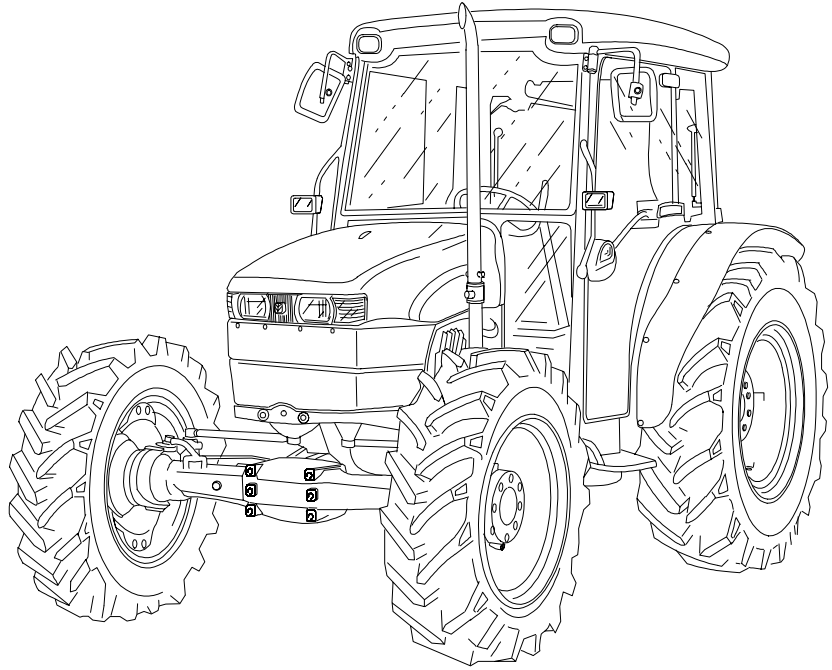




**NEW HOLLAND**



27594

# **TN55D - TN55S - TN65D - TN65S - TN70D - TN70S - TN75D - TN75S TRACTORS SERVICE MANUAL**

## **CROSS-SECTIONAL VIEWS**

<b>GENERAL GUIDELINES</b> .....	<b>00</b>
<b>ENGINE</b> .....	<b>10</b>
<b>CLUTCH</b> .....	<b>18</b>
<b>TRANSMISSIONS</b> .....	<b>21</b>
<b>DRIVE LINES</b> .....	<b>23</b>
<b>FRONT MECHANICAL TRANSMISSION</b> .....	<b>25</b>
<b>REAR MECHANICAL TRANSMISSION</b> .....	<b>27</b>
<b>POWER TAKE-OFF</b> .....	<b>31</b>
<b>BRAKES</b> .....	<b>33</b>
<b>HYDRAULIC SYSTEMS</b> .....	<b>35</b>
<b>STEERING</b> .....	<b>41</b>
<b>AXLE AND WHEELS</b> .....	<b>44</b>
<b>CAB AIR CONDITIONING SYSTEM</b> .....	<b>50</b>
<b>ELECTRICAL SYSTEM</b> .....	<b>55</b>
<b>PLATFORM, CAB, BODYWORK</b> .....	<b>90</b>

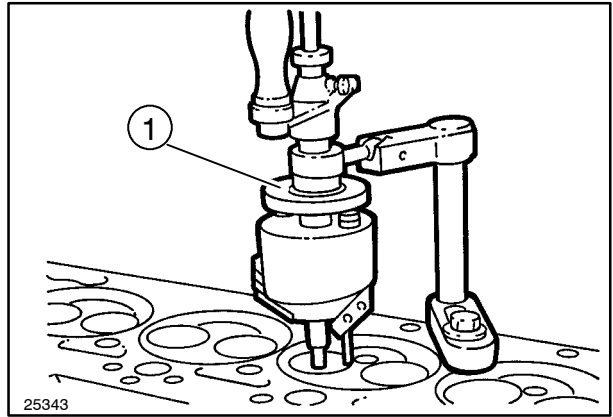
**S E R V I C E**

**VALVE SEATS IN CYLINDER HEAD -  
Re-facing**



Handle all parts carefully.  
Do not put your hands or fingers between parts.  
Wear suitable safety clothing - safety goggles,  
gloves and shoes.

