



FALLER

A-M-S POST



1 RACING

GB



Learn from the "speed boys"

You can learn a lot about everyday driving from the experience and expertise of the "speed boys". The "speed boys" are the drivers who prove their skill in hard competition on the Nürburgring and many other famous raceways. Everything they have learned in driving fast cars in the racing world is of value to you in everyday driving.

Sport driving is very popular again. I'm glad of it and I'm especially glad to see a firm like FALLER devote its energies toward sport-car racing, producing models of popular types of cars and famous raceways so that old and young can drive their own



Fig. 1

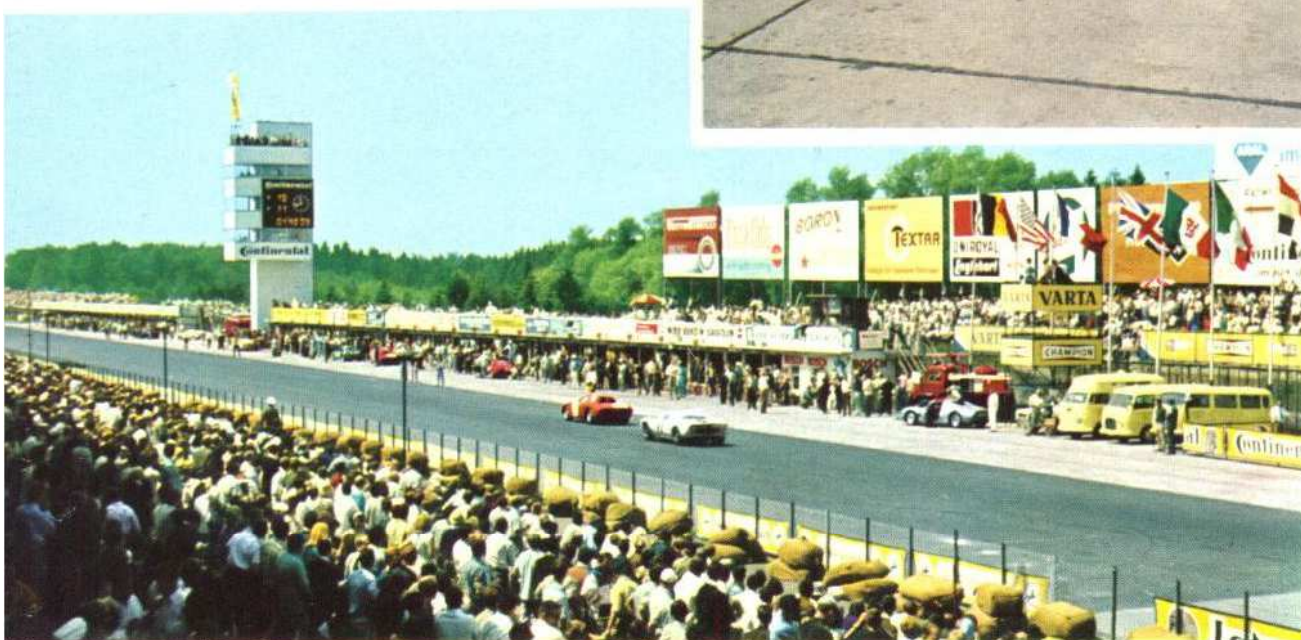


Fig. 2

races at home and show what they have picked up from observing us "speed boys".

In the course of play you can learn right driving habits, and this model-car racing, properly and carefully fostered, will arouse interest on the part of still others and bring new enthusiasts to the hobby. I want particularly to thank the FALLER people for their product, AUTO MOTOR SPORT, and wish them happy motoring today, tomorrow and always.

Paul von Guillaume

Paul von Guillaume
Sports President of ADAC



Every 55 seconds some motorist receives aid from an ADAC patrol.

The A·M·S POST series deals with several important angles of the extensive A·M·S line. Anyone who has dipped into this hobby and become aware of the feature of expansibility in FALLER A·M·S, has found out that it can be just as interesting to build a traffic layout as one for slot-car racing.

Therefore this first brochure of the series deals with slot-car racing, with suggestions on raceways, the best set-up for the start-and-finish structures and also guidelines on the matter of racing rules. The series of brochures is coming out one at a time in the order of development of the various types of equipment. Our brochure on traffic layouts will follow shortly with the results of specialized study of that field.

Technical minds will be wanting to know more about construction of motors, control panels and other electrical accessories. We will also prepare material on this phase of the matter, so that eager beavers among the technically-minded can undertake their own repairs and servicing as necessity arises.

Finally will come landscaping and dressing up simpler table models or permanent layouts with highly specialized and tastefully selected details. There will be a special volume of the series on this subject.



Fig. 3



Fig. 4

AUTO SPORT

Three varieties are recognized:

1. Endurance runs
2. Rallies (long-distance runs)
3. Speed competitions

1. In endurance runs driver and car are subjected to certain hindrances or difficult conditions and non-adherence to these conditions is counted as minus points in totalling the scores.

2. There are rallies for standard traffic vehicles, for sport cars and for racing cars. They are run over very long routes and usually last for several days. As with racing cars, there are several classifications.

3. Auto races are for sport or racing cars and here the aim is to run a given course (usually a particular number of laps) in the shortest possible time.

The various classes are determined on the basis of piston displacement and net weight. The top authority in Germany is the ONS (Supreme National Sport Commission), which answers to the FIA (International Automobile Federation, founded in Bad Homburg in 1904).

About 45 different countries belong to this international organization. In the individual countries there are national automobile clubs, e.g. the ADAC (General German Auto Club) and AvD (Auto Club of Germany), TCS (Swiss Touring Club), ÖAMTC (Austrian Automobile, Motorcycle and Touring Club). In U.S.A. these matters are quite distinct from the AAA which has not had any connection with sport racing for at

least 40 years. The USAC (United States Auto Club) is the one to watch in North America.

These national automobile clubs organize all kinds of auto sport meets and offer technical advice on traffic matters as well. In Europe these clubs assume responsibility when it comes to crossing national frontiers with a car, issuing a "triptic" document. The AAA does that in America. As European nations become gradually more closely associated, these border formalities are becoming less and less onerous with the goal in mind of eventually making freedom of movement all over the continent a reality.

The end and goal of all the motor race activity is not only the satisfaction of the natural human urge to compete, but also to build up a genuine and sporting sense of national accomplishment and foster peaceful international community of spirit. A by-product of all this is a vast fund of new technical information for the automobile industry. Without auto racing, our present-day technology in the automotive field would not stand anywhere near as high as it does. Although we stand today at an enviable peak, technology never stands still and needs a field for research and still greater improvement. Only in practical demonstrations can we ever obtain proof of the acme of quality so we urge you to look on motor car racing with this in mind.



For racing, too, we need fast sport-type cars, while city traffic needs much lower speeds. In order to be ever on the alert in racing, you must have the sensitive hand-throttle control, while traffic operation calls rather for the more usual driver's-seat control panel. The throttle is 4033, the other controller is 4031.

ROADWAYS

Then you will see that the sketch shows which other sections to add to get an oval raceway. In a 4-lane raceway there will always be 4445 or 4492 present, with the other double lane either inside or outside it.

TRAFFIC ROADWAY SYSTEM

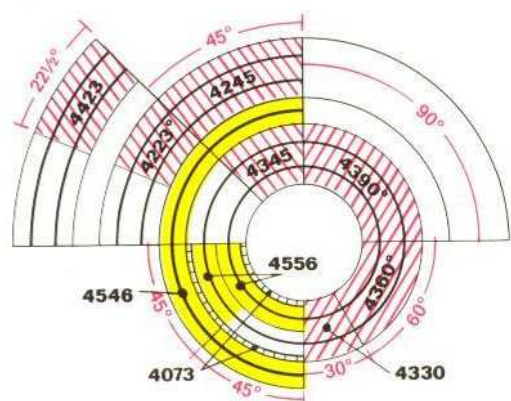


Fig. 5

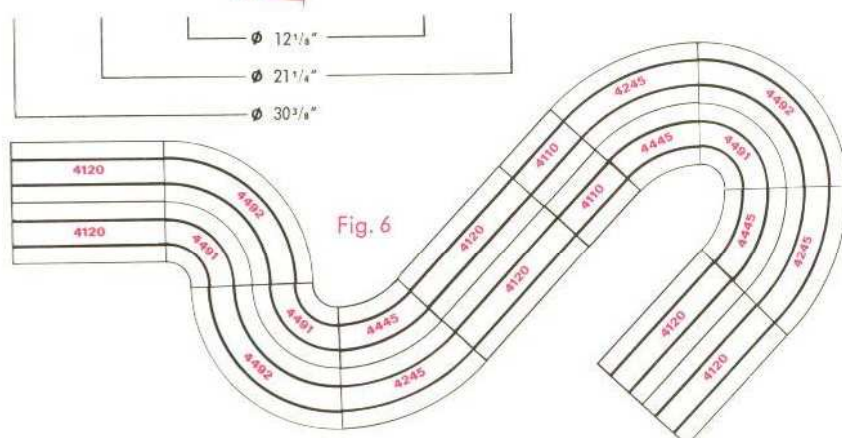


Fig. 6

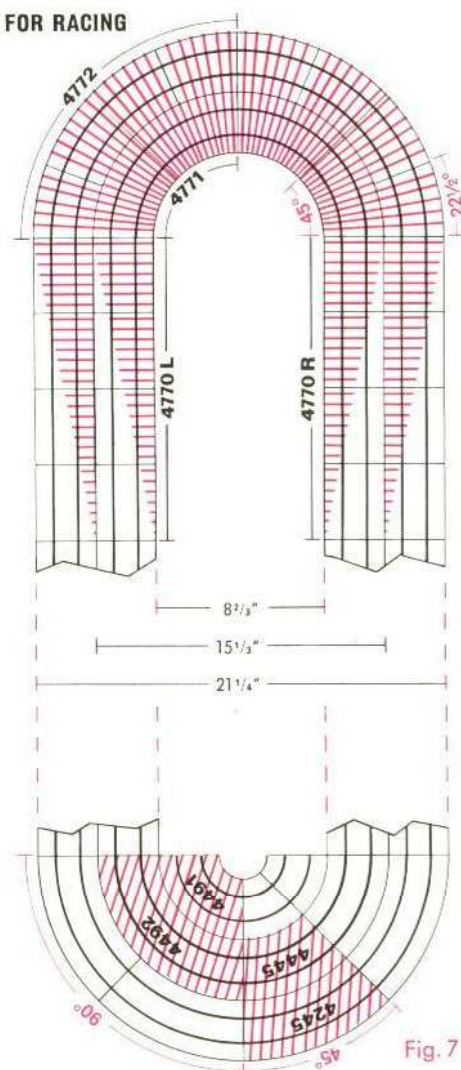


Fig. 7

ROADWAY Combinations

While there are no problems involved in building straight or normal curved roadways, some of the special forms need a bit of explanation. Basically, the most important factor is the angle of curvature. A full circle is equal to 360° . Therefore a 90° curve leads off on a line at a right angle from the straight. Two 90° curves (180°) form a semi-circle, and curve back parallel to the straight. Half a right angle of course is 45° . These are all quite common in layout construction. Any two like curves joined in an S arrangement will naturally lead in the original direction again, but displaced laterally. Therefore, in any complete ring of roadway, no matter how irregularly formed, the total angular deviation in one direction totals 360° . When laying out the roadway you do just what you do with train tracks: you try this and that till you have what you want. Although some slight tolerances can be overlooked, it is well to keep track of the total angular curvature, and make up any leftover spaces with straights, usually the small "adapter" pieces.

Set 4001 produces a figure-8, and in this shape, as is generally understood, the two lanes are exactly equal in length. If the layout is enlarged, using several sharp curves, then differences in length of run are pretty much evened out, for here skill plays the major role.

In small and simple layouts it makes a difference whether you are operating on the inner or the outer lane. The inner lane

is always $8\frac{1}{2}$ " shorter than the outer. Therefore the driver of the car in the outer lane must be given a handicap or head start of $8\frac{1}{2}$ " per lap.

Fig. 8 shows graphically the difference in length between the inner and outer lanes. In both circles the length of the full inside lane is subtracted from that of the outside lane. The difference remains the same. Even if we take a huge circle, like the circumference of the earth, and construct it with the same roadway parts, the difference would still remain the same $8\frac{1}{2}$ ". It makes no difference whether the loop is a perfect circle, an oval, or a quite irregularly-formed loop, the way all the larger raceways in the world are. In these large irregularly-formed loops, the difference is nullified by the presence of hazards like hairpin turns, grades, etc., and skill on the part of the driver becomes the most important factor.

