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REMOVAL/REFITTING

   T. SPARK 16V (*)

- Operations on the car (*)

REMOVAL/REFITTING  T. SPARK 16V

With C.513.5 gearbox from chassis no. 24

- Operations on the car  T. SPARK 16V
with C.51315 gearbox from chassis no. 30

OUTER CONTROLS

   T. SPARK 16V


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- Gearshift control lever (*)

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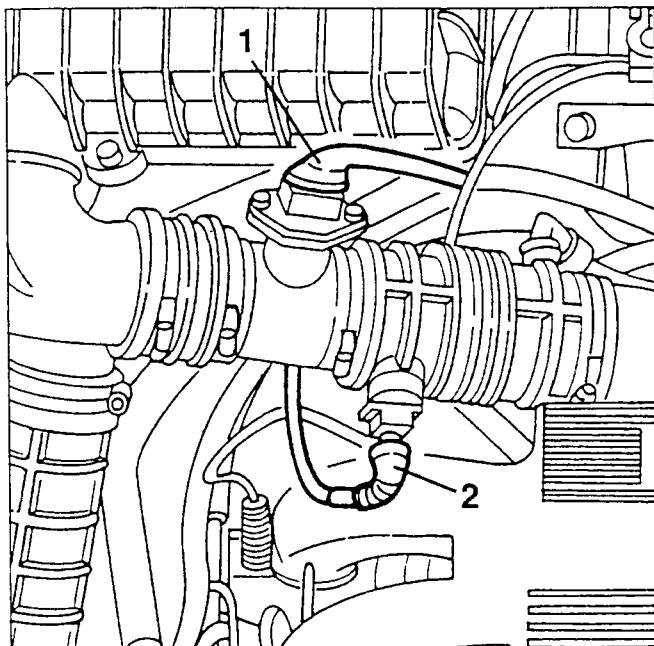
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- Support for gearshift and handbrake control levers 42
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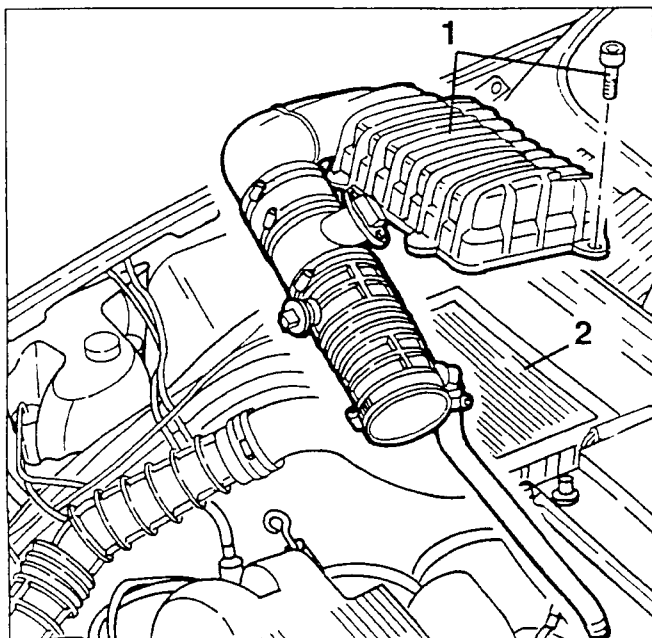
(*): See instructions given for  T. SPARK 16V

REMOVAL/REFITTING

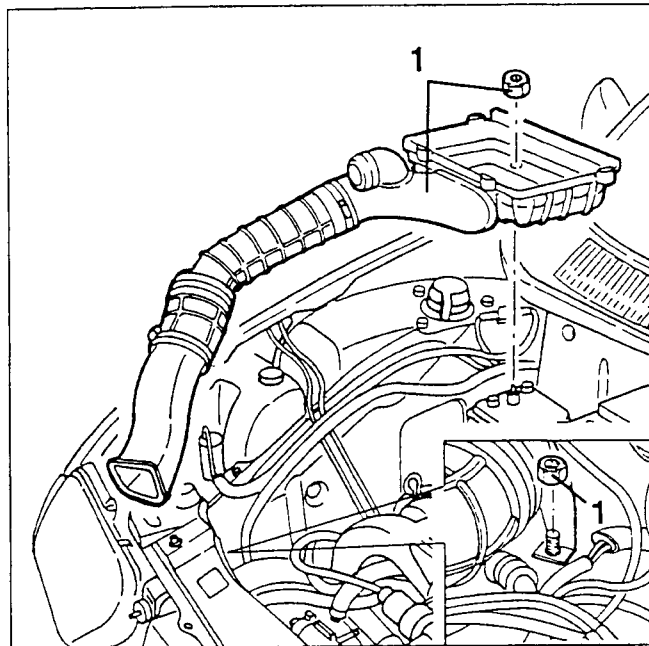
- Set the car on a lift.
 - Remove the battery (see GROUP 55).
 - Remove the gearbox cover (see GROUP 70).
 - Remove the radiator grille and the front bumper (see GROUP 70).
 - Remove the resonator
1. Disconnect the electrical connection from the air flow meter.
 2. Disconnect the electrical connection from the intake air temperature sensor.



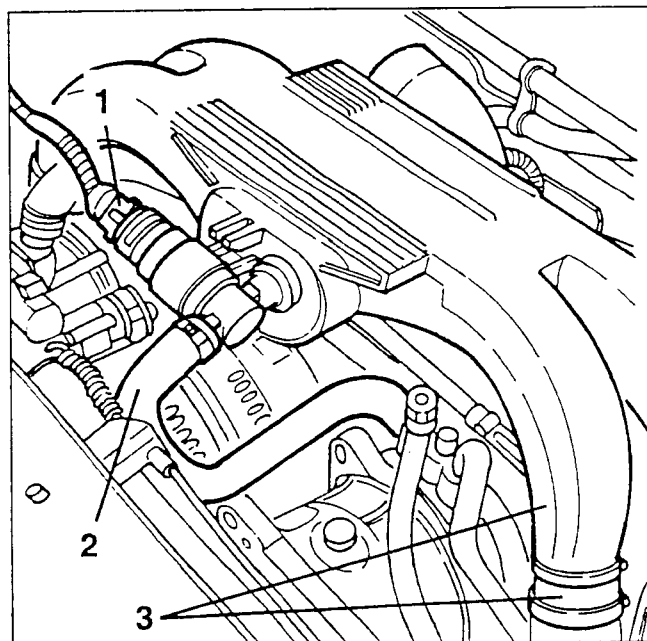
- Disconnect the oil vapour recovery pipe from the engine oil filler.
 - Disconnect the corrugated sleeve from the intake box.
1. Slacken the four fastening screws and remove the air cleaner cover complete with sleeves.
 2. Remove the filtering element.



1. Slacken the three nuts fastening the air cleaner box and the front bolt fastening the air inlet sleeve and remove it.

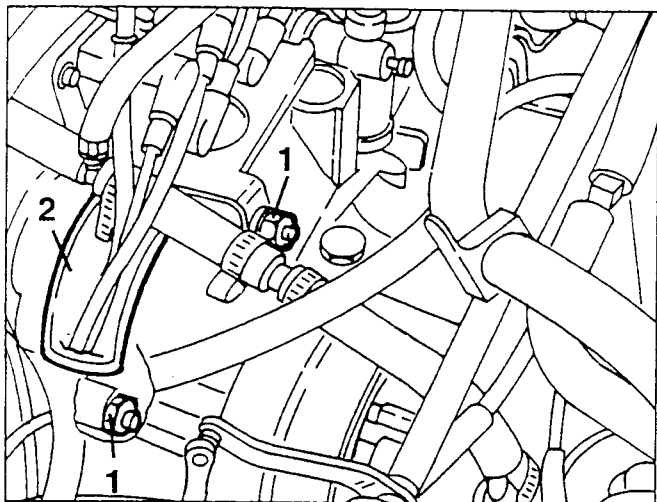


1. Disconnect the electrical connection from the idle speed actuator.
2. Disconnect the air intake pipe.
3. Slacken the clamps fastening the bodies, then remove the intake box releasing it from the cables and from the pipes fastened to the brackets below.

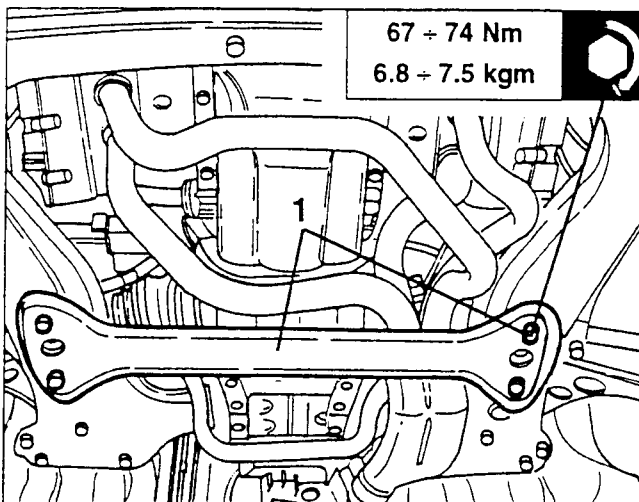


NOTE: Suitably plug the intake ducts to prevent foreign matter from getting into them.

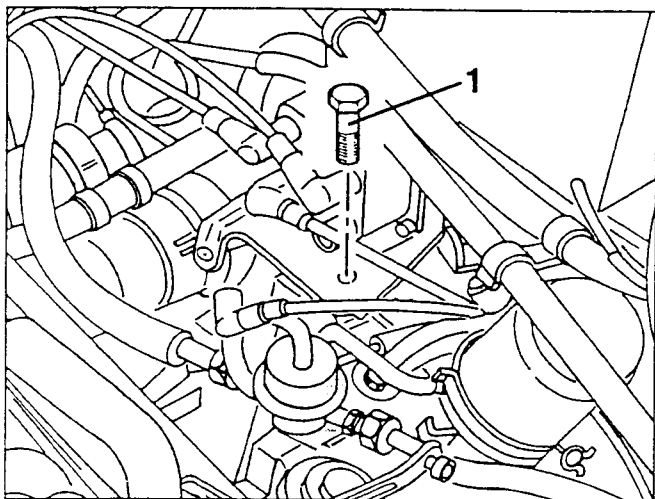
1. Slacken the two bolts fastening the starter motor.
2. Retrieve the protective cover.



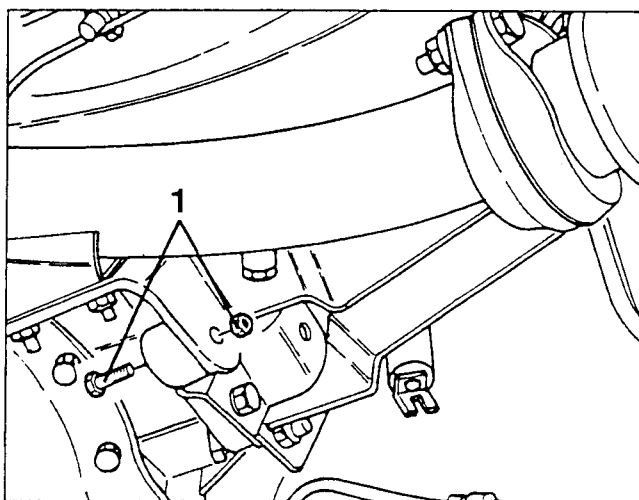
- Raise the car.
1. Slacken the fastening screws and remove the engine mount frame crossmember.



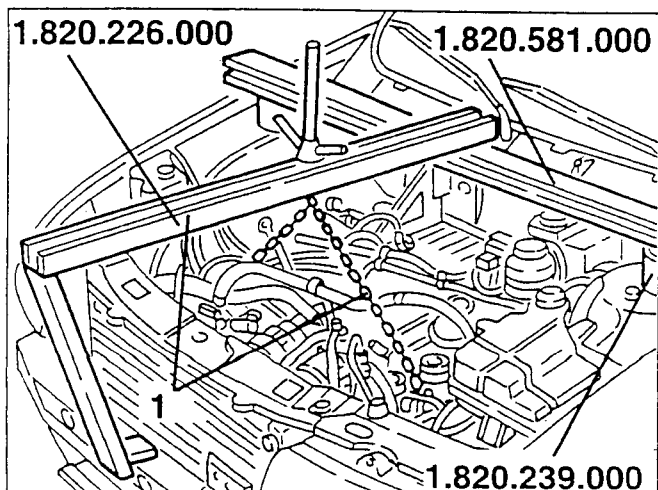
1. Slacken the screw fastening the ignition coils support bracket.



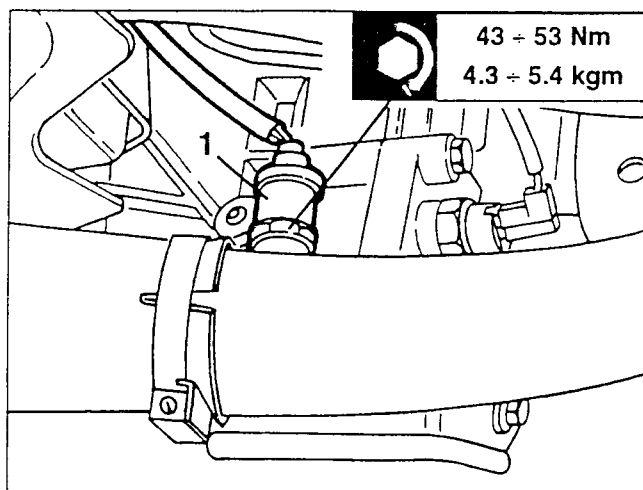
1. Slacken the bolt fastening the exhaust manifold support bracket.



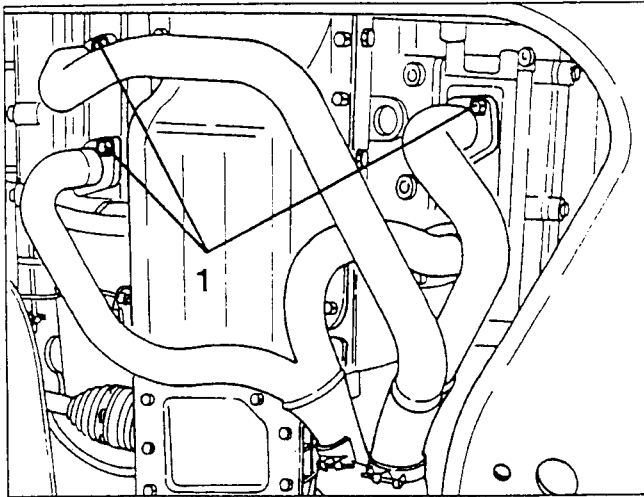
1. Using tools N° 1.820.239.000, N° 1.820.581.000 and N° 1.820.226.000 suitably support the engine.



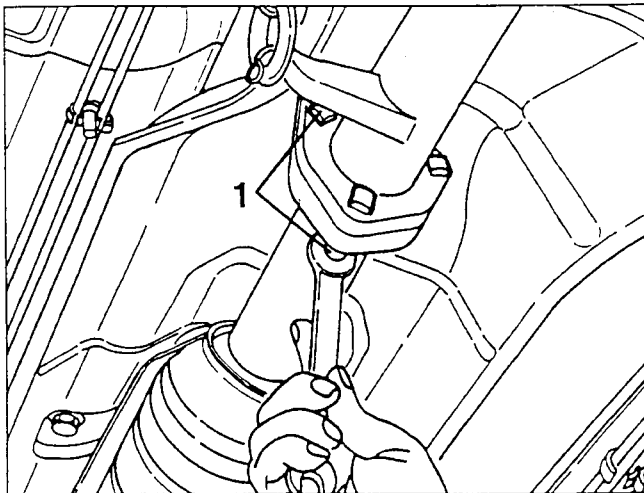
1. Remove the lambda sensor from the exhaust pipe.



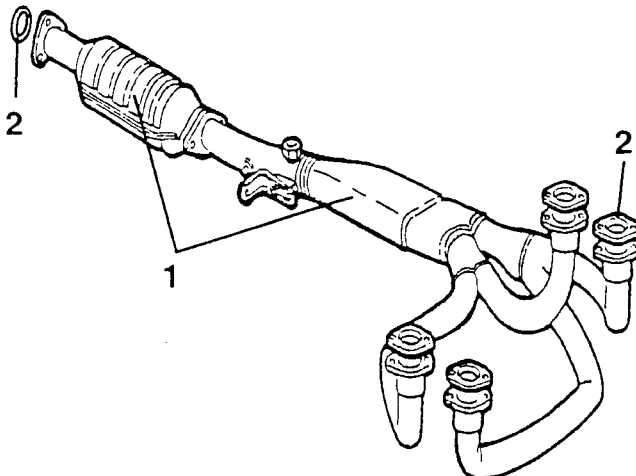
1. Slacken the nuts fastening the exhaust manifolds to the cylinder heads.



1. Slacken the three bolts fastening the catalytic converter to the exhaust silencers.

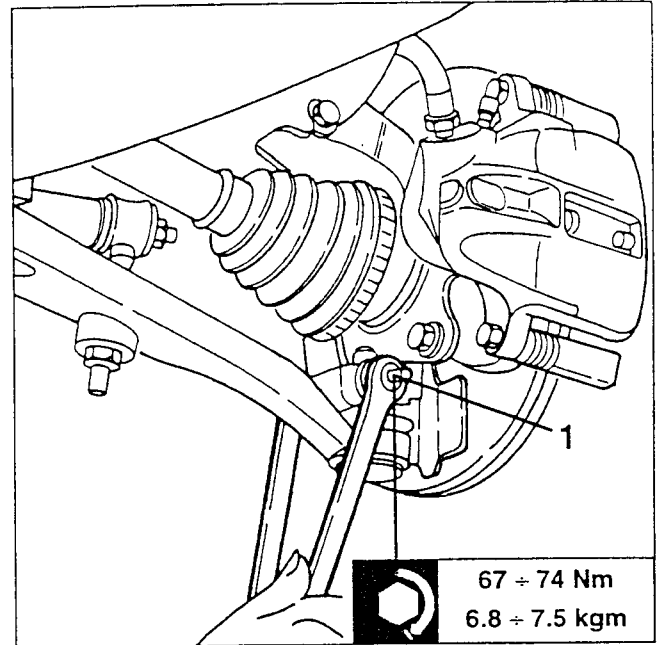


1. Remove the exhaust manifolds complete with the catalytic converter.
2. Retrieve the seals.
- Remove the catalyst heat guard.

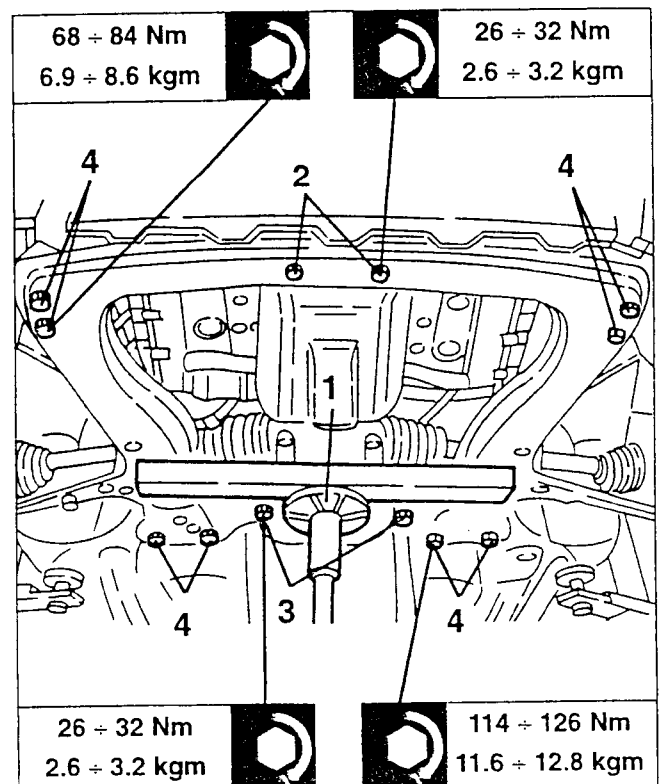


- Remove the front wheels.

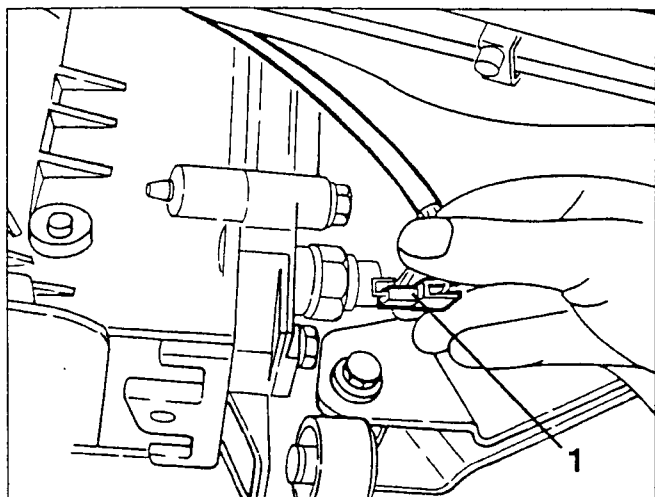
1. Slacken the bolts fastening the wishbones to the wheel hubs.



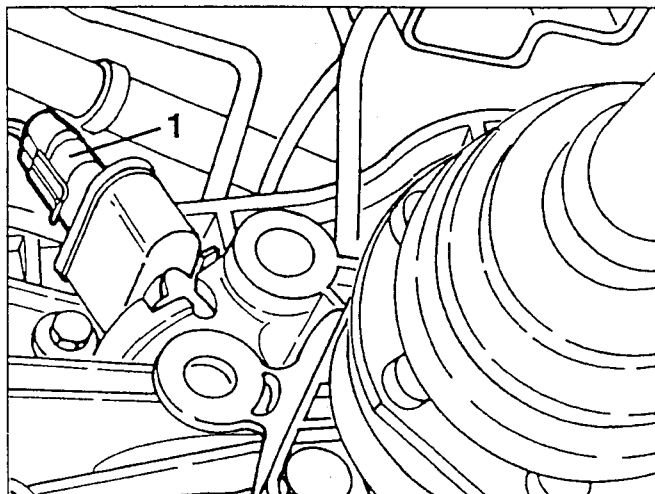
1. Suitably support the engine mount frame with a jack.
2. Slacken the two screws fastening the frame to the engine flexible mount.
3. Slacken the two screws fastening the frame to the gearbox flexible mounts.
4. Slacken the screws fastening the frame to the body and remove it complete with wishbones and stabilizer bar.



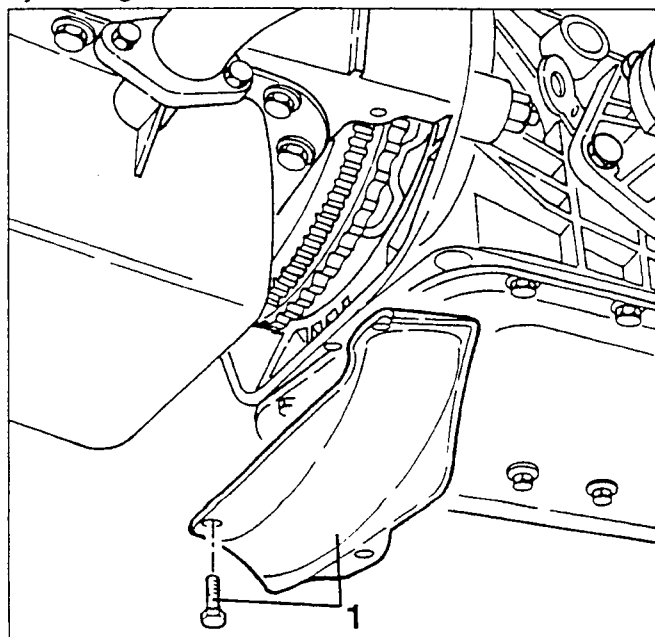
1. Disconnect the electrical connection from the reversing switch.



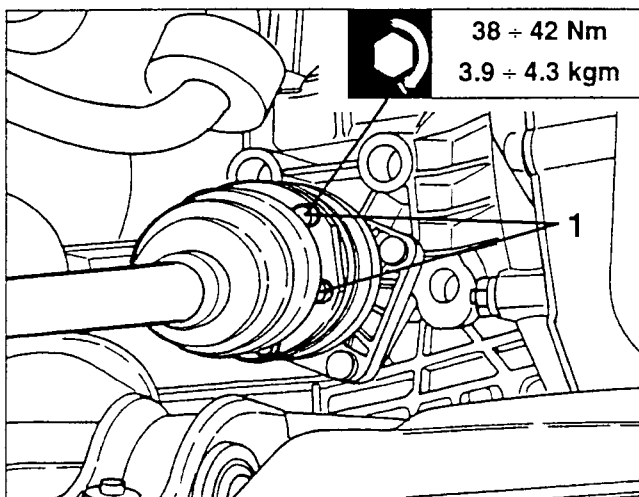
1. Disconnect the electrical connection from the speedometer sensor.



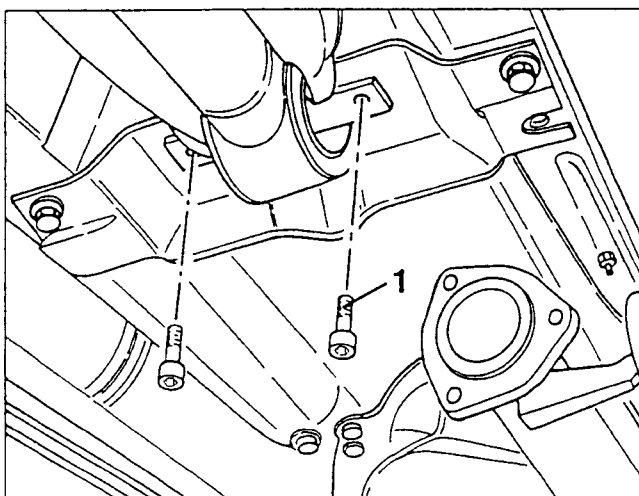
1. Slacken the three fastening screws and remove the flywheel guard.



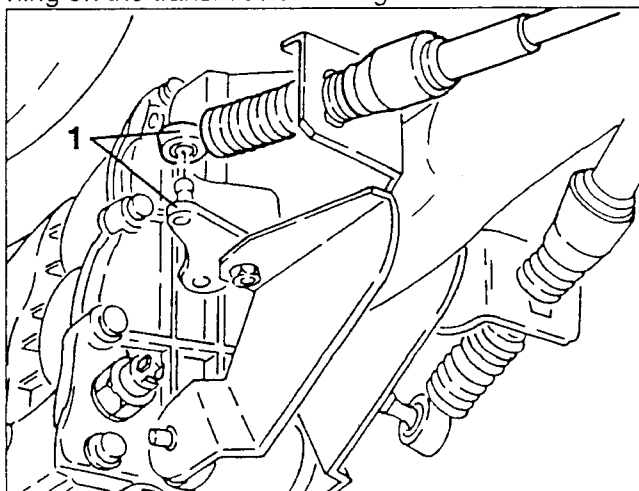
1. Slacken the fastening screws and disconnect the axle shafts.



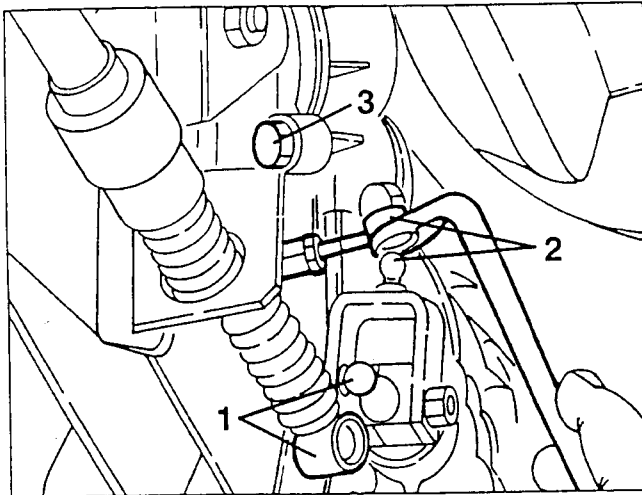
1. Slacken the two screws fastening the power unit rear support to the body and lower the power unit rearwards using the support tools.



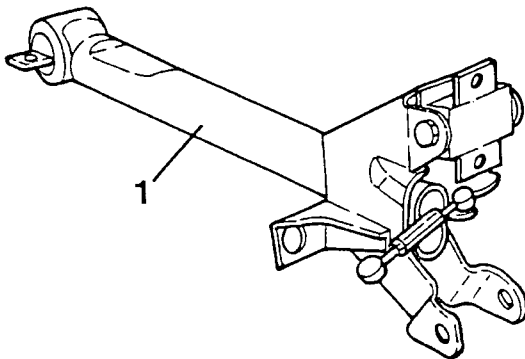
1. Disconnect the gear selector cable from the fastening on the transmission linkage.



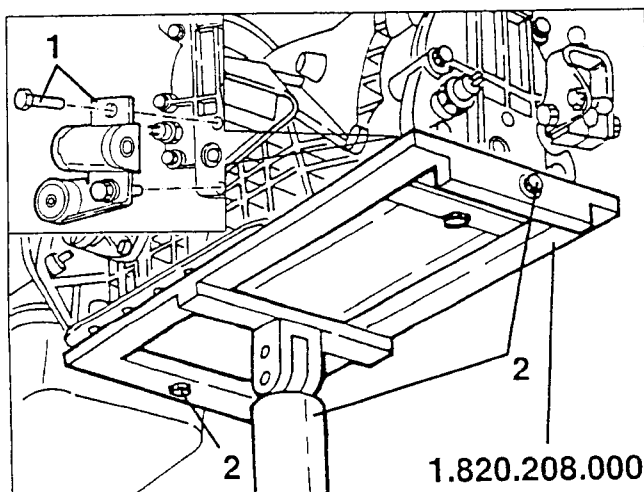
1. Disconnect the gear engagement cable from its fastening.
2. Disconnect the transmission rod of the gear selector cable from its fastening.
3. Slacken the bolt and the two upper screws fastening the rear power unit support to the gearbox cover.



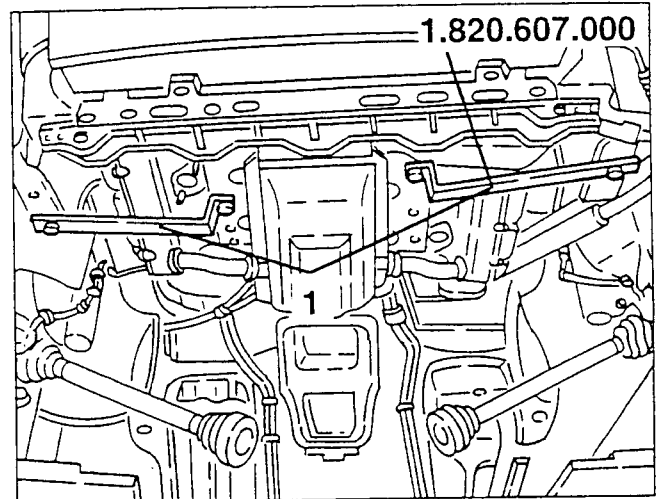
1. Remove the rear power unit support taking care to take the gearshift control cables off it.



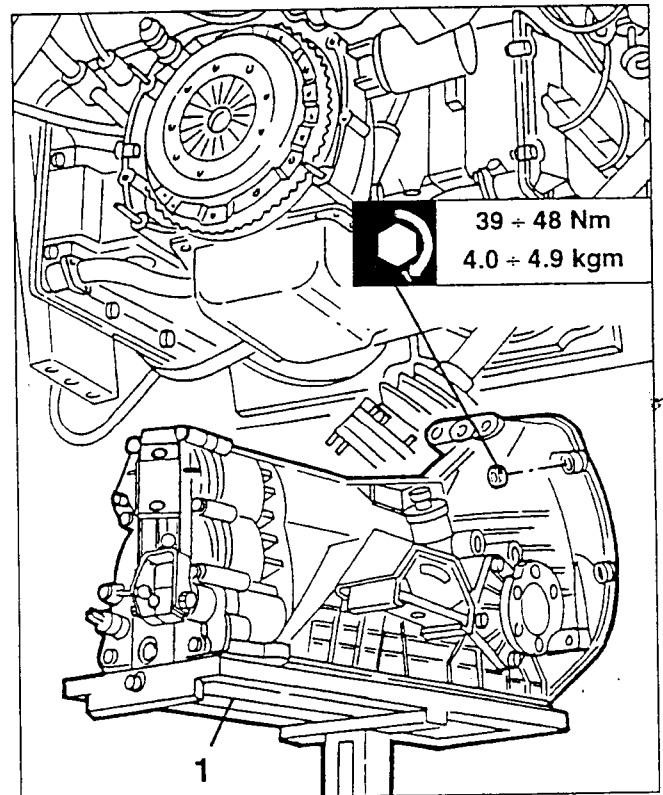
1. Slacken the two fastening screws and remove the lower flexible mount.
2. Install stand N° 1.820.208.000 fitted with a hydraulic jack as illustrated under the gearbox sump.



