



ALL TYPES

Type

S/Section

XXX

X

13

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REMOVAL - REFITTING THE HUB ON THE POWER ASSISTED STEERING PUMP

Other sub-section concerned:

07

11

- Engine:

F8Q - F9Q
- Gearbox:

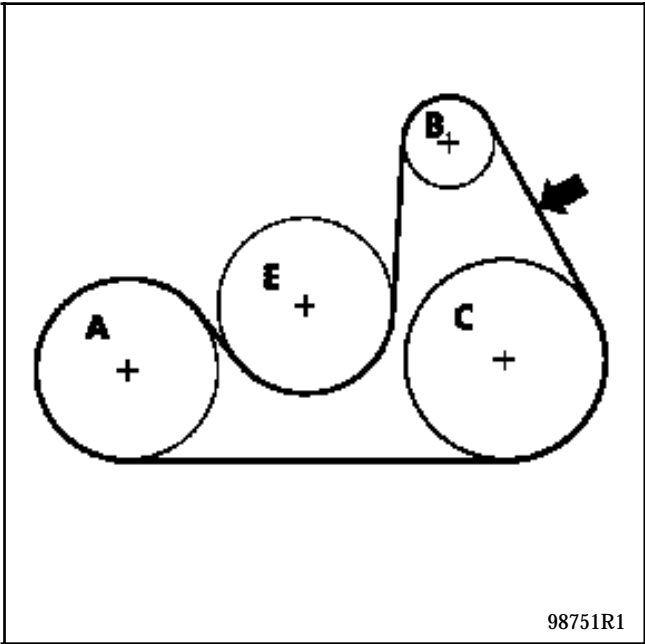
XXX

Basic manual:

M.R. 312

This technical note describes the procedure to be followed for the removal - refitting of the power assisted steering pump hub. In particular, where a three spoke hub is fitted.

ALTERNATOR AND POWER ASSISTED STEERING

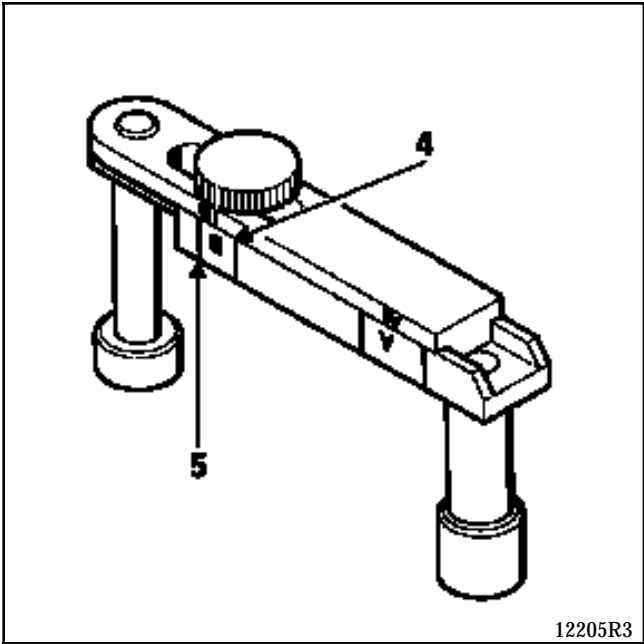


Tension (US = SEEM units)	Multi-tooth power assisted steering belt
Fitting	97 ± 3
Minimum operating tension	67

- A Crankshaft
- B Alternator
- C Power assisted steering pump
- E Coolant pump
- T Tensioner roller

→ Tension checking point

Check on tool **Mot. 1387** that you are within the tolerance (**zone B**).



NOTE:

Minimum tolerance = Mark (4)

Maximum tolerance = Mark (5)

Checking the centreline distance enables the operation of the automatic tensioning system to be checked.

