



Autocar ROAD TESTS 1770

Citroen ID Safari

An estate car body shape blends happily with the lines of the Citroen. The roof rack, part of the standard equipment, does not create wind whistle at speed

FEW production saloons lend themselves so naturally to construction in estate car form as the big Citroens. The self-adjusting, oleo-pneumatic suspension allows heavy loads to be carried at the back of the car without the tail-down attitude and the possible risk of spring fracture which are present with some conventional steel-sprung estate cars; similarly, the lack of any live rear axle permits a low floor level to be provided at the back, giving generous load-carrying space. Another good point is that the general design of the ID or DS body is such that the front three-quarters of it remain virtually unaltered when the estate car rear body section is used. This addition can be made in production without sacrificing the Citroen's characteristic lines; thus the impression given by some estate cars that an "afterthought lump" has been added at the rear is avoided.

In its mechanical specification, the Safari has more in common with the ID than with the dearer DS, in which the hydraulic power developed by the engine-driven pump for the suspension is used also to operate the clutch, gear change, steering and brakes. In the Safari, hydraulic power is used for the brakes and suspension only, and other components receive no assistance. The engine is given the same degree of tune as that of the ID, with a single Solex carburettor instead of the double-choke Weber instrument fitted to the DS engine. Available b.h.p. is only 66 at 4,500 r.p.m., and maximum torque is developed at 2,500 r.p.m. For its carrying capacity the Safari is not a heavy car at 26 cwt, and the weight penalty of the estate car is the addition of only 2 cwt to that of the saloon. Nevertheless, the power-weight ratio is low and, as one would expect, the engine needs to be worked hard to provide a reasonably lively performance.

It is noticed at once that the four-cylinder power unit is harsh and surprisingly noisy for a car of which the price—in this country, at least—is approaching £2,000. The moderate torque at low revs, coupled with high overall gearing, results in the need for most of the available engine performance to be used regularly in the indirect gears. The engine is most obtrusive during full acceleration, becoming noticeably smoother when kept to constant speeds, with the throttle eased back. On the credit side, also, is its eager willingness to turn at high speeds. Although of old-fashioned, long-stroke design, the unit seems happier tuning at high revs than it does to plug along at the other end of the speed range.

On the test car the engine pulled erratically on light throttle openings at constant speeds, as when trickling along in heavy traffic. This was greatly reduced by changing the carburettor main jet to the next larger size, and was then eliminated by retarding the ignition by three notches of the manual control from the static distributor setting.

Performance testing was carried out on premium fuel, but

with commercial petrol it was found that pinking was avoided simply by use of the manual override ignition control, though at some cost in performance. Certainly a 50 per cent mixture of commercial and premium fuels suits the engine well, and provides an additional reduction in running costs to couple with the already economical performance of the engine. The combination of smooth, aerodynamic styling and high gearing results in commendable economy of fuel.

The overall consumption of 21.6 m.p.g. includes an unusually large number of journeys between the Midlands and London, on which cruising speeds around 85 m.p.h. were sustained on the Motorway. One rapid journey of some 200 miles was made with eight people, and luggage equivalent to the weight of two more, on board the Safari. Hard driving still did not reduce the fuel consumption below 20 m.p.g. representing a cost per passenger-mile of little more than a farthing. In normal driving 26 m.p.g. is easily obtainable.

The engine starts reliably, with little need for use of the choke; the warm-up is very quick. Bottom gear is needed for starting from rest, and again in traffic when speeds fall to a crawl. This ratio does not have synchromesh, but it is a simple matter to engage it on the move by a quick double-declutch technique. While bottom gear is high enough for a maximum of more than 30 m.p.h. to be attained, only in the extreme conditions of a 1-in-3 gradient does the load on the engine prove too much for a restart to be made. Second gear gives the car a performance range from about 5 to 50 m.p.h., and is comparable with the middle gear of a normal three-speed gearbox. Similarly,

There is no suggestion that the folding occasional seats in the rear compartment should be for children only. In fact, adults find them quite comfortable for short runs, but regret the sideways seating position





Citroen ID Safari . . .