1. Fit two safety brackets N° 1.820.607.000 to support the engine.



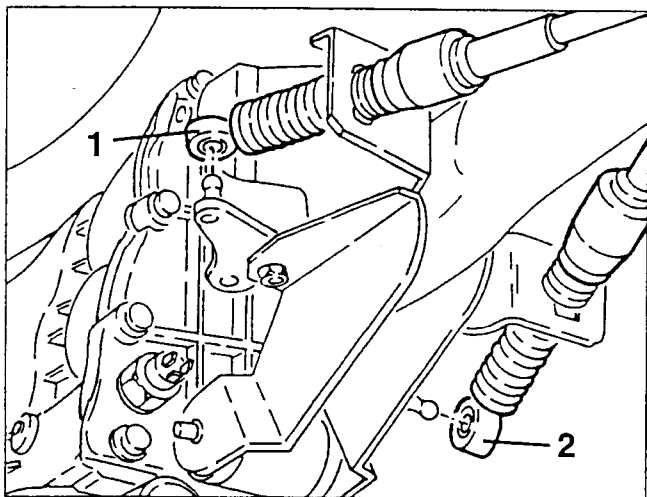
1. Slacken the fastening nuts, suitably move the gearbox-differential unit to free it from the dowels on the engine and to release the clutch shaft from the driven plate. Then lower the hydraulic jack and remove the gearbox-differential unit.



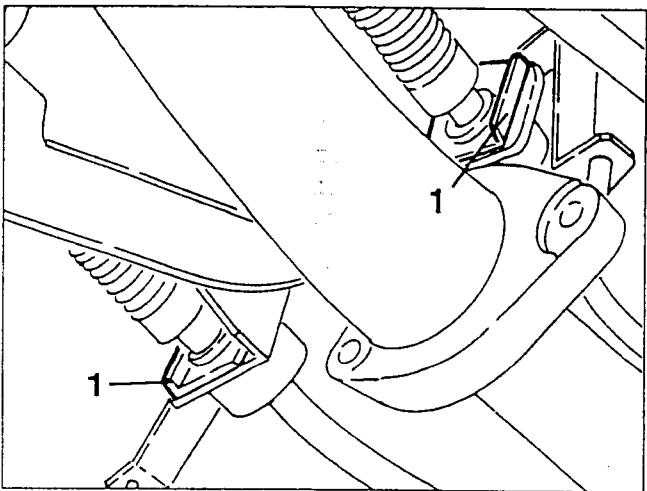
GEARBOX CONTROL CABLES**REMOVAL/REFITTING**

- Remove the catalytic converter and the corresponding heat guard (see GROUP 10).

1. Disconnect the gear selector cable from the fastening on the transmission linkage.
2. Disconnect the gear engagement cable from its fastening.

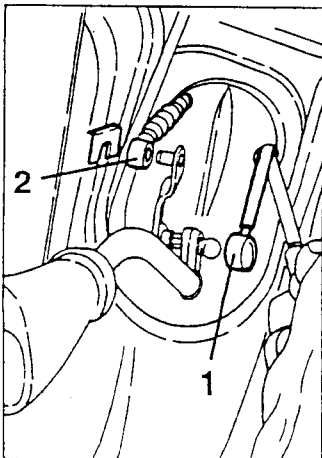


1. Remove the two gearshift control cable fastening clips from the power unit rear support.



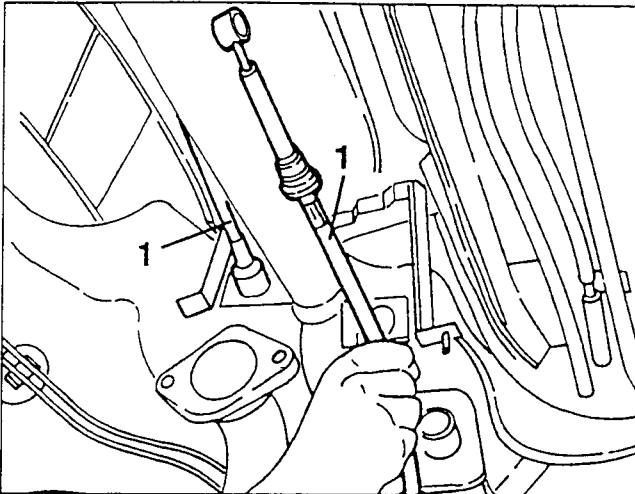
- Remove the gearbox centre console (see GROUP 70).

1. Disconnect the gear selector cable from the fastening on the control lever.
2. Remove the catch and disconnect the gear selector cable from the control lever.



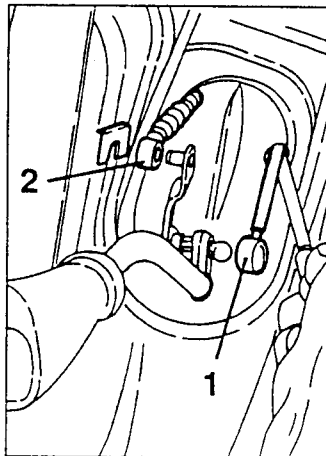
- Raise the car.

1. Withdraw and remove the two gearshift control cables.

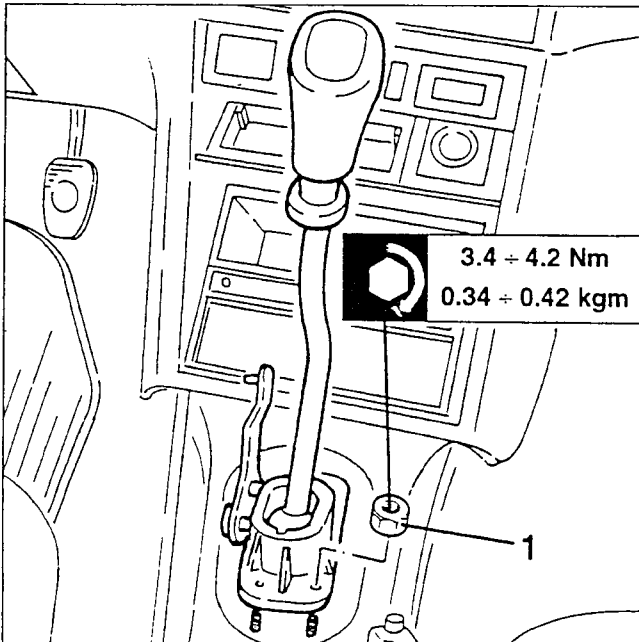
**GEARSHIFT CONTROL LEVER**

- Remove the gearbox centre console.

1. Disconnect the gear selector cable from the fastening on the control lever.
2. Remove the catch and disconnect the gear selector cable from the control lever.

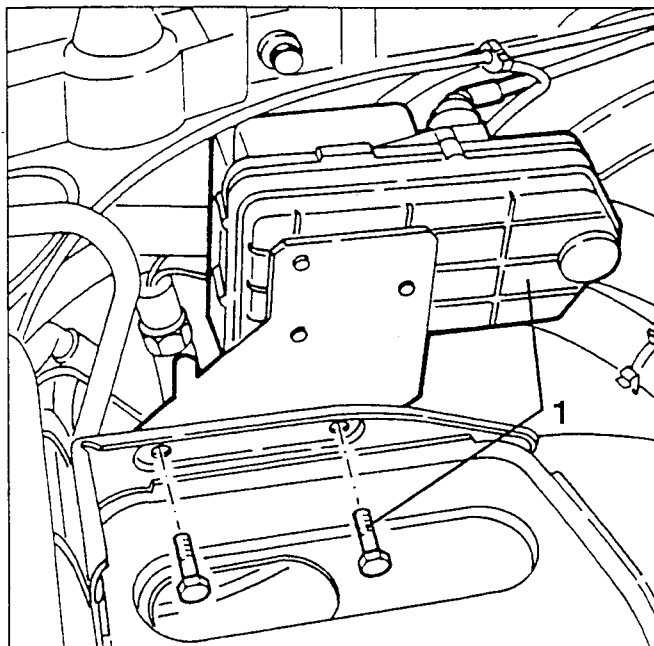


1. Slacken the three fastening nuts and remove the gearshift lever.

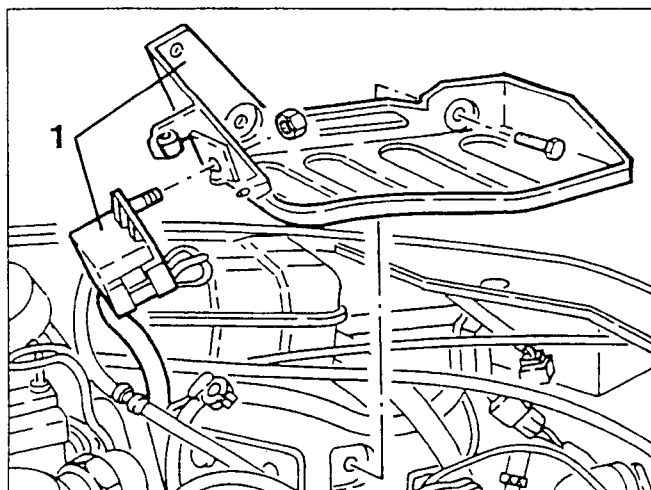


REMOVAL/REFITTING

- Set the car on a lift.
 - Remove the front wheels.
 - Remove the radiator grille and the front bumper (see GROUP 70).
 - Remove the battery (see GROUP 55).
1. Slacken the two fastening screws and move the air conditioner control unit to one side.

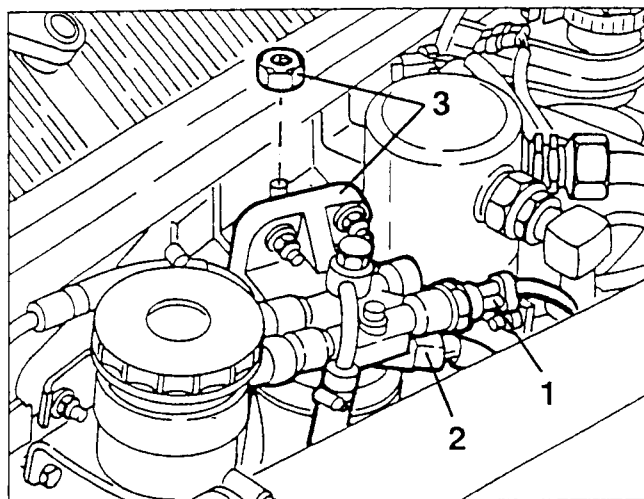


- Remove the battery acid drain duct.
1. Slacken the battery support bracket fastening screws, then remove it after disconnecting the glow plug warming control unit.

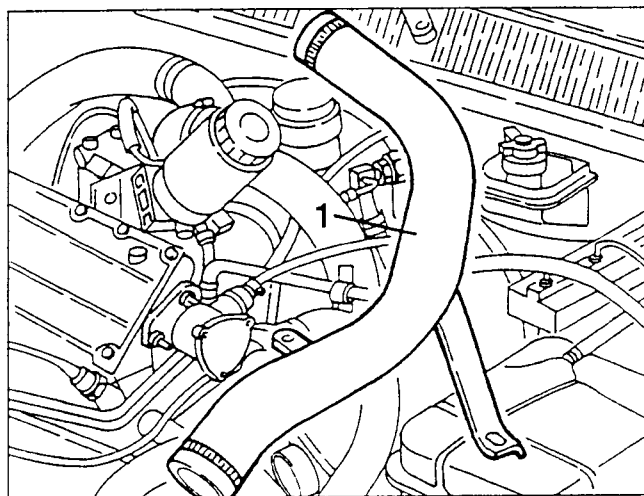


1. Disconnect the electrical connection from the fuel warming device sensor.
2. Disconnect the electrical connection supplying the fuel warming device.

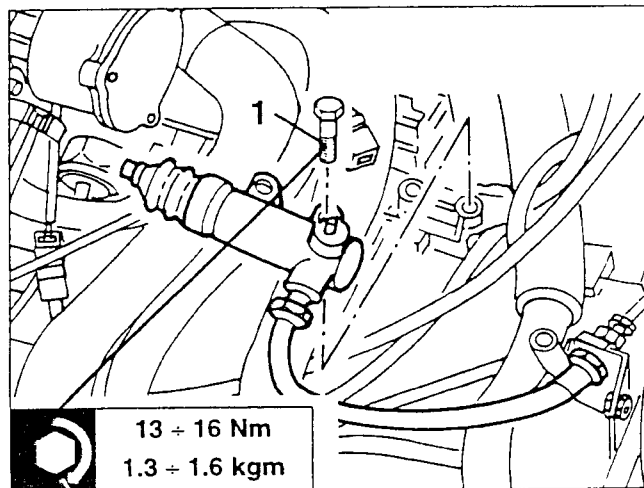
3. Slacken the nut fastening the fuel filter, then move it without disconnecting the hoses.



1. Slacken the clamps and screw of the intermediate bracket, then remove the stiff air delivery pipe from the turbocharger.

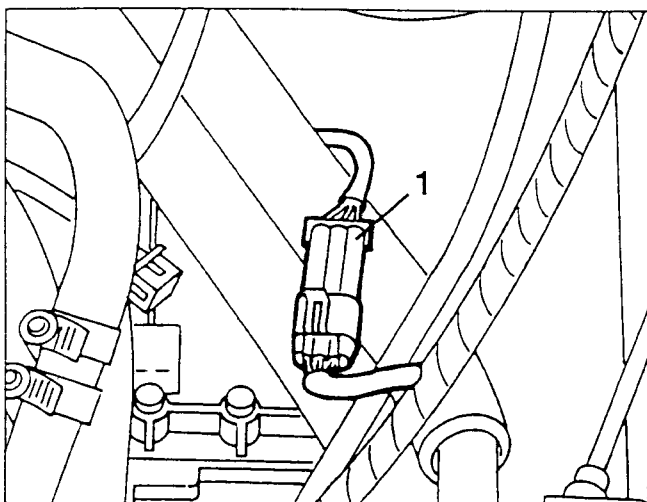


1. Slacken the two clutch control cylinder fastening screws and move it to one side without disconnecting the control hose.

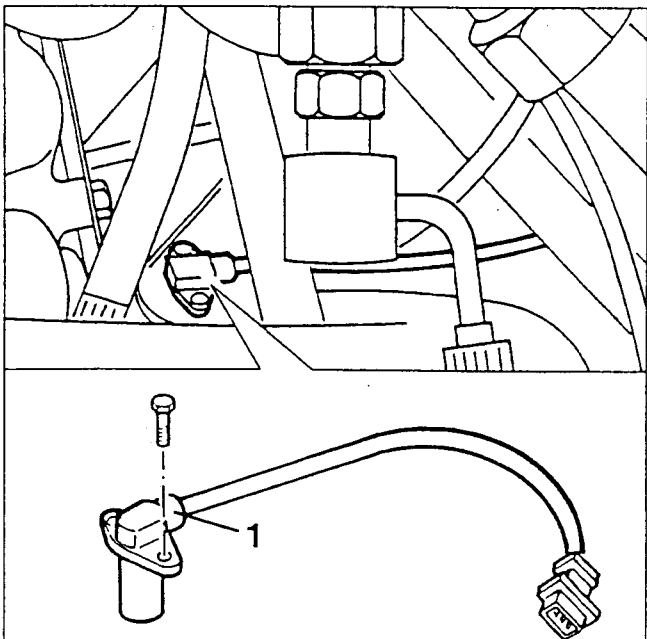


13 ÷ 16 Nm
1.3 ÷ 1.6 kgm

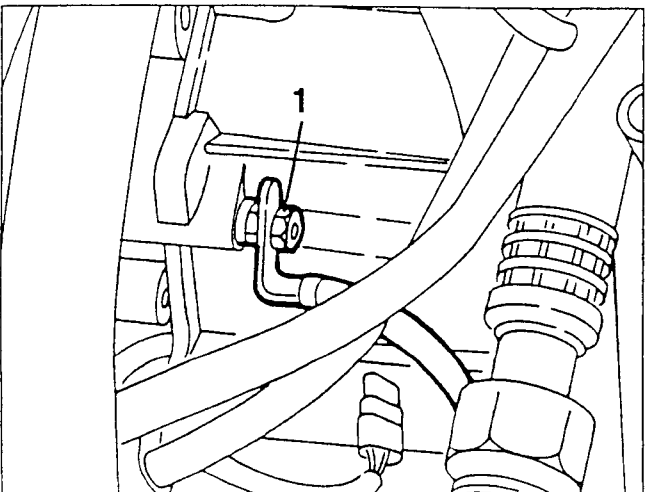
1. Disconnect the electrical connection of the speedometer sensor.



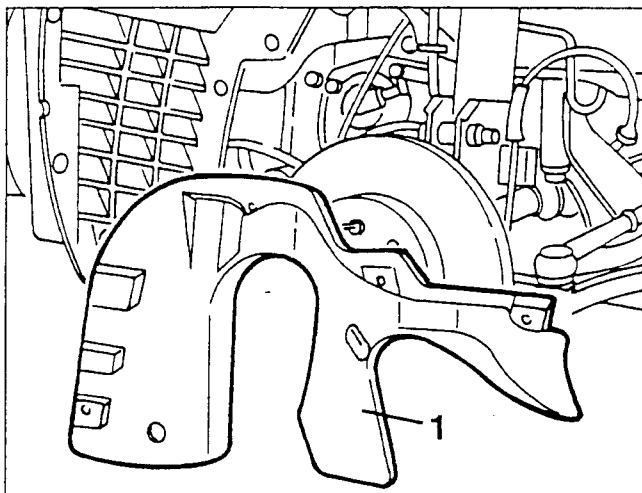
1. Disconnect the electrical connection, slacken the two fastening screws and remove the rpm sensor.



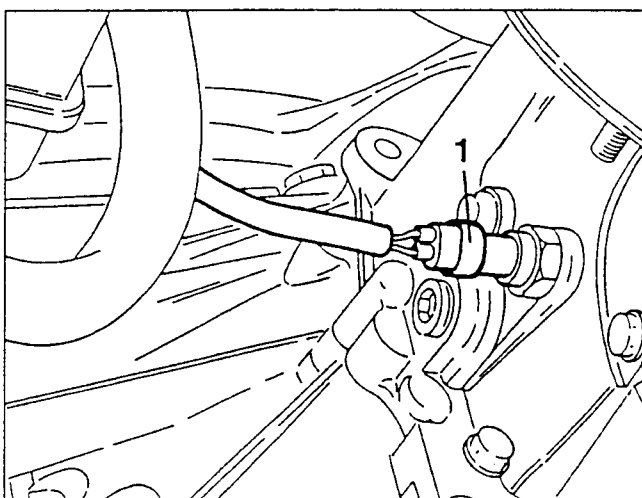
1. Disconnect the earth point of the battery (-) terminal.



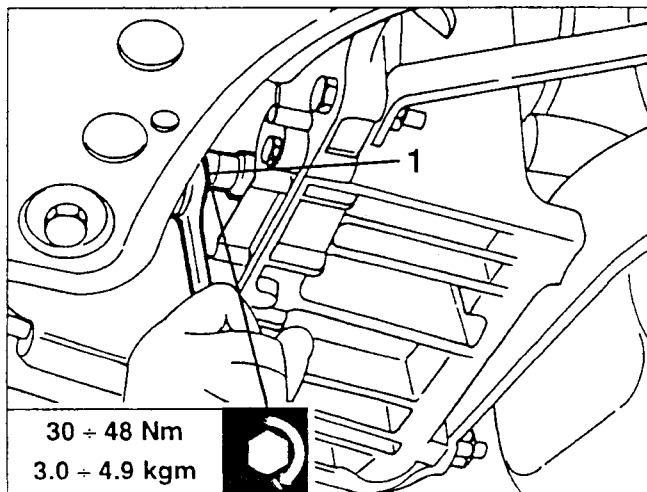
- Raise the car.
 - Working from the lefthand wheel arch disconnect the electrical connection of the brake pad wear sensor.
 - Slacken the screw fastening the ABS inductive sensor support bracket.
1. Remove the mud flaps from the wheel arches.



1. Disconnect the electrical connection from the reversing switch.

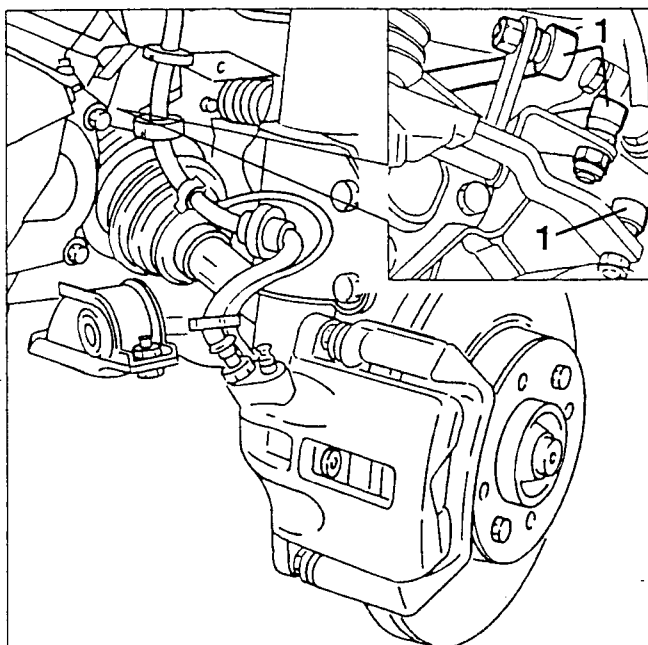


1. Remove the plug and drain the gearbox-differential oil into a suitable recipient.

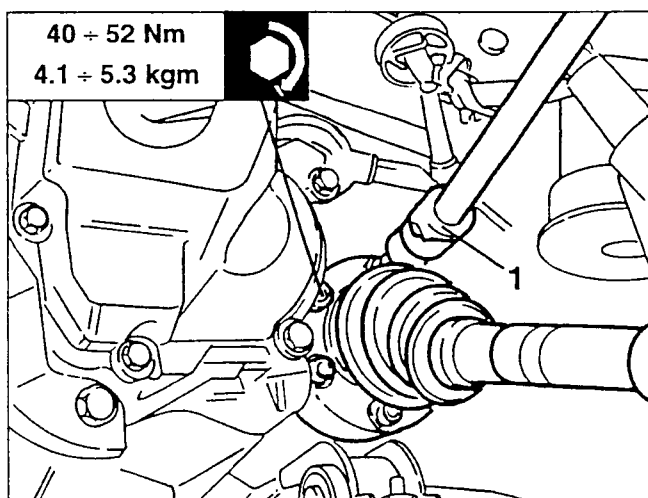


30 ÷ 48 Nm
3.0 ÷ 4.9 kgm

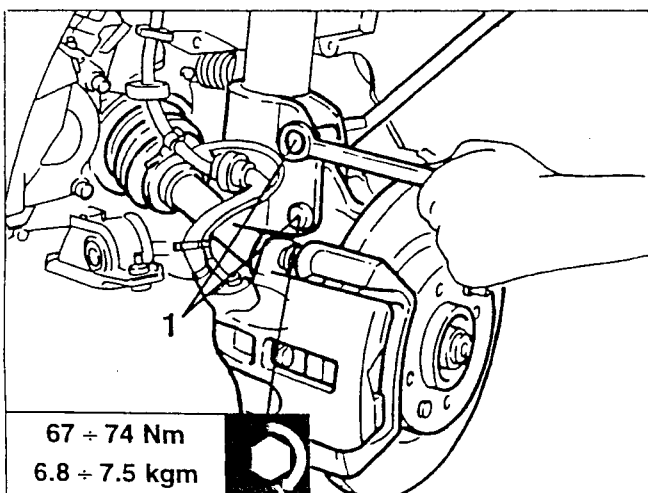
1. Working from the lefthand wheel arch, disconnect the gearshift control rods.



1. Slacken the axle shaft fastening screws.

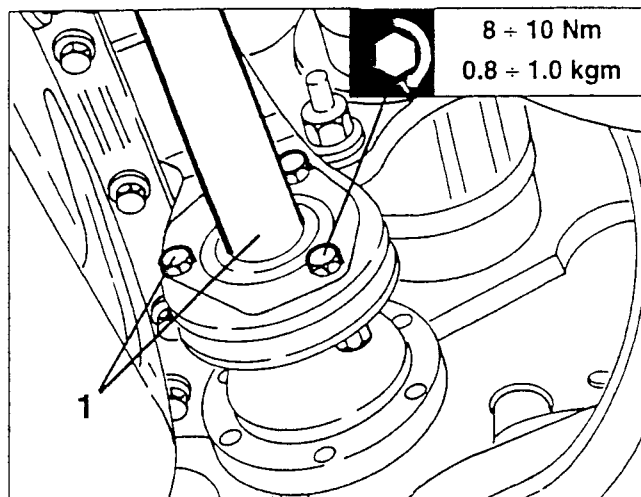


1. Slacken the two bolts fastening the right and left uprights to the corresponding shock absorbers, then withdraw the upper bolts only.



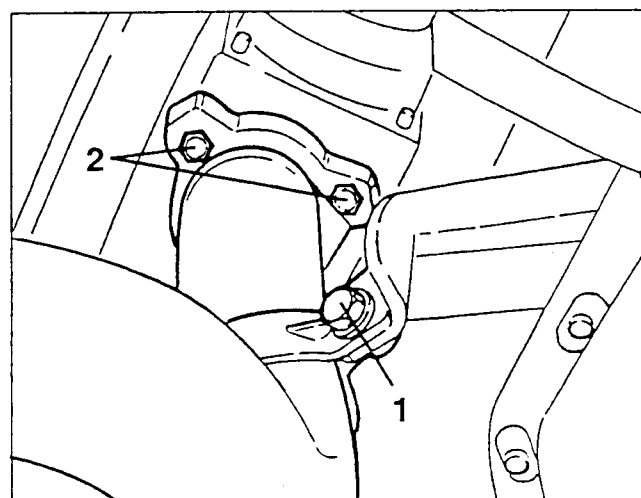
This operation makes it possible to move the axle shafts rearwards enough to disconnect them.

1. Slacken the three fastening bolts and remove the intermediate shaft from the differential.

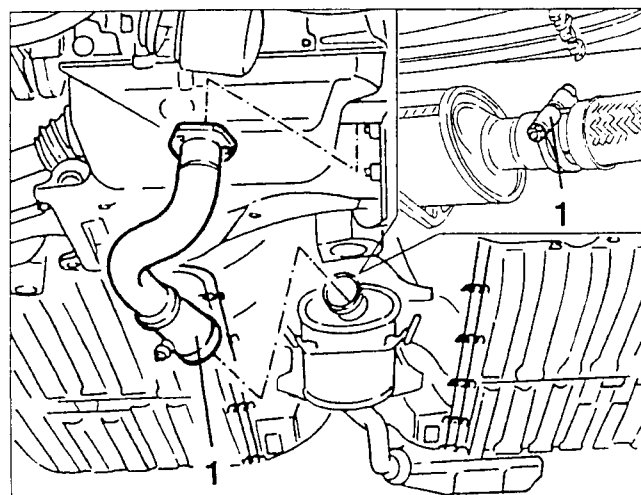


1. Remove the support clamp from the first section of the exhaust pipe.

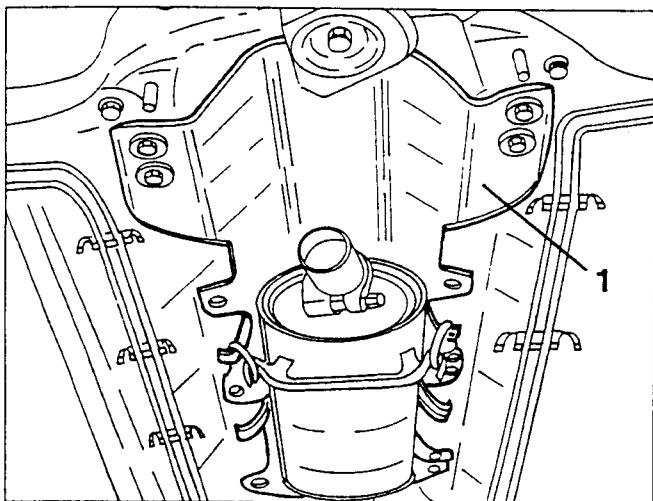
2. Slacken the screws fastening the flanges connecting the exhaust pipe to the turbocharger.



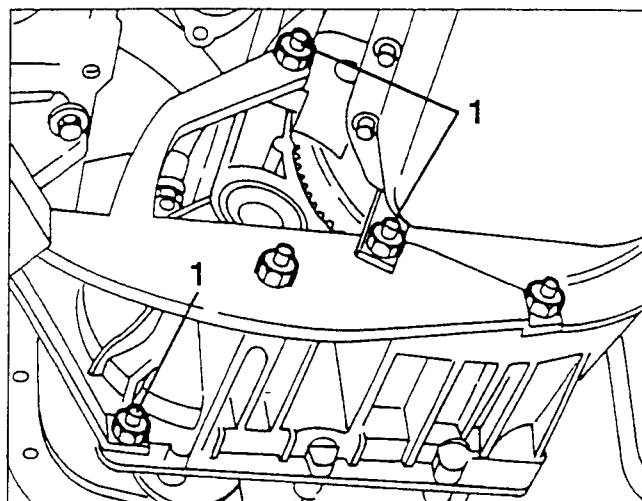
1. Slacken the clamp fastening the front section of the exhaust pipe and remove it.



1. Slacken the screws and nuts fastening the "crocodile" to the body and lower it just enough to be able to remove the crossmember.

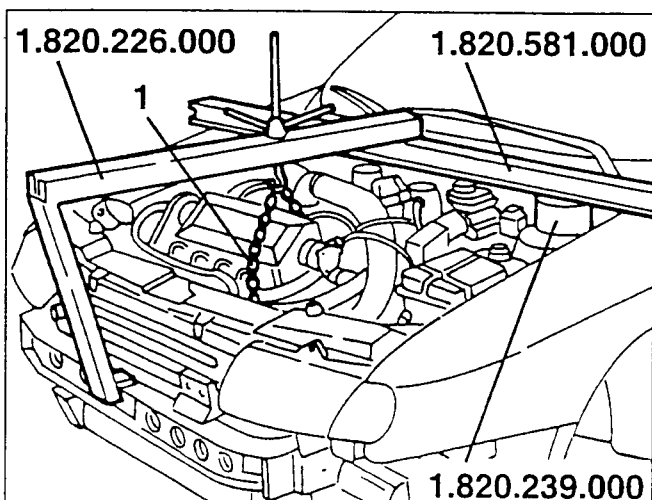


1. Slacken the four nuts and the bolt fastening the rear power unit support to the gearbox.

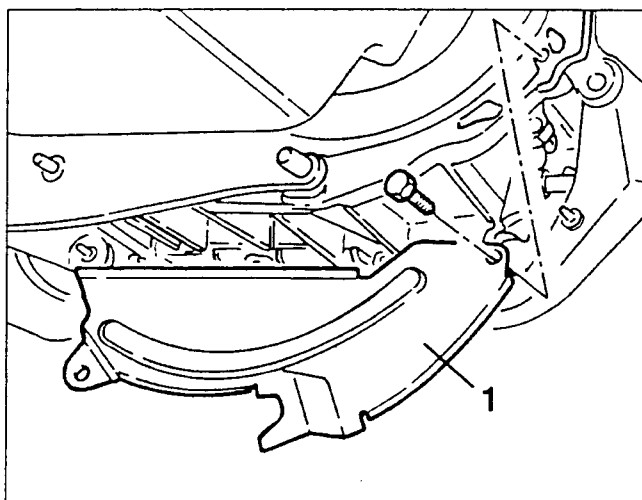


- Lower the car.

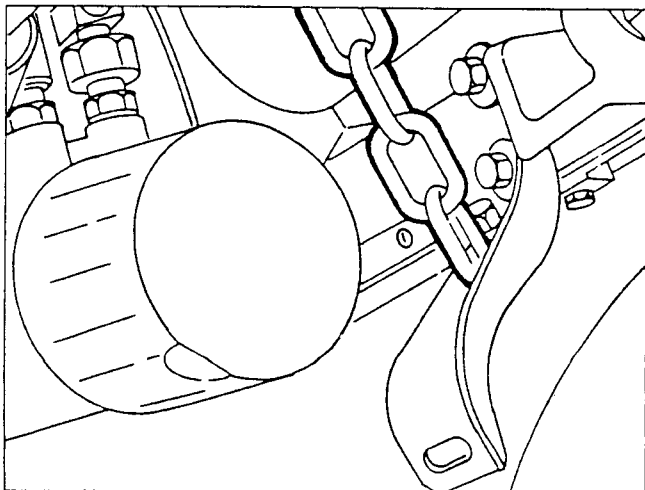
1. Using tools N° 1.820.239.000, N° 1.820.581.000 and N° 1.820.226.000 support the engine appropriately.



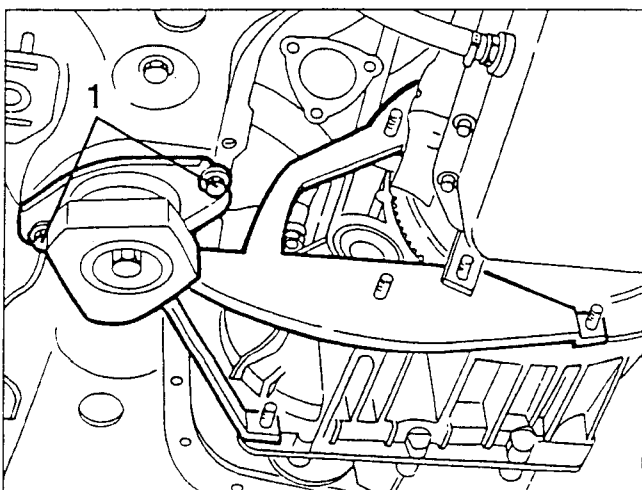
1. Slacken the two fastening screws and remove the flywheel guard.



