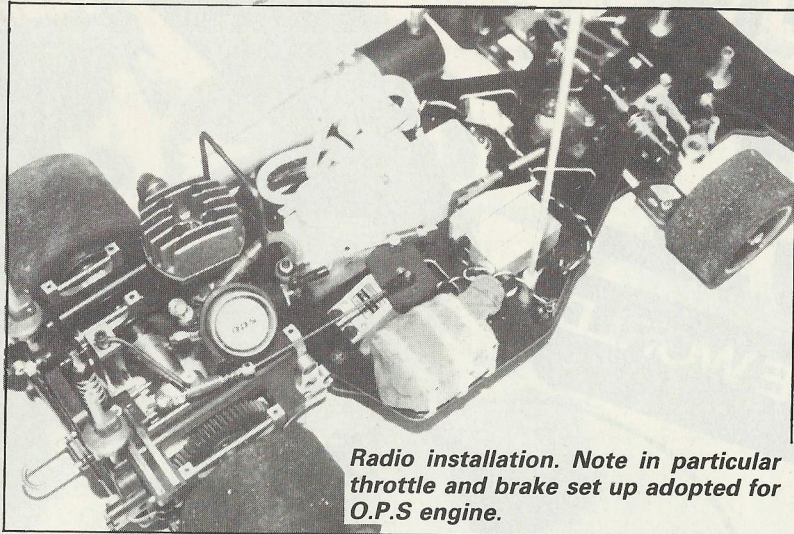
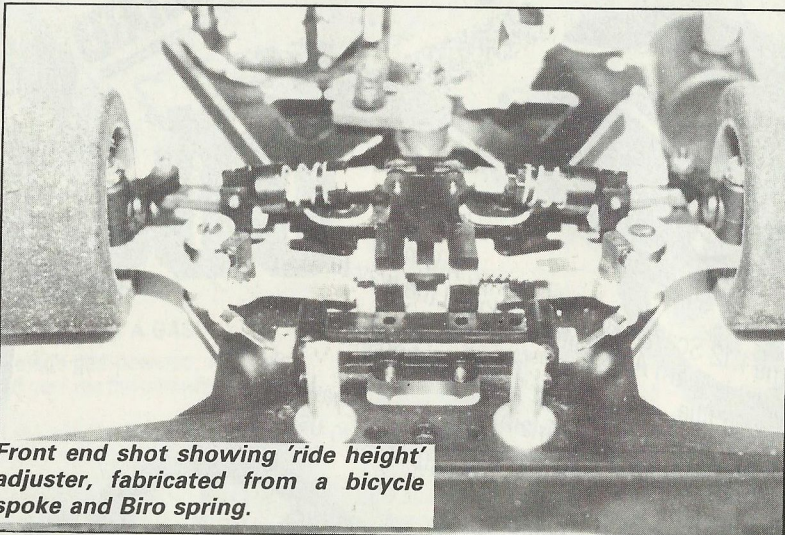


THE DELTA EAGLE REVIEW part 2

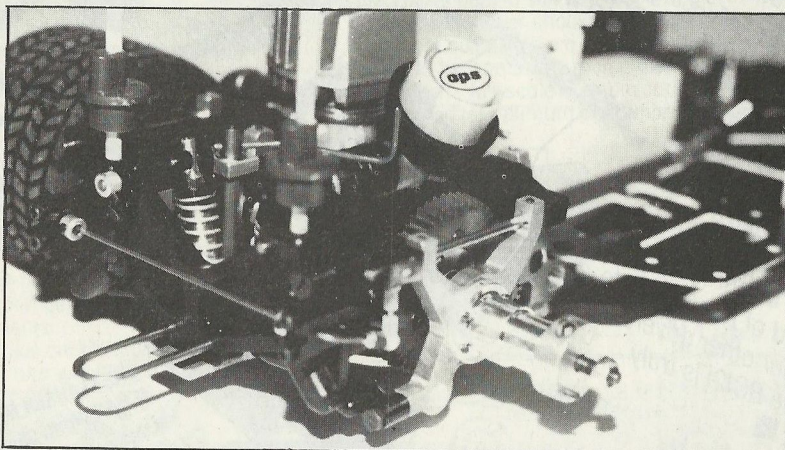
by Nic Marson



Radio installation. Note in particular throttle and brake set up adopted for O.P.S engine.