If the centreline distance is outside the tolerance, check the following points:

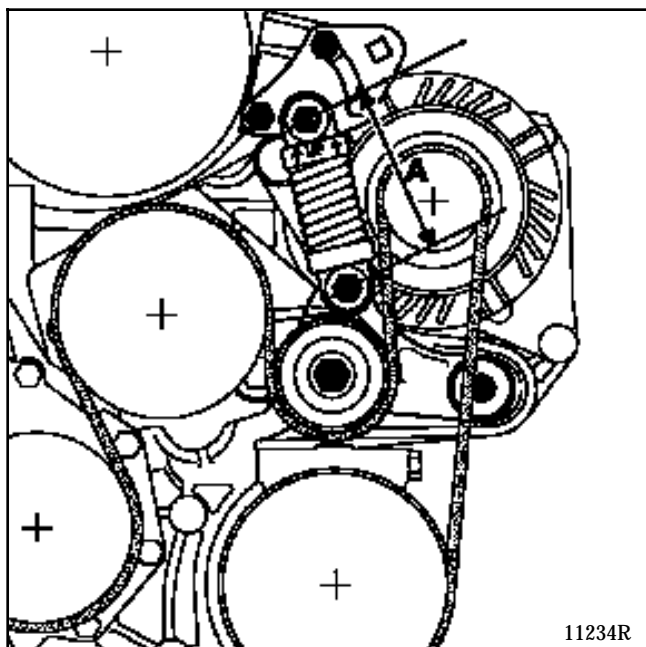
ENGINE	F9Q F8Q
CENTRELINE DISTANCE	
Centreline distance less than minimum	<ul style="list-style-type: none">- Check that the eccentric plate is positioned correctly (at the bottom of the opening).- Incorrect belt (too short).- Belt routed incorrectly.
Centreline distance greater than maximum	<ul style="list-style-type: none">- Check that the eccentric plate is positioned correctly (at the bottom of the opening).- Incorrect belt (too long).- Belt routed incorrectly.

ESSENTIAL SPECIAL TOOLS

Mot. 1387	Automatic tensioner centreline distance checking tool
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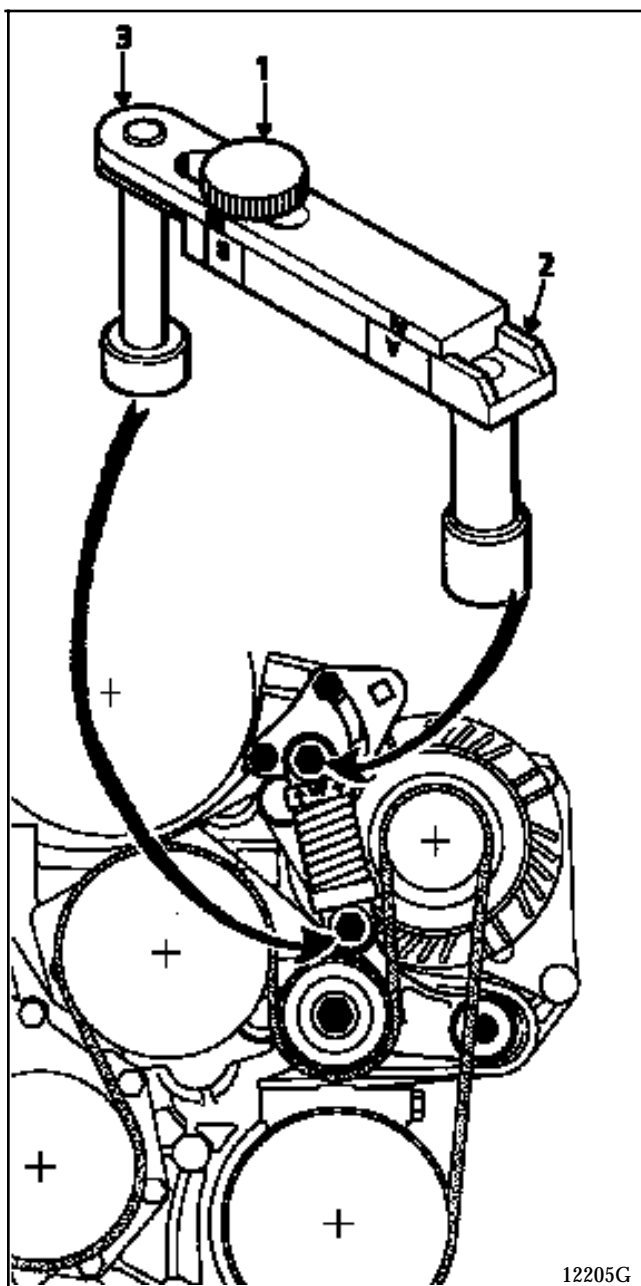
Automatic tensioner centreline distance check

