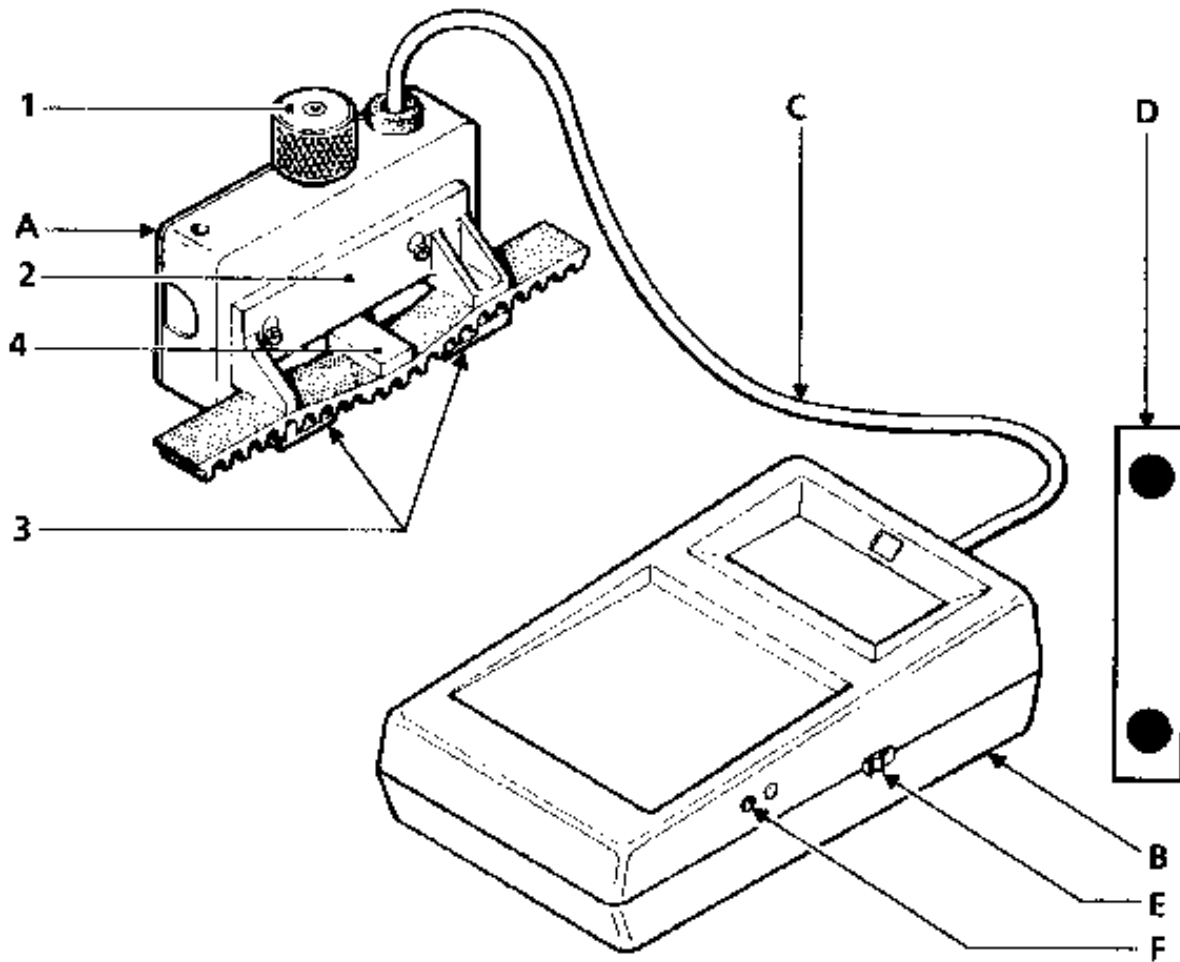


BELT TENSION

SPECIAL TOOLING REQUIRED	
Mot. 1273	Tool for testing belt tension (SEEM C. Tronic 105.6)



96 001 4

- A Sensor
- B Display
- C Connection lead
- D Calibrating test blade

**Principle**

The sensor ensures the belt has a constant deflection value by means of the adjusting button (1), the pressure device (2) and the external brackets (3)

The force of the belt reaction is measured by the test device (4) which is fitted with stress gauges.