In a figure-8, of course, each lane is inside lane half the way and outside lane the other half, so here there is no difference.

As a rule, people buy a starter set to begin with. In what follows, set 4001 is not taken into account, since it can be duplicated as far as roadway parts are concerned by adding to the "junior" set 3900. Set 4004 will not be available until 1968. Meanwhile the extra parts needed will have to be acquired separately from the various auxiliary sets. Curve 4492 can be made up out of two 4445's joined together.

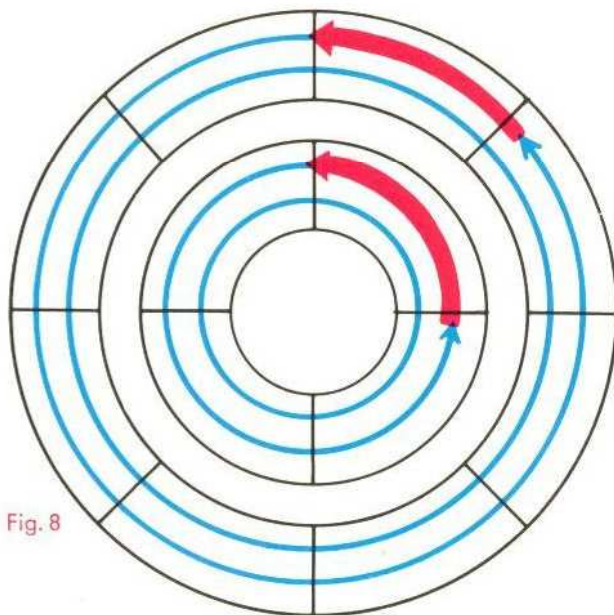


Fig. 8

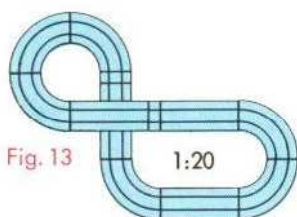
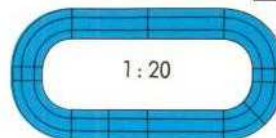


Fig. 13

4001

This simple pattern can be formed from the oval of set 3900 plus roadway section 4390.



1:20

Fig. 10

Complete outfit with oval of roadway and transformer.

4004



Fig. 12

1:20

Raceway in figure-8 form with banked curve.

GIFT SETS

3900



Fig. 9

4004

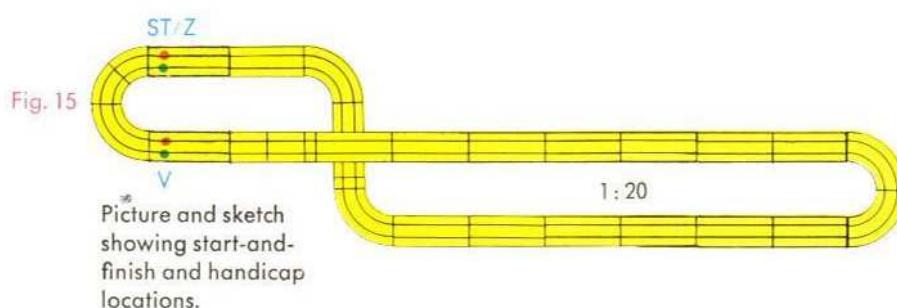


Fig. 11

MODEL RACING



Fig. 14



Just as real races are run according to fixed rules, we must observe strict rules in model racing. Races may take place on two-lane raceways or on four-lane ones. These same rules then apply with due adaptation. On page 22 and in Fig. 15

some combinations of start-and-finish structures are represented clearly. Red and blue dots show the initial positions of the cars at start-and-finish.

ST/Z means Start-and-Finish and V means handicap.

A. Types of Race

Grouping of cars

1. Straight races

One car in each lane side by side.

2. Group races

Two cars in each lane at fixed distance apart (start-and-stop and handicap), forming two groups.

3. Pursuit races

- a. 2 cars half a lap apart (Start II) one behind the other in one and the same lane.
- b. Same, with two cars in each of two lanes.

4. Chase races

- a. 2 cars close together (handicap distance) in one lane.
- b. Same, with two cars in each of two lanes.

5. Obstacle races

One of the above types with additional obstacles such as cross-overs, narrow lanes, bumps, grades and descents.

B. GENERAL CONDITIONS

1. Starting positions are assigned by lot, or each participant has once the inside lane and once the outside.
2. Start at an agreed signal, such as, "Ready, Set Go!"
3. Number of laps can be registered on the lap counter in the TOTAL tower, and is binding for all. Or else the laps are to be counted by marks on a scrap of paper.
4. Time elapsed is measured by a time-keeper for the total of all rounds. Intermediate periods of time (lap time) may be reported separately.
5. Break-downs are handled as follows:
If a car goes off its lane because of excessive speed or careless driving, or gets stuck, it may
 - a. be put back in lane, as a rule, only by its driver, or
 - b. in the case of large layouts, only by the driver or his appointed assistant, provided all four wheels are still on the roadway.
 If the vehicle gets off its lane by careless driving and lies on its side or upside down, that vehicle drops out of the race. If it seriously hinders the other participant, it may if desired be granted a new start (with another partner or if need be, alone).
6. The judge's decisions are final and may not be appealed.
7. Trial or practice runs are permissible to a limited degree. If special wishes as to placement are to be decided on, these may be determined as in the original race on the basis of amount of practice time granted.
8. All results are to be tabulated on a list.
9. On oval raceways with few obstacles the difference in length between inside and outside lanes should be taken into consideration at the rate of $8\frac{1}{2}$ " per lap, by concession or special starting handicap.

C. SPECIAL A·M·S RULES

1. NORMAL races

- a. Cars are placed at start-and-finish in adjacent lanes side by side.
- b. As a rule a race consists of 12 laps.

2. GROUP races

- a. Place rear group at start-and-finish, other car or cars ahead at handicap distance, which is marked.
- b. 12 laps are run in all. If any car leaves the road, the other in its lane may finish alone, completing 12 laps, because
- c. we count the time between start and the 12th lap by one of the two cars of each group. Normally each car makes 6 laps, or 12 laps for the group of two cars.

3. PURSUIT races

- a. Place one car at start-and-finish, the other half a lap ahead at place marked Start II-Pursuit race.
- b. Each car tries to overtake the other.
- c. The winner is the car which has overtaken the other within the control stretch between start and finish and the handicap mark.
- d. If desired the number of laps may be restricted (to 12, for example).

4. CHASE races

- a. Place the rear car at start-and-finish, the other at the handicap mark.
- b. The second car tries to chase the other and reduce the interval between both cars.
- c. Car No. 1 wins if after a predetermined number of laps the interval within the control stretch (between start-and-finish and handicap) is greater than at the start, and No. 2 wins if the interval is less.
- d. The second car is not permitted to ram the other.
- e. Instead of a certain number of laps, the race may be for a preagreed number of minutes. It is a good idea to terminate the race by shutting off the power at a central point and then measuring the distance between the stopped cars.

5. OBSTACLE races

- a. Obstacles do not obviate any of the racing rules.
- b. Cars must observe traffic rules, such as signs at "squeeze", or fines will be imposed, either in added time points or money.
- c. Traffic signs alone, e.g. "No Passing on Curves" count as obstacles and must be obeyed.

EXTENSIONS 3900

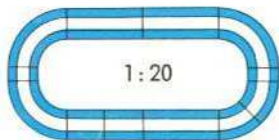


Fig. 16

Set 3900 is suitable for extending double-lane raceways, including banked curves. First we show on this page three layouts without banked curves and then on the next two pages there will be layouts with banked curves.

The yellow coloring indicates additional roadway material to be added to what comes with 3900. In the 1:20 diagrams the parts that come with 3900 are shown in blue, the additions in yellow.

Without banked curves

VARIATION I

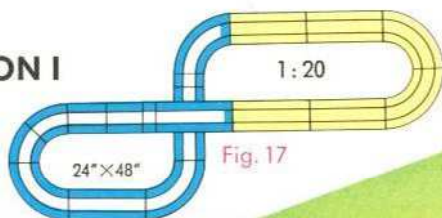


Fig. 17



Fig. 18

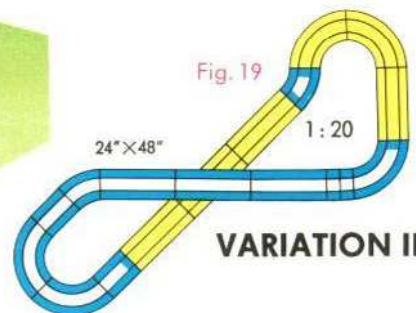


Fig. 19

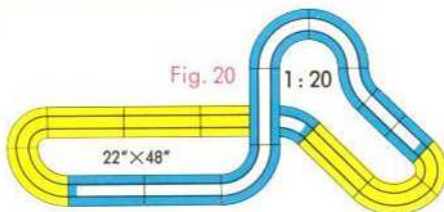
VARIATION II

3900+

2 × 4120

1 × 4390

Fig. 20



The small roadway sections contained in Kit 3900 ($1\frac{1}{8}$ " straights and 45° curves) may find good use in simple expansion projects.

3900+

2 × 4120

1 × 4390

1 × 4491



Fig. 21

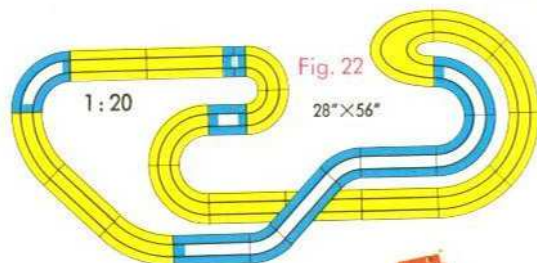


Fig. 22

The construction of a double curve with adjacent 180° turns gives interesting driving effects. When the parallel stretches of road lie so close together great concentration is needed to operate one's own vehicle effectively.

3900+

3 × 4120

3 × 4245

1 × 4390

1 × 4491

1 × 4580



Fig. 23

EXTENSIONS 3900 with banked curves

The size of this table-top layout is about 28" x 40". Very few accessories are needed to create a raceway with A-M-S.-parts.