Before removing the accessories drive belt, always check the automatic tensioner centreline distance (A) using tool **Mot. 1387**.

**Mot. 1387 operating methods**

Slacken knob (1) so that arms (2) and (3) can slide in relation to each other.

Fit tool **Mot. 1387** to the two tensioner mountings, then immobilise arms (2) and (3) by turning knob (1).



TOP AND FRONT OF ENGINE

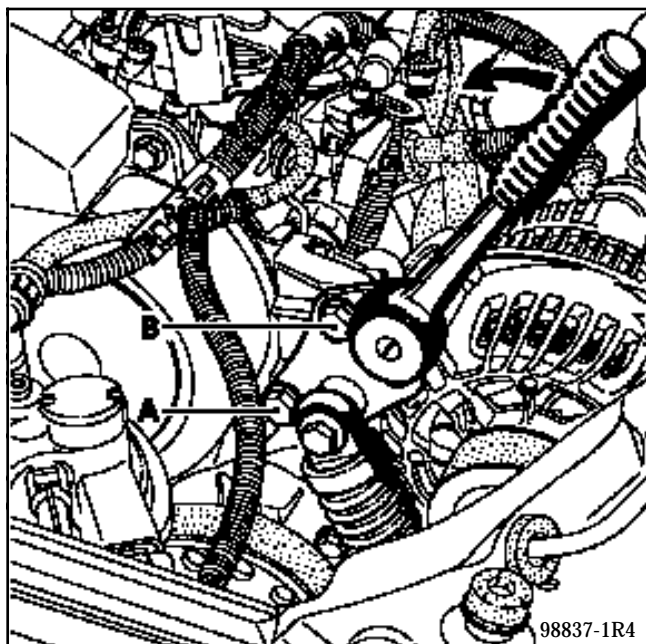
Accessories drive belt

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Special points for vehicles fitted with air conditioning

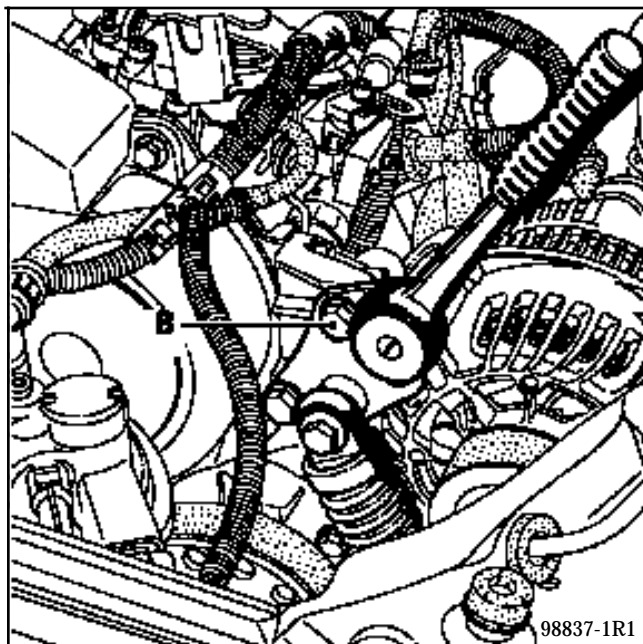
Before removing the accessories drive belt, always check the automatic tensioner centreline distance (see section 07 "Accessories drive belt tension check").