Movement of the gauges creates a variation in their electrical resistance. This variation, once converted by the equipment, is displayed as SEEM units (US)

**Calibrating the equipment**

The equipment is adjusted in the factory. The calibration settings must be checked every six months, however.

**Procedure**

Adjusting the zero point :

- Turn the equipment on (switch E) with the adjusting button (1) screwed in fully ,
- If the display is zero, the equipment is correctly calibrated
- If there is no display at all, check the charge condition of the 9 V battery
- If another value than 0 is displayed, move adjusting screw (F) until 0 is displayed.

**BELT TENSION**

**Checking the calibration of the equipment**

Turn the equipment on (button E)

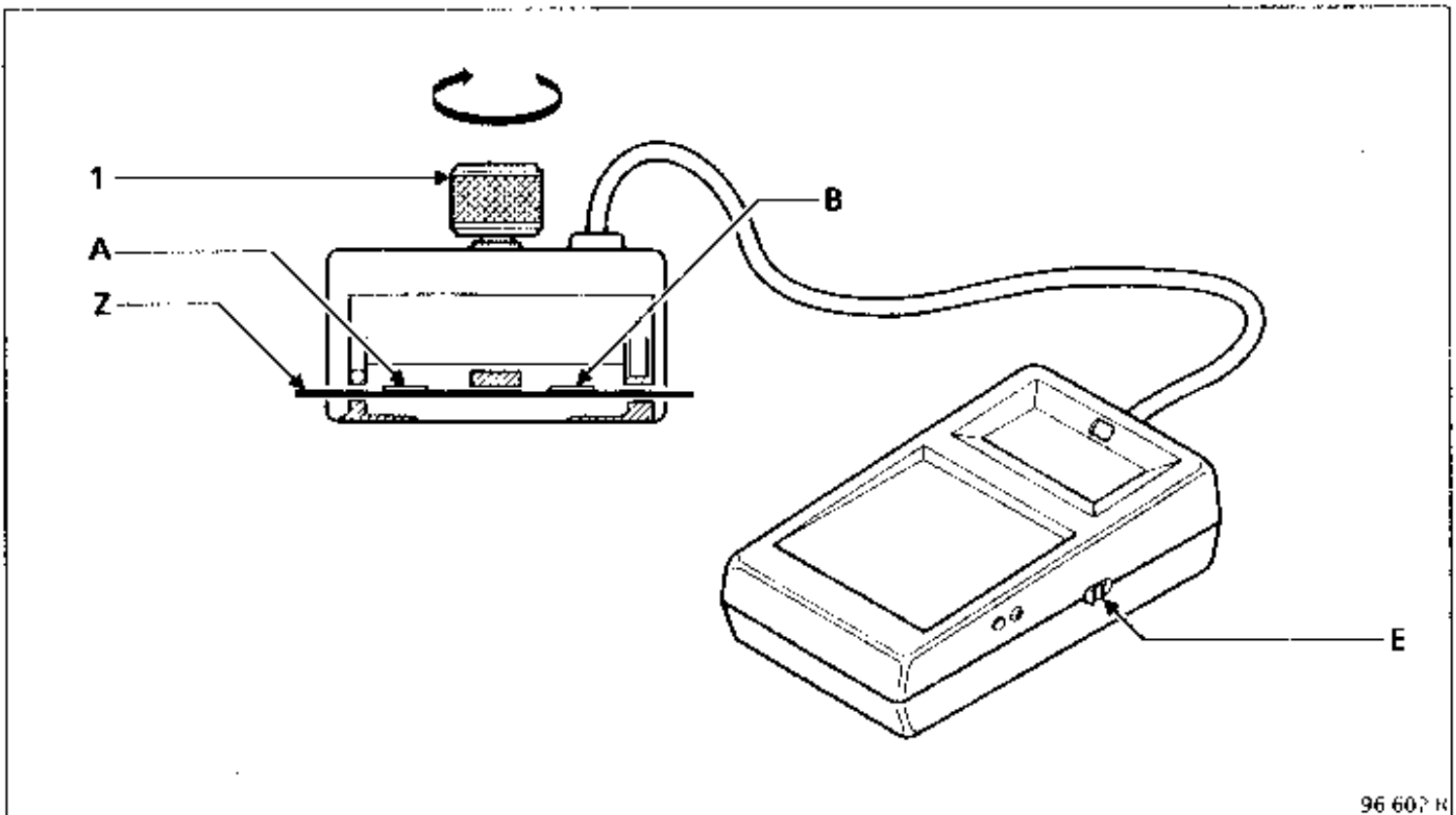
Position the calibration spring blade (Z) on the sensor as shown on the diagram (checking values are stamped on the calibration blade on the top, (A) minimum value, (B) maximum value).

