

MINI STOX

John Cundell builds and drives the latest

Mardave 'Mini-Stox'

Why a Mini? Why not? My local club has been racing 1/12th stocks for a number of years — four cell, standard motors, on carpet — and as soon as the 'Mini Stock' appeared from Mardave a year or so back, one or two began to encroach into the races. Initially they were at a disadvantage against their bigger brothers, but as soon as the tyres were sorted out to suit the surface, they started winning. There is nothing like success, and the breeding season for 'Mini Stocks' arrived last Christmas. Talk about rabbits! We now have more 'Minis' than 'Standards'. Yours truly could not be left out, so a telephone call to Ted Longshaw Models brought his usual rapid service, and three more 'Minis' were under assembly — only one by me — the others were for fellow club members.

It's all there!

One thing you can say about Mardave kits — they are almost 100% complete with no hidden extras required. All you need are the usual small tools, a couple of drills, soldering iron, a set of 2 channel radio gear, and some paint for the body shell. The kit costs the miserly sum of £39.00 and that includes a four cell 1.2 volt 1.2 ampere/hour Ni-Cad pack, charging leads for a 12 volt battery, motor, and mechanical speed controller. A few other manufacturers could learn a thing or two from Mardave concerning value for money.

Obviously some corners have to be cut to maintain such an aggressive price, so the boxing is plain, just a substantial white card faced box with the smaller components in plastic bags. Incidentally the box is exactly the right size for storing the completed car in — useful for transportation. The instructions are in the form of four A4 sheets, plus a photo sheet and a spares list. The pity is that only one sheet refers to the 'Mini Stock', as the other pages, including the photo sheet, are the instructions for the 'Mk II' Racing Car from Mardave. Now

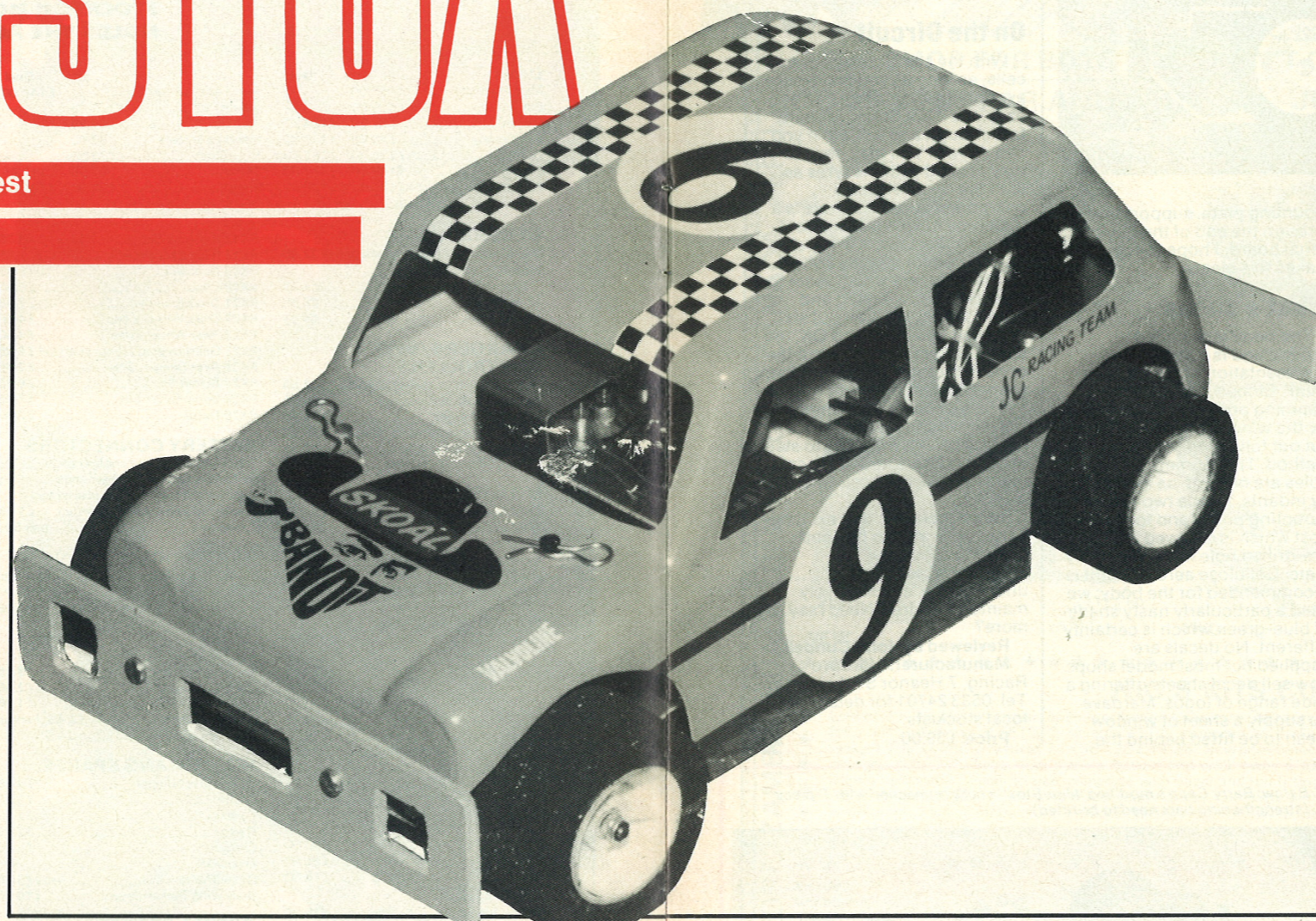
agreed that all the major components of the two cars are similar, and that the differences are specified in the sheet appertaining to the 'Mini Stock', but would it have taken that much time and effort to produce a set of instructions specifically for the 'Mini'. This is the one criticism which prohibits one recommending the kit unhesitatingly to even the rawest newcomer. A loner could have a few problems in following what is expected.