Two reversing lamps are provided and separate lamps illuminate both rear number plates, one of which is for use when the car is driven with the tail gate lowered. The amber winking indicator lamp, tail lamp and stoplight are grouped with the reflector on each side

third gear is as high as the top gear on many cars, providing a readily usable 65 m.p.h. and allowing an ultimate maximum of 81 m.p.h.

Fourth, therefore, is more like an overdrive, and at an engine speed of 3,000 r.p.m. in this gear the car speed corresponds to almost 70 m.p.h. One need have no fears of over-revving in this high ratio: the greatest speed seen during the road mileage was when the speedometer needle just touched 100 m.p.h. on a long downhill straight, which is equivalent to a true 97 m.p.h. Even at this high speed, engine revs were only 4,300 r.p.m.—200 r.p.m. below the point of maximum power.

Appropriately, for a car on which much use of the gearbox must be made, the change mechanism is very good, and the lever is both light to move and positive in engagement. It sprouts to the left from the column surround below the single-spoke steering wheel, and gears are selected in the reverse direction from that normally adopted on British cars. First and second are in the plane nearest the wheel and third and fourth in that farthest from it; but to select first and third the lever is pulled down towards the driver; for second and fourth it is pushed towards the screen. Synchromesh on the upper three ratios is never beaten in normal quick gear changes.

Steering of the Citroen has the rare combination of being light when the car is on the move, virtually 100 per cent positive, and yet well isolated from road shocks or any feed back of torque reactions from the front-wheel drive. It does, however, stiffen up appreciably in manoeuvring, perhaps partially as a result of the use of Michelin X tyres. At speed, the car's directional stability is excellent and though cross winds have some slight effect on the car, there was negligible wander. The driver really feels that he is steering the car positively and not just giving general guidance. The

The maximum level loading platform, with the rear seat cushions folded completely forwards, is 9ft long—more than in comparable estate cars



steering lock is good, and despite its long wheelbase the car has an acceptably small turning circle.

Appreciation of the Citroen's unique suspension depends a great deal on what is expected from it, and it is possible that some owners, anticipating a ride immensely superior to that provided in cars of conventional springing, may be disappointed initially. On the whole, the Citroen affords its occupants great stability with remarkable absorption of large bumps and potholes. Small irregularities of surface are felt to a mild degree, and there is still a measure of firm vertical movement when the car passes over a hump in the road. In colonial conditions, such as on unmade potholed tracks, a great deal of firm pitching and bounce occurs, sufficient to make one realize that the Citroen oleo-pneumatic suspension is by no means the ultimate for passenger comfort in severe road conditions.

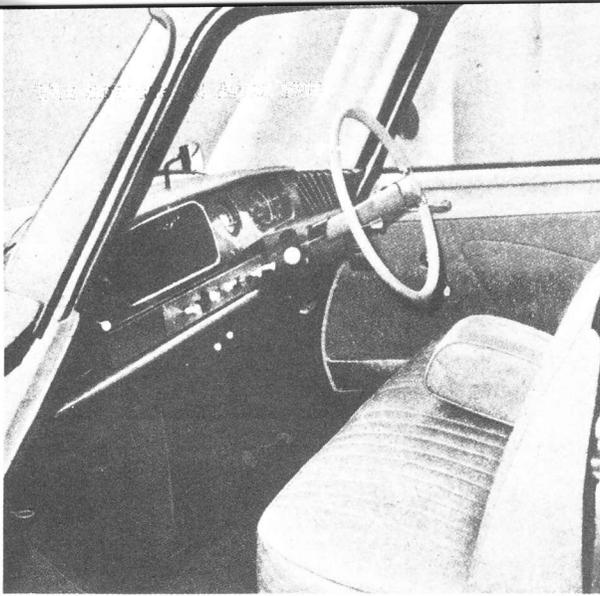
It is, however, an extremely good compromise in normal use, and the occupants are seldom jolted or subjected to any harshness from the behaviour of the road wheels; nor is there any feeling of sloppiness or the sort of low-frequency rise and fall which one sometimes associates with an ultra-soft suspension. The absence of tremor or vibration over normal city and main road surfaces is praiseworthy, and passengers have no difficulty in reading the fine print of a newspaper while the car is on the move.

