

**SAAB**

**9000**

**SERVICE  
MANUAL**

**9:1 Accessories**

**M 1986-**



## Units

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

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

The following symbols and abbreviations are used:

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

### Conversion factors

|                         |                                  |
|-------------------------|----------------------------------|
| 1 in = 25.4 mm          | 1 mm = 0.039 in                  |
| 1 lbf = 4.45 N          | 1 N = 0.23 lbf                   |
| 1 lbf ft = 1.36 Nm      | 1 Nm = 0.74 lbf ft               |
| 1 psi = 0.07 bar        | 1 bar = 14.5 lbf/in <sup>2</sup> |
| 1 liq qt = 0.95 l       | 1 l = 1.05 liq qt                |
| 1 US liq qt = 0.83 UKqt | 1 USgal = 0.83 UKgal             |

## Market codes

### The codes refer to market specifications

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

# Fog lights

|                                       |       |                                    |       |
|---------------------------------------|-------|------------------------------------|-------|
| Replacement of relay -M1987 . . . . . | 935-2 | Replacement of the lamps . . . . . | 935-4 |
| Replacement of relay M1988- . . . . . | 935-3 | Aiming procedure . . . . .         | 935-5 |

The front fog lights are mounted under the bumper on all EAG (leather) models.

## Technical specifications:

|        |               |            |
|--------|---------------|------------|
|        | Standard      | Air flow   |
| Type:  | Bosch LE 1473 | Hella 4450 |
| Lamp:  | H3, 55 W      | H3, 55 W   |
| Relay: | 1 x 30 A      | 1 x 30 A   |
| Fuse:  | 10 A          | 10 A       |



*Standard fog lights*



*Air flow fog lights*

## Technical description

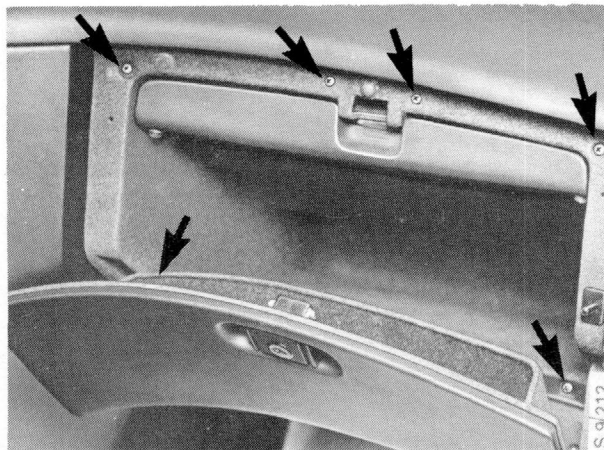
See group 3:2, "Wiring electrical system".

## -M1987

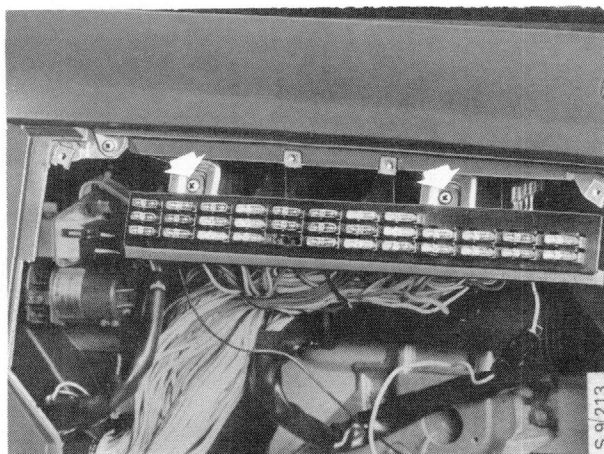
### To replace the relay

The relay is located in the electrical distribution box behind the glove compartment.

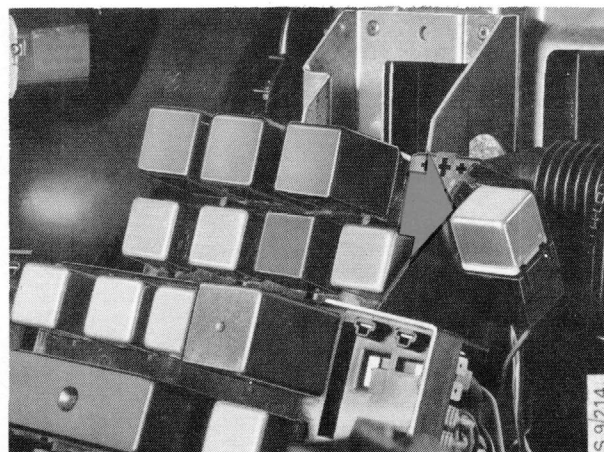
- 1 Remove the glove compartment (6 screws).



- 2 Remove the two screws that hold the fuse holder and fold the fuse holder down.



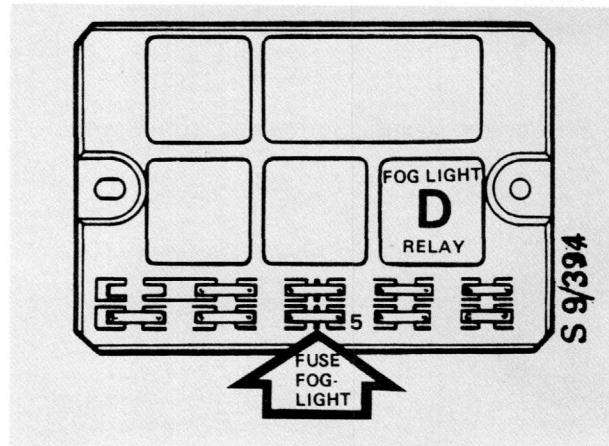
- 3 Remove the relay and replace it with a new one.
- 4 Remount the fuse holder and the glove compartment.



## M1988- To replace the relay

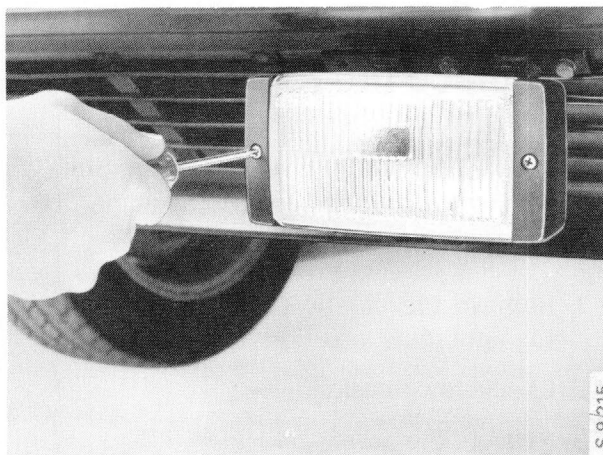
The relay is located in the electrical distribution box behind the left headlamp in the engine compartment.

- 1 Remove the plastic cover and replace the fog light relay (position "D").
- 2 Check its operation.
- 3 Replace the cover.

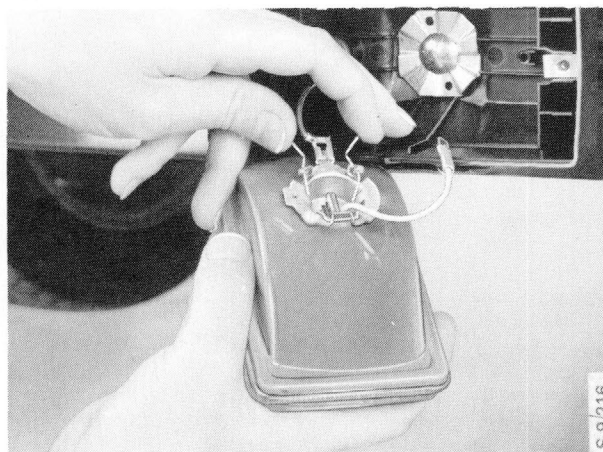


### To replace the lamps

- 1 Unscrew the glass and the reflector.

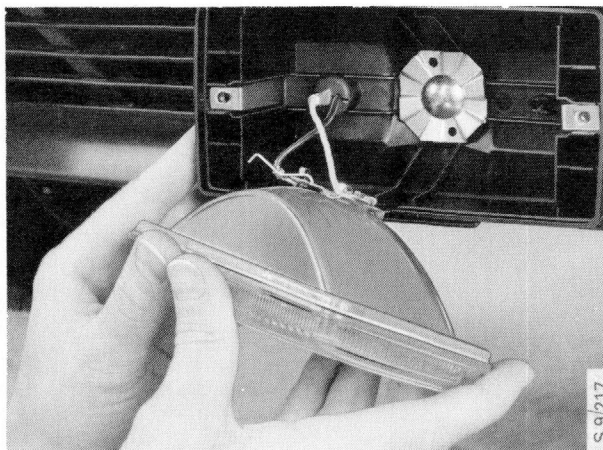


- 2 Bend the locking springs out of the way.



