

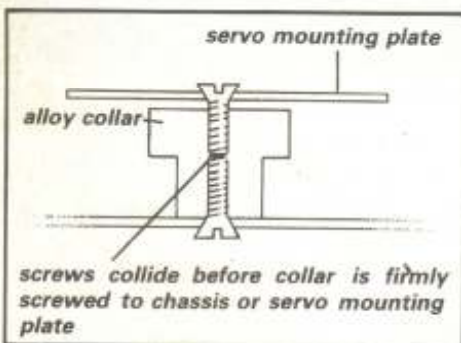
Schumacher SPC Car

Since the SPC car has just won the European Championships in the capable hands of Phil Davies, I thought it was about time I sorted out the review. A full rolling chassis was provided by the Northampton based group which normally retails at around £100. Unlike other kits on the market, the outside of the box leaves something to be desired but lets be honest, you want to pay for a good car, not a flash box. Inside everything is neatly packaged with the differential already assembled and wheels and tyres, glued and trued.

The first thing to remember is that the SPC is identical to the 'C' car but you are using a new chassis and replacing the shaker plate with a single beam on the rear two shaker plate posts to support the rear bodyposts and damper assembly.

The first job of assembly is to take all the GRP items and remove any "flash" or "pips" with some fine sandpaper or a small file. Having smoothed all the GRP edges, a chamfer needs to be filed on the upper sides of the six battery slots so that the nicads sit flush with the bottom of the chassis. Particular attention should be paid to the chassis areas where the battery tape will rub, these want to be well smoothed so they do not cut into the tape under the load of a heavy collision.

The next job was to build the front end, and was duly started by fitting the wishbones, kingpins and servo mounting plate and this is where my first problem occurred. The servo mounting plate is screwed to three aluminium collars which are in turn screwed to the chassis. Although the shortest countersunk screws are used from both sides of the collar, they are both a fraction too long and hit one another inside the collar before the collar has been tightly screwed to the chassis or top plate.



To cure this problem a small amount of material can be machined from the bottom of each thread or a small washer can be placed between the collar and the chassis. As a starting point I placed one of the white M3 washers under the alloy collars which support the front of the wishbones which I estimate gives 4 degrees of positive caster.

The next awkward job is to fit the antiroll bar which is clamped to the chassis under the front body posts and attached to the wishbones by an 'O' ring and metal peg. The simplest way to attach the 'O' ring and peg is to first put the 'O' ring on the antiroll bar and locate it under the hole in the wishbone. Thread a fine piece of wire or twine through the hole from the top, pass it through the 'O' ring then back through the wishbone and secured with the metal peg.

Having fitted the servo to the servo mounting plate via the supplied posts, the servo saver is assembled. Before I mention the servo saver, the servo mounting plate



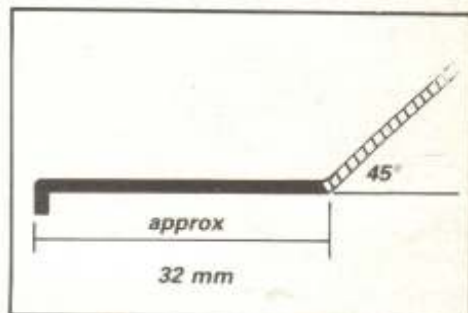
The Schumacher SPC car as supplied.

has holes drilled in it for the posts for the fitting of a Futaba 132H servo but another plate is supplied, undrilled for you to fit a different servo.

The servo saver is a two piece affair with a spring and comes with attachments to fit four of the leading servo brands. The next few words are simply a personal view and should be taken as such. Having to fit and build the servo saver, I found was a bit tiddly considering that I am used to running one of the pre-built kimbro units. According to Schumacher the spring on a kimbro servo saver is a bit on the strong side and yes, doing back to back tests on them, I must agree, but I have never damaged any servo gears using one so I used my Kimbro for the track test.

