

**SAAB**

**900**

**SERVICE  
MANUAL**

**1** Service

**M 1979-83**



# General hints

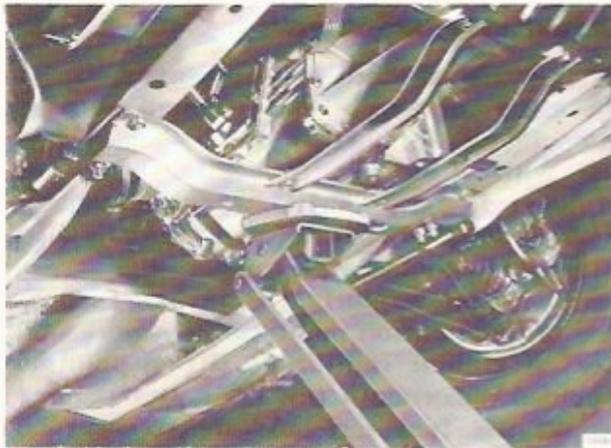
## General

A neat and tidy workshop is essential for the proper servicing of vehicles. Some parts of the car need to be treated with special care and effectively protected against dirt and contamination while work is in progress. For the mechanic who may be new to the job the following points may be of help:

1. Protect fenders and other paintwork with suitable coverings.
2. Lay protective coverings over the seats and upholstery to save them from spots of oil and dirt.
3. Clean the inside of fenders and the space round the rear axle thoroughly before starting to work on wheel hubs and axles. This makes the job easier and prevents grit and dirt from getting into bearings and other susceptible parts.
4. Before unscrewing spark plugs, clean the recess round the plug thoroughly.
5. Every job must have its proper place. It is bad practice, for example, to disassemble an engine or transmission on a bench which is also used for filing, etc. or where filing is done in the immediate neighbourhood.

## Jacking and blocking up

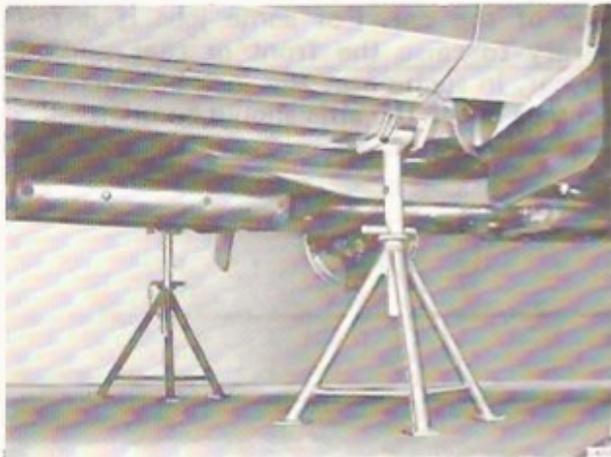
The car has a rigid self-supporting body. There are two special engagement recesses on each side designed to fit the jack supplied with the car's tool kit; these are intended for use during wheel changing, etc. The engine compartment floor is also reinforced immediately under the cross member that supports the engine to provide an application point for the workshop jack. A similar reinforced lifting point is provided underneath the floor at the back behind the fuel tank. As most workshop jacks have a forked lifting head, it is advisable to lay a wooden block of suitable size across the fork to avoid damaging the floor of the car. For some jobs it is necessary to raise the front or rear end of the car. In such cases the jack engagement recesses under the sills should be utilized.



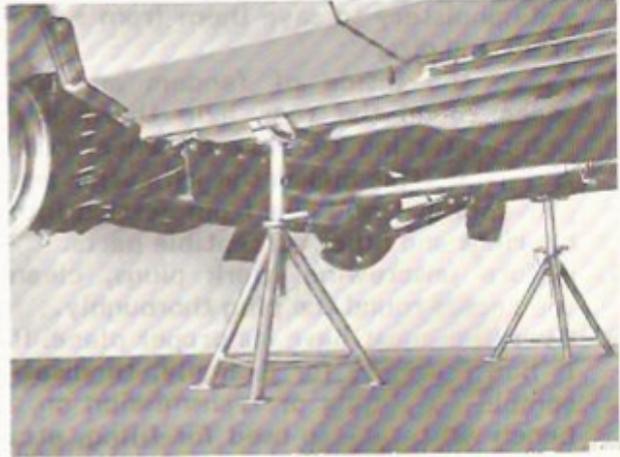
Lifting the front end



Lifting the rear end



The front end on trestles



The rear end on trestles



Lifting one side of the car

#### Thread system and wrench sizes

The standard thread system used in Saab cars is mainly the metric thread system ("M") and the width across flats is also measured in mm.

However, UNF and UNC threads with dimensions in inches are to be found in some components.

# Special tools

## General

A list containing special tools is found in each group of the book and in the Spare Parts Catalogue.

The special tools in the Spare Parts Catalogue are classified as follows:

### Tools for engine, transmission and chassis work

- Class A0-1 = Tools used very frequently in service work (e.g. adjustment of timing)
- A0-2 = Tools used frequently in maintenance work (e.g. replacement of brake pads)
- A1 = Tools necessary for simple repairs (e.g. replacing the clutch or valves)
- A2 = Tools necessary for qualified repairs (e.g. reconditioning of the gearbox)
- A3 = Tools which are mainly recommended for reasons of operational efficiency

### Tools for body work

- Class B1 = Tools necessary for simple body work (e.g. replacement of front fenders)
- B2 = Tools necessary for qualified body work (e.g. alignment work)
- B3 = Tools which are mainly recommended for reasons of operational efficiency.

## Tool racks

It is most important that special tools be kept in a suitable place, where they will be readily accessible and easily found.

# Maintenance program

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

## Maintenance program, model 1979

### Free inspection 1,000 miles

#### Engine

Torque engine head bolts and manifolds to specifications.

Test the exhaust system for leakage.

Check servo assistance vacuum hoses and connections.

Check cooling system hoses and connections for leaks.

Replace hoses if necessary. Check coolant level and antifreeze contents.

Check, if necessary adjust the valve clearance (cold engine). Wash and blow clean the camshaft cover.

Check idle speed and CO-HC contents.

Oil change.

Tighten the air injection pipe (pulse air system) nuts. Note! Use holder wrench on the injection pipe from turning out of position in the exhaust port.

Check deceleration valve operation. Adjust if necessary. Turbo:

Turbo:

- Check the pressure switch function.
- Check the seal on the charge pressure regulator (waste-gate).
- Check the wide open throttle enrichment function (lambda goes to fixed ratio of 80%)

#### Transmission manual

Change gearbox oil.

#### Transmission automatic

Check the gearbox oil level.

Change the differential oil.

Adjust the gear selector wire.

#### Electrical system

Check the battery electrolyte level. Tighten cable terminals and grease with vaseline.

Check function of headlights, stop lights, directional lights, warning flashers, back up lights, indicator lights, warning lights and buzzers, windshield wipers, heater fan and horn.

Check condition of the headlights.

Check, if necessary adjust tension of V-belts.

#### Chassis

Measure, if necessary adjust camber, caster and toe-in. Check the brake system, condition of brake lines and hoses, tightness of master cylinder and wheel brake cylinders and also the screw caps.

Check handbrake.

Check the fluid level and if necessary replenish brake fluid in the master cylinder for brakes and clutch.

Check power steering fluid.

Check the rubber bellows for outer and inner drive shaft joints and steering gear, the rubber sealing for ball joints and tie rod ends.

Tighten the bolts for the rear axle cross bar.

Tighten the bolts that hold the control arms to the body (front).

