

Motor Trader

CONTINENTAL SERVICE DATA NO. 30/CSD

VOLVO 221 /223S Estate Car

U.K. Concessionaires: Volvo Concessionaires Ltd., P.O. Box 7, Tower Ramparts, Ipswich, Suffolk

Manufacturers: AB Volvo, Gothenburg, Sweden

ESTATE car versions of the Volvo Amazon series became available on the British market in 1963. The vehicle has four passenger doors and one rear loading door, horizontally-divided, raising of the upper half being assisted by a compressed-gas spring. Power output for the "S" models with the B18D twin carburettor 1.78-litre engine is stated to be 100bhp (DIN) at an engine speed of 5,000rpm. The B18A engine, with a single Zenith 36VN carburettor develops 75bhp (DIN) at an engine speed of 4,700rpm. A six-foot load platform is available when the rear seats are folded flat and capacity is said to be about 10cwt.

Mechanically, the car is similar to others in the range, with an orthodox arrangement of major components. The front-mounted engine drives a four-speed all-synchromesh gearbox through a single dry plate clutch and the drive is taken from the output shaft of the gearbox, via a propeller shaft to the reduction gear contained within the hypoid bevel drive contained within the rear axle.

Front suspension is independent, with coil springs and wishbone links, telescopic hydraulic shock absorbers and an anti-roll bar is included in the specification. At the rear, there is a live axle, which is located by radius arms and which uses coil springs and telescopic shock absorbers as the suspensory media.

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 dealers or from Volvo Concessionaires 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 distributor 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.

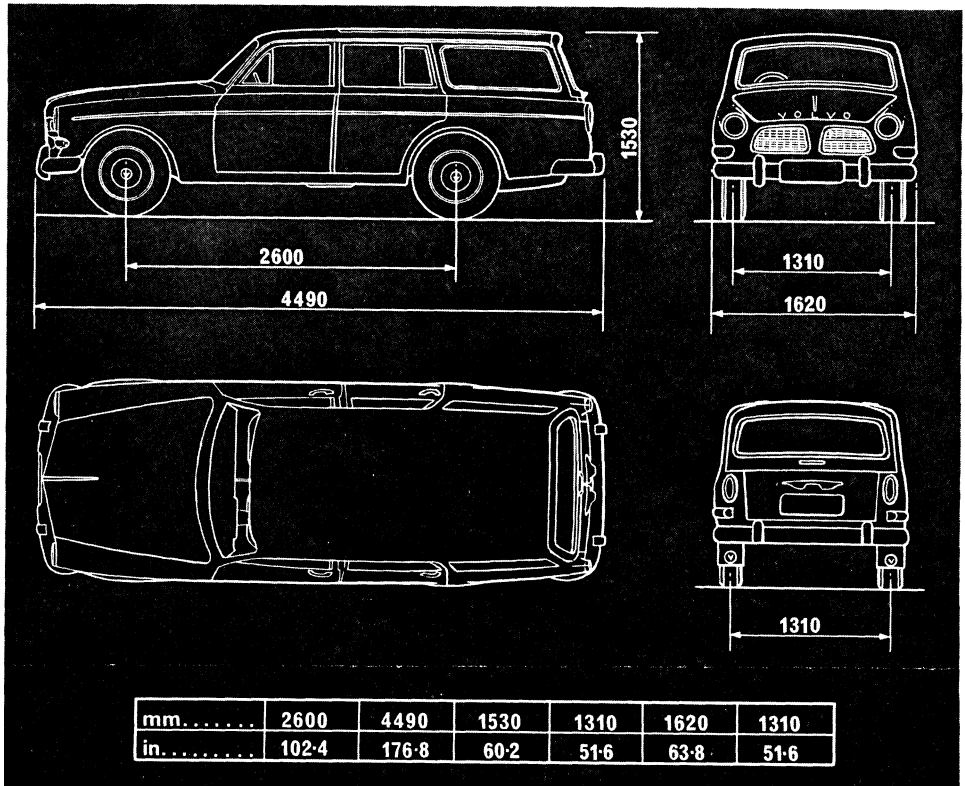
Major Unit Removal Brief Notes:

Engine: may be taken out with or without gearbox.

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

Clutch: access to clutch unit is obtained after removal of engine from gearbox.

