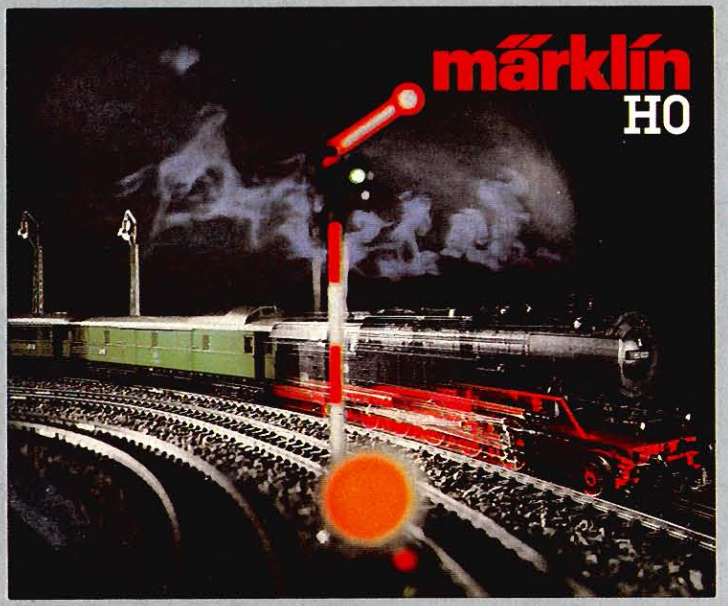
märklin



1983/84 E

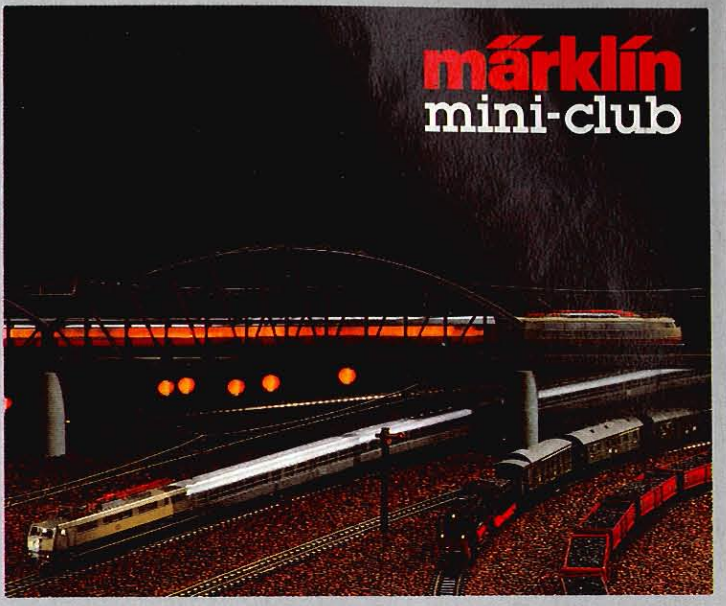


Märklin HO

Gauge 16.5 mm (5/8"), Scale 1 : 87

Pages 2–107

Märklin HO trains are an investment in the future. Children as young as 5 can be introduced to the fabulous world of Märklin Model Railroading. An ageless hobby, the trains keep their value as the child develops into a serious modeler. Using the unique Märklin center-stud system, the trains operate effortlessly with no complicated wiring. Märklin HO offers modelers a well-designed, trouble-free route to high quality model railroading.



Märklin mini-club

Gauge 6.5 mm (1/4"), Scale 1 : 220

Pages 108–139

The smallest electric railway in the world is a genuine achievement of Märklin technology. The stunning precision-made miniatures enable modelers to capture, in the most minute detail, the prototype operation of real railroads. Requiring very little space, mini-club trains are ideal for developing a maxi-layout.



Märklin I

Gauge 45 mm (1-13/16"), Scale 1:32

Pages 140–167

The big one for everyone. For indoors and outdoors. During the warmer months, put them in the yard. When it cools, bring them in again. Märklin I means family fun. Children can spend hours "playing trains", and adults can marvel at the way the trains deliver the goodies from the kitchen to the backyard picnic.



Märklin metall

Pages 168–169

Märklin metall construction kits using nothing more complicated than the common screw, offers youngster something special: the knowledge of knowing that they built something that moves or operates. Using a little imagination, the kits can be endlessly modified. Märklin metall, erecting sets for young and old.

Märklin Model
Railroad Club (Inc)
Wgtn NZ

märklin

Gebr. Märklin & Cie. GmbH
Postfach 8 60 / 8 80
D-7320 Göppingen
Federal Republic of Germany

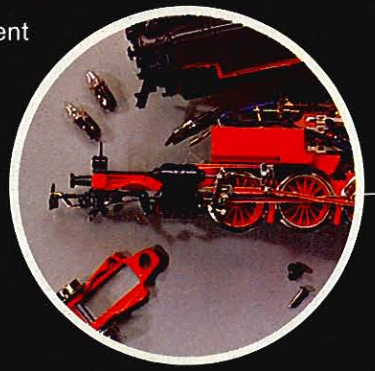
Direct selling from factory to private individuals is not possible. We reserve the right to make changers, and availability is not guaranteed. Dimensions shown for reference only. This catalog supercedes all previous issues.

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märklin
HO
85 007



Getting started is easy – with Beginner Sets



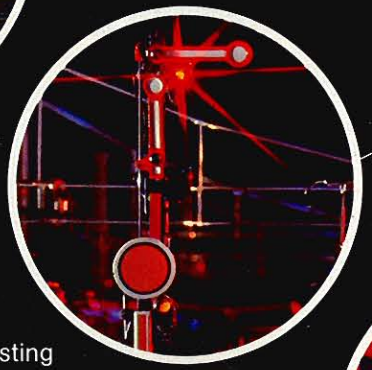
Replacement Parts – for years of operation



Layout planning is simple with the Layout Game



Ideas on how real trains operate



Märklin signals make operations more interesting



A completed layout – Your dream come true

Contents

Märklin HO System	4 – 5
Advantages of Märklin HO	6 – 7
Beginner Sets	**8 – 11**
Special Trains	**12 – 13**
Locomotives	**14 – 41**
Steam Locomotives	14 – 21
Electric Locomotives	22 – 33
Diesel Locomotives	34 – 39
Self-Propelled Cars	40 – 41
Replacement Parts	42 – 43
Cars	**44 – 69**
Passenger Cars	44 – 59
Interior Lighting	60 – 61
Freight Cars	62 – 69
Track	**70 – 83**
Layout Tips	70 – 71
M Track Geometry	72 – 73
M Track	74 – 75
Extension Sets	76 – 77
K Track Geometry	78 – 79
K Realistic Switches	80 – 81
K Track	82 – 83
Multi-Train Operation	**84 – 85**
Signals	86 – 89
Separate Circuits	90 – 91
Catenary System	92 – 95
Electrical Accessories	**96 – 97**
Automatic Train Control	**98 – 99**
Layout Accessories	**100 – 107**
Turntable, Engine House, Crane	100 – 101
Transfer Table, Engine House, Freight House	102 – 103
Crossing Gates, Lights	104 – 105
Bridges	106 – 107

Märklin HO – Ideal for Children

Märklin HO – The Ageless Railroad









Easy to handle

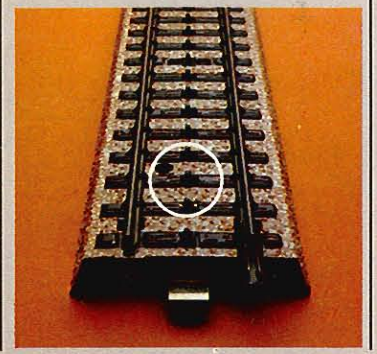
Märklin HO trains are the right size for children's hands. Thanks to the unique center-stud contact system, beginners can get started with little effort. With a little parental help, children as young as 5 can get a grip on the hobby.

With Märklin's technological advantages, the trains operate as trouble-free as practical. The exciting world of Märklin model railroading grows and develops with the child into a lifetime hobby.

The unique Märklin Center-Stud System

The special advantage of Märklin HO is the center-stud (third rail) means of current supply to trains. The engine's slider picks up a steady current and the trains operate flawlessly.

The Märklin tracks with the metal body (M-track) are well-insulated and provide good current distribution. The track sections are simple to connect – even a child can do it! – making layout construction a serene joy . . . with no technical complications.





From start to Gold Spike – the easy way

This catalog presents a general overview of how to get your pike rolling. From Beginner Sets to those "finishing touches" such as crossing gates and street lights, the Märklin program is virtually all inclusive. The modelling possibilities of Märkling are practically unlimited and many tips are found in this catalog.

And Space?

No problem! Märklin HO trains are versatile. Layouts can be built along a wall, in corners, or on various levels. Even a bookshelf can suffice for a mainline – a Märklin double-track mainline requires only 15 cm (6″) width.

Board the right train Board a Märklin train



Märklin HO – Perfect for Modelers

Model Size HO
Gauge 16.5 mm (5/8")
Scale 1:87



Proper Proportions for Grand Scale Model Railroading

Märklin HO must be seen to be appreciated: the powerful locomotives, the flawless operation, the unmistakable impression of a fine-tuned railroad in HO scale. The wide variety of accessories and a complete range of rolling stock offers Märklin HO modelers unlimited possibilities for developing their Empires.



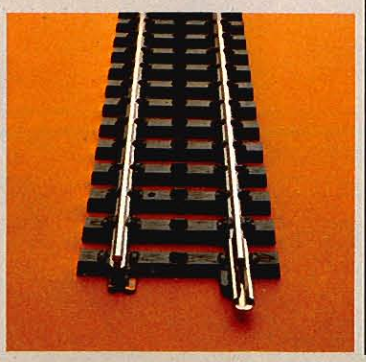
The Advantages of the Center-Stud System for Advanced Modelers

Märklin's trouble-free center-stud (third rail) system for distributing track current means that hobbyists need never worry about train operation, no matter how large the layout gets. The engine's slider is always in contact with several studs at any one time. Return current is double secured. Even complicated track design such as return loops, can be installed easily.



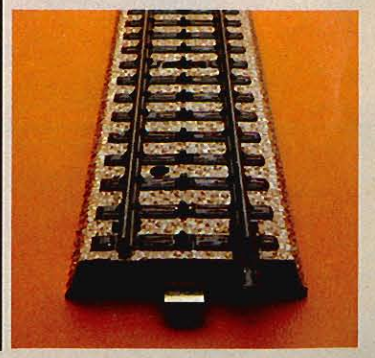
K

Whether one prefers the K-track with its prototype appearance...



M

or the metal body M-track, Märklin is remarkable.

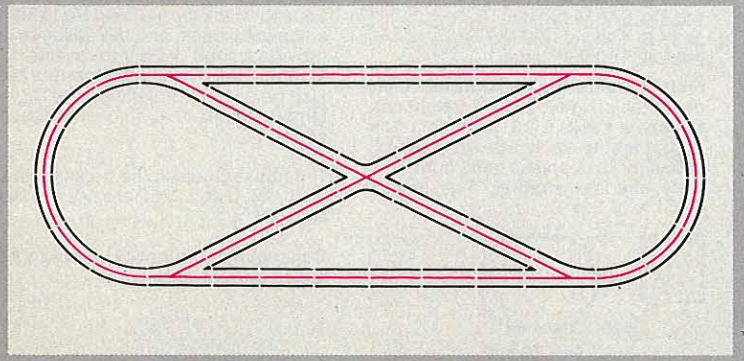


HO – the most popular gauge –

Märklin HO – the most popular HO



The Distinct Advantages of Märklin

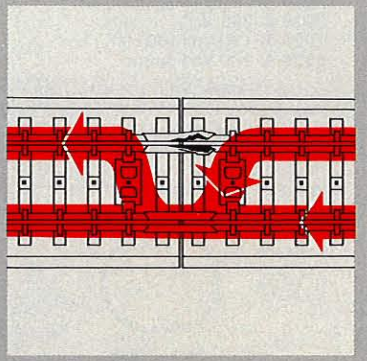


Märklin HO – a comprehensive system

The extensive Märklin HO system is amply illustrated in this catalog. All cars, engines and accessories are photographed in color.

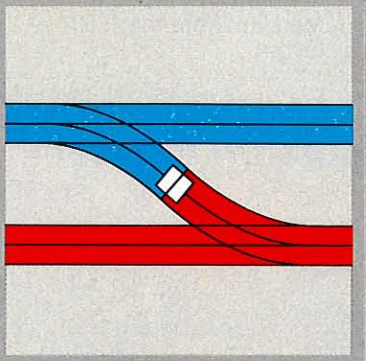
Simple Circuitry

No complex wiring is required for any track configuration, not even for reverse loops.



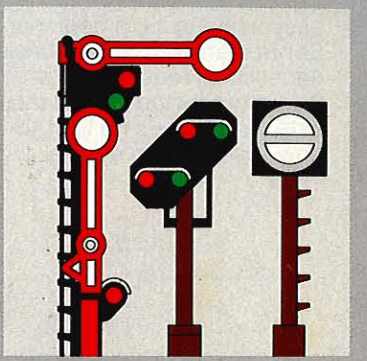
Fail-Safe Current Flow

Even if one of the rail joiners is bent and fails to make contact, the other ensures a perfect electrical connection.



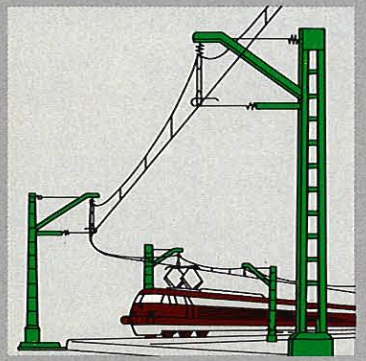
Separate Circuits

For M track, just use center isolator 5022. For K track, use center isolator 7522. No special track sections required.



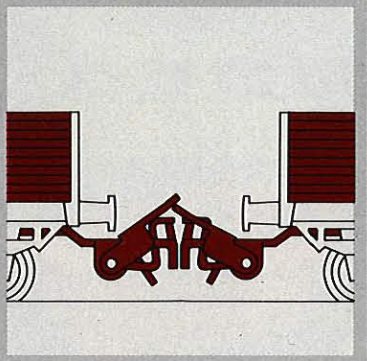
Märklin HO Signals

The well constructed signals permit realistic and genuine train traffic control. They are indispensible for fully automatic train control.



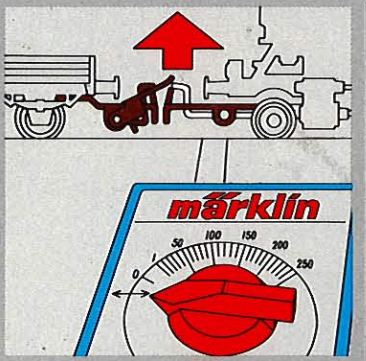
Märklin HO Catenary System

Electric locomotives can be operated realistically with an overhead (catenary) system. This provides another advantage: Two trains can be operated independently on the same track. The Märklin catenary system mates perfectly with M or K track and functions exactly like the prototype.



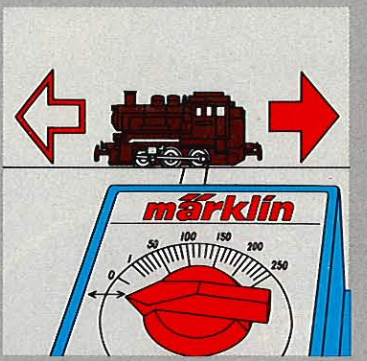
RELEX-Couplers

Essential for realistic yard operations. After uncoupling, cars can be pushed for spotting without the couplers re-engaging.



TELEX-Couplers

The Märklin models 3065, 3096, and 3309 are special switching locomotives equipped with TELEX couplers.
TELEX couplers are solenoid-operated from within the locomotive, therefore, they can be uncoupled anywhere on the layout without requiring special track sections.
This feature provides a great deal of flexibility in depot and yard operations.



Direction Switch

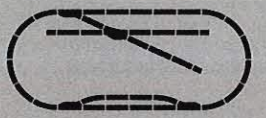
With Märklin HO, the direction switch is in the locomotive, not in the track current. Thus it is possible to run trains in opposite directions on the same circuit.

Attractive Starter Set

Long freight train with plenty of track

1

2875 · Long Freight Train · Includes: 1 diesel switcher 3072, 1 boxcar 4411, 1 gondola 4431, 1 tank car 4442, 1 low-side gondola with load 4474, 1 auto carrier 4613, 12 curved tracks 5100, 19 straight tracks 5106, 1 feeder track 5131 with built-in capacitor to suppress radio static, 1 pair of switches 5202, 1 right-hand switch 5202, 2 curved tracks 5206, 1 double slip switch 5207, 1 position control box 7072, 3 bumpers 7190, 1 distribution strip 7209, plus wires, plugs, and sockets · Train length 79.5 cm (2′ 7-¼″)



184 x 76 cm (6′ 1″ x 2′ 5-⅞″)

This starter set offers a wide variety of operations and includes a large yard, realistic models, and a lot of track

- Locomotive has working headlights and RELEX couplers
- Real life freight car loads
- Operating marker lights on rear car
- Double slip switch and three regular switches
- Several yard tracks



1
2875

Freight Train Set with K Tracks

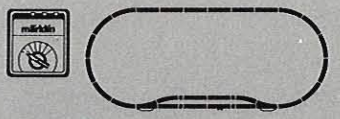
Climb Aboard the Fun of Model Railroading

2 new

2980 220 Volt

Freight Train with Transformer · Includes: 1 diesel locomotive 3141, 1 refrigerator car 4415, 1 low-side gondola 4423, 1 package car 4699, 9 straight tracks 2200, 2 straight tracks 2207, 4 straight tracks 2208, 12 curved tracks 2221, 2 curved tracks 2232, 1 pair of switches 2261, 1 feeder track 2292 with built-in radio static supressor, 1 set of freight station accessories, 1 position control box 7072, plus wires, plugs, sockets, 1 transformer · Train length 47 cm (1′ 6″)

The transformer included with the set is not available separately. It should only be connected to an AC outlet.



186 x 78 cm
(6′ 2″ x 2′ 6-¼″)

More about K Tracks Pages 78–83

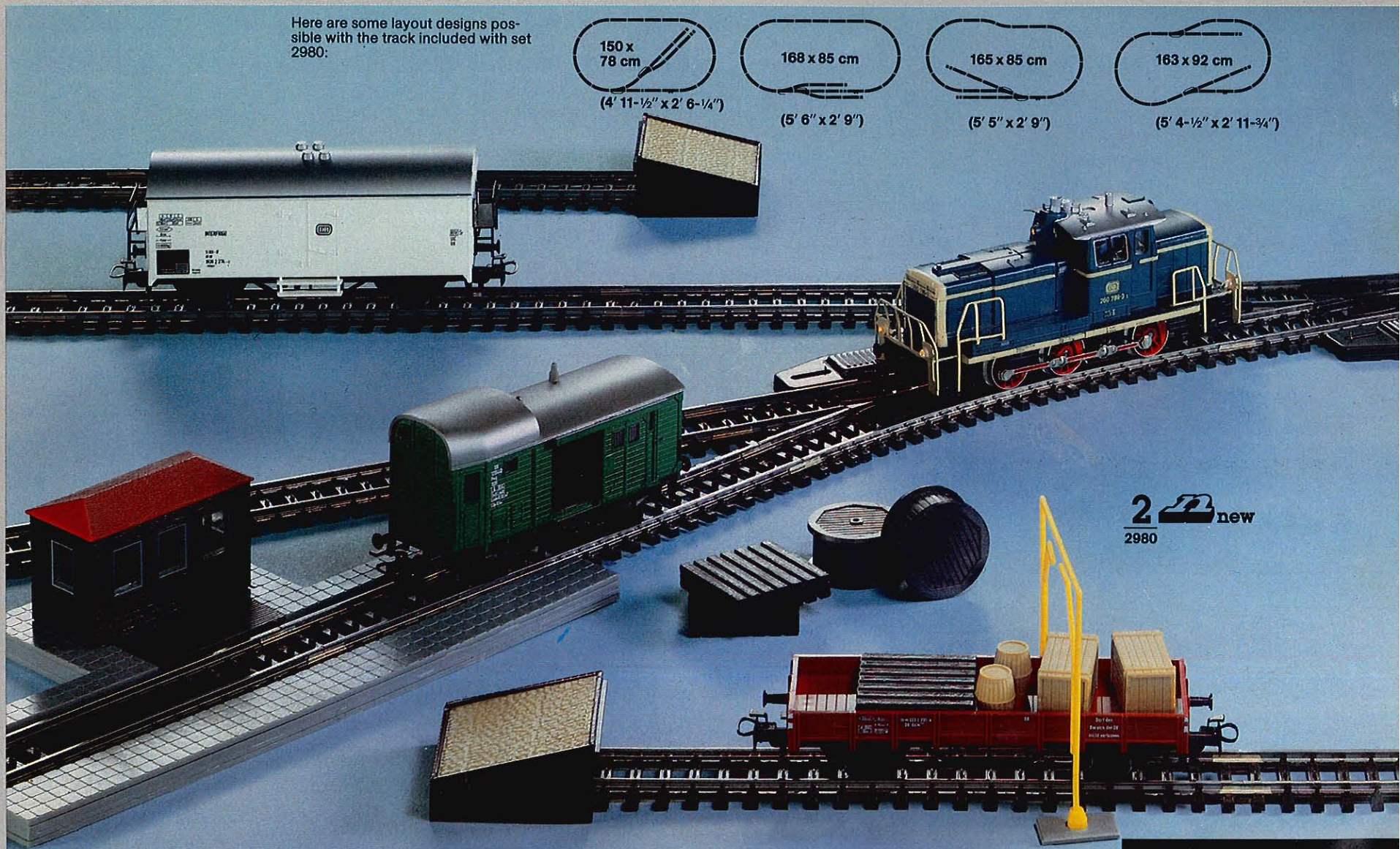
Here are some layout designs possible with the track included with set 2980:

150 x 78 cm
(4′ 11-½″ x 2′ 6-¼″)

168 x 85 cm
(5′ 6″ x 2′ 9″)

165 x 85 cm
(5′ 5″ x 2′ 9″)

163 x 92 cm
(5′ 4-½″ x 2′ 11-¾″)



2 new
2980

Special Trains –
an unusual gift

Special trains make fine gifts – specially packaged and perfectly scaled replicas of the real thing. Cars and engines are not available separately.

1
2854 · **Unit train of Mannesmann Pipes** · Includes: 1 2-8-2T class 86 with new road number, 6 special-duty flat cars (floor centers pivot) for the German Federal Railways and loaded with Mannesmann pipes plus 1 package car with new road number and rear markers · Entire train is a special run · Cars and locomotive not available separately · Train length 99.5 cm (3′ 3-¾″)

■ Prior to 1968, steam engines were used to haul pipe trains on non-electrified routes of the German Federal Railways. Between 1966 and 1968, for example, almost 500,000 tons of pipe were delivered annually to ports such as Bremen, Hamburg, and Rotterdam for export. Mannesmann pipes are used to transport oil, gas and water.

1
2854

2
2855

3
2853

4 new
2856

2

2855 · EVA Unit Train · Includes: 1 class 212 diesel and 6 four-wheel tank cars lettered for the Eisenbahn-Verkehrsmittel-Aktiengesellschaft (EVA) · Entire train is a special run · Cars and locomotives not available separately · Train length 81 cm (2′ 7-¾″)

■ The Eisenbahn-Verkehrsmittel-Aktiengesellschaft (EVA) leases special duty cars to various industries. Petroleum products are transported in liquid form in tank cars leased by EVA. In Germany, tank cars are privately owned or leased, the Railways themselves do not field tank cars. EVA tank cars carry about 10 million tons of petroleum products to refineries, dealers, and users each year.

3

2853 · Track construction train with crew car and supplies · Includes: 1 diesel switcher 3064, 1 crane car 4671, 1 low-side gondola 4423 with boom support, 1 low-side gondola 4423 with ties, 1 gondola 4430 with ballast, 1 flat car 4663 with rail sections, and 1 crew car · Cars with supplies and crew car are not available separately · Train length 94 cm (3′ 1″)

4 new

2856 · Airport Train · Includes: 1 class 111 electric locomotive, 1 1st and 2nd class commuter car and 2 2nd class commuter cars · Entire train is a special run · Engine and cars not available separately · Train length 102 cm (3′ 4-½″)

- Electric locomotive with new road number and single pantograph
- Each coach has its own road number

■ The "Airport Train" is a service of the German Federal Railways offering direct connections between Ludwigshafen and the Frankfurt (M) airport. The express commuter makes two round trips daily, stopping at Mannheim, Weinheim, Heppenheim, Bensheim and Darmstadt.



Steam Locomotives

1

3106 · Tank locomotive · German Federal Railways' class 78 · 4-6-4T wheel arrangement · Drivers are gear driven · 2 non-skid tires · Highly detailed body · Coupling hooks with pre-uncoupler at each end · Length over buffers 16.9 cm (6-1/16")

○ = 7153 ▭ = 7164 ♀ = 60015

Class 78

■ Designed for passenger service, 535 units were outshopped between 1912 and 1939. Originally classed as the T18, it was reclassed 78 in 1923 following the establishment of the German State Railway, and numbered 78 001 ff.

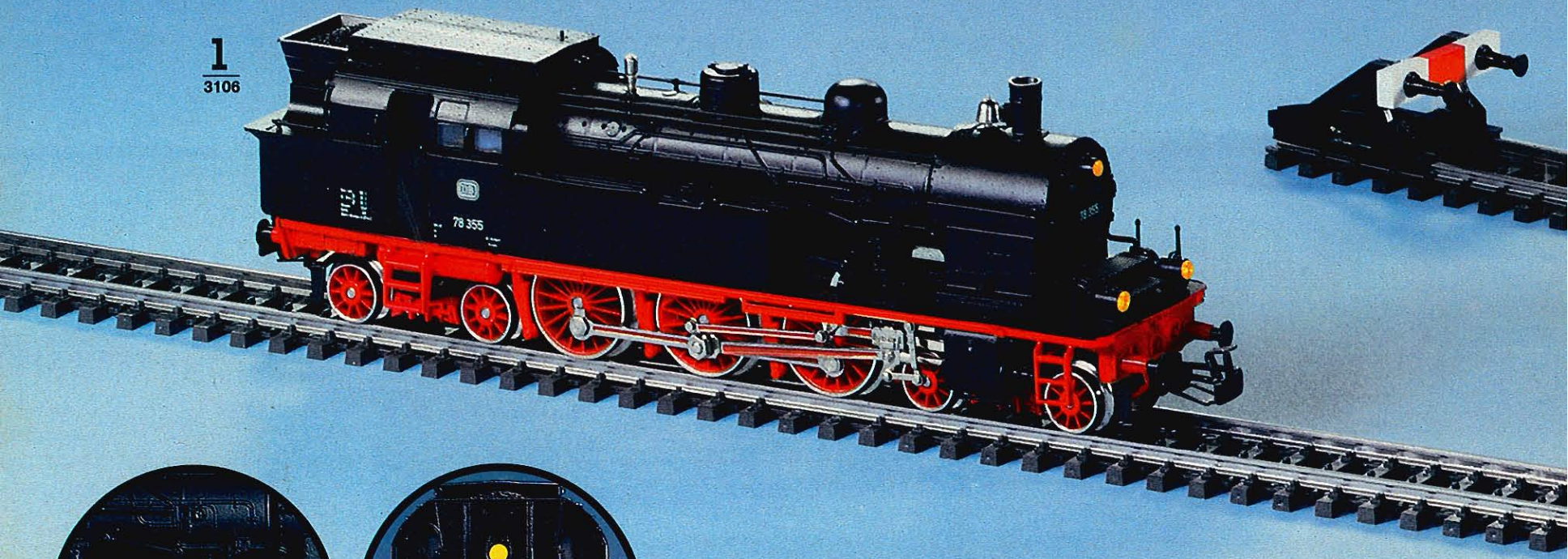
Of these 535, the German Federal Railway acquired 409 in 1945. The last of the 78s to operate on German Federal Railway was the 78 246, based at Rottweil.

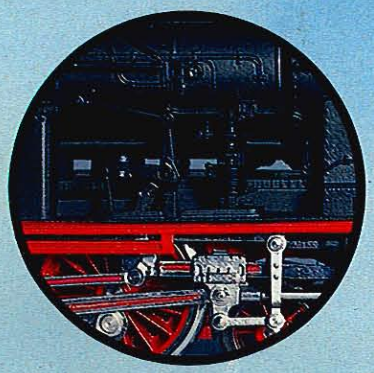
The class 78 was well-constructed as proven by its long service life. Its symmetrical wheel arrangement enabled it to obtain speeds of 100 kmph (62 mph) in forward or reverse, making it ideal for commuter runs.

Our model's prototype, 78 355, was built by Henschel and assigned to the Essen division in 1922. In 1933, it was reassigned to Hanau where it remained until 1961 when the 78 355 was rostered at Aalen. There it was the workhorse on the Stuttgart – Schorndorf branch, which needed an engine capable of reverse operation since Schorndorf has no turning facilities. Finally, in 1968, after 46 years of service, the 78 355 was retired and scrapped.

All models have:
Simulated Heusinger valve gears
3 working headlights
Die cast zinc frames
Die cast zinc boiler

1
3106







Examples of train consists:





2 new

3309 · Tank locomotive with Märklin TELEX couplers · German Federal Railways' class 85 · 2-10-2T wheel arrangement · All drivers gear driven · 4 non-skid tires · Highly detailed body · Drivers coupled for good cornering ability · TELEX couplers (page 21) on each end · Electronic direction control switch · Length over buffers 18.6 cm (7-½") · Will accept smoke unit set 7226 (page 43)

◐ = 7153 ▭ = 7164 ♀ = 60015

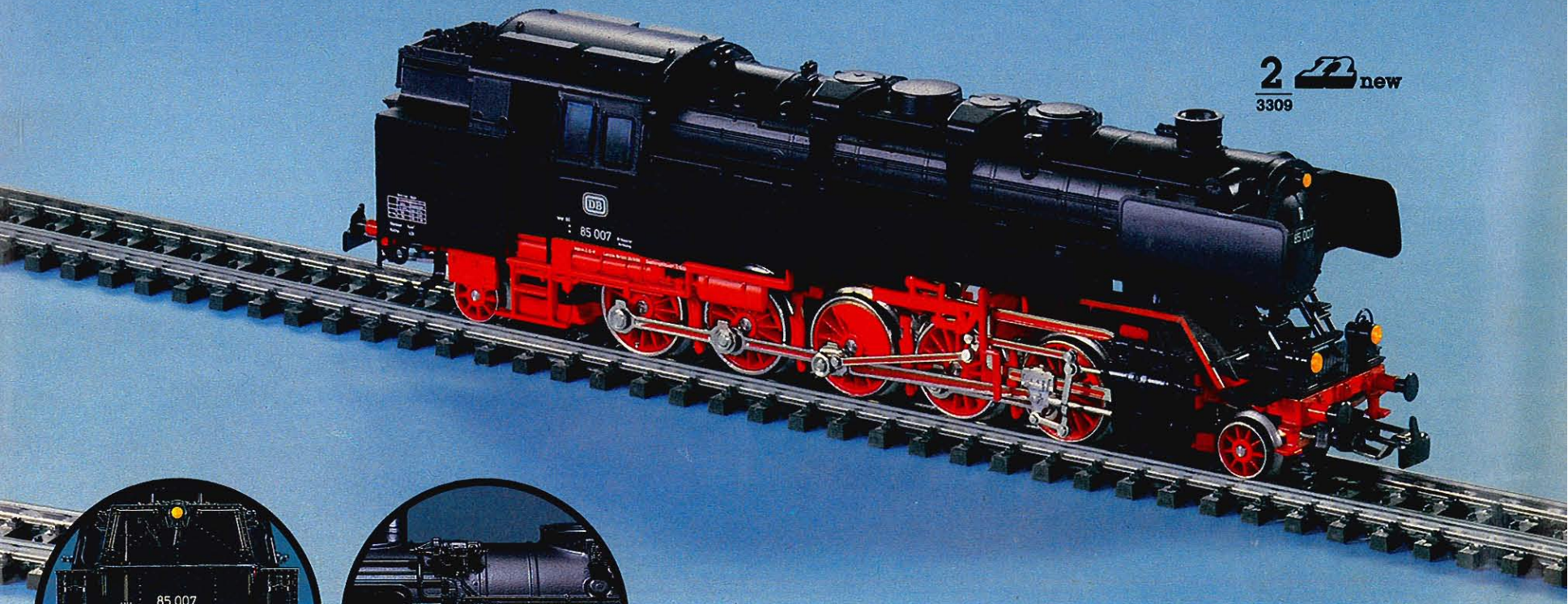
Class 85

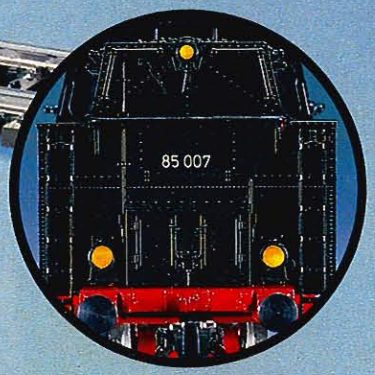
■ In 1932, the German State Railways obtained 10 standard locomotives of the class 85 from Henschel. With these steamers, the Reichsbahn was able to convert the steep Hirschsprung – Hinterzarten stretch on the Höllental-Bahn (Hell's Valley Line) in the Black Forest from cog railway to normal adhesion railway. Until 1961, all 10 engines except 85 004 served this line, although a few ventured occasionally to other parts of the Black Forest. In 1961, eight were retired, and one was transferred to Wuppertal-Vohwinkel for helper service on the Erkrath-Hochdahl line.

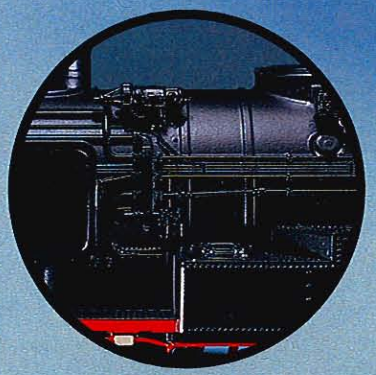
The construction of the class 85 resembles very closely the class 44. This is particularly noticeable in the driving gears and wheel arrangement (except for the rear wheels).

The engine has an output of 1100 kW and a maximum speed of 80 kmph (50 mph). On grades of 2.5 % the locomotive could drag 380 tons at 25 kmph (15 mph) and 165 tons at 20 kmph (12.5 mph) on a grade of 5.55 %.

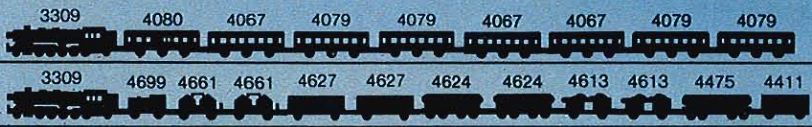
TELEX-Couplers
remote control uncoupling
Page 21

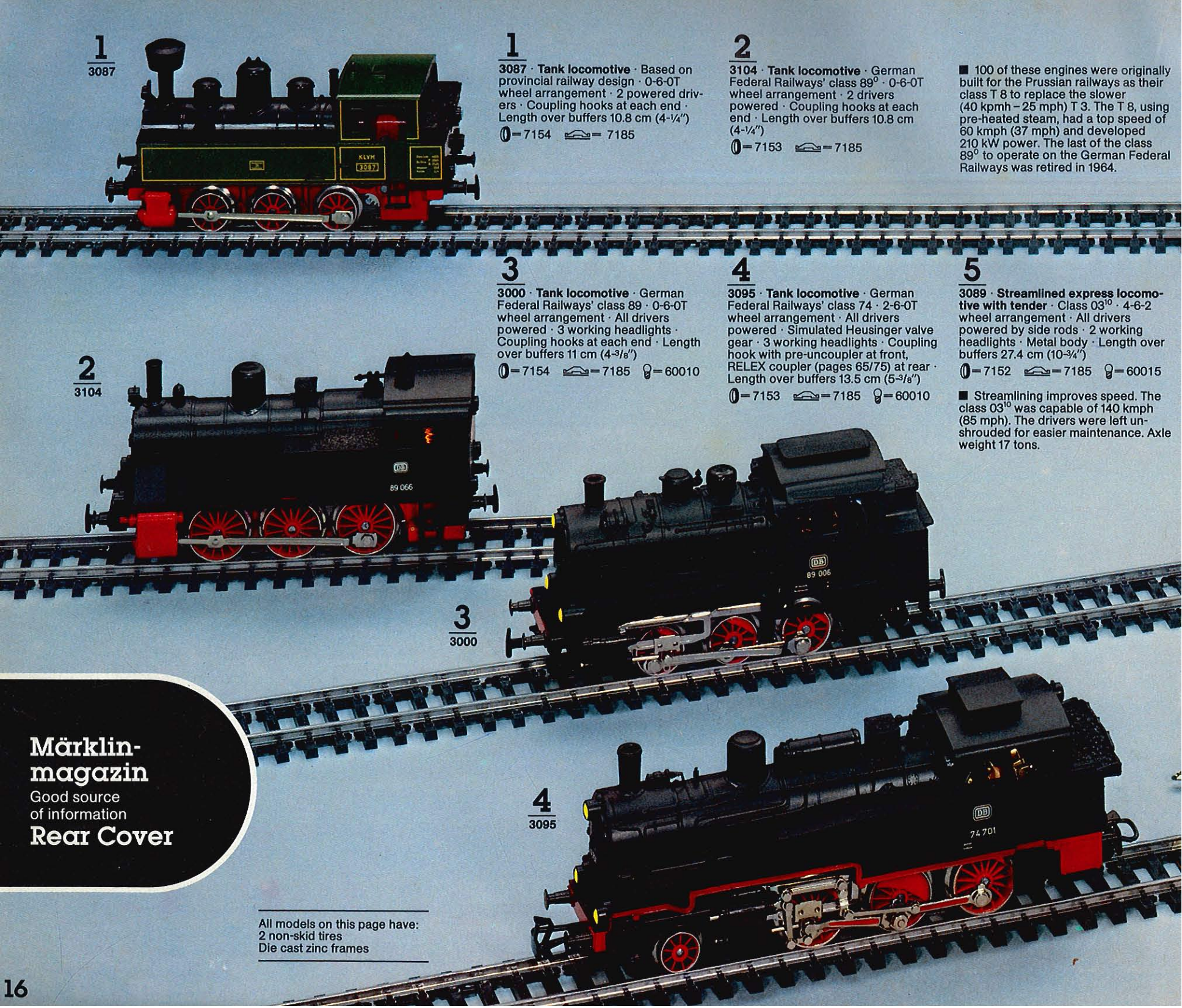






Examples of train consists:





1

3087 · Tank locomotive · Based on provincial railway design · 0-6-0T wheel arrangement · 2 powered drivers · Coupling hooks at each end · Length over buffers 10.8 cm (4-¼″)

⓪ = 7154 ⌓ = 7185

2

3104 · Tank locomotive · German Federal Railways' class 89⁰ · 0-6-0T wheel arrangement · 2 drivers powered · Coupling hooks at each end · Length over buffers 10.8 cm (4-¼″)

⓪ = 7153 ⌓ = 7185

■ 100 of these engines were originally built for the Prussian railways as their class T 8 to replace the slower (40 kpmh – 25 mph) T 3. The T 8, using pre-heated steam, had a top speed of 60 kmph (37 mph) and developed 210 kW power. The last of the class 89⁰ to operate on the German Federal Railways was retired in 1964.

3

3000 · Tank locomotive · German Federal Railways' class 89 · 0-6-0T wheel arrangement · All drivers powered · 3 working headlights · Coupling hooks at each end · Length over buffers 11 cm (4-³/₈″)

⓪ = 7154 ⌓ = 7185 ♀ = 60010

4

3095 · Tank locomotive · German Federal Railways' class 74 · 2-6-0T wheel arrangement · All drivers powered · Simulated Heusinger valve gear · 3 working headlights · Coupling hook with pre-uncoupler at front, RELEX coupler (pages 65/75) at rear · Length over buffers 13.5 cm (5-³/₈″)

⓪ = 7153 ⌓ = 7185 ♀ = 60010

5

3089 · Streamlined express locomotive with tender · Class 03¹⁰ · 4-6-2 wheel arrangement · All drivers powered by side rods · 2 working headlights · Metal body · Length over buffers 27.4 cm (10-¾″)

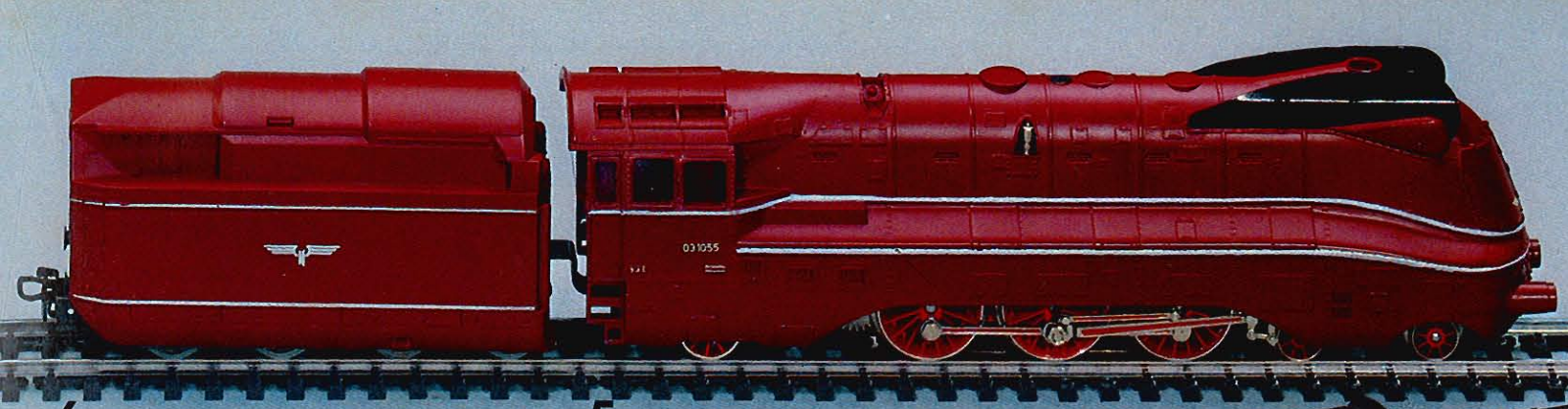
⓪ = 7152 ⌓ = 7185 ♀ = 60015

■ Streamlining improves speed. The class 03¹⁰ was capable of 140 kmph (85 mph). The drivers were left unshrouded for easier maintenance. Axle weight 17 tons.

Märklin-magazin
Good source of information
Rear Cover

All models on this page have:
2 non-skid tires
Die cast zinc frames

All models on this page have:
2 non-skid tires
Simulated Heusinger valve gear
Die cast zinc frame
RELEX-coupler (pages 65/75) on the tender



6

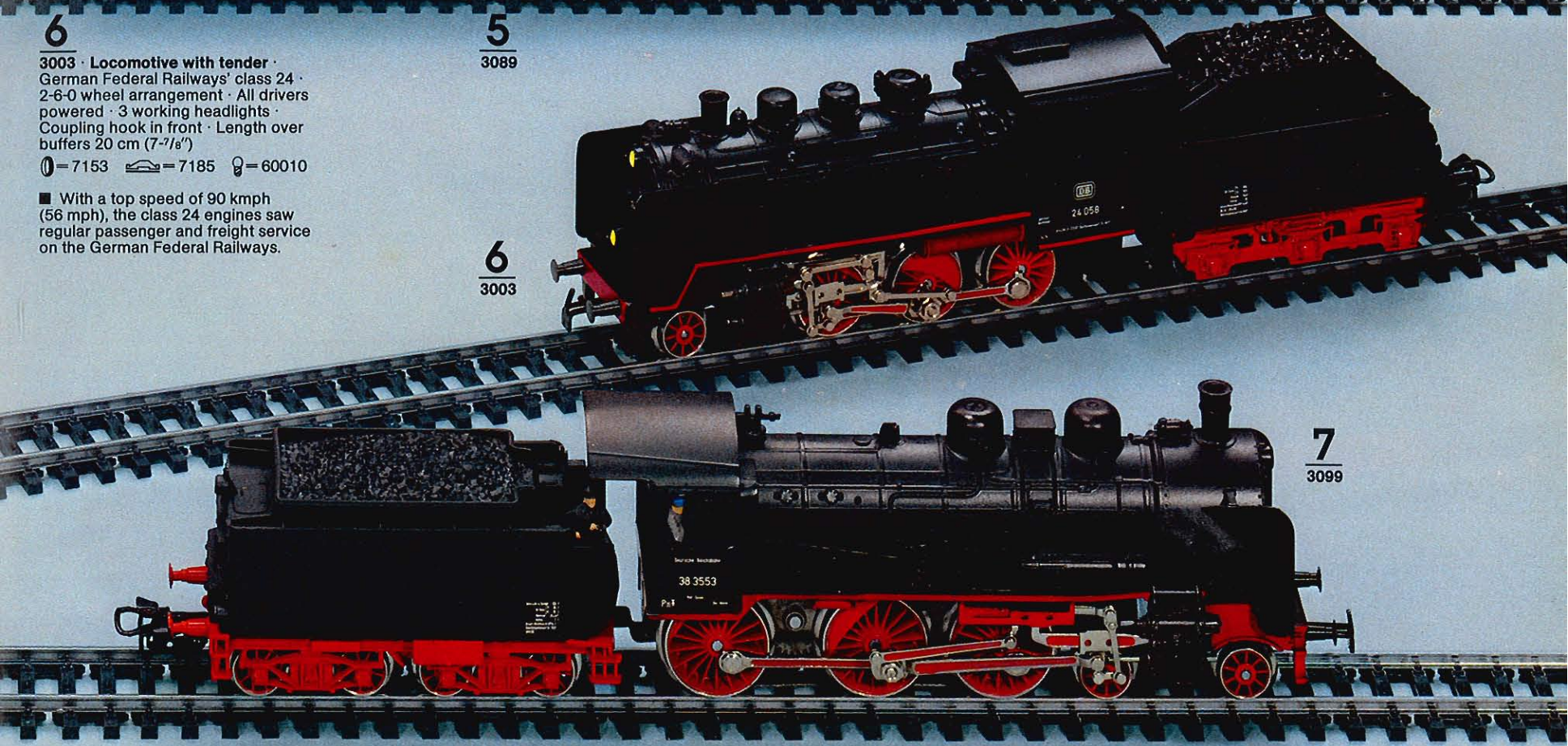
3003 · Locomotive with tender · German Federal Railways' class 24 · 2-6-0 wheel arrangement · All drivers powered · 3 working headlights · Coupling hook in front · Length over buffers 20 cm (7-7/8")

⓪=7153 =7185 =60010

■ With a top speed of 90 kmph (56 mph), the class 24 engines saw regular passenger and freight service on the German Federal Railways.

5
3089

6
3003



7
3099

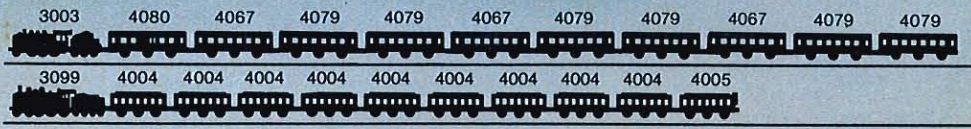
7

3099 · Locomotive with tender · Former German State Railways' class 38 · 4-6-0 wheel arrangement · All drivers powered · 3 working headlights · Metal body · Includes engineer and fireman · Coupling hook in front · Length over buffers 21.8 cm (8-5/8")

⓪=7152 =7185 =60015

■ Built originally in 1906 as the Prussian State Railways' P 8, these 4-6-0s were known for reliability and low maintenance costs. After the Germany railways were united in 1920, the P 8s became the workhorses of the system. As late as the 1960s, they were still on the point of passenger trains in southern Germany.

Examples of train consists:

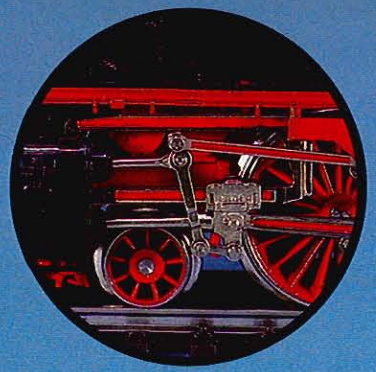


1

3085 · Express locomotive with tender · German Federal Railways' class 003 · 4-6-2 wheel arrangement · All drivers powered by hidden gears · Die cast boiler · Length over buffers 27.7 cm (10-⅞″) · Will accept smoke unit set 7226 (page 43)

⓪ = 7152 ⌓ = 7164 ⚲ = 60015

■ By the 1920s, some engines were built with 20 ton axle loads, too heavy for many branches. Thus, the 003 was designed, a light modern engine for non-mainline track. Weight 18.2 tons. Top speed 130 kmph (80 mph). Power rating 1450 kW. Overall length 23.90 m (78′ 5″).



2

3092 · Express locomotive with tender · Former Royal Bavarian Railways' class S 3/6 series i · 4-6-2 wheel arrangement · All drivers powered · Metal body · Length over buffers 24.9 cm (9-¾″) · Will accept smoke units (e.g. Seuthe No. 20)

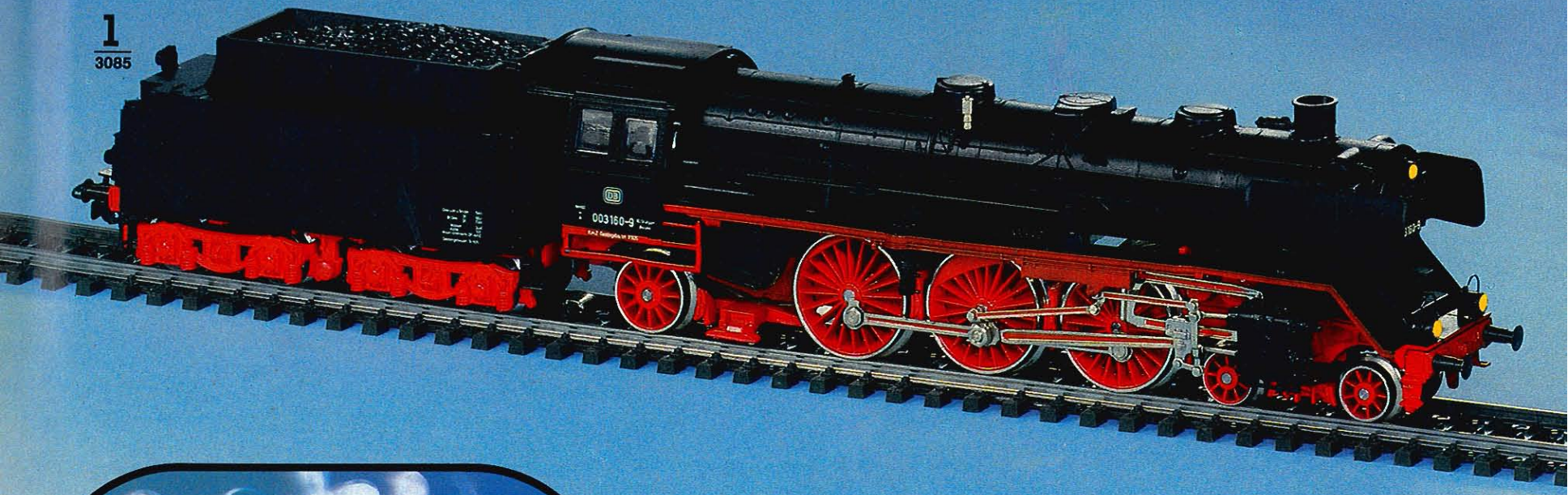
⓪ = 7152 ⌓ = 7185 ⚲ = 60015

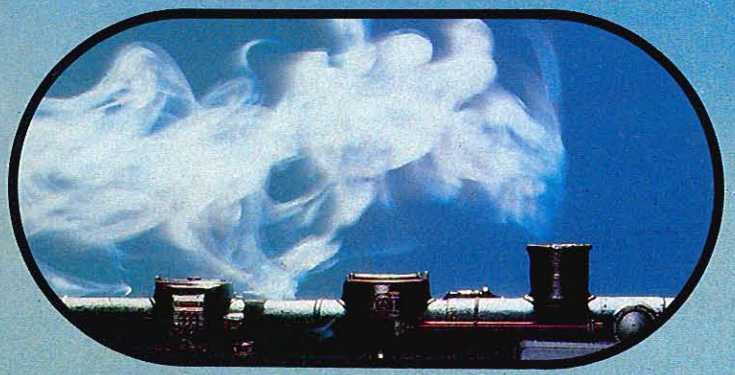
3

3093 · Express locomotive with tender · German Federal Railways' class 18^4 (originally the S 3/6) · 4-6-2 wheel arrangement · All drivers powered · Metal body · Length over buffers 24.9 cm (9-¾″) · Will accept smoke units (e.g. Seuthe No. 20)

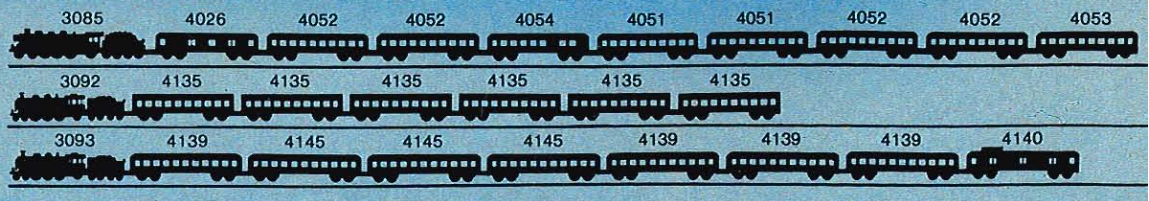
⓪ = 7152 ⌓ = 7185 ⚲ = 60015

1
3085



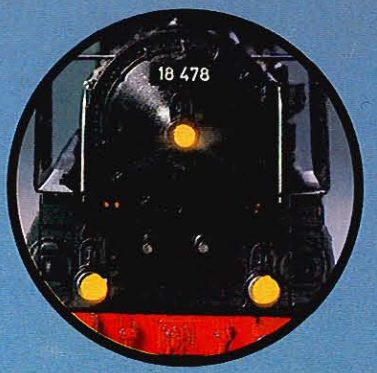


Examples of train consists:

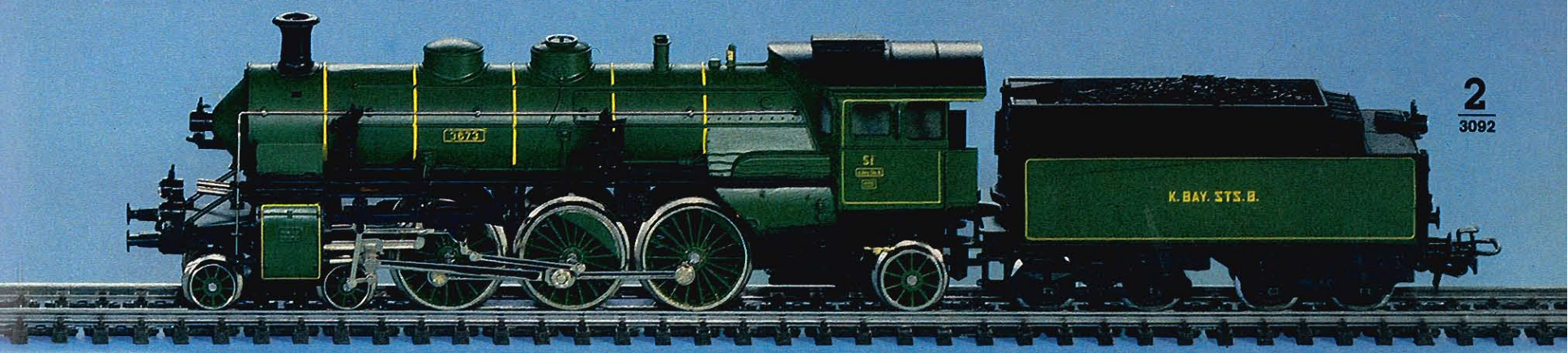




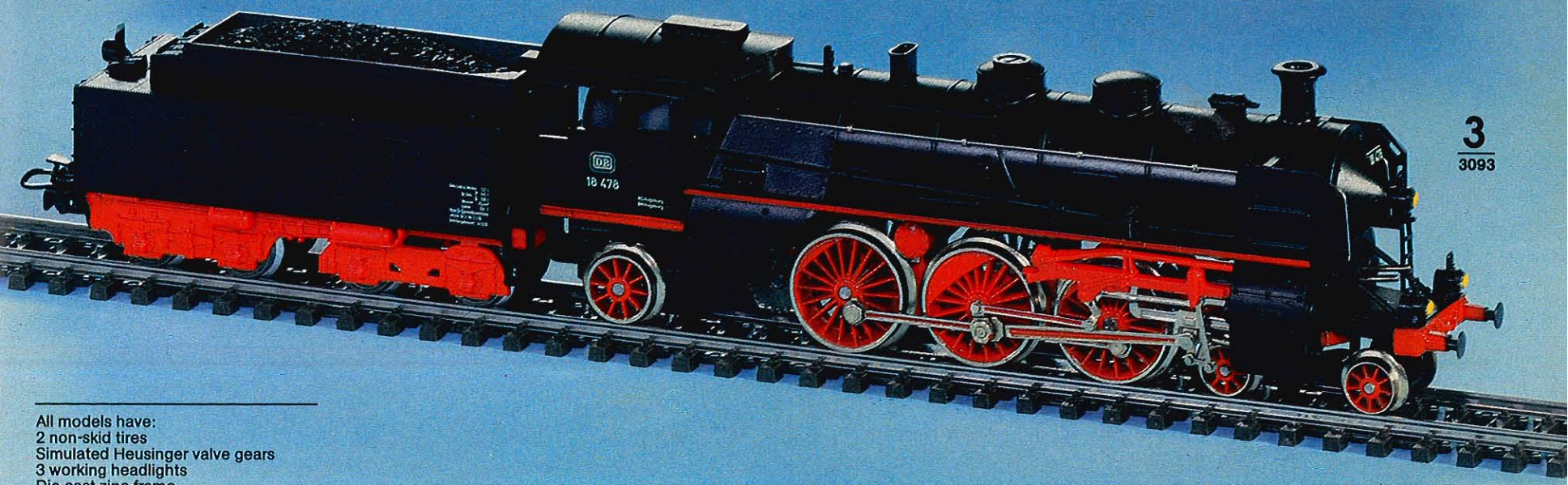
■ The first Bavarian S 3/6 was built in 1908. Over 100 units were constructed, 30 in series i alone. They were reclassed the 18[4] by the German State and Federal Railways. These beauties were renowned for elegance and low operating costs. Often, they powered famous name trains such as the Rheingold, Orient Express, and others. Top speed was 120 kmph (75 mph), Weight 92.3 tons. Length over buffers 21.22 m (69' 7-½").



Märklin-service
Spare parts summary
Page 43



2
3092



3
3093

All models have:
2 non-skid tires
Simulated Heusinger valve gears
3 working headlights
Die cast zinc frame
RELEX couplers (pages 65/75) on the tender

More about uncoupling
Pages 65/75

TELEX-couplers

The Märklin models 3065, 3096 and 3309 are special locomotives which are outfitted with TELEX-couplers.

Remote control uncoupling of the locomotive

With control from the transformer, locomotives having TELEX-couplers can be uncoupled anywhere on the layout.



1
3096 · Tank locomotive with Märklin TELEX couplers · German Federal Railways' class 86 · 2-8-2T wheel arrangement · All drivers powered by side rods · 2 non-skid tires · 3 working headlights at each end · TELEX couplers at each end · Length over buffers 15.8 cm (6-¼")

⓪=7153 ⇦=7164 ♀=60015

■ A total of 774 of these engines were built, 385 being on the German Federal roster as branch line engines. The locomotive is 13.82 m (45' 4-⅛"), weight 88.5 tons, and a top speed of 80 kmph (50 mph).



1
3096

3
3082

All models have:
Working headlights
Simulated Heusinger valve gears
Die cast zinc frame

3108 = $323.15

2

3084 · Heavy freight locomotive, brakeman's cab on tender · German Federal Railways' class 050 · 2-10-0 wheel arrangement · All drivers powered by axle gears · 4 non-skid tires · Die cast zinc boiler · Coupling hook in front, RELEX coupler (pages 65/75) on tender · Drivers coupled for good cornering ability · Length over buffers 26.1 cm (10-¼") · Will accept smoke unit 7226 (page 43)

7153 7164 60015

■ With a low axle weight of 15.2 tons, these 2-10-0s could be used on branch lines. Thus, over 3,000 units were built from 1939 to 1943, 2,000 going to the German Federal system in 1945. After 1961, some were outfitted with brakeman's cabs (as on Märklin's model). Maximum speed 80 kmph (50 mph). Length over buffers 22.94 m (75' 3").

3

3082 · Freight locomotive with tender · German Federal Railways' class 41 · 2-8-2 wheel arrangement · All drivers powered with axle gears · 2 non-skid tires · Die cast zinc boiler · Coupler hook in front, RELEX coupler (pages 65/75) on tender · Length over buffers 27.5 cm (10-¾") · Will accept smoke unit set 7226 (page 43)

7153 7164 60015

■ The first of 366 engines were outshopped in 1936. Planned as a freight engine, they proved to be excellent general purpose steamers. Maximum speed 90 kmph (56 mph).

4

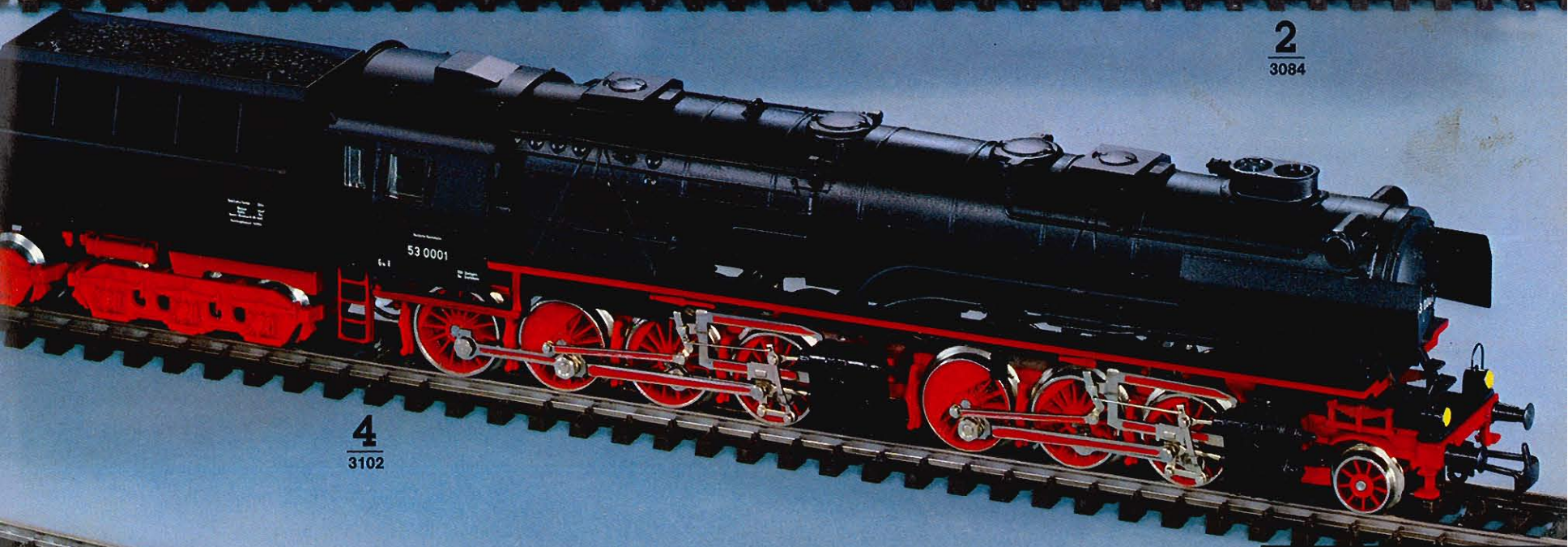
3102 · Heavy freight locomotive with tender · Based on a design by Borsig for the former German State Railways · 2-6-8-0 wheel arrangement · 8 driver powered by axle gears · 4 non-skid tires · 2 working headlights at each end · Die cast zinc boiler · Coupler hook at front, RELEX coupler (pages 65/75) on tender · Drivers coupled for good cornering ability · Length over buffers 31.4 cm (1' 3⅜") · Will accept 2 smoke unit 7226 (page 43)

7153 7185 60015

■ In 1943, the German State Railway initiated the development of a heavy duty freight engine. It should be able to haul 1,700 tons up an 8% grade with a curve radius 360 m (1100') while maintaining a speed of 20 kmph (12.5 mph). Its top speed should be 80 kmph (50 mph) either direction. Many designs were submitted and the Borsig I was among the most interesting. A Mallet with 4 cylinders, the front rested on the bolster of the forward drivers. A simple yet powerful engine, the locomotive was never built. However, today, complete with double Heusinger valve gears, it is ready to power Märklin freights anywhere in the world.



2
3084



4
3102

Electric Locomotives

1

3153 · Multi-purpose locomotive · German Federal Railways' class 120 · B-B wheel arrangement · One power truck · Coupling hooks at each end · Length over buffers 22.1 cm (8-¾″)

⓪ = 7153 ⌓ = 7164 ♀ = 60015

Class 120

■ The German Federal Railways' class 120 is a turning point in the history of locomotive development. Using modern semi-conductor technology, it is possible to use AC motors in electrics. Because of simple construction, AC motors have low maintenance costs. Yet, they offer continuous traction at almost any speed. Thus, these units can be used for any kind of service.

Its power output is 5,600 kW and the maximum speed is 160 kmph (100 mph). On some trials, these engines were clocked at 200 kmph (124 mph).

2 new

3357 · Express locomotive · German Federal Railways' class 103 · C-C wheel arrangement · One power truck · Coupling hooks at each end · Electronic direction control switch · Length over buffers 21.9 cm (8-⅝″)

⓪ = 7153 ⌓ = 7164 ♀ = 60019

Class 103

■ The class 103 is one of the fastest, most elegant, and powerful electric express locomotive of the German Federal Railways. The engine is 19.50 m (63′ 11-¾″) long. Each of the six axles has its own motor. The hourly rating is approximately 6,600 kW, with a service weight of 112 tons and a pulling power of 32,000 kg (7,100 lb). It is truly an engine of the future.

In 1980, the skirting under the buffers was removed and the locomotives were outfitted with single-arm pantographs.



Express and Multi-Purpose Locomotives

3 new

3366 · Electric locomotive · German Federal Railways' class 152 (ex-Bavarian EP 5) · 4-B-B-4 wheel arrangement · 4 powered drivers · Drivers coupled to allow for better cornering ability · Sprung trucks at each end · Simulated driving rod action · Coupling hooks at each end · Electronic direction control switch · Length over buffers 19.8 cm (7-⅞")

⓪ = 7153 ⌓ = 7164 ⚲ = 60019

Class 152

■ At the beginning of the 1920s, the extensive electrification program in southern Germany was almost finished and the German State Railway, Bavarian division, needed a strong multi-purpose locomotive designed for main line service.

