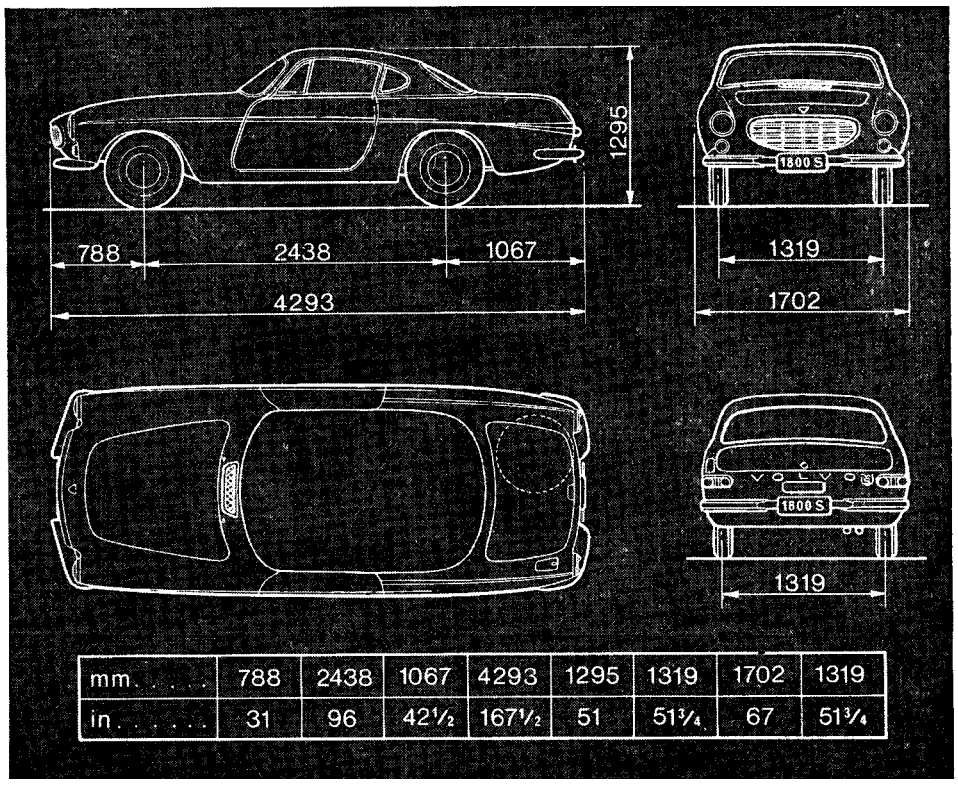
# Motor Trader

**CONTINENTAL SERVICE DATA No. 28/CSD**

# VOLVO 1800S

*Manufacturers : AB Volvo, Gothenburg, Sweden*
*UK Concessionaires: Volvo Concessionaires, Ltd., P.O. Box 7, Tower Ramparts, lpswich, Suffolk*




| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| mm. . . . | 788 | 2438 | 1067 | 4293 | 1295 | 1319 | 1702 | 1319 |
| in. . . . . | 31 | 96 | 42½ | 167½ | 51 | 51¾ | 67 | 51¾ |

Dimensioned views showing measurements in English and Metric equivalents

SINCE its inception in 1961, the Volvo 1800S, formerly the P1800, has retained the same shape, but several mechanical changes have taken place. One such change was a power increase from 100bhp to 115bhp and others have included braking system revisions and minor trim alterations. The engine is a four-cylindered unit, with push-rod-operated overhead valves and a 1,778cc displacement and strength of construction is exemplified by the use of a five-main-bearing crankshaft.

Location of major components is completely orthodox, the engine is front-mounted and drives a four-speed all-synchromesh gearbox through a single dry plate clutch. From the output shaft of the gearbox, the drive is taken, via an open tubular propeller shaft to the hypoid bevel reduction gear contained within the rear axle.

Front suspension is independent and uses coil springs and wishbones together with telescopic shock absorbers. This type of suspension medium is used for the live rear axle and is amplified by a Panhard rod which locates the rear axle.

