

Schumacher

www.schumacher-racing.com



We all know and love Schumacher products, but do you know they are one of the

last manufacturing companies in Britain? Sticking with an in house design, manufacture and assembly philosophy hasn't been easy but the Schumacher family is fully committed to their UK roots, from where their worldwide network has grown into the empire it is now. We were lucky enough to be invited to take a look around, so come with us and find out just what makes Schumacher so very different.

COMPANY HISTORY

Schumacher Racing Products Limited was founded in 1980 by Cecil Schumacher. Cecil, previously a successful design engineer in the motor industry, had designed transmission systems for road and racing cars, before turning to radio controlled models. After building a number of specialist tune up parts, including the worlds first 'ball differential', the first full kit went into production in 1982. The highly successful 1/12th scale 'C' car dominated for several years and won the European Championships in 1985 and 1988 with Andy Dobson and Phil Davies.

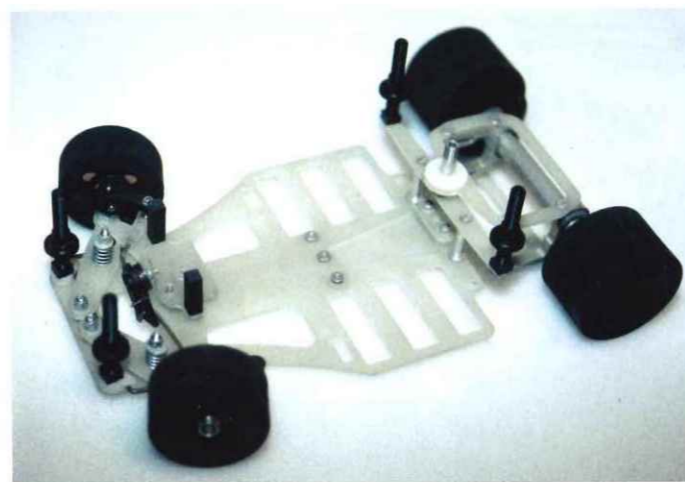
The world famous Schumacher 'CAT', Competition All Terrain, appeared in 1986. This 1/10th scale 4WD off road racer set new standards for innovative design, and Masami won the 1987 4WD World Championship. This started a long line of successful off road cars. Winning the European Championships in 1990, (4WD Phil Davies, 2WD Jurgen Lautenbach), then in 1994, 1995 and 1996 it was Jukka Steenari that did the business for Schumacher.

In 1996 Schumacher were one of the first pioneers of the new 1/10th electric touring car class, with the 'SST' range going on to win 10 US National titles.

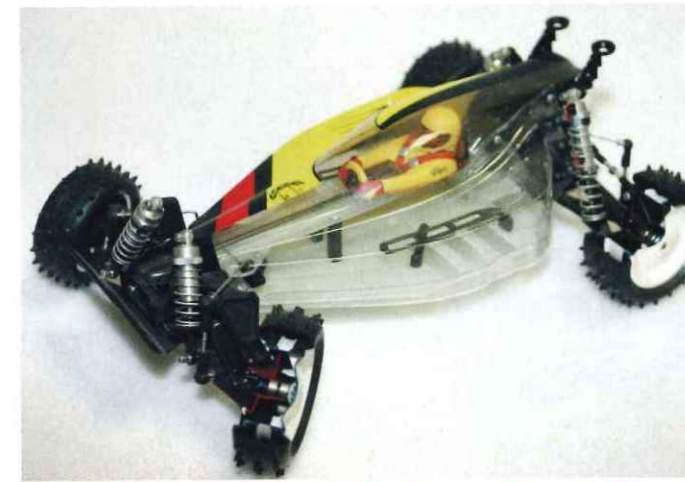
In recent years the product range has diversified into more of the leisure and sport markets with the highly successful Fusion, Menace, XTR and Havoc ranges. Schumacher distribute a range of high performance cars and accessories in Europe and the USA from companies including Nanda, A-Tech, Sorex, Take-Off, Keyence, Competition Electronics, GM, ATS, Titanium Racing plus many more.

Schumacher now operates from modern 10,000 sq ft premises in Northampton, England. There are 30 people employed at the head office, which is well equipped with high-technology machinery.