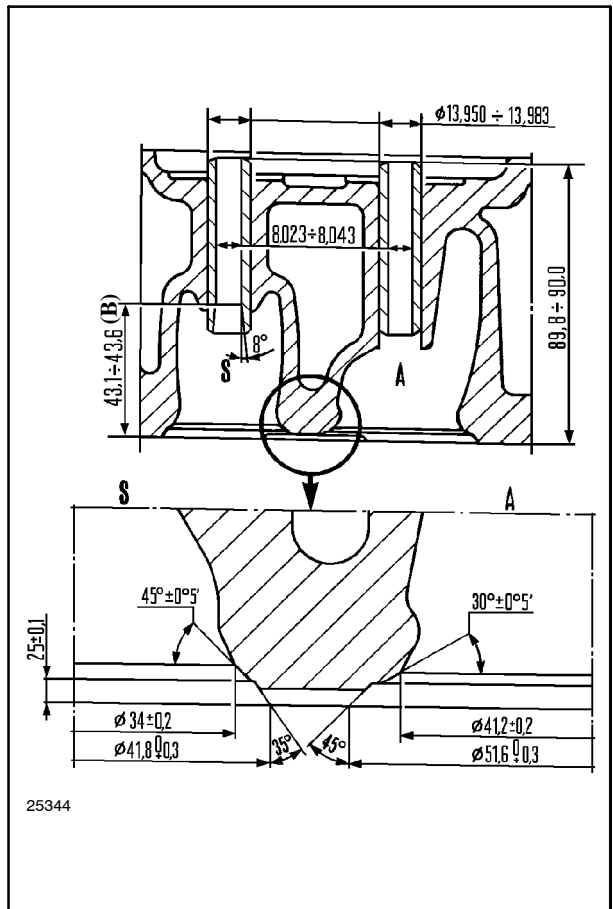
1. If the valve seats need refacing to improve valve sealing, use the universal valve grinder (1) and remove as little material as possible.



101

**Dimensions (mm) of valve seats and valve guides.**

- A. Intake.
- B. Depth of taper.
- S. Drain.



102

## CHECKS, DIMENSIONS AND REPAIRS - LUBRICATION SYSTEM



Handle all parts carefully.  
Do not put your hands or fingers between parts.  
Wear suitable safety clothing - safety goggles,  
gloves and shoes.

Clean all parts carefully before proceeding with the  
operations described below.

### OIL PUMP - Overhaul

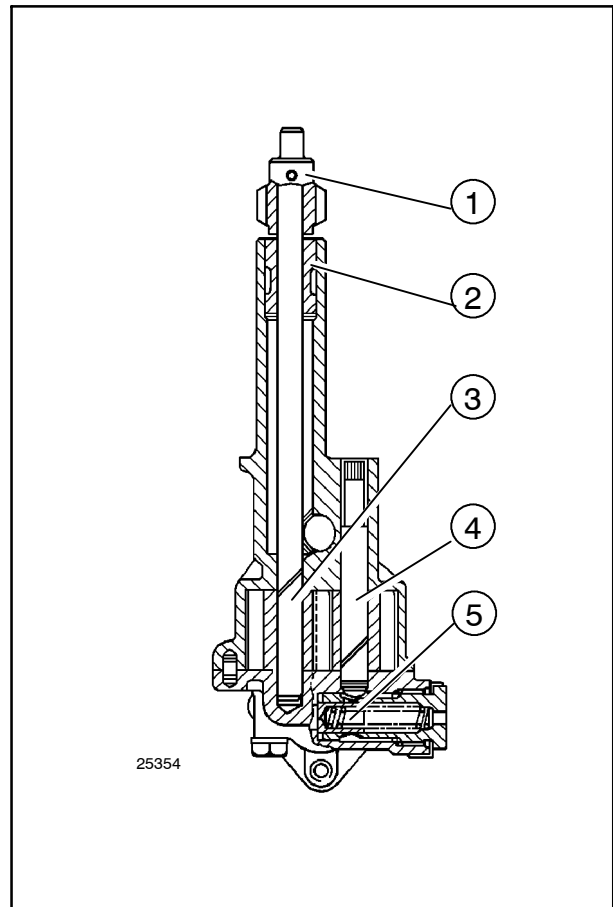
To access the oil pump, remove the sump pan.

