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The Motor Road Test No. 13/60

Make: Citroen **Type:** Safari

Makers: Citroen Cars Ltd., Slough, Bucks.

Test Data

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CONDITIONS: *Weather: Cold and dry with 10-25 m.p.h. wind. (Temperature 33° F., Barometer 29.3-29.2 in. Hg.) Surface: Dry tarred macadam and concrete. Fuel: Premium grade pump petrol (approx. 97 Research Method Octane Rating).*

INSTRUMENTS

Speedometer at 30 m.p.h. ...	6% fast
Speedometer at 60 m.p.h. ...	3% fast
Speedometer at 80 m.p.h. ...	2% fast
Distance recorder	1% fast

WEIGHT

Kerb weight (unladen, but with oil coolant and fuel for approx. 50 miles)	26½ cwt.
Front/rear distribution of kerb weight	62/38
Weight laden as tested	30 cwt.

MAXIMUM SPEEDS

Mean lap speed around banked circuit in top gear (also see 3rd gear, below)	79.9 m.p.h.
Best one-way ¼-mile on straight	82.6 m.p.h.
"Maximile" Speed. (Timed quarter mile after one mile accelerating from rest)	
Mean of opposite runs	76.9 m.p.h.
Best one-way time equals	78.2 m.p.h.
Speed in gears	
Max. speed in 3rd ... approx.	83 m.p.h.
Max. speed in 2nd	58 m.p.h.
Max. speed in 1st	30 m.p.h.

FUEL CONSUMPTION

37.0 m.p.g. at constant 30 m.p.h. on level.
34.5 m.p.g. at constant 40 m.p.h. on level.
29.0 m.p.g. at constant 50 m.p.h. on level.
26.0 m.p.g. at constant 60 m.p.h. on level.
22.5 m.p.g. at constant 70 m.p.h. on level.
20.25 m.p.g. at maximum speed of approx. 80 m.p.h. on level.

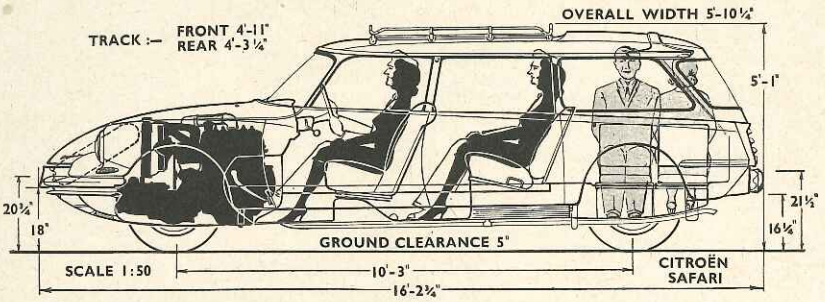
Overall Fuel Consumption for 866 miles, 42.8 gallons, equals 20.4 m.p.g. (13.8 litres/100 km.)

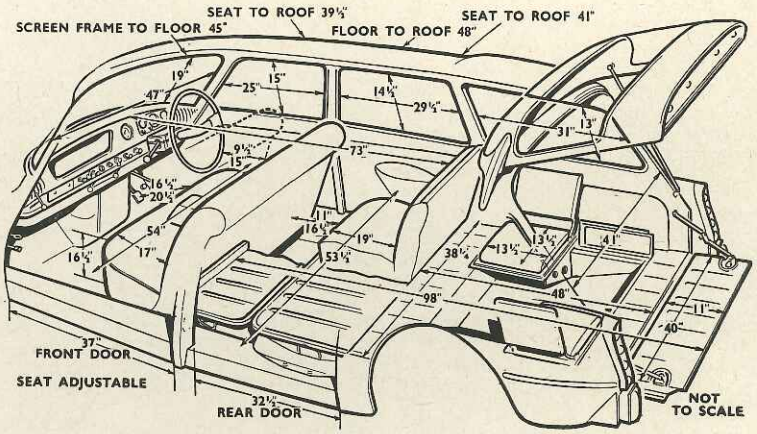
Touring Fuel Consumption (m.p.g. at steady speed midway between 30 m.p.h. and maximum, less 5% allowance for acceleration). 26.0 m.p.g.

Fuel tank capacity (maker's figure) 14 gallons

STEERING

Turning circle between kerbs:	
Left	36½ feet
Right	34¾ feet
Turns of steering wheel from lock to lock	4





ACCELERATION TIMES from standstill

0-30 m.p.h.	6.0 sec.
0-40 m.p.h.	9.8 sec.
0-50 m.p.h.	14.6 sec.
0-60 m.p.h.	22.8 sec.
0-70 m.p.h.	36.5 sec.
Standing quarter-mile	22.4 sec.

