

COUGAR

Pete Winton takes
Schumacher's latest
Cat to task

II

In action at a recent 2WD meeting on
very wet grass and mud! Guess who had
to clean Cougar II!



New is not the same as better, but very nearly every customer thinks that it is. The Japanese cleverly introduce many new Off-Road cars year in and year out, but rarely are the new one's better than their predecessors - they sell in millions. The Americans and the British produce Off-Road cars for the racers which are

rarely changed, yet win more events - they sell in mere thousands. As this is the new Cougar2 two-wheel drive car from British manufacturer Schumacher, we can look forward to few changes, but worthwhile one's. We are not disappointed.

The Cougar2 has been revised to include new front suspension, wheels and tyres, differential, and dampers. Other revisions to the suspension geometry, bodyshell, and wing mounting

are also included. The front suspension features new wishbones and longer dampers. the

wishbones are swept back allowing greater control of the inside wheel during cornering and more movement in the damper give a smoother action. 2.2 inch diameter wheels are now included fitted with new tyres giving a lower profile and offering more support to keep the tyre firmly on the track. The previous Cat and Cougar wheels will fit the Cougar2, and over the next few months all the established tyre patterns will be repeated in the new diameter. At present only three tyre types are available, but more will be ready by the start of the 1992 season.

Gearbox Changes

Visually the gearbox is indistinguishable from the old type, but it houses an improved differential design which prevents dirt getting in to the bearings and thrust races. A new slipper clutch is also available, a vast improvement on the old design being lighter, smoother, and undisturbed by a change of spur gear. A revised design of bulkhead and damper mounting holds the gearbox in place. The bulkhead mounts the top suspension link, with a choice of positions and the damper mounting plate is adjustable for height and damper position. The whole rear end of the car has many more choices for improved suspension tuning.

