

AUTOTEST

CITROEN SAFARI 21 (2,175 c.c.)

AT-A-GLANCE: Citroen's big estate car with optional bigger-bore engine. Power unit noisy when revved hard, but good performance and economy for size and spaciousness of car. Excellent ride and seats. Optional power steering very precise. Good directional stability. Brakes a little over-sensitive. Versatile and roomy estate car body.

MANUFACTURER

S.A. André Citroen, 133 Quai Andre Citroen, Paris 15e, France.

UK CONCESSIONAIRES

Citroen Cars Ltd., Trading Estate, Slough, Buckinghamshire.

PRICES

Basic	£1,640.00
Purchase Tax	£503.39
Seat belts (approx.)	£10.00
Total (in G.B.)	£2,153.39

EXTRAS (inc. P.T.)

*Power assisted steering	£73.11
*Heated rear window	£29.63
Jersey nylon upholstery	£26.63
*Self-levelling and directional q.i. headlamps	£49.61

*Fitted to test car

PRICE AS TESTED £2,305.74

PERFORMANCE SUMMARY

Mean maximum speed	106 mph
Standing start ¼-mile	19.5 sec
0-60 mph	13.9 sec
30-70 mph through gears	11.5 sec
Typical fuel consumption	24 mpg
Miles per tankful	336

MORE than 10 years ago we tested the Citroen ID Safari with the old long-stroke engine; it recorded a maximum speed of 85 mph, and we commented that, with eight people and luggage on board and cruising at top speed, its fuel cost was "little more than a farthing per passenger mile". The Safari still has much the same body style as it did then, the most noticeable alteration being the revised front with cowled headlamps, but the interior is much better finished and has less of the utility look about it, and much more performance is available. Of course it costs more today than it did then, but the total price increase is only £290—less than 16 per cent; so the Safari in the UK is even better value now.

The basic power unit for the Safari is the DS20 engine, of 1,985 c.c. capacity, developing 91 (net) bhp at 5,900 rpm; but the DS21 engine, as fitted to the test car, is optionally available at £148.83 total extra. This engine is also a four-cylinder with five-bearing crankshaft and crossflow cylinder head, but the bore diameter is increased from 86 to 90mm, giving capacity of 2,175 c.c. Both engines have inclined valves in hemispherical heads, and wet cylinder liners.

Starting is always prompt, and after a start from cold the choke can soon be pushed in and the engine pulls without snatch or stalling during the warming-up period. At first it seems disappointingly noisy and lacking in refinement by the standards set by the rest of the car, though the driver soon becomes less concerned about the lusty roar from the power unit which builds up beyond about 3,000 rpm. But the high noise level when cruising at 85-90 mph is obtrusive—and markedly worse still at maximum. There is a case for more sound-deadening material on the bulkhead, if room can be found for it; there is already about 1¼ in. depth of foam rubber beneath the floor carpets, which effectively damps out road roar. Wind noise is minimal.

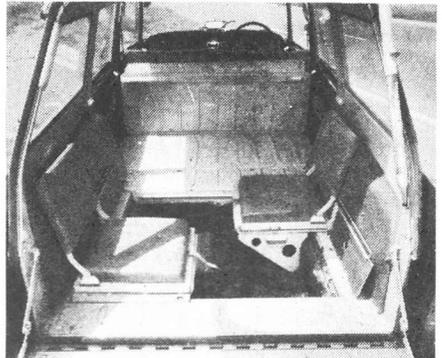
The car responds best to fairly gentle driving, but if the driver works the engine hard for a sprint start the car gets away impressively well, with a yowl of front wheel-spin and roars on to



A handle is fitted beside the rear seat cushion on either side, to facilitate tipping it up against the backs of the front seats for extra luggage capacity, when only the front seats are occupied. The rear squab drops down, extending the load platform



A PVC-backed sheet attached to the rear seat cushion can be folded over the painted surfaces to protect them when load carrying