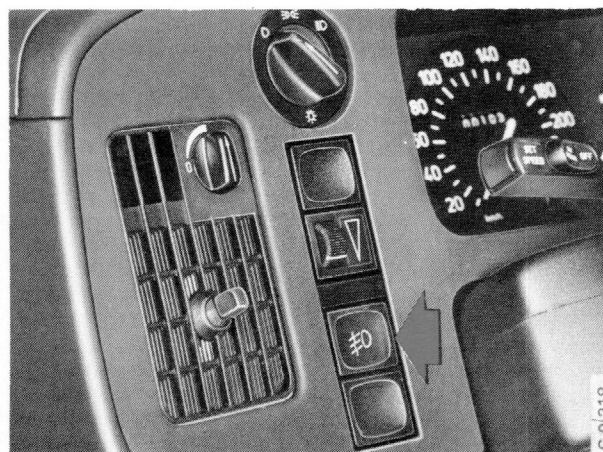
- 3 Install the new lamp. Do not touch the glass of the new lamp with your fingers. Make sure the lamp socket is in the right position.

- 4 Remount the locking springs and the reflector.



### To replace the fog light switch

The selector switch is located to the left of the steering column, under the rheostat.



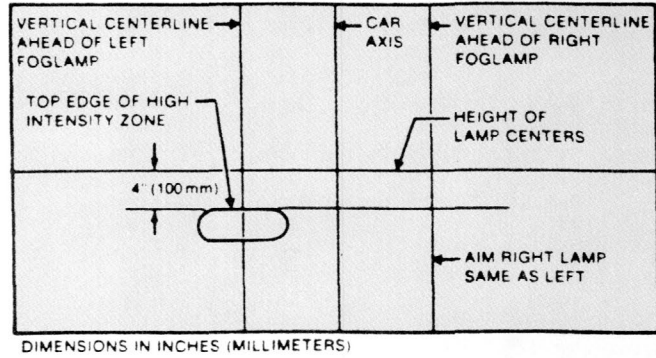
## Aiming procedure

The fog lights must be correctly aimed as part of the installation procedure. Poorly-aimed fog lights are of limited value.

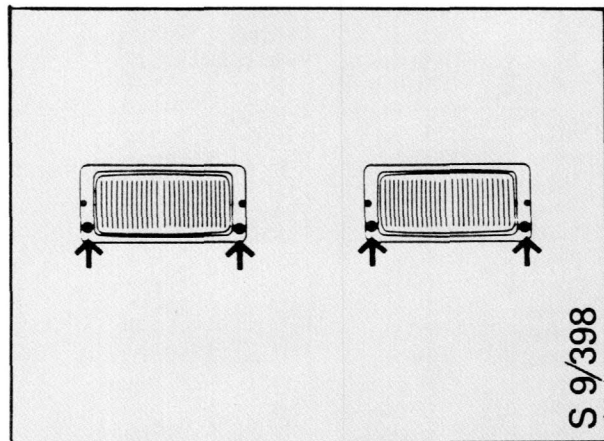
The chart reproduced here shows the optimum position of the high-intensity zone of the fog lights, in relation to their horizontal and vertical centers, at a distance of 25 feet (7.6 meters) in front of the car.

Aim each fog light so that the top of the high-intensity zone is 4 inches (100 mm) below its horizontal center.

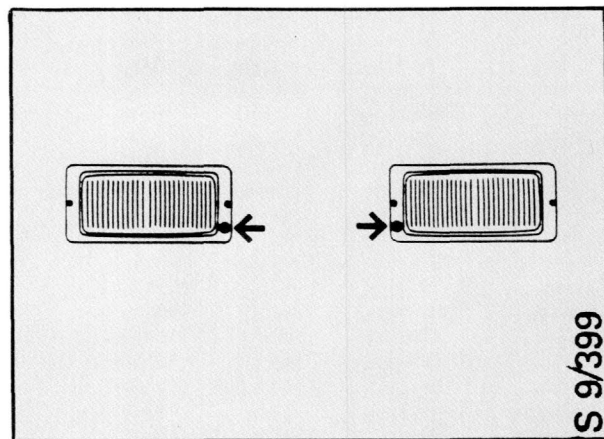
The vertical center of the high-intensity zone should coincide with the vertical centerline of the fog light, and under no circumstances be permitted to deviate more than 6 inches (150 mm) to either side.



## Air flow foglights Adjustment



Vertical adjustment  
Saab 9000 air flow



Lateral adjustment  
Saab 9000 air flow



# Radio, Electric antenna, Speakers and Cassette box

|                            |       |                        |        |
|----------------------------|-------|------------------------|--------|
| Radio . . . . .            | 936-1 | Speakers . . . . .     | 936- 7 |
| Electric antenna . . . . . | 936-3 | Cassette box . . . . . | 936-11 |

## Radio

The car has been prepared to facilitate radio installation. A place for the radio has been provided in the center console, and leads for the speakers and the electric antenna have been run.

Two connectors are located in the center console:

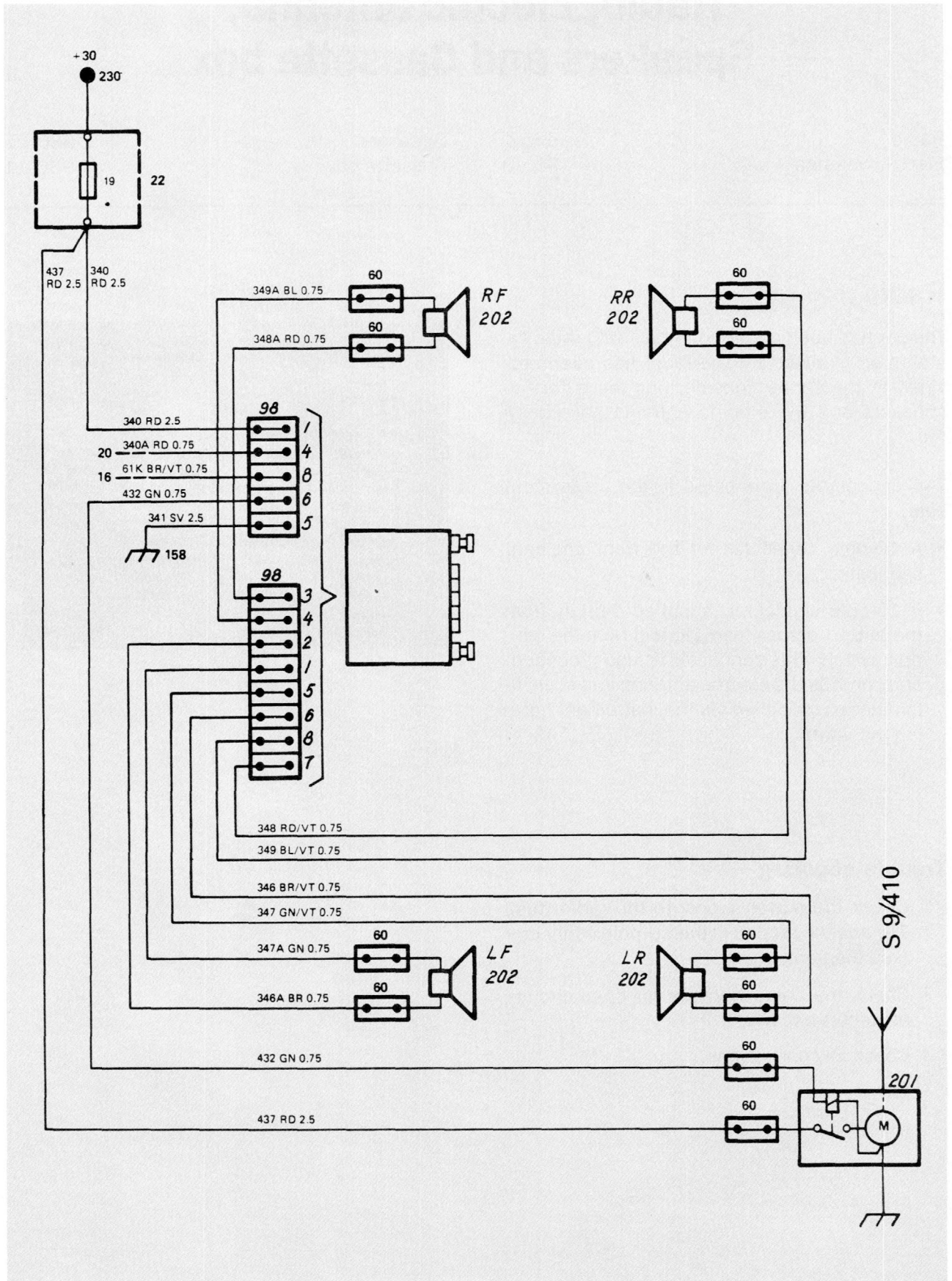
- A 10-pole connector for the front and rear speakers.
- A 10-pole connector, supplied directly from the battery across fuse 19, and from the ignition switch. This connector is also grounded, and controls the electric antenna and scale illumination (supplied via the instrument lighting rheostat).



