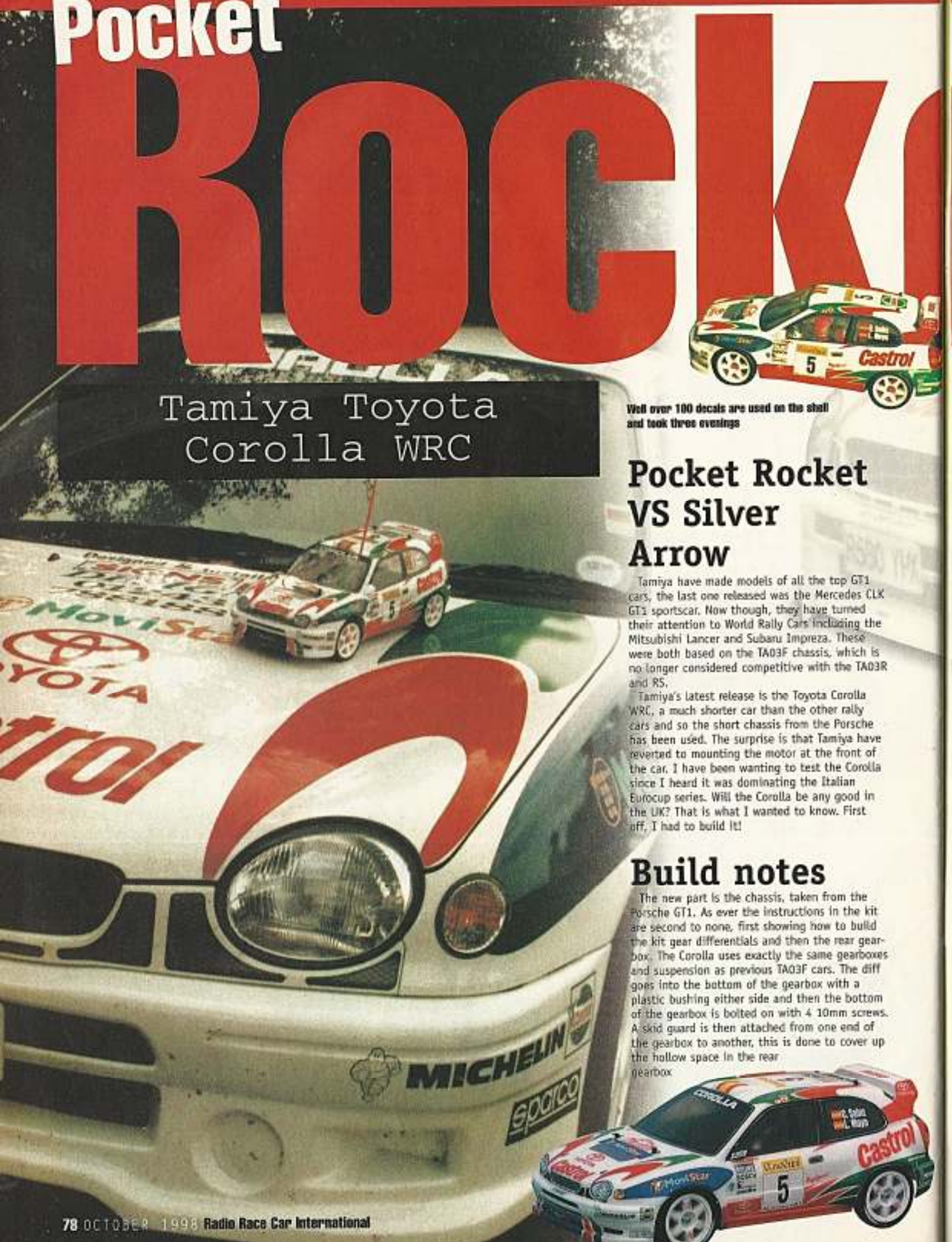
Ben Elliot

Pocket Rocket

Tamiya Toyota Corolla WRC



Well over 100 decals are used on the shell and took three evenings

Pocket Rocket VS Silver Arrow

Tamiya have made models of all the top GT1 cars, the last one released was the Mercedes CLK GT1 sportscar. Now though, they have turned their attention to World Rally Cars including the Mitsubishi Lancer and Subaru Impreza. These were both based on the TA03F chassis, which is no longer considered competitive with the TA03R and RS.

Tamiya's latest release is the Toyota Corolla WRC, a much shorter car than the other rally cars and so the short chassis from the Porsche has been used. The surprise is that Tamiya have reverted to mounting the motor at the front of the car. I have been wanting to test the Corolla since I heard it was dominating the Italian Eurocup series. Will the Corolla be any good in the UK? That is what I wanted to know. First off, I had to build it!

Build notes

The new part is the chassis, taken from the Porsche GT1. As ever the instructions in the kit are second to none, first showing how to build the kit gear differentials and then the rear gearbox. The Corolla uses exactly the same gearboxes and suspension as previous TA03F cars. The diff goes into the bottom of the gearbox with a plastic bushing either side and then the bottom of the gearbox is bolted on with 4 10mm screws. A skid guard is then attached from one end of the gearbox to another, this is done to cover up the hollow space in the rear gearbox.

Silver Arrow' or 'Pocket Rocket'?

