

# Motor Trader

CONTINENTAL SERVICE DATA No. 29/CSD

## VOLVO 144

Manufacturers : AB Volvo, Gothenburg, Sweden

UK Concessionaires : Volvo Concessionaires, Ltd., P.O. Box 1, Tower Ramparts, Ipswich, Suffolk

**T**WO versions of the 144 model were introduced recently in March of this year, and they are designated the 144 and 144S. Both vehicles are similar in design and construction and the differences are associated with the uprating of the engine in the "S" model. Power output of the 144 car is quoted as 85bhp at an engine speed of 5,000rpm and that of the "S" model 115bhp at an engine speed of 6,000rpm.

For the purposes of this article, the 144 model alone is dealt with and for all practical purposes the servicing procedures outlined here are identical with those required for the "S" car.

Arrangement of the mechanical components is entirely orthodox. The front-mounted four cylindered engine drives the four-speed all synchromesh gearbox through a single dry plate diaphragm spring clutch, and the drive is taken via an open propeller shaft to the hypoid reduction gear contained within the semi-floating rear axle. There are two forms of gearbox, one which is designated M40 without overdrive and one designated M41, which is, in effect, an M40 unit with overdrive. Suspension is coil spring all-round and the arrangement at the front uses wish-bone links and co-axially mounted telescopic hydraulic shock absorbers. A similar type of suspension medium is used for the rear of the car, with the exception that since the axle is a live one, it is located by a Panhard rod.

Service policy with regard to these models is similar to that of all Volvo models in the range, and indeed to that of foreign-made vehicles on the U.K. market in that parts are obtainable on an immediately replaceable basis from Volvo Concessionaires Ltd., at their Ipswich headquarters. Service is handled through the network of Volvo distributors to whom all such matters should be addressed. All these distributors are fully equipped and staffed to perform any repair operation which may be necessary to any Volvo vehicle in the range.

Vehicles are identified by chassis and engine numbers. These are stamped on the driver's door pillar. Engine numbers are stamped on the left-hand side of the cylinder block. All these numbers should be quoted in correspondence with the Concessionaires, or their local distributors, or when ordering spare parts.

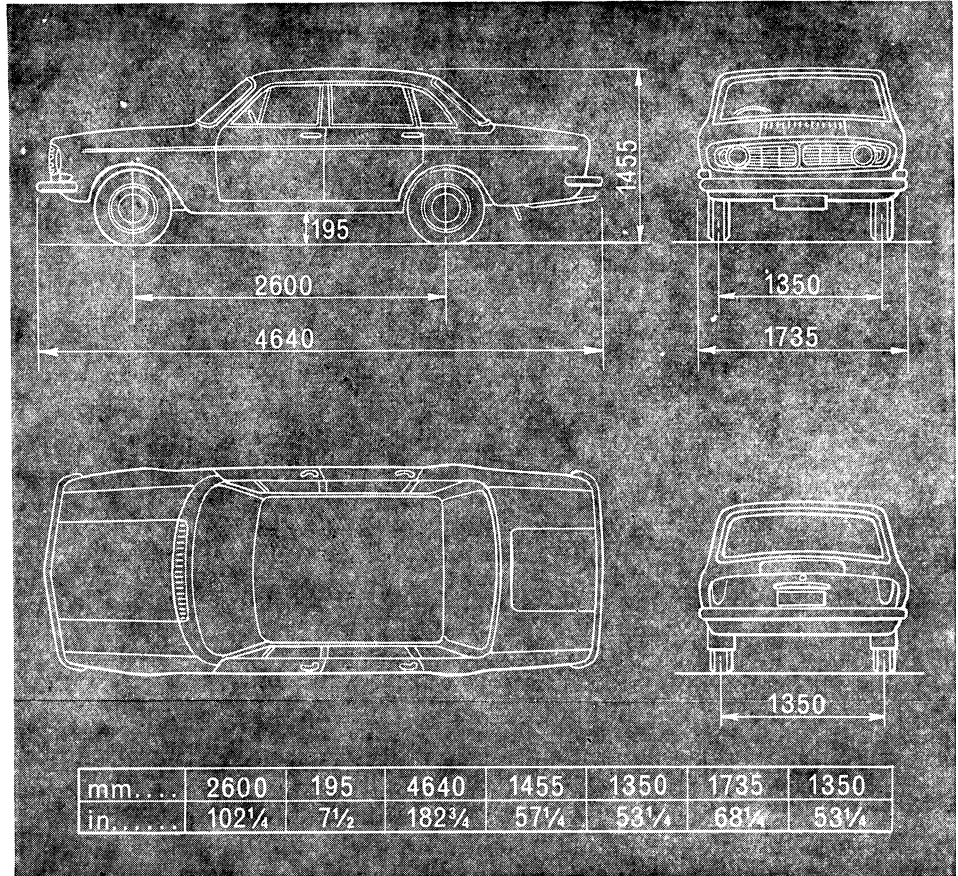
Major unit removal, brief notes:

