



SERVICE MANUAL

PV 444, 544

Part. ~~12~~ 1

LUBRICATION

Service Department

AKTIEBOLAGET

VOLVO

GÖTEBORG SWEDEN

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INSTRUCTIONS FOR OIL CHANGING

Engine

PV 444—544 B

During the summer and in the case of cars which are mainly used for long-distance running, the engine oil should be changed after every 5,000 km (3,000 miles). Exceptions to this rule are cars not fitted with oil cleaners (PV 444 A) in which case the oil should be changed after every 2,500 km (1,500 miles). During the winter the oil should be changed after every 2,500 km (1,500 miles), especially in the case of cars mainly used for short-distance driving. On new cars the oil must also be changed after the first 1,000 km (600 miles).

The oil should be drained off immediately after the car has been driven and while the engine is still warm. A plug is fitted in order to drain off the oil, see Fig. 1. After all the oil has run out, check the washer and tighten the plug in position again. The new oil is added after the filler cap on the rocker arm cover has been removed.

The engine oil to be used should be of a grade corresponding to the properties laid down in "Service MM" or "MS". "Service MS" should be used under particularly difficult conditions of operation, for example in the case of mainly short-distance driving with excessively low working temperatures, continuous high-speed driving or other cases of high loading resulting in a high working temperature. In other cases oil of the "Service MM" type can be used. In the case of sports cars only oil of the "Service MS" type should be used. The viscosity of the

oil should be SAE 20 during the summer and SAE 10 W during the winter or multi-grade oil SAE 10 W—30. The oil capacity of the engine when changing oil is 3.2 litres (5 ³/₄ Imp. pints=6 ⁷/₈ US pints) for PV 444 models up to K and 2.75 litres (4 ⁷/₈ Imp. pints=5 ³/₄ US pints) for PV 444 cars with effect from model L onwards and PV 544 cars. The oil capacity of the engine including the oil cleaner is 3.75 litres (6 ¹/₄ Imp. pints=7 ¹/₂ US pints) and 3.5 litres (6 ⁵/₈ Imp. pints=7 ⁷/₈ US pints) respectively.

PV 544 C

The above mentioned instructions apply with the following exception. The oil should always be of the "Service MS" type. The oil capacity is 3.25 litres (5 ³/₄ Imp. pints=6 ⁷/₈ US pints) and 3.75 litres (6 ⁵/₈ Imp. pints=7 ⁷/₈ US pints) including the oil cleaner.

Carburettors

Each time the oil is changed in the case of cars fitted with double carburettors, light engine oil (SAE 20 W) should be added to the centre spindles in the carburettors. The nut and the damping plunger are removed (Fig. 2) and then the centre spindle is fitted with oil but not the part above it. NOTE. Multi-grade oil may not be used in the carburettors.

Gearbox

The oil should be changed after every 20,000 km (12,000 miles). In the case of a new or re-conditioned gearbox, the oil should be changed

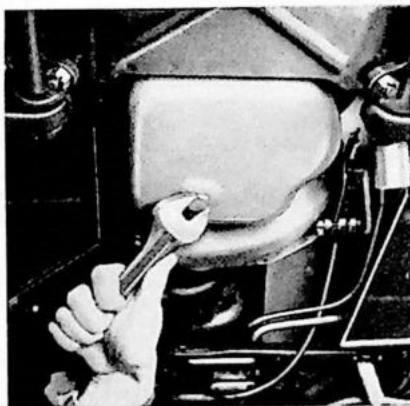


Fig. 1. Draining off the engine oil.

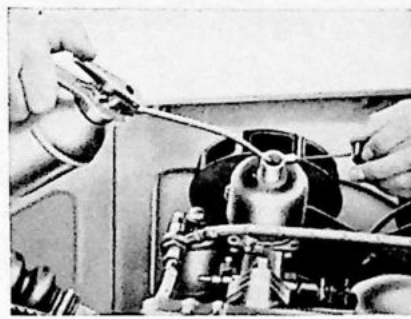


Fig. 2. Filling up oil in the centre spindle.



Fig. 3. Gearbox.

1. Drain plug.
2. Filler plug.

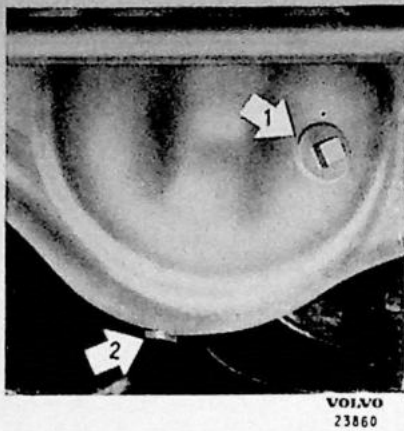


Fig. 4. Rear axle.

1. Filler plug.
2. Drain plug.

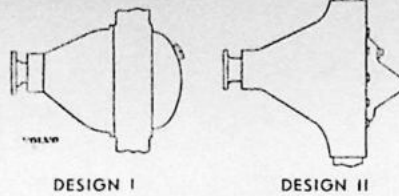


Fig. 5. Rear axles.

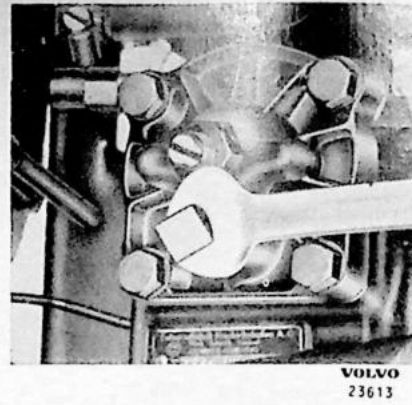


Fig. 6. Removing the steering box filler plug.

and the gearbox should be flushed out also after the first 5,000 km (3,000 miles).

The oil should be drained off immediately after the car has been run while the oil is still warm. To drain off the oil remove the plugs marked 1 and 2 in Fig. 3.

It is advisable now and again, for example in connection with every other oil change, to use flushing oil. This is added through the filler hole (2, Fig. 3) after the drain plug has been screwed into position again. The engine should then be allowed to run for a minute or so with one of the gears engaged and both the rear wheels jacked up after which the engine should be stopped, the rear wheels lowered and the flushing oil drained off.

Warning. On cars fitted with a differential brake, under no conditions may only one of the wheels be jacked up since this will transfer the torque to the wheel remaining on the ground and the car can easily fall off the support.

Fill up with new oil after the drain plug has been screwed back into position. The oil should be up to the level of the filler hole (2). Screw the filler plug back into position.

