The Fab 2000

Absolutely Fabulous!

Mike Barton of Fabiix, well known for his range of Yuasa cells, Genesis motors and latterly Pro Slope chargers, has for some few years now had his own ideas about 2wd car design. Mike felt that Off Road tyre design and compounds had improved by leaps and bounds, and that pure traction, the reasoning for the placement of the motor behind the rear axle line, was no longer absolutely necessary. Hence the development of the chassis design seen here, which, it would seem, has vindicated all of Mike's ideas, because the lucky drivers who have driven one so far have all been extremely pleased indoors on carpet or multi-surface tracks, and even tarmac On Road!

The Search For That Elusive 'Perfect Balance'...

Rear 'engined' cars, the full size Porsche for instance, usually develop very good traction, especially when accelerating in a straight line. The only real drawback to this configuration though, as any hardened Porsche driver will tell you (!), is that lifting off the power in mid-corner will more than likely result in the rear end of the car suddenly losing grip, then swinging out wide in an oversteering manner. This occurs because of the sudden weight transfer away from the rear wheels, therefore they break traction and then the rearward weight bias takes over. This could be seen as a 'pendulum' effect, with the car 'fishtailing' or even spinning out!

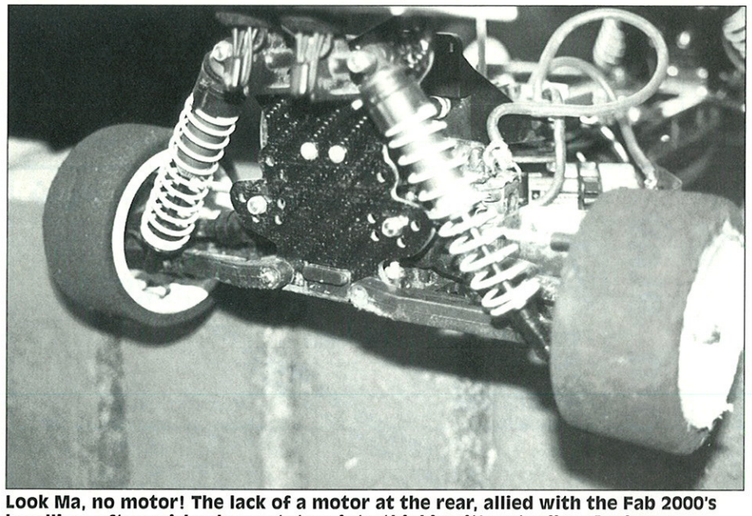
In 2wd Off Road model car racing terms, where the cars have to have a certain degree of 'in-built' stability, designers have always gone for the rear mounted motor approach, but as every 2wd racer will know, over jumps the nose of the car will often tend to reach for the sky, sometimes to such an extent that it can sometimes land on the skid plate fitted to protect the motor!

Mike's thoughts centred on designing a really well balanced car to take advantage of today's modern grippy tyre compounds for Off Road use, but that would also handle extremely well

Got It!

The result of Mike's trials and tribulations during its development is the car seen here, now known as the 'Fab 2000'. Available as a conversion kit for existing owners of Schumacher Cougar 2000s, it is now fully sorted, and has already raised a few eyebrows where ever the first cars to hit the scene have been raced, both On and Off Road.

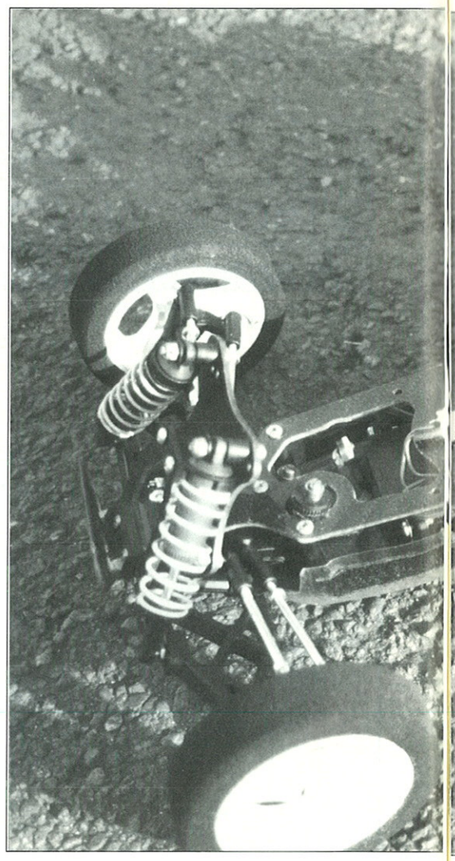
Very well balanced, the most often quoted remark from those who have seen the car is "2wd? You could have fooled me, I thought it was a 4wd car"! Why is this? Well, when driving the Fab 2000 for the first time, the very first thing you notice is that there is very little scrubbing off of speed through the corners, because the back end stays very much aligned with the front. In other words, it develops tremendous overall grip, but the great thing about it is that when it does let go, it does so equally at both ends. This makes the car really easy to drive quickly, because it handles in such a 'neutral' manner!



