Track Test

by DICKIE DICKSON

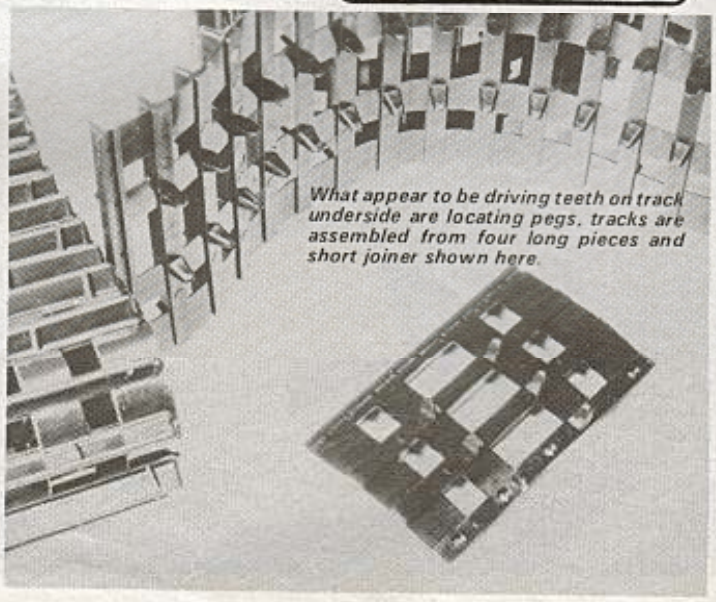
I ENJOYED ASSEMBLING and running the *Kyosho* motorcycle — though you did need a 'pick-up man': the IC *Kyosho* 'Go Kart' has been a continuing family delight — always in demand when the younger generation are around. Arrival of the latest *Kyosho* offering "The Blizzard" Caterpillar Tractor was greeted with enthusiastic anticipation. This is the first of a welcome breakaway movement from the purely racing or raceable image to a fun vehicle in its own right, and should attract a lot of builders who are never likely to race but are keen on operating a worthwhile machine.

Some useful novelties have been introduced in the 1/12th scale kit. First of all it is designed for two or three channel operation. In standard form two channel is enough, but an optional accessory in the form of a power shovel uses the third function and turns the "Blizzard" into a bulldozer. The extra kit also includes a muffler (purely cosmetic) and a harness to install the patrol light to provide a flashing on/off "At Work" indicator. Another valuable item is the provision of *two* Ni-Cad battery packs (6N-1200) which are connected in series to provide up to 20 minutes of operating time between charges.