Engine: may be removed with, or without gearbox.

Gearbox: may be taken out separately, or parted from engine after complete engine/gearbox removal.

Clutch: access to clutch unit obtained after removal of engine, or gearbox.

Brakes: no special tools or pullers required for access to pads, etc.

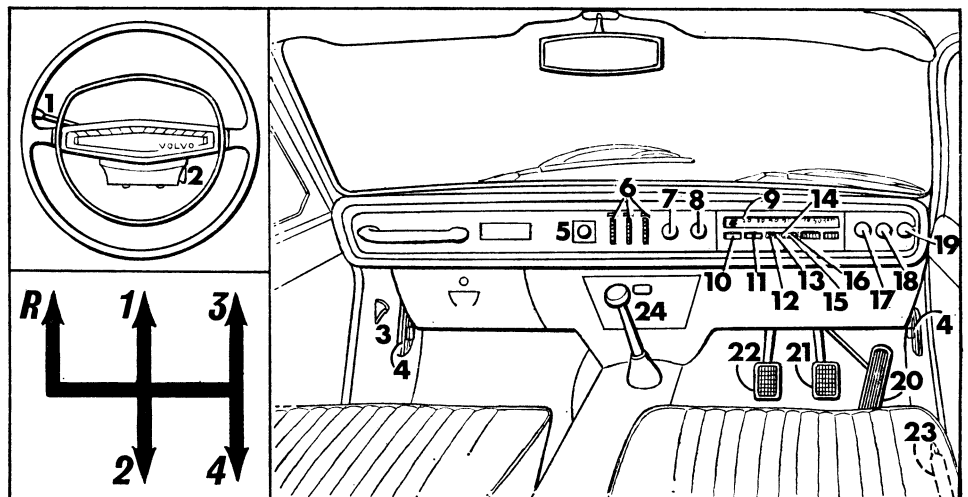


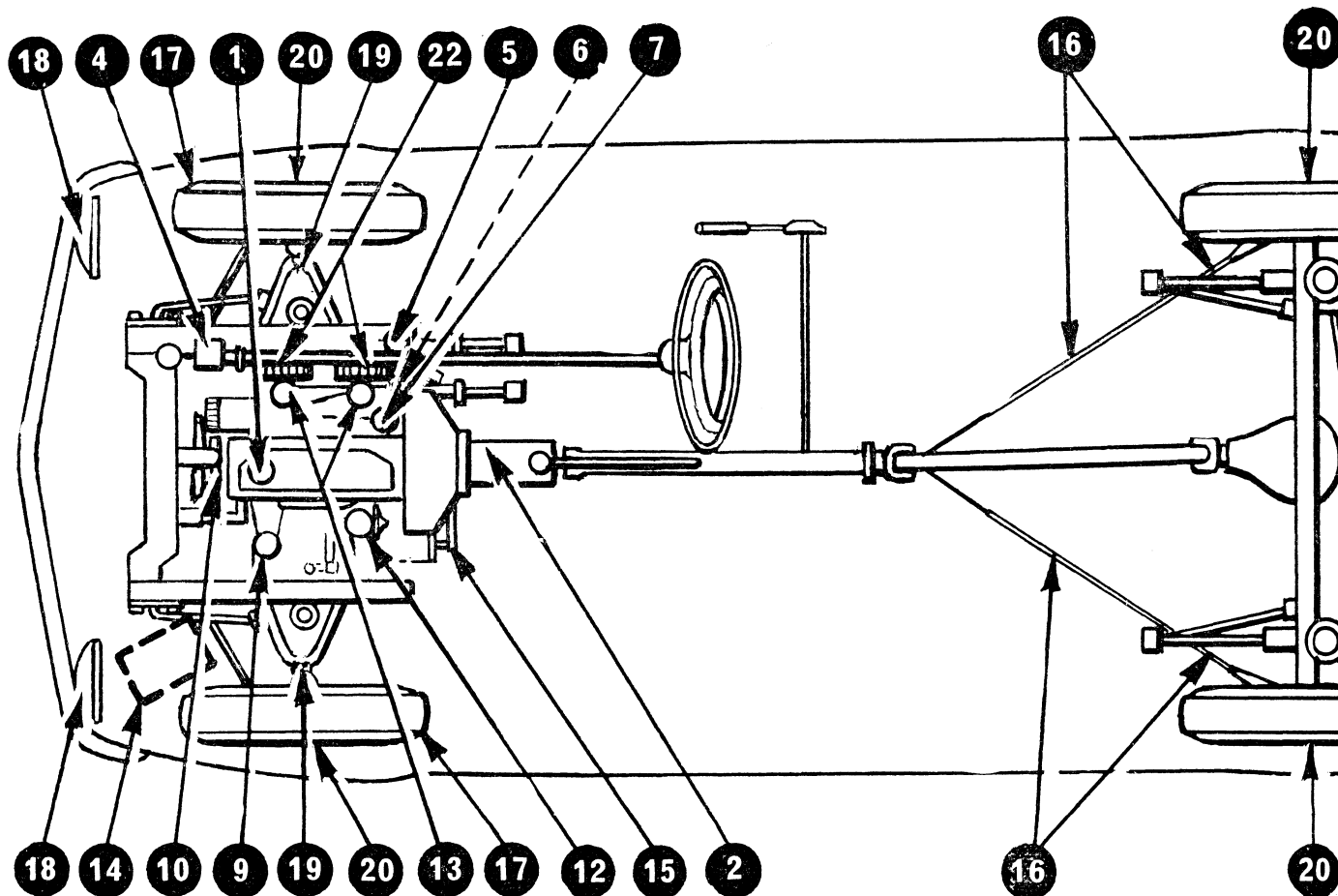
Dimensioned views showing measurements in English and Metric equivalents

### INSTRUMENTS, CONTROLS AND GEAR POSITIONS

- |  |  |   |
|--|--|---|
| 1. Direction indicator/dip switch/ headlight signaller | 9. Speedometer                           | 17. Lighting switch                     |
| 2. Ignition switch/steering wheel lock                 | 10. Fuel gauge                           | 18. Choke                               |
| 3. Bonnet release                                      | 11. Temperature gauge                    | 19. Windscreen wiper and washer control |
| 4. Ventilators   | 12. Ignition warning light               | 20. Accelerator                         |
| 5. Ash tray  | 13. Directional indicators warning light | 21. Brake pedal                         |
| 6. Heater/ventilators control                          | 14. Handbrake warning light              | 22. Clutch pedal                        |
| 7. Cigar lighter                                       | 15. Main beam warning light              | 23. Handbrake                           |
| 8. Fan   | 16. Oil pressure warning light           | 24. Gearlever                           |

Inset shows siting of steering column controls and gear lever positions.