However, having said that, most 'Minis' are going to be built to race and as such will be put together in a club environment where the little help required by the novice will be available. No-one to my knowledge in my club found any major problems in assembling their 'Mini Stocks', and members from the age of 12 to 50 have put one together.

Getting it together

The basic chassis is a piece of GRP plate with two formed alloy plates at front and rear to which are attached the nylon bumpers. The latter need to be drilled to suit the already drilled alloy plates and fixed with the screws and the nyloc nuts provided. Two small pieces of rubber tubing should be slid over the screws between the bumpers and the alloy plates to give some flexibility and shock absorbing characteristic to the bumpers. To save a little weight, holes can be cut in the front bumper as shown in our pics.

The most important assembly item is to make a good job of the rear gearbox and motor assembly. Follow the instructions and then make sure everything runs freely. I, and many of my fellow club mates, found that initially the steel axle is a trifle tight in the plastic bearings, and a very careful rub over of the axle with some very fine wet and dry paper can help. But don't do this until you have adjusted the nylon block fixing screws to make sure that the blocks are as square as possible to the chassis. Also at this stage, screw the top alloy plate which will ultimately take the receiver onto the locks, as



attaching this can disturb the drive set-up. And don't overtighten the screws as this can distort the components. The same advice applies when the motor is assembled. Set it up so that you can just detect the tiniest amount of free play between the gears. A favourite method which I use, learnt from my model boating fast electric activities is to connect just one cell, a dry pen cell will do, across the motor and then adjust the gear mesh until you obtain the best running conditions.

Glued and trued

The wheels will need the tyres fitting and gluing with 'EvoStik' or some equivalent, and truing to the best of your ability. Be careful not to overdo the latter because there is not a lot of rubber on these small wheels and it is all too easy to end up with the wheel diameter at the point where the chassis rubs on the ground. Impossible? Don't you believe it — I'm the expert

in such happenings. One nice touch is that both rear wheels are moulded complete with the gear, so you have a spare should one become damaged.

Attention can now be turned to the front end. This is fairly straightforward and the only area where some may experience difficulties is in pressing home the front stub axles into the nylon steering arms. This is awkward to achieve with pliers and really calls for the use of a small vice or clamp. Youngsters should seek the advice of an older person. I do feel Mardave should perform this task during manufacture, even if it adds a few pence to the price of the kit. Once this hurdle is over the rest of the assembly is straightforward. If you can locate a small off-cut of piano wire, you might like to carry out a slight modification to the steering ties and include an adjuster fabricated by cutting off part of the metal internals found in electrical 'chocolate' block fittings. This can be seen

in one of our photographs and provides a way of adjusting toe-in.

