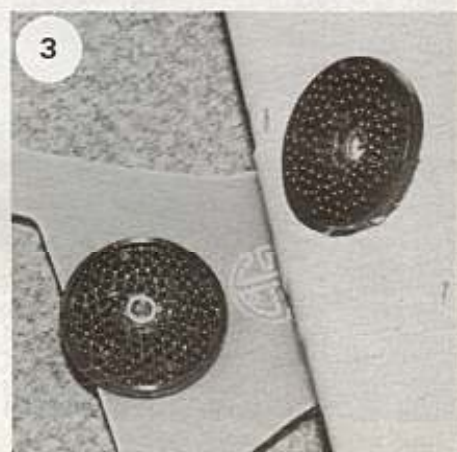
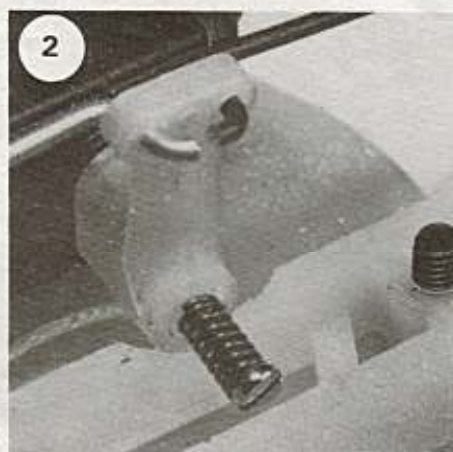
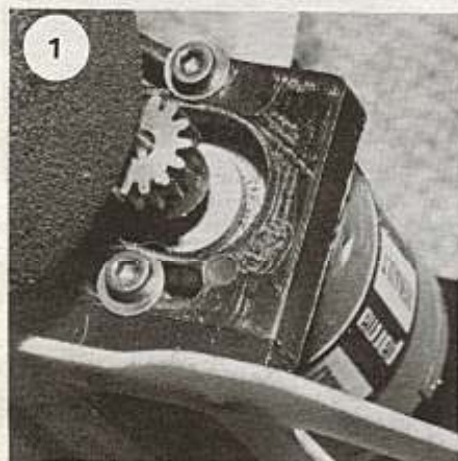


STARTING POINT

Model Cars Editor Bill Burkinshaw describes a budget approach to 1/12 scale racing and reviews the Robbe Proso car kit.



STARTING into 1/12th electric circuit racing can be an expensive business. A quick check through the advertisements in this magazine can easily lead you to the conclusion that there won't be any change from £200 if you just want to try the hobby.

This need not necessarily be so, for we have just put together a car ready to run for a lot less than that figure, to be precise, £132.00. Specification for the car includes differential, 6 cell battery pack, electronic speed controller, two function dry battery R/C. The full shopping list is as follows:

	£ p
Robbe 'Proso Expert'	39.95
Acoms 2 function R/C	36.00
Laser Turbo electronic controller	45.00
6 cell Ni-Cad pack	8.95
Tamiya paint	0.60
Chocolate block connectors	0.50
Evo-Stik	0.50
Servo tape	0.50
Total	£133.00

If the resistor control version 'Proso3462' is chosen the price drops to £92.02.

It's quite possible that for the above combination (or similar) your local Model Shop would be prepared to offer a reasonable discount on the total, making the proposition even more attractive. No-one is trying to kid anyone that the resulting combination is a world beater, but properly put together, it should result in a driveable club racer that will provide hours of enjoyment.

Putting it all together

The 'Proso', although marketed under the Robbe label, is in fact an SG product. SG

of Italy are no fools, they know what makes an R/C car go, and plenty of racing know-how has gone into the 'Proso'. Chassis is a strong but flexible epoxy/glass item with all underside holes countersunk for hexagonal socket countersunk head screws which hold the axle beam, motor pod, bumpers, etc. in place.

A differential of the ball type is supplied, this is adjustable for slip, mesh of the gears (2 ratios supplied) is adjustable. The pod is braced by an aluminium spacer and also by the mini shaker plate. A very clever moulded plastic 'imitation Velcro' holder retains the battery, this does need some glue as well as the single bolt supplied to keep it from rotating. The mating portion can be glued to the battery pack, or bolted to a thin piece of plastic sheet which is then taped to the pack.

