

Kevin Griffin reviews the latest 1/8 I.C. off roader from Italy.

The Crono is the brainchild of a well-known Italian car designer, Sabattini, who has had over 20 years experience in the business of model car design, all of which have been incorporated into this new car.

First of all, what does one get in the kit? Well, it is 4WD and has three differentials, the norm in 1/8 Rallycross competition. So what's different you say? Well, all three differentials come in standard form as hardened steel, so you won't have any problems with stripping small alloy gear wheels, as you do with some other cars. The Crono comes with, not a single, but a double disc braking system as standard! Also it has an innovative split chassis with a fifth shock absorber. Quite impressive, eh?

◊ Note camber adjusters on rear suspension as standard.

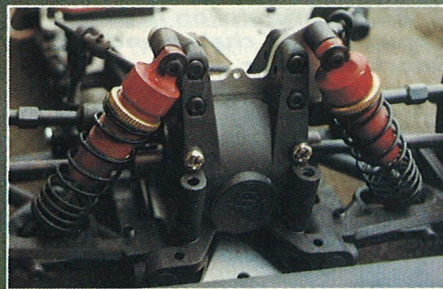
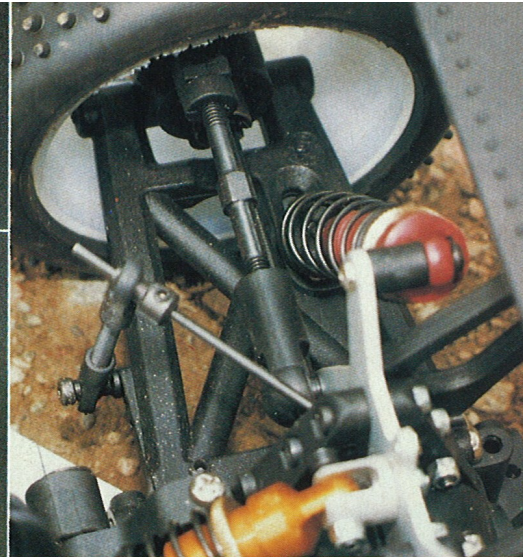
is printed in three languages, luckily one of them is English! Each step of construction is numbered and these numbers cross reference to parts bags. Within each bag is everything you need for that particular step, right down to the last washer.

The first step in the construction is the rear differential. As can be seen in the photographs, the differential comes as a completed item, all beautifully machined with a very neat brass cover, that is retained over the gears by two O rings. All that is required of the builder here is to fill the diff casing with some nice thick 'gooey' grease.

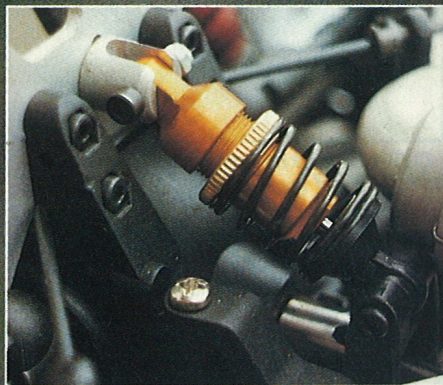
I used the Mugen grease, as I find that it seems to be the best available on the market. A little tip here — if you can warm up the tube of grease slightly before use you will find that it is considerably easier to persuade the grease to leave the tube and pack it around the gears.

Two different sizes of ballraces are used in the rear gearbox. The large variety measuring 8mm x 7mm x 22mm, which certainly is large, supports the completed differential, whereas the smaller, 5mm x 5mm x 16mm bearings support the input shaft. All the gears within the gearbox are hardened and the main control gear is located onto the outer sleeve of the differential by four screws which must be threadlocked into place. Shims are provided for the builder to obtain the correct mesh between the conical gear and the input gear.

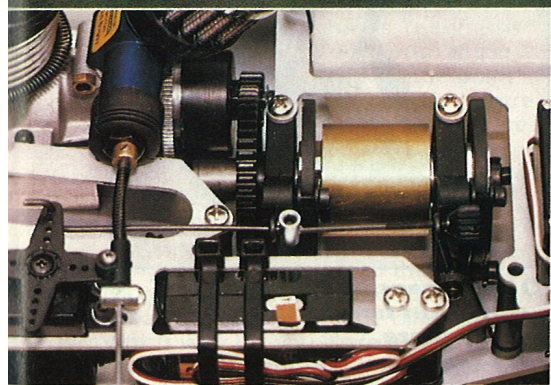
It is most important to get this right, so one or two trial assemblies of the differential to the housing should allow you to find the correct amount of play.



◊ Those wonderful Bergonzoni shock absorbers.



◊ Fifth shock absorber.



