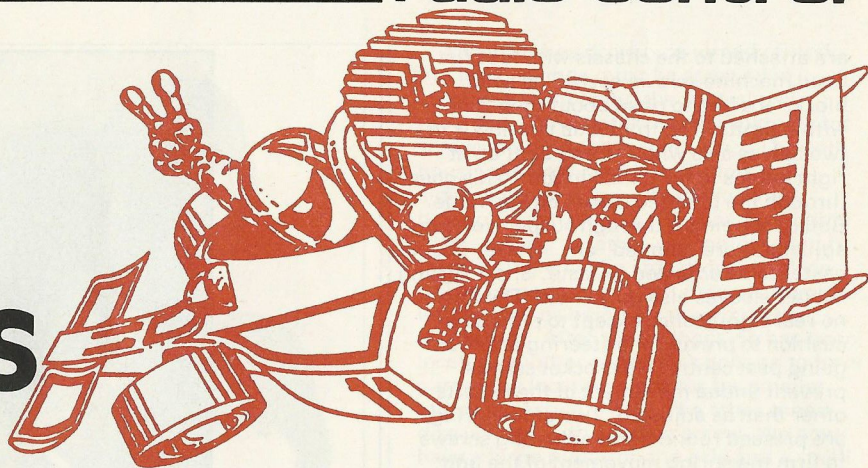


MR THORP'S



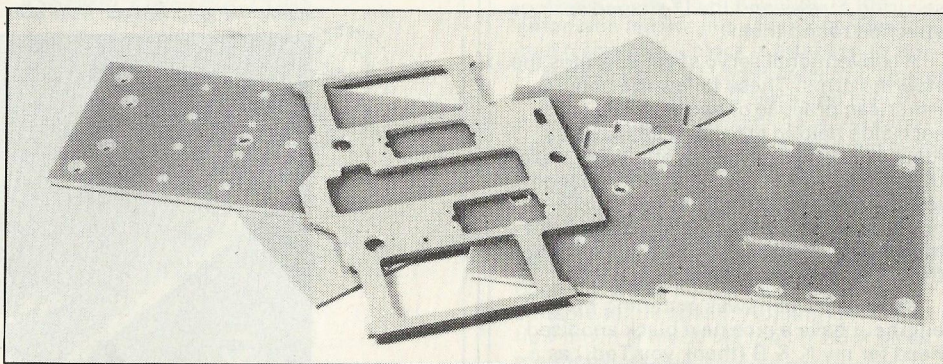
REMARKABLE MOTOR CAR

JOHN THORP is undoubtedly the doyen of the West Coast model car manufacturers and a leading spirit in the development of the hobby in USA and particularly in the warm climate of California. He built and maintained the first American purpose built circuit at Pomona, which was the scene of the first World Championship event in 1977 when the pirate-like Butch Kroells won for Associated, followed home by a stream of other Associated cars. Alas, John has just come to the end of his lease there and moved to new premises to continue his model car manufacturing, though still in the Pomona district.

He still competes and still has a surprise or two for the youngsters racing his unique differential equipped car with automatic transmission and sprung front end. The car is also belt drive — surely again unique amongst top class racing cars? Not quite in this case, the Swiss Brem company, who claim to sell the most expensive kit in the world also sport a differential and belt drive. The difference is that John was doing it before anyone in USA or Europe realised the potential of the differential. We can excuse the Americans who drive mainly on good traction circuits (car park lots in the local language) and have hardly had a damp breath for years to make the surface slippery. (Gene Husting complained of a wet year with nearly an inch of rain — “thirty times our average!” he declared).

With money still in hand at the end of a holiday in North America I treated myself to one of the Thorp kits, which duly arrived after the customs men had had a go through it. I don't know if the minor omissions now are John's fault sorting out after his recent move, or if the Inspectors dropped some tinies out when repacking. But all will be well Ted Longshaw keeps a stock of Thorp bits and will provide.

Meanwhile I have made a start on putting it together and am having a splendid time. It is very difficult to believe that this outfit has been around almost

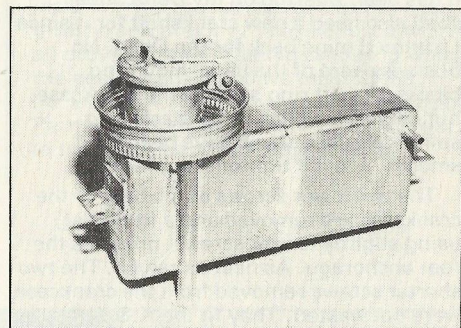


GRP chassis and cutout radio plate. Under is material for front bumper.

