

TOP AND FRONT OF ENGINE

Pressure at end of compression: Check

11A

K4M

Equipment required

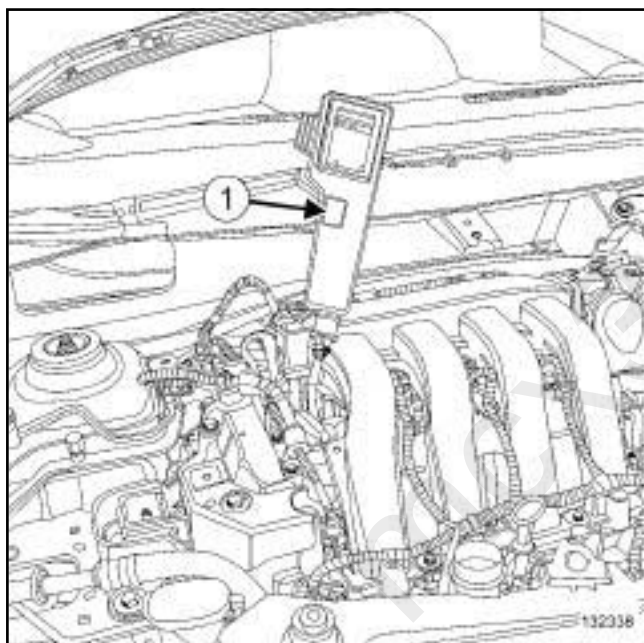
petrol compression gauge

Diagnostic tool

CHECK

I - PREPARATION OPERATION FOR CHECK

- ☐ Remove:
 - the coils (see **17A, Ignition, Coils: Removal - Refitting**, page **17A-1**) ,
 - the spark plugs (see **Plugs: Removal - Refitting**) .



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- ☐ Connect a **petrol compression gauge (1)** .
- ☐ Put the vehicle under starting conditions:
 - gear lever in neutral position for manual gearbox,
 - gear lever in position P (park) for an automatic gearbox.
- ☐ Disconnect the injector connectors.

II - TEST OPERATION

- ☐ Activate the starter until the needle of the petrol compression gauge stabilises.
- ☐ Measure the compression of the engine, cylinder by cylinder.

- ☐ Fully depress the accelerator pedal in order to open the throttle valve during the compression measurements.

Note:

It is necessary to wait for at least **10 seconds** before starting the engine each time (the starter will not run due to its thermal protection).

III - FINAL OPERATION

- ☐ Disconnect the **petrol compression gauge**.
- ☐ Refit:
 - the spark plugs (see **Plugs: Removal - Refitting**) ,
 - the coils (see **17A, Ignition, Coils: Removal - Refitting**, page **17A-1**) .
- ☐ Connect the injector connectors.
- ☐ Using the **Diagnostic tool**, check that there are no faults stored in the computer.
- ☐ Start the vehicle.

TOP AND FRONT OF ENGINE

Accessories belt: Removal - Refitting

11A

K9K, and STANDARD HEATING RECIRCULATION

Equipment required

offset spanner

Tightening torques

new accessories belt	40 N.m
tensioning roller bolt	

WARNING

Do not run the engine without the accessories belt to avoid damaging the crankshaft accessories pulley.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

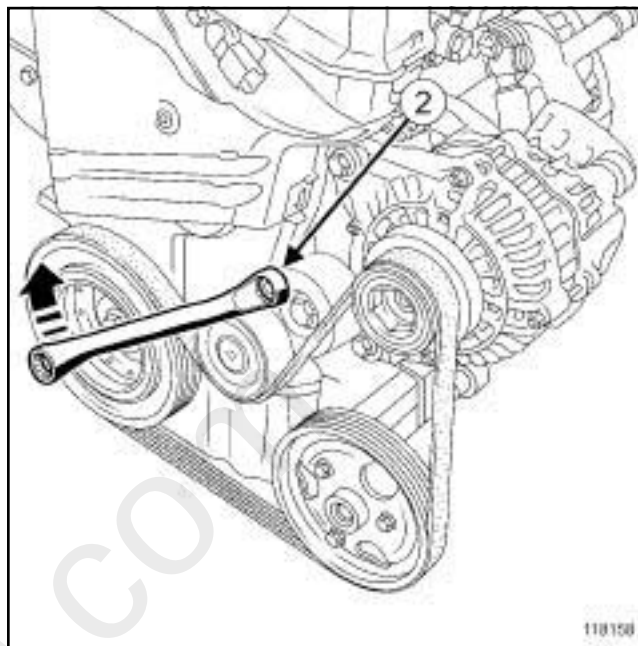
REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Remove:
 - the front right-hand wheel (see **Wheel: Removal - Refitting**) (35A, Wheels and tyres),
 - the front wheel arch side liner,
 - the front right-hand wheel arch liner partially (see **Front wheel arch liner: Removal - Refitting**) (55A, Exterior protection),
 - the plastic shield underneath the diesel filter.

