



PART 1
LUBRICATION
P 120, P 1800

CARS

**SERVICE
MANUAL**

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INSTRUCTIONS FOR OIL CHANGING

ENGINE

With a new or reconditioned engine, the oil should be changed after the first 2 500 km (1 500 miles). Subsequent changes will be according to the intervals below, or at least every 6 months.

The oil changing intervals for the engine will largely depend upon the driving conditions and may be the following. For **light** driving conditions, that is, long-distance highway or motorway driving with the engine thoroughly warm and without frequent stopping and starting, the oil should be changed every 5 000 km (3 000 miles). For **normal** driving conditions, that is, relatively short driving distances where the engine has had time to get warmed up but cools in between, this giving rise to cold sludge due to condensation of water vapour in the crankcase, the oil should be changed every 2 500 km (1 500 miles) during the cold months and every 5 000 km (3 000 miles) during the rest of the year. For **demanding** driving conditions, for example, continuous driving in city traffic with incessant stopping and starting and lengthy periods idling, the oil should be changed every 2 500 km (1 500 miles).

The oil should be drained immediately after driving while the engine is still warm. For draining the oil, there is a plug. See Fig. 1. After all the oil has run out, check the washer and screw on the plug tightly. Filling is done through the rocker arm casing after removal of the filling cap.

Concerning viscosity, multigrade oil 10 W—30 is primarily recommended. At very low temperatures (below -20°C , -4°F) or when cold-starting difficulties are anticipated, multigrade oil SAE 5 W—20

is recommended. If multigrade oil is not used, the viscosity should be SAE 10 W below -10°C (14°F), SAE 20/20 W between -10°C (14°F) and 30°C (87°F), and SAE 30 for above 30°C (87°F), all this presuming constant air temperature.

For the B 16 engine, the oil changing quantity is 2.75 litres (4 7/8 Imp. pints = 5 3/4 US pints), and for the B 18 it is 3.25 litres (6 Imp. pints = 7 1/4 US pints). If the oil filter is changed at the same time, the corresponding quantity for the B 16 is 3.5 litres (6 1/4 Imp. pints = 7 1/2 US pints) and 3.75 litres (7 Imp. pints = 8 1/2 US pints) for the B 18.

Carburettor(s)

When changing the oil in the engine, check to make sure that the oil level in the carburettor(s) reaches up to about 6 mm (0.24") from the top of the spindle. If this is not the case, top up with oil approved as "Oil for Automatic Transmissions, Type A".

GEARBOX (WITHOUT OVERDRIVE)

The oil should be changed after every 40 000 km (25 000 miles). In the case of a new or reconditioned gearbox, the oil should also be changed and the gearbox flushed out after the first 5 000 km (3 000 miles).

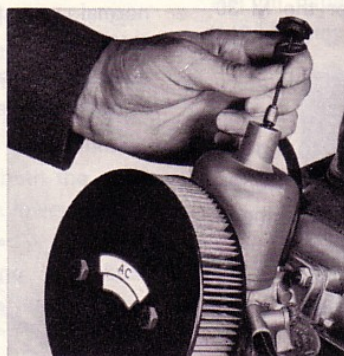
The oil should be drained off immediately after the car has been driven and while the oil is still warm. When draining the oil, remove the plugs marked 1 and 2 in Fig. 3.

When flushing, gear oil is added through the filter hole (1, Fig. 3) after the drain plug has been screwed back into position. The engine should then be allowed to run for a few minutes with one



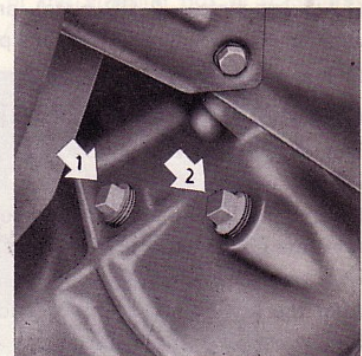
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Fig. 1. Drain plug on sump



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Fig. 2. Checking oil level in
centre spindle



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Fig. 3. Gearbox

1. Filling plug 2. Drain plug

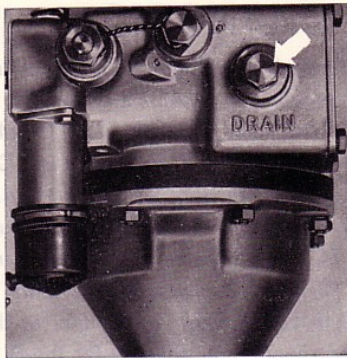


Fig. 4. Drain plug on overdrive

of the gears engaged and both the rear wheels jacked up. The engine should then be stopped, the rear wheels lowered and the flushing oil drained out.

WARNING. On vehicles equipped with differential brake, on no account must one wheel only be lifted since this transfers torque to the wheel which is in contact with the ground and means that the vehicle can fall down off the jack.

Fill up with new oil after the drain plug (2) has been screwed tightly back into position. The oil should reach up to the filling hole (1). Screw the filling plug tightly back into position.

Gear oil SAE 80 is used for the gearbox all year round. Gear oil SAE 80 is normally used for the gearbox. At continuous air temperatures above 30° C (87° F), however, SAE 90 should be used. Where it is difficult to obtain gear oil SAE 80, engine oil SAE 30 or multigrade oil SAE 20 W—40 can be used. Note that **hypoid oil must not be used.**

The oil changing quantity for the H 6 is 0.5 litre (1 imp.pint = 1 1/4 US pints), for the M 4 0.9 litre (1 1/2 Imp.pints = 2 US pints), and for the M 30 and M 40, 0.75 litre (1 1/4 Imp.pints = 1 1/2 US pints).

GEARBOX WITH OVERDRIVE

The oil should be changed after every 40 000 km (25 000 miles). In the case of a new or reconditioned gearbox, the oil should also be changed after the first 5 000 km (3 000 miles).

The old oil should be drained off immediately after the car has been driven and while the oil is still warm. The plugs marked 1 and 2 in Fig. 3 are opened as well as the drain plug (Fig. 4). The oil strainer is also cleaned, see page 7.

Fill up with new oil when the drain plugs have been screwed tightly back into position. Fill slowly so

that oil has time to run over into the overdrive. The oil should reach up to the filling hole (1, Fig. 3). Screw the filling plug tightly back into position. For a gearbox with overdrive engine oil SAE 30 is used all year round. Alternatively multigrade oil SAE 20 W—40 can be used. The oil changing quantity is 1.6 litres (2 7/8 Imp.pints = 3 3/8 US pints).

AUTOMATIC TRANSMISSION

Oil changing normally only needs to be done when the transmission is reconditioned. On the other hand, the oil level should be checked after every 5 000 km (3 000 miles).

When checking the oil level, the transmission should be at the normal operating temperature, which is reached after driving for about 10 km (6 miles). The vehicle should stand level. Move the selector lever to position "P" and let the engine run at idling speed. Wipe off the dipstick with a nylon cloth, chamois leather or paper. Do not use waste or fluffy rags. Push down the dipstick, pull it up and check the oil level, see Fig. 5. If necessary, top up with oil until the level reaches the "Max." mark. Do not fill above this mark, as this can cause the transmission to become overheated. The difference between the "Min." and "Max." marks is about 0.5 litre (1 pint). For topping up, use "Oil for Automatic Transmissions, Type A."

If frequent topping up is found to be necessary, this indicates leakage which must be put right immediately.

