



TRIPLE ECHO

These 1970s Formula 3 cars helped three drivers to F1 and two to World Championships. They still stir the blood today

BY MARCUS PYE

Formula 3, Formula 2, Formula 1. The career racing driver's aspirational ladder used to be so simple before motor giant-led sidestreets complicated the issue. Prior to the birth of Renault and Nissan V6 categories, and GP2, which superseded F2's replacement F3000, there was no hiding place in F3.

Although 500cc motorcycle-engined cars inaugurated the British championship in 1951, and established a world-leading racing car industry, it was not until '64 – after six seasons of Formula Junior slingshot the likes of Jim Clark, John Surtees and Denny Hulme towards F1 world titles – that F3 returned, gaining continental flavour and respect.

Following the matchless one-litre 'screamers' which slipstreamed round Europe until 1970, hunting in monster packs famous for frenetic

last-corner sort-outs, came a fascinating if relatively gutless three-year 1600cc interlude. But F3 grew to 2-litre capacity in 1974, and has remained there ever since.

Engine sizes have remained static, but power has risen dramatically, today's 230bhp outputs just about keeping pace with huge technological advances in chassis design and construction. After all, any class with significantly more power than grip is likely to serve a more relevant role in the training of future Grand Prix stars.

Which has been 'the best' 2000cc sub-era? The answer is necessarily subjective. First-generation machines raced up to 1980, the revolutionary wing cars to '84, and subsequent flat-bottomed chassis all have their followings, and memories of current drivers' heroes are perpetuated in historic racing throughout Europe. Even later carbon-fibre bolides which spanned the new millennium have a >>>

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bargain-basement home in the Club F3 series. For many, though, the earliest cars are more charismatic. Against a modern sport riddled with one-make formulae which have decimated the manufacturer pool, the multi-marque age is king. At a time when wind tunnels were the exclusive domain of top Formula 1 teams, designers enjoyed free expression within the relatively loose architecture of F3's regulations.

Ground rules were written around the engines, series production car units of no more than four cylinders, and of which at least 5000 examples had been made within a period of 12 months. To limit power, keep costs in check and create a level playing field, they had to breathe through a 24mm air restrictor feeding either fuel-injection or carburettors. The internals did not have to come from the base engine, but cylinder blocks and heads did. Fundamentally, sleeving and machining was permitted to alter bore and/or stroke, but crankshaft bearing types could not be altered.

Chassis regulations were pretty basic, specifying minimum dimensions for wheelbase (200cm) and suspension track (120cm), bodywork and wings. Rear wheel rims of 13in diameter were specified, but fronts followed suit (only the obscure German Derichs ran smaller sizes at the front), with 8in and 10in widths universal fitments. The minimum weight, without ballast, was set at 440kg – just 10 per cent more than 1100cc Formula Junior's lower limit had been more than a decade earlier.

Power, restricted by the throttling flange, was about 30 per cent up on the 125bhp of the previous 1600cc F3 once the definitive 2-litre engines were up to speed. While enlarged Lotus twin-cams made the transition, the Toyota 2TG DOHC engine, from the Celica and developed by the Pedrazzani brothers at Novamotor in Italy, quickly became the unit of choice throughout Europe. Pockets of interest in alternatives waxed and waned, but Toyota ruled.

On the chassis front, competitors had increasing choice again. Indeed, marque rivalry peaked during the late 1970s, with competition between British manufacturers Chevron, March and Ralt, and later Argos. Lola was represented,



too, as was the French Martini concern, principally on home soil and in league with emerging home-grown talent such as Alain Prost and Renault Gordini engines.

As a schooling for F1 drivers and world champions of tomorrow, F3 continued to be matchless throughout the '80s. Even if some of the future superstars failed, for various reasons, to fulfil their potential on the notoriously fickle nursery slopes, the sport's big-hitters saw through the omnipresent financial constraints and sub-standard engines to promote the likes of Nigel Mansell, fresh from a stellar FF1600 season with a Crosslé 32F.

The '78 and '79 British F3 seasons were classics by any standards. Nelson Piquet and Derek Warwick went head-to-head driving Ralt RT1s in the former – with resources as different as their technical approaches – and honours were even, the Brazilian clinching the BP title, the Briton the Vandervell crown. Piquet's compatriot Chico Serra headed the chase in his March 783, Jan Lammers (RT1) sweeping the board in the European championship.

Serra bounced back to win in a 793 the following year, when Mansell began to make his presence felt in a March powered by the hopeless Triumph Dolomite Sprint engine. That this epoch is remembered so fondly, as the 2-litre category prepares to

enter its 35th season, is hardly a mystery. What with the very different appearances of the leading car makes, and liveries made famous by a host of hungry young pilots who would become household names, it is a natural fit beneath the FIA Historic Formula One (né Thoroughbred Grand Prix) and F2 arenas.

