

The Cologne Capri is undoubtedly the rarest — and fastest — Ford Capri variant. Allan Walton follows the history of the car built specifically for the 1974 European Touring Car Championship

The production version of the Ford Capri RS3100 was introduced in November 1973, and only 200 were ever produced at Ford's Halewood plant. FIA homologation was approved on 1 January 1974.

Why did Ford feel the need to replace their successful ETCC Capri RS2600? And why go to all this trouble to homologate the RS3100 - fitted with the British-built Essex V6, now enlarged to 3091cc, and with its hugeducktailspoiler?

To find the answer you need to examine the 1973 ETCC season.

When Ford first moved into ETCC racing they used their German-built V6 engine, which Weslake Engineering had gradually developed for the Capri RS2600.

However by 1972 the V6, although producing 320bhp, was clearly running out of potential. Then, in 1973, BMW demonstrated some 'creative' interpretations of the ETCC Group 2 rules.

Ford's ETCC rival - the BMW CSL

, BMW's ETCC contender, the 3.0CSL, had been originally homologated in the 'over-3-litre' class with its 3003cc engine - this allowed BMW to increase the car's capacity to 3.5 litres and still comply with the rules.

The RS2600, on the other hand, had been homologated in the 'up-to-3-litre' class, which meant that its engine size could not be increased to match the capacity of the BMW. Just to make things utterly decisive, when it appeared, the BMW 3.5CSL had sprouted a huge rear wing and a plethora of additional aerodynamic devices to become the famed 'Batmobile'. The BMW gained a significant edge over the Capri RS2600 and, despite tough opposition from Ford, BMW won the '73 championship.

Later in the '73 season Ford tried out a winged RS2600 at Fuji Raceway and the Macau Grand Prix and demonstrated the usefulness of a rearwing - the Macau appearance was actually the last time a **works** RS2600 competed on the race-track.

In order to combat the BMWs, Ford realised that they needed a 'homologation special' in order to gain the advantage of spoilers. Additionally more engine power and capacity was required.

Enter the RS3100 complete with spoilers and a 3091cc V6 which, of course, would allow the car to be homologated in the 'over-3-litre' class. In turn this engine enlargement would mean that the racing version of the RS3100 could now be increased to a maximum of 3.5 litres.



The Cologne Capri is a real magnet for enthusiasts - young and old. And for those who recognise the car it is an awesome sight - pop the bonnet to display the complex Cosworth GAA-V6 and the car is soon surrounded by admirers

The 'Cologne Capri'

When it came to building the race version of the RS3100, Ford, unable to use the lightweight plastic panels of the RS2600, were burdened with around 50kg extra weight, although it was planned to offset this with greater engine power. The German-based Ford effort was managed by Mike Kranefuss, who had first met Keith Duckworth when he had been running BDA Escorts.

With this, and the success of the Cosworth-designed Formula One DFV in mind, it was natural that Kranefuss should approach Cosworth for a new engine.

Luckily for Ford, at the same time a change of regulations allowed entrants to use alternative cylinder heads.

Ford, as planned, abandoned the Cologne-built V6 and commissioned Cosworth to design new four-cam cylinder heads for the British Essex V6 - the target power figure was 400bhp+.

The Capri project

Meanwhile, the task of building the RS3100 race-cars for the 1974 European Touring Car Championship was entrusted to Ford Cologne's chief engineer, Thomas Amerschlaeger.

The Cologne engineers started from a basic steel LHD bodysheet and fitted huge glass-fibre wheel-arch flares and, in order to combat excessive weight, many suspension components were fabricated in aluminium or magnesium.

To further pare down weight, Galvalume lightweight laminated glass was used all round.

Although Ford never admitted it, there is a suspicion that the bare bodysheet was also subjected to an acid dip - which would have lightened the shell quite considerably.

Front suspension followed normal Capri practice but, keeping within Group 2 rules, Bilstein gas-filled shocks were used and rubber front strut mounts were replaced with aluminium ball-joints.

Magnesium hub-carriers (fitted all round) to reduce unsprung weight, heavier 'export' suspension plates,



and centre-lock peg drive wheels finished off the racing conversion up front.

Ford neatly got around Group 2 rules, which stated that suspension systems must remain standard, when they came to the Capri's rear suspension which, in road-car trim, meant leaf springs.

