

The Motor Road Test No. 11/60

Make: Valiant

Type: V200 Station Wagon
(with automatic transmission)

Makers: Chrysler Corporation, Detroit 31, Michigan, U.S.A.

Concessionaires: Chrysler Motors, Ltd., Mortlake Road, Kew Gardens, Richmond, Surrey.

Test Data

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CONDITIONS: Weather: Fine, cool, light wind. (Temperature 42°-47°F., Parameter 29.2 in. Hg.) Surface: Dry tar macadam. Fuel: Mixture grade pump petrol (approx. 90-92 Research Method Octane Rating).

INSTRUMENTS.

Speedometer at 30 m.p.h. 13% slow
Speedometer at 60 m.p.h. 11% slow
Speedometer at 80 m.p.h. 10% slow
Distance recorder 15% slow

WEIGHT

Kerb weight (unladen, but with oil, coolant and fuel for approx. 50 miles) 26½ cwt.
Front/rear distribution of kerb weight 52/48
Weight laden as tested 30½ cwt.

MAXIMUM SPEEDS

Mean of two laps of banked test circuit 92.3 m.p.h.
Best one-way quarter mile on straight 93.8 m.p.h.

"Maximile" speed. (Timed quarter mile after one mile accelerating from rest.)

Mean of opposite runs 87.4 m.p.h.
Best one-way time equals 88.2 m.p.h.

Speed in gears

Max. speed in intermediate gear .. 60 m.p.h.
Max. speed in low gear 33 m.p.h.

FUEL CONSUMPTION

31½ m.p.g. at constant 30 m.p.h. on level.
29½ m.p.g. at constant 40 m.p.h. on level.
26½ m.p.g. at constant 50 m.p.h. on level.
23½ m.p.g. at constant 60 m.p.h. on level.
21 m.p.g. at constant 70 m.p.h. on level.
18½ m.p.g. at constant 80 m.p.h. on level.

Overall Fuel Consumption for 1,239 miles, 66.3 gallons, equals 18.7 m.p.g. (15.1 litres/100 km.)

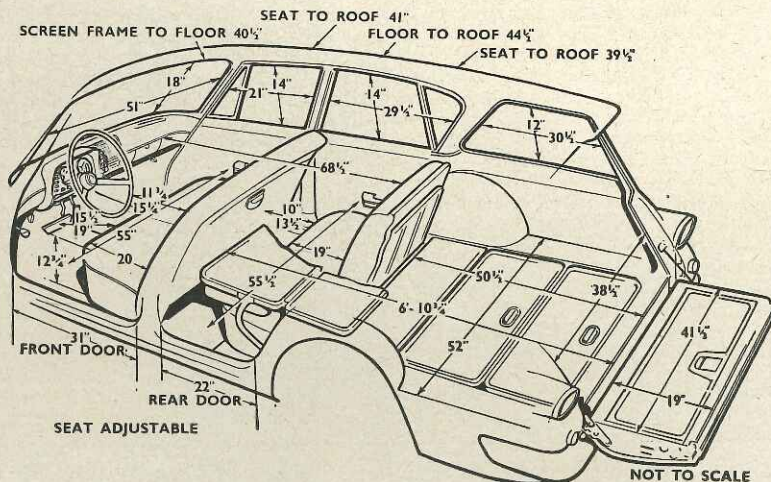
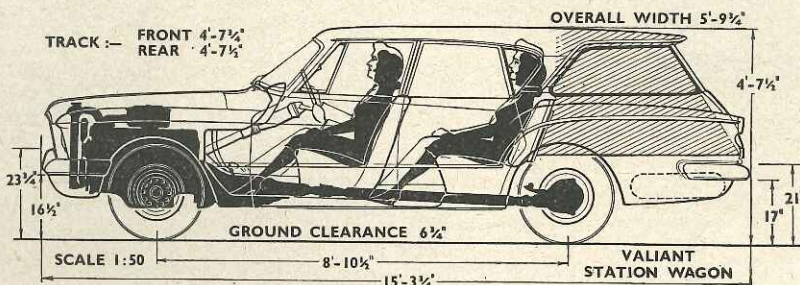
Touring Fuel Consumption (m.p.g. at steady speed midway between 30 m.p.h. and maximum, less 5% allowance for acceleration). 21.8 m.p.g.
Fuel tank capacity (maker's figure) 10½ gallons.