For the gearbox, use SAE 80 transmission oil all the year round. The oil capacity when changing oil for H 6 gearboxes is 0.5 litres ($\frac{7}{8}$ Imp. pints= $1\frac{1}{8}$ US pints), for M 4 gearboxes 0.9 litres ($1\frac{5}{8}$ Imp. pints= 2 US pints) and for M 30 and M 40 gearboxes 0.75 litres ($1\frac{1}{4}$ Imp. pints= $1\frac{1}{2}$ US pints).

Rear axle

The oil should be changed after every 20,000 km (12,000 miles). In the case of a new or

reconditioned rear axle, the oil should be changed and the rear axle should be flushed out also after the first 5,000 km (3,000 miles).

The oil should be drained off immediately after the car has been driven while the oil is still warm. When draining off the oil remove the plugs marked 1 and 2 in Fig. 4.

As in the case of the gearbox, it is advisable now and again, for example in connection with every other oil change, to use flushing oil. This is added through the filler hole (1) after the drain plug has been screwed back into position. The engine should be allowed to run for a minute or so with one of the gears engaged and both rear wheels jacked up after which the engine is stopped, the rear wheels lowered and the flushing oil drained off.

Fill up with new oil after the drain plug has been screwed back into position. The level of the oil should be up to the filler hole (1). Screw the filler plug firmly back into position again.

In the rear axle use SAE 80 hypoid oil all the year round. The oil capacity when changing oil for a PV 444 up to model L and PV 544 is 1.3 litres ($2\frac{1}{4}$ Imp. pints= $2\frac{3}{4}$ US pints). For PV 444 cars up to model K, the oil capacity when changing oil is 0.9 litres ($1\frac{5}{8}$ Imp. pints= 2 US pints) for model I and 1.3 litres ($2\frac{1}{4}$ Imp. pints= $2\frac{3}{4}$ US pints) for model II. Models I and II can be distinguished from each other through their appearance, see Fig. 5.

Steering gear

It is not usually necessary to change the oil in the steering box except in the case of reconditioning. Should it however become necessary to change the oil in an installed steering box for

some reason, the old oil must be sucked out by using a suitable device, for example an oil gun, which should be inserted through the filler hole.

Oil is then filled through the filler hole after the plug has been loosened, Fig. 6. The level of oil should be up to the filler hole. Screw the plug back into position again.

Make sure that the recommended quantity of oil is actually added. It may be necessary to carry out topping-up afterwards.

For the steering box the oil to be used all the

year round on PV 544 cars is SAE 80 hypoid oil and for PV 444 cars one of the following special types of oil: Caltex Special Oil 250, Castrol SB Special Gear Oil, Esso Gear Oil 250 Special, Kendall 400, Kopra Gear Oil Special, Mobilube Special steering gear oil or Shell Dentax Oil 250. An empty steering box has the following oil capacities: PV 444 early model 0.3 litres (1 1/2 Imp. pint=5/8 US pint), PV 444 late production 0.13 litres (1/8 Imp. pint=1/4 US pint) and PV 544 0.3 litres (1/2 Imp. pint=5/8 US pint).

INSTRUCTIONS FOR LUBRICATING AND CLEANING

Replacing the insert in the lubricating oil cleaner

The lubricating oil cleaner may be of the by-pass type (PV 444 up to model K) or of the fullflow type (PV 444 from model L onwards and PV 544). The oil cleaner insert should normally be replaced after every 10,000 km (6,000 miles). In the case of a fullflow type oil cleaner, the insert should also be changed after 5,000 km (3,000 miles) in the case of a new or reconditioned engine. Use only genuine Volvo inserts.

The oil cleaner insert is replaced as follows.

By-pass type oil cleaner PV 444 up to model K

1. Clean off the cover and loosen the centre bolt, see Fig. 7. Lift up the cover and the insert cartridge.
2. Fit the new insert cartridge. Check the cover gasket and replace if damaged. Fit the cover and tighten the bolt.

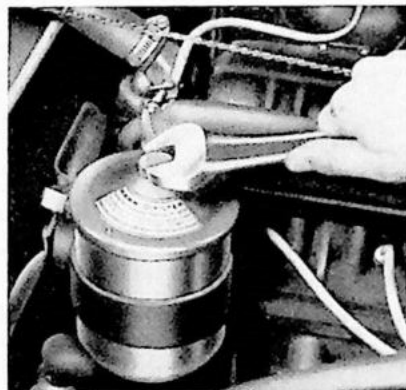


Fig. 7. Removing the cover on a by-pass oil cleaner.

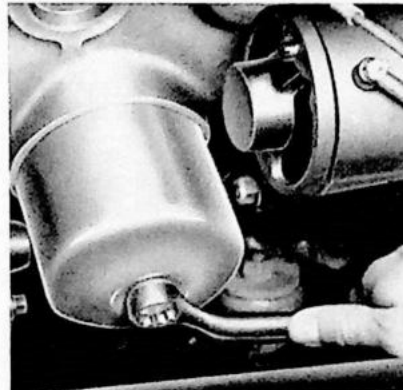


Fig. 8. Removing the oil cleaner.

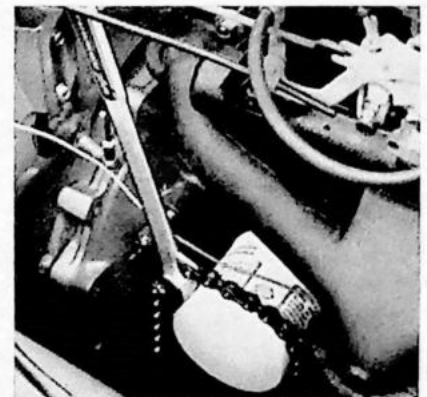


Fig. 9. Removing the oil cleaner (B 18).

3. Check for leakage on the oil cleaner after the engine has been started.

Fullflow type oil cleaner PV 444 up to model L, PV 544 up to model B

1. Clean the oil cleaner housing and the adjacent parts of the engine to prevent oil from getting into the lubricating system when disassembly is carried out.
2. Loosen the centre bolt, see Fig. 8. Collect the oil that runs out.
3. Remove the oil cleaner and the oil gasket. Clean the insert and wash the housing with white spirit.
4. Check that the intermediate plate on late production units is located so that the hole marked "UP" is at the top. Fit a new gasket in the cylinder block and a new filter insert cartridge. Reassemble the oil cleaner and make sure that it fits correctly in the



Fig. 10. Distributor.