ACCELERATION TIMES on Upper Ratios

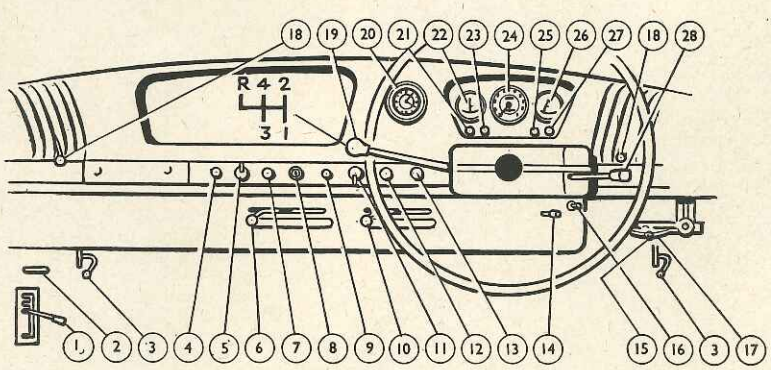
	Top gear	3rd gear
10-30 m.p.h.	20.9 sec.	12.0 sec.
20-40 m.p.h.	23.2 sec.	11.5 sec.
30-50 m.p.h.	25.1 sec.	11.8 sec.
40-60 m.p.h.	27.5 sec.	14.2 sec.
50-70 m.p.h.	54.5 sec.	21.6 sec.

BRAKES from 30 m.p.h.

0.89 g. retardation (equivalent to 34 ft. stopping distance) with 60 lb. pedal pressure.
0.77 g. retardation (equivalent to 39 ft. stopping distance) with 50 lb. pedal pressure.
0.40 g. retardation (equivalent to 75½ ft. stopping distance) with 25 lb. pedal pressure.

HILL CLIMBING at sustained steady speeds

Max. gradient on Top gear	1 in 22.4 (Tapley 100 lb/ton)
Max. gradient on 3rd gear	1 in 11.7 (Tapley 190 lb/ton)
Max. gradient on 2nd gear	1 in 6.5 (Tapley 335 lb/ton)



1. Suspension height adjustment selector. 2, Bonnet catch release. 3. Cold air vent controls. 4. Interior lights switch. 5. Manual ignition control. 6. Hot air intake control. 7. Choke control. 8. Ignition and starter switch. 9. Windscreen washer button. 10. Heater/de-mister air distribution control. 11. Direction indicator switch and warning light. 12. Windscreen wipers switch. 13. Panel light rheostat. 14. Trip adjuster. 15. Parking brake lock. 16. Parking light switch. 17. Handbrake. 18. Fresh air vent controls. 19 Gear lever. 20. Clock. 21. Hydraulic fluid level warning light.
22. Ammeter. 23, Brake fluid pressure warning light. 24. Speedometer and distance recorder. 25. High beam warning light. 26. Fuel contents gauge. 27. Oil pressure warning light. 28. Two-stage horn, lights and dipper switch.

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The CITROEN SAFARI

A Really Roomy Estate Car Suited to Long, Open-road Journeys

The Safari has distinctive lines as well as being practical. For long-distance travel it offers a luxurious ride for up to eight passengers while still allowing 170 lb. of luggage to be carried on the roof rack.

WHEN most motorcars are a compromise of some sort or another it is refreshing to find one that unashamedly goes out on a limb and is ideally suited for its purpose even at the cost of disadvantages in other aspects. The Citroen Safari could hardly have been better named for, with its high gearing, large fuel tank and a suspension which is at its best over deep potholes, it is possible to make long journeys over almost any terrain in luxury with so much luggage that there is no need even to leave the proverbial kitchen sink behind. Achieving all this with only two litres of engine does, however, have its disadvantages, and the Safari is not for the man who requires a nippy vehicle to take him around town, for although when cruising fast it is remarkably silent, at low speeds the driver and passengers are conscious of engine and suspension noise, and the former will have to indulge in a considerable amount of gear changing in order to keep pace with the traffic flow. On the motorway or a very rough road, however, it is a completely different story.

