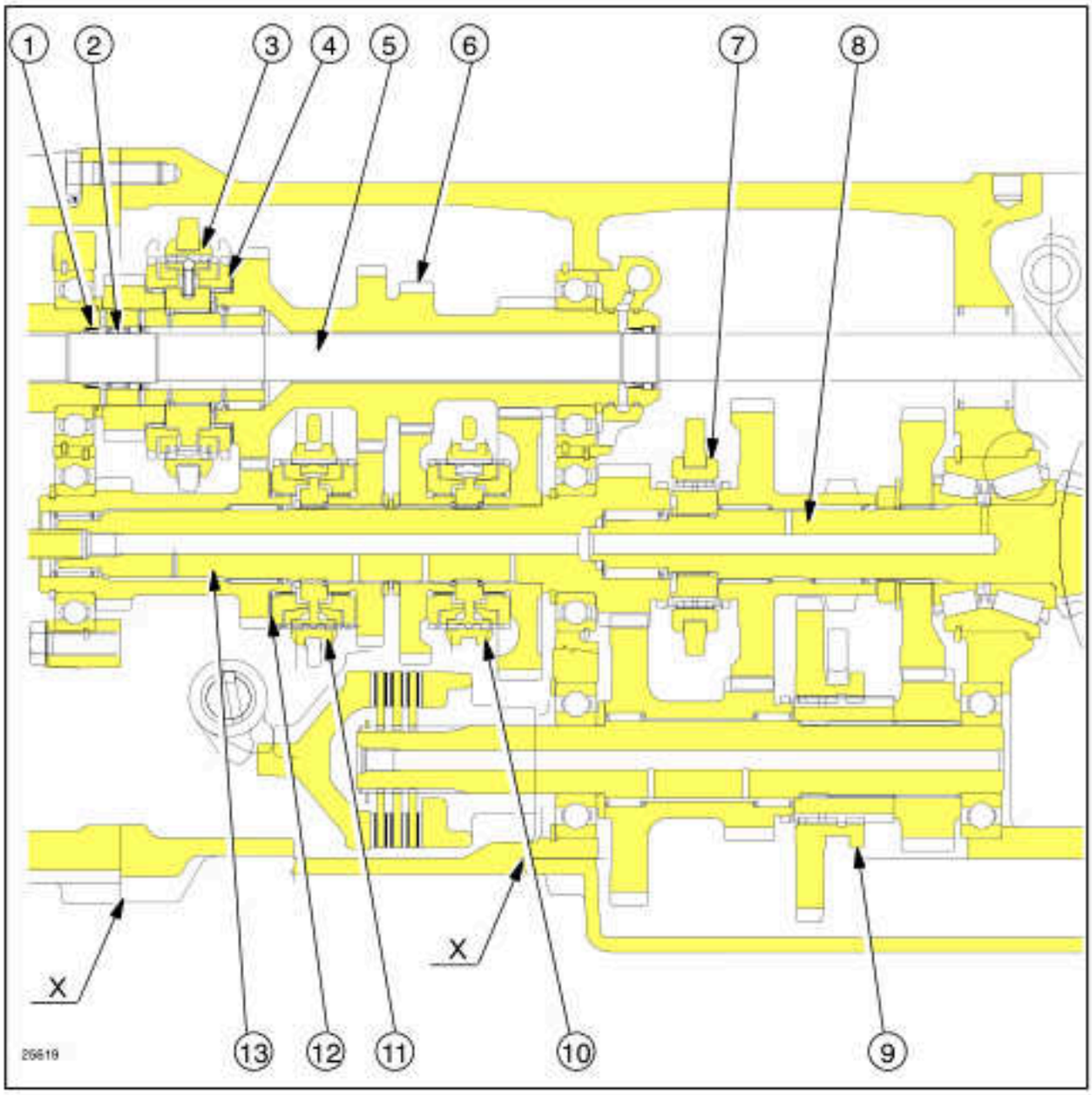
   A. Disconnect the ECU connector **MOD-204**. Measure the continuity between:
   MOD-204 pin **8,** cable **(MV)** and **SOL-100** pin **1,** cable **(MV)**
   MOD-204 pin **4,** cable **(BN)** and **SOL-100** pin **2,** cable **(BN)**
   if an open circuit is found, repair or replace the harness as required.