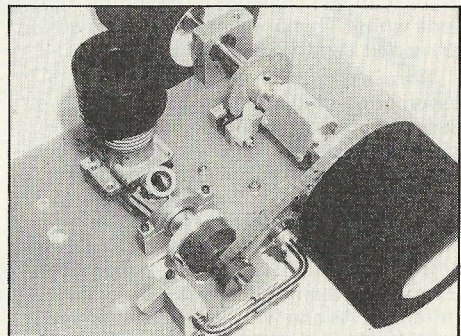
unchanged for nearly ten years, won very nearly every important race in USA, yet attracted only minimal support in Europe plus one near imitator. Bowing to popular demand the kit has a stout GRP chassis plate cut to shape and drilled as required. Holes are countersunk of course for CSK screws, so it is impossible to start wrong way up.

Disc brake assembly is neatly tied up to make sure you do not get it wrong and the two metal shoes lie horizontally on the chassis with the disc clear of the chassis (ie. no cut out needed) and position is very nearly central. This takes care of any thought that braking might be uneven with a diff. The differential axle, brake unit and the large pulley wheel adjoining the rear hub are all lined up with the plummer blocks and loosely screwed into place. Wheel attachment again strikes a new note. The alloy hubs each have three securing screws for attachment of wheels. Wheels by the way come trued and glued, a welcome thing since I always require a major cleanup afterwards however careful I am with plastic bag mittens. How some people do it and stay immaculate I don't know! Hubs are placed on axle allowing a very slight protrusion.

Now for the interesting sprung steering. The two halves of the unit compromise a solid block through which a steel pin pivots about two L-shaped hangers; a similar unit is also made for the other half. These units



Fuel tank with flip-top for fast refilling. Overflow tray and waste pipe which goes through a hole in chassis.



Rear wheel, drive belt and rear axle with differential and pulley drive wheel.

are attached to the chassis with four flat head machine screws each. The solid blocks are free to pivot about their pins within limits. The front axle bearing is in two halves also with the end bent up at right angles to form the kingpin. This goes through the pivoted blocks on each side. Before slipping it through suspension cam adjusters are slipped on. These enable caster to be adjusted to taste. Short sprung rubber sleeves also go on now. They have no real significance except to provide a cushion to prevent the steering arm from going past centre. Hex socket screws prevent undue movement of these parts other than as adjusted. Two stout springs are pressed round these adjusting screws to firm the spring movement of the unit. Stub axle blocks are slipped over the kingposts and locked in place with collets. Plastic steering arms are attached to these axle blocks. It will be found that each wheel has a separate upward springing movement. This can be adjusted by the securing screws and the U-shaped springs attached round them.

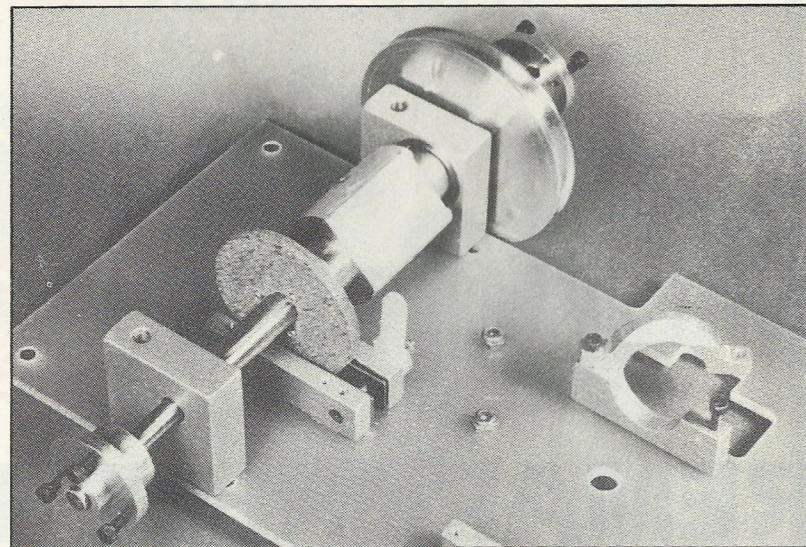
A conventional servo saver operates the steering arms. These follow the popular American practice of two separate rods each side held in place and adjusted by means of two securing collets. I don't like this very much and will certainly change for the nice ball and socket style more general in these parts. At this stage I put the wheels on all round to get a look at how the car was shaping. It shaped good!