Tighten the adjustment button (1) until it clicks for the third time.

(Check the display shows a value "X" between A and B) ( $A \leq X \leq B$ ).

**NOTE:** several preliminary test may have to be carried out before the correct value is reached.  
If repeated incorrect values are obtained, contact your After Sales Head Office for further information

**NOTE :** each set of equipment has a calibration spring blade of its own - do not exchange the blade with that belonging to other test equipment.



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- 1 Knurled knob (pressing device)
- A } Calibration blade testing value
- B }
- Z Calibrating blade

**GENERAL ADVICE:**

- Never refit a drive belt once it has been removed - renew it.
- Never retension a belt if its tension value is between the fitting value and the minimum operating value.
- If the tension is less than the minimum operating value during a test, replace the belt.

## TIMING BELT ADJUSTMENT

## SPECIAL TOOLING REQUIRED

Mot. 1054	TDC pin
Mot. 1273	Tool for checking belt tension
Mot. 1289 -02	Centring fork for suspended engine mounting limiter
Mot. 1290	Engine support tool

## TIGHTENING TORQUES (in daN.m)



Front right hand suspended engine mounting cover nut	3 to 4.5
Wheel bolts 4 holes	10
5 holes	10
Tensioner wheel nut	5
Suspended mounting cover bolt	5 to 6.5
Suspended mounting limiter bolt	5 to 6.5
Crankshaft pulley	9 to 10
Suspended mounting bolt on cylinder head	2 to 2.5

## REMOVAL

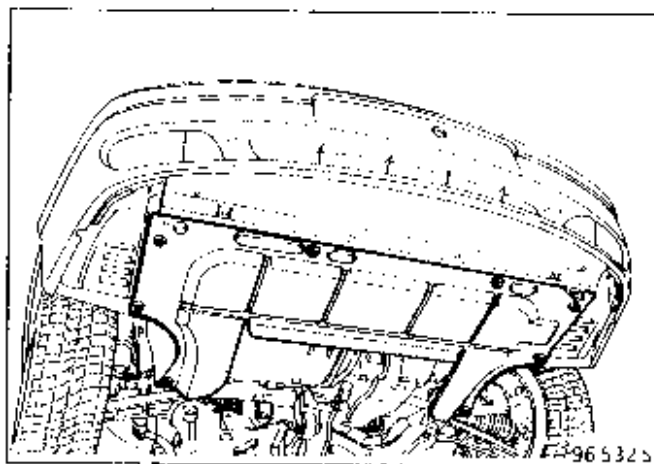
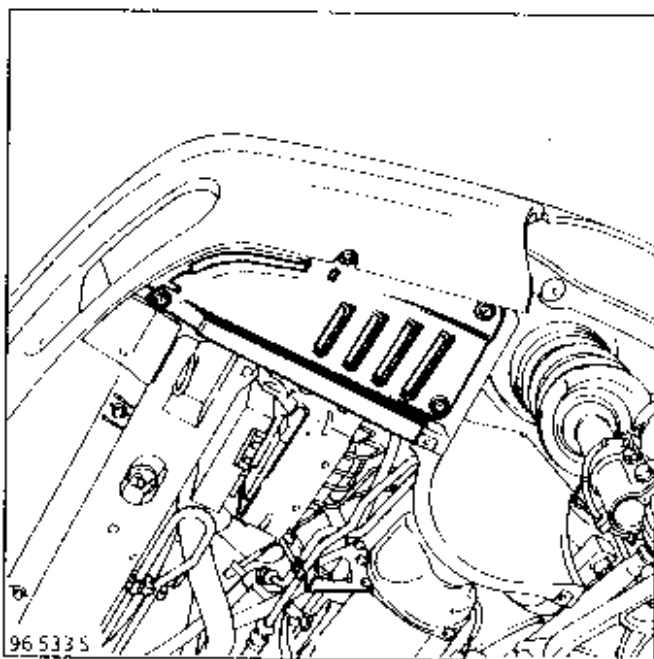
Put the vehicle on a 2 post lift.

