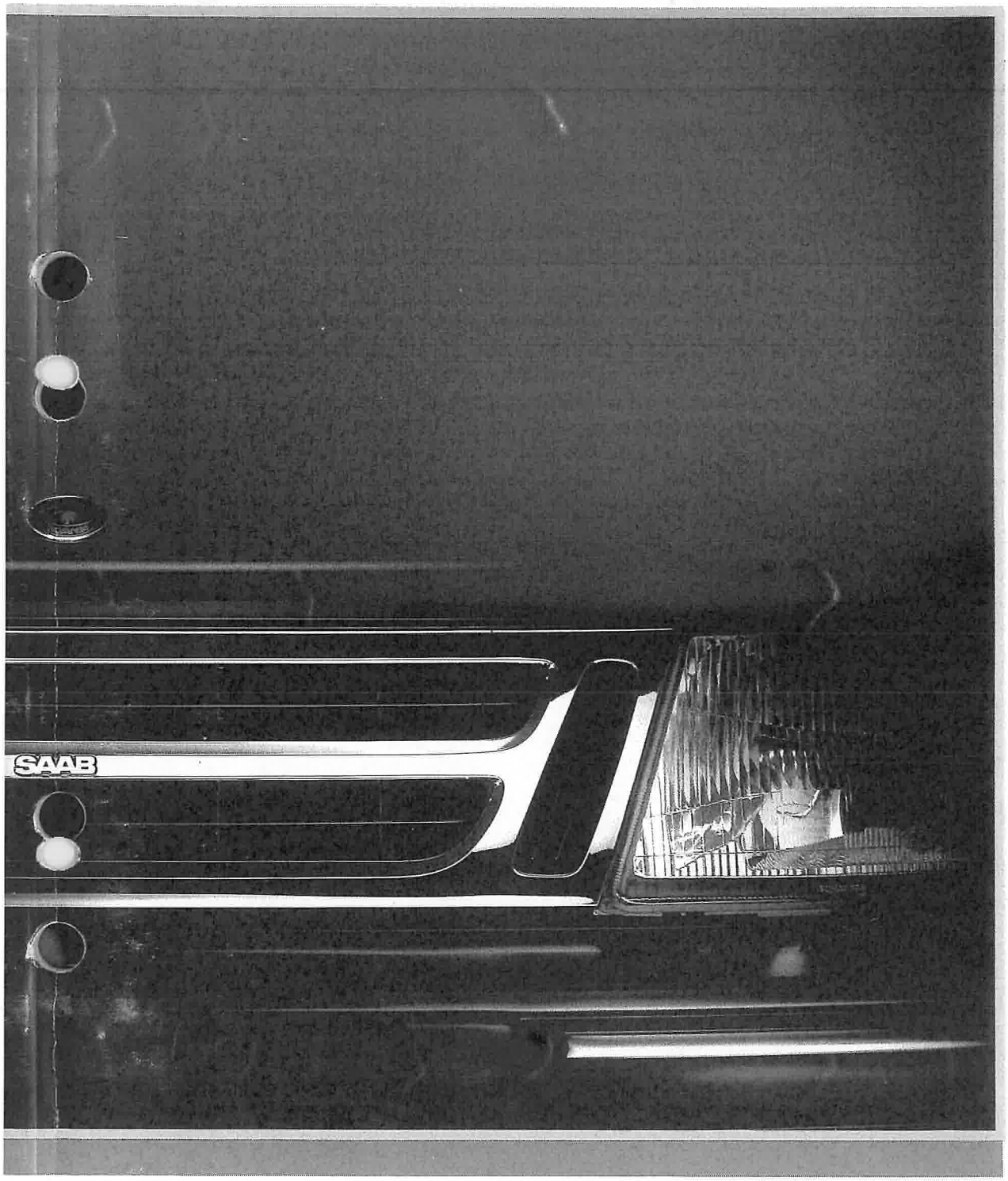
Saab 900

SERVICE MANUAL



SAAB

7 Suspension, wheels

M 1979 - 91

Saab 900

SERVICE MANUAL

7 Suspension, wheels

M 1979–1991

Units

The basic and derived units used throughout the Service Manual are in accordance with the SI system.

For users not familiar with the SI units, some non-Continental units are given in brackets after the respective SI unit.

The following symbols and abbreviations are used:

SI unit	Equivalent unit and symbol
mm	inch (in)
kg	pound (lb)
N	pound-force (lbf)
Nm	pound-force foot (lbf ft)
bar	pound-force per square inch (lbf/in^2)
l (liter)	(Also abbreviated: psi)
°C	US liquid quart (liq qt)
	(Also abbreviated: qts)
	US gallon (US gal)
	°F

Conversion factors

1 in = 25.4 mm	1 mm = 0.039 in
1 lb = 0.45 kg	1 kg = 2.20 lb
1 lbf = 4.45 N	1 N = 0.23 lbf
1 lbf ft = 1.36 Nm	1 Nm = 0.74 lbf ft
1 psi = 0.07 bar	1 bar = 14.5 lbf/in^2
1 US liq qt = 0.83 UKqt	1 l = 1.05 liq qt
	1 US gal = 0.83 UK gal
°F = °C x 9/5 + 32	°C = (°F - 32) x 5/9

Market codes

The codes refer to market specifications

AT	Austria	GB	Great Britain
AU	Australia	GR	Greece
BE	Belgium	IS	Iceland
CA	Canada	IT	Italy
CH	Switzerland	JP	Japan
DE	Germany	ME	Middle East
DK	Denmark	NL	Netherlands
ES	Spain	NO	Norway
EU	Europe	SE	Sweden
FE	Far East	UC	US California
FI	Finland	US	USA
FR	France		

Production: Technical Publications, Saab Automobile AB, Trollhättan, Sweden

Technical data

Suspension

To ensure that the car is the same height at both sides, springs on the same axle should have the same colour coding, whenever possible.

This colour coding, which is based on the spring free-length tolerance, does not apply to rear springs on the standard chassis.

Front coil springs

		Standard chassis M81°85		
Total no. of turns		8¼	8¼	8¼
Wire diameter	mm (in)	14.4 (0.57)	14.4 (0.57)	14.4 (0.57)
Free length	mm (in)	373 (14.7)	380 (15.0)	388 (15.3)
Colour coding, class 1		Green	Yellow	Pink
class 2		Light green	Red	Brown

		Standard chassis M86 onwards		
Total no. of turns		8¼	8¼	8¼
Wire diameter	mm (in)	14.4 (0.57)	14.2 (0.56)	14.0 (0.55)
Free length	mm (in)	373 (14.7)	373 (14.7)	372 (14.6)
Colour coding, class 1		Green	Black	Blue
class 2		Light green	White	Light blue

		Special chassis		Sports chassis
Total no. of turns		8¼	8¼	6½
Wire diameter	mm (in)	14.4 (0.57)	14.4 (0.57)	15.7 (0.62)
Free length	mm (in)	380 (15.0)	388 (15.3)	301 (11.8)
Colour coding, class 1		Yellow	Pink	Silver
class 2		Red	Brown	Bronze

Rear coil springs

		Standard chassis	
		Left	Right
Total no. of turns		9	9
Wire diameter	mm (in)	15 (0.59)	14.8 (0.58)
Free length	mm (in)	311 (12.7)	308 (12.6)
Colour coding, class 1		Black	Green

		Standard chassis	
		Left	Right
Total no. of turns		9	9
Wire diameter	mm (in)	15 (0.59)	14.8 (0.57)
Free length	mm (in)	311 (12.7)	308 (12.6)
Colour coding, class 2		White	Light green

		Special chassis*		Sports chassis
Total no. of turns		9	9	9
Wire diameter	mm (in)	14.8 (0.58)	15 (0.59)	15.8 (0.62)
Free length	mm (in)	333 (13.1)	317 (12.5)	293 (11.5)
Colour coding, class 1		Yellow	Pink	Silver
class 2		Red	Brown	Bronze

** This applies to police cars and cars to ME spec.*

Wheels

		Steel	Alloy
Maximum out-of-round	mm (in)	1.0 (0.04)	0.5 (0.02)
Maximum runout	mm (in)	1.0 (0.04)	0.5 (0.02)

M79-87	½-inch 20 UNF
Wheel bolts (M88 onwards)	M14 x 1.5
Locating stud (M88 onwards)	M8

Tightening torques

Hub centre-nut, front (pre-M81)	Nm (lbf ft)	340-360 (251-266)
Hub centre-nut, front (M81-87)	Nm (lbf ft)	290-310 (214-229)
Hub centre-nut, rear (27 mm across flats)	Nm (lbf ft)	Stage 1: 49 (36) Stage 2: slacken nut completely Stage 3: 2-4 (1.5-3.0)
Hub centre-nut, rear (32 mm across flats)	Nm (lbf ft)	290-310 (214-229)
Wheel nuts (pre-M88)	Nm (lbf ft)	90-110 (66-88)
Wheel bolts (M88 onwards)	Nm (lbf ft)	105-125 (77-92)
Locating stud (M88 onwards)	Nm (lbf ft)	25-30 (18-22)

Rear-wheel geometry (Car unladen)

Toe-in (M79-84)	mm	4 ± 2 (i.e. setting of between 1 /3 mm on either side)
(M84 onwards)	mm	4 ± 1 (i.e. setting of between 1 /3 mm on either side)
Camber	Degrees	-½ ± ¼

Recommended tyre pressures (cold tyres) M81-89 (n/a DE)

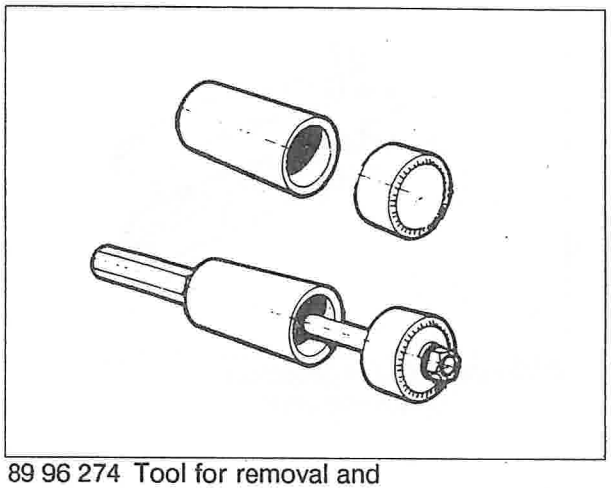
Tyre size	No. of occupants	Max cruising speed	Front		Rear	
		mph (km/h)	bar	(psi)	bar	(psi)
175/70 R15 87T	1-3	0-120 (0-190)	2.1	(30)	2.2	(32)
	4 or 5		2.3	(33)	2.4	(35)
185/65 R15 87T	1-3	0-120 (0-190)	2.0	(29)	2.1	(30)
	4 or 5		2.2	(32)	2.3	(33)
195/65 R15 87H	1-3	0-130 (0-210)	2.0	(29)	2.1	(30)
	4 or 5		2.4	(35)	2.5	(36)
195/60 R15 86H	1-3	0-130 (0-210)	2.1	(30)	2.2	(32)
	4 or 5		2.4	(35)	2.5	(36)
195/60 VR15	1-3	0-130 (0-210)	2.1	(30)	2.2	(32)
195/60 R15 87/88V	1-3	>130 (>210)	2.4	(35)	2.5	(36)
	4 or 5		2.4	(35)	2.5	(36)
Convertible						
185/65 R15 87T5	1 or 2	0-120 (0-190)	2.0	(29)	2.1	(30)
	3 or 4		2.2	(32)	2.3	(33)
185/65 R15 87H	1 or 2	0-120 (0-190)	2.0	(29)	2.1	(30)
	3 or 4		2.4	(32)	2.5	(36)
195/60 R15 86/87H	1 or 2	0-130 (0-210)	2.1	(30)	2.2	(32)
	3 or 4		2.4	(35)	2.5	(36)
195/60 VR15	1 or 2	0-130 (0-210)	2.1	(30)	2.3	(32)
	1 or 2	>130 (>210)	2.4	(35)	2.5	(36)
	3 or 4		2.4	(35)	2.5	(36)
Spare wheel						
T115/70 D15		max 50 (80)	4.2	(60)		
T115/70 R15						
175/70 R15		max 50 (80)	2.6	(38)		
Convertible						
165 R15	1-3		2.1	(31)	2.2	(32)
	4 or 5		2.3	(33)	2.5	(36)
175/70 R15	1-3		2.3	(33)	2.4	(35)
	4 or 5		2.4	(35)	2.5	(36)
185/65 R15	1-3		2.2	(32)	2.3	(33)
	4 or 5		2.3	(33)	2.4	(35)
Other tyre sizes						
195/50 VR16	1-3	0-130 (0-210)	2.3	(33)	2.4	(35)
195/50 ZR16	1-3	>130 (>210)	2.6	(38)	2.7	(39)
	4 or 5		2.6	(38)	2.7	(39)

EU spec., M90 onwards
DE spec., M81 onwards

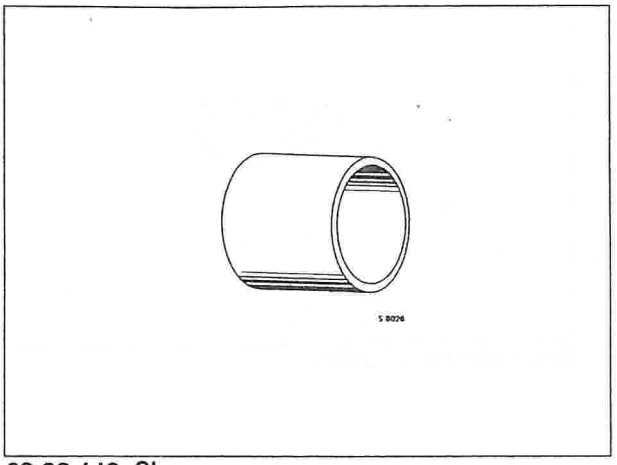
L1	Max 3 occupants	0-100 (0-160 km/h)	All ratings
L2	Max load	0-100 (0-160 km/h)	All ratings
L3	Max load	100 mph (160 km/h) to max speed	V, Z
L4	Max load	100-130 mph (160-210 km/h)	H
L5	Max load	100-120 mph (160-190 km/h)	T

Tyresize	Loading class (L)	Front (bar)	Rear (bar)
175/70 R15 86T	L1	2.1	2.2
	L2	2.3	2.4
	L5	2.4	2.5
185/65 R15 87T	L1	2.0	2.1
	L2	2.2	2.3
	L5	2.5	2.6
185/65 R15 87H	L1	2.0	2.1
	L2	2.4	2.5
	L4	2.5	2.6
195/60 VR15	L1	2.1	2.2
R15 88V	L2	2.4	2.5
	L3	2.6	2.7
195/50 ZR16	L1	2.4	2.5
	L2	2.6	2.7
	L3	2.9	3.0
175/70 R15 86T M + S	L1	2.3	2.4
(Winter tyre)	L2	2.5	2.6
	L5	2.6	2.7
185/65 R15 87T M + S	L1	2.2	2.3
(Winter tyre)	L2	2.4	2.5
	L5	2.5	2.6

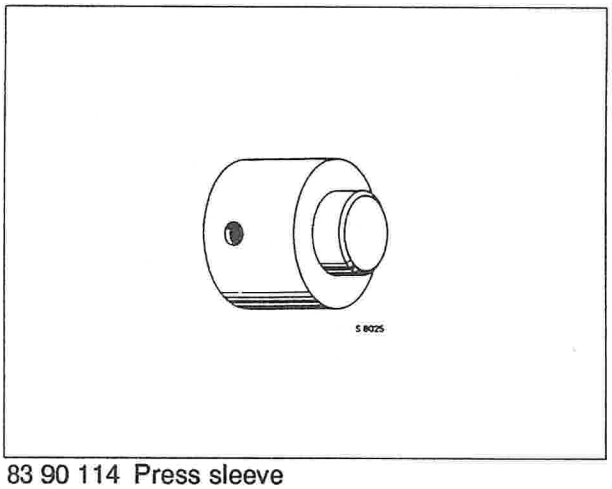
Special tools



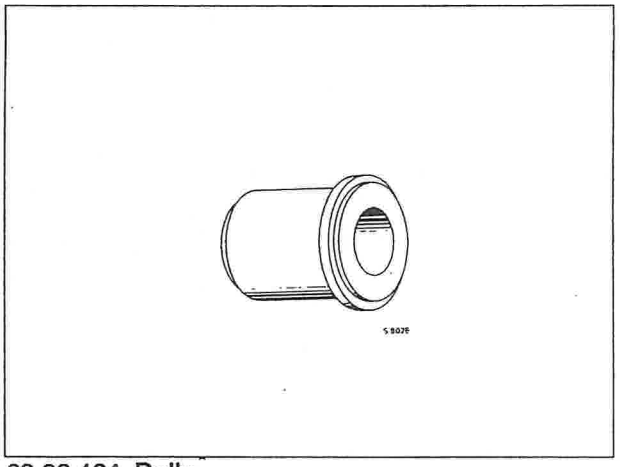
89 96 274 Tool for removal and fitting of rubber bush
- Upper wishbone spring seat
- Rear axle spring seat



89 96 449 Sleeve



83 90 114 Press sleeve

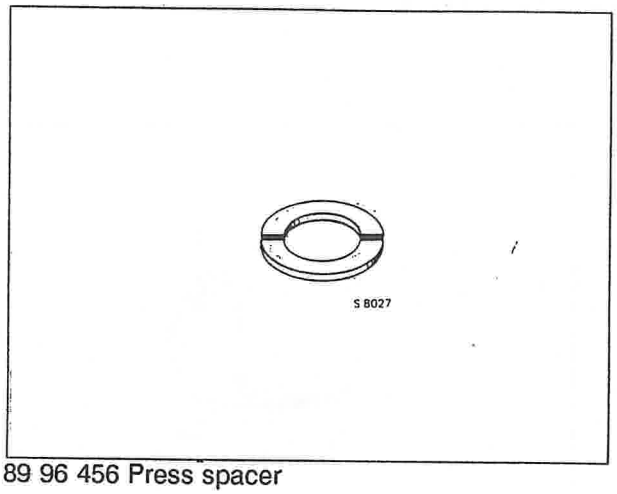


89 96 464 Dolly

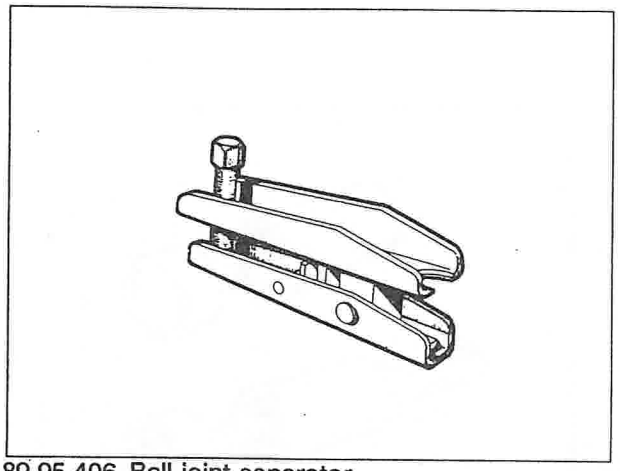
87 90 487 Base

83 93 209 Wishbone support

87 91 246 Base



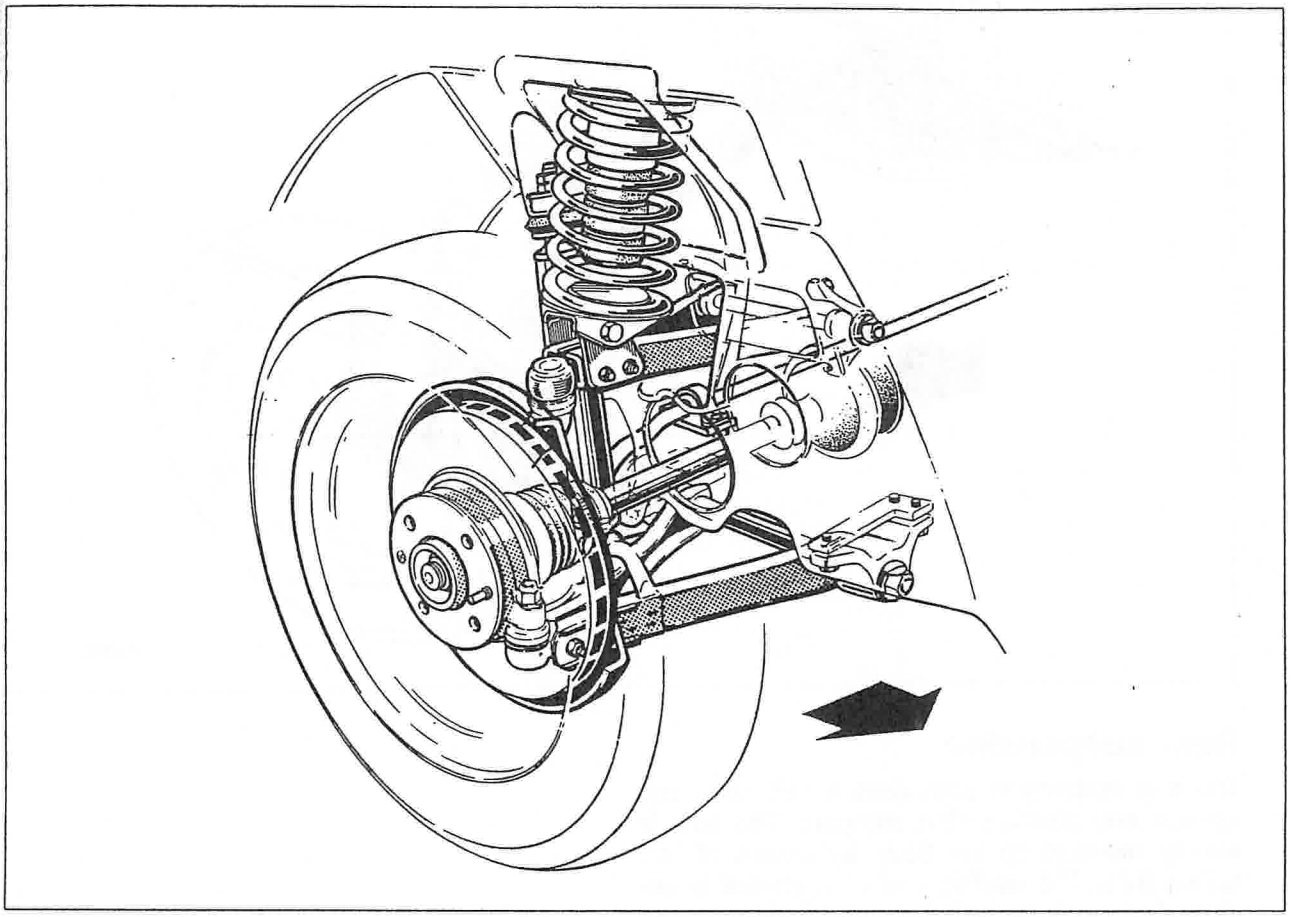
89 96 456 Press spacer



89 95 406 Ball-joint separator
(Track-rod ends)

Technical description

Suspension



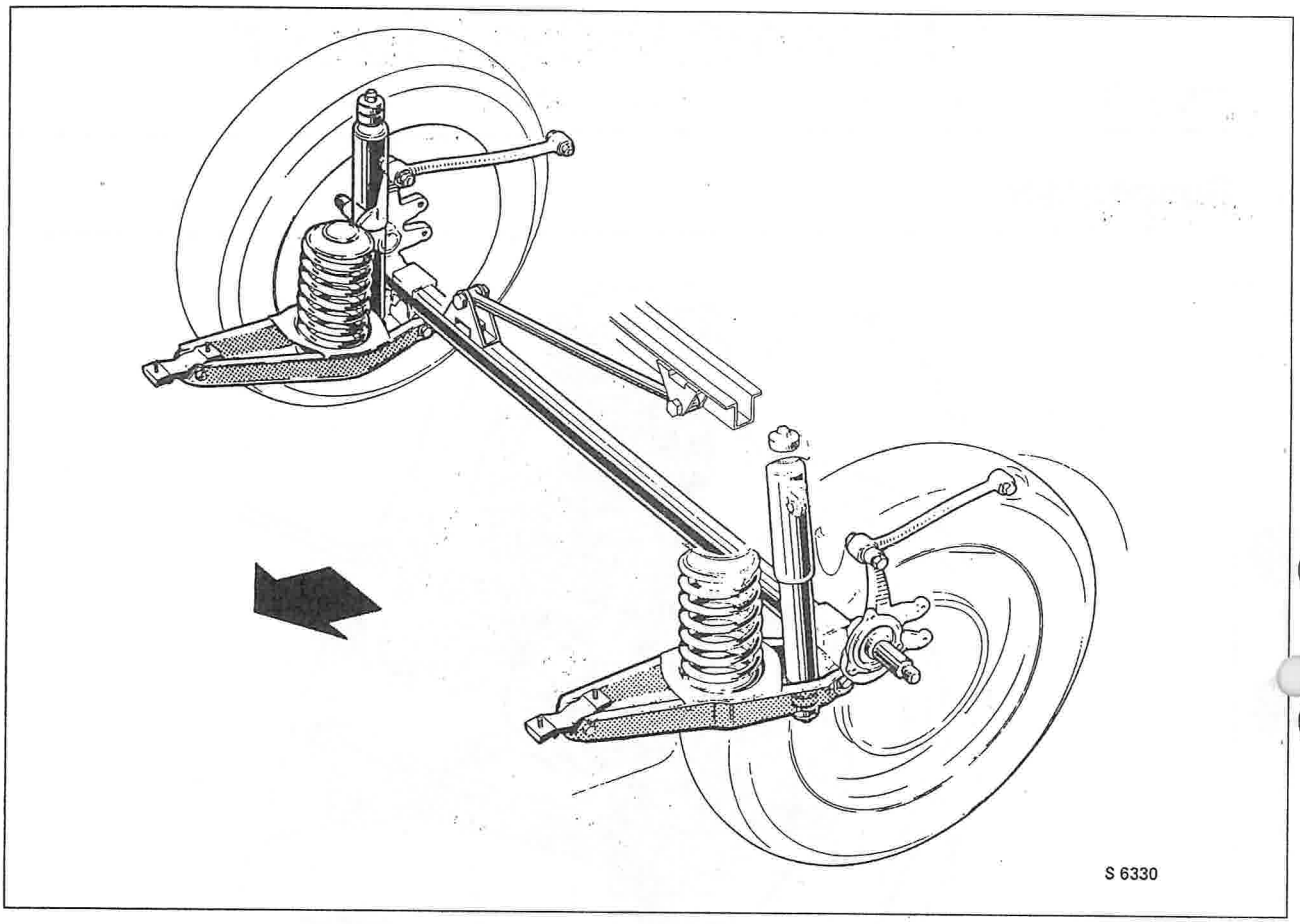
Front suspension

The front suspension consists of rubber-seated wishbones (control arms), coil springs and double-acting dampers. The coil springs operate between the car body and the upper wishbones.

The top seat for the coil spring comprises a steel cone that is guided by a pressed boss in the wheel arch and held in place by the force of the spring. The cone is equipped with a rubber bump stop.

The lower spring seating is attached to the upper wishbone by means of a rubber-seated pivot bearing. Downward movement of the wishbone is limited by the damper which has an integral stop.

Both ends of the dampers are mounted in rubber bushes: at the top to the body and at the bottom to the lower wishbone.



Rear suspension

The rear suspension comprises a rigid axle, coil springs and double-acting dampers. The axle is flexibly mounted to the body by means of two spring links. The leading end of each link is anchored to the body, with the trailing end being attached to the axle by means of rubber bushes.