STEERING

Turning circle between kerbs:
Left 35 ft.
Right 35 ft.
Turns of steering wheel from lock to lock 4½

BRAKES from 30 m.p.h.

0.96 g retardation (equivalent to 31½ ft. stopping distance) with 100 lb. pedal pressure.
0.86 g retardation (equivalent to 35 ft. stopping distance) with 75 lb. pedal pressure.
0.48 g retardation (equivalent to 63 ft. stopping distance) with 50 lb. pedal pressure.
0.20 g retardation (equivalent to 151 ft. stopping distance) with 25 lb. pedal pressure.



ACCELERATION TIMES from Standstill

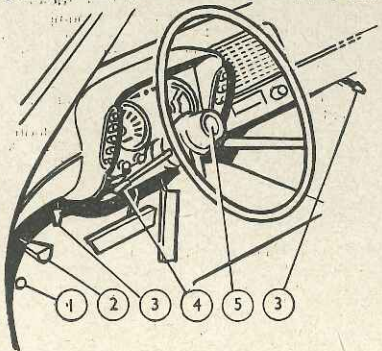
0-30 m.p.h.	5.0 sec.
0-40 m.p.h.	8.4 sec.
0-50 m.p.h.	12.6 sec.
0-60 m.p.h.	17.0 sec.
0-70 m.p.h.	26.3 sec.
0-80 m.p.h.	39.3 sec.
Standing quarter mile	21.4 sec.

ACCELERATION TIMES on Upper Ratios

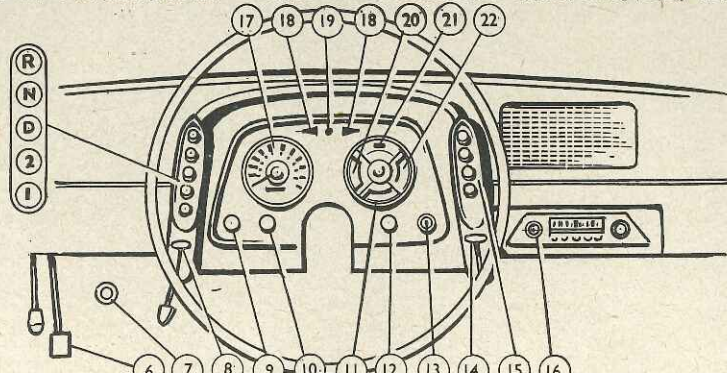
Drive range	Top gear
0-20 m.p.h. ..	2.7 sec.
10-30 m.p.h. ..	3.9 sec.
20-40 m.p.h. ..	5.7 sec.
30-50 m.p.h. ..	7.6 sec.
40-60 m.p.h. ..	8.6 sec.
50-70 m.p.h. ..	13.7 sec.
60-80 m.p.h. ..	22.3 sec.

HILL CLIMBING at sustained steady speeds

Max. gradient on top gear .. approx. 1 in 7½ (Tapley 295 lb./ton)
Max. gradient on intermediate gear approx. 1 in 5½ (Tapley 405 lb./ton)



1. Dip switch. 2. Parking brake release. 3. Cold air vent (one each side). 4. Direction indicator switch. 5. Horn button. 6. Parking brake. 7. Windscreen washer control. 8. Transmission parking lock (Transmission selector buttons above).



9. Lights switch and panel-light rheostat. 10. Windscreen wipers switch. 11. Fuel contents gauge. 12. Rear window control. 13. Ignition and starter switch. 14. Heater temperature control. 15. Heater fan and distribution controls. 16. Radio. 17. Speedometer and distance recorder. 18. Direction indicator warning lights. 19. Headlamp main beam indicator. 20. Water thermometer. 21. Oil pressure warning light. 22. Ammeter.

