This exciting new formula of R/C car is reviewed by Jason Dearden.

Schumacher Nitro 10

Racing Truck & Evolution 190

It's a gas

As expected, *Radio Race Car* was first to bring you the colour pre-release photos of Schumacher's new Nitro 10 range. Now we bring you a full colour in-depth review:

Nitro 10 — The Concept

Nitro 10 represents a huge step for Schumacher into what was previously unknown territory — IC/glow powered cars.

All but the raw beginners in the world of R/C model cars will know Schumacher as world leaders in the production of top level competition off-road racing cars. The older ones among you will know that Schumacher made their name dominating the European 1/12 racing world, again electric powered.

In the mid-80s Schumacher took the step from 1/12 circuit racing into the larger, more competitive market of off-road. This represented a major change of direction and a large amount of investment, but by 1987 they had developed an unbeatable 4WD car which took the world championship title.

Nitro 10 is another stepping stone to enable Europe's most successful model racing car manufacturer to expand into a totally new sphere of the RC car world. This review will indicate whether Schumacher have got it right and if this English company can reap the benefits.

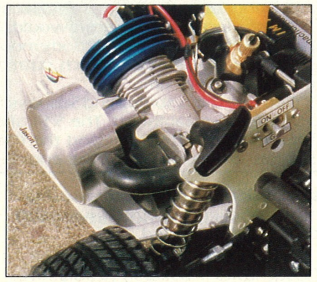
Scoop!

In order to get this article to you first, the Nitro 10 kit was collected from the Schumacher factory where some candid questions revealed some interesting facts.

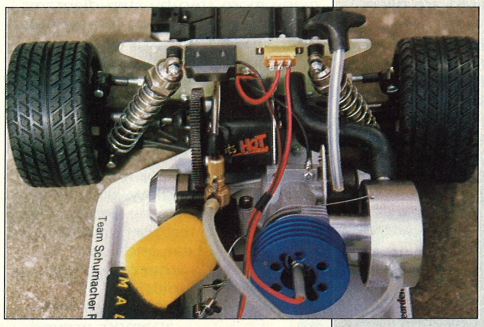
After the pleasantries — being introduced to the ladies in the office, the kit for review and a cuppa — I was shown the facilities. During my visit a 40ft. wagon was loaded with the first shipment of Nitro 10 cars for export — that's a lorra, lorra kits!! I was also shown with pride all the latest hi-tech production equipment, including Cad-Cam computer systems which has enabled Schumacher to introduce so many new products and accessories.

Oh, at this stage, I must quash any rumours about a new electric car from Schumacher in the foreseeable future.

Nitro 10 in monster truck trim.

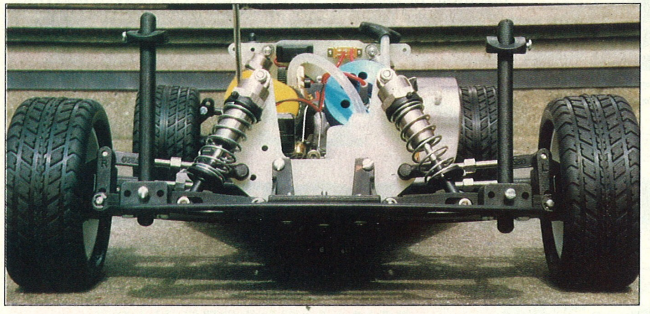


Pull start feature is excellent.



Engine detail.

Front end detail.



Nitro 10 — The Concept — continued

The Nitro 10 range of cars are based around Schumacher's proven 2WD car. The chassis and suspension have proven their pedigree in electric competition cars around the world (The Cougar). The chassis is pressed alloy and provides a very rigid base for the fully adjustable wishbone suspension. All the existing range of Schumacher wheels, tyres and suspension tuning parts can be transplanted, with ease, if desired.

The engine has been specially developed for Schumacher and provides a broad powerband and easy starting, hot or cold. A recoil starter is fitted to the car to do away with ancillary starting motors, and a revolutionary on-board glow supply is provided which can be switched on and off as desired to further simplify matters.

The four models include two saloon circuit or rallycross cars, the bodyshells being a 911 and a 190 Evolution; an off-road car called the Panther and finally a racing truck with oversized all-terrain tyres.

