SIX of the E

The 'Big Six' engine provided '70s Aussie Cortinas with effortless power and grace, as Graham Robson discovered on a trip down under. Pictures by Greg Brindley.

Len Roser, who has owned this immaculate Cortina 6 since new, can't see what all the fuss is about:

"There are lots of these here," he says. "Mine's just better kept than most!"

'Here', though, is Australia, and I'd never seen a Cortina like this before. For Len, however, it's an everyday car for everyday transport — and one he'd decided to cherish as he, and it, grew older. I'm sure that there are no such cars in Britain — unless someone out there knows better...

At first everything looks very familiar, and shows nothing more exciting than a big '6' in chrome on the boot lid. But open up the bonnet and you get a real surprise — for there, filling the engine bay completely, is a big straight-six cylinder engine.

Below: Len Roser has owned this immaculate Cortina 6 Ghia since new in 1979

EST

Not, you understand, the short and stubby V6 which you have all seen in European-style '70s Cortinas, but a long, none-too-stylish and obviously heavy straight-six. There was a big air cleaner box to hide some of the details, but what seemed to fill up all the space, and even keep out the daylight, was a sturdy symphony in cast iron.

In the '70s, as in previous decades, Ford-Australia liked to hedge its bets. Although the typical Australian car, by post-war tradition, was big and roomy for making those long journeys in the outback, millions of Aussies who lived close to

the big cities wanted something smaller.

Ford, with big plans for its future, hedged its bets. The big cars — American-inspired Falcons mainly — got progressively more and more

Australian, but from 1972 to 1983 the alternative range was of British-type Cortinas. Two years after the MkIII Cortina had gone on sale in Europe, Ford-Australia put it into production in the outskirts of Melbourne.

The range, though, had a completely different balance. Instead of a jumble of small

Ford In Australia

Ford Motor of Australia was formed in 1925, with Model T assembly beginning in four plants throughout the continent. Model A, V8 and (British-type) Model Y assembly followed, with the first Australian-designed Model 40 Utility (Ute) being introduced in 1934.

In the post-war years, the first all-Australian-design Falcon was not introduced until 1972. In the '50s and '60s British-style Ford Pilots, Consuls and Zephyrs were all manufactured, mainly from completely knocked down (CKD) kits supplied by Ford of Britain. Until 1960 this was mainly at Geelong (west of Melbourne), then after 1960 at the newly-purchased Broadmeadows factory in the northern outskirts of Melbourne.

Australia's most famous and long-lasting model, the Falcon, started its life in 1960 as a modified American Falcon, but more and more 'Australianisation' was put into successive ranges during the decade. The first totally-Australian-designed and manufactured Falcon — the XA Series — was launched in 1972.

During the '60s no European-type Fords were built as the company concentrated on Falcons and their derivatives. It was not until September 1972 that the first six-cylinder-engined Cortinas were announced, these being almost entirely manufactured in Australia, though some parts were still sourced in Europe.

The MkIII shape was the first to be built — sold with a choice of four-cylinder 2.0-litre (Pinto) or straight-six 3.3-litre or 4.1-litre (Australian Ford) engines, in four-door saloon or estate styles.

Looking nearly the same as the latest British Cortina Mark IV models, new-shape cars were launched in May 1977, still with the same basic platform and style, still with the same choice of engines.

Production finally ended — in favour of re-badged Mazda 626s called Telstars — in 1983. None of the '70s/'80s-generation Fiestas, Escorts, Sierras or Granada Scorpios have ever been built in Australia. For five years, from 1989 to 1994, the Australian factory produced a Mazda-based sports roadster badged as a Capri, which had no relation to the European car of that name.

In the mid-'90s the Broadmeadows factory has been expanded, and re-expanded (there is to be major investment in new-range Falcons for the late-'90s). All assembly is concentrated on Falcons and their derivatives, including the LTD: all other Australian-market Fords are imported, fully built-up from Mazda in Japan.

Below: Most of the car is original, even the seat covers — and that's despite round trips of thousands of miles to visit relatives

The 'Big Six' Engine: A Long Life

The six-cylinder engine in this Australian 'Big Six' Cortina has an amazingly long life story to tell. Originally it started life as a US-designed 101 bhp 3.5-litre iron-head pushrod design, first seen in the 1952 model American Fords, and thereafter featured in the Falcons which were sent to Australia in the early-'60s.

The 3.3-litre/200CID and 4.1-litre/250CID engines used in these Cortinas were originally seen, in the US, in the 1963 US Fairlane and 1968 Mustang models respectively. This 'Detroit Iron' then featured in millions of Detroit Fords until, much modified, it was last used in an American Ford in 1983.