The VALIANT STATION WAGON

America's Latest
and Largest
"Compact" Car

TWIN HEADLAMPS which provide an excellent driving light, and a big radiator grille, are recognition points of the "compact" car from the Chrysler Corporation. The Valiant is available in saloon or station wagon form.



PRODUCT of the sharp reaction of a section of the North American public against the trend for ever larger and more flamboyant cars, the three "compact" models introduced by the American Big Three manufacturers at the back end of last year represent three different conceptions of how to appease this growing new American demand for smaller cars. Two of them have already been tested by *The Motor*. Here we are concerned with the last—and largest—of them to be announced, the Chrysler Corporation's Valiant.

By European standards, it is very far from being a small car but, as its makers emphasize in their catalogue appeal to the North American public, it "is two feet shorter than most cars have been for 20 years." In terms of precise dimensions, that means an overall length of 15 ft. 4 in., which is slightly larger than the normal run of what Europeans regard as a medium-sized car. In respect of height, however, it is compact by any standards, with a roof level of less than 4 ft. 6 in.

Like the other two U.S. compact cars, the Valiant departs from normal American practice by dispensing with a separate chassis in favour of unitary construction. The 2.8-litre engine breaks fresh ground in being inclined at an angle of 30 deg. to the vertical—an arrangement which serves

the dual purpose of lowering the bonnet line and permitting the use of a very long horizontal light-alloy induction manifold with individual pipes to the six separate ports. Engine length has been minimized by mounting the water pump to one side. The greatest break with convention, however, lies in the use of an alternator in place of a conventional dynamo. Unlike the latter, it produces a useful charge at tick-over speed and also saves some 9½ lb. in weight.

In performance, handling, comfort and, above all, quietness, the Valiant reaches a very high standard indeed. Unfortunately, its general excellence in these respects is marred by coachwork details which can only be described as shoddy.

The model supplied for test was a V-200 (de luxe) station wagon. In outline, this car follows the normal saloon lines as far as the rear doors, behind which the roof is extended, estate-car fashion, to provide a quite exceptional amount of luggage room. Aesthetically the effect is a somewhat incongruous blend of saloon and estate-car styling which is not particularly attractive to European eyes, although it doubtless calls for no adverse comment in its country of origin where this mixture of styles is common enough. From the front, the Valiant is commendably restrained, with a European-style radiator grille

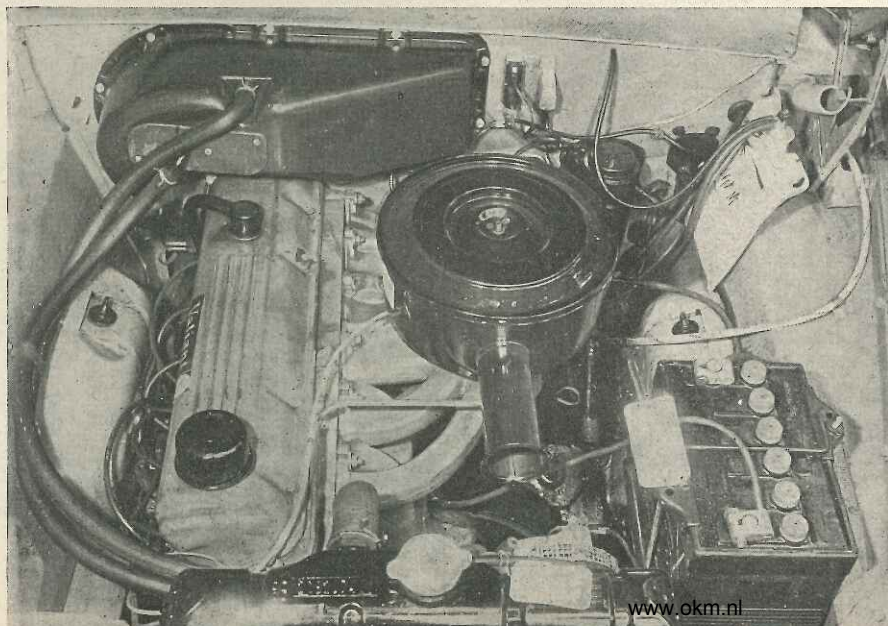
flanked by twin headlamps on each side.