With on site CAD facilities, tooling can be designed and developed to suit any new products or changes to existing lines in a far shorter time, which results in a far



The famous 1984 1/12th 'C' car of Cecil Schumacher that followed the Lexan flexi-car that powered Andy Dobson to fame



The 1990 Procat, as used to win the European Championships



The 1987 4WD World Championship 'CAT' as driven by Masami



The 1988 Topcat sporting laydown shocks way ahead of its time

more flexible approach to satisfying market needs and racing feedback and component development.

With a large investment in CNC machinery, like the Morisiek CNC milling and turning centre which has an auto change multi-head, stock feed and can operate around the clock with minimal man power once the programming and tooling is set up. There are three moulding machines turning out small to medium components from wheels to gearbox

cases, the store of granulated plastic chips is all virgin polymer and strictly controlled to ensure accurate tolerances and reliable products.

I was allowed into the high tech 'Area 51' where I was treated to some of the specific tooling and manufacturing processes developed by Schumacher, but unfortunately I'm not at liberty to discuss or show you what I saw, needless to say it was cutting edge, ultra fast and flexible, turning out high spec components at



Robin is upholding the family tradition



In house CAD/CAM ensures flexibility and shorter lead times

MADE IN BRITAIN SCHUMACHER FACTORY VISIT

TEXT: Dez Chand
PICTURES: Dez Chand



Tim is the power behind the BTCC series but also holds a pivotal position within the company



An in-house high tech machine shop allows production to be closely monitored and quality assured



The R&D department uses customer and development feedback to improve the product lines



High-pressure moulding machines turn virgin polymer chips into components under extreme pressure

a rate never achieved before. I've seen a lot of manufacturing companies in my time as an automotive design and development engineer, and I can tell you that Schumacher are right up there with the best of them in terms of pushing the technological boundaries and industrial innovation. This all goes some way to explaining Schumacher's ever expanding product lines and how they are able to so quickly identify and accommodate niche markets.

A large proportion of the manufacturing is in-house, and there is a highly skilled research and development team, who are continually improving the products, and maintaining Schumacher's

reputation for innovative design. As well as staying at the leading edge of design technology for their new products, great attention has also been given to production techniques and quality control systems.

WATCH A LITTLE RASCAL BEING BORN

I was privileged to see the first batch of the long awaited 'Rascal' 1/16th nitro powered monster trucks going through production, and witness the quality control and slick assembly process for myself, better still I'm able to bring you a little presentation of the entire process so you can see it for yourself, surely a factory visit that money just can't buy!!

As each component is either made in house or procured from suppliers around the country or indeed the world they are all treated the same, passing through technical inspection on their way into stores, having been allocated a part number for easy location within the cavernous racking area.

Each workstation along the production line is then allocated a build list and dedicated presentation area for easier component selection and faster stage turn around.

Similarly sub assembly builds take place at a separate location in the factory, and each sub-assembly goes back through quality control on its way to stores with a unique sub-assembly part number allocated for easy location. In this way some components pass through quality control 5 or 6 times as they come in first as components then pass through again and again in larger and larger sub-assemblies on their way to the final assembly line.

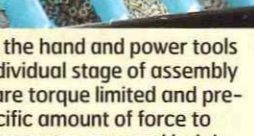
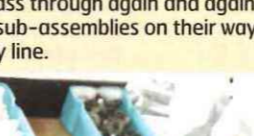
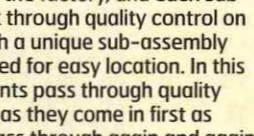
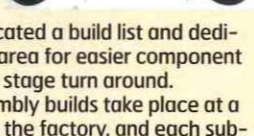


Each operator has the hand and power tools to complete their individual stage of assembly and all power tools are torque limited and pre-set to apply the specific amount of force to ensure each and every nuts screw and bolt is tightened to perfection and none get over-stretched or stripped to ensure perfect build and minimal warranty returns.