Next excitement was installing the engine. I have a nice new black anodised head for my K & B (thank you Ted!) as a change from the 'Dexion style' Delta head it has been wearing on my Delta Super J. I shall also need a new crankshaft for it since I trimmed mine back for the Delta. No business here of the usual mounting blocks. A split ring secures the crankcase, but only after some of the machining splines on the outside have been filed smooth, when it tightens up precisely.

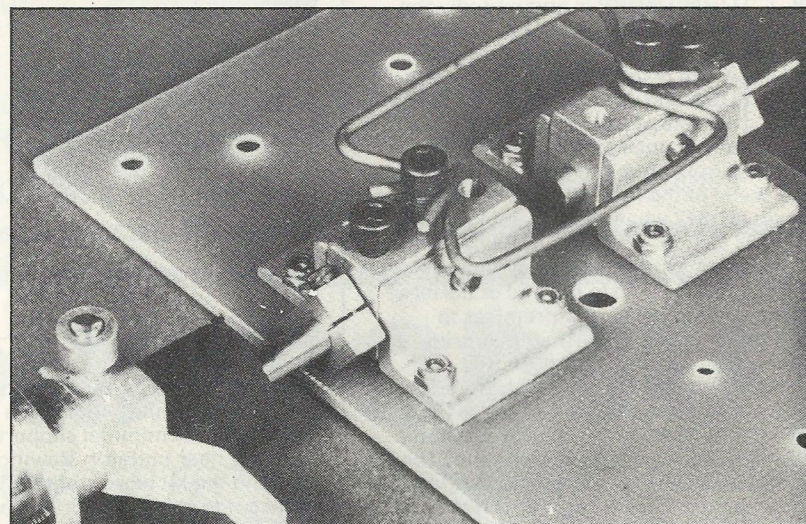
The two lower screws at the back of the crankcase are removed and a fitted bar, using slightly longer screws, provides the rear anchorage. As neat as can be. The two shorter screws removed from the crankcase were not wasted. They fit the K & B threads higher up to fix the manifold!

By the way, thoughtful John says to avoid oil slung from the front engine bearing, file a spiral groove in the crankshaft so I shall not be changing mine for a whim. This prevents oil getting on the drive belt and the rest of the car.

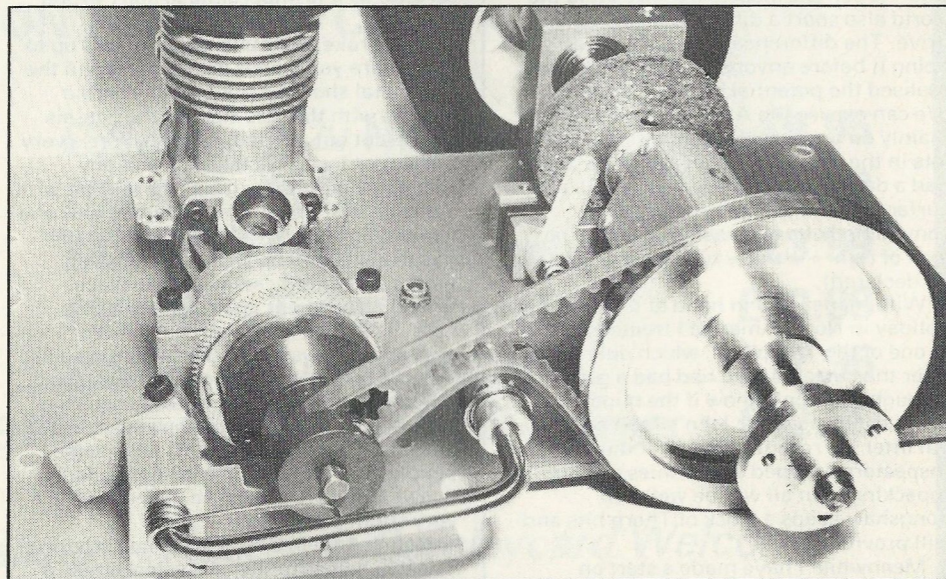
We are ready for the big task of assembling the automatic transmission. A series of steps numbered one to eight are given diagrammatically. Even though you may be reading this only for information they give so good an impression of this fascinating exercise that I am including them. I hope, at any rate that some drivers will be tempted to have a go Thorp-fashion. Everything along the line is a little different. As one who can drool over a four cylinder Japanese motorcycle engine and its four carbs I hope you can join me in admiration.