New dampers made from anodised aluminium and

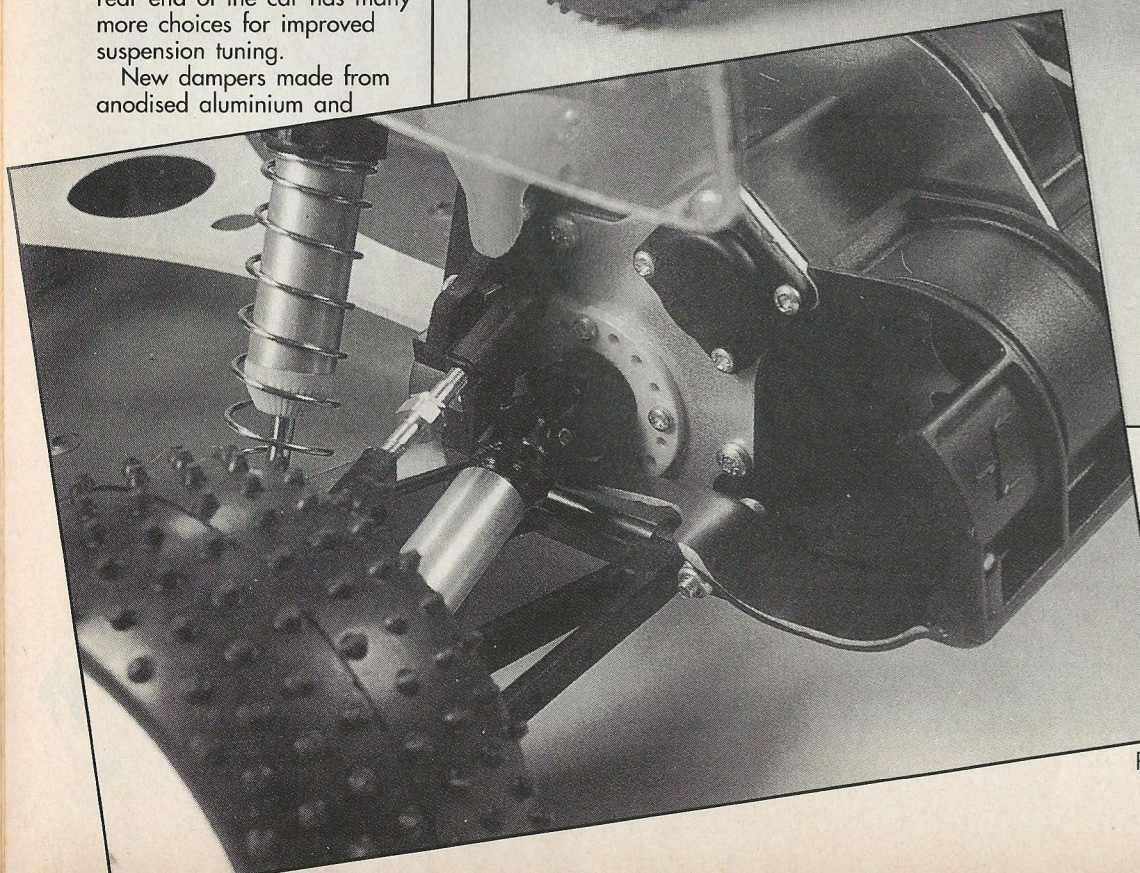
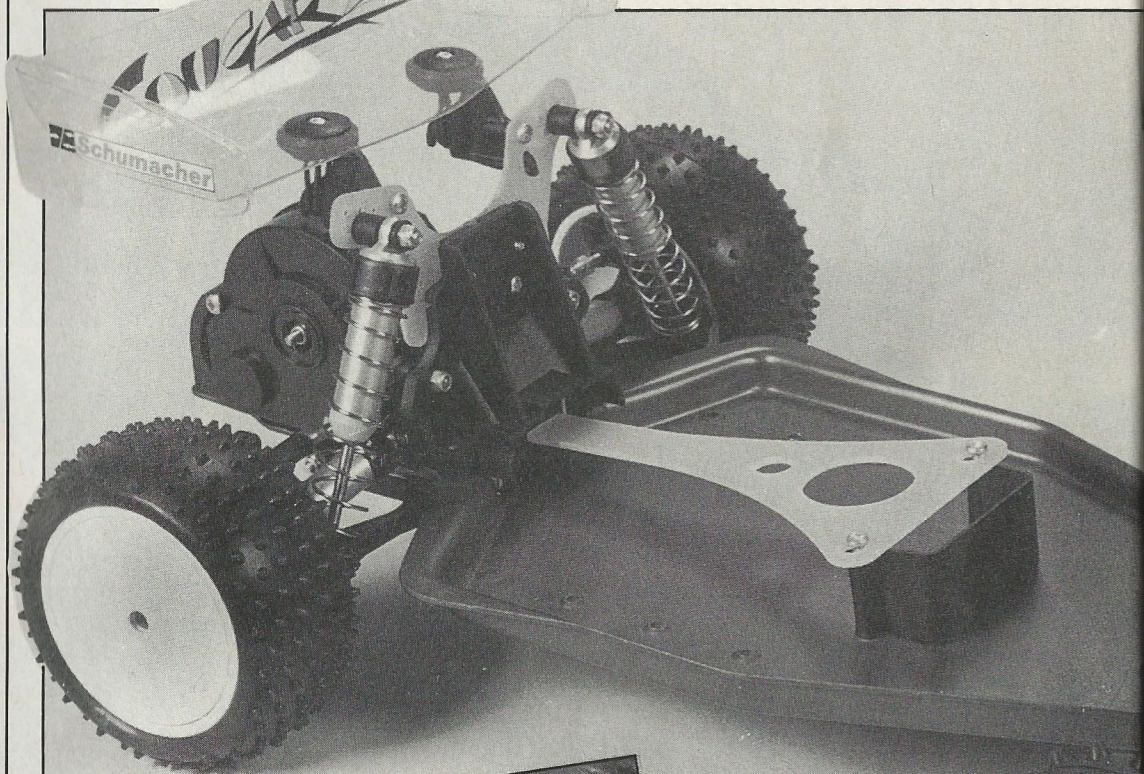
featuring adjustable pistons are perhaps the biggest news for the Cougar2. As is becoming common practice, the dampers feature a one piece body (cheaper to make) together with a screw in bottom cap (ditto). Adjustable pistons allow the damping to be made stiffer or softer without changing the oil, although the damper must be removed from the car and dismantled to change the settings.