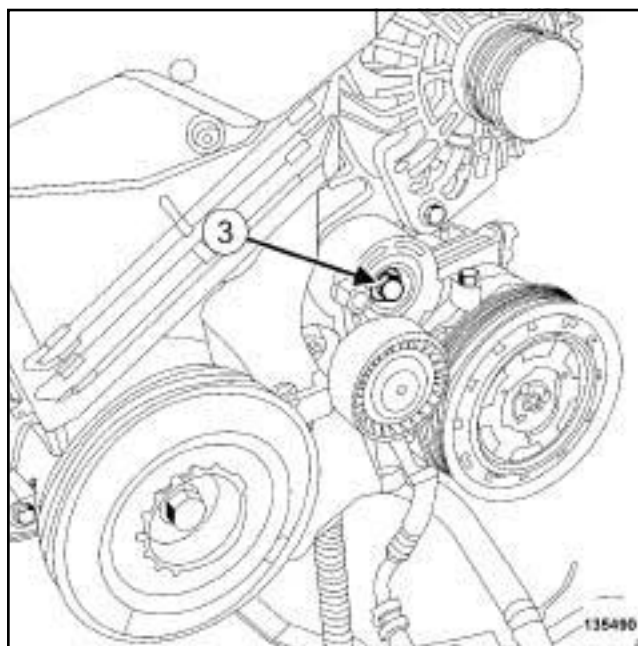
II - OPERATION FOR REMOVAL OF PART CONCERNED

Auto tensioner



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- ☐ Turn the accessories belt tensioning roller clockwise at (2) using a **16 mm offset spanner**.
- ☐ Remove the accessories belt.



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- ☐ Remove:
 - the accessories belt tensioning roller bolt (3) ,
 - the accessories belt tension wheel.

TOP AND FRONT OF ENGINE

Accessories belt: Removal - Refitting

11A

K9K, and STANDARD HEATING RECIRCULATION

REFITTING

I - REFITTING PREPARATION OPERATION



WARNING

Only use brushes with plastic or non-corrosive metal (brass) bristles.

- ☐ Use a brush to remove any deposits from the crankshaft accessories pulley V-grooves.
- ☐ **parts always to be replaced: Accessories belt**
- ☐ **parts always to be replaced: Accessories belt tensioning roller**
- ☐ **parts always to be replaced: Accessories tensioning roller bolt**

II - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit a new accessories belt tensioning roller.

Auto tensioner

- ☐ Torque tighten the **new accessories belt tensioning roller bolt (40 N.m)**.
- ☐ Refit a new accessories belt.
- ☐ Rotate the crankshaft clockwise through two revolutions (timing end).

III - FINAL OPERATION

- ☐ Refit:

- the front right-hand wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (55A, Exterior protection),
- the front wheel arch side liner,
- the plastic shield underneath the diesel filter,
- the front right-hand wheel (see **Wheel: Removal - Refitting**) (35A, Wheels and tyres).

TOP AND FRONT OF ENGINE

Accessories belt: Removal - Refitting

11A

K9K, and AIR CONDITIONING

Tightening torques

tensioning roller bolt	40 N.m
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WARNING

Do not run the engine without the accessories belt to avoid damaging the crankshaft accessories pulley.