Service policy with regard to these cars is similar to that of other concessionaires of foreign-made vehicles on the market in the UK in that parts are obtainable on an immediately replaceable basis from Volvo Concessionaries, Ltd., at their Ipswich headquarters, which also contains a school of instruction for the training of service personnel. Service is handled through the UK Volvo distributors network, to whom such matters should be referred. All these distributors are fully equipped and staffed to perform any repair operation which may be necessary on any Volvo vehicle in the range.

Vehicles are identified by chassis and engine numbers. These are located on a plate mounted above the battery, engine numbers are stamped on left hand side of the cylinder block. These numbers should be quoted in all correspondence with the Concessionaires or their local distributors or when ordering spare parts.

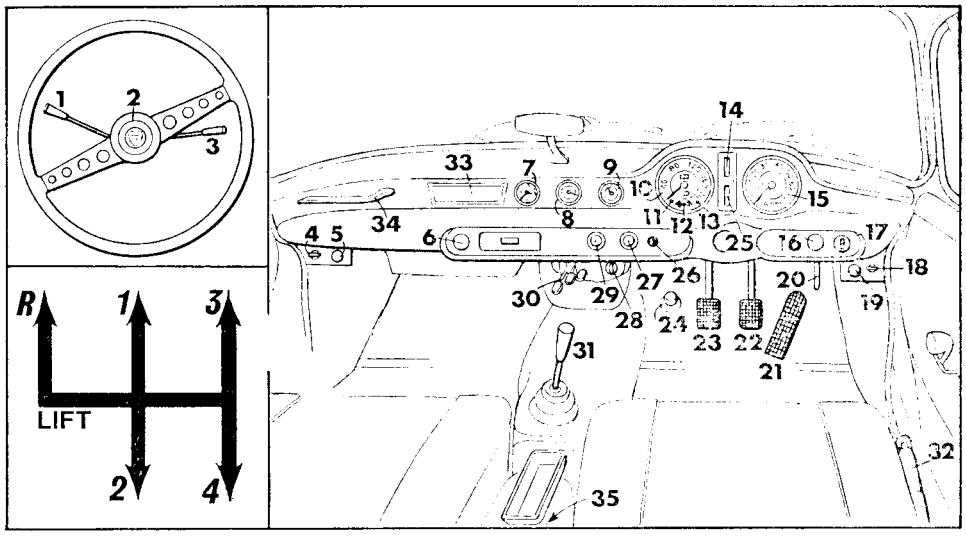
Major unit removal, brief notes:

Engine: may he removed with, or without gearbox.

