

\$3.50

märklin



1980 E



The first stage of development of a Märklin locomotive is the 2:1 scale dimensioned drawing based on original plans.



A brass model is produced exactly in accordance with the drawing.



Molds are prepared for the manufacture of castings.



The castings are made by pressing molten zinc at 420° into the mold.



On each locomotive the casting burrs are smoothed off carefully by hand.

Frame and body are joined together: the locomotive is complete.



For soldering the armature, sensitive fingers and tweezers are needed.



On fitting driving trucks it is important to carry out true-running tests.



Frames are assembled on a production line.



Precision operation: using tweezers to fit the reverser unit spring into the model.

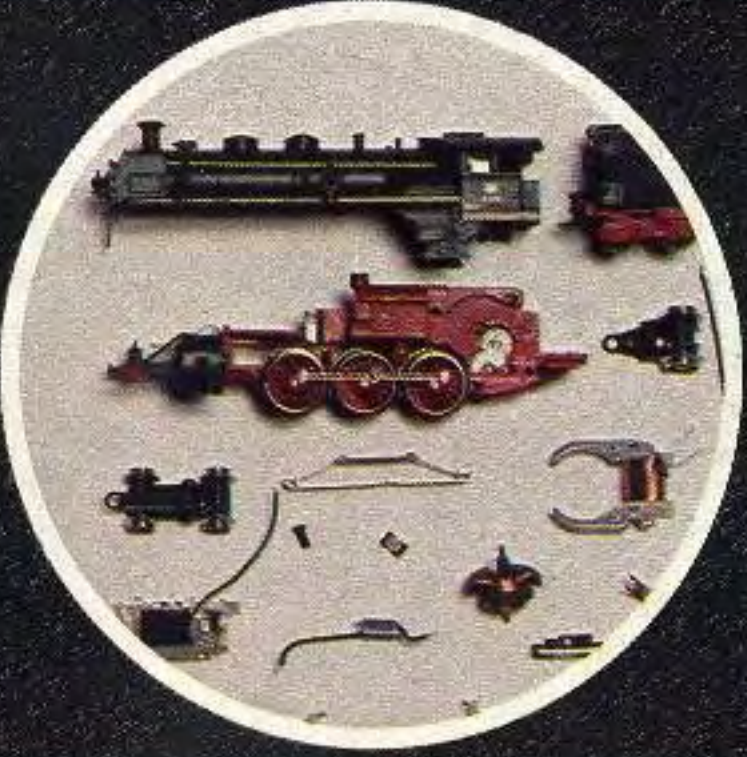
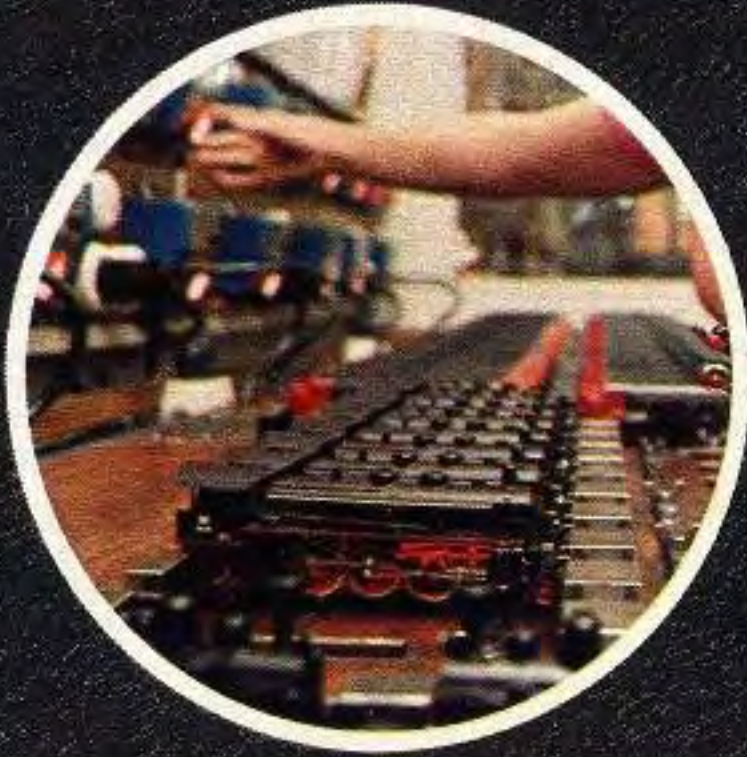
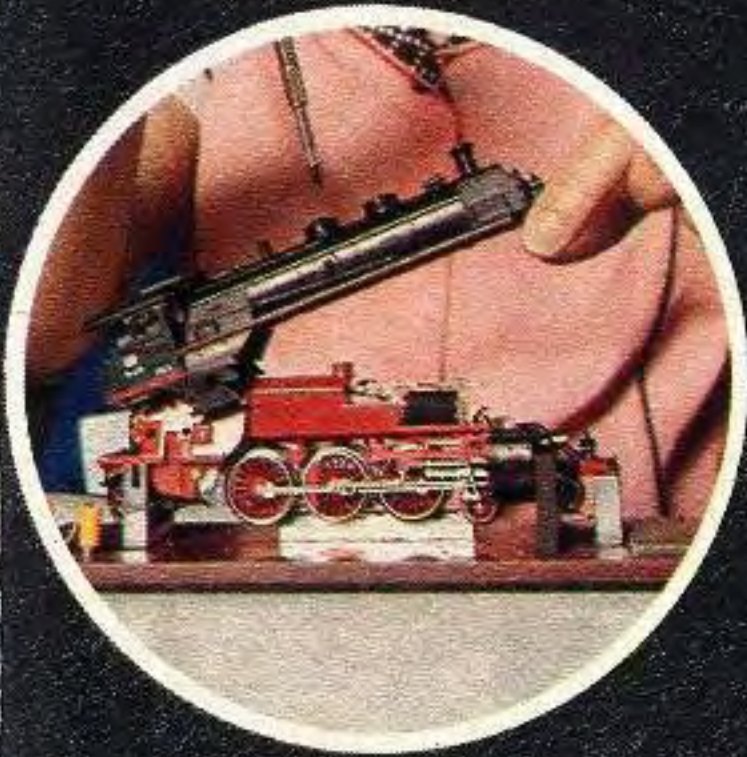


The driving rod assembly is screwed onto the frame with great care.

How a steam locomotive is made



Only the basic color is applied by spraying machine; all details are hand-painted.



A drop of oil ensures that the gear wheels in the driving truck run smoothly.

Locomotives are subjected to rigorous testing on the running-in stand.

Before locomotives leave the factory, a final checkout ensures that they are in perfect working order.

The typical Märklin locomotive consists of more than 200 individual parts.

Märklin model railroads have been proving themselves for over 75 years in more than 50 countries.





Märklin in 3 gauges



A model railroad can provide pleasure of all kinds, from a simple pastime to a serious hobby. Whatever your inclination, Märklin can put you on the right track.

1. Märklin HO

Märklin HO is just handy-sized and the robust, precision-made models are masterpieces of detailed scale modeling. Märklin HO is the only 16.5 mm ($\frac{3}{16}$ ") gauge track with the unique center stud contact system. These stud contacts ensure trouble-free operation. The Märklin range offers scope for every imaginable way of using a model railroad, and nowhere is the powerful, pulsating atmosphere of the railroad brought to life so vividly as on HO gauge.

2. Märklin mini-club

Märklin mini-club has a gauge of only 6.5 mm ($\frac{1}{4}$ "). Nevertheless it offers large scale value for money. The tiny models look so beautiful, and their reliability has gained Märklin mini-club a world-wide reputation. For a versatile, true-to-life model railroad which has the extra advantage of being able to pack away in a drawer or suitcase there is nothing to compare with Märklin mini-club. Adults appreciate its unique quality – it makes an ideal gift too.

Märklin HO, our most popular system, is the happy medium. For miniature railroad enthusiasts we took the logical step of developing Märklin mini-club – the smallest electric railway in the world. And Märklin I, the large scale system for in- or out-of-doors use, adds a totally new dimension to model railroading.

3. Märklin I

The Märklin large scale railroad with its 45 mm ($1\frac{3}{4}$ ") gauge is just right for house, patio and yard: it is easy and quick to construct and rearrange. Märklin I is beautifully formed, and the cars are big enough to transport genuine loads. The model details will suggest all kinds of ways of playing, which makes I-gauge particularly suitable for children. The whole family will enjoy the out-of-doors railroad. And the best Märklin I models will become sought after collectors' items.

Contents

Märklin HO 5 – 96

Basic sets	10 – 13
Train sets	14 – 15
Locomotives	16 – 41
Steam locomotives	16 – 23
Electric locomotives	24 – 33
Diesel locomotives	34 – 39
High speed railcars	40 – 41
Servicing accessories	42 – 43
Train composition	44 – 45
Cars	46 – 67
Passenger cars	46 – 57
Interior lighting sets	58 – 59
Freight cars	60 – 67
Tracks	68 – 77
M-track geometry	68 – 69

M-tracks	70 – 71
Extension sets	72 – 73
K-tracks	74 – 77
Multi-train operation	78 – 85
Signals	80 – 81
Circuit separation	82 – 83
Catenary system	84 – 85
Electrical accessories	86 – 87
Fitting out a layout	88 – 95
Turntable, roundhouse, rotating crane	88 – 89
Transfer table, locomotive shed, storage building	90 – 91
Grade-crossings	92 – 93
Bridges, lighting	94 – 95
Exploded view of Borsig locomotive	96

Märklin mini-club 97 – 120

Basic sets, train sets	99 – 101
Locomotives	102 – 107
Passenger cars	108 – 111
Freight cars	112 – 113
Tracks	114 – 115

Extension sets, catenary sets	116
Signals, electrical accessories	117
Catenary system	118
Fitting out a layout	118 – 120

Märklin I 121 – 136

Locomotives, basic set, building kit	122 – 127
Passenger cars, signal, building kit	128 – 129
Building kits	130 – 131

Freight cars	132 – 134
Tracks	135
Electrical accessories	136

Märklin metall 137 – 141

Märklin sprint 142 – 145

märklin

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Trade mark



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märklin HO

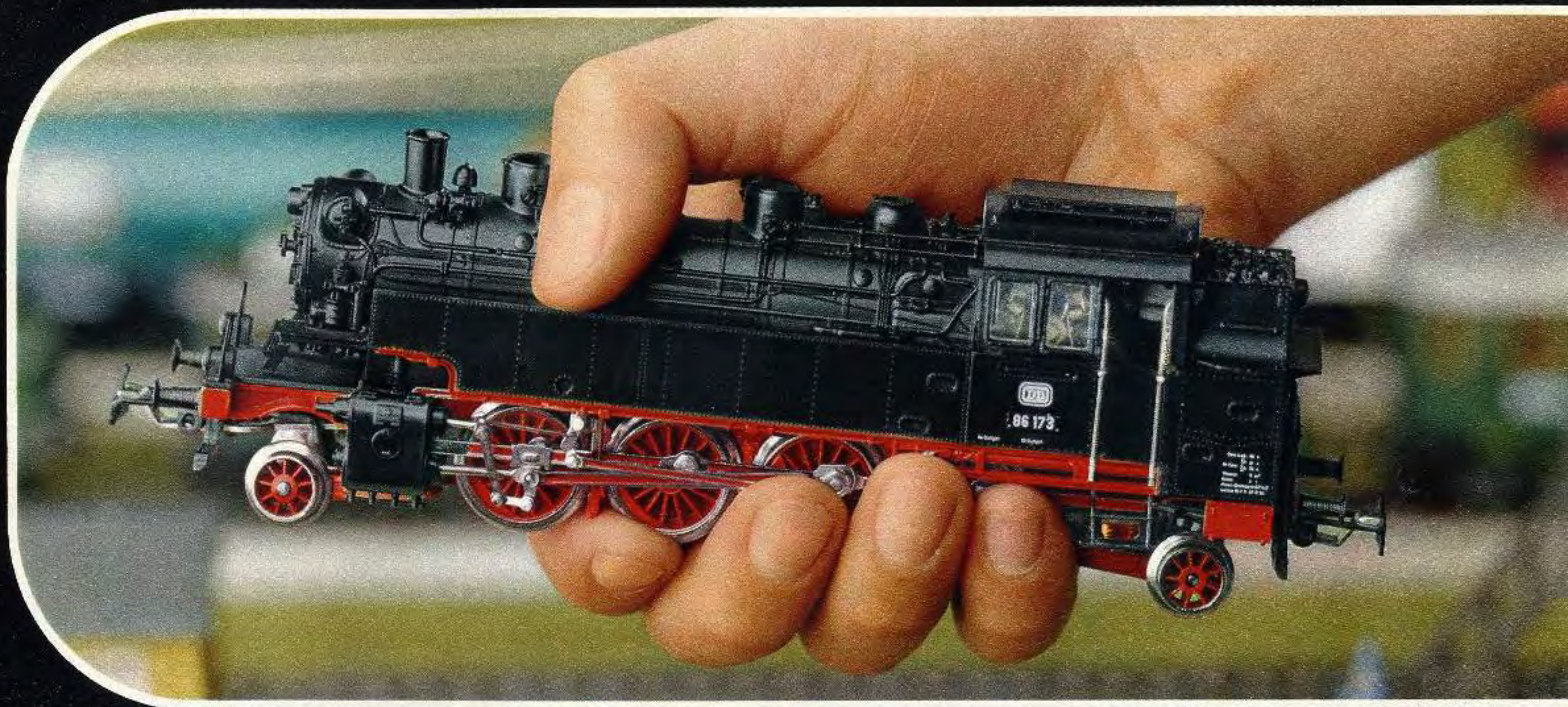


Märklin HO – a railroad at your fingertips

**Märklin HO –
1:87 scale model
railroad**

Why do so many railroad enthusiasts choose Märklin HO? Because of its obvious advantages: its precision manufacture, its accuracy of detailed scale modeling, its reliability, its handy-size, its robustness and its integrity.

Märklin HO models will stand up to vigorous handling. Yet with all their robustness they are masterpieces of beautiful scale modeling of real life railroad vehicles.



**Märklin HO –
the
trouble-free
contact stud
system**

Capture the real railroad atmosphere

Anyone who has seen a Märklin HO railroad operating understands its appeal, with its powerful locomotives, the sound of the trains on the tracks and the unmistakable railroad atmosphere which HO gauge provides.

Limitless scope and trouble- free growth

The breadth and variety of the Märklin HO range provide almost unlimited scope for building bigger and more ambitious layouts.

Short of space?

Interesting Märklin HO layouts do not have to take up a lot of room. A little planning can achieve much: layouts can be built along walls, in corners, on three levels, or just on a shelf. A double track only occupies a width of 15 cm (6").

Technological standard?

Märklin HO is the only railroad with the center track stud contact system which ensures such reliable locomotive operation.

Märklin HO – easy to use

The unique Märklin stud contact system

Traction current is supplied to motors via stud contacts and pick-up shoes. The shoe is always in contact with several studs, ensuring current supply by several routes. The current return path is also duplicated, as it uses both rails of the track. This makes for simple assembly and reliable operation.

The Märklin stud contact

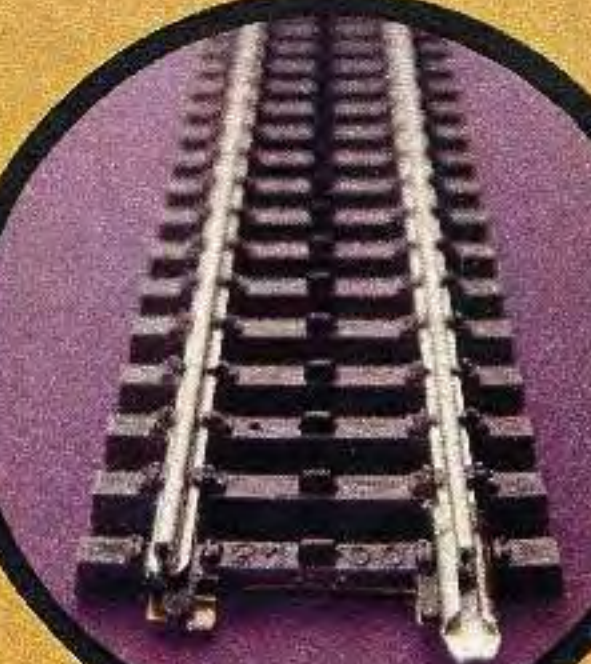
The robust M-track
with metal track body

Simple for beginners – suits experi- enced operators too

Märklin HO does not demand previous technical knowledge. Rapid progress is possible.

The reliable current path ensures trouble-free operation on the most complex of layouts. For large layouts with underground tracks and stations this reliability is essential.

The true-to-life K-track with
plastic cross-ties

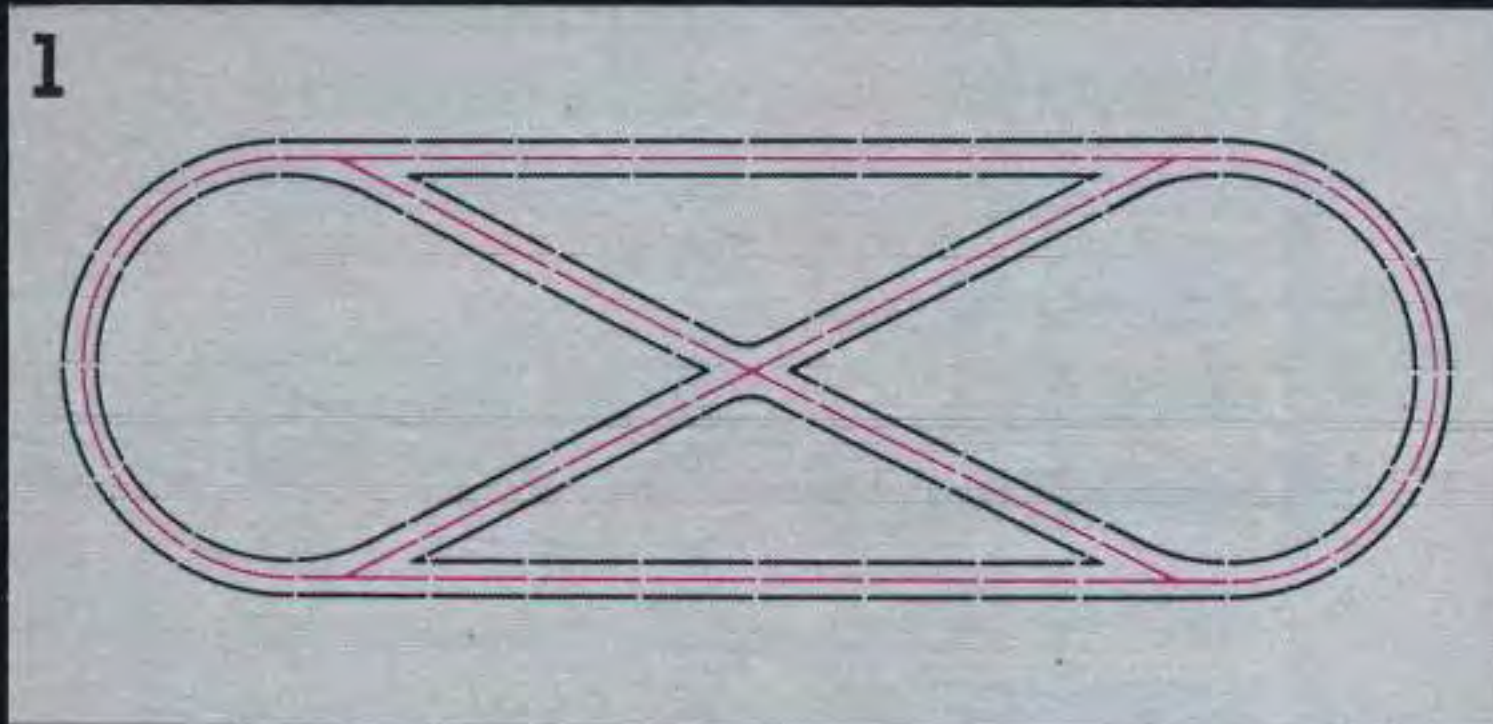


The important advantages of Märklin

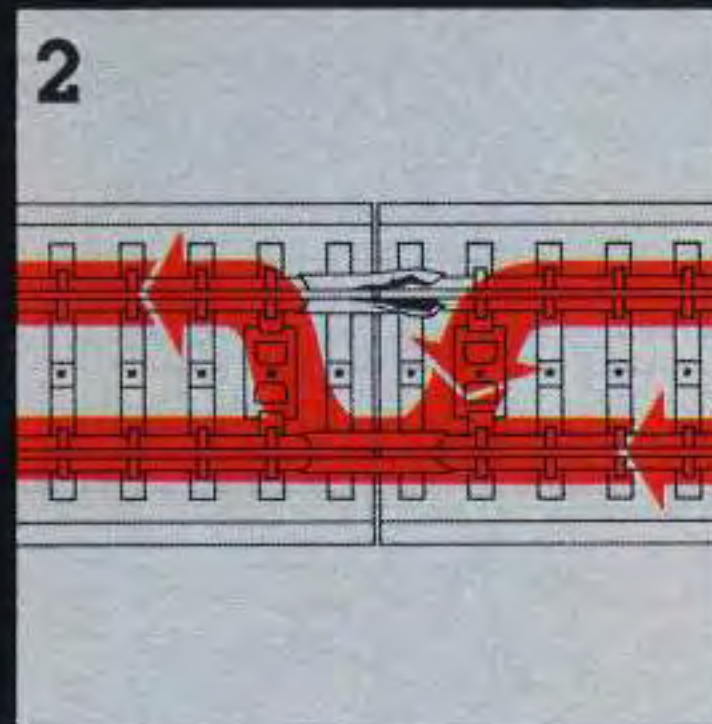
Märklin HO — a comprehensive system

This catalog demonstrates the width of the Märklin range with its good variety of models, and many accessories including a rotating crane and a transfer table.

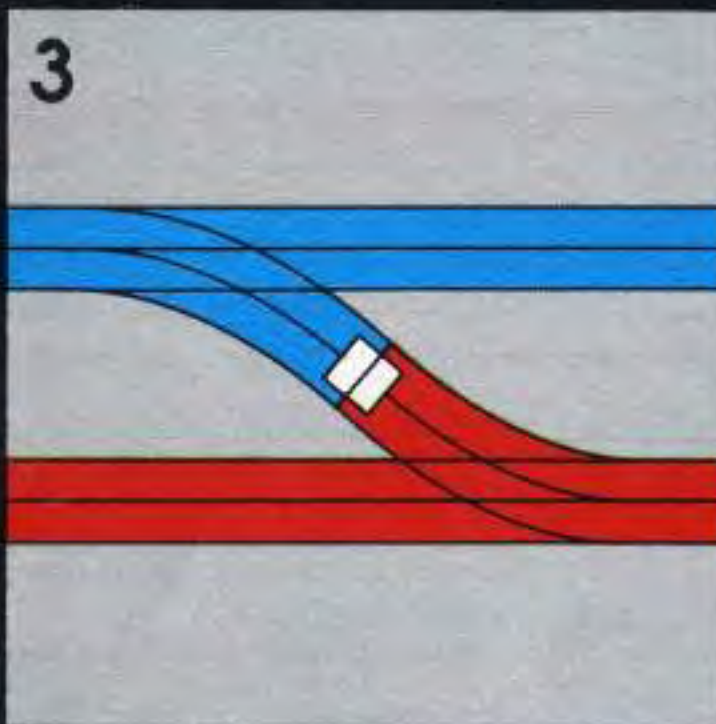
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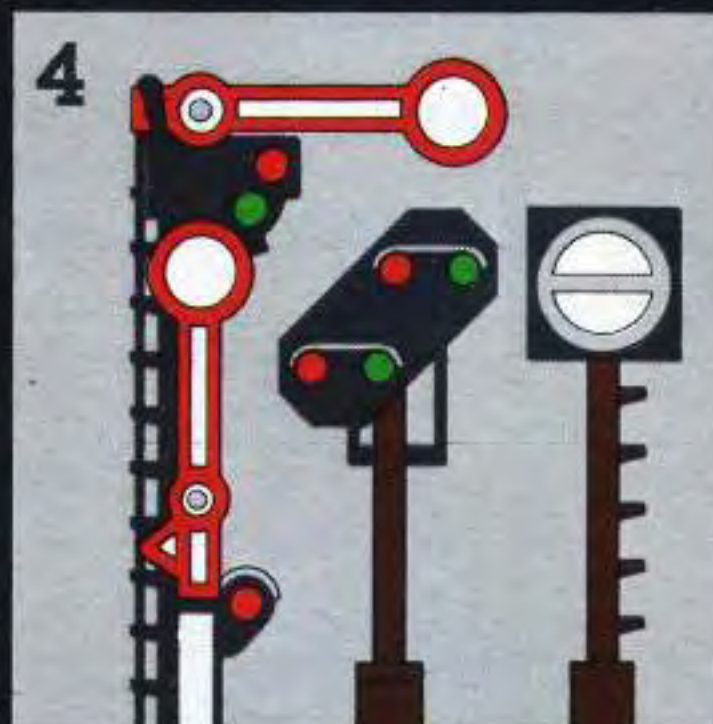
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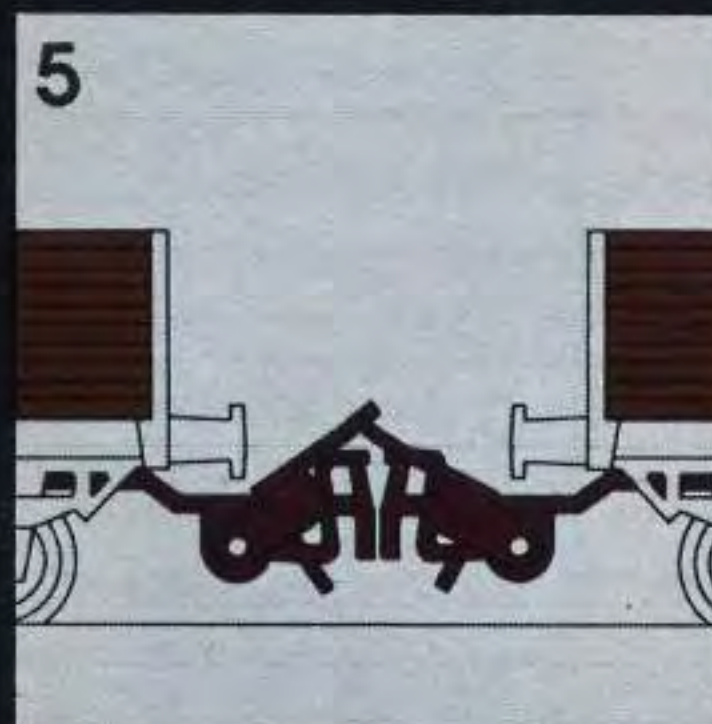
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4



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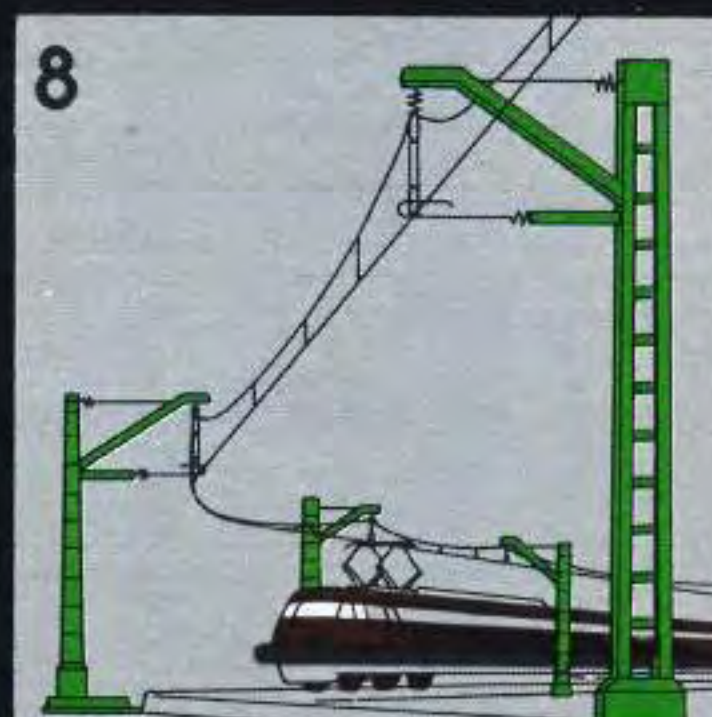
6



7



8



1 Simple circuitry

All kinds of track configurations are possible, including reversing loops, and complex electrical circuitry is not required.

2 Reliable current path,

because even if one of the two rail joint clips should get distorted the other one will still ensure a perfect connection.

3 Circuit separation

using center conductor isolator 5022 for M-tracks, or center conductor isolator 7522 for K-tracks. Special isolating track sections are not required.

4 Märklin HO signals

The robust Märklin signals enable realistic and genuine train traffic control to be operated. They are indispensable for fully automatic train control.

5 RELEX coupling

After uncoupling, cars can be pushed for parking without the coupling re-engaging. This feature is essential in a realistic switching and marshaling operation.

6 TELEX coupling

With the TELEX coupling, uncoupling from a locomotive can be carried out at any point on the layout by remote control from the transformer.

7

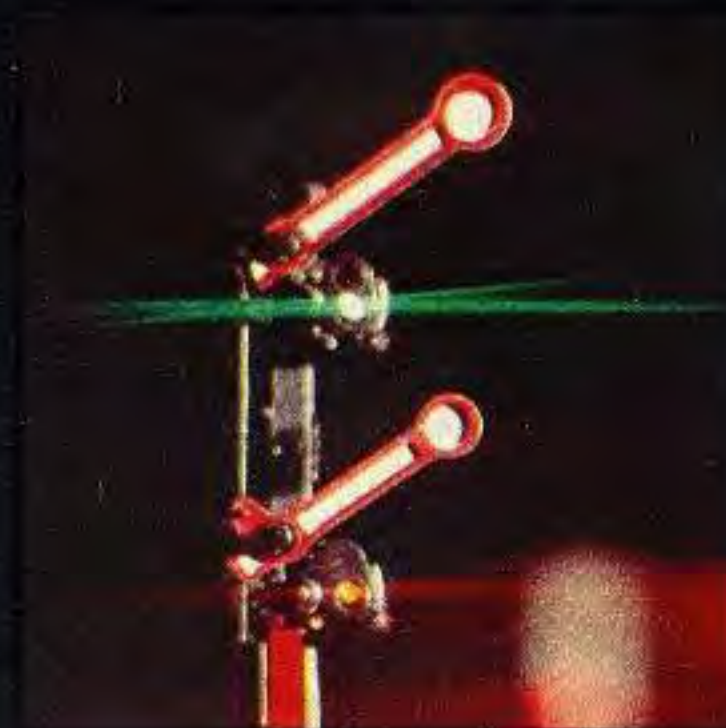
Direction reversing switch

With Märklin HO the direction of motion is controlled by a switch in the locomotive rather than in the track. This means that two locomotives on the same electrical circuit can be traveling in opposite directions.

8

Märklin catenary system

Electric locomotives are operated realistically with a catenary system. This provides another advantage: two trains can be operated independently on the same track. The Märklin catenary system is matched to the HO system and works in the same way as in real life.



Climb aboard and let's go

1

2940 220 Volt
2944 240 Volt
2947 110 Volt (60 Hz)
2949 110 Volt Japan

Passenger train with grade crossing and transformer - Contents: 1 tank locomotive, 2 passenger cars, 12 curved track sections 5100, 2 straight track sections 5106, 1 feeder track section 5131 with built-in capacitor for radio interference suppression, 1 mechanically operated grade crossing 7390, 2 automobiles and 1 transformer - Length of train 35 cm (1 ft 1-3/4")



2

2920 S 220 Volt
2924 S 240 Volt
2927 S 110 Volt (60 Hz)
2929 S 110 Volt Japan

Local passenger train with transformer - Contents: 1 tank locomotive 3104, 2 passenger cars, 12 curved track sections 5100, 1 straight track section 5106, 1 feeder track section 5131 with built-in capacitor for radio interference suppression and 1 transformer - Length of train 35 cm (1 ft 1-3/4")



3

2930 S 220 Volt
2934 S 240 Volt
2937 S 110 Volt (60 Hz)
2939 S 100 Volt Japan

Freight train with transformer - Contents: 1 tank locomotive 3000, 2 freight cars, 12 curved track sections 5100, 1 straight track section 5106, 1 feeder track section 5131 with built-in capacitor for radio interference suppression and 1 transformer - Length of train 34.5 cm (1 ft 1-5/8")



The gift packs on this page are ready for use now and can be extended.

The transformers in the basic sets and in set 2950-2959 (page 12) are not available separately.

All Märklin railroad transformers have connections for traction current and current for lights and solenoid-operated items, as well as providing an overvoltage pulse for reversing locomotives. These transformers can also be used to provide power for bigger locomotives or additional turnouts or signals.

Connect transformers to Alternating Current (AC) mains supply only

1

2940

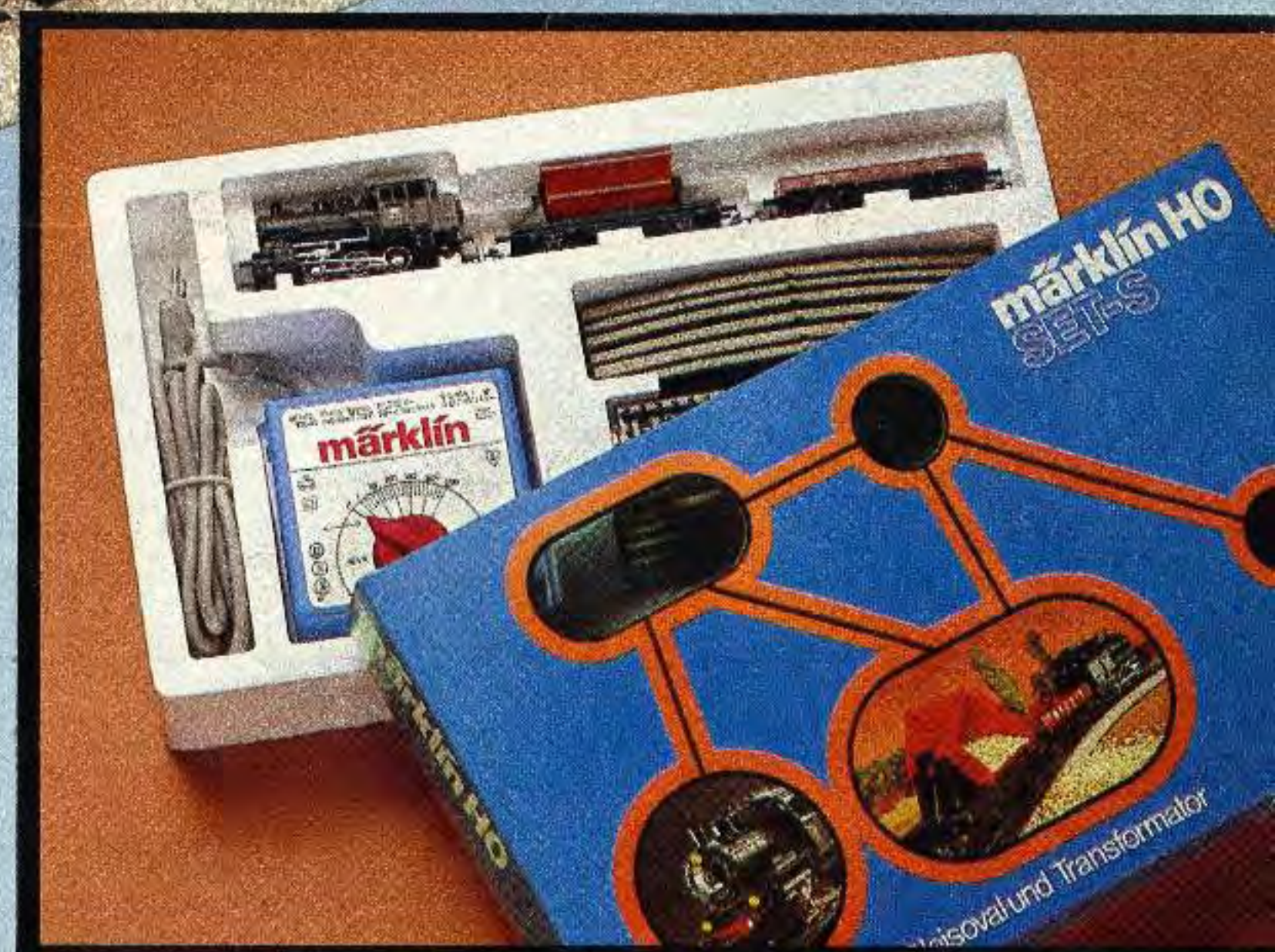
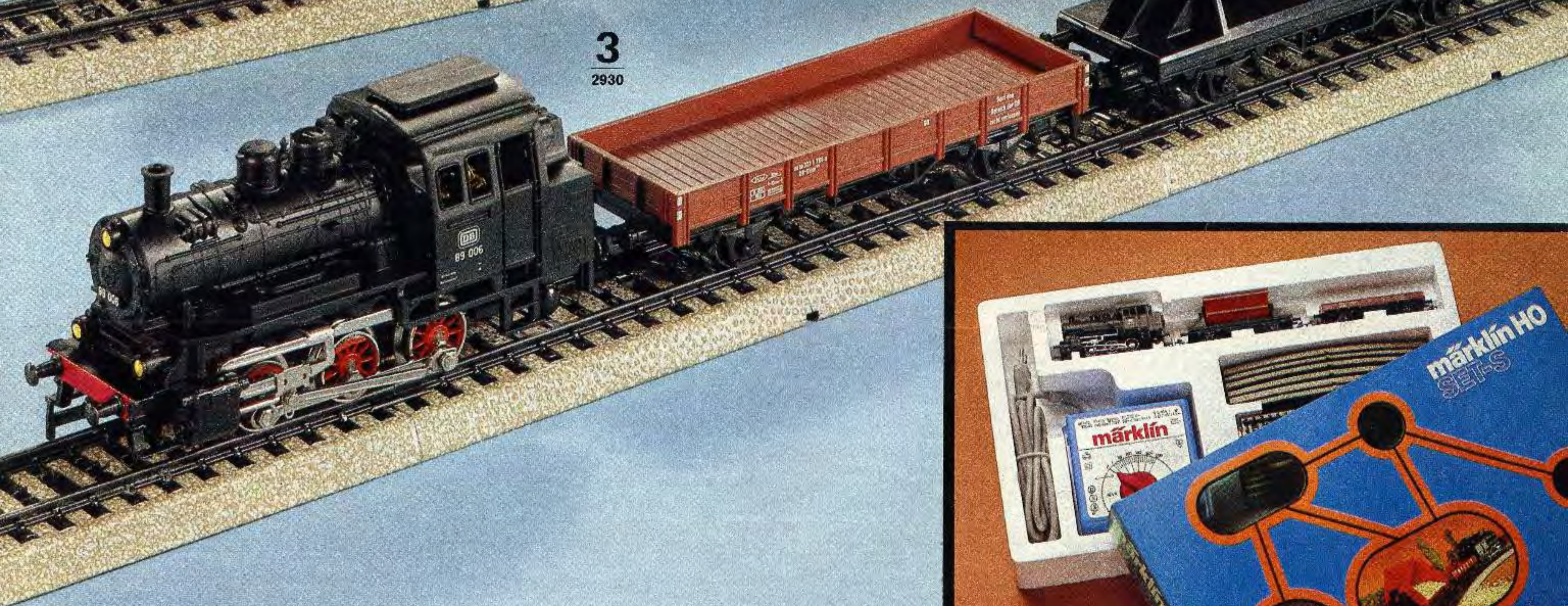


**Märklin HO basic sets –
ready to use –
the ideal gift**

2
2920

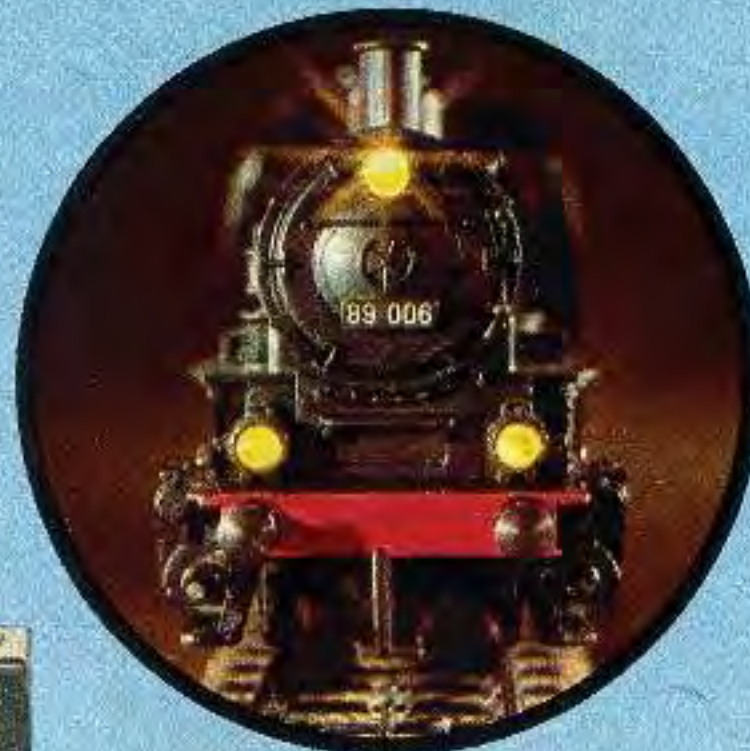


3
2930



Start with more railroad

Versatile train set including transformer



1

2950 220 Volt
2954 240 Volt
2957 110 Volt (60 Hz)
2959 100 Volt Japan

Freight train with transformer · Contents: 1 tank locomotive 3000, 1 tipping bucket car 4413, 1 low-sided car 4423, 1 open freight car 4430, 13 curved track sections 5100, 5 straight track sections 5106, 1 straight track section 5107, 1 uncoupling track section 5112, 1 light standard 5113, 1 feeder track section 5131 with built-in capacitor for radio interference suppression, 1 left-hand turnout 5221, 1 position control box 7072, 1 bumper 7190, leads, plugs, sleeves, simulated freight, 1 transformer and 1 operator's booklet · Length of train 47.5 cm (1 ft 6-3/4")



The transformer in this set is not available separately. It must be connected only to an Alternating Current (AC) supply.

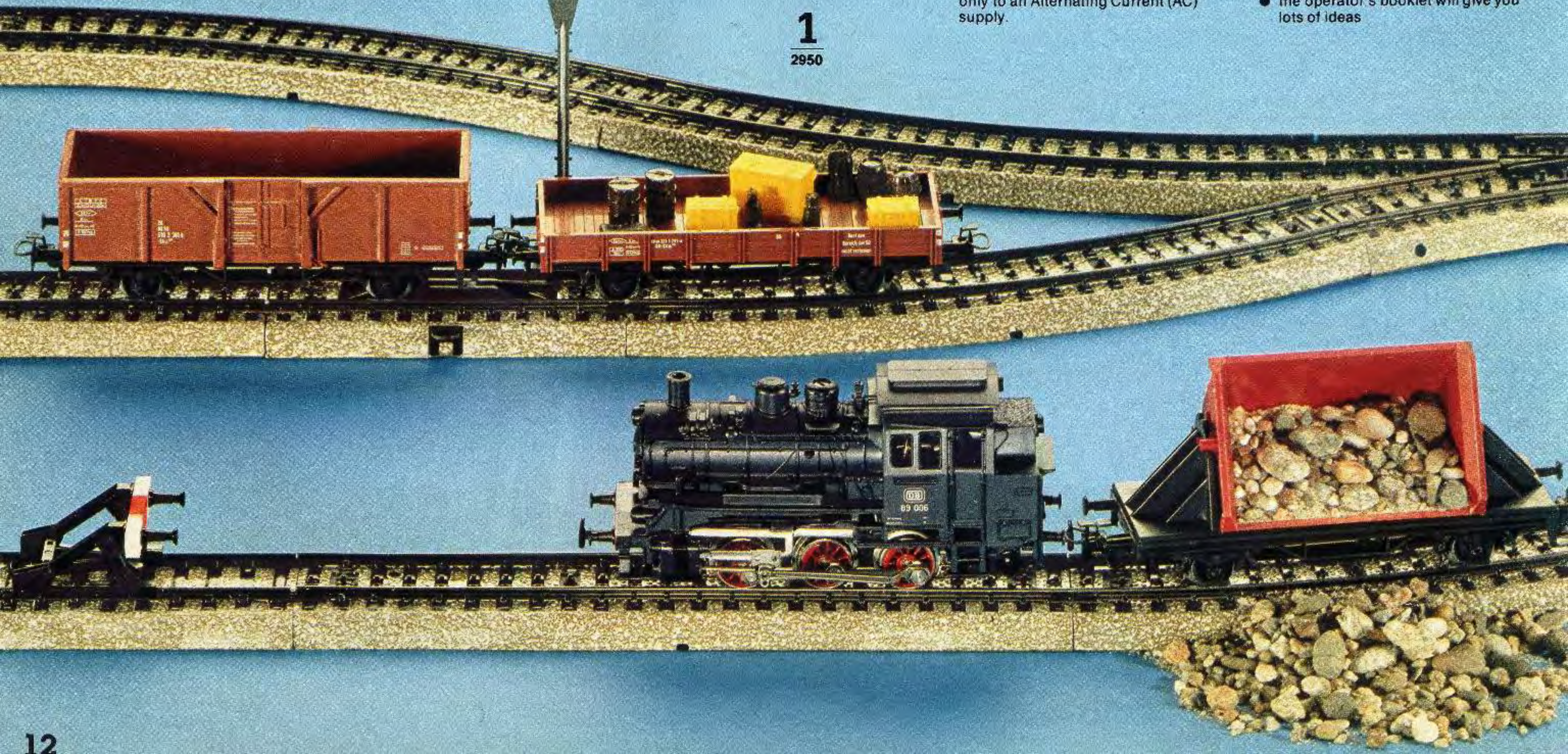
1

2950

Control, switch, load, set turnouts, uncouple, marshal, design track circuits

- make plans, develop your own ideas
- design and modify your own layouts
- become familiar with electrical technology
- two (or more) can play
- the operator's booklet will give you lots of ideas

Signals
for safety and
multi-train operation
Page 80



Attractive basic set

Long freight train with plenty of track

2

2875 - Large freight train · Contents:
1 diesel locomotive 3072, 1 box car
4411, 1 open freight car 4431, 1 tank car
4442, 1 low-sided car 4474 with load,
1 automobile transporter 4613,
12 curved track sections 5100,
19 straight track sections 5106, 1 feeder
track section 5131 with built-in capacitor
for radio interference suppression,
1 pair of turnouts 5202, 1 right-hand turn-
out 5202, 2 curved track sections 5206,

1 double slip switch 5207, 1 position con-
trol box 7072, 3 bumpers 7190, 1 dis-
tribution strip 7209, leads, plugs and
sleeves · Length of train 79.5 cm
(2 ft 7-1/4")



All kinds of operation are possible, and
you have a large parking area, realistic
models and a really worthwhile stock of
track

- Locomotive with working headlights
and the RELEX coupling
- freight cars with true-to-life loads
- working tail lights on last car
- double slip switch and single turnouts
- many parking tracks

2

2875



**Rotating
crane**
Loading by
remote control
Page 89

Train sets – a special gift

Track construction train with crew car and materials

1 ★^{new}

2853 - Contents: 1 diesel locomotive 3064, 1 crane car 4611, 1 low-sided car 4423 with boom support, 1 low-sided car 4423 with load of cross-ties, 1 open freight car 4430 with gravel, 1 flat car 4663 with load of rail sections and 1 accommodation car. Length of train 94 cm (3 ft 1").

■ German Federal Railways differentiate between track construction trains and maintenance trains. The maintenance train is comprised of a locomotive and ordinary freight cars of various kinds. It is used to transport sand, ballast, cross-ties, etc. to the maintenance site.

The track construction train, on the other hand, consists of converted freight cars and passenger cars. Construction sites on German Federal Railways are not always in places where the workers are able to get home at the end of the day. Sleeping cars and crew cars are therefore needed, as well as workshop cars and equipment cars.

Construction and maintenance trains come in all shapes and sizes, as they invariably make use of cars which have been taken out of regular service.



TEE train with interior lighting and interior fittings

2

2852 - Contents: 1 high-speed electric locomotive 3054, 1 TEE open-interior coach 4096, 1 TEE dining car 4097 and 1 TEE compartment car 4098 with tail lights. In this set all cars are also fitted with interior lighting. Also includes 10 realistically-colored figures to go inside the cars, and destination plates for various routes. Length of train 107 cm (3 ft 6-1/8").

■ The TRANS-EUROPE-EXPRESS (TEE) started a new chapter in the story of express traffic on major railroads. The first TEE – a high-speed diesel powered

railcar – entered service in 1957.

In 1965 the first prototype of the new Class 103 was delivered. Series production, however, did not start until 1970. This express locomotive is designed for a maximum speed of 200 km/h (124 mph) and therefore has a number of special safety features.

The TEE coaches are also of recent design and are exceptionally luxurious. The beige and red color scheme was used on the very first TEE railcar.



Express train of the former German State Railways

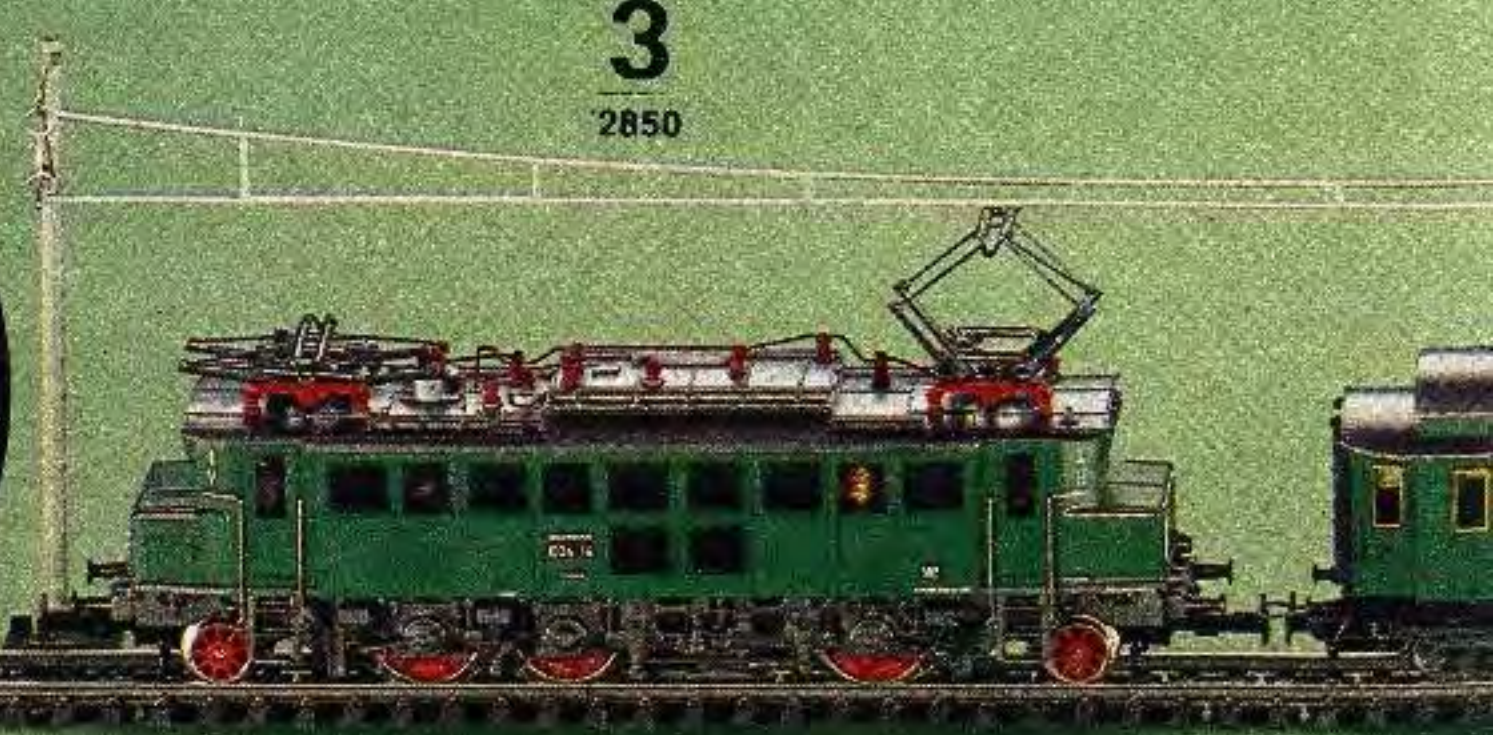
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2850 - Contents: 1 electric express locomotive E 04 14 in the original lettering of the former German State Railways, 2 express coaches 4136 (C4u bay 11), 1 express baggage car 4137 (Pw4u bay 09) and slide-in destination boards for particular routes. Length of train 85 cm (2 ft 9-1/2").

■ The E 04 was put into service by the former German State Railways in 1933 for use as an express. The maximum speed of the first eight locomotives was 110 km/h (68 mph). In high speed trials on 28th June 1933, locomotive E 04 09, pulling a load of 309 tons, achieved a cruising speed of 145 km/h (90 mph) on

the line between Munich and Stuttgart. In 1911 the Royal Bavarian Railways ordered express coaches of the type C4u bay 11. These cars, which weighed 40.4 tons each, contained 64 passenger seats and were provided with gas lighting and steam heating. They were modified as time went on, receiving electric lighting, sleeve buffers and strengthened couplings.

The first batch of express baggage cars type Pw4u bay 09, supplied in 1909, consisted of 12 vehicles. They could take a freight load of 8 tons. 20 further cars of this type were ordered later.

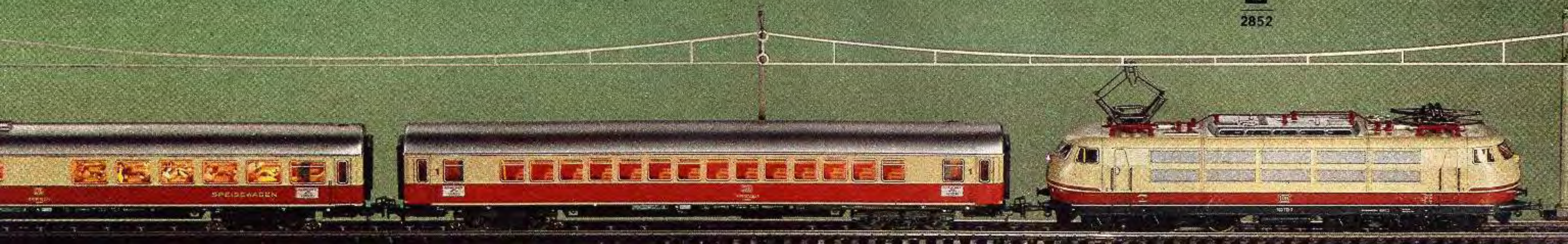


3
2850

1  new
2853



2
2852



Steam locomotives

It was not until 25 years after the first steam locomotive had been demonstrated, in 1804, that locomotive design took a major step forward. The decisive occasion was the victory of the Englishman George Stevenson's Rocket in one of the most memorable races in history, on 8th October 1829. Many different models had been designed and then scrapped. Success and failure followed on each other's heels.

Increasing performance requirements contributed to a great variety of types. In the early days designers tried to establish their own styles. In 1871, in Prussia, the first attempts were made to bring some uniformity into locomotive construction. With the re-designs of 1923 and 1925 the German State Railways finally clarified the classification of their stock of 28 700 steam locomotives.

Each locomotive was classified in one of 8 main types: locomotives for express trains, slow passenger trains, freight trains, rack and pinion railroads, branch lines, narrow gauge lines and tank locomotives for express/passenger train combinations and for freight trains. Each locomotive was given a serial number. This comprised a two digit type identifier (e. g. express locomotives 01-19, freight locomotives 40-59) and a three or four digit individual number. Thus the Märklin locomotive 3102 has the type identifier 53 and the individual number 0001, and the serial number of the Märklin locomotive 3093 is 18 478. These serial numbers were displayed on all four sides of the locomotives.

One method of classifying the various types of steam locomotive is by the wheel arrangement code. This code also applies to diesel and electric locomotives. It consists of combinations of numbers, letters and vertical dashes. (In English-speaking countries older locomotives are normally classified by numbers of wheels, not axles.) The numbers indicate the number of running axles.

If there is a vertical dash, this means that the running axle bearings are supported in a frame which is independent of the

main frame. When there is no dash, this means that the axle bearings are incorporated in the main frame.

The large letter indicates the number of driven and coupled axles, with A representing 1, B 2 and so on. A small zero after the letter indicates individually driven (i. e. uncoupled) axles. (This is frequently omitted in English-speaking countries, as are the dashes.)

The following examples of Märklin locomotives show the use of the system.

Wheel arrangement of Märklin locomotive 3085: 2'C1' (4-6-2)

Two (2) running axles in bearings supported independently (') of the main frame (i. e. 4 running wheels). Three (C = a, b, c = 3) driven axles coupled together (i. e. 6 driving wheels). One (1) running axle in independently (') supported bearing (i. e. 2 running wheels).

Wheel arrangement of Märklin locomotive 3155: Bo'Bo' (B-B)

Two (B) driven axles, uncoupled (o), supported independently of main frame (').

Wheel arrangement of Märklin locomotive 3049: 1'Co1' (2-6-2)

One (1) running axle supported independently (') of main frame (i. e. 2 running wheels). Three (C) driven axles mounted in main frame, uncoupled (o) (i. e. 6 driving wheels). One (1) running axle, independently (') supported (i. e. 2 running wheels).



1

3087 · Tank locomotive based on a provincial railroad type · Wheel arrangement 0-6-0 · 1 driven axle · Coupling hook at each end · Length over buffers 10.8 cm (4-1/4")

0 = 7154  = 7185

2

3090 · Tank locomotive based on a provincial railroad type · Wheel arrangement 0-6-0 · 1 driven axle · Coupling hook at each end · Length over buffers 10.8 cm (4-1/4")

0 = 7154  = 7185

3



3104 · Tank locomotive · German Federal Railways' Class 89⁰ · Wheel arrangement 0-6-0 · 1 driven axle · Coupling hook at each end · Length over buffers 10.8 cm (4-1/4")

0 = 7153  = 7185

■ 100 of the class 89⁰ locomotives were bought by the former Prussian State Railways under the designation T 8 and were a replacement for the T 3, which only had a maximum speed of 40 km/h (25 mph). The T 8, in which the superheated steam process was used, had a maximum speed of 60 km/h (37 mph) and developed a power of 210 kW. The last German Federal Railways' T 8 was taken out of service in 1964.

4

3000 · Tank locomotive for passenger and freight services · Class 89 · Wheel arrangement 0-6-0 · 3 driven axles · Three working headlights · Coupling hook at each end · Length over buffers 11 cm (4-3/8")

0 = 7154  = 7185  = 60010

5

3095 · Tank locomotive for passenger train services and switching · German Federal Railways' Class 74 · Wheel arrangement 2-6-0 · 3 driven axles · Simulated Heusinger reversing gear · Three working headlights · Coupling hook in

front, RELEX coupling (pages 62/71) at rear · Length over buffers 13.5 cm (5-3/8")

0 = 7153  = 7185  = 60010

1

3087



2

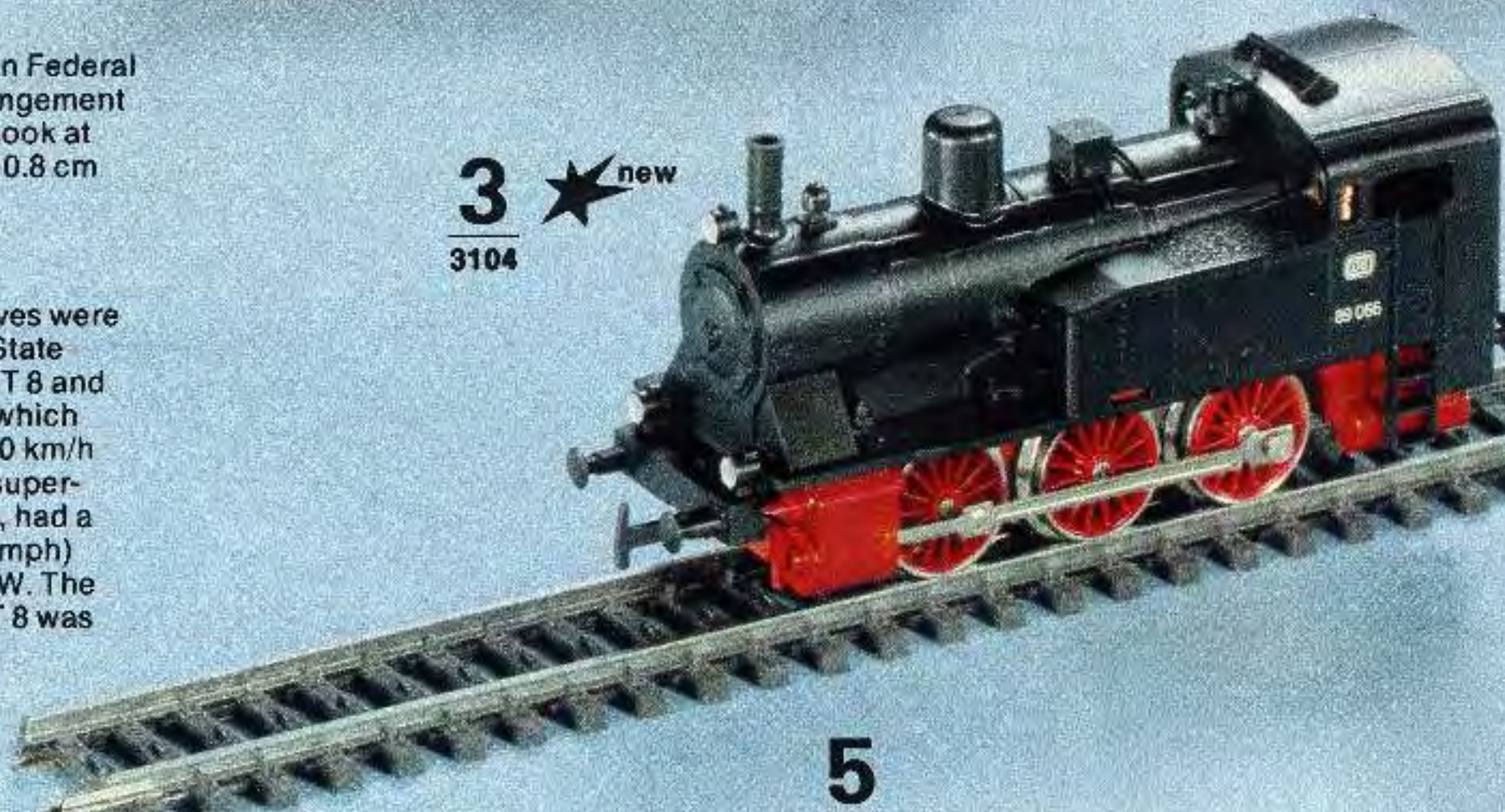
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3



3104



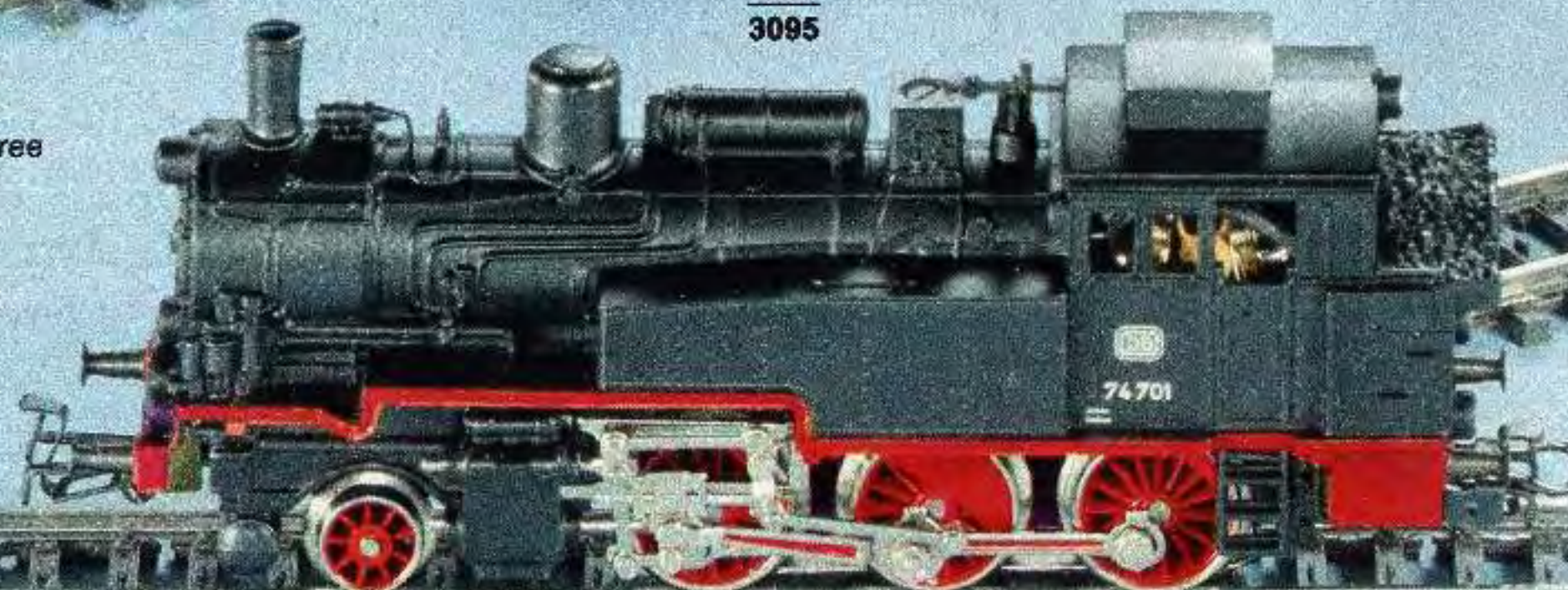
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3000



5

3095



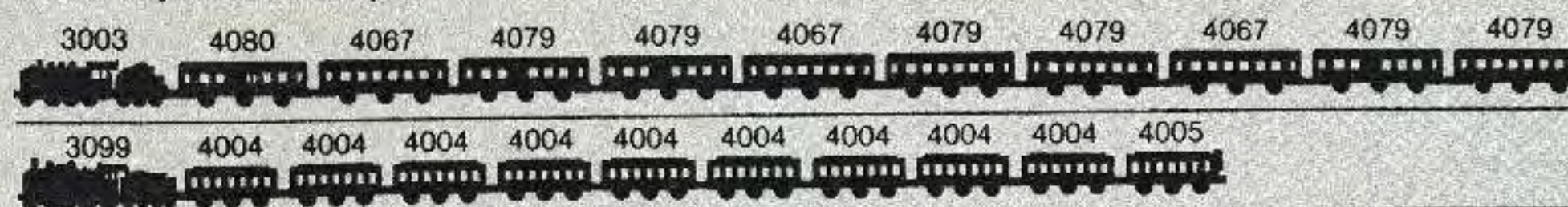
All models have:
Die cast zinc frame
2 non-skid tires

Märklin magazine

Information for model
railroad enthusiasts

Back cover

Train composition examples:



1
3099



1

3099 · Locomotive with tender · Former German State Railways' Class 38 · Wheel arrangement 4-6-0 · 3 driven axles · Three working headlights · Metal body · Figures of driver and fireman · Coupling hook in front · Length over buffers 21.8 cm (8-5/8")

⊙ = 7152 ⊞ = 7185 ⊕ = 60015

■ The P8, which was built for the Prussian State Railways in 1906, was well-known for its performance and its low running costs. 3370 machines were supplied to Prussia alone. After the formation of the German State Railway Company they were used throughout Germany. They were also used, slightly modified, by Belgian State Railways as the type 64. Class 38 locomotives were still to be seen in Southern Germany in the 1960's, pulling express trains.

2
3089

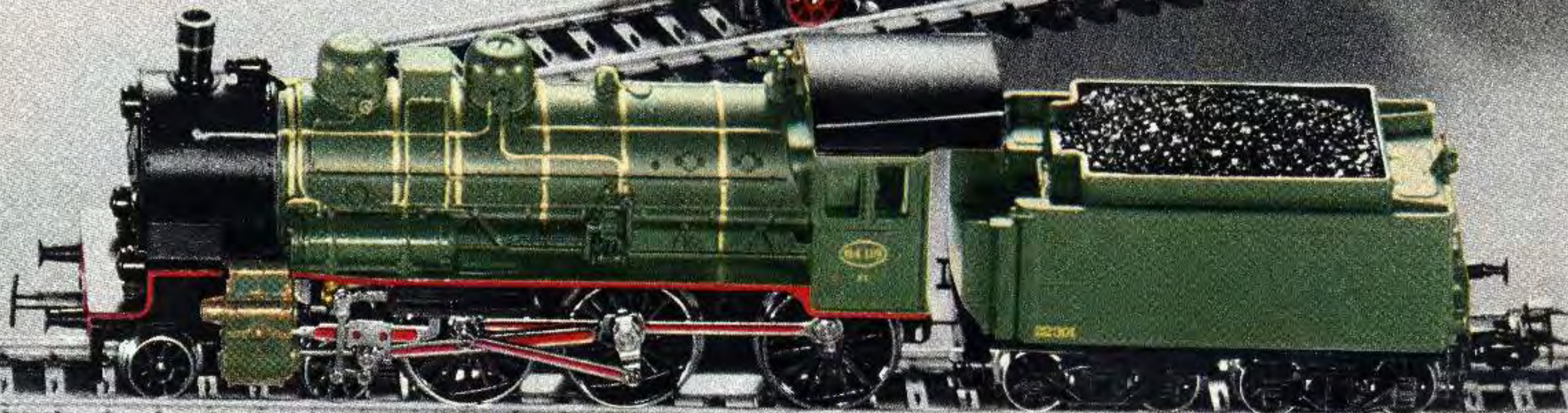


All models have:
Simulated Heusinger reversing gear
Die cast zinc frame
RELEX coupling (pages 62/71) on the
tender
2 non-skid tires

3
3003



4
3086



2

3089 · Streamlined express locomotive with tender · Class 03¹⁰ · Wheel arrangement 4-6-2 · 3 axles driven by coupling rods · 2 working headlights · Metal body · Length over buffers 27.4 cm (10-3/4")

⊖ = 7152 ⊞ = 7185 ⊙ = 60015

■ The benefits of streamlining for high speed were proven. This technique was therefore adopted for the 03¹⁰ from 1937 onward. The driving gear was left uncovered for easier maintenance. Maximum speed 140 km/h (85 mph). Axle load 17 tons.

3

3003 · Locomotive with tender · German Federal Railways' Class 24 · Wheel arrangement 2-6-0 · 3 driven axles · 3 working headlights · Coupling hook in front · Length over buffers 20 cm (7-7/8")

⊖ = 7153 ⊞ = 7185 ⊙ = 60010

■ Standard locomotives (3003 and 3086) for passenger and freight trains. Maximum speed 90 km/h (56 mph).

4

Belgium

3086 · Locomotive with tender · Belgian State Railways' (NMBS/SNCB) 64 Class · Wheel arrangement 4-6-0 · 3 driven axles · 3 working headlights · Metal body · Coupling hook in front · Length over buffers 21.8 cm (8-5/8")

⊖ = 7152 ⊞ = 7185 ⊙ = 60015

Train formation

Just like the real thing

Page 44

1
3083



2
3092



3
3093



1 France

3083 · Express locomotive with tender · Class 231 of the former French State Railways (formerly the S 3/6) · Wheel arrangement 4-6-2 · 3 driven axles · Metal body · Length over buffers 24.9 cm (9-7/8") · Can be fitted with smoke set (Seuthe No. 20)

0 = 7152 1 = 7185 2 = 60015

2

3092 · Express locomotive with tender · S 3/6, batch I of the former Royal Bavarian Railways (original version) · Wheel arrangement 4-6-2 · 3 driven axles · Metal body · Length over buffers 24.9 cm (9-7/8") · Can be fitted with smoke set (Seuthe No. 20)

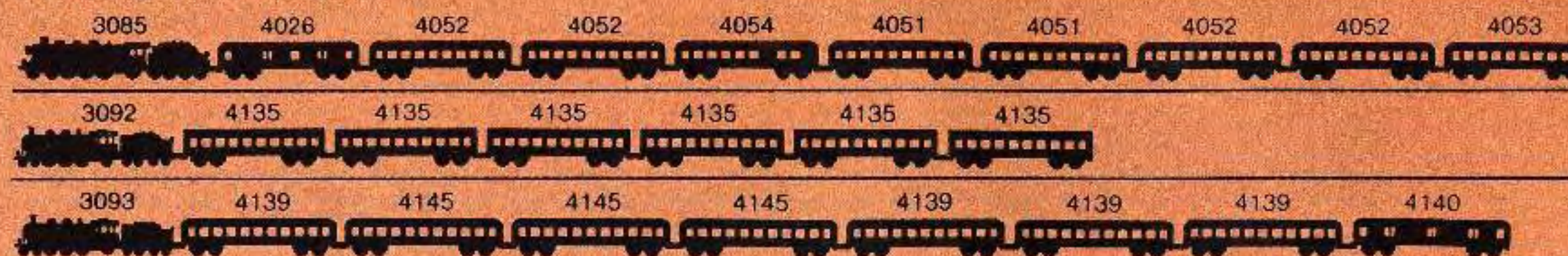
0 = 7152 1 = 7185 2 = 60015



All models have:
 2 non-skid tires
 Simulated Heusinger reversing gear
 3 working headlights
 Die cast zinc frame
 RELEX coupling (pages 62/71)



Train composition examples:



Märklin-
service
 Spare parts survey
Page 42

4
 3085



3

3093 · Express locomotive with tender · German Federal Railways' Class 18⁴ (formerly the S 3/6) · Wheel arrangement 4-6-2 · 3 driven axles · Metal body · Length over buffers 24.9 cm (9-3/4") · Can be fitted with smoke set (Seuthe No. 20)

⊙ = 7152 ⊞ = 7185 ⊚ = 60015

■ First Bavarian S 3/6 built in 1908. Well over 100 built, 30 in batch 1 alone. After 1918, 11 machines were handed over to France, and with slight modifications they became the class 231. They also operated on the former German State Railways as the class 18⁴ and on German Federal Railways as the class 18. This locomotive was well-known, not only for

its elegance but also for its excellent performance, and was often used to pull international expresses such as the "Rheingold" and the "Orient Express". Maximum speed 120 km/h (75 mph). Working weight 92.3 tons. Length over buffers 21.22 m (69 ft 7-1/2").

4

3085 · Express locomotive with tender · German Federal Railways' Class 003 · Wheel arrangement 4-6-2 · 3 axles driven through concealed gears · Length over buffers 27.7 cm (10-7/8") · Can be fitted with smoke set 7226 (page 42)

⊙ = 7152 ⊞ = 7164 ⊚ = 60015

■ In the 1920's locomotives were being built with axle loads of 20 tons. This was too much for the track. So from 1930 onward 300 of this lighter type were built. Maximum speed 130 km/h (80 mph). Power 1450 kW. Overall length 23.90 m (78 ft 5").