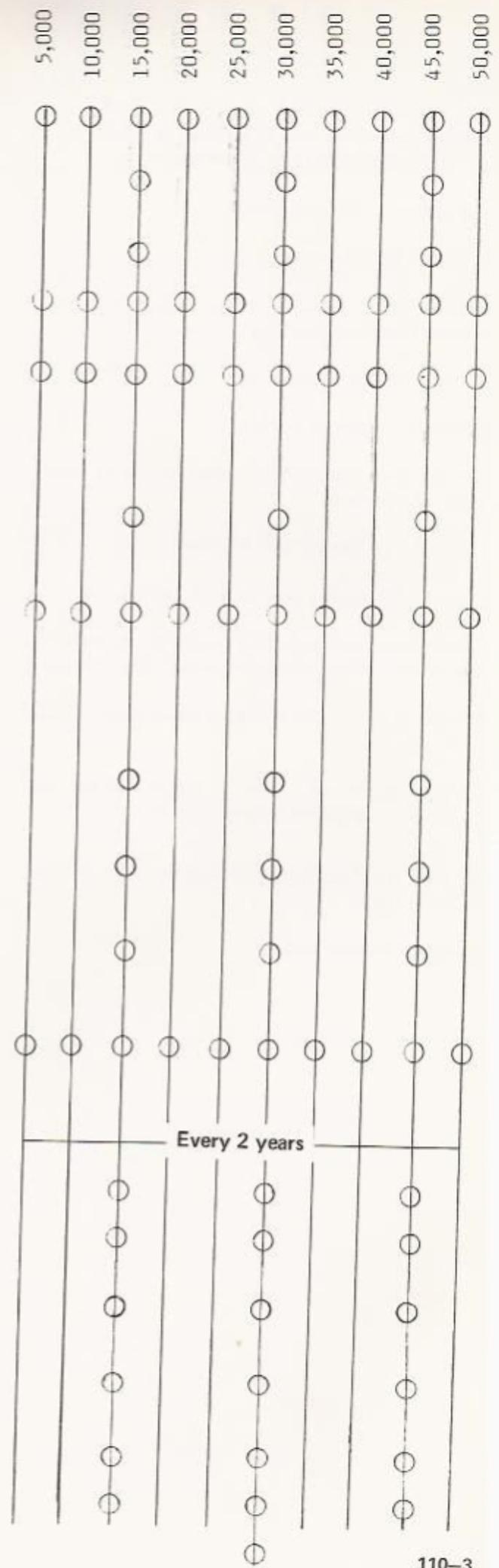
#### Miscellaneous

Test drive car on road and check its overall condition, especially the function of brakes and clutch.

## Regular maintenance, model 1979

	5,000	10,000	15,000	20,000	25,000	30,000	35,000	40,000	45,000	50,000
<b>Engine</b>										
Test the exhaust system for leakage	○	○	○	○	○	○	○	○	○	○
Check vacuum hoses and connections of servo assistance	○	○	○	○	○	○	○	○	○	○
<b>Transmission</b>										
Check exhaust pipe mounting tightness and check for signs of leak	○	○	○	○	○	○	○	○	○	○
<b>Transmission, manual</b>										
Check gearbox oil level	○	○		○	○		○	○		○
Change the gearbox oil. Clean the magnetic plug. Do not confuse the drain plugs for the engine and gearbox			○			○			○	
<b>Transmission, automatic</b>										
Check the gearbox oil level	○	○	○	○	○	○	○	○	○	○
Check the differential oil level	○	○		○	○		○	○		○
Change the differential oil			○			○			○	
Inspection, gearbox (see section 440)				○						
<b>Electrical system</b>										
Check the battery. Tighten cable terminals and grease with vaseline	○	○	○	○	○	○	○	○	○	○
Check function of headlights, stop lights, directional lights, warning flashers, back-up lights, indicator lights, warning lights and buzzers, windshield wipers, heater fan and horn.	○	○	○	○	○	○	○	○	○	○
Check condition of the headlights. Check, if necessary, adjust the headlight alignment	○	○	○	○	○	○	○	○	○	○
<b>Chassis</b>										
Check, if necessary, adjust toe-in	○	○		○	○		○	○		○
Measure, if necessary, adjust camber, caster and toe-in			○			○			○	
Check upper and lower ball joints and tie rod ends on both sides for wear			○			○			○	
Check the handbrake	○	○	○	○	○	○	○	○	○	○
Check in the brake system: Condition of brake lines and hoses, tightness of master cylinder and wheel brake cylinders and also the screw caps. Change brake fluid about 30,000 miles or after two years	○	○	○	○	○	○	○	○	○	○
Remove the wheels and check the thickness of the brake pads. Change pads when thickness of the very lining is less than 1/8 in. Check the depth of the tread pattern on tires	○	○	○	○	○	○	○	○	○	○

- Check the fluid level and if necessary, replenish brake fluid in the master cylinders for brakes and clutch
- Check the rubber bushings of the shock absorbers
- Check the oil level of the steering gear
- Check power steering fluid
- Check the rubber bellows for outer and inner drive shaft joints and steering gear, the rubber sealing for ball joints and tie rod ends
- Miscellaneous**
- Lubricate sparingly the door stops and hinges, throttle control and engine hood lock mechanism
- Test drive car on road and check its overall condition, especially the function of brakes and clutch
- Emission systems required maintenance services, Model 1979**
- Check, if necessary adjust the tension of the V-belts
- Check, if necessary adjust the valve clearance (cold engine). Wash and blow clean the camshaft cover
- Check the connections and hoses for the crankcase ventilation
- Check cooling system hoses and connection for leaks. Replace hoses if necessary. Check coolant level and anti-freeze contents
- Replace engine coolant
- Torque engine bolts
- Replace spark plugs and set gaps
- Canada-cars: Replace the breaker points and condenser. Set dwell angle and ignition timing
- USA-cars: check, if necessary adjust, the ignition timing
- Lubricated distributor (Canada-cars)
- Check distributor cap and rotor
- Replace distributor cap and rotor



	5,000	10,000	15,000	20,000	25,000	30,000	35,000	40,000	45,000	50,000
Check, clean and inspect the secondary ignition wires looking for cuts, burns, abrasions and punctures. Check resistance of ignition wires replace if necessary			○			○			○	
Replace air cleaner insert			○			○			○	
Replace fuel filter			○			○			○	
Check fuel system cap, tank lines and connection for leakage			○			○			○	
Check charcoal canister			○						○	
Replace charcoal canister						○			○	
Check the mechanical and vacuum spark control system			○			○			○	
Inspect Fuel Injection System			○			○			○	
Check idle speed and CO-HC contents			○			○			○	
Clean and inspect EGR-outlet in exhaust manifold, EGR-crosspipe and EGR-valve.			○			○			○	
Check the EGR-system operation (EGR two-port)			○			○			○	
Check pulse-air hoses, check-valve and pulse-air manifold connectors			○			○			○	
Check deceleration valve operation. Adjust if necessary			○			○			○	
Oxygen sensor change			○			○			○	

**Turbo:**

Check the pressure switch

Check the charging pressure

Clean the charge pressure regulator membrane housing and the pipe between exhaust manifold and membrane housing cover.

Check the seal on the charge pressure regulator

Check the wide open throttle enrichment function

Oil and oil filter change

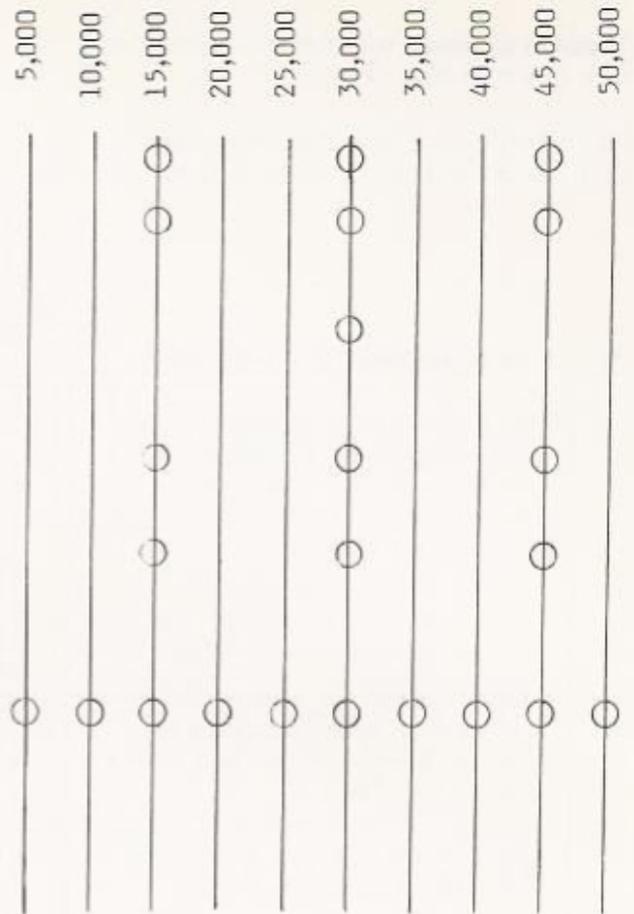
Normal driving conditions:

6 months or 5,000 miles, whichever comes first

Extra oil change

Severe driving conditions:

3 months or 2,500 miles, whichever comes first



"EXH"-service indicator device

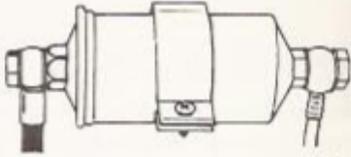
An indicator lamp located on the instrument panel reminds the driver of the point of time for the emission systems required maintenance service (e.g. cleaning of EGR-device, changing the oxygen sensor etc).

