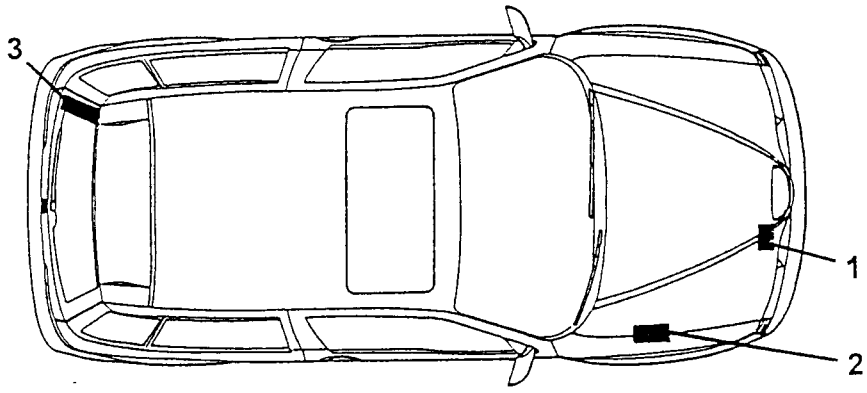
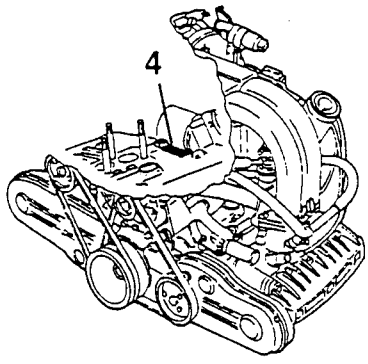
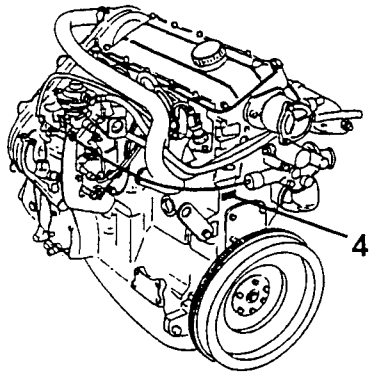
POSITIONING OF IDENTIFICATION PLATES

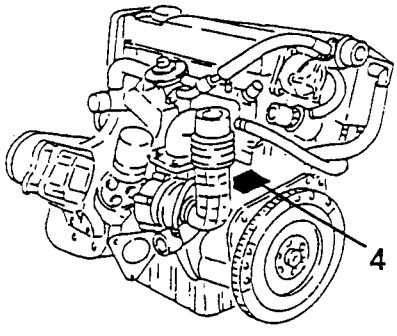




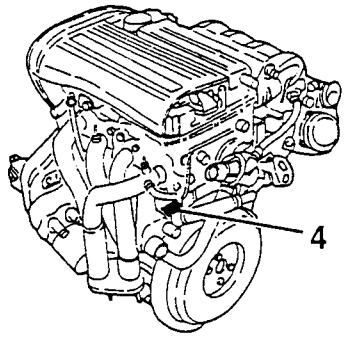
Boxer engines



1929 TD engine



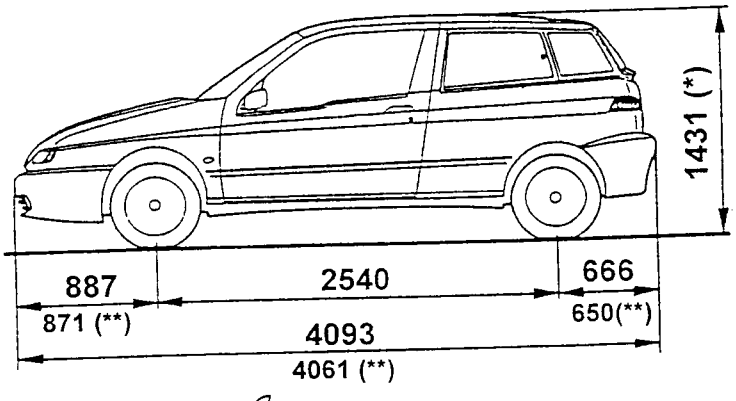
1910 JTD engine

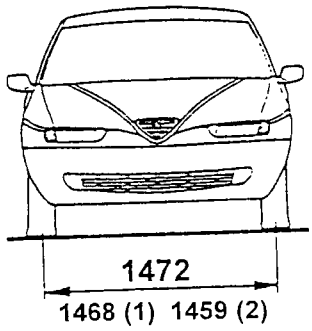


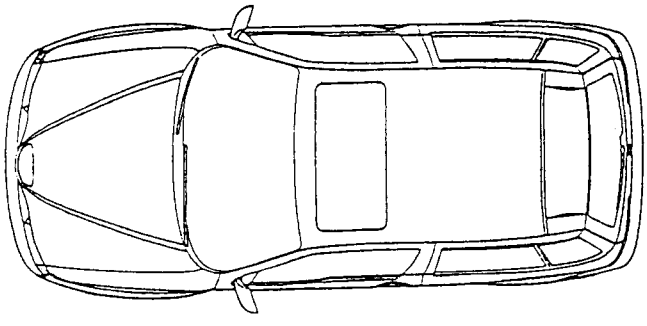
T. Spark 16V engines

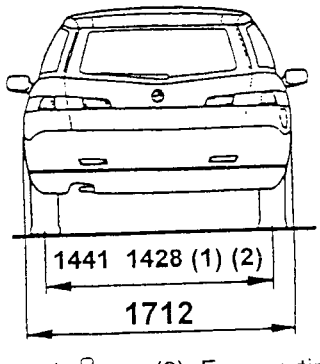
1. Plate of summarized identification data
2. Body marking
3. ID plate of body paint
4. Engine marking