Fig. 24



3900+
1 x 4770
2 x 4771

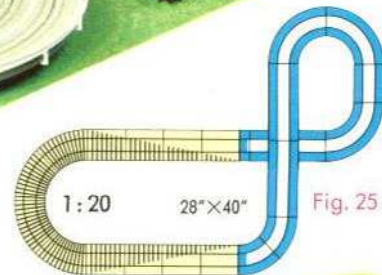


Fig. 25

Fig. 26

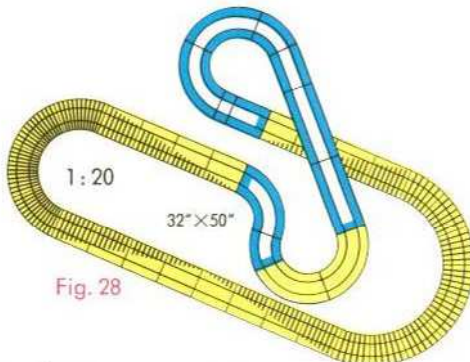


Fig. 28

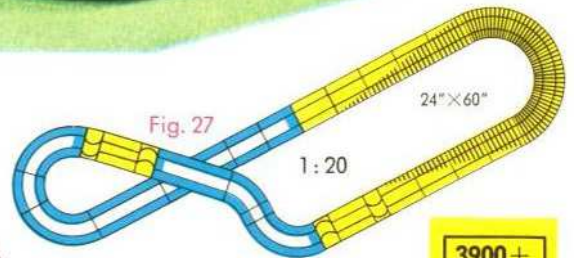
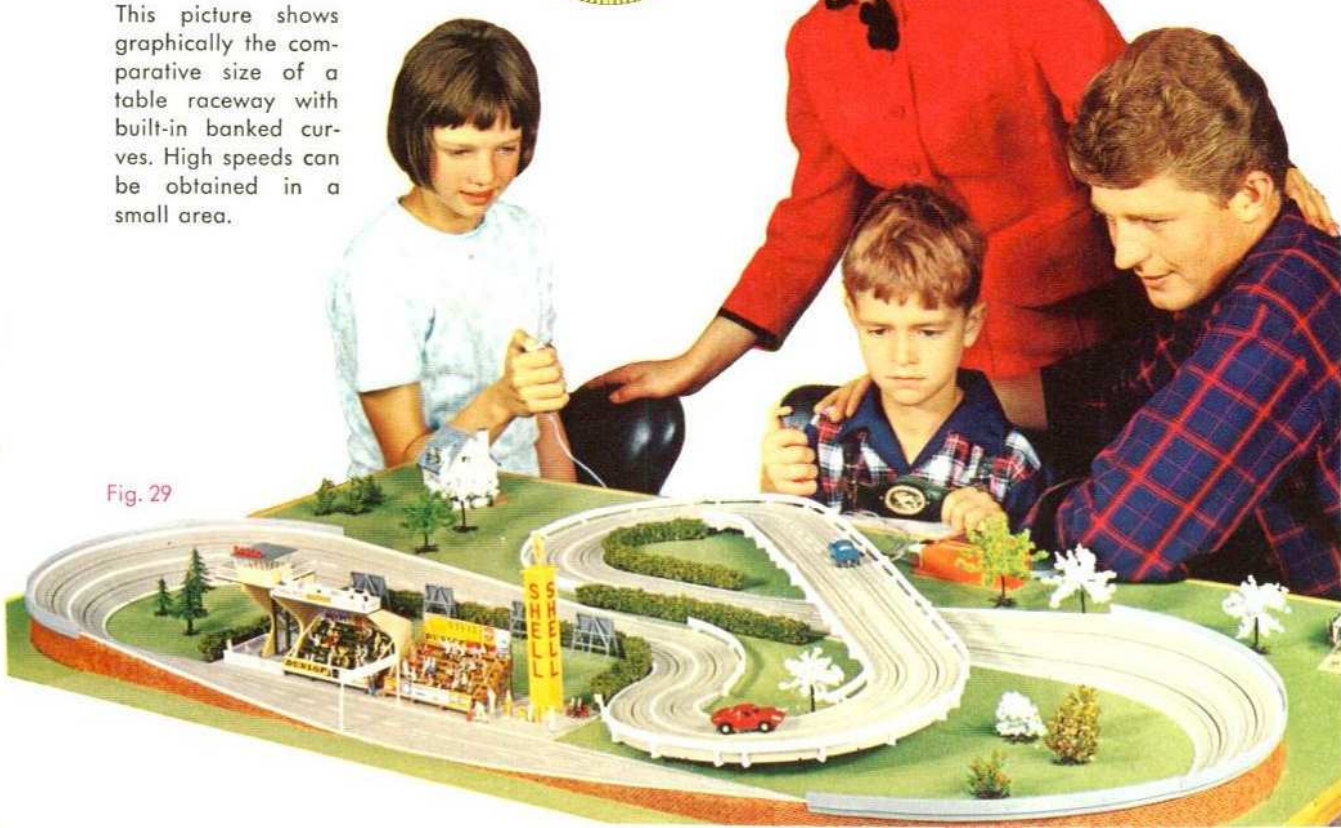


Fig. 27

3900+
1 x 4121
1 x 4741
1 x 4770
2 x 4771

This picture shows graphically the comparative size of a table raceway with built-in banked curves. High speeds can be obtained in a small area.

Fig. 29



3900+
1 x 4390
2 x 4770
2 x 4771
2 x 4772

EXTENSIONS 3900

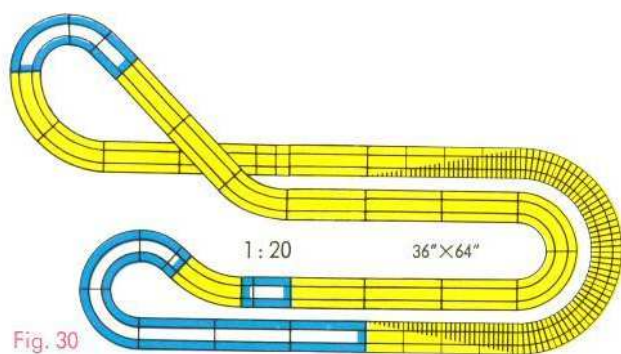


Fig. 30

Continuing the series of layouts with banked curves from 3900 we present three quite different ways of incorporating them. Funnel-shaped arrangements naturally require greater skill on the part of the driver. But they do lend the layout something special. In this and similar construction, remember that banked curves come in two radii and the two can be effectively intermingled, the greater radius being needed to pull the road out of the narrow funnel.

3900+
 5 × 4120
 1 × 4121
 2 × 4245
 1 × 4390
 1 × 4770
 2 × 4772

Fig. 31

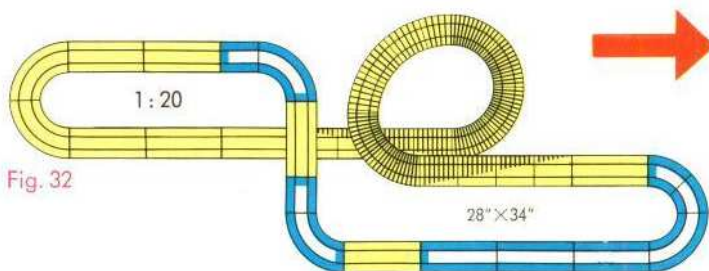


Fig. 32



Fig. 33

Banked curves in a funnel formation

3900+
 4 × 4120
 1 × 4390
 1 × 4770
 3 × 4771
 1 × 4772



Fig. 34

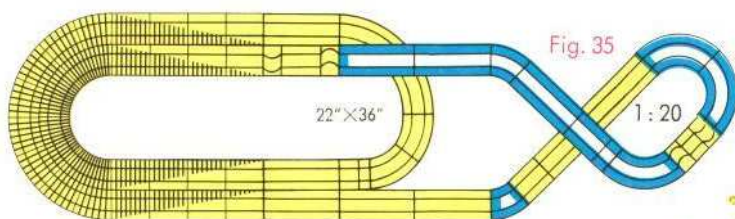


Fig. 35

The two radii of banked curves side-by-side are normally used to build a banked 4-lane curve. But here you see them end-to-end forming a 2-lane roadway.

3900+
 3 × 4120
 1 × 4121
 1 × 4741
 2 × 4770
 2 × 4771
 2 × 4772



Fig. 36

Now we show what can be done using 4004 as a start. It consists of curves that can be lined up with one another, in addition to banked curves.

RACING RET 4004



Fig. 38

This is therefore a very good set to use for construction of 4-lane stretches of raceway. Even the basic set itself gives a well-proportioned table raceway.



Fig. 40

First the very sharp 4491 curve is used, tucked tightly into the embrace of the banked curve. This gives the optical illusion of a 4-lane raceway as well as that of oncoming traffic.

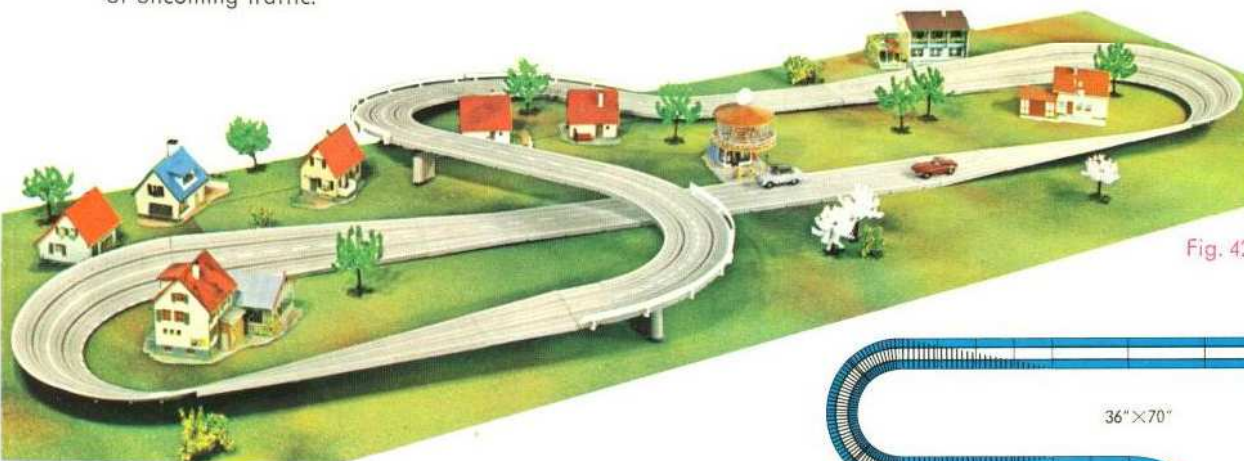


Fig. 42

As a matter of fact, only if the layout contains two similar banked curves do both contenders have really equal chances. These two layouts provide this.

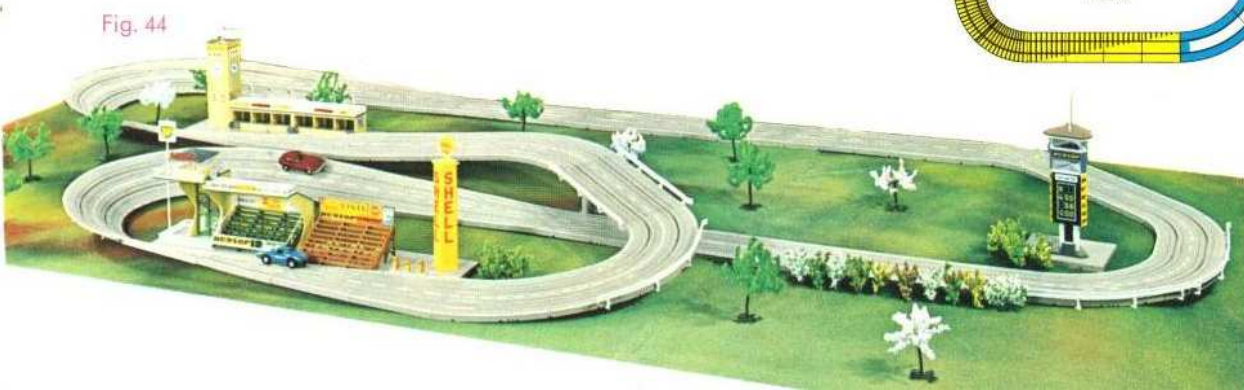


Fig. 44

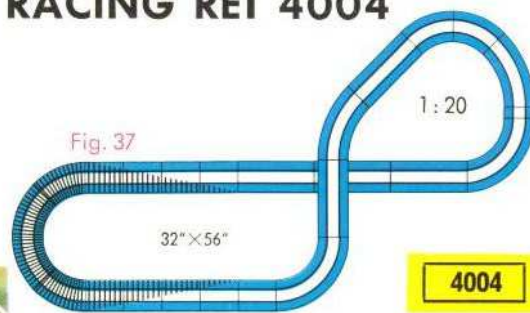


Fig. 37

1:20

4004

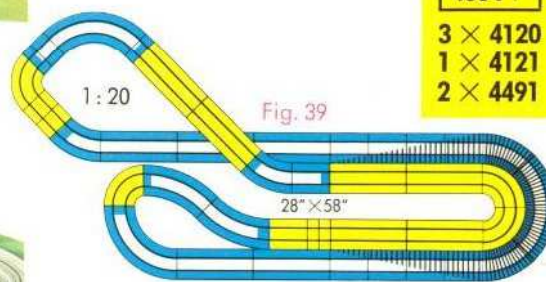


Fig. 39

1:20

4004+

3 × 4120

1 × 4121

2 × 4491

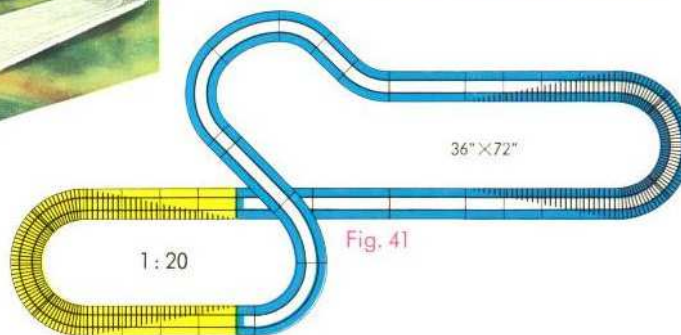


Fig. 41

1:20

4004+

1 × 4770

2 × 4771

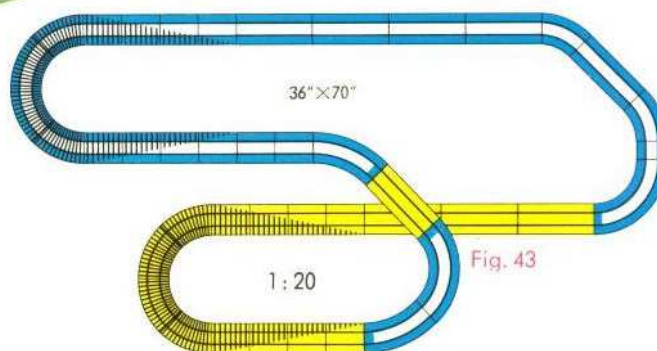


Fig. 43

1:20

4004+

2 × 4120

1 × 4770

2 × 4771

EXTENSIONS 4004

The scenic development of our raceways is achieved chiefly by use of start-and-finish structures. Very varied decorative touches were selected to provide effective scenery. In this respect individual taste is the most important factor, so these hints will surely suffice.