The indicator lamp is actuated by a counter unit located under the instrument panel. The counter unit is driven by a wire from the speedometer and engages at 15,000 miles. The counter unit is reset by means of a push button on the unit.

**Emission systems maintenance program**  
from model 1980, USA

Where "miles" or "months" are shown,  
perform at whichever limit is reached first

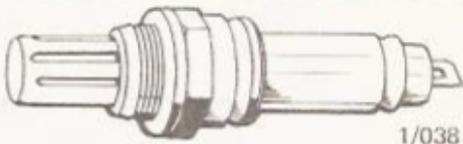
*1,000 miles. Break in service  
Every 7,500 miles (5,000-Turbo)  
or 6 months  
Every 15,000 miles or 12 months  
Every 30,000 miles or 24 months*

Pos	Emission system maintenance				
1	Valve clearance - Check; if necessary adjust to specification (cold engine). Wash and blow clean oil separator in camshaft cover.	X	X		
2	Engine Head Bolts and Manifolds - Torque to specifications (including Turbocharger and wastegate bolts - Turbo).	X			
3	Spark Plugs - Replace and adjust gap to specification.			X	(1a) 
4	Air Cleaner Insert - Replace.			X	(1b) 
5	Fuel Filter - Replace.			X	(1c) 
6	Evaporative Emission Controlled Fuel System - Check fuel filler cap, vent lines, canister, and connections for wear, deterioration and/or damage which could cause leakage. Tighten any loose connections and/or replace any leaking components.				X - At 60,000 miles or 48 mos. and every 12 mos. thereafter.
7	Charcoal Canister - Replace				X - At 60,000 miles

1. under the following severe driving conditions, replace every 15,000 miles:
  - a Spark Plugs - Extensive idling, stop-and-go driving, towing, high speed driving, driving in cold climates over repeated short trips without sufficient engine warm-up.
  - b Air Cleaner - Dusty conditions.
  - c Fuel Filter - Dusty conditions or if clogged (accompanied by an increase in fuel pump operating noise level.)

1,000 miles. Break in service  
 Every 7,500 miles (5,000-Turbo)  
 or 6 months  
 Every 15,000 miles or 12 months  
 Every 30,000 miles or 24 months

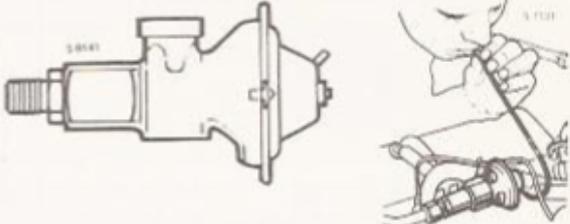
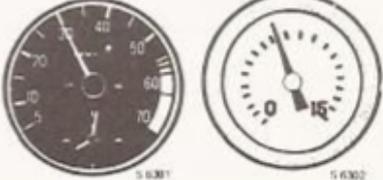
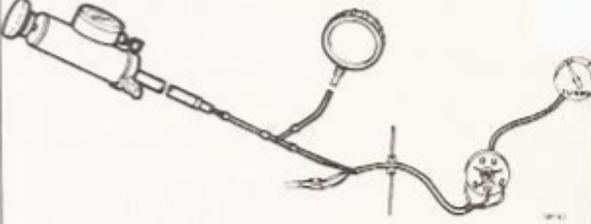
Pos Emission system maintenance

8	<u>Crankcase Ventilation</u> - Check connections and hoses. Tighten or replace as necessary.					X - At 60,000 miles or 48 mos. and every 12 mos. thereafter.
9	<u>Secondary Ignition Wires</u> - Clean and inspect for cuts, burns, or abrasions. Replace any damaged wires.					X - At 30,000 miles or 24 mos. and every 12 mos. thereafter.
10	Check resistance of ignition wires and replace, if necessary.					X - At 60,000 miles
11	<u>Distributor Cap and Rotor</u> - Replace. Check and adjust ignition timing to spec.					X - Every 60,000 miles
12	<u>Ignition System</u> - Check spark control system (from model 1981)					X - Every 60,000 miles
13	<u>Oxygen Sensor</u> - Replace sensor and check operation of enrichment microswitch. (Reset service reminder lamp.)				X	 1/038
14	<u>Oil and Oil Filter Change</u> - (Note: Standard engine - 7,500 mi/6 mos; Turbo - 5,000 mi/6 mos.)	X	X			(2)
15	<u>Front exhaust pipe bracket on gearbox</u> - Check the torque of the nuts and look for signs of oil leakage.	X	X			
16	<u>Idle Speed</u> - Check idle speed and adjust to specification, if necessary	X				X - At 60,000 miles (and whenever the vehicle is relocated for a prolonged period of operation at a different altitude.)

- Under severe operating conditions (dusty conditions, towing, extensive idling, stop-and-go driving, driving in cold climates over repeated short trips without sufficient engine warm-up), change every 5,000 miles or 4 months, (Turbo 3750 miles or 4 months) whichever comes first.

1,000 miles. Break in service  
 Every 7,500 miles (5,000-Turbo)  
 or 6 months  
 Every 15,000 miles or 12 months

Pos Emission system maintenance

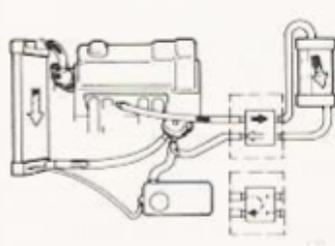
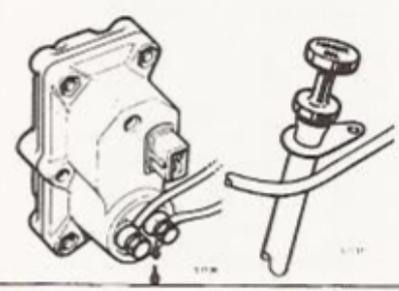
17	Deceleration System - Check operation; adjust to specification, if necessary	X		X - At 60,000 miles	
18	Idle Air Fuel Mixture - Check idle CO and adjust to specification, if necessary (only model 1980)	X		X - At 60,000 miles or after repair or replacement of the fuel distributor or air flow sensor.	
19	EGR System - Clean and inspect EGR valve and inlet pipe. Check the EGR system operation			X - Every 60,000 miles	
20	Charging Pressure - Check; Adjust to correct specification, if necessary. System must be sealed with anti-tempering wire (Turbo only)	X	X		
21	Overpressure Safety Switch - Check operation. (Turbo only)		X		

**Vehicle maintenance program**  
(from model 1980, USA)

Where "miles" or "months" are shown, perform at whichever limit is reached first

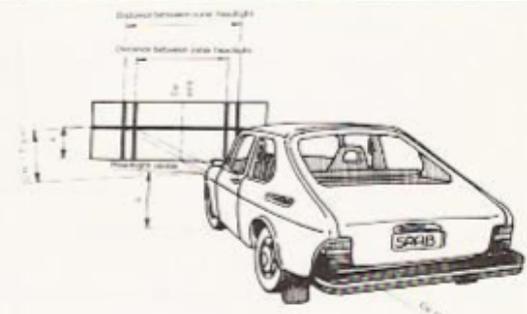
*1,000 miles. Break in service  
Every 7,500 miles (5,000-Turbo)  
or 6 months  
Every 15,000 miles or 12 months*

**Pos B. Vehicle maintenance**

Pos	B. Vehicle maintenance				
	<b>Engine</b>				
1	<u>V-belts</u> - Check; if necessary adjust tension or replace	X			X - At 30,000 miles or 24 mos. and every 12 mos. thereafter.
2	<u>Cooling System</u> - Check hoses and connections for leaks. Tighten clamps or replace clamps or hoses if necessary. Check coolant level and anti-freeze content.	X	X		
3	<u>Engine Coolant</u> - Flush system and replace with approved mix.				X - At 30,000 miles 24 mos. and every 12 mos. thereafter.
4	<u>Fuel Injection System Safety Check</u> - Inspect components, electrical cables, fuel hoses, and all connections for wear, damage, and/or deterioration. Tighten any loose connections and/or replace any damaged components.			X	
5	<u>Exhaust System</u> - Check for leakage and ensure that all fasteners and hangers are secure. Correct as necessary.	X	X		
	<b>Electrical system</b>				
6	<u>Battery</u> - Check electrolyte level (batteries with fill caps). Tighten cable terminals and coat with petroleum jelly.	X	X		
7	<u>Function Check</u> - Headlights, stoplights, directional lights, warning flashers, back-up lights, indicator lights, buzzers, windshield wipers, heater fan, horn, rear defogger, electric mirror, power windows, power door locks. Correct as necessary.	X	X		

