

Saab 9000

Service Manual



M 1994

US

I Service

Warning, Important and Note

The headings "Warning", "Important" and "Note" occur from time to time in the Service Manual. They are used to draw the attention of the reader to information of special interest and seriousness. The importance of the information is indicated by the three different headings and the difference between them is explained below.

WARNING

Warns of the risk of material damage and grave injury to mechanics and the driver, as well as serious damage to the car.

Important

Points out the risk of minor damage to the car and also warns the mechanic of difficulties and time-wasting mistakes.

Note

Hints and tips on how the work can be done in a way that saves time and labour. This information is not supplied for reasons of safety.

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	US	USA
FI	Finland	UC	US California
FR	France		

Service programme

* For vehicles certified for sale and registered in California, these are the minimum required Emission Control System maintenance steps. Saab urges that all recommended maintenance procedures be performed according to this program.

(a.) Engine oil and filter should be changed at least once a year. Intermediate oil and filter changes (halfway between indicated intervals) suggested for cars primarily used for driving in dense city traffic or for repeated short trip operation without sufficient warm up.

(b.) TCS calibration must be performed by an authorized Saab dealer.

** **Service intervals:** Refer to the Warranties & Service Record Book for service intervals beyond 105,000 miles.

Application/type of service (col.1) E = emission service R = regular maintenance	Service Procedure ○ = check/adjust ■ = replace ▲ = clean/lubricate
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Saab Recommended Maintenance Program, 9000 Models (U.S. & Canada)

Service Interval ** Miles = U.S. Cars Kilometers = Canadian Cars	Service Interval										
	5,000 (8,000 km)	15,000 (24,000 km)	25,000 (40,000 km)	35,000 (56,000 km)	45,000 (72,000 km)	55,000 (88,000 km)	65,000 (104,000 km)	75,000 (120,000 km)	85,000 (136,000 km)	95,000 (152,000 km)	105,000 (168,000 km)
Service #	1	2	3	4	5	6	7	8	9	10	11
Engine and engine compartment											
E Engine oil and filter (a.)	■	■	■	■	■	■	■	■	■	■	■
R Engine coolant freezing point and level	○	○	○		○	○		○	○		○
R Engine coolant flush and replace (max 3-year intervals)				■			■			■	
R Engine cooling system, hoses and cap		○	○	○	○	○	○	○	○	○	○
R Drive belts; condition, tension, incl. automatic tensioner. Replace as necessary.			○			○	○	○	○	○	○
E Spark plugs				■*			■			■	
E Evaporative emission system including filler cap, vapor lines, EVAP canister and canister purge valve							○			○	
R Fuel system, incl. tank: leaks and damage		○	○	○	○	○	○	○	○	○	○
E Fuel filter							■			■	
E Air cleaner element				■*			■			■	
R Exhaust system and mountings; leaks and condition		○	○	○	○	○	○	○	○	○	○
R Calibration, idle speed (Traction Control System) (b.)	○										
Electrical system											
R Battery; check electrolyte level, inspect positive cable to starter motor, clean and grease terminals and mounting bracket	○	○	○	○	○	○	○	○	○	○	○
R Headlamp and fog lamp alignment		○	○	○	○	○	○	○	○	○	○
R Head, fog, brake, tail, turn signal, backup and marker lamps	○	○	○	○	○	○	○	○	○	○	○
Transmission											
R Automatic transmission fluid and filter change (c.)	■			■			■			■	
R Gearbox oil level (manual and automatic)	○	○	○	○	○	○	○	○	○	○	○
R Outer and inner drive joint boots		○	○	○	○	○	○	○	○	○	○

(c.) Change automatic transmission fluid and filter at more frequent intervals (20,000, 50,000, 80,000 miles, etc.) if car is driven in dense city traffic where the outside temperature regularly reaches 90° F or higher, or if the car is used for trailer towing.

Service Interval ** Miles = U.S. Cars Kilometers = Canadian Cars		5,000 (8,000 km)	15,000 (24,000 km)	25,000 (40,000 km)	35,000 (56,000 km)	45,000 (72,000 km)	55,000 (88,000 km)	65,000 (104,000 km)	75,000 (120,000 km)	85,000 (136,000 km)	95,000 (152,000 km)	105,000 (168,000 km)
Service #		1	2	3	4	5	6	7	8	9	10	11

Chassis

R	Ball joint clearance, outer and inner steering joints and rubber boots		○	○	○	○	○	○	○	○	○	○
R	Front suspension, rear axle mountings; retighten	○										
R	Shock absorbers and bushes; tightness and condition				○			○	○	○	○	○
R	Tire pressure; tread depth and wear (d.)	○	○	○	○	○	○	○	○	○	○	○
R	Rotate tires front to rear	○	○	○	○	○	○	○	○	○	○	○
R	Brake pads and discs; wear and condition	○	○	○	○	○	○	○	○	○	○	○
R	Brake lines and hoses	○	○	○	○	○	○	○	○	○	○	○
R	Brake fluid level and renewal (max. 2-year intervals)	○	○	○	■	○	○	■	○	○	■	○
R	Power steering fluid level	○	○	○	○	○	○	○	○	○	○	○
R	Toe-in		○		○			○			○	

(d.) Check wheel alignment if irregular or premature tire wear is apparent.

Body

R	Ventilation air filter				■			■			■	
R	Door hinges, stops and locks				▲			▲			▲	
R	Airbag system, visual inspection	○	○	○	○	○	○	○	○	○	○	○
R	Seat belts; operation and strap damage	○	○	○	○	○	○	○	○	○	○	○
R	Wipers; clean glass and wiper blades, check blades	○	○	○	○	○	○	○	○	○	○	○
R	Washer system: check and top up	○	○	○	○	○	○	○	○	○	○	○

Road test

R	Check performance of drive train, steering and brakes and verify tire balance. Check function of instruments and controls, including horn, windshield wipers, cruise control and climate system. Note any noises or problems for correction.	○	○	○	○	○	○	○	○	○	○	○
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NOTES

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NOTES



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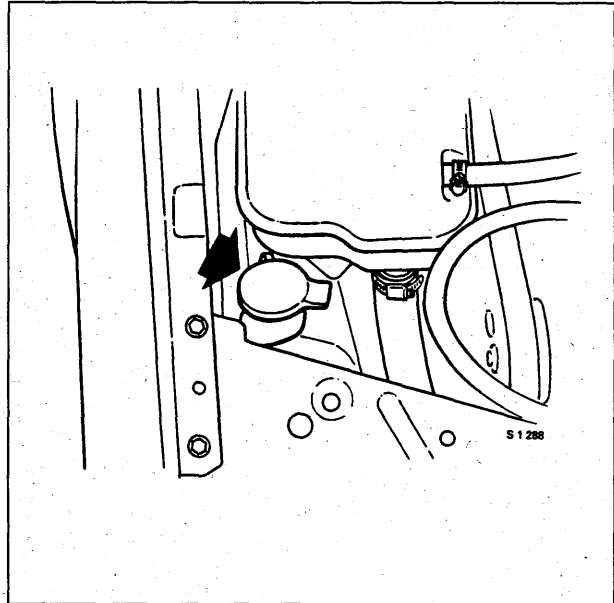
NOTES

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Pre-delivery service

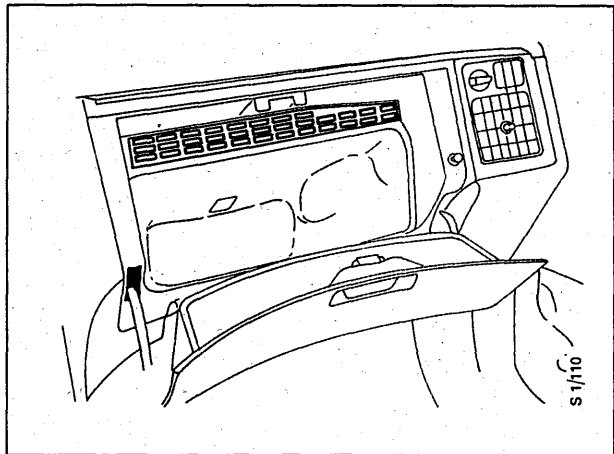
Washer fluid

Top up the washer fluid reservoir with washer fluid and water (in accordance with the recommendations on the packaging).



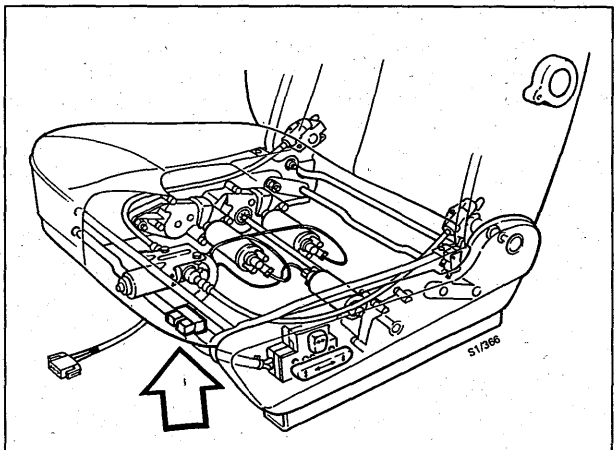
Interior equipment

Fit the fuses for the electric aerial, radio, anti-theft alarm, interior lighting/central locking system and clock.



Electrically adjustable seats without memory:

Fit the relay. This relay is supplied with the car and placed in the compartment between the front seats.



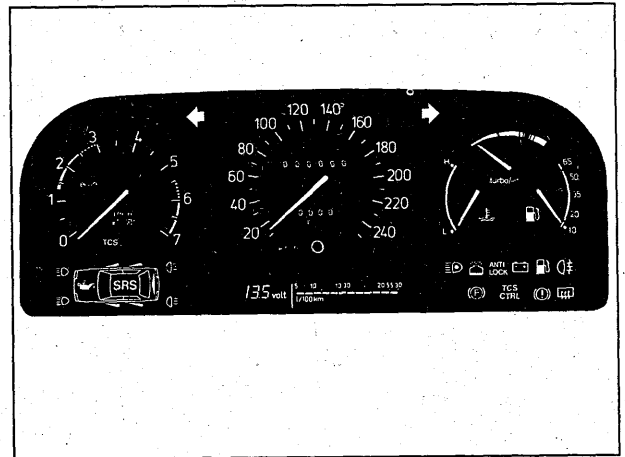
Relay location

8 Pre-delivery service

Instrument panel

Check:

- Warning and indicator lamps
- Horn
- Cigarette lighter
- Instrument lighting
- Clock (set to correct time)
- Audio system, enter anti-theft security code



Radio

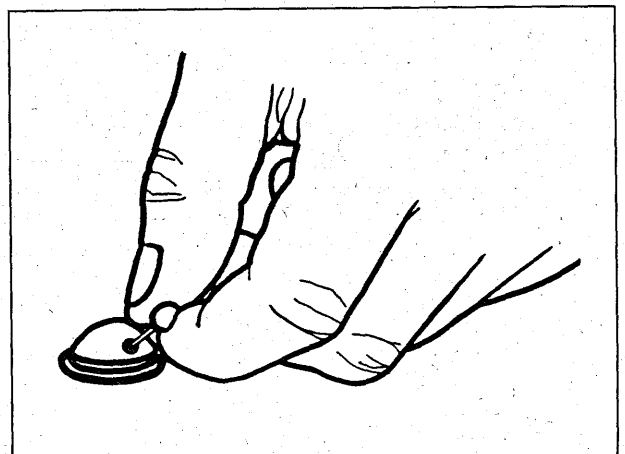
- 1 Switch on the radio. The display will show CODE.
- 2 Enter the correct security code on the six pre-select buttons. The display will show IN until the entire five-digit code has been entered. If you enter the wrong code, the display will show CODE again.

Note:

If the wrong code is entered three times in succession, the display will revert to CODE but the radio will have to left on for one hour before three fresh attempts can be made.

Wipers and washers

Check the windscreen and headlamp washers and wipers. Also check the rear window wash-wipe system, if fitted.



Tyres

Check and adjust inflation pressures.

Tyre size	Number of occupants	Speed	front		rear	
		km/h (mph)	bar (psi)	bar (psi)	bar (psi)	
195/65 R15 91T/H/V	1-3	0-160 (0-100)	2.1 (30)	2.1 (30)	2.1 (30)	2.1 (30)
205/55 ZR16	1-3	0-190 (0-120)	2.4 (35)	2.4 (35)	2.4 (35)	2.4 (35)
205/60 ZR15	1-3	0-190 (0-120)	2.2 (32)	2.2 (32)	2.2 (32)	2.2 (32)

Spare wheel

T115/70 R16	4.2 (60)
175/70 R15 T	2.5 (36)

For other tyres, speeds and loads, see Service Manual "0 Technical data".

Wheel bolts, pressed steel and light alloy wheels

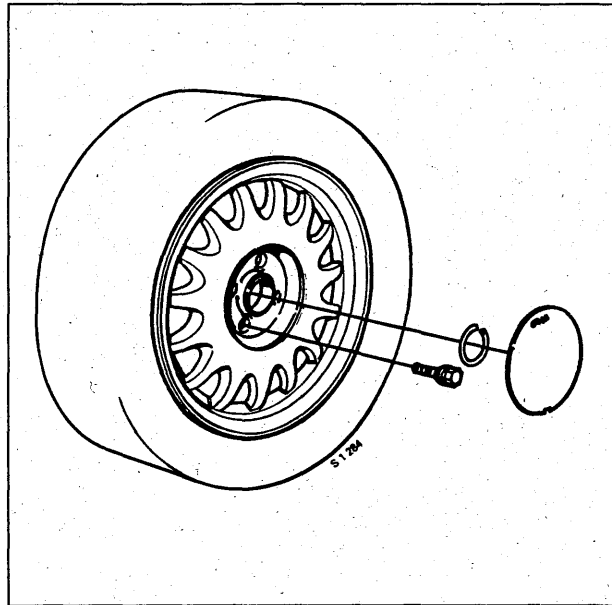
Retighten the wheel bolts to a torque of 105-125 Nm (77-92 lbf ft).

Note:

Always use a torque wrench to retighten the wheel bolts to the correct torque.

When fitting new light alloy wheels for the first time, tighten the bolts to a torque of 125-145 Nm (92-107 lbf ft).

Fit the hub caps.



Oil level, engine

Check the level while the engine is still warm, 2-5 minutes after switching off.

Top up with oil to the MAX mark on the dipstick. The distance between the MAX and MIN marks corresponds to one litre (1.05 qts).

