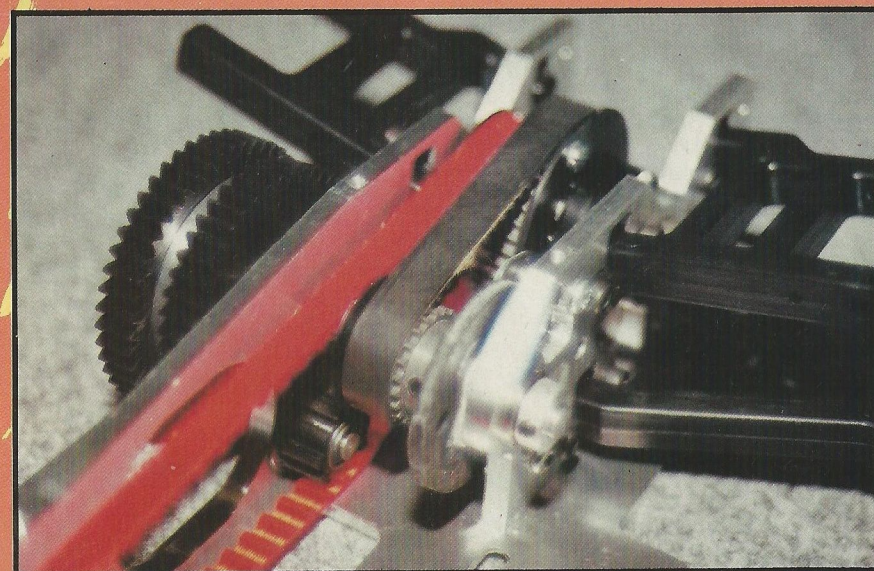
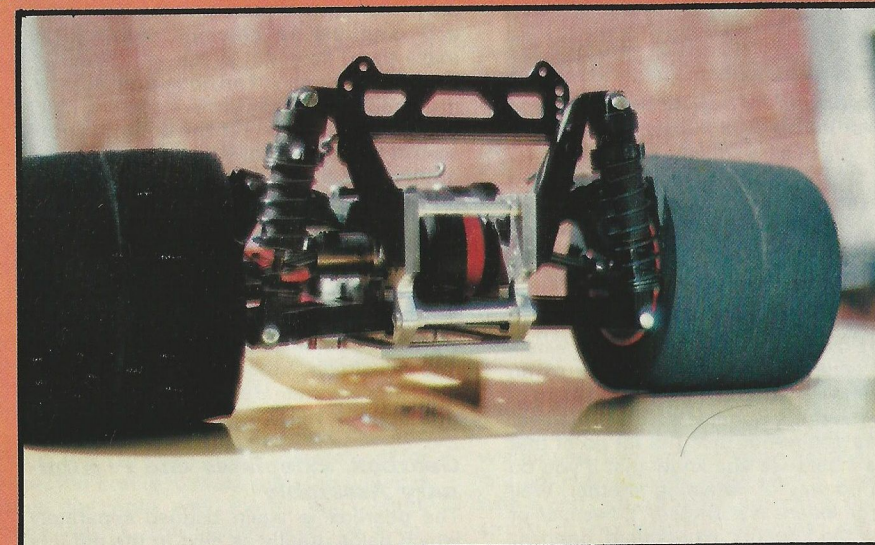
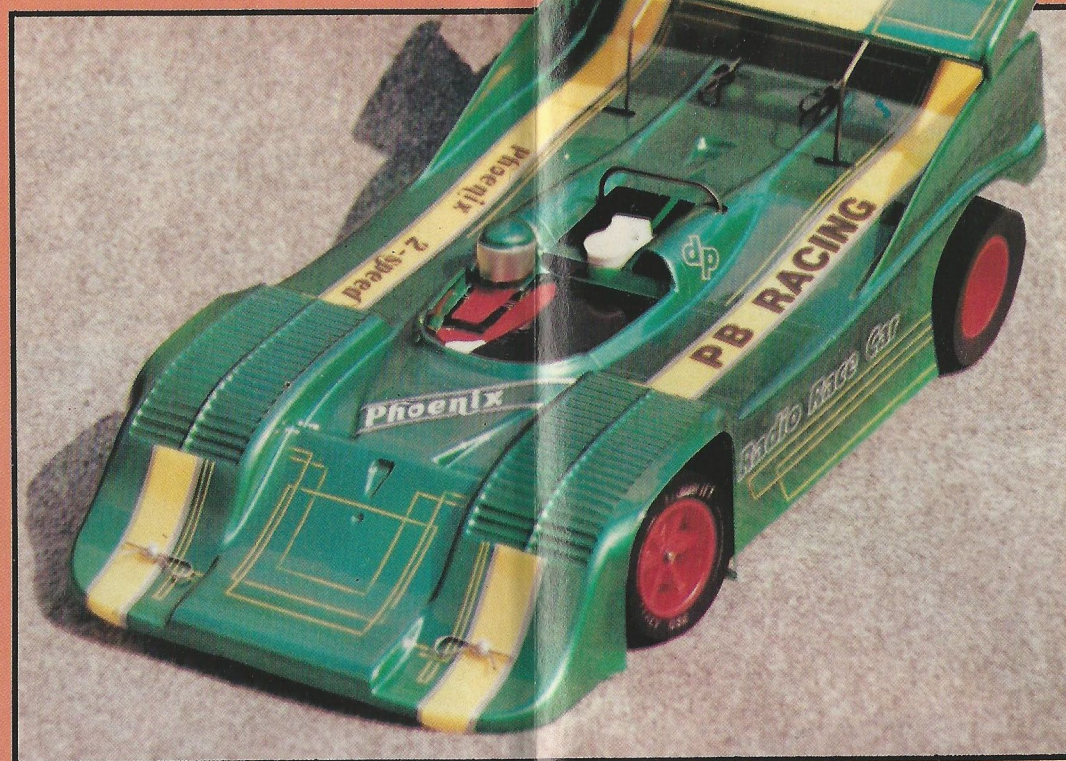


