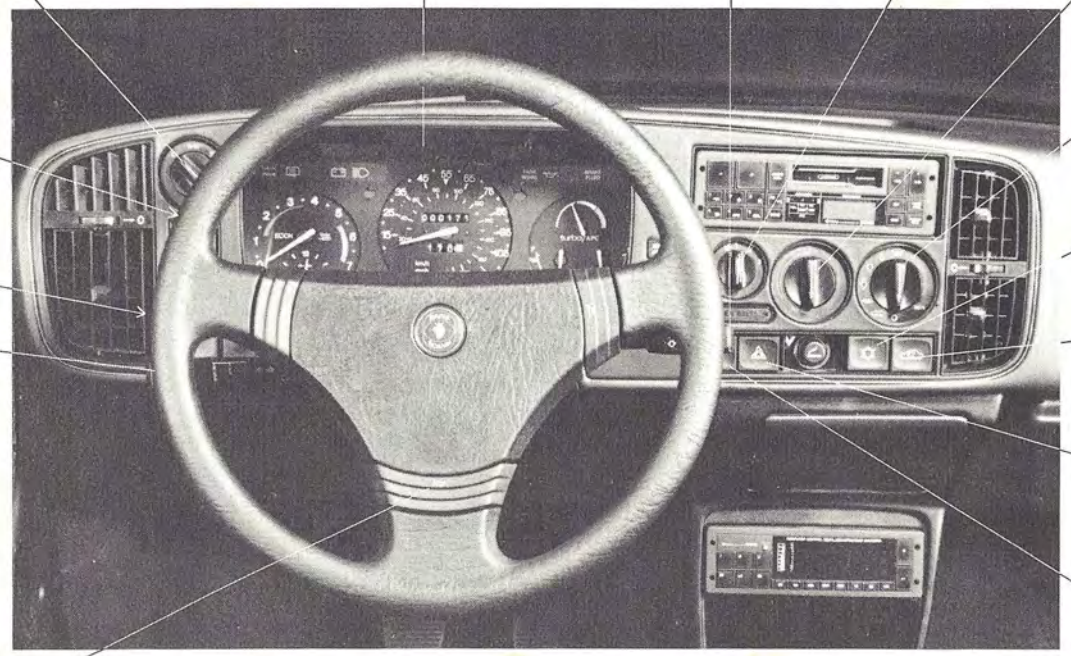
SAAB

900

Owner's Manual – 1987


Headlight, parking light switch
Main instrument panel
Windshield washer stalk
Cabin fan
Air temperature control
Air distribution control
Driver's seat heater rheostat (900S, Turbo)
AC switch
Fog light switch (optional)
Recirculation switch
Turn signal/high beam stalk
Hazard warning
Rear window defogger
Horn contacts
Ignition key on floor at shift console

Owner's Manual
Saab 900 - 1987

Production: Technical Publications, Saab-Scania, Trollhättan, Sweden

Introduction

Your Saab is a product of Saab-Scania AB, leaders in specialized transport technology. We develop and produce aircraft, satellites, passenger cars, trucks and buses which are among the most modern available in the world.

Saab-Scania's automotive origins date back to 1897 when the first Swedish factory-built passenger car was produced by the company which was later to become the current Scania Division. In addition to its present mainstay, truck and bus production, the Scania Division is responsible for the manufacture of the Saab 2.0 liter OHC four cylinder engine which powers Saab 900 and 9000 models.

Manufacture of cars under the Saab name commenced in 1949 with the introduction of the Saab 92, the first in a succession of innovative models renowned for their performance character, front wheel drive, and safety features. The main automobile production plant is in Trollhättan, Sweden (near Gothenburg), where design, development and testing facilities are also located. Saabs are also assembled in Arlöv, Sweden, and Uusikaupunki, Finland. A modern, highly automated central spare parts warehouse serving Saab distributors worldwide is located in Nyköping (near Stockholm).

Importation and distribution of Saab automobiles, spare parts and accessories in the Unites States are handled exclusively by Saab-Scania of America, Inc., headquartered in Orange, Connecticut. The company also produces a North American version of the Scania transit bus in Connecticut and have begun importing Scania Class 8 trucks.

This manual for the Saab 900 provides some practical advice on driving and caring for your car. A technical description of the various systems is given in a special section. The manual also describes the most important differences between model versions. Read through the manual before taking the car out for the first time then keep it in the car for future reference.

A list of contents is provided for each section of the manual and there is also a comprehensive index at the back.

Also supplied with the car are a Warranty/Service Record Booklet, Audio System manual and a tire warranty folder with which you should also become familiar. A convertible supplement is supplied for those cars.

Since the policy at Saab-Scania is one of continual improvement, we retain the right to incorporate modifications and alter specifications during production without prior notice.

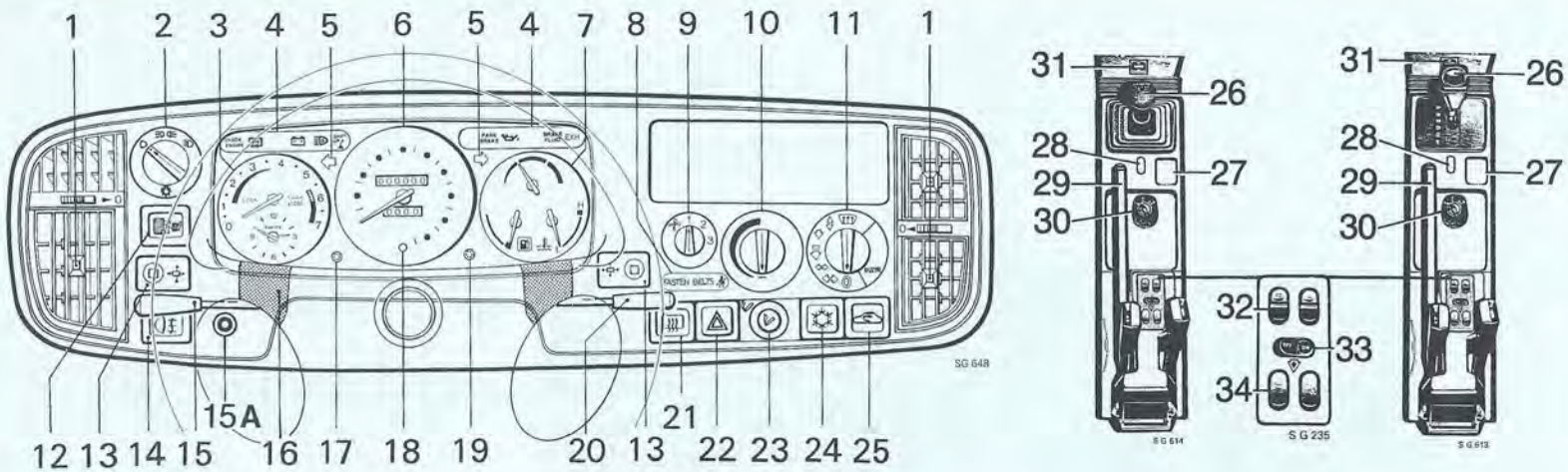
Best Wishes,

Saab-Scania AB
Saab Car Division

Note: The radio shown in some of the photographs in this manual differs from that which is standard equipment on U.S. models. A separate audio manual is provided.

Instruments and controls

4 Instruments and controls



1 Fresh air vent
2 Switch, parking lights and headlights
3 Clock and tachometer
4 Warning lights
5 Turn signal indicator lamp
6 Speedometer, odometer and trip meter
7 Combination instrument: fuel gauge, temperature gauge and pressure gauge (Turbo)
8 Seat belt reminder light
9 Switch, ventilation fan speed
10 Temperature control
11 Air distribution controls
12 Seat heater rheostat (900S, Turbo)
13 Switch for adjusting external rear- view mirrors (900S, Turbo)
14 Switch, optional fog lights
15 Control for high/low beam, turn signals and cruise control (900S, Turbo)
15A Rheostat, control illumination
16 Horn control
17 Clock adjustment knob
18 Reset button for trip meter
19 Rheostat, instrument panel lighting
20 Control for wipers and washers
21 Switch, electric rear window defroster
22 Switch, hazard warning flashers
23 Cigarette lighter
24 Switch, AC compressor
25 Switch, air recirculation
26 Gear (selector) lever
27 Coin tray
28 Switch, interior lighting
29 Handbrake
30 Ignition switch and gear lever lock
31 Switch, electrically driven sun roof (Turbo)
32 Switches, front power windows (900S, Turbo)
33 Lockout switch, rear door window switches
34 Switches, rear power windows (900S, Turbo sedans)

Warning and indicator lights

Some of the warning lights will come on when the ignition is switched on before starting. This serves as a bulb function check. These should go out once the engine is running.

High beam indicator light

This light will glow when the headlights are switched to high beam.

Brake warning light (footbrake)

This light will come on if the level in the brake fluid reservoir drops too low. If the light comes on while you are driving, stop the car immediately and check the brake fluid level.

Note: The fluid level gradually lowers as the brake pads wear. Blinking of the light may indicate that the pads are due for replacement.

Handbrake indicator light

This light will glow when the handbrake is applied.

Charge warning light

This light will come on when the battery is not being charged. If the light comes on while you are driving, stop at the earliest convenience, switch off the engine and check the tension of the alternator drive belt.

Indicator light, electric rear window defroster

This lamp will glow when the rear window defroster is switched on. The light will automatically extinguish after about 7-12 minutes to prevent unnecessary temperature loading of the rear glass.

Shift indicator light

This light is fitted to cars with manual transmission. The light tells you when you can get better fuel economy by shifting to a higher gear. See page 33.

Fuel control system warning light (16 valve engines only)

This light will come on if there is an electrical malfunction in the fuel injection system. A back up system in the control unit will take over, enabling the car to continue its journey with somewhat diminished performance. This light also indicates a fault in the ignition system of the 900S.

Should faults occur in either system please have it checked by your Saab dealer.

Exhaust Emission System maintenance light (8 valve engines only)

This light comes on every 30,000 miles as a reminder that components in the emission control system need maintenance. (This light does not indicate a failure.) Your dealer will reset the light when service has been performed.

Oil pressure warning light (engine oil)

This light will come on if the engine oil pressure drops too low. If the light blinks or

comes on while you are driving, stop the car immediately, switch off the engine and check the oil level. If the oil light stays on,do not drive the vehicle, as severe engine damage can result.

Low fuel warning light

This lamp will glow continuously when the quantity of gasoline in the fuel tank is less than approximately 1.8 U.S. gallons. Refuel at your next oppurtunity.

Combination instrument

Fuel gauge

This gauge accurately measures the quantity of fuel remaining in the tank.

Temperature gauge

This indicates the temperature of the engine coolant. If the needle enters the red zone repeatedly, stop as soon as possible and check the level of the coolant.

WARNING!

Do not operate the engine at full throttle until the needle on the temperature gauge has entered the green zone.

Speedometer, odometer and trip meter

The odometer records the distance in miles, and the trip meter in miles and tenths.

The reset button for the trip meter is located in the lower section of the meter. Push to reset.

Pressure gauge, Turbo

The pressure gauge indicates the charging pressure in the inlet manifold. At low engine loads and during engine deceleration, a vacuum will be present in the manifold. In such cases, movement of the needle will be within the white zone. At increased loads or engine speeds, the turbo compressor will increase the charging pressure in the inlet manifold. In this case, the needle will move into the orange zone. The charging pressure will not normally be high enough to cause the needle to enter the red zone, since the engine is equipped with a charging pressure regulator (wastegate). However, under full load and with sufficiently high fuel octane, the needle may briefly enter the red zone. There is also an overpressure safety switch to protect against excessive pressure which could damage the engine.

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Tachometer and clock

The tachometer indicates the speed of the engine in thousands of revolutions per minute. The RPM range for economical operation is indicated on the tachometer. Driving within this range aids in achieving best possible fuel economy. The needle should only be allowed to enter the broken red zone for brief periods. It must never enter the red zone. A safety device, which interrupts current to the fuel pump at 6000 rpm, is installed on the Turbo.

Lighting switches

The headlight switch has three positions:

The lighting is off.

Parking lights.

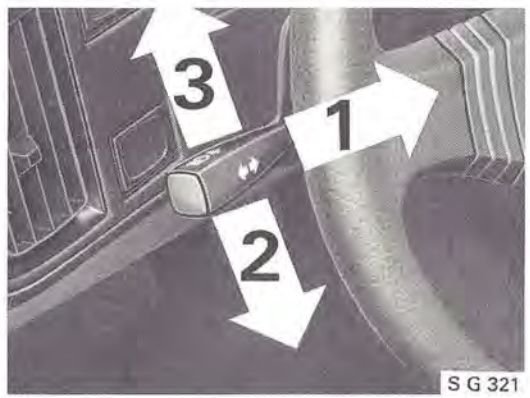
Headlights and parking lights.

NOTE! The headlights and parking lights are automatically turned off if the ignition key is turned to the L position. The parking lights can be operated alone, if the switch is moved to the intermediate position even if the key is removed from the ignition.

Headlight dimmer, high beam flasher, and turn signal control

The spring loaded lever is moved towards the steering wheel to switch from high beam or vice versa. The same action provides a warning high beam flash when the headlights are switched off. A blue indicator light glows whenever the high beams are on. The turn signals and cornering lights are operated by moving the lever in the direction in which the steering wheel is turned. "Lane change" detents are provided.

1-Flash headlight, high beams
2-Left turn signal
3-Right turn signal



Seat heater rheostat (driver's side)

The temperature regulation of the driver's seat heater on 900S and Turbo models is controlled or switched off by means of the rheostat located below the headlight switch.

Fog lights (optional)

The fog lights are located under the front bumper and are provided with protective covers. Keep the lights covered when not in use.

The fog lights switch is located below the headlight switch. To turn on the fog lights, rotate the headlight switch to either the parking light or headlight position and push in the fog light switch. The fog light will not be illuminated when the high beams are switched on. Push and release the fog light switch and/or rotate the headlamp switch to the off position to turn off the fog lights.

Use only H-3 bulbs as replacements. Do not touch the bulbs. The fog light circuit is protected by a 15 amp fuse in the main fusebox.

Hazard warning

When the switch is pushed on, all direction indicator lights flash simultaneously. The warning system should only be used if the car is in a position where it is liable to endanger or obstruct other vehicles as a result of an accident, breakdown, etc. The switch flashes red when in use.

Instrument panel lighting

The instrument panel lighting is switched on and off with the ignition key. Separate rheostat controls are supplied for the instrument lighting and the controls. Do not use the instrument lighting as a gauge as to whether or not the headlights are on. Always check the headlight switch position if in doubt.

Interior illumination

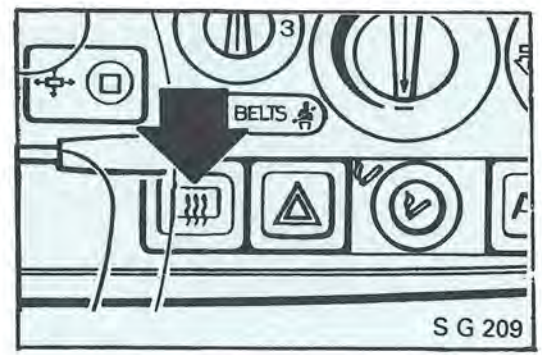
The interior illumination comprises three lights located: above the front seats, behind the rear view mirror, and beside the ignition switch. The switch on the console between the front seats has three positions: forward/on, middle/off, rear/on with open doors.

900S and Turbo models are equipped with a time delay shut-off for the interior lights. The lights will remain on for about 15 seconds after the doors have been closed or until the ignition key is turned on, which ever occurs first.

NOTE! Be certain that the interior lights are switched off when parking the car.

Electrically heated rear window

The rear window defroster grid is controlled by means of a push switch near the center of the instrument panel. An indicator light glows when the heating is on. The defroster switch automatically turns off 7-12 minutes after it is pushed on or



when the ignition is switched off, whichever occurs first. Do not switch on the window heating before starting the engine.

Damage to the unit may result if it is operated for a long period of time on a dry rear window. Do not use abrasive cleansers on the inside of the rear window which may damage the electrical continuity of the unit. Avoid placing heavy objects on the parcel shelf as the heating wires may easily be damaged.

Wiper and washer controls

The control lever for the windshield wipers and washer has the following positions:

0 Off position

1 Windshield wiper, intermittent operation. The wipers will make a sweep at intervals of a few seconds. This function is particularly useful in light drizzle, etc.

2 Windshield wipers, low speed

3 Windshield wipers, high speed

4 Windshield washer: The windshield washer will operate as long as the lever is held toward the steering wheel. If the lever is pulled when in the "wipers-off" position, the wipers will automatically make a few sweeps.

Windshield wiper and washer care

Inspect and clean the rubber blades of the windshield wipers at regular intervals. If they show signs of wear, they should be replaced. Soap and water is recommended for cleaning.

Use clean fluid for the washer and make sure that the container is free from dirt. Use suitable washer antifreeze in cold weather.

If the washer jets are blocked, the holes can be carefully cleaned and adjusted with a pin or small tool. If the jets are out of alignment, the adjustable ball nozzles can be turned to the desired position. The driver's side jet is equipped with two ball nozzles while the passenger side has one ball nozzle.

Climate control system

Ventilation system

The Saab 900 has a sophisticated flow through ventilation system. Air enters at the right hood louver and exits at the rear quarter panel grilles and/or behind the rear bumper. All incoming air passes trough the AC evaporator, and except for air channeled to the center panel vent, then passes through the heater core. All system controls are located in the center of the instrument panel. The three panel vents are adjustable directionally and have individual thumb wheel shut off switches (0 = Off).

Air Conditioning

Saab air conditioning is standard on all 900 models. Vehicles equipped with AC have an AC on/off switch and a recirculation switch on the instrument panel, an auxiliary electric radiator cooling fan, a wide-open throttle AC cut out switch and a high coolant temperature cut-out.

Models with mechanical fuel injection are equipped with an idle compensation valve which activates when the AC cycles on. Models with electronic fuel injection have an Automatic Idle Control system which automatically adjusts the idle regardless of the engine load. The compressor is a cycling clutch type.

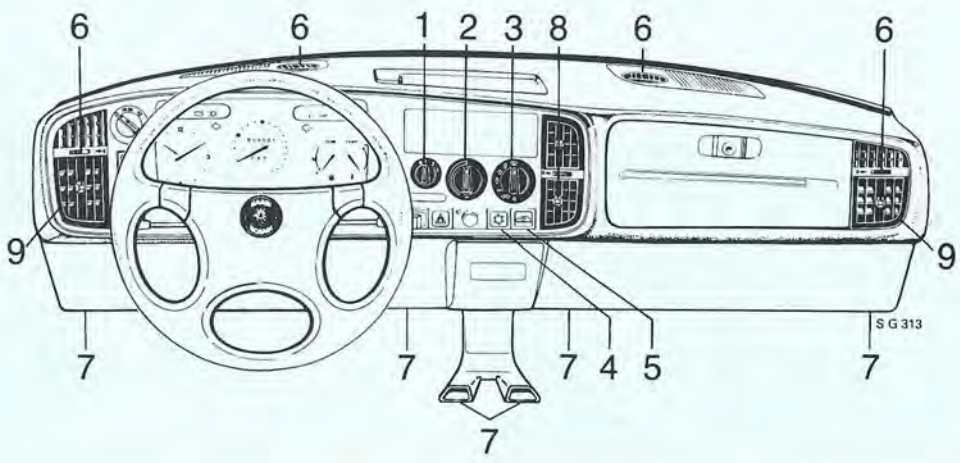
Run the air conditioner a few minutes occasionally during the winter to ensure proper compressor seal lubrication.

WARNING!

The AC system contains freon gas under pressure. Do not loosen or undo the AC system hoses. Escaping gas may cause injury.

Controls and outlets

The locations of the controls and outlets of the climate control system are shown on the illustration below:



1 Fan switch
2 Temperature control
3 Air distribution control
4 AC on/off switch
5 Recirculation switch
6 Defroster outlets
7 Floor outlets
8 Center panel vent (unheated air only)
9 Outer panel vents

Control functions

See the chart on the following page for recommended climate control settings.

1. Fan switch

The fan is off when the air distribution selector is in the 0 position. It automatically runs in its fourth speed in the Max Vent position. In all other positions the rotary fan switch has positions for the first through third speeds.

2. Temperature control

All incoming air except that channeled to the center panel vent passes through the heater core. The temperature control regulates the amount of heat added to the air by controlling the flow of heated engine coolant through the core. Turning the rotary knob clockwise increases the temperature. The 6 o'clock position (blue spot) is "off".

3. Air distribution selector

The rotary switch controls distribution of the incoming air. Clockwise from 6 o'clock the positions are: "Off" (fresh air intake closed, fan off), Max Vent (automatic recirculation, fan on fourth speed), Panel Vent, Floor & Vent, Floor, Bi-Level and Defrost.

4. AC On/Off switch

Push in to engage AC compressor. Compressor will not switch on below 38° F.

NOTE! Starting of the air conditioner compressor is delayed by about 10 seconds when the engine is started, in order to avoid applying additional load onto the engine. This delay will be operative only if the AC switch has been pressed before the ignition has been switched on.

5. Recirculation switch

The recirculation switch closes the fresh air intake and opens the recirculation flap to recirculate the air inside the car. This feature is intended for use when maximum cooling is required or to avoid exhaust fumes being drawn into the ventilation system when the car is in slow moving traffic. Recirculation is automatically provided in the Max Vent position of the air distribution selector.

NOTE! Do not use recirculation in cold weather as this may cause ice or mist to form on the windshield and side windows.

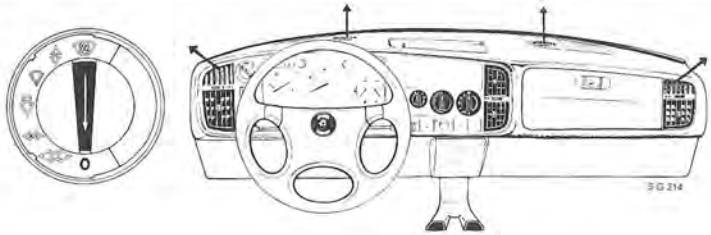
Climate system tips

Defogging windows - Switching on the AC compressor in combination with turning up the temperature control will accelerate defogging. The recirculation switch should be off.

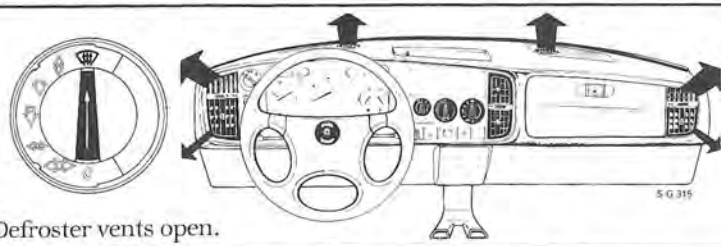
Defrosting windshield - For maximum effect, turn the temperature control fully clockwise and the air distribution control to tweleve o'clock. Increase the fan speed as the air begins to warm up.

Heat plus fresh air - On a long winter drive, cool air directed toward the face can help fight drowsiness. Select the nine o'clock position on the air distribution control and adjust the center panel vent to suit.

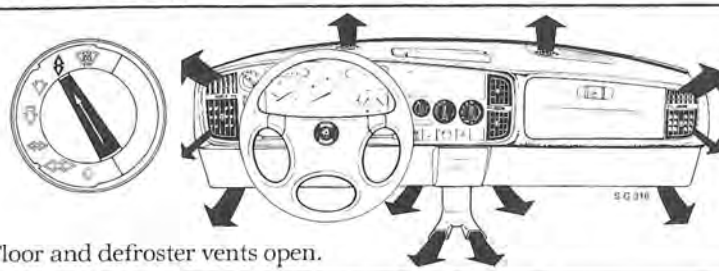
AC modulation - For maximum cool-down, engage the AC switch and select the seven o'clock position on the air distribution control (temperature control fully counter clockwise to blue spot). As the desired comfort level is reached, switch the air distribution to eight o'clock and adjust fan speed to suit. To maintain comfort on moderate days, add heat to the outer vents by turning up the temperature control part way. Direct the fully cold air from the center vent toward the rear, between the front seats, or close it with the thumb wheel switch on the vent itself.



