

Citroen CX 2200 Pallas

[Autocar](#) Auto Test

30 March 1976



Flagship of the CX range greatly improved by adoption of power steering as standard.

Pallas specification rather expensive with little to justify the high price tag except the power-steering.

Standards of ride and passenger comfort as high as ever.

2.2-litre engine gives improved performance throughout and higher gearing helps in providing even better economy than the smaller-engined CX2000.

Futuristic controls work well. As idiosyncratic as other Citroens but easier to accept than the DS series Pallas that it replaces

THOUGH THE second anniversary of the world introduction of the Citroen CX models will soon be upon us, it is only a year since the first cars became available in the UK. To begin with, these were only the CX 2000 variation but latterly, the CX 2200 Super and CX 2200 Pallas have begun to arrive as well and we will soon be seeing the first of the CX Safari 2000 Super estate. As significant as the extra equipment that the CX2200 Super and Pallas have is the more powerful 2,175 cc engine that gives them their name. This engine develops 112 bhp (DIN) at 5,500 rpm and naturally more torque than the smaller engine of the CX2000 (123 lb. ft at 3,500 rpm compared with 112 lb ft at 3,000rpm). The bigger engine significantly improves the performance and the top speed of the 2.2-litre cars is 112 mph while nearly 2 1/2 seconds are knocked off the time to accelerate from rest to 80 mph compared with the time for the CX 2000. This worthwhile improvement in performance is not gained at the expense of economy for, in fact, the 2200 models returned marginally better overall figures (23.5 mpg compared with 23.2 mpg).

Though there are detail differences between the CX 2200 Super and the Pallas, the major difference is the fitment of power steering on the more expensive version. The system, known as Vari-Power, is derived from that fitted to the defunct Citroen SM and like that system, the CX mechanism gives varying assistance depending on road speed and also the amount of steering lock that is applied.



Performance and consumption

The performance tables reveal that the CX Pallas is only class average in its acceleration, but they also reveal that it will pull smoothly from as low as 10 mph in 3rd gear or from 20 mph in top. There is no lagging in the acceleration in each gear that would suggest that there are “holes” in the torque curve. In reaching its top speed of 112mph, the Pallas went only slightly over the engine speed at which maximum power is produced so we can accept that the gearing is well chosen. Although the 2200 CXs have the same internal gearbox ratios as the 2000 model, the extra power enables a higher final drive to be pulled and, in fact, brings the revs at maximum speed and maximum engine power closer together than on the smaller-engined 2000. A very low drag coefficient and low specific power output for the weight and accommodation of the car, result in excellent steady speed fuel consumption returns. As the figures reveal, at a steady 70 mph, consumption of 30 mpg may be expected and thus our calculated DIN figure of 27.3 mpg needs more consideration than usual. The reasons for the lower overall figure are twofold. Firstly, at speeds up to 70 mph, the engine is running on the primary choke of its twin-choke carburettor with consequent improved economy and secondly, the steady speed state is taking little account of the car’s weight which under more representative conditions of give-and-take motoring will become more important. Thus our overall figure of 23.5 mpg represents a figure that is more likely to be returned in day-to-day use and only those drivers with the chance to do long distances with little need for frequent heavy acceleration will expect to approach the DIN consumption figure, as our calculated Autocar formula shows clearly. The generous 15 gallon fuel tank gives a safe range comfortably exceeding 300 miles. During the course of the test period, no measurable amount of 20W/50 engine oil was used.



Brakes

CX models utilise the well-tried Citroen high pressure hydraulic system but unlike the DS models, the replacement car has a proper brake pedal making progressive application of the brakes an easier exercise. The front discs are of the ventilated type and the handbrake operates on these front brakes. It produced an excellent retardation on its own of 0.45g and was easily capable of holding the car up or down a 1-in-3 slope.

The performance of the brakes did not disappoint in any way giving a maximum retardation of 0.95g with 50 lb pedal pressure while showing no sign of fade. However, it was noticeable that the performance of the brakes when cold was very different from the results obtained when they had thoroughly warmed through.

The front suspension has anti-dive characteristics which result in comfortable and reassuring braking from the highest of speeds.

Ride and handling

In common with other members of the CX family, the Pallas employs the ingenious, if complicated Citroen hydropneumatic system. Inherent advantages of this system are ride height irrespective of load (and thus no need to adjust the beam height when laden) and the ability to increase the ride height of the suspension at will to cope with really rough going.