4004+

2 × 4120
1 × 4491
2 × 4772



Fig. 45

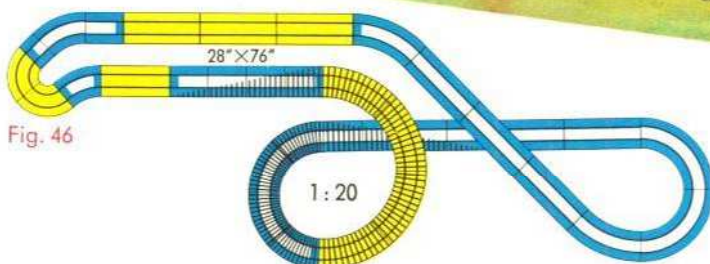


Fig. 46

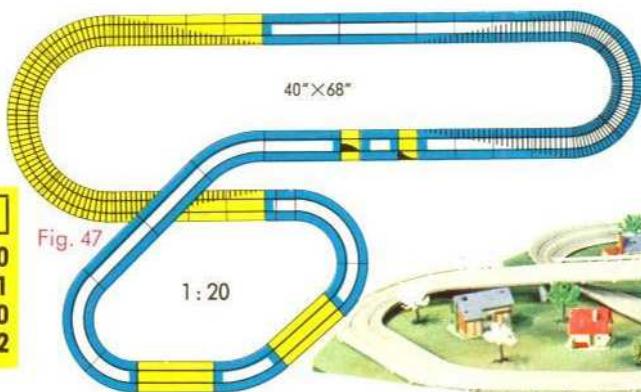


Fig. 47

The wide choice of house models available in the FALLER line also permits a variety in scenic treatment. The scenic framing is as important as the frame of a picture.

4004+

1 × 4120
1 × 4741
1 × 4770
2 × 4772



Fig. 48

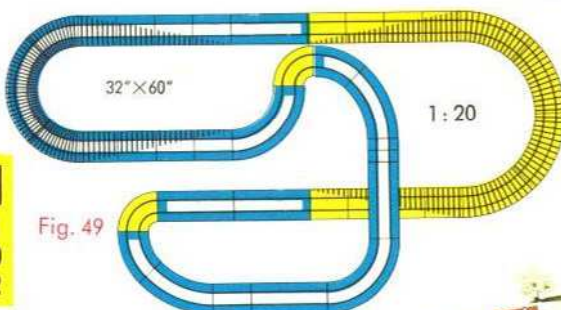


Fig. 49

4004+

1 × 4491
1 × 4770
2 × 4772



Fig. 50

This pattern provides a genuine 4-lane raceway in which all lanes are of equal length. Each of the four participants uses the banked curve and then the sharp 4491 curve.

4004+

7 × 4120
2 × 4245
2 × 4491
1 × 4770
2 × 4771

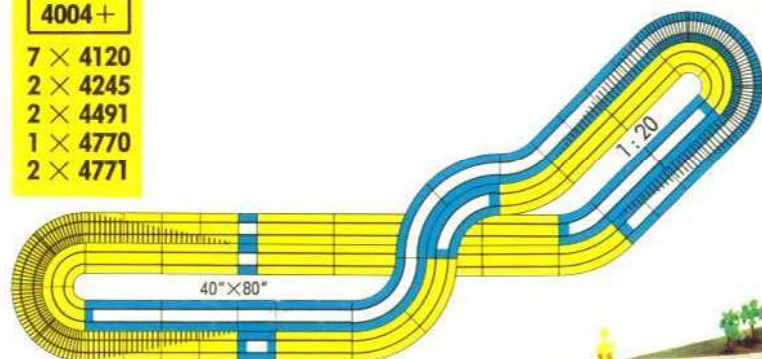


Fig. 51



Fig. 52

4-lane LAYOUTS

Fig. 53

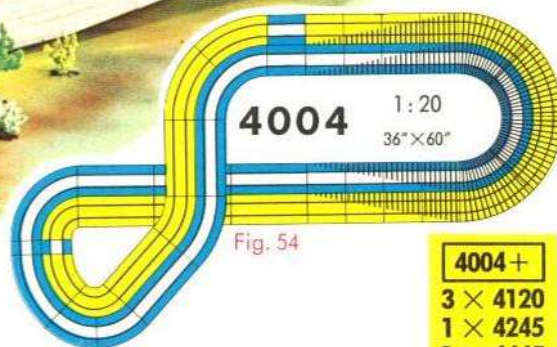


Fig. 54

4004+	
3	× 4120
1	× 4245
1	× 4445
1	× 4491
1	× 4770
2	× 4772

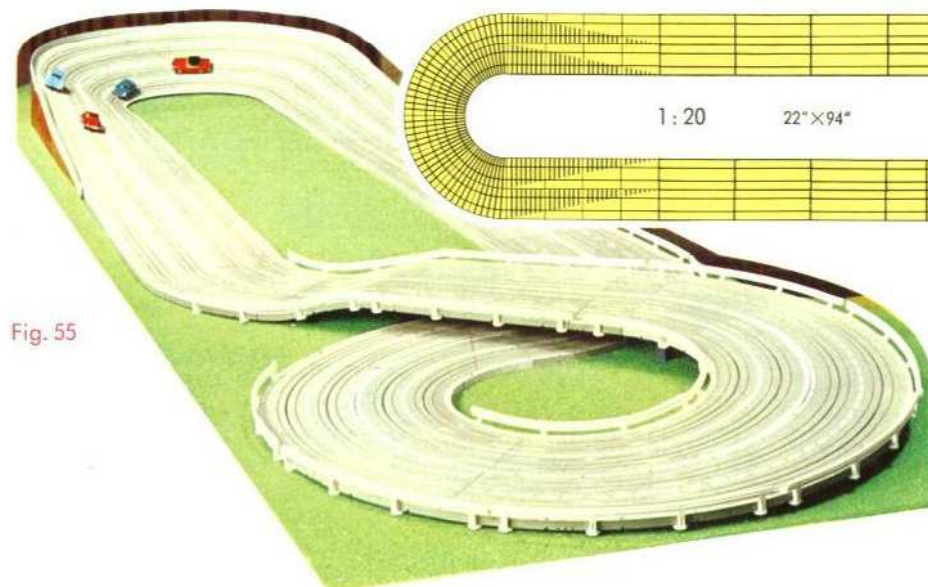


Fig. 55

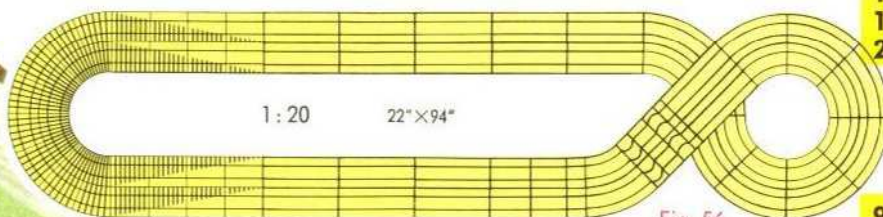


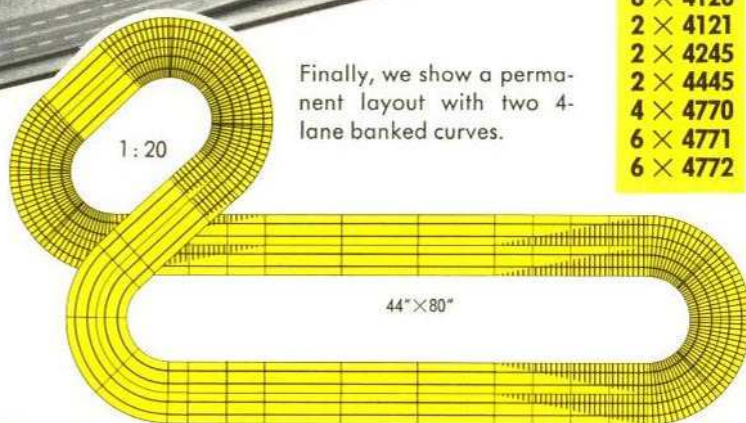
Fig. 56

9	× 4120
2	× 4121
5	× 4245
5	× 4445
2	× 4770
2	× 4771
2	× 4772

Adding an additional 2-lane road right beside the original basic form of set 4004 gives a 4-lane raceway with 4-lane banked curve. For a still further expansion, see Fig. 56.



Fig. 57



8	× 4120
2	× 4121
2	× 4245
2	× 4445
4	× 4770
6	× 4771
6	× 4772

Finally, we show a permanent layout with two 4-lane banked curves.

Fig. 58

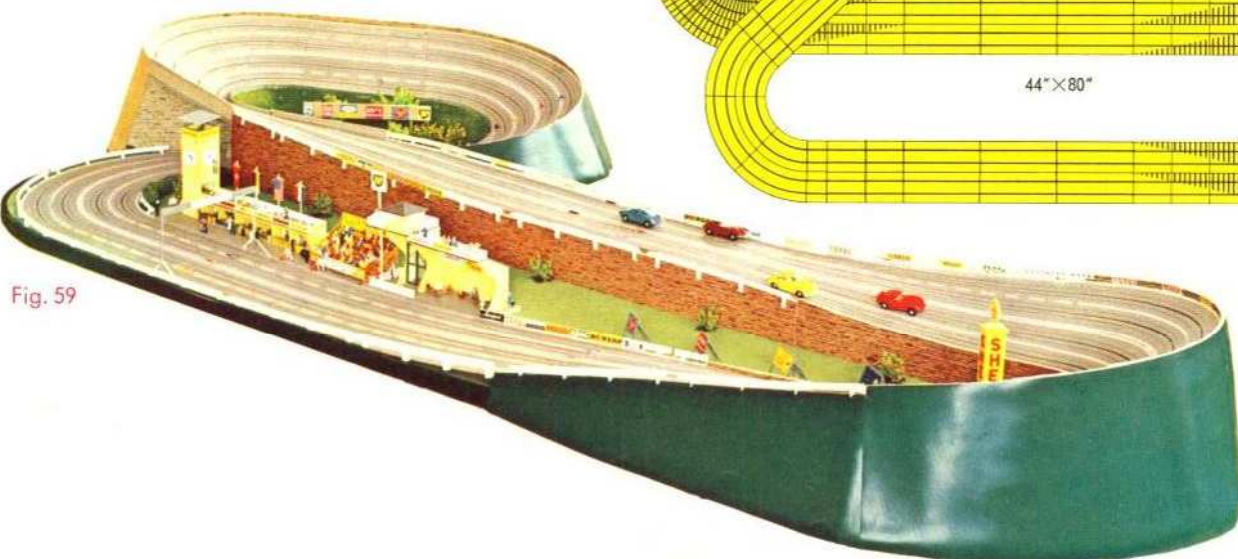


Fig. 59

FAMOUS RACEWAYS

Races are run either on specially-constructed tracks or high-ways that have been checked over and approved for the purpose. On the former there are of course usually permanent structures: garages, "pits", grandstands and of course start-and-finish posts. European races are run clockwise. The fastest tracks in Europe are at Monza and Monthléry. Absolute world

records are made in U.S.A. on the Utah salt flats, the former bed of the now shrunken Great Salt Lake. Some of the well-known raceways are shown here in map form and imitations of them in A·M·S roadway parts are suggested. The FALLER suggestions are the ones shown in yellow, and all are to a scale of 1:20.



AVUS

Raceway in a suburb of West Berlin

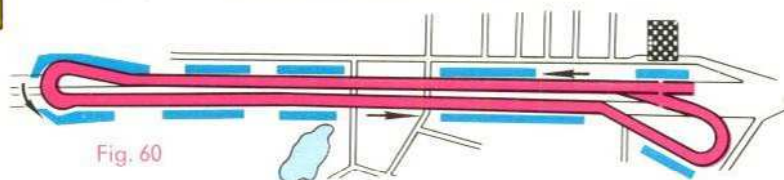


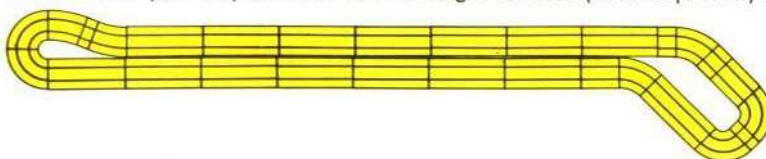
Fig. 60

Each lap is 8.4 km (5 mi)

Lap record:
Tony Brooks 1959
at 144 mph.