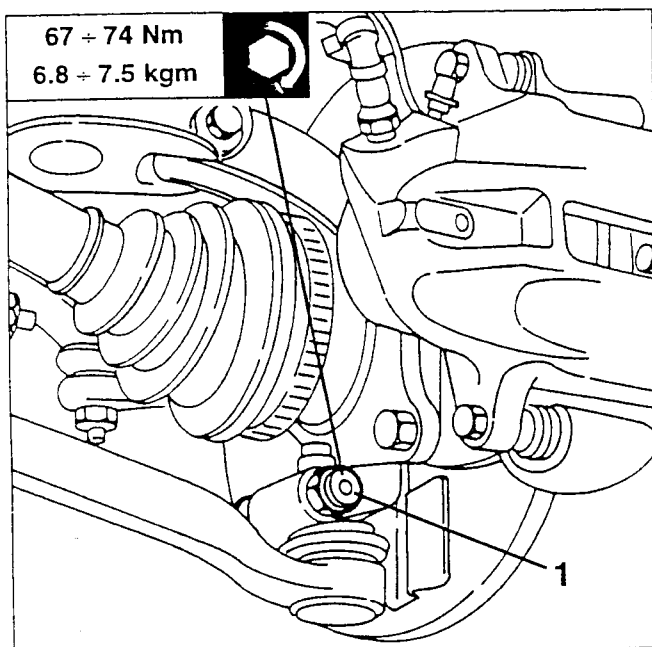
Fasten the chain on the rear side of the engine using the support bracket of the front section of the exhaust pipe.



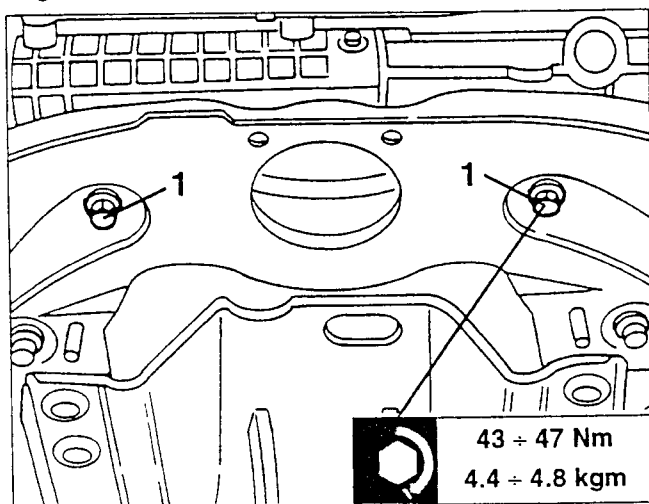
1. Slacken the two screws fastening the rear power unit support to the body and remove it.



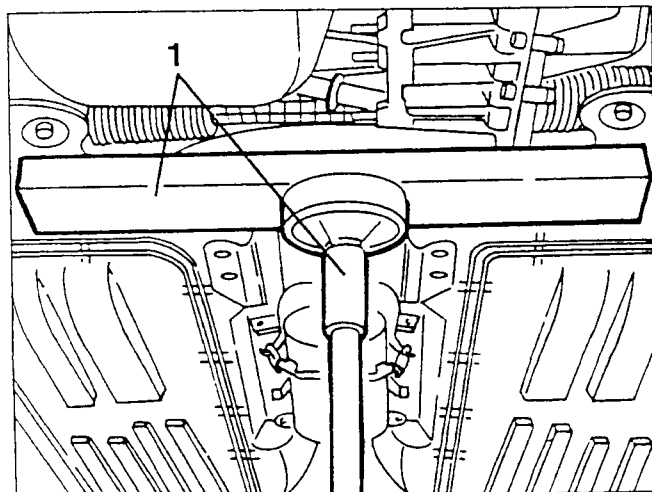
1. Slacken the two bolts fastening the right and left wishbone to the corresponding wheel hubs.



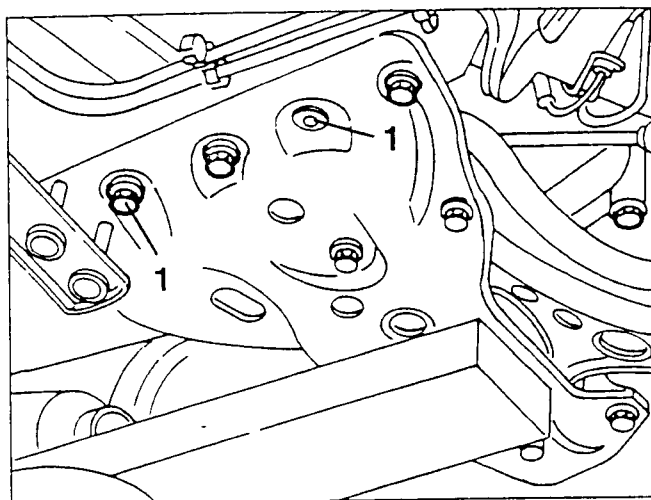
1. Slacken the two screws fastening the power steering box to the crossmember.



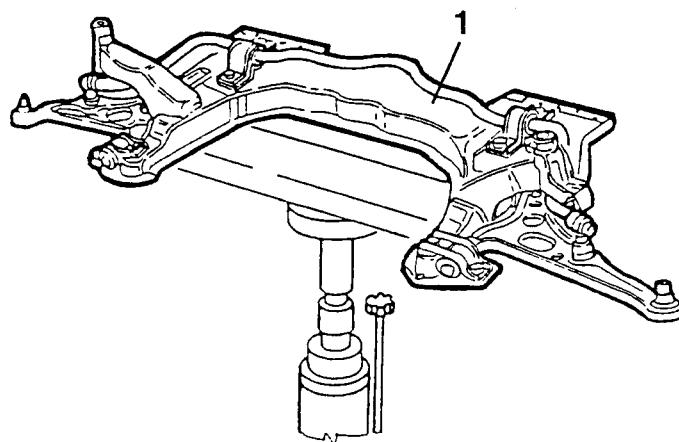
1. Position a hydraulic jack with special support under the crossmember.



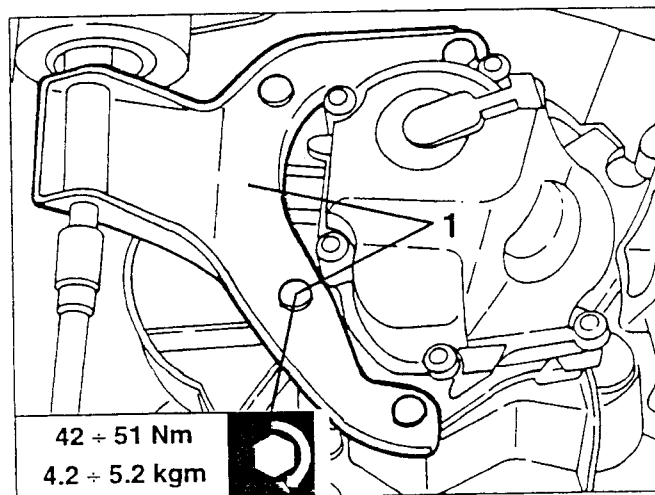
1. Slacken the fastening screws and remove the plastic crossmember fastening plugs.



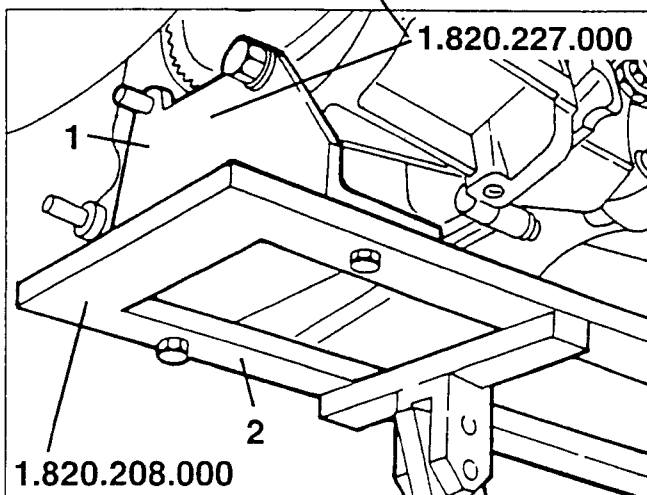
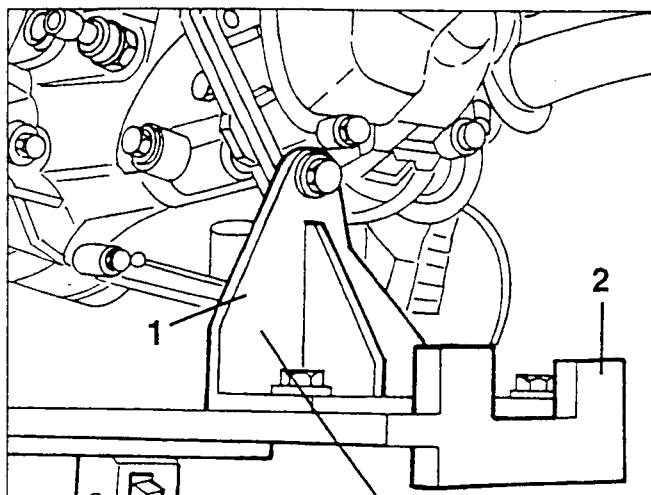
1. Lower the hydraulic jack and remove the crossmember complete with wishbones and stabilizer bar.



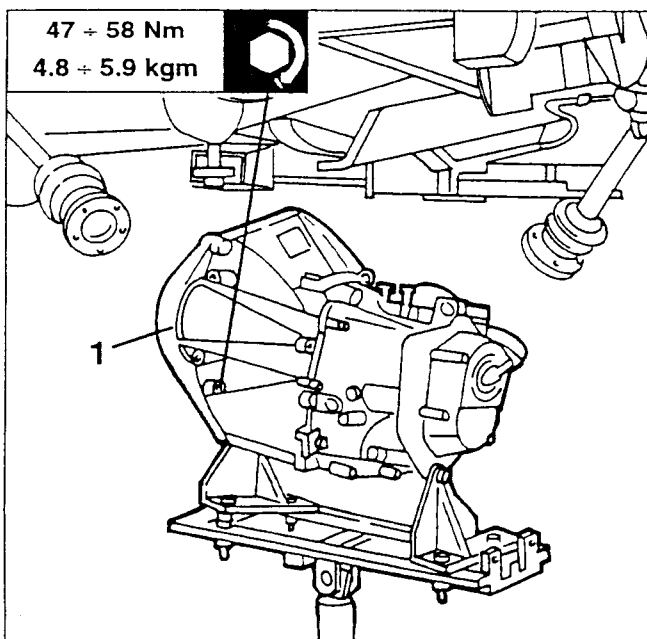
1. Slacken the fastening screws and remove the gearbox side power unit support.



1. Fasten brackets N° 1.820.227.000 at the sides of the gearbox as illustrated.
2. To the brackets fastened previously fit support N° 1.820.208.000 and using a hydraulic jack support the gearbox-differential unit.



1. Slacken the screws fastening the gearbox-differential unit to the engine and to the starter motor, then remove it.

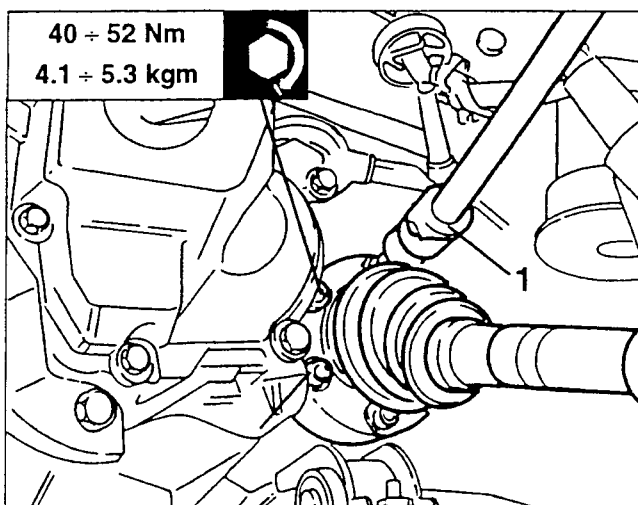


CAUTION:
After refitting the gearbox-differential unit, always check and if necessary, adjust, the clutch pedal (see GROUP 18).

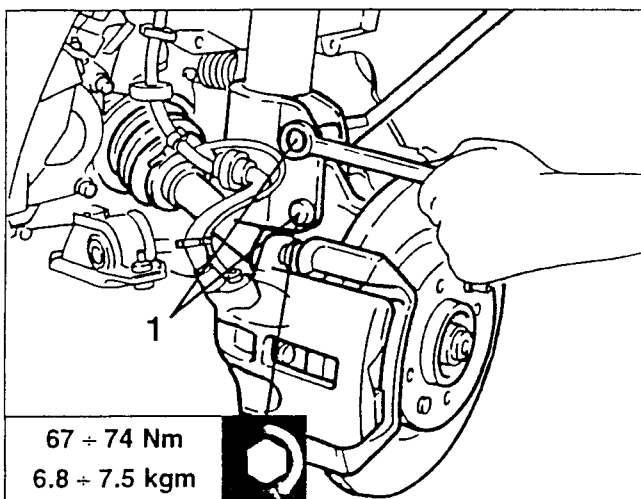
OPERATIONS IN THE CAR

CHANGING THE GEARBOX SIDE DIFFERENTIAL CARRIER OIL SEAL

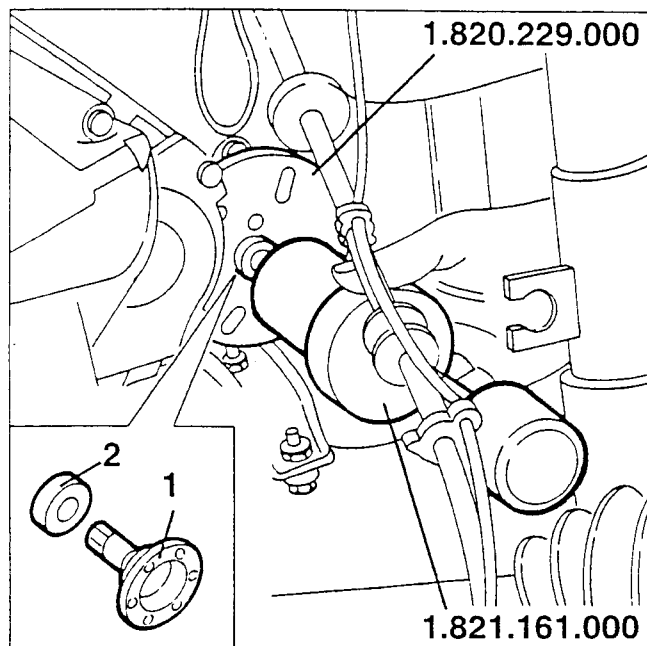
- Set the car on a lift.
- Disconnect the battery (-) terminal.
- Raise the car.
- Remove the left front wheel and mudflap.
- Working from the lefthand wheel arch, disconnect the electrical connection of the brake pad wear sensor.
- Slacken the screw fastening the ABS inductive sensor support bracket.
- 1. Slacken the left axle shaft fastening screws from the differential.



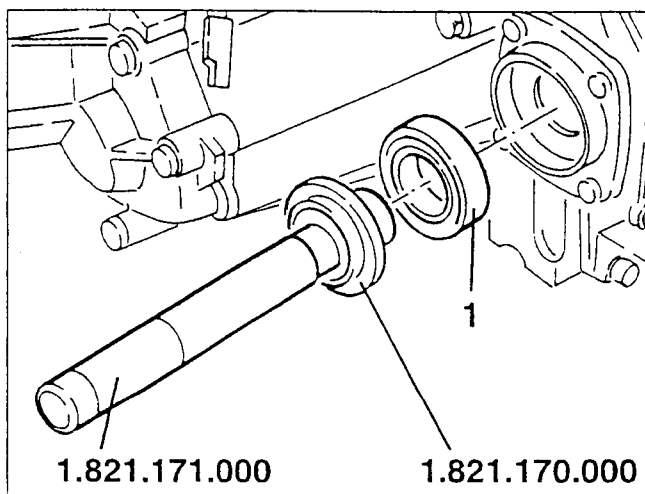
1. Slacken the two bolts fastening the left upright to the shock absorber, then withdraw the upper bolt only.



1. Using tools N° 1.820.229.000 and N° 1.821.161.000, remove the differential flange.
2. Remove the oil seal to be changed.



1. Using tools N° 1.821.170.000 and N° 1.821.171.000 install the new oil seal.

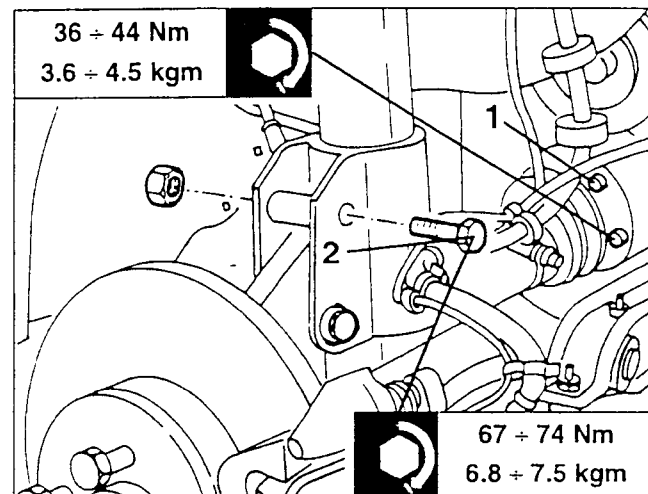


- Complete re-assembly reversing the procedure followed for removal.

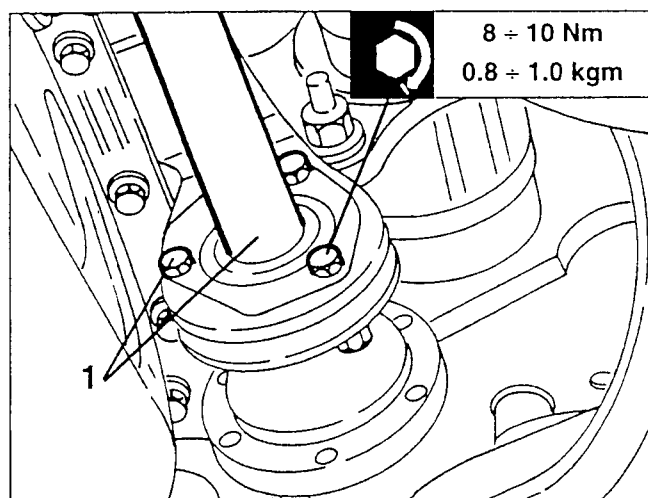
CHANGING THE DIFFERENTIAL CARRIER ENGINE SIDE OIL SEAL

- Set the car on a lift.
- Disconnect the battery (-) terminal.
- Raise the car.
- Remove the right front wheel and mudflap.
- Working from the righthand wheel arch, disconnect the electrical connection of the brake pad wear sensor.
- Slacken the screw fastening the ABS inductive sensor support bracket.

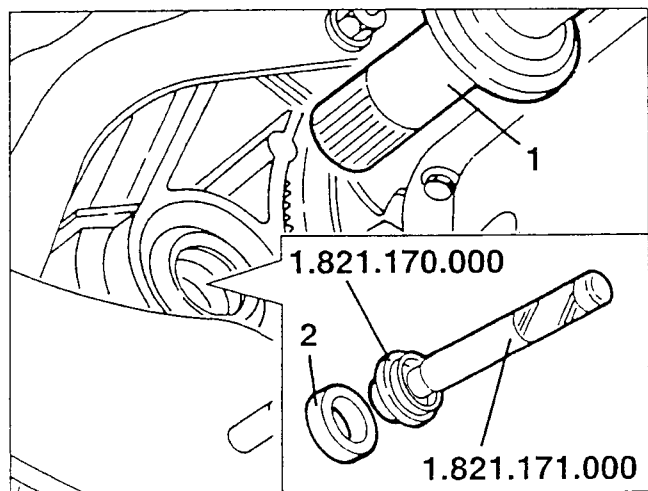
1. Slacken the left axle shaft fastening screws from the intermediate shaft.
2. Slacken the two bolts fastening the right upright to the shock absorber, then withdraw the upper bolt only.
- Move the axle shaft backwards just enough to disconnect it from the intermediate shaft and keep it as illustrated.



1. Slacken the three intermediate shaft fastening bolts.



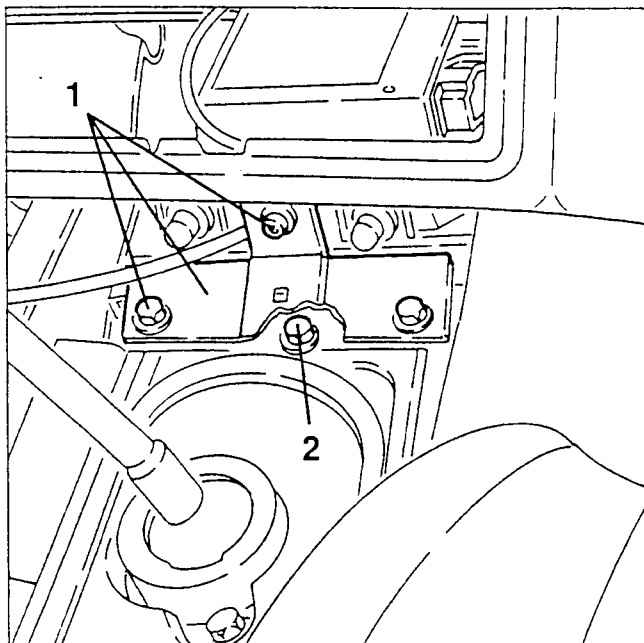
1. Take the intermediate shaft off the differential.
2. Using tools N° 1.821.170.000 and N° 1.821.171.000 install the new ring.



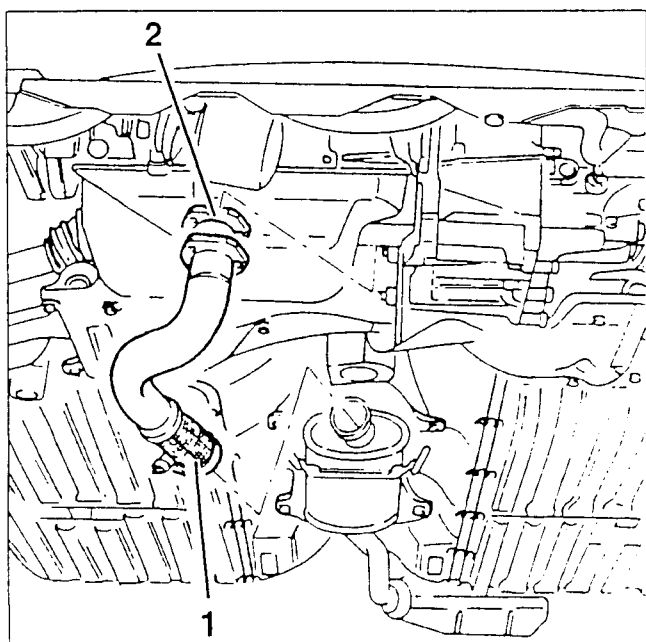
GEARSHIFT CONTROL ROD

REMOVING/REFITTING

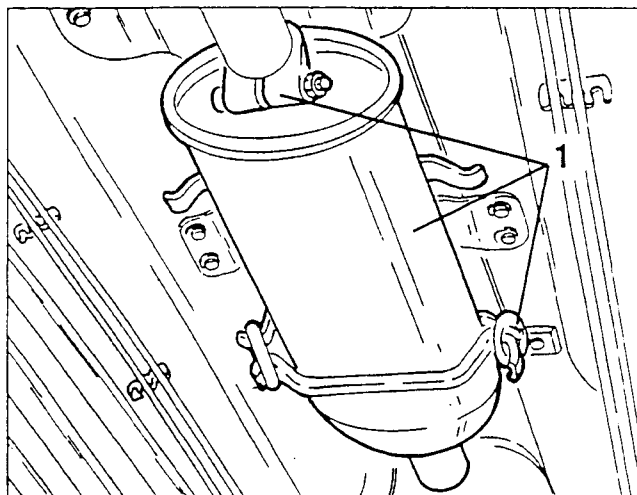
- Set the car on a lift.
- Remove the gearbox centre console (see GROUP 70).
- 1. Slacken the fastening screws and remove the dashboard lower fastening bracket.
- 2. Slacken the gearshift controls support fastening screw.



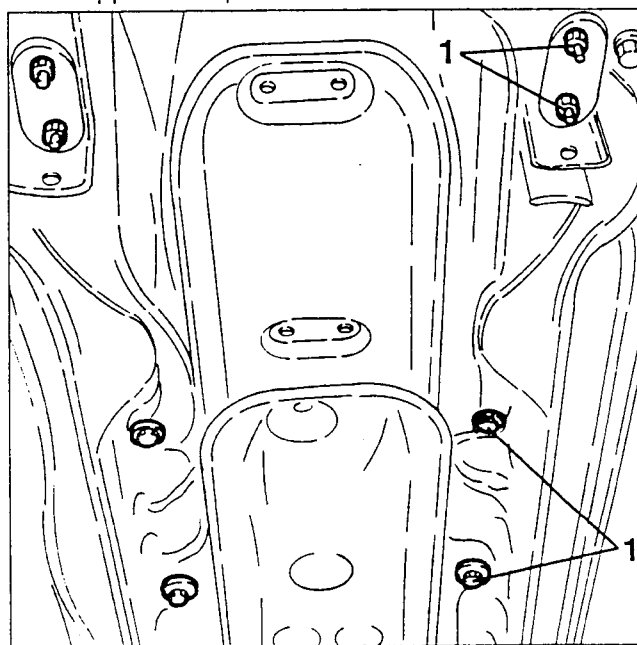
- 1. Remove the exhaust pipe front section.
- 2. Remove the seal.



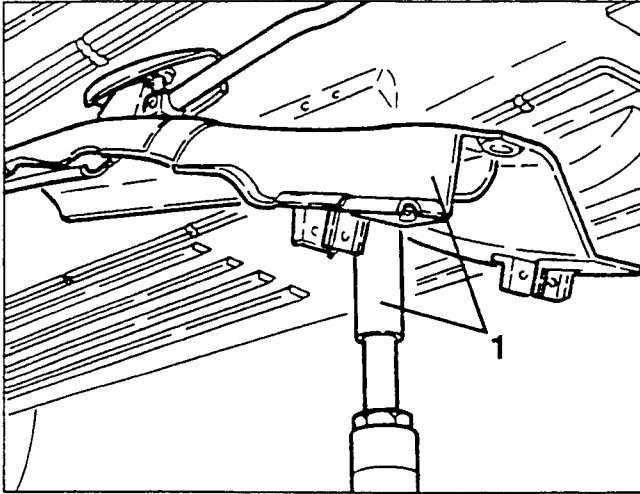
- 1. Slacken the clamp fastening the centre silencer to the rear section of the exhaust pipe, then remove it after freeing it from the support rings.



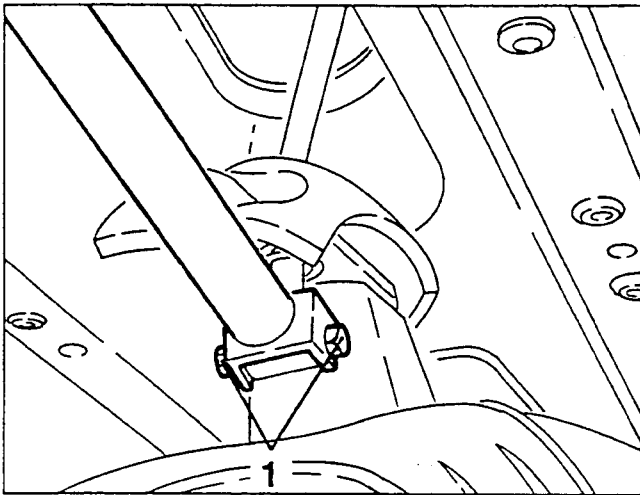
- 1. Slacken the fastening screws of the gearshift controls support except the two rear ones.



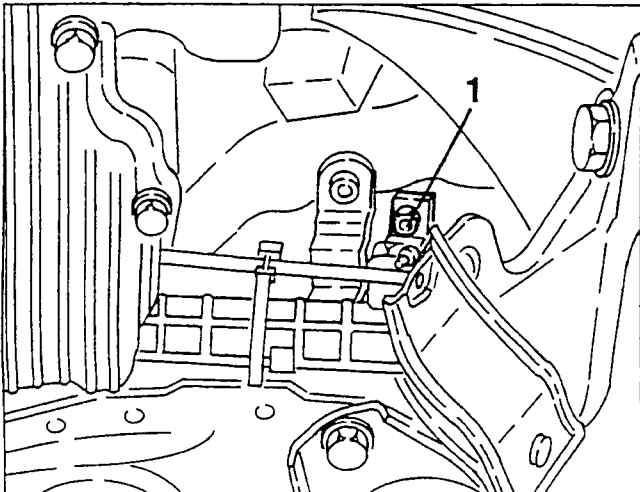
1. Using a hydraulic jack as support, lower the front of the gearshift controls support as illustrated.



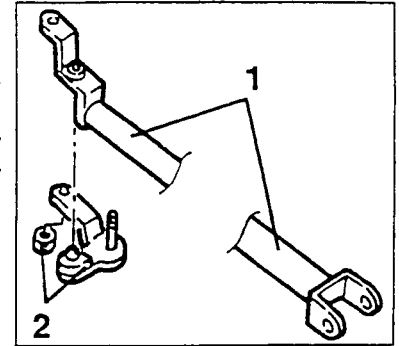
1. Disconnect the gearshift control rod from the lever slackening the fastening bolt.



1. Disconnect the gearshift control rod from the support on the power steering box slackening the fastening nut.



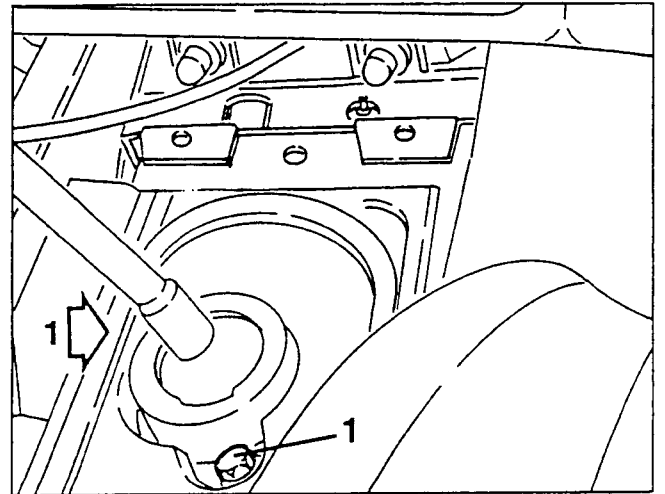
1. Remove the gearshift control rod.
 2. If necessary remove the relay levers slackening the remaining fastening nut.



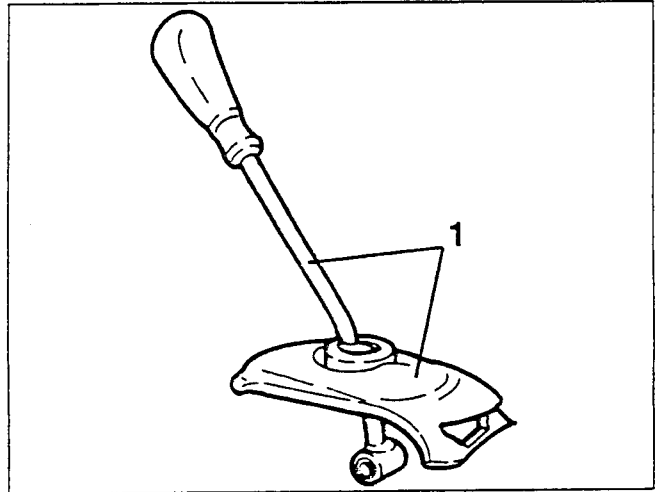
GEARSHIFT CONTROL LEVER

REMOVING/REFITTING

Proceed as described in the procedure "Gearshift control rod - Removing/Refitting" as far as disconnection of the gearshift control lever from the rod and taking care to slacken the two screws (1) fastening the gearshift control lever to the support, before slackening the fastenings of the gearshift controls support.