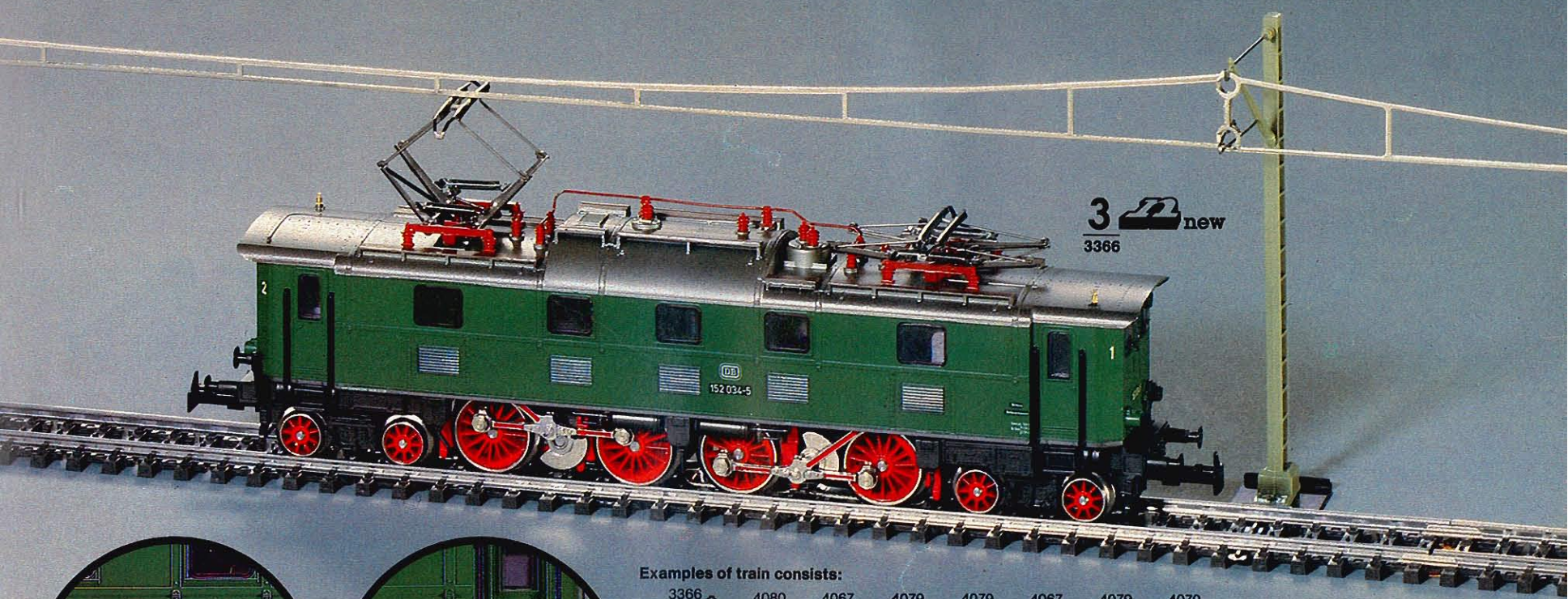
The locomotive has four motors, whose power output is connected to the driving wheels via engine rods. The four motors are actually tandem double motors, with separate sets of drivers. To improve its running ability and to reduce the weight on the drivers, pony and trailing trucks were added.

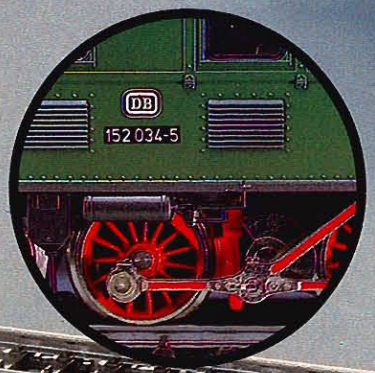
Until 1924 and 1925, the engines were still in their Bavarian dress with the old numbers EP 5 21 501 – 535. They were then renumbered E 52 01 – 35. The German Federal Railways classifies them as the 152.

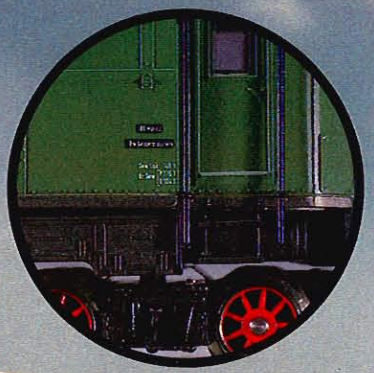
The maximum speed limit was set at 90 kmph (56 mph). They had an hourly rating of 2,200 kW at a speed of 62.5 kmph (40 mph). It could offer a continued performance of 1,660 kW at 76.3 kmph (48 mph).

From date of delivery until 1945, all these engines were stationed at either Munich or Garmisch. As the West German electrification program was extended, some engines were reassigned to other divisions such as Regensburg, Nürnberg, Stuttgart, Kaiserslautern, Frankfurt (M), Seelze and Osnabrück.

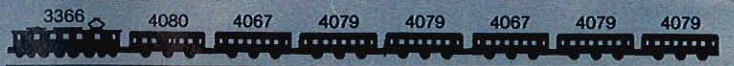
All models have:
4 non-skid tires
Lever for selecting operation by overhead or track current
3 working headlights at each end
Die cast zinc frame
Sprung pantographs



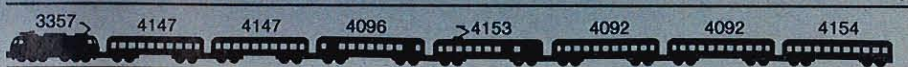


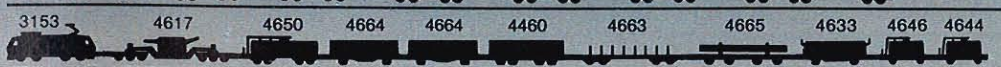


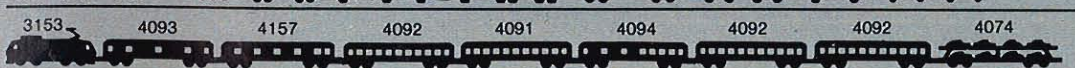
Examples of train consists:









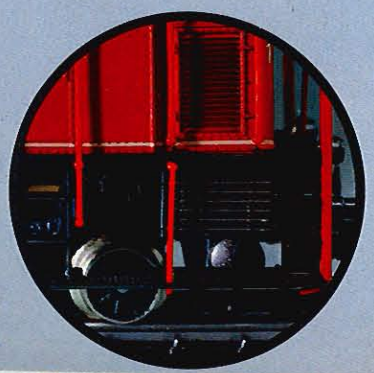


Freight and Yard Electrics

Catenary
for prototype operation
Page 92

1
3156

3
3322



4
3157

1

3156 · **Freight locomotive** · German Federal Railways' class 140 · B-B wheel arrangement · One power truck · 4 non-skid tires · Metal body · Coupling hooks with pre-uncoupler at each end · Length over buffers 18.1 cm (7-⅛″)

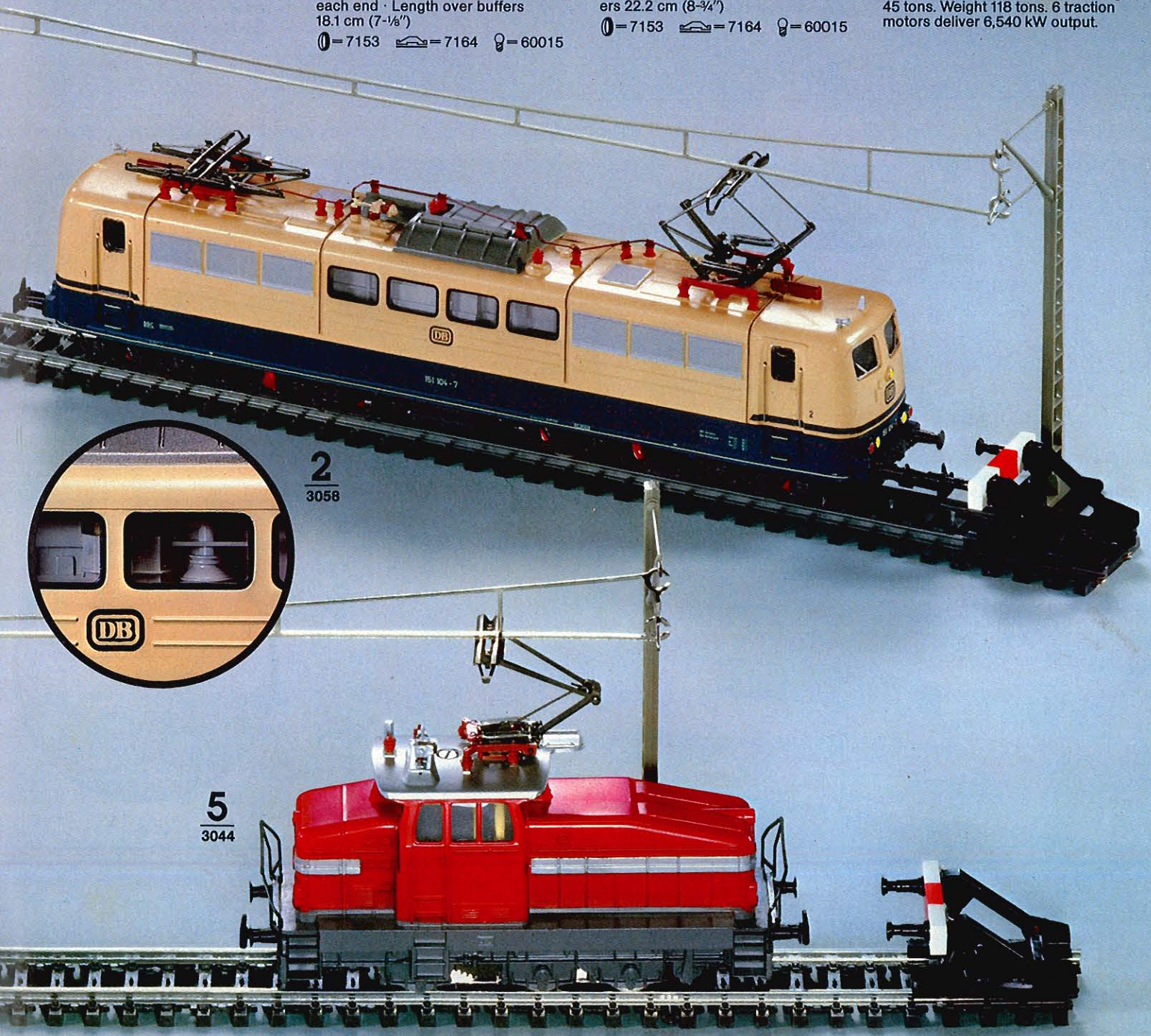
0=7153 =7164 =60015

2

3058 · **Freight locomotive** · German Federal Railways' class 151 · C-C wheel arrangement · One power truck · 4 non-skid tires · Coupling hooks at each end · Length over buffers 22.2 cm (8-¾″)

0=7153 =7164 =60015

■ Increasing the speeds of heavy freights made these engines necessary. They can pull 1,000 tons on level track at 120 kmph (75 mph). Length 19.49 m (63′ 11-¼″). Tractive force at starting is 45 tons. Weight 118 tons. 6 traction motors deliver 6,540 kW output.



3

3322 · **Heavy freight locomotive** · German Federal Railways' class 194 · C-C wheel arrangement · One power truck · 4 non-skid tires · 3-part metal body · RELEX-couplers (pages 65/75) at each end · Electronic direction control switch · Length over buffers 21 cm (8-¼″)

0=7153 =7164 =60019

■ The 194 is a heavyweight: 6 motors, 4670 kW starting power, a total weight 120 tons, tractive force of 40 tons on starting. However, its maximum speed is just 90 kmph (56 mph).

4

3157 · **Electric locomotive** · German Federal Railways' class 160 · 1-C wheel arrangement · All drivers powered · 2 non-skid tires · RELEX-couplers (pages 65/75) at each end · Length over buffers 12.8 cm (5″)

0=7153 =7185 =60010

■ In 1927, the former German State Railways placed 14 E 60s in yard and switch duty at southern German terminals, especially Munich. Under the revised numbering system of the German Federal Railways, the E 60 became the 160. These engines have a power output of 830 kW and a maximum speed of 55 kmph (34 mph). Equipped with a double motor, power was transmitted to the wheels via a driveshaft. The prototype for Märklins's model, the 160 001-4, operated for 51 years at various southern installations (Rosenheim, Innsbruck, Garmisch, Ingolstadt) and was retired at Garmisch in April 1978.

5

3044 · **Switch engine** · Multi-system industrial locomotive, type EA 800 · C wheel arrangement · All drivers powered · 2 non-skid tires · Coupling hooks at each end · Length over buffers 11.2 cm (4-⅜″)

0=7154 =7185 =60015

All model have:
Lever for selecting operation by overhead or track current
3 working headlights at each end
Die cast zinc frame
Sprung pantographs

Express Locomotives

1

3049 · Express locomotive · German Federal Railways' class 104 · 1-C-1 wheel arrangement · All drivers powered · 2 non-skid tires · 2 sprung trucks · Coupling hooks at each end · Length over buffers 17.8 cm (7″)

⓪ = 7153 ▱ = 7185 ♀ = 60015

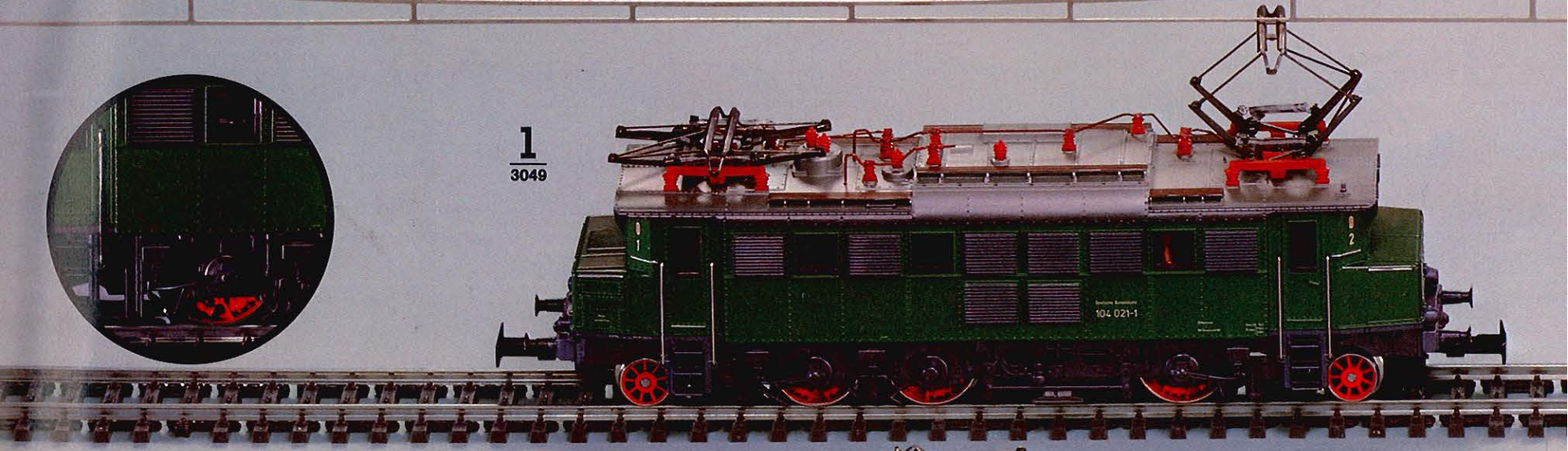
■ Of the 23 originally built for the German State Railways, only numbers 17-22 were transferred to the Federal Railways. Since 1968, they have been numbered 104 017 through 104 022 and are now temporarily stored.

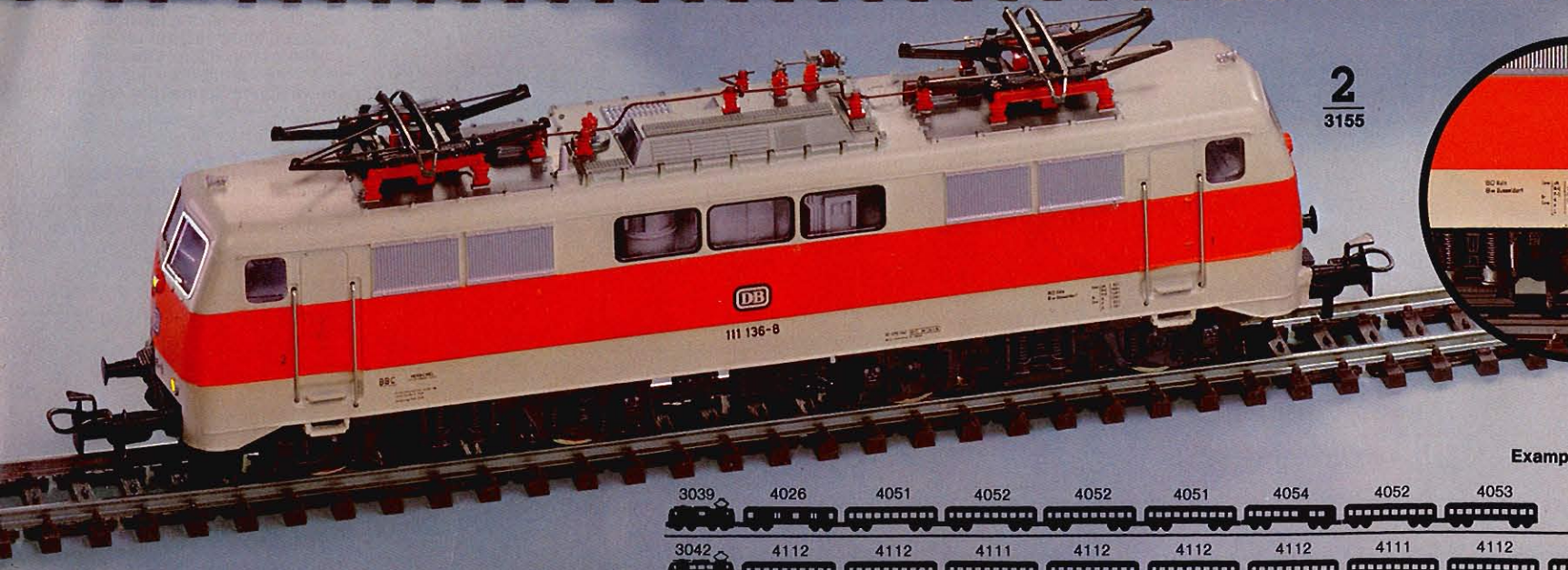
2

3155 · Express locomotive · German Federal Railways' class 111 · B-B wheel arrangement · One power truck · 4 non-skid tires · RELEX-couplers (pages 65/75) at each end · Length over buffers 19.1 cm (7-½″)

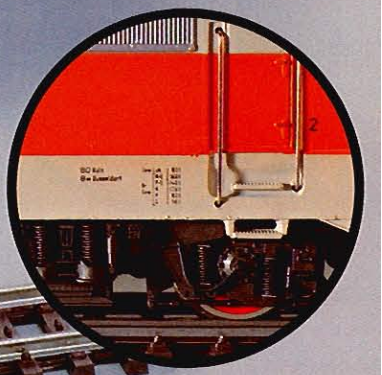
⓪ = 7153 ▱ = 7164 ♀ = 60015

1
3049

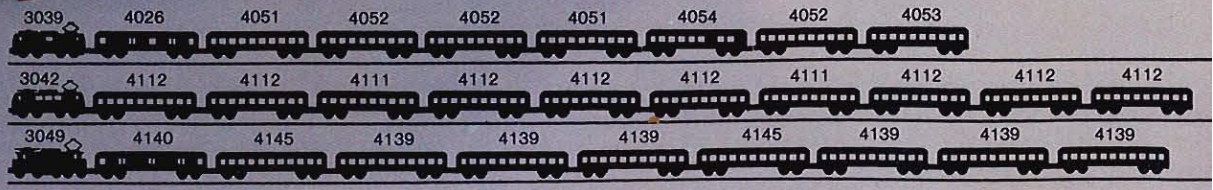




2
3155



Examples of train consists:



■ Since 1978, the 111s have been used in S-Bahn service in the Ruhr district and wear the attractive light gray/orange S-Bahn colors.

(S-Bahn = **S**tadt Bahn – local long-distance commuter trains.)

3

3039 · Express locomotive · German Federal Railways' class 110 · B-B wheel arrangement · One power truck · 4 non-skid tires · Metal body · Coupling hooks with pre-uncoupler at each end · Length over buffers 18.1 cm (7-⅛″)

⓪ = 7153 ⌓ = 7164 ♀ = 60015

■ The 110s were placed in service as early as 1956. Permitted to go 150 kmph (93 mph), the 110s have 4 traction motors developing a total of 3,620 kW. The engine weighs 85 tons and measures 16.44 m (53′ 9″) buffer to buffer.

4

3042 · Express locomotive · German Federal Railways' class 111 · B-B wheel arrangement · One power truck · 4 non-skid tires · RELEX-couplers (pages 65/75) at each end · Length over buffers 19.1 cm (7-½″)

⓪ = 7153 ⌓ = 7164 ♀ = 60015

■ The class 111 is a further development of the well-proven 110. Emphasis was placed on improving the cabs, reducing track weight, and increasing on board safety. Weight 83 tons, Length 16.75 m (55′). Top speed 150 kmph (93 mph).



All models have:
Lever for selecting operation by overhead or track current
3 working headlights at each end
Die cast zinc frame
Sprung pantographs

Switzerland

1

3050 · Heavy duty multi-purpose locomotive · Swiss Federal Railways' (SBB) class Ae 6/6 · C-C wheel arrangement · One power truck · 4 non-skid tires · Metal body · With emblem of Berne canton · Emblems of other Swiss cantons enclosed · Coupling hooks at each end · Length over buffers 20 cm (7-⅞")

◐ = 7153 ▱ = 7164 ♀ = 60015

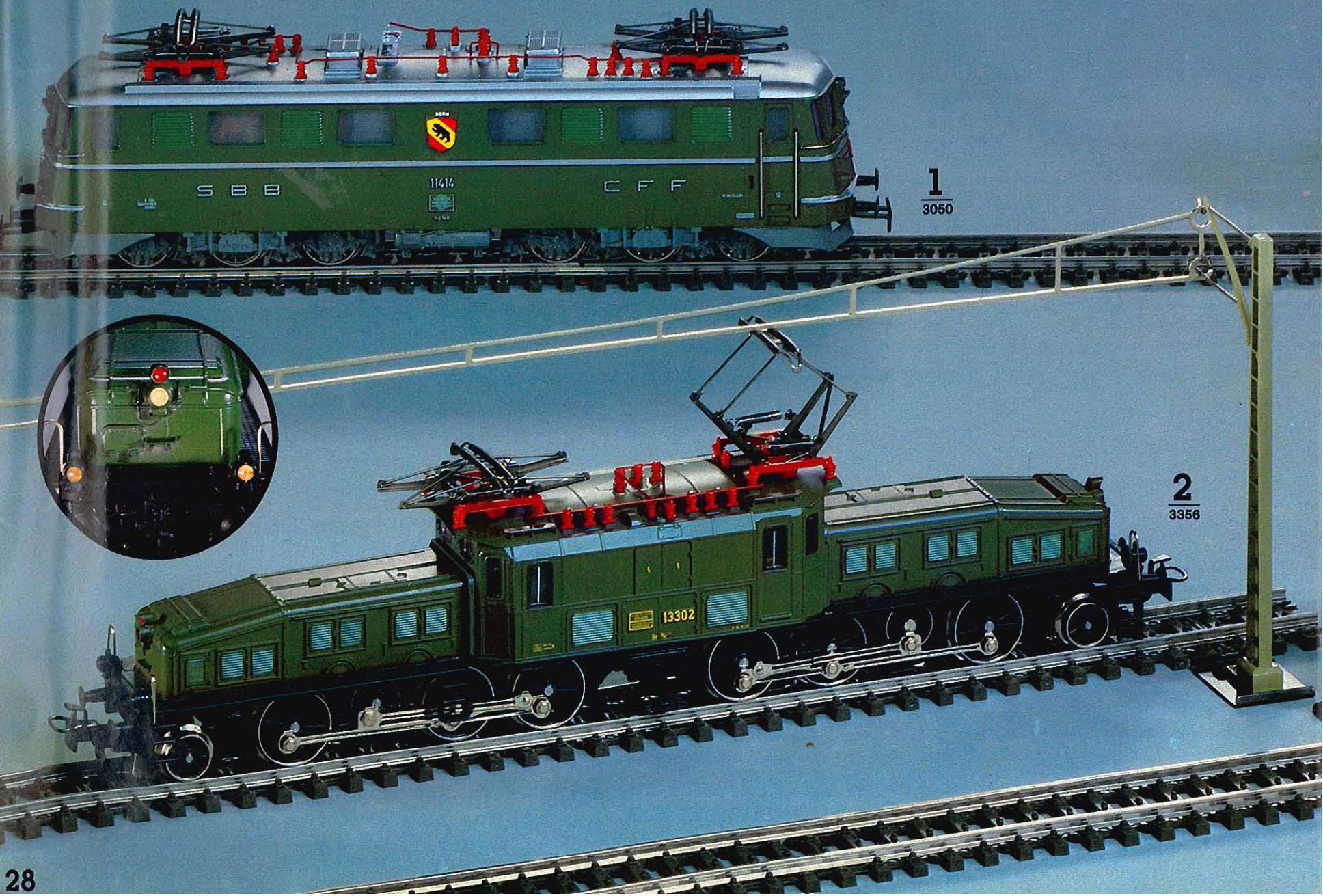
■ The Ae 6/6 is used on international trains. Weight 120 tons. Tractive power 4,400 kW. 6 motors. Top speed 125 kmph (78 mph). Has strong starting and climbing power.

2

3356 · "Crocodile" heavy freight locomotive · Swiss Federal Railways' (SBB) class Be 6/8^{III} · 1-C-C-1 wheel arrangement · One power truck · 4 non-skid tires · 3-part body · Good cornering ability because of flexibly coupled drivers · RELEX couplers (pages 65/75) at each end · Electronic direction control switch · Length over buffers 22.8 cm (9")

◐ = 7153 ▱ = 7164 ♀ = 60019

■ In 1926/27, 18 of these "crocodiles" were placed in service on the Gotthard line. With a length of 20.06 m (65' 9-¾") and a power output of 1,800 kW giving it a top speed of 75 kmph (47 mph), their shape reminded many of crocodiles as they lumbered over the scenic Swiss grades.



3

3151 · **Express locomotive** · Swiss Federal Railways' (SBB) class Ae 3/6^{II} · 2-C-1 wheel arrangement · All drivers powered · 2 non-skid tires · Sprung pilot and trailing trucks · RELEX couplers (pages 65/75) at each end · Length over buffers 16 cm (6-5/16")

⓪ = 7153 ⌓ = 7185 ♀ = 60015

■ The SBB built 60 of these engines between 1924 and 1926 for use on lowland express trains. Tractive power was provided via driveshafts, yet engines performed well. Its original maximum speed of 90 kmph (56 mph) was later increased to 100 kmph (62 mph).

4 new

3167 · **Express locomotive** · Swiss Federal Railways' (SBB) class Ae 3/6^{II} · 2-C-1 wheel arrangement · All drivers powered · 2 non-skid tires · Sprung pony and trailing trucks · RELEX couplers (pages 65/75) at each end · Length over buffers 16 cm (6-5/16")

⓪ = 7153 ⌓ = 7185 ♀ = 60015

■ In 1954 the Ae 3/6^{II} were modified, having the end gangway doors removed and one door on each side was soldered shut.

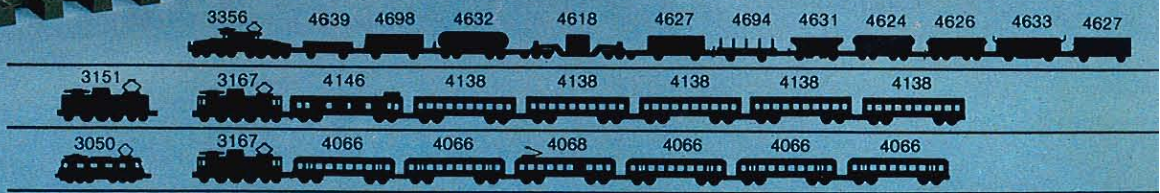
All models have:
Lever for selecting operation by overhead or track current
3 working headlights at each end
Die cast zinc frame
Sprung pantographs



3
3151

4 new
3167

Examples of train consists:



Austria

1

3159 · Freight locomotive · Austrian Federal Railways' (ÖBB) class 1020 · C-C wheel arrangement · One power truck · 3-part metal body · RELEX couplers (pages 65/75) at each end · Length over buffers 21 cm (8-¼")

0 = 7153 = 7164 = 60015

■ Originally constructed for the German State Railway in 1940 as the class E 94, 44 units were assigned to the newly organized Austrian Federal Railways in 1945 and renumbered 1020.01 through 1020.44. Three additional engines were built at Vienna in 1955. Originally painted green, these workhorses are now garbed in orange. Note the new ÖBB logo.

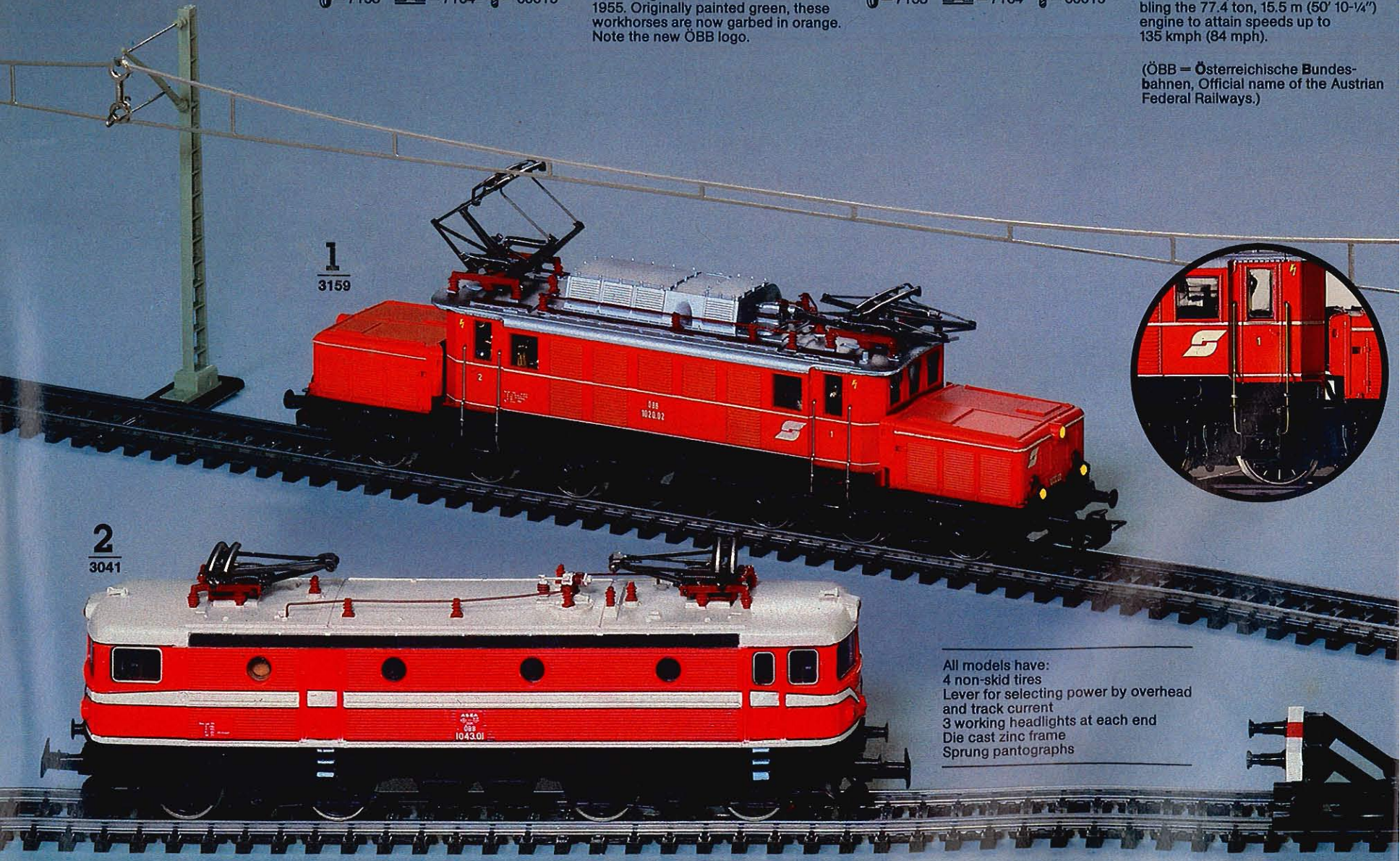
2

3041 · Multi-purpose locomotive · Austrian Federal Railways' (ÖBB) class 1043 · B-B wheel arrangement · One power truck · Coupling hooks at each end · Length over buffers 17.5 cm (6-⅞")

0 = 7153 = 7164 = 60015

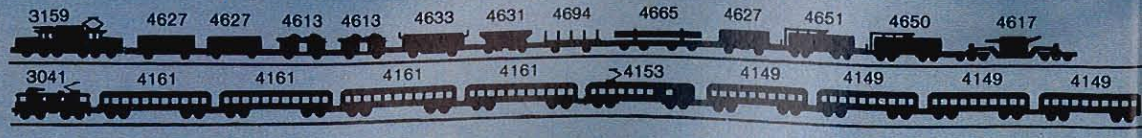
■ Following extensive testing of this engine, built by the Swedish firm ASEA, the Austrian Federal Railways purchased an initial batch of 4 units. The 16-⅔ Hz AC is converted to DC by thyristors. Each engine has 4 motors which develop almost 3,680 kW, enabling the 77.4 ton, 15.5 m (50' 10-¼") engine to attain speeds up to 135 kmph (84 mph).

(ÖBB = **Ö**sterreichische **B**undes**b**ahnen, Official name of the Austrian Federal Railways.)



All models have:
4 non-skid tires
Lever for selecting power by overhead and track current
3 working headlights at each end
Die cast zinc frame
Sprung pantographs

Examples of train consists:



Netherlands

3

3055 · Electric locomotive · Netherlands Railways' (NS) class 1200 · C-C wheel arrangement · One power truck · Metal body · Coupling hooks at each end · Length over buffers 19.6 cm (7-⅔")

◐ = 7154 ▭ = 7164 ♀ = 60015

4 new

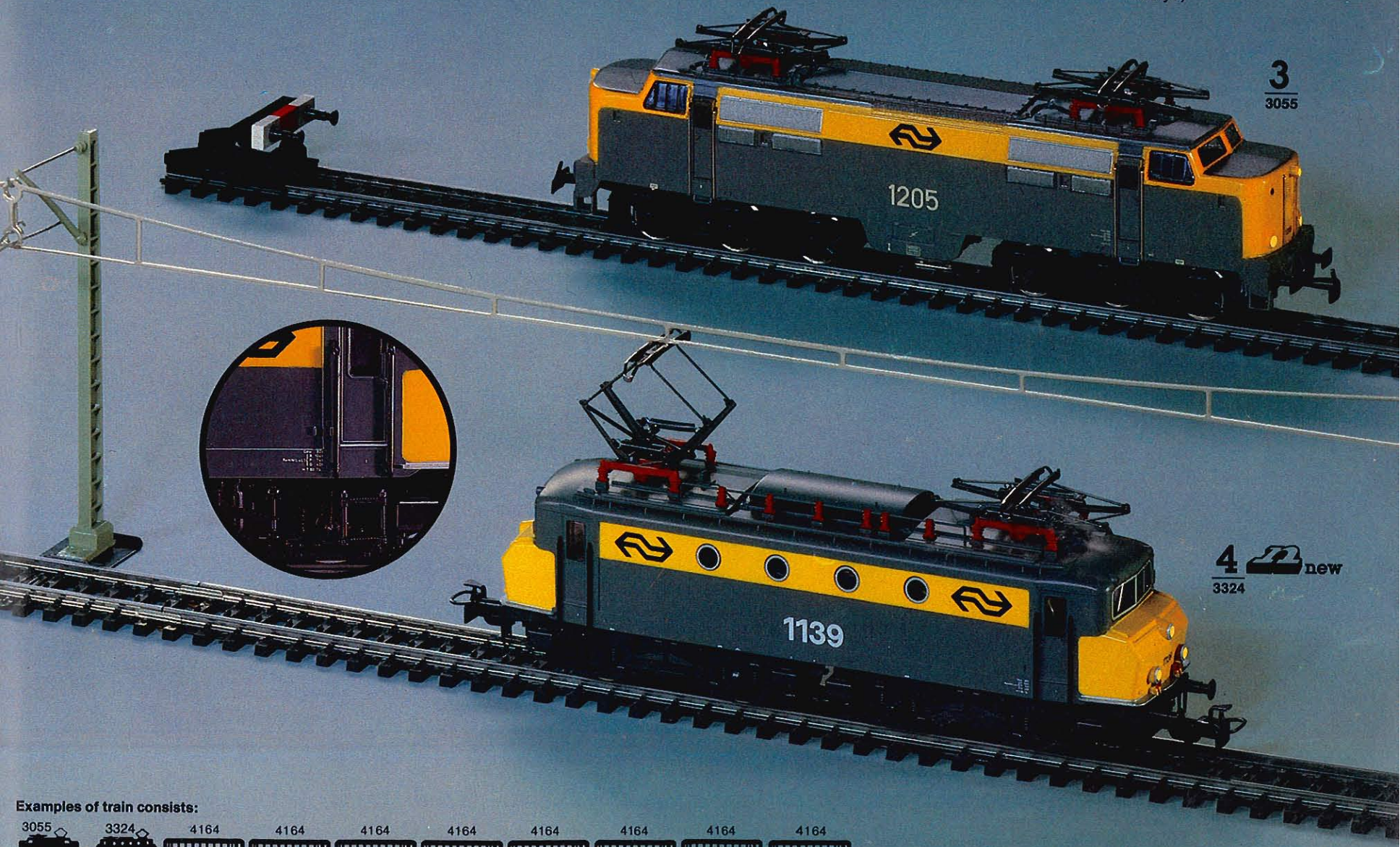
3324 · Multi-purpose locomotive · Netherlands Railways' (NS) class 1100 · B-B wheel arrangement · One power truck · RELEX couplers (pages 65/75) at each end · Electronic direction control switch · Length over buffers 16.3 cm (6-¼")

◐ = 7153 ▭ = 7164 ♀ = 60019

■ The 58 engines of the 1100 series were built between 1950 and 1956 in France by Alsthom. Maximum speed is 135 kmph (84 mph) with continued performance rating at 1,900 kW.

The locomotives are used in freight and passenger service. Since 1978, all engines were slightly extended to allow for the later installation of mid-buffer coupler (somewhat like the American knuckle coupler). Their cab housing was reinforced to give engineers more safety. The motor was also modified and noise insulators added to the cab.

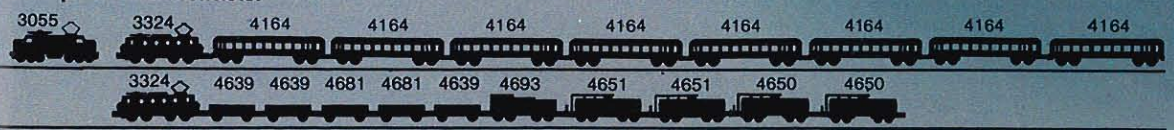
(NS = Nederlandse Spoorwegen, official name of the Dutch national railways.)



3
3055

4 new
3324

Examples of train consists:



1 Sweden

3030 · Multi-purpose locomotive · Swedish State Railways' (SJ) class Da · 2-C-2 wheel arrangement · All drivers powered · Jackshaft driven through gears · 2 non-skid tires · Metal body · RELEX couplers (pages 65/75) at each end · Length over buffers 14.7 cm (5-¾″)

⓪ = 7153 = 7185 = 60015

2 Sweden

3043 · Multi-purpose locomotive · Swedish State Railways' (SJ) class Rc · B-B wheel arrangement · One power truck · 4 non-skid tires · Coupling hooks at each end · Length over buffers 17.5 cm (6-⅞″)

⓪ = 7153 = 7164 = 60015

(SJ = Statens Järnväger, official name of the Swedish State Railways.)

■ Utilizing the latest in electric technology, these engines convert 16-⅔ Hz AC into DC via thyristors. Under the hood are 4 motors which develop amost 3,680 kW. The unit weights 76 tons and can reach speeds of 135 kmph (84 mph).

3 Italy

3035 · Electric locomotive · Italian State Railways' (FS) class E 424 · B-B wheel arrangement · One power truck · 4 non-skid tires · Metal body · Coupling hooks with pre-uncoupler at each end · Length over buffers 17.5 cm (6-⅞″)

⓪ = 7153 = 7164 = 60015

(FS = Ferrovie dello State, official name of the Italian State Railways.)

4 Belgium

3152 · Four-phase express locomotive · Belgian State Railways' (NMBS/SNCB) class 16 · B-B wheel arrangement · One power truck · 4 non-skid tires · RELEX couplers (pages 65/75) at each end · Length over buffers 19.4 cm (7-⅝″)

⓪ = 7153 = 7164 = 60015

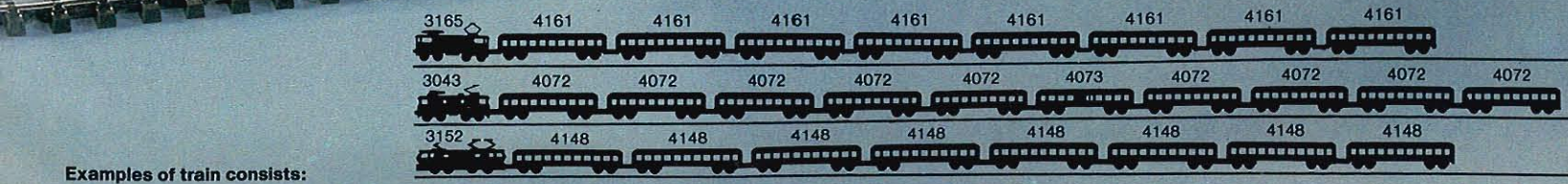
■ Capable of drawing current at four different phases, the Belgian Railways' class 16 is used in international service. The DC traction motors develop a continuous rating of 2,600 kW. Its maximum speed is 160 kmph (100 mph), and is compatible with the following systems:

1,500 Volts =	(SNCF, NS)
3,000 Volts =	(SNCB, FS, JZ)
15 kV / 16⅔ Hz ~	(DB, SBB, ÖBB)
25 kV / 50 Hz ~	(SNCF, CFL)

1 3030



2 3043



Examples of train consists:

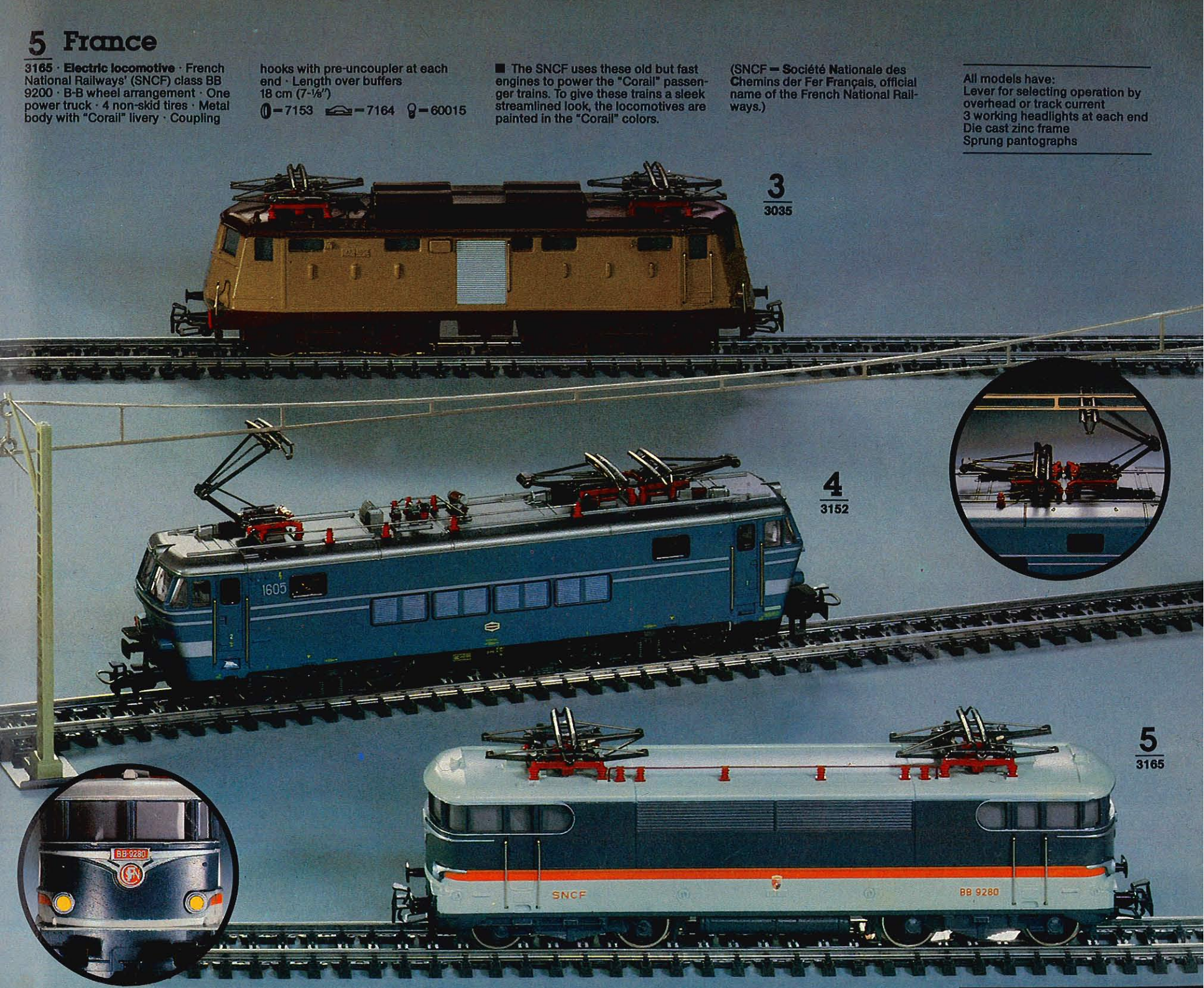
5 France

3165 · Electric locomotive · French National Railways' (SNCF) class BB 9200 · B-B wheel arrangement · One power truck · 4 non-skid tires · Metal body with "Corail" livery · Coupling hooks with pre-uncoupler at each end · Length over buffers 18 cm (7-1/8") ⓪ = 7153 ⌓ = 7164 ⚲ = 60015

■ The SNCF uses these old but fast engines to power the "Corail" passenger trains. To give these trains a sleek streamlined look, the locomotives are painted in the "Corail" colors.

(SNCF = Société Nationale des Chemins der Fer Français, official name of the French National Railways.)

All models have:
Lever for selecting operation by overhead or track current
3 working headlights at each end
Die cast zinc frame
Sprung pantographs



Diesel Locomotives

1 Sweden

3144 · Diesel locomotive of the Swedish private railway TGOJ · C wheel arrangement · All drivers powered · Coupling hooks at each end · Length over buffers 11.2 cm (4-3/8")

◐ = 7154 ⌓ = 7185 ♀ = 60015

■ During the years 1972 and 1973, Henschel supplied four of the proven standard locomotive DHG 700 C to the privately owned Swedish railway TGOJ (Trafikaktiebolaget-Grängesberg-Oxelösunds-Järnvägar). There, the engines are classed V 10, road number 701 – 704.

2 France

3145 · Diesel locomotive · French State Railways' (SNCF) class Y 50 100 · C wheel arrangement · All drivers powered · Finely detailed body · RELEX couplers (pages 65/75) at each end · Length over buffers 10.6 cm (4-3/16")

◐ = 7154 ⌓ = 7185 ♀ = 60015

■ Ten diesels of the class WR 360 C 14, belonging to the German Armed Forces remained in France after 1945 and were allocated to the North Region of the French State Railways. The SNCF first classed them as 030 DB 1 – 10. All were built by the Schwartzkopff, Berliner Maschinenbau AG. In 1961, they were renumbered Y 50 101 – 50 110.

3

3065 · Diesel switcher with Märklin TELEX couplers · German Federal Railways' class 260 · C wheel arrangement · All drivers powered · TELEX couplers (page 21) at each end · Length over buffers 12 cm (4-3/4")

◐ = 7153 ⌓ = 7185 ♀ = 60010

4 new

3141 · Diesel switcher · German Federal Railways' class 260 · C wheel arrangement · All drivers powered · Coupling hooks with pre-uncouplers at each end · Length over buffers 12 cm (4-3/4")

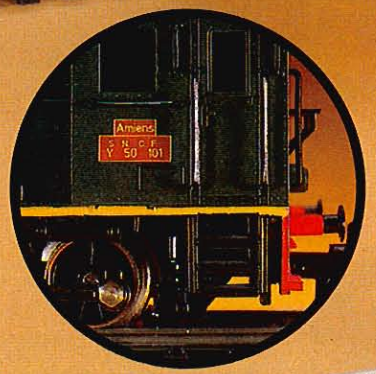
◐ = 7153 ⌓ = 7185 ♀ = 60010

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

1 new
3144



2 new
3145





Examples of train consists:





Class 260

■ From 1956 on, large numbers of the 260s were built for the German Federal Railways for yard duty. Originally, they were classed V 60. The 12 cylinder diesel motor with 478 kW is under the long hood. Power is transmitted hydraulically. Air supply and fuel tanks are under the short hood.

Initially garbed in red, the old standard color for West German diesels, they are gradually getting a new sea blue and beige coat, the new German Federal diesel dress.

5

3146 · Diesel locomotive · German Federal Railways' class 236 · C wheel arrangement · All drivers powered · Finely detailed body · RELEX couplers (pages 65/75) at each end · Length over buffers 10.6 cm (4-3/16")

⓪ = 7154 ⌓ = 7185 ⚲ = 60015

Class 236

■ Originally classed as WR 360 C 14, 250 units were built between 1936 and 1944. Of these, 63 were assigned to the German Federal Railways in 1945, classed as V 36 (later 236). By 1971, most were retired.

The multi-purpose diesel has two gear ratios (0–30 kmph and 0–60 kmph, or 0–19 mph and 0–38 mph).

Because of a scarcity of diesels during the 1950s, many 236s were used in local passenger service, for example, in Bremen, Bremerhaven, Frankfurt/M, and Wuppertal. The prototype for Märklin's model, 236 102-0 was stationed at Ansbach, Nürnberg, and Stuttgart between 1964 and 1978.



TELEX-Couplers
remote control uncoupling
Page 21

4 new
3141

3
3065



5
3146

1

3021 · Express diesel · German Federal Railways' class 220 · B-B wheel arrangement · One power truck · 4 non-skid tires · Metal body · Coupling hook with pre-uncoupler at each end · Length over buffers 21 cm (8-¼″)

⓪=7154 =7183 =60010

2

3147 · Road switcher · German Federal Railways' class 212 · B-B wheel arrangement · One power truck · 4 non-skid tires · Finely detailed body · RELEX-couplers (pages 65/75) at each end · Length over buffers 14.1 cm (5-⁹⁄₁₆″)

⓪=7154 =7164 =60010

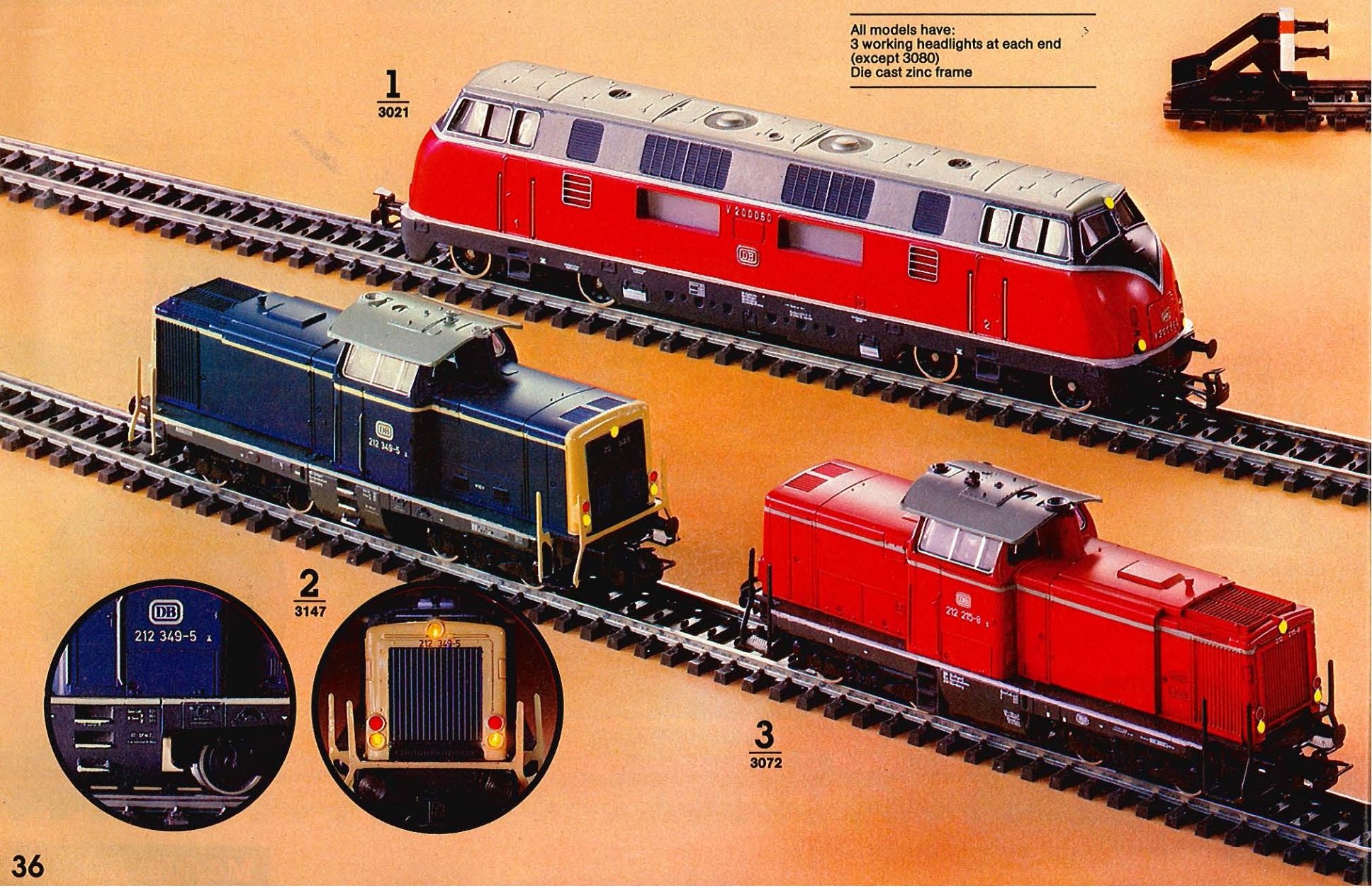
■ The 212 is a general purpose diesel with a mass of 63.2 tons on its 12 m (39′ 4″) frame. Modern versions develop about 1,000 kW and the power is hydraulically transmitted to drive shafts on all axles. Diesel has two gear ratios, which can be selected while engine is in neutral. In low gear (for switching), exerts maximum tractive effort, but has top speed of 65 kmph (40 mph). In high gear (for road service), top speed is 100 kmph (62 mph).

3

3072 · Road switcher · German Federal Railways' class 212 · B-B wheel arrangement · One power truck · 4 non-skid tires · Finely detailed body · RELEX-couplers (pages 65/75) at each end · Length over buffers 14.1 cm (5-⁹⁄₁₆″)

⓪=7154 =7164 =60010

All models have:
3 working headlights at each end (except 3080)
Die cast zinc frame



4

3080 · **Industrial switcher** · C wheel arrangement · All wheels powered · 2 non-skid tires · Coupling hooks at each end · Length over buffers 11.2 cm (4-3/8")

⓪ = 7154 ⌓ = 7185

5

3078 · **Industrial switcher** · Class DHG 500 · C wheel arrangement · All drivers powered · 2 non-skid tires · Coupling hooks at each end · Length over buffers 11.2 cm (4-3/8")

⓪ = 7154 ⌓ = 7185 ⚲ = 60015

6

3074 · **Road diesel** · German Federal Railways' class 216 · B-B wheel arrangement · One power truck · 4 non-skid tires · RELEX-couplers (pages 65/75) at each end · Length over buffers 18.2 cm (7-3/16")

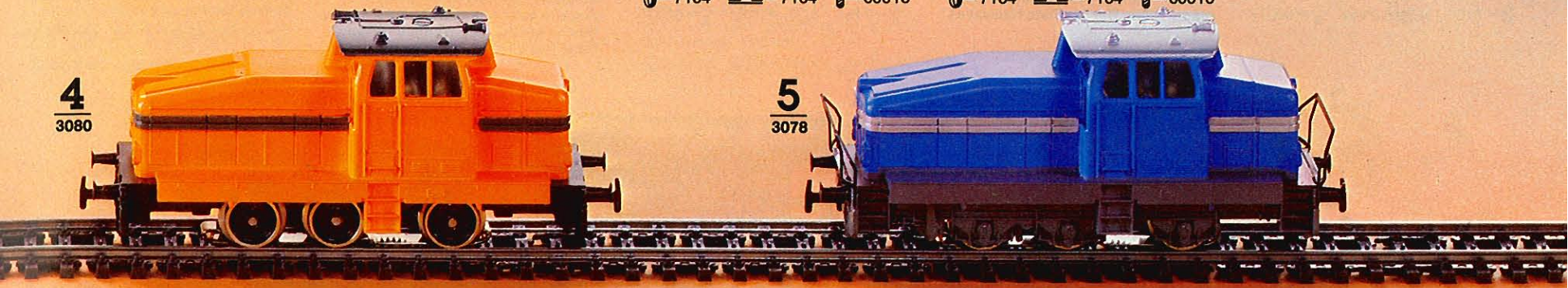
⓪ = 7154 ⌓ = 7164 ⚲ = 60015

7

3075 · **Road diesel** · German Federal Railways' class 216 · B-B wheel arrangement · One power truck · 4 non-skid tires · RELEX-couplers (pages 65/75) at each end · Length over buffers 18.2 cm (7-3/16")

⓪ = 7154 ⌓ = 7164 ⚲ = 60015

■ The class 216 is used in freight and passenger service. With a total weight of 79 tons (with full fuel tanks), the 216 can develop 1,400 kW for a maximum speed of 120 kmph (75 mph).



4
3080

5
3078



6
3074



7
3075

Examples of train consists:

1 Denmark

3067 · **Road diesel** · Danish State Railways' (DSB) class My 1100 · A1A-A1A wheel arrangement · One power truck · 4 non-skid tires · 3 working headlights at each end · Metal body · Coupling hooks at each end · Length over buffers 20.5 cm (8-1/16")

⓪ = 7154 ⌓ = 7164 ♀ = 60015

■ The Danish class My 1100 road diesel has diesel electric drive, i. e.: diesel motors supply current to electric motors which power the axles. This locomotive is similar to the Belgian class 204.

(DSB = **D**anske **S**tatsbaner, official name of the Danish State Railways.)

2 Belgium

3066 · **Road diesel** · Belgian State Railways' (NMBS/SNCB) class 204 · C-C wheel arrangement · One power truck · 4 non-skid tires · 3 working headlights at each end · Metal body · Coupling hooks at each end · Length over buffers 20.5 cm (8-1/16")

⓪ = 7154 ⌓ = 7164 ♀ = 60015

■ A general workhorse, the Belgian class 204 is used on freight and passenger trains. Its power output is 1,300 kW and maximum speed is 140 kmph (87 mph).

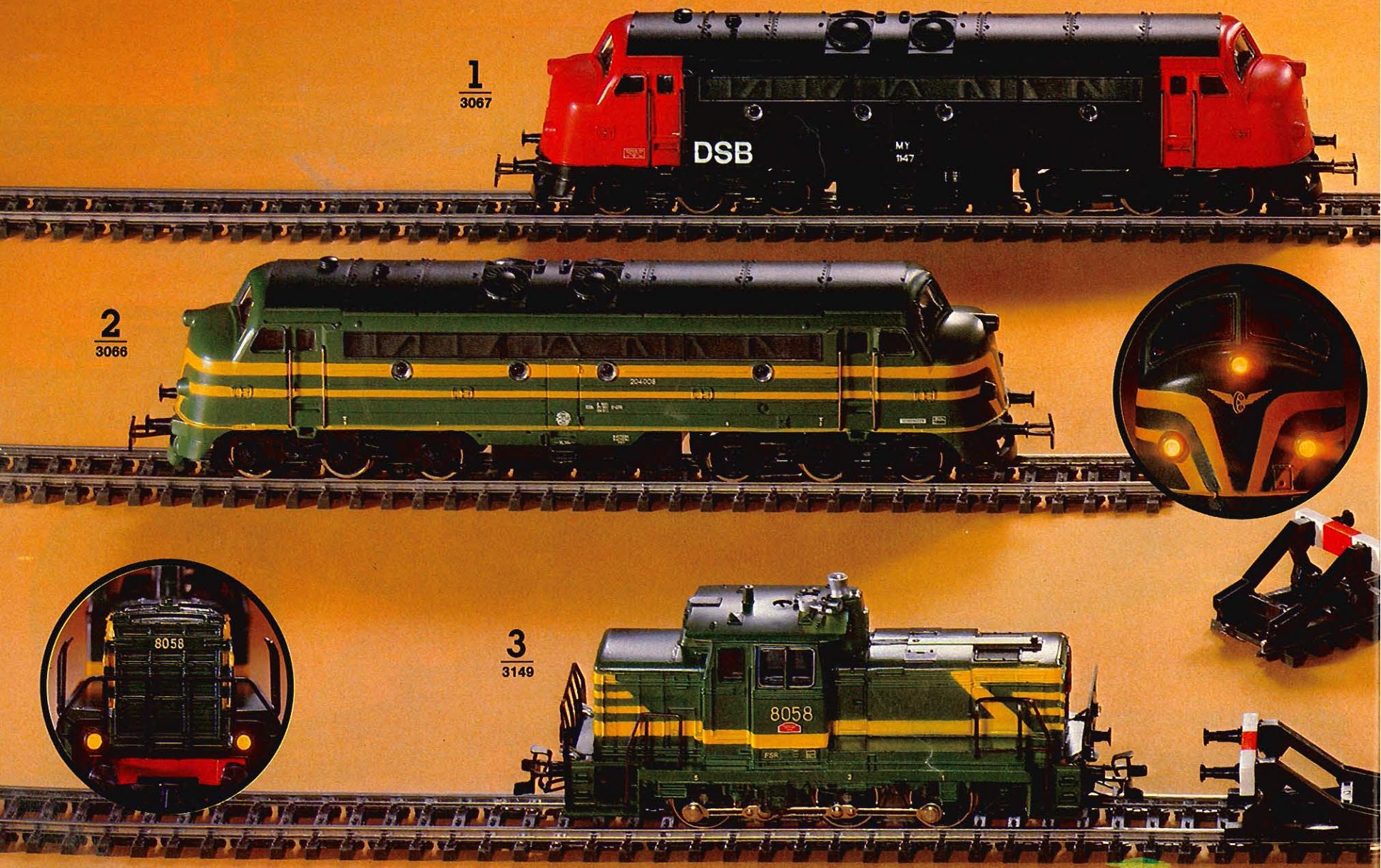
NMBS = **N**ationale **M**aatschappij der **B**elgische **S**poorwegen. SNCB = **S**ociété **n**ationale des **c**hemins der fer **B**elges official names of the Belgian State Railways.)

3 Belgium

3149 · **Yard switcher** · Belgian State Railways' (NMBS/SNCB) class 80 · C wheel arrangement · All drivers powered · 2 non-skid tires · 2 working headlights at each end · Die cast zinc frame · Coupling hooks with pre-uncoupler at each end · Length over buffers 12 cm (4-3/4")

⓪ = 7153 ⌓ = 7185 ♀ = 60010

Note: This engine is also used on branch lines.



4 USA

3062 · Road diesel · An F 7 of the Denver & Rio Grande Western Railway · Prototype made by General Motors' Electro-Motive Division · B-B wheel arrangement · One power truck · 4 non-skid tires · 2 working headlights · Metal body · Coupling hook with pre-uncoupler at cab end · RELEX-coupler (pages 65/75) at blind end · Length 17.5 cm (6-⅞″)

7154 · 7185 · 60015

5 USA

4062 · Dummy road diesel · Unpowered version of 3062 · 2 working headlights · Metal body · Coupling hook with pre-uncoupler at cab end · Length 17.5 cm (6-⅞″)

7185 · 60015

6 USA

3060 · Road diesel · An F 7 of the Atchison, Topeka & Santa Fe Railway · Prototype made by General Motors' Electro-Motive Division · B-B wheel arrangement · One power truck · 4 non-skid tires · 2 working headlights · Metal body · Coupling hook with pre-uncoupler at cab end · RELEX-coupler (pages 65/75) at blind end · Length 17.5 cm (7-⅞″)

7154 · 7185 · 60015

7 USA

4060 · Dummy road diesel · Unpowered version of 3060 · 2 working headlights · Metal body · Coupling hook with pre-uncoupler at cab end · Length 17.5 cm (6-⅞″)

7185 · 60015

3060 + 4060 USA
Power and dummy F 7 set · Atchison, Topeka & Santa Fe Railway

3062 + 4062 USA
Power and dummy F 7 set · Denver & Rio Grande Western Railway



1

3077 · **Rail Zepplin** · Based on Kruckenberg's system · 8 wheels · One power truck · 4 non-skid tires · Realistic operation: As track current is slowly increased from 4 V, the propeller is activated by a small motor – as track current increases, the zepplin begins to roll · 2 working headlights · Sleek, streamlined body · Die cast zinc frame · Length 28.8 cm (11-3/8″)

= 7154 = 7164 = 60015

■ In 1931, the rail zepplin set a world speed record for tracked vehicles, 230 kmph (143 mph). Power was derived from a 450 kW BMW aircraft engine which activated the propeller.

2

3071 · **TEE articulated train** · 3 units (power unit, coach-diner coach with cab) · Accurate beige-red livery used by TEE

Locomotive: One 6-wheel power truck · 4 non-skid tires · Die cast zinc frame

Train has special couplers which narrow the gaps between cars · Gaps also have special air tight diaphragms · 3 white headlights and 2 red tail lights at each end, illuminated according to direction · Sliders at each end, with current obtained from leading slider · Length of 3-car train set 70 cm (2′ 3-5/8″)

= 7154 = 7164 = 60001 r

= 7175 = 60015 w

3

4071 · **TEE compartment car** · 1st class · Flexible diaphragms at each end · Special TEE couplers · Length 23.3 cm (9-3/16″)

The TEE train illustrated here consists of one 3071 and one 4071. Length 93.3 cm (3′ 5/8″).



■ The TEE (Trans-Europe Express) are high speed, first class only limiteds operated by railways in western Europe. The trains are owned by the individual railroads, but lettered and painted alike according to international agreement. Diesels develop up to 1,700 kW for speeds up to 140 kmph (87 mph). The trains are fully air-conditioned with sealed windows. 1st class coaches seat 114, diners seat 32.

To assure reliable service, most TEE runs have several identical train consists. The Edelweiss (upon which Märklin's model is based) has 5 trains to ply the historic Rhine route between Zürich and Amsterdam.

3
4071

6
3028

7
4028



4

3016 · Rail bus · German Federal Railways' class 795 · One power truck · 2 non-skid tires · 3 working headlights at each end · Interior lighting · Authentic red livery · Die cast zinc frame · Special short couplers at each end based on prototype · Length over buffers 14.7 cm (5-¾″)

0 = 7153 = 7164 = 60010

5

4018 · Rail bus trailer · German Federal Railways' class 995 · Operating red tail lights at each end · Interior lighting · Special short couplers at each end, based on prototype · Length over buffers 12 cm (4-¾″)

= 7175 = 60010

6

3028 · Self-propelled coach · German Federal Railways' class 515 · Prototype powered by batteries · B-2 wheel arrangement · One power truck · 4 non-skid tires · 3 white headlights and 2 red tail lights at each end, illuminated according to direction · Interior details with illumination · Coupling hooks at each end · Length over buffers 24 cm (9-½″)

0 = 7154 = 7164 = 60001 r
= 60015 w

7

4028 · Control car · Not powered · For use with self-propelled coach 3028 · German Federal Railways' class 815 · Interior details with illumination · When coupled to 3028, 3 white headlights and 2 red tail lights illuminated according to direction · Dummy couplers at both ends (eye at one end, hook at the other) · Length over buffers 24 cm (9-½″)

= 7164 = 60001 r
= 60015 w

Spare Parts

For many years of reliable operation

Installation instructions are included with the non-skid tires, sliders, light bulbs, and reversing unit springs.

