Colourful box lid—real Le Mans start photo—and robust vacuum drawn container that holds major parts and further strengthens the box. There is quite a lot more of the set underneath !

CIRCUIT 24

MODEL MAKER TESTS MECCANO'S ANSWER TO ELECTRIC CAR RACING

General

"Circuit 24" is of special interest not only because it incorporates a number of novel features but also because, though marketed by the long established British firm of Meccano, it is, in fact, produced in France. Next year it will be manufactured in England. The equipment has enjoyed considerable popularity in France where it has been selling to the extent, we understand, of some 2,000 units weekly.

The Cars

The cars are at present sports/racing types as we should expect from a series based on Le Mans. Our set contained two Ferrari Testa Rossas, but production sets on this market contain D.B. Panhards. Later, other famous racing car models will be added to the range. Scale is 1/30th, giving overall length of $5\frac{1}{8}$ in., overall width $2\frac{3}{16}$ in., wheelbase 3 in., track $1\frac{5}{8}$ in. Bodies are stoutly made in colourful plastic, with clear plastic screens and carburettor covers; drivers and steering wheels moulded, plus black tonneau cover over passenger seat; bright metal parts in vacuum deposited chrome finish, including facsimile Borrani wire wheels. Tyres, marked "Dunlop Racing" and having an attempt at a real racing tread, are hollow variety that have to be hooked over flange on wheels. Cars are non-steering type with some transverse front axle movement.

Surprise is in the motor which is vibrator type and the largest of its kind yet to appear for model cars. Indeed, with bodies off, it looks huge! Needless to say, this large size also makes a loud noise—which we believe to be inseparable from vibrator type motors. The makers refer to this noise as an attraction . . . "bodywork forming a resonance (*sic*) chamber, thus reproducing perfectly the noise and atmosphere . . . " The French never did enjoy their pleasures quietly, maybe they have something here.

The vibrator motor, particularly in this larger than usual size, has the advantage that skilled "tuning" can produce a much greater improvement on a standard engine than can ever be achieved with an armature type. Amateur mechanics will therefore have extra fun with Circuit 24 cars. The makers are conscious of this, offer a special "competition" model capable of a tuned top speed of 16 feet per second (actual), give some useful tuning tips on standard motors in their manual, and offer adequate spares service to replace parts damaged by over-enthusiastic unskilled tuning! This appreciation that everyone likes to fiddle endears us to Monsieur Meccano.

For those who do not know, the vibrator motor produces a series of jerky vibrations, which via a series of steel reeds push forward a pawl wheel or wheels giving direct forward motion to the driving wheels. Speeding up the impulses, delicate adjustment of the reeds and pawl-tooth pressure all effect changes (for the better is the tuner's hope) in performance. So far, with only limited development of this type of motor, it is not so fast as the more usual armature motor. Circuit 24 is, however, the first make to be offered in a scale comparable to the best armature type and provides a real challenge to the experts.

The Track

Track offers some interesting novelties. Large curves and straights have what is nearly $\frac{1}{8}$ in. diameter tinned iron wire let into the hard plastic material of the track to take current; these parts are described as "semi rigid". Small curves and bridge approaches, also the chicane, use what can best be described as expanding curtain wire type of material which enables the track to be bent in two dimensions (described as "flexible"). Joining of sections is achieved by pushing them together in an over and under fashion so that protuberance on one part can fit into recess on the other and at the same time hook over ears of material projecting to secure an interlocking effect. These ears are pierced for permanent attachment to a baseboard if so desired. In practice the ears tend to break off with quite moderately careful use (no awful child let loose in the *Which* tradition) but this does not impair the track surface. Bridge approach sections have their supports moulded integrally with the track; a neat chicane is contained in a single section; current connection straight has a slight built-in hump which takes the wires and makes a track feature. A supply of banking supports which fit into holes provided on certain of the track curves encourages building fast circuits. Our own test layout (Set T) provided an irregular figure-8 with overbridge and chicane. Manual offers 28 layouts including a detailed and quite scale-ish four lane Le Mans circuit.