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

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

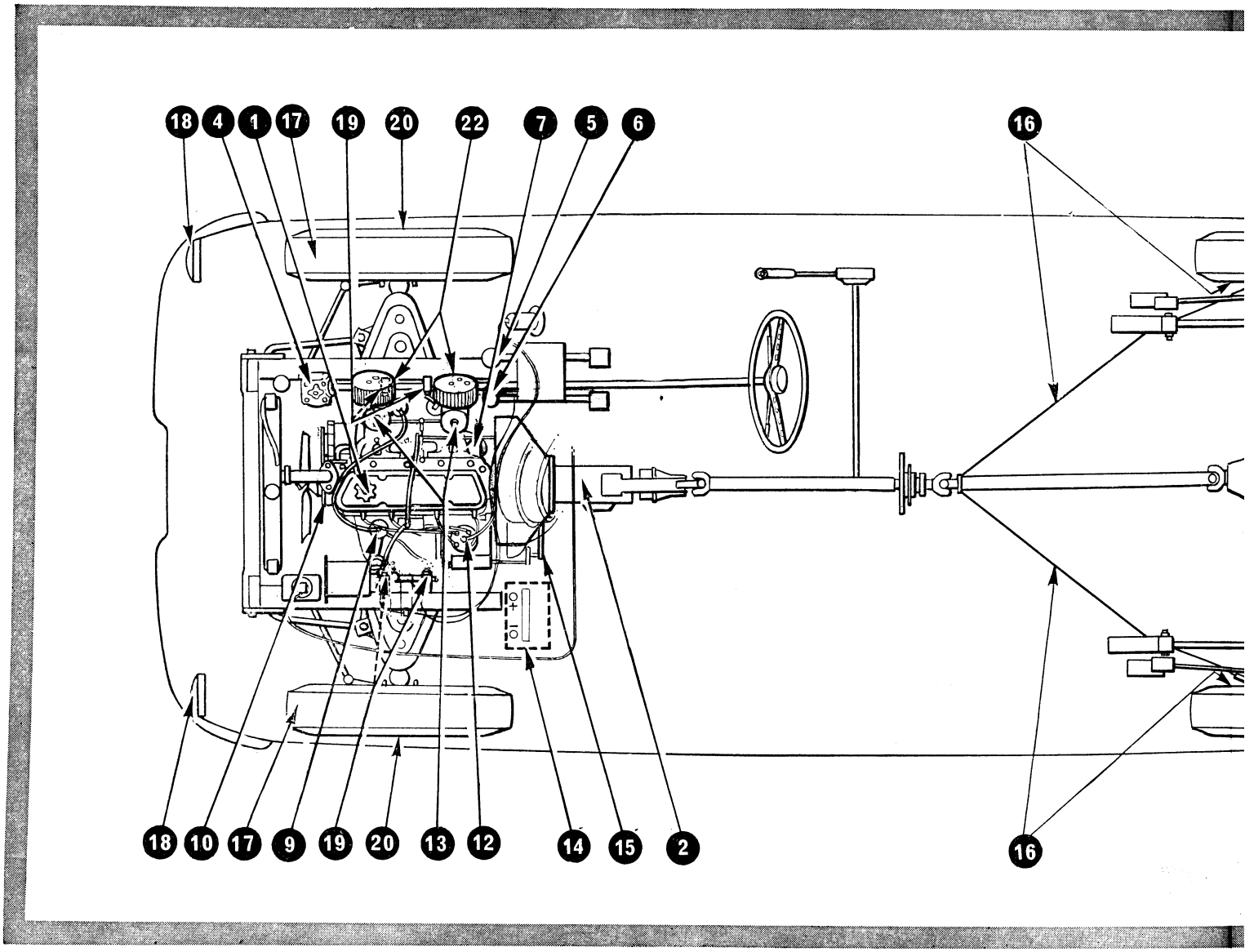
Brakes: Tool No. SVO 1791 is required to remove rear brake hubs.




INSTRUMENTS. CONTROLS AND GEAR POSITIONS

1. Indicators and headlamp flasher
2. Horn
3. Overdrive selector lever
4. Map light
5. Ventilation control
6. Cigar lighter
7. Clock
8. Oil pressure gauge
9. Fuel gauge
10. Speedometer
11. Ignition warning light
12. Indicators warning light
13. Main beam warning light
14. Water temperature gauge
15. Revolution counter
16. Lighting switch
17. Ignition switch
18. Interior light switch
19. Ventilation control
20. Bonnet release
21. Accelerator
22. Brake pedal
23. Clutch pedal
24. Dipswitch
25. Oil temperature gauge
26. Overdrive warning light
27. Windscreen wipers and washers
28. Choke
29. Fan control
30. Heater and ventilation controls
31. Gearlever
32. Handbrake
33. Radio panel (remove for radio fitting)
34. Grab handle
35. Seat belt anchorage

Inset shows siting of steering column controls and gearlever positions.




