



FORD F-150 RANGER XLT

BY DICKIE DICKSON

A NEW TAMIYA KIT is always an event. If you have already built their other off-road kits you will know what to expect. The Ford Ranger is a step up from the popular Holiday Buggy but very much a stable mate for their oil-filled shock absorber all independent Rough Rider/Scorcher. The newcomer will find the usual *Tamiya* thoroughness in presentation, building instructions and sheer completeness. Such necessary — but not always ready to hand items — like Allen keys, thread lock, damper oil are all included. Only expendable item omitted is instant glue (I use the *Loctite* version). Nicads, R/C equipment are of course not included. The *Acoms* series is the 'matched' equipment but most of the better known makes fit in the space available.

An illustrated parts list enables the builder to identify the numerous items provided. A quiet evening reading the instructions and getting to know the parts is essential. Screws, nuts and bolts are in separate packages, each having contents listed on them. I tip them into separate little tins for working purposes (save the small open tins from liver pate and the like — they are ideal!) but keep them sealed until actually needed. If it is necessary to open for a special part before main contents required re-seal packet with adhesive tape. There seem an awful lot of the little bits but on finishing the job all that I have left are the optional gears, two large screws, two bolts, one tiny screw and two nuts as 'overs.' All main parts are shrink wrapped and named for display purposes and ease of identification.

Wheels and tyres

It always seems a good idea — whatever the instructions list — to make a start on the wheels and tyres. The 'Ranger' tyres are all the same size, nice deep-treaded hollow tyres like all *Tamiya* tyres. They are fitted to the hubs in this case in a three piece assembly. First the cover is slipped over a central main hub and then the two outer



parts added, compressing the bead edge of the cover. This edge is coated with instant glue and the two outer pieces bolted in place with four small nuts and bolts. Before doing this they are smeared with silicone sealant provided to ensure that water does not seep in and unbalance them. Small locating keys help to get the parts in line for the assembly. Though not so advised in this case I touched all my bolts with thread lock just to be safe. Although tyres and hubs are the same size all round, rear wheels have inter-locking extrusions to engage the stub axle endplates. I left my hubs in the white, but they could well be sprayed or painted in a silver or similar *Ford*-like finish.

Gearbox

Gearbox is a substantial metal casting in two pieces and also encloses the electric motor. Gear train consists of drive gear, idler and final gear, this last being fitted to a main shaft which takes the stub axles and attached via a hex bolt. Before bolting up the two part, gears should be oiled. Useful little signs appear showing an oilcan when even this should be done. Silicone sealant is applied to casting edge to seal off from water.

Universal joints are attached to the main-shaft, and fastened with head socket screws against the shaft flat. Swinging arms fit each side and the wire spring torsion arms complete this unit. Stub axles go through the swinging arms located in oilless bearings. Electric motor is slipped into place. Note that it is *not* screwed in as is more usual, but locks in place with pins in the casting which go into holes in the motor. A choice of gear ratios is offered, either 15 or 20 teeth pinion gear, or 65 and 70 teeth for drive gear. Select high gear for uneven (off road) use or low gear for level running. These gears are lubricated and the two transparent covers, one over motor and one over gear train are fitted. Remember to silicone joining faces. Check motor operation with a single Ni-Cad for smooth operation. The whole unit is then enclosed in the ready formed rear guard and rear body mount brackets.

Shock absorbers

There are four of these, beautifully made and simple to assemble. The shorter pair fit

on the rear, the longer pair go at the front. To make filling them with oil as easy as possible I drill four holes in a piece of scrap wood and sit the partly assembled units in the holes with the open end to be filled with oil uppermost. A little bottle of oil is provided and a drip feed wire attachment to enable oil to be poured in drop by drop. Be sure to see this is firmly on the bottle nozzle or pressure on the squeeze bottle may force it off — very messy. I know! Oil caps and piston ends must be sealed with silicone sealant. Ring ends are bushed with rubber grommets, brass sleeves slipped in and the rear springing is complete ready to install. It remains only to attach the heat sink to the top of the gearbox casing.

Chassis

There is a glass fibre chassis with a triangular metal strengthening piece which goes under. Rear unit can now be attached to this. It is encouraging to see that Tamiya are moving with each kit more and more into line with accepted racing design rather than a highly detailed scale model which just 'happens' to be adaptable for R/C operation. (Their increasing sponsorship of race meetings is another welcome and much appreciated indication of this interest).