By utilising a plastic leaf spring (which performed no function whatsoever) Ford skirted around the regulations and adopted co-axial Bilsteins and massive coils for improved rear wheel control and damping.

Officially the coils were listed as 'additional springs' - it was an infamous trick on Ford's behalf and, amazingly, they got away with it!

The standard Capri beam axle was used but was now located by four trailing arms and a new axle cover carried an adjustable, transverse Watts linkage - this allowed fine tuning of the rear roll-centre.

Massive brake-discs

Braking was achieved by huge ventilated discs all round - front discs were over an inch thick with a diameter of 12 inches, rear discs 10.5 inch diameter and just under an inch thick.

To help combat high brake-disc temperatures, water was piped to the discs from a washer bottle, located under the passenger's seat.

The clamping action of the lightweight ATE aluminium callipers was originally assisted by a special ATE hydro-electrically operated servo. (Ironically the ATE brake-booster system had been jointly developed by ATE and BMW - the system later appeared on BMW's 7-series road cars.)

An electrical pump was used to boost the reservoir to the required high pressure (up to 160-170atm) before valving it into the main hydraulic system.

The Cologne Capri was kitted out with BBS split-rim wheels secured by a central hexagonal locking nut, and wheel dimensions were only an inch or so narrower than those used in F5000 racers. The supply of rubber for these wheels was entrusted to Dunlop and on slicks the Capri was able to generate huge cornering forces, even with two wheels wagging in the air - the normal Cologne Capri mode of cornering.

The all-important front and rear spoilers were shaped in a wind-tunnel, and initial testing of the RS3100 Gp2 car took place at the Belgium Lommel circuit, with Toine Hezemans at the wheel.

This early incarnation of the Capri was powered by the old Weslake-RS2600 V6.

As a result of the track-testing, Amerschlaeger had the opportunity to fine-tune the car's spoilers. After the Lommel tests, Amerschlaeger discovered that the new Cosworth V6 engine weighed around 11kg more than the RS2600 V6, and the



RS3100 Gp2 Chassis No: GA ECPY19999

Our featured car, initially raced by Niki Lauda, was also the last Cologne Capri to race in works-backed guise. In November 1975, it was raced at Kyalami by Jochen Mass and Toine Hezemans, who won the Touring Car category in a gruelling nine-hour race. Its next owner was to be Australian saloon-car racer Allan Moffat. In 1975 Moffat was busy in Europe trying to persuade ex-ETCC racer Dieter Glemser to come to Australia as his co-driver for the Bathurst 1000, but the deal came to nothing.

However Moffat's connections with Glemser and Ford eventually resulted in the acquisition of a Cologne Capri for competition use in Australia. Accordingly, in late February 1976, GA ECPY19999 arrived down-under after being shipped directly from South Africa.

Moffat, forced to run the car in the GT class in Australia, ran the Capri on narrower, 10-inch wheels. This reduction in rubber upset the beast's handling balance and led to it being outclassed at most meetings - although Moffat was still able to achieve some measure of success with the car.

Once retired from the race-track, the Capri was sold off to the Modena Collection in Sydney where it remained until 1989.

In that year GA ECPY19999, with two engines, was shipped to the UK and sold at auction to English enthusiast Ed Hubbard.

The car's spare 'sprint' engine was sold to John Surtees and the 'endurance' prepared GA-V6 remained with the car.

Hubbard was able to restore the car back onto its original BBS rims, and in this form it was raced by expatriate Kiwi Norris Miles during 1990. However, Ed Hubbard then became embroiled in an infamous fraud case, his assets were liquidated and the Capri found itself spirited away to a huge car storage area near Milton Keynes where it was allowed to deteriorate.

New Zealander Mike John, on an extended sabbatical to the UK, heard about the Capri from Norris Miles, who had been keeping close tabs on the car. Amazingly the car was never advertised for sale and Mike, under advice from Miles, began negotiating with Hubbard's receivers.

After 12 months of protracted negotiations, he was finally able to purchase the Capri in February 1994.

Mike and an engine-builder friend, Peter Veryard, leased a workshop in England and together the two men rebuilt the Capri's engine and gearbox.

On completion the car was placed on display at the Ford Motor Museum in Dagenham while Mike returned to New Zealand.

During mid-1996 the Capri finally arrived in New Zealand where the task of fettling the car began and, gradually, the Capri was brought back to racing condition - although Mike has made no attempt, as yet, to restore the Capri's bodywork and it still carries the scars earned during its long racing career. Future plans include a sympathetic refurbishment of the Cologne Capri's unique body, but Mike will take care not to eradicate the car's historical patina.

