VOLVO

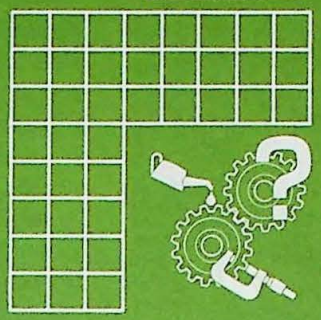
400

Service Bulletin

Fault tracing

Repairs

Maintenance



SECTION	GROUP	NO.
2	23	425

August 1994

Adjusting the fuel injection pump

D19T engine

440/460

This Service Bulletin is a supplement to the Repairs & Maintenance Service Manual, Section 2 (21-27), Engine, D19T, 440/460, 1994-19.., January 1994, TP 2104031.

Modified fuel injection pump on D19T engine

With effect from model year 1995, adjustment of the fuel injection pump is done with an adjusting mechanism integrated in the injection pump drive sprocket.

A. Checking/adjusting the fuel injection pump

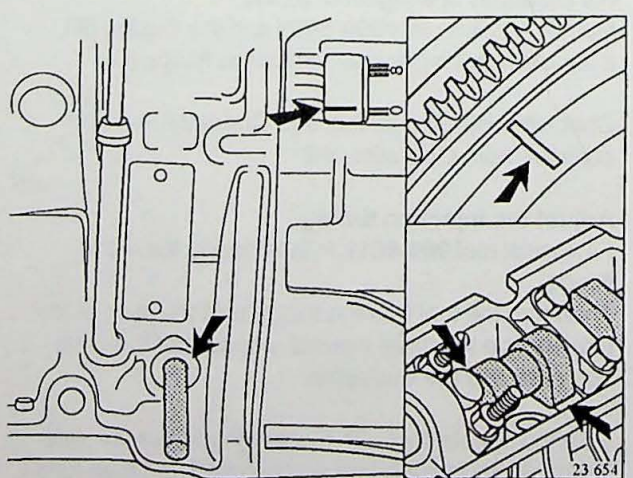
Special tools: 999-5382, 999-5555, 999-5611, 999-5612

A1

Remove:
- the noise insulation cover from the engine;
- the side guard;
- the timing case covers.

Note:
the drive belt tension must be checked and adjusted before adjusting the fuel injection pump; see the Repairs & Maintenance Service Manual, Section 2 (21-27), Engine, D19T, TP 2104031, page 36/37, Operations *E8* and *E11*.

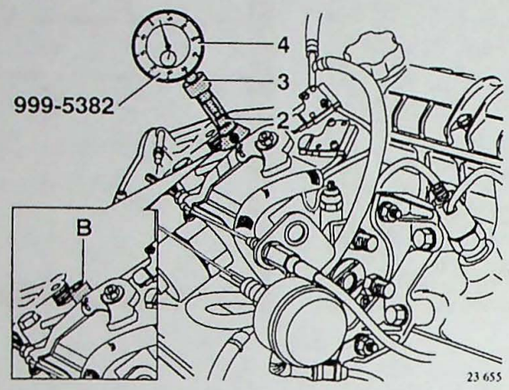
A2



Turn the crankshaft to the TDC position
Turn the crankshaft so that the piston of No. 1 cylinder (flywheel end) is at TDC.
The two cams of the camshaft for No. 4 cylinder must be at their point of balance (this can be seen through the oil filler opening) and the marks on the flywheel/clutch housing must be opposite each other.
Remove the plug at bottom-right, next to the dipstick tube, and insert an 8 mm diameter locking pin in the threaded hole (so that it engages the recess in the crankshaft web).

Service personnel: Please circulate, read and initial

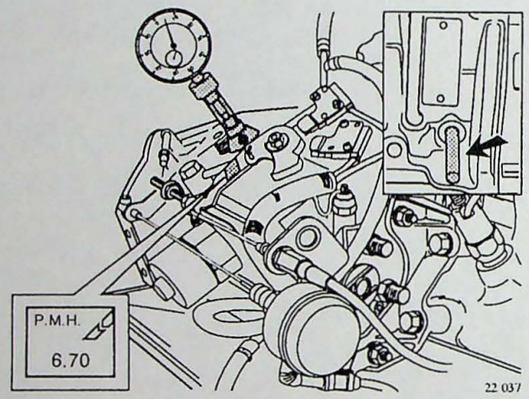
Service Manager	Parts Manager	Workshop Manager		Workshop Foreman		Service Technicians						



A3

Fit the measuring tool on the fuel injection pump
Remove the locking pin and turn the crankshaft 1 3/4 revolutions in its normal direction of rotation.
Fit measuring tool **999-5382:**
- remove the plug (B);
- slide the measuring pin (2), which is part of the special tool, into the guideway of the pump;
- locate and secure the holder (3);
- position the clock gauge (4) and make sure that the plunger is pressed in at least 0.2 mm.