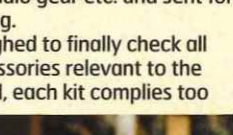
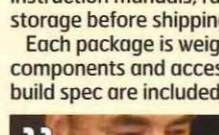
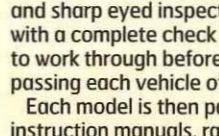
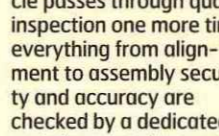
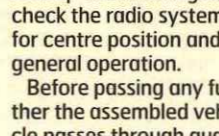
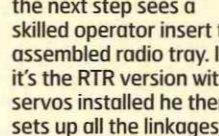
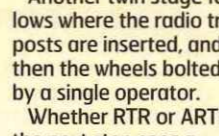
Here is Stage 1 of the Rascal build; the flat chassis gets rear suspension pivots attached.

Next we see the final drive sub-assembly being attached to the chassis plate over the rear pivot assembly. Perfect alignment is assured by clever design incorporating dowel holes and moulded locator lugs within each component so there is no need for build jigs and alignment checks.

The engine is assembled with pull start, carb, fly-wheel and clutch in a separate stage, where specific tooling has been designed to ensure delicate items like clutch springs are fitted accurately and quickly with minimum strain on components or operators.



Some stages see a twin role where two small jobs are covered by a single operator. Here a chap first fits the engine to its mounts, checking gear mesh and alignment, then assembles the front-end suspension sub-assembly to the chassis plate.



within a 10 g tolerance, such is the consistency and accuracy of build process.

With such a well planned, efficient and smooth assembly line the product is more consistent and reliable, the customers are happier with the end product and the company reputation is secured.

Having watched the Rascal being built from start to finish I was presented with my own .18 powered baby monster, watch for the review coming in RRCI very soon!

Schumacher USA Inc. was set up in 1990 and is a successful distributor of Schumacher, Take-Off, Powers, TIR, Keyence and A-Tech products in the large American model car market.

In 2001, Robin Schumacher, Cecil's son, took over as Managing Director and the company has continued to grow and invest in new technology.

Schumacher's dynamic and enthusiastic staff is committed to providing leading edge products and high levels of customer satisfaction.

The dedicated and flexible staff has insight and knowledge of both the sport and industry, and their enthusiasm is paramount to the future of the company.

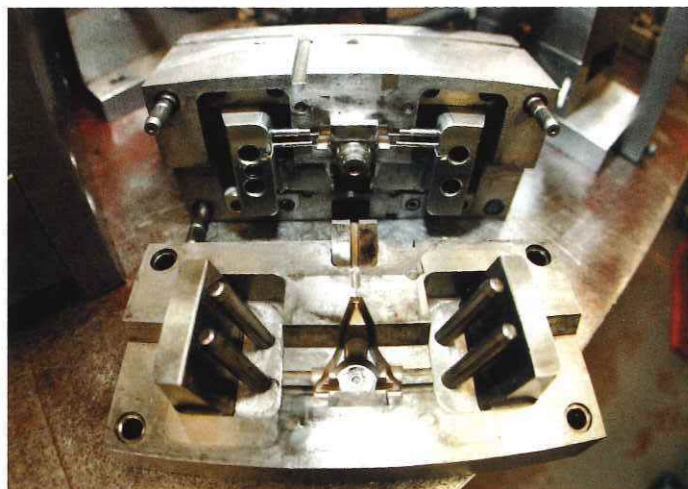
The Schumacher website is designed to provide the full catalogue information of all Schumacher products and those distributed to the end user, dealers and distributors alike.



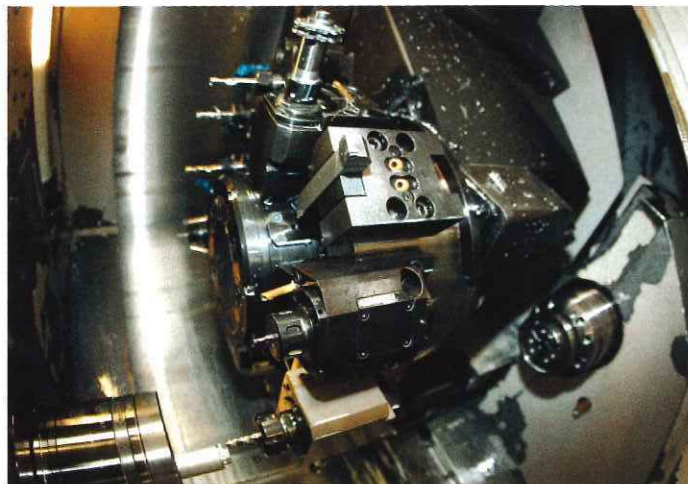
**RACE CAR
FEATURE**



The flexible machine shop can switch between product lines in a flash as all tooling is designed and stored on site