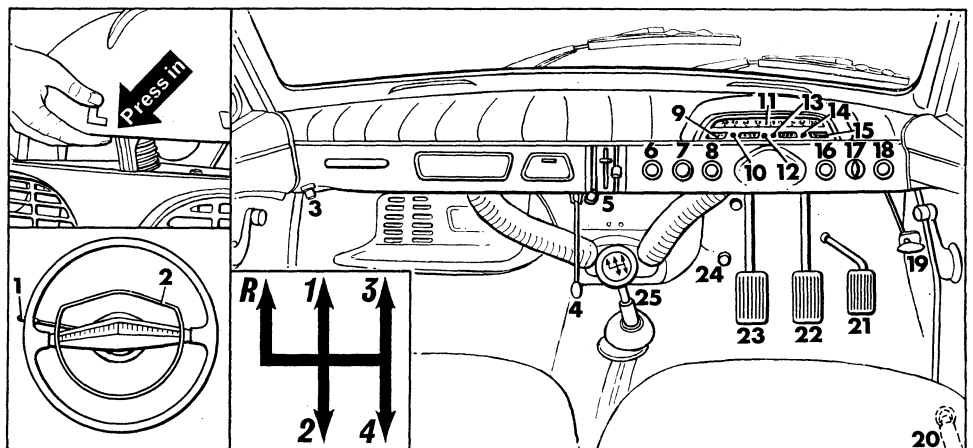
Brakes: no special tools are required for service work.

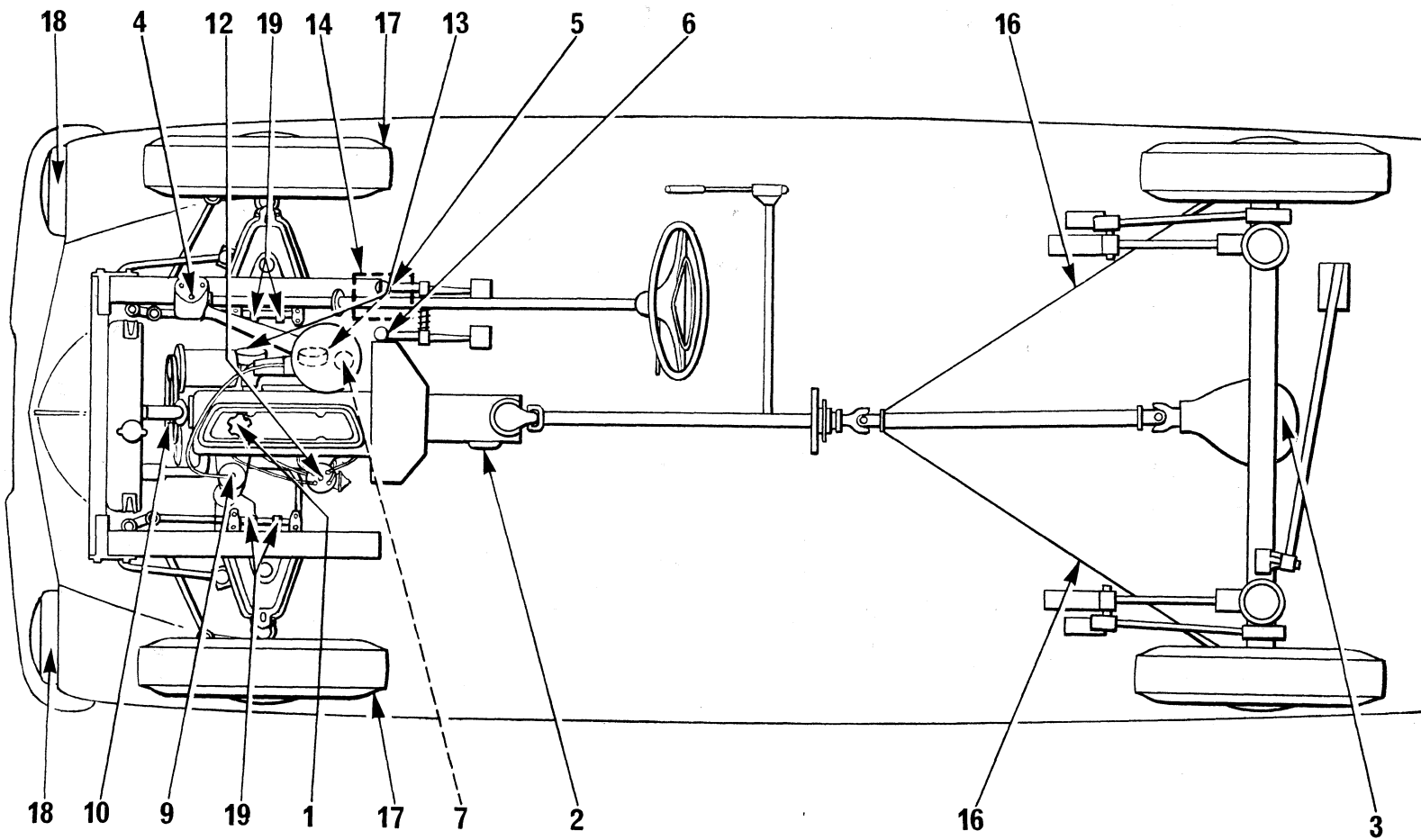


Dimensioned views of the car showing measurements in English and Metric equivalents