1. Lubricating wick for ignition timing mechanism.
2. Circumference of cam.
3. Lubricator for distributor shaft.

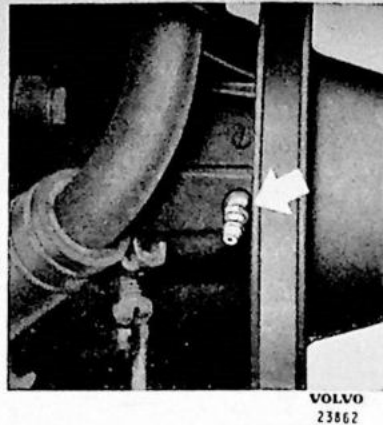


Fig. 11. Cooling water pump lubricating nipple.



Fig. 12. Oil filler cap.

groove. Tighten the centre bolt to a torque of 2 kgm (15 lb. ft.).

5. If the oil cleaner insert is replaced without the oil in the engine being changed at the same time, top up with 0.75 litres (1 1/4 Imp. pints=1 1/2 US pints) of oil. Check for leakage at the cleaner after the engine has been started.

PV 544 C

1. Remove the old oil cleaner with the help of a tool as shown in Fig. 9.
2. Smear oil on the new oil cleaner rubber gasket and make sure that the contact surface for the oil cleaner is free from dirt. The washer slides better against the sealing surface if it is smeared with oil. Screw on the oil cleaner by hand and until it just contacts the block.
3. Screw on the oil cleaner a further half turn by hand. Do not use a tool when fitting. Start the engine and check that the joint is not leaking. Top up with oil if required.

Distributor

The distributor must be lubricated regularly to avoid wear, ignition trouble and increased fuel consumption. The distributor shaft is lubricated by filling the lubricator. The ignition timing mechanism is lubricated by pouring two to three drops of light engine oil (SAE 10) onto the wick in the carburettor shaft. The circumference of the cam should be lubricated when necessary with a very thin layer of vaseline. The lubricating points mentioned above should be lubricated after every 10,000 km (6,000 miles). The other

moving parts of the distributor can be lubricated in connection with reconditioning.

Cooling water pump

The pump should be lubricated sparingly with heat-resistant grease. Only one to two pump strokes are required each time lubrication is carried out. On PV 544 cars fitted with B 18 engines the cooling water pump cannot be lubricated.

Cleaning the oil filler cap

In order to ensure that crankcase ventilation functions satisfactorily, the filter in the oil filler cap should be removed and cleaned after every 10,000 km (6,000 miles). The cap should be removed, the three screws (Fig. 12) removed and the cap lifted off. The filter should be cleaned

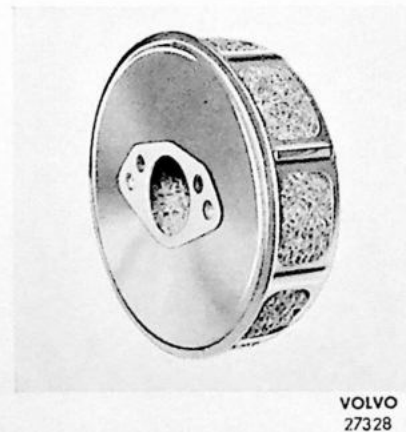


Fig. 13. Air cleaner, B 16 B, early production.



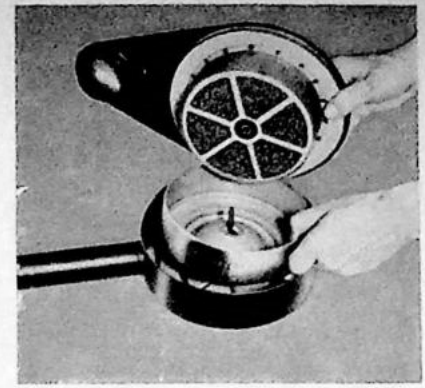
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Fig. 14. Air cleaner, B 16 B, late production.



VOLVO
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For B 16 B and B 18 D.



VOLVO
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For B 16 A and D, B 18 A.

Fig. 15. Air cleaner with oil bath filter.

in petrol, dried off and then oiled in with light oil. Before fitting the cap, check and replace the gasket if necessary.

Cleaning the air cleaner

The air cleaner should be cleaned at regular intervals preferably as follows.

Air cleaner for B 16 B engines, early production

On sport models there are two air cleaners, the appearance of which is shown in Fig. 13. These cannot be disassembled and, for this reason, they must be removed complete and washed in petrol. After this the filter should be immersed in engine oil which should be allowed to run off before the air cleaners are refitted on the engine. Make sure that the cleaners and the gaskets are fitted the right way round when fitting. The ventilation holes (see the illustration) must index with the corresponding holes on the carburettors if these are to function in the

correct way. Cleaning should be carried out at least after every 5,000 km (3,000 miles).

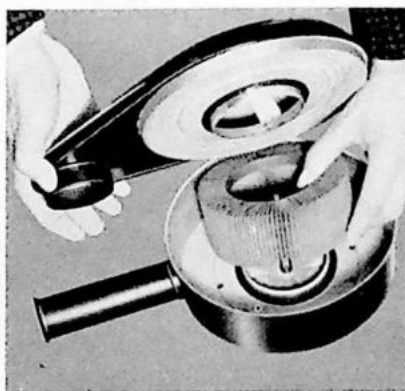
Air cleaner, B 16 B late production and B 18 D

These air cleaners should be replaced by new units after every 20,000 km (12,000 miles). The old unit should be destroyed since the cleaner and the filter are integral. See Fig. 14. *The air cleaner and paper insert may not be washed or oiled in.*

Air cleaner of the oil bath type

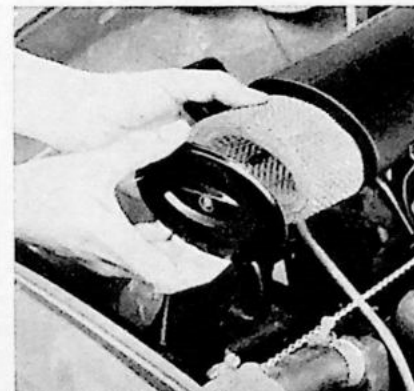
These air cleaners can be fitted on PV 444 cars with effect from model L and on PV 544 cars. Cleaning should be carried out after every 10,000 km (6,000 miles).

The cleaner should be removed complete and then disassembled, Fig. 15. The old oil should be drained off and then the cleaner housing and the insert should be washed in petrol and blown dry with compressed air. Engine oil of the same type



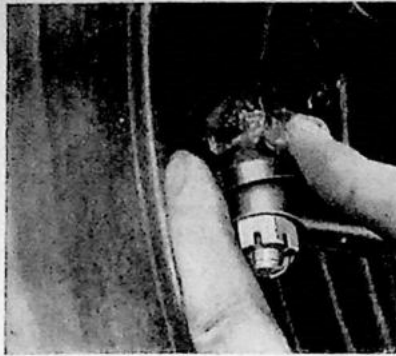
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Fig. 16. Air cleaner with paper insert (B 18 A).