## Trouble-shooting

- 1 Check the power supply to the radio (fuse 19) and the ground in the 10-pole connector (see diagram).
- 2 Check the cable harness for open-circuits and short-circuits.
- 3 Check all connections.

# 936-2 Radio, Electric antenna, Speakers and Cassette box



Wiring diagram - Radio

## Electric antenna

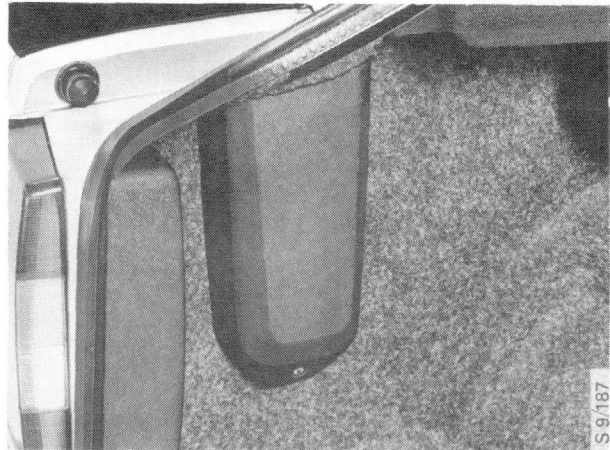
### Technical specifications:

|                    |   |
|--------------------|---|
| Type:              | Rack-and-pinion<br>permanent magnet motor |
| Operating current: | 2A (12 V) max.                            |
| Starting current:  | 4A (12 V) max.                            |

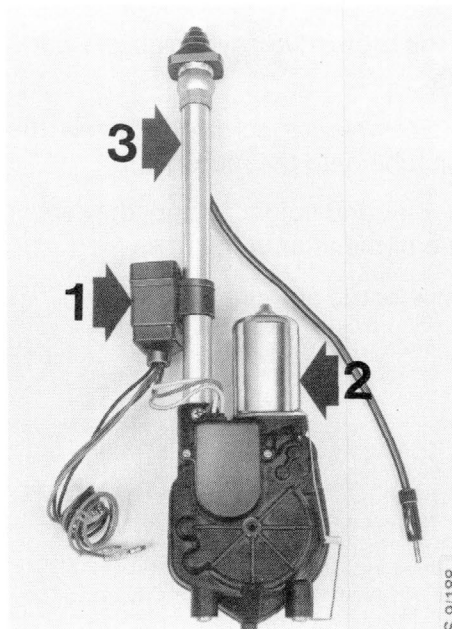
Certain Saab 9000s are equipped with electric antennas. The antenna is located on the left rear fender. A plastic cover has been provided to protect the antenna from damage by objects in the luggage compartment.

The electric antenna is extended automatically, via a separate connection, when the radio is turned on. The electric antenna retracts automatically when the radio is turned off.

To remove and refit, see group 3:1 pages 367-.

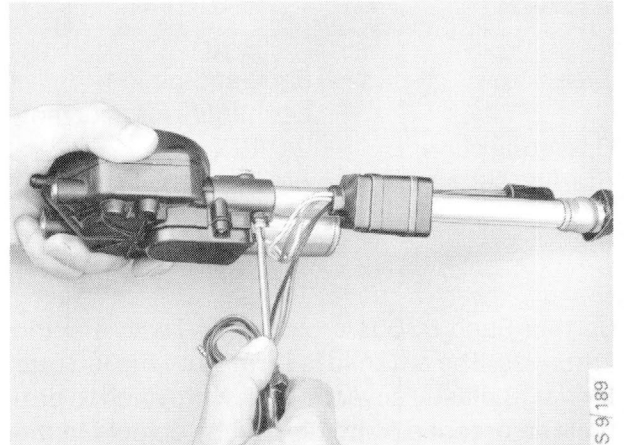


The major components include a relay (1), a motor (2) and the antenna rod (3).



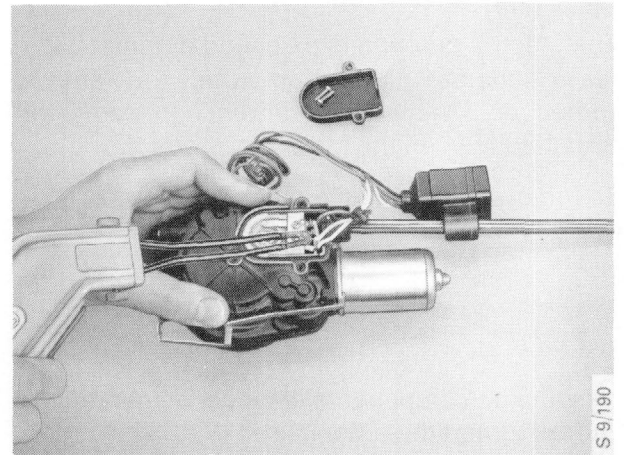
## To replace the relay:

- 1 Remove the entire electric antenna from the car.
- 2 Loosen the cross-recess screws that hold the aluminum tube.



- 3 Pull the aluminum tube out of the electric antenna and relay holder.

- 4 Remove the protective cover for the parking switch.



- 5 Unsolder the relay from its connections. Use a soldering gun or soldering iron.

- 6 Remove the relay.

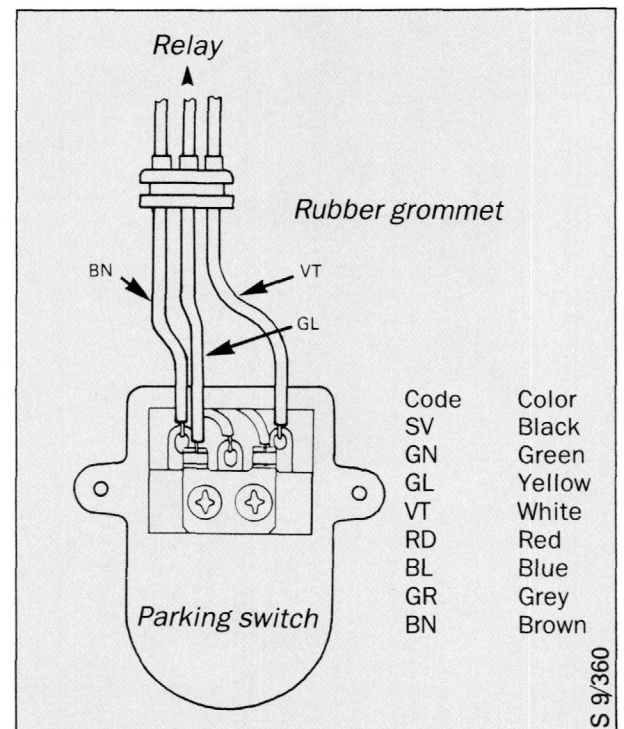
- 7 Slide the new relay onto the antenna rod and solder the leads as shown in the figure.

- 8 Replace the protective cover over the parking switch.

- 9 Use the cross-recess screws to screw the aluminum tube onto the motor unit.

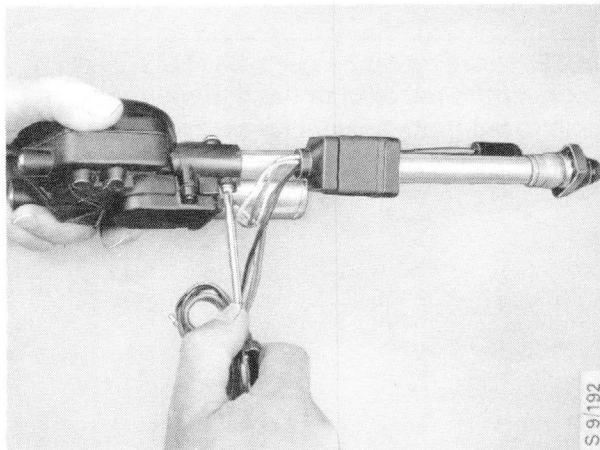
- 10 Slide the relay and holder up until they are in the middle of the aluminum tube.

- 11 Mount the electric antenna on the car.