#### GENERAL DATA

Wheelbase	8ft 6 $\frac{3}{4}$ in
Track: front	4ft 5 $\frac{1}{2}$ in
Track: rear	4ft 5 $\frac{1}{2}$ in
Turning circle	30ft 4in
Ground clearance (empty)	7 $\frac{1}{4}$ in
Tyre size: front	165S-15
Tyre size: rear	
Overall length	15ft 2 $\frac{3}{4}$ in
Overall width	5ft 8 $\frac{1}{2}$ in
Overall height (empty)	4ft 9 $\frac{1}{2}$ in
Weight (kerb)	2640lb

#### BRAKES

Type	Hydraulic Disc	
	Front	Rear
Disc diameter	10 $\frac{3}{4}$ in	11 $\frac{1}{8}$ in
(thickness, max-min)	.504-.480in	.378-.358in
(run-out, max)	.004in	.006in
Linings:—thickness, new	.394in	.334in
Wheel cyl. dia.	1.422in	1.422in

#### SPRINGS

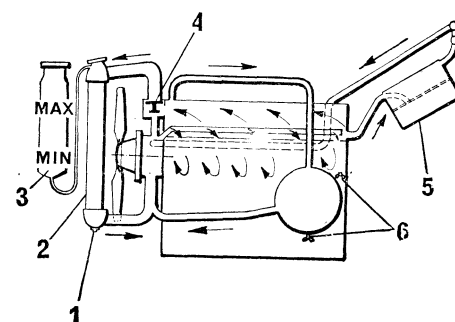
Type	Front		Rear	
	coil spring	coil spring	coil spring	coil spring
OD of coils	4 $\frac{1}{2}$ in	5in	8.25	8.66
No. of coils	8	8	8	8
Thickness of material	8 $\frac{1}{2}$ in	8 $\frac{1}{2}$ in	8 $\frac{1}{2}$ in	8 $\frac{1}{2}$ in
Compressed length	4 $\frac{1}{2}$ in	4.50in	4.50in	4.50in
Length at test load	7 $\frac{1}{4}$ in at 1137-1203lb	11 $\frac{1}{4}$ in at 442-475lb		

#### REPLACEMENT DATA

Unit	Part No.
Engine water hoses: top	676556
bottom	676557
Heater hoses	676304
Fan belts	419419
Clutch plate	418905
Release bearing	672122
Brake pads: front	275876
Brake pads: rear	275877
Screenwiper blades: left	679750
right	677992
Battery type and No.	Tudor 6EX4F (6UF)