The Safari, announced in France last year, is only just going into production at Citroen's factory at Slough. It is, the makers point out, neither a DS nor yet an ID shooting brake but a separate entity, which incorporates some features of both the saloon models. The engine (which is mounted well back, almost in the driving compartment) is the ID version developing 66 b.h.p. from two litres on a 7.5:1 compression ratio and the manual gearchange is fitted. The braking system is of the power-operated type (with a pressure reservoir to maintain power even with a stalled engine) and the particular system employed is unique to the Safari. Inboard discs are used at the front and extra wide drums at the rear, the efficient handbrake operating on the discs, proving that it is possible to produce an effective means of locking them on for parking. Automatic adjustment of the front-to-rear braking ratio according to the load carried is another feature. Steering is by rack and pinion without power assistance. Citroen's hydro-pneumatic suspension is, of course, famous, and this model incorporates the system. It provides independent suspension of all four wheels and a constant body height regardless of the load carried.

On the road it is interesting to study how the somewhat revolutionary design features of the vehicle affect its behaviour and to assess the advantages which they confer and the price one pays for them in other ways. The engine, which is a development of the original Light Fifteen to all intents and purposes, is remarkably small to propel so large a vehicle, and to obtain a brisk performance it is necessary to be something of an oarsman with the gear lever, which is of the steering column variety. All drivers who tried it agreed that it worked excellently once they had become used to the unorthodox gear positions, and it was typical of the attention paid to detail throughout the vehicle that where a considerable amount of use had to be made of it, the gear lever knob was sensibly shaped so as not to make the palm of the hand sore. First gear has no syncromesh but proved easy to engage silently by double declutching, and was always required from rest, whilst top was hardly ever engaged in town if the legal limit was observed. An engine vibration period was evident at around 40 m.p.h. in second gear, although it was less noticeable in the other ratios. Less attention generally seems to have been paid to insulating the passengers from engine noise than in the saloon versions, and they are conscious of the fact that only four cylinders are under the bonnet. One does, however, get the impression that the noise level would not increase as the miles built up, and the unit used no oil over the test despite some very hard driving, and also proved easy to start, hot or cold.

On the motorway at high speeds in top gear there is far less sound from the power unit, and this is certainly not because any wind roar drowns other noise. With the driver's foot as hard down as he wishes and for as long as he wishes, the cars which were keeping pace with the Safari around town are almost without exception passed in quick succession. The maximum speed recorded under neutral test conditions may only be 79.9 m.p.h. mean, but the slight gradients on M1 cause the speedometer needle to vary between 75 and 95 m.p.h., the error at 80 being 2%. Not only is this speed available in comparative silence with the windows closed, but also with any combination of openings, draughts being almost completely non-existent. In wet weather it is, however, advisable to use the ventilators (two are fitted at either side of the facia, one directed downwards and one upwards) and keep the windows closed. There are no quarterlights. The car is completely stable at its somewhat variable maximum, a fact which helps to reduce driver fatigue, there being, for instance, no fear that a sudden gust of wind will cause trouble, whilst should it be necessary to kill the speed hurriedly, the brakes can justly be given that oft-used but rarely deserved praise of being referred to as "giant hands." The diminutive dip-switch-sized brake "pedal" at first sight almost tempts derision, but perfectly progressive retardation is easy, there being far more feel than in the large majority of power systems, and heel and toe braking whilst changing gear is actually a possibility. Some of the effectiveness of the brakes is derived from the level ride characteristics of the suspension which makes all the braking power usable. There is no dipping of the nose whatsoever,

In Brief

Price as tested £1,308 plus purchase tax £546 2s. 6d. equals £1,854 2s. 6d.

Capacity	1,911 c.c.
Unladen kerb weight ...	26¼ cwt.
Acceleration:	
20-40 m.p.h. in top gear ...	23.2 sec.
0-50 m.p.h. through gears	14.6 sec.
Maximum top-gear gradient	1 in 22.4
Maximum speed	79.9 m.p.h.
"Maximile" speed	76.9 m.p.h.
Touring fuel consumption ...	26.0 m.p.g.

Gearing: 23.2 m.p.h. in top gear at 1,000 r.p.m.; 35.4 m.p.h. at 1,000 ft./min. piston speed.

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One of the very real advantages of front-wheel drive is the low loading and vast depth of space which it allows. A double number plate and locking stays allow the Safari to be motored with the tail-board down and in this state the length of space is equally impressive, as demonstrated here by a girl of above average height. The rear window is of plastic material and there are two positions in which the rear door may be automatically held open, it being in the higher position in the photograph at top left.

