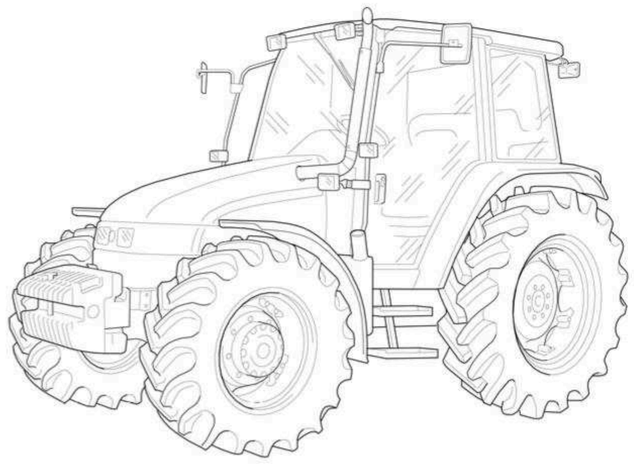


NEW HOLLAND TL70A TL80A TL90A TL100A Tractor

SERVICE MANUAL

NEW HOLLAND AGRICULTURE

SERVICE

6035451100

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BALLASTING THE TRACTOR FOR FRONT LOADER OPERATION

To ensure safe operation both in the field and on the public highway, it will be necessary to equip the tractor with some form of rear counterweight. This may take the form of liquid in the rear tyres, weights fitted to the rear wheels (1, Fig. 21) or a weight on the 3-point hitch (Fig. 22).

Tractor steering and braking should be taken into consideration when fitting additional weight. Adding too much or too little weight may have a serious effect on tractor control, stability and overall braking distances.

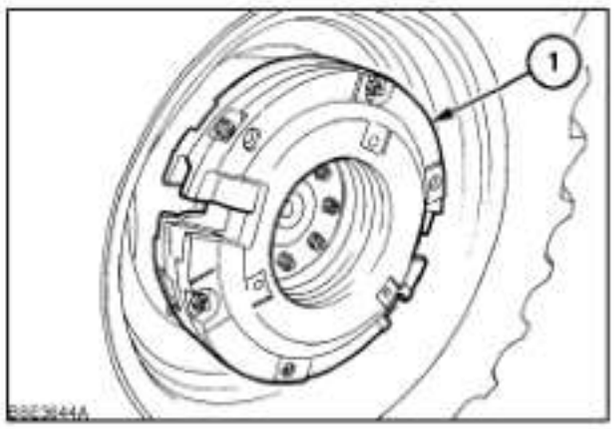
NOTE: *Never exceed the maximum permissible front axle loads, see page 3.*

NOTE: *Do not overload the tractor by selecting too heavy a ballast weight. See the tractor Operators Manual for maximum ballast recommendations.*

NOTE: *Remove all front ballast weights from the tractor before attaching the front loader boom.*

Rear Wheel Weights

REAR TYRE SIZE	BALLAST
All available rear tire sizes	Maximum of 3 weights per wheel (1) of 110 lbs. (50 kg) each Total weight per wheel - 330 lbs. (150 kg)



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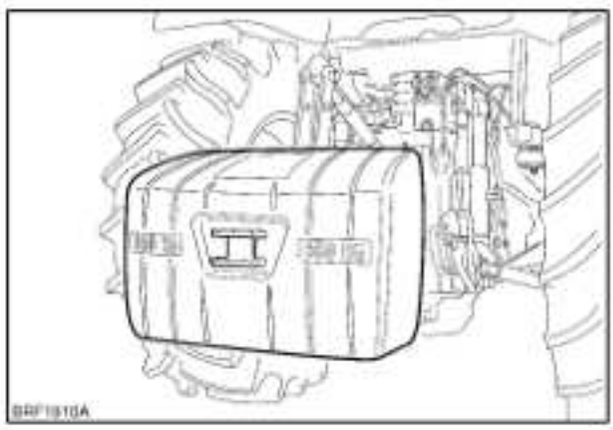
Liquid Tyre Ballasting

See tractor "Operators Manual" for liquid tyre ballasting recommendations.