The Cosworth GA-V6

At Cosworth Engineering, Mike Hall, who had designed the DFV's ancillaries, was given the job of designing Ford's racing version of the Essex V6 engine and, right from the start, he struck a major problem.

Ford wanted to increase the cylinder bores from 93.66mm to 100mm and, although there was considerable 'meat' in the cast-iron block, the task assumed 'Mission Impossible' proportions when it was discovered that, out of 200 blocks, only one or two were able to survive the machining process.

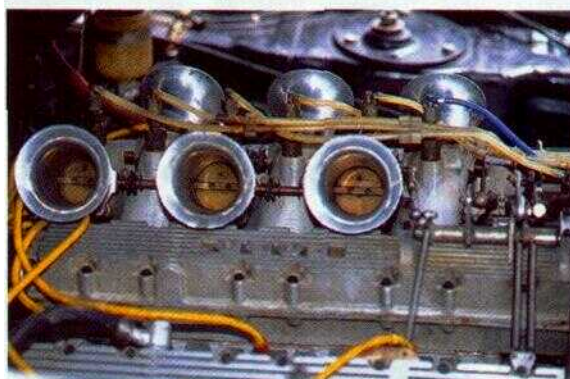
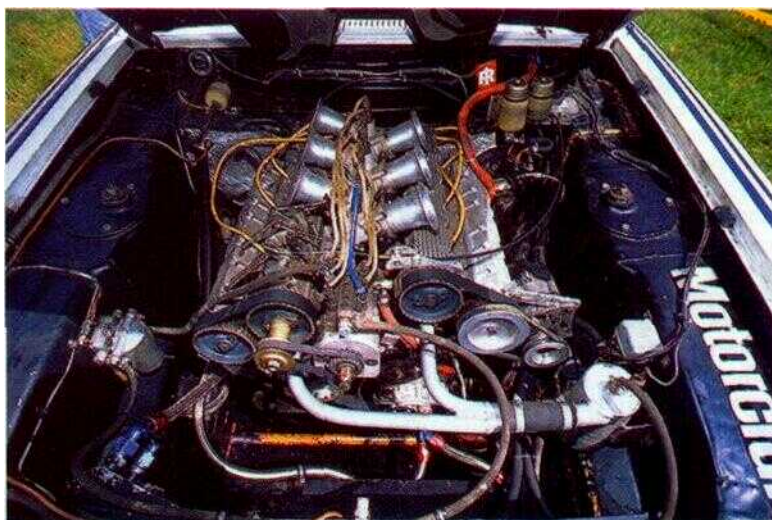
Nevertheless, Hall persevered and designed four-bolt main bearing caps to keep the blocks in one piece.

Although some of the race engines gave trouble in this area, Hall's shoring-up of the cast iron production block was remarkably successful.

Designing the new heads was a more straightforward proposition and Hall came up with an aluminium head which could be used on either bank. The camshafts, two in each head, were belt driven and the engine breathed through fourvalves per cylinder.

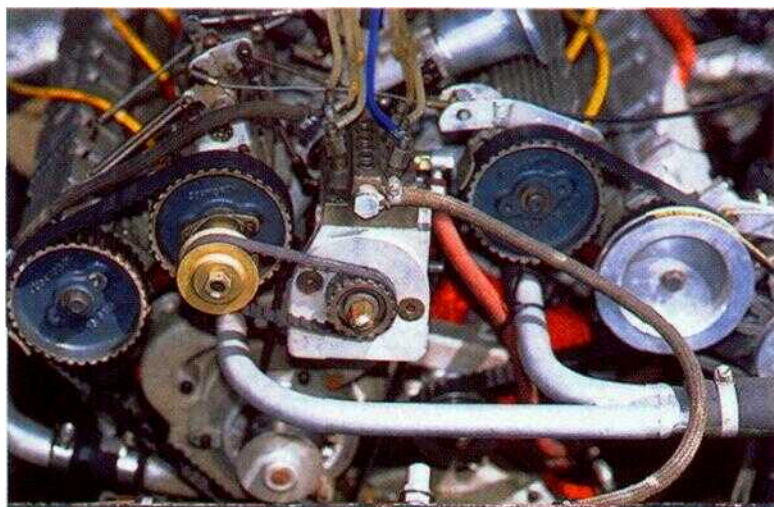
Combustion was provided by a central spark plug. Hall originally considered three spark plugs per cylinder but this arrangement produced no more power or torque than a single plug.