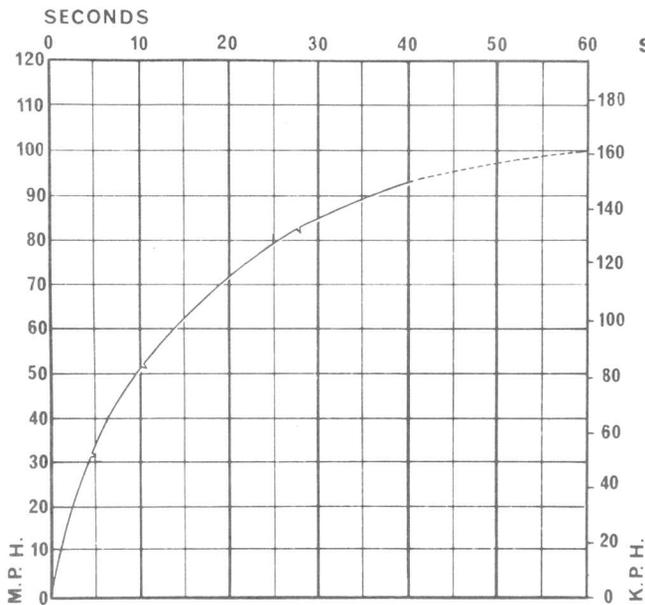


Foldaway occasional seats in the back provide quite practical accommodation for seventh and eighth passengers sitting sideways; one would not want to travel there far, but they are satisfactory for short trips



Left: Ventilation provisions include large outlets at each end of the facia, but the main heater control is stiff and operates a water valve. Separate left and right air controls and fans are provided. Right: In spite of the crammed state of the engine compartment, access for routine attention is quite good

ACCELERATION



SPEED MPH	TIME IN SECS
30	4.3
31	—
40	7.1
41	—
50	9.6
51	—
60	13.9
61	—
70	18.6
71	—
80	24.8
80	—
90	35.4
90	—
100	—
100	—

PERFORMANCE

MAXIMUM SPEEDS

Gear	mph	kph	rpm
Top (mean)	106	171	5,130
(best)	109	175	5,260
3rd	87	140	6,300
2nd	56	90	6,300
1st	31	50	6,200

BRAKES

(from 70 mph in neutral)
Pedal load for 0.5g stops in lb

1	35	6	45
2	40	7	45
3	40	8	45
4	45	9	52
5	45	10	55-60

RESPONSE (from 30 mph in neutral)

Load	g	Distance
20lb	0.24	125
40lb	0.58	75
60lb	1.00	30.1
Handbrake	0.38	79

Max. Gradient 1 in 4

SPEED RANGE, GEAR RATIOS AND TIME IN SECONDS

mph	Top (3.82)	3rd (5.71)	2nd (8.91)	1st (15.8)
10-30	—	9.0	5.4	3.5
20-40	13.4	8.1	5.1	—
30-50	12.7	7.9	5.3	—
40-60	13.2	8.1	—	—
50-70	14.2	9.2	—	—
60-80	16.8	11.2	—	—
70-90	22.0	—	—	—

Standing $\frac{1}{4}$ -mile
19.5 sec 73 mph

Standing kilometre
35.9 sec 90 mph
Test distance
1,421 miles
Mileage recorder
3 per cent
over-reading

CLUTCH

Pedal 30lb and 7in. travel

MOTORWAY CRUISING

Indicated speed at 70 mph	71 mph
Engine (rpm at 70 mph)	3,400 rpm
(mean piston speed)	1,900ft/min.
Fuel (mpg at 70 mph)	24.7 mpg
Passing (50-70 mph)	9.0 sec

COMPARISONS

MAXIMUM SPEED MPH

Citroen Safari 21	(£2,143)	106
Volvo 145 estate car (1778 c.c.)	(£1,881)	98
VW 411LE Variant	(£1,557)	96
Triumph 2000 estate car (Mk. I)	(£1,921)	93
Range Rover	(£2,230)	91

0-60 MPH, SEC

Citroen Safari 21	13.9
Range Rover	13.9
Volvo 145 estate	14.5
Triumph 2000 estate	15.6
VW 411LE Variant	15.9

STANDING $\frac{1}{4}$ -MILE, SEC

Range Rover	19.1
Citroen Safari 21	19.5
Volvo 145 estate	19.6
VW 411LE Variant	19.7
Triumph 2000 estate	20.0

OVERALL MPG

Citroen Safari 21	23.1
VW 411LE Variant	22.5
Triumph 2000 estate	21.8
Volvo 145 estate	20.7
Range Rover	14.4

GEARING (with 180-15in. tyres)

Top	20.7 mph per 1,000 rpm
3rd	13.8 mph per 1,000 rpm
2nd	8.9 mph per 1,000 rpm
1st	5.0 mph per 1,000 rpm

TEST CONDITIONS:

Weather: Cloudy, dry. Wind: 0 mph. Temperature: 17 deg. C. (62 deg. F). Barometer: 29.5 in. hg. Humidity: 50 per cent. Surfaces: Dry concrete and asphalt.