Look Ma, no motor! The lack of a motor at the rear, allied with the Fab 2000's handling, often misleads spectators into thinking it's actually a 4wd car!

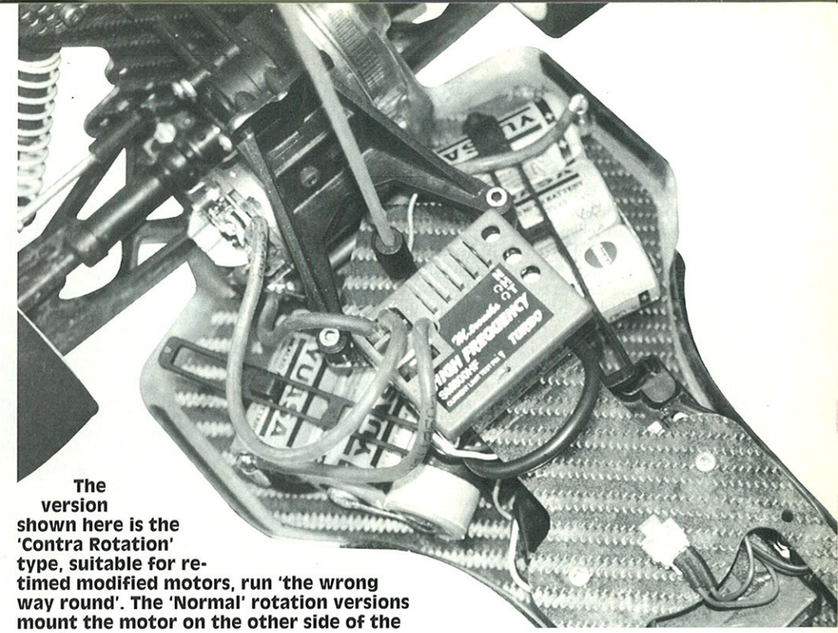
Conversion Kit?

The conversion kit of parts is quite comprehensive. Martin Hansell of Fibre-Lyte manufactures the 3mm thick CSC (carbon-silica-carbon) chassis plate, top deck, rear shock tower and assorted front and rear braces, spacers etc. Further to these parts, the kit contains the (all Cat 2000) rear wishbones and pivot pins, cell retaining straps and rear turnbuckles, plus various screws, nuts, bolts and washers to complete the conversion of a donor Cougar. A very comprehensive instruction pamphlet is supplied, which should be read through first to fully understand how the car goes together. Everything is the wrong way round, remember?



Normal Or Contra Rotation?

