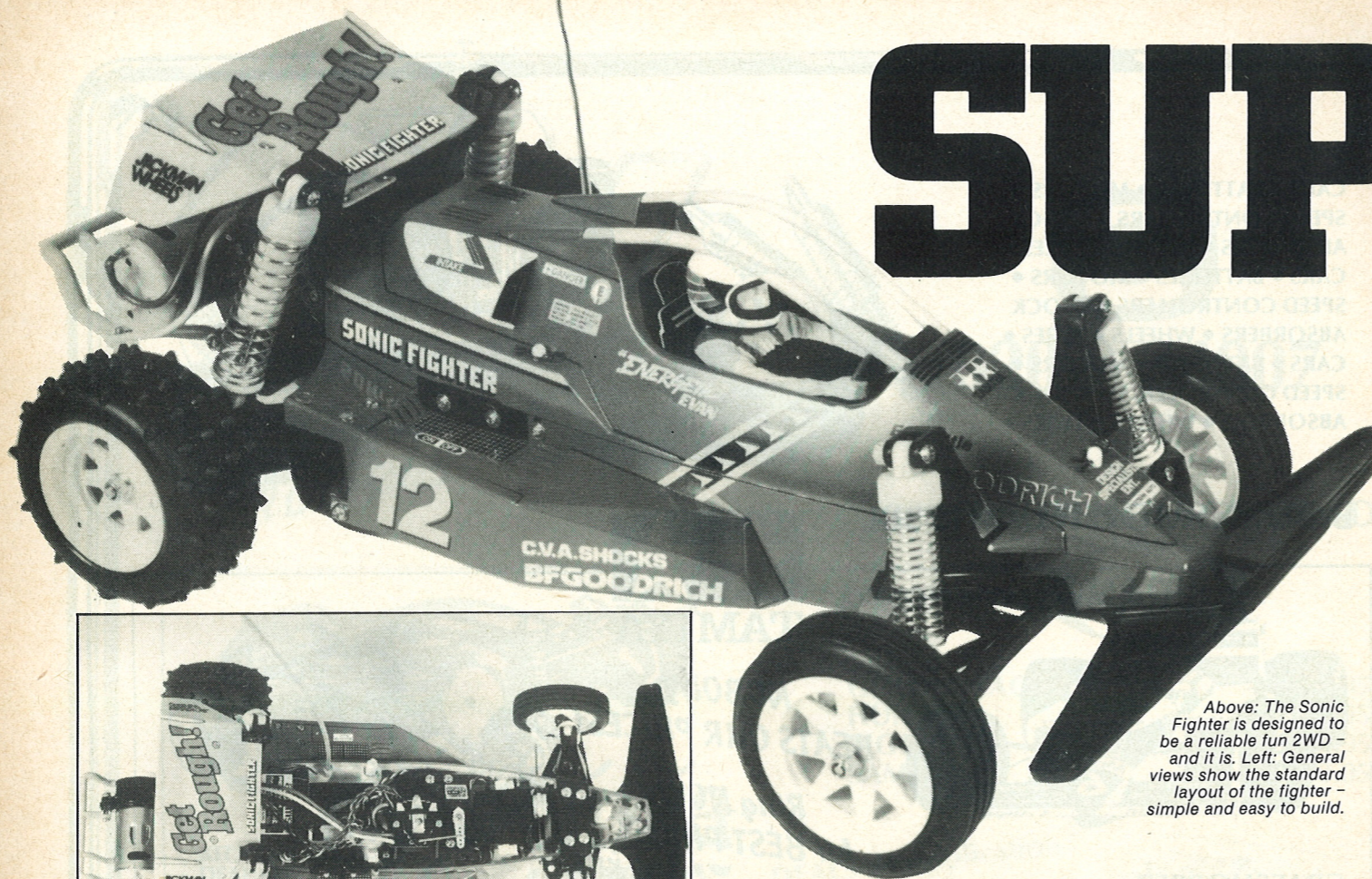
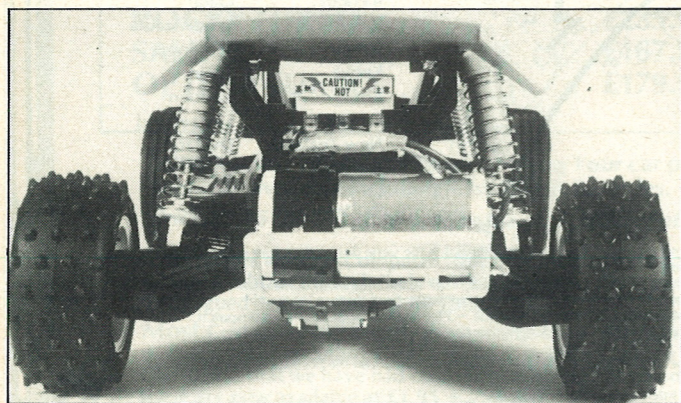