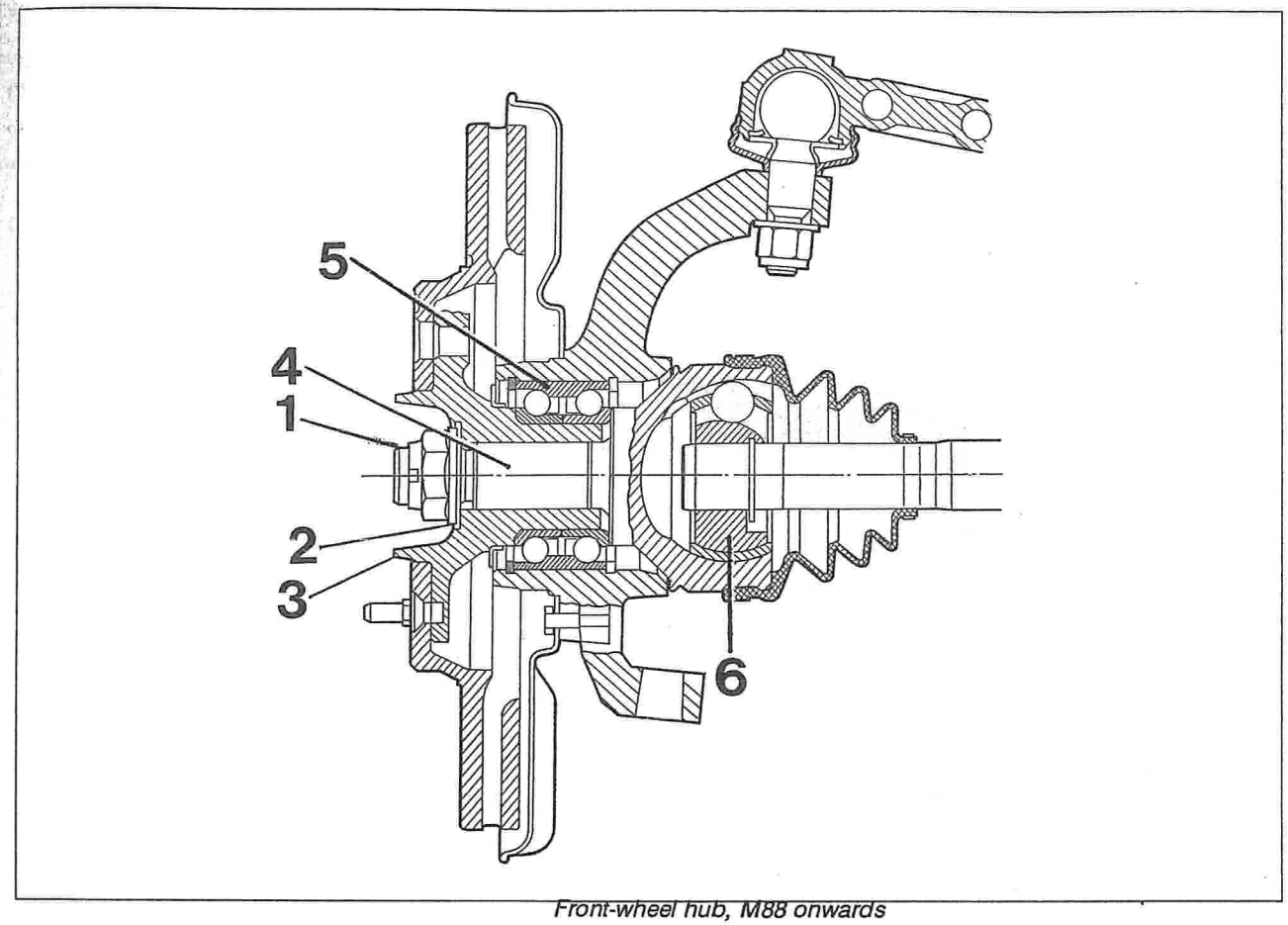
Lateral forces are taken up by a Panhard rod mounted between the body and axle. Two torque arms, which take up the torsional forces in the rear axle, are mounted one at either end of the axle, between the hub carriers and body.

Upward movement of the rear wheels is limited by rubber stops bolted to the body.

Downward movement of the rear wheels is limited by the dampers. The dampers are attached by means of rubber bushes°to the body at the top and to the spring link at the bottom.

To adjust the suspension to weight variations between different model variants, spacer rings and spring cups in varying thicknesses are available. See the appropriate parts fiche for further details.

Some model variants are equipped as standard with anti-roll bars front and rear. The front anti-roll bar is attached to the floor pan under the engine bay and to the lower wishbone. The rear anti-roll bar is attached direct to the spring links.



Front-wheel hub, M88 onwards

1 Hub centre-nut
2 Washer
3 Hub
4 Outboard drive shaft
5 Bearings and seals
6 Constant-velocity joint

Hubs

The outboard drive shaft and hub assembly is journalled in a double-row, angular-contact bearing in the steering swivel member. The bearing is permanently lubricated and has integral seals.

The hub is splined to the outboard drive shaft and secured by means of a centre-nut, which has a locking tab that is upset in a groove in the shaft. A fully metallic tab locknut is used as on M88.

The inboard end of the outboard drive shaft is connected to the intermediate drive shaft via a constant-velocity joint.

The rear-wheel hub on M79°82 cars is mounted in two taper roller bearings, with the inboard bearing having a larger diameter than the outboard one. A removable seal is fitted between the hub and the shaft.

A double-row, angular-contact bearing was introduced during MY82.

The bearing, shaft seal and hub are removed and fitted as an assembly.

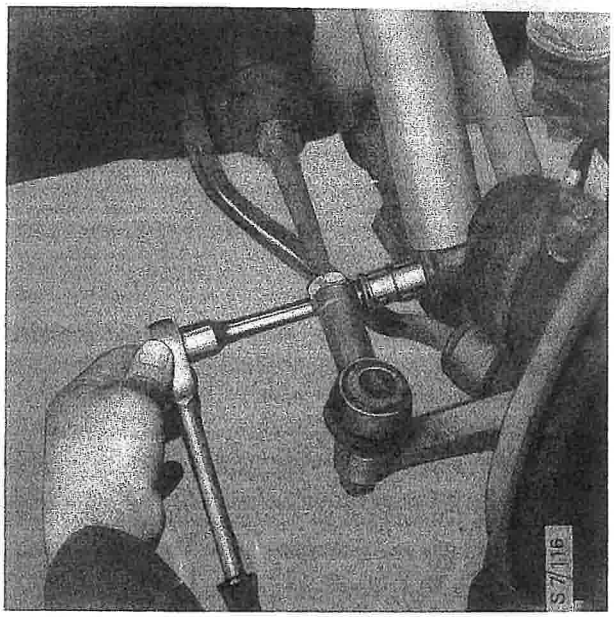
Front suspension

Coil springs

To remove

1 Raise the car and remove the front wheel.

2 Place a jack underneath the outboard end of the lower wishbone to relieve the load on the damper.

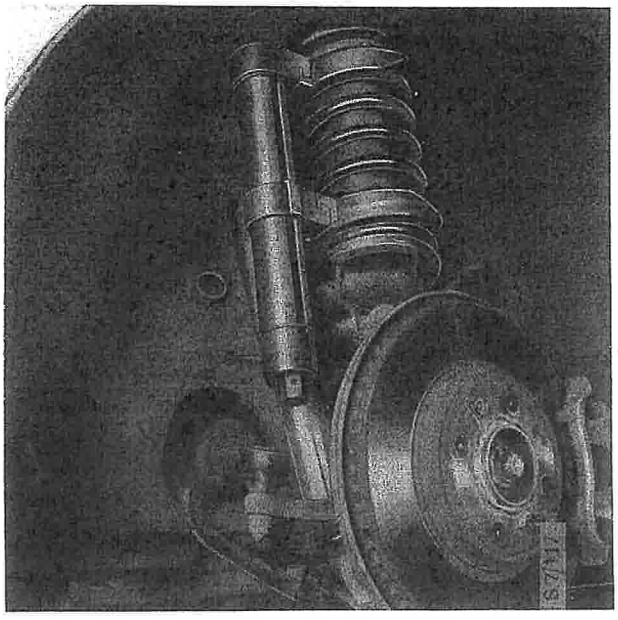


Note

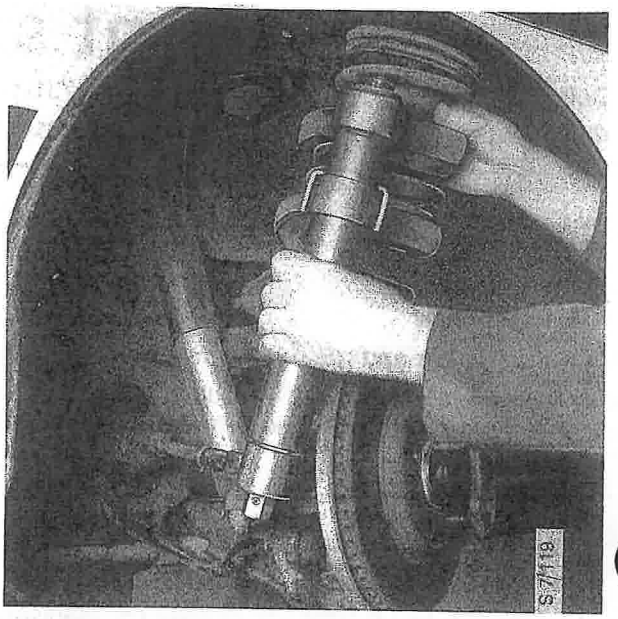
If necessary, use a steel bar to lever out the lower end of the damper. Lower the wishbone by means of the jack.

Remove the nut and washer from the lower fixing on the damper and remove the damper.

3 Fit spring compressor 88 18 791 with jaws 88 18 809.



4 Compress and remove the coil spring.



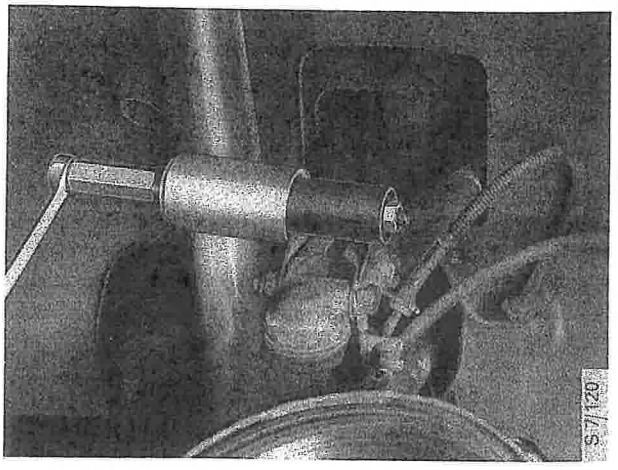
Replacing the spring seat rubber bush

WARNING

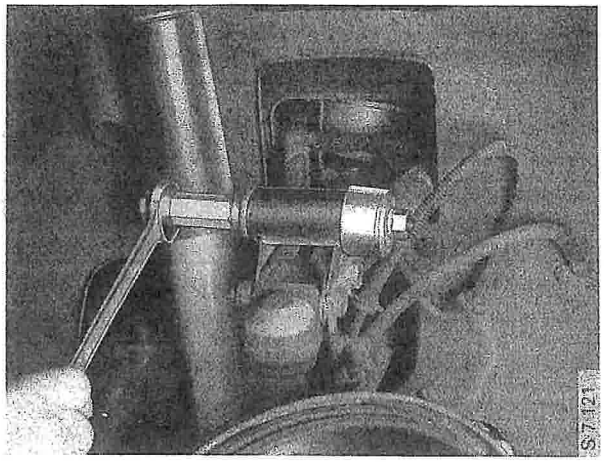
Suspension fixings incorporating rubber bushes must only be tightened when the weight of the car is on the wheels. Failure to observe this can result in the bushes becoming distorted, which can have an adverse effect on the car's handling and shorten the life of the bushes.

1 Disconnect the spring seat from the top wishbone.

2 Press out the bush using special tool 89 96 274.

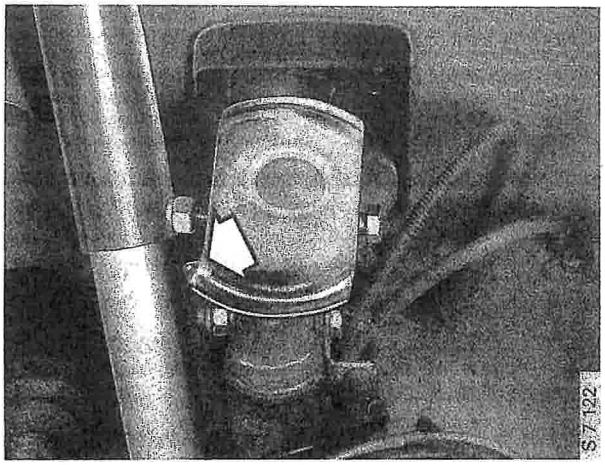


3 Lubricate the new bush with Vaseline (petroleum jelly) and fit it using the special tool.



4 Refit the spring seat.

Note the position of the stop.



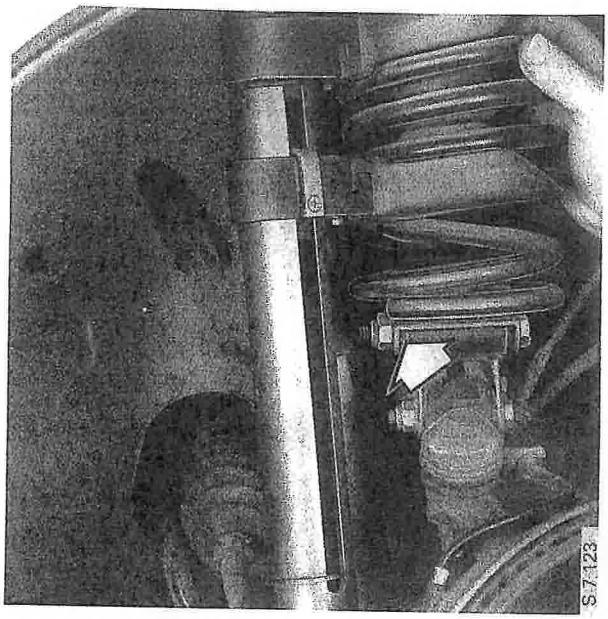
To fit

Note

Coil springs are supplied pretreated with anti-corrosion agent. If the coating has been damaged, it should be touched up before the spring is fitted.

1 Compress the spring and lift it into position (with the steel cone and rubber ring at the top).

2 Slacken the spring compressor enough to allow the coil spring to adopt its correct position.



Note

Position the end of the spring against the spring stop.

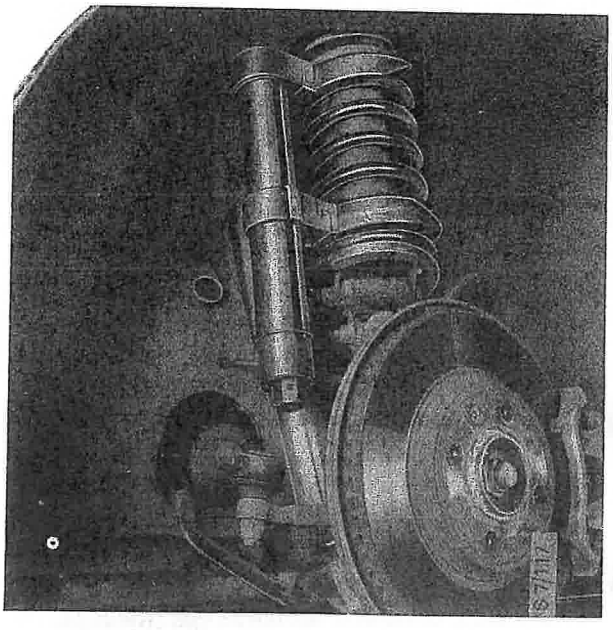
3 Undo the spring compressor and remove it.

4 Using the jack, lower the end of the wishbone slightly.

Lift the damper into position and fit the washer and nut on the bottom mounting.

Tightening torque: 90-100 Nm (66-74 lbf ft)

Remove the jack.



5 Fit the wheel and lower the car.

Tightening torque, wheel nuts: 90-110 Nm (66-81 lbf ft)

Tightening torque, wheel bolts: 105-125 Nm (78-92 lbf ft)

Dampers

Note

The dampers are of a special design which incorporates a stop. Genuine Saab dampers must therefore always be used. If dampers without the integral stop are fitted, the front assembly may be damaged.

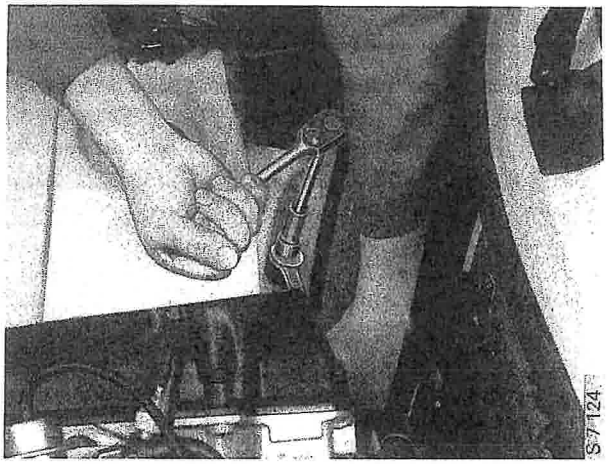
To remove

1 Raise the car slightly to relieve the load on the damper.

2 For better access to the LH damper, loosen the fixings for the coolant expansion tank and swivel it out of the way.

3 Remove the nuts, washer and rubber bush from the upper damper mounting.

Use a thin flare-nut ring spanner to stop the lower nut from turning.



Hint

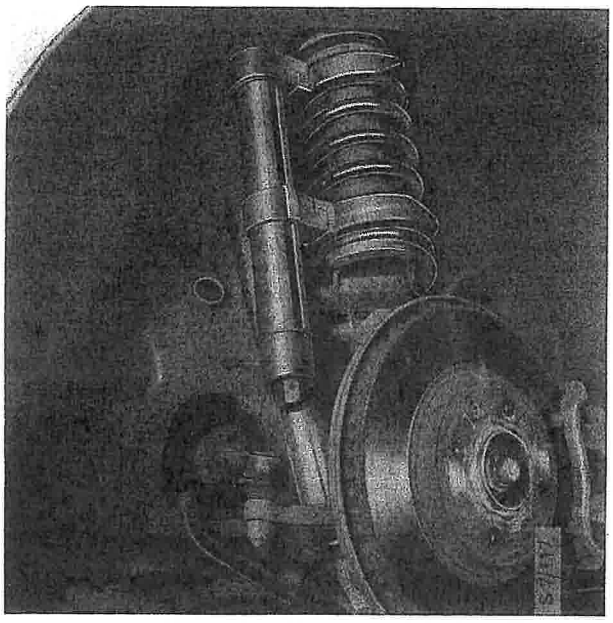
Grind a flare-nut ring spanner down to the required thickness.

If the damper rod turns, cut away the protective sleeve and hold the rod by means of a pair of pipe grips.

4 Raise the car and remove the front wheel.

5 Remove the nut and washer from the lower damper mounting and remove the damper.

If necessary, use a steel rod to lever out the bottom of the damper.



6 Compress the damper and remove it.

To fit

1 Lubricate the rubber bush for the lower damper mounting with Vaseline (petroleum jelly).

Note

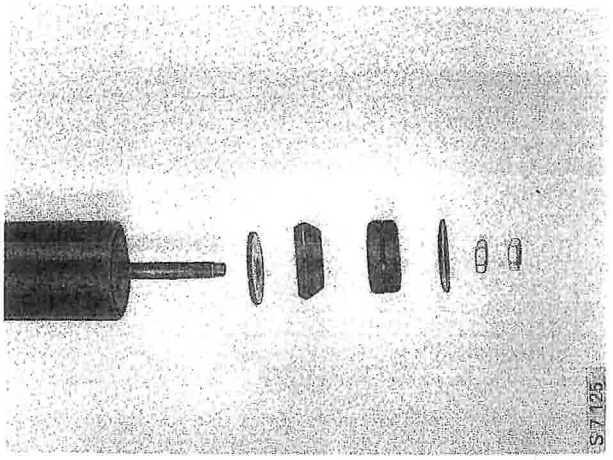
Expel any air from the damper prior to fitting.

2 Lift the fully retracted damper into position and fit the washer and nut on the lower mounting.

Tightening torque: 90-100 Nm (66-74 lbf ft)

3 Use a jack to raise the outboard end of the wishbone slightly.

Fit the rubber bush, washer and nuts on the top mounting.



Remove the jack.

4 Refit the expansion tank (applies to replacement of LH damper only).

5 Refit the wheel and lower the car.

Tightening torque, wheel nuts: 90-110 Nm (66-81 lbf ft)

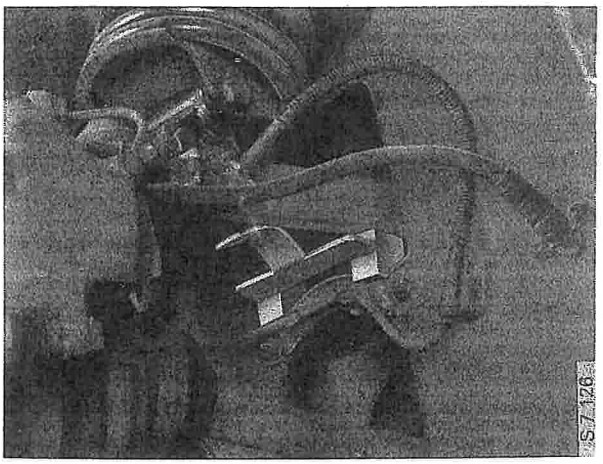
Tightening torque, wheel bolts: 105-125 Nm (78-92 lbf ft)

Anti-roll bar

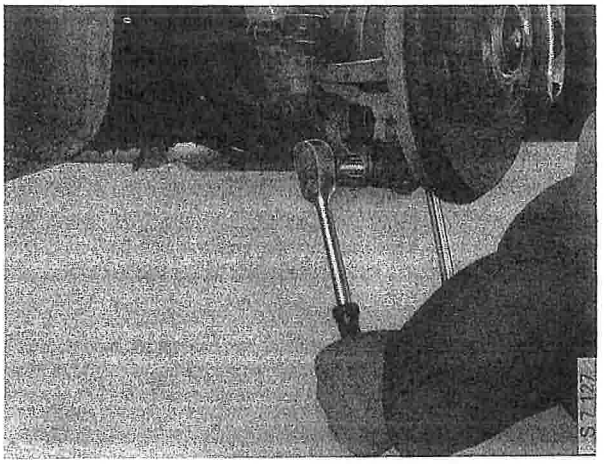
To remove

1 Insert special tool 83 93 209 under the upper wishbone on either side of the car.

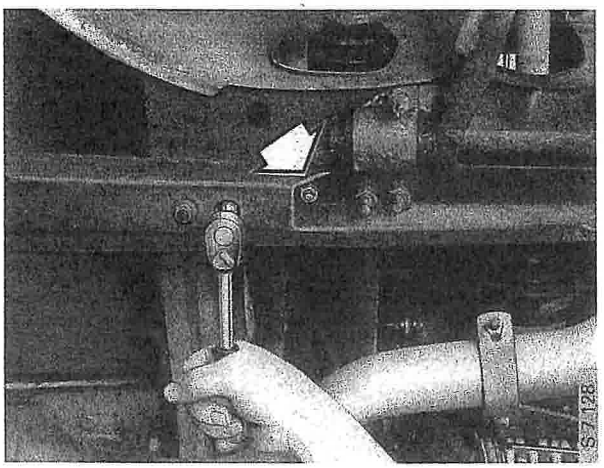
2 Raise the car and remove the front wheels.



3 Undo the outer fixings of the anti-roll bar at the lower wishbone on either side of the car. Remove the end pieces from the anti-roll bar.



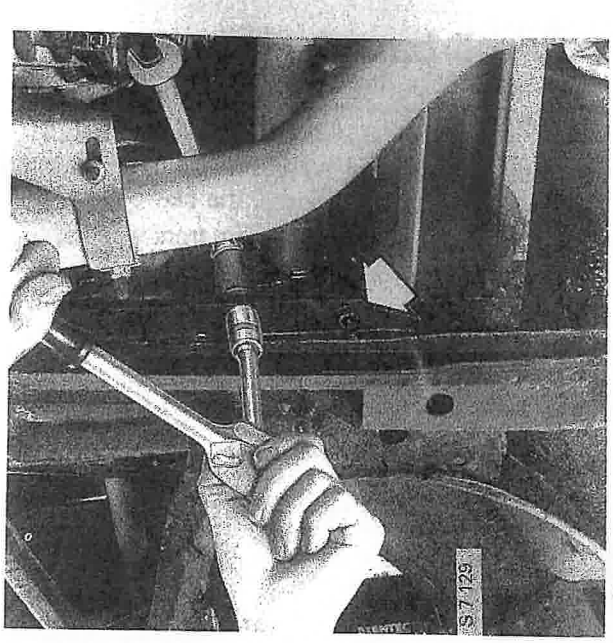
4 Remove the U clamps and rubber bushes from the floor pan.



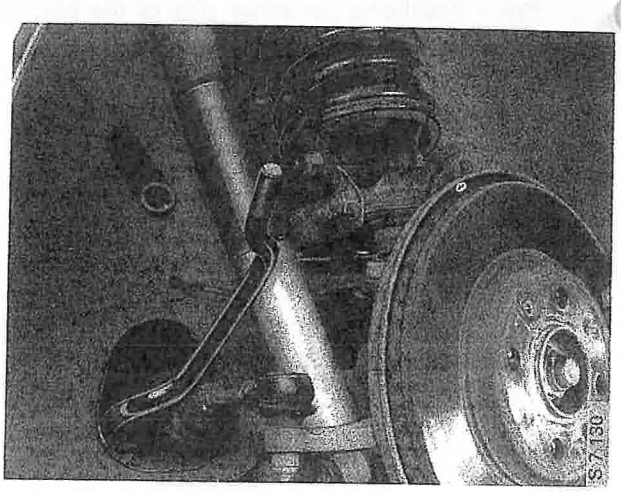
Note

Keep the shims.

5 Unbolt the rack-and-pinion gear and move it towards the front.



6 Withdraw the anti-roll bar (turned so that the ends are uppermost).

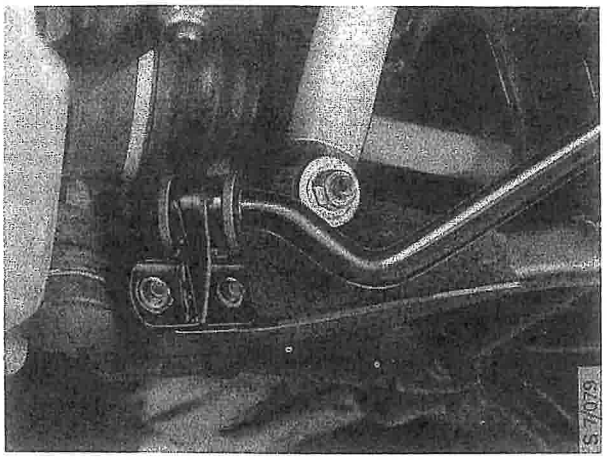


To fit

1 With the ends uppermost, insert the anti-roll bar, turn it a 3/4-turn backwards and down, and position it roughly centrally.

2 Lubricate the rubber bushes in the outer mountings with MOLYCOTE 1-4382.

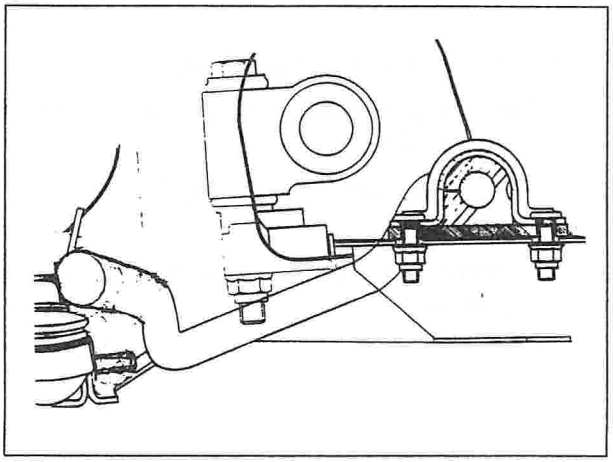
Fit the bushes and screw on the nuts, leaving them slack.



3 Lubricate the rubber bushes in the U clamps with MOLYCOTE 1-4382.

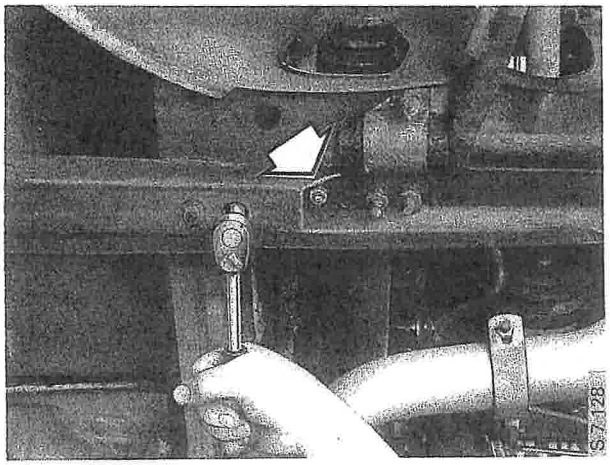
Fit the bushes on the anti-roll bar with the open part towards the front.

