

19 - FUEL SYSTEM

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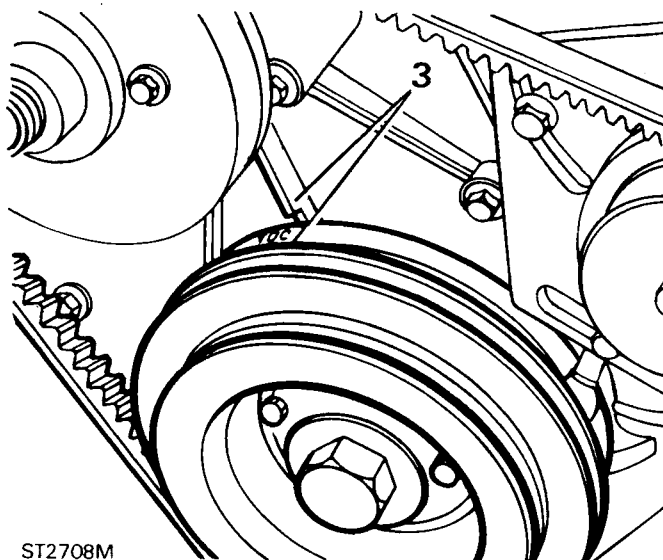
FUEL INJECTION PUMP

Special tools:

Flywheel timing pin	LST 128
Pump gear retaining tool	LST 129

Remove

1. Disconnect battery negative lead.
2. Remove oil filler cap so that the position of the rockers can be seen to assist in obtaining T.D.C.
3. Turn the crankshaft to align the T.D.C. mark on the crankshaft pulley with the web on the front cover plate. At the same time check that both valves of number one cylinder are closed. Refit filler cap.

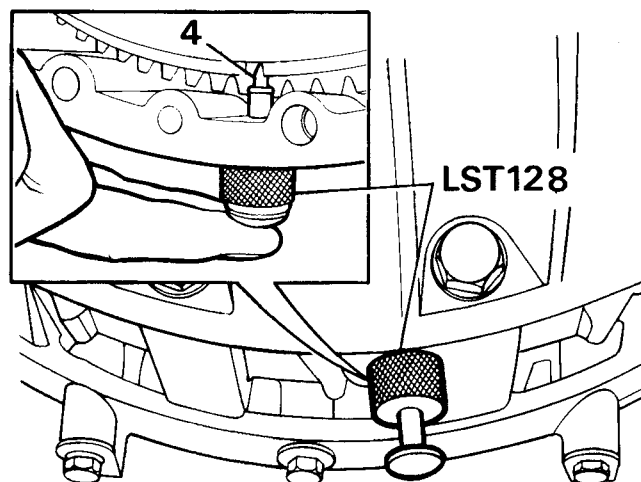


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4. Remove blanking plug from bottom of flywheel housing. Fit flywheel timing pin body LST 128. Check that timing pin can be inserted into appropriate slot in the flywheel. Note that there are two slots in the flywheel the narrowest one being that which determines T.D.C. for this direct injection engine.

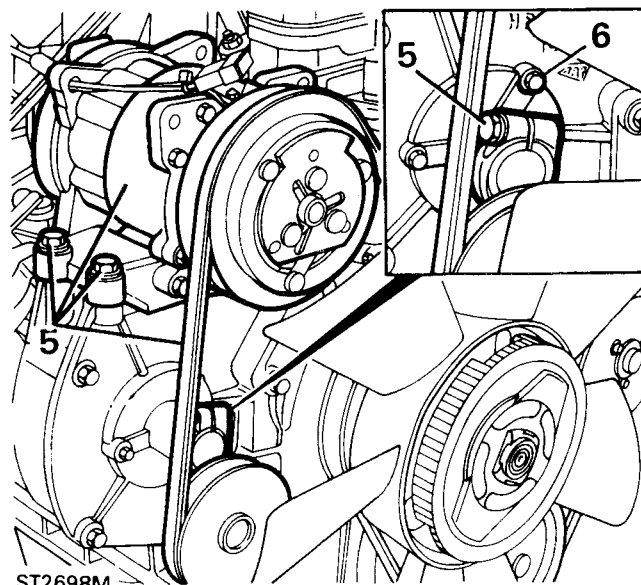


NOTE: If automatic gearbox - The same timing pin fits into a slot in the ring gear. Access is through a hole in engine backplate below the starter motor.