Grade of oil:

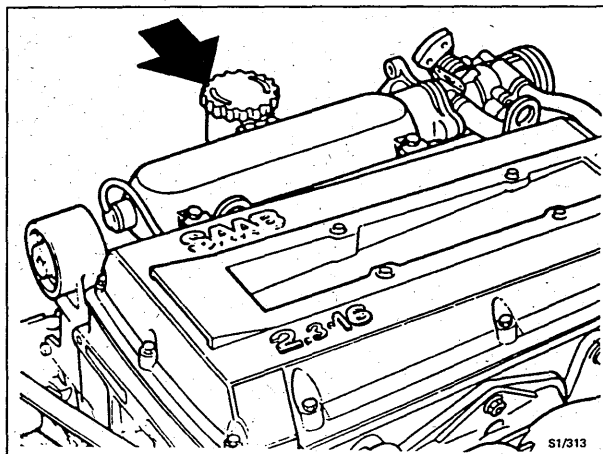
Saab Turbo motor oil or oil to API SG and CCMC G4/G5 specification. These oils contain suitable additives for the engine.

We advise against the use of additional additives.

Viscosity:

SAE 10W-30, 10W-40, 5W-30 or 5W-40. If these viscosities are unobtainable, 15W-40 oil may be used but not during the winter.

If 5W oils are used, they must be of fully-synthetic or semi-synthetic type.



Fluid level, automatic transmission

Start the engine and run it at idling speed. Engage D and wait at least 15 seconds. Then engage R and wait another 15 seconds. Repeat in position P.

Check the fluid level (engine running at idling speed and selector lever at P). Top up as necessary.

Note:

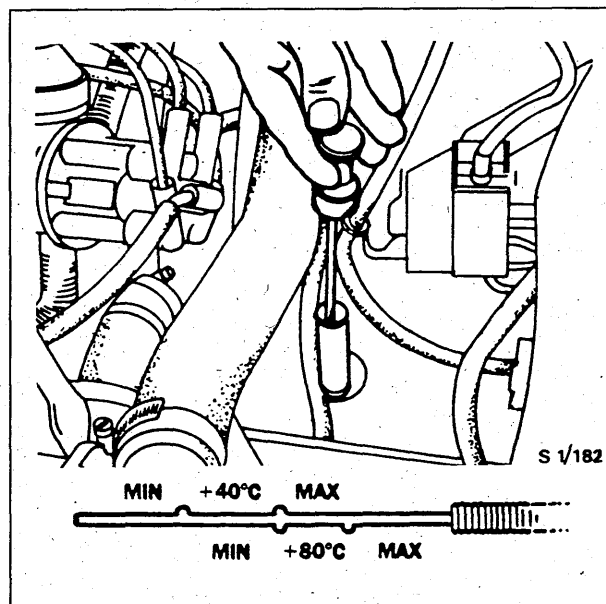
The dipstick has two sets of level marks. The amount of fluid between the maximum and minimum marks is about 0.4 litres (0.4 qts).

Grade of fluid (not ME):

DEXRON II automatic transmission fluid.

Grade of fluid (ME only):

DEXRON IIE automatic transmission fluid.

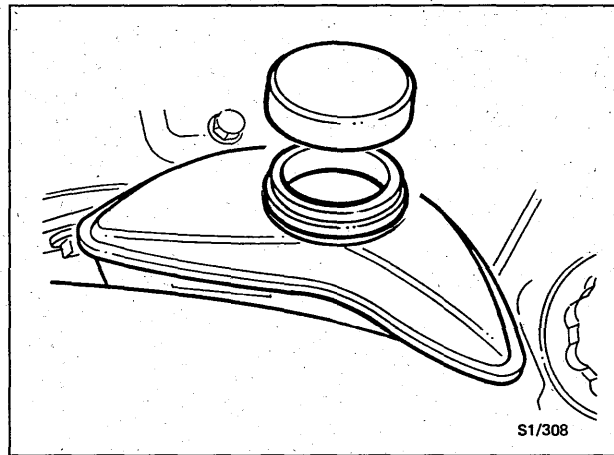


Fluid level, power steering

Check the level and top up as necessary. If the fluid level is low, investigate the cause.

Grade of fluid:

Saab Power Steering Fluid 4634, part No. (45) 30 09 800 - 0.75 litres or GM Power Steering fluid, part No. 105 0017 - 1 litre, part No. 105 2884 - 0.5 litres.



Coolant level

Check the level and top up as necessary with equal amounts of SAAB Original Coolant and water (half and half).

Note: This mixture also provides effective corrosion protection.

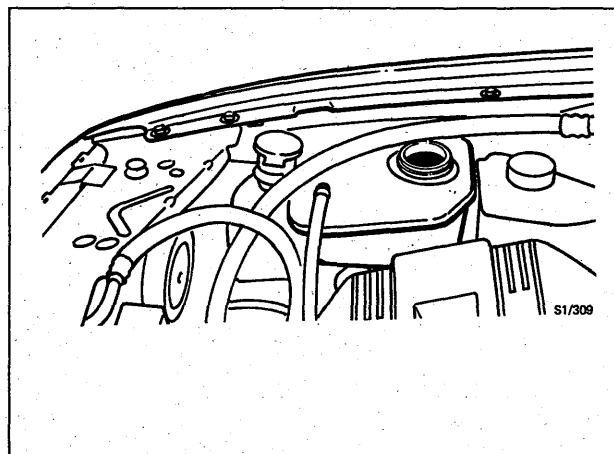
Avoid mixing different types of coolant.

Do not fill up above the MAX mark.

In the event of loss of coolant, investigate the cause.

Note:

Screw the filler cap down hard or the system will not be pressurized, resulting in a lower boiling point and loss of coolant.

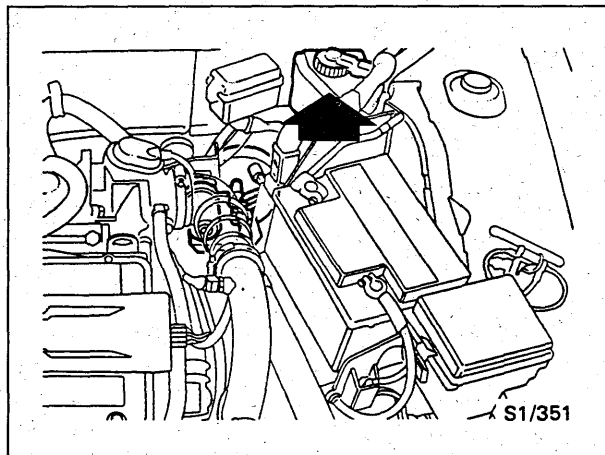


Fluid level, brakes and clutch

Check the level and top up as necessary.

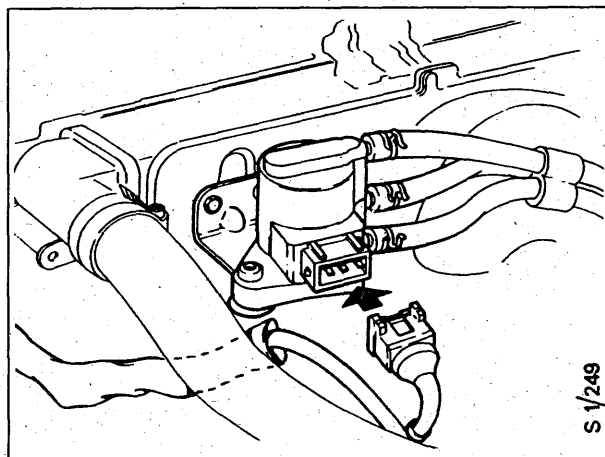
Brake fluid:

Grade: to DOT 4 specification.



Boost pressure control valve (Turbo only)

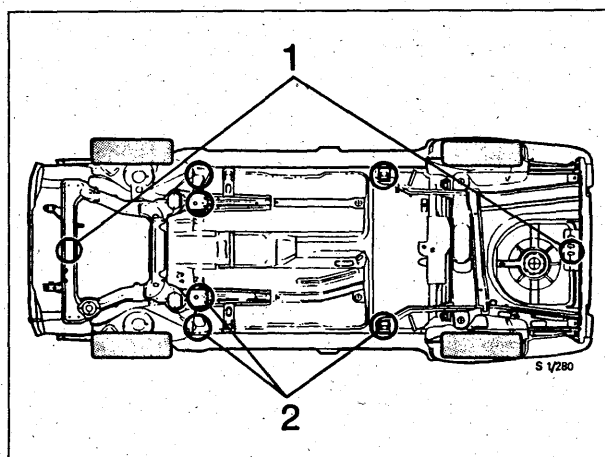
Plug the connector into the boost pressure control valve.



Underbody

Raise the car and check it for possible transit damage to the brake system, suspension, exhaust system and underbody.

Note: Corrosion protection should be intact.

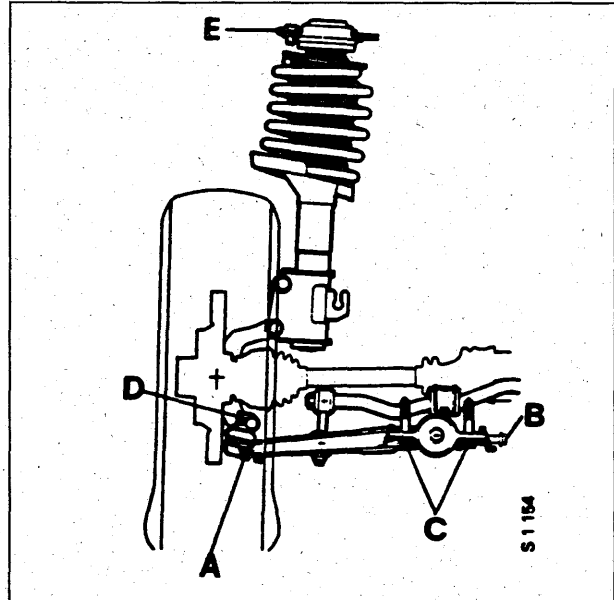


- 1 Lifting points for garage jack
- 2 Lifting points for raising the car

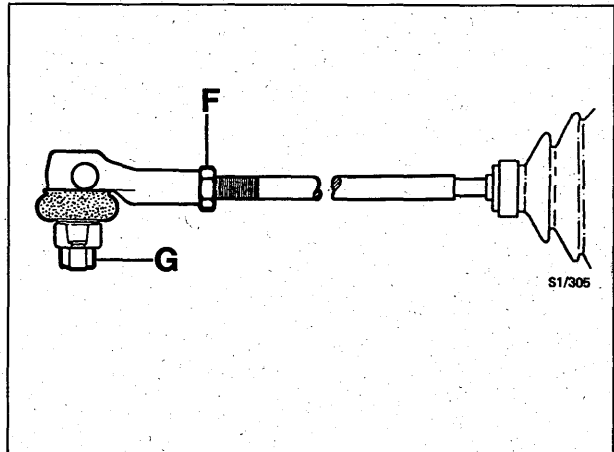
Retightening the front assembly joints

Tighten all mounting points as shown.

- Suspension arm ball joint to suspension arm
25-34 Nm (18-25 lbf ft).
- Suspension arm front bearing to sub-frame
45-54 Nm (33-40 lbf ft)
- Suspension arm rear bearing to sub-frame
45-54 Nm (33-40 lbf ft).
- Suspension arm ball joint to steering swivel member
50-68 Nm (37-50 lbf ft).
- McPherson strut to body
40-54 Nm (30-40 lbf ft).



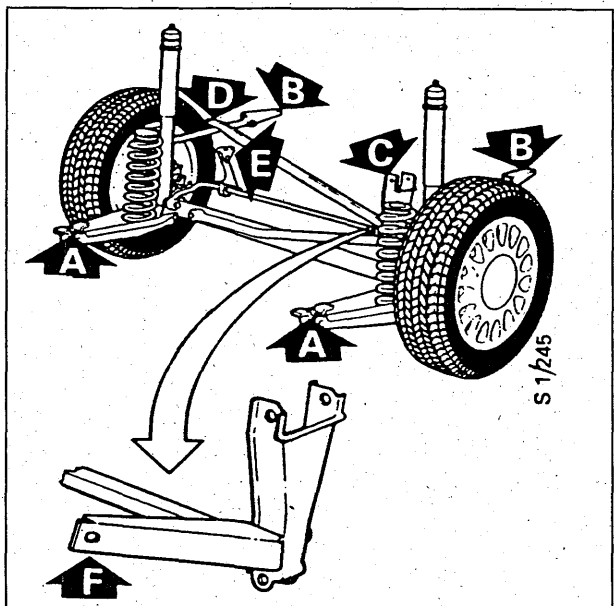
- Locknuts on track-rod ends
60-80 Nm (44.4-59.2 lbf ft).
- Track-rod end ball studs
50-60 Nm (37-44 lbf ft).



Retightening the rear-axle mountings to the body

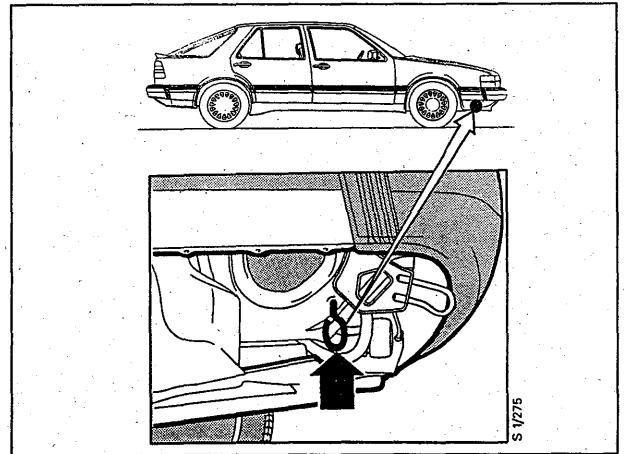
Tighten all mounting points as shown.

- Spring link to body
40-64 Nm (30-47 lbf ft).
- Torque arm to body
20-27 Nm (15-20 lbf ft).
- Panhard rod mounting to body
40-54 Nm (30-40 lbf ft).
- Panhard rod stay mounting to body
40-70 Nm (30-52 lbf ft).
- Anti-roll bar link to body (two)
20-27 Nm (15-20 lbf ft).
- Support for Panhard rod mounting to body
10-26 Nm (8-19 lbf ft).



Transport fasteners

Remove the fasteners. Withdraw the cotter pin and remove the fastener on each side of the car.