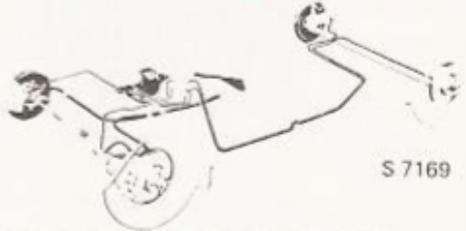
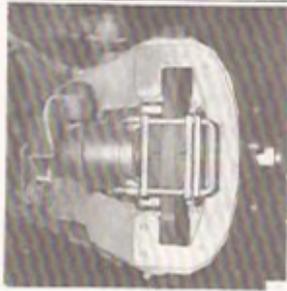
1,000 miles. Break in service  
 Every 7,500 miles (5,000-Turbo)  
 or 6 months  
 Every 15,000 miles or 12 months

Pos B. Vehicle maintenance

8	<p>Headlights - Check for proper aiming; if necessary adjust (per State requirements as applicable).</p>			<p>X</p> 
<b>Transmission</b>				
9	<p>Check exhaust pipe mounting tightness and check for signs of leak</p>	X	X	
10	<p><u>Gearbox Oil Level</u> - Check; add as necessary.</p>		X	
11	<p>Manual Transmission  <u>Gearbox Oil</u> - Change, clean magnetic drain plug. (Be careful not to confuse drain plugs for engine and gearbox.)</p>	X		
12	<p>Automatic Transmission          Adjust automatic transmission gear selector control cable and retighten over bolts under gearbox.</p>	X		
13	<p><u>Inspection/Service</u> - Drain oil, drop pan, and clean filter and magnet; adjust selector cable, rear lining and kick-down cable; replace pan and refill with fresh ATF.</p>			<p>X - One time at 15,000 miles</p>
14	<p><u>Differential Oil Level</u> - Check; add as necessary</p>		X	

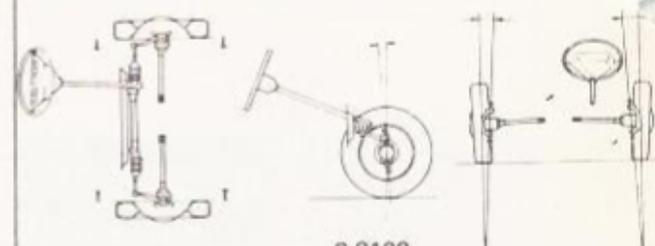
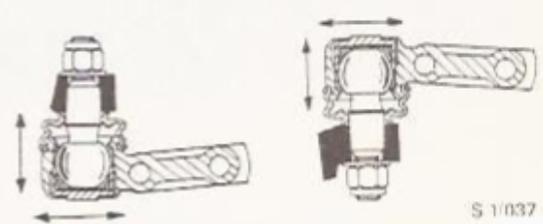
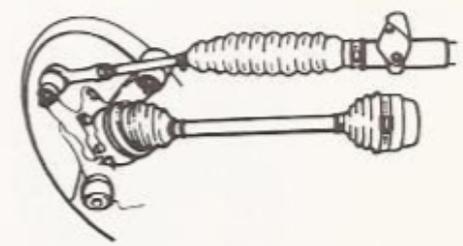
1,000 miles. Break in service  
 or 6 months  
 Every 7,500 miles (5,000-Turbo)  
 Every 15,000 miles or 12 months

Pos B. Vehicle maintenance

15	Differential Oil - Change	X			
	<b>Brakes</b>				
16	Brake system - Check condition of brake lines and hoses, tightness of master cylinder, calipers, and screw caps. Correct as necessary.	X	X		 S 7169
17	Check power brake vacuum servo hose and connections. Correct any vacuum leaks.		X		
18	Check function of hand brake	X	X		
19	Remove wheels and check brake pad thickness. Replace pads when lining thickness is less than 1/8 inch.		X		
20	Grease sliding surfaces of front brake caliper yokes (special grease required).			X	X - Repeat, if necessary, whenever brake pads are changed
21	Check brake fluid level; if necessary replenish fluid in master cylinders for brake and clutch (manual trans).	X	X		
22	Replace brake fluid and bleed system				X - Every 30,000 miles or 24 months

1,000 miles. Break in service  
 Every 7,500 miles (5,000-Turbo)  
 or 6 months  
 Every 15,000 miles or 12 months

Pos B. Vehicle maintenance

Front assembly					
23	Suspension - Tighten bolts of rear axle crossbar and bolts which hold control arm to body (front) and spring links to body (rear).	X			
24	Toe-in - Check; if necessary adjust		X		
25	Wheel Alignment - Measure, if necessary adjust camber, caster toe-in.	X		X	 <p>S 8190</p>
26	Upper and Lower Ball Joints and Tie-Rod Ends - Check both sides of vehicle for wear. Also check steering gear universal joints. Correct any unsafe condition.			X	 <p>S 1037</p>
27	Shock Absorbers - Check rubber bushings; replace shock absorbers when dampening action is no longer effective.			X	
28	Tires - Check tire tread depth and replace when wear bars in tread appear.		X		
29	Power Steering Fluid - Check; add as necessary.	X	X		
30	Check rubber bellows for inner and outer drive shaft joints, and rubber boots for ball joints and tie-rod ends. Replace any damaged boots.	X	X		

Pos B. Vehicle maintenance

1,000 miles. Break in service  
Every 7,500 miles or 6 months  
Every 15,000 miles or 12 months  
(5,000-Turbo)

Miscellaneous					
31	Change ventilation air filter (except 900 with A/C).			X	
32	Lubricate sparingly the door stops and hinges, throttle control, and engine hood lock mechanism.			X	
33	Test drive vehicle and check overall condition, noting especially the function of brakes and clutch.	X	X		
34	Free corrosion inspection (see terms of Corrosion Performance Warranty (from model 1981))				12-14 months and 24-26 months after purchase
35	<u>General Inspection</u> - Check all suspension and steering components, exposed fuel lines, and brake components for damage due to road hazards or driving conditions. Replace any damaged components			X	

"EXH"-service indicator device

An indicator lamp located on the instrument panel reminds the driver of the points of time for the emission systems required maintenance service (e.g. changing the oxygen sensor etc).

The indicator lamp is actuated by a counter unit located under the instrument panel. The counter unit is driven by a wire from the speedometer and engages at 30,000 miles. The counter unit is reset by means of a push button on the unit.

## **Servicing programme**

### **Periodic Servicing**

Canada-cars from model 1980

#### **Every 7,500 km Service**

Change engine oil in Saab 900 Turbo cars and cars driven under unusually demanding conditions, such as driving in extremely hot weather, driving at high speeds for a considerable distance, and driving over short distances in extremely cold weather.

#### **Every 15,000 km Service**

##### Engine

Oil and filter - change at least once a year.  
Air cleaner element - clean.  
Fuel pump filter (carbureted engine) - clean.  
Crank case ventilation hoses and connections - clean and check.  
The exhaust system - check for condition and leaks.  
Choke control mechanism (only carbureted engines) - check.  
Cooling system - pressure test and check hoses.  
Freezing point of coolant check.  
Vacuum pipes and connections - check.  
Fuel pipes in engine compartment - check.  
Twin carburetors - synchronize.  
Carburetor damper - check oil level and top up if necessary.  
Check fuel system ventilation lines and connections for leaks.  
Check charcoal canister for cracks.  
Deceleration valve - adjust.  
Adjust idling setting carbon monoxide content of exhaust gases.  
Valve covers screws - check tightness.  
Throttle control - lubricate.

##### Saab 900 Turbo

Charging pressure - check and adjust if necessary.  
Overpressure switch - check.  
Fuel boosting device - check.  
Charging pressure regulator seal - check.  
Check the seal on the control unit (APC-cars)  
Air clean element - replace.

##### Electrical system

V-belts - check condition and adjust tension if necessary.  
Change contact breaker points, lubricate contact breaker arm and lubricating pad.  
Adjust gap and ignition setting.  
Spark plugs - change.  
Ignition cables and wires - check condition.  
Battery - check levels.  
Battery terminals - check.  
Delay valve - check operation.  
Headlights - check condition and adjust setting if necessary.