The Table shown here gives the part numbers of the more important spare parts. All spare parts can be obtained through your Märklin dealer.

7247 new

Single-arm pantograph · German Federal Railways' type SBS 65 · Fastening screw included · For the 3357 and engine from the 2856 set · Base measures same as 7218



Locomotives

Locomotive	Non-skid tire	Slider	Pantograph	Light bulb	Brushes	Reversing switch	Front Coupler	Rear Coupler
3000	7154	7185	–	60010	60030	20824	20001	20001
3003	7153	7185	–	60010	60030	20824	20214	70154
3016	7153	7164	–	60010	60030	20824	20989	20989
3021	7154	7183	–	60010	60030	20824	21166	21166
3028	7154	7164	–	60001	60030	21899	70412	70412
				60015				
3030	7153	7185	7218	60015	60030	20824	21128	21128
3035	7153	7164	7218	60015	60146	20824	21484	21484
3039	7153	7164	7218	60015	60146	20824	21484	21484
3041	7153	7164	7219	60015	60030	20824	70412	70412
3042	7153	7164	7218	60015	60146	20824	70156	70156
3043	7153	7164	7218	60015	60030	20824	70412	70412
3044	7154	7185	7219	60015	60030	20824	20001	20001
3049	7153	7185	7218	60015	60146	20824	70412	70412
3050	7153	7164	7218	60015	60030	20824	21708	21708
3055	7154	7164	7218	60015	60030	20824	21783	21783
3058	7153	7164	7218	60015	60146	20824	70412	70412
3060	7154	7185	–	60015	60030	20824	21583	21586
3062	7154	7185	–	60015	60030	20824	21583	21586
3065	7153	7185	–	60010	60030	22970	21376	21376
							21377	21377
3066	7154	7164	–	60015	60030	20824	21783	21783
3067	7154	7164	–	60015	60030	20824	21783	21783
3071	7154	7164	–	60001	60030	22049	–	21929
		7175		60015				21951
								21954
3072	7154	7164	–	60010	60030	20824	21842	21842
3074	7154	7164	–	60015	60030	20824	70156	70156
3075	7154	7164	–	60015	60030	20824	70156	70156
3077	7154	7164	–	60015	60030	20824	–	–
3078	7154	7185	–	60015	60030	20824	20001	20001
3080	7154	7185	–	–	60030	20824	20001	20001
3082	7153	7164	–	60015	60146	20824	21843	21842
3084	7153	7164	–	60015	60146	20824	21843	21842
3085	7152	7164	–	60015	60146	20824	–	21842
3087	7154	7185	–	–	60030	20824	20001	20001
3089	7152	7185	–	60015	60030	20824	–	70154
3092	7152	7185	–	60015	60030	20824	–	21842
3093	7152	7185	–	60015	60030	20824	–	21842
3095	7153	7185	–	60010	60030	20824	22532	21842
3096	7153	7164	–	60015	60030	22970	21843	21843
							22897	22897
							22924	22924
3099	7152	7185	–	60015	60030	20824	22418	21842
3102	7153	7185	–	60015	60146	20824	21843	21842
3104	7153	7185	–	–	60146	20824	20001	20001
3106	7153	7164	–	60015	60146	20824	24281	24281
3141	7153	7185	–	60010	60030	20824	21411	21411
3144	7154	7185	–	60015	60030	20824	20001	20001
3145	7154	7185	–	60015	60146	20824	70156	70156
3146	7154	7185	–	60015	60146	20824	70156	70156
3147	7154	7164	–	60010	60030	20824	21842	21842
3149	7153	7185	–	60010	60030	20824	21411	21411
3151	7153	7185	7218	60015	60146	20824	70156	70156
3152	7153	7164	7219	60015	60146	20824	70156	70156
3153	7153	7164	7208	60015	60146	20824	70412	70412
3155	7153	7164	7218	60015	60146	20824	70156	70156
3156	7153	7164	7218	60015	60146	20824	21484	21484
3157	7153	7185	7218	60010	60146	20824	21842	21842
3159	7153	7164	7218	60015	60030	20824	21842	21842
3165	7153	7164	7218	60015	60146	20824	21773	21773
3167	7153	7185	24800	60015	60146	20824	70156	70156
3309	7153	7164	–	60019	60146	22970	24456	24460
							24457	24461
3322	7153	7164	7218	60019	60030	20824	21842	21842
3324	7153	7164	7218	60019	60146	20824	70156	70156
3356	7153	7164	7218	60019	60146	20824	70156	70156
3357	7153	7164	7247	60019	60146	20824	22313	22313
3366	7153	7164	7218	60019	60146	20824	70412	70412
Locomotives which have been discontinued within the past 3 years:								
3022	7153	7164	7218	60015	60030	20824	21842	21842
3038	7153	7164	7218	60015	60146	20824	21773	21773
3054	7153	7164	7218	60015	60030	20824	22313	22313
3056	7153	7164	7218	60015	60146	20824	70156	70156
3057	7153	7164	7218	60015	60146	20824	70412	70412
3064	7153	7185	–	60010	60030	20824	21411	21411
3083	7152	7185	–	60015	60030	20824	–	21842
3086	7152	7185	–	60015	60030	20824	22418	21842
3090	7154	7185	–	–	60030	20824	20001	20001
3161	7154	7164	7218	60015	60030	20824	21783	21783
3354	7153	7164	7218	60019	60030	20824	22313	22313



Cars

Couplers for cars	
21 005	4018
21 583	4060, 4062 (front)
21 622	4060, 4062 (rear)
21 842	4578, 4631, 4635
21 951	4071
21 954	4071
32 399	4632, 4650, 4651, 4652, 4653, 4663
32 402	4632
32 540	4067, 4079, 4080, 4100, 4101, 4102, 4103, 4107, 4108, 4633, 4644, 4646, 4664, 4694
70 154	4004, 4005, 4040, 4610, 4612, 4613, 4617, 4618, 4619, 4627, 4639, 4661, 4665, 4671, 4681
70 157	4074, 4084, 4150, 4151, 4152, 4410, 4411, 4413, 4414, 4415, 4419, 4420, 4421, 4422, 4423, 4424, 4425, 4426, 4430, 4431, 4432, 4440, 4441, 4442, 4460, 4473, 4474, 4475, 4692, 4693, 4695, 4696, 4697, 4698, 4699
70 158	4091, 4092, 4093, 4094, 4095, 4096, 4097, 4098, 4099, 4135, 4136, 4137, 4138, 4139, 4140, 4141, 4142, 4143, 4144, 4145, 4146, 4147, 4148, 4149, 4153, 4154, 4157, 4158, 4159, 4160, 4161, 4162, 4164
70 412	4028

Trucks with couplers, for cars	
30 256	4076
30 339	4026, 4045, 4051, 4052, 4053, 4054, 4064, 4085, 4087, 4089, 4090, 4111, 4112
30 417	4029, 4049, 4072, 4073
30 547	4066, 4068
32 311	4571
32 339	4624, 4626, 4691
32 570	4575

Slider	
7164	Car 4028
7175	Cars 4018, 4053, 4089 Train lighting sets 7197, 7198, 7320, 7322, 7323
7185	Cars 4060, 4062
31 051	Car 4103
31 100	Car 4160
41 494	Cars 4098, 4154, 4411 Train lighting set 7329

Light Bulbs

	60 000	Train lighting set 7077 Switches 2261, 5128, 5137, 5140, 5202 Bumber 7191 Signals 7036, 7038, 7039, 7040, 7041, 7042 Lamps 7280, 7281, 7282, 7283, 7284 Crane 7051
red	60 001	Car 4028 Train lighting set 7079 Signals 7188, 7339
green	60 002	Signals 7188, 7339
	60 010	Car 4018 Train lighting set 7323 Light pole 5113 Lamps 7046, 7047, 7048
	60 015	Cars 4028, 4060, 4062, 4089, 4411 Train lighting sets 7197, 7320, 7322, 7329
	60 020	Train lighting set 7074
	60 200	Signal 7242
red	60 201	Signals 7239, 7240, 7241 Crossing gates 7292, 7592
green	60 202	Signals 7187, 7236, 7237, 7238, 7239, 7240, 7241
orange	60 204	Signals 7187, 7236, 7237, 7238, 7240, 7241

Accessories

7194 Reversing unit springs
Pack of 5 springs suitable for all locomotives

7226 Smooke unit accessories
Includes smoke unit (for locomotives 3082, 3084, 3085, 3102 and 3309), extra smokestack, cleaning wire, tweezers, and a capsule of smoke fluid

0241 Smoke oil
Refills, in plastic capsules, for smoke unit 7226

7224 Re-railer
Made of plastic · Easy way to get cars on track · Length 300 mm (11-3/16") · Height 25 mm (1")

7001 Coupling guide
For testing couplers · Made of nickel plated steel

7199 Bottle of oil
Contains about 10 cc · Suitable for all cars and engines

---

35 256
Lamp frame for light pole 5113

40 185
Control panel for turnable 7186

40 619
Hooks for crane car 4671 and crane 7051

40 625
Magnet for crane 7051

41 270
Arms for crossing gates 7292 and 7592

60 027
Tube for smoke unit 7226

97 170
Control panel for crane 7051

Passenger Cars

Rebuilds
Passenger cars of the German Federal Railways · Finely detailed bodies · Windows set in plastic frames · Simulated diaphragms · RELEX couplers (pages 65/75) · Length 15.2 cm (6") · Accepts interior lighting 7074 (page 60)

1
4067 · Type AB3yge[756] · 1st and 2nd class

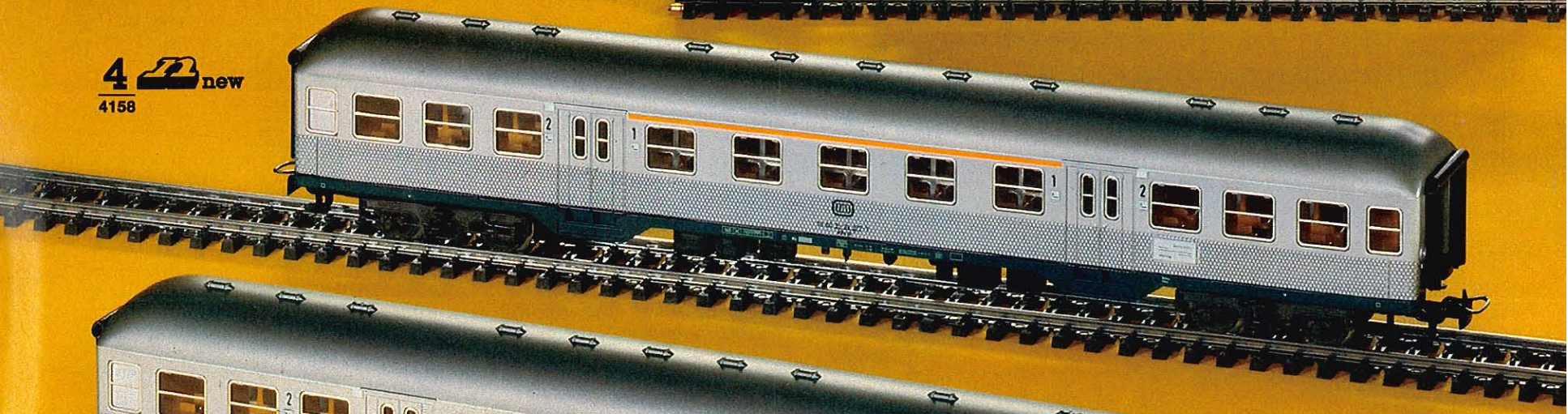
2
4079 · Type B3yge[761] · 2nd class

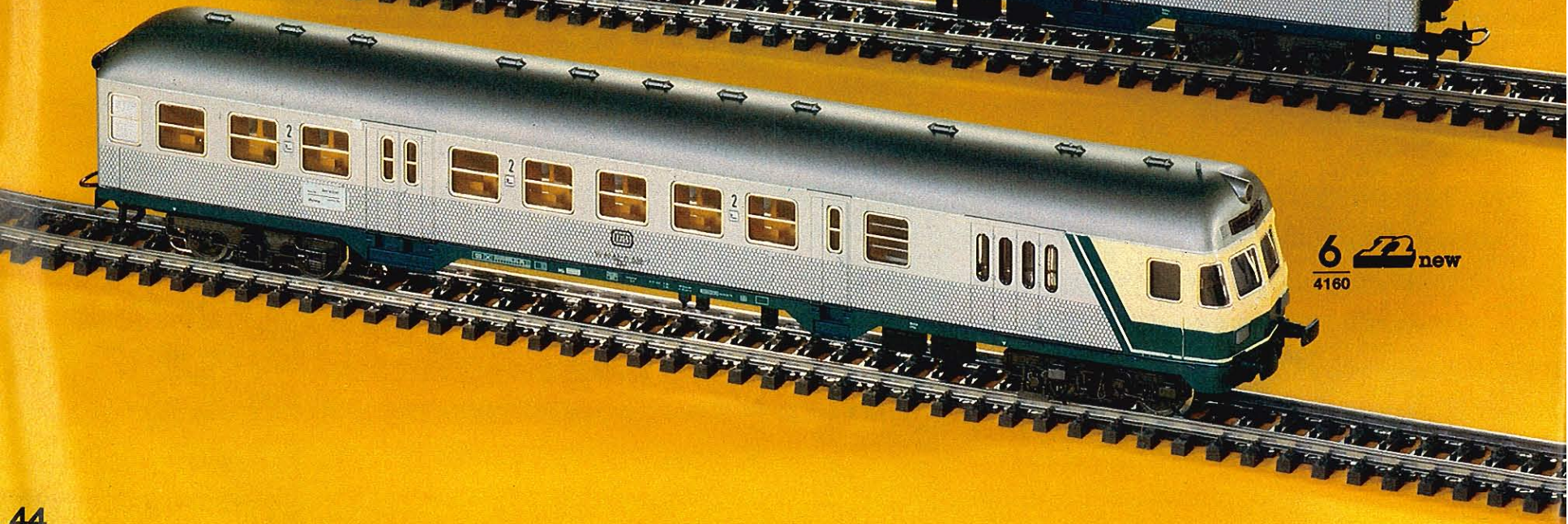
3
4080 · Type BD3yge[766] · 2nd class combine

1
4067



4 new
4158





6 new
4160

"Silverliners"
Commuter Cars of the German Federal Railways · Prototype "peacock eye" livery · Windows set in plastic frames · Interior details · Automatic couplers · Length 26.4 cm (10-3/8") · Accepts interior lighting = 7329 (page 60)

4 new
4158 · Commuter coach · Type ABnrzb 704 · 1st and 2nd class

5 new
4159 · Commuter coach · Type Bnb 719 · 2nd class

6 new
4160 · Commuter combine with control compartment · Type BDnf 735 · 2nd class · Built-in switch for the automatic operation of the tail lights · Illuminated route signs at control end

■ After a couple of trial demonstrations, the German Federal Railways began to replace ageing local and commuter passenger cars with new eight-wheel commuter cars having a length of 26.4 m (83' 7"). The typical trademark of these cars is the stainless steel finish, thus their nickname "Silverliners" (Silberlinge).

These cars have since been produced in several series and with varying modifications. In all the series, the double center doors and the stainless steel peacock's eye finish remained unchanged.

To allow their operation in push-pull trains (which eliminates the need for turning locomotives at end stations), control cars were constructed. At terminals, the engineer merely walks from one end of the train to the other.

The engineer in the control car commands the locomotive through the use of cables extending the length of the train.



2
4079

3
4080



5 new
4159



If the car is at the front of the train and engine at the rear, three white headlights shine.

If the car is at the end of the train and the engine at the front, two red tail lights shine.

Coaches
Platform and doors at both ends · Unglazed windows · RELEX couplers (pages 65/75) · Length 11.5 cm (4-½″)

1
4040 · 2nd class

Cars of privately owned railways
Platform and doors at both ends · Finely detailed bodies · Simulated roof ventilators · Window set in plastic frames · RELEX couplers (pages 65/75) · Length 11 cm (4-⅜″) · Accepts interior lighting = 7323 (page 60)

2
4107 · Coach · Interior details

3
4108 · Baggage car with cupola for conductor

"Donnerbüchsen"
Standard passenger cars of the former German State Railways · Finely detailed bodies · Platform and doors at both ends · Interior details · RELEX couplers (pages 65/75) · Length 16 cm (6-5/16″)

4
4103 · Baggage car · Same as 4102 but includes illuminated end markers
= 31051

5
4100 · Type BCi 29 · 2nd and 3rd class · Windows set in plastic frames





6
4101 · Type Ci 29 · 3rd class · Windows set in plastic frames

7
4102 · Baggage car · Type Pwi 30 · 4 sliding doors · Windows set in plastic frames · Cupola on roof

■ Shortly after establishing the German State Railways (Deutsche Reichsbahn), studies were undertaken to create a standardised passenger car to replace the assorted (and ageing) cars inherited from the old provincial lines. Finally, Berlin settled on a 2-axle design. Originally the cars had wood roofs and wooden interior walls. Later versions were all-steel, as the prototypes of Märklin's series (the model 29). Because the cars were noisy when operated, they acquired the nickname "Donnerbüchsen" (Rattling Crates).

Prussian Coaches
Each car has 6 compartments · Windows glazed with "Cellon" · RELEX couplers (pages 65/75) · Length 13 cm (5-⅛") · Accepts interior lighting ⊏▪▪▪▪▪⊐ = 7074 (page 60)

8
4004 · Compartment car without brakeman's cab

9
4005 · Compartment car with brakeman's cab



RELEX Couplers
For realistic switching
Page 65

Express coach of the former Royal Bavarian Railways

Finely detailed bodies · Windows set in plastic frames · Interior details · Simulated roof ventilators · Length 22 cm (8-5/8") · Accepts interior lighting ⊏⊐ = 7329 (page 60)

1

4135 · Type CCü · 3rd class

Old style express coaches of the former German State Railways

Finely detailed bodies · Windows set in plastic frames · Accepts interior lighting ⊏⊐ = 7329 (page 60)

2

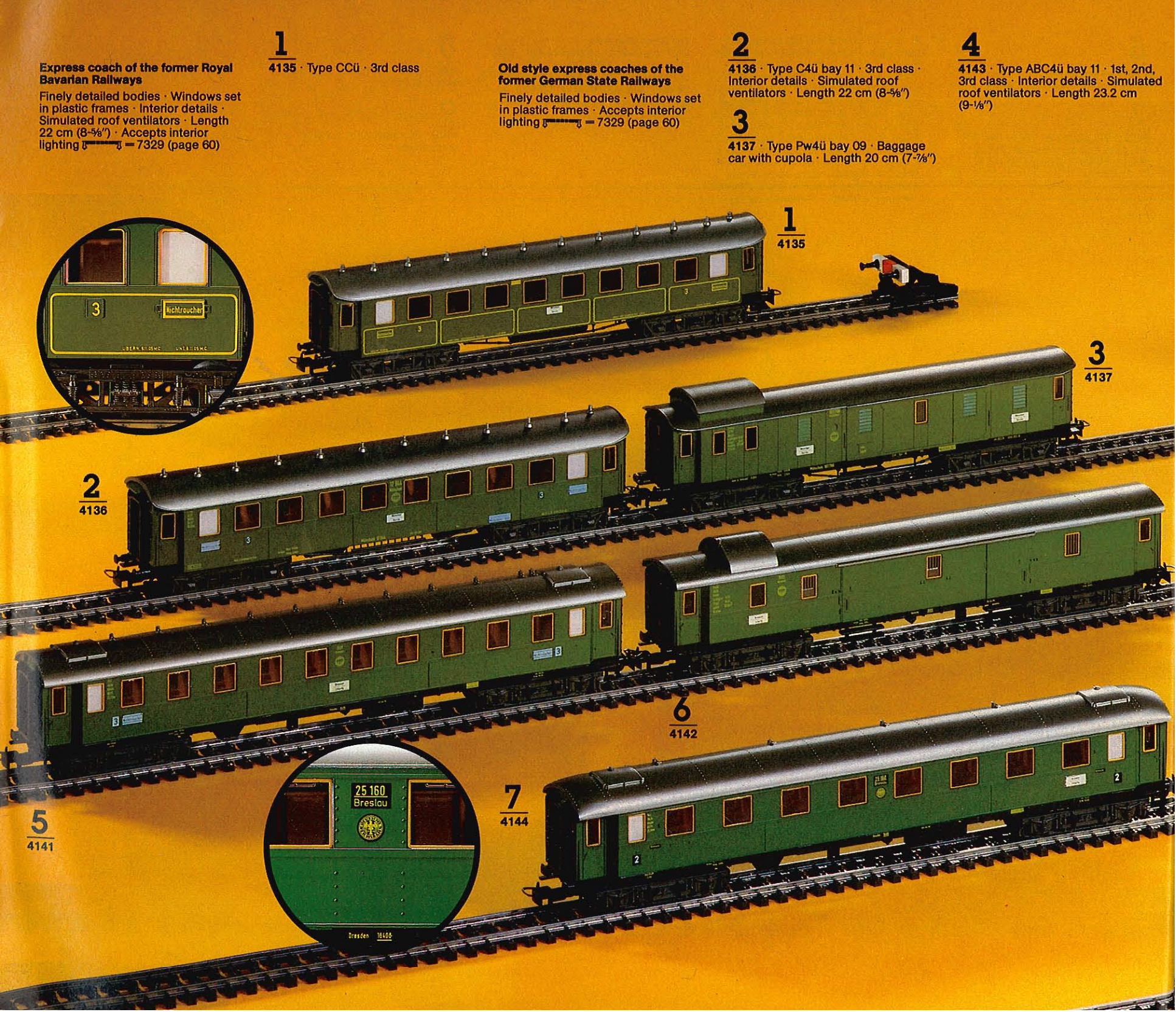
4136 · Type C4ü bay 11 · 3rd class · Interior details · Simulated roof ventilators · Length 22 cm (8-5/8")

3

4137 · Type Pw4ü bay 09 · Baggage car with cupola · Length 20 cm (7-7/8")

4

4143 · Type ABC4ü bay 11 · 1st, 2nd, 3rd class · Interior details · Simulated roof ventilators · Length 23.2 cm (9-1/8")



Standard express coaches of the former German State Railways

Finely detailed bodies · Windows set in plastic frames · Görlitz trucks · Accepts interior lighting ⎓ = 7329 (page 60)

5
4141 · Type C4ü 31 of the **DR** · 3rd class · Interior details · Length 25 cm (9-⅞″)

6
4142 · Type Pw4ü 30 of the **DR** · Baggage car with cupola · Length 22.6 cm (8-⅞″)

7
4144 · Type B4i 30 of the **DR** · 2nd class · Interior details · Length 25 cm (9-⅞″)

DR = Deutsche Reichsbahn
DB = Deutsche Bundesbahn

Standard express coaches of the German Federal Railways

Finely detailed bodies · Windows set in plastic frames · Görlitz trucks · Accepts interior lighting ⎓ = 7329 (page 60)

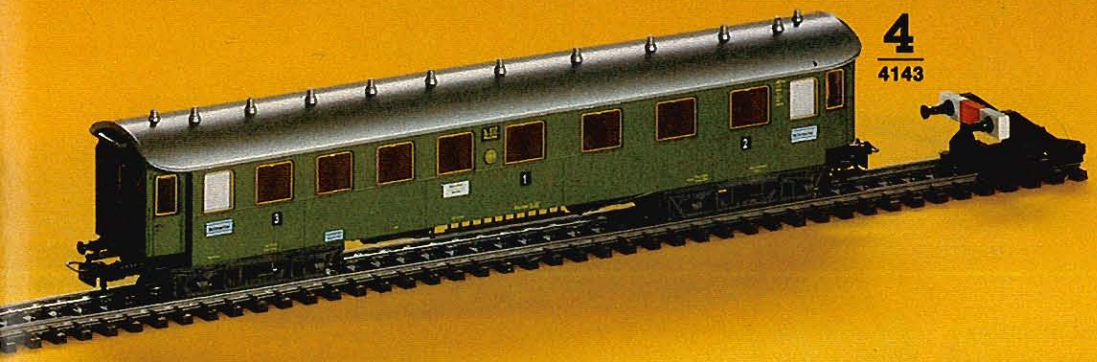
8
4139 · Type Büe^{354} of the **DB** · 2nd class · Interior details · Length 25 cm (9-⅞″)

9
4140 · Type Düe^{932} of the **DB** · Baggage car with cupola · Length 22.6 cm (8-⅞″)

10
4145 · Type Ayse^{604} of the **DB** · 1st class · Interior details · Length 25 cm (9-⅞″)



All cars have automatic couplers, destination signs for various routes, and will accept interior lighting ⎓ (page 60).





Express Coaches 24 cm (9-½″)

All cars have RELEX coupleurs (pages 65/75) and will accept interior lighting (page 60).

Express sleeping cars of the German Sleeping and Dining Car Co. (DSG)

1

4064 · Type WLABm[174] (WLABüm 174) class 33200 · 1st and 2nd class sleeper · Windows set in plastic frames · Length 24 cm (9-½″) · Accepts interior lighting = 7320

DSG = Deutsche Schlafwagen- und Speisewagengesellschaft)

Express coaches of the German Federal Railways

Windows set in plastic frames · Length 24 cm (9-½″) · Accepts interior lighting (page 60)

2

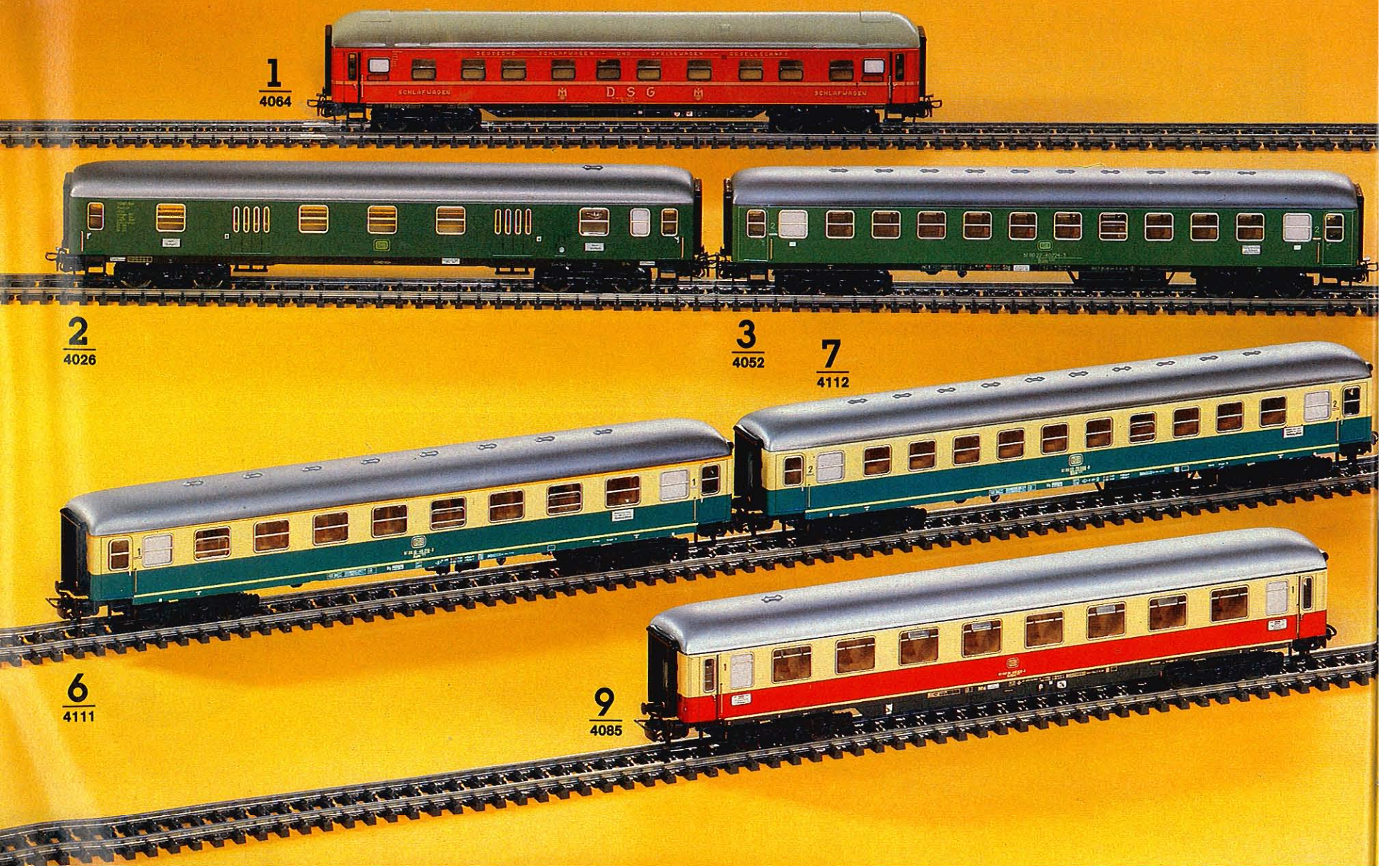
4026 · Type Dyl[961] (Dym 961) · Baggage car · = 7077 + 7198

3

4052 · Type Bm[232] (Büm 232) · 2nd class · Interior details · = 7077 + 7198

4

4051 · Type Am[202] (Aüm 202) · 1st class · Interior details · = 7077 + 7198



5
4053 · Type Am[202] (Aüm 202) · Same as 4051 but includes illuminated end markers · 8-pin = 7077
= 7175

6
4111 · Type Am[202] (Aüm 202) · 1st class · Interior details · 8-pin = 7077 + 7198

7
4112 · Type Bm[232] (Büm 232) · 2nd class · Interior details · 8-pin = 7077 + 7198

8
4054 · Type WRm[132] (WRümh 132) · Diner · Includes detailed kitchen and dining area · 8-pin = 7320

German Federal Railways' TEE coaches

These car are also used in IC (Intercity) trains · Windows set in plastic frames · Length 24 cm (9-½") · Accepts interior lighting 8-pin (page 60)

9
4085 · Type Avmh[111] (Avüm 111) · Compartment car · Interior details with side corridor · 8-pin = 7320

10
4087 · Type WRmh[132] (WRümh 132) · Diner · Includes detailed kitchen and dining area · 8-pin = 7320

11
4089 · Type Avmh[111] (Avüm 111) · Same as 4085 but includes interior lighting and illuminated end markers
= 7175 = 60015

12
4090 · Type ADm[101] (ADüm 101) · Dome car · Interior details · Dome made of transparent plastic · 8-pin = 7322



Express Coaches for International Service

Windows set in plastic frames · Accepts interior lighting (page 60)

All cars, except 4138, 4146 and 4164, have RELEX couplers (pages 65/75) and will accept interior lighting (page 60). Cars 4076 and 4164 also have additional destination signs.

Swiss Federal Railways' express coaches

1

4138 · Old type C4ü · 3rd class · Finely detailed body · Interior details · Simulated roof ventilators · Length 22.2 cm (8-¾") · = 7329

2

4146 · Older type F4ü · Baggage car with cupola · Windows set in plastic frames · Length 23.2 cm (8-¾") · = 7329

3

4066 · Type A 2500 · 1st class · Ribbed roof with simulated ventilators · Length 24 cm (9-½") · = 7320

4

4068 · RIC Diner · Removable ribbed roof · Single-arm pantograph · Length 24 cm (9-½") · = 7077

French Railways' express coaches

5

4076 · Type A8myfi · 1st class · Finely detailed body · Interior details · Length 24 cm (9-½") · = 7197



Swedish Railways' express coaches

6

4072 · Type Bo 1 · 2nd class · Prototype colors · Length 23.7 cm (9-3/8") · ⎍ = 7197

7

4073 · Type RBo 2 · Diner · Prototype colors · Length 23.7 cm (9-3/8") · ⎍ = 7197

Danish Railways' express coaches

8

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

Express sleeper of the International Sleeping Car co. (ISG)

9

4029 · Model of ISG car 4581 · Length 24 cm (9-1/2") · ⎍ = 7077 + 7198

Dutch Railways' express coaches

10

4049 · Type B 6600 · 2nd class · Length 24 cm (9-1/2") · ⎍ = 7320

11 new

4164 · 1st class Intercity coach · Prototype colors · Interior details · Length 26.4 cm (10-3/8") · ⎍ = 7329

■ Since 1980, the Netherlands Railways have obtained 226 new Intercity (IC) cars for domestic service and routes to Germany and Belgium. They are 26.4 m (83' 7") long and dressed in the new NS yellow and blue livery. The first class cars have 4 compartments with 6 seats and 1 large compartment in which some seats are placed settee fashion while other seats are placed in an airliner configuration.



Express Coaches 27 cm (10⅝")

German Federal Railways' TEE Cars

Can also be used on Intercity (IC) trains · Finely detailed bodies · Windows set in plastic frames · Length 27 cm (10-⅝") · Accepts interior lighting ⊓——⊓ (page 60)

1

4099 · Type ADm[101] · Dome car · Interior details include bar, coach compartments, and dome seating · Dome made of transparent plastic · ⊓——⊓ = 7329

2

4097 · Type WRmh[132] (WRümh 132) · Diner · Interior details include kitchen and dining area · ⊓——⊓ = 7329

3

4095 · Type Avmhz[111] · Compartment car · Interior details with side corridor · ⊓——⊓ = 7329

4

4098 · Type Avmhz[111] · Same as 4095 but includes illuminated end markers · ⊓——⊓ = 7329

⌓ = 41494

5

4096 · Type Apmz[122] · American style coach seating · Interior details · ⊓——⊓ = 7329

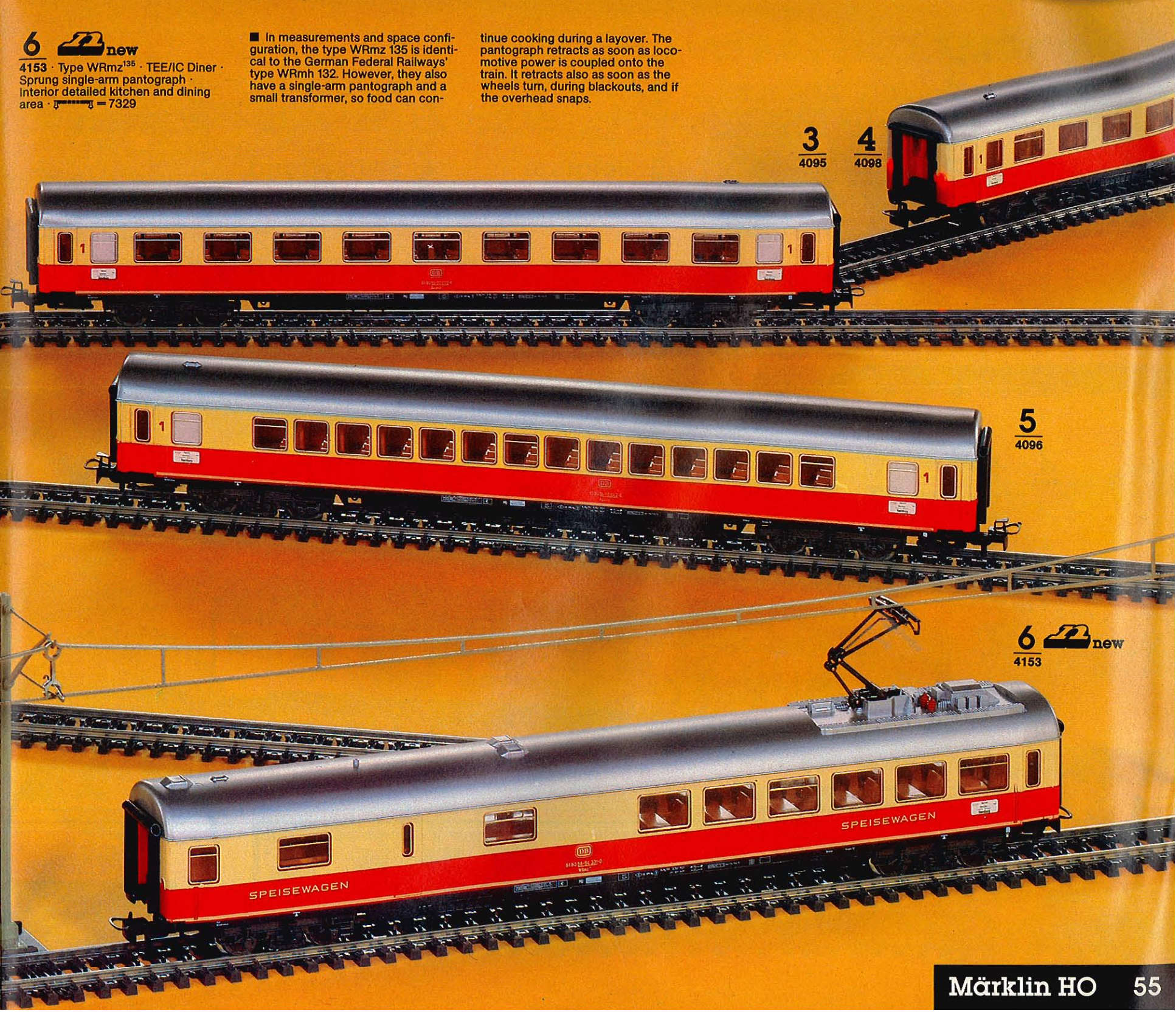


All cars have automatic couplers, destination signs for various routes, and will accept interior lighting ⊓——⊓ (page 60).

6 new

4153 · Type WRmz[135] · TEE/IC Diner · Sprung single-arm pantograph · Interior detailed kitchen and dining area · = 7329

■ In measurements and space configuration, the type WRmz 135 is identical to the German Federal Railways' type WRmh 132. However, they also have a single-arm pantograph and a small transformer, so food can continue cooking during a layover. The pantograph retracts as soon as locomotive power is coupled onto the train. It retracts also as soon as the wheels turn, during blackouts, and if the overhead snaps.



EUROFIMA Cars 26.4 cm (10-3/8")

Finely detailed bodies · Windows set in plastic frames · Interior details with side corridors · Length 26.4 cm (10-3/8") · Accept interior lighting (page 60)

■ The "European Community for the Financing of Railroad Equipment" (EUROFIMA) is composed of representatives of six European railroads (DB, ÖBB, SBB, SNCB, FS, SNCF). Their task is to create standard design cars. Among their accomplishments are the A9 1st class coach and the B11 2nd class coach. The EUROFIMA cars are constructed by an international consortium under the leadership of the Linke-Hofmann-Busch Car Co.

EUROFIMA cars can be used in trains with speeds up to 200 kmph (125 mph). Presently, there are 100 A9 cars on the German Federal Railways, 20 on the Belgian State Railways, and 25 on the Austrian Federal Railways, and 20 on the Swiss Federal Railways.

1

4147 · Type Avmz^{207} (A9 EUROFIMA) · German Federal Railways' 1st class coach · = 7329

2 Belgium

4148 · EUROFIMA's A9 1st class coach as used by the Belgian State Railways (NMBS/SNCB) · = 7329

3 Austria

4149 · EUROFIMA's A9 1st class coach of the Austrian Federal Railways (ÖBB) · = 7329

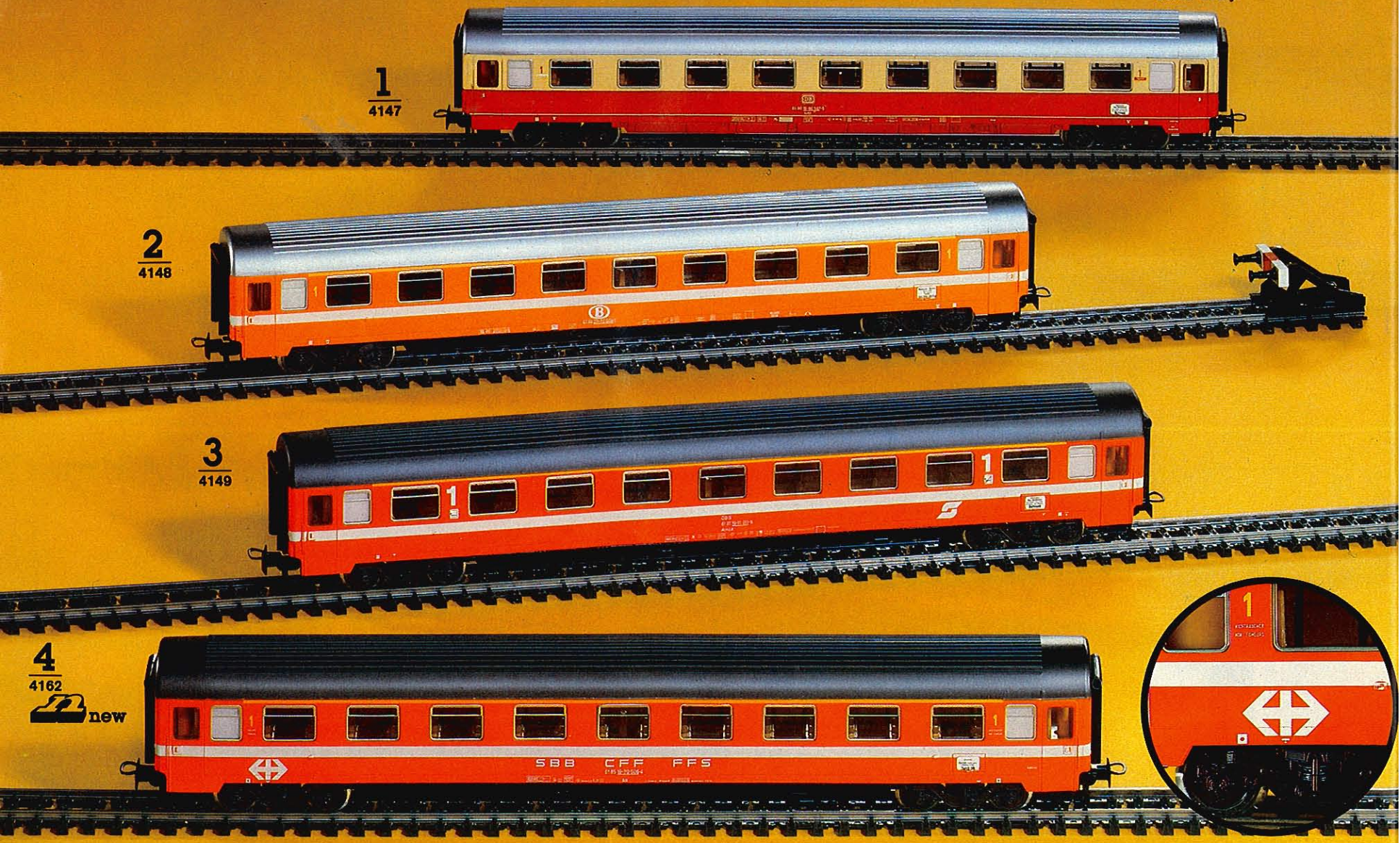
4 Switzerland

4162 · 1st class coach (EUROFIMA A9) of the Swiss Federal Railways (SBB) · = 7329

5 France

4161 · Type A9u (A9 EUROFIMA) · French State Railways' (SNCF) 1st class coach · "Corail" livery · = 7329

■ The standard coach A9, developed by the "European Community for the Financing of Railroad Equipment" (EUROFIMA), is also used by the French State Railways. The SNCF has 100 of them painted in the colorful "Corail" livery.



TEN Cars 27 cm (10-5/8")

"Corail" is more than a color scheme. "Confort sur rail" (in English, Comfort on the rails), is a fundamental concept for high standards in comfortable train transportation.

Corail cars, along with the Austrian A9 cars (Märklin model 4149), are seen on German Federal rails.

The EUROFIMA cars 4147 – 4149, 4161 and 4162 have automatic couplers. The TEN cars 4150 – 4152 have RELEX couplers (pages 65/75). All cars will accept interior lighting (page 60) and have destination signs for various routes.

Finely detailed bodies · Windows set in plastic frames · Interior details · Length 27 cm (10-5/8") · Accepts interior lighting (page 60)

6

4150 · Type WLABsmh[166] of the German Federal Railways · 1st and 2nd class sleeper for the TEN pool · = 7329

7 Netherlands

4151 · Dutch Railways (NS) 1st and 2nd class sleeper for the TEN pool · = 7329

8 Italy

4152 · Type WLABm of the Italian State Railways (FS) · 1st and 2nd class sleeper · Classed as T2S for TEN pool · = 7329

■ The TEN (Trans-Euro-Night) is a sleeping car pool service organized on July 1, 1971 by the state railways of Belgium, Denmark, France, Italy, Netherlands, Switzerland, Luxemburg, Austria, and the German Federal Republic to allow for better utilization of sleepers on international runs.

These "rolling hotels" check in about 1 million guests annually and the TEN pool looks forward to a great future.



5 4161

6 4150

7 4151

8 4152

Express coaches 27 cm (9-½″)

German Federal Railways' passenger train auto carriers

1
4084 · Model DDm^{915} · Same as 4074 but with no autos · Length 26.4 cm (10-⅜″)

2
4074 · Model DDm^{915} · Length 26.4 cm (10-⅜″) · Includes 8 WIKING miniature automobiles



1
4084

2
4074



3
4157

4
4093

All cars, except 4074 and 4084, have automatic couplers, destination signs for various routes, and will accept interior lighting (page 60).

Mail car of the German Federal Postal Service

3

4157 · Type mrz 73076 · Finely detailed body · Windows set in plastic frames · Interior details · Length 26.4 cm (10-3/8") · Accepts interior lighting 7329

Express cars of the German Federal Railways

Finely detailed bodies · Windows set in plastic frames · Length 27 cm (10-5/8") · Accepts interior lighting (page 60)

4

4093 · Type Dm^{902} (Düms 902) · Baggage car · Operating bagage doors on both sides · 7329

5

4094 · Type $WRmh^{132}$ (WRümh 132) · Diner · Interior details include kitchen and dining area · 7329

6

4091 · Type Am^{203} (Aüm 203) · 1st class · Interior details · 7329

7

4092 · Type Bm^{234} (Büm 234) · 2nd class · Interior details · 7329

8

4154 · Type Bm^{234} (Büm 234) · Same as 4092 but with illuminated end markers · 7329

= 41494



Train lighting

This schematic illustrates the various styles of train lighting. Instructions are included with each set.





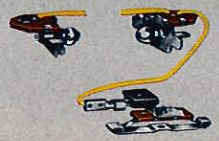
7074
Interior lighting set · For coaches 4004, 4005, 4067, 4079, and 4080 · Has socket for connecting to additional sets · Bulb
= 60020



7077
Interior lighting set · For most of the 24 cm (9-½") coaches · Has socket for connecting additional sets · Bulb
= 60000



7198
Current collector · For interior lighting set 7077
= 7175



7322
Interior lighting set · For TEE coach 4090 · Includes current collector 7198, 2 lamp sockets, 2 bulbs, instructions
= 7175
= 60015



7323
Interior lighting set · For cars 4107 and 4108 · Bulb
= 7175
= 60010



7079
Tail light · With bulb · Clips onto buffer · For cars with metal buffers only · To illuminate use with 7074, 7076, or 7198
= 60001 (red)



7076
Current collector · For coach 4040 and to illuminate tail light 7079





0226

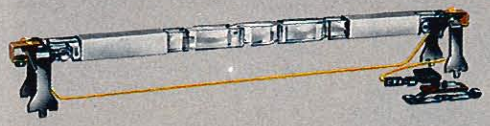
0225

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

Interior details and figures are made of finely cast plastic.
Figures are handpainted.
Illustrated instructions included with each set.

0226
Pack of 10 seated passengers · Each is handpainted

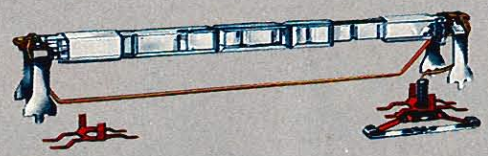
0225
Interior details for express coaches · Includes 18 double seats, 6 single seats, 2 rest rooms



7197
Interior lighting set · For express coaches 4072, 4073, 4076 · Includes current collector 7198, light diffuser, 2 lamp sockets, 2 bulbs, instructions
= 7175 = 60015



7320
Interior lighting set · For TEE cars 4085, 4087, and Express cars 4049, 4054, 4064, 4066 · Includes current collector 7198, light diffuser, 2 lamp sockets, 2 bulbs, instructions
= 7175 = 60015



7329
Interior lighting set · Has variable length light diffuser · For cars 4091 – 4099, 4135 – 4154, 4157 – 4162 and 4164 · Includes current collector, light diffuser, 2 lamp sockets, 2 bulbs, instructions
= 41494 = 60015



Freight Cars

All cars have RELEX couplers (pages 65/75). Frames and superstructures made of plastic; wheels made of die cast zinc.

1
4440 · **Tank car** · ARAL · Length 11.5 cm (4-½")

2
4441 · **Tank car** · ESSO · Length 11.5 cm (4-½")

3
4442 · **Tank car** · SHELL · Length 11.5 cm (4-½")

4
4411 · **Box car** · Illuminated end markers · German Federal Railways' type Gs-uv[213] (Grs-v 213) · Includes current collector · Length 11.5 cm (4-½")
=41494 =60015

5
4410 · **Box car** · German Federal Railways' type Gs[210] · Length 11.5 cm (4-½")

6
4460 · **Box car with swivel roof** · German Federal Railways' type Taems[890] (Taes 890) · Length 16 cm (6-5/16")



7
4475 · **Low-side gondola** · With tarpaulin · Length 16 cm (6-5/16″)

8
4474 · **Low-side gondola** · Loaded with a WIKING bulldozer and WIKING shovel loader · Length 16 cm (6-5/16″)

9
4473 · **Low-side gondola** · German Federal Railways' type Rimms · Length 16 cm (6-5/16″)

10
4424 · **Low-side gondola** · Loaded with WIKING bulldozer · Length 11.5 cm (4-½″)

11
4423 · **Low-side gondola** · German Federal Railways' type Kkm 505 · Length 11.5 cm 4-½″)

12
4413 · **Dump car** · Bucket, latched in upright position, can be tipped to either side manually · Length 11.5 cm (4-½″)

13
4430 · **Gondola** · German Federal Railways' type El-u^{061} · Length 11.5 cm (4-½″)

14
4431 · **Gondola** · German Federal Railways' type El-u^{061} · With removable simulated coal load · Length 11.5 cm (4-½″)

15
4432 · **Wine car** · Older style · Lettered for upper Rhine Wine Producers · Length 11.5 cm (4-½″)

16
4414 · **Banana car** · German Federal Railways' type Ibbls · Length 11.5 cm (4-½″)

17
4419 · **Refrigerator car** · Lettered for PEPSI · Length 11.5 cm (4-½″)

18 Switzerland
4420 · **Beer car** · Lettered for Eichhof Brauerei · Length 11.5 cm (4-½″)

19
4422 · **Beer car** · Lettered for Wicküler-Küpper Brauerei · Length 11.5 cm (4-½″)

20
4421 · **Beer car** · Lettered for Bitburger Brauerei · Length 11.5 cm (4-½″)

21
4415 · **Refrigerator car** · German Federal Railways' type Ichqs-u^{377} (Ichqrs 377) · Length 11.5 cm (4-½″)

22 new
4425 · **Refrigerator car** · Lettered for Capri-Sonne · Length 11.5 cm (4-½″)

23 new
4426 · **Refrigerator car** · Lettered for Apollinaris · Length 11.5 cm (4-½″)



4600 Series
Highly detailed freight cars

1

4671 · **Crane car** · With rotating crane, movable boom, boom supports · Hook operated manually · Length of underframe 9 cm (3-½") · (Low-side gondola 4423 not included but recommended as idler car)

2

4693 · **Telescoping freight car** · German Federal Railways' type Shimms[708] (Shis 708) · Firm ends · 3 part telescoping sides, shiftable to either end · 5 built-in bays with adjustable restrainers · 3 realistic looking steel coils as freight · Length over buffers 13.8 cm (5-⅜")

■ The steadily increasing production of cold-rolled steel in various sizes and weights has created a demand for a special freight car.

Answering this demand, an international team of experts from 5 railroads (DB, SBB, NS, SNCF, SNCB) developed the weather proof car, the Shimms[708].

In 1978, the German Federal Railways took delivery of the initial 1300 cars and they have been successfully employed.

The Shimms[708] coil cars features:

- Firm ends
- 5 assorted bays to accept various types of steel coils
- 12 retainers to protect against in-transit shiftling
- 3 part telescoping sides which can be shifted to either side so that ⅔ of the car is "open"
- The coils must be loaded symmetrically to avoid damage to the car

3

4613 · **Bi-level auto carrier** · With 4 WIKING automobiles · Length 11.5 cm (4-½")

4

4612 · **Bi-level auto carrier** · Empty · Length 11.5 cm (4-½") · On the German Federal Railways', 2 of these cars are semi-permanently coupled and are then designated Laaekms[541] (Laaes 541)

5

4610 · **Ore car** · Manually operated unloading hopper · Length 9.5 cm (3-¾")



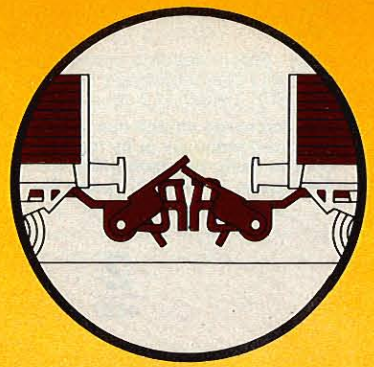
6
4618 · Depressed-center flat car · Loaded with crate · Length 25 cm (9-⅞")

7
4617 · Depressed-center flat car · Loaded with transformer · Length 25 cm (9-⅞")

RELEX Couplers

All Märklin freight cars have RELEX couplers.

The fundamental difference between passenger and freight rail transportation is that whereas passengers can get on and off trains by themselves, freight must be directed to destinations by human and technological means.



Freight cars are loaded und unloaded at freight houses or industrial sidings and are then conveyed to marshalling yards by peddler freights.

At marshalling yards, incoming trains are broken up and the individual cars switched onto different yard tracks based on destination.

In larger yards, this switching is facilated by a "hump" over which the cars roll to the proper ladder track. As soon as sufficient cars are assembled on a specific track, the dispatcher "calls" an outgoing freight.

These interesting switching operations can be excitingly simulated on Märklin layouts thanks to the unique RELEX couplers.

With RELEX couplers, cars can be uncoupled at uncoupling tracks (pages 74/82) yet still be pushed or dropped off at a desired point without the couplers re-engaging.

3
4613

4
4612

5
4610

6
4618

7
4617

1
4619 · **Covered gondola** · German Federal Railways' type Tms[851] (Ts 851) · Sliding roof · Length 11.5 cm (4-½″)

2
4633 · **Gondola with sliding roof and sides** · German Federal Railways' type Tbis[870] · Roof halves and sides open · Length 15.7 cm (6-³⁄₁₆″)

3
4627 · **Box car** · German Federal Railways' type Gos-uv[245] (Gbrs-v 245) · Length 13.3 cm (4-¼″)

4
4663 · **Flat car** · German Federal Railways' type Rs[680] · Die cast zinc floor · Stakes fold down · Length 22.7 cm (9″)

5
4665 · **Lumber car** · 2 "shorty" flats loaded with sawn lumber · Length 19.5 cm (7-¾″)

6
4694 · **Flat car** · German Federal Railways' type Kbs[443] · Removable stakes · Length 15.7 cm (6-³⁄₁₆″)

7
4631 · **Side-unloading hopper car** · German Federal Railways' type Fc[090] (Ed 090) · Length 11.2 cm (4-⅜″)

The discharge chutes can be operated manually or by remote control using the uncoupling track 5112 (page 74) or 2297 (page 82).

8
4624 · **High capacity hopper car** · German Federal Railways' type Fals[176] (Fads 176) · Length 13.3 cm (5-¼″)

■ These cars are usually seen in unit trains, international and domestic, for transport of coal, coke, ore, etc.



All cars have RELEX couplers (pages 65/75).

9

4626 · **High capacity covered hopper car** · German Federal Railways' type Tad-u 961 · All hatches open · Length 13.3 cm (4-¼″)

■ On many high capacity hoppers, a "top" is installed as protection against the elements for items such as grain.

10

4635 · **Multi-section ballast car** · German Federal Railways' type F-z^{120} · Buckets can be tipped by unlatching holding bar · Length 10.5 cm (4-⅛″)

11 Switzerland

4691 · **High capacity cement car** · Lettered in German and French for Juracement-Fabriken-Aarau · Length 13.3 cm (5-¼″)

12

4664 · **Container car** · German Federal Railways' type "Berlin" · With 2 removable containers · Length 15.6 cm (6-⅛″)

Freight cars of the German State Railways

■ A decisive event in the development of freight cars was the creation of the "German State Railroad Car Association" in 1909. This organization established freight car construction standards which were adopted by the provincial railways. Besides generating great savings in construction, they improved interchange standards, and thus customer service.

Märklin models 4695, 4696 and 4697 conform to these "Verbandsbauarten" (association standards).

13

4696 · **Gondola with brakeman's cab** · Type O 10 of the former German State Railways · Length 10.1 cm (4″)

14

4697 · **Flat car with brakeman's cab** · Floor center pivots · Type H 10 of the former German State Railways · Length 11.5 cm (4-½″)

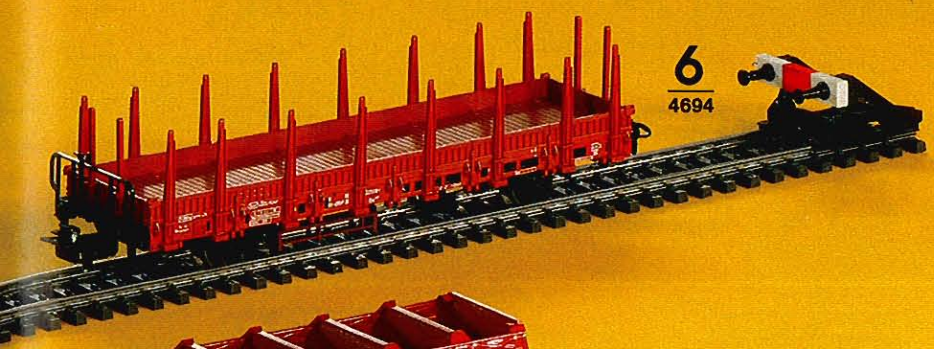
15 new

4692 · **Box car** · Type Gr 20 of the former German State Railways (the "Kassel") · Operating doors · Length 10.5 cm (4-⅛″)

■ After the German State Railways (Reichsbahn) was formed in 1920 by the merger of the provincial railways, freight car standardization continued. The interchange car, the "Kassel", is one example.

16

4695 · **Box car with brakeman's cab** · Type G 10 of the former German State Railways · Operating doors on each side · Length 11 cm (4-⅜″)



6
4694



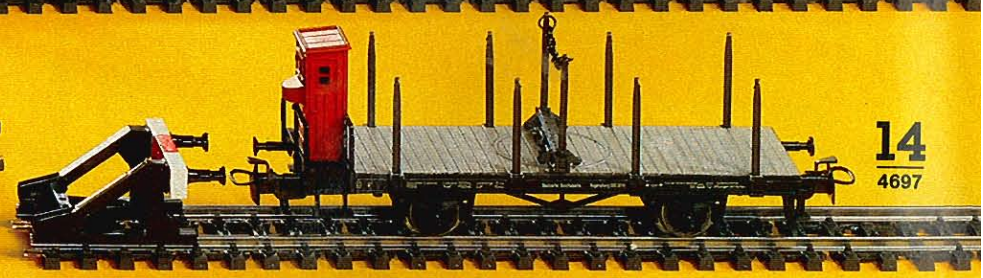
10
4635



13
4696



12
4664



14
4697



15
4692
new



16
4695

1
4699 · **Package car** · German Federal Railways' type Pwg Pr014 · Operating doors on both sides · Windows set in plastic frames · Length 9.8 cm (3-⅞″)

2
4646 · **Tank car** · Standard tank car, lettered for ARAL · Length 10 cm (4″)

3
4644 · **Tank car** · Standard tank car, lettered for BP · Length 10 cm (4″)

4
4661 · **Bulk material tank car** · German Federal Railways' type Ucs[908] · Lettered for "Quarzwerke" (quartz works) · Length 10 cm (4″)

5
4650 · **Tank car** · ESSO · Length 16.4 cm (6-½″)

6
4652 · **Tank car** · TEXACO · Length 16.4 cm (6-½″)

7
4651 · **Tank car** · SHELL · Length 16.4 cm (6-½″)

8
4653 · **Tank car** · BP · Length 16.4 cm (6-½″)

9 France
4681 · **Gondola** · French Railways (SNCF) type E 3 01 · Length 11.5 cm (4-½″)

10 Netherlands
4639 · **Gondola** · Lettered for Netherlands Railways (NS) · Length 11.5 cm (4-½″)

11 Switzerland
4632 · **Beer car** · Length 19.5 cm (7-¾″)

12 Switzerland
4698 · **Box car with brakeman's cab** · Swiss Federal Railways' (SBB) type H h k · Operating doors on both sides · Length 14 cm (5-½″)

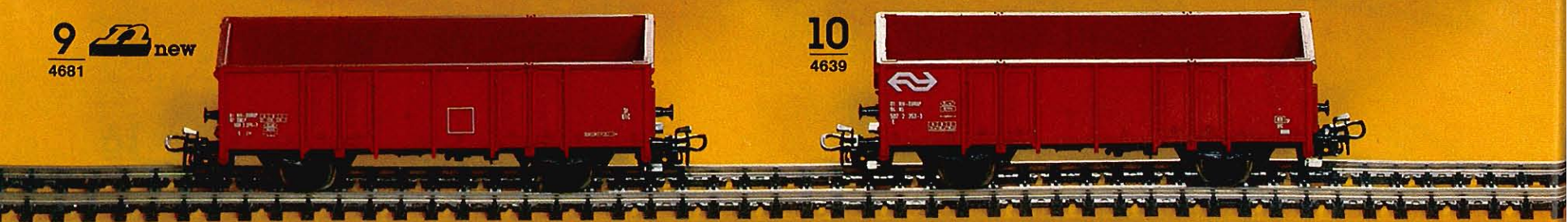
13 USA
4575 · **Gondola** · Lettered for Louisville & Nashville RR · Length 17 cm (6-¾″)

14 USA
4571 · **50′ box car** · Lettered for Western Pacific Railroad · Catwalk on roof · Operating doors on both sides · Length 18.4 cm (7-¼″)

15 USA
4578 · **Bobber caboose** · Finely detailed · Numbered only · Can be used for any road · Length 8 cm (3-⅛″)





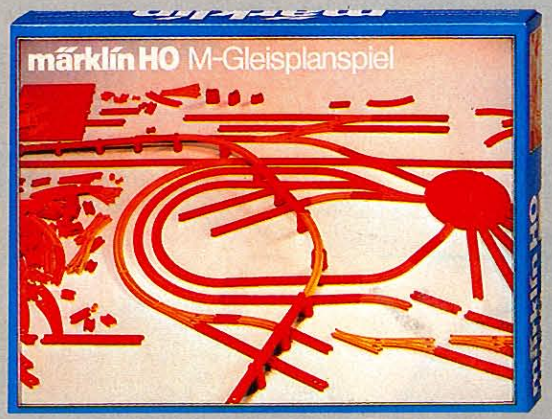


All cars have RELEX couplers (pages 65/75).



Layout Planning

Planning a layout is fun in itself. The size and shape of available space suggests the spatial parameters and Märklin offers hobbyists the resources and the stimulation for putting the layout together.



1
0230 M



2
0231 K

Track planning game

The three dimensional track planning game is an excellent way to design a layout. The easy to use game offers beginners and advanced modelers a decided advantage in layout planning.

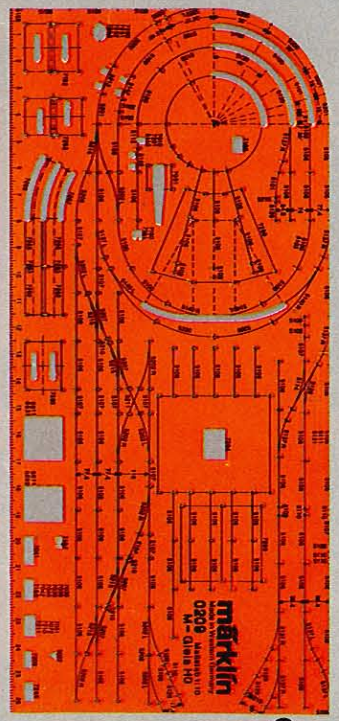
No prior knowledge of geometry is required. Each Märklin track section is represented many times and they connect easily. Using colors to differentiate the radii, adjustments in a layout's design can be made immediately.

1

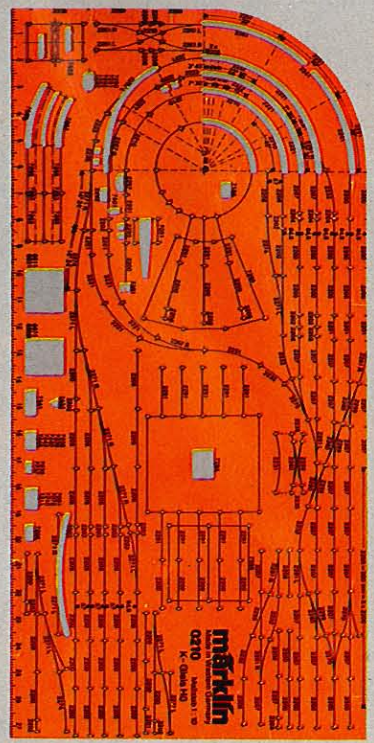
0230 M · **Track planning game** · For M track sections for series 5100 and 5200 scaled 1 : 5 included · Has transfer table, turntable, pillars · Enough parts to plan a medium size layout · All pieces have corresponding track part numbers on both sides · Pieces are 4 color-coded (3 curves and straight tracks) · Pieces fit snugly together

2

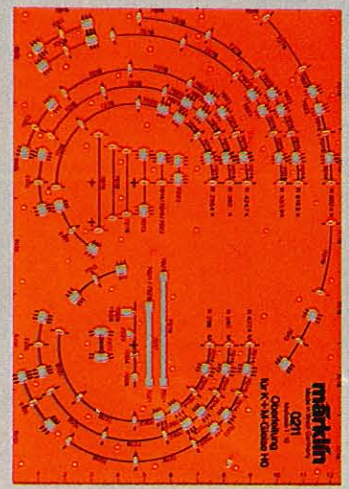
0231 K · **Track planning game** · For K tracks · All K track sections of the 2200 (2100) series scaled 1 : 5 included · Has transfer table, turntable, pillars · Enough parts to design a medium size layout · All pieces have corresponding part number on both sides · Pieces are 7 color-coded (5 curves, straight tracks, and 14° 26′ switches) · Pieces fit snugly together



3
0209 M



4
0210 K



5
0211 K+M

Track planning stencils

3

0209 M · **Track planning stencils** · For M track, 5100 and 5200 series · All track sections are scaled 1 : 10 on stencil and can be traced on paper with a sharp pencil · Instructions and practical tips included

4

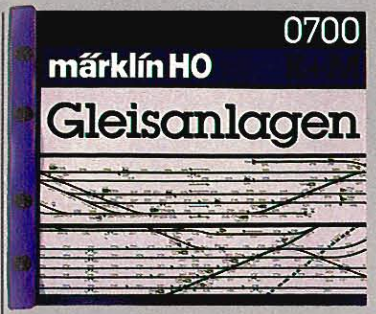
0210 K · **Track planning stencils** · For K track, 2200 (2100) series · All track sections are scaled 1 : 10 on the stencil and can be traced using a sharp pencil · Instructions and practical tips included

5

0211 K+M · **Catenary stencils** · For planning and overhead system · For K or M tracks · Stencils include 1 : 10 scaled replicas of all wire lengths and mast bases in Märklin catenary program · Use a sharp pencil to trace · Instructions included

Catenary
Prototypical operation
Page 92

Layout Book for K and M Tracks



The layout book is a compilation of 30 highly interesting layouts which can be constructed by beginners and advanced modelers alike.

