

NEW HOLLAND

REPAIR MANUAL

TS100A
TS110A
TS115A
TS125A
TS130A
TS135A
T6010, T6020, T6030,
T6050, T6070

NEW HOLLAND AGRICULTURE

SERVICE

87693272

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SECTION 00 - GENERAL

BOOK 1 - 87515312

Chapter 1 - General Information

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SECTION 01 - SEPARATING THE TRACTOR

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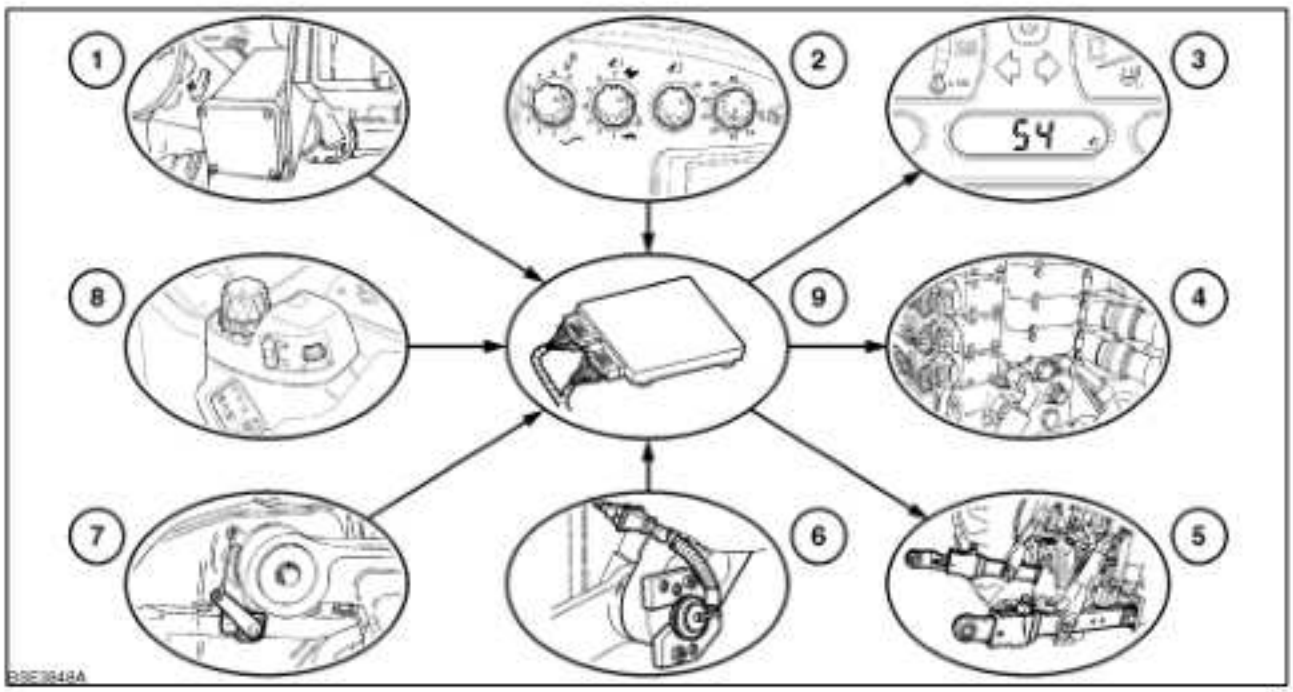
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DESCRIPTION AND OPERATION



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Position/Draft Control Schematic

1. Performance Monitor Radar
2. Control Panel
3. Instrument Panel
4. Electronic Draft Control Valve
5. Hydraulic Lift
6. Load Sensing Pins
7. Lift Arm Position Sensing Potentiometer
8. Implement Depth/Draft Controls
9. Microprocessor

PRINCIPAL OF DRAFT CONTROL

One method of providing a more constant depth control is to take advantage of the fact that draft loading increases with implement depth. If a fixed implement draft is maintained a fixed implement depth will result, providing the tractor speed and type of soil being worked remain constant.

The hydraulic lift electronic draft control system provides a means of accurately controlling implement draft and soil penetration depth on fully or semi mounted implements.

