

## COUGAR UPDATE.

### Team TQ Looks Back Over 4 Months Of Racing The Schumacher 2WD And Details The Tips Used To Race Prove The Car.

When Cecil Schumacher released his 2WD Top Cat onto the racing world it was met by many with perhaps a sideways glance since the "different" approach to the front suspension took some believing. On rough tracks the front wheels appeared to be flailing around as if on elastic, with obvious loss of steering on tight turns. All this has been reversed however with both the introduction of the revised kit as the Cougar plus a fully comprehensive kit to convert from the flat shock assembly to upright mode. Within the four months that the new Cougar has been released on the UK market its popularity has grown as the value for money clubmans car of the year.

Its record in the hands of aces has also been impressive, but unfortunately sponsorship agreements and the politics of model car racing have meant exposure at the top has not been what it should.

We at TQ have been running ours for four months now and during that



time we have modified and altered the original car in many subtle ways. During that time the cars performance has been faultless and it has handled all the abuse we have been able to throw at it. Breakages have been zero which surprised us since on first examining the front end the lack of bumper concerned us but, in the interest of fair testing it was decided to run it as supplied.

Crashes into track markers have spun and somersaulted the car on many occasions but at all times the front wishbones have survived, much to the credit of the design.

The instruction book format & layout is excellent and the only area where problems occurred during build were with Centre Trackrod part No T335. This arm has cranked ends. These need to be angled away from the front of the



car otherwise the track rod ball joints foul the front shock tower.

Before starting to build the kit the plastic parts need annealing or stress relieving. The plastic during manufacture is heated to approximately 200 deg C, shot into a freezing steel mould and then dumped on the floor in approximately 20 seconds from start to finish. Therefore these moulded parts are highly stressed.

**The shock absorbers are possibly the most important parts of the car and therefore the greatest care and attention with their assembly must be made.**

The safest method to stress relieve is to boil 2 pints (1 litre) of water in a saucepan on the cooker. (Check with mum/wife first or all hell could break loose!). When the water reaches boiling point drop all the plastic parts in and immediately turn the cooker off (Check you don't switch the dinner off too!). It is not necessary to actually boil the parts, just leave to cool down to room temperature slowly. This is the important part and can take up to 2 hours. When cool, dry and start to assemble as per instructions.

Starting at the rear of the car the belt drive needs adjusting properly making sure the ears on the cam adjusters are in line with each other. This may seem an obvious point but it is surprising how many cars are not adjusted evenly. Once the gearbox is adjusted to your satisfaction tape the bottom of the gearbox with insulating tape to stop dirt entering. The tough motor guard also stops heat escaping from the motor, but rather than cut or leave off completely we chose to drill two large holes in ours. This allows air to circulate but still protects the motor from rear end shunts.

The new pattern rear wheels have additional bracing in them but on rough tracks this is insufficient to stop the rims rubbing on the hub carriers. There are three ways around this problem.

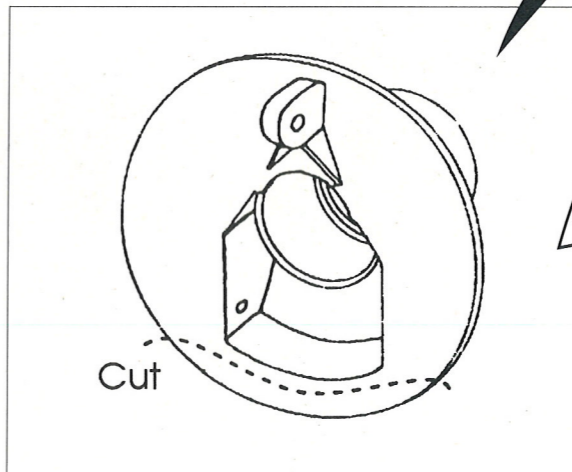
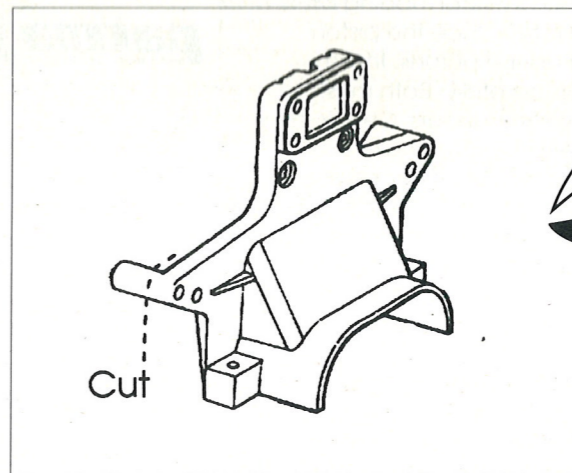
1. Trim the hub carrier down to a triangle which has the additional bonus of reducing unsprung weight.
2. Just trim the bottom of the hub carrier as shown in illustration No 2.
3. For those that want to leave the hub

carriers as original Amark's 2.2" rims increase the clearance all round but be careful that the larger size rims do not alter the outside tyre shape and reduce grip.

The gearbox primary drive gear is moulded in black nylon at 48 pitch. As all TQ team cars use 64 pitch we changed to a Tufnol spur using an RW Racing adapter which has the additional advantage of much quieter running. The well designed gear cover is held in place with two self tapping screws. Only the rearmost is necessary as the ball joint holds the front in place.

After running our car for three meetings including a national, the wing mount proved troublesome. This was caused by the weight of the transponder hanging on one side. After the first heat we had to drill and bolt it in place to enable us to complete the meeting. The design also left no room for adjustment but a change to a Parma wing mount kit gave us the sort of rigidity together with adjustment on wing "Bite".

On a very well designed kit this was the only problem. Allowing for Schumachers' creative flair in other areas







we are surprised it has remained without a redesign.

To enable us to fit the Parma kit the shock tower was also discarded, instead a Pro-Cat rear brace was fitted upside down. The two inner holes were ideal for fitting the wing kit.

Looking at the works cars and Kevin Moores in particular we noticed the fibreglass brace across the rear bulkhead to stop the top balljoints flexing on hard cornering. A simpler way to achieve this is to cut down the length of the return (see illustration) by 6mm. This has the same result with the additional bonus of saving weight.

Whilst working on the bulkhead if the rear aerial position is to be used it is a good idea to drill a 3mm hole in the centre just below the aerial groove. This saves routing the wire past the gear cover with the risk of breakage.

Now the car is almost complete & the only things not assembled are the shock absorbers. These are possibly the most important parts of the car and therefore the greatest care and attention with their assembly must be made. Any compromise here will have dire results out on the track.

When assembling the "O" rings make sure that all components are oiled during assembly. The only other time they will be oiled is when they start leaking due to dry steel rubbing on dry rubber then its too late! Once the piston rods are in place offer up the pistons, these parts need cleaning up carefully. Both must have exactly the same size cut-outs. Check the freeness over the full length of the stroke in case they bind on full extension. If necessary clean the edge with fine wet or dry paper used wet. The edge finish is important. Once the shock absorbers are running smoothly fill with oil. We find 10W is a good all-rounder on most tracks occasionally changing to 15W on the rear on fast circuits.

For the last 5 meetings we have run with the large shock tower on the front. It looks good and has great "POSE" value, but other than a greater oil reservoir and less chance of becoming springbound we are not convinced...time will tell.

So there you have it, TQ's Cougar race hardened 4 months on. With the summer season well underway we can now test the waterproofing. We look forward to further mods from the Schumacher camp to further refine this promising car.

# COUGAR





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