A disadvantage of the suspension design in general is that the wishbone geometry front suspension does not ensure that the wheels stay at right angles to the road under conditions of roll. This is the limiting factor in considering the ultimate limits of roadholding since despite the undoubted ability of the hydropneumatic suspension to keep the wheels on the ground at all times, strong understeer builds up under relatively low cornering forces. The result is untidy handling with little initial roll resistance.

The ride presents an altogether happier picture with a quite extraordinary ability to soak up the very worst road irregularities. Only single undulations such as humped back bridges catch out the system as the car drops down on the reverse side of the bridge with the wheels still in the bump position and thus short of upward travel to cushion the shock.

On good class roads, the ride is exemplary and all who travel in a CX comment on just how comfortable they are, whether they are sitting in the back or front.

Though in itself, the power assistance for the steering does not improve the roadholding, it removes our earlier criticism of the CX 2000 of being hard work to drive quickly on twisty roads because of the heavy low-g geared steering. However, at only 2 1/2 turns, the steering is undeniably "fast" and the driver does well not to hold the steering wheel too tightly to avoid involuntary wheel movements.

The velour material of the seats helps greatly in sideways location of driver and passengers and provided that the driver exercises sensible anticipation, it is possible to hustle the CX along very respectably without seriously disturbing the passengers.

The natural stability of the Pallas is impressive with not the slightest tendency to wander off line as the result of changes in road surface or camber. In sidewinds or in buffeting caused by lorry traffic, the car is always very stable.



Noise

Despite the considerable attention paid to the insulation of the body from the sub-chassis, there is still a disappointing degree of noise and vibration evident to the car's occupants. Whether at minimum or at high revs, the engine is never completely smooth and there are a number of vibrations that reach the body unit and which can be felt through the pedals and through the floor of the car. This gives a feeling of a lack of refinement out of character with the rest of the car which in terms of equipment and comfort is of a high standard. As we commented in the Road Test of the CX 2000, the seals at the bases of the doors are guilty of letting noise in and the swishing of the tyres on wet roads can be clearly heard. There is always a low level of wind noise present which increases only a little at high speeds – a further tribute to the attention to aerodynamic detail.

Fixtures and fittings

Though of rather futuristic design, the controls of the CX are found to be most effective. All the major switchgear is brought, literally "to hand" by placing it all on the extremities of a half-flying saucer-shaped surround to the instruments.

The instruments themselves are in character with the futuristic appearance of the rest of the car's interior. Instead of round

