

**GROUP 17****AXLE SHAFTS****CONTENTS**

AXLE SHAFTS.....	17-2	TECHNICAL CHARACTERISTICS AND	
- DESCRIPTION.....	17-2	SPECIFICATIONS	17-3
- INTERMEDIATE SHAFT	17-2/1	- GENERAL SPECIFICATIONS	17-3
- Removal/Refitting	17-2/1	- Fluids and lubricants.....	17-3
- Disassembly	17-2/2	- TIGHTENING TORQUES.....	17-3
		- SPECIAL TOOLS	17-3

For all parts not mentioned herein, refer to the corresponding Group of manual "155 - INSTRUCTIONS FOR REPAIR" - PA465500000000 - (Pages with publication no. PA4655C1000000)



AXLE SHAFTS

DESCRIPTION

The axle shafts, together with the constant velocity joints and the intermediate shaft, form the set of devices which transmit motion from the gearbox to the driving wheels. The assembly of these devices, commonly known, along with the gearbox, as "transmission", comprises the following:

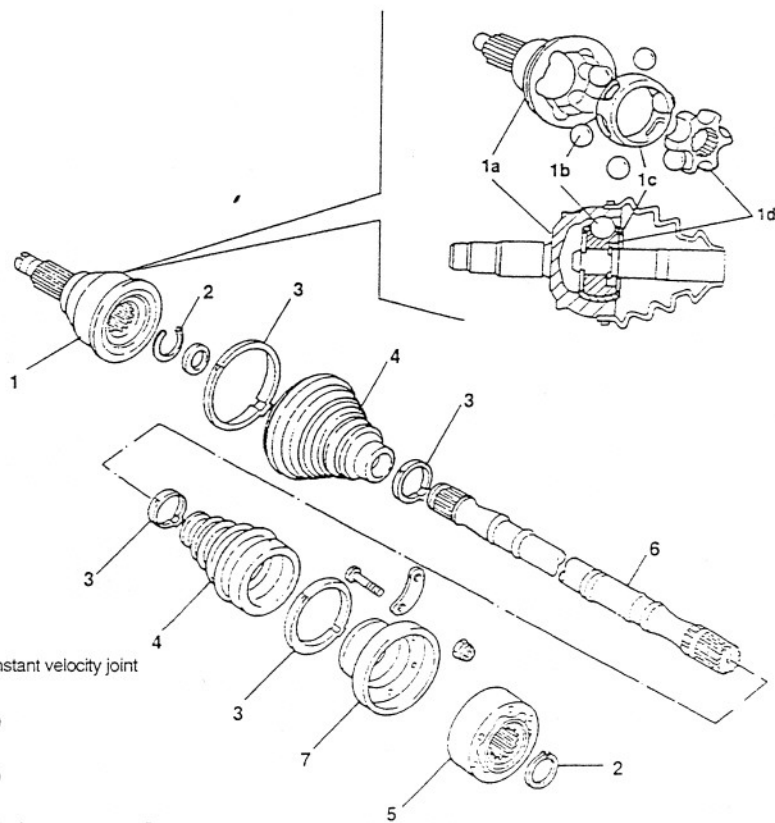
- right and left axle shafts;
- gearbox and wheel side constant velocity joints;
- intermediate shaft.

The axle shafts (6), made from high-strength steel, have grooved ends to enable coupling with the constant velocity joints (1) and (5). On the ends there are the seats for the circlips (2) which retain the actual joints.

Constant velocity joints are formed of an inner core (1d) known as "drive", keyed onto the input shaft, and an outer shell (1a), known as "driven", which is the output piece of the joint.

On the outer surface of the inner core, there are six round grooves which contain six balls (1b), held in place by a cage (1c).

These balls are the actual motion transmission element and they are contemporaneously housed in six grooves machined on the inner surface of the shell.