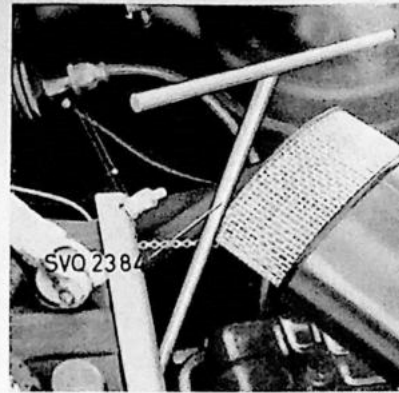
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Fig. 17. Removing the filter insert.



VOLVO
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Fig. 18. Lubricating a ball joint, early production.



VOLVO
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Fig. 19. Removing the filler plug in the master cylinder.

as being used in the engine is then added up to the level mark. The cleaner is then assembled and fitted.

Air cleaner (B 18 A)

Air cleaner with paper filter

The insert for the air cleaner should be replaced by a new unit after every 20,000 km (12,000 miles). Replacement should be carried out more often when the car is being run on dusty roads.

Loosen the wing nut and the upper hose clamp. Remove the upper part and replace the insert after the inside of the cleaner has been cleaned with a moist rag. When assembling make sure that the gaskets are in good order.

NOTE. The insert may not be moistened or oiled in.

Other air cleaners

These do not need to be removed when cleaning. Instead the nut for the cover is removed

and the cover is taken out. The filter insert is then removed (see Fig. 17) and cleaned in petrol. After the filter has dried it should be oiled in with engine oil which should be allowed to run off before the unit is refitted. Cleaning should be carried out after every 5,000 km (3,000 miles)

Lubricating plastic-lined ball joints

Tie rods and steering rods which are not fitted with lubricating nipples are instead fitted with plastic-lined ball joints. On early production cars these are fitted with rubber sleeves. These should be turned back once a year filled with chassis grease. On late production cars, check once a year that the rubber sleeves are in good condition, when fitting fill them with grease.

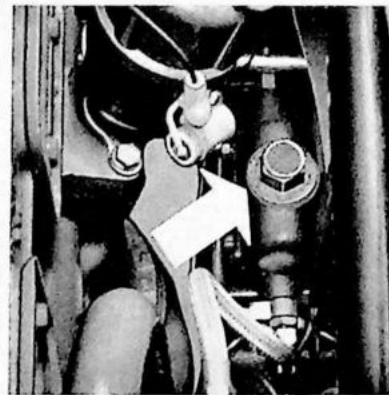
Checking the brake fluid level

After every 5,000 km (3,000 miles) the level of brake fluid should be checked. The brake fluid container should be almost full of brake fluid. If



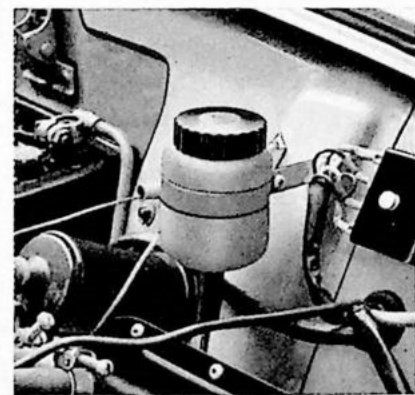
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Fig. 20. Greasing the handbrake cable.



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Fig. 21. Brake fluid container, early production.



VOLVO
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Fig. 22. Brake fluid, container, late production.

necessary top up with new brake fluid which should be of a first-class type, i.e. it should satisfy the regulations laid down in SAE 70 R 1 or R 3 (HD grade).

Early production

The container is located under the steering shaft as shown in Fig. 21. Unscrew the plug after the master cylinder has been cleaned to prevent oil from getting into the container.

To remove the plug use tool SVO 1457 on PV 444 models up to B and special tool SVO 2384 for other vehicles with the container located in this place.

Late production

The container is located as shown in Fig. 22.

Lubricating the handbrake cable

A handbrake cable with its protective sleeve (late production) should be lubricated a couple of times per year. The front and rear attachment for the protective sleeve should be loosened and this should be moved backwards and forwards while graphite grease is applied to the cable, see Fig. 20.

Lubricating the wheel bearings

The front wheel bearings should be disassembled for cleaning and lubricating after every 20,000 km (12,000 miles) or at least once a year and the rear wheel bearings after every 40,000 km (25,000 miles) or at least every other year. Disassembly is carried out in accordance with the instructions in Service Manual, Part 6 and 5 respectively.

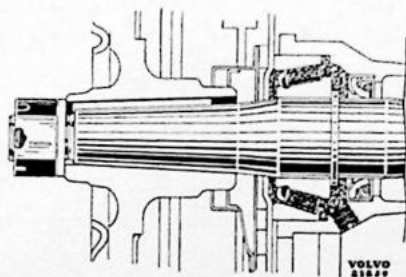


Fig. 23. Rear wheel bearing.

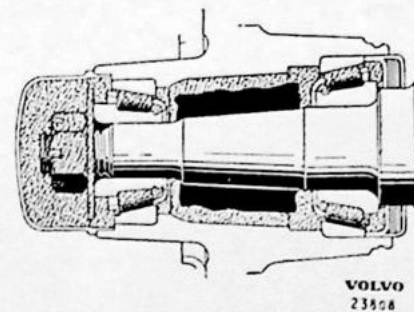


Fig. 24. Front wheel bearing.

After the bearing and seal ring have been removed, the hub and grease cap are carefully cleaned. Make sure that all old grease is removed also from inside the hub. It is advisable to use compressed air for rough cleaning of the bearings. The bearing components are then washed in white spirit or similar solvent and allowed to dry. Drying here with compressed air should be avoided since the air often contains water and particles of dust. Accessible bearing components should be dried with a linen or cotton cloth (not cotton waste). A new bearing in an unbroken package should not be cleaned.

Inspect all the component parts after cleaning. If there are signs of damage, rust or blueing on the bearing races or rollers, the bearing should be replaced. If the outer or inner races are loose in their position, test with a new race. If looseness does not disappear, the hub or axle must be replaced. Replace seal rings if they are worn or damaged.

Use only first-class wheel bearing grease for lubrication of the wheel bearings. Do not mix different makes of grease. A special greasing device should be used for efficient greasing of the wheel bearings. Follow the instructions supplied by the manufacturer. If no greasing apparatus is accessible, pack the bearings by hand with as much grease as there is room for between the roller cage and the inner race. Also apply grease to the outside of the rollers and cage. The space in the hub between the inner and outer bearings should be filled with grease as shown in Figs. 23 and 24.

