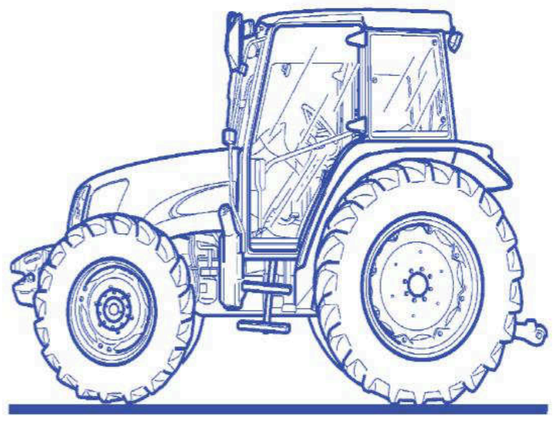


NEW HOLLAND

TL80A
TL90A
TL100A

REPAIR MANUAL

NEW HOLLAND

SERVICE

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The sections used through out all New Holland product Repair manuals may not be used for each product. Each Repair manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Repair manual and which sections are in each book.

The sections listed above are the sections utilized for the TLA Series Tractors.

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BOOK 1 - 87580876

Chapter 1 - General

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Chapter 1 - Engine

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Chapter 1 - Engine (Continued)

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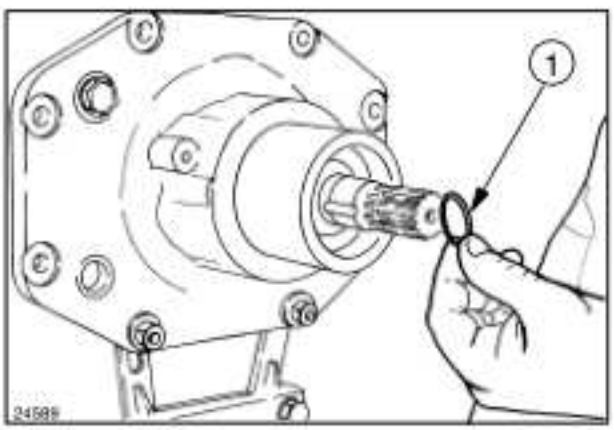
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Example

- Distance measured using micrometer H_5 = 4.6456 in. (118 mm).
- Nominal distance between ring gear axis and large diameter base of pinion H_4 = 4.5275 in. (115 mm).
- Correction value C = + 0.0078 in. (0.2 mm).
- Corrected nominal distance H_5 = 4.5275 + 0.078 = 4.5354 in. (115 + 0.2 = 115.2 mm).
- Thickness of the adjustment shim S = 4.6456 + 4.6055 = 9.2511 in. (118 - 115.2 = 2.8 mm).
- Correction value C = - 0.0078 in. (0.2 mm).
- Corrected nominal distance H_5 = 4.5275 - 0.078 = 4.5196 in. (115 - 0.2 = 114.8 mm).
- Thickness of the adjustment shim S = 4.6456 - 4.5196 = 0.1259 in. (118 - 114.8 = 3.2 mm).
- Correction value C = 0 mm.
- Corrected nominal distance H_5 = H_4 = 4.5275 in. (115 mm).
- Thickness of the adjustment shim S = (4.6456 + 4.5275 = 0.1181 in.) 118 - 115 = 3 mm.

12. Remove tools **380000248** and **380000249** from the pinion housing.
13. Install the drive pinion complete with: inner bearing rings, spacer and pre-determined adjustment shims (11 and 12).
14. Install the O-ring (1) on the pinion shaft.
15. Insert the spacer on the pinion and, after having carefully greased the outer surface, install the anti-rotation ball.



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ERROR CODE 2043 - PRESSURE ON CLUTCH B WOULD NOT DECREASE

Cause:

The pressure of clutch B does not drop below 3 bar (43.5 psi) after a change from reverse to forward.

Effects:

The transmission is disabled.