Check operation of parking, brake and rear lights, number plate light, direction indicators, horn, reversing lights, hazard warning flashers, interior lighting, warning and indicator lights, windshield washers and wipers, headlight washers and wipers, brake warning light, instrument lighting, luggage compartment lighting and ventilator fan.

##### Transmission

Gear box - check oil level and top up if necessary.  
Automatic transmission final drive unit - check oil level and top up if necessary.

##### Brake system

Brake fluid reservoir - check level and top up if necessary.  
Brake pads - check for wear (remove wheels).  
Front brake yokes - lubricate guides.  
Parking brake levers - check operation.  
Brake pipes and hoses - check.

##### Steering, front suspension and tyres

Check condition of rubber bellows on steering gear and inner and outer universal joints, and of rubber seals for ball joints and tie-rod ends.  
Check depth of tyre tread patterns.  
Check the tyre pressure in the spare wheel.  
Check the fluid level in the power steering fluid container.  
Check the wear in the inner and outer steering joints.

### Body

Lubricate door stops, door hinges and bonnet mechanism.

Check condition of washer jets and rubber wiper blades.

### General

Test drive and check component operation.

### **Every 30,000 km Service**

To be carried out in connection with the 15,000 km Service.

Change dust filter in the heating and ventilation system.

Check and if necessary adjust toe-in, camber and caster.

Clean and inspect valve, crosspipe and exhaust manifold outlet of EGR system.

Check operation of vacuum delay valve.

Saab 900 Turbo: Check and if necessary adjust valve clearance.

### **Every 45,000 km Service**

To be carried out in connection with the 15,000 km Service.

Change fuel filter.

Change air cleaner insert.

Change brake fluid (at least once every two years).

Check and if necessary adjust valve clearance.

Change oil in final drive of automatic transmission.

Replace the charcoal canister in the fuel system.

Replace the oxygen sensor (Saab 900 Turbo only).

### **Rust control**

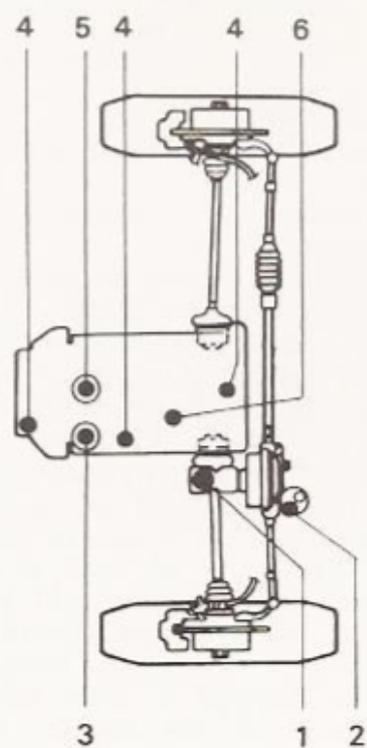
Please read the "Corrosion protection program".

# Lubrication, lubricants

Lubrication or oil check in connection with regular maintenance

Ref.	Lubrication point	Qty.	Lubricant	Direction
1	Brake system	1	Brake fluid, grade DOT4, earlier SAE J 1703	See maintenance program
	Front wheel brake yoke	2	Gleitmo 540	Lubricate sliding surfaces between yoke and brake housing.
2	Hydraulic clutch	1	Brake fluid grade as above	
3	Engine	1	Follow recommendations on page 120-5	Change oil and oil filter cartridge NOTE! Use only Saab original filter cartridge.
4	Manual transmission		Follow recommendations on page 120-5	See Maintenance Program
	Automatic transmission			See Maintenance Program
	Final drive, automatic transmission		Follow recommendations on page 120-5	See Maintenance Program
5	Distributor, breaker cam (only Canada)	1	Bosch Ft 1 v 4	Grease cam
	Distributor, lubr. felt under breaker plate		SAE 40 oil	Oil can, sparingly
6.	Throttle control, wire bearing	1	SAE 40 oil	Oil can
	Hood lock mechanism	1	SAE 40 oil	Oil can
	Door hinges and door stops	4+4 (8+8)	SAE 40 oil	Oil can

**Note**  
Saab Special chassis grease must be used with care, as it is apt to discolor the paintwork of the car.

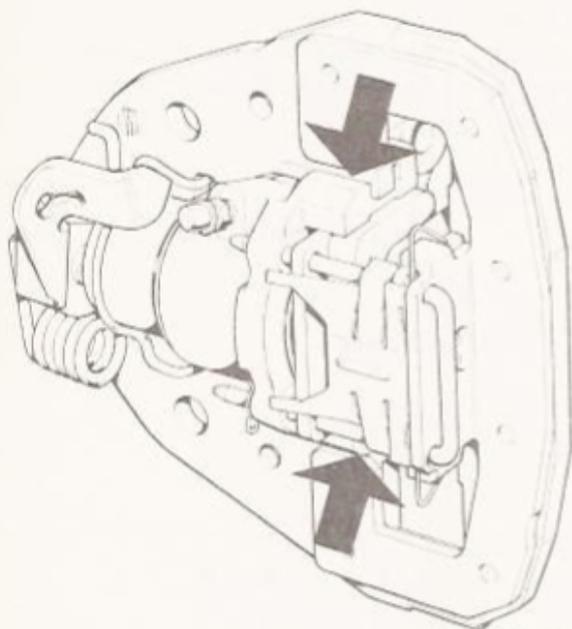


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**Points to be lubricated or checked in connection with regular maintenance**

**1. Brake system:**

- The brake fluid reservoir shall be kept topped up. Check the level in the reservoir and that the hole in the cap is not clogged. Follow the recommendations in the lubrication chart as regards brake fluid.
- Lubricate the sliding surfaces between the front brake yoke and the brake pads in site as follows:
  1. Remove the front wheel.
  2. Scrape away any dirt around the sliding surfaces of the yoke in the brake housing.
  3. Sliding the yoke back and forth, apply the lubricant in drops to the sliding surfaces.
  4. Refit the wheel.



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**2. Hydraulic clutch:**

Check that the reservoir is full.

**3. Engine:**

Oil capacity: 3.7 US quarts (3.5 litres) inclusive of oil filter.

Turbo engines: Engine oil according to API Service SF/CD or SF/CC.

Viscosity: 10 W 30, 10 W 40 or 5 W 30.

Normally aspirated engines: Engine oil according to API Service SF/CC.

Viscosity: 10 W 30, 10 W 40 or 5 W 30.

When oil of the recommended viscosity cannot be obtained, oil with a viscosity of 10 W 40 or 15 W 50 may be used.

Check the engine oil level at regular intervals. The engine should be at a standstill for about one minute before the check is made. The level should never be allowed to drop below the lower mark on the dipstick but nor should the oil be filled above the level

of the upper mark as this will result in abnormally high oil consumption. The distance between the upper and lower marks corresponds to a volume of one litre (roughly 1 US quart).

Top up with oil of the recommended grade as necessary. Engine oil and oil filter should be changed according to maintenance program, section 110.

The drain plug in the engine block has a hexagon head.



Drain plugs, cars with manual transmission  
1. Engine  
2. Transmission

	Tightening torques
Drain plug, engine	22-30 ft.lb., 30-40 Nm (3-4 kpm)
Drain plug, transmission	30-45 ft.lb., 40-60 Nm (4-6 kpm)
Level/filler plug	22-30 ft.lb., 30-40 Nm (3-4 kpm)

**4. Manual transmission:**

When changing the oil, drive the car for 15-20 minutes before draining the oil. Clean the magnetic plug and pour in new oil through the filler plug in the transmission until oil runs into the level plug opening. Note that it takes a certain amount of time for the oil to run from the primary gear case to the transmission housing. The transmission holds 2.6 US quarts (2.5 litres) of oil in 4-speed cars and 3.2 US quarts (3.0 litres) in 5-speed cars.

For oil specifications refer to "Table of lubricants" on page 120-5.

For oil checks and changes refer to "Maintenance program", section 110.

Automatic transmission; type 35 and type 37.

(For details of oil changing refer to "Inspection service, automatic transmission".)

The filler pipe with the calibrated dipstick is located immediately behind the radiator. The dipstick is graduated with different scales for hot and cold transmissions, respectively. Before checking the oil level, ensure that the car is level. Set the handbrake. Run the engine for at least 15 seconds at idling speed in position "D". Then at least 15 seconds in position "R" and 15 seconds in position "P" whereupon the level should be checked with the range selector still in position "P". Calibration has been provided for both cold oil 104°F (40°C) and warm oil 194°F (90°C). Note that the oil level indicated can be considerably below the level for cold oil which is for 104°F (40°C) if the ambient temperature is very low. The difference between min. and max. is 0,9 pints (0,5l.).