Equipment

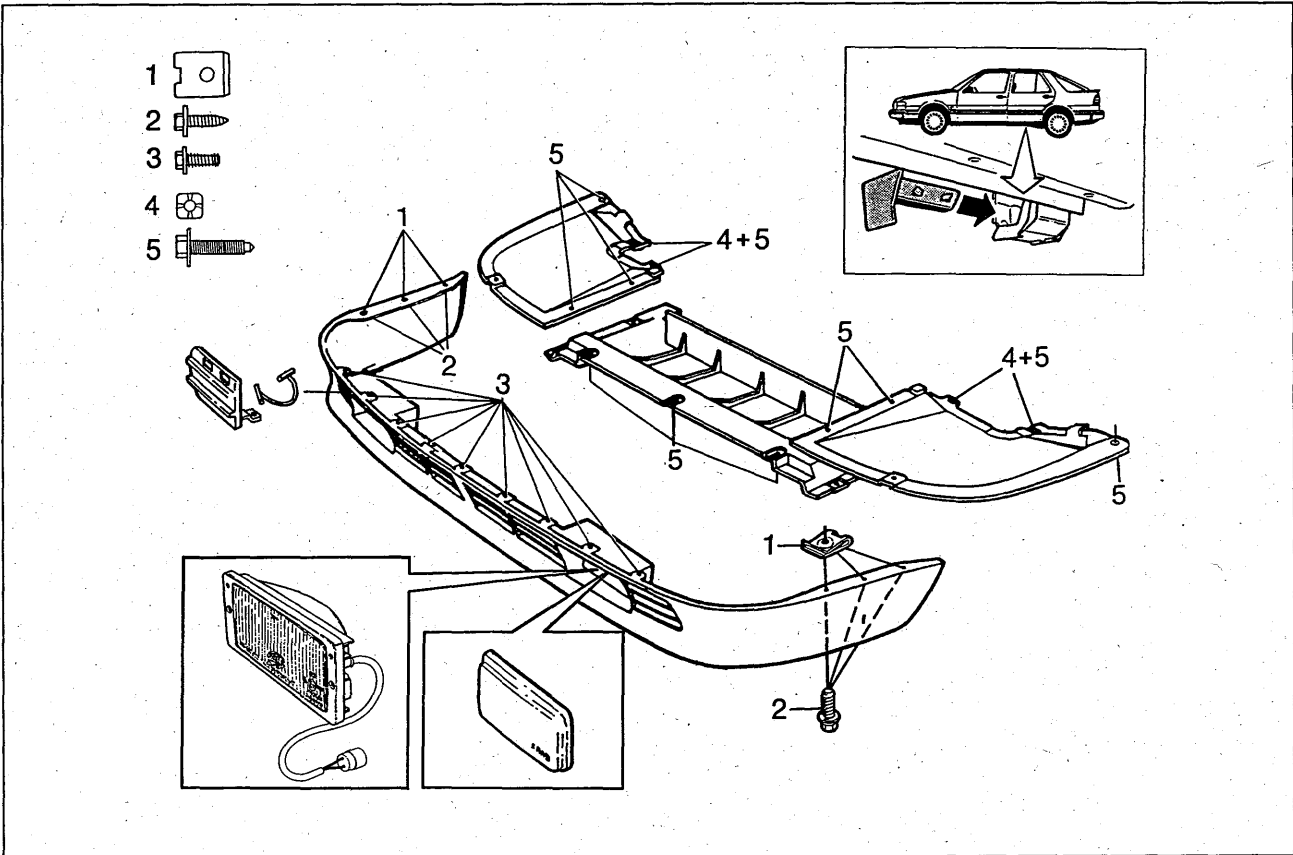
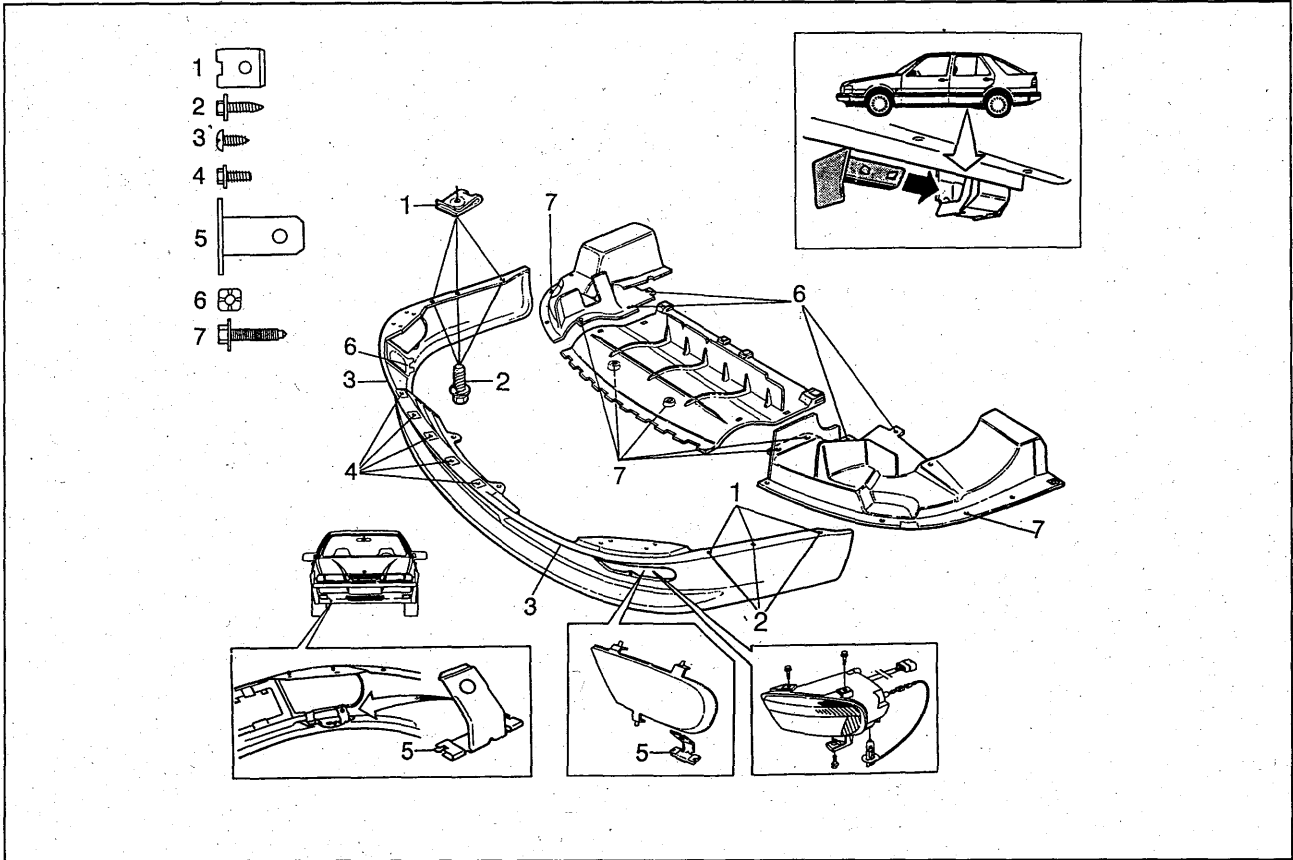
Fit all loose equipment packed in the delivery box.

The contents of the box may vary, depending on the market and model variant.

- Number plate holder
- Mounting kit for number plate holder
- Speed-warning system (ME)
- Jack protector
- Plastic bag for spare wheel
- Fog lights
- Mounting kit for stone chip guards
- Mounting kit for spoiler
- Fitting of high-level brake light
- Mounting kit for air deflector and skirts
- Screws and bolts
- Tools
- Gloves
- Touch-up paint (USA)
- Mounting plate for child seat (CA)

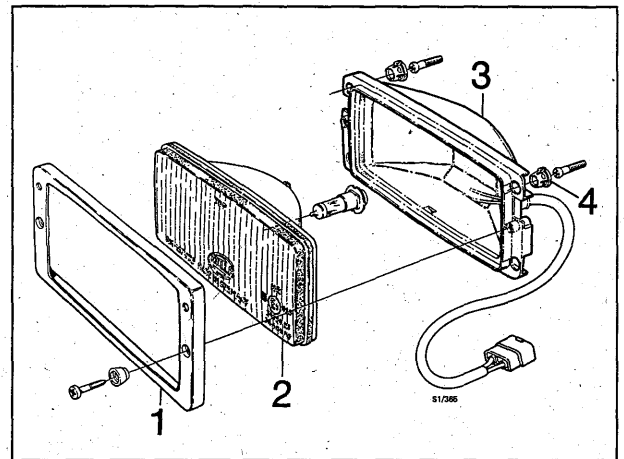
Note:

When fitting blanking-off covers to the apertures for extra lamps in the front spoiler, drill the holes **before** fitting the spoiler.



Fog light, 9000 CD

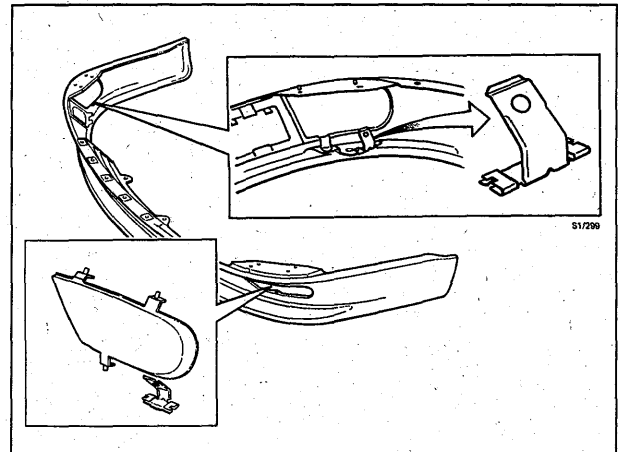
- 1 Undo the surround and remove the lens insert.
- 2 Fit the three bushes in the housing.
- 3 Fit three adjusting screws to the spoiler.
- 4 Press the housing onto the adjusting screws.
- 5 Fit the lens insert and surround.
- 6 Plug in the connector.
- 7 Fit the other fog light in the same manner.
- 8 Adjust and align the fog lights.



- 1 Surround
- 2 Lens insert
- 3 Housing
- 4 Bush

Blanking-off cover in front spoiler, 9000 CS

On cars not fitted with fog lights, the blanking-off covers and clips supplied should be fitted. To ensure that the blanking-off covers stay in place, it is important to fit the clips as shown.



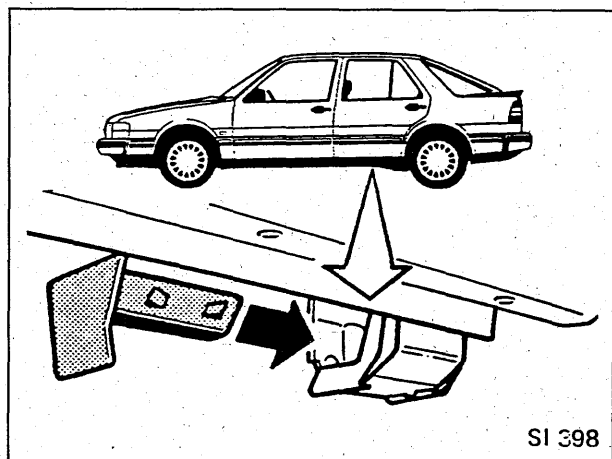
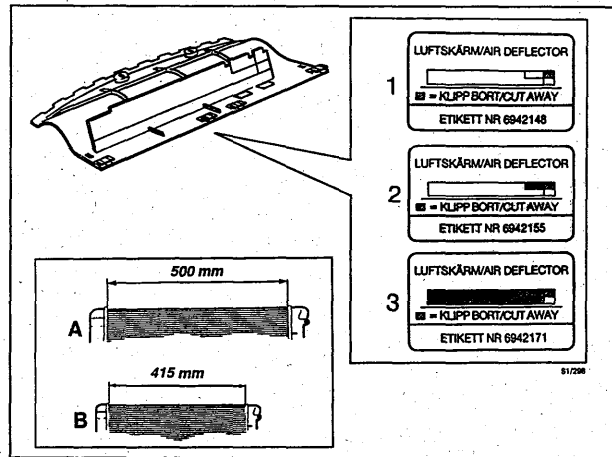
Air deflector

Use a knife to cut the deflector as shown on the label. The different areas to be cut away are shown in the Fig.

1. Cars having a 20 dm²radiator **without** an oil cooler for the **automatic transmission**.
2. Cars having a 16.7 dm²radiator.
3. Cars having a 20 dm²radiator **with** an oil cooler for the **automatic transmission**.

A = 20 dm²radiator

B = 16.7 dm²radiator



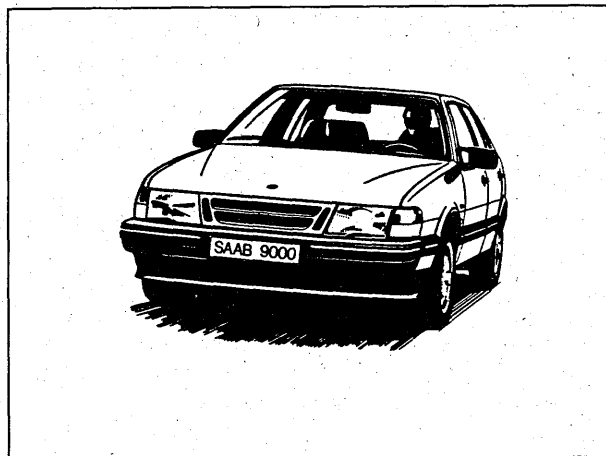
Mounting the stone chip guards

Road test

- Ignition switch
Check that the steering-column lock operates satisfactorily and that the key is easy to insert and remove.
- Check the Parking position lock on cars with automatic transmission (certain markets only).
- Engine
Operation and noise level. Turbo: check that boost pressure is normal during acceleration (needle moves up to the red zone).
- Clutch
Check the positions of the pedal at which the clutch disengages and begins to engage.
- Manual gearbox
Check gearbox operation and noise level.
- Automatic transmission
Check the selector lever detent, noise level and shifting performance.
- Wheels
Check wheel balance and wheel roundness.
- Driving comfort
Check that wind noise, road noise and other sounds in the car (rattles and squeaks) are of an acceptable level.
- Steering
Check the straight-ahead position of the steering wheel, directional stability and operation of the power steering system.
- Instruments and indicator lamps
Check the operation of instruments and indicator lamps.
- Brakes
Check brake pedal travel, handbrake lever travel (4-5 notches), and the efficiency of the brakes and handbrake.
- Cruise Control
Check the operation of the Cruise Control.
- Climate control system
Check the operation of the heating system and AC/ACC and their controls.
- Inspect the surface of the steering wheel centre pad (airbag module) and passenger airbag, if fitted, for external damage.
- Wipers and washers
Check the washer jet pattern and wiper operation on the windscreen and, if relevant, the rear window.
- Check that the clock shows the right time.