Bench-testing of the new engine began during the winter of 1973-74 and the GA-V6 produced an immediate 420bhp with Lucas fuel-injection, and later development saw this increase to 455bhp.



Top, the Quad-Cam V6 is an impressive sight – immensely powerful and very rare

Left, fuel injection trumpets line the inside of the engine's vee



Above, the Cosworth GAA-V6 front end is a mass of pulleys and belts

Right, interior is stripped clean, ignition switch sits atop the transmission tunnel



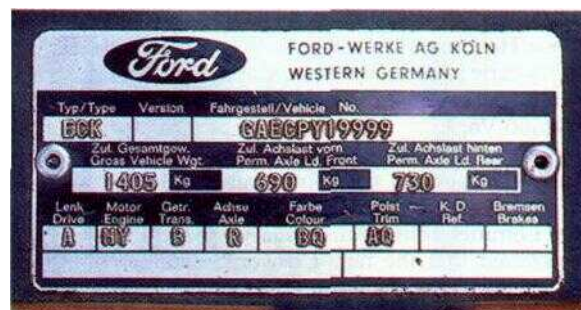
Cosworth produced 100 conversion sets for homologation, and 30 kits were provided to the Cologne racing department whilst the remaining 70 kits were sent to Ford's Boreham motorsport centre.

The GA-V6 engine later popped up in F5000 racing, and drivers such as Alan Jones found that they were every bit a match for the usually -used 5-litre push-rod Chevrolet V8.

John Surtees also intended to use the engines in his Surtees F5000 car but the project never reached fruition.

Boreham eventually sold around ten of the boxed kits and the remainder were later sold off to Leeds-based engine specialist Richard Sims. Since then, several complete kits have turned up at odd intervals and it is believed that even today KVO unused kits are sitting in Malta.

The GA-V6 also resurfaced at Swindon Racing Engines where, mated to special light-alloy cylinder blocks, the engines appeared in a variety of non-homologated race cars.



The Cologne Capri at Pukekohe

Sit in the seat of Mike John's Cologne Capri and you are instantly transported back in time to the mid-'70s - think about that era a little longer, whilst strapped into the same racing seat that once housed Niki Lauda, and most people would be forgiven for getting a little nostalgic for days long since gone.

However any reveries are abruptly cut short as the Cosworth V6 is fired up, and a thunderous blast from the side-mounted exhaust rapidly brings you back to earth - or more precisely, Pukekohe Park Raceway. This was the first time the Capri had ever seen a New Zealand circuit; the first time it had ran in anger since the early '90s; the first time Mike had ever driven the car on a track and the first time the Shaky Isles had been awakened by the ear-splitting howl of Ford's ultimate Capri race-car.

It was a beautiful day, bright blue skies, not a cloud in sight and we had the whole circuit to ourselves - it was a perfect day for track testing the Capri. In the pits Dave Mills, from Road & Track Performance in Pukekohe, was on hand in the event of any mechanical mishaps, and Volvo



racer Leonard Bakkenes was there to lend moral support - and wisecracks.

It was a slightly nervous Mike John who was strapped into the Capri's business seat ready for his first track excursion in the Capri. The V6 thundered into life and the blue and white beast rumbled through the pit-lane and onto the track. As the car disappeared from sight around the back of the track we could hear the engine note rising and falling as Mike got to grips with the Capri's ZF gearbox. Keeping revs down to little more than idle speed, after a minute the car reappeared coming over Mobil Mountain and down onto the pit straight. The sound of the racing V6 echoed around the grandstands, just imagine what it would sound pulling 8500rpm!

Unfortunately that was just about as far as the test got - going through the esses the Capri succumbed to an electrical problem and the car rolled to a halt along the back straight. It was an ignominious way to end the Capri's first NZ outing but, as the car has hardly been used since 1990, a certain amount of teething problems are to be expected. Cameras and timing gear were packed away and the Capri was towed back to Road & Track - it will return and, hopefully, NZCC will be trackside to report on a more successful testing session.