   B. If there are no open circuits, go to the next step.
4. Check for a short circuit to ground. Measure between:
   MOD-204 pin **4,** cable **(BN)** and the **ground**
   if there is continuity, repair or replace the harness as required.

   B. If the harness is ok and the error persists, download the latest software version. If this is not sufficient, remove and replace the ECU.

For the concerned connectors, components and wiring diagrams, see (connectors C-13, SOL-100 and MOD-204, sect. 55, chap. 8, fig. 58, fig. 220, fig. 331), (components, wiring diagram 23÷28, sect. 55, chapt. 6, page 383), (Wiring diagram 28, sect. 55, chapt. 6, page 393).

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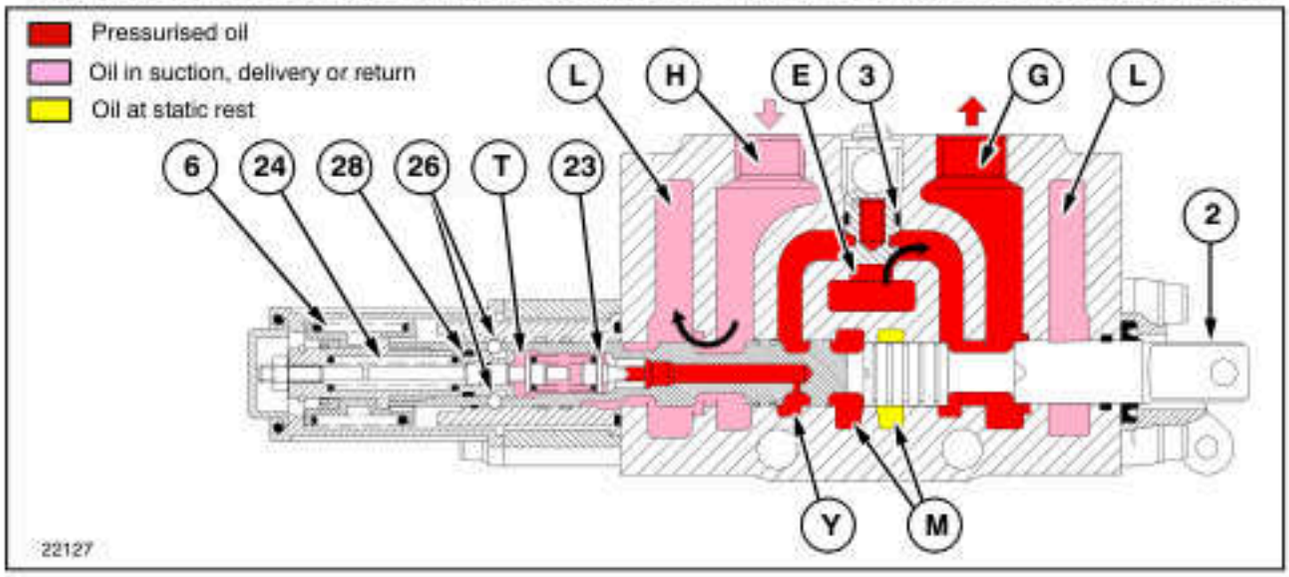
Longitudinal cross-sectional view of gearbox and gear range

1. Seal.
2. Power take-off shaft support roller bearings.
3. Reverser control synchroniser.
4. Gearbox driving gear clearance adjusting thickness.
5. Power take-off shaft.
6. Gearbox driving gear.
7. Selector sleeve for high or medium-low speeds.
8. Bevel Pinion Shaft.
9. Selector sleeve for low or medium-high speeds.
10. Synchroniser for 1st and 2nd speed.
11. Synchroniser for 3rd and 4th speed.
12. Gearbox driven shaft gear clearance adjusting thickness.
13. Gearbox driven shaft.