The concept behind the Nitro 10 range is power, speed and, most of all, fun, with minimal hassle factor. In fact, all you need is a bottle of fuel, a transmitter and the car and you're away!

Bodyshells

The review car was fitted with the new 190 Evolution which is truly a sexy bodyshell. When Schumacher can make such a wonderful bodyshell it seems a shame that they use a competitor's shell on their racing truck. All the shells need trimming and painting in your favourite scheme and mounting onto the superb bodyposts.

I wish more manufacturers would follow Tamiya's lead, however, and punch out the holes for the body mounts on shells supplied in a kit. This saves the model maker much scratching of head and ensures perfect mounting every time.

Perhaps this is something Schumacher could implement once the Nitro 10 range is established. The 911 shell is the same as that supplied with their road and track car and the Panther is a sleak but not low off-road shell as it needs to clear the engine and radio gear.

Building the Nitro 10

Finishing off the construction of the Nitro 10 only takes around three to four hours as all the fiddly bits come ready assembled. No more sore fingers making up the revolutionary telescopic driveshafts, they come factory assembled as does the transmission, engine, recoil, exhaust and carb. Basically, you are required merely to fit the radio gear, suspension, battery box, bodyshell, and wire in the switch for the glow supply which requires a soldering iron.

Other tools required are pliers, crosspoint and flathead screwdrivers, a scalpel and glow plug socket. Materials required during construction are threadlock, oil for shocks (preferably synthetic), solder and grease.

During final assembly it is clear that Schumacher have made every effort to improve areas where they have received minor criticisms in the past. The rose joints required for the suspension can now be fitted using a pair of pliers and the driveshafts come pre-assembled.

The instructions have been re-thought — out go the large diagrams with additional instructions, being replaced by many more step-by-step diagrams detailing smaller steps in assembly with fewer words.

This is a major improvement for Schumacher and should be done across the range.

Getting Started

As I have absolutely no previous experience with glow engines so I was the perfect idiot test for the Nitro 10 car, and I certainly proved to be an idiot!

Initial starting attempts proved problematic for a number of reasons. I didn't read the instructions carefully enough and tried to use a dry cell to supply the on-board glow plug. Dry cells don't have enough power and so a nicad must be used to give a reliable glow. Testing the glow is achieved by removing the plug, earthing it on the crankcase and switching on the glow supply. If a nice orange glow from the plug occurs then everything is OK.

Secondly, after initial problems I made the mistake of adjusting the main jet setting on the carb. This complicated matters. The carb comes factory set and should enable the engine to be started without too much trouble.

Finally, my car was fitted with a pre-production exhaust expansion chamber which had a defective seal, unknown to myself or Schumacher at the time. This problem has been resolved and I am assured none will reach the public.

This problem reduced the

The Package

The Nitro 10 arrives in the best box Schumacher have ever produced. It is strong, beautifully decorated and has details on it to tempt the customers that it will eventually seduce. Opening the box shows that much thought has gone into positioning of the goods, especially the heavy engine and transmission, to ensure it arrives in tip-top condition.

All that is needed to get you blasting off down the street is a two-channel radio set including two servos (6v only, no 7.2v FET servos!), 12 Pencell batteries for transmitter and receiver, some fuel (10% nitro/20% synthetic oil), a couple of Pencell nicads to power the glow supply, and finally a splash of polycarbonate paint.