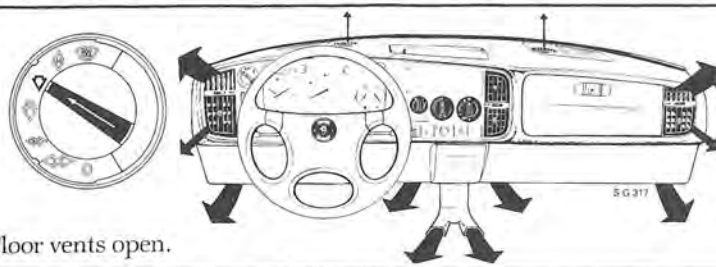
The fan is off. No fresh air entering the car.



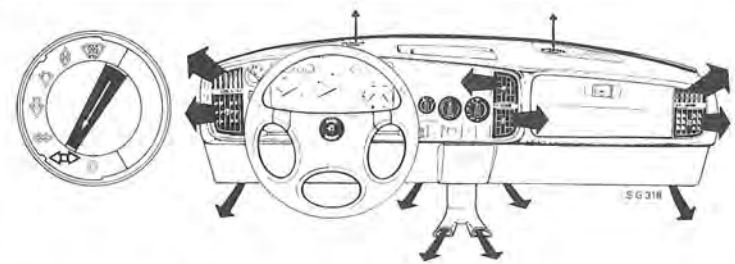
Defroster vents open.



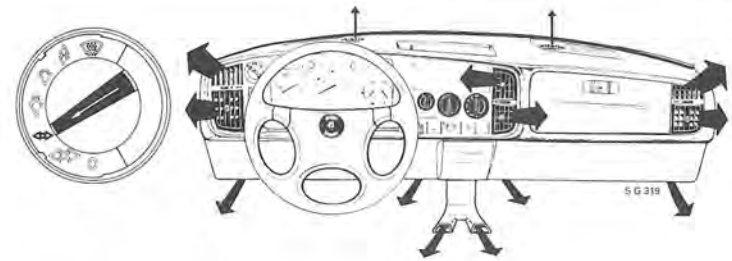
Floor and defroster vents open.



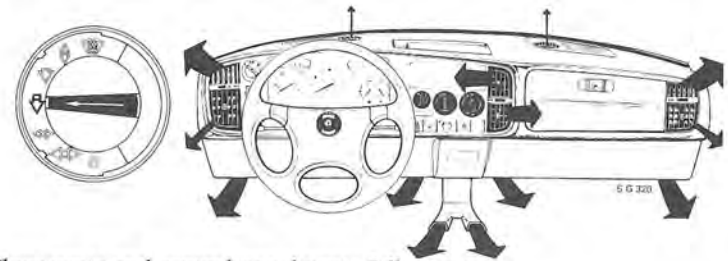
Floor vents open.



Maximum air flow for rapid cooling. All panel vents fully open. This position automatically engages fourth fan speed and closes the fresh air intake.



All panel vents fully open.



Floor vents and central panel vents fully open.

Interior equipment

Seats

The backrest and cushion of the front seats have thermostat-controlled electric heating elements that warm up automatically when the ignition is switched on. The thermostat ensures that the heaters are switched off when the temperature exceeds 82°F.

The driver's seat heater on 900S and Turbo models can be controlled or switched off to suit the driver's preference by means of a rheostat on the instrument panel (see Instruments and Controls.

Both front seats are adjustable as to legroom, and the driver's seat can also be adjusted for height. The backrest angle is continuously adjustable from upright to reclining.

Ensure that the seat rails are securly latched after each legroom adjustment.

WARNING!

Driver's seat adjustments should be made before driving off. Disengaging the legroom adjustment lever while driving allows the seat to move in such a way as to possibly affect vehicle control.

Legroom adjustment

Release the lever and slide the seat to the desired position.

Backrest angle adjustment

The backrest angle can be infinitely adjusted between driving and resting position by rotating the knob.

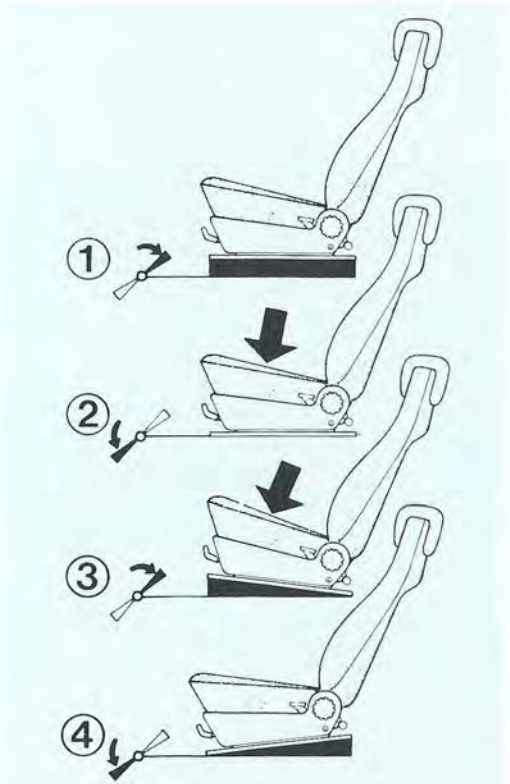
Vertical adjustment

The cushion of the driver's seat can be raised and lowered and also tilted to the front or rear. As the illustration shows, there are four possible positions.

Adjustments are made with the handle (see illustration) at the forward edge of the seat. Release the latch by pushing on the handle and moving it to the intermediate position.

Moving the backrest forward (except 4- door models)

Depress the lever and tilt the backrest forward. Rear seat passengers can tilt the backrest forward if they lift the lever at the lower rear edge of the front seat.



1 Raised seat. Move the handle back without pressing down on the seat.
2 Lowered seat. Move the handle forward, pressing down on the seat.
3 Seat tilted back. Move the handle back, pressing down on the seat.
4 Seat tilted forward. Move the handle forward without pressing down on the seat.

Seat adjustment (passive belt system)

1 Lift the bar and slide the seat to the desired postion.
2 Pull forward the telescopic lever and raise or lower it to obtain the desired height.
3 Turn the wheel until the backrest is in the desired position.
4 Lift the lever to tilt the backrest forward.

WARNING!

To avoid the risk of injury, keep hands well clear of the locking mechanism on both sides at the base of the backrest when moving the backrest to the upright position.

Headrest cushions

900S and Turbo models have removable rear headrest cushions as standard equipment. Rear cushions have a mounting post which fits into a bracket attached to the back of the rear seat backrest, when so equipped. The rear headrest cushions must be pulled out when the seat is to be folded down.

Front seat head restraints have a vertical adjustment range of approximately 3 1/2 inches. To raise, grasp both sides of the cushion and pull upwards. To lower, press down on the top center of the cushion. A system of detents will secure the cushion at the desired height.

For the best protection, front seat occupants should adjust the cushion on a level with the head.

Seat belt restraint system

NOTE! Seat belts, properly worn, reduce the risk of serious occupant injury in an accident or emergency maneuver. Belt type restraints are provided at all seating positions. Use them for your comfort and protection.

Inertia reel-type three point manual belts are provided at the front and outboard rear seating positions. A manually adjusted lap belt is provided for the center rear position.

Seat belt, front seat

1. Latch tongue
2. Latch stalk

Using manual lap and shoulder belts

Each lap and shoulder (three point) restraint consists of a continuous belt, a latch stalk, and a locking retractor mechanism which allows passenger movement under normal circumstances and locks the belt in emergency situations.

To put the belt on, first grasp it near the shoulder belt guide loop and pull out a sufficient length of belt to reach the latch mechanism between the front seats. One section of the belt should now be lying low over the hips and the other over the shoulder nearest the guide loop. Position the latch tongue on the belt so that it can be inserted into the latch stalk.

Pull up on the upper portion of the belt to take up any slack in the lap portion. The retractor mechanism will automatically adjust the shoulder portion. The belt is released by pressing the red button. The retractor will return the belt to its stored position.

NOTE! Pregnant women should use the belt as described above paying special attention to applying the lap portion of the belt as low and snug over the hips as possible.

When the belts are in use the retractor mechanism is normally unlocked. This allows freedom of movement for the restrained occupant automatically The belt locking mechanism is activated by rapid belt motion and/or sudden vehicle deceleration. The belts will lock during hard braking or when the vehicle is climbing or descending steep grades.

WARNING!

1 No alterations or additions should be made to this belt system.

2 The webbing must not be bleached or redyed.

3 Each belt is meant for one person only. The belts at outboard seating positions must be used as a lap/shoulder restraint only.

4 Holding your small child is not safe. Children under 5 years old and weighing less than 40 lbs, should be restrained in a suitable safety seat/restraint designed for that purpose. Follow seat manufacturer's instructions which are based on the size and weight of the child. If the child safety seat is designed to be restrained by a lap belt, use it in the center rear seating position. Restraining a child safety seat with a 3-point belt may require a special clip (contact the seat manufacturer) to restrict belt movement and prevent the seat from tipping over. Refer to the instructions to determine clip necessity and availability. For further information on child restraint systems for your car write to: U.S. Dept. of Transportation, Washington, D.C. 20590.

5 Fully reclining the seat back increases the risk of sliding under the seat belts in the event of a frontal collision.

6 If in doubt on any matter concerning restraints or their use, please consult your dealer.

7 After an accident the seat belts should be inspected and if necessary, be replaced if the car is to be put back in service. Ensure that the retractor locks when the belt webbing is pulled and the belt retracts smoothly when released. If the webbing won't retract fully and hangs from the guide ring, the retractor may be damaged or the webbing stretched in the accident. If so, replace the belt assembly.

Seat belt reminder system

This vehicle is equipped with a seat belt reminder system as required by Federal Motor Vehicle Safety Standard 208, Occupant Crash Protection. The purpose of this standard is to reduce the number and severity of traffic accident injuries by promoting increased usage of seat belt systems. The vehicle may be started whether or not the seat belts are fastened. The reminder light on the instrument panel will glow for about 8 seconds. The audible buzzer will sound until this light goes out or the driver's seat belt is fastened, whichever occurs first.

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Passive seat belt system

Passive seat belt system (some 900S)

The front seats of some Saab 900 variants are equipped with a passive seat belt system. The system consists of a two-point, motor-driven diagonal strap and a manually fastened lap strap.

The automatic portion of this seat belt system is controlled by the position of the doors and the ignition switch.

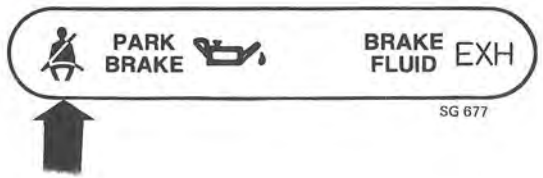
WARNING!

- The front seat passive belts are not designed to hold a child safety seat.
- To avoid injury, keep hands well clear of the guide rail when operating the passive seat belts.

When someone gets into the car, the upper belt mounting is in the forward position, next to the windshield. However, on the passenger side, the belt can be "parked" in the rear position, if the passenger gets out of the car and shuts the door while the ignition switch is on. In this case, the belt will move to the forward position when the door on the passenger side is reopened. For best protection always fasten the lap belt after the automatic shoulder belt is in place.

Using the passive belts

1 When the ignition switch is turned on, the belt moves to the rear position. Simultaneously, a warning lamp in the right-hand indicator lamp panel of the combined instrument blinks and a buzzer sounds.



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When the belt is locked into the rear position, the warning lamp and buzzer will shut off.

2 **Fasten the lap belt after the automatic shoulder belt is in place.**

If the lap strap has not been fastened, the buzzer will sound for a few more seconds. The seat belt warning lamp on the dashboard (under the fan switch) will light up for around 8 seconds as a reminder to fasten the lap strap.

WARNING!

If the warning lamp in the combined instrument starts blinking when the car is in motion, the passive seat belt system is defective. Drive to an authorized Saab service workshop immediately.

3 When the ignition is shut off or when the driver's door is opened, the driver's seat belt will return to the forward position.

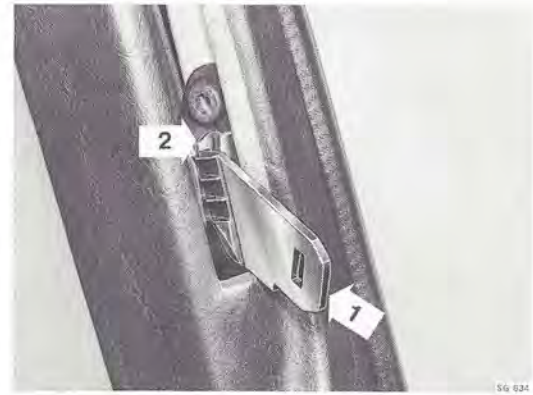
However, if the gear selector lever is in the reverse position and the ignition is on, the belt will not return to the forward position, thus allowing the driver to open the door for better visibility while backing up.

The belt on the passenger side will start moving towards the forward position as soon as the passenger door is opened.

System malfunction

In case of a malfunction in the passive seat belt system:

Check the two 20A fuses under the back seat on the left-hand side. See page 26 to raise the rear seat. The electrical distribution box in the engine compartment contains spare fuses. If the fuses are intact, you can still use the seat belts manually with extra locking tongues. You'll find them in the tool kit located in the trunk. The locking tongues are different for the right-hand and left-hand sides.



1 Fasten the locking tongue (1) and make sure it is held in place by the latch (2) on the upper side (to release the locking tongue, the latch must first be moved to the side).

2 Remove the seat belt at the upper mounting point by pressing the red button marked "PRESS".

3 Fasten the seat belt in the extra locking tongue. Make sure the belt is not twisted.

   If the diagonal belt is rolled up on the retractor instead of being fastened, the warning lamp in the combined instrument will light up with a steady glow.

4 When you get out of the car, press the red button marked "PRESS" to release the belt from the extra locking tongue.

In case of a defect in the passive seat belt system, get in touch with an authorized Saab service workshop immediately.

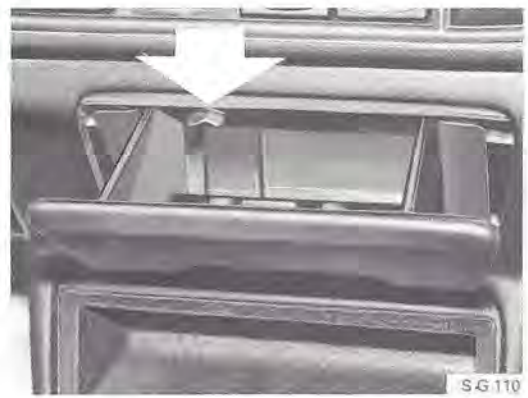
NOTE! The retractor on the automatic shoulder belt may lock if the car undergoes an abrupt motion when parking or is parked on a steep incline. This would cause the belt to stall when it should go forward to permit exit. If this happens, switch the ignition key on or release the belt at the emergency latch. To prevent this under the circumstances, check that the belt moves freely before switching the ignition off (or opening the door, passenger side).

Interior amenities

Ashtrays

Two ashtrays are provided in the car. Both are located centrally, one below the instrument panel and the other in the rear of the center console.

The ashtrays can be removed from the holders for emptying. To remove the front tray on models without the forward accessory console, grasp it at the two orange squares and pull upward. When refitting, ensure that the tray clicks securely into position. To remove the other ashtrays, including the front tray on Turbos and other models with optional accessory console, depress the metal tang. When the front tray is reinserted in the console be sure the sliding surfaces engage properly.


S-G 110

NOTE! Do not exert excessive downward force on the front ashtray when it is in the open position. Clean trays regularly and do not deposit flammable materials in them. Ensure that smoking materials are completely extinguished.

Cigarette lighter

To use the cigarette lighter, push it into the holder. It will spring back as soon as it is hot. Do not touch a hot element.

Use care when operating extra electrical devices that utilize the lighter socket as a power source. Hard use may damage the socket.

Glove compartment

To open the glove compartment door, squeeze the catches on the lock. To lock, turn the key clockwise and withdraw it. To unlock the compartment, turn the key counter-clockwise. The key is the same as that for the other car locks.

Magazine pockets (900S, Turbo)

On the back of each deep contour type front seat is a large pocket which is a convenient place for rear seat passengers to stow magazines or papers.

Sun visors/vanity mirror

Padded sun visors are provided above the windshield to the left and right of the rear view mirror. The visors may be folded

down to prevent direct sunlight or unlatched and swung away to shield the occupant from sunlight from the side.

The right sun visor has a vanity mirror which may be exposed by folding down the visor.

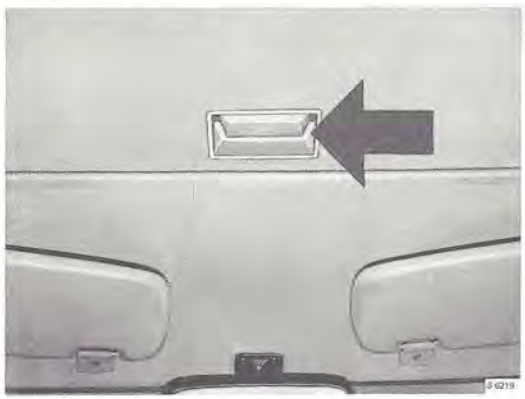
Leather upholstery (Turbo option)

The seating surfaces of the deep contour seats and the headrest cushions are upholstered in a soft, supple leather supplied by Bridge of Weir, Scotland. Refer to the section "Car care and scheduled maintenance" for care instructions, p.68.

Sunroof

Manual sunroof (900S)

The sunroof is opened and closed by sliding the handle at the front of the panel either backwards or forwards. The roof can be opened either partially or completely. Once the handle is released, it will spring back to its central position (locking position). To close the roof, push the handle forward until the panel locks in the closed position.



Electrically driven sunroof (Turbo)

The control switch for the electrically driven sunroof is located on the forward console ahead of the gear selector lever. Depress the switch as indicated by the arrows to open or close the roof.

The drive motor and emergency crank are located under the right rear part of the trunk sill. To use the crank, lift the tool well cover, unclip the crank and push it onto the motor shaft. Cranking counterclockwise will close the roof.

Rear view mirrors

The interior rear view mirror can be deflected to avoid glare by operation of the control button underneath it. The exterior view mirrors are either manually or electrically adjustable from inside the car. The manual adjuster is a lever inside the door that is directly connected to the mirror.

The electrical adjustment is done by means of four way toggle controls located on each side of steering wheel (See diagram of con-

Interior rear view mirror

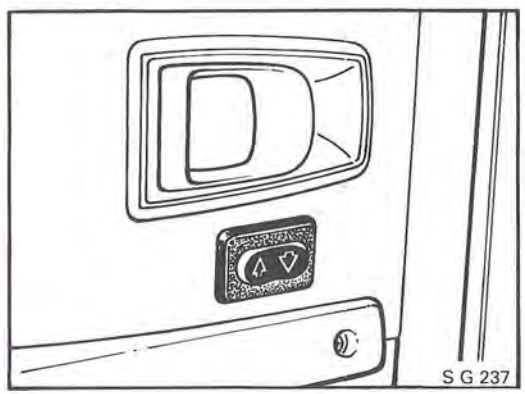
1.Normal position
2.Anti-dazzle position

trols and instruments). Exterior mirrors are anti-glare coated. To prevent scratching of this coating do not clean mirrors with sharp objects or abrasives.

NOTE! The righthand exterior mirror has a convex glass. Objects seen in the mirror are closer than they appear to be.

Power windows

Rocker-type switches for the electrically operated window regulators on 900S and Turbo models are located on the center console next to the hand brake. On sedans there also are switches on the rear doors near the door handles. The ribbed switches on the console are for the front door windows. The window on the driver's side can be lowered fully without the need for keeping the switch depressed. Press the button past the spring-loaded stop position and release it after pressing it to the end position. On sedans an additional switch is provided on the console to lock out the function of the switches on the rear doors, useful, for example, when children are riding in the rear seat.



Audio equipment

All Saab 900 models are equipped with a four-speaker stereo sound system featuring a Saab/Clarion electronic AM/FM Stereo Receiver/Cassette player and an automatic retracting antenna. The 900 has a 20 watt-rated unit with integral amplifier. The 900S and Turbo models have an 80 watt-rated unit with a multi-function touch plate control panel and remote mounted amplifier (behind the center console). In addition, Turbo models have a 7 band graphic equalizer mounted in the center console. All radios feature a slide-out bracket permitting the radio to be easily removed and installed as a theft preventative measure. In addition, 900S and Turbo radios are protected when removed by an Electronic Lock-Out feature which renders the radio useless without a 6 digit access code. This must be entered whenever power is disconnected from the radio such as removing the radio or disconnecting the battery. A feature of the casette player is that the player head retracts from the tape when the unit is switched off or the ignition key is turned completely off. It is not necessary for the tape to be ejected or eject itself. Refer to the separate operating instruction manual for complete information about features, controls and use. The radio is protected by a 10 amp and a 3 amp fuse located at the back of the amplifier. The equalizer/amplifier must be removed before the fuse may be changed.

Electric antenna

An electric antenna is standard. The antenna will rise/retract when the radio is turned on/off and the key is switched on.

> **NOTE!** Be sure the antenna is retracted when driving in areas with low overhead clearance or when entering a car wash.

Cassette tapes

Follow the radio/cassette player manufacturer's recommendations about maximum tape length for your type of equipment. Do not leave cassettes in direct sunlight or store them in the car under hot or extreme cold conditions. In extremely cold weather refrain from playing a cassette until the interior reaches a comfortable temperature. Clean the cassette player with an approved head/capstand cleaner regularly.

FM Radio tips

FM and FM/Stereo reception is limited to 25-40 miles. Hills, signal reflections from tall buildings, and broadcasting towers may produce temporary interference. If reception is weak, or hissing, popping or station switching occurs, fine-tuning may help correct these conditions.

Doors, locks and luggage compartment

Doors

Two keys are supplied with the car. Both fit the ignition switch and all locks. The serial number of the key will be found engraved on a small plastic lug on the key ring. Keep the lug and make a note of the serial number in case the key is lost.

All side doors are fitted with safety lock buttons with which they can be locked from the inside when closed. Lock button on the drivers door cannot be pushed down when the door is open.

Both front side doors have lockable outside handles. These are locked and unlocked as follows:

To lock: Give the key a quarter turn rearward and let it spring back to the vertical position.

To unlock: Give the key a quarter turn forward and let it spring back to the vertical position.

Door lock, left hand door

1. Unlock
2. Lock

Child safety locks

The rear doors of the 4-door models are provided with safety locks to prevent the doors from being unintentionally opened from the inside by children. When the lever is in the lower position (A), the doors can be opened from both inside and out, but when the lever is in the upper position (B), the door can only be opened from the outside.

WARNING!

Driving with the lock buttons down is not recommended. In the event of an accident this may impede exiting the vehicle or rescue from outside. Also, remember that when the child safety locks are set (position B) the rear doors can only be opened from outside.

Central locking system

All door locks and trunk lock will be locked or unlocked when the driver's door is locked or unlocked. Passenger doors may be locked or unlocked independently using the key (front door) or the inside knob.

Sedan

The trunk lid (sedans) can be unlocked separately by inserting the key in the lock and turning it clockwise until it stops (approximately 2 o'clock position). With the key in this position press the release lever to unlatch the lid. Return the key to the 12 o'clock position and remove it from the lock. The lid will be automatically locked when closed. When the driver's door is unlocked the trunk lid may be unlocked by turning the key 1/4 turn counter clockwise (9 o'clock position).

Hatchback

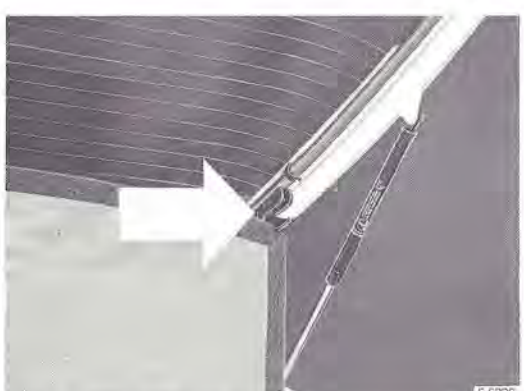
The rear lid of the hatchback models may also be locked or unlocked independently of the central locking. To unlock the rear lid turn the key in the lock clockwise to the 3 o'clock position. Turning the key counterclockwise to the 10 o'clock position will lock the rear lid.