DIMENSIONS



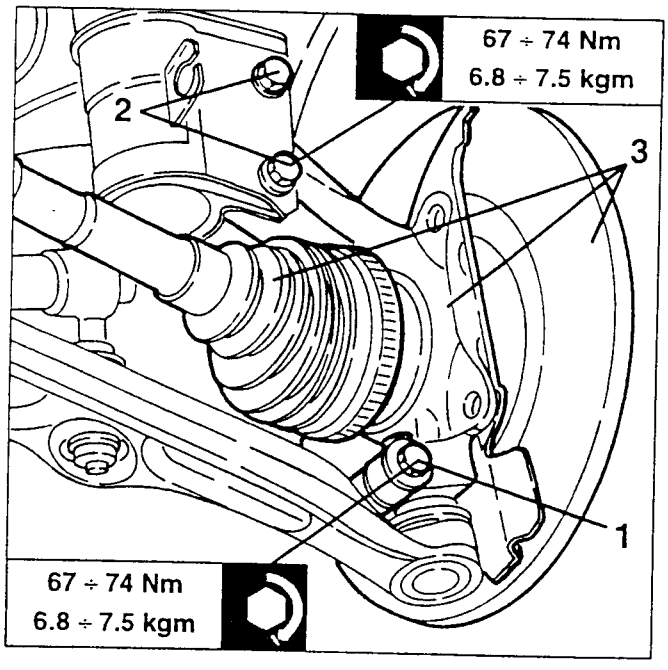




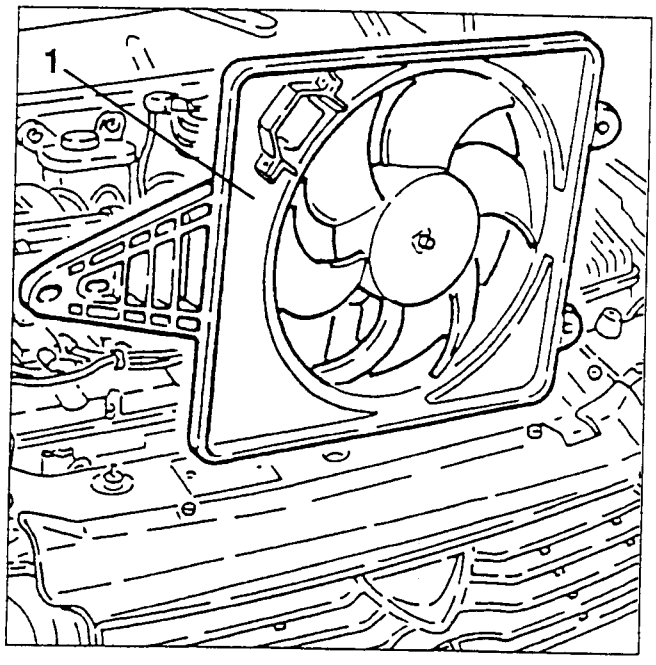


(*): With exhausted car (**): For 99s versions (1): For 1.8 T. Spark version and ✿ (2): For sporting version

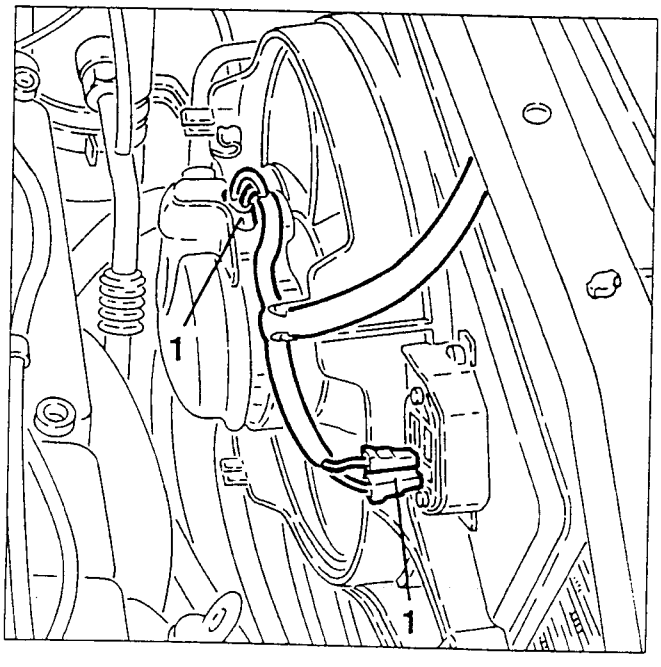
1. Slacken the bolt fastening the wishbone to the wheel upright.
2. Slacken the two bolts fastening the upright to the shock absorber.
3. Withdraw the axle shaft complete with wheel upright and brake disk after releasing the axle shaft boot from the differential.



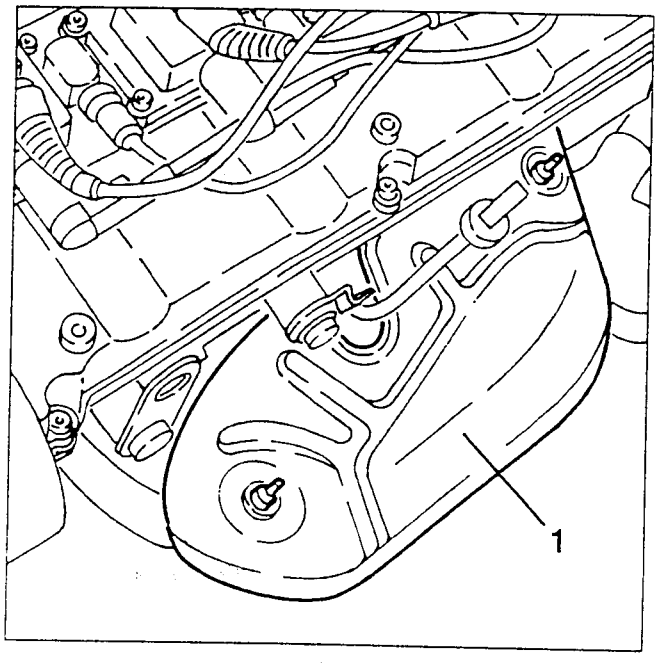
1. Slacken the fastening screws and remove the cooling fan.