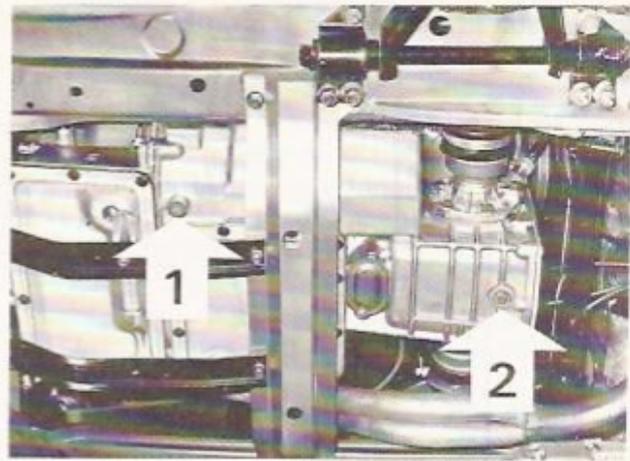


Dipstick, automatic transmission, type 35



Dipstick, automatic transmission, type 37

For oil specification refer to "Table of lubricants" section 120. For oil checks and changes refer to "Maintenance program" section 110.



Drain plugs, automatic transmission

1. Engine

2. Final drive

5. Only cars for Canada: Distributor breaker cam. Lightly grease the cam. Apply a small amount of grease to the rivet securing the pad to contact breaker. Distributor, lubricating felt pad: Apply a few drops of oil.

6. Throttle control:

Lubricate the cable bearing (do not lubricate the cable itself).

Hood lock mechanism:

Lubricate by means of oil can.

Door hinges, door stops:

Oil the hinges through the lubricating groove in the top of the hinge pin. The hinges are accessible once the hood has been opened.

## Inspection of automatic transmission, type 35

To ensure the correct functioning and a long service life of automatic transmission, the following additional actions are recommended in conjunction with the ordinary inspection services: (The inspection is not to be performed on Type 37 gearboxes).

1. Drain the oil.
2. Remove the cover plate and front oil pan.
3. Clean the strainer and the magnet.
4. Check the adjustment of the gear selector. Adjust as required.
  - a. Find the central position of the N position in the manual valve with the pawl button depressed.
  - b. Release the lockout pin and check that the N position of the manual valve lines up with the recess in the lockout pin which marks the lever housing N position.

For adjustment, follow the directions contained in group 444.

5. Check and if necessary adjust the rear band.
6. Check the tension and adjustment of the throttle cable. The clearance between the clip and the threaded part of the sheath should be between 0.04-0.08 in (1 and 2 mm). Adjust as necessary.
7. Install the front oil pan and cover plate. Fill with new oil. Capacity: 2,6-3,2 US quarts (2,5-3,0 litres).

## In conjunction with reconditioning

In conjunction with reconditioning, the following lubrication points should be repacked with chassis grease.

Tie-rod end assemblies plus upper and lower ball joints:

Pack the bellows 3/4 full.

Lubricant: Saab special chassis grease.

Rear wheel bearings: Repack.

Lubricant: Saab special chassis grease.

Inner universal joint:

Fill with grease. The quantity will be correct if the driver is completely filled. Wipe off excessive grease after the drive shaft has been installed.

Lubricant: Soft EP grease with a lithium-lead base and which is capable of withstand considerable variations in temperature and load. Consistency according to ESSO Beacon EP 2 or equivalent.

Outer universal joint: The correct quantity of grease will be obtained if the ball retainer is fully packed with grease.

Lubricant: Saab Special chassis grease.

Clutch control: Coat the joint with grease.

Lubricant: Saab Special chassis grease.

Release bearing: Fill the groove 3/4 full.

Lubricant: Saab Special chassis grease.

## Steering gear

### Manual steering gear

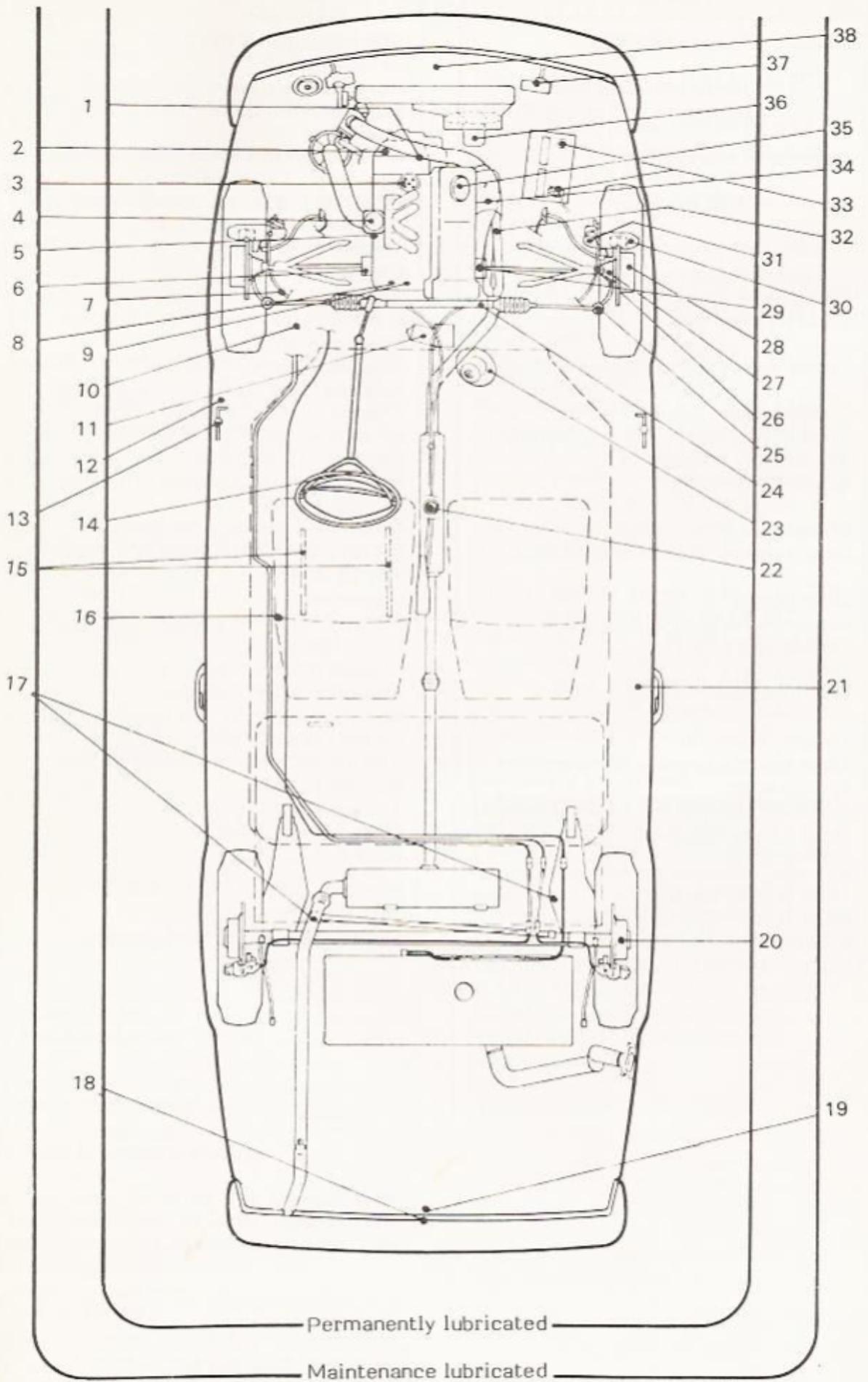
After an overhaul the steering gear should be filled with 5.3 fl.oz. (150 cm<sup>3</sup>) BP Energrease FGL liquid grease.

Grease inner ball joint sockets and balls with molybden paste.

### Power-assisted steering gear

After overhaul the pinion, rack teeth, bearings and dust seals should be lubricated with 60 g lithium SHELL EP2. B2 code 71303 grease or similar. Lubricate the hydraulic components with SAGINAW hydraulic fluid (Texaco Power steering fluid 4634).