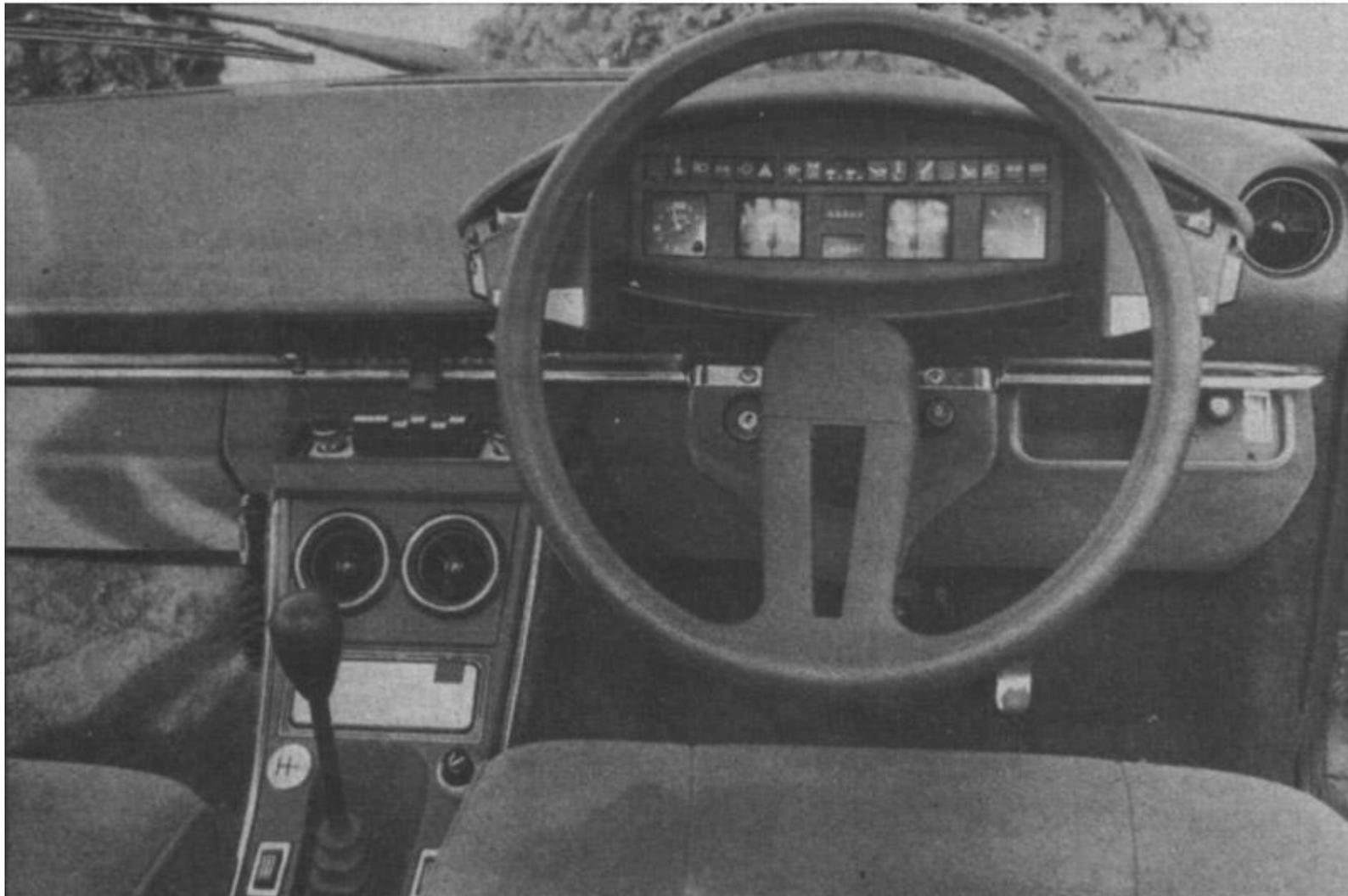
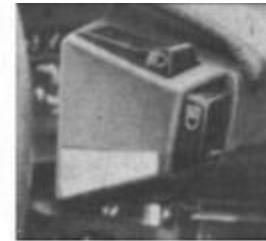
dials, the speedometer and rev counter are two drums with magnifying glasses in front.

Flanking the speedometer and rev counter are a clock to the left and a pair of instruments to the right. The inner of the two is a vague fuel gauge while alongside it is a battery condition indicator that appears to be masquerading as an ammeter.

Right across the top of the instrument panel is a line of no less than 14 warning lights in a variety of pretty colours and with a graphic symbol to explain their function. Four of these warnings (those for hydraulic system pressure, the master “Stop” warning, engine oil pressure loss and high water temperature) can be checked for working bulbs by pressing a small button in the centre of the water temperature warning. If all is well, the four lights should be illuminated when the button is pressed.

With so many controls on the instrument binnacle, there are few to describe elsewhere. The steering column shroud has the choke and ignition switch on it while to the driver’s right, there is a small cubbyhole with a sump contents gauge set in its right hand side. To operate this gauge, a button alongside the gauge is pressed and an indication of the sump contents appears in a glass that looks like a spirit level.

Instruments and major controls are all contained in the separate half-saucer shaped binnacle. The detail (right) shows the way that the controls are offered at fingertip reach. The instruments from left to right are clock, speedometer, trip and total mileage recorders, rev counter, fuel gauge and battery condition indicator. To the right hand side of the sub-facia cubby hole is the sump oil contents gauge while the ignition switch and choke are contained in the steering column shroud. The power-steering has enabled the steering wheel to be reduced in diameter but tall drivers will still find limited clearance between the wheel rim and their thighs. There is a central fresh air vent as well as eyeball vents at the edges of the facia



The controls for the heating system are all positioned behind the gearlever in the centre of the car where both driver and front seat passenger can reach them. There is a console in the centre of the fascia which contains the ashtray, cigarette lighter, the controls for the electric window lifts for the front windows, the heated rear window switch and the switch for the interior lamps.