Possible failure modes:

1. Faulty clutch B solenoid
2. Faulty pressure switch
3. Faulty hydraulic circuit
4. Faulty controller

Solution:

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

1. Check for error code(s), 2023, 2038, 2039, 2083 and 2084

   A. Make a note of the error code(s), clear the error code(s) and test the system for normal operation. If any other error codes are still displayed, continue to these tests.

   B. If only error code 2043 is still displayed, continue with step 2.

2. Check the clutch B solenoid for a mechanical fault.

   A. If the clutch B solenoid valve is sticking, remove and replace the solenoid assembly.

   B. If the solenoid is okay, continue to to step 3.

3. Check the hydraulic system pressure.

   A. If the pressure indicated is approximately 16 bar (232 psi), download the correct level of software. If the fault re-occurs, remove and replace the controller.

   B. If the pressure indicated is less than approximately 11 bar (159.53 psi), continue to hydraulic troubleshooting procedures.

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ERROR CODE 14001 - REAR POWER TAKE OFF (PTO) SPEED SENSOR OPEN CIRCUIT OR SHORT TO HIGH VOLTAGE

Possible failure modes:

1. Faulty connector
2. Faulty rear PTO speed sensor
3. Faulty harness
4. Faulty analog digital instrument cluster (ADIC)

Solution:

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

1. Check the PTO speed sensor connector **C62**, ADIC connector **C22A** and the inline harness connector **C156**.

   A. Ensure the connectors are connected, not damaged, the pins are in the correct position and that the fit is tight. Repair or replace as required.

   B. If the connectors are okay, continue to step 2.

2. Check the PTO speed sensor.

   A. Disconnect connector **C62**. Measure the resistance between the component side of connector **C62** pins **1** and **2**. If the resistance displayed is not between 680 Ohms - 782 Ohms at 20°C (68°F), remove and replace the PTO speed sensor.

   B. If the speed sensor is okay, continue to step 3.

3. Check for an open circuit.

   A. Disconnect connector **C22A**. Check between connector:

   C62 pin **1**, wire 1.0 **(NG)** and **C22A** pin **22**, wire 1.0 **(NG)**

   C62 pin **2**, wire 1.0 **(HN)** and **C22A** pin **2**, wire 1.0 **(HN)**

   If an open circuit is indicated, repair or replace the harness as required.

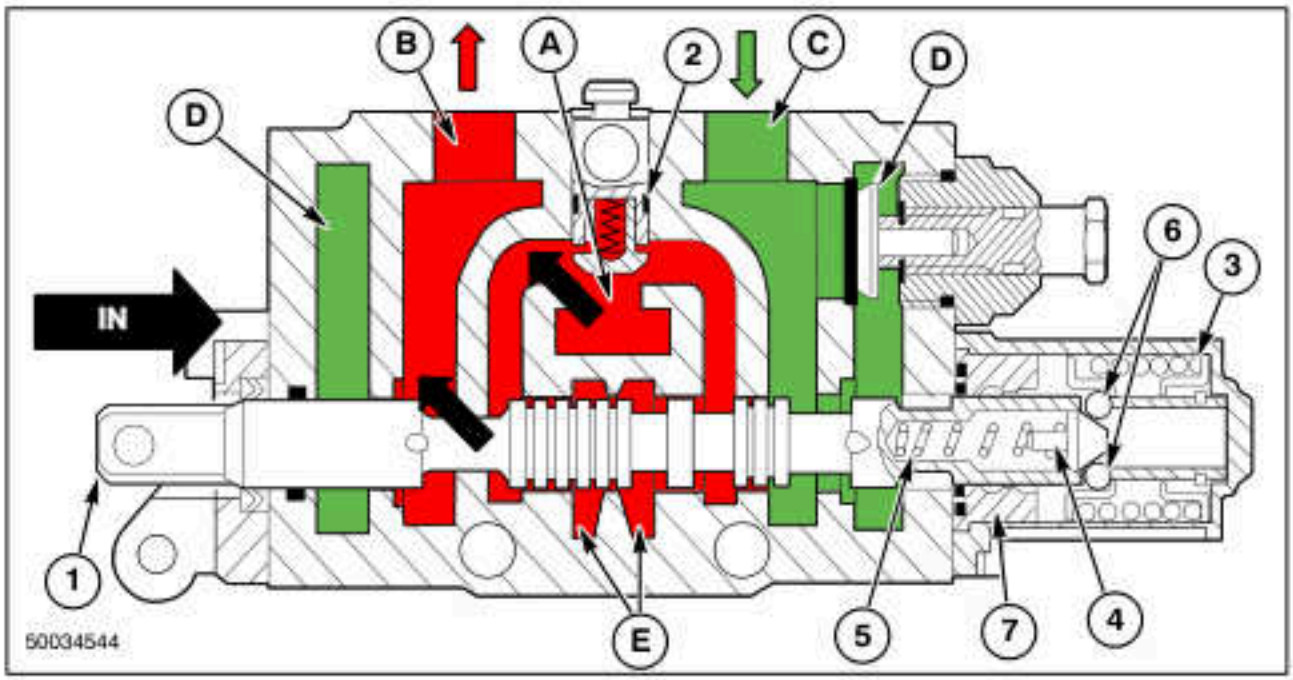
   B. If an open circuit is not indicated, continue to step 4.