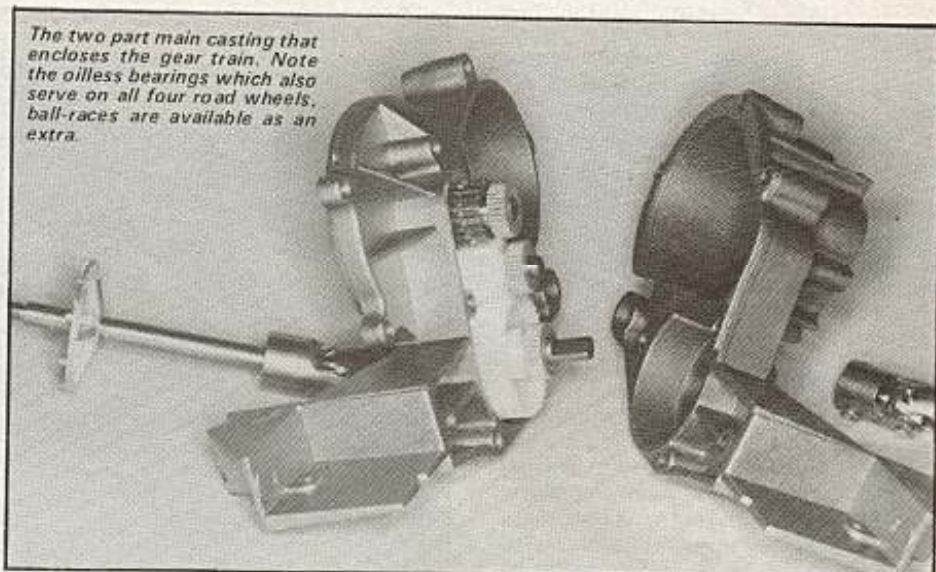
Front axle mount and steering

Front axle mount is an ingenious assembly of parts that requires special care in getting left and right hand parts in the proper places, and also making sure that built up ball ended kingpins and steering arms are the right way up. Steel ball pins (black) go in the units to make up the kingpins; brass (gold) ball pins screw into the steering arms to face downwards. Kingpins go between top and bottom retaining arms and are held in place by pear-shaped plastic supports into which the balls are sprung. These supports in turn lie in recesses in the castings and are secured firmly with some of the tiny 2mm x 6 screws. The balls must be lubricated. For some reason these supports are called 'ball races' but do not look for anything that we would normally expect to associate with the name! The two long shock absorbers can be fitted.

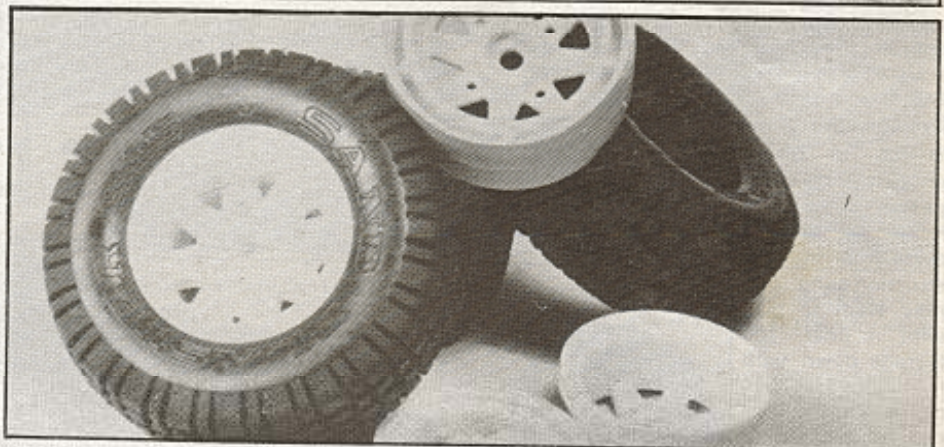
Servo savers and steering

Servo saver again breaks new ground with its design. A base moulding has two ball pins screwed in place to take tie-rods. On this is fitted a spring ring, and finally a top moulding through which the ring also runs swings down and clips over the base with the aid of two side arms. A locating post goes through the centre of the unit. The upper piece carries a third ball pin to

Centre right: tyres are clamped in place by the three-part wheel hubs to produce a strong realistic job when covers are bonded with instant glue. Left: oil filled shock absorbers, supported for filling on scrapwood stand. Their various component parts can be seen together with the bottle of damper oil provided.



The two part main casting that encloses the gear train. Note the oilless bearings which also serve on all four road wheels. ball-races are available as an extra.



take the steering tie rod from its servo. To add to the neatness of this item a further metal pillar fits on top of the post to form the front body mount. Threaded tie-rods and screw-in ball joints complete the steering. An exact distance between joint ends of 40mm gives a precise wheel set.