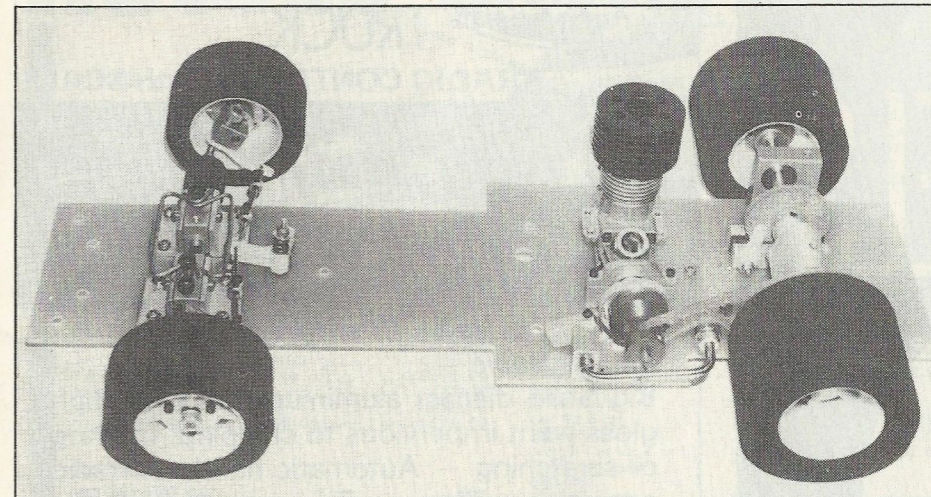
Axle installed on plummer blocks with disc brake in centre. Turned hubs have three screw fixing to wheels. Note also unusual fitment to secure engine.



Detail of sprung fitting for steering unit.



Drive and automatic transmission set up.



A general view of the rolling chassis.

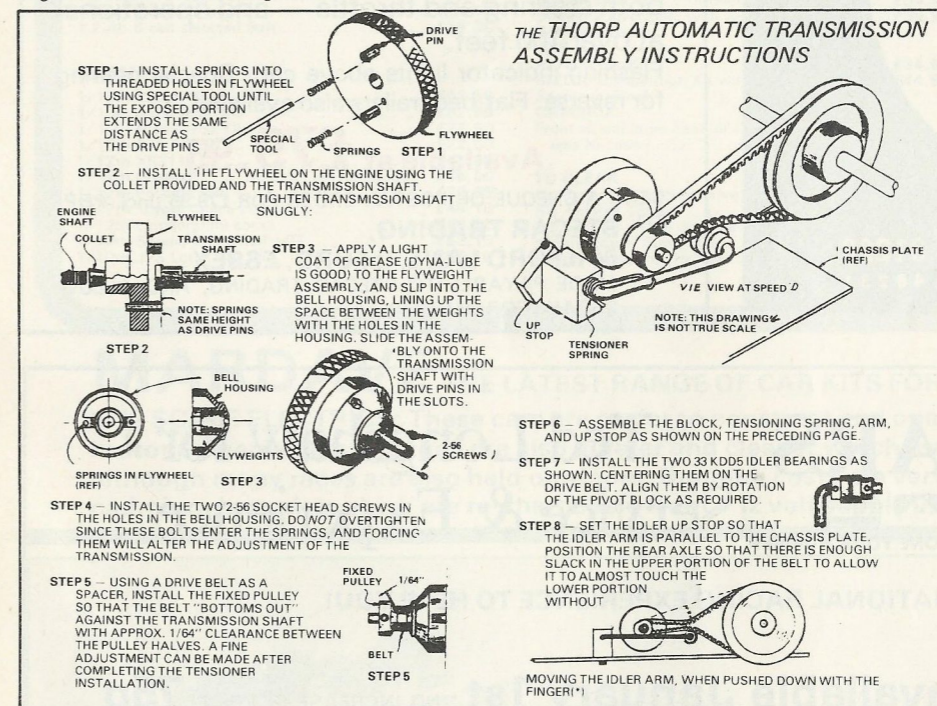
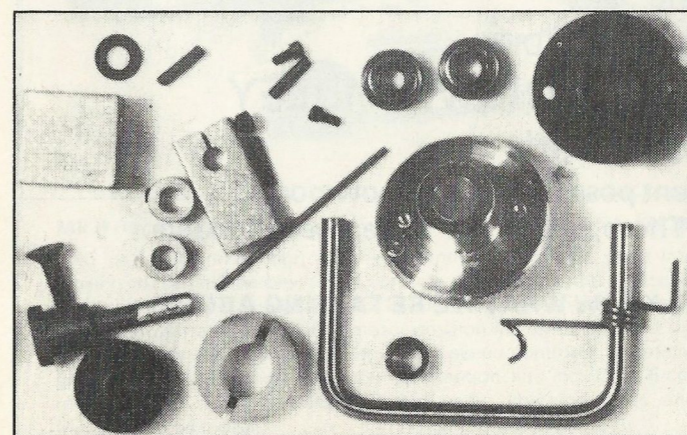
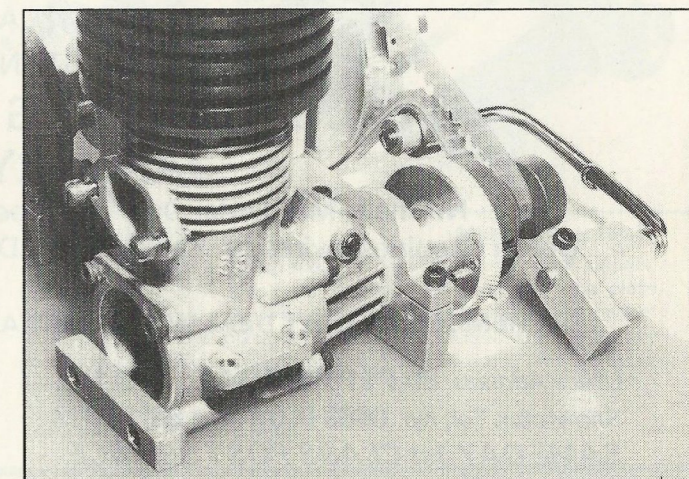