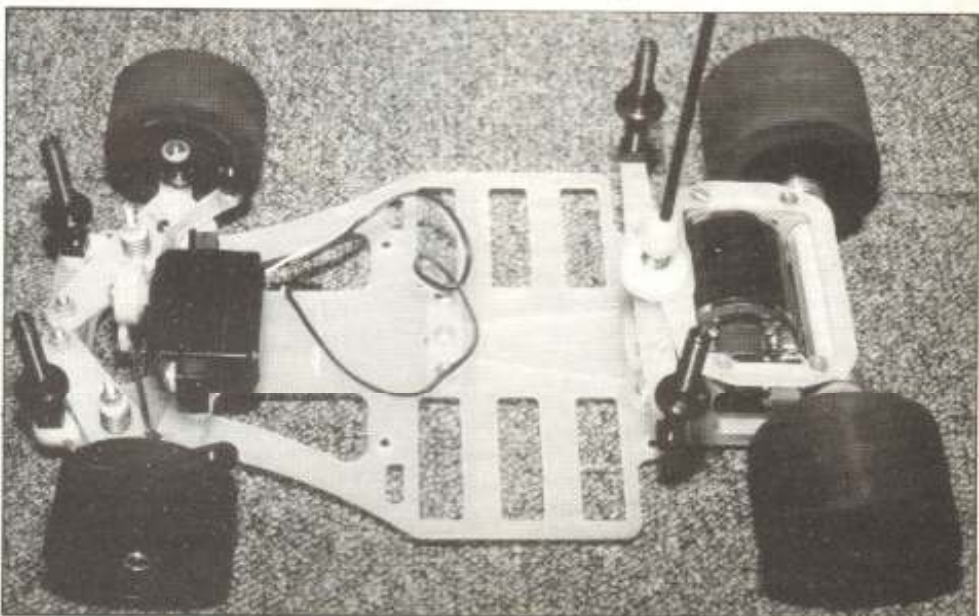
The next job after fitting the steering arms and live axles is to fit your steering linkages which must be first bent at the correct point and to the correct angle. Assuming you are using a 132H servo like myself, with the ball joint fitted in the middle hole

of the servo arm, the following bend in the linkage was made.

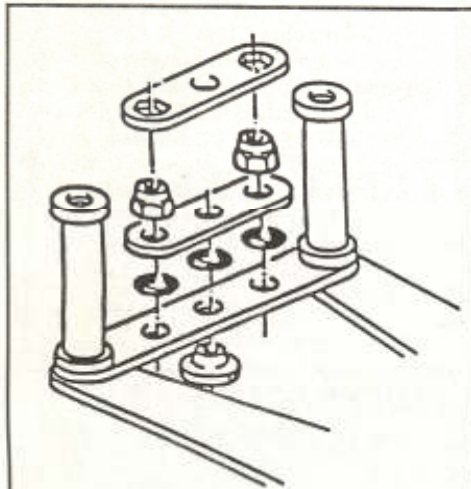


Moving onto the rear end, I decided to fit the motor mount and torque tube assembly to the T piece. My second but final gripe of the building was the fit of the torque tube in the ride height adjuster cams and their subsequent fit into their mounts because its all a very tight fit and a few hours

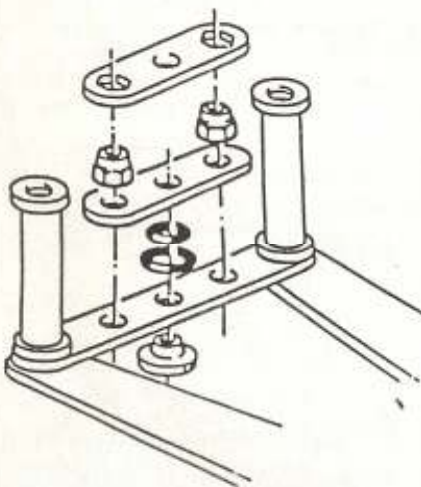
The completed Schumacher SPC rolling chassis including servo and motor.



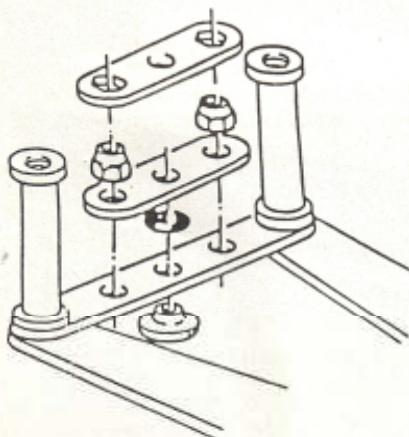
patient work with some fine sandpaper was needed to remove this tightness. It is best if you have one end of the torque tube to be a free fit in its ride height cam and I mean free, not loose so that the chance of a tweak is alleviated with a rear end collision. Another tip is to earth each side of the motor pod (via the two rear damper plate screws) to each side of the torque tube (via the two large C clips) to prevent any radio problems.