On the road, the Valiant, besides being the largest, is also the fastest and most lively of the new American "compacts," and the model tried proved capable of over 92 m.p.h. in spite of its large estate car body. What is much more notable than its performance (which is good rather than remarkable for a 2.8-litre car) is the very high standard of quietness throughout the entire speed range. On a long run it is a particularly restful car to drive, and even when cruising at 70 or 80 m.p.h. conversation can be carried on in normal tones.

Not unexpectedly, the Valiant is rather less economical of fuel than the other compacts, but its touring consumption of 21.8 m.p.g. is entirely moderate for the room and performance provided. The engine has an automatic choke calling for a single depression of the accelerator pedal before operating the combined ignition and starter switch, and the response was always immediate. On British "mixture" grades of petrol (equivalent in octane rating to American "regular"), the engine is completely free from knock, although an experiment with British "regular grade" fuel produced appreciable pinking.

The automatic transmission offered on this model, and fitted to the test car, is a version of the Torque-Flite system already in wide use on other Chrysler products. Control is by a system of illuminated push-buttons flanking one side of the instrument panel, these giving (from top to bottom)

FASTER than its direct competitors, the Valiant is powered by this new 2.8-litre 6-cylinder engine which leans over at an angle of 30°. Behind the 12-volt battery is the flexible water bag of the windscreen washer.



In Brief

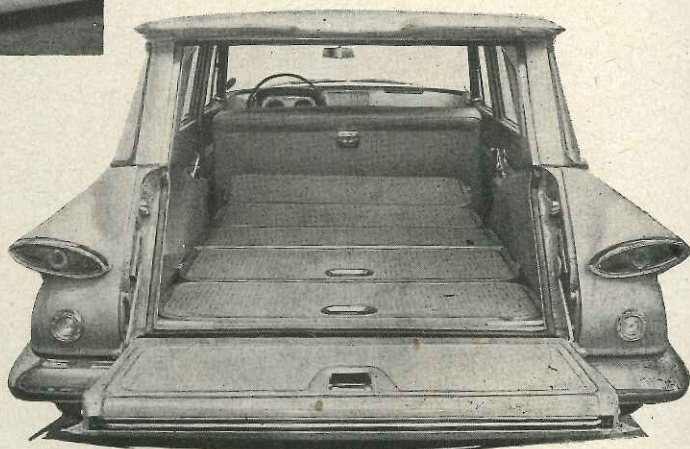
Price (including automatic transmission as tested)	£1,700 plus purchase tax
	£709 9s. 2d. equals £2,409 9s. 2d.
Price of V100 saloon with 3-speed gearbox (including purchase tax)	£1,899 9s. 2d.
Capacity	2,790 c.c.
Unladen kerb weight	26½ cwt.
Acceleration:	
20-40 m.p.h. in top gear	7.7 sec.
0-50 m.p.h. through gears	12.6 sec.
Maximum top gear gradient	1 in 7½ (approx.)
Maximum speed	92.3 m.p.h.
"Maximile" speed	87.4 m.p.h.
Touring fuel consumption	21.8 m.p.g.
Gearing: 21.8 m.p.h. in top gear at 1,000 r.p.m.; 41.9 m.p.h. at 1,000 ft./min. piston speed.	



The VALIANT STATION WAGON

WIDE enough for 3-abreast seating at front and rear, the station wagon can gain additional passenger capacity if the option of a rearward-facing third seat in the tail of the body is specified.