Large or small, each layout is prototypically designed to permit realistic operation

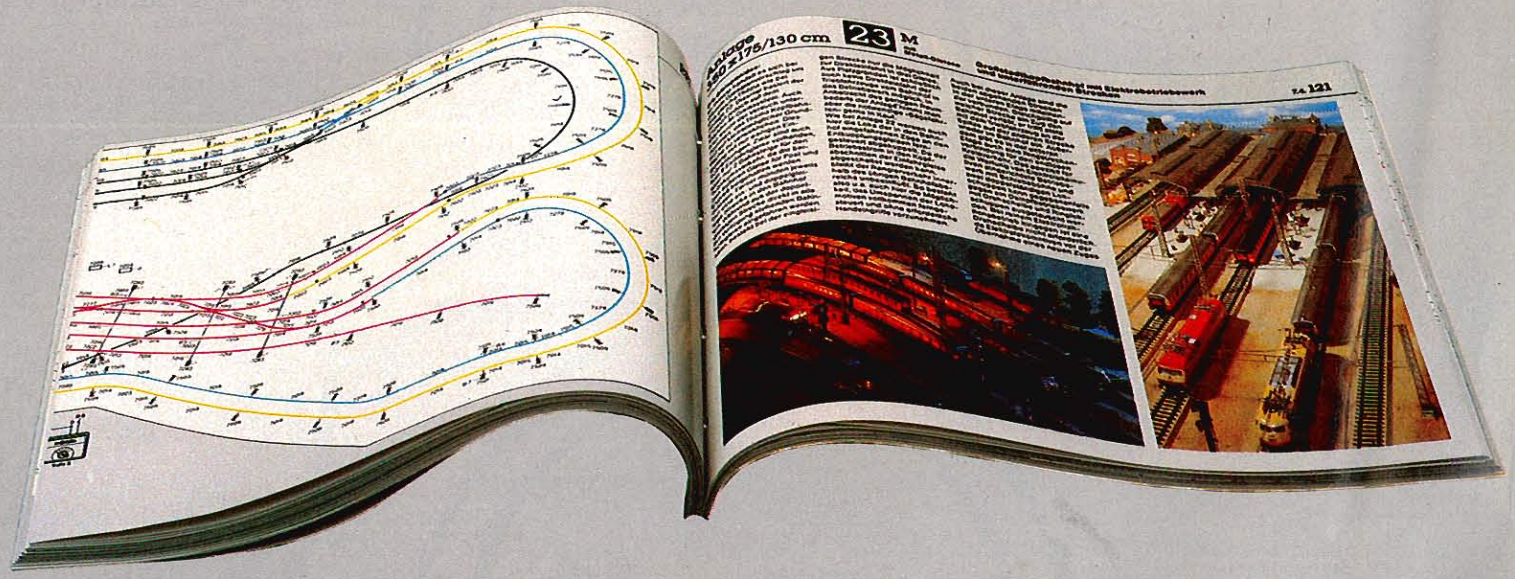
Each layout plan includes:

- Track plan with parts list and wiring schematic
- Catenary plans with parts list
- Landscape design
- Many color photos, special motifs
- Tips and suggestions on scenery, layout theme, variations, ideas for extending the layout

Special space-saving layouts are included to allow for varying themes or available space: narrow-shelf layouts, diagonal layouts, U-shaped layouts, terminal facilities, etc. The smallest layout measures just 125 x 100 cm (3′ 4″ x 4′ 2″).

0702 K + M

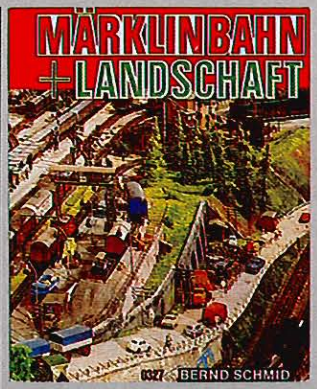
HO Layout Book · 30 Layouts, 15 for K and 15 for M tracks · A supplement gives K track equivalents for 14 M layouts and M track equivalents for 15 K layouts · Each layout example includes a 1 : 10 track plan with wiring schematic, catenary, landscape design, color photos of completed layout, tips and suggestions for laying track and adding scenery, modification possibilities, combinations with other layouts · Loose-leaf format so it can be integrated with a comprehensive Märklin HO handbook · 186 pages · Size 22 x 26.4 cm (8-¾″ x 10-½″) · English text



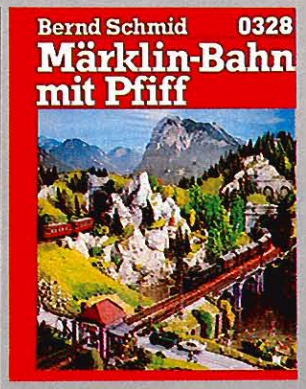
Märklin Tips for Track and Scenery



0380



0327



0328

0380

Booklet "Die Märklin-Bahn HO und ihr großes Vorbild" · Handbook for Märklin model railroaders · Includes hints for adding scenery; information on Märklin engines, cars and their prototypes; signalling; prototype rules and regulations; train operation; circuitry (eg multi-train operation); and much more · 228 pages · Size 15 x 24 cm (6″ x 9-½″) · German text

0327

Märklin-Bahn + Landschaft · By Bernd Schmid · Excellent aid for building layouts · Technical details, roadbed design, landscape planning, information on accessories, all explained in depth · Well illustrated · Many color photos · 192 pages · Size 16.4 x 20.3 cm (6-½″ x 8″) · German text

0328

Märklin-Bahn mit Pfiff · By Bernd Schmid · Many new tips on railroad construction for the more ambitious modeler · The "How" in book 0327 is explained as a "What" · All kinds of construction projects are discussed · Well illustrated · Many color photos · 262 pages · Size 22 x 17 cm (8-¾″ x 6-¾″) · German text

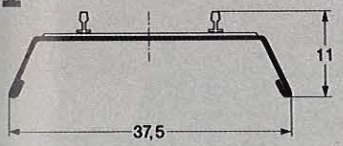
Tips on M Track Geometry

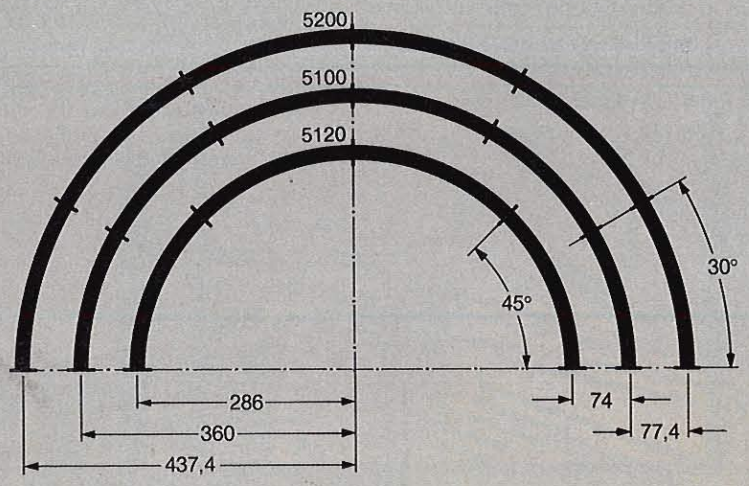
(M = metal body)

Fig. 1:
With M track, both rails are firmly mounted on a stable frame shaped in the form of a roadbed. M tracks utilize the Märklin center-stud system, with power running through the contact studs.

Märklin M track is 37.5 mm (1-½″) wide, and 11 mm (7/16″) high.

1





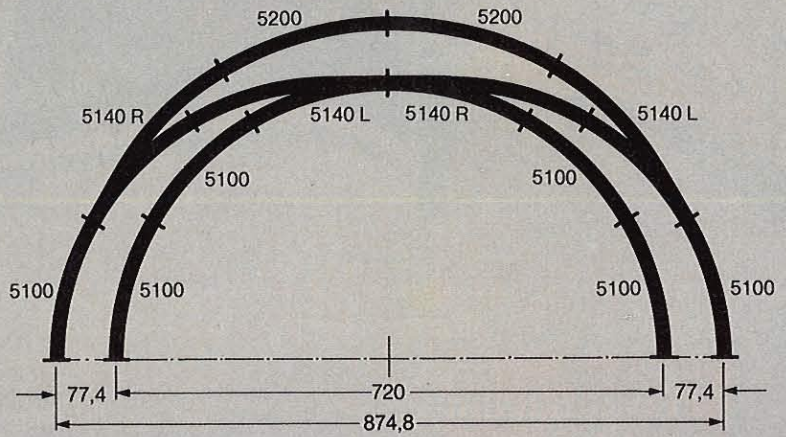
2

Fig. 2:
This diagram shows the three Märklin M track circles with radii, loading gauge, curvature, and number of sections required for a semi-circle.

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

Parallel circles

Parallel circles can be constructed by using the 5100 and 5200 circles. The distance between track centers, measured from contact stud to contact stud, is 77.4 mm (3-1/16″). Clearance is 39 mm (1-½″). Switches 5202, 5221, or 5140 can be used to connect the two loops.

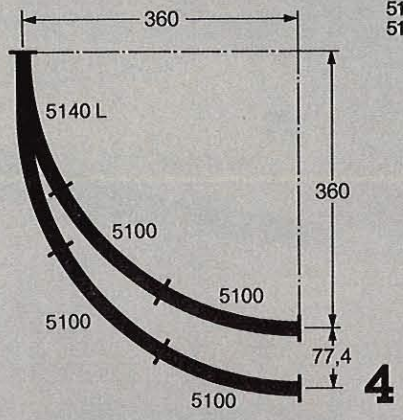


3

Branches with 5100 Switches

Fig. 3:
To install slip tracks on curves, use the 5140 curved switch. This illustration gives one example of using curved switches on parallel circles. Note that on the outside curve, 5200 curves must be used to maintain parallel allignment of 77.4 mm (3-1/16″). The curved switches can only be used to connect the inner circle to the outside circle, not vice-versa.

Fig. 4:
Siding can be installed with curved switch 5140.



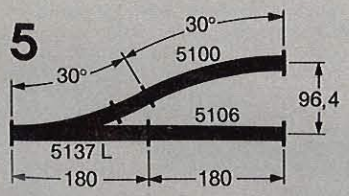
4

Fig. 5:
A parallel siding can be installed using a 5137 switch and a 5100 curve. The distance between siding and main track is 96.4 mm (3-¾″). Adding a 5106 to the main line allows the two tracks to keep allignment. Track length in illustration is 2 × 180 mm = 360 mm (2 × 7½ = 15″), i. e. length of two 5106 straights.

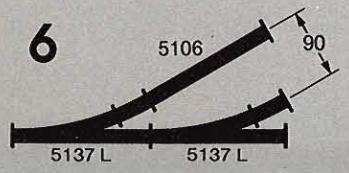
Fig. 6:
Siding of a parallel track using the 5137 switch.

Fig. 7:
When using a 5101 curve rather than the 5100, the two tracks will parallel closer, the distance being just 54.8 mm (2-⅛″).

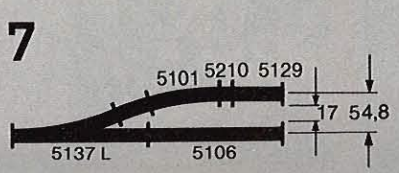
Fig. 8:
When there are 3 or more parallel tracks spaced 96.4 mm (3-¾″) apart, a slip track can be installed by using 5137 and double switch 5128. The double slip switch parmits trains on the inside track to get to the outside tracks. If access or egress to in side tracks is not desired, then crossing 5114 can be used in instead of the 5128.



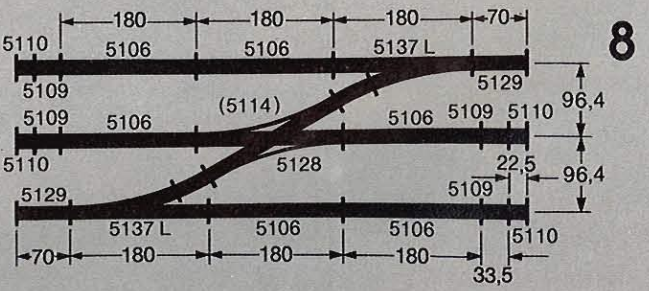
5



6



7



8

Branches with 5200 Switches

Fig. 9:
To maintain parallel alignment with 5202 switch, use the 5206 curve. Here the distance between the tracks is just 77.4 mm (3-1/16"), the same as between the normal and larger circles. A 5106 straight is also needed to maintain parallel alignment.

Fig. 10:
Siding off a parallel track with the 5202 switch.

Fig. 11:
Parallel tracks using the 5202 switch.

Fig. 12:
When there are 3 or more parallel tracks spaced 77.4 mm (3-1/16") apart, slip tracks can be installed with the 5202 and double slip switch 5207. Both switches will maintain the tangents of the 5106 straights since they are the same length. Note that when using the 5215 crossing or 5207 double slip switch on diagonal tracks, a 5208 straight (8 mm, 5/16") is required.

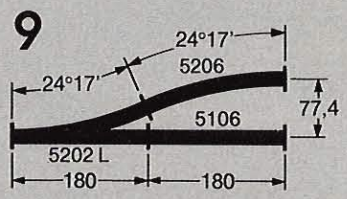
Fig. 13:
Crossovers on parallel tracks.

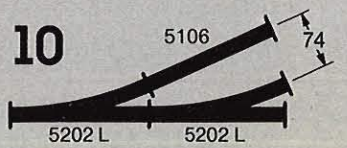
Fig. 14:
The three-way switch 5214, having the same radii as the 5202 and same tangent as the 5106, is a space saving way of installing yard tracks, station access tracks, etc.

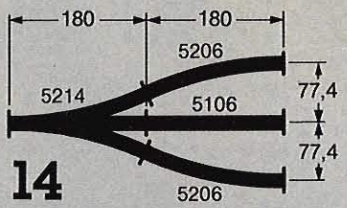
Fig. 15:
An illustration how three-way switches can be used to install 4 sidings off the mainline in a short space.

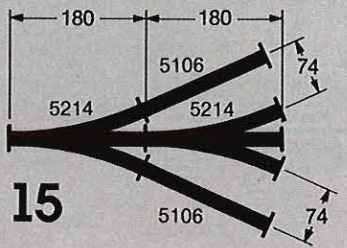
Fig. 16:
Suggested track diagram with a three-way switch.

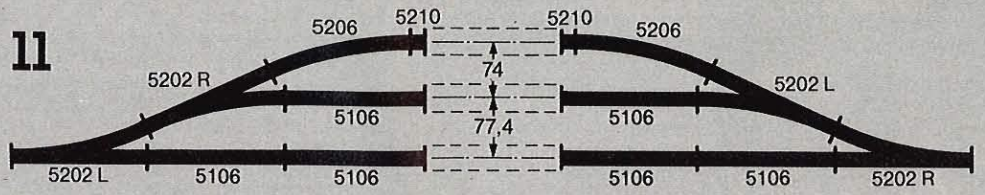
Fig. 17:
Summary of the various methods of using Märklin M switches.

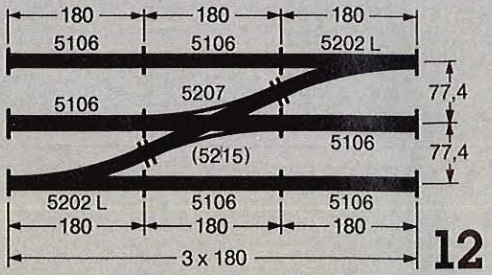


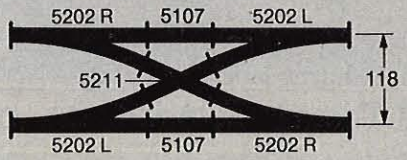


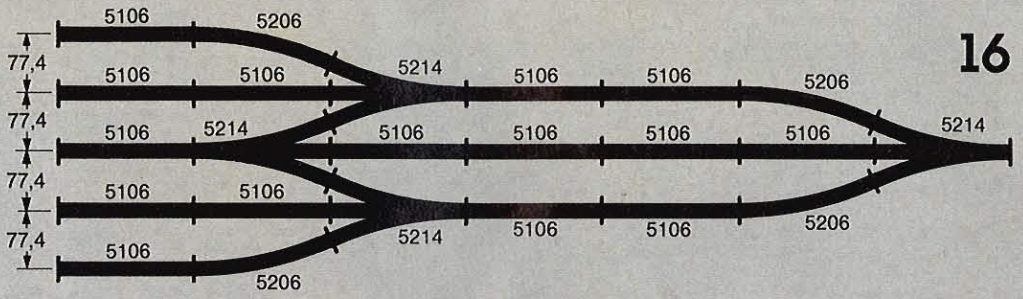


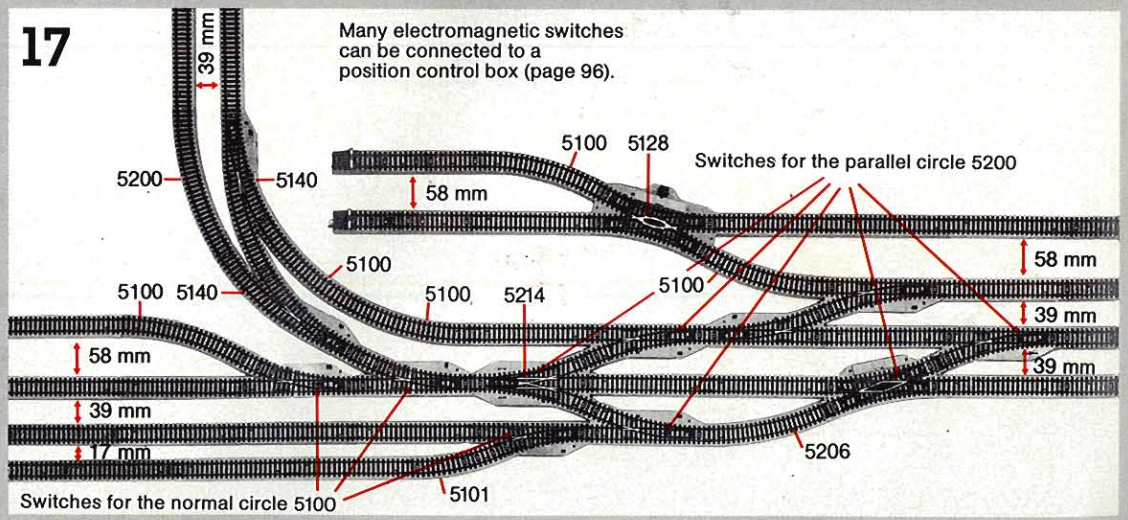












M Switches

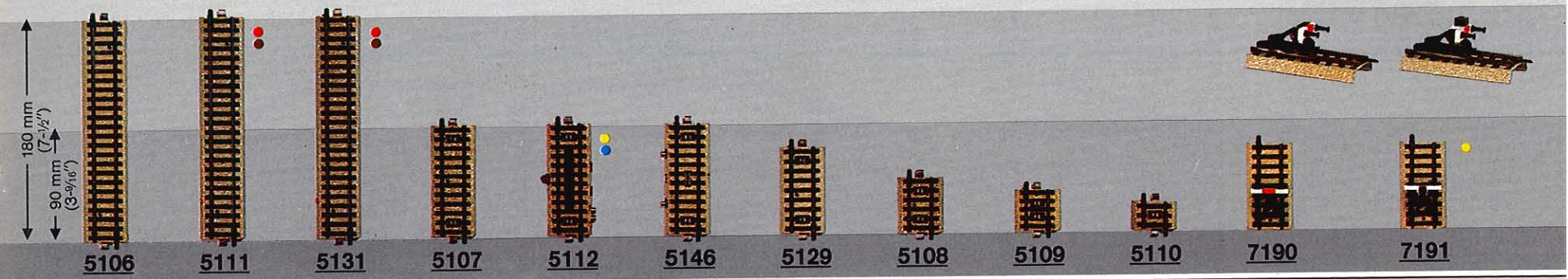
Electromagnetic switches 5137, 5140 and 5202 and the double slip switch 5128 and 5207 have double-solenoids. When a car approaches the switch from the "wrong" direction, its wheels automatically adjust the points to avoid a derailment. After the car clears the switch, the points return to their original position. Switches can be connected to each other.

Märklin M-Tracks

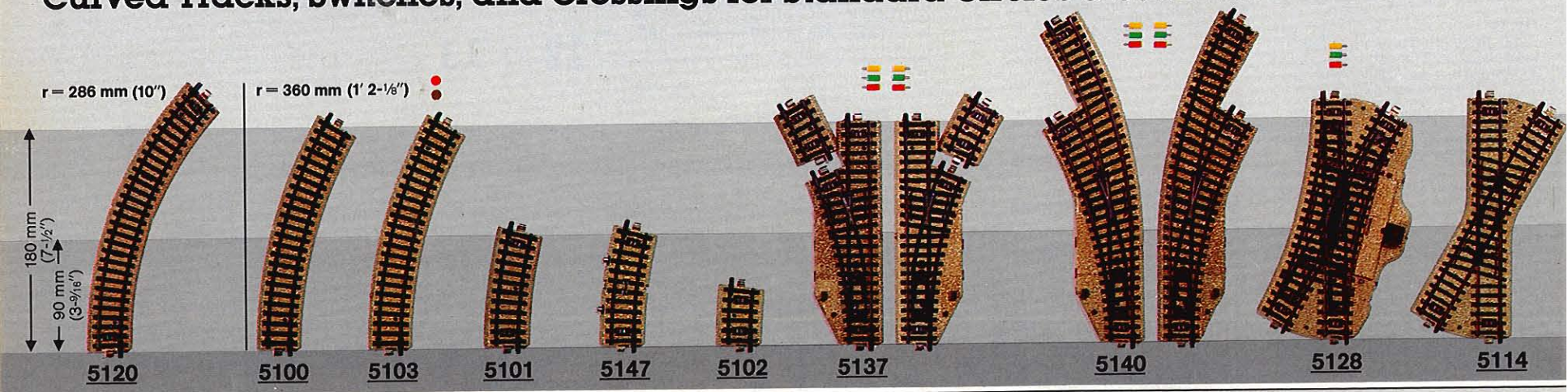
(M = Metalbody)

The exciting feature about M track is that the roadbed is part of the track section. Thus M tracks are ideal for layouts that are changed regularly.

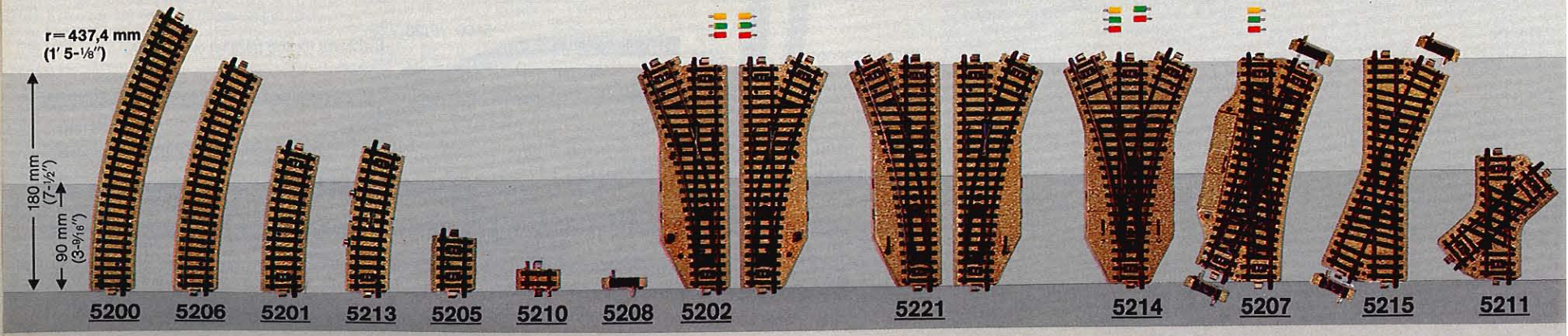
Straight Tracks, 5100 series



Curved Tracks, Switches, and Crossings for Standard Circles 5100 series



Curved Tracks, Switches, and Crossings for Larger Parallel Circle, 5200 series



5106
Regular section = 180 mm (7-1/8")

5111
Feeder track · Regular section = 180 mm (7-1/8") · Includes 2 leads

5131
Feeder track · Regular section = 180 mm (7-1/8") · Has capacitor to suppress radio static · Includes 2 leads · One 5131 required for each track circuit

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

5112
Uncoupling track · Half section = 90 mm (3-9/16") · Contains ramp for releasing RELEX couplers · Requires position control box 7072 for remote control operation

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

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

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

5109
3/16th section = 33.5 mm (1-5/16")

5110
1/8th section = 22.5 mm (7/8")

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

7191
Bumper · Illuminated · Riveted steel type · Clipped onto 70 mm (2-3/4") track section
= 60000

5120
Regular length = 45° · Tight radius for branches and industrial sidings · Can be negotiated by short vehicles only

5100
Regular section = 30°

5103
Feeder track · Regular section = 30° · Has two leads

5101
Half section = 15°

5147
Remote control track · Half section = 15°

5102
1/4 section = 7° 30'

5137
Pair of solenoid-operated switches · One right and one left hand switch · Illuminated · Length of tangent 180 mm (7-1/8") · Radius of curve 360 mm (1' 2-1/4") · To maintain a 5100 curvature, use section 5102 (included)
= 60000

5140
Pair of solenoid-operated curved switches · One right and one left hand switch · Illuminated · Length and radii same as 5100 curve · Length of outside curve 265.4 mm (10-1/2")
= 60000

5128
Double slip switch · Crossing angle 30° · Double-solenoid operation · Illuminated to indicate direction of points · Can be operated manually · Tangent 193 mm (7-5/8") · Curvature same as 5100
= 60000

5114
Crossing · Length 193 mm (7-5/8") = 30° · Third "rails" isolated from each other

Remote control tracks
The remote control tracks (5146, 5147, 5213) enable moving trains to operate solenoid-controlled accessories. The tracks include control switches which are tripped by the pickup shoes (sliders) of the locomotives or lighted cars, and a different operation can be performed in each direction of travel. The pulses are fed out through 2 sockets which are electrically isolated from each other.

5200 Regular section = 30°

5206
Length = 24° 17' · Same radius as switches 5202 and 5221

5201 Half section = 15°

5213
Remote control track · Half section = 15°

5205
Length = 5° 43' · When used with 5206, length equal a 5200

5210
Adjustment section straight · Length 16 mm (5/8")

5208
Adjustment section straight · Length 8 mm (5/16")

5202
Pair of solenoid-operated switches · One right and one left hand switch · Illuminated · Track lengths correspond to 5206 and 5106
= 60000

5221
Pair of manual switches · Track lengths correspond to 5202

5214
Symetrical three way switch · With 2 double-solenoids · Can be operated manually · 5 leads included · Tangent 180 mm (7-1/8") · Curve 437.4 mm (1' 5-1/8"), same as 5200 circle · To maintain parallel spacing of 77.4 mm (3-1/16") use 5206 track section

5207
Double slip switch · Ideal for maintaining parallel track spacing of 77.4 mm (3-1/16") · Double-solenoid operation · Can be manually operated · Tangent 180 mm (7-1/8") · Curvature same as 5202, 5221, 5206 · 2 adjustment tracks 5208 included

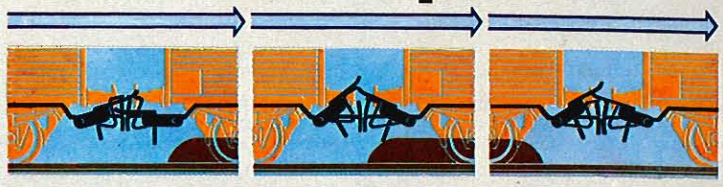
5215
24° 17' Crossing · Length 180 mm (7-1/8") · Includes 2 adjustment sections 5208 · Same overall length as 5207 · Third "rails" isolated from each other electrically

5211
48 1/2° Crossing · Length 98 mm (3-7/8") · Third "rails" isolated from each other electrically

Märklin M switches 5100 and 5200 have sprung points.

The remote control switches 5137, 5140, 5202, the double slip switches 5128, 5207 and the three way switch 5214 have double-solenoid operation. To operate, a position control box 7072 or remote control tracks 5146, 5147 or 5213 are required.

Märklin RELEX Couplers



The couplers are released by raising the ramps.

A RELEX coupler is designed to remain "open" after uncoupling so the car can be spotted somewhere else on the layout without the couplers re-engaging.

RELEX couplers bring a layout to life. No longer is it necessary to keep everything within arm's reach. Just use the uncoupler track along with the 5113 light pole, strategically placing them throughout the layout. When the designated couplers are over the uncoupler track, press the button on the 7072 position control box. The coupler will "open" and the train can either proceed or push the uncoupled car to a desired location without the couplers re-engaging.

With RELEX couplers, Märklin modelers can duplicate real life yard operations on their layouts.



5113
Light pole · For use with uncoupler track · Die cast zinc · Illuminated during uncoupling · Height 85 mm (3-3/8") · Positioned next to the uncoupler track, it shows its location
= 60010



2291
Adapter track · Regular section = 180 mm (7-1/8") · For connecting M tracks to K tracks



7171
Sound absorbent strips · Pack of 50 · With wood screws · Strips absorb some of the natural sounds created when M tracks are laid on plywood base · Strips do not affect mounting of catenary



7299
Wood screws · Ideal for securing M tracks · Pack of 200



7195
Number plate set · Ideal for use in identifying switches and signals on a layout · Includes 12 slotted bases and 24 number plates

Expanding your M track layout with the SET program

Begin with a basic set (pages 8, 9, 11), an then add track and accessory packages in the SET expansion program. The descriptive letters, "S", "E", "T1", "T2", "T3" indicate the range of track which is included in each expansion set.

S = Starter oval
E = Expansion switches and sidlings
T1 = For double tracking the oval
T2 = For passing track in station area
T3 = For marshalling yard

Expanding the 2920 S, 2930 S, and 2950
2920 and 2930 iclude the basic oval "S". The expand, we recommend you first add one of the extension sets "E". When further expansion is desired, add one or more of the "T" sets. 2950 already icludes a siding, which offers additional possibilities when the "E" and "T" sets are added.

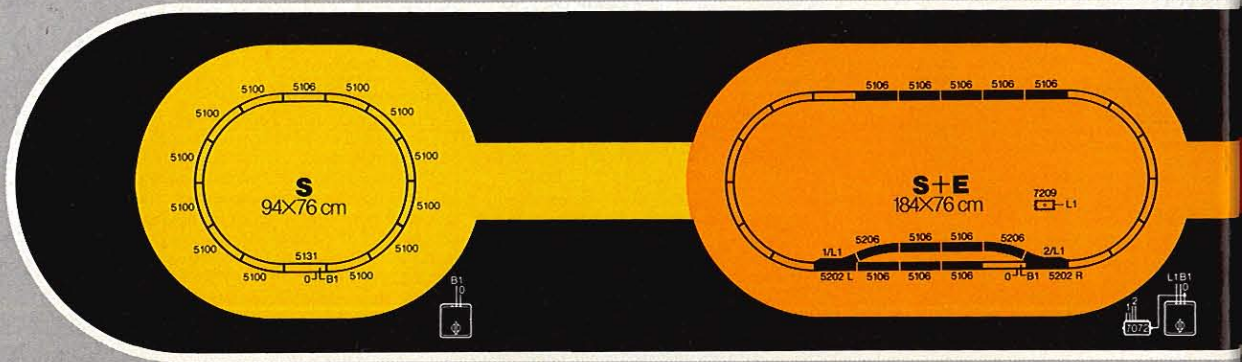


5190
Extension set E · Includes: 10 straights 5106, 2 curves 5206, 1 pair of manual switches 5221, instructions

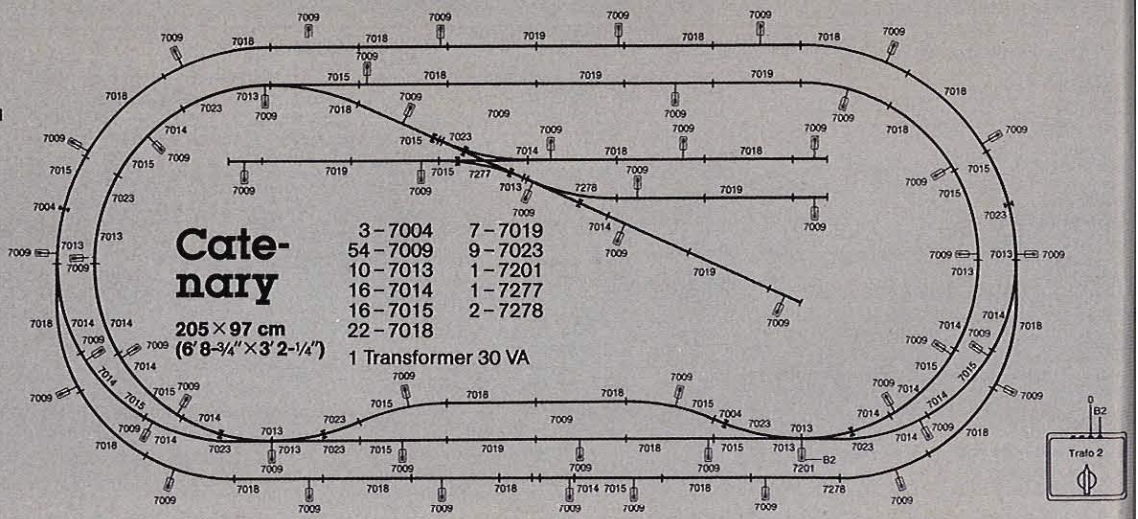


5191
Extension set E · Includes: 10 straights 5106, 1 pair solenoid-operated switches 5202, 2 curves 5206, 1 position control box 7072, 1 distribution strip 7209, leads, sockets, plugs, instructions

Basic Sets
for the SET program
Pages 8–10



1



Expanding the 2875
This set includes the "S", "E", and most of the "T3" track. It can be expanded by adding the "T1" and "T2" sets, or by free-lancing.

The three "T" sets can be added in any sequence. A suggested sequence is shown on these pages.

Diag. 1 Operate your electric locomotives realistically from the overhead. This diagram shows the parts required for the full S+E+T1+T2+T3 track plan.

SET is flexible

Diags. 2 and 3 show how SET can be used to make different layouts. **Any** set is a good way to enhance and enlarge **any** layout.

Expansion sets make ideal gifts for any Model Railroader.

The ideal way to develop your M track HO layout.



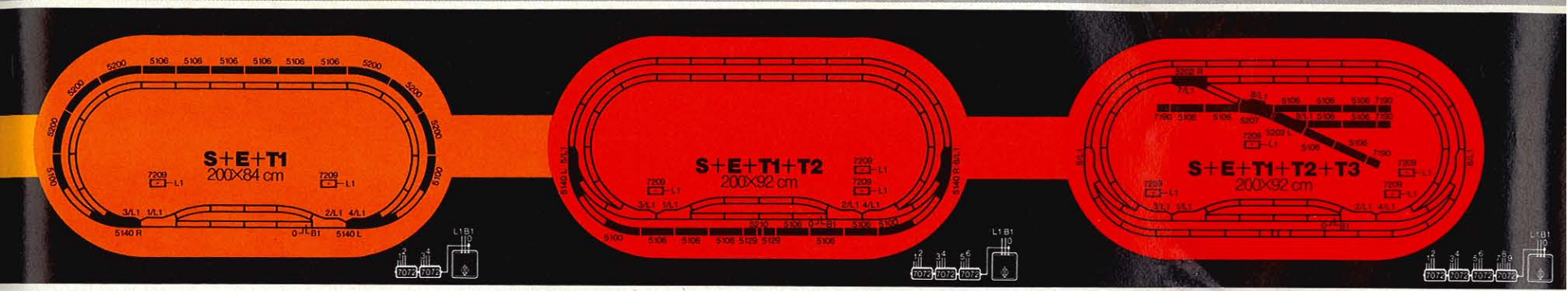
5192
Double track set T1 · Includes: 2 curved 5100, 6 straights 5106, 1 pair solenoid-operated curved switches 5140, 6 curved 5200, 1 position control box 7072, 1 distribution strip 7209, leads, sockets, plugs, instructions

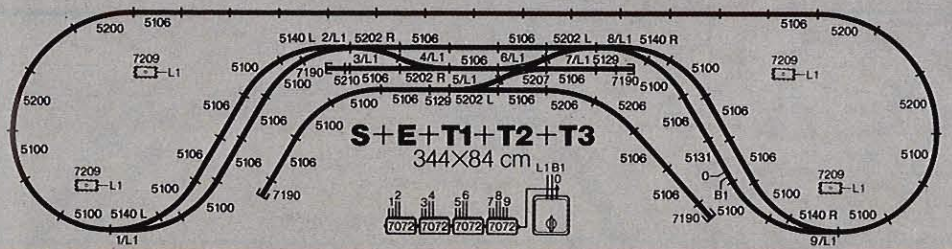


5193
Station track set T2 · Includes: 2 curved 5100, 6 straights 5106, 2 straights 5129, 1 pair solenoid-operated curved switches 5140, 1 straight 5210, 1 position control box 7072, 1 distribution strip 7209, leads, sockets, plugs, instructions

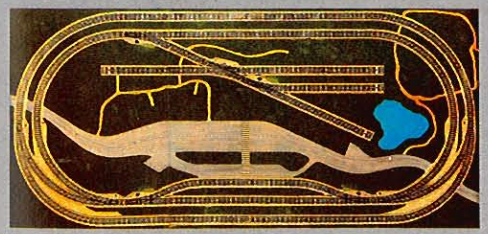


5194
Yard track set T3 · Includes: 9 straights 5106, 1 pair solenoid-operated switches 5202, 1 double slip switch 5207, 1 position control box 7072, 4 bumpers 7190, 1 distribution strip 7209, leads, sockets, plugs, instructions



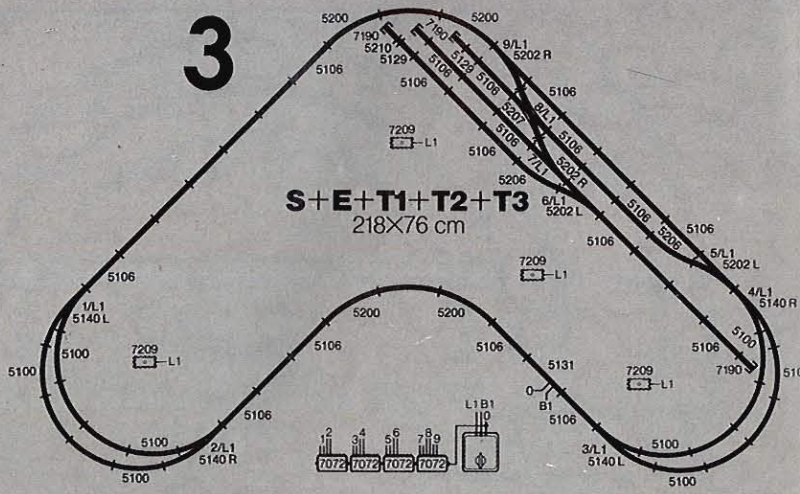


2



7298
Märklin-Toporama · Realistic landscape design · Ideal for use with SET program with basic sets 2920 – 2927 and 2930 – 2937 · Track layout to stage T3 printed on · Tufted grass adds three dimensional effect · Size 205 × 97 cm (6′ 8-¾″ × 3′ 2-¼″)

3



Tips on K Track Geometry

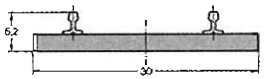
K track has realistic looking plastic ties

(K = **K**unststoff, the German word for plastic)

K Track

Figure 1:
K track has a realistic prototypical appearance. As with M track, it also utilizes center stud contacts.

Both running rails on K track are laid on plastic ties.
Märklin K track is 30 mm (1-3/16") wide and 5.2 mm (13/64") high.



1

Parallel Circles

Figure 2:
One of the highlights of K track geometry are the 5 different curve radii. A radius is measured from the midpoint of circle to the track center, i. e. to the center stud contacts.

The distance between track centers of concentric circles is shown below: 64.6 mm (2-35/64"), except 129.3 mm (5-3/32") between standard circle II and large circle I.

The loading gauge is the distance between track centers less 30 mm (1-3/16"), the width of the track itself (fig. 1).

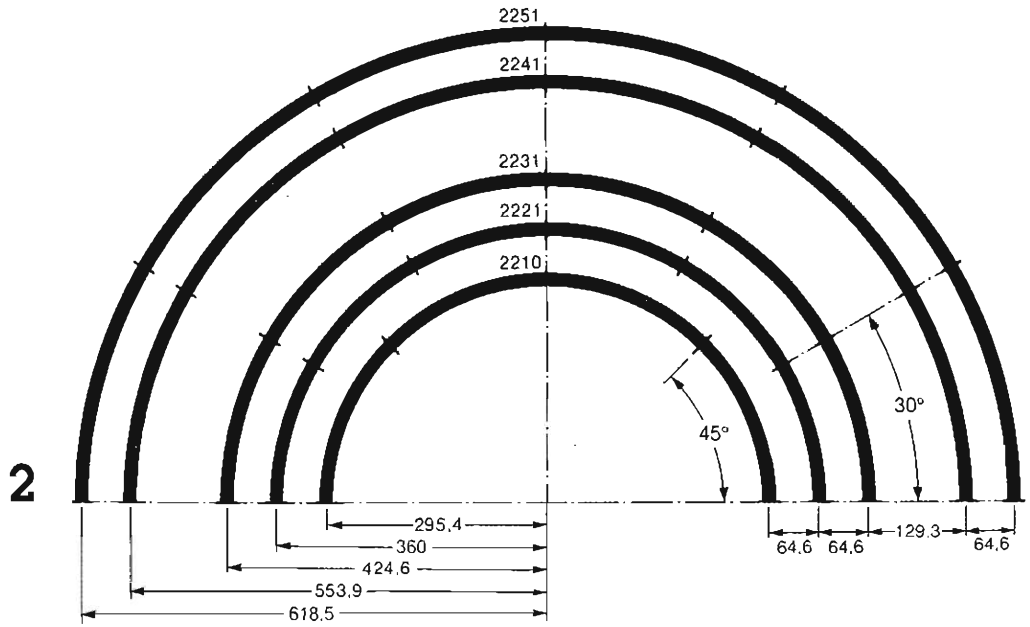
The industrial radius circle and the two large circles come in full-length track sections only. Standard circle I comes in full, ½, and ¼ length sections, and standard circle II somes in full, ¾, ½, ¼, and ⅛ length sections. The part number shows to which circle each section belongs.

For standard circle **I**, sections have a **2** as the **third digit** of the part number (2221, 2223, 2224).

For standard circle **II**, sections have a **3** as the **third digit** of the part number (2231, 2232, 2233, 2234, 2235).

All these items are shown on pages 82/83.

Part Number	Name	Diameter mm	Radius mm	Distance from track center mm	Sections for complete circle
2210	Industrial Circle	590.8 2' 3-¼"	295.4 11-⅝"	64.6 2-35/64"	8
2221	Standard Circle I	720 2' 4-¼"	360 1' 2-⅛"	64.6 2-35/64"	12
2231	Standard Circle II	849.2 2' 9-½"	424.6 1' 4-¾"	129.3 5-3/32"	12
2241	Large Circle I	1107.8 3' 7-½"	553.9 1' 9-¾"	64.6 2-35/64"	12
2251	Large Circle II	1237 4' ½"	618.5 2' ¼"		12
The flex track 2205 can be bent to any of the above radii.					



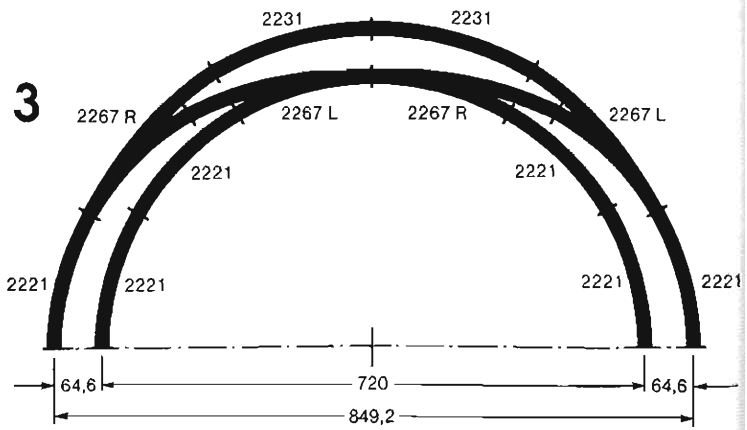
2

Curved Switches

Figure 3:
Because curved switches do not require compentating straight sections, these switches can save space on a layout.

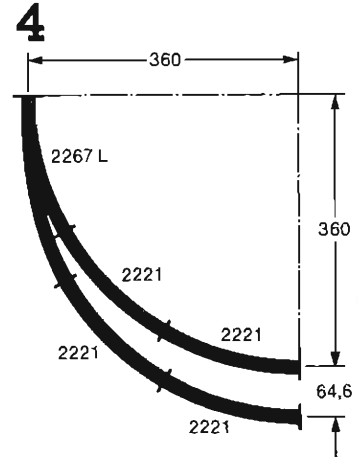
The inside track on the curved switch has the same dimensions as the curved track 2221 of the standard circle I.

To maintain symmetrical curvature and a track distance of 64.6 mm (2-35/64"), a curved track 2221 from the standard circle I must be installed in standard circle II.



3

Figure 4:
Siding using a curved switch 2267.



4

The realistic looking K track has 5 different curve radii plus a flex track offering modelers the opportunity to add closely parallel tracks, gentle curves, and long tangents to layouts.

K track is surprisingly easy to install and its geometry is simple. K tracks and a prototype look to model railroads.

K track is engineered so that complex layouts can be constructed easily using only a few standard track sections. The relationships shown on these pages can also be visualized by using the Track Planning Game (0231 K) shown on page 70.

More about Track Planning Page 70

Switches, Double Slip Switches, and Three Way Switches

Figure 5:
The curve in the regular switch 2261 and 2264, the double slip switch 2260, and the three-way switch 2270 as well as the angle on the crossing 2259 are equal to that of the curved track 2232. The tangents of these switches and crossings equal that of the straight track 2206.

This is one of the special benefits of the K track geometry: Switches and crossings can be easily interchanged without affecting the track length or the distance between tracks.

Switches Offer Diversification

Figure 6:
In order to maintain the standard distance between tracks on curves (64.6 mm or 2-35/64") when using switch 2261, the curved section 2232 and make-up section 2207 are required. This eliminates kinks in the arc.

Figure 7:
This example is identical to figure 6 but the switch 2261 is at the end of the circle.

Figure 8:
Here a make-up section 2208 is used instead of a 2207 giving it a length of 360 mm (1' 2-1/8"). This length equals that of two straight sections 2200. Thus an arrow-straight track can be placed on the opposite end of the oval where otherwise a 2200 would be used.

Figure 9:
To keep a proper track spacing between large circle I and standard circle II when using the switch 2261, the make-up tracks 2206 and 2207 and curve track 2232 are required.

Figure 10:
To maintain the 64.6 mm (2-35/64") distance between three or more parallel tracks, the crossing 2259 or double slip switch 2260 is needed.

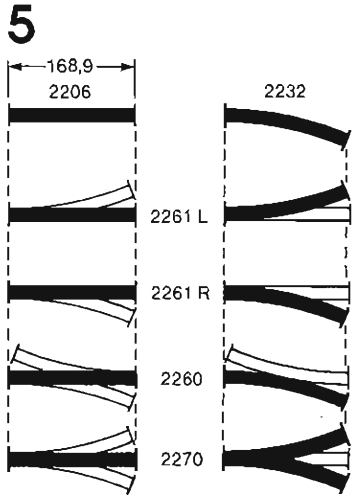
Adjustment sections 2208 and 2204 are required to extend this track diagram a full length 3 × 2200 (540 mm, 1' 9-3/8").

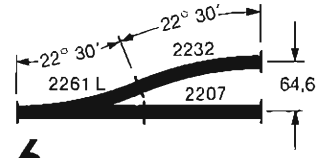
Figure 11:
A wye can be easily constructed by using the curves of standard circle II with the 2261 switch, and the adjustment tracks 2204, 2208 and 2201.

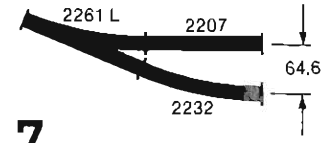
Figure 12:
When combining parallel tracks with a crossing 2258, two 2208 adjustment tracks are required in line being crossed.

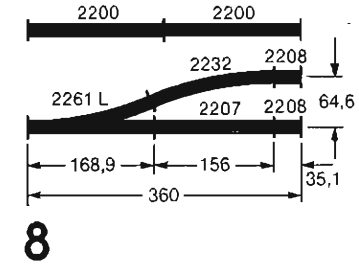
Figure 13:
The three way switch 2270 is actually two 2261 switches combined. These save space and are especially useful in stations and yard areas.

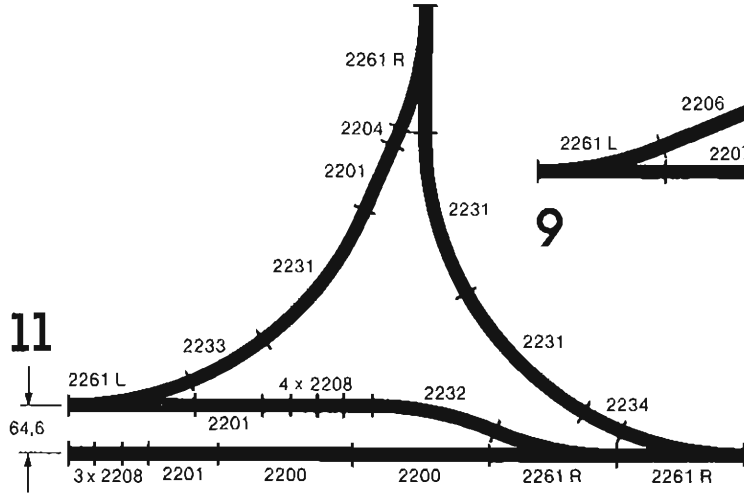
Extending the curve on switch with curved track 2232 maintains the track spacing of 64.6 mm (2-35/64"). To keep equal spacing with all three tracks, the tangent of switch must be extended with the adjustment track 2207. Adjustment track 2208 extends this diagram for 2 × 2200.

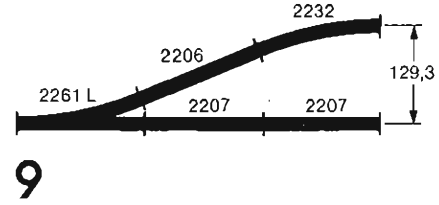


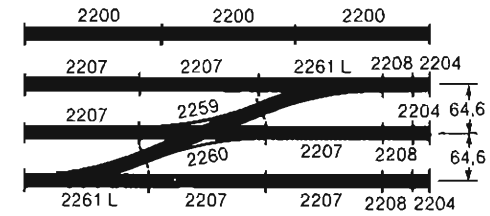


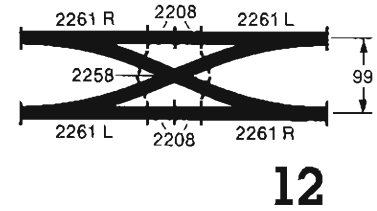


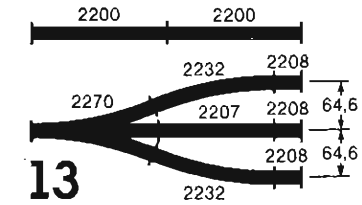












Geometry of High-Speed K-Switches

Branches using the 2271 switches

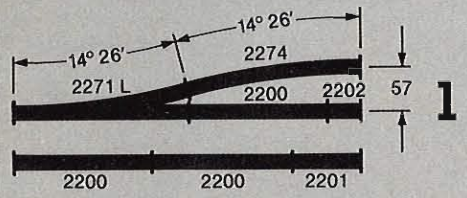
Figure 1:
To keep a parallel track spacing of 57 mm (2-¼") with the 2271 switch, the curved track 2274 and straight tracks 2200 and 2202 are required. The total diagram measures 2½ track lengths (450 mm, 1' 5-$^{11}/_{16}$").

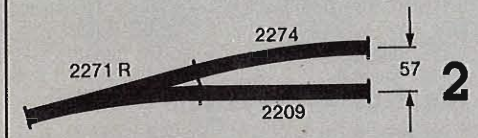
Figure 2:
If the 2271 switch is on an angle, the length of the switch curve is kept in proportion by using the straight track 2209 (217.9 mm, 8-$^{5}/_{8}$").

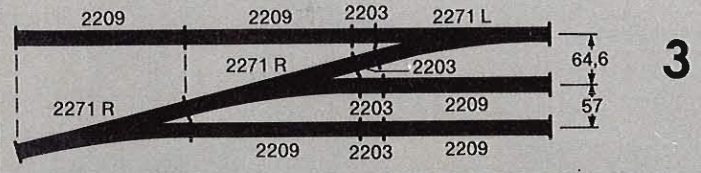
Figure 3:
When the 2271 switch is used on parallel tracks having a spacing of 64.6 mm (2-$^{35}/_{64}$"), the ⅛th straight track 2203 is needed to keep proper spacing.

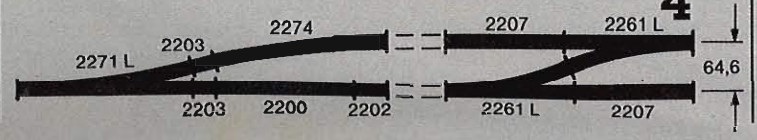
In this diagram, 2271 R is on an angle and the 2209 is used a maintain proportional length.

Figure 4:
An additional example showing how to maintain the 64.6 mm (2-$^{35}/_{64}$") spacing by using the 2203 straight.









How to use the 2275 double slip switch and 2257 crossing

Figure 5:
To maintain track spacing when adding these tracks, a curved track 2274 and a 2293 adjustment tracks as well as a 2200 straight is required.

Figure 6:
To obtain a parellel spacing of 114 mm (4-½"), use a right-hand switch 2271 with the double slip switch 2275 or crossing 2257. A 2274 curved track is needed to maintain track spacing.

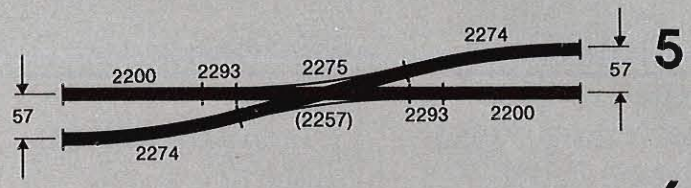
Figure 7:
To connect the tracks of a multi-track mainline having a track spacing of 57 mm (2-½"), the double slip switch 2275 or the crossing 2257 can be used.

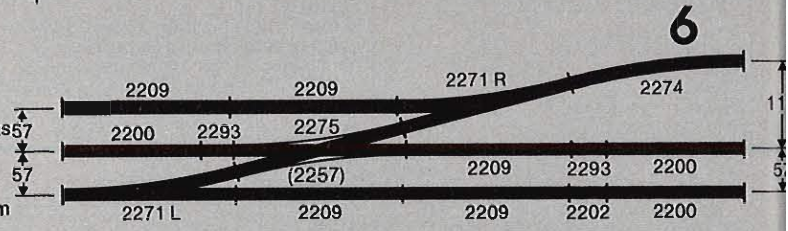
To maintain parallelism (as shown here), the tracks must be extended with the 2203 and 2204 adjustment sections (one each per track).

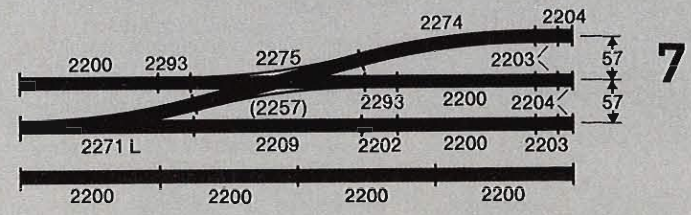
Figure 8:
The track spacing of 57 mm (2-½") on the 2275 and the 2257 can be widened to that of the standard circle by adding a 2203 adjustment section.

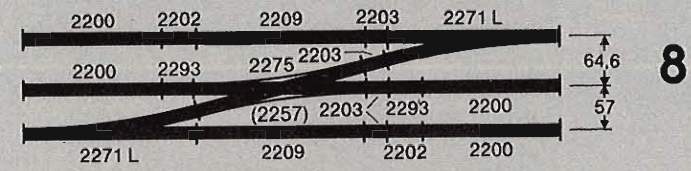
Figure 9:
To maintain the tangent of the straight track when adding either the double slip switch 2275 or crossing 2257, a 2293 adjustment track is needed. By adding a 2209 and a 2202 adjustment track to the tangent, a length equivalent to the tangent on the 2271 switch is realized.

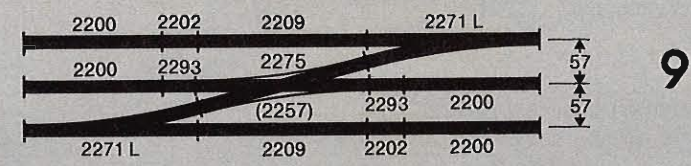
Figure 10:
An additional example of how these items can be employed.

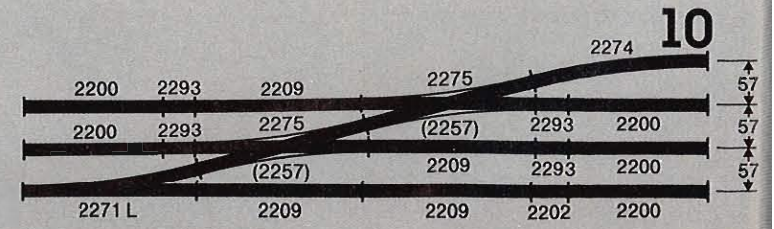




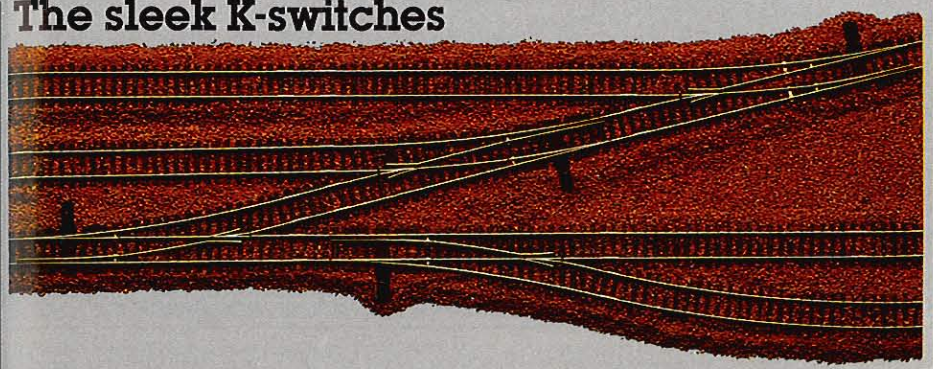






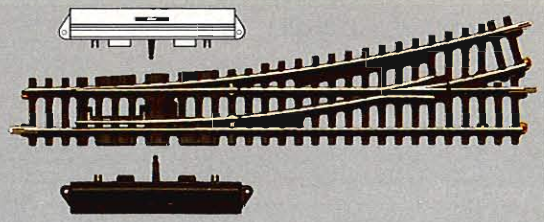


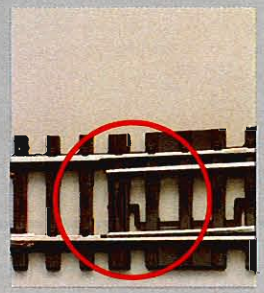
The sleek K-switches

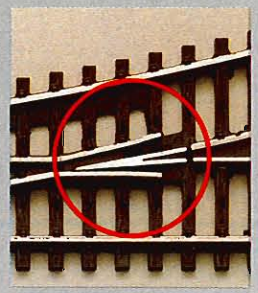


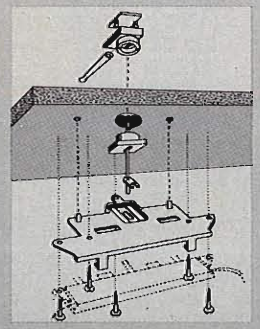
The new generation of switches offers many visual and practical advantages.

- Parallel track spacing of 57 mm (2-¼") is possible with the 2271 switch.
- Modelers can duplicate the elegant sleek turnouts used by the German Federal Railways.
- The switch angle of 14° 26' and the radius of 902.4 mm (2' 11-⅝") offers opportunity for prototype like track configurations.
- The 2271 manual switch can be converted into an electrically operated switch by adding a solenoid operated actuator 7549 in place of the manual lever.
- The switch machines or the manual lever can be attached to either side of the switches.
- The outside running rails are indented to receive the switch points.
- The frog point up with switch points, making the switch almost derail proof.
- The switch machine includes contacts to provide only momentary current to solenoid coils.
- The switch machines can be connected to control panels to allow for easy monitoring.
- The switch machines can be placed "out of sight" by mounting them under the train table using the under layout mounting kit 7548. This kit is adjustable for board widths 6–16 mm (¼"–⅝"). Only the corrugated iron cover remains visible on the layout.



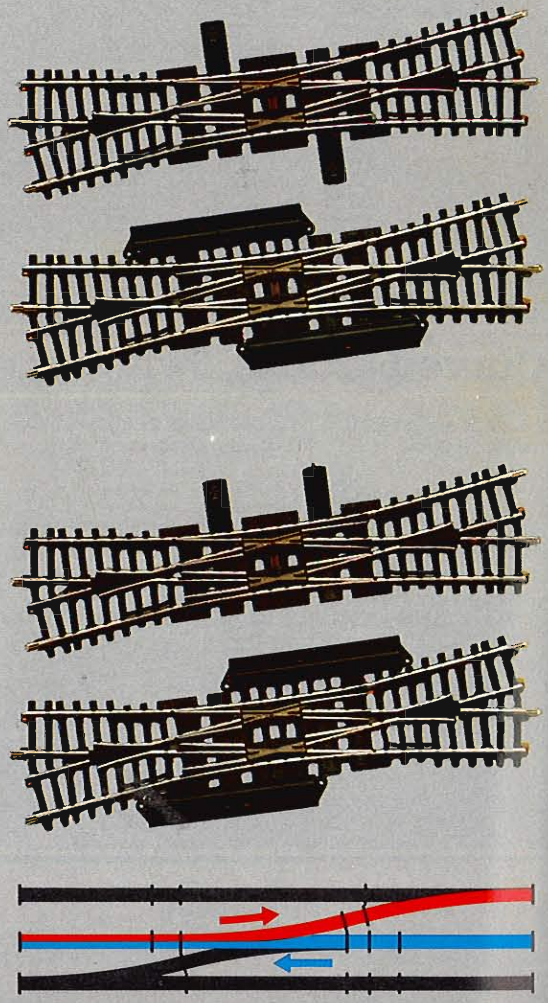


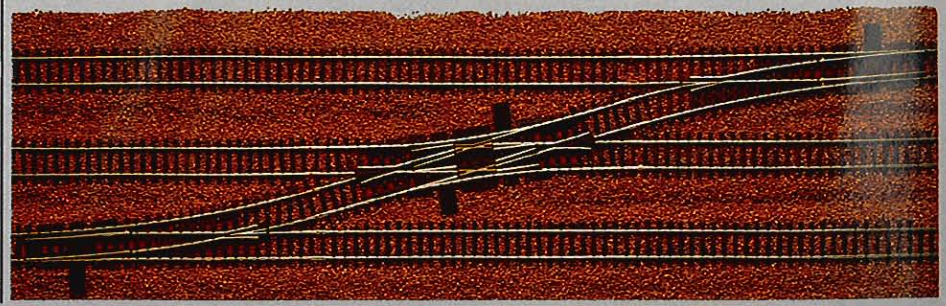




The sleek double slip switch

- The new double slip switch 2275 matches the 2271 switch by having the same angle 14° 26' and same radius 902.4 mm (2' 11-⅝") and keeps the same track spacing of 57 mm (2-¼").
- The two manual levers are removeable and can be replaced with two solenoid operated actuators (switch machines) 7549.
- The switch machines or the manual levers can be placed on either side of the switch.
- A special highlight of the double slip switch 2275 is that the switch points are independent of each other. Thus the points can be allignet for two seperate routes according to how the trains enter the switch.
- By adding two under layout mounting kits 7548, the switch machines can be placed under the board.