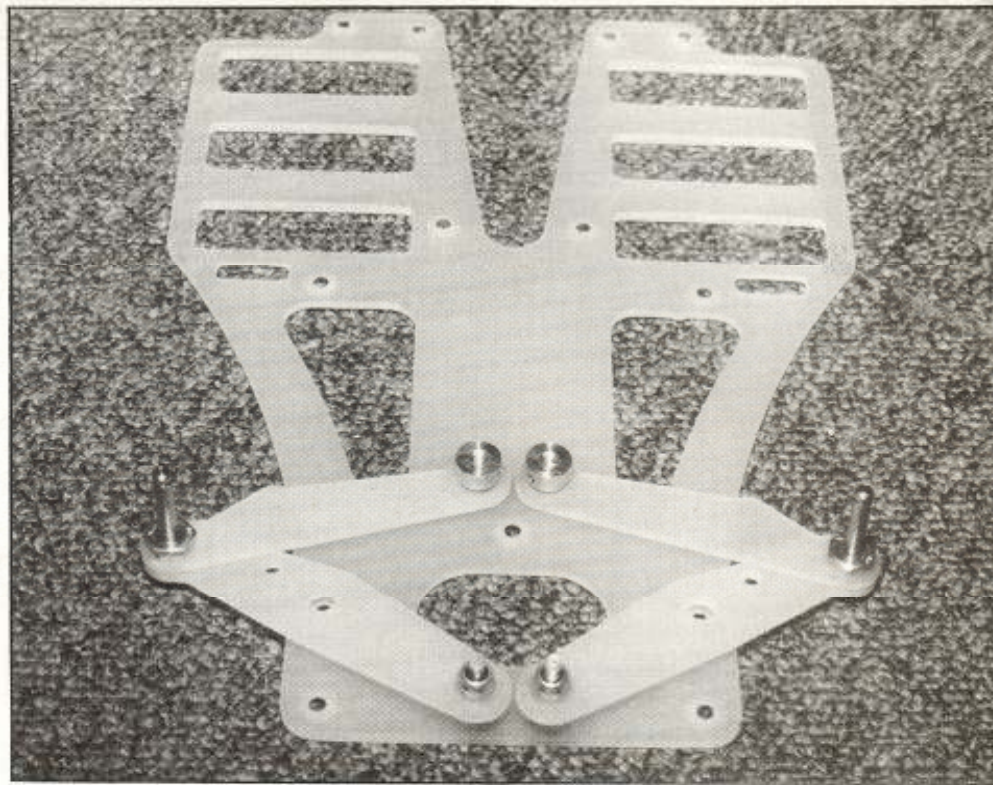
STIFFEST



INTERMEDIATE



SOFTEST



Front end of the Schumacher SPC chassis with two piece wishbones attached.

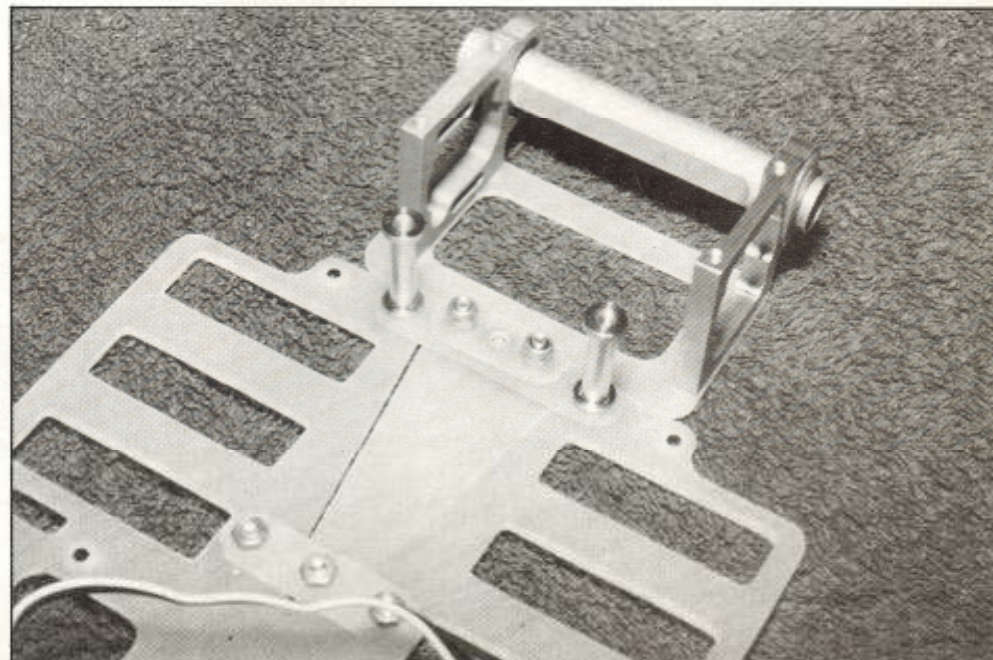
The front of the T piece is then bolted rigidly to the chassis and once the front brace has been bolted to the T piece, I always used to superglue it to make sure it never came loose.