The Citroen Safari

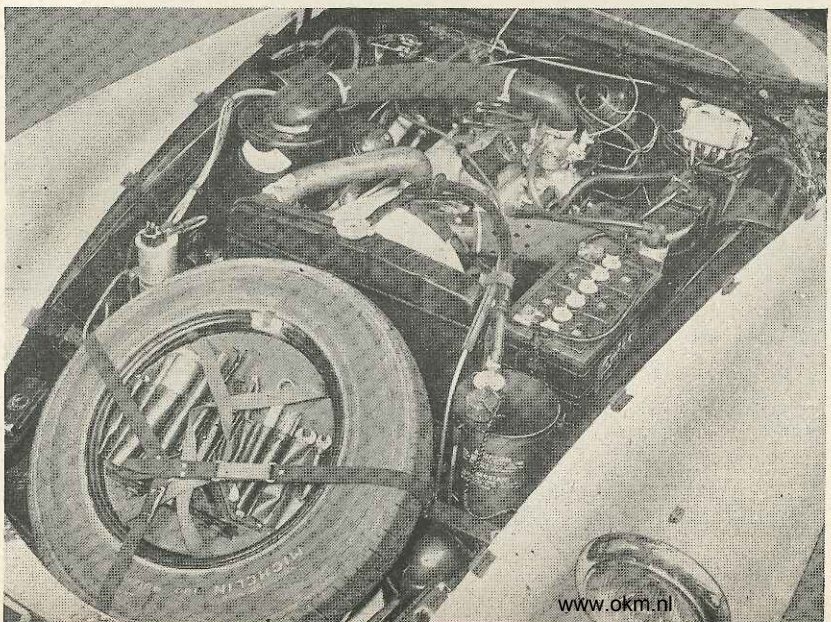
which at first seems almost uncanny. This and the nature of the suspension generally would point to the Citroen being an ideal car for anyone prone to car sickness but, *The Motor's* test staff all being good travellers, we did not have a chance to confirm this surmise.

When a utility body is fitted to a vehicle one usually expects a drop in riding comfort due to the suspension having been strengthened to allow loads to be carried, and sometimes extra weight spoils the cornering. The self-compensating air suspension and the fact that, although the Safari looks enormously long, it is only 7 in. longer than the DS and ID cars of identical wheelbase, results in a machine that has quite remarkable road-holding properties on twisting roads whatever the load, and the principal annoyance is that luggage in the back will slide on the metal floor as the driver takes corners fast without consciously trying, the Michelin "X" tyres only protesting on really extreme occasions. The vehicle is free of any strong over- or understeering tendencies, and one is hardly made aware of the front-wheel drive except by the steering heaviness when reversing. For such a long car, the turning circles of around 35-36 ft. diameter are quite creditably compact.

The ride provided by the air suspension, although remarkable in some respects (one can, for instance, drive briskly over quite a high kerb or along a badly potholed track in almost normal comfort), does not provide the remarkably soft ride of certain luxury cars, and such things as cat's eyes and minor road unevennesses can be felt, whilst if humped-back bridges are taken too fast the suspension cannot catch up on itself and will provide the normal jolting. Lack of roll on corners, stability on braking and the ability to traverse deep pot-holes are essentially its strong points, coupled with the fact that it also serves as a power jacking system. The suspension's one drawback, particularly if the vehicle is being used far from a service station, is the traveller's dependence on the efficient functioning of the hydraulic system which does not lend itself to inexpert "get you home" repairs, the test car suffering from a minor seal failure which temporarily made it wise to immobilize the vehicle until it was attended to professionally.

With the majority of manufacturers backing rear-wheel drive, there is at least one outstanding advantage in *traction avant* which no one can deny, and that is the space which it makes available when used in an estate car. Not only is there approximately seven feet length in the back of the Safari but the lack of transmission and the drop tailboard (which is provided with a double numberplate so that loads of even greater length may be carried) allows an extreme in low loading, very useful for heavy loads.

Up to 170 lb. of luggage can be stowed on the fixed roofrack, and the interior may then be filled with eight adults who will all find a considerable amount of room. Even the two side-facing seats at the rear are reasonably comfortable, whilst the main



The reason for the Citroen's long nose is made clear when the under-bonnet layout is studied. Despite appearances to the contrary, such items as the dipstick are readily accessible. To the right of the spare is the reservoir for the hydraulic fluid used to operate the unique suspension system.