Bear in mind what the customer might think!

Wipe the steering wheel and gear lever clean and make sure that all other traces of pre-delivery inspection and service work have been removed.



Cleaning

 **WARNING**

Safety information

Make sure the premises are well ventilated.
Avoid getting any liquid on your skin or mucous membranes.

Wear gloves. It is also advisable to wear goggles.

It is strictly forbidden to apply detergent with a spray gun, as this produces a mist.

Never store detergent in a bottle or other container without a label giving details of the manufacturer and type of detergent.

Remedial action if detergent gets in your eyes

Wash out the detergent immediately.

Hold your eyelids apart as much as possible.

Rinse your eyes with copious amounts of water for at least 15 minutes.

Then see a doctor as soon as possible.

Poisonous substance

If someone has swallowed detergent and is still conscious:

Get them to drink large quantities of water or two or more glasses of milk.

Do **not** make them vomit.

Call a doctor immediately.

If detergent gets on your bare skin

Take off any items of clothing that have been splashed with detergent.

Wash the affected parts of your skin with soap and generous amount of water.

Washing - dewaxing

(For markets where paint protection is not removed at the port of entry)

The protective film for the paintwork must be removed by dissolving it with an alkaline detergent.

A suitable detergent is part No. (45) 30 09 784, which is intended to be applied by hand; or (45) 30 17 548, which is a microemulsion for spraying onto the car. Quantity 25 litres (26.5 qts).

The microemulsion dissolves the film protecting the paintwork as well as residual grease from assembly.

Note:

Certain compositions of surfactants and alcohols can cause cracks to occur in the lenses of the front and rear light clusters, for instance, and other parts made of perspex (PMMA). Be especially careful with the use of tar solvents and rinse thoroughly afterwards with plenty of water.

Washing the car

First hose the car down with a high-pressure spray:

- If it is covered with snow or ice.
- If you intend sponge the car down with a detergent solution.

Apply the detergent. Always begin at the bottom and work your way round the car to finish off with the roof.

- Open the doors and spray the sides of the sills and deflector mouldings on the bottom of the doors.

Allow the detergent to act for 5-10 minutes.

Note:

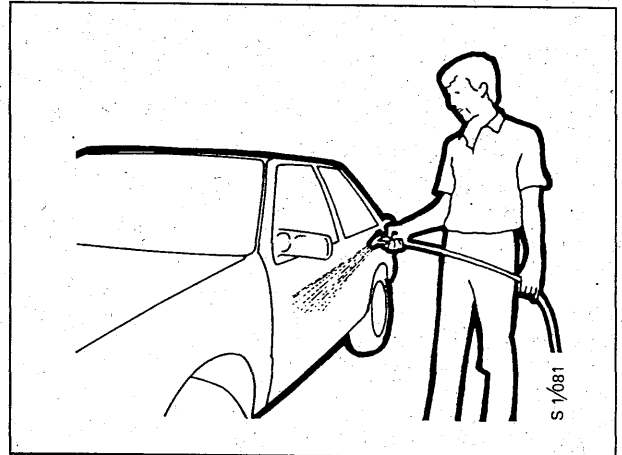
It is important to keep the car wet with detergent solution during this time. Therefore, do not wash the car in sunlight or if it is still hot after a lengthy drive.

Do not leave the car wet with detergent solution during a work break.

- Now the car can be sponged down lightly. Rinse the sponge frequently in the detergent. Water dilutes the detergent on the car. Sponging the detergent on the car helps the alkali to penetrate thicker layers of the film protecting the paintwork.
-

Note:

Do not wash the anti-corrosion agent off the sheet metal joints in the engine bay.



Rinsing off the detergent solution

Hosing the car down after washing it has an important bearing on the end result.

Note

Never hose down a cold car with hot water. Local heating of the paintwork could easily lead to the formation of microscopic cracks.

Hose down the whole car, and possibly also the engine bay, with a high-pressure water supply.

Note:

Do not direct high-pressure water on the radiator as this might damage it.

Best results will be obtained if the dissolved protective film is diluted as little as possible with water when it is rinsed off.

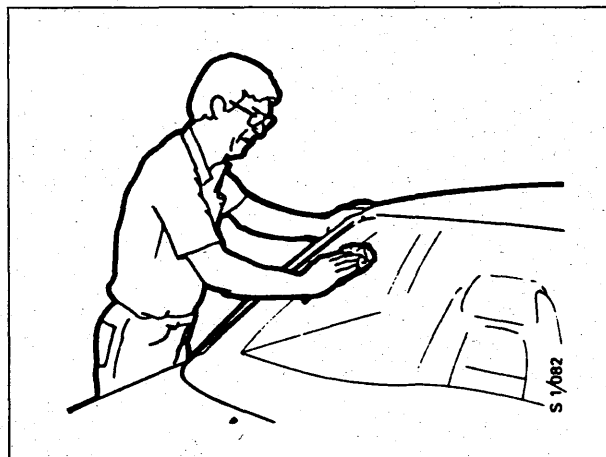
- Begin at the bottom of the car at a corner.
- Aim the jet of water at a surface that has already been rinsed clean.
- Continue round the car and finish with the roof.
- Hose down the whole car again to be sure of removing all remaining detergent.

Clean the door openings.

Wipe the car dry.

Final dismantling and finishing measures

- 1 Use concentrated washer fluid to clean all the windows and remove all residual grease from the windscreen and wiper blades.



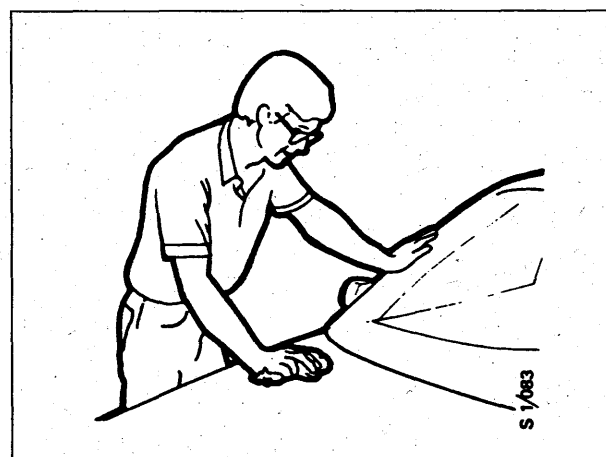
- 2 Remove the in-transit and in-storage protection from the bumpers, doors, floor and seats. Inspect the interior for stains and remove any that you find.

Remove any spots and stains on the upper horizontal surface of the dashboard with a luke-warm soap solution. Rinse the surface with clean water before drying it.

Note: Vinyl sprays and the like must never be used as they could be the cause of a film forming on the windscreen and seriously reducing visibility.

- 3 Clean rubber mouldings, tyre sidewalls and bumpers.

- 4 Inspect the car, remove spots and stains. If necessary, polish the car.



Note:

The protective plastic **must** be removed before the car is handed over to the customer as protective plastic in the car does **not** meet the requirement of inflammability (legal requirement).

Saab Original Service

Headlamps and fog lights

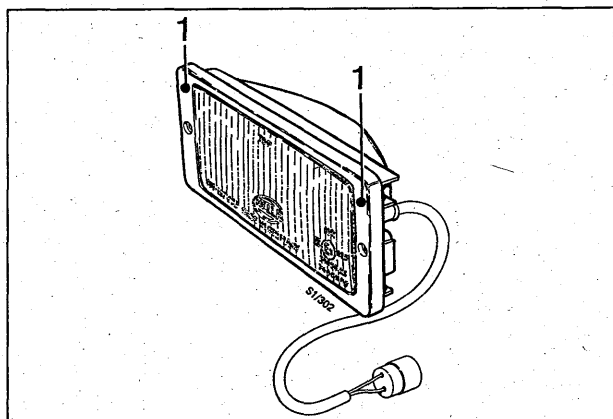
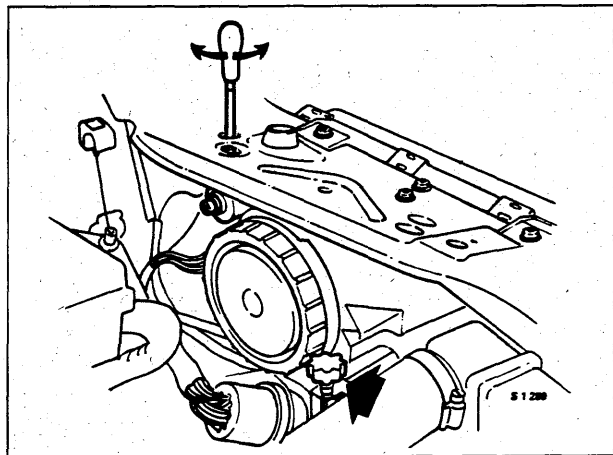
Check the condition and alignment of the headlamps and fog lights.

Note:

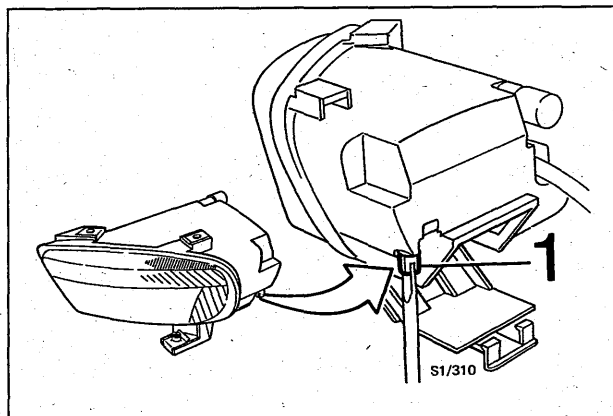
If the car is equipped with a headlamp beam adjustment switch, always set the switch to 0 before checking and adjusting headlamp alignment.

Before adjustment:

- Check that all tyres are inflated to the correct pressure
- Make sure that there is no luggage in the car
- Check the amount of fuel in the tank
Compensate by placing a load in the luggage compartment:
tank half full - 25 kg
tank empty - 50 kg
- Position the car on a level surface



1 Adjusting screw for beam alignment



1 Adjusting screw for beam alignment

Engine oil change

Oil capacities

B204, B234: 5.0 litres (5.3 qts), including filter

Grade of oil

Saab Turbo motor oil or motor oil to API SG and CCMC G4/G5 specification. These oils contain suitable additives for the engine.

We advise against the use of additional additives.

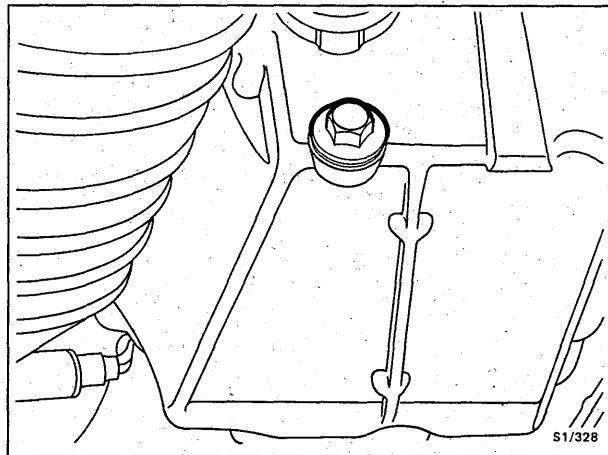
Viscosity:

SAE 10W-30, 10W-40, 5W-30 or 5W-40. If these viscosities are unobtainable, 15W-40 oil may be used but not during the winter.

If 5W oils are used, they must be of fully-synthetic or semi-synthetic type.

Drain plug

Tightening torque: 25-29 Nm (19-21 lbf ft)

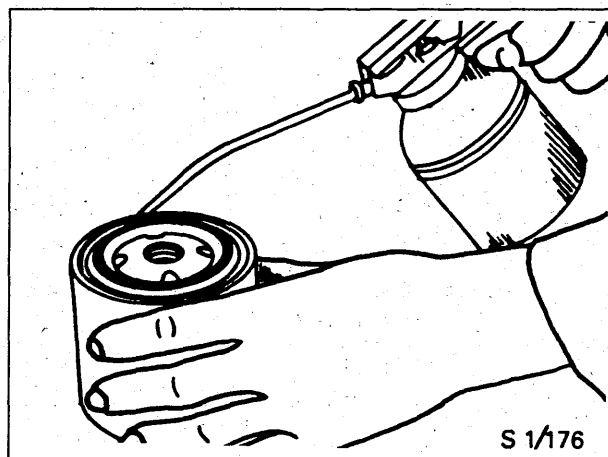


Oil filter change

- 1 Loosen the filter cartridge using a filter wrench and unscrew the filter.
- 2 Oil the rubber gasket on the new filter cartridge and screw in the cartridge until the gasket is in contact with its seating. Then tighten the filter an additional half-turn.

Note:

Start the engine and check for leaks.



Automatic transmission

Change the fluid in the automatic transmission

Change the filter element.

Change the O-rings.

Fluid capacity: 3.0-3.5 litres (3.1-3.7 qts)

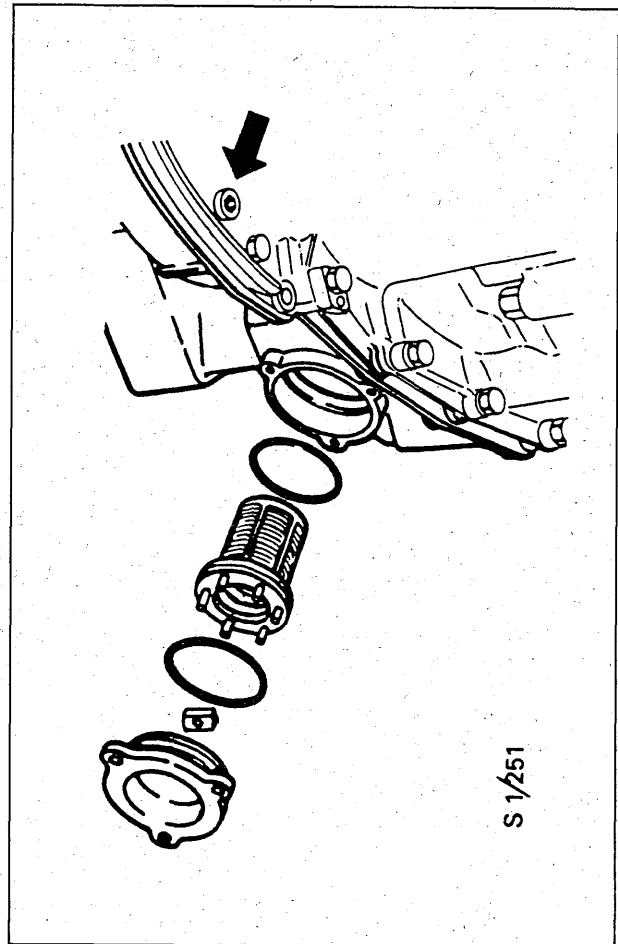
Grade of fluid (not ME):

DEXRON II automatic transmission fluid.