Diagram series to show setting up of clutch belt drive and adjustments.



The parts that comprise the automatic transmission clutch and bell housing.



Rear view of K & B showing installation.

Flywheel has drive pins already fitted; but light springs must be screwed in adjoining them using the special tool provided. These later provide seatings for screws holding the bell housing. The bell housing is finely made with slots in its sides which engage with the flywheel drive pins externally. The shoe flyweights, ready sprung together are contoured to fit the housing and slip smoothly into place.

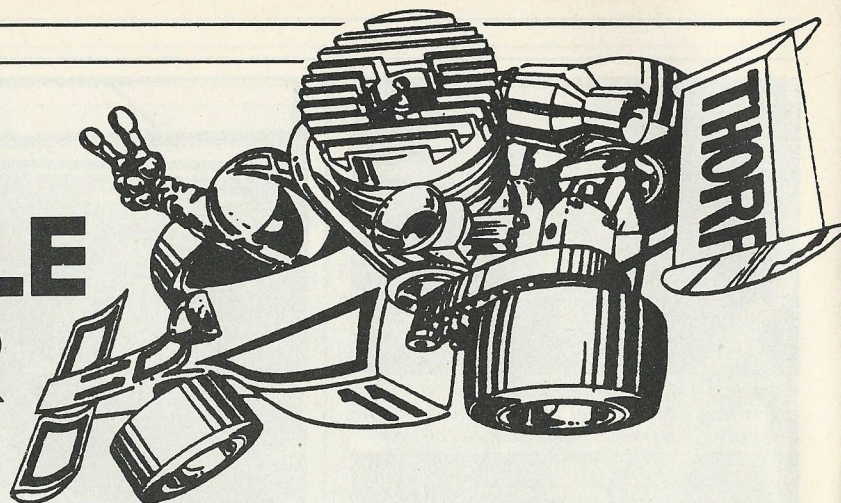
The transmission shaft extends from the unit as well as being screwed onto the crankshaft. After the bell housing has been located, another coned disc goes on to form part of the locating sides for the smaller pulley to carry the belt. The other coned disc is fixed with an allen screw. We now have a large pulley on the axle and a small one on the engine. These are joined with a toothed plastic belt (similar to a sewing machine belt, or closer to our interests — a stock car drive belt). Some adjustment can be obtained by the slotted plummer block fixing holes.

Then comes the installation of the automatic tensioning which provides the speed control. A block is attached to the chassis to carry a U-bent steel rod. One end of the U goes into this block and is held in place with a further stop block. A ready bent spring restrains the movement of the rod about the block. The other end carries two ballbearing held in place with collets. These bearings press against the underside of the belt with less or greater force according to speed of car via throttle opening, providing more or less slip suitable to the speed. Adjustment of just how much is made via the up stock block mentioned above.

