

IMPROVING THE PERFORMANCE OF POPULAR CARS

Connaught
G.T. Citroen

More like a DS than an ID, the interior is given a very businesslike look by the wood-trimmed steering wheel and separate bucket seats

ON the Continent it is possible to specify a manual gear change with conventional clutch operation when buying a Citroen DS, as many potential owners have been put off by the strange semi-automatic transmission with its rather slow reflexes. Well aware of this state of affairs, Connaught Cars (1959) Ltd., Sand, Woking, Surrey, are offering a model having almost the same specification as this "manual" DS, with many detail improvements and substantially better performance. Including purchase tax, the price is £1,597 19s 7d, just £29 more than a DS.

Each car starts life as a Citroen ID, to which the DS power-assisted circuits for brakes and steering are added. The all-synchromesh, four-speed gearbox with steering column lever is retained, but a DS instrument panel and dashboard are substituted, and Microcell Contour Seven reclining bucket seats replace the normal front ones.

The engine receives the full Connaught treatment, comprising a modified cylinder head with an increased compression ratio of 8.4 to 1 and twin Solex carburetors (S.U.s are optional); the flywheel is lightened to give a more lively engine response.

As soon as one starts up, the differences from normal IDs and DSs are immediately noticeable, although the characteristic engine harshness is still there. Accelerating hard in the lower gears produces all the Citroen tremors, but the performance is decidedly crisp as the table of figures below shows. Maximum speed is increased by just over 17 m.p.h., and acceleration from rest to 80 m.p.h. is improved by almost 27 per cent.

Although geared for the open road, the car is quite tractable

if one makes free use of the ratios. The shape of the torque curve is remarkably flat, as illustrated so well by the even times taken to cover 20 m.p.h. speed ranges in the gears. Maximum revs are in the region of 6,500 r.p.m., but little, if anything, is gained by hanging on to this point except in first. It was found best to make the other changes at 5,800 r.p.m., and the corresponding road speeds are those quoted as the maxima.

The extra power emphasises the outstanding roadholding potential of the car, and the small wood-trimmed steering wheel is a great improvement over the standard, single-spoked one with its thick plastic binding. By having a flat instead of a dished design, a full-reach driving position can be adopted, giving a greater sense of command when hurtling the car through sweeping bends—conditions when it is really in its element. The new seats give good support, but most drivers found the cushion too high under their thighs; Connaught can easily adjust this to individual fit during the installation.

It seems a pity that the opportunity of improving the pedal layout has not been taken, for the present arrangement becomes fatiguing on long runs. Brake, clutch and throttle are all on different levels, and the last two have long movements which, while making them sensitive and light to operate, call for muscular agility.

This treatment of the Citroen by Connaught makes the car a real "road burner" with a genuine 100 m.p.h. reached easily on motorways and held at a mere 4,325 r.p.m. For touring in the grand manner, the G.T. is very attractive: nearly 24 m.p.g. driven very hard and high average speeds without strain are virtues that seldom go hand in hand.

The two Solex carburetors are just visible in the complex jungle of accessories and cables. Extra sound deadening material is applied under the bonnet lid



Performance Data

Figures in brackets are for the Citroen ID tested in Autocar of 29 August 1958.

Acceleration times (mean), Speed range, gear ratios and time in seconds:

m.p.h.	3:31	4:77	7:35	13:79
10-30	—	—	6.1 (6.8)	4.1 (—)
20-40 15.9 (—)	9.8 (10.4)	6.0 (7.0)	—
30-50 16.0 (18.2)	9.3 (10.9)	6.3 (8.0)	—
40-60 16.4 (20.5)	9.7 (11.8)	7.9 (—)	—
50-70 17.9 (22.4)	11.4 (15.8)	—	—
60-80 20.6 (33.7)	14.4 (21.5)	—	—
70-90 32.4 (—)	23.7 (—)	—	—

Overall fuel consumption for 956 miles:

23.6 m.p.g.; 12.0 litres/100km. (26.3 m.p.g.; 10.7 litres/100km.)