Disconnect the battery.

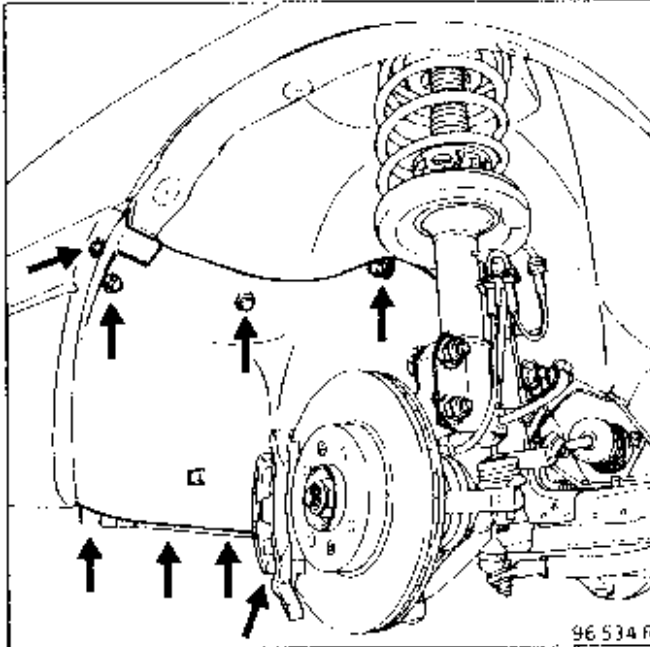
Remove:

- the front right hand wheel,
- the engine undertray,

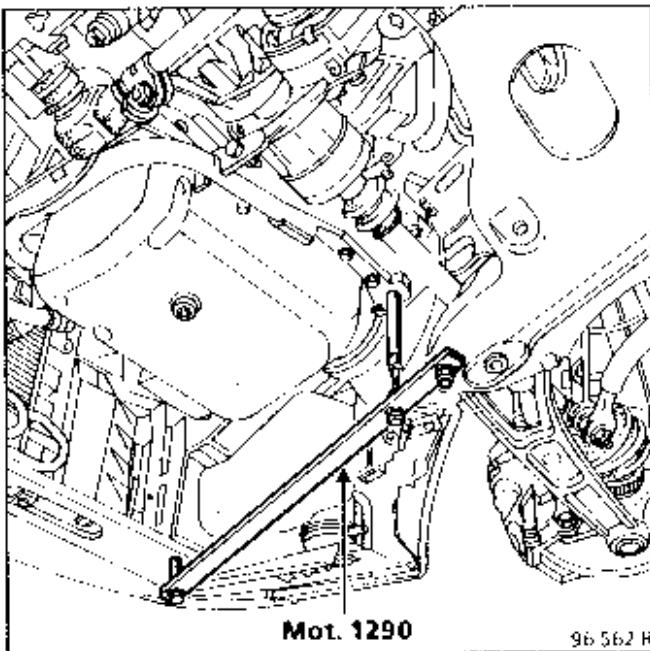
- the front right hand protector at the lower front of the wheel arch.



Remove the right hand wheel arch rear protector.



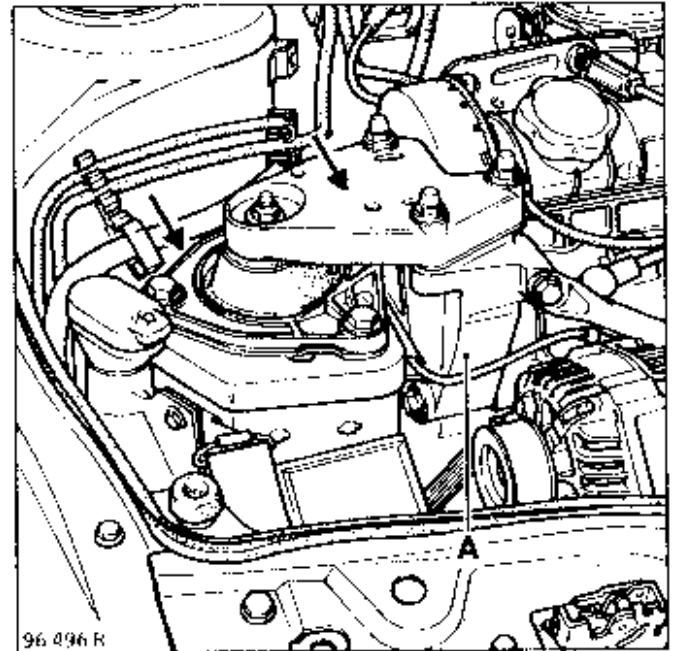
Fit the engine support tool Mot. 1290 between the lower radiator cross member and the front of the sub-frame for the engine



Lock the engine at IDC using tool Mot. 1054.