Assembly is carried out in accordance with the instructions in Part 6 and Part 5 respectively.

Body lubrication

In order to avoid squeaking and unnecessary wear, the body should be lubricated at the points shown in Fig. 25. Unless otherwise stated, the

points marked should be lubricated with a few drops of light engine oil after every 10,000 km (6,000 miles).

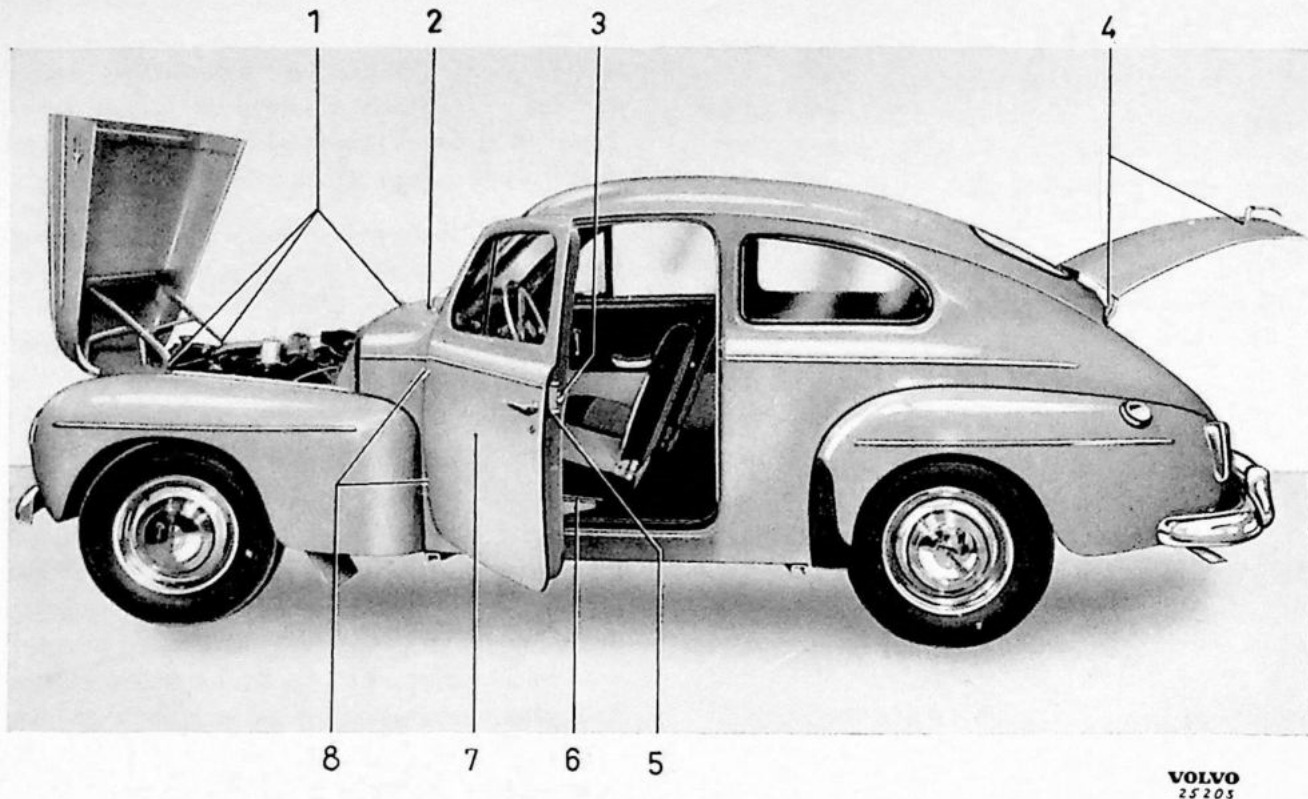
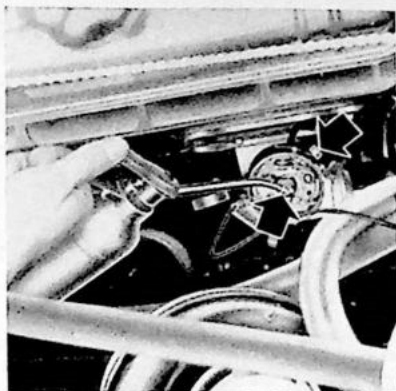


Fig. 25. Lubricating points on body.

1. Bonnet hinges and catch.
2. Windscreen wiper arm attachment and spindles.
3. Door lock plungers.
4. Luggage compartment hinges and lock. The lock is lubricated by blowing in a small quantity of pulverized graphite through the keyhole. The key is then dipped in graphite and turned in the lock a few times.
5. The surfaces of the lock plungers, striker plates and dovetails. Lubricate with paraffin wax.
6. Front seat adjuster rails and catches.
7. Catch with drag link, remote control, window lift with rollers and adjusting devices. Accessible after the upholstery panel on the doors has been removed. Lubrication is necessary only after every 20,000 km (12,000 miles) or once per year. The cable and chain should be lubricated with grease. See point 4 concerning lubrication of the lock.
8. Door hinges.

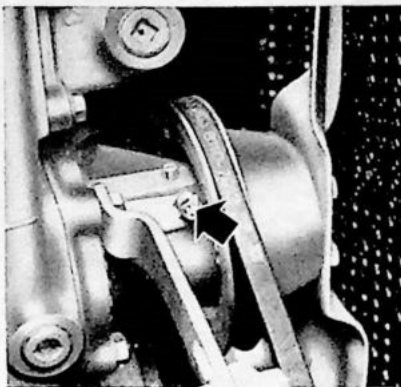
INSTRUCTIONS FOR ALL-ROUND GREASING

Special illustrations in connection with the points shown in the lubricating chart



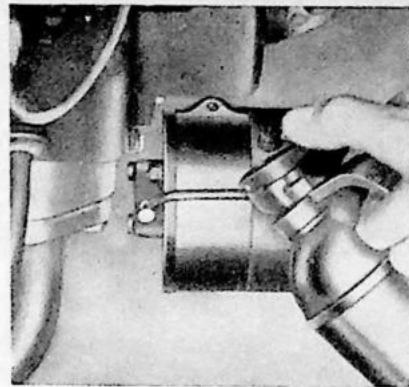
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Fig. 26. Distributor.