If it is necessary to top up a cold transmission after repairs have been carried out, the following must be observed. The oil level must not be higher than 10 mm (0.4") below the "Max." mark on the dipstick, see Fig. 5. After topping-up, the vehicle is driven until the transmission has reached normal operating temperature, i.e. 100—115° C (212—240° F). The oil level is then checked and adjusted if necessary in accordance with the instructions given above.

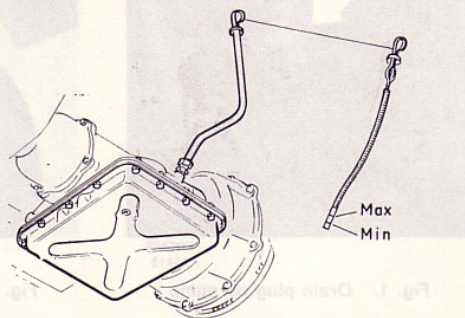


Fig. 5. Checking the oil level

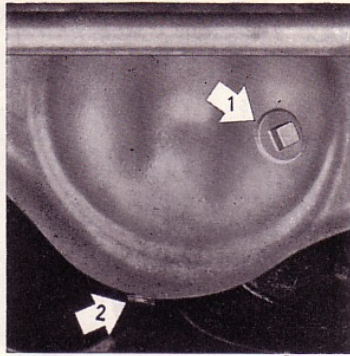


Fig. 6. Rear axle (ENV),
early production

1. Filling plug 2. Drain plug

FINAL DRIVE

With a new or reconditioned final drive, the oil should also be changed and flushing carried out after the first 5 000 km (3 000 miles). Subsequently, the oil need only be changed after reconditioning concerning a late prod. type final drive (Fig. 7). For a final drive of early prod. type (Fig. 6), the oil should be changed every 40 000 km (25 000 miles). Oil changing should preferably be done immediately after the vehicle has been driven and while the oil is still warm. Draining is carried out by removing the plug (2, Fig. 6), when the filling plug (1) should also be screwed out. If there is no drain plug (Fig. 7) fitted on the final drive, the oil must be sucked out through the filling hole. It can also be emptied by removing the cover, but in this case the utmost cleanliness must be observed in order to prevent dirt from getting into the final drive. Check that the cover gasket is in good condition, otherwise replace it.

As in the case of the gearbox, it is recommended that flushing oil is used now and again, for example, in connection with every other oil change. This is added through the filling hole after the drain plug has been screwed into position. The engine is then allowed to run for a few minutes with one of the gears engaged and both the rear wheels jacked up. The vehicle is then lowered and the flushing oil drained off.

N.B. The warning under the heading "Gearbox without overdrive" also applies when flushing out the final drive.

Fill up with new oil after the drain plug or cover has been fitted. The oil should reach up to the level hole and the oil changing quantity is approx. 1.3 litres (2 1/4 Imp.pints = 2 3/4 US pints). Hypoid

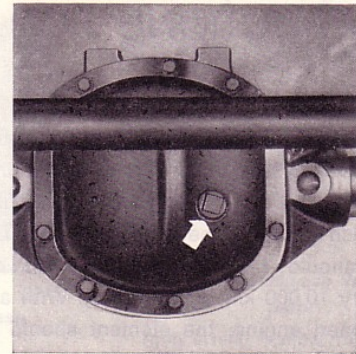


Fig. 7. Final drive (Spicer)

oil SAE 90 is normally used in the final drive. Where the temperature is continuously below -10°C (14°F), SAE 80 should be used.

In the case of a final drive fitted with differential brake, a transmission oil is filled at the factory which is in accordance with the American Military standard MIL-L-2105 B, provided with additive for final drives with differential brake. When topping up or changing, use oil according to MIL-L-2105 or MIL-L-2105 B provided with the above-mentioned additive. Check the oil level and change the oil at the same intervals and in the same way as for a final drive without differential brake.

STEERING SYSTEM

It is not normally necessary to change the oil in the steering box except after reconditioning has been carried out. However, should the oil have to be changed for any reason, the old oil can be sucked out by using a suitable device, for example, an oil syringe, which is inserted through the filling hole, or the steering box can also be removed and emptied. Hypoid oil SAE 80 is used all year round. The oil capacity of the steering box is 0.25 litre (1/2 Imp.pint = 5/8 US pint).

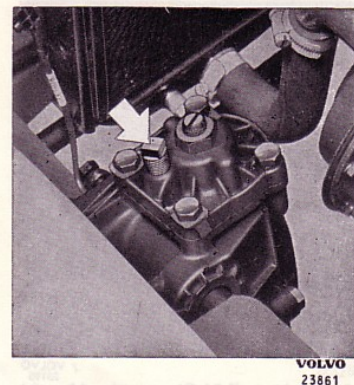


Fig. 8. Steering box filling plug

INSTRUCTIONS FOR LUBRICATING AND CLEANING

OIL FILTER

The oil filter is of the fullflow type, i.e. all the oil passes through the filter while circulating. Any impurities in the oil are trapped by the filter element, which gradually becomes blocked. The filter element should therefore normally be changed after every 10 000 km (6 000 miles). With a new or reconditioned engine, the element should also be changed after the first 5 000 km (3 000 miles).

Use only genuine Volvo parts.

Replacing the oil filter element or complete oil filter respectively is carried out as follows.

B 16 engine (P 120 early prod.)

1. Clean the oil filter housing and the surrounding parts of the engine in order to prevent dirt from getting into the lubricating system when the filter is removed.
2. Loosen the centre bolt (Fig. 9) and collect up the oil that runs out.
3. Take off the oil filter. Remove the old filter element (6, Fig. 10) and wash the housing in white spirit or similar.
4. Fit a new gasket (9) and make sure that the intermediate plate (7) is placed so that the hole marked "UP" comes at the top. Check that the sealing parts are fitted on the centre bolt and fit the filter element (6) and housing. Make sure that the housing locates properly in its guide in the bracket. Tighten the centre bolt (1) to a torque of 2 kpm (15 lb.ft.).
5. If the filter element is replaced without the engine oil being changed at the same time, top up afterwards with 0.75 litre (1 1/4 Imp.pints =

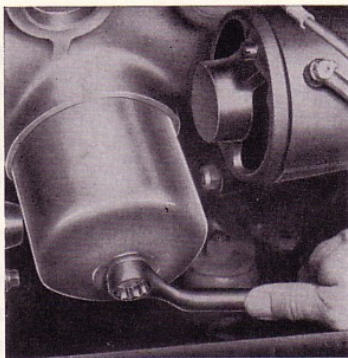


Fig. 9. Removing the oil filter (B 16)

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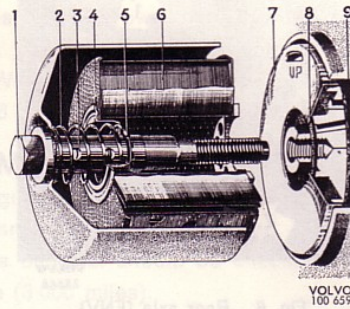


Fig. 10. Oil filter (B 16)

- | | |
|--------------------------|-----------------------|
| 1. Centre bolt with seal | 6. Element |
| 2. Spring | 7. Intermediate plate |
| 3. Relief valve | 8. Gasket |
| 4. Sealing sleeve | 9. Gasket |
| 5. Lock washer | |

1 1/2 US pints) of oil. Check for oil leakage after the engine has been started.