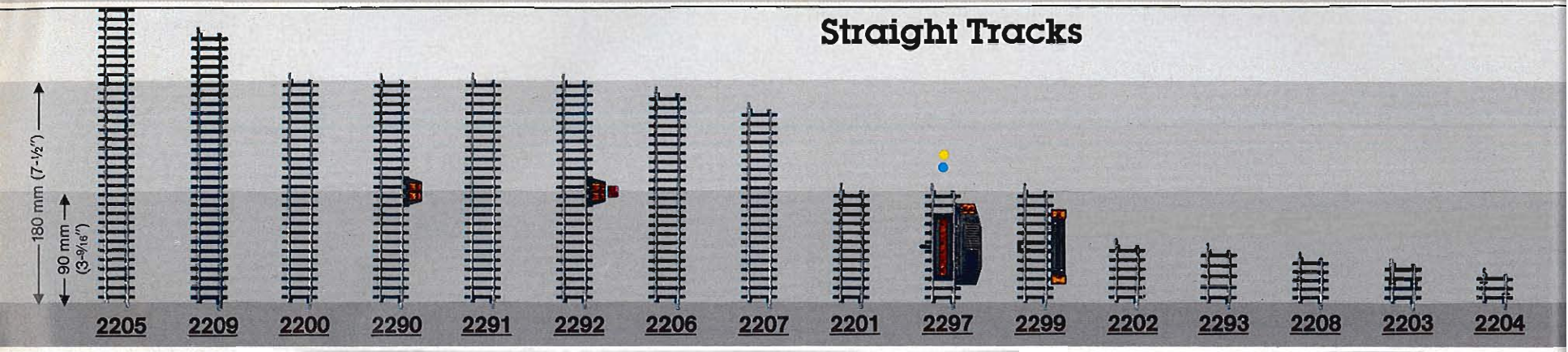




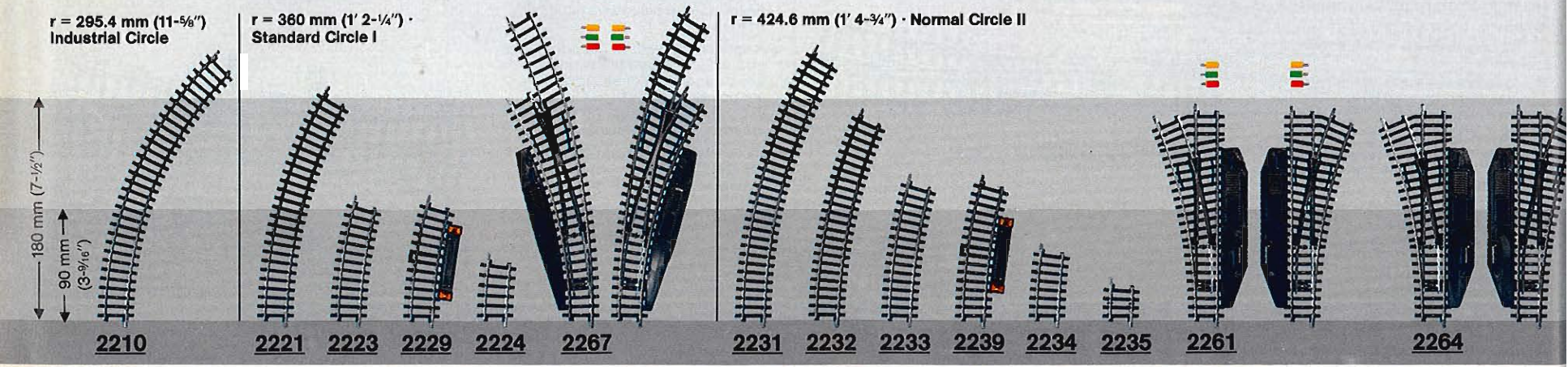
Märklin K Track

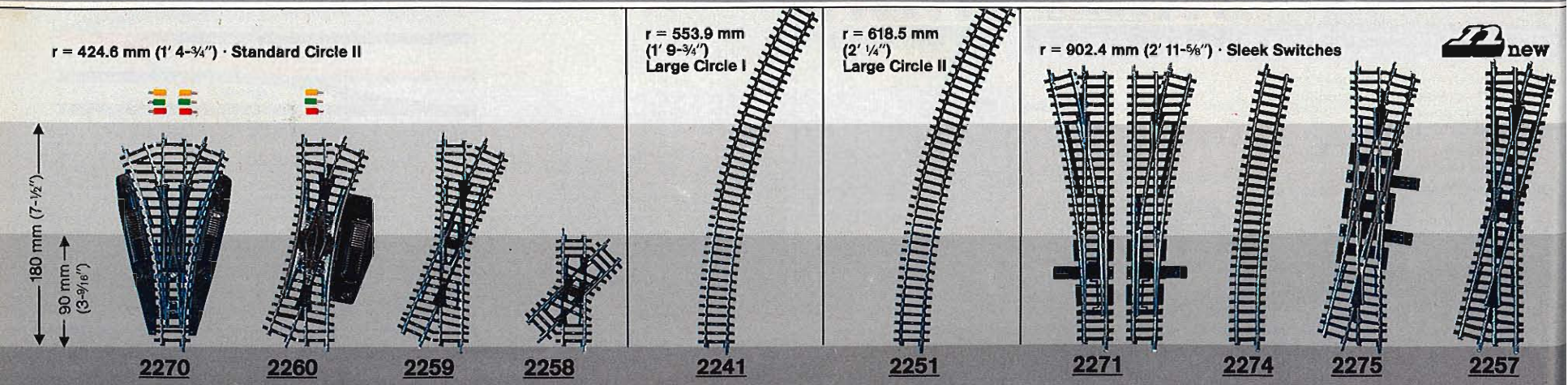
with prototype profile

Straight Tracks



Curved Tracks, Switches and Crossings





2205
Length of 5 regular sections = 900 mm (2′ 1-½″) · Flexible · Can be carefully bent to any desired radius · Can be cut with a track saw (be sure to add rail joiners and track clips 7595 to the "new" ends)

2209
Adjustement track · Length 217.9 mm (8-⅝″) · For maintaining parallel spacing when 2271 switch is installed on an angle

2200
Regular section = 180 mm (7-⅛″)

2290
Feeder track · Regular section = 180 mm (7-⅛″) · Includes terminals marked "O" and "B"

2291
Adapter track · Regular section = 180 mm (7-⅛″) · For connecting the 5100 and 5200 series to 2200 series tracks

2292
Feeder track · Same as 2290 but with a suppressor for radio static · One required for each circuit

2206
Adjustment track · Length 168.9 mm (6-⅝″)

2207
Adjustment track · Length 156 mm (6-⅛″)

2201
Half section = 90 mm (3-⁹⁄₁₆″)

2297
Uncoupling track · Half section = 90 mm (3-⁹⁄₁₆″) · To release automatic couplers · A position control box is required to activate the ramp remotely

2299
Remote control track · Half section = 90 mm (3-⁹⁄₁₆″)

2202
Quarter section = 45 mm (1-¾″)

2293
Adjustment track · Length 41.3 mm (1-⅝″) · To maintain tangent with the 2275 double slip switch or the 2257 crossing

2208
Adjustment track · Length 35.1 mm (1-⅜″)

2203
Adjustment track · ⅛th section = 30 mm (1-³⁄₁₆″) · For maintaining parallel track spacing

2204
⅛th section = 22.5 mm (⅞″)

Märklin 2200 K switches have sprung points.

The electromagnetic switches 2261, 2267, the double slip switch 2260, and the three way switch 2270 have double-solenoids for remote control operation. To operate, a position control box 7072 or remote control tracks 2229, 2239 or 2299 are required.

2210
Regular section = 45° · Tight radius for branches and industrial spurs · For short cars only

2221
Regular section = 30°

2223
Half section = 15°

2229
Remote control track · Half section = 15°

Remote control tracks
The remote control tracks (2229, 2239, 2299) enable moving trains to operate solenoid-controlled accessories. The pickup shoes on locomotives (or lighted cars) activate the control switches and a different operation can be performed for each direction of travel. The pulses are fed through 2 sockets which are isolated from each other electrically.

2224
Quarter section = 7° 30′

2267
Pair of solenoid operated switches · One right and one left hand switch · Length and curvature of inside curve same as 2221 · Length of outside curve 244.6 mm (9-⅝″)

2231
Regular section = 30°

2232
¾ section = 22° 30′

2233
Half section = 15°

2239
Remote control track · Half section = 15°

2234
¼ section = 7° 30′

2235
⅛th section = 3° 45′

2261
Pair of solenoid operated switches · One right and one left handed switch · Illuminated · Radius of curve 424.6 mm (1′ 4-¾″) · Length of tangent 168.9 mm (6-⅝″)
= 60000

2264
Pair of manual switches · One right and one left hand switch · Radius of curve 424.6 mm (1′ 4-¾″) · Length of tangent 168.9 mm (6-⅝″)

7595
Rail joiners and track clips · 10 of each · For 2205 track · Required for connecting 2205 track to other tracks if the flex track 2205 has been shortened



7391
Bumper · Riveted steel type · Clips onto rails · Length 38 mm (1-½″) · Round head wood screws included



7599
Wood screws · Pack of 200 · For securing K tracks



7500
Ground connector · With terminal · For use with ground leads on 2200 tracks



7504
Third "rail" connector · With terminal · Connects to center "rail" (studs) where 2200 tracks join



7522
Third "rail" isolator · For isolating track circuits · Install in place of regular connectors on 2200 tracks

2270
Symmetrical three way switch · Operates with 2 double solenoids · Can be operated manually · Both curves symmetrical for multi-track parallel alignment · Tangent 168.9 mm (6-⅝″) · Curvature 424.6 mm (1′ 4-¾″)

2260
Double slip switch · Radius 424.6 mm (1′ 4-¾″) · Operated electrically by remote control · Can be operated manually also · Tangent 168.9 mm (6-⅝″)

2259
22° 30′ crossing · Tangent 168.9 mm (6-⅝″)

2258
45° crossing · Tangent 90 mm (3-⁹⁄₁₆″)

2241
Regular section = 30°

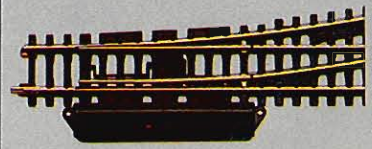
2251
Regular section = 30°

2271
Pair of manual switches · One right and one left hand switch · Radius 902.4 mm (2′ 11-⅝″) · Tangent 225 mm (8-⅛″) · Angle 14° 26′ · Manual lever can be replaced by solenoid operated actuator 7549

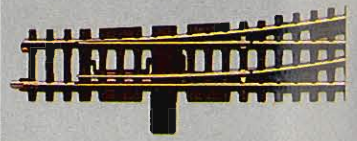
2274
Curved track · Radius 902.4 mm (2′ 11-⅝″) · Length 14° 26′ · Same radius as 2271 switch

2275
Double slip switch · Matches the 2271 switch · Tangent 225 mm (8-⅛″) · Angle 14° 26′ · 2 removable manual levers can be replaced by 2 solenoid-operated actuators 7549 · Each point separately lined

2257 new
14° 26′ crossing · Tangent 225 mm (8-⅛″)



7549
Solenoid operated actuator (switch machine) · For converting 2271 switch or 2275 double slip switch to solenoid operation · 2275 requires two actuators · Fits on either side · Can be placed under the layout by using the under layout mounting kit 7548 · Includes momentary current contacts · Requires position control box 7072



7548
Under layout mounting kit · For mounting the 7549 switch machines out of sight under the layout · Works with the 2271 switch and the 2275 · Adjustable for board widths 6 – 16 mm (¼″ – ⅝″)


RAAB KÄRCHER

Multi-train operation

Wide variety of model railroad operations possible with

1+2+3

Running several trains at once on a model railroad captures the throbbing spirit of a real railroad. The Märklin HO system, with its wide variety of switches, signals, and accessories offers countless opportunities to depict real life situations. Even automatic block signals can be installed. These require additional circuitry, but even that is designed to imitate the real thing.

1.

Multi-train operation with signals

Signals are essential for the safe operation of railroads whenever there is more than one train. If a train gets too close to another, a "Halt" signal will stop it while the other train continues to gain distance. Signals prevent collision and assure the efficient operation of railroads, model or prototype.

Signals can be controlled two ways:

1. With position control box 7072 (page 96)
2. By locomotives tripping a remote control switch (page 74 for M track and page 82 for K track)

Märklin signal manuals 0342 and 0361 (page 86) describe these methods.

2.

Multi-train operation with separate electric circuits

An easy way to run more more trains at once is to have each locomotive controlled by a separate transformer. Separate circuits can be established for any size section from a simple siding to a major portion of the layout. Each separate circuit must be isolated electrically from each other.

For more details, see page 90.

3.

Multi-train operation with catenary

With a growing number of real railroads being electrified, modelers may consider using an overhead (catenary) system. Using the fully-functional Märklin catenary system, two trains can be controlled independently of each other on the same track.
Also, track signals can be installed. Märklin has developed overhead line signal connectors for this purpose. Further, the catenary system can be divided into separate electrical circuits.

For more details, see pages 92–95.

1. Signals

Multi-train operation with signals

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

Advance (or distant) signals do not control trains directly; they only advise what the home signal is saying. Home signals do control rail traffic.
Each Märklin signal comes with installation instructions. Additional information is found in the signal manuals 0342 and 0361.



0342 M

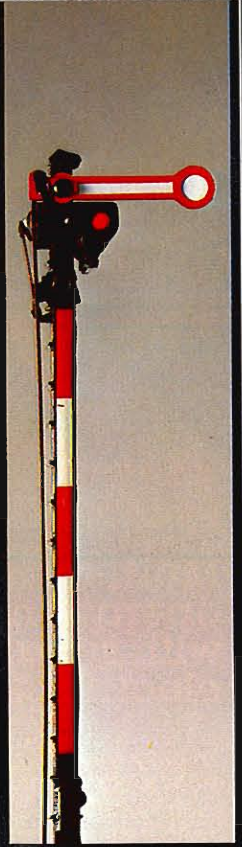
Märklin Signal Manual for 7000 and 7100 Signals · Detailed instructions, with color illustrations, on installation and use of 7000 and 7100 signals as well as the universal remote control switch with M tracks · 28 pages · Size 18 × 25 cm (7-1/8″ × 9-7/8″) · English text



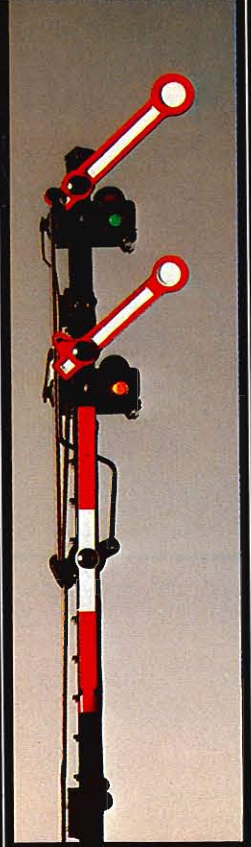
0361 K

Märklin Signal Manual for the 7200 Signals · Detailed instructions, with color illustrations, on the installation and use of 7200 signals and the universal remote control switch with K tracks · 48 pages · Size 18 × 25 cm (7-1/8″ × 9-7/8″) · English text

Signals for M tracks



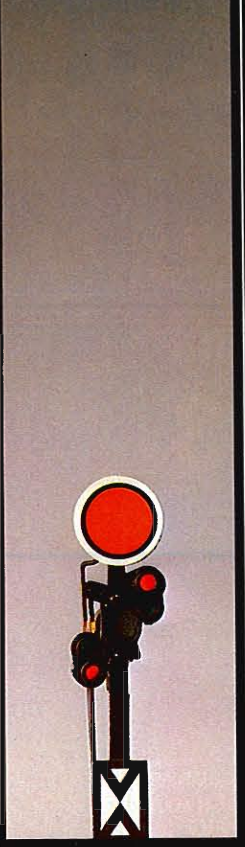
7039
Home signal · One semaphore arm · Lights change from red to green · Double-solenoid · Base plate · W 27 mm (1-1/16″) · L 70 mm (2-3/4″) · H 125 mm (5″)
= 60000



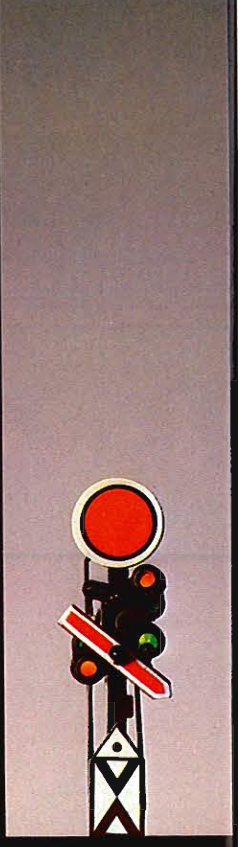
7040
Home signal · Two coupled semaphore arms · Lights change from red to green/amber · Double-solenoid · Base plate · W 27 mm (1-1/16″) · L 70 mm (2-3/4″) · H 125 mm (5″)
= 60000



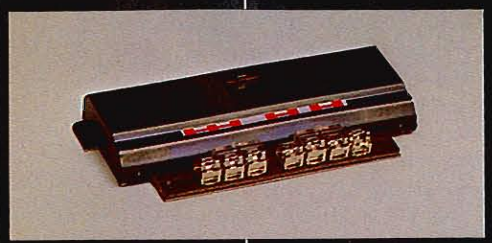
7041
Home signal · 2 independent semaphore arms · Lights change from red to green or red to green/amber · 3 double-solenoids · Base plate · W 27 mm (1-1/16″) · L 97 mm (3-13/16″) · H 125 mm (5″)
= 60000



7036
Advance signal · Movable disc · Lights change from amber/amber to green/green · Double-solenoid · Base plate · W 28 mm (1-1/8″) · L 65 mm (2-9/16″) · H 73 mm (2-7/8″)
= 60000



7038
Advance signal · Movable disc and movable semaphore arm · Light sequence same as 7036 or from amber/amber to amber/amber/green · 2 double-solenoids · Base plate · W 28 mm (1-1/8″) · L 65 mm (2-9/16″) · H 73 mm (2-7/8″)
= 60000



7245
Universal remote control switch · 2 single pole switches and one changeover switch for various circuits · Operate 3 accessories at once · Signal Manuals 0342 and 0361 show additional uses · Double-solenoid · Can be operated by remote control track, position control box, or manually · W 30 mm (1-3/16″) · L 70 mm (2-3/4 ″) · H 8 mm (5/16)



7042
Track closure signal · Mast with movable front and rear discs · Double-solenoid · Base plate · W 28 mm (1-1/8″) · L 70 mm (2-3/4″) · H 70 mm (6-3/4″)
= 60000

Signals for K and M tracks



7339
Color light home signal · Changes from red to green manually · When red, there is no current in block controlled by signal · Includes track section 90 mm (3-½") with gap in center "rail" · W 55 mm (2-3/16") · L 90 mm (3-½") · H 90 mm (3-½")
= 60001 red
= 60002 green



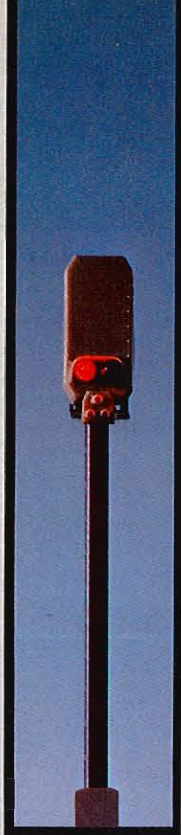
7188
Color light home signal · Red and green lights · Double-solenoid · Includes hand lever · Pair of sockets for connection to an advance signal 7187 · Base plate · W 28 mm (1-⅛") · L 70 mm (2-¾") · H 90 mm (3-½")
= 60001 red
= 60002 green



7187
Color light advance signal · Colors change from green/green to amber/amber · W 16 mm (⅝") · L 11 mm (7/16") · H 60 mm (2-⅜")
= 60202 green
= 60204 orange

The color light home signals and track closure signals of the 7200 series have trips enabling them to control track current in the catenary and center "rail". **The signal masts, and the lighting unit of track closure signal 7242, can be set up independent of track current.** Bracket 7230 is required to secure the masts.

Center "rail" isolators, connectors and instructions are included with signals 7239, 7240, 7241 and 7242.



7239
Color light home signal · Lights change from red to green and track current is controlled by double-solenoid · Includes hand lever · Base plate · W 30 mm (1-3/16") · L 70 mm (2-¾") · H 90 mm (3-½")
= 60201 red
= 60202 green

7242
Track closure signal · Changes from red/red to white/white and track current is controlled by double-solenoid · Includes hand lever · W 30 mm (1-3/16") · L 70 mm (2-¾") · H 18 mm (11/16")
= 60200



7240
Color light home signal · Lights change from red to green/amber and track current is controlled by double-solenoid · Includes hand lever · Base plate · W 30 mm (1-3/16") · L 70 mm (2-¾") · H 90 mm (3-½")
= 60201 red
= 60202 green
= 60204 orange





7241
Color light home signal · Changes from red to green or green/amber and track current is controlled by double-solenoid with an additional solenoid for the green/amber setting · Includes 2 hand levers · Base plate · W 30 mm (1-3/16") · L 95 mm (3-¾") · H 90 mm (3-½")
= 60201 red
= 60202 green
= 60204 orange



7236
Color light advance signal · Lights change from amber/amber to green/green · Includes bracket 7230 and base plate · W 16 mm (⅝") · L 28 mm (1-⅛") · H 67 mm (2-⅝")
= 60202 green
= 60204 orange

7230
Bracket · For securing masts of 7238, 7239, 7240, 7241, and track closure signal 7242 when they are set up independent of track current



7237
Color light advance signal · Lights change from amber/amber to amber/green · Includes bracket 7230 and base plate · W 16 mm (⅝") · L 28 mm (1-⅛") · H 67 mm (2-⅝")
= 60202 green
= 60204 orange



7238
Color light advance signal · Lights change from amber/amber to green/green or amber/green · Double-solenoid operation for the amber/green setting · Base plate · W 30 mm (1-3/16") · L 70 mm (2-¾") · H 67 mm (3-½")
= 60202 green
= 60204 orange

Signals and their Application

Prototype Signals

Signals are the most important equipment for the safe and smooth flow of railroad traffic. Various types of signals are used: semaphores or disks which are illuminated at night; and especially on modern railroads, daylight signals with various color light combinations. Signals advise the engineer whether or not a given section can be traversed or not, and at what speed. These regulations are standard because often certain switches or stalled trains may not be readily visible to oncoming trains. For this reason, home signals, which protect the immediate section, are connected to advance signals which are located far enough ahead (400 to 1,000 m or 1,280' to 3,100') so if braking is required, the train will stop before it reaches the home signal. Further, many modern signals are also equipped with safety trips (e. g.: Inductive signalling) so the signal itself can stop the train automatically in an emergency.



Model Signals

For realistic layouts, Märklin signals are very necessary. They have prototype details and, most importantly, function just like the real signals. The signals "read" like the real ones, and when connected to the track current, can actually control train traffic.

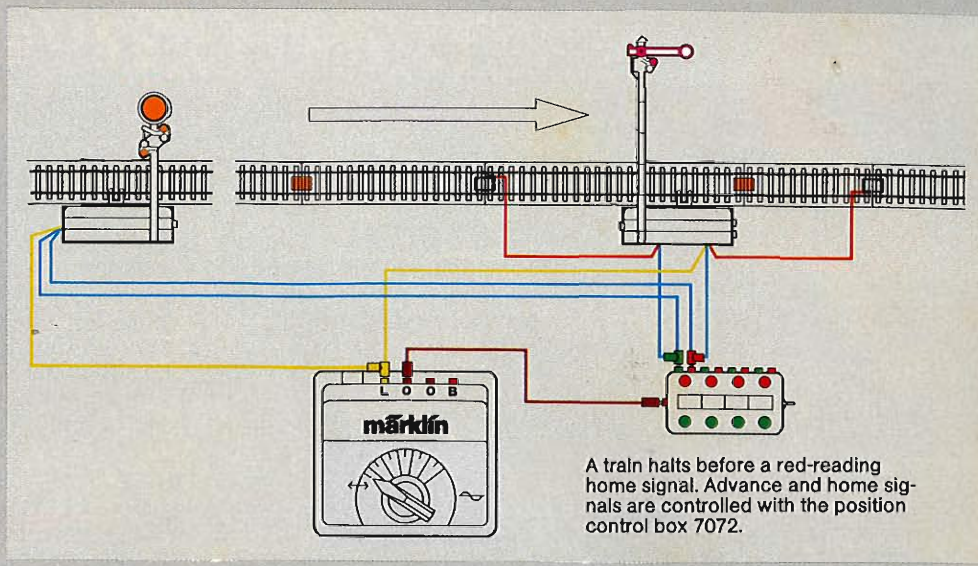
Home signals are usually placed on the right side of the tracks on right hand running lines, and on the left side on left hand running lines. In terminal areas they direct incoming and outgoing traffic for through tracks and for sidings. Out on the mainline, these signals protect the block behind them. Thus for a layout one selects the type of signal as required. When installing a block system, the connections with the track current should be spaced far enough apart so trains can safely brake within the block. Advance signals (or distant signals) can be placed closer to the home signals.

Track closure signals (protective signals) are special signals for yard duty, and are usually placed at the entrance to a yard or siding advising whether trains may enter the given track. For optimum use, a track closure signal should be installed for every siding.

The universal remote control switch 7245 has the same electronic functions as the Märklin signals. For example it can control the track current on hidden sections, or it can operate as a multi-sided relay for functions that are controlled by track contacts or position control boxes.



Signal positioning (i. e.: red, green, etc.) can be realistically directed with the position control box 7072. Using remote control tracks (pages 74 and 82), the trains themselves can position the signals – ideal for setting up a fully automatic block system. In both cases, the connection between the signal unit and the track current is revealed by the position of the signals.



A train halts before a red-reading home signal. Advance and home signals are controlled with the position control box 7072.

Usually used on tangents or in stations, where there are no sidings or branches.		Usually used near stations where trains may be switched from main track.		Usually used at station where diversion or direct routing is possible.			For controlling switching operations in stations.
7036 7039	7036 7039	7038 7040	7038 7040	7038 7041	7038 7041	7038 7041	7042 7042
7236 7239	7236 7239	7237 7240	7237 7240	7238 7241	7238 7241	7238 7241	7242 7242
Advance signal: "Halt" signal ahead Home signal: "Halt"	Advance signal: "Proceed" signal ahead Home signal: "Proceed"	Advance signal: "Halt" signal ahead Home signal: "Halt"	Advance signal: "Proceed slowly" signal ahead Home signal: "Proceed signal"	Advance signal: "Halt" signal ahead Home signal: "Halt"	Advance signal: "Proceed" signal ahead Home signal: "Proceed"	Advance signal: "Proceed" signal ahead Home signal: "Proceed"	Track closure signals: Left side means "Do not enter" Right side means "Entry permitted"

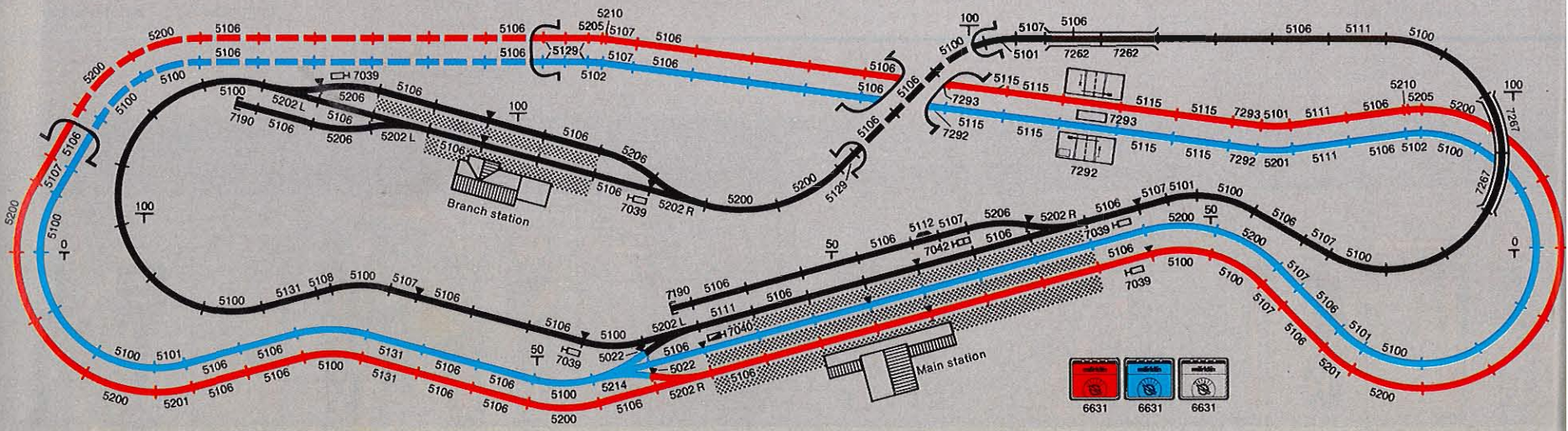
2. Electrical Circuits

Multi-train operation with separate electrical circuits

Each additional circuit offers additional possibilites for train operation and control.

Isolating circuits is simple: For M track use the 5022 isolator (page 96) and for K track use the 7522 isolator (page 83). An additional transformer and a feeder track is required for each circuit.

Layout size:
500 x 130 cm (16′ 4″ x 4′ 4″)



One circuit

On the layout shown here, three trains are run on the same circuit. They all go slow or fast according to how much juice is fed. With signals, the trains can be controlled somewhat independently of each other. To alter the direction on only one train, the other two must be in a "dead block".

Two circuits

By adding an extra circuit, for example to the second main, yarding activity can be conducted independently of the activity on the mainline. With two circuits, a limited can whiz by a peddler freight – just like in real life.

Three circuits

By adding a third circuit to the outside track, train operation becomes much more exciting. A commuter local shuttles on one track, an express passenger train zips by on the parallel track, and a freight rumbles towards the yards.

By adding an Automatic Train Controller 6600 (page 98), it's possible to duplicate all the various prototype operations on a Märklin layout.



Automatic Train Control
For all Märklin HO layouts
Page 98

3. Catenary System

Multi-train operation with catenary system

Locomotives equipped with pantographs can pick up current as reliably from the overhead (catenary) as from the studs. To select either system, just flip the lever on the engine. Two trains can be operated on the same track, if the catenary is connected to a separate transformer.

The catenary systems shown here are suitable for both K and M tracks. The entire system is based on actual prototype practice. The sprung contact line supports at the masts ensure a reliable flow of current.

Practical snap-on connections, for example, the contact wires 7013 and 7023, enable the contact lines to be set at any length.



Overhead for M tracks 5100/5200



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



7010
Feeder mast · For supplying current · Includes 2 leads and instructions · Height 100 mm (4″)



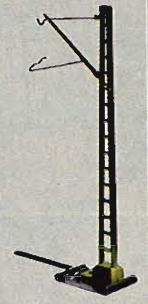
7012
Feeder mast for signals with one lead · Height 100 mm (4″)



7201
Feeder mast for current supply · Includes red and brown lead · Additional brown lead · Built-in capacitor to suppress radio static · 1 mast required for each circuit · Instructions included · Height 100 mm (4″)

7005
Catenary set · For train control with 7000 series signals not mounted on tower masts · Includes 2 feeder masts 7012, 2 insulator sections 7022 and 2 overhead line sections 7014

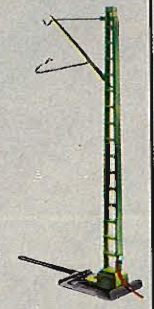
Overhead for K tracks 2200



7509
Catenary mast · Basic element for construction of an overhead on the 2200 tracks · Height 97 mm (3-7/8″)



7510
Feeder mast · With red lead and plug attached to the mast · Brown lead with plug unattached · Includes instructions · Height 97 mm (3-7/8″)



7512
Feeder mast · With red lead attached · For use with home signals on catenary system · Height 97 mm (3-7/8″)



7501
Feeder mast · With red and brown leads attached · Includes capacitor to suppress radio static · One mast required per circuit · Instructions included · Height 97 mm (3-7/8″)

7505
Catenary set · For train control on 7200 series signals not mounted to tower masts · Includes 2 feeder masts 7512, 2 insulator sections 7022 and 2 contact line sections 7014 · For K track (2200 series) only

All contact line sections are nickel-plated.

7277
Crossing section · For 2257, 2258, 2259, 2260, 2275, 5114, 5128, 5207, 5211, and 5215

7017
Cross-span · Spans 3 tracks · Hooks on to tower masts · Length 280 mm (11″)

7016
Cross-span · Spans 5 tracks · Hooks on to tower masts · Length 390 mm (1′ 2-1/4″)

7019
Contact line section · For straight tracks only · Length 360 mm (1′ 3-3/8″)

7018
Contact line section · For straight and curve tracks · Length 270 mm (10-5/8″)

7278
Contact line section · For straight an curve tracks · Length 235 mm (9-1/4″)

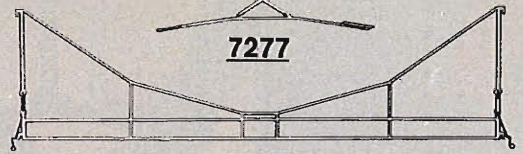
7013
Contact line section · Designed espe cially for switches (for snap-on connection) · Length 240 mm (9-1/2″)



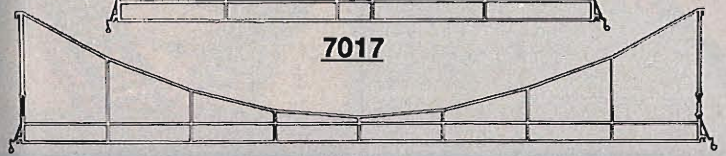
Märklin overhead for K and M tracks



7277



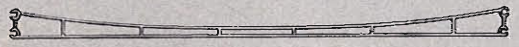
7017



7016



7019



7018



7278



7013



7014
Contact line section · Female portion for snap-on connection · Length 115 mm (4-½")



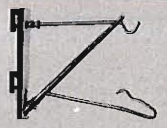
7015
Contact line section · Male portion for snap-on connection · Length 115 mm (4-½")



7022
Insulator section · Male portion (for snap-on connection) for interrupting current flow · Length 115 mm (4-½")



7023
Adjustment section for snap-on connections · Length 100 mm (4")

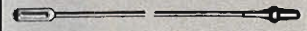


7525
Cantilever support arm for use with tower mast 7021 · Can hold one or two overhead lines



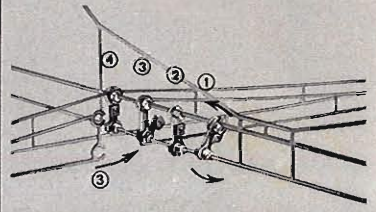
7511
Bridge mast · For attaching to sides of plastic bridges and ramps · Height 97 mm (3-⅞")

7021
Tower mast with recesses for hooking on cross-spans 7016 and 7017 and the cantilever support arm 7525 · For tower mast with arc light see page 105 · Height with M tracks 157 mm (6-13/16") · Height with K tracks 154 mm (6-1/16")



7003
Catenary system connector lead for use with signals when tower masts are used, and for supplying current to any point · Length 600 mm (1' 11-⅝")

7004
Fastening kit · Includes 5 bolts, 5 nuts, and 5 washers · Ideal for use when usual methods of construction not possible



7006
Contact line insulation · For insulating sections of contact line from cross-spans · One required for each track and cross-span · 15 × 6 mm (⅝" × ¼")

Advantages with Catenary

The fully functional Märklin catenary can be utilized as an additional circuit by having its own transformer. The operating possibilities on a layout are greatly expanded:

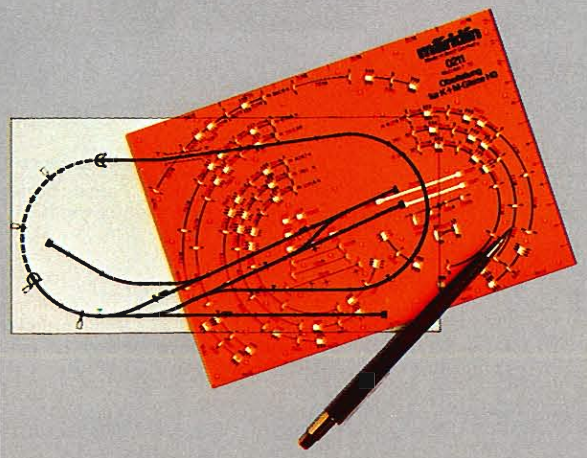
- Two trains can be operated totally independent of each other on the same track, i.e., completely different speeds and/or directions.
- Prototypical traffic patterns can be realized on a layout.
- By using the catenary for train power, the center studs can be used to supply steady current for constant lighting.
- The towers and wires give a visually pleasing look to a layout.

These advantages are possibile on any size layout, large or small.



Planning

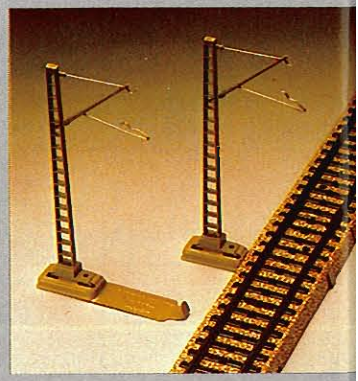
Take the guesswork out of planning by using the Märklin catenary stencil 0211. Scaled 1:10, the stencil depicts all Märklin catenary items (masts, contact lines, etc.). When tracing, be sure to mark off where the masts are to be placed and remember to use special contact line sections such as the crossing section 7277 or the 7013 contact line section where applicable. Finally, pencil in the Märklin part numbers next to the respective pieces.

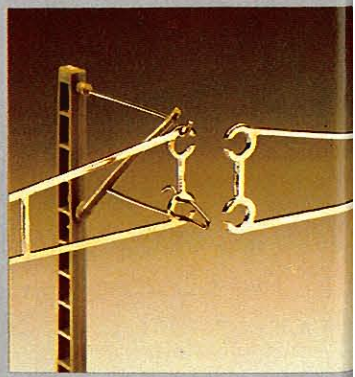


Installation

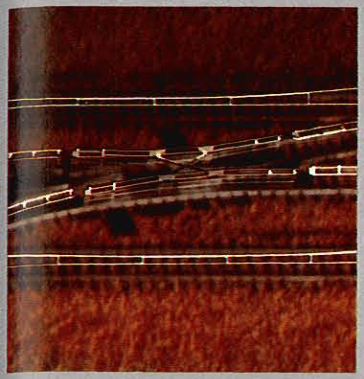
When installing the overhead, it is better to begin at crossings or switches. First place the crossing section 7277 over the crossing, or the contact line section 7013 over a switch. Regular line sections 7014 and 7015 can the connected to these sections. It is important that the radius of the catenary should correspond to the track radius on curves.

Securing the mast 7009, 7010, 7012 or 7201 to M tracks



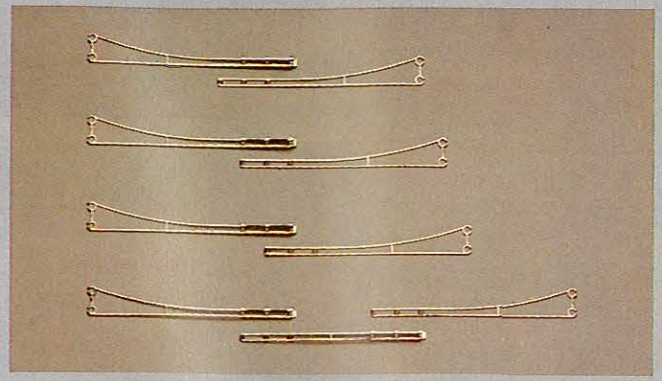


Connecting the contact wires to the masts



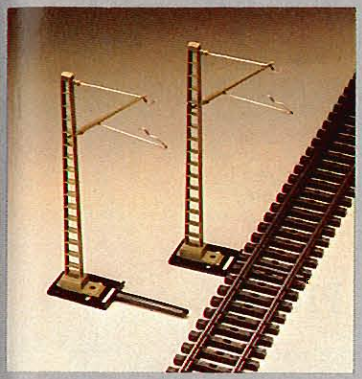
For lengthy straight sections, any combination of 7014, 7015 and 7023 is possible for lengths from 177 mm to 360 mm (7″ to 1′ 2-¼″).

After the proper wires have been selected, then begin by installing the masts. As soon as the masts are secured, then hang the wires.



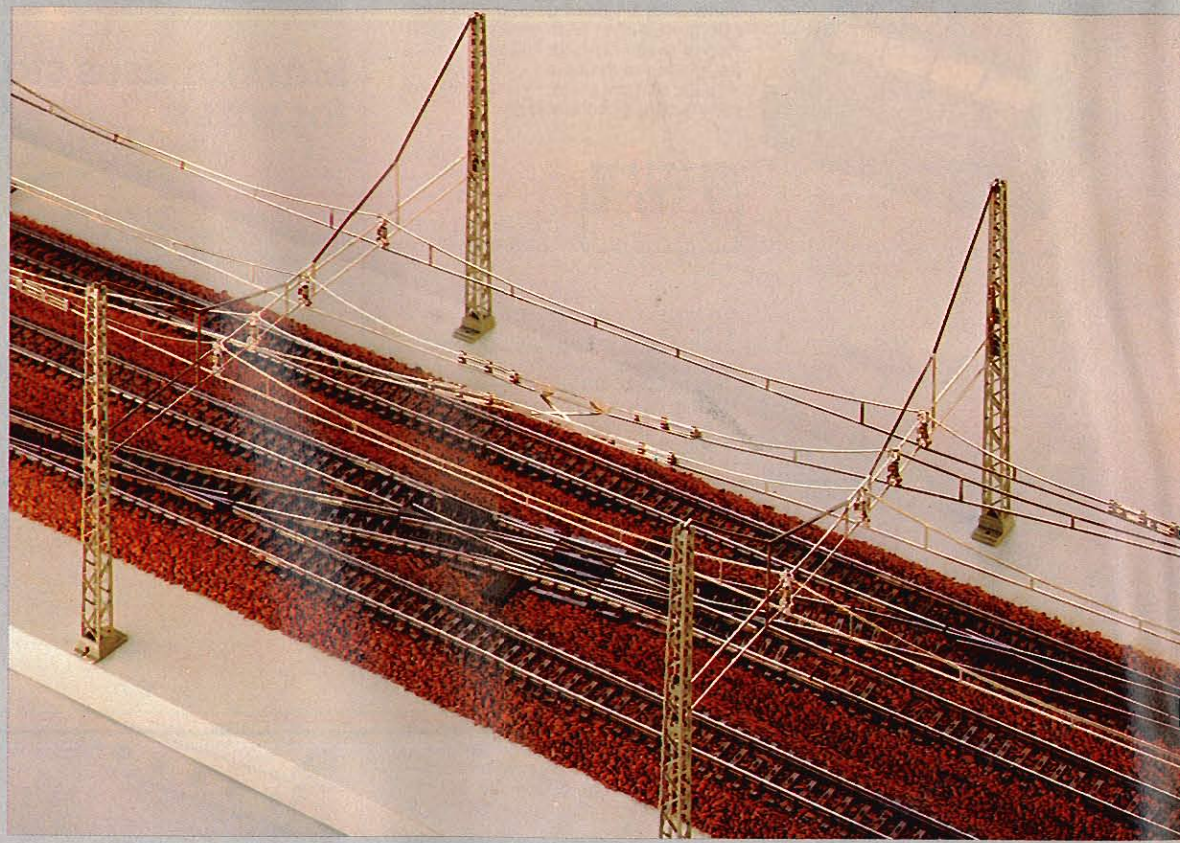
More about Layout Planning Page 70

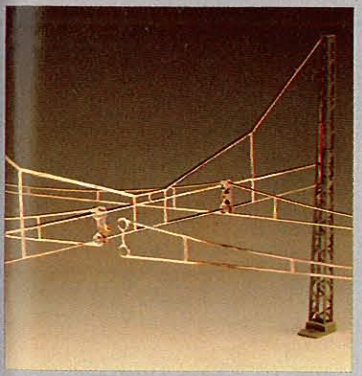
Securing the masts 7509, 7510, 7512 or 7501 to K tracks



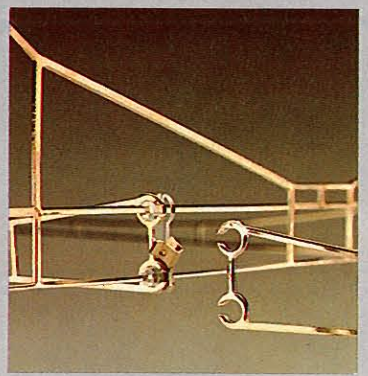
Single and double track lines can be spanned using masts 7009 or 7509; three tracks require the tower mast 7021 and the cross span 7017. Four and five tracks are spanned with the tower mast 7021 and the cross-span 7016. Six tracks require the cross-span 7016 plus a support arm 7525, while a second support arm is needed for the seventh track.

On multi-track sections it is important to position the masts opposite each other as in prototype.





Connecting the contact wires to the cross spans with tower masts



The contact wire insulators 7006, which can also be installed on cross-spans, permit separate circuits in the catenary. An insulator section 7022 is used as the transition piece between two overhead circuits on the same track.

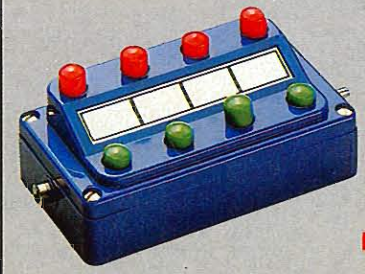
Simple Electrical Engineering

Märklin HO electric engineering is based on simple rules. Variable track voltage for locomotives and constant power for accessories are provided by transformers 6631, 6671 and those included with beginner sets. Color leads identify which wire is connected to which plug.

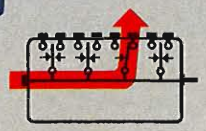
Solenoid-operated items such as switches or signals are normally controlled by activating a current return path. The position control box 7072 determines the position of the solenoid armature, hence, the position of the switch or signal.



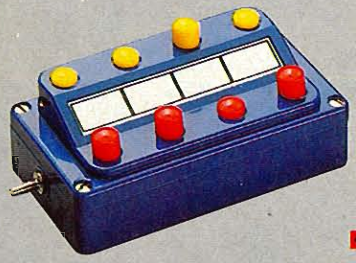
Operating accessories by remote control



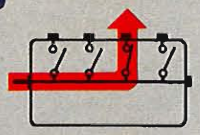
7072
Position control box · 4 double pole momentary-contact switches · For controlling single or double solenoid-operated items · Momentary contact · Red or green buttons remain depressed to indicate position of signals, switches, etc. · Length 80 mm (3-⅛") · Width 40 mm (1-⁹⁄₁₆")



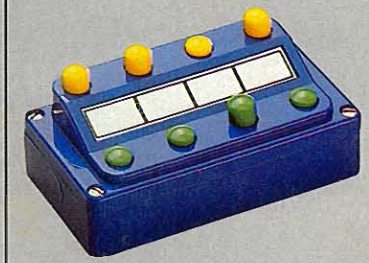
Schematic of 7072 (with lines 3 closed)



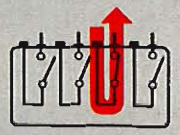
7210
Control box · 4 single pole on-off switches · For controlling up to 4 accessories or sidings connected to a single power source · Yellow and red buttons indicate condition of circuits · Length 80 mm (3-⅛") · Width 40 mm (1-⁹⁄₁₆")



Schematic of 7210 (with line 3 closed)



7211
Control box · 4 single pole on-off switches · For controlling up to 4 different track or accessory circuits from the same or different power sources · Yellow and green buttons indicate condition of circuits · Length 80 mm (3-⅛") · Width 40 mm (1-⁹⁄₁₆")



Schematic of 7211 (with line 3 closed)

Märklin uses standard colors for wires:

Red = Track current connection (transformer to center "rail" or catenary)

Yellow = Lights and solenoid-operated items

Brown = Ground lead from track (running rails) or from position control box to transformer

Blue = Return lead for solenoid-operated items to position control box or remote control track (with green, red and orange plugs)



7209
Distribution strip · With 11 single pole sockets · Size 50 x 20 mm (2-¾" x 1-⅛")

Wires

Copper wires consists of 24 separate strands 0.10 mm (0.004") in diameter each, for an overall circumference of 0.19 mm² (0.03 sq in). This is strong enough to withstand a short circuit on a 40 VA transformer.

7100 **Wire** · Single-core · Gray · 10 m (33')

7101 **Wire** · Single-core · Blue · 10 m (33')

7102 **Wire** · Single-core · Brown · 10 m (33')

7103 **Wire** · Single-core · Yellow · 10 m (33')

7105 **Wire** · Single-core · Red · 10 m (33')



7000
Staples · Bag of 50 · For securing wires to wooden bases

Sockets



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

Plugs



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



5004
Connector wire for center "rail" · Length 750 mm (2' 5-½")



5022
Center "rail" isolators · Strip of 5

Märklin heavy-duty transformers

Every Märklin transformer is completely safe: its insulation having been tested to several thousand volts. Further, a built-in circuit breaker protects against overloads and shorts. All transformers include cord for plugging into conventional household outlets.

Locomotive speed is proportional to track voltage, i.e. the further to the right the knob is turned, the faster the train goes. To reverse an engine, just turn the control knob to the left of zero and release. A short spurt of 24 Volts trips the reversing mechanism in the locomotives.

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

The transformers in the starter sets (pages 8, 9 and 11) have the same features as those described here. The only difference is less output.

Transformers must be protected from dampness and are not designed for outdoor operation.

Connect to household AC current only

Märklin 16 VA and 30 VA transformers have outlets for supplying current to tracks, lights, and solenoid-operated accessories.

Power consumption of locomotives and lights

As a rule of thumb, alow 9 VA for each engine and 1 VA for each lamp. Add up the total which are operating at any one time to make sure the capacity of the transformer is not being exceeded. For example, two trains operating from transformer 6627 will require 18 VA. Since the capacity of the transformer is 30 VA, 12 lights can also be powered from the accessory terminals. If additional lights (or trains) are desired, an auxiliary transformer is needed. For further details and more specific information, refer to booklet 0380, "Die Märklin-Bahn HO und ihr großes Vorbild". (German text)

Electronic Power Packs
For all Märklin HO layouts
Page 98

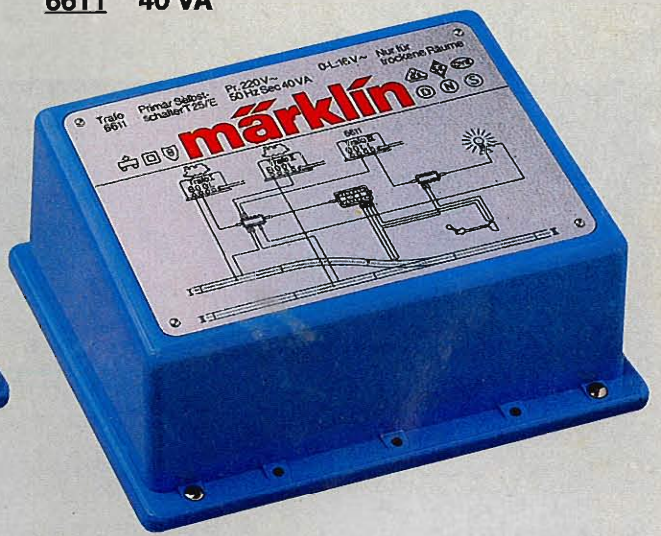
6671 16 VA



6631 30 VA



6611 40 VA



6671 220 Volt
6660 100 Volt Japan
6667 110 Volt (60 Hz) USA
6669 240 Volt
Transformer · Output 16 VA · Track current adjustable from 4 to 16 volts AC · Lighting voltage 16 volts AC · Plastic housing · Weight 1.2 kg (2½ lb) · Dimensions 125 x 135 x 75 mm (5″ x 5-⅜″ x 3″)

6631 220 Volt
6620 100 Volt Japan
6627 110 Volt (60 Hz) USA
6629 240 Volt
Transformer · Output 30 VA · Track current adjustable from 4 to 16 volts AC · Lighting voltage 16 volts AC · Plastic housing · Red pilot light · Weight 2.1 kg (4¾ lb) · Dimensions 158 x 135 x 75 mm (6-½″ x 5-⅜″ x 3″)

6611 220 Volt
Transformer for lights and solenoid-operated items · Output 40 VA · Voltage output approximately 16 volts AC · Plastic housing · Weight 2.0 kg (4½ lb) · Dimensions 158 x 135 x 75 mm (6-½″ x 5-⅜″ x 3″)

An electronic breakthrough for all Märklin HO Layouts

Real-life Dispatching – Prototype Operations – with the Automatic Train Controller 6600

6600 new

Automatic Train Controller · Can be connected to the accessory sockets of any Märklin transformer having an output of 30 VA, including the 6611 accessory transformer (if 220 v is available) · Electronically controls train speed and direction · Can be set for automatic acceleration, braking, and stopping of trains · Has regulator to control speeds on up and down grades · Stopping time and automatic change of direction.controlled by instant contact · Emergency stop button · Plastic housing · Weight 350 g (¾ lb) · Measures 125 x 135 x 55 mm (5″ x 5-⅜″ x 2-⅛″) · Connecting wire can be lengthened with wire and plugs from Märklin



6600 new

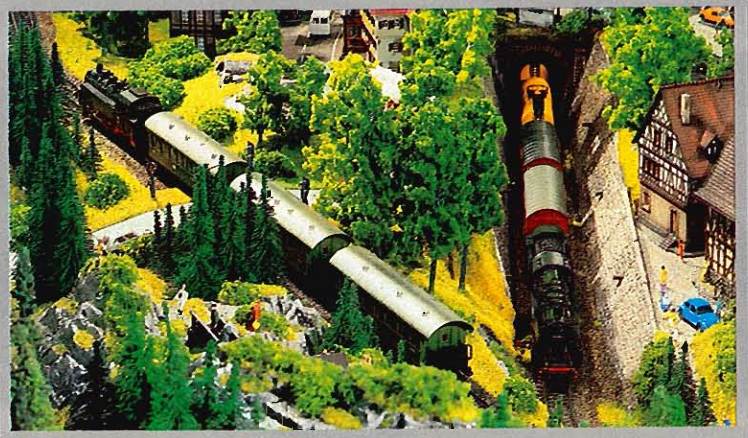


3. Realistic Acceleration

4. Realistic Deceleration

Just like prototype operations. A Limited can be operated faster than a switcher, and a heavy freight brakes more slowly than a railbus.

With the Automatic Train Controller 6600, the acceleration and deceleration of each train can be regulated without "jerking" and be synchronized to the actual layout.



5. Steady Speed

On prototype railroads, an engineer keeps the train speed so regulated that the train does not careen down a hill or stall on a grade. With the Automatic Train Controller, modelers can also program the speeds of their trains to allow for the pike's "ups and downs".

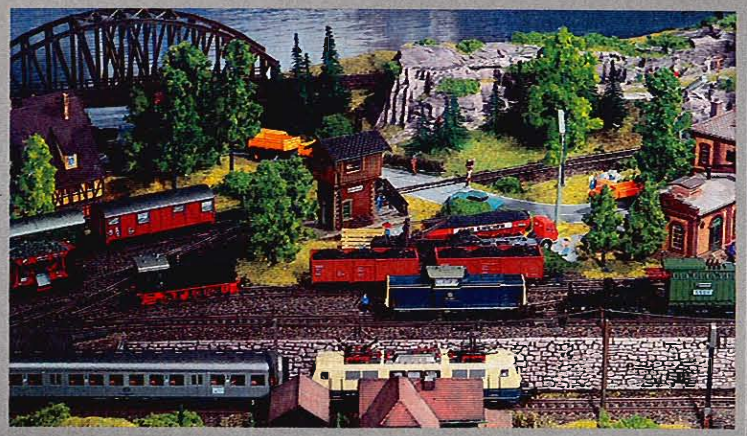


6. Automatic Station Stops



1. Easy to use

Several Automatic Train Controllers can be connected to a Märklin transformer and each Controller can be the "dispatcher" for a different part of the layout. The transformer 6631 itself can still be used "normally" for yet another section of the layout. The three-train layout on page 90 gives an example of how to use a transformer 6631 and two 6600 Controllers.



2. "In the cab" Operations

With the electronic speed regulator, each Märklin HO locomotive can be operated as if the modeler were in the cab! In one area, the train slows down, backs up, slices through switches, and creeps gently to a stop. Even the direction of the engine is electronically controlled.

Multi-Train Operation
with separate track circuits
Page 90



With the Automatic Train Controller 6600, Märklin HO trains can be programmed to stop at given points on a layout such as a station. All that is needed is a remote control track at those points. The automatic "stopping" can be switched off for through trains.



7. Fully Automatic push-pull Commuter Trains

With the Automatic Train Controller 6600, fully automatic push-pull commuter train operation is possible. Just install a remote control track at the end station(s). Train will stop automatically, wait, and resume operation in the other direction. The waiting time is controlled by the 6600.



8. Built-in Emergency Brake

The emergency button on the 6600 can stop the train immediately, overriding any other commands. Using the emergency button will not cancel previously programmed commands.

Accessories

Locomotive maintenance facilites are among the most interesting aspects of railroading, whether prototype or model. The layout and functions of a maintenance depot depend on the type of engine being serviced.

Note: The term BW, often seen in German railroad publications, is the abbreviation for locomotive maintenance facilities: "Bahnbetriebswerk".

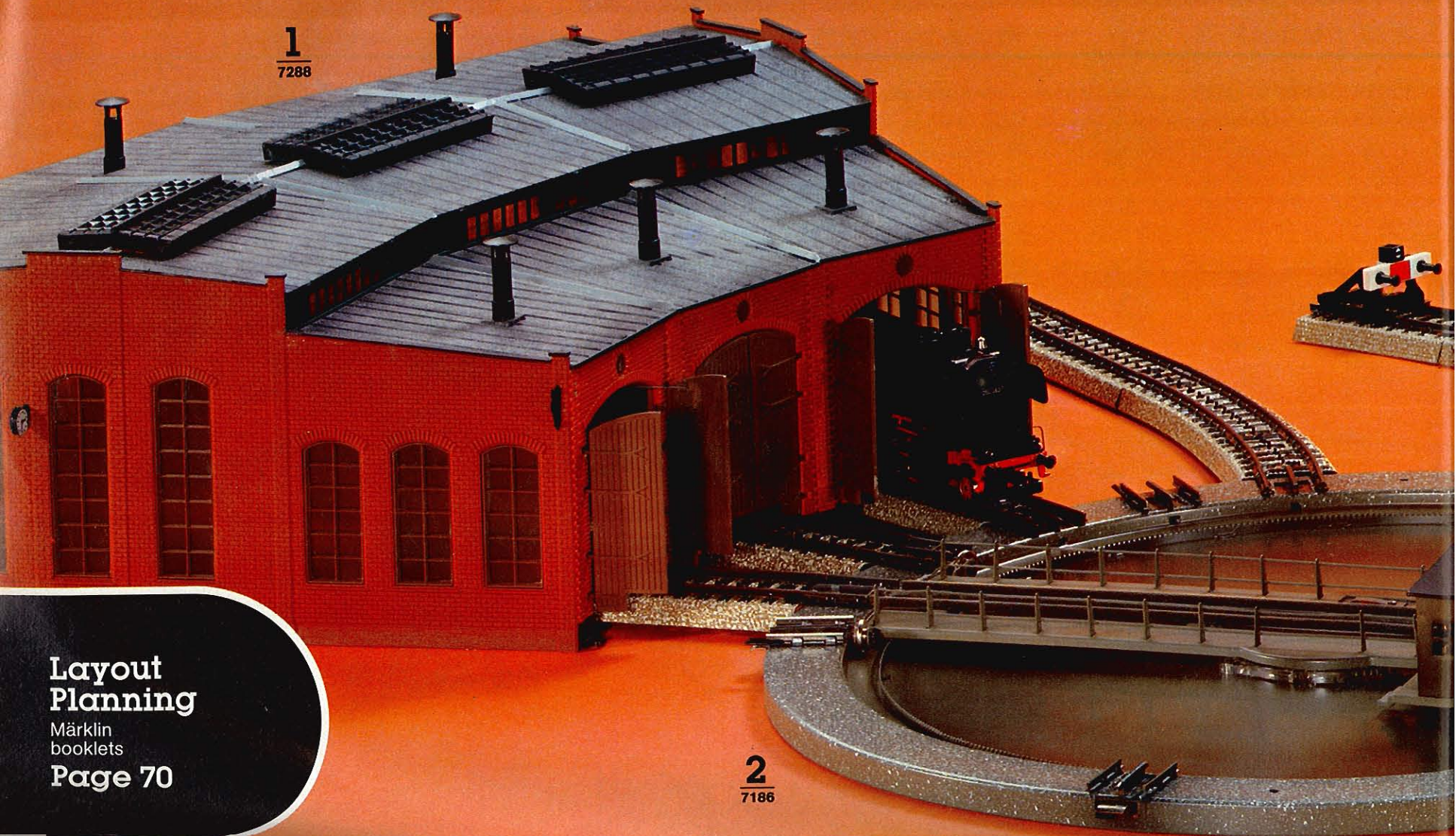
Steam locomotive maintenance ritual
After each trip, an engine usually is coaled up, then it is spotted over an ash pit. After dumping the ashes, it is moved to a water spout (as a rule, water towers are not adjacent to the tracks on German railroads) for refilling the tender. Fresh sand is poured in the sand domes atop the boilers (sand is required for traction on slippery rails). Then the engine is ready for service and is either spotted on a ready track, or stored in the roundhouse, rear end first.

1
7288 · Locomotive roundhouse kit · 3-bay roundhouse · Molded plastic parts · Operating track doors · (Track not included) · Dimensions 442 × 350 mm (1′ 5-½″ × 1′ 2″) · Height 128 mm (5″)

2
7186 · Operating turntable · Remote control operation · Bridge turns either direction · Outside diameter 360 mm (1′ 2-⅛″) · Control switch and wires included · Spoke tracks not in alignment with bridge receive no current

Carbon brushes = 60030

Adapter track 2291
(page 82) for connecting K tracks 2200 to turntable 7186.



Layout Planning
Märklin booklets
Page 70

This illustration shows a track diagram for the turntable and two roundhouses. Design based on prototype.

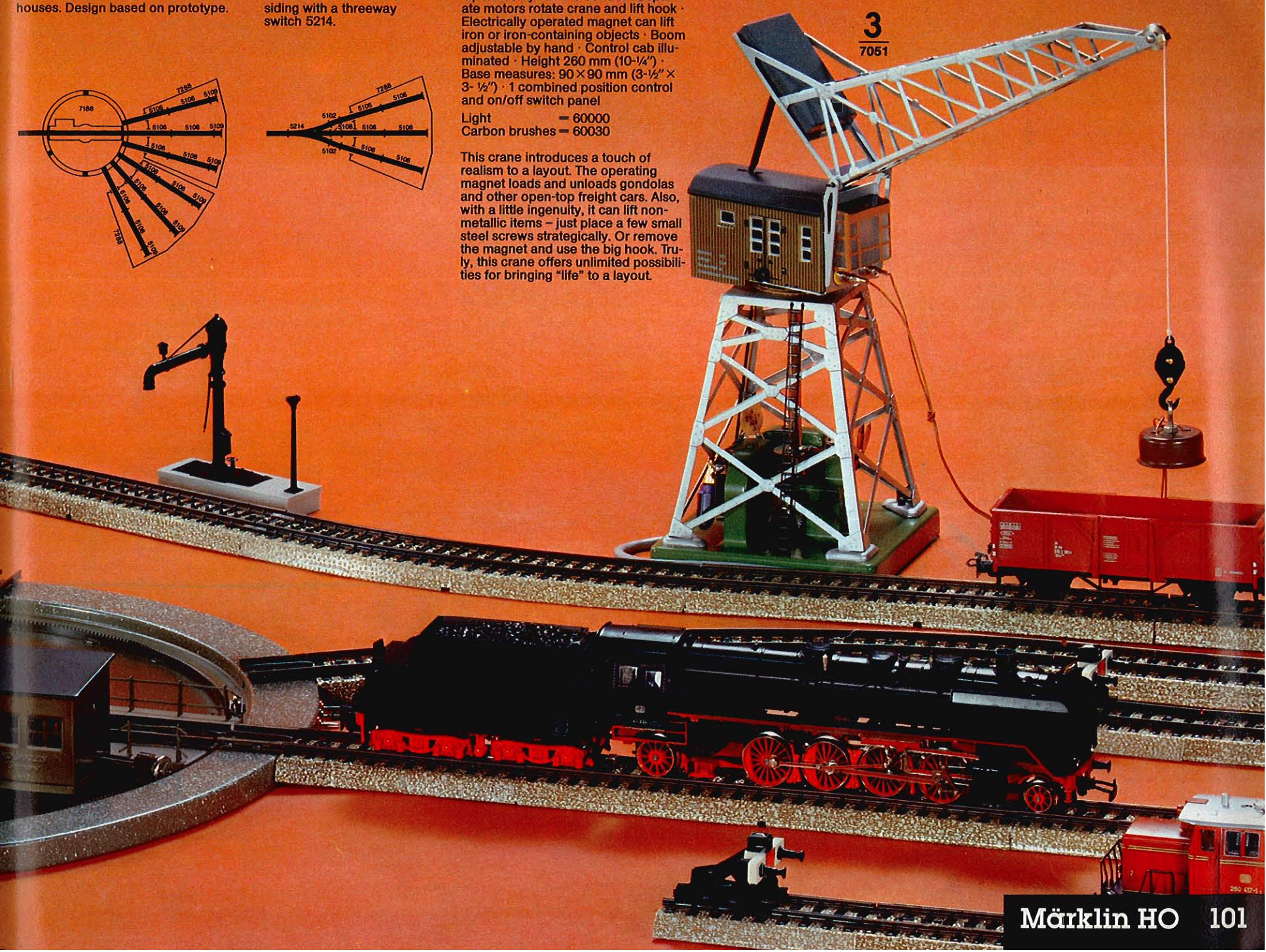
The roundhouse 7288 can also be connected to a siding with a threeway switch 5214.

3

7051 · Operating crane with magnet · Operates by remote control · Separate motors rotate crane and lift hook · Electrically operated magnet can lift iron or iron-containing objects · Boom adjustable by hand · Control cab illuminated · Height 260 mm (10-¼") · Base measures: 90 × 90 mm (3-½" × 3-½") · 1 combined position control and on/off switch panel

Light = 60000
Carbon brushes = 60030

This crane introduces a touch of realism to a layout. The operating magnet loads and unloads gondolas and other open-top freight cars. Also, with a little ingenuity, it can lift non-metallic items – just place a few small steel screws strategically. Or remove the magnet and use the big hook. Truly, this crane offers unlimited possibilities for bringing "life" to a layout.



Modern-era Engine Facilities

Diesels and electrics require much less servicing than steam locomotives. Diesels are fueled at pumps and what little water is needed, is quickly replenished with a simple hose connection. Electrics require almost no servicing. And, since European diesels and electrics are almost all bi-directional with equal speeds either way, they require no turning facilities. Near engine houses, a space saving transfer tables is used instead of a turntable.

Provide a home for your diesels, add an engine facility to your layout.

1

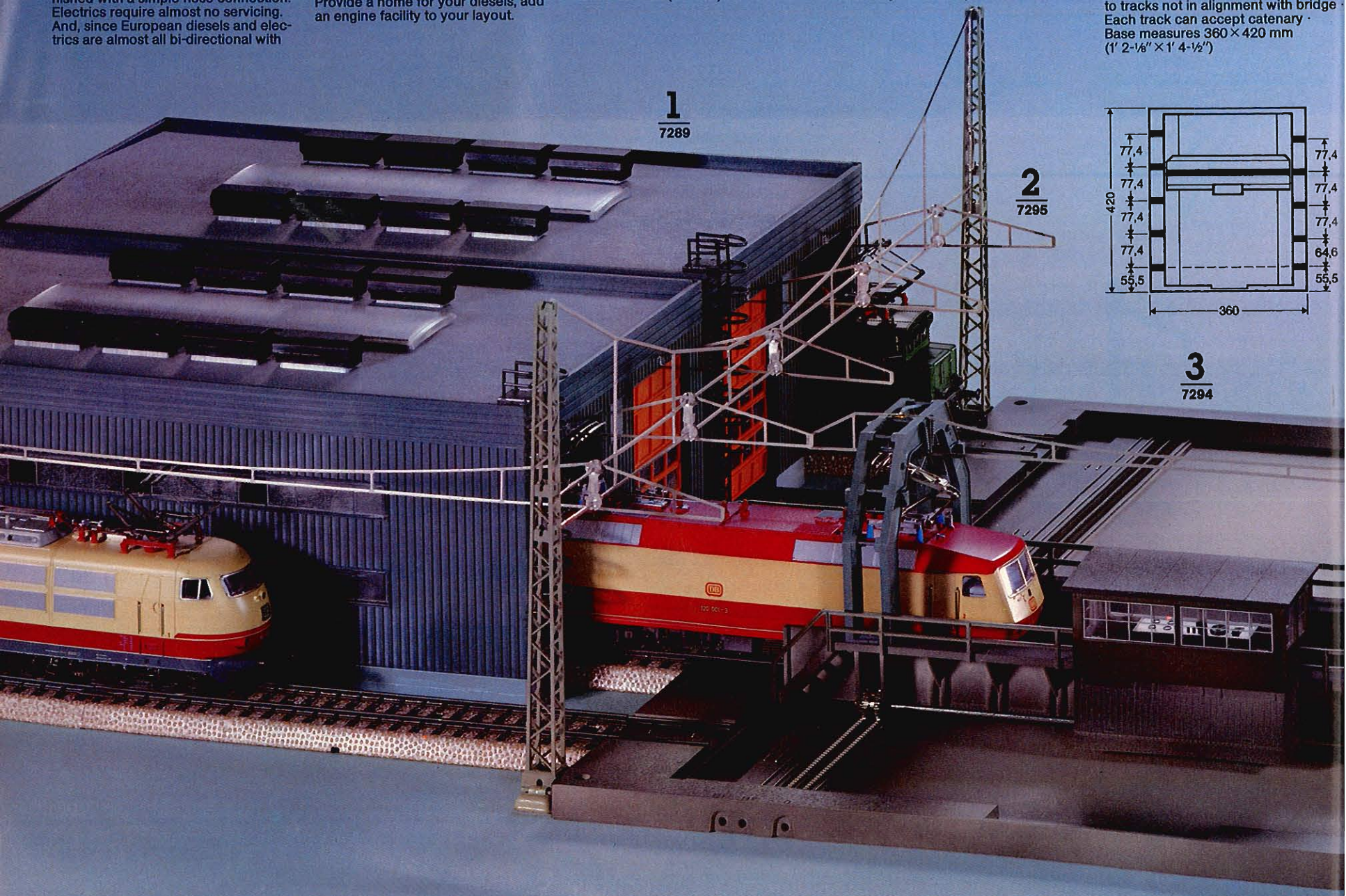
7289 · 2-bay engine house kit · Features pre-colored plastic parts · 4 manual track doors · (Track sections not included) · Measures 280×150 mm (11″×6″)

2

7295 · Overhead kit for transfer table · Includes 2 overhead support gantries · One piece catenary wire with leads soldered on · 10 short catenary wires for spur tracks

3

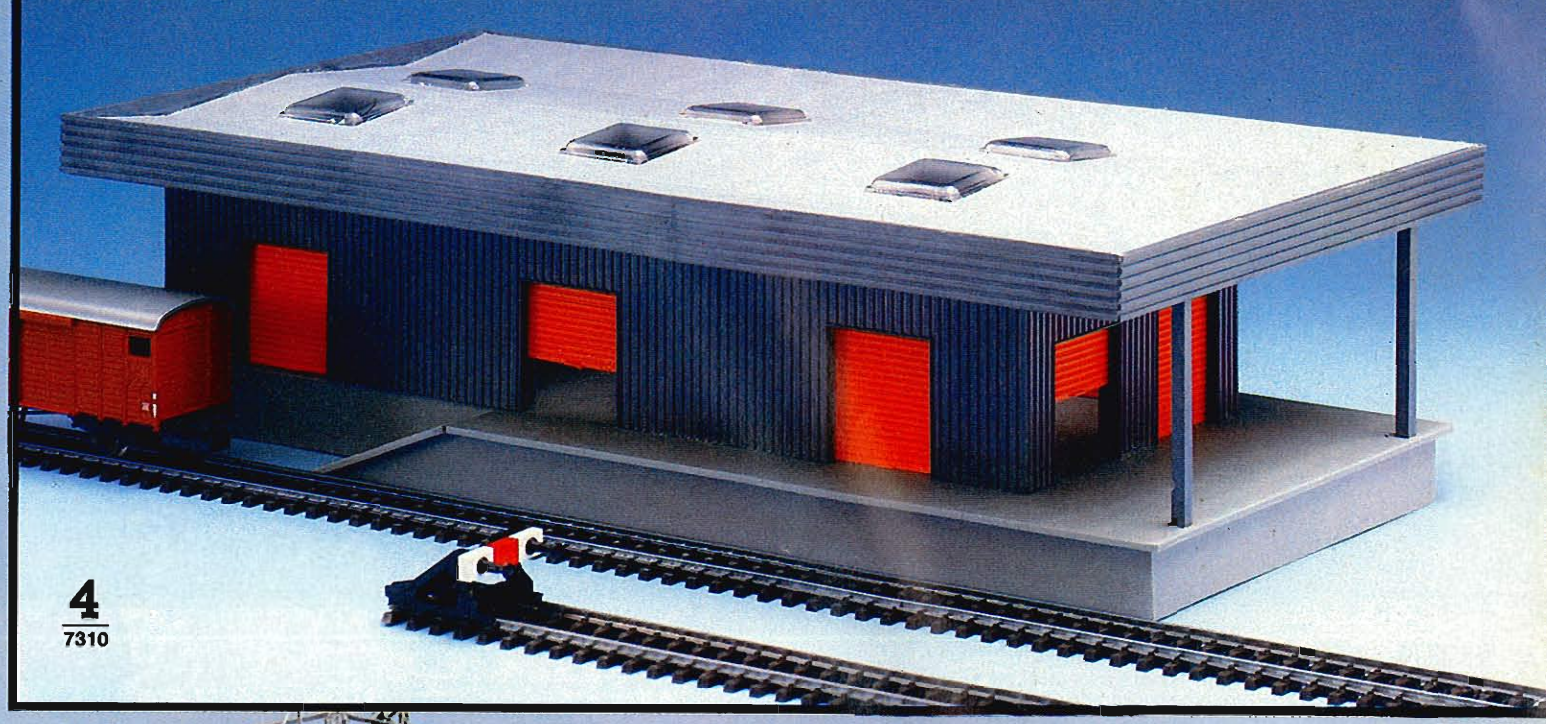
7294 · Transfer table · 2 approach tracks and 8 stall tracks · Mates with engine house 7289 · Includes operating switch · Operated by electric motor · Current automatically cut off to tracks not in alignment with bridge · Each track can accept catenary · Base measures 360×420 mm (1′ 2-⅛″×1′ 4-½″)



4

7310 · Freight house kit · Features pre-colored plastic parts · 8 manual roller doors · Measures 355 × 200 mm (1' 2" × 7-⅞")

The prototypes for these kits stand at Maschen, Germany, site of Europe's most modern classification yard.