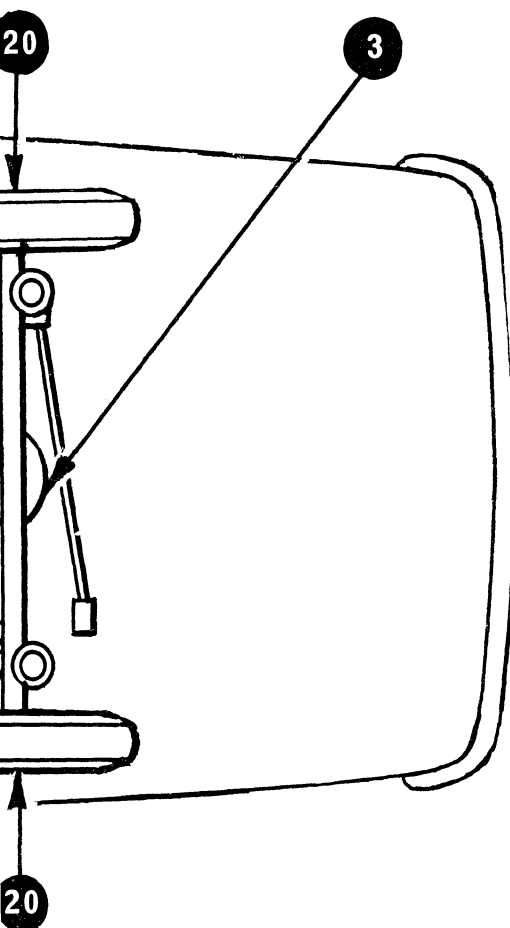
#### FILL-UP DATA

	Pints	Litres
Engine sump (without filter)	5 $\frac{1}{2}$	3.25
(with filter)	6 $\frac{3}{8}$	3.75
Gearbox (without overdrive)	1 $\frac{1}{2}$	.75
(with overdrive)	2 $\frac{1}{2}$	1.56
Rear axle	2	1.14
Cooling system	15 $\frac{1}{2}$	8.54
Fuel tank	12 $\frac{1}{2}$ galls	58
Tyre pressures: front	23 p.s.i.	1.62kg/cm <sup>2</sup>
rear	26 p.s.i.	1.83kg/cm <sup>2</sup>



Above shows the sealed cooling system in diagrammatic form. The purpose of the expansion tank is to prevent air from circulating with the coolant, thus causing corrosion in the system. Extra volume for coolant expansion is provided for by the inclusion of an expansion tank in the circuit. Air in the upper tank of the radiator is gradually separated and conveyed to the expansion tank by alterations in volume which occur as the coolant temperature and engine speed vary.

1. Drain plug
2. Radiator
3. Expansion tank
4. Thermostat
5. Heater
6. Drain cock



## KEY TO MAINTENANCE DIAGRAM

### EVERY 3,000 MILES

1. Engine oil—change
  2. † Gearbox
  3. † Rear axle
  4. Steering box
  5. Brake fluid level
  6. (See item 15 below)
- } check and top up

### EVERY 6,000 MILES

- 7.\*† Engine oil filter element—renew
- †† 8. Valve rocker clearances—check
9. Fuel filter—clean
10. Fan belt—check tension
- †† 11. Sparking plugs—clean and reset
12. Distributor—oil shaft bearing, auto. advance mechanism, smear cam with grease, clean and reset contacts
13. Carburetors—check and top up dashpots, oil linkages, etc.
14. Battery—check and top up electrolyte
15. Clutch—check and adjust pedal free play
16. Brakes—check and adjust handbrake
17. Front wheel alignment—check and adjust
18. Headlamps alignment—check
19. Steering joints, etc.—check condition and security
20. Road wheel nuts—check and tighten

### EVERY 12,000 MILES

- †† 21. Crankcase ventilation system—check and clean
22. Air cleaner elements—renew
- †† 23. Sparking plugs—renew
- \*†—Change filter after first 3,000 miles and at 6,000 miles thereafter
- †—Change oil at first 3,000 miles only
- ††—Not shown on diagram

Lamp:	Part No.	Voltage	Wattage
Head	277730	12	40/45
Side	277713	12	5
Front flasher	277707	12	15
Stop tail	277721	12	32/40
Rear flasher	277707	12	15
Number plate	277713	12	5
Reverse	277721	12	32/40
Flasher repeater	277747	12	1.2
Interior	277715	12	10
Panel	277748	12	3
Ignition warning	277747	12	1.2
Main beam warning	277747		
Flasher warning	277747		
Brake warning	277747		
Oil warning	277747	12	2
Glove box	277703		