NOTE: *When fitting apply sealing compound to surfaces* ***X*** *as shown on page 30.*

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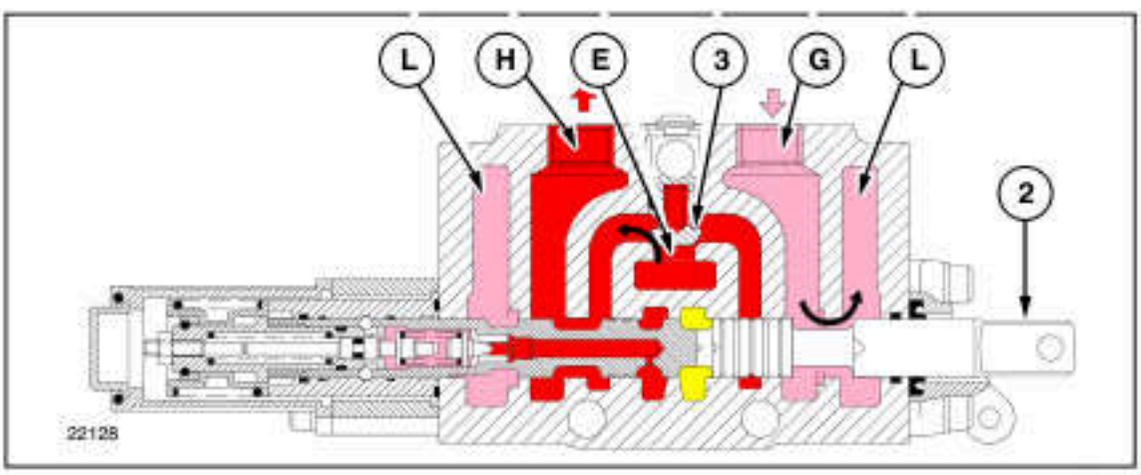
OPERATING STAGES OF AUXILIARY CONTROL VALVE FOR THE OPERATION OF A SINGLE/DOUBLE-ACTING CYLINDER WITH AUTOMATIC DETENT RELEASE AND FLOAT



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LIFTING

On pulling back the control lever (located in the cab), the control valve stem (2) shifts and the detent balls (26) engage the left hand groove, where they are held in place by the support (28) and spring (24). The movement of the spool (2) connects: delivery line (E) with the lower chamber of the cylinder, by way of the check valve (3) and the line (G), and also the upper cylinder chamber with the exhaust line (L) by way of line (H), intercepting the supply of oil to the hydraulic lift control valve. On completion of the lifting movement, the oil pressure increases to 170 ÷ 175 bar (173 ÷ 178 kg/cm^2), acting through the port (V), it overcomes the resistance of the spring of the needle valve (23). Inside chamber (T) the oil pressure increases and, acting on the support (28), it overcomes the resistance of the spring, thus moving the support (28). In this condition the two detent balls (26) drop onto the support (28), releasing the stem (2) which, under the action of the spring (6), returns to the neutral position, and consequently the entire flow from the pump is conveyed to the lift control valve through lines (M).