INSTRUMENTS, CONTROLS, GEAR POSITIONS AND BONNET LOCK

- | | | |
|---|---------------------------------------|---|
| 1. Direction indicator lever | 9. Temperature gauge | 17. Lighting switch |
| 2. Horn ring | 10. Ignition warning light | 18. Windscreen wiper and washer control |
| 3. Map light | 11. Speedometer | 19. Bonnet release |
| 4. Radiator blind control | 12. Main beam warning light | 20. Handbrake |
| 5. Heater control | 13. Direction indicator warning light | 21. Accelerator |
| 6. Two-speed fan | 14. Oil pressure warning light | 22. Brake pedal |
| 7. Cigarette lighter | 15. Fuel gauge | 23. Clutch pedal |
| 8. Choke control | 16. Ignition/starter switch | 24. Dip switch |
| Note: Early type steering wheel shown below | | 25. Gear lever |

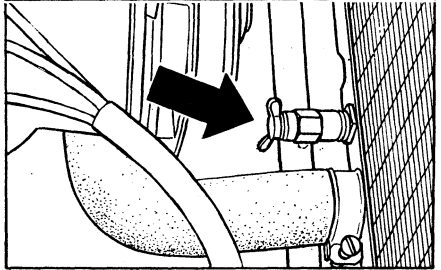




BRAKES		
	Front	Rear
Type (hyd. with servo)	disc	drum
Diameter	10.57in	9.0in
Lining: length	—	8.66in
width	—	2.0in
thickness	.5-.544in	$\frac{3}{8}$ in
Pad area per wheel	14.3sq in	—
No. of rivets per shoe	—	10

GENERAL DATA	
Wheelbase	8ft 6.4in
Track: front	4ft 3.6in
rear	4ft 3.6in
Turning circle	33ft 8in
Ground clearance	7in
Tyre size: front	6.40-15
rear	
Overall length	14ft 8.8in
Overall width	5ft 3.8in
Overall height	5ft 0.2in
Weight (dry)	2,645lb

DRAINING POINTS

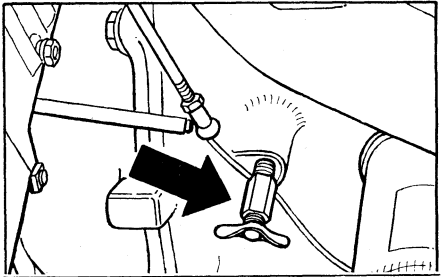


Radiator drain point is indicated by a bold arrow

SHOCK ABSORBERS	
Make	Volvo
Type	double acting telescopic hydraulic replacement
Service	

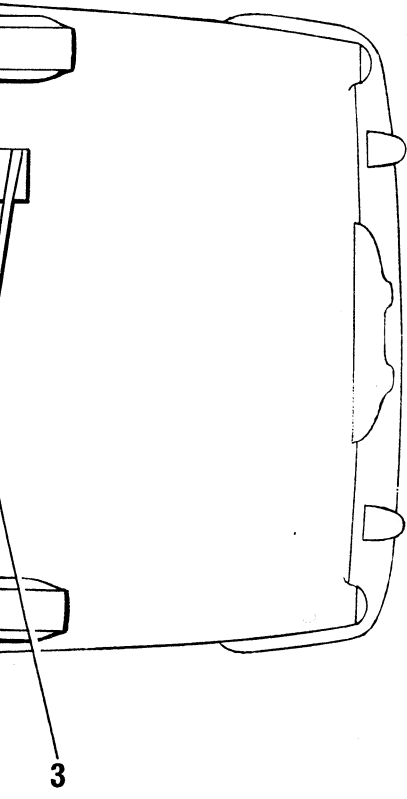
SPRINGS		
	Front	Rear
Type	coil	coil
Width	—	—
No. of leaves	—	—
Free camber (length, coil)	not quoted	not quoted
Loaded camber (length, coil) at load	7.68in at 1060-1126 lb.	9.72lb at 608-648 lb.