When servicing the pump, check component wear  
against the dimensions specified in the table on  
page 19.

In case of replacement, note that the drive shaft (3)  
and drive gear are supplied ready assembled, with  
the gear hot force-filled on the shaft.

#### Cross-sectional view of engine lubricating oil pump - Models. TN 55D, TN 55S, TN 65D and TN 65S

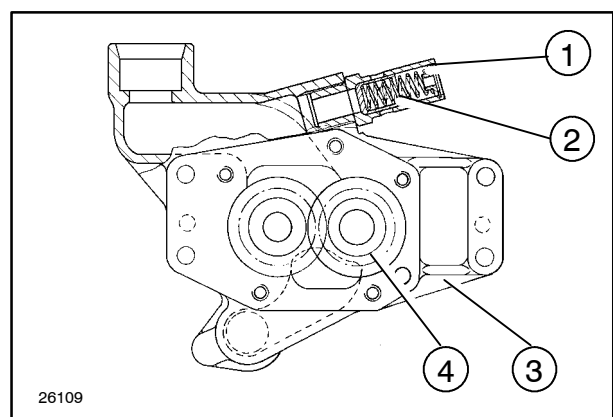
1. External drive gear.
2. Bush.
3. Drive shaft and gear.
4. Driven shaft and gear.
5. Pressure relief valve.



103

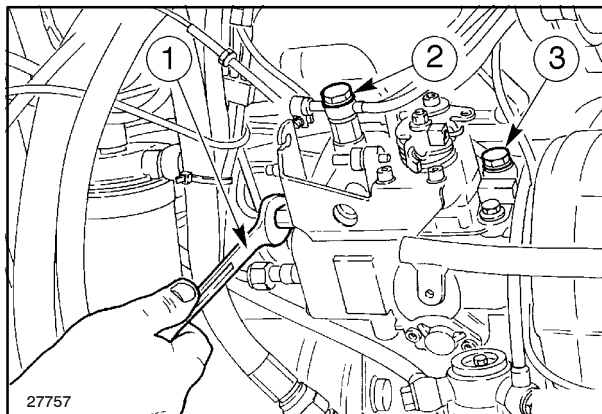
#### Cross-sectional view of engine lubricating oil pump - Models. TN 70D, TN 70S, TN 75D and TN 75S

1. Pressure relief valve.
2. Spring.
3. Pump body.
4. Internal gears.



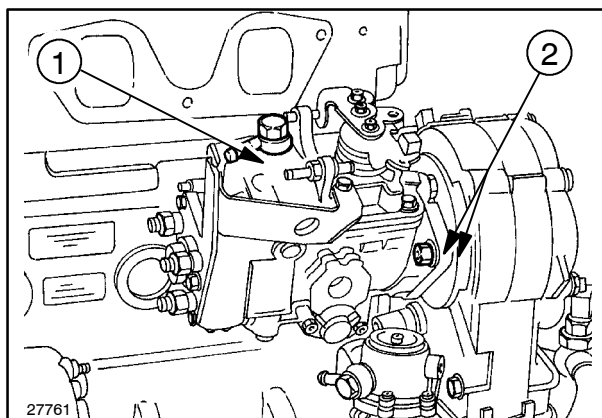
104

8. Unscrew the unions: (1) on the injection pump delivery lines, (2) the fuel return lines and (3) the pump fuel supply line.
9. Disconnect the L.D.A. device connecting pipe to the inlet manifold (only model TN 70D/S and TN 75D/S).