On the Team model there are new

drive shafts which feature internal rollers to reduce friction. It is a fact that the old sliding plastic drive shafts will tend to prevent the movement of the suspension, particularly when the car is under the loads of a bumpy track and/or fierce acceleration. These new shafts eliminate any such problems at the expense of a bit more unsprung weight. Beautifully made, and fully assembled in

‘These new shafts eliminate any such problems at the expense of a bit more unsprung weight’

Simple chassis design is deceitful. Cougar II is an all out racing machine.



the box, they are a work of art whose benefit we shall test on the track.

These changes are spread across a range of three Cougar2 models. ‘Sport’ is

Alloy driveshafts designed to be smooth sliding at all times. Rear guard helps the motor from rear end attacks.

RADIO CONTROL MODEL CARS

COUGAR II

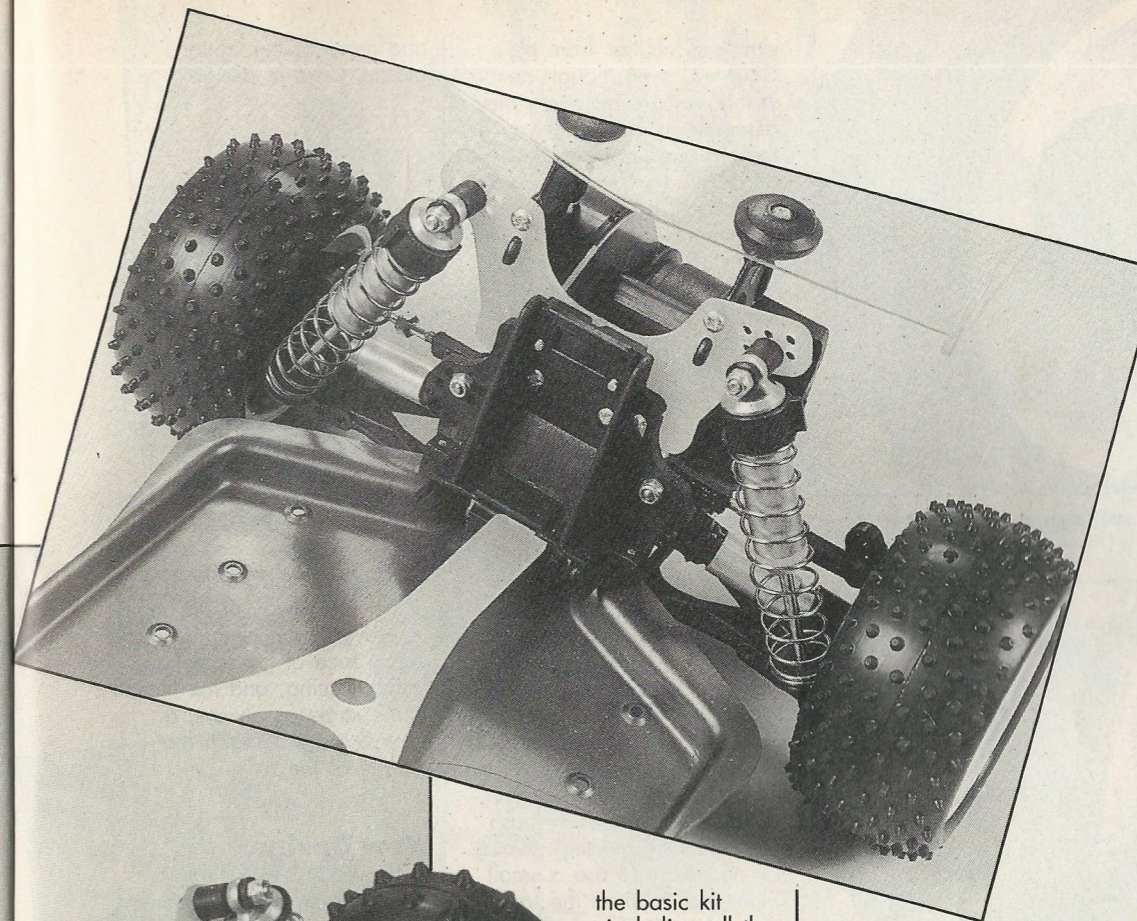
spring and a thrust race. The spring (so shunned by Schumacher in the first design in favour of Belleville washers) makes the clutch more easily adjustable. Spur gears are mounted on the thrust plate by two small screws, thus allowing spur gear changes to be made without disturbing the clutch setting - a real bonus over the old design, and some competitors.