1. Disconnect the electrical connections from the cooling fan.

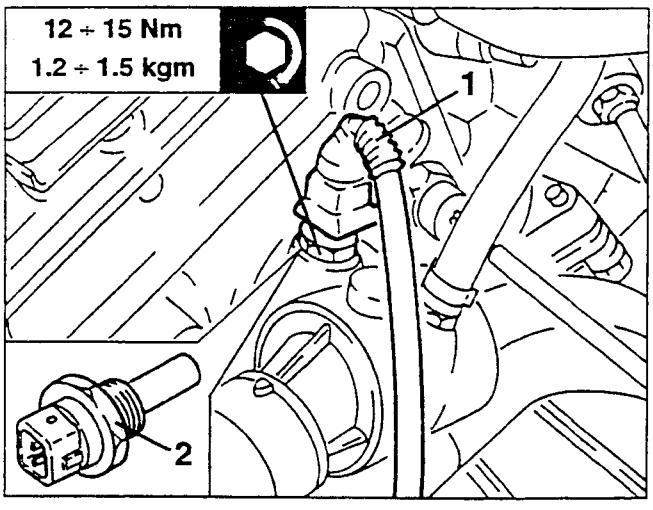


1. Remove the heat guard from the exhaust manifold.



REMOVAL/REFITTING

- Disconnect the battery (-) terminal.
1. Disconnect the electrical connection from the engine coolant temperature sensor (NTC).
2. Slacken and remove the engine coolant temperature sensor from the thermostatic cup.

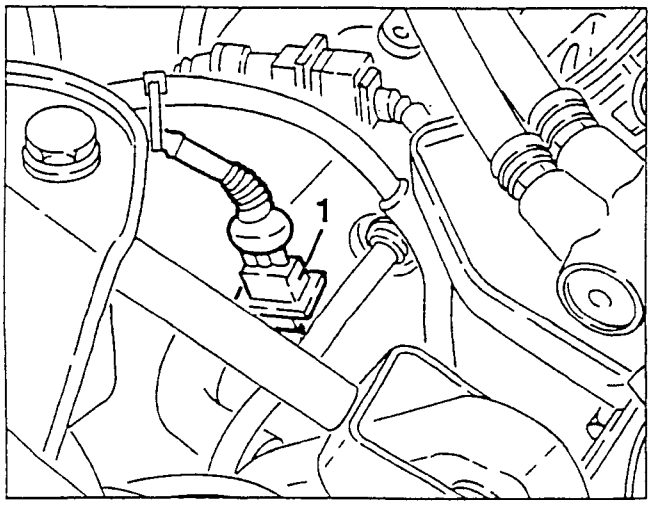


KNOCKING SENSOR

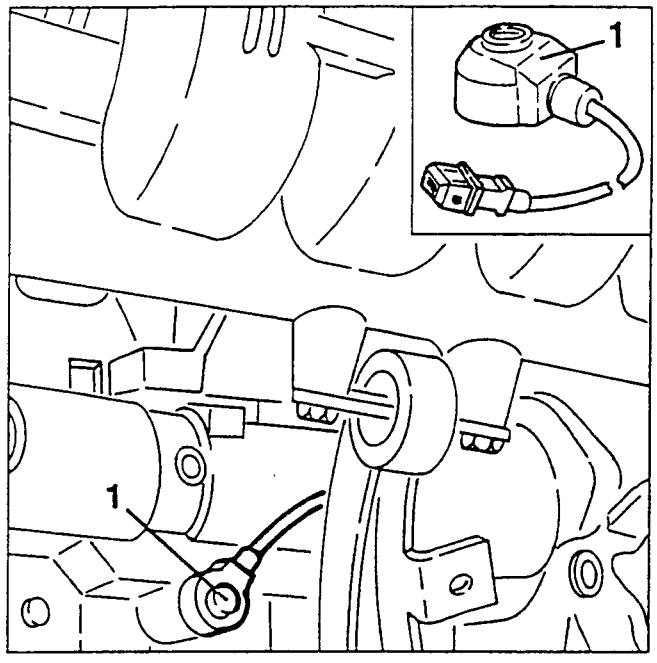
The knocking sensor detects the intensity of the vibrations (pinging in the cylinder head) caused by knocking in the combustion chamber.
In this condition the control unit increases the amount of fuel and reduces the advance ratings calculated from the special map, in order to eliminate knocking as quickly as possible: in fact the advance curves are reduced by appr. 2°, then if necessary by another 2° etc:, until pinging ceases, after which the normal advance corresponding to the original map is resumed.

REMOVAL/REFITTING

- Disconnect the battery (-) terminal.
1. Disconnect the electrical connection of the pinging sensor.



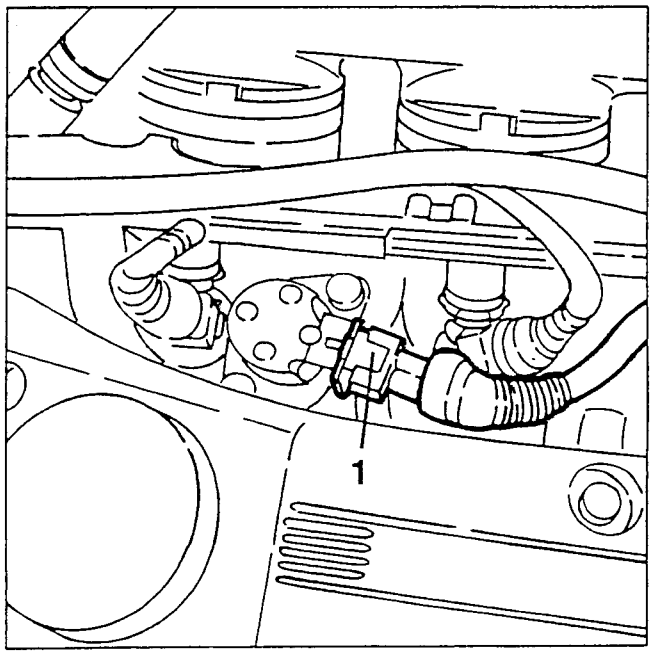
- Remove the front section of the exhaust piping.
1. Slacken the fastening screw and remove the pinging sensor.



