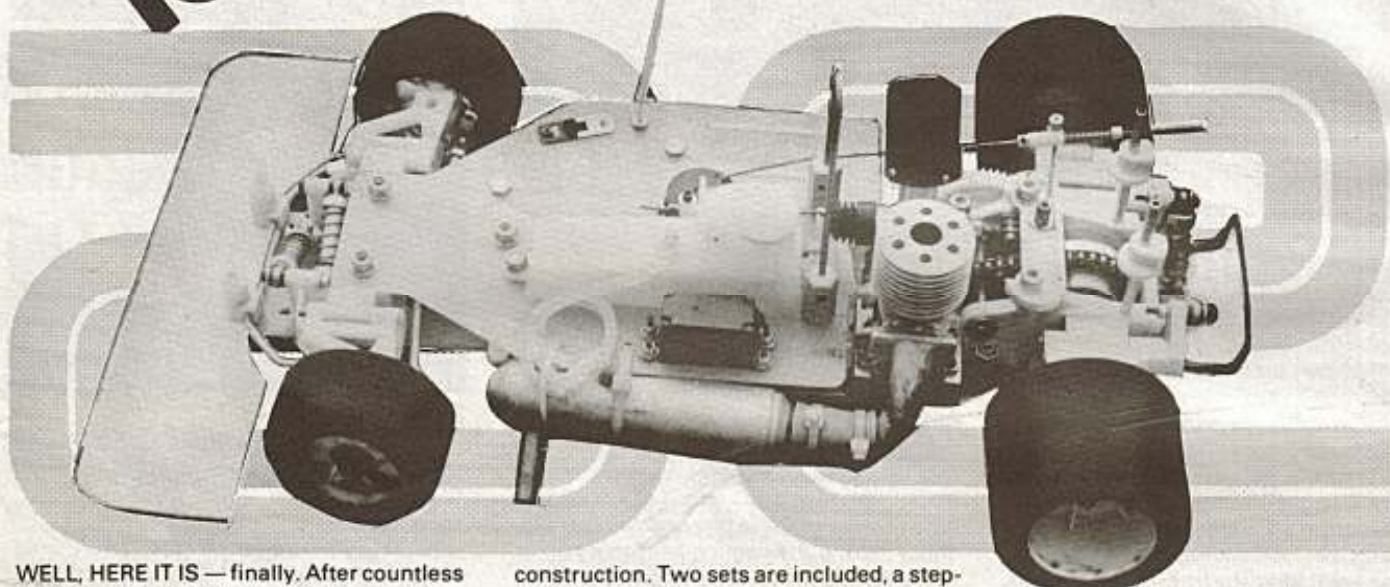


# Track Test

## "THE OTHER SUSPENSION CAR" BY LEWIS ECKETT



WELL, HERE IT IS — finally. After countless versions, diversions, modifications, *Associated* have finally taken the plunge and put the 'Other' suspension car in a box and given it a title; the RC500. Although of American manufacture, it is pleasing to note that the design is predominantly British, the brainchild of former World Champion, Phil Booth and designer/racer (both model and full-size) Dave Preston. Prototypes of the RC500 have been in existence for over two years collecting major wins both at home and abroad with perhaps the most memorable being the Saloon and Formula class wins at the 1981 BRCA Nats by Walt Bailey and Phil Booth respectively. American drivers have been quick to cotton on to the 'wobbly works best' idea resulting in 1st and 2nd placings in the Can-Am class at the USA ROAR Nationals. Now, hopefully *Associated Electrics* have combined all this experience into a kit for the would-be World Champion or plain 'Mr. Average'. A winner-rightouta the box.