4. Check for a short to a positive voltage.

   A. Turn the keystart ON. Measure the voltage between connector **C62** pin **2**, wire 1.0 **(HN)** and **ground**. If a short to a positive voltage is indicated, repair or replace the harness as required.

   B. If the harness is okay, download the correct level of software. If the fault re-occurs, remove and replace the ADIC.

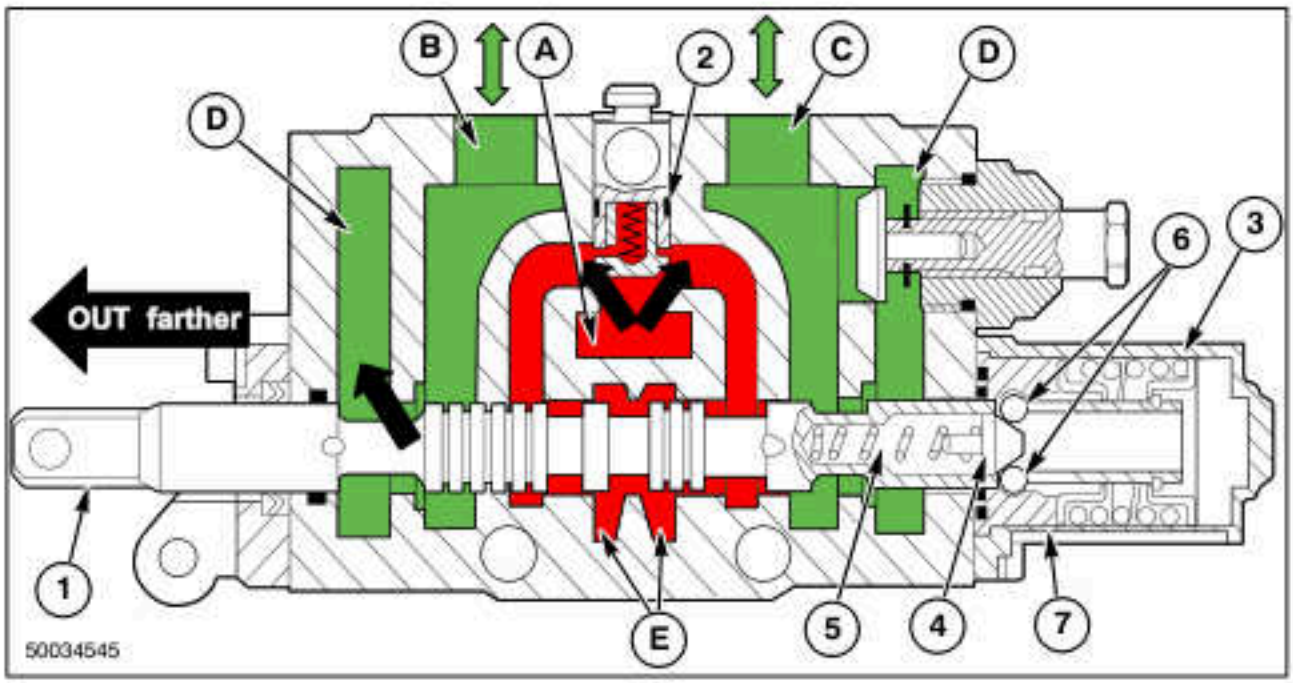
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Kontak Mid-Mount Valve with Float
Double-Acting Raise Position