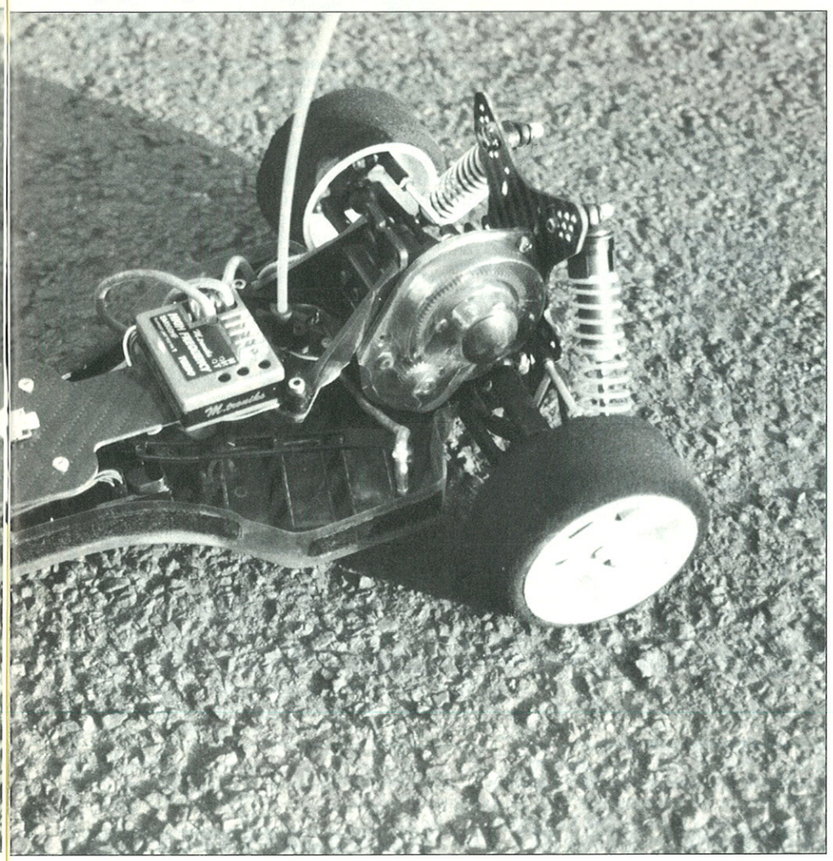
This might sound a little peculiar, but in fact refers to the direction of rotation of the motor! When used with standard 'stock' motors which obviously can't be re-timed to run in the opposite direction to normal, a small mod has to be made to the gearbox on the 'Normal' version, namely 10 or 15 minutes being spent taking the gearbox apart, then a hole has to be drilled in the one casing to allow the layshaft to enter the gearbox from the opposite side to normal. Spacers are supplied to fill the space between the casing and the motor plate, then a small circle of servo tape is applied over the original hole to seal the case up again. Simple!



The version shown here is the 'Contra Rotation' type, suitable for re-timed modified motors, run 'the wrong way round'. The 'Normal' rotation versions mount the motor on the other side of the gearbox.

If the purchaser only races using Modified motors, which can be re-timed to run in the opposite direction from that supplied (this makes no difference whatsoever), then the 'Contra Rotation' version is the type to go for. No mods are then required, as the gearbox, once installed 'back to front' remains perfectly standard!

We at RRC have successfully tested and raced the Fab 2000 at everal meetings on damp tarmac, but before hearing what we have to say, let's hear what the first few drivers to try the car Off Road have to say...



Eugene Galley

The car was quite easy to build once I had read the instructions through first, and I also found there were a lot of parts left over from my original Cougar. After building the car, a small change has to be made to the shocks as transferred from the donor Cougar: Slightly soften the rear end of the car and stiffen the front. Putting in the radio gear is relatively tricky, because if like me you have a KO PS-87 Fet servo and a JR receiver, there isn't much space under the top deck. Running the motor backwards was weird to start with, but they go just as well the wrong way round when the timing is wound to the same position on the other side of the neutral point. The body doesn't cover all of the car as before, but it does protect all of the necessary parts even in very wet conditions.

Driving The Car

The first run for my car was at Worksop's Indoor Series. The first thing I noticed was how much more steering there was throughout the corners, and after a slight adjustment of the set up and a little re-timing of the motor, the car went very well, finishing 6th in the A Final.

At the next Round I finished 3rd, so at the next one?

I've also been to Ashby, to try racing On Road. This was my first ever race meeting on a tarmac track, and the only changes I had to make were to put on blue springs all round, lower the car and gear up considerably. Even though I broke a pin on the steering it went very well, and the car was only 4 seconds slower than the 4wd competition. The only problem I've had so far was at the Batley Team event, when on a slippery, polished floor the back end of the car was a bit unpredictable, although I still made the A Final. It remains to be seen what the car will go like outdoors, and that will be the real test.

Mark Wray

Although I enjoyed driving my previous car at Radio Race Car meetings and came 4th in

Standard Class overall, I felt at a disadvantage against the Losi car because the Losi was better on bumpy tracks.