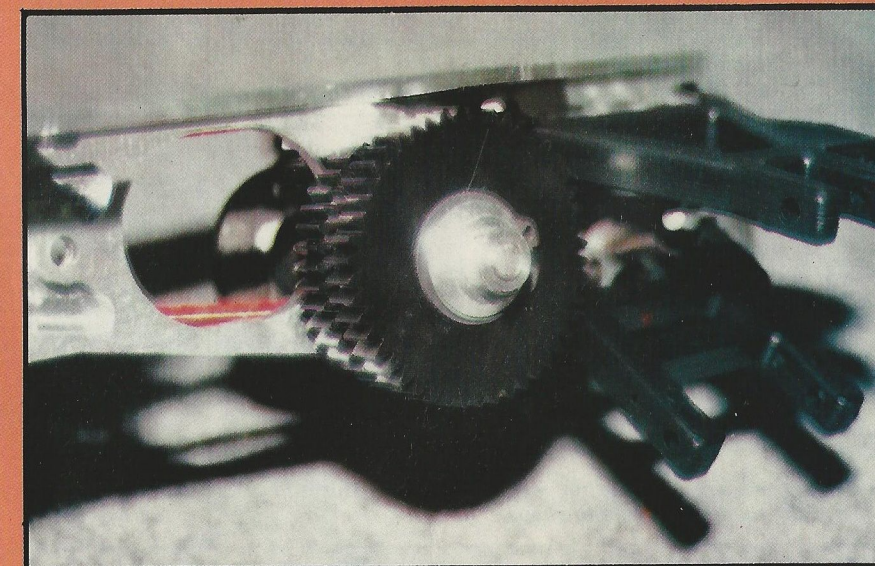
The round tooth, steel strengthened drive belt and the simple, effective tensioner.



All the noisy interesting bits are contained within the beautifully milled aluminium side plates.



The rear end of the Phoenix showing the size of those huge sponge tyres and the strong engineering of the rest of the car to good effect.



PB's two speed gearbox in place and ready to go.

Phoenix

Dave Pearson looks at P.B.'s new Phoenix and tries to sort fact from fiction and the reasons why more of us should try circuit racing.

