

# SURVIVAL OF THE FITTEST

So now it's time to say goodbye to the 'Black Beast.' With 24,000 on the clock and one major accident, our long-term Citroën CX GTi Turbo has returned to its maker. All in all, the members of the *Autocar* staff, including myself, have enjoyed the car immensely.

Its capacity for effortless, long-distance, high-speed cruising made the CX the staff's favourite transport when travelling any sort of mileage.

Around town its sheer size makes the CX fairly unwieldy, although it does help that the steering lock is only 2.5 turns from one extreme to the other. Time is needed to become familiar with Citroën's power-assisted steering though its self-centring effect is a great help in keeping the car pointing in the right direction at speed — it ploughs on as straight as an arrow whatever the conditions or speed. The steering does, however, have a dead feel when the car is driven very slowly if the wheel is turned from side to side suddenly.

If the steering is open to a certain amount of criticism, the suspension is less so. The CX hydropneumatic system has been retained but updated in the Turbo to handle the increased power. Combine this with the wide-section, low-profile Michelins and the ride is exceptionally good although the system can be fooled by large deflections such as humpback bridges taken at speed. The ride height should be constantly adjusted

**Our CX GTi Turbo was not a pretty sight after its argument with a bridge parapet, but it is a credit to Citroën's design staff that it survived at all. Dave Alexander reports on living a hectic life with the fastest production CX**

via the built-in self-levelling, but as the miles have piled up the CX tends to sit higher at the back. Even with the engine running the car fails to return to level flight — this has been most noticeable since the Black Beast had its run-in with a bridge parapet.

The CX GTi Turbo is the most powerful CX in current production, the addition of a Garrett T3 turbocharger and relevant plumbing adding some 22 per cent to the power output of the 25 GTi to give 168bhp at 5000rpm and 217lb ft of torque low down at 3250rpm. The turbo installation is excellent. There is very little lag and the car, for its size, is exceptionally flexible, pulling away cleanly and quickly from low revs in the upper gears, making motorway overtaking manoeuvres a safe and

easy exercise. Our long-term CX has never matched the performance figures claimed by Citroën, though.

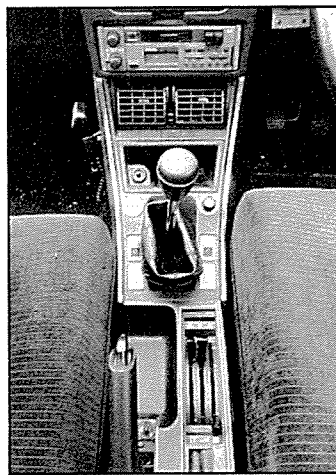
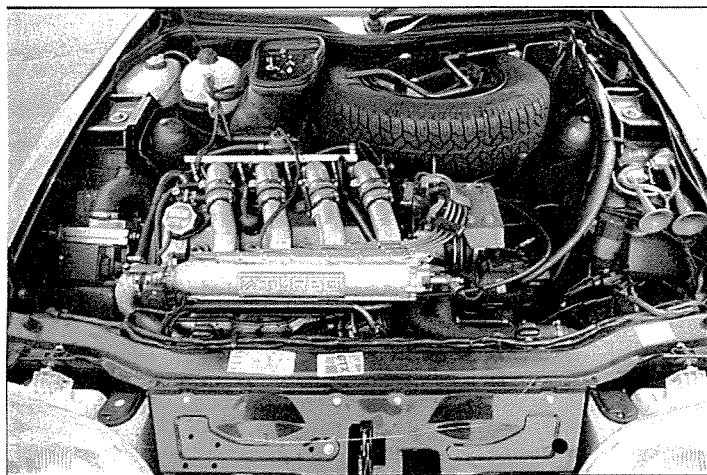
In terms of maximum speed, the best that the CX has managed is 129mph. It has reached this speed on all the occasions that the car has been tested but has clearly had nothing more to give, denying us the 136mph claimed by the manufacturer. The best 0-60mph time that our road test team has managed to achieve is 8.2secs.