The north turn (banked) at AVUS can no longer be used (since Sept 1967).

Fig. 61



AINTREE

Raceway 5 mi from Liverpool

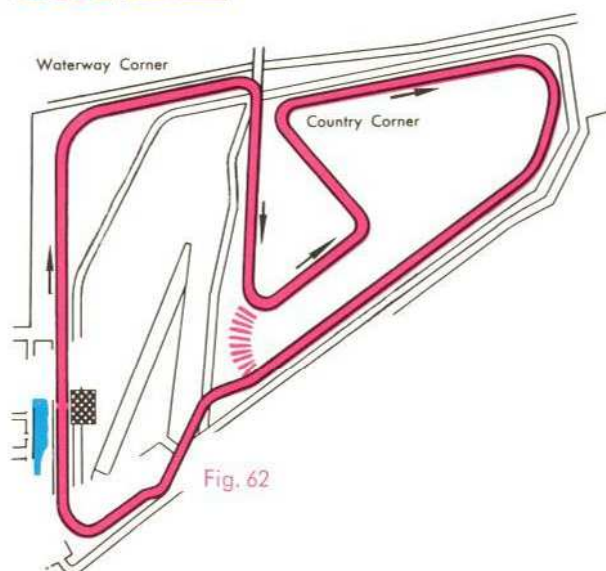
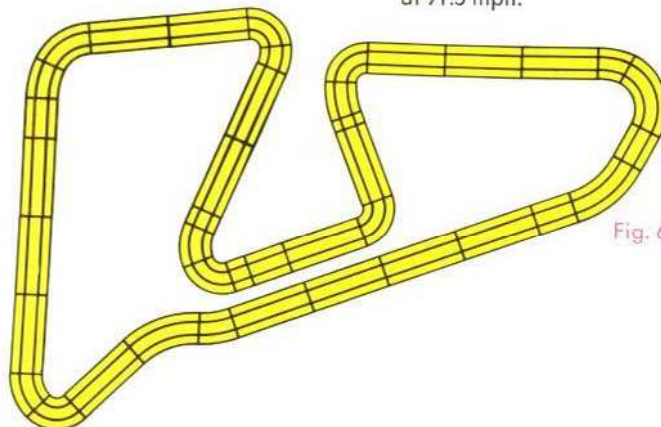


Fig. 62

Each lap 4.83 km (2.8 mi).
Lap record: Jim Clark 1962,
in a Lotus-Climax V-8,
at 91.5 mph.

Fig. 63



ZANDVOORT

Raceway at the seashore
near Haarlem, Netherlands



Fig. 65

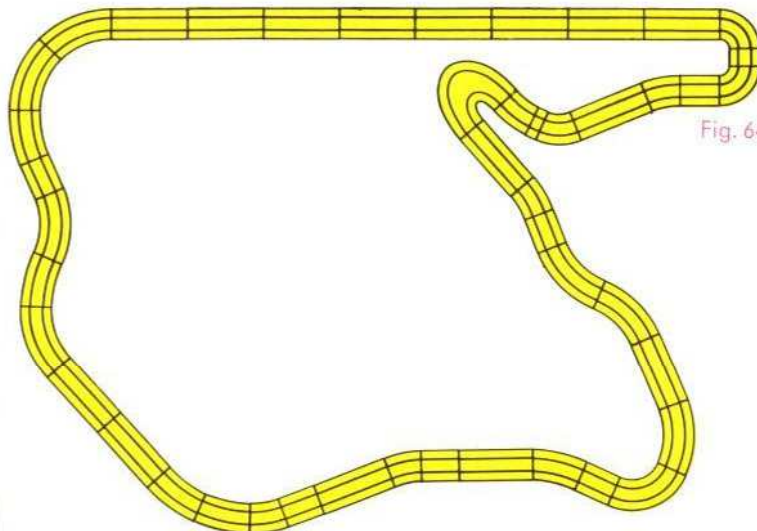


Fig. 64

LE MANS



Raceway 120 mi SW of Paris.
Each lap 13.4 km (8 mi)

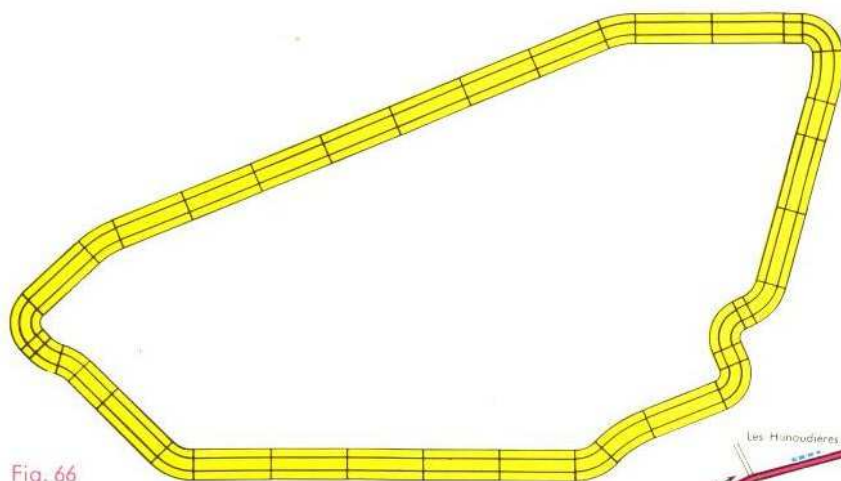


Fig. 66

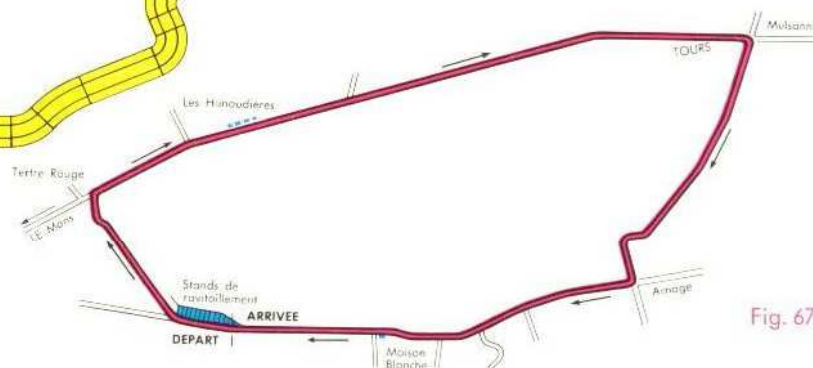


Fig. 67

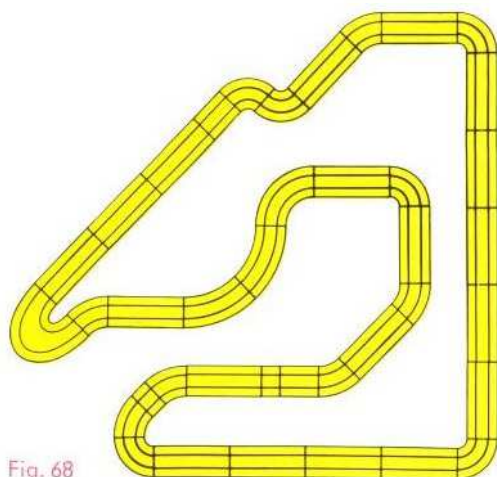


Fig. 68



Fig. 69

SEBRING



Raceway in Florida
Each lap 8.37 km (5 mi)

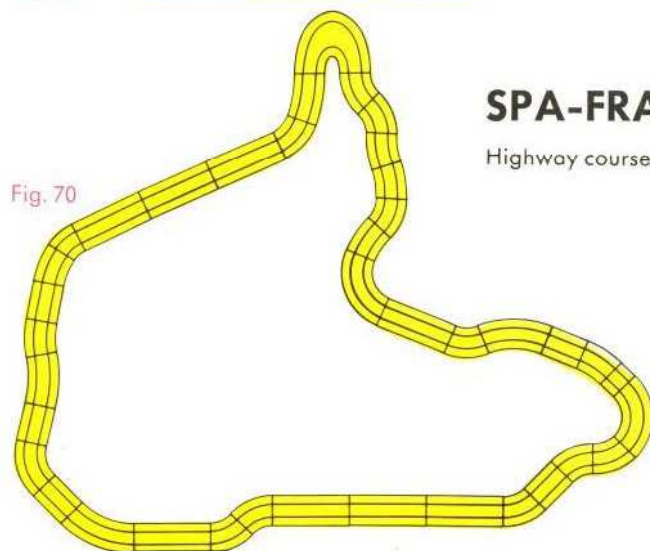


Fig. 70



Fig. 71

SPA-FRANCORCHAMPS

Highway course near Spa in the Belgian Ardennes.



Each lap 14.12 km (8.4 mi)
Lap record:
Jack Brabham in a Cooper-Climax
at 131 mph.

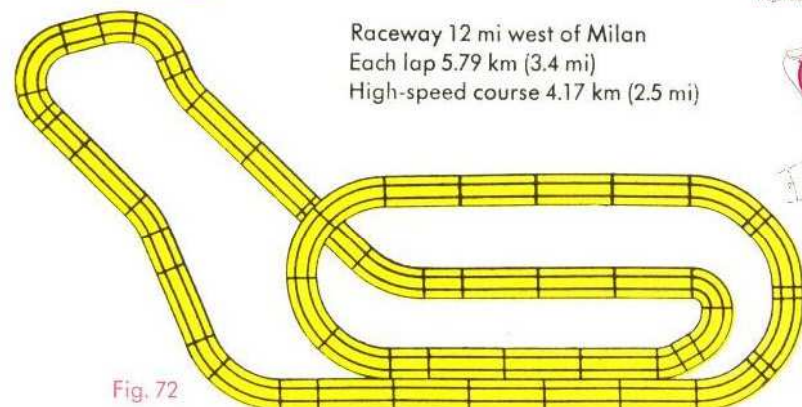


Fig. 72



Fig. 73

MONZA



Raceway 12 mi west of Milan
Each lap 5.79 km (3.4 mi)
High-speed course 4.17 km (2.5 mi)

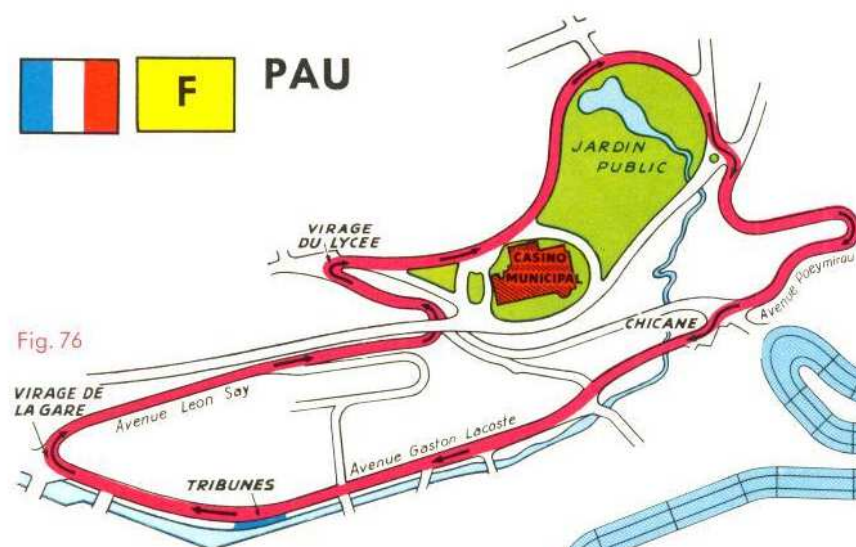
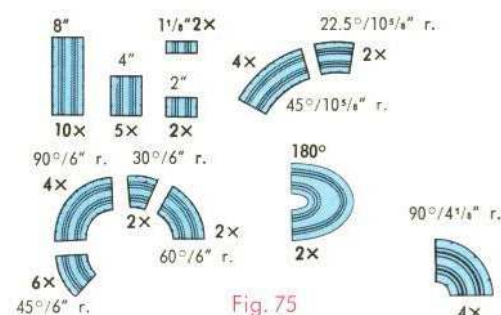
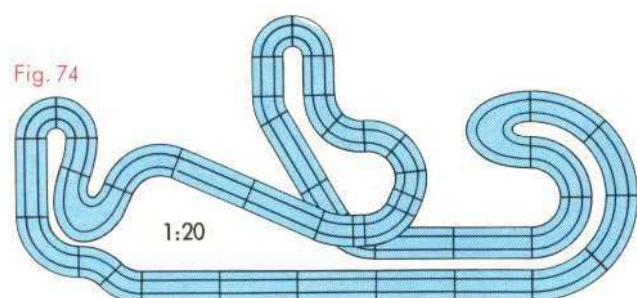
PLANIMETRIA GENERALE
SCALA 1 : 5000