Greatest advantage of the system is that the Citroen behaves in exactly the same way whether it is driven one-up or fully laden. Regardless of weight carried, it settles down to the same static level, and there is no detectable softening of the suspension with a full load on board. This applied equally when the approximate weight of six people (7 cwt) was carried in the form of concrete blocks at the rear.

Oddities of the suspension system are seen in the way in which the Safari compensates for changes of fore-and-aft attitude or load. When the car arrives at its destination, and many people alight, it rises for a moment to the maximum suspension height, with the wheels almost hanging out of the wings as if on stilts; then, with an audible sigh as the fluid pressure is released, the car sinks back to its normal level. While this causes much amusement, it has very real advantages. The head lamps, for example, remain correctly set even when the Citroen is carrying a weight which would cause the beams of most cars to point into the sky. On the test car the relevelling and compensating mechanism seemed a little too sensitive, but even with extended use in dense traffic—when the readjustments were frequent and noticeable—it never became irritating, but remained intriguing. Increased ground clearance and slight stiffening of the suspension for use on unmade roads or cross-country work are available by use of the manual suspension control.

The extremely good road holding of the Safari also is little affected by changes in load, the only difference noticed being a slight tendency for the tail to swing on corners when the maximum weight was carried at the back of the car. In the ordinary way, the car's behaviour on winding roads or sharp main road bends is most reassuring, and on wet roads there is no tendency for either end of the car to break away. When taking corners at slow speeds there is a noticeable degree of roll. Taking the same curves much faster, this tendency is quickly arrested and the car assumes an attitude comparable with cars having normal suspension.

A mild surprise was the discovery that, unlike most front-wheel drive cars, the Safari cornered better, if anything, when the throttle was eased back momentarily, rather than



The facia layout is simple and functional (left). Near the passenger's feet is the suspension control, which has five settings, including normal and two higher ones for additional ground clearance in colonial conditions. The fourth setting raises the car to the maximum height for use as a jack: a stand is placed under the side of the car, and the fifth (low) position then used to raise the wheel. There is a centre armrest in the rear seat (right)

when using sustained heavy acceleration to pull the front of the car round. Certainly there is no undesirable or violent change in the car's excellent behaviour if the driver does lift his foot from the accelerator on a corner.

As mentioned earlier, hydraulic power is used also to operate the brakes, and the driver's control is a tiny foot button which requires very little movement even for maximum depression. Despite this, control is good without being over-sensitive, and quite high pressures are sometimes needed—sufficiently high, in fact, to suggest the need for a larger area of button. The brakes are inboard discs at the front, with conventional drums at the rear—0.25in. wider than those of the saloons. They give excellent retardation in return for relatively light pedal pressures, and even the severest tactics failed to produce fade. The most violent brake applications resulted in front-wheel lock, and the response to light pedal pressures when speeds are high gives real confidence to the driver. Heavy applications of the brakes when cold produced a degree of roughness, but after a few applications this characteristic disappeared and they remained smooth in very severe use. Considerable nose-dive effect occurs in heavy braking, but when this is sustained for a few moments the suspension compensates.

The hand brake is controlled by a rather clumsy pull-back handle below the facia. It works on the front discs, but lacks power, and will scarcely hold the car on a 1-in-3 test hill. A tell-tale light on the facia gives advanced warning of loss of brake pressure, and another tells of low level in the reservoir for the hydraulic fluid.