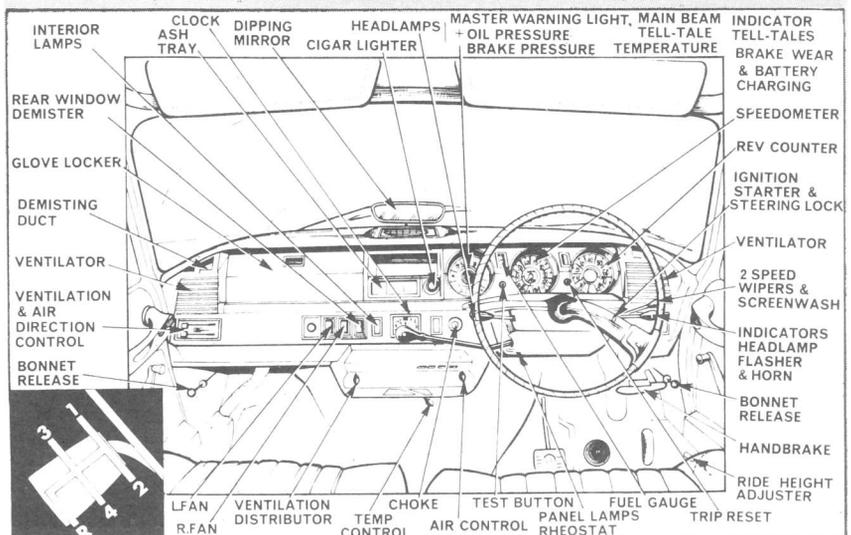
WEIGHT:

Kerb weight: 28.0 cwt (3,140lb—1,424kg) (with oil, water and half full fuel tank). Distribution, per cent F, 61.0; R, 39.0. Laden as tested: 31.4 cwt (3,520lb—1,596kg).

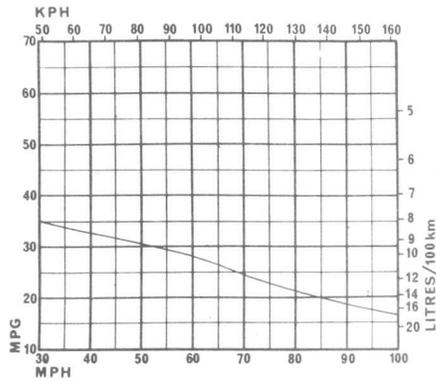
TURNING CIRCLES:

Between kerbs L, 36ft 1in.; R, 36ft 5in. Between Walls L, 38ft 1in.; R, 38ft 5in. Steering wheel turns, lock to lock 3.2

Figures taken at 14,600 miles by our own staff at the Motor Industry Research Association proving ground at Nuneaton.



CONSUMPTION



FUEL (At constant speeds—mpg)

30 mph	35.1
40 mph	32.5
50 mph	30.5
60 mph	28.0
70 mph	24.7
80 mph	21.5
90 mph	18.1
100 mph	16.2

Typical mpg 24 (11.8 litres/100km)
Calculated (DIN) mpg 22.5 (12.6 litres/100km)
Overall mpg 23.1 (12.2 litres/100km)
Grade of fuel . . . Premium, 4-star (min. 98 RM)

OIL
 Consumption (SAE 20/W40) negligible

SPECIFICATION FRONT ENGINE, FRONT-WHEEL DRIVE

ENGINE
 Cylinders 4, in line
 Main bearings 5
 Cooling system . . . Water; pump, positive drive fan and thermostat
 Bore 90mm (3.54 in.)
 Stroke 85.5mm (3.36 in.)
 Displacement 2,175 c.c. (132.7 cu.in.)
 Valve gear Overhead valves inclined at 60 deg; cross-flow head; pushrods and side camshaft
 Compression ratio . 8.75-to-1 Min. octane rating: 97
 Carburettor 1 Weber 28/36
 Fuel pump Citroen mechanical
 Oil filter Citroen full flow
 Max. power 106 bhp (net) at 5,500 rpm
 Max. torque 123 lb.ft (net) at 3,500 rpm