FOLDING the rear seat forward leaves this vast expanse available for baggage, the tail gate extending the length of flat floor if it is left open

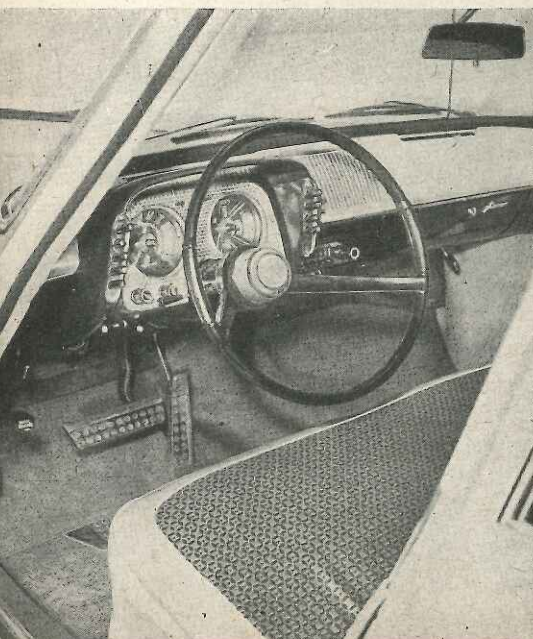


reverse, neutral, drive range, second and first. Normal motoring, is of course, carried out in the drive range which caters quite exceptionally well for all ordinary conditions.

With the torque converter to give a smooth take-off, the car glides unobtrusively away in first, changes almost imperceptibly into intermediate and subsequently into top. These changes take place at relatively low speeds on light throttle openings but can be delayed to about 33 m.p.h. and 60 m.p.h. respectively by keeping the accelerator pedal fully depressed for maximum acceleration; even in these conditions the changes are made with unusual smoothness and the same applies to downward changes. The system, moreover, is free from the annoying habit of "hunting" (i.e., fluctuating between one gear and another on slightly varying gradients) and is, in fact, one of the best we have tried.

A kick-down arrangement (with a quick response) enables the lower gears to be engaged at will and, for descending steep hills, the first and intermediate gear buttons can be used as appropriate to provide engine braking; the intermediate button can also be used on long winding climbs where there are advantages in staying in a

SPORTING aspects of the cockpit are the sharply raked steering wheel, and legible instruments directly facing the driver. Flanking the dish steering wheel are push-button controls for the automatic gearbox (left) and heater (right).



single ratio. The lower gears are very quiet indeed.

As with many automatic transmissions, there is an inoffensive tendency for the car to creep slightly on tick-over, but the only point open to real criticism is the somewhat pronounced transmission thud (which can be felt as well as heard) which occurs when a gear is initially engaged with the car stationary, an effect which is exaggerated by the fast tick-over whilst the automatic choke is in action after a start from cold.

The springing gives a very level ride and, although first impressions are that rather more damping is desirable, this is not borne out by subsequent experience, the car neither pitching nor floating when travelling fast. Equally, the Valiant handles well over rough going and is free from axle tramp on steep and badly surfaced gradients. Restarting tests were made on both a smooth-surfaced gradient of 1 in 3 and on Station Hill, Lynton, where a wet and stony surface caused neither spin nor judder.

On corners, roll has been almost entirely eliminated and the Valiant has no unexpected tricks. The steering is very low geared, however, and a quick swerve requires immediate and very rapid action on the wheel. As one would expect, the steering effort required is very light and a turning circle of only 35 ft. comes as a pleasant surprise. On the straight, the Valiant follows a true course without constant attention to the wheel, and this applies in windy weather as well as on still days.

Unusual is a steering wheel which is very slightly elliptical to give better knee room. It is also very sharply dished as a safety measure but this has one penalty, making the central horn button distinctly in-

accessible. Other noteworthy control details include a foot parking brake with a hand-operated release, a parking pawl in the transmission and an exceptionally wide brake pedal for use by either foot—which is excellent so long as the driver is careful not to rest his spare foot below it!

The fascia board (or should one call it the console?) is typically American in conception, with a row of illuminated push-buttons for the heater to match those of the automatic transmission, and coloured, fluorescent (and variable) lighting for the dials; the latter are easy to read under all conditions and the small controls, if not approaching the ideal, are at least straightforward and not liable to confusion. To prevent reflections in the screen, the instruments are shrouded by a black hood, but the finish of this hood is unfortunately not matt and it causes vague but annoying reflections of its own—both in sunshine and when the car passes under bright street lights.