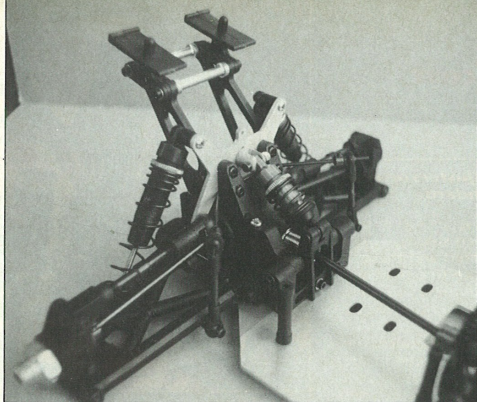
◊ Detail of centre diff showing twin brakes and steel main gear and linkage system.

The Build

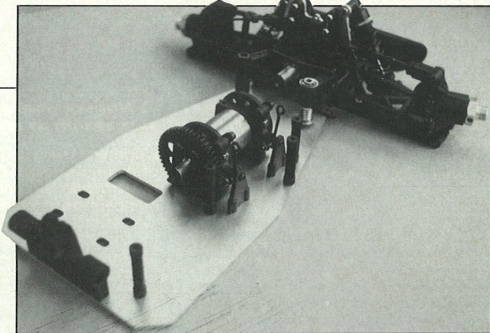
So let's get stuck into building the kit. On opening the box, which is very smart, one is confronted with a multitude of plastic bags, all sealed up and numbered. The instruction manual



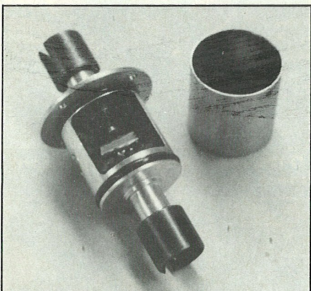
CRONO



Rear transmission in place showing split chassis and fifth shock absorber.



Main chassis.



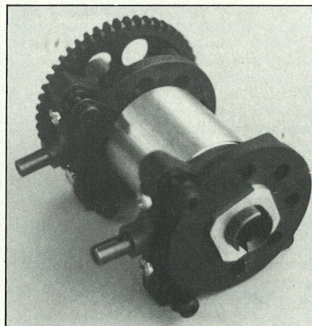
Differential as used in the front and rear.

On completing the rear gearbox, the next step is to locate the rear anti-roll bar and shocker mount onto the gearbox casing. The top wishbone or suspension arm, is a threaded bar offering both left and right hand threads, so as to allow the builder, and later the driver, to fine tune the amount of camber on the suspension, by simply using a spanner on the flats in the centre of the bar. Again, this comes as standard on the kit, whereas it is an optional feature for a number of other kits on the market.

The one end of the top suspension bar has a balljoint screwed into it which is of 'ginormous' proportions. The instructions suggest that you pop this over its mating ball with the use of pliers. I tried and soon gave up! Popping the assembly into a vice is considerably

Basic chassis layout.

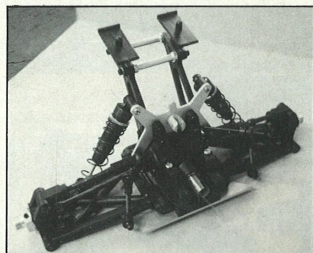
easier. The bottom suspension arm, or wishbone, whichever you prefer to call it, is located in the normal way by a long pin to the side of the gearbox casing. A very clever little idea appears here. The pin pivots within two hollow concentric holders, that are adjustable for the amount of toe-in on the rear wheels. Another fine tuning point that comes as standard equipment.



Centre diff showing twin discs and steel spur/main gear.

The holders that come with the kit are a type of plastic. These are clamped in position, once you are happy with the correct amount of toe-in, by two grub screws. How long these plastic items will last is uncertain, but Sabbatini also offers optional alloy cam adjuster for slightly more expense. The rear lower wishbones also incorporate suspension travel stops by means of two grub screws. This is purely a ride height adjustment.

The next step in the construction is the wing mount. Again this comes with



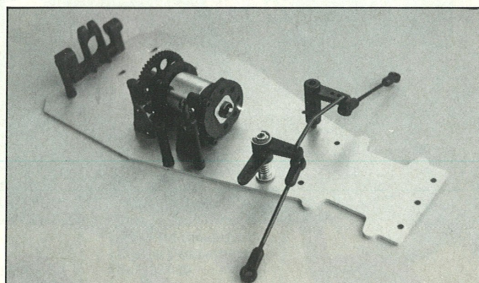
Rear transmission and suspension bolted to its own chassis plate.

three adjustments depending on the amount of downforce you require. Finally to finish the rear transmission and suspension, all that remains is to bolt on the shock absorbers. These items are made by Bergonzoni and are anodised in red. This type of shock absorber has been available for some time now, and I have had them fitted to my car for over 12 months, and have found them to be of excellent quality.

