

SCHUMACHER

«C» CAR

Kit Review by Paul Hobbs

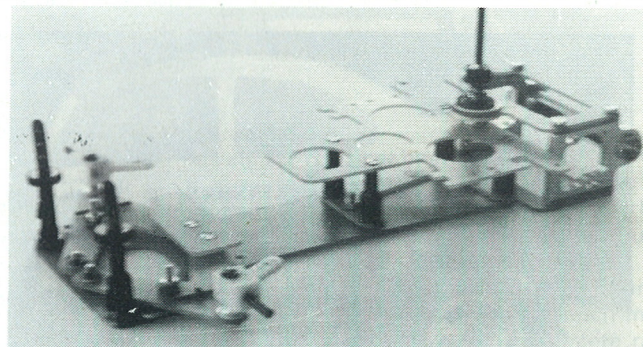
Cecil Schumacher and his team have enjoyed considerable success with the 'XL' folded lexan chassis which they and many others used to great effect on the relatively slippery polished wooden floors which were the normal racing surface during 1982 — but the almost universal adoption of the carpets this year has meant that the old XL, even though it was produced in TEAC resistant versions, has not really proved competitive under these conditions. It is no surprise, therefore, to find that Cecil has produced a new car specifically with carpet racing in mind, more in line with the latest trends in the hobby. This does not mean to say, however, that the 'C' car is a straight copy of anything else on the market, as it is probably the nearest one can get to full independent suspension without the complication of universal joints and half shafts as used by the AYK Cyclone. This is achieved by using a rocking motor pod with a friction damper like the Associated RC12i, coupled to a front suspension system which is very similar to the BOLINK 'Bigger Digger' — i.e. sprung front wishbone plates with an anti-roll bar.

After the relative simplicity of lexan type cars, the Schumacher 'C' car might come as a bit of a shock — the multitude of little bits and pieces that make up the front suspension are not the sort of thing that you can assemble in five minutes flat and care must be taken. Tackling the task methodically, will soon see the job finished, however. Incidentally, all the glass fibre parts of the car are produced by a computer controlled milling machine which leaves a little pip on the parts where they break off from the main sheet — being in my usual tearing hurry to finish the car I left them as they came providing they did not hinder the assembly.

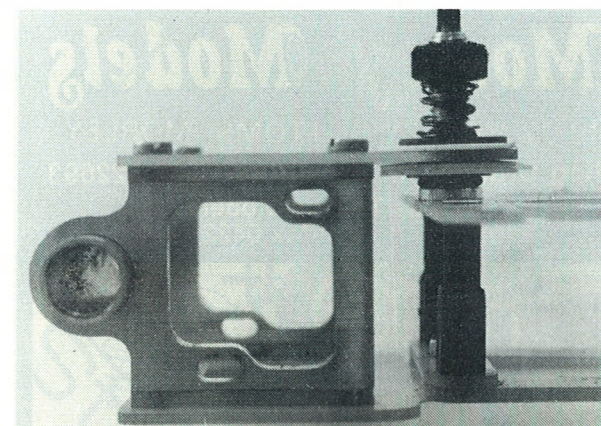
THE REAR END

I began at the rear of the car, mounting the motor pod components on the rear sub chassis which would

eventually be attached to the main chassis using two bolts and 'O' rings to allow a rocking motion. The motor pod consists of two alloy side plates and a torque tube which builds up into a rigid cage which encloses the motor — unfortunately this means that motor removal is decidedly tricky as the motor blocks are closer together than normal and mounted off-centre on the chassis to get the motor weight nearer to the cars centre line. The top 'damper plate' must be removed to get the motor out, and even then it is a bit of a squeeze, but I understand that modifications will be made to the parts to ease this operation. Two small glass fibre spacers are provided for each motor pod sideplate which can be used to give a measure of ride height adjustment — very handy as when your rear tyres disappear, due to wear, you can jack up the back of the car to suit. They can of course also be used to alter the



What you get, basically all the parts you need to convert your existing car to a Schumacher 'C' — except the steering blocks and stub axles which I forgot to remove for the photo, and the roll over mast which was solidly superglued into the mount!



The rear end showing the damper and the extra packing required to bring the lower of the two PTFE washers in contact with the underside of the radio plate. The two packing pieces above and below the alloy motor block, intended for adjusting the ride height of the rear end, are also in evidence.

height of the centre of gravity which may be useful on some circuits.