Adapter track 2291
(page 82) for connecting K tracks 2200 to transfer table 7294.

Grade Crossings

Fully automatic grade crossings

The gates close automatically when an approaching train trips the contacts. As soon as the last car clears the contacts, the gates open automatically. The length of contact section can be varied as required. For M tracks use 5115 and 5116, for K tracks use regular track sections.



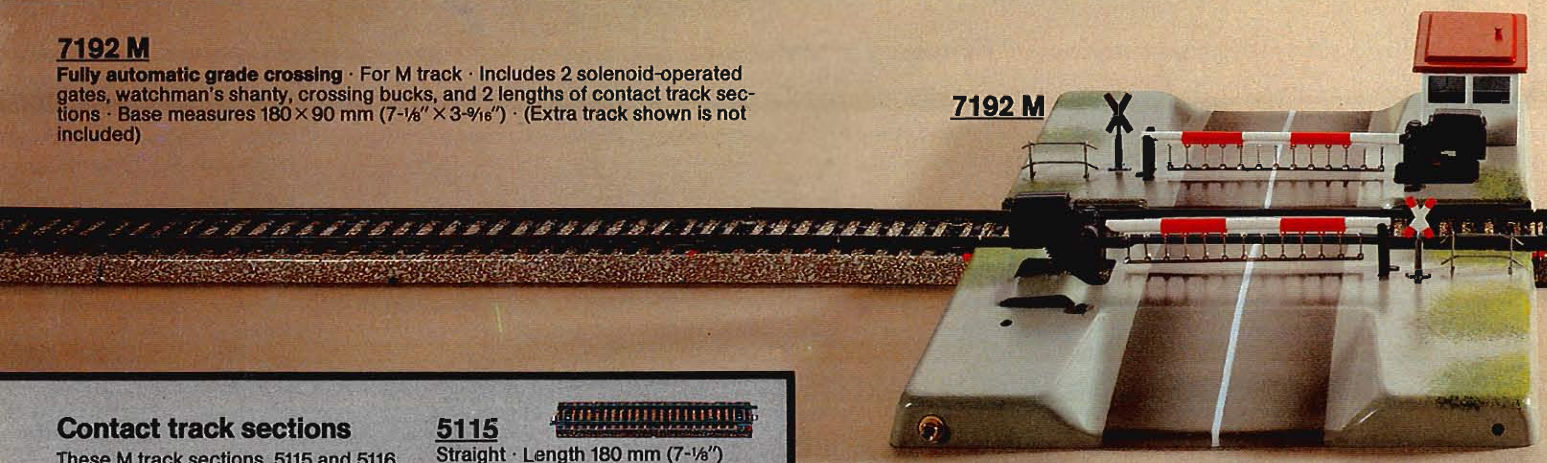
Lighting

These lights can be switched on and off by using control boxes 7210 or 7211 (page 96). The lights can also be activated by a passing train. For more information, see signal manuals 0342 M or 0361 K (page 86).

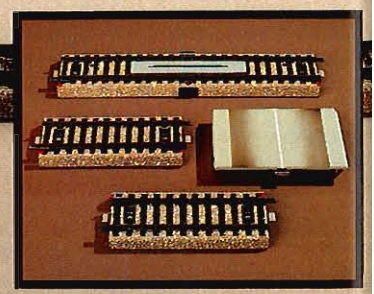
7046
Arc lamp with lattice mast · Can be used with M track overhead · Height 192 mm (7-9/16") · Base measures 14 × 28 mm (9/16" × 1-1/8")
= 60010

7048
Arc lamp · Height 156 mm (6-1/16") · Base diameter 29 mm (1-1/8")
= 60010

7192 M
Fully automatic grade crossing · For M track · Includes 2 solenoid-operated gates, watchman's shanty, crossing bucks, and 2 lengths of contact track sections · Base measures 180 × 90 mm (7-1/8" × 3-9/16") · (Extra track shown is not included)



7193 M
Extension set · For 7192 · One set required for each additional track · Includes set of contact tracks plus highway extension



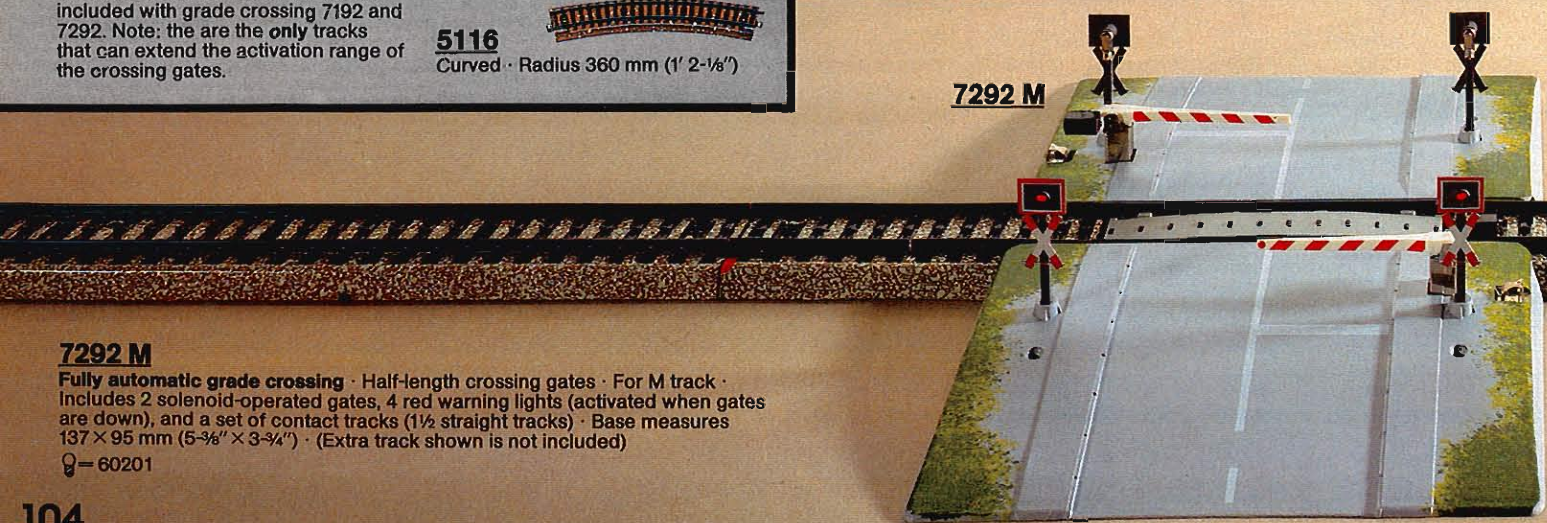
Contact track sections

These M track sections, 5115 and 5116, are used to extend the contact track included with grade crossing 7192 and 7292. Note: the are the **only** tracks that can extend the activation range of the crossing gates.

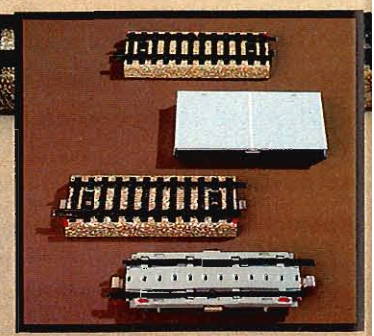
5115
Straight · Length 180 mm (7-1/8")

5116
Curved · Radius 360 mm (1' 2-1/8")





7293 M
Extension set · For 7292 · One set required for each additional track · Includes set of contact track sections, plus a length of highway adjustable between 43 mm and 78 mm (1-11/16" and 3-1/16")



7292 M
Fully automatic grade crossing · Half-length crossing gates · For M track · Includes 2 solenoid-operated gates, 4 red warning lights (activated when gates are down), and a set of contact tracks (1½ straight tracks) · Base measures 137 × 95 mm (5-3/8" × 3-3/4") · (Extra track shown is not included)
= 60201

7283
Floodlight · Mounted on lattice mast · With base plate · Can be used with catenary · Height 170 mm (6-¾")
= 60000

7280
Street lamp · Height 117 mm (4-⅝") · Base diameter 25 mm (1")
= 60000

7281
Platform light · 2 lamp arms · Height 97 mm (3-⅞") · Base diameter 25 mm (1")
= 60000

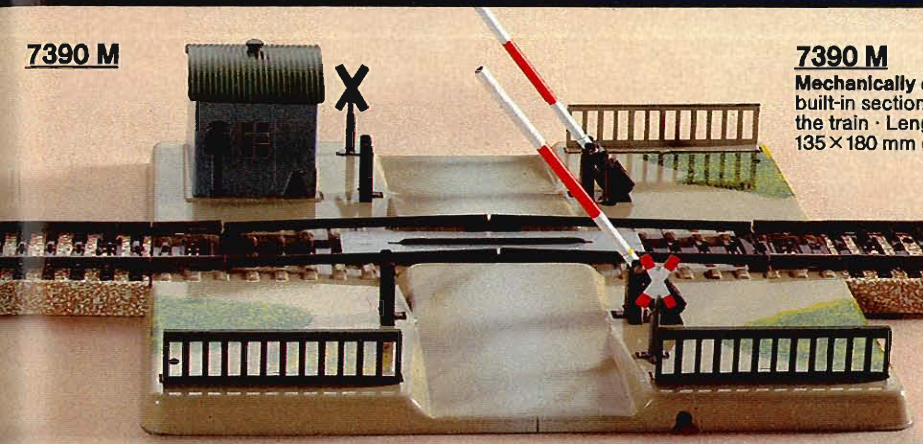


7282
Twin-lamp street light · Height 120 mm (4-¾") · Base diameter 25 mm (1")
= 60000

7284
Park light · Height 63 mm (2-½") · Base diameter 15 mm (⅝")
= 60000

7047
Modern street light · Height 127 mm (5") · Base diameter 27 mm (1-1/16")
= 60010

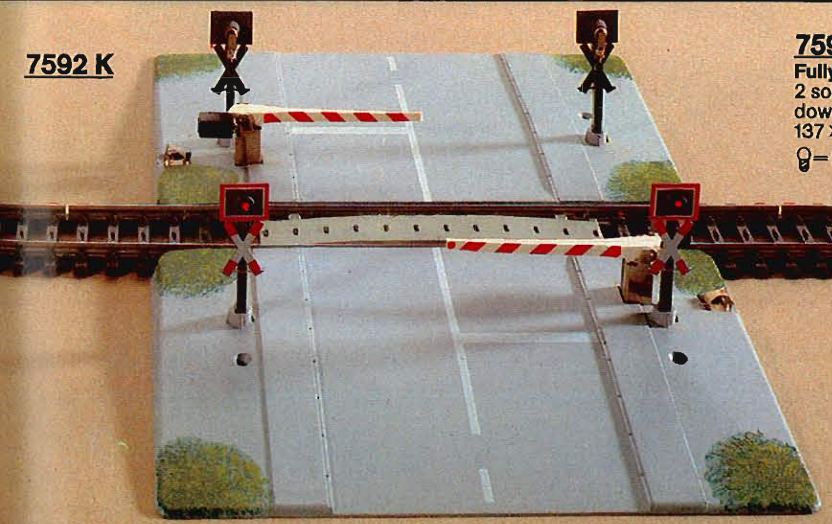
7390 M



7390 M
Mechanically operated grade crossing · For M track · For single track · Includes built-in section of M track · The gates are activated by a lever which is tripped by the train · Length of grade crossing same as 5106 track section · Base measures: 135 × 180 mm (5-⅜" × 7-⅛")

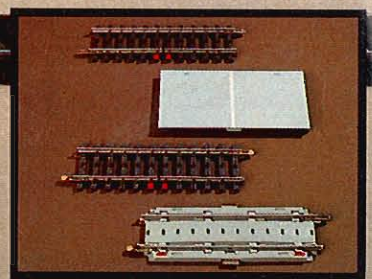
Adapter track section 2291 (page 82) for connecting K tracks 2200 to grade crossings 7192 and 7390.

7592 K



7592 K
Fully automatic grade crossing · For K track · With half-length gates · Includes 2 solenoid-operated gates, 4 red warning lights (activated when gates are down), and a set of contact track sections (1½ straight tracks) · Base measures: 137 × 95 mm (5-⅜" × 3-¾") · (Extra track shown is not included)
= 60201

7593 K
Extension set · For 7592 · One set required for each additional track · Includes set of contact tracks (1½ straight tracks) plus length of highway adjustable between 43 mm and 78 mm (1-1/16" and 3-1/16")



Bridges more track in less space

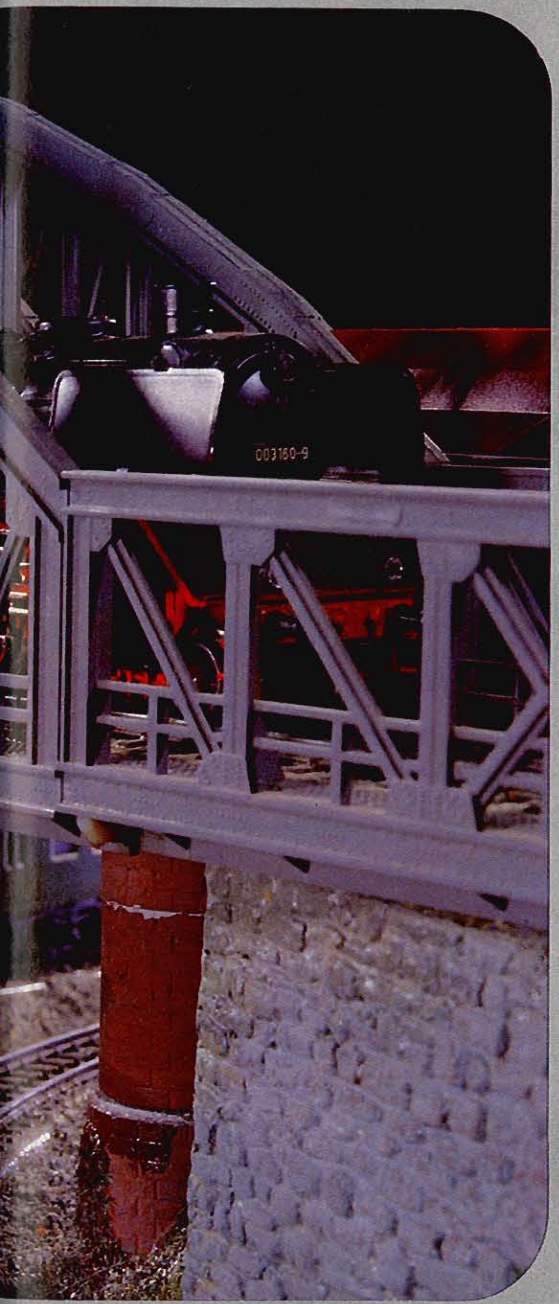
Bridges and ramps add beauty and versatility to model railroads. For example valleys, roads, and urban areas can be bridged. Most importantly, bridges enable more track to be added to the same given area.

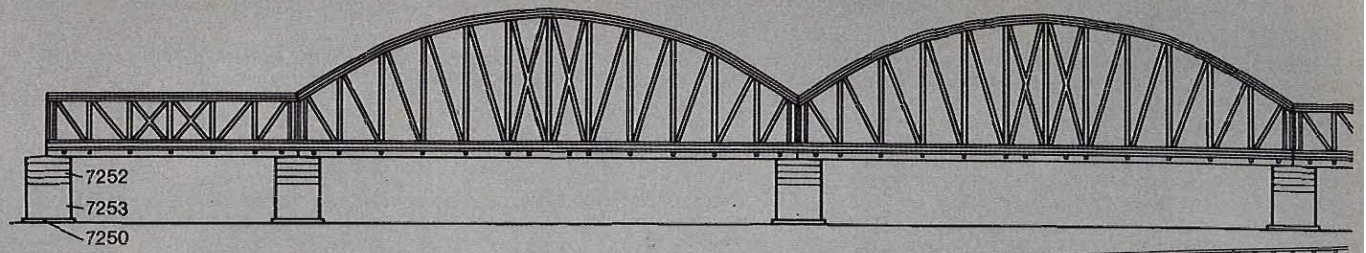
With Märklin bridges, any size or combination of bridges and ramps can be built. The pillar sections 7252 and 7253 interlock, enabling pillar to be constructed to any height in increments of 6 mm (¼"). By pairing together the base plates 7250 and 7251, pillar heights can be raised increments of 3 mm (⅛"). Flat head wood screws 7599 are recommended for securing pillar sections to the layout board.

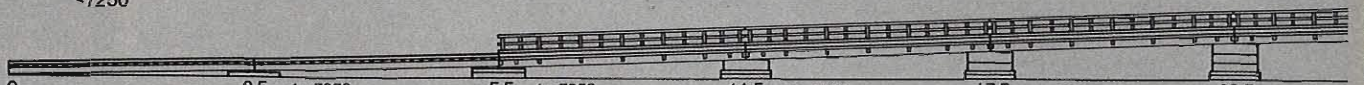
Detailed instructions for the assembly of bridges are included with bridges 7262 and 7263.



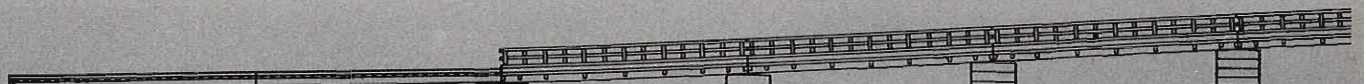
Examples of bridges and ramp construction



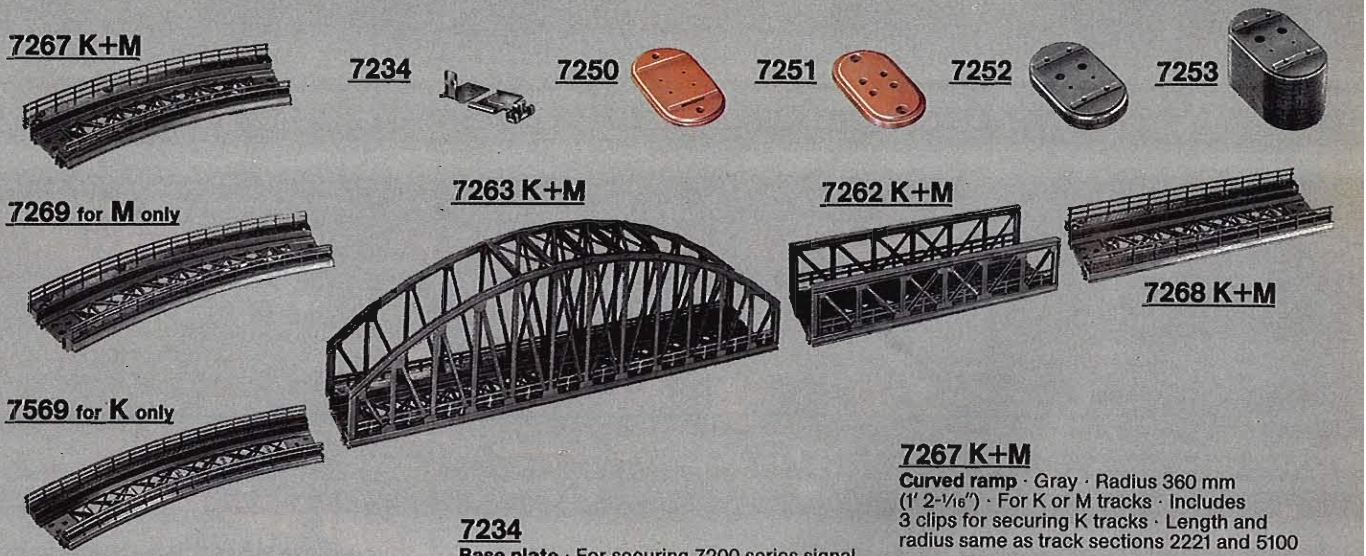




0	2,5 = 1 x 7250	5,5 = 1 x 7250 1 x 7251	11,5 = 1 x 7252 1 x 7250 1 x 7251	17,5 = 2 x 7252 1 x 7250 1 x 7251	23,5 = 3 x 7252 1 x 7250 1 x 7251
6 mm Steigung	Pfeilerhöhe bei M-Gleisen				
0	2,5 = 1 x 7250	2,5 = 1 x 7250	8,5 = 1 x 7252 1 x 7250	14,5 = 2 x 7252 1 x 7250	20,5 = 3 x 7252 1 x 7250
6 mm Steigung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



7262 K+M
Truss bridge · Gray · Can be used with through bridge 7263 · For K or M tracks · Includes 3 clips for securing K tracks · Instructions · Height 45 mm (1-3/4") · Length 180 mm (7-1/8")

7263 K+M
Through bridge · Gray · For K or M tracks · Includes 6 clips for securing K tracks · Instructions · Center height 117 mm (4-5/8") · Length 360 mm (1' 2-1/16")

7234
Base plate · For securing 7200 series signal masts to bridges

7250
Base plate · For pillar foundation · Light brown · 2.5 mm (1/10") thick

7251
Base plate · For use with the 7250 · Light brown · 3 mm (1/8") thick

7252
Pillar sections · 6 mm (1/4") high · Gray · For building ramps in 6 mm (1/4") increments

7253
Pillar sections · 30 mm (1-3/16") high · Gray

7267 K+M
Curved ramp · Gray · Radius 360 mm (1' 2-1/16") · For K or M tracks · Includes 3 clips for securing K tracks · Length and radius same as track sections 2221 and 5100

7268 K+M
Straight ramp · Gray · For K or M tracks · Includes 3 clips for securing K tracks · Length 180 mm (7-1/8")

7269 for M only
Curved ramp · Gray · Radius 437.4 mm (1' 5-1/8") · For 5200 M track only · Length and radius same as track section 5200

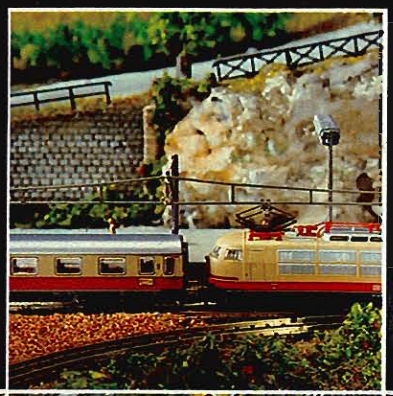
7569 for K only
Curved ramp · Gray · Radius 424.6 mm (1' 4-3/4") · For K track only (standard circle II, see page 82) · Includes 3 clips for securing track · Length and radius same as track section 2231

märklin
mini-club



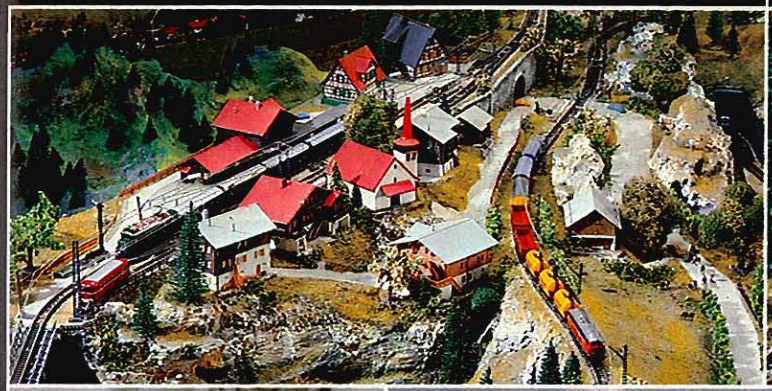
The smallest electric railway in the world

mini-club is the perfect answer to the question: "What gift should I buy"? Because once someone gets started, he or she will always welcome an additional engine, car, or accessory.



Märklin's mini-club is just over ten years old and is already an integral part of the fabulous world of model railroading. It has brought a new dimension to the hobby and its stunning, yet operable miniatures are treasured as masterpieces.

mini-club continues to grow as more members opt for this intriguing scale. Besides pure fascination, there are many advantages to mini-club. In fact, it is hard to believe how little space is needed for a full layout.



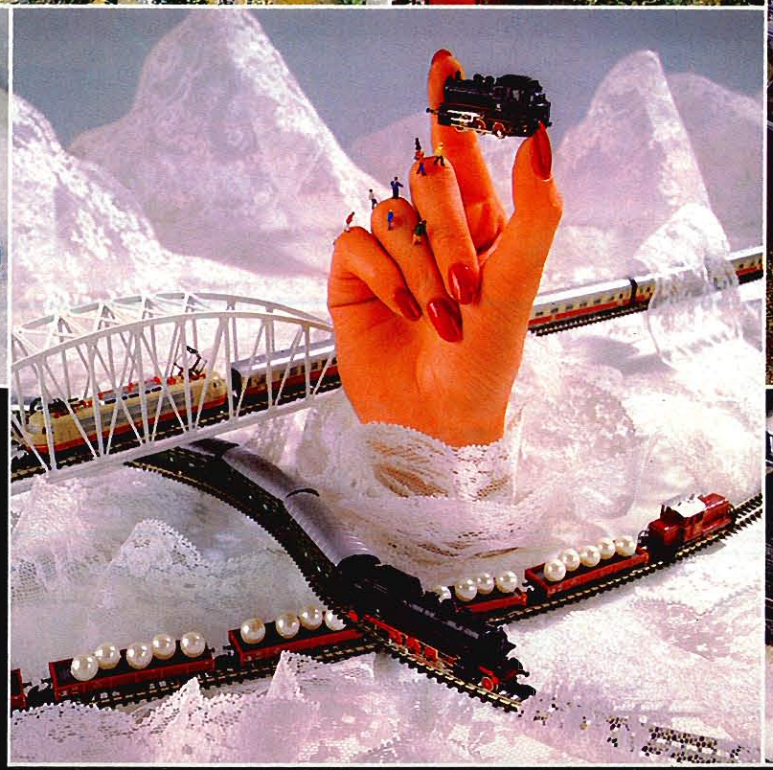






The fully operational overhead system adds even more fun to a layout. A prototypically correct electrified mainline enables one to run two trains, totally independent of each other, on the same track.







Accessories enrich a mini-club layout considerably. You will really appreciate the wonder and magnificence of a mini-club train when you see it operate on a fully scenicked layout, wending its way from city to country.

Model size Z
Gauge 6.5 mm (1/4")
Scale 1:220

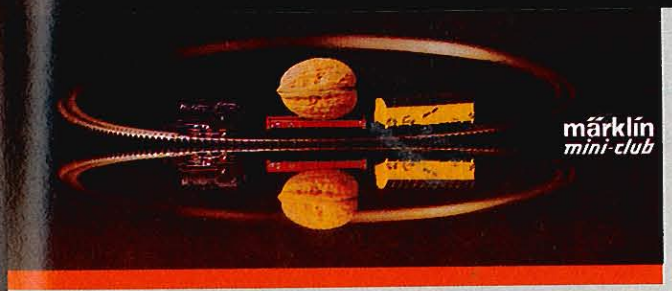
Beginner Sets

Enjoy the maxi-pleasures of mini-club trains

1

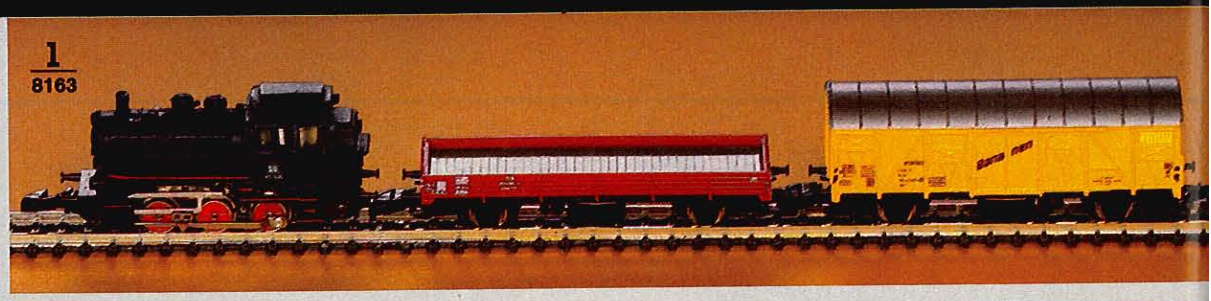
8163 S 220 Volt
8164 S 100 Volt Japan
8165 S 110 Volt (60 Hz)
8166 S 240 Volt

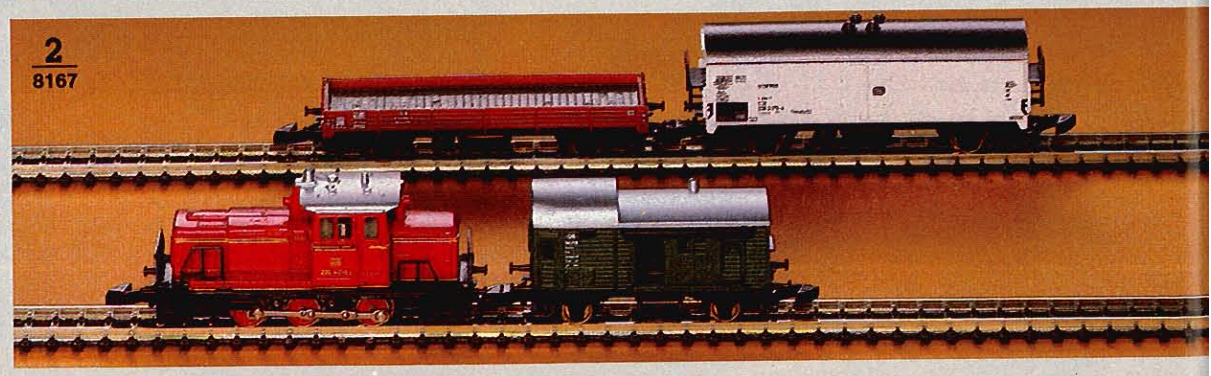
Freight train with power pack ·
Includes: 1 tank engine (0-6-0T) 8800, 1 box car 8606, 1 low-side gondola 8610, 1 straight track 8500, 4 curved tracks 8520, 6 curved tracks 8521, 1 feeder track 8590 and 1 power pack · Train length 160 mm (6-5/8")













2

8167 S+E 220 Volt

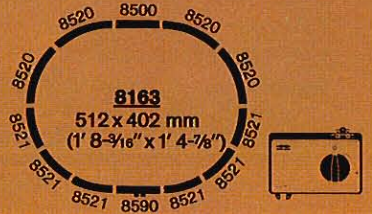
Freight train with transformer · Includes: 1 diesel switcher 8864, 1 refrigerator car 8600, 1 package car 8609, 1 low-side gondola 8610, 11 straight tracks 8500, 4 curved tracks 8520, 6 curved tracks 8521, 1 feeder track 8590, 2 curved tracks 8591, 1 manual left-hand switch 8565, 1 manual right-hand switch 8566, 1 freight house kit with tube of glue and 1 power pack · Train length 210 mm (8-¼")

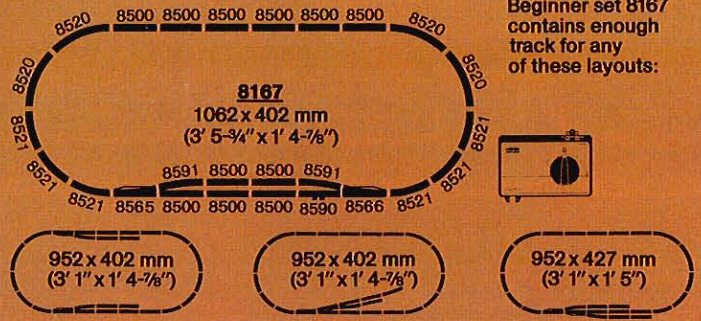
3

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

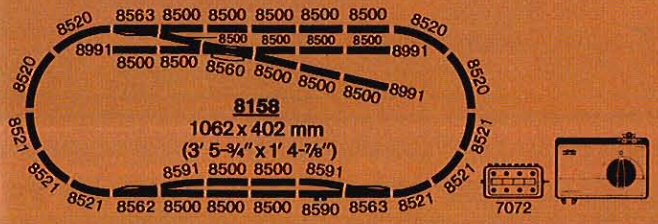
Freight train with power pack · Includes: 1 tank engine (2-6-0T) 8895, 1 beer car 8603, 1 box car 8605, 1 box car 8606, 1 package car 8609, 19 straight tracks 8500, 4 curved tracks 8520, 6 curved tracks 8521, 1 double-slip switch 8560, 1 left-handed remote control switch 8562 L, 2 right-handed remote control switch 8563 R, 1 feeder track 8590, 2 curved tracks 8591, 3 bumpers 8991, 1 water spout, 1 position control box 7072, 1 distribution strip 7209, leads, plugs, sleeves, and 1 power pack · Train measures 273 mm (10-¾")

mini-club beginner sets can be extended into larger layouts by using the "SET" program (page 134) and/or by adding catenary, signals, accessories, and your own imagination!





Beginner set 8167 contains enough track for any of these layouts:





Special Trains

Train after Train Gift Ideas

mini-club special trains are "dream" gifts – beautifully packaged and prototypically accurate – these sets often contain cars not available separately. (Special trains do not include track or power pack.)

1
8103 · **Track work train** · Includes: 1 diesel switcher 8864, 1 crane car 8621, 1 low-side gondola 8610 with boom support, 1 low-side gondola 8610 with stacks of crossties, 1 low-side gondola 8610 with rail sections, 2 high-side gondolas 8622 loaded with ballast and 1 crew car · Train measures 440 mm (1′ 5-¼″)

The crew car and the loaded gondolas are not available separately.

■ Construction trains have varied consists, e.g.: the number of crew and work cars depend on the type of work to be done (MOW, B&B, etc). If trains will be working far from major terminals, retired sleepers and diners are added for the convenience of the workers.



2

8104 · Passenger train of the former Prussian State Railways · Includes: 1 tank engine (series T 12, built for passenger service), 1 6-wheel baggage car, and 4 6-wheel coaches (one 2nd class, one 2nd and 3rd class, one 3rd class, one 4th class) · Train measures 360 mm (1′ 2-3/16″)

These cars and the engine feature accurate coloring and stenciling and are not available separately.

■ At the beginning of the 20th century, Prussian passenger trains were made up of 6-wheel (3-axle) compartment cars. In those days, trains were the only reliable means of transportation and these compartment cars were the mainstay of passenger service.

A benefit of the compartment cars was quick entraining and detraining. At that time, there were 4 classes of service based on seating comfort. To help passengers find their cars, each class had its own livery and was also distinguished by Roman numerals.

The exterior color for 1st and 2nd class cars was dark green, for 3rd class rust brown, and for 4th class dark gray.

3

8102 · Express train · Includes: 1 steam engine (4-6-2) 8892, 2 coaches 8730, and 1 baggage car · Train measures 372 mm (1′ 2-1/4″)

The baggage car is not available separately.

■ The first S 3/6 locomotives were based in Munich until 1941 and were the backbone of passenger service in Bavaria, powering limiteds to Lindau, Ulm, Würzburg, Nürnberg, Regensburg, Salzburg, and Kufstein.

4

8105 · Airport train · Includes: 1 class 111 electric locomotive, 1 1st and 2nd class commuter coach, 2 2nd class commuter coaches · Entire train is a special run · Train length 452 mm (2′ 5-3/4″)

- Electric locomotive with new road number and modern style pantograph
- Each coach has its own road number

Engine and cars not available separately.

■ The airport train is a service offered by the German Federal Railways connecting Ludwigshafen with the Frankfurt (M) airport. The express commuter train makes two round trips daily with intermediate stops at Mannheim, Weinheim, Heppenheim, Bensheim and Darmstadt.

The train is distinguished by its special paint scheme.

Train Sets shown actual size



Steam Engines

Illustrations shown actual size

1

8800 · **Tank locomotive** · Class 89 · 0-6-0T wheel arrangement · Automatic couplers at each end · Length over buffers 45 mm (1-¾")

2

8895 · **Tank locomotive** · German Federal Railways' class 74 · 2-6-0T wheel arrangement · Coupling hook in front · Length over buffers 55 mm (2-3/16")

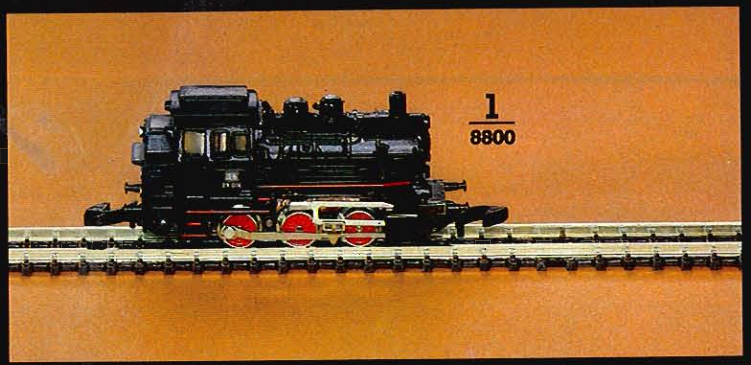
3

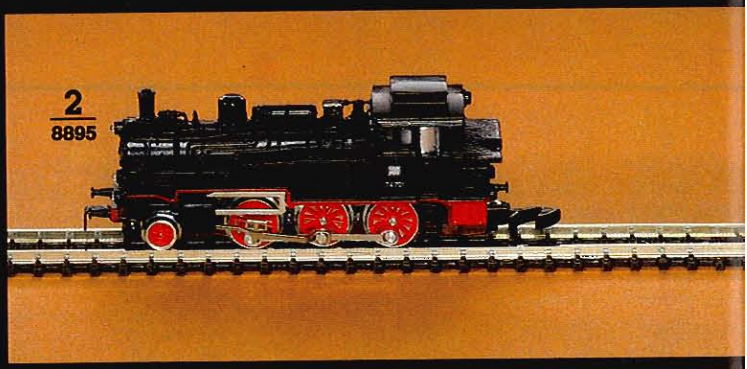
8896 · **Tank locomotive** · German Federal Railways' class 86 · 2-8-2T wheel arrangement · Three working headlights at each end · Red driving assemblies · Automatic couplers at each end · Length over buffers 63 mm (2-½")

= 60210 (rear)

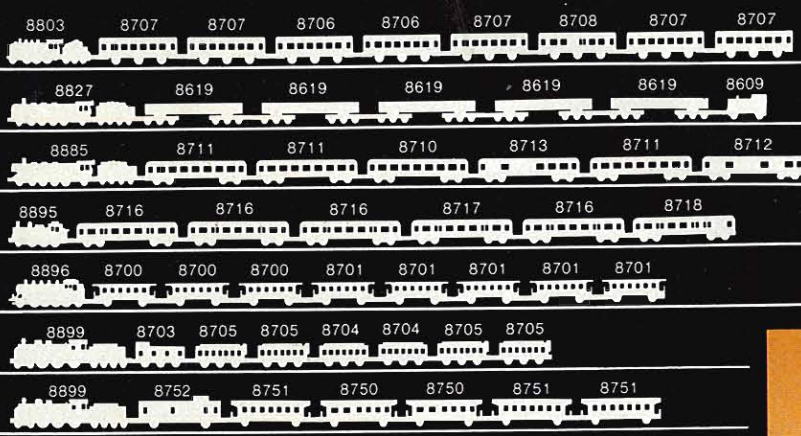
■ Engine class 86 was produced by various manufacturers from 1928 to 1943. An efficient locomotive, it was used in passenger and freight service, particularly on branches and in mountainous districts. Of the 774 engines built for the German State Railways, 385 were assigned to the German Federal Railways in 1945.

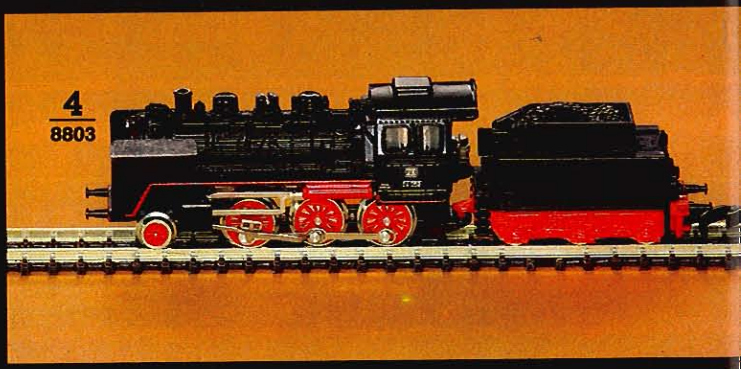


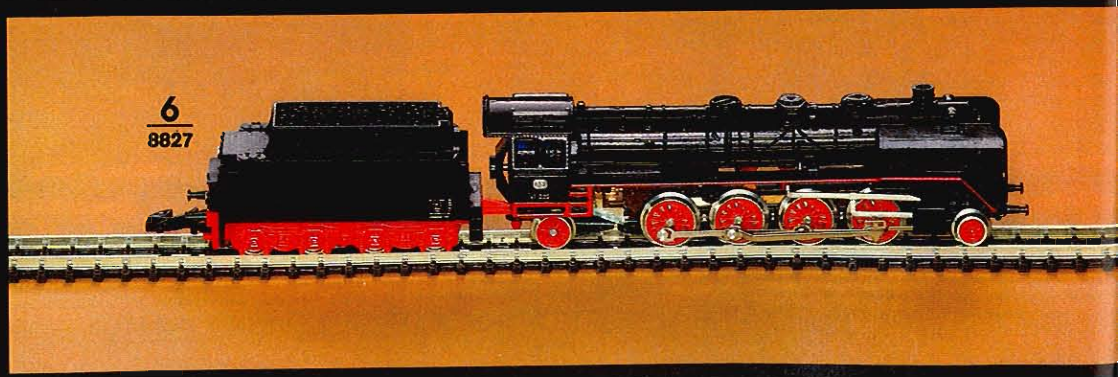




Examples of trains consists:







4

8803 · Passenger locomotive with tender · German Federal Railways' class 24 · 2-6-0 wheel arrangement · Length over buffers 82 mm (3-¼")

5

8899 · Passenger engine with tender · German Federal Railways' class 038 · 4-6-0 wheel arrangement · Red driving assemblies · Length over buffers 89 mm (3-½")

■ Designed by Robert Garbe, the Prussian P 8 was a fine tuned machine well liked by railroaders everywhere. By 1928, 3,800 of these moguls were plying the rails of several European lines. The German State Railways designated the P 8 as the 38^{10-40}. In the late 40s, the newly organized German Federal Railways classed them as the 038.

Besides being constructed in several styles, the 4-6-0 P 8 was regularly modified by the different roads to suit individual preferences.

On the German Federal Railways, the 038s had smooth smoke box doors. Witte smoke deflectors, and 8-wheel tub tenders inherited from scrapped 42s and 52s.

6

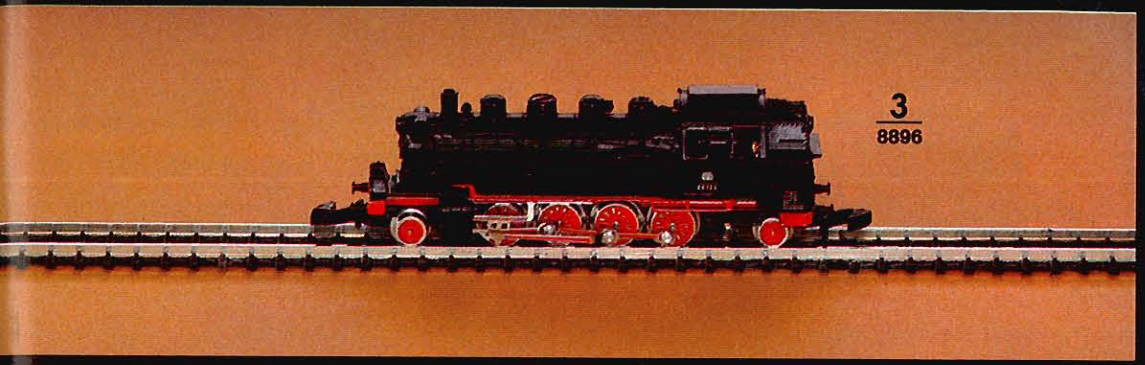
8827 · Freight locomotive with tender · German Federal Railways' class 41 · 2-8-2 wheel arrangement · Length over buffers 112 mm (4-⅜")

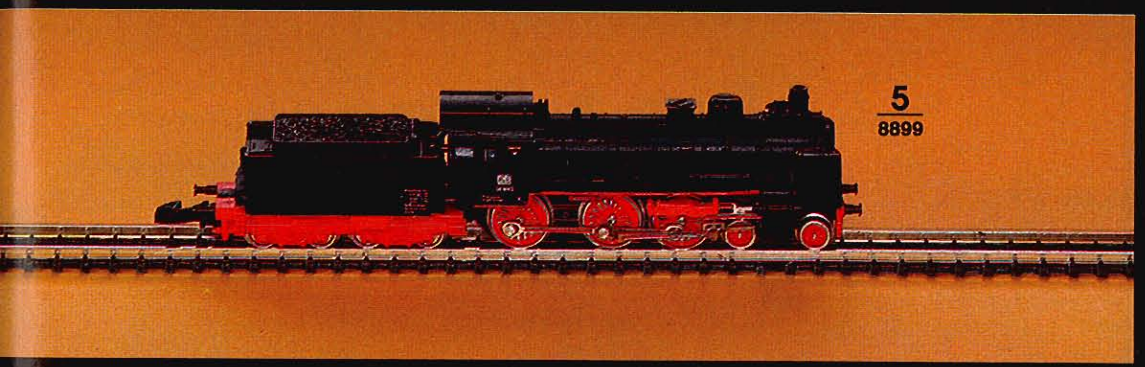
■ The first of a total of 366 engines were produced in 1936. They were designed as a fast freight locomotive and were employed as the workhorse on medium-weight freight trains. Their top speed was 90 kmph (56 mph).

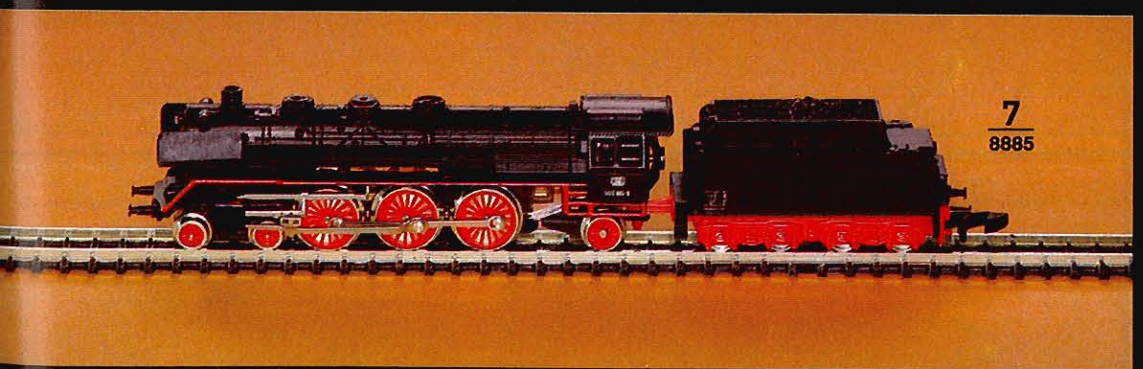
7

8885 · Express locomotive with tender · German Federal Railways' class 003 · 4-6-2 wheel arrangement · Length over buffers 112 mm (4-⅜")

Engine 8885 has set a world record for endurance. Pulling 6 coaches, the engine operated continuously for 1,219 hours, covering 720 km (447 miles), about the distance between Cincinnati and Atlanta. According to the "Guinness Book of Records", the previous endurance record was only 440.7 km (273.8 miles) covered in about 300 hours.
This record was established at an impartial testing institute.









mini-club steam engines feature:

Remote control forward and reverse drive · Prototypically correct three working headlights (8800 not illuminated, 8803 will accept the 8953 10 volt bulb) · All driving axles powered · Automatic couplers at rear of tender or tank engine · Die cast zinc frame · Metal body

= 8953

Important:
Operate mini-club trains only on Märklin 8 V DC power packs · Operation on higher voltages may damage engine.

The locomotives are fitted with radio interference suppressors. The suppressors, which are also built into the power packs and feeder tracks 8590, virtually eliminate the chance of mini-club operation disturbing a neighbor's radio or TV reception.

1 Belgium

8801 · Tank locomotive · Belgian State Railways' (NMBS/SNCB) class 96 · 2-6-0 wheel arrangement · Hook coupler in front · Length over buffers 55 mm (2-3/16")

2

8892 · Express locomotive with tender · Former Royal Bavarian State Railways' class S 3/6 · 4-6-2 wheel arrangement · Length over buffers 106 mm (4-3/16")

3

8891 · Express locomotive with tender · Former German State Railways' class 18^4 · 4-6-2 wheel arrangement · Length over buffers 106 mm (4-3/16")

4

8893 · Express locomotive with tender · German Federal Railways' class 18^4 · 4-6-2 wheel arrangement · Length over buffers 106 mm (4-3/16")

The Märklin mini-club program offers one of the most famous German steamers in three popular versions. The S 3/6 of the Royal Bavarian State Railways (8892), the German State Railways' class 18 (8891), and the German Federal Railways' class 18^4 (8893).

■ The increasing demand for express passenger service prompted the Bavarian State Railways to order these reliable engines in early 1907. Fifteen months later, the road took delivery of the first S 3/6s. In this record time, a new locomotive was created whose shape and achievements set new standards.

After the merger of the provincial railways into the German State Railways, the S 3/6s were reclassified as the 18^4 and 18^{4-5}. Railfans can quickly identify these beauties by their powerful cylinders, distinct barrier frames, and the wreathed smokestack as one of the most handsome engines ever built.

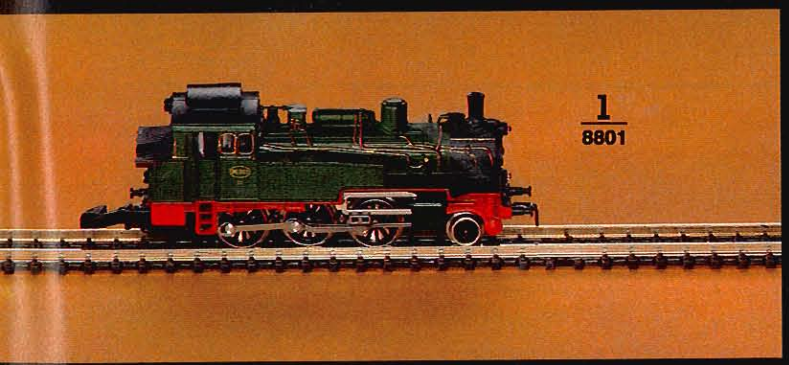
The first S 3/6 left the Maffei Works on June 16, 1908. On the first trial run, it achieved 135 kmph (83 mph) pulling 420 tons.

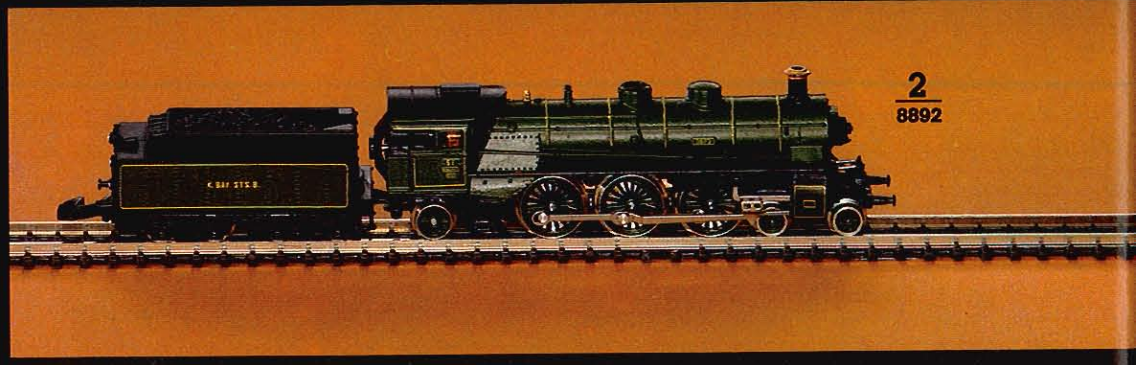
During the 1930s, they racked up about 160,000 km (98,132 miles) per year.

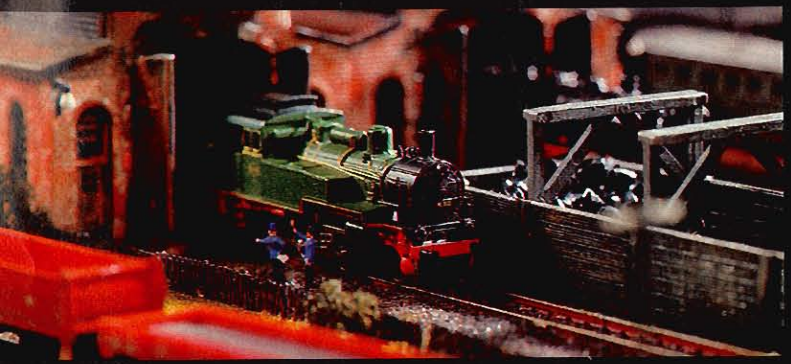
Among the more famous name trains powered by the S 3/6 were: the Rheingold, the Orient Express, the Paris-Karlsbad-Prague Express, and the Ostende-Wien Express.

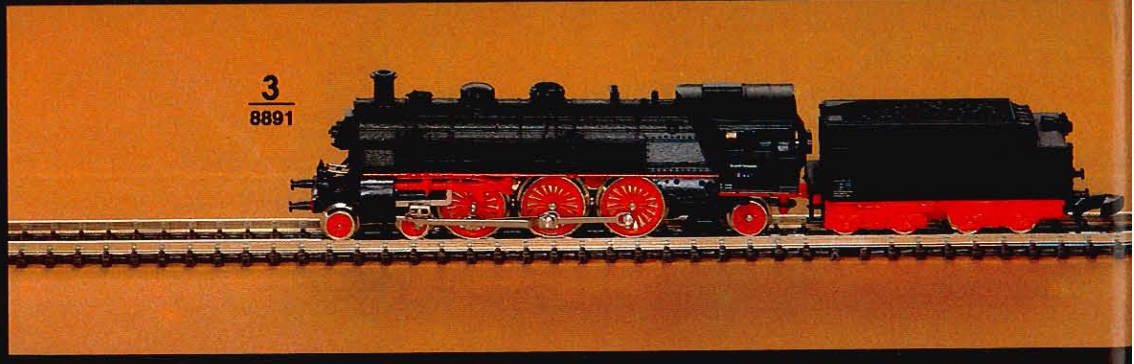
For economic reasons, only 5 units were retired in 1946. But the winds of change were blowing and the old glory of these Pacifics would never return.

The prototype of our mini-club, the 18 478 of the DB (also the last S 3/6 ever built), made its last trip in July, 1960. The last of the S 3/6s was retired on May 17, 1967.



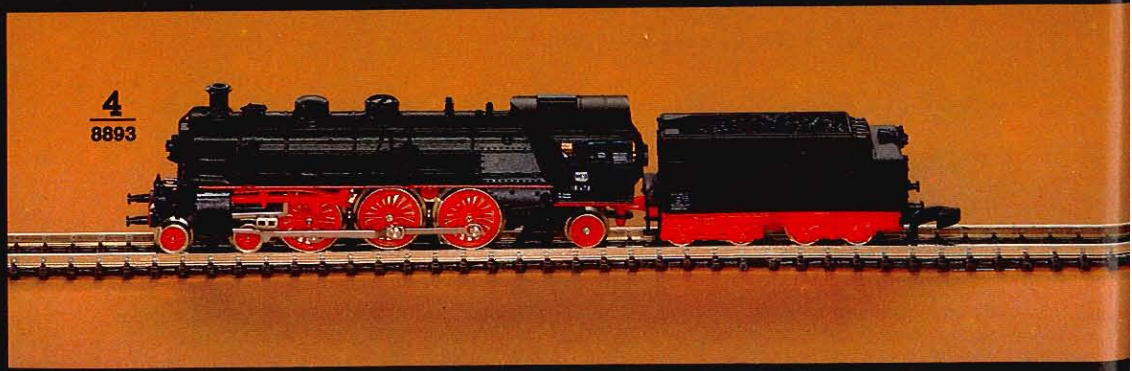






Examples of train consists:





mini-club steam engines feature:

Remote control for forward and reverse · Prototypically correct three working headlights · All driving axles powered · Automatic couplers at rear of tender or tank engine · Die cast zinc frame · Metal body

= 8953

Electric Locomotives

Illustrations shown actual size

Important:
Operate mini-club trains only on Märklin 8 V DC power packs. Operation on higher voltages may damage engine.

1
8853 · Electric multi-purpose locomotive · German Federal Railways' class 120 · B-B wheel arrangement · Length over buffers 87 mm (3-3/8")

■ The class 120 engines include the latest state-of-the-art locomotive development. For the first time, a German Federal Railways' engine includes a 3-phase motor which reflects the recent developments in semi-conductor technology enabling engines to achieve better performance. The locomotive has a power output of 5,600 kW and achieves a top speed of 160 kmph (100 mph).

The engine has unique features which make it the locomotive of the future:
– All-around general purpose engine. It can be used on freights and passenger trains.
– Improves the life of the roadbed. Only 40 % of its mass is dead weight, as compared to 60 % on other engines.
– Frugal use of energy. It requires only 86 % of the energy of other locomotives.
These engines carry a price tag of DM 4 million (about $2 million).

2
8854 · Electric high-speed locomotive · German Federal Railways' class 103 · C-C wheel arrangement · Length over buffers 88 mm (3-1/2")

3
8842 · Electric express locomotive · German Federal Railways' class 111 · B-B wheel arrangement · Length over buffers 76.8 mm (3")

4
8855 · Electric locomotive · German Federal Railways' class 111 as used on high-speed limited in the Rhine-Ruhr district · B-B wheel arrangement · Length over buffers 76.8 mm (3")

Overhead wiring is a natural with electrics. mini-club has a fully functional catenary system (page 136).

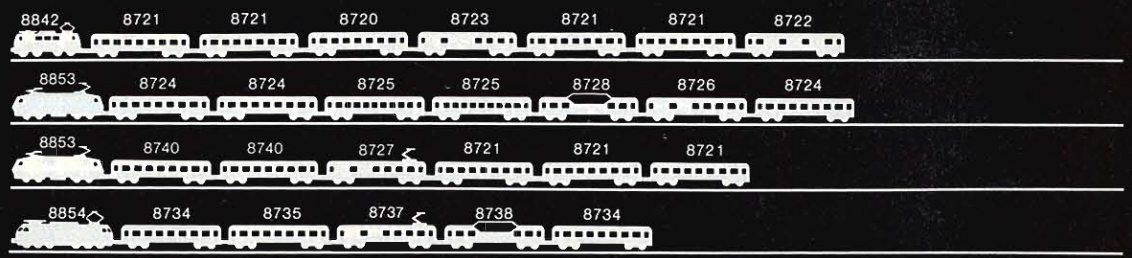
Although only 40 % of the German Federal rail network is electrified, it accounts for 80 % of the traffic load. The environmentally sound electric system is also free of world crisis, since the railroad uses domestic coal to fuel the power stations. Electric power is also the most energy-efficient means of operating trains. The far-flung German Federal Railways, for example, uses about as much current as the city of West-Berlin.

Further, rail transportation requires only 0.8 % of Bonn's energy resources, while highway traffic needs 8 % – ten times as much energy, but provides only 2.3 times as much transportation.





Examples of train consists:



The electric locomotives feature:

Remote control for forward and reverse drive · Both trucks powered · Three working headlights at each end, illuminated according to direction of travel · Can operate from track current or overhead · 2 spring-powered pantographs · Automatic couplers at each end · Die cast zinc frames · Windows inserted in plastic frames on colorful bodies

= 8953

1

8822 · Electric freight locomotive · German Federal Railways' class 194 · C-C wheel arrangement · Prototype green livery · Length over buffers 85 mm (3-3/8")

■ Designed for heavy freight service in mountainous districts, the engine was developed by the German State Railways in 1940. Classed as the E 94, it was a further improvement of the E 93. By 1945, 146 units were in service. Additional units were constructed from 1954 to 1956. Today, classed as the 194, most units continue in regular service. The 194s have an hourly rating of 3,300 kW and maximum speed of 90 kmph (56 mph).

2

8811 · Electric passenger locomotive · German Federal Railways' class 144 · B-B wheel arrangement · Length over buffers 68 mm (2-11/16")

■ In 1931, the German State Railways ordered 20 B-B electrics from the Siemens-Schuckert-Works for use on the newly electrified Augsburg–Stuttgart line. Capable of both freight and passenger service, 174 units were built between 1931 and 1945. Seven more were purchased by the German Federal Railways after 1945.

The E 44 was soon being used on all electrified sections and was quickly dubbed "Mädchen für alles" (Maid of all work). They averaged 20,000 km (12,440 miles) per month.

The E 44 was driven by 4 axle-mounted motors located on two double-axled trucks. All tractive and braking forces were absorbed by the trucks, which are coupled together. Total power was 1,860 kW continuous rating, or 2,200 kW hourly rating, and maximum speed was 90 kmph (56 mph).

3

8857 · Electric freight locomotive · German Federal Railways' class 151 · C-C wheel arrangement · Length over buffers 88 mm (3-1/2")

4

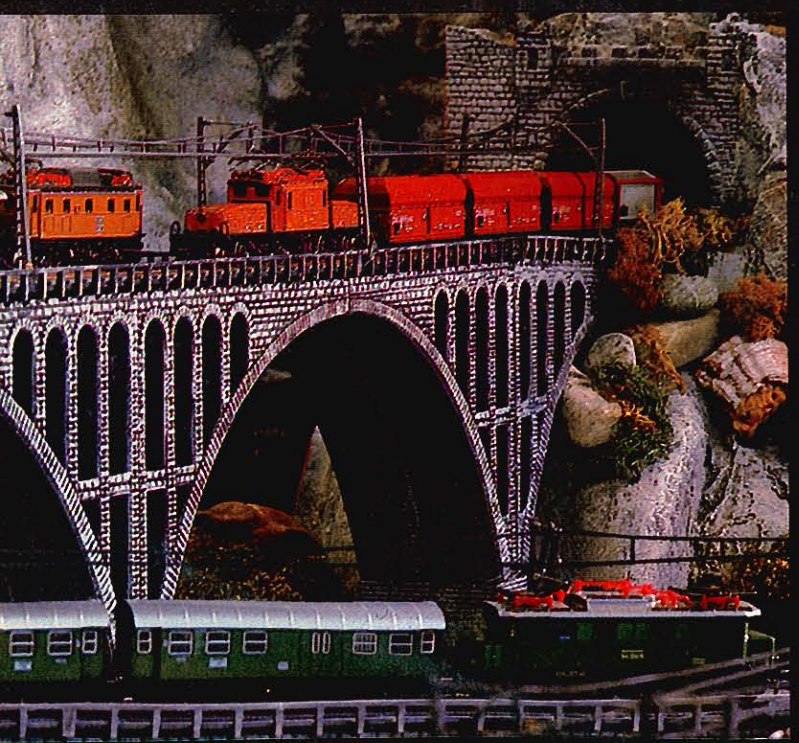
8858 · Electric freight locomotive · German Federal Railways' class 151 · C-C wheel arrangement · Length over buffers 88 mm (3-1/2")

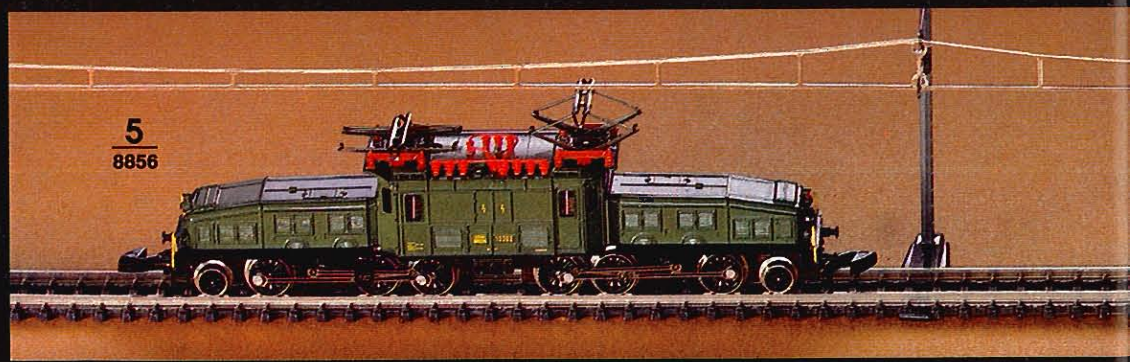
5 Switzerland

8856 · Electric freight locomotive · Swiss Federal Railways' (SBB) Be 6/8^{III} "Crocodile" · 2-6+6-2 wheel arrangement · Length over buffers 91 mm (3-5/8")

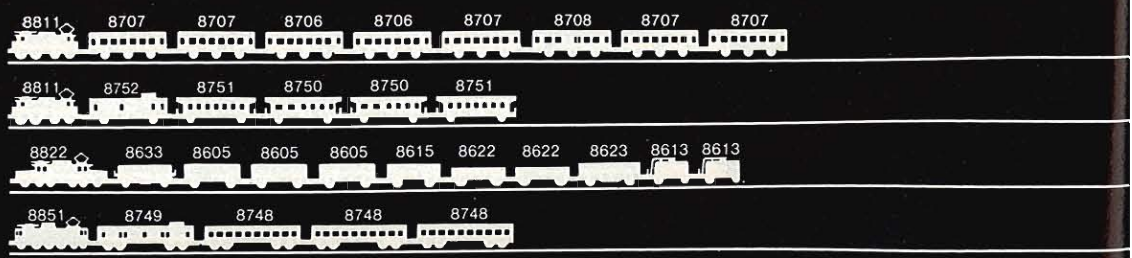
■ 40 % of all transalpine traffic goes via the Gotthard line, a major Swiss trunk line. By the 1920s, traffic had become so heavy that special locomotives were needed, which could handle two round trips in 28 hours between Arth-Goldau and Chiasso. The first engine was a Ce 6/8^{II} which soon evolved into the heavy freight motor, class Be 6/8^{III}, the famous "Crocodile".