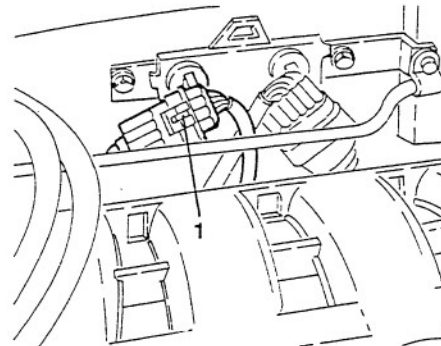
1. Wheel side constant velocity joint
2. Circlip
3. Retainer clamp
4. Boot
5. Retainer clamp
6. Axle shaft
7. Constant velocity joint connection flange



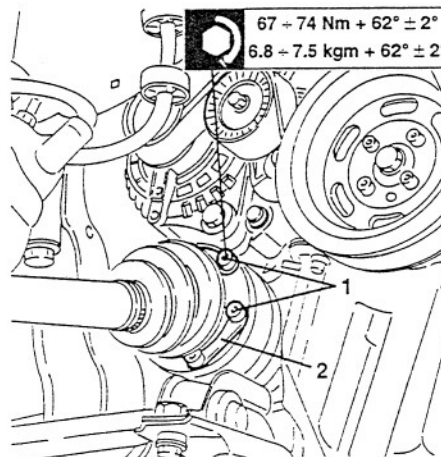
INTERMEDIATE SHAFT

REMOVING/REFITTING

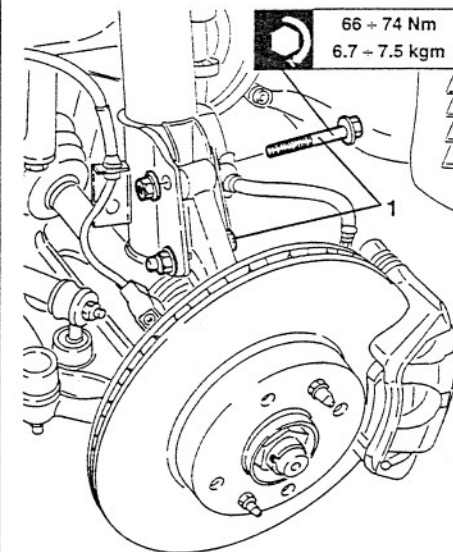
- Set the car on a lift.
 - Disconnect the battery (-) terminal.
1. Disconnect the electrical connection of the lambda sensor.



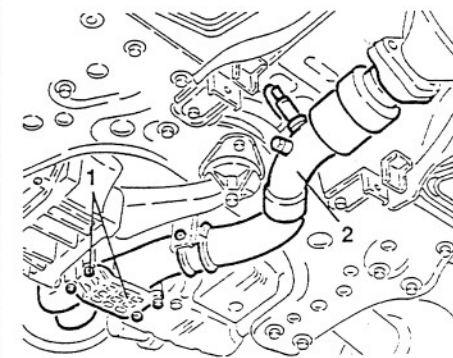
- Raise the car.
 - Remove the right-hand front wheel and mud flap.
1. Slacken the bolts fastening the right axle shaft from the intermediate shaft flange.
 2. Retrieve the safety plates.



1. Slacken the two bolts fastening the wheel upright to the shock absorber stem, then remove only the upper one to free the axle shaft from the intermediate shaft.

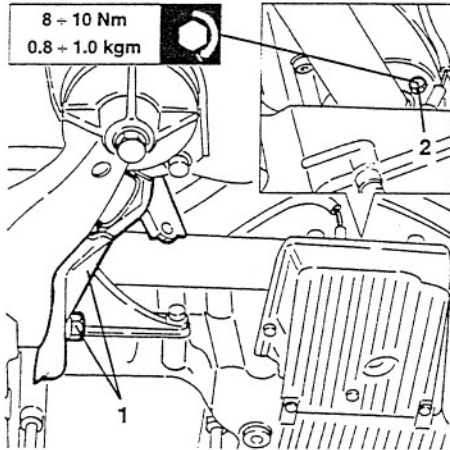


1. Slacken the fastening screws and remove the reinforcement bracket.
2. Remove the front section of the exhaust pipe complete with lambda sensor after slackening the associated fastenings.