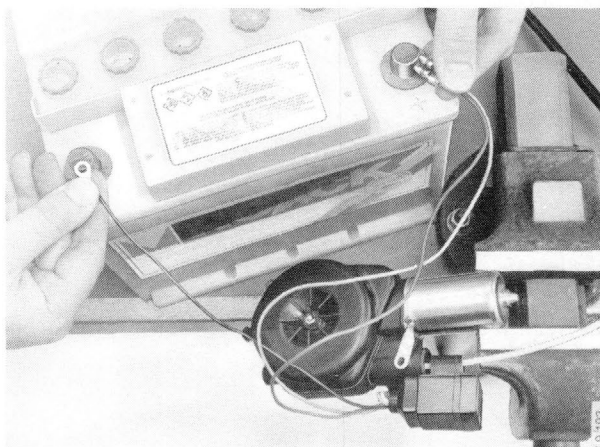


**To replace the antenna rod:**

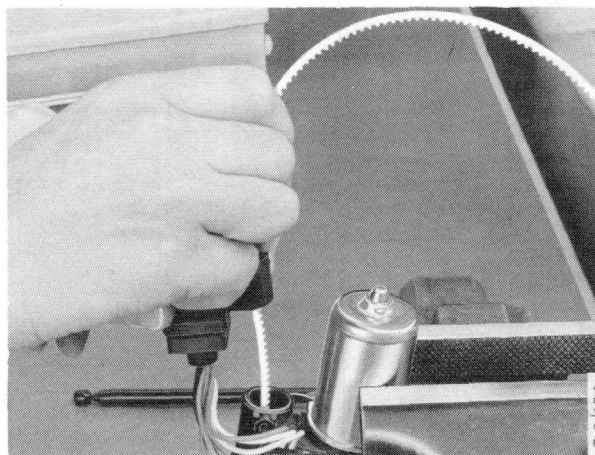
- 1 Remove the electric antenna from the car.
- 2 Loosen the screws holding the antenna tube and pull the tube out.



- 3 Connect the motor to the battery (black to negative, red and green to positive). Wait until the motor has stopped (with the antenna in the extended position) and carefully pull the rack of the antenna rod out of the motor.



- 4 Work the rack of the new antenna rod down into the motor. Turn the gears so that they face the motor.
- 5 Apply grease to the rack.



## 936-6 Radio, Electric antenna, Speakers and Cassette box

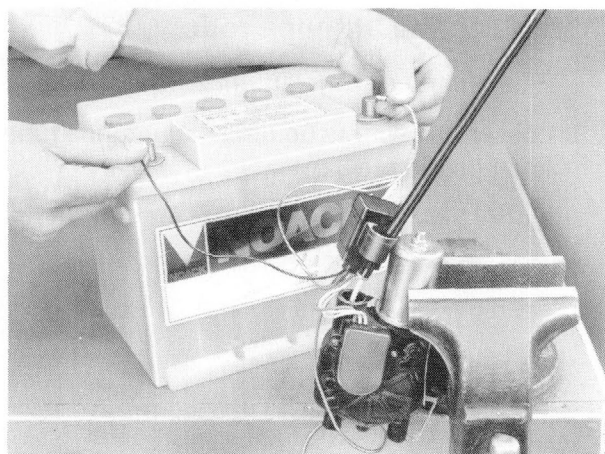
- 6 Connect the red (+) and black (-) leads to the battery while carefully pushing the rack in.

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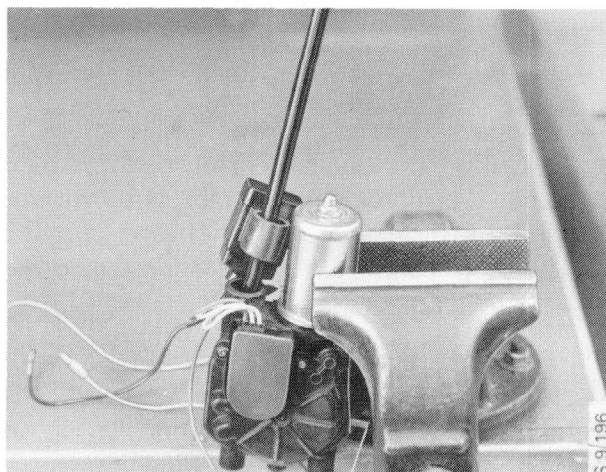
**NOTE:**

Connect the red lead to the battery from time to time to facilitate assembly.

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- 7 Once the entire rack has been rolled in, disconnect the leads from the battery.



- 8 Replace the antenna tube.

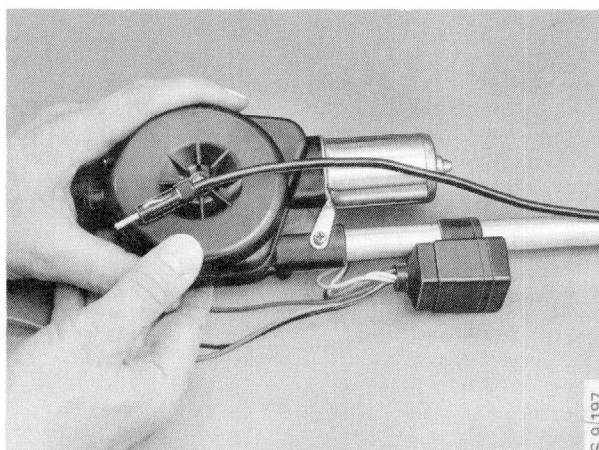
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**NOTE:**

Make sure the tube is facing the right way.

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- 9 Mount the electric antenna.



## Speakers

### Front speakers

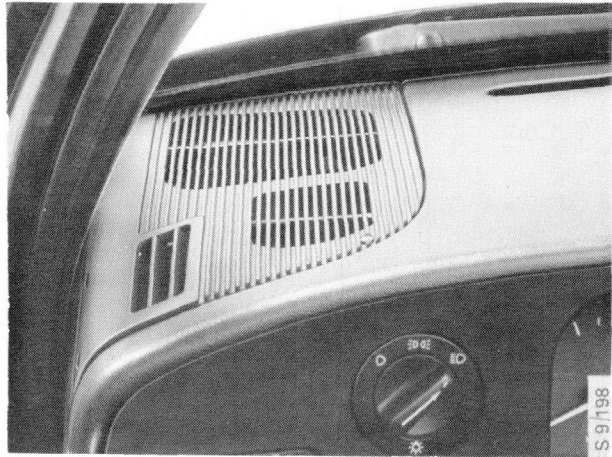
Type: Twin-diaphragm speakers  
Impedance: 4 Ohm  
Output power: 25 W  
Frequency response: 60-18 000 Hz

The Saab 9000 has been equipped with front speakers in the top of the dashboard.

A 40 W two-way speaker kit can also be installed as an accessory.

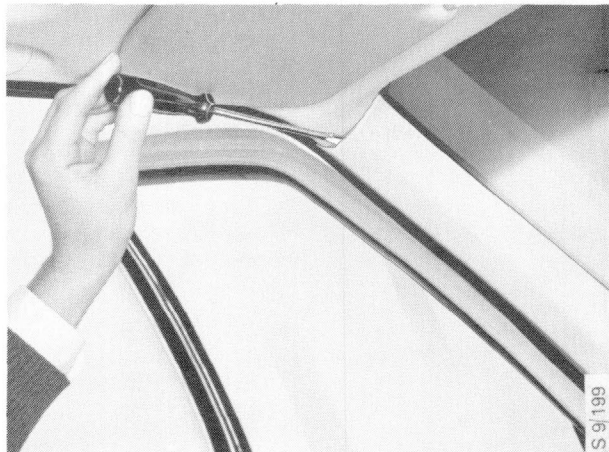
#### Installing the 40 W kit:

See the installation instructions in the accessory kit.

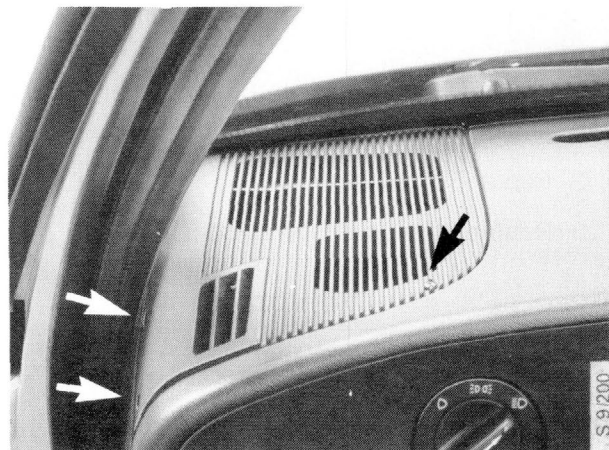


#### To replace the front speakers (25 W)

- 1 Remove the upholstery from the A-posts on both sides. Loosen the upholstery by prying out its upper edge with a screwdriver.



- 2 Remove the three screws holding the speaker grille.
- 3 Lift the rear edge of the grille up and pull it out towards the rear.