1. Spool
5. Float Spring
B. Raising Port
E. To Rear Remotes or Lift (open center passage)
2. One Way Check Valve
6. Detent Balls
C. Lowering Port
3. Return Spring
7. Support
D. Discharge Port
4. Float Poppet
A. Inlet Port



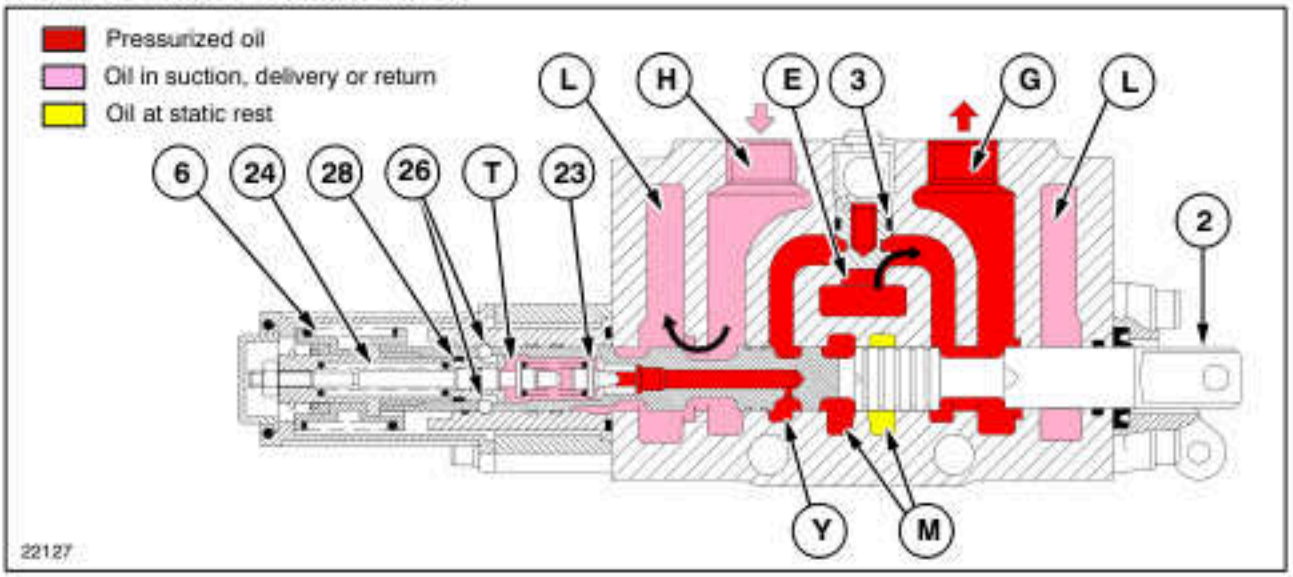
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Kontak Mid-Mount Valve with Float
Double-Acting Float Position

1. Spool
5. Float Spring
B. Raising Port
E. To Rear Remotes or Lift (open center passage)
2. One Way Check Valve
6. Detent Balls
C. Lowering Port
3. Return Spring
7. Support
D. Discharge Port
4. Float Poppet
A. Inlet Port