Part of the power steering package is a smaller steering wheel (dia. 1 in. less) which helps to give tall drivers better clearance between the wheel rims and the knees. The driver's seat is adjustable for height at both the front and the back but any change is best attempted when not sitting down.

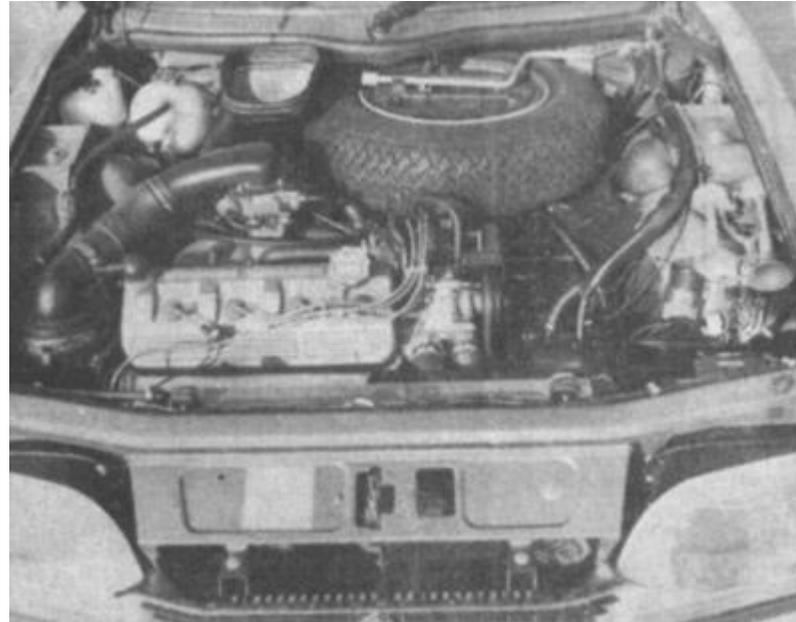
Living with the Citroen CX 2200 Pallas

The price of the extras available on the Pallas makes rather frightening reading. The velour upholstery can be replaced with leather for £299.52 and tinted windows can be specified at a price of £88.92. But the most frightening cost of all is that for air conditioning which can be had for £449.28; at this price, the tinted windows are thrown in as well.

In standard form, the car is well equipped already as you would expect for £4,360.58. The heating system is among the very best available with the right requirements for cool air at head level while heated air is supplied to the footwells. For really hot weather, a really strong blast of cool air is available through the three fascia vents. Air extraction is good though the heated rear window is frequently needed to demist the outside of the rear window whose concave shape makes it subject to misting at the slightest opportunity. With a reservation regarding the limited clearance between the steering wheel rim and the driver's knees, drivers of widely differing stature had little difficulty in finding a comfortable driving position. One or two complained of a lack of lumbar support, evident after a long journey.



***Above:** The above average wheelbase enables really roomy rear seat accommodation*

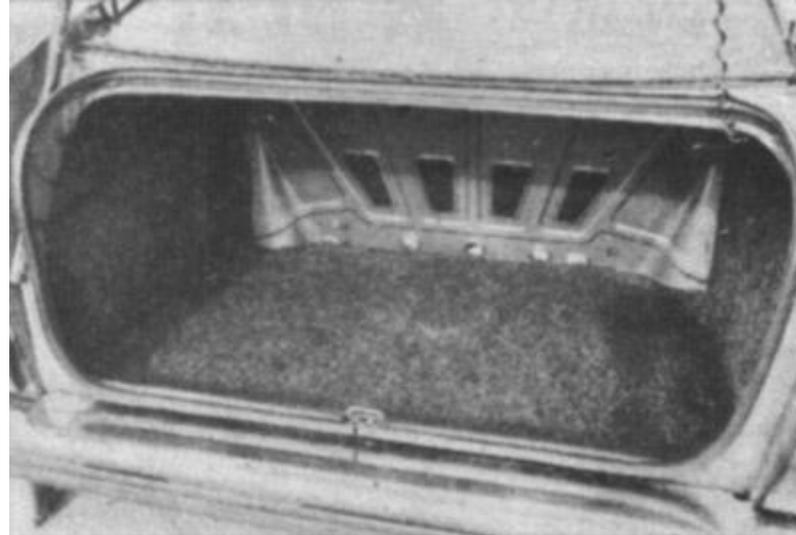


***Above:** Engine access is good with all important items brought to the top of the space. The clip on the high tension lead to No. 4 plug is the pickup for the rev counter*



***Left:** The height of the cushions fitted to the front of the head restraints can be adjusted*

***Below:** Regular shape, height and depth mean generous boot space and the low sill enables easy loading*



The space afforded to rear seat passengers is prodigious, the long wheelbase and positioning of the rear wheels so close to the tail of the car enabling best possible use to be made of the rear of the car for passengers. There are no limitations of headroom in either the front or the back of the car. The view out in every direction is excellent, the six-light glass arrangement allowing thin pillars.