The rear T piece brace is then clamped to the chassis beneath the two remaining rear shaker plate posts and the T piece adjustment set-up can be finished. By varying the position of the 'O' rings, varying degrees of rear roll stiffness can be "dialed" in but for best results with the SPC car, Team Schumnacher recommend a soft set-up, and this is best achieved using two silicone washers, one on either side of the cone washer and this was the mode used by Phil

to become the European Champion.

The final job of constructing the rolling chassis is to fit the rear body post and damper post support and to attach the damper plate. Since the damping area is much smaller between the damper plate and the damper washers, compared to those on the RC1ZL, I used the thick Schumacher damping fluid on both washers although this is not supplied in the kit. The rear axle is then fitted and there you have it, one rolling chassis. All that remains is to fit the radio gear, set the tweak and hit the track and you can read the results of that in next months issue, but so far all looks good!

The rear end of the SPC car with T Piece and torque tube arrangement in place.



As I've said before, the last bit is purely a personal opinion and we have to wait to see how good the new SCE's really are, however at the last Watford Carpet League on February 20th, a majority of the 1/12 area representatives, together with Chairman, John Ford and Secretary, Rob Roy felt a decision should be made on the SCE's use. At the moment there is no limit on the cells capacity (this rule was removed some years ago), only on its size with Sub C cells only, and therefore the SCE's are legal. However all of the committee present felt that at National level, it would be better, considering that we are half way through a season to suspend their use until the 1/12 conference in the summer when the situation can be reviewed and in an attempt to stop Joe Public rushing out to buy new packs of cells which he feels he needs to be competitive which might turn out to be less than up to his expectations.

As a final note, a meeting of EFRA representatives which took place at the European Championships in Denmark, also decided to put a 90 day hold on them until more information is available and hopefully the cells availability will have increased.

EFRA News

Having just received my latest EFRA (European Federation of Radio-Operated Model Automobiles) news letter, there are a few procedural changes that you might be interested in.

1. At European Championships, the delayed start procedure (AMB) will be used to start the heats. At 30 seconds all cars must be released by the mechanics at the start line. The start line will be 2 metres before the finish line (AMB loop). Cars must start in order as directed by the race director.
2. At EFRA Grand Prix's, if the delayed start procedure is not used, a 2 line grid start must be used with 2 metres between lines. Cars will alternate odd's and even's.

The 1/12 International Calendar for 1988 at present is as follows.

Austrian Grand Prix	Portschach	May 14/15
Dutch Grand Prix	Baarn	June 11/12
World Championships	Baarn	Aug 15-20
British Grand Prix	Gateshead	Sept 10/11
French Grand Prix	Paris	Oct 29/30

Schumacher SP'C' Track Test

So there I had it, one Schumacher SP'C' rolling chassis, sitting next to my faithful Associated RC12L. The first thing that strikes you is the shortwheel base on the Schumacher car, being about half an inch shorter than the 12L and I certainly started to panic about radio and speed controller installation. Fortunately this worrying was unnecessary as the Schumacher car has the steering servo positioned much further forward in relation to the kingpins than the 12L and so my Trans Am speed controller and Multiplex 9 channel, yes I said 9 channel receiver were neatly positioned on the chassis in front of the cells.