Having owned and raced Argo JM6s in 1986-1987, the opportunity for me to revisit the arena was not to be missed. *Motor Sport* took three landmark cars – one of Piquet's Ralt RT1s and Italian champion Siegfried Stohr's Chevron B43 from '78, plus Mansell's March 793 from the following year, to Mallory Park.

The big battery kick required to turn the high-compression, Kugelfischer-injected Toyota engine of the first car instantly took me back 20 years. The clanking of the chain which synchronises the cams was familiar before it warmed up in the paddock.



Tech Spec

All cars equipped with identical 1998cc Toyota Novamotor engines, developing circa 160bhp at 5800rpm; Hewland Mk9 five-speed gearboxes and AP Lockheed disc brakes (four-pot front, two-pot rear). Minimum formula weight 440kg.

CHEVRON B43-78-09A

CHASSIS: Open sheet aluminium tub, tubular steel engine bay
WHEELBASE: 2337mm
FRONT TRACK: 1270mm
REAR TRACK: 1220mm

MARCH 793-2

CHASSIS: Semi-closed sheet aluminium tub, tubular steel engine bay
WHEELBASE: 2370mm
FRONT TRACK: 1275mm
REAR TRACK: 1270mm

RALT RT1-131

CHASSIS: Closed sheet aluminium tub, tubular steel engine bay
WHEELBASE: 2432mm
FRONT TRACK: 1206mm
REAR TRACK: 1220mm

I'd not forgotten the characteristics of its 160bhp delivery either, or the crucial importance of not kicking the throttle wide open beneath 4500rpm in fourth or fifth gears to avoid the risk of detonation and piston damage. The airbox nozzle strangles it at 6000rpm anyway (although the steel-cranked internals are safe beyond 8000rpm), but keeping it in the power band was never an issue accelerating through the gears, and in fact no problem in the uppermost ratios.

As one might expect, it's a relatively torquey unit, and the Japanese horses – trained originally in the UK by Novamotor's emissary John Penistan but now tuned in the main by Stuart Rolt, Frank Anderson and David Wild – arrive smoothly and progressively. Engines, which are getting scarcer, do 1200 miles between rebuilds.

That the cars look so different is an inestimable



Top: the Ralt RT1 is an ex-Nelson Piquet car. Above: test Chevron was the first to win a race, at Misano, driven by Siegfried Stohr

bonus. The aero packages which clothe the monocoques, formed of sheet aluminium folded round steel bulkheads in various styles, are all similarly suspended with double wishbones at the front and triple-linked rear ends. Unsurprisingly, the March's original Triumph engine (a tall and heavy 16-valver which lacked torque) has long been abandoned, hence all Classic F3 runners bar the ex-Bruno Eichmann Argo JM3, which boasts BMW power, carry the ubiquitous Toyota Nova, mated to five-speed Hewland Mk9 gearboxes.

Veteran Brabham designer Ron Tauranac launched his Ralt marque in '75, when Australian Larry Perkins's European championship victory was priceless PR for the RT1. Although the sardine can-shaped tub remained until the multi-formula model was discontinued in '79, with 165 made, it was subsequently topped by a ➤

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semi-elliptical profiled cockpit cover to improve aerodynamic efficiency.

Piquet sold his '77 RT1 and had two new ones at his disposal in '78 and, maximising a healthy £67,000 budget, developed them through endless experimentation and testing, under the supervision of engineer Greg 'Pee-Wee' Siddle. Adding such tweaks as the cockpit-adjustable front and rear anti-roll bars – the notched tensioners still dominate the left upper tub flank – proved invaluable in changing conditions.

Long back in its original bright yellow war paint, the Piquet car, chassis 131, only had three owners before Leicester printer Mike Simpson acquired it. Nelson's countryman Placido Iglesias campaigned it for a season, before the late Frank Gomm (son of fabled sheet metal wizard Mo, whose company built the RT1 tubs) dusted it down to go racing for the first time when Toyota F3 arrived in 1986.

Gomm kindly let me race the car at Silverstone in 2004, thus it was like being reunited with an old friend at Mallory. The wide monocoque surrounds the largest cockpit of the trio, housing a comparatively low, laid-back driving position.

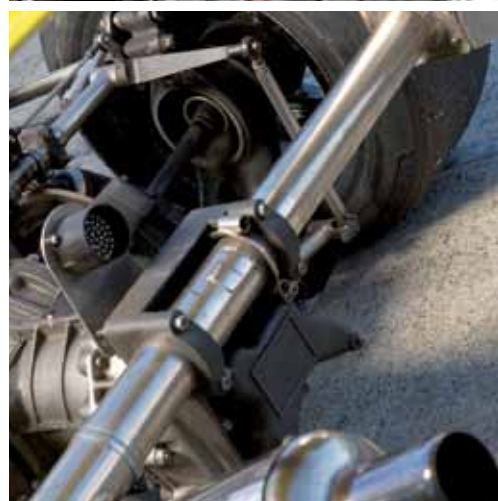
As set up, the car hunkered down too low on its rear damper bump stops, and thus tended to be a bit skittish when it sat down solid in the Esses. Nonetheless it proved highly controllable round the long right-hander Gerards. Its engine was noticeably the least sparkling of the three.

