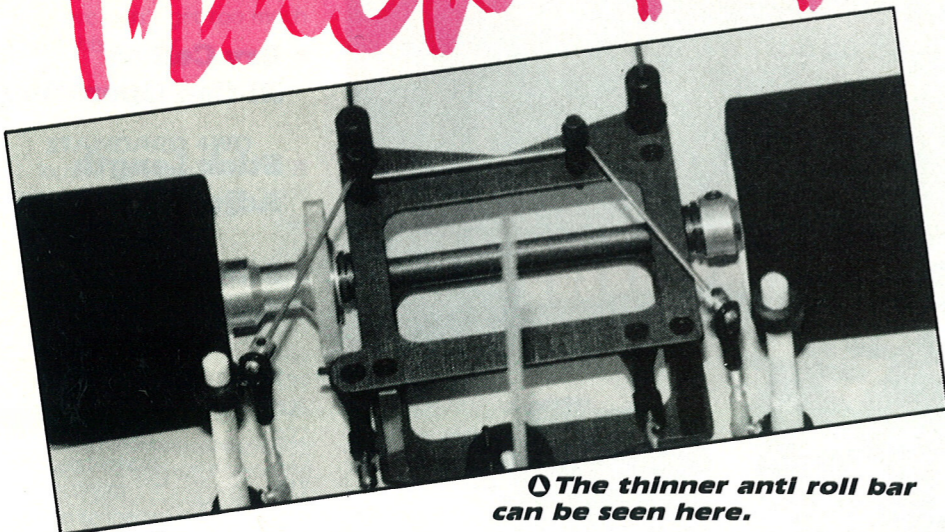


The Composite Craft TRC Lynx II (henceforth to be called the Lynx II) was without doubt the most successful 1/10 circuit car of 1990 in Europe, it had TQ (Phil Davies) and 1st (Jurgen Lautenach) at the 1990 Eurochamps in Austria and in England it won five out of the seven rounds of the British Championship with Jimmy Davis also winning the RRC Stafford Pro 10 series.

This article is aimed specifically at the ever-growing numbers of Lynx II drivers in Britain now that the car has become available in Britain at long last. Despite this however I hope that everyone competing in Pro 10 will find something of interest to them that will improve their own or their car's performance.

Mark Barford details the 'Ins and outs' of the Lynx II

Track Test



ⓐ The thinner anti roll bar can be seen here.



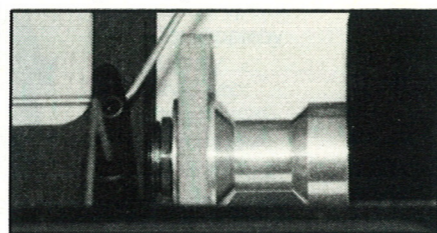
To start with the actual physical modifications the team drivers (Phil Davies, Mark Barford and Jimmy Davis) made to their cars, the single most important modification was to

ⓑ The split front beam with extra camber can be seen here.

change the rear anti-roll bar from the standard one to one made from 16 swg piano wire. This thinner anti-roll bar obviously makes the rear end of the car much less stiff in roll, and allows more weight transfer to take place as the car corners (more of the car's weight is placed on the outside wheel) which gives the car more grip in the second half of a corner. This will enable the driver to put the power down earlier which of course will lead to faster lap times.

If you are racing on carpet or a very high grip surface with additives (as in the States) then you will probably be better off with the standard (kit) anti-roll bar.

The second most important modification is to file away part of the chassis to allow for more steering lock, you should aim for a



ⓐ The thrust washers and bearings replace the kit plastic items.

minimum turning circle of around 1.5m. This modification is important as with the standard chassis the steering is simply insufficient to allow you to drive around a hairpin corner, especially indoors! Obviously this is not a problem for the Americans when they are racing on their large, banked ovals!

The third, and final, actual modification to the car was the use of a split front beam which allows for about 1.5° of negative camber, i.e. the wheels lean in at the top, to be dialled in. The same effect can be achieved by bending the kingpins but as they are of 4mm diameter (an excellent idea) this job definitely comes into the rather you than me category!