### The Kit

Plenty of colour pictures on the box top — that's always nice to see but it's what's inside that matters. Instructions, ball differential, coil over shockers, double disc brakes, clutch, glued and trued tyres — *glued and trued tyres!* Yep, it's all there; that is except for a bodyshell, wing, engine, exhaust and radio, still all those things you probably have anyway. With the box of bits balanced on the knees it's time to check out the instructions, and what instructions, almost blue-prints in their detailing of the

construction. Two sets are included, a step-by-step photo booklet which relates to a comprehensive written set, the latter including hints and tips on setting up motors and carburettors, differential, starting the car and winning races! They also contain this piece of information; "You'll probably want to assemble the car by the photos only. What you'll end up with is an assembled RC500. Good luck — you'll need it!"

### Assembly

Putting together the front end of the car presented no problems, in fact setting up the dampers properly, took the most time in order to ensure a smooth, consistent action. The only real constructional black mark was the need to trim the suspension 'A' arms so that they cleared the shock absorbers during suspension travel. From

the front of the car to the rear and the differential assembly, for the RC500 *Associated* have opted for the ball-type limited slip differential, again the instructions were super clear leaving no margin for error, only a slight sense of apprehension was felt at whether or not I had sanded enough off the plastic ball cups so that the discs either side actually engaged on the balls.

One of the extras included in the kit was a large tube of diff. lube, almost two season's racing worth. Once assembled adjustment of the differential is via an Allen bolt set into one of the hexagon drive sockets, in situ adjustment of the diff. is extremely easy.

*Below: the completed front suspension set-up and standard Associated servo saver.*

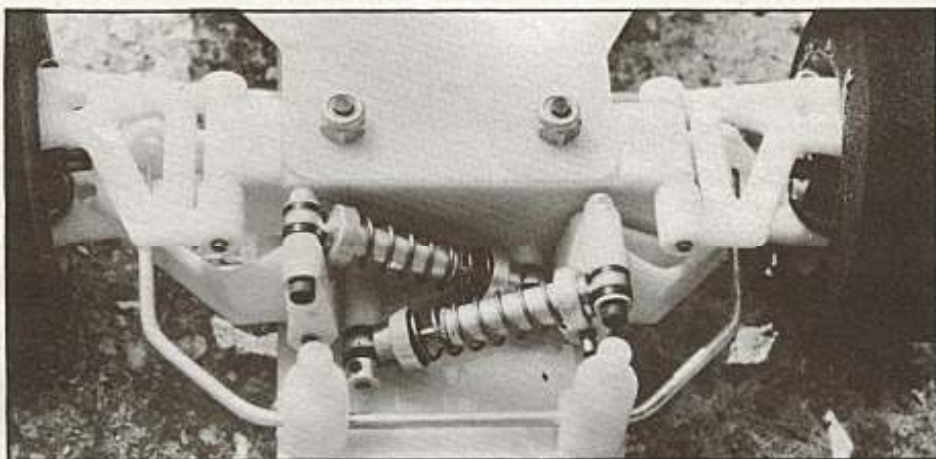




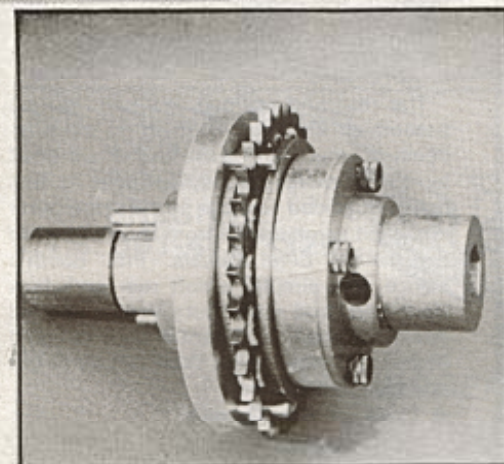
just insert a piece of piano-wire through the hole in the bolt head and rotate the right-hand wheel forwards.