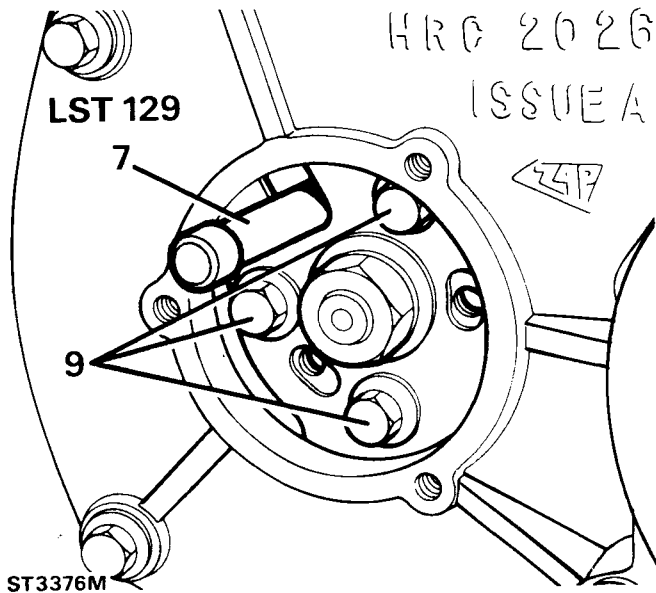
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5. Vehicles with air conditioning, slacken and remove compressor drive belt from pulley, remove the four securing bolts and move the compressor aside.
6. Remove three screws to release injection pump hub blanking plate. On air conditioning vehicles this plate also provides a pivot pivot for the compressor drive belt tensioning pulley.



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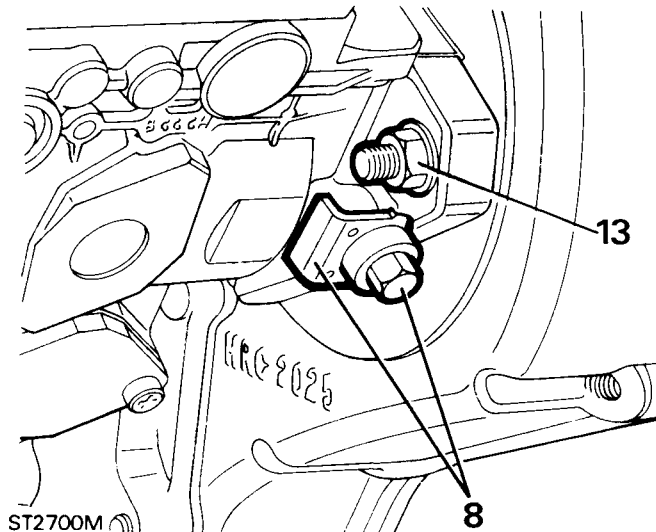
7. Insert the injection pump timing pin LST 129 through the "U" shaped slot in the pump hub into the pump body. Ensure that the pin fits easily and is fully inserted.



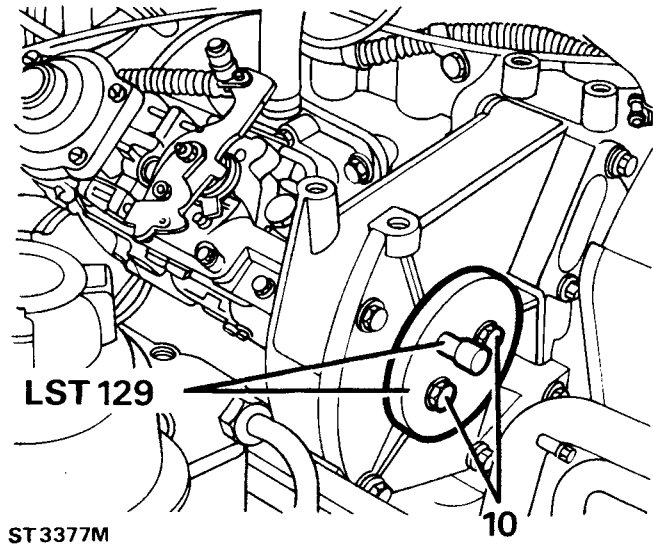
8. Loosen pump locking screw, remove keeper plate. Tighten screw to lock pump.