A problem we encountered at an early test session, when 9.3secs was the best 0-60mph time, was thanks to a fail-safe system incorporated in the CX. When the cylinder block sensor detects an irregular combustion sequence it immediately retards the system by eight or nine degrees. If the

irregularity is not repeated, the system is designed to crank up the advances until the timing is normal again. There is, however, a more radical second stage to the fail-safe procedure in which event the ignition can go back as far as 18deg and provides no advance at all below 1200rpm. This is what happened to our car.

It was driven very carefully to Traffic Garage, at Walton-on-the-Hill, where both block sensor and computer were replaced under warranty. Operation completed, our CX was returned to rude health once more.

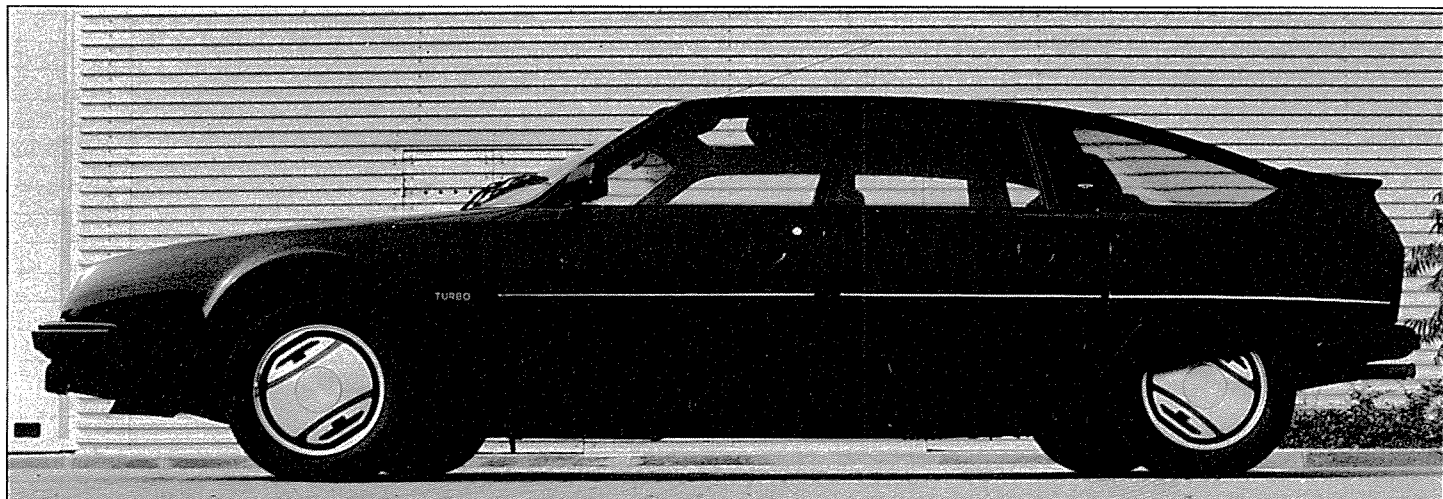
Most of the *Autocar* staff were impressed by the general performance levels of the CX, although the overall smoothness of the engine ▶



Block sensor and engine computer were changed quite early in the life of the CX Turbo (far left)