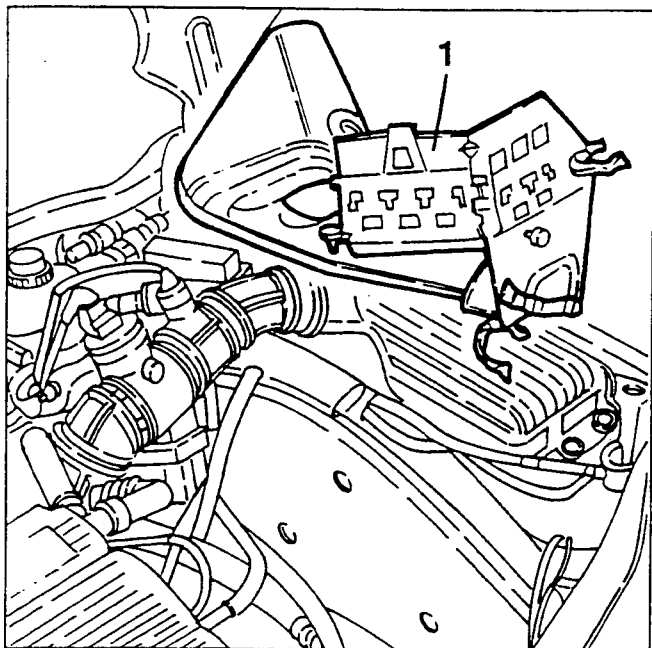


1. From under the car, retrieve the gearshift control lever complete with joint and frame.

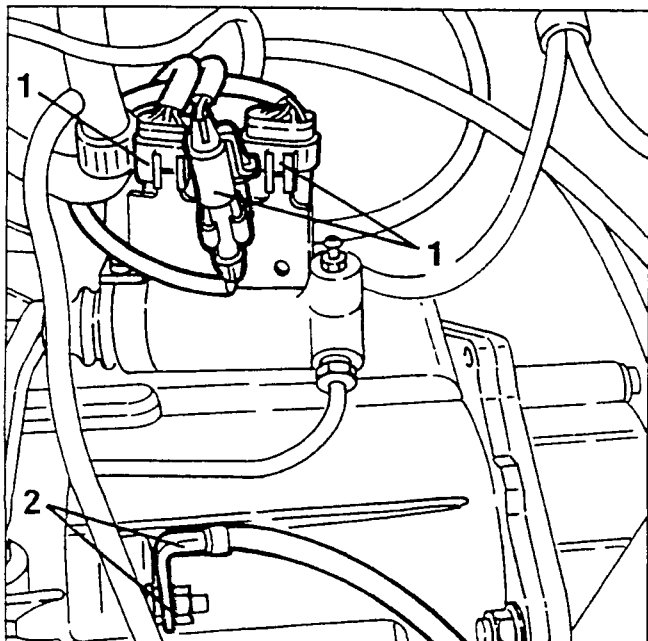


REMOVING/REFITTING

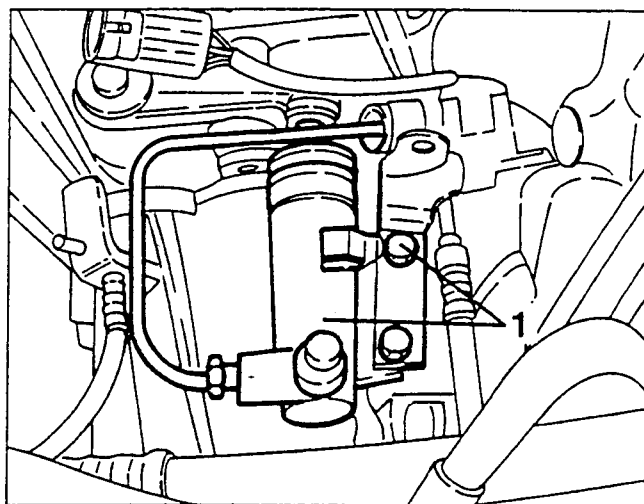
- Set the car on a lift.
 - Remove the front wheels and mud flaps.
 - Remove the battery.
 - Remove the relays from the battery support moving them to one side with their wirings so that they do not hinder the following operations.
1. Slacken the fastening screws, then remove the battery support after removing the rear cable support bracket from it.



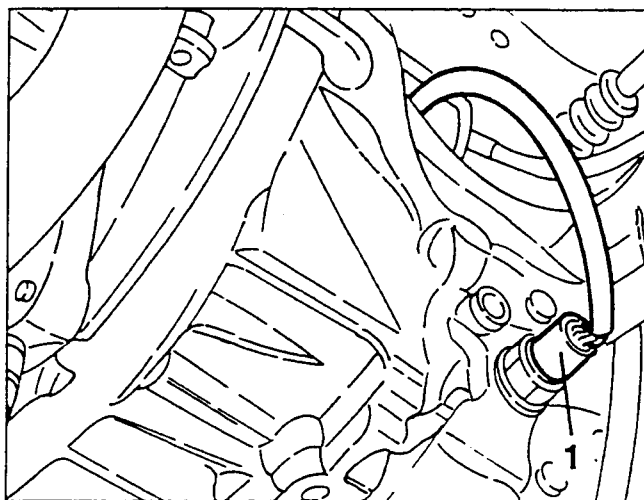
1. Remove the electrical connections from the support bracket fastened with the clutch control cylinder.
2. Disconnect the earth cable from the gearbox cover.



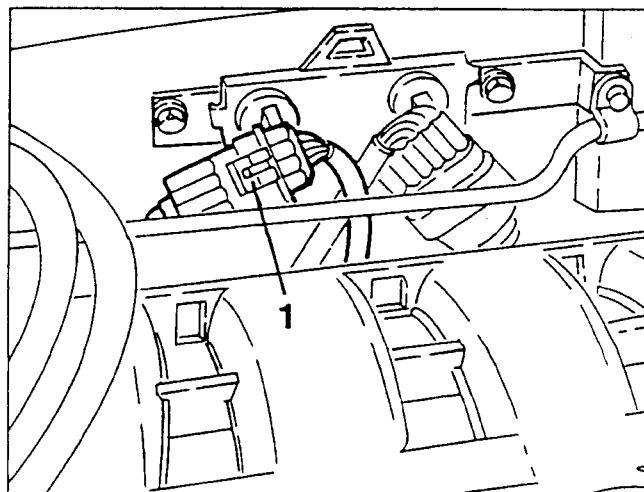
1. Slacken the fastening screws, then move aside the clutch control cylinder without disconnecting the hoses.



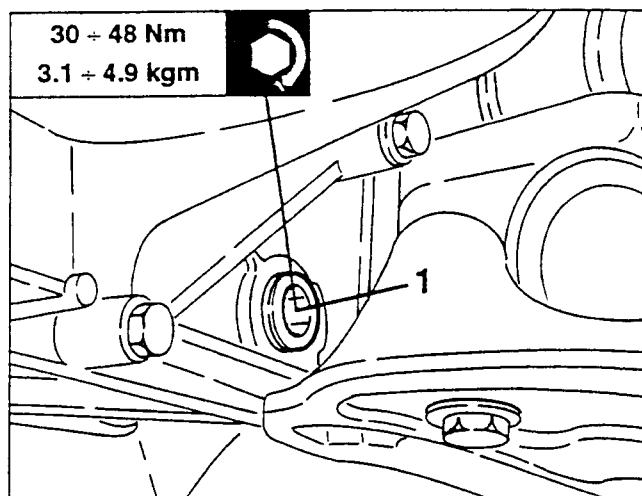
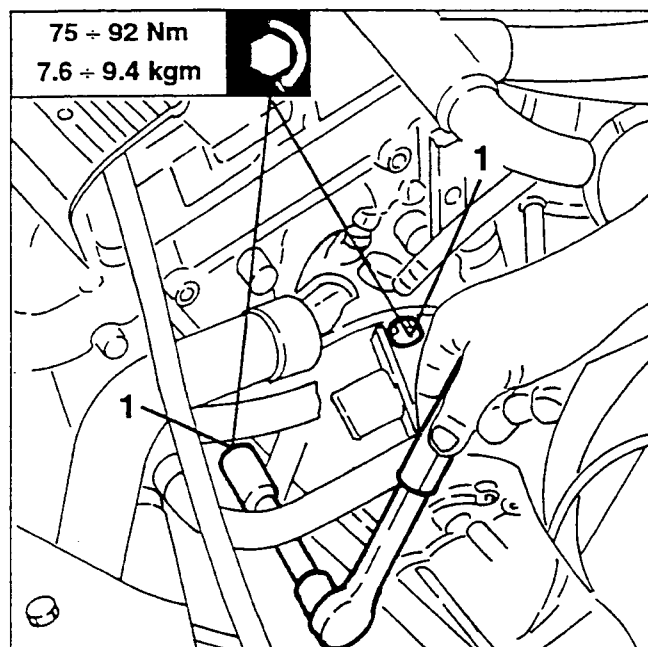
1. Disconnect the electrical connection from the reversing switch.



1. Disconnect the electrical connection of the lambda sensor.

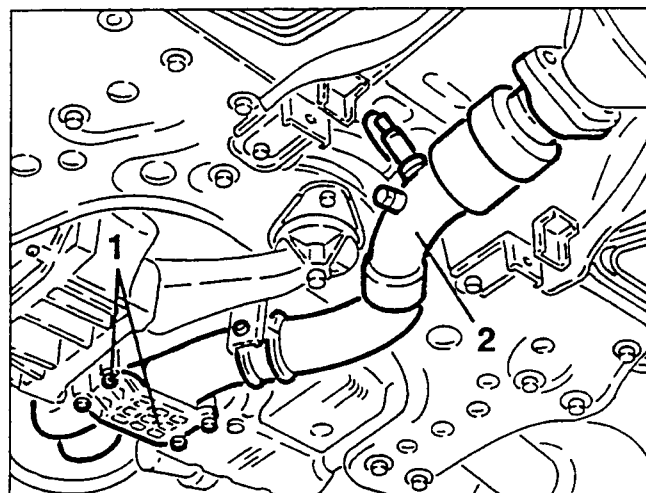


1. Slacken the two upper screws fastening the gearbox to the engine.



1. Slacken the fastening screws and remove the reinforcement bracket.

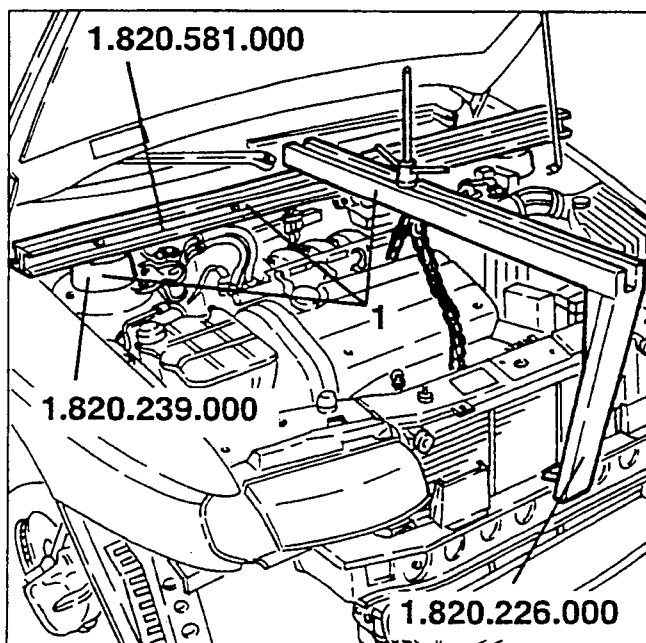
2. Remove the front section of the exhaust pipe complete with lambda sensor after slackening the fastenings concerned.



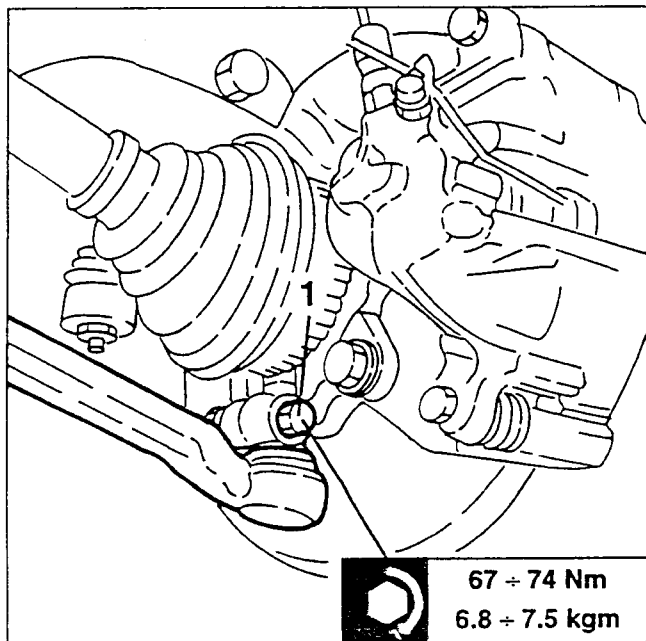
- Remove the front bumper (see GROUP 70).

1. Position the engine support no. 1.820.226.000, with the corresponding supports no. 1.820.239.000 and crossrail no. 1.820.581.000 as illustrated.

- Install two suitable support squares on the crankcase, then using a chain connect the support tool to the squares supporting the power unit in this manner.

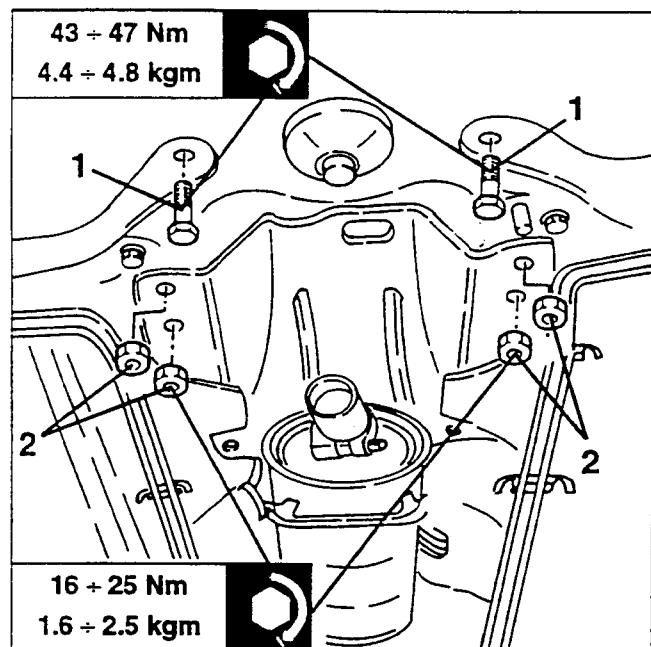


1. Slacken the bolts fastening the wishbones to the wheel uprights.

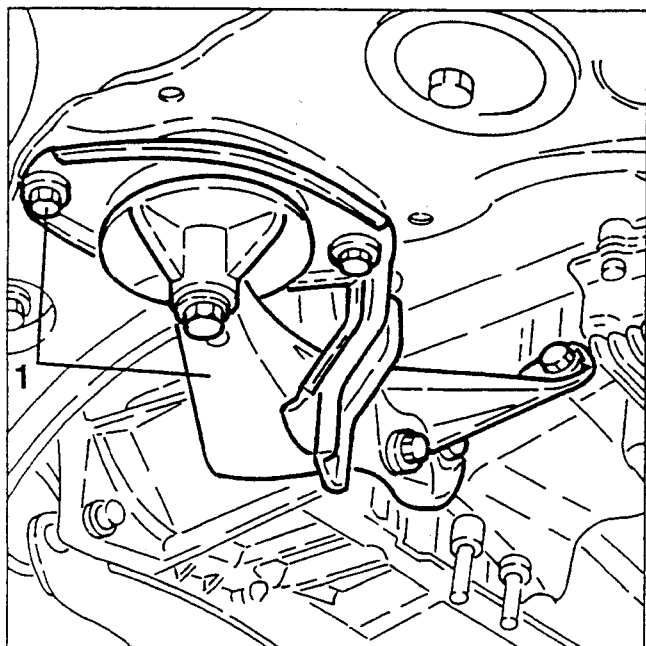


1. Raise the car, slacken the plug and drain the gearbox- differential oil into a suitable recipient.

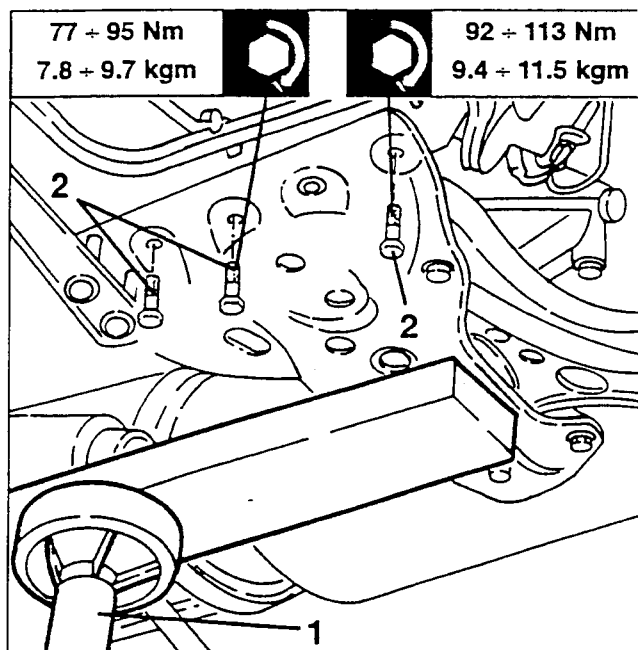
1. Slacken the two screws fastening the power steering to the front crossmember.
2. Slacken the four front nuts and slacken the other screws fastening the gearshift controls support, which must be slightly lowered to enable release from the front crossmember.



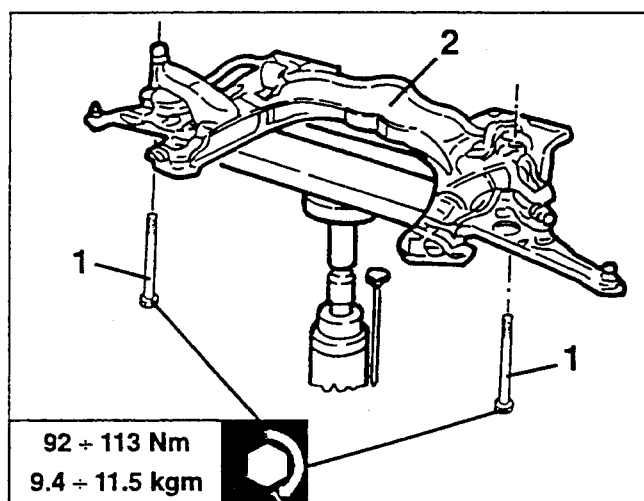
1. Slacken the fastening screws and remove the power unit rear support.



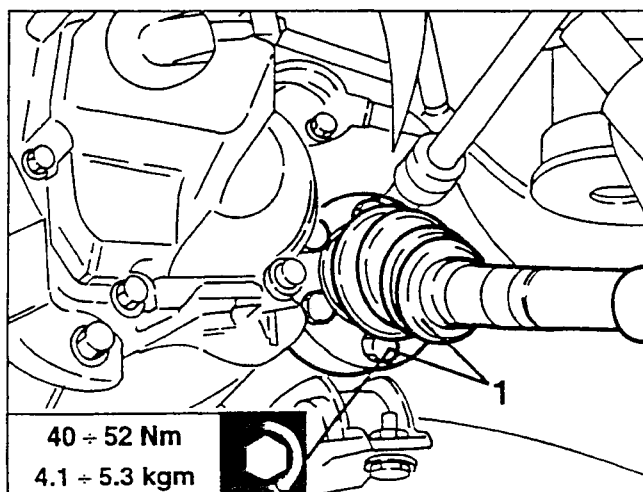
1. Set a hydraulic jack under the crossmember.
2. Slacken the six rear screws fastening the crossmember to the body.



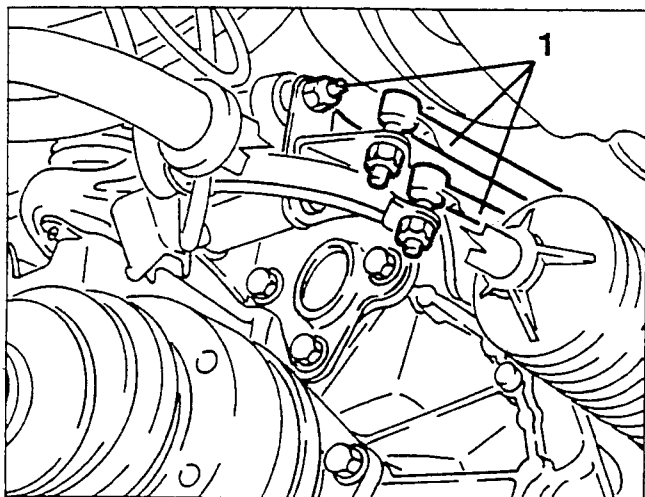
1. Slacken the two front screws fastening the crossmember to the body.
2. Lower the hydraulic jack and remove the crossmember.



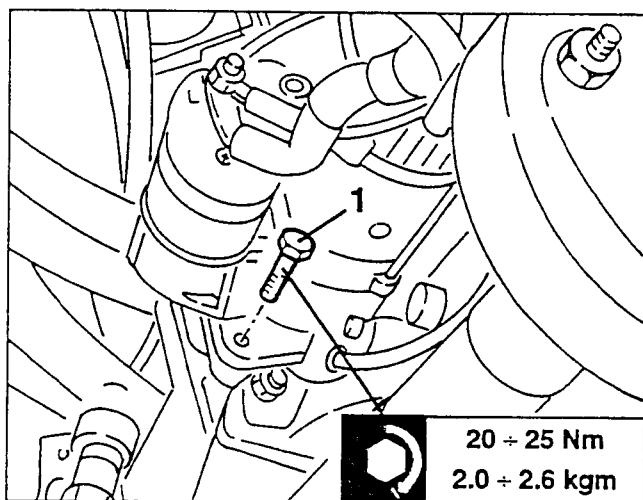
1. Slacken the fastening bolts and disconnect the left-hand CV joint of the differential side axle shaft.



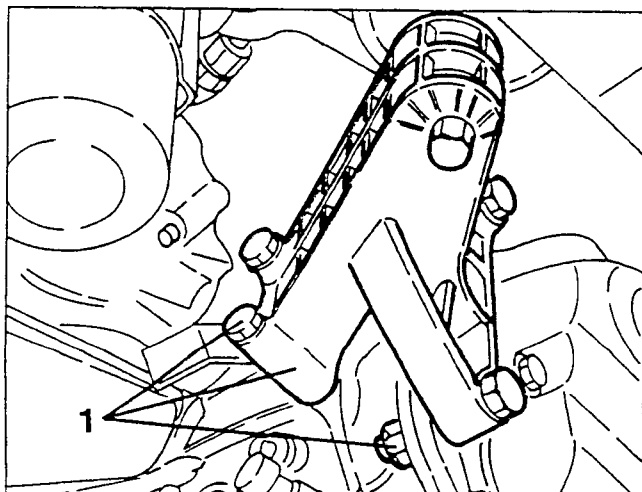
1. Working from the left-hand wheelhouse, slacken the fastening nuts and disconnect the gearshift control rods.



1. Slacken the three screws fastening the starter motor to the gearbox.



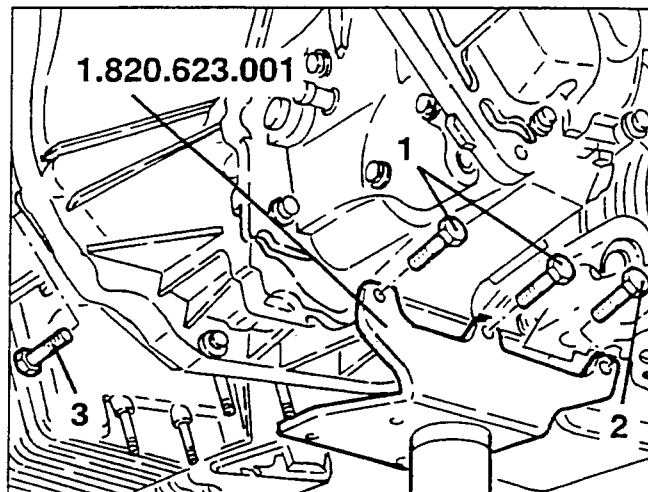
1. Slacken the fastening screws and bolts and remove the gearbox side power unit support.



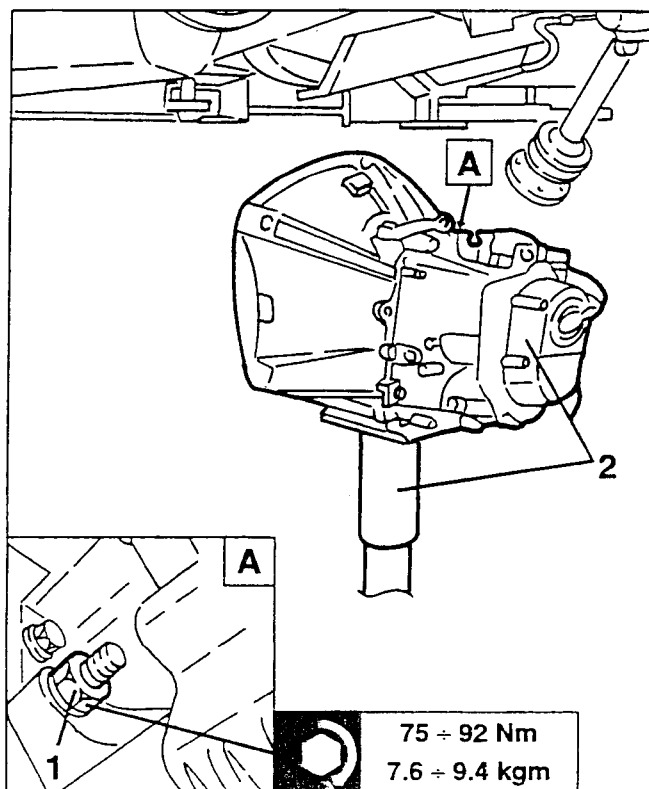
1. Slacken the two lower screws fastening the gear-box cover and in their holes insert bracket no. 1.820.623.001.

NOTE: For fastening the bracket use slightly longer screws than the ones removed.

2. Add a suitably sized bolt in the hole on the right of the bracket.
3. Slacken the screw fastening the gearbox to the engine.



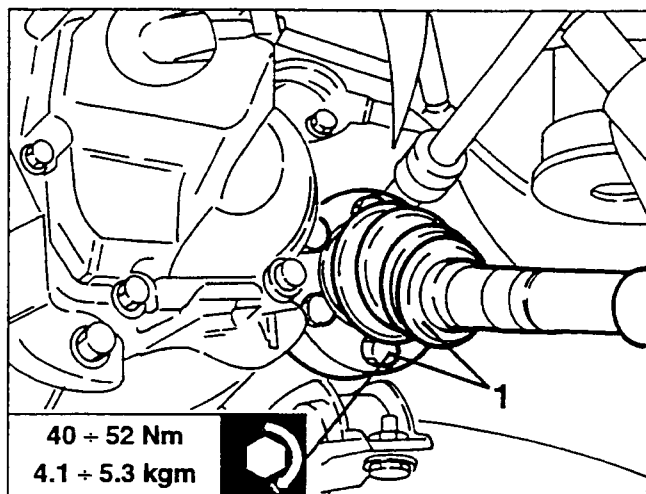
1. Slacken the remaining nut fastening the gearbox to the engine.
2. Lower the hydraulic jack and remove the gearbox-differential unit.



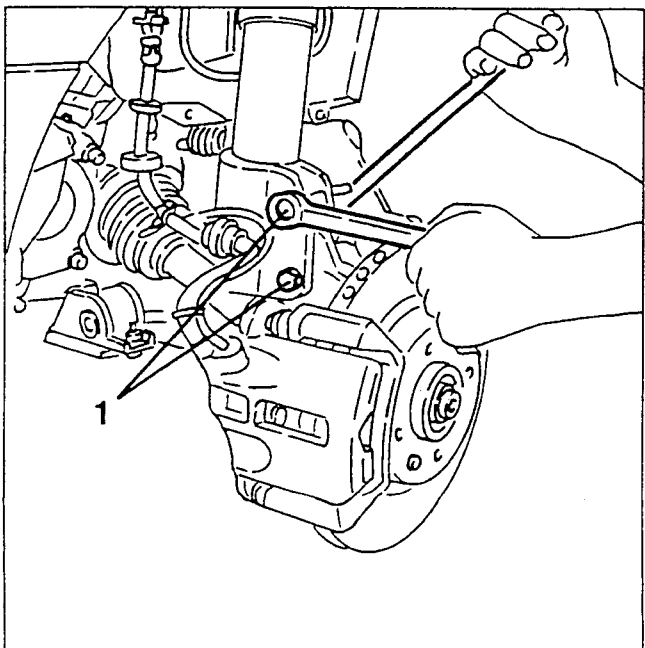
ON-VEHICLE OPERATIONS**CHANGING THE DIFFERENTIAL
CARRIER OIL SEAL
GEARBOX SIDE**

- Set the car on a lift.
- Disconnect the battery (-) terminal.
- Raise the car.
- Remove the left front wheel and mud flaps.
- Working from the left front wheelhouse, disconnect the electrical connection of the brake pad wear sensor.
- Release the ABS inductive sensor cable from the support bracket.

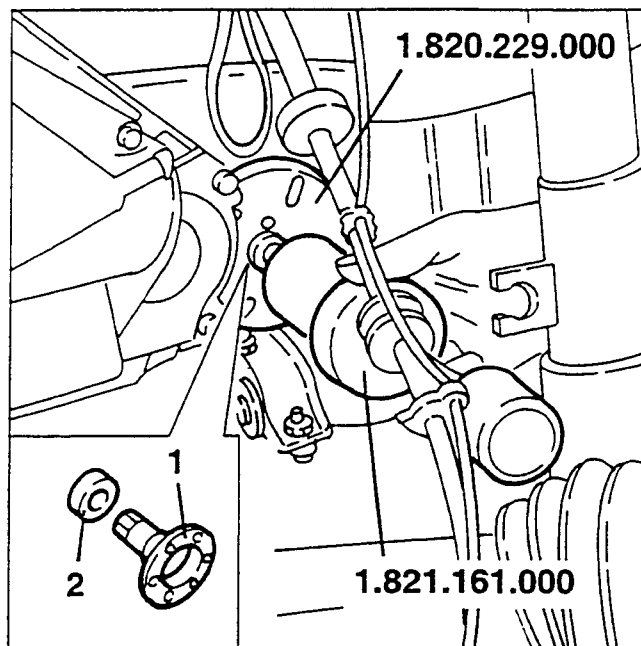
1. Slacken the fastening bolts and disconnect the left-hand CV joint from the differential side axle shaft.



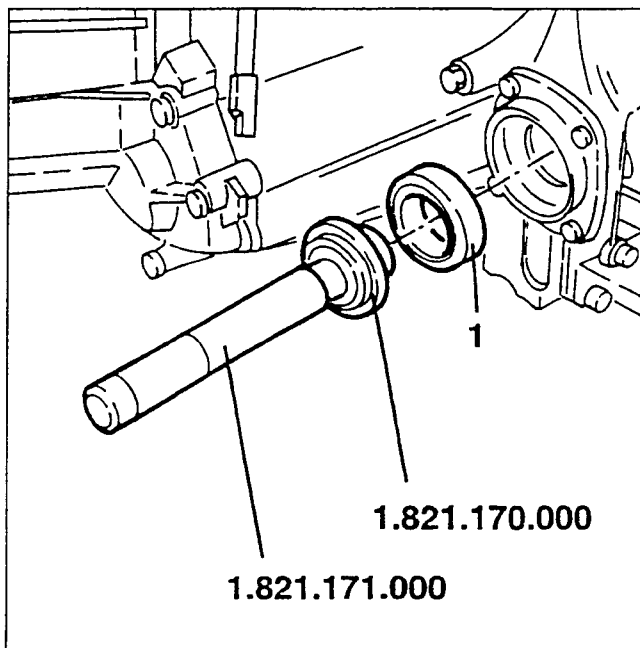
1. Slacken the two bolts fastening the left-hand upright to the shock absorber, then withdraw the upper bolt only.



1. Using tools no. 1.820.229.000 and no. 1.821.161.000, remove the flange from the differential.
2. Remove the oil seal to be changed.



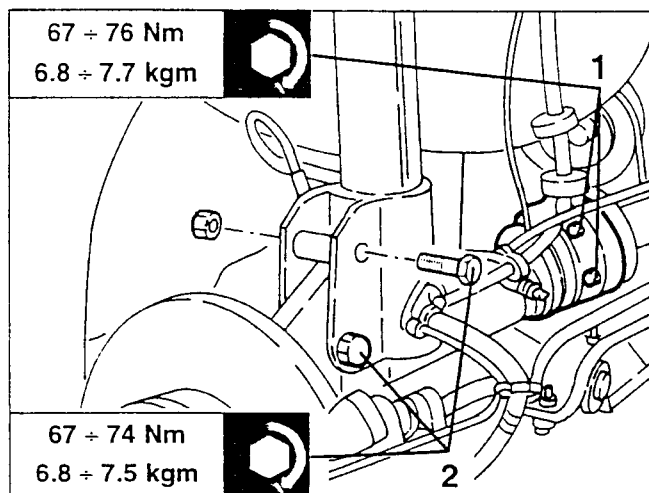
1. Using tools no. 1.821.170.000 and no. 1.821.171.000 install the new oil seal.



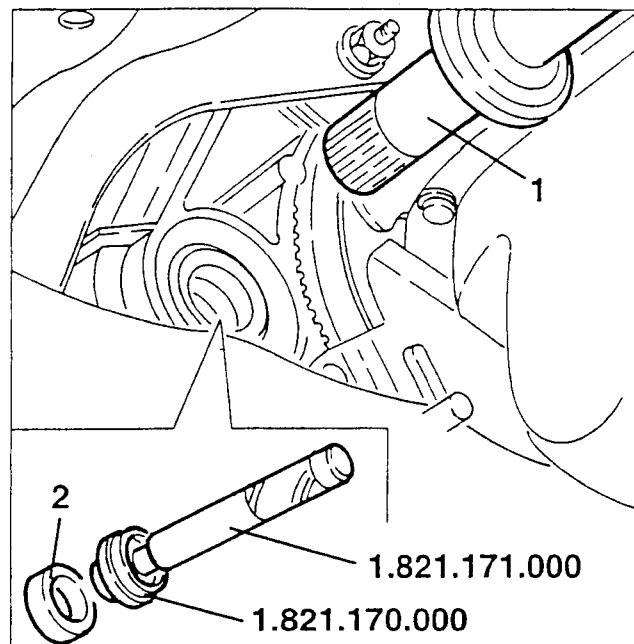
Complete re-assembly reversing the sequence followed for removal.