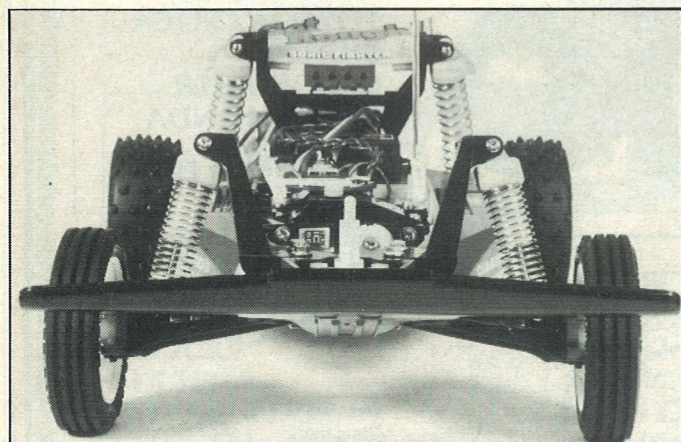
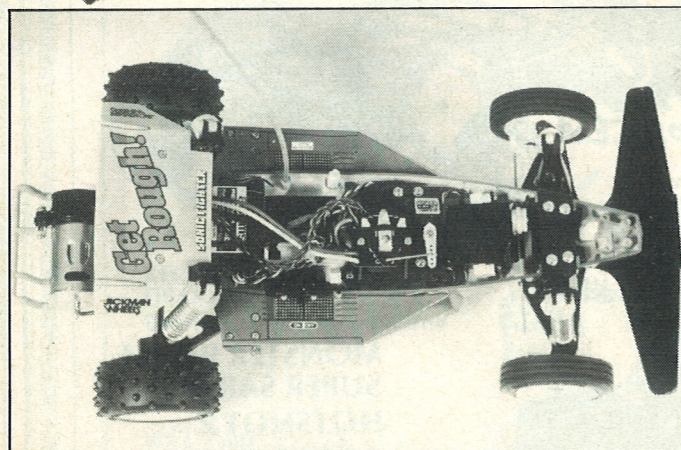