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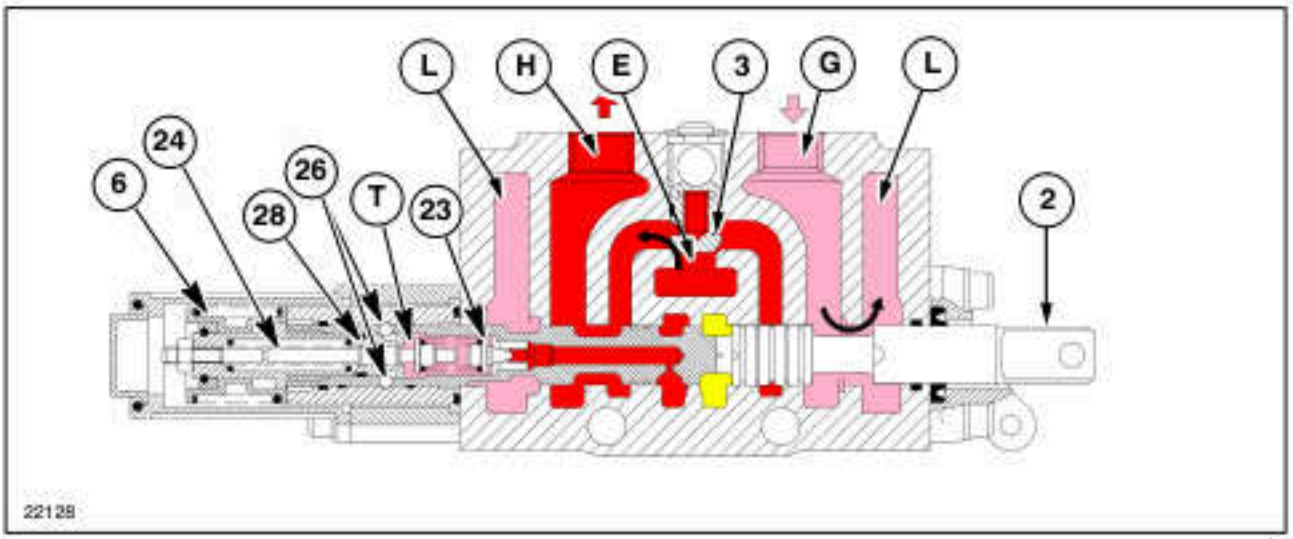
KONTAK REMOTE VALVE WITH DETENT RELEASE AND FLOAT OIL FLOW



8

Double-Acting Raise Position

2. Spool
24. Spring
G. Raising Port
Y. Kick-out Orifice
3. One Way Valve
26. Detent Balls
H. Lowering Port
6. Spring
28. Support
L. Discharge Port
M. To Lift (open center passage)
23. Conical Pin
E. Inlet Port
T. Chamber