Grade of oil (ME only):

DEXRON IIE automatic transmission fluid.

The drain plug must be removed to ensure that all the fluid runs out of the transmission.



Manual gearbox oil level

Remove the level plug. The oil should be level with the lower edge of the hole.

Grade of oil (not ME):

Motor oil (mineral oil) to API Service SF/CC, SF/CD specification.

Viscosity:

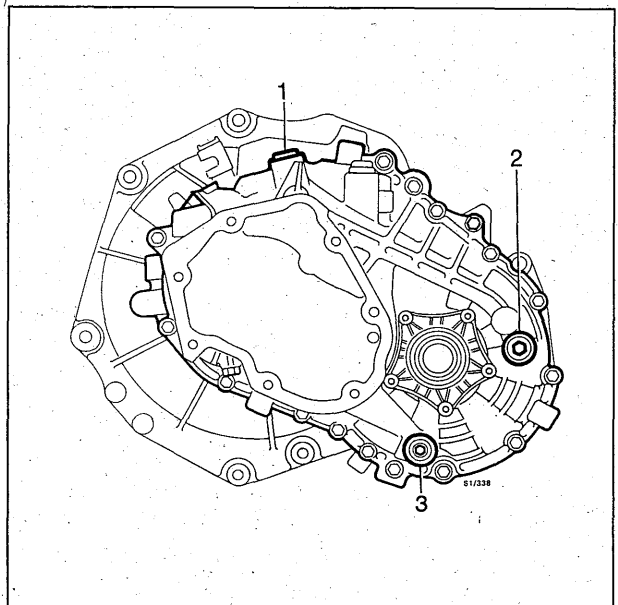
10W30 or 10W40.

Grade of oil (ME only):

SHPD B.P. Vanellus F.E.

Viscosity:

10W30 or 15W40.



- 1 Filler plug
- 2 Level plug
- 3 Drain plug

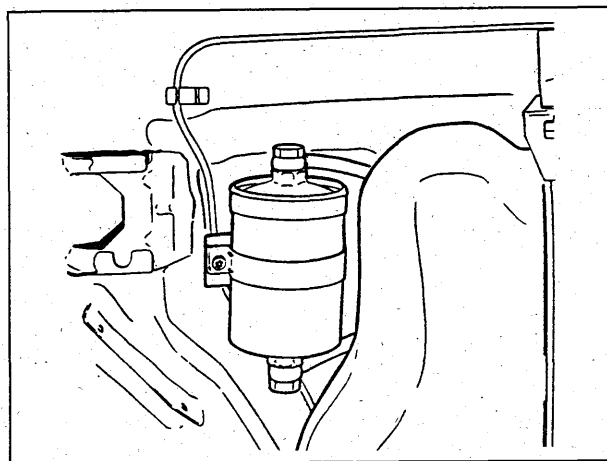
Note:

Synthetic motor oil must not be used.

Fuel filter

Change the fuel filter and sealing rings at the hose nipples.

The fuel filter is located adjacent to the fuel tank.



Brake system

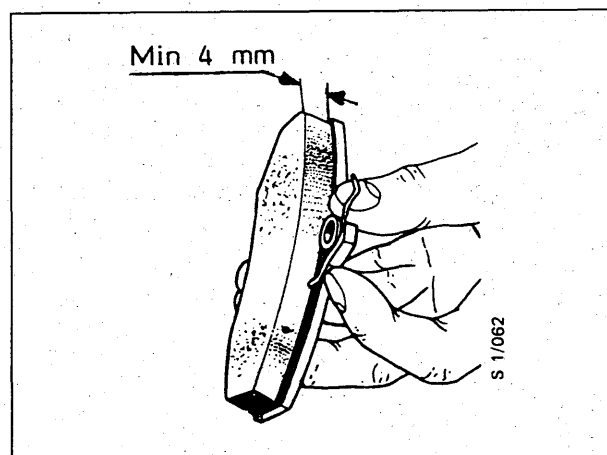
Brake pads and brake discs

- Remove the wheels
- Check the thickness of the brake pads and the condition of the discs.
- It is advisable to change the pads when they have worn down to a thickness of 4 mm (0.16 in) or less.
- Tighten the wheel bolts to a torque of 105-125 Nm (77-92 lbf ft).

Note:

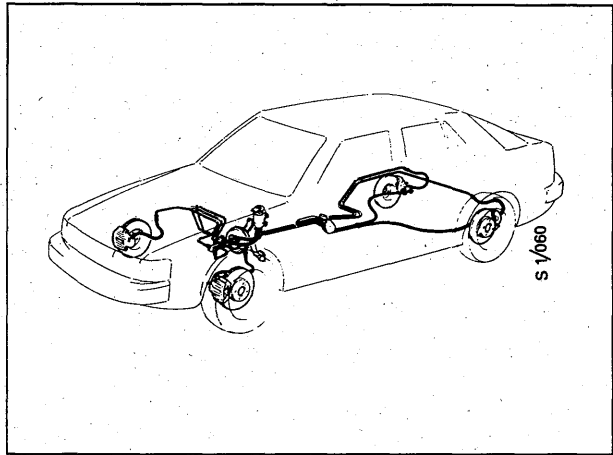
Retightening to the correct torque must only be done with a torque wrench.

When fitting new light alloy wheels for the first time, tighten the bolts to a torque of 125-145 Nm (92-107 lbf ft).



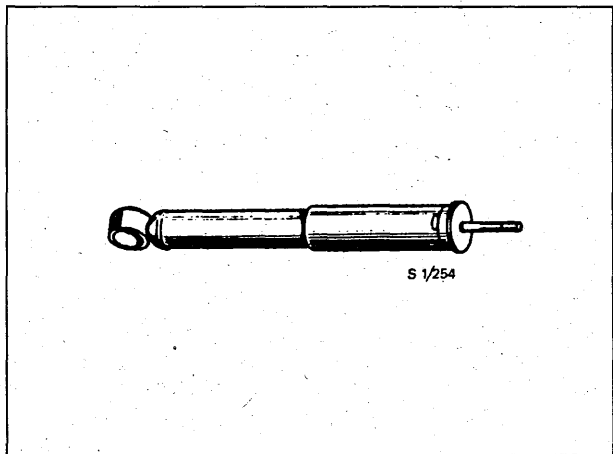
Brake hoses and brake lines

Check for leakage, inspect mounting points and general condition.



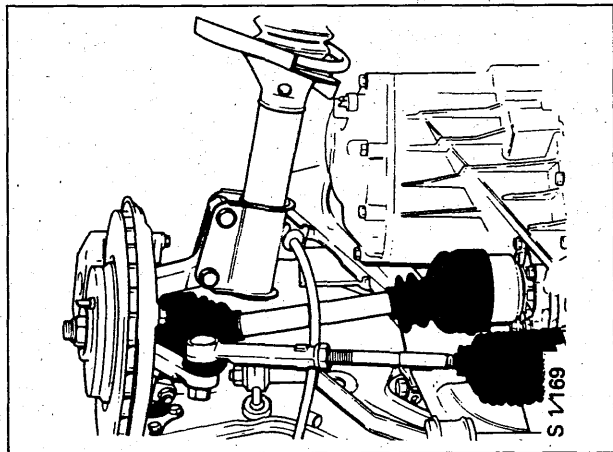
Dampers and bushes

Check for leakage and inspect general condition.



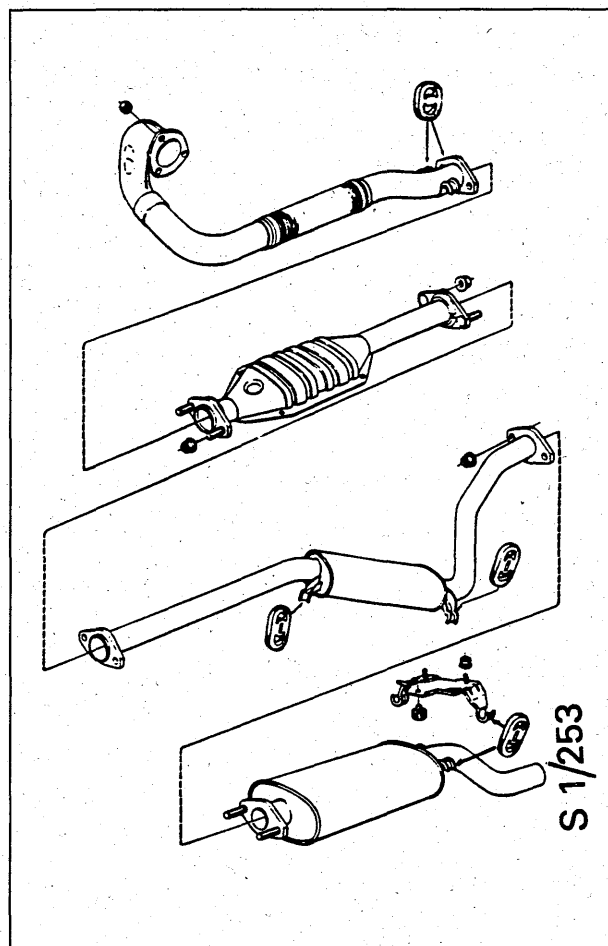
Gaiters, inner and outer drive-shaft universal joints

Inspect the rubber gaiters round the drive-shaft universal joints for wear and leaks, and check that they are firmly secured.



Exhaust system

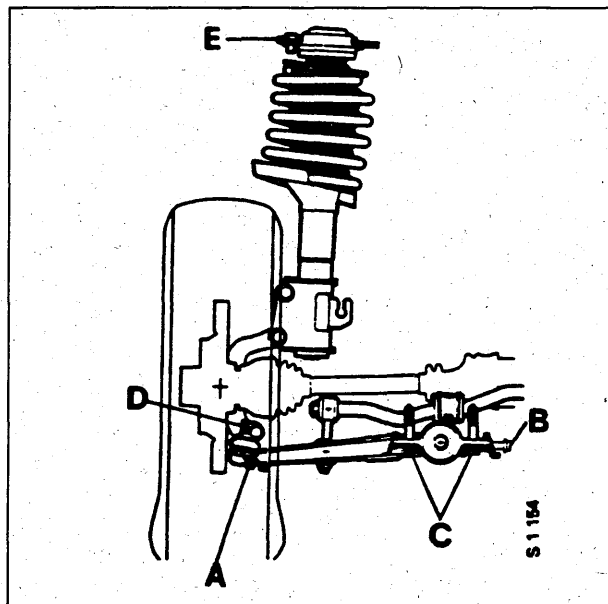
Check for leakage, inspect mounting points and general condition.



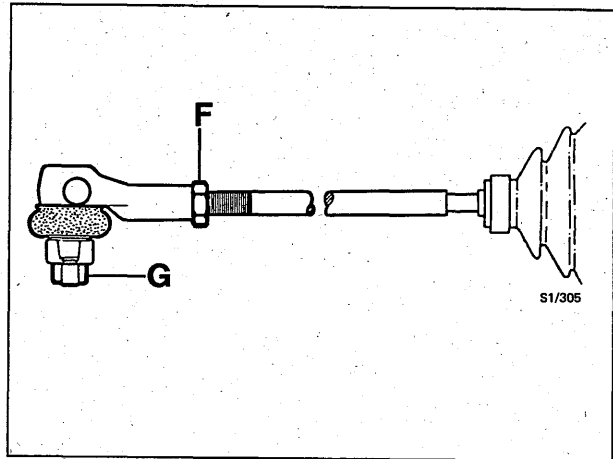
Retightening the front assembly joints

Tighten all mounting points as shown.

- a. Suspension arm ball joint to suspension arm
25-34 Nm (18-25 lbf ft).
- b. Suspension arm front bearing to sub-frame
45-54 Nm (33-40 lbf ft).
- c. Suspension arm rear bearing to sub-frame
45-54 Nm (33-40 lbf ft).
- d. Suspension arm ball joint to steering swivel member
50-68 Nm (37-50 lbf ft).
- e. McPherson strut to body
40-54 Nm (30-40 lbf ft).



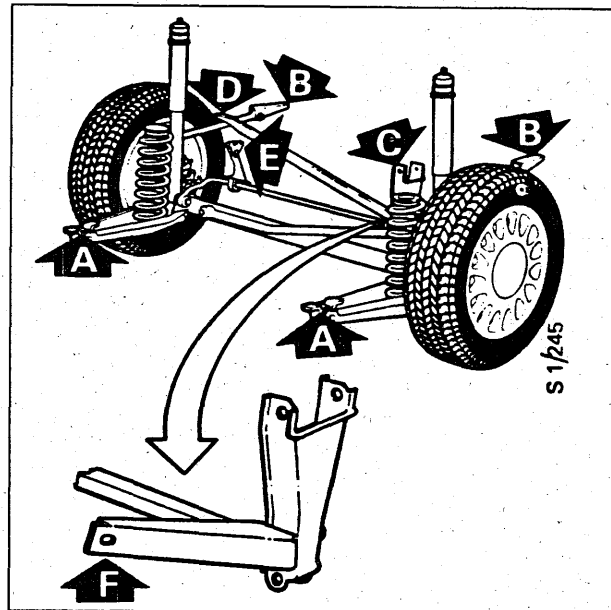
- f. Locknuts on track-rod ends
60-80 Nm (44.4-59.2 lbf ft).
- g. Track-rod end ball studs
50-60 Nm (37-44 lbf ft).



Retightening the rear-axle mountings to the body

Tighten all mounting points as shown.

- a. Spring link to body
40-64 Nm (30-47 lbf ft).
- b. Torque arm to body
20-27 Nm (15-20 lbf ft).
- c. Panhard rod mounting to body
40-54 Nm (30-40 lbf ft).
- d. Panhard rod stay mounting to body
40-70 Nm (30-52 lbf ft).
- e. Anti-roll bar link to body (two)
20-27 Nm (15-20 lbf ft).
- f. Support for Panhard rod mounting to body
10-26 Nm (8-19 lbf ft).