# SUPER SONIC!



Above: The Sonic Fighter is designed to be a reliable fun 2WD - and it is. Left: General views show the standard layout of the fighter - simple and easy to build.



## Gary Cannell takes a beginner's look at Tamiya's latest 2WD

I know nothing about radio control cars; I have never built one, or driven one, or owned one. Having said that, you can imagine my surprise when Alan Harman asked me to review the latest Tamiya offering, the "Sonic Fighter".

After thinking such uncharitable thoughts regarding his sanity or the effects of too much alcohol, it dawned on me that the lad is worth every penny they pay him, after all what better way of getting a newcomer's idea of "off the shelf" car building than to get a complete novice to try it for himself.

Having been proved competent at building and racing slot cars, plus body painting in all sizes for some years, and making plastic kits, the basic skills for making an R/C car should be well within my capabilities, but read on and find out the facts from a true first-timer.

### In the beginning

After opening the box and

quickly surveying the contents, I took a couple of days to thoroughly read the instruction book several times. This served the dual purpose of familiarising me with the order of construction, and gave an opportunity to see what the parts look like and the terminology used. Strangely, I soon decided that the order recommended in the well-produced manual was vulnerable in some cases, and highly desirable in others. Thus it was that I started at the BACK of the book and attended to the body first!

### Bodyshell

This is an injection moulded in two main parts, plus assorted detail items such as the driver. I understand the base moulding is identical to the Tamiya "Striker", with revised upper bodywork.

The body as supplied is a cream-coloured plastic - unlike the box illustration or a suitably aggressive racing colour! I began by spraying two coats of primer, then a couple of coats

of cellulose bright red. I chose cellulose because of its good adhering properties on plastic, and also because I had some laying around. I would recommend spraying instead of brush painting whatever paint you use as the finish and ease of completion is so much quicker and better presented.

Tamiya supply a good sheet of self-adhesive coloured decals for the car, and these can be applied after carefully cutting around them with a sharp modeller's knife. The driver's head needs to be screwed together and the driver painted separately - I used ordinary Humbrol matt paint and the results are very good. As the rear wing, back bumper, and shock absorbers are moulded in yellow, we can expect the finished car to be fairly eye-catching. So far, so good, nothing complicated so far.

### Radio systems testing

RCMC supplied me with an Acoms "Techniplus BEC" system for the car. Being unfamiliar with R/C terms, it took me a while to understand what BEC was, but can now recommend this system as being far simpler and therefore I hope more reliable.

The exploded diagrams are followed carefully and easily, and the first actual assembly procedure began with selecting the correct servo horns and mounting them in place. Be careful when fixing the speed controller wires to the resistor - they are a tight fit and will easily bend over if you are careless. With all the radio and electronics tested, we can now begin to install them in the car.

### Front end assembly

Following the exploded diagrams, assembly is straightforward, although there are two points worthy of mention. Firstly, the front of the chassis seems to include the single weakest part of the base moulding, at the point where the track rods exit the floor panel on either side. The chassis can be easily flexed by hand at this point. Secondly, it is advisable to grease the front wishbone bearings as they run in holes in the chassis at the rear and are held in place by a pillow block at the front. Everything else fitted with Tamiya precision; even the diagrams of track rod lengths are accurate when measured, and give the required toe-in. I

did not fit the shock absorbers at this point, see later section.

### Gearbox and motor assembly

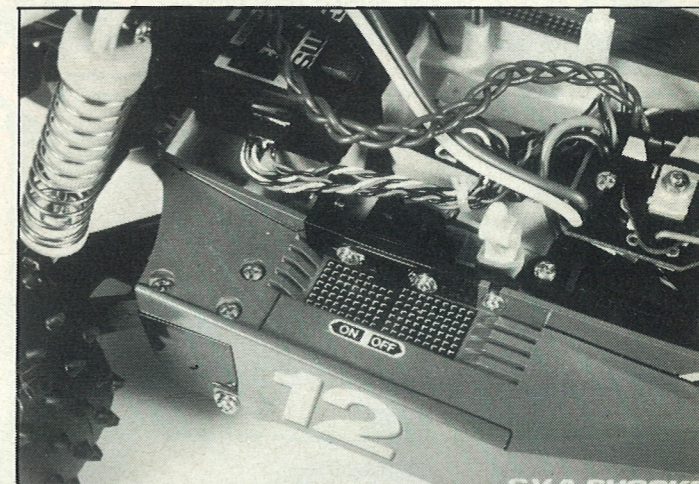
All the nylon gears run on steel shafts and in nylon bearings. Using liberal amounts of the supplied grease the finished movement is very free, albeit helped along by the, in my opinion, very sloppy bearings. As the car is intended for outdoor use in all weather conditions, I am surprised that the instructions make no mention of sealing the gearbox on final assembly. I would recommend a slim coat of silicon grease or similar non-setting sealer around the edges before screwing up tight; this would protect the internals from water and dust alike.

Tamiya even supply a spacer tool to be used when fitting the motor pinion. Then comes the only option when assembling - make sure you use the correct mounting holes for the pinion size, as alternatives are provided for selected ratios that are not supplied in the kit. Once again, smear grease around the motor mounting and cover plate on final assembly to protect the parts inside.