CHANGING THE DIFFERENTIAL CARRIER OIL SEAL ENGINE SIDE

- Set the car on a lift.
- Disconnect the battery (-) terminal.
- Raise the car.
- Remove the right-hand wheel and wheelhouse.
- Working from the left-hand wheelhouse, disconnect the electrical connection of the brake pad wear sensor.
- Release the A.B.S. inductive sensor cable from the support bracket.
- 1. Slacken the fastening bolts and disconnect right-hand CV joint from the intermediate shaft.
- 2. Slacken the two bolts fastening the right upright, then withdraw the upper bolt only.
- Move back the right axle shaft just enough to disconnect it from the intermediate shaft.

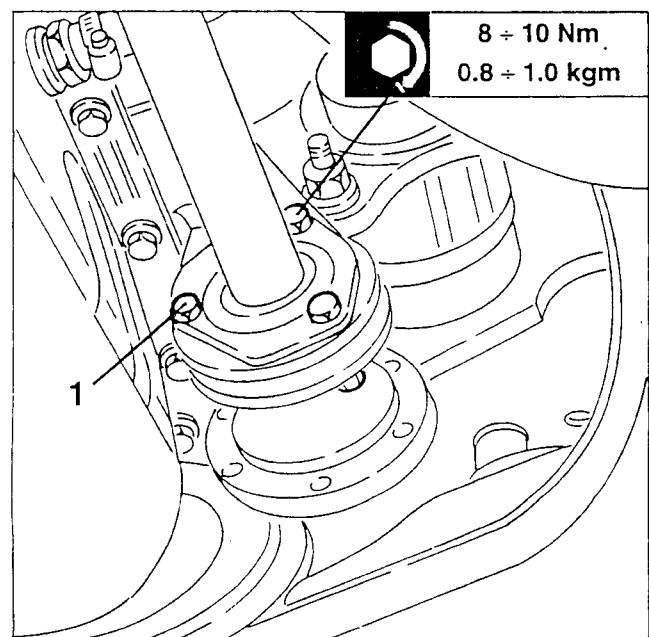


1. Withdraw the intermediate shaft from the differential and remove the oil seal to be changed.
2. Using tools no. 1.821.170.000 and no. 1.821.171.000 install the new oil seal.



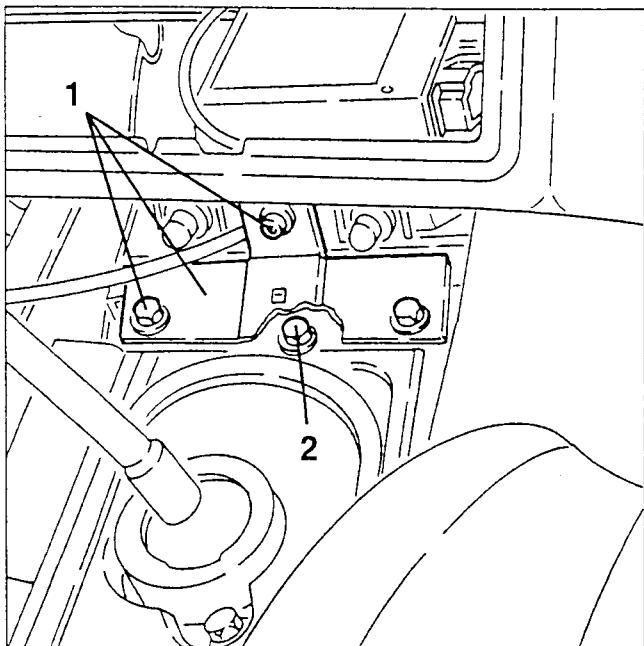
Complete re-assembly reversing the sequence followed for removal.

1. Slacken the screws fastening the intermediate shaft.

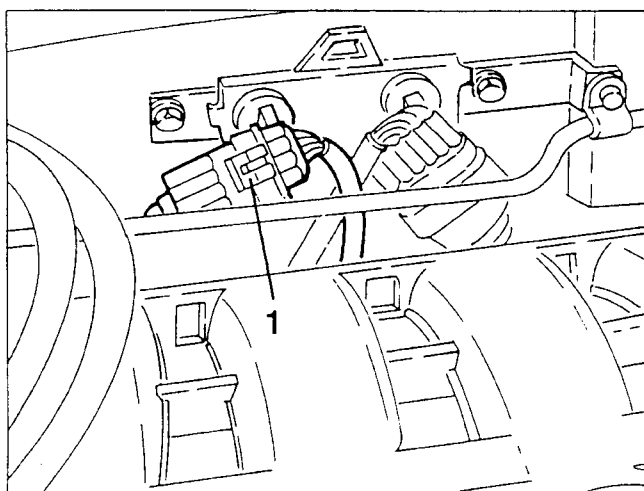


GEARSHIFT CONTROL ROD**REMOVING/REFITTING**

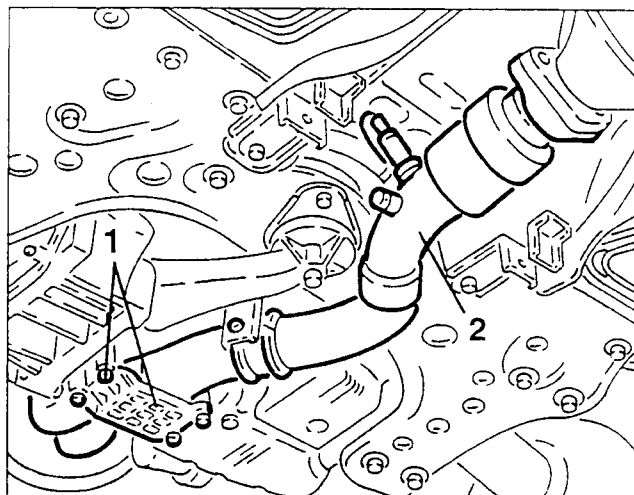
- Set the car on a lift.
- Remove the centre console (see GROUP 70).
- 1. Slacken the fastening screws and remove the lower dashboard fastening bracket.
- 2. Slacken the screw fastening the gearshift controls support.



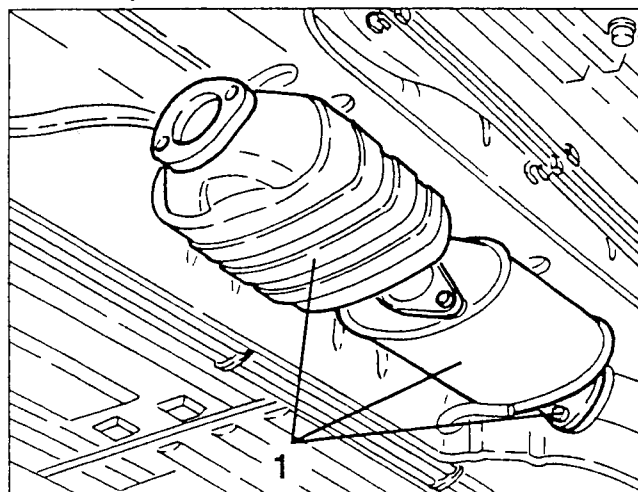
1. Disconnect the electrical connection of the lambda sensor.



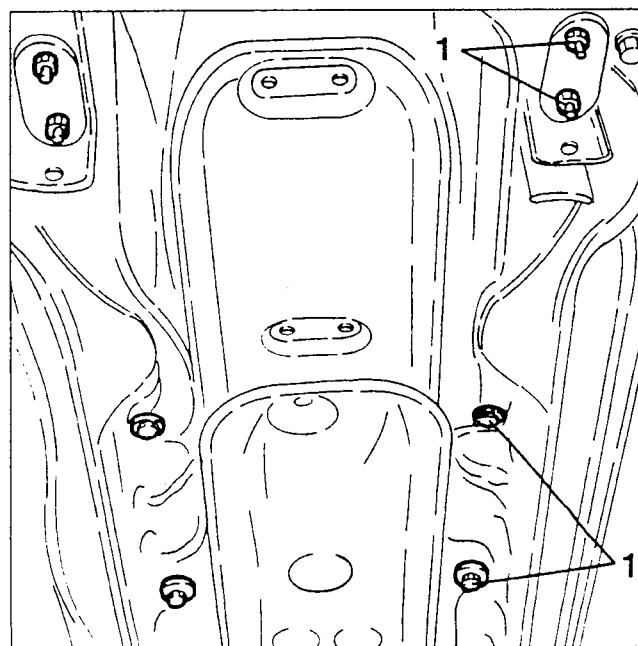
1. Raise the car, slacken the fastening screws and remove the reinforcement bracket.
2. Remove the front section of the exhaust pipe complete with the lambda sensor after loosening the fastenings.



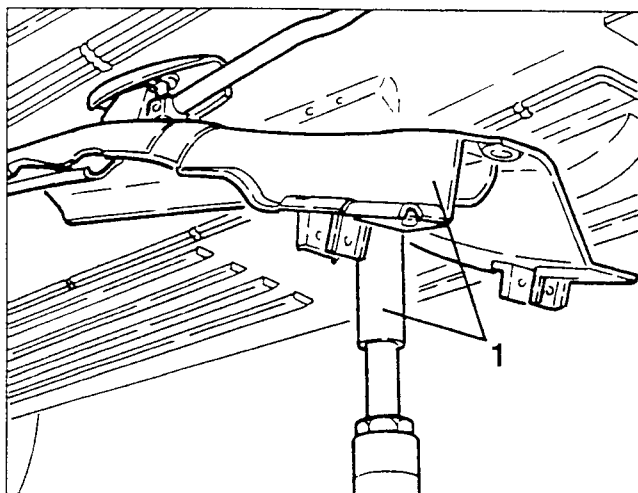
1. Slacken the fastening bolts and remove the catalytic converter complete with the first silencer of the exhaust system.



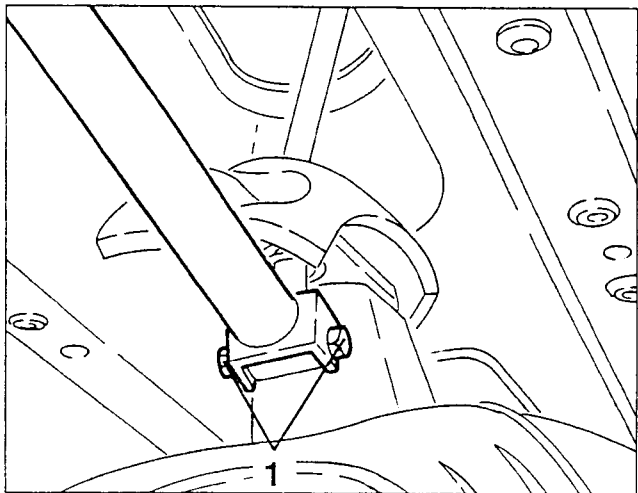
1. Slacken the screws fastening the gearshift controls support with the exception of the two rear ones.



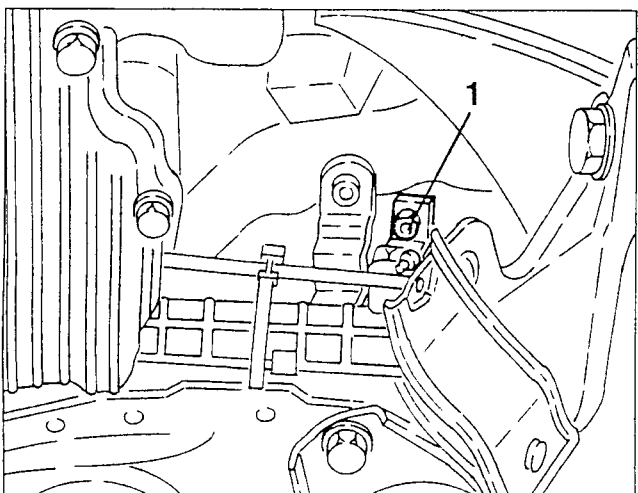
1. Using a hydraulic jack as support, lower the front of the gearshift controls support as illustrated.



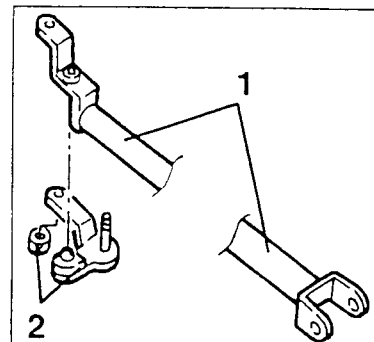
1. Disconnect the gearshift control rod from the lever slackening the fastening bolt.



1. Disconnect the gearshift control rod from the support on the power steering box slackening the fastening nut.



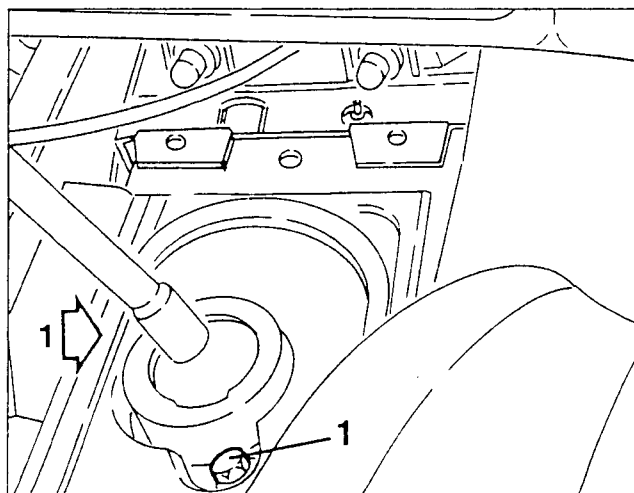
1. Remove the gearshift control rod.
2. If necessary remove the relay levers slackening the remaining fastening nut.



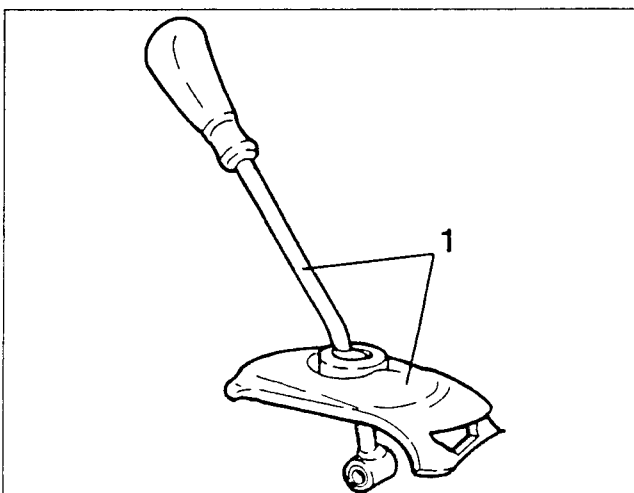
GEARSHIFT CONTROL LEVER

REMOVING/REFITTING

Proceed as described in the procedure "Gearshift control rod - Removing/Refitting" as far as disconnection of the gearshift control lever from the rod and taking care to slacken the two screws (1) fastening the gearshift control lever to the support, before slackening the fastenings of the gearshift controls support.

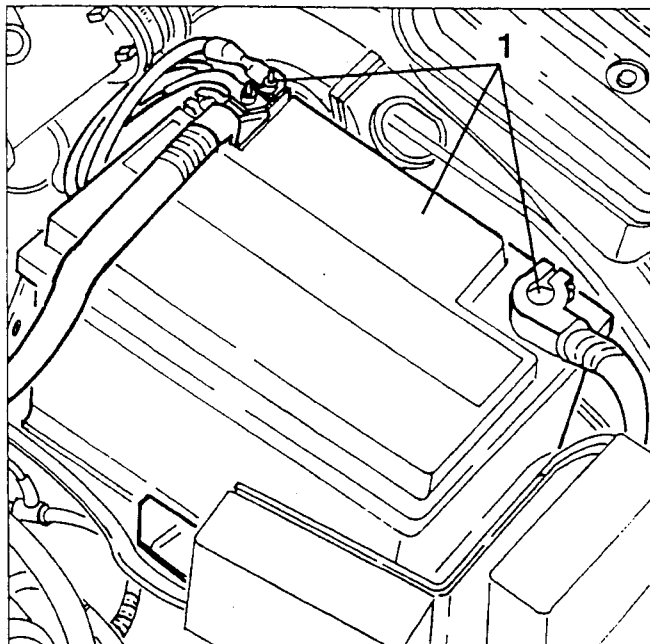


1. From under the car, retrieve the gearshift control lever complete with joint and frame.

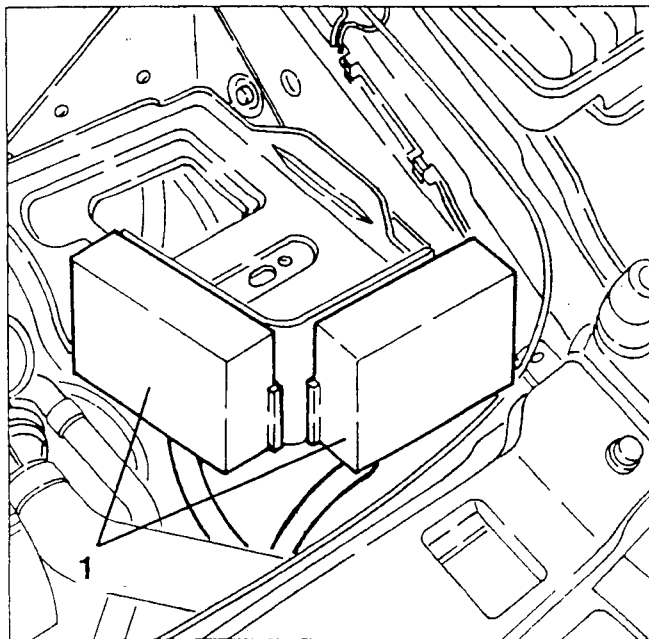


REMOVING/REFITTING

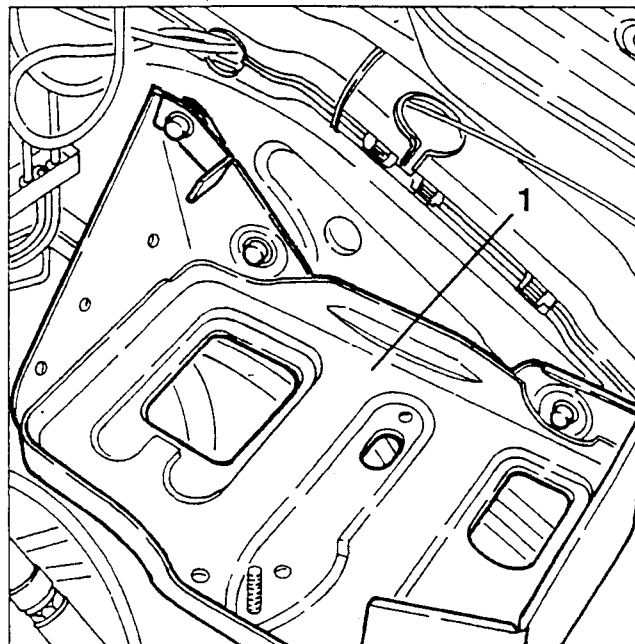
- Set the car on a lift.
- Remove the front wheels and mud flaps.
- 1. Remove the battery after disconnecting the terminals.



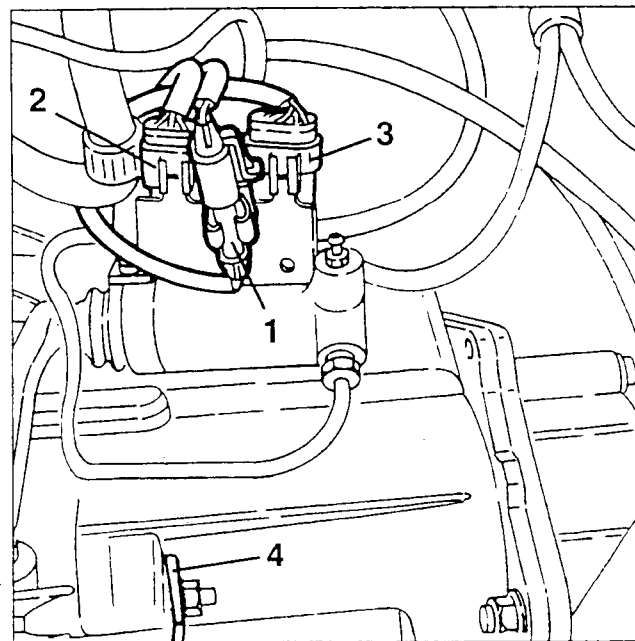
1. Release the two relay boxes from the battery support and set them aside.



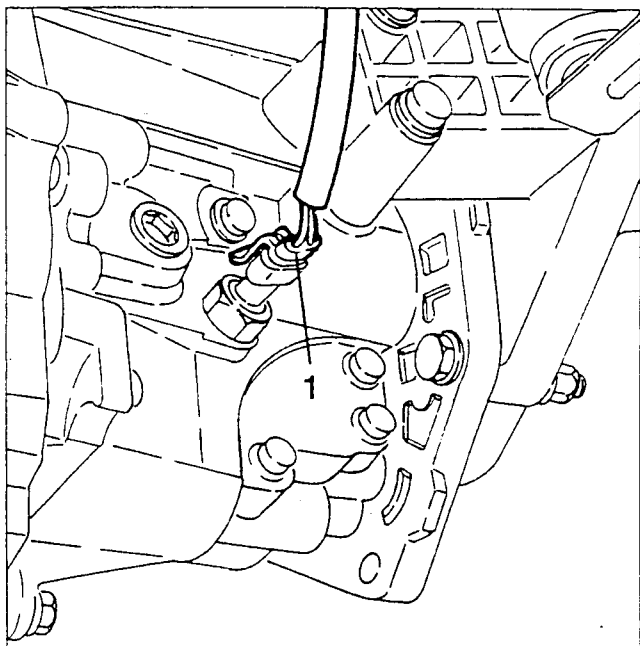
1. Slacken the fastening screws and remove the battery support complete with drain pipe after freeing this from the wheelhouse.



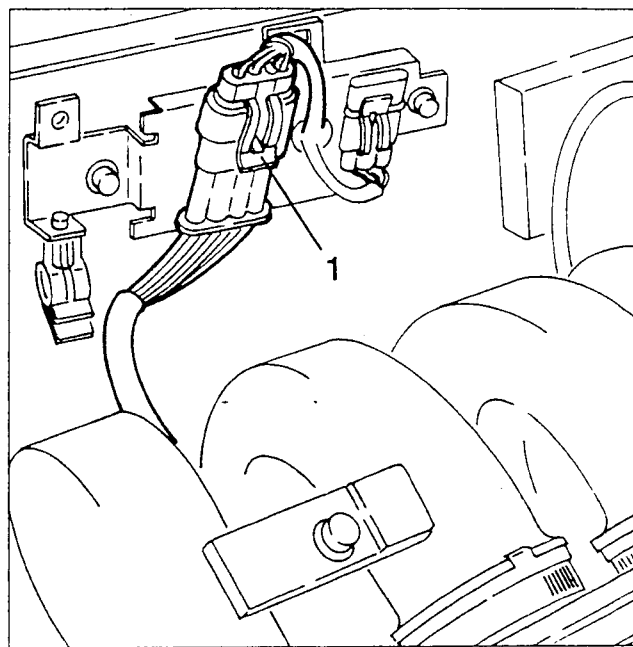
1. Disconnect the electrical connection of the starter motor.
2. Disconnect the electrical connection of the tachometric sensor.
3. Disconnect the electrical connection of the injection system.
4. Disconnect the earth cable from the gearbox cover.



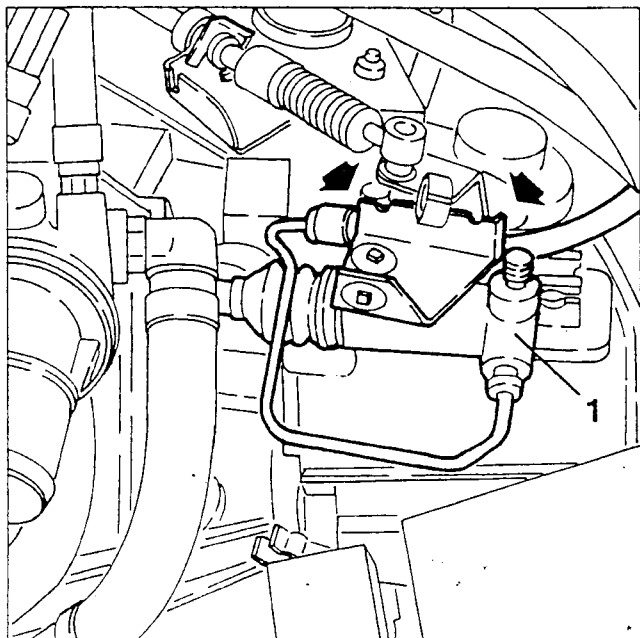
1. Disconnect the electrical connection from the reversing switch.



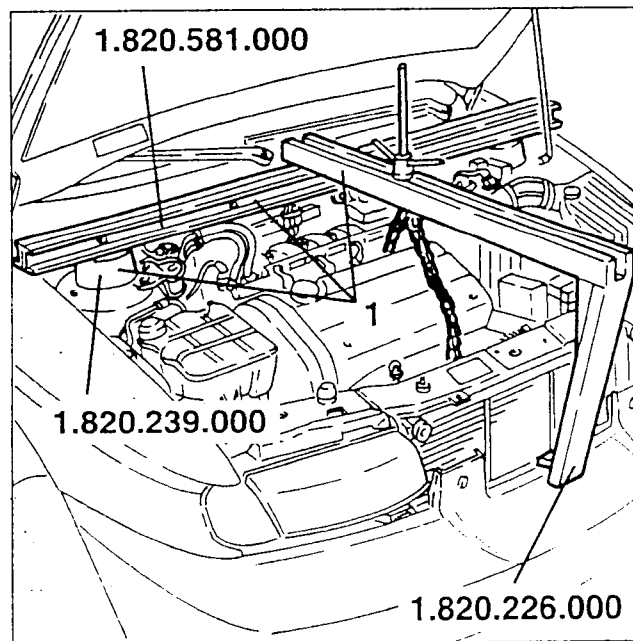
1. Remove the plastic cover, then disconnect the electrical connection of the lambda sensor.



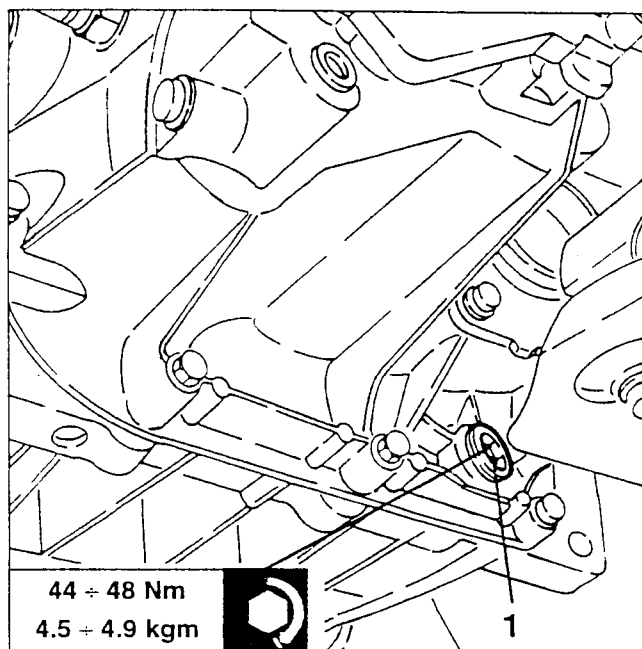
1. Slacken the fastening screws, then move the clutch control cylinder to one side without disconnecting the associated pipes.



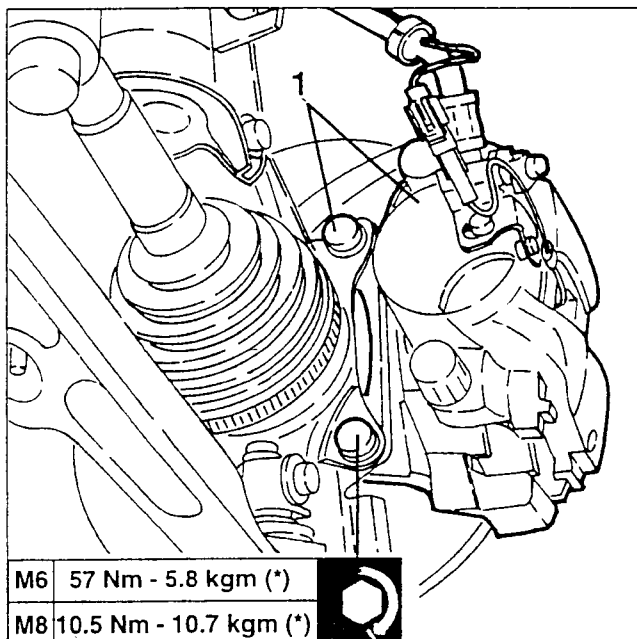
- Remove the radiator grille (see GROUP 70).
1. Position engine support no. 1.820.226.000, with the corresponding supports no. 1.820.239.000 and cross rail no. 1.820.581.000 as illustrated.
- Install two suitable support squares on the crankcase, then using a chain, connect the support tool to the squares thereby supporting the power unit.



1. Slacken the plug and drain the gearbox-differential oil into a suitable container.

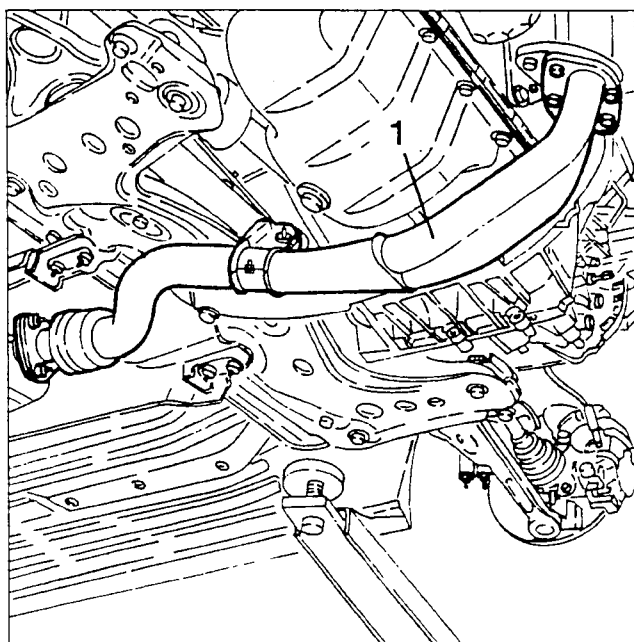


1. Slacken the two fastening screws and remove the left front brake caliper complete, without disconnecting the associated pipes and fasten it to one side to prevent it from hindering the following operations.

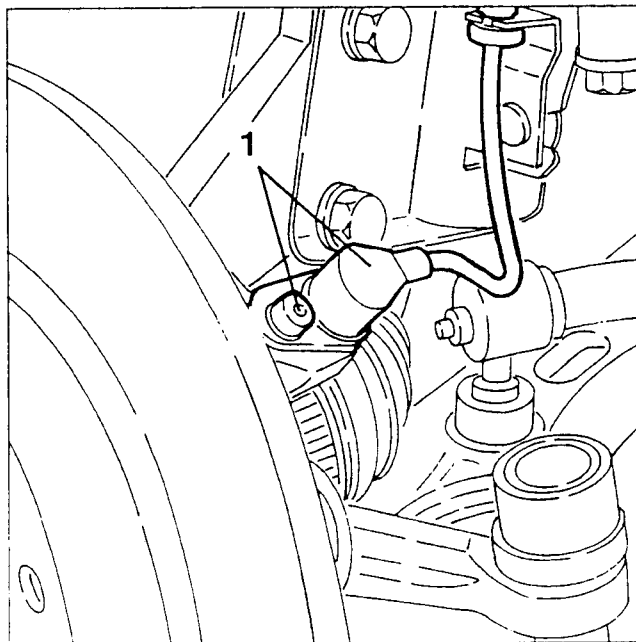


(*): Screws with "Drilloc"; must be changed every time they are tightened or loosened.

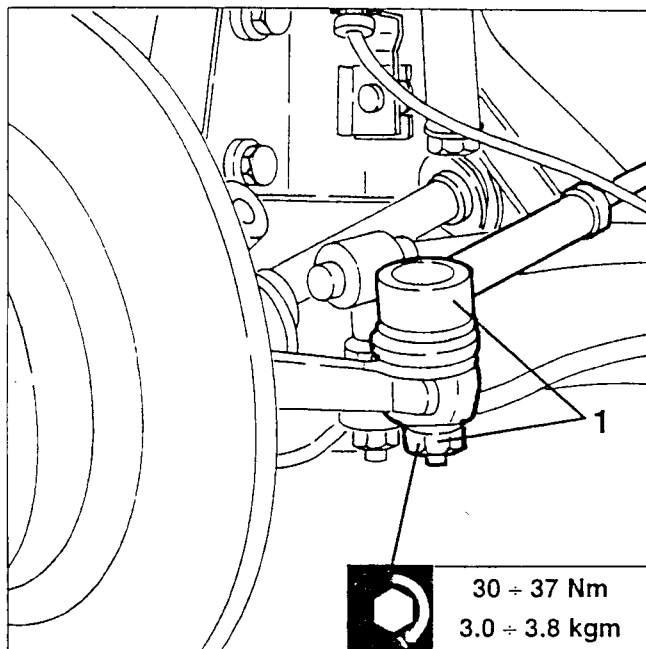
1. Slacken the fastenings and remove the front section of the exhaust pipe complete with lambda sensor.