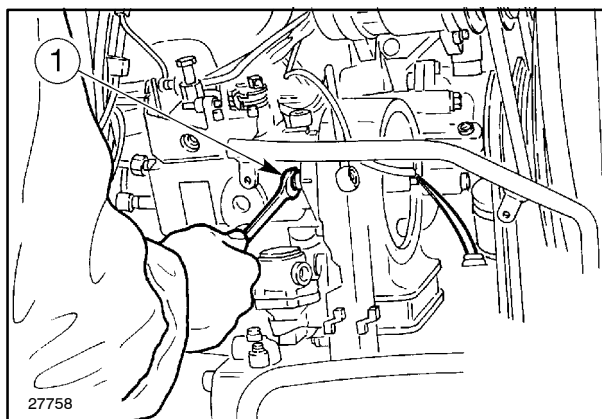
136

10. Check that reference marks have been made (2) for timing the injection pump (1).



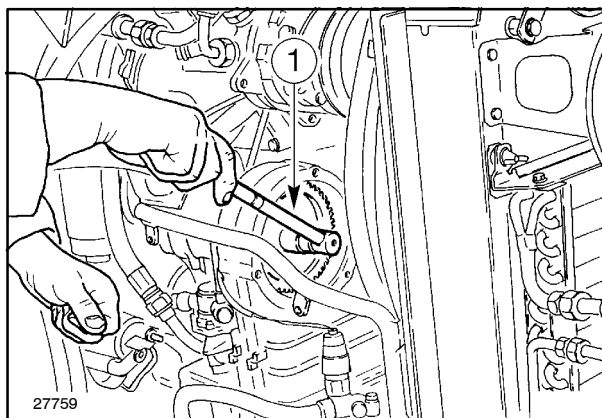
137

11. Unscrew the bolts (1) securing the injection pump.



138

12. Unscrew the injection pump retaining nut from the control gear (1).



139

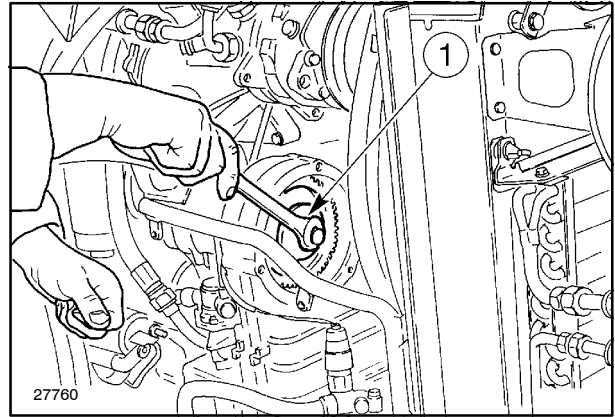
13. Using tool **295042** (1) detach the injection pump from the relative gear and remove the pump and control key.

14. To refit the injection pump, proceed as follows.

**⚠ ATTENTION ⚠**

Always use appropriate tools to align fixing holes. NEVER USE YOUR FINGERS OR HANDS.

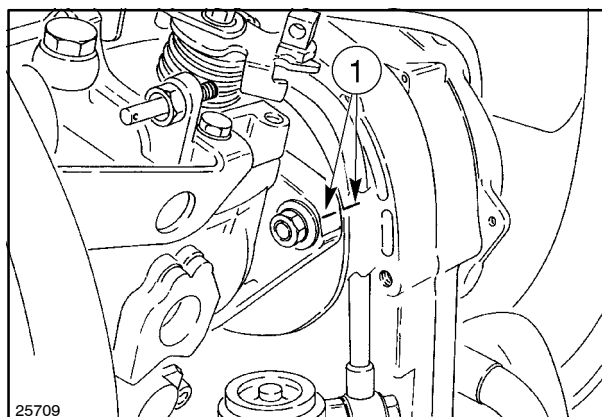
- Respect the tightening torques prescribed on page 20.
- Assemble the injection pump complete with key, making sure that the reference marks (made previously) for timing operations coincide; then fix in position by means of the bolts.
- Lock the injection pump drive gear in position, using the nut.
- Refit the injection pump drive gear box access cover.
- Assemble the LDA device connection pipe to the inlet manifold (for models TN 70D/S and TN 75D/S).
- Connect the fuel supply and return lines to the injection pump.
- Connect the engine stop electromagnet cable.
- Connect the fuel supply lines to the injection pump.
- Connect the throttle lead to the injection pump.
- Close the bonnet.