TIMING VARIATOR SOLENOID

REMOVAL/REFITTING

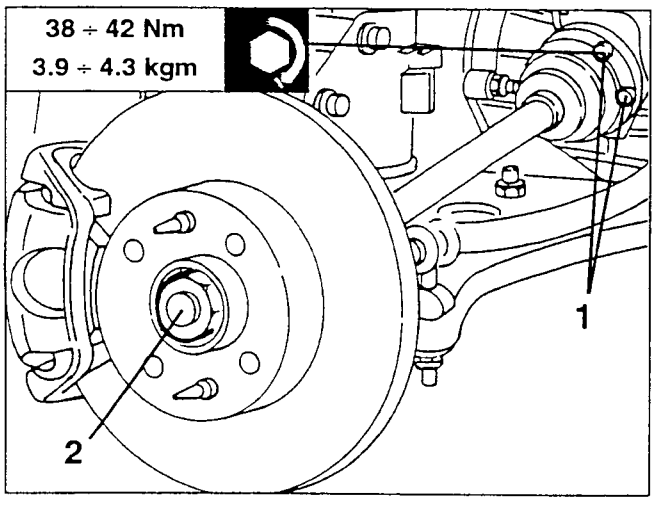
- Disconnect the battery (-) terminal.
1. Disconnect the electrical connection from the timing variator solenoid.



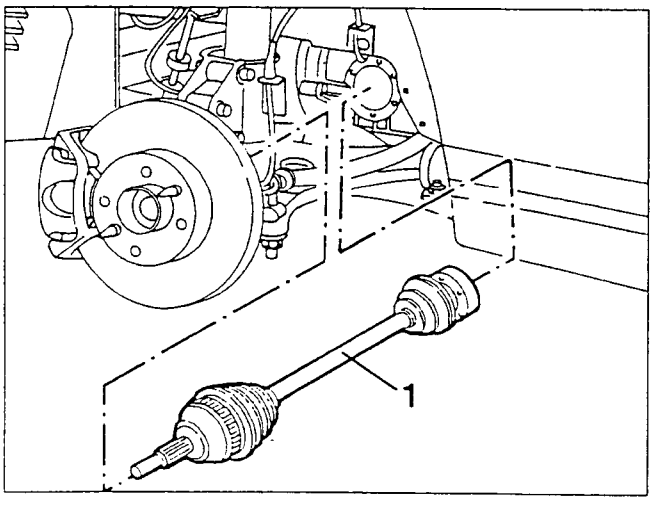
REMOVAL/REFITTING

The following procedure refers to removal/refitting of the lefthand axle shaft.
However, it is possible to wholly follow this procedure also for removing the righthand axle shaft.
- Set the car on a lift.
- Remove the left front wheel.
1. Slacken the screws fastening the left axle shaft to the differential support and disconnect it retrieving the safety plates.
2. Remove the caulking and slacken the nut fastening the axle shaft constant velocity joint to the wheel hub.

When refitting, tighten the nut fastening the axle shaft to the wheel hub as described in GROUP 44 - Wheels and hubs - "Front wheel upright (Boxer versions)".

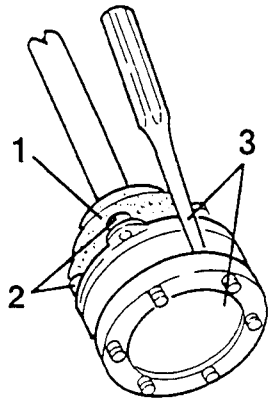


1. Pull out the axle shaft and remove it.



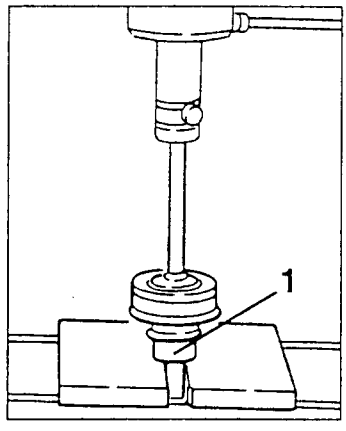
DIS-ASSEMBLY OF JOINT ON GEARBOX SIDE

- Fasten the axle shaft in a vice fitted with protective jaws.
- Remove the clamps of the gearbox side boot.
1. Back off the boot on the axle shaft.
2. Remove the safety plates located on the inner cover after removing the corresponding screws.
3. Remove the outer cover using a punch.

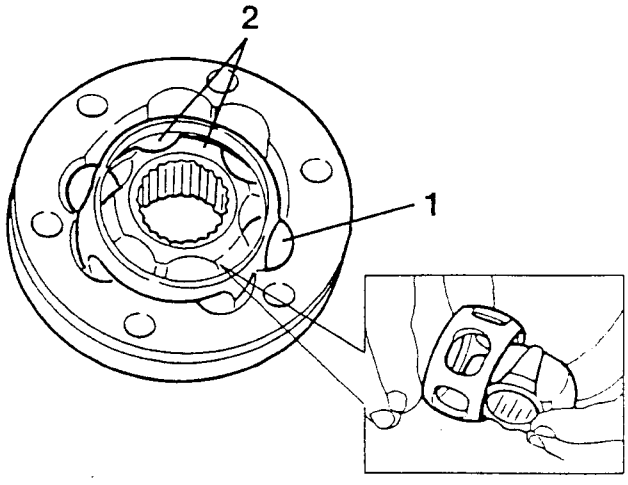


Change the boot and clamps when re-assembling.