CAUTION: Once timing pin LST 129 has been inserted and the pump shaft locked, **DO NOT TURN** the crankshaft.



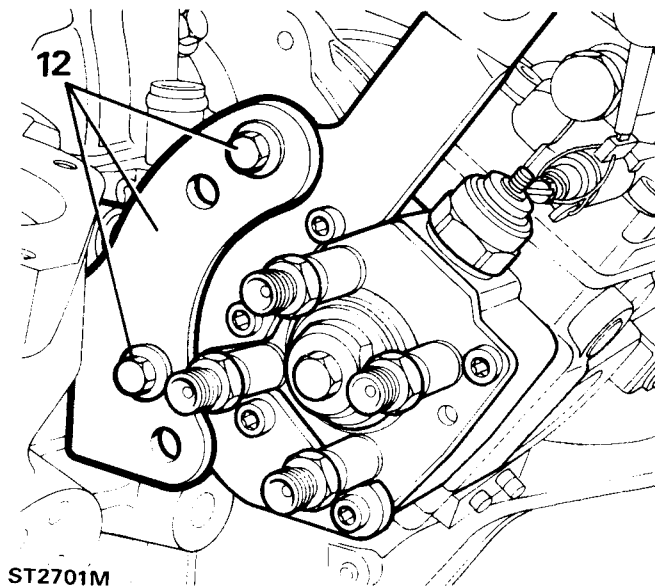
9. Remove three bolts retaining the pump drive gear. Remove the locking plate and timing pin.
10. Fit pump gear retaining tool LST129. Align and tighten the two bolts. Reinsert the timing pin through the hole provided in the retaining tool.



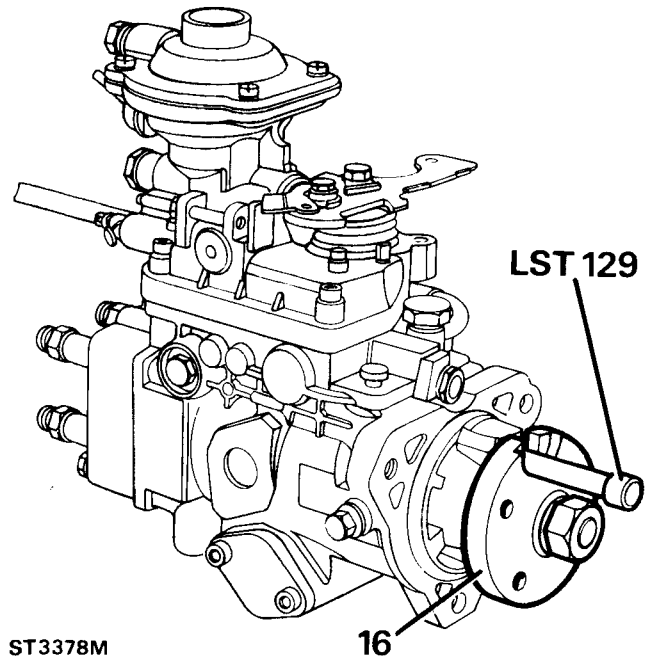
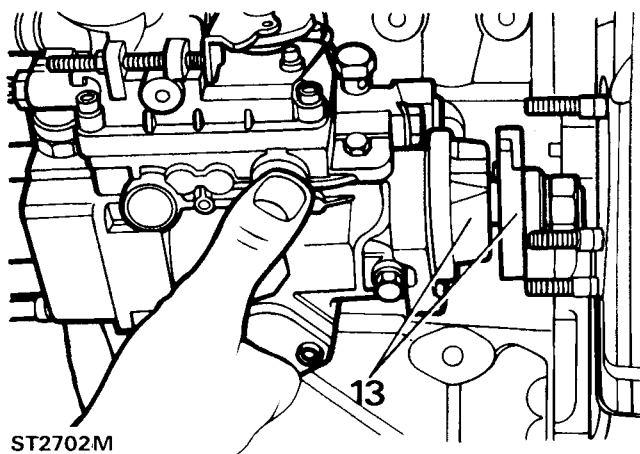
11. Remove injector pipes, disconnect following items from injection pump:

- Throttle cable.
- Stop control solenoid lucar.
- Spill return pip.
- Turbo charger boost hose.
- Main fuel supply pipe.