When Mike Barton told me about the Fab 2000, I had to try it out. Building it was pretty straightforward. Just follow the instructions to the letter and you can't go wrong. When I had finished it I went straight to Donisthorpe to try it out. It drove like a dream, taking the bends just like a 4 wheel drive does, being well balanced and easy to drive. It also had very good acceleration, and it kept all the speed of a standard 2 wheel drive car. The rear end grip, well, there was so much of it!

The Fab 2000 has now got everything that I felt I needed, so I'm sure this year will be much better. Watch out Losi drivers!

Ian Ward

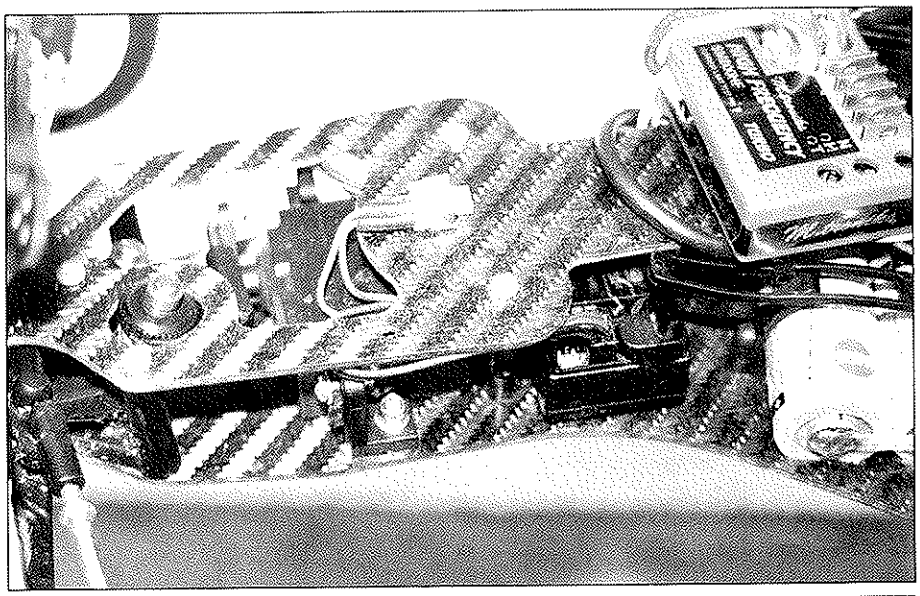
My first impression was of the high quality of the chassis and shock mount parts, and only the nicad slots needed filing as usual before assembly began.

The instruction sheets are good, but read everything in them and don't just skim over them. The car falls together quite simply, and I was very surprised by the small number of original parts that needed modifying and the relative simplicity of the rear of the Fab 2000.

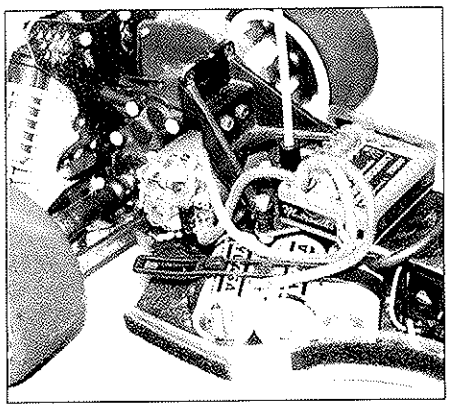
It took me just over an hour to convert a Cougar into a Fab 2000. No major problems occurred, with only slight filing of the rear shock bracket (as mentioned in the instructions) required, and only minor trimming of the original bodyshell was needed to make it fit. The result was a very different car, which is now only just over the weight limit at 3lb 7oz in standard form.

The first run for the car was on a very slippery polished floor and gym mats. The car had more turn in, and put the power down much better than I thought it would. In the end I was only 2 laps down on the 4wd cars, with the laps being only 9 seconds long.

I noticed the real difference on the Mildenhall Off-Road track at a Round of the Frozen Finger Series. The car was much more stable than other 2wd cars, especially over the bumps and jumps, yet it still turned in to corners very well. When the track was damp the car didn't lose its rear end grip, unlike other cars, so as a result I finished only a couple of seconds behind 1st placed Adrian Delph (F2 Champ) in the A Final. Not bad the first time out Off Road!