In the next issue, radio plate will be installed and the various connections for throttle and braking. These unusually are all provided with little tags showing which rod goes where. Then we must fit the bodysell — I have a nice Mercedes from Parma that I am anxious to fit, in addition to trying my hand at spraying silver.

MR THORP'S REMARKABLE MOTOR CAR

— Part 2



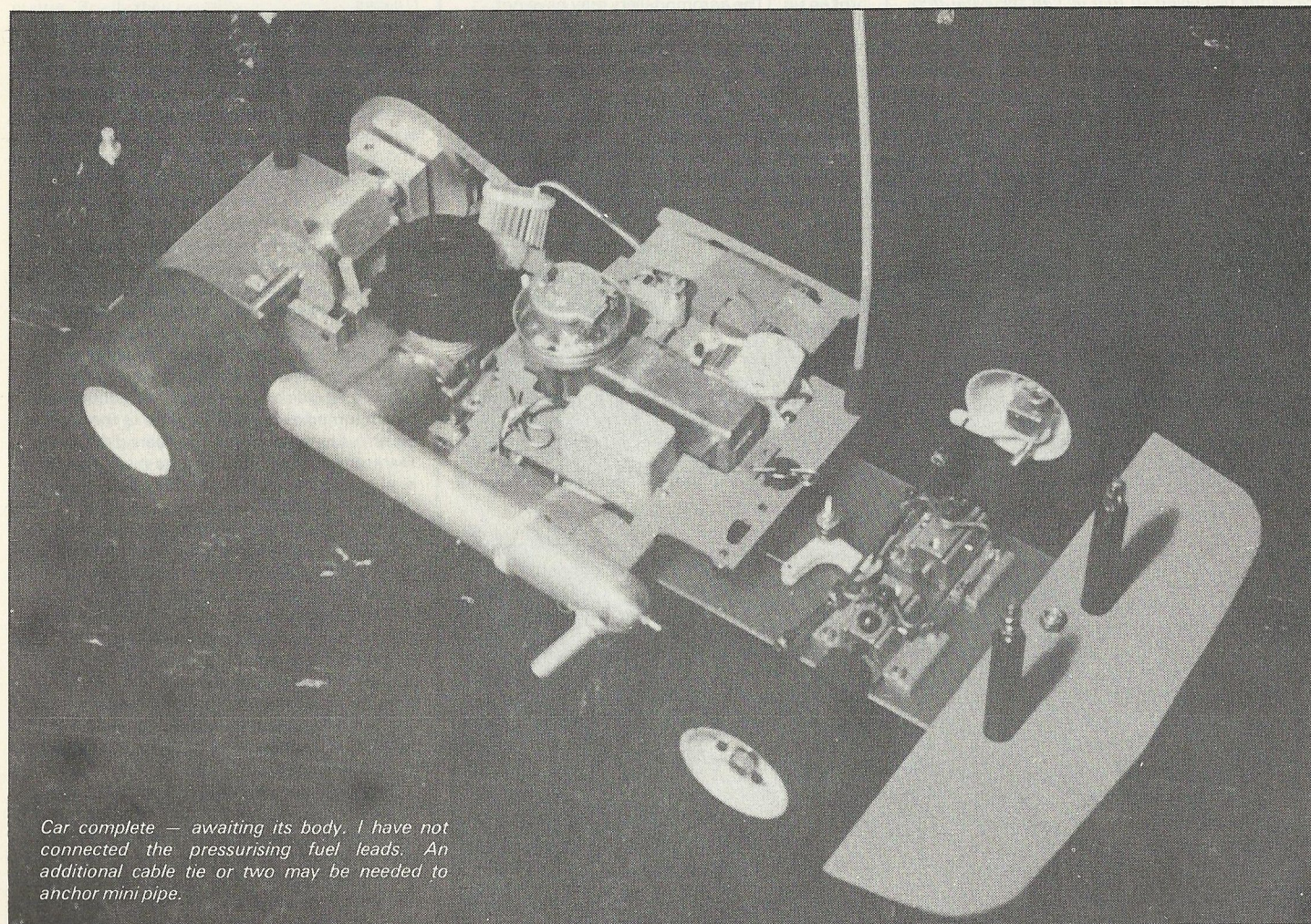
LAST ISSUE we had the basic chassis constructed and the exciting belt drive fitted. Wheels, sprung steering, servo saver, diff. and the general ground work completed. When we come to the fixing of radio plate, alas, either John Thorp or HM Customs in their inspection have failed to include any mounting posts or the roll bar, nor the accompanying grommets and set collars. Not important this really, since I had no intention of fitting a roll bar to a saloon body, and posts are no problem to fabricate from the oddments box.