## GENERAL DATA

| | |
|---|---|
| Wheelbase | 8ft $\frac{1}{2}$in |
| Track: front and rear | 4ft 3$\frac{3}{4}$in |
| Turning circle | 31ft 2in |
| Ground clearance | 6$\frac{1}{16}$in |
| Tyre size | 165.15 |
| Overall length | 14ft 5$\frac{1}{4}$in |
| Overall width | 5ft 7in |
| Overall height | 4ft 2$\frac{1}{2}$in |
| Weight | 2,670lb |

## BRAKES

| | Front | Rear |
|---|---|---|
| Type | Disc | drum |
| Diameter | 10.86in | 9in |
| Lining: length | — | 8.66in |
| width | | 2in |
| thickness | new .5-.504in<br>recon .48in min | $\frac{3}{16}$in |
| No. of rivets per shoe | — | 10 |

## SPRINGS

| | Front | Rear |
|---|---|---|
| Type | coil | coil |
| Material thickness | .55-.563in | .441-.449in |
| Number of coils | 8.7 | 10.7 |
| Loading for spring length of 7$\frac{11}{16}$ ins. | 1062-1126 lbs. | — |
| Loading for spring length of 9$\frac{31}{64}$ ins. | — | 504-515 lbs. |

## REPLACEMENT DATA

| UNIT | | PART No. |
|---|---|---|
| Engine water hoses: top | CH 19174 | 657876-9 |
| | CH 19175 | 676556-4 |
| bottom | CH 19174 | 662072-3 |
| | CH 19175 | 671840-7 |
| Heater hoses | | 661560-3 |
| | | 661551-2 |
| Fan belts | | 419407-2 |
| Clutch plate | | 418871-0 |
| Release bearing | | 181428-4 |
| Brake pads: front | CH 6999 | 275819-1 |
| | CH 7000-12393 | 275849-8 |
| | CH 12394 | 275869-6 |
| Brake linings: rear | CH 12393 | 275820-9 |
| | CH 12394 | 275872-0 |
| Screenwiper blades: | | 665638-3 |
| Battery type | | Lucas BT29A |

## SHOCK ABSORBERS

| | |
|---|---|
| Make | Gabriel or Delco |
| Type | telescopic |
| Service | replacement |

## FRONT END SERVICE DATA

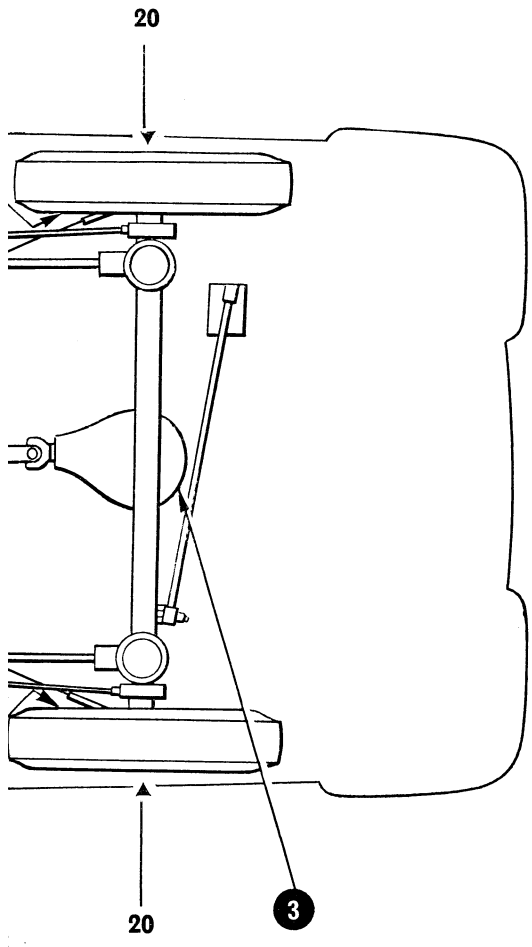
| | |
|---|---|
| Castor | 0 to +1° |
| Camber | 0 to +$\frac{1}{2}$° |
| King pin inclination | 8° |
| Toe-in | 0 to $\frac{5}{32}$in |
| No. of turns lock to lock | 3$\frac{1}{4}$ |
| Adjustments: castor, camber | shims |
| toe-in | screwed track rod ends |