WARNING

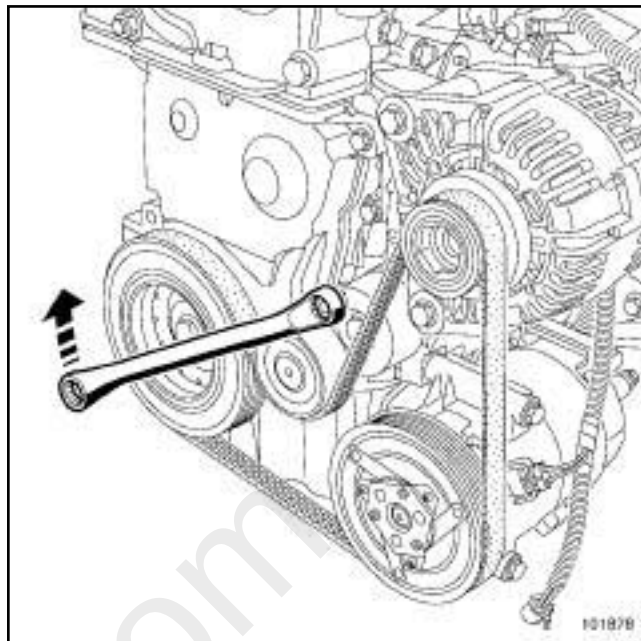
In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Remove:
 - the front right-hand wheel (see **Wheel: Removal - Refitting**) (35A, Wheels and tyres),
 - the front right-hand wheel arch side liner,
 - the front right-hand wheel arch liner partially (see **Front wheel arch liner: Removal - Refitting**) (55A, Exterior protection),
 - the plastic shield underneath the diesel filter.

II - REMOVAL OPERATION



- ☐ Rotate the accessories belt auto tensioner clockwise using a **16 mm** offset wrench.
- ☐ Remove:
 - the accessories belt,
 - the accessories belt tension wheel.

REFITTING

I - REPAIR PREPARATION OPERATION

- ☐ **parts always to be replaced: Accessories belt.**
- ☐ **parts always to be replaced: Accessories belt tensioning roller**
- ☐ **parts always to be replaced: Accessories tensioning roller bolt**

WARNING

Only use brushes with plastic or non-corrosive metal (brass) bristles.

- ☐ To remove all deposits, use a brush to clean the grooves of:
 - the crankshaft pulley,
 - the air conditioning compressor pulley,
 - the alternator pulley,
- ☐ Refit a new tensioning roller fitted with a new bolt.
- ☐ Tighten to torque the **tensioning roller bolt (40 N.m)**.

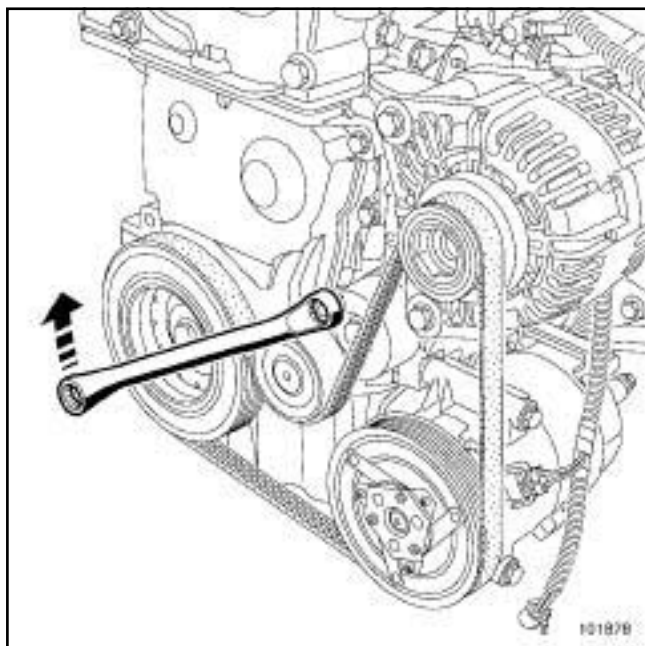
TOP AND FRONT OF ENGINE

Accessories belt: Removal - Refitting

11A

K9K, and AIR CONDITIONING

II - REFITTING OPERATION FOR PART CONCERNED



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- ☐ Rotate the tensioning roller clockwise using a **16 mm** offset wrench.
- ☐ Refit a new accessories belt.
- ☐ Turn the crankshaft two revolutions clockwise (timing end) to position the accessories belt correctly.

III - FINAL OPERATION

- ☐ Refit:
 - the front right-hand wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (55A, Exterior protection),
 - the front right-hand wheel arch side liner,
 - the plastic shield underneath the diesel filter,
 - the front right-hand wheel (see **Wheel: Removal - Refitting**) (35A, Wheels and tyres).

TOP AND FRONT OF ENGINE

Accessories belt: Removal - Refitting

11A

K4M, and POWER ASSISTED STEERING, and AIR CONDITIONING

Tightening torques

the automatic tensioning roller mounting bolts	21 N.m
the fixed roller mounting bolt	21 N.m



IMPORTANT

Wear cut-resistant gloves during the operation.