1

3084



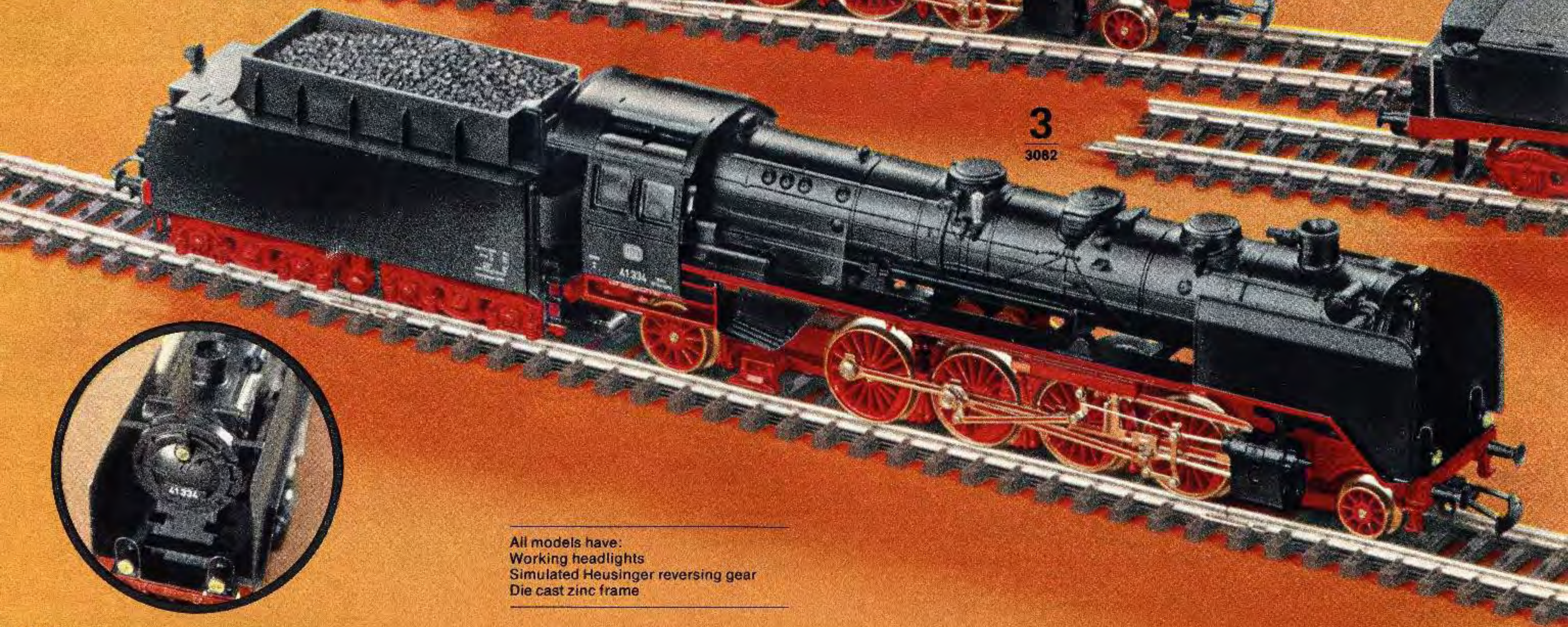
2

3096



3

3082



All models have:
 Working headlights
 Simulated Heusinger reversing gear
 Die cast zinc frame

1

3084 · Heavy freight locomotive with cab tender · German Federal Railways' Class 050 · Wheel arrangement 2-10-0 · 5 axles driven through concealed gears · 4 non-skid tires · Coupling hook in front, RELEX coupling (pages 62/71) on the tender · Good cornering ability due to two groups of driving wheels flexibly coupled together · Length over buffers 26.1 cm (10-1/4") · Can be fitted with smoke set 7226 (page 42)

① = 7153
 = 7164
 = 60015



2

3096 · Tank locomotive with Märklin RELEX coupling · German Federal Railways' Class 86 · Wheel arrangement 2-8-2 · 4 axles driven through coupling rods · 2 non-skid tires · TELEX coupling at each end · Length over buffers 15.8 cm (6-1/4")

① = 7153  = 7164  = 60015

■ Altogether 774 of these standard locomotives were built. 385 of them entered German Federal Railways service and were used in mixed service on light railroads. The locomotive is 13.82 m (45 ft 4-1/8") long, weighs 88.5 tons and has a maximum speed of 80 km/h (50 mph).

3

3082 · Freight train locomotive with tender · German Federal Railways' Class 41 · Wheel arrangement 2-8-2 · 4 axles driven through concealed gears · 2 non-skid tires · Coupling hook in front, RELEX coupling (pages 62/71) on the tender · Length over buffers 27.5 cm (10-3/4") · Can be fitted with smoke set 7226 (page 42)

① = 7153  = 7164  = 60015

■ The first locomotive of an eventual total of 366 of this type was delivered in 1936. It was intended for use as a high speed freight train locomotive, but showed itself to be an ideal general purpose locomotive for medium-weight trains. Maximum speed 90 km/h (56 mph).

4

3102

4

3102 · Heavy freight trains locomotive with tender · Based on the Borsig design for former German State Railways · Mallet type Wheel arrangement (2-6) 8 · 4 axles driven through gear wheels · 4 non-skid tires · Two working

headlights at front and on tender · Coupling hook at front, RELEX coupling (pages 62/71) on the tender · Good cornering ability due to two groups of driving wheels flexibly coupled together · Can be fitted with 2 smoke sets 7226 (page 42) · Length over buffers 31.4 cm (1 ft 3/8")

① = 7153  = 7185  = 60015

■ In 1943 the German State Railways initiated the development of a super-heavy freight train locomotive. Main features specified were: a train of 1700 tons to be pulled up an 8% incline on a curve of radius 360 metres at a speed of at least 20 km/h (12.5 mph), maximum speed of 80 km/h (50 mph) in either direction, axle load 20 tons. Many designs were submitted. One of the

TELEX coupling

On full-scale railroads automatic couplings are only found on trials vehicles. All coupling and uncoupling of locomotives and individual cars is carried out manually.

On a Märklin model railroad it's much quicker and easier. Trains can be split up as required by means of uncoupling track sections which are electromagnetically controlled from the position control box. Whenever locomotives or cars are pushed together they will be coupled up automatically.

Märklin locomotives with TELEX couplings (3065, 3096) can be detached from their trains at any desired point on the layout, under remote control, from the transformer.

It is thus possible to carry out realistic switching operations on Märklin layouts: if switching is carried out using only one car, for example, there is no need for uncoupling track sections. Locomotive switching in the station is also made to look authentic with the aid of Märklin TELEX couplings.

When this feature is combined with the advantages of the Märklin RELEX coupling, there is no limit to the fascination which switching operations can have. All Märklin freight cars and nearly all Märklin passenger cars are fitted with RELEX couplings.



**RELEX
coupling
Page 62
Uncoupling
track
section
Page 71**



Electric locomotives

The first electric locomotive was demonstrated to the public in Germany almost half a century after the appearance of steam locomotives. It entered service on 31. 5. 1879. It could manage a speed of 13 km/h (8 mph) without a train and 7 km/h (4-1/2 mph) with a train. Modern speeds of 150 km/h (93 mph) or 200 km/h (124 mph) show what progress has been made.

There were even more teething troubles than with steam locomotive operation, with varying electrical supply systems

and frequencies, differing heights of overhead line and only short sections of electrified track which were not connected to each other.

In the time of the former German State Railways some notable progress was made, such as the achievement of a speed of 151 km/h (94 mph) by the E 04 (Märklin model 3049) in 1933. The E 94 (Märklin model 3022) was remarkably powerful- it could pull a 600 ton train up a 25% incline.

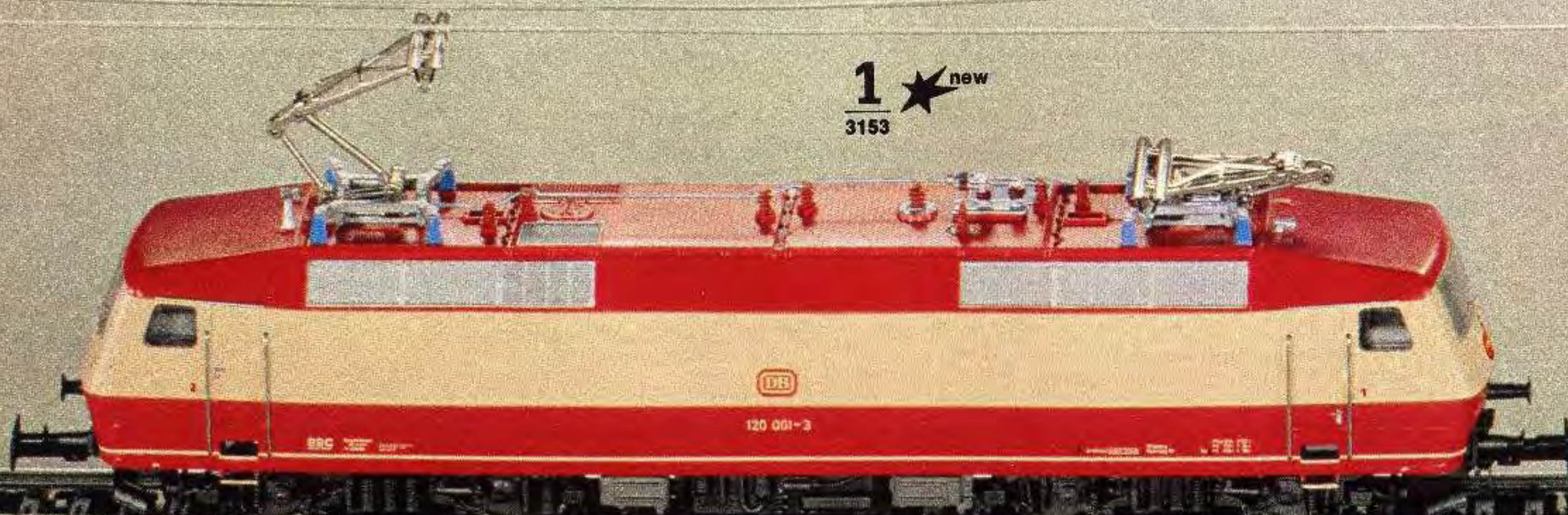
The real breakthrough, however, occurred in the German Federal Railways era. Standard classes evolved (Märklin model 3039). The fast freight train locomotive 151 was developed (Märklin models 3057 and 3058). The high speed locomotive 103 appeared (Märklin model 3054).

Today electric locomotives are the commonest type in use: there are about 2700 of them on German Federal Railways service. Every month they cover an average distance of 11 700 km (6585 miles).

On some routes the speed of Intercity trains has increased to 200 km/h (124 mph). And electric traction is now used to convey 82% of all passengers and freight on German Federal Railways. This factor influenced the Federal Railways to develop a new concept in electric locomotives, which came to fruition in the class 120 (Märklin model 3153).



1 ★ new
3153





1 ★ new

3153 · Multi-purpose electric locomotive · German Federal Railways' Class 120 · Wheel arrangement B-B · 2 driven axles · Coupling hook at each end · Length over buffers 22.1 cm (8-3/4")

⊖ = 7153 ⊞ = 7164 ⊙ = 60015

■ The German Federal Railways' Class 120 is a turning point in the history of locomotive development. With this class the Federal Railways have made another advance in electrically-driven rail transport, almost exactly 100 years after the world's first electric locomotive entered service, in Berlin.

Modern semiconductor technology has made it possible to use alternating current motors in locomotives. This type of motor has several advantages. As well as having low maintenance costs, due to their simple construction, they enable a high continuous loading to be maintained over virtually the entire speed range. This locomotive can therefore be used for any type of passenger or freight service.

All models have:
4 non-skid tires
Lever for selecting operation by overhead line or track supply
Three working headlights at each end
Die cast zinc frame
Spring-loaded pantographs on roof

The 120 develops a continuous rating power of 5600 kW, with a maximum speed of 160 km/h (100 mph). One trials locomotive was designed to go as fast as 200 km/h (124 mph). With this superb locomotive German Federal Railways have scored a notable success, as has been recognized by other nations using the same railroad electrification system. Norwegian Railways, for example, have ordered an initial batch of similar machines to be built in the Federal Republic.

2 ★ new

3152 · 4-system electric express locomotive · Belgian Railways' (NMBS/SNCB) Type 16 · Wheel arrangement B-B · 2 driven axles · RELEX coupling (pages 62/71) at each end · Length over buffers 19.4 cm (7-5/8")

⊖ = 7153 ⊞ = 7164 ⊙ = 60015

■ Belgian Railways procured Type 16 locomotives for use on international routes where there are differing electrical supply systems. The DC traction motors develop a continuous rating power of 2600 kW. The maximum speed of the locomotive is 160 km/h (100 mph). It is compatible with the following supply systems:

1500 Volts =	(SNCF, NS)
3000 Volts =	(SNCB, FS, JZ)
15 kV/16 2/3 Hz ~	(DB, SBB, ÖBB)
25 kV/50 Hz ~	(SNCF, CFL)

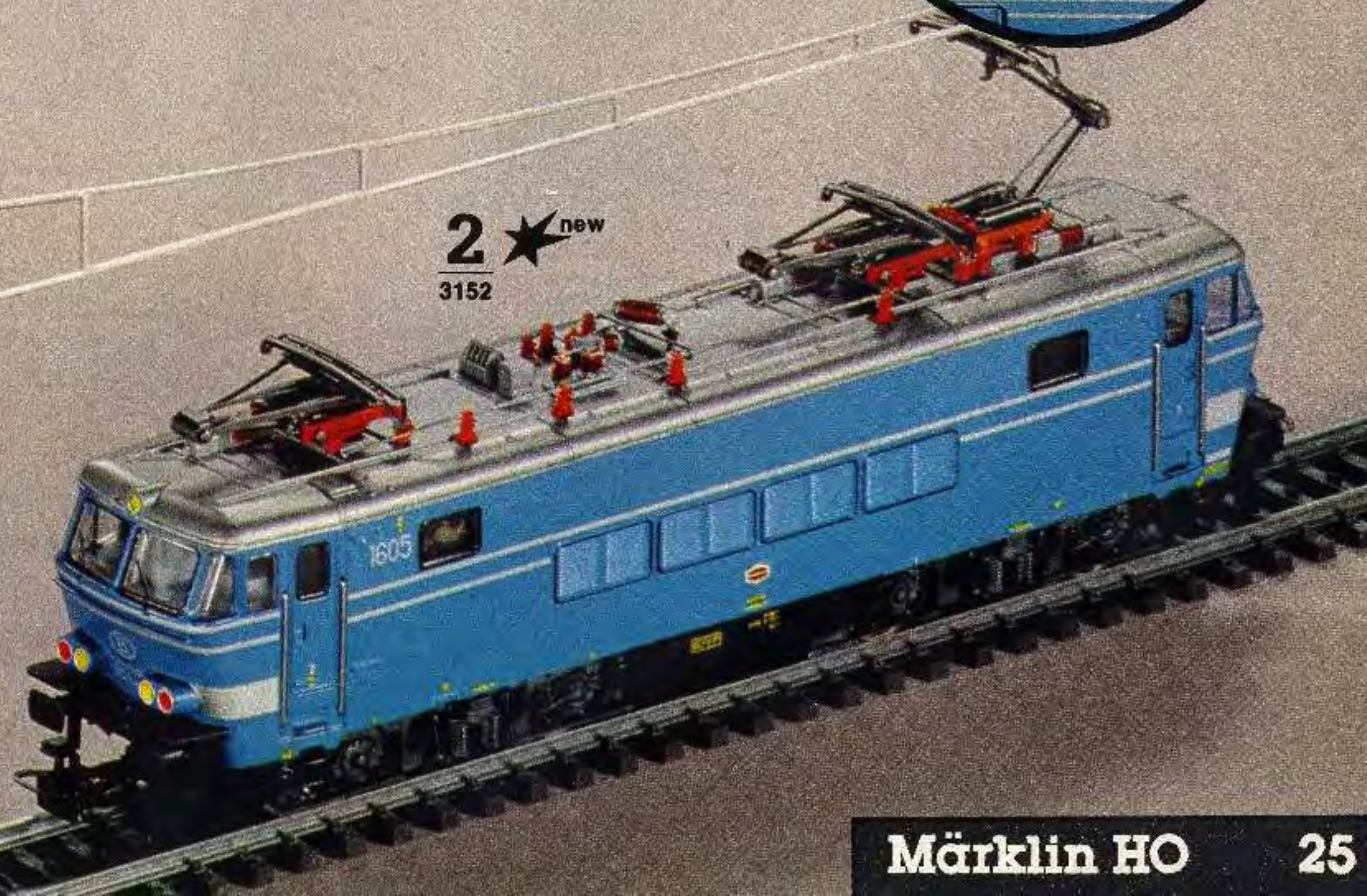


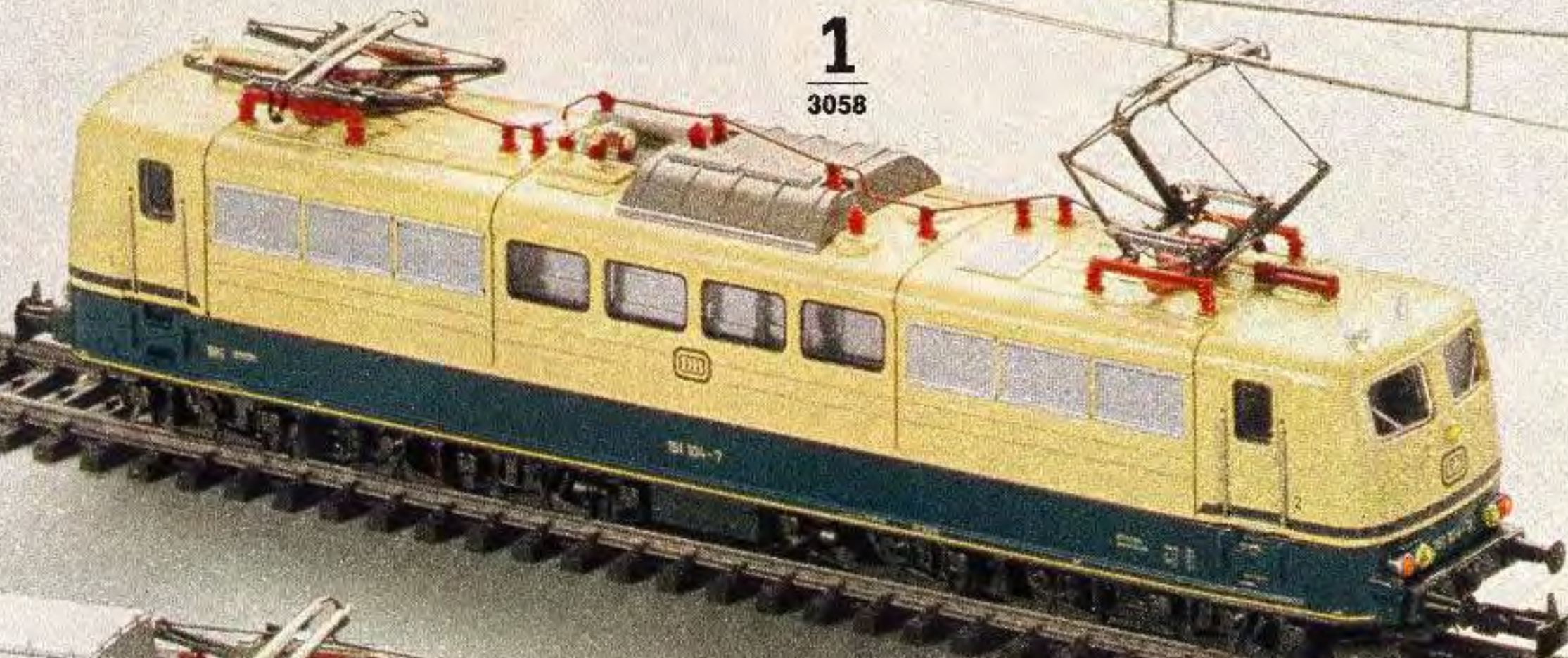
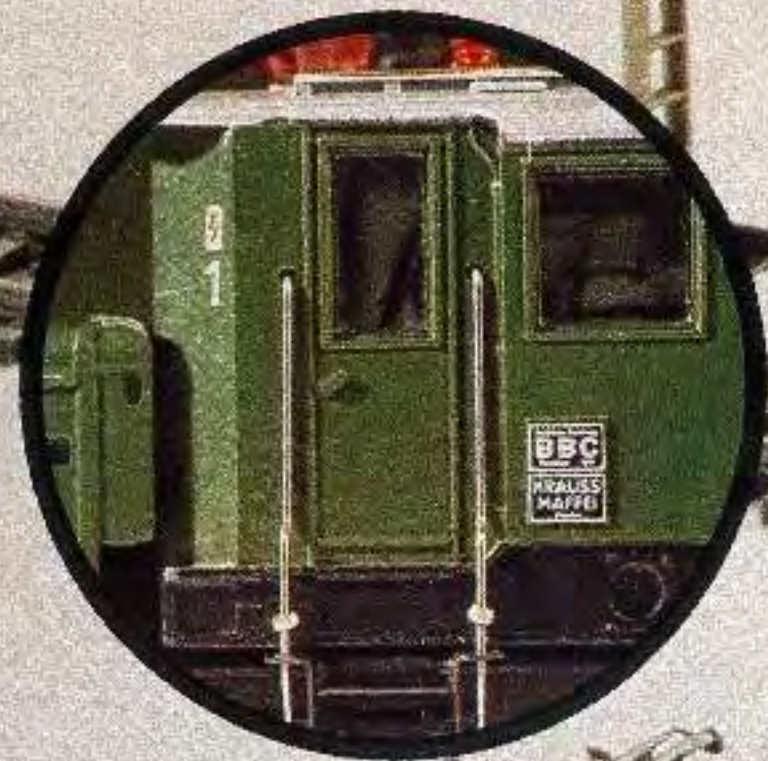
2 ★ new
3152

Catenary system

For realistic railroad operation

Page 84

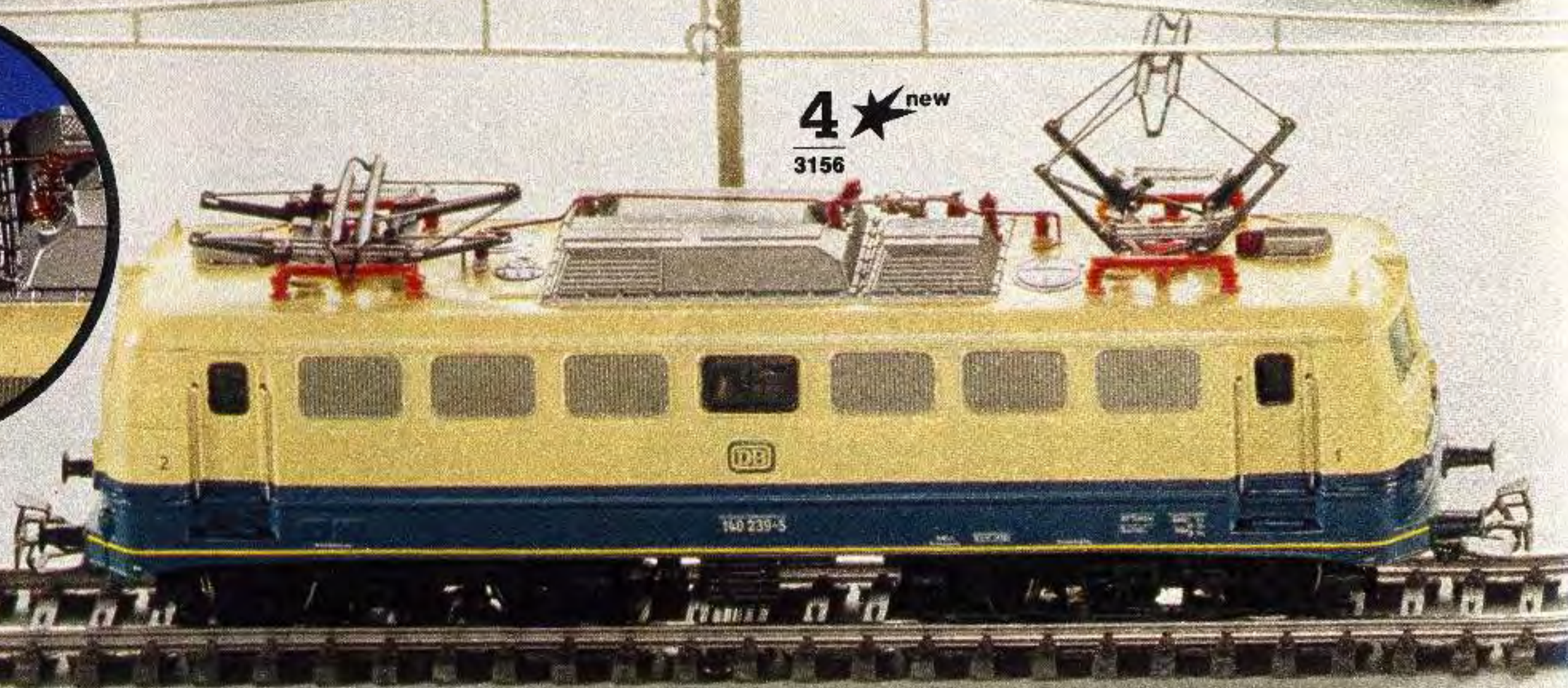
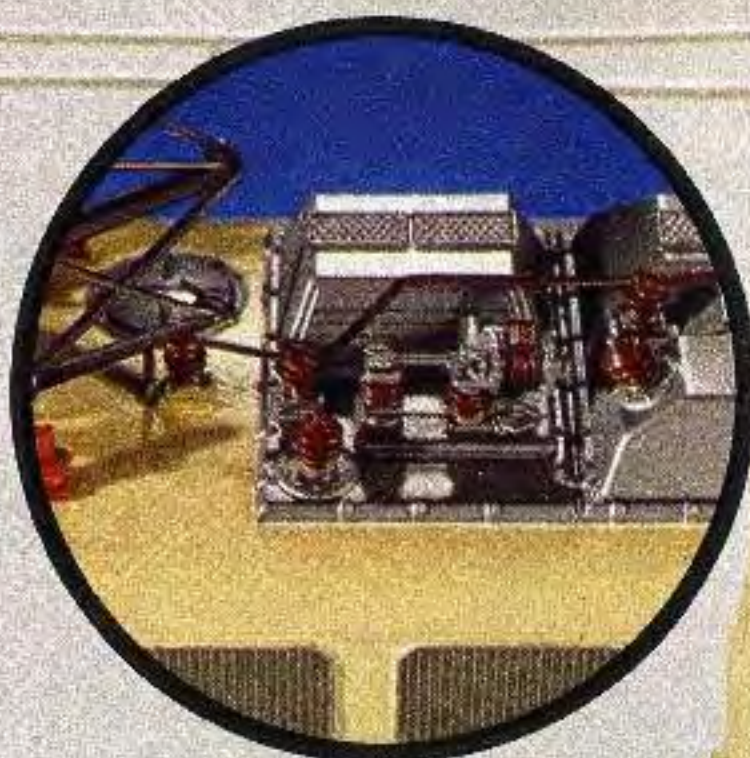




1
3058



3
3022



4 ★ new
3156



All models have:
 Lever for selecting operation by
 overhead line or track supply
 3 working headlights at each end
 Frame made of die cast zinc
 Spring-loaded pantographs on roof

1

3058 · Freight train locomotive · German Federal Railways' Class 151 · Wheel arrangement C-C · 3 driven axles · 4 non-skid tires · Coupling hook at each end · Length over buffers 22.2 cm (8-3/4")

① = 7153  = 7164  = 60015

2

3057 · Freight train locomotive · German Federal Railways' Class 151 · Wheel arrangement C-C · 3 driven axles · 4 non-skid tires · Coupling hook at each end · Length over buffers 22.2 cm (8-3/4")

① = 7153  = 7164  = 60015

■ This new, heavy locomotive was developed to cater for the ever increasing speeds of fast freight trains. The class 151 can pull a 1000 ton train on the level at 120 km/h (75 mph). Length 19.49 m (63 ft 11-1/4"). Tractive force on starting is 45 tons. Working weight 118 tons. 6 traction motors developing 6540 kW continuous rating.

3

3022 · Heavy freight train locomotive · German Federal Railways' Class 194 · Wheel arrangement C-C · 3 driven axles · 4 non-skid tires · Metal body in three sections · RELEX coupling (page 62/71) at each end · Length over buffers 21 cm (8-1/4")

① = 7153  = 7164  = 60015

■ The Class 194 is a heavyweight: 6 motors, starting power 4670 kW, total weight 120 tons, tractive force on starting 40 tons. Its maximum speed, however, is only 90 km/h (56 mph).

4 ★ new

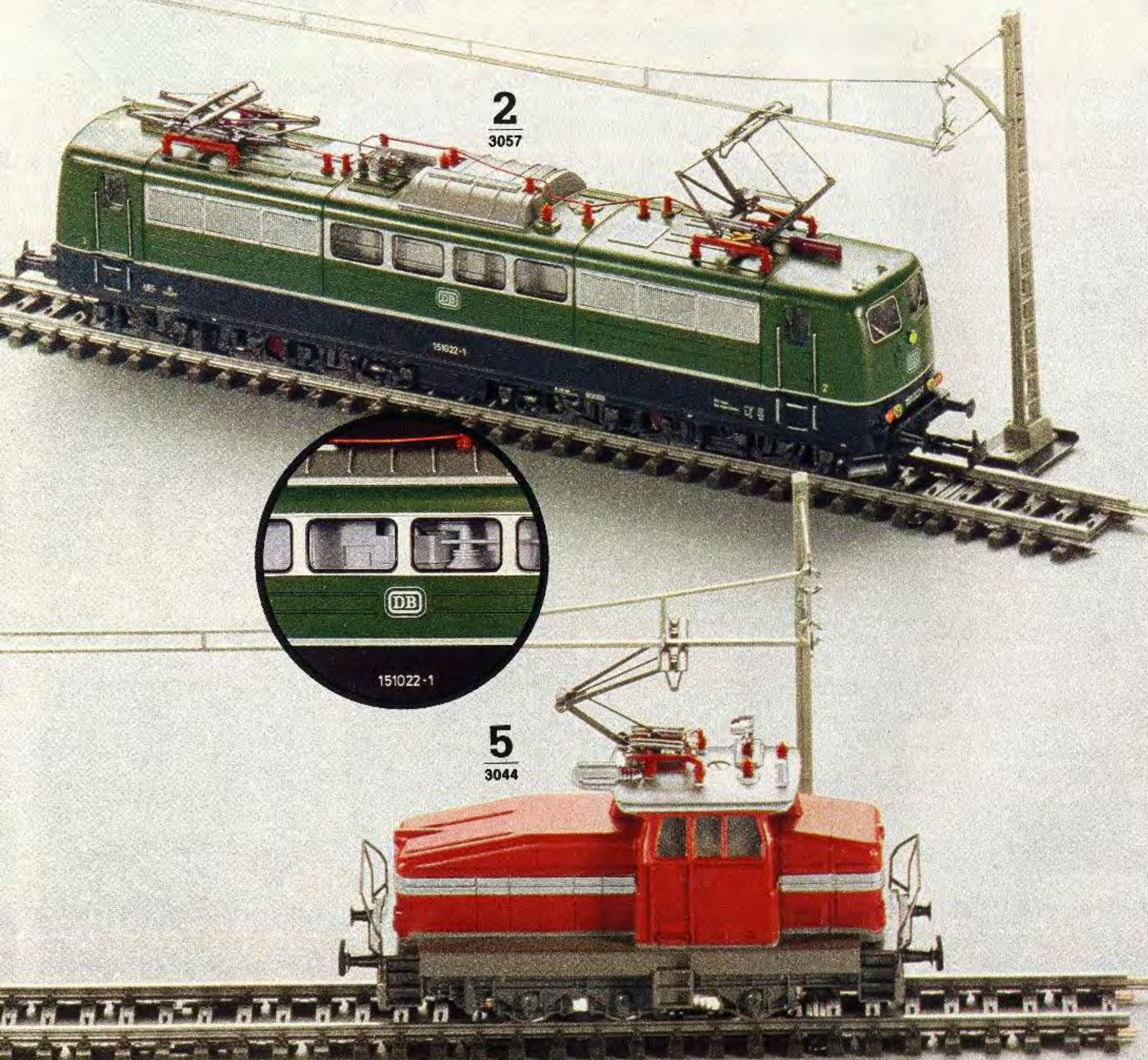
3156 · Electric freight train locomotive · German Federal Railways' Class 140 · Wheel arrangement B-B · 2 driven axles · 4 non-skid tires · Metal body · Coupling hook with pre-uncoupler at each end · Length over buffers 18.1 cm (7-1/8")

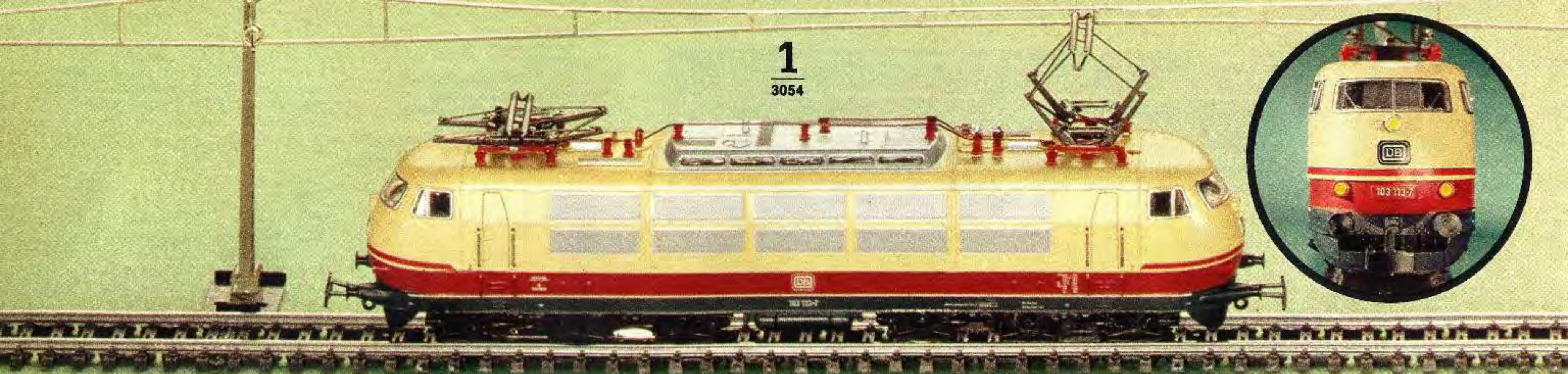
① = 7153  = 7164  = 60015

5

3044 · Switching locomotive · Multi-system industrial locomotive Type EA 800 · Wheel arrangement 0-6-0 · 3 driven axles · 2 non-skid tires · Coupling hook at each end · Length over buffers 11.2 cm (4-3/8")

① = 7154  = 7185  = 60015





1
3054

1

3054 · High speed locomotive · German Federal Railways' Class 103 · Wheel arrangement C-C · 3 driven axles · 4 non-skid tires · Body in the TEE colors beige and red · Coupling hook at each end · Length over buffers 21.9 cm (8-5/8")

⊖ = 7153 ⊕ = 7164 ⊗ = 60015

■ The 103 is one of the strongest, fastest and most elegant high speed electric locomotives on German Federal Railways. It is 19.50 m (63 ft 11-3/4") long and has 6 motors driving 6 axles. With its almost 6600 kW hourly rating, its working weight of 112 tons and its mighty tractive force on starting of 32 000 kg it is ahead of its time.

2

3049 · Express locomotive · German Federal Railways' Class 104 · Wheel arrangement 2-6-2 · 3 driven axles · 2 non-skid tires · 2 sprung trucks · Coupling hook at each end · Length over buffers 17.8 cm (7")

⊖ = 7153 ⊕ = 7185 ⊗ = 60015

■ Of the 23 original class 04 machines, only locomotives 17-22 were transferred to German Federal Railways. They have been operating since 1968 under the numbers 104 017 - 104 022 and are now in process of being withdrawn from Federal Railways service.

3

3039 · Express locomotive · German Federal Railways' Class 110 · Wheel arrangement B-B · 2 driven axles · 4 non-skid tires · Metal body · Coupling hook with pre-uncoupler at each end · Length over buffers 18.1 cm (7-1/8")

⊖ = 7153 ⊕ = 7164 ⊗ = 60015

■ The Class 110 electric locomotives were procured by German Federal Railways from 1956 onward. The maximum permitted speed of the 110 as an express locomotive is 150 km/h (93 mph). The Class 110 locomotive has 4 traction motors developing a total of 3620 kW. The locomotive weighs 85 tons and measures 16.44 m (53 ft 9") over the buffers.

4

3042 · Express locomotive · German Federal Railways' Class 111 · Wheel arrangement B-B · 2 driven axles · 4 non-skid tires · RELEX coupling (pages 62/71) at each end · Length over buffers 19.1 cm (7-1/2")

⊖ = 7153 ⊕ = 7164 ⊗ = 60015

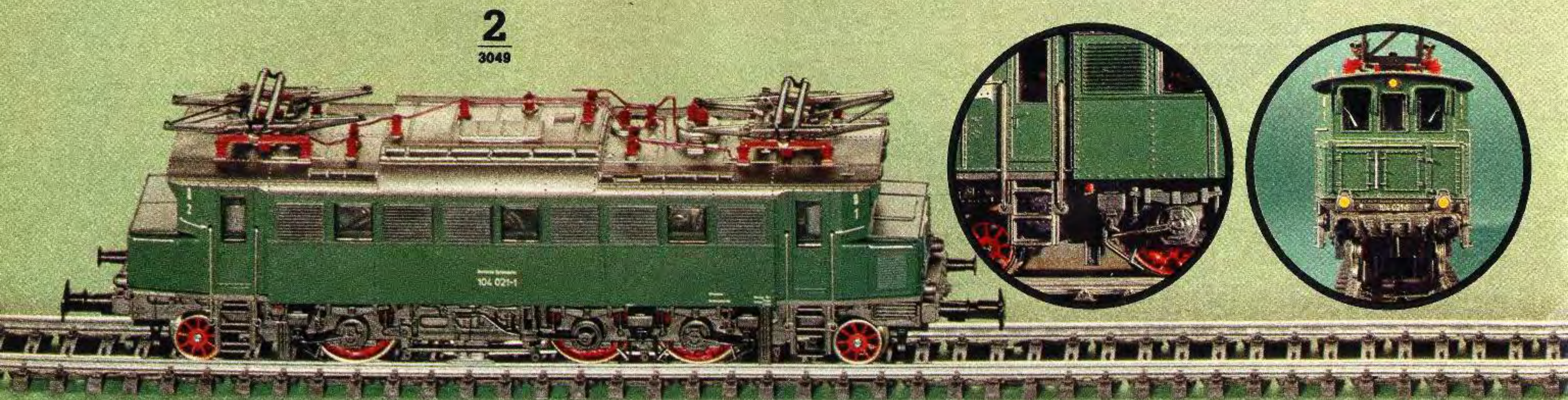
■ The Class 111 is a further development of the well-proven 110. Emphasis was placed on optimizing the engine driver's cab layout, reducing track loading and increasing running safety. Weight 83 tons. Length 16.75 m (55 ft). Maximum speed 150 km/h (93 mph).

5

3155 · Express locomotive · German Federal Railways' Class 111 · Wheel arrangement B-B · 2 driven axles · 4 non-skid tires · RELEX coupling (page 62/71) at each end · Length over buffers 19.1 cm (7-1/2")

⊖ = 7153 ⊕ = 7164 ⊗ = 60015

■ Since 1978 the Class 111 has also been used on "S-Bahn" (urban elevated railroad) services in the Ruhr district. "S-Bahn" locomotives have the light gray and orange color scheme. At this time the 111 is sometimes used to pull "Silberlingen" (silver-colored cars used on the "S-Bahn", Märklin models 4077, 4082, 4083).



2

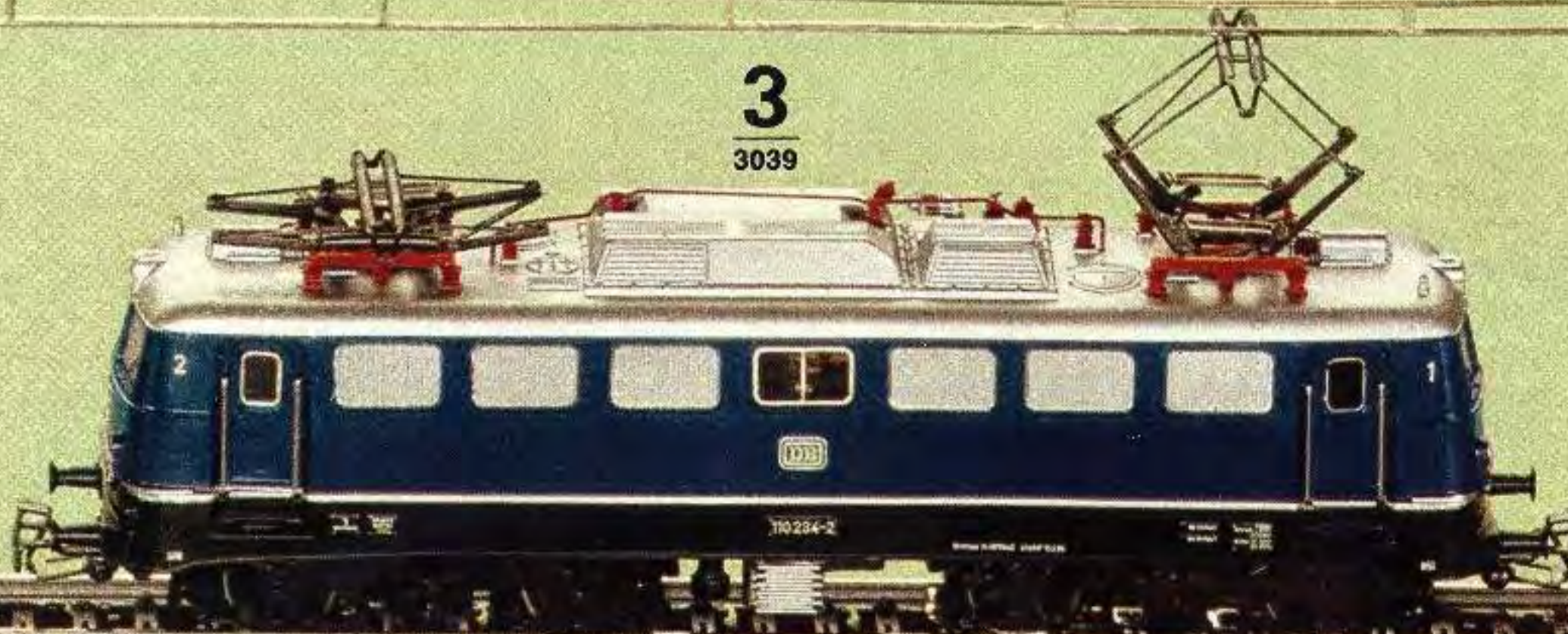
3049

Train composition examples:

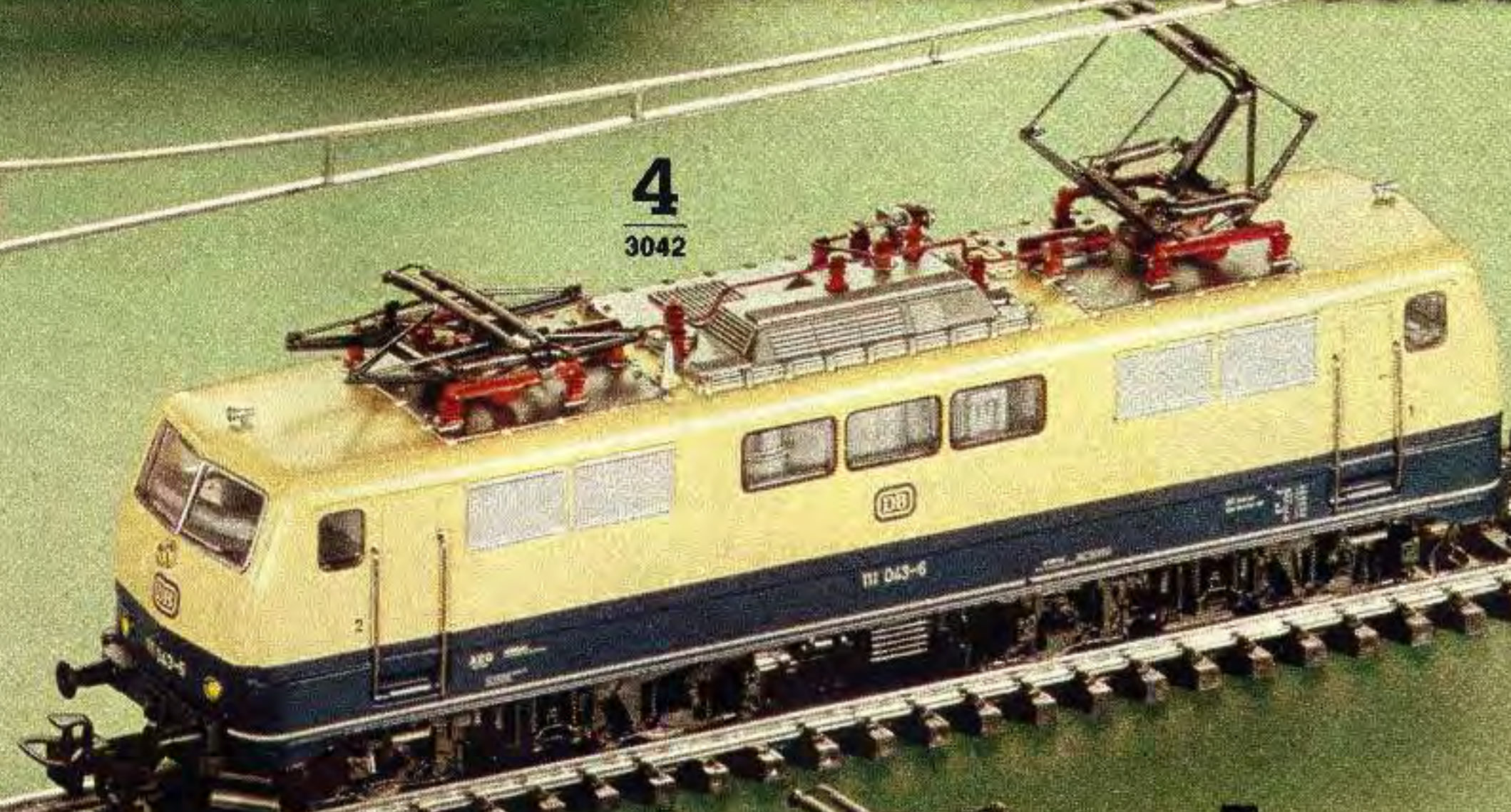


3

3039

**4**

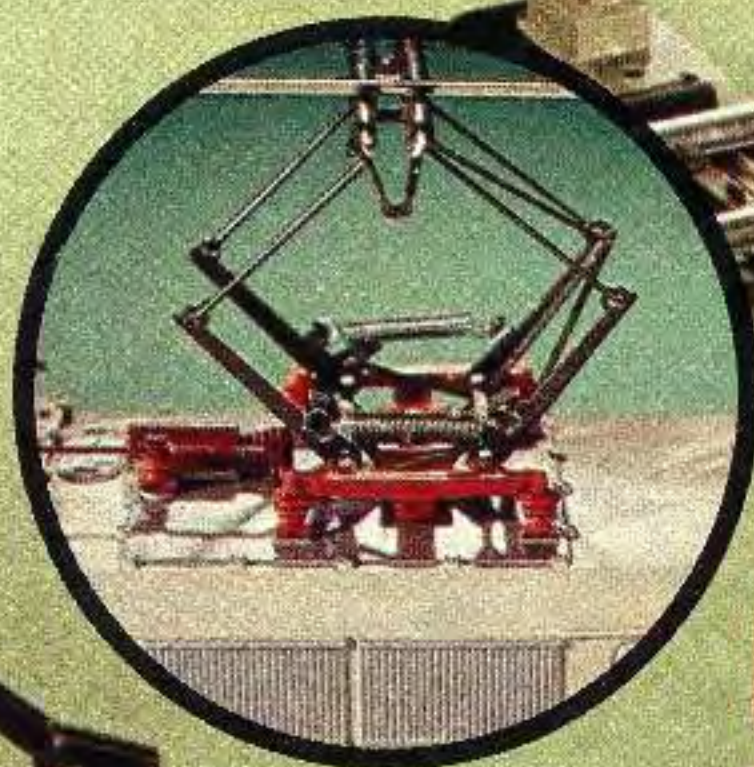
3042

**5**

3155



All models have:
Lever for selecting operation by
overhead line or track supply
Three working headlights at each end
Frame made of die cast zinc
Spring-loaded pantographs on roof



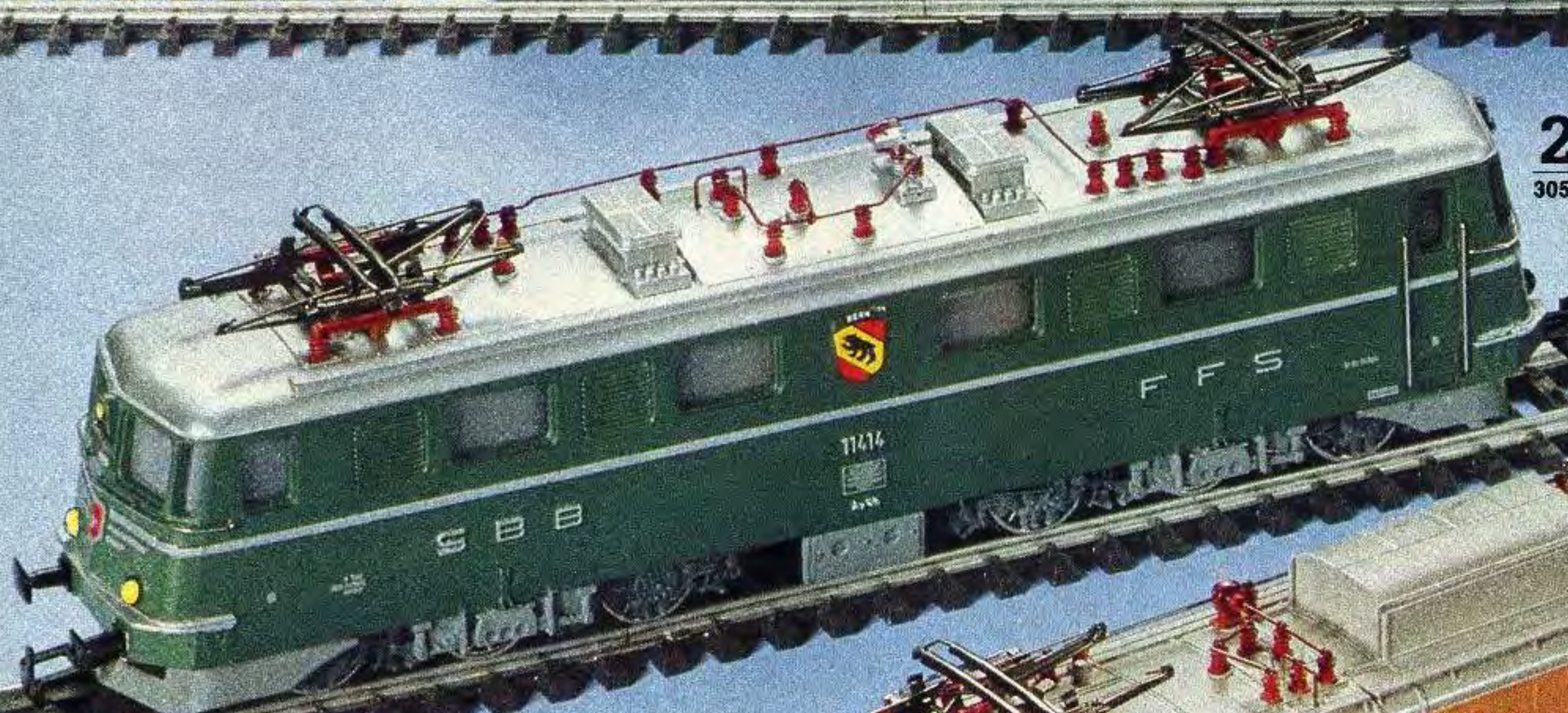
1

3041



2

3050

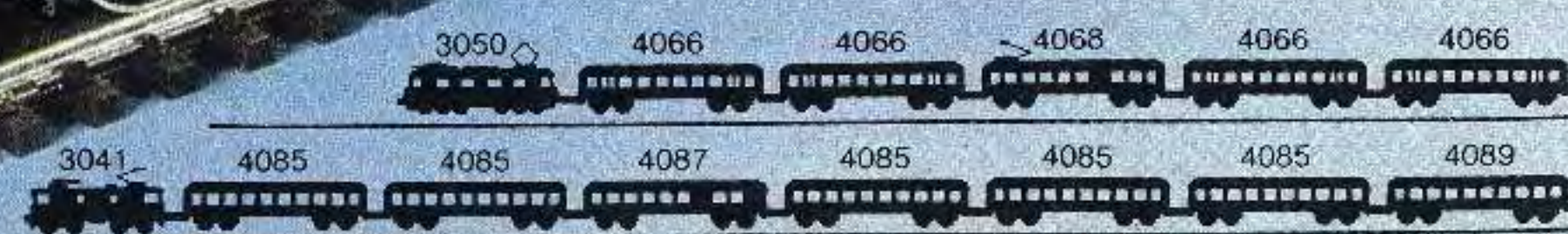


3

3151



Train composition examples:



1 Austria

3041 - Multi-purpose locomotive - Austrian Federal Railways' (ÖBB) Class 1043 - Wheel arrangement B-B - 2 driven axles - 4 non-skid tires - Coupling hook at each end - Length over buffers 17.5 cm (6-7/8")

0 = 7153  = 7164  = 60015

■ After extensive trials with this locomotive, which was built by the Swedish firm ASEA, Austrian Federal Railways bought an initial batch of 4 machines. The 16-1/2 Hz alternating current supply from the overhead line is converted to direct current by thyristors. The 4 motors develop almost 3680 kW, enabling the 77.4 ton, 15.5 m (50 ft 10-1/4") long locomotive to reach a maximum speed of 135 km/h (84 mph).

2 Switzerland

3050 - Powerful multi-purpose locomotive - A model of Swiss Federal Railways' (SBB) Class Ae 6/6 - Wheel arrangement C-C - 3 driven axles - 4 non-skid tires - Metal body - With crest of Berne canton - Crests of the other Swiss cantons are enclosed - Coupling hook at each end - Length over buffers 20 cm (7-7/8")

0 = 7153  = 7164  = 60015

■ The Ae 6/6 is used to pull international passenger and express freight trains. Weight 120 tons. Tractive power 4400 kW. 6 motors. Maximum speed 125 km/h (78 mph). Also has enormous starting and climbing power.

3 Switzerland

3151 - Express locomotive - A model of Swiss Federal Railways' (SBB) Class Ae 3/6^{II} - Wheel arrangement 4-6-2 - 3 driven axles - 2 non-skid tires - One sprung steering truck and one sprung running truck - RELEX coupling (pages 62/71) at each end - Length over buffers 16 cm (6-5/8")

0 = 7153  = 7185  = 60015

■ SBB had 60 of these lowland express locomotives built between 1924 and 1926. Tractive power was provided through connecting rod drive, but the

machines performed well in service. The original maximum speed of 90 km/h (56 mph) was later raised to 100 km/h (62 mph). These locomotives were used on passenger services.

4 Switzerland

3056 - Heavy freight train locomotive "Crocodile" - A model of Swiss Federal Railways' (SBB) Class Be 6/8^{III} - Wheel arrangement 1C-C1 - 3 driven axles - 4 non-skid tires - Body in 3 sections - Flexibly coupled steering trucks giving

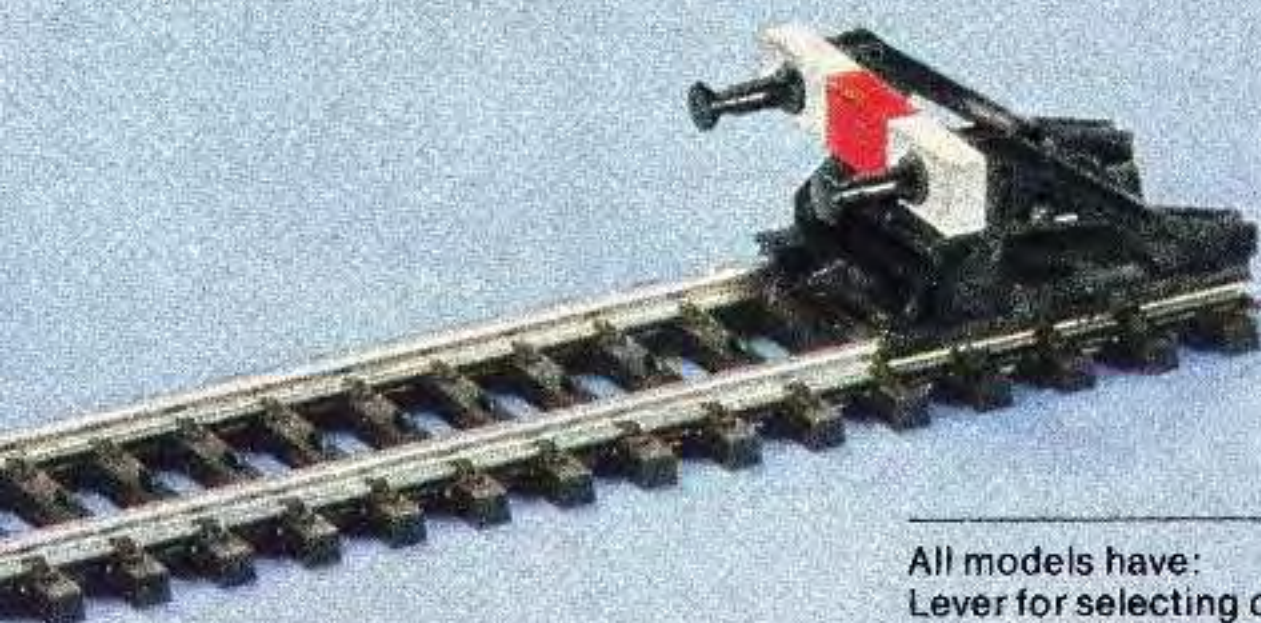
good cornering ability - RELEX coupling (pages 62/71) at each end - Length over buffers 22.8 cm (9")

0 = 7153  = 7164  = 60015

■ 18 locomotives of the Be 6/8^{III} type were commissioned in 1926/1927 for use on the Gotthard route. With a length of 20.06 m (65 ft 9-3/4") and a motor power of 1800 kW giving a maximum speed of 75 km/h (47 mph), they were for many years of the most impressive sights in the Swiss heavy freight train service.



All models have:
Lever for selecting operation by overhead line or track supply
Three working headlights at each end
Die cast zinc frame
Spring-loaded pantographs on roof



4
3056

Train composition example:



1 France

3038 · High power locomotive · Class BB 9200 of the Société Nationale des Chemins de Fer Français (SNCF) · Wheel arrangement B-B · 2 driven axles · 4 non-skid tires · Metal body · Coupling hook with pre-uncoupler at each end · Length over buffers 18 cm (7-1/8")

① = 7153 ② = 7164 ③ = 60015

■ Class BB 9200 locomotives have 4 motors developing a total of 4050 kW, hourly rating. Their weight is 80 tons. On certain routes they reach a maximum speed of 160 km/h (100 mph).

2 Netherlands

3055 · Electric locomotive · A model of the Netherlands Railways' (NS) Class 1200 · Wheel arrangement C-C · 3 driven axles · 4 non-skid tires · Metal body · Coupling hook at each end · Length over buffers 19.6 cm (7-3/4")

① = 7154 ② = 7164 ③ = 60015

3 Italy

3035 · Electric locomotive · Italian State Railways' (FS) Class E 424 · Wheel arrangement B-B · 2 driven axles · 4 non-skid tires · Metal body · Coupling hook with pre-uncoupler at each end · Length over buffers 17.5 cm (6-7/8")

① = 7153 ② = 7164 ③ = 60015

4 Sweden

3043 · Multi-purpose locomotive · Swedish State Railways' (SJ) Class Rc · Wheel arrangement B-B · 2 driven axles · 4 non-skid tires · Coupling hook at each end · Length over buffers 17.5 cm (6-7/8")

① = 7153 ② = 7164 ③ = 60015

■ In these machines of very advanced design, the 16 2/3 Hz alternating current supply from the overhead line is converted by thyristors into direct current, which drives the 4 motors, developing a power of almost 3680 kW. The machine weighs 76 tons and can reach a speed of 135 km/h (84 mph). It is almost 15.50 m (50 ft 10-1/4") long.

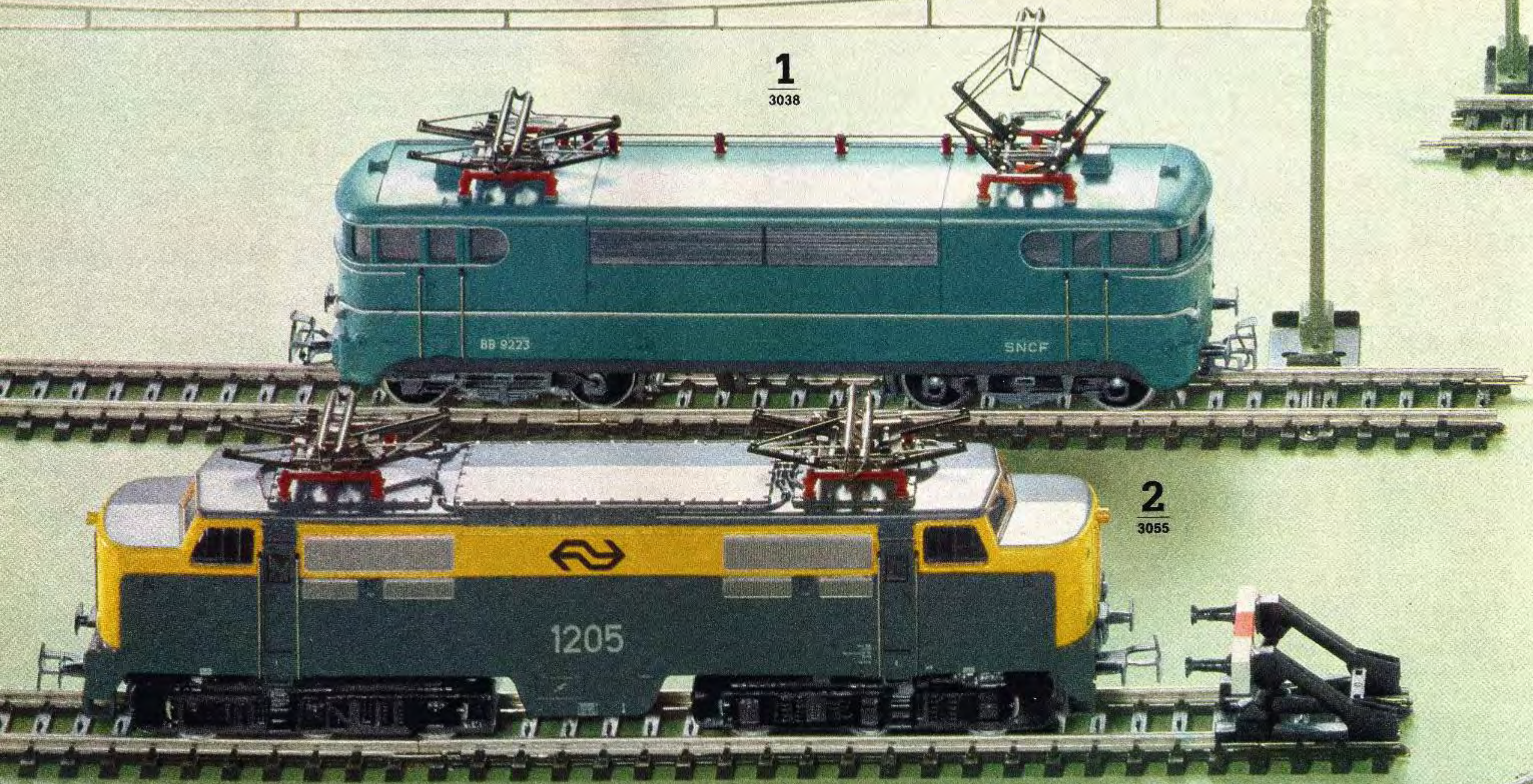
5 Sweden

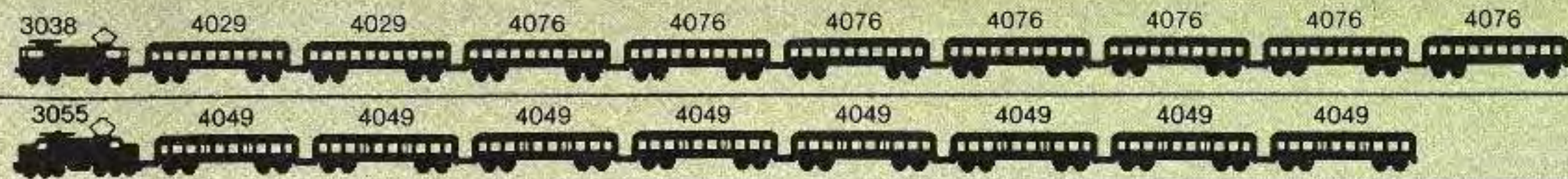
3030 · Multi-purpose locomotive · Swedish State Railways' (SJ) Class Da · Wheel arrangement 2-6-2 · 3 driven axles · Jackshaft driven through gears · 2 non-skid tires · Metal body · RELEX coupling (pages 62/71) at each end · Length over buffers 14.7 cm (5-3/4")

① = 7153 ② = 7185 ③ = 60015

■ Used as the standard electric locomotive for slow passenger and freight trains. Since these machines have only one motor and the low axle loading of 15 or 17 tons, they are fitted with side rod drive so that individual wheels do not "run away" on starting.

All models have:
Lever for selecting operation by overhead line or track supply
Working headlight at each end
Die cast zinc frame
Spring-loaded pantographs on roof





Train composition examples

3

3035

4

3043



5

3030

Diesel locomotives

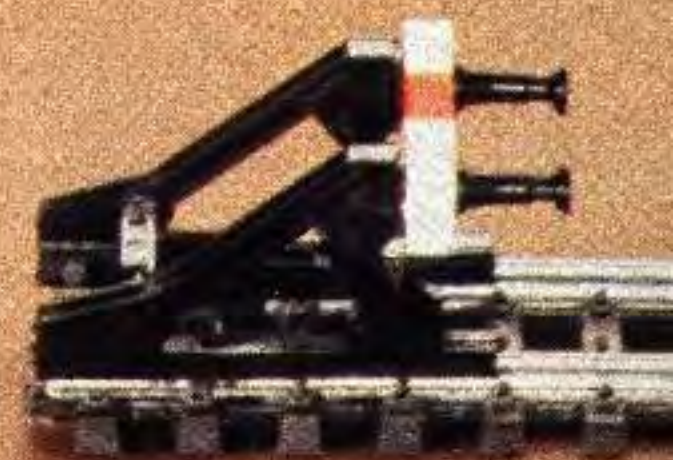
Although Rudolf Diesel demonstrated his first diesel engine as early as 1897, it was not until the 1950s that the series production of high-performance diesel locomotives began in Germany. This process contributed to the pattern of change on German Federal Railways which culminated in the total supersession of steam locomotives.

In the re-designed German Federal Railways categorization scheme of 1968, diesel locomotives were placed in Group 2 (Internal Combustion Engine powered vehicles). In these, the burning of diesel fuel releases energy. In the early days this energy was transmitted to the wheels by means of a mechanical gearbox and cardan shafts. In a later stage of development the variable speed mechanical gearbox was replaced by hydraulic transmission. As well as the improvements to the transmission, experiments with diesel-electric drive were carried out. With this system, the mechanical rotational energy is transferred to electrical energy by means of a generator, and then transmitted by electrical cables to the traction motors.

About half of the 40 or so different types of diesel locomotive on German Federal Railways are used only on switching duties. Of these, the Class 260 (Märklin models 3064, 3065) is the star. 941 machines of this type are to be seen on light and medium weight switching duties in switching yards all over the Federal Railways' system.

During switching, the controller is often out of sight of the locomotive driver, so the locomotives are fitted with two-way communication systems. The driver also has contact with the signal box and can be directed from that position. The highest level of technology is seen in radio control, which is used today to control the operation of quite a number of 260s.

Thus diesel locomotives have proved themselves in German Federal Railways service over the past 30 years, and their era is not over yet. One of the earliest heavy long-distance locomotives, the V 200 (Märklin model 3021) is now used only in the railway vehicle maintenance depots at Oldenburg and Lübeck. On this type of flat terrain they are still capable of coping with modern loads.



1

3064 - Diesel-hydraulic switching locomotive - German Federal Railways' Class 260 - Wheel arrangement 0-6-0 - 3 driven axles - Coupling hook with pre-uncoupler at each end - Length over buffers 12 cm (4-3/4")

⊖ = 7153  = 7185 ⊕ = 60010

1

3065 - Diesel-hydraulic switching locomotive with Märklin TELEX coupling - German Federal Railways' Class 260 - Wheel arrangement 0-6-0 - 3 driven axles - TELEX coupling (page 23) at each end - Length over buffers 12 cm (4-3/4")

⊖ = 7153  = 7185 ⊕ = 60010

**TELEX
coupling**

Uncouple by
remote control

Page 23

2

3080 - Industrial locomotive - Wheel arrangement 0-6-0 - 3 driven axles - Coupling hook at each end - Length over buffers 11.2 cm (4-3/8")

⊖ = 7154  = 7185

3

3078 - Industrial locomotive - Type DHG 500 - Wheel arrangement 0-6-0 - 3 driven axles - Coupling hook at each end - Length over buffers 11.2 cm (4-3/8")

⊖ = 7154  = 7185 ⊕ = 60015



13064
3065**3**

3078

**2**

3080



All models have:
2 non-skid tires
3 working headlights at
each end (except for 3080)
Die cast zinc frame



1 ★ new

3147 · Multi-purpose diesel-hydraulic locomotive · German Federal Railways' Class 212 · Wheel arrangement B-B · 2 driven axles · Narrow front and rear ends to scale · RELEX coupling (page 62/71) at each end · Length over buffers 14.1 cm (5-9/16")

① = 7154 ② = 7164 ③ = 60010

■ The 212 is a multi-purpose diesel locomotive with a working weight of 63.2 tons and a length of over 12 m (39 ft 4"). The new types develop about 1000 kW, and this power is transmitted hydraulically to cardan shafts driving the 4 axles arranged in 2 trucks. There are two gear ratios, which can only be selected when the locomotive is stationary. In low gear the locomotive exerts its maximum tractive force, but has a top speed of only 65 km/h (40 mph), while in high gear it reaches 100 km/h (62 mph).

2

3072 · Multi-purpose diesel-hydraulic locomotive · German Federal Railways' Class 212 · Wheel arrangement B-B · 2 driven axles · Narrow front and rear ends to scale · RELEX coupling (page 62/71) at each end · Length over buffers 14.1 cm (5-9/16")

① = 7154 ② = 7164 ③ = 60010

3

3021 · Diesel-hydraulic express locomotive · German Federal Railways' Class 220 · Wheel arrangement B-B · 2 driven axles · Metal body · Coupling hook with pre-uncoupler at each end · Length over buffers 21 cm (8-1/4")

① = 7154 ② = 7183 ③ = 60010

4

3074 · Multi-purpose locomotive · German Federal Railways' Class 216 · Wheel arrangement B-B · 2 driven axles · RELEX coupling (page 62/71) at each end · Length over buffers 18.2 cm (7-3/16")

① = 7154 ② = 7164 ③ = 60015

5

3075 · Multi-purpose locomotive · German Federal Railways' Class 216 · Wheel arrangement B-B · 2 driven axles · RELEX coupling (page 62/71) at each end · Length over buffers 18.2 cm (7-3/16")

① = 7154 ② = 7164 ③ = 60015

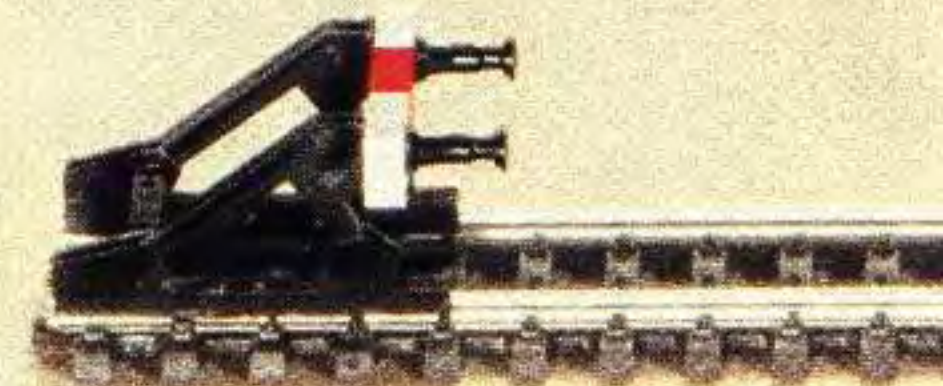
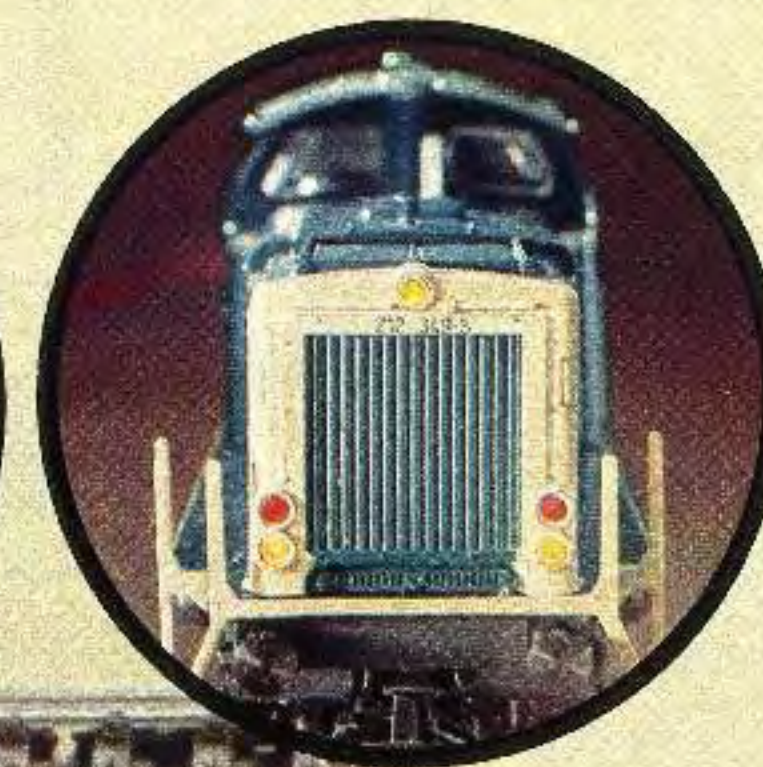
■ The Class 216 diesel locomotive is used for mainline duty over medium distances. The working weight with full fuel tanks is 79 tons. It develops a power of 1400 kW, giving a maximum speed of 120 km/h (75 mph).

All models have:
4 non-skid tires
3 working headlights at each end
Die cast zinc frame

Train composition examples:



1 ★ new
3147



2
3072



3
3021



4
3074



5
3075



1 Denmark

3067 · Multi-purpose diesel-electric locomotive · A model of Danish State Railways' (DSB) Type My 1100 · Wheel arrangement A1A-A1A · 3 driven axles · 4 non-skid tires · 3 working headlights at each end · Metal body · Coupling hook at each end · Length over buffers 20.5 cm (8-1/16")

0 = 7154  = 7164  = 60015

■ These Danish State Railways' (DSB) Type My 1100 multi-purpose locomotives have diesel-electric drive. With this system, electric motors on the axles are provided with current from the generators which in turn are driven by diesel motors. This locomotive is very similar to the Belgian Type 204.