Only the last foot or so of the tail is out of view to the driver, though the view forwards is less commanding, at least three feet of the nose being invisible from the driving seat (and more than this for short drivers). The positioning of the front wheels some way back from the front of the car, and the proximity of the rear wheels to the tail means that when turning a sharp corner, the rear wheels track well inside the fronts.

Though there is only one long windscreen wiper it clears the screen well and only the tallest of drivers will find any trouble with the unwiped portions. Because the wiper is always in line with the airflow it is not subject to lifting at speed.

Though the shaped headlamp glasses only look as though they contain one lamp, in fact, there are two separate bulbs contained in each. The light is carefully controlled and powerful on either main or dipped beam but the swivelling lamps of the DS23 and Citroen SM are badly missed.

Citroens are not cars into which it is possible to jump for the first time and drive well. To avoid uncomfortable and untidy

surging. It is essential to get the clutch take up and throttle opening just right. When cold, the brakes are difficult to apply with adequate precision and progression. It is necessary to mention that while the CX does not have the tumblehome of the DS series, there is still enough of the body beyond the window glass to catch out the unwary. On-journey stowage is adequate without being generous. There is a roomy drop-down glove locker above the front passenger's knees and part of the Pallas specification is the fitting of pockets on the back of the front seats. For the driver, there is a small pocket to the right of the steering wheel but there is nowhere that is suitable for storing, for instance, a packet of cigarettes if there is a duster in the driver's cubby hole.

Unlike the Citroen GS, the rear bumper does not form part of the boot lid but nonetheless, when the boot is opened, there is nothing to hinder the loading of luggage or objects straight into the cavernous, carpeted space. There is adequate height for even a big suitcase to stand upright and there would be plenty of room for a family's luggage for a fortnight's holiday.

Beneath the bonnet, access to items needing routine attention is good.

On the Service Information in the data table, a range has been shown for routine servicing costs. This is because a number of items at these routine services are optional. Thus the first price includes only those jobs that are recommended, while the second includes the cost of having the optional services at the appropriate mileages as well.

Conclusions

Though expensive as a part of the Pallas specification, the Vari-Power power-assisted steering transforms the CX Pallas. Before, the low-geared and heavy steering made any tight manoeuvring, or indeed any town driving, a chore. Though lacking the performance of some of its class and price competitors, the Pallas is nonetheless most luxurious transport if you are not always in a hurry. The room and comfort in the rear of the car are unrivalled within the overall length.