Examples of train consists:



Performance: It could pull 2,000 tons at 60 kmph (37 mph) on level track, and it could pull 520 tons (about 15 cars) up a 2.6 % grade at 40 kmph (25 mph).

The "Crocodile" is one of the world's most intriguing locomotives. Even the mini-club's version of this meighty creature measures 91 mm (3-5/8") long. Like its prototype, the mini-club "croc" is articulated so it can negotiate all mini-club curves. The three body sections, i.e.: center and two ends are finely detailed and feature insulated electric cables on the roof as well as handrails on the buffer beams.

6 Switzerland

8852 · Electric freight locomotive · Swiss Federal Railways' (SBB) class Ce 6/8^{III} (Crocodile) · 2-6+6-2 wheel arrangement · Length over buffers 91 mm (3-5/8")

■ Following the proven performance of the first two "crocodiles", the Be 6/8^{II} and Ce 6/8^{II}, the Swiss Federal Railways ordered an additional series of 18 engines built in 1926 and 1927. These had some minor modifications. Although the interior workings were essentially unchanged, power was now transmitted via slanted rods rather than with triangular drive. The units were originally painted brown.

The hourly rating was 1,810 kW and a continued performance of 1,620 kW at 38 kmph (24 mph).

The Ce 6/8^{III} had a top speed of 65 kmph (40 mph). In 1953, they were upgraded to 75 kmph (47 mph) and classed as Be 6/8^{III}.

7 Switzerland

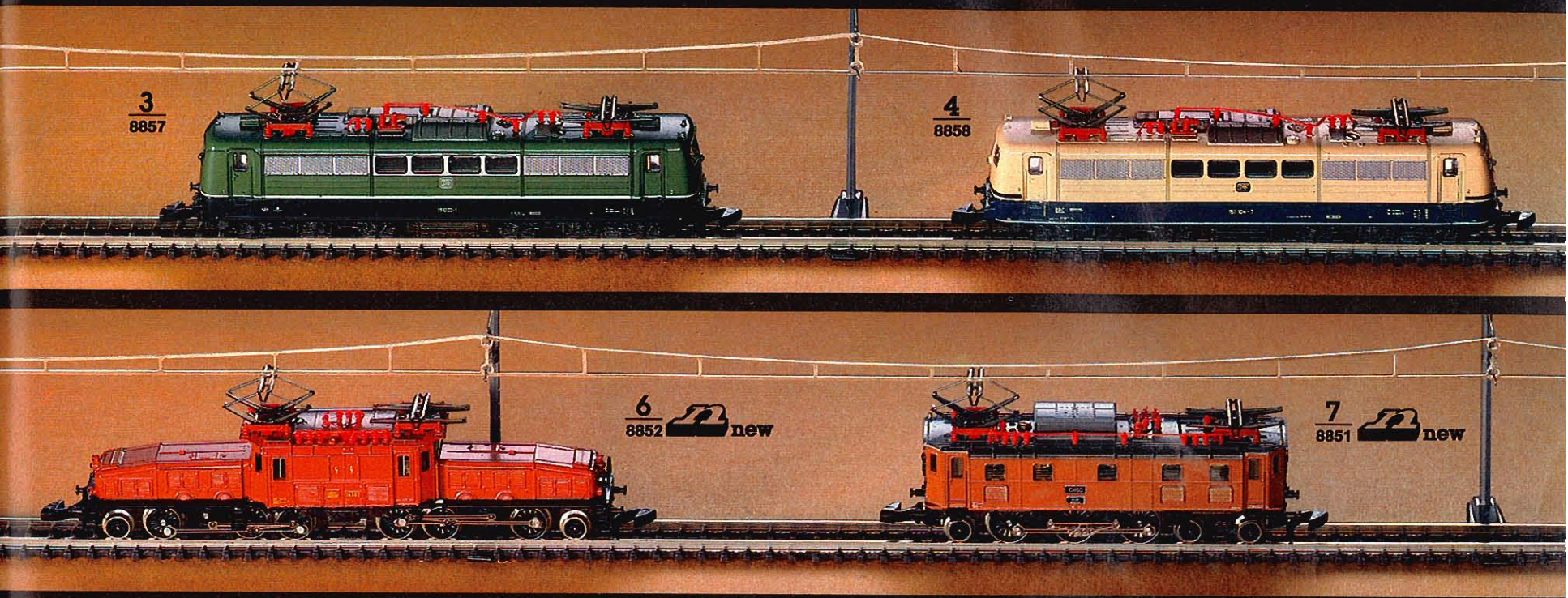
8851 · Electric express locomotive · Swiss Federal Railways' (SBB) class Ae 3/6^{II} · 4-C-2 wheel arrangement · Length over buffers 64 mm (2-1/2")

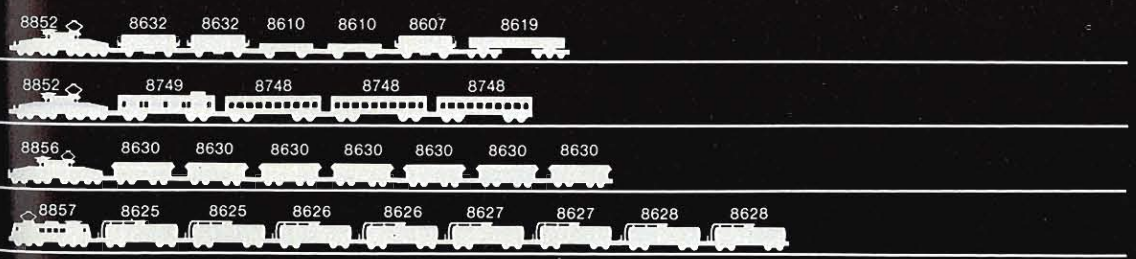
= 60210

■ The Ae 3/6^{II} is a further development of the test engine Be 3/5 number 12201 built by Maschinenfabrik Oerlikon in 1919. Sixty of these Ae 3/6^{II} were built between 1924 and 1926 for use on the level stretches of the Swiss Federal Railways. Because these engines are so sound, their maximum speed limit was increased from 90 kmph (56 mph) to 100 kmph (62 mph).

Two slow running motors located in the rigid engine housing drive the wheels via counter shafts and rods.

The hourly rating is 1,470 kW at 65 kmph (40 mph), and a continued performance of 1,225 kW at 75 kmph (47 mph).





The electric locomotives feature:

Remote control for forward and reverse drive · Both trucks powered · Three working headlights at each end, illuminated according to direction · Can operate from track current and overhead · 2 spring-powered pantographs · Automatic couplers at each end · Die cast zinc frame · Windows inserted in plastic frames on colorful bodies

= 8953

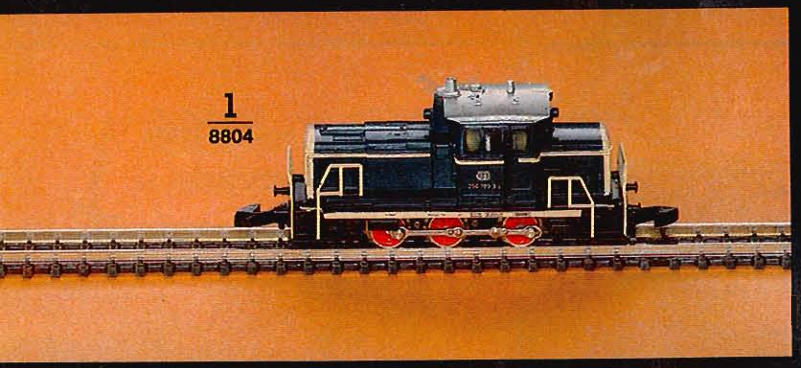
Illustrations shown actual size

Important:
Operate mini-club trains only on Märklin 8 V DC power packs. Operation on higher voltages may damage engine.

Diesel Locomotives Self-propelled Cars

Illustrations shown actual size

Important:
Operate mini-club trains only on Märklin 8 V DC power packs. Operation on higher voltages may damage engine.



The diesels and self-propelled cars feature:

Remote control for forward and reverse drive · All axles powered · Three working headlights at each end (except 8802, 8804, and 8864) · Automatic couplers at each ends (except 8802) · Die cast zinc frames · Colorful bodies

💡 = 8953



1
8804 · Diesel switcher · German Federal Railways' class 260 · C wheel arrangement · Sea blue/beige metal body · Length over buffers 49 mm (1-15/16")

■ Large numbers of the German Federal Railways' class 260 switchers were built from 1956 on for yard duty. They have a single motor rated at 478 kW and use hydraulic transmission.

Originally, the 260s were painted red, the color for switchers. Recently, they have been given a new coat: sea blue and beige.

2
8864 · Diesel switcher · German Federal Railways' class 260 · C wheel arrangement · Red metal body · Length over buffers 49 mm (1-15/16")

■ The class 260 diesels date from 1956. Originally designated V 60, it has a 12 cylinder 478 kW diesel engine under the long hood and the air and fuel tanks under the short hood.

Steam enthusiasts should be pleased to know that pre-warming the 260s power plant depends partly on coke-fired boilers.

As an aid for safe and efficient switching, the 260 has radio-telephones for constant communication between engineer, yardmaster, and other rail personnel. This engine can also be operated by remote control.

Like the class 261, the 260 locos are also used on freight runs.



Spare parts for Locomotives

Locomotive	8800	8801	8802	8803	8804	8811	8816	8821	8822	8827	8842	8851	8852	8853	8854	8855	8856	8857	8858	8864	8874	8875	8885	8891	8892	8893	8895	8896	8899
Carbon Brushes	8987	8987	8988	8987	8987	8989	8988	8989	8989	8989	8989	8989	8989	8989	8988	8989	8989	8988	8988	8987	8988	8988	8989	8989	8989	8989	8987	8989	8989
Lights		8953		(8953)		8953	8953	8953	8953	8953	8953	60210	8953	8953	8953	8953	8953	8953	8953		8953	8953	8953	8953	8953	8953	8953	8953 60210	8953
Pantograph						8955			8955		8955 (8956)	8955	8955	8956	8955 (8956)	8955 (8956)	8955	8955	8955										

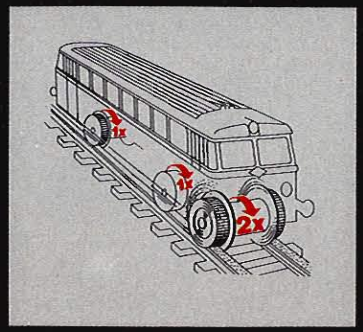
3

8816 · **Railbus** · German Federal Railways' class 798 · Length over buffers 62 mm (2-7/16")

4

8817 · **Trailer for railbus** · German Federal Railways' class 998 · Length over buffers 62 mm (2-7/16")

How the Track-Cleaning Car works



5

8802 · **Track-cleaning car** · 2 powered axles · Automatic coupler on rear · Length over buffers 62 mm (2-7/16")

The vehicle has two powered axles. The rear wheels are ridged to provide better traction. Two track-cleaning ridged wheels are located ahead of the front axle, these rotate faster than the driving wheels causing the dirt to be thrown from the tracks.

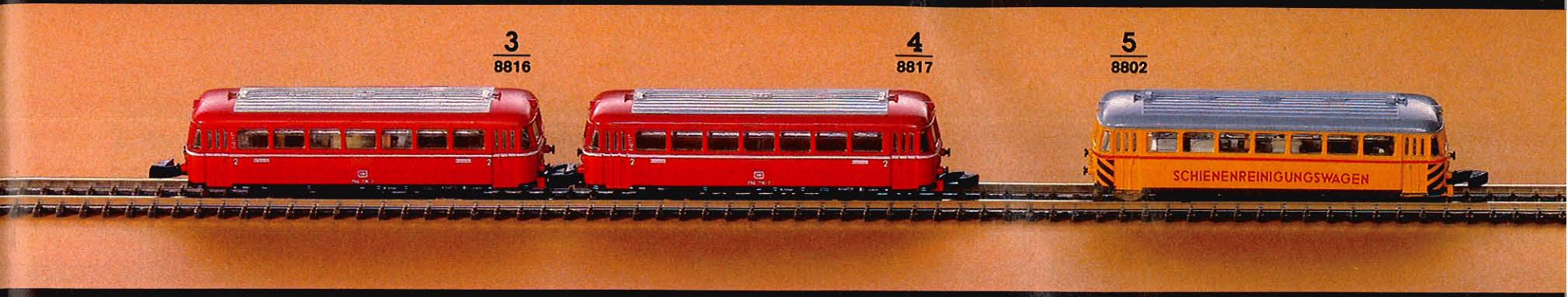
6

8821 · **Diesel-hydraulic express locomotive** · German Federal Railways' class 221 · B-B wheel arrangement · Three working headlights at each end, illuminated according to direction · Length over buffers 84 mm (3-3/8")

■ The class 221 engines are successors of the earlier class 220. The 221s were required because the demands of heavier payloads and longer trains were taxing the 220s. Between 1962 and 1965, 50 of these 221s were built for the German Federal Railways. Both diesels have a power output of 993 kW. Utilizing hydraulic transmission, the 221s can achieve 140 kmph (87 mph). The diesels have oil-fired boilers.

7199

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





7

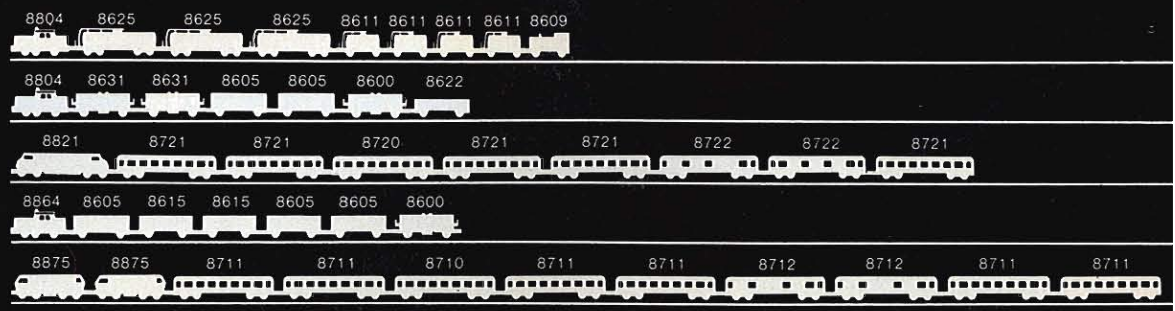
8874 · **Road diesel** · German Federal Railways' class 216 · B-B wheel arrangement · Three working headlights at each end, illuminated to direction · Length over buffers 75 mm (3")

8

8875 · **Road diesel** · German Federal Railways' class 216 · B-B wheel arrangement · Three working headlights at each end, illuminated according to direction · Length over buffers 75 mm (3")

■ In the mid-50s, the German Federal Railways began to dieselize in earnest. Because diesels are more utilitarian, there was a subsequent reduction in the number of types of locomotives rostered on the DB – a development unique in the railroad world. As part of this dieselization program, the Krupp Works at Essen developed that standard road diesel, the 216.

Examples of trains consists:



Passenger Cars

Passenger cars of the former German provincial railways

Cars used by the **Württemberger Railways** · 4 wheels · Platform and entrance at both ends · See-through windows with "Cellon" panes · Length 60 mm (2-3/8")

1
8700 · **Coach**

2
8701 · **Coach**

Cars of the **Bavarian Railways** · 8 wheels · Windows set in plastic frames · Length 87 mm (3-3/8")

3
8730 · **Express coach** · Type CCü of the former Royal Bavarian State Railways · 3rd class

Passenger cars of the former German State Railways

Cars of the former German State Railways · 8 wheels · Windows set in plastic frames

4
8731 · **Express coach** · Type C4ü bay 11 · 3rd class · Length 87 mm (3-3/8")

5
8732 · **Express baggage car** · Type Pw4ü bay 09 · Length 78 mm (3-3/8")

Passenger cars of the German Federal Railways

Cars of the German Federal Railways · 6 wheels · Windows set in plastic frames · Length 57 mm (2-1/4")

6
8703 · **Baggage car** · Former type Pw3-pr02

7
8704 · **Compartment car** · Former BC3-pr03

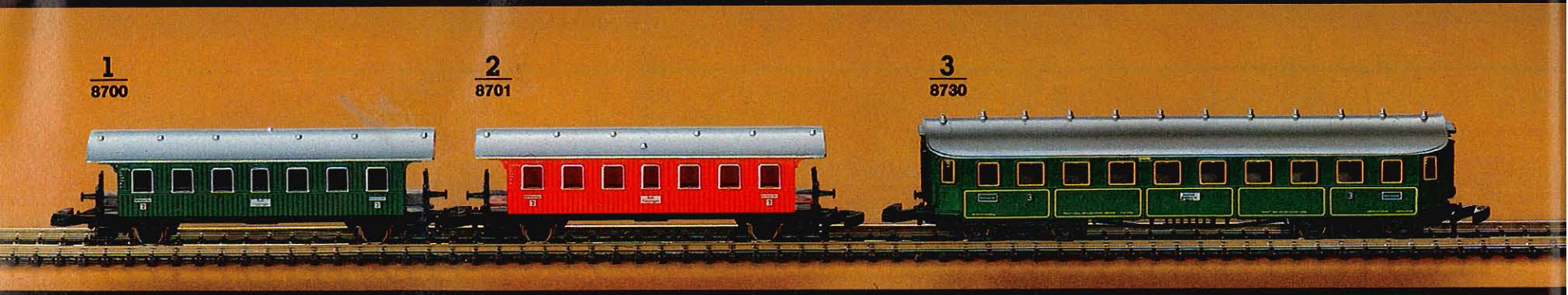
8
8705 · **Compartment car with brakeman's cab** · Former type B3-pr03

Passenger cars of the German Federal Railways

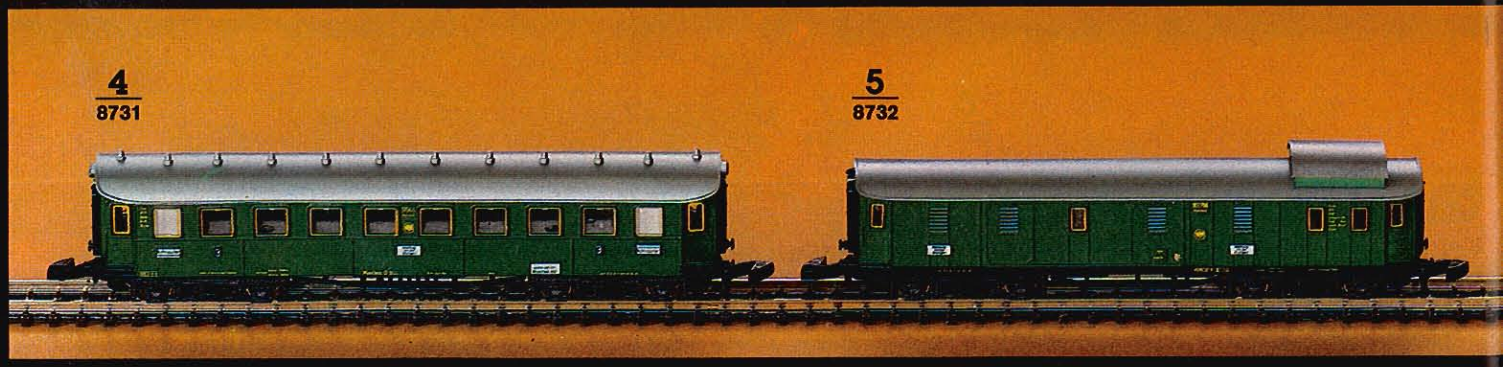
Cars of the German Federal Railways · 4 wheels · Windows set in plastic frames · Platforms and doors at each end · Length 63 mm (2-1/2")

9
8750 · **Coach** · Type ABi 29 · 1st and 2nd class

10
8751 · **Coach** · Type Bi 29 · 2nd class









Illustrations shown actual size

11
8752 · **Baggage car** · Type D2ie

■ Shortly after the founding of the German Railway Association in 1924, efforts were undertaken to establish a standard coach to replace those inherited from the provincial railways.

These standard 4-wheel coaches were originally built with wood roofs and interiors. Later versions were all-steel.

The type 29 coaches were an all-steel version. Because of their noisy operation, they quickly acquired the nickname "Donnerbüchsen" (rattling crates).

Passenger cars of the German Federal Railways

Cars of the German Federal Railways · 6 wheels · Windows set in plastic frames · Length 61 mm (2-3/8")

12
8706 · **Coach** · Type AB3yge · 1st and 2nd class

13
8707 · **Coach** · Type B3yge · 2nd class

14
8708 · **Combine car** · Type BD3yge · 2nd class

■ At the beginning of the 1950s, there were many obsolete and damaged 4 and 6 wheels coaches on the rip tracks of the DB. By modifying the underframes of these cars, new types of 6-wheel coaches for 2nd class service were built. Some were further modified to include a 1st class section or a baggage compartment. All cars had diaphragms.

Passenger cars of the Swiss Federal Railways

Cars of the SBB/CFF · 8 wheels · Windows set in plastic frames

15 Switzerland
8748 · **Express coach** · Older type C4ü · 3rd class · Length 87 mm (3-3/8")

■ These cars were constructed from 1913 through 1928 as corridor/compartment cars for international service. Cars 8901–8916 had Prussian style trucks, while cars 8917–8962 ran with gooseneck trucks. From 1933 to 1948, these cars were rebuilt with a center aisle and carded for domestic service only.

16 Switzerland
8749 · **Express baggage car** · Older type F4ü · Length 91 mm (3-3/8")

■ This baggage car was built for the BLS (Bern-Lötschberg-Simplon RR) in 1913. It was sold to the Swiss Federal Railways in 1927 for use on the Gotthard limiteds.



Passenger cars of the German Federal Railways

All models have these features: 8 wheels · Windows set in plastic frames · Length 120 mm (4-¾")

1

8716 · **Commuter car** · Type Bnb^{720} · 2nd class

2

8717 · **Commuter car** · Type ABnb^{703} · 1st and 2nd class

■ These commuter cars of the German Federal Railways are nicknamed "Silberlinge" (Silverliners) because the stainless steel bodies have an intriguing peacock's eye livery.

3

8718 · **Commuter car with baggage compartment and control cab** · Type BDnrzf^{740} · 2nd class · Three white headlights and two red tail lights, illuminated according to direction of travel

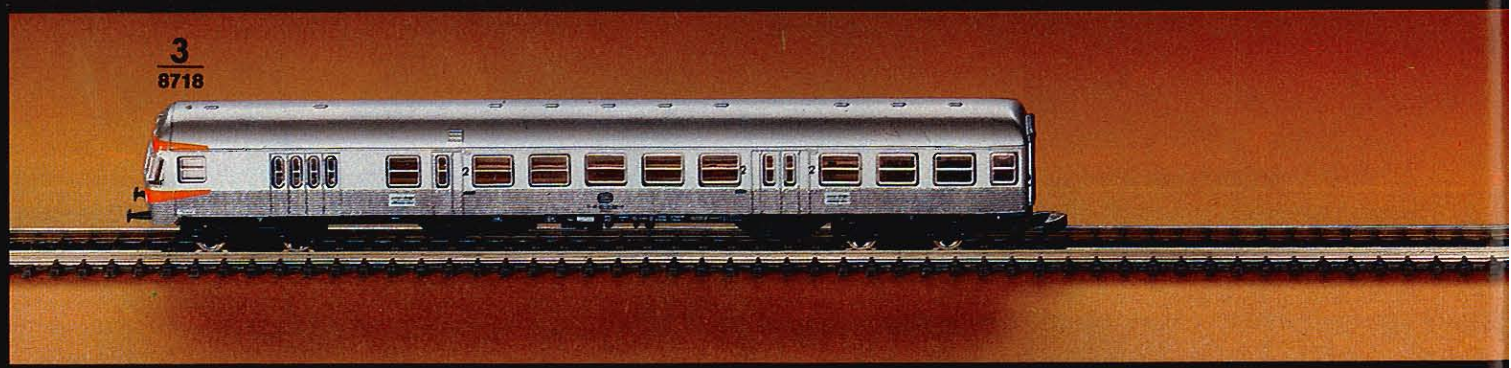
■ Most commuter trains are Push-Pull and consist of a diesel, several coaches based on traffic demands, and a control car at one end. Push-Pull trains require no terminal turnaround: the engineer merely walks to the other end to resume operations for the return trip.





When the train runs control car-first, three white headlights shine from the control car.

When the train runs diesel-first, two red tail lights shine from the control car.





Illustrations shown actual size

4
8710 · **Express coach** · Type Am · 1st class

5
8711 · **Express coach** · Type Bm · 2nd class

6
8712 · **Baggage car** · Type Dm 902 (earlier Düm 902)

7
8713 · **Diner** · Type WRmh 132 (earlier WRümh 132)

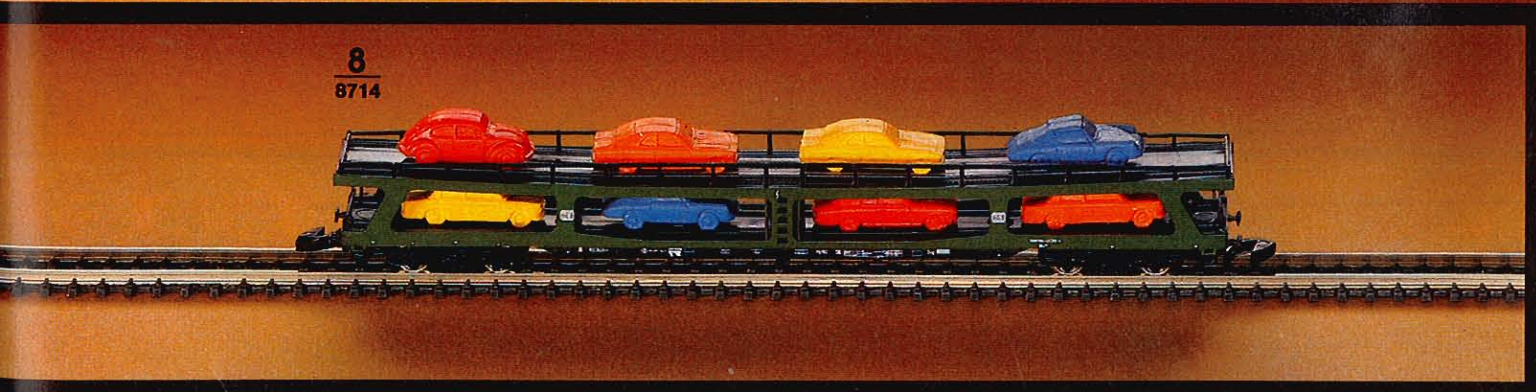
8
8714 · **Auto carrier** · Type DDm 915 · Includes 8 autos

■ Auto trains are fairly common in Germany and are often operated as part of the D-Zug (express train) network. Autos are driven onto the cars under their own power using ramps to reach different levels. Drivers and occupants leave and return to their cars by walking along the ramps or climbing ladders on the cars.









Passenger cars of the German Federal Railways

All models have these features: 8 wheels · Windows set in plastic frames · Length 120 mm (4-¾")

1
8720 · **Express coach** · Type Am[203] (earlier Aüm 203) · 1st class

2
8721 · **Express coach** · Type Bm[234] (earlier Büm 234) · 2nd class

3
8722 · **Baggage car** · Type Dm[902] (earlier Düm 902)

4
8723 · **Diner** · Type WRmh[132] (earlier WRümh 132)

5
8740 · **Express coach** · German Federal Railways' type Avmz[207] (EUROFIMA A9) · 1st class

■ The type A9 EUROFIMA coach was developed through a consortium of six European railroads. The cars incorporate many features of the German Federal Railways' first class coaches. Today, 500 EUROFIMA cars, including 100 first class coaches, operate on the western German network.









6
8727 without lighting
8737 with lighting

TEE/IC Diner · Type WRmz 135 · Sprung single-arm pantograph

■ In measurements and space configurations, the type WRmz 135 is identical to the German Federal Railways' type WRmh 132. The cars have a single-arm pantograph and a small transformer so food can continue cooking when the car is at a station during layovers. The pantograph retracts automatically as soon as engine power is coupled to the train. It also retracts as soon as the wheels roll, during blackouts, and if the overhead snaps.

These cars are primarily used on the TEE and IC (**I**nter **C**ity) limiteds of the German Federal Railways.

7
8724 without lighting
8734 with lighting

TEE-Compartment car · Type Avmz[111] (earlier Avümz 111)

8
8728 without lighting
8738 with lighting

TEE-Dome car · Type ADm[101] (earlier ADümh 101) · Dome shell made of transparent plastic

9
8725 without lighting
8735 with lighting

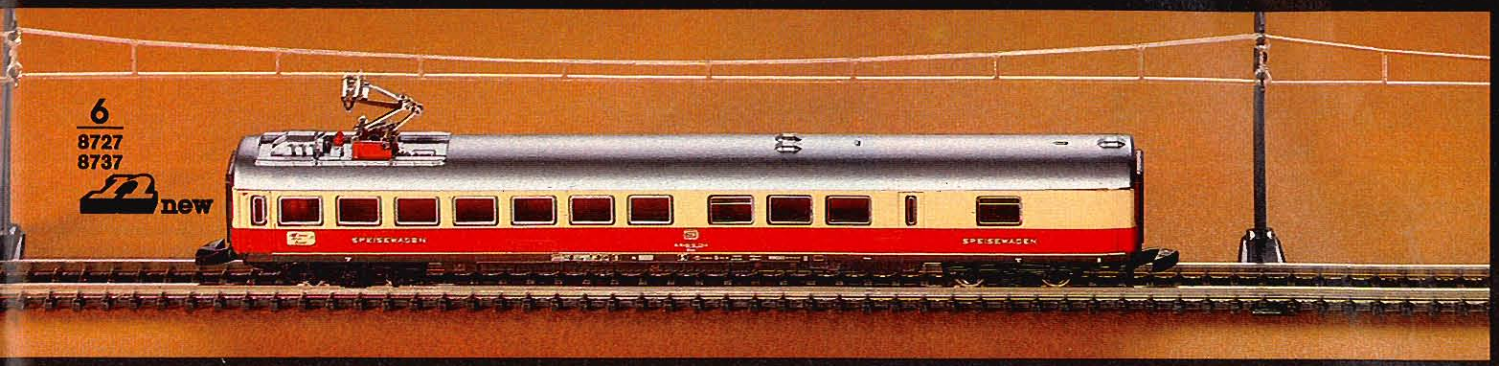
TEE-American style coach · Type Apmz[121] (earlier Apümz 121)

10
8726 without lighting
8736 with lighting

TEE-Diner · Type WRmh[132] (earlier WRümh 132)

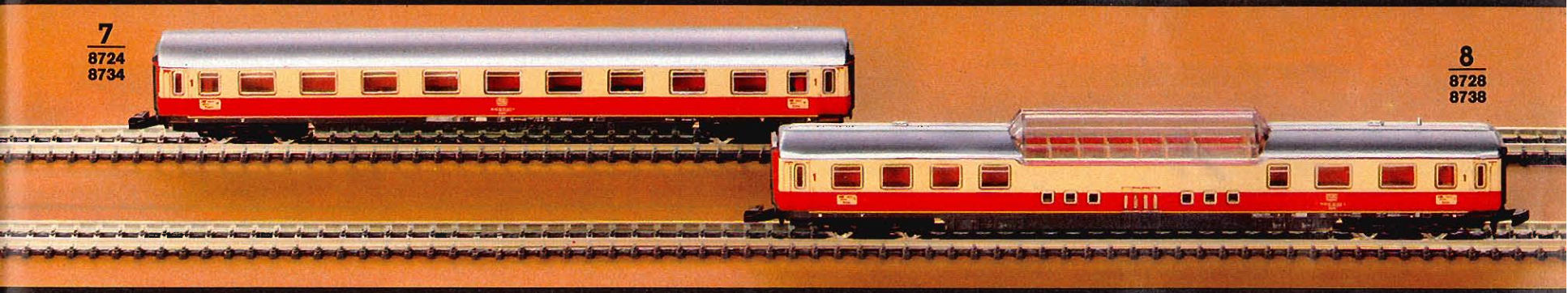
■ TEE trains are the varnish flagships of the German Federal Railways. All trains are completely 1st class, many coaches have American style 2-2 seating, and the entire train is air conditioned. Passenger comfort is a TEE trademark.

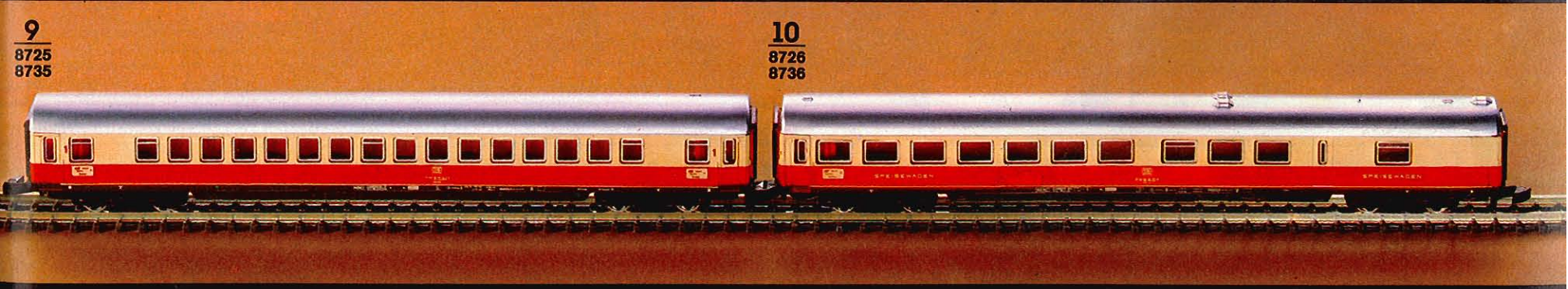
The Intercity trains travel at speeds up to 160 kmph (100 mph) and can reach 200 kmph (125 mph) on suitable track.



Illustrations shown actual size

The mini-club TEE (**T**rans **E**urope **E**xpress) cars are available with or without lighting.





Freight Cars

1
8600 · **Refrigerator car** · Type Ichqs-u^{377} (earlier Ichqrs 377) of the German Federal Railways · Length 54 mm (2-1/8″)

2
8609 · **Package car** · German Federal Railways' type Dg · Operating doors on each side · Length 40 mm (1-9/16″)

3
8610 · **Low-side gondola** · Length 54 mm (2-1/8″)

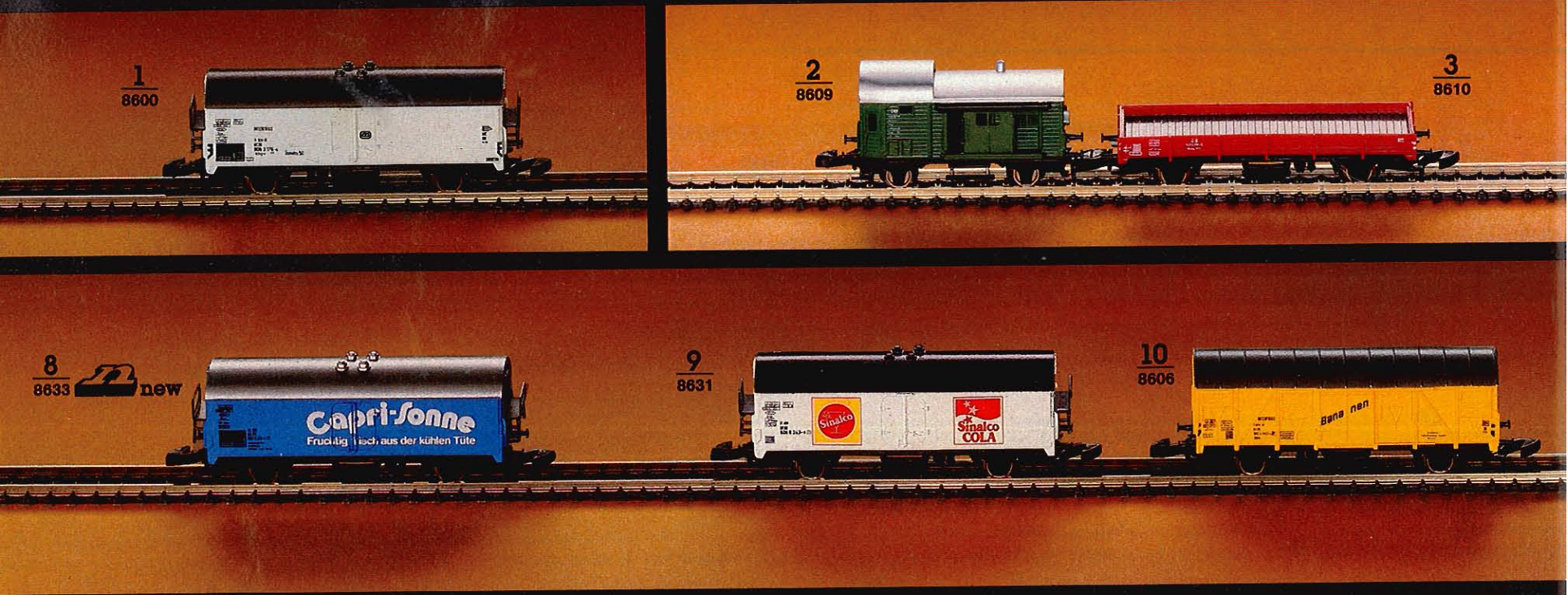
4
8622 · **High-side gondola** · German Federal Railways' type E^{037} (earlier Omm 52) · Length 54 mm (2-1/8″)

5
8605 · **Box car** · German Federal Railways' type Gos-u^{253} (earlier Gbrs 253) · Length 54 mm (2-1/8″)

6
8615 · **Container car** · German Federal Railways · Length 54 mm (2-1/8″)

7
8630 · **Self-unloading hopper car** · German Federal Railways' type Fals^{176} (earlier Fads 176) · Length 53 mm (2-1/16″)

8
8633 · **Refrigerator car** · Lettered for Capri-Sonne juice company · Length 54 mm (2-1/8″)





Ladder tracks

Marshalling yards are the junction points for rail freight service. This is where incoming freights are broken up – often uncoupled by hand – and new freights are formed.

The exciting world of a freight yard can also be duplicated on mini-club layouts. Uncoupling is easy with the 8587 uncoupling track (page 132).

9
8631 · **Refrigerator car** · Lettered for Sinalco and Sinalco COLA, a German soft drink company · Length 54 mm (2-1/8")

10
8606 · **Box car** · German Federal Railways' type Ibbls · Length 54 mm (2-1/8")

11
8602 · **Beer car** · Spatenbräu München · Length 54 mm (2-1/8")

12 Denmark
8608 · **Beer car** · Carlsberg · Length 54 mm (2-1/8")

13 Switzerland
8607 · **Beer car** · Feldschlößchen · Length 54 mm (2-1/8")

14 Switzerland
8632 · **Beer car** · Eichhof-Bier · Length 54 mm (2-1/8")

15
8623 · **Bulk-freight car** · German Federal Railways' type Tbis[870] · Length 64 mm (2-7/10")

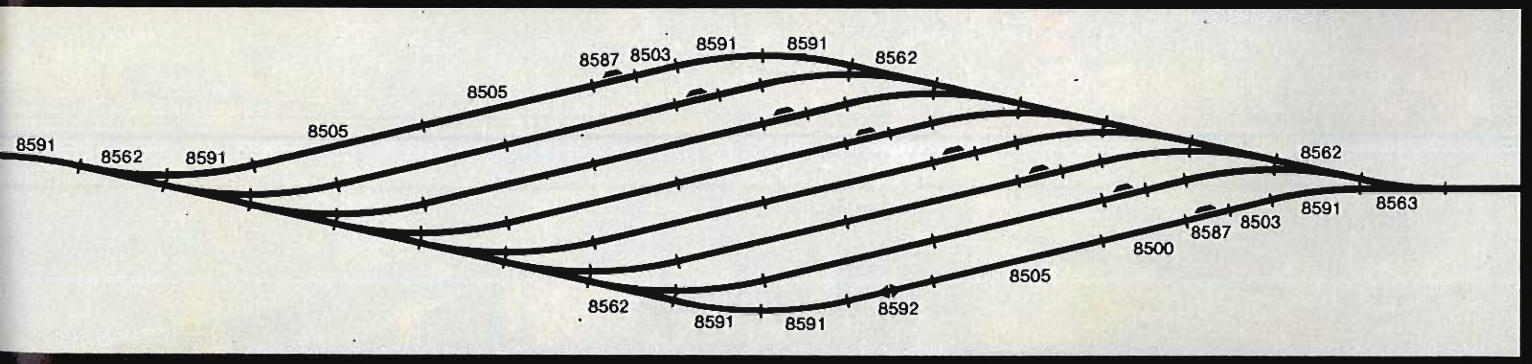
■ This special purpose car with sliding doors and sides was designed for economical loading and unloading of damp and bulk items. Every part of the interior can be reached by a crane or fork-lift.

16
8624 · **Ballast car** · Equipped with Talbot self-unloader · Used primarily in work trains · Length 33 mm (1-3/10")

■ The German Federal Railways has special maintenance of way cars. This car, for example, has trap doors along the sides which are manually operated by a lever. When a door opens, the sheer weight of the ballast allows for "selfunloading".

Illustrations shown actual size







■ The German Federal Railways field about 290,000 freight cars for general transportation, plus about 16,000 maintenance and special purpose cars. In addition, about 50,000 privately owned freight cars operate on German Federal tracks.

Some 65% of the freight cars are conventionally designed while 35% are specially-built cars.

The trend is definitely toward more special purpose cars as the German Federal Railways, responding to market demands, cooperates with shippers to build cars offering customers optimum protection against damage, automated loading and unloading systems, as well as taking into consideration price and service life.

1
8611 · **Tank car** · Shell · 4 wheels · Length 40 mm (1-9/16″)

2
8612 · **Tank car** · Esso · 4 wheels · Length 40 mm (1-9/16″)

3
8613 · **Tank car** · Aral · 4 wheels · Length 40 mm (1-9/16″)

4
8614 · **Tank car** · BP · 4 wheels · Length 40 mm (1-9/16″)

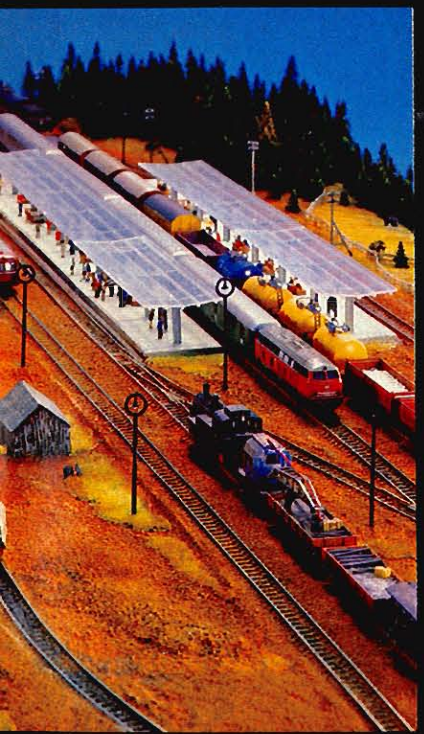
5
8625 · **Tank car** · Shell · 8 wheels · Length 75 mm (3″)

6
8628 · **Tank car** · BP · 8 wheels · Length 75 mm (3″)

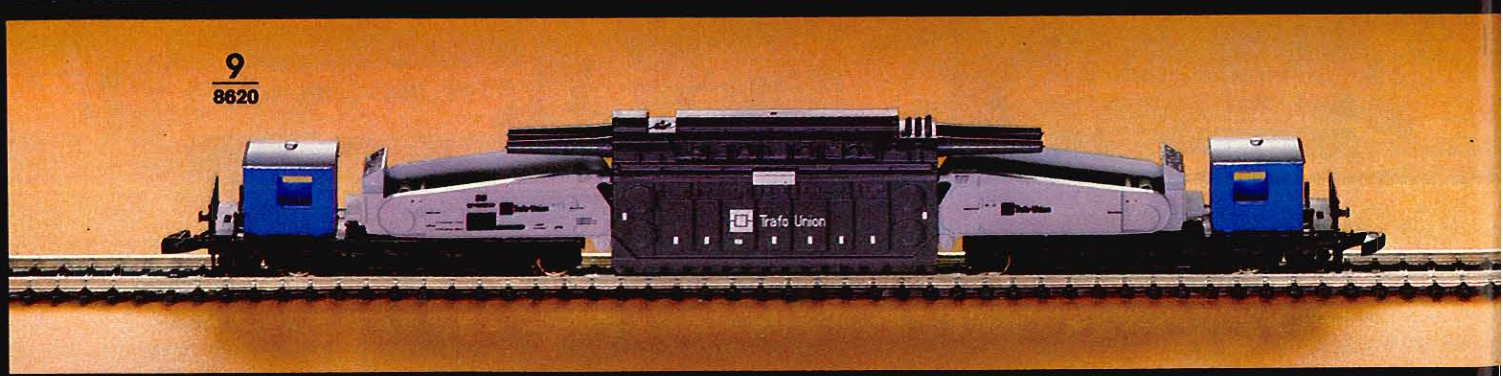
7
8626 · **Tank car** · Esso · 8 wheels · Length 75 mm (3″)

8
8627 · **Tank car** · Aral · 8 wheels · Length 75 mm (3″)

9
8620 · **Depressed-center flat car** · Loaded with transformer · Length 154 mm (6-1/16″)



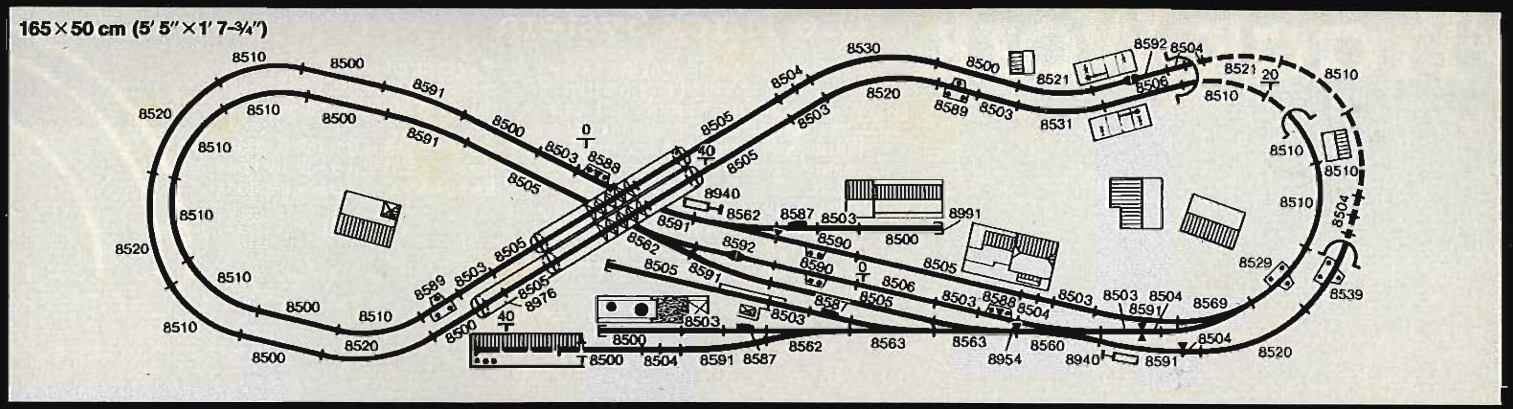




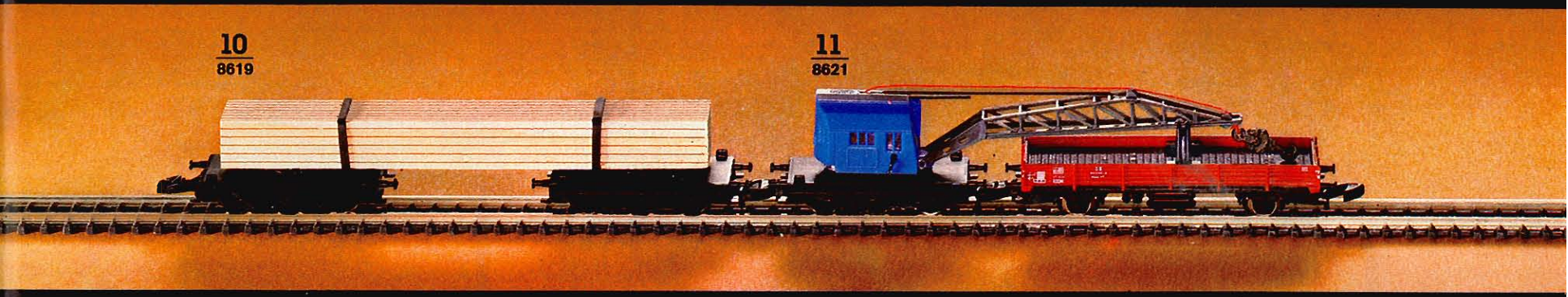


10
8619 · **Disconnected lumber car** · In 2 parts · Loaded with finished lumber · Length 93 mm (3-5/8")

11
8621 · **Crane car** · Rotating crane with movable boom and boom support · Hook can be raised and lowered by hand · Length of underframe 35 mm (1-3/8") · (Low-side gondola 8610 is not included, but is recommended for use when moving the crane car)









Illustrations shown actual size

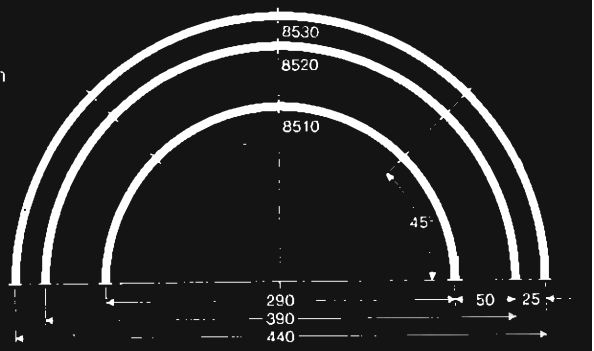
Track Work

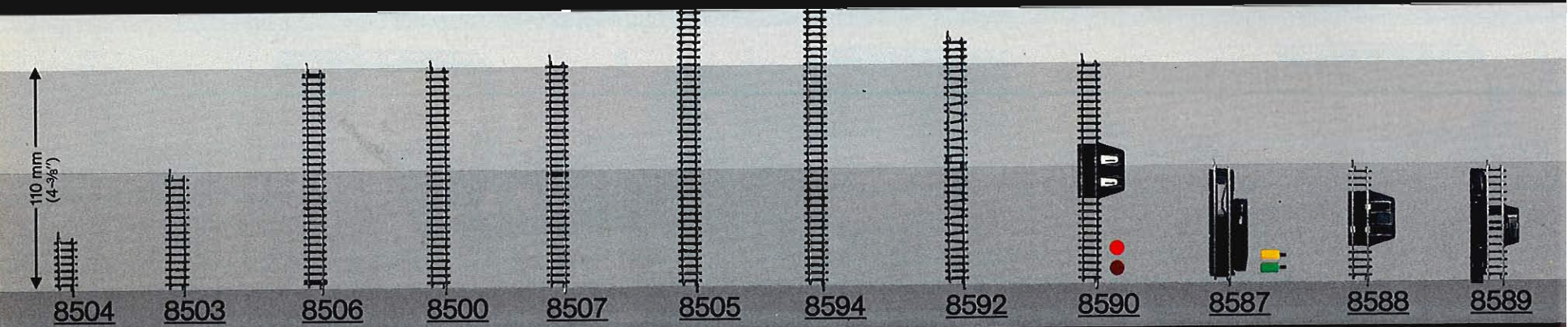
The Track System

The remarkable mini-club track sections have a gauge of only 6.5 mm (¼"), tie width of 11.5 mm (7/16"), and a track height of 2.5 mm (1/10"), yet are amazingly detailed. The accurately scaled nickel-silver rails are mounted on plastic ties. As with other scales, the tracks are joined by means of clips (fishplates). To insure a firmer connection, the fishplates are strengthened with claw couplings on the end ties, just beneath the rails.

This diagram shows the 3 Märklin mini-club track radii, including diameter and loading gauge.

Radius 8510 = 8 track sections
Radius 8520 = 8 track sections
Radius 8530 = 8 track sections





8504 Length 25 mm (1")

8503 Length 55 mm (2-3/16")

8506 Length 108.6 mm (4-5/16") · Extension track for use with crossing 8559 and double-slip switch 8560

8500 Length 110 mm (4-3/8")

8507 Length 112.8 mm (4-7/16") · Same length as diagonal on crossing 8559 and double-slip switch 8560

8505 Length 220 mm (8-13/16")

8594 Length 660 mm (2' 2") · Can be made into flex track by selectively notching ties · When doing so, rails and tie strip should be shortened to conform to curves and new track clips (8954) installed

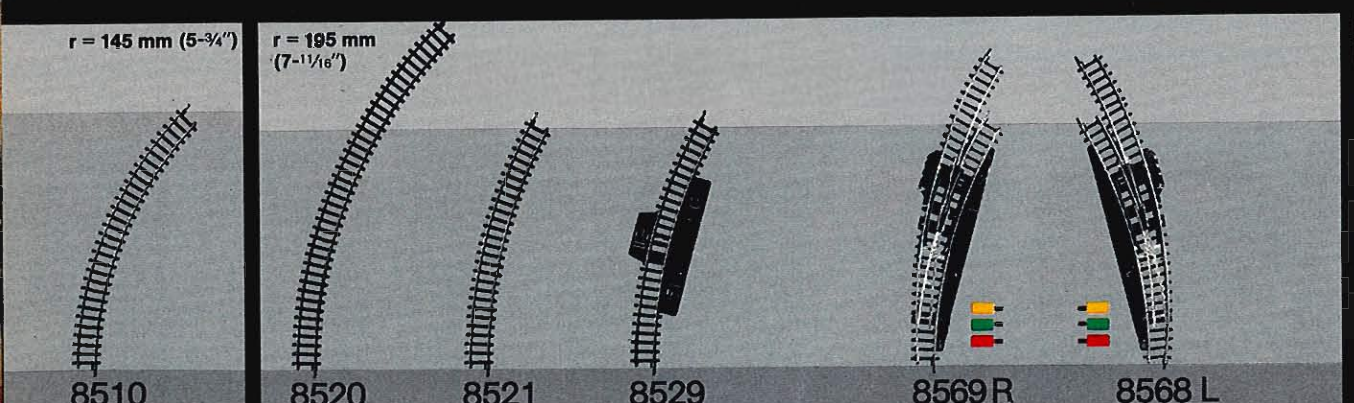
8592 Curvable, telescoping section · Length can be increased from 100 to 120 mm (3-15/16" to 4-¾") · Excellent for use with switches, filling in gaps, and adjusting between curves

8590 **Feeder track** · With radio interference suppressors · Includes two track terminals and leads · Length 110 mm (2-3/16")

8587 **Uncoupling track** · Can be operated manually or by remote control (using position control switch 7072) · Length 55 mm (2-3/16")

8588 **Isolating track** · For block circuits · One rail is cut to allow circuit selection · Includes connecting clamp · Length 55 mm (2-3/16")

8589 **Circuit track** · Includes conn ting clamps · C cuit tripped wh train passes o track · Length 55 mm (2-3/16")



8510 Radius 145 mm (5-¾") · 45°

8520 Radius 195 mm (7-11/16") · 45°

8521 Radius 195 mm (7-11/16") · 30°

8529 **Circuit track** · Radius 195 mm (7-11/16") · 30° · With terminal · Circuit tripped when train passes over track

8569 R / **8568 L** **Solenoid-operated curved switches** · Inside radius 195 mm (7-11/16") · 30° (same as 8521 curved track) · Outside track length 125 mm (4-15/16") · (Fig 4) · **R** = Right-handed, **L** = Left-handed

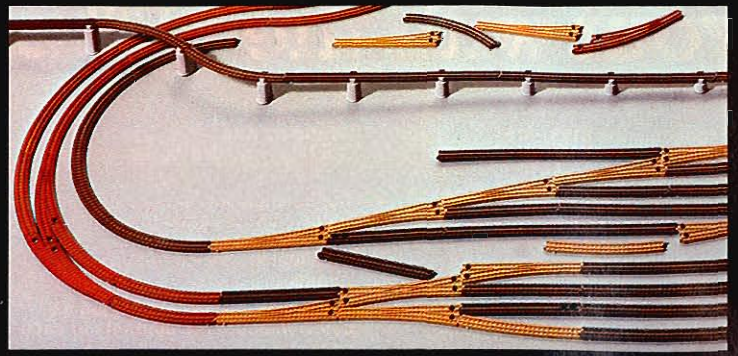
8530 Radius 220 mm (8-11/16") · 45°

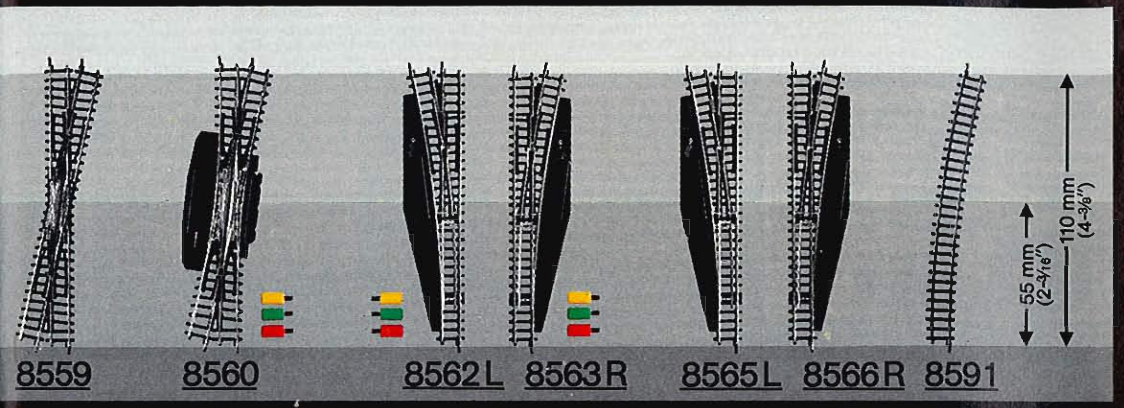
8531 Radius 220 mm (8-11/16") · 30°

8539 **Circuit track** · Radius 220 mm (8-11/16") · 30° · With terminal · Circuit tripped when train pas over track

Layout Planning

It's easy to plan your mini-club layout by using the Märklin specially prepared books, templates, and planning game. You'll know exactly what is necessary to realize your dream empire with these aids.





8559 8560 8562 L 8563 R 8565 L 8566 R 8591

Crossing · Length 112.8 mm (4-7/16") · 13° · (Fig 1)

Double-slip switch · Length 112.8 mm (4-7/16") · 13° · Radius 323 mm (1' 3/4") · (Fig 1)

Solenoid-operated switches · Length 110 mm (4-3/8") · 13° · Radius 490 mm (1' 1-1/4") · (Figs 2 + 3) · **R** = Right-handed, **L** = Left-handed

Manually-operated switches · Length 110 mm (4-3/8") · 13° · Radius 490 mm (1' 1-1/4") · (Figs 2 + 3) · **R** = Right-handed, **L** = Left-handed

Radius 490 mm (1' 7-1/4") · 13° · Matches the curve on switches 8562 L, 8563 R, 8565 L and 8566 R

All solenoid switches can also be operated manually. Use circuit tracks or position control box 7072 for remote control operation.

Figure 1 for 8559 and 8560

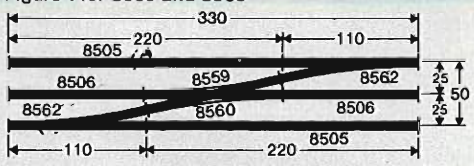


Figure 2 for 8562 L, 8563 R, 8565 L, 8566 R

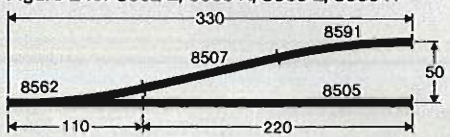


Figure 3 for 8562 L, 8563 R, 8565 L, 8566 R

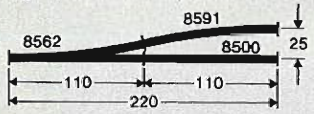
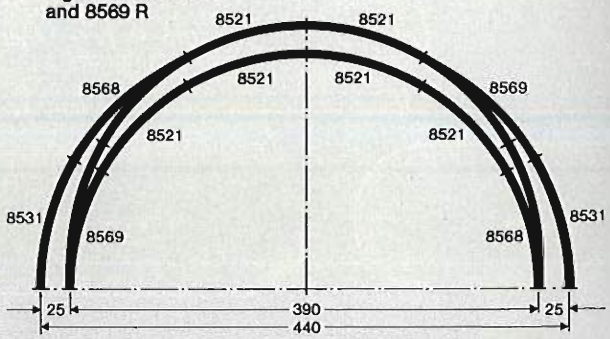


Figure 4 for 8568 L and 8569 R



0232

mini-club layout planning game for designing Z scale layouts · Includes half-sized replicas of mini-club track sections · Enough "track" to design a medium large layout · Each "track" has corresponding track number printed on bottom · Comes in 5 colors (3 curves, straight track sections, and switches) · "Track" sections can be coupled together

With this game it is possible to plan your layout without referring to complicated geometry for curves. The color-coded "track" sections takes the guesswork out of layout planning.

To make this a game, just add dice! And make up your own rules. For example, if someone throws a six, he gets a double-slip switch.

After the layout is built, these "track" sections can be used as freight loads, or as dummy narrow-gauge tracks.



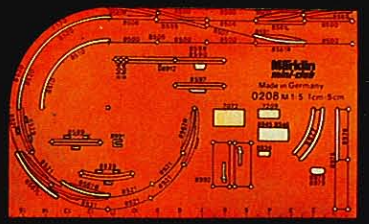
0322

Booklet "Märklin-Spaß mit mini-club" by Bernd Schmid · Ideal for beginners and advocated modelers alike · Wide assortment of "how-to" tips for building mini-club layouts · Easy-to-understand text · Ideas for track work, scenery, and novel suggestions possible only with mini-club · Well illustrated, many color photos · 126 pages · 22×17 cm (8-3/4" × 6-3/4") · German text



0292

Booklet · 54 pages of layout designs · With wiring schematics, catenary and bridgework · English text supplement



0208

Layout templates for mini-club tracks · Scaled 1 : 5



8931

Illuminated bumper · Includes screw for connecting to track · Length 16 mm (11/16")

8991

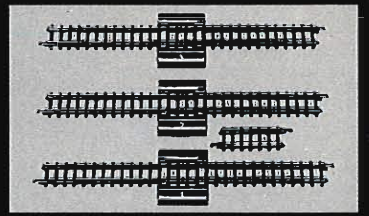
Bumper · Clips onto track · Length 15 mm (5/8")

8954

Pack of 10 insulated and 20 non-insulated rail joiners

8999

100 track nails · 0.5×6 mm (1/64" × 1/4")



8993

Reversing loop set · Easy way to ensure proper polarity on reversing loops



8974

Re-railing ramp · Easy way to get cars on the track

Expanding your layout with the SET program

The ideal way to develop your mini-club layout.

Begin with a basic set and then add track and accessory packages in the SET expansion program. The descriptive letters, "S", "E", "T1", "T3" indicate the range of track which is included in each expansion package:

S = Starter oval (sets 8163–8166)
E = Expansion switches and sidings
T1 = For double tracking the oval
T2 = For passing track in station area
T3 = For marshalling yard

Expanding the 8163–8166
8163–8166 include the basic oval "S". To expand, we recommend you first add one of the extansion sets "E". When further expansion is desired, add one or more of the "T" sets.

The three "T" sets can be added in any sequence. A suggested sequence is shown on this page.

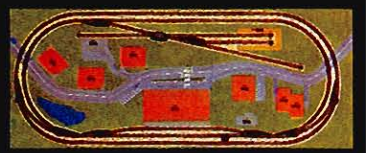
Expanding the 8158–8161
These sets already include the "S", "E", and most of the "T3" track (See diagrams on this page). They can be expanded by adding the „T1" and "T2" sets, or by free-lancing.

Expanding the 8167
This set includes the "S" and the "E" track, and can be expanded with any of the "T" sets, or by free-lancing.

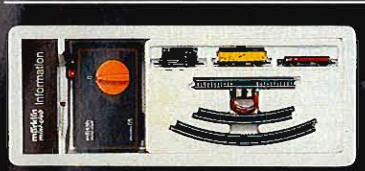
Overhead Kits
Operate your electric locomotives realistically.

The catenary kits shown here are specifically designed to go with the SET track packages, but are also excellent for use on free-lanced layouts.

The specifications and diagrams below indicate the contents of each package.

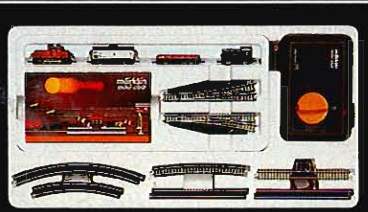


8930
Toporama · Landscape-guide for the SET program · Right-of-way clearly marked · Made of heavy-duty cloth · Colorful · Can be used with sets S+E onwards · Size 50×120 cm (1' 7-¾×3' 11-¼")



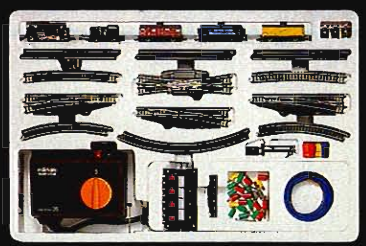
8163
Freight train with power pack S





8167
Freight train with power pack S + E





8158
Freight train with power pack

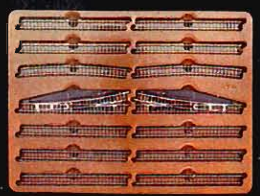




8198
Overhead system kit S+E · Contains all necessary items for adding catenary to the S and E sets · Includes: 18×8911 · 1×8912 · 9×8922 · 11×8923 · 1×8926



8199
Overhead system kit T1+T2+T3 · Contains all items necessary for adding catenary to the three T sets · Includes: 4×8911 · 16×8914 · 3×8921 · 6×8922 · 24×8923 · 2×8924 · 6×8925 · 1×8926 · 1×8927



8190
Expansion set E with manual switches · Includes: 1×8565 L · 1×8566 R · 2×8591 · 10×8500 · Instructions



8191
Expansion set E with solenoid-operated switches · Includes: 1×8562 L · 1×8563 R · 2×8591 · 10×8500 · 1×7072 · 1×7209 · Leads, sockets, plugs · Instructions



8192
Double track set T1 · Includes: 1×8568 L · 1×8569 R · 2×8521 · 4×8530 · 6×8500 · 1×7072 · 1×7209 · Leads, sockets, plugs · Instructions



8193
Station passing track set T2 · Includes: 1×8568 L · 1×8569 R · 2×8521 · 2×8504 · 6×8500 · 1×7072 · 1×7209 · Leads, sockets, plugs · Instructions



8194
Marshalling yard set T3 · Includes: 1×8560 · 1×8562 L · 1×8563 R · 10×8500 · 1×7072 · 1×7209 · 4×8991 · Leads, sockets, plugs · Instructions











Multiple Train Control

Multiple train control adds interest and excitement to any model railroad.