The split front beam was again designed to be used on the American ovals where they apparently run with one wheel set with negative camber and the other with positive camber, a practice that is definitely not recommended for road courses!

The next set of modifications fall into the category of how to set up the car, rather than any physical modifications to the car itself.

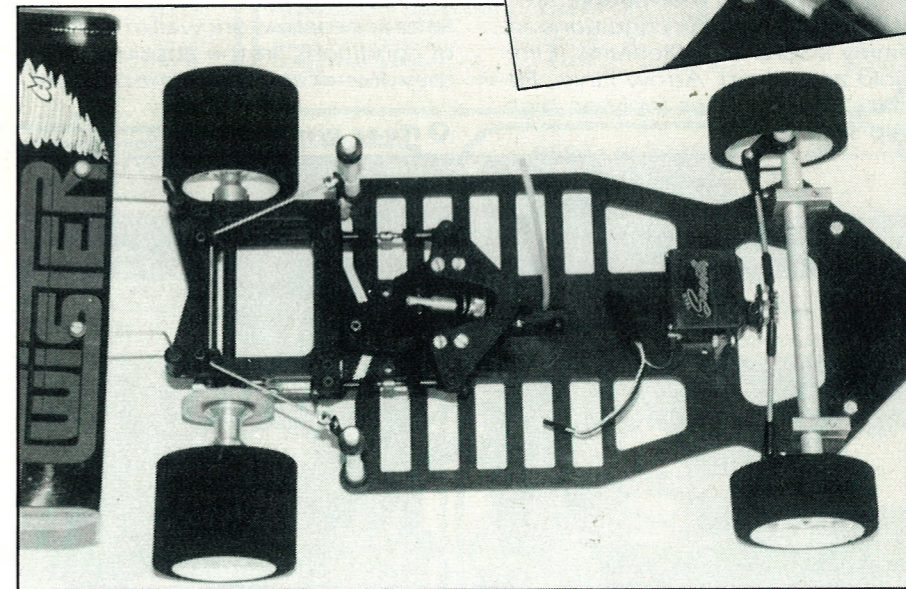
Staying at the front of the car it has been found to be very beneficial to run lots of caster, and I mean lots, around 10-12°. This has the effect of making the car very stable in a straight line and whilst it takes away some of the car's ability to turn into a corner it aids the car's progress through the second half of the corner as it loads up the outside wheel, which as I said earlier is the wheel or wheels which work hardest when cornering. Hence you will always wear more rubber off the "outside" pair of wheels than the "inside" pair.

Although the caster detracts from the car's ability to turn in I do

not feel this to be a problem as the Lynx II still turns in as hard as any other Pro 10 car and when you are in a low grip situation as we nearly always are in Pro 10, turn in is not hard to achieve but a good balance through the corner is.

Moving towards the rear of the car we reach the central damper. Jimmy Davis did spend a lot of time playing with different dampers and varying grades of oil, but it was basically found that it generally did not

make a great deal of difference. I ran my damper all season without doing anything to it so it is fair to say that it probably no longer contains any oil but you could never tell as it functions very well as a friction damper! The only point to be careful of with the damper is that you should use the tighter of the two springs and it should not be over tightened.



Moving on from the damper we come to the rear pod. The major point of concern here is that the rear axle is parallel to the front beam, this can only be achieved by careful measurement and small adjustments of the two top links. Do not assume, just because you have set the top links at the same length during the initial construction, that everything will be o.k.

The one piece plastic bottom link/push rod causes very few problems but it is necessary to shim out the step between the bottom plate and the two vertical plates, a

3mm cone washer is ideal. When the car is new only one spacing washer is required but more may be needed as the car wears.