2 Belgium

3066 · Multi-purpose diesel-electric locomotive · A model of Belgian State Railways' (NMBS/SNCB) Type 204 · Wheel arrangement C-C · 3 driven axles · 4 non-skid tires · Three working headlights at each end · Metal body · Coupling hook at each end · Length over buffers 20.5 cm (8-1/16")

0 = 7154  = 7164  = 60015

■ The Type 204 locomotive is used to pull light freight trains, slow passenger trains and express trains, and its power of about 1300 kW gives it a maximum speed of 140 km/h (87 mph).

3 Belgium

3149 · Switching locomotive · A model of Belgian State Railways' (NMBS/SNCB) Type 80 · Wheel arrangement 0-6-0 · 3 driven axles · 2 non skid-tires · Two working headlights at each end · Die cast zinc frame · Coupling hook with pre-uncoupler at each end · Length over buffers 12 cm (4-3/4")

0 = 7153  = 7185  = 60010



1
3067



2
3066



3
3149

4 USA

3062 · Diesel locomotive · The Rio Grande Railway Company version of the Type F7 made by the Electro-Motive Division of General Motors · Wheel arrangement B-B · 2 driven axles · 4 non-skid tires · Two working headlights · Metal body · Coupling hook with pre-uncoupler at driver's cab end · RELEX coupling (pages 62/71) at rear end · Length 17.5 cm (6-7/8")

⊖ = 7154 ⊕ = 7185 ⊗ = 60015

5 USA

4062 · Supplementary section, unpowered · To go with diesel locomotive 3062 · Two working headlights · Metal body · Coupling hook with pre-uncoupler at driver's cab end · Length 17.5 cm (6-7/8")

⊖ = 7185 ⊗ = 60015

6 USA

3060 · Diesel locomotive · The Atchison Topeka and Santa Fé Railway version of the Type F7 made by the Electro-Motive Division of General Motors · Wheel arrangement B-B · 2 driven axles · 4 non-skid tires · Two working headlights · Metal body · Coupling hook with pre-uncoupler at driver's cab end · RELEX coupling (page 62/71) · Length 17.5 cm (6-7/8")

⊖ = 7154 ⊕ = 7185 ⊗ = 60015

7 USA

4060 · Supplementary section, unpowered · To go with diesel locomotive 3060 · Two working headlights · Metal body · Coupling hook with pre-uncoupler at driver's cab end · Length 17.5 cm (6-7/8")

⊖ = 7185 ⊗ = 60015

3060 + 4060 USA

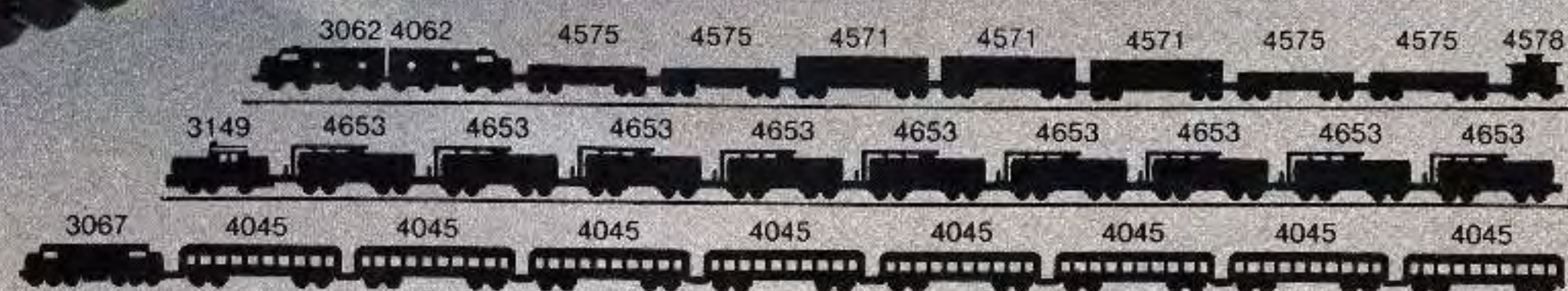
The Atchison Topeka and Santa Fé Railway version of the Type F7

3062 + 4062 USA

The Rio Grande Railway Company version of the Type F7



Train composition examples:



1

3077 · Rail Zeppelin based on Kruckenberg's system · 4 axles · 2 driven axles · 4 non-skid tires · As the traction voltage is slowly increased from 4 V, first the propeller spins up, driven by a special motor, and then the locomotive starts to roll · 2 working headlights · Die cast zinc frame · Length 28.8 cm (11-3/8")

⊖ = 7154 ⊕ = 7164 ⚙ = 60015

■ The Rail Zeppelin attained the world record speed of 230 km/h (143 mph) in 1931. The drive was obtained from a 450 kW BMW aircraft engine, acting through a propeller.

2

3071 · TEE high speed railcar · A model of the Netherlands-Swiss TRANS-EUROPE-EXPRESS train in the TEE beige and red color scheme · In 3 sections

Locomotive: 3 driven axles · 4 non-skid tires · Die cast zinc frame

Combined first class and dining car and control car with spacious first class compartment

Special couplings connect the 3 units very closely together · Walkways between cars have special tightly closing covers · 3 headlights and 2 red tail lights at each end of the train, operating in accordance with the direction of motion · Current pick-up shoe at each end of the train, the leading one always collecting the current · Length of model 70 cm (2 ft 3-5/8")

⊖ = 7154 ⊕ = 7164 ⚙ = 60001 r
⊖ = 7175 ⚙ = 60015 w

3

4071 · TEE compartment car · 1st class · Flexible covers at each end for the interconnecting walkways · Special coupling, fitting the TEE train only · Length 23.3 cm (9-3/16")

The TEE train illustrated consists of the three-part unit 3071 together with the supplementary car 4071, giving the usual 4 car composition. Length of 4 car train is 93.3 cm (3 ft 5/8").

1

3077

2

3071

5

4018

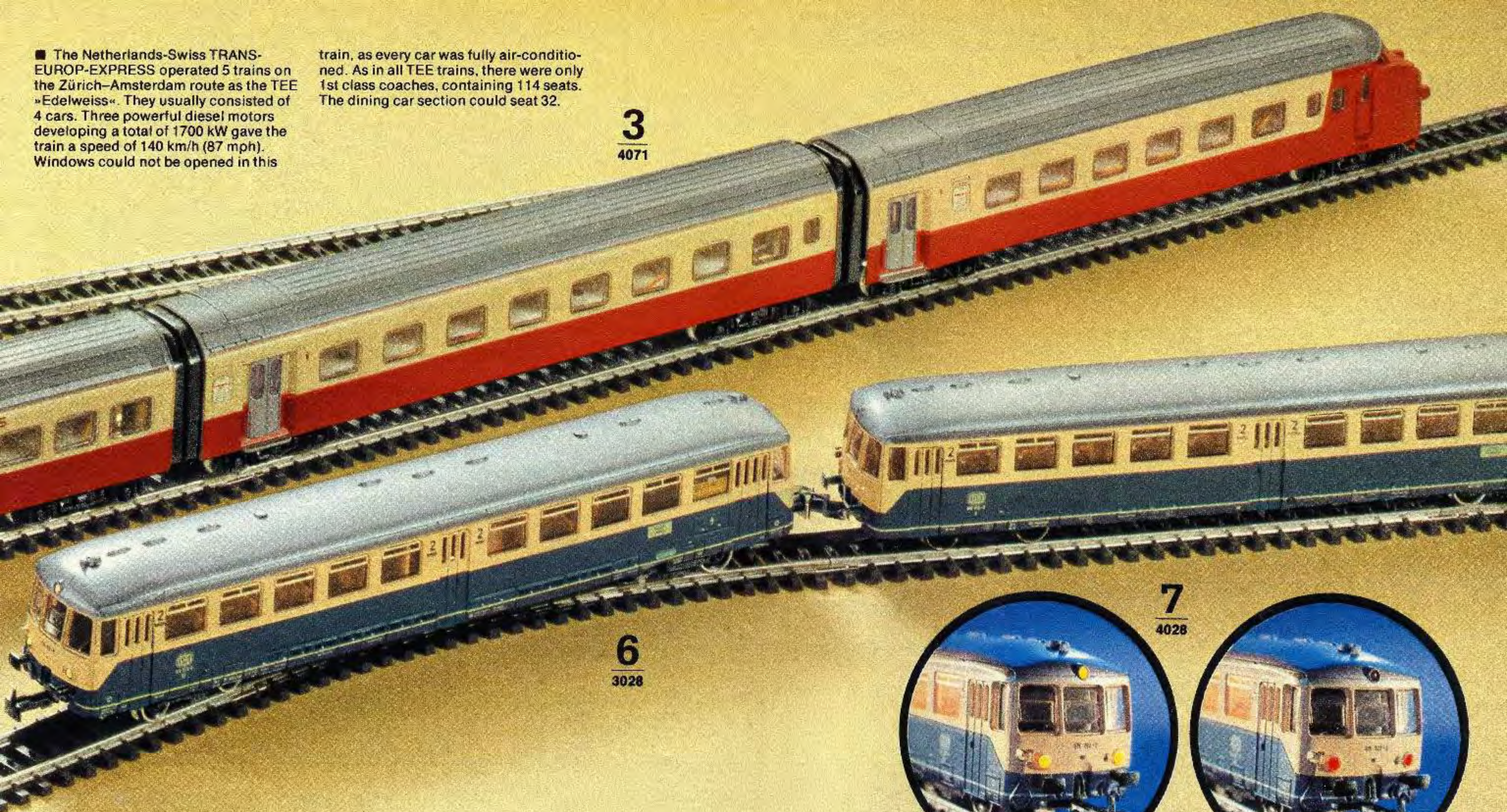
4

3016

■ The Netherlands-Swiss TRANS-EUROPE-EXPRESS operated 5 trains on the Zürich-Amsterdam route as the TEE »Edelweiss«. They usually consisted of 4 cars. Three powerful diesel motors developing a total of 1700 kW gave the train a speed of 140 km/h (87 mph). Windows could not be opened in this

train, as every car was fully air-conditioned. As in all TEE trains, there were only 1st class coaches, containing 114 seats. The dining car section could seat 32.

3
4071



6
3028

7
4028



4

3016 · Railbus · A model of German Federal Railways' Type 795 · 1 driven axle · 2 non-skid tires · 3 working headlights at each end · Interior lighting · Die cast zinc frame · Special symmetrical couplings at each end for coupling the cars tightly together · Length over buffers 14.7 cm (5-¾")

⊙ = 7153 ⊞ = 7164 ⊗ = 60010

5

4018 · Railbus trailer · A model of German Federal Railways' Type 995 · Red tail lights operate at either end · Interior lighting · Special symmetrical coupling to fit railbus only · Length over buffers 12 cm (4-¾")

⊞ = 7175 ⊗ = 60010

6

3028 · Electric railcar · German Federal Railways' battery-powered Type 515 · Wheel arrangement B-2 · 2 driven axles · 4 non-skid tires · 3 headlights and 2 red tail lights at each end of the train, operating in accordance with the direction of motion · Interior fittings · Interior lighting · Coupling hook at each end · Length over buffers 24 cm (9-½")

⊙ = 7154 ⊞ = 7164 ⊗ = 60001 r
⊗ = 60015 w

7

4028 · Control car to go with railcar 3028 · A model of German Federal Railways' Type 815 · Interior fittings · Interior lighting · When coupled to railcar 3028, 3 headlights or 2 red tail lights operate at each end of the train, depending on the direction of motion · Coupling eye at one end, coupling hook at the other · Length over buffers 24 cm (9-½")

⊞ = 7164 ⊗ = 60001 r
⊗ = 60015 w

Spare part service

Many years of reliable service

The users' instructions show how non-skid tires, current pick-ups, light bulbs and reversing unit springs should be fitted.

The table gives the part numbers of the most important spares for each locomotive. These can be obtained through your Märklin dealer.



Locomotive	Non-skid tire	Current pick-up shoe	Pantograph unit	Light bulb	Carbon brushes	Front coupling	Rear coupling
3000	7154	7185	—	60010	60030	20001	20001
3003	7153	7185	—	60010	60030	20214	70154
3016	7153	7164	—	60010	60030	20989	20989
3021	7154	7183	—	60010	60030	21166	21166
3022	7153	7164	7218	60015	60030	21842	21842
3028	7154	7164	—	60001 60015	60030	70412	70412
3030	7153	7185	7218	60015	60030	21128	21128
3035	7153	7164	7218	60015	60146	21484	21484
3038	7153	7164	7218	60015	60146	21773	21773
3039	7153	7164	7218	60015	60146	21484	21484
3041	7153	7164	7219	60015	60030	70412	70412
3042	7153	7164	7218	60015	60146	70156	70156
3043	7153	7164	7218	60015	60030	70412	70412
3044	7154	7185	7219	60015	60030	20001	20001
3049	7153	7185	7218	60015	60146	70412	70412
3050	7153	7164	7218	60015	60030	21708	21708
3054	7153	7164	7218	60015	60030	22313	22313
3055	7154	7164	7218	60015	60030	21783	21783
3056	7153	7164	7218	60015	60146	70156	70156
3057	7153	7164	7218	60015	60146	70412	70412
3058	7153	7164	7218	60015	60146	70412	70412
3060	7154	7185	—	60015	60030	21583	21586
3062	7154	7185	—	60015	60030	21583	21586
3064	7153	7185	—	60010	60030	21411	21411
3065	7153	7185	—	60010	60030	21376 21377	21376 21377
3066	7154	7164	—	60015	60030	21783	21783
3067	7154	7164	—	60015	60030	21783	21783
3071	7154	7164 7175	—	60001 60015	60030	—	21929 21951 21954
3072	7154	7164	—	60010	60030	21842	21842
3074	7154	7164	—	60015	60030	70156	70156
3075	7154	7164	—	60015	60030	70156	70156
3077	7154	7164	—	60015	60030	—	—

Locomotive	Non-skid tire	Current pick-up shoe	Pantograph unit	Light bulb	Carbon brushes	Front coupling	Rear coupling
3078	7154	7185	—	60015	60030	20001	20001
3080	7154	7185	—	—	60030	20001	20001
3082	7153	7164	—	60015	60146	21843	21842
3083	7152	7185	—	60015	60030	—	21842
3084	7153	7164	—	60015	60146	21843	21842
3085	7152	7164	—	60015	60146	—	21842
3086	7152	7185	—	60015	60030	22418	21842
3087	7154	7185	—	—	60030	20001	20001
3089	7152	7185	—	60015	60030	—	70154
3090	7154	7185	—	—	60030	20001	20001
3092	7152	7185	—	60015	60030	—	21842
3093	7152	7185	—	60015	60030	—	21842
3095	7153	7185	—	60010	60030	22532	21842
3096	7153	7164	—	60015	60030	21843 22897 22924	21843 22897 22924
3099	7152	7185	—	60015	60030	22418	21842
3102	7153	7185	—	60015	60146	21843	21842
3104	7153	7185	—	—	60146	20001	20001
3147	7154	7164	—	60010	60030	21842	21842
3149	7153	7185	—	60010	60030	21411	21411
3151	7153	7185	7218	60015	60146	70156	70156
3152	7153	7164	7219	60015	60146	70156	70156
3153	7153	7164	7208	60015	60146	70412	70412
3155	7153	7164	7218	60015	60146	70156	70156
3156	7153	7164	7218	60015	60146	21484	21484
Locomotives taken out of production in the last 3 years:							
3034	7153	7164	7218	60015	60146	21484	21484
3037	7153	7164	7218	60015	60146	21484	21484
3098	7152	7185	—	60015	60030	22418	21842



Light bulbs



60000

Car 4077
Train lighting set 7077
Turnouts 2161, 5128, 5137, 5140, 5202
Bumper 7191
Signals 7036, 7038, 7039, 7040, 7041, 7042
Fixed lights 7280, 7281, 7282, 7283, 7284
Rotating crane 7051



red

60001

Car 4028
Train lighting set 7079
Signals 7188, 7339



green

60002

Signals 7188, 7339



60010

Car 4018
Train lighting set 7323
Lighting mast 5113 - Fixed lights 7046, 7047, 7048



60015

Cars 4028, 4053, 4060, 4062, 4089, 4411
Train lighting sets 7197, 7320, 7322, 7329
Transformer 6631



60020

Train lighting set 7074



red

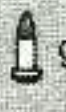
60200

Signal 7242



60201

Signals 7239, 7240, 7241
Grade crossings 7292, 7592



green

60202

Signals 7187, 7236, 7237, 7238, 7239, 7240, 7241



orange

60204

Signals 7187, 7236, 7237, 7238, 7240, 7241

Current pick-up shoes

7164

Car 4028

7175

Cars 4018, 4053, 4077, 4089
Train lighting sets 7197, 7198, 7320, 7322, 7323

7185

Cars 4060, 4062

41494

Cars 4098, 4154, 4411
Train lighting set 7329

Steering trucks with couplings for cars

30199

4077, 4082, 4083

30256

4076

30339

4026, 4045, 4051, 4052, 4053, 4054, 4064, 4085, 4087, 4089, 4090, 4111, 4112

30417

4029, 4049, 4072, 4073

30547

4066, 4068

32311

4571

32339

4624, 4626

32570

4575

Couplings for cars

21005

4018

21583

4060, 4062 (front)

21622

4060, 4062 (rear)

21842

4578, 4631, 4635

21951

4071

21954

4071

32399

4632, 4650, 4651, 4652, 4653, 4663

32402

4632

32540

4007, 4008, 4067, 4079, 4080, 4633, 4644, 4646, 4664, 4668, 4694

70154

4000, 4004, 4005, 4040, 4610, 4611, 4612, 4613, 4617, 4618, 4619, 4627, 4639, 4661, 4665

70157

4074, 4084, 4091, 4092, 4093, 4094, 4095, 4096, 4097, 4098, 4099, 4150, 4151, 4154, 4410, 4411, 4413, 4414, 4415, 4416, 4417, 4418, 4419, 4420, 4423, 4424, 4430, 4431, 4432, 4440, 4441, 4442, 4460, 4473, 4474, 4475, 4696, 4697, 4698, 4699

70158

4135, 4136, 4137, 4138, 4139, 4140, 4141, 4142, 4143, 4144, 4145, 4146, 4147, 4148

70412

4028

Reverser unit springs

7194

Pack with 5 springs for reversing switches

1

7226 - **Smoke set** - Consisting of smoke unit (to fit locomotives 3082, 3084, 3085 and 3102), substitute steam pipe, cleaning wire, pair of tweezers and a capsule of smoke fluid

2

0241 - **Smoke fluid** in plastic capsule as refill for smoke set 7226

3

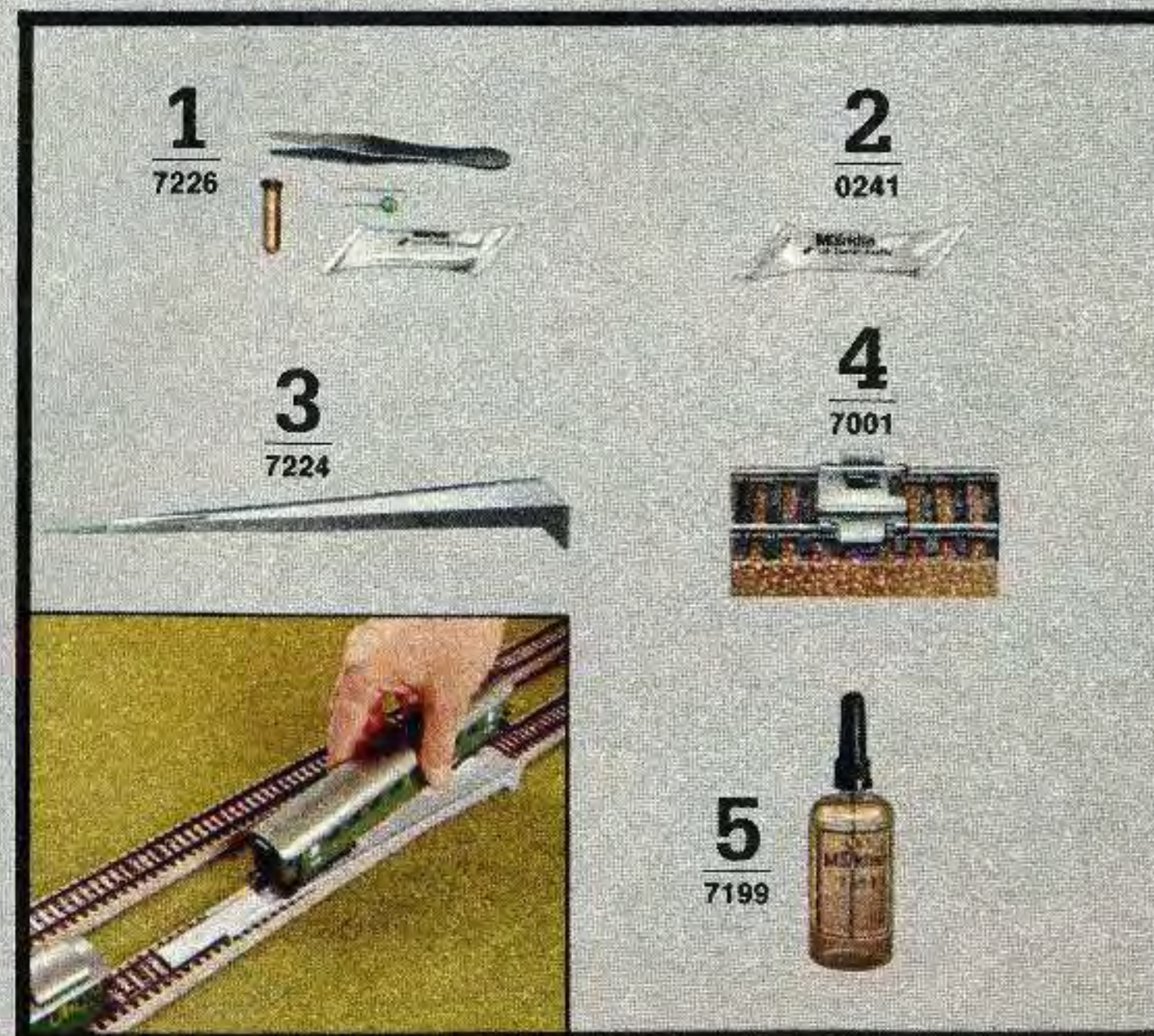
7224 - **Re-railing device** - Made of plastic - Makes it easier to set multi-axled vehicles on the track - Length 300 mm (11-3/4") - Height 25 mm (1")

4

7001 - **Coupling gauge** made of nickel-plated steel sheet, for checking couplings

5

7199 - **Bottle of oil** - Contains about 10 cc lubricating oil for locomotives and cars



Train operating rules

In real life, the composition of trains is governed by strict regulations. For example:

Cars may only be drawn by a locomotive having a maximum speed no higher than their own maximum permitted speed. Maximum figures for length and number of axles of a train may not be exceeded. Passenger trains must be formed only of cars having steering trucks or steering axles. If a combination of these is used, the cars with trucks must be at the front of the train. Cars without trucks may

only with special permission be included in passenger trains with a maximum speed higher than 90 km/h (56 mph). Freight cars may only be combined with passenger cars in special circumstances. In forming freight trains, the fact that the maximum speed of 80, 100 or 120 km/h (50, 63 or 75 mph) depends on the total weight must be borne in mind. Unusual loads which exceed the usual capacity of a car may only be included in a train in special circumstances.

Detailed rules for the composition of trains are included in operators' regulations.

The model railroader is not bound by these rules, of course. However, correct train composition adds to the authenticity of the operation.

0380

Booklet "Märklin HO railroads and their originals", a handbook for Märklin model railroad enthusiasts. With hints for adding details to model railroad layouts, such as landscaping, plus information on Märklin locomotives and cars and their originals, on regulations for real-life railroads, on railroad operating, on circuits (for multi-train operation, for example) and many other things. 228 pages · Size 15×24 cm (6"×9-1/2") · German text

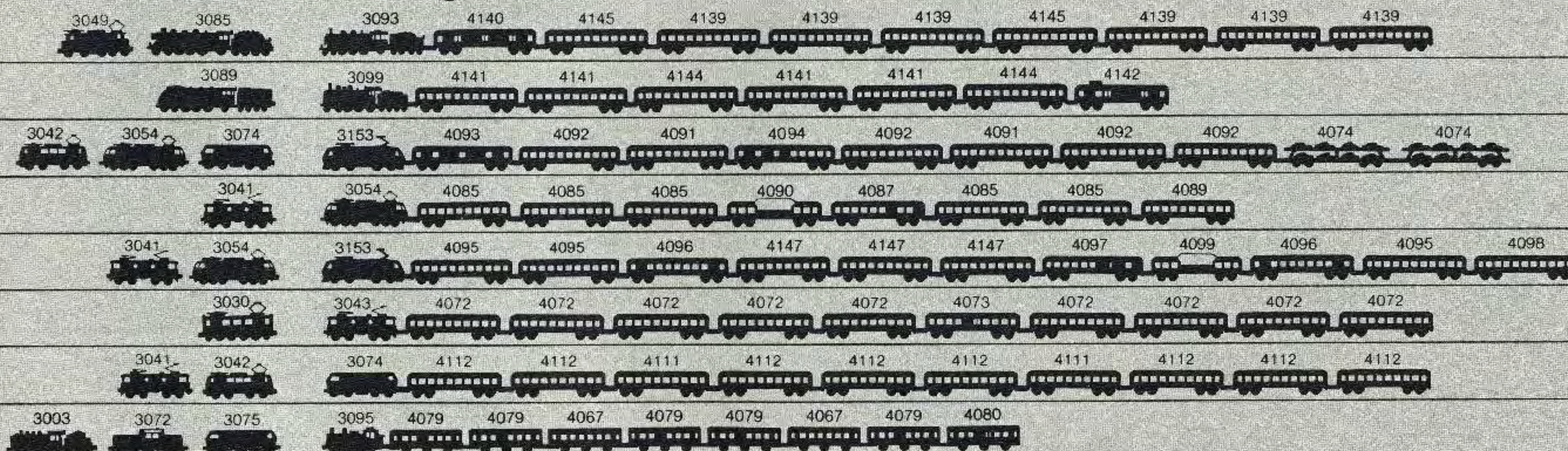
Märklin's concern for accuracy of detail is seen especially well in the printing of the original inscriptions on locomotives and cars.

Many model railroaders have been wondering what the various numbers and letters mean. To shed some light on the subject, we will take Märklin freight car 4624 as an example.

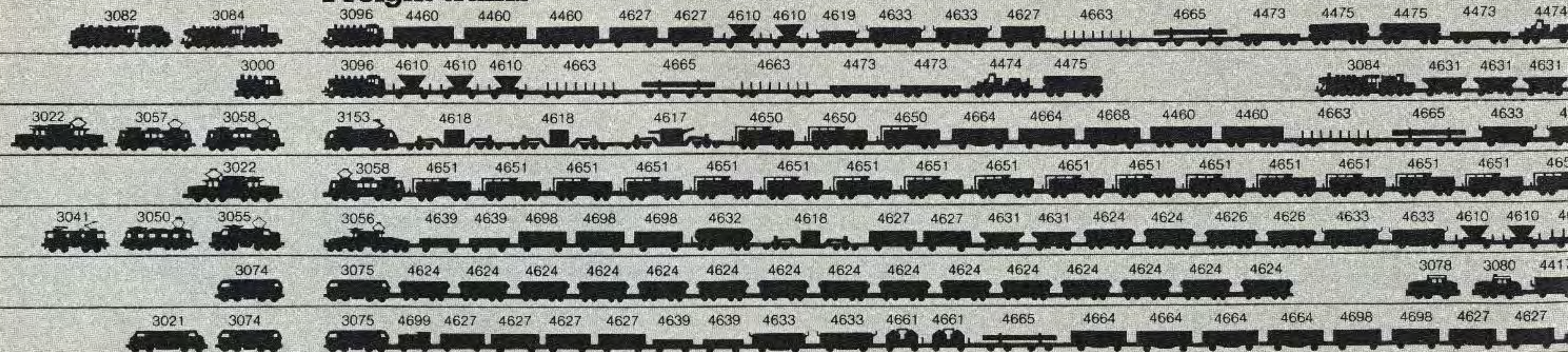
The space for inscriptions gives information on ownership details and loading data. It is located on the left-hand side of the cars.

Train composition examples:

Passenger trains



Freight trains



Loading data

Load limit table
The maximum load corresponding to routes of various classes (in this case A to C4) can be read from this table.



leaflet holder

space for transit leaflet

permitted up to 100 km/h (62 mph)

permitted up to 80 km/h (50 mph)

Owner's code number and abbreviation (in this case "Deutsche Bundesbahn")

Car number and checking number
The first 4 numbers are the code for the type of car (here: an open self-unloading freight car with steering trucks). The next 3 numbers are for the serial number of the type. The checking number (here 9) checks out the previous numbers (here 20/80/6960333).

The point indicates that the type code which follows is in accordance with international agreements.

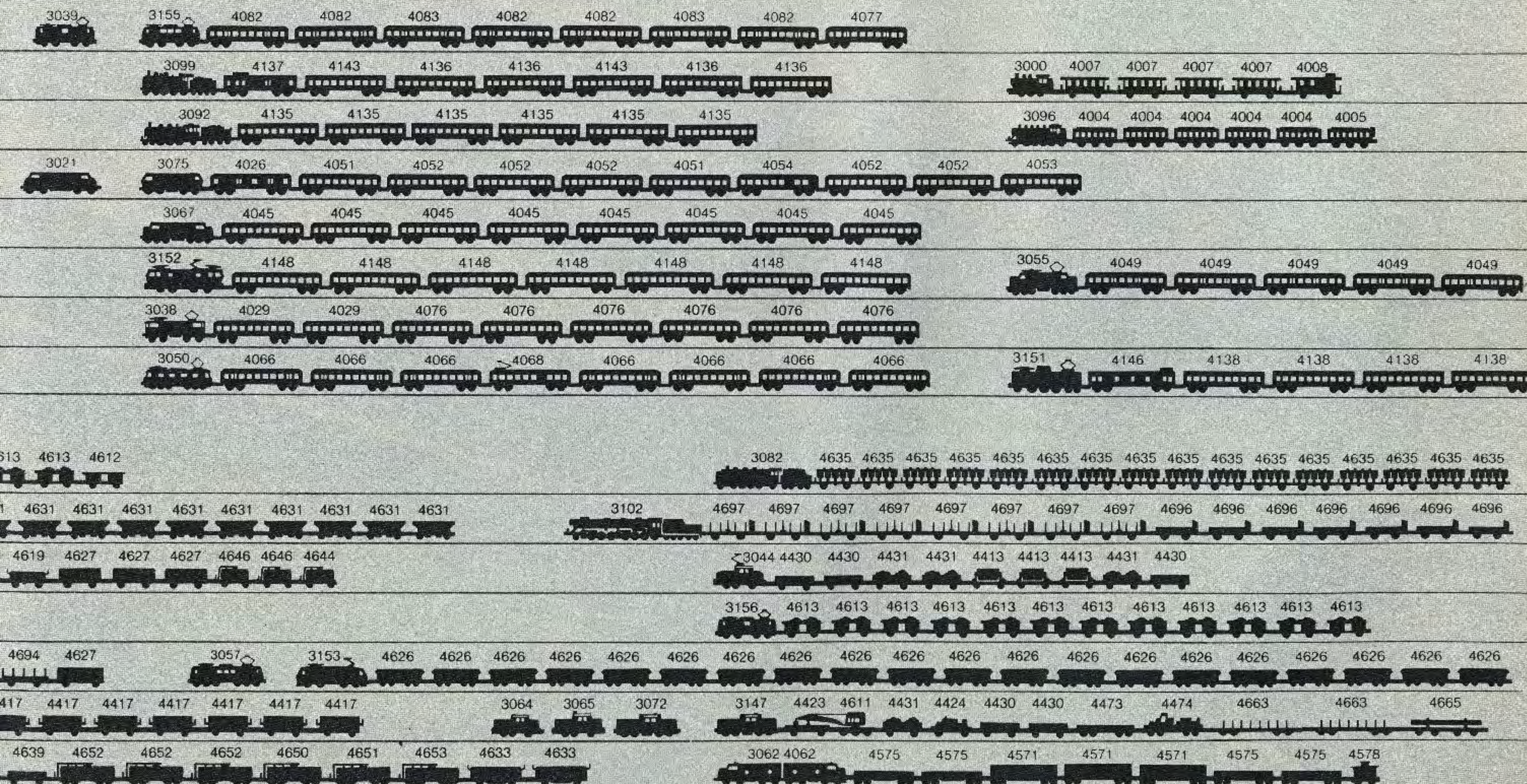
Code number for interchangeability on international services

20
80 DB
6960 333-9
Fads 176

Ownership details

Design number, containing coded information on design features.

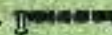
Open self-unloading car with steering trucks approved for use in trains travelling at speeds up to 100 km/h (62 mph).



Passenger cars

"Silberlinge" (silver-colored cars)
German Federal Railways local passenger service cars · Car body stainless steel-colored with peacock's eye pattern · Interior fittings · Windows inset in plastic frames · Length 24 cm (9-1/2") · Can be fitted with interior lighting  (see page 58)

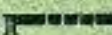
1

4083 · Model of type ABnb · 1st and 2nd class ·  = 7077 + 7198

2

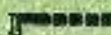
4082 · Model of type Bnb · 2nd class ·  = 7077 + 7198

3

4077 · Model of type BDnf · 2nd class with baggage compartment and driver's cab · Dummy hooter on roof · Headlights at the driver's cab end ·  = 7077

 = 7175  = 60000

Converted cars

German Federal Railways' passenger cars · Robust car body · Windows inset in plastic frames · Simulated rubber beading · Length 15.2 cm (6") · Can be fitted with interior lighting  = 7074 (see page 58)

4

4067 · Model of type AB3yge · 1st and 2nd class

5

4079 · Model of type B3yge · 2nd class

6

4080 · Model of type BD3yge · 2nd class with baggage compartment

Württemberg cars

Platform and entrance at each end · Robust car body · Imitation ventilators on roof · Windows inset in plastic frames · Length 11 cm (4-3/8") · Can be fitted with interior lighting  = 7323 (see page 58)

7

4007 · A model of a private railroad coach

8

4008 · Model of type Pwi No. 0116911 Stgt. · Baggage car with superstructure for conductor's cab

Passenger cars

Platform and entrance at each end · Unglazed windows · Length 11.5 cm (4-1/2")

9

4000 · 2nd class

10

4040 · 2nd class

Prussian cars

Car sides divided into 6 compartments · Windows glazed with "cellon" panes · Length 13 cm (5-1/8") · Can be fitted with interior lighting  = 7074 (see page 58)

11

4004 · Compartment car without brakeman's cab

12

4005 · Compartment car with brakeman's cab

1
4083

4
4067

5
4079

11
4004

RELEX
coupling

For realistic
switching

Page 62

All cars have RELEX couplings
(see pages 62/71).
All cars except 4000 and 4040
can be fitted with interior lighting
[see page 58].

2
4082

3
4077

6
4080

7
4007

8
4008

9
4000

10
4040

12
4005



Märklin
magazine
Information for model
railroad enthusiasts
Back cover

Express coaches of the former Royal Bavarian Railways

Robust car body · Windows inset in plastic frames · Interior fittings · Imitation ventilators on roof · Length 22 cm (8-5/8") · Can be fitted with interior lighting  = 7329 (see page 58)

1

4135 · Model of type CCü · 3rd class

Older-style express coaches of the former German State Railways

Robust car body · Windows inset in plastic frames · Can be fitted with interior lighting  = 7329 (see page 58)

2

4136 · Model of type C4ü bay 11 · 3rd class · Interior fittings · Imitation ventilators on roof · Length 22 cm (8-5/8")

3

4137 · Model of type Pw4ü bay 09 · Baggage car with roof superstructure · Length 20 cm (7-7/8")

4

4143 · Model of type ABC4ü bay 11 · 1st/2nd/3rd class · Interior fittings · Imitation ventilators on roof · Length 23.2 cm (9-1/8")

1

4135

2

4136

3

4137

5

4141 · Model of type C4ü 31 DR · 3rd class · Interior fittings · Length 25 cm (9-7/8")

7

4144 · Model of type B4i 30 DR · 2nd class · Interior fittings · Length 25 cm (9-7/8")

6

4142 · Model of type Pw4ü 30 DR · Baggage car with roof superstructure · Length 22.6 cm (8-9/16")

6

4142

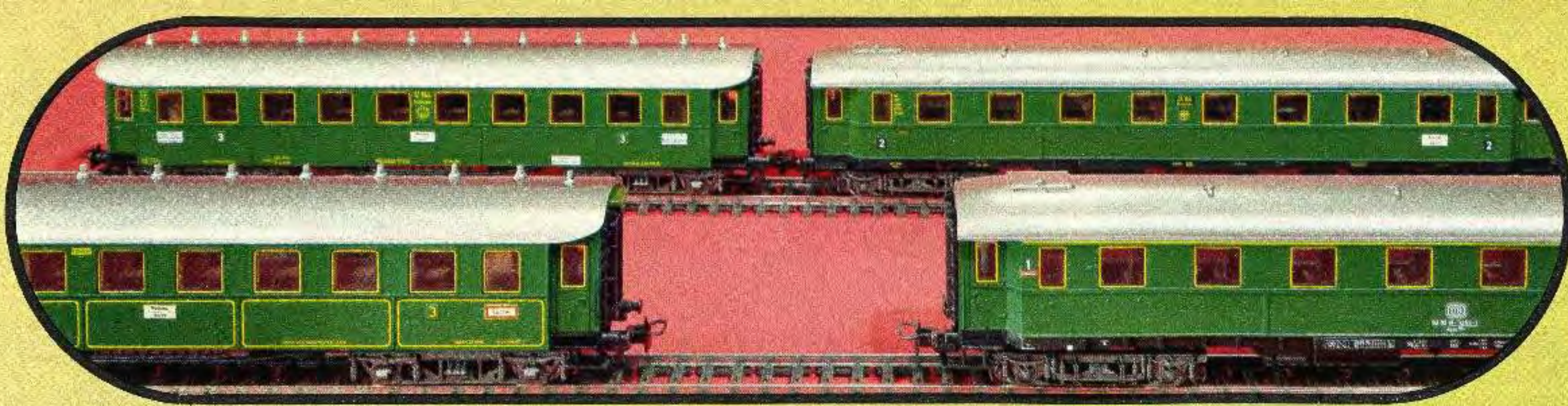
5

4141

8

4139

All cars have automatic couplings, destination plates for various routes and can be fitted with interior lighting  (see page 58).



Train composition

Just like real trains

Page 44

4

4143

Standard design express coaches of German Federal Railways

Robust car body · Windows inset in plastic frames · Görlitz type trucks · Can be fitted with interior lighting
 ——— = 7329 (see page 58)

8

4139 · Model of type Bue³⁵⁴ DB · 2nd class · Interior fittings · Length 25 cm (9-7/8")

9

4140 · Model of type DUE⁹³² DB · Baggage car with roof superstructure · Length 22.6 cm (8-7/8")

10

4145 · Model of type Ayse⁶⁰⁴ DB · 1st class · Interior fittings · Length 25 cm (9-7/8")

7

4144

9

4140

10

4145



1
4026

2
4051

3
4052

6
4112

5
4111

9
4090

8
4085

3

4052 · Model of type B üm · 2nd class · Interior fittings · = 7077 + 7198

4

4053 · Model of type A üm · Similar to 4051, but with tail lights and current pick-up shoe · = 7077

= 7175 = 60015

1

4026 · Model of type D üm · Baggage car · = 7077 + 7198

2

4051 · Model of type A üm · 1st class · Interior fittings · = 7077 + 7198

Express coaches **24 cm (9-1/2")**

Express coaches of German Federal Railways

Windows inset in plastic frames · Length 24 cm (9-1/2") · Can be fitted with interior lighting (see page 58)

4
4053



12
4064



7
4054



10
4087



11
4089



10

4087 · Model of type WRm · Dining car · Interior fittings with kitchen and dining sections ·  = 7320

11

4089 · Model of type Avm · Similar to 4085, but with current pick-up shoe, interior lighting diffuser and tail lights ·  = 7320

 = 7175  = 60015

German Federal Railways TEE coaches

Can also be used as Intercity coaches · Windows inset in plastic frames · Length 24 cm (9½") · Can be fitted with interior lighting sets  (see page 58)

5

4111 · A model of type A üm · 1st class · Interior fittings ·  = 7077 + 7198

6

4112 · A model of type B üm · 2nd class · Interior fittings ·  = 7077 + 7198

7

4054 · A model of type WR üm¹⁹² · Dining car · Interior fittings with kitchen and dining section ·  = 7320

8

4085 · Model of type Avm · Compartment car · Interior fittings with side corridor ·  = 7320

9

4090 · Model of type ADm · Dome car · Interior fittings · Transparent plastic observation dome ·  = 7322

Express sleeping car of the German Sleeping and Diner Car Co. (DSG)

12

4064 · Model of type WLABüm series 33200 · 1st and 2nd class · Windows inset in plastic frames · Length 24 cm (9½") · Can be fitted with  = 7320

All cars have RELEX couplings (see pages 62/71) and can be fitted with interior lighting  (see page 58).

International express coaches

Windows inset in plastic frames · Can be fitted with interior lighting sets (see page 58)

Swedish Railways' express coaches

1

4072 · Model of type Bo 1 · 2nd class · Robust car body · Length 23.7 cm (9-3/8") ·  = 7197

2

4073 · Model of type RBo 2 · Dining car · Robust car body · Length 23.7 cm (9-3/8") ·  = 7197

Danish Railways' express coach

3

4045 · Model of type B 2300 · 2nd class · Length 24 cm (9-1/2") ·  = 7077 + 7198

Belgian Railways' express coach

4 ★ ^{new}

4148 · Model of the type A9 EUROFIMA · 1st class · Robust car body · Interior fittings with side corridor · Length 26.4 cm (10-3/8") ·  = 7329

Netherlands Railways' express coaches

5

4049 · Model of type B 6600 · 2nd class · Length 24 cm (9-1/2") ·  = 7320

6

4151 · Model of TEN coach · 1st and 2nd class sleeping car · Robust car body · Interior fittings · Length 27 cm (10-5/8") ·  = 7329

Swiss Federal Railways' express coaches

7 ★ ^{new}

4146 · Model of the old-fashioned type F4ü · Baggage car with roof superstructure · Robust car body · Length 23.2 cm (9-1/8") ·  = 7329

8

4138 · Model of the old-fashioned type C4ü · 3rd class · Robust car body · Interior fittings · Roof with imitation ventilators · Length 22.2 cm (8-3/4") ·  = 7329

9

4066 · Model of Series A 2500 · 1st class · Roof with longitudinal ribs and imitation ventilators · Length 24 cm (9-1/2") ·  = 7320

10

4068 · Model of type RIC · Dining car · Screwed-on roof with longitudinal ribs · Single bar current collector on roof · Length 24 cm (9-1/2") ·  = 7077

French Railways' express coach

11

4076 · Model of type A8myfi · 1st class · Robust car body · Interior fittings · Length 24 cm (9-1/2") ·  = 7197

Express sleeping car of the International Sleeping Car Co. (ISG)

12

4029 · Model of type ISG No 4581 · Length 24 cm (9-1/2") ·  = 7077 + 7198

4 ★ ^{new}
4148

3
4045

5
4049

8
4138

7 ★ ^{new}
4146

All cars except 4138, 4146 and 4148 are fitted with RELEX couplings (see pages 62/71) and can be fitted with interior lighting sets  (see page 58). Express coaches 4076, 4148 and 4151 also have destination plates.

1
4072



2
4073



6
4151



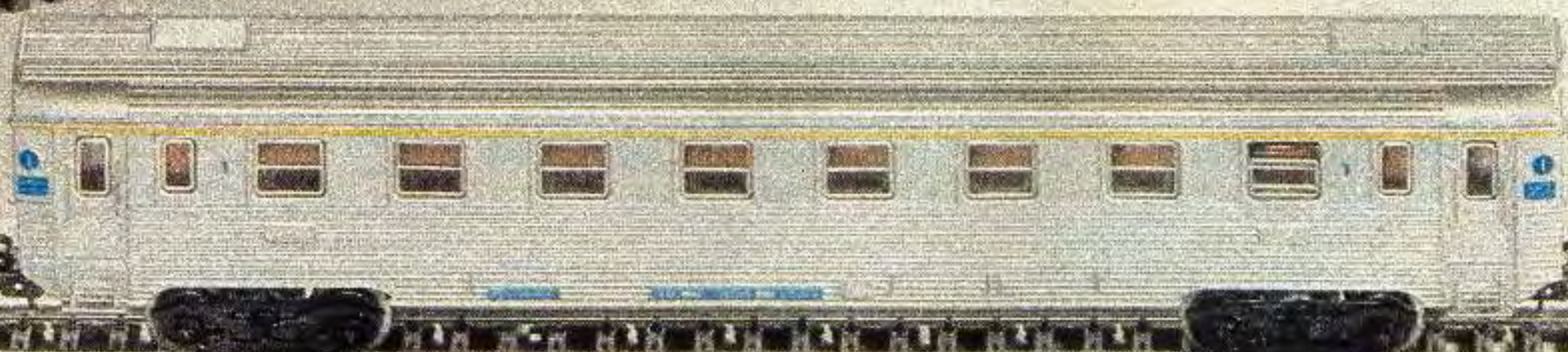
10
4068



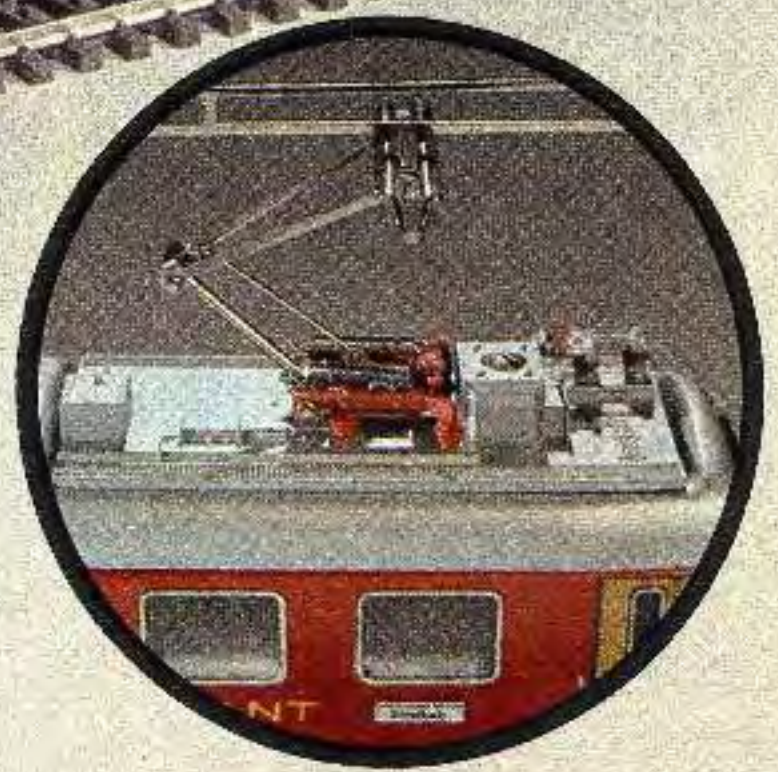
9
4066



11
4076



12
4029



2
4096

1
4095

3
4099

5
4098

Express coaches 27 cm (10-5/8")

German Federal Railways' TEE coaches

Can also be used as Intercity coaches · Robust car body · Windows inset in plastic frames · Length 27 cm (10-5/8") · Can be fitted with interior lighting sets (see page 58)

All cars are fitted with RELEX couplings (see pages 62/71). All cars can be fitted with interior lighting sets (see page 58) and have destination plates for various routes.

1

4095 · Model of type Avm · Compartment car · Interior fittings with side corridor · (see page 58) = 7329

2

4096 · Model of type Apm · Open-interior coach · Interior fittings, seats in one single and one double row with separating walkway · (see page 58) = 7329

3

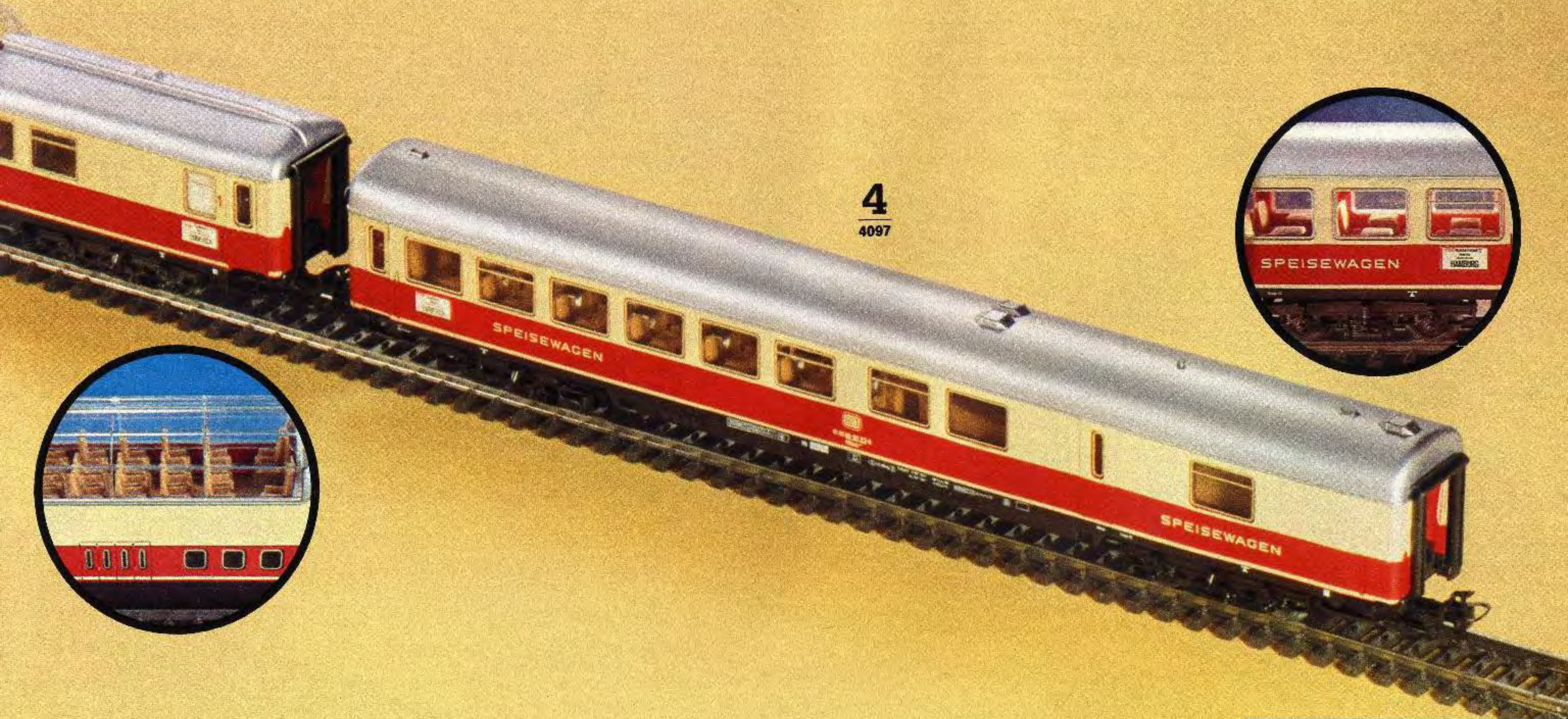
4099 · Model of type ADm · Dome car · Interior fittings for bar, seating compartments and raised row of seats · Transparent plastic observation dome · (see page 58) = 7329

4

4097 · Model of type WRm · Dining car · Interior fittings for kitchen and dining sections · (see page 58) = 7329

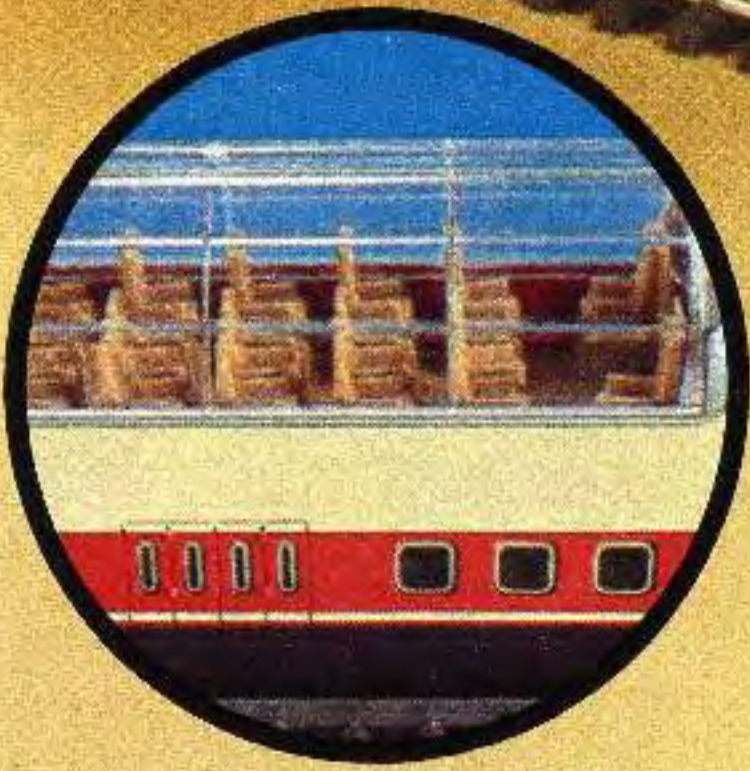
5

4098 · Model of type Avm · Similar to 4095, but with current pick-up shoe and light-emitting diode tail lights · (see page 58) = 41494



4

4097



Express coaches

27 cm (10-5/8")

1 ★ new
4147



German Federal Railways' express coaches

Robust car body · Windows inset in plastic frames · Length 27 cm (10-5/8") · Can be fitted with interior lighting (see page 58)

1 ★ new

4147 · Model of type Avnz 207 (A9 EUROFIMA) · Interior fittings with side corridor · Length 26.4 cm (10-3/8") · = 7329

2

4091 · Model of type A üm²⁰¹ · 1st class · Interior fittings · = 7329

3

4092 · Model of type B üm²³⁴ · 2nd class · Interior fittings · = 7329

4

4093 · Model of type D üm⁹⁰² · Baggage car · Moveable roller shutters on each side · = 7329

5

4094 · Model of type WR ümh¹³² · Dining car · Interior fittings for kitchen and dining sections · = 7329

6

4154 · Model of type B üm²³⁴ · Similar to 4092, but with current pick-up shoe and light-emitting diode tail lights · = 7329
= 41494

German Federal Railways' express sleeping car

7

4150 · Model of type WLABsm · TEN version · 1st and 2nd class · Robust car body · Interior fittings · Windows inset in plastic frames · Length 27 cm (10-5/8") · Can be fitted with interior lighting · = 7329

German Federal Railways' automobile rack cars

8

4084 · Model of type DDm 915 · Length 26.4 cm (10-3/8")

9

4074 · Model of type DDm 915 · Length 26.4 cm (10-3/8") · Loaded with 8 WIKING miniature automobiles

8
4084

9
4074

4
4093





2
4091



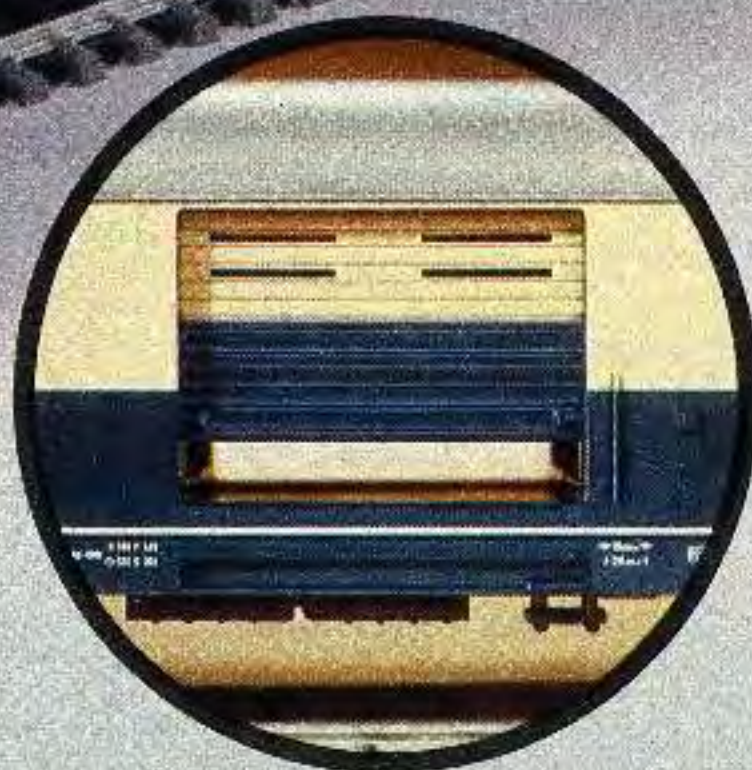
7
4150

3
4092

5
4094

6
4154

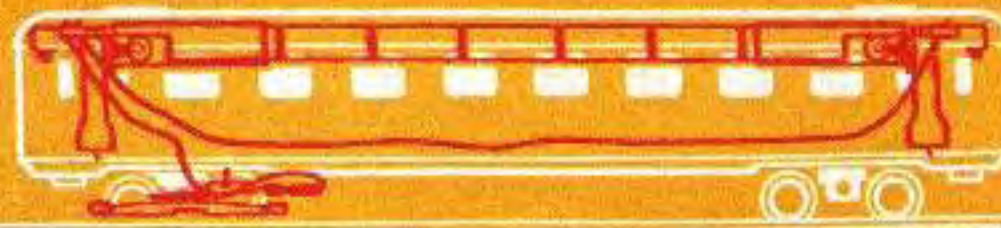
All cars have RELEX couplings (see pages 62/71). All cars except 4074 and 4084 can be fitted with interior lighting sets (see page 58) and have destination plates for various routes.



Train lighting

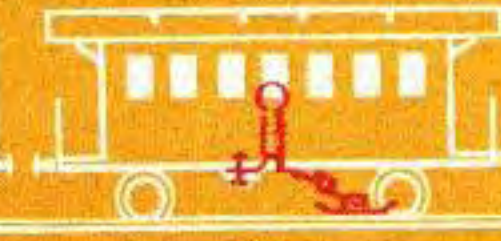
All cars except 4000 and 4040 can be fitted with interior lighting. The installation of the various types of lighting is shown on this plan. Installation instructions are included with light diffusers.

7197, 7320, 7329



7077

7077



7198

7074

7076

7079

Train lighting =



7076

Current pick-up shoe for tail light 7079 when used on passenger cars 4000 and 4040



7077

Interior lighting set for most 24 cm (9-1/2 inch) express coaches. With socket for connecting additional lighting sets. Light bulb = 60000



7198

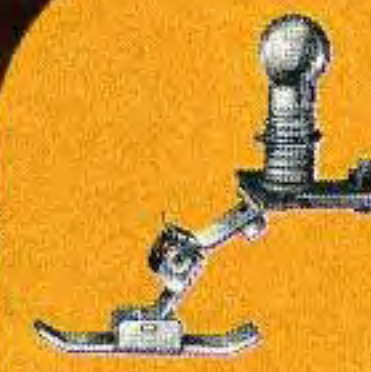
Current pick-up shoe for interior lighting set 7077

= 7175



7079

Tail light including bulb. Clips onto buffer. For use on cars with metal buffers only. For connecting it up, 7074, 7076 or 7198 is required. = 60001 (red)



7074

Interior lighting set for passenger cars 4004, 4005, 4067, 4079 and 4080. With socket for connecting additional lighting sets. Light bulb = 60020



7322

Interior lighting set for TEE coach 4090. Consists of current pick-up shoe 7198, 2 lamp sockets and 2 bulbs. Installation instructions are included. = 7175 = 60015



7323

Interior lighting set for cars 4007 and 4008. Light bulb = 7175 = 60010



0226

0225

Interior fittings for cars 4045, 4049, 4066, 4067, 4072, 4073, 4079 and 4080

Interior fittings and figures are made in finely detailed plastic, the figures being hand painted. Illustrated installation instructions are included with every set.

0226

Pack with 10 realistically-colored figures to supplement the interior fittings

0225

Set of interior fittings for express coaches, with 18 single-colored double seats, 6 single seats and 2 rest rooms



7197

Interior lighting set for express coaches 4072, 4073 and 4076 · Consists of current pick-up shoe 7198, light diffuser, 2 lamp sockets and 2 bulbs · Installation instructions are included

 = 7175  = 60015



7320

Interior lighting set for TEE coaches 4085, 4087 and express coaches 4049, 4054, 4064, 4066 and 4069 · Consists of current pick-up shoe 7198, light diffuser, 2 lamp sockets and 2 bulbs · Installation instructions are included

 = 7175  = 60015



7329

Interior lighting set · With variable length light diffuser · For cars 4091-4094 and 4154 marked "A" on bottom of car, 4095-4099, 4135-4148, 4150 and 4151 · Consists of current pick-up shoe, light diffuser, 2 lamp sockets and 2 bulbs · Installation instructions are included · Replaces interior lighting sets 7325, 7327 and 7328

 = 41494  = 60015

Freight cars

All cars are fitted with RELEX couplings (see pages 62/71). Frames and superstructure are made of plastic; wheels are of die cast zinc.

1

4416 · Beer car · Model of car owned by the Dortmunder Kronen brewery · Length 11.5 cm (4-½")

2

4417 · Beer car · Model of car owned by the Alpirsbacher Klosterbräu brewery · Length 11.5 cm (4-½")

3

4415 · Refrigerator car · Model of German Federal Railways' type Ichqs 377 · Length 11.5 cm (4-½")

4

4414 · Box car for transporting bananas · Model of German Federal Railways' type lbbls · Length 11.5 cm (4-½")

5 ★ new

4419 · Refrigerator car · With inscription "Pepsi" · Length 11.5 cm (4-½")

6 ★ new

Switzerland
4420 · Beer car · Model of car owned by the Eichhof brewery · Length 11.5 cm (4-½")

7

4418 · Beer car · Model of car owned by the Duisburg König brewery · Length 11.5 cm (4-½")

8

4440 · Tank car · ARAL · Length 11.5 cm (4-½")

9

4441 · Tank car · ESSO · Length 11.5 cm (4-½")

10

4442 · Tank car · SHELL · Length 11.5 cm (4-½")



11

4432 · Wine car · Model of old-fashioned privately-owned car · Length 11.5 cm (4-1/2")

12

4431 · Open freight car (DB-EI-u) · With removable load, representing coal · Length 11.5 cm (4-1/2")

13

4430 · Open freight car · Model of German Federal Railways' type EI-u · Length 11.5 cm (4-1/2")

14

4411 · Box car with working tail light · Model of German Federal Railways' type Grs-v · Current pick-up shoe · Length 11.5 cm (4-1/2")

☞ = 41494 ☹ = 60015

15

4410 · Box car · Model of German Federal Railways' type Gs · Length 11.5 cm (4-1/2")

16

4460 · Car with swivelling roof · Model of German Federal Railways' type Taes 890 · Length 16 cm (6-9/16")

17

4413 · Tipping bucket car · Bucket can tip to either side or be latched in the upright position · Length 11.5 cm (4-1/2")

18

4423 · Low-sided car · Model of German Federal Railways' type Kklm 505 · Length 11.5 cm (4-1/2")

19

4424 · Low-sided car · Loaded with WIKING commercial vehicle · Length 11.5 cm (4-1/2")

20

4473 · Low-sided car · Model of German Federal Railways' type Rlmms · Length 16 cm (6-9/16")

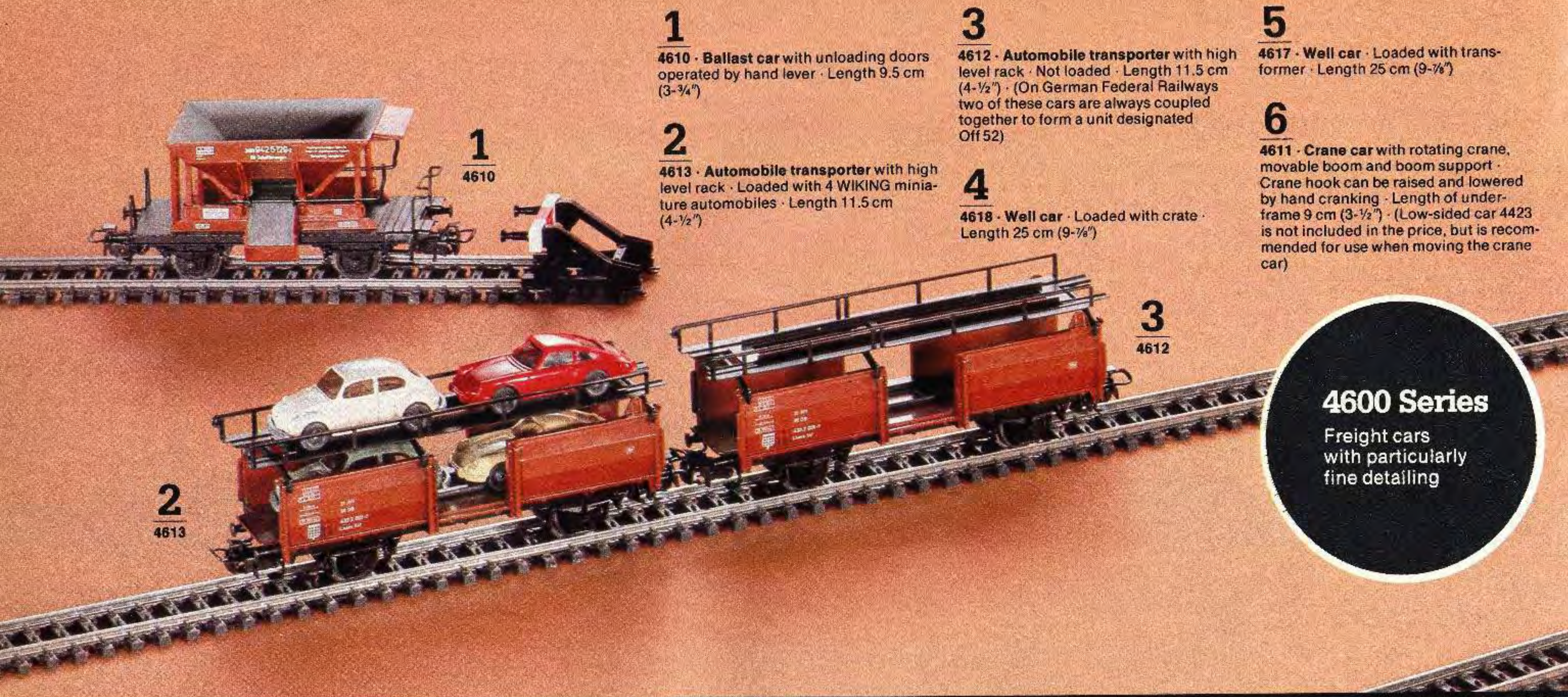
21

4474 · Low-sided car · Loaded with WIKING grade builder and WIKING shovel loader · Length 16 cm (6-9/16")

22

4475 · Low-sided car with wagon sheet · Length 16 cm (6-9/16")





1

4610 · Ballast car with unloading doors operated by hand lever · Length 9.5 cm (3-3/4")

2

4613 · Automobile transporter with high level rack · Loaded with 4 WIKING miniature automobiles · Length 11.5 cm (4-1/2")

3

4612 · Automobile transporter with high level rack · Not loaded · Length 11.5 cm (4-1/2") · (On German Federal Railways two of these cars are always coupled together to form a unit designated Off 52)

4

4618 · Well car · Loaded with crate · Length 25 cm (9-7/8")

5

4617 · Well car · Loaded with transformer · Length 25 cm (9-7/8")

6

4611 · Crane car with rotating crane, movable boom and boom support · Crane hook can be raised and lowered by hand cranking · Length of under-frame 9 cm (3-1/2") · (Low-sided car 4423 is not included in the price, but is recommended for use when moving the crane car)

4600 Series

Freight cars with particularly fine detailing

RELEX couplings

All Märklin freight cars are fitted with RELEX couplings.

The fundamental difference between passenger and freight transportation is that whereas the passenger can get on and off the train by himself, freight has to be directed to the right destination by human and technological means.

Freight cars are loaded and unloaded by railroaders in receipt and despatch depots and then coupled up in marshalling yards to trains heading for the right destination.

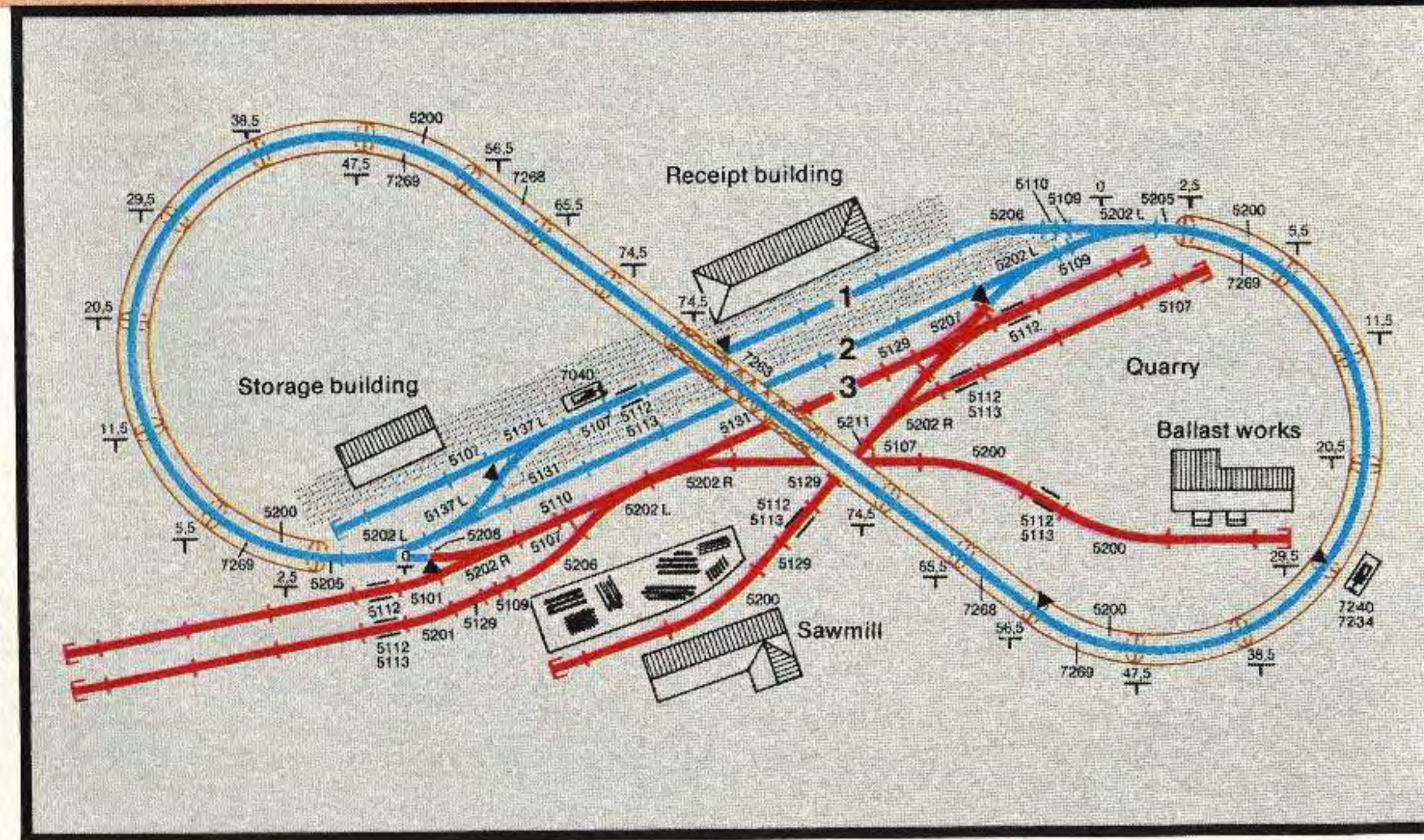
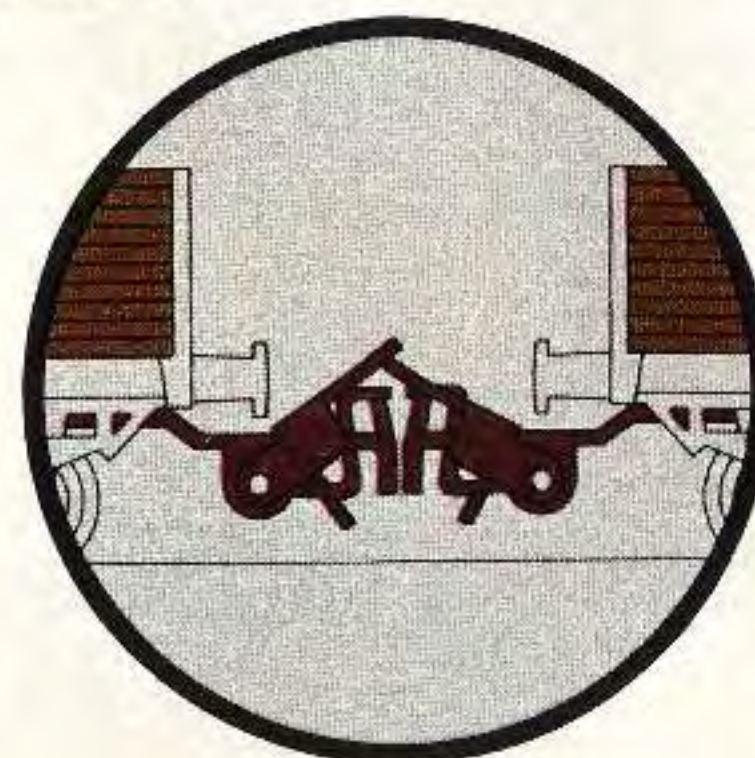
In the marshalling yards trains are split up, cars are uncoupled manually, and new trains are assembled.