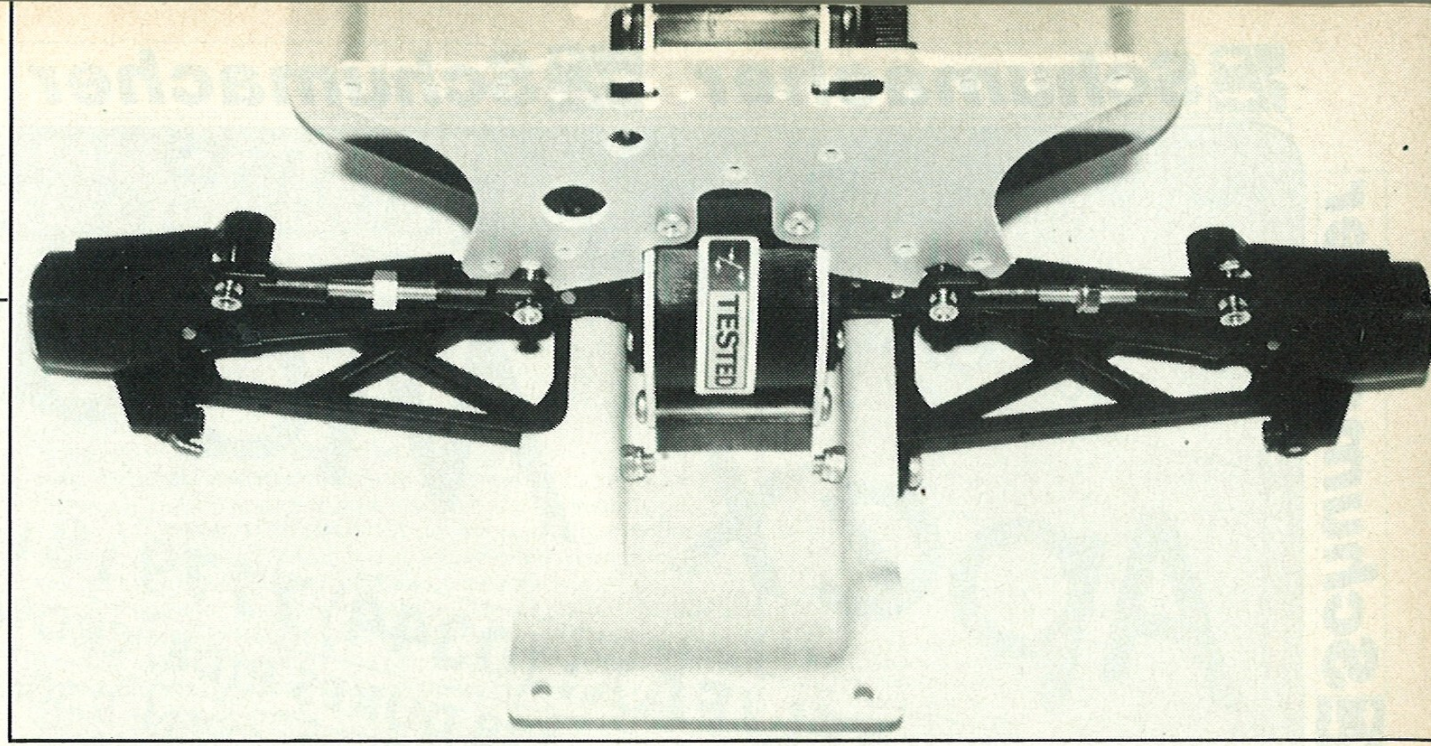
Specifications

Suspension
- Double wishbone front and rear
- Adjustable camber and toe-in front and rear
- Adjustable Ackerman steering angle
- Adjustable oil-filled shock absorbers filled with coil springs
- Variable spring pre-load and rising rate effect (ride height)

Engine
- 1.5cc two-stroke glow engine
- 1.5 volt on-board glow supply
- Fuel 10% nitro/20% synthetic oil
- Around 30,000rpm
- Power-to-weight ratio, incredible
- Recoil starter

Transmission
- Engine drives layshaft through 48 dp gear sets (three available)
- 6mm wide kevlar toothed belt drives rear axle
- 14 ball precision differential
- Hex drive washers
- Fully ballraced wheel hubs
- Telescopic driveshafts
- Layshaft and rear axle run in bronze bushes (no noticeable power loss due to power available)

Bodyshell
- Clear lightweight polycarbonate bodyshell
- Fully adjustable body mount kit



pressure in the fuel system which did not help priming or general starting of the engine. It also deposited oil onto the chassis which attracted most of the Earth's crust and resulted in a reduction of the aesthetic appeal of the brush finished alloy chassis!!

Anyway, with help from ex-British 1/12 champ Bill Maisey the World was put to rights. He recovered the settings on the carb which I had lost and gave me much technical info to enable me to understand these awesome powerplants.