# Table of lubricants



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	Lubrication point	Lubricant
1	Clutch: Release bearing Driven plate splines Bearing in end of crankshaft	Self-lubricating, must not be washed Molybdenum paste (45) 30 06 632 Self-lubricating, must not be washed
2	Automatic transmission Final drive	Automatic transmission oil to Ford spec. M2C.33F or M2C.33G EP oil SAE 80W according to specification API-GL4 alt. GL5.
3	Distributor, rotor cam	Bosch Ft 1v4 grease
4	Distributor, lubricating pad	Engine oil
5	Carbureter, damper	Automatic transmission oil
5	Throttle controls	Engine oil (Note! Do not lubricate throttle cable)
6	Power steering, hydraulic reservoir	Saginaw hydraulic fluid (Texaco Power steering fluid 4634) (45) 30 09 800
7	Parking brake cables	Chassis grease EP 2
8	Final drive, automatic transmission	EP oil SAE 80 W to API-GL-4
9	Alternator, ball bearing	Bosch Ft 1v34 grease
10	Brake light switch	Battery terminal grease (Vaseline) (45) 30 06 665
11	Windshield wiper motor	Sealed-for-life (special grease)
12	Door switch, interior illumination	Battery terminal grease (Vaseline) (45) 30 06 665
13	Door hinges	Engine oil
14	Horn mechanism, slip ring and connection brush	Battery terminal grease (Vaseline) (45) 30 06 665
15	Seat runners	Chassis grease (Apply sparingly)
16	Reclining seat fittings	Sealed-for-life, lubricate as necessary with thin penetrating oil
17	Hinges, trunk lid	Chassis grease (when fitting)
18	Door switch, luggage compartment illumination	Battery terminal grease (Vaseline) (45) 30 06 665
19	Luggage compartment lock mechanism	Thin penetrating oil
20	Rear wheel hub, packing when assembling	Saab special chassis grease (Esso NEBULA EP2)
21	Door lock mechanism	Mobilplex 47 (45) 30 06 624
22	Gear lever housing	Soft EP1 grease
23	Engine, ventilation fan	Sealed-for-life (Special grease)

	Lubrication point	Lubricant
24	Steering gear, manual (rack, pinion and bearings) Steering gear, manual (inner ball joint) Steering gear, power assisted	BP Energrease FGL (45) 30 08 703  Molybdenum paste (45) 30 06 632 Lithium grease, Shell EP2 B2 code 71303 (Shell Retinax A) or similar Saab special chassis grease (Esso NEBULA EP2)
25	Tie rod ends	Saab special chassis grease (Esso NEBULA EP2)
26	Steering upper and lower ball joints	Saab special chassis grease (Esso NEBULA EP2)
27	Outer universal joint	ESSO NEBULA EP2, MOLYKOTE VN2461c OPTIMOL OLISTAMOLY 2LN 584 or K.S. PAUL-G800.
28	Front wheel bearings	Sealed-for-life (Saab special chassis grease, Esso Nebula EP2)
	Front wheel bearing seat	Molybdenum paste (45) 30 06 632
	Front wheel hub splines	Molybdenum paste (45) 30 06 632
29	Inner universal joint	ESSO BEACON EP2 or an equivalent lithium lead-base grease capable of withstanding variations in temp. and load
30	Brake yoke sliding bearing	Gleitmo 540 (45) 30 08 612
31	Cam housing, parking brake adjustment mechanism	Girling special grease (45) 30 07 770 or disposable package 89 94 782
32	Manual transmission	Engine oil, SAE 10 W 30 or 10 W 40 according to SE service in API system or Ford spec. ESE-M2C-101C
33	Battery	Battery terminal grease (Vaseline)
34	Starter motor, bushings	Bosch OL 1 v 13 oil
	Starter motor, axial bearings, pinion, springs	Bosch Ft 2 v 3 grease
35	Engine	Turbo engines: Engine oil according to API Service SF/CD or SF/CC. Viscosity: 10 W 30, 10 W 40 or 5 W30. Normally aspirated engines: Engine oil according to API Service SF/CC. Viscosity: 10 W 30, 10 W 40 or 5 W 30. When oil of the recommended viscosity cannot be obtained, oil with a viscosity of 10 W 40 or 15 W 50 may be used.
36	Radiator fan	Sealed-for-life (special grease)
37	Headlamp wiper motors	Sealed-for-life (special grease) Calypsol H 529
38	Hood lock, hinges	Engine oil
	Locking pin, hood	Chassis grease

### Lubrication to prevent seizing

There may be a tendency for threads that have been subjected to wide temperature fluctuations to seize. Some typical parts to which this applies are:

EGR valve connections

The Lambda sensor.

Charging pressure regulator connections and nuts on the charging pressure regulator valve (cars with Turbo engine)

Recommended lubricant:

NEVER SEIZE or MOLYCOTE 1000

# Underbody and rustpreventing treatment

The car is undersealed before delivery. The following information concerns anti-corrosion treatment carried out by the factory.

## Underseal in wheel housings

Mode of application	Spraying
Curing	20 min at material temperature of 300°F (+150°C)
Skin thickness	200 µm min.
Binder	Polyester
Supplier	Sv. Herberts AB

Note: Certain parts of the car floor that have been undersealed are also coated in other anti-corrosion agent. Inclined surfaces on the doors and side plates have been coated with compound which has been covered by the top coat of paint.

## Anti-corrosion agent in cavities

Mode of application	Spraying
Type of material	Thixotropic, penetrating
Skin thickness	Covering

## Anti-corrosion agent for bottom plate

Mode of application	Automatic spraying
Type of material	Thixotropic, non-penetrating
Skin thickness	Approx. 500 µm

See also group 8, section 890 "Bodywork treatment".

## Recommendations for subsequent treatment

Subsequent treatment is necessary to keep the coat of anti-corrosion compound intact. The first course of treatment should be carried out within twelve months of the date on which the car was delivered. Provided the recommendations are followed, highly effective protection is achieved. Thereafter, treatment need only be carried out every two or three years. However, it is advisable to check the condition of the underseal at regular intervals; e.g. once a year.

## Holes and rubber plugs in the body

Holes are provided to enable body cavities to be treated. The holes are sealed by means of rubber plugs, some of which have slots in them. If a suitable spray nozzle is used, anti-corrosion agent can be injected

through the plug. Solid plugs are fitted in a limited number of places to prevent water entering the passenger compartment.

#### Choosing the anti-corrosion agent and equipment for its application

Always use materials of a well known make.

A thin (penetrating) agent with good water-repelling properties should be used for treatment of cavities and hollow joints in the body.

A thin (non-penetrating) agent applied in a coat at least 500 µm thick should be used for the underbody and wheel housings. The best results will be obtained with airless high-pressure equipment. Follow the manufacturer's instructions when selecting a nozzle and deciding on the spraying pressure.

#### Preliminary work

1. Thoroughly hose down the underbody and wheel housings. Pay particular attention to the corners, undersides of reinforcement members and insides of front assembly brackets in the engine compartment and under the front fenders.
2. Remove the kick-plates, fold back the carpeting and seal the drainage holes in the sill beams if they are open.



#### **Note**

If the holes are not sealed, the carpeting may be damaged. The plugs need not be removed when work has been completed.

3. Remove the wheels.
4. Cover the brake housings and brake discs.
5. In the case of 3-door cars, fully withdraw the front belt straps and lock them in this position.

6. Up to and including 1980 models: Remove the spare wheel and the grille in the right-hand wheel housing trim. Cover the rear section of the floor carpeting.

As from 1981 models: Raise the panel covering the spare wheel. Remove the two rear rapid-release bolts holding the side trim and bend the rear section of the side trim out of the way.

7. Remove the plugs from the rear edges of the doors, the side panel edges (3-door cars: 3 per side; 5-door cars: one per side) and the plugs in the rear of the sill beams.
8. Check that the car has been thoroughly cleaned, particularly in concealed places. Scrape away any loose, old under-seal and remaining dirt.

## Undersealing

### Caution

Before the treatment is started, the bodywork must be dry. Moisture on the surface will adversely affect the adhesion of the underseal.

The treatment areas are divided into groups. When there are differences between 3-door and 5-door cars, this is indicated by 3-D and 5-D.