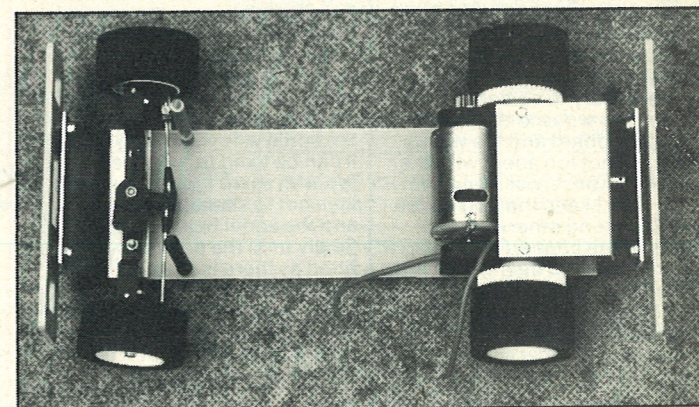
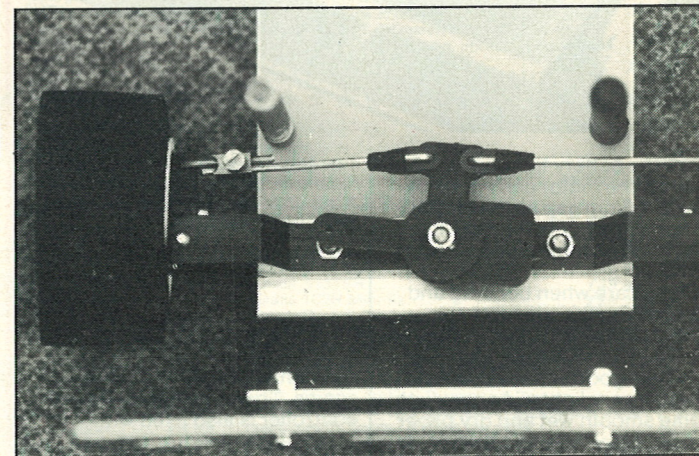
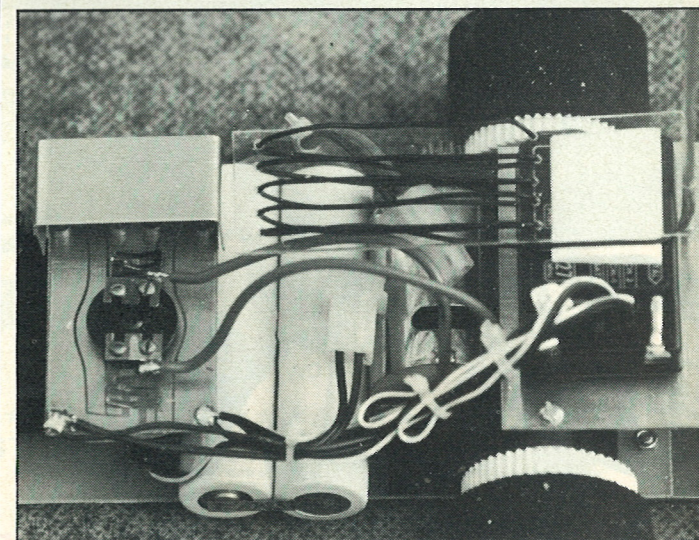
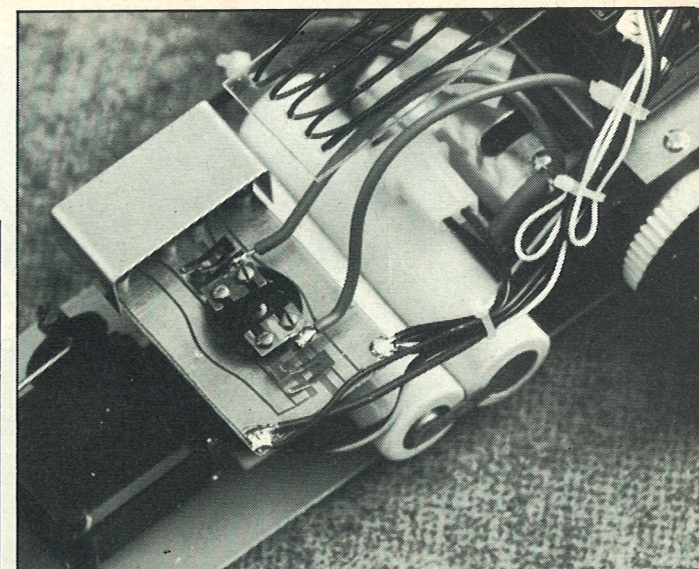
Next I fitted the two front nylon body support posts. The holes in the chassis are pre-drilled and self tappers screw up into the bottom of the posts. A simple task, I hear you say, so why report it. Well, here was my only faulty component in what was otherwise a fault-free kit. One of the body posts had not been moulded properly and was minus its top — the bit where the body pin goes through. OK, a phone call to Mardave would no doubt have found one winging its way to me courtesy of the Post Office, but like all modellers I wanted to get my car finished — and it was a Sunday — and I only had that day of that particular week to work on the model. Frustrating. I was fortunate in having a piece of plastic rod big enough to be turned down on my small lathe. But I am well aware that many builders of this car are not very likely to have such facilities. A little better quality control