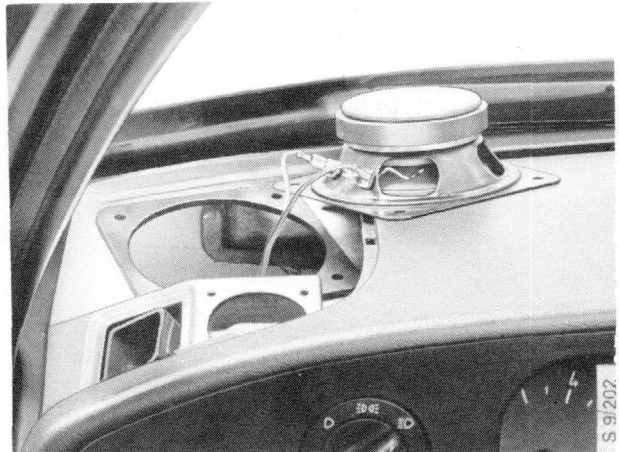
## 936-8 Radio, Electric antenna, Speakers and Cassette box

4 Remove the sealing collar.

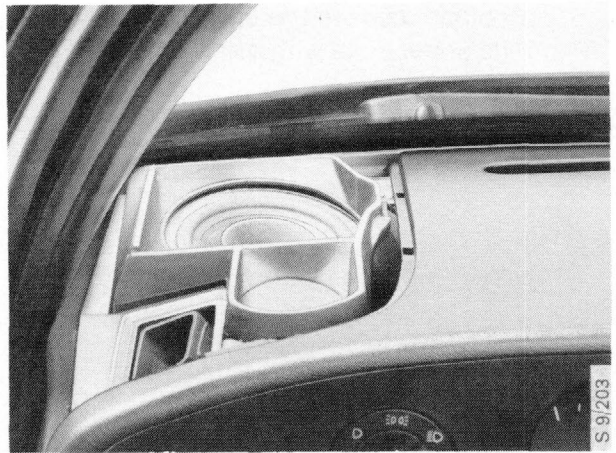
5 Unscrew the speaker.



6 Connect the new speaker.



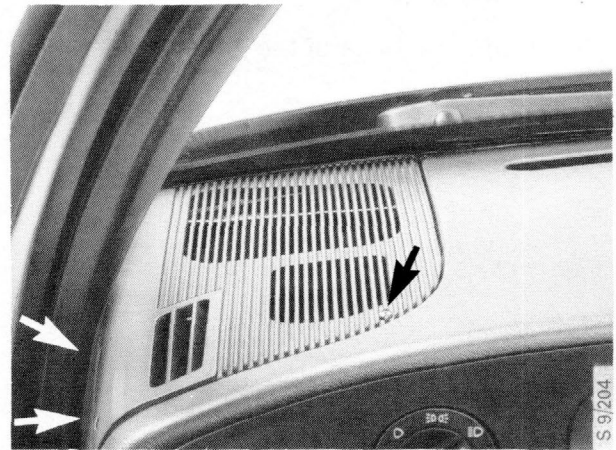
7 Screw the speaker into place and set the sealing collar on the speaker.



8 Replace the grille by pushing down on the front edge while carefully sliding it forward.

9 Replace the screws.

10 Replace the upholstery on the A-posts.

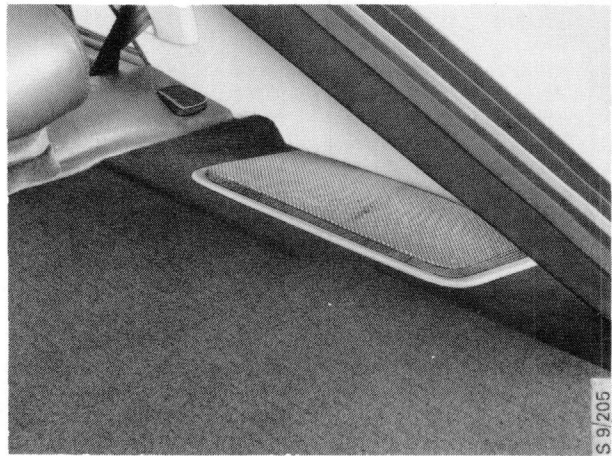




## Rear speakers

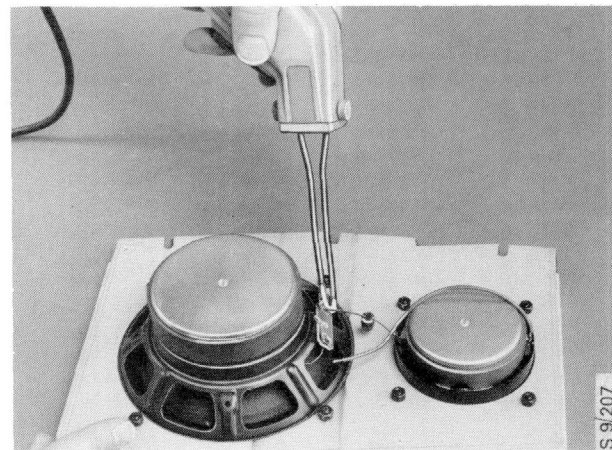
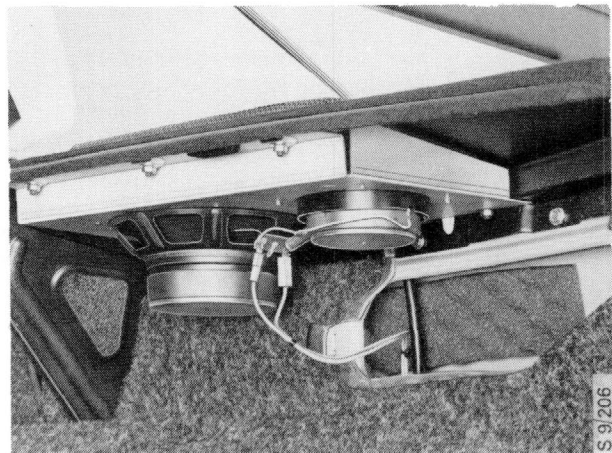
|                     |                |
|---------------------|----------------|
| Type:               | Two-way system |
| Impedance:          | 4 Ohm          |
| Output power:       | 50 W           |
| Frequency response: | 45-20 000 Hz   |

All Saab 9000s have been equipped with two-way-system speakers, located on the parcel shelf supports.



### To replace a speaker

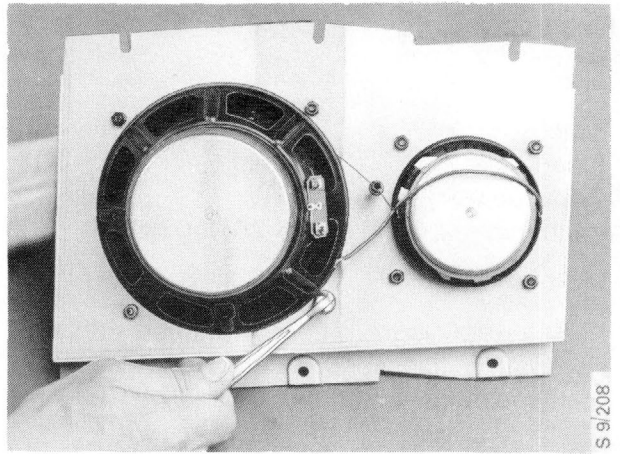
- 1 Disconnect the speaker leads.
- 2 Unscrew the speaker.
- 3 Unsolder the leads and the capacitor from the speaker to be replaced. Use a soldering gun or soldering iron.
- 4 Remove the speaker.



## 936-10 Radio, Electric antenna, Speakers and Cassette box

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- 5 Insert the new speaker.
- 6 Solder the leads and the capacitor to the new speaker.



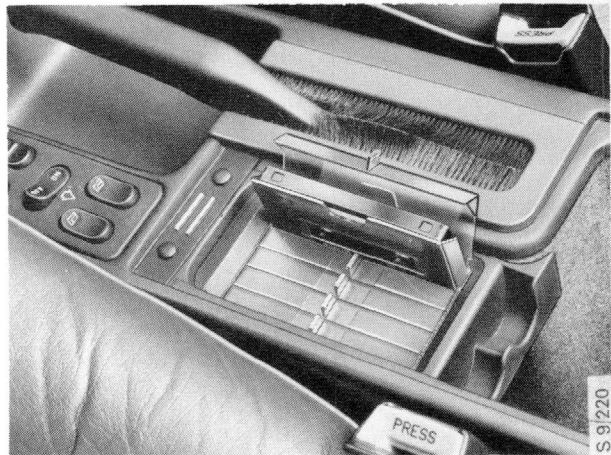
- 7 Install the speaker casing, tighten the screws and connect the speaker leads.