Plate is ready cut out to take fuel tank and drilled for the two servos. Unlike

some, they are all exactly the right size and allow for the leads to go through the holes and are even drilled to take the selftapping fixing screws. Strangely, holes to take fuel tank fixing screws are not drilled. Hole for aerial mast holder was indicated, as was that for the so-called 'servo-saver' between servo and throttle — it is really functioning as a simple bellcrank. A PB aerial mast mount was fitted. Then came the question of the mounting posts. Length was dependent on sit of the fuel tank — here even an overflow hole had been drilled in the radio plate to take the overflow pipe.

In the usual way the two rear securing posts were to be held down hard via rubber

grommets and the front one left looser with a bit of movement. Instructions at this stage are explicit. Steering servo is mounted wheel down and to the front: throttle/brake servo mounts wheel up and to the front. Now we can open the packet with the labelled and ready bent up connecting arms to assemble the linkages. Steering linkage goes from longest arm on servo (fuel tank side) to middle hole on servo saver. All the other units allow a degree of latitude, certainly in respect of throttle servo since either a slide carb or a normal Perry type may be fitted. Since Thorp have a slide throttle amongst their 'goodies' I must suppose that this will be



Car complete — awaiting its body. I have not connected the pressurising fuel leads. An additional cable tie or two may be needed to anchor mini pipe.

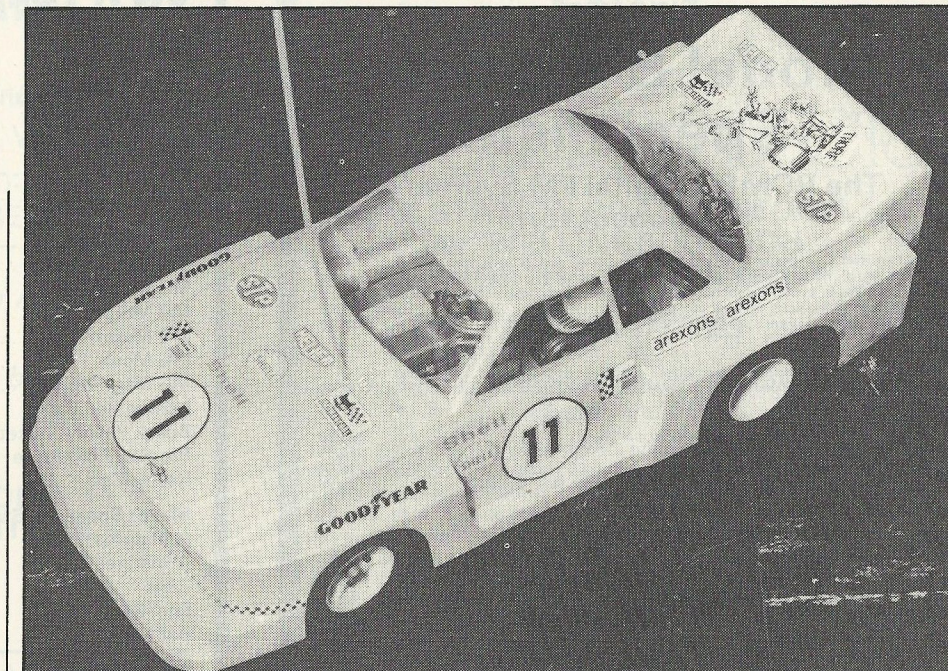
Just like any other car with the body on! I think it looks very pretty — and to be able to say "I run a Mercedes, you know."

the preferred installation. With the disc brake well over to the left away from the drive side the on/off brake movement operates through an intermediate level, so that the exact size leads were very useful. Each comprise either a double length with two set collars to adjust, ends being hooked to go into servo wheel holes, or lengths hooked thus with right angle turns to take set collars. I am a great one for collars.

I had a nice long cigar type exhaust which I had not yet installed anywhere and this fitted exactly on the K & B manifold (from PB). How to fix it easily was a problem solved by Arturo Carbonnell who lashes his to the side of the radio plate on his Delta with no less than four cable ties. I have settled on one, as I am not quite sure how hot the exhaust is going to get and may wish to protect the plate against the heat with some insulating wrapping. Proximity to battery does not seem to worry Art.

Next thing was the bodyshell. The nice Mercedes 500 SLC from Parma was ready to be tried. Quite frankly it was not precisely right for the Thorp chassis, but a little adjustment of the wheel openings and all was well — at least until some Neubauer-like person checked it! Whilst still transparent the holes for the body posts were marked.