A substantial change has been made in the seating for the Safari, and the new arrangement came in for criticism from some drivers. The front seat—which has a folding central armrest—is high at the front of the cushion, and this makes awkward the angle of attack for the driver's foot on the brake pedal and accelerator, particularly when full throttle is being used a great deal. Ideally, the seat would need to go further back by about 3in. to enable a tall driver to sit comfortably. It is firm and springy with a short cushion, instead of being soft and resilient.

At the back of the Safari the tail gate is in two pieces. One large section folds upwards and is held in either of two positions by a vertical strut. A smaller bottom section can be made to fold down to the horizontal, extending the load-carrying platform. In this condition a flat platform nearly 9ft long by 3½ft wide is available. When the car is being driven with the bottom tail gate let down, a second number plate at right-angles to the normal one (which then faces the ground) shows to the rear.

It has been mentioned that the car was used as an eight-seater; this is made possible by the fitting of two sideways-facing folding seats in the rear compartment. When they are collapsed, their backs form part of the load-carrying platform, but when they are unfolded, quite comfortable and well-padded seats are offered. It would

have seemed equally possible for both these seats to have faced forwards. As they are, they can provoke a tendency to car sickness in those who are prone to suffer from it.

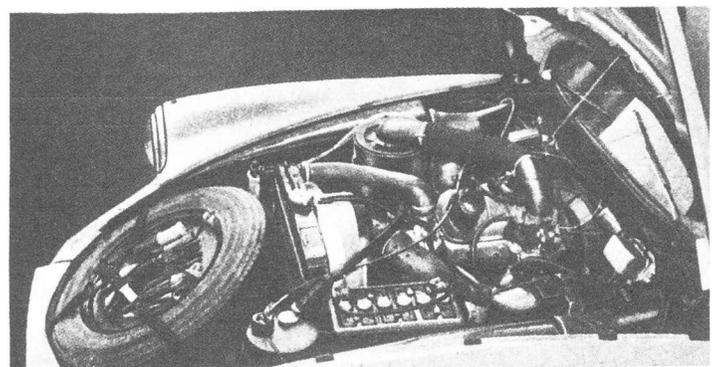
The diagram overleaf shows an intermediate position of the rear seat, with the cushion resting against the squab of the front seat, providing a flat floor length of 7ft.

A simple but functional facia layout is seen on the Safari, with the main space given to a roomy but uncovered parcels locker, enclosed in a frame of polished wood. The speedometer is mounted centrally, and the instrument is circular—unlike the quadrant instruments of the earlier DS and ID models; it includes a trip mileometer. On the left is an ammeter, and the commendably accurate gauge for the 14-gallon fuel tank is on the right. An electric clock, to the left of the instruments, is standard equipment. Minor switches and controls are neatly arranged along the bottom rail of the facia, and lights, dipswitch and horns are controlled by a single lever to the right, near the steering wheel rim. One horn—which has a mellow, pleasing note—is sounded by normal pressure on the button, while extra pressure brings a more imperative second horn into use.

Welcome safety features on the Safari are the soft sun visors, which could not cause injury in an accident, and the single-spoked steering wheel which, it is claimed, would also collapse without causing serious injury to the driver. The spoke, in the normal straight-ahead position, is to the right. In warm weather, cooling vents before the front seat occupants direct variable quantities of cool air on the knees and face or above as required. The standard equipment heater-demister is reasonably effective, and includes a bleed pipe leading into the rear compartment. It has no fan, but uses instead the engine's cooling fan; it collects air which has already passed through the radiator, and is then additionally warmed by a separate radiator core. Precise control of flow and temperature is possible.