140

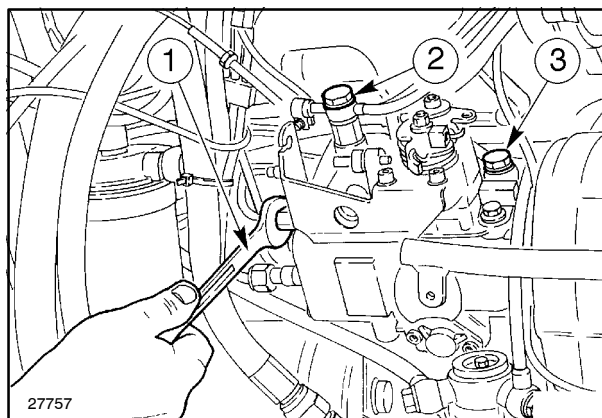
**BOSCH INJECTION PUMP****Timing**

If the engine does not run evenly, if the timing marks (1) are not visible, or doubts arise concerning their accuracy, time the injection pump as follows:



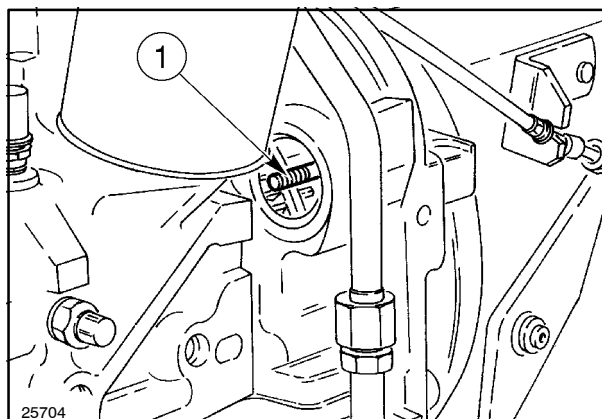
141

15. Unscrew the unions of the fuel supply lines (1), detaching them from the injection pump.  
If necessary, disconnect the injection pump supply and return lines (2 and 3) and, for models TN 70D/S and TN 75D/S, the L.D.A. device connecting pipe to the inlet manifold.



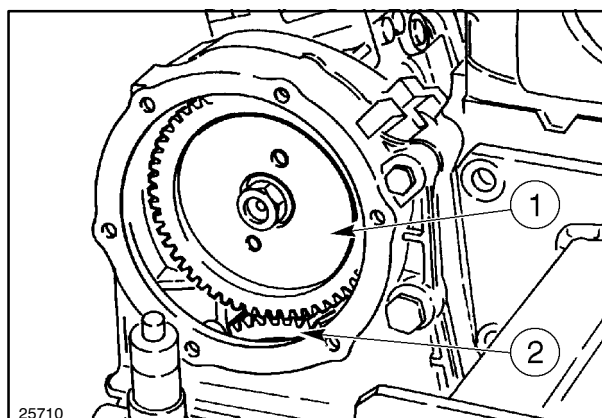
142

16. Remove the flywheel inspection window cover (1).  
17. Rotate the crankshaft to bring cylinder no. 1 to TDC (of the compression stroke).