Trunk

The sedan trunk lid is unlatched by pressing the release lever rearward. The key lock is located in the lid face directly above the release lever.

The hatchback rear lid is unlatched by pressing the release lever upward. The lid is locked or unlocked with the key lock on the right. An inside hand grip is provided to assist closing.

On hatchback models the parcel shelf can be removed and placed on the floor in the luggage compartment. The luggage compartment door is equipped with a catch to hold the raised position to facilitate loading.



Catch, parcel shelf

The tool kit, spare tire and jack are stowed under the luggage compartment floor in the tool well.

The tool well cover can also be removed via the rubber hinge straps which snap over buttons on the underside of the cover.

Trunk lighting

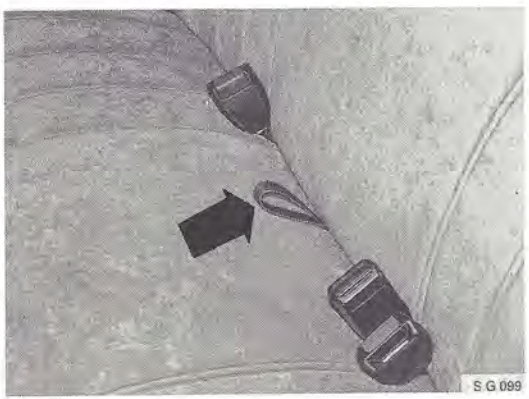
Trunk lighting is provided for all models and is controlled by a combination light/switch situated on the left inner trunk well. By means of the switch, you may shut the light off permanently (middle position) or allow it to be operated by the automatic shut-off device built into the rear hatch/trunk lid mechanism.

Cargo space expansion

When desired, the rear seat can be converted to extend the luggage/cargo compartment.

To fold the rear seat:

1. Pull the loop strap at the back of the seat cushion diagonally upward and forward to unlatch the cushion. Tip it on edge behind the front seats.



2. Firmly lift the headrest cushions out of the brackets on the backrest (900S, Turbo models).

3. Release the backrest and drop it by pulling the handle at either upper corner.

   When returning the seat to its normal position ensure that the cushion and backrest are securely latched and the seat belts are orderly. Reinstall headrest cushions, if removed.

WARNING!

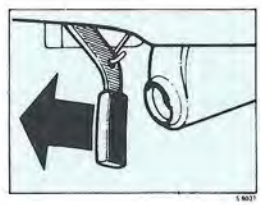
Unsecured cargo or luggage may present a safety hazard in a collision. Always take this into account when loading the car, especially with the rear seat folded down or the parcel shelf removed. In addition, do not obstruct outward vision or the ability to exit the vehicle. Never allow passengers to ride in the cargo area.

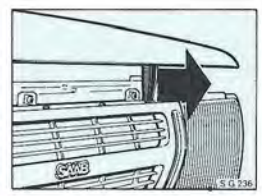
Hood

The hood release handle is located under the instrument panel next to the inner left wheel housing.

To open the hood:

1. Pull the release handle under the instrument panel. The hood will then open to the half-locked position, retained by a safety latch at the leading edge (to the right of center when facing the car).
2. Press the leading edge of the hood down slightly and pull the safety catch. The hood will then spring up and can be tilted forward without effort.





To close the hood:

1. Tilt hood rearward and down until the runners make contact with the rear hood guides.
2. Slowly push hood rearward (with a slight upward motion) until the safety catch engages. Note: push at the center of the forward edge of the hood in order to engage the runners at the rear corners in their locking guides in the fenders.
3. Press down firmly until the main lock engages securely.

SAAB-Guard alarm (optional)

The SAAB-Guard electronic vehicle alarm system is available as a dealer installed option, but is standard on Convertible models. SAAB-Guard is completely self contained and features a unique shock detector system.

A paging device and a remote disarm option are available to be added at the installation or at a later time.

Alarm activation

SAAB-GUARD automatically arms 45-60 seconds after the ignition has been switched off and the last door is closed. (The arming cycle does not begin until the 15 second courtesy light timer has shut off). If a door is opened within the 45-60 second period the arming cycle will restart when the door is closed. The siren will chirp when the door is closed and the courtesy light goes out to signal the start of the arming cycle. If this chirp is not desirable, your Saab technician can switch it off. If the engine has not been run the alarm can be activated by turning the ignition key to the "ON" position for at least 5 seconds and the off. The siren will chirp after the door is opened and closed, and the alarm will be activated 45-60 seconds after the chirp. If your Saab will be parked in areas with higher theft rates, it is also possible for your Saab technician to switch your alarm from a 45-60 second arming cycle down to a 10-25 second arming cycle.

With the shorter 10-25 second arming cycle you will have three additional features:

1 The siren will chirp at the beginning and the end of the arming cycle signalling that the alarm has been armed.

2 If the car has been disturbed, and the alarm has sounded, and then reset itself, upon opening the door the alarm will chirp once notifying the owner that the car has been tampered with.

3 The red light emitting diode (LED) mounted in the left front speaker grille will flash approximately every 4 seconds telling would-be thieves your car is alarmed. The L.E.D. will also double as an indicator to tell you when you have deactivated your alarm with the optional remote disarm.

Shock detector

SAAB-GUARD sounds an instant alarm for any entry to the hood or trunk, or any sudden shock or vibration to the car body or glass. The sensitivity of the shock detector is adjustable by your Saab technician. If the car is to be parked in areas where a sudden shock or vibration might normally occur, such as airports, the owner can shut off the shock detector using the switch provided. In 900 models the switch is mounted on the hand brake center console.

Disarming upon re-entry

The system will delay 10 seconds when a side door is opened to allow time for the driver to deactive the alarm by turning the ignition key to the "ON" position. If the system is not deactivated within this period, the siren will sound. If you desire, a longer 20 seconds delay can be selected by your Saab technician. There is also a zero (0) second entry delay which may be desirable for higher crime areas when used in conjunction with the optional remote disarm.

Alarm duration

An electronic siren/warbler is used as the alerting device. Once triggered, the alarm sounds for three minutes after which the unit automatically and immediately resets to detect further disturbance. If you desire, a shorter one minute alarm can be selected by your Saab technician.

Temporary alarm disabling

The system can be indefinitely electronically deactivated by turning the ignition key to the "ON" position for 2-3 seconds and the off again. The system can be mechanically disconnected while the car is being serviced by unplugging the siren/warbler under the hood. Remember to reconnect the siren for normal use.

Starting and driving

Ignition and gear selector lock

The ignition and gear lock key also fits all other locks in the car. The key number is stamped into the plastic lug on the key ring. Detach and keep the lug so that the serial number is available if the key should be lost.

The ignition and gear lever lock has four positions:

Lock position. The gear selector lever must be placed in reverse position (manual transmission) or park (P) position (automatic transmission) before the key can be turned into the L position. In this way both the ignition and gear selector are locked simultaneously. Parking and hazard warning lamps may be activated.

Park position. All lights and radio can be operated. Make sure that the ignition switch is in the "P" or "L" position when the engine is not running. Otherwise the ignition coil may be damaged.

Running position. The entire electrical system, including ignition, is operative.

S G 073

Starting position. The switch is spring loaded to return to Running position when key is released. Should the engine stall or fail to start the key must be turned to the P position before the starter can again be actuated. On automatic transmission cars the starter motor can be operated only when the gear selector lever is in the N or P positions.

NOTE! To ensure that the car is not left unlocked, a buzzer is activated if the left front door is opened with the key in the ignition lock.

Starting the engine

General

Do not operate the starter for more than 10-15 seconds at a stretch; wait 20-30 seconds to let the battery recover before attempting to start the engine again. Avoid warming the engine by idling at a standstill. Start driving as soon as the oil pressure light has gone out to heat the engine up to its proper working temperature as quickly as possible.

WARNING!

Do not start or let the engine run in a closed area. Exhaust gases contain carbon monoxide which may be fatal if inhaled.

Starting the engine

The engine has an automatic cold starting enrichment system. Start as follows:

1 Apply the handbrake and put the gear lever in neutral (manual transmission) or select P or N (automatic transmis-

sion). Cars with automatic transmissions can only be started when the gear selector lever is in P or N.

2 Fully depress the clutch pedal (manual transmission).

3 Turn the key to the start position and let it spring back as soon as the engine has started. Allow the engine to idle for about 10 seconds before touching the accelerator. Do not depress the accelerator for full throttle until the engine has run for at least 2-3 minutes.

If the engine stalls immediately after starting in cold weather, keep the accelerator depressed while at the same time running the starter for a few seconds, to ensure that the fuel/air mixture is not too rich.

NOTE! 16 valve engines have hydraulic valve lifters which require no service. The clearances are pre-set when the engine is assembled and no adjustments are necessary. Some valve lifter noise may be heard for a few seconds after the engine has been started, and this should be considered normal. The valve noise will disappear once the engine oil has reached normal working pressure.

For restarting a warm engine when the outside temperature is high, depressing the accelerator during cranking may assist start up.

NOTE! Saab 900 Turbo:

STARTING-Don't rev the engine immediately after starting or permanent damage to the turbocharger will result.

STOPPING-Let the engine idle 20-30 seconds before switching it off after driving to allow time for the turbocharger to coast down from high rpm before oil pressure at the bearing is depleted. For the same reason, don't rev the engine immediately before switching if off. Permanent turbocharger damage will result.

After hard driving let the engine idle about a minute to let the oil cool the turbocharger bearings somewhat. This will also help prevent breakdown of the oil. If the engine is very hot, the radiator fan may cut in and continue to run for a while after the engine has been switched off.

Special instructions - Turbo models

General information, turbochargers

The turbocharger is what really makes the Saab Turbo special, being the component that harnesses what is normally wasted heat energy in the exhaust. It has a precision made and balanced turbine wheel/compressor impeller assembly capable of vibration free operation at tens of thousands of revolutions per minute.

The impeller shaft bearings actually floats on a thin film of engine oil circulated through the turbocharger housing by the engine oil pump. The turbocharger will last the life of the car provided that it is not run without oil pressure at the bearing, the engine oil and filter change requirements are fulfilled, and no foreign objects pass through either the turbine or compressor side. The unit is sealed and should never be disassembled or cleaned internally.

APC system benefits

The APC System detects the onset of engine knock and adjusts the charging pressure of the turbocharged engine accordingly. With the engine thus protected from excessive and potentially harmful knock, the compression ratio was able to be increased to improve overall fuel efficiency.

The capability of the APC system to constantly adjust maximum charging pressure for variance of fuel octane and engine operating conditions allows optimum performance to be obtained relative to the fuel quality chosen. Using 92 octane (pump rating) fuel, little or no knocking will be heard and maximum performance will be available. On 87 octane, audible knock will be present (but controlled) under load and performance will be somewhat reduced due to the effect of the APC system upon the maximum charging pressure.

The APC system calibration provided on the Turbo with the Special Performance Group

option is optimized to provide higher performance on high octane fuel (premium grade is recommended), however performance will not be as good as the standard model on lower octane fuel.

A control system, such as the APC system, which is based upon a knock detector, cannot eliminate individual occurrences of knocking as these are necessary for the function of the system. When the knock detector "hears" engine knock the control unit lowers the charge pressure in stages to the point where knock does not occur. If the same power demand (throttle position) is maintaned the APC system increases pressure until knock once again occurs. The knock detector will again "hear" the knock and the cycle will be repeated. The system thereby constantly searches for the optimum charge pressure for the combination of engine speed, load and knock level.

Proper driving habits and care

Starting

Do idle the engine at least ten seconds after start up to ensure full oil pressure at the turbocharger before engine speed is increased, especially in colder weather.

Don't rev the engine immediately after starting or permanent damage to the turbocharger will result.

Don't use full throttle while driving until a cold engine has warmed up for 2 or 3 minutes or until the temperature gauge needle has entered the green zone.

Stopping

Let the engine idle 20-30 seconds before switching it off after driving to allow time for the turbocharger to coast down from high rpm before oil pressure at the bearing is depleted. For the same reason, don't rev the engine immediately before switching it off. Permanent turbocharger damage will result. After hard driving let the engine idle about a minute to let the oil cool the turbocharger bearing somewhat. This will also help prevent breakdown of the oil.

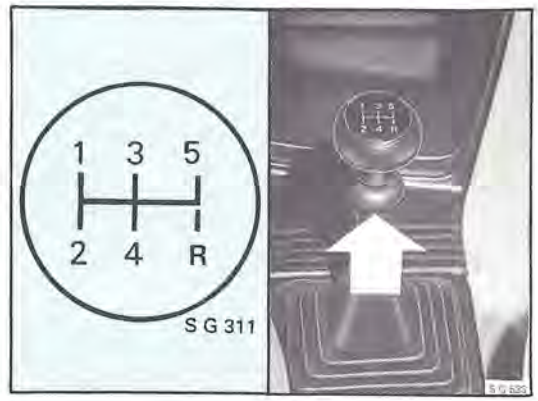
Follow the recommended maintenance schedule. In particular be sure to:

- Check the engine and transmission oil levels frequently.
- Change the engine oil and filter at least every 3,750 miles or 6 months. Use only oils which meet specifications given in this manual. Oil additives are not recommended.
- Follow the coolant recommendations (don't use plain water) and change it regularly.
- Take your Turbo to a Saab dealer if you notice a loss of power, an increase in oil consumption, heavy engine detonation while accelerating or driving at high speed, or abnormal temperature or boost indications. Do not run the engine without the standard air cleaner and exhaust system in place. Do not tamper with the turbocharging, APC or emission control systems.

Gear selector lever

Manual Transmission

The gear positions are shown on the gear lever knob. Fifth gear is the highway gear in which best fuel economy can be achieved. To engage reverse (R), first raise the collar on the gear lever.



NOTE! Reverse gear is not synchronized. Engage reverse only when the vehicle is completely stopped and only with the clutch pedal fully depressed and the accelerator fully released. When parking, apply the hand brake after engaging reverse gear.

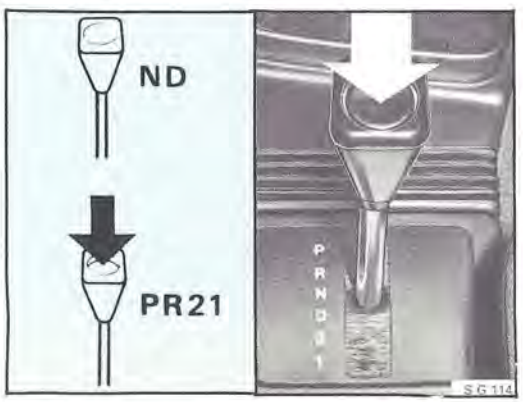
Automatic Transmission

The gear positions are shown on the console beside the gear selector lever.

P Park
R Reverse
N Neutral
D
2
1 } Positions for forward drive

Certain lever positions can only be selected after the button in the center of the selector knob has been depressed, to release the catch. The lever can be shifted freely to position D or N from position R, 2 or 1.

NOTE! When parking, apply the handbrake after engaging park position.



Gear changing

Manual Transmission

When shifting gears, release the clutch pedal smoothly and carefully. There are only two proper clutch positions for driving: Either out (pedal fully depressed) or in (pedal released). It is poor practice to drive with a slipping clutch or with the foot resting on the clutch pedal, as this causes heavy wear on the clutch assembly. When the car is standing still with the engine running, the gear lever should be in neutral and the clutch pedal released. In all shifts, move the lever gently but firmly and with a slight, barely perceptible, pause in neutral.

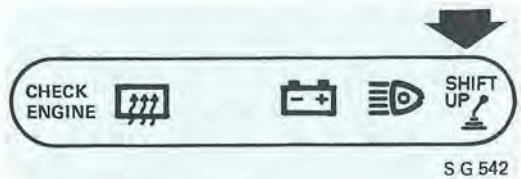
NOTE! The gear selector must be in reverse in order to remove the ignition key.

WARNING!

Reverse gear is not synchronized! Before shifting to reverse, make sure that the car is at standstill, the clutch pedal is fully depressed, the accelerator pedal is fully released, and the collar on the gear lever is pulled upward.

Shift indicator light

The lower the gear selected, the faster the engine must run to hold the car at a given speed, and this means greater fuel consumption. The Saab 900 with manual transmission has a light on the instrument panel to indicate excessive fuel comsumption. On a warmed up vehicle the light comes on to signal you to shift up into a higher gear. A fade-in/fade-out switch and a delay of about 1.5 seconds are used so that you will not be annoyed by continuous blinking. The light is a recommendation to shift up, but it should of course be ignored in certain traffic situations. The system prolongs engine life as well. Make a habit of shifting up before or when the upshift light goes on.



Cars with automatic transmission

The engine should be at idling speed when the gear selector lever is moved from one position to another and the car is at a standstill. If you depress the accelerator at the same time as you move the lever, this will cause abnormally high wear on the transmission. Always keep your foot on the brake to prevent the car from rolling when you select a drive position.

Selecting gears

D. The D (Drive) position is for normal forward driving. Whichever of the three forward gears best matches the speed and load on the engine is automatically engaged.

2. Position 2 gives automatic changing between first and second gears but top gear will not be engaged. If the lever is moved from D to 2, this gives an immediate down shift for more engine braking power. Position 2 must be selected at road speeds below 55 mph.

1. Position 1 is used to obtain maximum engine braking on steep, downhill slopes. Position 1 should also be selected for driving up long, steep uphill slopes to avoid repeated gear changing, which can lead to overheating of the automatic transmission fluid. When driving in top gear, moving the gear selector lever to position 1 will cause an immediate down shift to second gear. The transmission will down shift to first at a speed of about 37 mph. The lever must not be moved to this position at speeds exceeding 55 mph. Second and third gears cannot be engaged when the lever is in position 1.

N. In position N (Neutral) no gear is engaged. The starter contact is operative in this position. The handbrake should be applied when the selector lever is in position N to prevent the car from moving if it is standing on a slope.

R. Position R (Reverse) must not be selected unless the car is stationary.

P. Position P (Park) is selected when the car is parked, and the lever must be in this position before the ignition key can be turned to L (Locked) and withdrawn. The selector lever is then locked and the transmission is immobilized. Do not select position P when the car is in motion. The starter can be operated with the lever in this position.

Moving off

1. Move the selector lever to the desired position (normally D for forward driving).
2. Release the brake and accelerate.

Kick-down

To obtain maximum acceleration, e.g. for overtaking, the accelerator should be pressed down hard to the kick-down position. When the car is travelling at between 34 and 65 mph , depressing the accelerator to the kick-down position will cause an immediate down shift to second gear. When the maximum engine speed for second gear is reached, or if the accelerator is released, the transmission will automatically up shift to third gear.

Cruise control (900S, Turbo)

An electronically governed cruise control system is standard on 900S and Turbo models. The cruise control system helps reduce driver fatigue on long highway trips and may improve fuel economy (depending on driver habits and driving conditions). The system is controlled by a switch inte-

grated with the turn signal lever. The sliding switch has three positions: OFF, ON and RESUME. At the end of the lever is a SET SPEED button.

NOTE! A dealer installed cruise control system is available for base 900 models. Only a Saab approved system should be installed to ensure safe operation. Consult the usage instructions provided with unit, if different from the system shown here.

To select the cruising speed

Move the switch to the ON position. Accelerate to the desired cruising speed (minimum speed: 25 mph) and then press the SET SPEED button.

WARNING!

Do not engage the cruise control in dense traffic or when driving on slippery surfaces or on steep grades. Keep the control switched off when not in use.

To reduce the selected cruising speed

Move the switch to the OFF position. As soon as the speed has fallen to the new desired cruising speed, move the switch to the ON position and press the SET SPEED button.

To increase the selected cruising speed

Accelerate to the new desired cruising speed and then press the SET SPEED button. Alernative: Hold the SET SPEED button in until the desired speed is reached, then release it.

Temporary acceleration

Termporary acceleration, such as for passing, can be achieved normally by depressing the accelerator. As soon as the pressure on the accelerator has been released, the car will return to the previously selected cruising speed.

Temporary deceleration

The cruise control system ceases to function automatically if the brake or clutch pedal is depressed. To resume the constant cruising speed, move the switch to the RESUME position momentarily.

To disengage the cruise control

The cruise control system disengages automatically:

- when either the brake pedal or clutch pedal is depressed
- when the switch is moved to the OFF position
- if the speed of the car falls below 25 mph
- when the engine is switched off.

WARNING!

1 Do not use the cruise control system when the roads are wet or slippery or in dense traffic.

2 Keep the system switched off when not in use to prevent inadvertent engagement, e.g. when signalling a turn.

3 If the gear lever is unintentionally moved to neutral while driving with the cruise control engaged, depress the brake (or clutch) pedal momentarily or move the cruise control switch to OFF. Failure to do so will cause the engine to overrev.

Steering characteristics

The car has a built-in tendency to understeer, i.e. at a given position of the steering wheel the turning radius tends to increase with rising speed. The car is deliberately designed this way to improve its stability and reduce the risk of backwheel skids ("fishtailing").

One of the ways in which understeering has been achieved is through the weight distribution. With only a driver, about 60% of the vehicle weight is on the front wheels. The corresponding figure for a fully loaded car is about 50%.

Running in

Every new car has a recommended running in period during which the owner is advised to drive with restraint. Pistons, cylinder walls and bearings need to be in operation for some time to produce smooth and hard-wearing contact surfaces. Placing too much strain on a new engine interferes with this gradual process, shortening the life of the car and especially the engine.

For the first 1,000 miles you should not drive at full throttle except for very brief periods. At 1,000 miles the car should be taken to a Saab dealer for the recommended break-in service (see "Service and maintenance" section.)

Braking

To avoid subjecting the brakes to excessively high temperatures, e.g. when driving downhill in mountainous country with descents of thousands of feet, you should utilize the braking power of the engine by selecting a lower gear.

For cars with automatic transmission, use position "1" or "2".

NOTE! It is advisable to check the brakes occasionally when driving to make sure that they are working properly, especially if they have been subjected to heavy splashing with water or when driving through snow or salty slush, as the braking effect may be temporarily reduced in conditions of this kind. The brake system is power assisted, but the added power from this is only available when the engine is running. It requires a considerably greater force on the pedal to brake the car when the engine is switched off.

The brake pads have been thoroughly tested and are designed to deliver the best results with respect to braking effort, useful life and minimum noise under normal driving conditions. Use only Saab recommended original asbestos-free brake pads when worn pads need replacing.

Running-in of new brake linings

The running-in period for new brake linings is around 90 miles of city driving or 300 miles of highway driving. To extend the service life and reduce noise, avoid hard braking during this period.

Parking

Engage reverse gear (manual transmission) or park position (automatic transmission) only after coming to a complete stop (see Gear changing. **Apply the hand brake and switch off the ignition.** Before leaving the vehicle check that the interior lights go off and lock the doors. Park with the wheels turned toward the curb on downhill grades and away from the curb on uphill grades.

NOTE! Do not use the handbrake if the car is to be stored for a long time or if the car is being parked for several days when the brakes are wet. Constant dampness and pressure may cause the brake material to stick to the disc after a while. The brake may then be difficult to release or may leave material deposited on the disc.

Catalytic converter precautions

Use only unleaded fuel to preserve the efficiency of the catalyst. Keep the vehicle in proper operating condition by observance of the maintenance schedule outlined elsewhere in this manual. Failure to do so will not only result in a loss of fuel economy but could also damage the catalytic converter.

WARNING!

Malfunctions involving fuel or ignition systems, resulting in misfire or loss of performance, may lead to overheating of the catalyst. Extended idling during cold weather warm-ups may produce a misfiring condition and vehicles should not be left unattended. Do not continue to operate your vehicle in this condition. Have it checked by your Saab dealer as soon as possible.

Do not park, idle, or drive converter equipped cars in areas where dry grass or other combustible materials can come into contact with the hot exhaust and be ignited.

Economical driving

For maximum economy, the Saab 900, like any other car, needs to be driven moderately. Avoid unnecessary full throttle acceleration and high engine speeds wherever possible.

Driving in congested areas and driving with a roof rack or trailer, all contribute to high fuel consumption. Excessive idling and "warming up" the engine also wastes gas. Use the air conditioner only when necessary. Winter temperatures and use of winter tires are other factors that may increase fuel consumption.

Maintaining your car according to the recommended maintenance schedule will help you get maximum fuel economy. Be sure the engine is tuned to specification, the battery is fully charged and wheel alignment and tire pressures are correct.