Rear Counter Weights

Tractor hp (Kw)	Loader Model	Ballast weight*
60 - 95 (44 - 70)	90 FL	1433 lbs. (650 kg)
70 - 95 (52 - 70)	100 FL	1433 lbs. (650 kg)
80 - 120 (59 - 89)	120 FL	1433 lbs. (650 kg)

* Rear ballast weight attached to the 3-point hitch. The weights shown above are recommended for general purpose applications.



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ERROR CODE 2015 - VOLTAGE FROM THE GEAR NEUTRAL POSITION SWITCH IS LOW

Cause:

Short to ground or open circuit between the gear neutral position switch and the controller, or the switch is faulty.

Effects:

Gear lever neutral position cannot be detected and is assumed to be in gear.

A start request will be processed with the shuttle lever, but only if there is no wheel speed sensor error, otherwise the transmission will be disabled.

Possible failure modes:

1. Faulty connector
2. Faulty gear neutral position switch
3. Faulty harness
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 the gear neutral switch in H9 Channel 16.

   A. Operate the gear lever. If the values displayed do not change to approximately 650 in neutral and 270 in gear, continue to step 2.

   B. If the values displayed are okay, while in H9 Channel 16 wiggle the harness, the gear lever neutral switch connector **C139**, inline harness connector **C156**, and the controller connector **C169B_CN2** to check for an intermittent circuit. Channel 16 values will change if an intermittent circuit is detected. Repair or replace as required.

2. Check the gear neutral position switch connector **C139**, inline harness connector **C156**, and the controller connector **C169B_CN2**.

   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 3.

3. Check the gear neutral position switch.

   A. Disconnect connector **C139**. Measure the resistance between the component side of connector:

   C139 pin **1** and pin **2**. With the gear lever in neutral, should indicate 560 Ohms.

   C139 pin **1** and pin **2**. With the gear lever in gear, should indicate 2.76K Ohms.

   If the resistances indicated are not okay, remove and replace the gear neutral position switch.

   B. If the gear neutral position switch is okay, continue to step 4.

4. Check for an open circuit.

   A. Disconnect connector **C169B_CN2**. Check between connector:

   C139 pin **1**, wire 1.0 **(AB)** and **C169B_CN2** pin **30**, wire 1.0 **(AB)**

   C139 pin **2**, wire 1.0 **(VB)** and **C169B_CN2** pin **39**, wire 1.0 **(VB)**

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

   B. If an open circuit is not indicated, continue to step 5.

5. Check for a short to ground.

   A. Check between connector **C169B_CN2** pin **39**, wire 1.0 **(VB)** and **ground**. If a short to ground 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 controller.

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If a short to ground 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 controller.

8. Check for +12 Volts.

   A. Turn the keystart ON. Measure the voltage between connector **C132** terminal, wire 1.0 **(HL)** and **ground**. If approximately +12 Volts is not indicated repair or replace the harness as required.

   B. If +12 Volts is indicated, continue to step 9.

9. Check for an open circuit.

   A. Turn the keystart OFF. Disconnect connector **C169B_CN2**. Check between connector **C132** terminal, wire 1.0 **(BV)** and **C169B_CN2** pin **11**, wire 1.0 **(BV)**. If an open circuit is indicated, repair or replace the harness as required.