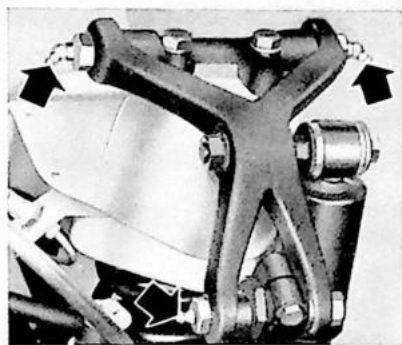
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Fig. 27. Cooling water pump.
Grease sparingly.



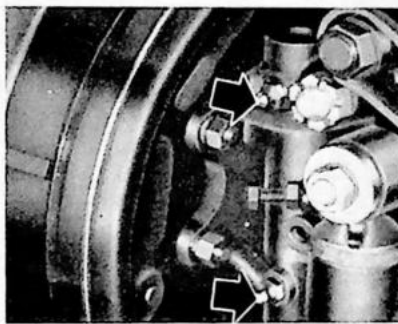
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Fig. 28. Dynamo.
(PV 444 up to model K and PV 544 late production with B 16 A and B 18 A).



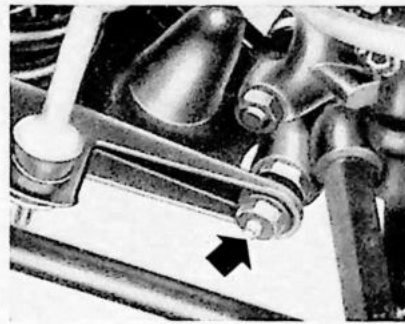
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Fig. 29. Upper control arm.



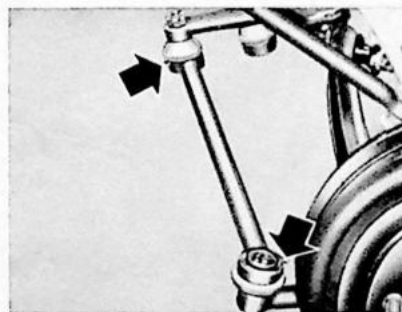
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Fig. 30. King pin.



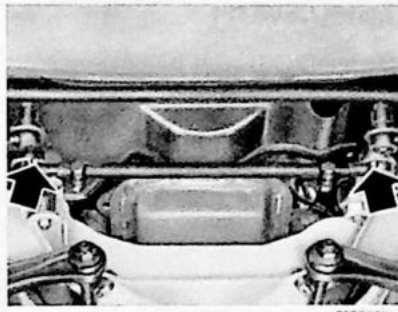
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Fig. 31. Lower control arm.



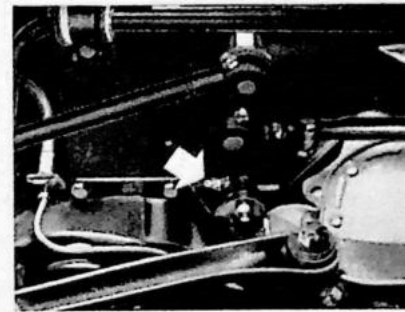
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Fig. 32. Steering rod.
Concerning ball joints without
grease nipples, see page 6.



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Fig. 33. Tie rods.
Concerning ball joints without
grease nipples, see page 6.



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Fig. 34. Idler arm.

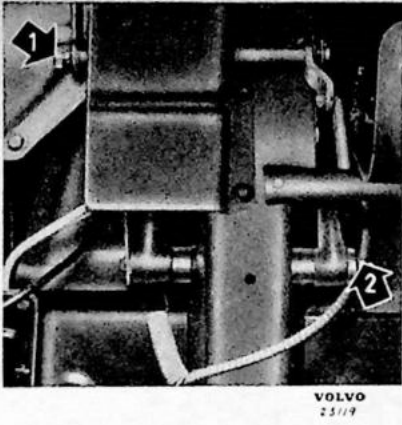


Fig. 35.

1. Clutch shaft. 2. Pedal shaft.

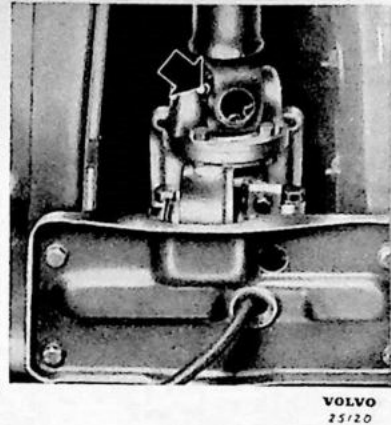


Fig. 36. Forward universal joint.

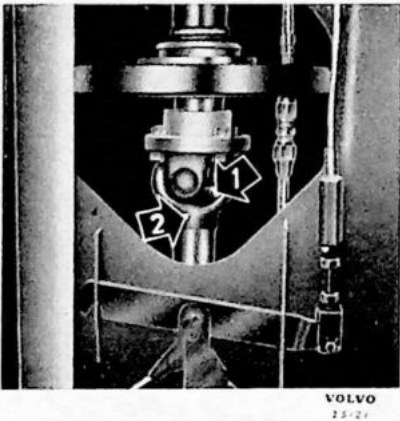


Fig. 37.

1. Centre universal joint.
2. Slip joint.

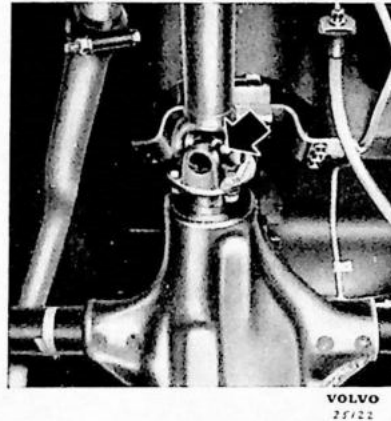


Fig. 38. Rear universal joint.

SPECIFICATIONS

B 4 B engine (PV 444 up to model K)

Lubricating oil, type	Engine oil
grade	Service MM or MS
viscosity, summer	SAE 20 } Or multi-grade
winter	SAE 10 W } oil 10 W-30
Oil capacity when changing oil,	
without lubricating oil cleaner	3.25 litres (5 ³ / ₄ Imp. pints= 6 ⁷ / ₈ US pints)
with lubricating oil cleaner	3.75 litres (6 ⁵ / ₈ Imp. pints= 7 ⁷ / ₈ US pints)

B 16 A engine (PV 544 up to model L, PV 544 up to model B)

Lubricating oil, type	Engine oil
grade	Service MM or MS
viscosity, summer	SAE 20 } Or multi-grade
winter	SAE 10 W } oil 10 W-30
Oil capacity when changing oil,	
without lubricating oil cleaner	2.75 litres (4 ⁷ / ₈ Imp. pints= 5 ³ / ₄ US pints)
with lubricating oil cleaner	3.5 litres (6 ¹ / ₄ Imp. pints= 7 ¹ / ₂ US pints)