The shock absorbers come ready assembled and filled with oil, but this oil, I think you will find, is intended purely to act as a lubricant during the time between assembly at the factory and the time that the owner gets his grubby little paws on his new kit, as it seems extremely thin, so a change of shock oil is essential.

The next step in the construction of the car is the front gearbox. I shall not

Main chassis showing steering, centre diff and rear hinge assembly.



Front U.J. driveshafts.

bore you with this as it is purely a repeat of the rear, less the cam adjusters, but again, you get a front anti roll bar as standard equipment, and also the front driveshafts are of the universal joint type.

So on we go to the centre differential again. All that you need to do to this pre-assembled unit is to pack it with grease. The spur gear is threaded onto the rear output, and again is not found in any other kit, the spur gear comes as standard in steel. The braking system is located at either end of the centre diff with the disc brake. The discs that are provided in the kit are plastic, but fibreglass ones are available as an option.

Once assembled this unit can then be bolted down to the chassis. The chassis is made of alloy and comes with all the holes countersunk. A nice little point here, is that when you bolt the centre diff into place, the brake pivot shafts are further supported by two additional uprights, so that when the brakes are applied there is no sideways movement of the shaft whatsoever.

The steering linkage is of the twin upright style, common to the Burns or Mugen, which eliminates all bump steer. What I found was a little difficult, was which way up you were meant to mount the front hubs. If you mount them the wrong way, then a) You have slight bump steer, but b) more importantly, the wheel actually fouls the tip of the hub. So be careful when you assemble the front hubs.

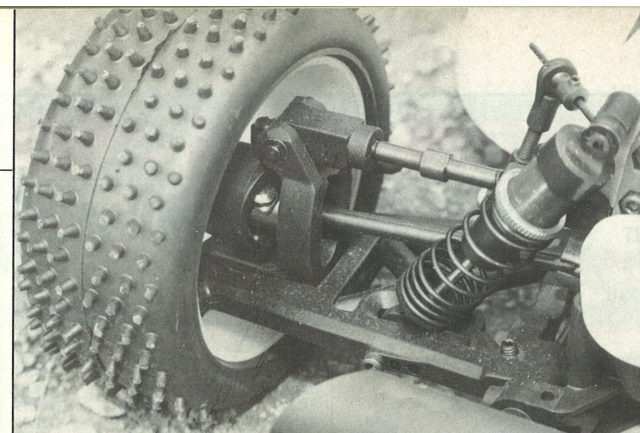
We are now nearing the end of the build up of the rolling chassis, or should I say two chassis', as we now have two halves to join together. I found that if you followed the instructions it was extremely difficult to join the two halves together as regards the limit pin, for you could not hold the two halves together and hold the 3mm nut in place all at once! What I did, was remove the bracket from the rear gearbox and join this half of the hinge to the front half and adjust the limit pin to the correct amount shown in the instructions, then screw this assembly back onto the rear gearbox. Simple when you know how!

So there we have it, a completed rolling chassis. All that remains is to install your preferred engine and radio equipment. The kit provides you with a two pin fly-wheel and clutch assembly and a rather nice alloy casing roller bearing for the clutch. The radio plates are alloy and very nicely machined. One takes the throttle servo, receiver and battery whereas the other takes the tank, which is of good quality, and your steering servo. All that remains is to finally adjust the settings of the car before its track test.

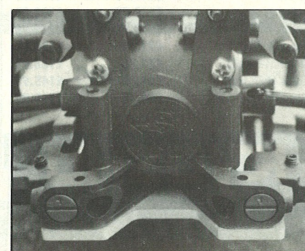
Final Conclusion

The car is of excellent quality and a definite top of the range racing vehicle. Sabbatini has included in the kit every

Rear hinge pin detail.



Note twin adjusters for toe in adjustment on bottom pin retaining the wishbone.



conceivable uprate part found on any other kit, as standard equipment on the Crono this obviously reflects in the price, which is £399. Before you say that that is expensive you must consider the price of hardened differentials for your existing car as an option. The front and rear together would come to £88 alone, plus the centre one, also you have, as

standard, a twin braking system worth another £20. It also has what I think are the best shock absorbers available and, of course, the split chassis. So all in all the car is not expensive for you will not need to buy any other uprate parts for it. I think the car is definitely value for money.

Now what you'll want to know is where you can get the Crono from. Well, it can be purchased from Puma Models who are the sole importers of the car and they have a most comprehensive spares back-up. The car is also available at trade terms to any model shop.