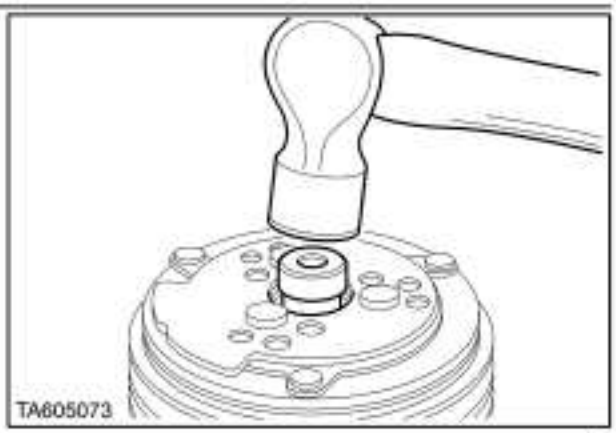
The principle of electronic draft control, is to sense draft variations through two load sensing pins in the lower links and using a microprocessor translate these variations into electrical signals for controlling the draft loading and working depth of an implement.

The smoothness and accuracy provided during operation gives this system a clear advantage over conventional mechanical systems.

In addition to providing draft control, it is also necessary to provide a system where the hydraulic links can be maintained at a position relative to the tractor regardless of draft forces on the implement. This method of maintaining the implement position is called position control.

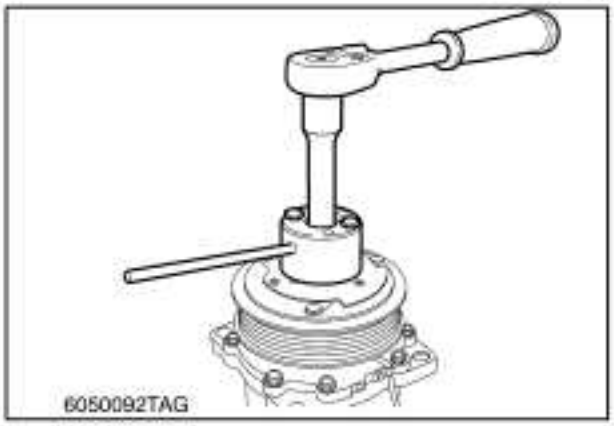
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6. Install the clutch front plate and using a suitable adaptor, tap into position.



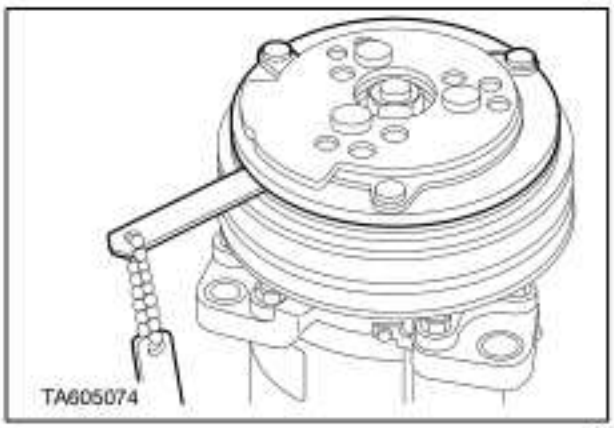
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7. Replace the retaining nut and tighten to a torque of 18Nm (13lbf.ft).



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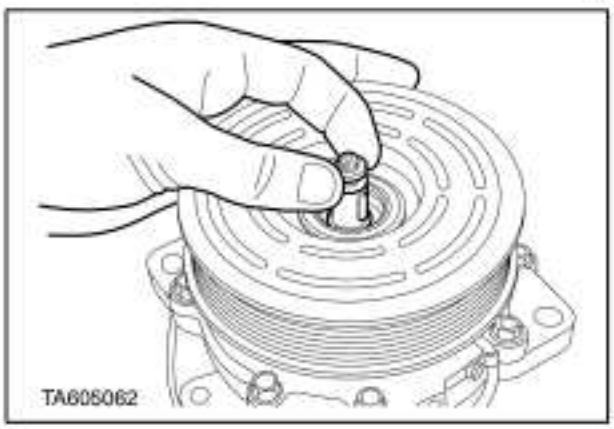
8. Check the clearance between the clutch front plate and pulley. This should be consistent around the circumference and be between 0.4–0.8mm (0.016–0.031in.)
9. If the air gap is not consistent, lightly pry up on the counter weighted front plate at the low spots or lightly tap down at the high spots.



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10. If the clearance is not within specification the shims under the front plate, Figure 88, should be added to or subtracted from until the correct clearance is obtained.