This system of pivots means that the Lynx II has no inherent rear roll stiffness, this roll stiffness is of course provided by the rear anti-roll bar, but this is not its only function. The rear anti-roll bar, and its fixings, are also responsible for controlling the "tweak" on the Lynx II. By

ⓐ The camber induced by the new front beam can be seen here.



adjusting the two "tie rods" that connect the end of the anti-roll bar to the chassis, the car can either have a "tweak" removed or deliberately introduced, again as you would wish to do if you were going oval racing. However for racing on a road course that contains both left and right handed turns then the car should be set up without any "tweak" or bias. For the Lynx II, with its central motor this means that the rear pod, complete with motor, tyres, differential etc. should sit level with the main chassis. Luckily as Pro 10 racing normally takes place in low

grip conditions the cars are not too critical on the tweak front but they do become more critical, as do all cars, as the level of grip increases.

The last real change that we have made to the car is to replace the horrible white plastic spacers that TRC-Composite Craft use to space out the rear axle with Associated thrust races. These help greatly in making the car free running, especially when the axle is placed under a sideways load, as happens during cornering.

Well that basically covers the set up of the car but in Pro 10 even the best set up car will get nowhere without the correct combination of tyres, body and wing.

As far as tyres go the situation in 1990 is vastly improved from 1989. In 1989 all we had were greens, blues and by the end of the year Yokomo's. The tyres we now have offer much more grip than these as has been proved by the large improvement in performance seen this year. The cars have been, on average, one lap faster over the 1/8 scale circuits this season.

The rear tyres that people are using in dry weather conditions are: Jimmy's Softs and Mediums (Elite Gold and Silver). Arrow Pinks; PB Lilacs and Yokomos (only on high grip surfaces).

The range of front tyres currently in use is much greater, TRC greens and Yokomos are a popular choice for the Lynx II. I have been using Belsport rears cut down with some success. The Lynx II, like the Associated 10L, is best suited to having a harder, less grippy front tyre whereas the Corally needs to have relatively high grip tyres, indeed the Corally is unique in that it can use the same tyres front and rear.

All of these tyres appear to work at all circuits, it is not necessary to carry around a large box of tyres, this season the only tyres that I have used have been Jimmy Mediums and Jimmy Softs on the rear in the dry, matched with the Belsport "rears" on the front. In the damp I use Yokomos and when the track is really wet, i.e. there is standing water, then MRC wets are the only things to use.

For next season the only other tyres that I intend to buy in order to add to my range of choices are Motile Development Super Softs as used by Pete Stevens at Stafford to get FTD in the wet. These Super Softs appear to work well in a range of conditions, in the absolute dry they are not as good as the normal

🔧 Rear end detail.

dry weather tyres but as soon as the track becomes wet through to when there is standing water they would appear to be the best bet. Yokomos also work well when the track is only damp, i.e. dry patches are beginning to appear.

As for the MRC wets these amazing tyres appear to work better as the track gets wetter! They should only really be used when there is standing water on the track.

As far as bodies are concerned they all appear to work reasonably well but the bodies that have been doing the winning have been the Andy's Mercedes and Jaguar and the Associated Nissan. Phil Davies used his Nissan without a wing but Dave Gale did on his Corally and of course the Andy's bodies come complete with a separate wing.

I think that in general the use of a wing is to be recommended as the increase in drag is more than made up for by the increase in grip. When mounting the wing remember that for maximum effectiveness it should be mounted as high up and as far back as possible.

The effectiveness of the wing can also be increased by fitting sideplates, these really do make a large difference. When mounting the body try to keep the front of the body as low as possible with as little an air gap as possible.

With the speeds attained by these cars, aerodynamics are very important and by keeping as much air as possible away from the underneath of your car you are again maximising the possible effect of your cars wings and other aerodynamic aids.

So that is it, Pro 10 cars are basically very simple things so don't be afraid of experimenting, I wonder who will be the first person to turn up at a meeting with full under body ground effects?

However the most important single factor, as with any form of model car racing, is the driver and as far as the driver is concerned practice makes perfect, so get down to your nearest circuit, drag along a friend with a stopwatch and get him to time you as you practice. The stopwatch is important as it enables you to measure your improvement and it is even more important when you are testing the effectiveness, or otherwise, of any modification to your car.

Therefore the main message is, get out there and have a go, you'll like it! ●