B 18 engine

1. Remove the old filter with the help of chain tongs as shown in Fig. 11.
2. Coat the rubber gasket on the new filter with oil and make sure that the contact surface for the filter is free from dirt. The coating of oil enables the gasket to slide better against the sealing surface. Screw on the filter by hand until it just touches the block.
3. Tighten the oil filter a further half turn by hand. No tool should be used when fitting.
4. If the filter is replaced without the engine oil being changed at the same time, top up with 0.5 litre (1 Imp. pint = 1 1/4 US pints) of oil. Start the engine and check that the joint does not leak.

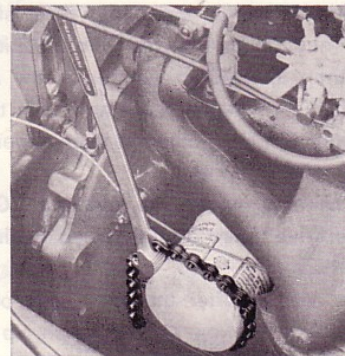


Fig. 11. Removing the oil filter (B 18)

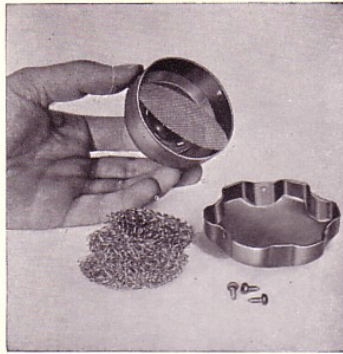


Fig. 12. Oil filling cap

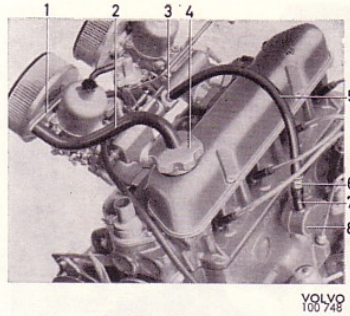


Fig. 13. Positive crankcase ventilation

- | | |
|----------------------|----------------|
| 1. Intermediate part | 5. Rubber hose |
| 2. Rubber hose | 6. Valve |
| 3. Nipple | 7. Rubber hose |
| 4. Oil filling cap | 8. Oil trap |

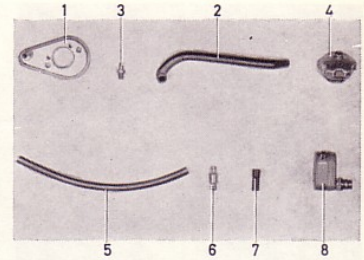


Fig. 14. Crankcase ventilation parts

(concerning number references, see Fig. 13)

CRANKCASE VENTILATION

In order for the crankcase ventilation system to function satisfactorily, the filter in the oil filling cap should be removed and cleaned after every 10 000 km (6 000 miles). The cap is removed, the three screws (Fig. 12) unscrewed and the cover lifted off. The filter is cleaned in white spirit dried and then moistened with light oil. Before fitting the cap, check and replace the gasket if necessary. On engines with positive crankcase ventilation (Fig. 13), the valve (6) should be replaced every 40 000 km (25 000 miles). At the same time, the oil trap (8), hoses, nipple (3) and intermediate part (1) should be removed and thoroughly cleaned. If the hoses are damaged, they must be replaced. The oil filling cap filter should also be cleaned as described above.

AIR CLEANER

The oil filling cap filter is cleaned according to above. In order to function correctly, the air cleaner

ner should be cleaned or replaced respectively at regular intervals. Different types of air cleaner are used and the servicing procedure and intervals vary as described below.

It should be noted that when driving in dusty conditions it may be necessary to shorten the length of the intervals. Abnormal fuel consumption or weak engine may be a sign of a blocked air cleaner. If this is the case, clean or replace the element irrespective of the distance driven.

Air cleaner with wire filter

The element should be cleaned every 5 000 km (3 000 miles).

In the case of the single-carburettor type (Fig. 15), the air cleaner does not need to be removed when cleaning. The nut for the cover is unscrewed and the cover removed. The cleaner element is then taken out (see Fig. 15) and cleaned in white spirit. After the element has dried, soak it in engine oil, which should be allowed to run off before fitting.



Fig. 15. Removing the air cleaner element (B 16 A)

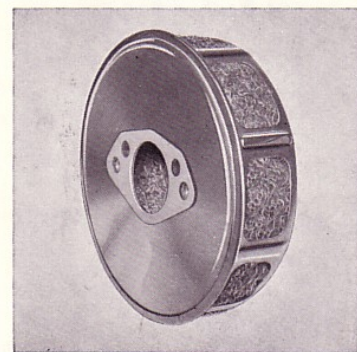
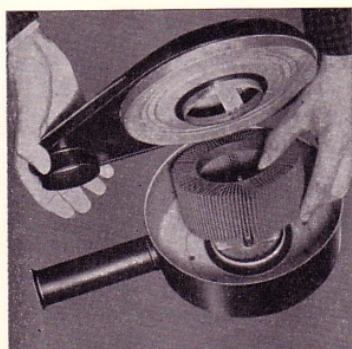
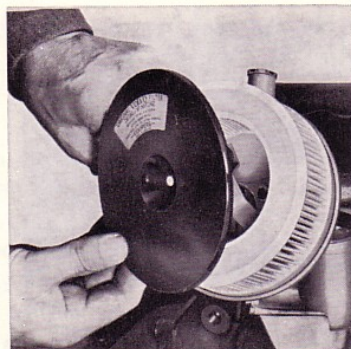


Fig. 16. Air cleaner (B 16 B, early production)



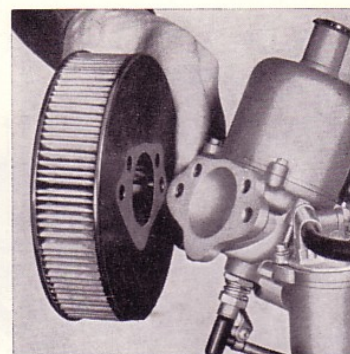
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Fig. 17. Replacing the air cleaner element



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Fig. 18. Replacing the air cleaner element (right-hand drive)



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Fig. 19. Replacing the air cleaner

In the case of wire filter air cleaners for twin carburettors (Fig. 16), the cleaners are removed and washed in petrol (gasoline). The cleaner is then soaked in light engine oil which should be allowed to run off before fitting. When fitting, make sure that the air cleaner ventilation holes come opposite the corresponding holes in the gasket and carburettor.

Air cleaner with paper filter WITH REPLACEABLE ELEMENT

The element should be replaced with a new one every 20 000 km (12 500 miles).

With the type shown in Fig. 17, the wing nut is unscrewed as well as the upper hose clip. Remove the upper part and replace the element after having cleaned the inside of the cleaner with a damp rag.

When fitting make sure that the gaskets are undamaged.

With the type of air cleaner shown in Fig. 18, the wing nut is unscrewed and the cover removed, after which the element is replaced. Make sure that the contact surfaces for the element are clean.



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Fig. 20. Replacing the air cleaner

Take care that no dirt can get into the air intake or on the inside of the element. N.B. On no account must the elements be moistened or oiled.

WITH NON-REPLACEABLE ELEMENT

There are two different types of air cleaner. The type shown in Fig. 19 should be replaced every 20 000 km (12 500 miles). The type shown in Fig. 20 should be replaced every 40 000 km (25 000 miles). These types are manufactured with the filter and casing as a single unit, so that they should be replaced complete, the old one being discarded. **Air cleaners with paper filters must not be washed or oiled.** When fitting, check that the seal against the carburettor is undamaged. In the case of the twin-carburettor type, make sure that the ventilation holes come opposite the corresponding holes on the carburettor, see Fig. 19.