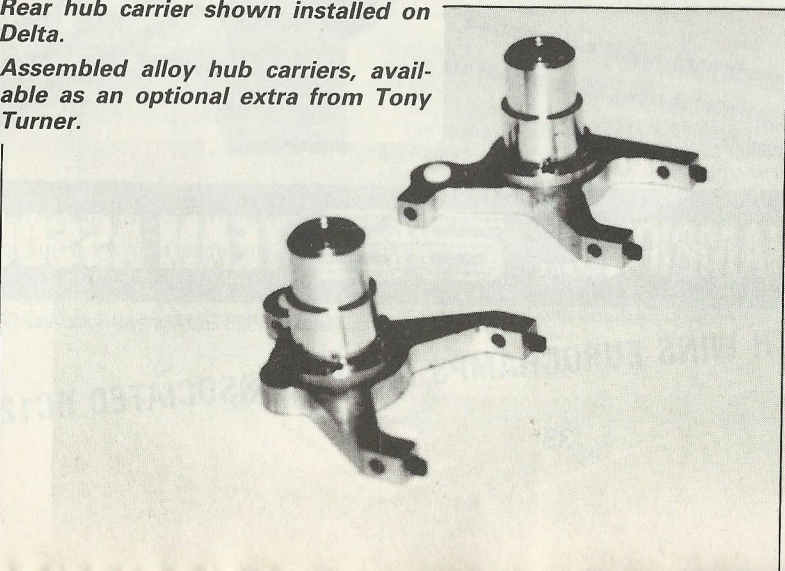


Front end shot showing 'ride height' adjuster, fabricated from a bicycle spoke and Biro spring.



Rear hub carrier shown installed on Delta.

Assembled alloy hub carriers, available as an optional extra from Tony Turner.



Yes there is more! In the issue 19 of RRC I had built the car, but had not installed the radio, set the car up or run it. So here we go.

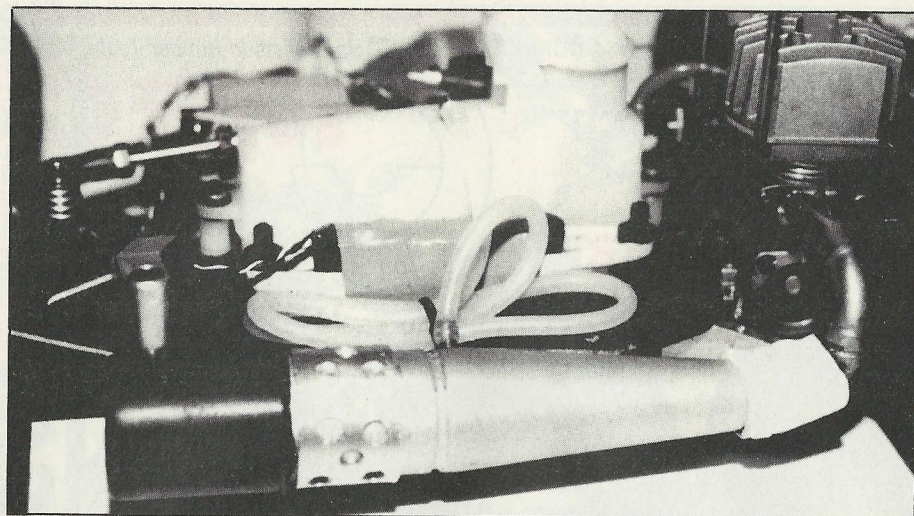
I have included in this article a section of one of the six highly detailed drawings, that deals with the radio installation. As can be seen from the drawing and photographs, the radio equipment is installed on top of the radio plate, thus facilitating easy maintenance and cleaning. The radio plate is fitted very close to the chassis. This gives a low centre of gravity and contributes considerably to the rigidity of the completed car.

The space allocated for the battery pack precludes the use of the normal 500mAH pack so I elected to fit a smaller, and more importantly lighter, 250mAH pack that I bought from one-0-one Models. The steering servo is mounted flat on the chassis using moulded plastic 'L' brackets. Delta have included all the hardware to connect the steering, brake and throttle up. The steering arm clevis is an excellent example of Delta's attention to detail.

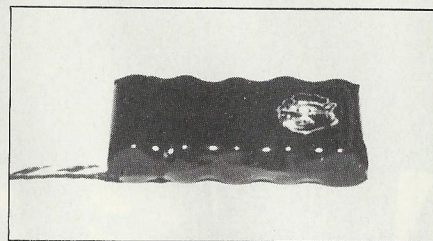
As can be seen from the accompanying diagram a very neat arrangement is suggested for connecting up the brake and carburettor. Unfortunately it is impossible to adopt this method with an OPS engine and the more orthodox set-up was resorted to. The carburettor on the OPS is inclined at a shallower angle to the crankshaft than on the Picco. This reduces the length of the inlet track in the crankshaft, thus decreasing the crankcase volume.

The resultant increase in crankcase compression should give improved engine efficiency.

Before moving on to the recommended set-up and track test (who-ops! that's an unfortunate choice of words isn't it Bill) a few words on the rear hub carriers are called for. On originally receiving the kit I was very impressed with the quality and strength of the aluminium parts. A couple of plastic components left a question mark in my mind. The rear king pins have already been covered. I was somewhat sceptical about the durability of the rear hubcarriers since there is only one lower pivot point. During a collision this could be subjected to considerable bending forces. I suspect that Delta having realized this as their Achilles Heel, have produced the alloy hub carriers as featured in Market Place (R.R.C issue 19) Being a two part construction, rear wheel toe-in could be incorporated by packing out the rear of the bearing carriers. It should also be pointed out that all the ballraces supplied with the Delta are of generous proportions and sealed (not to be confused with the cheaper shielded ball races). Needless



250mAh battery pack from One-0-One models. Can be supplied with a variety of plugs — old style Futaba shown here.