Fit the U clamps complete with shims and screw on the nuts, leaving them slack.

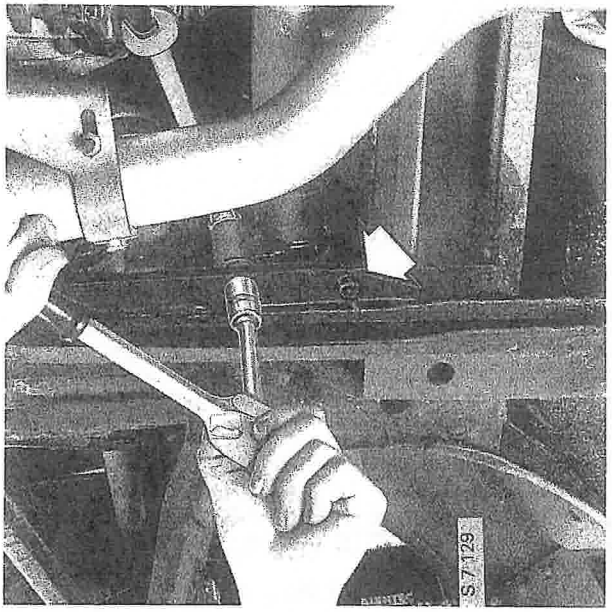


4 Make sure the anti-roll bar is correctly centred and tighten the nuts in the outer mountings.

5 Tighten the nuts on the U clamps on the floor pan.



6 Move the rack-and-pinion gear back into position and tighten the bolts.



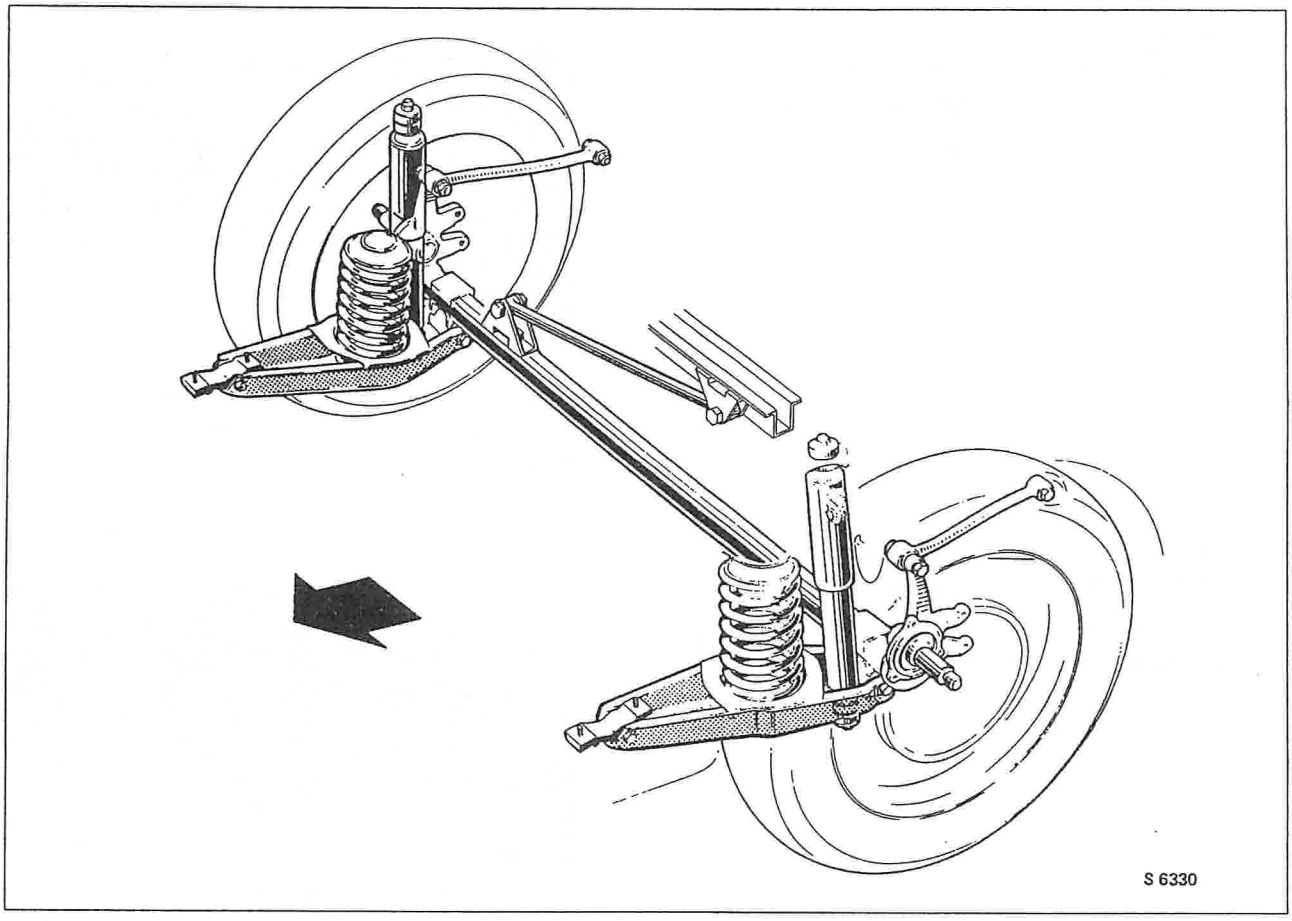
7 Refit the wheels and lower the car.

Tightening torque, wheel nuts: 90-110 Nm (66-81 lbf ft)

Tightening torque, wheel bolts: 105-125 Nm (78-92 lbf ft)

8 Remove the special tools from under the wishbones.

Rear suspension



Coil springs

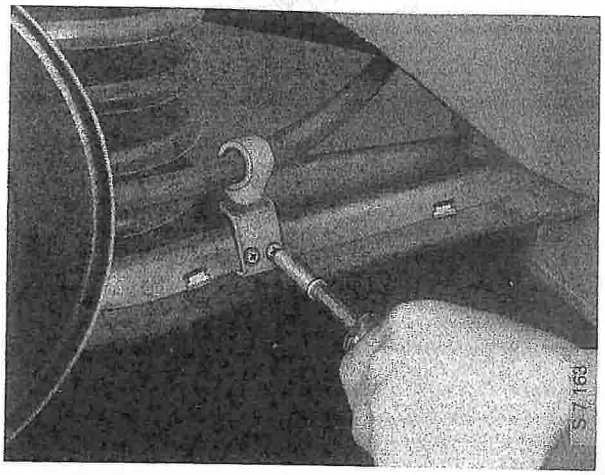
Note

Coil springs are supplied pretreated with anti-corrosion agent. If the coating has been damaged, it must be made good before the spring is fitted.

To remove

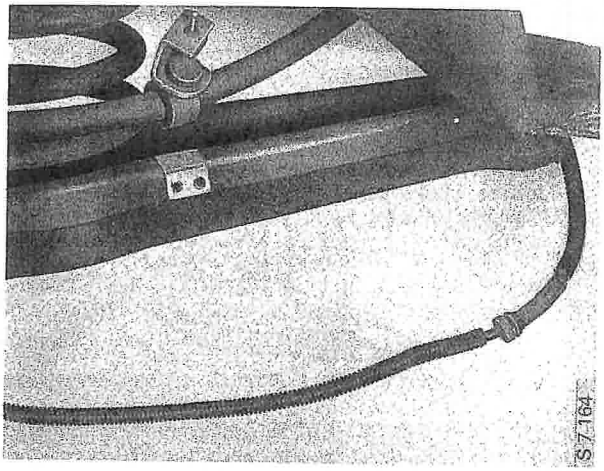
1 Raise the car and remove the rear wheels.

2 Unscrew the lead-through bracket for the hand-brake cable from the spring link.



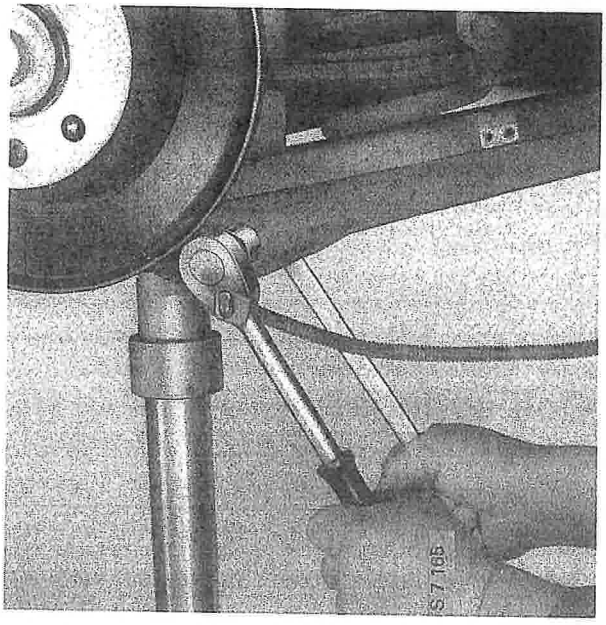
Cars with ABS brakes:

Release the wheel-sensor lead at the two clips and from the brackets at either end of the spring link. Allow the sensor lead to hang free.

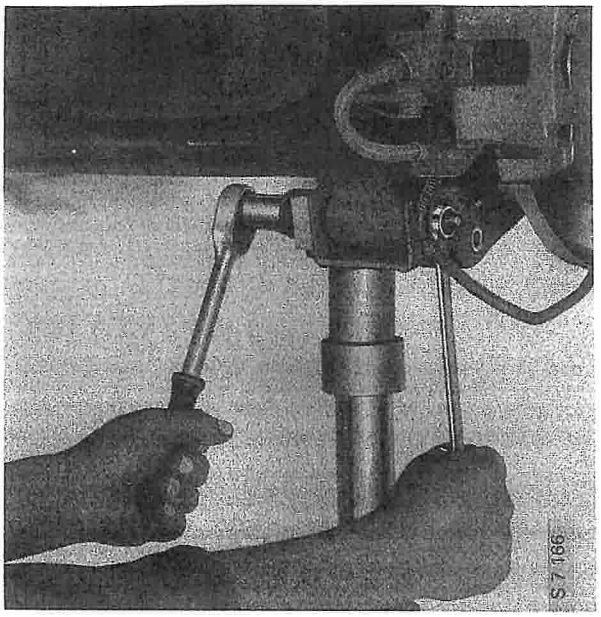


3 Position a jack underneath the spring link to relieve the load on the damper.

Remove the nut and bolt in the lower damper mounting.

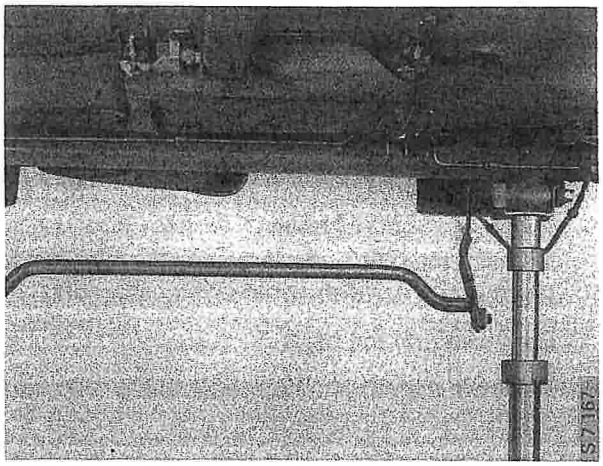


4 Remove the nut and bolt from the spring link rear mounting.



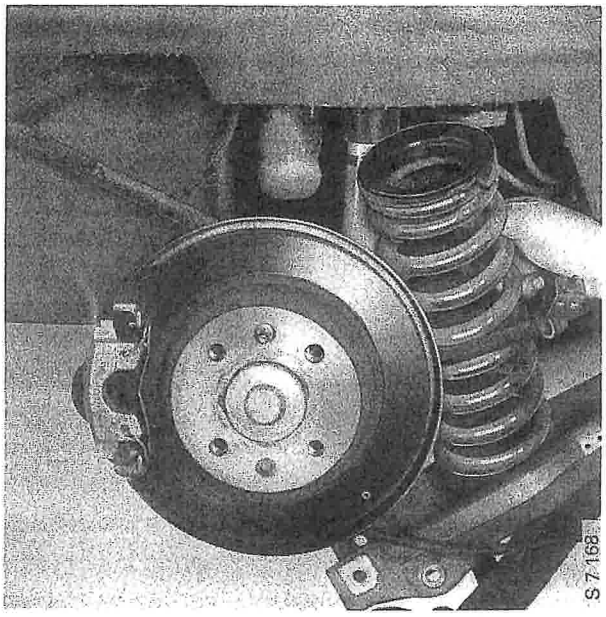
Cars with anti-roll bar:

Both spring link rear mountings must be unbolted. Swivel the anti-roll bar down out of the way.



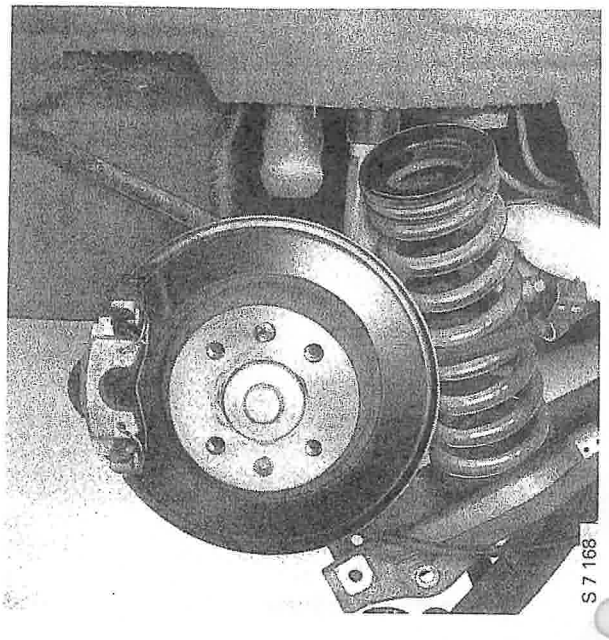
5 Place a support underneath the rear axle to prevent the brake hose from being stretched or damaged, and lower the spring link by means of the jack.

Remove the coil spring.



To fit

1 Place the coil spring on the spring link.



2 Raise the spring link by means of the jack and check that the coil spring is correctly positioned.

Cars with anti-roll bar:

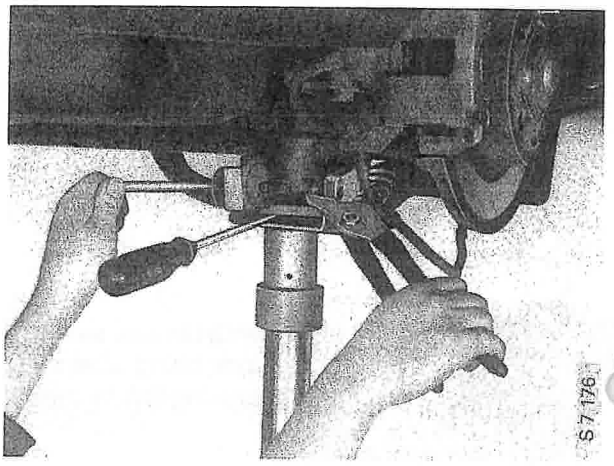
Swivel up the anti-roll bar.

3 Fit the bolt and nut in the spring link rear mounting.

To insert the bolt, use a large pair of water-pump pliers and a screwdriver to line up the holes.

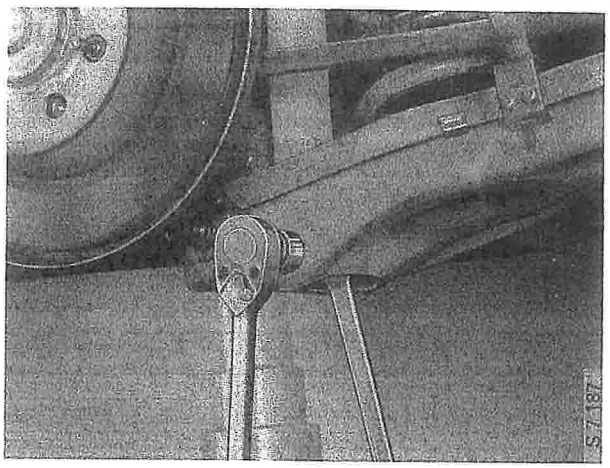
Cars with anti-roll bar:

Carry out the procedure on both sides of the car.



4 Using a screwdriver to centre the damper, fit the nut and bolt in the lower damper mounting.

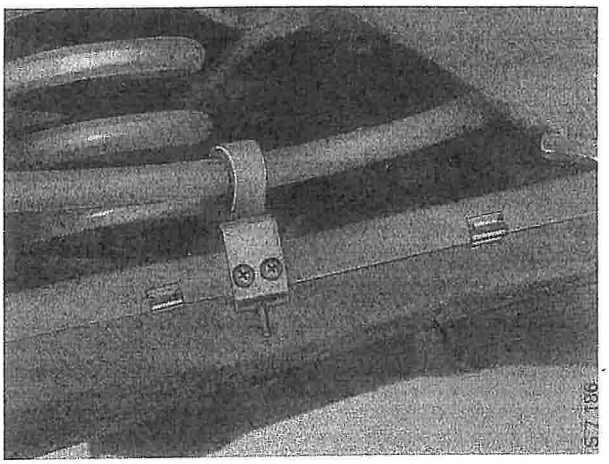
Remove the jack.



5 Refit the handbrake cable lead-through clip on the spring link.

Cars with ABS brakes:

Resecure the wheel-sensor lead (two clips)



6 Refit the wheels and lower the car.

Tightening torque, wheel nuts: 90-110 Nm (66-81 lbf ft)

Tightening torque, wheel bolts: 105-125 Nm (78-92 lbf ft)

Dampers

Note

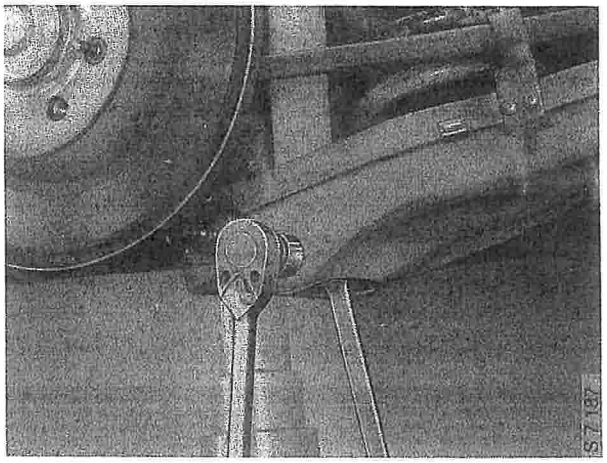
The dampers are of a special design with an integral stop. Genuine Saab dampers must therefore always be used.

To remove

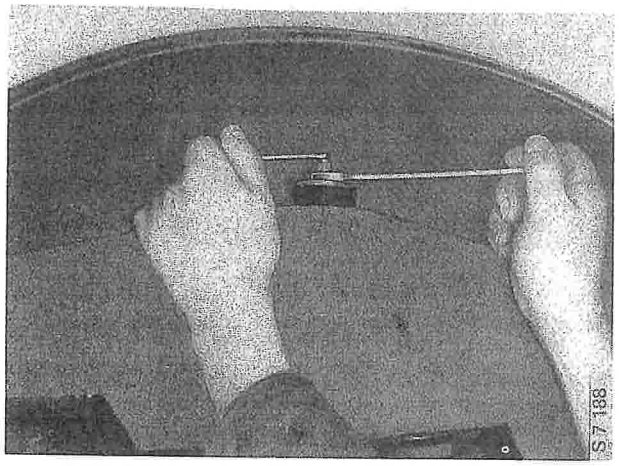
1 Raise the car and remove the rear wheel.

2 Place a jack underneath the spring link to relieve the load on the damper.

Remove the nut and bolt from the lower damper mounting.



3 Remove the jack and dismantle the nuts, washer and rubber bush from the top damper mounting.



4 Compress the damper and remove it.

To fit

Note

Expel any air from the damper prior to fitting.

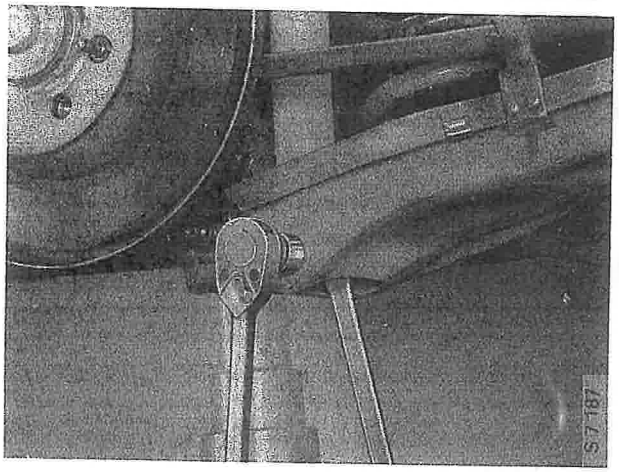
1 Compress the new damper and put it in place.

2 Fit the rubber bush, washer and nuts on the top mounting.

3 Jack up the spring link.

Fit the nut and bolt in the lower damper mounting.

Remove the jack.



4 Fit the wheel and lower the car.

Tightening torque, wheel nuts: 90-110 Nm (66-81 lbf ft)

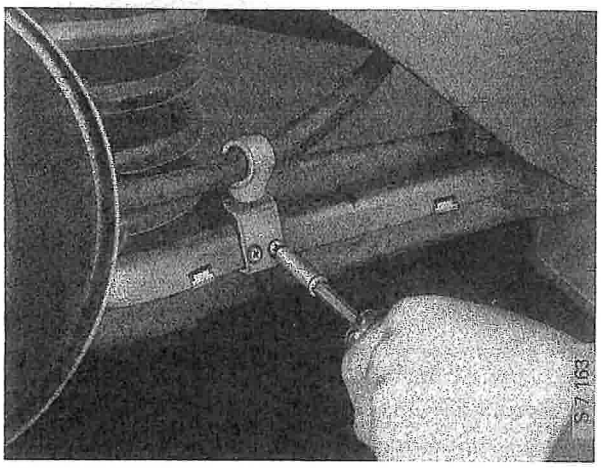
Tightening torque, wheel bolts: 105-125 Nm (78-92 lbf ft)

Spring links

To remove

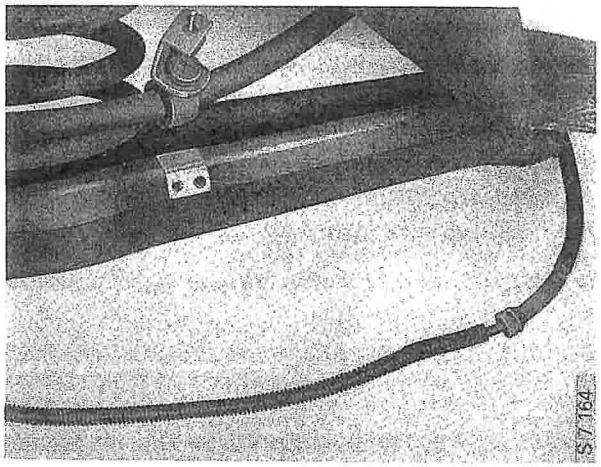
1 Raise the car and remove the rear wheel.

2 Unscrew the lead-through bracket for the hand-brake cable from the spring link.



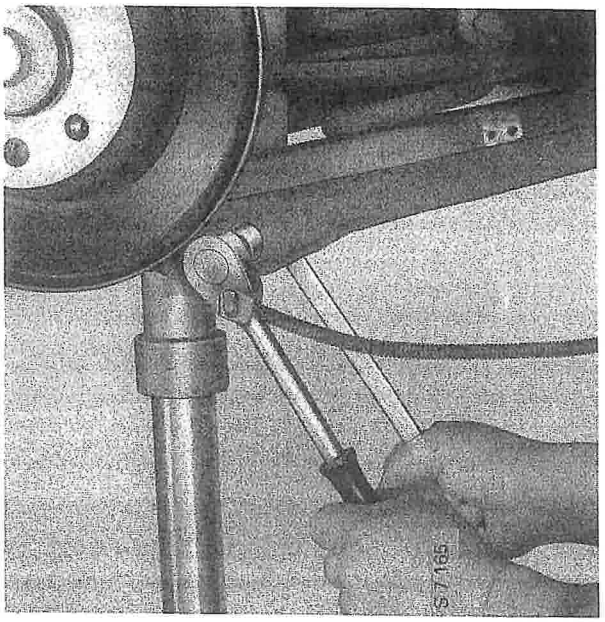
Cars with ABS brakes:

Release the wheel-sensor lead at the two clips and from the brackets at either end of the spring link. Allow the sensor lead to hang free.

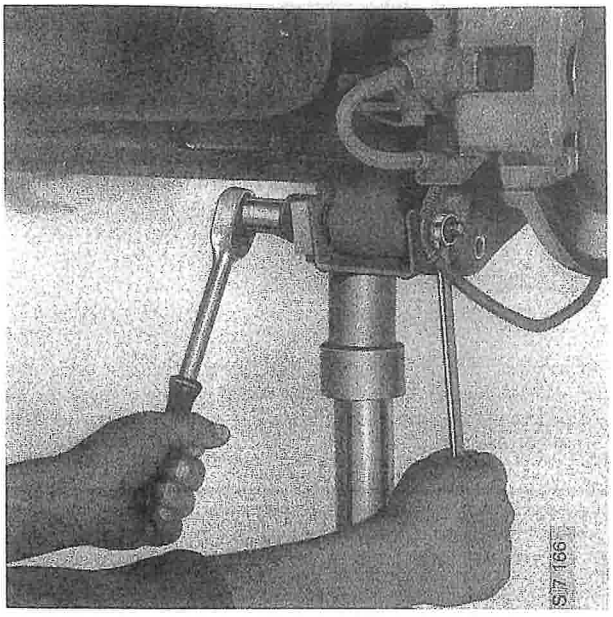


3 Position a jack underneath the spring link to relieve the load on the damper.

Remove the nut and bolt in the lower damper mounting.

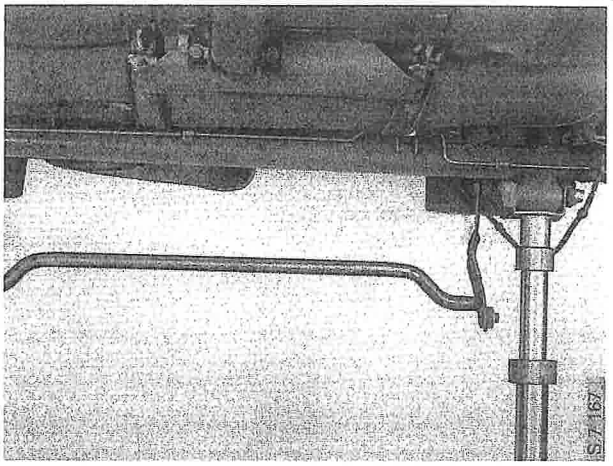


4 Remove the nut and bolt from the spring link rear mounting.



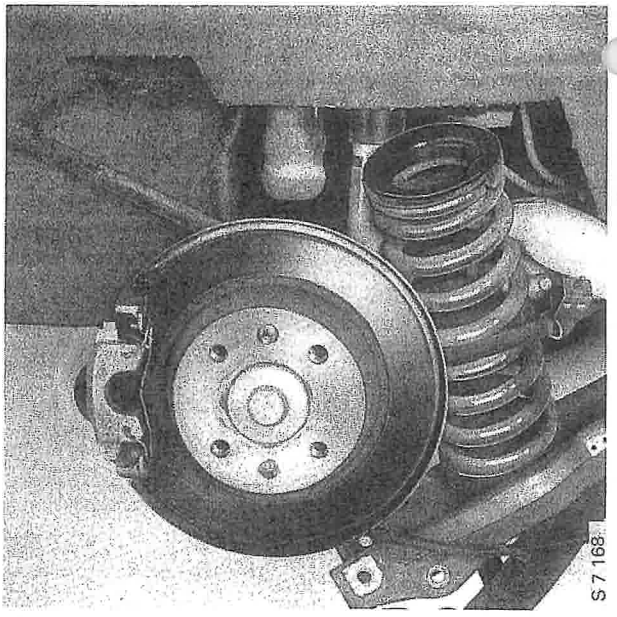
Cars with anti-roll bar:

Both spring link rear mountings must be unbolted. Swivel the anti-roll bar down out of the way.