The instruction manual tells you to prime the engine and get fuel into the combustion chamber by pinching or blocking the exhaust and pulling three or four times on the recoil. Fuel will move from the tank to the carb. Then switch on the glow supply and take a number of sharp, full strokes on the recoil — the engine should then fire into life. If it doesn't allow it to rest for 10–15, seconds then try again. If there is no life but fuel in the tank and fuel line to the carb, the glow is switched on and connected to the glow plug, then check as follows:

Re-assembled gearbox.

Remove glow plug, check glow as previously detailed. If OK, inspect combustion chamber. If combustion chamber is dry re-prime or add some fuel to chamber and check fuel piping is connected to exhaust. If chamber is flooded pull recoil to discharge excess fuel out of plug hole. If problems still occur when all symptoms are resolved then advance throttle trim to allow extra fuel for starting. If problems persist return to the shop which supplied the car where there will be someone with experience who can put you right.

Since I have changed the exhaust silencer on my car the engine has been incredibly reliable to start, but like any car there is always a certain 'knack' to starting it.

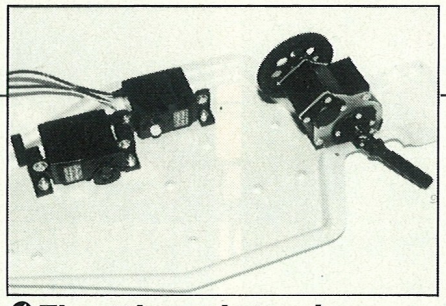
Once started the engine should be run at half throttle for the first hour to run it in and extend its life. Carb settings and adjustments are also detailed in the instruction manual — they are a little vague but adequate. Remember, if the engine sounds bogged down and is smoking excessively then it is running 'rich', ie too.much fuel. If it is high revving, running hot with little or no smoke then it is running 'lean' and is risking damage to the engine. Low speed mixture (and so acceleration and take-up) can be adjusted independently of high speed mixture. Both work like

Continued on page 17

Continued from page 13

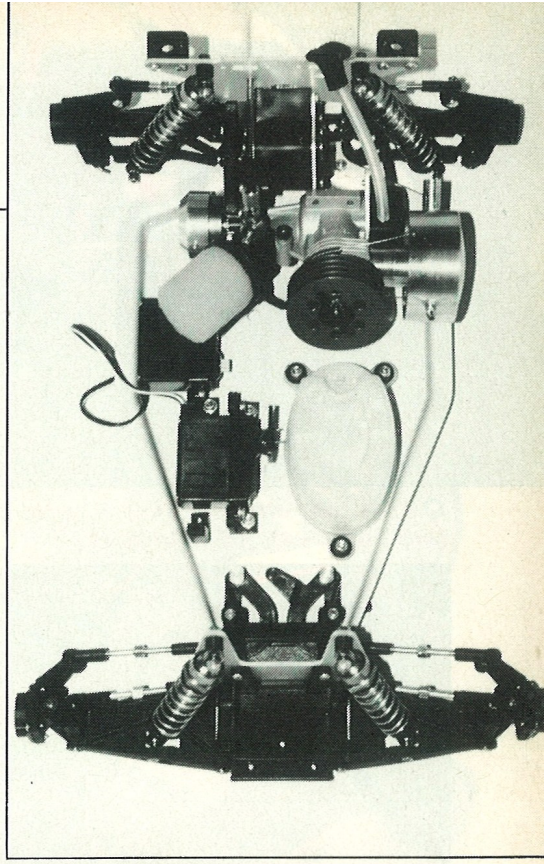
water taps. Opening the valve anti-clockwise allows more fuel to flow, closing the valve reduces fuel.

Finally, don't let the noise and smell of the two-stroke IC engine blow your mind, keep calm and make methodical adjustments to achieve smooth running of the engine.