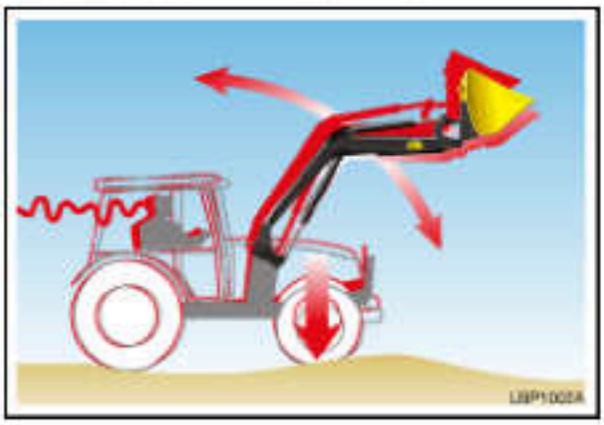
   B. If the harness is okay, download the correct level of software. If the fault re–occurs, remove and replace the controller.

* Pre–modification

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SMOOTH RIDE CONTROL protects your tractor and increases the driving comfort.

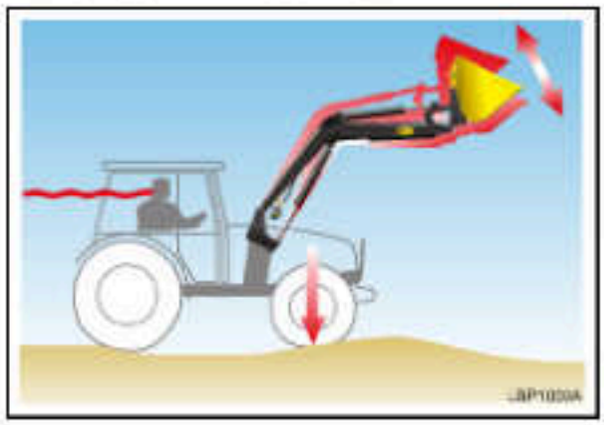
Without SMOOTH RIDE CONTROL



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When a tractor is fitted with a conventional front loader, i.e. without SMOOTH RIDE CONTROL, the jolting that occurs when travelling at high speed over rough terrain is further accentuated by the front loader. This effect can only be reduced by the flexing action of the tires if the tractor is fitted with rigid axles. Both tractor and driver are heavily stressed as a result of the poor travelling characteristics.