Inside a typical mould, like this rear hub carrier, shows the specialist design skills required not just by the component engineer but by the toolmakers as well



The auto-change, multi-tool head of the CNC Mill/Turn Centre is typical of the investment in modern flexible manufacturing

RACING PROWESS

Schumacher have been proud and creative by pulling together the BTCC series which is in its 10th year, and is oversubscribed in all classes though a recent surge in both Stock and Superstock has seen Modified squeezed a little as there is only room for 14 heats maximum on any given race day! So far this year there have been 251 different entrants from all over the country, with the main hardcore completing the whole

season as it travels the country. Several of the Schumacher staff are regular entrants and Tim Walden is the power behind the series, always coming up with surprising ways not only for drawing the raffle at each round, but of running the finals, sometimes backwards grids, sometimes backwards racing, you just never know what you are in for, but you can be guaranteed it will lead to a lot of fun, something many have lost sight of but Schumacher are



The CNC Mill/Turning Centre with feed stock to the left, requires minimal attention once tooling, set up and programmed

committed to retaining in the racing scene.

RECENT RACING SUCCESSES

Teemu Leino is the 2006 European Touring Car Champion, driving the M12EC which he has helped develop and progress throughout the previous season as Schumacher's number one driver which he confirmed by finishing 6th in the 'A' Final at the ultra competitive 2006 Touring Car World Championships which was a tremendous result.

CURRENT DRIVER LINE UP

In electric touring cars Schumacher have a regular line up including Teemu, Chris Ashton, Kev Brunnsden, and Adam Rodgers who compete in the BTCC and BRCA Nationals, European and World Championship events. You'll always find one of their names in the top ten tech charts at the helm of the Schumacher vehicles. A Schumacher R12 is currently leading the 1/10th I/C Saloon Rubber series in the hands of David Hall with some very consistent and fast smooth driving, backed up by the R12 reliability record.

Over in the States Paul Wynn was the 2005 19T National Champ running an Mi2 and he is continuing to impress throughout the 2006 season, regularly flying the flag transatlantic for the Schumacher squad.

THE FUTURE

Schumacher will continue to find niche market sectors as well as developing mainstream racing machines, with continuing feed-

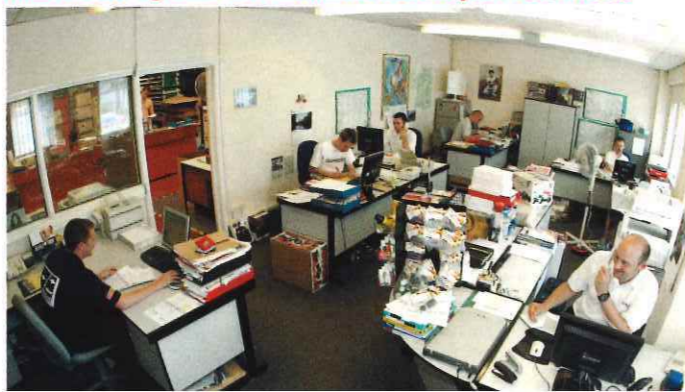


Robots can't do everything and there are still a lot of hands-on machining jobs requiring skilled operators and engineers

back to suppliers like Nanda to help them develop products to suit the ever changing market-place.

A recent development in Schumacher's increasing line up of tools consumables and racing components is a range of 1/8th rallycross tyres and inserts, developed right here in the UK, designed in house and fabricated by local toolmakers to be produced in house. Designing and manufacturing in house is the quickest way to turn testing results in to product improvements and the development is accelerated by the closed loop. I got a whiff of a long-term 4WD buggy project but was hurriedly shuffled past the door before I could squeeze my camera's shutter button, so watch this space! **RRCI**

Nerve centre of the operation is the office full of engineers and race drivers alike to give personal attention from probably the most knowledgeable and enthusiastic crew you'll ever meet!



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