The top deck is braced mid-way along the chassis by one of the original Schumacher moulded 'gates', situated between the receiver and the steering servo. Space for radio gear is slightly limited, but it all goes in eventually!



The cells are positioned in such a way that the original Cougar 2000 undertray and bodyshell (slight trimming is needed at the rear) can be used. The front two cells are very close together, the intention being to maintain a low polar moment of inertia, whilst the heavy items on the car (the motor and cells) are closely grouped for beautifully balanced weight distribution.

RRC's Opinion...

Being handed a charged up car at Ashby's Winter Series to go out and try it in a race on a damp track, never having driven it before, is something else!

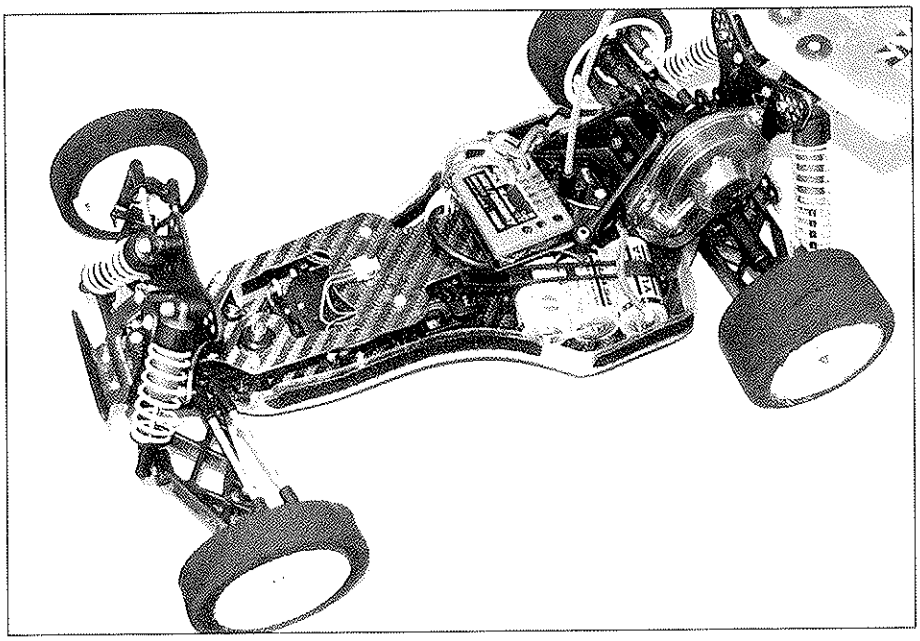
No worries – the Fab 2000 is so forgiving that it literally only took about 3 laps to get the hang of it! This first venture was blighted by missing a minute of the race (it was also the last Round!), so the next outing was the real trial. On a damp and slimy circuit, the Fab qualified 2nd to a very well driven 4wd Cat 2000, lapping within .5 of a second of the 4wd car. Most impressive!

The following meeting saw the Fab further dialled in with Grey springs on the rear and lowered all round, and the way it turned in to tight corners and flicked through the chicanes gave virtually everybody present the idea it was actually a 4wd car. Imagine the setting – A damp track (the Fab 2000 was running on UltraSlix damps) and some very good 4wd drivers running 4wd buggies and Touring Cars, versus the 2wd Fab 2000 running a mild 16x3 motor. Guess what, it qualified 6th overall, less than 8 seconds adrift of the overall FTD, and 2nd in the Buggy Class, also taking 2nd in the Final.

It remains to be seen how the Fab 2000 performs Off Road in our hands, but judging by the pleased reactions to its performance from Off Roaders who know what they're talking about, it's obviously well worth considering as a serious contender...

The Fabiix 'Fab 2000' conversion kit is available from Mike Barton at Fabiix, PO Box 26, Blackwood, Gwent, NP2 0YG. Tel (01495) 228831

See the Fabiix advert in this issue.



As the Fab 2000 is based around the well proven Schumacher Cougar transmission and running gear, there need be no fear of not being able to source spare parts at race meetings. It all looks as if it was designed to be like this right from the start, and is really professional in its appearance. The latest Schumacher 'SACS MK2" front end works very well on the Fab 2000, and gives superb steering into and throughout a corner.