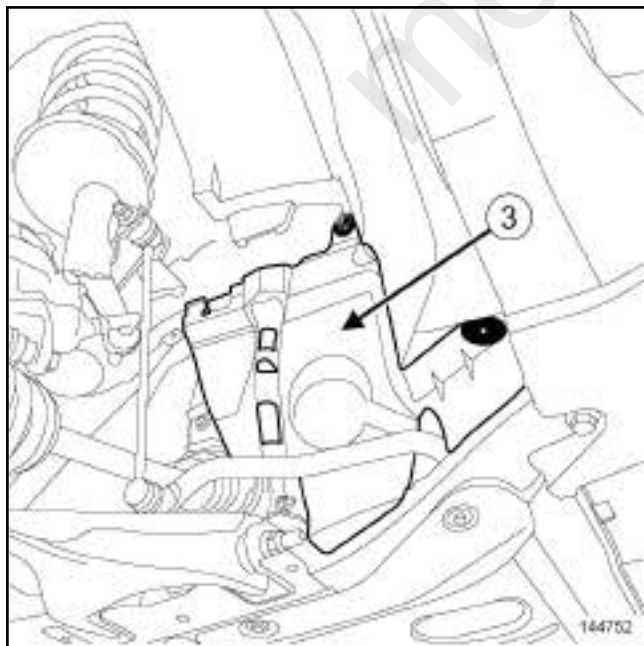
WARNING

Do not run the engine without the accessories belt to avoid damaging the crankshaft accessories pulley.

REMOVAL

I - REMOVAL PREPARATION OPERATION

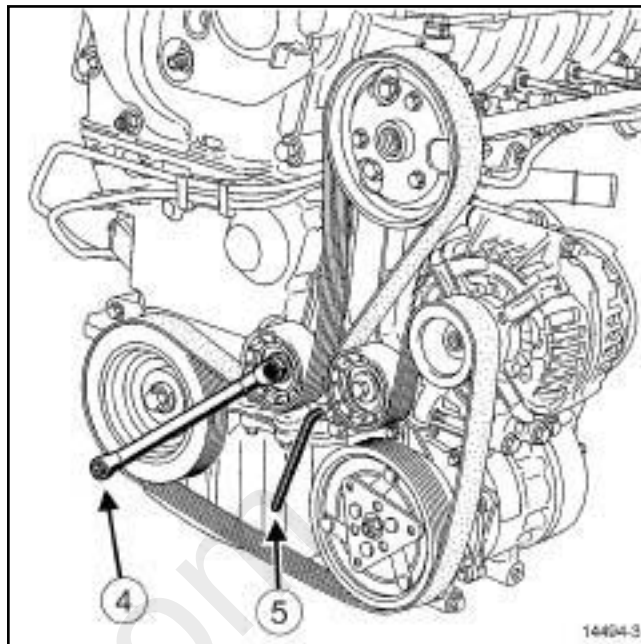
- Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- Remove the front right-hand wheel (see **Wheel: Removal - Refitting**) (35A, Wheels and tyres).



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- Remove the front right-hand wheel arch side liner (3).

II - REMOVAL OPERATION



14494-3

- Turn the accessories belt auto tensioner anti-clockwise using a spanner (4) (16 mm), to relax the belt.
- Lock the auto tensioner using a 6 mm Allen key (5).
- Remove:
 - the accessories belt,
 - the auto tensioner bolts,
 - the auto tensioner,
 - the fixed roller bolt,
 - the fixed roller.

REFITTING

I - REFITTING PREPARATION OPERATION

- parts always to be replaced: Accessories belt
- parts always to be replaced: Accessories belt tensioning roller
- parts always to be replaced: Accessories fixed roller
- Use a brush to remove any deposits from the crankshaft pulley V-grooves.

II - REFITTING OPERATION

- Refit:
 - a new fixed roller,
 - a new automatic tensioner.

TOP AND FRONT OF ENGINE

Accessories belt: Removal - Refitting

11A

K4M, and POWER ASSISTED STEERING, and AIR CONDITIONING

- ☐ Torque tighten:
 - **the automatic tensioning roller mounting bolts (21 N.m),**
 - **the fixed roller mounting bolt (21 N.m).**
- ☐ Turn the accessories belt auto tensioner clockwise using a **16 mm** spanner.
- ☐ Lock the auto tensioner using a **6 mm** Allen key.
- ☐ Refit a new accessories belt.
- ☐ Unlock the auto tensioner.
- ☐ Turn the crankshaft two revolutions clockwise to position the accessories belt correctly.