Before this review begins it is necessary to make one or two explanations. Question one. Why am I, a complete novice to circuit racing, willing to undertake this quantum leap into the unknown? Answer. For a long time now it has been stated by those already driving, or actively involved in circuit racing that it is not as expensive as those not involved would have you be-

lieve. Amongst other things we aim to count the cost of our venture into one eighth racing and let you know exactly how much cash is involved.

Question two. Is a one eighth car difficult to build? Again another objection that is voiced regularly by drivers of other types of radio controlled cars, is that circuit cars can only be built by people who possess a

masters degree in engineering. At this stage we don't think so, after all a car is a car, no doubt we are about to find out. One thing is for certain and that is that one eighth racing does not enjoy the current popularity of one tenth. Maybe we can by first building the new P.B. Phoenix, secondly by driving it ourselves and then having the car driven by recognised experts in

the field, get to the bottom line in one eighth racing so that you can make your own mind up.

The Car

At the same time that our leap into this new world was being conceived we learned from Bob Errington, our regular correspondent, that P.B. were about to release their

new car, the Phoenix, onto the market. What better place to start, a British car manufactured by a company with a long pedigree in this field. The Phoenix arrived and the lid was lifted, inside the different components are neatly contained in their own plastic bags, this turned out to be a definite plus to a beginner like myself, as it meant that you were not surrounded by a



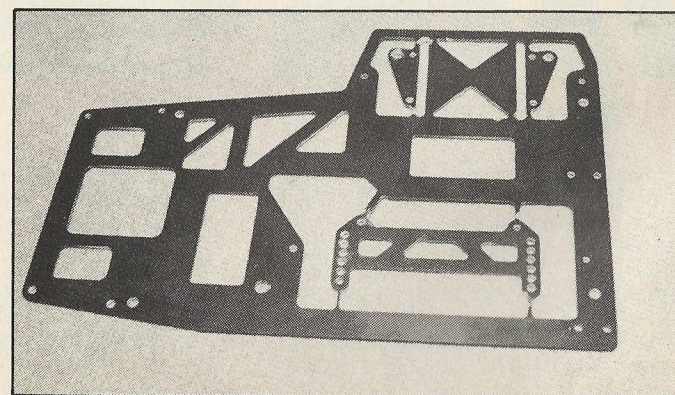
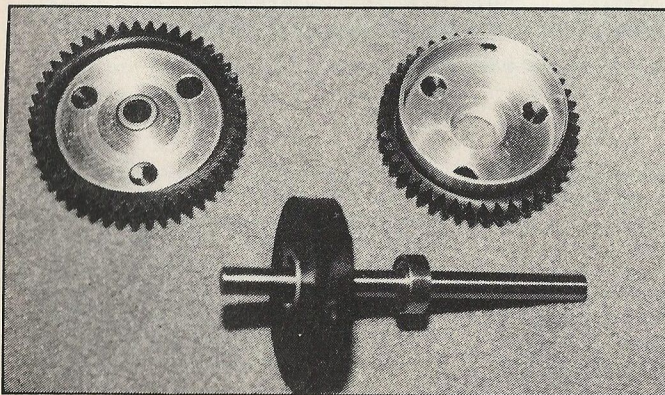
All components are bagged separately and wherever possible, in individual stages.

sea of parts that you didn't need at that moment. Have you ever noticed that whenever situations like that occur and you are searching for the last 'e' clip, that you know is in the bottom of the box somewhere, you've normally got hold of something vitally important to the well being of the car, that vital something has just been liberally laced with superglue, your wife's out of earshot, the kids are about to do something very detrimental to the health of the dog and it's Sunday, so that whatever happens you're not going to let go of that vital part because you know that if you do there's no way of obtaining another. Well to a large extent that shouldn't, because of the way the Phoenix is packaged, happen.