Remove:

- the suspended mounting cover and the limiter,



- the crankshaft pulley,
- the lower timing cover,
- the alternator drive belt,
- the upper timing cover

Slacken the timing belt.

Remove the suspended mounting support (A) on the cylinder head, and the timing belt

**NOTE :** the belt cannot be removed from this mounting.

**REFITTING - Special notes**

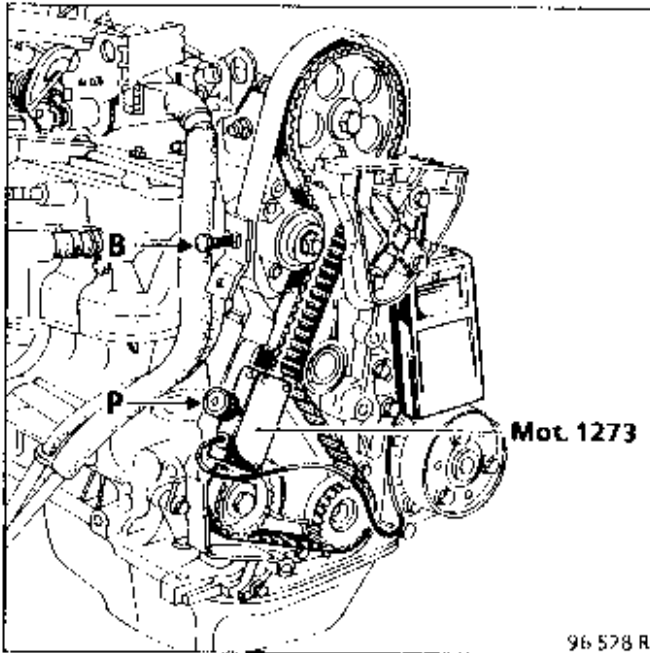
Check the pin **Mot. 1054** is still in place

Fit the belt and the suspended mounting on the cylinder head aligning the marks on the pulley and the belt

Pre-tighten the timing belt by tightening one bolt (B) on the inner timing cover

Fit tool **Mot. 1273** at P.

Tighten the belt until a value of **36 Seem Units** is obtained.



Tighten the tension wheel to **5 daN.m**.

Remove pin **Mot. 1054**.

Turn the engine over twice

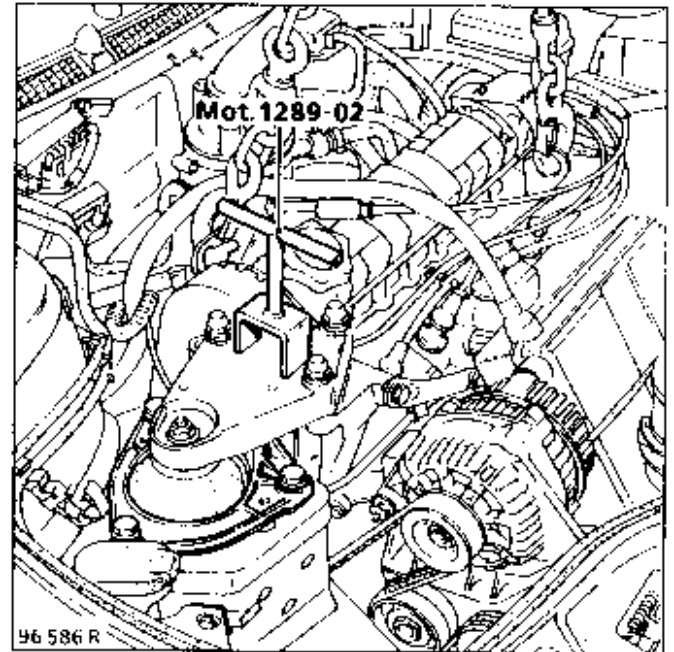
Block the engine at TDC

Use tool **Mot. 1273** to check that the tension is between **36 Seem Units** and **24 Seem Units**.