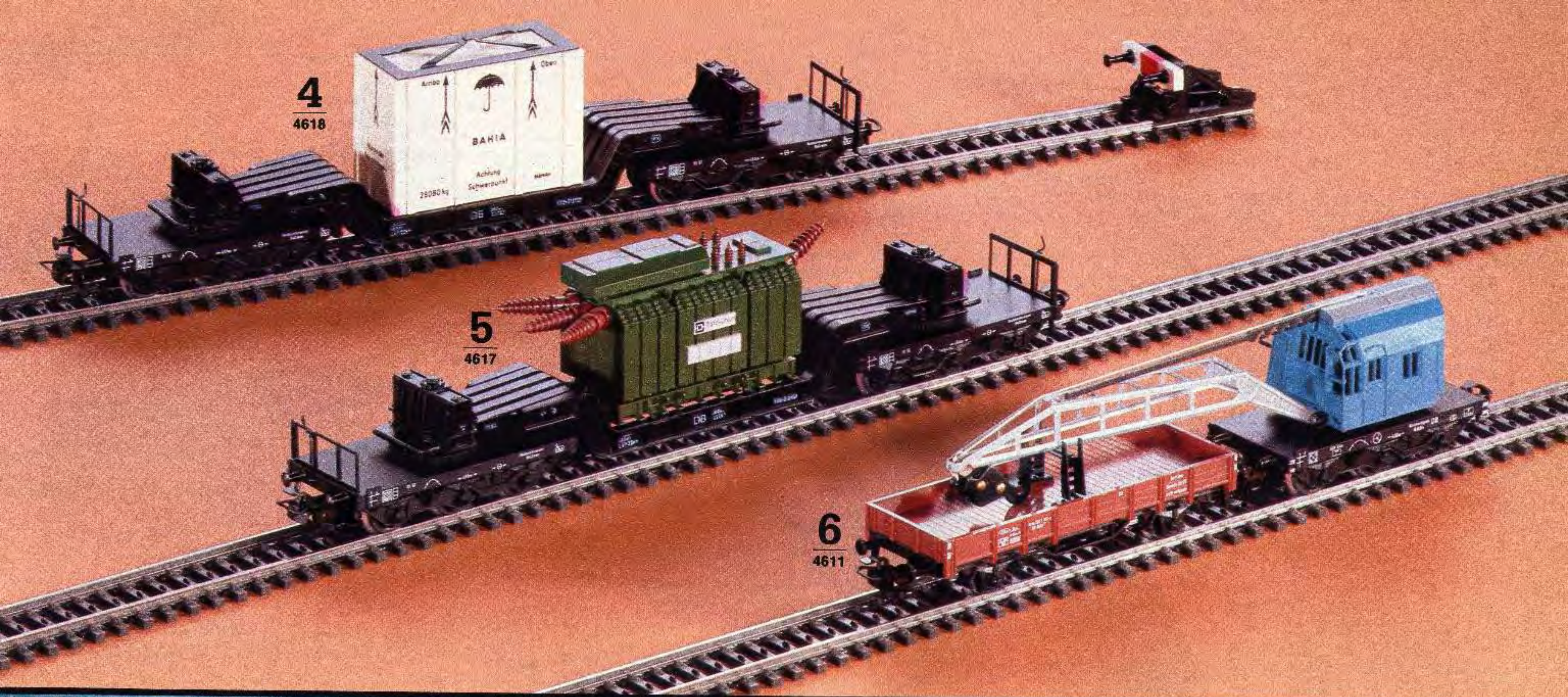
Freight cars are pushed over a "hump" section, from which they roll down to their allocated parking tracks. These can be used to assemble trains of cars pointing in the same direction, if required.

These interesting switching evolutions can be simulated on Märklin model layouts. The principal requirement for the modeler is the RELEX coupling.

This is designed so that after uncoupling under remote control by means of the uncoupling track section (pages 71/76) the coupling remains open. This enables cars to be pushed or dropped off at any desired point without the coupling closing again.

This track plan may be useful to modelers who want to construct a small layout with plenty of scope for switching operations.





■ On 7th July 1970, work started on the construction of the biggest and most modern switching yard in Europe, in Maschen. The first section was officially opened in 1977. Construction will be completed in 1980.

Some interesting figures: 700 freight cars can be processed every hour in a yard measuring 7 km (4.35 miles) by 700 metres containing 300 km (187 miles) of track and more than 1000 turnouts.

The foundations and roadbed include 590,000 cross-ties, 1.5 million tons of ballast and 20,000 tons of iron rod. 13 million cubic metres of earth had to be shifted. The river Seere runs under the switching yard for 580 meters. 34 000 km (21,100 miles) of cable core were laid. The list of superlatives can continue indefinitely.

While switching operations on model railroads can not of course be calculated on this scale, they are nevertheless a most fascinating and varied activity.

1 ★ ^{new}

4696 · Open freight car with brakeman's cab · Model of the former German State Railways' type 010 · Length 10.1 cm (4")

2 ★ ^{new}

4697 · Pivoting platform car with brakeman's cab · Model of the former German State Railways' type H 10 · Length 11.5 cm (4-1/2")

3

4664 · Container car · Model of German Federal Railways' "Berlin" type container car · Loaded with 2 removable containers · Length 15.6 cm (6-1/8")

4

4633 · Freight car with sliding sides and roof (Tbis⁸⁷⁰) · Roof halves and sides will slide open · Length 15.7 cm (6-3/16")

5

4627 · Box car · Model of German Federal Railways' type Gbrs-v²⁴⁵ · Length 13.3 cm (5-1/4")

6

4619 · Sliding-roof car (Ts⁸⁵¹) · The roof halves slide open · Length 11.5 cm (4-1/2")

7

4668 · Container car · Model of German Federal Railways' "Berlin" type container car · Loaded with 2 removable containers · Length 15.6 cm (6-1/8")

8

4635 · Tipping bucket car · Model of German Federal Railways' type Fz¹²⁰ · Buckets can be tipped when center holding bar is unlatched · Length 10.5 cm (4-1/8")

9

4631 · Side dumping car · Model of German Federal Railways' type Ed · Length 11.2 cm (4-3/8")

The discharge doors can be operated by hand levers or by remote control using uncoupling track sections 5112 (page 71) and 2197 (page 76).

10

4626 · High capacity freight car with hinged hatches on roof · Model of German Federal Railways' type KKt 57 · All hatches will open · Length 13.3 cm (5-1/4")

■ On a number of high capacity freight cars, fixed covers are fitted to provide the protection from the elements necessary for bulk materials such as grain.

11

4624 · High capacity freight car (saddle car) · Model of German Federal Railways' type Fads¹⁷⁶ · Length 13.3 cm (5-1/4")

■ This type of car is generally used in international traffic for transporting coal, coke, ore etc., generally in permanently made-up high capacity trains.

12

4665 · Lumber car, in 2 parts · Loaded with sawn lumber · Length 19.5 cm (7-3/4")

13

4663 · Flat car · Model of German Federal Railways' type Rs⁶⁸⁰ · Car floor made of die cast zinc · Uprights can fold down · Length 22.7 cm (9")

14 ★ ^{new}

4694 · Flat car · Model of German Federal Railways' type Kbs 443 · Uprights can be removed · Length 15.7 cm (6-3/16")



1 ★ ^{new}

4696



**Freight cars of the
former
German State Railways**

2 ★ ^{new}

4697

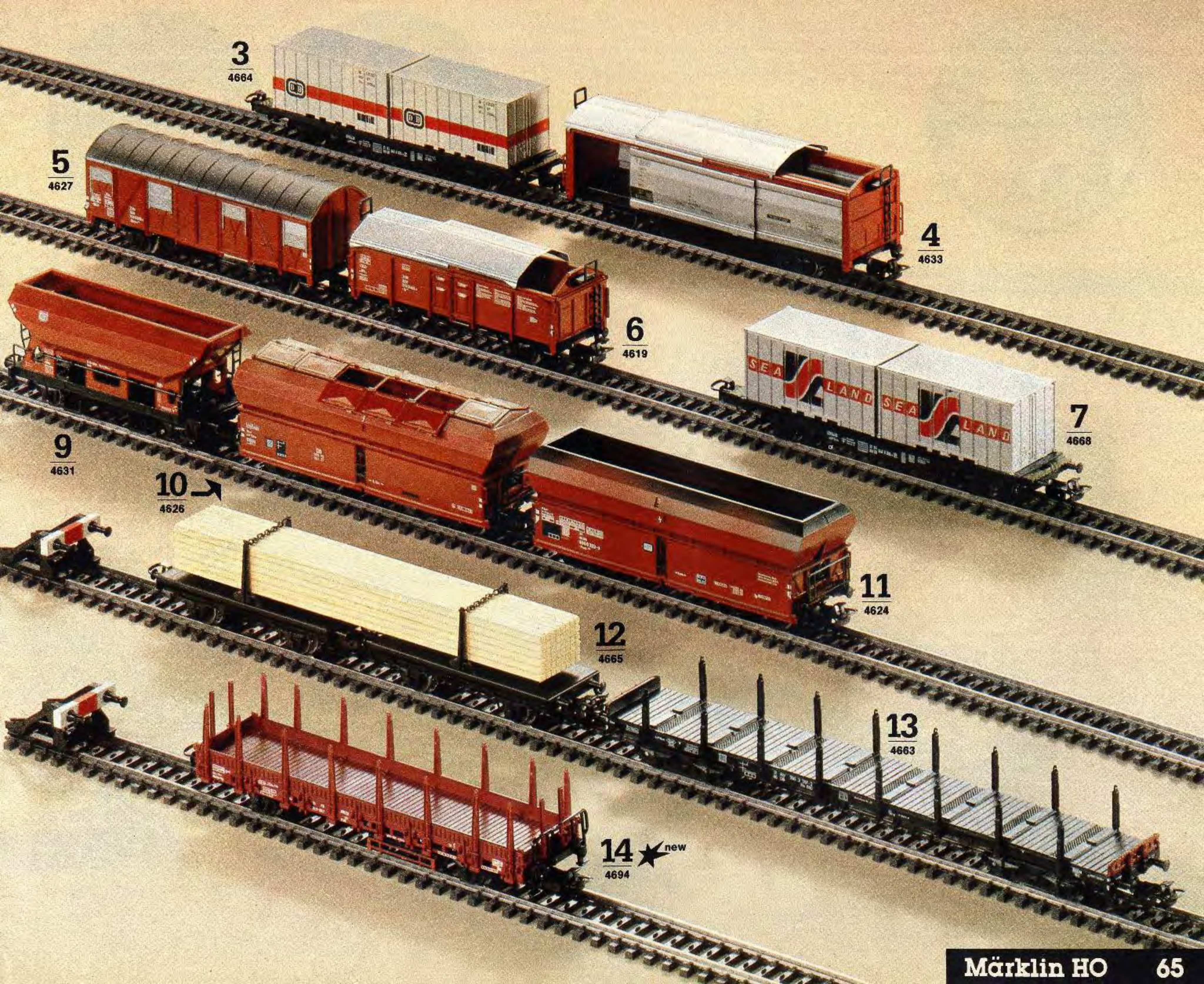


8

4635



All cars are fitted with RELEX couplings (see pages 62/71).



3
4664

5
4627

4
4633

6
4619

7
4668

9
4631

10
4626

11
4624

12
4665

13
4663

14 ★ new
4694



1
4699



2
4644



3
4646



4
4661



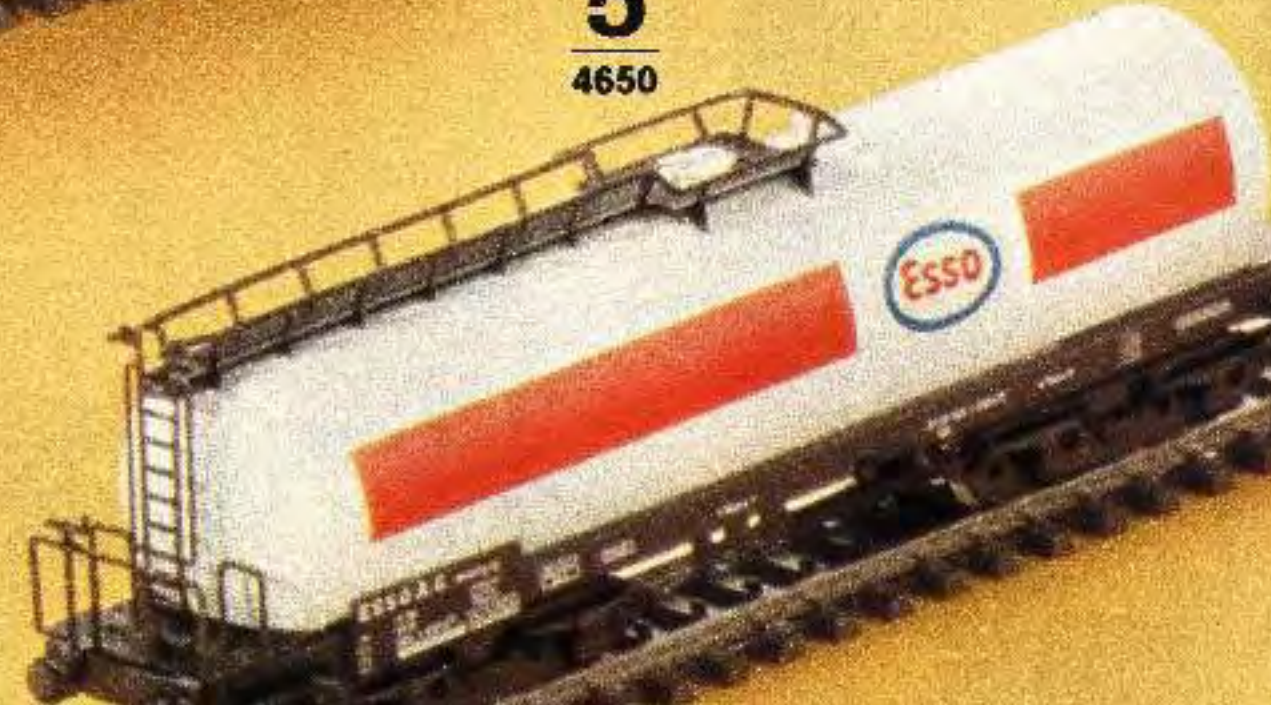
7
4652



6
4651



5
4650



10
4639



9
4632



All cars are fitted with RELEX couplings
(see pages 62/71).

8

4653



11

4698



13

4571



1

4699 - Freight train baggage car - Model of German Federal Railways' type Pwg Pr014 - Doors on each side which will open - Inset windows - Length 9.8 cm (3-7/8")

2

4644 - Tank car - Model of a standard tank car, with BP markings - Length 10 cm (4")

3

4646 - Tank car - Model of a standard tank car, with ARAL markings - Length 10 cm (4")

4

4661 - Tank car for fine bulk material - Model of German Federal Railways' type Ucs (Kds 54) with the marking "Quarz-Werke" - Length 10 cm (4")

5

4650 - Tank car - ESSO - Length 16.4 cm (6-1/2")

6

4651 - Tank car - SHELL - Length 16.4 cm (6-1/2")

7

4652 - Tank car - TEXACO - Length 16.4 cm (6-1/2")

8

4653 - Tank car - BP - Length 16.4 cm (6-1/2")

9

Switzerland

4632 - Beer car - Length 19.5 cm (7-3/4")

10

Netherlands

4639 - Open freight car - Model of Netherlands Railways' (NS) type - Length 11.5 cm (4-1/2")

11 Switzerland

4698 - Box car with brakeman's cab - Model of Swiss Federal Railways' (SBB) type J 3 d - Doors on each side which will open - Length 14 cm (5-1/2")

12 USA

4578 - Caboose - Roof structure with walkways and ladders - Length 8 cm (3-1/8")

13 USA

4571 - Box car - Model of a 50 ton car of the Western Pacific Railroad - Walkway mounted on roof - Doors on each side which will open - Length 20.5 cm (8-1/8")

14 USA

4575 - Gondola - A Dixie Line model - Length 20 cm (7-7/8")

12

4578



14

4575



Notes on the geometry of metal tracks

The first diagram shows the three Märklin M-track circles with their radii, distances apart from each other and curvatures, and also the number of track sections comprising a semicircle (Fig. 1).

Circle 5200 = 12 track sections
Circle 5100 = 12 track sections
Circle 5120 = 8 track sections

Concentric circles

Concentric circles can be constructed by using 5100 and 5200 series track sections. This gives a distance between track centers of 77.4 mm ($3\frac{1}{8}$ " (measured from contact stud to contact stud) and a clearance between tracks of 39 mm ($1\frac{1}{2}$ "). Turnouts 5202, 5221 or 5140 can be used to connect the inner to the outer loop.

The use of M-turnouts

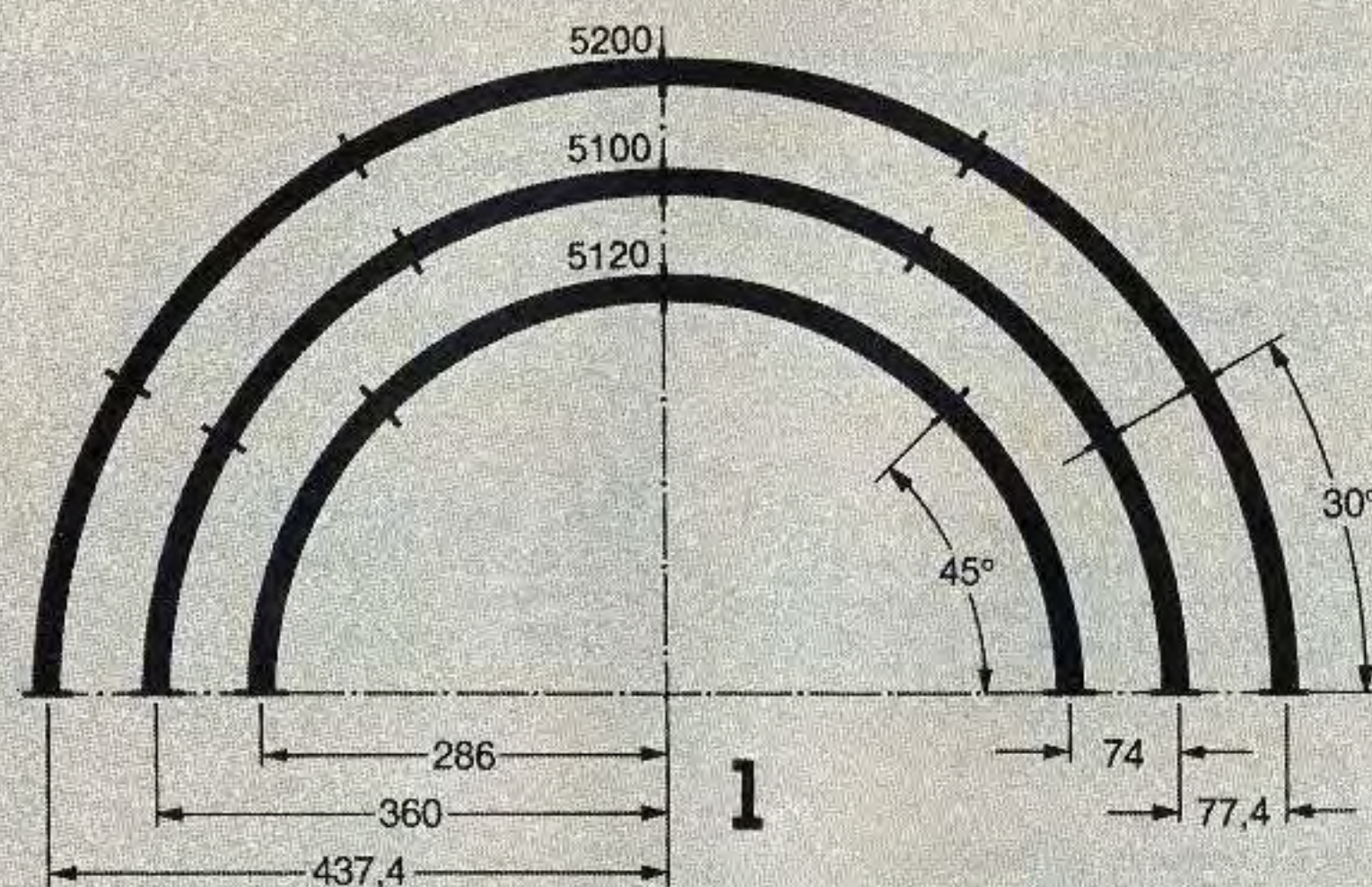
Electromagnetic turnouts 5137, 5140 and 5202 and the double slip switches 5128 and 5207 are operated by double solenoids. If a vehicle approaches the turnout from the wrong direction, its wheels open up to the closure rail, so that derailment is avoided. The turnouts return automatically to their initial setting. Further turnouts can be joined directly onto either end of a turnout section.

Branches using turnouts 5100

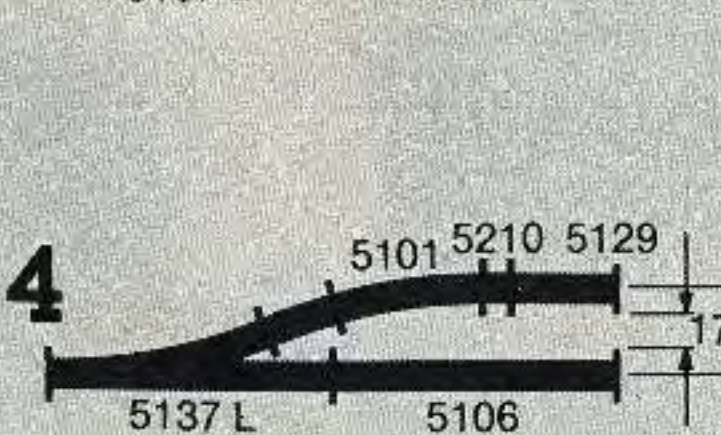
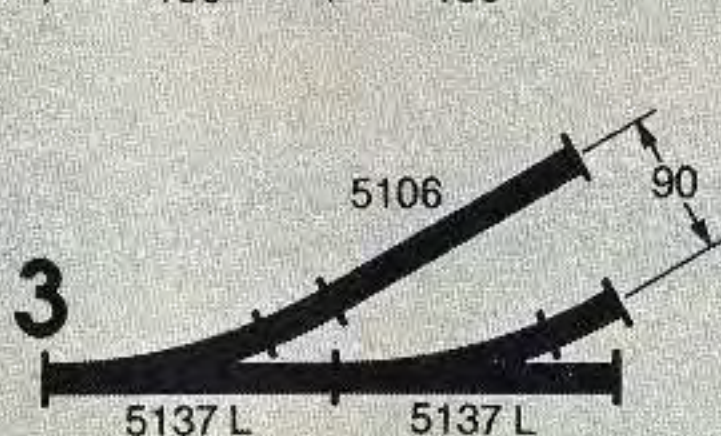
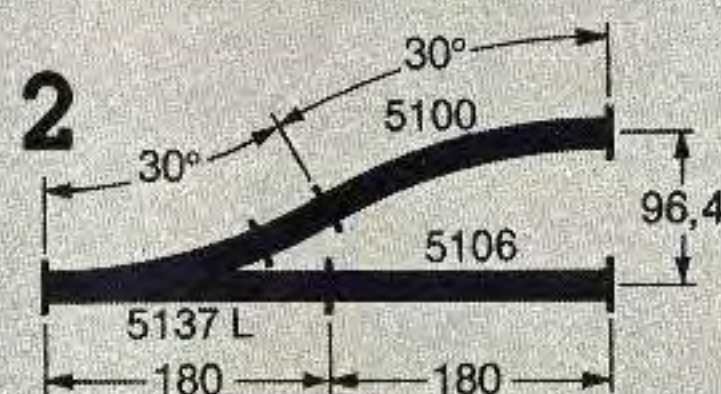
When track section 5100 is fitted as a reverse curve onto the branch track of turnout 5137, the resulting distance between track centers is 96.4 mm ($3\frac{3}{4}$ "). With the through track extended by track section 5106, the two branches have exactly the same length. Length of this assembly is 2×180 mm ($7\frac{1}{8}$ ") = 360 mm ($1\text{ ft } 2\frac{1}{8}$ "), i.e. the same as 2 track sections 5106 (Fig. 2).

Branching into parallel tracks using turnouts 5137 (Fig. 3).

When the track sections supplied are used as reverse curves, the distance between track centers is reduced from 96.4 mm ($3\frac{3}{4}$ ") to 54.8 mm ($2\frac{1}{8}$ ") (Fig. 4).



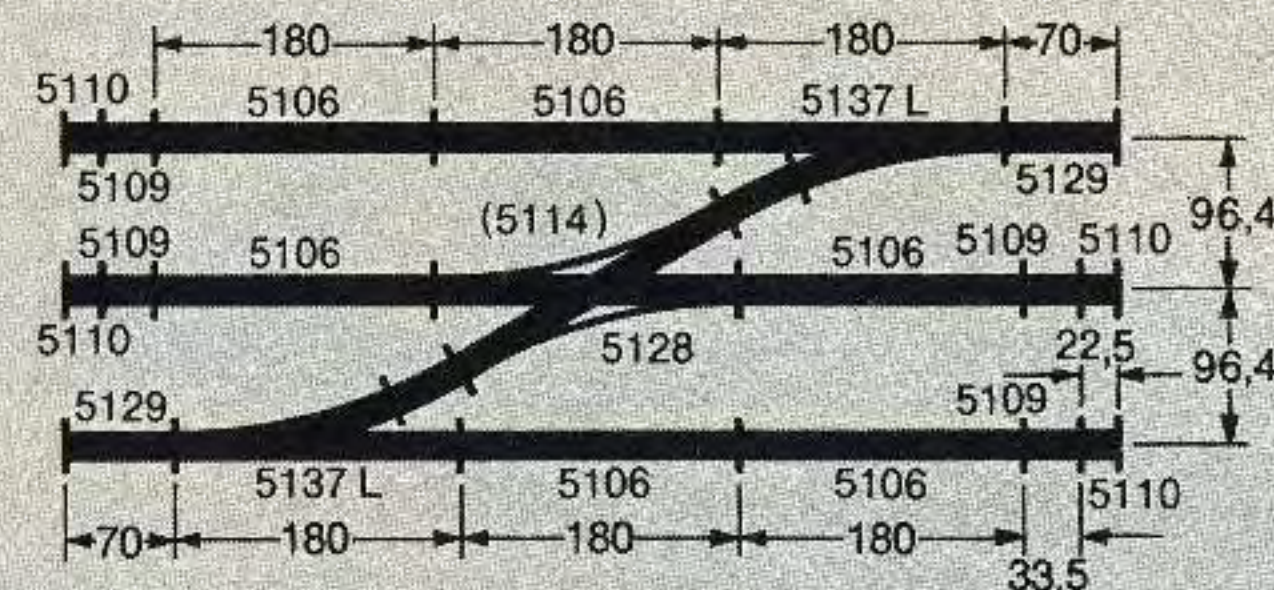
1



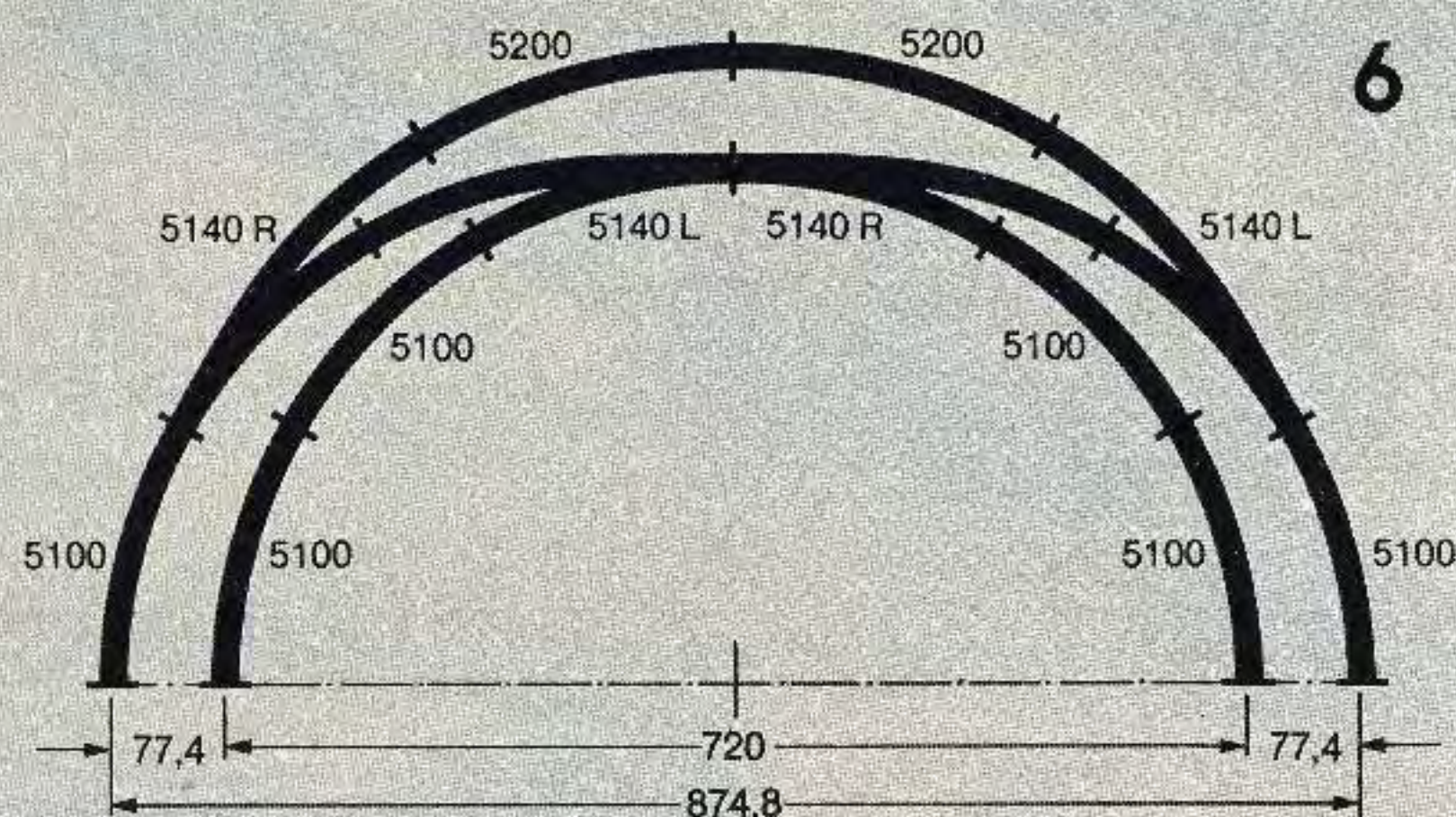
If the tracks of a 3- or more track layout are to be interconnected, retaining the 96.4 mm ($3\frac{3}{4}$ ") distance between track centers, it is necessary to use crossing 5114 or double slip switch 5128. The advantage of the double slip switch is that a train diverted by a turnout from one of the outer tracks can, if desired, be switched onto the center track. The simple crossing only interconnects the outer tracks and does not enable transfer to the inner track (Fig. 5).

The purpose of curved turnouts 5140 is to enable track interconnections to be made on the curve, hence saving space. The diagram shows how a standard circle track section (5100) is fitted to the single end of each curved turnout although these are on the large concentric circle. The longer track section 5200 of the large circle type is not used here, as with this the track center separation of 77.4 mm ($3\frac{1}{8}$ ") and the coincidence of the track joints would be lost. Curved turnouts can be used to connect the standard circle only with the larger circle (Fig. 6).

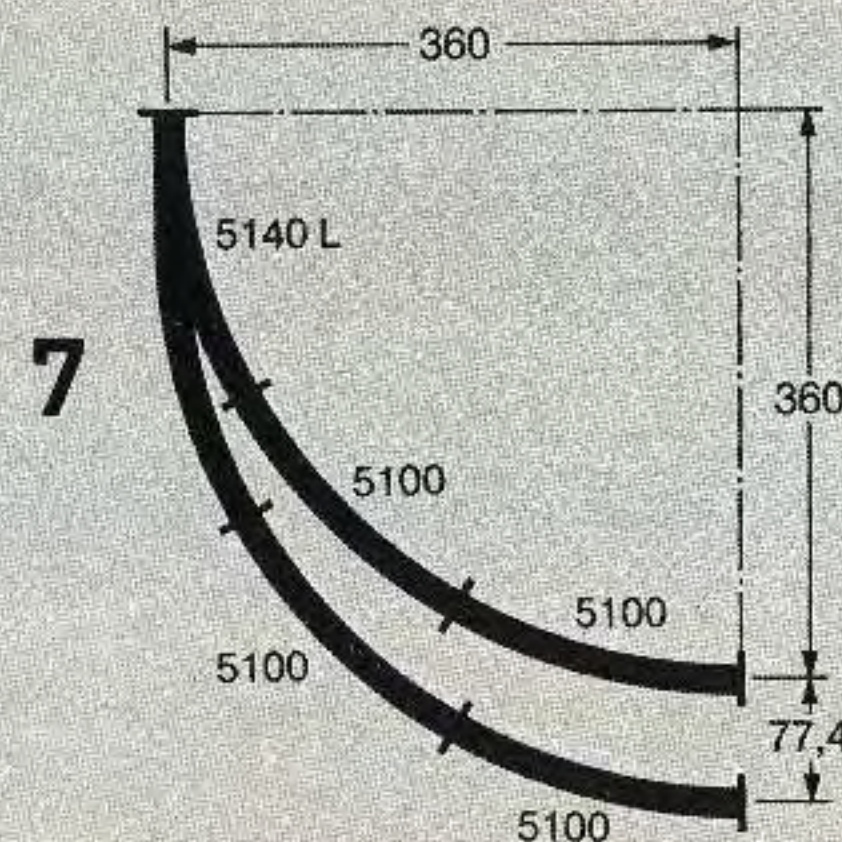
Branch using a curved turnout 5140 (Fig. 7).



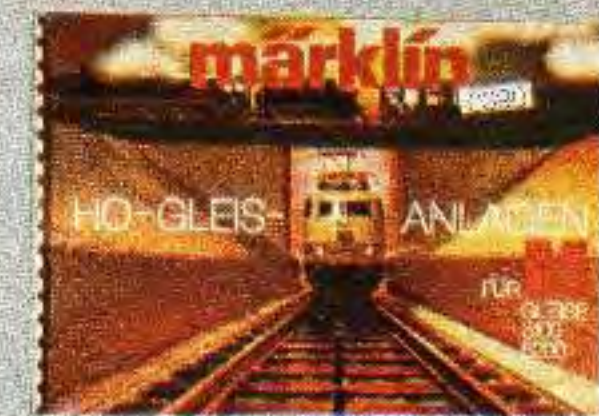
5



6

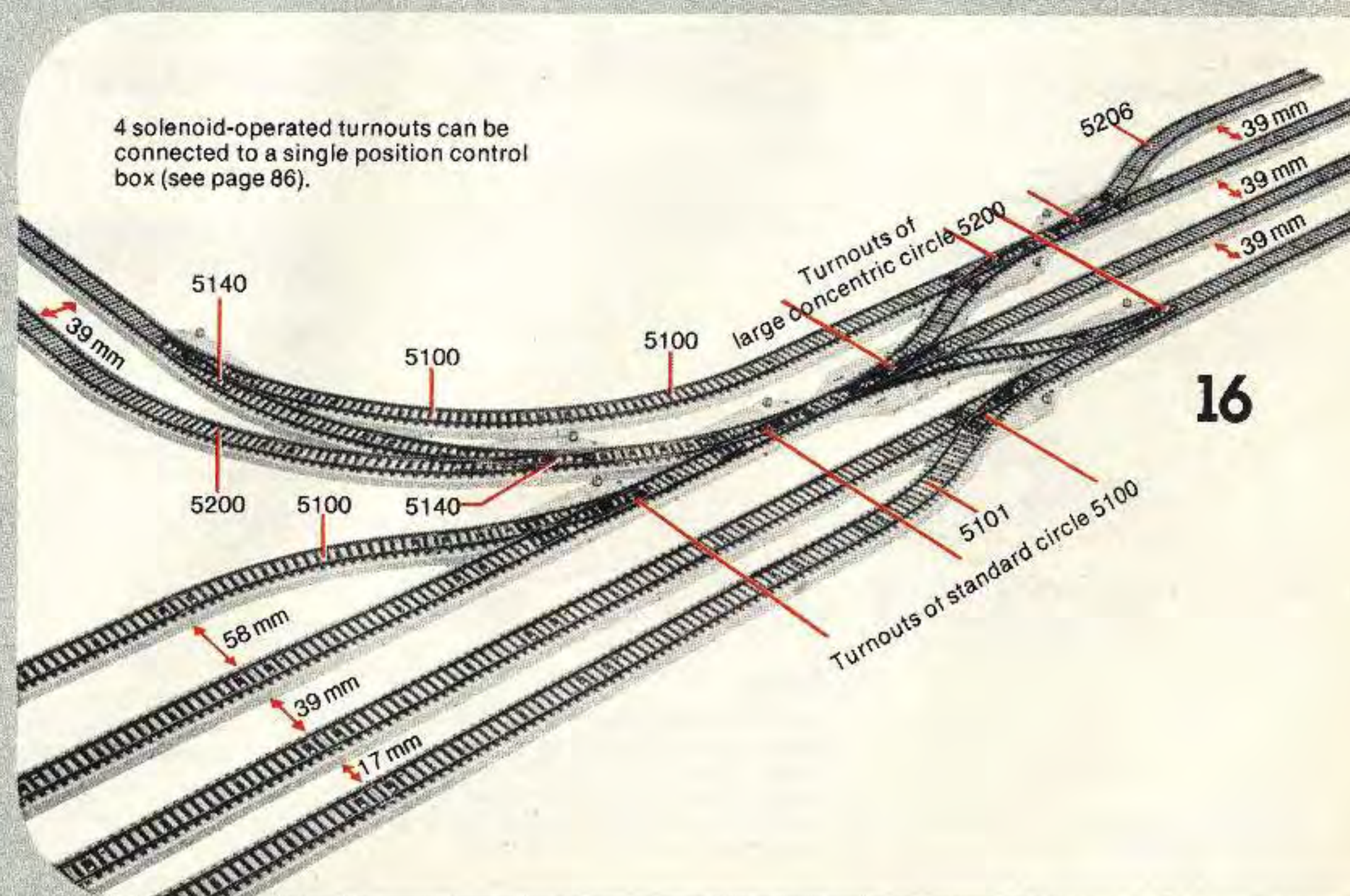
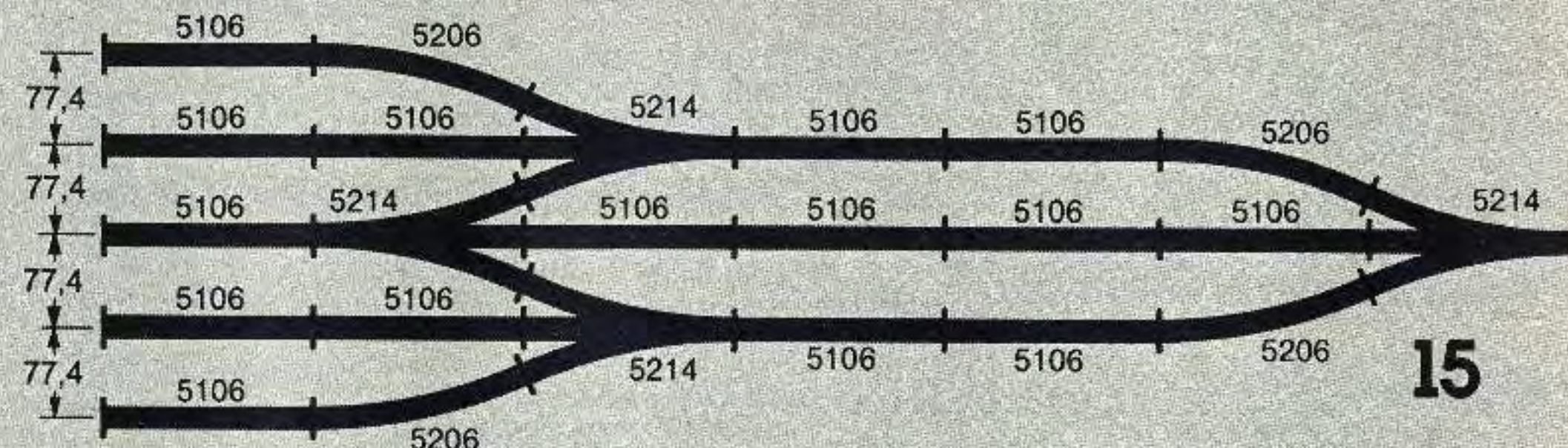
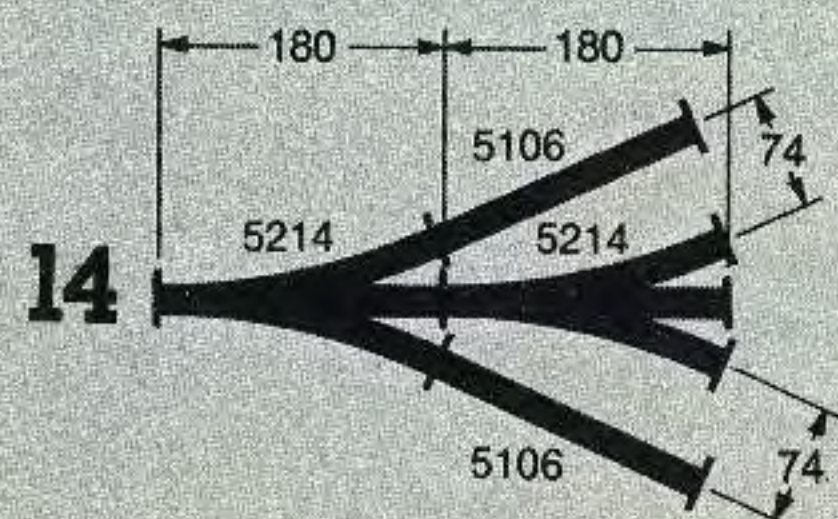
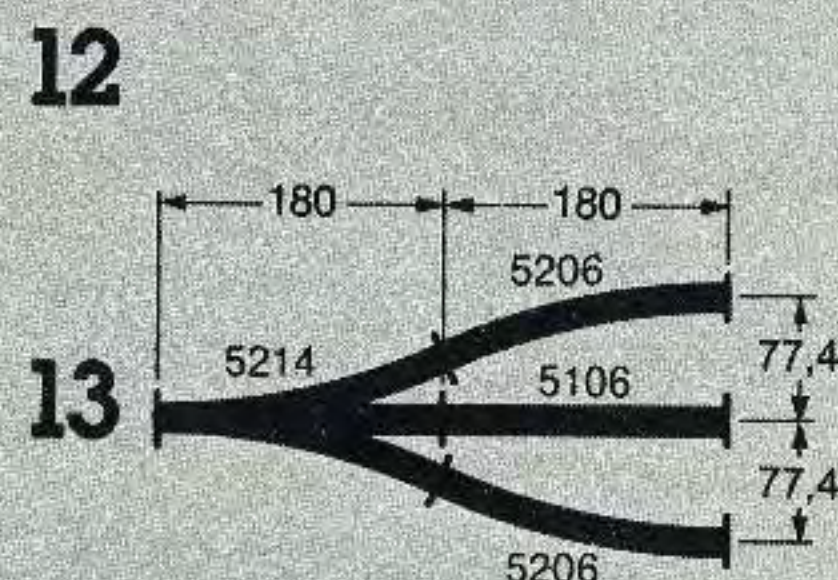
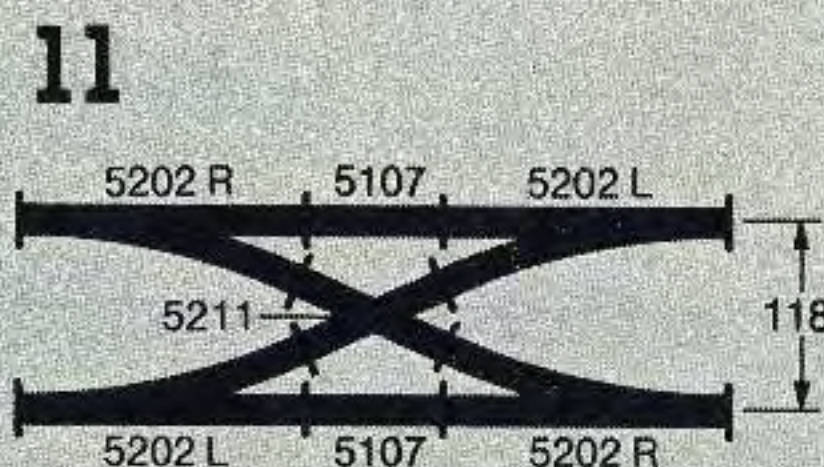
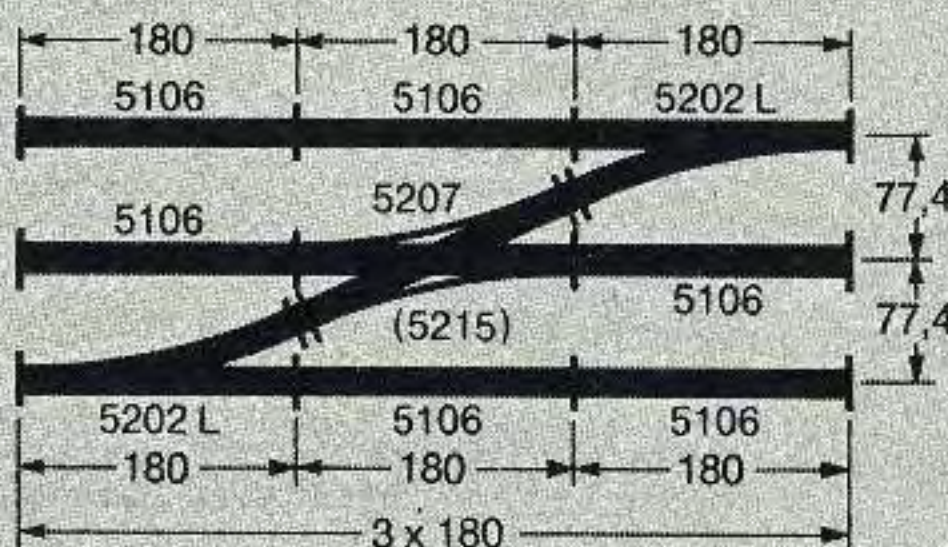
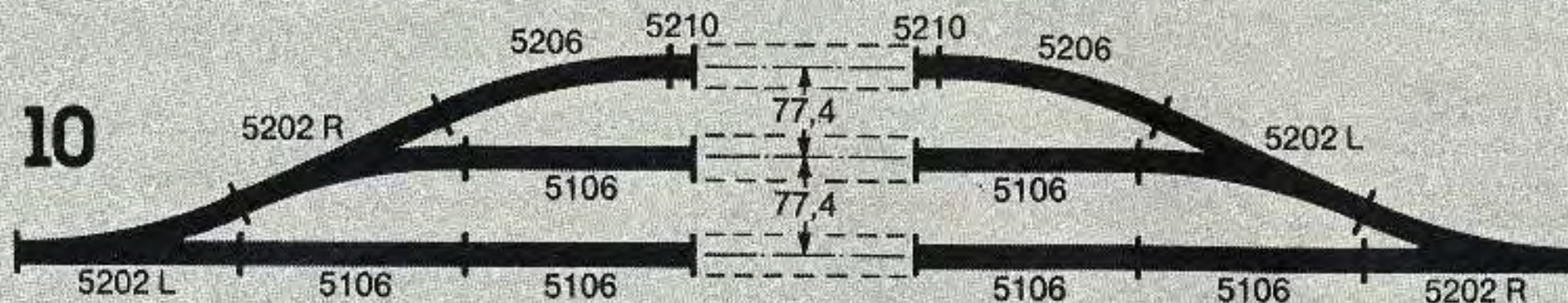
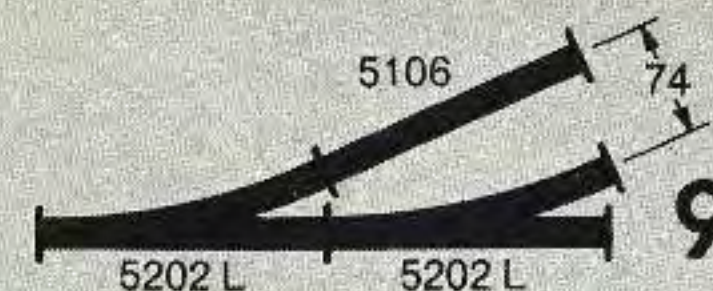
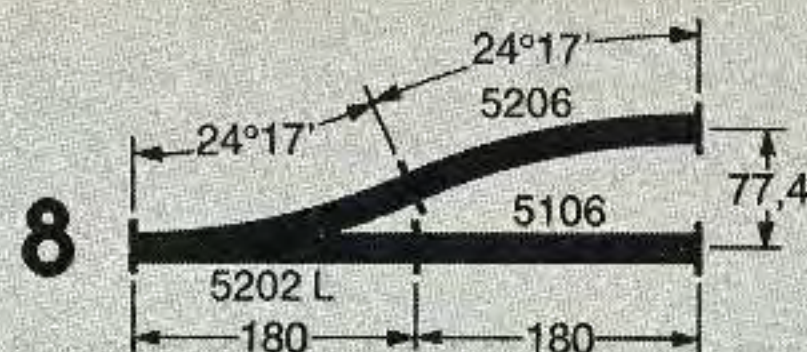


7



0392 M

Booklet "Märklin HO gauge track layouts for M-tracks 5100 and 5200" - With full color illustrations and detailed track plans for 16 layouts with catenary systems - Many examples of track and turnout combinations - An outstanding guide for the construction of layouts of any size - 56 pages - Size 21 x 30 cm (8-1/4 x 11-3/4") - English text



Branches using turnouts 5200

Track section 5206 is used as the reverse curve for turnouts 5202. The distance between track centers is 77.4 mm (3-1/16"), the same as the distance between the standard and the large concentric circles. If the through track is extended by track section 5106, it terminates in line with the end of track section 5206 (Fig. 8).

Using turnouts 5202 to branch into parallel tracks (Fig. 9).

Parallel track sections with turnouts 5202 (Fig. 10).

If the tracks of a 3- or more track layout are to be interconnected, retaining the 77.4 mm (3-1/16") distance between track centers, crossing 5215 or double slip switch 5207 is required. The advantage of these is that they are the same length as straight track section 5106. But note that the diagonally running track must be made up to length with track sections 5208, length 8 mm (5/16"), which are supplied with crossing 5215 and double slip switch 5207 (Fig. 11).

Interconnection of parallel tracks (Fig. 12).

The three-way turnout 5214 is a combination of two simple turnouts 5202 occupying the same length as a turnout 5202 or a straight track section 5106 (180 mm) (7-1/8"). Using a three-way turnout is a good way to save space in station tracks and turnout groups (Fig. 13).

This figure shows how the three-way turnout enables a main track with 4 branch tracks to be formed in the shortest distance (Fig. 14).

Track branching using three-way turnouts (Fig. 15).

Figure 16 is a summary of the various ways of using Märklin M-turnouts.

Märklin M-tracks

(M = metal body)

The particular feature of M-tracks is their rugged profile with its simulated roadbed and its sturdy cross-ties. Additional roadbed under M-tracks is

not necessary. It is best to use M-tracks in layouts which are altered frequently.

Straight track sections, 5100 series



5106 Full length = 180 mm (7-1/8")



5107 Half length = 90 mm (3-9/16")



5129 Make-up section · Length 70 mm (2-3/4")



5108 Quarter length = 45 mm (1-3/4")



5109 1/8 length = 33.5 mm (1-5/16")



5110 1/16 length = 22.5 mm (7/8")



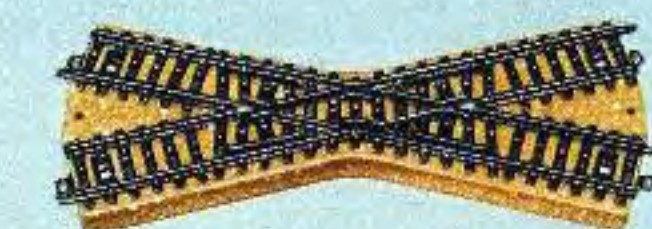
5111 Feeder track section · Full length = 180 mm (7-1/8") · 2 connecting leads



5131 Feeder track section · Full length = 180 mm (7-1/8") · Built-in capacitor for radio interference suppression · 2 connecting leads · One 5131 is required for each traction current circuit



5146 Switching track section · Half length = 90 mm (3-9/16")



5114 Crossing · Length 193 mm (7-5/8") = 30° · The center conductors of the crossing are electrically isolated from each other



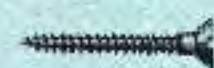
7190 Bumper, riveted steel type · Clipped onto 70 mm (2-3/4") long track section



7191 Bumper, riveted steel type, with working track closure signal light · Clipped onto 70 mm (2-3/4") long track section
Q = 60000



0206 Track planning stencil for Märklin HO gauge metal track sections of 5100/5200 series · Track sections, turnouts, crossings etc. are marked out on the stencil in 1:10 scale, and with a sharp pencil they can easily be reproduced on paper



7299 Countersunk wood screws for fixing metal tracks · Pack of 200

Curved track sections for standard circle, 5100 series



5100 Full length = 30°



5101 Half length = 15°



5102 Quarter length = 7° 30'



5103 Feeder track section · Full length = 30° · 2 connecting leads



5147 Switching track section · Half length = 15°

Switching track sections
Switching track sections (5146, 5147, 5213) enable automatic control of solenoid-operated items by moving trains. The switches are operated by the pick-up shoes on the vehicles, and a different operation can be performed in each direction of motion. The switching pulses are fed out through 2 sockets isolated from each other electrically.



5120 Small radius track for branch lines and industrial railroads (for short vehicles only)
Curved track section · Full length = 45°

Curved track sections for large concentric circle, 5200 series



5200 Full length = 30°



5201 Half length = 15°



5205 Length = 5° 43' · Together with 5206 equates to track section 5200



5206 Length = 24° 17' · Matches curve of turnouts 5202 and 5221



5213 Switching track section, curved · Half length = 15°



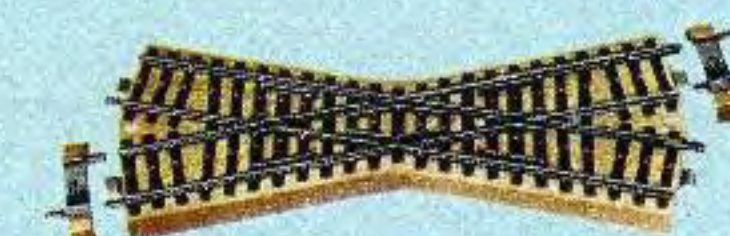
5208 Make-up section, straight · Length 8 mm (5/16")



5210 Make-up section, straight · Length 16 mm (5/8")



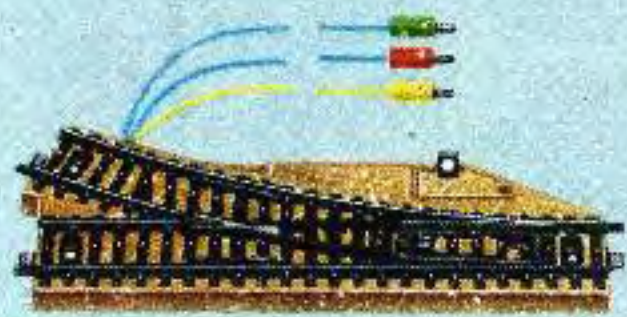
5211 Crossing · Crossing angle 48 1/2° · Length 98 mm (3-7/8") · The center conductors of the crossing are electrically isolated from each other



5215 Crossing · Crossing angle 24° 17' · Length 180 mm (7-1/8") · The center conductors of the crossing are electrically isolated from each other · Same overall dimensions as 5207 · With 2 make-up lengths 5208

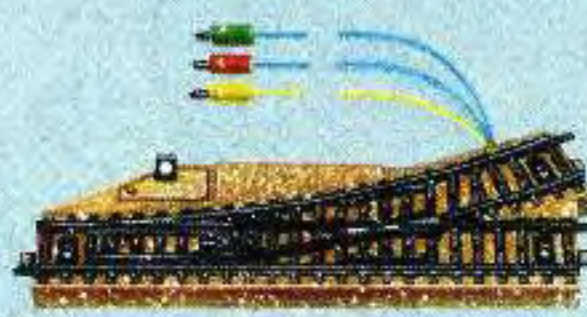
Märklin M-turnouts with sprung points, 5100/5200 series

with double solenoid operation for remote control



5202

Pair of solenoid-operated turnouts · Consisting of one right-hand and one left-hand turnout, both double-solenoid operated · Working signal



lights · Track lengths corresponding to 5206 and 5106

Q = 60000



5221

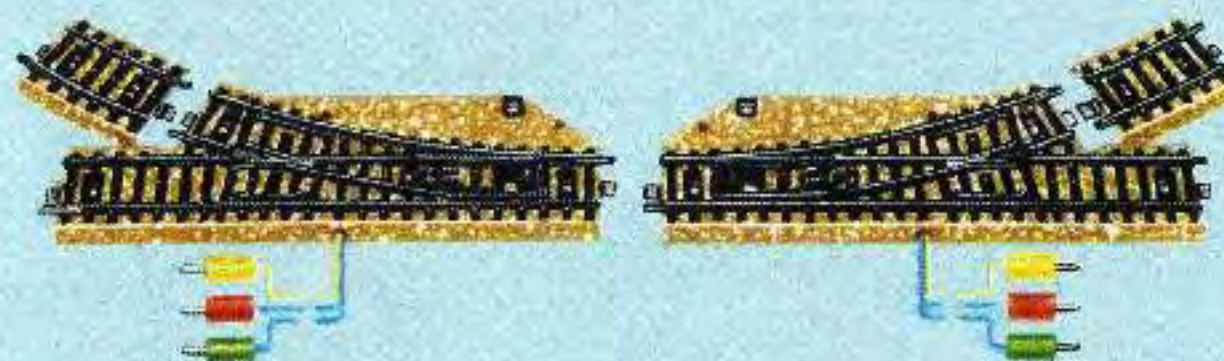
Pair of manually operated turnouts · Track dimensions as for 5202



5140

Pair of solenoid-operated curved turnouts · Consisting of one right-hand and one left-hand inside curve turnout, both operated by double solenoid · Working signal lights · Length and curvature of tracks as for track section 5100 · Length of through track 265.4 mm (10-1/2")

Q = 60000

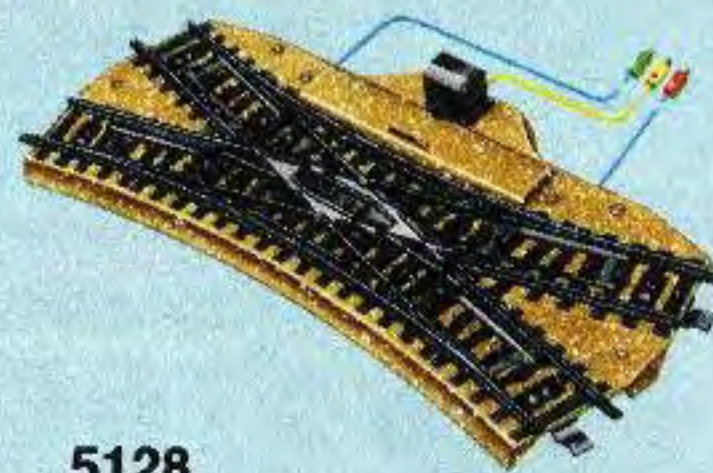


5137

Pair of solenoid-operated curved turnouts · Consisting of one right-hand and one left-hand turnout, both operated by double solenoid · Working signal lights · Length of straight section 180 mm (7-1/8") · Radius of

branch track 360 mm (1 ft 2-1/4") · Can be supplemented by the track section 5102 supplied to equate to 5100

Q = 60000



5128

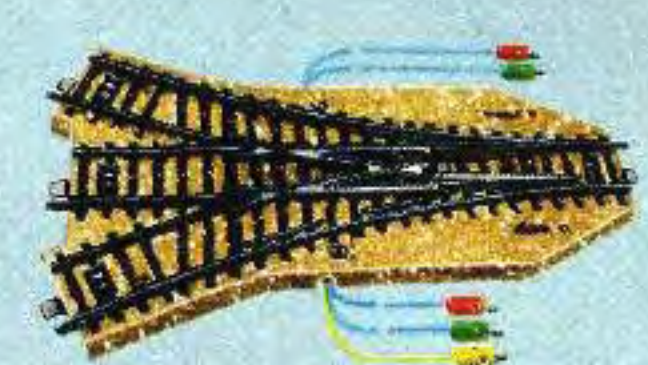
Double slip switch · Crossing angle 30° · Double solenoid operation · Working electric signal lights which change to indicate the setting of the points (i.e. crossing or curve) · Hand lever to permit manual setting · Length of straight section 193 mm (7-5/8") · The curve is the same as for track section 5100

Q = 60000



5207

Double slip switch · Enables track spacing of 77.4 mm (3-1/16") to be maintained · Operated by double solenoid · Hand operating lever on actuator case · Length of straight section 180 mm (7-1/8") · The curve is the same as for 5202, 5221 and 5206 · 2 make-up lengths 5208, each 8 mm (5/16") long, are included



5214

Symmetrical three-way turnout operated by 2 double solenoids · 2 hand levers for manual setting of the 2 pairs of points · 5 connecting leads · Length of straight section 180 mm (7-1/8") · Radius of branch tracks 437.4 mm (1 ft 5-1/8"), the same as for the concentric circle · When used in conjunction with track section 5206, the 77.4 mm (3-1/16") track center spacing can be maintained on both sides



5112

Uncoupling track section for releasing automatic couplings · When the button on the position control box is pressed, the solenoid-operated ramps on either side of the stud contacts are raised, releasing the couplings · 2 connecting leads · Length of track 90 mm (3-1/2")



5113

Light standard to go with the uncoupling track section · Die cast zinc · The light shows while uncoupling is in progress · Height 85 mm (3-3/8")

Q = 60010

Märklin-RELEX-coupling



The coupling is opened by raising the ramp.

The RELEX coupling is designed to stay open after uncoupling, enabling cars to be pushed or dropped off at any desired point without the coupling closing again.

Railroading can only become really true to life when cars no longer have to be uncoupled manually from one another or from locomotives. This can be achieved by the use of uncoupling track sections, with their light standards which indicate when

the uncoupler is being operated. This not only looks right, it makes uncoupling easier too. When the coupling concerned, whether locomotive/car or car/car, is next to the signal standard, press the appropriate button on the control box once and the coupling will open, leaving the disconnected car or section of the train standing. Cars with the RELEX pre-uncoupler can then be pushed back again by the locomotive under remote control, without the coupling closing.



2191 Adapter track section

Full length = 180 mm (7-1/8") · Enables 5100 and 5200 series track sections to be joined to 2100 series track sections



7171

Sound-absorbent strips in packs of 50, with 50 countersunk wood screws for quiet train operation · If the track is laid out on a plywood board, the wheels of a moving train naturally make a certain amount of noise, though not excessive · If it is desired to damp this noise down to about half, it is recommended that the tracks, turnouts and crossings should be laid on sound-absorbent strips · This will not affect the mounting of the catenary system



7195

Number plate set · For identifying turnouts and signals on the track layout · Contents: 12 slotted bases, and number plates 1 - 24 which can fit in the slots

Märklin HO SET program

All Märklin HO basic sets (see pages 10-13) can be extended. The SET gift program is a particularly easy and logical way to do it.

The first stage is an extension pack E 5190 (with manually-operated turnouts) or E 5191 (with electrically operated turnouts). Further extension is by means of sets T1 5192, T2 5193 and T3 5194, which may be used in any order.

These track plans show how, for example, sets 2920 and 2930 can be extended. The same principles apply to gift packs 2940 and 2950, and the grade crossing from 2940 or the parking track from 2950 can equally easily be built in to the layout, adding even more scope and variety. Large gift pack 2875 includes the contents of E and many items from T3, but it can be extended with the SET program just the same.



5190

Extension set E - Contents: 10 straight track sections 5106, 2 curved track sections 5206, 1 pair manually-operated turnouts 5221 and instructions for extending the layout



5191

Extension set E - Contents: 10 straight track sections 5106, 1 pair solenoid-operated turnouts 5202, 2 curved track sections 5206, 1 position control box 7072, 1 distribution strip 7209 and connector material such as leads, sleeves and plugs - Instructions for extending the layout

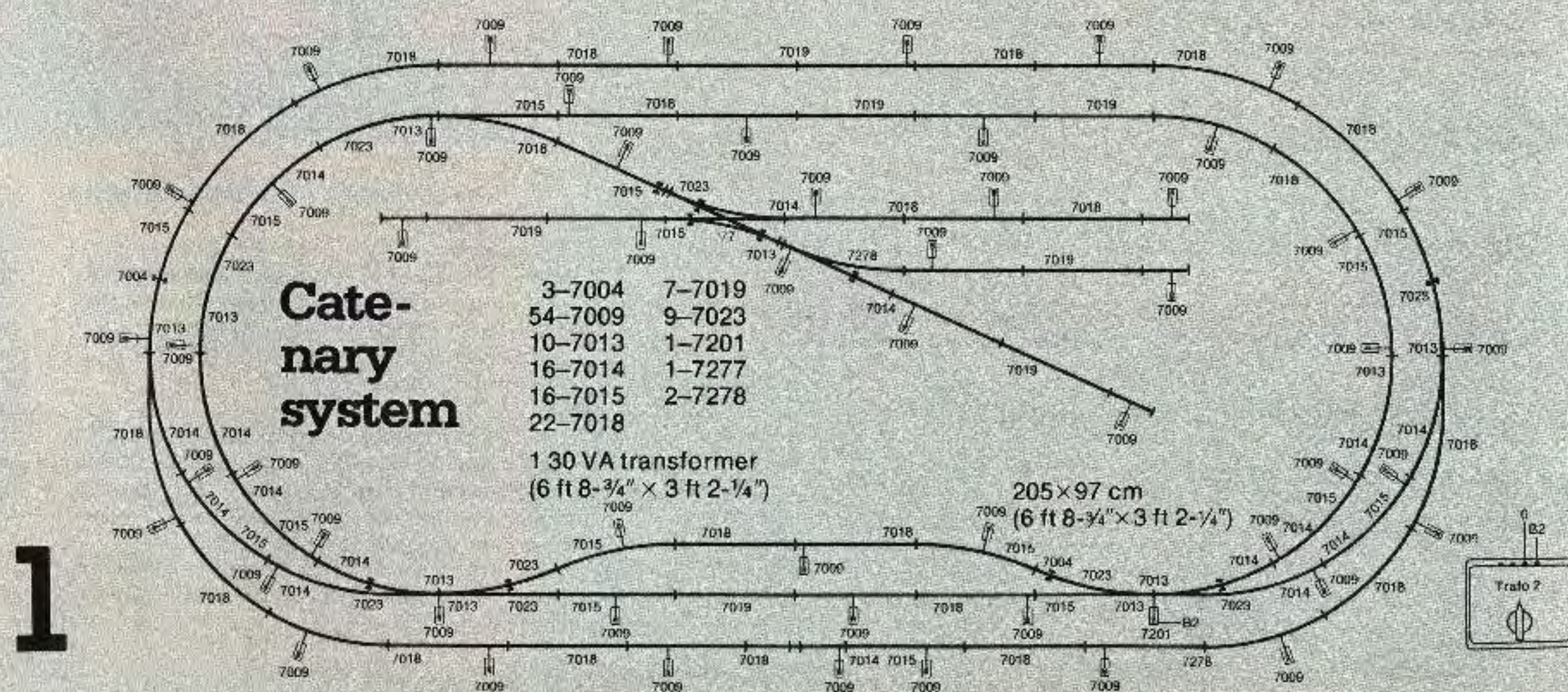
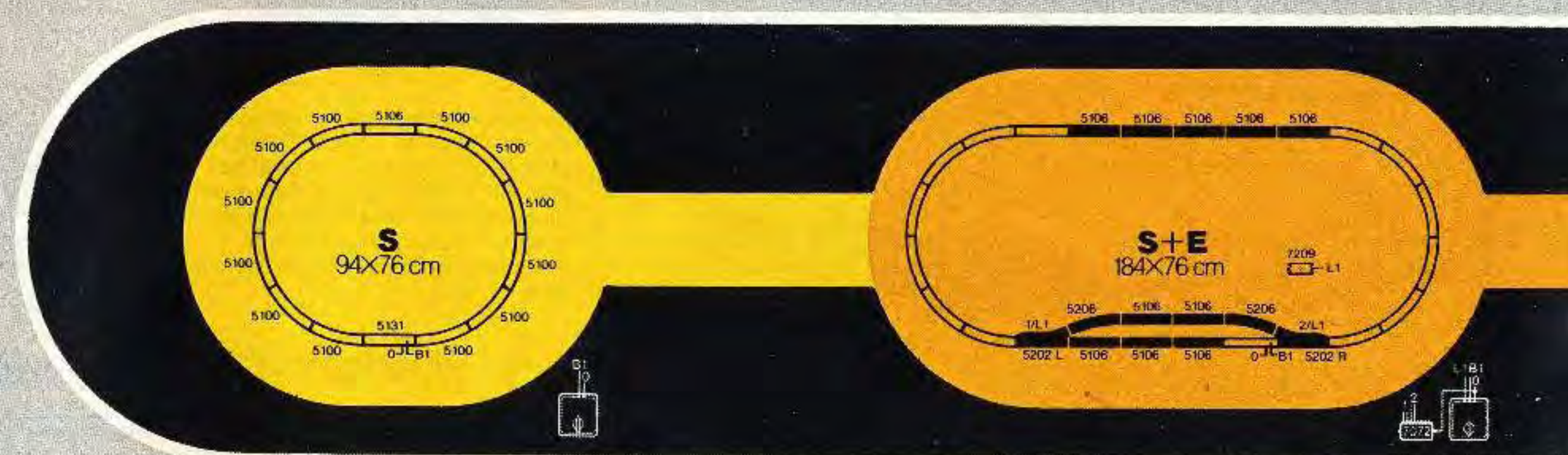
Basic sets
for the SET program
Pages 10-13

SET

go on
giving it

Examples 2 and 3 show how SET can be used to make different layouts. Any pack is thus an excellent way of enhancing any layout.

A catenary system is a good way of taking extension even further (Example 1).