Gearchange (left) was always baulky but deteriorated around the 20,000-mile mark

A style all of its own: the Citroën CX certainly stands out



## LONG-TERM TEST 24,000 MILES

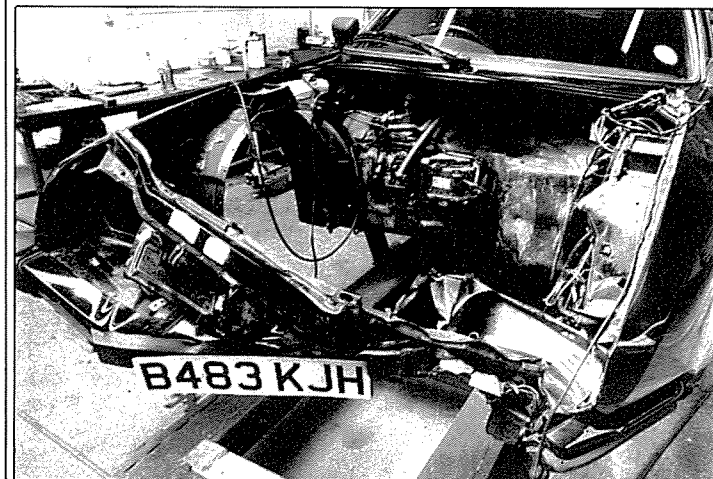
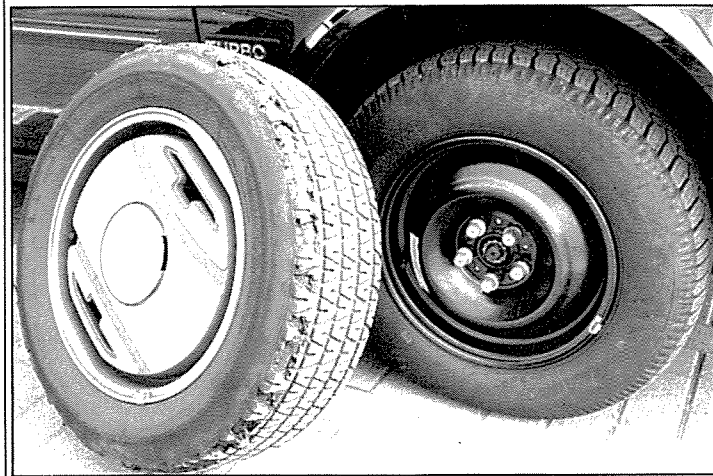
◀ deteriorated during the last 1000 miles that the CX was with us, the overrun becoming jerky, which we put down to the overrun fuel cut-off valve sticking and causing the engine to hunt.

The gearbox was always a little baulky but in the later stages of its time with us the change quality began to feel very tired; the synchromesh was still there but it had slowed right down, especially on the lower three gears. Changing down in any sort of a hurry required double declutching.

There were two incidents in the life of the CX that highlight the safety factors that are a tribute to Citroën. The first occurred as one of our road testers was starting a maximum speed run on the high-speed track at MIRA. Noticing a shake in the steering he wisely decided to pull over and investigate the problem. To his horror he found that almost the entire outside band of tread on the offside front tyre had stripped off. The cover was still inflated but damaged beyond repair. The tyre was removed and sent to Michelin for comment and after assessment by the technical department, Michelin's technical liaison manager gave his verdict.

The incident had been our fault. Although the testers had followed normal practice and raised the tyre pressures before taking to the high-

**Incorrect tyre pressure caused the tread to strip (below)**  
**Accident damage took the CX off the road for two months (bottom)**



speed track, Michelin's advice was that we should have been running at least 10 psi above normal pressures (front 33.5psi, rear 22psi). The marked front weight bias of the car made it particularly sensitive in that situation and where we might have got away with it in a car with more even weight distribution, the high-speed banking, with all the loading that involves, caused the tyre to roll right over on to the side wall, generating enough heat to effectively carbonise the rubber tread.

The second incident was the argument with a bridge parapet. Picture the scene: night had just fallen and the drizzle had been falling for a couple of hours. I was proceeding with four passengers in an easterly direction down a quiet lane approaching an S-bend with a hump-back bridge in the middle. I had used the road many times before and knew it well. The problem with this particular bridge is that there is enough room only for one vehicle to cross at a time, so bearing this in mind, I slowed down and watched for the headlights of oncoming traffic. I could see none so pulled out to the centre of the road to cross the bridge.

Imagine my surprise and horror when a car appeared on the crest of the bridge displaying only side lights. Now, a driver who was perhaps more used to the CX wouldn't have made the mistake I did. He would have remembered the excellent, perhaps over-servoed, brakes. I took avoiding action, swinging the car to the left

## CITROËN CX 25 GTi TURBO 2 COMPARED



**Minor aerodynamic changes lowered wind noise levels in Turbo 2**

It was in the autumn of 1985 — in this country anyway — that the effort to smooth out some of the worst quirks in the Citroën range caught up with the CX models.