Rear End

Rear suspension and bulkheads are then fixed to the chassis, a racy red number anodised in the same way as the RC10 tubs (can't help thinking there was one eye on the US market when that decision was made) which make the car look very smart and raise its perceived quality. Beneath the colour it must be said that the quality is excellent. Everything fits as it should, screws are easy to drive home, and all parts are made to a very high standard. This is not a toy by any stretch of the imagination, so those under 14 years if age will need some adult help, but a near perfect result is guaranteed every time.

Building the car was aided by a switch to Phillips head screws from the old cross-cut type. As one who has championed this change with the Schumacher company for some time it was a delight to see these screws. Before starting on the kit make sure you have a brand new No2 point Phillips screwdriver to hand - the Stanley one's are by far the best - as any other old or worn Phillips driver will simply be useless.

After the gearbox, assembly proceeds to the rear suspension. Re-designs to the bulkhead and damper mounting bracket result in the strongest rear suspension set-up yet seen on a Schumacher 2WD car, with many more tuning options for the serious racer. Front suspension parts



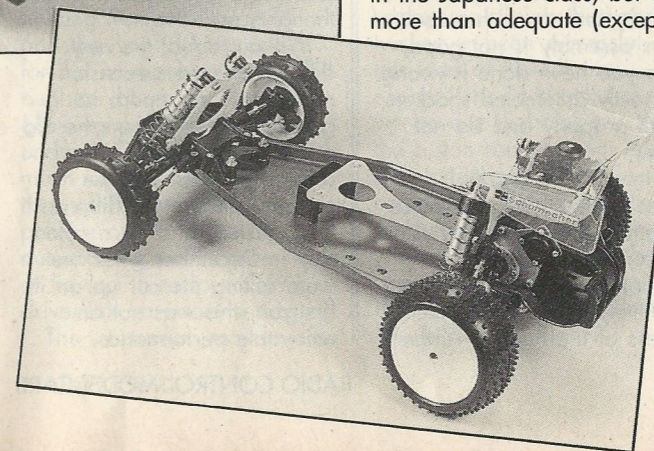
the basic kit including all the suspension mods, the new differential, wheels and tyres. Solid oilite bearings are used and there is no slipper clutch. The

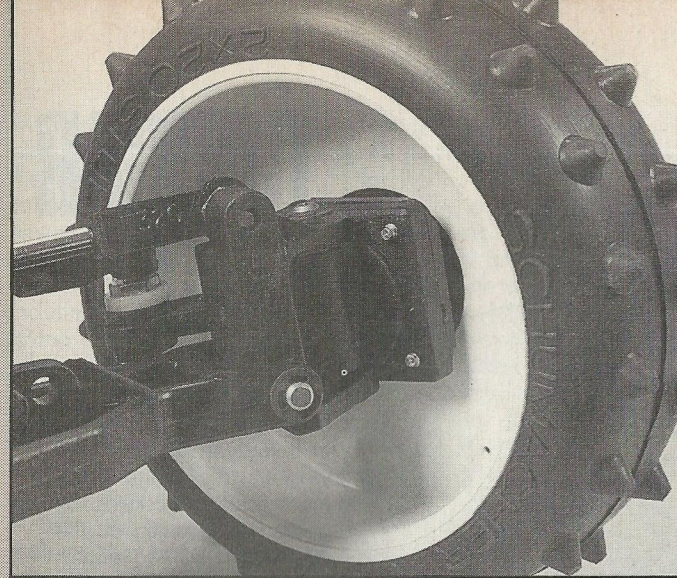
intermediate model is called ‘Racing’, and will appeal to the club racer having ballraces all round and the slipper clutch. Top of the range ‘Team’ cars get fully ballraced steering arms and the aforesaid new alloy roller drive shafts. Prices are competitive, but up on the old model. Building the car is a novel experience, since one feels the car is an old friend, but there are so many slight changes that in reality it is like building an unfamiliar car. The instructions are not in the Japanese class, but are more than adequate (except