5192

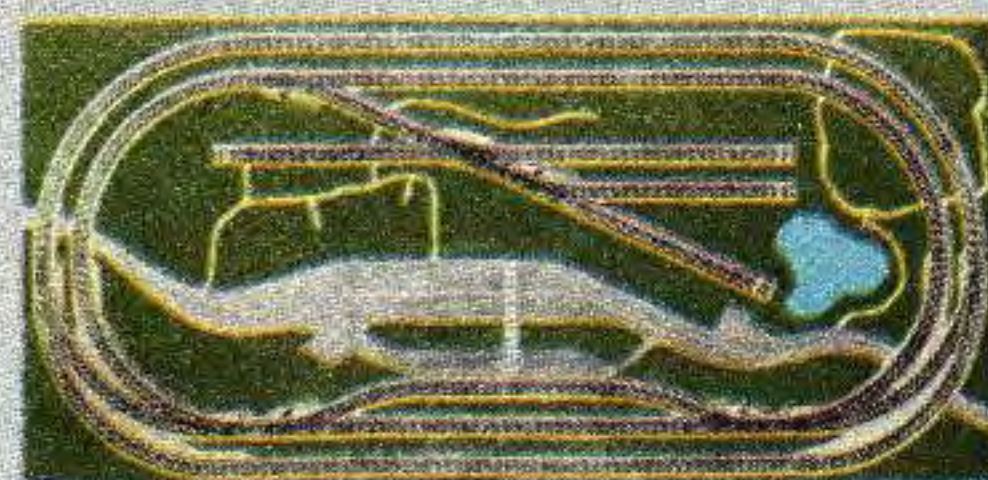
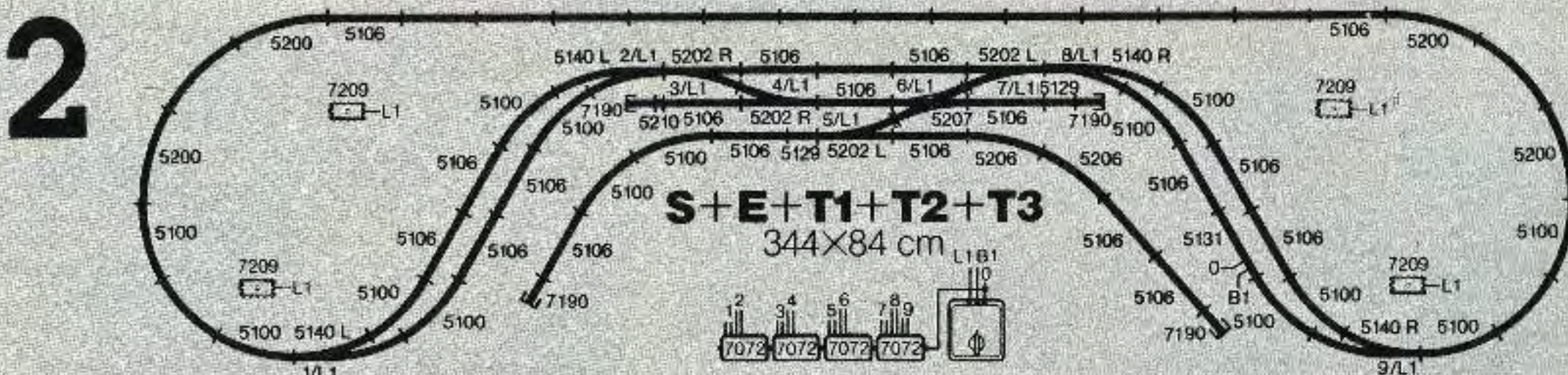
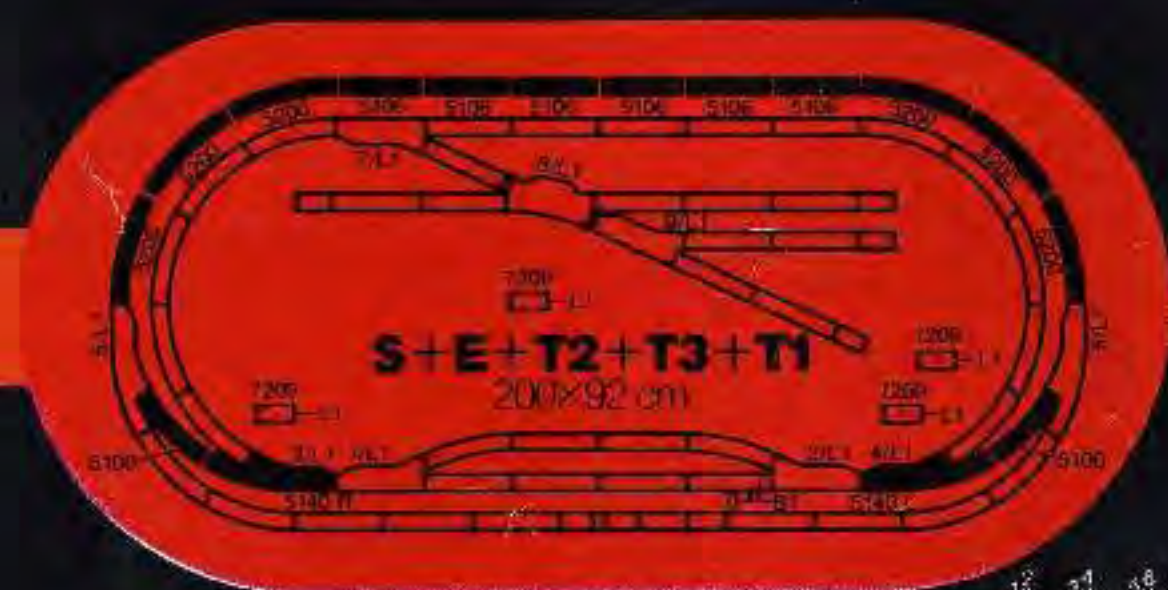
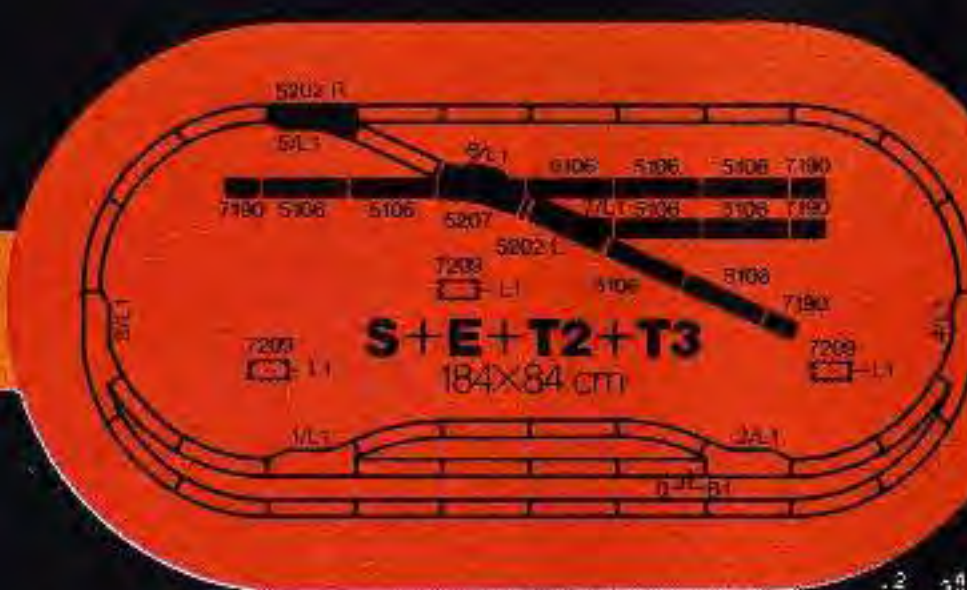
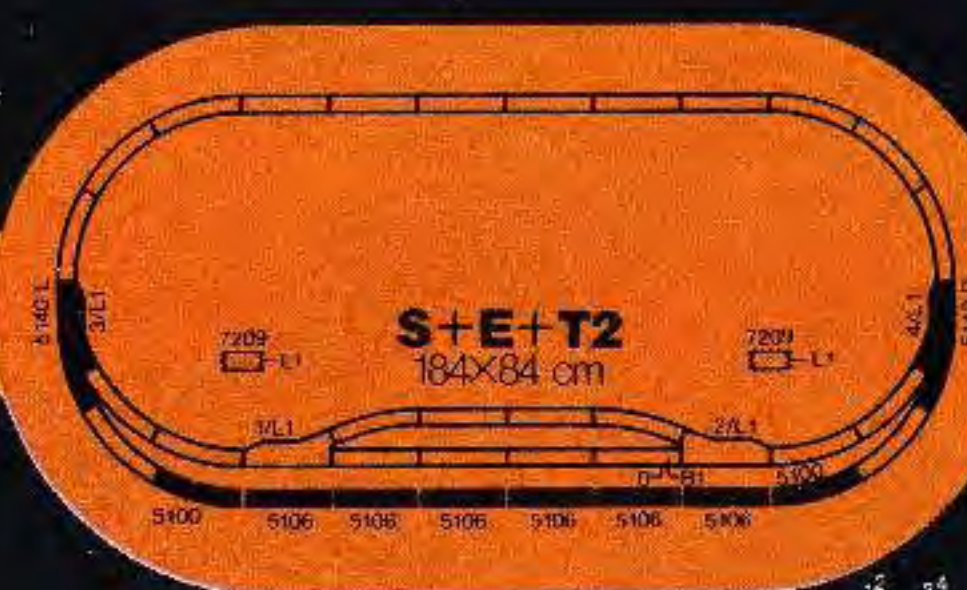
Double track set T1 - Contents: 2 curved track sections 5100, 6 straight track sections 5106, 1 pair solenoid-operated curved turnouts 5140, 6 curved track sections 5200, 1 position control box 7072, 1 distribution strip 7209, and connector materials such as leads, sleeves and plugs - Instructions for extending the layout

5193

Station track set T2 - Contents: 2 curved track sections 5100, 6 straight track sections 5106, 2 straight track sections 5129, 1 pair solenoid-operated curved turnouts 5140, 1 straight track section 5210, 1 position control box 7072, 1 distribution strip 7209, and connector materials such as leads, sleeves and plugs - Instructions for extending the layout

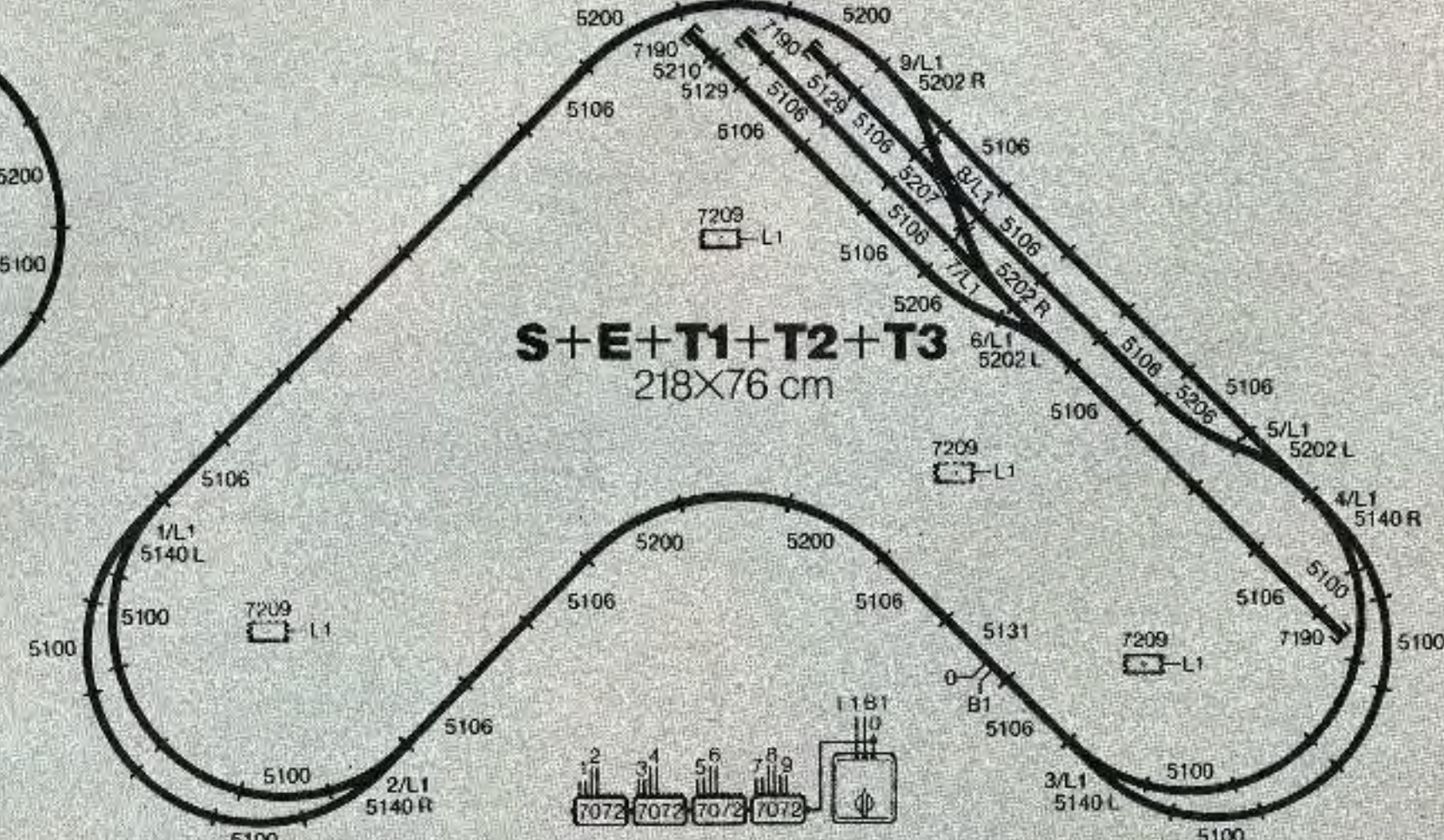
5194

Switching track set T3 - Contents: 9 straight track sections 5106, 1 pair solenoid-operated turnouts 5202, 1 double slip switch 5207, position control box 7072, 4 bumpers 7190, 1 distribution strip 7209, and connector materials such as leads, sleeves and plugs - Instructions for extending the layout



7298

Märklin-Toporama for the Märklin HO SET extension program with basic sets 2920-2927 and 2930-2937 - Realistic model railroad landscape printed on - Multi-colored design - Track layout up to SET 123 is printed on - Tufted grass areas give three-dimensional effect - Size 205x97 cm (6 ft 8-3/4" x 3 ft 2-1/4")



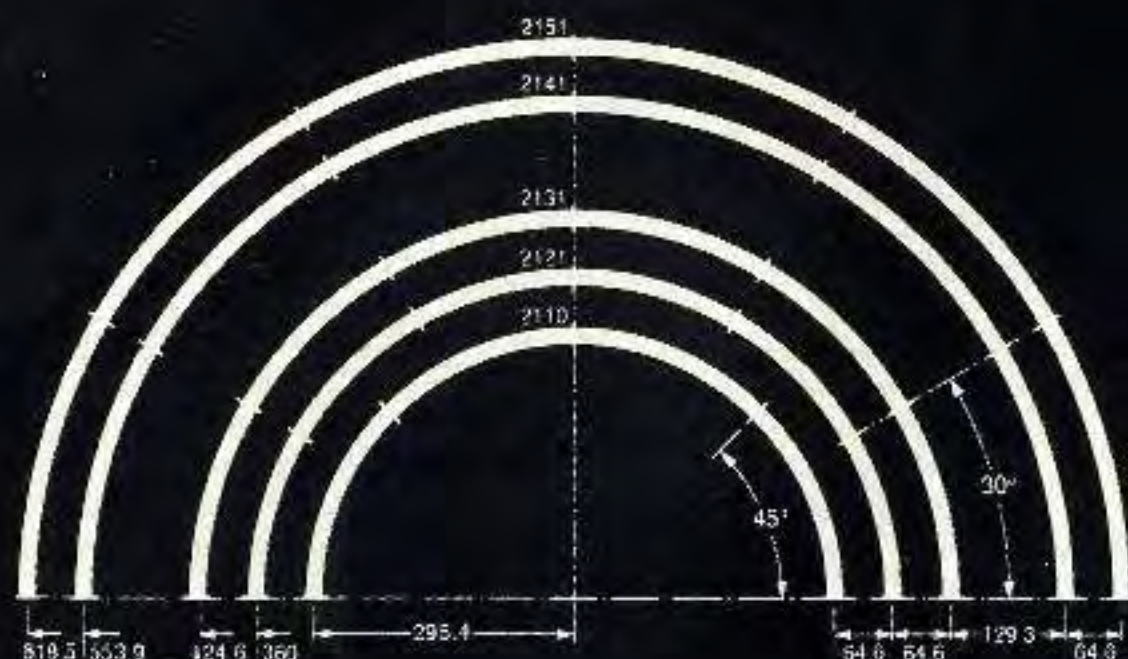
Märklin K-tracks

(K = plastic ties)

K-tracks are designed to look completely true-to-life. They work on the same stud-contact system as M-tracks.

With this track the rails are laid on plastic cross-ties. The six-fold connection between one track section and the next comprises two rail jointing clips, two sprung connectors for the center conductor and two claw couplings on the cross-ties.

The track geometry provides wide scope for designing different layouts, with the aid of 5 different radii of curvature and a flexible meter-length section. Whether it is for close parallel tracks, gentle curves or long track runs, K-tracks are the right components for the railroader who wants the maximum realism.



The five Märklin K-track circles are:

Industrial circle	2110 = 8 track sections
Standard circle I	2121 = 12 track sections
Standard circle II	2131 = 12 track sections
Large circle I	2141 = 12 track sections
Large circle II	2151 = 12 track sections

With the aid of flexible track section 2105, any desired radius can be formed.

0372 K

Booklet "Märklin HO gauge track layouts for 2100 series K-tracks". With full-color illustrations and detailed track plans of 16 fully developed layouts with catenary systems. Individual electrical circuits are shown in separate colors. Booklet also includes plans of many track and turnout combinations. An excellent guide for the construction of layouts of any size. 52 pages. Size 21 x 30 cm (8-1/4" x 11-3/4"). English text.



0207

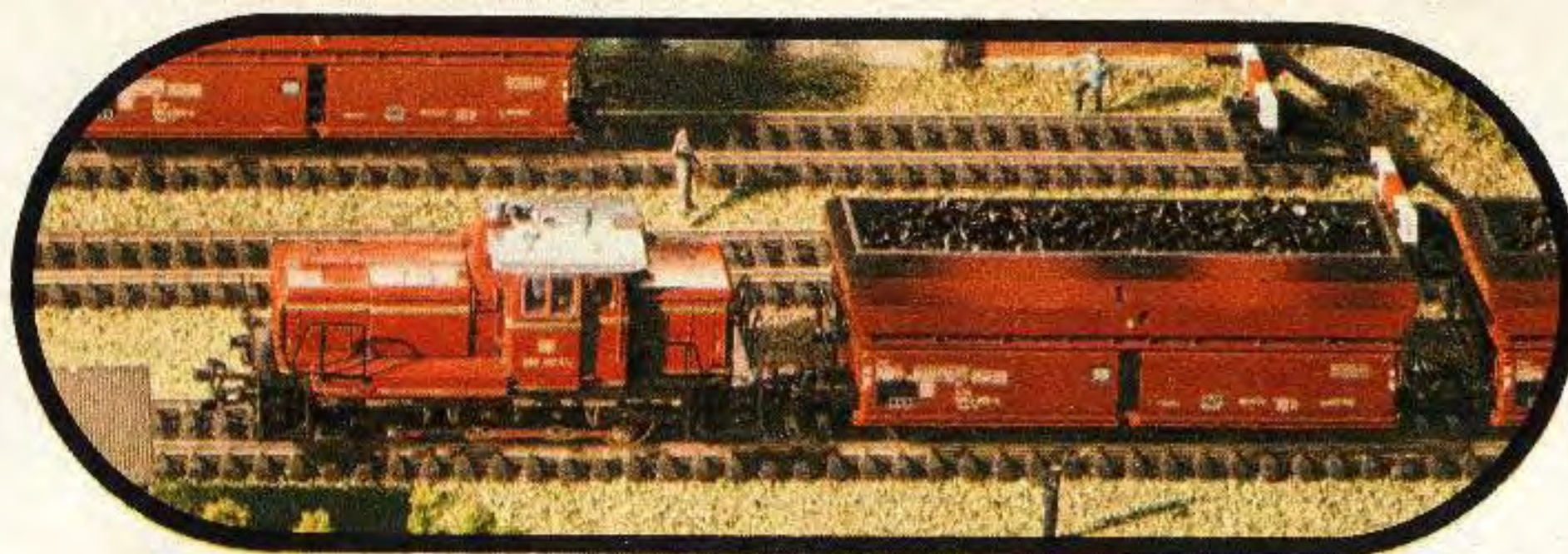
Track planning stencil for Märklin HO gauge K-tracks of 2100 series. Track sections, turnouts, crossings, etc. are marked out on the stencil in 1:10 scale, and with a sharp pencil they can easily be reproduced on paper.





Märklin K-tracks

true to life



Straight track sections



2100 Full length = 180 mm (7-1/8")



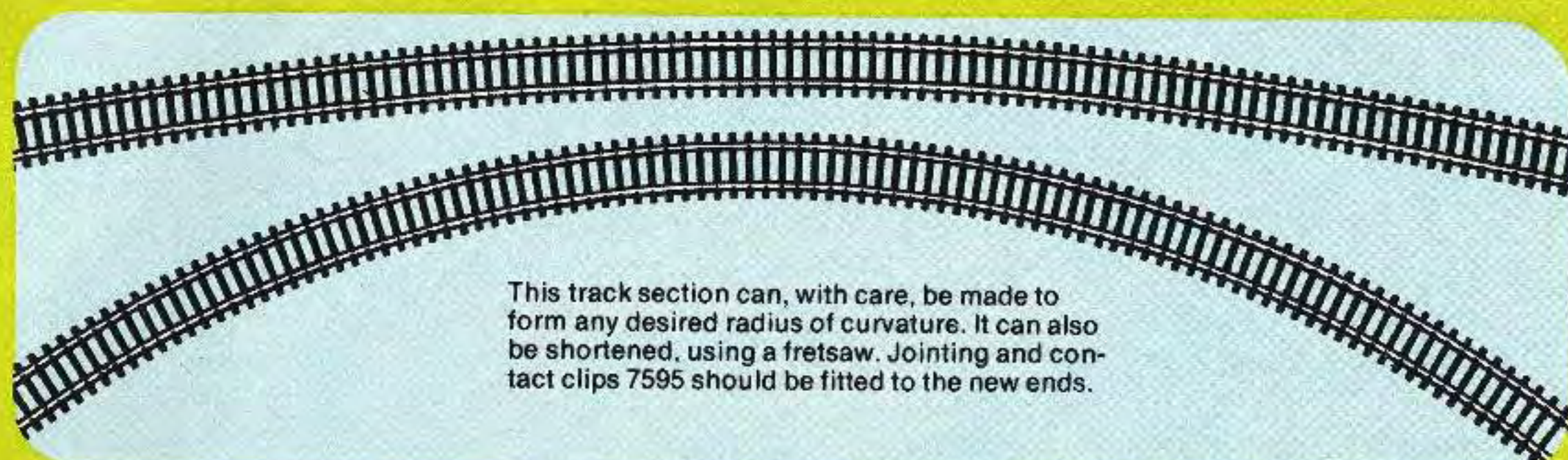
2101 Half length = 90 mm (3-5/16")



2102
Quarter length = 45 mm (1-3/4")



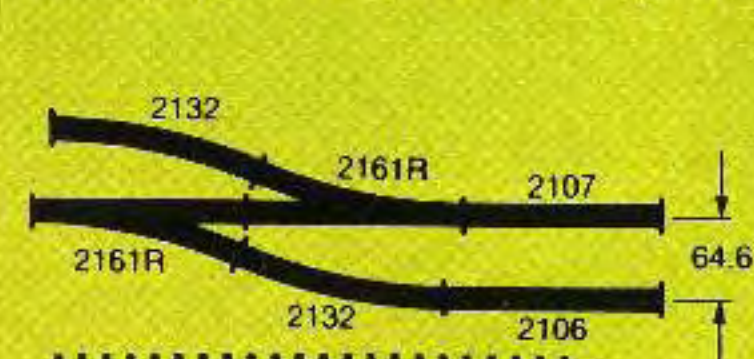
2104
1/8 length = 22.5 mm (7/8")



2105 Flexible straight track section ·
5 × full length = 900 mm (2 ft 11-1/2") ·
Solid, corrosion-resistant stainless
rails

7595 Jointing and contact clips · 10 of
each · For track section 2105 · Are
required to enable 2105 to be re-
connected to other track sections
after it has been shortened

Straight make-up lengths



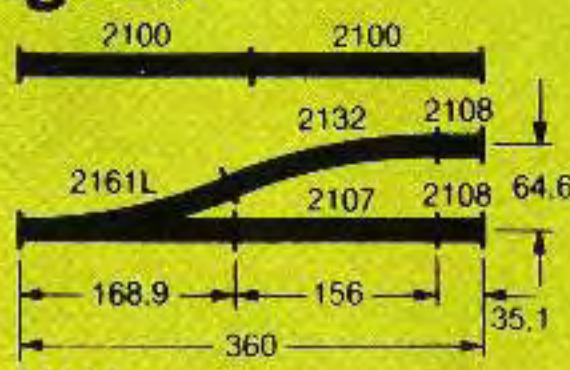
2106 Length 168.9 mm (6-5/8")



2107 Length 156 mm (6-1/8")



2158 Crossing ·
Crossing angle 45° ·
Length of straight sections
90 mm (3-5/16")



2108
Length 35.1 mm (1-3/8")



2159 Crossing ·
Crossing angle
22° 30' · Length of straight
sections 168.9 mm (6-5/8")



2190 Feeder track section ·
Full length = 180 mm
(7-1/8") · 2 connector terminals
marked "O" and "B" for connect-
ing the traction power lead



2192 Feeder track section ·
Similar to 2190, but has
in addition a built-in capacitor for
radio interference suppression ·
One 2192 should be used for
each traction current circuit



2191 Adapter track section ·
Full length = 180 mm
(7-1/8") · Enables track sections of
the 5100 and 5200 series to be
connected to the 2100 series



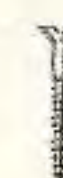
2197 Uncoupler track sec-
tion · Half length =
90 mm (3-5/16") · For releasing
automatic couplings · Incorpor-
ates solenoids which permit the
uncoupler ramp in the center of
the track to be operated from a
position control box



2199 Switching track sec-
tion · Half length =
90 mm (3-5/16")



7391
Bumper, riveted steel type · For
clipping onto the rails · Length
38 mm (1-1/2") · Oval-head coun-
tersunk wood screw included



7599
Countersunk wood screws,
recommended for fixing plastic
tracks to a base · Pack of 200

Curved track sections

Radius 295.4 mm (11-5/8") ·
Industrial circle

Small radius track for branch lines and industrial railroads (for short vehicles only)



2110 Full length = 45°

Radius 360 mm (1 ft 2-1/2") · Standard circle I



2121 Full length = 30°



2123 Half length = 15°



2124 Quarter length = 7° 30'



2129 Switching track section ·
Half length = 15° ·
Radius 360 mm (1 ft 2-1/2")

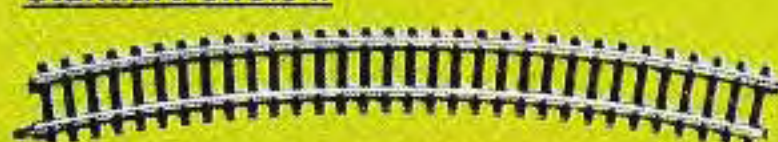
Switching track sections (2129, 2139, 2199) enable automatic control of solenoid-operated items by moving trains. The switches are operated by the pick-up shoes on the vehicles, and a different operation can be performed in each direction of motion. The switching pulses are fed out through 2 sockets isolated from each other electrically.

Radius 553.9 mm (1 ft 9-3/4") ·
Large circle I



2141 Full length = 30°

Radius 424.6 mm (1 ft 4-3/4") ·
Standard circle II



2131 Full length = 30°



2132 1/4 length = 22° 30'



2133 Half length = 15°



2134 Quarter length = 7° 30'



2135 1/8 length = 3° 45'

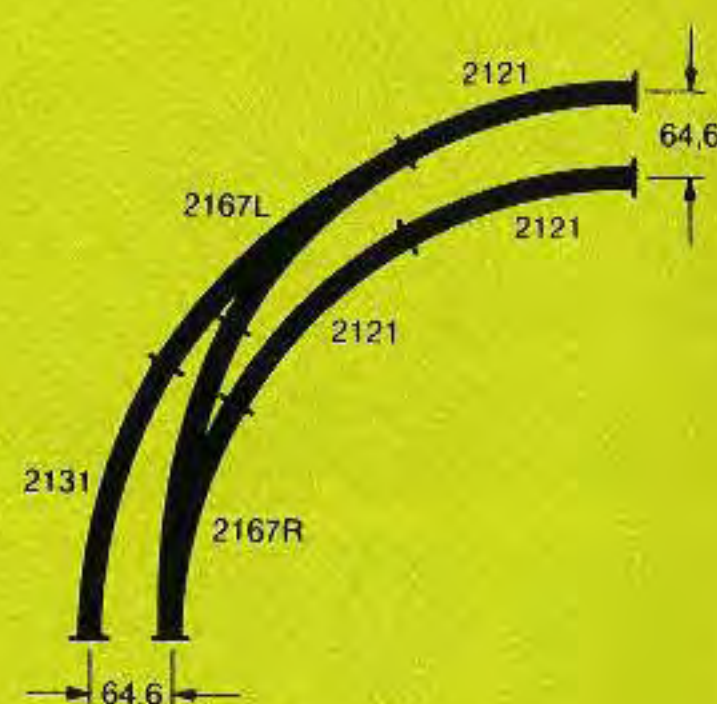


2139 Switching track section ·
Half length = 15° ·
Radius 424.6 mm (1 ft 4-3/4")

Radius 618.5 mm (2 ft 1/4") ·
Large circle II



2151 Full length = 30°



Example of use of 2167

Märklin K-turnouts 2100 with sprung points



2161
Pair of solenoid-operated turnouts ·
Consisting of one right-hand and one left-hand turnout, both operated by double solenoids · Working signal lights ·



Radius of branch track 424.6 mm (1 ft 4-3/4") · Length of straight track section 168.9 mm (6-5/8") ·
Q = 60000



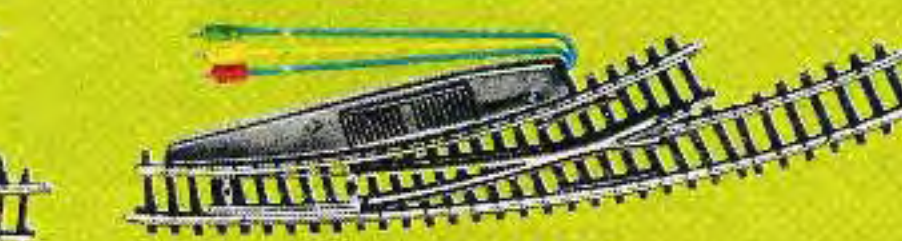
2164
Pair of manually-operated turnouts ·
Consisting of one right-hand and one left-hand turnout · Radius of branch track 424.6 mm (1 ft 4-3/4") · Length of



straight track section 168.9 mm (6-5/8") ·
Operated by hand lever



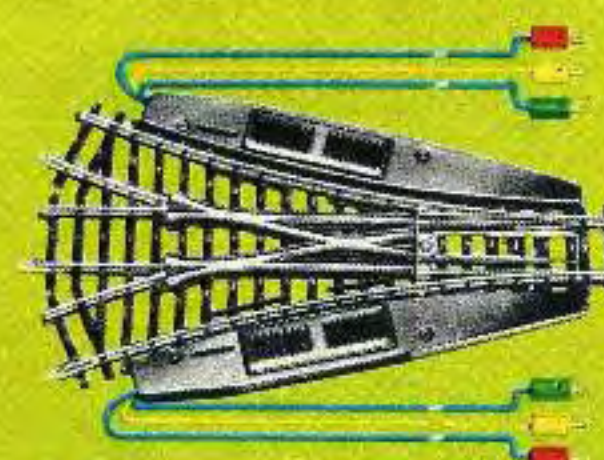
2167
Pair of solenoid-operated curved turnouts ·
Consisting of one right-hand and one left-hand inside curve turnouts, both operated by double solenoids ·



Length and curvature of branch track are same as for track section 2121 ·
Length of through track 244.6 mm (9-5/8")



2160
Double slip switch · Radius 424.6 mm (1 ft 4-3/4") · Inside points operated by double solenoids by remote control · Hand lever in addition · Length of straight track sections 168.9 mm (6-5/8")



2170
Symmetrical three-way turnout operated by 2 double solenoids · 2 hand levers for manual setting of the two pairs of points · Length of straight track section 168.9 mm (6-5/8") · Radius of branch tracks 424.6 mm (1 ft 4-3/4")

7500

Ground connector with terminal, for connecting the ground lead to 2100 series track sections



7504

Connector for center conductor with terminal · Is pushed onto the contact clips at the joint of 2100 series track sections



7522

Center conductor isolator · Is fitted between clips at the joint of 2100 series track sections to isolate the electrical circuits



Multi-train operation

The fascinating experience of operating a really true-to-life railroad starts when there are several trains on the track. That is when all the scope and variety of the Märklin HO system can be exploited fully, with turnouts being set and signals changing. Additional electrical circuits are required. Automatic block operation can be incorporated. With Märklin HO there are all sorts of ways in which multi-train operation can be made just like real life.



Multi-train operation with signals

The use of signals for traffic control becomes essential when two or more locomotives are powered from a single electrical circuit. While one train waits at a "Halt" signal, the second can continue on its way round the track. Signals prevent collisions, and fast trains can be prevented from catching up with slower ones.

Signals can be controlled in two ways:

1. by manual control via position control box 7072 (page 86)
2. automatically, by locomotives traversing a switching track section (page 70 for M-tracks and page 76 for K-tracks)

Märklin signal manuals 0342 and 0361 (page 81) describe these methods of operation.



2.

Multi-train operation using separate electrical circuits

If several trains are to be operated independently on one layout, each locomotive has to be powered by its own transformer. Each section of track fed by one transformer must be isolated electrically. There are various different kinds of separate circuits, from the simple parking track to the complete section of a layout.

For more details on separate circuits see page 82.

3.

Multi-train operation with catenary system

On full scale railroads, electric locomotives are normally powered from overhead lines. The model railroader should keep this in mind, especially as all the major routes on German Federal Railways are now electrified. A further point is that with the fully functional Märklin HO catenary system it is possible to control two trains independently on a single track. Trains powered from overhead lines can still be controlled by signals. Märklin have developed special overhead line signal connectors for this purpose. The catenary system itself can be divided into separate electrical circuits, so this is another way of arranging for multi-train operation.

For more details on the catenary system see page 84.

Model railroad operation with wide scope provided by

1+2+3



1 Signals

Multi-train operation with signals

Signals for M-tracks

1

7339 · Color light home signal · Color lights change from red to green by manual operation, which at the same time controls the current to the section of metal track joined on to the signal. Additional track section 90 mm (3-1/2") long with gap in center conductor. W 55 mm (2-1/8") · L 90 mm (3-1/2") · H 90 mm (3-1/2")

⚡ = 60001 red ⚡ = 60002 green

2

7187 · Color light distant signal · Color lights change from green/green to amber/amber. W 16 mm (5/8") · L 11 mm (7/16") · H 60 mm (2-3/8")

⚡ = 60202 green ⚡ = 60204 orange

Home and distant signals are used for train control – in real life as well as on Märklin HO gauge.

Distant signals do not control trains directly, but they can be coupled to home signals and they add to the authentic appearance of the layout. Home signals can be used to control trains. There are installation instructions with each signal. You will find more ideas in signal manuals 0342 and 0361.

3

7188 · Color light home signal · Signal lights change from red to green. Double solenoid. Additional hand lever. Pair of sockets for connection of distant signal 7187. With base plate. W 28 mm (1-1/8") · L 70 mm (2-3/4") · H 90 mm (3-1/2")

⚡ = 60001 red ⚡ = 60002 green

4

7036 · Distant signal with movable disk. Signal lights change from amber/amber to green/green. Double solenoid. With base plate. W 28 mm (1-1/8") · L 65 mm (2-5/8") · H 73 mm (2-7/8")

⚡ = 60000

5

7039 · Home signal with one semaphore arm. Signal lights change from red to green. Double solenoid. With base plate. W 27 mm (1-1/8") · L 70 mm (2-3/4") · H 125 mm (5")

⚡ = 60000

6

7040 · Home signal with 2 coupled semaphore arms. Signal lights change from red to green/amber. Double solenoid. With base plate. W 27 mm (1-1/8") · L 70 mm (2-3/4") · H 125 mm (5")

⚡ = 60000

7

7038 · Distant signal with movable disk and additional movable semaphore arm. Light sequence either as for 7036 or from amber/amber to amber/amber/green. 2 double solenoids. With base plate. W 28 mm (1-1/8") · L 65 mm (2-5/8") · H 73 mm (2-7/8")

⚡ = 60000

8

7041 · Home signal with 2 independent semaphore arms. Signal lights change from red to green or red to green/amber. 3 solenoids. With base plate. W 27 mm (1-1/8") · L 97 mm (3-3/8") · H 125 mm (5")

⚡ = 60000

9

7042 · Track closure signal · Mast with movable front and rear disks. Double solenoid. With base plate. W 28 mm (1-1/8") · L 70 mm (2-3/4") · H 70 mm (2-3/4")

⚡ = 60000

Signals for K+M-tracks

The color light home signals and track closure signals of the 7200 series have switches which enable them to control traction current in the catenary system and the track center conductor independently. **The signal masts, and the lighting unit of track closure signal 7242 can be separated from the traction current switch units and set up by themselves.** Bracket 7230 is then required for fixing the masts.

Center conductor isolators, center conductor connectors and users' instructions are included with signals 7239, 7240, 7241 and 7242.

10

7236 · Color light distant signal · Signal lights change from amber/amber to green/green. With fixing bracket 7230 and base plate. W 16 mm (5/8") · L 28 mm (1-1/8") · H 67 mm (2-5/8")

⚡ = 60202 green ⚡ = 60204 orange

11

7239 · Color light home signal · Signal lights change from red to green, and traction current controlled by double solenoid. Additional hand lever. With base plate. W 30 mm (1-1/8") · L 70 mm (2-3/4") · H 90 mm (3-1/2")

⚡ = 60201 red ⚡ = 60202 green

12

7237 · Color light distant signal · Signal lights change from amber/amber to amber/green. With fixing bracket 7230 and base plate. W 16 mm (5/8") · L 28 mm (1-1/8") · H 67 mm (2-5/8")

⚡ = 60202 green ⚡ = 60204 orange

13

7240 · Color light home signal · Signal lights change from red to green/amber, and traction current controlled by double solenoid. Additional hand lever. With base plate. W 30 mm (1-1/8") · L 70 mm (2-3/4") · H 90 mm (3-1/2")

⚡ = 60201 red ⚡ = 60202 green

⚡ = 60204 orange

14

7238 · Color light distant signal · Signal lights change from amber/amber to green/green or amber/green. Double solenoid operation for the amber/green setting. With base plate. W 30 mm (1-1/8") · L 70 mm (2-3/4") · H 67 mm (2-5/8")

⚡ = 60202 green ⚡ = 60204 orange

15

7241 · Color light home signal · Signal lights change from red to green or green/amber, and traction current controlled by double solenoid operation with an additional solenoid for the green/amber setting. 2 additional hand levers. With base plate. W 30 mm (1-1/8") · L 95 mm (3-3/4") · H 90 mm (3-1/2")

⚡ = 60201 red ⚡ = 60202 green

⚡ = 60204 orange

16

7242 · Track closure signal · Signal lights change from red/red to white/white, and traction current controlled by double solenoid operation. Additional hand lever. W 30 mm (1-1/8") · L 70 mm (2-3/4") · H 18 mm (11/16")

⚡ = 60200

Usually used on open stretches of track, or in stations, when there is no diversion from the track ahead.

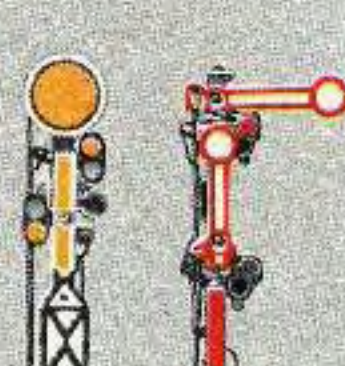


7036 7039



7036 7039

Usually used ahead of or at entry to stations, when train will be diverted from main track.



7036 7039



7038 7040

Ahead of or at entry to stations, when either diversion or straight-ahead routing is possible.



7038 7041

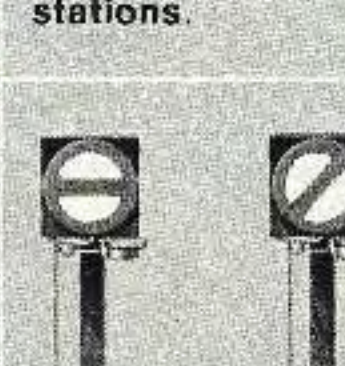


7038 7041



7038 7041

For controlling switching operations in railroad stations.



7042 7042



7236 7239

Distant signal: "Halt" signal ahead
Home signal: "Halt"



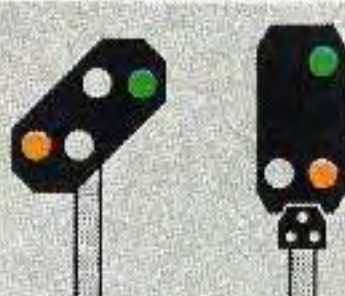
7236 7239

Distant signal: "Proceed" signal ahead
Home signal: "Proceed"



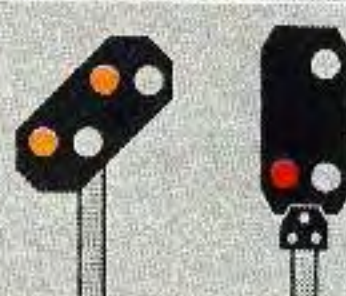
7237 7240

Distant signal: "Halt" signal ahead
Home signal: "Halt"



7237 7240

Distant signal: "Proceed slowly" signal ahead
Home signal: "Proceed slowly"



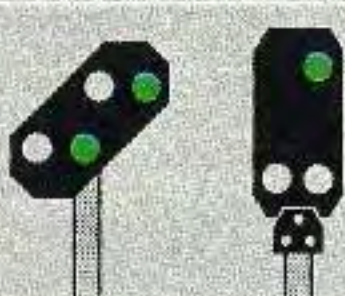
7238 7241

Distant signal: "Halt" signal ahead
Home signal: "Halt"



7238 7241

Distant signal: "Proceed slowly" signal ahead
Home signal: "Proceed slowly"



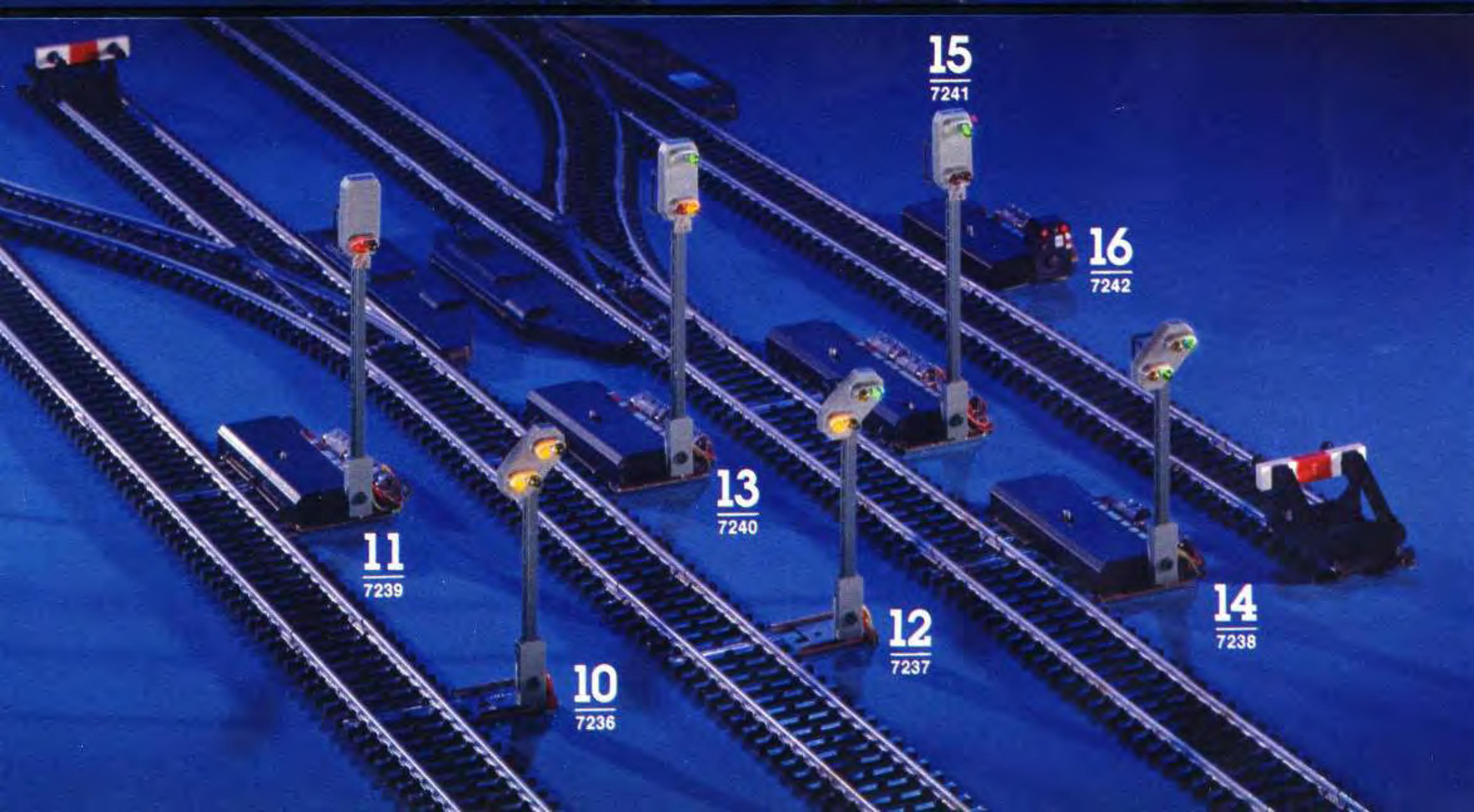
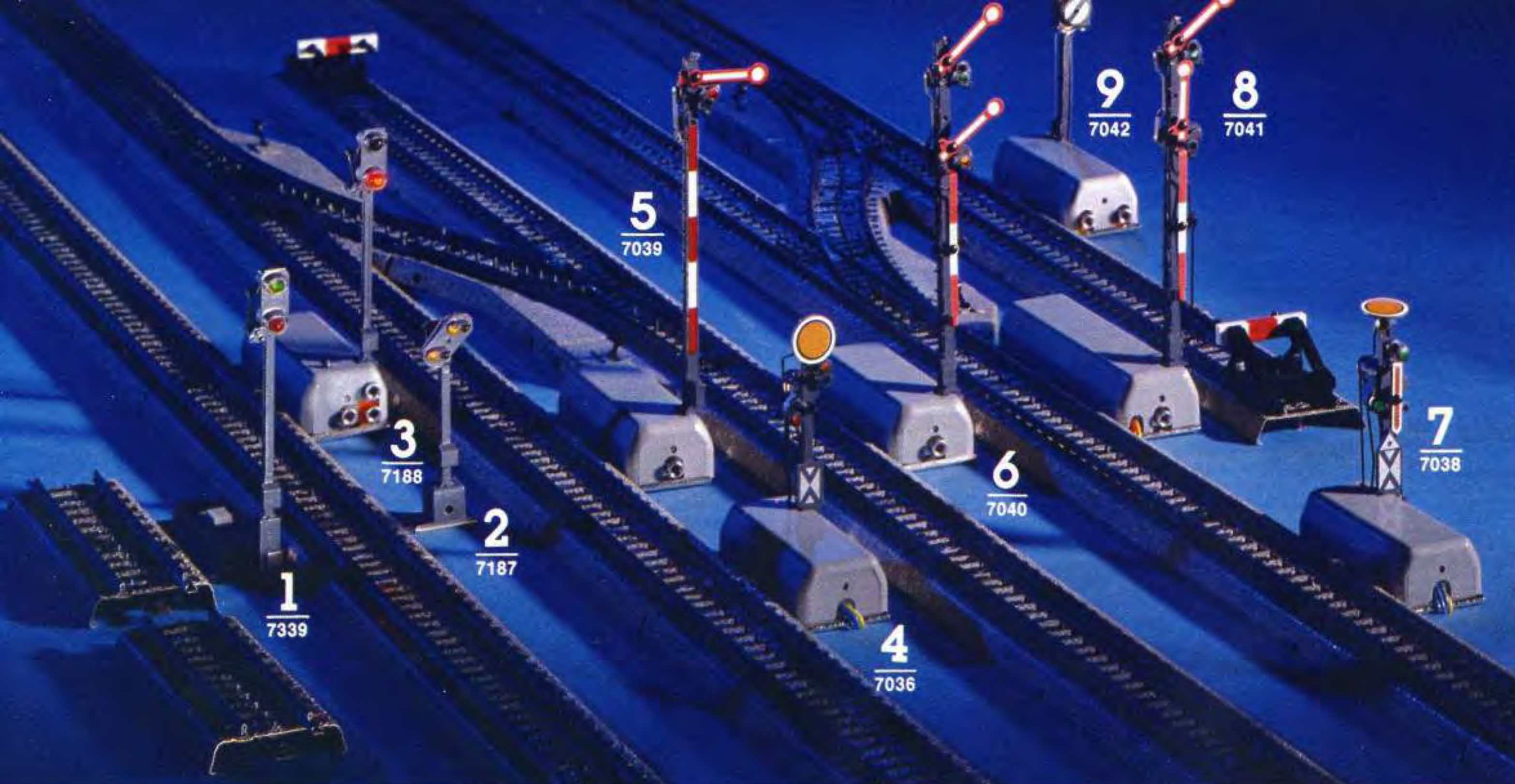
7238 7241

Distant signal: "Proceed" signal ahead
Home signal: "Proceed"



7242 7242

Track closure signal: "Halt! Do not enter"
"Entry permitted"



7245

Universal remote control switch with 2 single-pole switches and one changeover switch for various circuits. It can carry out up to 3 different functions simultaneously. Lots of possible applications are shown in signal manuals 0342 and 0361. Double solenoid operation. Can be actuated by switching track section, position control box or hand lever. W 30 mm (1-3/16") · L 70 mm (2-3/4") · H 8 mm (5/16")

7230

Fixing bracket · Is required when the mast of color light signals 7238, 7239, 7240, 7241 and the track closure signal 7242 are set up separate from the traction current control units



0342 M

Märklin signal manual for signals of 7000 and 7100 series · A detailed explanation, with full color illustrations of the installation and use of 7000 and 7100 series signals and the universal remote control switch with M-tracks · 28 pages · Size 18×25 cm (7-1/8"×9-7/8") · English text



0361 K

Märklin signal manual for 7200 series signals · A detailed explanation with six-color illustrations of the installation and use of signals and remote control switches of the 7200 series · 48 pages · Size 18×25 cm (7-1/8"×9-7/8") · English text

2.

Electrical circuits

Multi-trains operation using separate electrical circuits

Every additional electrical circuit increases the number of ways in which trains can be controlled and operated.

Electrical circuits do not have to be circular in shape. Parking tracks, branch tracks with two-way traffic and marshalling yards can all have their own circuits.

A stretch of incline within the layout can also be given its own circuit. The transformer supplying this circuit can be used to regulate the speed on the incline, in automatic train control, so that speed uphill equals speed downhill.



This example shows how train operation gets more complex and realistic:

One circuit

Two trains are powered by a single source of traction voltage. They both run faster or slower, or change their direction, under the control of the transformer. Using signals, one train can be halted while the other continues to run. It is only possible to change the direction of one of the pair while the other one is halted at a signal.

Two circuits

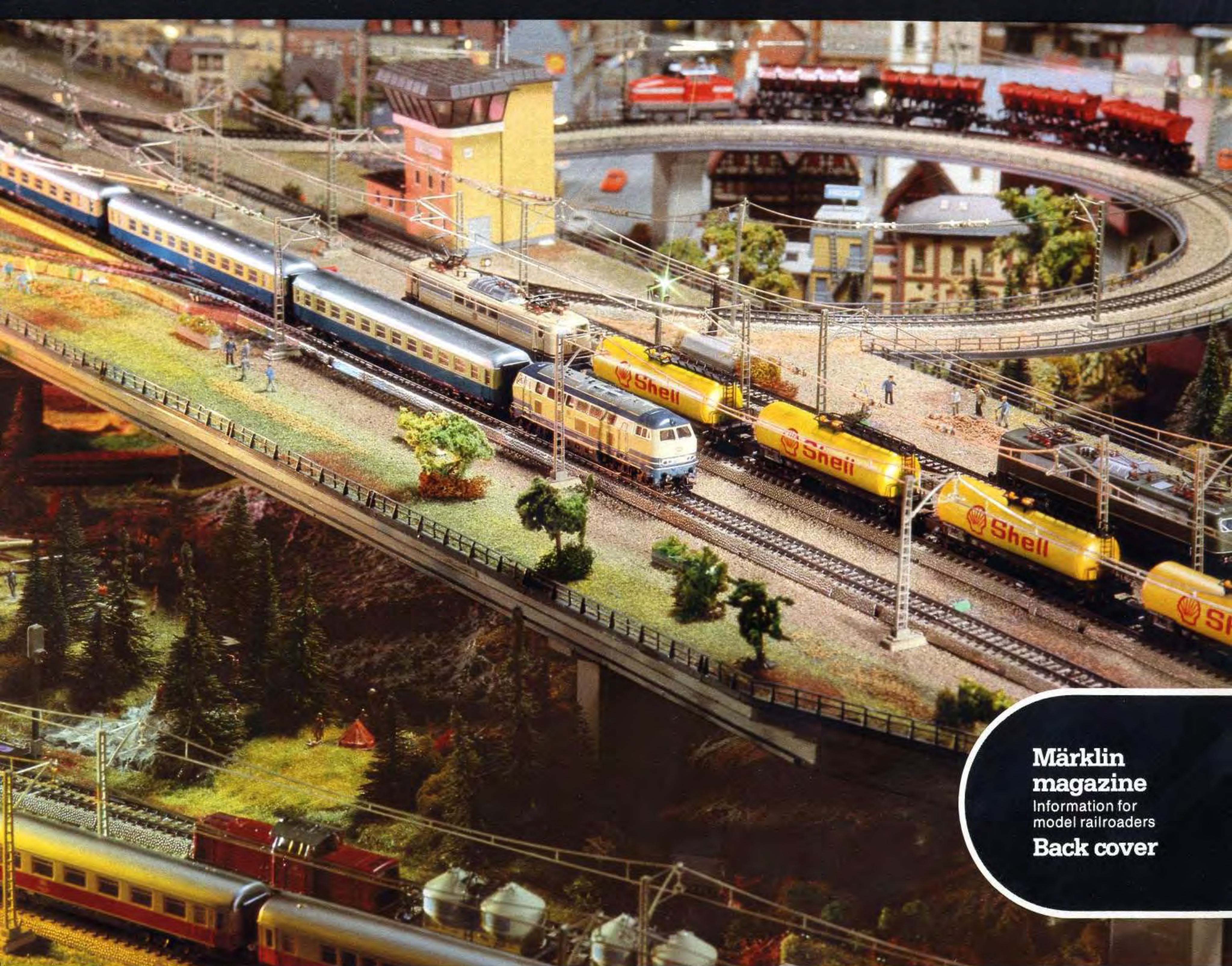
When the parking and freight loading tracks are supplied by a separate electrical circuit, cars can be uncoupled and distributed to individual tracks, trains can be assembled and locomotives can be changed round without affecting the main line traffic on the double oval track.

Three circuits

If the outer parallel track section is connected to a third separate circuit the railroad operation becomes even more realistic.

See the railbus operating at low voltage as a local passenger train on the inside track, while on the outer track an express approaches at high speed from the opposite direction.

Circuit separation is very easy: you require center conductor isolators 5022 (page 86) or 7522 (page 77) and for each circuit one transformer (page 87) and one feeder track section (page 70 for M-tracks and page 76 for K-tracks).



Märklin
magazine
Information for
model railroaders
Back cover

3.

Multi-train operation with catenary system

Catenary system

Märklin catenary system for K+M-tracks

Locomotives draw current from the overhead line just as reliably as from the stud contacts. All you have to do is move a little lever in the locomotive. If another transformer is connected to the catenary system, by using this as well as the stud contacts two trains can be controlled independently on the same track. The arrangement of the catenary system, with its suspension and its cross-spans, is modeled on full scale railroads. The same contact lines can be used for M-tracks and K-tracks. The sprung contact line supports at the masts ensure a reliable current path to the contact lines.

The practical push-fit connections, on contact line sections 7013 and 7023, for example, enable the contact lines to be set to the lengths required. Contact lines are flexible and can be matched to any curve. This can be done by hand. The longest contact line section, 7019, is ideal for long straight track sections.

Using tower mast 7021 and cross-spans 7016 the widest station yard can be spanned.

For 4 tracks one cross-span and two tower masts are required, and for every 4 additional tracks another cross-span and another tower mast. For single tracks outside the mast the overhead line can be suspended on cantilever support arm 7525.

Catenary system for M-tracks 5100/5200



7009
Catenary mast · Basic element · Height 100 mm (4")



7010
Feeder mast for supplying current, with 2 leads and including instructions for using the catenary system · Height 100 mm (4")



7012
Feeder mast for signals, with 1 lead · Height 100 mm (4")



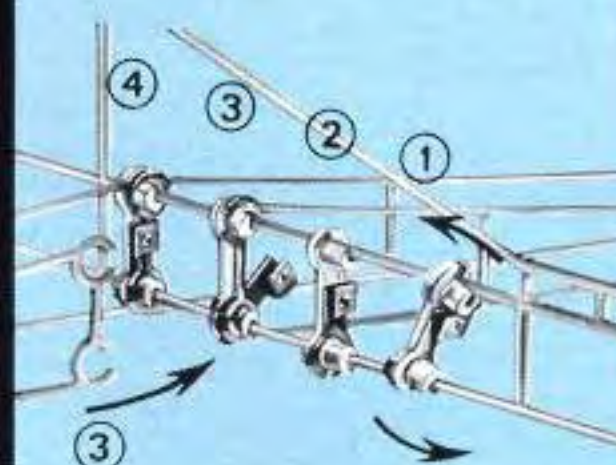
7201
Feeder mast for current supply, with a red and a brown lead fitted · Additional brown lead · Built-in capacitor for radio interference suppression · 1 mast required for each electrical circuit · Instructions for setting up the catenary system are included · Height 100 mm (4")

7005
Catenary set for train control for 7000 series signals which are not mounted on tower masts · Consisting of 2 feeder masts 7012, 2 insulator sections 7022 and 2 overhead line contact sections 7014



7003
Catenary system connector lead for connection to signals when tower masts are used, and for supplying current to any point · Length 600 mm (1 ft 11 5/8")

7004
Fastening kit · Consisting of 5 bolts, 5 nuts and 5 washers · Used only in exceptional cases where it is not possible to make a reliable contact by the usual method of assembly



7006
Contact wire insulation · For insulating sections of contact line from cross-spans · One required for each track and cross-span · 15x6 mm (5/8" x 1/4")



7277



7017



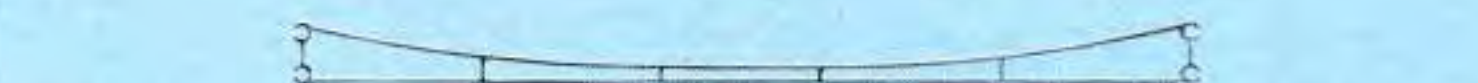
7016



7019



7018



7278



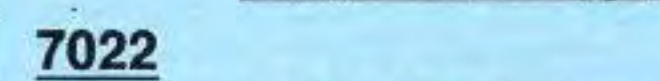
7013



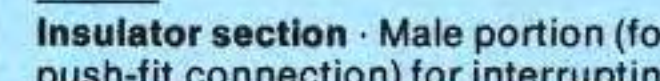
7014
Contact line section · Female portion (for push-fit connection) · Length 115 mm (4 1/2")



7015
Contact line section · Male portion (for push-fit connection) · Length 115 mm (4 1/2")



7022
Insulator section · Male portion (for push-fit connection) for interrupting the overhead line current path · Length 115 mm (4 1/2")



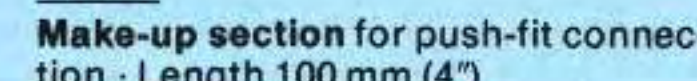
7023
Make-up section for push-fit connection · Length 100 mm (4")



7015
Contact line section · Male portion (for push-fit connection) · Length 115 mm (4 1/2")



7022
Insulator section · Male portion (for push-fit connection) for interrupting the overhead line current path · Length 115 mm (4 1/2")



7023
Make-up section for push-fit connection · Length 100 mm (4")

All contact line sections are nickel plated.

7277

Crossing section for 2158, 2159, 2160, 5114, 5128, 5207, 5211 and 5215

7017

Cross-span · For hooking into tower masts · Spans about 3 tracks · Span 280 mm (11")

7016

Cross-span · For hooking into tower masts · Spans about 4 tracks · Span 390 mm (1 ft 3- $\frac{3}{8}$ ")

7019

Contact line section for straight track sections only · Length 360 mm (1 ft 2- $\frac{3}{16}$ ")

7018

Contact line section for straight and curved track sections · Length 270 mm (10- $\frac{3}{8}$ ")

7278

Contact line section for use over the inner track on curved double track sections of the 2100 series · Length 235 mm (9- $\frac{1}{4}$ ")

7013

Contact line section for push-fit connection, especially at turnouts · Length 240 mm (9- $\frac{1}{2}$ ")



Using contact line sections 7014, 7015 and 7023 it is possible to make up any length from 177 to 360 mm (7" – 1 ft 2- $\frac{3}{16}$ "). The push-fit connections can be strengthened if necessary using fastening kit 7004.



7511

Bridge mast · For attaching to the side of plastic bridges and ramp sections · Height 97 mm (3- $\frac{7}{8}$ ")

7021

Tower mast with recesses for hooking in cross-spans 7016 or 7017 and the overhead line cantilever support 7525 · For tower mast with arc light see page 93 · Height with M-tracks 157 mm (6- $\frac{3}{16}$ ") · Height with K-tracks 154 mm (6- $\frac{1}{16}$ ")



7525

Cantilever support arm for suspending single or double overhead contact lines, in conjunction with tower mast 7021

Catenary system for 2100 series K-tracks



7509

Catenary mast · Basic unit for construction of a catenary system over track sections of the 2100 series · Height 97 mm (3- $\frac{7}{8}$ ")



7510

Feeder mast with a red lead and plug attached to the mast · Brown lead with plug · Includes instructions for setting up the catenary system · Height 97 mm (3- $\frac{7}{8}$ ")



7512

Feeder mast with a red lead attached, for connecting the catenary system to home signals · Height 97 mm (3- $\frac{7}{8}$ ")



7501

Feeder mast with a red and a brown lead fitted · Built-in capacitor for radio interference suppression · One mast required for each electrical circuit · Instructions for setting up the catenary system are included · Height 97 mm (3- $\frac{7}{8}$ ")

7505

Catenary set for train control for 7200 series color light home signals which are not mounted on tower masts · Consisting of 2 feeder masts 7512, 2 insulator sections 7022 and 2 contact line sections 7014 · For use with 2100 series track sections

Simple electrical engineering

Märklin HO electrical engineering is based on simple rules. Märklin HO transformers 6631 and 6671 and the transformers provided with the basic sets provide variable voltage traction power for locomotives and constant voltage power for lighting and for solenoid-operated items (e.g. turnouts, lighting sets, signals etc.). These two kinds of current path are clearly identified by the colors of the leads.

Solenoid-operated items such as turnouts or signals are normally controlled by switching in the current return path. A selection at position control box 7072 determines the position of the solenoid armature and hence the position of the turnout, etc.



Electrical leads

The copper conductor in these stranded leads consists of 24 separate strands each of 0.10 mm (0.004") diameter, giving an overall cross-sectional area of 0.19 mm² (0.03 sq"). That is big enough to take even the short-circuit current of a 40 VA transformer.

7100 Lead · Single core · Gray · 10 m (33 ft)

7101 Lead · Single core · Blue · 10 m (33 ft)

7102 Lead · Single core · Brown · 10 m (33 ft)

7103 Lead · Single core · Yellow · 10 m (33 ft)

7105 Lead · Single core · Red · 10 m (33 ft)

Usual colors of electrical leads in Märklin circuits:



Red = traction current connection (from transformer to track center conductor or overhead line)



Yellow = lighting and solenoid-operated items



Brown = ground lead from track body or position control box to transformer



Blue = return lead from solenoid-operated items to position control box or switching track (with green, red and orange plugs)

Plugs with side sleeves



7111 = brown
7112 = yellow
7113 = green
7114 = orange
7115 = red
7117 = gray



7131 = brown
7132 = yellow
7133 = green
7134 = orange
7135 = red
7137 = gray



5004

Connector lead for center conductor · Length 750 mm (2 ft 5-1/2")

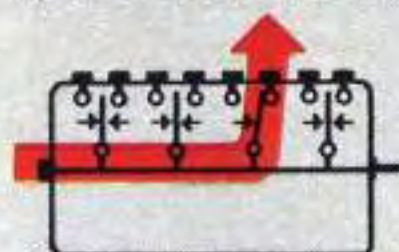


5022

Center conductor isolators for 5 isolation points

Accessories for remote operation

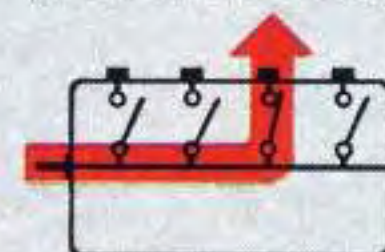
Circuit diagram of 7072 (with switch 3 closed)



7072

Position control box with 8 sockets for connecting 4 double-solenoid-operated articles · The position of signals, turnouts, etc. can be seen from the position of the push-buttons · Length 80 mm (3-1/8") · Width 40 mm (1-9/16")

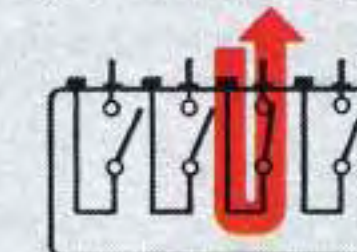
Circuit diagram of 7210 (with switch 3 closed)



7210

Control box with indicator push-buttons for distributing current to 4 traction current or lighting circuits · Used for such purposes as isolating up to 4 parking tracks connected to a single traction current circuit · Length 80 mm (3-1/8") · Width 40 mm (1-9/16")

Circuit diagram of 7211 (with switch 3 closed)



7211

Control box for switching 4 different traction or lighting circuits on and off by means of indicator push-buttons · Used for such purposes as isolating up to 4 parking tracks each connected to their own traction current circuit · Length 80 mm (3-1/8") · Width 40 mm (1-9/16")



7000

Staples · Bag of 50 · For fixing leads to a wooden base



7209

Distribution strips · With 11 single sockets · Size 50 x 20 mm (2" x 3/4")

Märklin heavy-duty transformers

Every Märklin transformer is completely safe, with insulation which has been tested to several thousand volts. Furthermore, a built-in cut-out switches off the current if a short-circuit occurs somewhere on the track or if the transformer is overloaded. The transformer has a lead and a plug which plugs into the a.c. mains in the same easy way that any standard lamp does.

Locomotive speed is proportional to the traction voltage, i.e. when the red control knob is turned to the right the locomotive goes faster, when to the left, slower. If the control knob is turned momentarily to the left of the zero position, a nominal 24 V pulse operates the reversing switch (the "driver") in the locomotive and changes the direction of motion.

We guarantee trouble-free operation of our railroads only when genuine Märklin transformers are used.

Märklin 16 VA and 30 VA transformers have connections for traction current supply and for lighting or solenoid-operated items.

The transformers in the gift packs (pages 10–13) have the same good features as the transformers described here, the only difference being that their power output is less.

To be connected to a.c. mains supply only

Power consumption by locomotives and lights

Calculation examples:
This is how to calculate the number of items which can be connected to the transformer: the tank locomotive 3000 and the express steam locomotive 3085 each take about 9 VA and express diesel locomotive 3021 takes about 12 VA. Any margin of power left over after accounting for the locomotives can be used for train or layout lighting, counting 1 VA for each bulb used. Further details and more calculation examples are contained in booklet 0380 "Märklin HO railroads and their originals".

- 6671** 220 Volt
6660 100 Volt Japan
6667 110 Volt (60 Hz) USA
6669 240 Volt

Transformer · Output 16 VA · Traction voltage adjustable between about 4 V and 16 V · Lighting voltage 16 V · Plastic case · Weight 1.2 kg · Dimensions 125 × 135 × 75 mm (5" × 5-3/8" × 3")

- 6631** 220 Volt
6620 110 Volt Japan
6627 110 Volt USA
6629 240 Volt

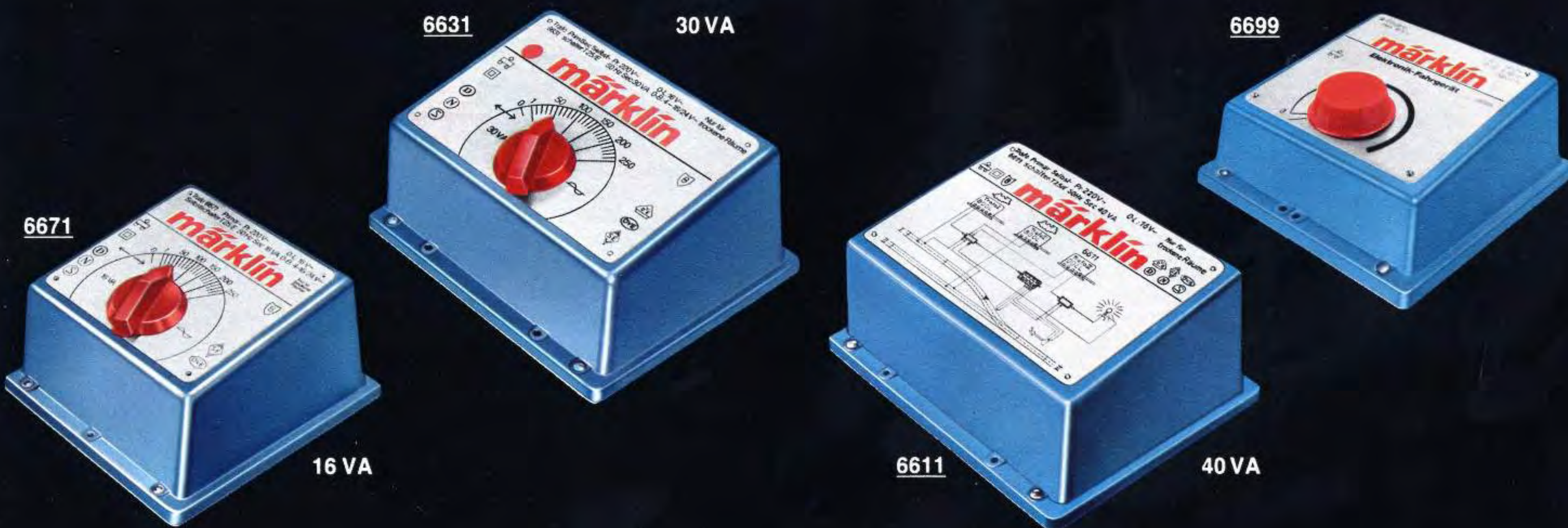
Transformer · Output 30 VA · Traction voltage adjustable between 4 V and 16 V · Lighting voltage 16 V · Plastic case · Red pilot lamp · Weight 2.1 kg · Dimensions 158 × 135 × 75 mm (6-1/4" × 5-3/8" × 3")

Q = 60015

- 6611** 220 Volt
Transformer for lighting and for solenoid-operated items · Output 40 VA · Output voltage approximately 16 V a.c. · Plastic case · Weight 2.0 kg · Dimensions 158 × 135 × 75 mm (6-1/4" × 5-3/8" × 3")

- 6699**
Electronic unit/power pack for very slow running · For connection to Märklin lighting transformer 6611 or to the lighting sockets of a Märklin transformer with 30 VA output power · Lighting voltage 16 V · Electronic control of locomotive speed and direction of motion · Maximum permitted load 1.8 Amperes · Plastic case · Weight 315 grammes · Dimensions 125 × 135 × 55 mm (5" × 5-3/8" × 2-1/8") · Use Märklin leads and plugs to extend connector leads if required

Ideal for HO gauge:
Locomotives can be made to run exactly as they would in real life, with gradual starting, gentle braking and occasionally very slow running.



Fitting out a layout

The locomotive maintenance depot is one of the most interesting aspects of railroad operation, both at full scale and model scale.

The layout and functions of a maintenance depot depend on the type of locomotive being serviced.

Steam locomotive maintenance depot
On completion of a journey the locomotive drives to the coaling point. Then it is towed to the cinder dump. After dumping cinders it is replenished with feed water from the water hose crane and with sand. The locomotive is then ready for use again and is switched to the turntable to be faced in the right direction. This is because the maximum permitted speed of steam locomotives is normally higher for forward motion than for reverse.

1

7288 · Locomotive roundhouse building kit, made of plastic · With 3 automatically closing doors for 3 tracks · (Track sections not included) · Base 442 × 350 mm (1 ft 5- $\frac{3}{8}$ " × 1 ft 1- $\frac{3}{4}$ ") · Height 128 mm (5")

2

7186 · Remote-controlled turntable kit · Consisting of turntable with 360 mm (1 ft 2- $\frac{1}{8}$ ") outside diameter turning in either direction by remote control, with reversing switch and lead · Current is automatically cut off from any of the 6 roundhouse tracks which are not in contact with the turntable track

Adapter track section 2191
(Page 76) enables K-tracks of the 2100 series to be connected to turntable 7186.



1

7288

2

7186

0327

Booklet "Märklin railroads and landscapes" by Bernd Schmid · An invaluable guide to help you design your railroad system: technical details, track layout, landscape planning and the fitting out of a layout are discussed in detail · Many illustrations including some in color · 192 pages · Size 16.4 × 20.3 cm (6- $\frac{1}{2}$ " × 8") · German text

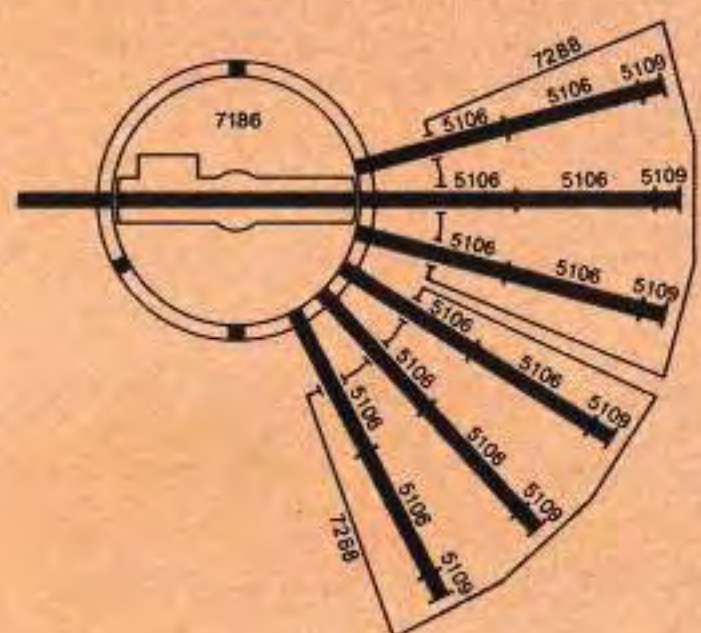


0328

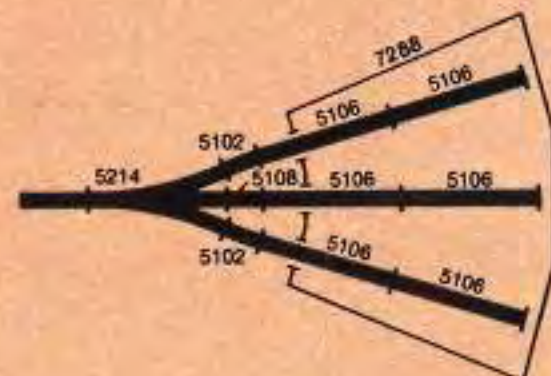


Booklet "Advanced Märklin railroading" by Bernd Schmid · Many new hints on railroad construction for the more ambitious modeler · Supplements his first book with more details · All kinds of construction project are described · Many illustrations including some in color · 262 pages · Size 22 × 17 cm (8- $\frac{3}{4}$ " × 6- $\frac{3}{4}$ ") · German text

This illustration shows the realistic effect obtained by combining 2 round-house sections and a turntable.



Suggested combination of round-house 7288 with three-way turnout 5214.



3

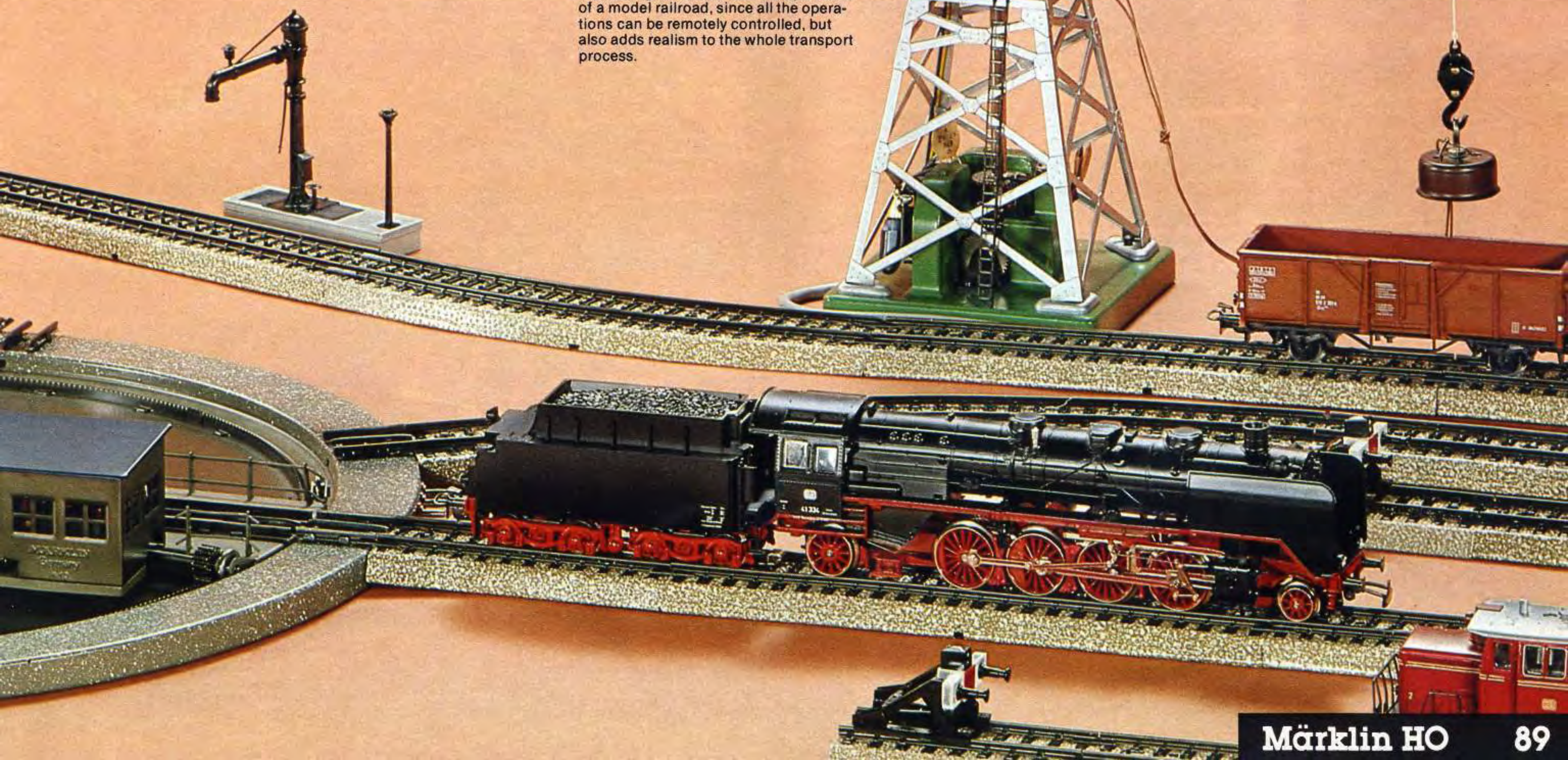
7051 · Remote controlled rotating crane with lifting magnet · One motor rotates the boom, another raises and lowers the load · Load hook and lifting magnet enable iron or iron-containing objects to be transferred by remote control · Boom elevation adjustable by hand · Working light in control cab · Height 260 mm (10-1/4") · Base 90 x 90 mm (3-1/2" x 3-1/2") · 1 combined position control and on/off switch panel · Price does not include locomotive, cars or track

Ⓛ = 60000

If you want to load and unload your trains properly, you need this crane. The lifting magnet only attracts iron objects, of course. You are not confined to handling scrap-metal and pig-iron, however. Screw a couple of small steel screws inconspicuously into wooden freight items and the magnet will be able to lift your wooden boxes and crates from the truck to the freight car. A rotating crane not only introduces new, interesting variations into the operation of a model railroad, since all the operations can be remotely controlled, but also adds realism to the whole transport process.

3

7051



A modern locomotive depot

Diesel and electric locomotives have different depot requirements from steam locomotives. Diesel locomotives only need a fueling point. The water used in motor coolant and pre-warming systems is replenished by hose. Electric locomotives need almost no servicing. Another characteristic of these two types of locomotive is that their ahead and reverse maximum permitted speeds are the same. This means that they do not

need to use turntables. Instead, the railroads have developed transfer tables, which enable locomotives to be directed onto parking tracks, or tracks in the maintenance shed, in the shortest possible distance. This great saving in space, of course, also applies to the Märklin HO gauge transfer table.