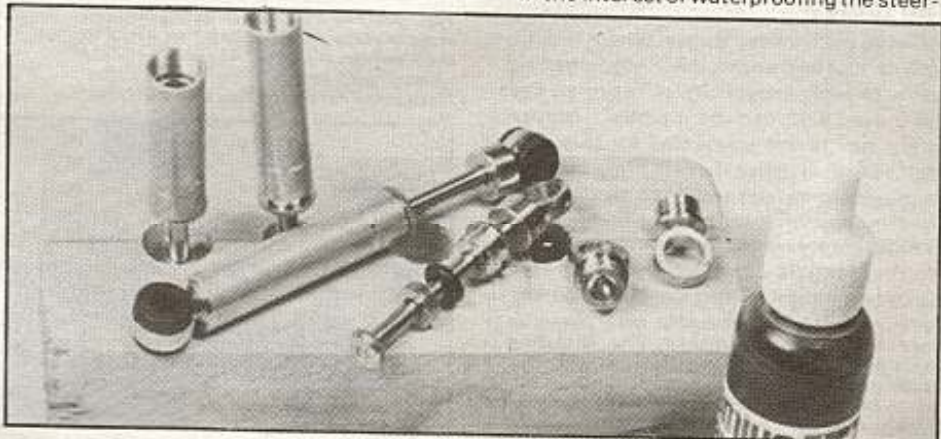
Front unit is now screwed in place and front bumper moulding (an old friend to Tamiya buffs) installed. Wheels can be added all round a first appreciation of what we have made enjoyed.

The electrics

A small printed circuit speed controller

plate is attached to its servo. This is very neat and space saving with short stubby 7mm long ties and ball joints to go on the cut down servo horn. Motor leads are fastened to the outer ends of the controller switch with hex nuts (plus in my case a small touch of solder to avoid risk of loosening in action; I've had some!). Novelty here is the provision of a circuit breaker in lieu of a disposable fuse. Little red knob pops out when overloaded and simply requires pushing in again when cooler. You get a similar pop-out overload on 110 volt house systems in Canada and I believe USA.

In the interest of waterproofing the steer-

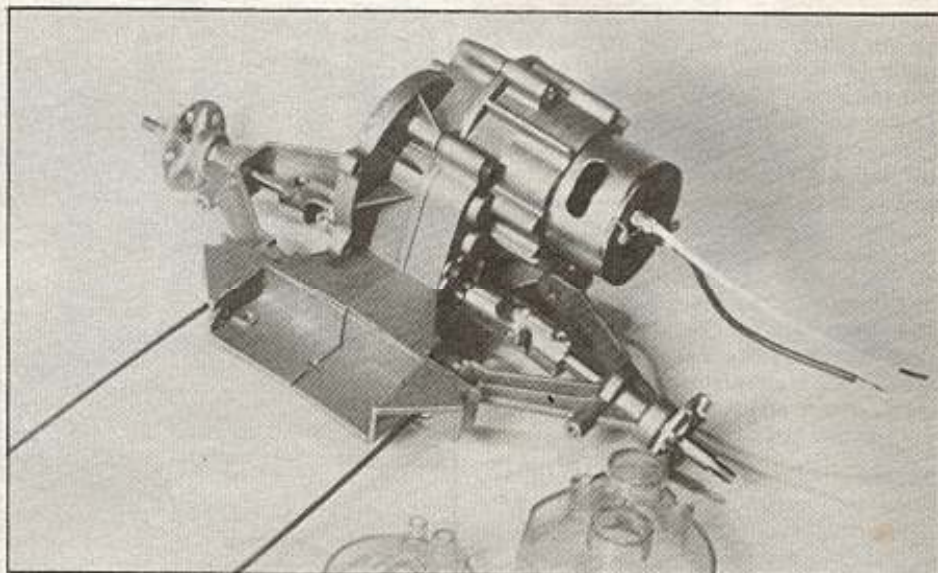


ing rod enjoys a rod boot of rubber. This is fastened to the radio box with instant cement. This brings us to the clear plastic radio box which encloses all the hopefully dry items. Moulded base fits on the chassis and is located with two well nuts. These when tightened expand and hold box in place firmly and watertight. Exit for wires to motor and heat sink go through a rubber bushing also instant glued in place. A separate little box screws on the end of the base to carry the radio receiver. It will doubtless carry in comfort any of the latest miniaturised Rx but is a tight fit for my *Futaba*, so that box would have to be unscrewed every time a crystal change is demanded. Since attachment screws are tiny 2mm x 6 they could easily be lost or wear over loose. Answer for anyone intending to race with a tight fitting set must be to make a little lid in the box to get at crystal to swap them. Watertightness would be maintained with adhesive tape or similar. Garden operators need not worry about this aspect.