Selecting shift points to maintain engine speeds within the economy range shown on the tachometer face will also aid in obtaining maximum fuel economy. See also shift light use on page 33.

Winter driving

1 Condensation in the fuel system is minimized by keeping the tank full. It is advisable to occasionally use a gasoline antifreeze additive (dry gas) to remove accumulated moisture. Follow manufacturer's usage instructions and use sparingly. Ethanol-based dry gas is recommended over methanol-base types.

2 Lock lubricants and antifreeze are available to prevent door and trunk locks from freezing in damp, cold weather. A frozen lock may be thawed by heating the key. Don't force it.

3 Before driving in winter time, free possible frozen windshield wiper blades from the windshield glass. Remove any snow from the air intake or the passenger compartment at the right rear corner of the hood.

NOTE! Models with wide profile tires: If wide profile winter tires are not available 185/65 R15 or 175/70 R15 winter tires (4) may be installed. Winter tires should be mounted on 5 1/2×15 inch steel or aluminum Saab rims. Be sure to purchase tires of sufficient load capacity. Your Saab dealer has Saab-approved winter tires available on Saab steel rims.

The speed rating of winter tires may not be the same as that of the original equipment tires. Do not drive the car faster than the approved speed rating of the tires (see also Tires).

4 If regular or studded (check state law) winter tires are used they should be mounted on all four wheels. Ordinary snow chains (avoid clamp-on types) can be used on both front and rear wheels. Drive carefully since chains may scrape against the body on large bumps or sharp turns.

Driving with the luggage compartment lid open

Whenever possible, you should avoid driving with the luggage compartment lid open, since the exhaust gases can be drawn into the car. If, nonetheless, you are forced to drive with the lid open, make sure that all the windows are closed. Set the ventilation controls to the positions for maximum fan speed and defrosting.

It you drive with the lid open, always tie it securely to the bumper.

WARNING!

Exhaust gases are dangerous if inhaled. The engine exhaust contains carbon monoxide, a colorless, odorless gas which may be fatal if inhaled.

Driving with a trailer

A special towing hitch is available as an optional accessory. Bolt holes are already provided to facilitate mounting of the attachment.

We recommend you drive your new Saab beyond the break in service (first oil and filter change) before trailer towing.

It is inadvisable to hook an excessively heavy trailer to a car, and the following points should, therefore, be borne in mind:

1 Legal restrictions on towing speed, trailer weight, and trailer braking equipment in the state concerned must be complied with. Check your local laws before towing a trailer.

2 The weight limit of the trailer is 1000 lbs, for a trailer without brakes and 2000 lbs. for a trailer with brakes. Tongue weight should be 5% to 7% of the trailer weight with a maximum permissible tongue weight of 200 lbs. Tongue weight is to be considered as vehicle load and should be deducted from the permissible trunk load or weight. Always hook up the safety chains provided with the trailer.

3 If the car has an automatic transmission, position 1 should be selected for climbing steep grades in order to best utilize the torque available from the engine. The same applies for down gradients so as to obtain maximum engine braking effect.

4 It is recommended that heavy load trailers (campers, etc.) not be towed by a 900 SPG and that light units (light-duty utility/sport) be towed with caution.

5 When towing a trailer, avoid grades of 15% or more, as in such conditions the weight on the front driving wheels is so low that they may lose traction and stop the car. For the same reason, the handbrake effect may be so reduced that the car and trailer cannot be held stationary on very step uphill grades by the handbrake alone without the wheels starting to slide. When driving with a trailer on very long hills, you can help the engine cooling by turning the cabin fan to full speed.

6 The load distribution in the trailer is most important. In a two-wheeled trailer the load should be placed low down and concentrated as much as possible over the wheels.

7 When driving with a trailer, always make allowance for the altered handling characteristics and longer stopping distance. The brakes, suspension, shock absorbing equipment, and light system of the trailer are very important in towing a trailer safely.

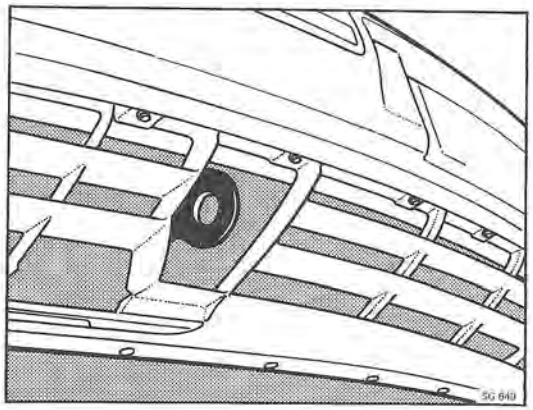
8 If heavy trailers are to be towed, we recommend that a pneumatic spring-boosting accessory be used to assist the rear springs.

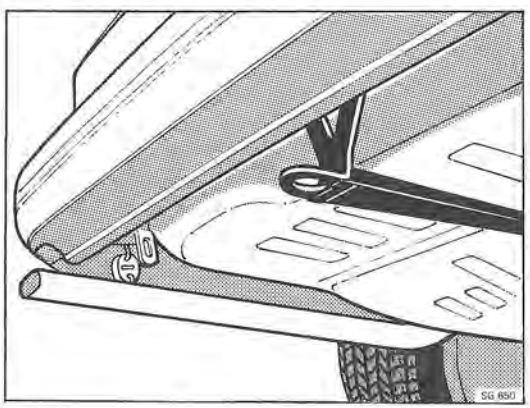
9 When towing trailers, inflate tow vehicle tires to the "Cold tire pressure" for "Full load" as recommended in the specifications section of this manual.

NOTE! Trailer brakes which require tapping into the vehicle's hydraulic system are not recommended.

Flat towing

The 900 is equipped with towing lugs at the front and rear. Flat towing over long distances is not recommended. Check applicable state and local laws to determine if flat towing is permitted.





Proceed carefully and never exceed the speed limit applicable to vehicles in tow. Try to keep the tow-line taut to prevent sudden jerking. Remember that power- assisted braking does not function when the engine is switched off. Consequently, considerably greater force than usual will have to be applied to the brake pedal.

If a car with automatic or manual transmission has to be towed, the following rules must be observed:

1. The selector must be at N.
2. The transmission case must be filled with oil to the correct level.
3. The maximum safe towing speed for cars with automatic transmission is 25 mph.
4. The maximum recommended towing distance is 25-30 miles. If the car has to be towed any greater distance, the front wheels must be lifted off the ground.
5. An engine with automatic transmission cannot be started by towing or pushing.

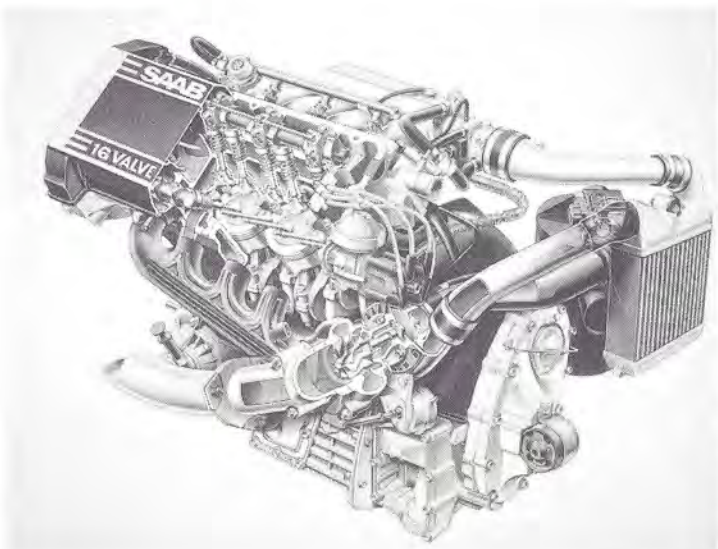
Towing by commercial tow truck

The Saab 900 may **not** be towed by a commercial truck equipped with sling type equipment. Sling types will cause damage to the rear bumper and front bumper/spoiler assemblies (and fog lights if so equipped). Should it become necessary to have your vehicle towed, wheel lift or a flat bed type carrier must be used. We suggest that you specify your request when contacting a towing facility.

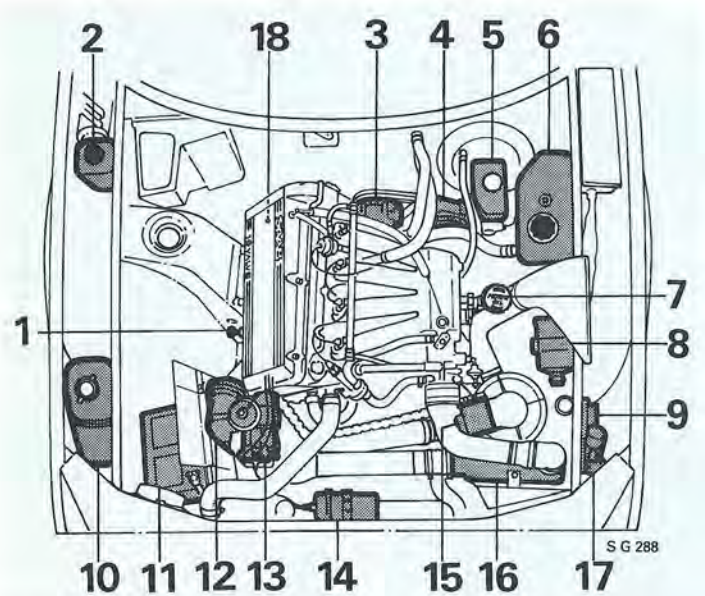
Towing with wheel lift

The 1987 Saab 900 may be towed from the front with wheel lift equipment without any special considerations for distance. Of course a safe speed must always be used.

To tow from the rear with the front wheels on the ground a maximum distance of 30 miles must be adhered to. If necessary to tow for greater distances the front wheels must be placed on wheel dollies. Do not tow an automatic equipped car more than 25 mph and be sure all transmission fluids have been topped off.
Remember! The handbrake operates on the front wheels.



Technical description



Underhood components

1. Dipstick, manual transmission*
2. Power steering reservoir (16 valve)
3. Water pump
4. Alternator
5. Brake fluid reservoir
6. Coolant tank
7. Engine oil dipstick, filter hole
8. Fuel filter (8 valve) (beneath rear axle, 16 valve)
9. Electronic ignition module
10. Washer fluid reservoir
11. Battery
12. Turbocharger (Turbo only)
13. Ignition distributor
14. Ignition coil
15. Air flow meter (16 valve) Fuel distributor (8 valve)
16. Intercooler (Turbo only)
17. Cruise control vacuum pump
18. Power steering pump

*) Automatic transmission dipstick protrudes ahead of the engine near the upper radiator hose.

Engine

The Saab 900 has a four cylinder in-line liquid cooled engine with a roller chain driven overhead camshaft(s).

Two camshafts are used on 16 valve engines which have two intake valves and two exhaust valves per cylinder for greater volumetric efficiency. A single camshaft and two valves per cylinder are used on 8 valve engines.

The engine block is cast iron and is canted 45° to the right. The light alloy cylinder head is of crossflow type, i.e. with inlet ports on one side and exhaust ports on the other. The crankshaft is supported in five main bearings and drives the oil pump. The ignition distributor is driven directly by the camshaft. The air intake preheater is thermostatically controlled on 8 valve engines. 16 valve engines have a coolant heated throttle housing.

16 valve engines are equipped with an automatic idle control (AIC) system which adjusts the engine idle according to the engine loading. 8 valve engines have a fixed idle circuit.

Emission control systems

The 1987 Saab has three distinct systems for controlling emissions to the athmosphere. The sections that follow briefly describe these systems.

I The Exhaust Emission Control System

II The Crankcase Emission Control System

III The Evaporative Emission Control System

Engine Families

1987 Saabs imported to the United States are divided into various engine families (naturally aspirated and turbocharged). The emission control standards they meet are indicated below. The engine family and appropriate tune-up specifications are identified on a label affixed to the left front inner fender.

HSA2.0V6FNT8 (Naturally-aspirated 8 valve)

HSA2.0V5FNB3 (Naturally-aspirated 16 valve)

HSA2.0V5FTBX (Turbo, 16 valve)

These engine families meet both EPA Federal Standards and California State Standards and are equipped with the following systems to ensure compliance with the applicable standards:

A. Mechanical injection system (CIS) (8 valve)

B. Electronic injection system (LH) (16 valve)

C. Decel dashpot (automatic transmission, 8 valve, and all 16 valve

D. Decel fuel shut off (manual transmission, 8 valve).

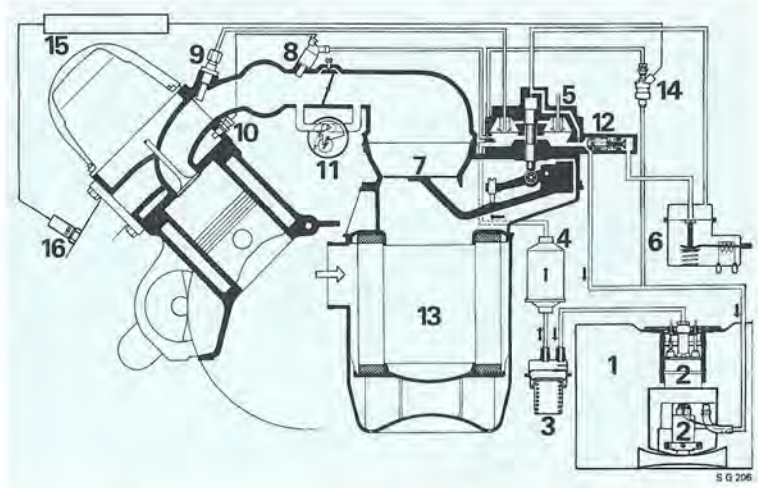
E. Lambda control system (8 valve)

F. Catalytic converter

I Exhaust emission control systems

The fuel injection system allows precise fuel metering which results in low baseline emissions while retaining good drivebility, performance and economy. The intake air flow determines the correct momentary quantity of fuel metered to the four intake port injectors for most efficient combustion. The engine draws in more or less air depending on its speed and the load applied.

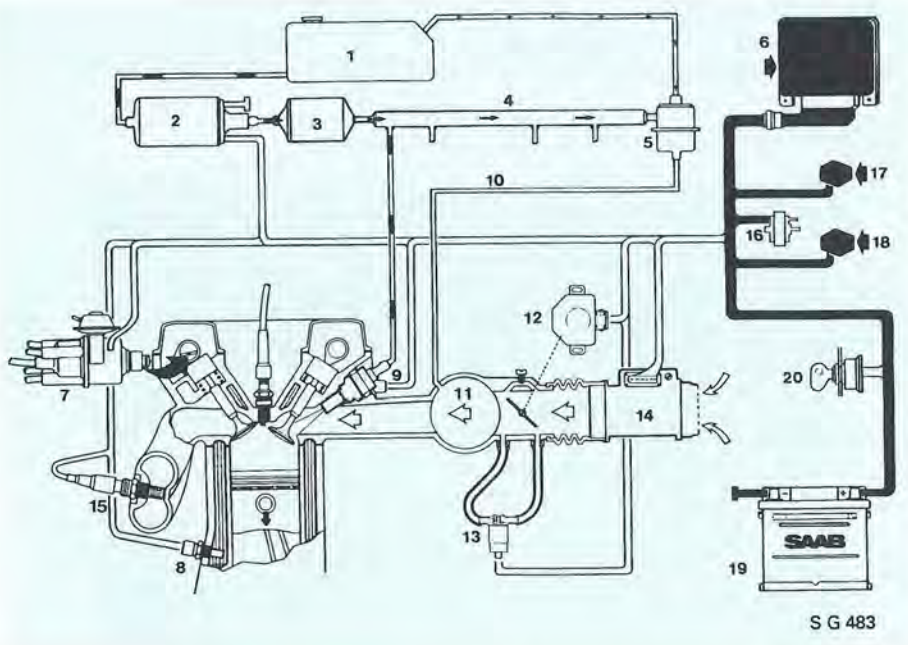
A Mechanical injection system (CIS), 8 valve engines



1. Fuel tank
2. Fuel pumps
3. Fuel accumulator
4. Fuel filter
5. Fuel distributor
6. Control pressure regulator
7. Air flow sensor plate
8. Cold start valve
9. Injection valves (4)
10. Thermo-time switch
11. Auxiliary air valve
12. Line pressure regulator
13. Air cleaner
14. Modulating valve*
15. Electronic control unit*
16. Oxygen sensor*

*) Lambda system

B Electronic injection system (LH), 16 valve engines



1. Fuel tank
2. Fuel pumps
3. Fuel filter
4. Fuel pipe
5. Pressure regulator
6. Electronic control unit
7. Ignition distributor
8. Temp. transmitter (NTC)
9. Injection valves (4)
10. Vacuum hose
11. Inlet manifold
12. Throttle switch
13. Idle speed actuator (AIC)
14. Airmass meter w/hot wire
15. Heated oxygen sensor
16. Overpressure switch (Turbo only)
17. Relay system
18. Fuel pump relay
19. Battery
20. Ignition switch

C. Decel dashpot (automatic transmission, 8 valve/all 16 valve)

The decel dashpot acts upon the throttle mechanism to minimize incomplete combustion during engine deceleration.

D. Decel fuel shutoff (manual transmission only, 8 valve)

A solenoid operated air by-pass valve reduces air flow in the air flow sensor, lowering the fuel distributor plunger interrupting fuel flow during deceleration. The solenoid is controlled by an engine speed relay and a throttle contact switch. During deceleration at engine speeds above 1575 RPM the solenoid opens the by-pass valve. When the speed drops below 1375 RPM the system deactivates allowing normal operation.

E. Lambda control system (8 valve)

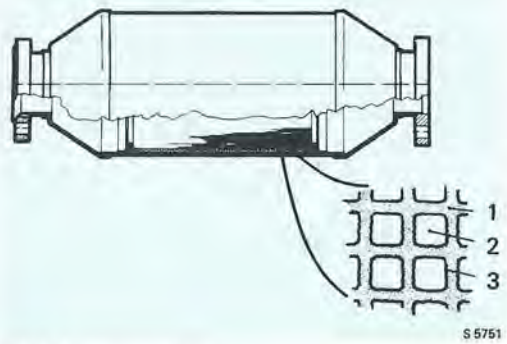
The Lambda control system is a closed loop feedback system adapted to the C.I. System to constantly maintain close air/fuel ratio control under all operating conditions. At an air/fuel ratio of 14.5 to one (Lambda = 1 at this ratio), all three regulated pollutants (unburned hydrocarbons, carbon monoxide, oxides of nitrogen) may be simultaneously controlled efficiently by a special three-way catalyst. An oxygen sensor in the

exhaust manifold monitors the oxygen content of the exhaust and sends a proportional signal to an electronic control unit (under the rear seat). This signal is compared to a predeterminded value and an output signal is sent to a fuel pressure modulating valve to make the necessary fine adjustment of the air/fuel ratio. Until the sensor warms up after the engine is started, the modulating valve will operate at a constant predetermined value and in the event of sensor failure.

A maintenance reminder lamp, labeled "EXH", on the instrument panel illuminates every 30,000 miles to indicate that the oxygen sensor is scheduled for replacement. (After this service is performed your dealer will reset the lamp actuating mechanism). Note: 16 valve engines also have an oxygen sensor but it is a different type which is to be replaced at 60,000 miles. These models do not have the reminder lamp.

F. Three-way catalyst

The catalytic converter contains a special platinum and rhodium coated dual segment substrate which simultaneously frees oxygen from oxides of nitrogen and oxidizes (burns) hydrocarbons and carbon monoxide. Unleaded fuel is required to protect the conversion efficiency of the catalyst.

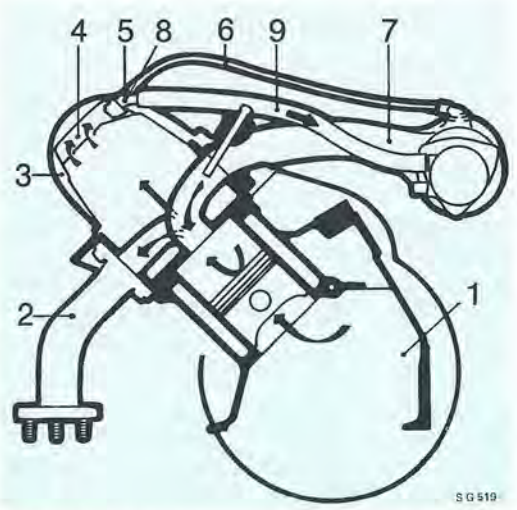


Catalytic converter

1. Ceramic insert
2. Channels
3. Catalytic coating

II. Crankcase emission control system

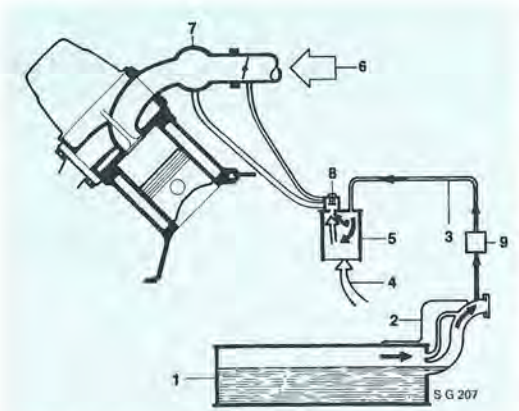
A completely closed crankcase ventilation system is used. Crankcase fumes are drawn directly into the inlet manifold under all operating conditions except full load and high blow-by when some gases are diverted ahead of the throttle body. The oil seperator in the valve cover also serves as a flame arrestor.



1 Crankcase
2 Exhaust manifold
3 Camshaft cover
4 Oil trap and flame arrestor
5 Nipple with orifice
6 Hose
7 Inlet manifold
8 Check valve
9 Hose to inlet pipe

III. Evaporative emission control system

A sealed fuel system is used to prevent the emission into the atmosphere of vapors from the stored gasoline supply. Evaporated fuel is vented from the fuel system to the storage canister which is connected to the throttle housing. The evaporated fuel is purged from the storage canister and burned by the engine when it is running.



1 Fuel tank
2 Fuel tank vent lines
3 Ventilation line to storage canister
4 Inlet air
5 Storage canister
6 Inlet air and gas vapors
7 Inlet manifold
8 Check valve
9 Rollover valve

Turbocharger and APC system with intercooler

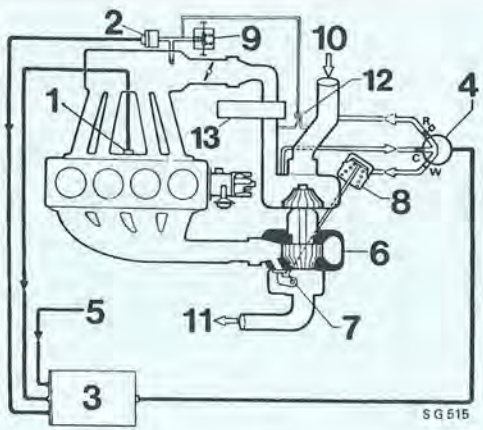
Turbo models are equipped with a turbocharger, intercooler and Automatic Performance Control (APC) system.

Turbocharger

The turbocharger is an exhaust driven compressor that increases the flow and pressure of the air entering the cylinders. This allows induction and burning of a larger fuel charge thereby increasing power output over that of a conventional engine. Being driven by the flow of exhaust gases, the speed of the turbocharger and, therefore, the charging pressure, are proportional to the speed and load of the engine. A charge pressure regulator (wastegate), which is regulated by an electrically modulated pressure signal from the APC system, controls the flow of exhaust gases to the turbine. Turbocharged engines are equipped with an engine oil cooler that is located at the lower left of the radiator. The impeller shaft bearing actually floats on a thin film of engine oil circulated through the turbocharger housing by the engine oil pump. Maintaining a clean oil supply is therefore important to the service life of the unit.