The interior heater is very efficient once its operation has been grasped. A point to note in this connection is that motion of the car alone does not induce heated air, blower assistance being necessary. Switched on full, the latter is extremely noisy and provides far more heat than is needed on an average English winter, but the "low" position provides an adequate supply of heated air at a blower speed which produces no discernible noise during normal running. There is also a temperature control and two separate vents for cold air which can be operated independently by driver or front passenger.

In common with most modern American cars, the Valiant has twin headlamps, one pair providing a dipped beam with a very wide spread (excellent on motorways) and the other a long-range beam. With the

headlamp switch in the main-beam position, all four lamps are in use to provide range as well as spread, and outstandingly good illumination results.

Vision all round is extremely good, but the wrap-round screen does cause some edge distortion which is a little disconcerting when emerging from a side road. Its shape also has the disadvantage in bad weather that the extremities are uncleaned by the wipers, the blades of which also sweep in opposite directions (instead of in parallel) and leave an unwiped V-section in the centre. Another minor vision fault is that the shape of the body draws mud on to the rear window. Excellent, on the other hand, are the hinged ventilating panels on the front windows, which are rather more weatherproof than most when open in heavy rain and, provided the right setting is found, cause very little wind noise and thus contribute to the quiet running of this car.

The driver's view to the front is over a low but distinctly featureless bonnet and the fact that the flattish tops of the wings overhang the wheels somewhat is, oddly enough, rather a handicap in placing the car because it is difficult to gauge the exact position of the wheels on the road until one becomes very familiar with the car.

The three-abreast bench-type front seat offers a satisfactory degree of comfort but lacks a folding central arm-rest to give lateral support for a single passenger. At the back, the fold-forward seat gives little support for the thighs and both the squab and cushion are far less resilient than one could desire, whilst headroom, very adequate at the front, is distinctly lacking at the back. Another curious point is that high-frequency vibrations from certain types of roughened non-skid road surfaces can be felt in the rear seats, although virtually undetectable in the front.

Entry and exit to both compartments are moderately easy, although the combination



CURVED quarter windows and slim pillars provide a fine view backwards when the not-so-compact car is being reversed.

of a step-down floor, a low roof and the door restrictions imposed by a wrap-round screen causes some penalty in this respect.

As hinted earlier, the station wagon edition of the Valiant provides a quite exceptional amount of baggage space (72.3 cu. ft. with the rear seat folded forward) and the completely flat floor makes use of this space quite practical as sleeping quarters by campers. Access is obtained via the tail gate (which, of course, can be left down for particularly lengthy objects). The fact that the tail gate has a power-operated drop window (which is lowered automatically when the gate is unlocked and can also be controlled by a fascia-board switch) provides much better access than the more common arrangements of hinging the rear window upwards when opening-up the rear.

Although accommodation for actual luggage is quite outstanding, however, the Valiant Suburban is an annoying vehicle for those with tidy minds who hate odds

and ends strewn loosely about a luggage floor. No parcel shelves or door pockets are provided anywhere and the small locker on the fascia is a tawdry affair which is both insubstantial and inadequate.

The general standard of interior fittings and finish, in fact, is poor. Whilst the car was in our hands, the passenger's screen wiper blade became disconnected owing to the failure of a spring clip, one of the securing points of the driver's door arm-rest broke away, the lock on the passenger's door failed and a medallion on the cubby locker became loose. Failures of this kind leave a bad impression of any car, but are doubly disappointing to find on a model which is otherwise so fundamentally good and so pleasant to drive as this Valiant. When the first cars with right-hand drive arrive from Canada in May (at a lower price due to Imperial preference) buyers will hope for improved workmanship.

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Specification

Engine

Cylinders	6 in line, inclined at 30° to vertical
Bore	86.4 mm.
Stroke	79.4 mm.
Cubic capacity	2,790 c.c.
Piston area	54.5 sq. in.
Valves	Inclined o.h.v. (push rod)
Compression ratio	8.5/1
Carburettor	Ball and Ball 1½ in. single-barrel downdraught with automatic choke.
Fuel pump	Carter mechanical
Ignition timing control	Centrifugal and vacuum
Oil filter	Full-flow
Max. power (gross)	101 b.h.p.
at	4,400 r.p.m.
Piston speed at max. b.h.p.	2,290 ft./min.