III - FINAL OPERATION

- ☐ Proceed in the reverse order to removal.

TOP AND FRONT OF ENGINE

Accessories belt: Removal - Refitting

11A

K4M, and STANDARD HEATING RECIRCULATION

Tightening torques

auto tensioner bolts	40 N.m
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IMPORTANT

Wear cut-resistant gloves during the operation.

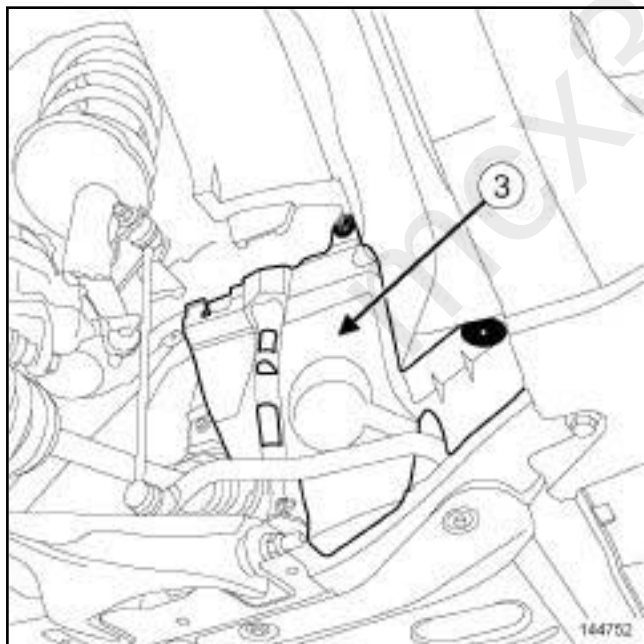
WARNING

Do not run the engine without the accessories belt to avoid damaging the crankshaft accessories pulley.

REMOVAL

I - REMOVAL PREPARATION OPERATION

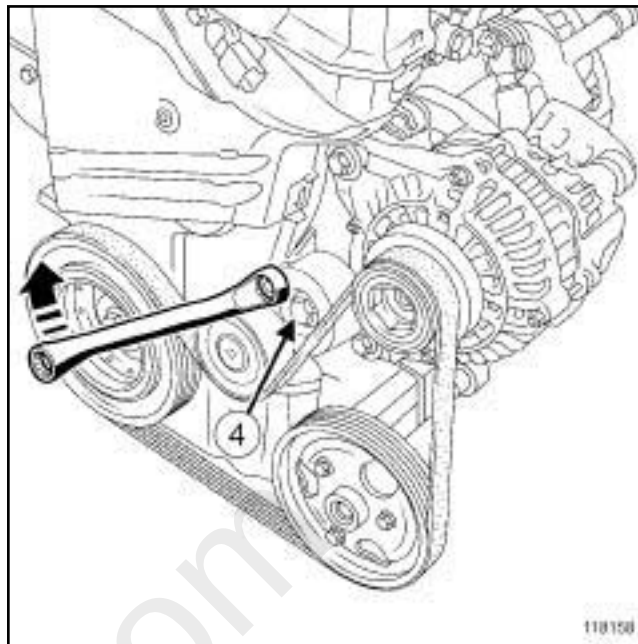
- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Remove the front right-hand wheel (see **Wheel: Removal - Refitting**) (35A, Wheels and tyres).



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- ☐ Remove the front right-hand wheel arch side liner (3).

II - REMOVAL OPERATION



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- ☐ Pivot the accessories belt auto tensioner clockwise.
- ☐ Remove:
 - the accessories belt,
 - the tensioning roller bolt (4) ,
 - the tensioning roller.

REFITTING

I - REFITTING PREPARATION OPERATION

- ☐ parts always to be replaced: Accessories belt
- parts always to be replaced: Accessories belt tensioning roller
- ☐ Use a brush to remove any deposits from the crankshaft pulley V-grooves.

II - REFITTING OPERATION

- ☐ Refit a new tensioning roller.
- ☐ Torque tighten the **auto tensioner bolts (40 N.m)**.
- ☐ Pivot the accessories belt auto tensioner clockwise.
- ☐ Refit a new accessories belt.
- ☐ Turn the crankshaft two revolutions clockwise to position the accessories belt correctly.

III - FINAL OPERATION

- ☐ Refit the front right-hand wheel arch side liner.