Parent company PSA had already called in its connections with Peugeot and Talbot to sort out the BX. Much of the effort went into the interior, where changes such as rationalising the switchgear and introducing standard instruments to replace the famous 'cyclops eye' drum speedometer, greatly improved the broad appeal of the car.

The 'new look' CX — almost the last change to the current design before the new flagship appears — was little changed on the outside. Experiments had been conducted to improve the aerodynamics, especially to reduce levels of wind noise from window frames and screen surrounds, but the small benefits were more than outweighed, literally, by the extra poundage of panelling and cost.

In the end Citroën Style settled for an extra hit on the metal press forming the front wings to allow the fitment of a single unit front bumper undertray in composite material. There were new and more streamlined exterior mirrors plus composite aerodynamic covers for the rear wheels.

To a certain extent there was a reduction in wind noise levels but at the higher speeds achieved by the GTi Turbo, the 15-year-old design still suffered from progressively severe wind noise intrusion. The small changes to the body *did* raise the threshold at which the wind roar began to drown out the radio.

Inside, the 'new' CX is very different. Substantial changes to the fascia design, instrument and switchgear layout and the seats, create an impression of space besides physically providing more room.

Main instrument grouping and the pod style switchgear follows the old system which was in fact ergonomically very efficient. The GTi had analogue instruments anyway and these are retained.

One of the complaints about the old car concerned the poor ventilation. Our old GTi, with its black exterior and interior, could be a real sweatbox in the summer and the sunroof was essential rather than an option.

On the new car the heat vent system is thermostatically controlled and there are more outlets than before so that a decent airflow can be achieved. Air conditioning is another useful addition to the specification on the top models.

The centre console houses much of the important switchgear including the selector for the ride height control. This electric slider switch replaces the manual lever system that was installed in the older car between the seat. The space there is now occupied by the radio.

Adding anti-locking braking helps to overcome the fears of a panic stab on the hair-trigger pedal instantly locking up all four wheels.

At the introduction of the revised CX, Citroën also announced that it would be fitting a new 2.2-litre, 115bhp engine to the 22TRS version. It was quicker than the old 2-litre, but still not as quick as the GTi turbo that claimed to offer a top speed of around 130mph, although we were never able to get ours up to that level.

But the GTi was not forgotten. Citroën had plans in the pipeline to give it more power by adding an intercooler to the turbo unit. The gain in absolute power was minimal because Citroën set up the system to concentrate on producing more torque for improved acceleration.

and at the same time giving the brake pedal an over-zealous stab. The brakes locked and the Citroën careered over the greasy road surface as straight as an arrow, into the bridge parapet. The crumple zones crumpled. Fortunately nobody was so much as slightly injured, although the oncoming driver might have been, had he bothered to stop . . .

The addition of anti-lock braking (see separate sidebar) came just too late to save me.

The CX really comes into its own at high speed where it will cruise effortlessly for hours on end. There is some tyre roar from the wide-section Michelins and the wind whistles round the front windows at anything over 70mph. Often opening and reclosing the front windows alleviated this problem.

Starting from cold is never any problem although I found the starter motor quite loud.

The instrumentation in the CX is easy to live with although some people don't like it on first acquaintance. Conventional gauges are placed in a compact group and the black-faced instruments with white numbers and orange points look purposeful and neat. Citroën has retained the familiar rocker switch arrangement for indicators and main beam, plus the finger-tip controls for

*Seats (below) went a little soggy but generally stood up well  
Citroën combines four-seat comfort with versatility*