TRANSMISSION
 Clutch Ferodo single dry plate, diaphragm spring
 Gearbox Citroen 4-speed all-synchromesh, column change
 Gear ratios Top 0.85
 Third 1.28
 Second 1.94
 First 3.25
 Reverse 3.15
 Final drive Spiral bevel 4.37 to 1

CHASSIS and BODY
 Construction Integral steel chassis and body frame, detachable panels

SUSPENSION
 Front Independent; parallel semi-leading arms, hydro-pneumatic struts with height control; anti-roll bar
 Rear Independent; single trailing arms, hydro-pneumatic struts with height control; anti-roll bar

STEERING
 Type Power assisted rack and pinion
 Wheel dia. 15½ in.

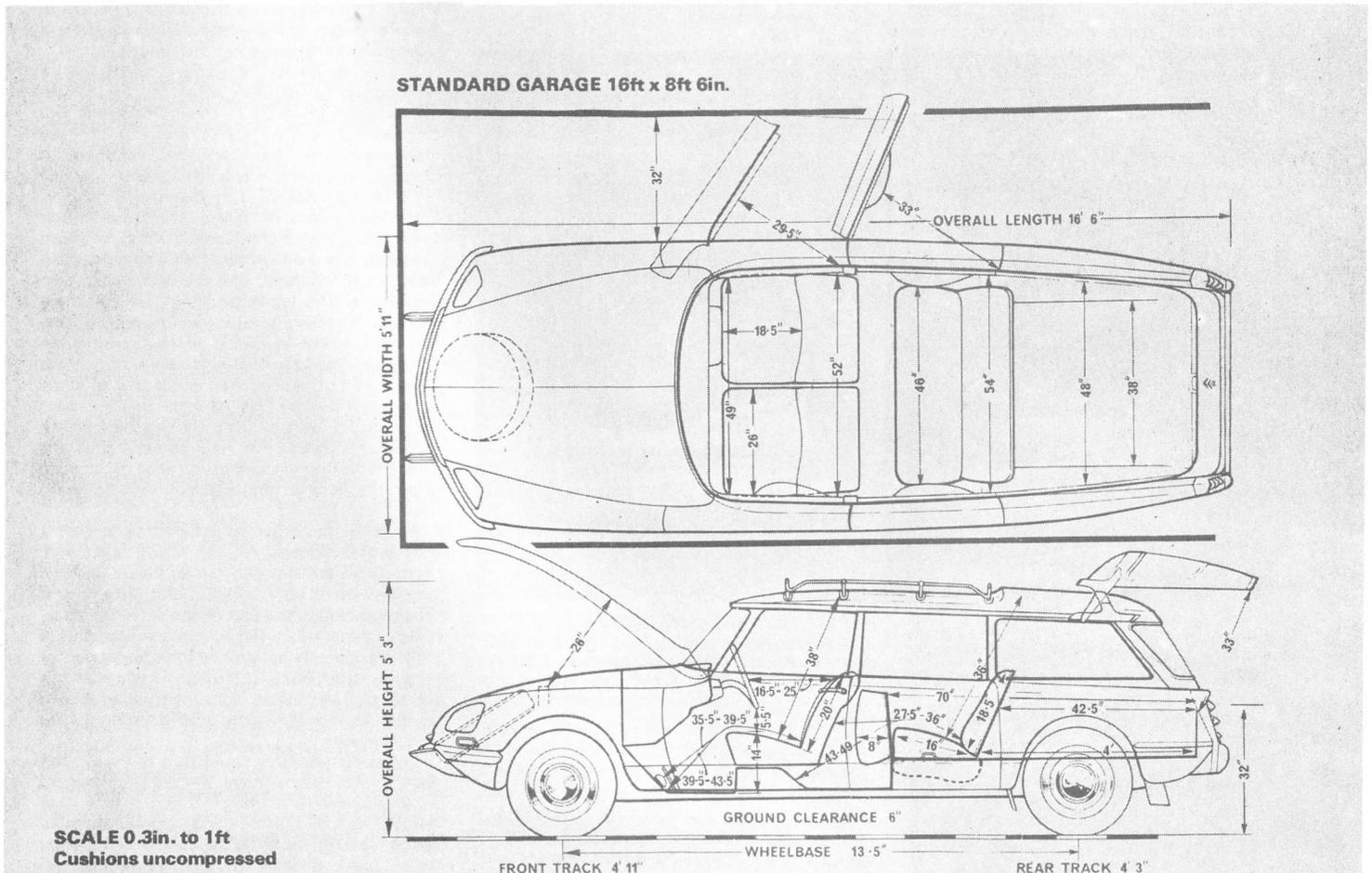
BRAKES
 Make and type . . . Citroen dual circuit, disc front, drums rear
 Servo Citroen, high pressure
 Dimensions F 11.8 in. R 10.0 in. dia. 1.38 in. wide shoes.
 Swept area F 260 sq.in., R 86 sq.in. Total 346 sq.in. (220 sq.in./ton laden)