NOTE: *New shims are available in sizes 1.00, 0.50 and 0.13 mm, (0.040, 0.020 and 0.005 in.).*



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ERROR CODE 6022 - FOUR WHEEL DRIVE SOLENOID STUCK OFF

Possible failure modes:

1. Faulty solenoid
2. Faulty harness
3. 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 other error codes.

   A. Turn the keystart OFF. Disconnect the 4WD solenoid connector **C034**. Turn the keystart ON and make sure 2WD is selected. Turn the Keystart OFF and ON. If only error 6022 is displayed continue to step 2.

   B. If error 6021 or 6021 and 6023 are displayed, continue to step 3.

2. Check for a short to ground.

   A. Turn the keystart OFF. Disconnect the controller connector **C128**. Check between connector **C128** pin **7 (Y/K)** and **ground**. If a short to ground is indicated, disconnect the inline harness connector **C019** and check between connector:

   C128 pin **7 (Y/K)** and **ground**

   C034 pin **1 (Y/K)** and **ground**

   to determine which harness is at fault. 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.

3. Check the 4WD solenoid.

   A. Measure the resistance between the solenoid terminals. If the resistance indicated is not between 5 - 11 Ohms at 20 degrees centigrade, remove and replace the solenoid.

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

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DRAFT CONTROL

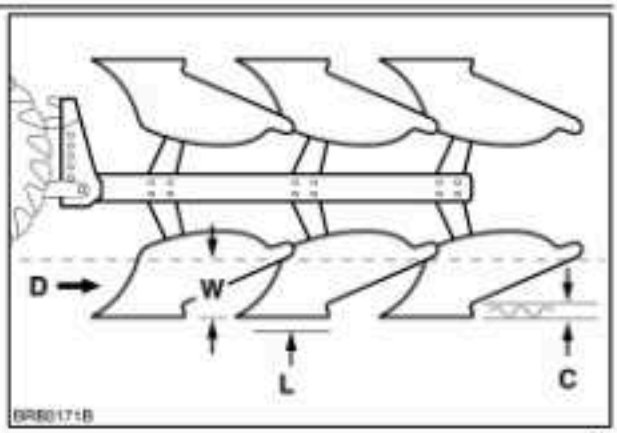
In draft control the working position of the lift arms is affected by the lift arm position control lever, draft loading control, draft sensitivity and slip limit control. All these controls interact with each other to achieve the desired operation of the hydraulic lift.

D Draft Load on Implement

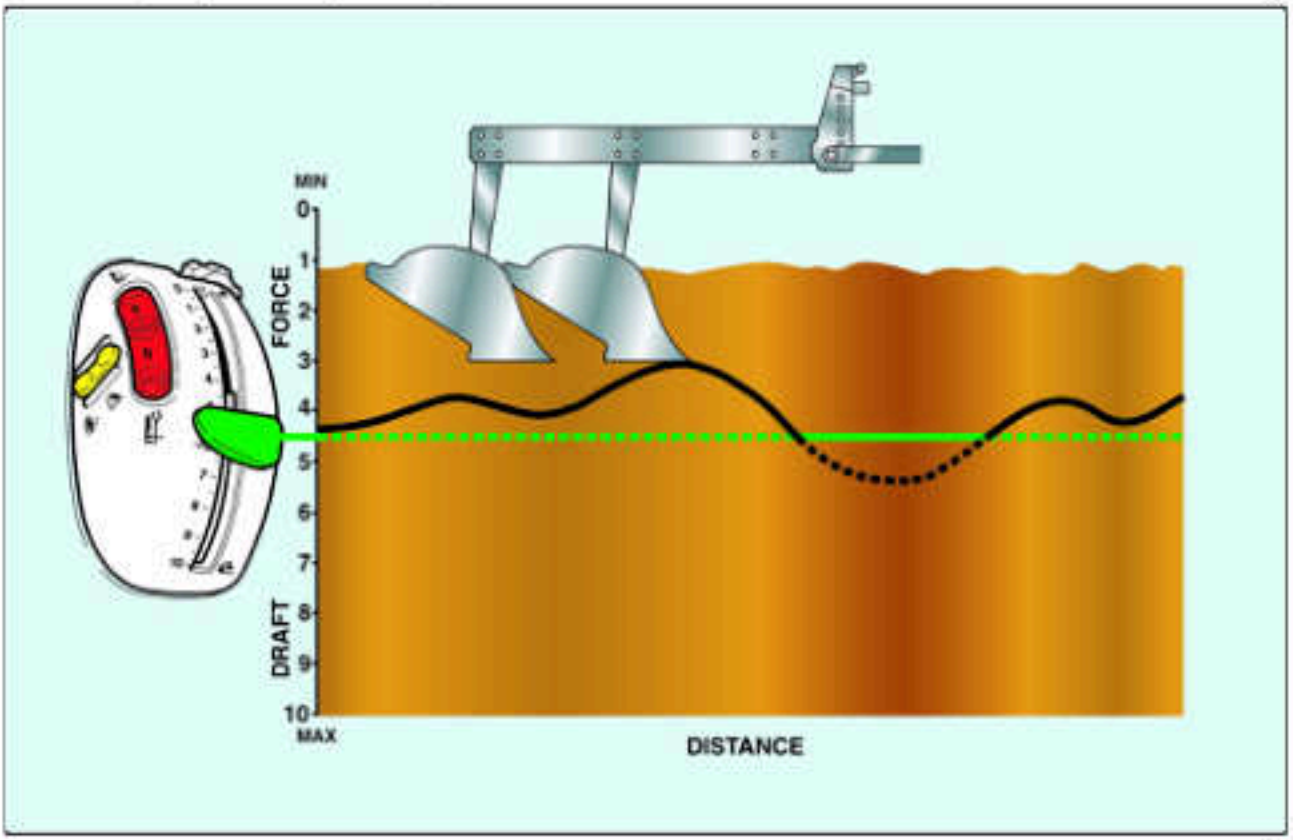
W Working Depth
(Set by Draft Loading Control)