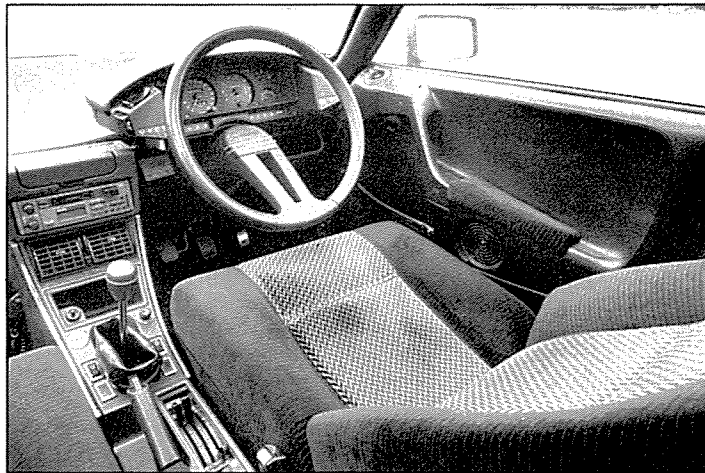
horn and headlamp flash. These pods of switchgear allow the driver to keep both hands on the wheel in the correct position.

A 15ins diameter, leather-bound steering wheel is fitted, with the word 'Turbo' embossed in the centre section. I always wondered if the emblem was put there to remind the driver of the fact that a blown engine was fitted.

The large steering wheel necessitates a splayed legs driving position and the steering is sufficiently highly geared to allow a smaller wheel to be fitted.

There is only just enough legroom for average height drivers, a problem which could be sorted out if the front part of the seat had a tilt arrangement fitted. The rear of the driver's seat can be lowered to provide more headroom, a fact that drivers of 6ft or more will appreciate, especially when a sunroof is fitted. Another solution would have been to make the steering column adjustable. After 24,000 miles the seats are becoming rather tired and losing their firmness, although the fabric covering has stood up remarkably well to long-term wear.

So after 24,000 miles, 1053 gallons of fuel, 10 litres of oil and one major accident, which kept the car off the road for two months, it was time to wave farewell. I am missing the CX, surprisingly. It is an individual beast that, once you have become accustomed to driving, is hard to do without. ■



## LONG-TERM DATA

### WHAT IT HAS COST

Price new (July 1985)	£12,575
Price now (June 1987)	£14,995
Estimated trade-in value of our car	£5500

<b>FUEL/OIL</b> (Cost for 24,000 miles)	
1053 gal, 4-star (£1.76/gal)	£1853.28
10 litres oil (£2.00/litre)	£20.00
<b>Total</b>	<b>£1873.28</b>

<b>TYRES</b>	
Cost £126.50 (each)	
Life Front — 70% worn	£177.10
Rear — 50% worn	£126.50
<b>Total</b>	<b>£303.60</b>

### SERVICE AND REPAIR RECORD

Faults on delivery: None noticed.

<b>SERVICE</b>		
Distance	Date	
600	Jul 1983	£19.66
6000	Sep 1985	£35.15
12,000	Nov 1985	£63.86
18,000	Apr 1986	£35.12
24,000	Nov 1986	£148.00

<b>REPAIRS</b>		
Distance	Date	
3500	August 1985, filler pipe leak	£9.20
4000	August 1985, replace fuel tank (Warranty)	
6000	September 1985, replace washer bottle (Warranty)	
<b>Total</b>		<b>£9.20</b>

<b>TOTAL REPAIR AND SERVICE COSTS:</b>	<b>£310.99</b>
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<b>EXTRAORDINARY ITEMS</b>	
Replaced tyre damaged while testing	£126.50
Replace front foglamp	£39.45
<b>Total</b>	<b>£165.95</b>

<b>ANNUAL STANDING COSTS</b>	
Road tax	£100.00
Insurance premium* (calculated)	£270.00

<b>DEPRECIATION</b> (23 months, estimated)	<b>£7075.00</b>
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<b>TOTAL RUNNING COSTS</b> (23 months, ex-depreciation)	<b>£3197.04</b>
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<b>COST PER MILE</b> (including tax and insurance)	<b>13.3p</b>
(including tax, insurance and depreciation)	<b>42.8p</b>