I was pleased to see that a cutaway was provided in the tube to allow the motor to be positioned closer to the axle than the XL chassis would allow, widening the choice of gear ratios that can be used, and indeed that the torque tube was retained, as it keeps the rear bearings nicely lined up. Another point is that as these parts are made of aluminium they neatly get around the strange BRCA 'no heatsinks on the motor' rule which should help the motor to last a little longer by keeping its temperature down.

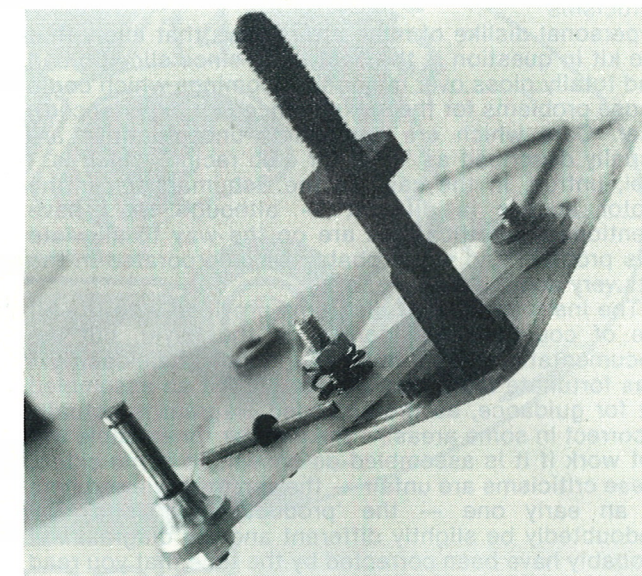
THE MIDDLE BIT

The main chassis plate is fitted with four radio plate posts — these also secure the plates which provide the mounting points for the rear sub-chassis which rocks on two 'O' rings positioned on the centre line of the chassis. The alloy damper post/roll over mast mount must be fitted to the radio plate before the radio plate is fitted to the chassis, as the screw holding it on is inaccessible when the car is complete. It pays at this stage to ensure that this screw really is done up tight — it is a real drag if it comes undone while you are adjusting the damper friction! The radio plate accommodates the usual 'stick' nicad packs retained by slices of inner tube, tape or cable ties as required.

The damper consists of two PTFE washers and a spring tensioned with a nut. I found that packing washers were required to bring the lower PTFE washer into contact with the underneath of the damper plate mounted on top of the motor pod. If this is not done the chassis tends to sag in the middle when the car is fitted with the battery pack.

THE FRONT END

The exploded diagram supplied with the kit and the photographs with this article probably explain this part (the most complicated bit) better than words can! Strangely the aforementioned diagram did not show the front anti-roll bar which should be tapped under the front body posts and attached to the wishbone plates using the ubiquitous 'O' rings. Steering blocks are not supplied, Associated 'new style' ones are recommended, although the older type can be used if you are prepared to put the wheels on backwards — they will otherwise foul the wishbones. A small plate is provided to mount the steering servo above the wishbones, as it is not possible to just stick the servo to the chassis in the usual position due to the presence of the suspension pivot points.



The assembled side of the front suspension. The anti roll bar which is trapped under the plate fitted between the chassis and the body post can clearly be seen. The short length of wire visible anchors the anti roll bar via an 'O' ring to the wishbone. The spring rate can be adjusted by simply winding the nut up or down to make the springing softer or harder.

RADIO INSTALLATION

I used a 'flat type' Laser speed controller which consists of a main circuit board and two relays. This was simply servo taped to the radio plate and the receiver attached to the main chassis plate just in front of the forward radio plate posts. The steering servo was of course stuck to the mounting plate supplied and that was that!

TAKING IT FOR A SPIN

The first outing for the new car was to be an Ally Pally club night — not ideal as it is usually very fast and competitive there, and the carpet is different to the normal Primafelt, giving less grip. On the basis that if you are going to crash you might as well make it spectacular, I had fitted a new PARMA Yokomo Ferrari motor, Associated kit rears that had not been used for three months, and Associated 'K' fronts (really hard!). After soaking the tyres in the obligatory TEAC and charging the batteries, it was time to take it for a spin. One thing it did not do was spin! It was really smooth and stable (twelfth scale lingo for "the thing understeers like a pig!") and obviously softer fronts were needed — or suspension adjustments. I had initially set the front springing as hard as I could as it seemed a little bouncy and I chose to experiment with tyres only on this occasion. One thing that was clear, however was that the car had tremendous back end grip on what was a pretty ropery set of tyres.