With SMOOTH RIDE CONTROL



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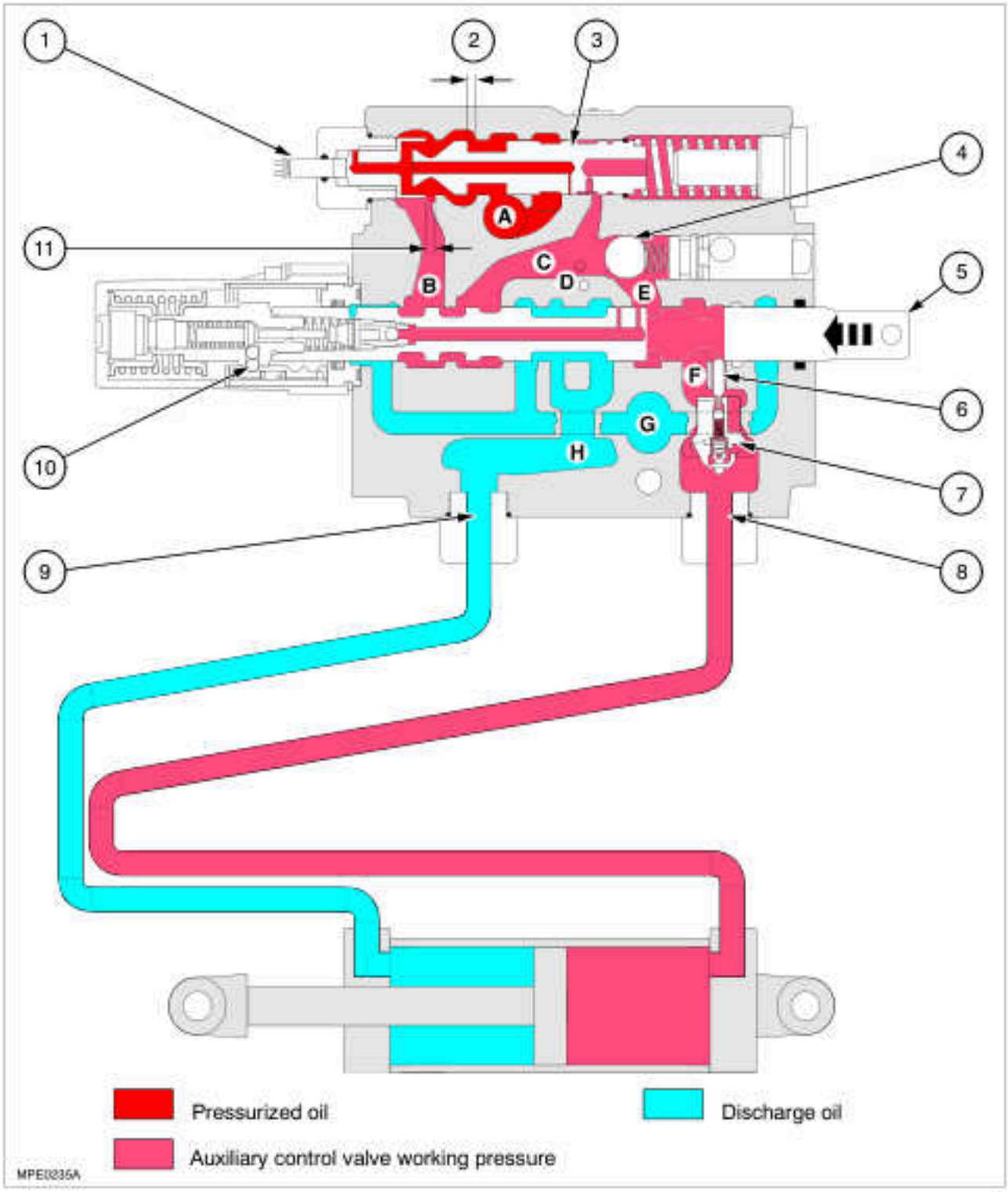
If fitted with the SMOOTH RIDE CONTROL system, the front loader effectively cushions the movement of the tractor under the same conditions. Sitting relaxed in his cab, the driver securely steers the tractor along the road. Shocks acting on the front loader are smoothly compensated by the two pneumatic pressure accumulators - the connection between tractor and front loader is no longer rigid but flexible.

General instructions

When the loader unit is fitted with SMOOTH RIDE CONTROL please notice the following instructions:

- It is preferable to use SMOOTH RIDE CONTROL when operating in long term road driving and bad road conditions (cock valve open). As shown in principal on the picture right the impact load of the liftarm will be damped through the accumulator.
- When loading with short distances to drive, such as earthwork, the SMOOTH RIDE CONTROL cock valve should be closed between the lift side of the liftarm ram and the accumulator. At maximum load of front loader the permanently changing use are disadvantages for the membrane of the accumulator. Further wise, a certain "swinging effect" can occur through the accumulator. The cock valve should be also closed when working with palette forks to refuse any "swinging effects" when lifting or lowering of palette.