## FILL-UP DATA

| | PINTS | LITRES |
|---|---|---|
| Engine sump | 5$\frac{3}{4}$ | 3.25 |
| Gearbox & Overdrive | 2$\frac{3}{8}$ | 1.6 |
| Rear axle | 2$\frac{1}{4}$ | 1.3 |
| Cooling system | 2 gals. | 9 |
| Fuel tank | 10 gals | 45 |
| Tyre pressures: front | 26psi | 1.83Kg/cm$^2$ |
| rear | 28psi | 1.97Kg/cm$^2$ |

## TUNE-UP DATA

| | |
|---|---|
| Firing order | 1-3-4-2 |
| Tappet clearance: inlet | .020in |
| exhaust | .020in |
| Standard ignition timing | 17-19° BTDC |
| Location of timing mark | pulley&pointer |
| Plugs: make | Bosch |
| type | W 225 T1 |
| gap | .028-.032 in. |
| Carburettor: make | SU |
| (twe) type | HS6 (twin) |
| Settings: choke | 1$\frac{3}{4}$in |
| main jet | .10 in. |
| needle size | TZ or ZH |
| idling speed | 600-800 r.p.m. |
| Damper oil grade | SAE20 (not multigrade) |
| Air cleaner: type | paper element |
| Fuel pump: make | AC |
| type | diaphragm UG |
| pressure | 1.5-2.5 psi |




## 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. **Clutch fluid level**

(2–6: 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. **Carburettors**—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
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

## FIRST 1500 MILES SERVICE

(NB—The numbers on this list do **NOT** refer to diagram adjacent)

1. **Engine oil**—change
2. **Gearbox**
3. **Rear axle**
4. **Steering box**
5. **Battery**
6. **Cooling system**

(2–6: check and top up)

7. **Valve clearances**
8. **Fan belt**
9. **Idling setting**

(7–9: check and adjust)

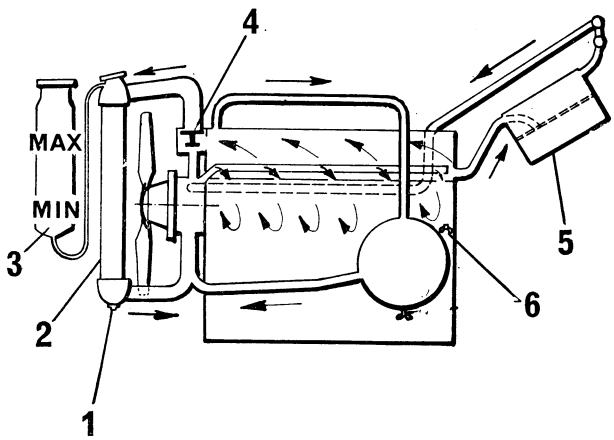
10. **Carburettor synchronisation**—check
11. **Engine and cooling system**—check for fluid leakages
12. **Battery terminals**—tighten and smear with vaseline
13. **Horn, indicators, all lighting and screenwipers**—check function
14. **Dynamo and starter motor**—check cable connections
15. **Clutch and brake pedals**
16. **Hand and footbrake**
17. **Front wheel alignment**

(15–17: check and adjust)

18. **Hydraulic pipes**
19. **Steering box**

(18–19: check for leakage)

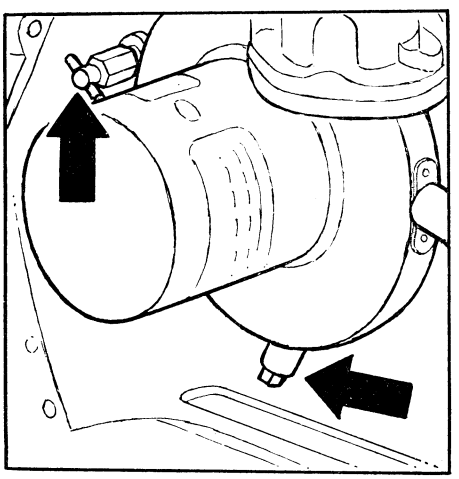
20. **Tyres**—check pressures and wear
21. **Door locks, catches, hinges, pivots and winding handles, etc.**—check and lubricate