With foam plastic sleeve

Vehicles intended for particularly dusty driving conditions are fitted with air cleaners provided with a foam plastic sleeve. This sleeve should normally be cleaned or replaced every 20 000 km (12 500 miles). Every 80 000 km (50 000 miles) the paper filter should also be replaced.

To clean, remove the foam plastic sleeve from the air cleaner and then give it a shake to dislodge any loose particles. Place the sleeve in a bath containing one of the four following solutions: Warm soapy water; warm water containing a washing agent which does not lather or has a low lather content; paraffin (kerosene); or fuel oil. Squeeze the sleeve in the solution until it is clean and then rinse it in clean water and dry it, but not under direct heat. Before installing the sleeve, dip it



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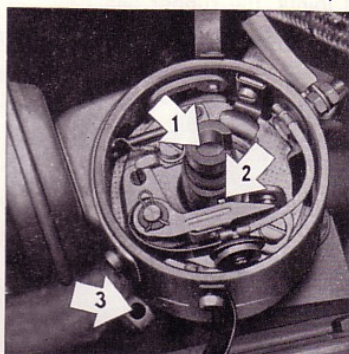
Fig. 21. Dismantling the air cleaner (B 16 A, B 18 A)

in about 15 cm³ oil SAE 30 and squeeze it until the oil is distributed over the entire sleeve. Any surplus oil can be removed by rolling the sleeve in a clean cloth. The sleeve should be fitted on the cleaner without touching the paper folds. The bevelled edges of the sleeve should lie above the filter edge round the entire circumference. The paper filter is changed according to the instructions given previously. **The filter must not be washed or oiled.**

Oil-bath type air cleaner

Cleaning should be done every 10 000 km (6 000 miles).

The complete cleaner is removed and then dismantled as shown in Figs. 21 and 22. The old oil is emptied out, after which the cleaner housing and element are washed in white spirit and blown dry with compressed air. Engine oil of the same type as used in the engine is filled in until it comes up to the level mark in the inner container. Oil must never be poured into the actual lower part of the



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Fig. 23. Distributor

1. Lubricating wick for ignition advance mechanism
2. Contact surface of cam
3. Lubricating cup for distributor shaft



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Fig. 22. Dismantling the air cleaner (B 16 B, B 18 D)

air cleaner. The cleaner is then assembled and fitted.

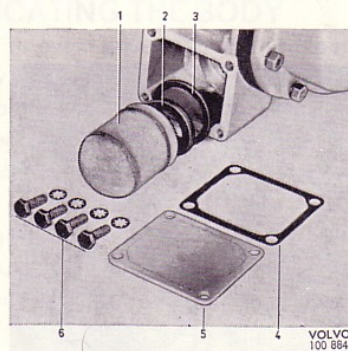
DISTRIBUTOR

The distributor shaft, cam and ignition advance mechanism should be lubricated every 10 000 km (6 000 miles). The distributor shaft is lubricated by filling the oil cup (3, Fig. 23) with engine oil. Close the cup after filling. The contact surface of the cam disc (2) is lubricated with a thin layer of grease Bosch Ft 1 v 4 or similar. The ignition advance mechanism is lubricated by applying 2—3 drops of light engine oil (SAE 10 W) to the wick (1) on the distributor shaft.

CLEANING THE OVERDRIVE OIL STRAINER

The oil strainer should be cleaned in conjunction with every oil change. After the oil has been drained through the drain hole (Fig. 4), cleaning is carried out as follows:

1. Remove the cover (5, Fig. 24). Take out the oil strainer (1) and the magnetic washers (2),



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Fig. 24. The overdrive oil strainer

- | | |
|----------------------------|---------------------|
| 1. Oil strainer | 4. Gasket for cover |
| 2. Magnetic washers | 5. Cover |
| 3. Gasket for oil strainer | 6. Bolts |

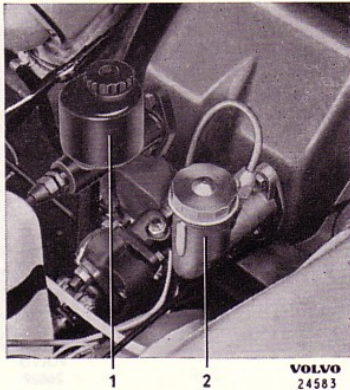


Fig. 25. Brake fluid container
1. Brake 2. Clutch

see Fig. 24. Clean the oil strainer in petrol (gasoline) or with spirit. Blow dry with compressed air.

2. Check that the gasket (3) is in good condition. Turn the steel-lined side towards the housing and place the gasket in position.
3. Place the three magnetic washers together (late prod.) so that they adhere to one another by virtue of their magnetic force.
4. Fit the oil strainer (1), the magnetic washers (2), new gasket (4) and the cover (5).

CHECKING THE BRAKE FLUID LEVEL

Every 5 000 km (3 000 miles) check that the fluid level in both the containers (Fig. 25) reaches up to 15—20 mm (5/8—3/4") below the edge of the filling opening.

Top up if necessary with first-class brake fluid conforming with specification SAE 70 R 3. Avoid spilling brake fluid onto the paintwork, as this can cause damage.

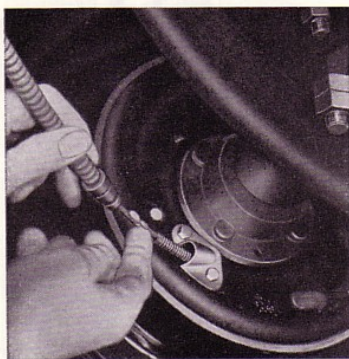


Fig. 27. Lubricating the handbrake cable

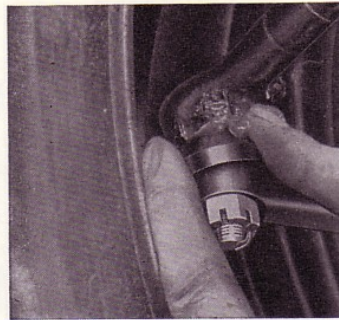


Fig. 26 Lubricating ball joint, early production

LUBRICATING THE HANDBRAKE CABLE

The handbrake cable with outer casing (late production) should be lubricated a couple of times a year. Loosen the front and rear attachments of the outer casing and move it backwards and forwards while applying graphite grease to the cable, see Fig. 27.

LUBRICATING PLASTIC-LINED BALL JOINTS

There are no grease nipples on the tie rod and steering rod since they are equipped with plastic-lined ball joints. On early production vehicles fitted with rubber seals without lock ring, these should be turned down and filled with chassis grease once a year when fitting, see Fig. 26.

On late production vehicles the upper and lower ball joints are also plastic-lined and thus do not have grease nipples. Since sealing is extremely important with regard to the lifetime of the plastic-lined ball joints, the rubber seals should be checked every 10 000 km (6 000 miles) for damage. If



Fig. 28. Lubricating the drive cable

they are cracked or damaged in any other way, they should be replaced, see Part 6. On fitting, fill the rubber seals with universal grease.