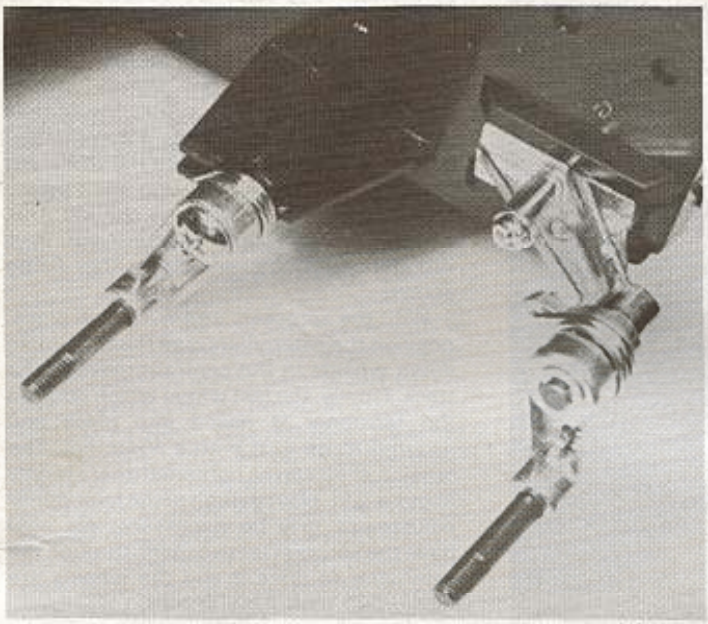
RIPMAX MODELS

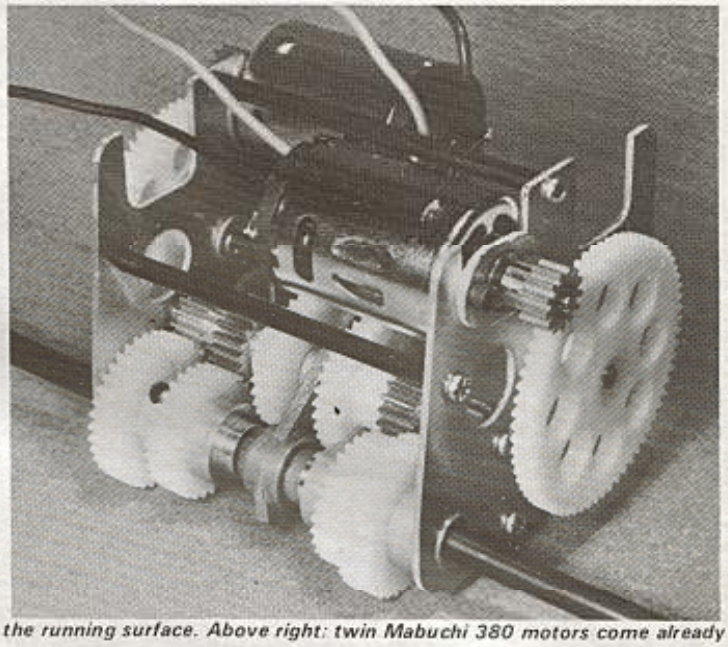
KYOSHO

BLIZZARD



What appear to be driving teeth on track underside are locating pegs, tracks are assembled from four long pieces and short joiner shown here.





Above left: spring loaded tensioners allow track to follow undulations in the running surface. Above right: twin Mabuchi 380 motors come already assembled in the gearbox. Separate motor for each track.

And so to Work

As usual the Japanese instructions and illustrations have been admirably translated into English and should be read through and considered *before* making a start. Caterpillar tracks are no model novelty and have been in use on tanks from the beginning of the plastics age. Here we have four long strips and a shorter joiner piece for each side, involving a multitude of little screws to be inserted. There were five screws over so you can afford to drop one or two! However, before starting on this it is a good idea to spray paint the ten wheels while still on their 'tree'. As the sprocket is bright metal, a coat of silver was the obvious answer.

There is a whole series of suspension springs in three varieties and all in left and right hand windings — special attention is drawn to using them in the right place.

Tyres and Wheels

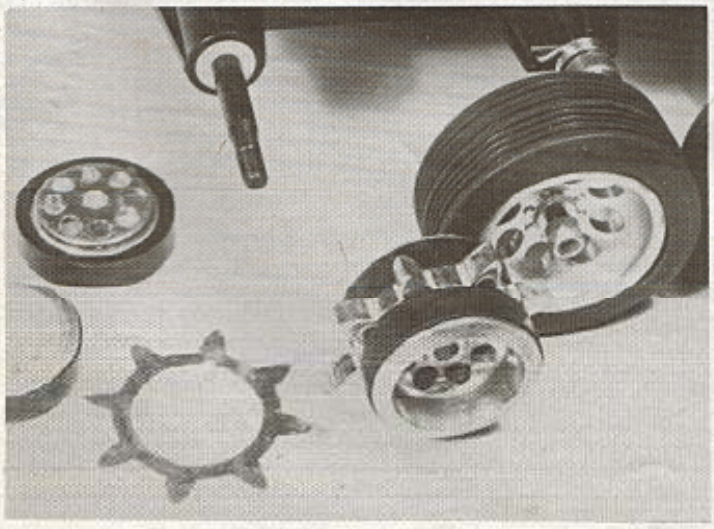
Tyres are of the hollow variety favoured by Japanese kits and fit snugly into the channels provided. They are secured with instant glue, just a drop on the beads and they will not be removed under any circumstances — the rubber gives first — so get them properly bedded first go. By the way prices of Instant Glue vary widely — I have bought *Loctite* 'Super Glue' at £1.25 in the local hardware shop and 89p at *Woolworth*'s so shop around.