*Left: 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.*

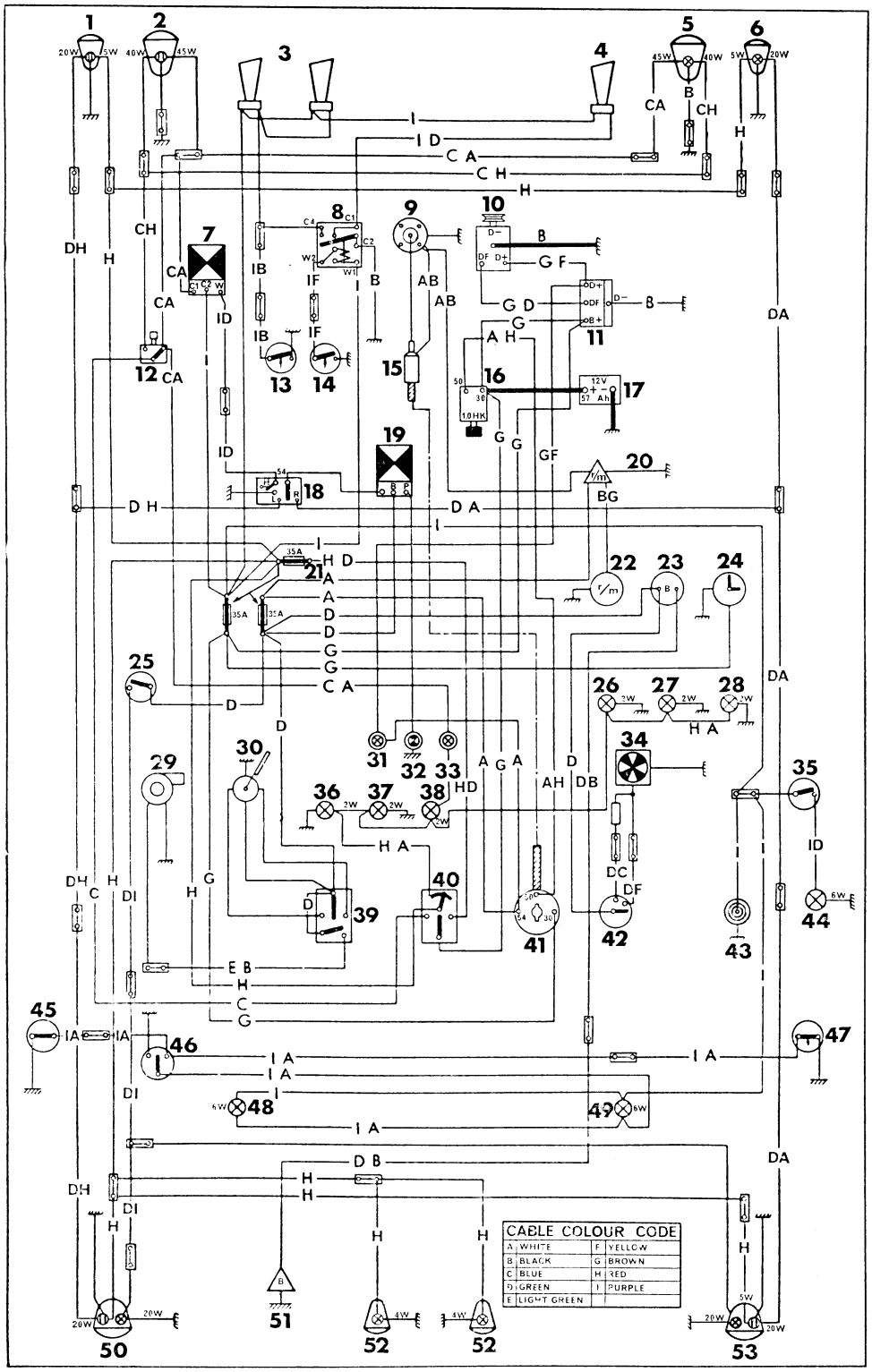
1. *Drain plug*
2. *Radiator*
3. *Expansion tank*
4. *Thermostat*
5. *Heater*
6. *Drain cock*