LUBRICATING THE SPEEDOMETER DRIVE CABLE (P 1800)

The speedometer drive cable on the P 1800 should be lubricated every 20 000 km (12 500 miles) or once a year. It is important when lubricating the drive cable that lubricant does not penetrate to the instruments and impair their function. Oil, therefore, is not suitable as a lubricant here. Lubrication is as follows: Disconnect the drive cable from the speedometer and pull it out of the sleeve about 20 cm (8"), see Fig. 28. Wipe the cable and apply a thin layer of universal grease. Push the cable into the sleeve and fit it to the speedometer.

LUBRICATING THE WHEEL BEARINGS

In connection with any workshop operations which result in the wheel bearings being exposed, the bearings should be removed, cleaned and greased with a high-class, durable grease according to the instructions given below. Subsequent adding or replacing of grease is not to be done. Removing is done in accordance with the instructions in Part 7 of the Service Manual.

After the bearing and seal have been removed, clean the hub and grease cap thoroughly. Make sure that all old grease is removed from inside the hub. It is advisable to use compressed air for preliminary cleaning of the bearings. The bearing parts are then washed in white spirit or similar and then allowed to dry. Compressed air should not be used for drying since it often contains moisture and dust particles. Accessible bearing parts should be wiped with linen or cotton rags (not waste). A new bearing in a sealed carton should not be cleaned.

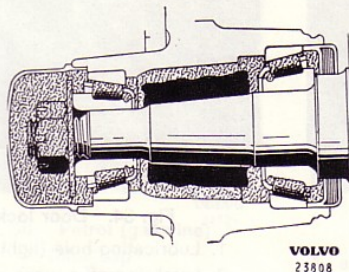


Fig. 29. Front wheel bearings

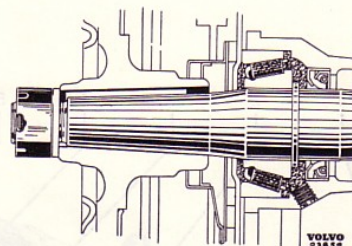


Fig. 30. Rear wheel bearings

Inspect all parts carefully after cleaning. If there are any signs of damage, rust or blueing on the bearing races or rollers, replace the bearing. If the outer or inner rings are loose, test with a new ring. If the play does not disappear, the hub or axle respectively must be replaced. The seals must be replaced if they are worn or damaged.

Use only a high quality lithium base multi-purpose grease for lubricating the wheel bearings. A pressure greaser should be used for effective lubrication of the wheel bearings. Follow the instructions of the manufacturer concerned carefully. If no pressure greaser is available, pack the bearings by hand with as much grease as there is room for between the roller retainer and inner race. Also apply grease on the outside of the rollers and retainers. The space in the hub between the outer and inner bearings is filled with grease as shown in figs. 28 and 29.

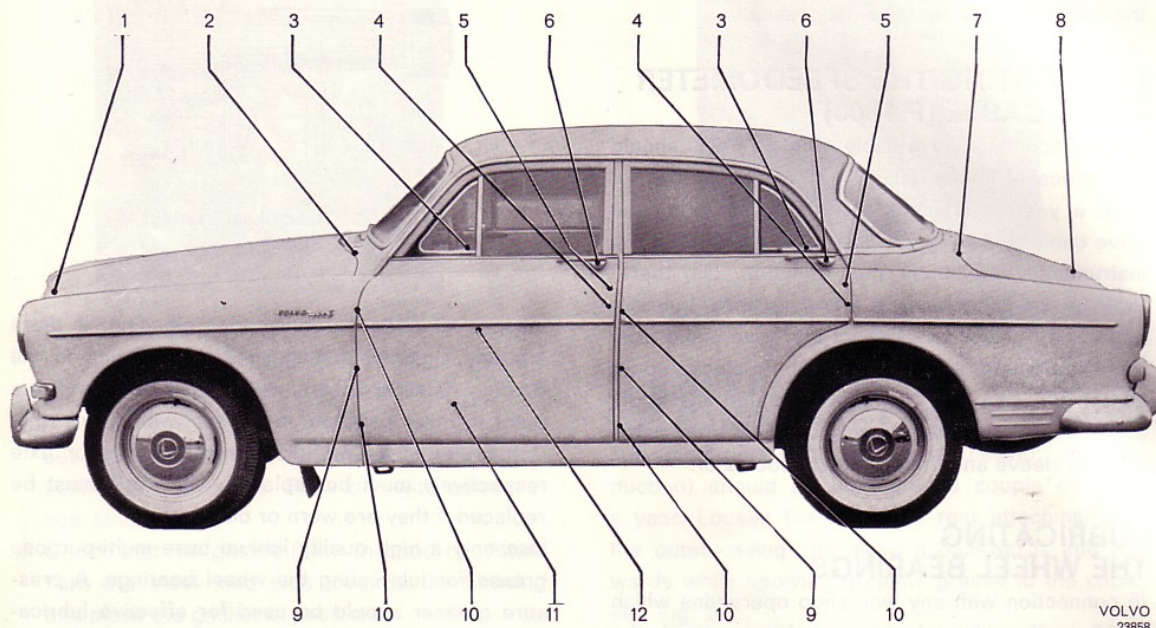
Fitting is done in accordance with the instructions in Part 7.

Before fitting, the wheel hub felt rings should be well oiled with, for example, light engine oil.

LUBRICATING THE BODY

In order to avoid squeaking and unnecessary wear, the body should be lubricated as described below. The door locks and door handle lock buttons should be lubricated about every 10 000 km (6 000 miles) and other parts of the body about once a year. In addition, during winter the door handle and luggage compartment lid licks should be treated with a suitable anti-freeze agent in order to prevent them from freezing up.

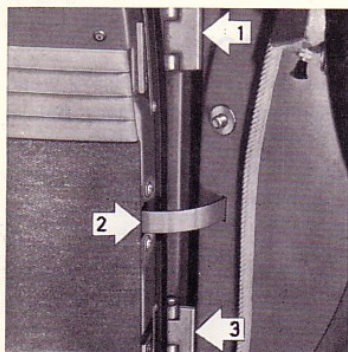
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Fig. 31. Lubricating points on the body

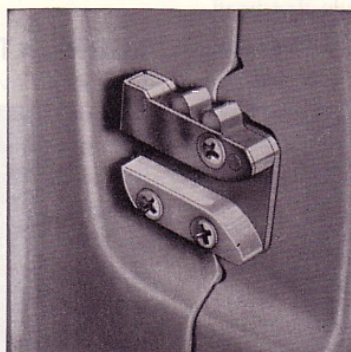
No. Lubricating point	Lubricant	No. Lubricating point	Lubricant
1. Bonnet catch	Paraffin wax	8. Luggage compartment lid lock	Oil
2. Bonnet hinges	Oil	Keyhole	Lock oil
3. Ventilation window catch and hinges	Oil	9. Door stops	Paraffin wax
4. Door catch	Paraffin wax	10. Door hinges	Oil
5. Door lock	See Fig. 34	11. Front seat slide rails and catches	and oil
6. Door handle lock buttons	Paraffin wax	12. Windows winders	Oil and grease
Keyholes	Lock oil	Locks	Lock grease
7. Luggage compartment lid hinges	Oil	(Accessible after the door upholstery panels have been removed.)	