Slacken bolt (A) then bolt (B), until the collar protrudes, retaining the automatic tensioner plate using a **9.53 mm** square, then slacken the belt moving the ratchet in the direction of the arrow.



Refit in the reverse order to removal.

On vehicles fitted with air conditioning, the belt is tensioned by bringing the automatic tensioner plate to the stop on bolt (B), without forcing it, using a **9.53 mm** square.



PUMP

Mechanical power assisted steering pump

ESSENTIAL SPECIAL TOOLS

Mot. 453-01	Clamps for flexible pipes
T. Ar. 1094	Differential bearing extractor
Dir. 1083-01	Pulley refitting tool

ESSENTIAL EQUIPMENT

Engine support

TIGHTENING TORQUES (in daN.m)

Pump pulley bolt	1
Engine mounting cover nut	4.5

NOTE: the power assisted steering pump is fitted with two types of hub:

- circular hub,
- three spoke hub.

The special point relates to the three spoke hub which makes it impossible to remove the pump.

REMOVAL

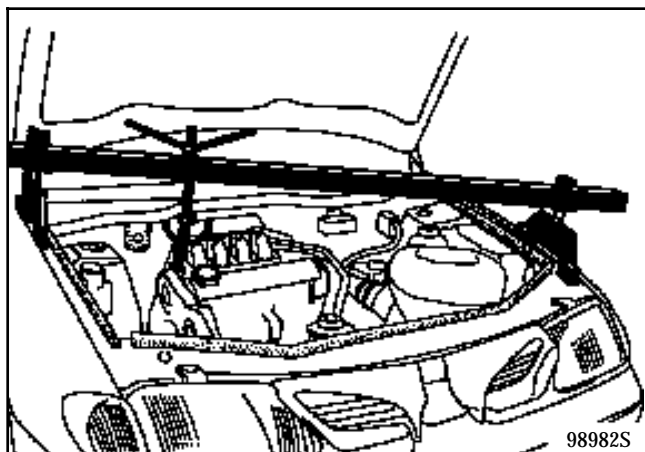
Place the vehicle on a two post lift.

Disconnect the battery.

Remove:

- the sound proofing,
- the diesel filter - computer assembly.

Fit the engine support.



Remove:

- the pendulum mounting cover plastic protector,
- the pendulum mounting cover nut.

Lift the engine using the engine support until the power assisted steering pump pulley protrudes sufficiently.

Remove:

- the accessories drive belt (to do this, refer to section 11),
- the pulley by removing its three Torx bolts (T30).

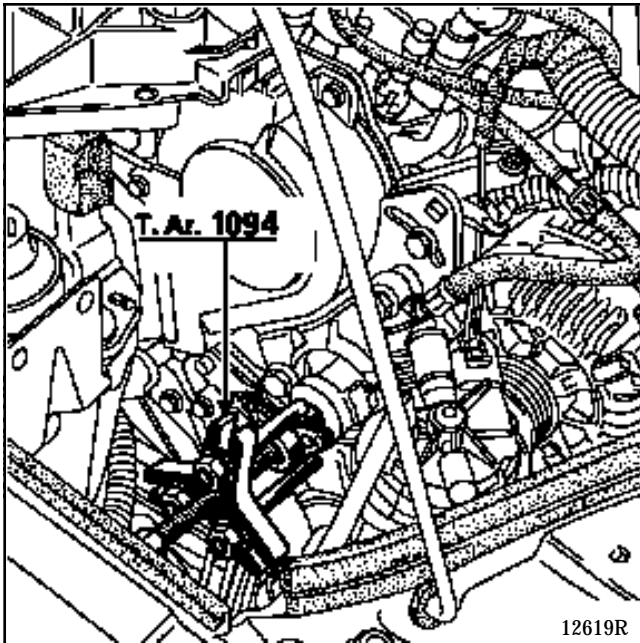
PUMP

Mechanical power assisted steering pump

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Place clamp **Mot. 453-01** on the supply pipe.