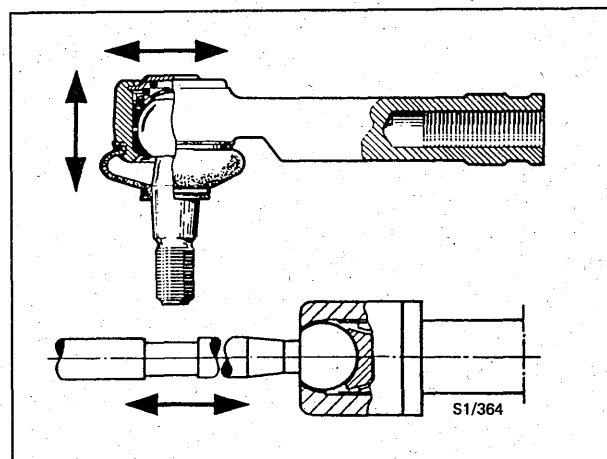


Steering ball joints and rubber gaiters

Check the inner and outer ball joints for wear.

There should be no free play.

Inspect the rubber gaiters.

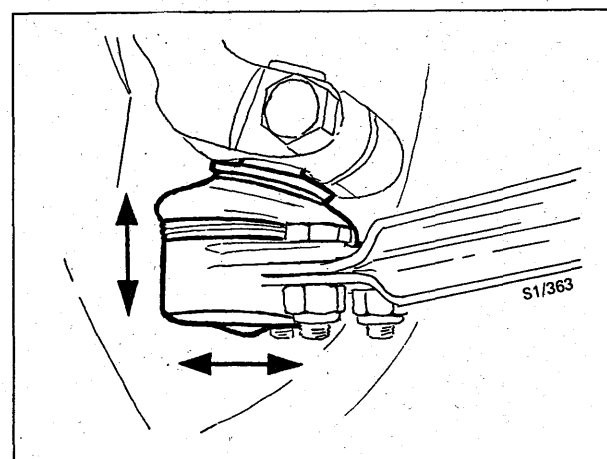


Suspension ball joints and rubber gaiters

Check the ball joints for wear.

There should be no free play.

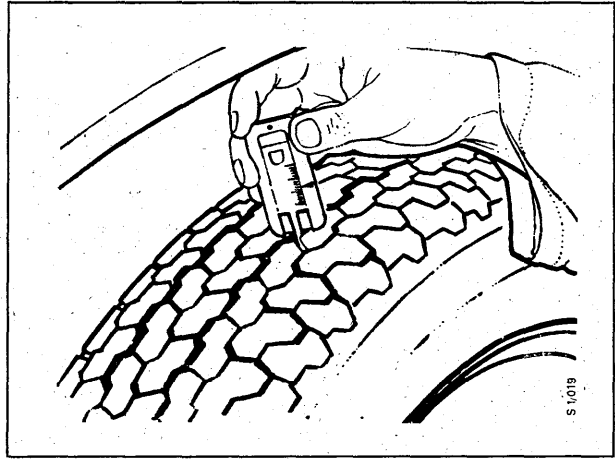
Inspect the rubber gaiters.



Tyres

Measure the depth of tread and check the pattern of wear. Check the inflation pressures (including the spare wheel).

If the pattern of wear is uneven, check the toe-in and adjust as necessary.



Fuel system

Check the fuel lines and fuel tank for damage and leaks. Inspect the mounting points.

Engine coolant

Change the coolant (max. 3-year intervals).

Fill the system when the engine is cold but not above the MAX level mark. Warm up the engine until the thermostat opens and check the level of the coolant.

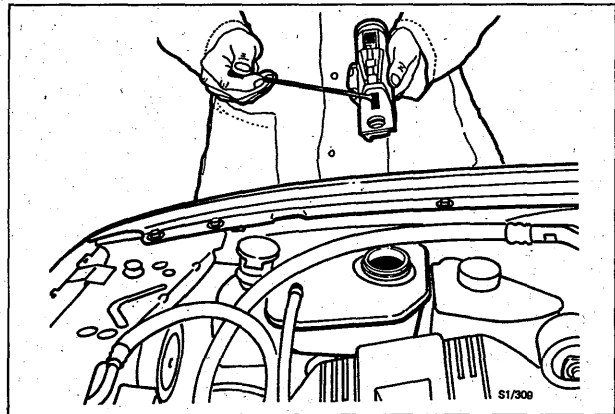
Engine coolant

Check the anti-freeze mixture. The coolant should be able to withstand -30°C to -35°C (-22°F to -31°F) without freezing. Top up as necessary with equal quantities of SAAB Original Coolant and water (half and half).

Note: This mixture also provides effective corrosion protection.

Avoid mixing different types of coolant.

Fill the system when the engine is cold but not above the MAX level mark. Warm up the engine until the thermostat opens and check the level of the coolant.

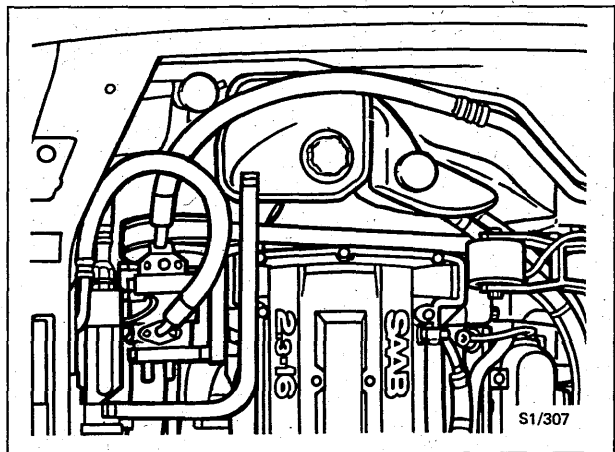


Cooling system

Check the condition of the hoses and pressure cap.

Note:

Screw the filler cap down hard or the system will not be pressurized, resulting in a lower boiling point and loss of coolant.

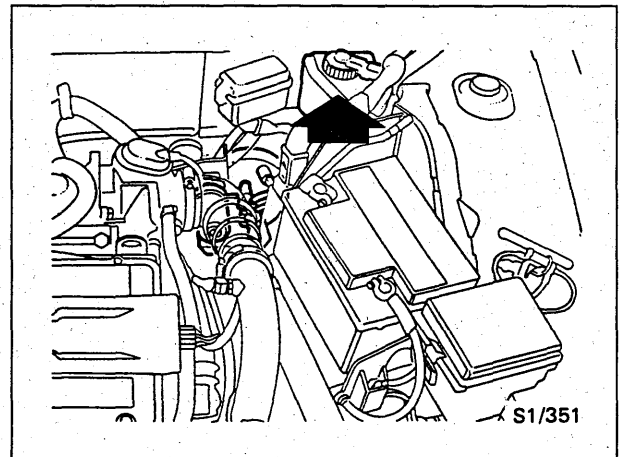


Fluid level - brake, clutch

Check the level and top up as necessary.

Brake fluid:

Grade: to DOT 4 specification.



Brake fluid

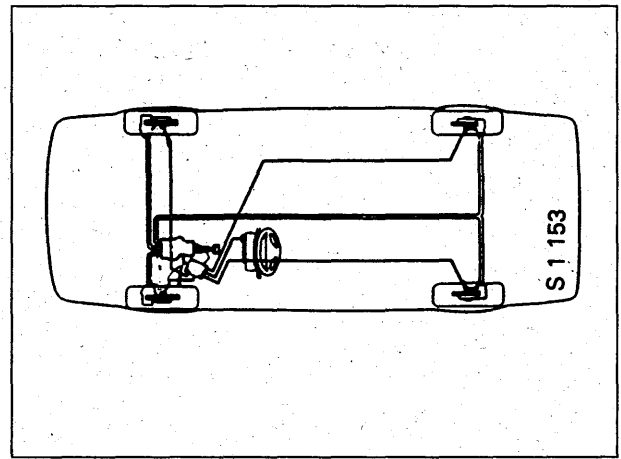
Change, or at least every other year.

Grade: to DOT 4 specification.

Never use brake fluid which has been stored in an open container.

Note:

See Service Manual 5:2, in which special safety procedures are described.



ABS brake system

Automatic transmission fluid level

Start the engine and run it at idling speed. Engage D and wait at least 15 seconds. Then engage R and wait another 15 seconds. Repeat in position P.

Check the fluid level (engine running at idling speed and selector lever at P). Top up as necessary.

Note:

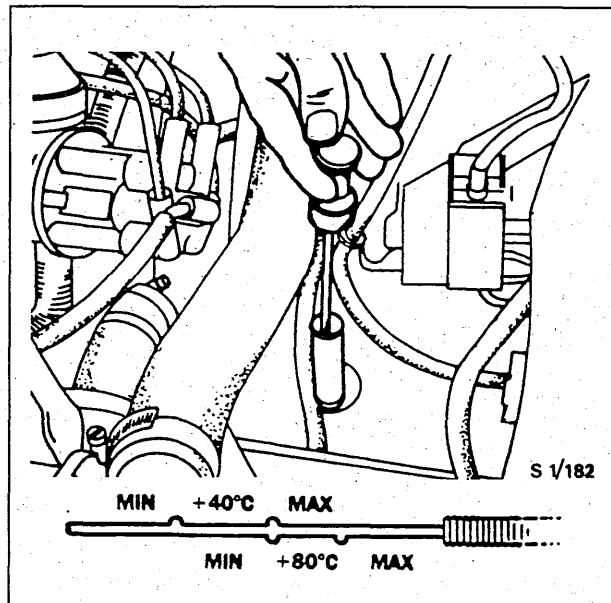
The dipstick has two sets of level marks. The amount of fluid between the maximum and minimum marks is about 0.4 litres (0.4 qts).

Grade of fluid (not ME):

DEXRON II automatic transmission fluid.

Grade of fluid (ME only):

DEXRON IIE automatic transmission fluid.

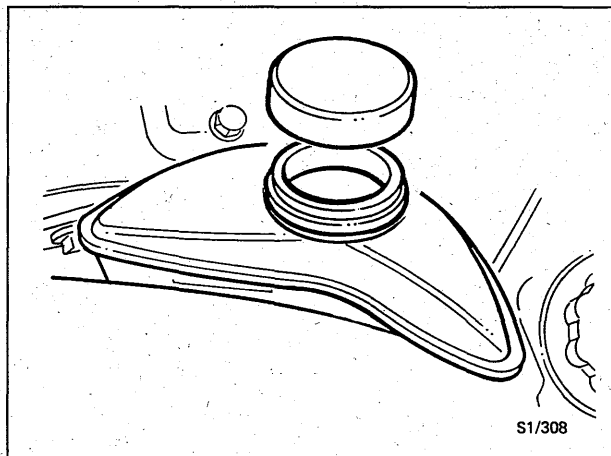


Fluid level, power steering

Check the level and top up as necessary. If the fluid level is low, investigate the cause.

Grade of fluid:

Saab Power Steering Fluid 4634, part No. (45) 30 09 800 - 0.75 litres or GM Power Steering fluid, part No. 105 0017 - 1 litre, part No. 105 2884 - 0.5 litres.



Spark plugs

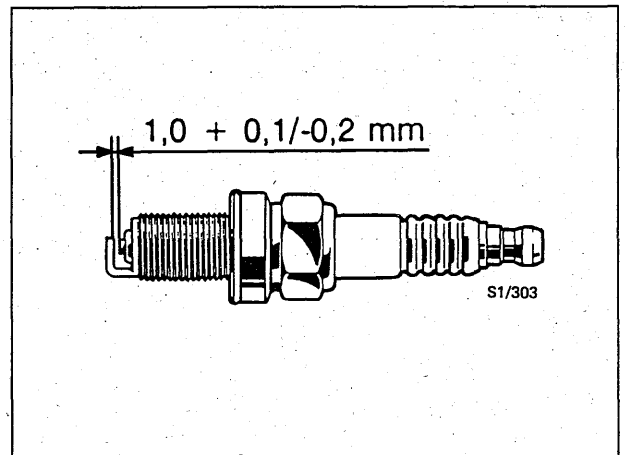
Engine	Designation
2.0 l fuel injection	NGK BCPR 6ES
2.0 l Turbo	NGK BCPR 7ES
2.3 l fuel injection	NGK BCPR 6ES
2.3 l Turbo	NGK BCPR 7ES

Electrode gap:

1.0 + 0.1/-0.2 mm (0.039 + 0.004/-0.008 in)

Tightening torque:

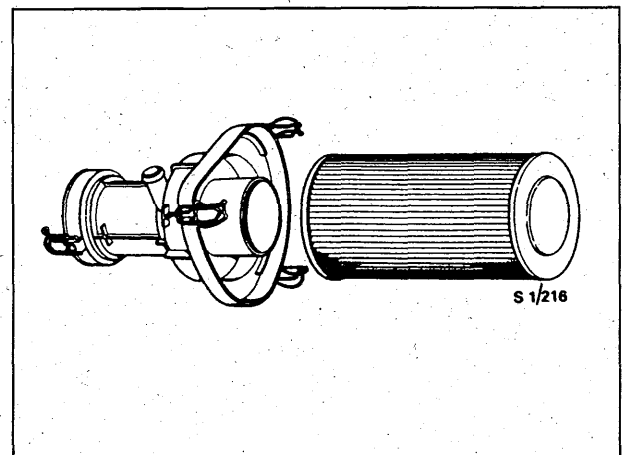
25-29 Nm (18.5-21.5 lbf ft)



Air cleaner

Change the filter element.

If the car is used in an extremely polluted environment, it is advisable to change the filter element at more frequent intervals.

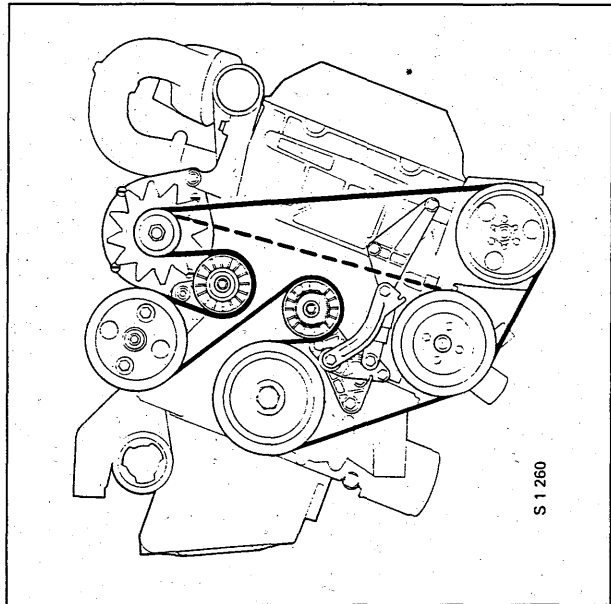


Driving of auxiliary equipment

Check the operation and condition of the belt tensioner by pressing and pulling the belt. The belt should return smoothly and evenly to its correctly tensioned state.