## Cassette box

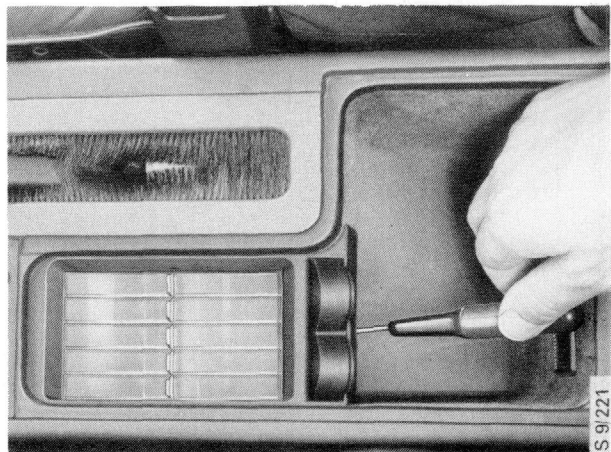
The cassette box is designed for mounting in the armrest.

It holds five cassettes and has been provided with a coin holder.

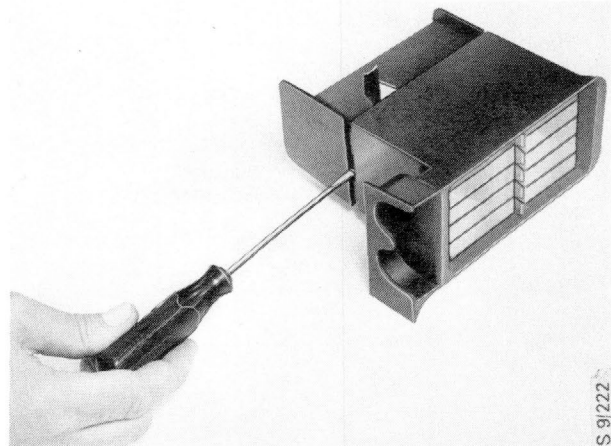


### Removal

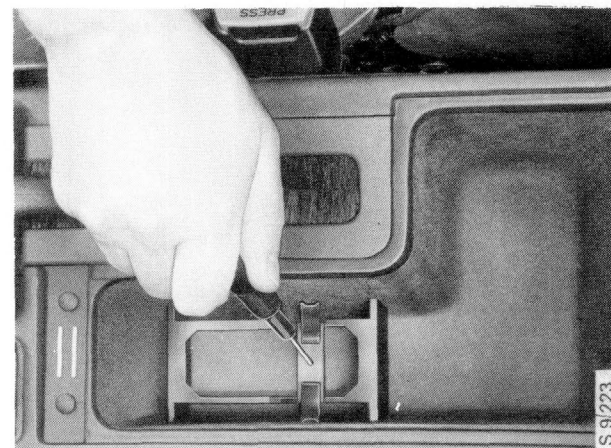
- 1 Insert a jeweler's screwdriver in the slot between the upper and lower parts of the cassette box.



- 2 Turn the screwdriver one-quarter turn to release the upper section.



- 3 Remove the upper section.
- 4 Push the spring holder down with a small screwdriver and lift the lower section out.



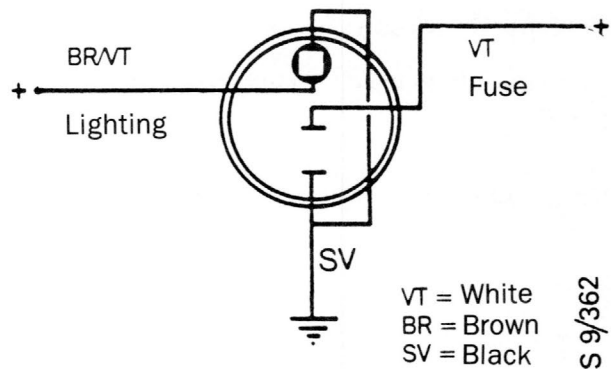
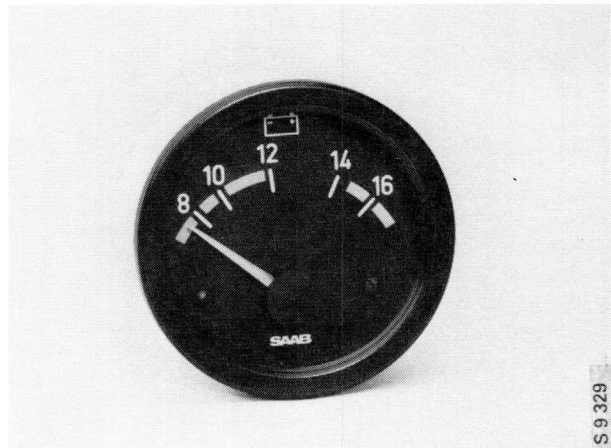
# Extra instruments

|                                 |       |                                     |       |
|---------------------------------|-------|-------------------------------------|-------|
| Voltmeter . . . . .             | 938-1 | Oil pressure gauge . . . . .        | 938-2 |
| Oil temperature gauge . . . . . | 938-1 | Outside temperature gauge . . . . . | 938-3 |

## Voltmeter (8 - 16 V)

For installing in a 52 mm dia. space in the front panel.

For the connection procedure, see the enclosed installation instructions.



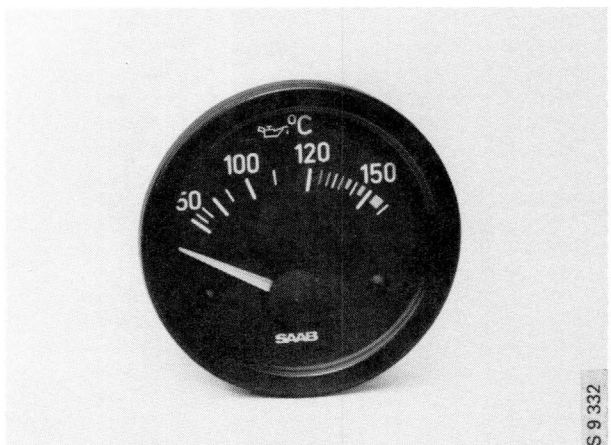
Wiring diagram for voltmeter

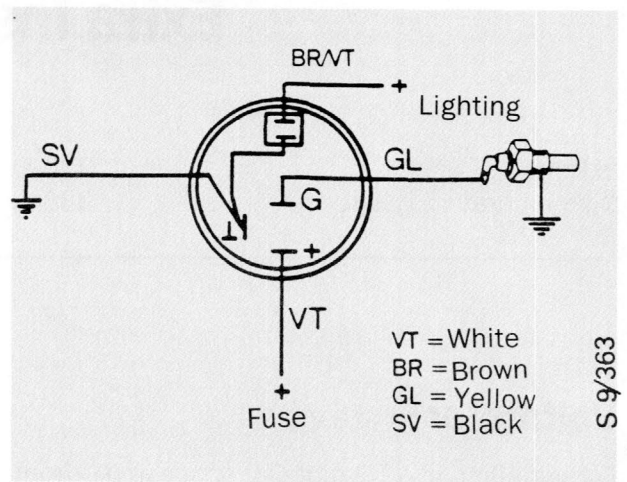
## Oil temperature gauge

(50°-150°C/120°-300°F)

For installing in a 52 mm dia. space in the front panel.

For the connection procedure, see the enclosed installation instructions.





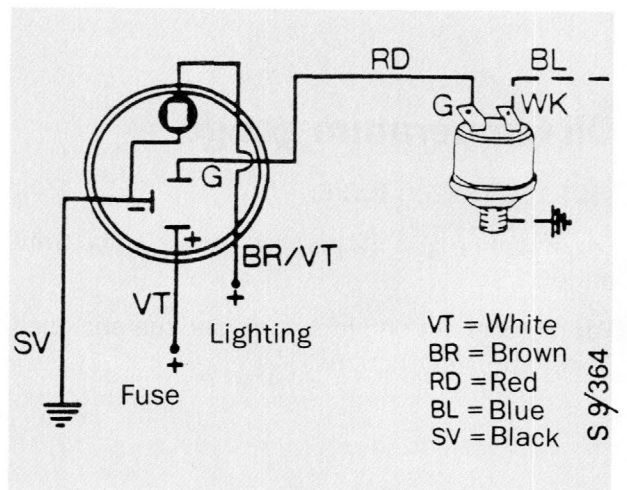
Wiring diagram for oil temperature gauge

### Oil pressure gauge

(0 - 5 bar/0 - 80 psi)

For installing in a 52 mm dia. space in the front panel.

For the connection procedure, see the enclosed installation instructions.