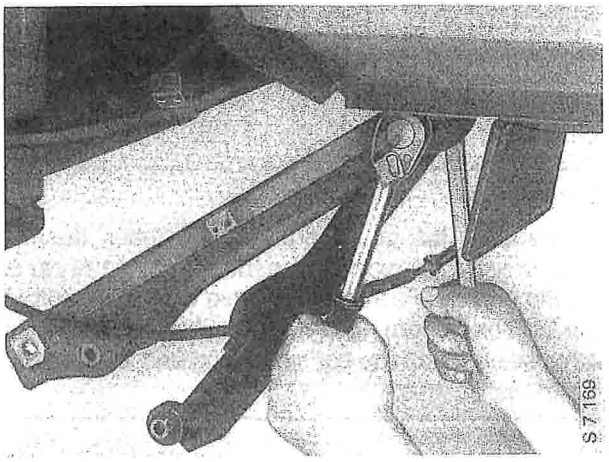
5 Place a support underneath the rear axle to prevent the brake hose from being stretched or damaged, and lower the spring link by means of the jack.

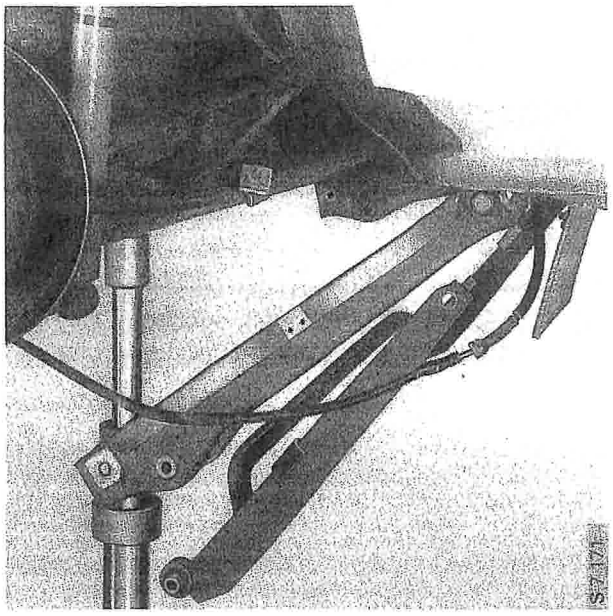
Remove the coil spring.



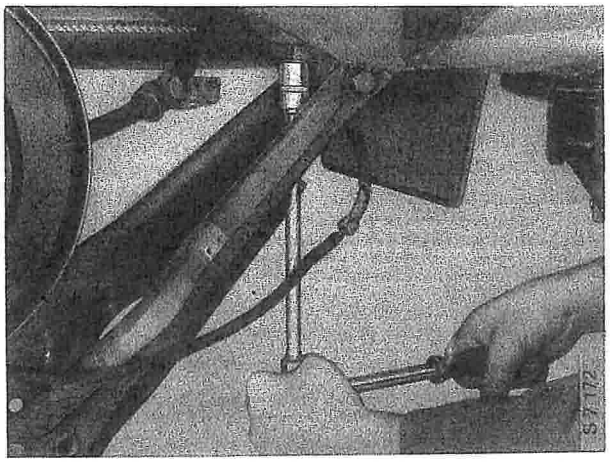
6 Cars with anti-roll bar:

Undo the bolt in the spring link front mounting and free the anti-roll bar.





7 Remove the two bolts from the front spring link mounting and remove the spring link.



Replacing the rubber bush in front spring-link mounting

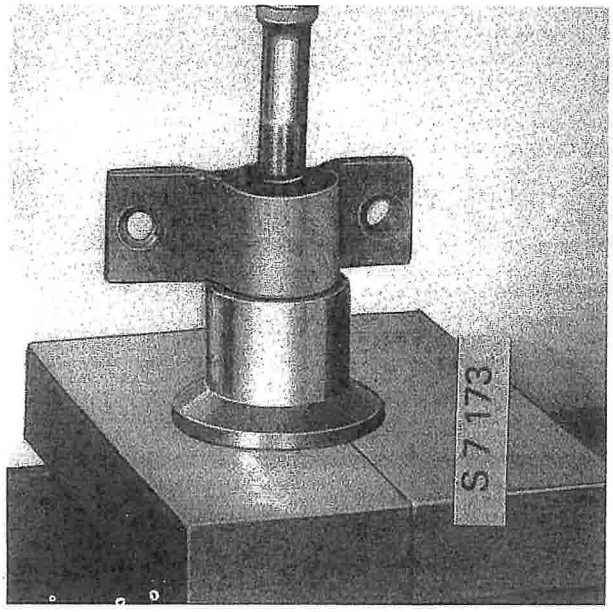
Note

Suspension fixings incorporating rubber bushes must only be tightened when the weight of the car is on the wheels. Failure to observe this can result in the bushes becoming distorted, which can have an adverse effect on the car's handling and shorten the life of the bushes.

1 Disconnect the mounting complete with rubber bush from the spring link.

2 Place the mounting on a suitable base and press out the rubber bush, using a sleeve applied to the tube the bush.

3 Lubricate the new bush with Vaseline (petroleum jelly) and press it into the mounting.



4 Refit the mounting to the spring link.

Note

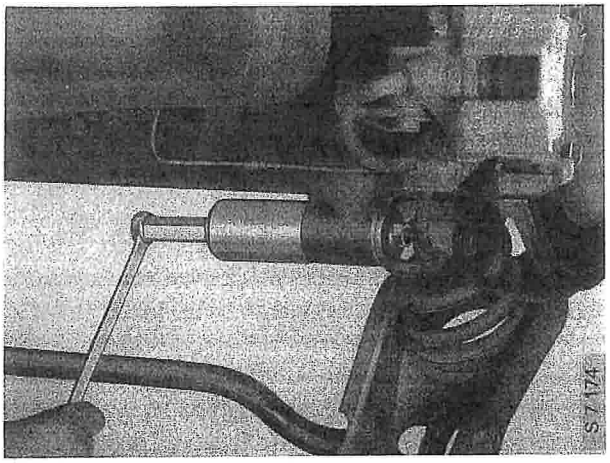
Do not tighten the bolt until the spring link is mounted on the body.

Replacing the rubber bush in rear spring-link mounting

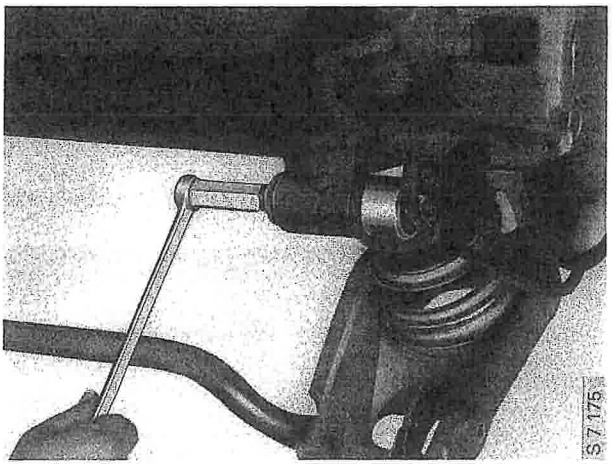
Note

Suspension fixings incorporating rubber bushes must only be tightened when the weight of the car is on the wheels. Failure to observe this can result in the bushes becoming distorted, which can have an adverse effect on the car's handling and shorten the life of the bushes.

1 Press out the rubber bush using special tool 89 96 274.

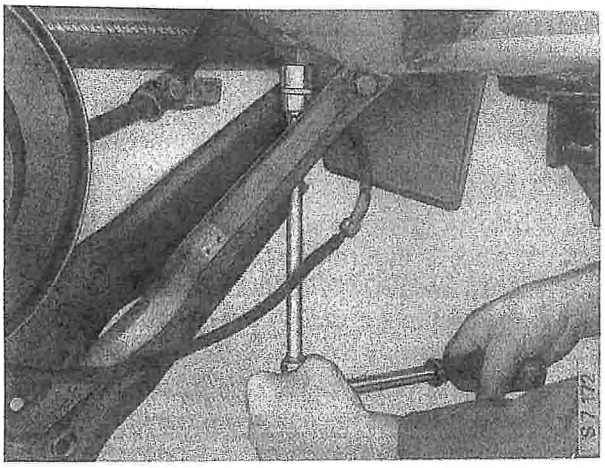


2 Lubricate the new bush with Vaseline (petroleum jelly) and use the same tool to press it into the mounting.

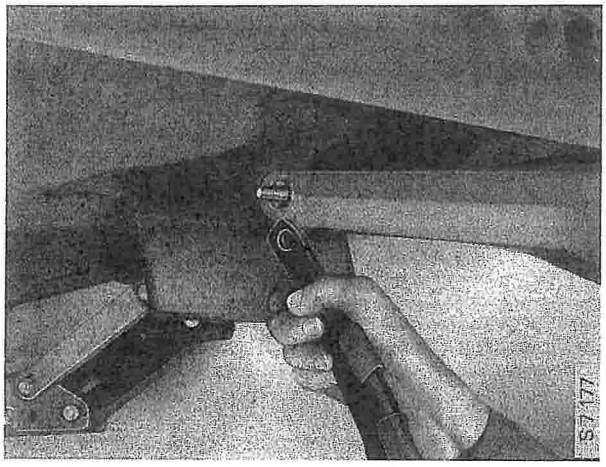


To fit the spring link

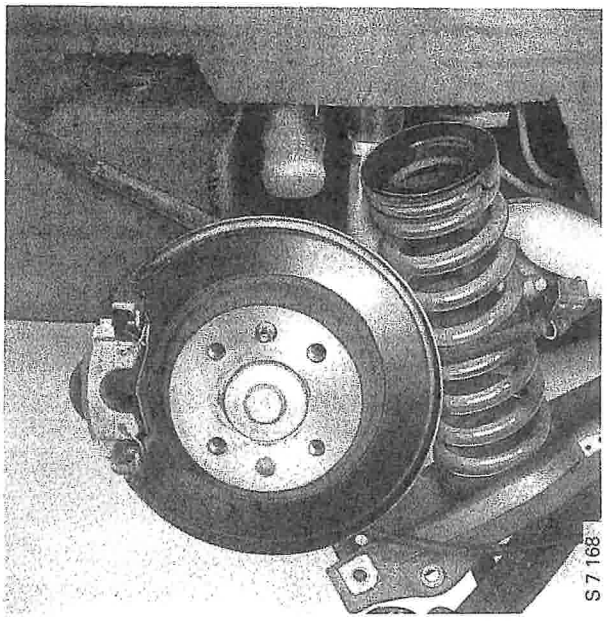
1 Fit the two bolts securing the spring link front mounting to the body.
Cars with anti-roll bar:



Hook the anti-roll bar on to the spring link front mounting.



2 Place the coil spring on the spring link.



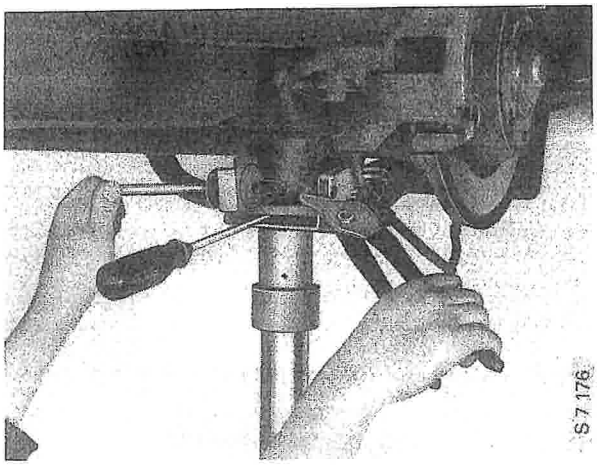
3 Raise the spring link by means of the jack and check that the coil spring is correctly positioned.

4 Fit the bolt and nut in the spring link rear mounting.

To insert the bolt, use a large pair of water-pump pliers and a screwdriver to line up the holes.

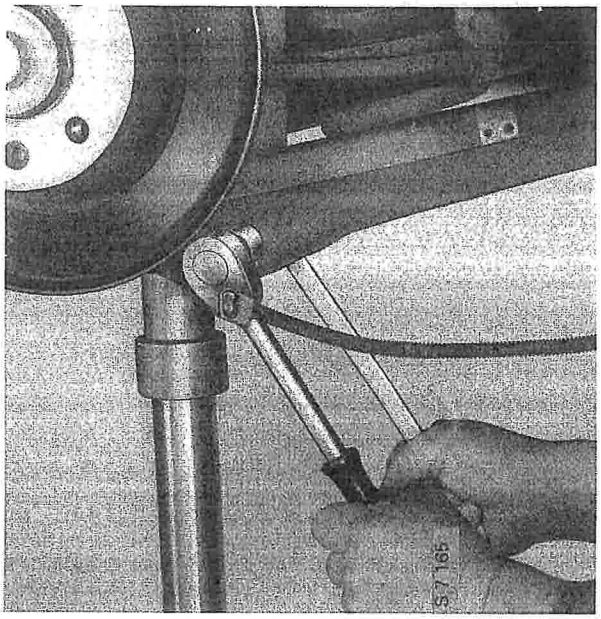
Cars with anti-roll bar:

Carry out the procedure on both sides of the car.



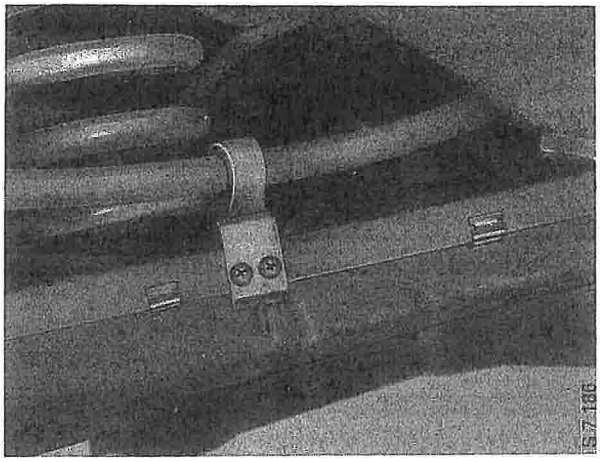
5 Using a screwdriver to align the holes, fit the nut and bolt in the lower damper mounting.

Remove the jack.

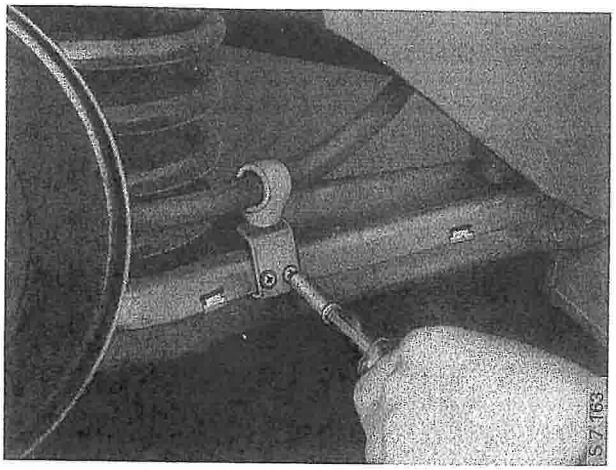


6 Cars with ABS brakes:

Resecure the wheel-sensor lead (two clips).



7 Refit the handbrake cable lead-through clip on the spring link.



8 Tighten all securing bolts.

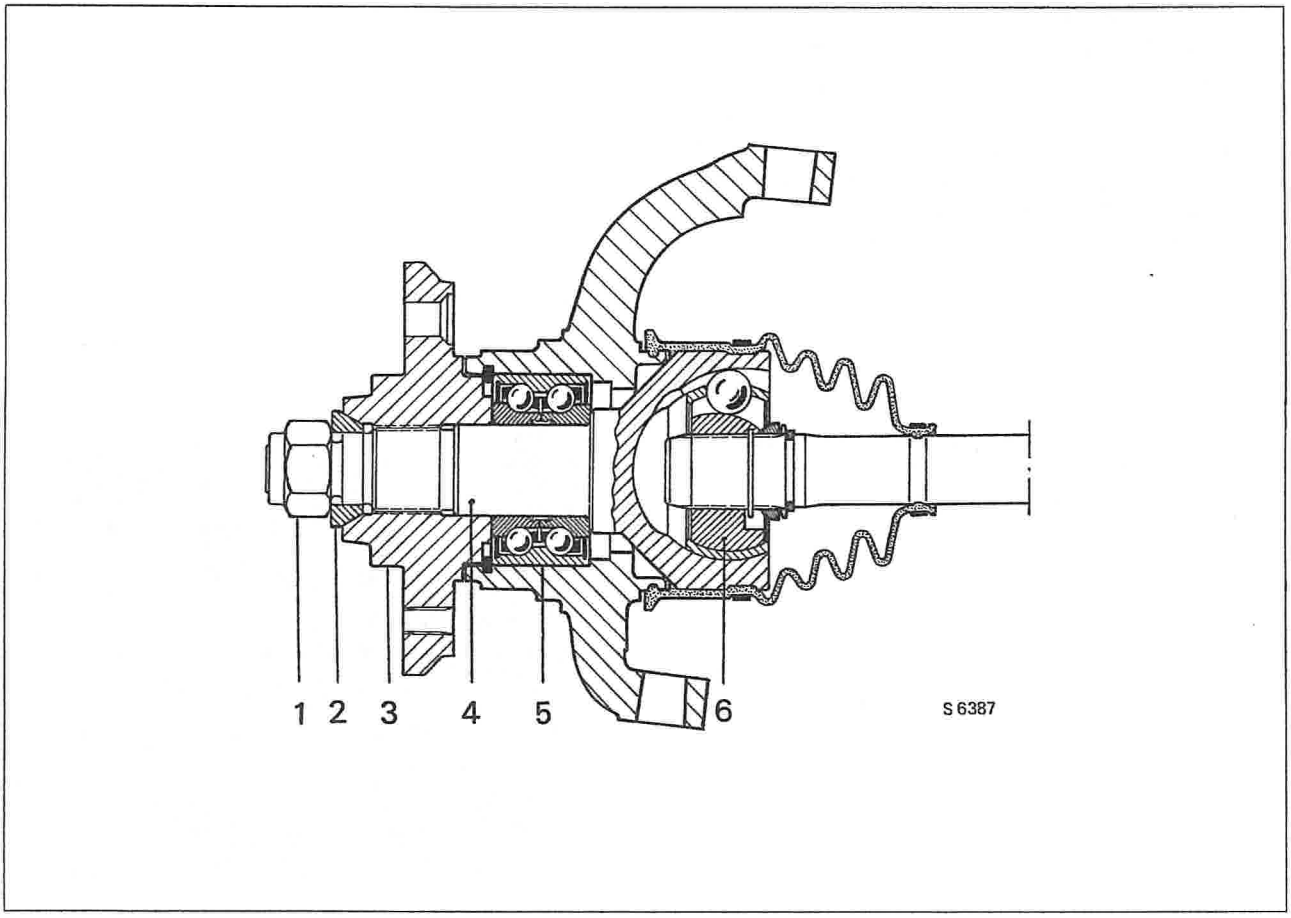
Tightening torque, wheel nuts: 90-110 Nm (66-81 lbf ft)

Tightening torque, wheel bolts: 105-125 Nm (78-92 lbf ft)

9 Refit the wheel and lower the car.

Hubs

Front-wheel hubs (M79-80)

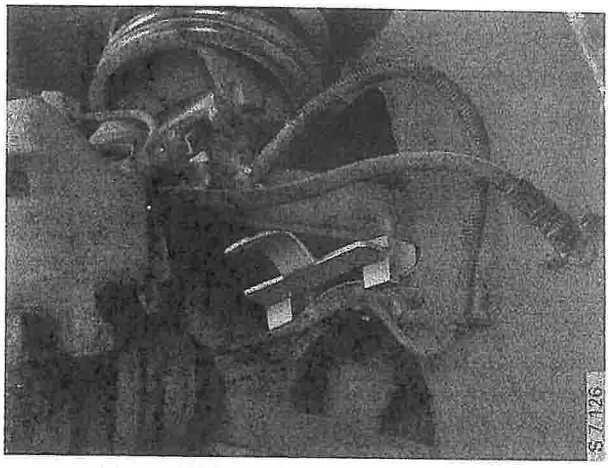


Front-wheel hub (M79-80)

1 Centre-nut
2 Thrust washer
3 Hub
4 Outboard drive shaft
5 Bearings and seals
6 Constant-velocity joint

To remove

1 Fit the special spacer tool, 83 93 209, under the upper wishbone.

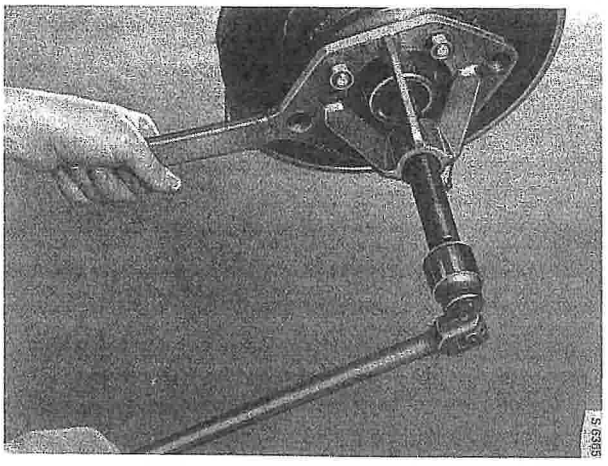


2 Loosen the hub centre-nut and wheel nuts before raising the car.

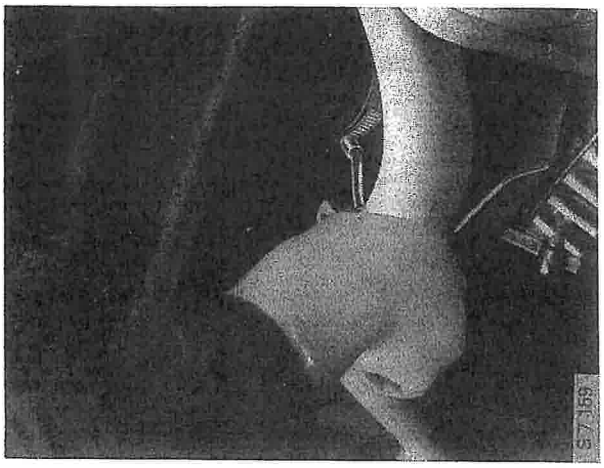
3 Raise the car and remove the wheel.

4 Rotate the brake disc to bring one of the recesses in the edge of the disc level with the centre-line at the leading edge of the brake pads. Disconnect the handbrake cable and remove the brake caliper. Tie back the brake caliper to avert damage to the brake hose.

5 Remove the hub and disc assembly from the shaft using puller 89 96 084 (or 89 95 185 with the four extension pieces 89 96 050).



6 Release the large clip on the rubber gaiter over the inboard universal joint.



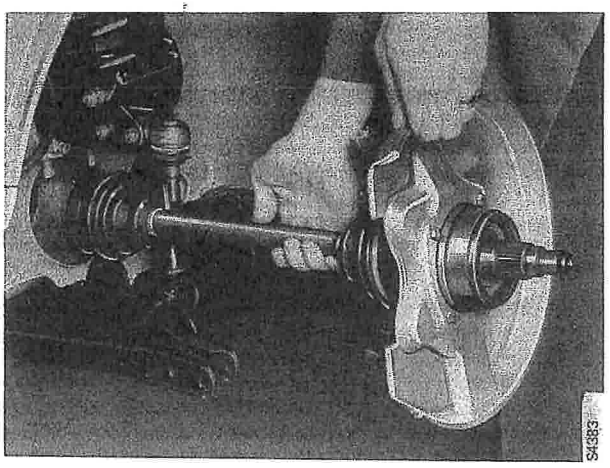
7 Separate the track-rod end from the steering arm, and the ball joint on the upper wishbone, using tool 89 95 409. Unbolt the ball joint on the lower wishbone.

Note

When separating the inboard universal joint, fit a cover onto the end of the rubber gaiter both to prevent the needle bearings from falling out and to prevent dirt from getting into the joint.

A cover should also be fitted on the inboard driver cup.

8 Lifting the drive shaft out through the wheel arch, remove the entire shaft assembly and clean it thoroughly.



To dismantle

1 Mount the steering swivel member in a press and press out the outboard drive shaft.

2 Remove the circlip and press out the bearing using a suitable drift.

Note

Do not dismantle the bearing.

To assemble

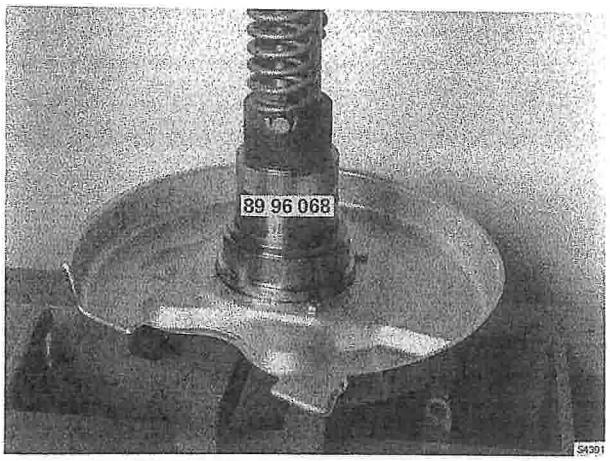
1 Grease the bearing with MOLYCOTE G grease.

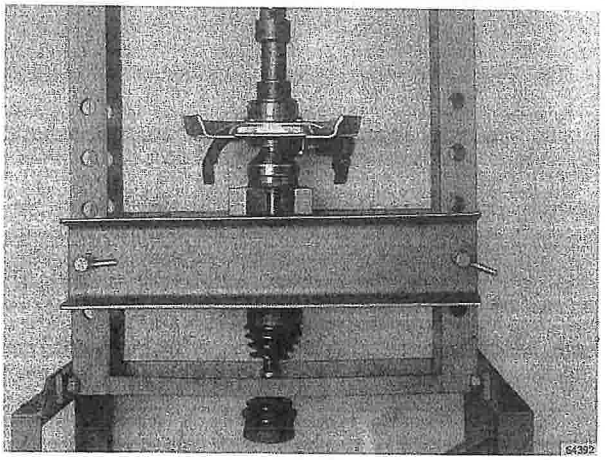
Press the front-wheel bearing into the steering swivel member using tool 89 96 068.

Fit the circlip.

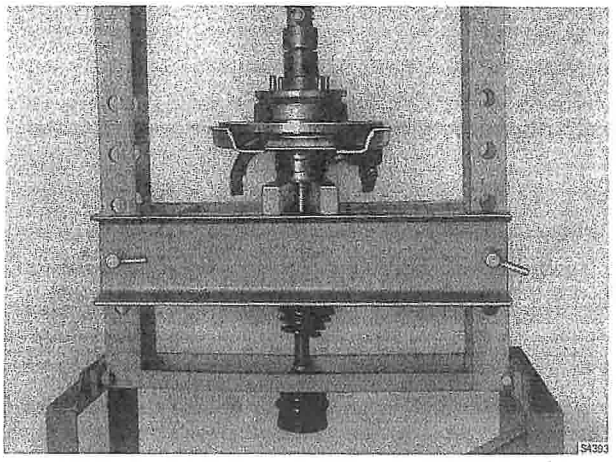
2 Place the outboard drive shaft in the press and press the steering swivel member and bearing onto the shaft.

Press on the bearing inner race.





3 Press the hub and brake disc assembly onto the drive-shaft splines and fit the thrust washer and centrenut (do not torque the nut yet).