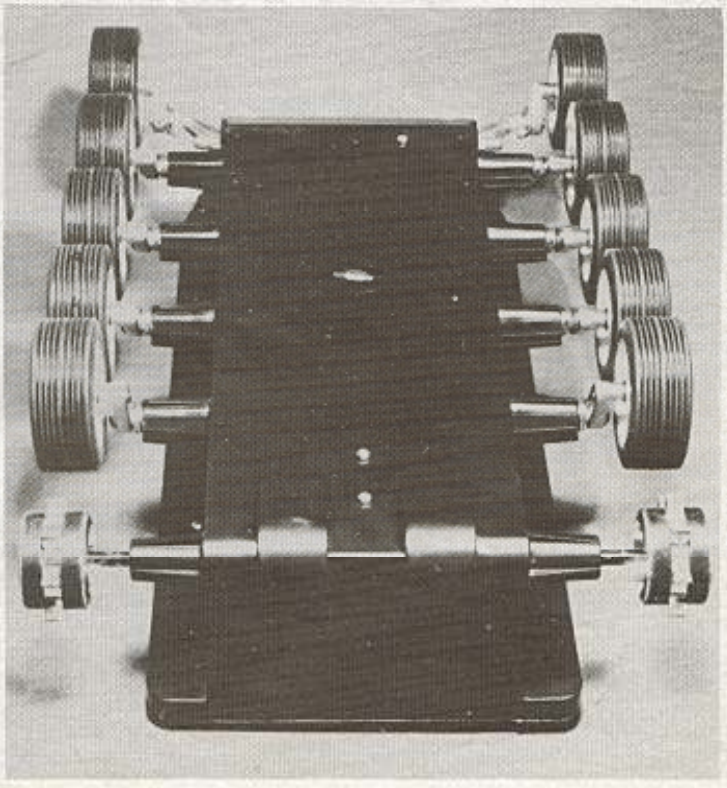
The assorted springs and trailing arms are fitted into their sockets, which have retaining slots to locate them, and are secured with trailing arms. The hard plastic 'bathtub' chassis should delight you at this stage. For the first time since making up a *Micro Racing* buggy here was a receptacle for everything which did not need to be twisted, connived at or frankly done without! Four wheels go on each side at this stage. The fifth wheel has a special trailing arm and is fitted later.

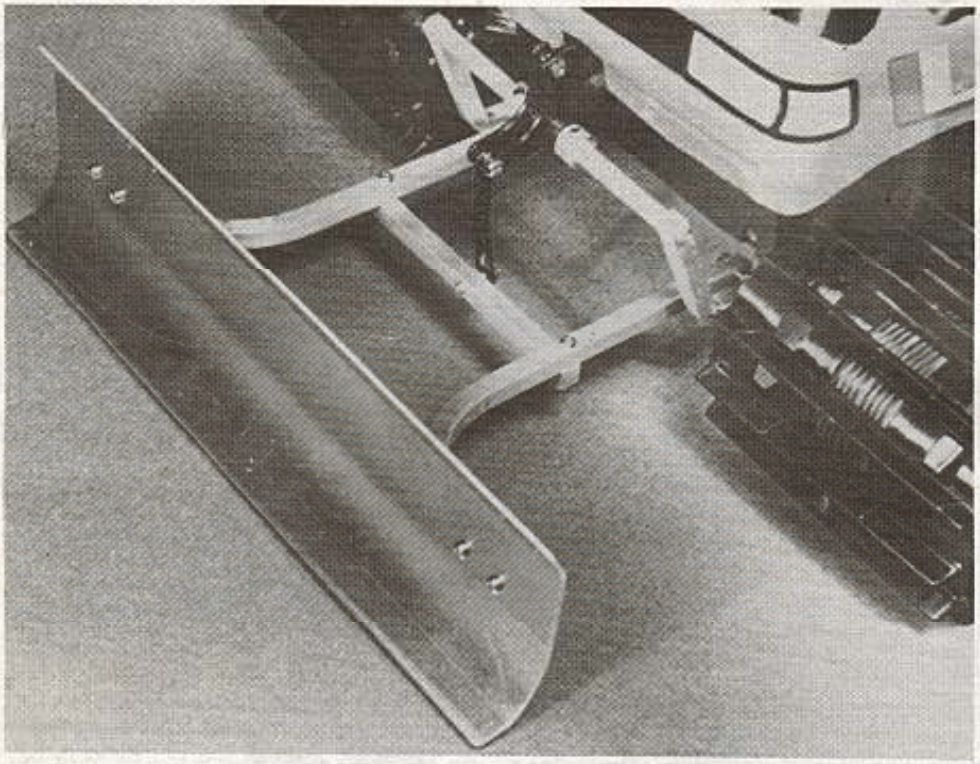
Motors and Gearbox

Those who have built tanks will know that tracked vehicles perform turns by driving one set of caterpillars at a time (and even quick turns by reversing on the opposite track). Here we have two separate

Below left: drive sprocket and intermediate rubber tyred idler wheel. Right: upside down chassis ready for fitting tracks.







Above: power shovel blade, simple direct operation from third servo. Below: neat transistorised light flasher requires PP3 battery.

small motors, one to each track. The gearbox looks quite formidable, but, happily, is virtually ready assembled, with one of the half shafts holding the gears in place temporarily. The two motors are attached in place with mounting plates which allow adjustment. Pinion gears are secured with hexagon socket grub screws, but a flat should be filed on the shafts to ensure firm fixing. No recommendations as to thread lock appear in the instructions (nor is any provided) but at least all small boats and any others likely to be inaccessible later should be so treated.