The Instructions

At first glance the P.B. instructions can look a little confusing. However do exactly as the first instruction tells you to do, sit down and read them thoroughly, all will then fall into place. The first two pages are devoted to identifying the individual parts, both visually and by number, a very good idea. The second very sound piece of information is also included in the introduction, P.B. recommend that this is the right stage to despatch one of the more unpleasant tasks, that of gluing tyres to wheels, this does save time at the end of the building phase when you just can't wait to get the wheels onto the car and then have a quick blast in Tesco's car park! At this stage I cannot stress enough the importance that raw beginners do not go testing in public places even if they are closed, the damage a one eighth car can do to itself and more impor-

PB's two speed gearbox, a simple but very effective unit. This is how the Phoenix's top deck starts life, you must cut and file the body/roll bar stay and the damper mounts to shape.



tantly other people is terrifying. Always have an expert check your car over before you start up for the first time and always make that first time at your local club, there you will be properly supervised, you won't be allowed to hurt yourself, others, or your rather nice new car.

We Begin To Build

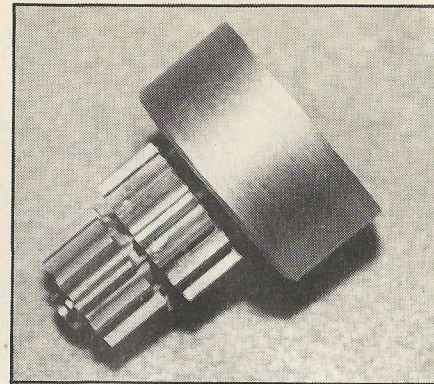
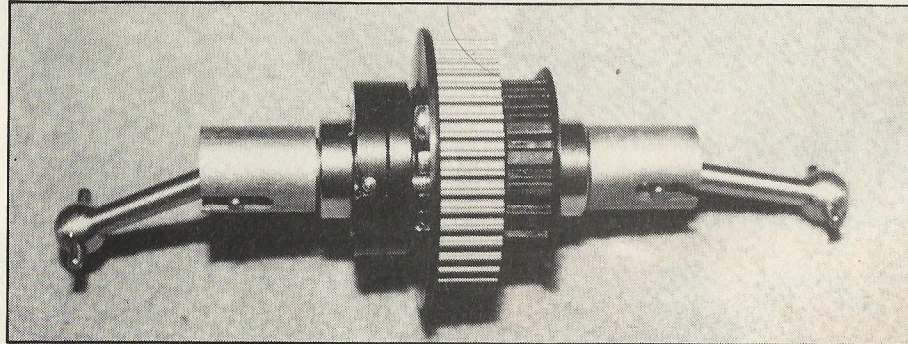
Armed with only the tools that I would normally use to either build or go racing one tenth cars building began. First thing to do is don't panic and don't be rattled by the sheer size of all the bits, first timers will have a distinct advantage here as you will have nothing to use as a comparison. The Phoenix differential is made up of 28 separate parts, that is if you count the drive cups and omit the 12 bearings that actually make the differential action work, assembly takes around half an hour, that includes inspection, initial adjustment and any filing that needs to be done to the drive cup grub screws, don't as I did, omit the filing on the grounds that it is only done for aesthetic purposes, it is essential as you will not be able to seat the diff in the sideplates without removing the excess grub screw shaft.

Maintenance and adjustment notes are included in the instructions and at this stage you should follow both to the letter, we will be setting the car up initially from the adjustment notes and then including any extra comments that our expert drivers may suggest later.

Gearbox, sideplates and Preliminary Assembly

The gearbox is again bagged separately which helps greatly as next to the diff it is the second most difficult assembly, again all you have to do is follow the instructions to the letter and you will not go wrong. The gearbox is constructed around the centrifugal clutch principal and is a very clever

The assembled differential before fitting in the Phoenix.