Even though the car was to be used at a club meeting on a small track, one of my best modifieds was fitted with cells to match to push the car to the limit straight away. In the kit the cells have to be clamped in with reinforced tape but the facility is available to have two nicad retaining straps fitted. With the completed chassis ready, I paused for thought.

Now with everything fitted the flexibility



Two new products from Germany LRP modified motors produced by Jürgen Lautenbach and replacement alloy rear ends for the RC12L and Schumacher 'C' car produced by Stephan Oberle.

of the chassis supplied was much in evidence, bringing back memories of the lexan cars of the early Eighties. It was plainly obvious that whatever chassis setting used would still mean plenty of chassis distortion under racing conditions but as this was the review kit I had to get on with it. In an attempt to reduce any undue stress on the chassis, I used the softest setting on the T piece, ie. the two 'O' rings together on the centre pivot. Finally before setting the tweak, the springs were adjusted on the front end so that when the car was sitting on the track, the wheels were sitting squarely. The final job is to set the tweak which is done by adjusting the two outer screws on the rear strap which holds the T piece to the chassis. Unlike the RC12L tweak system which only functions as a tweak adjustment, and rear roll stiffness has to be changed by changing the T bar, the Schumacher Tweak adjustment doubles as a rear roll stiffness adjustment. To enable the roll stiffness to be adjusted and set, a set-up "wedge" or "ramp" needs to be made. This is simply done using a small strip of aluminium or similar (Fig. 1), approximately 1.5 mm thick and 20 mm wide. The important part is to calibrate the top surface of the ramp and this is best done by either scribing the lines directly on to the aluminium or to prepare the scale on a piece of paper which can then be stuck to the ramp. A final word on ramp preparation is if you use the latter method of marking, put a layer of selotape over it as 'wet' tyres will soon make a mess of your calibration.

Once your ramp is prepared, take one car, complete with well trued tyres, both pairs having the same diameter and one flat surface. Lift one of the rear wheels off the ground and slide the ramp under, in line with the axle until the tyre rests on the ramp around the 9 position. The corresponding front wheel will now be off the ground. Spin the front wheel and slowly withdraw the ramp and record the figure. Repeat the process on the opposite side of the car and the "name of the game" is to get the same reading from both sides. For example you try this first on the right hand side of the car and you get a reading of 5 on the ramp. When the left hand side of the car is tried the reading is only 4. To get both sides of the car to read 5, the tweak adjustment screw on the left should be loosened and vice versa.

Team Schumacher recommend a setting of between 3 and 4 for the 'C'-car and between 4 and 6 for the SPC and due to the flexible nature of my chassis I set the roll stiffness at 8, nothing like an extreme.

As a final tweak check, sit the car on a flat surface with the front of the chassis just overhanging the edge. Using a sharp point such as a needle or blade of a modelling knife, lift the front of the car up at a point in the centre of the chassis. Spin both front wheels and now lower the car until the tyres "ground" and again you are aiming to get both sides the same, hitting the ground at exactly the same time.

That was the car done and so it was off to the 1/12 club at Ashby for the last part of the review. The circuit is small, tight and a little bumpy in places, not forgetting a slightly damp area on the carpet on the sweeper. For the first run I only treated the inner 1/4 of each front tyre, as theoretically the car should generate more front end bite itself due to a more forward weight distribution compared to the 'C' car. Unfortunately this gave far too much understeer for the roll stiffness of 8 and treatment was increased to half the front tyres and away we went. The car was extremely responsive and would bite well into the sharpest of corners without any understeer or tendency to throw the rear end out and to be honest, an equal to my 12L and handled perfectly for the remaining rounds and final. Further comments on the chassis should be left at that since we all have different preferences for handling characteristics.

Overall, this latest Schumacher development is a step in the right direction, not just producing a new arrangement to keep up with fashion. Apart from the minor difficulties in construction, the car is fairly easy to maintain but regular replacement of glassfibre components is necessary to keep the car in "tip top" condition. In fact the chassis supplied, which was 0.075 in. (1.95 mm) did have a tweak in it after the car was stripped down after the race although Schumacher reliably inform me that all the latter chassis' are thicker. My original chassis is to be traded in for a thicker item, and a different, silicone 'O' ring roll stiffness configuration will be tried as this is the configuration Phil Davies used to become 1988 European Champion. At approximately £99 for a rolling chassis the SP'C' will compete with the best on the market so the final choice is yours.