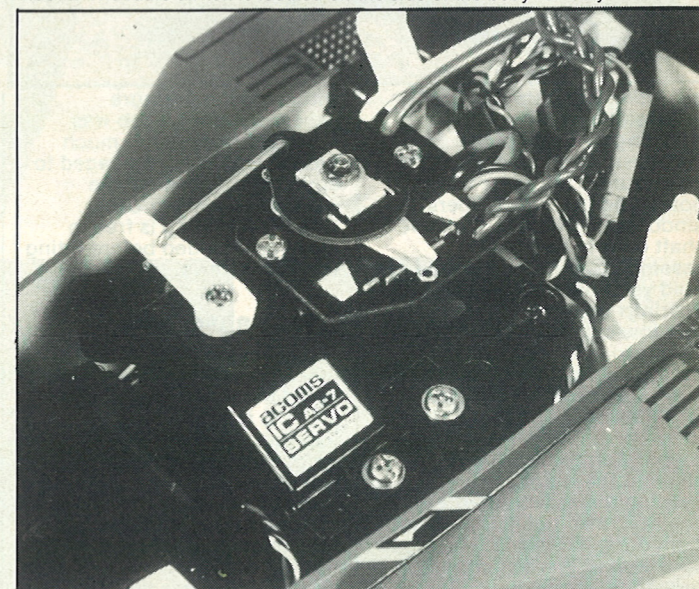
With regard to the motor itself, two interesting items appear to be nothing more than Tamiya idiosyncrasies: I thought at first that the brushes had been assembled wrongly as the curvature was exactly the opposite to the commutator. Having been used to carefully seat and running in brushes to get the best performance from motors, this lack of basic principal from Tamiya seems to stem from nothing more than increasing motor life with no maintenance, but leaving the careful builder immediate scope for more power. Careful reprofiling with a small file plus half an hour running in off-load on low power pay dividends in motor performance. Secondly, why is it correct in Tamiya methods to connect the green and yellow motor leads the wrong way around? I couldn't find a logical answer to this one, and must dismiss it as the product of the devious Oriental mind!

### Rear suspension and drive shafts

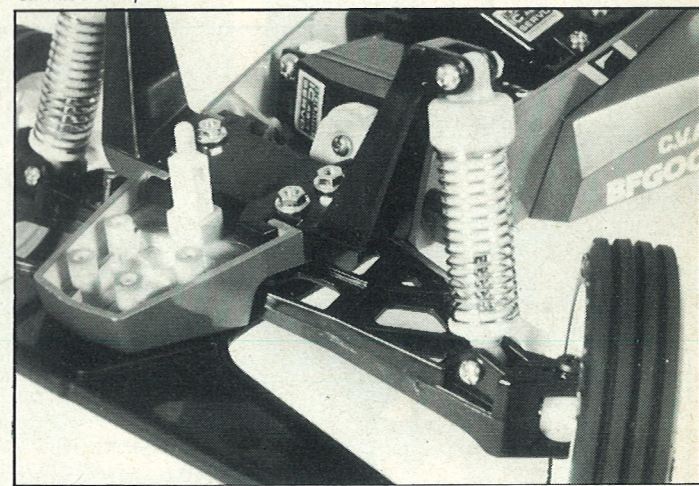
The first job is to install the top suspension brackets and wing mounting. When doing this, make sure you follow the instructions and pass the speed resistor and its wires below the

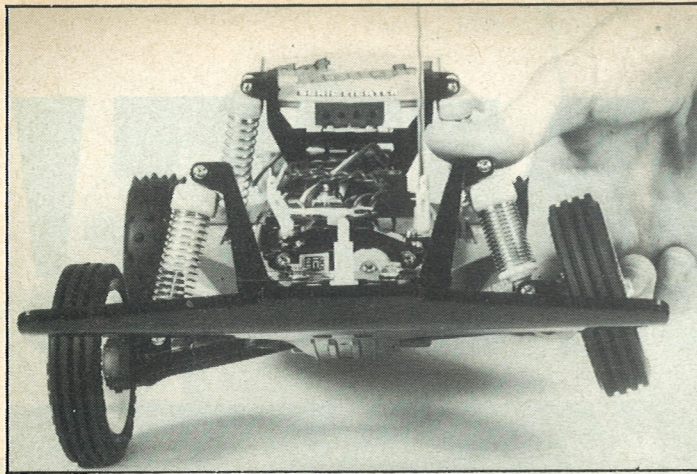


Above: The radio switch is located on the side of the body for easy reach.