- Make a reference mark on the outer ring, on the cage and on the core of the joint to reposition correctly when re- assembling.
- Remove the flexible retainer ring.
1. Working under the press with two half plates and a punch, remove the constant velocity joint from the axle shaft.



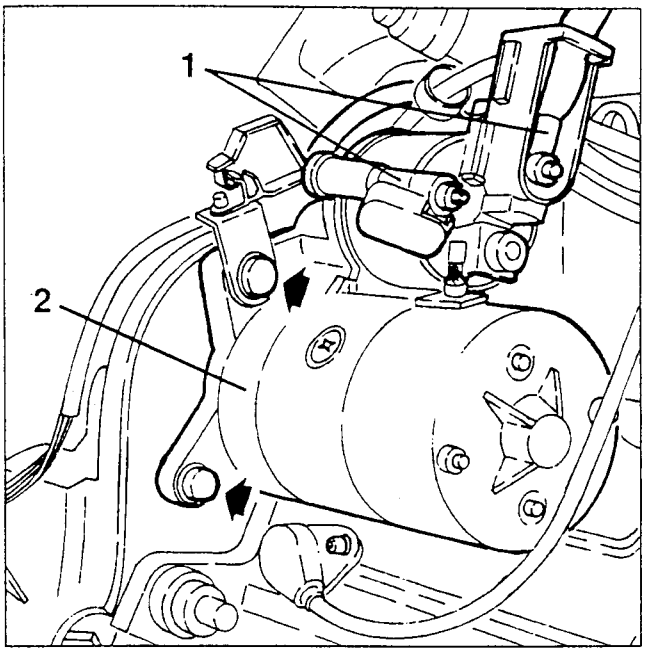
- Slide the protective boot off the axle shaft and remove the inner cover from the constant velocity joint.
- Remove the two seal rings from the joint outer ring.
1. Remove the balls from the joint.
2. Remove the core and cage turning them suitably in the outer ring and separate them.



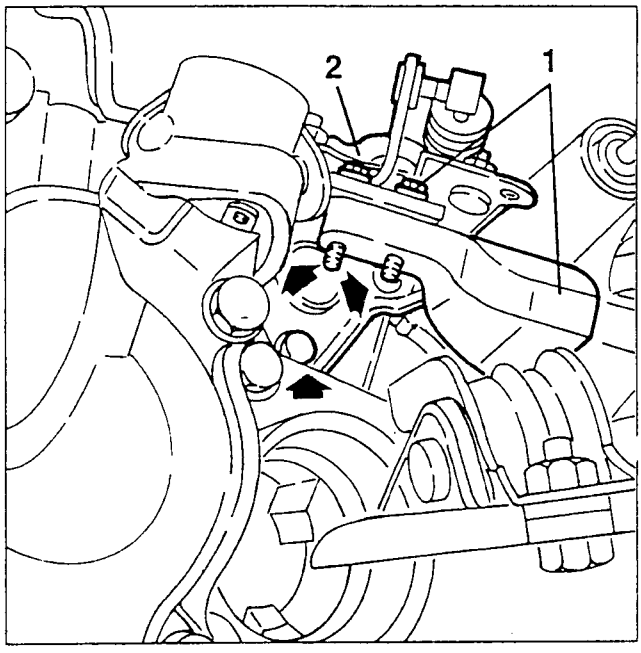
CHECKS

Degrease the joint components with fuel oil and check the balls and their housings for traces of wear and cracks.
Check the shaft for distorsion, cracks and signs of wear.

1. Disconnect the electrical connections from the starter motor.
2. Slacken the remaining two fastening screws and remove the starter motor.

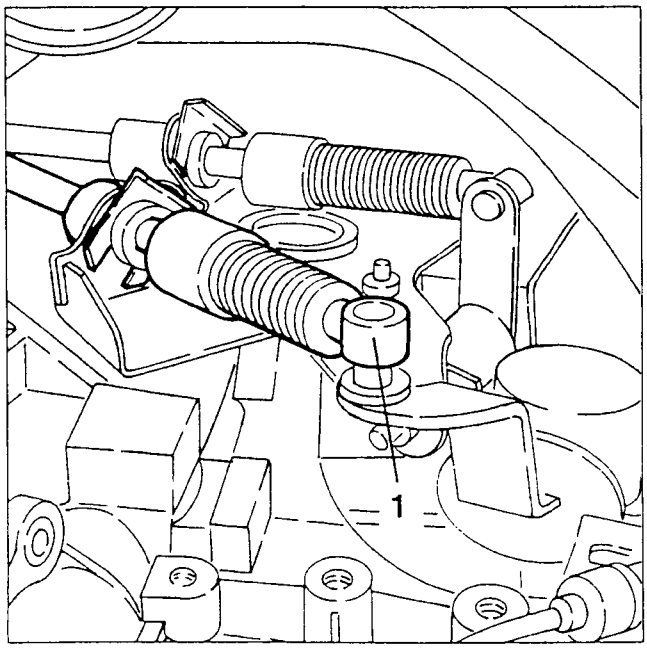


1. Slacken the two fastening screws and remove the damping mass.
2. Slacken the fastening screws and remove the gearshift control bowden connection bracket from the gearbox.