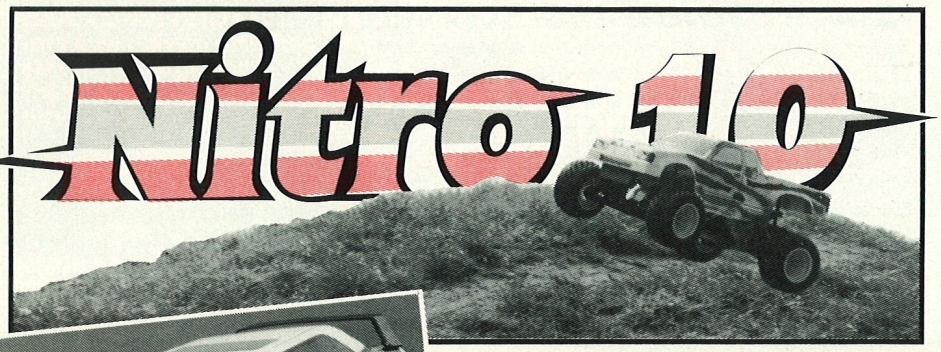


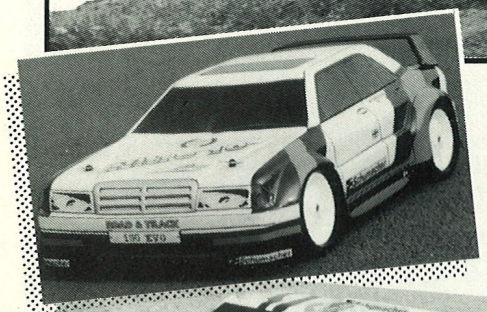
Throttle and steering servos installed.

The almost rolling chassis.



Nitro 10





Quick Guide Racing truck Nitro 10

Appearance	★★★★★★★★	— Rad and Mad
Durability	★★★★★★★★★	— Incredible
Performance	★★★★★★★★★	— Outstanding
Handling	★★★★★★★★	— Surprisingly good
Value	★★★★★★★★	— High, long term
Stunt appeal	★★★★★★★★★★	— Out of this world
Back-up spares	★★★★★★★	— Second to two oriental
Build quality	★★★★★★★★	— British (full stop)
Fun factor	★★★★★★★★★★	— And the rest!!

Market

Competition	— A series of races are organised already!
Beginner	— Definitely
Street racer	— Ideal with good neighbours
Off-road	— Easy peasy lemon squeazy
On-road	— Surprisingly good

Performance Figures

(official listed in manual)

Tyres	Ratio	25:95	31:89	34:86
Truck Tyres		40mph	53mph	60mph
Road and Track		32mph	42mph	48mph
Off Road Tyres		30mph	40mph	45mph

1:1 (real) speed!!

These figures were achieved by a Porsche pace car (real one). The drag race final between a racing truck on 34:86 and a Porsche embarrassed the larger vehicle — the truck won!!

Track Test — Racing Truck

This beast will do anything you ask of it, its stability and handling are extremely good, no wonder they're becoming so big, both as fun cars and racing cars. It will drive up seemingly impossible inclines, make jumps of monster proportions and survive the lot. For the action shots we drove it off a five-foot high table-top jump eight or nine times and took it all in its stride. This car scores so high on the fun factor stakes it's unreal (he's right — Ed). The best bit is that it will do it for 15 minutes per tank of fuel and no time is wasted charging nicads between runs.

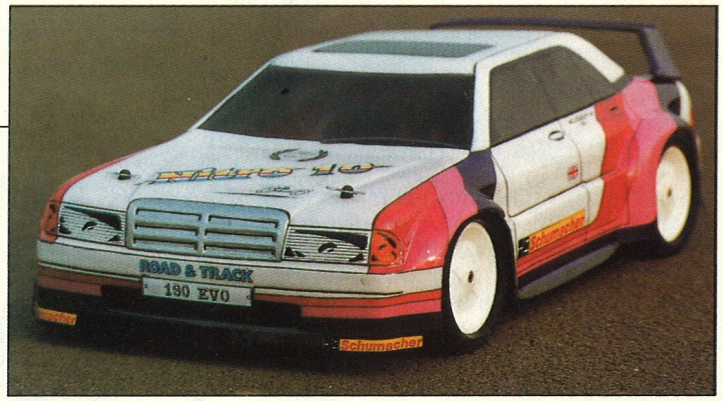
Track Test — 190 Evolution

The 190 is very swift, smooth and robust. Due to its smaller tyres the acceleration is improved but top speed is sacrificed (see performance figures). In circuit car mode on tarmac the tyres are hammered by the awesome power of the engine but stand up to the punishment well in terms of wear rate. They scramble for grip whilst attempting to transmit the power to the road.