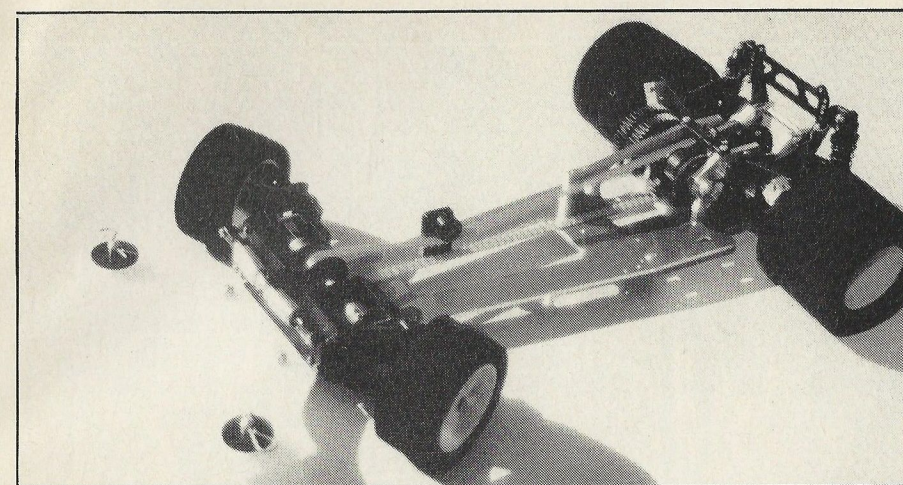


Two speed pinion and clutch housing.

piece of engineering, like all engineering though it has to be adjusted correctly to avoid damage and get the best results, again P.B.s adjustment notes were precise and followed to the letter. Sideplates for those who don't know are the two beautifully milled out pieces of aluminium that all the noisy, rotating and or generally interesting bits are fixed to. First of these bits are the rear upper and lower wishbones, these are both located on pins and kept firmly in place by cap head bolts, a clever arrangement that allows both quick and easy removal for maintenance or inspection. Brake pads and idler pulley are next to be fitted, again no problems were encountered.

Front Suspension And Transaxle

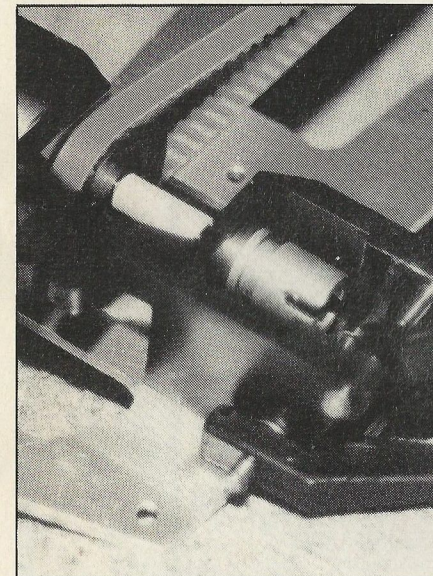
Here we found the first trouble spot, please note the words, they were chosen carefully so that no-one could misinterpret them. It is not a major disaster or a catastrophic apocalypse, just something that is worth mentioning to speed the builder on his way. The front wishbone brackets are moulded to take both upper and lower



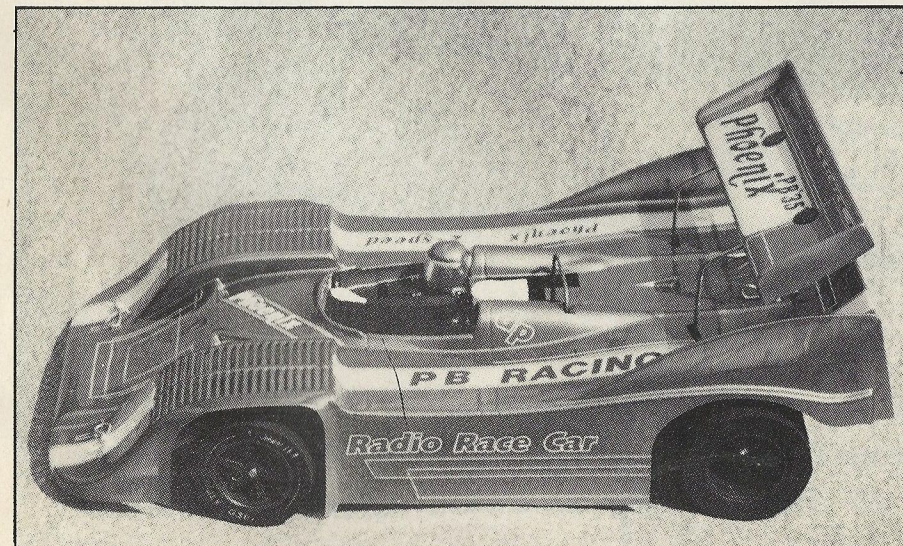
The rolling chassis, almost ready for that first blast around the circuit. Below, roller clutches provide differential action for the front wheels, added straight line and cornering ability.