Fit tool **T. Ar. 1094** and extract the hub.



NOTE: insert a bolt between the pump shaft and the push rod of tool **T. Ar. 1094**.

IMPORTANT: this removal procedure is described in particular for use where the pump is fitted with a three spoke hub. If the hub is circular, remove the pump and carry out the operations on a workbench.

Remove the three pump mounting bolts.

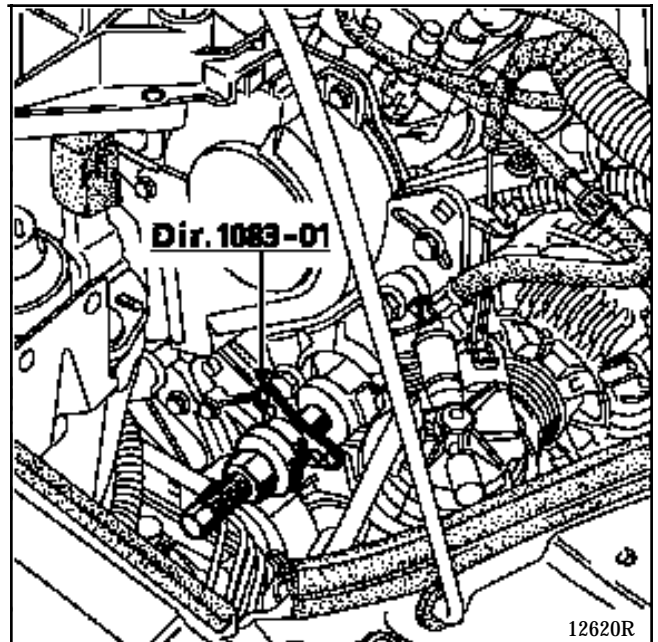
Remove the pump.

REFITTING

Refit the pump.

Position the hub and fit it using tool **Dir. 1083-01**. Coat it with multi-purpose grease first to make refitting easier.

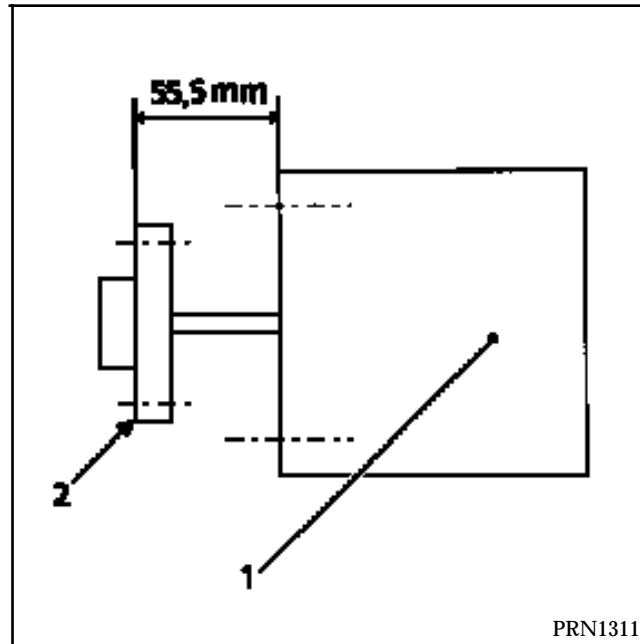
NOTE: insert a block of approximately 25mm between tool **Dir. 1083-01** and the hub.



Mechanical power assisted steering pump

Observe the fitting dimension inserting a 3.2 mm block between the hub and the pump body when refitting the hub.

NOTE: if the circular hub is refitted with the pump on a workbench, the fitting dimension is 55.5 mm (this dimension is measured between surface of the pump body and the front surface of the hub).



1 Power assisted steering pump

2 Hub

For the rest of the operations, proceed in the reverse order to removal.

Observe the tightening torques.