Remove the TDC pin.

Fit the suspended mounting cover.

Centre the limiter using tool **Mot. 1289-02**.



Refitting is then the reverse of removal.

## SPECIAL TOOLING REQUIRED

Mot. 1273 Tool for checking belt tension

## TENSION VALUES

When the engine is cold (ambient temperature), fit the new belt

Fit the sensor of tool **Mot. 1273** at the point shown (→).

Turn the knob on the sensor until it clicks

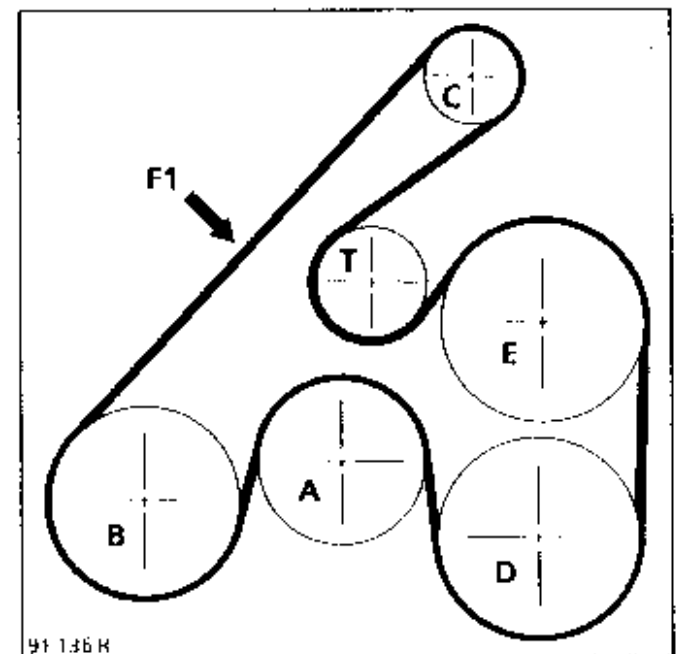
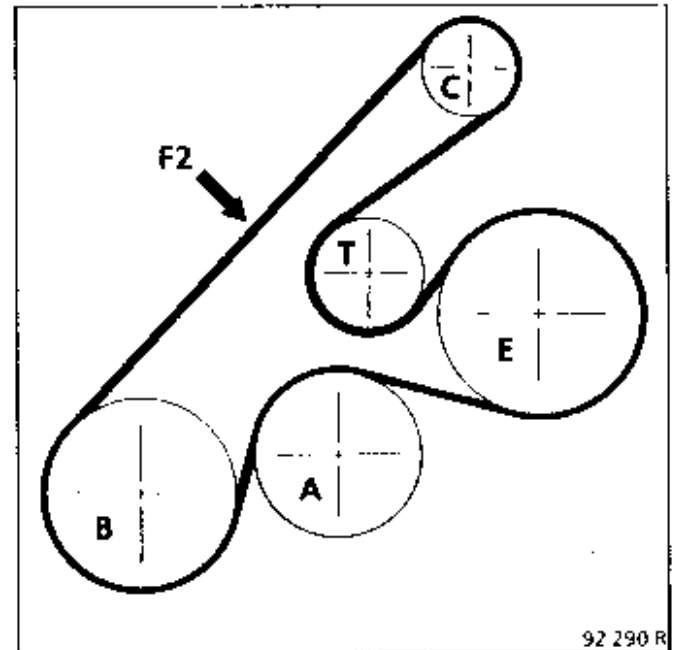
Tighten the belt until the display on tool **Mot. 1273** shows the fitting value specified below

Lock the tension wheel, test and adjust the value.

Turn the crankshaft 3 times

Check the tension value is between the fitting value and the minimum operating value (same value if the tension is being tested without the belt being removed)

Once a belt has been removed, do not refit it.



Fension (US = SEEM Units)	Power assisted steering belt (F2) multi-tooth	Air conditioning belt (F1) multi-tooth
Fitting	$112 \pm 6$ US	$114 \pm 5$ US
Minimum operating	62 US	62 US

- A Water pump
- B Crankshaft
- C Alternator
- D Air conditioning compressor
- E Steering assistance pump
- T Tensioner wheel
- Tension testing point