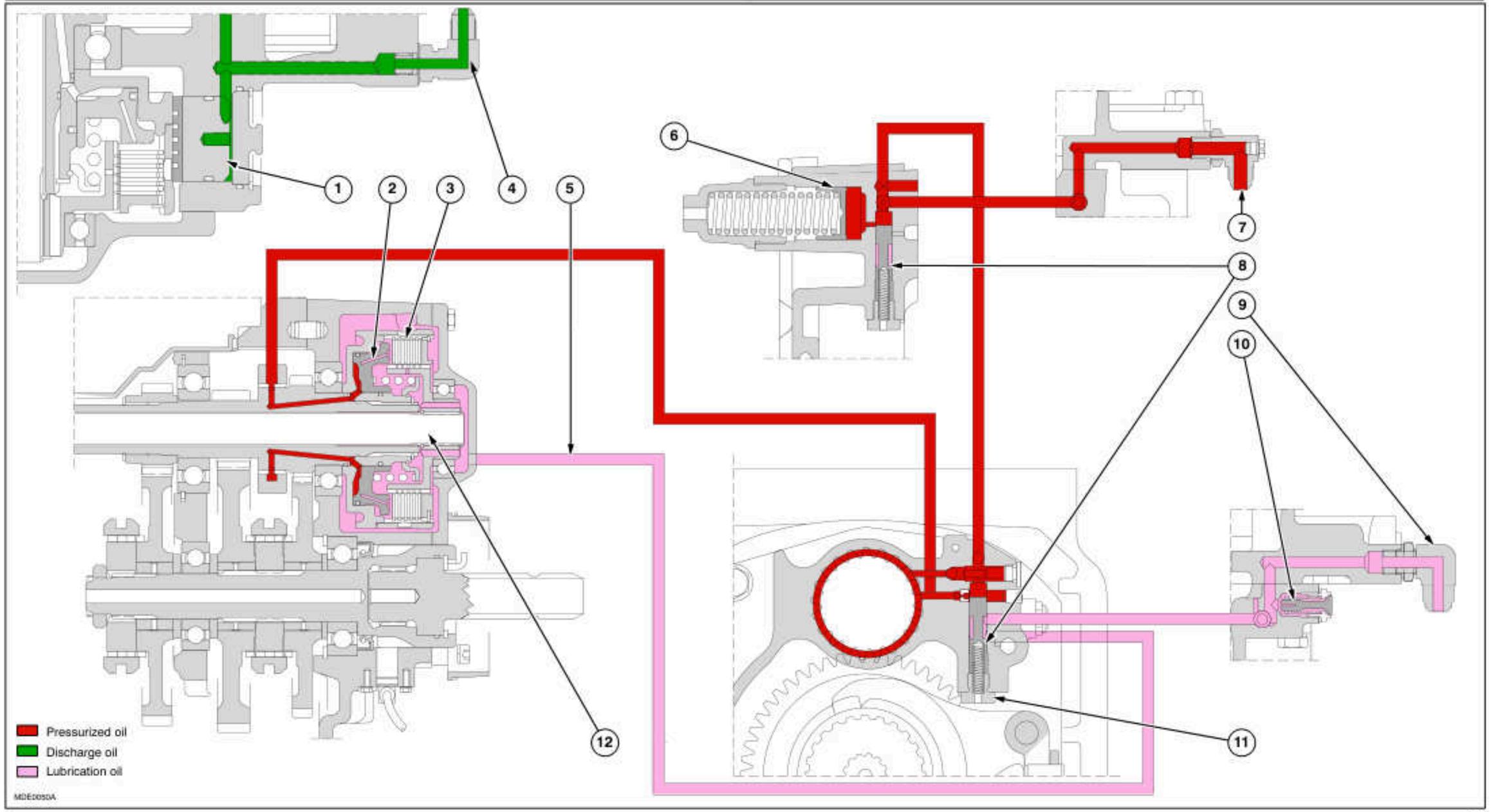


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Double-Acting Lower Position

2. Spool
24. Spring
G. Raising Port
Y. Kick-out Orifice
3. One Way Valve
26. Detent Balls
H. Lowering Port
6. Spring
28. Support
L. Discharge Port
M. To Lift (open center passage)
23. Conical Pin
E. Inlet Port
T. Chamber

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PTO (ON) / PTO BRAKE (OFF)

1. Clutch brake cylinder with line (4) discharging.
2. PTO clutch engagement cylinder (3) with line (7) pressurized.
3. PTO clutch.
4. Clutch brake cylinder delivery line discharging.
5. Lubrication line with valve (8) for lubrication of front/rear bearings and clutch disks.
6. Position of accumulator cylinder for gradual PTO engagement with line (7) pressurized.
7. Pressurized pump delivery line.
8. Position of lubrication valve (8) with line (7) pressurized (lubrication of front/rear bearings and clutch disks.
9. Lubrication line (5) external union.
10. Lubrication line pressure relief valve.
11. Lubrication Valve
12. Accumulator Spring

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