for the dampers - see below) providing they are read through twice for familiarity.

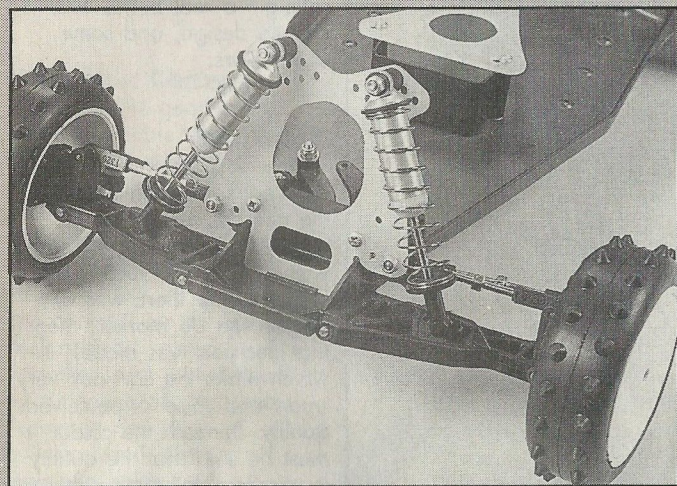
Get Started

Starting with the differential, whose construction is all new, the innovations become immediately apparent. Unlike the old model, the differential is fully supported on its bearings, and not the shaft which runs through the middle. The diameter in which the balls run is increased to a massive 23mm. On the Team model we built, the balls are made from tungsten carbide (and cost a whopping £10 for 12 separately!) but they are so hard they should very rarely need replacement. New designs for protecting the end nut and screw head ensure that the dirt is kept at bay, and the action of the finished diff is little short of superb. The rest of the gearbox build is quite familiar, except the slipper clutch which is of a new, lighter design. The inner drive hub runs directly in the gearbox bearing, and a single PTFE washer is sandwiched between this and the thrust plate which is held in place by a nut acting on a

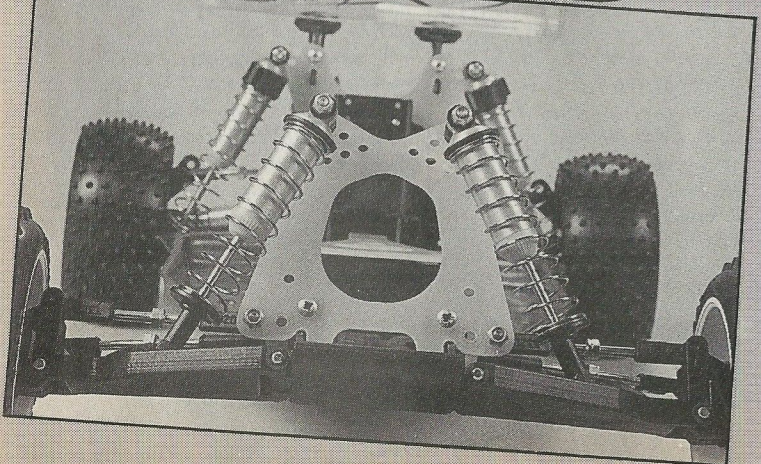
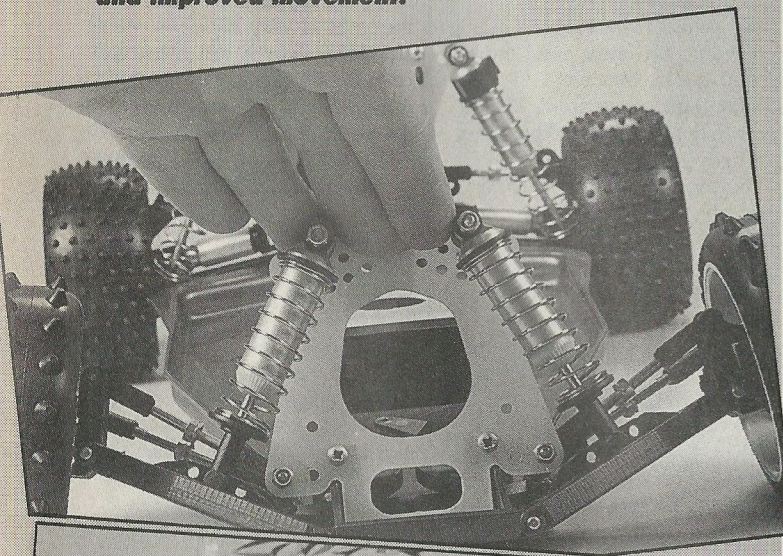