Otherwise there is plenty of room for the two servos, receiver and Ni-Cads. I used a five-cell unit of 6v which is quite enough for my small garden use and keeps temptation away from my 'destruction gang' who may want to play with it later. Top fastens down with four spring loaded cam locks. Edges can be greased to ensure watertightness. There is a little soldering required to connect up motor via speed controller but solder-shy builders can use either the screw-down 'choc-bar' fittings from a radio shop, or the neater motor cycle screw-in connectors from a car/motor cycle accessory shop.

The body

Unlike the 'Holiday Buggy' where its blue body cannot be painted, the 'Ranger' body is made of high aspect Styrol resin, so the box says, and can be painted. Tamiya acrylic paints are suggested for this purpose. However, since there is a fine sheet of decal panels and decorations provided, and I had no objection to the blue body colour already there, I was quite modest in my work (No Peacock!) *Bo-Link's* Bob Rule had sent me over a range of 'Mr. Concours' acrylic. Completed gearbox assembly with covers in place and heatsink attached. The enclosing frame acts as a rear protection and provides attachment for rear body mount. Torsion bar has been fitted and rests against glass fibre chassis. Note also rubber well nut in place on chassis.



colours and I used his black to paint the pick up cover black and generally black a few places where indicated. Driver on his platform was also coloured up with acrylics

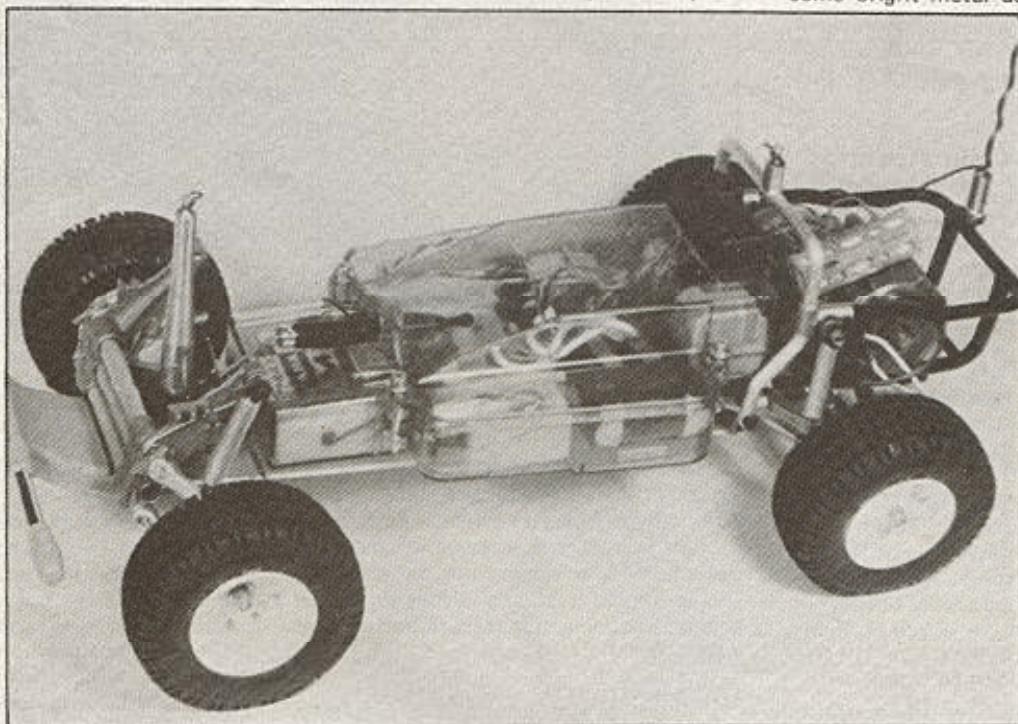
which all took satisfactorily.

Radiator, lights and other trimmings which are normally plated in the fullsize car come bright metal deposited, and I have retained as much of this as possible. Moulded clear plastic is provided for front and rear windscreens. Front screws into place. Rear must be fixed with instant glue. No side window 'glass' is supplied.

A hole on the rear pick-up cover enables the on/off switch for the radio to be immediately reached. This is covered with a moulded rubber boot once again in the interest of water-proofing.

At the Toy Fairs Tamiya usually show one of more of their off-road offerings in a constant stream of

water yet plugging on doggedly. I mention this to show just how well the car can be waterproofed, but must confess to have chickened out of running it in the bath.



Top: gearbox assembled, with swinging arms in place and stub axles attached to their universal joints. Above: complete chassis with radio/electrics box fitted. Note small extension box that holds Rx.