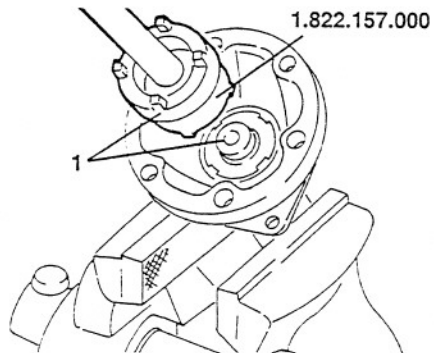




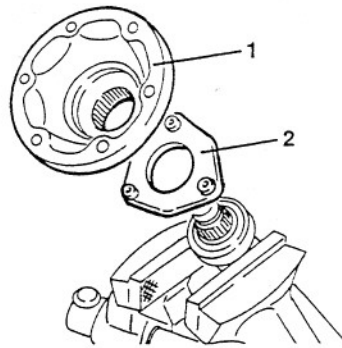
1. Slacken the fastenings and remove the exhaust pipe support bracket.
 2. Slacken the fastening screws of the intermediate flange to the support, then withdraw the intermediate flange from the differential.
- Retrieve the dust cover ring.

**DIS-ASSEMBLY**

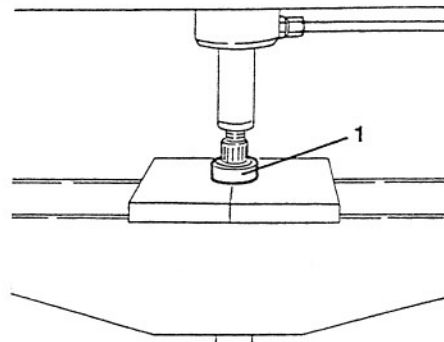
- Position the intermediate shaft in a vice fitted with protective jaws.
1. Using tool no. 1.822.157.000, slacken the lock nut.



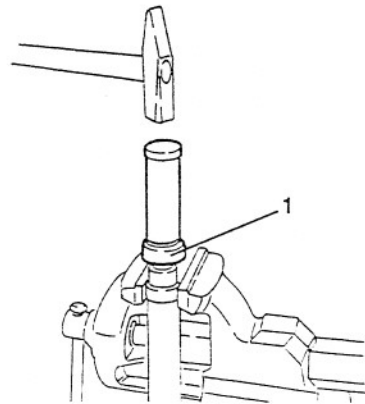
1. Withdraw the flange from the intermediate shaft.
2. Retrieve the bearing retainer plate.



1. Working under a press and using two special half support plates, remove the bearing from the intermediate shaft.



1. Refit a new bearing on the intermediate shaft using a suitable installing tool.



- Complete re-assembly of the intermediate shaft reversing the sequence described for dis-assembly.

**TECHNICAL CHARACTERISTICS AND SPECIFICATIONS****GENERAL SPECIFICATIONS****FLUIDS AND LUBRICANTS**

APPLICATION	TYPE	NAME
Axle shaft constant velocity joints	GREASE	OPTIMOL PU 035 BERUTOX GKN HTB

TIGHTENING TORQUES

Part	Nm	kgm
Screws fastening differential side axle shaft joint to flange	40 + 52	4.1 + 5.3
Screws fastening intermediate axle shaft flange	8 + 10	0.8 + 1.0
Nut fastening axle shafts to wheel hub	67 + 74 + 62° ± 2°	6.8 + 7.5 + 62° ± 2°
Bolt fastening wheel upright - shock absorber	66 + 74	6.7 + 7.5

SPECIAL TOOLS

TOOL NUMBER	DESCRIPTION
1.820.082.000	Pliers for installing fastening clamps for joint protection boot
1.820.084.000	Pliers for installing fastening clamps for joint protection boot
1.821.161.000	Mallet (use with No. 1.821.165.000)
1.821.165.000	Removing tool for constant velocity joint
1.822.157.000	Wrench for intermediate shaft flange lock nut