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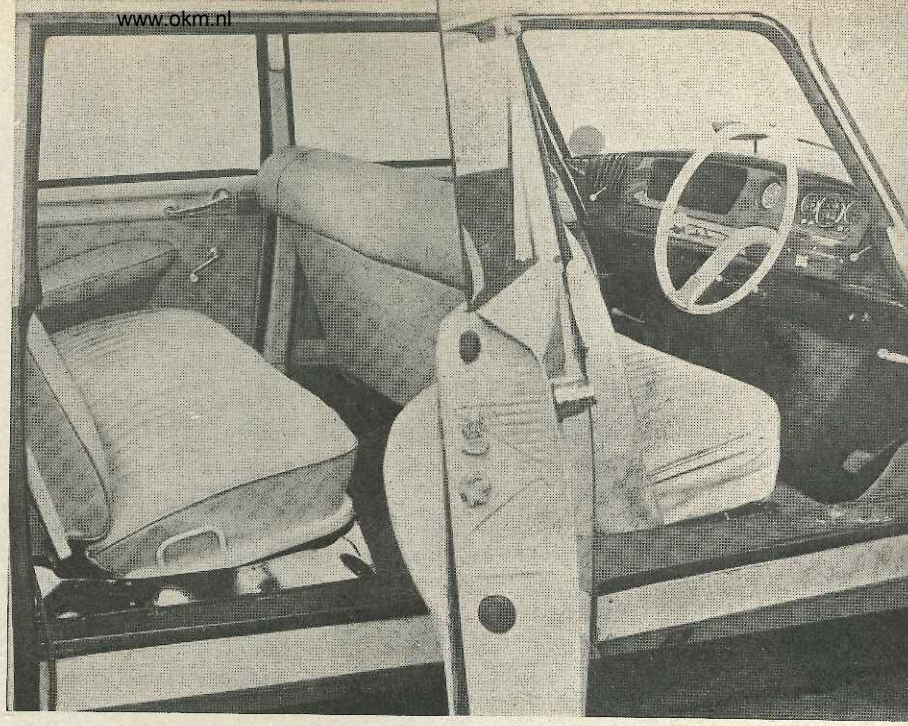

The interior follows the exterior in being both unusual and practical, the generous leg room for rear-seat passengers being highly commendable compared with many modern cars. In the driving compartment notable features are the safety steering wheel, dashboard-level ventilators and at the extreme left the ride control lever for altering the height of the car.

seats, which provide a somewhat upright posture, are excellent over long trips and both offer legroom and to spare. Sensibly placed and generously sized armrests are found on all save the driver's door; these do, however, impede the raising and lowering of the rear main seat. With all this space available it seems a pity that there are no map pockets or stowage space for small articles, the car boasting but one cubbyhole in the facia, and that an open one.

There are, however, many useful interior features, not the least of which is the one-spoke steering wheel which, by virtue of the vision and the safety factor which it provides, is definitely more than a mere gimmick. Other refinements are a screen-washer which automatically starts and stops the screenwipers at the appropriate moments but works from the air in the spare wheel located in front of the engine. No hand pump is provided in case of puncture emergencies. The windscreen wipers do not cover a large area of the screen but they do cover it efficiently, even at high speeds. A two-tone horn is fitted, operated by pushing the light-control lever to the right of the steering column. On the dashboard, the appearance of which is certainly "different," are the indicator switch, a manual ignition control (this was set for best acceleration at the beginning of our performance testing and then left), an instrument light dimmer and an interior light control, amongst such normal items as the choke, etc. The heater, a simple type taking air from the engine's fan, is slow to warm up from cold and does not heat the rear of the vehicle. It does, however, provide efficient demisting. Collapsible sun visors on extensible arms are another sensible feature, whilst on the other hand one wonders whether the interior door handles were designed merely to be different. Passengers not used to their mode of operation find them distinctly awkward and they seem to have little advantage over normal ones except that they might stop children opening them, on which count the simple method of double locking the handbrake is no bad safety feature.

Access to the dipstick, etc., beneath the bonnet is good once entry has been gained by way of the interior handle and two safety catches, the toolkit being neatly laid out on the spare wheel in front of the engine just where it is required.

The man who owns a Citroen will undoubtedly be car proud, and whether or not he admires the radical styling of the all-steel bodywork he will obviously not wish to see it damaged. The falling bonnet line and uniquely slim windscreen pillars of this unusual-looking body give the driver an outstandingly clear view of where he is going. It is perhaps therefore a pity that the Safari is prone to minor bumps inasmuch as its nose is considerably longer than one may imagine from the driving seat, so care must be taken in pulling up behind other vehicles, and its widest point is low down, so being decidedly vulnerable when traversing narrow country lanes.