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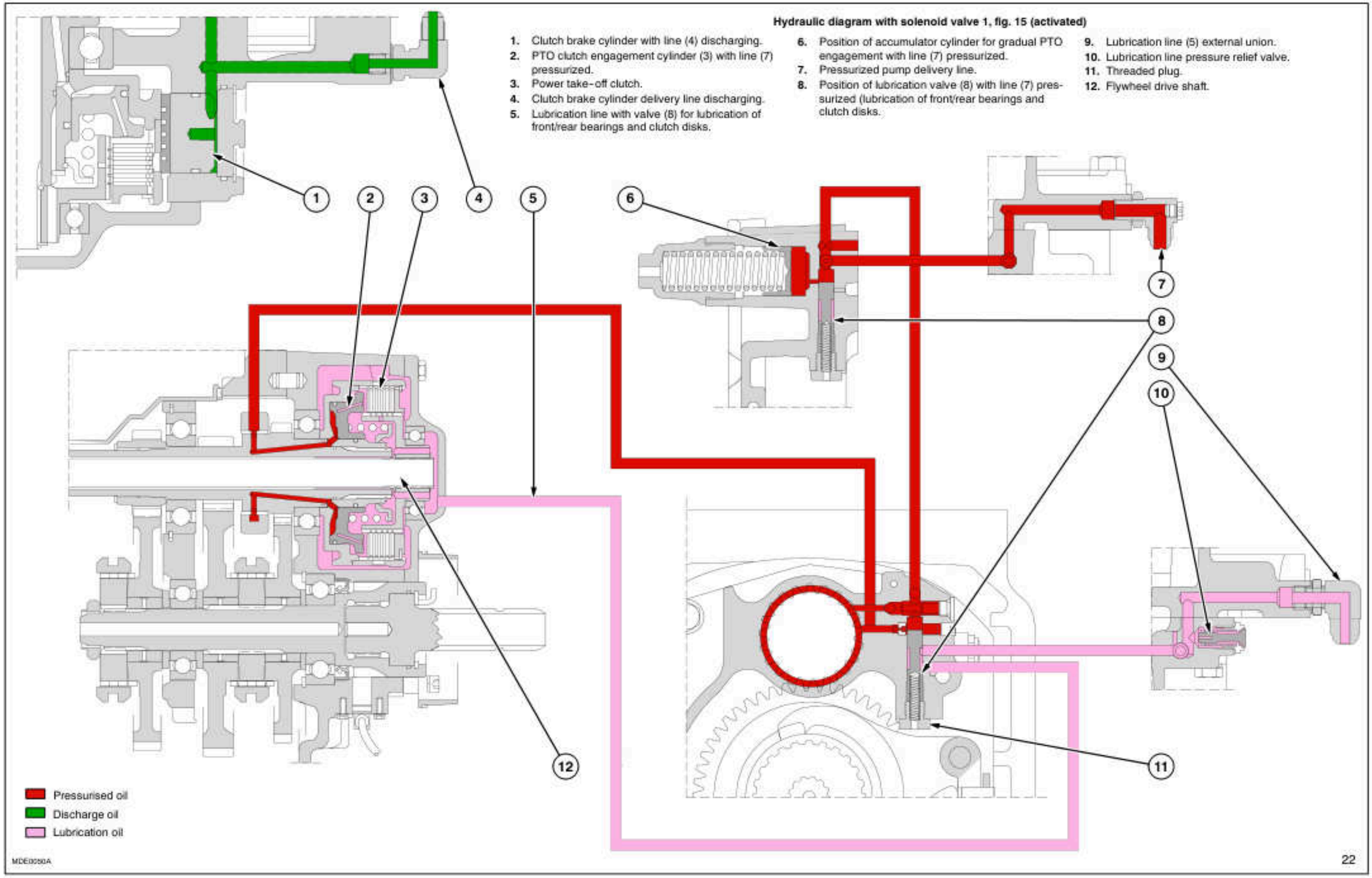
Auxiliary control valve operation - Lifting (cylinder extension)

1. Flow control valve adjuster
2. Groove
3. Flow control valve
4. Check valve
5. Control pin
6. Pin
7. Lockout valve
8. Lifting duct (cylinder extension)
9. Lowering duct (cylinder retraction)
10. Centering pin and release mechanism
11. Manually adjusted flow rate throttle

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Hydraulic diagram with solenoid valve 1, fig. 15 (activated)

1. Clutch brake cylinder with line (4) discharging.
2. PTO clutch engagement cylinder (3) with line (7) pressurized.
3. Power take-off 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. Threaded plug.
12. Flywheel drive shaft.



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