FRONT END SERVICE DATA	
*Castor	0° to 1° pos
*Camber	0° to $\frac{1}{2}$ ° pos
*King pin inclination	8°
	(at NIL camber)
*Toe-in	0-.16in
No. of turns lock to lock	3 $\frac{1}{2}$
Adjustments: castor	shims
camber	screwed track
toe-in	rod ends
* Unladen vehicle	



Cylinder block drain point is indicated by a bold arrow

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
- } 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, (-016-020in) reset ignition timing
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, remove drums & shoes and disc pads for inspection
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

FIRST 1,500 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
 7. Valve clearances
 8. Fan belt
 9. Idling setting
 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
 18. Hydraulic pipes
 19. Steering box
 20. Tyres—check pressures and wear
 21. Door locks, catches, hinges, pivots and winding handles, etc.—check and lubricate
- } check and top up
- } check and adjust
- } check and adjust
- } check for leakage

FILL-UP DATA		
	Pints	Litres
Engine sump	5½	3.27
Gearbox	1½	.71
Rear axle	2½	1.28
Cooling system	16	7.67
Fuel tank	10 galls	45.4
Tyre pressures: front	20psi	1.4
rear*	24psi	Kg/cm ² 1.69
		Kg/cm ²

* For full load, passengers & luggage, increase to 30psi (2.11Kg/cm²)

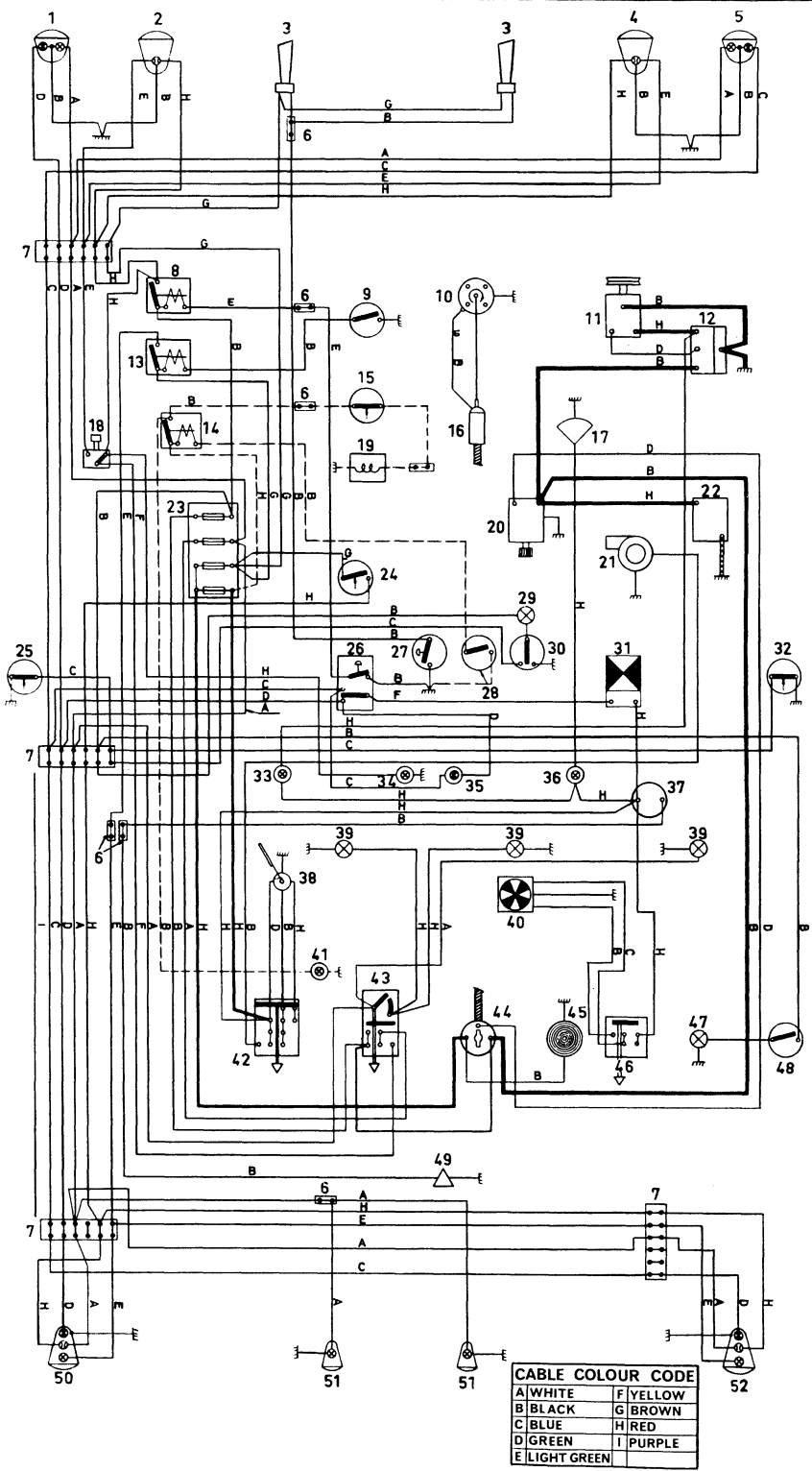
REPLACEMENT DATA	
Unit	Part No.
Engine water hoses: top	676556
bottom	676551
Heater hoses	660047
	661552
	13569
Fan belts: one	419407
Clutch plate	418905
Release bearing	380569
Brake linings: front discs	275869
rear drum	275872
Screenwiper blades	656979
Battery type & No:	
Tudor 6EX4E	261028