APC system

The APC system consists of simple electronic components. A knock detector (1) on the engine block senses the onset and degree of engine knock and transmits an electronic signal to the control unit (3) which also receives a signal from the inlet manifold pressure transducer (2) and from the ignition system (engine rpm). The data is processed by the control unit (3) which transmits a signal to a solenoid valve (4) that modulates the control pressure to the



1 APC Knock detector
2 APC Pressure transducer
3 APC Electrical control unit
4 APC Solenoid valve
5 RPM signal from ignition system
6 Turbocharger
7 Wastegate (Charge Pressure Regulator)
8 Wastegate actuator
9 Overpressure safety switch
10 Inlet air flow
11 Exhaust (to catalytic converter
12 Bypass valve
13 Intercooler

charge pressure regulator (wastegate) actuator. The APC system control unit has been optimized with a fixed sensitivity and pre-set high charge pressure limit to protect the engine. Maximum operating charge pressure under full load is electronically governed. The wastegate is mechanically adjusted to provide a safe, low charge pressure limit should the APC system cease to function.

NOTE! It is normal for "pinging" or knocking to occur in short bursts while the engine is operated under load, particularly on lower octane grades of fuel. When such knock is heard you may observe the needle of the Turbo pressure gauge oscillating slightly, an indication that the APC system is functioning.

Intercooler

The 16 valve Turbocharged engine is fitted with an inlet charge intercooler. The intercooler is an air-to-air heat exchanger which reduces the temperature of the engine inlet air charge by the outside air which passes across it when the vehicle is moving. Cooling the inlet charge results in greater inlet air density to allow for increased power output and reduced thermal load in the engine.

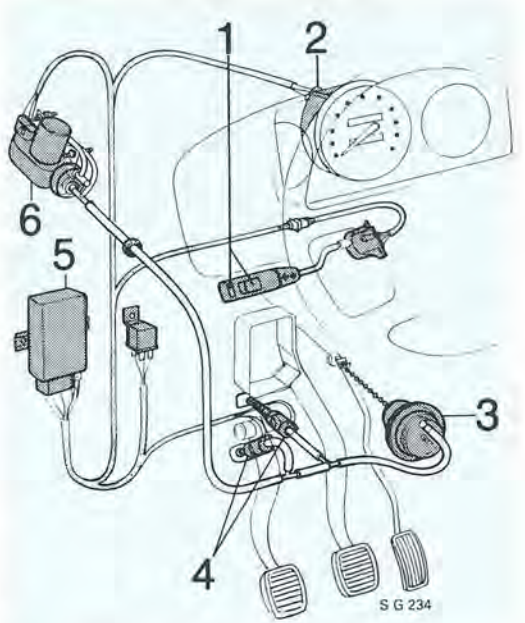
Ignition systems

The 900S is equipped with the EZK breakerless ignition system which automatically adjusts the timing to suit the grade of fuel being used. A control unit receives signals from a knocking sensor on the engine block, from a Hall sensor in the distributor and from the fuel injection system. The control unit compares the signals with those received earlier and adjusts the ignition timing to suit.

Ignition control for the Turbo is provided by a Hall sensor breakerless ignition with vacuum control.

Cruise control system

The electronically governed cruise control system will keep the car at the selected cruising speed without the need for the accelerator to be used. When the system is switched on, the vacuum pump starts to run. This acts on the vacuum regulator which is connected to the throttle control which controls the position of the throttle to maintain the selected cruising speed. Information about the actual speed of the car is sent to an electronic control unit by the speed transmitter. This control unit then compares the selected speed with the actual speed of the car. If the speeds are different, a signal will be sent to the vacuum pump. The vacuum pump will then act on the throttle so that the correct cruising speed will be resumed. A memory in the electronic control unit enables the selected cruising speed to be resumed after the brake or clutch pedal has been used.



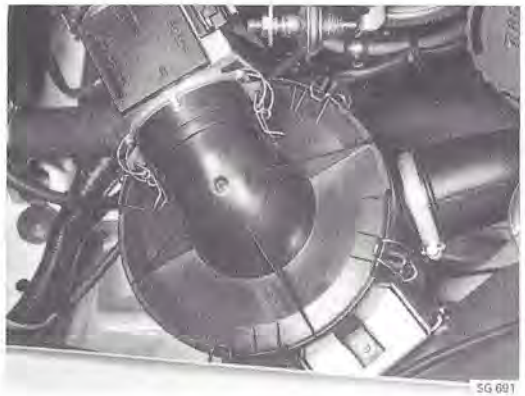
1 Switch
2 Speed transmitter
3 Vacuum regulator
4 Switches operated by the brake and clutch pedals
5 Electronic control unit
6 Vacuum pump

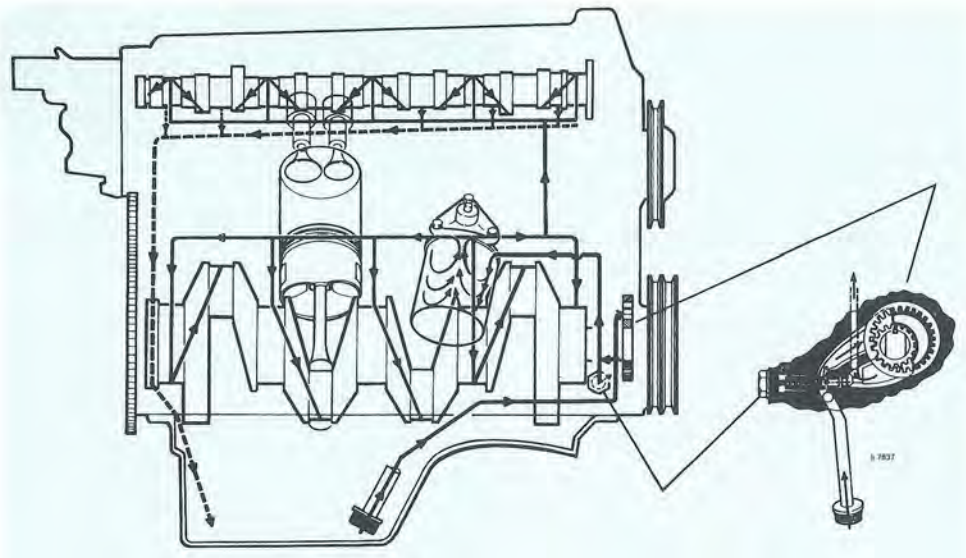
Fuel pump and filter

The high pressure electric fuel pump is a submersible type located in an enclosure pressurized by an electric feeder pump in the fuel tank. The fuel filter is located on the lefthand side in the engine compartment on models with 8 valve engines and above the rear axle, under the floor on models with 16 valve engines. The filter should be changed as specified in the maintenance schedule.

Air cleaner

The air cleaner is located on the left-hand side in the front part of the engine compartment. The cleaner cartridge is replaceable and should be changed as specified in the maintenance schedule. If the car is driven over dusty roads, the cleaner should be changed more frequently. The cartridge is made of a special grade of paper which may not be washed or moistened, but it may be cleaned carefully with compressed air. The air cleaner housing and cover should be wiped off from time to time.


SG 691



Car care and scheduled maintenance

Fuel

The fuel tank holds 16.6 U.S. gallons (63 litres). The fuel warning light will come on when the amount of fuel left in the tank is below approximately 1.8 U.S. gallons (6.8 liter).

Recommended fuel

Except for the Turbo with Special Performance Group option, use unleaded gasoline octane rating 87 or higher.

NOTE! For the Special Performance Group option, premium fuel, minimum octane rating 90.5 is recommended.

Octane rating is arrived at with the formula

$$\frac{MON+RON}{2} = \text{octane rating}$$

MON is the industry Motor Octane Number. RON is Research Octane Number. The average of these two is the number that appears on the gas pump under Federal law. This number is sometimes referred to as the "antiknock index" or Average Octane Number (AON).

To avoid deposit formation on the fuel injectors which can adversly affect performance and cause driveability problems after a cold start, use only quality gasolines which are blended with detergent/dispersant additives.

Use of gasoline-alcohol blends

Gasoline-ethanol blends (gasohol)

- has sufficient octane rating and is safe to use in Saab engines if the blend **does not** exceed 10%.
- may cause warm starting problems in hot weather. Discontinue use if this occurs.
- may require fuel filter replacement soon after beginning continuous use.

Gasoline-methanol blends

- are safe to use in Saab engines and fuel systems providing that the ratio of methanol to gasoline **does not** exceed 5% and that the blend contains a cosolvent such a TBA in amounts equal to the methanol to gasoline percentage blend ratio.
  Failure or damage caused by using gasolines with excessive alcohol blends (more than the above recommended blending percentages) are not covered by the warranty.

Engine oil

Check the oil level at regular intervals. Always switch the engine off first and wait at least five minutes before checking. Do not let the level fall below the lower mark on the dipstick, nor fill beyond the upper mark; this will cause excessive oil consumption. The distance between the upper and lower marks corresponds to a volume of approx. 1 quart (1 liter). Top up with oil of a recommended grade as necessary. After checking the oil and topping up as necessary, push the dipstick all the way down and tighten the cap securely.


S G 089

Oil filler cap with dipstick

SAE 10W-30 is the primary oil recommendation for your Saab. Turbos require SAE 10W-30 meeting the API Service rating SF/CD (preferred) or SF/CC (acceptable). Naturally aspirated models may use 10W-30 oil meeting the API Service SF/CC. For extended use in sub-zero temperatures SAE 5W-30 may be used provided it meets the API Service requirements. In extremely hot climates 15W-40, that meets the required API Service ratings, may be used. Extra oil additives are not recommended.

NOTE! Your new car came with a "break- in" filter. The service life of this filter is such that it MUST be replaced at the 1000 mile service.

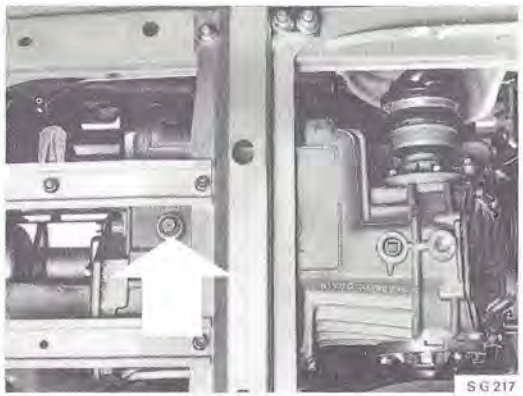
Engine oil and filter

The engine oil and filter should be changed every 7,500 miles in accordance with the maintenance schedule except in the case of the Turbo. The Turbo requires engine oil and filter changes every 3,750 miles. Follow the Turbo oil change recommendations also for naturally aspirated engines if these models are operated under severe driving conditions (extensive idling, stop-and-go driving, and/or driving in cold climates over repeated short trips without sufficient engine warm-up). The use of extra additives in the oil is not recommended, especially in turbocharged engines.

Changing the engine oil and filter

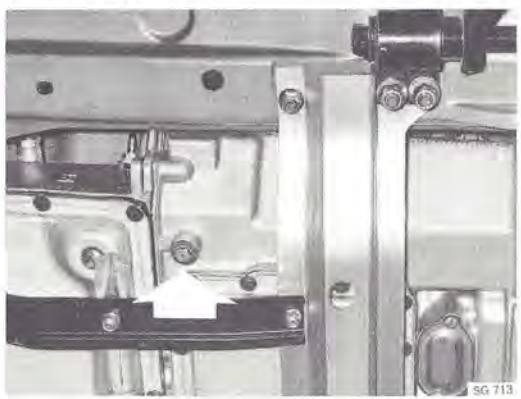
1. Drain the engine oil when the oil is still warm. Warm oil drains faster and more thoroughly.

NOTE! Do not confuse the engine and transmission drain plugs. Do not operate the engine with the oil fill cap removed or loosely installed. Oil spilled over the engine creates a fire hazard.



Skid plate removed to show engine oil drain plug (manual)

Skid plate removed to show engine oil drain plug (automatic)



2. If necessary remove the air intake pipe (use special driver, Torx T25, Turbo only) and unscrew the oil filter using a special oil filter wrench. Always change the oil filter whenever the engine oil is changed.
3. Apply clean engine oil to the rubber gasket of the filter and tighten in accordance with the instructions on the label of the long life Saab oil filter (Saab No. 9309576).
4. Reinstall the engine drain plug and the air intake pipe.
5. Fill the crankcase with the appropriate quantity and grade of engine oil. Start the engine and check for leaks.

NOTE! There may be some valve noise for the first few seconds of running after an oil change. This is normal and the noise will disappear once the engine oil has reached proper working pressure.

Transmission oil

The transmission and differential are located beneath the engine and assembled to form an integral unit with the engine. Part of the transmission case serves as the engine oil sump. The forward part of the transmission comprises a primary gear case which

delivers power from the rear of the engine crankshaft via chains.

For suitable grades of oil, refer to the "Specifications" section

Manual transmission

The dipstick is located on the right-hand side of the engine. The oil level should be between the MAX and MIN marks on the dipstick. To add oil, pour the oil into the dipstick pipe. The clutch fluid is supplied from the brake fluid reservoir.

Oil dipstick, manual transmission

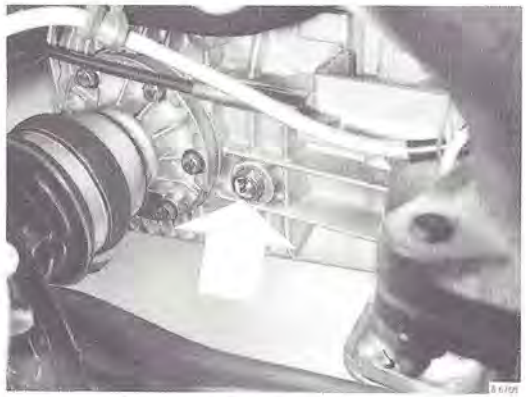
Automatic transmission

The dipstick has different markings for hot and cold oil levels.

Oil dipstick, automatic transmission

Check the oil level as follows:

Set the hand brake and run the engine for at least 15 seconds at idling speed with the gear selector lever in the D position. Then at least 15 seconds in the R position and 15 seconds in the P position, whereupon the check is performed with the selector lever still in the P position (engine running). Graduations are provided for cold oil (104°F) and hot oil (194°F). Note that at very low temperatures the oil level can therefore lie considerably under the level for cold oil which has been graded for oil at a temperature of 104°. The difference between the minimum and maximum levels is 1 pint (0.5 litres).



Oil level plug, final drive, automatic transmission

Final drive (automatic transmission)

To check the oil level, remove the filler hole plug. Correct oil level is at or just below (1/4 inch) the bottom of the filler hole. Use only SAE EP80, API GL-4, or 5 gear oil for topping up.

Cooling system

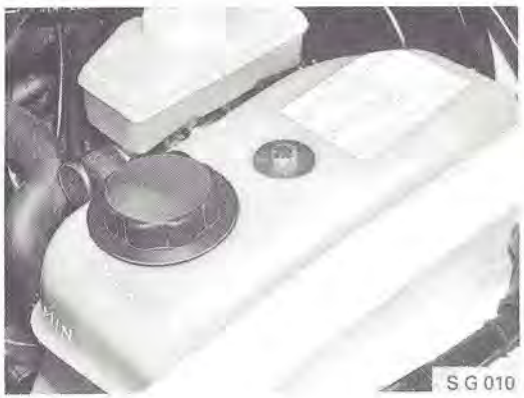
The cooling system is pressurized with a crossflow radiator and expansion tank. Until the engine has reached its operating temperature, the radiator inlet is closed by a thermostat and the coolant circulates through the engine and the fresh air heater until it reaches the temperature at which the thermostat opens. The radiator fan is electrically operated and is regulated by a

thermostatic switch. The fan is only operative when the temperature of the radiator coolant is higher than the cut-in temperature of the thermostatic switch.

The radiator fan may continue to run, or may cut in, for a short while after the engine has been switched off. A timer relay limits the after-running of the radiator fan to about 10 minutes.

WARNING!

Boiling coolant can cause serious burns. Let the engine cool before removing pressure cap. The cooling system operates under pressure. Always open the cap on the expansion tank slowly and allow any steam to escape before you remove the cap. The radiator must not be screened or blocked off!



Checking the coolant level

The expansion tank is transparent to facilitate checking of the coolant level. The level should be between the MAX and MIN marks on the tank.

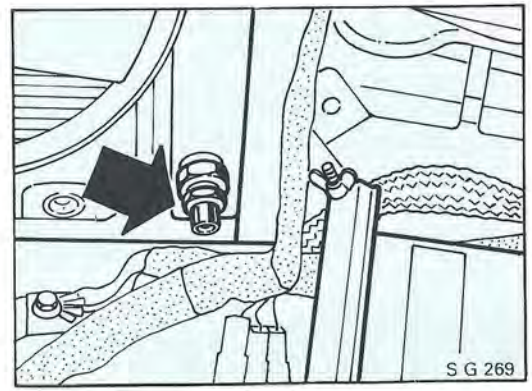
When necessary, top up with the recommended anti-freeze coolant mixture (see below). After an empty expansion tank has been filled up, the engine should be run until warm and the tank topped up again.

NOTE! Keep the coolant at the recommended level. Correct any leaks immediately. Operating the engine with low coolant level may cause damage to the cylinder head.

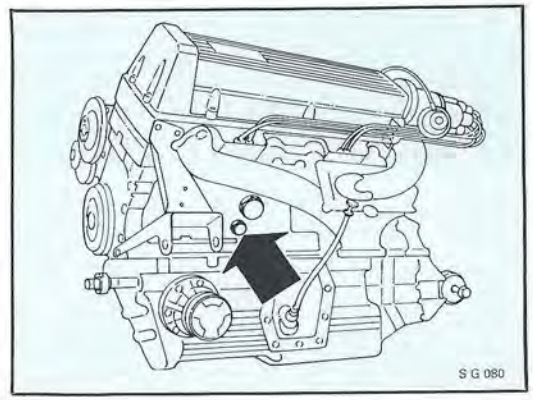
Changing coolant

Draining

1. Set the heater control to maximum heat.
2. Loosen the pressure cap on the expansion tank.
3. Open radiator drain cock which is located towards the bottom of the radiator on the right hand side.

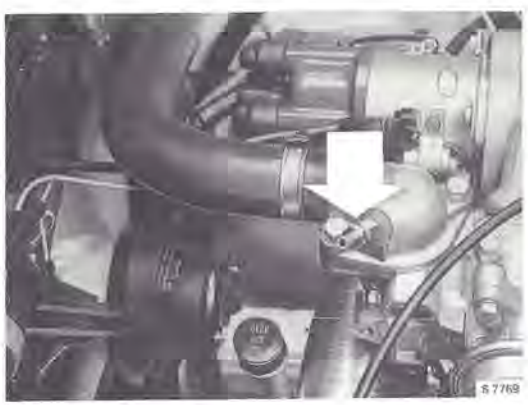


4. Open engine drain plug located to the right of the engine, under the exhaust manifold.



Filling

1. Close the drain cock and plug and ensure that the heater control is set to maximum heat.
2. Fill the system with coolant until the expansion tank is filled.
3. Open the bleeder nipple on the thermostat housing, allow the coolant to flow out of the nipple until free from air bubbles.
4. Close the bleeder nipple, top up the expansion tank if necessary and replace cap.



Anti-freeze coolant mixtures

The cooling system is factory filled with a mixture of ethylene glycol and water (50- 50 mix). For maximum security against freezing and corrosion the glycol should be 50-70% of the mixture. Always use Saab brand anti-freeze, which is suitable for engines with aluminum alloy cylinder heads, and mix with clean fresh water (see below).

To prevent freezing in the cold season and reduce the risk of boiling over in hot weather, never use pure water in the cooling system. Pure water is also undesirable as it affords no corrosion protection.

The factory fill coolant must be changed and the system flushed according to the maintenance schedule as the important corrosion inhibitors and other coolant additives lose their effectiveness with time and use. Without adequate corrosion protection, serious damage may occur to the cylinder head and other components in contact with the coolant. Corrosion protection may be depleted even though the coolant gives adequate anti-freeze protection and has an acceptable (alkaline) pH level of 7.5-11. When preparing a new coolant solution, mix the recommended ethylene glycol with water low in corrosive irons such as chlorides and sulfates. Avoid hard water which can cause clogging in the radiator. Do not use coolant booster additives. Keep the cooling system full and free of air pockets and foaming.

Saab brand coolant (BASF G-105) meets Factory recommendations and is available at Saab dealers.

NOTE! When topping up the system, premix the ethylene glycol with a suitable quantity of water. As full circulation cannot take place until the thermostat opens, there is still a risk of the engine being damaged by ice if the glycol and water were added separately and did not mix quickly enough.

Thermostat

A special 3-way thermostat is used. Opening temperature specifications are as follows:

Naturally aspirated engines-
Standard, 88°C
Hot weather alternate, 82°C
Extreme cold weather, 92°C
(Do not use in Turbo engines)

Turbocharged engines-
Standard, 82°C
Extreme cold weather, 88°C

Brakes

The footbrake system is power-assisted, with the result that the force applied to the brake pedal is amplified on braking. However, this additional power is only available when the engine is running. Much greater pressure on the brake pedal will be needed to brake the car when the engine is switched off.

There are two warning lights on the instrument panel, one for the handbrake and one

for the footbrake. The handbrake warning light will glow when the brake is set. The footbrake warning light will glow when the fluid level in the brake fluid reservoir has dropped below the MIN mark. This may be an indication that there is a leakage in the system. Since the brakes operate on a dual-circuit system, each circuit operating on diagonally opposed wheels, only one circuit will be affected at a given time, and the car can be driven carefully with a reduced braking effect to an authorized Saab dealer.

NOTE! If the brake pedal continues to move down under constant pressure or the car pulls to one side during braking or an abnormally loud or metallic noise is heard during braking see an authorized Saab dealer immediately to have the braking system inspected.

Both the footbrake and the handbrake are self-adjusting. It is therefore impossible to tell by the length of the pedal stroke whether the brake linings are worn out and need to be replaced. Check the thickness of the brake linings, regularly as specified in the maintenance schedule. Use only original asbestos-free Saab replacement pad sets.

NOTE! Brake pads should always be changed by an authorized Saab dealer. A special tool is required to turn back the parking brake automatic adjuster before new front brake pads can be installed. The front brakes are designed for special semi- metallic brake pads (asbestos-free).

Running-in of new brake linings

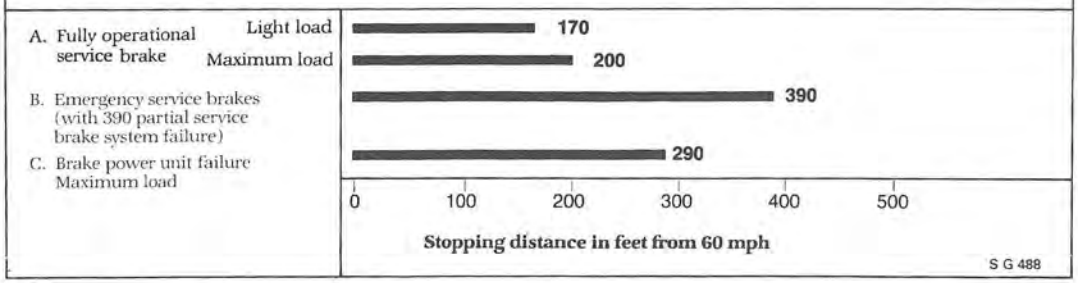
The running-in period for new brake linings is around 90 miles of city driving or 300 miles of highway driving. To extend the service life, avoid hard braking during this period.

Checking the brake fluid

The brake fluid reservoir (container) is transparent to facilitate checking of the fluid level. The level should be between the MAX and MIN marks. Use only recommended brake fluid. Over a period of time in use, the brake fluid will deteriorate, since it gradually absorbs water and oxidizes. It is therefore important that the fluid be changed as specified in the maintenance schedule. This work should be carried out by an authorized Saab dealer.

This figure indicates braking performance that can be met or exceeded by the vehicles to which it applies under different conditions of loading and with partial failures of the braking system. The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.

This table applies to all 1987 Saab 900 models.



Vehicle stopping distance

The following information is provided in accordance with the requirements of the Code of Federal Regulations, Part 575- Consumer Information as it pertains to Saab automobiles. Procedures estabilished by the National Highway Traffic Safety Administration are used in conducting the tests and the information may be used for comparison with other makes.