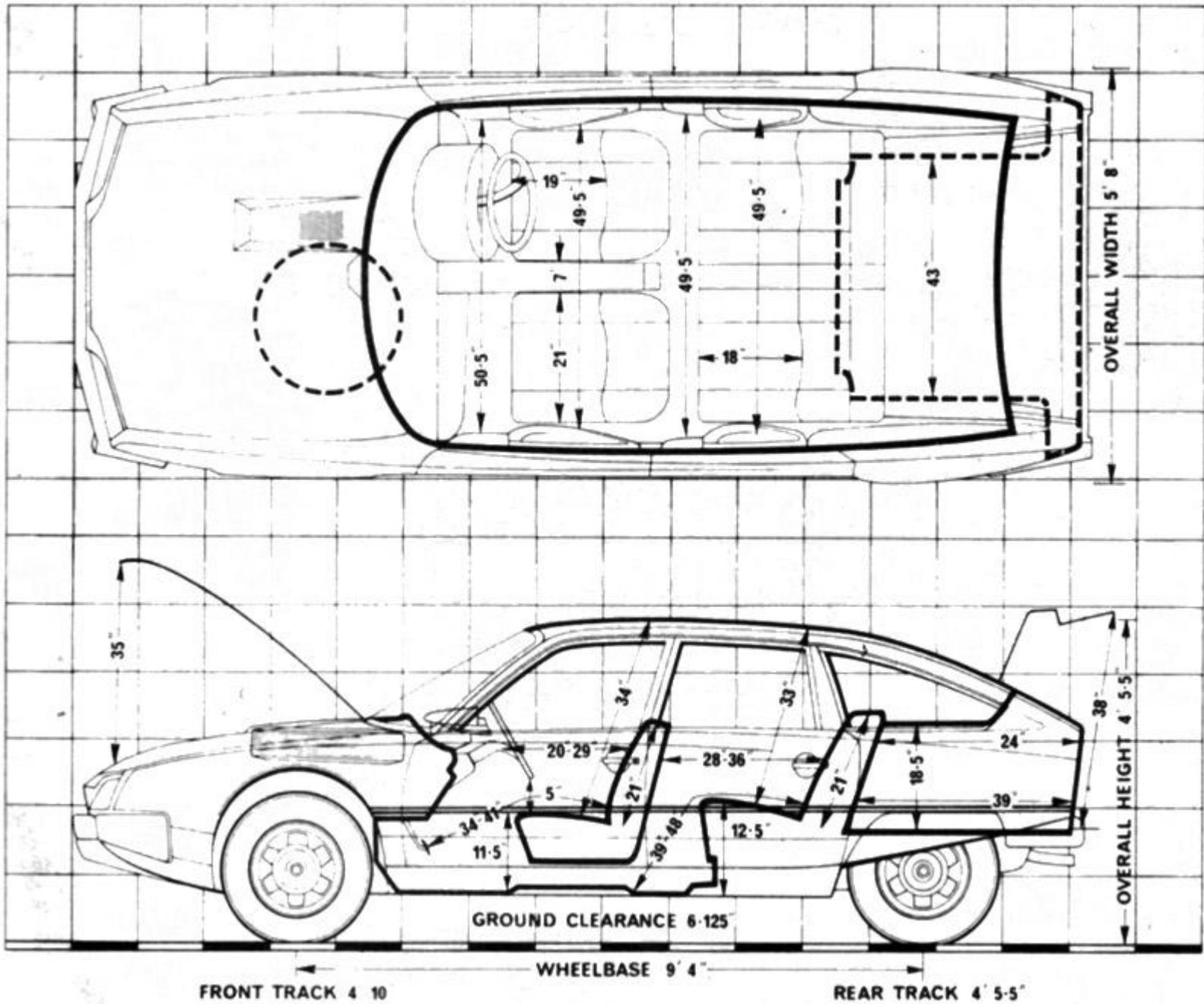
Though the present engine is a great improvement on its predecessor, it only sounds refined without actually accomplishing this in deed. Again, this is not evident if the car is driven gently at all times but certainly, if driven at all hastily, the CX Pallas gives plenty of notification of being flustered.

In terms of long distance comfort, acceptable fuel economy and high engineering endeavour, the CX is a serious competitor in the senior executive company car market. However, it is not the sort of car with which everyone can expect to get on but as repeat sales show, once hooked by its considerable Gallic charm, love for a Citroen is not an easy thing to kill.

Where it fits in

The Pallas version of the Citroen CX 2200 is very much the flagship of the range, for not only does it have a higher level of initial equipment but it is also the only model on which such items as leather upholstery, tinted windows and airconditioning

may be ordered. The Pallas is identifiable by its overall nave plates and also by a full length rubber-faced rubbing strip down the body sides as well as a discreet "Pallas" badge on the rear panel. It is presently available in manual transmission form only. The extra cost over the CX 2200 Super is made up by Vari-Power power-assisted steering, thick pile carpet, velour carpeting, pockets on the front seat backs, a map light, two extra rear compartment lights and smarter brushed-aluminium finish ashtrays.