One of the best features of the Citroën is its huge glass

The four-cylinder 2-litre power unit is almost lost in the well-filled engine compartment. The hydraulic fluid reservoir, with visual level indicator, is at the front. The sump dipstick is readily accessible, but other engine components, particularly the distributor, are somewhat obscured. Note the neat array of tools secured to the spare wheel

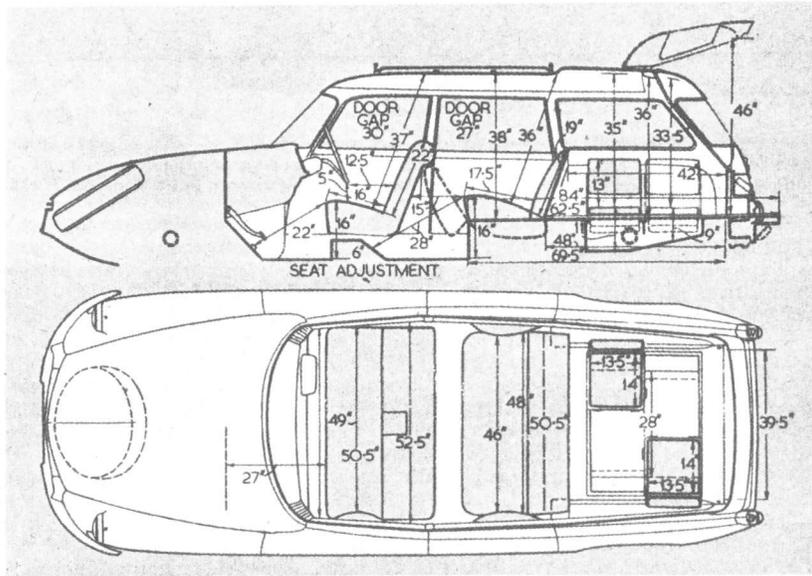


area and the excellent visibility enjoyed by the occupants. The use of frameless windows allows slim pillars which cause a minimum of obstruction, and the vast windscreen adds to the splendid panoramic view which is enjoyed. Not so, however, in rain, for the wipers leave large unswept areas both above each arc of movement and between them. The height of the roof also enables occupants of the forward seats to wear hats in comfort. The Safari's standard equipment includes an electrically operated windscreen washer which, when used, switches on the wipers for about 30 seconds; a parking lamp on the right; and usefully bright reversing lamps, turned on automatically in reverse.

For the extra carrying capacity of the Safari one must pay a total price including purchase tax some £370 more than for the sister saloon—the ID. It may seem a good deal to pay for a comparatively small difference in basic vehicles, but for the man who really has call for such generous accommodation, this car is the answer to his needs. Its combined luggage and passenger space is practically unrivalled outside the realm of small coaches.

In addition to its essentially functional role for transport on a large scale, the car offers many ingenious features, and has the ability to cover the ground quickly and safely, comfortably and effortlessly, and with relative economy.

CITROEN ID SAFARI



Scale 1/4 in. to 1 ft. Driving seat in central position. Cushions uncompressed.

PERFORMANCE

(Figures in brackets were timed with a load of 1,300lb on board, including occupants).

ACCELERATION TIMES: (mean)				
Speed range	Gear Ratios and Time in Sec.			
M.p.h.	3.31	4.77	7.35	13.79
	to 1	to 1	to 1	to 1
10-30	—	—	7.2	5.0
20-40	—	10.7	7.2	—
		(15.1)	(8.5)	
30-50	18.8	11.3	8.3	—
		(15.3)	(8.6)	
40-60	22.2	14.4	—	—
	(30.7)	(17.3)		
50-70	28.7	18.8	—	—

From rest through gears to:			
30 m.p.h.	..	6.7 sec.	(8.2)
40 "	..	10.0 "	(12.5)
50 "	..	15.5 "	(18.4)
60 "	..	25.2 "	(27.8)
70 "	..	36.1 "	

Standing quarter mile 22.8 sec. (24.3).