When Ford-Australia came to manufacture its own engines, this rugged 'six' was an obvious choice, and was used in the original all-Australian Falcon XA of 1972. From 1980 it was given a light-alloy cylinder head, but the overhead-valve gear was always retained.

Then, without changing the existing architecture of the engine's bottom end, Ford-Australia then converted it to an aluminium-headed overhead-cam design in 1988, though this was years after the Cortinas had been dropped.

Now, in the mid-'90s, in 4.1-litre XR6 guise, this engine produces no less than 220 bhp. Not bad for a cheap-and-cheerful mass-production unit, from the US, from the '50s.

'fours' and a V6, Ford-Australia Cortinas used only 2-litre overhead cam Pintos — or a choice of massive, and heavy, in-line six-cylinder unit — 3.3-litre or 4.1-litres. Many of the 'sixes', by the way, had Borg Warner automatic transmission.

Here was a car half-way to being what Australian drivers wanted — or so the planners thought. The car itself was European in size, but the engine was lifted straight out of the Falcons, and that had come across the Pacific Ocean 10 years earlier, from Detroit. Nine inches longer and two inches taller than the Pinto, the 'Big Six' would just — and only just — fit under the bonnet. To look after those long journeys, not only did the Falcon's engine have a massively beefy torque curve, but the axle ratio of the 4.1-litre car was a colossally high 2.76:1. No European Cortina was ever as high-geared as this, none so easy to drive in a lazy manner.

There might be a good road from Sydney to Melbourne, for instance, but that journey's more than 550 miles, and takes a full day to complete. When I suggested driving it instead of flying (in 80 minutes), my hosts looked at me as if I was mad.

Australia-only straight-six engined Cortinas were built for 10 years, in styles identical to our own MkII, MkIV and MkV types. In all cases the old-style Falcon engine was a top-of-the-range option — the 4.1-litre machine being seriously quick.

Having owned Falcons before this, Len Roser bought his gold 4.1-litre Cortina 6 as a brand-new car in 1979, and has kept it ever since. Pamphlets at the time urged: 'Drive it.... it makes beautiful sense... when you choose a Cortina 6, you get the smooth, easy, power of the 3.3-litre engine as standard, or, if you want real performance, you can order the optional 4.1-litre engine at extra cost.'

According to Len and his wife, they never set out to keep it for ever: "But now I don't think we'll ever sell it." he says. Now that he has retired, there is time to keep the Cortina up to the mark — not that it needs much work right now.

When photographed it had already completed 174,000 km (that's 108,000 miles) and was looking very good. Yet in 16 years, Len has only had to replace one front wing and a bumper guard. The rest of the car — including the seat covers, and the 'tobacco' vinyl roof — are original. Incidentally, if you think it may have lasted so well because it was always pampered, think again — to visit his far-flung family Len claims journeys as far afield as Brisbane (a round trip of well over 2000 miles) and to Perth in Western Australia (there and back, more than 4000 miles).

The pictures show that there is really standing-room only under the bonnet, whose panel had an extra-depth hump to give clearance over the air-cleaner. The original release admits that: 'The firewall panel (bulkhead) and plenum panel are new to allow for the longer six-cylinder engine and larger transmission housing. Similarly the floor pan has been modified to cater for the slightly increased width of the six-cylinder transmission.'

There was more. Different front springs and dampers were specified, while the front anti-roll bar was reshaped to clear the sump. The radiator had to be moved forward by three inches, the radiator itself needing to be wider and lower than the standard type, and there was a new structural member surrounding this.

The engine cross-member was extensively modified, not only by additional welding, but

Below: Standing room only under the bonnet, whose panel has an extra-depth hump to give clearance over the air-cleaner

TECHNICAL SPECIFICATION AND PERFORMANCE

Cortina 6, Australian built, 1979 model

ENGINE
Type: Ford-Australia
Capacity: 4091cc
Bore/stroke: 93.5x99.3 mm
Compression ratio: 9.0:1
Max power: 157 bhp at 4000 rpm
Max torque: 240 lbf.ft at 1600 rpm
Specific output: 38.4 bhp per litre
Power/weight ratio: 137.7 bhp/tonne
Cylinders: six, in-line, longitudinally-mounted
Cylinder head: cast iron
Block: cast iron
Valve gear: two overhead valves per cylinder, operated by pushrods, rockers and hydraulic tappets from single camshaft in cylinder block
Fuel and ignition: Autolite carburettor
Installation: front-mounted, longitudinal

TRANSMISSION
Type: front-engine, rear-wheel drive
Gearbox: four-speed manual
Internal ratios: 1st, 2.78:1; 2nd, 1.93:1; 3rd, 1.36:1; 4th, 1.00:1, reverse 2.78:1 (optional three-speed manual and three-speed automatic transmissions were also available)
Final drive: 2.76:1
Mph per 1000 rpm: 24.2 in top gear