From rest through gears (s)

30 m.p.h. 5.2 sec	(6.1 sec)
40 8.2	(9.9)
50 11.8	(14.0)
60 16.3	(21.1)
70 23.2	(30.7)
80 33.3	(42.7)
90 55.8	(—)

Standing quarter-mile 20-80cc (22-30cc)

Maximum speeds in gears:

	m.p.h.	k.p.h.
Top (mean)	.. 102.6 (96.5)	165.1 (139.2)
(best)	.. 104.0 (98.0)	167.4 (141.6)
3rd 92 (87)	148 (130)
2nd 60 (40)	97 (77)
1st 36 (30)	58 (48)

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Conversion Test

CONNAUGHT CITROËN

100 m.p.h. in great comfort

THE DS and ID Citroëns' reputation—as fast long-distance cars stems from brisk, fussless cruising, good handling, and an ability to ride over poor roads at undiminished speed, rather than sheer performance. This makes good sense in France over indifferently surfaced Routes Nationales but on Britain's relatively smooth, congested roads, good acceleration (and handling) is what gets a car from point to point quickly.

New pep has been given by Citroën to the ID-based Safari (see last week's road test). Now Connaught Cars Ltd.* have done the same to the ID saloon. They have made it faster and quieter, transformed the driving position with new seats, added power steering and called it the GT. Individually, these and other modifications are all an improvement: collectively, they add up to quite the best and most enjoyable Citroën we have tried, giving it a performance and individuality worthy of the £1,597 it costs—only £50 more than the standard DS. A normal ID costs £1,307.



The better equipped DS fascia replaces that of the ID. When this picture was taken, alterations needed to accommodate the manual gear change were incomplete. The wood rimmed steering wheel is placed nearer the fascia than standard.

Fully adjustable Microcell seats are firm but comfortable. The space between them is useful for stowing oddments up to the size of a shopping basket.

*Connaught Cars (1959) Ltd., Portsmouth Rd., Sand, Surrey. Telephone Ripley 3122

With its outstanding roadworthiness, the Citroën's performance potential is probably far higher than could be extracted from the relatively small (2-litre) engine—a four-cylinder long-stroke design inherited from pre-war days. There is, therefore, no danger of overtuning at the expense of safety.

There is a choice of two engine conversions—the normal one based on twin Solex carburettors (as on our test car) and the other on twin S.U.s. Connaught's figures show the Solex car to have a slightly higher top (cruising) speed but marginally poorer acceleration. Other modifications are common to both. The cylinder head is gas flowed and polished and the compression ratio increased from 7.5:1 to 8.4:1. Stronger valve springs raise the rev. limit to about 6,400 r.p.m. before valve bounce.

This was one of the most unobtrusive conversions we have tried. There was no raucous exhaust or increased roughness: in fact, its only temperament was a rather long warming-up period—countered by liberal use of the choke—after starting from cold. The engine always started instantly.

Our test car had completed under 1,300 miles when the performance figures were taken—rather brutal treatment for an engine that is scarcely run in. With more miles behind it, no doubt the car would reach Connaught's claimed 103 m.p.h. Our rather stiff engine would not better 101 m.p.h. in top, and 99.5 in third.

At 100 m.p.h. the engine is turning at little more than 4,300 r.p.m.—still well within cruising limits—giving the car a splendid long-legged gait. Downhill stretches on M1 would allow a genuine and fussless 110 m.p.h. A fuel consumption of 25 m.p.g. at a steady 90 m.p.h. is unusually economical for such rapid motoring in a big car. Oil consumption was nil.

Generous sound damping felt on the bulkhead, floor and bonnet makes the car very quiet during high-speed cruising (exceptionally so with all the windows shut) but there is still considerable power roar on heavy acceleration. A Kenlowe thermostatic fan eliminates the incessant hum of the normal belt-driven fan and saves several useful b.h.p. at high revs. The same goes for the lightened flywheel which makes the engine slightly more responsive to the throttle and gearchanging quicker, though upward shifts are still rather leisurely. With its newly acquired synchromesh, first gear gives a useful but noisy 35 m.p.h., and second 65 m.p.h. The characteristic Citroën shudder that is evident during full throttle acceleration in these two gears is slightly more pronounced.

Our test car had Connaught-converted power steering—one





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of the best we have tried—which, unlike most American systems, is high-g geared and sensitive as well as being light. Our impression was that Connaught had made a rather better job of it than Citroen themselves, who now offer DS power steering as an option on the ID. Future GTs will have this. A small, wood-rimmed "Stirling-Moss" steering wheel (this signature etched untidily into one of the spokes) appeared curiously out of place in a Citroen yet was delightful to hold. It was placed nearer the facia than the standard, plastic-covered one-spoke wheel.