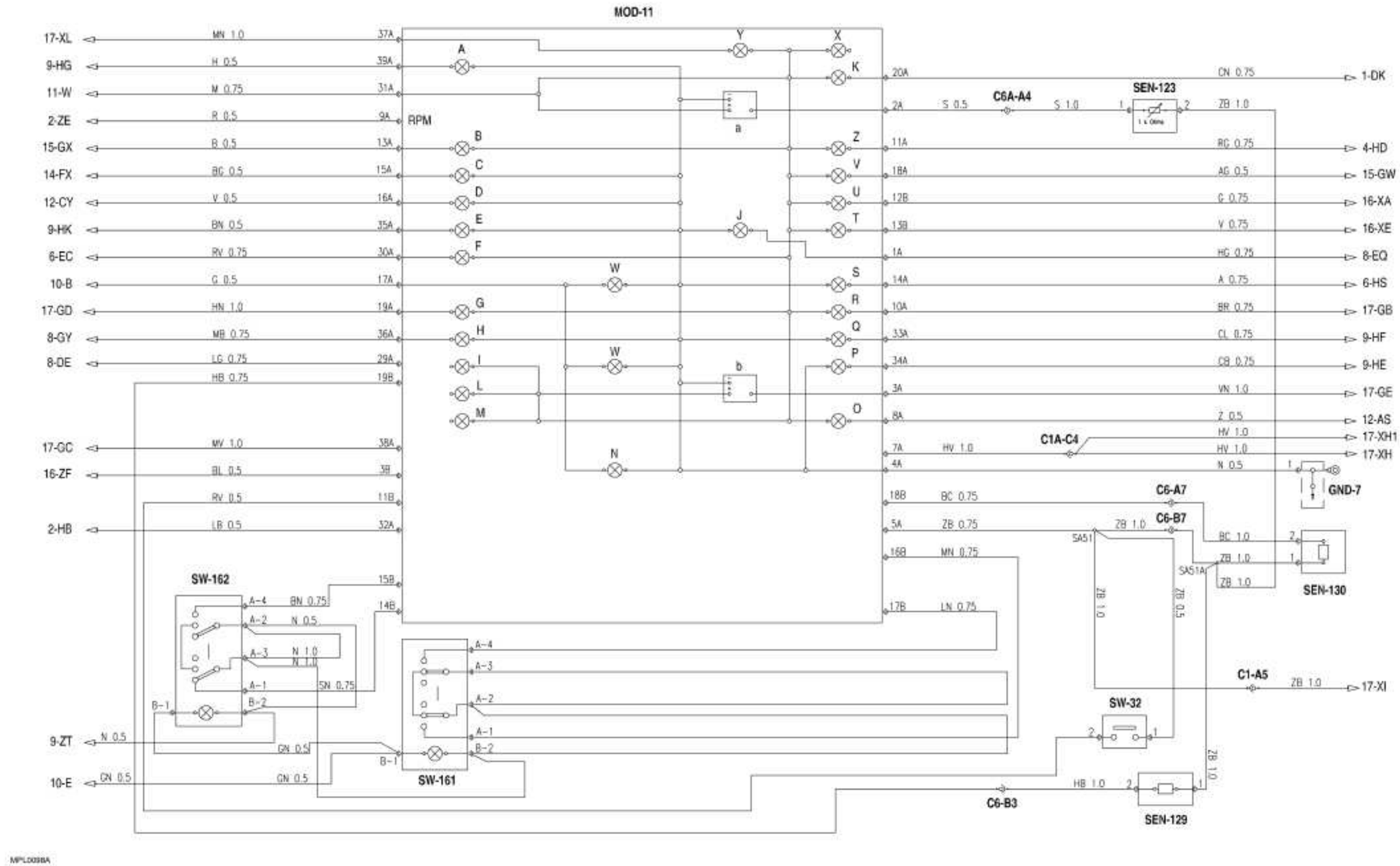
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LOWERING

To lower the implement, push forward the control lever (in the cab). The control valve stem(2) shifts and the detent balls (26) engage in the central groove where they are held in position by the support (28) and the spring (24). In this condition the oil contained in the lower chamber of the cylinder can flow to the exhaust (L) by way of line (G), while the upper chamber is connected with the delivery (E) by way of line (H) and check valve (3). On completion of the lowering operation, the detent will be automatically released in the manner described previously.

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INSTRUMENT AND SENSOR CIRCUIT - DIAGRAM 7



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