There is a choice of high gear (32:1) or low gear (12:1) to be obtained by tightening the appropriate grub screws — *but not both* or the whole mechanism will lock! First fit the half shafts. As soon as the temporary half shaft is removed the lower bank of gears is liable to fall out, so slip a short length of rod through for the moment, so that the gear unit can be lowered into the chassis tub. Half shafts are then pushed in from either side (pushing out your locating rod) and secured by the chosen gear ratio grub screw. Two screws hold the gear unit in place.

The tensioner arm, which looks rather like the suspension arms already fitted is now to be the next job. To keep the chassis waterproof, rubber gaskets are cemented to each of them, and they are then screwed to the square section tension shaft which goes across the inside of the chassis. This can be eased a little forward and then brought back by adjusting the fixing screws.

With the sprockets and wheels in place, position the caterpillars over them, bedding down wheels in the central groove of the track. Finally, the last wheel which goes on the tensioner is eased into place and secured in its turn with a *Nyloc* nut. The tension shaft can be tightened (there is only about a ¼in. play) though some later minor adjustment may be necessary. We now have the sprocket teeth coming through the caterpillar to drive it and the wheels are lined up in their track exactly.

Servos and Controllers

The two controllers are identical in size but different in design. One is a conventional wiper type speed control, the other is halved so that one side feeds power to one caterpillar and the other does the same for its partner. For straight ahead the wiper stays in the middle. Neat little ball fittings are provided to fit on the wipers and these should be fitted before installing them on the chassis. Thread lock please!

A crossbar is provided for attachment of controllers, and a similar one for the servos, which also fit on to the first plate, making a compact unit which is screwed to chassis with four screws.

However, some joining up of leads is first necessary. With so much room it occurred to me after my first three soldered joints (wiring very clearly shown in instructions, by the way) that the rest could well be done with the aid of 'choc block' connections, and some of these will be seen in the pictures. Lazy of course, but very helpful to those who shy away from the soldering iron! The two Ni-Cad packs fit exactly on the bottom of the chassis to give useful weight there and another crosspiece with rubber block holds them firmly in place. Standard connection for charging via a *Kyosho* charger (mine came with my motorcycle and has been in constant use since) is already on them and spare connectors provided.

The Power Shovel

If you are going to fit the power shovel, do not screw down the servos/controller panel yet, since the arms of the shovel must be screwed to the underside of the chassis, via four holes, indicated but not drilled (you must do this) and it is simpler to do before this is installed. Wisely the servo strip is designed to take three servos, so that the power shovel should go in the middle between the others.

The shovel moves up out of the way, or is lowered flat to scoop up sand, earth or what you will. It is frankly a simple bulldozer. There are no side rams as shown in the box illustration. Movement is controlled solely by the swing of the servo disc.

Body

A clear body is provided which requires only a minimum of trim to fit. Windows must be masked before colouring is done. I seized the opportunity to use some acrylic paint that *Bo-Link* had sent me recently to brush finish the inside with red paint as per box picture. The acrylic paint is very easy to use, brushes can be rinsed in water, and there is no smell. This last most attractive domestically, since winter weather made painting in my cold workshop uninviting. Load area of body was painted black on outside of the lexan giving a matt finish — the rest being bright and shiny through the clear lexan. The 'fording' muffler was also attached from the accessory set — pure cosmetic item. On/off switch for radio is fitted behind cab.

A flasher set for the patrol light is neat and attractive and again has a switch on/off to fit on body (it is not R/C, though could be modified to come on only when shovel in use). Instructions for shovel and light were entirely in Japanese (our review kit no doubt an advance delivery and should be Anglicised in due course) and only word of value was 006P for the little battery needed for the flasher, which proved to be our old 9v. friend PP3. A *Vidor* cost 55p though *Radio Shack*'s long life version was priced at 79p. You do have to watch it! Battery fits neatly into shallow box opening behind the cab and can be stuck in place with a little servo tape. Leads up to patrol light are taped to inside of cab and bulb fixed with a slip of card.

Another clear plastic moulding comprises the two seats and notional internal arrangement. This was also painted up in acrylics and is secured in place with adhesive tape.

A few decals were provided to liven up the body and altogether the finished job looks really impressive.

The Caterpillar

The drive sprockets are fitted together with self locking hubs, to which rubber rings are cemented. These are attached to the half shafts and screwed firmly down with the *Nyloc* nuts so that they are pressed well onto the tapering shoulders. You may have to grip the shafts with pliers to get a good fit.