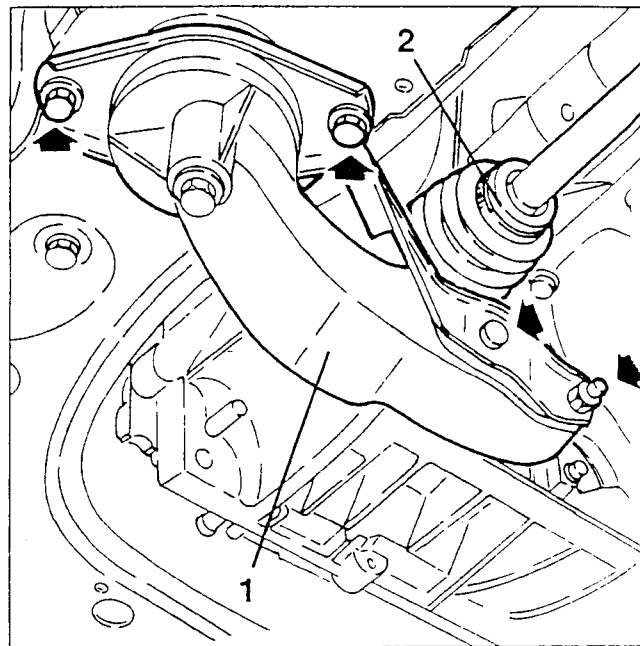
1. Slacken the fastening screw and remove the left front A.B.S. inductive sensor from the wheel upright.



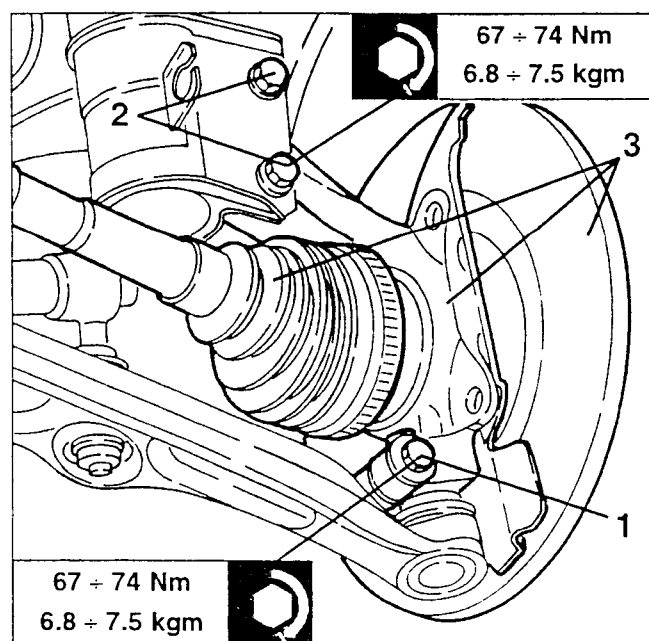
1. Slacken the fastening nut and disconnect the track rod from the wheel upright.



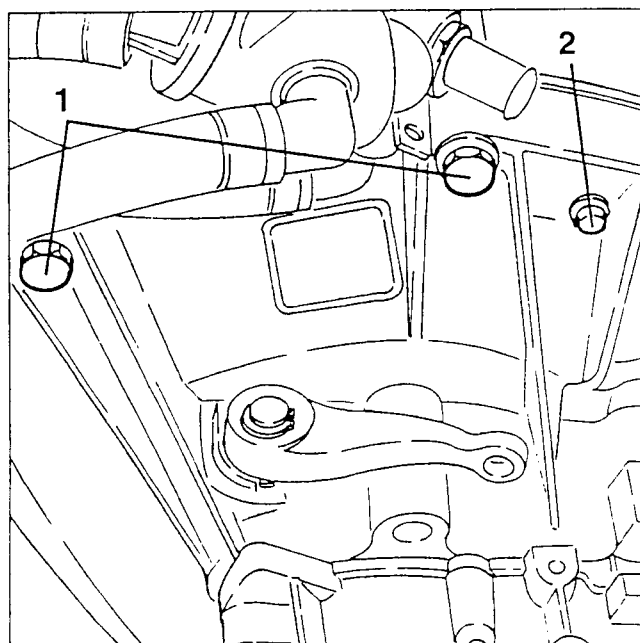
1. Slacken the fastening screws and remove the power unit rear support.
2. Slacken the clamp fastening the right axle shaft from the differential.



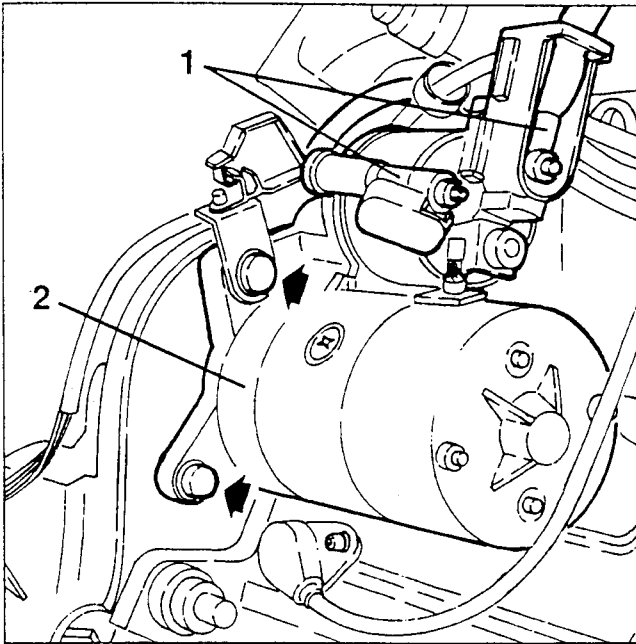
1. Slacken the bolt fastening the wishbone to the wheel upright.
2. Slacken the two bolts fastening the upright to the shock absorber.
3. Withdraw the axle shaft complete with wheel upright and brake disk after freeing the axle shaft boot from the differential.



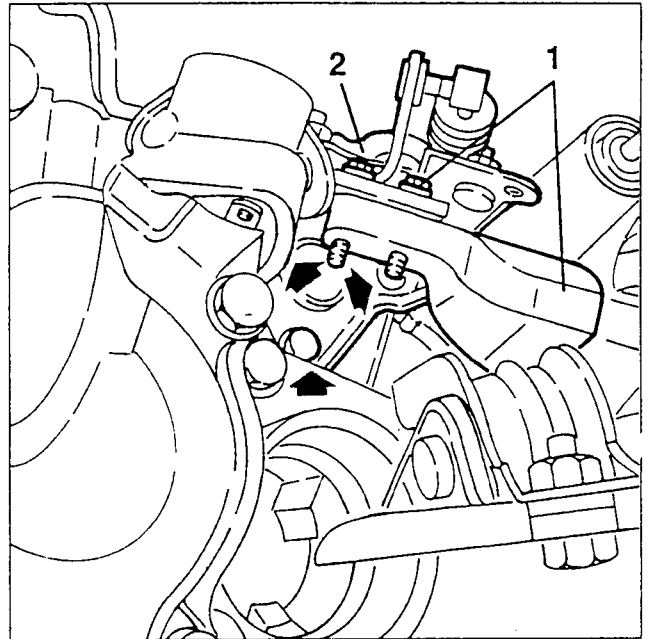
1. Slacken the two upper screws fastening the gear-box to the engine.
2. Slacken the screw fastening the starter motor to the gearbox.



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

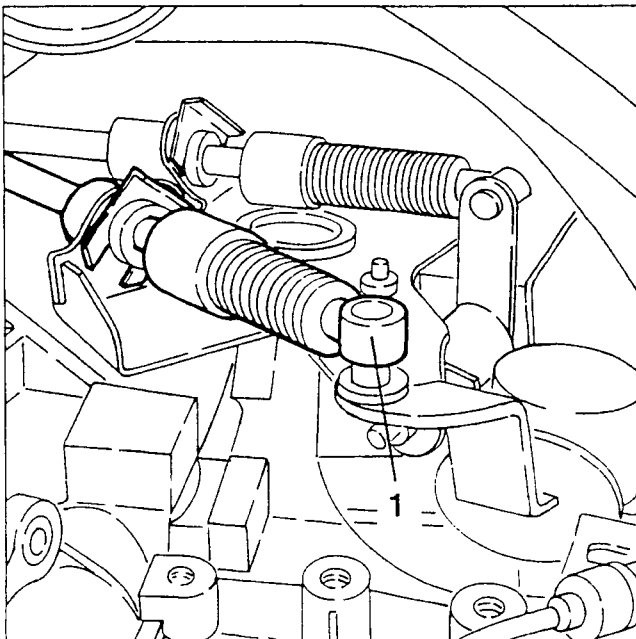


1. Slacken the two fastening screws and remove the damping mass.
2. Slacken the fastening screws and remove the gearshift control bowden connection bracket from the gearbox.



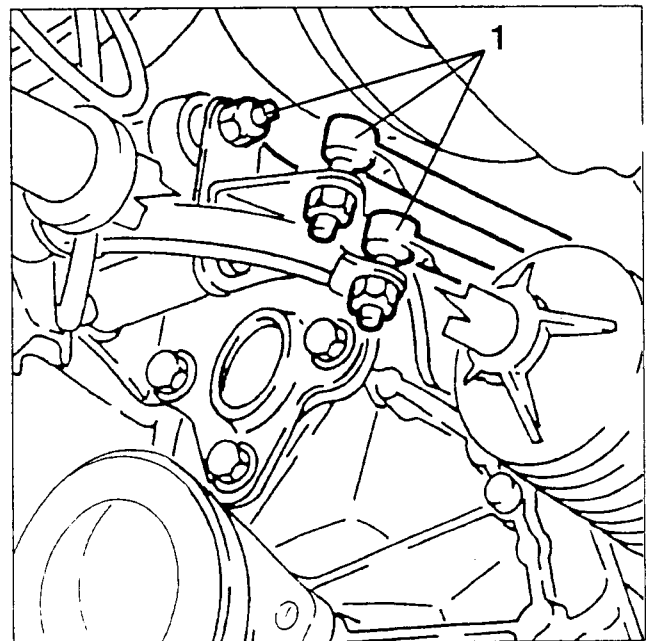
Specific for versions with bowden gearshift control

1. Disconnect the gearshift control bowden illustrated.



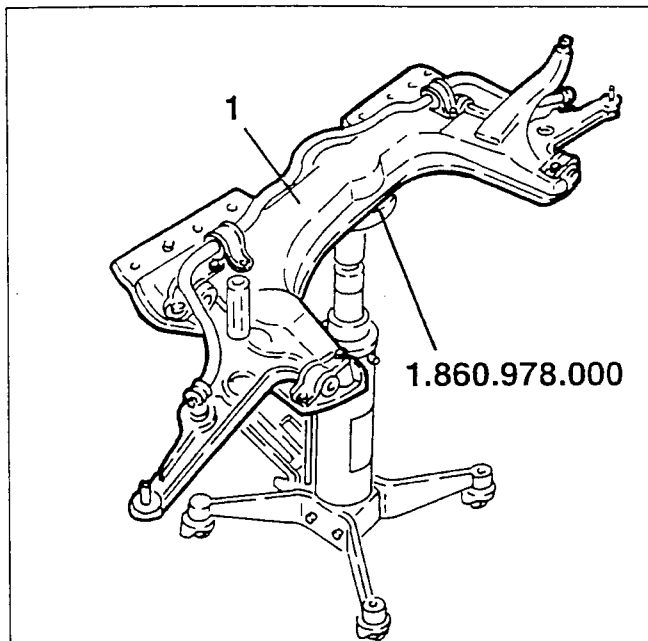
Specific for versions with rod gearshift control

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



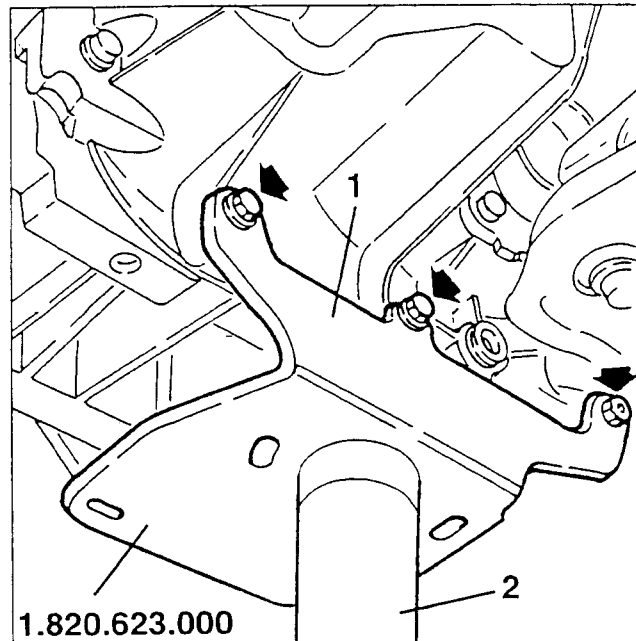
- Using a hydraulic jack support the front suspension crossmember using tool no. 1.860.978.000.

1. Slacken the screws and nuts fastening the crossmember, then remove it complete with wishbones, stabiliser bar and reinforcements.

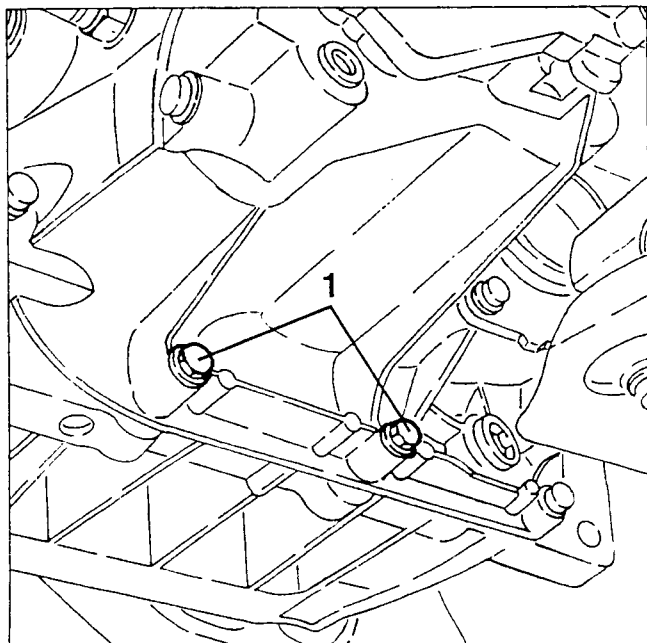


1. Position the bracket of tool no. 1.820.623.000 fastening it to the gearbox with the two screws removed previously and with a bolt in the hole already existing on the gearbox as illustrated.

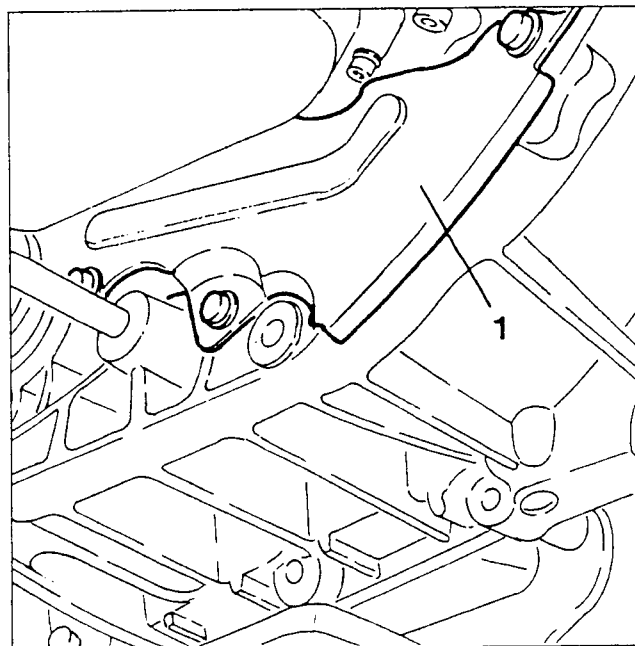
2. Position a hydraulic jack under the support tool.



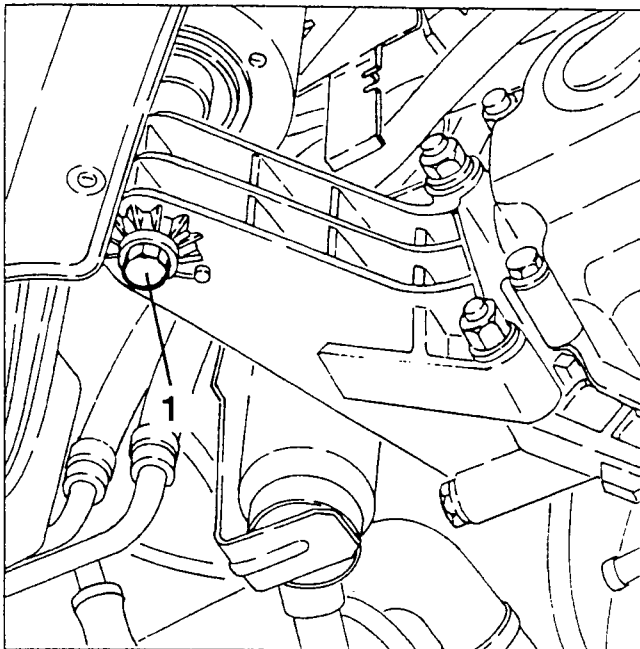
1. Slacken the two gearbox fastening screws illustrated.



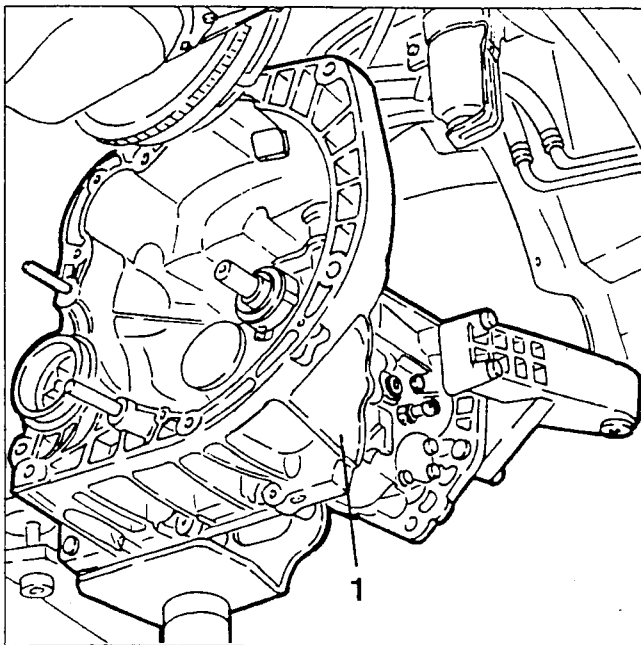
1. Slacken the fastening screws and remove the flywheel guard.



1. Slacken the screw fastening the gearbox side power unit support.



1. Slacken the remaining gearbox fasteners to the engine, then lower the hydraulic jack and remove it, freeing it from the right axle shaft.

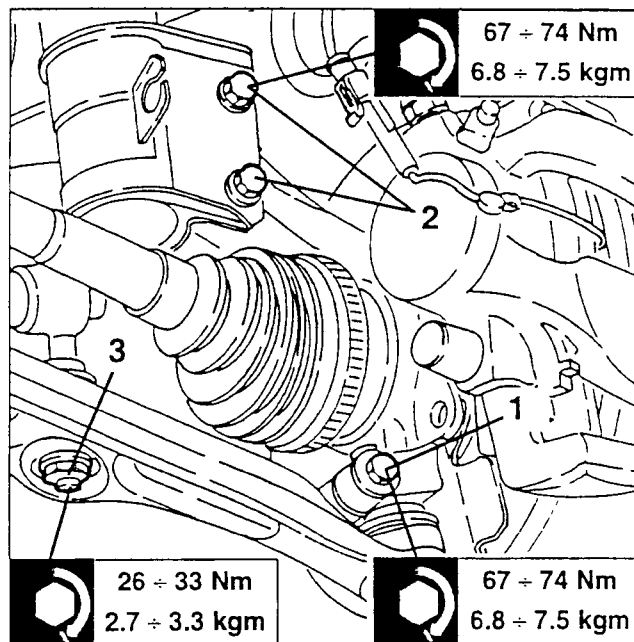


OPERATIONS IN THE CAR

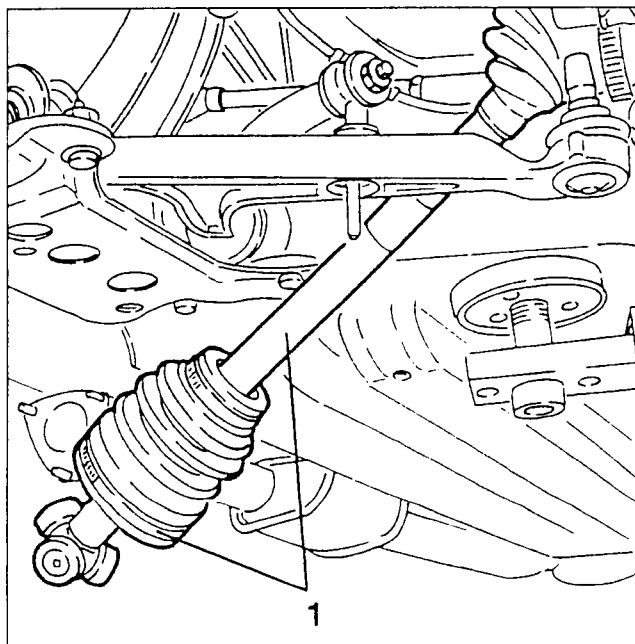
CHANGING THE GEARBOX SIDE DIFFERENTIAL CARRIER OIL SEAL

- Set the car on a lift.
- Disconnect the battery (-) terminal.
- Raise the car and remove the left front wheel and mud flap.

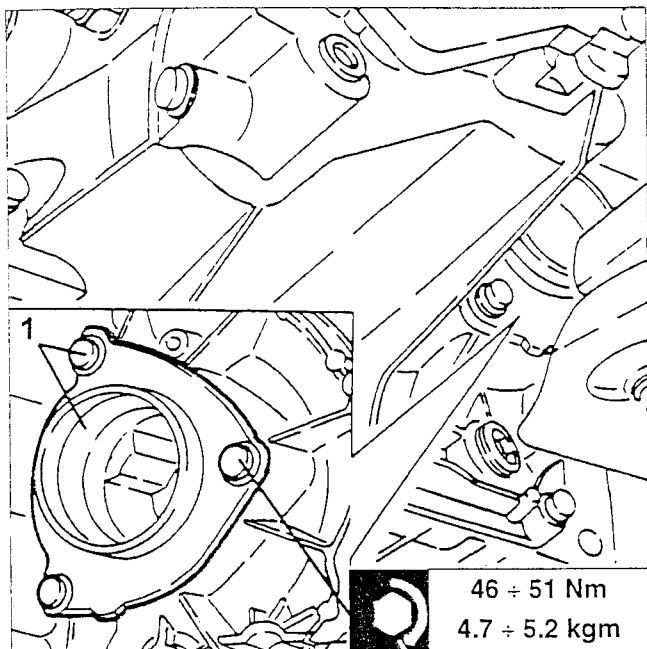
1. Slacken the bolt fastening the left wishbone to the left wheel upright.
2. Slacken the two bolts fastening the upright to the left shock absorber.
3. Slacken the nut fastening the stabiliser bar to the left wishbone.



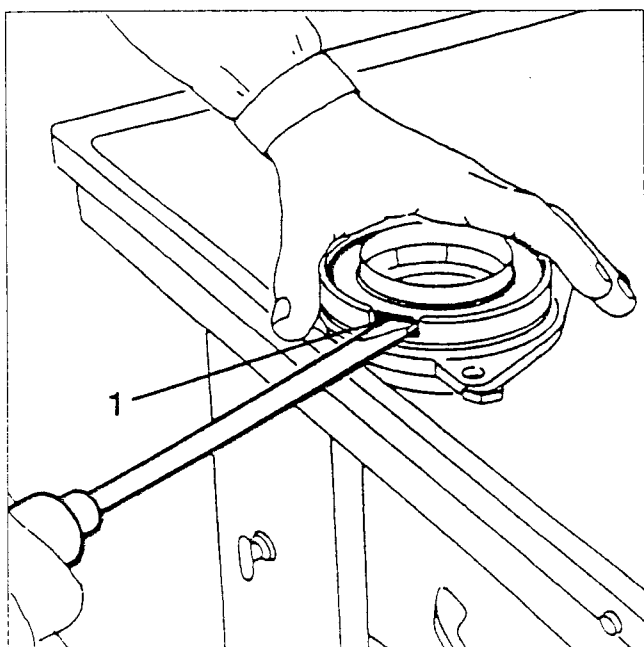
1. Slacken the boot fastening clamp, then withdraw outwards the axle shaft, wheel upright and brake disk assembly until releasing the axle shaft from the differential.



1. Slacken the three fastening screws and remove the differential box sealing cover.

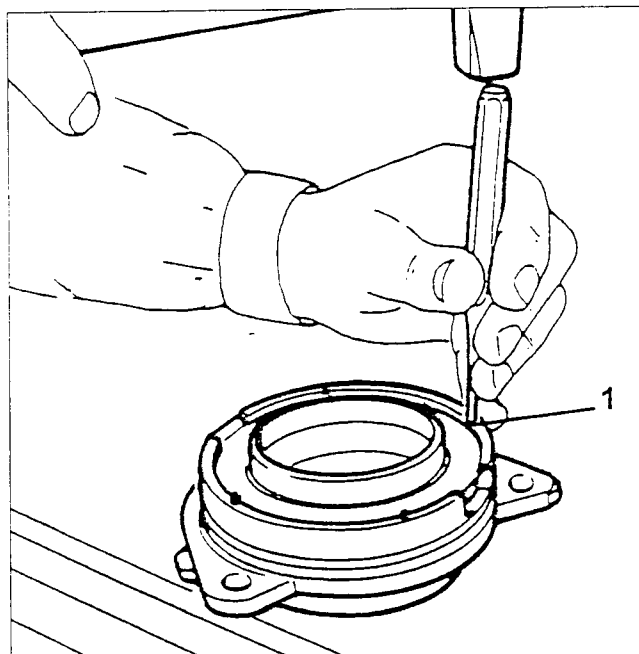


1. On the bench, remove the differential box sealing cover and oil seal using a screwdriver as illustrated.



- Remove the four caulkings to make it possible to install a new oil seal.

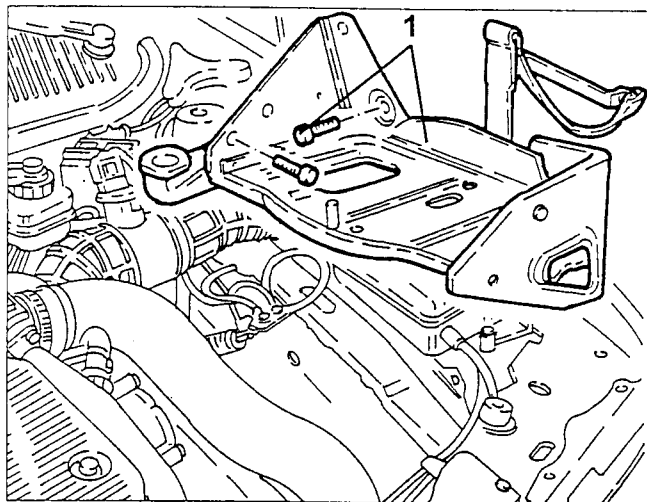
1. Install a new oil seal and remake the four caulkings removed previously using a punch and a hammer.



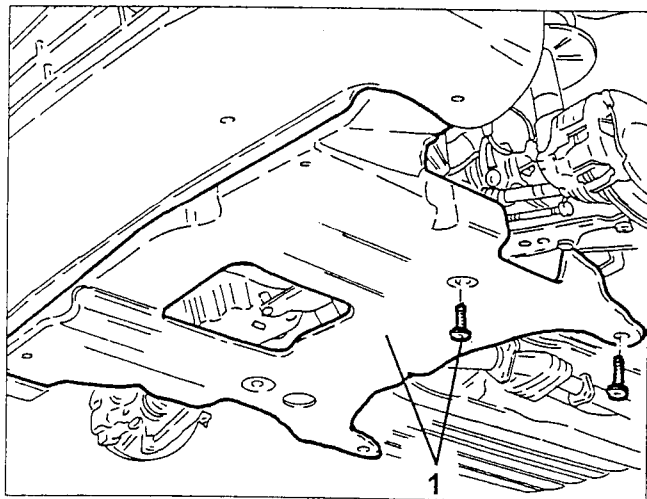
Complete re-assembly reversing the sequence followed for disassembly.

REMOVAL/REFITTING

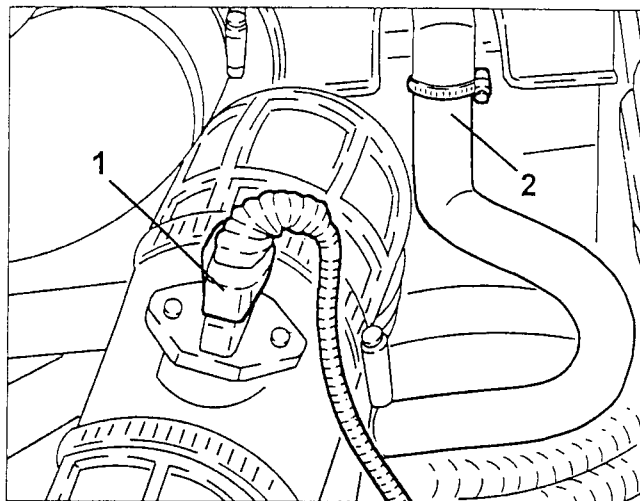
- Set the car on a lift.
- Remove the battery (see Group 55).
- Remove the battery acid drain duct.
- 1. Slacken the fastening screws and remove the battery holder.



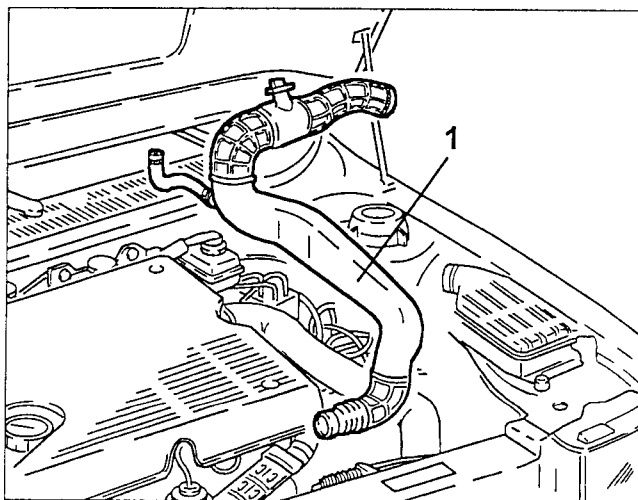
- Remove the front wheels and their dust guards.
- 1. Slacken the fastenings and remove the under engine guard.



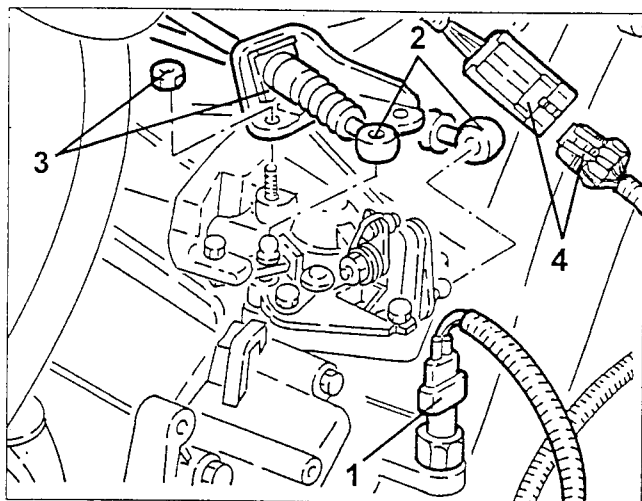
1. Disconnect the electrical connection from the air flow meter.
2. Disconnect the oil vapour re-circulation pipe from the oil vapour separator.



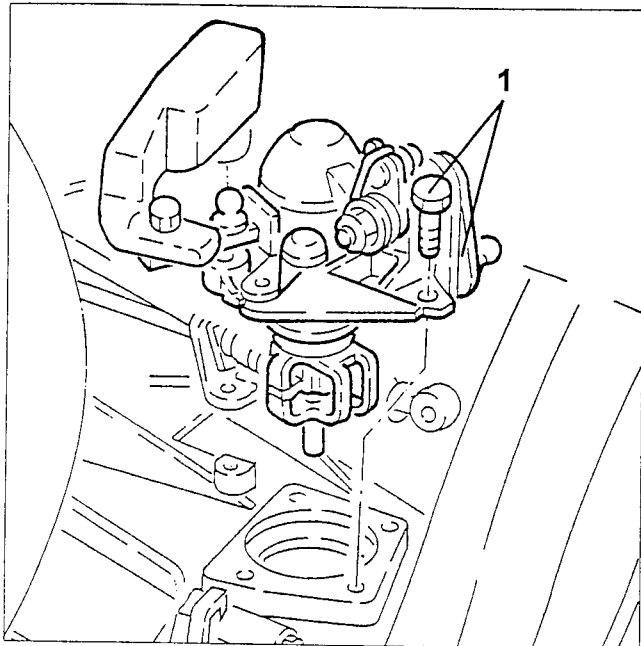
1. Loosen the clamps and remove the complete air delivery pipe from the cleaner to the turbocharger.