12. Remove two bolts securing pump to rear support bracket and the bolts securing the bracket to cylinder block. Remove the bracket.



13. Remove flange pump nuts. Remove pump and gasket from the front cover.
14. Fit blanks to fuel pump inlet and outlets to prevent entry of dirt. Loosen the locking screw, fit the keeper plate and tighten the screw.



17. Loosen pump locking screw, remove keeper plate, Tighten screw to lock the pump.
18. Fit the pump to the front cover and drive gear. Fit the three nuts, tighten evenly to **24 Nm**.
19. Fit the rear support bracket to the cylinder block and secure the pump to the bracket. Tighten all bolts to **24 Nm**.
20. Connect the following:

Throttle cable.
 Stop control solenoid lucar.
 Spill return pipe.
 Turbo boost hose.
 Main fuel supply pipe.

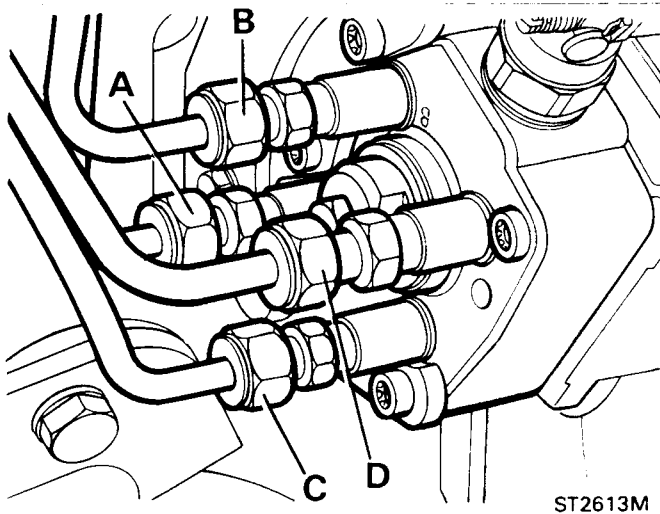
Refit

15. Clean pump flange and front cover mating face. Place a new gasket in position over the studs.
16. Fit the timing pin LST 129 to the pump. If necessary, rotate pump to enable the pin to locate easily and fully.

21. Fit injector fuel supply pipes loosely. Commencing at the front of the engine connect the pipes as follows.

A to number one injector.
 B to number two injector.
 C to number three injector.
 D to number four injector.

Finally tighten evenly, do not over tighten. Tighten to **25 Nm**.



22. Remove pump timing pin and pump gear retaining tool LST 129/1.
 23. Reinsert pump timing pin. Fit the gear lock plate, secure with the three bolts, tighten to **25 Nm**.
 24. Remove the timing pin. Unlock the pump, fit the keeper plate and tighten the bolt.

Injection pump timing check

25. To check that pump timing is correct, turn crankshaft two complete revolutions, check that the timing pin LST 129/2 can be inserted easily and fully into the pump. At the same time check that the flywheel timing pin can also be inserted in the flywheel slot.
 26. If, with flywheel timing pin located, the timing pin cannot be inserted cleanly into the pump, carry out the following instructions:
- (1) Turn crankshaft the small amount necessary to enable the timing pin to be inserted into the pump.
 - (2) Remove keeper plate, lock pump.

- (3) Slacken the three pump gear retaining bolts.
- (4) Turn
- (5) Check that timing pin is an easy fit in the pump and that the flywheel timing pin locates.
- (6) Tighten pump gear retaining bolts to **25 Nm**.
- (7) Unlock pump, fit keeper plate, tighten the bolt. Remove timing pin from pump and timing pin tool from flywheel.