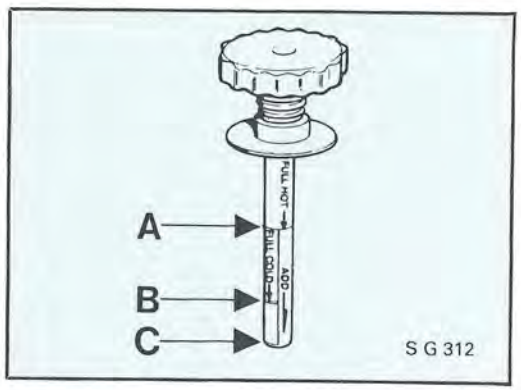
Steering

All models have rack and pinion type steering with power assist.

Models with 8 valve engines

Check the fluid level in the servo reservoir regularly, with the engine off. The dipstick in the reservoir cap is graduated separately for cold and warm fluid. If the car has reached its normal running temperature, the fluid level should be between the marks for warm (A) and cold (B). If the fluid level is checked when the car is cold, the level

should be between the cold fluid (B) mark and the tip of the dipstick (C). Top up with fluid labeled "GM Power Steering Fluid" only. Do not use automatic transmission fluid.



Models with 16 valve engines

The power steering fluid reservoir is located on the right inner fender, just behind the wheelhouse. Check the fluid regularly. The fluid container is marked for (HOT) and (COLD) levels.

Hot fluid levels should be between the (HOT) and (COLD) marks. If the fluid is checked when the car is cold, the level should be between the mark for (COLD) level and the mark for topping up (ADD). Top up with fluid labeled "GM Power Steering Fluid" only. Do not use automatic transmission fluid.

Battery

The battery is one of the most important components in the car and must, therefore, be carefully maintained. The electrolyte should be level with the lower edge of the filler pipes. Top up as necessary using distilled water only. In the case of cars that are equipped with a maintenance-free battery, the electrolyte level does not need checking.

WARNING!

The battery contains diluted sulphuric acid which is highly corrosive. Should the acid come into contact with your eyes, skin or clothing, rinse immediately with water. Call a doctor if acid gets in your eyes. Batteries that are being charged or are fully charged give off flammable hydrogen gas.

Do not smoke near a battery that is being re-charged.

The battery charge should be checked at regular intervals. This is especially important during the winter when the capacity drops due to low temperatures. Never connect the battery cables to the wrong terminals.

Booster cable connections

WARNING!

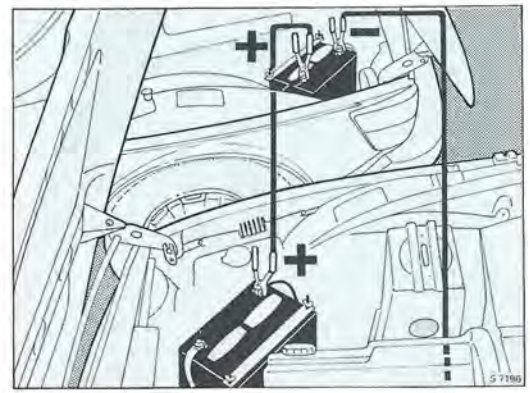
Use of booster batteries or booster generators producing more than 15 volts may cause immediate and irreparable damage to the electronic components in the automobile.

To start a vehicle with a discharged battery using a booster battery or another vehicle connect booster cables as follows:

A. Connect one booster cable from the positive (+) terminal of one battery to the positive (+) terminal of the other battery.

B. Connect one end of the second cable to the negative (–) terminal of the charged battery.

C. Connect the other end of the second



cable to a solid, stationary metallic point on the engine of the car with the discharged battery, as far as possible from the battery (such as lifting ring on cylinder head). Do not allow the vehicles to touch.

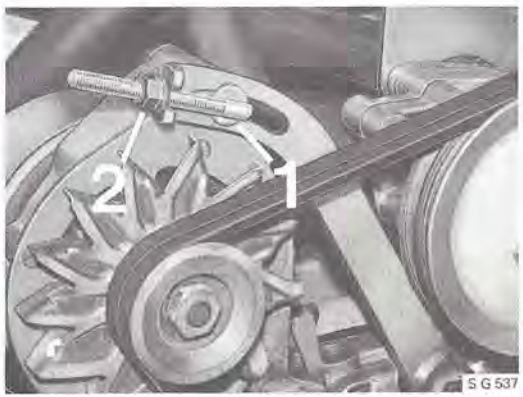
D. Start engine of vehicle with discharged battery.

E. Remove booster cables by reversing the above procedure. Remove last negative (-) connection first.

NOTE! Do not reverse the battery connections. If the cables are reversed, even momentarily, the alternator will be damaged. The insulated positive cable must be connected to the positive (+) post of the battery and the ground cable to the negative (-) post. The battery must not be disconnected from the electrical system of the car while the engine is running.

Alternator

The alternator is located near the firewall on the left-hand side of the engine. It is driven by two V-belts from the crankshaft pulley. It is important that the correct tension of the V-belts be maintained. To tighten slack belts, slacken nut (1) and pull the alternator outwards by means of tensioning nut (2). When correctly tensioned, there will be approximately 0.2 in. (5 mm) movement in either direction at the mid-point of the belts.



Ignition system

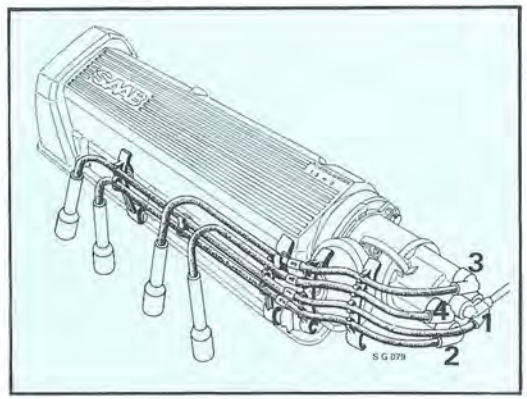
A breakerless ignition system is used. 900 S models (16 valve naturally aspirated) are also equipped with a knock detector system which automatically adjusts the ignition in the event of engine knock.

WARNING!

High energy ignition system develops dangerous primary and secondary voltages.

If the spark plugs are removed, take care that no dirt enters the cylinders. Use only the recommended spark plug heat range and gap to specification. Resistor-type plugs should not be used as resistive wire leads are used for radio interference suppression.

To remove the plugs on 16 valve engines you must first remove the two screws holding the spark plug cover in place and remove the cover. On all engines remove the plug wires by gripping the protective boot with special boot removal pliers to prevent damage to the wire. Never pull directly on the wire. Install spark plugs carefully to



avoid damage to the threads in the aluminum cylinder head. The firing order is 1-3-4-2 (cylinder number 1 is closest to the firewall).

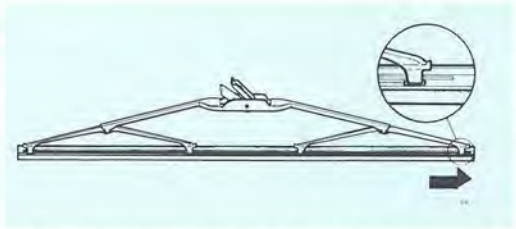
Windshield wipers

Inspect and clean the rubber blades of the windshield at regular intervals. Methyl alcohol is recommended for cleaning. If the blades show signs of wear, they should be replaced. 400 mm. (16 in.) blades are specified.

Changing the windshield wiper blades

Lift the wiper arm. Depress the plastic clip (1) and remove the complete wiper blade (2) (see illustration).

Free the rubber from the retainer (see illustration) by pressing together the two shiny metal pieces and twisting the rubber. The rubber can now be withdrawn through the



other retainers. To fit the rubber, slide it through the four retainers and then tighten it so that the retainer at one end engages the recess in the blade rubber.

Replacement blades are also available as a complete insert.

Washers

The reservoir holds 6.5 U.S. quarts. Fill up with suitable anti-freeze washer fluid. Plain water will freeze in the winter. The spray nozzles consist of rotatable balls. To adjust the direction of the jet, insert a needle in the hole of the nozzle.

Headlights, bulbs, fuses

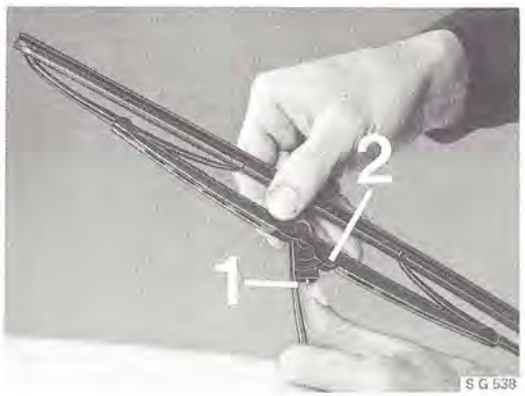
Headlights

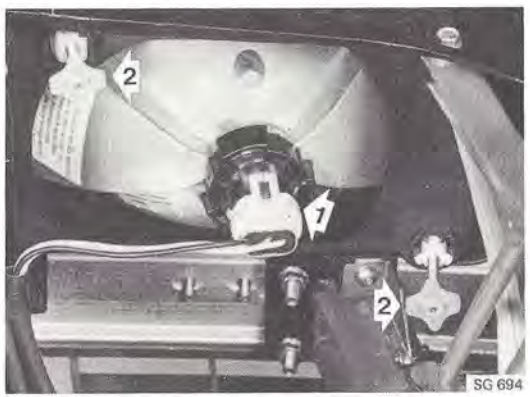
Adjustment of the headlights is made by means of two knobs at the back of each headlight unit, accessible from the engine compartment. The higher knob is for vertical adjustment and the lower one for lateral adjustment.

It is extremely important that the headlights be correctly adjusted to achieve the best possible lighting effect without any risk of blinding oncoming drivers. All adjustments should be done by an authorized Saab dealer, according to specifications and/or applicable state laws. Special headlight aiming equipment is required to do the job properly.

Headlight

1 Bulb holder
2 Headlight adjustment knobs





Replacing headlight bulb

Turn the black bayonet ring counter-clockwise to release the holder. Change the bulb. Carefully insert the new bulb, taking care not to touch the glass with your fingers.

Insert and turn the holder until the grooves fit the three corresponding edges in the reflector.

Lock the holder by turning the bayonet ring clockwise.

Front combination lamp

1 Parking light/corner light
2 Direction indicators/side position light
3 Side reversing light

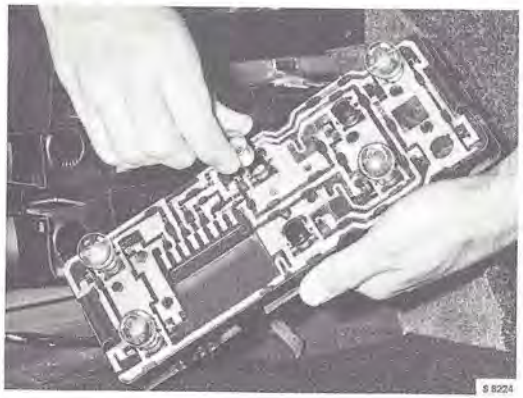
To change side direction indicators, push the glass forwards to release the rear end of the glass and change the bulb. When fastening the glass, make sure that the groove in the metal tongue engages the body sheet.

Changing exterior lamp bulbs

The bulbs in the front light clusters are accessible from the engine compartment.

The bulb holder has a bayonet fitting. Grip the two plastic tongues and twist the bulb holder anti-clockwise. Pull the bulb holder out of the fitting and change the bulb. Make sure that the new bulb is securely fitted and making good contact.

On sedans the rear lamp cluster bulbs are accessible from inside the trunk compartment. Remove the trim panel beneath the trunk sill and pull back the trunk lining to uncover the lamp housing. Press in the retaining clips at each end of the housing and remove the rear of the unit to gain access to the bulbs.



Rear combination lamp, Saab 900 Hatchback

1. Direction indicator
2. Reversing light
3. Tail light/brake lights
4. Brake lights
5. Tail light

Rear combination lamp, Saab 900 Sedan

1. Direction indicator
2. Reversing light
3. Side marker light/brake light
4. Tail light/reflector
5. Brake light

For all other exterior lamps, loosen the retaining screws and remove the lens, making sure the new bulb is securely in place and makes good contact. Wipe off the lamp assembly and replace lens, fitting it to the gasket evenly and securely.

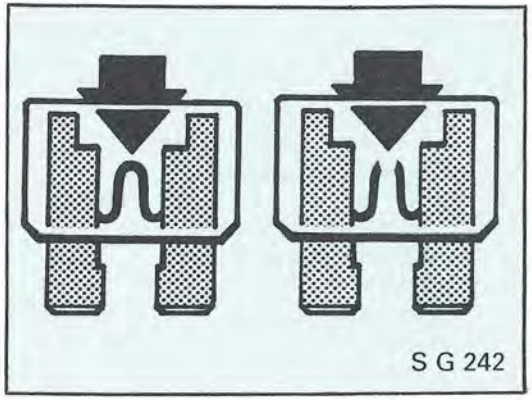
Instrument illumination, control illumination and indicator warning lights

All the bulbs in the instrument assembly are mounted in bayonet fittings and are accessible from the back of the panel. The bulb for headlight switch illumination is located within the switch.

Fuses

The fuses are housed in the fuse box, located on the left-hand side of the engine compartment.

A special in-line fuse (SA ceramic) protects the oxygen sensor pre-heater wire on 16 valve models. Spare fuses are held in the front end of the fuse box. A defective



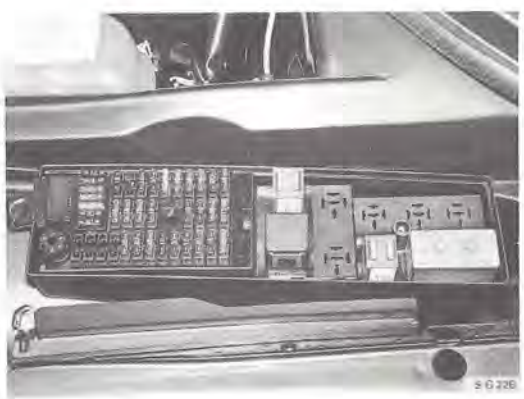
("blown") fuse is identifiable by the fact that the wire will have melted. To check a fuse, the fuse must first be removed from the fuse box. The table identifies the fuses for the different electrical systems. To facilitate the removal of fuses from the fuse box, a special tool is provided in the fuse box. It is located immediately adjacent to the three fuse rows. Push the tool onto the fuse and pull it straight up.

When changing fuses, make sure that the new fuse has the same rating as the old one (see table). Fuses of the same rating have a

common color. The rating is also marked on the fuse.

If the same fuse blows repeatedly, take the car to an authorized Saab dealer and have the wiring and other electrical equipment checked.

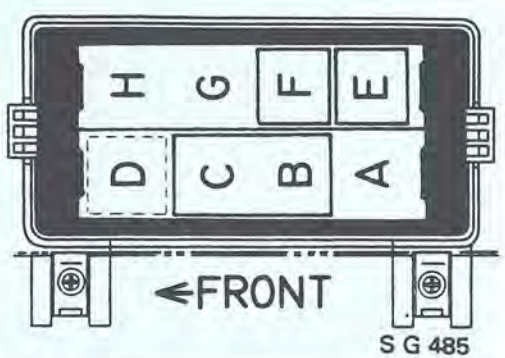
Fuse No.	*Fuse/ Function*	*Amperage*
1-3	Blank	-
4	Shift indicator light	10
5	Windshield wipers/washers, brake fluid warning light	15
6	AC system	30
7	Turn signals, rev counter	15
8	Electrically adjusted rear-view mirrors, cruise control	10
9	Ventilation fan	30
10	APC system	10
11	Power windows, sunroof	30
12	Seat heaters	15
13	Back up lights; seat belt and charge warning lights; cigarette lighter	20
14	High beam, RH	15
15	High beam, LH; high warning light	15
16	Low beam, RH	15
17	Low beam, LH	15
18	Parking lights, RH; tail light, RH;number plate illumination; glove compartment, ashtray and instrument illumination	10
19	Parking light, LH; tail light LH	10
20	Radio/cassette player, cornering light	15
21	Fog lights	15
22	Relay trigger (incl.fuel pump, rear demist, cooling fan time relays)	10
23	Blank	-
24	Central locking	10
25	Radiator cooling fan	30
26	Horn	25
27	Hazard warning lights	15
28	Interior lighting, clock radio memory and/or amplifier(s), electric antenna	15
29	Heated rear window	20
30	Fuel pumps	20
31	Brake lights	15
-	Oxygen sensor wire	5



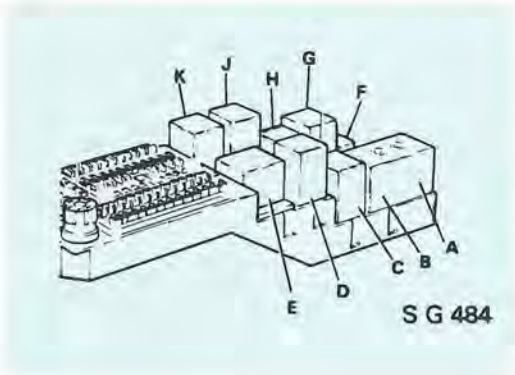
Relays

The relay panel ahead of the left front wheelhouse on cars with 8 valve engines contains the following relays:

Position	*Function*	*Part number*
A	(Blank)	-
B-C	Transient enrichment relay	8584732
D	Pre-wired for fog light relay	- 0280495
E	Decel system relay (manual trans.)	8599425
F	Hot start pulse relay	8568271
G	(Blank)	-
H	(Blank)	-



The following relays may be found in the fuse box:



Position	*Name*	*Part number*
A-B	Headlight relay	8562100
C	Rear window demist time relay	8588220
D	Ignition amp relay	9518481
E	Ignition Lock Relay	8572943
F	Upshift light relay (man.trans)	8591729
G	Fuel pump relay (8 valve engines)	9550948
H	AC Relay	8536401
J	Cooling fan (AC) relay	8572190
K	Horn relay	8522310
G	Fog light relay (16 valve eng.)	0280495

Additional relays:

Time limiting relay, radiator cooling fan (behind left headlamp) - 8587677

Time delay relay, courtesy lights (under rear seat) - 8589319 (900S, Turbo)

Power window relay (under rear seat) - 9512823

LH injection system relay (under right end of instrument panel) - 8536401 (16 valve engines)

LH fuel pump relay (next to LH system relay) - 8536401 (16 valve engines)

Passive belt system (relays located under rear seat) - 9556390

Wheels and tires

A car's tires and wheels are components vital to motoring safety. The tubeless radial tires and wheels supplied with the Saab 900 have been specially selected for the different models and are major factors contributing to its exceptional roadholding and stability. Consult your Saab dealer before fitting nonstandard wheels or tires. See tire and wheel applications chart, "Specifications" section

Tire pressure

Check tire pressures regularly. Adjust tire pressures to suit the load and speed normal for the car. See tire pressure table, "Specifications" section. The recommended pressures are for tires when cold. Never reduce the pressure when the tire is warm. If tire pressures are checked when the tires are warm then the pressure should only be increased.

Wear indicators

The tires are fitted with wear indicators -a transverse strip, one half inch (12 mm) wide, without a pattern appears when one sixteenth inch (1.6 mm) of the tread remains. When this strip is visable the tire should be replaced.

Winter tires

If they have at least half their original tread depth, the 185/65 R15 steel-belted radial ply tires standard on models with 8 valve engines are also suitable for winter use in mode-

rate climates where snow and ice are not too severe. Otherwise, winter tires should be fitted for theses conditions.

The 195/65 R15 high performance tires standard on all models with 16 valve engines have been developed to give the greatest possible roadholding and stability under both wet and dry driving conditions with the result that the tread compounds and designs are not suitable for use on ice and snow. We therefore recommend winter tires or "all weather" tires for these models when driving on snow or ice. (See section "Starting and driving" Winter driving.)

Replacement tires

Use only tires of the original size specification load capacity and speed ratings. Speed rating codes:

S = 110 mph, max.
T = 118 mph, max.
H = 130 mph, max.
V = 130 + mph

Tire rotation

The front-wheel drive causes the front and rear tires to wear differently. In order to maximize the overall tire tread life of wide profile tires, such as those fitted as Saab original equipment, the tires should be exchanged front to rear every 7,500 miles.

Make sure that the tires maintain the same direction of rotation as before - i.e. the left front wheel should only change place with the left rear wheel and the right front wheel should only change place with the right rear wheel. After rotation, reset the front/rear tire pressures according to the pressure table in the Specifications section. Do not change radial tires from side to side on the car.

Tire quality grading

New tires must be graded and labeled in accordance with new Federal regulations. Standard tests are conducted to measure performance in the areas of traction and temperature resistance. Refer to the tire sidewall for the specific quality grades of the tires provided on your new Saab. Compact spare tires are exempt.

DOT QUALITY GRADES
Treadwear
Traction ABC
Temperature ABC

All passenger car tires must conform to federal safety requirements in addition to these grades.

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and one half (1 1/2) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices and differences in road characteristics and climate.

Traction

The traction grades, from highest to lowest, are A, B, C, and they represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance. Warning: The traction grade assigned to this tire is based on braking (straightahead) traction tests and does not include cornering (turning) traction.

Temperature

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Vehicle Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law. Warning: The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

Spare tire and tools

The tool kit, jack and a compact type spare wheel are stored under a cover in the floor of the rear part of the luggage compartment.

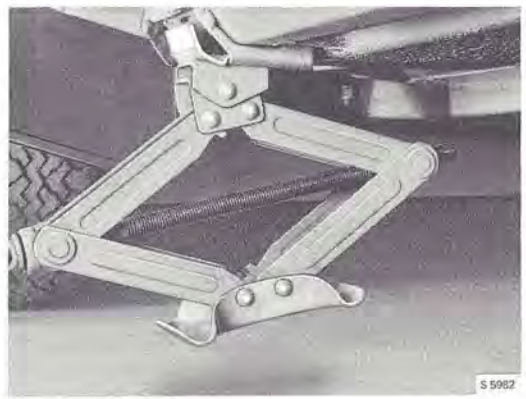
The tool kit is comprised of the following:
Combination pliers
Phillips screwdrivers
Torx driver
Socket wrench for wheel nuts
Socket wrench for spark plugs
Socket screw key for removing and installing front passenger seat

WARNING!

The compact spare tire should be kept inflated to 60 psi at all times. When the compact spare is mounted, the car's handling characteristics will be affected slightly, and extreme driving maneuvers should be avoided. Do not exceed 50 mph. If the compact spare tire must be replaced it should be replaced with the same type designed for the narrow rim. Under no circumstances should mounting of conventional type tire be attempted on the rim intended for the compact spare tire.

Wheel changing

To jack up the car, install the jack in one of the jacking points (front or rear) located underneath the sill beams (see illustration).



If a garage jack is used, the lifting heads must be located under the reinforced parts of the underbody.

WARNING!

Never crawl under the car when it is jacked up.

1. Apply the handbrake. Slide the jack into the attachment points and crank it down until it touches the ground.

NOTE! Handbrake operates the front wheel brakes.

2. To remove the hub cap, insert a screwdriver behind the cap and lever it off.
3. Back off the wheel nuts half a turn. Check that the jack has located properly against the flange on the sill beam and that the whole of the base is firmly in contact with the ground.
4. Jack up the car until the wheel is clear of the ground, then remove the wheel nuts and the wheel.
5. Mount the wheel and tighten the wheel nuts loosely. Check that the wheel and nuts are correctly positioned.
6. Lower the car. Tighten the wheel nuts in the order shown in the illustration below. Tighten to 65-80 ft. lbs. Never use an impact wrench for final tightening of wheel nuts. Carefully observe the torque limit to avoid wheel damage.

NOTE! The original equipment road wheels are designed to be mounted using nuts with a conical seating surface. These nuts are suitable for mounting the compact spare. Certain accessory wheels available from Saab dealers require special shouldered nuts which do not fit the spare wheel. Obtain four conical nuts for the spare if the car is to be so equipped and keep them in the tool kit.

Engine troubleshooting

1. Engine will not start - starter cranks engine in normal manner.

A. No fuel in tank.

B. Fuel pump not running - blown fuse, corroded connection, faulty relays or disconnected lead wire.

C. No spark at spark plugs.

a. loose electrical connections.

b. Moisture or cracks in distributor cap.

D. Engine flooded - spark plugs fouled with gasoline.

E. Check fuses.

2. Engine starts - runs rough, misfires, low power.

NOTE! Misfiring should be corrected immediately to prevent overheating of the catalytic converter.