WHEELS
 Type Pressed steel discs, 5-stud fixing, 5.0 in. wide rim.
 Tyres—make Michelin
 —type XAS radial ply tubed
 —size 180 HR 380 (15) in/mm

EQUIPMENT
 Battery 12 Volt 40 Ah
 Alternator Ducellier 44 amp a.c.
 Headlamps Cibie tungsten-halogen 110/220 watt (total)
 Reversing lamp . . . Standard
 Electric fuses 8
 Screen wipers Two-speed
 Screen washer Standard, electric
 Interior heater Standard, water valve type
 Heated backlight . . . Extra
 Safety belts Extra
 Interior trim PVC seats, PVC headlining
 Floor covering Carpet
 Jack Side pillar; hydraulic lifting on suspension
 Jacking points One each side under sills
 Windscreen Toughened
 Underbody
 Protection Phosphor treatment under paint

MAINTENANCE
 Fuel tank 14 Imp. gallons (63.5 litres) (no reserve)
 Cooling system . . . 20 pints (including heater)
 Engine sump 9 pints (5.1 litres) SAE 10W/40. Change oil every 3,000 miles. Change filter element every 6,000 miles.
 Gearbox and Final Drive . . . 3.5 pints SAE 80. Change oil every 12,000 miles
 Grease 8 points every 3,000 miles
 Tyre pressures F 28; R 31 psi (all conditions)
 Max. payload 1,433 lb (650 kg)

PERFORMANCE DATA
 Top gear mph per 1,000 rpm 20.69
 Mean piston speed at max. power 3.080
 Bhp per ton laden 67.5



AUTOTEST CITROEN SAFARI...

90 mph in 35.4 sec, which is remarkable for such a big-bodied estate car. The improved performance of the later engine is shown by the fact that the original Safari took longer than this to reach 70 mph.

Standard transmission for the Safari is a four-speed box with column change, and semi-automatic transmission is not available, as it is for the DS saloons. It is a very easy change to use, with first and second gears nearest the driver, and fairly strong spring loading to the third and top gear plane. For reverse gear, the lever is pushed away and moved downwards, parallel to top gear. The clutch takes up very smoothly and the operating load is pleasantly light for traffic—only 30 lb; but the car did not like restarting on the 1-in-3 test hill. We had to slip the clutch to get away, producing a strong smell of burnt facings. Effective synchronesh on all gears enables the lever to be moved quickly from one position to the next, though some baulking resistance is felt. The gear ratios are very well spaced, and third gear is well chosen with its 87 mph maximum; it offers a useful overtaking spurt from 30 to 80 mph in just over 22 sec.

Citroens are renowned for their ride comfort, and the oleo-pneumatic suspension is particularly appropriate for the Safari because of the inherent self-levelling provision. On undulations where most other cars are seen to give a pronounced lurch, the Safari strides across with barely perceptible body movement. Some wheel jolt is felt over bad bumps but

there is no unpleasant floating and the suspension always acts quietly. We were less aware, with this model, of the intermittent chatter from the pressure pump cutting in and out. On corners the car rolls quite a lot and tends to take up a preset attitude so it then feels a little ponderous about leaning abruptly the other way for a bend in the opposite direction. Pushed hard, there is some tyre squeal as well, but the car remains very sure-footed and easy to control, with consistent, strong understeer.