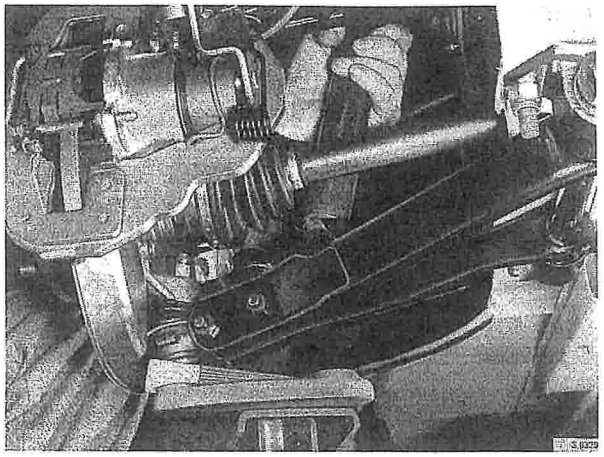
4 If the needle bearings in the inboard universal joint have been removed, lubricate them and fit them onto the arms. Fit the cover to protect the needle bearings when the drive shaft is inserted.

5 Ensure that the driver cup of the inboard universal joint is clean and packed with new grease.

To fit

1 Reconnect the inboard universal joint.

2 Reconnect the ball joint securing the upper wishbone to the steering swivel member, and bolt the lower one to the lower wishbone.



3 Reconnect the track-rod end to the steering arm.

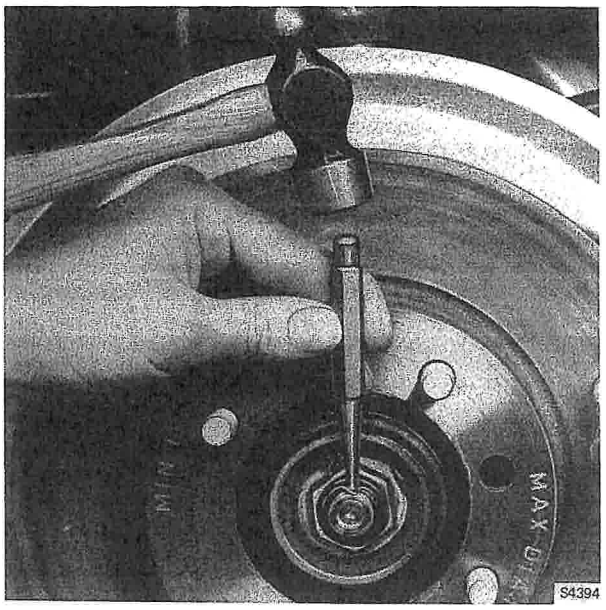
4 Fit the brake caliper and reconnect the hand-brake cable.

5 Fit the wheel and lower the car.

Tightening torque for wheel nuts: 90-110 Nm (66-81 lbf ft)

6 Tighten the hub centre-nut to the specified torque and lock it by upsetting the collar in the groove in the shaft.

Tightening torque for hub centre-nut: 350 ± 10 Nm (260 ± 9 lbf ft)

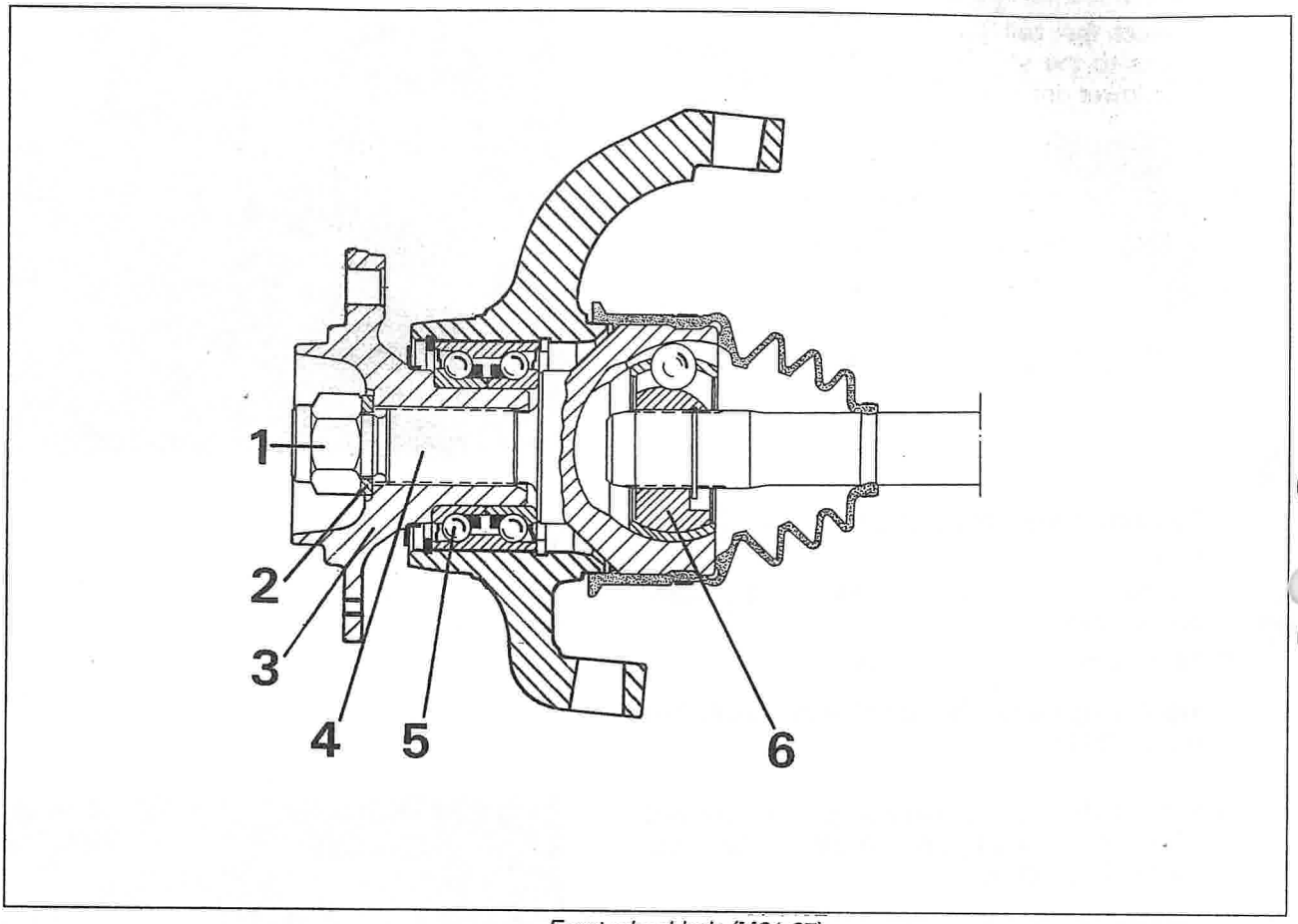


7 Check-tighten the wheel nuts.

WARNING

For the brakes to operate properly, the brake pads must be advanced to their normal position close to the disc. Do this by pumping the brake pedal.

Front-wheel hubs (M81-87)

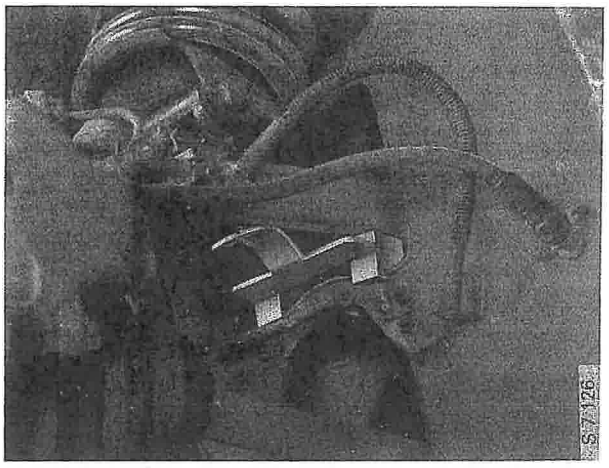


Front-wheel hub (M81-87)

1 Centre-nut
2 Thrust washer
3 Hub
4 Outboard drive shaft
5 Bearings and seals
6 Constant-velocity joint

To remove

1 Fit the special spacer tool, 83 93 209, under the upper wishbone.



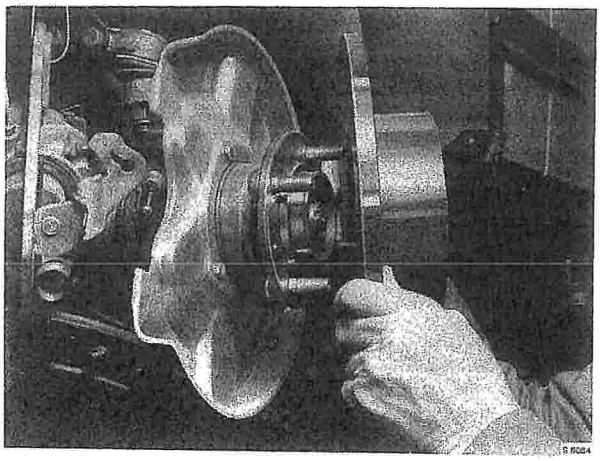
2 Loosen the hub centre-nut and wheel nuts before raising the car.

3 Raise the car and remove the wheel and hub centre-nut.

4 Line up one of the recesses in the edge of the brake disc to provide access to the brake pads and remove them.

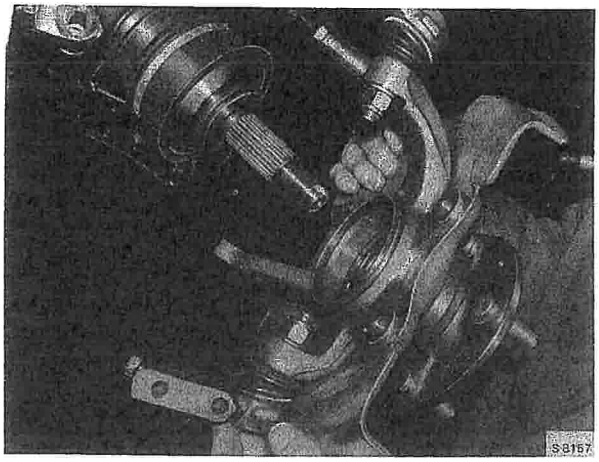
5 Remove the brake caliper. Hang up the caliper to avert damage to the brake pipe or hose.

6 Remove the brake disc.



7 Separate the track-rod end from the steering arm using tool 89 95 409.

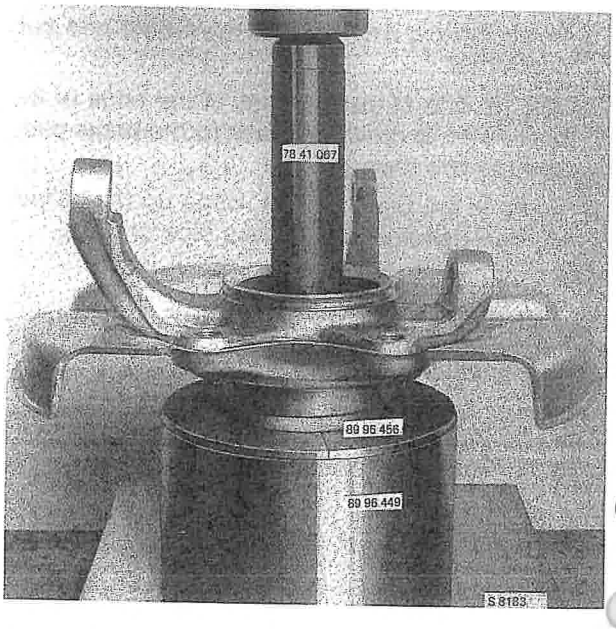
8 Undo the bolts securing the ball joints on the upper and lower wishbones. Pull the steering swivel member and hub assembly off the drive shaft and wishbones.



To dismantle

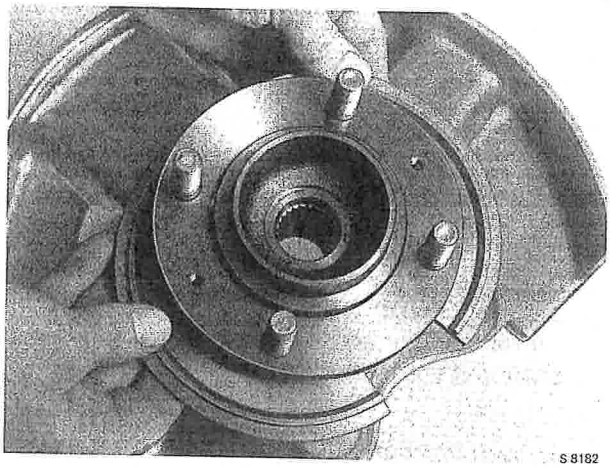
1 Press out the hub using tools 78 41 067, 89 96 456 and 89 96 449.

Using a universal puller, pull the inner bearing out of the hub. If there are no recesses allowing a puller to be used, drive the bearing out by means of a cold chisel.

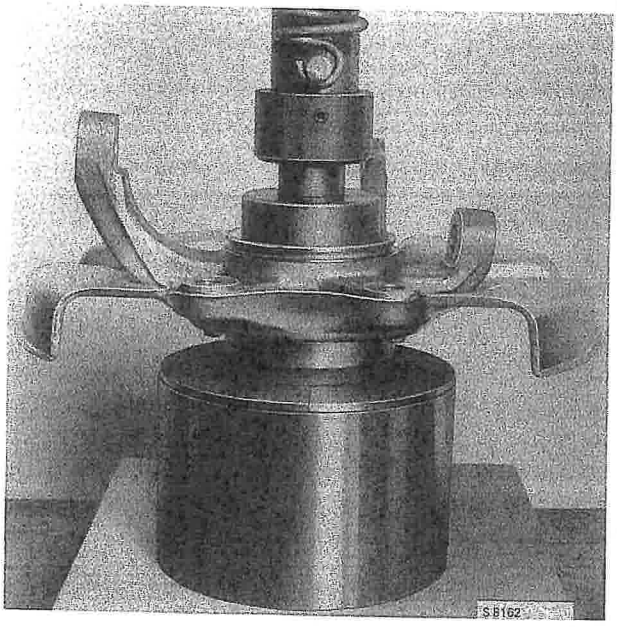


Note

Pressing the hub out of the steering swivel member damages the wheel bearing, which must therefore be renewed.



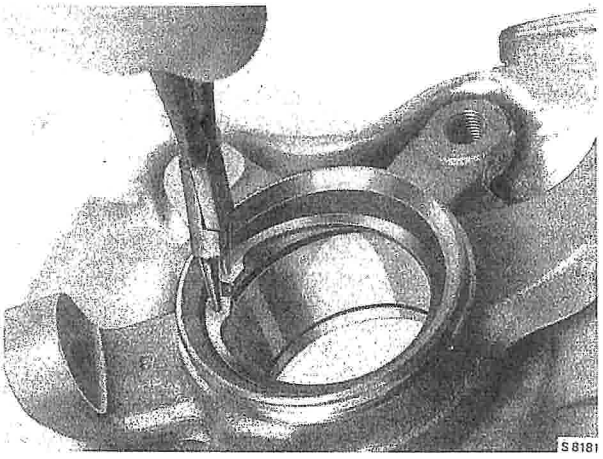
Remove the circlips from the steering swivel member and press out the bearing. Use tools 83 90 114, 89 96 456 and 89 96 449.



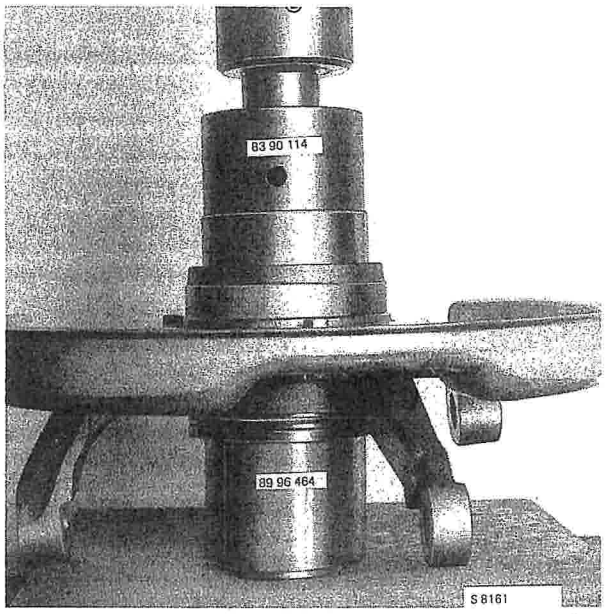
To assemble

1 Lubricate the bearing housing inside the steering swivel member with MOLYCOTE G grease.

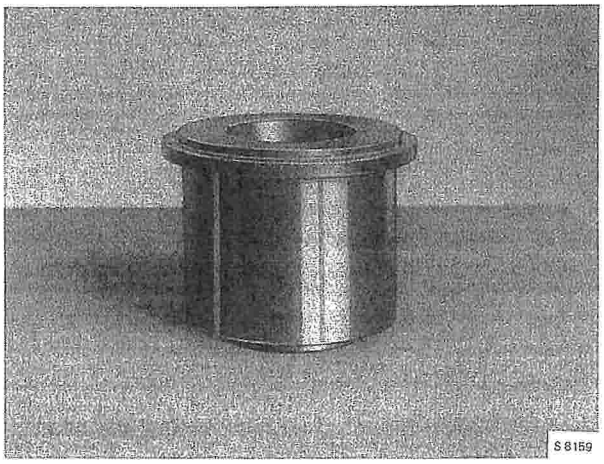
Fit the circlip in the groove in the inboard end of the steering swivel member.



2 Press the bearing up against the circlip in the steering swivel member using tools 83 90 114 and 89 96 464.

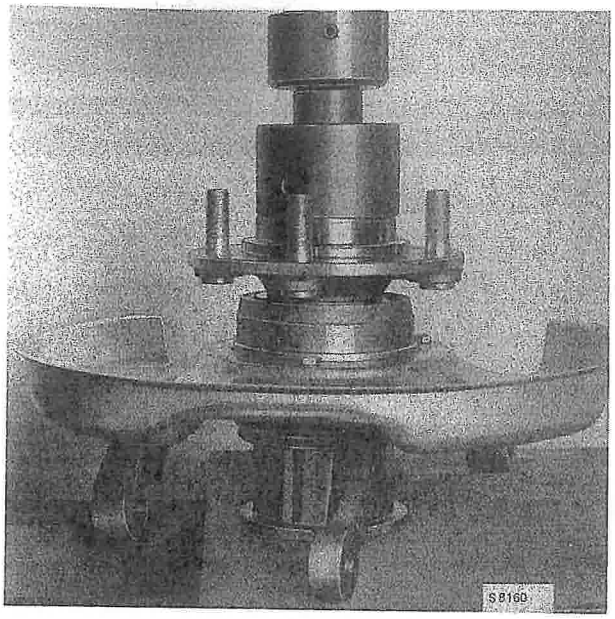


Note how tool 89 96 464 should be positioned.

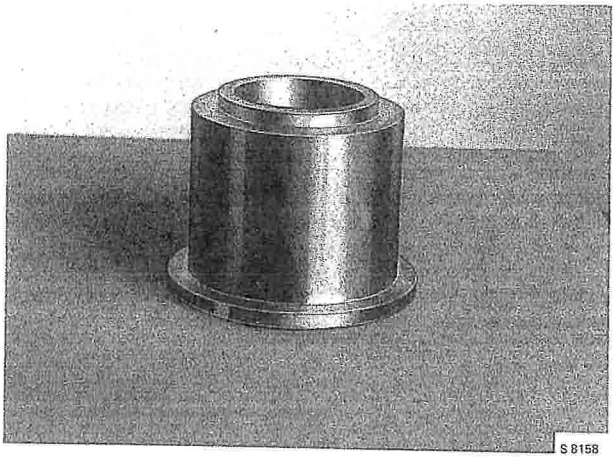


3 Fit the outer circlip.

4 Press the hub into the bearing using tools 83 90 114 and 89 96 464.



Position tool 89 96 464 against the inner bearing.

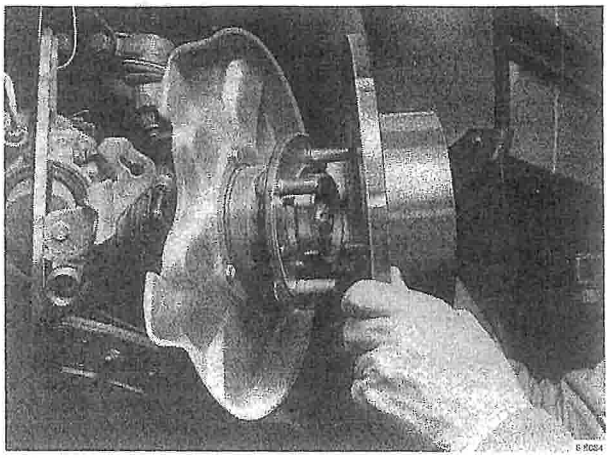


To fit

1 Apply MOLYCOTE G grease to the splines, and insert the drive shaft into the hub.

Refit the steering swivel member to the upper and lower wishbones.

2 Fit the hub-centre nut and brake disc.



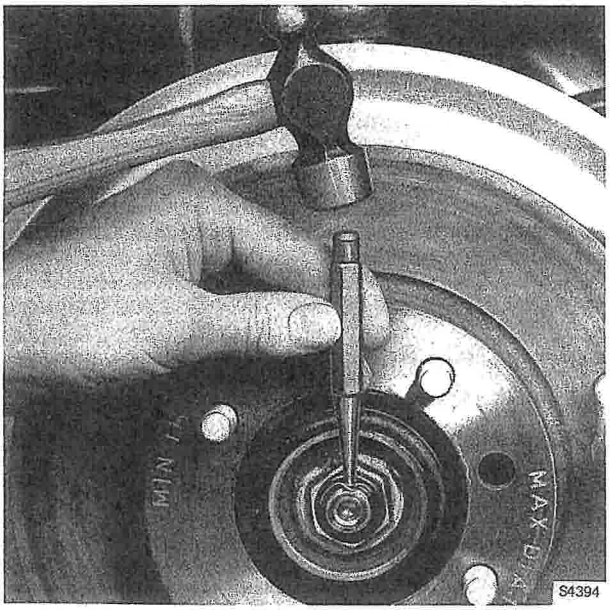
3 Fit the brake caliper and pads.

4 Reconnect the track-rod end to the steering arm.

5 Fit the wheel and lower the car.

Tightening torque for wheel nuts: 90-110 Nm (66-81 lbf ft)

6 Tighten the hub centre-nut to a torque of 300 Nm (220 lbf ft) and secure it by upsetting the collar in the groove in the shaft.

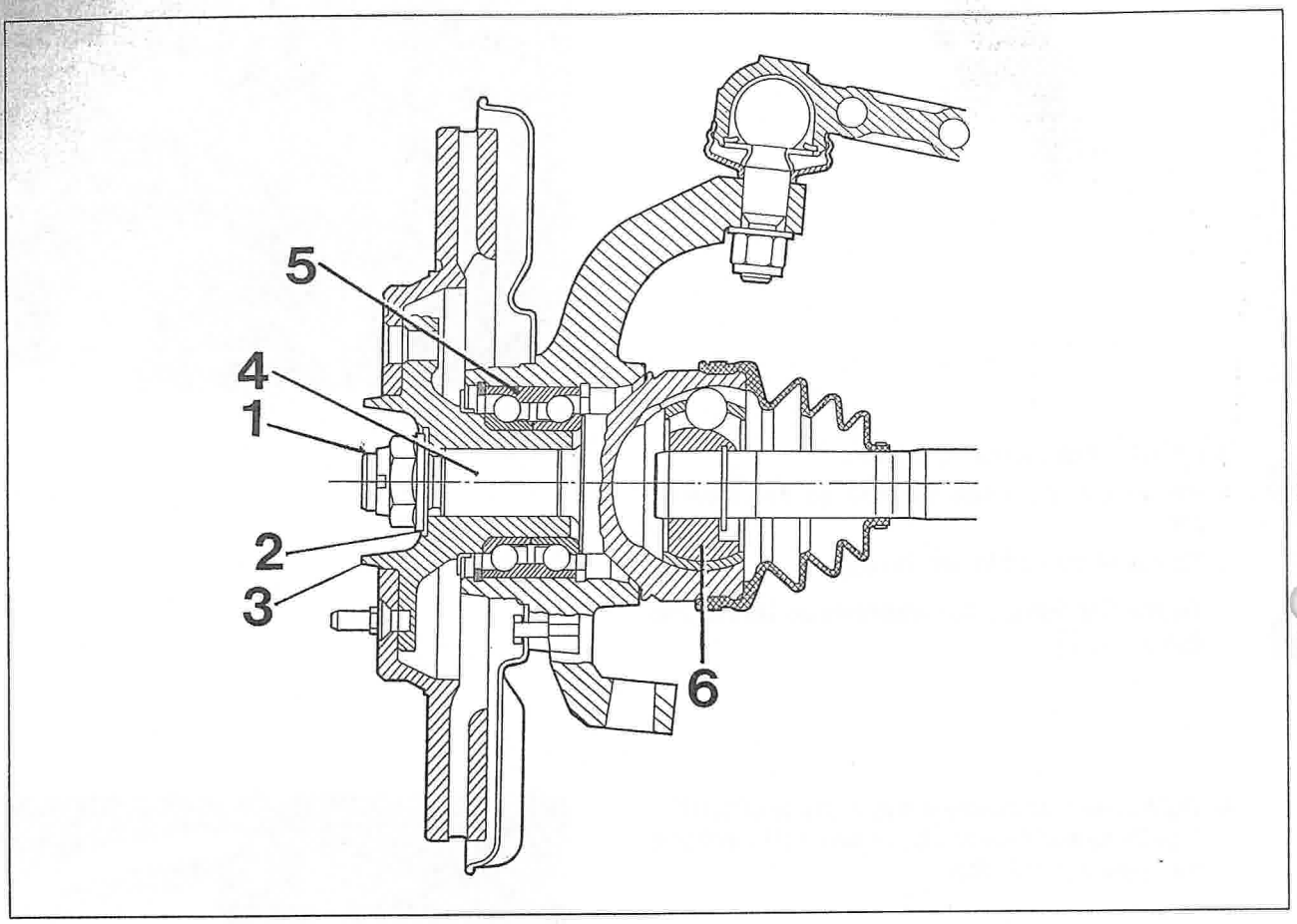


7 Remove tool 83 93 209 from under the upper wishbone.

WARNING

For the brakes to operate properly, the brake pads must be advanced to their normal position close to the disc. Do this by pumping the brake pedal.

Front-wheel hubs (M88 onwards)

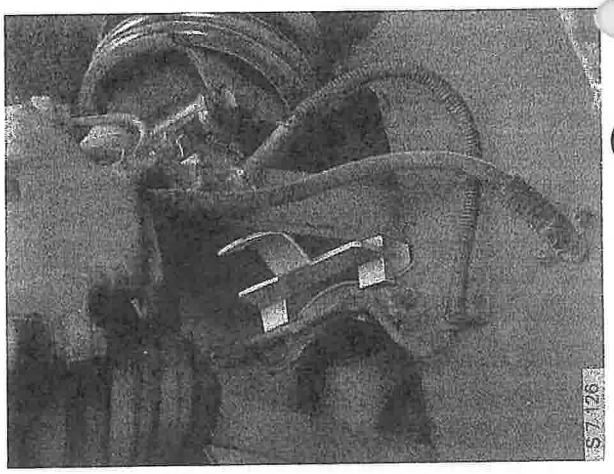


Front-wheel hub (M88 onwards)

1 Centre-nut
2 Thrust washer
3 Hub
4 Outboard drive shaft
5 Bearings and seals
6 Constant-velocity joint

To remove

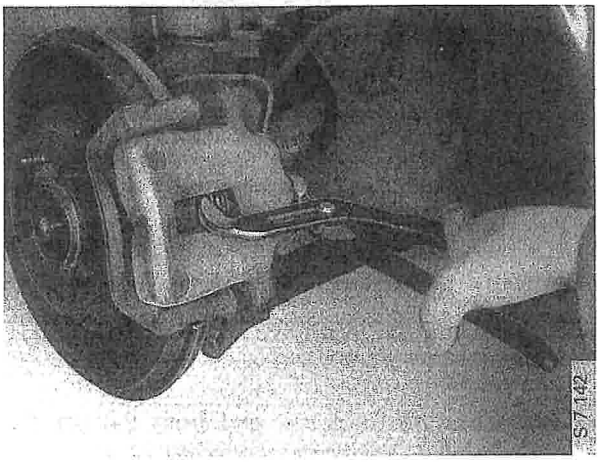
1 Fit the special spacer tool, 83 93 209, under the upper wishbone.