B 16 B engine (PV 544 Sport)

Lubricating oil, type	Engine oil
grade	Service MS
viscosity, summer	SAE 20 } Or multi-grade
winter	SAE 10 W } oil 10 W-30
Oil capacity when changing oil,	
without lubricating oil cleaner	2.75 litres (4 ⁷ / ₈ Imp. pints= 5 ³ / ₄ US pints)
with lubricating oil cleaner	3.5 litres (6 ¹ / ₄ Imp. pints= 7 ¹ / ₂ US pints)
Oil for carburetter damping cylinders	SAE 20

B 18 engine (PV 544)

Lubricating oil, type	Engine oil
grade	Service MS
viscosity below 0° C (32° F)	SAE 10 W } Or multi-grade
above 0° C (32° F)	SAE 20 } oil 10 W-30
Oil capacity with oil cleaner	3.75 litres (6 ⁵ / ₈ Imp. pints= 7 ⁷ / ₈ US pints)
without oil cleaner	3.25 litres (5 ³ / ₄ Imp. pints= 6 ⁷ / ₈ US pints)
Oil for carburetter damping cylinders	SAE 20

Gearbox

Lubricating oil, type	Transmission oil
viscosity, all the year round	SAE 80
Oil capacity when changing oil, H 6	0.5 litres (7/8 Imp. pint= 1 ¹ / ₈ US pints)
M 4	0.9 litres (1 ⁵ / ₈ Imp. pints= 2 US pints)
M 30, M 40	0.75 litres (1 ¹ / ₄ Imp. pints= 1 ¹ / ₂ US pints)

PV 444, 544

Rear axle

Lubricating oil, type	Hypoid oil
viscosity, all the year round	SAE 80
Oil capacity when changing oil, PV 444 up to model K, rear axle type I (see page 2)	0.9 litres (1 ⁵ / ₈ Imp. pints= 2 US pints)
Oil capacity when changing oil, PV 444 up to model K, rear axle type II (see page 2)	1.3 litres (2 ¹ / ₄ Imp. pints= 2 ³ / ₄ US pints)
Oil capacity when changing oil, PV 444 from model L onwards and PV 544	1.3 litres (2 ¹ / ₄ Imp. pints= 2 ³ / ₄ US pints)

Steering box, PV 444

Lubricating oil	Caltex Special Oil 250, Castrol SB Special Gear Oil, Esso Gear Oil 250 Special, Kendall 400, Kopra Gear Oil Special, Mobilube Special steering gear oil, Shell Dentax 250
Oil capacity when changing oil, early production (Ross)	0.3 litres (1/2 Imp. pint= ⁵ / ₈ US pint)
Oil capacity when changing oil, late production (Gemmer)	0.13 litres (1/8 Imp. pint= 1/4 US pint)

Steering box, PV 544

Lubricating oil, type	Hypoid oil
viscosity	SAE 80
Oil capacity	0.3 litres (1/2 Imp. pint= ⁵ / ₈ US pint)

lubrication chart

Instructions

Symbols

- Engine oil:
 - PV 444 and 544 up to model C
 - Sport models, Service MS
 - Others Service MM or MS
 - PV 544 with effect from model C(B 18 en
 - Viscosity, summer SAE 20 } Or multi
 - winter SAE 10 W } oil SAE
- ▣ Gearbox oil, all the year round:
- ◻ Rear axle, all the year round: Hypo
- ▣ Chassis lubricating grease
- ▶ Lubricant, see note
- ◻ Light engine oil
- ◆ Brake fluid

Oil capacity when changing oil

See "Specifications" or "Instructions for changing".

Other lubricating points

In addition to the points shown in the lubrication chart, the chassis should be lubricated every year at all the joints for the accelerator cable system, handbrake, pedal linkage, etc.

Notes

- Note 1. On vehicles without grease nipples check once a year that the roller sleeves are in good condition. When fitting new sleeves, they must be filled with grease. See page 6.
- Note 2. Check the oil level, see page 2.
- Note 3. The front wheel bearings should be disassembled after every 20,000 km (12,000 miles), see page 7.
- Note 4. Change the oil after every 5,000 km (3,000 miles) as well as spring and autumn, see page 1. In connection with every other oil change the oil cleaner insert should be replaced, see page 5.
- Note 5. In the case of cars fitted with carburettors, the carburettor dampers must be filled with oil (SAE 20). NOTE. Multi-grade oil must not be used. Remove the nut at the top of the carburettor and lift out the



Lubricate after every			
1250 km (750 miles)	5,000 km (3,000 miles)	10,000 km (6,000 miles)	See respective note
▣	▣	▣	Upper control arm, 3 lubricating points, (Fig. 29)
▣	▣	▣	King pin (Fig. 30)
▣	▣	▣	Lower control arm (Fig. 31)
▣	▣	▣	Tie rod (Note 1)
▣	▣	▣	Right steering rod (Note 1)
▶	▶	▶	Front wheel bearing (Note 3)
▣	▣	▣	Idler arm (Fig. 34)
▶	▶	▶	Dynamo (Note 12)
▶	▶	▶	Cooling water pump (Note 13)
▶	▶	▶	Air cleaner (See page 4)
▣	▣	▣	Front universal joint (Fig. 36)
▣	▣	▣	Centre universal joint (Fig. 37)
▣	▣	▣	Slip joint (Fig. 37)
▶	▶	▶	Handbrake cable (Note 14)
▶	▶	▶	Rear wheel bearing (Note 10)
▣	▣	▣	Rear universal joint (Fig. 38)

Instructions for lubricating chart

Symbols

- Engine oil:
 - PV 444 and 544 up to model C
 - Sport models, Service MS
 - Others Service MM or MS
 - PV 544 with effect from model C (B 18 engine) Service MS
 - Viscosity, summer SAE 20 } Or multi-grade
 - winter SAE 10 W } oil SAE 10 W-30
- Gearbox oil, all the year round: SAE 80
- Rear axle, all the year round: Hypoid oil SAE 80
- ☞ Chassis lubricating grease
- ▶ Lubricant, see note
- ☞ Light engine oil
- ◆ Brake fluid

Oil capacity when changing oil

See "Specifications" or "Instructions for oil changing".

Other lubricating points

In addition to the points shown in the lubricating chart, the chassis should be lubricated once a year at all the joints for the accelerator control system, handbrake, pedal linkage, etc.