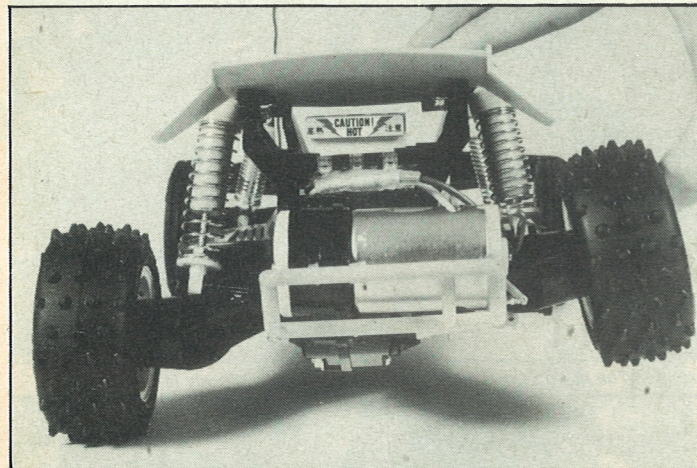


Above: Standard 3-step speed controller is supplied along with some electronic switch lube which must be applied. Below: Front suspension via oil-filled dampers.





Above and below: Suspension travel is reasonable and should transmit the power well. Note very wide tough front bumper.



mounting brackets BEFORE you bolt them on!

Taking one side of the suspension and drive shaft (the procedure is the same for both), I again applied liberal amounts of grease to the drive shaft cups before final assembly and found it useful to hold yet more of the awful bearings in place. Fitting the rear lower wishbones is the more awkward job on the car - having six steel rose-jointed fingers on each hand would be an advantage! The basic idea is to swivel into position the outer suspension bearing whilst aligning the wishbone and keeping the driveshaft in position, then tightly screwing everything into place. The lugs on the chassis which must be passed around to locate the outer bearing housing don't actually look strong enough to

withstand the pressure necessary, but the job was managed without too much hassle, and I even managed to apply more grease to the wishbones in the process. Check everything is free to move as intended before fitting the final screws.

### Shock absorbers

I was dreading this job, as it looked potentially messy, so saved the front ones till this stage to tackle them all together. My fears were unfounded, and the job is simple and straightforward. The damper oil supplied is in a blue bottle, one of three grades available, and enough to do this car with very little left over, so be careful. It is most important to get the trapped air bubbles out of the dampers on

assembly, and the instructions are most specific on this point. Even compressing the springs for assembly is very easy, given that they are slightly harder than on other cars I have seen.

### Wheels and tyres

They are never going to go on. Such were my first thoughts, but after following the method pictured managed to fit the tyres with relative ease. The rear tyres are of the "knobbly" variety, while the fronts are ribbed, and not very wide at all. The back wheels locate on a drive disc which is itself located on the driveshaft by a pin through the shaft. Sadly, the front wheels have two each of those bearings again, and are secured by Nyloc nuts.

### Final fittings

Two small cover plates are screwed under the chassis, one side being to protect the battery connector. I left fitting the front bumper till last as it is a fairly large item, secured with three screws from below. It looks to be made of a rather hard and possibly more brittle material than would be desirable, but time and action will tell in this respect.

Fitting the body demands the only modification to the parts supplied - the spring clips which pass through the body mounting posts must be angled slightly, I did this by gripping in pliers and slowly bending to the desired angle on a workbench quite easily. After running the aerial wire through the nylon tube provided, the top of the body may be fitted and secured with the above clips.

### Conclusions and observations

The car fitted together with the precision expected from Tamiya, and the instruction book is both simple to understand and comprehend, even for a raw beginner like me.

Of the parts supplied, there is ample grease to do all the jobs, even the extra ones I outlined in the text. Other spare screws and parts are supplied, also the

infamous small box spanner. There are also a variety of servo horns to suit most of the systems likely to be used with this car.

The worst point, in my opinion, is the incredible slackness in the nylon bearings; this can probably be corrected by investing in one of the ballrace sets, although I do not have the experience to say if the cost would be justified on this particular car. Also, I am used to far more exacting standards, and the lack of precision in this area may be the norm for R/C cars. If so, then there may be lessons to be learnt for the future.