Microcell seats have transformed the driving position. They are much smaller and firmer (perhaps too firm) than the rather soft, upright seats they replace, and give better, but not outstanding, support during fast cornering. A by-product is the generous amount of space they leave between them. This is especially useful as Citroens are very poorly equipped to accommodate odds and ends. With adjustable squabs (they will recline completely) and ample fore and aft movement, any driver should be able to make himself comfortable. The combination of light steering, a well-placed wheel and good seats permits an outstanding long-arm driving position that very few sports cars can equal. Regardless of what The Book says, there is seldom need to lift one's hands from the wheel: you sit and steer like a racing driver.

Other alterations include changing the ID facia for that of a DS and adding a water temperature gauge. Brooks inertia

The addition of another Solex carburetter makes the engine compartment even more impressive. Sound damping is fixed to the bulkhead.

PERFORMANCE DATA

Maximum Speed	ID*	DS†	Connaught GT‡			
Mean	85.3 m.p.h.	93.3 m.p.h.	100.5 m.p.h.			
Best	86.5 m.p.h.	95.2 m.p.h.	101.0 m.p.h.			
Acceleration from standstill						
0-30 m.p.h.	5.8 sec.	6.3 sec.	4.8 sec.			
0-40 m.p.h.	9.5 sec.	9.1 sec.	7.7 sec.			
0-50 m.p.h.	15.1 sec.	12.8 sec.	10.9 sec.			
0-60 m.p.h.	19.9 sec.	18.4 sec.	15.5 sec.			
0-70 m.p.h.	28.4 sec.	25.6 sec.	21.2 sec.			
0-80 m.p.h.	—	34.8 sec.	29.8 sec.			
0-90 m.p.h.	—	—	42.0 sec.			
Standing quarter	22.1 sec.	21.9 sec.	20.5 sec.			
Acceleration in the upper ratios						
	Top	Third	Top	Third	Top	Third
20-30 m.p.h.	16.4	9.6	16.2	9.6	14.0	9.2
30-40 m.p.h.	16.7	9.7	18.2	10.0	15.7	8.5
40-50 m.p.h.	19.1	11.9	19.2	10.5	16.7	9.7
50-60 m.p.h.	24.4	16.4	21.0	12.6	16.8	10.7
60-80 m.p.h.	—	—	26.0	16.4	20.4	13.4
70-90 m.p.h.	—	—	—	—	29.4	21.0
Fuel consumption at steady speeds						
30 m.p.h.	47.0 m.p.g.	47.0 m.p.g.	48.0 m.p.g.			
40 m.p.h.	42.0 m.p.g.	41.0 m.p.g.	44.5 m.p.g.			
50 m.p.h.	36.5 m.p.g.	36.5 m.p.g.	41.5 m.p.g.			
60 m.p.h.	29.5 m.p.g.	29.9 m.p.g.	36.5 m.p.g.			
70 m.p.h.	27.0 m.p.g.	29.0 m.p.g.	33.0 m.p.g.			
80 m.p.h.	24.0 m.p.g.	24.5 m.p.g.	30.0 m.p.g.			
90 m.p.h.	—	20.5 m.p.g.	25.5 m.p.g.			
Overall	26.4 m.p.g.	24.3 m.p.g.	23.4 m.p.g.			

* The Motor Road Test, 4.19, Feb. 17, 1959. Test conditions: Wind, 15-25 m.p.h. gusty. Some drizzle. Temp. 46-48 degrees. Barometer, 29.5, 29.4 in.
 † The Motor Road Test, 23/63, July 5, 1963. Test conditions: Warm, dry, light breeze. Temp. 66-72 degrees. Barometer, 29.7 in.
 ‡ Test conditions: Mild and dry. Wind 0-10 m.p.h. Temp. 50-56 degrees. Barometer, 29.56 in.

reel safety belts really do give complete freedom—the driver needs it to reach some far-out controls—but the spring loaded reels tighten the shoulder straps sufficiently for them to be irritating. This may have been due to mounting points that were not ideal. Optional extras include a rev. counter, door pockets (very useful), centre arm rest with glove/map locker and a radio.

There are several cheaper saloons that have a better performance but, if you want individuality and enjoy driving, the Citroen GT has a lot to offer.

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