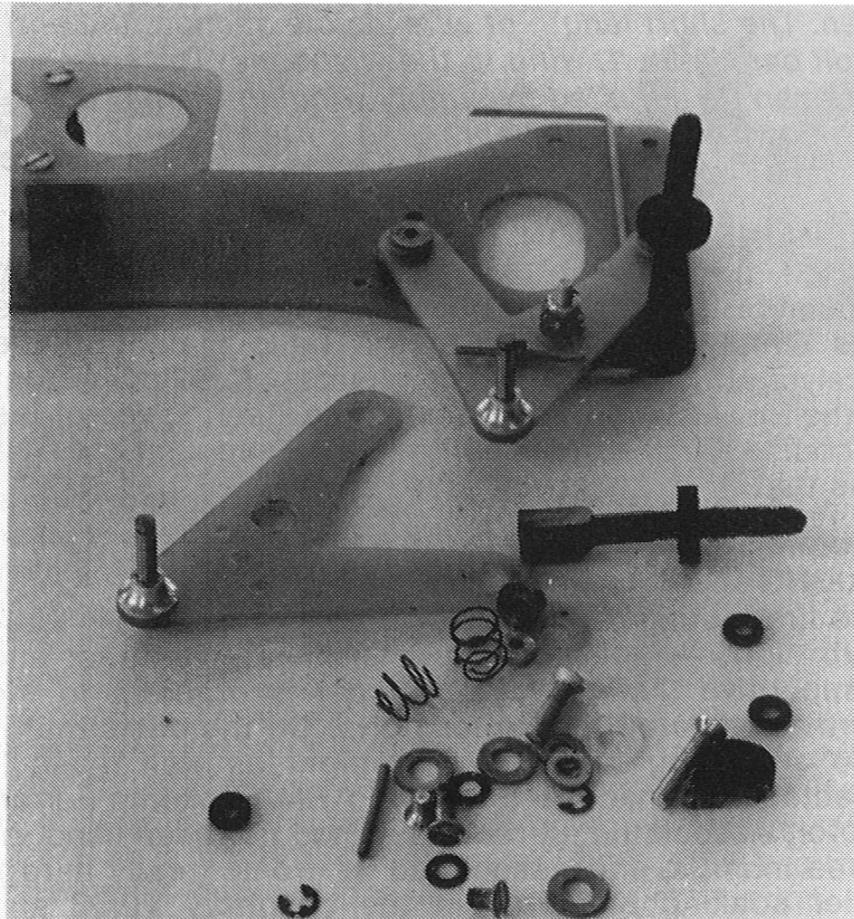
After raiding a convenient box of tyres, softer fronts were fitted (Delta A's) and the car tried again. This time the steering was much improved and the car exhibited no nasty tendencies, such as rolling over or bouncing on the fast corners, the damping arrangement on the pod which I had initially viewed with some doubts was obviously working well. The Schumacher 'C' car was well up with the Ally Pally experts almost from the word go, and I am sure that there is more to come, performance-wise from the car, especially in view of the various adjustments that can be made to the suspension to tune the car for particular tracks.

Schumacher 'C' Car Kit Review

Criticisms

A personal dislike of mine are reviews that imply that the kit in question is the best thing since sliced bread and totally gloss over major shortcomings which could cause problems for the inexperienced (or experienced!) user. Cars which are completely uncompetitive are usually described as 'ideal for club racing' which is, I feel, untrue. In the case of the Schumacher car the motor access is difficult — although as I have mentioned, modifications are on the way to alleviate this problem and will probably be incorporated in the kits very soon.

The instructions and diagrams provided with the kit are of course very important to the buyer, but the documentation with this kit is, in places, misleading. I was fortunate that I was able to look at an assembled kit for guidance, as the exploded diagram is actually incorrect in some areas — the damper for example will not work if it is assembled as shown. To some extent these criticisms are unfair — the version reviewed here is an early one — the 'production versions' will undoubtedly be slightly different and the diagram will probably have been corrected by the time that you read this. Having said that, however, the 'C' car is competitive and light weight with great scope for 'track tuning' which should make it very popular in the coming months.



All the components from one side of the front suspension in one untidy heap — quite a collection!