N.B. Capless bulbs are used for instrument and warning lamps

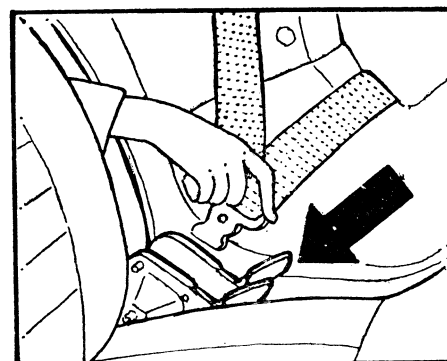
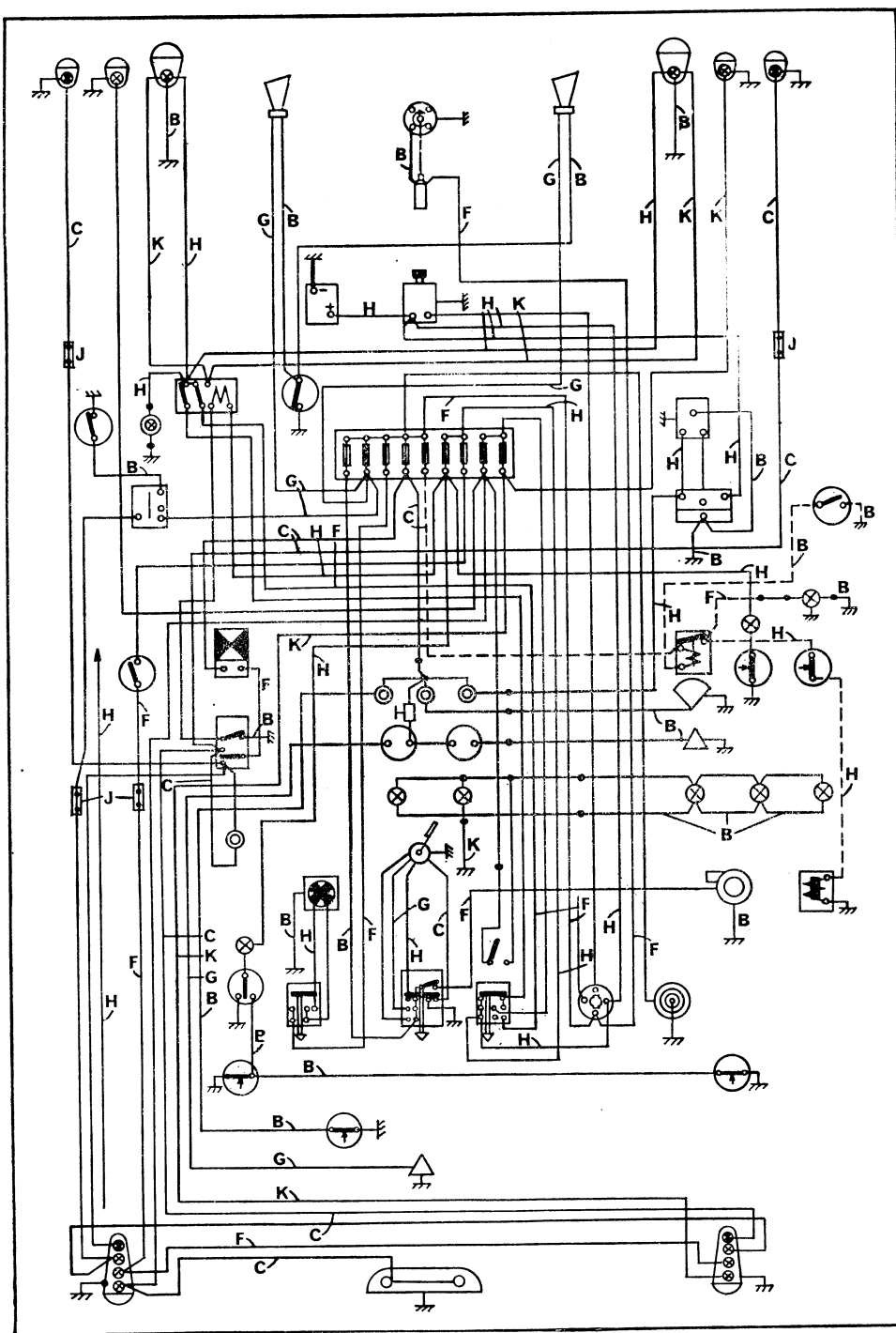
SHOCK ABSORBERS	
Make	Double-acting telescopic hydraulic Nil—replacement
Type	
Service	
FRONT END SERVICE DATA	
Castor	0° to +1°
Camber	0° to +½°
King pin inclination	7½° at 0° camber parallel
Toe-in	4.15 shims
No. of turns lock to lock	screwed tie rod ends
Adjustments: castor	
camber	
toe-in	