SUSPENSION
Front: independent by coil springs, wishbones, anti-roll bar and telescopic dampers
Rear: live (beam) axle, with coil spring, longitudinal and oblique radius arms, telescopic dampers

STEERING
Type: rack-and-pinion

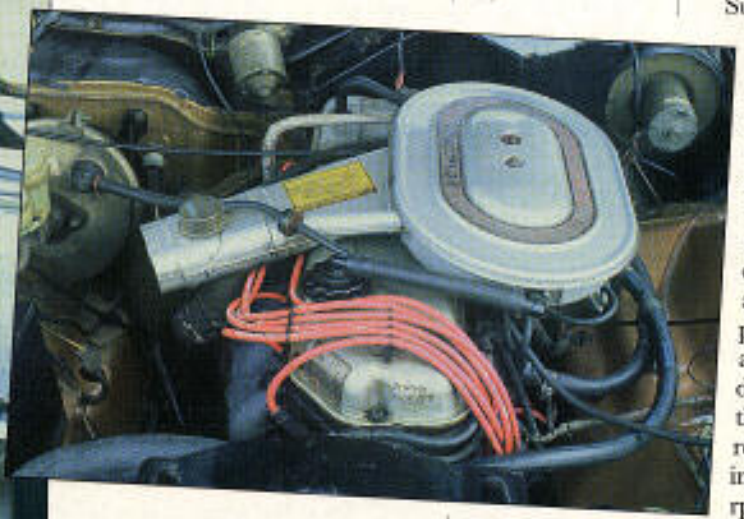
BRAKES
Front: 9.72 in/247 mm discs
Rear: 9.0x1.75 in/229x44.5 mm drums
System: hydraulic

WHEELS & TYRES
Wheels: steel disc, 5.5J x 13 in
Tyres: B78S-13 in or BR 78H-13 radial ply

BODY
Type: pressed-steel monocoque, in four-door saloon style (estate car type also available)
Chassis construction: in steel, as part of monocoque
Dimensions:
Length: 4433 mm
Width: 1699 mm
Height: 1337 mm
Wheelbase: 2578 mm
Front track: 1422 mm
Rear track: 1422 mm
Weight: 2514 lb/1140 kg

PERFORMANCE & ECONOMY
Max speed: 109 mph approx

PRICE AT LAUNCH
Not sold in the UK



Above: All this 'Big Six' muscle means sports car-like acceleration

by using different gauge material. Engine mounting brackets had additional gussets, and there was an additional bolt-on body cross-member under the transmission. Matching this engine, the transmissions — manual or automatic — were from the Falcon, as was the rear axle itself.

But what's it like to drive? Len swears that he doesn't notice it any more, but I immediately commented on the heavy steering. There is no power-assistance on this car — nor could you get it, at any price, on Cortina 6s. Nowadays, of course, we're used to seeing power steering even on Fiestas, so you can guess what a shock it was to me.

This, and the moon-shot acceleration, made me dive for a note which Ford-Australia sent me in 1989 when I enquired about this car. As communications manager Adrian Ryan wrote:

"The six wasn't the greatest success story for Ford-Australia. The cars didn't handle all that well due to the extra weight up front. They did accelerate like a racing car though!"

So I wasn't getting it all wrong — all Cortina 6s handled like this one. Well, with an American-style six-cylinder engine which you also found in Fairlanes and Mustangs in the early-'60s, and with fat 205/65-13 in tyres on 5.5 in rim wheels, they would, wouldn't they?

On the other hand, the torque — there was enough sheer low-speed grunt for this machine to scale Ayers Rock — was colossal. If you didn't try to rev the old-style engine too high its power delivery was seamless. With that very high gearing it would have been easy to repeat those trans-continental journeys Len had tackled when the car was young.

Sure it was hard work to lug round corners in suburban Melbourne, but in a straight line it was quite effortless, and not about to be pushed sideways by strong winds. Give it a footfull from a red light and you get the same sort of rumble we all hear from a big Essex — but this is a perfectly balanced 'Big Six' and the noise is somehow different. With Detroit iron throbbing up front, and a rev counter reading amazingly low (it only read 2000 rpm in top gear at 80 kph — 50 mph) I was often tempted to go well over the speed limits which are so ruthlessly enforced in Victoria.

In some ways it reminded me of a 3-litre Capri — but when I mentioned that neither Len nor anyone in the Australian RS Owners' Club knew anything about them either! Fascinating, but frustrating. Why was the European Cortina never as effortless as this?