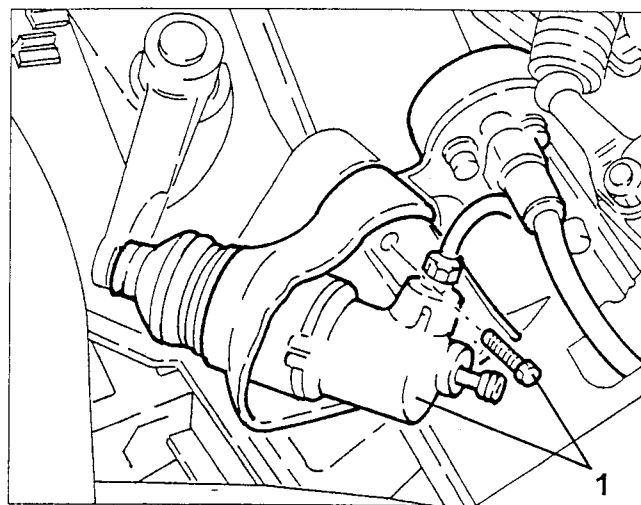
1. Disconnect the electrical connection from the reverse gear switch.
2. Disconnect the gearshift selection and engagement cables.
3. Slacken the nuts and move aside the support brackets complete with gearshift selection and engagement cables.
4. Disconnect the electrical connection of the speedometer sensor.



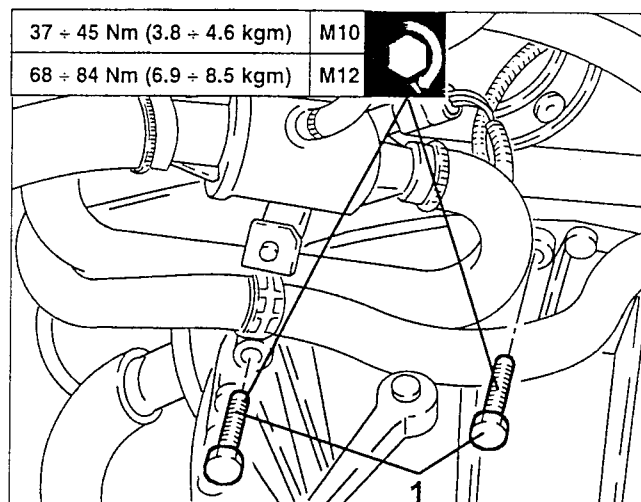
1. Slacken the fastening screws and remove the gear selection and engagement unit.



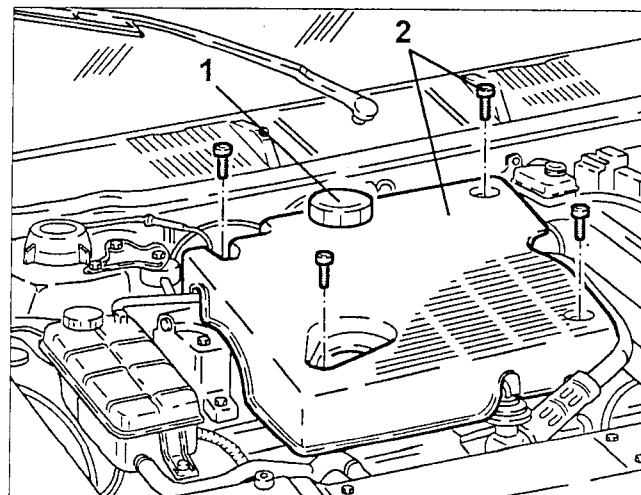
1. Slacken the fastening screws and move the operating cylinder complete with pipes and vibration damper.



1. Slacken the two upper gearbox fastening screws.

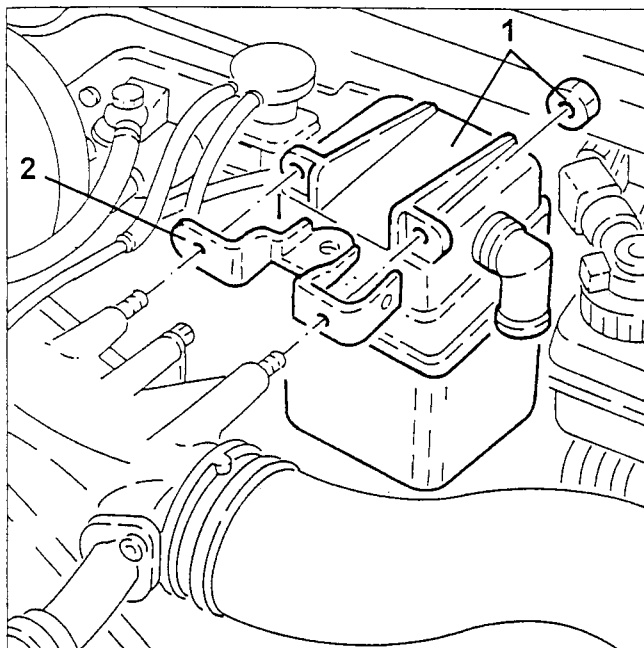


1. Remove the engine oil filler cap.
 2. Slacken the fastening screws and remove the engine cover.
- Refit the engine oil filler cap.



- Remove the front bumper (see GROUP 70).

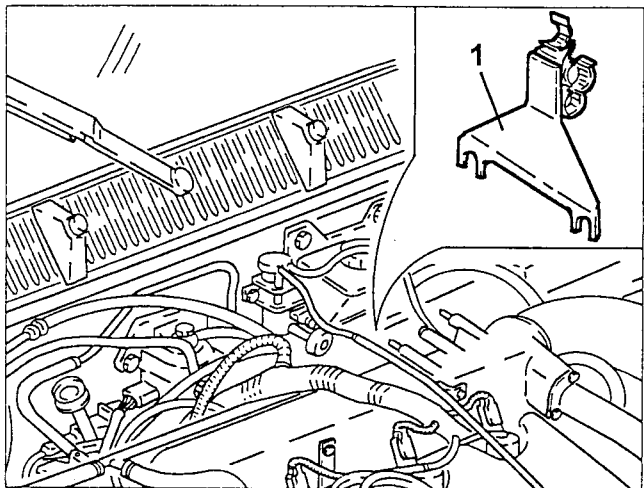
1. Slacken the fastening nuts and move the oil vapour separator just enough to disconnect the corresponding pipes, then remove it.
2. Retrieve the bracket.



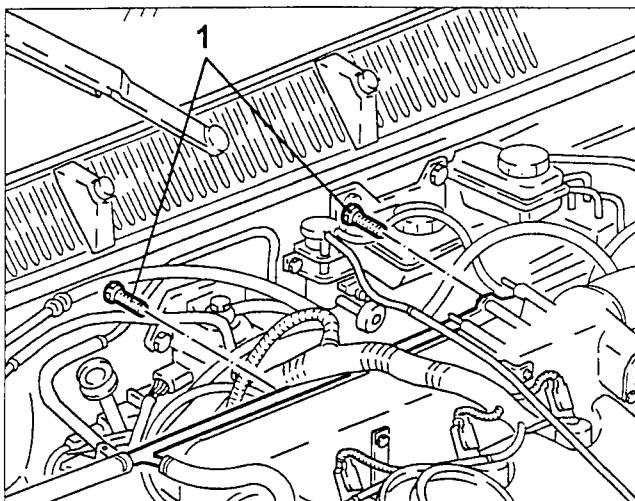
- Release the clamp fastening the oil vapour recovery pipe from the tappet cover.

- Release the delivery and return pipes to the climate control system heater from the fastening clamps.

1. Slacken the upper screws fastening the starter motor, then remove the pipe support bracket.

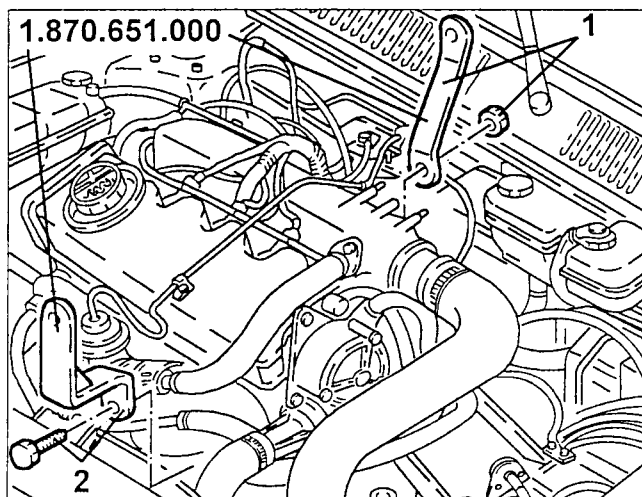


1. Slacken the fastening screws of the coolant fluid return pipe to the header tank.

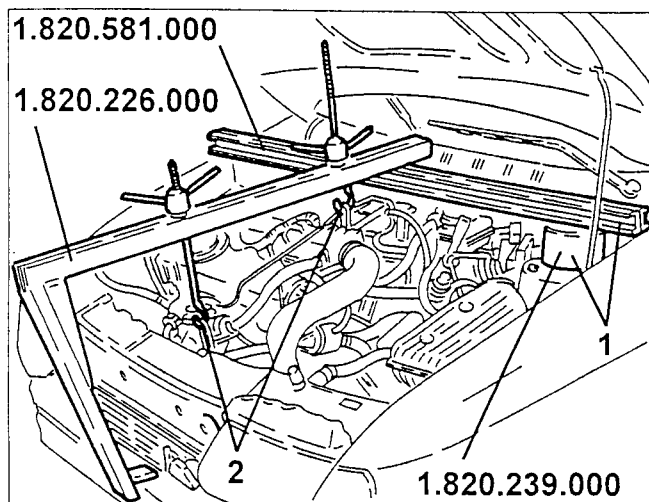


1. Install the rear bracket no. 1.870.651.000 and fasten it with an air box fastening nut.

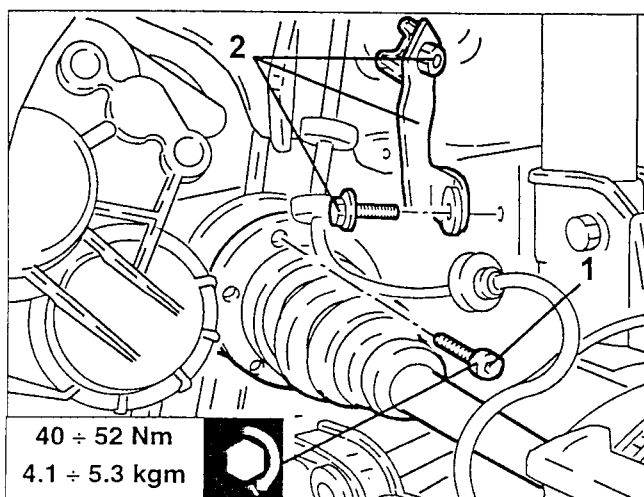
2. Install the front bracket no. 1.870.651.000 and fasten it with the screw fastening the stiff coolant fluid delivery pipe to the engine oil heat exchanger.



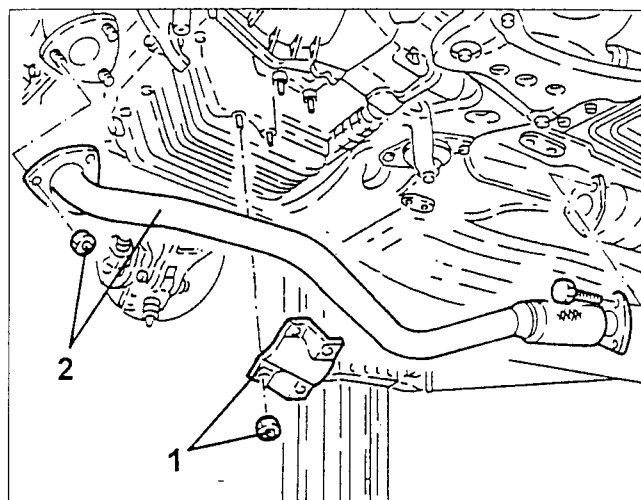
1. Install cross rail no. 1.820.581.000 complete with rest pads no. 1.820.239.000.
2. Install support no. 1.820.226.000 and connect the corresponding tie-rods to the brackets installed previously.



1. Slacken the bolts fastening the left axle shaft to the differential inner shaft.
2. Slacken the fastenings and remove the power steering pipe support bracket.

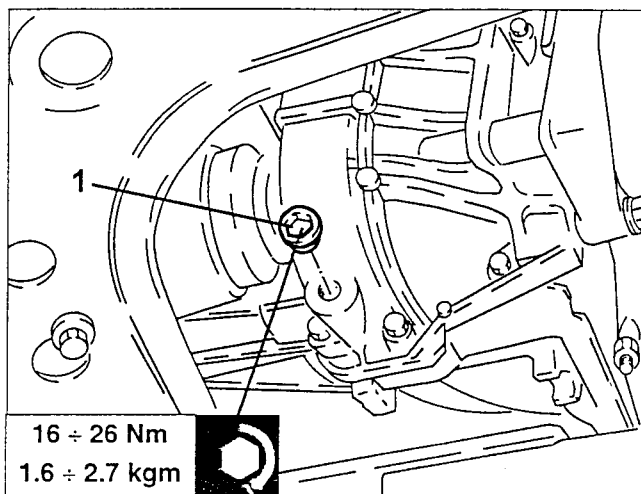


1. Slacken the fastening nuts and remove the reinforcement bracket.
 2. Slacken the nuts and screws and remove the front section of the exhaust pipe.
- Remove the associated pipes.

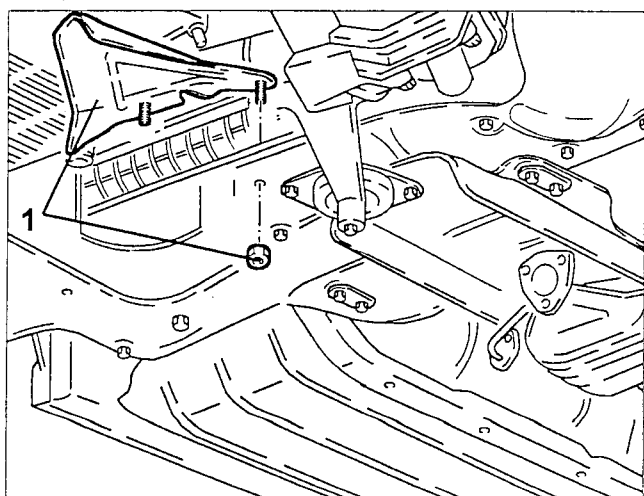


1. Slacken the drain cap and drain the gear box/differential oil.

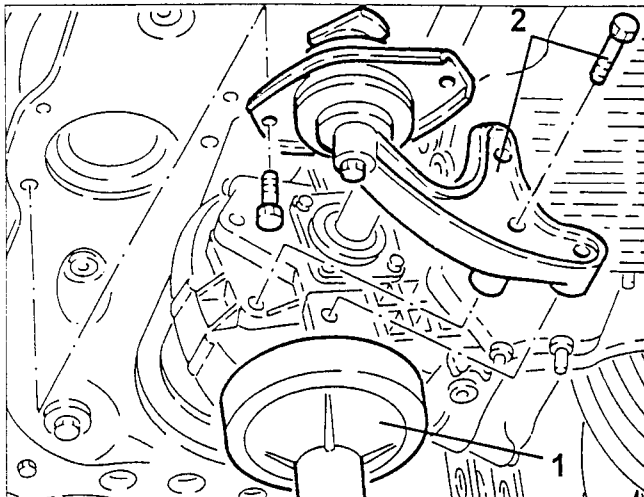
NOTE: Collect the gearbox/differential oil in a suitable container.



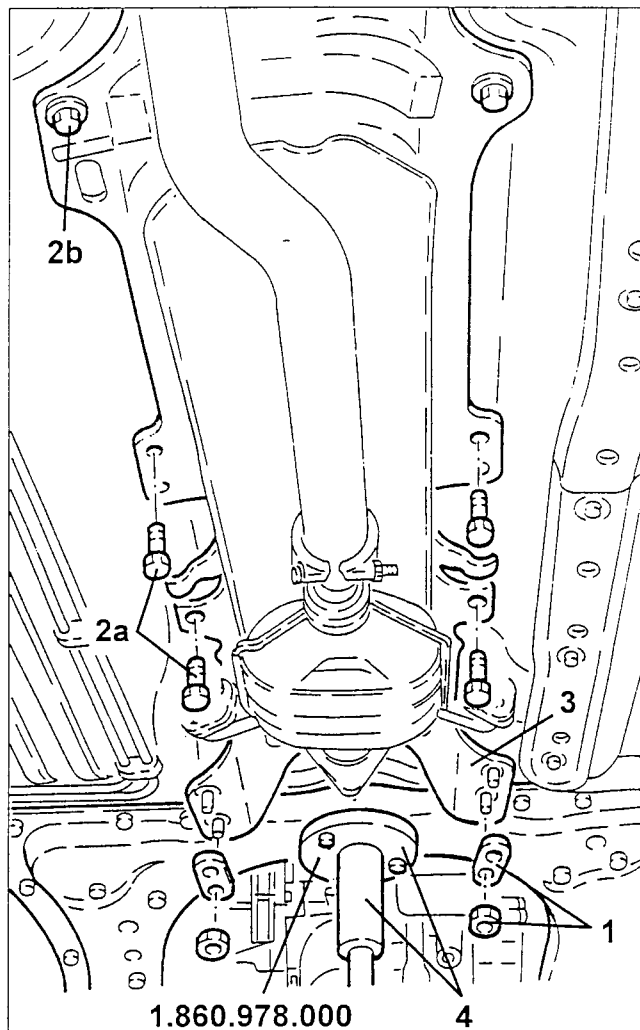
1. Slacken the nuts and remove the power steering box heat shield.



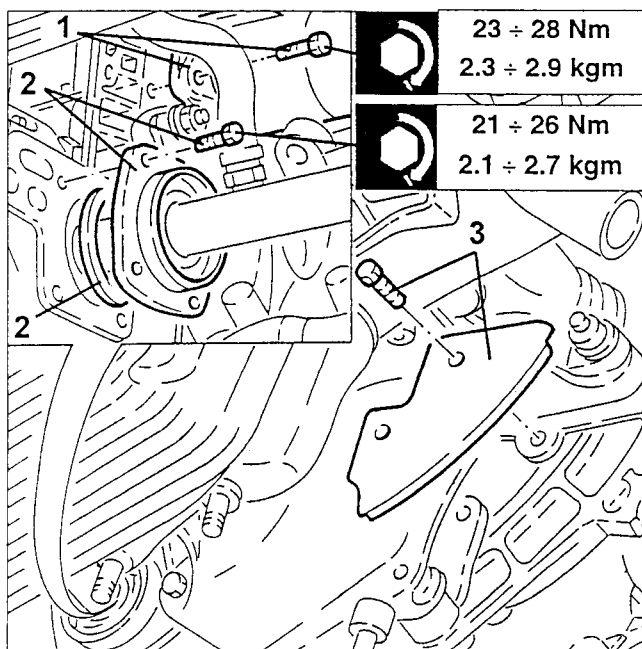
1. Set a hydraulic jack under the gearbox.
2. Slacken the fastening screws and remove the power unit rear rigid support.



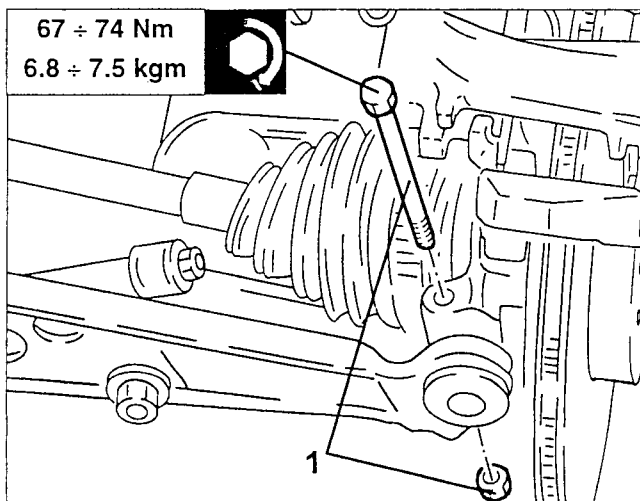
2. Slacken the front screws (2a) and slacken the rear screws (2b) fastening the support for the gearshift and handbrake control levers.
3. Lower the front of the support for the gearshift and handbrake control levers.
4. Support the front suspension cross rail with a hydraulic jack fitted with tool no. 1.860.978.000.



1. Slacken the lower screw fastening the starter motor, then move it aside.
2. Slacken the fastening screws and move the right differential flange complete with thrust ring.
3. Slacken the fastening screws and remove the lower flywheel guard.

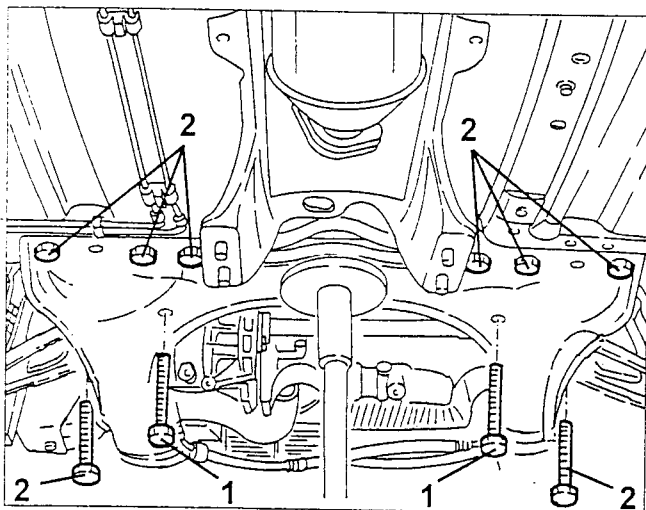


1. Slacken the bolts fastening the wishbones to the wheel uprights.

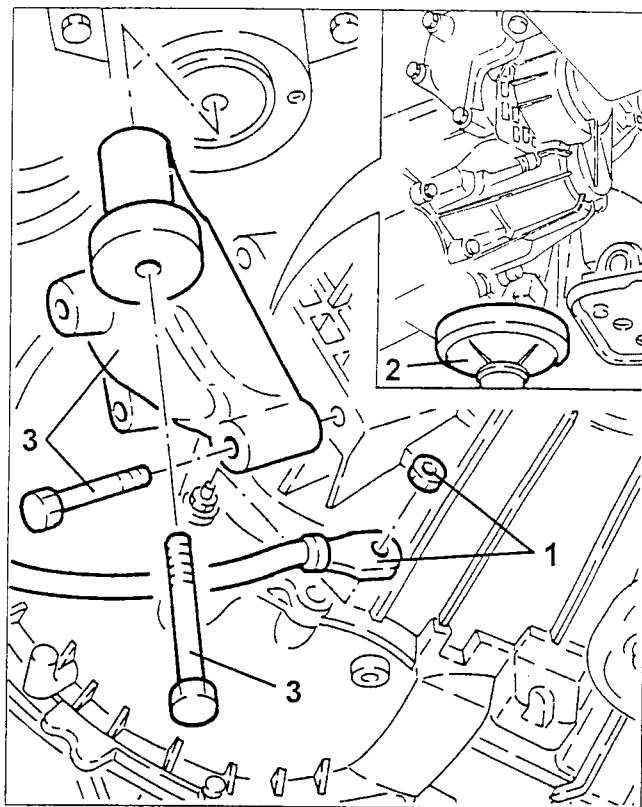


1. Slacken the nuts fastening the support for the gearshift and handbrake control levers and retrieve the corresponding plates.

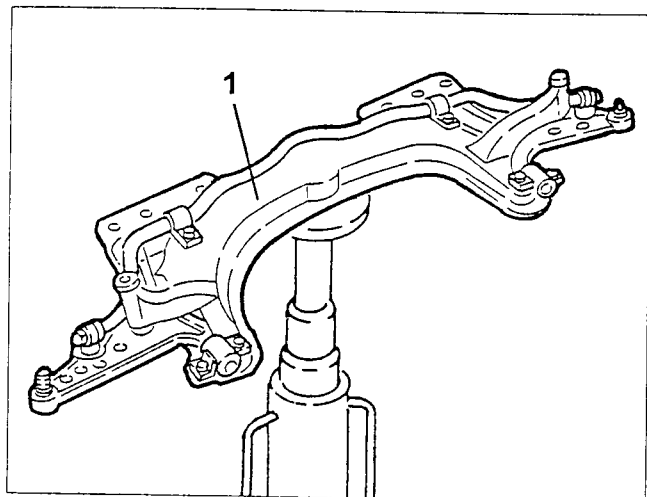
1. Slacken the screws fastening the power steering box to the front suspension cross rail.
 - Slacken the screws fastening sound-absorbing protections to the front suspension cross rail.
2. Slacken the side and rear screws fastening the front suspension cross rail to the body.



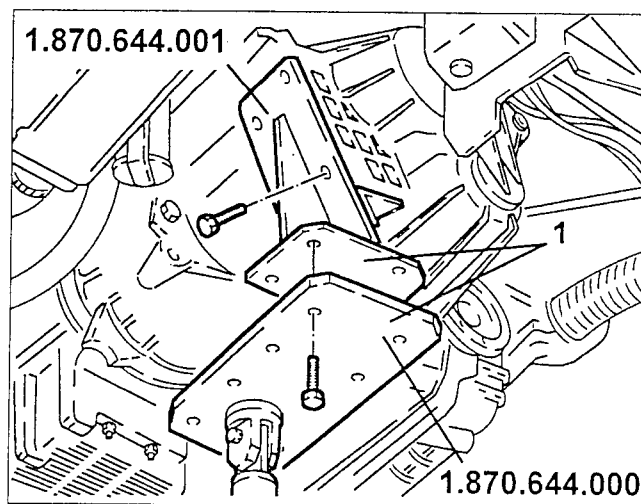
3. Slacken the screws and remove the gearbox stiff side support.



1. Lower the hydraulic jack and remove the front suspension cross rail complete with stabiliser bar and wishbones.

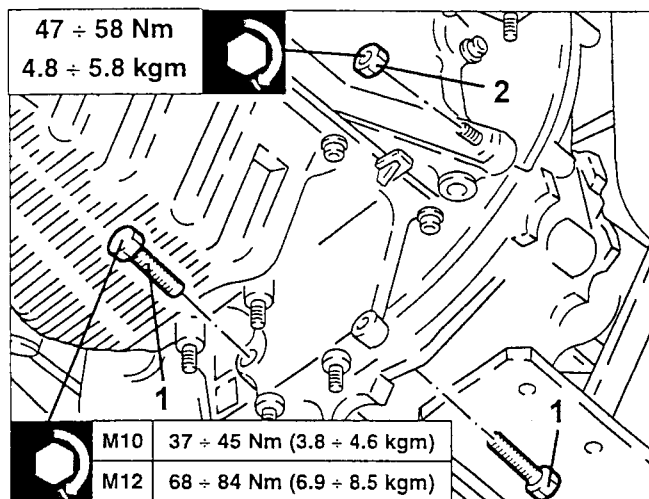


1. Support the gearbox with a hydraulic jack fitted with tools no. 1.870.644.000 and no. 1.870.644.001.

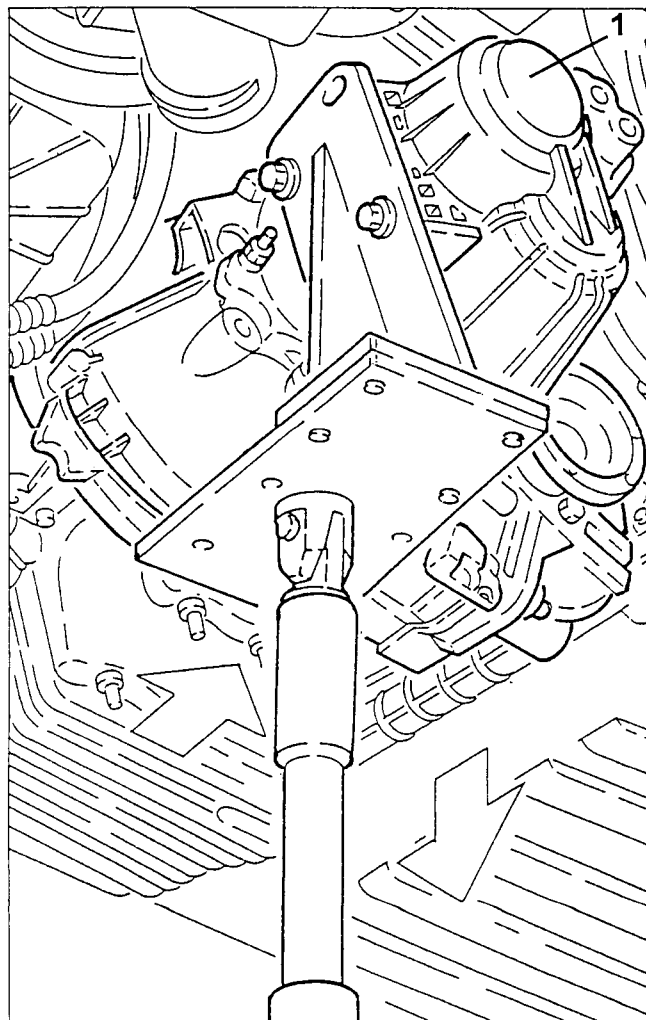


1. Slacken the nut and disconnect the gearbox earth cable.
2. Set a hydraulic jack under the gearbox.

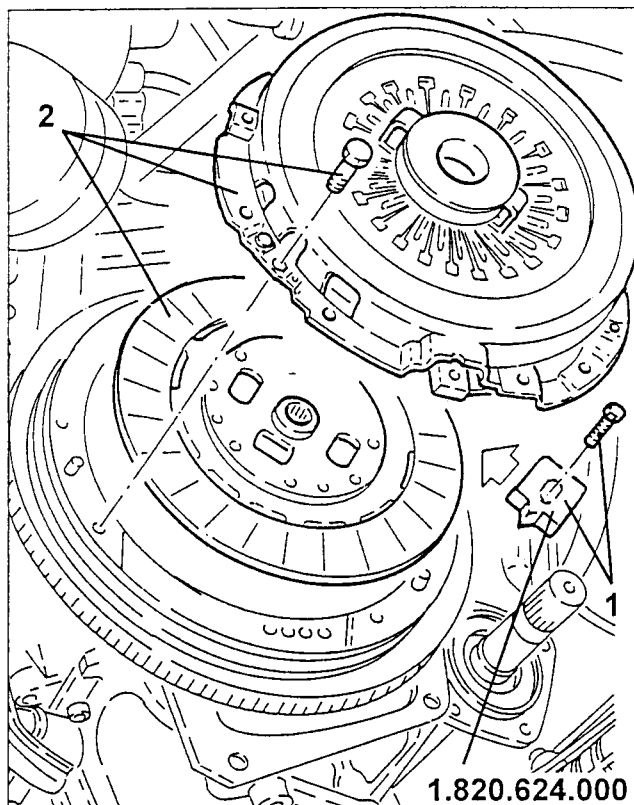
1. Slacken the screws fastening the oil sump to the gearbox.
2. Slacken the nuts fastening the gearbox to the crankcase.



1. Remove the gearbox with differential firstly moving it away from the engine and then lowering it with the hydraulic jack.

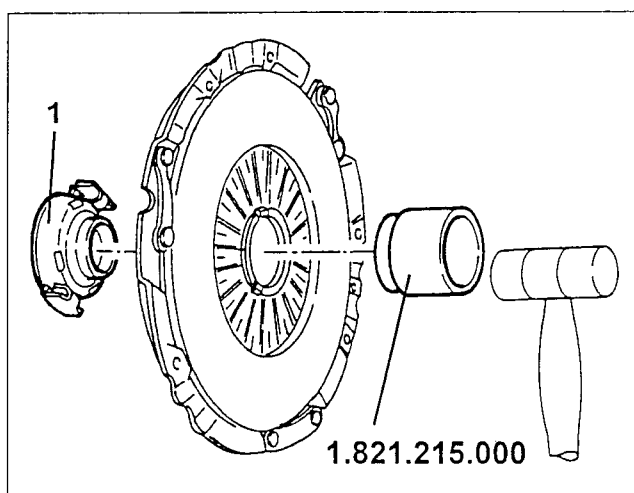


1. Install flywheel stopper tool no. 1.820.624.000.
2. Slacken the screws and remove the clutch box complete with thrust bearing and clutch plate.

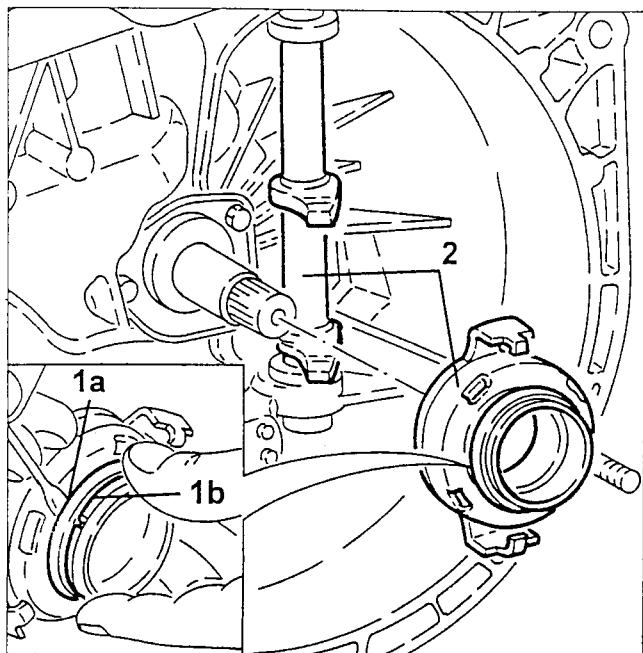


When refitting, follow the instructions given below.