SET 4407

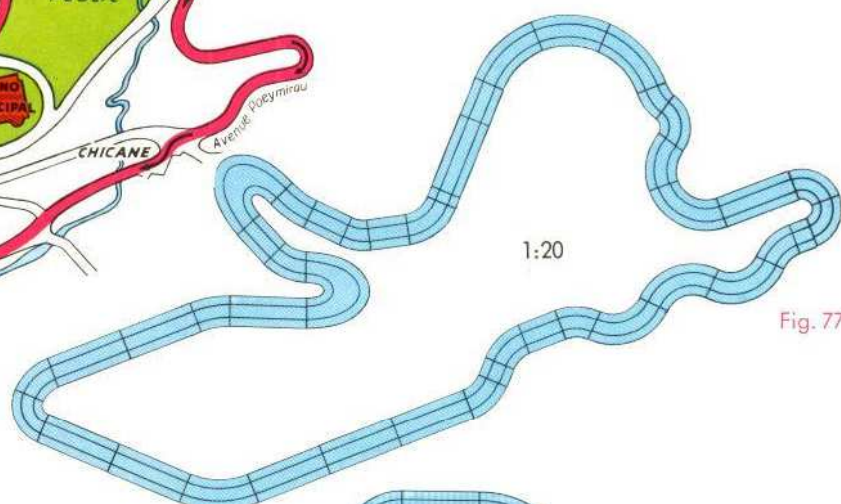
A set containing roadway parts only, as originally contained our now-discontinued Set 4007.

4407 contains the most essential raceway parts (but no banked

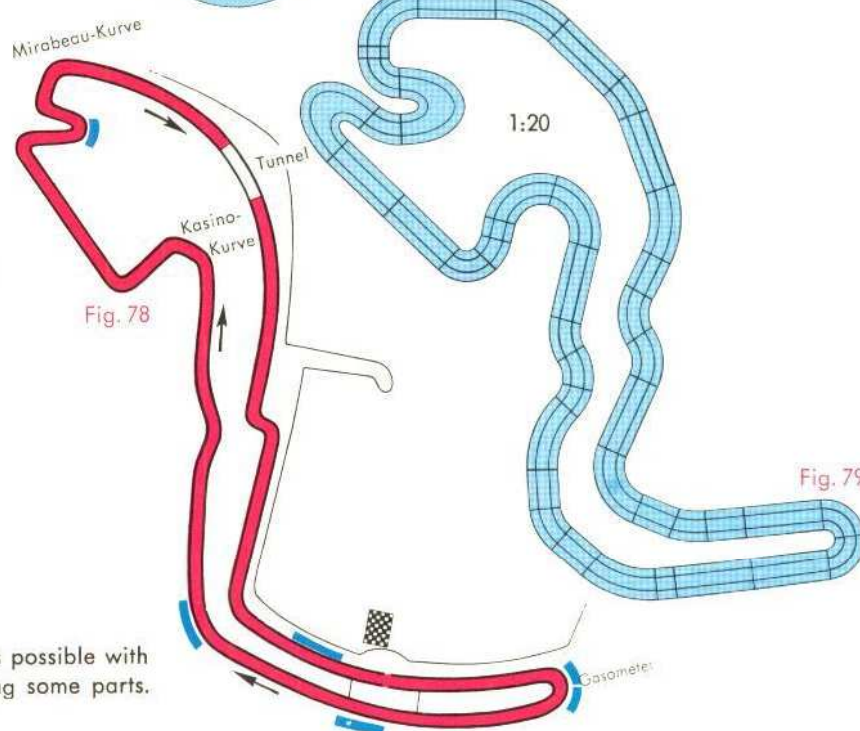
curves): straights, wide and sharp curves, hairpin turns and 180° turns, and also several small-angle turns giving a wide variety of possible turns.



Highway course near the Spanish border in southwestern France. Lap length 2.77 km (1.66 mi)

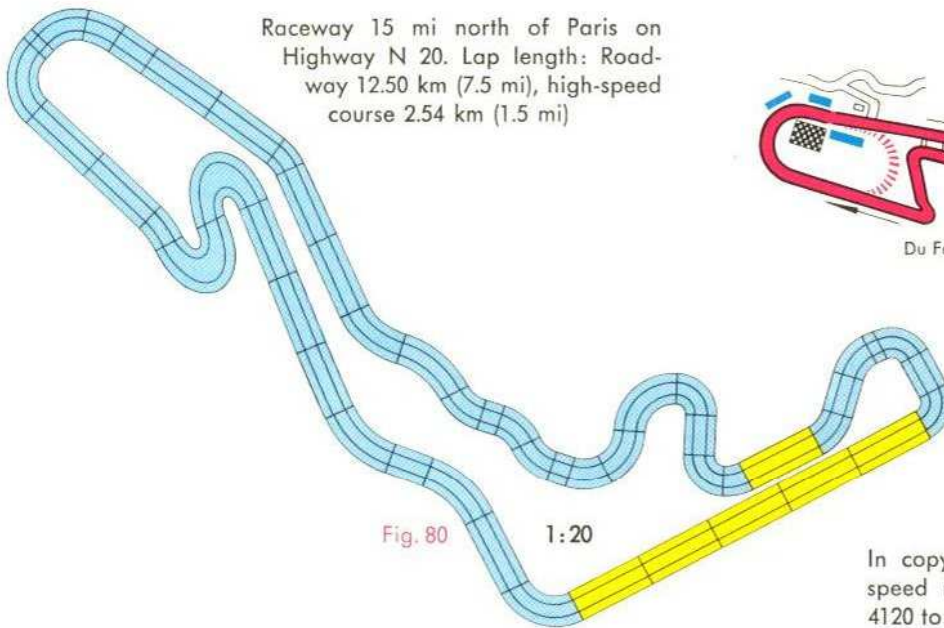


Street course,
right in Monte Carlo
Each lap 3.31 km (1.98 mi)
Lap record:
Bruce McLaren, 1960
in a Cooper at 70.6 mph.



Although a fair approximation of this course is possible with 4407, it could be made more exactly by adding some parts. It's all a matter of money and space.

MONTLHÉRY

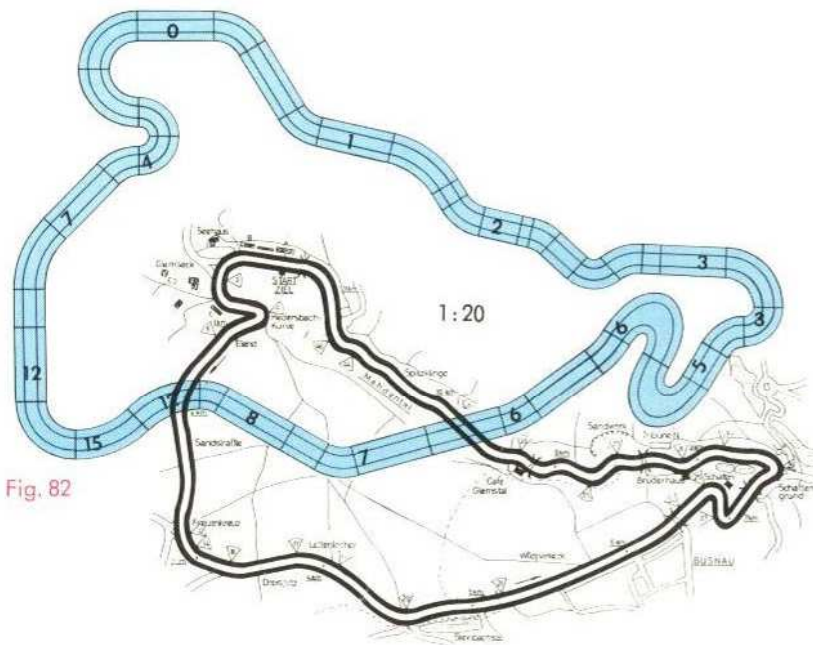


Raceway 15 mi north of Paris on Highway N 20. Lap length: Roadway 12.50 km (7.5 mi), high-speed course 2.54 km (1.5 mi)



In copying this tricky raceway, on which top-speed runs are made, we have added 3 sets 4120 to the basic 4407 roadway sections.

SOLITUDE



This is the famous SOLITUDE raceway, west of Stuttgart, near the Autobahn. Each lap measures 11.5 km (6.9 mi) and the elevation from the lowest to the highest point is about 400 ft. Numbers in the model roadway indicate altitude in cm.

You may well ask, why copy a real raceway, and is reality-possible to do so? Sporting competitions on raceways are so exciting that many a spectator or other enthusiast simply finds it interesting to have a replica in miniature of the great raceways. What is necessary is to capture the essential features of the original in the model. Therefore the best solution is of course a model set in a landscape as close to as possible, with comparable grades. This is much more satisfactory than a mere level table-top roadway.

The building of the model itself is fun. Because FALLER A·M·S makes it possible to introduce many of the minor details as well, it gives you double pleasure.

Of course, there are always little compromises to be made.

The less roadway material you have on hand, the more care must be taken to get at least the most characteristic features into the replica.

This requires some creative effort, and success in such a venture is a real joy.

Just as when observing from an airplane we see only the more salient features of the land spread out beneath us, and minor irregularities in road alignment escape notice, so the model builder has to ignore some of the most minute items. Simplification is the soul of art. To express the essential with the least means is the goal of the modelmaker. Model making is not slavish copying, but an artistic creation. The ingenious blend of nature and technology is the source of much of the pleasure in this hobby.

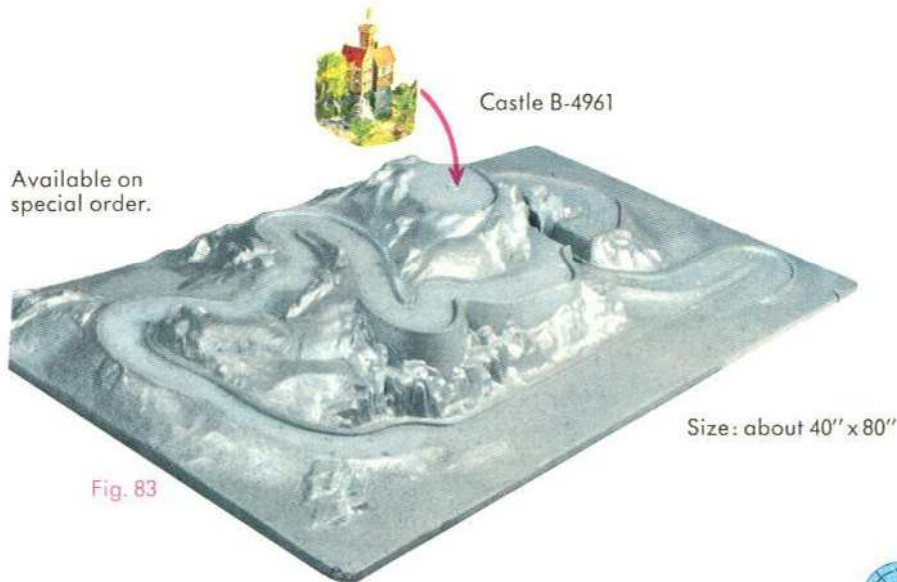
MOUNTAINOUS RACEWAY

Who wouldn't get a kick out of a racing layout with interesting grades and turns set in a rugged terrain? But not every model-builder has the skill to create a really fine piece of mountainous terrain.