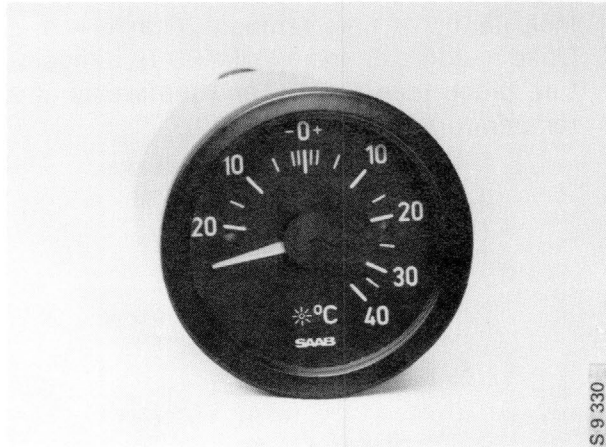


Wiring diagram for oil pressure gauge

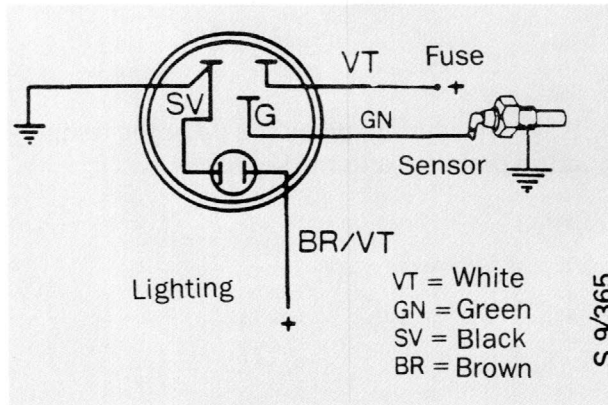
## Outside temperature gauge - analog type

For installing in a 52 mm dia. space in the front panel.

For the connection procedure, see the enclosed installation instructions.



S 9 330

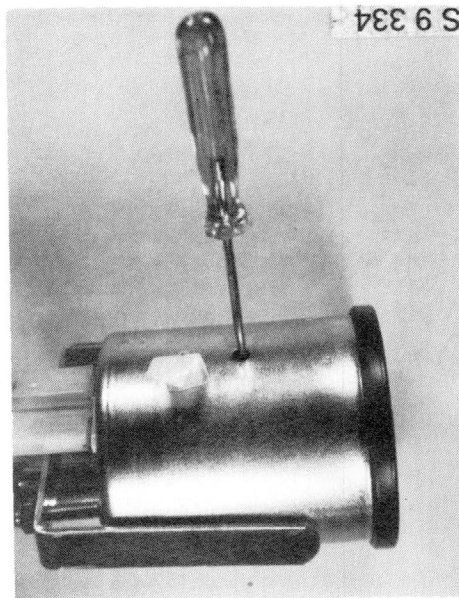


S 9/365

Wiring diagram for outside temperature gauge

### Incorrect readings

- 1 Check carefully to make sure the sensor connections (including the connection to the frame) are making good contact.
- 2\* Adjust the instrument by turning the potentiometer with a small screwdriver, as shown in the figure.

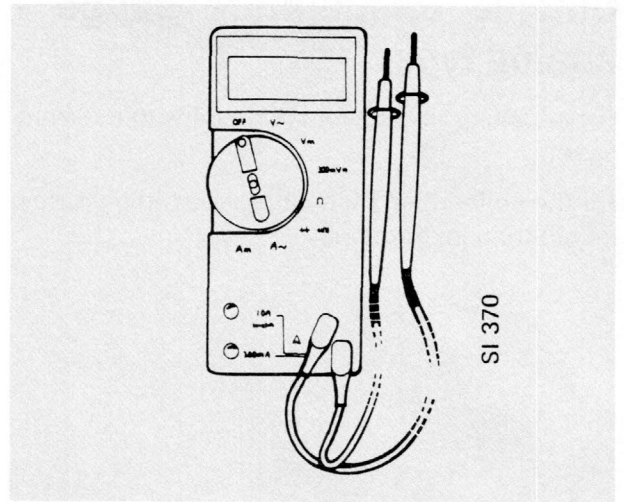


S 9 334

\* The instrument and sensor are matched, so subsequent adjustment is not usually necessary.

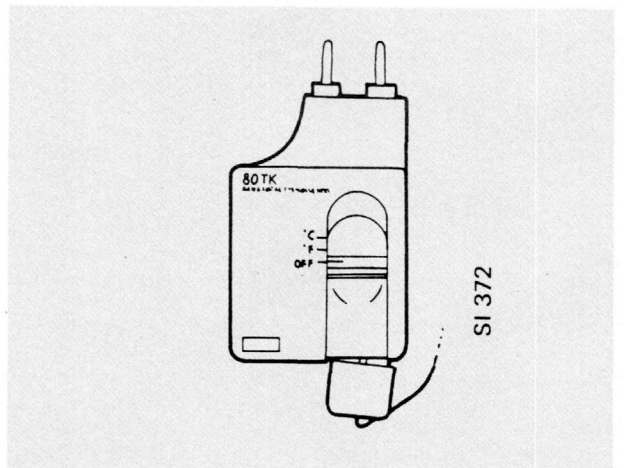
## 938-4 Extra instruments

- The temperature should be measured over a long period of time (around 20 min) with a Fluke multimeter and a Fluke 80 TK temperature probe (see figure), and preferably at a temperature of around 0°C (32°F).



*Fluke multimeter*

- When measuring, place the tip of the temperature probe next to the sensor.



*Fluke temperature probe*

# Automatic level control system

## Technical specifications - coil springs

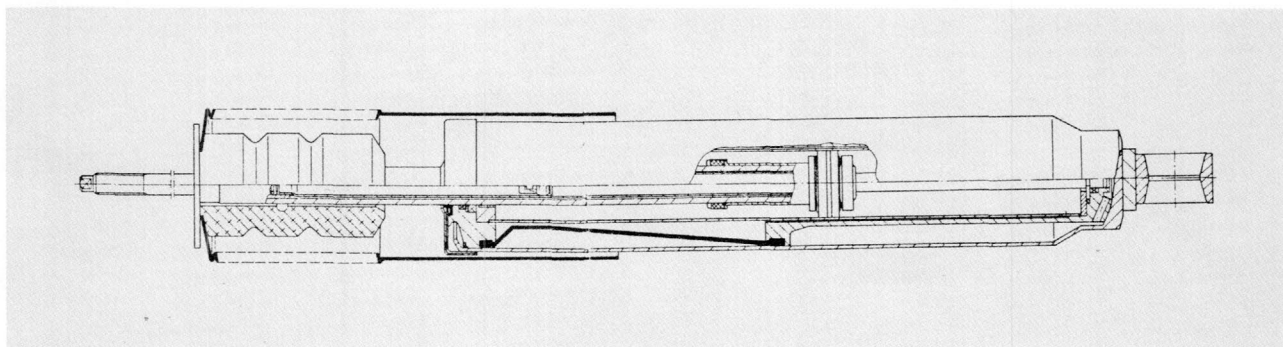
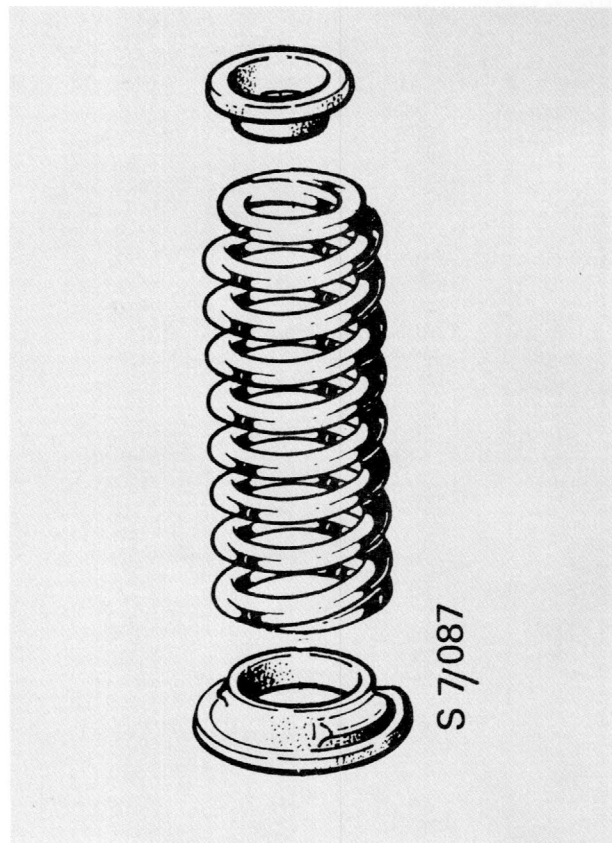
|                       |                  |
|-----------------------|------------------|
| Total turns:          | 9                |
| Working turns:        | 8                |
| Wire diameter:        | 15/32" (12.0 mm) |
| Spring travel:        | 12 7/8" (328 mm) |
| Color code - class 1: | Light blue       |
| Color code - class 2: | Beige            |

## Technical description

The suspension incorporates helical compression springs.