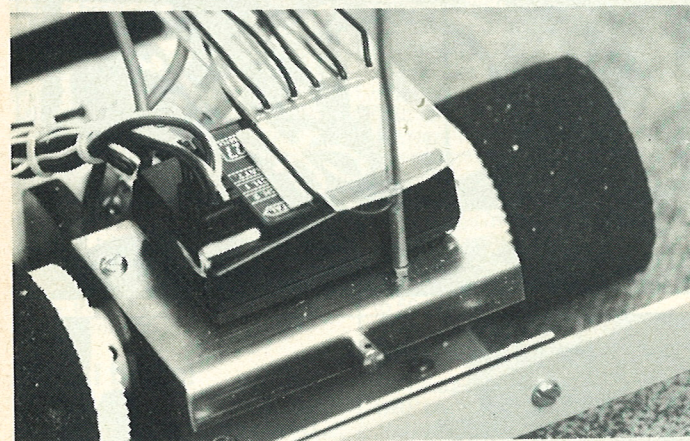
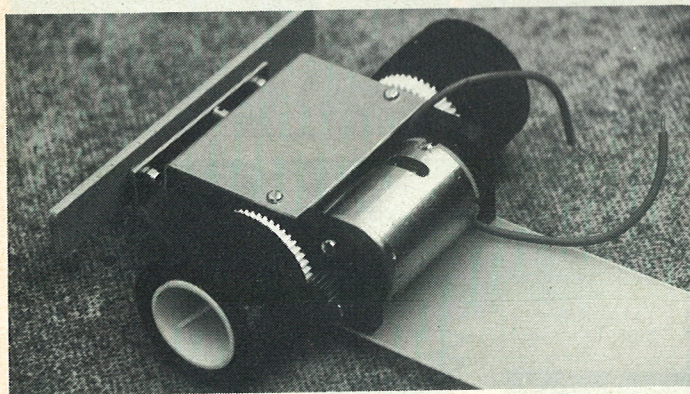
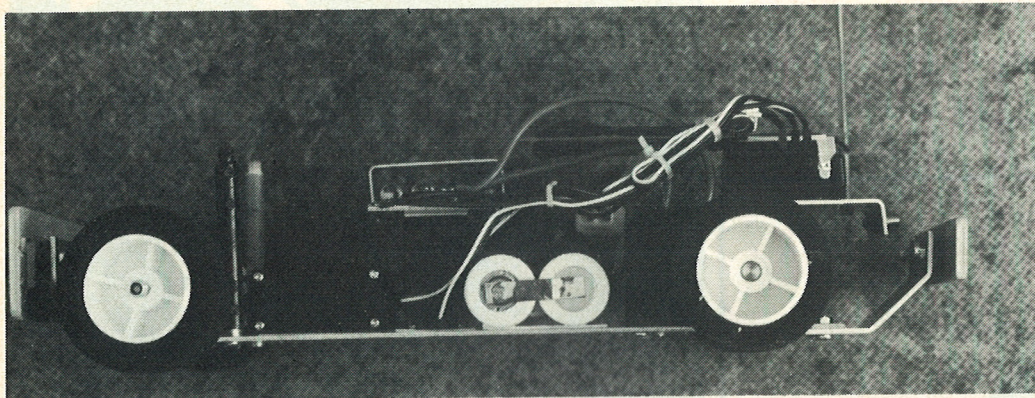
during packing should have picked up this error. (At least this proves to my club mates that I didn't go through the three kits I purchased to select the best motor and components!).