New 2.2 wider front wheels still use a single bolt fixing.



New medium length front shocks allow the car more and improved movement.



are very familiar from the Cougar1; even though new wishbones are included, they assemble in the same way as the old ones. Steering levers on our Team model feature ballraced pivots which assemble easily and give very smooth and positive control from the servo to the rack. A new mount for the front dampers offers a variety of mounting positions, and thus tuning for a particular track.

New Dampers

The new dampers are like the curates egg, good in parts. Taking the instructions at face value, it is not clear how the assembly should proceed. The small O Ring goes in the bottom of the seal housing, with the plastic washer sitting flat on top. The large O Ring must be seated in its recess. Wrap the foam volume compensator around the bush and carefully push them into the housing. It may be necessary to use a small blunt stick to push the foam down into the housing, and ensure it does not get trapped between the bush and the housing. The bush should be pushed down until it snaps into the groove in the top of the housing. If it snaps in easily all is well, but if it takes a monumental effort, then one or other of the O Rings is not properly positioned. The seal housing should screw fully home into the damper body. The last quarter turn may feel a little stiff as the black O Ring slides into the recess in the damper body, this is OK. When correctly assembled, there should be no O Ring showing below the damper body. Once the procedure is familiar getting a perfect result is very easy. However, relying on the instructions alone could bring disappointment. Ignore any views to the contrary and take it from us, if the result of your assembly is not good, then you have done it wrong. Correctly assembled shockers work properly and do not leak.

New 2.2" 'Aerodisc' wheels are now a two piece assembly, but subjectively feel lighter than the old types. Complete with tyre they are definitely lighter, since there is less of the heavier rubber

and more of the lighter plastic. Care in design

'A dinky little nose cone is screwed to the front bulkhead to complete the line of the body'

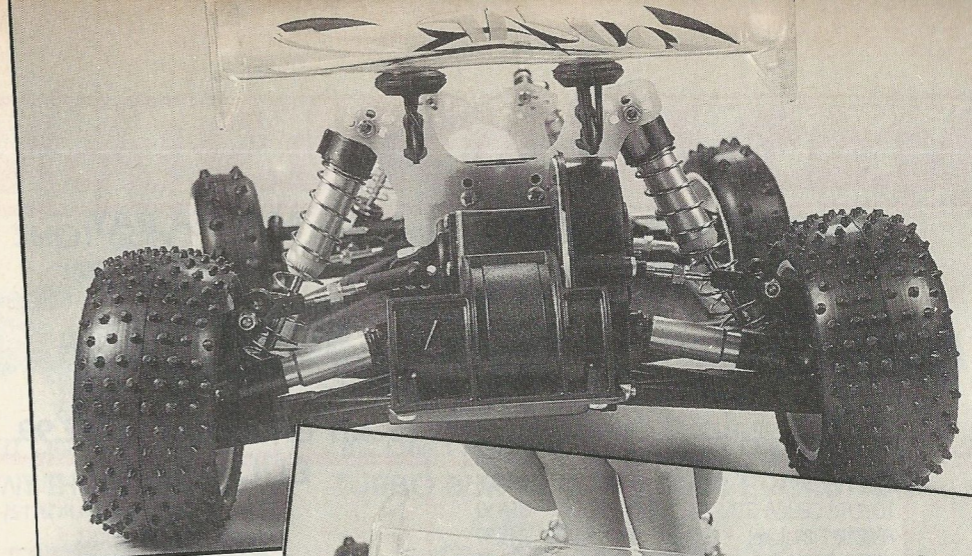
ensures that the inside of the wheel falls away at an angle to prevent mud clinging to the inside face of the wheel during racing, and the fitment is the same as always, a central screw through the middle of the axle.