The rear end suspension system features some fairly chunky mouldings, an alloy motor pod and a seemingly complex dual disc brake system, all of which combine to create a robust purposeful looking unit. The only problems encountered were when the whole rear end had been finished, it was found that the suspension members were not moving freely. So, take all the pivot pins out, polish them, open out the pivot holes with a reamer or drill and put it all back together again. The next step in the instructions was the engine installation, the clutch

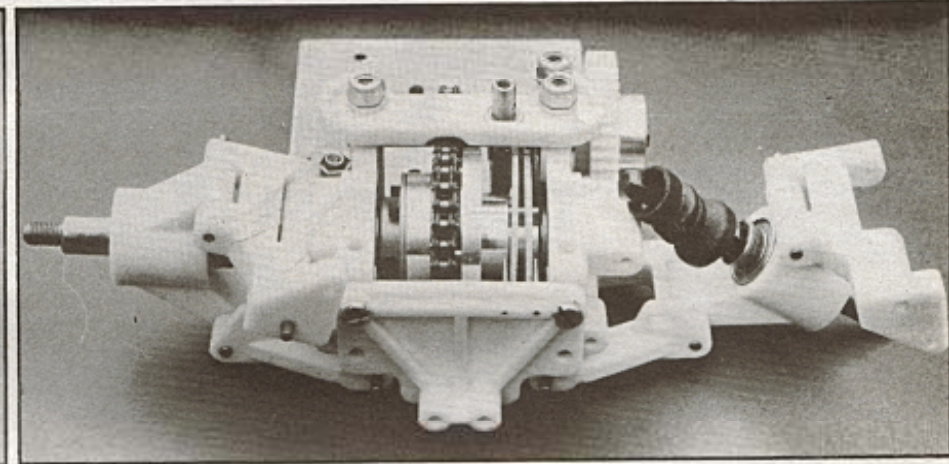
*Right: the front suspension set up fitted onto the chassis along with the 10swg anti-roll bar.*



# ASSOCIATED RC500



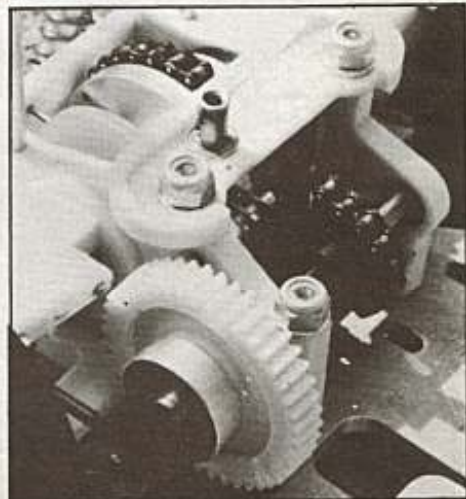
and motor mounts supplied were intended for a K&B .21 which you may remember was the subject of Mike Billinton's October/November Engine Test. What a stroke of luck! A quick 'phone call to Mike and said engine was winging its way to me through the post. However, all was not perfect as the McCoy carburettor supplied was too low a fit in the crankcase, resulting in the idle needle fouling the chain. An adaptor to raise the carburettor was needed and is recommended by Associated in the instructions. Naturally a specialist item such as this is not readily available in this country, the only alternative was a hastily prepared item machined up on the lathe. Before actually fitting the rear end and front end to the main chassis, the radio plate must be prepared, as this is effectively what holds the whole thing together. A



*Above left: completed differential showing adjustment hole for tommy bar. Above: completed rear end prior to being fitted to the chassis. Right: close up of the layshaft and gear arrangement.*

GRP blank is supplied, which is the right shape, but minus the holes for servos and fuel tank, the exact locations of which are indicated on a full-size paper template supplied in the written instructions. After some judicious use of the drill, Dremel and file, the tray was finished in double quick time.