1

7289 • Locomotive shed building kit, made of plastic • Can take two locomotives • With 4 manually operated roller doors for 2 tracks • (Track sections not included) • Size 280×150 mm (11"×6")

2

7295 • Catenary kit for transfer table • Consisting of 2 overhead line support gantries, 1 contact line section with connecting lead for the table soldered on, and 10 short contact line sections to match the table tracks

3

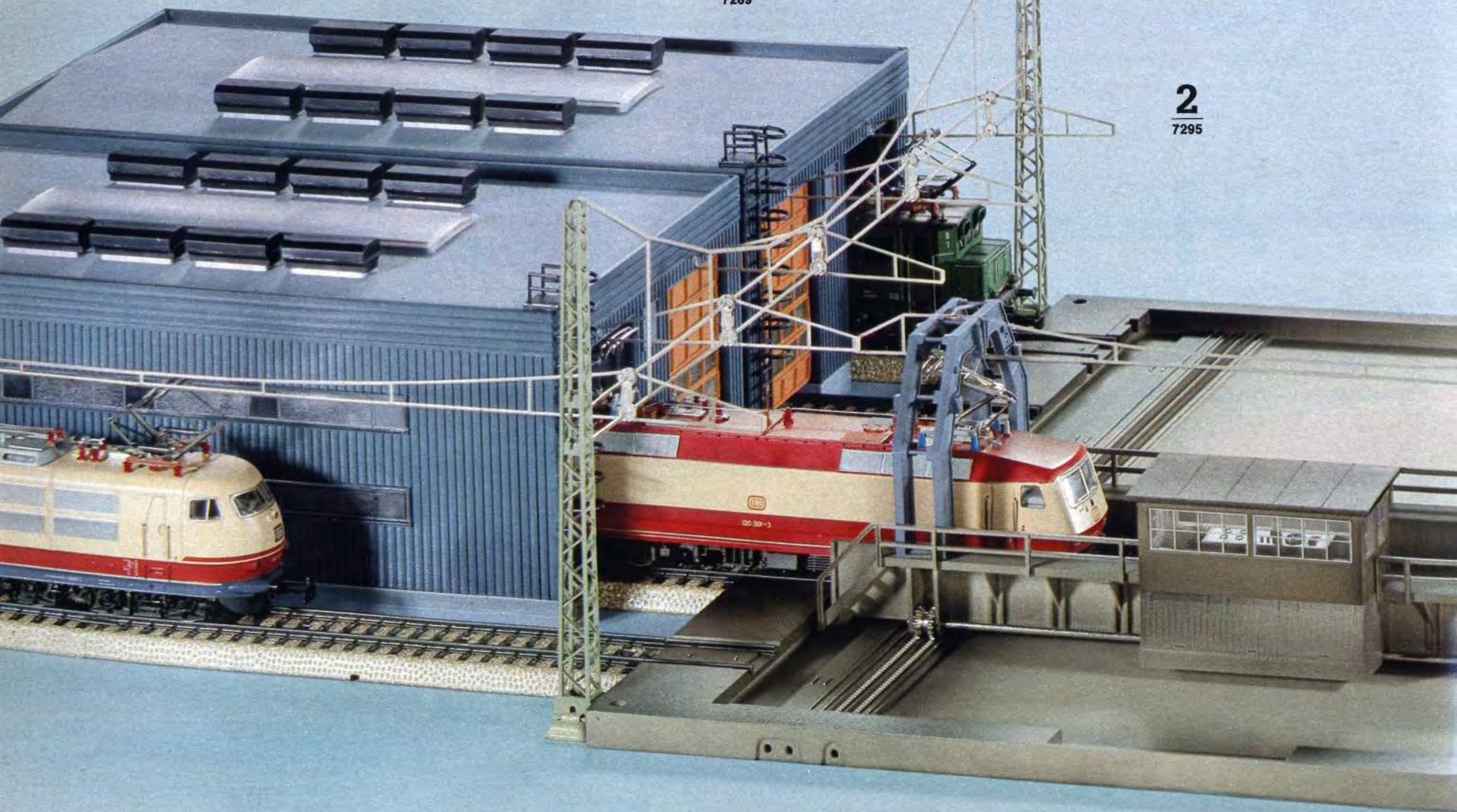
7294 • Transfer table • 2 approach tracks and 4×2 parking tracks • Fits locomotive shed 7289 • Switch for remote control of the table • Electric motor drive • Current automatically cut off from all tracks not in contact with the table • At every track joint there are sockets for making contact with the catenary system • Base area 360×420 mm (1 ft 2-1/8" × 1 ft 4-1/2")

1

7289

2

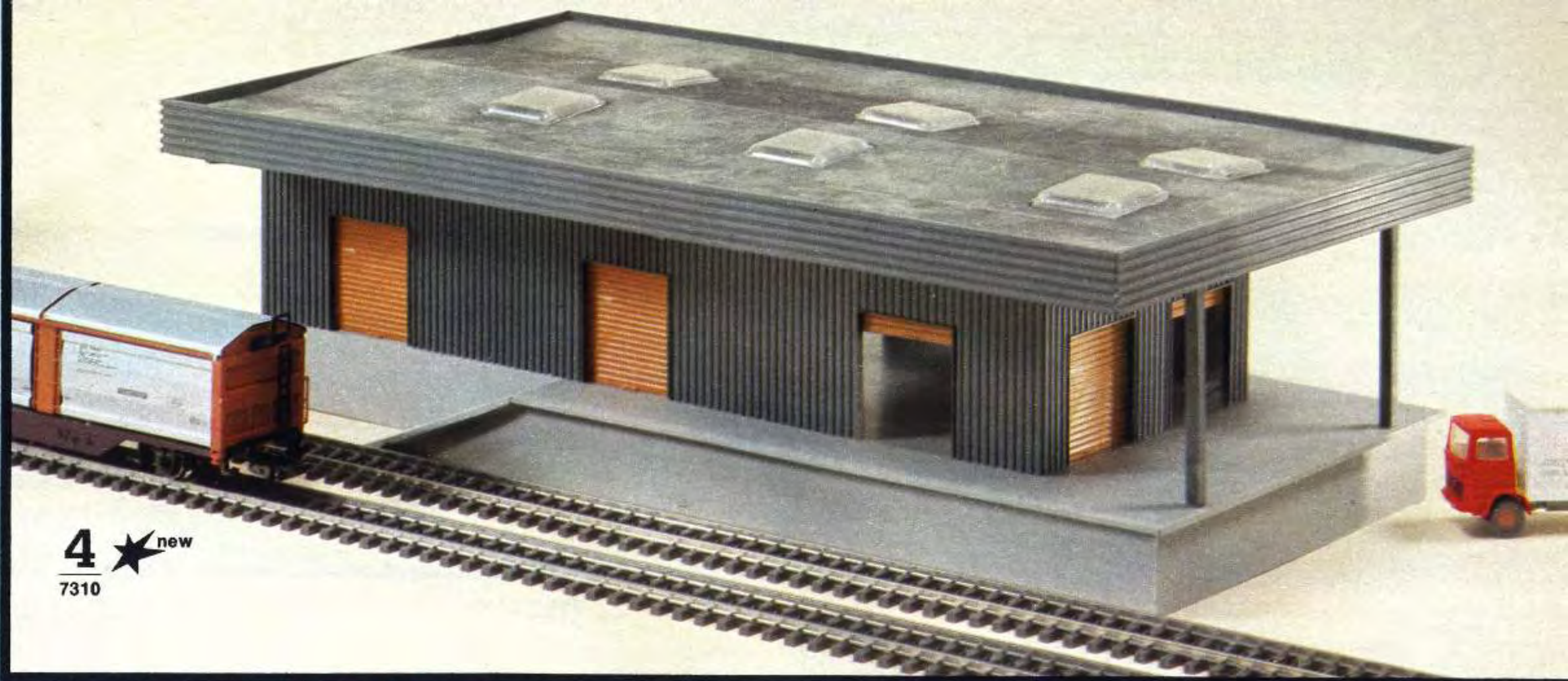
7295



4 ★ new

7310 • Storage shed building kit, made of plastic • With 8 manually operated roller doors • Size 355×200 mm (1 ft 2"×7-7/8")

The originals of the locomotive shed and the storage shed are in Europe's most modern marshaling yard, in Maschen.



4 ★ new
7310

3

7294



Grade-crossings

Fully automatic grade-crossings

When a train approaching a grade-crossing traverses the contact track section, the barriers close. They open when the last car clears the contact track.

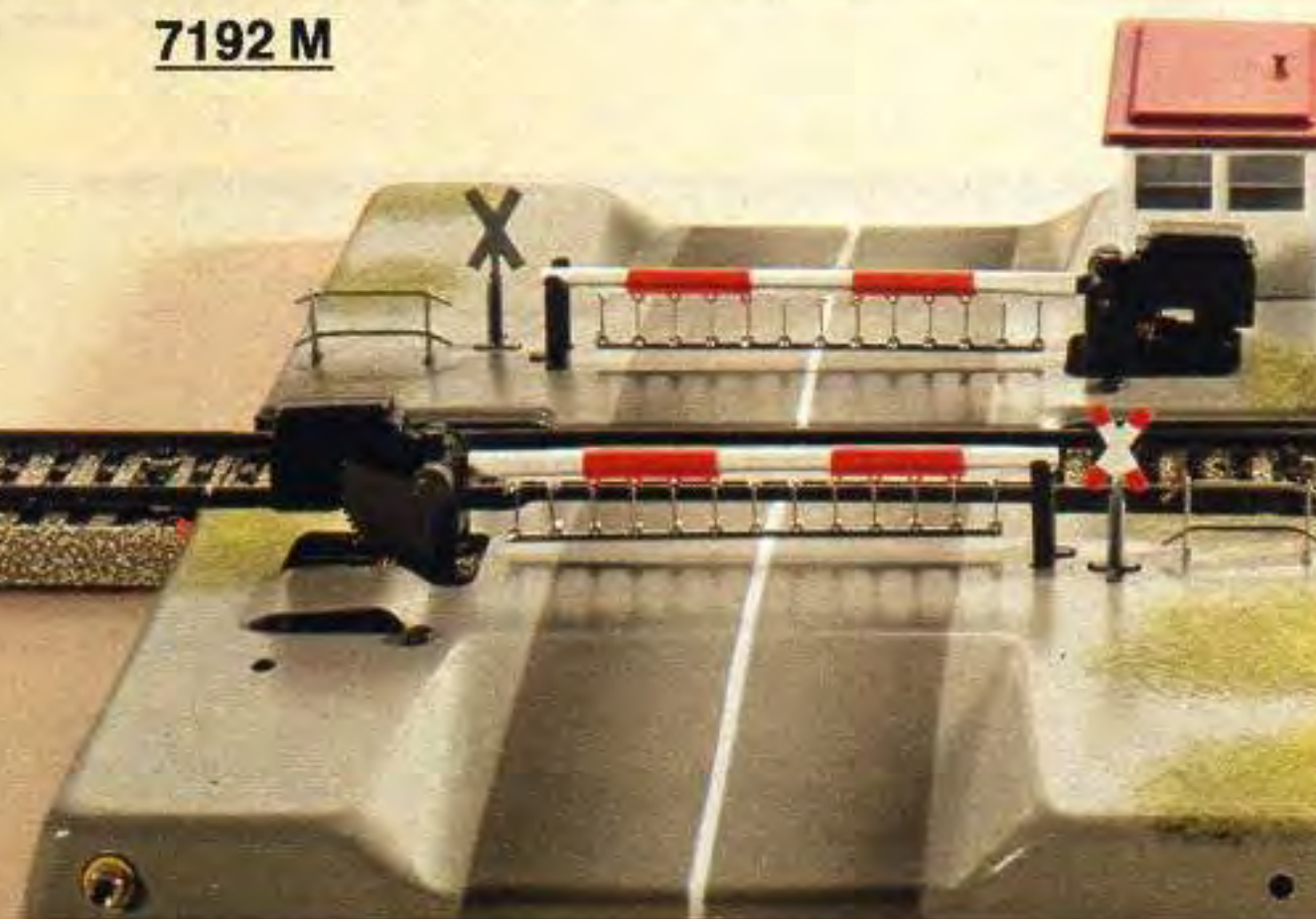
The length of the contact track section can be varied as required, using track sections 5115 and 5116 with M-tracks and ordinary passive tracks with K-tracks.



7192 M

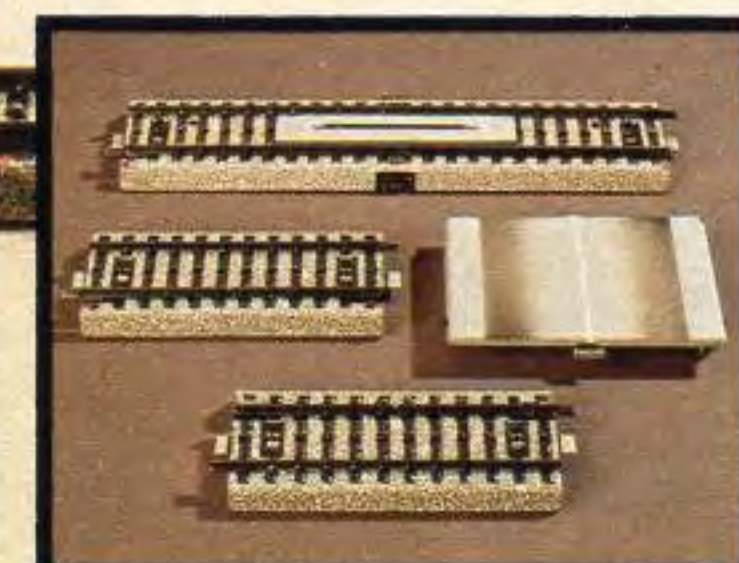
Fully automatic grade-crossing with M-track sections - This set consists of 2 solenoid-operated barriers with an attendant's box, warning crosses and a set of contact track sections (2 lengths of straight track) - Size of base 180×90 mm (7-1/8"×3-9/16") - (No other track sections included)

7192 M



7193 M

Extension set for fully automatic grade-crossing 7192, one being required for each additional parallel track - Consists of a set of contact track sections and a separating piece which is placed between the tracks



Contact track sections

M-track sections 5115 and 5116 are used to extend the contact track section of grade-crossings 7192 and 7292. The contact section can be extended **only** with track sections 5115 and 5116.

5115

Straight - Length 180 mm (7-1/8")

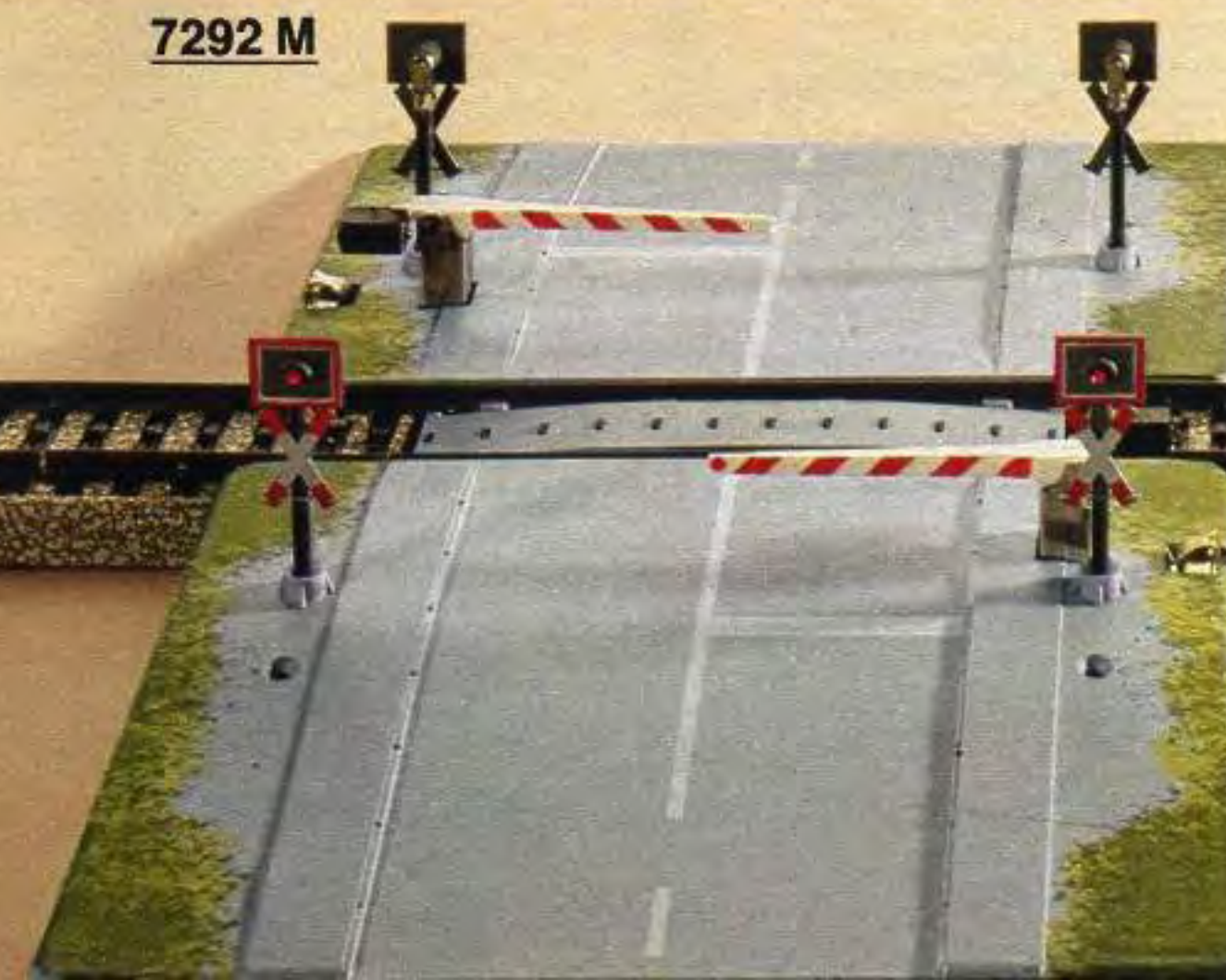


5116

Curved - Radius 360 mm (1 ft 2-1/2")

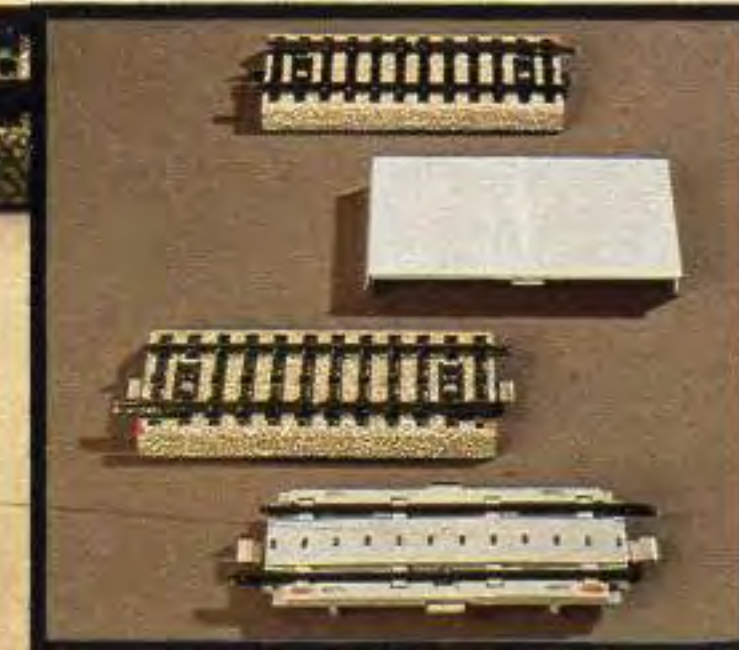


7292 M



7293 M

Extension set for grade-crossing 7292 - One required for each additional parallel track - Consists of a set of contact track sections and a separating piece, adjustable between 43 mm (1-1/16") and 78 mm (3-1/16") which is placed between the two tracks



7292 M

Fully automatic grade-crossing with half-barriers, for metal tracks - This set consists of 2 solenoid-operated barriers, each with 2 red warning lights which come on when the barriers close, and a set of contact track sections (1-1/2 straight track sections long) - Size of base: 137×95 mm (5-3/8"×3-3/4") - (No other track sections are included)

⚡ = 60201

Lighting
These lights can be switched on and off using circuit-breaker boxes 7210 or 7211 (page 86). Alternatively they can be switched by a moving train. For further details see signal manuals 0342 M or 0361 K (page 81).

7046

Arc light with lattice mast - Can be used with M-track catenary system - Height 192 mm (7-9/16") - Base 14×28 mm (9/16"×1-1/8")

⚡ = 60010

7048

Arc light - Height 156 mm (6-1/8") - Base diameter 29 mm (1-1/8")

⚡ = 60010

7283

Lattice mast light · Mounted on a lattice mast · With base plate · Can be used with catenary system · Height 170 mm (6-3/4")

☹ = 60000

7280

Street lamp standard · Height 117 mm (4-5/8") · Base diameter 25 mm (1")

☹ = 60000

7281

Station platform light · Twin armed · Height 97 mm (3-7/8") · Base diameter 25 mm (1")

☹ = 60000

**7282**

Street lamp standard · Twin armed · Height 120 mm (4-3/4") · Base diameter 25 mm (1")

☹ = 60000

7284

Sidewalk lamp standard · Height 63 mm (2-1/2") · Base diameter 15 mm (5/8")

☹ = 60000

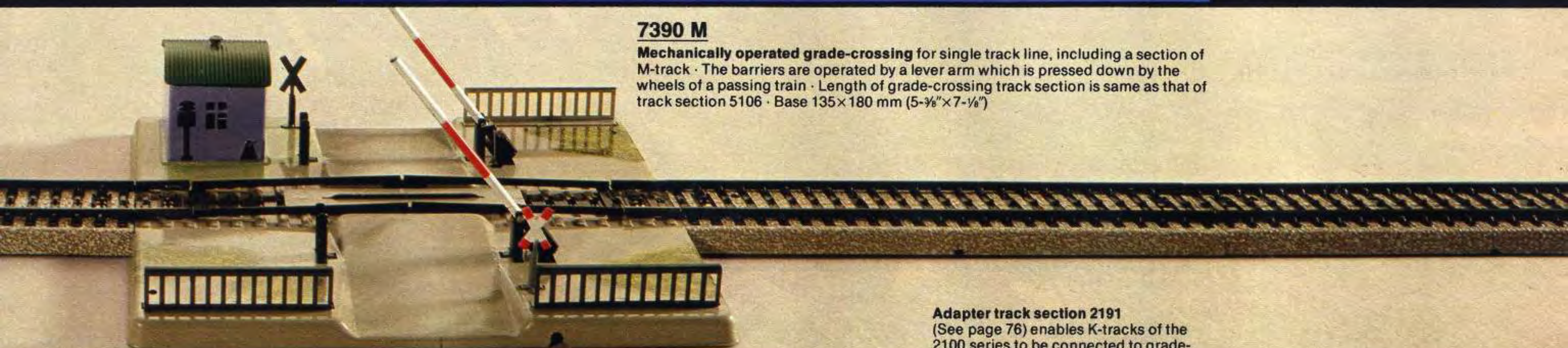
7047

Lamp standard · Height 127 mm (5") · Base diameter 27 mm (1-1/16")

☹ = 60010

7390 M

Mechanically operated grade-crossing for single track line, including a section of M-track · The barriers are operated by a lever arm which is pressed down by the wheels of a passing train · Length of grade-crossing track section is same as that of track section 5106 · Base 135×180 mm (5-3/8"×7-1/8")

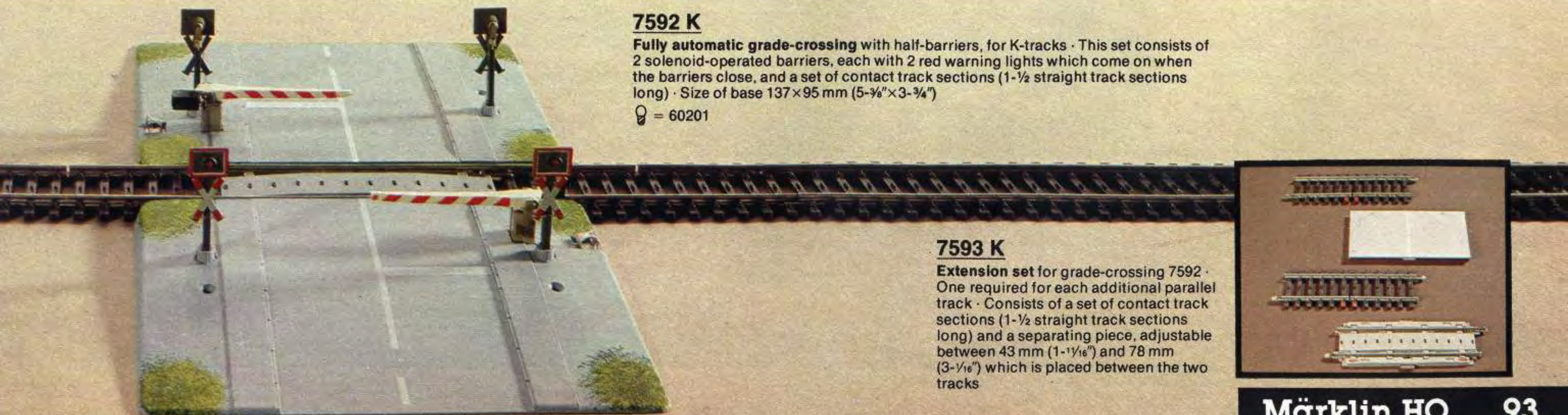
**Adapter track section 2191**

(See page 76) enables K-tracks of the 2100 series to be connected to grade-crossing 7192 and 7390.

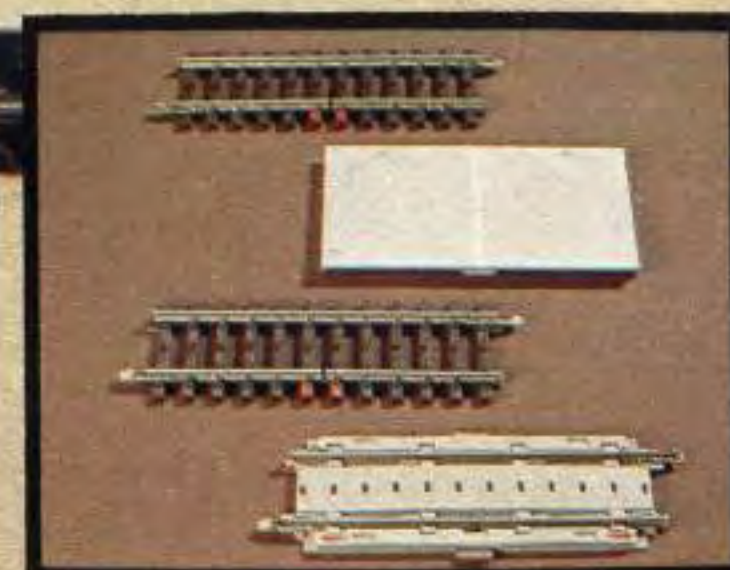
7592 K

Fully automatic grade-crossing with half-barriers, for K-tracks · This set consists of 2 solenoid-operated barriers, each with 2 red warning lights which come on when the barriers close, and a set of contact track sections (1-1/2 straight track sections long) · Size of base 137×95 mm (5-3/8"×3-3/4")

☹ = 60201

**7593 K**

Extension set for grade-crossing 7592 · One required for each additional parallel track · Consists of a set of contact track sections (1-1/2 straight track sections long) and a separating piece, adjustable between 43 mm (1-11/16") and 78 mm (3-1/16") which is placed between the two tracks



Bridge building creates room for more tracks

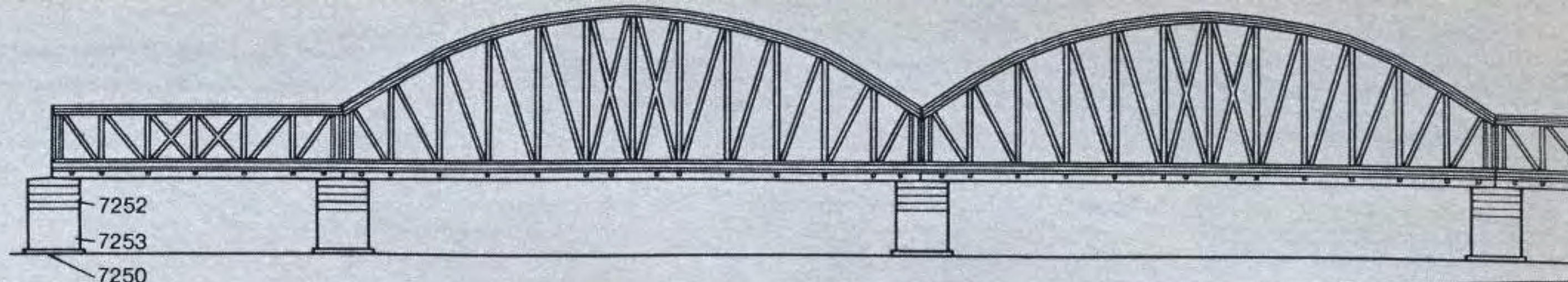
Bridges and ramps add to the appearance and the versatility of model railroad layouts. Gulleys, cuttings and built-up areas can be bridged. Most importantly, room is made for extra tracks, as constructing vertically makes use of the same base area.

With Märklin bridge parts, any size or combination of bridges or ramps can be built. The pier construction elements 7252 and 7253, which fit together like building blocks, enable piers of any height to be built up in steps of 6 mm ($\frac{1}{4}$ "). By using base plate 7251 in conjunction with base plate 7250 it is even possible to raise the height in steps of 3 mm ($\frac{1}{8}$ "). For fixing the pier sections to each other and to the plate the use of flat-head wood screws 7599 is recommended.

Complete instructions for the assembly of bridges are included with 7262 and 7263.



Examples of bridge and ramp construction



0	2,5 = 1 x 7250	5,5 = 1 x 7250 1 x 7251	11,5 = 1 x 7252 1 x 7250 1 x 7251	17,5 = 2 x 7252 1 x 7250 1 x 7251	23,5 = 3 x 7252 1 x 7250 1 x 7251
6 mm Steigung	Pfeilerhöhe bei M-Gleisen				
0	2,5 = 1 x 7250	2,5 = 1 x 7250	8,5 = 1 x 7252 1 x 7250	14,5 = 2 x 7252 1 x 7250	20,5 = 3 x 7252 1 x 7250
6 mm Steigung	Pfeilerhöhe bei K-Gleisen				
0	2,5 = 1 x 7250	5,5 = 1 x 7250 1 x 7251	11,5 = 1 x 7252 1 x 7250 1 x 7251	20,5 = 3 x 7252 1 x 7250	29,5 = 4 x 7252 1 x 7250 1 x 7251
9 mm Steigung	Pfeilerhöhe bei M-Gleisen				
0	2,5 = 1 x 7250	2,5 = 1 x 7250	8,5 = 1 x 7252 1 x 7250	17,5 = 2 x 7252 1 x 7250 1 x 7251	26,5 = 4 x 7252 1 x 7250
9 mm Steigung	Pfeilerhöhe bei K-Gleisen				

7267 K+M



7250



7251



7252



7253



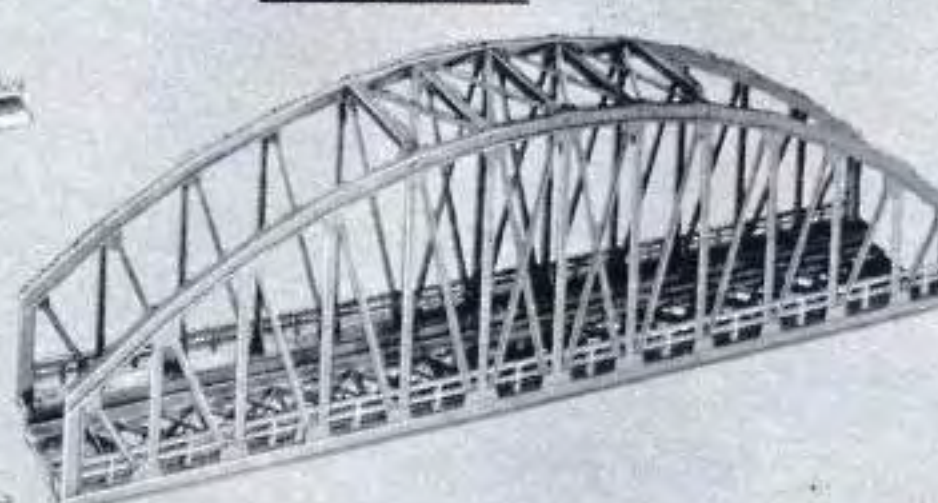
7268 K+M



7269 for M only



7263 K+M



7262 K+M



7569 for K only



7262 K+M

Truss bridge · Gray · Can be used on its own or with arched bridge 7263 · For use with plastic or metal tracks · 3 clips for fixing K-tracks, and instructions for building the bridge · Height 45 mm (1-3/4") · Length 180 mm (7-1/8")

7263 K+M

Arched bridge · Gray · For use with plastic or metal tracks · 6 clips for fixing K-tracks, and instructions for building the bridge · Maximum height 117 mm (4-5/8") · Length 360 mm (1 ft 2-1/8")

7234

Base plate · For fixing 7200 series signal masts to bridges

7250

Base plate · 2.5 mm (1/16") thick · Light brown · Can be used as foundation

7251

Base plate · 3 mm (1/8") thick · Light brown · Can only be used in conjunction with 7250

7252

Pier · 6 mm (1/4") high · Gray · Suitable for building ramps with 6 mm (1/4") rise from one pier to the next

7253

Pier · 30 mm (1-3/16") high · Gray

7267 K+M

Curved ramp section · Gray · Radius of curvature 360 mm (1 ft 2-1/8") · For use with plastic or metal tracks · 3 clips for fixing K-tracks · Length and radius same as track sections 2121 and 5100

7268 K+M

Straight ramp section · Gray · For use with plastic or metal tracks · 3 clips for fixing K-tracks · Length 180 mm (7-1/8")

7269 for M only

Curved ramp section · Gray · Radius of curvature 437.4 mm (1 ft 5-1/8") · For use with 5200 series metal tracks only · Length and radius same as track section 5200

7569 for K only

Curved ramp section · Gray · Radius of curvature 424.6 mm (1 ft 4-3/4") · For use with plastic tracks only (standard circle II, see page 77) · 3 clips for fixing track sections · Length and radius same as track section 2131

Steam locomotive 3102 Class 53

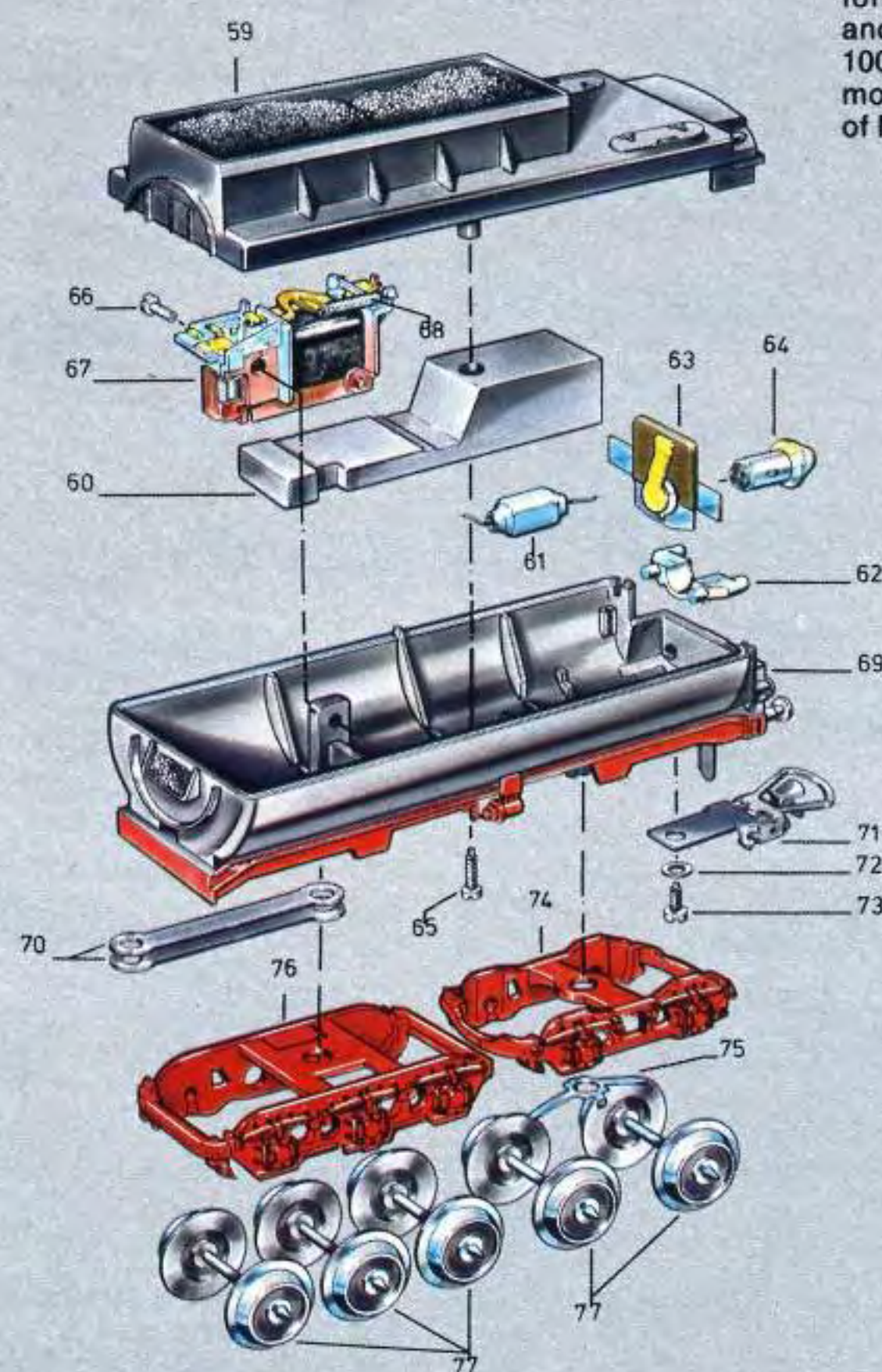
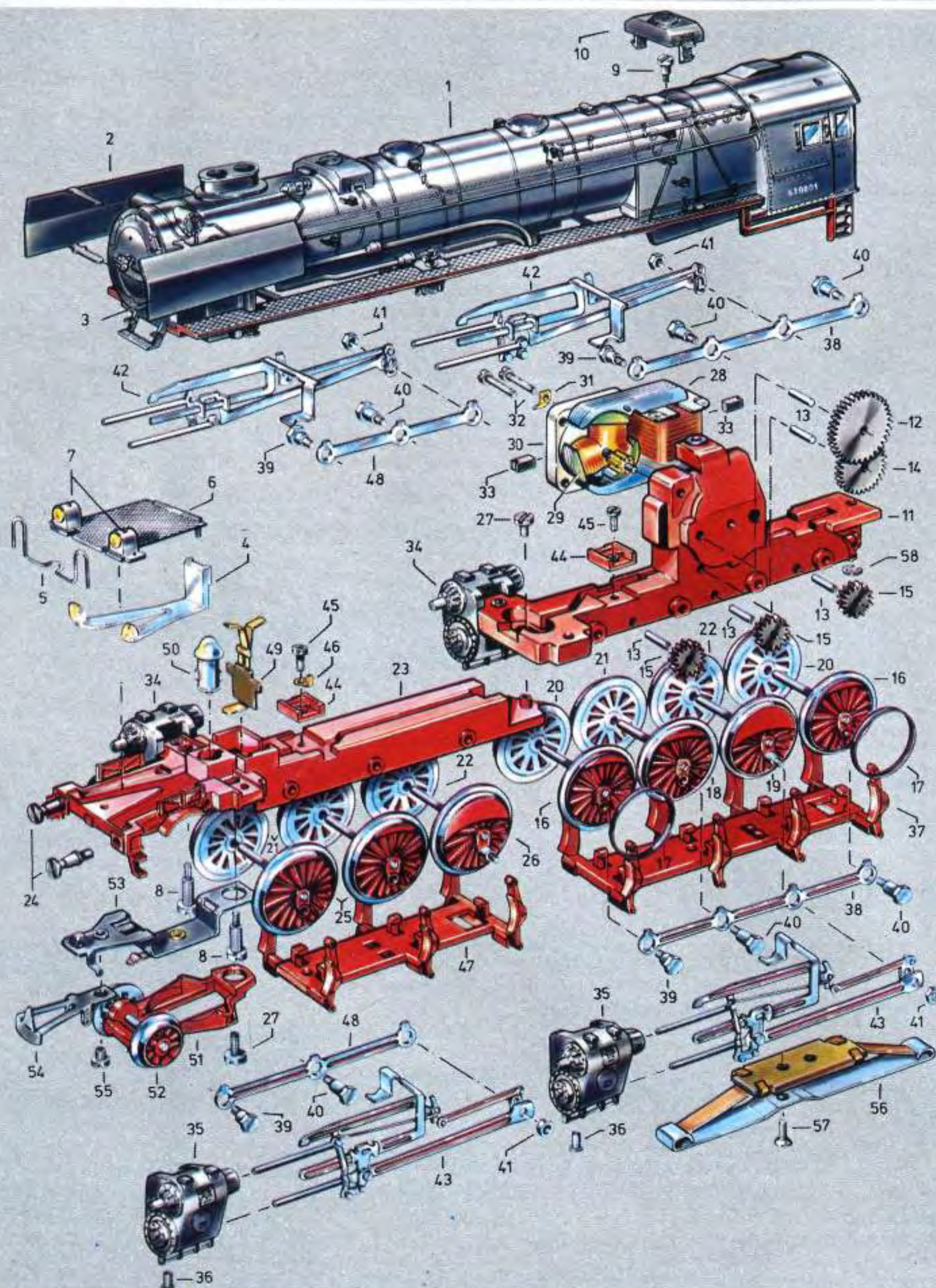
- 1 Locomotive body (complete)
- 2 Smoke deflector plate (right)
- 3 Smoke deflector plate (left)
- 4 Lighting diffuser
- 5 Lamp handles
- 6 Cover
- 7 Lens
- 8 Cheese-head shoulder bolt
- 9 Cheese-head shoulder bolt

- 10 Sand dome
- 11 Rear driving truck (complete)
- 12 Cluster gear
- 13 Bearing pin
- 14 Gear wheel
- 15 Gear wheel
- 16 Part of driving axle
- 17 Non-skid tire
- 18 Part of driving axle
- 19 Part of driving axle
- 20 Driving wheel with non-skid tire
- 21 Driving wheel
- 22 Driving wheel
- 23 Front driving truck (complete)
- 24 Buffer
- 25 Part of driving axle
- 26 Part of driving axle

- 27 Cheese-head screw
- 28 Field magnet
- 29 Armature
- 30 Motor end plate
- 31 Soldering tag
- 32 Cheese-head screw
- 33 Pair of carbon brushes
- 34 Cylinder (right)
- 35 Cylinder (left)
- 36 Hollow rivet
- 37 Simulated underframe
- 38 Coupling rod
- 39 Hexagonal shoulder bolt
- 40 Hexagonal shoulder bolt
- 41 Hexagonal nut
- 42 Drive rod assembly (right)
- 43 Drive rod assembly (left)

- 44 Insulating plate
- 45 Cheese-head screw
- 46 Soldering tag
- 47 Simulated underframe
- 48 Coupling rod
- 49 Spring plate
- 50 Light bulb
- 51 Running truck (complete)
- 52 Running wheel
- 53 Steering arm
- 54 Coupling hook
- 55 Cheese-head shoulder bolt
- 56 Current pick-up shoe
- 57 Countersunk head screw
- 58 Circlip
- 59 Tender body
- 60 Ballast

- 61 VHF choke
- 62 Lighting diffuser
- 63 Lamp holder
- 64 Light bulb
- 65 Cheese-head screw
- 66 Cheese-head screw
- 67 Reversing switch
- 68 Reverser unit spring
- 69 Tender frame
- 70 Coupling rod
- 71 Coupling
- 72 Washer
- 73 Cheese-head screw
- 74 Truck frame
- 75 Pick-up shoe spring
- 76 Truck frame
- 77 Wheel set



Märklin locomotives are masterpieces of realistic model engineering. The reliable working models are composed of many precision made parts. Delicately formed and yet robust. Small and yet powerful. More than 100 years' experience of modeling – that is the basis of Märklin's success.



**the smallest
electric railway in
the world
1980**



Size Z
with 6.5 mm (1/4") gauge
Scale 1:220
8 volts Direct Current DC
Fully functional catenary
system

mini-club is a high quality model railroad system. It is accurately scale-modeled and is produced to Märklin standards. It is capable of extension in all sorts of ways and yet it occupies amazingly little space.

A mini-club layout can go anywhere: in a suitcase or a drawer, for example, or on a shelf. A shelf only 30 cm (11-13/16") wide can accommodate an oval track, and a double track run only occupies a width of 4 cm (1-9/16").



The fully functional catenary system adds considerably to the interest of a layout. Main-line tracks can be made to appear "electrified", just as in real life, and two trains on the same track can be controlled independently.



Märklin mini-club Coveted by every man



Layouts can be decorated with accessories, both conventional and unconventional. Imagination can play its part. mini-club can appear surprisingly large when placed in a landscape made up of corks and match-boxes.



mini-club — ready to go

Take it out of the box, set it up, and away you go. With mini-club it is as easy as that. Basic sets 8158–8161 and 8163–8166 S contain a complete freight train together with track material and a power pack. You can extend the set later using the SET program. Or you can start with one of our attractive train sets, a power pack and whatever track material you choose.

More information on mini-club is available in our booklet 0292 and from Märklin dealers.

A great gift on any occasion

Basic sets

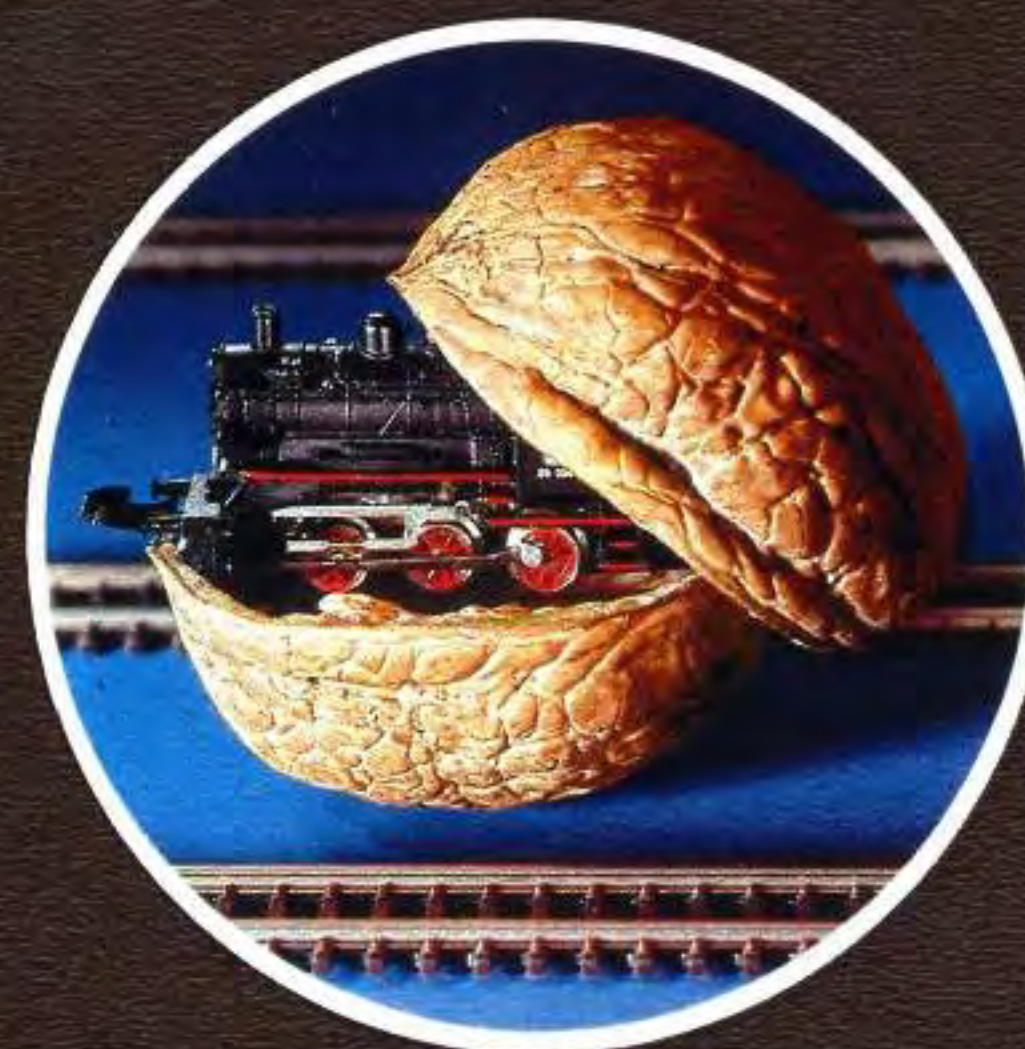
8158 220 Volt
8159 100 Volt Japan
8160 110 Volt (60 Hz) USA
8161 240 Volt

Freight train with power pack - With tank locomotive 8895, 1 beer car 8603, 1 box car 8605, 1 box car 8606, 1 freight train baggage car 8609, 19 straight track sections 8500, 4 curved track sections 8520, 6 curved track sections 8521, 1 double slip switch 8560, 1 pair solenoid-operated turnouts 8561, 1 right hand solenoid-operated turnout 8561, 1 feeder track section 8590, 2 curved track sections 8591, 3 bumpers 8991, 1 water hose crane, 1 position control box 7072, 1 distribution strip 7209, leads, plugs, sleeves and a power pack. Length of train 273 mm (10-3/4")

8163 S 220 Volt
8164 S 100 Volt Japan
8165 S 110 Volt (60 Hz) USA
8166 S 240 Volt

Freight train with power pack - With 1 tank locomotive 8800, 1 box car 8606, 1 low sided car 8610, 1 straight track section 8500, 4 curved track sections 8520, 6 curved track sections 8521, 1 feeder track section 8590 and 1 power pack. Length of train 160 mm (6-5/16")

The tracks of both these sets can be extended as desired, using the SET extension program, or the appropriate catenary system kits, or to your own design, using signals.



Train sets

mini-club train sets are coveted gifts—beautifully packed and in realistic arrangements. They often have features not available as separate items.

8100

Express train - With 1 express locomotive 8891, 2 express coaches 8731 and 1 express baggage car 8732. Length of train 372 mm (1 ft 2-3/4")

8101

Multiple unit train - With 1 electric locomotive (E 111), 1 local passenger service coach 8716, 1 local passenger service coach 8717 and 1 local passenger service coach with baggage compartment and control car 8718. The locomotive and the control car are fitted with a lighting system which changes over automatically when the train changes direction, so that the train always displays 3 white headlights in front and 2 red tail-lights at the rear. Length of train 449 mm (1 ft 5-3/4")

Only the locomotive in this train set has the automatic red and white light changeover system. This locomotive can not be supplied separately.

8102

Express train - With 1 express locomotive 8892, 2 express coaches 8730 and 1 express baggage car. Length of train 372 mm (1 ft 2-5/8")

The express baggage car is not available as a separate item.

■ The first S 3/6 locomotives were based in Munich until 1941 and they played an important part in the Bavarian express services. From Munich they traveled out in all directions: to Lindau, Ulm, Würzburg, Nürnberg, Regensburg, Salzburg and Kufstein.

8103

Track construction train - With 1 diesel locomotive 8864, 1 crane car 8621, 1 low sided car 8610 with boom support, 1 low sided car 8610 with stack of cross-ties, 1 low sided car 8610 with load of rail sections, 2 open freight cars 8622 with load of gravel and 1 accommodation car. Length of train 440 mm (1 ft 5-1/4")

■ Track construction trains consist of various combinations of cars, such as accommodation cars and cars for carrying equipment and materials. For large projects, in particular, construction crew sleeping cars are needed so that time is not lost in excessive traveling.

Regular maintenance and repair are necessary to keep the track and turnouts in good condition. The amount of maintenance required depends on axle loads, vehicle speeds, the daily load and the effects of weather. Heavily loaded tracks normally have to be replaced every 15 to 20 years.



8103



new

8101



8100



8102



8158



8163



Steam locomotives

The illustrations are actual size 1:1

Features of steam locomotives

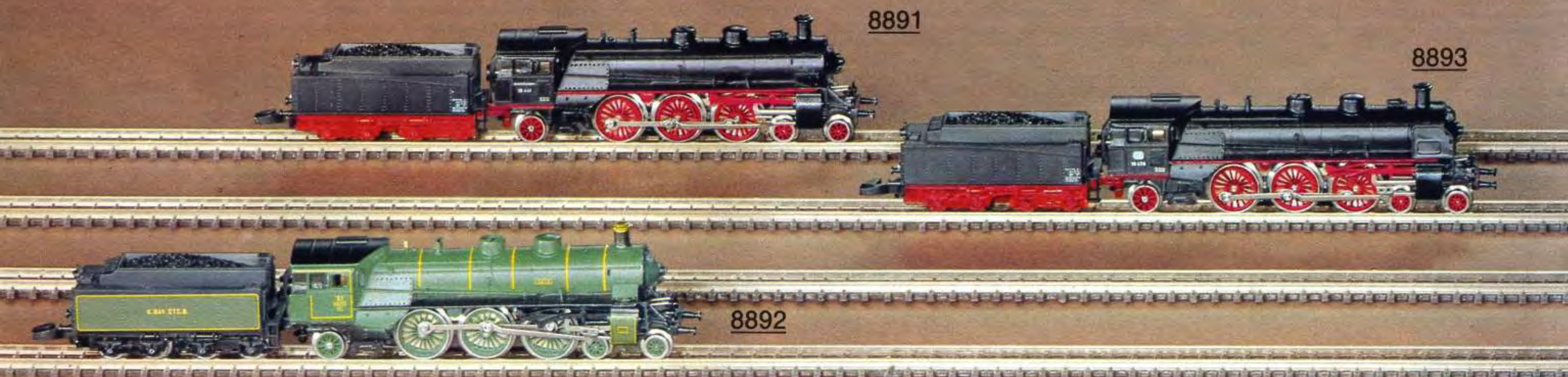
Remote control for forward and reverse drive · Three working headlights (except 8800 which has no lights and 8803 which can take lighting set 8953) · All driving axles driven through spur gears · Automatic coupling at rear of locomotive or on the tender · Die cast zinc frame · Metal body

☛ = 8953

8891

Express locomotive with tender · Model of the former German State Railways' class 18⁴ · Wheel arrangement 4-6-2 · Length over buffers 106 mm (4-¹/₁₆")

The mini-club range includes one of the most famous German steam locomotives in three different versions as it appeared in three great periods of railway history: the S 3/6 of the Royal Bavarian Railways (8892) and the class 18 of the former German State Railways (8891) and of German Federal Railways (8893).



mini-club locomotives must only be powered by Märklin power packs 6711, 6727 or 6731 (with maximum traction voltage 8 V) or by the power packs included in the train sets.

The locomotives are fitted with radio interference suppressors. In conjunction with the suppressors fitted in the Märklin power packs and in feeder track sections 8590, these ensure a high standard of suppression.

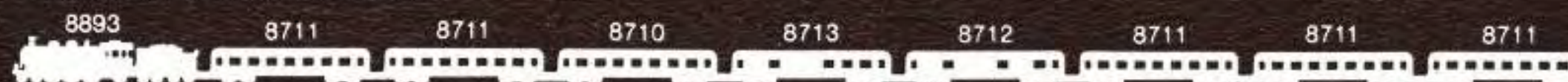
8892

Express locomotive with tender · Model of the former Royal Bavarian Railways' S 3/6 · Wheel arrangement 4-6-2 · Length over buffers 106 mm (4-¹/₁₆")

8893

Express locomotive with tender · Model of German Federal Railways' class 18⁴ · Wheel arrangement 4-6-2 · Length over buffers 106 mm (4-¹/₁₆")

Examples of train composition:



8827

Freight train locomotive with tender · Model of German Federal Railways' class 41 · Wheel arrangement 2-8-2 · Length over buffers 112 mm (4-3/8")

8896 ★ new

Tank locomotive · Model of German Federal Railways' class 86 · Wheel arrangement 2-8-2 · Three working headlights at each end · Red painted

driving rod assemblies · Automatic coupling at each end · Length over buffers 63 mm (2-1/2")

Q = 60210 (rear)

8803

Passenger train locomotive with tender · Model of German Federal Railways' class 24 · Wheel arrangement 2-6-0 · Length over buffers 82 mm (3-1/4")

8896**new****8827****8803****8895****8800****8885****8895**

Tank locomotive · Model of German Federal Railways' class 74 · Wheel arrangement 2-6-0 · Coupling hook in front · Length over buffers 55 mm (2-1/8")

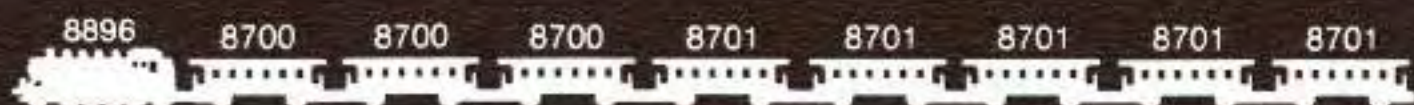
8885

Express locomotive with tender · Model of German Federal Railways' class 003 · Wheel arrangement 4-6-2 · Length over buffers 112 mm (4-3/8")

According to the well-known "Guinness Book of Records" the world endurance record for model railroads was 440.7 km (273.8 miles), covered in about 300 hours. Our mini-club locomotive 8885, with 6 express coaches, covered no less than 720 km (447 miles), or the distance from Stuttgart to Hamburg, in 1219 hours, without stopping. This record was set up in an impartial testing institution.

**8800**

Tank locomotive · Model of the class 89 · Wheel arrangement 0-6-0 · Automatic coupling at each end · Length over buffers 45 mm (1-3/4")



Electric locomotives

Although only 40 % of its rail network is electrified, by concentrating on major routes German Federal Railways has enabled 80 % of all its transportation to be electric. Electric power is not only clean; being produced mainly in coal-burning power stations it is also reasonably independent of world energy crises. The railroad is also the most economical means of transport – the entire energy consumption of German Federal Railways is only about the same as the total energy used in West Berlin.

While rail transportation requires only 0.8 % of our energy resources, road traffic accounts for 8 % – ten times as much energy but achieving only 2.3 times as much transportation.

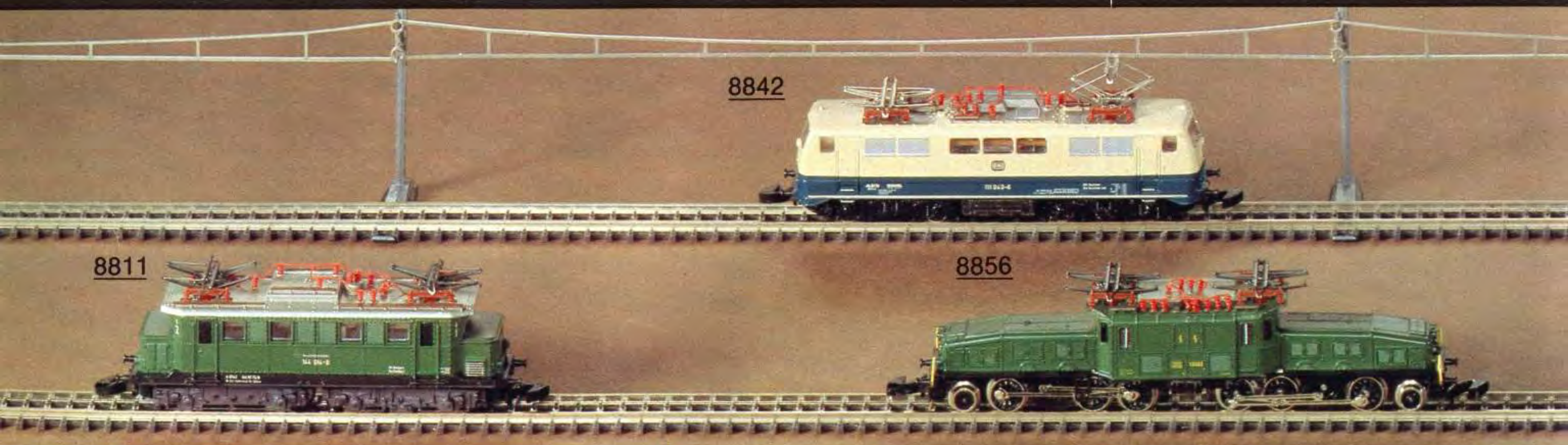
Features of electric locomotives

Remote control for forward and reverse drive · Both trucks driven · Three working headlights at each end, changing over with change of direction · Change-over switch for selecting catenary or track supply · 2 spring-loaded pantographs on roof · Automatic coupling at each end · Die cast zinc frame · Windows inset in plastic frames

⚡ = 8953

8842

Electric express locomotive · Model of German Federal Railways' class 111 · Wheel arrangement B-B · Length over buffers 76.8 mm (3")



new

8811 ★ ^{new}

Electric passenger train locomotive · Model of German Federal Railways' class 144 · Wheel arrangement B-B · Length over buffers 68 mm (2-1/16")

■ In 1931 the German State Railways ordered 20 B-B locomotives from the firm of Siemens-Schuckert. They were intended for use on passenger and light freight services on the Augsburg-Stuttgart route, which was to be electrified. By 1945 a total of 174 class E 44 machines had been delivered. German Federal Railways bought another 7 of this well-proven type even after 1945.

The E 44 was soon being used on all the electrified parts of the German Railways. Because of its versatility it became regarded as the workhorse of the railroads. It covered an average distance of 20,000 km (12,440 miles) per month.

The E 44 is driven by 4 axle-hung motors located in two double-axled trucks. All tractive and decelerative forces are absorbed by the trucks, which are coupled together. The total power is 1860 kW continuous rating, or 2200 kW hourly rating, and the maximum speed 90 km/h (56 mph).

8856

Electric freight train locomotive · Model of Swiss Federal Railways' (SBB) Be 6/8^{III} locomotive "Crocodile" · Wheel arrangement 1'C-C1 · Length over buffers 91 mm (3-5/8")

The "Crocodile" is one of the most interesting locomotives in the world. This mighty machine is 91 mm (3-5/8") long even at mini-club scale. Its articulated construction enables it to negotiate any mini-club curve without trouble. The three body sections, i.e. the center and two end parts, are finely detailed. Insulators electrical cables on the roof and handrails on the buffer beams have been fitted.

■ Swiss Federal Railways (SBB) have to contend with difficult terrain, with a rail network covering 3000 km (1875 miles) which has about 3600 bridges, 250 tunnels and inclines of as much as 38 %.

These conditions, together with the availability of hydro-electric power, led to the rapid development of railroad electrification in Switzerland. After initial trials in 1904, scheduled electric services started on 1 December 1907 on the Seebach-Wettingen route.

Shortage of coal spurred further development. The Gotthard line was electrified in 1916. By 1936, 73 % of the Swiss railroad system was equipped with overhead lines, and the overhead line has covered the entire network since 1960.

40 % of all the rail traffic passing across the Alps uses the Gotthard line. In the early 1920s the growth in freight traffic

Electric locomotives should really have overhead lines. The mini-club catenary system looks right and works in the same way as the real thing.

8857

Electric freight train locomotive ·
Model of German Federal Railways' class 151 · Wheel arrangement C-C ·
Length over buffers 88 mm (3-1/2")

8855

Electric locomotive · Model of German Federal Railways' class 111 used on urban high speed services in the Rhine and Ruhr districts · Wheel arrangement B-B · Length over buffers 76.8 mm (3")

8854

Electric high speed locomotive ·
Model of German Federal Railways' class 103 · Wheel arrangement C-C ·
Length over buffers 88 mm (3-1/2")

8854

8855

8857

8858

8858

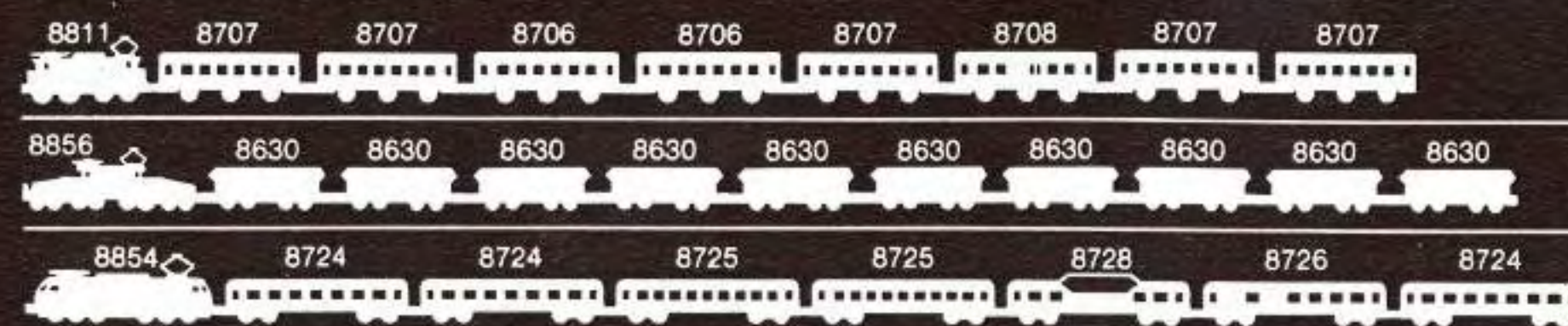
Electric freight train locomotive · Model of German Federal Railways' class 151 · Wheel arrangement C-C · Length over buffers 88 mm (3-1/2")



led to the requirement for locomotives able to undertake two return journeys between Arth-Goldau and Chiasso within 28 hours. Thus the locomotive with the designation Ce 6/8^{II} was born. From this developed the famous heavy freight locomotive Be 6/8^{III}, the "Crocodile".

Its performance: on level track it could pull a 2000 ton load at 60 km/h (37 mph), and it could pull 520 tons (or 15 cars) up an incline of 26‰ at 40 km/h (25 mph).

Examples of train composition:



Diesel locomotives · Railcars

Features of diesel locomotives and railcars

Remote control for forward and reverse drive · All axles driven · Three working headlights at each end (except for 8802 and 8864) · Automatic coupling at each end (except for 8802) · Die cast zinc frame

Q = 8953

8864

Diesel locomotive · Model of German Federal Railways' class 260 · Wheel arrangement 0-6-0 · Metal body · Length over buffers 49 mm (1-15/16")

■ The class 260 dates from 1955. The original designation was V 60. The 12 cylinder 478 kW diesel engine is situated under the long hood. Under the short hood there are air tanks and fuel tanks.

Steam enthusiasts will be glad to know that pre-warming of the 260's power plant still depends partly on the use of a coke fire.



8864



8875



8875

Diesel locomotive · Model of German Federal Railways' class 216 · Wheel arrangement B-B · Three working headlights at each end, depending on direction of motion · Length over buffers 75 mm (3")

8874



8874

Diesel locomotive · Model of German Federal Railways' class 216 · Wheel arrangement B-B · Three working headlights at each end, depending on direction of motion · Length over buffers 75 mm (3")

■ In the mid 1950s, German Federal Railways began converting from steam to diesel and electric locomotives. This program resulted in an unusually limited range of locomotive types. One of these, developed by the Krupp industrial and steel corporation of Essen, was the standard mainline diesel locomotive 216, which appeared in 1956.

8816

Railbus · Model of German Federal Railways' type 798 · Length over buffers 62 mm (2-7/16")

To aid safe and smooth switching, the 260 is fitted with a standard radio system enabling communication between the driver, the switching controller and other points. The locomotive can also be operated by radio remote control.

Like the class 261, the 260 is also used on freight services.

8817

Trailer for railbus · Model of German Federal Railways' type 998 · Length over buffers 62 mm (2-7/16")

How the track-cleaning railcar works



8802

Track-cleaning railcar · 2 driven axles · Automatic coupling at car end · Length over buffers 62 mm (2-7/16")

This vehicle has two driven axles. The rear wheels are ridged to provide extra friction. Two track-cleaning ridged wheels are located ahead of the front axle. These rotate faster than the driving wheels, causing the dirt on the track to be thrown off.

8816



8817

8802



The following items are required for locomotive maintenance:

7199

Bottle of oil · Containing about 10 cc lubricating oil for locomotives and cars

8953

Lighting fitting · With 10 V bulb · For use in locomotives which can take lighting

8987

Pair of carbon brushes for locomotives 8800, 8803, 8864 and 8895

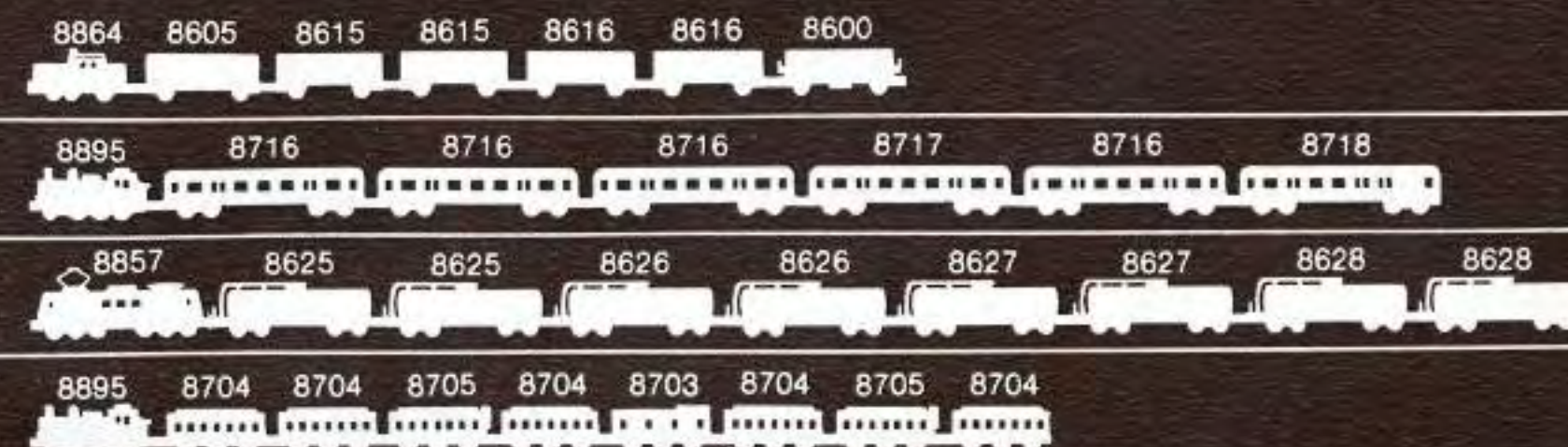
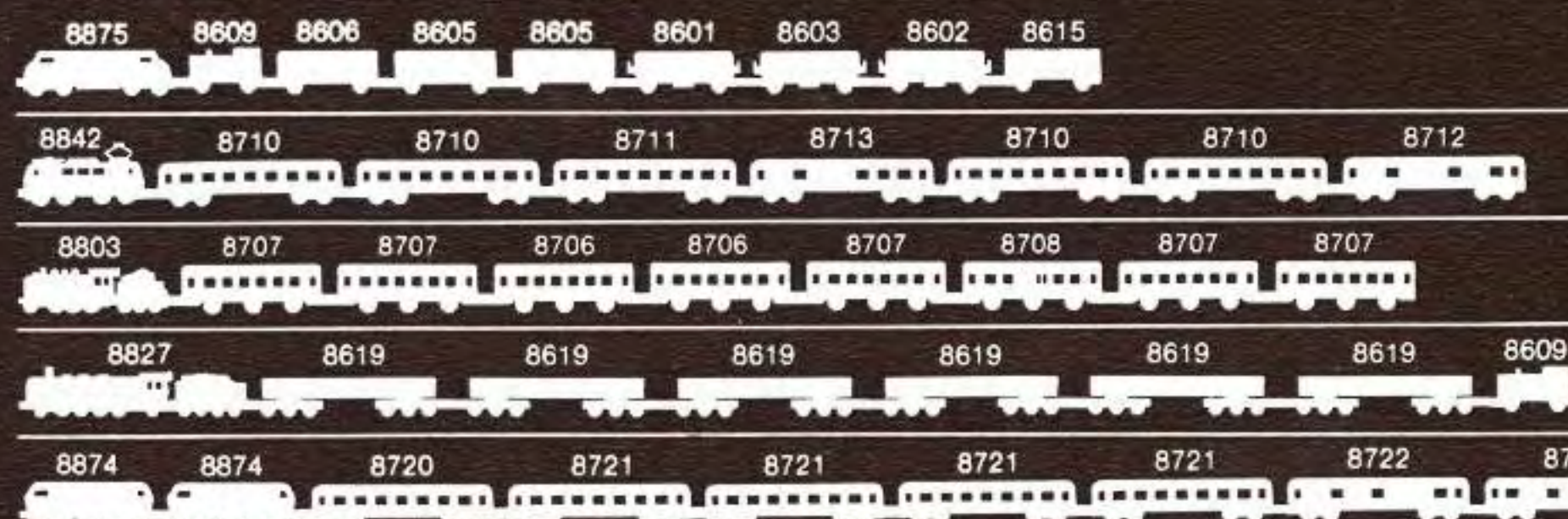
8988

Pair of carbon brushes for locomotives 8802, 8816, 8854, 8857, 8858, 8874 and 8875

8989

Pair of carbon brushes for locomotives 8811, 8827, 8842, 8855, 8856, 8885, 8891, 8892, 8893 and 8896

Examples of train composition:



Passenger cars

Passenger cars of German Federal Railways

Models of German Federal Railways · 3 axles · Windows inset in plastic frames

8706 ★^{new}

Passenger coach · AB3yge · 1st and 2nd class · Length 61 mm (2-3/8")

8707 ★^{new}

Passenger coach · B3yge · 2nd class · Length 61 mm (2-3/8")

8708 ★^{new}

Passenger coach with baggage compartment · BD3yge · 2nd class · Length 61 mm (2-3/8")

■ In the early 1950s there were a great many obsolete and damaged two and three axled passenger coaches in the reserve stocks of German Federal Railways. By modifying the underframes of several thousand old coaches, new types of three axled coach were developed, consisting of 1st and 2nd (mixed) class cars, 2nd class cars, and 2nd class cars with baggage compartments. These cars were fitted with beaded rubber interconnecting walkways.

8706

8707

8708

new

new

new

8716

8718

8717

Models of German Federal Railways · 4 axles · Windows inset in plastic frames · Length 120 mm (4-3/4")

■ These local passenger service coaches of German Federal Railways are sometimes called "Silberlinge" (Silver cars). The car bodies are made of stainless steel with peacock's-eye pattern.

8716

Local passenger service coach · Bnb · 2nd class

8717

Local passenger service coach · ABnb · 1st and 2nd class

8718

Local passenger service coach with baggage compartment and control compartment · BDnrzf · 2nd class · Three headlights and red tail-lights, operating in accordance with the direction of motion

■ Local service multiple-unit trains consist of a locomotive, a number of intermediate cars, depending on the traffic density, and a control car at the other end of the train. All the driver has to do at the end of the line is to get out of the locomotive and into the control car and he can then drive back again.

With the locomotive pulling (i.e. in front), the control car shows two red tail-lights.

With the locomotive pushing (i.e. with the control car leading), the control car shows three white headlights.