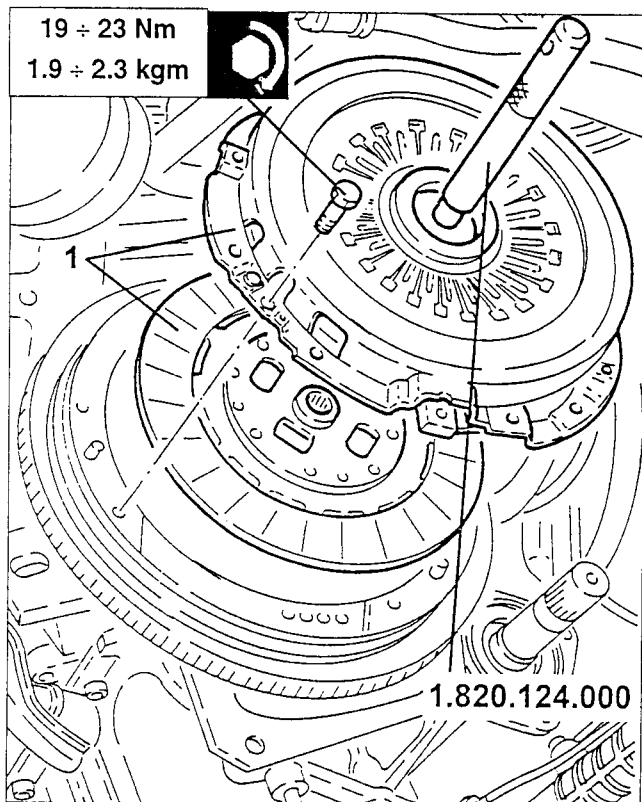
1. Remove the thrust bearing from the clutch box using tool no. 1.821.215.000.



1. Raise the taper ring (1a) of the thrust bearing until covering the spring (1b).
2. Install the thrust bearing on the main shaft and couple it with the fork pin.



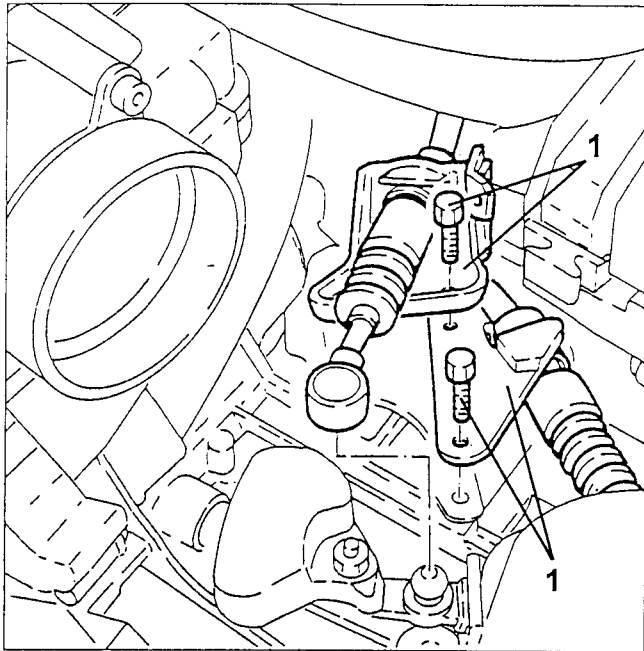
1. Install the clutch plate and clutch box centring them with tool no. 1.820.124.000.



- After assembling the gearbox and fastening it with its screws, work on the clutch control lever to engage the thrust bearing on the clutch.

- Complete refitting, reversing the sequence followed for removal up to assembly of the gear selection/engagement unit, then adjust the gear selection/engagement cables as described below.

1. Refit the support brackets complete with gear selection and engagement cables and fasten them with their nuts.



1. Install tool no. 1.870.974.000 under the gear engagement cable catch ball.

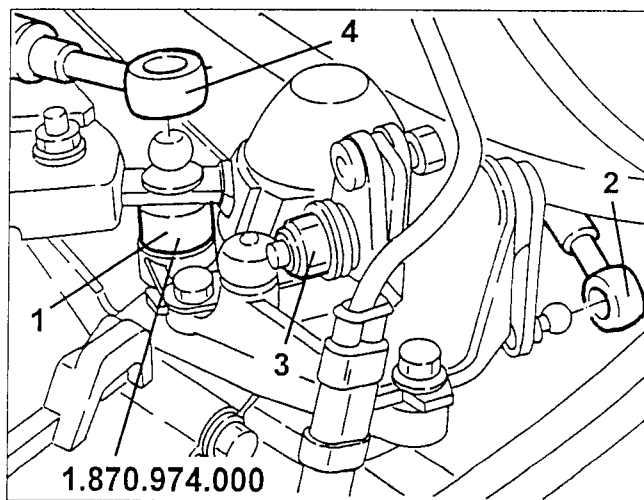
2. Connect the gear selection cable.

3. Loosen the adjustment nut of the gear selection/engagement unit.

- Tighten the adjustment nut of the gear selection/engagement unit after positioning the gearshift lever to neutral and moving it completely to the right.

4. Connect the gearshift engagement cable.

- Position the gearshift lever at reverse and remove the tool no. 1.870.974.000.



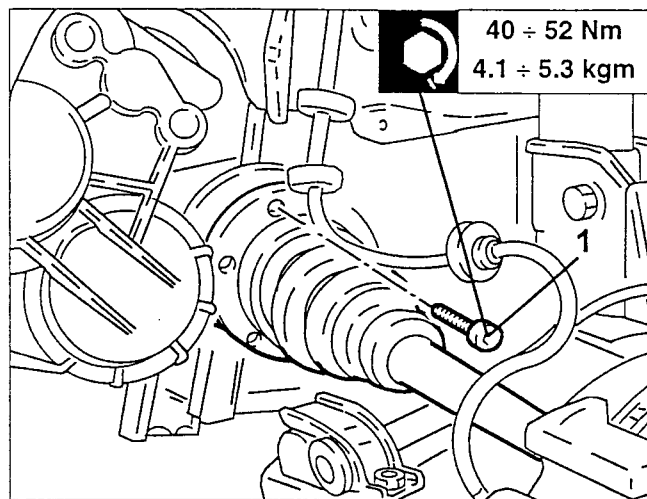
- Complete refitting, reversing the sequence followed for removal.

OPERATIONS ON THE CAR

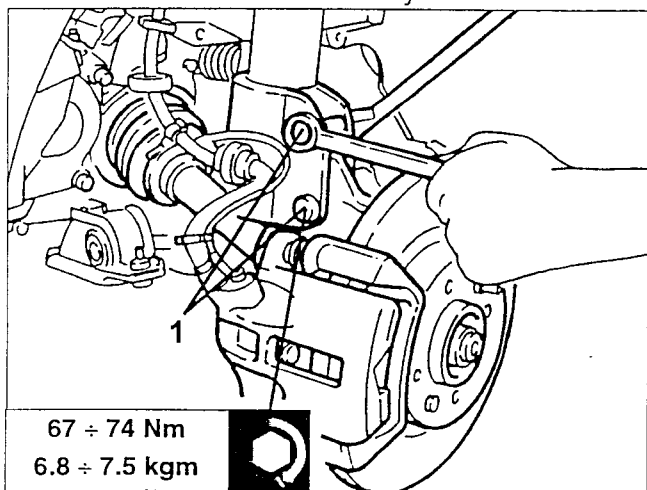
REPLACING THE GEARBOX SIDE
DIFFERENTIAL OIL SEAL

- Set the car on a lift.
- Disconnect the battery (-) terminal.
- Raise the car.
- Remove the left front wheel and mud flap.
- Working from the left wheel arch, disconnect the electrical connection of the brake pad wear sensor.
- Slacken the screw fastening the active A.B.S. sensor cable support bracket.

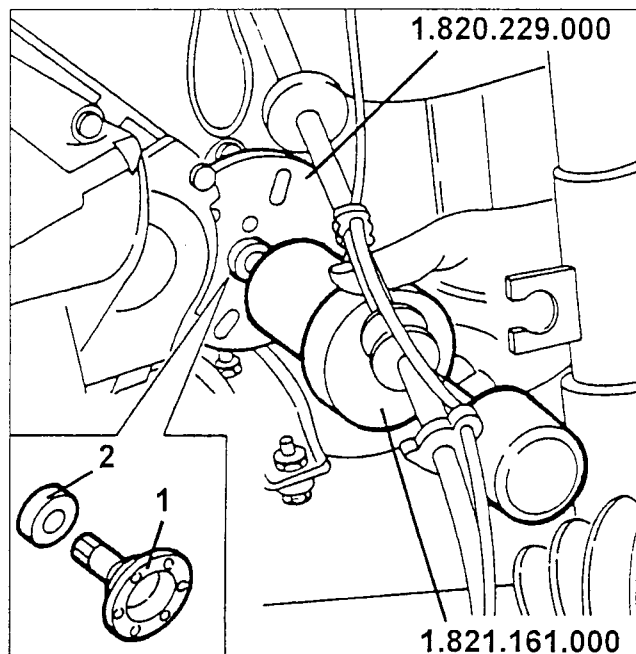
1. Slacken the bolts fastening the left axle shaft to the differential left inner axle shaft.



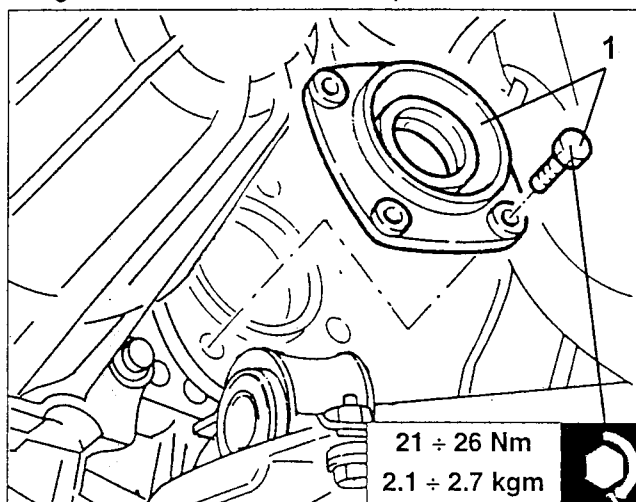
1. Slacken the bolts fastening the left upright to the shock absorber, then remove only the upper bolt.
- Move the left axle shaft back from the differential left inner axle shaft as necessary.



1. Remove the differential left inner axle shaft using tools no. 1.821.161.000 and no. 1.820.229.000.

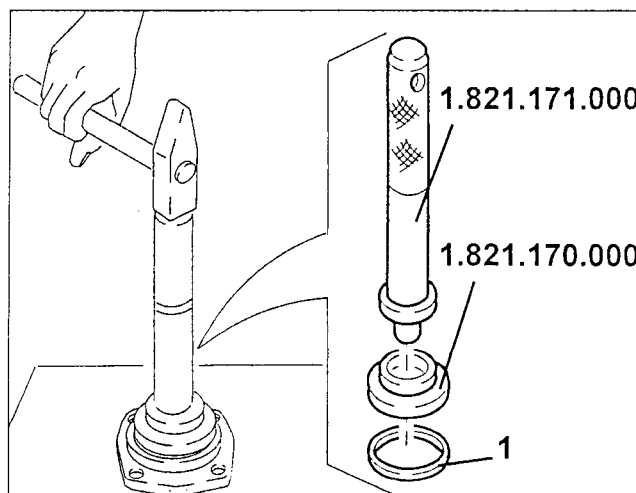


1. Slacken the fastening screws and remove the left flange from the differential complete with oil seal.



- Prise and remove the oil seal from the left differential flange.

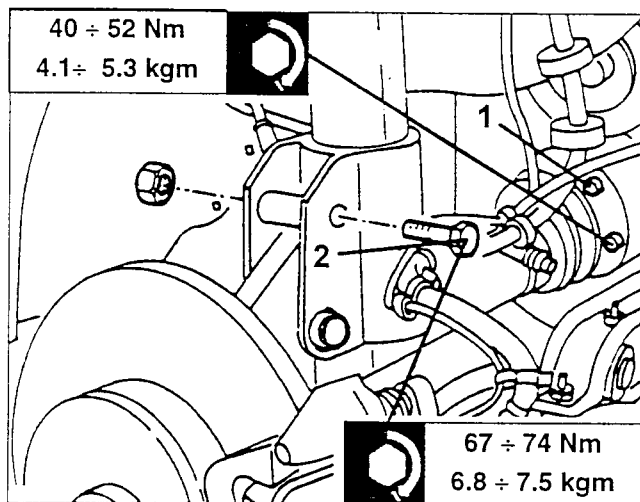
1. Install a new oil seal on the left differential flange using tools no. 1.821.170.000 and no. 1.821.171.000.



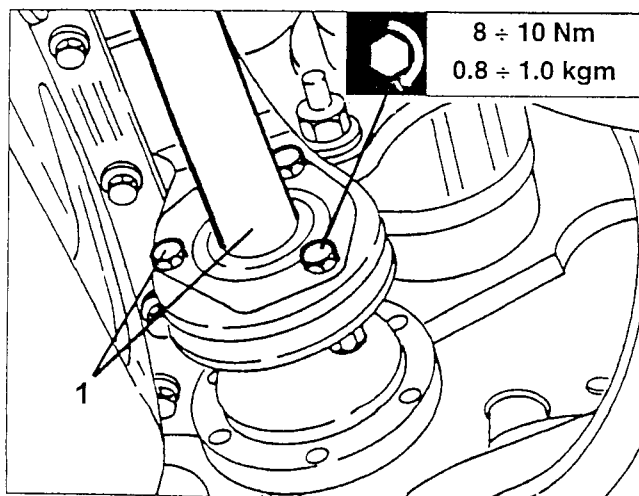
- Complete refitting reversing the sequence followed for removal.

SOSTIT CHANGING THE ENGINE SIDE DIFFERENTIAL OIL SEAL

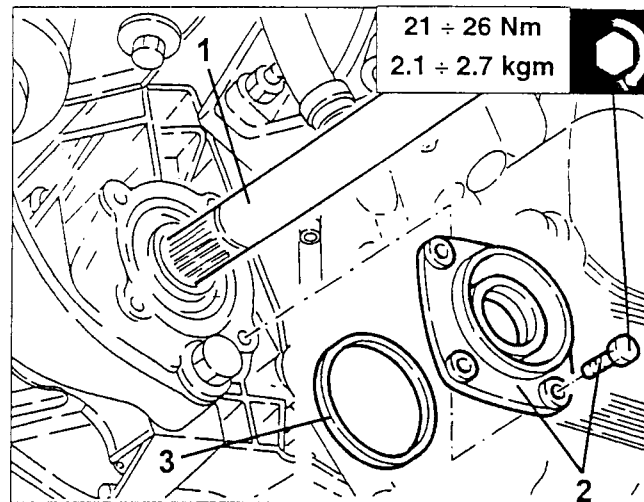
- Set the car on a lift.
- Disconnect the battery (-) terminal.
- Raise the car.
- Remove the right front wheel and mud flap.
- Working from the right wheel arch, slacken the screw fastening the A.B.S. active sensor cable support bracket.
- 1. Slacken the bolts fastening the right axle shaft to the intermediate axle shaft.
- 2. Slacken the bolts fastening the right upright to the shock absorber then remove only the upper bolt.
- Move the right axle shaft back from the intermediate axle shaft as necessary.



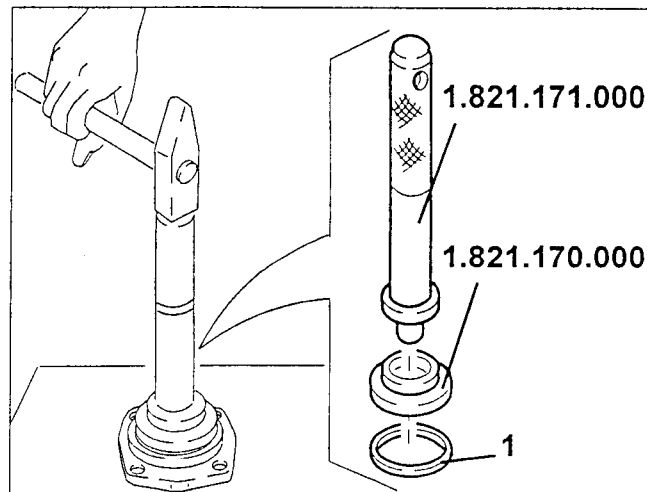
1. Slacken the screws fastening the intermediate axle shaft to its support.



1. Withdraw the intermediate axle shaft from the differential.
2. Slacken the fastening screws and remove the right flange from the differential complete with oil seal.
3. Remove the thrust washer.



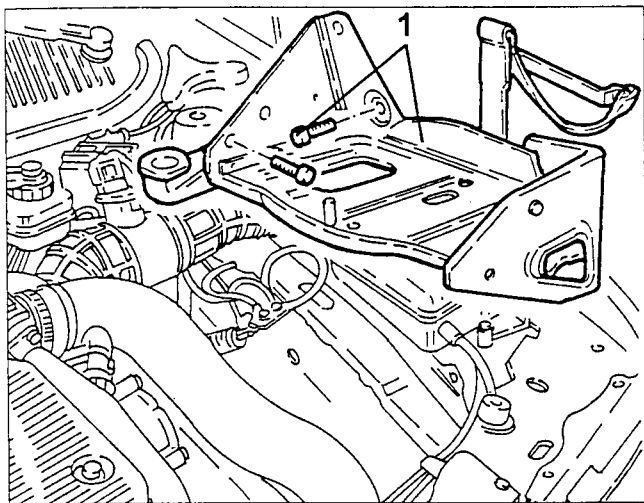
1. Prise and remove the oil seal from the right differential flange.
2. Install a new oil seal on the right differential flange using tools no. 1.821.171.000 and no. 1.821.170.000.



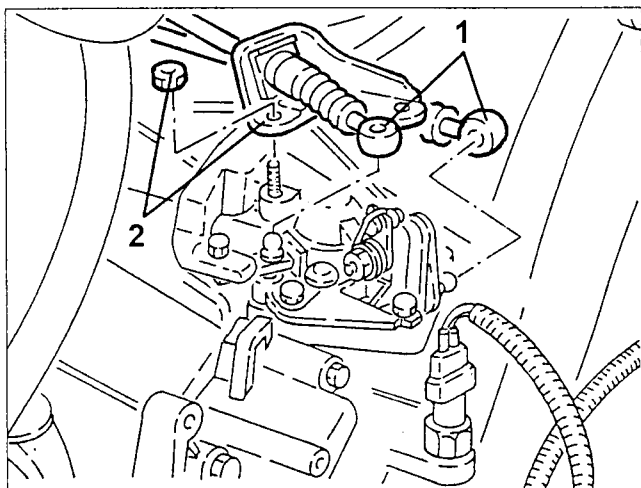
- Complete refitting reversing the sequence followed for removal.

**SUPPORT FOR GEARSHIFT AND
HANDBRAKE CONTROL LEVERS****REMOVAL/REFITTING**

- Set the car on a lift.
- Remove the battery (see Group 55).
- Remove the battery acid drain duct.
- 1. Slacken the fastening screws and remove the battery holder.

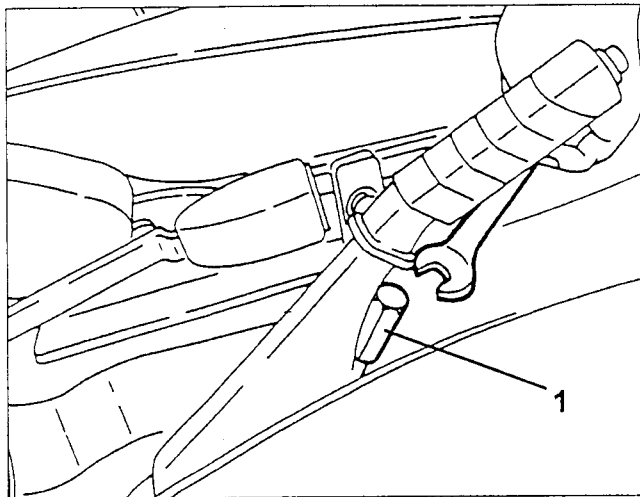


- 1. Disconnect the gear selection/engagement cables.
- 2. Slacken the fastening nuts and move aside the bracket complete with gear selection/engagement cables.

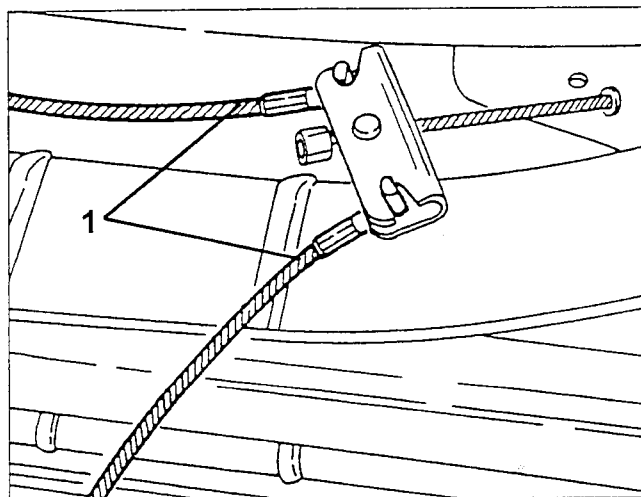


- Working from the passenger compartment, remove the gearshift lever cover and the handbrake lever cover.

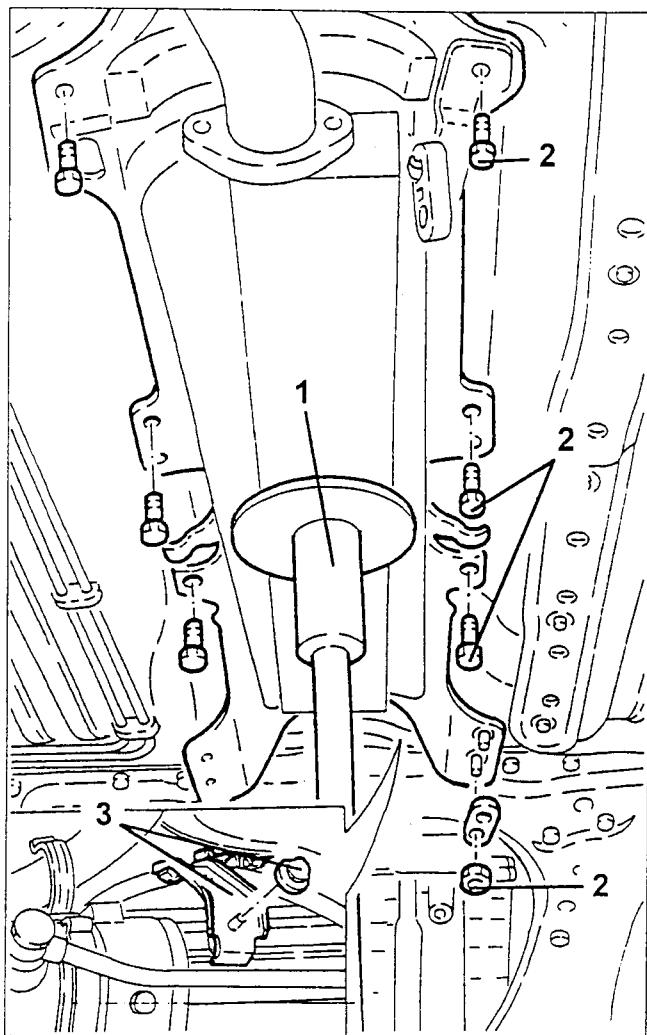
- 1. Raise the handbrake lever and loosen the tensioning nut of the handbrake cables.



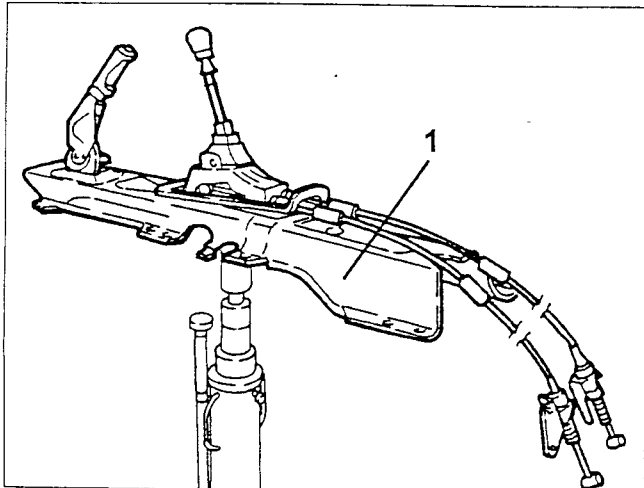
- Remove the catalytic converter (see Group 10).
- 1. Disconnect the handbrake cables.



1. Place a hydraulic jack under the gearshift and handbrake lever support.
2. Slacken the screws and nuts fastening the gearshift and handbrake lever support to the body.
3. Lower the hydraulic jack enough to slacken the nut fastening the support of the gear selection/engagement cables.

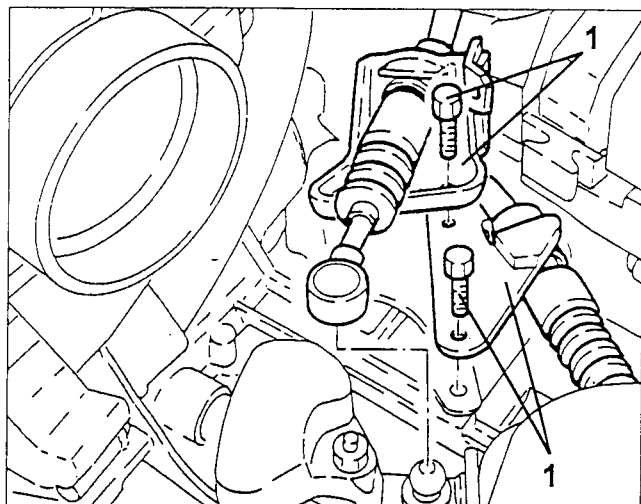


1. Lower the hydraulic jack completely and remove the complete gearshift and handbrake lever support.

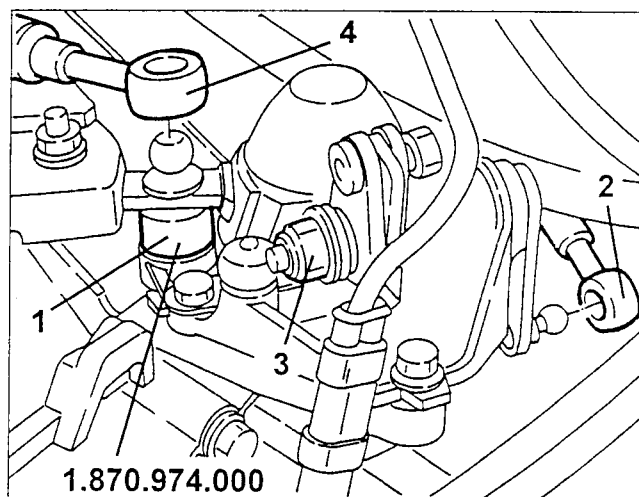


- Complete installation reversing the sequence followed for removal up to assembly of the cables on the gear selection/engagement unit, then adjust the cables, proceeding as follows.

1. Refit the support brackets complete with selection and engagement cables and fasten them with their nuts.



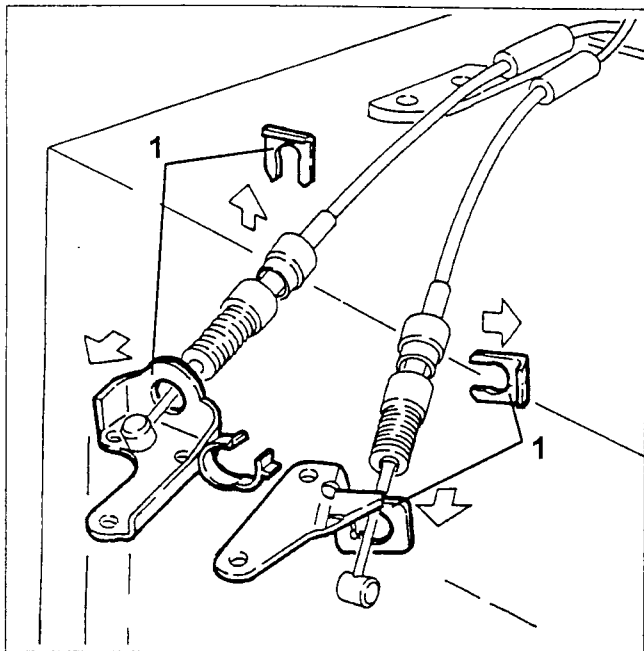
1. Install tool no. 1.870.974.000 under the gear engagement cable connection ball.
2. Connect the gear selection cable.
3. Loosen the adjustment nut of the gear selection/engagement unit.
- Tighten the adjustment nut of the gear selection/engagement unit after setting the gearshift lever to neutral and moving it fully right.
4. Connect the gear engagement cable.
- Position the gearshift lever to reverse and remove tool no. 1.870.974.000.



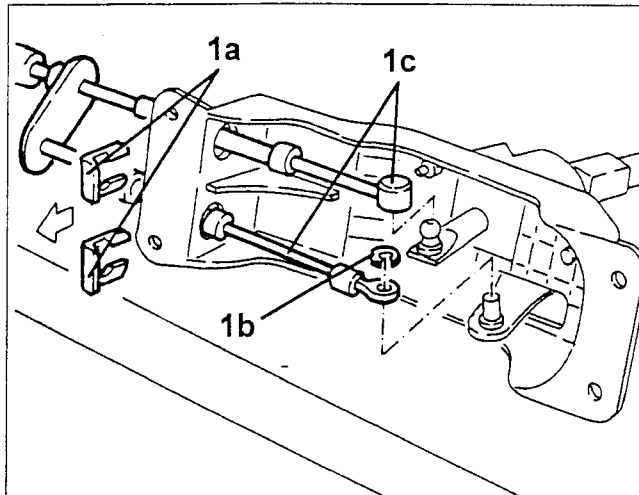
- Complete installation reversing the sequence followed for removal.

DISASSEMBLY AND REASSEMBLY

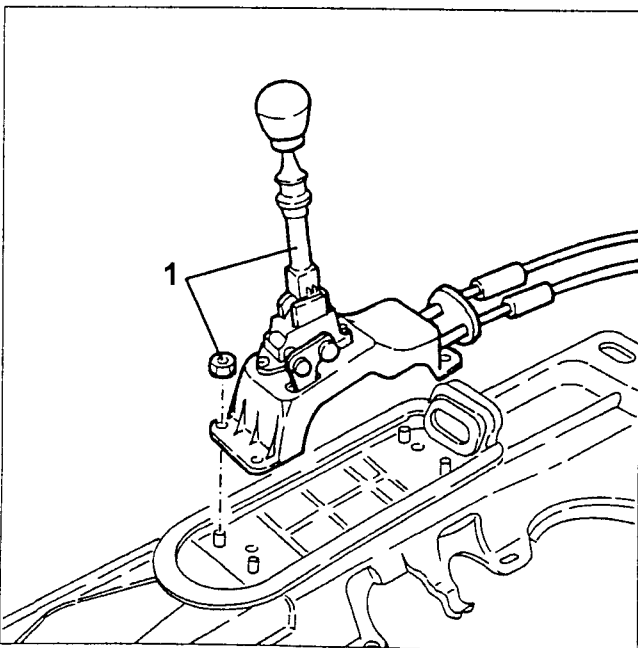
1. Withdraw the stopper plates and remove the support brackets of the gear selection/engagement cables.



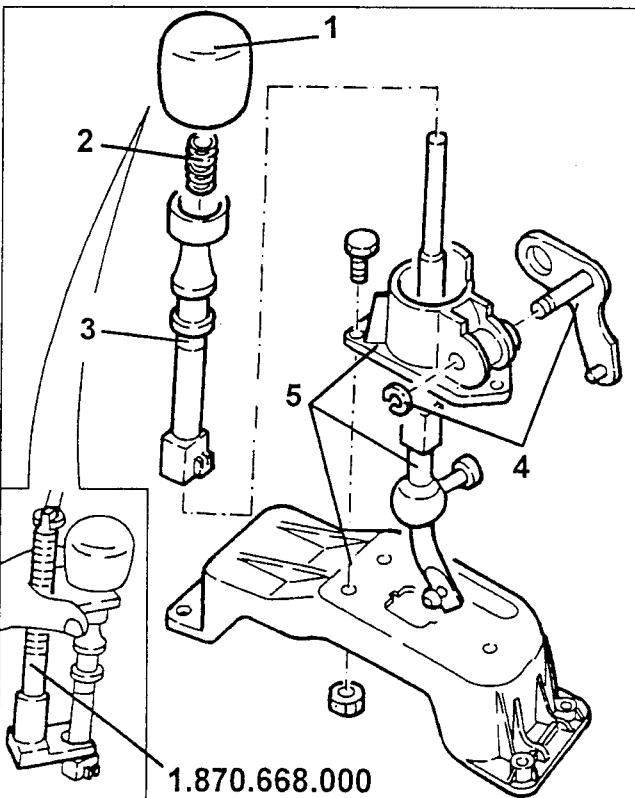
1. Remove the stopper plates (1a), circlip (1b), then disconnect and withdraw the gear selection/engagement cables (1c).



1. Slacken the fastening nuts and remove the gearshift control lever support complete with gear selection/engagement cables.



1. Remove the gearshift lever knob using tool no. 1.870.668.000.
2. Remove the spring.
3. Remove the reverse gear inhibitor.
4. Remove the circlip and remove the lever.
5. Slacken the bolts and separate the gearshift control rod from the supports.



REVERSE GEAR INHIBITOR

REMOVAL/REFITTING

- Remove the gearshift lever cover.
- 1. Remove the gearshift lever knob using tool no. 1.870.668.000.
- 2. Remove the spring.
- 3. Remove the reverse gear inhibitor.