Now comes the interesting part, jiggling all the bolts through the chassis, front end, servo-saver and motor pod, then lining up the bolts with the holes in the radio plate and fitting the nyloc nuts before the whole thing falls apart! Of course practice will make perfect. With the tyres on, the kit

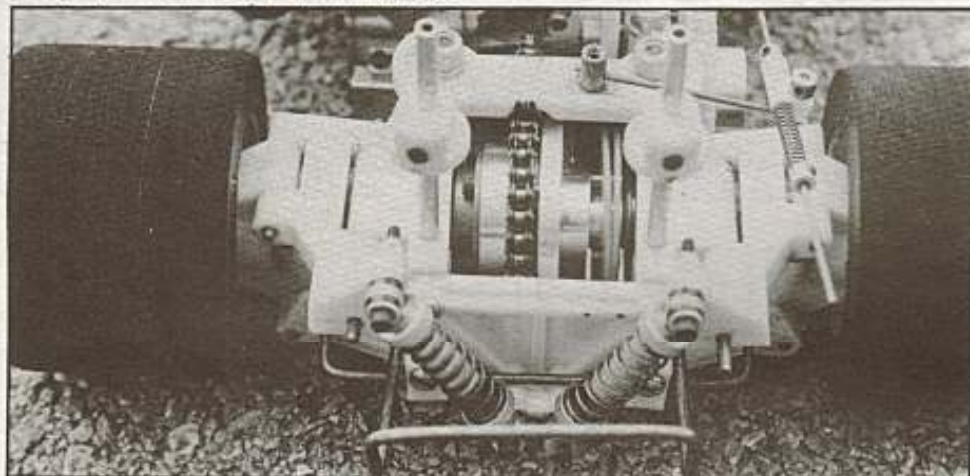




magically becomes a rolling chassis needing only a few additions before radio installation.

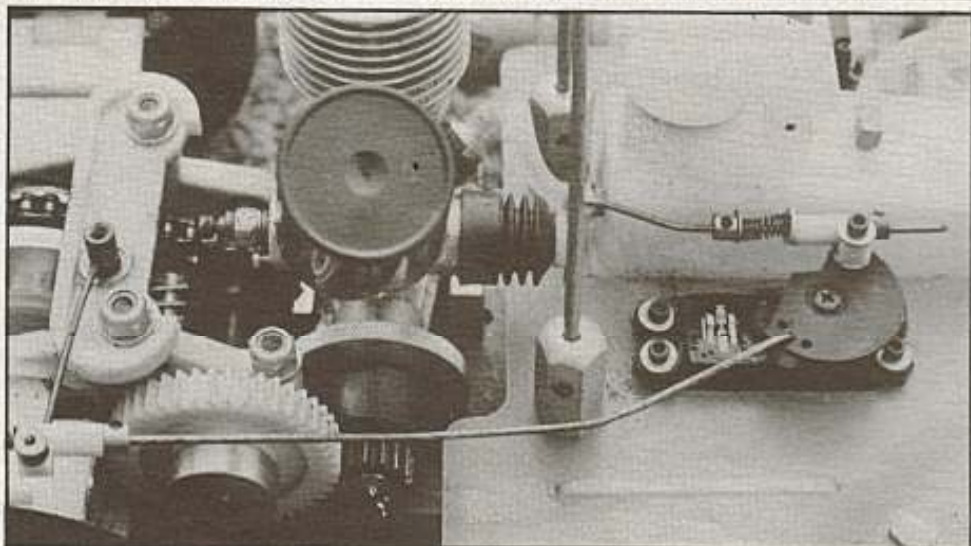
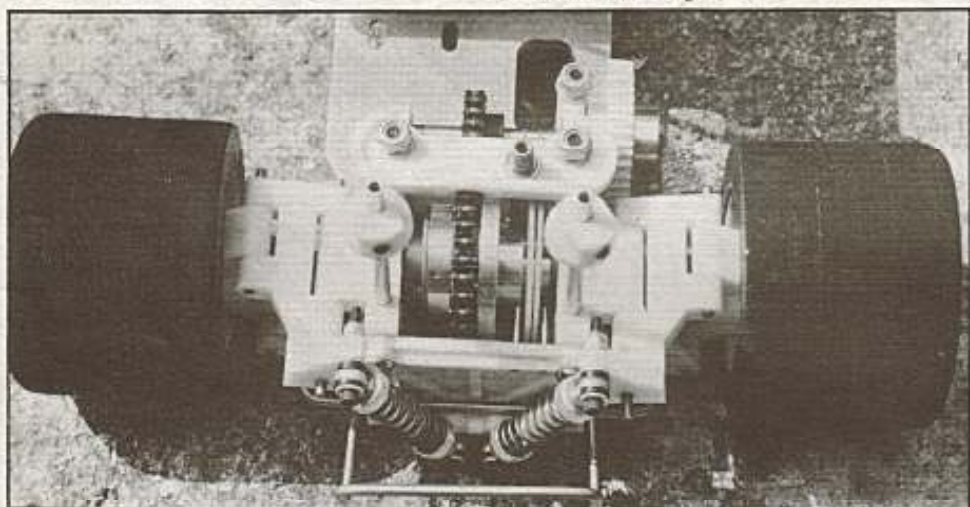
One such addition is the fitting of the anti-roll bars fore and aft. The kit supplied items are just lengths of 10 SWG pianowire which have to be bent in accordance with the photos in the instructions. From a personal point of view I didn't think I had enough piano-wire to cope with my meagre