Passenger cars of the former German provincial railways

Models of the **Württemberg Railway** · 2 axles · Platform and entrance at each end · Windows glazed with "cellon" panes · Length 60 mm (2-3/8")

8700

Passenger cars

8701

Passenger cars

Model of the **Bavarian Railway** · 4 axles · Windows inset in plastic frames · Length 87 mm (3-3/8")

8730

Express coach · Type CCü of the former Royal Bavarian Railways · 3rd class

Passenger cars of the former German State Railways

Models of the former German State Railways · 4 axles · Windows inset in plastic frames

8731

Express coach · C4ü bay 11 · 3rd class · Length 87 mm (3-3/8")

8732

Express baggage car · Pw4ü bay 09 · Length 78 mm (3-1/16")

Passenger cars of German Federal Railways

Models of German Federal Railways · 3 axles · Windows inset in plastic frames

8703

Baggage car · Formerly Pw3-pr02 · Length 57 mm (2-1/4")

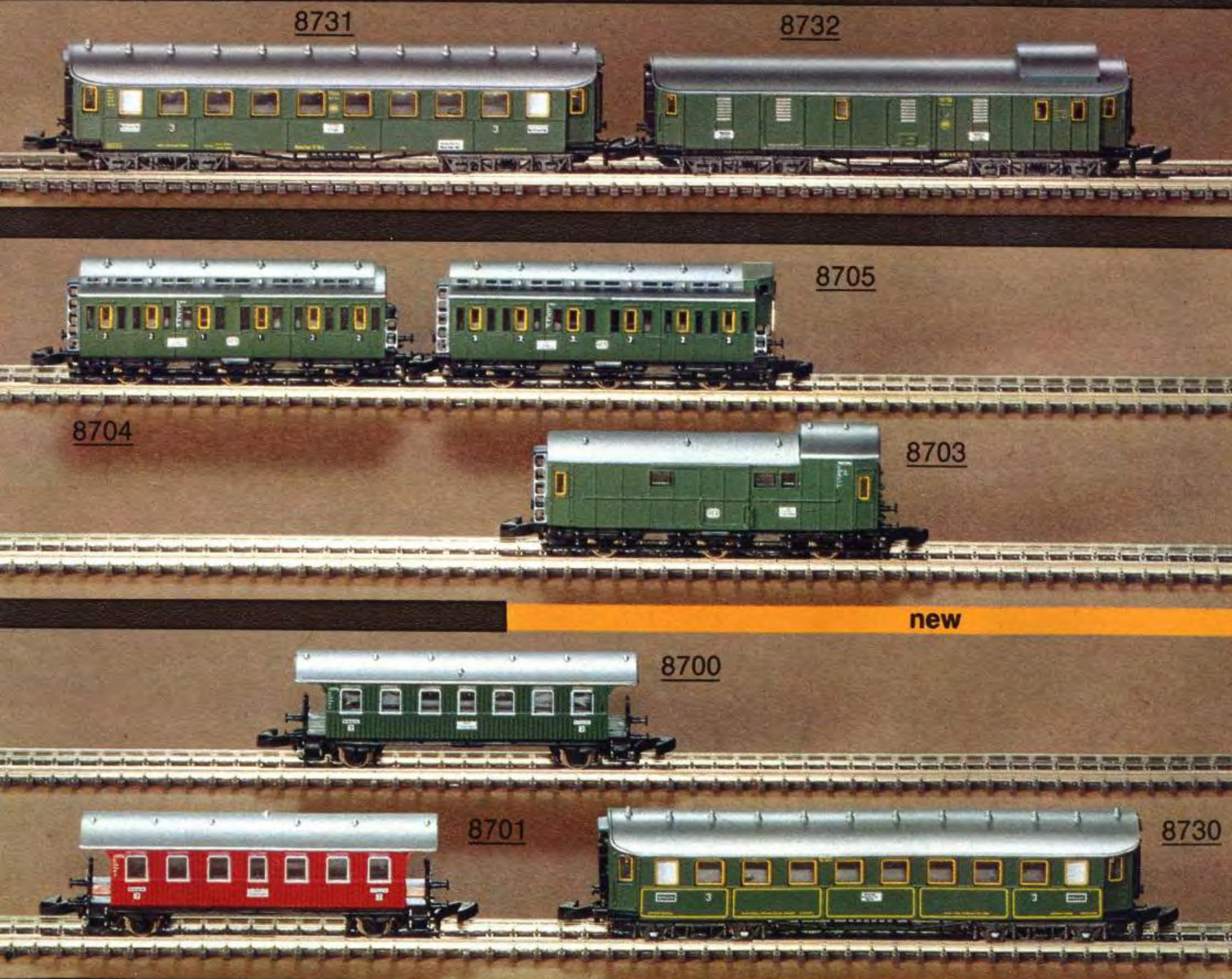
8704

Compartment car · Formerly BC3-pr03 · Length 57 mm (2-1/4")

8705

Compartment car with brakeman's cab · Formerly B3-pr03 · Length 57 mm (2-1/4")

■ The compartment cars of German Federal Railways were originally Prussian Railways types, and some of them were equipped with a brakeman's cab.



8724
8734



8725 | 8735



8726 | 8736



8710



8711



Passenger cars of German Federal Railways

All these models have the following features: 4 axles · Windows inset in plastic frames · Length 120 mm (4-3/4")

There are two versions of mini-club TEE coach: those with interior lighting and those without.

8724 without interior lighting

8734 with interior lighting

TEE compartment car · Avm

8725 without interior lighting

8735 with interior lighting

TEE open-interior coach · Apm

8726 without interior lighting

8736 with interior lighting

TEE dining car · WRm

8728 without interior lighting

8738 with interior lighting

TEE dome car · ADm · Transparent observation dome

■ TEE coaches provide the best quality of passenger transportation to be found on German Federal Railways. The coaches have only 1st class open-interior seating accommodation which is fully air-conditioned and to the highest standards of comfort.

Intercity trains travel at maximum speeds of 160 km/h (100 mph) or even 200 km/h (125 mph) on suitable track.

8714

Automobile transporter · DDm 915 · Loaded with 8 miniature automobiles

■ Passenger/automobile trains usually consist of a combination of automobile transporters and express coaches. Automobile drivers drive their vehicles onto the loading decks of the transporters by means of ramps. The vehicle occupants can enter and leave their vehicle either via the ramps or by means of ladders at the sides of the transporters.

8710

Express coach · Aüm · 1st class

8711

Express coach · Büm · 2nd class

8712

Express baggage car · Düm

8713

Express dining car · WRüm

8720

Express coach · Aüm · 1st class

8721

Express coach · Büm · 2nd class

8722

Express baggage car · Düm

8723

Express dining car · WRüm



8728
8738



8714



8712



8713



8723



8720



8722



8721



Freight cars

■ German Federal Railways have a stock of about 290,000 freight cars for national transportation, as well as about 16,000 maintenance and special purpose cars.

There are also about 50,000 privately owned freight cars in use on the Federal Railways.

About 65 % of the freight cars on national transportation services are conventionally designed, and 35 % are special designs.

8600



8600

Refrigerated car · German Federal Railways' type lchqrs · Length 54 mm (2-1/8")

8601



8601

Beer car · Dortmunder Union · Length 54 mm (2-1/8")

8602



8602

Beer car · Spatenbräu München · Length 54 mm (2-1/8")

8603



8603

Beer car · Kulmbacher Mönchshof-Bräu · Length 54 mm (2-1/8")

8604



8604

Beer car · Kulmbacher Reichelbräu · Length 54 mm (2-1/8")

8609

Freight train baggage car · DB-Dg · Doors on each side which will open · Length 40 mm (1-9/16")

8610

Low-sided car · Length 54 mm (2-1/8")

8622

Open freight car · German Federal Railways' type Omm 52 · Length 54 mm (2-1/8")

8606

Box car · German Federal Railways' type lbbis · Length 54 mm (2-1/8")

8609



8610



8622



8606



8611



8612



8613



■ Development of a new freight car takes 4-5 years from the initial requirement until the start of series production. The typical freight car of German Federal Railways has a working life of 20 to 30 years. Plans for future freight cars therefore have to take into account not only the 5 year lead time but also whether the demand for a particular type of freight car will exist 20 to 30 years later.

8611

Tank car · Shell · 2 axles · Length 40 mm (1-9/16")

8612

Tank car · Esso · 2 axles · Length 40 mm (1-9/16")

8613

Tank car · Aral · 2 axles · Length 40 mm (1-9/16")

8619

Lumber car · In 2 parts · Loaded with sawn lumber · Length 93 mm (3-5/8")

8621

Crane car with rotating crane, movable boom and boom support · Crane hook can be raised and lowered by hand crank · Length of under frame 35 mm (1-3/8") · (Low-sided car 8610 is not included in the price but is recommended for use when moving the crane car)

8619



8621



The proportion of specially designed freight cars appears to be increasing. The Federal Railways have to respond to the market situation, where customer-

oriented and strengthened freight cars are the requirements. Designs have to take into account not only price and running life, but also factors such as the

optimum protection arrangements for the freight and automated loading and unloading systems.

8607



8608



8605



8615



8616

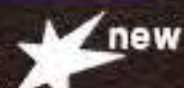


new

8607

Beer car · Feldschlösschen · Length 54 mm (2-1/8")

8608



Beer car · Carlsberg · Length 54 mm (2-1/8")

8605

Box car · German Federal Railways' type Gbrs · Length 54 mm (2-1/8")

8615

Container car · DB · Length 54 mm (2-1/8")

8616

Container car · Sealand · Length 54 mm (2-1/8")

8630

Open self-unloading freight car with steering trucks · German Federal Railways' type Fads 176 · Length 53 mm (2-1/16")

8627

Tank car · Aral · 4 axles · Length 75 mm (3")

8626

Tank car · Esso · 4 axles · Length 75 mm (3")

8630



8627



8626



8614



8625



8628



new

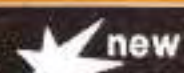
8614

Tank car · BP · 2 axles · Length 40 mm (1-9/16")

8625

Tank car · Shell · 4 axles · Length 75 mm (3")

8628



Tank car · BP · 4 axles · Length 75 mm (3")

8620

Well car · Loaded with transformer · Length 154 mm (6-1/16")

8620



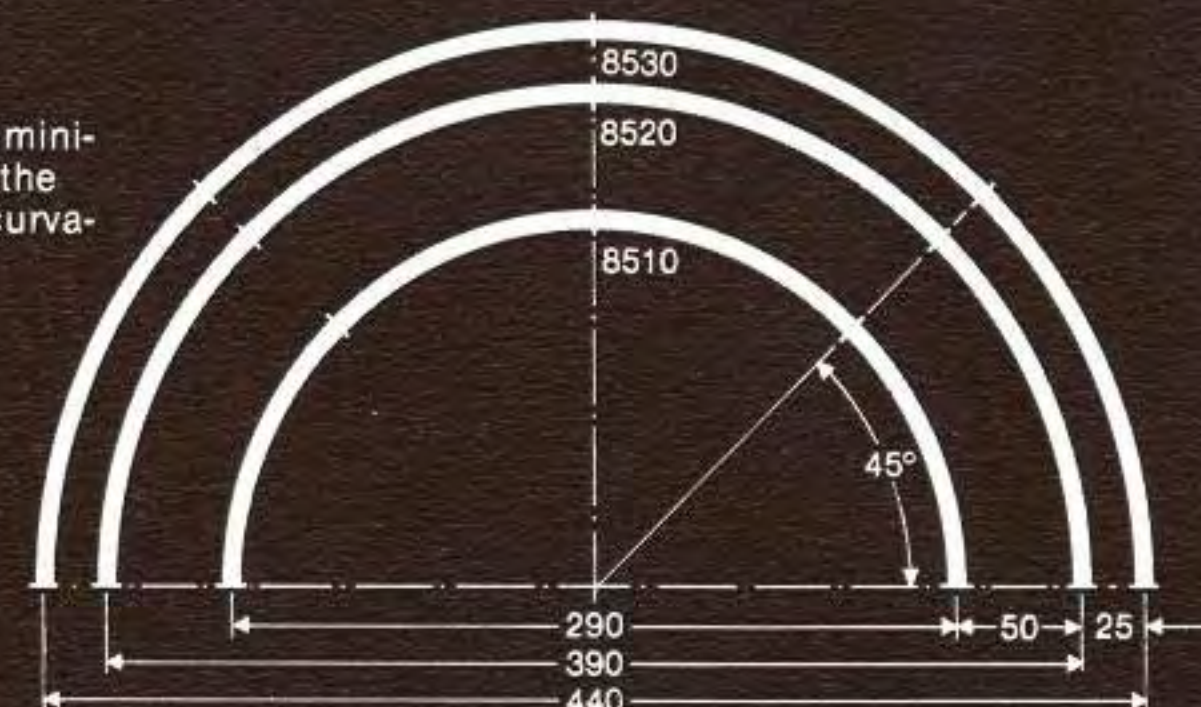
Track construction

The track system

With a gauge of 6.5 mm ($\frac{1}{4}$ "), the overall width of Märklin mini-club track sections is about 11.5 mm ($\frac{7}{16}$ "). The height is about 2.5 mm ($\frac{1}{16}$ "). The accurately dimensioned nickel silver rails are mounted on plastic cross-ties. The track sections are joined to each other by means of rail joint clips, as on larger scale railroads. The rigidity of the track joints is increased by means of an additional claw coupling on the cross-ties.

This diagram shows the 3 Märklin mini-club track circles, with their radii, the distances between them and the curvature of the sections.

Circle 8510 = 8 track sections
Circle 8520 = 8 track sections
Circle 8530 = 8 track sections

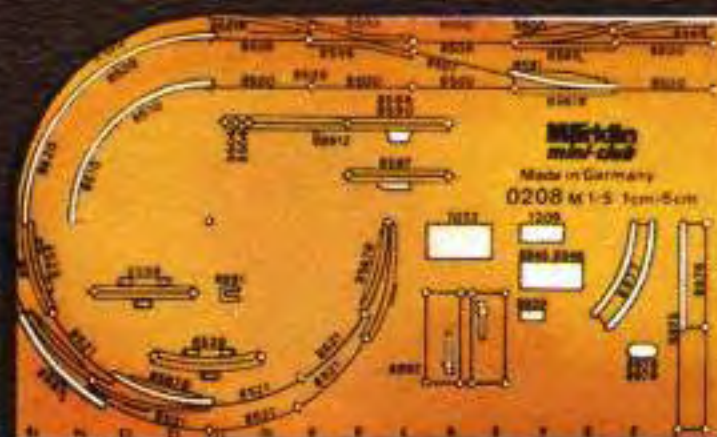


										
8504	8506	8500	8507	8505	8594	8592	8590	8597	8598	8599
Length 25 mm (1")	Length 108.6 mm (4- $\frac{5}{16}$ ") · Make-up length for use with crossing 8559 and double slip switch 8560	Length 110 mm (4- $\frac{3}{8}$ ")	Length 112.8 mm (4- $\frac{7}{16}$ ") · The same length as the diagonal length of crossing 8559 and double slip switch 8560	Length 220 mm (8- $\frac{13}{16}$ ")	Length 660 mm (2 ft 2") · Can be made into a flexible track by cutting through cross-ties · Rails and cross-ties should be shortened as required, and new jointing clips (8954) must be fitted	Length variable from 100 mm (3- $\frac{5}{16}$ ") to 120 mm (4- $\frac{3}{4}$ ") · For use as a make-up length	Feeder track · With radio interference suppressor · 2 terminals for connecting up the traction current leads which are included · Length 110 mm (4- $\frac{3}{8}$ ")	Uncoupling track · With solenoids built in · For operation either by hand lever or remotely by means of position control box 7072 · Length 110 mm (4- $\frac{3}{8}$ ")	Isolating track · With connector terminals · One rail has an isolating gap · Length 110 mm (4- $\frac{3}{8}$ ")	Switching track · With connector terminals · Enables a moving train to trigger a switching function · Length 110 mm (4- $\frac{3}{8}$ ")
										
8510	8520	8521	8529	8567	8567	8530	8531	8539		
Radius 145 mm (5- $\frac{3}{4}$ ") · 45°	Radius 195 mm (7- $\frac{11}{16}$ ") · 45°	Radius 195 mm (7- $\frac{11}{16}$ ") · 30°	Switching track · Radius 195 mm (7- $\frac{11}{16}$ ") · 30° · With connector terminals · Enables a moving train to trigger a switching function	Pair of solenoid-operated curved turnouts · Radius 195 mm (7- $\frac{11}{16}$ ") · 30° (as for 8521) · Length of through track 125 mm (4- $\frac{9}{16}$ ") · (Fig. 5)		Radius 220 mm (8- $\frac{11}{16}$ ") · 45°	Radius 220 mm (8- $\frac{11}{16}$ ") · 30°	Switching track · Radius 220 mm (8- $\frac{11}{16}$ ") · 30° · With connector terminals · Enables a moving train to trigger a switching function		

Track planning

The track plan stencil is a great help to anyone who wants to design an individual layout. The stencil not only aids track design; it can help when choosing what mini-club track material to buy.

It is easy to calculate the number of track sections required to complete a track circuit. The angle turned through by the track already laid will be something less than 360° . If the difference between this angle and 360° is divided by 30° or 45° , the number of track sections needed to complete the circuit can be found.



0208

Track plan stencil for mini-club tracks · Scale 1:5



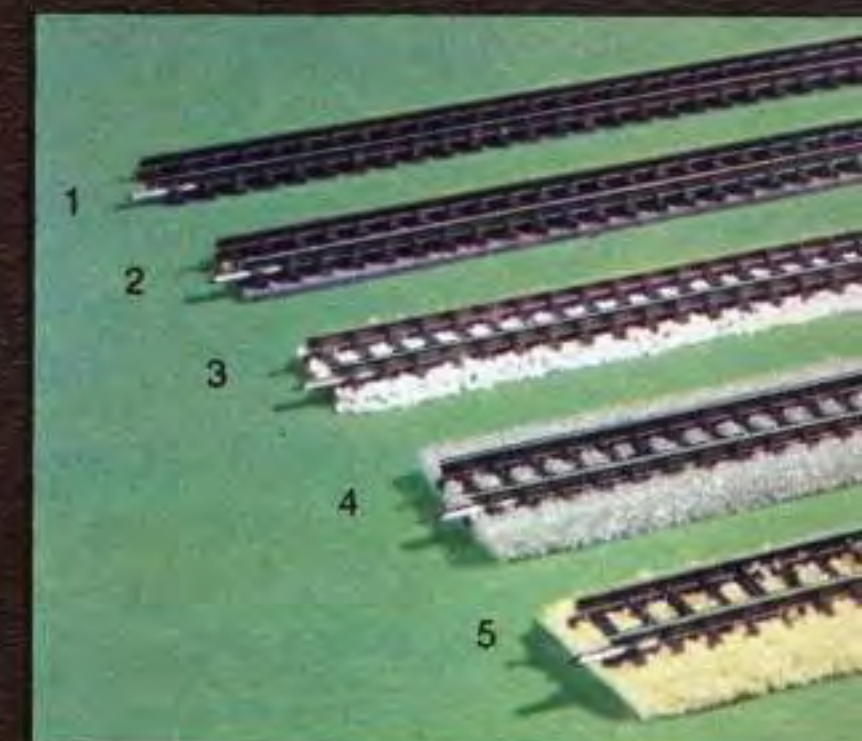
0292

Booklet · 54 pages on track layouts, electrical wiring, and overhead line and bridge construction · English text

Track laying

As with the larger gauge railroads, mini-club tracks may be laid in all sorts of ways, from the simple track on a flat surface with no embellishments to the highly realistic type complete with embankments and roadbed.

1. not fixed
2. on double surface adhesive tape
3. double surface adhesive tape with ballast
4. foam material base
5. heavy roadbed



■ The traditional method of laying railroad track, with a framework of rails and cross-ties being laid on a bed of crushed rocks, is still widely used today. The advantages of this method are that it is relatively cheap, it provides good noise absorption and it is easy to repair (when subsidence of the foundations occurs, for example).



8974

Re-railing ramp · Makes it easier to set vehicles on the track



8993

Reversing loop kit · Allows one-way travel on reversing loops when tracks are arranged in the sequence of their identifying numbers

8999

100 track fixing nails · 0.5×6 mm



8991

Bumper for clipping onto the rails · Length 15 mm ($\frac{3}{8}$ ")

8954

Pack with 10 isolating and 20 conducting jointing clips



8559

Crossing · Length 112.8 mm ($4\frac{7}{16}$ ") · 13° · (Fig. 1)



8560

Double slip switch · Length 112.8 mm ($4\frac{7}{16}$ ") · 13° · Radius 323 mm ($1\text{ ft } \frac{3}{4}$ ") · (Fig. 2)



8561

Pair of solenoid-operated turnouts · Length 110 mm ($4\frac{3}{8}$ ") · 13° · Radius 490 mm ($1\text{ ft } 7\frac{1}{4}$ ") · (Figs. 3 and 4)



8564

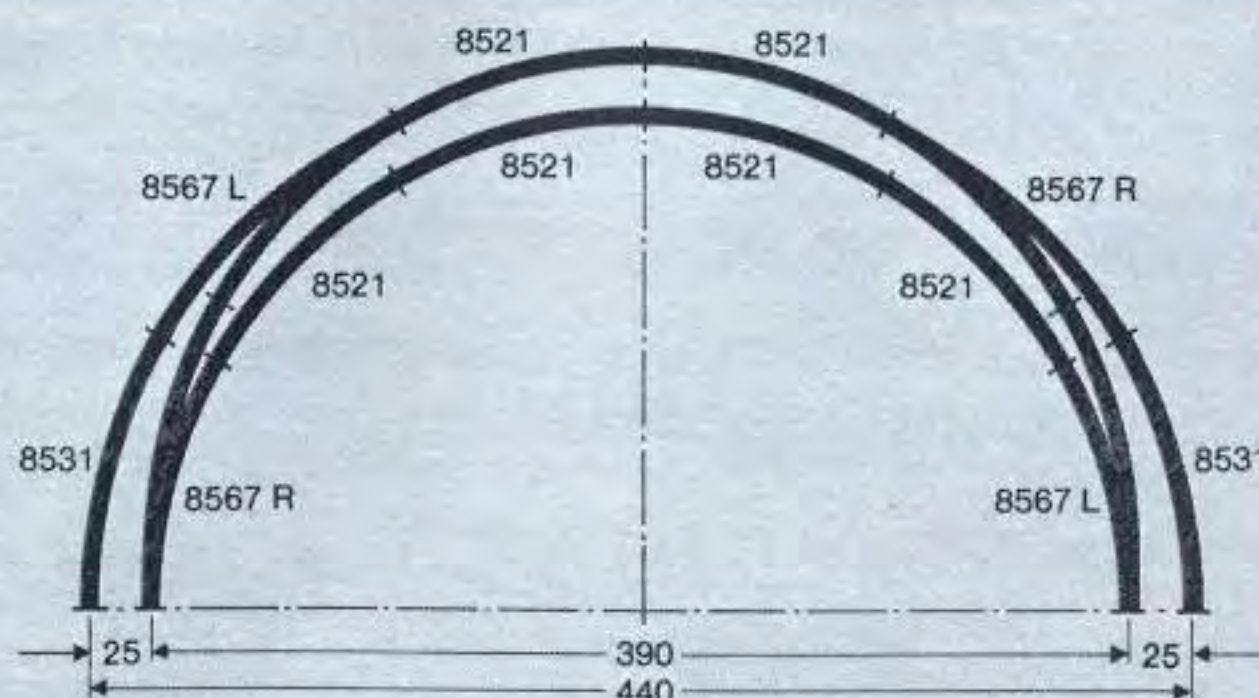
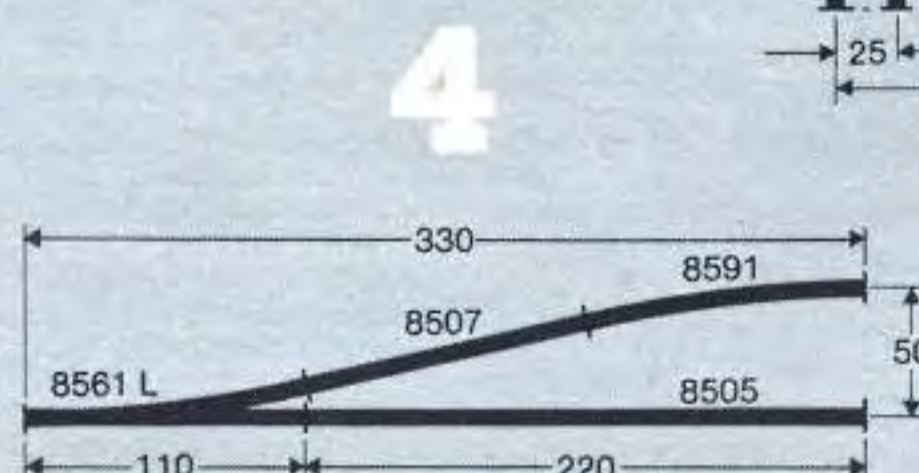
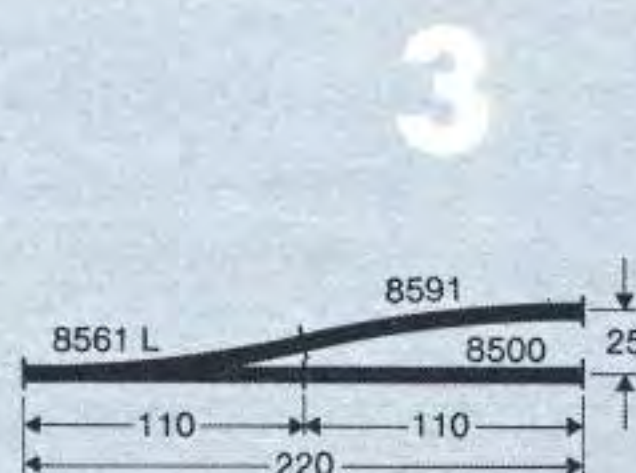
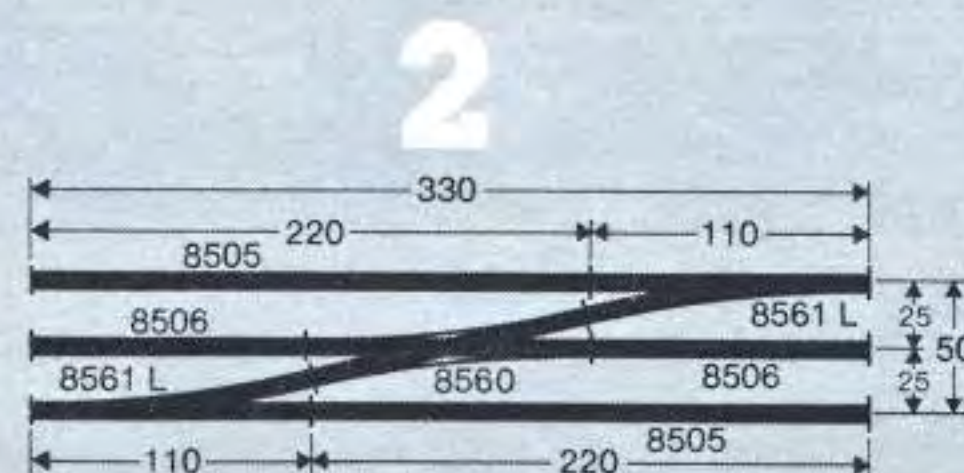
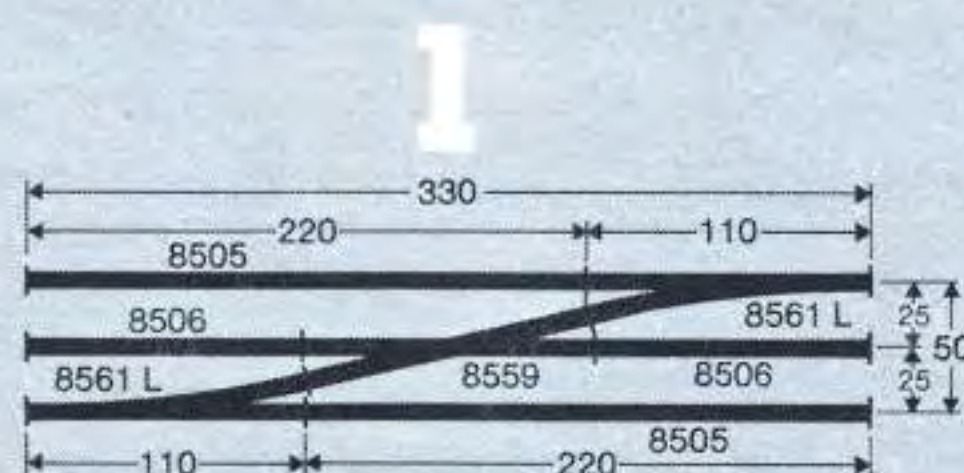
Pair of manually-operated turnouts · Length 110 mm ($4\frac{3}{8}$ ") · 13° · Radius 490 mm ($1\text{ ft } 7\frac{1}{4}$ ") · (Figs. 3 and 4)



8591

Radius 490 mm ($1\text{ ft } 7\frac{1}{4}$ ") · 13° · Matches the curve of turnouts 8561 and 8564

All turnouts (except 8564) and the double slip switch are operated by double solenoids or by hand lever. Actuated by position control box 7072 or by switching tracks.



SET extension program

The easiest way to make a start with the mini-club system is with one of the basic sets 8158–8161 or 8163 S–8166 S.

Extending 8163 S

The first stage is an extension set E 8190 or E 8191. Then there are three further track sets with which to build up a mini-club layout:

Double track set T1 8192
Station track set T2 8193
Switching track set T3 8194

The three track sets T1, T2 and T3 can be added in any order. One way of doing it is shown on this page.

Basic set 8158–8161 includes all the track material of S, E and T3, apart from one parking track. Sets T1 and T2 can be used to supplement it. Both basic sets can of course also be extended in accordance with individual wishes.



8163
Freight train with power pack S



8158
Freight train with power pack

8930

Toporama for the mini-club SET extension program · Model railroad landscape on cloth · Multi-color printing · The track layout up to stage T3 (8194) is printed on · Can be used from stage E (8190, 8191) onwards · Size 50×120 cm (1 ft 7-3/4"×3 ft 11-1/4")



Catenary system kits

Operation of electric locomotives on a model railroad layout can only be truly realistic when a genuine working catenary system is used. Catenary system kits 8198 for S+E and 8199 for

T1+T2+T3 not only provide an easy initiation into the use of the catenary system along with the SET program, they also enable individually-designed layouts to be "electrified".



8198
Catenary system kit S+E · Contains all items required for the construction of overhead line above sets S+E · Comprises: 18×8911 · 1×8912 · 9×8922 · 11×8923 · 1×8926



8199
Catenary system kit T1+T2+T3 · Supplements 8198 to cover T1–T3 · Comprises: 4×8911 · 16×8914 · 3×8921 · 6×8922 · 24×8923 · 2×8924 · 6×8925 · 1×8926 · 1×8927



8190
Extension set E with manually-operated turnouts · Comprises: 1×8564 · 2×8591 · 10×8500 · Assembly instructions



8191
Extension set E with solenoid-operated turnouts · Comprises: 1×8561 · 2×8591 · 10×8500 · 1×7072 · 1×7209 · Leads, sleeves, plugs · Assembly instructions



8192
Double track set T1 · Comprises: 1×8567 · 2×8521 · 4×8530 · 6×8500 · 1×7072 · 1×7209 · Leads, sleeves, plugs · Assembly instructions



8193
Station track set T2 · Comprises: 1×8567 · 2×8521 · 2×8504 · 6×8500 · 1×7072 · 1×7209 · Leads, sleeves, plugs · Assembly instructions



8194
Switching track set T3 · Comprises: 1×8560 · 1×8561 · 10×8500 · 1×7072 · 1×7209 · 4×8991 · Leads, sleeves, plugs · Assembly instructions

Train control

Multiple train control adds interest and versatility to any model railroad layout.

The control of several trains on a single layout is achieved by the use of separate electrical circuits. Every track circuit, not electrically connected to another one, is provided with traction voltage from its own power pack.

6711



6731



8939



8940



8945



8946



8947



7072



7210



7211



Electrical leads

The copper conductor in these stranded leads consists of 24 separate strands each of 0.10 mm (0.004") diameter, giving an overall cross-sectional area of 0.19 mm² (0.03 sq"). This can withstand even a short-circuit current.

7100

Lead · Single core · Gray · 10 m (33 ft)

7101

Lead · Single core · Blue · 10 m (33 ft)

7102

Lead · Single core · Brown · 10 m (33 ft)

7103

Lead · Single core · Yellow · 10 m (33 ft)

7105

Lead · Single core · Red · 10 m (33 ft)

After construction of the track layout, it is time to see to the electrical wiring. This is easy with Märklin electrical leads. The controllable DC traction current is supplied to the rails by red leads and the return path, which is grounded, is by way of brown leads.

Sleeves



7111 = brown
7112 = yellow
7113 = green
7114 = orange
7115 = red
7117 = gray

Plugs with side sockets

7131 = brown
7132 = yellow
7133 = green
7134 = orange
7135 = red
7137 = gray



7000

Stapler · Bag of 50 · For fixing leads to a wooden base



7209

Distribution strip · With 11 single sockets · Size 50×20 mm (2"×¾")

The constant voltage lighting current (AC) is supplied via the yellow lead to the load and returns via the gray (grounded) lead to the power pack.

There is an exception to this: solenoid-operated items are connected to the switch by two blue leads, one having a red and one a green plug, and the switch is connected to the power pack again by a gray lead.

6711 220 Volt

Märklin mini-club power pack for use with AC power supply · Single knob control for adjusting the traction voltage (DC) between 0 and 8 V and for determining the direction of travel by rotating the knob from its center position · Power output in the traction circuit up to 8 VA, and in the lighting circuit (AC) about 12 VA at 10 V · Blue plastic case · Weight 1.65 kg · Dimensions 155×110×88 mm (6-1/8"×4-3/8"×3-1/2")

6731 220 Volt

6720 100 Volt Japan

6727 110 Volt (60 Hz) USA · UL-tested

6729 240 Volt

Märklin mini-club power pack for use with AC power supply · Output 12 VA · Traction voltage (DC) adjustable between 2 V and 8 V · Polarity reversing switch for selecting the direction of travel · Lighting voltage (AC) 10 V · Blue plastic case · Weight 1.2 kg · Dimensions 125×135×75 mm (4-13/16"×5-9/16"×3")

8939

Color light home signal · Signal lights change from red to green · 2 bulbs · Operated by universal remote control switch 8945 or by manual signal switch 8946 · Height 34.5 mm (1-3/8")

8953

8940

Home signal with 1 semaphore arm · Signal lights change from red to green · Operated by double solenoid · Used for train control · Operated by position control box 7072 or a switching track section · Height 45 mm (1-3/4")

8953

8945

Universal remote control switch with 2 single-pole switches and one changeover switch for various circuits · The universal remote control switch can automatically perform a variety of functions (up to 3 simultaneously) · Examples are given in booklet 0292 · Operating voltage 10 V · Double solenoid operation · Operated by a switching track section, a position control box or by the hand lever · Width 30 mm (1-3/16") · Length 70 mm (2-3/4") · Height 8 mm (5/16")

8946

Manual signal control panel with 2 single-pole switches and one changeover switch, used for controlling the change of signal lights in signal 8939, for example, and for controlling traction current · Width 30 mm (1-3/16") · Length 70 mm (2-3/4") · Height 8 mm (5/16")

8947

Double-pole changeover switch (polarity reversing switch) · Operating voltage 10 V · Double solenoid operation · Operated by a switching track section, a position control box or by the hand lever · Width 30 mm (1-3/16") · Length 70 mm (2-3/4") · Height 8 mm (5/16")

7072

Position control box with 8 sockets for connecting 4 double-solenoid operated articles · The position of signals, turnouts, etc. can be seen from the position of the push buttons · Length 80 mm (3-1/8") · Width 40 mm (1-9/16")

7210

Circuit-breaker box with indicator push buttons for distributing current to 4 traction current or lighting circuits · Length 80 mm (3-1/8") · Width 40 mm (1-9/16")

7211

Circuit-breaker box for switching 4 different traction or lighting circuits on and off by indicator push buttons · Length 80 mm (3-1/8") · Width 40 mm (1-9/16")

8954

Pack with 10 isolating and 20 conducting jointing clips for electrical isolation of track sections and electrical connection of rails respectively

Catenary system

8911

Mast for overhead line - Basic unit with supporting plate - Height 38 mm (1-1/2")

8912

Feeder mast for power supply - With supporting plate and connector lead - Height 38 mm (1-1/2")

8913

Bridge mast for clipping onto the side of bridges and ramp sections - Height 41 mm (1-5/8")

8914

Tower mast with recesses for hooking in cross-spans 8924 and 8925 - Base 7x13 mm (1/4"x1/2") - Height 61 mm (2-3/8")

8922

Contact line section for straight and curved tracks - Length 165 mm (6-1/2")

8923

Contact line section - Length adjustable between 150 and 180 mm (5-7/8"-7-1/8")

8924

Cross-span - For hooking into tower masts - Spans 5 tracks - Span approx. 123 mm (4-7/8")

8925

Cross-span - For hooking into tower masts - Spans 3 tracks - Span approx. 72 mm (2-7/8")

8921

Pack of contact line insulators - For isolating contact line sections from cross-spans - Comprises 8 white and 2 gray insulators - The white insulators will hold 2 contact line sections, the gray ones 3

8926

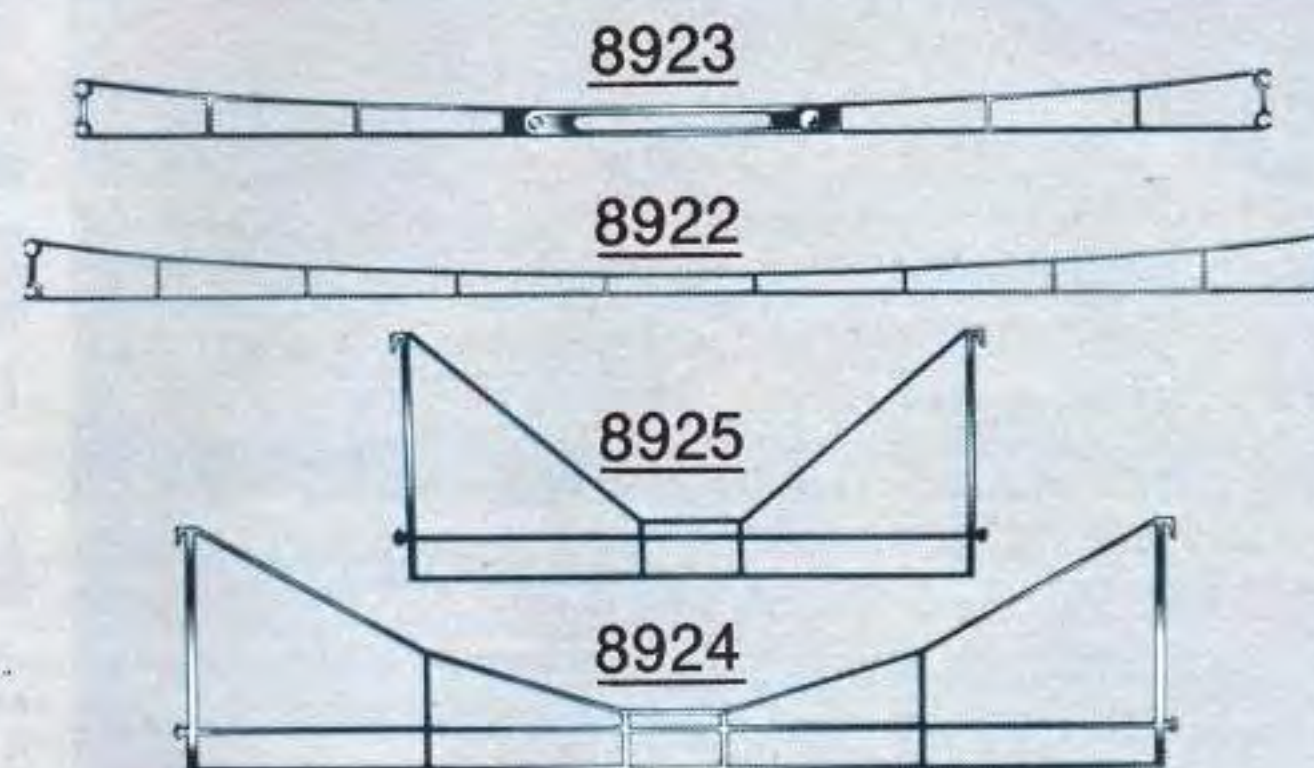
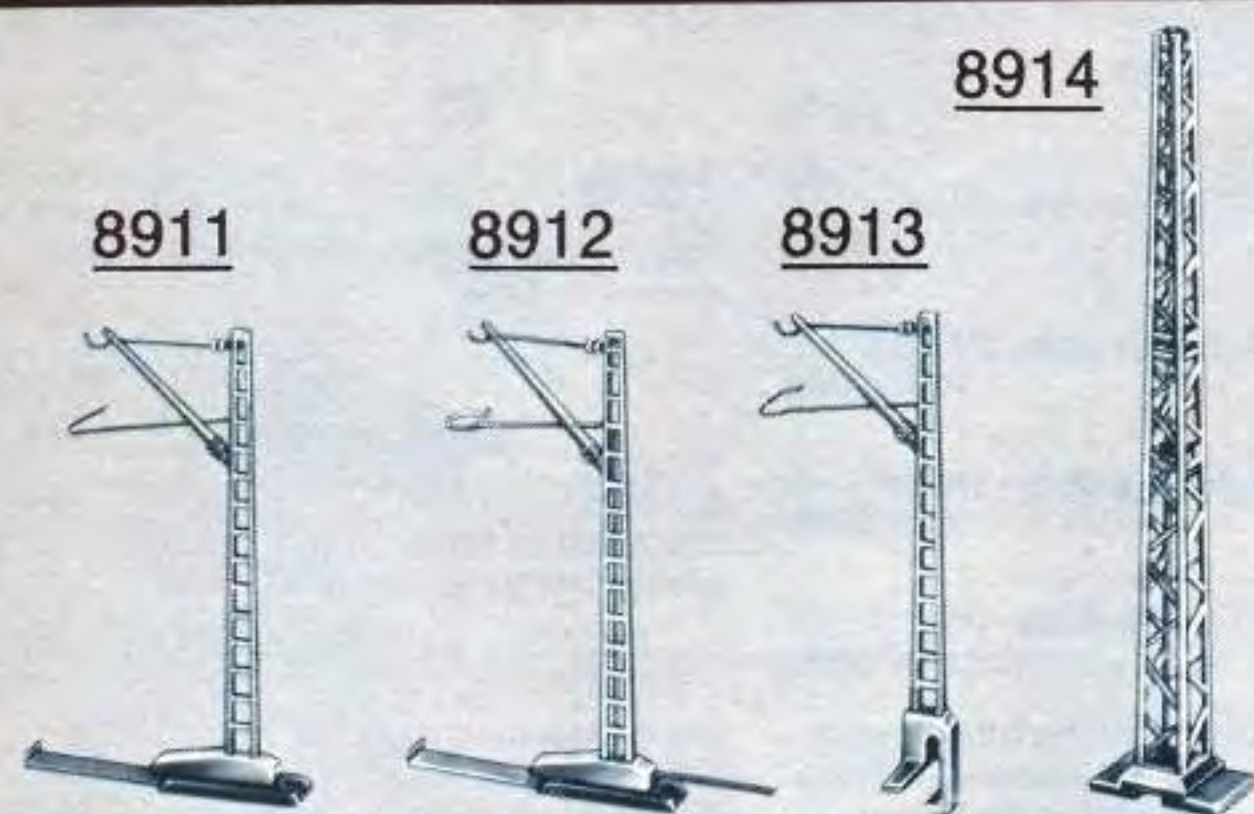
Pack of 8 isolating sections and 6 connecting springs - These are required for making isolating points in the overhead line, and at branches above turnouts

8927

Pack of contact wire terminals - Contains 2 screw terminals with and 3 without leads - For feeding power into catenary sections or for holding sections of contact line together, e.g. above crossings

8955

Pantograph current collector with 1 fixing screw



8921



8927



8926



8955

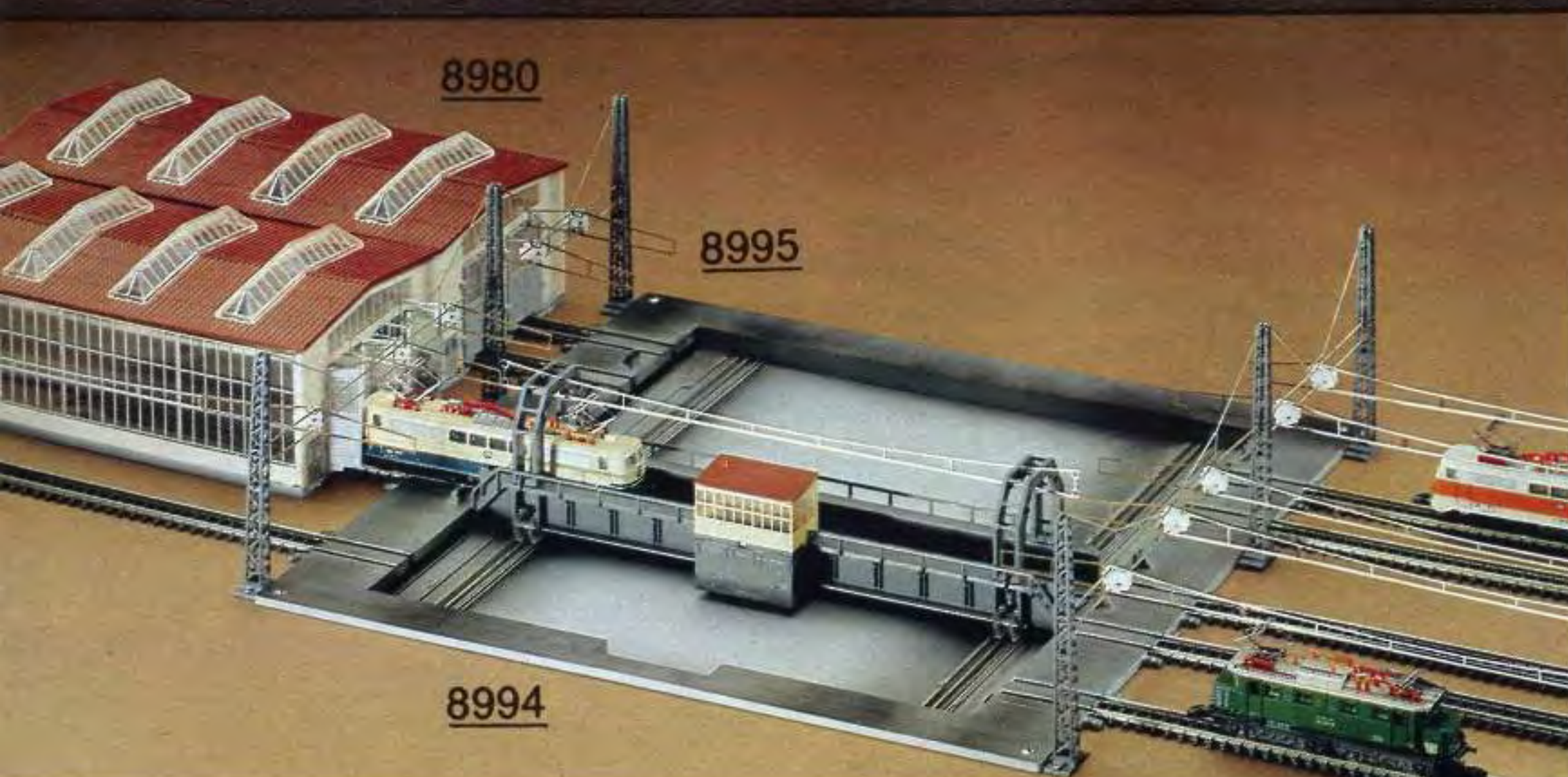


Fitting out a layout

The wide scope of mini-club is evident in the large range of accessories available for configuring a layout. Thoroughly realistic layouts can be assembled, whether for steam, diesel or electric locomotive operation.

Suitable landscaping cloths, loose matter which can be strewn about, model bushes and trees, buildings, etc. can be obtained from any good hobby store.

Our building kits can be fitted with light fitting 8950.



8960

Göppingen station (center block) building kit · Base area 228×114 mm (9"×4-1/2") · Height 44 mm (1-3/4")

8961

Platform building kit · In 2 parts · Total length 440 mm (1 ft 5-1/4") · Width 38 mm (1-1/2") · Height 23 mm (7/8")

8965

Signal box building kit · Base area 69×39 mm (2-3/4"×1-1/2") · Height 46 mm (1-3/4")

8975

Arch bridge · Gray · Length 220 mm (8-5/8")

8976

Straight ramp section · Length 110 mm (4-3/8")

8977

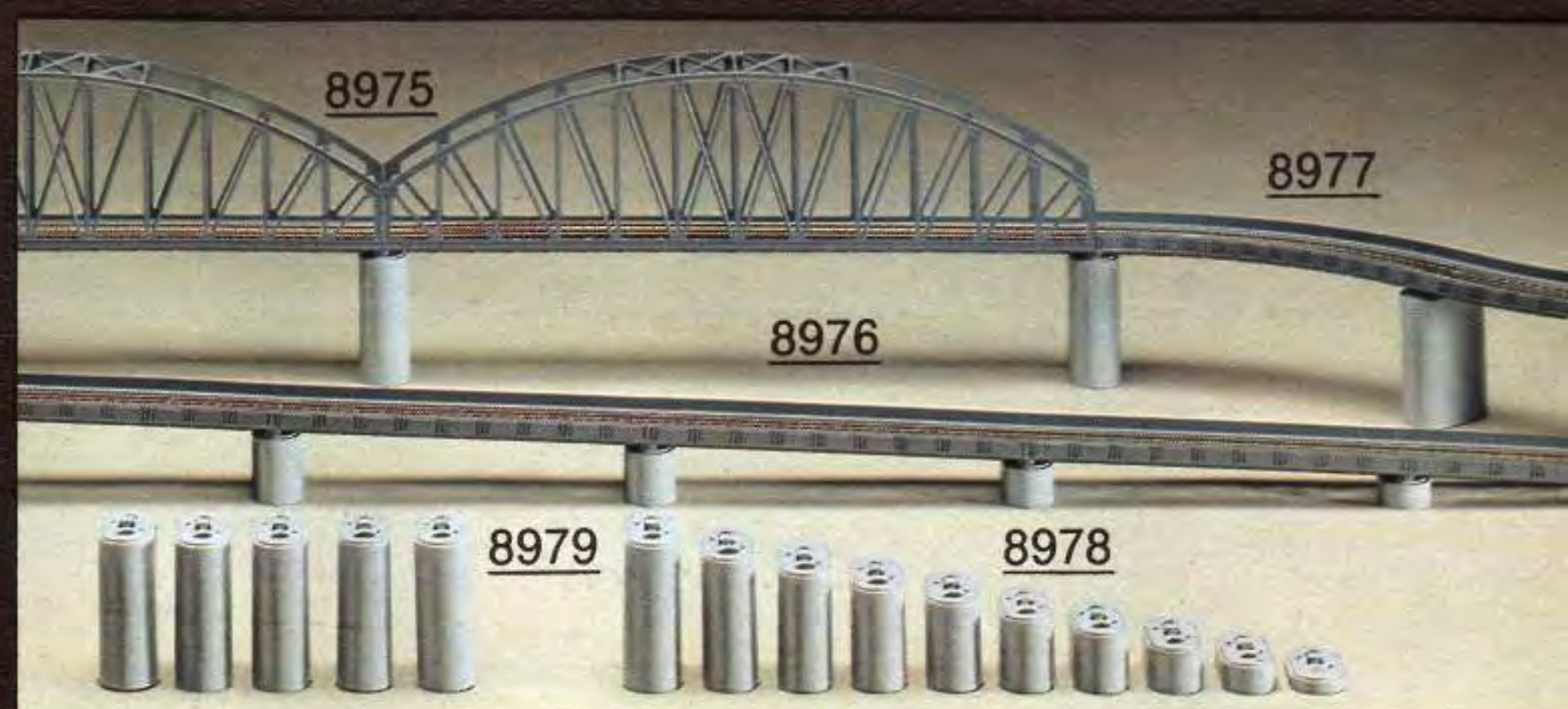
Curved ramp section · Radius 145 mm (5-3/4") · Track curvature 45°

8978

Set of approach ramp columns · Contains one column each of following heights: 4, 8, 12, 16, 20, 24, 28, 32, 36 and 40 mm (0.157" to 1-5/16")

8979

Set of bridge piers · Comprising 5 piers 40 mm (1-3/16") high

**8980**

Building kit for locomotive shed with solenoid-operated door mechanism · Can accommodate 2 locomotive parking tracks with overhead lines · Length 152 mm (6") · Width 74 mm (2-7/8") · Height 51 mm (2") · The building kit includes 2 barrier track sections which will stop locomotives automatically as they enter the shed

8995

Catenary system kit for transfer table · Consists of 2 catenary system support gantries, 1 contact wire section 8922 with lead soldered on, and 10 short contact wire sections

8994

Transfer table with 2 approach tracks and 4×2 parking tracks · Matches locomotive shed 8980 · For flush mounting in the layout base plate · Power pack for remote control of the transfer table and locomotives · Electric motor drive · Power is automatically disconnected from all tracks not in contact with the transfer table · Width and length both 220 mm (8-3/8")

8973

Pack with various miniature automobiles

8986 ★ new

Rural track accessories kit · Consisting of 2 signal boxes, 4 diagonal crosses, 4 sets of 3 warning beacons, 1 telephone box and 1 footbridge

8992

Grade crossing with half barriers · Comprising 2 solenoid-operated barriers · 2 red warning lamps on each side which light when the barrier is closed · Size of each base 96×37 mm (3-3/4"×1-1/2")

☎ = 8953

The following items are also required with the grade crossing:

a) for **manual operation**: 1 manual signal control panel 8946

b) for **automatic operation** by a moving train: 1 universal remote control switch 8945, 2 switching track sections (of appropriate type, e.g. 8529, 8539 or 8599)

8981

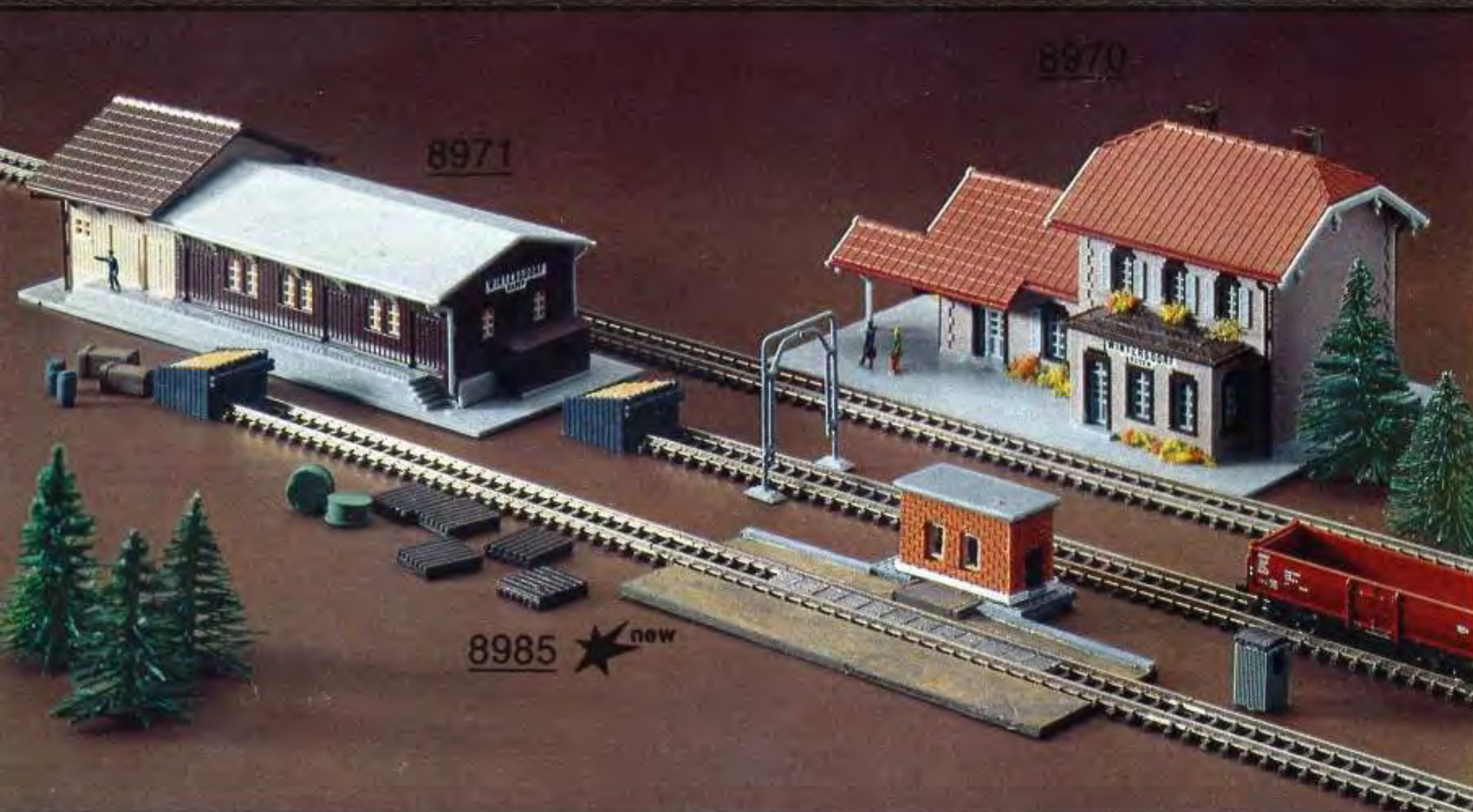
Building kit for locomotive shed with solenoid-operated door mechanism · Can accommodate one locomotive parking track · The kit includes a barrier track section which will stop a locomotive automatically as it enters the shed · Base area 150 mm×50 mm (5-7/8"×2")

8982

Coaling point building kit with crane, coal bunker, water tower, sand bunker and separate water hose crane · Base area 150×35 mm (5-7/8"×1-3/8")

8990 ★ new

Diesel fueling point building kit · With pumps for fuel and heating oil, storage tanks and roof · Base area 150×75 mm (5-7/8"×3")



8970

Wintersdorf station building kit with main building, annex and covered passage way. Can be used on its own or in conjunction with 8971. Base area 72×112 mm (2-7/8"×4-3/8"). Height 54 mm (2-1/8").

8971

Freight shed building kit with freight storage hut, loading ramps and equipment storage room. Can be used on its own or in conjunction with 8970. Base area 53×130 mm (2-1/8"×5-1/8"). Height 38 mm (1-1/2").

8985 ★ new

Freight station accessories kit. Consisting of loading height gauge, weigh-bridge (non-working model) with hut, 2 bumpers, 5 stacks of cross-ties, 2 rolls of cable, 2 crates and 2 drums.

7599

Countersunk wood screws, for fixing bridge sections onto bridge piers. Pack of 200.

8950

Light fitting with lamp insert and lead. For stations, buildings, etc.

☛ = 8953

8953

Lamp insert. With 10 V bulb. For use in light fitting 8950, signals 8939 and 8940, grade crossing 8992 and in locomotives which can take lighting.

60210

Light bulb for items 8896, 8957, 8958 and 8959.

8957

Lamp standard. Height 46 mm (1-3/4"). Base 8×14 mm (5/16"×9/16").

☛ = 60210

8958

Station lamp standard. Height 46 mm (1-3/4"). Base 8×14 mm (5/16"×9/16").

☛ = 60210

8959

Sidewalk lamp standard. Height 25 mm (1"). Base 8×14 mm (5/16"×9/16").

☛ = 60210

8962

Dürnau station building kit. Multipurpose building with annex and loading ramp. Base area 70×50 mm (2-3/4"×2"). Height 30 mm (1-1/8").

8964

Dwelling house building kit with garage. For use either one or two-storied. Base area 91×71 mm (3-5/8"×2-3/4"). Height 45 mm (1-3/4").



8963

Apartment block building kit with roof penthouse. The two top sections can also be used separately as a bungalow and a kiosk. Base area 86×84 mm (3-3/8"×3-5/8"). Height 97 mm (3-7/8").

8968

Terrace house building kit with garage. White. Can be built one or two-storied in a number of different ways, or can be used as a terrace house. Base area 81×45 mm (3-1/4"×1-3/4"). Height 29 mm (1-1/8").

8969

Terrace house building kit with garage. The same kit as 8968, but with pale blue wall sections.



märklin

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märklin I



our big one
for indoors,
on the terrace
and in the garden

1980

Märklin I the large scale model railroad

2 rail AC system

Scale 1:32

**Fully detailed true-to-life models
of Märklin quality**

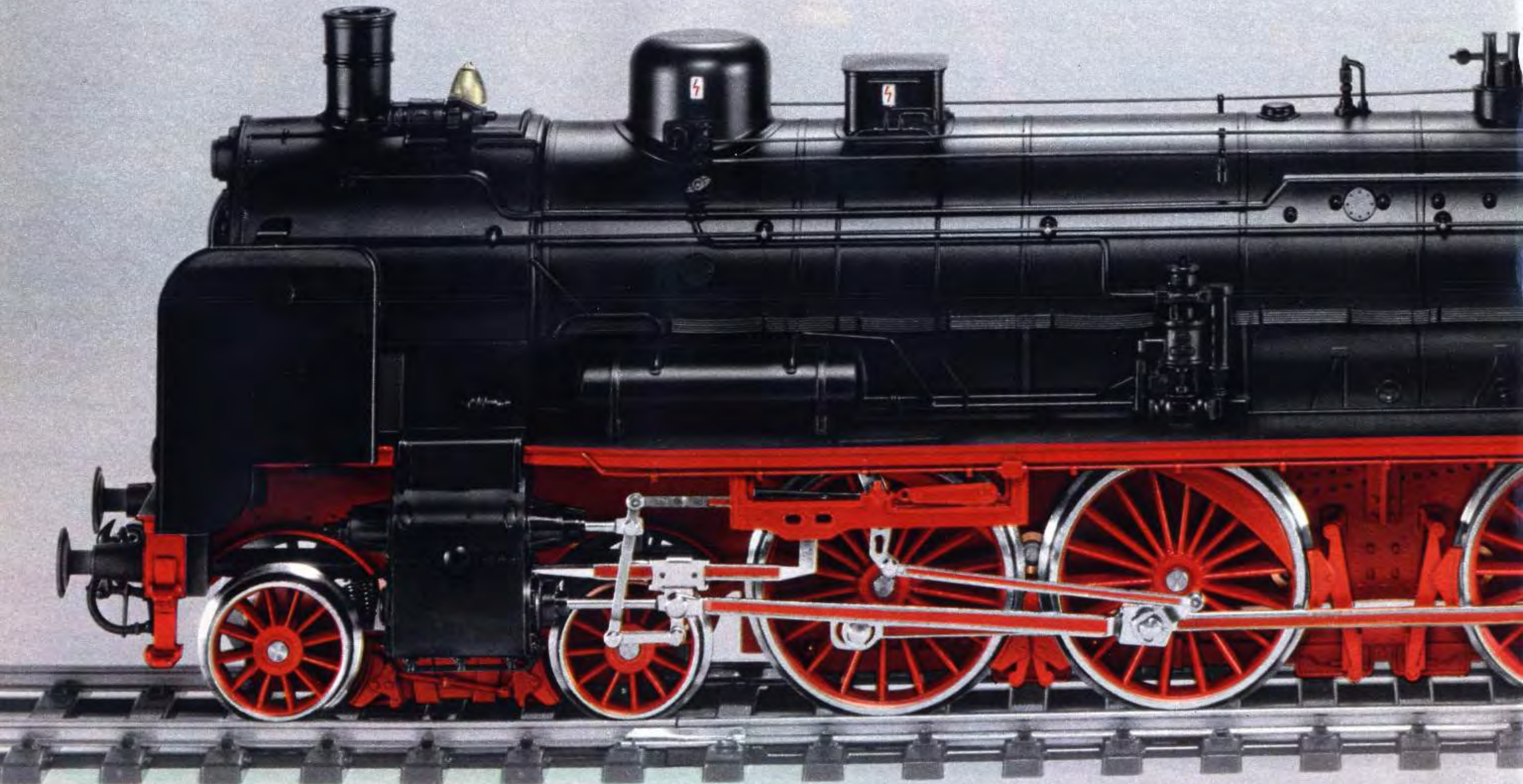
This system enables the pleasures of model railroading to be enjoyed in or out of doors. The Märklin large scale railroad has many particularly good features, enabling anyone to appreciate it.

Even small children can play easily with the locomotives and cars, which with their robustness, fidelity of detail and variety provide ample scope for a wide range of railroad operations.

Märklin I also makes a really original method of transport to show off at a party in your cellar or yard, and its high quality and the accuracy of detail will impress the most experienced model railroad enthusiast.

This railroad can be laid and re-laid anywhere with great speed.

Märklin I locomotives are AC-powered and run on realistic-looking tracks. The direction of motion is controlled by a switch in the locomotive, as on HO gauge.



5799

Locomotive with tender · A model of German Federal Railways' 4-6-0 Class 38 locomotive · 3 axles driven through concealed gears · Armature shaft mounted between ball bearings · 2 non-skid tires · Simulated Heusinger reversing gear · Die cast zinc frame · Mat black body with large smoke deflector plates and detailed representation of the fittings on the boiler and in the driver's cab · Forward or reverse drive switched by electronic control · Built-in smoke set · 3 lights on locomotive and tender which burn with constant brightness even when train is stationary · 8 wheeled tender with 2 trucks · Coal box filled with real coal · Sprung buffers and imitation brake hoses on both buffer beams · Scale model screw coupling in front, which can be replaced by an automatic claw

coupling · Automatic claw coupling on the tender · Illuminated driver's cab · Figures of driver and fireman included · Length over buffers 58 cm (1 ft 11")

Bulb = 60019
Pair of carbon brushes = 60146
Smoke fluid = 0241

This model will not run on track sections where the radius of curvature is less than 1 meter (3 ft 3"). Suitable track sections are 5932 and turnouts 5972/5973.

■ The P 8 was one of the most extensively built passenger train locomotives of all time. 3800 locomotives were in use on express and local passenger services over a time span of 66 years.

5797

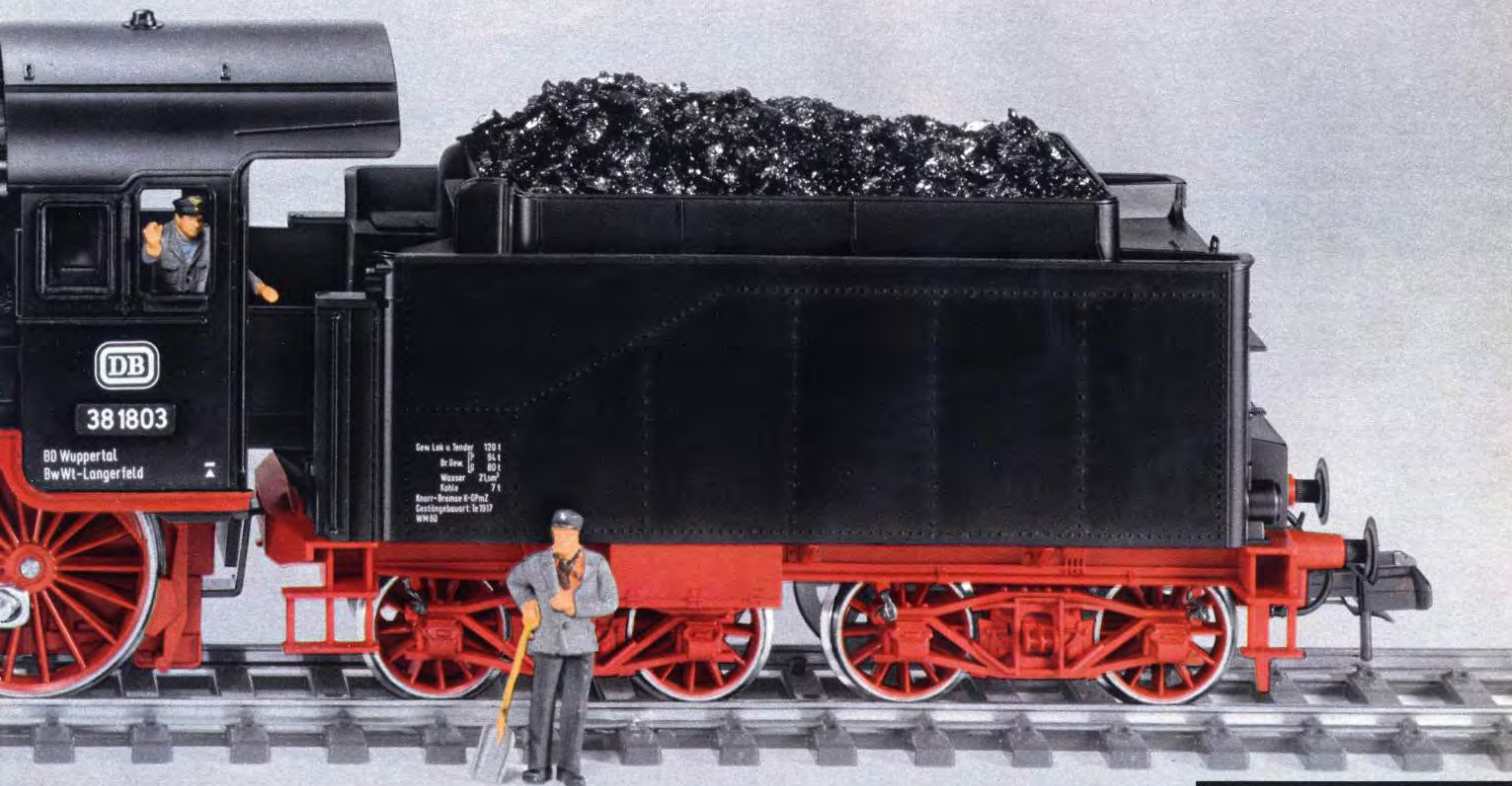
Locomotive with tender · Similar to model 5799, but with electronic noise maker and whistle arrangement · The electronic noise maker in the tender produces realistic exhaust noises · The locomotive can be caused to whistle at any desired point of the layout by means of special magnets placed in the track · Two of these magnets are provided

5749

Locomotive with tender · Similar to model 5799, but arranged for 2-rail DC operation

5747

Locomotive with tender · Similar to model 5797, but arranged for 2-rail DC operation



The class 78

■ The serial number of our Class 78 locomotives is 78 355. The locomotive on which this is based ended its life in the locomotive maintenance yard at Aalen on 11. 12. 1968. Before this it had worked long and faithfully for many years.

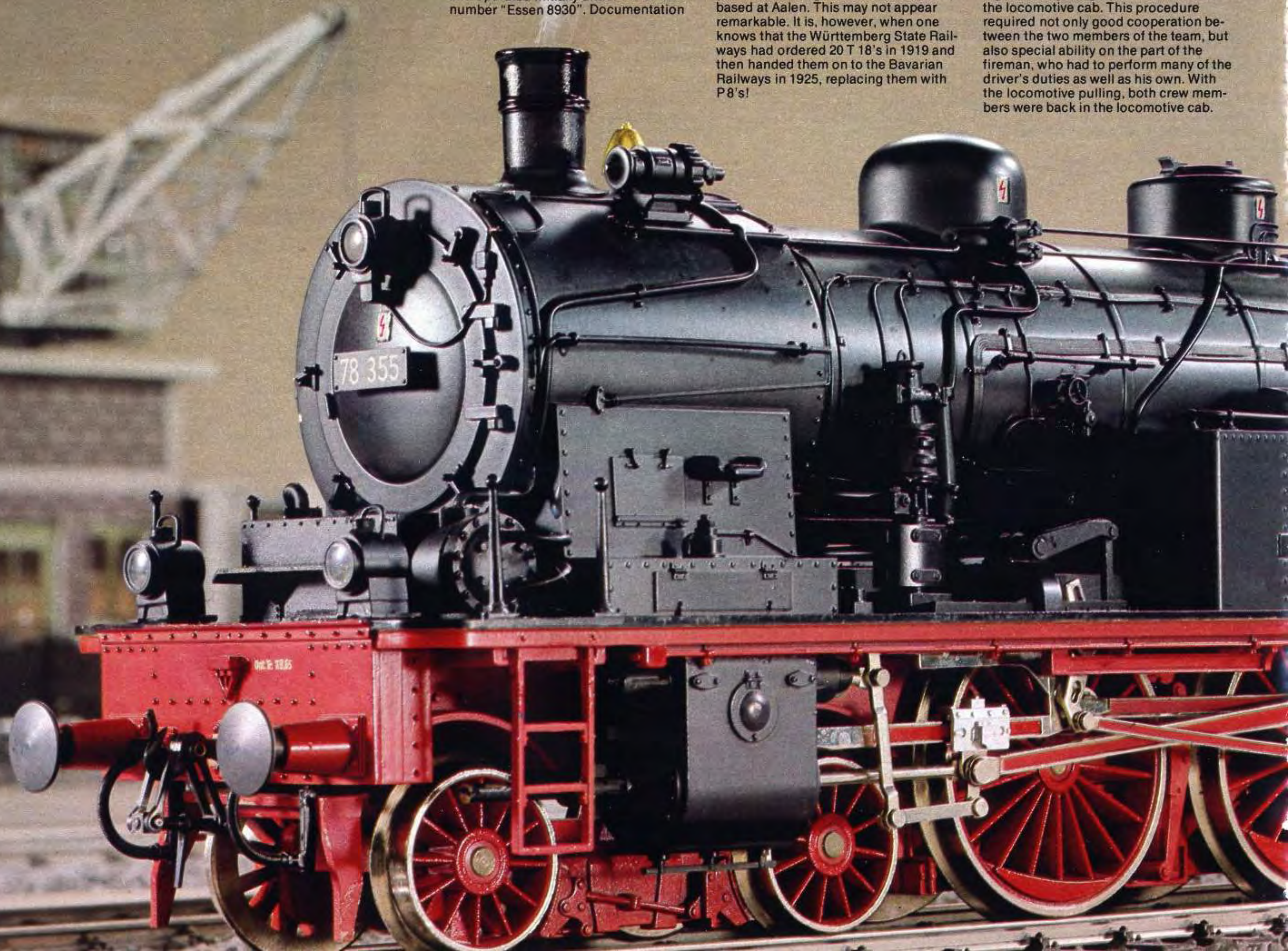
78 355 was the seventy-eighth 78 built by the firm of Henschel. It was delivered to the Essen railroad authorities in 1922 and operated initially under the serial number "Essen 8930". Documentation

of the early years of the German State Railways is incomplete. It is certain, however, that 78 355 was based in the railroad maintenance depot at Hanau from 1933 onward. It was transferred to Aalen in 1961, as the Stuttgart-Schorn-dorf route, which had not yet been electrified, had urgent need of locomotives able to steam forwards and in reverse.

As late as 1963 there were still 10 T 18's (the former designation of the class 78) based at Aalen. This may not appear remarkable. It is, however, when one knows that the Württemberg State Railways had ordered 20 T 18's in 1919 and then handed them on to the Bavarian Railways in 1925, replacing them with P 8's!

The good running characteristics in either direction of this locomotive made it ideal for use in multiple-unit trains. Several machines of this class were therefore fitted with multiple-unit train control systems, especially for use from stations to the north of the main route.

With the locomotive pushing the driver sat in the control car of the multiple-unit train and relayed braking and accelerating orders by telegraph to the fireman in the locomotive cab. This procedure required not only good cooperation between the two members of the team, but also special ability on the part of the fireman, who had to perform many of the driver's duties as well as his own. With the locomotive pulling, both crew members were back in the locomotive cab.