I mentioned the motor brush gear earlier, but one further observation is that it may be a good idea to tape over the rather large inspection holes in the motor before use; although this could possibly lead to slight heat build up, it would certainly protect the motor internals from the general roughage encountered in fields. Water and grit in motors is not a good idea, and the exposed rear-hanging position on this car put the motor in an ideal collecting position.

### What are we left with?

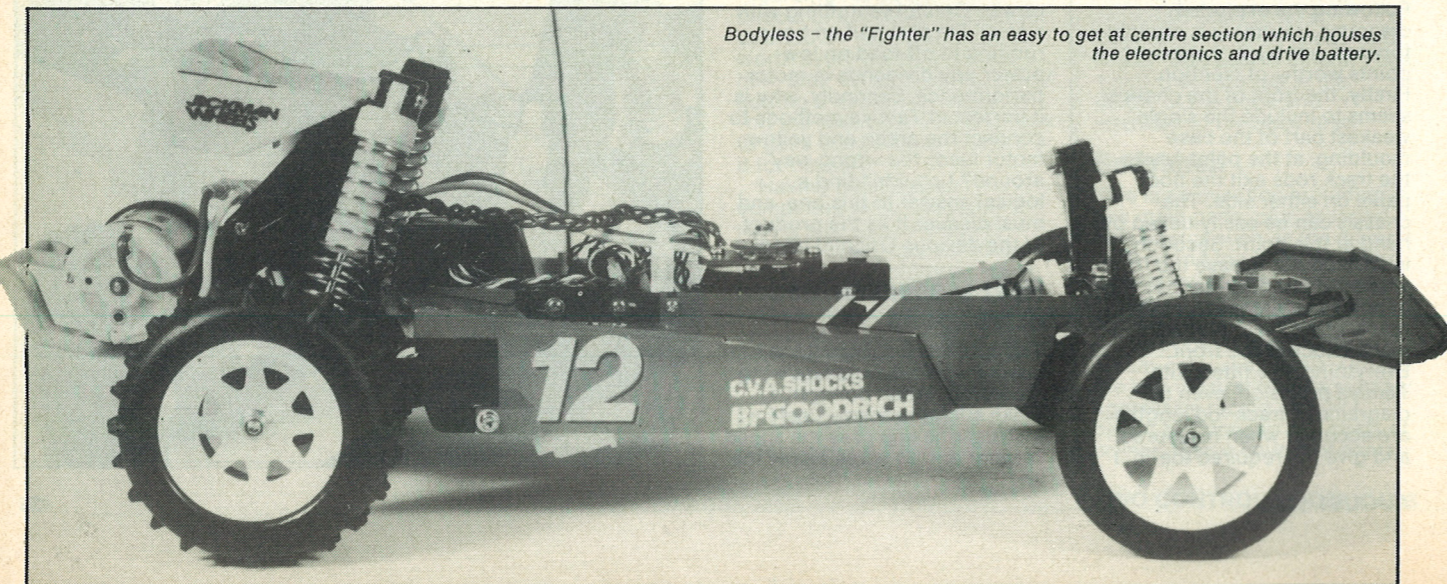
The "Sonic Fighter" is a 1/10 scale off-road buggy. It has two-wheel drive, independent suspension with foil oil-filled dampers, an injection moulded body/chassis, and lives in conjunction with a 7.2 volt drive pack and standard 2-channel R/C system.

For the beginner, its advantages probably outweigh its disadvantages: you CAN buy it cheaply, assemble it easily, replace parts off the shelf, and have a lot of fun. You CANNOT easily fit a light racing body, win many races against the 4-wheel drive fraternity or immediately change the handling characteristics.

Having built it, I also feel I must leave the driving impressions to an expert who can point out its true character - I just hope to get to drive it and see for myself what fun can be had courtesy of Tamiya and their ever-increasing range!



Bodyless - the "Fighter" has an easy to get at centre section which houses the electronics and drive battery.



Main picture: The Sonic Fighter is based on an aircraft design and is recommended to be painted in grey - although we feel it looks better in red. Above: The motor hangs out the rear à la RC10. Right: The car is long, over 43cm.