New Design

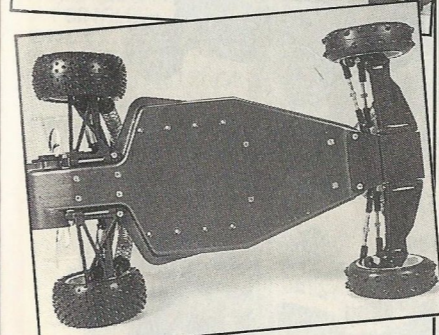
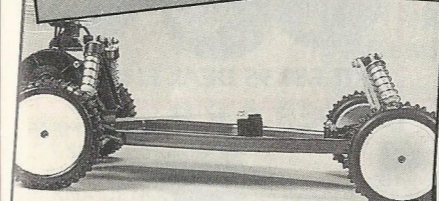
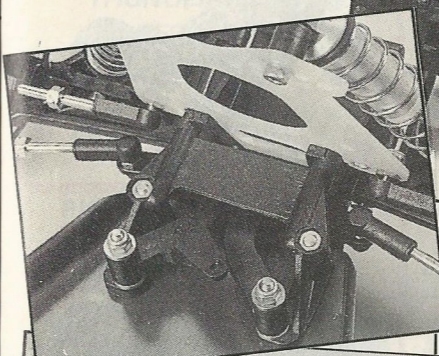
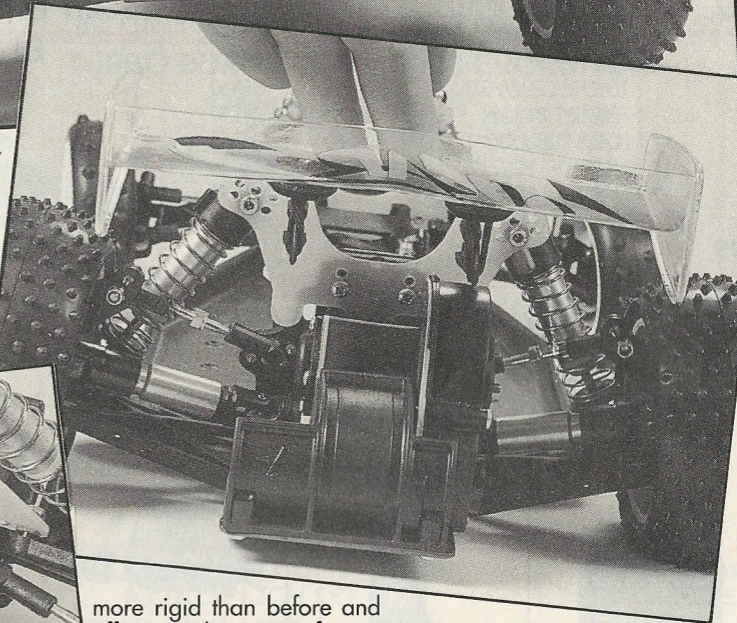
The bodyshell is new, a lower slipperier design to complement the new (improved) rear wing fixing and blend in with the new shock mount. A dinky little nose cone is screwed to the front bulkhead to complete the line of the body, but beauty in the new body is in the eye of the beholder - sexy red chassis or not, the bodyshell lacks the certain something which the original CAT XLS and the RC10 shells capture so well.