wire-bending ability, so I bought some extra. I needn't have bothered as with a little time and effort two perfectly adequate anti-roll bars were produced, and duly fitted. The inclusion of the anti-roll bar to the rear end stiffened up the suspension dramatically at which point I decided to form an alternative bar from 12 SWG gauge wire, as recommended by *Associated*.



Above: the completely assembled rear end with anti-roll bar dampers and rear bumper.

Below: the completed set up with brake linkages installed. Bottom close up of the throttle/brake servo installation and linkages.



## Radio Installation

All the bolts, washers and nuts needed to screw in the servos are supplied in the kit, as are the steering, throttle and brake override linkages. The steering servo is situated on the left of the fuel tank (looking from the rear) which results in a fairly long linkage to the servo-saver. The throttle servo and the linkage to the carburettor quickly became a problem as the 'low' nature of *JR* servos coupled with the lofty situation of the carburettor necessitated a complicated series of bends to get the throttle to open. The problem was finally resolved by discarding the ball-joint on the carburettor slide and drilling right through the plastic boss. The receiver battery and switch are all situated underneath the radio tray hopefully out of harms reach, although a future addition of a piano-wire bumper surround is planned. Finally, the exhaust manifold and pipe were added and the plumbing installed to finish off the car. Now for the hard part.

## Setting Up

In the instructions *Associated* maintain that the ride height is set correctly when the front and rear, lower A arms are horizontal, when the car has settled (i.e. when dropped on to the work bench from a height of 2 inches). Looking at my assembled RC500 it was clear that the front end was sitting much too high. To lower it, the damper springs have to be shortened or adjusted with 'special' *Associated* spring adjusting collars (I didn't get any of those!).

The rear end seemed to be all right as assembled although if anything the suspension could have been further softened by using weaker shock springs. At this point, I decided to order some spare parts and elicit some advice from UK *Associated* distributors *Elite Models*. Phil Booth's advice was simple, a soft rear end, firm front end, and make sure you've sanded down the plastic differential cups or you'll flatten the steel balls. Well you can't get any plainer than that!

## A Day at the Races

For its first run — in anger — the RC500 was taken to the inaugural meeting of London Radio Model Car Club at the Crystal Palace National Recreation Centre. The initial 'fire-up' quickly turned up two problems, the first in my haste to get the car ready I'd forgotten to trim the clutch shoes and second, something more substantial was needed to hold the brake cam ball-race in place in the brake bracket. A sharp scalpel for the first and epoxy for the second. Once running the *McCoy* carburettor turned out to be extremely easy to set, out on the track the car handled extremely well on the kit tyres supplied, however, travelling down the straight, the high-revving engine noise seemed to be out of all proportion to the sluggish speed of the car. Too late, I realised, the diff. was too loose, back in the pits and sure enough — flattened differential balls! To learn from the mistakes, it's better to have the diff. set



too tight than too loose. Subsequent heats throughout the day, albeit with an almost solid axle, showed up the characteristic, *Associated* smoothness, as the car seemed to glide around the corners, although as previously mentioned a softer rear suspension set-up would allow more power to be transmitted onto the track! A little bit of experimentation during the closed season will hopefully find out what works best and why.