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 10W/30	Shell X-100 20 W 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 20W/50	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 90 EP	Energol SAE 90 EP	Mobilube GX90

KEY TO WIRING' DIAGRAM

1. Flasher and parking light, left.
 2. Headlight, left.
 3. Horn.
 4. Headlight, right.
 5. Flasher and parking light, right.
 6. Connector.
 7. Junction block.
 8. Relay for headlight signal.
 9. Reversing light contact.
 10. Distributor.
 11. Dynamo.
 12. Charging control.
 13. Relay for reversing light.
 14. Relay for overdrive.*
 15. Overdrive contact.*
 16. Ignition coil.
 17. Oil pressure warning indicator.
 18. Foot dipper switch.
 19. Solenoid for overdrive.*
 20. Starter motor.
 21. Windscreen washer.
 22. Battery.
 23. Fuse box.
 24. Brake contact.
 25. Door contact, left.
 26. Light signal device.
 27. Relay for horn.
 28. Overdrive switch.*
 29. Roof light.
 30. Switch for roof light.
 31. Flasher unit, direction indicators.
 32. Door contact, right.
 33. Control lamp for charging.
 34. Control lamp for full-beam headlights.
 35. Control lamp for direction indicators.
 36. Control lamp for oil pressure.
 37. Fuel gauge.
 38. Windscreen wiper.
 39. Instrument lighting.
 40. Ventilation fan.
 41. Control lamp for overdrive.
 42. Control for windscreen wiper and washer.
 43. Lighting switch.
 44. Ignition switch.
 45. Cigarette lighter.
 46. Control for ventilation fan.
 47. Glove compartment lighting.
 48. Switch for glove compartment.
 49. Fuel gauge impulse unit.
 50. Rear lamp, left, with rear light, stop light, flasher and back-up light.
 51. Number plate lighting.
 52. Rear lamp, right, with rear light, stop light, flasher and back-up light.
- * Applied only to cars equipped with overdrive.



LAMPS

Lamps	Part No.	Voltage	Wattage	Cap
Head	277730	12	45/40	P45
Front Flasher	277721	12	21	BA15D
Stop tail	277729	12	21/5	BA15D
Rear flasher	277721	12	21	BA15D
Number plate	277713	12	5	S8
Reverse	277729	12	21/5	BA15S
Flasher repeater	277703	12	2	BA9S
Interior	277715	12	10	S8
Panel	277703	12	2	BA9S
Map	277703	12	2	BA9S
Courtesy	277715	12	10	S8
Ignition warning	277703	12	2	BA9S
Main beam warning	277703	12	2	BA9S
Flasher warning	277703	12	2	BA9S
Petrol warning	277703	12	2	BA9S
Oil warning	277705	12	6	BA9S

TUNE-UP DATA

	1-3-4-2	22334
Firing order	22134	22334
Engine type		
Tappet clearance (hot/cold):		
inlet	.016in	.020in
exhaust	.018in	.022in
Valve timing:		
inlet opens		
inlet closes		
exhaust opens		
exhaust closes		
	not quoted	
Standard ignition timing at 1500rpm	20-23°	17-19°
Location of timing mark	BTDC*	BTDC†
Plugs: make	Bosch	crankshaft pulley
type	W175T1	W200T35
size	14mm	14mm
gap	.028—	.020—
	.030in	.030ih
Carburettor: make**	Zenith	S.U.
	Stromberg	
	175CD2S	HS6 (2)
Settings:		
choke		1 3/4in
main jet		.10in
needle		KD
Air cleaner: make		Volvo
type		paper
		element
Fuel pump: make	AC	
type	YD	
pressure:		
min	1.5psi	
max	3.5psi	

* 97 Octane fuel † 100 Octane fuel
 ** Early 1967 cars are fitted with 36 V.N Zenith carburettors