Notes

- Note 1. On vehicles without grease nipples, check once a year that the rubber sleeves are in good condition. When fitting new sleeves, they must first be filled with grease. See page 6.
- Note 2. Check the oil level, see page 2.
- Note 3. The front wheel bearings should be disassembled after every 20,000 km (12,000 miles), see page 7.
- Note 4. Change the oil after every 5,000 km (3,000 miles) as well as spring and autumn, see page 1. In connection with every other oil change the lubricating oil cleaner insert should be replaced, see page 5.
- Note 5. In the case of cars fitted with twin carburetters, the carburetter damping cylinders must be filled with oil (SAE 20). NOTE. Multi-grade oil must not be used. Remove the nut at the top of the carburetter and lift out the plun-

ger. Fill with oil so that the centre spindle is full but not the part above it. Also grease the carburetter jet sparingly after the choke control has been pulled all the way out.

- Note 6. Check the oil level and top up if necessary with good quality brake fluid, see page 6.
- Note 7. Lubricate the felt wick under the rotor with a few drops of light lubricating oil, see Fig. 26. Also lubricate the circumference of the cam if necessary with a very thin layer of vaseline. On distributors fitted with a lubricator add a few drops of light lubricating oil and on distributors fitted with a grease nipple, give this one turn and if necessary fill up with heat-resistant grease.
- Note 8. Check the oil level after every 1,250 km (750 miles) and change the oil after every 20,000 km (12,000 miles), see page 1. Do not use hypoid oil.
- Note 9. On PV 44 cars, the joints on the intermediate lever should be lubricated after every 5,000 km (3,000 miles). On PV 544 cars, the joints between the lever and the pull rod should be lubricated after every 10,000 km (6,000 miles).
- Note 10. The rear wheel bearings should be disassembled after every 40,000 km (25,000 miles), see page 7.
- Note 11. Check the oil level after every 5,000 km (3,000 miles) and change it after every 20,000 km (12,000 miles), see page 2.
- Note 12. On vehicles with a lubricator on the dynamo (PV 444 up to model K and late production PV 544 with B 18 D) add a few drops of light lubricating oil, Fig. 28.
- Note 13. Grease sparingly with heat-resistant grease, Fig. 27. Cannot be done on B 18 engines.
- Note 14. Cables with protective sleeves should be lubricated a couple of times a year, see page 6. Cables without sleeves but with guide bushes (PV 444 L) should be lubricated after every 5,000 km (3,000 miles).

Lubrication chart

See respective note	Lubricate after every		
	10,000 km (6,000 miles)	5,000 km (3,000 miles)	1250 km (750 miles)

Lubricate after every			
1250 km (750 miles)	5,000 km (3,000 miles)	10,000 km (6,000 miles)	See respective note

- Control arm, lubricating points (Fig. 29)
- King pin (Fig. 30)
- Lower control arm (Fig. 31)
- Tie rod (Note 1)
- Steering box (Note 2)

Front wheel bearing (Note 3)

Engine (Note 4)
Carburettor (Note 5)

Master cylinder (Note 6)

Pedal shaft (Fig. 35)

Distributor (Note 7)

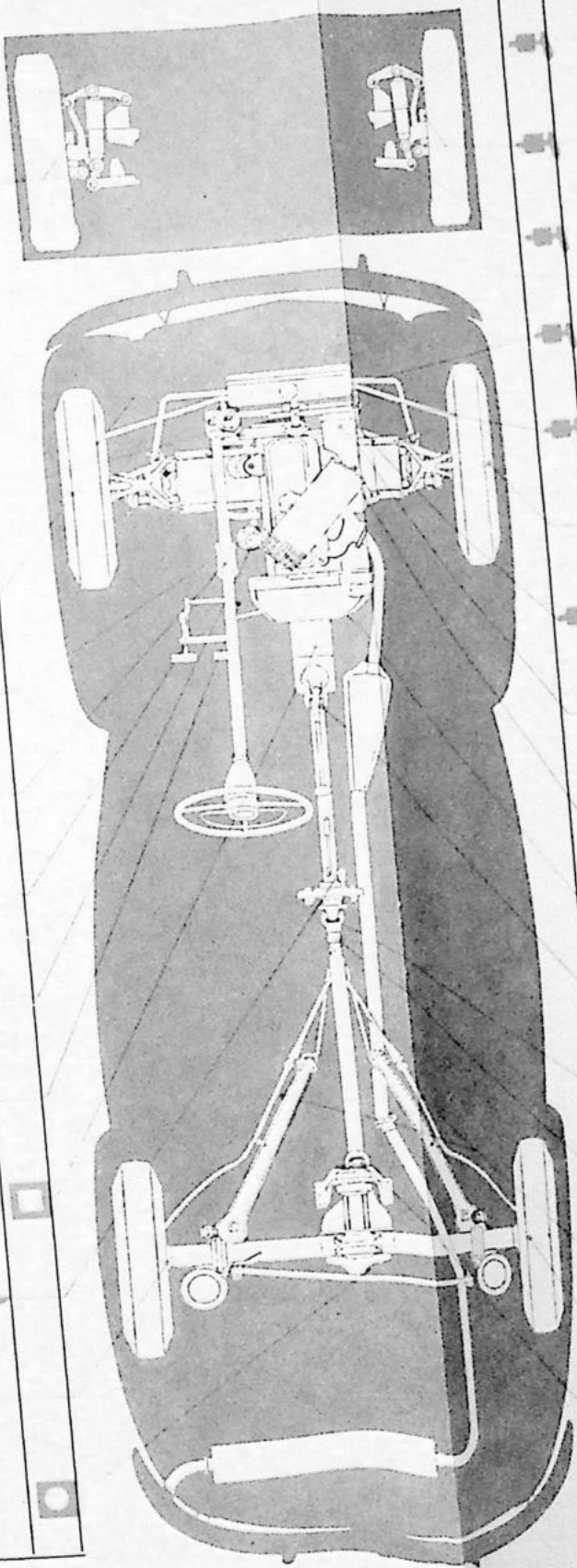
Clutch shaft (Fig. 35)

Gearbox (Note 8)

Handbrake lever (Note 9)

Rear wheel bearing (Note 10)

Rear axle (Note 11)



VOLVO
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Upper control arm, 3 lubricating points, (Fig. 29)

King pin (Fig. 30)

Lower control arm (Fig. 31)

Tie rod (Note 1)

Right steering rod (Note 1)

Front wheel bearing (Note 3)

Idler arm (Fig. 34)

Dynamo (Note 12)

Cooling water pump (Note 13)

Air cleaner (See page 4)

Front universal joint (Fig. 36)

Centre universal joint (Fig. 37)

Slip joint (Fig. 37)

Handbrake cable (Note 14)

Rear wheel bearing (Note 10)

Rear universal joint (Fig. 38)

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