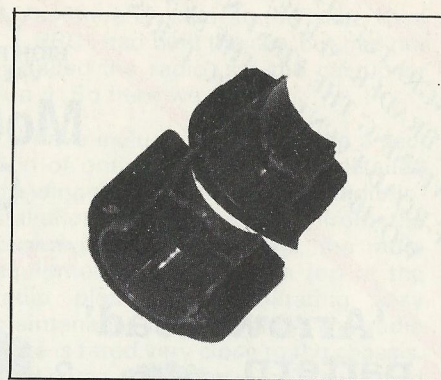
to say I have fitted the alloy hub carriers to the Delta.

A five page booklet covers the setting up of the Delta. As most of the contents are relevant to all model cars I will cover this aspect in more detail than one would normally expect from a kit review. It is recommended that prior to any adjustment the chassis is bounced several times to eliminate any slight friction in the suspension components. Firstly disconnect both front and rear anti-roll bars. The chassis ride height should be adjusted such that the front of the chassis is 1/16 of an inch closer to the track than the rear. The front suspension is adjusted by raising the rear of the chassis at the centre line and adjusting the front springs so that the chassis is parallel with the bench. I noticed that Art Carbonell had a ride height adjuster on his car at the World Championships, which I have copied. The rear wheel camber is next adjusted with the lower drag link so that the tyres sit square on the ground. Not only does this stop coning of the rear wheels but also puts down a bigger footprint. Delta recommend the use of a tweak board for adjusting the rear suspension springs. Toe-in is set so that it is barely noticeable when the rear of the tyres are pushed together. This represents the forces that are applied to the front wheels when the car is in motion because the king pins are inboard of the front tyre centre line. The amount of caster that is incorporated is personal preference. However more caster makes the car turn tighter when the power is applied. In the past I have always set the brake up so that at idle the brake is off. Delta recommend that at idle the brake is adjusted to be on — sufficient to slow the car but not enough to throw the car off line. The philosophy here being that when you let off the throttle you want the car to slow down. Sounds good advice so I

decided to give it a shot. Finally, Delta state that at least 90% of the cars handling comes from running the correct tyres. We have had differentials, suspension cars, shock absorbers and better shock absorbers so perhaps 1984 will be the year of the tyre. If it is lets hope they are cheap!

The next step was to run the car. Fortunately I tried it first in my drive as I had got the steering round the wrong way! Having sorted that out the car seemed to be running well. Brakes worked and the engine idled nicely and picked up very well.

Mendip next stop. I was somewhat apprehensive about the trip. I had an unfamiliar car, a brand new engine and a bunch of tyres whose characteristics were unknown to me. The first Mendip club meet in March was fortunately dry but extremely cold, in fact I'm sure it was trying to snow. Trying to set the car up in these conditions was very difficult. The best tyre combination that I had, seemed to be soft 202's on the front and soft Banjama's on the rear with Delta 350m's a close second. I experimented with the castor. Maximum castor suited this combination best. The acceleration and top speed (5.4 to 1 gear ratio) had to be seen to be believed. This is no doubt due to the lightweight Delta, with low polar inertia, coupled with the extremely powerful OPS and pipe combination. In fact when overtaking down the straight I was lifting off the throttle for fear of hitting the slower cars.



Interesting, unusual and unexpected cross sectional view of rear hub. Tyres are soft Bangama III — excellent grip in cold or damp. Available from Ted Longshaw. As the tyres don't completely cover the width of the hub I shall in future glue a half ring of say Delta 340B on the outside, this will help protect the Banjamas from damage during those unplanned side swipes.

During the first heat I must have sideswiped another car, for whilst accelerating down the straight a rear hub disintegrated (see photo).

During the second heat the acceleration proved too much for the Delta as it popped a wheelie down the straight, flipped onto its roof and crashed into the boards at the end of the straight. To the sceptics amongst you I was running a Formula wing positioned forward with virtually no angle. I believe the sole cause of this was the OPS coming on the pipe. The only damage sustained here was another rear wheel.

Unfortunately I only had Delta 340A's left and could only drive by soft peddling. However I did win one of the finals — but I'm not saying which. I have spoken to Tony Turner regarding the rear hub problem. The reason and cure are quite simple. In improving the rear hub carriers all the stresses have now been transferred to the hubs, which in warm or hot weather will take the knocks. However in cold weather plastic becomes brittle and hence more susceptible to damage. Delta are now offering cold weather hubs, presumably of more generous proportions or a more forgiving plastic. Another solution maybe to boil the hubs in water to stress relieve them — a trick employed with nylon model aeroplane propellers.

In summing up the Delta is a very well engineered car with lots of original ideas. All the parts fitted well with a minimum of fuss. A few of the plastic parts fell short of the exacting standards set by the machined alluminium components.

The Delta is available in the UK from Tony Turner and on the Continent from Danwell International. The price is around £220.