A. Spark plugs fouled, worn or in need of adjustment.

B. Spark plug cables not properly plugged into distributor cap or onto spark plugs.

C. Loose or corroded connections - low voltage leads to coil.

D. Engine oil filler cap or dipstick not seated admitting excess air through crankcase vent system.

E. Fuel injection system in need of adjustment.

3. Stalling at idle, rough operation during engine warm-up and hesitation or lack of power on acceleration.

A. Unscheduled servicing of the Lambda control system may be necessary or the throttle switch may be out of adjustment. If so, this should be performed by a Saab dealer.

B. Decel fuel shut off system may require unscheduled servicing. (8 valve, manual transmission)

4. Improper idle speed - too fast or too slow.

A. Idle speed air bleed/automatic idle control adjustment incorrect or lock nut loose.

B. Decel dashpot out of adjustment (fast idle). Not applicable to 8 valve, manual transmission cars.

C. Idle air/fuel mixture out of specification.

D. Throttle stop screw incorrectly set.

E. Decel fuel shut off malfunctioning. (8 valve, manual only)

F. Idle speed is affected by large changes in altitude (idle decreases as elevation increases due to reduced ambient pressure and vice versa).

5. Charge indicator lamp fails to light when ignition is switched on.

A. Bulb burned out.

B. Discharged battery or loose battery cable.

C. Improper wiring to voltage regulator causing an open circuit.

D. Check fuses.

6. Charge indicator lamp lights up with engine running.

A. Broken or slack alternator drive belts.
B. Malfunction in voltage regulator.
C. Malfunction in alternator.
D. Check fuses.

7. Discharged battery

A. Slipping alternator drive belts.
B. Defective or worn out battery.
C. Frequent use of high drain equipment, such as headlights, combined with short trips.
D. Malfunction in voltage regulator or alternator.

8. Oil pressure indicator lamp lights up with engine running.

A. Malfunction in engine lubrication system causing low oil pressure.
B. Oil level in sump low. Top up to max. level on dipstick.

9. EXH Indicator lamp illuminates (8 valve)

Illuminates every 30,000 miles as a reminder to perform emission control system maintenance. Must be reset by dealer after service. This lamp does not indicate engine malfunction.

AC troubleshooting

If the air conditioning system is malfunctioning, check the following items yourself. If these checks fail to reveal the cause of the problem, contact an authorized Saab dealer.

Inadequate cooling

- Check that the temperature control and the air distribution control are correctly set.
- Check that the condenser (located in front of the radiator) has not become clogged by dirt or insects.
- Check that the drive belt for the compressor is not loose, damaged or worn.
- Check the temperature of the engine. If the pointer on the temperature gauge has entered the red zone, the AC system will have been switched off automatically.
- Check the fuses for the fans and compressor.

Routine AC maintenance and servicing

1 The air conditioning system should be checked every spring, preferably by an authorized Saab dealer.

2 Each time the car is serviced, the compressor drive belt and mounting bolts and the electro-magnetic clutch should be checked.

3 Keep the condenser and radiator free from insects or other dirt to avoid clogging. When washing the car, use a hose to flush the surfaces of the radiator and condenser (located in front of the radiator) thoroughly, both through the grille and from inside the engine compartment. Never fit wire mesh or any other form of screening in front of the radiator as this will substantially reduce the cooling effect.

4 During the winter, the air conditioning system should be switched on once or twice a month and run for between 5 and 10 minutes to prevent deterioration of the gaskets and seals in the compressor. This should be done with the engine at normal running temperature and with the car cruising at moderate speed. (The compressor is lubricated by a special oil which circulates with the refrigerant.)

NOTE! The air conditioning will not cycle on below 38°F.

When the air conditioning system is running, condensation will form on the evaporator. When the car is parked, this condensation may drain off and form a small pool of water under the car.

Appearance care

Care of paintwork

To keep its gloss and finish, the paintwork needs proper care. If the paintwork is damaged, e.g. by a flying stone, the spot can be cleaned and covered with air-drying

touch-up paint. Touch-up in the standard Saab colors can be purchased from your Saab dealer.

Washing

The car should be washed frequently. When it is new, it shuld be washed by hand using only cold water and a clean, soft brush attached to a hose. Automatic car washes should be avoided during the first few months. After five to six months the paintwork has hardened and to make washing easier, a car schampoo or mild washing-up liquid may be added to the water, which may be warm but not hot. Even the underbody should be washed regularly and special attention should be given to the wheel housings. This is particularly necessary when automatic car washes are used as these do not generally include washing of the underbody. Never wash the car in strong sunlight, and always wipe it dry with a clean chamois leather if streaks on the paintwork are to be avoided. Windows are best cleaned with a chamois leather or soft linen cloth moistened in water.

Petroleum solvents should not be used to clean tar from the front and rear light cluster lenses, since they may cause cracking of the lenses.

Cars with fixed mast antenna: remove the mast by unscrewing it from the base before entering an automatic car wash.

Polishing/waxing

The general rule is that synthetic enamel should not be polished until it is absolutely necessary. In any event, it should not be polished until it has aged properly, which takes five or six months. Most polishes or cleaner waxes contain abrasives which clean off the outer layer of old paint finishes. Never use a polish containing abrasive substances on a new car. Instead use a high quality wax to protect the finish. The paintwork must be thoroughly washed before being polished or waxed as otherwise it may by scratched.

Engine compartment cleaning

The engine compartment should be cleaned with an engine detergent and then hosed with hot water. Cover the distributor and brake master cylinder reservoir and air inlet opening before washing the engine.

NOTE! If you use a high-pressure hose, cover the distributor, alternator, starter motor, voltage regulator, and brake master cylinder reservoir and air inlet.

Care of carpets

Textile carpets should be cleaned with a brush or sponge using carpet shampoo and then rinsed thoroughly with water. Stubborn grease or oil stains can be removed with a commercial solvent formulated for this purpose. Should the trunk carpet become soiled or stained it may be more easily cleaned if removed from the car. The carpet is fastened to two plywood panels that make up the forward floor section and the tool compartment cover. To remove, tilt up the tool compartment cover, disconnect the two rubber hinges from their button-like fasteners and remove the cover from the car. Grasp the forward floor section with both hands and pull straight back to disengage the retaining clips. Lift floor out of trunk.

Seat belts

Clean the seat belts with mild soap and lukewarm water.

Care of velour upholstery

The fabric upholstery may be effectively cleaned with a cloth moistened in soap solution. Use lukewarm water. Grease and oil stains can be removed with a commercial solvent formulated for this purpose. Wet stains such as oil or softdrinks should be dried up immediately with an absorbing paper or similar material. Then apply a stain remover. Plastic surfaces can be easily cleaned with lukewarm water and a synthetic detergent. A semistiff brush may be used.

Care of leather upholstery

The finish of the leather upholstery is designed to enhance as well as protect the natural beauty of the grain of the hide. Especially in lighter colors, the surface of the leather will discolor from handling and atmospheric dust. While this does not affect its wearing qualities, and, in fact a "well-worn" patina is often a desirable feature of leather, too dirty a surface will detract from the quality appearance.

The leather upholstery should be cleaned and reconditioned when the car is inspected in the spring and autumn (twice a year).

Moisten a soft cloth in a mild soap solution. Carefully apply this damp (not wet) cloth to the leather with light, circular movements until the leather is clean. Repeat this procedure using clean water. Let the leather dry completely. Then apply Saab Leather Cleaner (P/n 0202523), a leather conditioner which can be purchased from authorized Saab dealers.

Apply the leather conditioner with the same circular movements as described above. Use a soft cloth. Let the leather conditioner dry and polish the leather with a soft, dry cloth. Follow the instructions given above. Do not use hot water, unknown abrasive polishes, solvents, sprays or soaps that may scratch the leather. This treatment will keep the leather upholstery clean and attractive for many years.

Rust prevention

What causes rust?

Steel body panels of automobiles are subject to rusting whenever air and moisture manage to penetrate the protective finish, and body panels may rust through if the process is unchecked. Rusting can occur wherever water is trapped or where the car's panels are continuously damp. Damage to paint and undercoating by stones, gravel and minor accidents immediately exposes metal to air and moisture. Road salts used for de-icing will collect on the bottom of the car and promote rusting. Areas of the country with high humidity have great potential for rust problems, especially where salt is used on roads or there is moist sea air. Industrial pollution (fall-out) may also damage paint and promote rusting.

Preventive maintenance

The following procedures are necessary to help protect against rusting. Refer also to the terms and conditions of the Perforation Warranty described in the warranty booklet.

1. Wash the car frequently, and wax at least twice a year.
   Under adverse conditions, where there is a rapid build-up of dirt, sand or road salt, wash your car at least once a week. After extreme exposure to salted snow or slush, evidenced by a white film on the car, wash the car immediately.

A. Begin washing by rinsing the entire car with water to loosen and flush off heavy concentrations of dirt (include the underbody).

B. Sponge the car with a solution of either a good quality car soap or mild general purpose (dish washing) detergent and water.

C. Rinse car thoroughly with clean water.

D. After washing, check and clear all drains in doors and body panels.

E. Wipe the car dry, preferably using a chamois.

2. Clean the underside of the car during the winter.
   Use high pressure water to clean the car's underside (floor panels, wheel wells) at least at mid-winter and in the spring.

3. Inspect the car frequently for leaks or damage, and arrange for needed repairs promptly.
   After washing or after heavy rain, check for leaks. When washing the car inspect body surfaces for paint damage.
   While checking for leaks, lift the floor mats and check beneath them. Water can collect in these areas and remain for prolonged periods. Dry any wet areas including the floor mats. Have leaks repaired as soon as possible.
   Use touch-up paint to repair small scratches or minor finish damage. Areas where metal is exposed will rust quickly and MUST be repaired immediately by touch-up or professional repainting. Rust must be removed, the bare metal primed and painted. Major body damage should be repaired immediately and new panels or exposed areas should be undercoated with anti-corrosion meterial.
   Repairs of this type are the owner's responsibility and are not covered under warranty.

4. Inspect the undercoating and touch up if necessary.
   Pay particular attention to the fenders

and wheel housings, which are exposed to abrasion by flying gravel, etc. If the composition has worn or flaked off, the steel must be thoroughly cleaned and dried before a fresh coat is applied. The cleaning is best done with a scraper and a steel wire brush, followed by washing with solvent. Apply the new coating thinly, as otherwise it may run off or fall off when dry.

Owner assistance

Service problem assistance

The Warranties/Service Record Booklet which accompanies this manual contains the new car and emission control system warranties and owner assistance information.

There are Saab Consumer Relations Representatives at each of Saab-Scania of America, Inc.'s four regional offices in the continental U.S. (Alaska and Hawaii are served by the Western Region, Puerto Rico is handled by an independent importer.)

For detailed information about how to obtain assistance, please refer to the Warranties/Service Record Booklet.

SG 673

Eastern Region:
P.O. Box 697
Orange, CT 06477
(203) 795-1326

Western Region:
20 000 Mariner Ave
Suite 500
Torrance, CA 90509
(213) 214-0094

Southern Region:
425 Franklin Rd
Suite 550
Marietta, GA 30067
(404) 423-0150

Central Region:
10415 United Parkway
Schiller Park, IL 60176
(312) 671-4920

Service information

Service Manuals for Saab vehicles can be ordered through the dealer. The complete 900 Manual is comprised of several sections in ring-type binders. Sections may be ordered individually. Consult your Saab dealer for part numbers and list prices for sections applicable to your model. A list of authorized sales and service dealers is available from your local Saab dealer for those planning to travel in the United States and Canada.

Maintenance schedule

The maintenance schedule prescribes a program of instructions to the purchaser/operator of a 1987 Saab for maintenance which is reasonable and necessary to ensure the proper function, durability, and safety of the Saab automobile in normal use. The schedule is divided into two parts: Emission System Maintenance and Vehicle Maintenance. The Emission System Maintenance instructions specify operations to ensure proper and safe function of Saab emission control systems throughout the useful life of the automobile. Additional maintenance is specified for certain components when

operated under certain severe conditions. Maintenance, replacement, or repair of the emission control devices and systems may be performed by any automotive repair establishment or individual using any automotive part which has been certified according to U.S. EPA regulations governing voluntary aftermarket part self- certification. The vehicle maintenance instructions are specified to ensure proper and safe functioning of the Saab automobile and its subsystems. Good maintenance is good advice!

Note to California residents only: The Emission System Maintenance schedule is divided into two parts: Required Maintenance and Recommended Maintenance. This is done in compliance with provisions set forth by the California Emission Control System warranty regulations and applies to California purchasers/operators only. However, it is suggested that according to the applicable California regulations, "required maintenance" is that which must be performed to be eligible for coverage under the California Emission Control System Warranty. In not performing "recommended maintenance" California Emission Control System Warranty rights are in no way invalidated. Refer to the written warranty for further information pertaining to specific purchaser/operator rights and obligations.

Break-in-service

The maintenance schedule includes a break-in service at 1,000 miles.

NOTE! This important service will be done by your Saab dealer at no charge except for fluids and oil filter (which are to be paid for by the Saab owner) provided this service is performed no earlier than 800 miles and no later than 1500 miles.

The special break-in oil filter must be changed at this service.

Engine oil and filter changes

Changing the engine oil and filter is required at all service points. This means that the engine oil and filter are to be changed at 1,000 miles and at 3,750 miles and every 3,750 miles therafter on Turbo models. The oil and filter are to be changed at 1,000 miles and at 7,500 and every 7,500 miles thereafter on other models with naturally aspirated engines.

If naturally aspirated models are operated under severe service conditions* follow the recommended change interval for Turbos. Use only motor oils meeting SAE viscosity ratings and API service classifications recommended by Saab elsewhere in this Owner's Manual. Extra oil additives are not recommended.

* Severe service conditions requiring extra oil changes (naturally aspirated models) include: extensive idling, stop and go driving and/or driving in cold climates over repeated short trips without sufficient engine warm-up.

NOTE! It is advisable to retain receipts and, if possible, copies of shop work orders for all service and repair work, wherever performed.

Service costs

Dealer pricing practices and labor rates for service work may vary. A dealer's basic labor charge for a service in the maintenance schedule may exclude the cost of certain adjustments which, if necessary to perform, will be done at extra cost. Consult your dealer's service department for complete details and prices.

Warranties

The 1987 Saab 900 is covered by the following warranties:

- Limited 36 month 36,000 Mile Vehicle Warranty.
- 6 Year Perforation Warranty.
- Federal (or California, as applicable) Vehicle Emission Control Warranty.
- Federal Emission Performance Warranty.

Detailed warranty information can be found in the Saab Warranties/Service Record Booklet which accompanies this Owner's Manual. The booklet, if lost or misplaced, may be ordered through a Saab dealer or may be obtained by calling the nearest regional office of Saab-Scania of America, Inc. The 1987 edition of the booklet has Saab part number 02-79-851.

Service record retention

Service coupons and record stubs are provided in the Saab Warranties/Service record booklet. The coupons are arranged in the order that service should be performed. The edge of each coupon is shaded to correspond to the type of service point: Striped - PDI, Break-in service; Lt. blue - Intermediate oil and filter change; Dk. blue -Oil change/safety inspection, Black - Major service. Two change of address cards are provided at the end of the booklet. Knowing your current address allows Saab to contact you in the event of a recall or service campaign. When scheduled services are performed your dealer will tear out the applicable coupon, check off the operations performed and enter it into the service file at the dealership. The servicing dealer's stamp, along with date and mileage at which the service was performed, should be entered on the coupon stub which remains in your booklet. **This is your permanent record that recommended maintenance has been performed.**

Authorized Saab dealers regularly receive up-to-date Service Manuals and bulletins from Saab-Scania of America, Inc. and are able, through their franchise agreement with Saab-Scania of America, Inc., to attend Saab service schools and purchase special tools and original equipment spare parts. Authorized Saab dealers are equipped and trained to meet your Saab service needs.

Emission systems maintenance program

2 Required	2 Recommended	A. Emission system maintenance	Where "miles" or "months" are shown, perform at whichever limit is reached first. Break In Service (1,000 Mi.)	Int. Oil & Filter Chg. (Every 3,750 Mi. or 6 Mos.)	Oil Chg./ Safety Insp. (Every 7,500 Mi. or 12 Mos.)	Major Service (frequency noted below)
*		**Valve clearance –** Check; if necessary adjust to specification (cold engine). Wash and blow clean the oil separator in camshaft cover. (8 valve engines only)	X			X–Every 30,000 miles.
*		**Engine head bolts and manifolds –** Torque to specifications (including Turbocharger attachment bolts – Turbo)	X			
*		**Spark plugs –** Replace and adjust gap to specification (NOTE: See footnote 1, below)				X–Every 30,000 miles. (1)
*		**Air cleaner insert –** Replace				X–Every 30,000 miles.
	*	**Fuel filter –** Replace				X–Every 30,000 miles.

1. Under severe service conditions (including extensive idling, stop-and-go driving, towing, high speed driving, and/or driving in cold climates over repeated short trips without a sufficient engine warm-up), checking the spark plugs and regapping or replacing, as necessary, is recommended every 15,000 miles.
2. These columns refer to provisions of the California Emission Control System Warranty and apply only to residents of California.

2 Required	2 Recommended	A. Emission system maintenance (continued)	Break In Service (1,000 Mi.)	Where "miles" or "months" are shown, perform at whichever limit is reached first. Int. Oil & Filter Chg. (Every 3,750 Mi. or 6 Mos.)	Oil Chg./ Safety Insp. (Every 7,500 Mi. or 12 Mos.)	Major Service (frequency noted below)
	*	**Evaporative emission controlled fuel system –** Check fuel filler cap, vent lines, canister, and connections for wear, deterioration and/or damage, which could cause leakage. Tighten any loose connections and/or replace any leaking components.				X–At 60,000 miles or 48 mos. and every 12 mos. thereafter
	*	**Charcoal canister –** Replace				X–Every 60,000 miles.
	*	**Crankcase ventilation –** Check connections and hoses. Tighten or replace as necessary (inspect check valve and test function, Turbo only)				X–At 60,000 miles or 48 mos. and every 12 mos.
		Secondary ignition wires – Clean and inspect for cuts, burns, or abrasions. Replace any damaged wires				X–At 30,000 miles or 24 mos. and every 12 mos. thereafter.
	*	Check resistance of ignition wires and replace, if necessary				X–Every 60,000 miles
	*	**Distributor cap and rotor –** Replace. Check and adjust ignition timing to specification				X–Every 60,000 miles.

2. These columns refer to provisions of the California Emission Control System Warranty and apply only to residents of California.

2 Required	2 Recommended		Where "miles" or "months" are shown, perform at whichever limit is reached first.			
		A. Emission system maintenance (continued)	**Break In Service (1,000 Mi.)**	**Int. Oil & Filter Chg. (Every 3,750 Mi. or 6 Mos.)**	**Oil Chg./ Safety Insp. (Every 7,500 Mi. or 12 Mos.)**	**Major Service (Frequency noted below)**
*		**Oxygen sensor –** Replace sensor ..... (Reset service reminder lamp, 8 valve engines only)				X–Every 30,000 miles (every 60,000 miles for 16 valve engines).
*		**Engine oil and oil filter change –** (NOTE: See footnote 3, below)	X	X–Turbo (3)	X	X–Every 30,000 miles.
*		**Idle speed –** Check idle speed and adjust to specification, if necessary	X			X–Every 60,000 miles (and whenever the vehicle is relocated for a prolonged period of operation at a different altitude).
*		**Deceleration system –** Check operation, including throttle switch if so equipped; adjust to specification, if necessary	X			X–Every 60,000 miles
	*	**Overpressure safety switch –** Check operation. (Turbo only)				X–Every 30,000 miles.

2. These columns refer to provisions of the California Emission Control System Warranty and apply only to residents of California.
3. The Intermediate Oil And Filter Change service is **required for Turbo models.** It is suggested also for models with naturally aspirated engines when operated under severe service conditions including extensive idling, stop-and-go driving and/or driving in cold climates over repeated short trips without sufficient engine warm-up.

Vehicle maintenance program

B. Vehicle maintenance	Break In Service (1,000 Mi.)	Oil Chg./ Safety Insp. (Every 7,500 Mi. or 12 Mos).	Major Service (Frequency noted below)
		Where "miles" or "months" are shown, perform at whichever limit is reached first.	
Engine			
V-Belts – Check; if necessary adjust tension or replace	X		X–At 30,000 miles or 24 mos. and every 12 mos. thereafter.
Cooling system – Check hoses and connections for leaks. Tighten clamps or replace clamps or hoses if necessary. Check coolant level and anti-freeze content	X	X	X–Every 30,000 miles
Engine coolant – Flush system and replace with approved mix			X–At 30,000 miles or 24 mos. and every 15,000 miles or 12 months thereafter.
Fuel Injection System safety check – Inspect components, electrical cables, fuel hoses, and all connections for wear, damage, and/or deterioration. Tighten any loose connections and/or replace any damaged components		X	X–Every 30,000 miles
Exhaust system – Check for leakage and ensure that all fasteners and hangers are secure. Correct as necessary	X	X	X–Every 30,000 miles

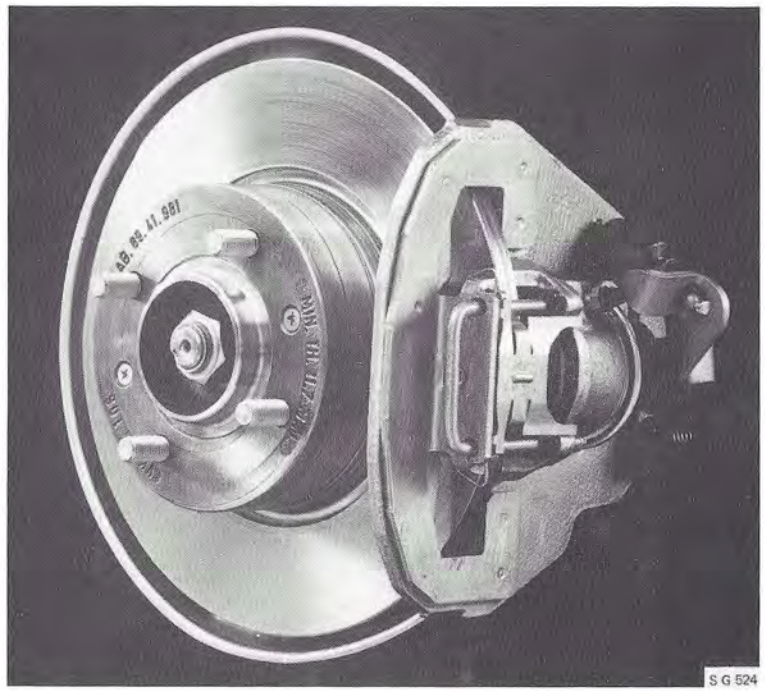
B. Vehicle maintenance (continued)	Break In Service (1,000 Mi.)	Where "miles" or "months" are shown, perform at whichever limit is reached first. Oil Chg./ Safety Insp. (Every 7,500 Mi. or 12 Mos.)	Major Service (Frequency noted below)
Manual transmission			
Gearbox oil level – Check; add as necessary		X	X–Every 30,000 miles
Automatic transmission			
Gearbox oil level – Check; add as necessary		X	X–Every 30,000 miles
Adjust automatic transmission gear selector control cable and retighten cover bolts under gearbox	X		
Differential oil – Change	X		
Differential oil level – Check; add as necessary		X	X–Every 30,000 miles
Electrical system			
Battery – Tighten cable terminals and coat with petroleum jelly	X	X	X–Every 30,000 miles

B. Vehicle maintenance (continued)	Break In Service (1,000 Mi.)	Oil Chg./ Safety Insp. (Every 7,500 Mi. or 12 Mos.)	Major Service (frequency noted below)
		Where "miles" or "months" are shown, perform at whichever limit is reached first.	
Functional check – Headlights, stoplights, directional lights, warning flashers, back-up lights, indicator lights, buzzers, horn, rear defogger, electric mirrors (if equipped), power windows (if equipped), power door locks (if equipped), windshield wipers, heater fan, radiator fans. Correct as necessary	X	X	X–Every 30,000 miles
Headlights – Check for proper aiming; if necessary adjust (per state requirements as applicable)			X–Every 30,000 miles
Chassis			
Suspension – Tighten bolts which hold control arms to body and rear axle mounting bolts including panhard rod and spring links	X		
Toe-In – Check; if necessary adjust		X	
Wheel alignment – Measure, if necessary adjust, front wheel camber, caster, toe-in	X		X–Every 30,000 miles
Upper and lower ball joints and tie-rod ends – Check both sides of vehicle for wear. Also check steering gear universal joint. Correct any unsafe condition .			X–Every 30,000 miles