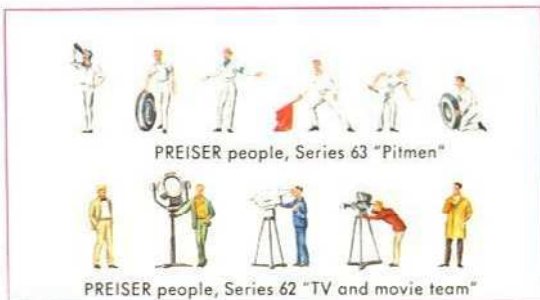
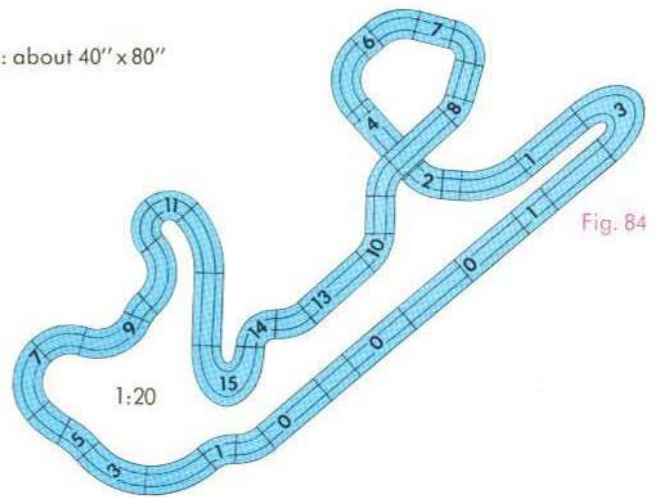
Mountain raceway 4971 therefore is offered as a large one-piece bit of mountainous terrain moulded in styrofoam and needing only surface treatment to finish. The set includes full

instructions, adhesives, paints and scatter material in sufficient quantity.

In addition you can add your own choice of start-and-finish structures, trees and shrubbery and many other decorative items. As the crowning touch on the mountain top we recommend castle model B-4961.



Size: about 40" x 80"



The roadway sections in set 4407 are sufficient for completing layout 4971.

THE NÜRBURGRING

D

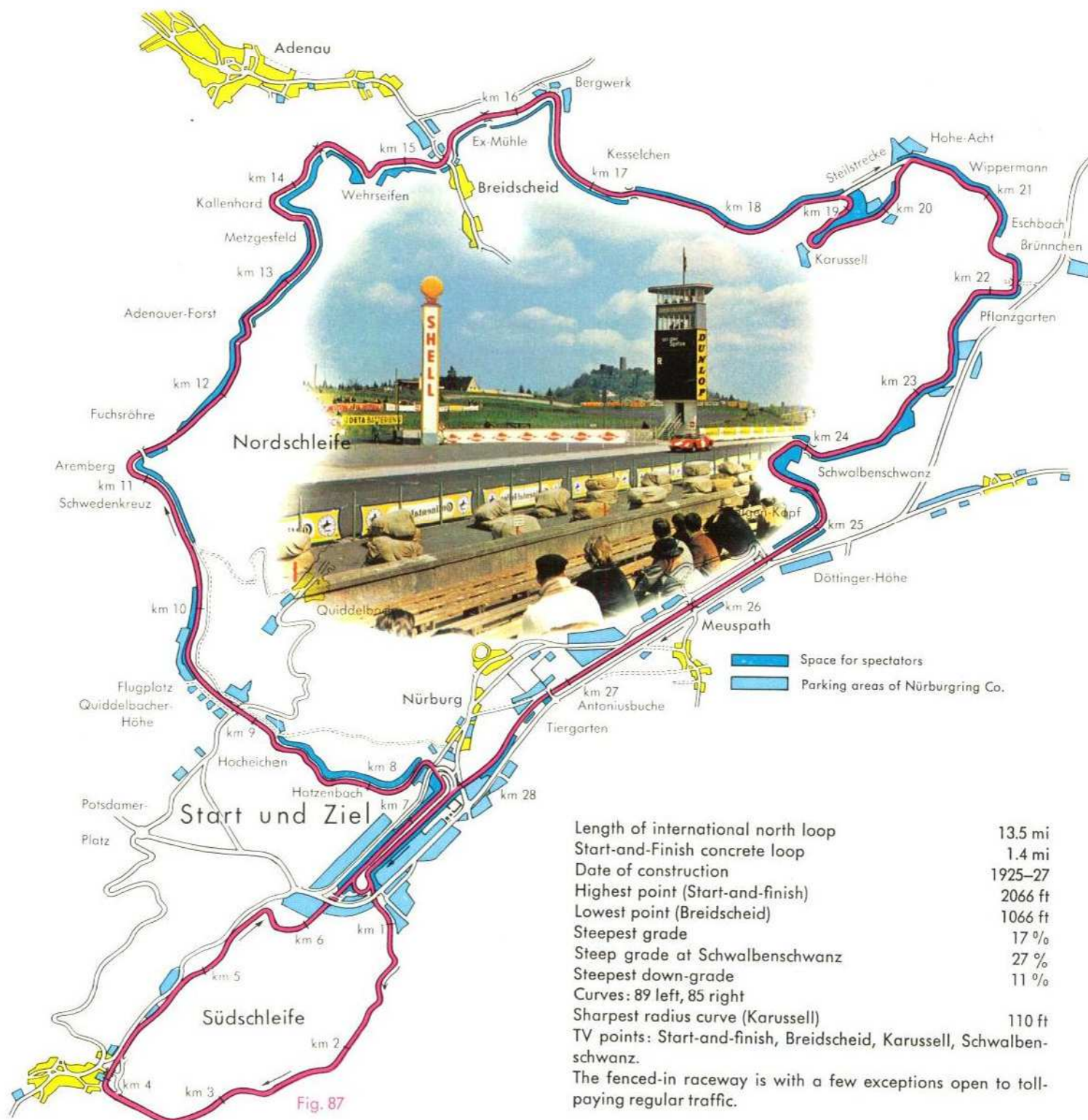


In the Eifel district in the German Rhineland is one of the most imposing raceways, with excellent facilities at start-and-finish. The landscape is dominated by towering Nürburg Castle, from which a large part of the "Ring" can be observed. The raceway, all of 13½ miles long, with so many named curves, puts the modelbuilder on his mettle but also offers rich rewards. We have describing an everyday version or standard model and a large, much more pretentious club layout, in order to show what can be done when enough roadway material is available.

Compare the photograph of the DUNLOP tower, the SHELL

column, the CONTI tower and row of pits with the FALLER models. Then you will realize fully what superb copies these little models are. It is always a matter of selecting the right objects to model if you are to capture the genuine atmosphere of a raceway on race-day at home on your dining room table.

And of course, the most important ingredient of such an exciting spectacle, the human element, should not be missing. The life-like little PREISER figures are the crowning element of your composition. There are large assortments of these, both spectators and raceway personnel.



STANDARD MODEL OF THE NÜRBURGRING

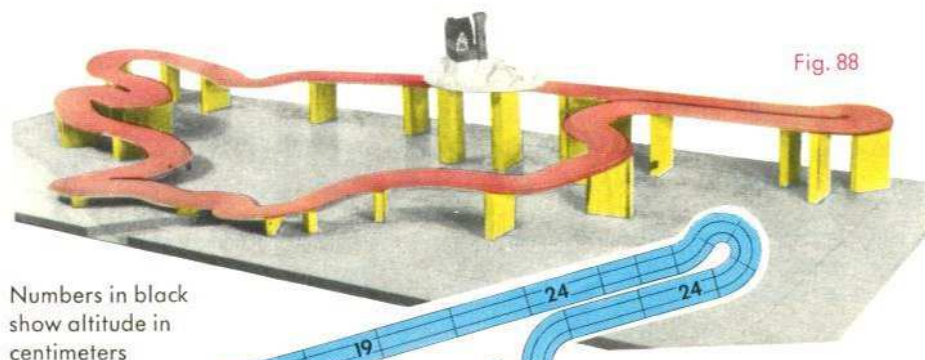


Fig. 88

Numbers in black show altitude in centimeters

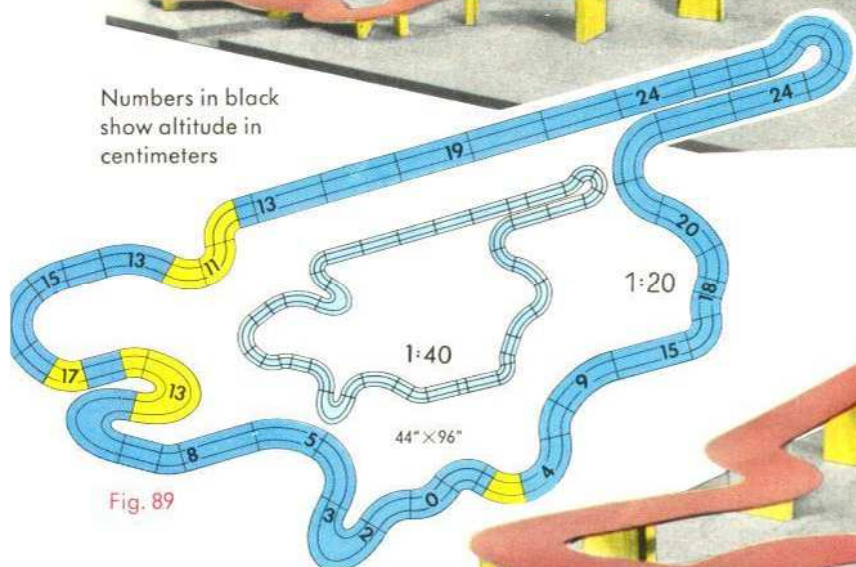


Fig. 89



Fig. 90

The substructure of any layout has to be sturdy, so the roadway can be fastened firmly in place. There are often tricky spots at curves or change of level, but these can usually be satisfactorily corrected by slipping little wooden wedges under the outer edge of the curve.

Sometimes it will be necessary to alter the guiding slot or inserted power rails a little at such places to smooth the way. Such corrections are hardly ever needed, however, except at very tight S-curves, on up-grades and on down-grades, where the roadway sections may meet in somewhat angular fashion. Trial runs at the earliest possible building stage are highly recommended. The landscaping is a pleasant but sometimes quite time-consuming job. We can give suggestions, such as you will find in our brochure 841, *Model Building Made Easy*, but in the last analysis the way you do it depends mostly on your own taste. Whether you work with paint or scatter material or some other medium is less important than variation in medium. Don't just paint the whole thing or cover the whole

thing with scatter. Vary the method. A little clump of trees in one place, a lone tree in another, now and then a rocky outcrop — this is what lends charm to any landscape. The same applies to houses. It isn't the number you use that makes or breaks the effect, it's how and where you put the ones you do use. Try this and that, see what looks effective. The eye is the best judge. The totality of all the items is what gives perfection of proportion.

Don't be afraid of this part of the job. You'll make mistakes the first time, of course. But it always turns out better than you feared. Joy in your own achievement is the best present you can give yourself.

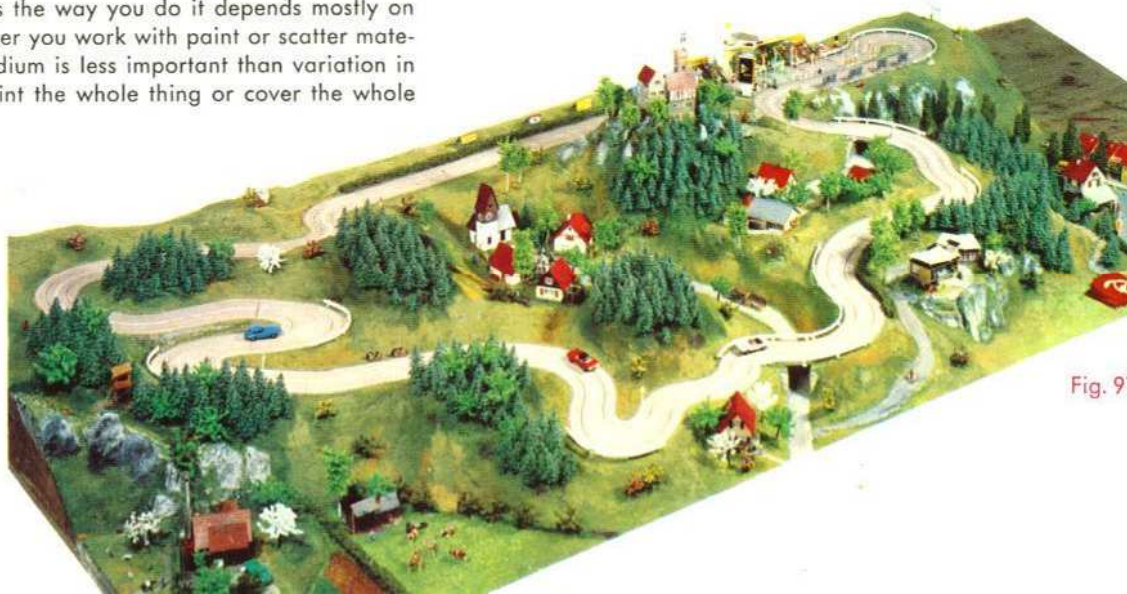
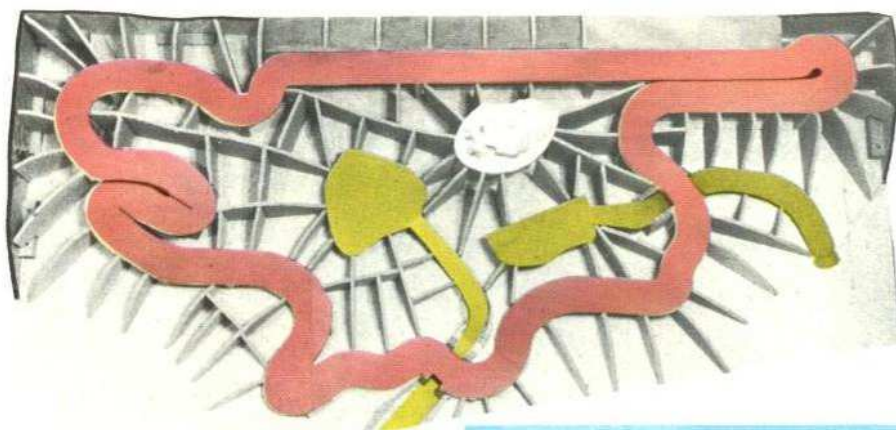


Fig. 91

First we try to build a replica of the Nürburgring using only parts found in set 4407. To a scale of 1:40 we show the less-than-satisfactory result. One of the most characteristic curves, the Karussell, is missing. Therefore we think it better to go a step farther and add sets 4345, 4360, 4491 and 4580 to the basic 4407. Considering the size of 44"x96" this gives a respectable result as to size and curve pattern. This pattern, which we call the Standard Model is shown here to a scale of 1:20.