MAXIMUM SPEEDS ON GEARS:			
Gear	(mean)	M.p.h.	K.h.p.
Top	..	85.1	137.1
	..	(best) 87	140.0
3rd	..	81	130.4
2nd	..	54	86.9
1st	..	30	48.3

TRACTIVE EFFORT (by Tapley meter):			
	Pull	Equivalent	
	(lb per ton)	gradient	
Top	..	134	1 in 16.6
Third	..	193	1 in 11.3
Second	..	303	1 in 7.4

SPEEDOMETER CORRECTION: M.P.H.

Car speedometer	..	..	10	20	30	40	50	60	70	80	90
True speed	..	..	8	18	28	38	48	58	68	77	87

BRAKES (at 30 m.p.h. in neutral):			
Pedal load	Retardation	Equiv. stopping	
in lb		distance in ft	
25	0.31g (0.20g)	98 (148)	
50	0.50g (0.37g)	59 (83)	
75	0.78g (0.53g)	39 (55)	
100	— (0.74g)	— (41)	

FUEL CONSUMPTION (at steady speeds in top gear):

30 m.p.h.	38.0 m.p.g.
40 "	36.3 "
50 "	33.3 "
60 "	29.6 "
70 "	25.9 "
80 "	20.8 "

Overall fuel consumption for 1,654 miles, 21.6 m.p.g. (13.1 litres per 100 km.).

Approximate normal range 20-32 m.p.g. (14.1-9.1 litres per 100 km.).

Fuel: Premium grade.

TEST CONDITIONS: Weather: Light breeze dry.

Air temperature, 68 deg. F.

STEERING: Turning circle,

Between kerbs, R, 38ft 4in. L, 39ft 3in.
Between walls, R, 40ft 3in. L, 41ft 2in.
Turns of steering wheel from lock to lock, 4.

DATA

PRICE (basic, with estate car body, £1,308. British purchase tax, £546 2s 6d. Total (in Great Britain), £1,854 2s 6d, including heater, clock and windscreen washer. Extras: Radio (press button), £43 4s 2d.

ENGINE: Capacity, 1,911 c.c. (116.8 cu. in.). Number of cylinders, 4. Bore and stroke, 78 x 100mm (3.07 x 3.94in.). Valve gear: o.h.v., pushrods; hemispherical combustion chambers. Compression ratio, 7.5 to 1. B.h.p. (net) 66 at 4,500 r.p.m. (B.h.p. per ton laden 45.7). Torque, 101.3 lb ft at 3,000 r.p.m. M.p.h. per 1,000 r.p.m. in top gear, 22.6.

WEIGHT: (With 5 gals fuel), 26.4 cwt (2,961 lb). Weight distribution (per cent); F, 61.0; R, 39.0. Laden as tested, 29.4 cwt (3,297 lb). Lb per c.c. (laden), 1.7.

BRAKES: Type, Citroen disc F, drum R. Method of operation: full power from central hydraulic system. Drum dimensions: 10in. dia.; 1.75in. wide. Disc dia.: 11.6in. Lining swept area: F, 228 sq. in.; R, 110 sq. in. (230 sq. in. per ton laden).

TYRES: 165-400 Michelin X. Pressures (p.s.i.): F, 24; R, 24 (normal).

TANK CAPACITY: 14 Imperial gallons. Oil sump, 7 pints. Cooling system, 19.4 pints.

DIMENSIONS: Wheelbase, 10ft 3in. Track: F, 4ft 11.06in; R, 4ft 3.25in. Length (overall), 16ft 4in. Width, 5ft 10.5in. Height, 5ft 0in. Ground clearance, 6.25in. (normal suspension setting). Frontal area, 27 sq. ft. (approx.). Capacity of luggage space: 84 cu ft (approx.).

ELECTRICAL SYSTEM: 12-volt; 57 ampere-hour battery. Head lamps, double dip; 45-40 watt bulbs.

SUSPENSION: Front, independent, half wishbones. Rear, independent trailing arms. Oleo-pneumatic suspension strut for each wheel incorporates fluid damping. Anti-roll bars front and rear.