Test value for the drive belt: at least 170 N (40 lbf).

Check the condition of the drive belt. It should be replaced when loss of material (note: not just cracks) larger than 5 mm in the longitudinal direction of the V-belt has occurred or if other damage has arisen.



Crankcase ventilation and vacuum hoses

Inspect the condition of the vacuum hoses and check them for leakage.

Battery

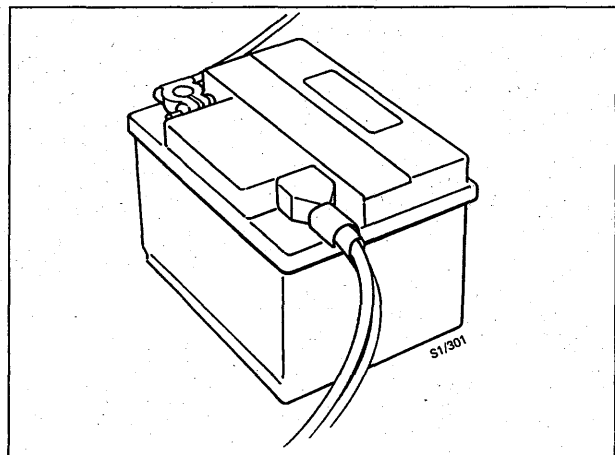
Clean the battery terminals and smear them with petroleum jelly (Vaseline).

Check the level of the electrolyte. If any cell has an extremely low electrolyte level, it is advisable to check the voltage.

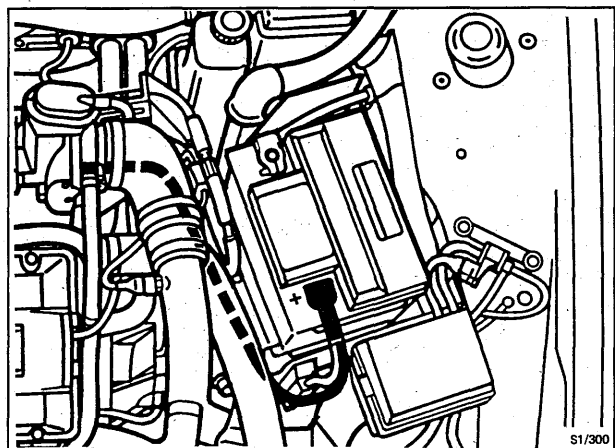
Disconnect the positive cable from the battery. Check the voltage.

If the voltage is below 12.4 V, the battery needs charging (fully-charged battery: 12.72 V).

If the voltage is below 12.0 V, the battery needs changing.

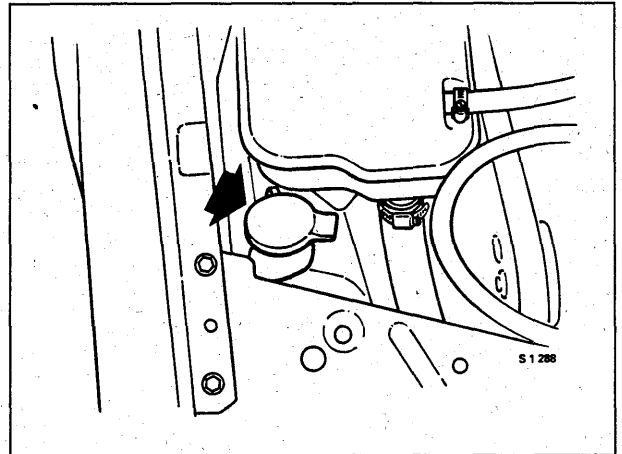


Check the positive cable between the battery and the starter motor for damage.



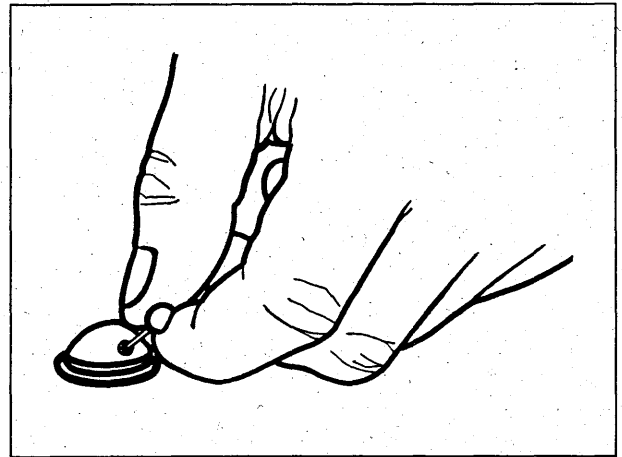
Washer fluid

Check the level of the fluid in the reservoir and top up as necessary with a mixture of washer fluid and water (according to the table of recommendations on the packaging).



Washer nozzles

Clean and adjust the washer nozzles as necessary.



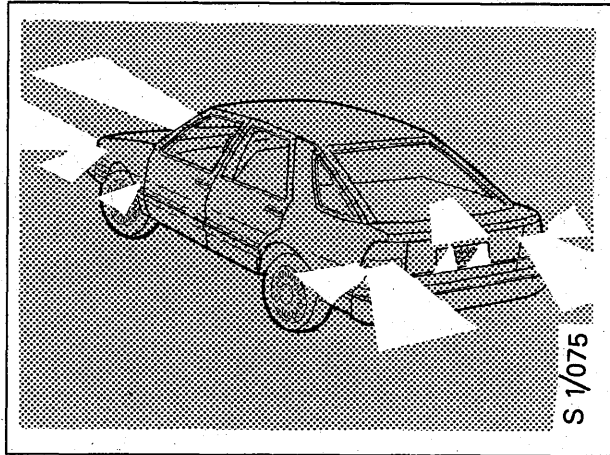
Wiper blades

Clean the wiper blades and windscreen with concentrated washer fluid. Check the condition of all wiper blades and replace as necessary.



Other lighting

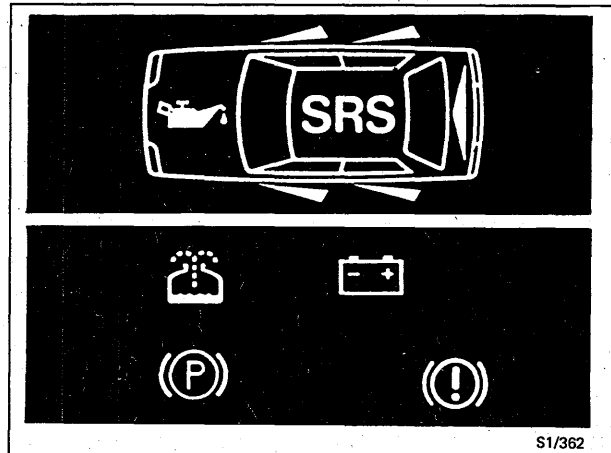
Check the front and rear lighting, direction indicators, brake lights, high-level brake light, reversing lights, rear fog lights, number plate illumination and engine bay illumination.



Indicator and warning lamps:

Turn the ignition switch to the test position and check that the indicator and warning lamps light up as shown.

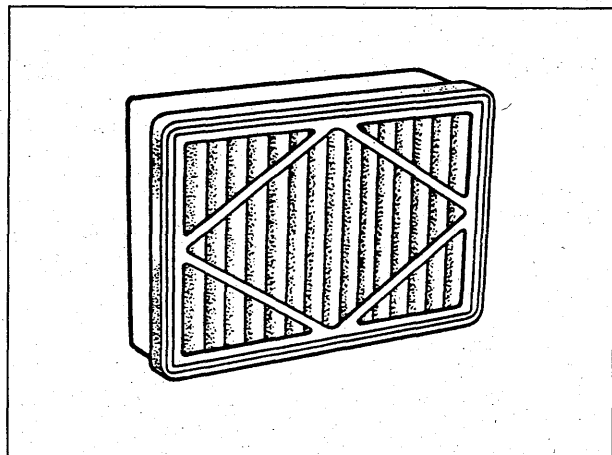
Check the pictogram when doors and tailgate are open.



Ventilation air filter

Change the filter element.

If the car is used in an extremely polluted environment, it is advisable to change the filter element at more frequent intervals.

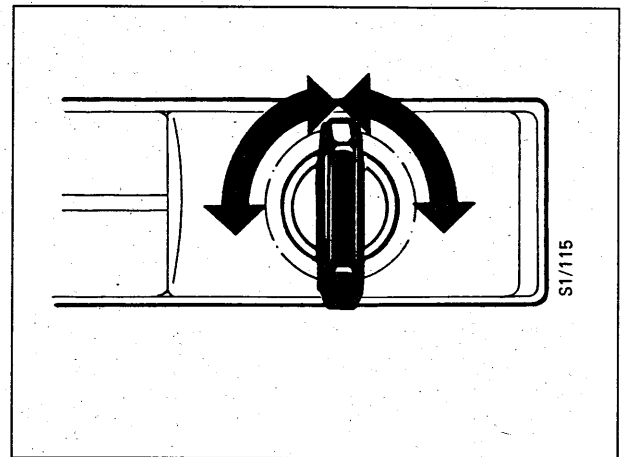


Locks

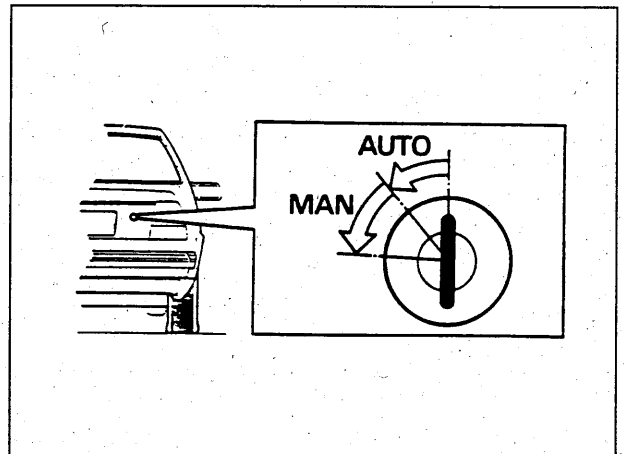
Check the operation of all locks for the doors, the child safety catches for the rear doors, the tailgate and fuel filler flap.

Also check the operation of the bonnet lock and its safety catch.

The central locking system is operated from both front doors and also from a switch on the centre console.



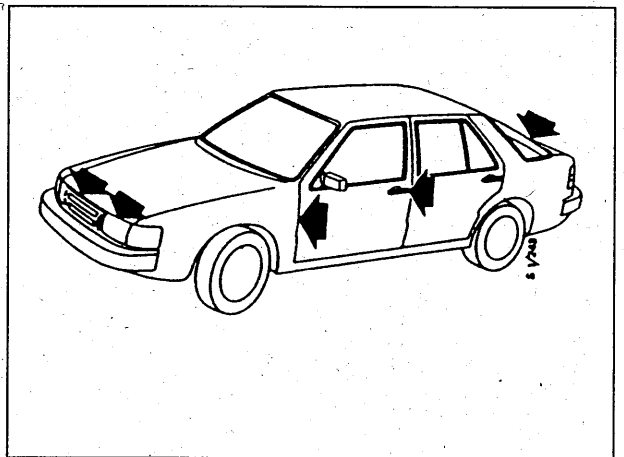
Open the tailgate on 9000 CD and CS models from outside by means of the key and the switch on the inside of the driver's door.



Lubrication

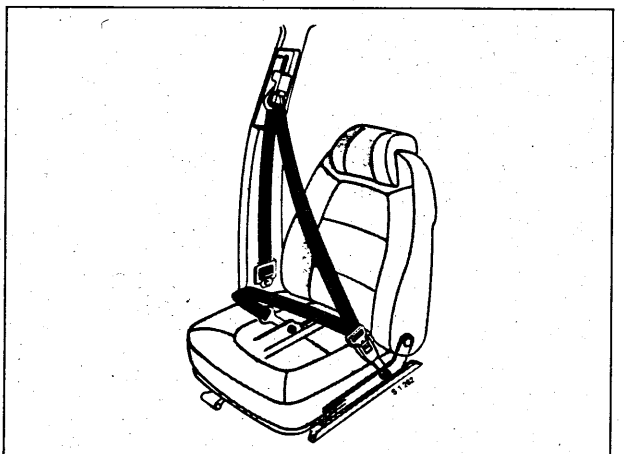
Lubricate the door keeps with Gleitmo 800 (45) 30 06 582.

Lubricate the bonnet catches and locking pins with Gleitmo 805 (45) 30 06 442.



Seat belts

Check the operation of the seat belts and inspect the straps for damage.

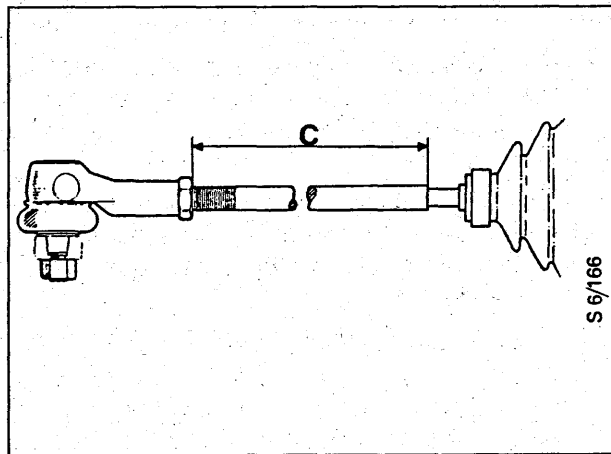
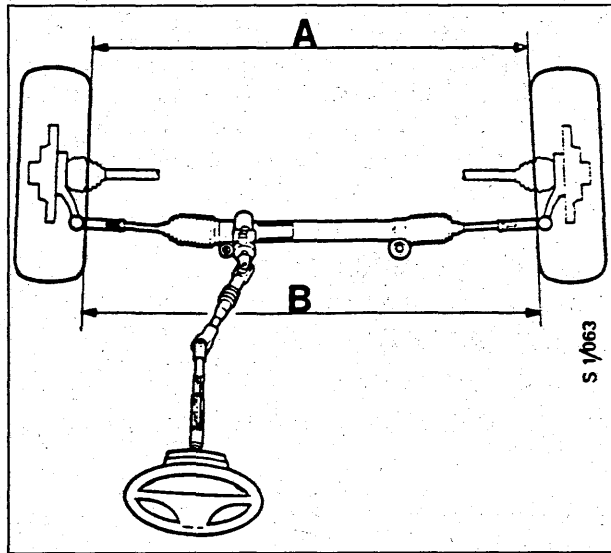
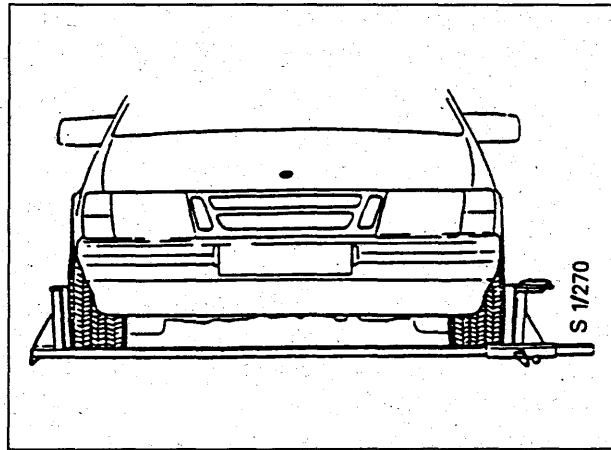


Toe-in

Note the following when checking and/or adjusting toe-in with special tool No. 88 19 013:

- Check and adjust tyre inflation pressures.
- Toe-in 1.5 ± 0.5 mm (0.06 ± 0.02 in).