The class 78 was also used a great deal on switching duties. Some variants of the type were even fitted with radio control and were used on switching duties in places like Düsseldorf main station until the beginning of the 1960's.

5706 new

Tank locomotive · A model of German Federal Railways' Class 78 locomotive · Wheel arrangement 4-6-4 · 3 axles driven through concealed gears · Armature shaft mounted between ball bearings · 2 non-skid tires · Simulated Heusinger reversing gear · Die cast zinc frame · Mat black body with detailed representation of the fittings on the boiler and in the driver's cab · Forward or reverse drive

switched by electronic control · Built-in smoke set · 3 lights at each end which burn with constant brightness even when the locomotive is stationary · Sprung buffers on both buffer beams · Detachable automatic claw couplings · 2 screw couplings and 4 simulated brake hoses are also supplied, which can be fitted in place of the claw couplings · In this case the fitted rail guards should also be replaced by the ones supplied · Figures of driver and fireman are included · Length over buffers 46.3 cm (1 ft 6-1/4")

Bulb	= 60019
Pair of carbon brushes	= 60152
Smoke fluid	= 0241

This model will not run on track sections where the radius of curvature is less than 1 meter (3 ft 3"). Suitable track sections are 5932 and turnouts 5972/5973.

5746 new

Tank locomotive · Similar to model 5706, but arranged for 2-rail DC operation



Basic sets, locomotives and accessories

1

5700 · Tank locomotive · Model of German Federal Railways' 0-6-0 Class 80 locomotive · 2 non-skid tires · Simulated Heusinger reversing gear · Remote control for forward and reverse drive · 3 working headlights at each end · Mat black body · Driver's cab doors will open · Windows with "cellon" panes · Die cast zinc frame · Automatic claw coupling and sprung buffers at each end · Length over buffers 30.25 cm (1 ft)

Bulb = 60015
Pair of carbon brushes = 60041

1

5700



2

5720 · Diesel locomotive · A model of a 0-6-0 industrial locomotive · 2 non-skid tires · Remote control for forward and reverse drive · 3 working headlights at each end · Red body with 2 yellow horizontal stripes · Driver's cab doors will open · Windows with "cellon" panes · Die cast zinc frame · Automatic claw coupling and sprung buffers at each end · Length over buffers 30.25 cm (1 ft)

Bulb = 60015
Pair of carbon brushes = 60041

2

5720



3

5702 · Tank locomotive · Wheel arrangement 0-6-0 · 2 non-skid tires · Simulated Heusinger reversing gear · Remote control for forward and reverse drive · 3 working headlights at each end · Black boiler, dark green water tanks and cab, brass-colored window frames and hand rails · Driver's cab doors will open · Windows with "cellon" panes · Die cast zinc frame · Automatic claw coupling and sprung buffers at each end · Length over buffers 30.25 cm (1 ft)

Bulb = 60015
Pair of carbon brushes = 60041

4

5530

★ new



The right way to start in large scale model railroading:

Basic set 5530 with transformer

4  new

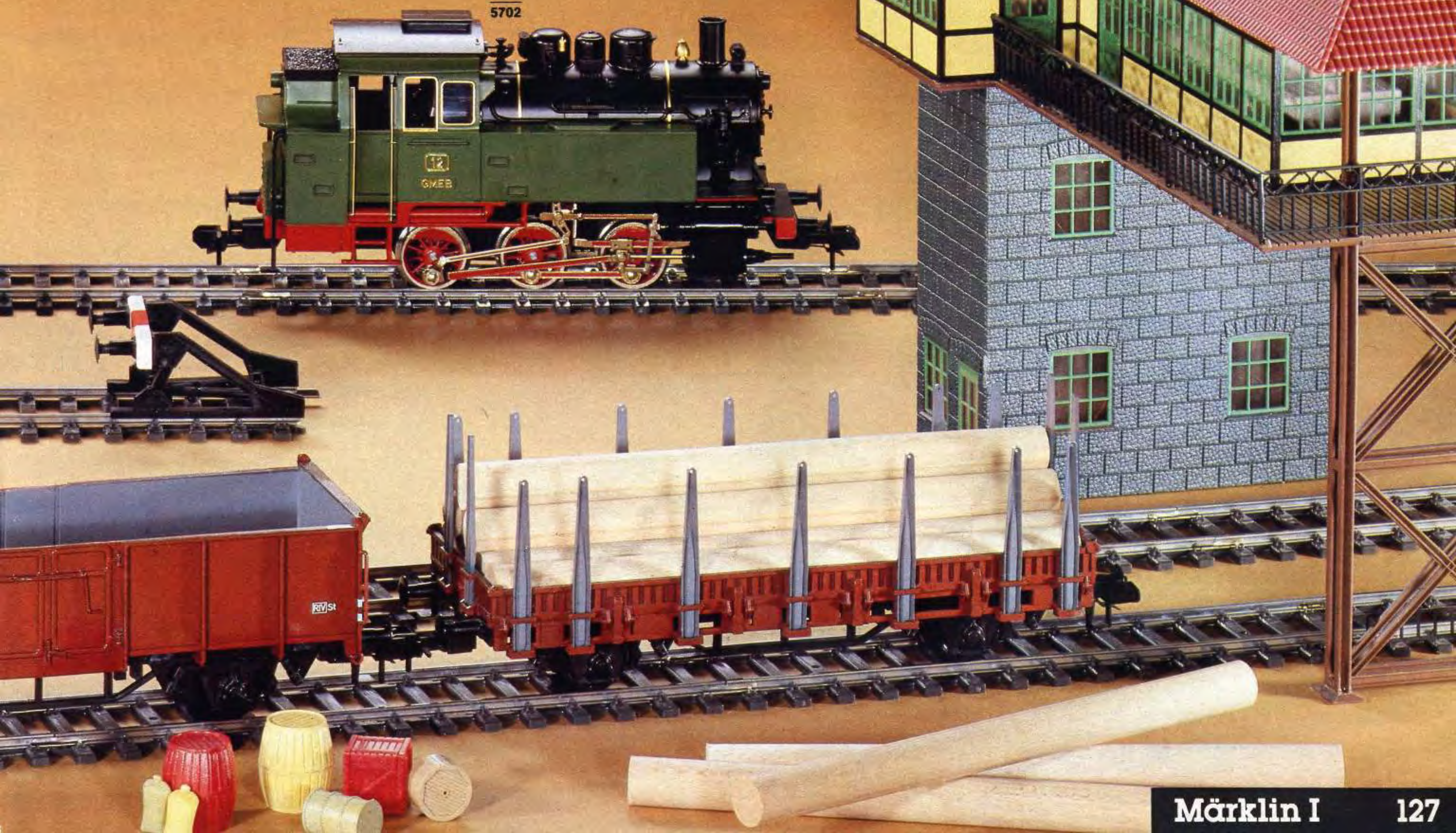
5530 · 220 Volts · Freight train with transformer · Contents: 1 tank locomotive 5700, 1 open freight car 5850, 1 flat car with stanchions 5853, 1 straight track section 5900, 12 curved track sections 5921, 1 feeder track section 5990 with built-in capacitor for radio interference suppression, figures of driver and fireman, 2 barrels, 2 sacks, 1 packing case, 1 oil drum, 1 roll of cable and 9 lengths of tree-trunk as freight, and 1 transformer 6631 · Length of train 97 cm (3 ft 2-1/8")

5

5616 · Overhead signal box building kit, old-fashioned style · Transparent windows · Interior fittings comprised of a signal lever bank and a large switch board · Interior lighting · Clearance for double track · Headroom to track 20 cm (7-7/8") · Made of corrosion-resistant material · Base area 41 × 24 cm (1 ft 4-1/4" × 9-1/2")

3

5702



Passenger cars and accessories

1

5611 • Home signal with one semaphore arm. Signal lights change from red to green. Operated by double solenoid and can control trains. 2 connector terminals, 2 leads, and insulators for 6 isolating points are included. Height 26.5 cm (10-1/2"). Width 6 cm (2-3/8"). Length 11 cm (4-3/8").

Q = 60000

2

5801 • Passenger car. Modeled on a car of the former Royal Württemberg Railways. Green finish, otherwise the same as 5800.

3

5800 • Passenger car. Modeled on a private railroad coach. 2 doors which will open. Dummy ventilators on roof. Windows inset in plastic frames. Interior fittings representing wooden seats. Length 31 cm (1 ft 1/4").

4

5808 • Baggage car. A model of German Federal Railways' type D3pr02. 3 axles. Steering axles controlled by center axle. Sprung buffers. Hinged and sliding doors which will open. Windows inset in plastic frames. Interior fittings. Roof can be taken off. Length 39.1 cm (1 ft 3-3/8"). Can be fitted with interior lighting set 5605.

5

5804 • Compartment car. 2nd class. A model of German Federal Railways' type B3pr07. 3 axles. Steering axles controlled by center axle. Sprung buffers. All doors will open. Windows inset in plastic frames. Interior fittings. Roof can be taken off. Length 39.1 cm (1 ft 3-3/8"). Can be fitted with interior lighting set 5605.

6

5805 • Compartment car with brakeman's cab. 2nd class. A model of German Federal Railways' type B3pr07. 3 axles. Steering axles controlled by center axle. Sprung buffers. Doors will open. Windows inset in plastic frames. Interior fittings. Roof can be taken off. Length 39.1 cm (1 ft 3-3/8"). Can be fitted with interior lighting set 5605.

7

5615 • Altmühlhof station building kit in the style of an old-fashioned small town station. Transparent windows. Interior lighting. Destination boards and other small accessories. Extension to platform, with railing. (length 31 cm (1 ft 1/4"). Made of corrosion-resistant material. Base area 60 x 29 cm (1 ft 11-5/8" x 11-1/2").



5605

Interior lighting set for cars 5804, 5805 and 5808. Consists of 2 current pick-ups, 3 lighting units, leads and plugs. Installation instructions are included.

Q = 49342 Q = 60000

1

5611

2

5801

3

5800

4

5808



7
5615

ALTMÜHLHOF

5
5804

6
5805

The locomotive maintenance depot

■ Except for maintenance and inspection of the main power units, the type of locomotive requiring the most routine servicing is the steam locomotive.

Electric locomotives only need replenishment of their braking system sand supplies, as they draw their traction energy from the overhead line.

Diesel locomotives require not only sand but also their diesel fuel, which is an extra servicing operation. These jobs can be carried out either in a small locomotive servicing bay at a mainline station or at one of the large special purpose locomotive maintenance depots.

Steam locomotives being serviced in one of these depots have to undergo a series of operations in a particular order. These consist firstly of coaling, then cleaning the smoke box, dumping cinders, replenishing with water and sand, and finally parking or preparation for use.

1 ★ new

5618 • Coaling point building kit • Consisting of coal bunker, 2 coal cars and crane which can be moved by hand • Made of corrosion-proof material • Base area approx. 40 × 18 cm (1 ft 3-3/4" × 7-1/8")

2 ★ new

5617 • Locomotive shed building kit, old-fashioned style • Transparent windows • Interior lighting • 4 individually-operated entrance doors • Made of corrosion-proof material • Base area approx. 70 × 50 cm (2 ft 3-1/2" × 1 ft 7-3/4")

1 ★ new
5618

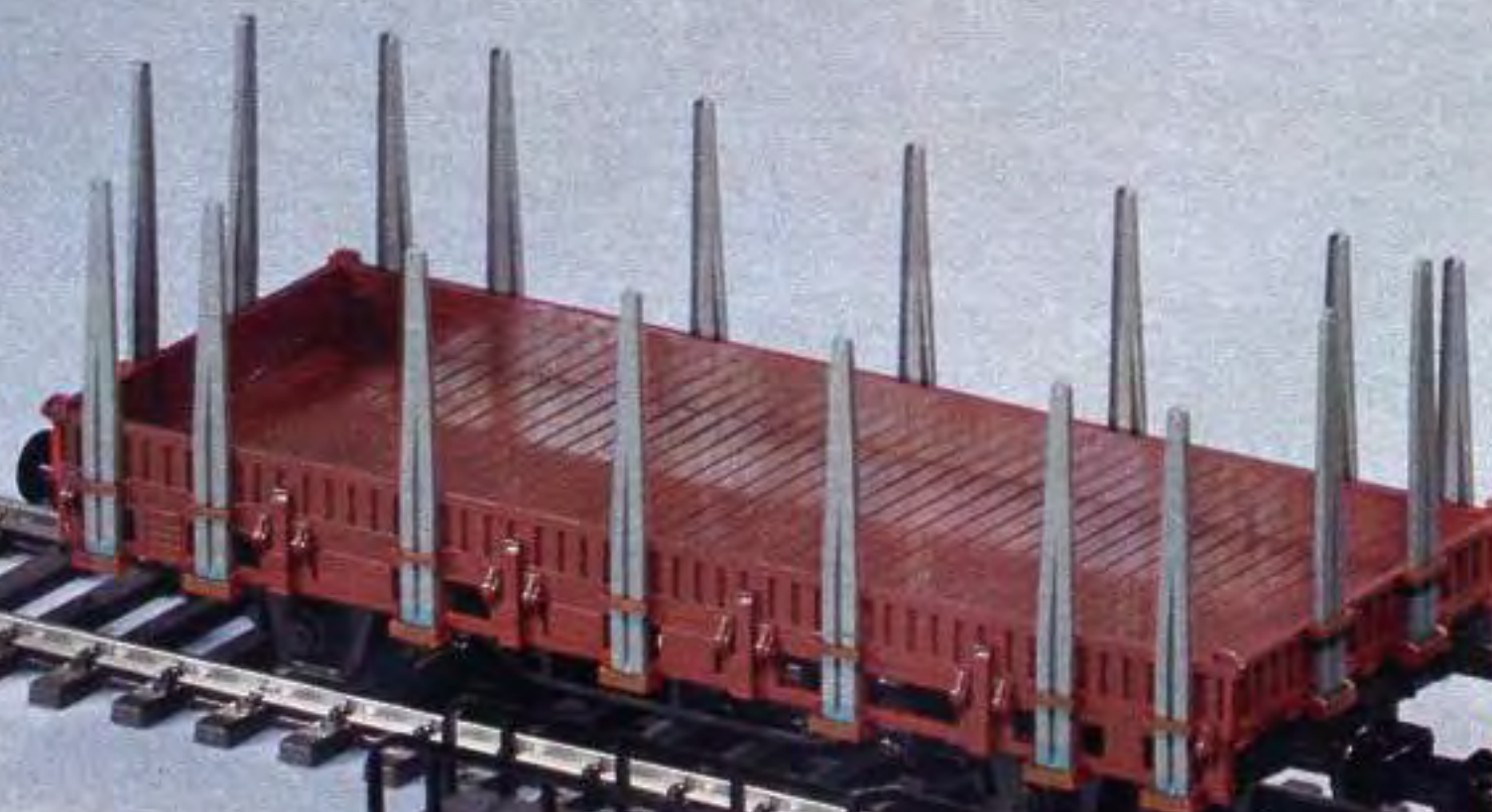




2 ★ new
5817

Freight cars

5
5853



1
5860



6
5863



9
5867



10
5865



The variety of finely-detailed Märklin I gauge freight cars offers wide scope for enjoyment. Length of cars 31 cm (1 ft 1/4")

1

5860 • Box car - German Federal Railways' type Gls - Sliding doors

2

5850 • Open freight car - German Federal Railways' type Omm 55

3

5851 • Open freight car - A Belgian Railways model

4

5859 • Tipping bucket car - Buckets will tip to either side

5

5853 • Flat car with removable stanchions

6

5863 • Beer car - Model of car owned by Haller Löwenbräu brewery - Sliding doors

7

5864 • Beer car - Model of car owned by Kulmbacher Mönchshof brewery - Sliding doors

8

5861 • Beer car - Model of car owned by Dortmunder Union brewery - Sliding doors

9

5867 • Tank car - ARAL - With filler cap and discharge valve which open and close

10

5865 • Tank car - ESSO - With filler cap and discharge valve which open and close

11

5866 • Tank car - SHELL - With filler cap and discharge valve which open and close



2
5850



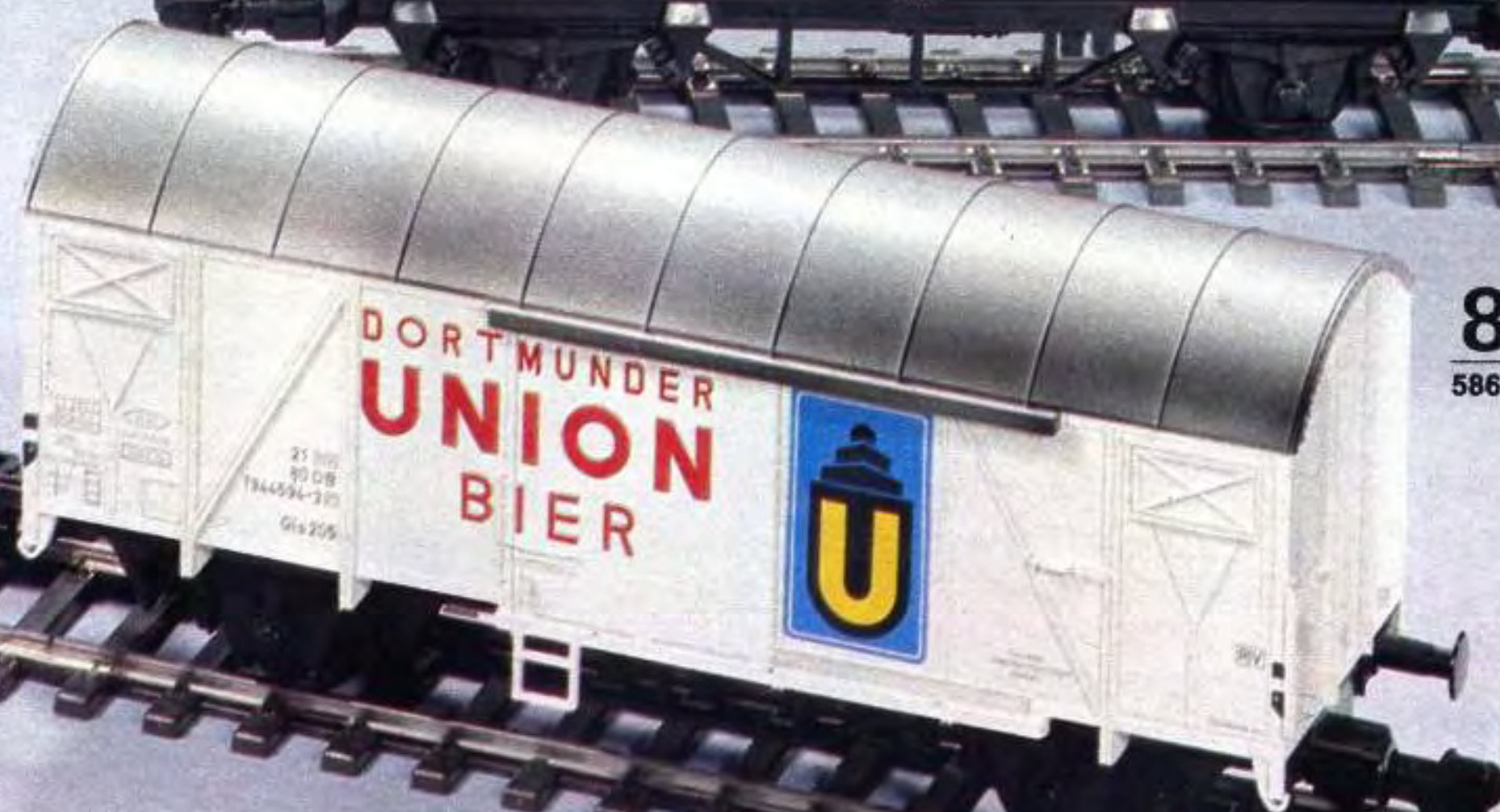
3
5851



7
5864



4
5859



8
5861



11
5866

1 ★ new
5876



2 ★ new
5875



3
5871



4 ★ new
5874



Freight cars with special features

1 ★ new

5876 · Flat car with automobiles · The 2 automobiles are clipped on to the base of this car and can easily be taken off and used on their own · Length 31 cm (1 ft ¼")

2 ★ new

5875 · Flat car with stanchions, loaded with lumber · The car has a load of 9 tree-trunks · Length 31 cm (1 ft ¼")

3

5871 · Pivoting platform car loaded with steel tubing · Length 64 cm (2 ft 1-¼")

4 ★ new

5874 · Self-unloading car with steering trucks · German Federal Railways' type Fad 168 · Discharge doors on side will open · Sprung buffers · Length 37 cm (1 ft 2-½")

■ Bulk freight cars of this type are used in national and international traffic for the transportation of coal, coke, ore, etc. They are normally used in trains made up of similar cars, as in this way the automatic unloading capability of these cars can best be exploited. This type of train can have as many as 40 cars.

5

5872 · Box car with tail lights · German Federal Railways' type GIs · Sliding doors · 2 light emitting diodes with tail lamps which can be mounted individually for day or night settings · Length 31 cm (1 ft ¼")

5
5872

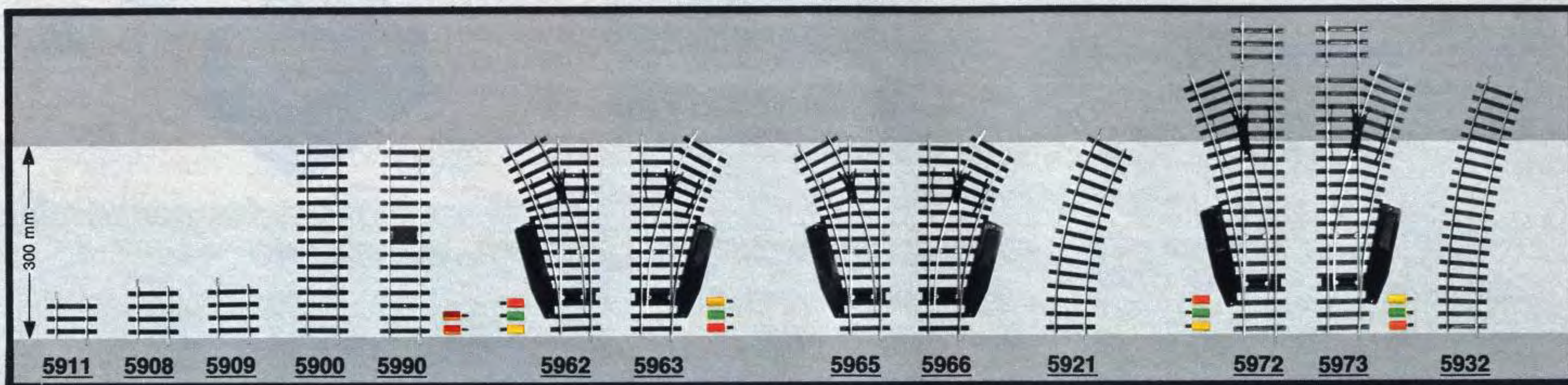


Tracks and track construction

The Märklin I-gauge range includes circular track of 2 different radii. 16 track sections 5932 make up a 2040 mm (6 ft 8") diameter circle and 12 track sections 5921 a 1200 mm (3 ft 11") diameter circle. Locomotives 5706 and 5799 will only run on the larger circle.

Although a 2-rail conductor system is used, no polarity problems arise even on reversing loops, diagonals or y-tracks. This large scale Märklin railroad uses AC motors, sharing the advantages of this technique with the HO gauge system. As with the HO gauge, the direction of travel is switched by the "driver" built-in to the locomotive.

Märklin I rails are solid, stainless and corrosion-resistant. The crossties are also made of non-corroding material. Thus all Märklin I tracks may safely be laid out of doors. Any apparent rust marks will be due to contact with rusting metal parts. Such marks can easily be removed with a cloth.



5911

Straight track section · Length 59.5 mm (2-3/8")

5908

Straight track section · Length 80.4 mm (3-1/8")

5909

Isolating track section, straight · Length 80.4 mm (3-1/8") · For dividing the layout into electrically isolated sections

5900

Straight track section · Length 300 mm (11-3/4")

5990

Straight feeder track section · Length 300 mm (11-3/4") · Built-in capacitor for radio interference suppression · 2 feeder cables, each 1 meter (3 ft 3-3/8") long

5962

Solenoid-operated left-hand turnout · Operated by double solenoid · Sprung switch points · Turnout angle 30° · Radius of branch track 600 mm (1 ft 11-5/8") · Length of straight track section 300 mm (11-3/4")

5602

Bumper, riveted steel type · Sprung buffers · Clips on to the rails · Length 9.8 cm (3-7/8")

5607

Bumper, riveted steel type · With barrier signal mounted on · Working signal light · Sprung buffers · Clips on the rails · Length 9.8 cm (3-7/8")

Q = 60000

5963

Solenoid-operated right-hand turnout · Operated by double solenoid · Sprung switch points · Turnout angle 30° · Radius of branch track 600 mm (1 ft 11-5/8") · Length of straight track section 300 mm (11-3/4")

5965

Manually-operated left-hand turnout · Sprung switch points · Turnout angle 30° · Radius of branch track 600 mm (1 ft 11-5/8") · Length of straight track section 300 mm (11-3/4")

5966

Manually-operated right-hand turnout · Sprung switch points · Turnout angle 30° · Radius of branch track 600 mm (1 ft 11-5/8") · Length of straight track section 300 mm (11-3/4")

5921

Curved track section · Radius 600 mm (1 ft 11-5/8") · Curvature 30°

5972

Solenoid-operated left-hand turnout · Operated by double solenoid · Sprung switch points · Turnout angle 22° 30' · Radius of branch track 1020 mm (3 ft 4") · Length of straight track section 390.5 mm (1 ft 3-3/8")

5973

Solenoid-operated right-hand turnout · Operated by double solenoid · Sprung switch points · Turnout angle 22° 30' · Radius of branch track 1020 mm (3 ft 4") · Length of straight track section 390.5 mm (1 ft 3-3/8")

5932

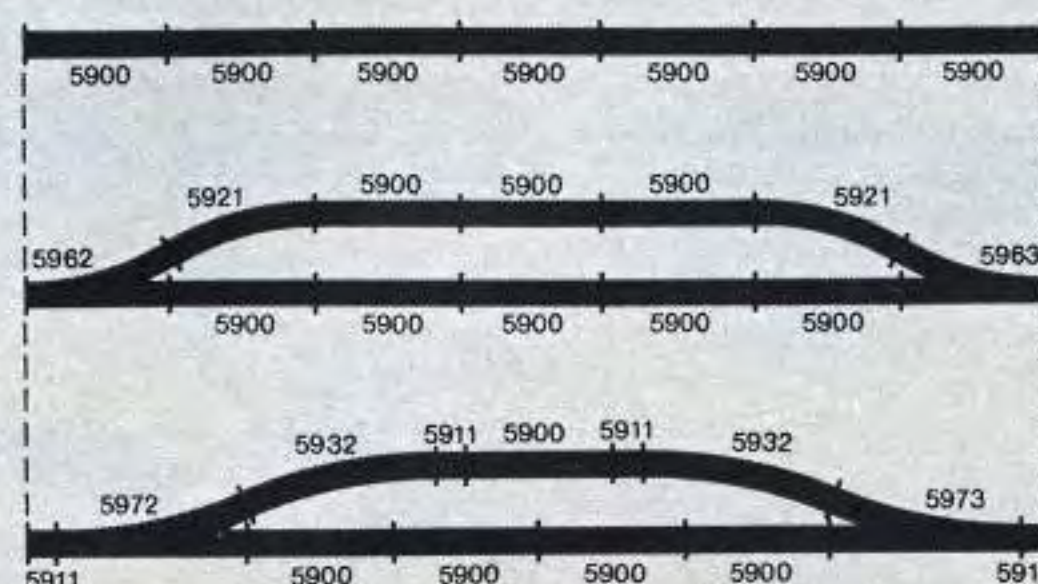
Curved track section · Radius 1020 mm (3 ft 4") · Curvature 22° 30'

5600

Uncoupler · Can be fitted between the rails of track section 5900 · Releases couplings in one direction of travel only, thus enabling cars to be pushed away · Length 175 mm (6-7/8")

5603

Retaining clips · Bag of 28 · For securing the joints between I gauge track sections



Electronic unit/power pack and accessories

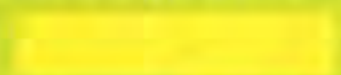
Usual colors of electrical leads in Märklin circuits:

Electrical leads

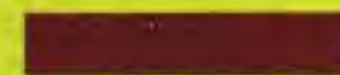
The copper conductor in these stranded leads consists of 24 separate strands



Red = traction current



Yellow = lighting and solenoid-operated items



Brown = traction current and ground return lead from position control box to transformer



Blue = return lead from solenoid-operated items to position control box (with green and red plugs)

Sleeves

7111 = brown
7112 = yellow
7113 = green
7114 = orange
7115 = red
7117 = gray

each of 0.10 mm (0.004") diameter, giving an overall cross-sectional area of 0.19 mm² (0.03 sq"). That is enough to take even a short-circuit current from a 40 VA transformer without difficulty.

7100

Lead - Single core - Gray - 10 meters (33 ft)

7101

Lead - Single core - Blue - 10 meters (33 ft)

7102

Lead - Single core - Brown - 10 meters (33 ft)

7103

Lead - Single core - Yellow - 10 meters (33 ft)

7105

Lead - Single core - Red - 10 meters (33 ft)

Plugs with side sockets



7131 = brown 7134 = orange
7132 = yellow 7135 = red
7133 = green 7137 = gray

The following transformer and the electronic unit/power pack may be used to provide power for Märklin I locomotives.

For connection to AC supply only

The insulation of every Märklin transformer is tested at several thousand volts and is thus completely safe. A short-circuit cut-out protects against overloading. Power pack 6699 is recommended for out of doors use.

Locomotive speed is increased by turning the red knob clockwise. Each time the knob is briefly turned counter-clockwise from its normal position, the direction of motion of the locomotive is reversed.

6699

Electronic unit/power-pack for use in or out of doors - For connection to Märklin lighting transformer 6611 or to the lighting sockets of a Märklin transformer with 30 VA output power - Lighting voltage 16 Volt - Electronic control of locomotive speed and direction of motion - Maximum permitted load 1.8 Amperes - Plastic case - Weight 315 grammes - Dimensions 125 x 135 x 55 mm (4-15/16" x 5-3/16" x 2-1/16") - Use Märklin leads and plugs to extend connector leads if required

In conjunction with 6611 or 6620-6631 this power pack makes outdoor operation possible.

This power pack also enables locomotives to be run extremely slowly.



6699

6611
40 VA

6631
30 VA

6631 220 Volt

6620 100 Volt Japan

6627 110 Volt (60 Hz) USA

6629 240 Volt

Transformer - Output 30 VA - Traction voltage adjustable between about 4 and 16 V - Lighting voltage 16 V - Plastic case - Red pilot lamp - Weight 2.1 kg - Dimensions 158 x 135 x 75 mm (6-1/4" x 5-3/16" x 3-15/16")

⊗ = 60015

6611 220 Volt

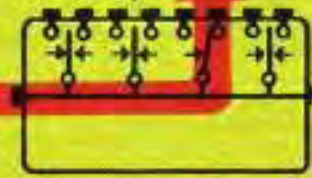
Transformer for lighting and for solenoid-operated items - Output 40 VA - Output voltage approximately 16 V AC - Plastic case - Weight 2 kg - Dimensions 158 x 135 x 75 mm (6-1/4" x 5-3/16" x 3-15/16")

Accessories for remote operation

7072



Circuit diagram of 7072 (with switch 3 closed)



7072

Position control box with 8 sockets for connecting 4 double-solenoid-operated - The position of signals, turnouts, etc. can be seen from the position of the push buttons - Length 80 mm (3-1/8") - Width 40 mm (1-9/16")

7210



Circuit diagram of 7210 (with switch 3 closed)



7210

Control box with indicator push buttons for distributing current to 4 traction current or lighting circuits - Length 80 mm (3-1/8") - Width 40 mm (1-9/16")

7211



Circuit diagram of 7211 (with switch 3 closed)



7211

Control box for switching 4 different traction or lighting circuits on and off by indicator push buttons - Length 80 mm (3-1/8") - Width 40 mm (1-9/16")

7209



7209

Distribution strip - With 11 single sockets - Size 50 x 20 mm (2" x 3/4")

märklin

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GmbH

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D-7320 Göppingen

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märklin metall



**Construction system
using real
nuts and bolts**

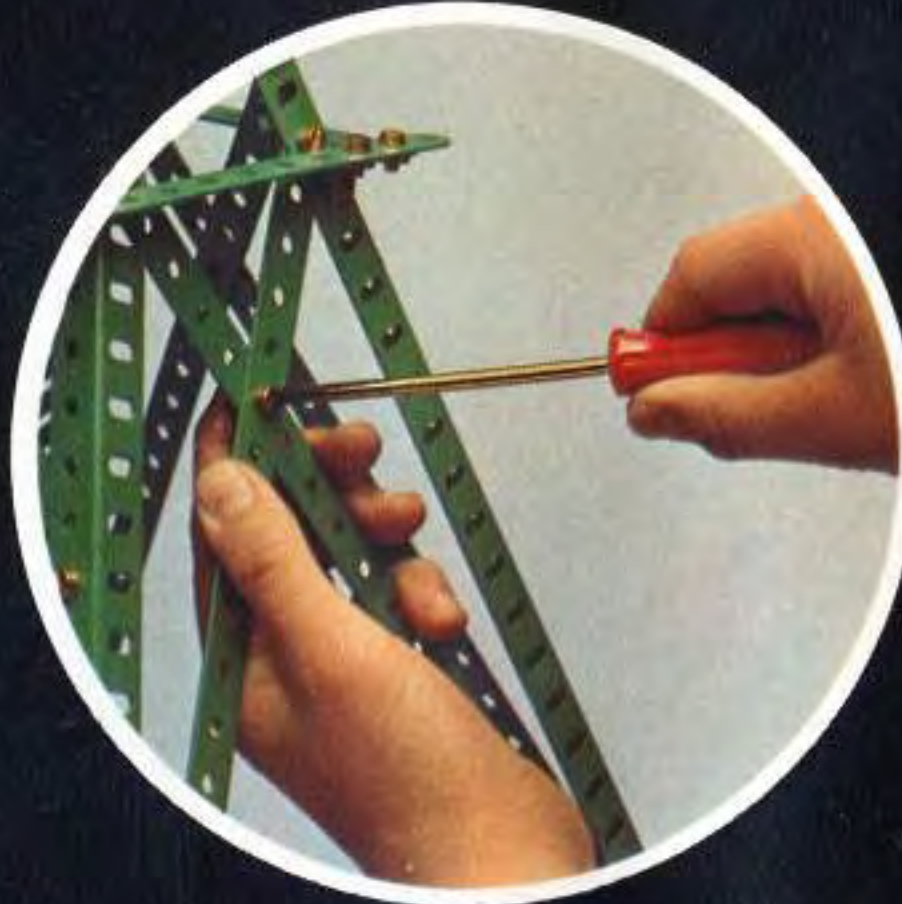
Märklin metall just what a boy wants

Metal is used in many technical applications. Märklin metall is a construction system based on real engineering.

Design and make your models the way real engineers do, with proper tools and metal parts.

Learning about practical engineering is an adventure.

It's always fun getting to know about pulleys, shafts, wheels, transmissions and gears. And while enjoying Märklin metall you learn how these components interact with each other.



A brick released from a Märklin crane falls from a height of 1.5 m (4 ft 11") onto a Märklin truck. And what happens? The brick is shattered, but the truck is undamaged! This strength comes from the firm nut-and-bolt joints between all components in a model made of Märklin metall.

The versatile system

1
1051



2
1052



3
1053

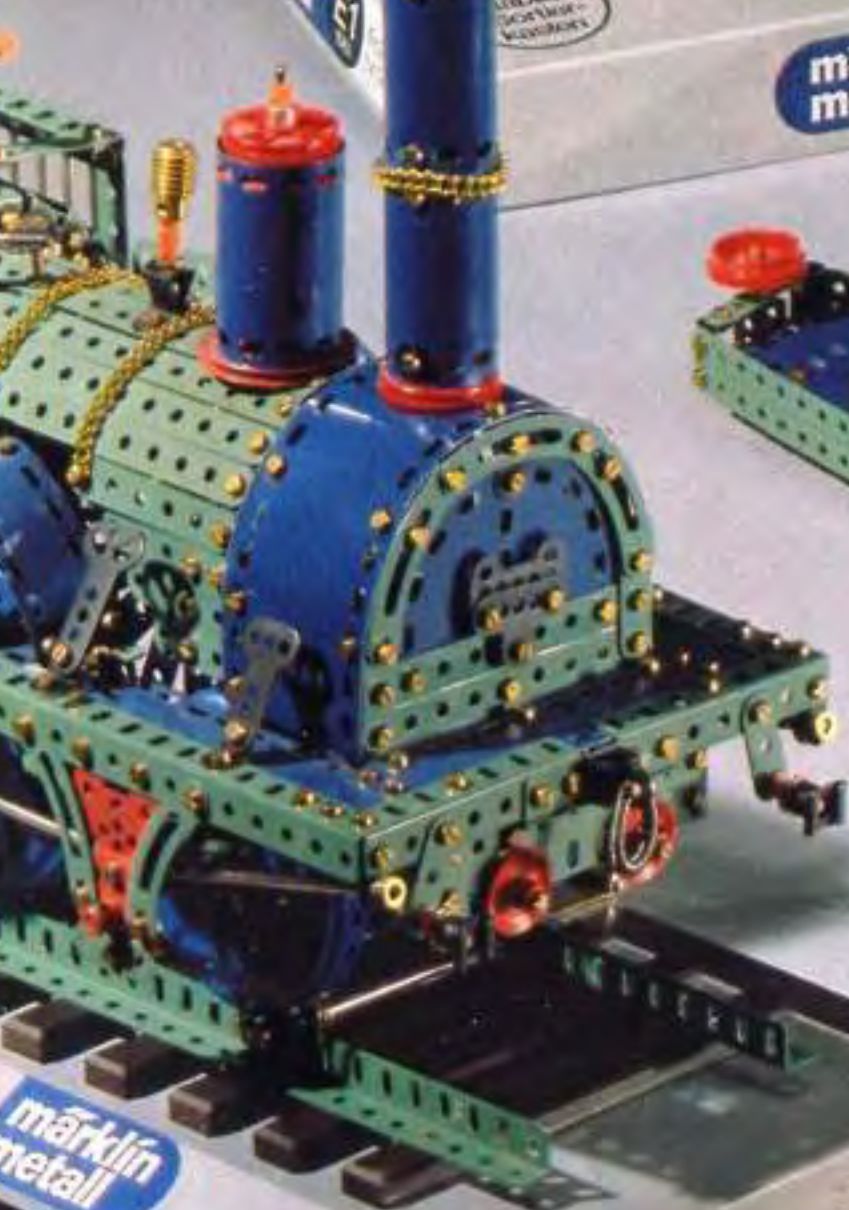


A

B

C

4
1061



5
1062



6
1063



Basic sets

1

1051 · Basic set A with 178 parts

2

1052 · Basic set B with 265 parts

3

1053 · Basic set C with 442 parts

Extension sets

4

1061 · Extension set E 1 extends basic set A to equal basic set B

5

1062 · Extension set E 2 extends basic set B to equal basic set C

6

1063 · Extension set E 3 extends basic set C one stage further

AC/DC electric motors

7

1072 · ELEX AC/DC electric motor

8

1073 · AC/DC electric motor with gearbox

Assembly kits for large models

9

1002 · "Der Adler"
Length of model 75 cm (2 ft 5-1/2")

1001

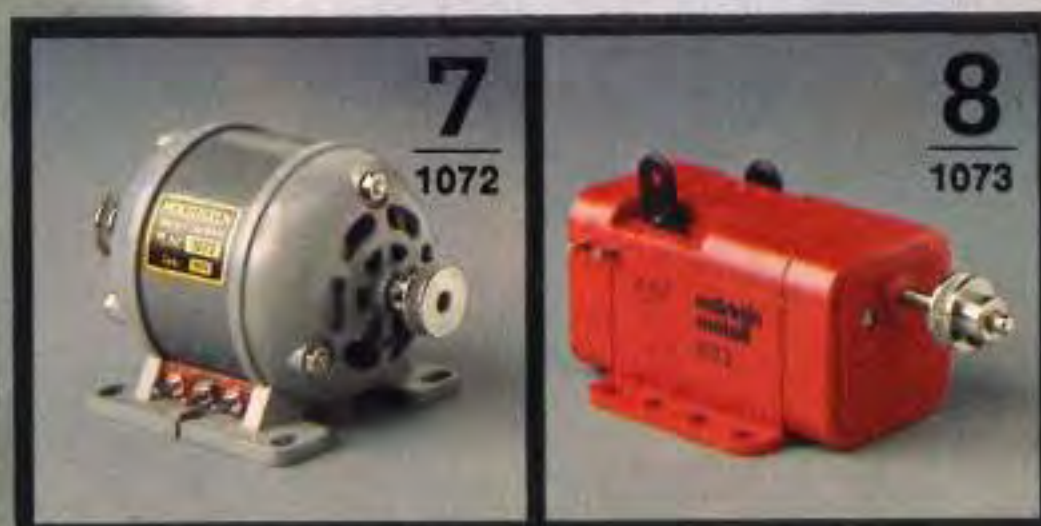
Class 160 electric locomotive
Length of model 72 cm (2 ft 4-1/4")

1003

Class 050 freight train locomotive
Length of model 165 cm (5 ft 5")

9

1002



7

1072

8

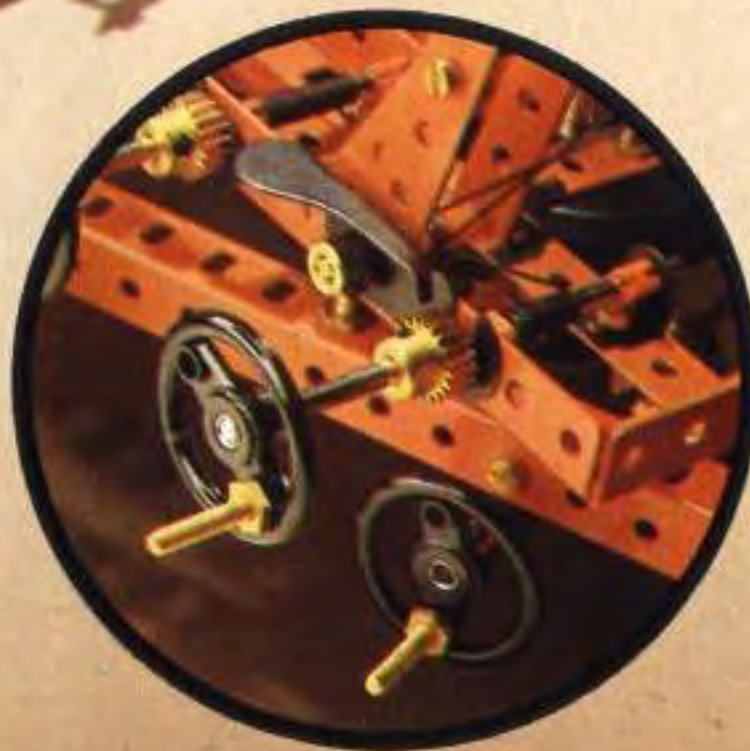
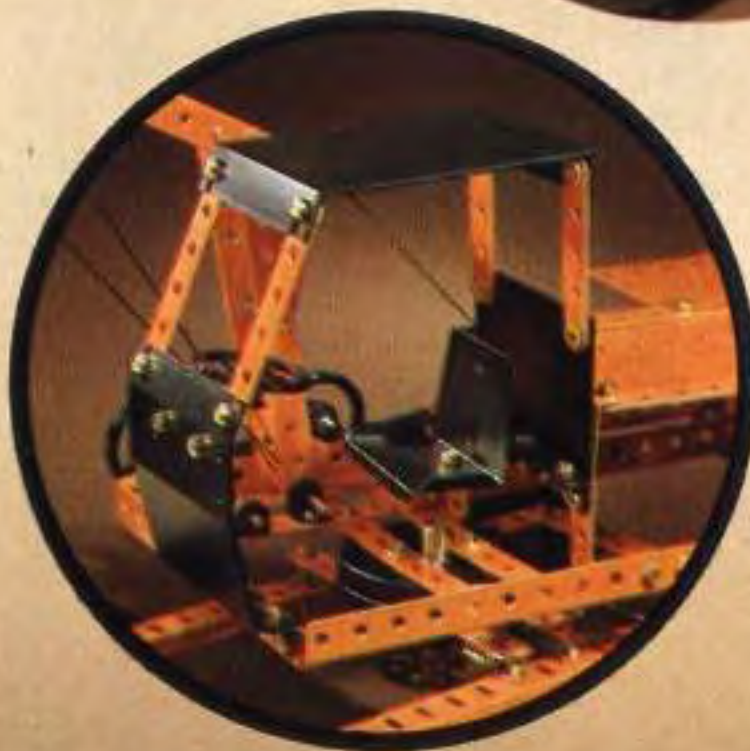
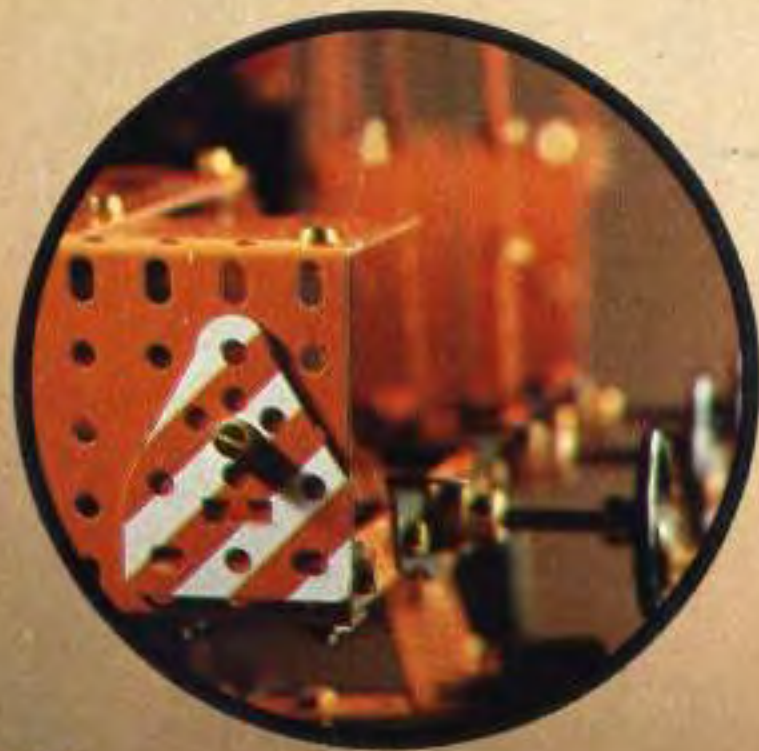
1073

Märklin metall New models with many uses

New feature: farm machinery

This building kit enables models of modern agricultural machines to be constructed, such as a tractor-drawn plow, a spike-tooth harrow, a rotary hay-rake and a clod-crusher.

The parts of this kit can also be used for building individually-designed models.



New feature: excavation machinery

With this building kit you can build models of some of those noisy machines used on construction sites, such as clamshell excavators, shovel dozers, mobile cranes and front tippers.

The parts of this kit can of course also be used for individually designed models and can be used in conjunction with any Märklin metal parts.



The Märklin metall prospectus, which includes the new features, is obtainable free of charge from your dealer.

märklin sprint

tipped to win by those who know

Basic sets contain 2 racing automobiles, 2 speed controllers, a number of course sections, crash barriers, piers and a 24 page instruction booklet with race track layouts.

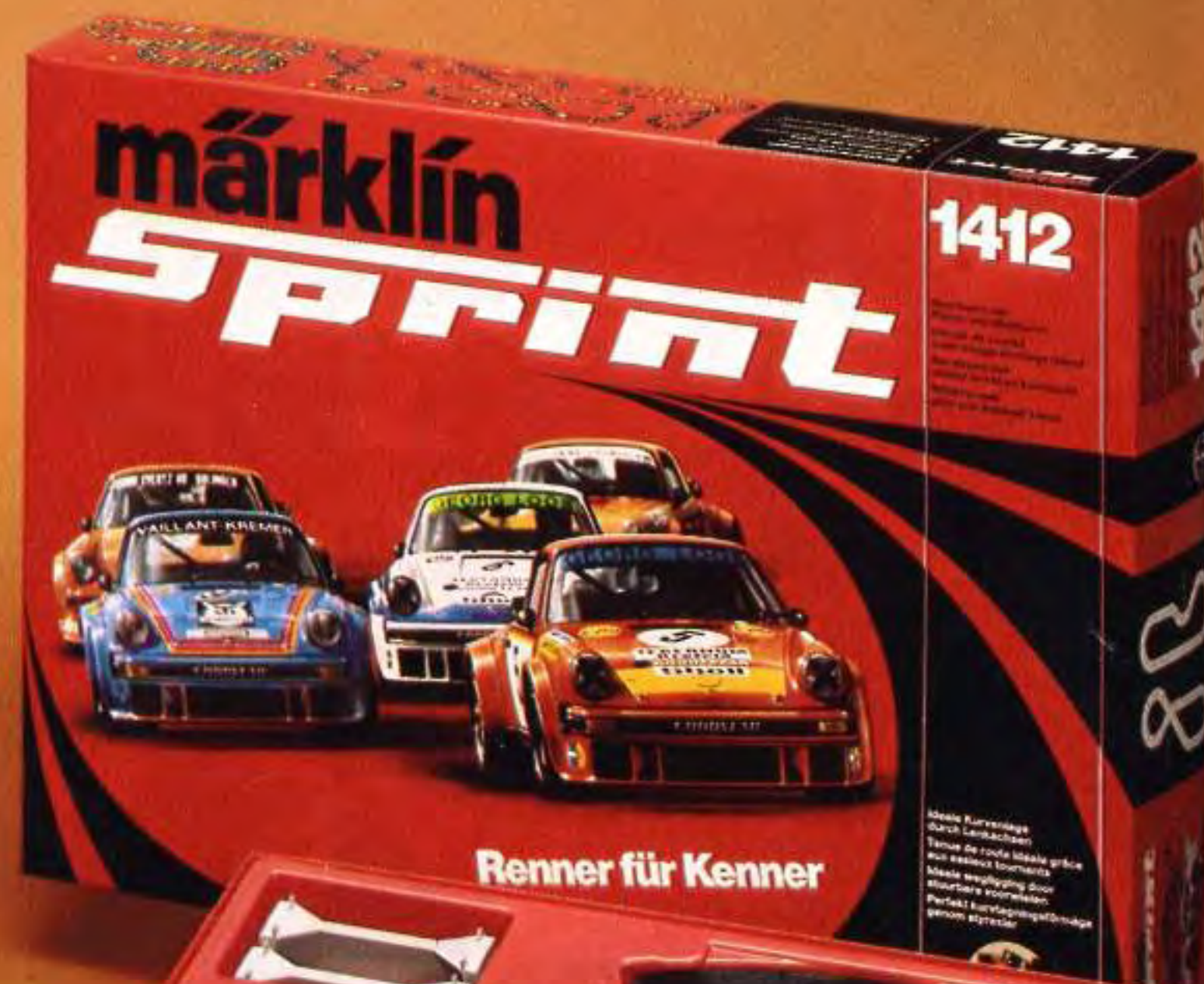
Whether automobiles take curves properly or in a power slide depends on the ability of the "driver".

Front axle steering giving excellent cornering. Self-cleaning sprung skid-type pick-ups.

Märklin motors are designed for high performance—robust, high revving, with good center of gravity location and gearbox transmission.

We recommend our power pack 6771 for use with the sprint automobile race track.

A special detailed Märklin sprint prospectus is obtainable from Märklin dealers.



1412



1409



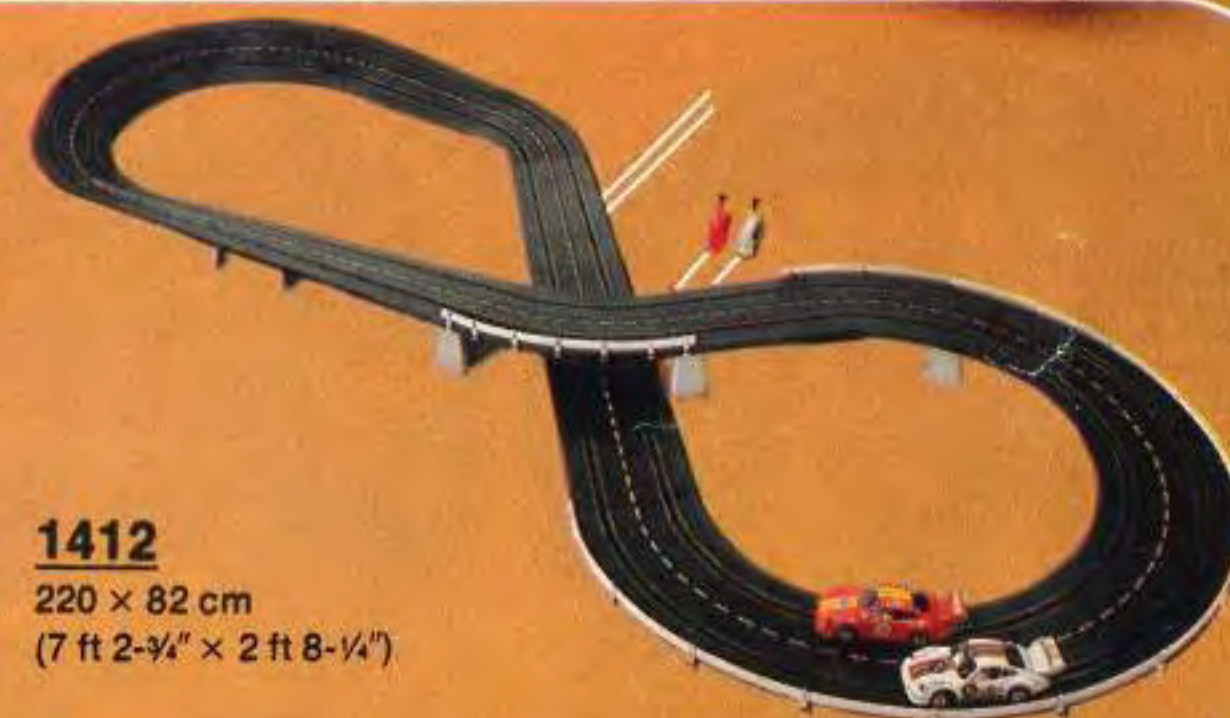
The contents of set 1409 enable two different tracks to be constructed.



1409
127 × 105 cm
(4 ft 2" × 3 ft 3-1/2")

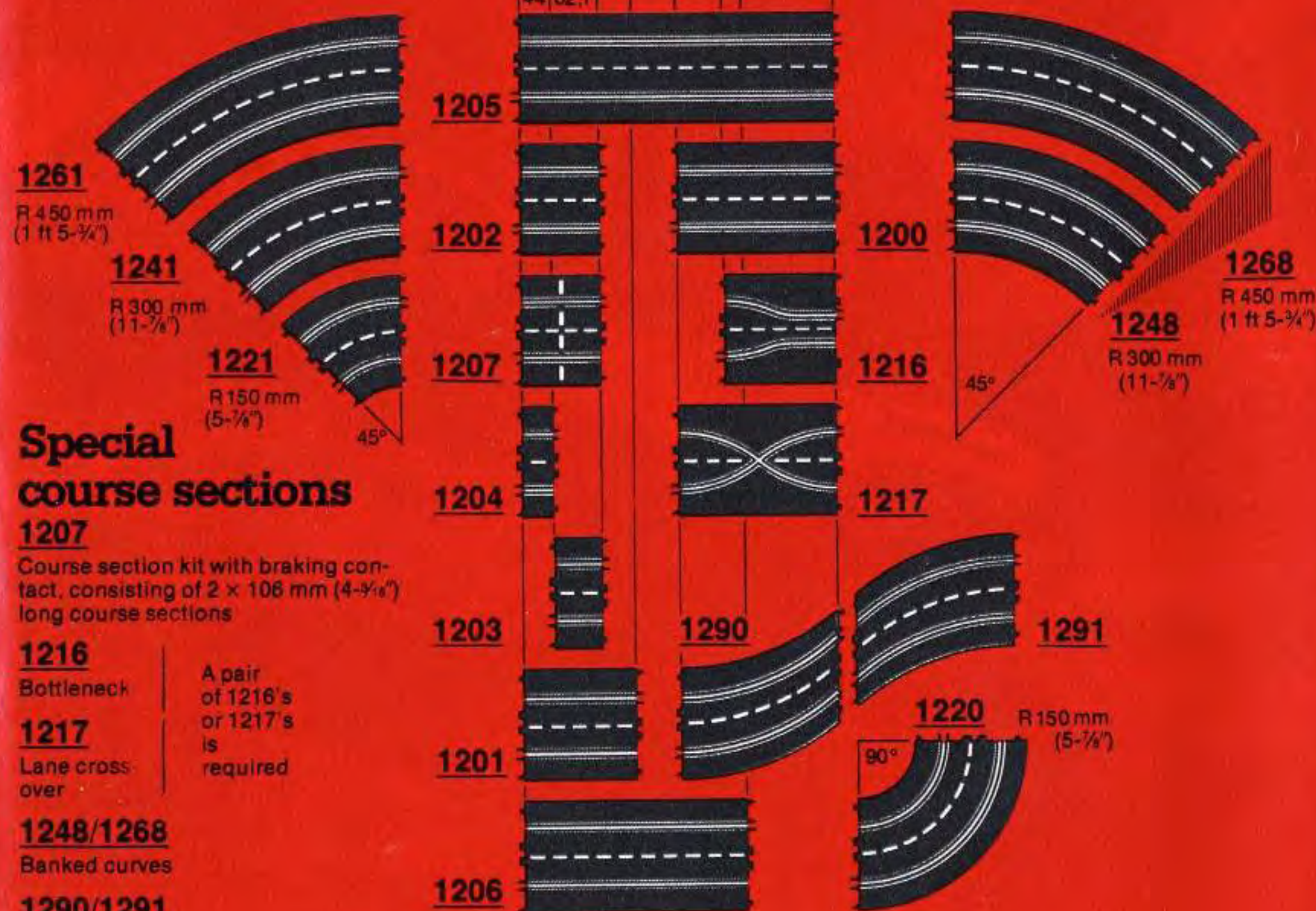


1409
140 × 87,5 cm
(4 ft 7" × 2 ft 10-1/2")



1412
220 × 82 cm
(7 ft 2-3/4" × 2 ft 8-1/4")

Straight and curved course sections



Special course sections

1207
Course section kit with braking contact, consisting of 2 x 106 mm (4-1/8") long course sections

1216
Bottleneck
A pair of 1216's or 1217's is required

1217
Lane cross over

1248/1268
Banked curves

1290/1291
Straight inclines

Rapid and secure track assembly and dismantling using Märklin hinged locking couplings.

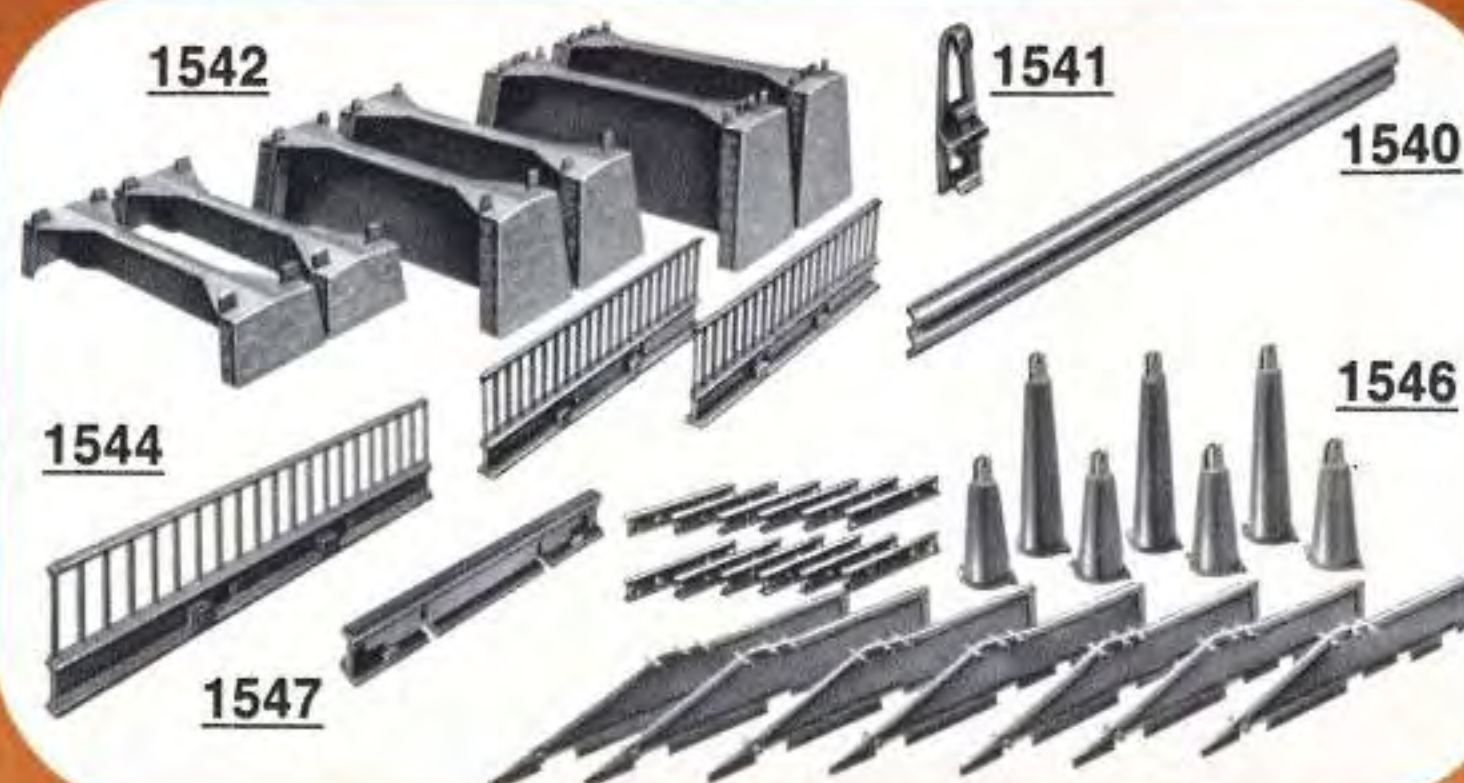
The speed controller lead can be connected to almost any straight part of the course, as seems most tactically favorable to the "driver".

Crash barriers are simply a safety feature, just as in real life.



6771

1593



1542

1541

1540

1544

1546

1547

Tire sets

1500

Contains 2 rubber tires 20.5 mm diameter by 6 mm (1/8" x 1/4") - For models 1300, 1301, 1308, 1310, 1311, 1312, 1316, 1317, 1318

1501

Contains 2 rubber tires 23 mm diameter by 7 mm (7/8" x 1/4") - For models 1300, 1301

1503

Contains 2 rubber tires 21.5 mm diameter x 7.6 mm (7/8" x 3/16") - For models 1308, 1310, 1311, 1312, 1316, 1317, 1318

1505

Contains 2 rubber tires 20.5 mm diameter x 8.5 mm (1/8" x 5/16") - For models 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332

1506

Contains 2 rubber tires 24 mm diameter x 12.5 mm (1/8" x 1/2") - For models 1330, 1331

1510

Current pick-up adapters (1 pair) - For clipping onto the pick-up skids of Märklin sprint automobiles - To enable them to be used on race tracks of other makes

60146

Pair of carbon brushes for motors of Märklin sprint automobiles

1540

Flexible crash barrier - Length 2 m (6 ft 6-3/4")

1541

Crash barrier support

1542

Overpass construction kit - Consists of 2 piers 27 mm (1 1/16") high, 2 piers 49 mm (1 9/16") high, 2 piers 61.5 mm (2 3/8") high and 2 bridge parapets

1544

Bridge parapet - Length 135 mm (5-9/16")

1545

Mechanical lap counter - Displays up to 99 laps - Number discs can be re-set - A course section 1202 is required as a make-up length

1546

Set of banked curve supports - For use when a banked curve is extended to 4 lanes

1547

Joining section for connecting adjoining straight course sections and stiffening the joints - Length 74 mm (2-1/16")



1591

1594

1591/1594

Speed controller with connection kit - Built-in capacitor for radio interference suppression - A speed controller may only be used to control one automobile at a time

1592

Rectifier - For connecting to Märklin railroad transformers with at least 16 VA output - 57 x 52 x 15 mm (2-1/4" x 2-1/16" x 5/8") - DC supply for operating up to 4 automobiles simultaneously can be taken from the pairs of sockets marked "Auto 1" and "Auto 2"

1593

Starting clock - For connecting between the power pack and the race track - When the time set on the knob (adjustable between 0 and 5 minutes) has elapsed, the current supply to the track is cut off

6771

Märklin sprint power pack for connecting to 220 Volt AC supply - Output approx. 14 V DC - Power output 10 watts - Overload protection by automatic current limiter - Plastic case - Weight 1.2 kg - Dimensions 125 x 135 x 55 mm (5" x 5-1/4" x 2-1/8")



1545

1
1300



2
1301



4
1310

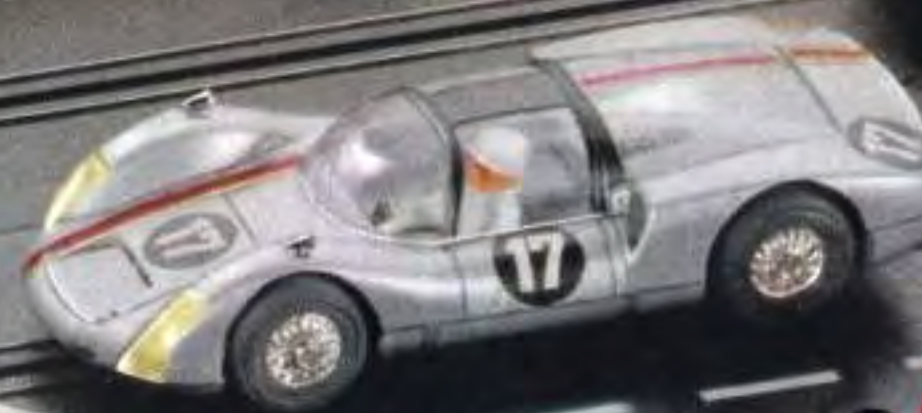


6
1317

3
1308



6
1316



9
1320



5
1312



5
1311



7
1318



8
1319



12
1324



14
1328



11
1322



11
1323



13
1326



15
1330



14
1327



15
1331



1

1300 · A model of the Mercedes W 196 Monoposto · (front 1500, rear 1501)

2

1301 · A model of the Ferrari Super-squalo · (front 1500, rear 1501)

3

1308 · A model of the E-Type Jaguar · (front 1500, rear 1503)

4

1310 · A model of the Porsche 911 T Targa · (front 1500, rear 1503)

5

1311/1312 · A model of the Mercedes C 111 · (front 1500, rear 1503)

6

1316/1317 · A model of the Porsche Carrera 6 · 2 working headlights · (front 1500, rear 1503)

⚡ = 60000

7

1318 · Porsche 911 T Targa as police car · Continuously operating flashing blue light · (front 1500, rear 1503)

⚡ = 60209

8

1319 · A model of the McNamara · (1505)

9

1320 · A model of the Lola T 222 · (1505)

10

1321/1329 · A model of the Porsche Can Am 917/10 · (1505)

11

1322/1323 · A model of the BMW 2002 turbo · (1505)



12

1324/1325 · A model of the Porsche 935 · (1505)

13

1326/1332 · A model of the BMW 320i RC · (1505)

14

1327/1328 · A model of the Porsche 936 · (1505)

15

1330/1331 · A model of the Ferrari 312 T2 · (front 1505, rear 1506)

16

1550 · Building kit for race controller's tower and walkway · Walkway can be used for 2 or 4 lanes

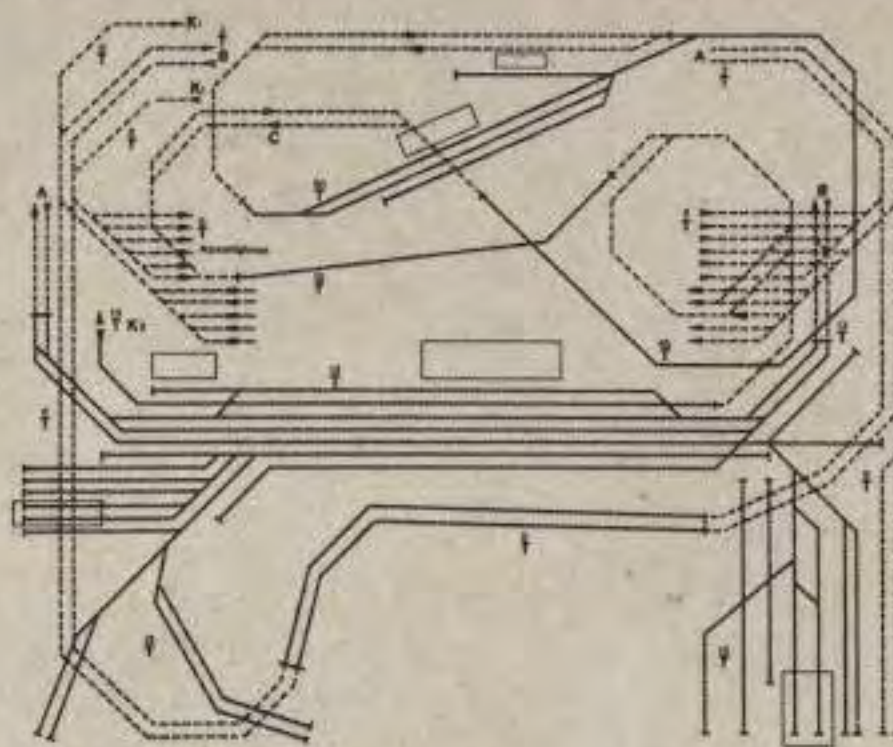
17

1551 · Building kit for pits and fueling point with seating on roof of pits · Accessories: spare tires, gas bottles, oil drum on stand · Base area 270×130 mm (10-9/16"×5-1/8")

18

1595 · Race control center with micro-processor · Can be used either as electronic lap counter or as 24 hours digital clock · Counts laps on 2 lanes up to 99, or displays current or fastest lap time on either lane

Digital clock and lap counter



märklin

Freunde berichten:

H0-Anlage eines Schweizer Modellbahners



Abb. 1: Mittelansicht des Bahnhofs zw. Berg und Tal. Im Hintergrund die Bergwerke mit Bahnhof Bergheim.



20 60/79



Abb. 2: Linke Anlagenhälfte. Die Doppelspurige Hauptstrecke überquert einen Fußweg und einen kleinen Weiher. Darüber sind Eifel- und Schotterwerke, Kühlhaus und 2 Abstellgleise eingezeichnet.

Es wird wohl keinen Mm-Lexer überraschen, daß ich als Schweizer bei der landschaftlichen Gestaltung des Vorstellungsgebietes zum Vorbild wählte. Meine Anlage besteht aus einer zweigleisigen Hauptstrecke mit Durchgangsbahnhof, Eifel- und Dampflok-BW. Abwechslung schafft eine eingelegte Gebirgsstrecke — die ich auf dem vereinfachten einmündigen Strassenplan der Übersicht wegen etwas gedrängt gezeichnet — und ein lebhafter Rangierbetrieb zwischen einem Kühlhaus, einem Schotterwerk und einer Verladerrampe. Die U-förmige Anlage umschließt eine Fläche von 300 x 300 cm. Der Höhenunterschied der Hauptstrecke beträgt ca. 16 cm, der der Gebirgsbahn rund 35 cm. Der aus gehobenen Deckplatten und Brettern bestehende Unterbau erfolgte in der bewährten Stabbaumweise. Zum Teil wurde die Anlage auf Verankerhölzer oder direkt an der Wand befestigt. Die flacheren Geländepartien habe ich mit Styropor gestaltet und mit Graumatten bzw. Strohmaterial überzogen. Für die Felsen diente ebenfalls Styropor, aber auch Korkrinde. Um bequem an die schwer zugänglichen Stellen der Anlage bei evtl. anfallenden Reparaturen gelangen zu können, sind vier Ausstiegsmöglichkeiten geschaffen worden. Die Spaltflächen verlaufen aber so, daß sie von einem Betrachter kaum auszumachen sind. Im übrigen war beim Bau des von B. Schmid herausgebrachte Buch „Märklinbahn und Landschaft“ mein ständiger Ratgeber.

Sämtliche in der Schweiz üblichen Zugabteilungen werden eingesetzt, wobei Zugängen bis 170 cm möglich sind. Der unterirdisch angelegte Abstellbahnhof, der direkt unter dem Durchgangsbahnhof liegt, kann bis zu 11 komplette Züge aufnehmen. Eine Kehrschleife (K1-K2) mit 2 Abstellgleisen bietet die Möglichkeit, einen Zug entweder auf dem

gleichen Weg wieder in den Ausgangsbahnhof oder aber in den großen Abstellbahnhof zu dirigieren. Eine weitere Kehrschleife (K3) mit 3 Abstellmöglichkeiten sorgt für ein variationsreiches Betriebsszenario. Der Bf. Bergheim kann von beiden Richtungen befahren werden, wobei auch hier in Bergheim 2 Züge abgestellt werden können. Die Ausweichstelle C unterhalb des Bf. Bergheim ist vollautomatisch, d. h. die Züge halten an und lösen sich gegenseitig wieder aus. Mit einem Knopfdruck kann jedoch auch ein einzelner Zug die Ausweichstelle voll durchfahren. Was die Signalanlage betrifft, so ist die Bergstrecke automatisiert, die Hauptstrecke wird manuell gesteuert. Insgesamt stehen 22 unterirdische Abstellgleise für Züge und Triebwagen zur Verfügung. Im sichtbaren Teil der Anlage vorliegt ich K-Gleise auf 5-mm-Korkplatten, unbesetzten M-Gleise auf Messing-Schwingungsmatten. Alle K-Gleise wurden eingeschottert und farblich nachgezeichnet.

Die ganze Anlage ist in 6 Stromkreise unterteilt: zwei Trafos für die Hauptstrecke, zwei für die Gebirgsbahn und den Bahnhof, einer für den Abstellbahnhof und das Gefälle, einer für die Steigungen. Mit einem Knopfdruck auf dem Schaltfeld läßt sich die komplette Anlage — ausgenommen der Abstellbahnhof — von einem Trafos mit Strom versorgen. Die nicht einsehbaren Abstellgleise sind mit einer Belegungsanzeige ausgerüstet und automatisch.

Dies ist in groben Zügen die Beschreibung meines Freizeitparadieses, das selbstverständlich nicht Endgültiges darstellt, vielmehr wird laufend korrigiert, ergänzt und die Landschaft verbessert.

Rolf Lavitzki, Sonnenweg 21, CH-8152 Mörsli, Postfach 10, Tübingen, FRG

21 60/79

Märklin magazine

Every issue contains a mass of information, tips and suggestions both for "old hands" and beginners. A valuable aid to assist you to achieve a truly realistic railroad system:

- Layout design and landscaping
- New items of interest to modelers (new models, books, tools, materials)
- The regular article "Märklin owners report"
- The German Federal Railways originals of your Märklin models
- Items of topical interest from full-scale railroads
- Railroads in foreign countries
- Electrical circuits
- Circuit diagrams for electronic control and monitoring devices
- Assembly instructions for locomotives and cars (I, HO and mini-club gauges)

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