One of 16 made, the Chevron scored the B43 model's maiden victory with Stohr and Pino Trivellato's team at Misano-Adriatico in March '78. An evolution of Derek Bennett's successful B38 design, the chassis is an open bathtub with stiff side sponsons braced by the dash and main roll hoops.

Looking less substantial than its rivals, it perhaps surprisingly felt the tautest and most manoeuvrable. I put that down to the suspension set-up favoured by Trott, who graduated to F3's 'ground effect' Ralt RT3 era as a double British Formula Ford 2000 champion, and having returned to the sport a few seasons back is still hard to beat.

Now in his early 50s, Trott carries phenomenal speeds through corners: having watched in awe back then as now, I can better appreciate it, for the self-prepared B43 is beautifully set up. The snugger cockpit length, with its more upright seat, made me feel part of the car immediately. Like Richard, I prefer an eyeline which helps placement of the front wheels. This was perfect.

On a bitterly cold November morning, the Chevron flew through Gerards, driven hard against a comforting buffer of mild understeer



Right: all three of our historic Formula 3 track test cars feature similar suspension layouts, with double wishbones at the front and triple link set-ups at the rear

which defined the Avon control tyres' limit of adhesion. Its balance and stability were outstanding, with Gurney-tabbed wing imparting just that extra bit of feel and security, and it scuttled through the Esses with aplomb, too. Clearly, it has taken an exceptional effort by Benn Simms to pip Trott to the title at his first attempt this year in an unfancied March 803.

Southampton builder Paul Wyeth's earlier March, one of 25 793 siblings, looks longer than its contemporaries with its pouting front

lip splitter, and very distinctive high-screened cockpit surround. A development of the slab-sided 783, with styling cues carried over from company founder Robin Herd's 'best ever' 782 F2 car, its monocoque is closed in front of the dash for additional rigidity and protection from the pressed 'Superform' front bulkhead back.

The bottomless sidepods do little, according to seasoned preparer Tom Denyer, but look pretty and prevent wheels interlocking in the height of battle these days. Sliding skirts, which



We tried Ralt RT1 (37), Chevron B43 (7) and March 793, with unloved period Triumph engine replaced by Toyota

generated a modicum of inter-wheelbase suction in period, are not permitted by the MSA's blanket 40mm ground clearance rule.

With its flapless low-downforce wing, the softer set March was not as stable as the Chevron round Gerards, where I found my comfort zone between a touch of understeer and mild oversteer, yet it inspired sufficient confidence for me to try running hard in fifth gear at less than optimum rubber temperatures in the arctic winds.

Despite the odd skitter out of the Esses, I was hitting 6000rpm in fourth on the undulating rise to Shaw's hairpin, where the universally strong four-pot front brakes and dog-leg left-and-back first gear was needed in each car. Whereas the Ralt understeered here, and the Chevron's traction was best, the March could be made to tail-slide under power for the blast to the exciting off-camber Devil's Elbow.

Interestingly, I lapped quickest in the March, in the 47sec bracket, but the Chevron and Ralt were snapping at its heels, to within a second

after short stints. It's been years since the CF3 series (see panel, right) last raced at Mallory Park, so more than anything I put this down to gearing. The 793 had just returned from the French Historic F3 finale at Magny-Cours, and pulled an almost perfect 5900rpm in top gear approaching the Esses. The two other cars, which were clogged for the Silverstone National circuit layout, would only reach 5500rpm.

What it proved is that F3 cars which were evenly matched in their heyday are still extremely competitive and superb to drive almost 30 years later. Serious professional racing cars at sensible money (you could be on the grid for under £20k, but famous chassis command a premium) spell a lot of fun. No wonder Classic F3 is among today's fastest-growing Historic classes. Long-live multi-marque racing...

Thanks to Mallory Park (01455 842931) for use of the circuit, which is available for testing most Wednesdays from March to November.

"Cars which were evenly matched in their heyday are still superb to drive"

ORIGINS

CHEERS

As Toyota F3, the class was an instant success; now it's 21

I must lay my cards on the table, because working alongside Tony Broster, and associates, I was instrumental in founding the Classic F3 movement over the winter of 1985-86.

In identifying a cut-off point of December 31, 1980 for cars, we quickly remobilised a stash of almost worthless rolling stock, opening two-litre F3 to the masses.

Interest spread like wildfire and, with Toyota GB lending its name to the pilot series (and financial backing to the subsequent BRSCC-run championship), it was soon on its way, with more than 40 regular drivers.

Twenty-one years later, CF3 has truly come of age, and the 2008 HSCC Classic Formula 3 Championship will be sponsored by BP Ultimate and supported by Motor Sport.

Full details of the Classic F3 Association are available from chairman Reg James on 07765 890010, or by visiting www.classicf3.co.uk. Historic Sports Car Club, 01327 858400. MP