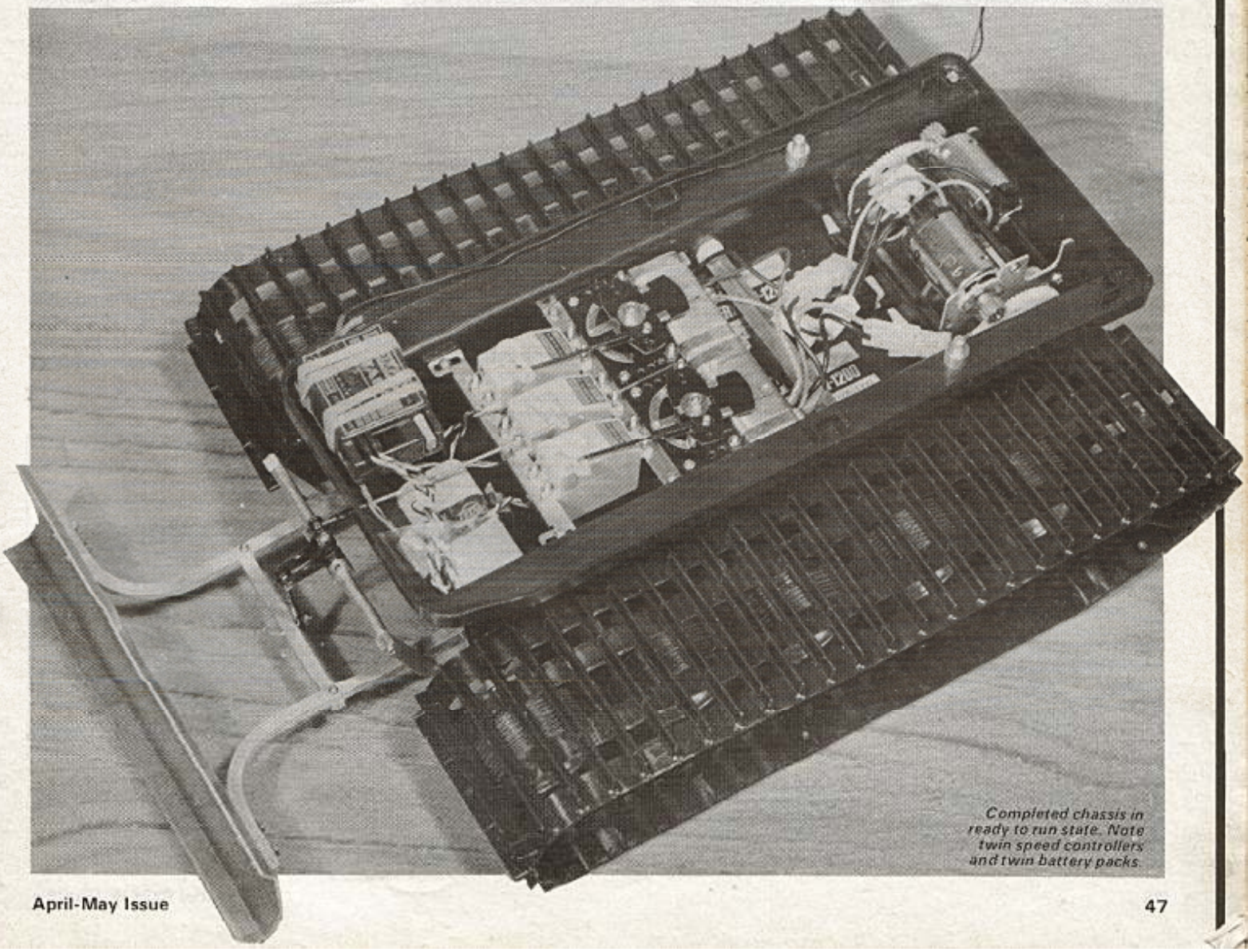
Final Thoughts

A real fun kit that requires very little more than time to construct. Some people will find it a useful base on which to produce novel and additional movement. I would like to see the shovel fitted with rams, and a facility added to swing it to one side to act as a snow plough (very fashionable this last winter). Some form of towing attachment might be fitted. It can climb quite steep gradients and a test of total tow capacity would be interesting. I would like to have found thread lock and oil in the kit, but this is sheer greed. In all other respects the customer is very well served.

Dimensions

Length: 360mm; Width:304mm; Height: 225mm; Weight: 2.4kg; Motors: 2 × Mabuchi RS-380.

Price £79.95. Available from Ripmax stockists. Optional accessory pack £12.65.



Completed chassis in ready to run state. Note twin speed controllers and twin battery packs.