Front shaker plate mounting post incorporates a neat cam system to allow the chassis to be 'tweaked' for equal twist either side of the middle. Once the rolling chassis is put together, R/C equipment layout can be planned. Steering servo brackets and mounting holes are intended for Futaba micro servos, but by re-drilling the mounting bracket holes in the chassis, other types are easily fixed. A servo saver is included and it works well. The layout shown in the photographs necessitated a small amount of work with a file and sharp knife to pare off small portions of the front shaker plate support, and the front axle beam. Neither actions have in any way harmed the strength of the car. Servo brackets are threaded, and all necessary

screws are provided. The electronic controller is fitted to the shaker plate with servo tape, the receiver likewise attached. It is a good idea to shorten servo leads; some heat shrink tubing will be necessary, and a soldering iron. Proceed as follows:

Check carefully the length of lead required and cut off the appropriate amount from the servo lead, remember to allow enough for re-soldering.

Bare the ends of all six pieces of wire for 3mm and twist the conductors up tight. Tin all bared ends using good quality resin cored electrical solder. Slide one length of heatshrink tube over all three wires, followed by a separate length onto each individual wire. Lay the bared, tinned ends alongside one another and sweat together with the soldering iron. Do make sure red to red, etc. Slide the three individual pieces of heat shrink over the joints, shrink, then shrink the single piece over the whole lot.

Setting-Up

The 'Proso' differential is supplied ready assembled, but does benefit from a small amount of attention. In particular the large plastic gear must be a very loose running fit on the fixed drive disc which is pressed on to the axle. A little piece of fine emery cloth on a suitable dowel can be rotated in the hole to free things up. Do take note of the order of assembly of the various washers, etc., incorrectly assembled the diff. will not work.

Gear mesh is important too, there is provision for adjusting this and by jiggling the motor around whilst everything is running

the smoothest mesh can be obtained. Whilst on this area of the car, make certain that the ball-races are pressed into their housings properly; try dropping the axle through each bearing in turn checking that it lines up exactly with that opposite. The axle should run very freely, and the differential action should be smooth.

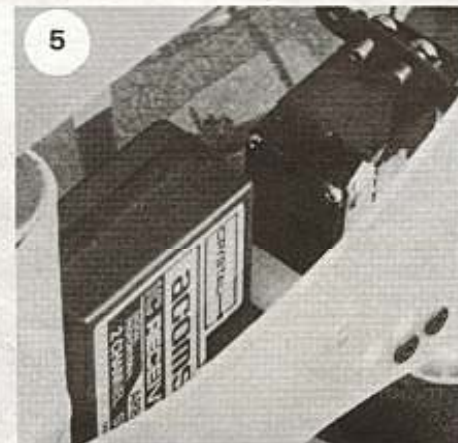
Set up the steering so that with slight rearward pressure on the front wheels, there is still a small amount of toe-in, i.e. the wheels point inwards slightly. The snap on ball links supplied in the kit are a very



1. Adjustable motor mount, two gear ratios supplied in kit. 2. Single spring loaded servo saver, fits Futaba servos or Powermax Skyranger type shown here. 3. Neat moulded plastic battery retainer lock with cyanocrylate to prevent rotation. 4. Cam and slot tweak adjustment system, very positive in operation. 5. Acoms receiver fits neatly under the shaker plate in front of the battery pack.

firm fit on the pre-formed wire track rods, be careful not to distort them when screwing them onto the rods.

Once the mechanical assembly and adjustments are made, check that the chassis is not 'tweaked'. If there is any bias to the chassis, the car will turn better to one side than to the other. Stand the car with all four wheels on a smooth level surface and lift up one of the front wheels. Stand a ruler alongside and measure the height of the wheel spindle from the surface with the opposite wheel just touching the surface.



Note the measurement and repeat with the other side. Measurements should be the same. If they are not, use the cam adjuster on the shaker plate to set the chassis up, then lock with the locking screw provided.

Providing the car doesn't receive a hefty bang, this adjustment should stay more or less correct.

Body Fitting

A polycarbonate (Lexan) bodyshell is supplied in the kit, this will need trimming, and painting. Cut out the wheel arches and trim the lower edges to the lines on the moulding, then position the shell over the chassis. Check that the wheels turn in the arches without catching, then with a Chinagraph pencil mark the positions for body mounting holes. Drill these, check the fit, then wash the *inside* of the shell with detergent. Masking can be done with a variety of tapes, Frisk or similar is best and can be obtained from an artist's supplier.

Only use paint that is recommended for use on polycarbonates (Lexan). Other paints may destroy the shell.

On the track

Once the shell is painted and the speed controller adjusted in accordance with the instructions, you are ready to try out the car on the track (or smooth road outside your house!)

A car of this weight with a BRCA standard class motor is going to be quite fast, and the tyres supplied in the kit provide