Tightening torque: locknuts on track-rod ends 60-80 Nm (44-59 lbf ft).



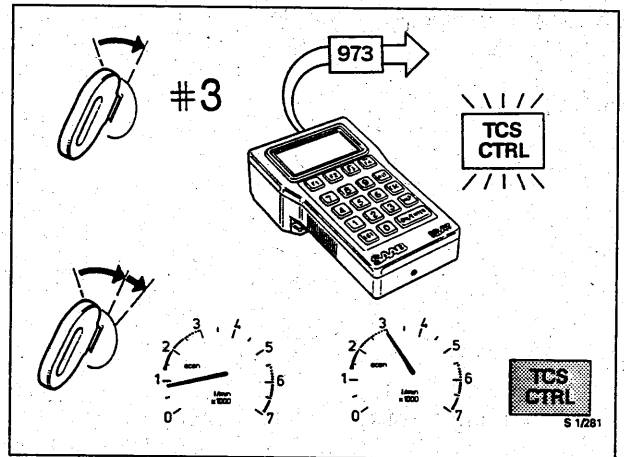
Note:

When toe-in has been adjusted, dimension C between the locknut and the edge of the groove in the track rod must never exceed 140 mm (5.5 in).

The difference in dimension C on the two sides of the car must not exceed 2 mm (0.08 in).

TCS idling calibration (cars with manual gearbox)

- 1 Warm up the engine.
- 2 Apply the handbrake.
- 3 Connect the ISAT scan tool to the black data link connector (test socket) underneath the right-hand front seat by means of connecting cable 8611048.
- 4 Turn the ignition switch to the Drive position, select the diagnostic position and contact system No. 3 (clear any diagnostic trouble codes, command code 900).
- 5 Enter command code 973 (the TCS-CTRL lamp lights up).
- 6 Start the engine without turning the ignition switch back to the 0 position and without touching the pedals. Calibration is carried out at idling speed and at approx. 3000 rpm. The TCS-CTRL lamp goes out on completion of calibration.



TCS idling calibration (cars with automatic transmission)

- 1 Warm up the engine.
- 2 Selector lever in position P. Apply the handbrake.

CAUTION

Make sure that nobody is in front of or behind the car.

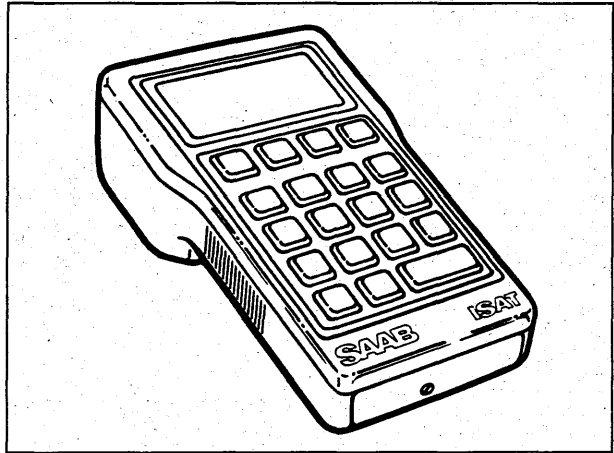
- 3 Connect the ISAT scan tool to the black data link connector (test socket) underneath the right-hand front seat by means of connecting cable 8611048.
- 4 Turn the ignition switch to the Drive position, select the diagnostic position and contact system No. 3 (clear any diagnostic trouble codes, command code 900).
- 5 Enter command code 973 (the TCS-CTRL lamp lights up).
- 6 Start the engine without turning the ignition switch back to the 0 position and without touching the pedals.
- 7 Wait until the TCS-CTRL starts flashing and press the SET button for the Cruise Control system within 20 seconds. Calibration is carried out at idling speed and at approx. 3000 rpm. Keep the button depressed until calibration ends. The TCS-CTRL lamp goes out on completion of calibration.

Airbag system

Turn the ignition switch to the Drive position and check that the SRS warning lamp lights up for six seconds and then goes out. In the event of a fault indication, read the diagnostic trouble code and remedy the fault. See Service Manual "8:6 Airbag".

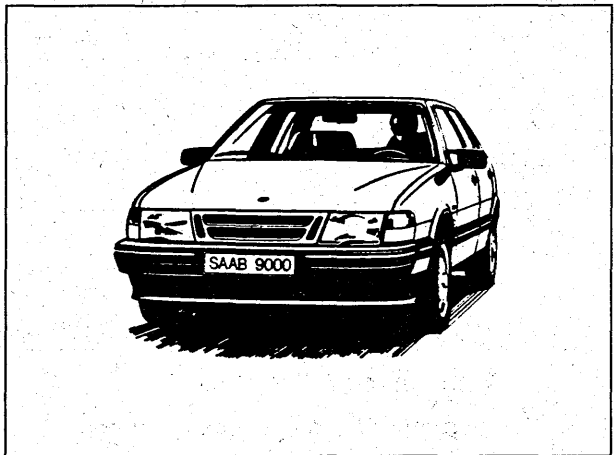
Inspect the steering wheel centre pad and passenger airbag module for external damage, making sure that the surfaces are free from scratches and pin-pricks.

Make sure that nothing has been fitted that could be flung through the air or damage the airbag in the event of airbag detonation. Pay particular attention to the area for the passenger airbag.



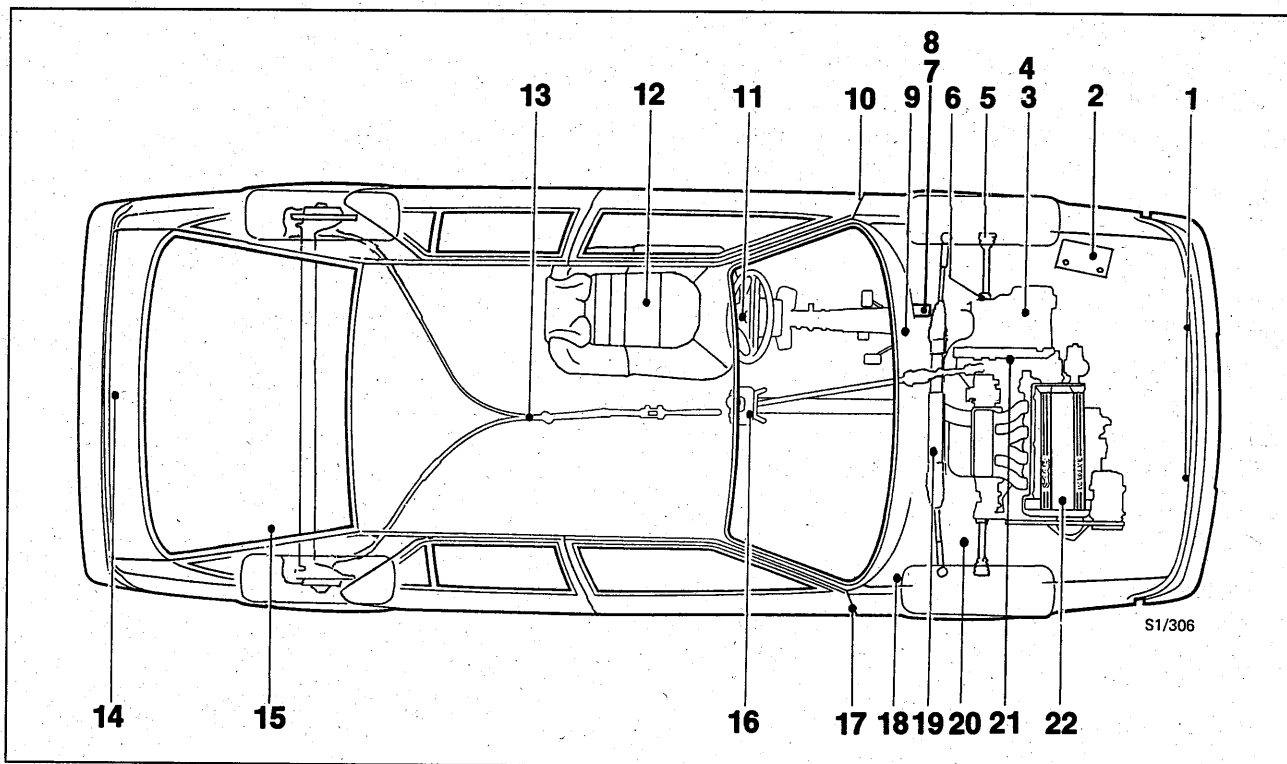
Road test

- Ignition switch
Check that the steering column lock operates satisfactorily and that the key is easy to insert and remove.
- Check the Parking position lock on cars with automatic transmission (certain markets only).
- Engine
Operation and noise level. Turbo: check that boost pressure is normal during acceleration (needle moves up to the red zone).
- Clutch
Check the positions of the pedal at which the clutch disengages and begins to engage.
- Manual gearbox
Check gearbox operation and noise level.
- Automatic transmission
Check the selector lever detent, noise level and shifting performance.
- Wheels
Check wheel balance and wheel roundness.
- Steering
Check the straight-ahead position of the steering wheel, directional stability and operation of the power steering system.
- Instruments and indicator lamps
Check the operation of instruments and indicator lamps.
- Brakes
Check brake pedal travel, handbrake lever travel (4-5 notches), and the efficiency of the brakes and handbrake.
- Cruise Control
Check the operation of the Cruise Control.
- Climate control system
Check the operation of the heating system and AC/ACC and their controls.



- Wipers and washers
Check the washer jet pattern and wiper operation on the windscreen and, if relevant, the rear window.
- Check that the clock shows the right time.

Bear in mind what the customer might think!
Wipe the steering wheel and gear lever clean and make sure that all other traces of pre-delivery inspection and service work have been removed.



Lubrication, lubricants

Lubrication in conjunction with service work

Item	Lubrication point	Lubricant
1	Locking pins, safety latch and bonnet lock	Gleitmo 805 (45) 30 06 442
2	Battery	Petroleum jelly (Vaseline), part No. (45) 30 06 665
3	Manual gearbox	Not ME: Motor oil (mineral oil) to API service SF/CC and SF/CD specification Viscosity: 10W30 or 10W40 ME only: SHPD B.P. Vanellus F.E. Viscosity: 10W30 or 15W40 Synthetic motor oil must not be used
4	Automatic transmission	Not ME: ATF DEXRON II ME only: ATF DEXRON IIE
5	Outer drive-shaft universal joint	Saab special chassis grease EP2, part No. (45) 30 09 990
6	Inner drive-shaft universal joint	Mobile Grease GS 57C, part No. (45) 30 18 629
7	Brake system	Brake fluid grade: to DOT 4 specification
8	Hydraulic clutch mechanism	Brake fluid grade: to DOT 4 specification
9	Brake light switch	Petroleum jelly (Vaseline), part No. (45) 30 06 665
10	Door switch, interior lighting	Petroleum jelly (Vaseline), part No. (45) 30 06 665
11	Horn slip-ring and brushes (cars without airbag)	Gleitmo 160 part No. (45) 30 18 603
12	Seat rails	Saab special chassis grease EP 2, part no. (45) 30 09 990 (sparingly)
13	Handbrake cables	Saab special chassis grease EP 2, part No. (45) 30 09 990

Item	Lubrication point	Lubricant
14	Tailgate lock mechanism	Thin penetrating oil
15	Rear anti-roll bar bushes	Molycote 33 medium, part No. (45) 30 20 476
16	Gear lever housing	Gleitmo 980 spray, part No. (45) 30 06 954. Leave to dry for 15 minutes and then smear with Gleitmo 750 grease, part No. (45) 30 07 309 paste
17	Door keeps	Gleitmo 880 (45) 30 06 582
18	Bonnet hinges	Petroleum jelly (Vaseline), part No. (45) 30 06 665 or Gleitmo 805 (45) 30 06 442
19	Power steering	Saab Power Steering fluid 4634, part no. (45) 30 09 800 - 0.75 litres, or GM Power Steering fluid, part No. 105 0017 - 1 litre, 105 2884 - 0.5 litres
20	Front anti-roll bar bushes	Molycote 33 medium (45) 30 20 476
21	Input shaft splines	Molybdenum sulphide paste, Gleitmo (45) 30 06 632
22	Engine	Grade of motor oil: Saab Turbo motor oil or motor oil to API SG and CCMC G4/G5 specifications. These oils contain suitable additives for the engine. We advise against the use of additional additives. Viscosity: SAE 10W-30, 10W-40, 5W-30 or 5W-40. If these grades are unobtainable, 15W-40 oil may be used but not during the winter. If 5W oils are used, they must be of fully-synthetic or semi-synthetic type.

Lubrication to prevent seizing

Threaded joints subjected to wide temperature fluctuations may tend to seize and will then be difficult to unscrew on the next service occasion.

Typical threaded joints of this type are:

- EGR valve connections
- Heated oxygen (Lambda) sensor
- Retaining nuts for the exhaust manifold and turbocharger

Recommended lubricants: MOLYCOTE 1000 (45) 30 20 971 or NEVER SEIZE.



SAAB

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