hinge pins, our example was found to be overtight to the point where the pivot pins could not be fitted, if you find this problem don't, I repeat don't try to force the pins through, one or two of two things will happen if you do, either the pivot pins will bend or the plastic will deform or tear. Simply take a fine rat file and gently enlarge the mounting hole check your progress often, the pivot pin should not be a loose fit and should still need some pressure exerted to push into place. One final thought be sure that all 'e' clips and spacer washers are in place.

The transaxle should now be built and fitted, there are two things to watch out for here, the first is to make sure the pulley is fitted the right way round, don't laugh mine wasn't. The second is to be absolutely certain that the front drive cups are fitted to the correct end of the axle, the seasoned one eighth driver will know why, as far as the rest of us are concerned this has to be done because the front drive cups contain roller clutches and only work one way, roller clutches are a simple, effective, low maintenance way of providing differential action for the front of the car. The instructions contain clear directions on how this can be done in a no tears way. One thing worth mentioning before we move on is, before fitting the transaxle make sure the drive belt is in place, the instructions don't tell you to do this, for once ignore the instructions.



Below, only the engine left to bolt in now and then off to the circuit to give PB's new baby an airing.



Chassis

Everything can now be fitted to the chassis, again this is one of those no problem areas that are enjoyable, up until now all you have in front of you is a pile of parts, now the parts begin to take shape into a recognisable form.

At this stage there are two things that we discovered that could catch out the unwary and would certainly fox the beginner. Again may I state quite categorically that these are not complaints, the only reason that we mention them at all is to help the beginner and aid the seasoned driver, as we said at the start of this review our aim is twofold, first a detailed look at P.B.s new Phoenix and secondly to encourage newcomers into the world of one eighth racing.

As you may remember the front drive pulley is fitted before the transaxle is attached to the car, this in effect fixes the point where the transaxle exits the drive cups and stops. When we reached the point where the drive shafts were fitted, the P.B. was found to have no lock on the left hand side, after inspection the transaxle was found to be fouling the drive shaft and thereby reducing the axle blocks travel. Solution, grind away three sixteenths of an inch from the end of the transaxle, furthest away from the drive pulley, problem cured. This may have been a problem solely associated with our review car, however it would be worthwhile checking yours before final assembly.

Secondly, whilst building the front wishbones, two springs were noticed, we say springs, actually they were L shaped with a coil in the middle, searching the instructions we found photographs but no mention as to where they should be placed, before you suggest a final resting place the answer was found when the front shock absorbers were built and fitted. In my ignorance of all things on eighth, it had been supposed that the shock absorbers worked a la one tenth, wrong. In fact what I had mistaken as shockers would be better described as dampers, at least on the front end. What kept the P.B.s nose in the air? Yes you've guessed it the two springs. When this discovery was made all fell into place and so did the springs. Finally it must be reiterated that the above are not winges, merely guiding notes for the prospective builder.

Conclusion

So here we are at the end of stage one, I do not presume to tell you how to fit the radio gear, next month we continue with engine choice, fitting, initial running and adjustment and finally track tests by yours truly and at least one recognised expert.

Before finally wishing you farewell for this month, how many of our opening questions have we answered? Well we can answer the question about one eighth cars being difficult to build, they aren't, sure they take a little longer especially if it is your first, but never again let anyone tell you that they are difficult, in fact I would like to bet that an experienced hand could assemble the P.B. faster than you or I can assemble a one tenth car.

So far the Phoenix has been an enjoyable experience let's hope she's as forgiving on the track as on the workbench, find out next month in Radio Race Car.

P.B. Phoenix is available from all P.B. stockists, in case of difficulty, phone direct on (0705) 492310 or 492111.