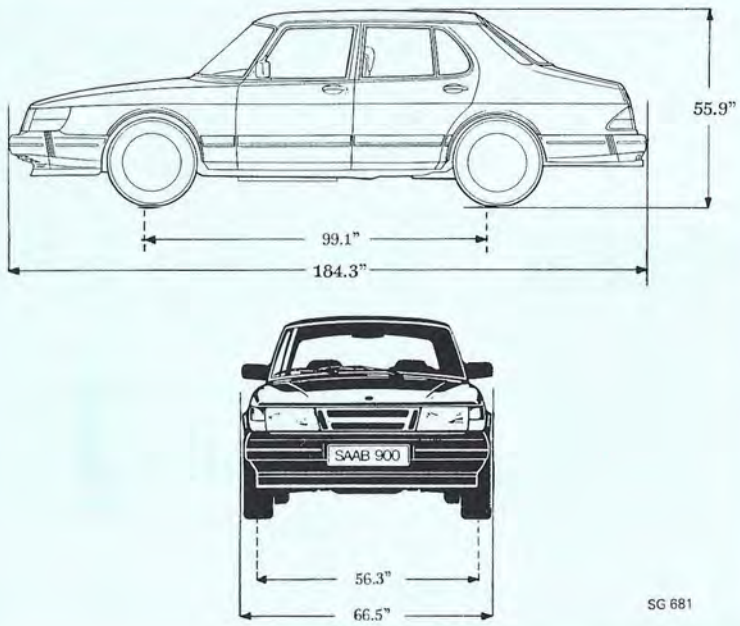
B. Vehicle maintenance (continued)	Break In Service (1,000 Mi.)	Where "miles" or "months" are shown, perform at whichever limit is reached first. Oil Chg./ Safety Insp. (Every 7,500 Mi. or 12 Mos.)	Major Service (Frequency noted below)
Shock Absorbers – Check rubber bushings; replace shock absorbers when dampening action is no longer effective			X–Every 30,000 miles
Tires – Check tire tread depth and rotate the tires front to rear, same side. Replace when wear bars in tread appear		X	X–Every 30,000 miles
Power steering fluid – Check; add as necessary	X	X	X–Every 30,000 miles
General inspection – Check all suspension and steering components, exposed fuel lines, and brake components for damage due to road hazards or driving conditions. Replace any damaged components		X	X–Every 30,000 miles
Check rubber bellows for inner and outer drive shaft joints, and rubber boots for ball joints and tie-rod ends. Replace any damaged boots	X	X	X–Every 30,000 miles
Brake system – Check condition of brake lines and hoses, tightness of master cylinder, calipers, and screw caps. Correct as necessary	X	X	X–Every 30,000 miles
Check power brake vacuum servo hose and connections. Correct any vacuum leaks		X	X–Every 30,000 miles
Check function of hand brake	X	X	X–Every 30,000 miles

B. Vehicle maintenance (continued)	Break In Service (1,000 Mi.)	Oil Chg./ Safety Insp. (Every 7,500 Mi. or 12 Mos.)	Major Service (Frequency noted below)
		Where "miles" or "months" are shown, perform at whichever limit is reached first.	
With wheels removed check brake pad thickness. Replace pads when lining thickness is less than 1/8 inch		X	X–Every 30,000 miles
Grease sliding surfaces of front brake caliper yokes (special grease required)			X–Every 30,000 miles or whenever brake pads are changed
Check brake fluid level; if necessary replenish fluid in master cylinders for brake and clutch (manual trans.)	X	X	
Replace brake fluid and bleed system			X–Every 30,000 miles or 24 months.
Miscellaneous			
Lubricate sparingly the door stops and hinges, throttle control, and engine hood lock mechanism			X–Every 30,000 miles
Test drive vehicle and check overall condition, noting especially the function of brakes and clutch. Check general engine performance. (NOTE: See footnote 4, below)	X (4)	X	X–Every 30,000 miles. (4)

4. On Turbos, during test drive observe that the boost gauge needle enters the orange zone when accelerating above 2,000 rpm and the APC System controls maximum boost when knocking is detected. (If test drive boost indication is unsatisfactory connect a test gauge and check basic setting and maximum pressure. Adjust basic setting, if necessary, and reseal wastegate actuator with anti-tampering wire.)



Specifications



General

Overall length incl bumpers (Sedan)	(4680 mm)	184.3"
Overall length incl bumpers (Hatchback)	(1487 mm)	184.5"
Overall width	(1690 mm)	66.5"
Overall height (at curb weight)	(1420 mm)	55.9"
Road clearance, min with two persons and 15 lb.luggage	(120 mm)	4.7"
Track, front wheels	(1430 mm)	56.3"
Track, front wheels (Turbo)	(1450 mm)	57.1"
Track, rear wheels	(1440 mm)	56.7"
Wheelbase	(2517 mm)	99.1"
Turning radius	(5.6m)	220.5"
Curb weight	2690-2910 lb.*	
Gross vehicle weight rating	3650-3850 lb.*	
Weight distribution,		
at curb weight	59-62% front	
at gross vehicle weight rating	52-55% front	
Trunk volume (SAE) Hatchback	14.9 cu.ft.	
Hatchback, parcel shelf removed	19.1 cu.ft.	
Sedan	14.2 cu.ft.	
Vehicle capacity weight, five persons and 180 lb. luggage (except Conv.).	(422 kg)	930 lb.
Max roof rack load (except Conv.)	(100 kg)	220 lb.
Max trailer weight		
with trailer brakes	(900 kg)	2.000 lb.
without trailer brakes	(450 kg)	1.000 lb.
Max trailer tongue weight	(90 kg)	198 lb.

*) Weight variation depends on model, configuration and options.

Engine oil

Viscosity	SAE 10W-30 (Alt:5W-30,15W-40)
API Service: Turbo	SF/CD (preferred) or SF/CC (acceptable)
Naturally aspirated	SF/CC

Extra additives are not recommended.

8 valve engine (Naturally aspirated)

Type	4 cyl.4 stroke inline OHC
Cylinder bore	3.543"
Stroke	3.071"
Displacement	121 cu.in.
Aspiration	Naturally aspirated
Fuel metering system	Mechanical Port Injection (Bosch CIS/K-Jetronic)
Engine family number	HSA 2.0 V6 FNT 8 (Naturally-aspirated, 8-valve)
Power rating, SAE Net HP at RPM	110 at 5250
Max torque at 3500 RPM	119 ft.lbs
Compression ratio	9.25:1
Order of firing (cylinder 1 nearest firewall)	1-3-4-2
Ignition system	Bosch Hall Effect Electronic (Breakerless)
Ignition advance	20° BTDC at 2000 RPM (vac. hose disconnected)
Spark plug gap	0.024-0.028"
Engine idling speed in neutral (A.C. off)	875 ± 75 RPM
Valve lifter type	Solid (with adjustment shims)
Valve clearance, cold engine:	
Intake	(0.15-0.30 mm) 0.006"-0.012"
Exhaust	(0.35-0.55 mm) 0.014"-0.020"
Dashpot adjustment* (automatic)	2500 ± 100 RPM
Decel fuel shutoff (manual)	Activates above 1575 RPM throttle closed; deactivates below 1375 RPM
Oil capacity including filter	4 U.S. qts.
Recommended gasoline fuel (16.6 U.S. gal capacity)	Unleaded 87-93 AON

*) Adjust plunger to contact throttle lever with engine operating at above specified RPM.

16 Valve engine (Naturally aspirated)

Type	4 cyl. 4 stroke inline DOHC
Cylinder bore	3.543"
Stroke	3.071"
Displacement	121 cu.in.
Aspiration	Naturally aspirated
Fuel metering system	Electronic port injection (Bosch LH-Jetronic)
Engine family number	HSA 2.0 V5 FNB3
Power rating, SAE Net HP at RPM	125 at 5500
Max. torque at RPM	123 ft.lb at 3000 RPM
Compression ratio	10.1:1
Order of firing (cyl.1 nearest fire-wall	1-3-4-2
Ignition system	Bosch transistorized speed/load advance map
Ignition advance	14° BTDC at 850 RPM
Spark plug gap	(0.6-0.7 mm) 0.024-0.028"
Engine idling speed in neutral (A.C. off)	850 ± 50 RPM

Valve lifter type	Hydraulic (self adjusting)
Dashpot adjustment	4.0 ± 1.0 seconds
Oil capacity including filter	(4.0 l) 2.4 U.S. qts
Recommended gasoline fuel (16.6 U.S. gal. capacity)	Unleaded 87-93 AON

16 valve engine (Turbocharged)

Type	4 cyl. 4 stroke inline DOHC
Cylinder bore	3.543"
Stroke	3.071"
Displacement	121 cu.in.
Aspiration	Turbocharged with intercooler
Fuel metering system	Electronic Port Injection (Bosch LH-Jetronic)
Engine family number	HSA 2.0 V5FTBX (Turbo, 16-valve)
Max. power rating, SAE Net HP at RPM	160 at 5500 165 at 5500 (SPG option)
Max. torque at RPM	188 Ft. lbs. at 3000 195 Ft.lbs at 3000 (SPG option)
Compression ratio	9.0:1
Order of firing (cylinder 1 nearest firewall)	1-3-4-2
Ignition system	Bosch Hall-Effect Electonic (breakerless)
Ignition advance	16° BTDC (Vac. hose disconnected)
Spark plug gap	0.024-0.028"
Engine idling speed in neutral (A.C. off)	850 ± 75 RPM
Valve lifter type	Hydraulic (Self adjusting)
Dashpot adjustment	4.0 ± 1.0 seconds
Engine oil capacity (including filter)	4.5 U.S. quarts
Recommended gasoline fuel (16.6 U.S. gal. capacity)	Unleaded 87-93 AON
Charge pressure settings**	
Wastegate (safety limit only)	0.35 ± 0.03 Bar
Control unit (operating limit)	0.75 ± 0.05 Bar

**) 3000 RPM, engine under full load with special test equipment.

Fuel supply system

Fuel tank:Capacity	16.6 U.S. gallons
Material	HDPE (High density polyethylene)
Fuel pumps	Electric, in fuel tank
Fuel filter:Type	Bosch High Pressure/ Long Life
Location 8 valve	Engine compartment (LF fender)
16 valve	Under floor (ahead of fuel tank)
Fuel requirement (SPG option)	90.5-93 AON

Cooling system

NOTE! The radiator air flow must not be blocked off.

Coolant volume incl. heating system	(10 liters) 10.5 U.S.qts
Thermostat opens at	(82° C) 180° F
Anti-freeze	50-70% mixed with water/Saab coolant, BASF G-105

Drive belts

	Saab	Gates	Dayco
8 valve:			
Alternator/water pump (2)	7511728	7380	15380
Power steering	9361791	7470	15470
AC compressor	9344623	8256	17470
16 valve:			
Alternator/water pump (2)	7511728	7380	15380
Power steering	8339921	8321	15325
AC compressor	9367020	9463	17460

Manual transmission

Type	5 speed, all synchro-mesh with final drive and differential
Oil capacity	(2.5 liters)3 U.S. qts.
Oil specifications	SAE 10W30 or 10W40 engine oil (Alt: SAE EP75 API GL-4 or 5.)
Hydraulic clutch	Single dry plate with spring-loaded hub

Gear ratios, total (transmission ratios x primary ratio):

	8 valve engines	16 valve engines
1st gear	3.54:1	3.80:1
2nd gear	2.00:1	2.15:1
3rd gear	1.34:1	1.44:1
4th gear	0.97:1	1.04:1
5th gear	0.78:1	0.84:1
Reverse	3.89:1	4.18:1
Final Drive Ratio		3.67:1

Automatic transmission

Type	3-speed with torque converter, final drive and differential
Selector positions	P-R-N-D-2-1
Oil volume, automatic transmission	8.5 U.S. qts. (8.0 liters)
Grade of oil for automatic transmission fluid	Type "F" (M2C33F)
Oil volume, final drive	(1.25 liters) 1.3 U.S. qts.
Grade of oil for final drive	SAE EP 80 API GL -4 or 5

Gear ratios, total (transmission ratios x primary ratio):

	Turbo	Nat. asp.
1st gear	2.21:1	2.33:1
2nd gear	1.34:1	1.41:1
3rd gear	0.92:1	0.97:1
Reverse gear	1.93:1	2.04:1
Final Drive ratio	3.67:1	3.67:1

Brake system

Make	Girling & A.T.E
Footbrake	Hydraulic disc brakes with power assist, two circuit system serving diagonally opposed pairs of wheels.
Brake and clutch fluid	DOT 4 Brake fluid
Disc diameter:	
Front	(280 mm) 11.02"
Rear	(269.5 mm) 10.63"
Swept areas:	
Front wheels	(1432 cm^2) 222 in^2
Rear wheels	(1095 cm^2) 170 in^2
Total	(2527 cm^2) 392 in^2
Handbrake	Mechanical, acting on front discs
Brake pads: Front/Rear	Asbestos free

Suspension

Suspension elements, front and rear	Coil springs
Total spring compression/elongation:	
Front	(180 mm) 7.1"
Rear	(170 mm) 6.7"
Shock absorbers:	
Type	900, low pressure, gas 900S, Turbo, high pressure, gas
Stabilizer bars (900S, Turbo)	19 mm front 27 mm rear
Maximum working stroke, fitted to car	
Front	(96 mm) 3.8"
Rear	(158 mm) 6.2"

Steering

Steering gear	Rack and pinion
Wheel turns, lock to lock:	
Power steering	3.7
Oil specification, Power Steering	GM Power steering fluid (GM 9985010, Texaco TL 4634)
Wheel alignment:	
Front wheel toe-in (measured at rims	(2 ± 1 mm) 0.08 ± 0.04 in.
Front wheel camber	1/2° ± 1/2°
Front wheel caster	2° ± 1/2°
Rear wheel toe-in (measured at rims), all models	(4 ± 1 mm) 0.16 ± 0.04 in.
Wheel alignment (SPG only):	
Front wheel toe-in (measured at rims)	0.06 ± 0.02 in
Front wheel camber	0.25 ± 0,25°
Front wheel caster	2 ± 0.25°

Wheels and tires

Wheel sizes:	
Saab 900	5 1/2J x 15 FHA (steel)
Saab 900S and Turbo:	5 1/2J x 15 H2 (aluminium alloy)
Spare wheel (All):	4J H1 x 15"
Tire dimensions:	
All 900	185/65 R15 87T
900S	195/60 R15 86H
900 Turbo	195/60 R15 86H
900 Turbo w/SPG option	195/60 VR 15
Compact Spare	T 115/70 D15

Tire pressure (cold tires)

Tire size	Recommended pressure Normal load Ft./Rear	Full load Ft./Rear
185/65 R15 87T	29/30	32/33
195/60 R15 86H	30/32	35/36
195/60 R15 86V	30/32	35/36
Compact spare (All)	60 PSI	

Check tire pressure with cold tires.

Electrical system

Voltage	12 V
Battery capacity	60 AH
Starter capacity	1.9 HP
Alternator, max. charging current/voltage	80 Amps/14 V
Fuses and relays	See section "Headlights, bulbs and fuses"

Spark plugs:

Type: Naturally aspirated, 8 valve		NGK BP 6ES, Champion N9YC, Bosch W175 T30
Naturally aspirated, 16 valve		NGK BCP 6ES
Turbo16 valve	normal driving	NGK BCP 7EV
	city driving	NGK BCP 6EV,
Thread		M14
Thread length		(18 mm) 0.7"
Electrode gap		(0.6 mm-0.7 mm) 0.024"-0.028"

Light bulbs:	*Power*	*SAE Trade No*	*Quantity*
Interior lighting:			
Dome	10W	*	1
Rear-view mirror	5W		1
Glove compartment	5W		1
Luggage compartment	10W	*	1
Switch lighting:			
Light switch	1.2W	**	1
Hazard warning flashers	1.2W	**	1
Electrically heated rear window	1.2W	**	1
Indicator lights:			
Charging	2.0W	**	1
Oil pressure	1.2W	**	1
Brakes	1.4W	**	1
Direction indicators	1.2W	**	2
Electrically heated rear window	1.2W	**	1
Shift up	1.4W	**	1
Check engine	1.2W	**	1
High beam	1.2W	**	1
Handbrake	1.4W	**	1
Seat belt reminder	1.2W	**	1
Low fuel	1.2W	**	1

*) Cartridge bulb

**) Glass fitting

Other lighting:			
Instruments	3W	161	2
Ignition switch	1.2W	53	1
Heating and ventilation control	1.2W	**	1
Cigarette lighter	1.2W	**	1
Ashtray	1.2W	**	1
Push switches	1.2W	**	1

*) Cartridge bulb

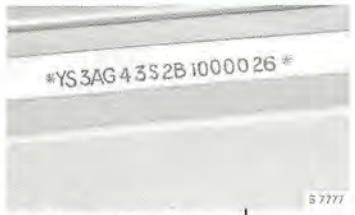
**) Glass fitting

Exterior lighting:			
Headlamps (Sylvania 9004 DOT)	70/50 W		2
Front parking lights	5W	67	2
Front turn signals/Side markers	21/5W	1157	2
Side turn signals	5W	-	2
Cornering lights	21/5W	1157	2
Side guidance reversing lights	21W	1156	2
Rear turn signal lights	21W	1156	2
Back-up lights	21W	1156	2
Brake, tail, side marker	21/5W	1157	2
Tail lights	5W	67	2
Brake lights	21W	1156	3

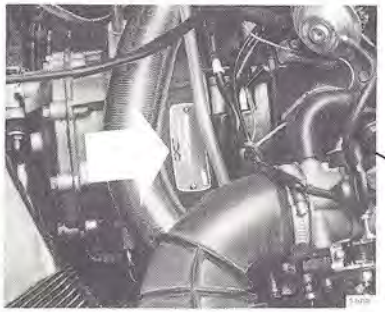
Identification numbers

Please quote the vehicle identification numbers (V.I.N.) in all correspondance concerning your vehicle.

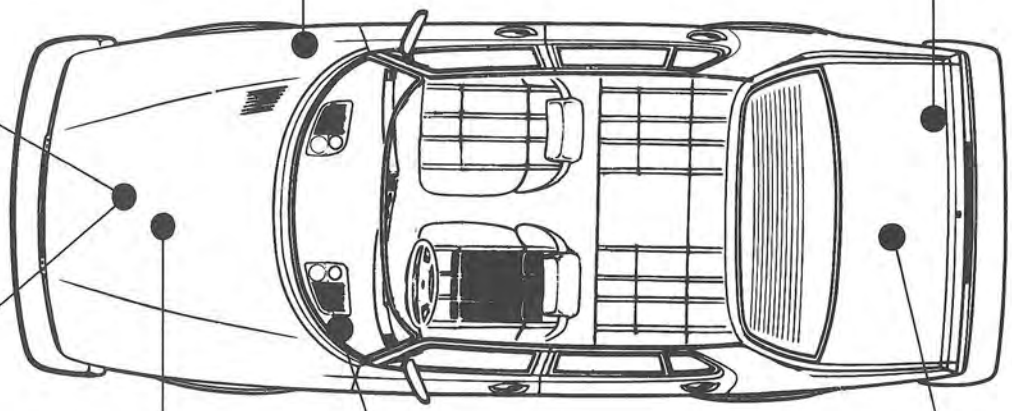
Vehicle Identification Number (V.I.N.)

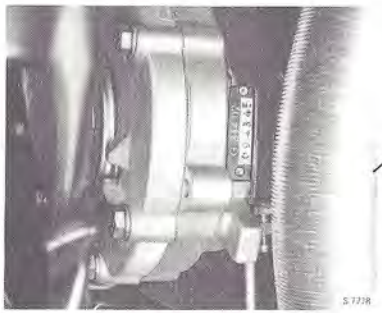


V.I.N. punched in car body



Transmission number, automatic transmission





Transmisson number, manual transmission

Engine number

Vehicle Identification Number (V.I.N.)

Color code

Trim code

INDEX

SERVICE STATION INFORMATION

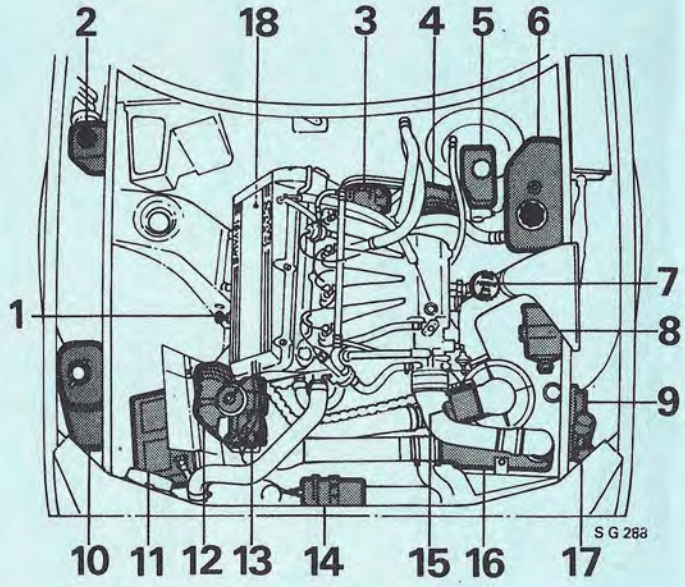
To open hood:	Pull hood release lever (located under left side of instrument panel). Press the front edge of hood down slightly and release safety catch. Allow front of hood to rise and move forward, then tilt entire hood forward. To close hood tilt rearward and reverse the above procedure. (Close slowly until safety catch engages, then push firmly to latch.)
To remove ignition key:	Engage Reverse (manual) or Park (automatic) and turn key to "L" (lock). Key switch is located on center console.
Recommended fuel:	Unleaded, minimum octane rating 87 or higher. (SPG models require premium unleaded)
Engine Oil:	Use only oils meeting both SAE viscosity and API Service classes listed below. Viscosity - SAE 10W-30 (Alternated - SAE 5W-30, SAE 15W-40 API Service - Turbo: SF/CD or SF/CC. 900, 900S: SF/CC
Gearbox Oil:	Manual - SAE 10W-30, SAE 10W-40 or SAE EP 75, API GL-4 or GL-5 Automatic - Type "F", M2C33F (Do not use Dexron ATF) Final Drive (Automatic): SAE EP 80, API GL-4 or GL-5
Coolant:	Saab brand coolant (BASF G-105) mixed with clean fresh water (minimum 50% glycol in mix year round).
Power Steering:	Use only "GM Specification Power Steering Fluid" (GM 9985919, Texaco TL 4634 or equivalent.) Do not use ATF.
Tires:	Pressures: See page 87. Do not tighten wheel nuts with an impact wrench.
Tune-up information:	See Vehicle Emission Control Information label, left front inner fender.
Towing disabled vehicle:	See recommendations on page 39.

CAUTION: The fuel injection system should be adjusted or serviced only with the proper tools and according to prescribed procedures and only be qualified persons skilled in Saab Fuel Injection servicing. Fuel lines must never be cut or spliced and all connections must be properly torqued on reassembly. Tampering with the Fuel Injection System or Turbocharger (if equipped) may void warranty coverage of affected components.
When welding on vehicle, disconnect the alternator. Avoid the plastic fuel tank and lines and all flammable materials.

Underhood components

1. Dipstick, manual transmission*
2. Power steering reservoir (16 valve)
3. Water pump
4. Alternator
5. Brake fluid reservoir
6. Coolant tank
7. Engine oil dipstick, filter hole
8. Fuel filter (8 valve) (beneath rear axle, 16 valve)
9. Electronic ignition module
10. Washer fluid reservoir
11. Battery
12. Turbocharger (Turbo only)
13. Ignition distributor
14. Ignition coil
15. Air flow meter (16 valve) Fuel distributor (8 valve)
16. Intercooler (Turbo only)
17. Cruise control vacuum pump
18. Power steering pump

*) Automatic transmission dipstick protrudes ahead of the engine near the upper radiator hose.



Saab-Scania AB, Saab Car Division, Nyköping, Sweden

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