\*To put all our cars on equal footing for insurance costs, the figure given above is a typical quotation for a good-risk driver, with clean record, and car garaged in Oxfordshire, a middle-risk area. Full no-claims discount has been deducted, as has the saving for £25 excess. Source: Quotel Motor Insurance Service

## SPECIFICATION

**ENGINE**  
Transverse front, front-wheel drive. Head/block al. alloy/cast iron. 4 cylinders in line, wet liners, 5 main bearings. Water cooled, electric fan  
**Bore** 93.0mm (3.66in), stroke 92.0mm (3.62in), capacity 2473cc (151.0cu in)  
**Valve gear** ohv, 2 valves per cylinder, chain camshaft drive. Compression ratio 7.8 to 1. Electronic ignition, Bosch L-Jetronic injection. Garrett T3 turbocharger, boost pressure 8psi (0.57 bar).  
**Max power** 168bhp (PS-DIN) (122kW ISO) at 5000rpm. Max torque 217 lb ft at 3250rpm

## TRANSMISSION

5-speed manual, single dry plate clutch.

Gear	Ratio	mph/1000rpm
Top	0.67	25.2
4th	0.88	19.2
3rd	1.21	14.1
2nd	1.83	9.3
1st	3.17	5.4

Final drive: Helical spur, ratio 4.2.

## SUSPENSION

**Front**, independent, transverse steel arms forming parallelogram, hydropneumatic damping, anti-roll bar.

**Rear**, independent, trailing arm, hydropneumatic damping, anti-roll.

## STEERING

Rack and pinion, hydraulic power assistance. Steering wheel diameter 15in, 2.5 turns lock to lock

## BRAKES

Dual circuits, split front/rear. Front 10.3in (261mm) dia ventilated discs. Rear 8.8in (223mm) dia discs. Hydraulic servo. Handbrake, centre lever acting on front discs.

## DIMENSIONS, WEIGHTS

Length 183.5ins (4661mm)  
Width 69.7ins (1770mm)  
Height 53.5ins (1359mm)  
Wheelbase 112.2ins (2850mm)  
Weight 3107lb (1409kg)

## PERFORMANCE

### MAXIMUM SPEEDS

Gear	LT	RT
Top (mean)	127 5000	126 5000
(best)	129 5020	128 5010
4th	115 6000	115 6000
3rd	84 6000	84 6000
2nd	55 6000	55 6000
1st	32 6000	32 6000

## FUEL CONSUMPTION

**Overall mpg:**  
LT 22.8 (12.4 litres/100km)  
RT 20.1 (14.0 litres/100km)

## ACCELERATION

From rest				
True mph	Speedo mph	Time secs		RT
		LT	RT	
30	33	2.8	2.8	
40	42	4.2	4.2	
50	53	5.8	5.9	
60	64	8.2	8.6	
70	75	10.4	11.3	
80	85	13.9	14.8	
90	96	17.3	19.0	
100	108	22.2	24.3	
110	119	30.2	35.2	
120	129	—	—	

**Standing 1/4-mile:** LT 16.5sec, 84mph  
RT 16.7sec, 83mph  
**Standing km:** LT 29.7sec, 107mph  
RT 30.2sec, 106mph

In each gear						
mph	Top		4th		3rd	
	LT	RT	LT	RT	LT	RT
10-30	—	10.4	11.3	6.5	6.5	
20-40	12.7	13.6	8.1	8.2	5.0	4.8
30-50	10.1	10.9	6.2	6.7	4.0	3.9
40-60	8.6	8.6	6.0	5.7	4.0	3.9
50-70	8.6	8.4	6.0	5.9	4.6	4.7
60-80	9.6	9.8	6.4	6.5	—	6.7
70-90	10.4	10.8	8.1	7.5	—	—
80-100	11.4	11.4	11.0	9.2	—	—
90-110	—	15.0	—	—	—	—

RT denotes performance figures for CX GTi Turbo tested in *Autocar* of 24 October 1984.