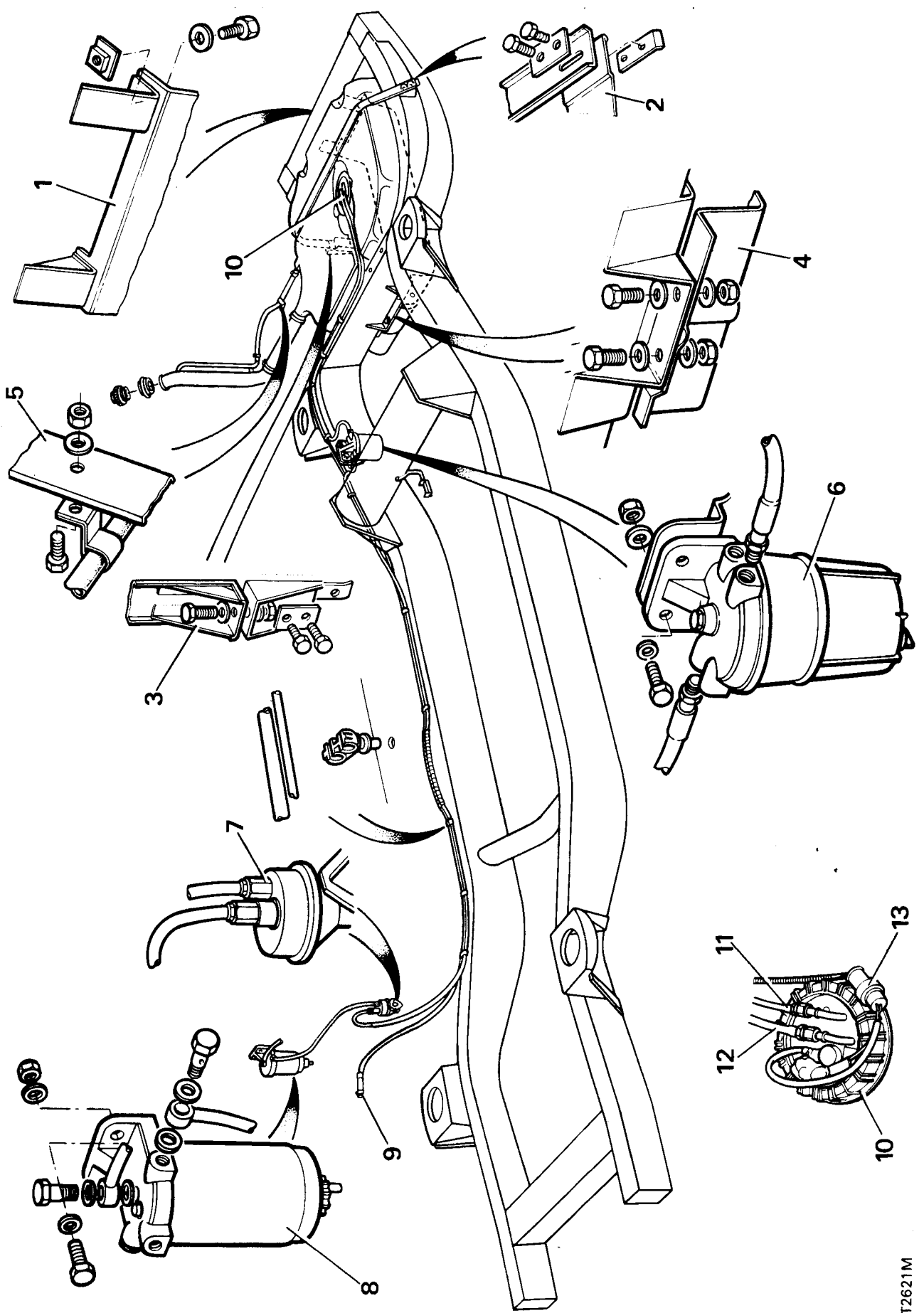
27. Fit the pump aperture cover plate with a new gasket and secure with the three screws.
 28. Where appropriate, fit the air conditioning compressor and tension the drive belt.



NOTE: Pump timing may also be checked by following the procedure in the technical information bulletin number 099/92/EN.

KEY TO DIESEL FUEL SYSTEM LAYOUT

1. Fuel tank rear support bracket.
2. Fuel tank retaining strap fixings left hand side.
3. Retaining strap fixing, right hand side.
4. Fuel tank front support bracket.
5. Fuel filler pipe vent hose support.
6. Fuel sedimenter.
7. Engine operated fuel lift pump.
8. Fuel filter located on engine compartment bulk head.
9. Spill return pipe from injectors via fuel injection pump.
10. Fuel tank unit.
11. Spill return pipe to fuel tank.
12. Fuel supply pipe to lift pump via the sedimenter.
13. Multiplug connector for fuel indicator sender unit.



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