### A Thin penetrating rust preventive oil

#### Group 1 (from inside the engine compartment, pictures A, B and C)

- |  |  |
|--|--|
| 1.1 Front engine member                            | Spray through two holes  |
| 1.2 Front reinforcement members                    | Spray through hole in rear edge  |
| 1.3 Hood   | Spray on inside of front section and in rear stays   |
| 1.4 Front fenders - outer wheel housing            | Apply the oil to the highest point so that it runs into the joint towards the front and back |
| 1.5 Upper cavity, front suspension bracket         | Spray internally   |
| 1.6 Rear joint in wheel housing and hinge mounting | Spray  |
| 1.7 Space for washer container                     | Remove the container and spray   |
| 1.8 Space for battery                              | Remove the battery and spray.  |

#### Group 2 (from the sides, pictures C,D and E)

- |   |  |
|---|--|
| 2.1 Lower part of front suspension bracket              | Spray from outside through drive shaft aperture to joints in floor                       |
| 2.2 Doors   | Spray in bottom section and about 100 mm up along the sides                              |
| 2.3 B-pillar (5-D)                                      | Spray through plug   |
| 2.4 Side panel in bottom section (3-D)                  | Spray downwards, forwards and backwards  |
| 2.5 Side panel-wheel housing-joint, front section (3-D) | Apply from highest point in joint. Long spray pipe required.                             |
| 2.6 Side panel - wheel housing - end plate (5-D)        | Spray downwards and backwards towards the joint between the side panel and wheel housing |
| 2.7 From rear of sill member                            | Spray through plug   |
| 2.8 Rear wheel housing member                           | Spray through the two plugs  |

### Caution

If sprayed upwards, agent likely to get on the seat belt inertia reel.

### Group 3 (from the rear, picture E)

- |   |  |
|---|--|
| 3.1 Side panel - wheel housing -joint, rear section | Up to 1980 models: Spray through holes in the wheel arch trim and inner side panel.<br>As from 1981 models: Fold back the rear section of the side trim and spray through the hole in the inner side panel. Long spray pipe required |
| 3.2 Luggage compartment door                        | Spray through hole in lower corner of door.  |

### Group 4 (from underneath, pictures A and F)

- |   |  |
|---|--|
| 4.1 Underneath of front reinforcement members                           | Spray towards the joint through the hole in the engine compartment floor |
| 4.2 Engine compartment floor under battery                              | Spray through hole in floor  |
| 4.3 Rear corner of engine compartment floor, bulkhead and wheel housing | Spray through hole in floor  |
| 4.4 Reinforcement section on Z section members                          | Spray internally   |
| 4.5 Jacking points  | Spray in joints internally   |
| 4.6 Sill members  | Spray through plug in front end  |
| 4.7 Cross member  | Spray through plug towards both sides.                                   |

### **B Thicker (non-penetrating) rust preventive oil**

- |                                  |   |
|----------------------------------|---|
| 4.8 Underbody and wheel housings | Fit rear plugs in sill members. Spray any exposed metal and panel joints. Pay particular attention to areas around Z section beams. Spray underbody and wheel housings, bottom of doors and side panels with thick oil. |
|----------------------------------|---|

### **Completing the work**

Fit solid plugs.

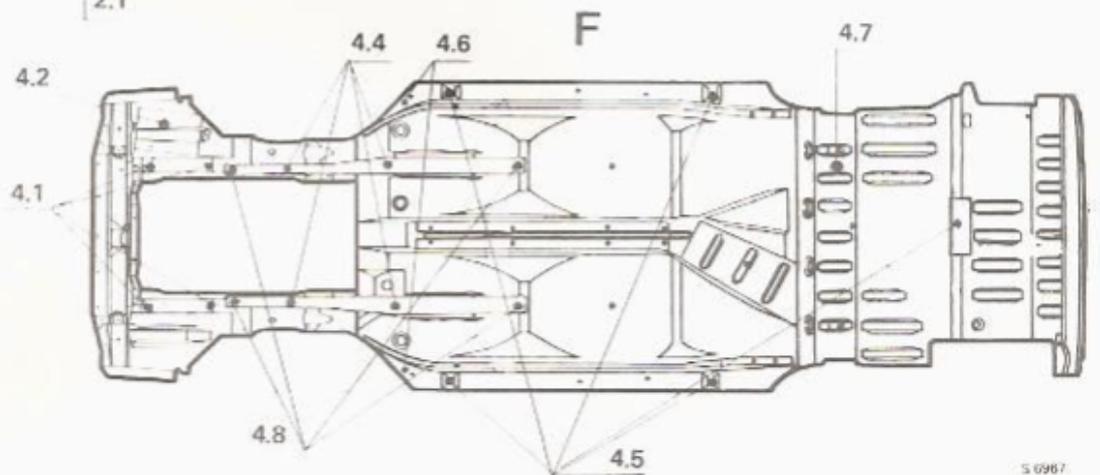
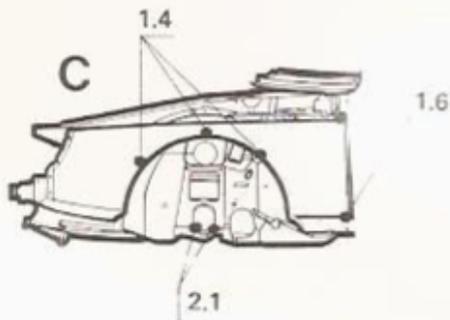
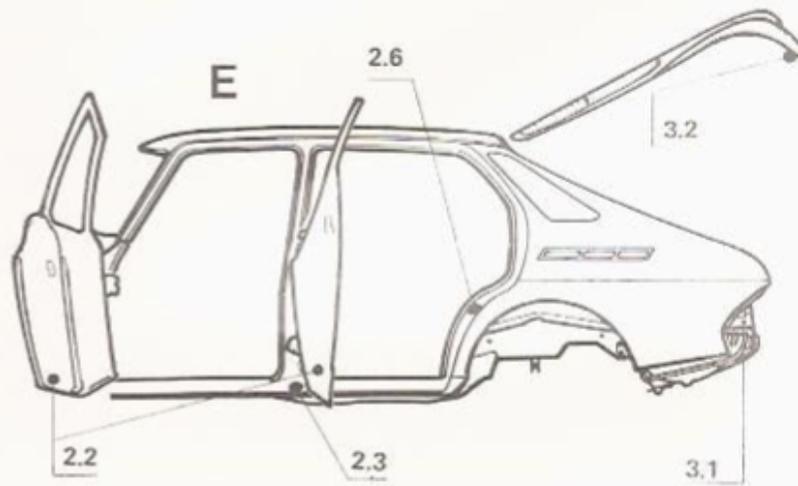
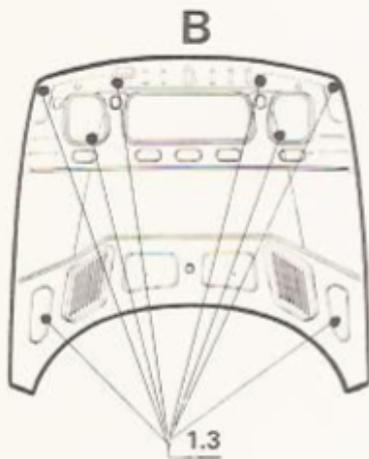
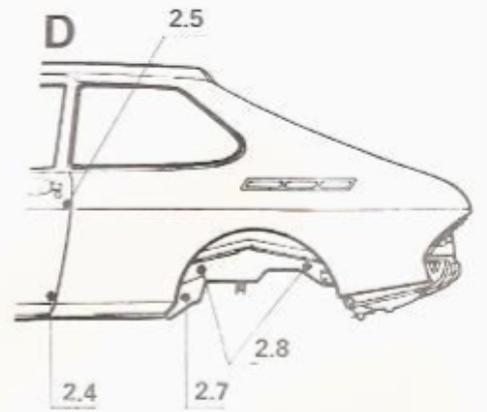
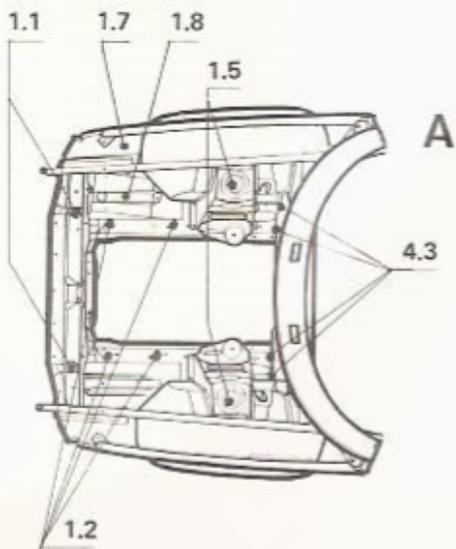
Remove the covers protecting the brake discs and any oil that may have splashed onto the discs.

Fit the wheels. Never tighten using pneumatic nut tighteners.

Check that the oil has not run onto the floor inside the car. Replace the carpeting and fit the scuff plates.

Refit the grille in the right-hand side trim and replace the spare wheel.

Clean off any from the paintwork.



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Saab-Scania AB  
Saab Car Division  
Nyköping, Sweden

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