Mike's comments on the car - "very user friendly". He was surprised at how easy it had been drive and now he just needs to find out whether it's as easy at racing speeds! And his plans for the Cologne Capri? He had hoped to debut the car at Wings & Wheels last month but his entry was not looked upon favourably by the organisers. Rest assured, once properly sorted, the car will be making the occasional racing foray - look out for it when it arrives, this car is a genuine, and staggering rare, slice of motorsport history!



weight balance F/R was restored somewhat by mounting such items as the lubrication system ancillaries, including the dry-sump oil tank, in the car's boot.

Cosworth power

When the newly developed Cosworth GA-V6 turned up, it was mated to the RS2600's five-speed ZF gearbox although the old twin-plate clutch was now replaced with 7.2 inch Borg & Beck triple-plate mechanism mounted within a magnesium bell-housing.

Cooling radiators and separate oil pumps were provided for the gearbox, and also for the rear axle oil - these were mounted behind the left and right hand rear-wheel respectively.

The engine oil cooler was placed behind the front grille but, as the front of the car was blanked off for extra speed, this position was not entirely satisfactory.

Amerschlaeger and his technicians originally experimented with a rear mounted water-radiator but quickly discovered that there was insufficient air flow underneath the car for such a set-up - the front spoiler was too effective at 'damming' the oncoming air mass.

As a consequence, twin side-mounted radiators, mounted ahead of the rear wheels, were eventually used. These radiators were linked by a water tube which runs inside the car just behind the front seats - a practice that would be frowned upon nowadays.

Inside the car, the standard Capri door trims, in black, remained and the rear seats were removed, their place taken by a fire-extinguisher system.

A lightweight, Nomex-covered racing seat was fitted for the driver.

Under Group 2 rules the cars had to be fitted with two seats and Ford got around this by fitting a skimpy passenger seat of aluminium and plastic.

The Capri's standard steering column switches were retained but the instrument panel grew a fresh battery of dials, warning lights and switches. Due to a lack of seals in the doors, fumes entered the cabin from the side-mounted exhaust outlet, so air ducts sprouted throughout the cockpit to allow the hard-working driver to keep cool and breathe the odd gasp of fresh-air.

The car was now ready to do battle with the BMW 3.5CSL.

Ford vs BMW

For the 1974 ETCC season Ford hired high-rent drivers such as Niki Lauda and Jochen Mass for the new Capris, and they squared off against a BMW team which also included several F1 drivers.

The scene was set for an epic ETCC battle. Both



A smiling Mike John poses next to NZ's fastest Capri

Racing touches are all over the car – rear-mounted coolers for gear-box and rear-axle

Bottom, note the dry sump oil tank and boot and huge intakes for the side-mounted water radiators



Ford and BMW missed the first round at Monza, so the first confrontation took place at the Salzburgring.

Despite leading for most of the race, both Capris were forced to retire, both with engine problems – one car suffering from a totally destroyed engine-block! A solitary BMW took over the lead and won the race.

The Nurburgring 6-Hour Race was to be a battle of heroic proportions with Ronnie Peterson/Hans Stuck and Derek Bell/Jacky Ickx teaming up for BMW, and Lauda/Mass and Dieter Glemser/Toine Hezemans driving for Ford.

During the race, the BMWs took an early lead but Stuck's car soon broke its gearbox after an accident, putting one BMW out.

Mass soon followed Stuck to the pits and this left the second Capri with an almost unbeatable lead.

But it wasn't going to be that easy; the Capri was sidelined with a diff failure and the second BMW moved into the lead.

After 28 minutes in the pits, the Glemser/Hezemans car was back on the track and chasing the leading BMW.

Then, on the final lap, the BMW was rammed by a Zakspeed Escort and it was out of the race. Ironically, a second Zakspeed Escort took over the lead, eventually winning the race with the one surviving Capri taking second place.

Unfortunately more races in the same vein were scuppered when BMW withdrew their works team from the championship. For Ford, it was pretty much a one-horse race and they won at Zandvoort and Jarama.

Ironically though, despite all the money expended on the Cologne Capri project, the 1974 ETC Championship was eventually won for Ford by the Zakspeed Escorts.

The energy crisis was now biting hard into European racing and Ford cancelled their Group 2 racing project.

The rivals met again in non-championship rounds in Germany, and at Kyalami in South Africa – shortly after that the Cologne racing department closed up shop. It had been impressive while it lasted!

ALLAN WALT ON
PHOTOS, STEPHEN PERRY