A bird's-eye view of the framed but not yet covered layout. Note the mountain profile segments of wood.

Fig. 92

Beside the area for the village at the base of the castle hill you can see where the mountain-profile segments have been covered over with heavy wrapping paper (preferably the crêped sort) or textile, which is fastened down with cement or tacks.

So here we are along the Nürburgring. From the Schwalbenschwanz to the start-and-finish line is a long straightaway. At the start, as already mentioned, is the striking loop which makes checking and timing easier on this model raceway as well. After a descent studded with curves to the low point of the run comes a steep ascent with the striking double hairpin at the Karussell and on to Hohe Acht. The grades, too, must be subject to compromise on the model layout. It is just these things that call for the creative instinct in you to overcome difficulties.

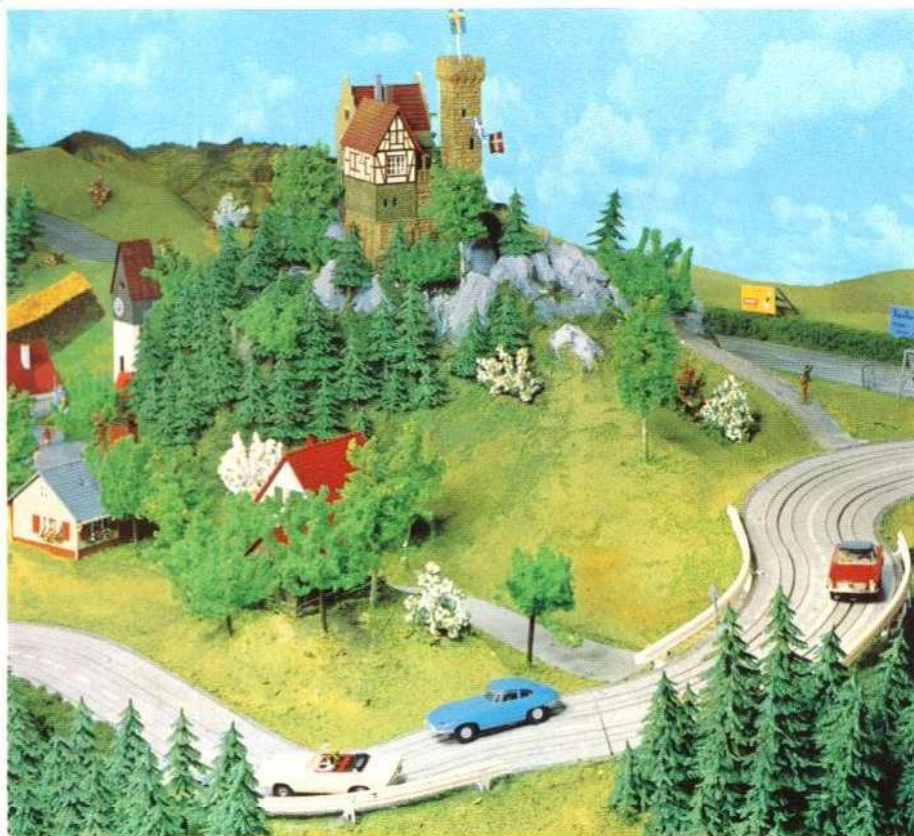


Fig. 93



Fig. 94

Fig. 95

LAP COUNTERS



Fig. 96

An interesting structure on the Nürburgring is the DUNLOP tower with its electric scoreboard. It attracts the eyes of all spectators with its announcements.



Fig. 97



Fig. 98



Fig. 99

A row of lights in the general shape of the raceway begins to light up right at the start of the race, and more and more lights come on to show the progress of the lead car around the course. The ring of lights is completed when the first car completes its first lap, and the same procedure is repeated for each lap. A numeral after the letter R tells how many laps have been covered. Then comes the number of the lead car on the line below.

In our photo, taken at the 1964 1000-kilometer race, the first two Ferrari cars numbered 142 and 143 have just completed their second lap. Time-keeping is a difficult task during races. When at the Nürburgring more than 80 cars start, the first two laps especially are extremely difficult.

While the time each car passes the contact is automatically recorded on a tape, other personnel keep track of the sequence in which each individual car passes by noting down the numbers. Finally each car is noted on a further check-list at each lap.

In model racing, too, it often requires pretty close attention to keep accurate record of what happens. It is therefore strongly recommended in pursuit and chase races to locate the Finish and Handicap check points in a row.

In order to keep accurate count of the number of laps run, an automatic lap-counter should certainly be installed. FALLER supplies one. Just before the finish line the 4-inch long contact section is installed. The starting car is then placed just past the contact and just before the start-and-finish line.

12 laps is the usual number run, which turns the indicator on the counter back to 0.

In order to make the lap counting perfectly clear, a clock-like dial with two hands is used. One hand is red and the other blue. As each car completes a round its hand moves up $\frac{1}{12}$ of a turn, or "five minutes". The two hands of course indicate for the two lanes.



Fig. 100

Fig. 101

Use of crossover 4728 puts a real burden on the driver's skill. There is always the chance of a collision, since one lane crosses over the other. But regular traffic rules prevail — the car to the right always has the right of way. Always use two crossovers, as provided in the set. Use of only one will cause a short circuit.

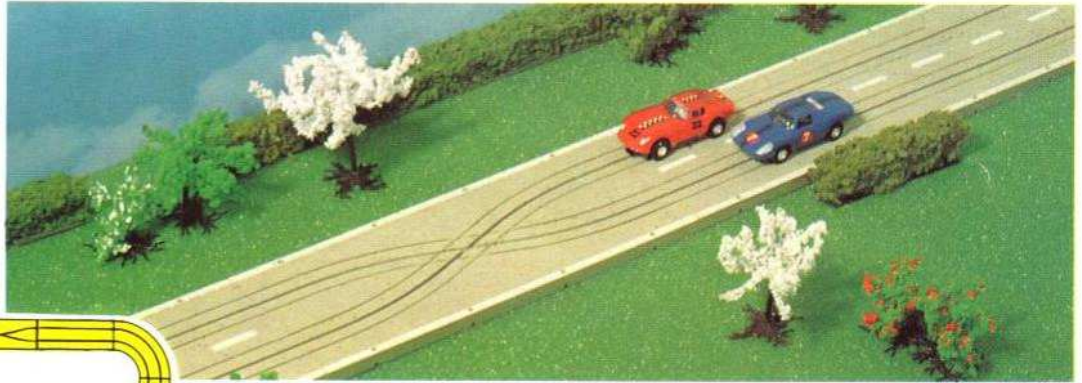
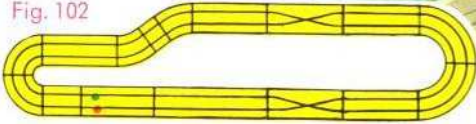


Fig. 102



SERVICE

Care of the cars begins, as with real cars, in the running-in period. A cold motor can be balky. So before each race rev up the motor a while by lifting the rear wheels off the ground. When you buy a new car, make sure the brushes are worn in to the contour of the commutator. Again rev up the car and let it run for as much as three minutes.

Just as with real cars, running at high speed without let-up tires out the car faster than running at normal speeds. Of course, there is nothing wrong with speed in itself, but not for protracted periods of time.

Periodic inspections are important. These you can do yourself, of course. The whole car can be dismantled easily. But a normal servicing involves no more than removing dust and lubricating the bearings. Sewing-machine oil is good for this, but never let any oil get on the commutator, only on the bearings!

One small drop of oil on each bearing is all. No more. None must get on the tires, either. After about 160 to 180 hours of operation new pick-ups will be needed and after 200 to 220 you'll need new tires. Of course wear on the tires will depend largely on how carefully you drive and on the condition of the road surface. To remove pick-ups, undo the pick-ups by pulling them out from the projecting tabs beside the guide pin under the radiator. To replace, reverse the process. Good, steady pressure of the pick-ups on the rails is essential to good operation. If you will picture to yourself an auto trip of about 10 days' duration, you would naturally check the oil each day, and after about a week on the road, let's say, you'd have the car looked over and perhaps change brushes and pick-ups. At the destination it would be time to check and perhaps switch the tires.

It might be of interest to know that in the year 1964 FALLER produced over four hundred actual miles of A·M·S roadway. Model highways need care, too. They quickly get dusty, depending of course on conditions, and especially if they are not used for long periods. A bit of cloth soaked in alcohol will help get dust accumulations off the rails. After longer periods of time, running a piece of sheet brass held on edge along the tops of the rails will remove any possible spots of corrosion.

All mechanical toys should be kept in places not subject to dampness. Dust does no harm but it takes time to clean it off. Therefore it is very strongly recommended to keep a paper or cloth cover over the layout while it is not in use.



Fig. 103

TECHNICAL DATA

In HO scale a model mile equals $\frac{1}{87}$ of a real mile or about 60 ft. In raceways we must foreshorten still further in order to get them on to a table top.

So 60 ft in the model equal a mile in nature. A model car takes about 18 seconds to cover 60 ft. which works out at about 180 to 210 scale miles per hour. The actual speed is about 2 to 2.5 mph.

Weight:

Model cars weigh about 0.64 oz.

Loaded (lead) about 0.78 oz., or about $\frac{1}{50,000}$ the weight of a real car.

A Volkswagen 1200 weighs 1643 lbs., a Mercedes 220 SE about 3051 lbs.

The model motor develops about $\frac{1}{600}$ HP.

Let's compare the weights per horse-power.

Model car: (loaded) 29 lbs/HP, VW: 48 lbs/HP, Mercedes: 25.5 lbs/HP.

So you see, the model car's power is quite comparable to that of a real car.

Servicing:

1. superficial lubrication every 20–25 hours of operation. Oil bearings lightly (sewing-machine oil). If used about 2 hrs per day that comes out to about every two weeks.
2. Thorough lubrication about once a month (every 40–50 hrs)
 - a. remove body
 - b. oil bearings
 - c. remove particles of dust and hair from all moving parts.
 - d. replace guide pin
3. Inspection, every 160–180 hrs.
 - a. replace brushes
 - b. replace pick-ups
4. Tire change: as needed, or about every 200 to 220 hrs.
5. Complete overhaul every 360 to 500 hrs.
 - a. replace entire bearing plate.



Fig. 104

The A·M·S system is not only for racing but also for traffic operation with or without model trains in HO gauge.

The picture above shows a realistic scene in conjunction with HO trains. At the right is a city street crossing with working traffic lights.

Ask for A·M·S Post No. 3 "Traffic".



Fig. 105

AUTO MOTOR SPORT

FALLER BROS.

MAKERS OF FINE MODEL TOYS
7741 GÜTENBACH/SCHW., GERMANY

FALLER 

For FALLER A·M·S service, call on: