SAAB

SONETT III

OWNERS' MANUAL

M 1971

SAAB SONETT III

OWNER'S MANUAL

SAAB–SCANIA TROLLHÄTTAN – SÖDERTÄLJE * SWEDEN
Automotive Group

SAAB U.S.A. INC.
100 Waterfront Street
NEW HAVEN, CONN. 06506

(USA EDITION)
1st Edition

IMPORTANT

In accordance with the Federal regulations, all new cars must be equipped with an exhaust emission control device.
On your new SAAB Sonett III, this is accomplished by using the SaFree exhaust emission control device which means:

1. Modified carburetion
2. Deceleration valve
3. Distributor with advance curve for emission control

Notice:
In order to ensure compliance with the law:
The tuning of the engine should be carried out only at an authorized SAAB dealer.

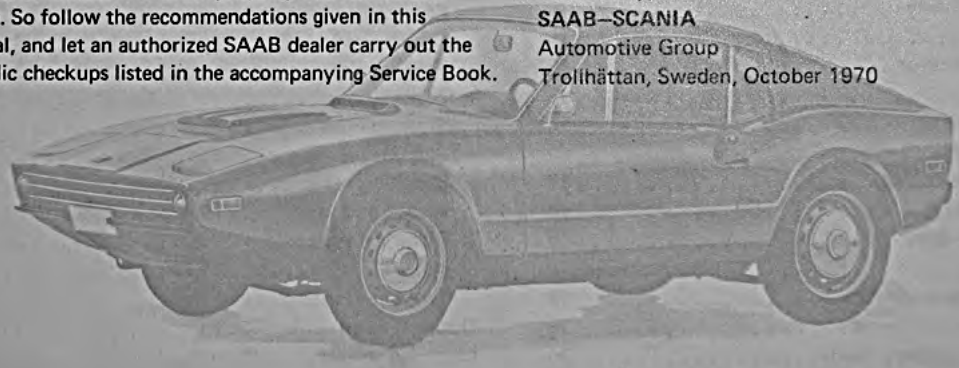
FOREWORD

Dear SAAB Owner

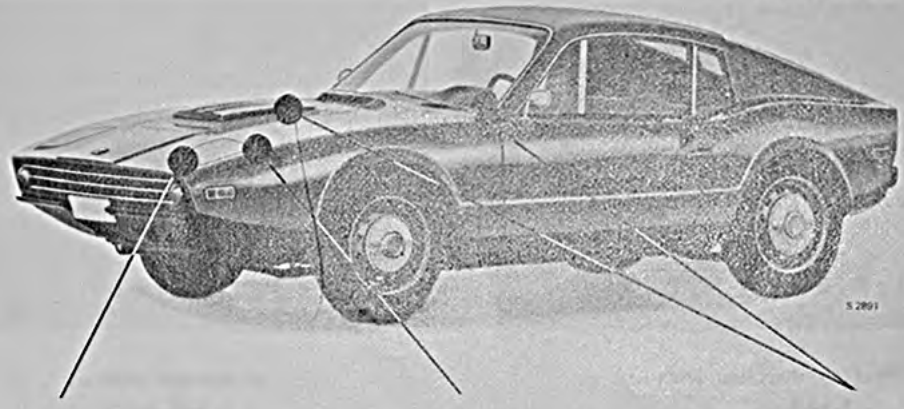
This Manual is an important accessory; we suggest you carry it in the car, so it will always be handy whenever you need it. It contains all the facts you need to know to get acquainted with your car – in fact you should read it before you take the wheel for your first run. SAAB cars are quality products, designed and built to satisfy the most exacting demands as to durability, performance, handling characteristics and safety. But no car can give of its best if it is not properly maintained and driven. So follow the recommendations given in this Manual, and let an authorized SAAB dealer carry out the periodic checkups listed in the accompanying Service Book.

All adjustments – and repairs if needed – must be properly done with the proper equipment. So always let an authorized SAAB dealer do the job, and make sure that original SAAB spare parts are used every time.
You will of course appreciate that we must reserve the right to make changes in equipment and specifications during production, without prior notice.

Yours truly,
SAAB–SCANIA
Automotive Group
Trollhättan, Sweden, October 1970



CHASSIS NUMBER ETC.



Engine number

Gearbox number

Chassis number and color code sign

The model designation is SAAB 97 Sonett III.

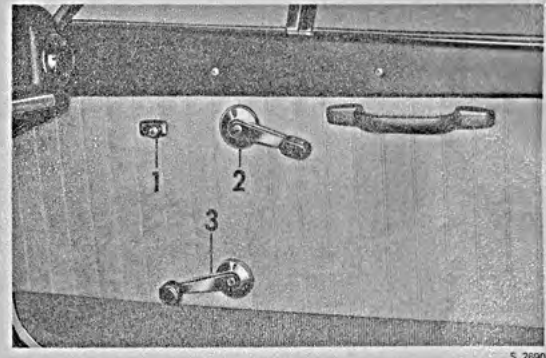
Please quote the model designation and chassis number in all correspondence concerning your car.

CONTROLS AND INSTRUMENTS

S 2724

Door lock, left door

1. Lock
2. Unlock



S 2690

Inside of door

1. Lock button
2. Door handle
3. Window crank

KEYS

Four keys are supplied with the car. Two fit the ignition- and steering wheel lock and two fit the doors. The serial number of the door key will be found under the rubber cap.

DOOR LOCKS

Both doors have lockable handles. To lock the left door, give the key a quarter turn counterclockwise, and a quarter turn clockwise to unlock it. In both cases, return the key to the vertical position to withdraw it. The right door is locked and unlocked in the reversed manner. The doors are provided with safety lock buttons with which they can be locked from the inside when closed. See fig. **NOTE!** The door cannot be unlocked from the outside when it is locked with the lock button.

Trunk control handle

Ignition switch and steering wheel lock

TRUNK

The trunk lid (rear window) is opend from the inside of the car by a control handle placed at the left vent window.

IGNITION SWITCH AND STEERING WHEEL LOCK

The ignition switch and steering wheel lock has four positions:

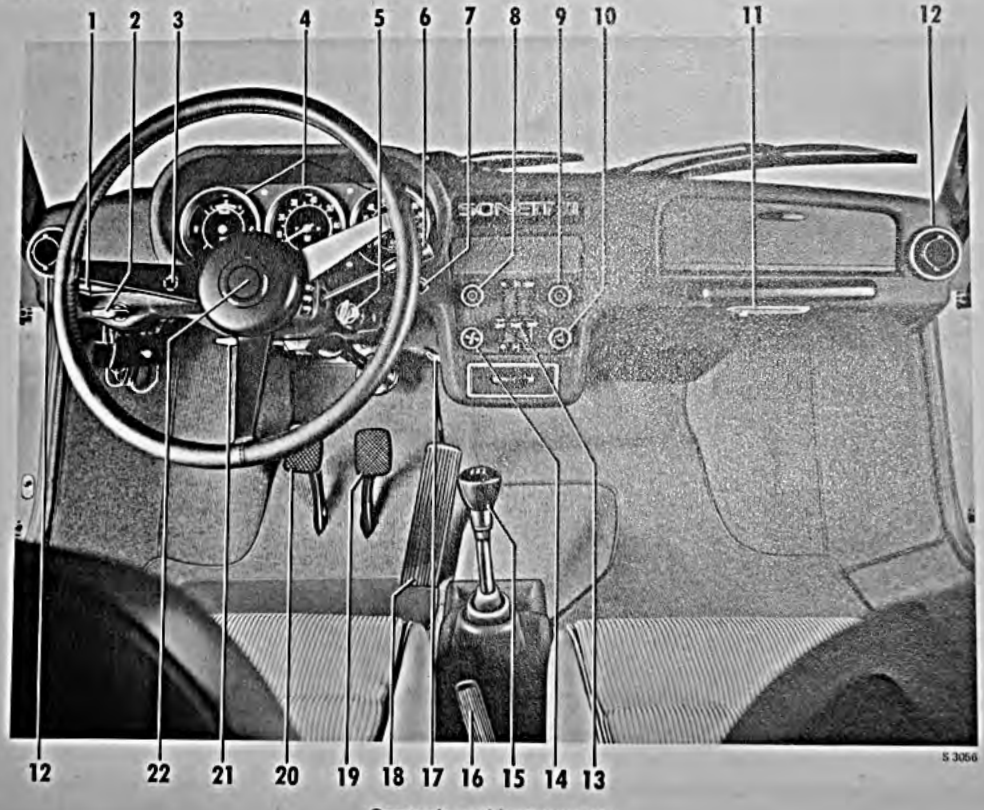
O. Locked. The key can only be withdrawn from this position. When the key is withdrawn the steering wheel is locked.
Note! To ensure that the car isn't left unlocked, there will be a buzzer activated if the door is opened with the key left in the ignition lock.

I. All current consumers except the ignition circuit is switched on.

II. Drive. All electric systems are operational.

III. Start. This position has a spring-loaded action to II.

CONTROLS AND INSTRUMENTS



Controls and instruments

CONTROLS AND INSTRUMENTS

1. Combined direction indicator lever and headlight dimmer switch
2. Headlight control
3. Instrument lighting rheostat
4. Instruments and indicator lights
5. Combined ignition switch and steering wheel lock (see p. 7)
6. Windshield wiper and washer control
7. Hazard warning signal switch
8. Parking light switch
9. Switch for extra equipment
10. Cigarette lighter
11. Map reading light
12. Adjustable fresh-air vents
13. Heating and ventilation controls
14. Ventilator fan switch
15. Gear lever
16. Handbrake
17. Free wheel drive control (see p. 18)
18. Accelerator
19. Brake pedal
20. Clutch pedal
21. Hood lock lid release handle
22. Horn control

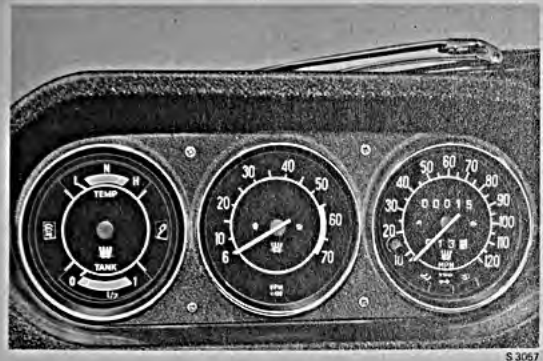
The functions of the instruments and the operation of those controls that need further explanation are described in the next few pages. Figures in the margin refer to the above list.

S 2719

Combined direction indicator lever and headlight dimmer switch

1. Left direction indicator
2. Right direction indicator
3. Headlight dimmer switch

1. Combined direction indicator lever and headlight dimmer switch.
   To signal a turn, move the lever down for left, up for right.
   When the headlights are on, pulling the lever towards the wheel shifts the beam from high to dimmed or vice versa.
2. Headlight control
   When the handle is pulled out to stop, the headlights are folded up and all the light is turned on if the



Instruments and indicator lights

ignition switch is in position "I" or "II".
NOTE. If the handle is pulled out and the ignition key is turned to "0", all light will be extinguished. If you want to have the parking light on when the ignition switch is in position "0", the parking light switch (8) must be pulled out.

3. Instrument lighting rheostat. Turn the switch to control the intensity of illumination. This switch operates only when the parking lights or headlights are on.
4. Instruments and indicator lights

TEMP Coolant temperature gauge. The green zone indicates normal operating temperature.

TANK Fuel gauge. Indicates the amount of fuel in the tank when the ignition is switched on. A red warning shows a steady glow when there is less than 1 3/4 US gallons (7 liters) left in the tank.
tank.

Charge indicator light. Glows orange when the alternator is not charging.

Oil pressure warning light. Glows red when engine oil pressure is too low. When starting, never move off until this light has gone out. If it lights up when you are driving, switch off the engine immediately and investigate the cause.

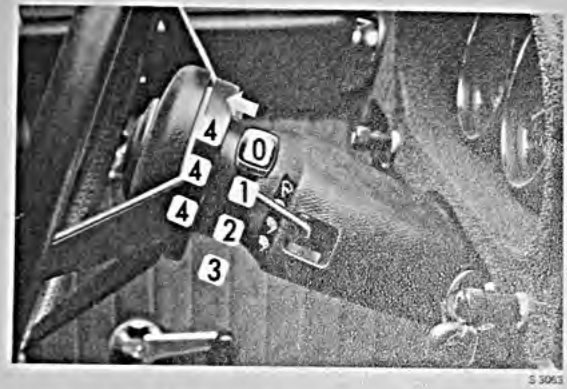
UPM Tachometer.

MPH Speedometer, odometer and trip meter. The speedometer is graduated in MPH and the odometer shows the total mileage of the vehicle.

Brake warning light. Glows red to indicate excessive brake pedal stroke, which means
a) one of the two brake line circuits is leaking, or
b) the back wheel brakes need adjusting.
If this light comes on, investigate the cause of the trouble without delay and have the fault repaired by an authorized SAAB dealer.

Direction indicator repeater light. Flashes green in time with the direction indicators.

High beam warning light. Glows blue when the headlights are on high beam.



S 3063

Windshield wiper and washer control lever

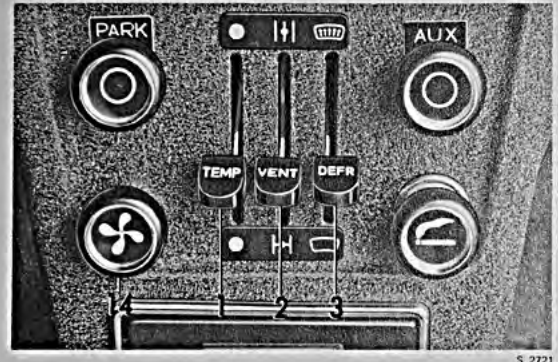
0. Neutral position
1. Windshield wipers, half speed
2. Windshield wipers, full speed
3. Windshield wipers, full speed + washer
4. Washer (works in positions 0, 1, 2)

6. Windshield wiper and washer control – see illustration.
7. Hazard warning signal switch. All direction indicator lights flash together when the button is pulled out. The hazard warning signal must only be used when the vehicle is stalled in the roadway, e.g. after an accident or breakdown, in a position where it is liable to endanger or obstruct traffic.

S 2720

Adjustable fresh air vent

8. Parking light switch.
   If you only want the parking light turned on, pull out the switch. The parking light can be turned on irrespective of ignition switch position.
12. Adjustable fresh air vents.
    The two vent nozzles supply extra fresh air as desired independently of the heat system. They can be rotated to direct the jet of air and swiveled to control the volume. The air flow is cut off when the nozzle is swiveled to position S on the slip ring. At low driving speeds the ventilator fan can be used to boost the flow of cold air through the vents.



S 2721

Heating and ventilation controls

1. Temperature control
2. Air control, floor
3. Air control, defroster
14. Fan motor switch

S 2727

Vent channels

13. Heating and ventilation controls.
Circulation of air in the passenger compartment is provided by the intake of fresh air – heated or cold – through the heating and ventilation system and exhausting of used air through openings in the rear corner posts.
The lever marked TEMP sets the thermostatically regulated water valve to heat the incoming air to the desired temperature. This temperature remains constant at the preselected level regardless of driving speed and whether the fan is working or not. Maximum heating effect is obtained when the lever is pushed all the way up. When the lever is all the way down the heater is switched off.
The lever marked VENT controls the supply of air to the floor. The air vents are open when the lever is up, closed when it is down. The lever marked DEFR controls the supply of air to the inside of

Gear position
R = Reverse gear

the windshield. Here, too, the up and down positions correspond to open and shut respectively.
The defroster jets are adjustable. They can be rotated to direct the jet of air in the desired direction.

14. The fan motor is switched on or off by a switch with too positions. Half speed is obtained in the first position and full speed in second.
The fan motor also has summer and winter settings. The desired setting is obtained by fitting the cable in one of the two connections (marked "Summer" and "Winter") at the fan motor in the engine compartment.
At speeds in excess of about 30 m.p.h. (50 km/h), a forced draft is generated which is normally sufficient to enable the air heater to function satisfactorily.

15. Gear lever. The various gear positions are illustrated in the figure. To engage reverse gear, press the lever towards the steering column, and then pull it backward.

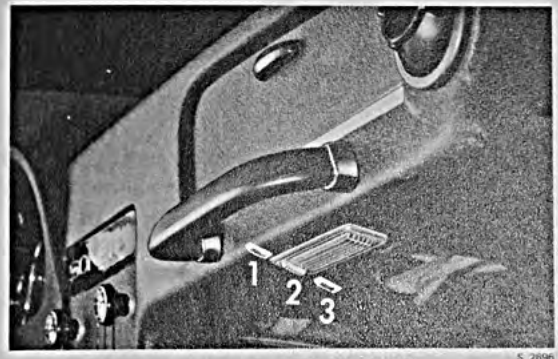
S 3064

Engine hood lid release handle

S 2695

Safety catch

21. Engine hood lid release handle. The handle is located on the left hand side under the instrument panel.
To open, proceed as follows:
a) Pull the handle. The lid will then open to the semilocked position, retained by a safety catch at its rear edge.
b) Push the safety catch forwards and lift the lid upward forward.



S 2696

Interior lighting

1. Light is on
2. Light is off
3. Light switched on when opening the door

ASHTRAY

An ashtray is provided in the instrument panel.

REAR – VIEW MIRROR

The interior rear-view mirror has two different positions of height. To adjust, turn the mirror half a turn.

INTERIOR LIGHTING

The map reading light (located below the glove compartment) is switched on by the door contact or by the switch on the lamp, see fig.

S 2697

Seat adjustment catch

SEATS

Legroom adjustment

Lift the catch (see illustration) and slide the seat forward or backward to the desired position.

S 2698

Safety belt

A. Shoulder strap
B. Lap strap
1. Buckle cover
2. Strap retainer

S 2699

Safety belt suspension device

SAFETY BELTS

The safety belts are of lap-and-shoulder type. To perform its life-saving function, the belt must be adjusted to a close fit.

Always check before starting out that the belt is not twisted, and make sure that it is not chafing on sharp corners and has not snagged.

To put on your belt take the buckle in one hand and press the end onto the clamp so that it clicks tight.

To tighten the straps, pull on the ends (see fig.).

To let out the straps, pull on them while pressing down the strap retainer. To undo the belt, pull the buckle cover up.

When not in use, belts should be hooked on to the suspension device, see fig.

Warning

No alterations or additions should be made to this belt which might impair its efficiency.

The webbing must not be bleached or redyed.

The belt must be worn close to the body to give full protection. The belt is meant for one person only.

The shoulder belt is not to be used without a lap belt.

If in doubt on any matter concerning this belt or its use please consult the manufacturer.

ALWAYS USE THE SAFETY BELTS!

STARTING THE ENGINE

Choke

To facilitate starting when the engine is cold, the carburetor is equipped with an automatic choke controlled by the engine coolant temperature. When the engine has warmed up to normal running temperature the choke is automatically closed and stays closed even if the engine is stopped and allowed to cool off completely. To reactivate the choke mechanism, the accelerator must be fully depressed once before the next cold start.

Starting with cold engine

1. Gear lever in neutral.
2. Depress the clutch pedal.
3. Depress the accelerator fully, once, and then release it. This is necessary to activate the automatic choke.
4. Keeping the foot off the accelerator, turn the ignition kay to the starting position and hold it there until the engine fires.

   Note! When starting in extremely cold weather, do not run the starter for more than 20–25 seconds at a stretch, and allow a pause of 20–30 seconds between starting attempts to give the battery a chance to recover. Make sure that no other current-consuming apparatus is switched on during the starting sequence.
5. Let the engine run for about 10 seconds to get into its stride before touching the accelerator.
6. Release the clutch pedal.
7. Avoid racing the engine or putting it under heavy load when cold. In any circumstances the greatest care must be taken as long as the oil pressure indicator light glows.

Starting with warm engine

1. Gear lever in neutral.
2. Depress the clutch pedal.
3. Normally the accelerator should not be depressed at all, but if the ambient temperature is high, it should be depressed half-way and held there.
4. Turn the ignition key to the starting position and hold it there until the engine fires.
5. Release the clutch pedal.

GEAR CHANGING

When changing gear, engage the clutch gently and smoothly. There are only two correct positions for the clutch pedal when under way, either fully depressed (clutch disengaged) or fully released (clutch engaged). Driving with a slipping clutch or with the foot resting on the pedal is a bad habit and causes heavy wear on the clutch disc and release bearing. If the car is at a stand still, put the gear lever in neutral and release the clutch.

In the gear box all forward gears have synchromesh. To put in the reverse gear move the lever towards the steering column and pull it backward. The positions of the different gears are shown on page 13.

It is possible to shift down without using the clutch if the free wheel is in operation. We recommend to use the clutch when shifting up the gears, (i.e. shifting from 1st to 2nd and on to the fourth gear). All gear changes should be made with a smooth, precise touch and with a slight, barely perceptible pause in neutral.

Note!

To minimize exhaust emissions one should always shift below these points as follows:

1st	to	2nd	---	17 m.p.h.	(4,000 r.p.m.)
2nd	to	3rd	---	30 m.p.h.	(4,000 r.p.m.)
3rd	to	4th	---	50 m.p.h.	(4,000 r.p.m.)

FREE WHEEL DRIVE

The transmission is equipped with a free wheel drive on the input shaft. The free wheel drive has a locking mechanism with which it can be cut out or locked. This mechanism is operated from the driver's position by a knob beside the pedals (see illustration on p. 8).

Knob pushed in = free wheel drive operating (car can overrun engine).

Knob pulled out = free wheel drive locked (engine brakes on deceleration).

You should stop the car before pulling out the knob to lock the free wheel drive.

Drive as much as possible with the free wheel drive in operation. In this condition there is no engine braking effect when you close the throttle; the car can coast without losing speed with an idling engine. This makes gear shifting easier as well as saving fuel and engine wear. The only times you really need to lock the free wheel drive are when you want to start the engine by towing or utilize the braking power of the engine for downhill driving on steep mountain roads to avoid undue wear on the regular brake system (see also the section on Brakes).

BRAKES

The car is delivered with a thoroughly tested set of brake linings with very little tendency to fade, i.e. they can tolerate high temperatures without serious loss of effect. Always make sure when changing brake linings and pads that original SAAB spare parts are fitted. See also "Brake system", pp. 36–39.

To avoid subjecting the brakes to excessively high temperatures, e.g. when motoring in mountainous country with descents of thousands of feet, you should drive with the free wheel drive locked to utilize engine braking power.

Important

It is good policy to try 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 if you are driving through snow or salty slush, as braking power may be temporarily reduced in conditions of this kind.

STEERING CHARACTERISTICS

The SAAB has a tendency to understeer, i.e. at a given wheel angle the turning radius tends to increase with rising speed. This feature is designed into the car to give it stability and cut down the risk of rear wheel skidding. However, should the rear wheels skid as a result of a violent maneuver, the understeer makes it very easy to check the skid. One of the ways in which understeer has been achieved is the weight distribution, which by total weight is 60 % on the front wheels.

RUNNING IN

Every new car has a 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 build up smooth, hard-wearing friction surfaces. Pushing a new engine too hard interferes with this gradual bedding-down process, shortening the life of the car and especially the engine.

For the first 2,000 miles (3,000 km) you should not drive at full throttle, except very briefly. Try to keep the engine speed high enough at all times to avoid laboring.

DRIVING ON SLIPPERY ROADS

When the roads are icy it is more important than ever to keep your car in good trim – especially the brakes and tires. Studded tires give the best grip on icy roads, **provided they are fitted on all four wheels.** Never use a mixed set of tires, but always have the same kind on all wheels.

With the onset of wintry and icy conditions, it is a good idea to find a quiet space with no traffic and plenty of room, and practise braking and cornering to familiarize yourself with the behavior of the car on a slippery surface.

Drive with the free wheel in operation (no engine braking); the freewheeling technique affords maximum safety. According to this theory, now generally accepted, the wheels have the best chance of resuming their grip after a skid if they are neither driven nor braked. With the free wheel drive in action, all you have to do to obtain this effect is to take your foot off the accelerator.

To correct a back-wheel skid, you steer in the same direction as the back wheels are sliding, while in a front-wheel skid you steer carefully into the line you wish to take. Keep steering-wheel movements gentle, and keep your feet off the accelerator and brake pedals!

If a stretch of road looks particularly dangerous, close the throttle and let the car coast. Operate the brakes and steering wheel gently.

USEFUL HINTS

1. Be sure that the ignition is switched off when the engine is not running; otherwise the ignition coil and breaker points are liable to be damaged.
2. Learn the quickest way to start the engine. If it turns over too long without firing, it will become flooded and even more difficult to start.
3. Keep the battery well charged at all times. A poorly charged battery may cause starting difficulties. Concerning battery connection, see under "Alternator" and "Battery", pp. 42–43.
4. In wintertime, you should take steps to prevent the

door locks from icing up. Suitable preparations for this purpose are sold at most service stations. Should a lock cylinder freeze, however, do not try to force it open – you may bend the key.
Melt the ice by warming the lock or the key.

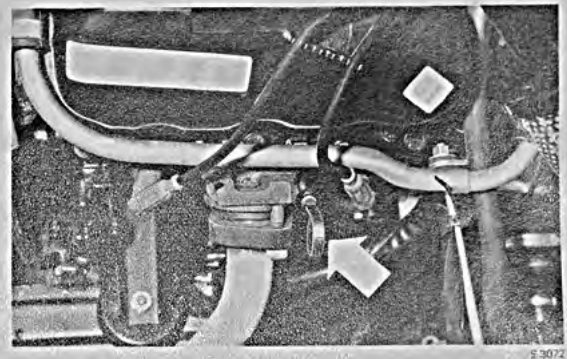
5. **Winter tires can be fitted, but if so put them on all four wheels.**
6. Snow chains:
   Snap-on links must not be used, as they will damage the disc brakes. Use ordinary snow chains instead. These can be used on both the front and back wheels. But be careful; snow chains may foul the bodywork at extreme spring compression and extreme steering lock.
7. The engine must be kept in good trim.
   Major maintenance work should be carried out by an authorized SAAB dealer.
8. The brakes must always be maintained in good condition. Check that:
   a) the play in the brake pedal is not larger than normal.
   b) the brake pedal neither feels spongy nor sinks under constant load.
   c) the braking power is good.
   d) the car does not pull to one side when braking.
   e) the brake warning light functions properly.
   See also "Brake system", pp. 36–39.
   If any of these faults are detected, have the car inspected by an authorized SAAB dealer.
9. Avoid driving with the trunk open, as exhaust gases may be sucked back into the car. If for any reason you have to drive with the back end of the car open, you should take the following precautions:
   a) Keep all windows closed.
   b) Set the fresh air and defroster controls to wide open, and run the ventilator fan at high speed.

TOWING

The car is provided with four towing eyes, two at the front and two at the rear.

S 3065

Oil filler cap, engine



S 3072

Oil dipstick

FUEL

Regular fuel, minimum 94 octan.

In order to reduce exhaust emissions, fuel with low lead contents can be used. However, regular use of completely lead free fuel may cause premature failure of valves and valve seats.

ENGINE OIL

Oil volume 3 US quarts (3 liters), or 3.5 US quarts (3.3 liters) including oil filter.

The oil must meet the requirements of Ford specification ESE–M2C–101B.

Viscosity: SAE 10 W 30 or 10 W 40.

In extremely cold weather, i.e. at constant temperatures below –4°F (–20°C), use oil of viscosity SAE 5 W 20.

NOTE! This oil must not be used at temperatures above 32°F (0°C).

Check the oil level in the engine at regular intervals. The level of the oil must not be allowed to come below the lower mark on the oil dipstick but on the other hand the level may not rise above the upper mark of the dipstick as this

can result in abnormal oil consumption. When necessary fill oil of recommended quality. The distance between the upper and lower marks corresponds to a volume of approx. 1,5 US quarts (1,5 liters). The motor oil is changed the first time at 1,000 miles (1,600 km). Next oil change at 6,000 miles (10,000 km), and then every 6,000 miles (10,000 km). Replace the oil filter every 6,000 miles (10,000 km).

NOTE! Do not confuse the drain plugs of the gear box and engine.

COOLING SYSTEM

Your car is delivered from the factory ready-filled with anti-freeze coolant. Check regularly that the coolant is up to the prescribed level. If the radiator needs topping off, make sure that the coolant you add is absolutely clean. Never add large amounts of cold water when the engine is warm, as this may crack the cylinder block. In winter, use anti-freeze coolant mixtures (see directions on page 35).

BRAKES

For reasons of safety, always carefully follow the instructions in the Service Book concerning the checking of the braking system and of the liquid level in the containers for the braking and clutch systems. Note that the brake fluid should be changed every 36,000 miles (60,000 km), or at intervals not exceeding 3 years.

Note! Check the brake linings regularly for wear, and keep the backwheel brakes properly adjusted at all times. To get the full benefit of the twin-circuit system, it is important that the pedal stroke should not be too long before the brakes take hold. See also "Brake system", pp. 36–39.

S 3066

1. Brake fluid container
2. Clutch fluid container

BATTERY

The battery is located under the trunk floor.

Check the electrolyte level in the battery frequently and top up with distilled water as necessary. Battery terminals should be cleaned regularly and coated with vaseline to prevent corrosion.

MAINTENANCE

TIRE PRESSURE

Tire pressures should be checked regularly. Overinflated tires not only give a very hard ride but also cause excessive wear to the middle of the tread.

Underinflated tires cause wear mainly on the outer edges of the tread. They impair roadholding by causing sway on cornering.

Tires inflated to correct pressure grip with the entire tread surface, ensuring even wear and good roadholding.

Tire pressures

Front . . . . . 25 psi (1.8 kp/cm^2)

Rear . . . . . 22 psi (1.6 kp/cm^2)

The pressures quoted here refer to cold tires.

WINDSHIELD WASHER

To fill the container, turn the cap with pump 90° counter-clockwise and lift off. If the washer nozzles are blocked or spray in the wrong direction, they can be cleaned with a pin or similar. The nozzle openings are in swiveling balls and can be adjusted to the desired position.

STORAGE

If the car is to be laid up for a long period (during the winter, for example), it should be greased beforehand.

In order to prevent rust and similar damage to the engine, the engine oil should be changed before the car is laid up. If required, the coolant should be drained off. In addition, the battery should be taken out and stored well-charged at room temperature.

S 2703

Container, windshield washer

LUBRICATION INSTRUCTIONS

General

Lubrication is an important part of vehicle maintenance that must not be neglected. The car needs greasing every 6,000 miles (10,000 km) or at least twice a year. SAAB Special chassis grease must be used, and all rubber bellows and seals must be in perfect condition. Greasing is included in the scheduled 6,000 miles (10,000 km) overhauls specified in the Service Book.

Oil filler plug and level plug, transmission

1. Filler plug
2. Level plug

Oil drain plugs

1. Engine
2. Transmission

The idea is to have the service inspection and greasing carried out simultaneously by an authorized SAAB dealer, so that the car is off the road for the shortest possible time.

Use only SAAB Special chassis grease for greasing.

NOTE! If SAAB Special chassis grease is not available and some other grease is used, lubrication intervals must be reduced to 3,000 miles (5,000 km).

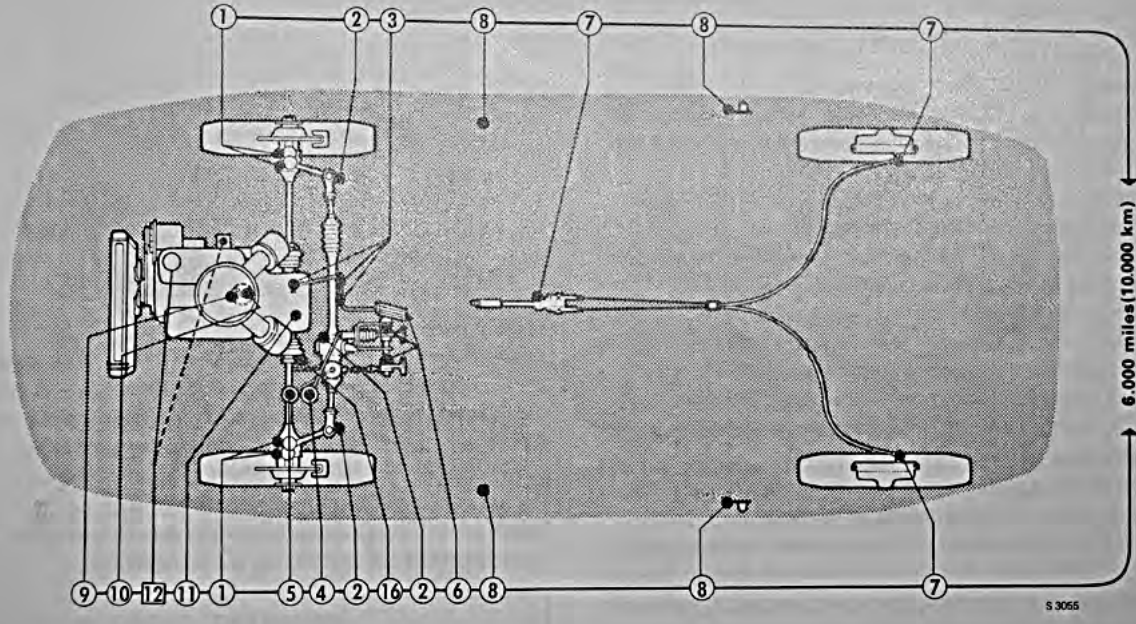
The engine oil and oil filter must be changed every 6,000 miles (10,000 km) or twice a year.

Check the oil level in the transmission every 6,000 miles (10,000 km) by unscrewing the level plug. The level must not be lower than about 0.2" (5 mm) below the opening. Transmission oil should be changed for the first time and the magnetic plug cleaned when the car has gone 1,000 miles (1,600 km). Thereafter, the oil should be changed and the plug cleaned at intervals of 12,000 miles (20,000 km). Drive for 15–20 minutes before draining off the old oil. Fill up with oil until it starts to run out of the level plug opening. This corresponds to a volume af about 1,8 US quarts (1.7 liters). SAE 80 EP to specification API–GL–5 is a suitable grade for year-round use as transmission oil. The door hinges should be lubricated with an oil can.

Lubrication Chart, intervals 6.000 miles (10.000 km) or twice a year

Index	Lubrication points	Number	Lubricant	Instructions
1	Upper and lower ball joints, L and R	4	SAAB Special chassis grease	Grease gun
2	Steering gear and drag rod ends	3	SAAB Special chassis grease	Grease gun. **Steering wheel turned fully to the left.**
3	Accelerator linkage	4	SAE 40 oil	Oil can
4	Hydraulic brake system	1	Brake fluid SAE J1703a or SAE 70 R 3	Check, intervals of max. 3 months*
5	Hydraulically operated clutch	1	As above	Check, intervals of. max 3 months
6	Pedals	3	SAE 40 oil	Oil can
7	Handbrake links	9	SAE 40 oil	Oil can
8	Hinges and lock mechanisms	6	SAE 40 oil	Oil can
9	Breaker cam	1	Bosch Ft 1 v 4	Grease
10	Distributor lubr. felt under rotor	1	Motor oil	Oil
11	Gearbox	1	EP oil SAE 80 to specification API–GL–5 (1,8 US quarts = 1.7 liters)	**Check every 6.000 miles (10.000 km), change every 12.000 miles (20.000 km)**
12	Engine	1	Follow instructions on page 22	Oil change Replace oil filter **NOTE!** Use original filter only.

*The brake fluid should be changed every 36.000 miles (60.000 km), or at intervals not exceeding 3 years.



Lubrication points

Numbers refer to the Lubrication Chart

ENGINE

General

The engine is a four-cylinder, water-cooled overhead valve engine with the cylinders in pairs arranged in V-form. The angle between the cylinder pairs is 60°.

The engine is provided with a single downdraft carburetor, which has an automatic choke device.

The cylinders have separate inlet ducts, while the exhaust ducts are common for each cylinder head.

The engine is provided with a balance shaft in order to obtain balance. The balance shaft is placed in the block on the right side and is driven by the crankshaft with the same number of revolutions as the latter. The crankshaft runs, like the camshaft, in three bearings. The balance shaft runs in two bearings.

The engine is bolted directly to the gearbox/differential, which together constitute the power unit.

The engine is equipped with fully closed crankcase ventilation. This means that the air is admitted through the air filter, where it passes the filter insert, and via a flame guard and a hose is led into the right-hand valve cover. Through the crankcase, the air is then led into the left-hand valve cover and on via a hose to an intermediate flange beneath the carburetor. In the intermediate flange there is a valve regulating the flow of air through the crankcase.

Exhaust emission control is obtained by:

1. Modified carburetion.
2. Deceleration valve.
3. Distributor with advance curve for emission control.

The engine has not been equipped with any additional device to achieve emission control.

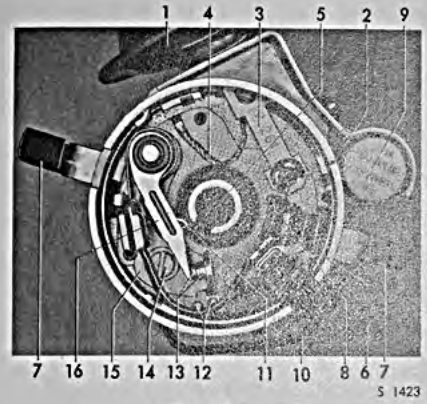
Spark plugs

The electrode gap should be 0.025" (0.6 mm). Any necessary adjustment should be made to the side electrode – if you try to bend the central electrode, the porcelain may crack. As the spark plugs have been carefully selected it is, in order to obtain the best performance, important that the recommendations on page 56 be followed.

Note! Be very careful that impurities do not enter the cylinders when the spark plugs are being removed.

IMPORTANT

All high tension insulators must be kept clean and dry. When necessary clean and wipe: ignition coil bakelite cap, distributor cap (inside and outside), ignition cables and spark plug insulators.



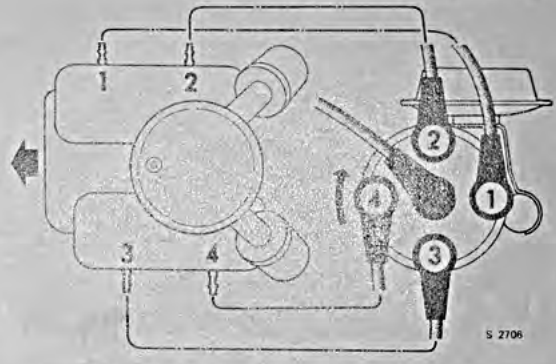
Distributor

Rotor and cover removed

1. Vacuum chamber
2. Adjustment mark
3. Adjustment rod
4. Ground lead
5. Lubrication felt
6. Assembly mark
7. Retaining spring
8. Bearing
9. Condensor
10. Primary cable
11. Fiber peg
12. Adjuster for fixed breaker point
13. Breaker points
14. Lock screw
15. Fixed breaker point
16. Moveable breaker point

Distributor

The distributor is situated at the rear of the engine between the two cylinder heads. Its rotor rotates clockwise and is driven by a worm gear from the camshaft. The ignition advance is a combined centrifugal and vacuum one. **The firing order of the engine is: 1–3–4–2.**



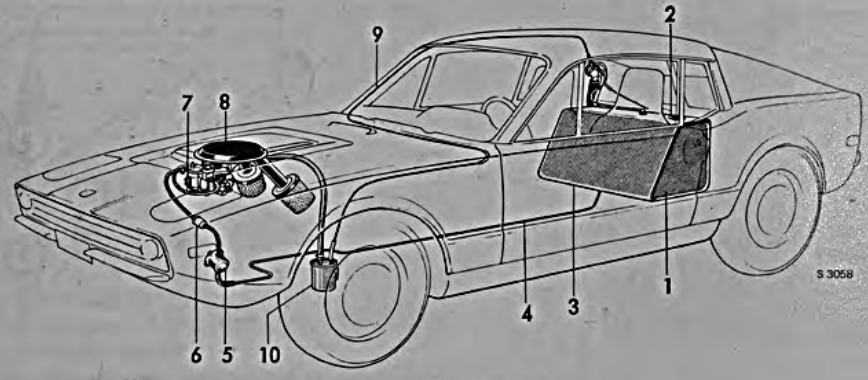
Numbering of cylinders and location of ignition cables

Ignition timing

Ignition timing is best checked with a stroboscope, which is a job for an authorized SAAB dealer. Note that any adjustment of the contact gap will also affect the ignition timing.

> Any adjustment of the timing will affect the exhaust emission and must only be carried out by an authorized SAAB dealer as special test equipment is necessary.

*Should be adjusted by an authorized SAAB dealer.



Fuel system

1. Fuel tank
2. Fuel level transmitter
3. Drain plug
4. Fuel line
5. Fuel pump
6. Fuel filter
7. Carburetor
8. Air cleaner
9. Vapor hose
10. Charcoal canister

FUEL SYSTEM

The fuel system comprises the tank, fuel line, pump, fuel filter, carburetor with air cleaner and an evaporative loss control unit.

The fuel tank is located behind the partition between the passenger compartment and the luggage compartment.

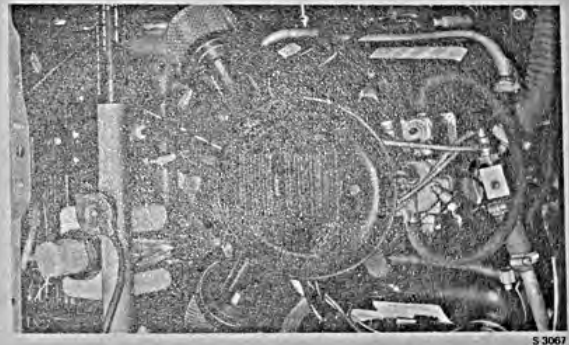
The fuel line runs in a pressed channel in the floor forward to the engine compartment.

The evaporative loss control unit includes a charcoal canister which is placed in the engine compartment. It absorbs the vapor from the tank when the engine is not running. The charcoal is purged when the engine is running. This is achieved by fresh air which is sucked through the filter in the bottom of the canister and further to the carburator.

The fuel filter and the canister filter should be renewed at intervals according to the directions given in the Service Book.

S 2290

Fuel pump
1. Cover with gasket
2. Filter
3. Pump body


S 3067

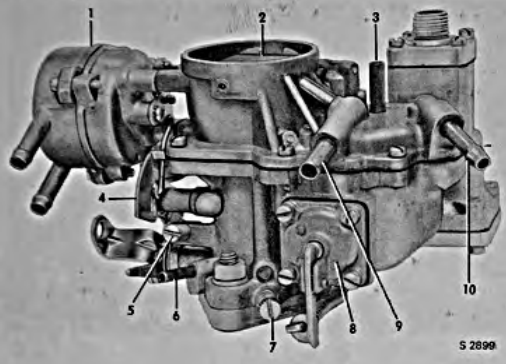
Air cleaner

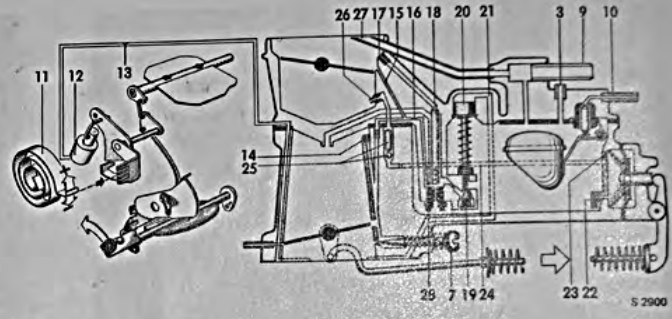
Fuel pump

The fuel pump is of diaphragm type and is mounted on the left-hand side of the engine. It is driven by a push rod from the camshaft. The fuel pump is provided with a filter that can be taken out for cleaning if the pump cover is removed. The filter should be cleaned according to the directions in the Service Book, or if there is dirt in the fuel. When reassembling the pump, make sure that the gasket between the pump cover and the filter is properly seated.

Air cleaner

The air to the carburetor is cleaned through filters. The filter cartridges are replaceable and should be replaced every 12,000 miles (20,000 km) however, at least every year. When driving on dusty roads replace the cartridges at shorter intervals. At replacement loosen the nuts.
The filter cartridges should be protected against dampness and must not be washed or oiled. The air filter is also functioning as suction silencer.
NOTE! Protect the filter cartridges when washing the engine compartment.





Carburetor

1. Automatic choke housing
2. Choke plate
3. Connection for float chamber vent
4. Step cam
5. Idle adjusting screw
6. Vacuum nipple
7. Idle mixture control screw
8. Accelerating pump
9. Outlet for deceleration valve
10. Fuel supply tube
11. Thermostatic spring
12. Vacuum piston
13. Vacuum passage
14. Idle air jet
15. Idle air channel
16. Idle fuel channel
17. Air correction jet
18. Mixing tube
19. Full load enrichment
20. Control piston
21. Vacuum passage
22. Ball check valve (inlet)
23. Vent
24. Pump discharge passage
25. Ball check valve (discharge) and weight
26. Pump jet
27. Vent tube
28. Main jet

Carburetor

The engine is provided with a down-draft carburetor make FoMoCo 71 TW–9510–LA. Its apperance is seen in the picture. The fuel feeding is regulated by unadjustable jets mounted in the carburetor body. Only the main jet is removable.

In the carburetor body there are drilled the fuel ducts, and also airducts.

The carburetor has an automatic choke device with quick-idling and acceleration pump.

In order to obtain exhaust emission control, the car is equipped with a decceleration valve at the carburetor.

To get best fuel economy and best possible performance, the factory mounted main jet is to be used.

Carburetor adjustments, if any, should be restricted to cleaning of jets and float chamber, and besides, idling adjustment.

Carburetor adjustments must be carried out in accordance with the manufacturer's recommendations. Incorrect carburetor adjustments may cause abnormal fuel consumption and will affect exhaust emission.

Any adjustment of the engine idling will affect the exhaust emission and must only be carried out by an authorized SAAB dealer as special test equipment is necessary.

COOLING AND HEATING SYSTEM

General

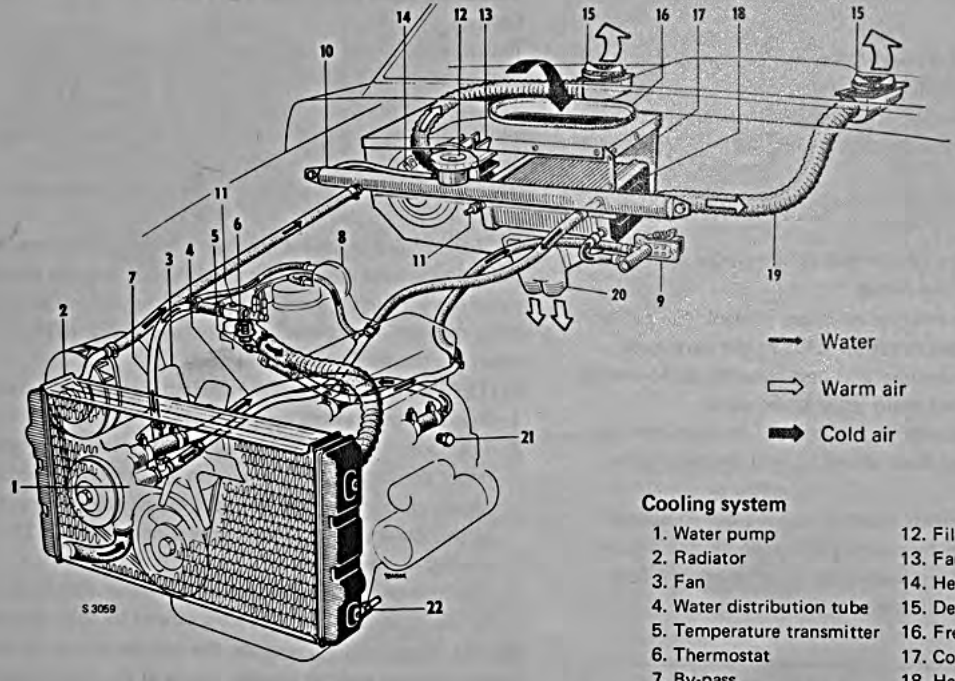
The capacity of the cooling system incl. the fresh-air heating element is 1.8 US gal. (7 liters). The radiator is situated in front of the engine and communicates with an expansion tank located behind the engine. The expansion tank has a pressure cap which opens once the pressure reaches 0.6 atmosphere (9 psi) above atmospheric pressure.

Until the engine reaches the proper working temperature, the radiator inlet is closed by a thermostat and the coolant circulates through the engine and the fresh-air heater until it has reached a temperature of approx. 181°F (83°C), when the thermostat begins to open.

NOTE! When draining off the coolant, proceed as follows:

1. Remove the pressure cap.
2. The coolant is first drained off through the drain valve under the radiator. If the system is to be drained completely, loosen the two hexagon plugs, one on each side of the lower part of the cylinder block, (see ref. 21 in the fig. on page 34).
3. The heat control on the instrument panel should point to warm, otherwise the system cannot be fully drained.

NOTE! When refilling coolant, the bleeder nipple on the heater element and the bleeder nipple at the thermostat housing must be open in order to fill the system completely. The greatest care must be exercised when removing the pressure cap if the coolant is boiling. Loosen the cap carefully and release any steam before taking the cap off



Cooling system

1. Water pump
2. Radiator
3. Fan
4. Water distribution tube
5. Temperature transmitter
6. Thermostat
7. By-pass
8. Water jacket, automatic choke
9. Thermostat valve
10. Expansion tank
11. Bleeding nipples
12. Filling cap
13. Fan wheel
14. Heater fan motor
15. Defroster jet, adjustable
16. Fresh-air intake
17. Collector box
18. Heater core
19. Defroster hose
20. Air inlet
21. Drain plugs (2)
22. Drain valve

completely. When the radiator has been filled up with new coolant, start the engine and run it for approx. 20 seconds at a moderate speed, until coolant escapes through the opened bleeder screw of the heat exchanger. Fill with coolant, as required. Only clean coolant is permissible. Never fill the radiator with cold water if the engine is hot, or the cylinder block may crack.

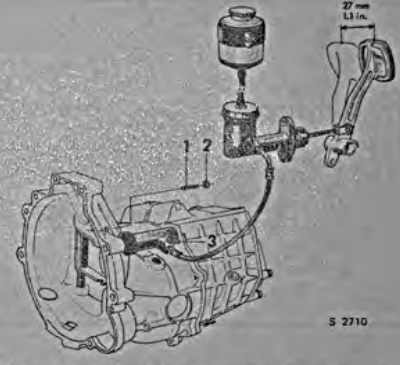
Non-freezing coolant mixtures

During the cold season the coolant must be mixed with anti-freeze, as pure water is liable to freeze and burst the cylinder block. Ethylene glycol is recommended as an anti-freeze fluid. For maximum security against freezing and rusting, the glycol dosage should be 40–50 %, i.e. 3–4 US quarts (3–3.5 liters) of glycol. Use if available glycol satisfying the requirements of the American Standard MIL–E–5559. This mixture can quite well be used all year round for two years at a time. If pure water is used during the summer season, a rustproofing agent should be added.

CLUTCH

The clutch is operated by a hydraulic system which consists of a master cylinder connected to the clutch pedal, as well as a servo-cylinder which operates the clutch. The master cylinder is equipped with a container which must be kept filled with brake fluid.

The clutch pedal should, at the pedal pad, have a travel



Clutch pedal with adjustment mechanism

1. Adjusting screw
2. Lock nut
3. Bleeder screw

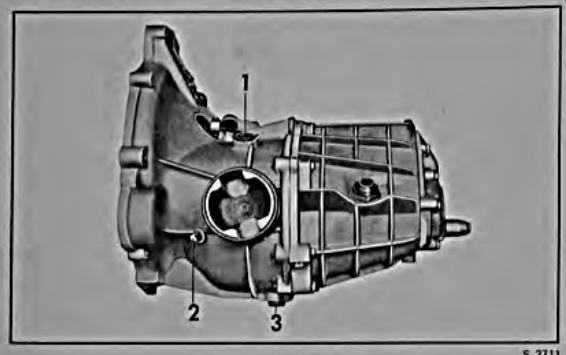
of approx. 1.1 in (27 mm), before the clutch is engaged. The travel can be reduced by turning the adjusting screw 1, to the right.

Do not forget to tighten the lock nut 2.

The play should be adjusted by an authorized SAAB dealer.

TRANSMISSION

The transmission is contained in a box with three compartments. The rear section containing shafts, cogwheels and gear shift bar is the actual gearbox. The mid section contains the free-wheeling device and the conical gear of



S 2711

Transmission plugs

1. Filler plug
2. Level plug
3. Magnetic plug, oil draining

the differential, from which the driving shafts lead. The front section which terminates at the engine, contains the release bearing, the flywheel and the clutch. The clutch is of the simple dry plate type with a spring hub.

The car is equipped with a four speed gearbox. All gears have helical cogwheels in constant mesh and are coupled to their respective shafts by means of claw couplings. The reverse gearwheel is a sliding pinion. All forward gears are synchronised. Between the gearbox and the clutch is a freewheel which can be operated from the driver's seat by a handle. For advice on the operation of the freewheel and gear changing, see Driving Instructions page 18.

BRAKE SYSTEM

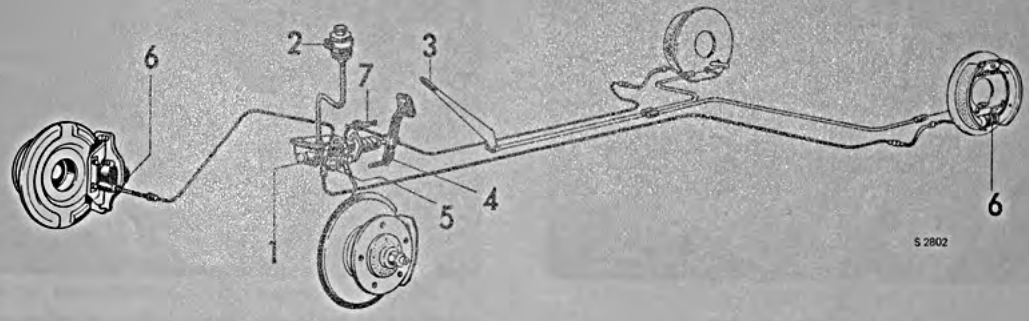
General

The SAAB has disc brakes at front and drum brakes in the rear. The foot brake is hydraulic and acts on all four wheels. The brake fluid container is transparent and placed at the rear left corner under the engine hood lid.

The brake system is the two-circuit type, which means that the master cylinder controls the left front and right rear wheels simultaneously with, but independently of, the right front and left rear wheel. Consequently, should a leak occur as a result of damage to the brake system, the braking effect will be lost only on one diagonal pair of wheels but will remain on the other diagonal pair. Leakage will become apparent partly through a long pedal travel, partly through a tendency for the car, when braked, to pull somewhat to the side where there is still braking action on the front wheel.

Mentioned faults in the brake system and neglected adjustments of the rear brakes are indicated by the brake warning light, located in the speedometer. Reason for indication shall immediately be investigated and any malfunction in the brake system should be repaired by an authorized SAAB dealer.

The brake warning contact is placed on a bracket above the brake pedal. A check of the brake warning light function ought to be performed at regular



Brake system

1. Master cylinder
2. Brake fluid container
3. Handbrake lever
4. Brake pedal
5. Stop light switch
6. Brake cylinders
7. Brake warning contact

intervals. The check is made by depressing the moving piece of the brake warning contact until the light glows after which operation the moving piece is brought back to its normal position.

The disc brakes are self-adjusting, but the rear-wheel brakes must be adjusted by hand, see below.

Note! Because the front-wheel brakes are self-adjusting, there is a risk that worn friction pads may escape notice. It is therefore essential that the instructions for brake maintenance given in the Service Book be followed. **Keep the rear-wheel brakes well adjusted at all times, as the advantage of the two-circuit system may otherwise be lost.**

The mechanical handbrake acts on the rear wheels. The

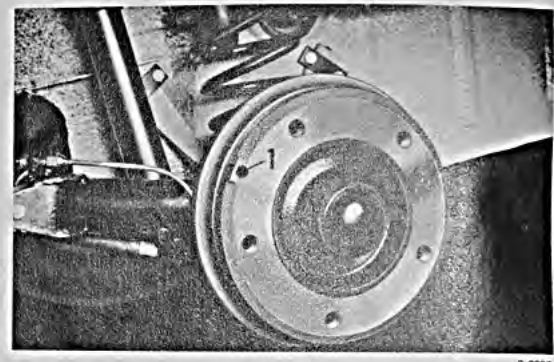
S 3060

Front wheel brake, left

brake lever is located between the seats, and the action of the lever is transmitted to the rear wheels by two sealed Bowden cables.

Replenishing the brake fluid

Check that the brake fluid container is filled. Do not use inferior brake fluids, as these may ruin the rubber seals and endanger the functioning of the brake system. Even the best brake fluid deteriorates after long service due to oxidation and absorption of water. The brake fluid should therefore be changed after 36,000 miles (60,000 km), or at intervals of not longer than three years. This shall be done by an authorized SAAB dealer, When changing or filling brake fluid, make sure that fresh fluid of the prescribed quality SAE J 1703a or SAE 70 R3 is used.



S 2296

Rear wheel brake, left

1. Inspection hole for brake linings

***Brake adjustment, general**

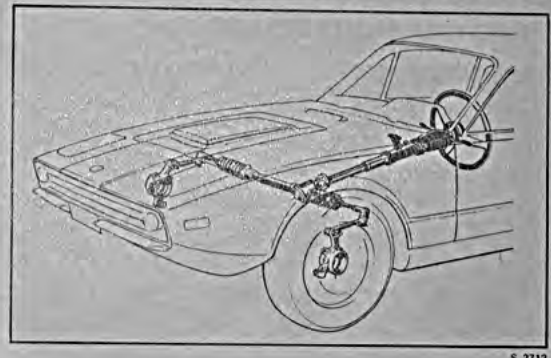
Wear on the front wheel brake linings is automatically compensated for by a gradual outward movement of the brake pistons. Therefore, when the linings are worn out, this cannot be detected by abnormal pedal travel. The pedal stroke is however affected by the state of wear of the back wheel brake linings, and the back brakes must therefore always be kept properly adjusted. This is important to safeguard the functioning of the twin-circuit brake system. Badly neglected rear brakes may be the cause if the brake warning light lights up. **Another most**

*Brake adjustments should be made by an authorized SAAB dealer.

important point of maintenance is to check the thickness of the front and back brake linings at regular intervals as specified in the Service Book. Brake pads and back brake linings are accessible for inspection when the wheels are removed. There are inspection openings in the back brake drums (see illustration).
Minimum safe thickness is 1/8 in. for brake linings. To insure uniform braking effect, brake pads or linings should be renewed on both front or back wheels together, never on one wheel only. When having new brake linings fitted, make sure that original SAAB spare parts are used.
Note! After being riveted to the blocks, back brake linings must be eccentric-ground according to the instructions given in the SAAB Service Manual.

Footbrake adjustment
If the handbrake lever must be pulled up an increasing number of notches before it locks the wheels, this is an indication that the back brakes are worn. If the handbrake does not lock the wheels until the fifth notch, the back brakes must be adjusted by an authorized SAAB dealer.

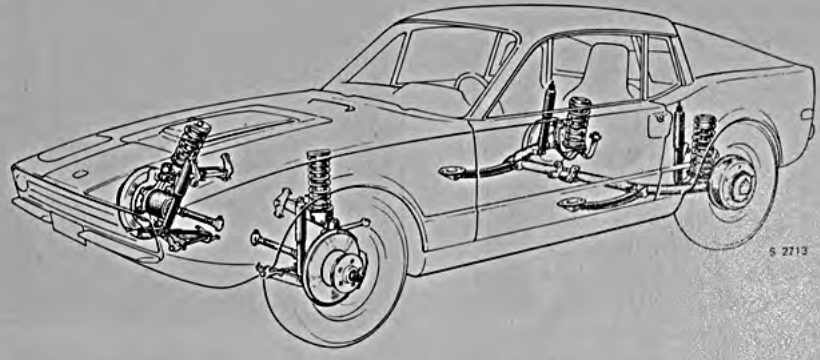
Handbrake adjustment
It should be possible to pull up the handbrake lever two notches from the bottom without the brakes taking hold. Any adjustment should be made by an authorized SAAB dealer in conjunction with adjustment of the back brakes.


S 2712

Steering mechanism

STEERING MECHANISM

The steering column is of the automatically telescopic-safety type. The steering movement is transmitted from a pinion at the end of the steering column to a transverse rack, the ends of which are connected to the steering arms by adjustable tie-rods of equal length. The tie-rods are attached to rack and steering arms by ball joints.
NOTE: It is of the utmost importance that the steering gear be kept correctly adjusted. To this effect the adjustment should be carried out by an authorized SAAB dealer.



Suspension

SUSPENSION

The SAAB is equipped with coil spring suspension at both front and rear. Rubber bearings are used extensively to minimize road noise and reduce the number of lubrication points.

The front wheels are independently suspended and mounted in the steering spindle housings by means of wishbone spring arms. The rear wheels are mounted on a transverse U-shaped axle which is suspended under the body by a central rubber bearing.

Wishbone- and rear axle bearings require no special care. If a fault in the suspensions is suspected, an authorized SAAB dealer should inspect the car.

SHOCK ABSORBERS

The SAAB Sonett III has shock absorbers of the double-acting hydraulic telescopic type. The front shock absorbers are mounted in rubber at their lower ends to the front lower spring arm, and the rear absorbers by pins to the sweptback end of the rear axle. The front and rear shock absorbers are of different degrees of hardness and have different stroke lengths.

S 2714

Tightening sequence for wheel bolts

S 2715

Positioning of the jack

WHEELS AND TIRES

Rotation of wheels and tires

The front-wheel drive causes the front tires to wear more than the rear tires. If it is desired to have the tires wear evenly, they should be changed around after a certain period of driving so that the least worn tires are at the front. When doing so, check that each tire in its new position revolves in the same direction as before: thus the left front tire should be changed with the left rear tire. By switching the tires in this manner, the working life of all four tires will remain approximately equal. The figure shows the sequence in which the wheel bolts are to be tightened.

The tires are equipped with profile depth indicators; this means that when the tread pattern has worn down to a thichness of 1/16" (1.6 mm), unpatterned cross bars will appear on the tread. At this point the tire should be exchanged.

Jack and spare wheel

When it is necessary to lift the car with the jack, for example when changing wheel or adjusting the brakes, proceed as follows.

Position the jack at one of the supports provided at both ends of the floor beam. If one side of the car is to be jacked up, place the jack at the front support, if only the rear end

S 3068

Adjustment of belt tension

1. Adjusting bolt
2. Retaining bolt

should be jacked up, place the jack at the rear support. If a garage jack is used, be sure that it does not damage the underside of the body. Jacking points are provided. The front jacking point is a bent plate; the rear point is located on the body center line, just in front of the rear axle. Place a piece of wood on the lifting head before raising the rear end of the car. The spare wheel, tool kit and jack are kept under the floor of the trunk and the rear section of this floor can easily be lifted up.

ELECTRICAL SYSTEM

Alternator

The alternator is located to the right on the engine and driven by a V-belt from the engine pulley. To tighten the belt, loosen bolts 1 and 2, see fig. and pull the alternator outwards. Correct tension is attained when the belt can be pressed down abt. 0.3 in. (7 mm) at a load of 3.5 lb. (1.5 kp) half way between the pulleys, see fig. If the belt is too slack, it will slip and the battery discharge. Should the alternator or the voltage regulator be defective, take the car to an authorized SAAB dealer without delay for control. The alternator need only be greased in connection with dismantling or when the car is being overhauled.
NOTE! The alternator will be damaged, if the battery terminals are removed while the engine is running. See also under »Battery» below.

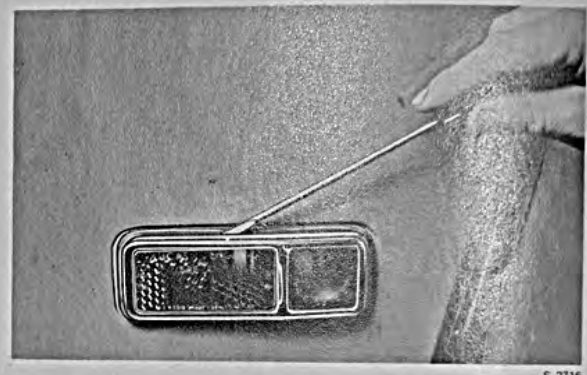
Battery

The battery (placed under the trunk floor) is one of the most important parts of the car and should be checked and serviced carefully.
Check the electrolyte level at least once a month in winter and once a fortnight in summer. The level should be 1/4–5/16" (6–8 mm) above the cell plates. Use only distilled water for topping up.

You should have the state of charge of the battery checked occasionally. Grease the terminals and cable shoes with vaseline to avoid oxidation, removing any oxide deposits before applying the vaseline. Check also that the battery is securely clamped and that the cable shoes and ground connections are tight.
Avoid prolonged heavy discharges. In case of repeated attempts to start the engine, give the battery a chance to recover between attempts.

Warning

Do not misconnect the battery. If the cable connections are reversed, even momentarily, this will damage the diodes of the alternator. The insulated positive cable must be connected to the positive (+) pole of the battery and the ground cable to the negative (—) pole. If a spare battery is temporarily connected over the car battery, e.g. to assist starting, the connection must be made positive-to-positive and negative-to-negative. The battery must not be connected up to or disconnected from the electrical system of the car while the engine is running. During quick charging, the positive battery cable must be disconnected.



S 2716

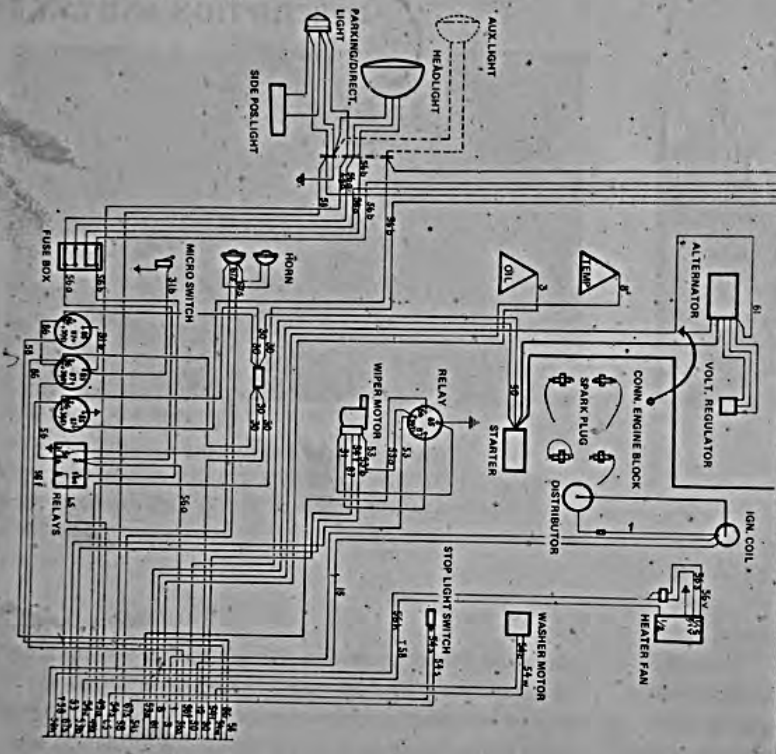
Removal of side position light

Headlights
If for some reason the pullrod for the headlights is out of operation, the headlights can be folded up in the following way:
Open the engine hood lid and pull that part of the mechanism in which the pullrod is attached backwards. Note! The headlights can not be folded up from the outside of the car.

Bulb replacement
Headlights, Sealed Beam
To replace a Sealed Beam unit is a job for an authorized SAAB-dealer as it must include head light alignment.

Instrument lights and control lamps
All the bulbs in the instruments unit are fitted in removable sockets, accessible from under the instrument panel.

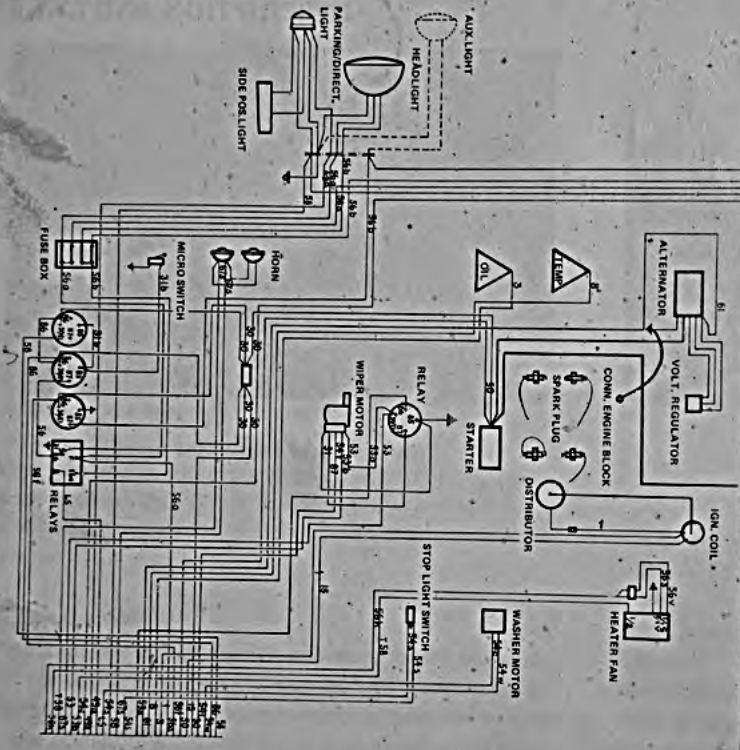
Other lamps
Loosen the screws and remove glass (and frame). Replace the faulty bulb and check that the new is firmly positioned and makes good contact. Clean the lamps and the reflector. Fit the glass (and frame), and be sure to obtain proper sealing against the rubber packing.
The side position light glasses are removed by prieing the rubber seal with a screwdriver.



Wiring diagram

Cable numbers and color codes

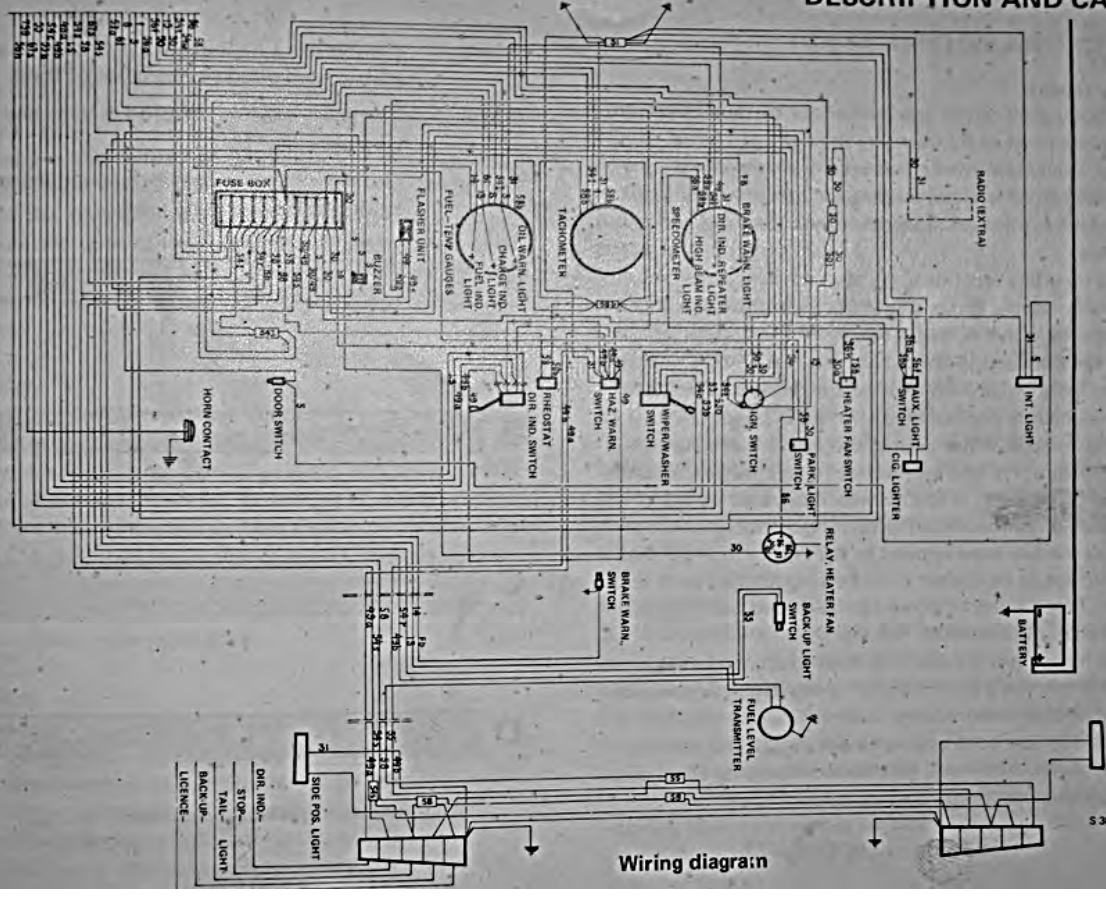
No.	Color	Area mm²	No.	Color	Area mm²
1	red	0,75	54	red	1,5
3	brown	0,75	54c	grey	0,75
5	brown	0,75	54i	red	0,75
8	yellow	0,75	54i	red	1,5
13	brown	0,75	54r	red	0,75
14	grey	0,75	54s	red	0,75
15	red	0,75	54t	red	0,75
30	red	0,75	54w	red	0,75
30	red	1,5	55	white	0,75
30	red	2,5	56	grey	1,5
30	red	4,0	56a	blue	0,75
30a	red	1,5	56a	white	1,5
30i	red	1,5	56b	red	1,5
30/49	red	0,75	56b	yellow	1,5
31	black	0,75	56f	blue	0,75
31	black	1,5	56r	yellow	0,75
31b	brown	0,75	56s	yellow	0,75
31b	brown	1,5	56v	blue	0,75
49	green	0,75	58	green	0,75
49a	grey	0,75	58	green	1,5
49b	blue	0,75	58b	green	0,75
49p	yellow	0,75	61	red	0,75
49+	red	0,75	67s	red	1,5
50	red	0,75	67s	black	1,5
51	brown	0,75	86	red	0,75
53	green	0,75	87	blue	0,75
53a	green	0,75	FB	brown	0,75
53a	black	1,5	LS	black	0,75
53b	grey	0,75	S	red	0,75
53b	yellow	0,75	S	brown	0,75
53f	yellow	0,75	T58	grey	0,75



Wiring diagram

Cable numbers and color codes

No.	Color	Area mm²	No.	Color	Area mm²
1	red	0,75	54	red	1,5
3	brown	0,75	54c	grey	0,75
5	brown	0,75	54i	red	0,75
8	yellow	0,75	54i	red	1,5
13	brown	0,75	54r	red	0,75
14	grey	0,75	54s	red	0,75
15	red	0,75	54t	red	0,75
30	red	0,75	54w	red	0,75
30	red	1,5	55	white	0,75
30	red	2,5	56	grey	1,5
30	red	4,0	56a	blue	0,75
30a	red	1,5	56a	white	1,5
30l	red	1,5	56b	red	1,5
30/49	red	0,75	56b	yellow	1,5
31	black	0,75	56f	blue	0,75
31	black	1,5	56[illegible]	yellow	0,75
31b	brown	0,75	56s	yellow	0,75
31b	brown	1,5	56v	blue	0,75
49	green	0,75	58	green	0,75
49a	grey	0,75	58	green	1,5
49b	blue	0,75	58b	green	0,75
49p	yellow	0,75	61	red	0,75
49+	red	0,75	67s	red	1,5
50	red	0,75	67s	black	1,5
51	brown	0,75	86	red	0,75
53	green	0,75	87	blue	0,75
53a	green	0,75	FB	brown	0,75
53a	black	1,5	LS	black	0,75
53b	grey	0,75	S	red	0,75
53b	yellow	0,75	S	brown	0,75
53f	yellow	0,75	T58	grey	0,75



Wiring diagram

BODY

Body repairs

The body shell can be repaired either by replacement of complete parts or by mending the damaged piece, depending on the extent of the damage. As two cases of damage are never exactly alike, all that can be done here is to give some typical examples of how to deal with body damage.

When mending local damage, the damaged piece should be ground away. Preferably, both sides should be ground as per alternative A, but if this is difficult it will suffice to grind the outside only as per alternative B. The cavity is then reinforced with fiberglass matting or fiberglass cloth, which is impregnated with plastic and moulded to the right shape. After curing, the plastic can be ground, filled with putty and enamelled. In an emergency, damage can be repaired in the manner illustrated by fig. C in which a reinforcement consisting of fiberglass cloth and plastic has been applied to the rear side. Note that the surface to be coated must be smoothened with sandpaper. Small holes or pores can be drilled out and then filled with plastic putty. See fig. D.

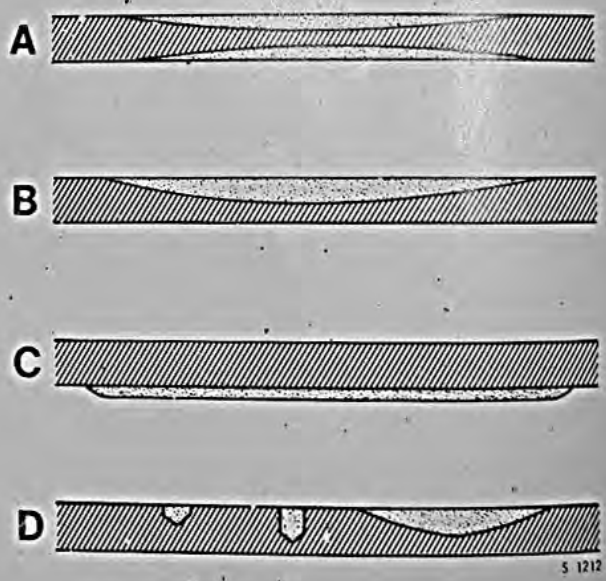
Large holes right through the body shell can be repaired by first trimming and chamfering the edges, whereupon a rubber or wooden mould to which release agent or plastic film has been applied is secured to the outside of the panel. After this, plastic and fiberglass cloth and/or fiberglass matting is applied to the inside.

Materials

Plastic: Always use a high-quality polyester-base plastic with good permanence of form.

Putty: The putty must be of good quality and made on a polyester base.

Fiberglass: Ordinary commercial fiberglass matting or fiberglass cloth can be used.



Typical examples of plastic body repairs

Care of finish

To preserve the finish and durability of the paintwork the car should be suitably maintained.
Should the finish be damaged by a flying stone, for example the spot can be cleaned and then coated with a suitable airdrying touch-up-paint. Small cans containing such paint are available in all SAAB colors from SAAB dealers.

Washing

A new car should be washed frequently. It is best to use only water, as additives dry out the paintwork, but if water alone is not effective you can use a mild detergent. It is most important, however, to remove all traces of detergent from the paintwork, so hose the car down after washing, using plenty of water. Never wash the car in strong sunlight, and always wipe it dry with a clean chamois. If the car is left to dry in the sun, the lime in the water may leave streaks on the paintwork.

Polishing

The general rule is that synthetic lacquer should not be polished with rubbing compound until it is absolutely necessary. In any event, it should not be polished until it has aged properly, which takes five or six months. Never use an abrasive polish on a new car. Only after some years may this be necessary to remove oxide and other deposits. The surface must always be throughly clean before polishing, otherwise it will be scratched. A new car must not be waxed until the paintwork is at least five or six months old.

Maintenance of undercoating

In addition to its rustproofing properties, undercoating has an important soundproofing function. To preserve its effectiveness it should be regularly inspected and touched up if necessary. 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 gasoline. Apply the new coating thinly, as otherwise it may run off or fall off when dry.

Rustproofing

SAAB cars all undergo rustproofing treatment before leaving the factory. Despite this, there is still a risk of rust attack from the salts and other chemicals spread on the roads in wintertime. We therefore recommend inspection of the underbody once a year. This is particularly important in localities where cars are very much exposed to this kind of corrosion attack. Any necessary rustproofing treatment should be carried out by a reputable firm with a well-known rustproofing agent.

Textile carpets should be cleaned with a brush or sponge and carpet shampoo and then rinsed thoroughly with water. Stubborn grease or oil stains can be removed with trichloroethylene or carbon tetrachloride.

The glass surfaces should preferably be cleaned with a chamois leather or a linen rag moistened in water.

Care of upholstery

The upholstery in the car consists of plastic coated fabric, plastic foil, and of cloth. The plastic upholstery does not let through any dirt, repels dust and is resistant to oil and gasoline. If soiled, plastic surfaces may be easily cleaned with lukewarm water and a synthetic detergent. A semi-stiff brush may be used.

The cloth upholstery may be effectively cleaned with a cloth moistened in soap solution. Use lukewarm water.

Safety belts

Clean the safety belts regularly with soap and lukewarm water.

TROUBLE SHOOTING

The advice and directions given in this section are intended to help you locate and remedy any minor malfunctions that may occur when you are on the road.

1. **The engine does not start, although it is cranked by the starter at normal speed.**

   In order that the engine shall start quickly it is important to follow the starting instructions.

   a. Check that the tank contains sufficient fuel and that the charge indicator lamp lights up when the ignition is switched on.

   b. Check that the throttle is in the idling position, i.e. that the throttle stop screw strikes the stop on the carburetor.

   c. In cold and damp weather, clean the spark plug insulators and wipe them dry if grounding is suspected.

   d. Check the fuel line connections to the pump and the carburetor for leaks.

   By loosening the fuel hose fitting at the carburetor, and letting the starter motor rotate the engine a few turns, check that the fuel pump is feeding fuel. (Accelerator pedal in idling position.)

e. If the engine has been cranked for a while without starting, too much fuel may have entered the cylinders and soaked the spark plugs. Remove the spark plugs and dry out the cylinders by cranking the engine with the starter.
Wipe the spark plugs dry and check that the electrode gap is correct or fit new plugs if available.

f. If the engine is cold, take the top off the air cleaner and check that the choke flap is closed. Check also that the choke flap pivots freely without sticking. If the engine has been turned over for a while with the choke flap closed without starting, the cylinders may be flooded with fuel. If so, hold the choke flap open with a screwdriver or similar and try again to start the engine.

2. **Should the engine still fail to start, check whether spark appears at the spark plugs.**
   a. Remove the ignition cable from one spark plug at a time, and rotate the starter. A powerful spark should now jump the gap between cable and cable connection of the spark plug.
   b. If there is no spark or only a faint one, check that the ignition cables are properly inserted in the distributor and ignition coil. Remove the cables and clean their terminals.
   c. Take off the distributor cap and wipe it dry. Check that the cap is not cracked. Inspect and clean all connections.
3. **The plugs spark but the engine still does not start, even though fuel is reaching the carburetor.**
   The carburetor jets and ducts are clogged.
4. **Should the engine misfire, the cause may be:**
   a. An ignition cable has become loose and there is short-circuit with the metal.
   b. A spark plug is fouled. Clean and adjust gap.
   c. The distributor cap is cracked or moist.
5. **The engine loses power. Possible causes:**
   a. The ignition cables are loose.
   b. A spark plug is faulty.
   c. A jet or duct in the carburetor is clogged.
   d. The accelerator pedal has stuck so that the throttle

is not opening properly.

e. Grounding has occurred in the ignition system.

6. **Ignition is switched on, but charge indicator does not light. The cause may be:**
   a. The battery is run down or a battery cable is loose.
   b. The fuse for the indicator light is blown.
   c. A cable has poor contact at the ignition switch or at the indicator light.
   d. Indicator light bulb is burnt out.
7. **No sparks at the spark plugs, although the ignition is switched on and the charge indicator lights up. The cause may be:**
   a. Poor connections between cables and distributor/ ignition coil.
   b. Ignition cable is damaged, causing a short-circuit with the metal.
   c. Moisture in distributor
   d. Crack in the distributor cap or distributor arm.
   e. Defective ignition coil.
   Grounding which occurs in the bakelite cap of the distributor or ignition coil can be temporarily remedied by cleaning and scraping the crack with a knife or similar instrument.
8. **Charge indicator light glows while driving.**
   a. Alternator V-belt is broken or too slack.
   b. Voltage regulator defective.
   c. Alternator defective.
9. **Starter runs very slowly**
   a. Ground connections/cable connections at battery terminals or at starter are corroded or not sufficiently tightened.
   b. Battery run down.
   c. The carbon brushes in the starter may be jammed, worn, or dirty.
10. **Battery run down. The cause may be:**
    a. Alternator V-belt slipping.
    b. Electrolyte level too low.
    c. Voltage regulator or Alternator defective.
    d. A cable is poorly insulated or has come loose.
    e. A current-consuming unit fails to switch off.

Radio

Above the heater controls there is a detachable panel for radio installation. A car radio with installation kit can be supplied as an optional extra. The kit includes all parts required for fitting the radio as well as interference suppressor components.

The engine is supplied with suppressed rotor and suppressed spark plug terminals, therefore no additional resistances need be fitted at the ignition coil and distributor on high tension wires.

The use of extra shielding in the resistance ignition cable has an adverse effect on the spark at the plugs, resulting in reduced engine output.

MOTORING ABROAD

Before you take your car abroad, for instance to Europe, we suggest that you ask your nearest SAAB dealer for a copy of "SAAB Europa Service", which contains some useful hints on motoring abroad and a list of SAAB service facilities in Europe.

TECHNICAL DATA

GENERAL

Overall length, incl. bumpers	12 ft. 7.5 in. (3,900 mm)
Overall width	4 ft. 11 in. (1,500 mm)
Overall height, empty	3 ft. 11 in. (1,190 mm)
Road clearance, fully load	4.9 in. (125 mm)
Track, front and rear	4 ft. 0.5 in. (1,232 mm)
Wheelbase	7 ft. 10.6 in. (2,149 mm)
Turning radius	13 ft. 0.5 in. (4,7 m)
Curb weight	1,790 lbs. (810 kg)
Total weight, fully loaded	2,160 lbs. (980 kg)
Vehicle capacity weight	370 lbs. (170 kg)
Weight distribution by total weight	front 60 %
Max. roof load	55 lbs. (25 kg)
Max. trailer weight	1,100 lbs. (500 kg)

ENGINE

Type	4-stroke, 4-cylinders
Power, DIN at 4,700 r.p.m.	65 bhp
Max. torque at 2,500 r.p.m. (DIN)	85 ft. lb. (11.7 kpm)
Cylinder volume	104 cu.in. (1698 cc)
Bore	3.54 in. (90 mm)
Stroke	2.63 in. (66.8 mm)
Placement of cylinders:	
Right hand side	1–2
Left hand side	3–4
Firing order	1–3–4–2
(Cylinder 1 right, front)	
Valve clearance, cold engine:	
Inlet	0.014 in. (0.35 mm)
Exhaust	0.016 in. (0,40 mm)
Compression ratio nominal	8.0:1
Lubrication	pressure lubrication
Oil capacity	3 US quarts (3 liters)
Oil capacity incl. oil filter	3.5 US quarts (3.3 liters)

(The engine number is die-stamped on the upper left surface under the cooling water hose connection to the thermostat.)

FUEL SYSTEM

WEBER 36 DCD 19/12-1980 22000

Carburetor, down-draft	FoMoCo 71 TW–9510–LA
Fuel pump	Pierburg FO4–666
Fuel tank capacity	15.8 US gals (60 lit.)

COOLING SYSTEM

Capacity, incl. heater .... approx. 1.8 US gals. (7 lit.)
Thermostat opens at ..... 181°F (83°C)

TRANSMISSION

Oil capacity, gearbox/
differential ..... approx. 1.8 US quarts (1.7 lit.)
Clutch type ..... hydraulically operated, single dry plate with spring hub
Plate, outer diameter ..... 7.5 in. (190 mm)
Gear ratios, total:

1st gear	16.2:1
2nd gear	9.7:1
3rd gear	6.0:1
4th gear	3.9:1
Reverse	14.8:1

Differential gear ratio, pinion/crown wheel ... 4.66:1

Road speed at 1,000 rpm. engine speed

1st gear	4.3 m.p.h.	7.0 km/h
2nd gear	7.3 m.p.h.	11.7 km/h
3rd gear	11.9 m.p.h.	19.0 km/h
4th gear	18.1 m.p.h.	29.0 km/h
Reverse	4.7 m.p.h.	7.6 km/h

SUSPENSION

Front and rear ..... coil springs

SHOCK ABSORBERS

Type ..... hydraulic-telescopic

BRAKE SYSTEM

Make ..... Lockheed
Footbrake ..... hydraulic acts on 4 wheels
Handbrake ..... Mechanical, rear wheels
Front: disc brake:
Disc diameter ..... 10 1/2" (267 mm)
Friction surface ..... 180 sq.in. (1160 cm^2)
Rear: brake drum:
Dimension ..... 8" x 1 1/2"
Friction surface ..... 76 sq.in. (490 cm^2)
Total friction surface
(front and rear) ..... 256 sq.in. (1650 cm^2)

STEERING MECHANISM

Steering gear ratio
steering wheel/road wheels ..... average 15,5:1
Number of turns, lock to lock 2,7

TECHNICAL DATA

WHEELS AND TIRES

Rim type .... »wide base» disc wheels with safety rim
Rim dimensions ..... 4.5J x 15"
Tire dimension ..... 155 SR 15"

Tire pressure

Front ..... 25 psi (1.8 kp/cm^2)
Rear ..... 22 psi (1.6 kp/cm^2)
The pressures quoted here refer to cold tires.

Front wheel alignment

Toe-in, measured on rim ..... .04±.04 in. (1±1 mm)
Camber ..... 0±1/4°
Caster ..... 2±1/2°
»King pin» inclination ..... 7±1°

ELECTRICAL SYSTEM

Voltage ..... 12 V
Battery capacity ..... 44 amp/h
Starter ..... 1 HP
Alternator, max.charge ..... ~~35 A~~ Ny 14V 55A
Spark plugs:
Thread ..... M 14 x 1.25
Electrode gap ..... 0.025 in. (0.6 mm)
Heat range:
Auto-Lite AG 32
Bosch W145 T30
Champion N–11Y
NGK BP–6E
Breaker point gap, distributor ... 0.016 in. (0.4 mm)
Dwell angle ..... 50 ± 2°
Ignition timing at 900 rpm. vacuum hose disconnected ..... 3° before T.D.C.
Firing sequence 1–3–4–2

Bulbs

	Effect	US No.	Qty.
Headlight (Sealed Beam)	50/40 W	6012	2
Parking light, front and direction indicator light, front	4/32 cp 5/21 W	1034	2
Side position light, front and rear	4 W	57	4
Rear direction indicator, stop and back-up lights	21 W	1073	6
Tail light and number plate light	5 W	67	4
Control- and instrument lamps	1,2 W	Miniature bulb	11
Courtesy light	4 cp 5 W	Cartridge bulb	1
Interior light	2 cp 4 W	Miniature bulb	1
Control lamp, hazard warning signal	2 W	Miniature bulb	1
Tachometer light	2 W	Miniature bulb	1

Fuses

16 fuses, 1 in. (25 mm)	8 amp.

TOOLS

Jack and crank in bag
Tool bag containing:
Spark plug wrench, and wheel bolt wrench with pin
Adjustable wrench
Combination pliers
Screwdriver
Cross recess screwdriver

ALPHABETICAL INDEX

ALPHABETICAL INDEX

Fabriksny växellåda
Startmotor genomgått + avgassystem
Renov. växlåda 42495

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Automotive Group

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