The chassis ready to go, note the extended motor wires and very high body mounts

(I left it off but it may be needed for the Eurocup). The wishbones and shock tower are attached and the drive cups and driveshafts inserted. The fixed length top links and are attached along with the rear uprights, once the drive cup has been mounted into a metal bearing. Once that has been done a steel layshaft is pushed though an idler gear and then mounted in the top of the gearbox with a bronze bushing at one end and a plastic bushing at the other. The belt pulley is attached to the layshaft by a grub screw and the rear gearbox is complete.

The front gearbox is then built in a very similar way, with the skid guard being replaced by a motor protector and the wheels mounted on plastic knuckle arms, which are held by two kingpins into 8 degree plastic castor blocks. The motor is mounted in the gearbox via two screws. Power is transmitted to the layshaft via an Idler spur gear that uses .6 module gears. A quick note here, if you are experiencing problems with duration and are using these gears then replace them with the fine pitch gears. These will increase your run time by 10-20 seconds, depending on the circuit. This was proved at Tibshelf by Mark Freeston, who was slow down the straights and yet was dumping with about 15 seconds to go. I lent him a fine pitch gear set and then added two teeth to his gear ratio and he lasted, and he was lot faster down the straight. Unfortunately this meant that in the final we came side by side into the chicane and my car ended up with three shock absorbers! Cheers Mark!

Finishing off

With the gearboxes built the plastic shock absorbers, steering linkages and chassis are then attached. A belt tensioner can be attached but if you use the hop-up aramide belt it is not needed.

Last to go on are the wheels, tyres, radio gear and body mounts. The body mounts are my only real complaint of the kit as the rear mounts are so long and flexy that the rear wheel arches can and do hit the tyres. Tamiya do make a rear body mount support but I don't know if it works on the straight body mounts used on the Corolla.

The last job is to paint the shell and add the decals. Painting the shell is the easy bit, the decals are a big job though. Well over 100 decals are used on the shell and took three evenings (a total of approx. 8 hours) to put them all on.

Test 1

The best way to test a car is to test it against a known quantity. This was done first at West London where my now rather battered Nissan R390 was tested against the Mercedes CLK (same car, different shell) and the Corolla.

The first run was done with the R390 to familiarise myself with the track, a good balance was found and the same set-up kept for the Mercedes shell. The Mercedes shell gave the car more rear end grip, the car was now understeering quite badly. To compensate this the rear tyre inserts were changed from the moulded foam to the blue moulded insert. On the R390 this made the back end slide when the power was taken off. No problem with the Mercedes though and the lap times were matched.

Now it was time for the Corolla and a surprise for me, steering. The old TA03F understeered like a pig but not this car. The stiffer insert used on the rear of the Mercedes was used on the front of the Corolla to try and give a little less steering. Now the car was nicely balanced with a little oversteer as opposed to the understeer of the GT cars. This car was putting in the same lap times as the Mercedes and R390 which I was not expecting.

Test 2

The next test venue was at Tibshelf on the Saturday before the 4WD GT meeting. At this point the car could not be raced in the Eurocup because this was RRCI's pre-distribution model and so not commercially available. Just as I was about to start testing the car, Lee Warren turned up in a 1.3 litre Corolla which had been modified to copy the rally car. Lee works for Toyota and luckily for me, borrowed the car from a dealers showroom for the weekend.

Again, first out was the Nissan and this time

Big brother turned up at Tibshelf, the decals alone cost £600!

the Porsche GT1. Once these had been dialled in it was the Corolla's turn. With the same set-up as West London the car was good under power but mid corner grip was non existent, the car just spun out. The car was lifting its inside rear wheel as the body rolled over, causing the back end to break away. A change of springs to the kit silver items solved the problem (softening the back and stiffening the front) and gave increased power on stability.

The Corolla was now able to keep pace with the GT cars on the high speed bends but was able to pull feet over mid A final cars in the tight chicane. The car certainly turned a few heads and I am hoping that it is legal for the next round at Decca Racal.

Conclusions

The Mercedes and the Nissan are undoubtedly the cars to have for circuits which demand stability and easiness to drive. The Corolla, however could well have an advantage at tracks such as West London, Racal Decca and Bedworth, where a lot of steering is needed. Keep reading the Eurocup reports in RRCI to find out if the Corolla proves popular with other racers. RRCI

Quick Spec

1:10th scale 4WD Electric World Rally Car. Supplied with 540 type motor and mechanical speed control. Requires 2 channel radio, 2 servos, battery and charger to operate.

Likes:

Superb Shell
Very positive handling

Dislikes:

Number of Decals needed for the shell (about 110)
Amount of Hot-Ups needed to make the kit competitive

Hop-Ups used

in order of importance:

TA03F Ballrace set	(53269)
On Road Tuned Springs	(53163)
Alloy Countershaft	(53274)
Roll Bar Set	(53276)
Ball Differential (comes with fine pitch gears)	(53267)
Alloy front uprights	(53316)
Alloy Motor Heatsink	(53275)
Alloy Shocks	(53280)
One Way Roller	(53279)
Short Aramide Belt	(53288)
Alloy rear uprights	(53310)
UJs	(53325)
Alloy Knuckle arm	(53266)
Stainless Steel Suspension Shafts	(53286)
16 Tooth Alloy belt pulley	(53167)
Alloy Kingpins	