Electrics!

before doing anything else, take the remaining equipment to be fitted, that is the steering servo, speed controller and its servo, and the battery pack, and offer them up to the chassis and mark their positions. This is a small car, only 7in. wheelbase front to back, and it can be a tight squeeze. Take a look at the pics to see for yourself. Don't

Top right, downward: the speed controller works very well and looks robust. Receiver sits on rear plate. Modification allows toe-in to be adjusted. Overall view of rolling chassis, simple and purposeful.





push the battery tight up against the motor casing; leave about 1.5mm gap as the chassis flexes slightly. Fix the cells in place with double sided servo tape.

Take care when bending and assembling the wipers to the speed controller board — they look a little fragile but work well and give good service. Give the board a very light wipe over with some smooth wet and dry paper before assembly, and then try to avoid touching the board as your fingers will leave behind a deposit which is ace at reducing conductivity and promoting oxidation of the copper tracks. It is necessary to solder the connecting wires to the speed controller board and the wipers. If you are not too adept with the soldering iron, enlist some help there. Don't keep the iron on the board too long otherwise you might lift the copper. If it doesn't take first time then it is dirty. Clean with wet and dry paper and try again with some fresh solder and flux. The instructions concerning the speed controller are reasonably

Top: side view showing slightly cramp radio area. Middle: standard kit motor fitted. Bottom: modification allows better radio reception.

clear and it will fit all modern servos. The servo complete with controller is also fixed with servo tape.

The receiver is mounted on the alloy plate over the rear axle blocks, again using double sided servo tape. A clear Lexan sheet is supplied to carry the aerial. This will need a number of holes drilled in it to accept the aerial wire, following which it can be fixed to the receiver top with servo tape. It is a good idea not to stick the receiver and the aerial board down finally until the body has been fitted as there is not a lot of room to play with in this area. In final assembly, I fitted a whip aerial, the plastic tube type, mounted on a small bolt fitted up through the receiver

mounting plate, supported also through the end of the Lexan aerial board. I hope the pic makes this clear.

What's on top

The body is moulded in styrene and is a good representation of the *Leyland 'Mini'*. Etched lines give the trimming positions and holes for the windows which need to be cut out following your preferred method. Three 5mm diameter holes are needed, as indicated by indents, for the two forward mounting posts, and for the rear post which is screwed into the pre-drilled hole in the rear alloy plate. Cellulose aerosol paint is recommended for the body; we used a particularly nasty shade of blue-green which is certainly different. No decals are supplied but most model shops now sell decal sheets offering a wide range of logos. *Mardave* do supply a sheet of window mesh to be fitted behind the

windows, as in full size stock cars. Most of our members have not fitted this because with the rough and tumble of stock car racing it didn't stay there very long! It also adds weight and doesn't really do an awful lot for the appearance.

On the Circuit

With the standard motor and cells, as long as you make sure everything is running, free and easy, the 'Mini Stock' is plenty fast enough and will win if you can drive it. You may need to play around with the tyres as with the relatively hard compound supplied, there is a tendency to spin out on the corners. Most users in my club have opted for slightly softer and larger rears which seem to give excellent tracking and roadholding. You can put six cells in if you wish; and OK, the speed is tremendous — but the control factor is rather less than tremendous. You might well be the fastest down the straight, but winning races with stock cars involves being able to steer around corners and other cars. I have yet to see a 6 cell version beat a 4.

Mini Stocks are fun, exciting, very good value to buy and cheap to run, fast, manoeuvrable, virtually unbreakable, and relatively maintenance free. Need I say any more?

Reviewed by John Cundell.

Manufacturer: Mardave Racing, 7 Heanor St., Leicester. Tel. 0533 24701 for details of local stockists.

Price: £39.00.



Below: Barry Capp's modified 'Mini-Stox' a la Schumacher' with T-piece (strengthening bars need to be fitted).