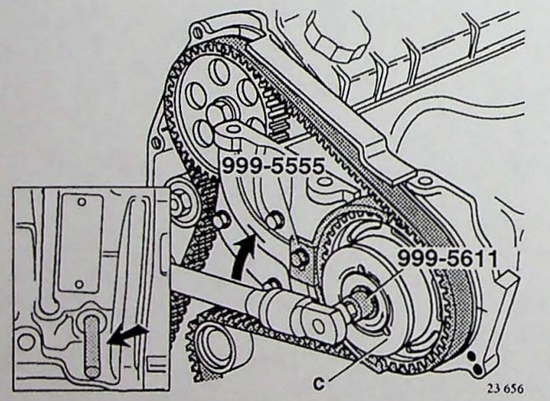
Secure the clock gauge and set it at zero.



A4

Check the injection timing
Turn the crankshaft in its normal direction of rotation until the clock gauge indicates approximately 5.00.
Exert pressure on the locking pin and turn the crankshaft in its normal direction of rotation until the locking pin engages the recess in the crankshaft web.

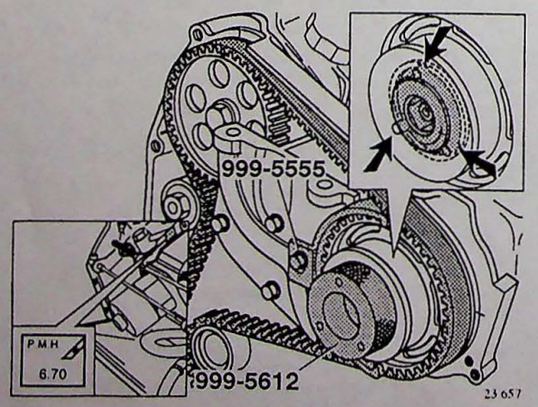
Read off the value on the clock gauge.
Reference value for checking purposes **±0.02 mm**; is shown on the pump control arm.
If this reference value is not obtained, see Operations *A5* to *A9*.



A5

Release the screwed sleeve and nut assembly of the pump drive sprocket
Locate locking tool **999-5555** between the pump bracket and the drive sprocket.
Secure the tool with a bolt from the belt guard.
Insert special tool **999-5611** in the screwed sleeve and nut assembly.
Slacken **(turning clockwise)** the screwed sleeve and nut assembly one eighth of a turn.
Remove locking tool 999-5555 and the locking pin.
It should now be possible to turn the flange (C).

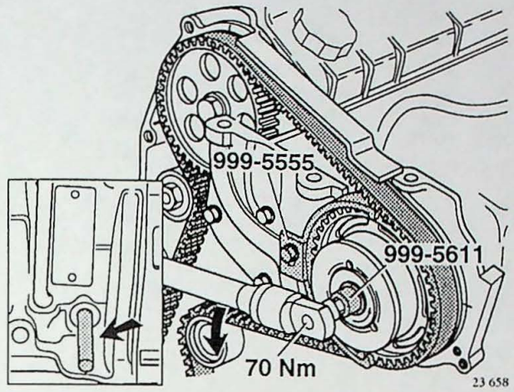
Check the injection timing, see Operation *A4*, and continue from Operation *A6*.



A6

Adjust the injection timing
Fit special tool **999-5612** in the three holes of the flange.
Then turn the tool with the flange until the jaws of the tool engage the three internal recesses of the drive sprocket; see the illustration.

Turn the special tool with the flange **clockwise** until the backlash in the pump is eliminated and then turn it to 0.5 mm below the reference value for adjustment.
Now turn the tool with the flange **counter-clockwise** until the reference value for adjustment is reached as shown on the pump **±0.02 mm**.



A7

Tighten the screwed sleeve and nut assembly of the pump drive sprocket
Locate special tool **999-5555**.
Caution! Make sure that the drive sprocket is not displaced.

Fit special tool **999-5611** in the screwed sleeve and nut assembly and tighten the assembly steadily **(turning counter-clockwise)** to **70 Nm**.
Remove locking tool 999-5555 and the locking pin.

Check the setting again.

A8

Remove the measuring tool
Remove special tool 999-5382 together with the clock gauge and measuring pin.
Fit the plug with a **new** O-ring. Tightening torque: 10 Nm.
Remove the locking pin and fit the plug with a **new** sealing washer back in the cylinder block. Tightening torque: 20 Nm.
Fit the oil filler cap.

A9

Fit:
- the timing case covers;
- the side guard;
- the noise insulation cover on the engine.

VST	Operations no.	Description	Cause Codes
	23622-2	Checking/adjusting the fuel injection pump	16