*Right: shows the siting of the cylinder block draining point lower arrow denotes oil cooler drain point.*



## 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 | Energol SAE 20W or Energol Visco-Static | Mobiloil Special |
| Gearbox | Havoline 30 | Esso Extra Motor Oil 20W/30 | Castrol XL | Shell X-100 30 | Energol SAE 30 | Mobiloil A |
| Rear Axle and Steering box | Multigear Lub. EP 90 | Esso Gear Oil GP 90 | Castrol Hypoy | Spirax 90EP | Energol SAE 90 EP | Mobilube GX90 |
| Chassis Greasing | Marfak All Purpose 2 | Esso Multi-purpose Grease H | Castrolease LM | Retinax A | Energrease L2 | Mobilgrease Special or Mobilgrease MP |



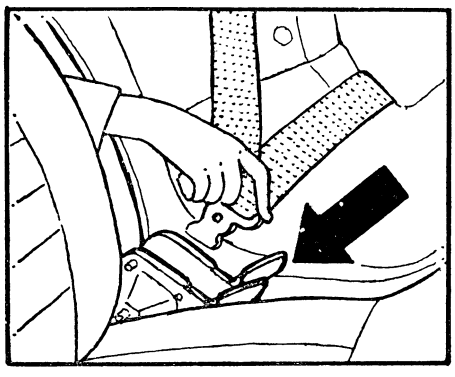

## KEY TO WIRING DIAGRAM

1. Flasher and parking light, left
2. Headlight, left
3. Horn
4. Loud tone horn
5. Headlight, right
6. Flasher and parking light, right
7. Relay for headlight flasher
8. Horn relay
9. Distributor
10. Generator
11. Charging control
12. Foot dimmer switch
13. Horn button
14. Lever for loud tone horn
15. Ignition coil
16. Starter motor
17. Battery
18. Directional indicator switch
19. Flasher impulse unit, directional indicators
20. Revolution counter sender
21. Fuses
22. Revolution counter
23. Fuel gauge
24. Clock
25. Brake contact
26. Instrument lighting
27. Instrument lighting
28. Instrument lighting
29. Windshield washer
30. Windshield wipers
31. Warning lamp, charging
32. Warning lamp, directional indicators
33. Warning lamp, full headlights
34. Heater
35. Switch, map-reading light
36. Instrument lighting
37. Instrument lighting
33. Instrument lighting
39. Controls for windshield wipers and windshield washers
40. Lighting controls
41. Ignition switch
42. Heater controls
43. Cigarette lighter
44. Map-reading light
45. Door contact
46. Switch for roof light
47. Door contact
48. Roof light
49. Roof light
50. Rear light, left
51. Fuel gauge sender
52. Number plate lighting
53. Rear light, right

The electrical equipment is protected by means of three 35A fuses, located in fuseboxes on the left-hand wheel arch

**LAMP BULBS**

| | Voltage | Wattage |
|---|---|---|
| **Headlamps** | 12 | 45/40 |
| **No. plate** | 12 | 6 |
| **Rear lights/flashers** | 12 | 20/5 |
| **Stop lights** | 12 | 20 |
| **Instrument lighting** | 12 | 2.4 |
| **Flashers and parking lights** | 12 | 20/5 |
| **Map-reading light** | 12 | 6 |
| **Roof light** | 12 | 5 |
| **Control light (directional flashers)** | 12 | 2.4 |
| **Control light (headlamps)** | 12 | 2.4 |
| **Control light (charging)** | 12 | 2.4 |
| **Control light (overdrive)** | 12 | 2.4 |



*Left: shows the correct method of attaching the safety belt clip. Right: shows the method of adjusting the front seats. Handle (1) when moved sideways to centre of car releases lever lock. Knurled knob (2) adjusts inclination of seat back-rest and vertical adjustment is achieved using bolts and nuts (3) on the slide rails. Slacken upper nuts and set lower nuts to give desired seat position. Screws either side of backrest frame provide adjustment for lumbar support*