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Fig. 32. Hinges

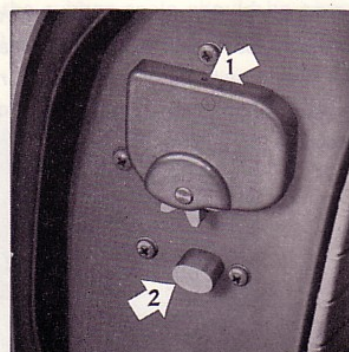
1. Hinge (light oil)
2. Door stop (paraffin wax)
3. Hinge (light oil)



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Fig. 33. Striker plate

Apply paraffin wax



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Fig. 34. Door lock

1. Lubricating hole (light oil)
2. Latch (paraffin wax)

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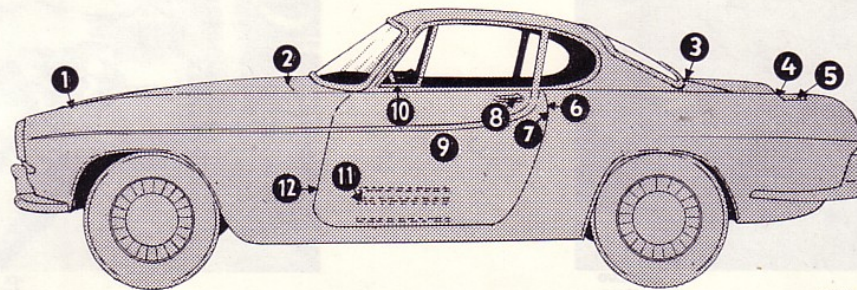


Fig. 35. Lubricating points on the body

No. Lubricating point	Lubricant	No. Lubricating point	Lubricant
1. Bonnet hinges	Oil	9. Remote control, pull link, lock and window winder (accessible after the door upholstery panel has been removed)	Lock grease for rails and pulleys
2. Bonnet catch	Paraffin wax	10. Ventilation window lock and hinge	Oil
3. Luggage compartment lid hinges	Oil	11. Front seat slide rails and catches	See Fig. 37
4. Luggage compartment lock button	Paraffin wax	12. Door hinges	See Fig. 38
5. Petrol (gasoline) filler cap	See Fig. 36		
6. Door catch	Paraffin wax		
7. Door lock	See Fig. 34		
8. Door handle lock button	Paraffin wax		
Keyhole	Lock oil		

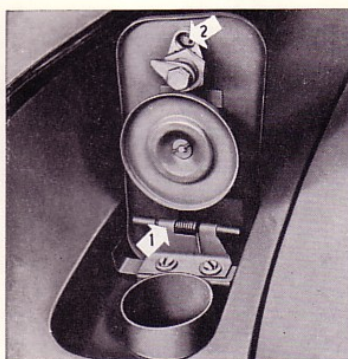


Fig. 36. Petrol (gasoline) filler cap

- 1. Hinge (light oil)
- 2. Lock device (lock oil)

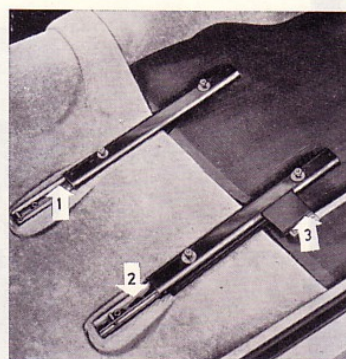


Fig. 37. Seat rails

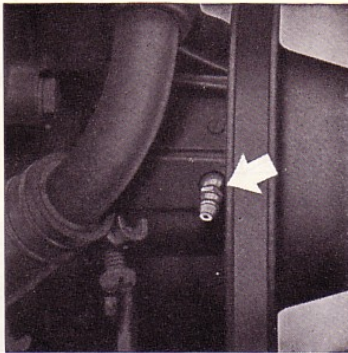
- 1. and 2. Slide rails (paraffin wax)
- 3. Catch device (light oil)



Fig. 38. Door hinges

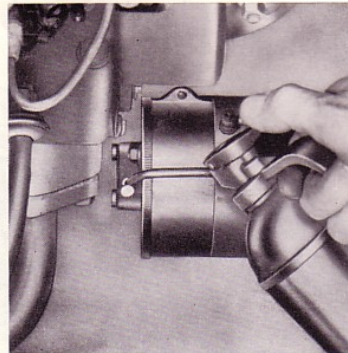
- 1. and 2. Hinges (light oil)
- 3. Door stop (paraffin wax)

Special illustrations showing lubricating points mentioned in lubricating chart



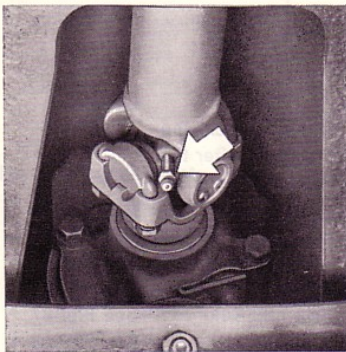
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Fig. 39. Coolant pump grease nipple (B 16)



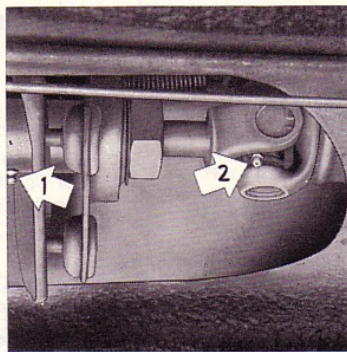
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Fig. 40. Dynamo (B 16 A, B 18 A)



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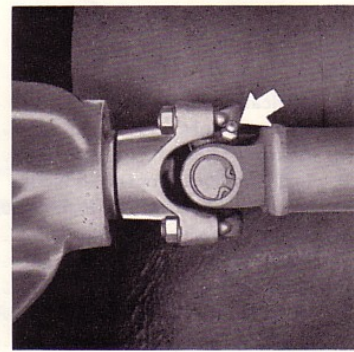
Fig. 41. Front universal joint
(early prod.)



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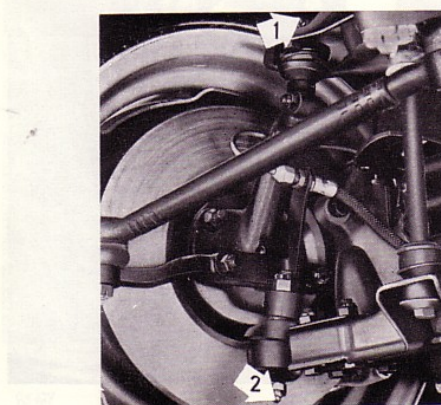
Fig. 42. Intermediate universal joint

1. Splined joint 2. Universal joint



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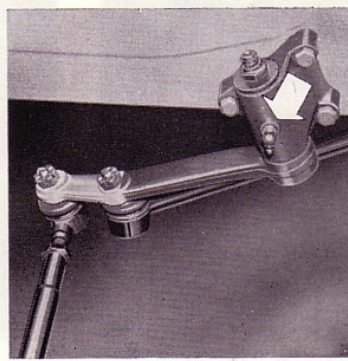
Fig. 43. Rear universal joint
(early production)



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Fig. 44. Ball joints (early prod.)

1. Upper ball joint 2. Lower ball joint



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Fig. 45. Relay arm (late production)

INSTRUCTIONS FOR LUBRICATING CHART

Symbols



Engine oil

Grade: For Service MS
Viscosity: Multigrade SAE 10 W—30
See also page 1.



Final drive oil

Grade: Hypoid oil
Viscosity: above -10°C (14°F) SAE 90
below -10°C (14°F) SAE 80

Does not apply to final drive with differential brake, see page 3.