Of course, the results for the RC500 speak for themselves, this year's BRCA Nationals saw the *Associated* Team winning top placings in each of the three days' open finals, only *PB's* Gary Culver managing to keep the 'team' from winning all three.

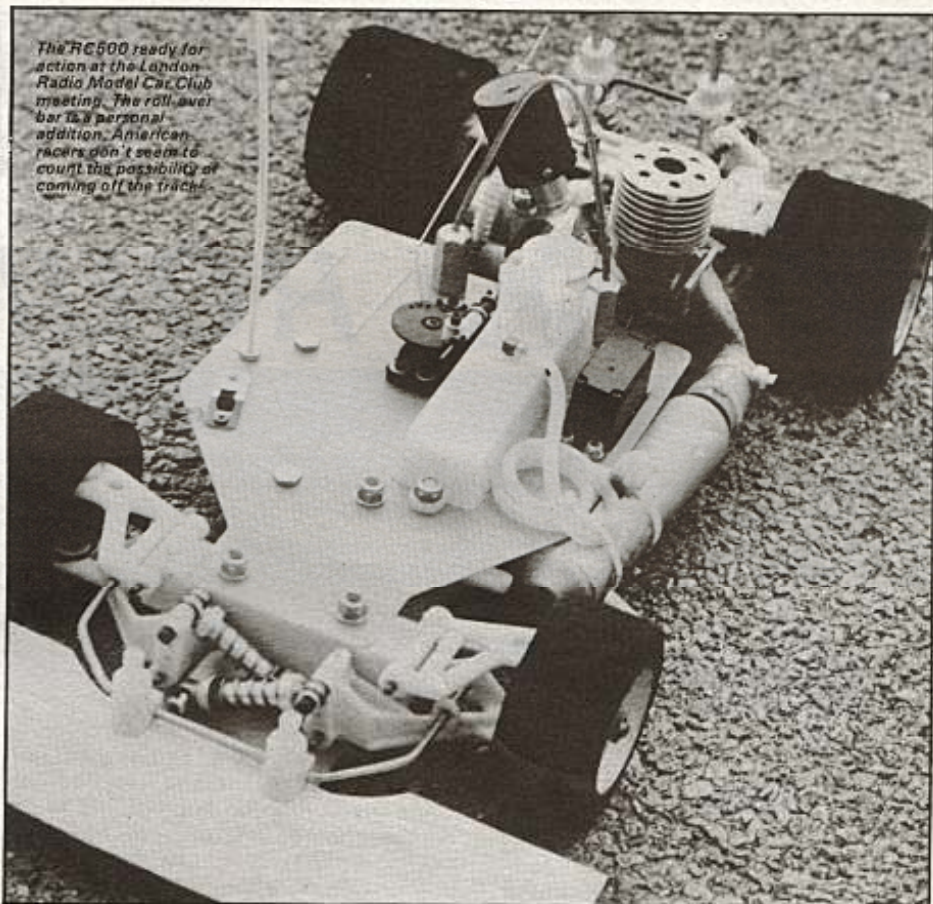
### Conclusion

From the kit point of view, the RC500 is exceptional, particularly the instructions, which not only tell you how to put the thing together, but also give plenty of useful information as well. Plenty of extra items are included, the sort of things that get lost — spare circlips, grub screws, washers (well I hope they're all spare) once built the RC500 is one of the 'cleanest' looking cars around the circuits both in appearance and handling. Roll on 1983.

**Price:** £200 (dependent upon rate of exchange).

**Available from:** Elite Models, 145 Newgate Lane, Mansfield, Notts.

*The RC500 ready for action at the London Radio Model Car Club meeting. The roll-over bar is a personal addition. American racers don't seem to count the possibility of coming off the track!*



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