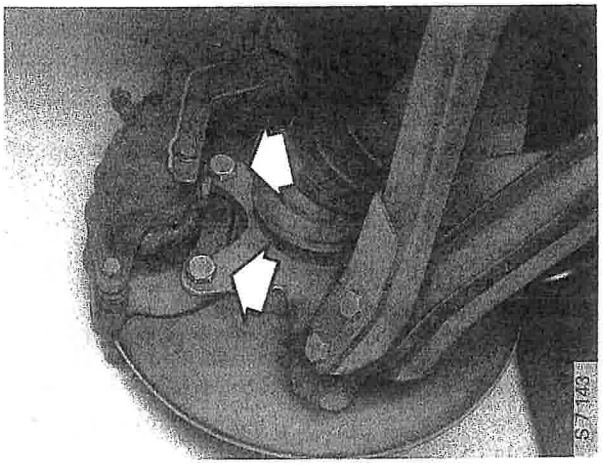
2 Loosen the hub centre-nut and wheel nuts before raising the car.

3 Raise the car and remove the wheel and hub centre-nut.

4 Retract the brake pad from the disc using a pair of water-pump pliers as shown.

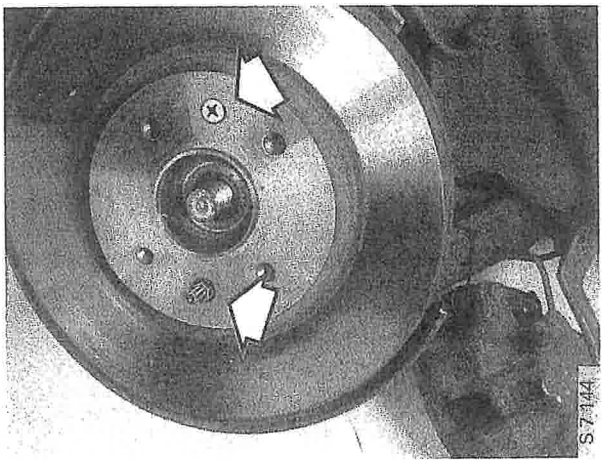


5 Remove the brake caliper and hang it from the lower wishbone (use a cable tie).



6 Undo the locating stud and screw in the brake disc.

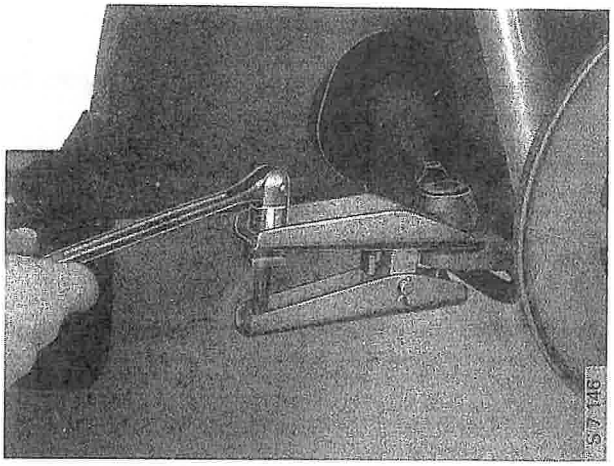
Remove the disc from the hub.



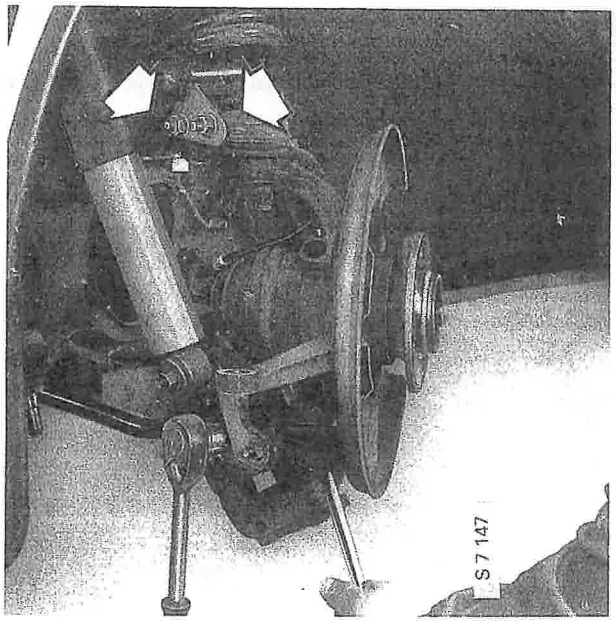
7 Cars with ABS brakes:
Undo the securing bolt for the wheel sensor.

Lift off the sensor and tuck it out of the way.

8 Separate the track-rod end from the steering arm using ball-joint separator 89 95 409.

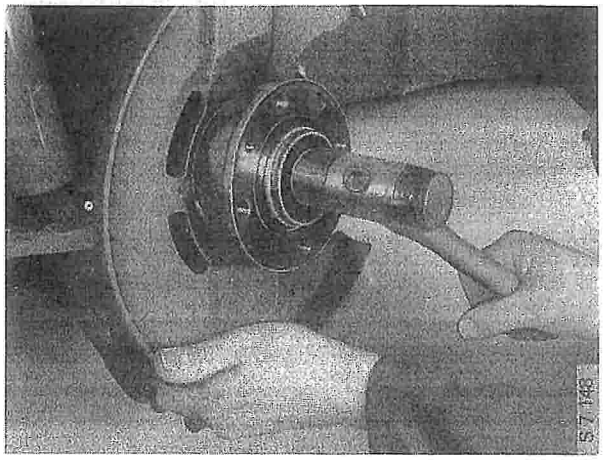


9 Undo the bolts securing the top and bottom ball joints to the wishbones.



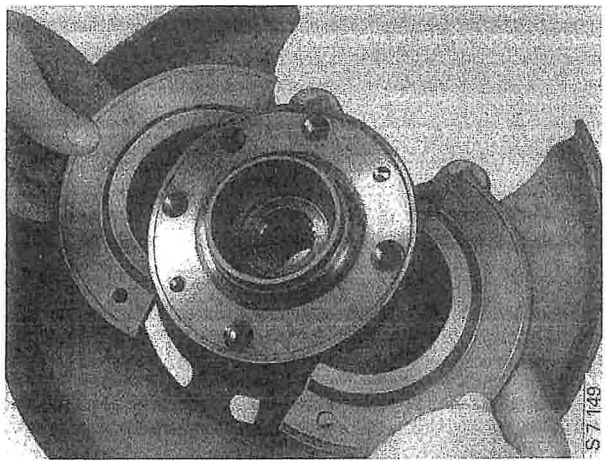
10 Pull the steering swivel member and hub assembly off the wishbones and drive shaft.

If necessary, carefully tap the end of the drive shaft with a soft-face mallet.



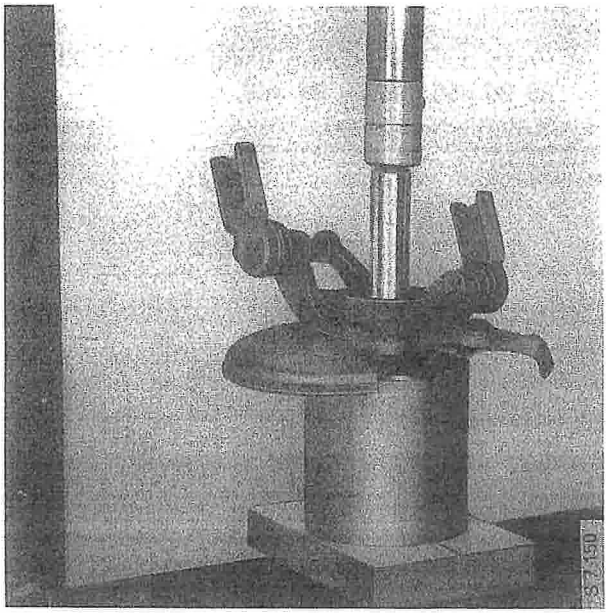
To dismantle

1 Press out the hub using tools 78 41 075, 89 96 456 and 89 96 449.

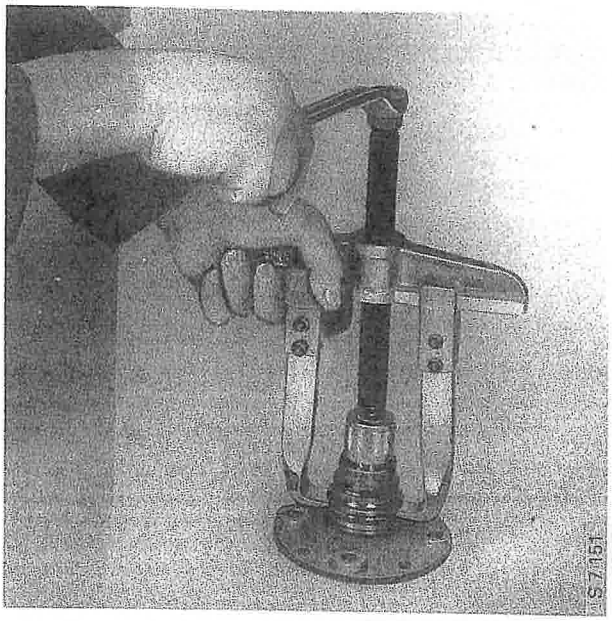


Note

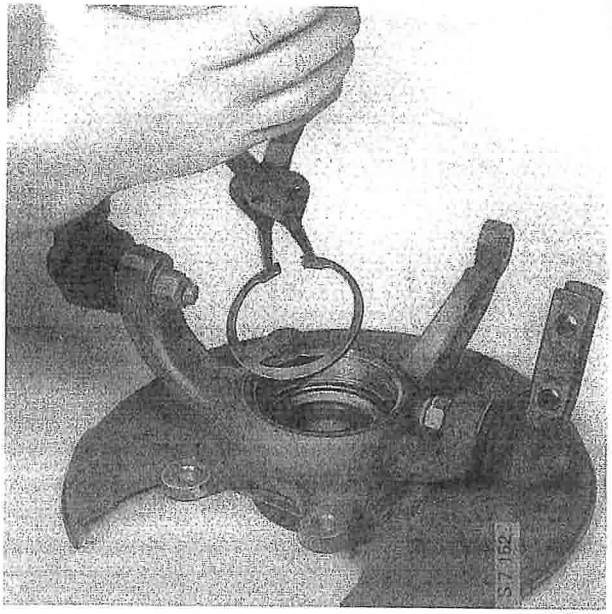
Pressing out the hub damages the bearing, which must therefore be renewed.



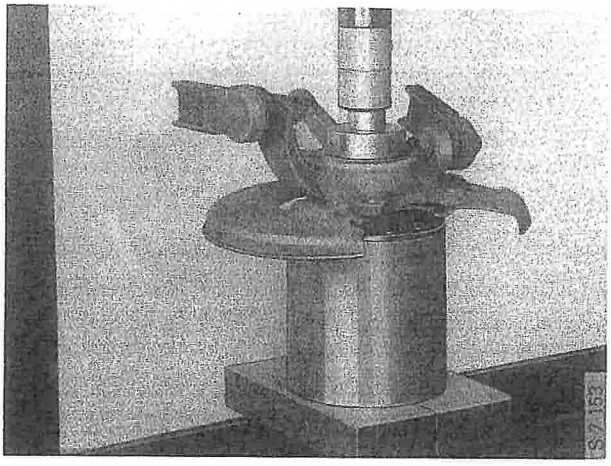
2 Pull the inner bearing off the hub using universal puller 87 91 287 and arms 89 95 177.



3 Remove the circlips from the steering swivel member (one at either end).

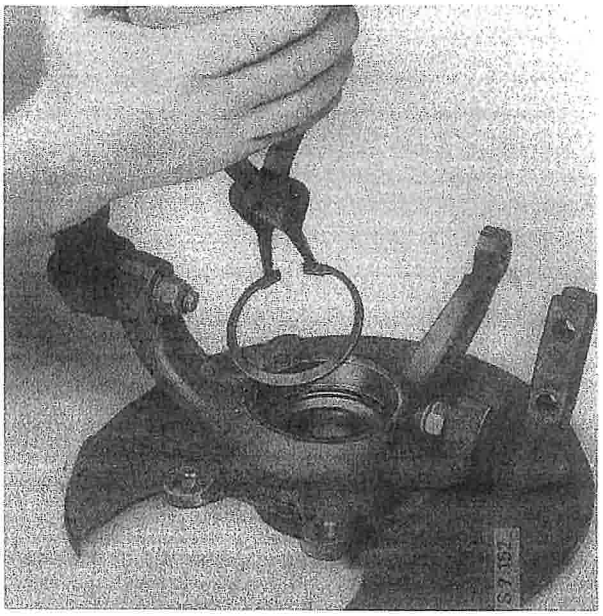


4 Press out the bearing using tools 83 90 114, 89 96 456 and 89 96 449.



To assemble

1 Fit the circlip in the groove in the steering swivel member.

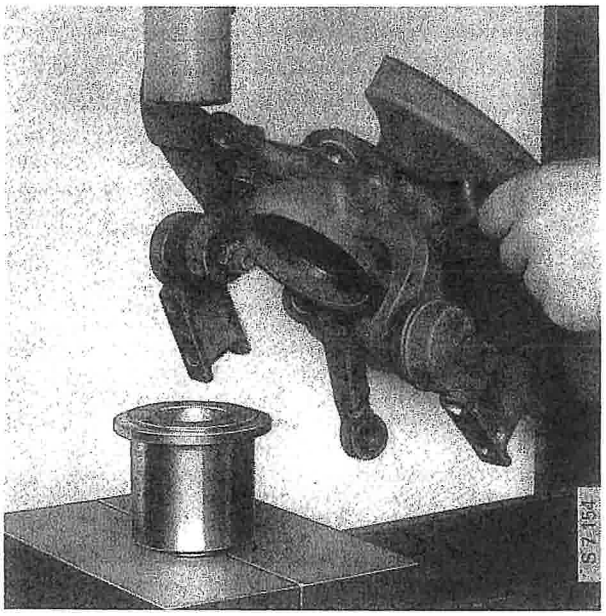


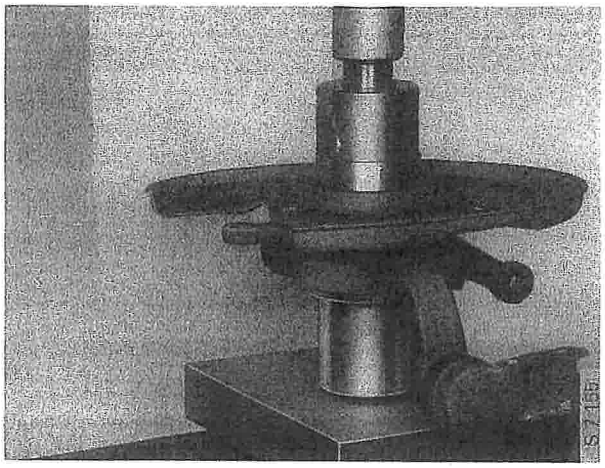
Note

Lubricate the bearing housing inside the steering swivel member with MOLYCOTE G grease.

2 Press the bearing up against the circlip in the steering swivel member using tools 83 90 114 and 89 96 464.

Note how tool 89 96 464 should be positioned.

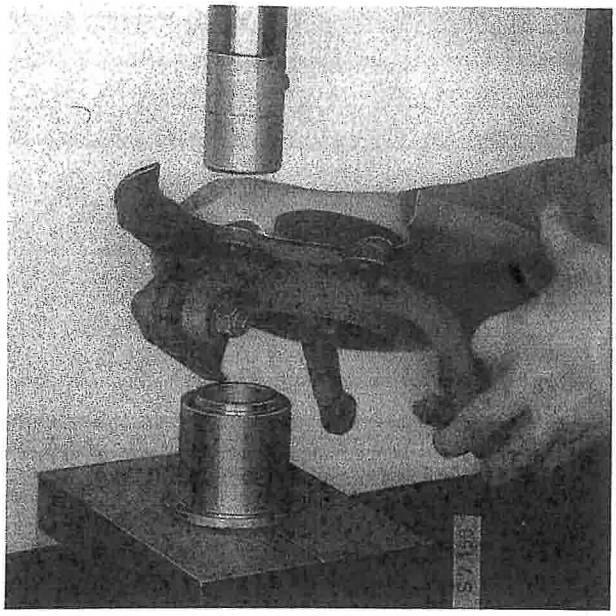


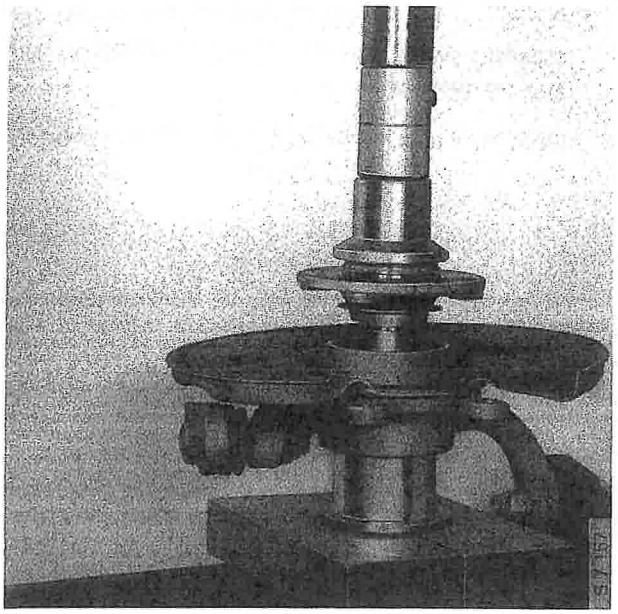


3 Fit the outer circlip.

4 Press the hub into the bearing using tools 87 91 246 and 89 96 464.

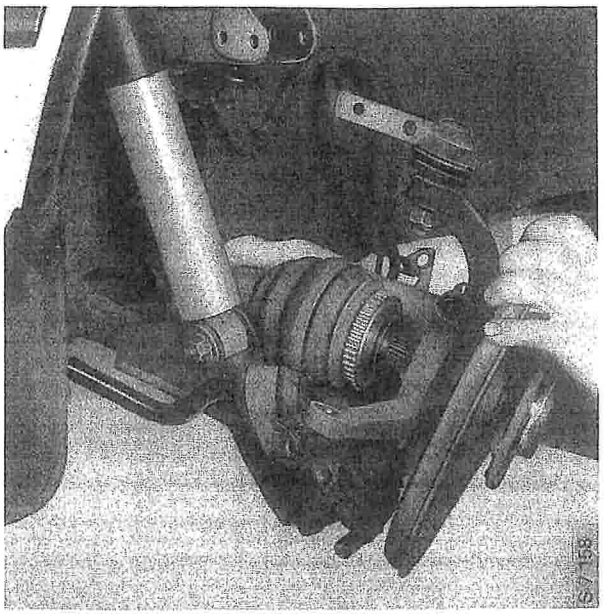
Position tool 89 96 464 against the inner bearing.



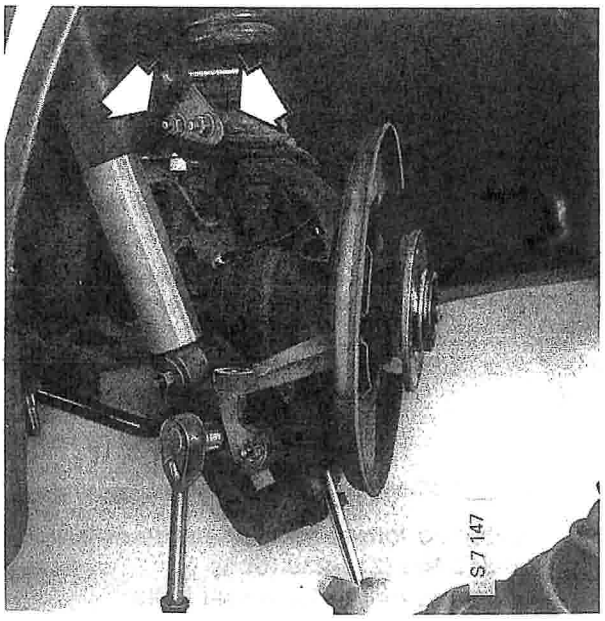


To fit

1 Apply MOLYCOTE G grease to the splines, and insert the drive shaft into the hub.



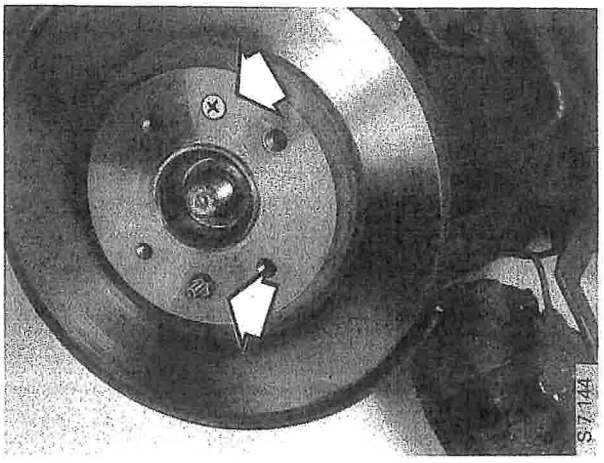
Refit the steering swivel member to the upper and lower wishbones.



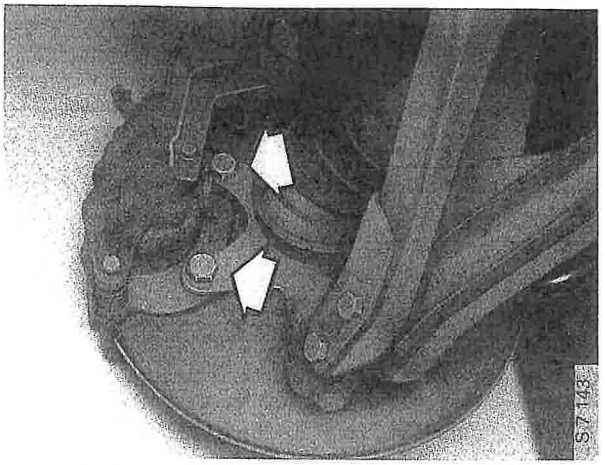
2 Fit a new hub centre-nut.

3 Reconnect the track-rod end to the steering arm.

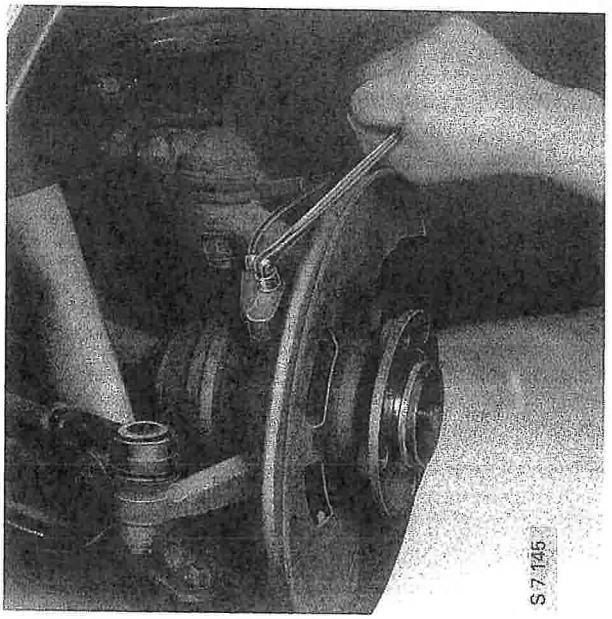
4 Fit the brake disc.



5 Fit the brake caliper.



Cars with ABS brakes:
Fit the wheel sensor.



6 Refit the wheel and lower the car.

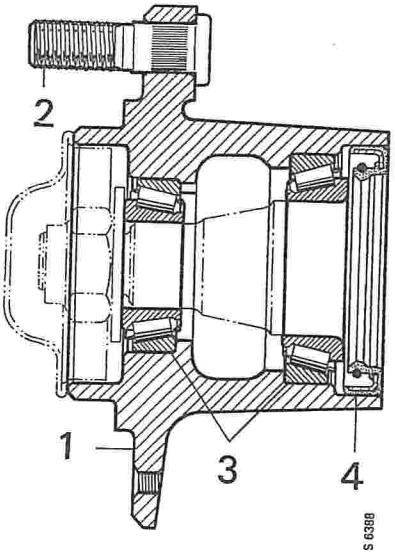
Tightening torque for hub centre-nut:
290-310 Nm (215-230 lbf ft)
Tightening torque for wheel bolts:
105-125 Nm (78-92 lbf ft)

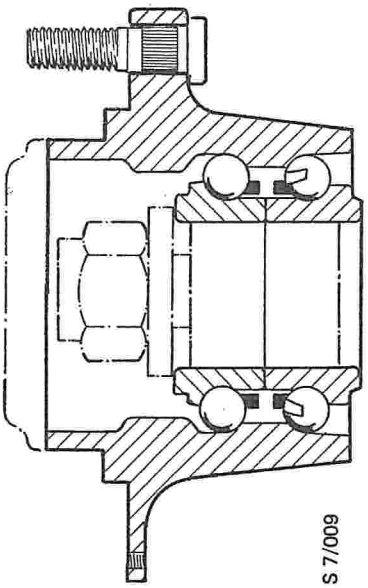
7 Remove tool 83 93 209 from under the upper wishbone.

WARNING

For the brakes to operate properly, the brake pads must be advanced to their normal position close to the disc. Do this by pumping the brake pedal.

Rear-wheel hubs (M79-87)





Rear-wheel hub (early variant)

1 Hub
2 Wheel stud
3 Wheel bearings
4 Seal

Rear-wheel hub (later variant, pre-M88)

1 Hub
2 Wheel stud
3 Wheel bearings
4 Seal

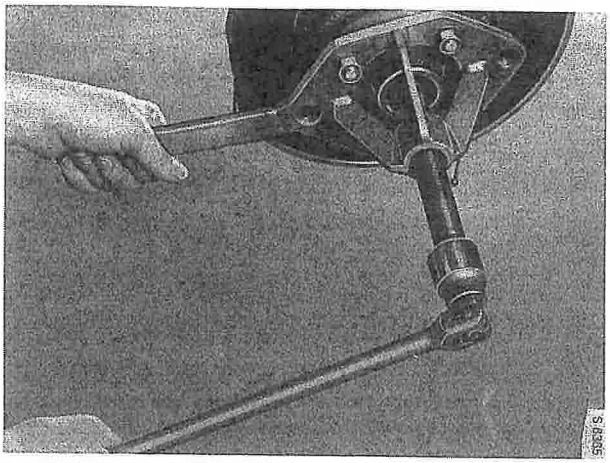
To remove

1 Raise the car and remove the wheel.
2 Remove the brake caliper and hang it out of the way.

Remove the brake disc.

3 Use a screwdriver to pry off the hub dust cap.
4 Tap the locking tab out of the groove and remove the hub centre-nut and thrust washer.

5 Pull off the hub (if necessary, use puller 89 96 084 or puller 89 95 185 with the four extension pieces, 89 96 050).



Note

During MY82, the bearing and seal were incorporated as an integral part of the hub. These parts can therefore no longer be replaced separately and, if damaged, will necessitate replacement of the entire hub unit.

6 Use a screwdriver to break out the seal (the seal will always have to be renewed) and remove the two inner bearings.

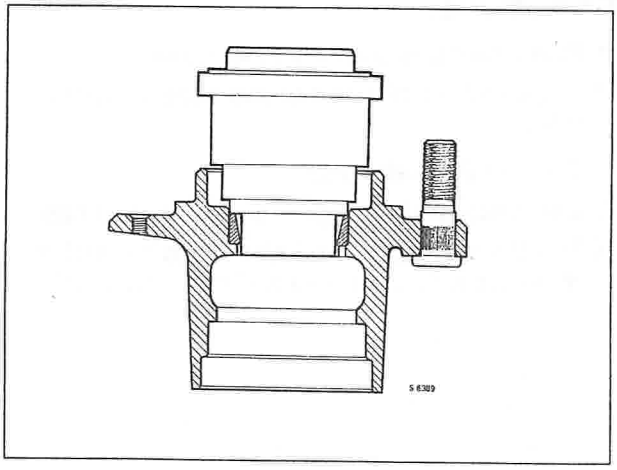
7 Insert a suitable drift in the milled recesses in the hub and drive out the outer bearings. Stand the hub on a block of wood to prevent the end faces being damaged.