Whilst this Cougar has not been on the track, its component parts have as they were available for the Cougar1. We see no reason to doubt that the car will be every bit as good as the old car, and hope to find some improvement from the new suspension geometry. We are undertaking a 'giant test' of all the major 2WD competitors in the future, and so will leave the track thoughts until then.

Without doubt the new differential and suspension mountings are superb, a great improvement on the old ones, but at a price. The drive shaft must now be removed before the diff can be adjusted, and on a cold day in December when we were setting the car up on its first run, this was not an enjoyable performance.



Nice touch is the new wing mount which allows the wing to move without being damaged. Below; Ballraced steering set-up and that red alloy chassis!



Having said that, the diff shows every intention of holding that setting forever, and the new locking device for the screw removes the old bugbear of worn nyloc nuts allowing the diff to come undone. Overall, the diff is much better than the old one, the superbly smooth and positive action far outweighing the inconvenience of having to remove the driveshaft for initial setting.

The suspension mounts are

more rigid than before and offer a wide range of adjustments. Three different springs for the front and rear of the car were included in the Team kit, and the instructions lay out comprehensive tables to show how the changes to springs and damper mounting positions vary the stiffness of the final suspension set-up. Tables can be confusing, and these are no exception, but they provide a much needed guide which will become second nature with use. The dampers are an excellent improvement on the old design. A piece of non-porous foam to act as the volume compensator is inspired, and the adjustable pistons work very well indeed. Having to remove the pistons to adjust them is a bit of a bind, but since a non-removable design that works has never been successful, this idea at least limits expenditure on shock oils. If we have a quibble, it is that the piston rods are not up to the standard of the competition, and require a much smoother finish to reduce friction. Schumacher assure us that such a design is in the pipeline. The bottom line is that this highly

innovative design, which makes the damper lighter, easier to service and use, and breaks new ground, ends up with an action which lags slightly behind the class leading Associated and Option House products -and it shouldn't. The new piston rods cannot come soon enough. In the meantime the dampers are as good in action as the old one's, and much easier to use and assemble. That they weigh considerably less, will last considerably longer, and require only one oil, is the real breakthrough.

The Racing model of the Cougar2 will be the one for the serious club racer. Lack of roller drive shafts and ballraced steering pivots is unlikely to be a major reason for not making the A final, whereas the new differential, slipper clutch, and suspension are going to help that aim; ballraces are essential for anything more than the occasional thrash round the garden. Prices are £109.50 for the Sport, £139.50 for the Racing, and the Team model will lighten your pocket of a cool £179.50.

COUGAR II

Price War

Competition is obvious really, the Associated RC10 Team (£199) or Champ (£165), the Tamiya Super Astute (£139, semi-ballraced), Losi JRX2 Pro (£199) or Junior T (£149), and the Kyosho Triumph (£199). Against these the Racing model is exceptional value, and even the Team spec looks a bit of a bargain. In the Sport class there is much more to look at. The Kyosho Ultima is still around at about £120, the Losi Junior 2 at £129, a whole host of Tamiya kits, and the old Cougar (while stocks last) can be had for as little as £75. King of the starter kits remains the Mardave Meteor, which has always sold for less than £60 and represents the best value starter kit around for club racing at almost half the price of a Cougar2 Sport.

This is not a toy, it is a racer, and it will be judged on the results it gets at Regionals, Nationals, Internationals, and Grand Prix. We think it will be a winner, just like its predecessor, and will make a lot of people very happy. If you have been saving your Christmas money for this car, you will not be disappointed; and if you haven't, start now. New is not always better, but change is a way of improving the old and Schumacher have done just that. The new Cougar2, or the improved Cougar1? Either way it is better, and meets the competition head on. Don't be surprised to find the Cougar2 edging it's dinky little nose (cone) ahead of the pack in 1992.