MANUFACTURER:

Citroen
 133 Quai A. Citroen
 75747 Paris Cedex 15
 France

UK CONCESSIONAIRES:

Citroen Cars Limited
 Mill Street
 Slough, Berks

PRICES

Basic	£3,727.00
Special Car Tax	£310.58
VAT	£323.00
Total in GB	£4,360.58
Seat belts (inertia reel)	Std
Licence	£40.00
Delivery charge	£24.00
Number Plates	£5.50
Total on the road (exc. insurance)	£4,429.58
Insurance	Group 6
EXTRAS (inc VAT)	
Air conditioning (incl tinted windows)	£449.28
Leather upholstery	£299.52
Tinted windows	£88.92
Metallic paint*	No charge
*Fitted to test car	
TOTAL AS TESTED ON THE ROAD	£4,429.58

Specification		Maximum speeds			
ENGINE		Gear	mph	kph	rpm
Cylinders	4 in line	Top (mean)	112	180	5,600
Main bearings	5	Top (best)	115	185	5,750
Cooling	Water	3rd	85	137	6,000
Fan	Electric	2nd	52	84	6,000
Bore, mm (in.)	90 (3.54)	1st	30	49	6,000
Stroke mm (in.)	85.5 (3.37)	Acceleration			
Capacity cc (in3)	2,175 (132.7)	True mph	Time secs	Speedo mph	
Valve gear	ohv	30	3.6	32	
Compression ratio	9 to 1	40	5.8	42	
Octane rating	98RM	50	8.1	52	
Carburettor	Weber 34 DMTR28 2 choke	60	11.6	62	
Max power	110 bhp (DIN) at 5,500 rpm	70	15.6	72	

Max torque	123 lb ft at 3,500 rpm	80	19.8	82
TRANSMISSION		90	28.4	92
Type	4 spd, all synchromesh	100	40.8	103
Gear	Ratio	mph/1000rpm		114
Top	0.80	20.00		
3rd	1.13	14.10	Standing 1/4 mile	18.2 sec 77 mph
2nd	1.83	8.70	Standing kilometre	33.5 sec 94 mph
1st	3.17	5.03		
Final drive gear	Helical spur	mph	Top	3rd 2nd
Ratio	4.58 to one	10-30	-	7.6 4.1
SUSPENSION		20-40	10.9	7.1 4.2
Front - location	Independent, upper and lower transverse arms	30-50	10.6	6.6 4.6
		40-60	10.1	6.7 -
Springs/dampers	Hydropneumatic units	50-70	10.7	7.7 -
Anti roll bar	Yes	60-80	12.3	9.2 -
Rear - location	Independent trailing arms	70- 90	16.0	- -
Springs/dampers	Hydropneumatic units	80-100	23.1	- -
Anti roll bar	Yes			
STEERING		Consumption		
Type	Rack and pinion	Fuel		
Power assistance	Vari-power progressive	Overall mpg: 23.5		
Wheel diameter	15 in.	(12.0 litres/100 km)		
BRAKES	Dual circuit hydraulic	Calculated (DIN) mpg 27.3		
Front (ventilated)	10.2 in dia. disc	(10.4 litres/100 km)		
Rear	9.2 in dia. disc	Constant speed		
Servo	Hydraulic	mph	mpg	
WHEELS		30	41	
Type	Pressed steel disc 5 stud fitting	40	38.4	
Rim width	5 1/2in. J	50	36.8	
Tyres - make	Michelin XVS	60	33.7	
Type	Radial ply tubeless	70	30	
Size	F 185-14 R 175-14	80	26.1	
		90	22.5	

EQUIPMENT

Battery	12 volt 50Ah
Alternator	72 amp
Headlamps	4 lamp halogen 90/190watt (total)
Reversing lamp	Standard
Hazard warning	Standard
Electric fuses	10
Screen wipers	2 speed
Screen washer	Electric
Interior heater	Air blending
Interior trim	Velour seats, pvc coated headlining
Floor covering	Carpet
Jack	Screw type
Jacking points	2 each side beneath sill
Windscreen	Laminated
Underbody protection	Bitumastic and Tectyl
MAINTENANCE	
Fuel tank	15 Imp. galls (68 litres)
Cooling system	19.4 pints (inc. heater)
Engine sump	10 pints 20W/50
Gearbox and final drive	2.8 pints SAE 80EP
Grease	No points
Valve clearance	Inlet 0.006 in. (cold) Exhaust 0.008 in.)cold)
Contact breaker	0.016 in. gao
Ignition timing	10 deg BTDC (static) 10 deg BTDC (stroboscopic at 850/900 rpm)
Spark plug type	AC 42FS or Marchal 35/1B 24- 27 lypi

100

18.2

Autocar formula

Hard driving, difficult conditions 21.1 mpg
Average driving, average conditions 26 mpg
Gentle driving, easy conditions 31 mpg
Grade of fuel: Premium 4 star (97 RM)
Mileage recorder 1.5 per cent over reading

Oil

Consumption (SAE 20W/50) negligible

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

start/end		start/end	
1	25-30-25	6	40-50
2	30-38	7	40-55
3	35-45-40	8	40-55
4	35-40	9	40-55
5	40-55	10	40-55

Response (from 30 mph in neutral)

Load	g	Dist
20lb	0.35	86ft
30lb	0.55	55ft
40lb	0.72	42ft
50lb	0.95	32ft
Handbrake	0.45	67ft
Max gradient	1 in 3	

Clutch

Pedal 40lb and 5 1/2 in.