To fit (Early-variant hubs only)

Thoroughly clean and inspect all parts and replace any that are worn or damaged.

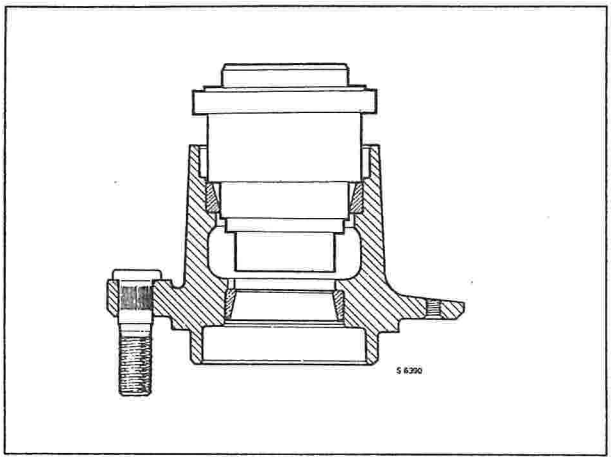
1 Press the outer bearings into the hub using drift 89 96 241.

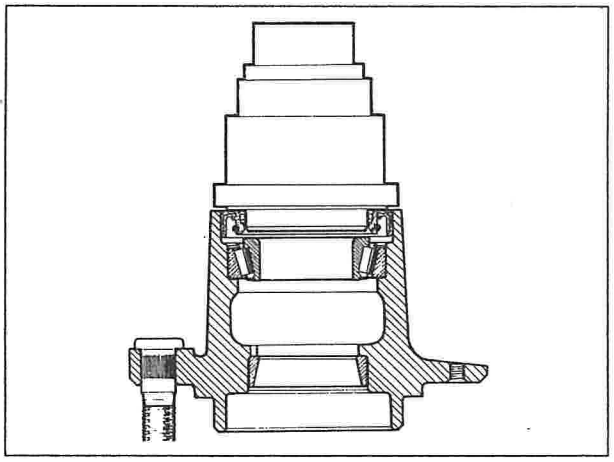
2 Half fill the space between the outer bearings with Saab Special Chassis Grease and also grease the inner bearings.



3 Fit the inner bearing, and lubricate and fit the seal (use grease or heavy oil).

4 Inspect the surface of the stub axle to ensure that the seal will slide freely. If the surface is scored or pitted, polish it using fine emery cloth. Finally, grease the surface.





5 Fit the hub, followed by the outer bearing, thrust washer and centre-nut.

If the part of the collar previously upset ends up in line with the groove in the shaft, fit a new nut.

Tightening torque:

Stage 1: 49 Nm (36 lbf ft)
Stage 2: Slacken the nut
Stage 3: 2-4 Nm (1.5-2.9 lbf ft)

Use a round-nose drift to upset the collar in the groove to prevent the collar from splitting.

6 Pack the dust cap with grease and refit it.

7 Fit the brake disc, brake caliper, wheel and wheel nuts.

8 Lower the car.

Tighten the wheel nuts.

Tightening torque for wheel nuts: 90-110 Nm (66-81 lbf ft)

To fit

(Later-variant hubs, introduced during MY82)

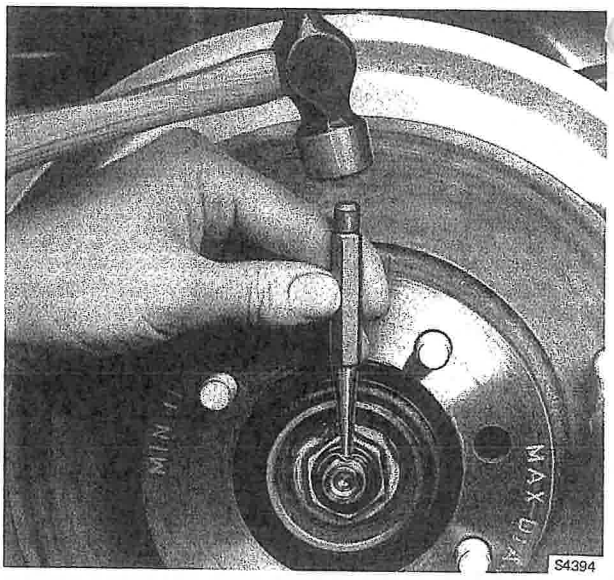
Thoroughly clean and inspect all parts and replace any that are worn or damaged.

1 Fit the hub, followed by the thrust washer and centre-nut.

2 Tighten the nut.

Tightening torque for centre-nut: 300 ± 10 Nm (220 ± 9 lbf ft)

If the part of the collar previously upset ends up in line with the groove in the shaft, fit a new nut.



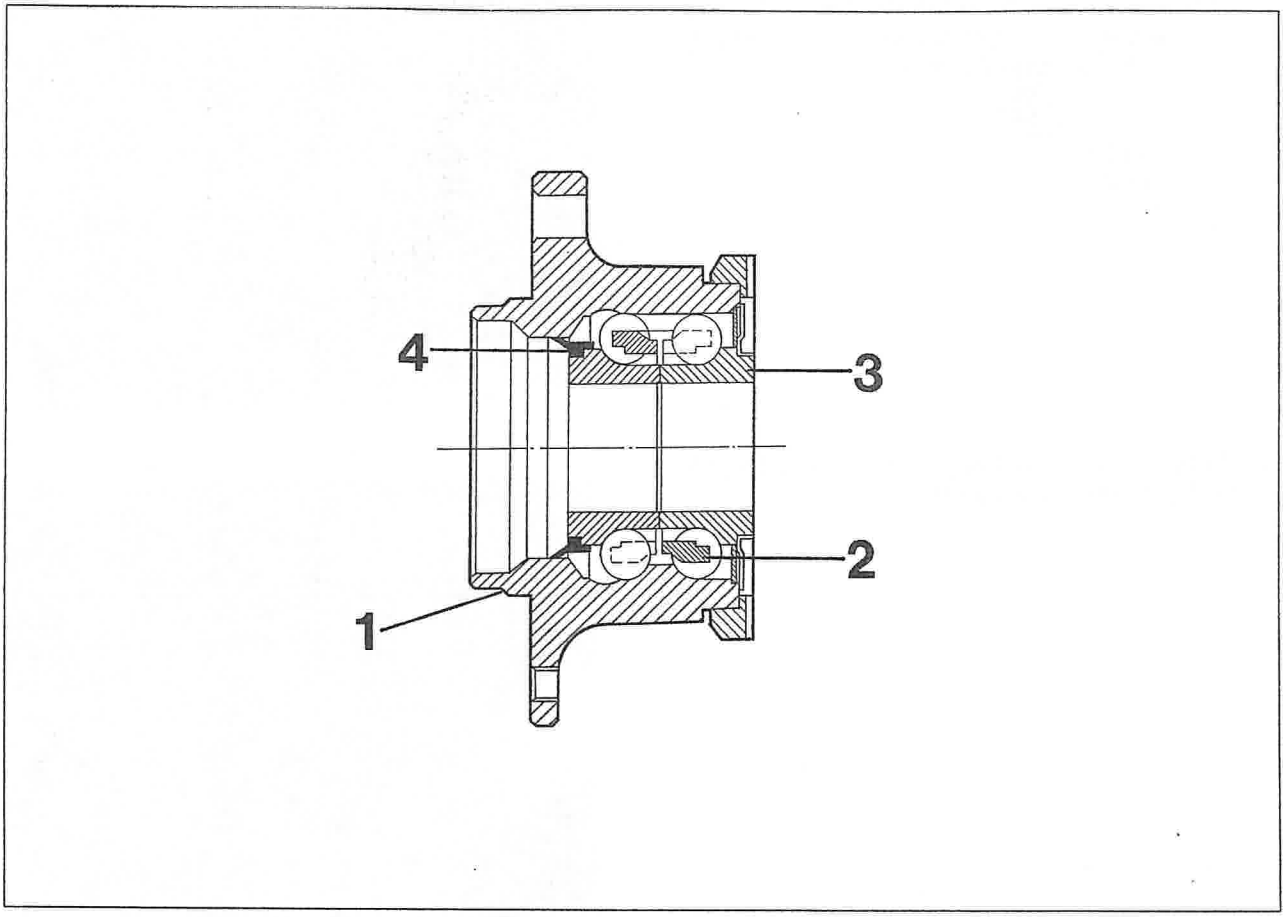
3 Fit the hub dust cap.

4 Fit the brake disc, brake caliper, wheel and wheel nuts.

5 Lower the car and tighten the wheel nuts.

Tightening torque for wheel nuts: 90-110 Nm (66-81 lbf ft)

Rear-wheel hubs (M88 onwards)

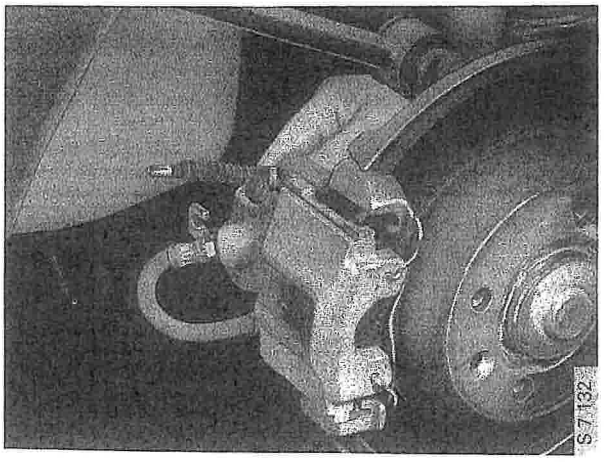


Rear-wheel hub (M88 onwards)

1 Bearing housing
2 Bearings
3 Inner race
4 Seal

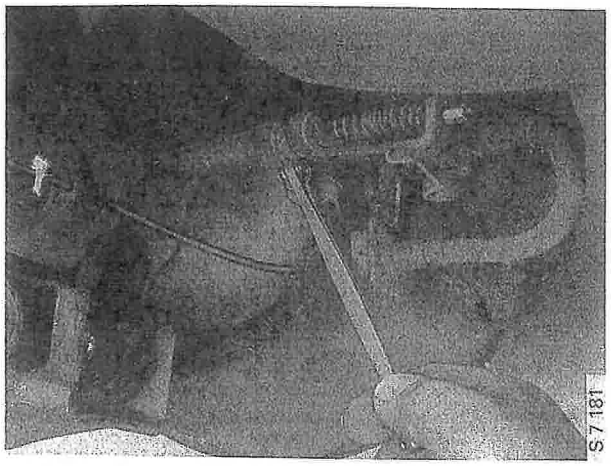
To remove

1 Raise the car and remove the rear wheel.
2 Disconnect the handbrake cable from the caliper and rest the cable on the rear axle.

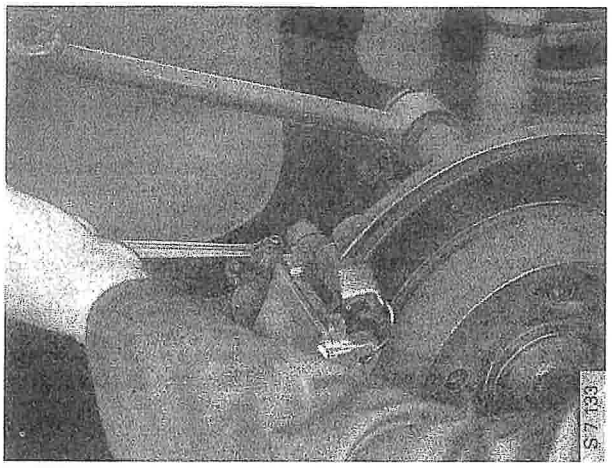


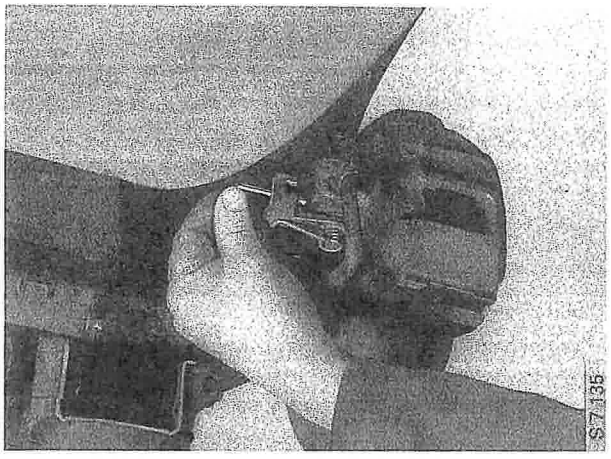
Cars with ABS brakes:

Unbolt the wheel-sensor from the hub and release the lead from the bracket on the trailing end of the spring link.



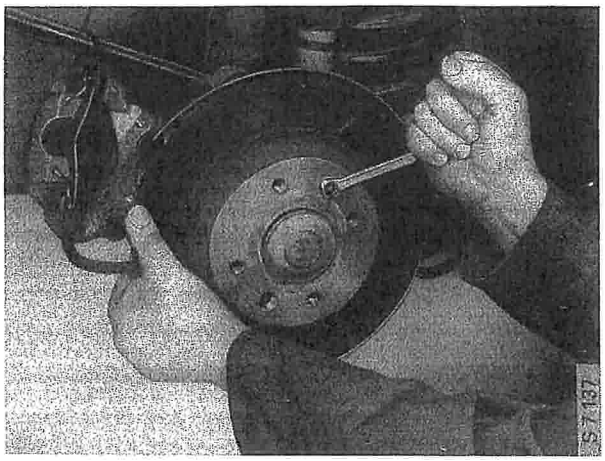
3 Remove the screw plug, and unscrew the adjusting screw in the caliper.



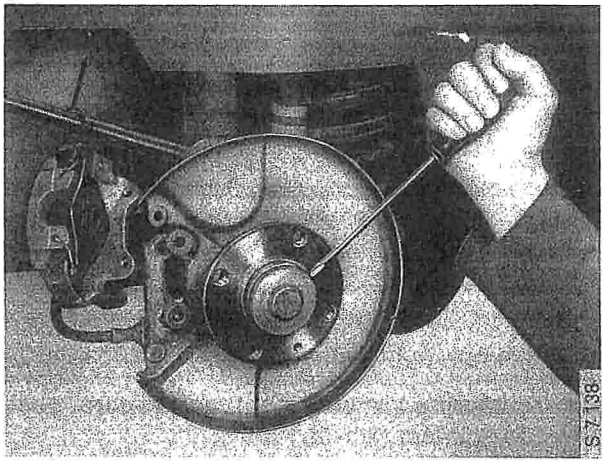


4 Unbolt the brake caliper and hang it from the torque arm.

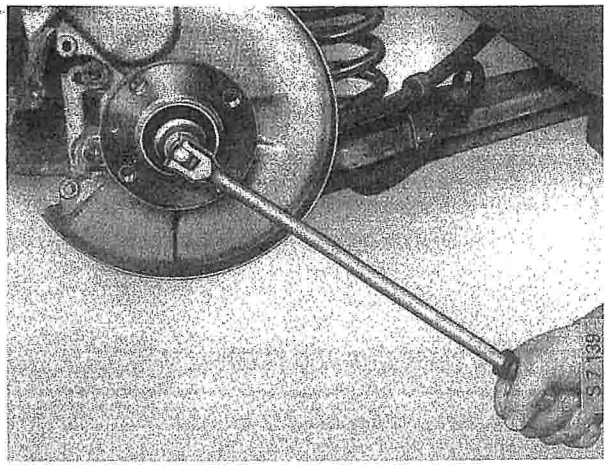
5 Undo the locating stud in the brake disc and remove the disc.



6 Remove the dust cap from the hub centre-nut.



7 Remove the centre-nut.



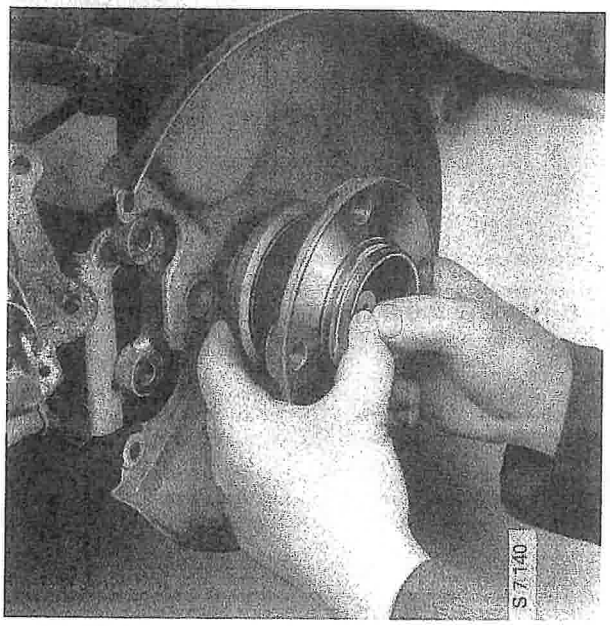
8 Pull the hub off the stub axle.

To fit

1 Clean the stub axle, using a piece of fine emery cloth to remove any pitting, burrs, etc.

2 Lubricate the stub axle with thin oil.

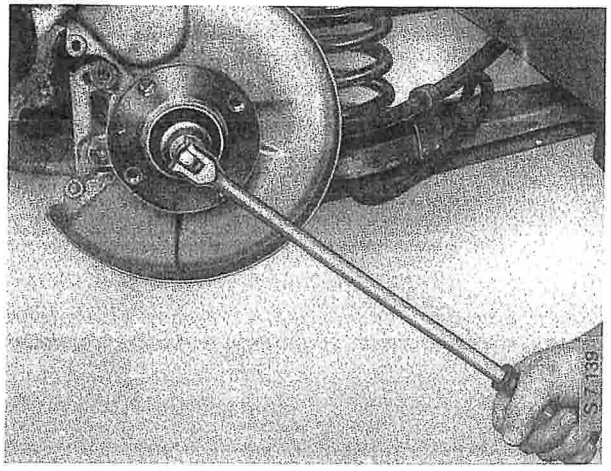
3 Gripping the hub in both hands, apply pressure with the thumbs to the bearing race and push the hub onto the stub axle.



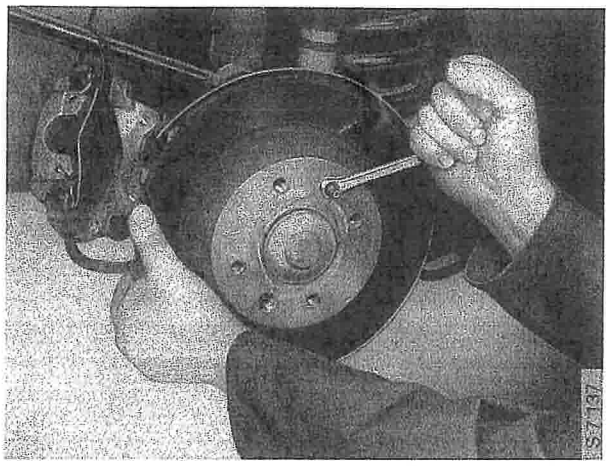
4 Fit a new hub centre-nut.

Tightening torque for hub centre-nut: 280-300 Nm (207-221 lbf ft)

5 Fit the dust cap.



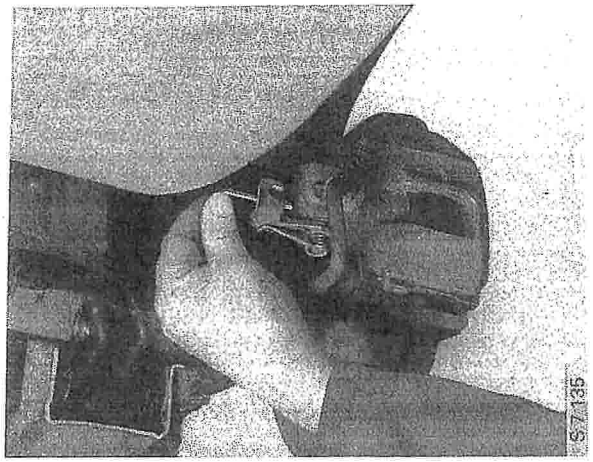
6 Fit the brake disc and locating stud.



7 Fit the brake caliper.

8 Reconnect the handbrake cable to the caliper and adjust the handbrake.

See section 5:1, subsection 551 of the Workshop Manual.
Cars with ABS brakes:



Refit the wheel-sensor and secure the lead in the bracket on the trailing end of the spring link.

9 Fit the wheel and lower the car.

Tightening torque for wheel bolts:
105-125 Nm (78-92 lbf ft)

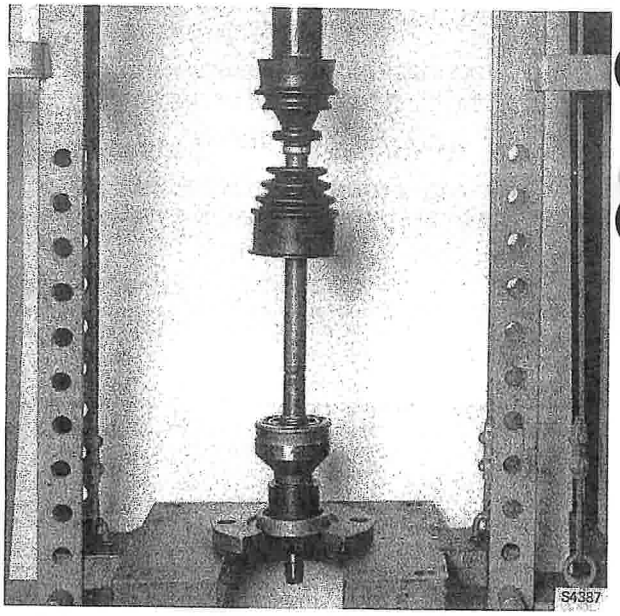
Drive shafts - CV joints

To dismantle

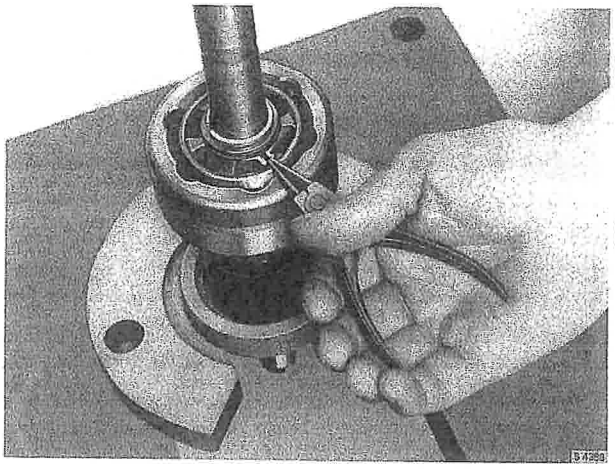
Note
Take care to remove all dirt and dust particles.

1 Undo the clip and slide the rubber gaiter on the CV joint back along the shaft.

Mount the shaft in a press and compress the two spring washers to allow the circlip inside the hub to move in its groove.



2 Open the circlip and release the force applied by the press.



3 Withdraw the drive shaft from the hub, complete with the spherical washer, the two spring washers and the circlip on the shaft.

The hub circlip should remain in its groove in the hub.

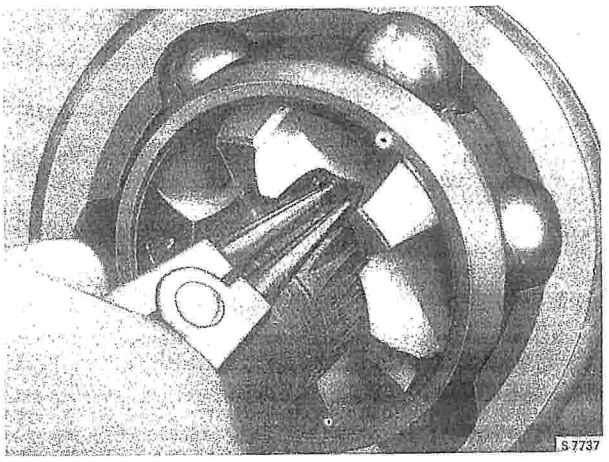
Note

The spherical washer, spring washers, circlip and circlip groove were discontinued as from the following chassis nos.:

- 90806000586
- 90801008986
- 90802002798

In future, these parts should not be refitted.

With effect from the above chassis nos., the drive shaft is separated from the CV joint as follows:



1 Release the rubber gaiter on the CV joint.
2 Open the circlip and pull the CV joint off the shaft.

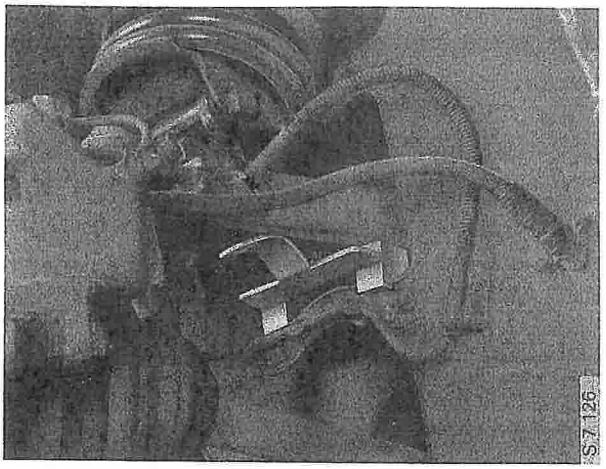
To assemble

1 Pack the joint with grease and insert the shaft in the joint, ensuring that the circlip inside the hub snaps into place in the groove in the shaft. Check that the shaft is locked by the circlip by applying a sharp outward pull to the shaft.

Drive shafts

To remove

1 Place spacer tool 83 93 209 under the upper wishbone.



2 Loosen the hub centre-nut.

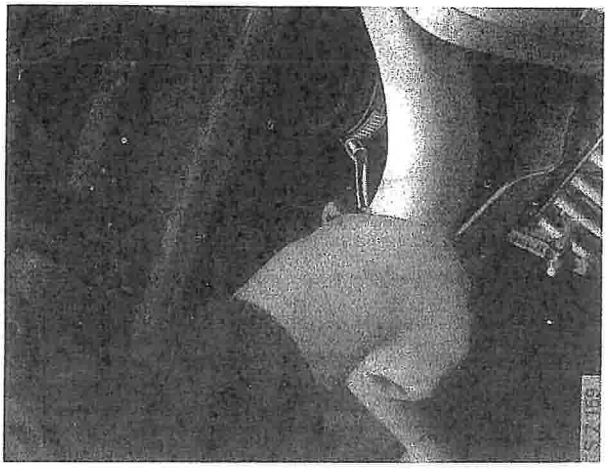
3 Raise the car.

Remove the front wheel and hub centre-nut.

Note

Take care to remove all dirt and dust particles.

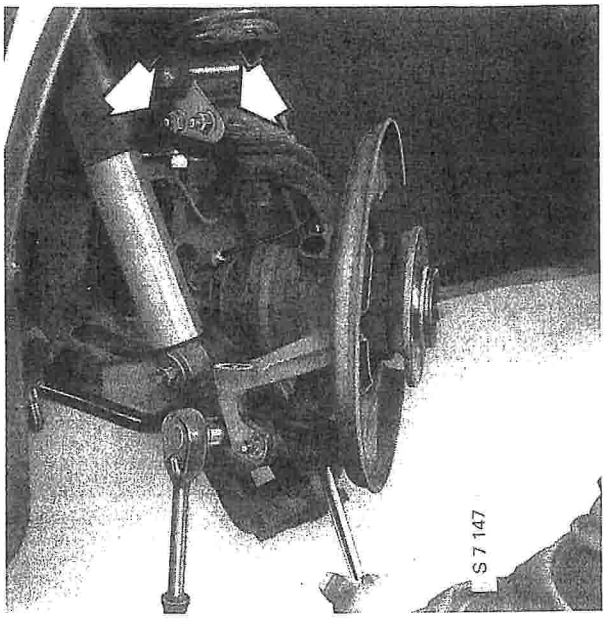
4 Release the clip securing the rubber gaiter over the inboard universal joint.