TUNE-UP DATA	
Firing order:	1-3-4-2
Tapet clearance (hot or cold)	
inlet	.016in-.018in
exhaust	.016-.018in
Standard ignition timing*	21°-23° BTDC
Location of timing mark	pulley and pointer
Plugs: make	Bosch
type	W175TI
size	14mm
gap	.028-.032in
Carburettor: make	Zenith-Stromberg
type	175GD-2S
damper coil	engine oil (see p. iv)
idling speed (warm engine)	
Air cleaner: type	500-700 rpm paper element
Fuel pump: make	AC
type	Pierburg
pressure	YD
	1½-3½ psi

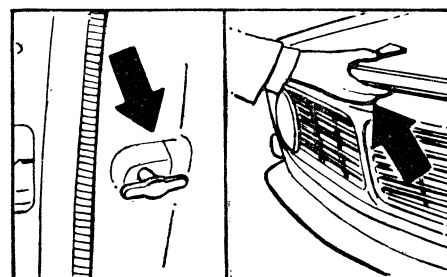
\* 97 Octane fuel, Research Method at engine speed of 1500 rpm, vacuum governor disconnected

## RECOMMENDED LUBRICANTS

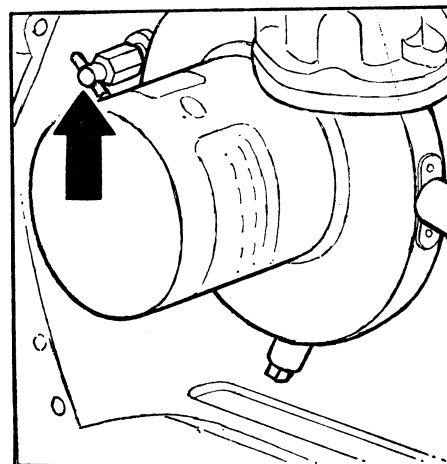
	REGENT	ESSO	CASTROL	SHELL	B.P.	MOBIL
Engine: Summer and Winter	Havoline 20/20W or Havoline Special 10W/30	Esso Extra Motor Oil 20W/30	Castrolite	Shell X-100 20W or Shell X-100 Multigrade 10W/30	Enorgol SAE 20W or Enorgol Visco-Static	Mobiloil Special
Gearbox	Havoline 30	Esso Extra Motor Oil 20W/30	Castrol XL	Shell X-100 30	Enorgol SAE 30	Mobiloil A
Rear Axle and Steering box	Multigear Lub. EP 90	Esso Gear Oil GP 90	Castrol Hypoy	Spirax 90EP	Enorgol OSAE 90 EP	Mobilube GX90
Chassis Greasing	Marfak A.I Purpose 2	Esso Multi-purpose Grease H	Castrolase LM	Retinax A	Enorgrease L2	Mobilgrease Special or Mobilgrease MP



Safety belt release mechanisms are arrowed



The bonnet release lever (left) is indicated by the arrow. Shown on the right is the safety release catch



Siting of cylinder block draining point

## CABLE COLOUR CODE

C	Blue	H	Red
G	Brown	B	Black
K	Grey	J	Junction
F	Yellow		

Electrical system is protected by fuses in a compartment under the instrument panel. Be sure to replace fuses with those of same rating. If fuses should blow repeatedly, do not fit a more powerful fuse but take the vehicle to an authorised Volvo dealer. Back of the fuse compartment cover has room for numbers of spare fuses.