L Lower Limit
(Set By Lift Arm Position Control Lever)

C Correction Band
(Set by Sensitivity Control)



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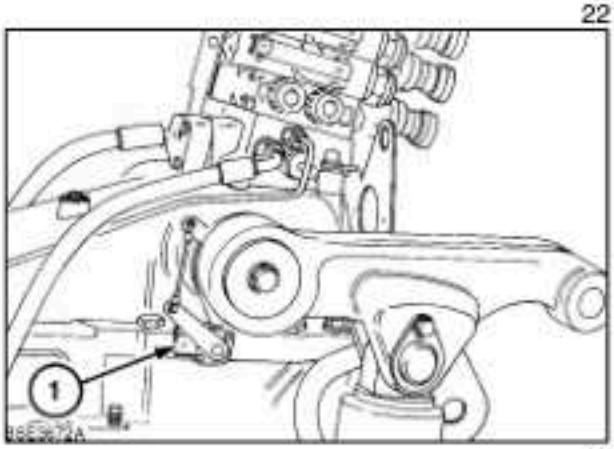


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The lower limit working depth of an implement in the soil is controlled by the lift arm position control lever.

Irrespective of any draft loading applied to the implement the maximum depth of the implement will never exceed this setting.

The depth of the implement is sensed using the lift arm position control potentiometer (1) which sends a signal to the microprocessor to turn off power to the lower solenoid of the hydraulic control valve when maximum depth has been reached.