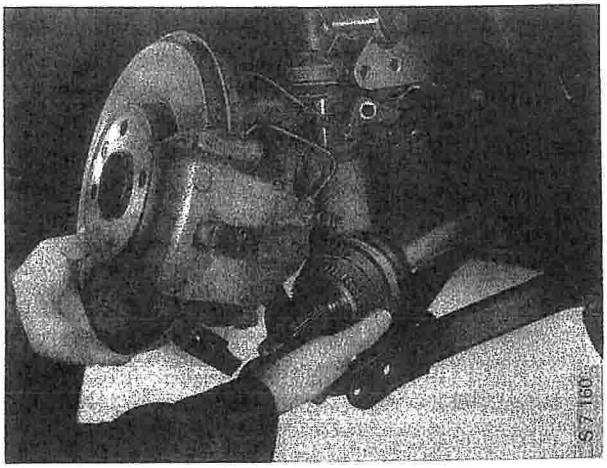
Cars with ABS brakes:

Unbolt the wheel sensor and tuck the lead out of the way.

5 Undo the securing bolts for the upper and lower ball joints on the wishbones.



6 Pull the steering swivel member away from the lower wishbone and swivel it up to enable the drive shaft to be withdrawn.



7 Withdraw the drive shaft and fit covers to the rubber gaiter and driver cup.

Constant velocity (CV) joints

Note

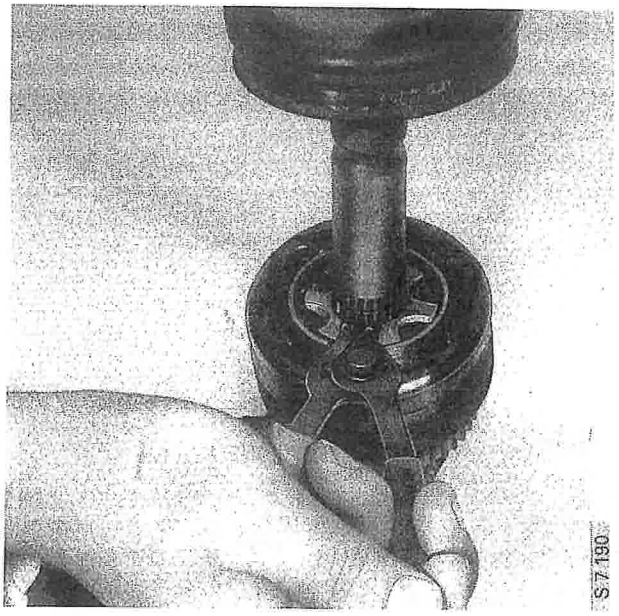
When dismantling the CV joint, use plastic covers to keep dirt and dust out of the joint.

To dismantle

1 Remove the grease from the joint.

Release the clips and slide the rubber gaiter back down the shaft.

2 Open the circlip and pull the shaft out of the joint.



To assemble

1 Pack the joint with about 80 g of Esso Nebula EP2 grease.

2 Insert the drive shaft in the hub, ensuring that the circlip snaps into place in the groove in the shaft.

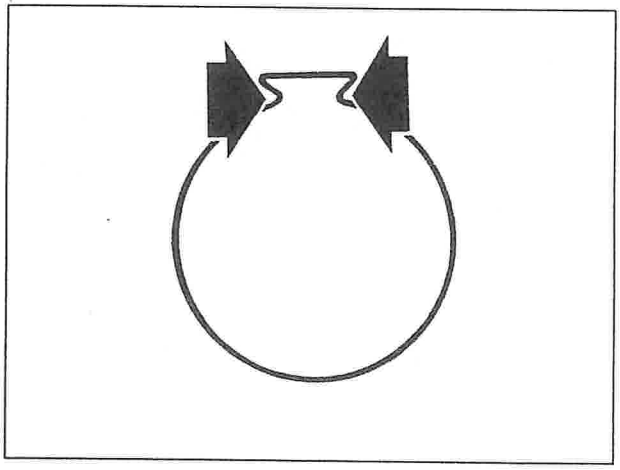
Check that the circlip is properly seated by applying a sharp outward pull to the shaft.

3 Fit the rubber gaiter.

Tighten the clips: if you are fitting new clips of the non-screw type, fit them as shown in the adjacent picture.

Take care not to damage the rubber.

For fitting and removal of the new clips, we recommend a special tool, Knipex 1099 pliers, available from Oetker.



To replace CV-joint gaiters

Note

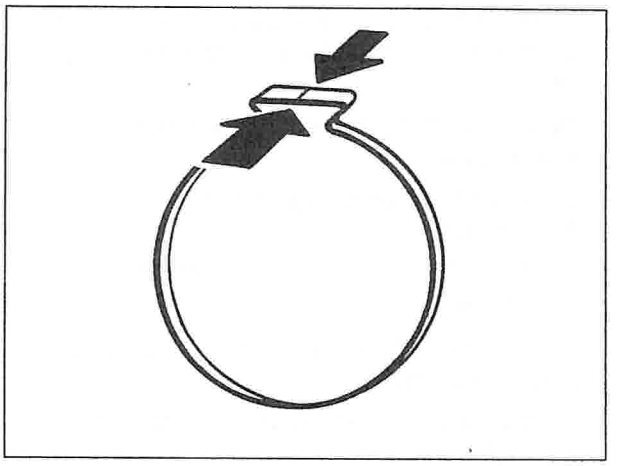
Take care to remove all dirt and dust particles.

1 Remove the CV joint.

2 Undo the clips and remove the gaiter from the shaft.

Note

Remove clips of the non-screw type using pliers or similar as shown. Take care not to damage the rubber.

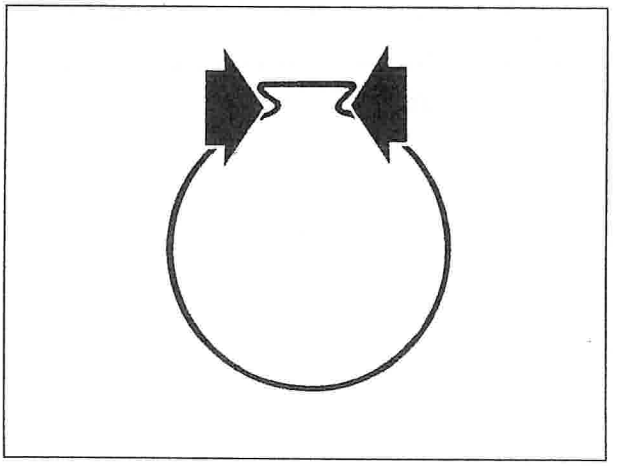


3 Fit a new gaiter.

Tighten the clips: if you are fitting new clips of the non-screw type, fit them as shown in the adjacent picture.

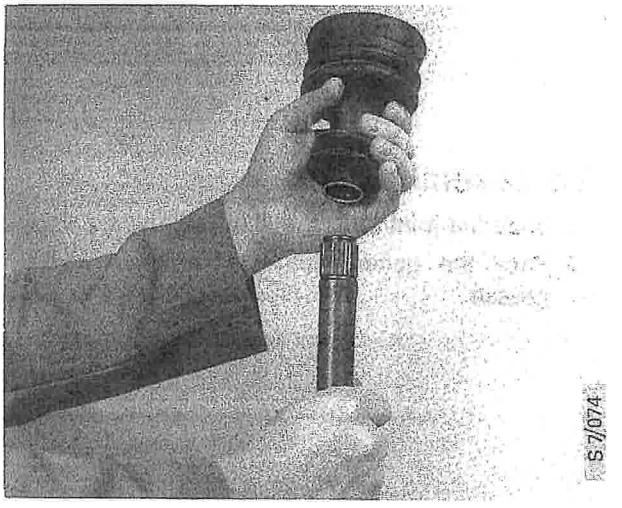
Take care not to damage the rubber.

For fitting and removal of the new clips, we recommend a special tool, Knipex 1099 pliers, available from Oetker.



4 Fit the CV joint.

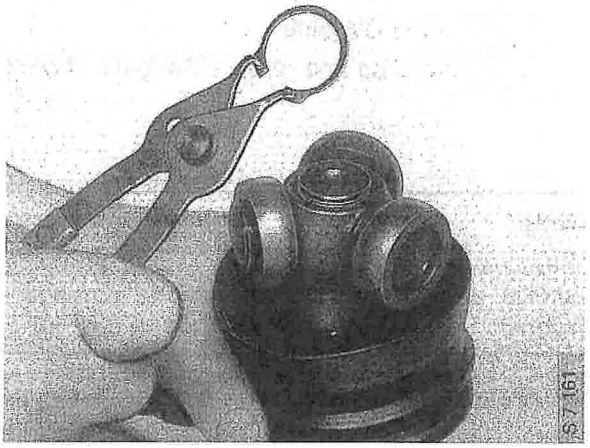
5 Pack the joint with 80 g of Esso Beacon EP2 grease.



Inboard universal joint
To dismantle

1 Remove the grease from the joint.

2 Remove the circlip.



Note

The latest drive-shaft variants incorporate a stop for the driver cup instead of a circlip. This comprises a taper on the shaft and a corresponding taper on the driver-cup splines.

The latest variant of the driver cup must be fitted to drive shafts of the latest variant. However, the new driver cup may also be fitted to early-variant drive shafts.

New drive shafts are fitted in production to the following cars:

Cars to Scandinavian specification with effect from chassis nos.:

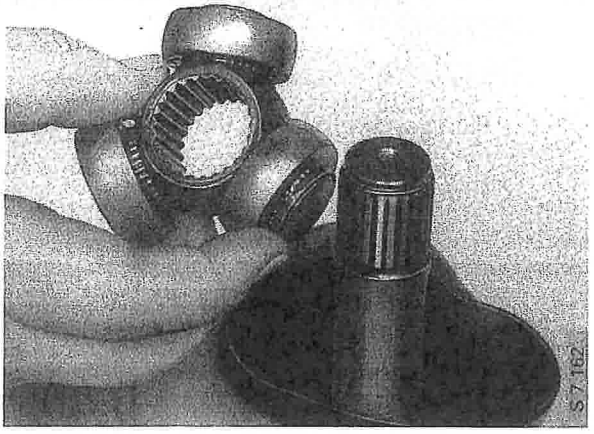
AC1022347, AC2007941, AC3007195 and AC6001952.

Cars to non-Scandinavian specifications with effect from chassis nos.:

AC1005904, AC2001784, AC3001770 and AC6000001.

Further details are given in section 4:1 of the Workshop Manual.

3 Pull the joint off the shaft.



To assemble

1 Slide the joint onto the shaft and fit the circlip.

2 Pack the gaiter with 60 g of Mobil GS57C grease.

Inboard universal joint
To replace the gaiter

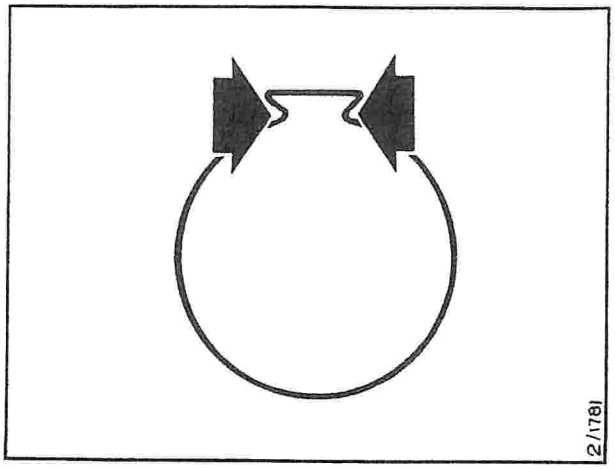
Note

Take care to remove all dirt and dust particles.

1 Undo the clip on the driver-cup end of the gaiter.
2 Remove the shaft assembly.
3 Remove the inboard universal joint.
4 Undo the clip at the shaft-end of the gaiter and pull the gaiter off the shaft.

5 Fit a new gaiter.

See page 774-35 for details of fitting the clips.



6 Pack the gaiter with 60 g of Mobil GS57C grease.
7 Fit the shaft assembly.
8 Fit the universal joint.
9 Fit the clip at the driver-cup end of the gaiter.

Drive shafts
To fit

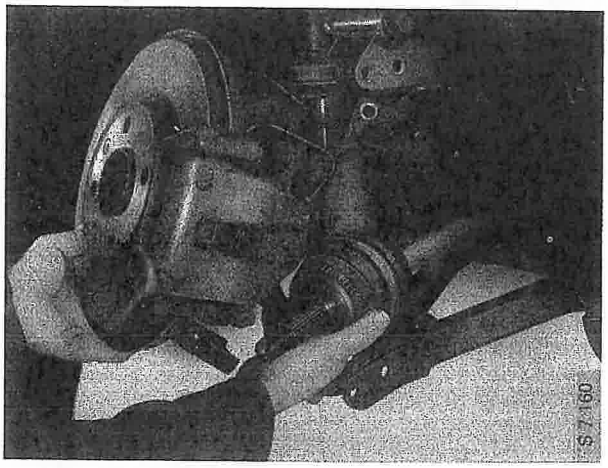
Note

Take care to remove all dirt and dust particles.

1 Remove the temporary covers from the driver cup and rubber gaiter.
2 Pack the driver cup with 115 g of Mobil GS57C grease.
3 Insert the shaft in the driver cup.
4 Tighten the clip on the gaiter on the inboard universal joint (see page 774-35).

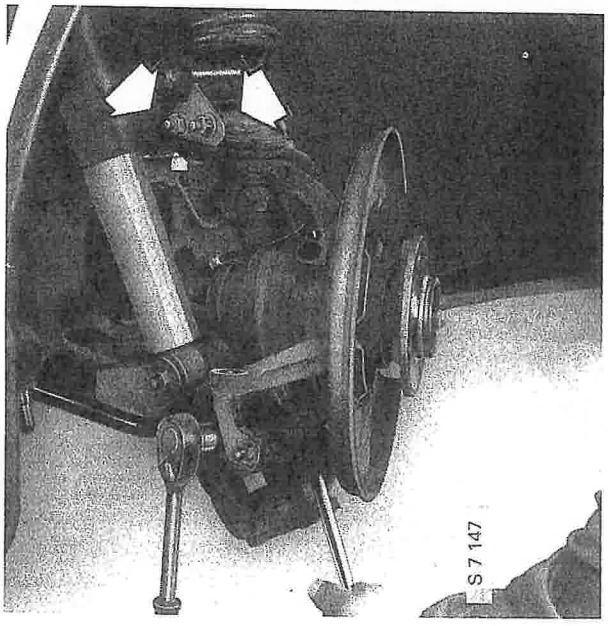
5 Insert the drive shaft in the steering swivel member.

Reconnect the steering swivel member to the lower wishbone.



6 Fit the bolts securing the ball joints on the upper and lower wishbones.

Tightening torque: 40-54 Nm (29-40 lbf ft)



7 Screw on a new hub centre-nut, finger tight.

Cars with ABS brakes:

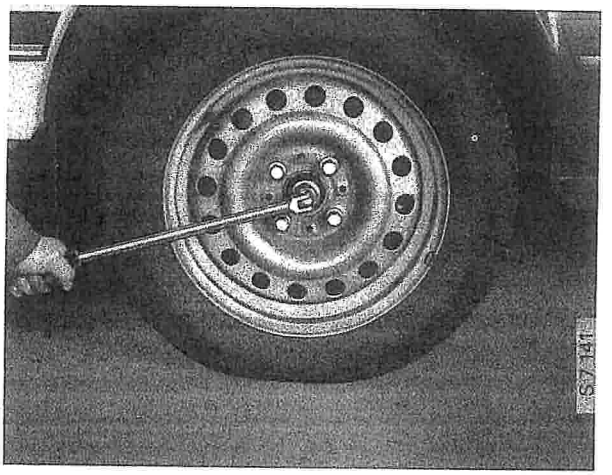
Refit the wheel-sensor.

8 Fit the wheel and lower the car.

Tightening torque for wheel bolts:
105-125 Nm (78-86 lbf ft)

9 Tighten the hub centre-nut.

Tightening torque for hub centre-nut:
280-300 Nm (207-222 lbf ft)



10 Remove the spacer tool from under the upper wishbone.

Replacing the front-wheel studs (M79-80)

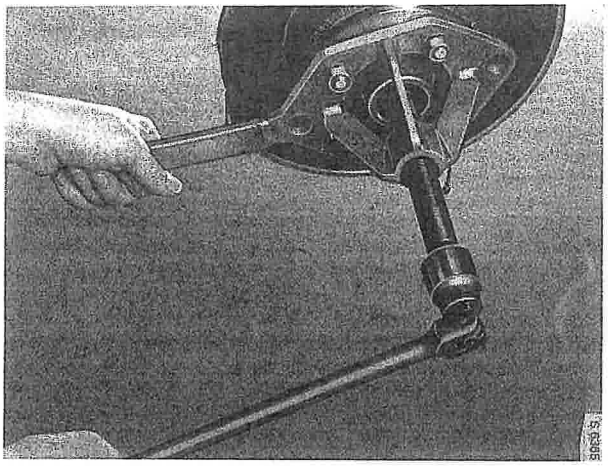
To remove

1 Remove the hub centre-nut and slacken the wheel nuts.

2 Raise the car and remove the wheel.

3 Rotate the brake disc to bring one of the recesses in the edge of the disc level with the centre-line at the leading edge of the brake pads. Disconnect the handbrake cable and remove the brake caliper. Tie back the brake caliper to avert damage to the brake hose.

4 Remove the hub and disc assembly from the shaft using puller 89 96 084 (or 89 95 185 with the four extension pieces 89 96 050).



5 Bend up the tabs on the lock washers and remove the screws securing the brake disc to the hub.

6 Mount the hub in a press and remove the wheel studs (alternatively, use press tool 89 95 920 and a suitable sleeve.

To fit

1 Mount the hub in a press and fit the wheel studs (alternatively, use press tool 89 95 920 and a suitable sleeve).

2 Bolt the disc onto the hub, tighten the bolts and upset the locking tabs.

Tightening torque: 30-50 Nm (25-37 lbf ft)

3 Slide the hub and brake disc assembly onto the shaft. Fit the thrust washer and hub centre-nut.

Note

To avoid stripping the thread, use a torque wrench to tighten the hub centre-nut. If using a nut runner, use a rebored taper washer between the tool and the nut.

Tightening torque for hub centre-nut: 350 ± 10 Nm (260 ± 9 lbf ft)

Secure the nut by upsetting the collar in the groove in the shaft.

Fit the brake caliper.

WARNING

For the brakes to operate properly, the brake pads must be advanced to their normal position close to the disc. Do this by pumping the brake pedal.

Fit the wheel and lower the car. **Tightening torque for wheel nuts: 90-110 Nm (66-81 lbf ft)**

Replacing the front-wheel studs (M81-87)

To remove

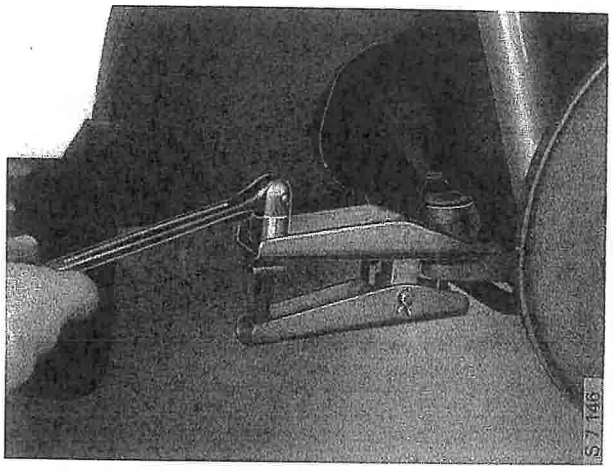
1 Fit tool 83 93 209 under the upper wishbone and remove the hub centre-nut.

2 Raise the car and remove the wheel.

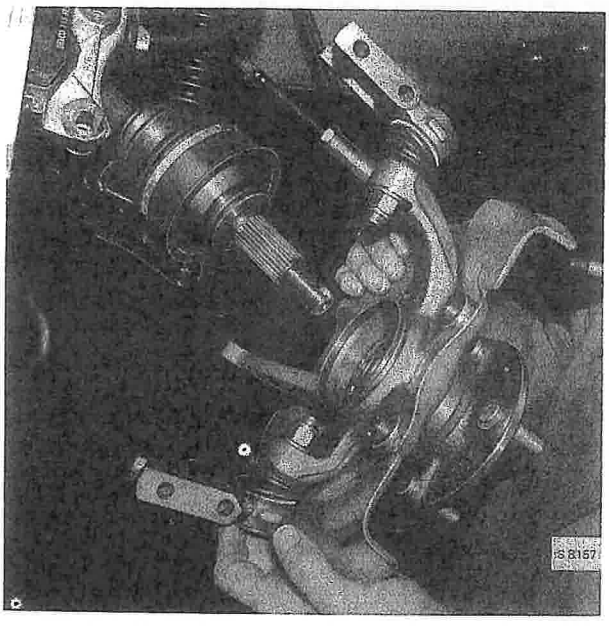
3 Rotate the brake disc to bring one of the recesses in the edge of the disc level with the centre-line at the leading edge of the brake pads. Disconnect the handbrake cable and remove the brake caliper. Tie back the brake caliper to avert damage to the brake hose.

4 Remove the brake disc from the hub.

5 Separate the track-rod end from the steering arm using tool 89 95 409.



6 Undo the bolts securing the ball joints on the upper and lower wishbones. Pull the steering swivel member and hub assembly off the wishbones and drive shaft.



7 Press out the hub using tools 78 41 067, 89 96 456 and 89 96 449.

Using a universal puller, pull the inner bearing out of the hub. If there are no recesses allowing a puller to be used, drive the bearing out by means of a cold chisel.

Note

Pressing the hub out of the steering swivel member damages the wheel bearing, which must therefore be renewed.

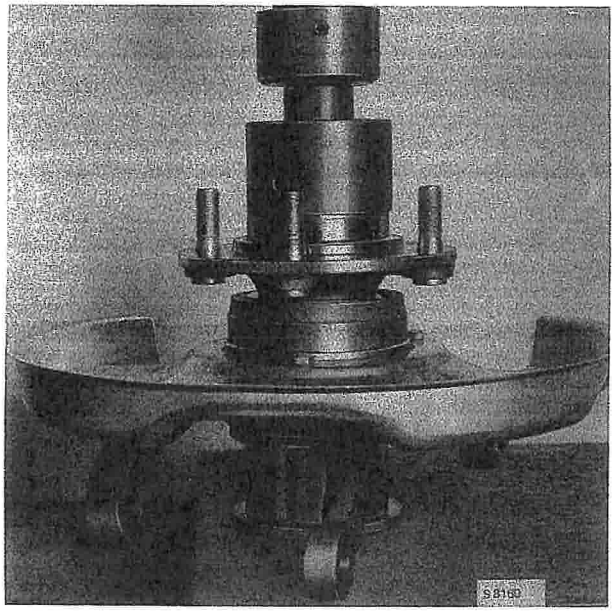
Mount the hub in a press and remove the wheel studs (alternatively, use press tool 89 95 920).

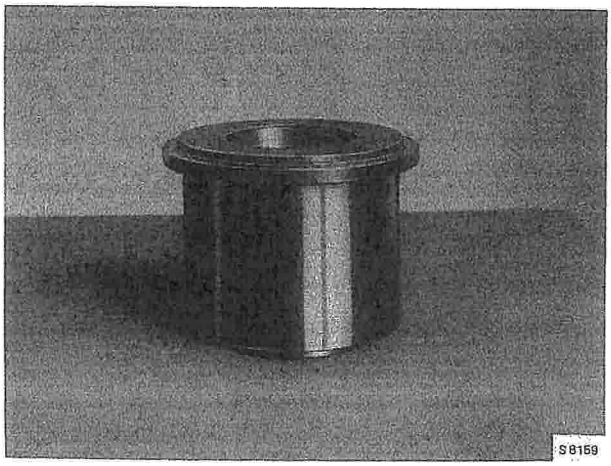
To fit

1 Mount the hub in the press and fit the studs (alternatively, use press tool 89 95 920).

2 Press the hub into the bearing using tool 83 90 114 and 89 96 464.

Position tool 89 96 464 on the inner bearing.





3 Apply MOLYCOTE G grease to the splines, and insert the drive shaft into the hub.

Refit the steering swivel member to the upper and lower wishbones.

4 Fit the hub-centre nut and brake disc.

5 Fit the brake caliper and pads.

6 Reconnect the track-rod end to the steering arm.

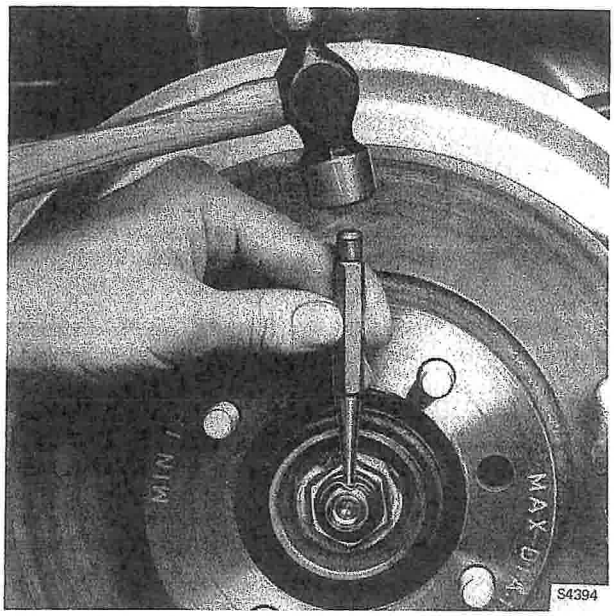
7 Fit the wheel and lower the car.

Tighten the hub centre-nut and wheel nuts.

Tightening torque for hub centre-nut: 290-310 Nm (210-230 lbf ft)

Tightening torque for wheel nuts: 90-110 Nm (66-81 lbf ft)

Secure the hub nut by upsetting the collar in the groove in the shaft.



8 Remove tool 8393209 from the upper wishbone.

WARNING

For the brakes to operate properly, the brake pads must be advanced to their normal position close to the disc. Do this by pumping the brake pedal.

Replacing the rear-wheel studs (M79-87)

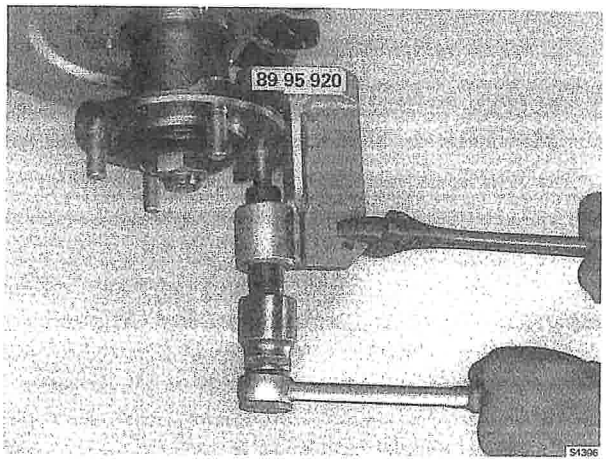
To remove

1 Raise the car and remove the wheel.

2 Remove the brake caliper and hang it out of the way.

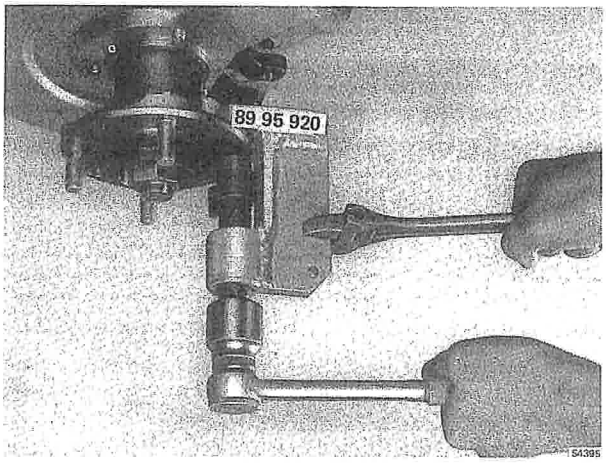
Remove the brake disc.

3 Press out the wheel studs using tool 89 95 920 and a removal sleeve behind the hub.



To fit

1 Press in the new studs using tool 89 95 920 and a fitting sleeve positioned on the outboard side of the hub.



2 Fit the brake disc and brake caliper.

3 Fit the wheel and lower the car.

Tightening torque for wheel nuts: 90-110 Nm (66-81 lbf ft)

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