Test conditions

Wind: 10 - 15 mph
Temperature: 14 deg C (57 deg F)

Spark plug gap 0.026 in.
 Tyre pressures F 28; R 30 vpsi (normal driving)
 Max payload 1050 lb (475 kg)

Barometer: 30.2 in. Hg
 Humidity: 54 per cent
 Surface: dry asphalt and concrete
 Test distance: 750 miles

Figures taken at 3,700 miles by our own staff at the Motor Industry Research Association proving ground at Nuneaton.

Regular service				Parts Cost	
Interval				<i>(including VAT)</i>	
Change	3,000	6,000	12,000		
Engine oil	Yes	Yes	Yes	Brake pads (2 wheels) - front	£13.52
Oil filter	No	No	Yes	Brake pads (2 wheels) - rear	£12.07
Gearbox oil	No	No	Yes	Silencers	£13.13
Spark plugs	No	Check (optnl)	Check (optnl)	Tyre - each (typical advertised)	£42.00
Air cleaner	No	No	Yes (clean)	Windscreen	£65.97
C/breaker	No	Check (optnl)	Check (optnl)	Headlamp unit	£42.67
				Front wing	£25.46
				Rear bumper	£70.55
				Warranty period 6 months unlimited mileage	

Weight	Test scorecard
Kerb 26.1 cwt/2918 lb/1325 kg (Distribution F/R 67/33)	Average of scoring by <i>Autocar</i> Road Test Team
As tested 29.0 cwt/3250 lb/1475 kg	Ratings:
Boot capacity: 11.5 cu. ft	6 <i>Excellent</i>
Turning circles	5 <i>Good</i>
Between kerbs	4 <i>Better than average</i>
L 35ft 9in R 35ft 4in	3 <i>Worse than average</i>
Between walls	2 <i>Poor</i>
L 38ft 8in R 38ft 6in	1 <i>Bad</i>
Turns lock to lock 2 1/2	PERFORMANCE 3.50
	STEERING AND HANDLING 4.50
	BRAKES 4.60

COMFORT IN FRONT	4.75
COMFORT IN BACK	4.43
DRIVERS AIDS	4.25
<i>instruments, lights, wipers, visibilty, etc.</i>	
CONTROLS	3.50
NOISE	4.00
STOWAGE	4.67
ROUTINE SERVICE	3.90
<i>under bonnet access, dipstick, etc..</i>	
EASE OF DRIVING	3.91
OVERALL RATING	4.22

COMPARISONS	Price £	max mph	0-60 sec	overall mpg	capacity c.c.	power bhp
Citroen CX 2200 Pallas	4,361	112	11.6	23.5	2,175	110
BMW 520	4,399	114	10.5	22.4	1,990	130
Peugeot 604	4,785	113	9.4	17.4	2,664	136
Ford Granada 3000 GL	3,485	113	9.1	19.1	2,994	138
Mercedes Benz 230/4	4,644	110	13.8	22.7	2,307	110
Triumph 2500 S	3,735	105	10.4	24.8	2,498	106
Renault 30TS (A)	4,187	111	11.7	20.2	2,664	131

	wheelbase in.	length in.	width in.	kerb weight cwt	fuel gall	tyre size
Citroen CX 2200 Pallas	112	181	68	26.1	15.0	185/175HR-14
BMW 520	104	182	67	24.6	12.5	175 HR-14
Peugeot 604	110	186	70	27.8	15.5	175 HR-14
Ford Granada 3000 GL	109	180	71	27.8	14.3	175 HR-14
Mercedes Benz 230/4	108	184	70	26.6	14.3	175 HR-14
Triumph 2500 S	106	183	68	23.3	14.0	175 HR-13
Renault 30TS (A)	105	178	68	25.5	14.7	175 HR-14

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