Quality SAE 70 R 3



Chassis lubricant



Lubricant, see respective note



Light engine oil



Brake fluid

Quality SAE 70 R 3

Oil changing quantities

B 16 engine,	
not including oil filter	approx. 2.75 litres (4 7/8 Imp.pints = 5 3/4 US pints)
including oil filter	approx. 3.5 litres (6 1/4 Imp.pints = 7 1/2 US pints)
B 18 engine,	
not including oil filter	approx. 3.25 litres (6 Imp.pints = 7 1/4 US pints)
including oil filter	approx. 3.75 litres (7 Imp.pints = 8 1/2 US pints)
Gearbox,	
without overdrive, H 6	approx. 0.5 litre (1 Imp.pint = 1 1/4 US pints)
without overdrive, M 4	approx. 0.9 litre (1 1/2 Imp.pints = 1 3/4 US pints)
without overdrive, M 30, 40 ..	approx. 0.75 litre (1 1/4 Imp.pints = 1 1/2 US pints)
with overdrive	approx. 1.8 litre (3 1/4 Imp.pints = 4 US pints)
automatic transmission	approx. 6.2 litres (11 Imp.pints = 13 1/4 US pints)
Final drive	approx. 1.3 litres (2 1/4 Imp.pints = 2 3/4 US pints)
Steering box	approx. 0.25 litre (3/8 Imp.pint = 1/2 US pint)

Other lubricating points

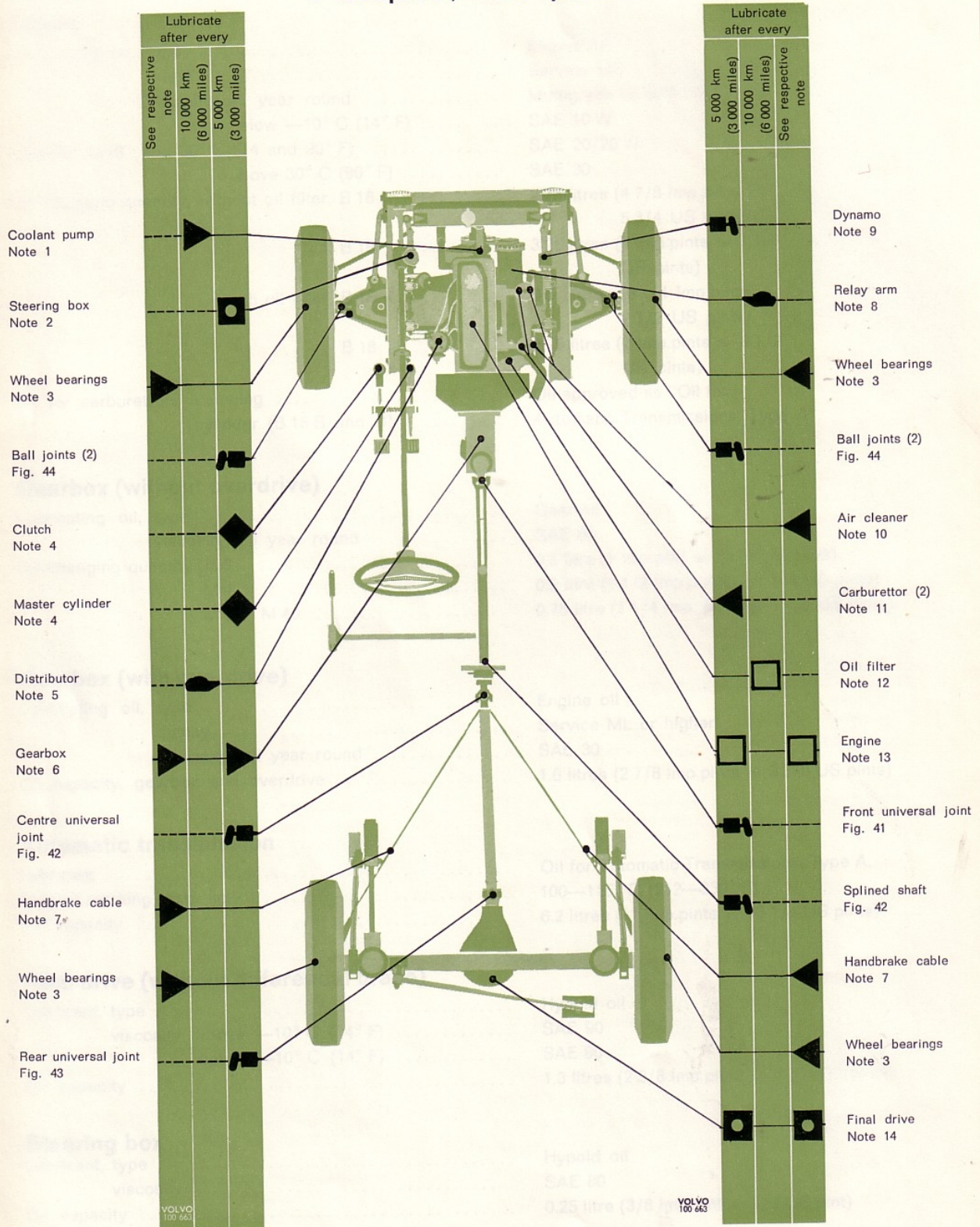
In addition to the points indicated in the lubricating chart, the chassis should be greased about once a year at all the joints for the throttle control linkage, handbrake, pedal linkages, etc.

Notes

- Note 1. Lubricate sparingly with heat-resistant grease through the nipple (Fig. 39). (Not on the B 18 engine.)
- Note 2. Check that the oil reaches up to the filling plug (Fig. 8). Use hypoid oil SAE 80 all year round.
- Note 3. In connection with any workshop operations which result in the wheel bearings being exposed, the bearings should be removed, cleaned and greased according to the instructions on page 9. Subsequent adding or replacing of grease should not be done on condition that a high-class, durable grease is used.
- Note 4. Check that there is sufficient brake fluid in the container, see page 8.
- Note 5. Lubricate the distributor in accordance with the instructions on page 7.
- Note 6. Every 5 000 km (3 000 miles) check that the oil reaches up to the filling plug. The oil should be changed after every 40 000 km (25 000 miles).
N.B. The quality of oil to be used depends on the type of gearbox, see pages 1 and 2.
- Note 7. Lubricate the handbrake cable with graphite grease a couple of times a year, see page 8.
- Note 8. If there is a grease nipple on the relay arm (Fig. 45), this is lubricated every 5 000 km (3 000 miles). If there is no grease nipple, the relay arm does not require lubricating.
- Note 9. Fill the lubricating cup, if fitted, with light engine oil. The lubricating cup is opened by turning the outer cap. Use an ordinary oil can (Fig. 40), not a force-feed can.
- Note 10. The air cleaner should be cleaned or changed respectively at regular intervals. There are different types of air cleaners, see pages 5 and 6 concerning the servicing procedure and length of intervals.
- Note 11. On vehicles with twin-carburettors, the carburettor damping cylinders should be filled with SAE 20 engine oil at every engine oil change, see page 1.
- Note 12. The element (B 16) or complete cleaner (B 18) should be replaced in accordance with the instructions on page 4.
- Note 13. Check the oil level when filling up with petrol. Change the oil according to the instructions on page 1.
- Note 14. Check every 5 000 km (3 000 miles) that the oil reaches up to the filling plug. The oil should be changed after every 40 000 km (25 000 miles), see page 3.
Concerning lubricant for final drive with the differential brake, see page 3.