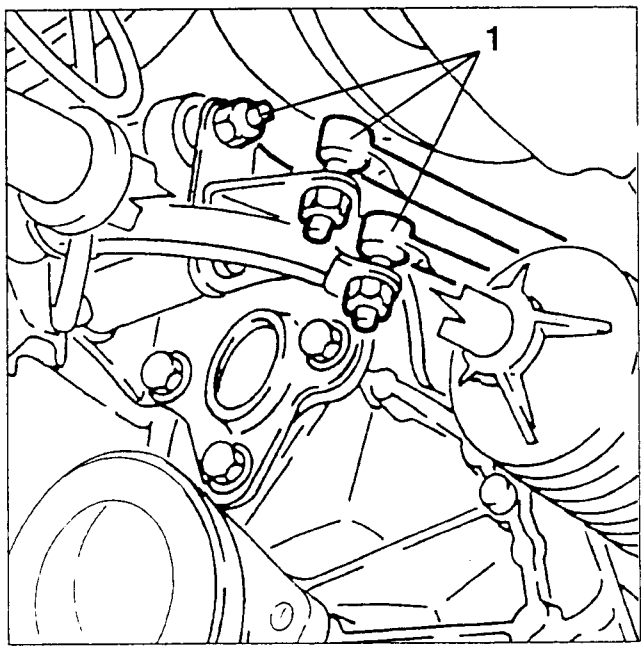
Specific for versions with bowden gearshift control

1. Disconnect the gearshift control bowden illustrated.

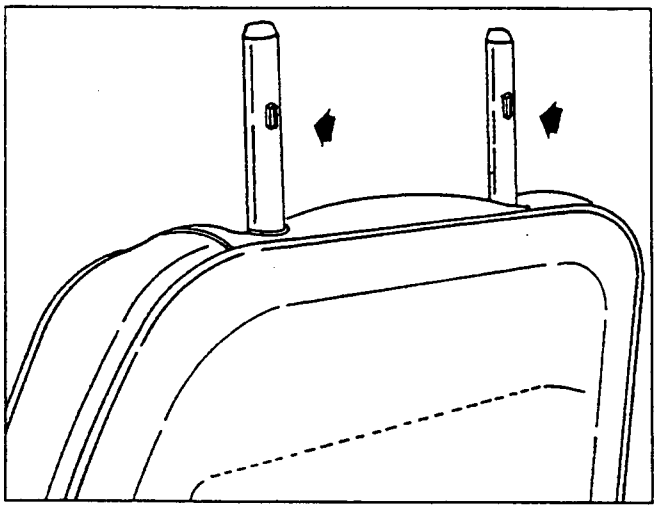


Specific for versions with rod gearshift control

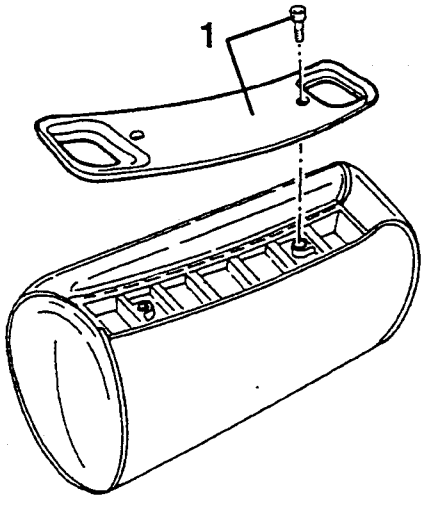
1. Slacken the fastening nuts and disconnect the gearshift control rods.



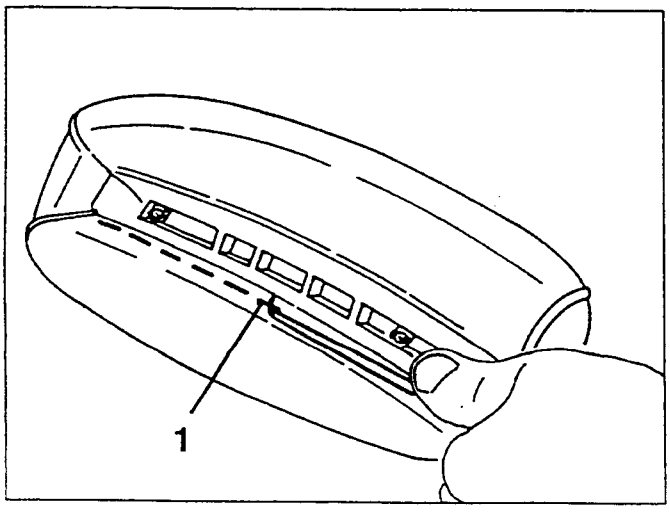
When refitting the headrest ensure that the two teeth on the pins of the headrest support face the rear of the seat.