In use, assembled for casual operation on office floor and later at home (when the awful children *were* brought in) we found electrical continuity left much to be desired. Sections had a habit of just popping out of electrical contact—one at each end of the layout on each track doing this and causing

immense frustration—pressed down they would work happily for several laps and then do it again. This is a small criticism of an otherwise extremely cleverly conceived product; the fulltime owner would overcome any such loss of contact by clipping the offending sections of track together with small C-clips bent up from piano wire (indeed, the makers may even market such an accessory).

Transformer and Speed Controllers

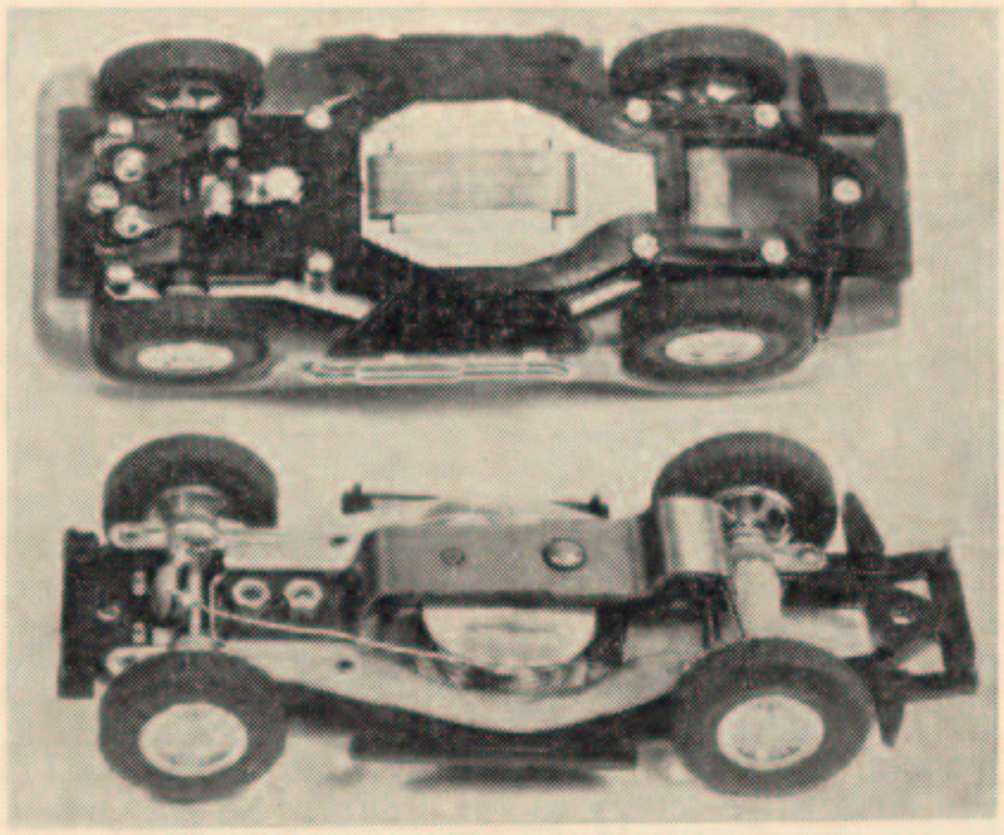
Our Set T was provided with its own transformer and speed controllers. This made it necessary for box to be unusually robust, with vacuum drawn removable shelf holding the bits and pieces. All sets, by the way, include these items. It is, of course, solely to step down current from house voltage of 230v. A.C. to 20v. A.C. (in fact some 23v. is provided). Track connection is very simple and straightforward, and adjustment for local current variation from 220/240v. is given by a choice of three tappings. The speed controllers are comfortable to hold, well-ventilated, smooth in operation, and among the best we have used.