Power assisted steering is a rather costly option, but is strongly to be recommended if only because it is essential for either of the two options for the headlamps. The first option is for self-levelling outer (main and dip) lamps, and in the second option the inner (main beam only) lamps are directional and revolve left or right in conjunction with the steering. With both options all four lamps are quartz iodine. The test car had the more expensive second option, priced at £49.61, but the superb night driving illumination which results, with the lights searching round corners and lighting up a brilliant flare path, fully justifies the cost. One quite resents the contrast, when oncoming traffic prevents the use of main beam.

At low speeds the steering takes considerably more effort than is usual with power systems, but the hard work is taken out of cornering and parking without introduction of any over-sensitivity. Excellent precision is retained, but there is a little stickiness in the system making it easy to over-correct until the driver becomes more familiar with the car. Straight-line stability, almost regardless of cross winds, is excellent. For a car of this wheelbase, the turning circles are also good at 36ft 5in between kerbs, but it is always important to remember that the rear wheels

are a long way back and set closer together so they tend to take the short cut on tight corners. Apparently it is rather easy to scrape the side on gateposts or parked cars when manoeuvring.

The brakes are still operated by a rather diminutive and very short-travel pad, and it proved unusually difficult to apply just the right pressure for a consistent "half g" stop during the fade tests. A lot of smell from the brakes was noticed during the fade tests, otherwise efficiency was scarcely affected. The pressurized hydraulic system is very sensitive, and the brakes give a remarkable 1g stop for only 60 lb pedal load. The handbrake is quite conveniently located beneath the fascia and it gives the impression of holding really strongly; but in fact it would only just secure the car on 1-in-4, and was hopeless on 1-in-3.

Braking distances are given on the speedometer, figures becoming legible above a certain speed; but the arrangement is rather meaningless and needlessly clutters up the speedometer. When we read "stopping distance, dry road, 250 ft" the speed indicated was 60 mph, and with some locking of the front wheels we brought the car to rest in 130ft. This, of course, excluded reaction time, but we doubt whether either figure means much to most drivers. The brakes have separate hydraulic circuits front and rear, and there is automatic compensation of braking effort according to load. A fascia warning light indicates when the brake pads require replacement.

The speedometer is accurate within 1 mph at all speeds, and a rev counter is standard. A matching dial on the left provides 10 warning tell-tales for various services, including a big central red one labelled "stop" for failure of the main hydraulic system; and there is an adjoining test button for checking that the four most important tell-tales—brakes, oil pressure, engine temperature and hydraulics—are still in working order. The only other instrument is a diminutive, vertical reading, fuel gauge.

The tank holds 14 gallons, providing a working range of 300 miles at the typical consumption figure of 24 mpg. During the test the car was used for a fast run on all-purpose roads to the west country, and returned 26 mpg. Oil consumption was negligible.

Softly upholstered and generously proportioned seats back up the excellent suspension to provide a very high standard of ride comfort. The front seats are close enough to serve as a bench seat for three, and the rear bench also provides ample width and legroom for three abreast. For extra load carrying capacity, the rear seat squab is tipped forward, using the handle provided at either side, and then a catch at each end of the backrest is released to allow it to tip forward. This extends the flat floor length to 5ft 10in, or 7ft including the lowered tailgate. A protective pvc-backed sheet is attached to the rear end of the seat cushion, to cover the back of the extended load compartment.

At the extreme rear of this very versatile car are two occasional seats, facing sideways, normally folded flat and out of view. Children travelled there very happily, and even adults would not object to short distances in the back, making the car an effective eight-seater. Out of sight space for more oddments, tools or luggage is available in the floor well, ahead of the seats. The tailgate is strongly spring loaded to open almost of its own accord, and it can be left unlocked.

The comprehensive equipment of the Citroen Safari includes what some motorists still regard as invaluable—a starting handle. It is a truly remarkable car, offering a combination of space, seating capacity, speed and comfort for which, one can safely say, there is no equal □



Catches on the interior door handles lock the rear doors but surprisingly secure the front doors only on the inside; the key has to be used to lock the outside handles of the front doors. Narrow pillars and frameless side windows make for good all-round visibility



The suspension gives a choice of three height settings, and is automatically self-levelling as well. There are also two extreme positions, used only for wheel changing