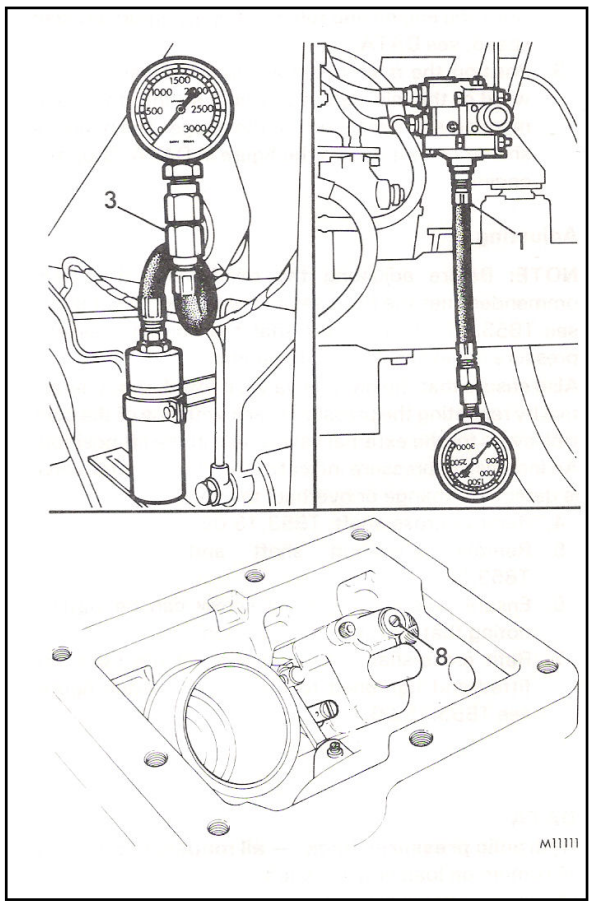
Leyland Middleweight Tractor Hydraulics - Main High Pressure Adjustment

Main Hydraulic Pressure (System with auxiliary spool valve)



If the main pressure is less than 179 bar (2600 psi) when tested with a suitable pressure gauge then the following should be carried out. (1 & 3)

Remove hydraulic top cover, noting the positions of the bolts.

Remove operating shaft and main lever.

Ensure pressure adjusting screw can be turned, note; it is staked in position. (8)

Using a strong piece of wire hooked through the top of the main spool valve, pull the main spool valve right up and tie off the wire round a top cover bolt replaced into the housing. (The valve is now in the lower position) This prevents the piston being forced out of the cylinder under high pressure. As a precaution a suitable object (A spanner, piece of metal etc) can be placed into the cylinder with one end under the corner of the lift case.

Warning; whatever you use will **NOT** be able to withstand full hydraulic pressure but it stops the piston creeping up.

Start the engine and, using the Auxiliary lever, adjust the pressure valve screw until the desired pressure is obtained. Stop the engine and re-stake the screw. Remove the wire retaining the spool valve. (If the desired pressure can't be achieved there may be an internal leakage fault)

Refit the operating shaft and main lever. Refit the top cover, (Use Loctite 510 to seal the faces - no gasket is required) and torque the bolts to 163 Nm (120 lbf ft). Remove the pressure gauge.

Main Hydraulic Pressure (System without auxiliary spool valve)

If the main pressure is less than 179 bar (2600 psi) when tested with a suitable pressure gauge then the following should be carried out. (1 & 3)

MAKE SURE THE ENGINE IS STOPPED BEFORE CARRYING OUT THIS NEXT OPERATION

Remove hydraulic top cover, noting the positions of the bolts.

Remove operating shaft and main lever.

Ensure pressure adjusting screw can be turned, note; it is staked in position. (8)

Refit hydraulic top cover, ensuring that all the bolts are fitted and tightened to 163 Nm (120 lbf ft).

Remove the filler / return plug from the top cover and, with the engine running at maximum speed, adjust the screw with a screwdriver through the filler / return plug hole until the pressure is correct.

Stop the engine.

WARNING; The pressure in the hydraulic system must be relieved before the top cover is removed. Use a piece of wire through the filler / return plug hole to pull the main spool valve fully upward.

Remove the top cover and re-stake the screw. Refit the operating shaft and main lever. Refit the top cover (Use Loctite 510 to seal the faces) and return / filler plug. Torque the bolts to 163 Nm (120 lbf ft). Remove the pressure gauge.

Note:-

Over the years various different designs of valve chest and high pressure relief valve were used, some had a redundant auxiliary spool valve and very late ones had a main spool valve only! (The author of this article has no personal knowledge of this late type valve chest. It is thought that the high pressure relief valve is adjusted using shims. The un-loader valve is mounted on the front face and can't be accessed without removing the hydraulic unit)

The general principles can be used to adjust the main pressure taking the above into account.

At all times great care must be taken, if you have any doubts don't proceed until you have obtained expert advice!

You should carry out a risk assessment before starting the task!