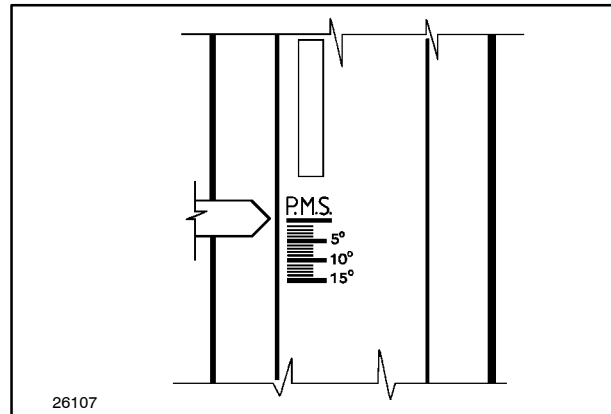
143

18. Remove the front cover.  
19. Check that 4 timing marks on gears (1) and (2) are aligned).



144

20. Check through the inspection window that the pointer is aligned with reference marks  $9^\circ$  for models TN 55D/S and TN 65D/S or  $6^\circ$  for models TN 70D/S and TN 75D/S.

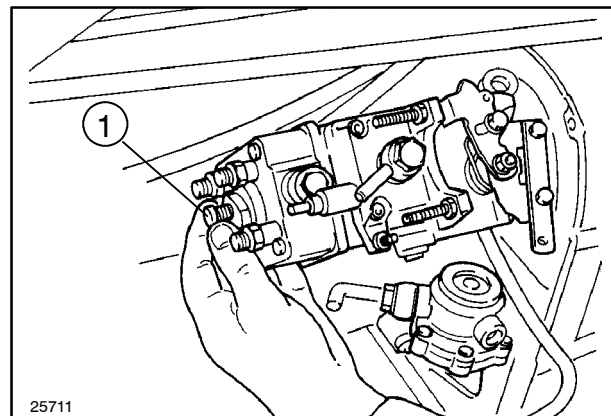


145

21. With the injection pump in position but with the mounting bolts loose, remove the plug (1) on the pump housing.

22. Fit dial gauge **291754** (1) fig. 147 and relative tool **291755** (2), pre-loading the shaft by approximately 0.0984 in. (2.5 mm).

23. Turn the flywheel slowly backwards, so as to bring the plunger to BDC. at the start of the delivery stroke (the point at which the dial gauge needle stops falling).

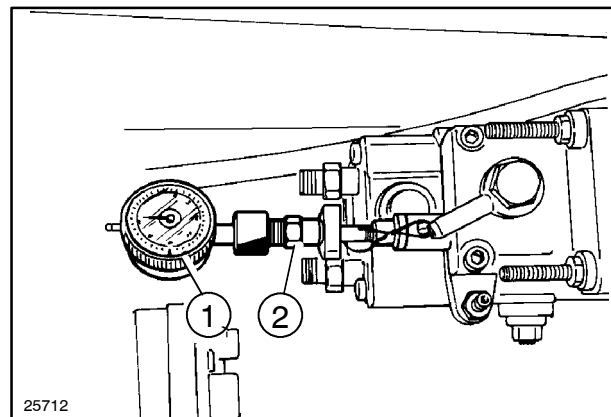


146

24. Zero-set the dial gauge and slowly turn the flywheel clockwise (as viewed from the fan end of the engine) until the pointer lines up with reference marks  $9^\circ$  for models TN 55D/S and TN 65D/S or  $6^\circ$  for models TN 70D/S and TN 75D/S.

25. Check on the dial gauge that the plunger has completed a stroke of 1 mm up to this point, if not, slacken off the pump mounting bolts.

26. Turn the pump counter-clockwise if the plunger has completed a stroke of less than 1 mm, and clockwise if the stroke is greater than 1 mm, repeating the test until the correct stroke is obtained.



147

27. Having obtained the correct plunger stroke, fix the pump in position by tightening the mounting nuts to the torque specified on page 20.

28. Stamp pump timing marks (1, as indicated in figure 201) on the guard, pump and interface spacer.

29. Remove the dial gauge **291754** (1) and relative tool **291755** (2), and replace the plug and tighten to a torque of 8 to 10 Nm (0.8 to 1 kgm).

30. Refit other parts in the reverse of the dismantling order.

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