The top turn of each coil spring is smaller than the other turns, which permits longer spring travel in the same amount of space. The springs have been provided with rubber supports at each end. These supports are held in place only by the pressure of the springs themselves. The spring replacement procedure is described in the service manual, group 7, section 732.

The shock absorbers automatically maintain the car at the correct level, regardless of the load. The up-and-down motion of the car drives a built-in oil pump which increases the pressure in a gas chamber. The pressure is then adjusted automatically by a valve so that the rear of the car will stay at the correct level. The shock absorber replacement procedure is described in the service manual, group 7, section 761.

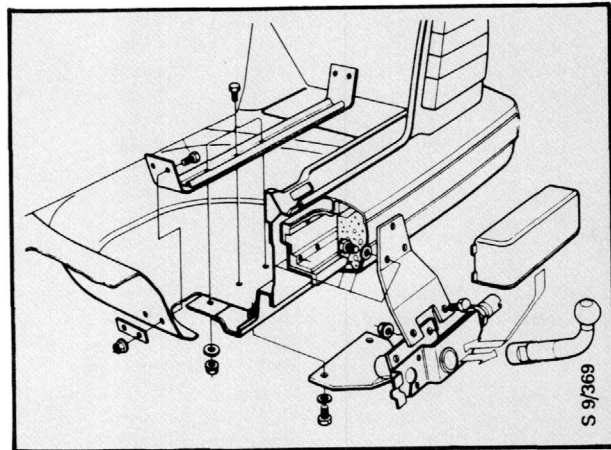




# Trailer hitch

## Technical specifications

|  |                               |
|--|-------------------------------|
| Cable harness type:                    | 7-pole connector<br>U.S. type |
| Trailer hitch type:                    | Removable hitch<br>tongue     |
| Max trailer weight with brakes:        | 2000 lb                       |
| Max. tongue weight with brakes:        | 165 lb                        |
| Max. trailer weight without<br>brakes: | 1000 lb                       |
| Max. tongue weight without<br>brakes:  | 100 lb                        |



## Installation

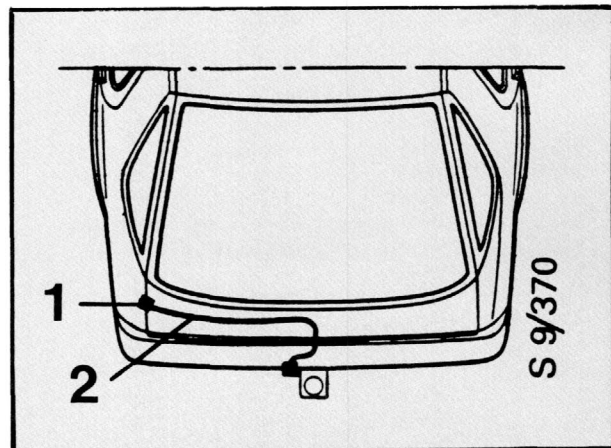
See the installation instructions included with the trailer hitch and cable harness kit.

The electrical system has been prepared to facilitate the mounting of a trailer hitch wiring harness.

For this purpose, an 8-pole connector has been installed in the luggage compartment, to the right of the left-hand taillight.

The supply for the following trailer lights is taken from the 8-pole connector.

- Brake lights
- Parking lights
- Taillights
- License plate light
- Turn indicators
- Rear fog lights



- 1 8-pole connector
- 2 Trailer hitch cable harness

## Wiring diagram

See group 3:2, "Accessories".

## Trouble-shooting

- 1 Check the connections at the trailer hitch electrical connector for corrosion.
- 2 Check that the connections in the 8-pole connector are live. (See group 3:2, "Accessories").
- 3 Check the fuses and cable harness.

# Armrest

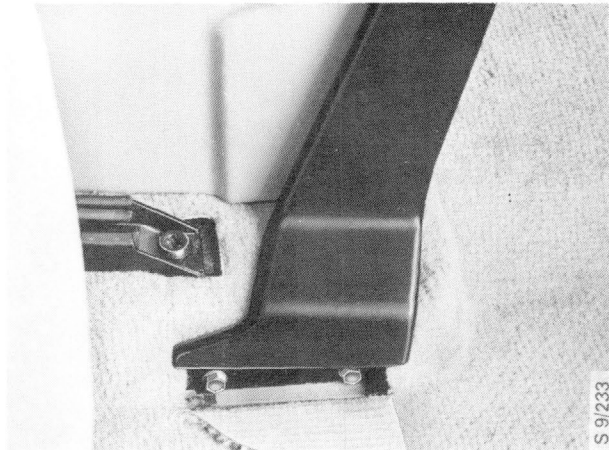
The Saab 9000 has been provided with mounting holes for this armrest.

## Installation

See the installation instructions enclosed with the kit.

## To remove:

- 1 Fold out the carpeting (held in place by a plastic cowl).
- 2 Remove the four screws.
- 3 Carefully lift the armrest up and out.



# Load carrier

## Technical specifications

Maximum gross weight on roof: 220 lb (100 kg)  
 Distance between roof racks: 850 mm  
 Width (without extensions): 41 3/4" (1060 mm)

## Technical description

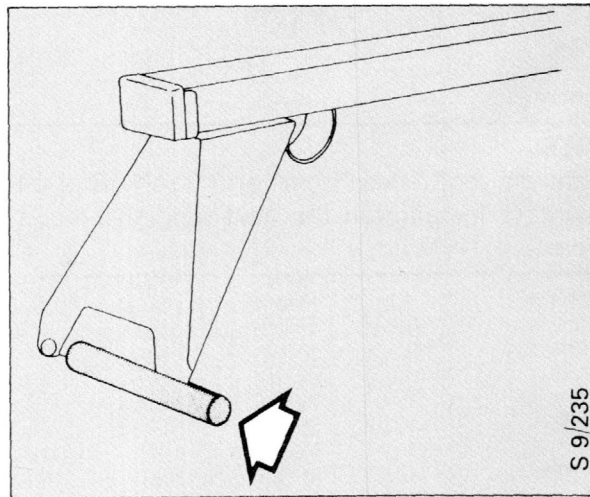
The roof racks for the Saab 9000 are designed for mounting in the pre-drilled holes on the sides of the roof.

## Mounting procedure (See the owners manual) inclosed with the kit

- 1 First, slip the plastic sleeve over the movable foot. This will protect the paint while you mount the roof racks.
- 2 Open all four doors.
- 3 Hold one of the bars with the fixed foot facing you, and carefully place the foot on the rubber strip, in line with the mounting holes.



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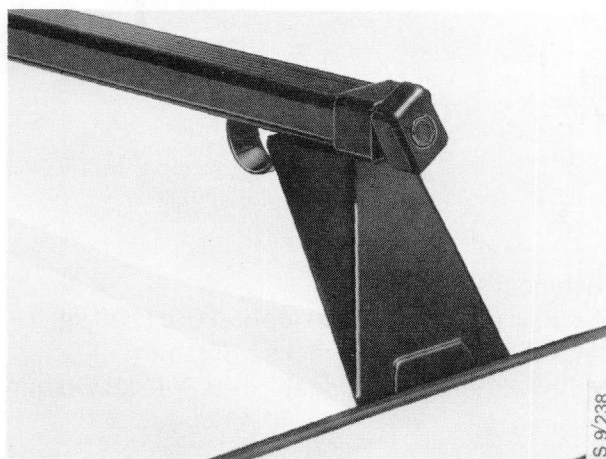


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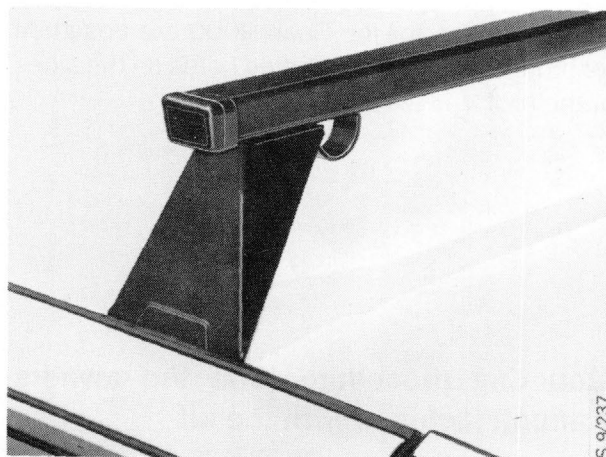
## 989-2 Load carrier

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- 4 Fold the rubber strip back and insert the fixed foot into the mounting holes.
- 5 Carefully close the door on that side to hold the foot in place.



- 6 Mount the movable foot on the other side in the same manner.
- 7 Tighten the roof rack by turning the knob at the end of the bar.



### **CAUTION**

Hand-tighten only.

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### **NOTE:**

Mark the roof racks "front" and "rear". This will facilitate installation the next time you mount them.

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Saab-Scania AB  
Saab Car Division  
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