All in all the Safari will inevitably appeal to a limited market, being quite clearly aimed at one type of user without trying to attract others. To the man who requires and can afford such a vehicle it offers many advantages which categorically cannot be rivalled by any other machine.

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Specification

Engine

Cylinders	4
Bore	78 mm.
Stroke	100 mm.
Cubic capacity	1,911 c.c.
Piston area	29.6 sq. in.
Valves	Overhead (push-rod)
Compression ratio	7.5/1
Carburetter	Solex F34-PBIC downdraught
Fuel pump	Guiot mechanical
Ignition timing control	Centrifugal, vacuum and manual
Oil filter	Gauze on oil pump
Max. power (net)	66 b.h.p.
at	4,500 r.p.m.
Piston speed at max. b.h.p.	2,950 ft./min

Transmission

Clutch	Single dry plate
Top gear (s/m)	3.31
3rd gear (s/m)	4.77
2nd gear (s/m)	7.35
1st gear	13.79
Reverse	14.82
Propeller shaft	Nil (f.w.d.)
Final drive	Spiral bevel integral with gearbox
Top gear m.p.h. at 1,000 r.p.m.	23.2
Top gear m.p.h. at 1,000 ft./min. piston speed	35.4

Chassis

Brakes	Hydraulic: front, inboard discs; rear, drum
Front brake disc diameter	11 9/16 in.
Rear brake drum internal diameter	10 in.
Friction lining areas	82 sq. in. (Rubbed area 338 sq. in.)
Suspension: Independent, by hydro-pneumatic struts, at front and rear	
Shock absorbers	Hydraulic, incorporated in suspension struts
Steering gear	Rack and pinion
Tyres	Michelin X 165—400 (tubed)

Coachwork and Equipment

Starting handle: Yes

Battery mounting: Under bonnet on nearside

Jack: Prop, for use in conjunction with powered raising and lowering of car on suspension.

Jacking points: Two each side

Standard tool kit: Grease gun, starting handle, jacking prop, jacking chock, wheelbrace, hub embellisher tool, d.e. spanner, box spanner, tommy bar, pliers and screwdriver.

Exterior lights: 2 head/side, 2 tail, 2 stop, 2 front indicator, 2 rear indicator, 2 rear number plate, 2 reversing.

Number of electrical fuses: 2

Direction indicators: Flashers, self-cancelling

Windscreen wipers: Electric two-blade, self-parking

Windscreen washers: Trico automatic

Sun visors: Two

Instruments: Speedometer with decimal trip distance recorder, cm meter, clock, fuel gauge

Warning lights: Oil pressure, headlamp main beam, brake fluid pressure, hydraulic fluid level.

Locks:
With ignition key: Ignition/starter switch, both front and single rear doors.
With other keys: None

Glove lockers: One in facia

Map pockets: None

Parcel shelves: None

Ashtrays: Two

Cigar lighters: None

Interior lights: One on each centre pillar, with courtesy switches, and one at rear

Interior heater: Standard, fresh air type with demisters

Car radio: Optional extra

Extras available: Radio, driver's door armrest, foam-underlay carpets, built-in twin fog lamps, special body and upholstery colours.

Upholstery material: Leather

Floor covering: Carpet

Exterior colours standardized. Five single or combinations of these.

Alternative body styles: None (saloon cars also available with same wheelbase but different mechanical specification).

Maintenance

Sump	7 pints, S.A.E. 20.
Gearbox	4½ pints, S.A.E. 90 E.P.
Steering gear lubricant	Grease
Cooling system capacity	15 pints (2 drain taps)
Chassis lubrication	By grease gun every 1,000 miles to 4 points
Ignition timing	10° b.t.d.c.
Contact-breaker gap	0.016 in.
Sparking plug type	Champion H10
Sparking plug gap	0.024-0.026 in.
Valve timing: Inlet opens 3° b.t.d.c. and closes 45° a.b.d.c.; exhaust opens 45° b.b.d.c. and closes 11° a.t.d.c.	
Tappet clearances (cold):	Inlet 0.008 in.; exhaust 0.010 in.
Front wheel toe-out	0.079 in.
Camber angle	0°-15' negative
Castor angle	1° 42' preset
Steering swivel pin inclination	Nil
Tyre pressures: Front	24 lb.
Rear	24 lb.
Brake fluid	Castrol HF-02
Battery type and capacity	12 volt 57 amp hr.

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