Here, by the way, it became clear that I had no rear body post bits $3\frac{3}{4}$ " long to fit at the back, so extension pieces were screwed into the tops of the longest ones I had. In the same way extenders were fitted in front. Thorp had made provision for two posts at the front so I went along with this. Front bumper supplied was not cut out so body was placed in position and drawn round, when the surplus was cut away with



a handsaw and trimmed up with a file. Hole for aerial mast was not made at this stage.

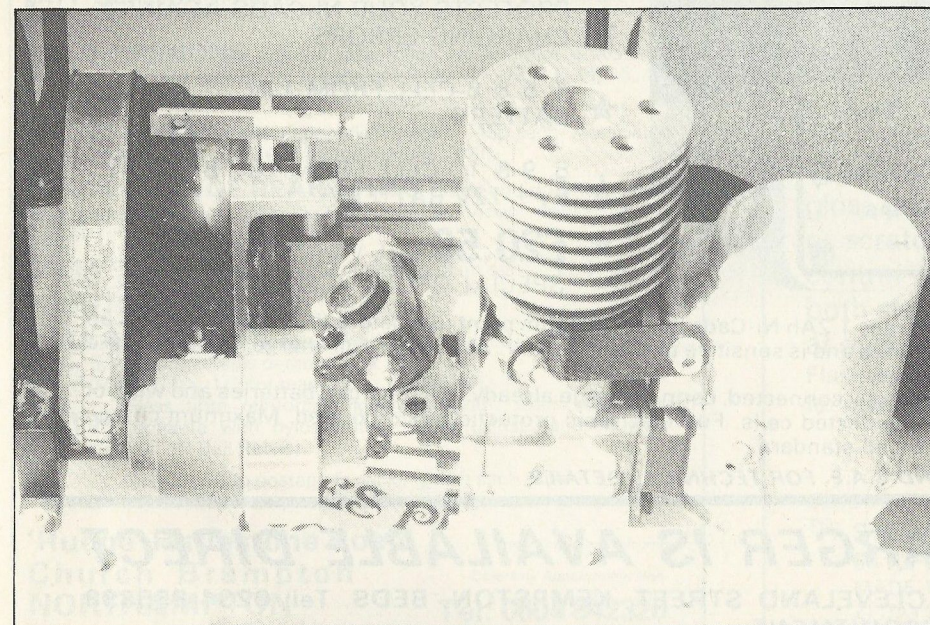
Front, rear and side windows, six in all were carefully cut out from Frisk the transparent adhesive sheet I have mentioned before — I wish it was coloured, perhaps I can get some like that! and stuck to the appropriate window. By leaving on the backing until the very last moment it is easy to fit in place. But it never seems to be quite exact however carefully you cut, perhaps it stretches, but you may have to doctor it a little by cutting away or adding bits. Don't hurry! This was my trimming lot: No fancy stripes on this one — just pure silver!

When spraying plastic model aircraft to get a silver finish very thin coats and a final clear spray coat seemed to produce the best result, so here the Lexan was

regarded as the clear finishing coat and several very thin silver coats given. The final coat left it still translucent and able to read print of newspaper on which the bodyshell rested. Then a final series of white coats, not quite so thin this time and the moment of truth! Peeling off the window protective covering of Frisk proved hundred per cent clear — not a drop had crept under them I am not sure whether to thank the thin coats or my newly acquired Badger airbrush. I will give thanks to the brush.

A few decals from my secret store to finish the job, plus a carefully cutout Thorp trade mark with the driver and his V-sign at the back. Numbers came from a Graupner decal strip — No. 11 again like Mr Thorp's little man. Hole for the aerial was by the way, done at this stage. Result — I think — very satisfactory, a silvery look without it being too obvious a lot of aluminium dust in suspension!

Kit comments? An exciting kit to make up — full of nostalgic thoughts as I made it: the first diff ever for models, possibly ditto sprung front end; first purpose built circuit by Thorp in USA — Pomona, scene of first World Championships ... But marred rather by shortages both of materials and 'how-to-do-its' just when they would have been most welcome. As to the former I did not know who to blame — lack of a parts list leaves the issue open. I hope some people will be encouraged to build a kit up over here — Ted Longshaw has them in stock.



Just for comparison. The Brem car from Switzerland with belt drive and diff. Completely different layout. Note strap retaining silencer "dustbin", conventional engine fixing, and disc brake adjoining belt. Billed as "most expensive kit in the world".