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

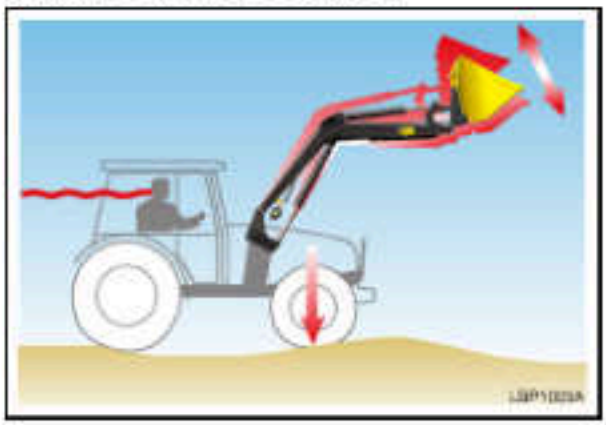
Without SMOOTH RIDE CONTROL



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When a tractor fitted with a conventional frontloader, i.e. without the SMOOTH RIDE CONTROL system, travels at high speed on a bumpy lane, the resulting hunting effect will still be increased by the frontloader. 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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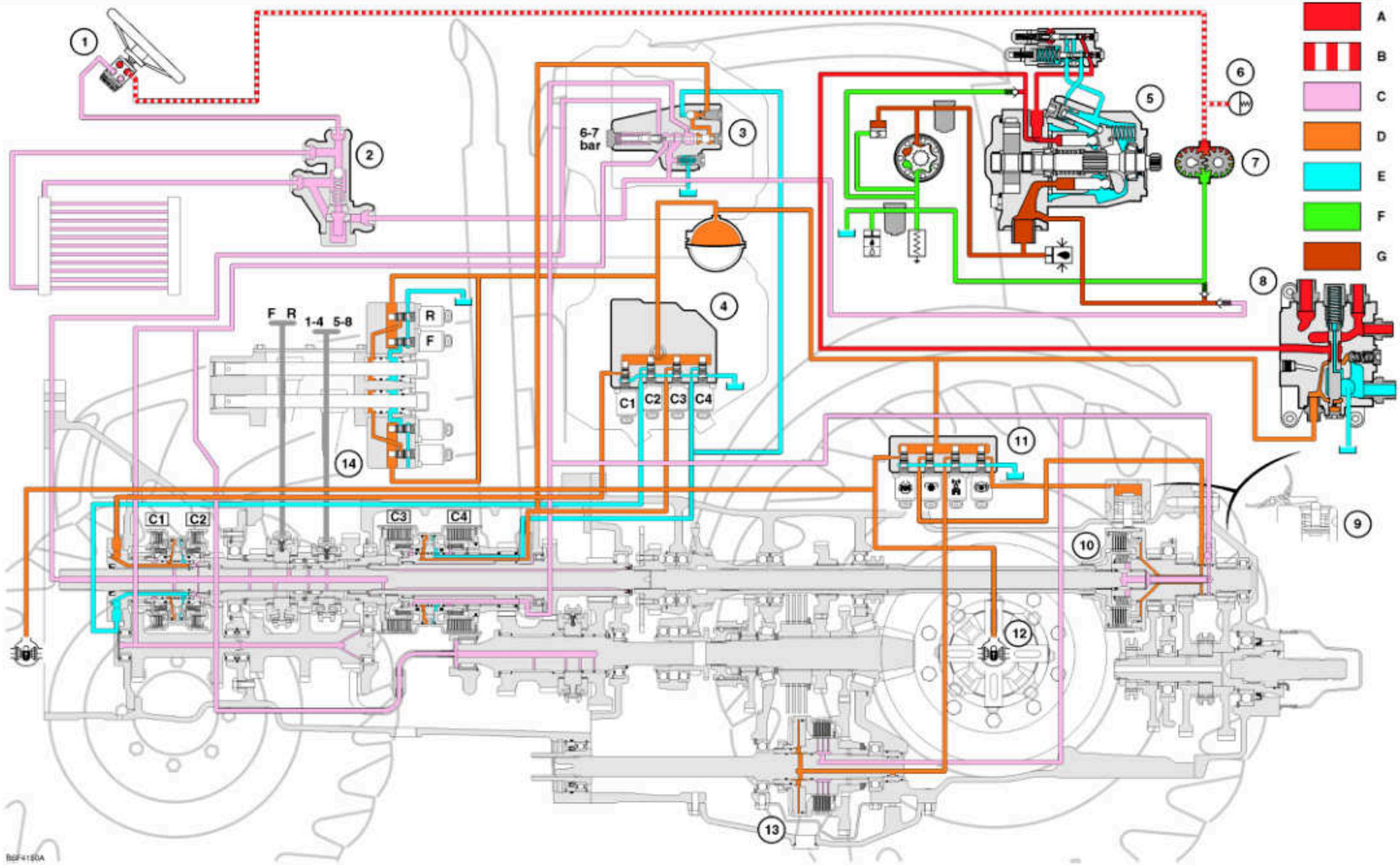
If fitted with the SMOOTH RIDE CONTROL system, the frontloader effectively cushions the movement of the tractor under the same conditions. Sitting relaxed in his cab, the driver securely steers the tractor along the road. Shocks acting on the frontloader are smoothly compensated by the two pneumatic pressure accumulators - the connection between tractor and frontloader is no longer rigid but flexible.

General instruction

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, i.e. earthwork the cock valve of SMOOTH RIDE CONTROL should be closed between the lift side of the liftarm ram and the accumulator. At maximum load of frontloader 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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Low Pressure Hydraulic Circuit - 16 x 16 Models

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