1. Loosen the two screws and remove the headrest lower trim.

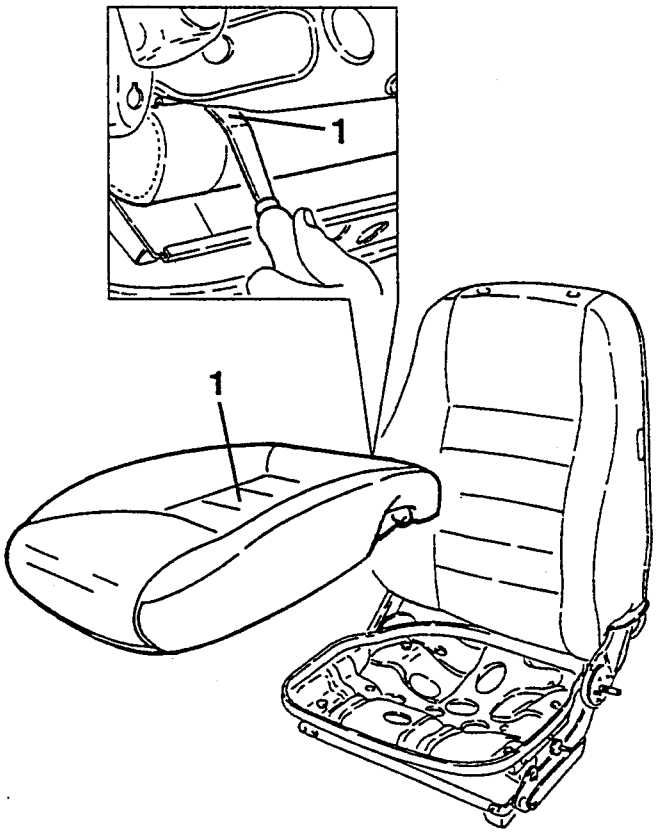


1. Remove the clips and pull off the headrest trim.

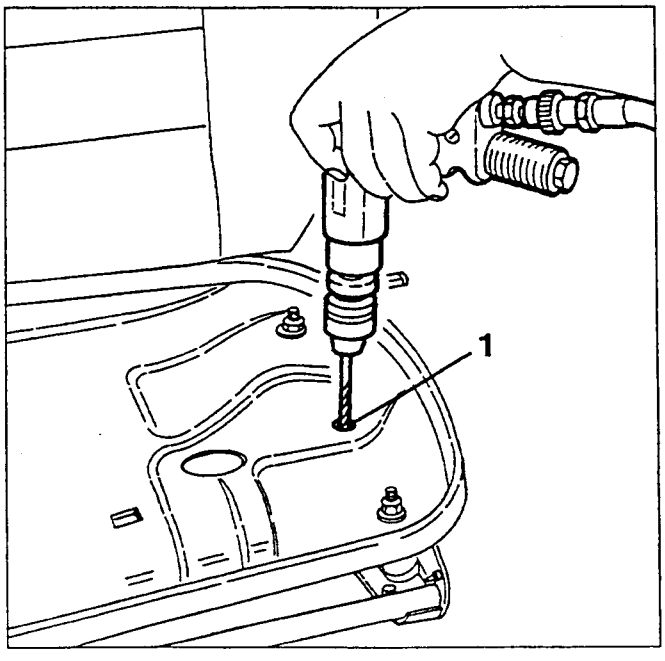


To make it easier to refit the trim onto the headrest use the appropriate material (non-woven fabric) which facilitates the sliding action and correct positioning of the covering itself.

1. Pull off the cushion covering and remove the cushion complete with covering.

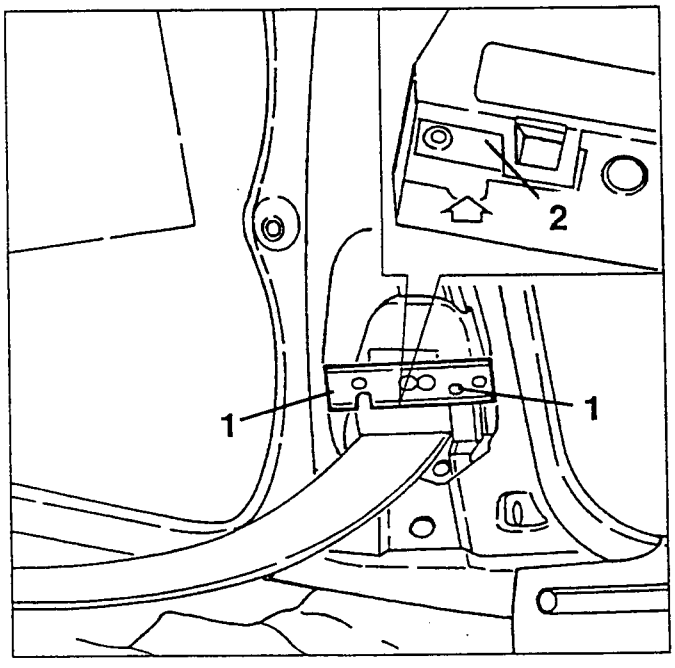


1. Using a drill, remove the two rivets securing the seat raising device.

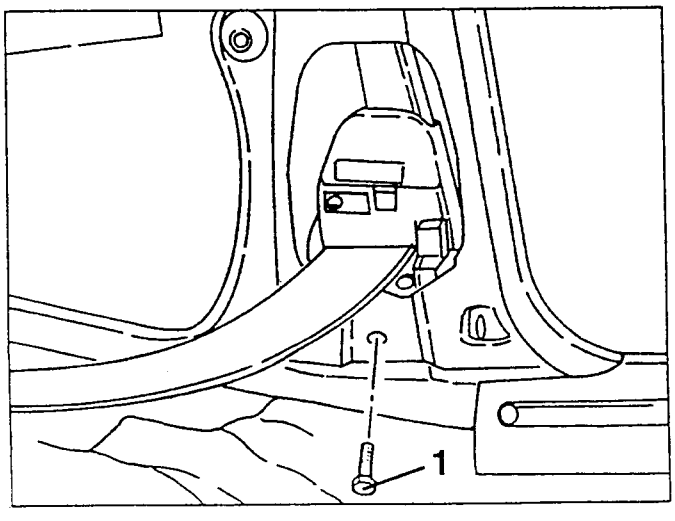


1. Separate the inner bracket from the retainer pin on the reel, then take it off the pillar.
2. Through the special window, make sure that the safety device has been engaged, checking that the spring indicated by the arrow has returned to the rest position against the pretensioner cover; if not, suspend the procedure and be very carefuyl because the device might be triggered.

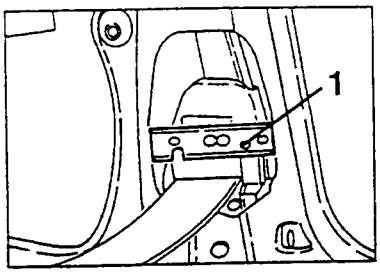
WARNING:
The operator must be suitably protected (polyethylene gloves, safety goggles and ear muffs), never go close to the device with the face and he must keep as far away as possible when carrying out the operation.

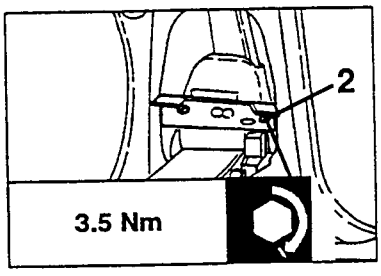


1. Slacken the screw fastening the inertial reel - pretensioner unit to the pillar.



1. Position the inner bracket in its housing in the pillar, inserting it in the retainer pin.
2. Working from outside the pillar, couple the arming bracket on the inner bracket, so that the centering pin is correctly inserted on the corresponding hole, then tighten the outer arming bracket fastening screws to the specified torque.