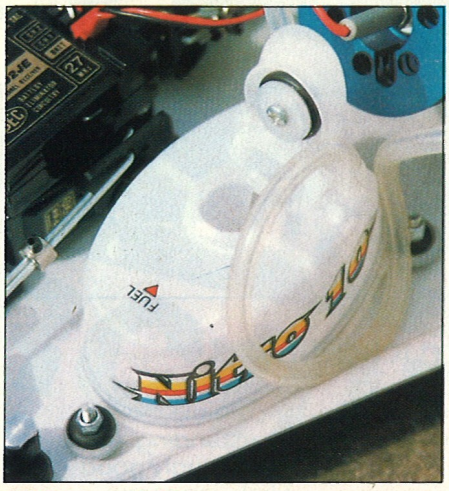
The powerband of the engine is much more noticeable in the more civilised environment of the track. As the revs gallop skyward the power comes surging in like a turbo boost firing the car forward.

The power and feel is so much more rewarding than that of an electric model. The non-existent mid-range and top-end power of an electric motor is replaced with the peak power of the Nitro motor. It enables you to fire the car from the first to the second apex of a twin apex high speed sweeping bend. A totally new driving style is required through slower corners, as opposed to electric cars. As most of the power is mid- to top-end the car is thrown into the corner in order to maintain revs and so exciting speed.

Driving these Nitro 10 cars is an experience and a half, probably only topped by an all-night social engagement with Demi Moore!



Full-up, the fuel tank will last for over 15 minutes.



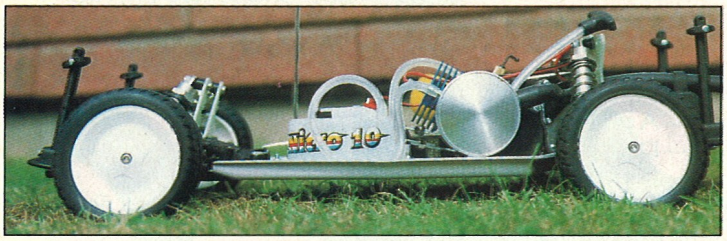
Quick Guide 190 Evolution Nitro 10

Appearance	★★★★★★★★★	— Fantastic
Durability	★★★★★★★★	— Vulnerable bodyshell
Performance	★★★★★★★★	— Oooh, that mid-range
Handling	★★★★★★	— On-road, different tyres please
Value	★★★★★★	— Not as versatile
Back-up spares	★★★★★★★	— Second to two oriental
Build quality	★★★★★★★★	— Best yet for Schumacher
Fast factor	★★★★★★★★★	— Turbo boost city
Brakes	★★★★★★★★★	— Seatbelts compulsory

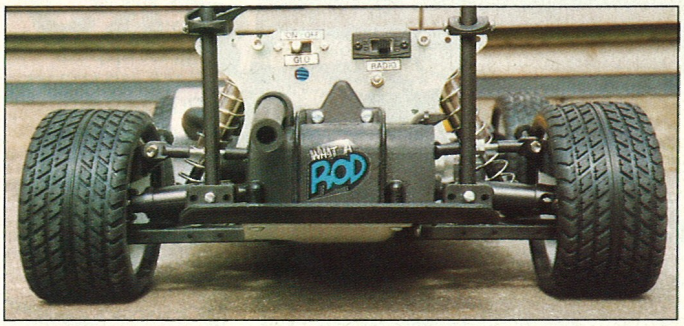
Market

Competition	— Yes, rallycross and track
Beginner	— And why not, indeed
Street racer	— Major pose power
Off-road	— Poor bodyshell but, yes, OK
On-road	— At home with foam tyres

Nitro 10 in road and track trim.



Rear end detail.



Conclusion

The Schumacher team have done it again. They have a winner and a market leader on their hands. The very low running costs totally swamp the initial price of £299 (on the road including radio, fuel, cells, etc, £375). Power, speed and fun for the price of tyres and fuel, unbeatable. See you at the Nitro 10 race meetings.

Thanks must go to:

— Schumacher for providing such an excellent product
— Bill Maisey for engine tuning
— Steven Rowley for stunt driving
— Nikon and the nervous twitch in my index finger for action shots
— My airbrush for paint jobs
— My brother Rich for help with idiot test
— And finally my dad for his support on the use of the phone!!