Transmission

Chrysler "Torque-Flite" automatic with torque converter (2.2/1 maximum torque multiplication).	
Top gear	3.23
2nd gear	4.68
1st gear	7.92
Reverse	7.10
Propeller shaft	Open single piece
Final drive	Hypoid bevel
Top gear m.p.h. at 1,000 r.p.m.	21.8
Top gear m.p.h. at 1,000 ft./min.	
piston speed	41.9

Chassis

Brakes: Bendix hydraulic with foot-operated parking brake.	
Brake drum internal diameter:	
Front	9 in. (2½ in. wide)
Rear	9 in. (2 in. wide)
Friction lining area: 153.5 sq. in. of lining area working on 254 sq. in. rubbed area of drums.	
Suspension:	
Front: Independent by longitudinal torsion bars and ball-jointed unequal length wishbones.	
Rear	Semi-elliptic with asymmetrically mounted rigid axle
Shock absorbers	Oriflow telescopic hydraulic
Steering gear	Re-circulating ball worm and nut
Tyres	6.50-13

Coachwork and Equipment

Starting handle	None
Battery mounting	Under bonnet (L.H. side)
Jack	Single pillar ratchet type
Jacking points	Under bumpers
Standard tool kit:	Jack, tyre pump, wheelbrace and nave plate remover, three double-ended spanners, large normal screwdriver, medium size Phillips screwdriver, adjustable spanner, combination pliers, tubeless-tyre repair kit, touch-up paint, tool roll.
Exterior lights:	4 headlamps, 2 side/flashers, 2 rear/stop/flashers, number plate light, twin reversing lights.
Number of electrical fuses	3 plus 1 circuit breaker
Direction indicators:	Self-cancelling flasher type (white front, red rear).
Windscreen wipers	Twin electric self-parking
Windscreen washers	Twin jet, foot operated
Sun visors	Two, universally pivoted
Instruments:	Speedometer (with decimal mileage recorder but no trip), ammeter, fuel gauge, coolant thermometer.
Warning lights	Oil pressure, headlamp main beam, direction indicators

Locks:	
With ignition key	Front doors, rear gate, cubby locker
With other keys	Petrol filler cap
Glove lockers	One on fascia (with lock)
Map pockets	None
Parcel shelves	None
Ashtrays	Two (one on fascia board, one on back of front squab)
Cigar lighters	One (on fascia)
Interior lights:	One roof light with courtesy switches on front doors and switch on fascia.
Interior heater	Fresh-air heater and demister
Car radio	Optional extra
Extras available:	Automatic transmission, power brakes, power steering, radio, heater, variable speed screen wipers, tinted glass, wheel trims, reversing lamps, dimming rear mirror, etc.
Upholstery material	Nylon faced rayon
Floor covering	Rubber matting
Exterior colours standardized	6
Alternative body styles	3-seat estate car saloon

Maintenance

Sump	6½ pints, plus 1½ pints in filter, S.A.E. 30
Automatic gearbox	21½ pints, Automatic Transmission Fluid type "A"
Rear axle	3½ pints, S.A.E. 90 hypoid gear oil
Cooling system capacity	21½ pints plus 1½ pints in heater (1 drain plug and 1 drain tap)
Chassis lubrication	By grease gun every 2,000 miles to 9 points
Ignition timing	2½° before t.d.c.
Contact-breaker gap	0.017-0.023 in.
Sparkling plug type	Auto-lite AG42
Sparkling plug gap	0.035 in.
Valve timing	Not available
Tappet clearances (hot)	Inlet 0.010 in. Exhaust 0.020 in.
Front wheel toe-in	½ in.
Camber angles (positive)	Left side 3/8° Right side 1/2°
Castor angle (negative)	1/2°
Steering swivel-pin inclination	6½° to 8½°
Tyre pressures (according to load and speed)	
Front	24-30 lb.
Rear	28-34 lb.
Brake fluid	Heavy duty type
Battery type and capacity	12-volt, 50 amp. hr.