WARNING:
Never use percussion screwdrivers.

- Tighten the screw fastening the inertia reel - pretensioner unit slackened previously to the specified torque of 34 to 42 Nm (3.5 to 4.3 kgm).
- Restore the original seal conditions of the inertia reel - pretensioner unit, suitably painting the areas concerned to warrant that the device is intact and correctly assembled.
- Complete refitting operations reversing the sequence followed for removal.

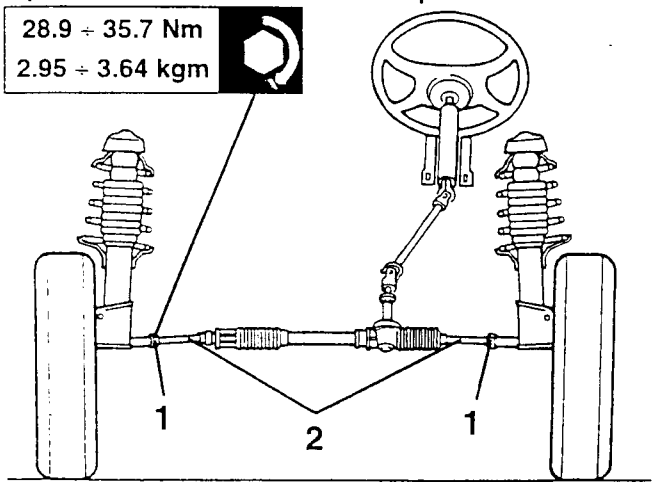
SAFETY RULES TO BE FOLLOWED FOR SAFETY BELTS WITH PRETENSIONERS

WARNING:
The following rules must ABSOLUTELY be adhered to for the safety of operators, the integrity of the belt unit with pretensioner and in observance of the law explosives.

- When handling a safety belt unit with pretensioner, hold it as shown in the figure.
- NEVER hold the unit by the lever.
- ALWAYS remove the arming lever before dis-assembly.
- Never drop the unit or subject it to shocks.
- When operations on the car require its temporary removal, the unit should be stored in a key-lockable metal cabinet as required by law.

Specific for Turbodiesel and T. Spark 16V versions

28.9 ÷ 35.7 Nm
2.95 ÷ 3.64 kgm



CHECKING FRONT WHEEL CAMBER AND CASTER

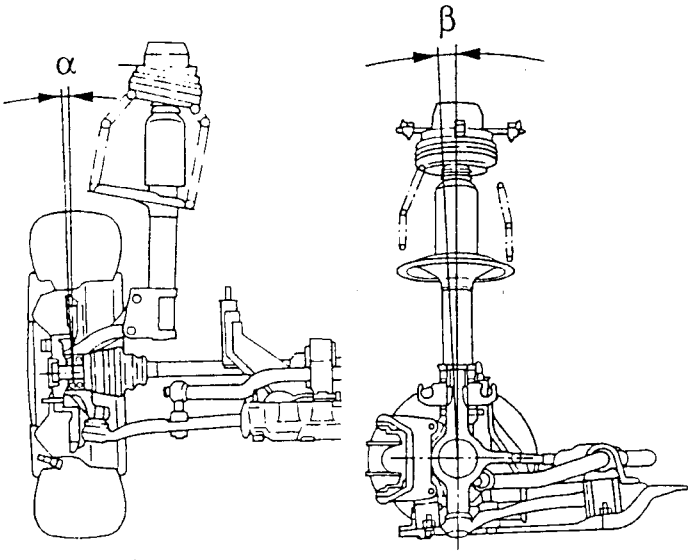
- Check that the camber and caster angles (not adjustable) are within the specified limits.

Front wheel camber "α" (*)	
Boxer	0°10' ± 20'
Turbodiesel 1.4 T. Spark 16V 1.6 T. Spark 16V	-1°10' ± 20'
1.8 T. Spark 16V 2.0 T. Spark 16V	-1°30' ± 20'

(*): Values measured unladen in running order (with specified fluids)

Caster angle "β" (*)
3°20' ± 30'

(*): Values measured unladen in running order (with specified fluids)



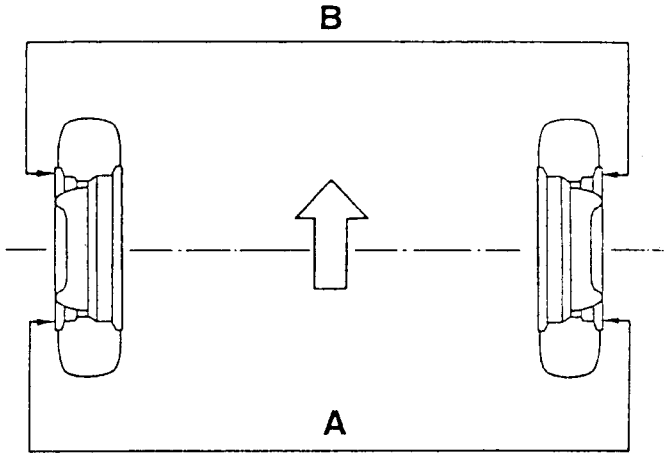
NOTE: If the values measured differ from the specified values body squaring should be checked (see GROUP 70).

CHECKING REAR WHEEL TOE-IN

- Using a suitable tools check that the toe-in value (not adjustable) is within the specified limits.

Rear wheel toe-in A - B (*)	
Boxer	4 ± 2 mm
Turbodiesel 1.4 T. Spark 16V 1.6 T. Spark 16V	1 ± 1 mm
1.8 T. Spark 16V 2.0 T. Spark 16V	1.5 ± 1 mm

(*): Values measured unladen in running order (with specified fluids)



CHECKING REAR WHEEL CAMBER

- Check that the camber angle (not adjustable) is within the specified limits.

Rear wheel camber "α" (*)
-1° ± 15' (▲) -45' ± 15'

(*): Values measured unladen in running order (with specified fluids)
(▲): Specific for Boxer versions