LUBRICATING CHART EARLY PRODUCTION


P 120 up to K, P 1800 up to E





INSTRUCTIONS FOR LUBRICATING CHART


Symbols

 **Engine oil**
Grade: For Service MS
Viscosity: Multigrade SAE 10 W—30
See also page 1.

 **Final drive**
Grade: Hypoid oil
Viscosity: above -10°C (14°F) SAE 90
 below -10°C (14°F) SAE 80
Does not apply to final drive with differential brake, see page 3.

 Lubricant, see respective note

 Light engine oil

 Brake fluid
Grade: SAE 70 R 3

Oil changing quantities

Engine,	approx. 3.25 litres
oil changing quantity	(6 Imp.pints = 7 1/4 US pints)
including oil filter	approx. 3.75 litres
	(7 Imp.pints = 8 1/2 US pints)
Gearbox,	approx. 0.75 litre
without overdrive	(1 1/4 Imp.pints = 1 1/2 US pints)
with overdrive	approx. 1.6 litres
	(2 3/4 Imp.pints = 3 1/2 US pints)
automatic transmission	approx. 6.2 litres
	(11 Imp.pints = 13 1/4 US pints)
Final drive	approx. 1.3 litres
	(2 1/4 Imp.pints = 2 3/4 US pints)
Steering gear	approx. 0.25 litre
	(3/8 Imp.pint = 1/2 US pint)

Other lubricating points

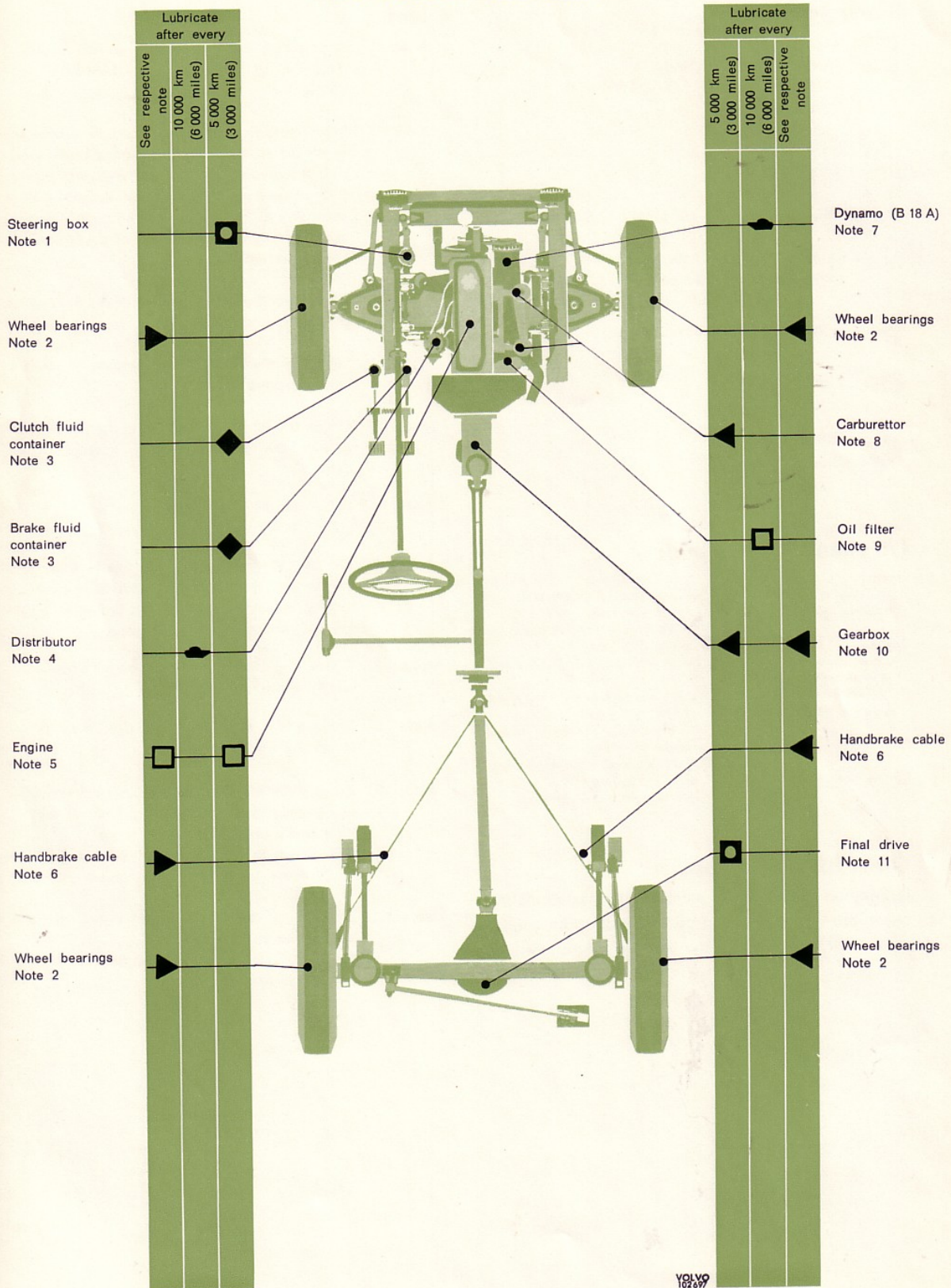
In addition to the points indicated in the lubricating chart, the chassis should be greased about once a year at all the joints for the throttle control linkage, handbrake, pedal linkages, etc.

Notes

- Note 1. Check that the oil reaches up to the filling plug (Fig. 8). Use hypoid oil SAE 80 all year round.
- Note 2. In connection with any workshop operations which result in the wheel bearings being exposed, the bearings should be removed, cleaned and greased with a high-class, durable grease according to the instructions on page 9. Subsequent adding or replacement of grease should not be carried out.
- Note 3. Check that there is sufficient brake fluid in the container, see page 8.
- Note 4. Lubricate the distributor according to instructions on page 7.
- Note 5. Check the oil level when filling the petrol tank. Change the oil according to instructions on page 1.
- Note 6. Lubricate the handbrake cable with graphite grease a couple of times a year, see page 8.
- Note 7. Fill the lubricating cup, if fitted, with light engine oil. The lubricating cup is opened by turning the outer cap. Use an ordinary oil can (Fig. 40) and not a force-feed one.
- Note 8. Check the oil level in the carburettor when changing the oil, see page 1.
- Note 9. Replace the filter complete according to instructions on page 4.
- Note 10. Every 5 000 km (3 000 miles) check that the oil reaches up to the filling plug. Change the oil after every 40 000 km (25 000 miles). N.B. The type of gearbox will decide the kind of lubricant to be used, see pages 1 and 2.
- Note 11. Every 5 000 km (3 000 miles) check that the oil reaches up to the filling plug. Concerning lubricant for the final drive with differential brake, see page 3.

LUBRICATING CHART LATE PRODUCTION

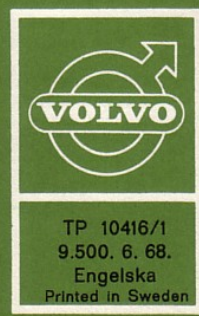
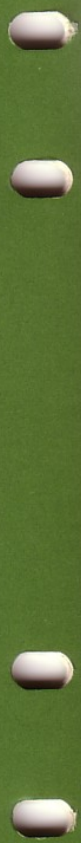
P 120 w.e.f. L, P 1800 w.e.f. F



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REFERENCES TO WORKSHOP BULLETINS

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WASATRYCKERIET, GÖTEBORG 1968