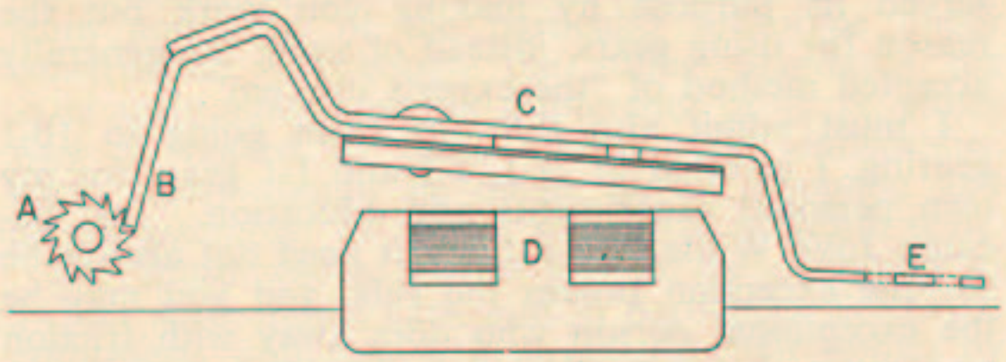
For those wishing to run a non-stop track in a shop window, or to have a robot opponent, an automatic power unit can be obtained. This can even be adjusted to offer section control of parts of the circuit, so that highest possible speeds can be set automatically (model railway section fashion)

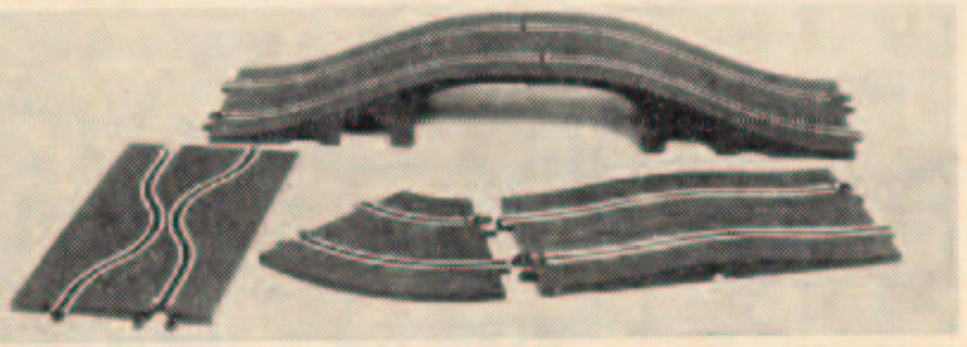
Final Comments

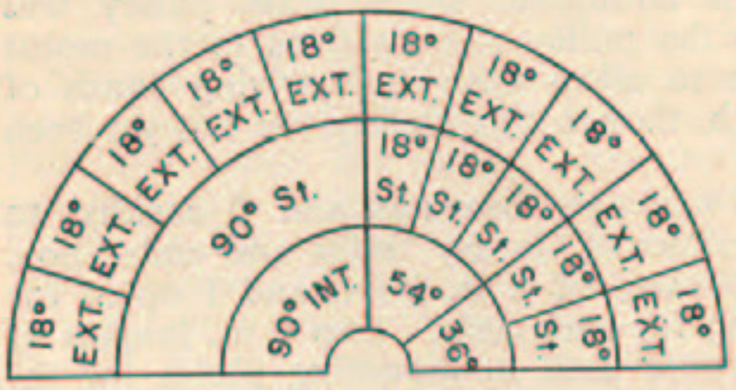
We would not have missed Circuit 24 for anything! It looks good, is well made, has a famous name backing it, and will make an immediate appeal to the kind of man who likes to tinker but may lack extensive tools with which to do it. Only a few minutes fiddling produced a noticeable increase in performance in both the test cars; despite our criticisms, the track geometry enables most interesting circuits to be built up. Once it has found its niche in a strong market, we expect a Circuit 24 cult to become a very active side of model car racing.

The U.K. retail prices for the three sets available are: Set R £9.7.6d.; Set S £11.7.6d., and Set T £12.17.6d.









Track geometry (left) is based on classic "golden mean" with 90, 54, 36, 18 degree curves in differing sizes, plus straights, half straights, etc.

Top and diagram: Chassis and motor from above and below. Note single guide pin, steel (not braid) current pick-ups. Diagram shows A: driving pawl (white drum in photo); B: steel reeds; C: Vibrator arm which is attracted by D wound magnet; E: fixed point of vibrator arm.
Centre: Car with body on and further views of body and chassis.
Lower pictures: Typical sections of track including bridge sections with built-in supports, chicane, and humped connector straight. Large bottom picture shows method of joining sections. Finally, we have transformer and speed controller.