Multiple train operation is possible by using separate electric circuits; with each circuit controlling a different stretch of track. Each circuit requires a separate power pack.

Wires

Copper wires consist of 24 separate strands 0.10 mm (0.004″) in diameter each, for an overall circumference of 0.19 mm² (0.03 sq. in.). Can withstand short-circuits.

Once the tracks are laid, it is then time to install wiring. Märklin's color-coding makes it easy:
Red: for supplying power to the rails.
Brown: for returning current. These wires are grounded.

Yellow: for supplying constant voltage to accessories and lights.
Gray: for return of constant voltage from accessories, switches, and lights. These are also grounded.
Blue: for supplying current to solenoid-operated switches. The wires have color-coded plugs to mate with color-coded sockets on the switches.



7000
Staples · Bag of 50 · For stapling wires on wood

7100 **Wire** · Single-core · Gray · 10 m (33′)

7101 **Wire** · Single-core · Blue · 10 m (33′)

7102 **Wire** · Single-core · Brown · 10 m (33′)

7103 **Wire** · Single-core · Yellow · 10 m (33′)

7105 **Wire** · Single-core · Red · 10 m (33′)



Sockets
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

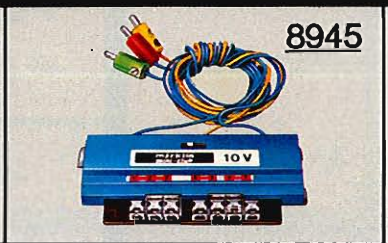


7209
Distribution strip · With 11 single sockets · Measures 50×20 mm (2″×¾″)

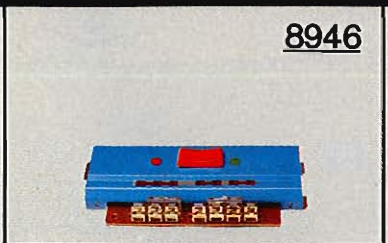


6701 220 Volt
Märklin mini-club Power Pack electronic 08 for use with AC house current · Uses a programmed diode circuitry to supply a steady flow of current at any range for smooth operation · Ideal for prototypically slow starts with realistic acceleration and deceleration · Single knob controls both the **DC track voltage** (between 0 and 8 V) as well as direction of travel (by rotating knob from center position) · Power output to 8 VA DC for tracks and 10 volt 8 VA **AC for accessories** · Brown plastic housing · Weight 0.8 kg (1-¾ oz) · Measures 85×117×70 mm (3-11/32″×4-5/8″×2-¾″)

Important:
Operate mini-club trains only on Märklin 8 V DC power packs · Operation on higher voltages may damage engines



8945



8946



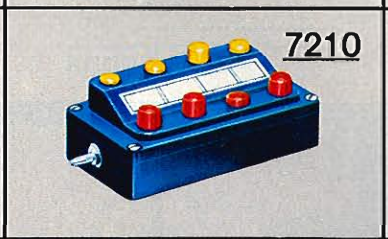
8947



6727 110 Volt (60 Hz) · USA · UL-Approved
6720 100 Volt Japan
6729 240 Volt
Märklin mini-club power pack for use with AC house current · Output 12 VA · **DC track current** adjustable between 2 and 8 volts · Polarity reversing switch for changing direction of travel · 10 Volt **AC current for accessories** · Blue plastic housing · Weight 1.2 kg (2-½ lb) · Measures 125×135×75 mm (4-15/16″×5-5/16″×3″)



7072



7210



7211



8939



8940

8945
Universal remote control (Solenoid-operated switch) · Solenoid operates single pole double throw and double pole double throw (reversing) contacts to control up to three circuits or functions at one time · Responds to impulse from circuit track (8589), position control box (7072) or hand operation · Operates on 10 V · Width 30 mm (1-3/8″) · Length 70 mm (2-¾″) · Height 8 mm (5/16″) · Wiring diagram and examples in booklet 0292

8946
Universal manual control · Operates single pole double throw and double pole double throw (reversing) contacts to control up to three circuits or functions at one time · Similar to 8945, except for manual operation only · Width 30 mm (1-3/8″) · Length 70 mm (2-¾″) · Height 8 mm (5/16″) · Wiring diagram and examples in booklet 0292

8947
Remote control reversing switch · (Solenoid operated) · Operates double pole double throw (reversing) contacts · Responds to impulse from circuit track (8589), Position control box (7072) or hand operation · Operates on 10 V · Width 30 mm (1-3/8″) · Length 70 mm (2-¾″) · Height 8 mm (5/16″) · Wiring diagram and examples in booklet 0292

7072
Position control box · 4 double pole momentary-contact switches · For controlling single or double-solenoid operated items · Momentary contact · Red or green buttons remain depressed to indicate position of signals, switches, etc. · Length 80 mm (3-1/8″) · Width 40 mm (1-9/16″)

7210
Control box · 4 single pole on-off switches · For controlling up to 4 accessories or sidings connected to a single power source · Length 80 mm (3-1/8″) · Width 40 mm (1-9/16″) · Yellow and red buttons indicate condition of circuits

7211
Control box · 4 single pole on-off switches · For controlling up to 4 different track and accessory circuits from the same or different power sources · Length 80 mm (3-1/8″) · Width 40 mm (1-9/16″) · Yellow and green buttons indicate condition of circuits

8939
Color light home signal · Operating red/green lights · 2 bulbs · Controlled by universal remote control switch 8945 or by manual switch 8946 · Height 34.5 mm (1-3/8″)
= 8953

8940
Home signal with 1 semaphore · Operating red/green lights · Double solenoid operated · Can be used for automatic train control · Controlled by position control box 7072 or by a circuit track · Height 45 mm (1-¾″)
= 8953

8954
Pack of rail joiners · Includes 20 metal joiners and 10 insulating joiners

Overhead System

Add prototype realism to a mini-club layout by installing a catenary system (overhead). Electric locomotives will operate off the catenary. Using separate power packs, two trains can be operated on the same stretch of track.

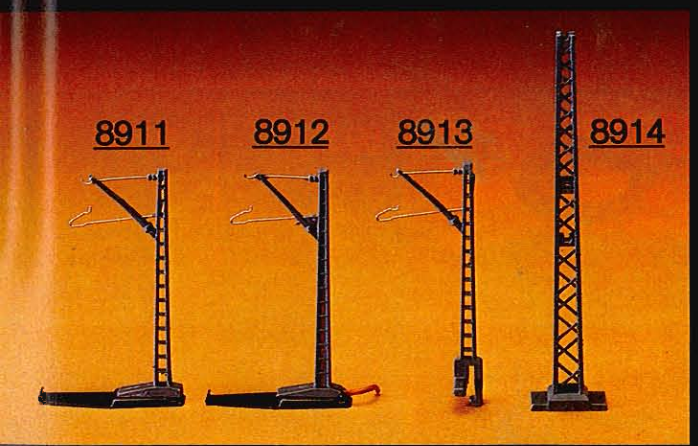
For single or double track lines, the regular masts are sufficient. On double track lines, masts are placed on the outside of the tracks. The sprung wire clamps insure good contact with the wires.

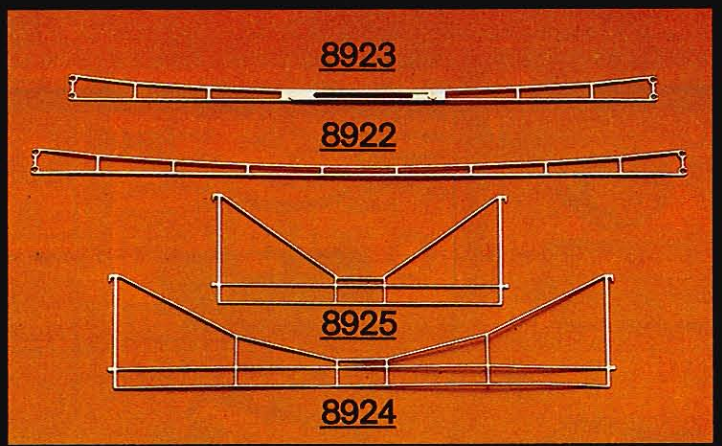
8911
Single track mast · Includes supporting plate · Height 38 mm (1-½")

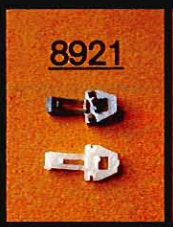
8912
Feeder mast to connect power supply to overhead · Includes supporting plate and leads · Height 38 mm (1-½")

8913
Bridge mast for clipping on side of bridges, ramps, etc. · Height 41 mm (1-⅝")

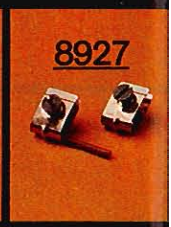
8914
Tower mast for multiple track overhead · Can accept cross-spans 8924 and 8925 · Base 7 × 13 mm (¼" × ½") · Height 61 mm (2-⅜")





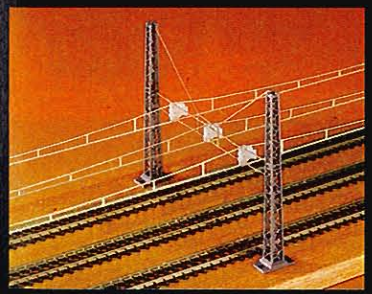




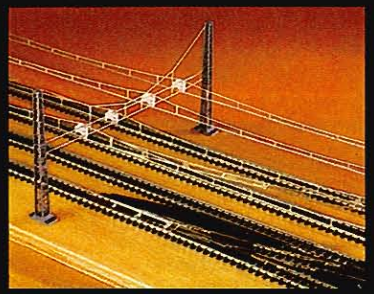








On multi-track sections (e.g.: stations, yards, etc.) tower masts and cross spans are required. With catenary insulators the individual circuits are kept separate.





8922
Catenary wire for straight and curved tracks · Length 165 mm (6-½")

8923
Catenary wire · Adjustable length 150 to 180 mm (5-⅞" to 7-⅛")

8924
Cross-span · Hooks onto tower masts · Spans 5 tracks · Length about 123 mm (4-⅞")

8925
Cross-span · Hooks onto tower masts · Spans 3 tracks · Length about 72 mm (2-⅛")

8921
Catenary insulators · Pack of 8 white and 2 gray insulators for insulating catenary wires from cross-spans · White insulators hold 2 wires, gray insulators hold 3 wires

8926
Pack of 8 insulator sections and 6 connecting springs · Required for insulating points on overhead and at switches

8927
Catenary wire terminals · Contains 2 screw terminals with leads and 3 without leads · For feeding power to catenary wires and holding wire sections together (e. g. at crossings, etc.)

8955
Standard pantographs · Includes screw for mounting

8956
Modern-style pantograph · Includes screw for mounting

Accessories

General scenery material (mats, grass, trees, etc.) may be obtained at any reputable hobby shop.

Structure kits listed here can be illuminated with lighting set 8950.

1
8957 · **Street light** · Height 46 mm (1-¾″) · Base 8 × 14 mm (5/16″ × 9/16″)
= 60210

2
8958 · **Station light** · Height 46 mm (1-¾″) · Base 8 × 14 mm (5/16″ × 9/16″)
= 60210

3
8959 · **Park light** · Height 25 mm (1″) · Base 8 × 14 mm (5/16″ × 9/16″)
= 60210

4
8980 · **Two-bay engine house with operating doors** · Kit includes 2 insulated track sections which automatically stop engines · Can accomodate overhead wires · Length 152 mm (6″) · Width 74 mm (2-7/8″) · Height 51 mm (2″)

5
8995 · **Overhead kit for transfer table** · Includes: 2 support masts, 1 catenary wire 8922 with leads soldered on and 10 short catenary wires for approach tracks

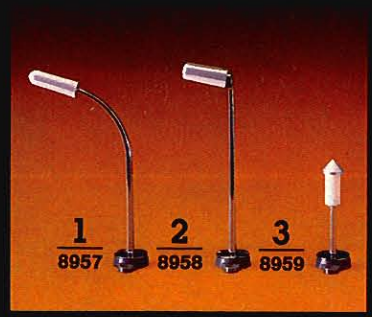
6
8994 · **Transfer table** with 2 approach tracks and 8 stall tracks · Mates with engine house 8980 · Can be flush mounted on layout · Panel for remote control of table and locomotives · Operates with electric motor · Power is automatically disconnected to tracks not alligned with table · Width and length, both 220 mm (8-5/8″)

8950
Lamp with socket · Includes leads · Ideal for stations, building, etc.
= 8953

8953
Illumination kit · With 10 V bulb · For use with socket 8950, signals 8939 and 8940, grade crossing 8992, and for illuminated locomotives

7
8986 · **Right-of-way detail assortment** · Includes 2 gripping levers · 4 crossing bucks · 4 sets of three railroad crossing approach signs · 1 telephone booth and 1 foot bridge

60210
Light bulb · For items 8851, 8896, 8957, 8958, and 8959



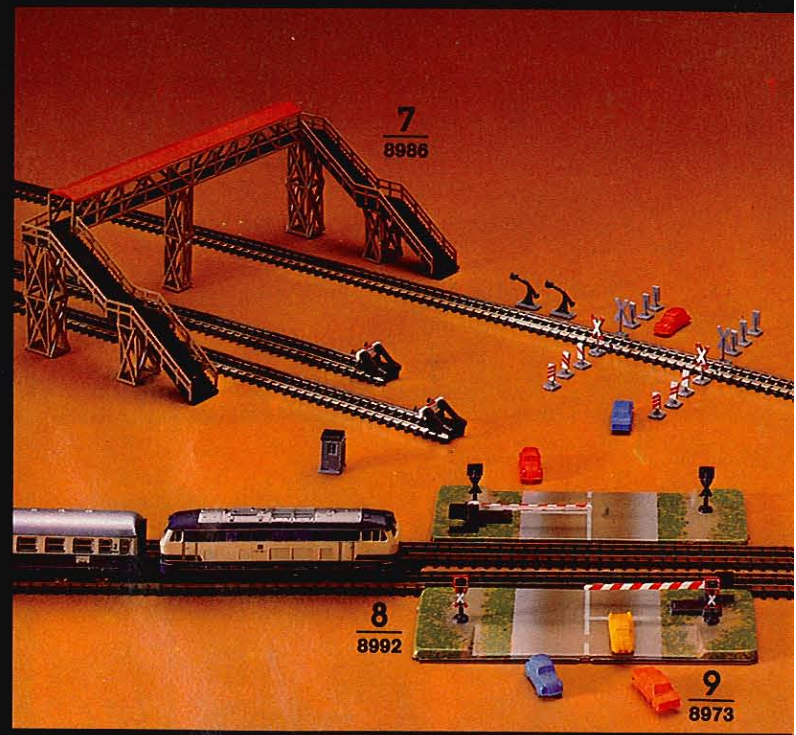
8
8992 · **Grade crossing kit with gates** · Includes 2 solenoid-operated crossing gates · 2 pair of crossing bucks (illuminated when gates are down) · Each half measures 96 × 37 mm (3-¾″ × 1-½″)
= 8953

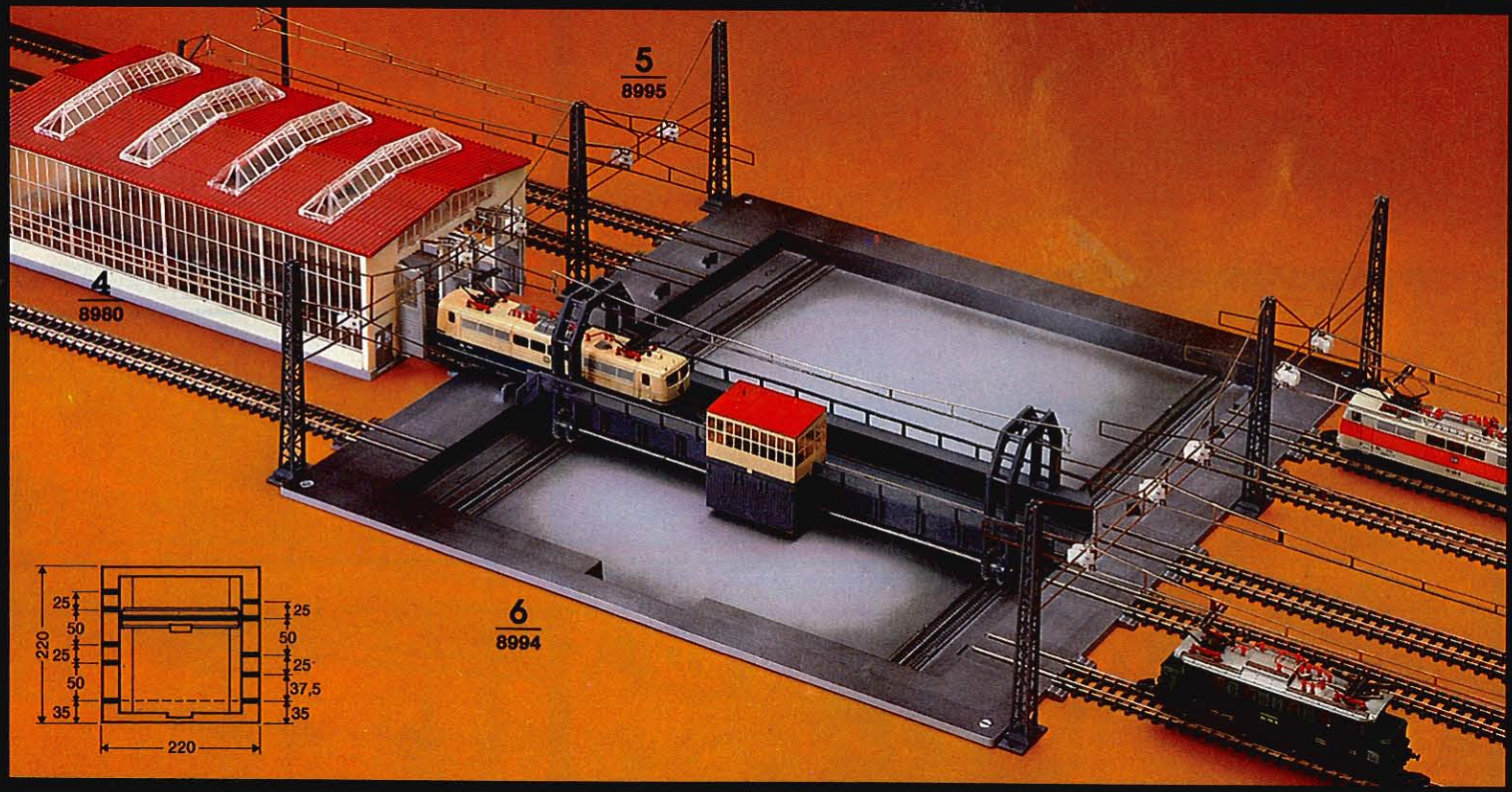
For realistic prototype operation, be sure to add:

a) for **manual operation:** 1 manual signal control box 8946

b) for **automatic operation:** 1 universal remote control switch 8945, 2 circuit tracks (as appropriate, e.g.: 8529, or 8539 or 8589)

9
8973 · **Package of 6 assorted mini-club automobiles**





1
8972 · **Container terminal kit** · Overhead gantry with movable crane, containers and trucks · Base measures: 135 × 65 mm (5-5/16″ × 2-9/16″)

2
8975 · **Through bridge** · Gray · Length 220 mm (8-5/8″)

3
8977 · **Curved ramp** · Radius 145 mm (5-3/4″) · Track curvature 45°

4
8976 · **Straight ramp** · Length 110 mm (4-3/8″)

7599
Flat head wood screws · Ideal for connecting bridges to pillars · Pack of 200

5
8979 · **Bridge pillars** · Includes 5 pillars 40 mm high (1-9/16″)

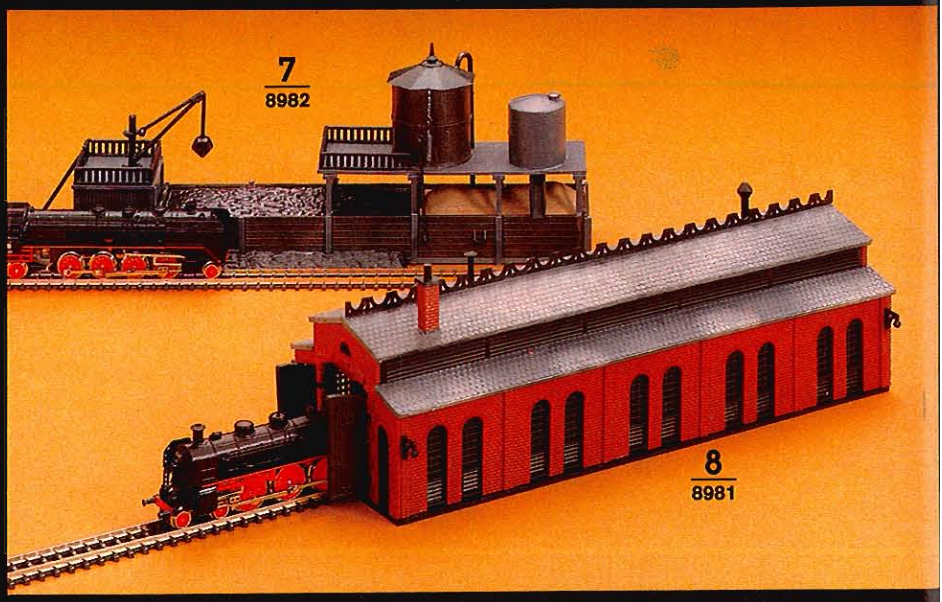
6
8978 · **Approach ramp pillars** · 10 pillars, one each of 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 mm high (0.157″ to 1-9/16″)

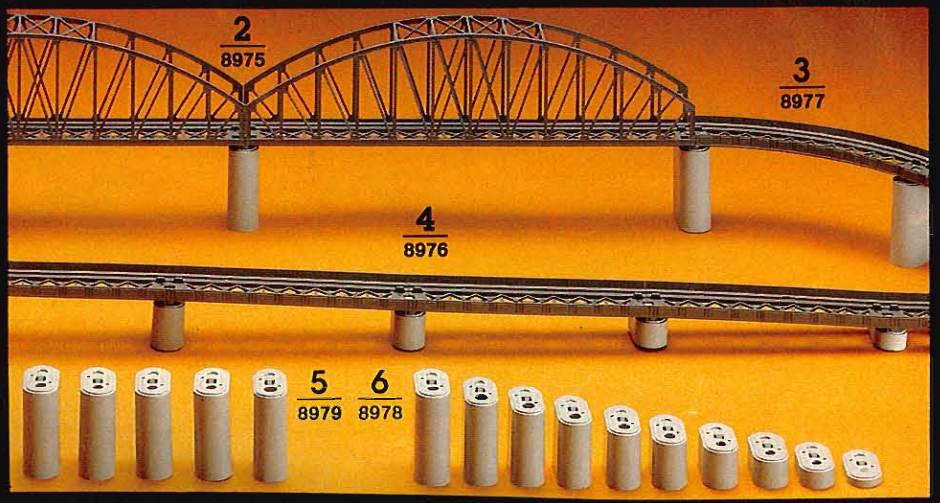
7
8982 · **Steam locomotive servicing area kit** · Includes crane, coal bunker, water tower, sand bunker with spout · Base measures: 150 × 35 mm (5-7/8″ × 1-3/8″)

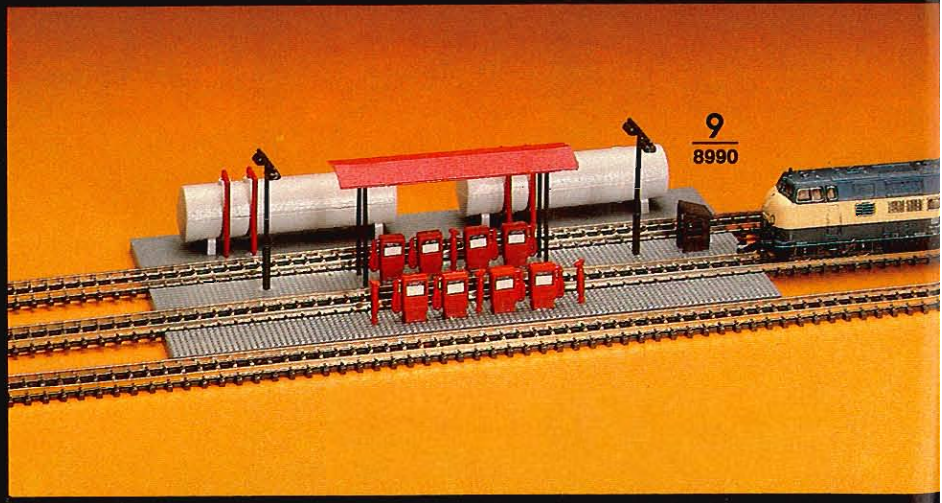
8
8981 · **Single-bay engine house with operating doors** · Kit includes insulated track which automatically stops engines · Base measures: 150 × 50 mm (5-7/8″ × 2″)

9
8990 · **Diesel servicing kit** · Includes fuel pumps, heating oil pumps, storage tanks, and roof · Base measures: 150 × 75 mm (5-7/8″ × 3″)









10

8970 · Wintersdorf station kit · Includes main building, annex and canopy · Can be used alone or in conjunction with 8971 freight house · Base measures: 72 × 112 mm (2-7/8″ × 4-3/8″) · Height 54 mm (2-1/8″)

11

8971 · Freight house kit · Includes warehouse, platform, and equipment storage area · Can be used alone or with 8970 station · Base measures: 53 × 130 mm (2-1/8″ × 5-1/8″) · Height 38 mm (1-1/2″)

12

8985 · Freight station detail kit · Includes loading gauge, scale (non-operating) with shed, 2 bumpers, 5 stacks of crossties, 2 cable reels, 2 crates and 2 drums

13

8996 · Water tower kit · With spout · Base measures: 52 × 52 mm (2-1/16″ × 2-1/16″) · Height 75 mm (3″)

14

8962 · Dürnau station kit · Multi-purpose building with annex and platform · Base measures: 70 × 50 mm (2-3/4″ × 2″) · Height 30 mm (1-3/16″)

15

8960 · Göppingen station kit · Model of center wing of actual station · Base measures: 228 × 114 mm (9″ × 4-1/2″) · Height 44 mm (1-3/4″)

(Göppingen, Märklin's hometown, in the state of Baden-Württemberg, lies astride the main Stuttgart – Munich line.)

16

8965 · Interlocking tower kit · Base is 69 × 39 mm (2-3/4″ × 1-1/2″) · Height 46 mm (1-3/4″)

17

8961 · Platform kit · 2 complete kits · Total overall length 440 mm (1′ 5-1/4″) · Width 38 mm (1-1/2″) · Height 23 mm (7/8″)

18

8964 · Private residence kit · Includes garage · Can be made into a one or two story house · Base measures 91 × 71 mm (3-5/8″ × 2-3/4″) · Height 45 mm (1-3/4″)

19

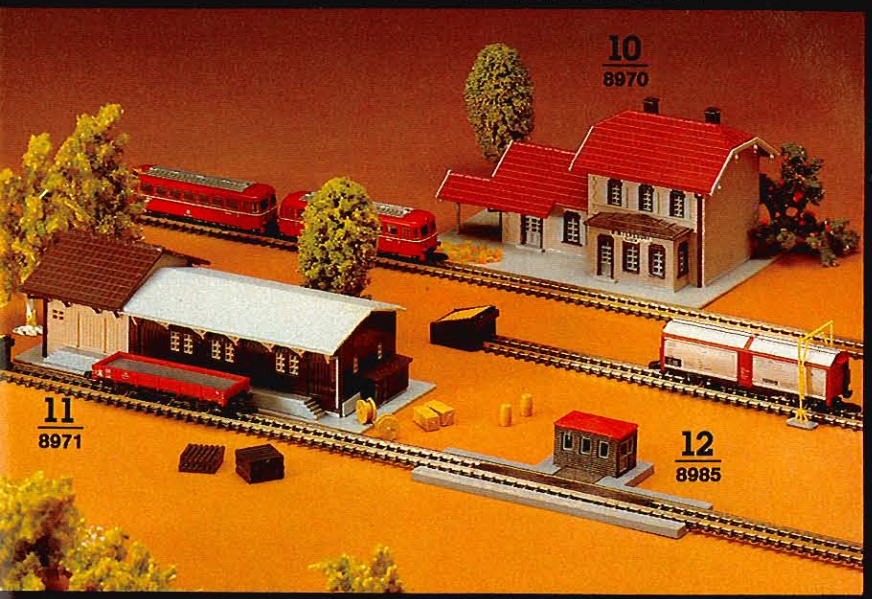
8963 · Apartment house kit · Includes penthouse which can be used separately as a bungalow, newsstand, etc. · Base measures: 86 × 84 mm (3-3/8″ × 3-5/16″) · Height 97 mm (3-7/8″)

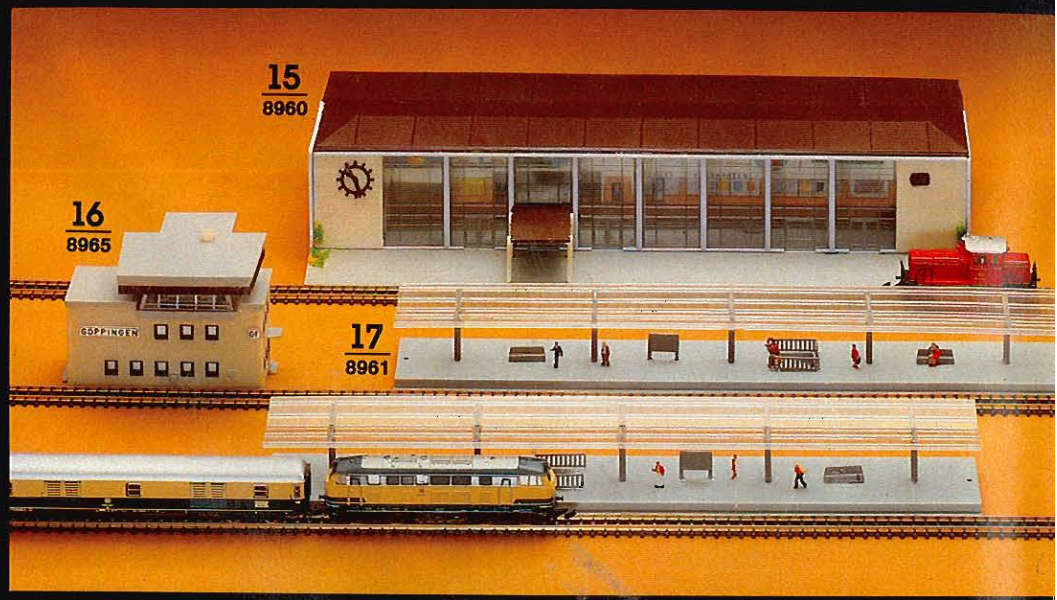
20

8968 · Bungalow with terrace · Kit includes garage · White sides · Can be built as a one or two story home in many variations, or as a terrace house · Base measures 81 × 45 mm (3-1/4″ × 1-3/4″) · Height 29 mm (1-1/8″)

21

8969 · Bungalow with terrace · Includes garage · Same as kit 8968 but with blue sides










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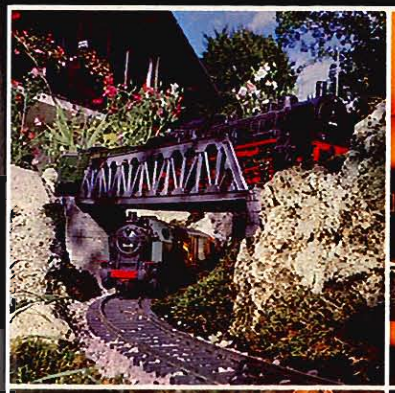
The Big One for outdoors and indoors

Märklin I trains command attention. Besides their size, they are prototypically correct and can perform real-life functions. They are versatile: as a garden railroad offering fun for visitors and family. Or indoors, since their sturdy tracks can be put up and taken down with ease, the trains can be placed anywhere in the house. These models are also treasured by collectors.

With a wide variety of accessories (signals, station engine house, signal tower, and water tower), the operating possibilities are many. Also, this scale is especially appropriate for club layouts as members operate a "real" railroad. Like all Märklin systems, Märklin I trains are scaled in proper proportion to their prototypes.



The Big One offers children a lot of enjoyment. They can load the freight cars, pour water in the tank cars, unload the freight cars, and drain the tank cars. Many items from sand to oranges can be transported in I scale cars. The interesting possibilities of I scale trains in the house are numerous.

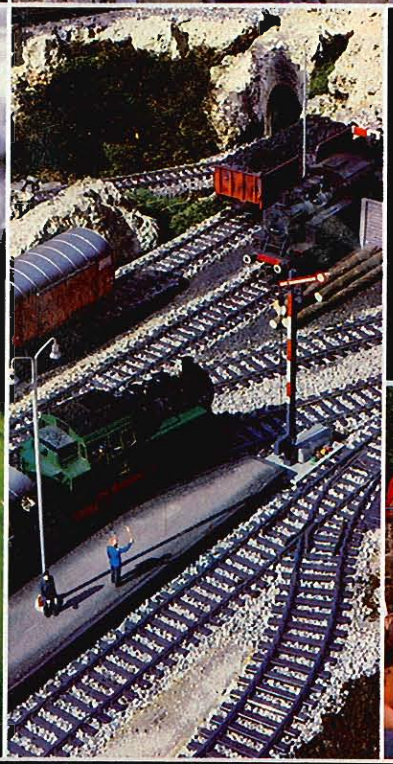




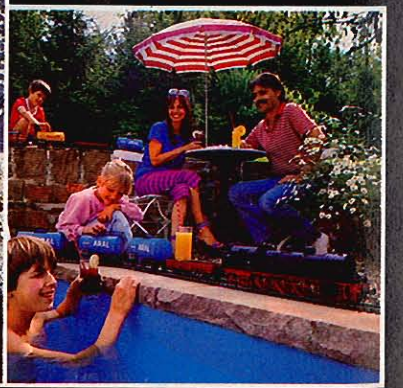








Operating the Märklin I trains is an excellent form of relaxation. Watching the trains run is almost like taking a vacation. I scale is a breezy, merry means for leisure time fun.



Model size I
Gauge 45 mm (1-3/4")
Scale 1:32
2-rail AC system

All Aboard!

Get started with a model railroad that can be placed anywhere in and around the house. Märklin's large scale trains offer endless hours of fun for people of all ages. The size and sturdy construction provide ample scope for a wide variety of railroad operations.

The Märklin I trains are excellent attractions at parties (picture the reaction of guests as drinks arrive "by train"!).

The high quality and prototypical accuracy will impress even the most experienced model railroaders.

The best way to begin is with the Beginner's Set 5531. It includes everything necessary to get rolling. Or, a layout can be developed individually with the cars, engines, and track being acquired as needed.

Märklin I track can be placed easily, and can be relaid with equal ease, anywhere in and around the house.

The locomotives are AC-powered and operate on realistic 2-rail track. Direction of motion is determined by a switch in the locomotive, controlled at the transformer.

With the Beginner's Set

The Beginner's Set is an ideal basis upon which to develop a Märklin I gauge layout.

The set can easily be extended ecomically according to preference. Build a nice long main line, install yards and switches, establish an engine maintainence depot, or explore the many ways of operating the locomotives and cars.

1

5531 220 Volt
5537 110 Volt
Freight train with transformer · Includes: 1 tank engine 5710 with remote controlled direction switch, 1 gondola 5850, 1 flat car 5853, 1 straight track 5900, 12 curved tracks 5921, 1 feeder track 5990 with capacitor to suppress radio static, engineer and fireman figures, 2 barrels, 2 sacks, 1 crate, 1 oil drum, 1 reel of cable, and 9 logs for freight loads, and 1 transformer · Train length 97 cm (3′ 2″)





158 × 128 cm (5′ 2 × 5′)

Or the freelance method

A Märklin I layout also be developed on a piece-by-piece basis, because Märklin offers a wide variety of track sections, locomotives and cars.

For the simplest layout, an oval; all that's necessary is a feeder track 5990, a straight track 5900, and 12 curved tracks 5921. But there is no need to stop at an oval! Additional track and switches provide endless opportunities for layout design.

With a lengthy straight section, hours of fun can be had loading and unloading the cars. And it is surprisingly inexpensive to add switches, additional track, stations, etc. to create a complete railroad empire.

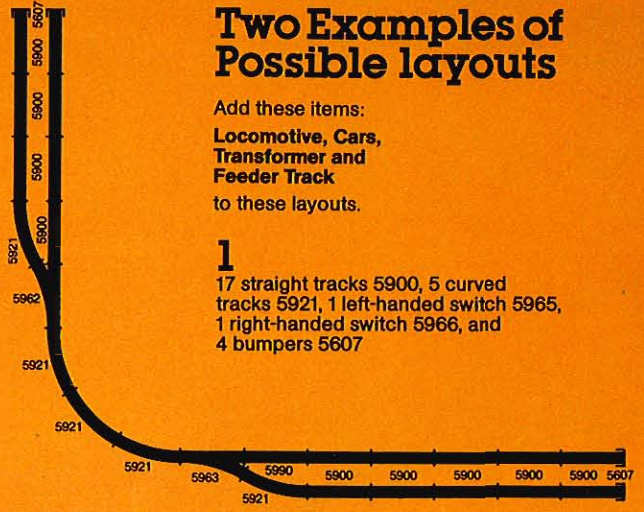
1
5531

Two Examples of Possible layouts

Add these items:

Locomotive, Cars, Transformer and Feeder Track

to these layouts.

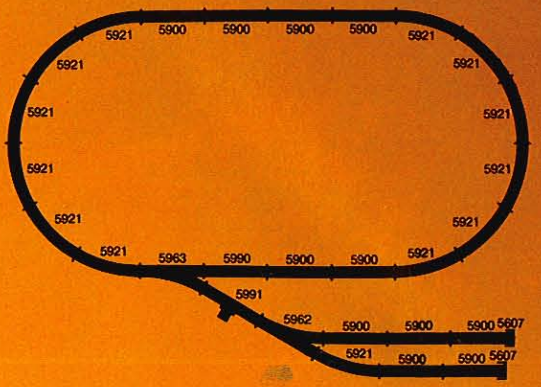


1

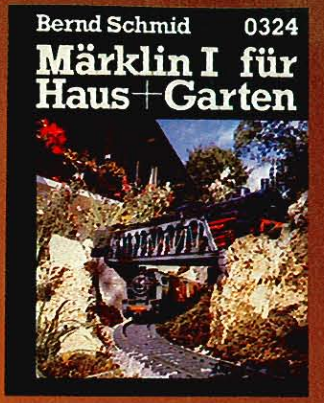
17 straight tracks 5900, 5 curved tracks 5921, 1 left-handed switch 5965, 1 right-handed switch 5966, and 4 bumpers 5607

2

11 straight tracks 5900, 13 curved tracks 5921, 1 left-handed switch 5962 (5965), 1 right-handed switch 5963 (5966), 1 uncoupling track 5991, 2 bumpers 5607, 1 control box 7072, wires and plugs



The cars can be spotted anywhere on these layouts for the loading/unloading of liquids and freight. The tank cars 5865–5868, for example, can be filled from the operating water spout (5619+5620). Or load the dump car 5859 with gravel, etc.



2

0324 · Märklin I für Haus+Garten · Authored by Bernd Schmid · 10 chapters containing many ideas on how to install an I scale layout indoors or outdoors · Plans include scratchbuilding accessories and building a large classification yard · Many diagrams and photos, some in color · 182 pages · Size 22×17 cm (8-¾″×6-¾″) · German text

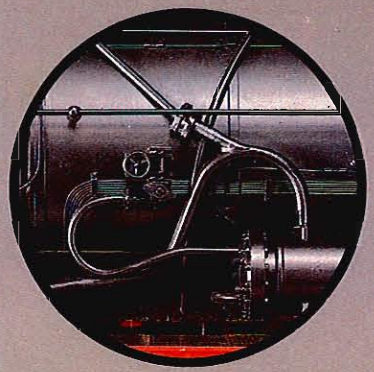


Steam Locomotives

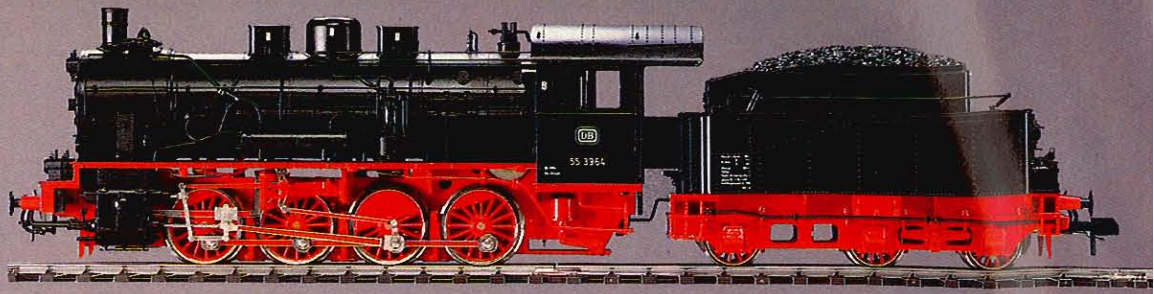




Free standing piping at the cab



Mounted piping on the boiler





1

5714 · Locomotive with tender · German Federal Railways' class 55 · 0-8-0 wheel arrangement · All wheels powered through hidden gears · Armature shaft mounted between ball bearings · 2 non-skid tires · Simulated Heusinger valve gears · Die cast zinc frame · Highly detailed body and cab with prototypical flat black finish · Remote control for forward or reverse · Built-in smoke set · 3 constant brightness headlights at each end · 6-wheel tender · Real coal in the tender · Sprung buffers and imitation air brake hoses on buffer beams · Prototypical screw coupler in front which can be replaced with an automatic claw coupler · Automatic claw coupler on tender · Illuminated cab · Engineer and fireman figures · Length over buffers 57.4 cm (1' 10-¾")

Light bulb = 60019
Carbon brushes = 60152
Smoke fluid = 0241

This model requires a minimum radius of 1 meter (3' 3"). Use curved tracks 5932 and 5972/5973 switches.

1

5713 · Locomotive with tender · Similar to the 5714 but has mechanism to simulate real locomotive sounds including whistles · Sound mechanism, which creates realistic exhaust sounds, is located in the tender · The whistle is activated by means of special magnets on the track · 4 magnets are provided

1

5744 · Locomotive with tender · DC version of the 5714

1

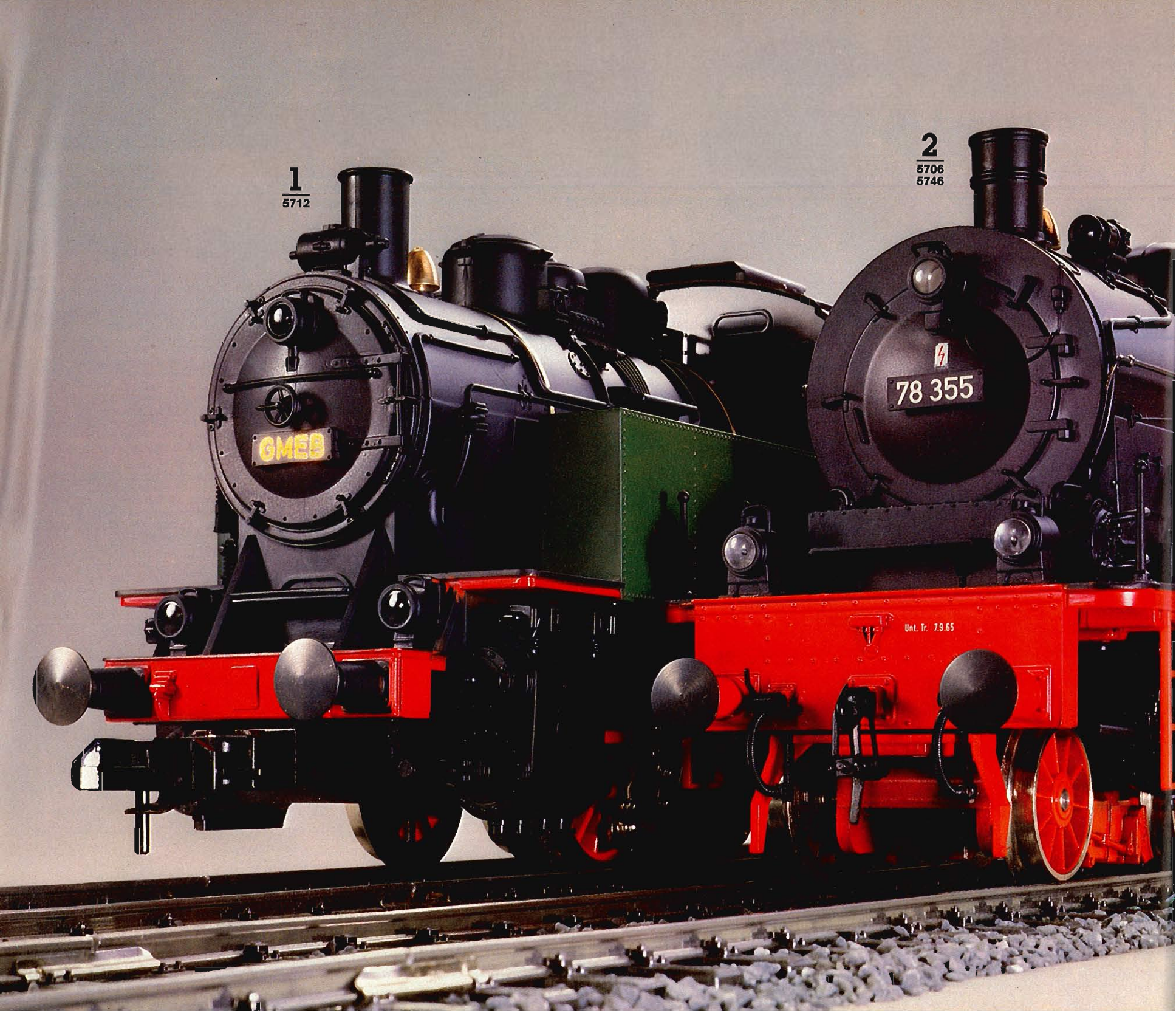
5743 · Locomotive with tender · DC version of the 5713

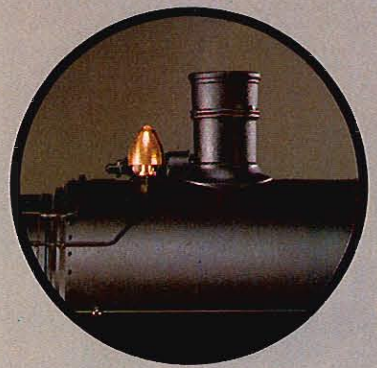
Class 55

■ The development of the Prussian G 8¹ (DB class 055) reflects the experiences with the G 7 and G 8. The G 8¹ has been an unequaled success since the first unit was outshopped in 1913. By 1921, the Prussian Railways had 4,948 units in service. Over 100 others were plying the rails of other railroads, both German and foreign. In 1920, 3122 of the G 8¹ locomotives were acquired by the newly organized German State Railways and 1,000 were still in service in 1945. The last of the 55s were retired by the German Federal Railways in 1973.

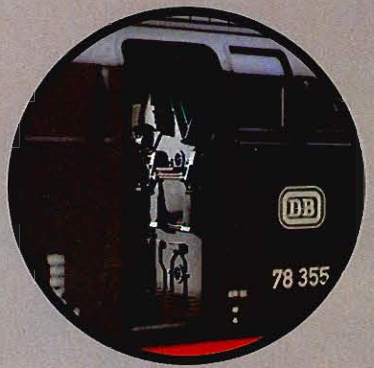
The 8 wheeler had a top speed of 55 kmph (34 mph) with a power rating of 927 kW. On level track, the G 8¹ could drag 1150 tons at 55 kmph (34 mph), and could easily scamper up a 1% grade with 650 tons hanging on the drawbar.

Because the engine had an axle weight of 17.5 tons, the locomotive could only be used on mainlines.

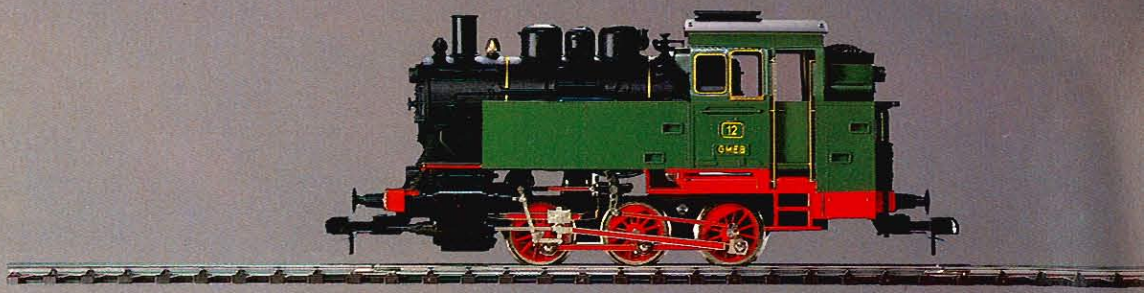

1
5712
2
5706
5746
GMEB
78 355
Unt. Tr. 7.9.65



Smokestack with bell and whistle



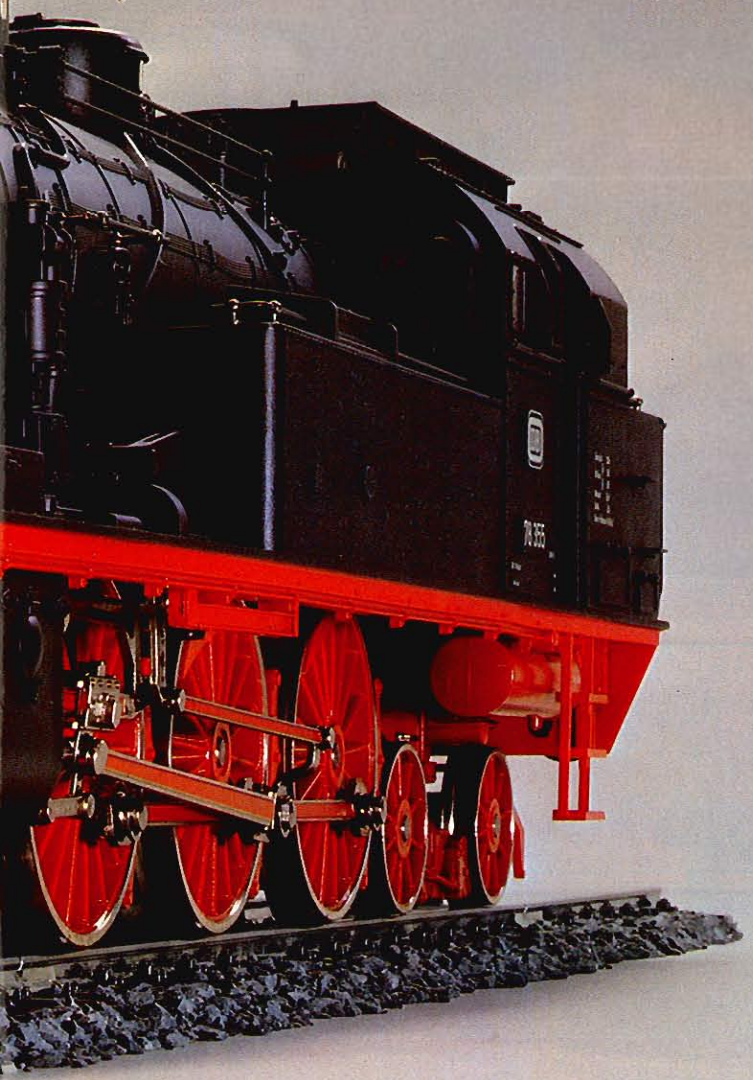
Prototypically detailed backhead

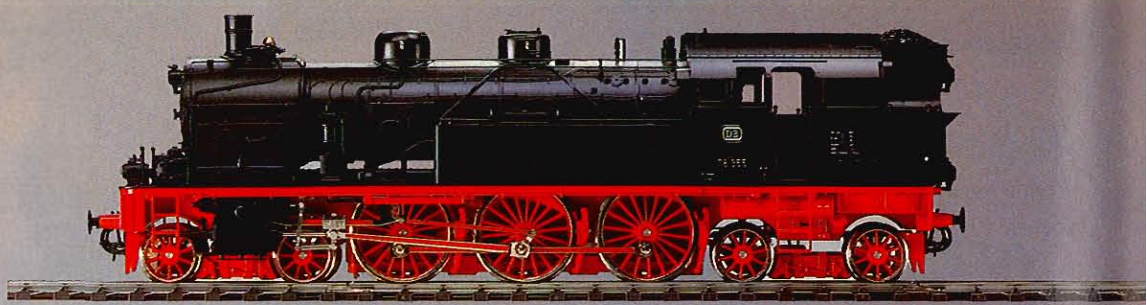


1

5712 · **Tank locomotive** · 0-6-0 wheel arrangement · 2 non-skid tires · Simulated Heusinger valve gears · Remote control switch for forward and reverse · 3 working headlights at each end · Colorful body with black boiler, dark green cab and tanks and brass colored window frames and hand rails · Operating cab doors · Windows have "cellon" panes · Die cast zinc frame · Automatic claw coupler and sprung buffers at each end · Length over buffers 30.25 cm (1')

Light bulb = 60019
Carbon brushes = 60035





2

5706 · **Tank locomotive** · German Federal Railways' class 78 · 4-6-4T wheel arrangement · All drivers powered through hidden gears · Armature shaft mounted between ball bearings · 2 non-skid tires · Simulated Heusinger valve gears · Die cast zinc frame · Highly detailed body with flat black finish · Remote control switch for forward and reverse · Built-in smoke set · 3 constant-brightness headlights at each end · Sprung buffers at each end · Automatic, removable claw couplers · Also includes 2 screw couplers and 4 simulated air brake hoses which can be installed in place of the claw couplers (the rail guards would then have to be changed, both sets are included) · Engineer and fireman figures · Length over buffers 46.3 cm (1' 6-¼")

Light bulb = 60019
Carbon brushes = 60152
Smoke fluid = 0241

This model requires a radius of 1 meter (3' 3"). Use curved track 5932 and 5972/5973 switches.

2

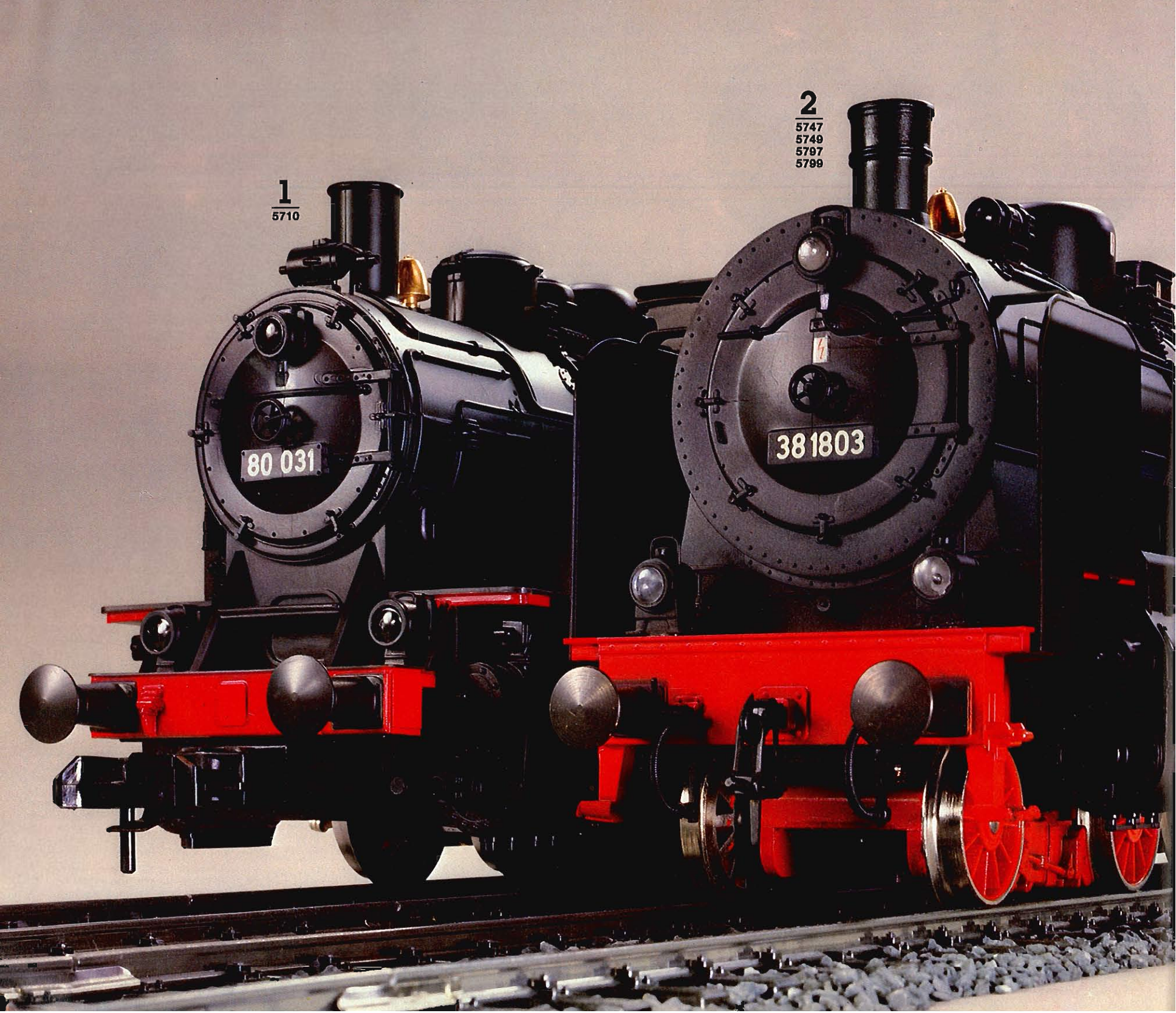
5746 · **Tank locomotive** · DC version of the 5706

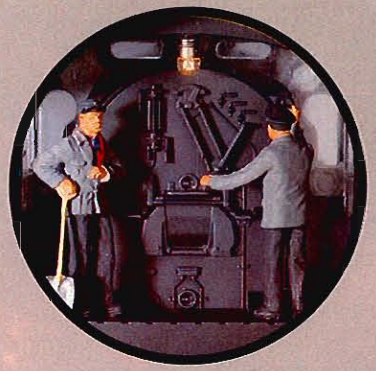
Class 78

■ Märklin's I scale class 78 engine carries the roadnumber 78 355. Its prototype had a long and busy career with the German railroads before being retired on December 11, 1968.

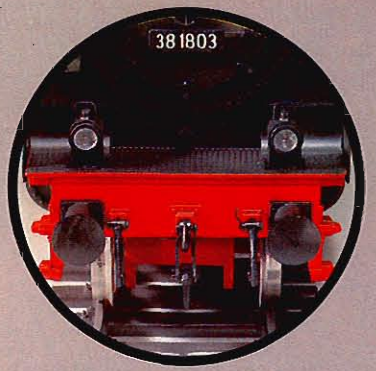
The 78 355 was the seventy-eighth of its class to be produced by Henschel. Delivered to the Essen Division in 1922, it was initially assigned the number "Essen 8930". Records are unclear as to where it spent its first 11 years, but by 1933, the 78 355 was stationed at Hanau. The locomotive remained there until 1961, when it was transferred to Aalen on the Stuttgart – Schorndorf line. That line was not yet electrified and the authorities required an engine capable of push-pull operation.

As recently as 1963, Aalen had ten T 18 locomotives stationed there. (T 18 was the former designation of the class 78.)

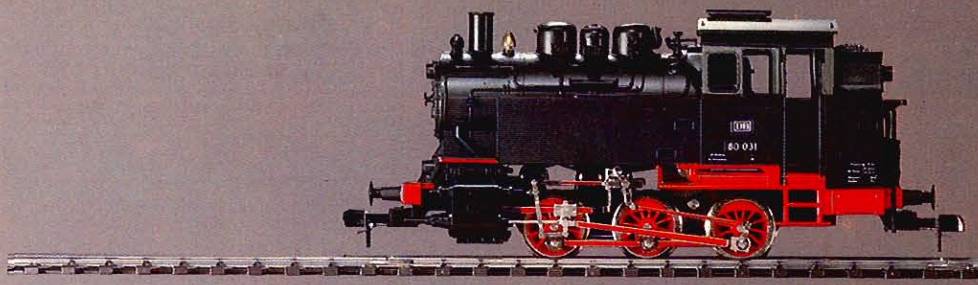

1
5710
2
5747
5749
5797
5799
80 031
38 1803



Highly detailed and illuminated cab (figures are included with locomotive)



Sprung buffers, prototypical screw couplers, and simulated air brake hoses



1

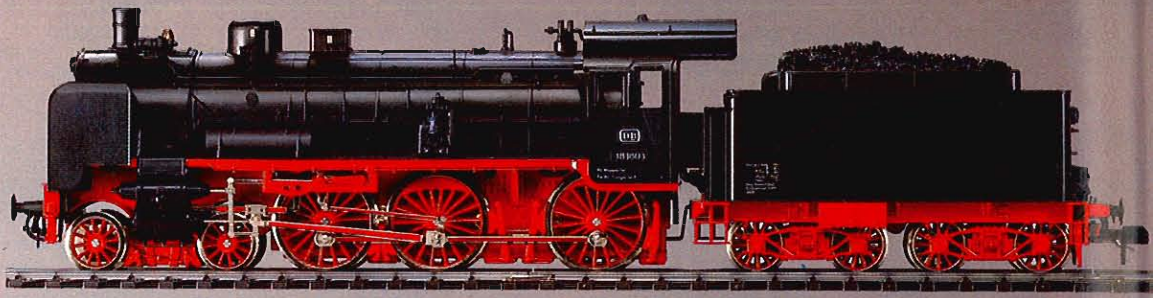
5710 · Tank locomotive · German Federal Railways' class 80 · 0-6-0T wheel arrangement · 2 non-skid tires · Simulated Heusinger valve gears · Remote control for forward and reverse · 3 headlights at each end · Operating cab doors · Windows have "cellon" frames · Die cast zinc frame · Automatic claw coupler and sprung buffers at each end · Length over buffers 30.25 cm (1')

Light bulb = 60019
Carbon brushes = 60035

■ The class 80 engines were built in 1927/28. Rated at 422 kW, they could haul 1380 tons at 35 kmph (22 mph) on level track.

The German Federal Railways had 17 of these switchers and the last one was retired in 1965. A few of these engines were also used on industrial lines in the Rhine and Ruhr districts.





2

5799 · Locomotive with tender · German Federal Railways' class 38 · 4-6-0 wheel arrangement · All drivers powered through hidden gears · Armature shaft mounted between ball bearings · 2 non-skid tires · Simulated Heusinger valve gears · Die cast zinc frame · Highly detailed body includes elephant ears and remarkably detailed backhead · Remote control for forward and reverse · Built-in smoke set · 3 constant-brightness headlights at each end · 8-wheel tender with 2 trucks · Real coal in the tender · Sprung buffers and imitation air brake-hoses on buffer beams · Prototypical screw coupler in front, which can be replaced with an automatic claw coupler · Automatic claw coupler on tender · Illuminated cab · Engineer and fireman figures · Length over buffers 58 cm (1' 11")

Light bulb = 60019
Carbon brushes = 60146
Smoke fluid = 0241

This model requires a minimum radius of 1 meter (3' 3"). Use curved track 5932 and 5972/5973 switches.

2

5797 · Locomotive with tender · Similar to the 5799 but has mechanism to simulate real locomotive sounds including whistles · Sound mechanism, which creates realistic exhaust sounds, is located in the tender · The whistle is activated by special magnets located on the track · 2 magnets are included

2

5749 · Locomotive with tender · DC version of the 5799

2

5747 · Locomotive with tender · DC version of the 5797

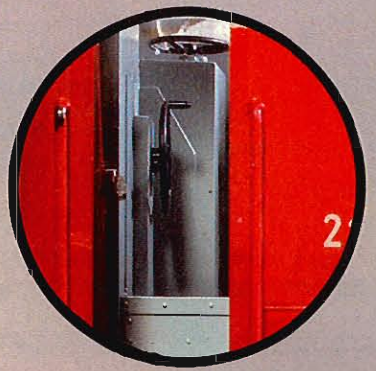
Class 38

■ The class 38 was one of the most popular passenger locomotives ever built. By 1928, 3,800 units were in service. The first of these moguls were outshopped by Schwarzkopff in 1906 for the Prussian Railways, who designated them class P 8. Because they were economical and reliable, the P 8 quickly evolved into the favored Prussian passenger engine. These 4-6-0 locomotives were also popular on foreign railroads. The class 38s averaged a service life of 66 years hauling all types of varnish.

Diesel Locomotives







Head and tail lights illuminated according to direction of travel

Both cab end interiors are completely detailed. Doors have operating handles

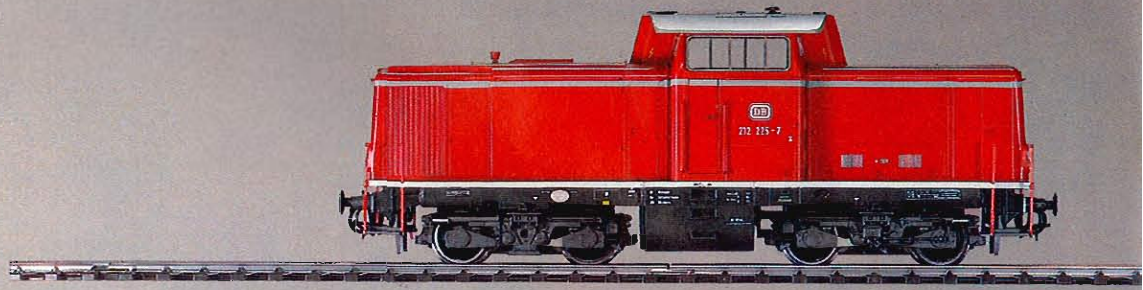




1

5719 · Diesel switcher · Industrial switcher · C wheel arrangement · 2 non-skid tires · Remote control for forward and reverse · 3 operating headlights at each end · Red body with yellow striping · Operating cab doors · Windows with "cellon" panes · Die cast zinc frame · Automatic claw coupler and sprung buffers at each end · Length over buffers 30.25 cm (1')

Light bulb = 60019
Carbon brushes = 60035



2

5772 · Multi-purpose diesel · German Federal Railways' class 212 · B-B wheel arrangement · 1 worm-gear driven power truck · Ball-bearing armature shaft · 4 non-skid tires · Die cast zinc frame · Prototypical color scheme · Operating cab doors · Remote control switch for forward or reverse · Constant brightness headlights and taillights, 3 white headlights and 2 red taillights at each end illuminated according to direction of travel · 2 completely detailed cab quarters · Sprung buffers at each end · Automatic removable claw couplers · Also includes 2 screw couplers and 4 simulated air brake hoses which can be installed in place of the claw couplers · Length over buffers 38.4 cm (1' 3-¼")

Light bulb = 60019
Carbon brushes = 60152

2

5742 · Multi-purpose diesel · DC version of the 5772

Class 212

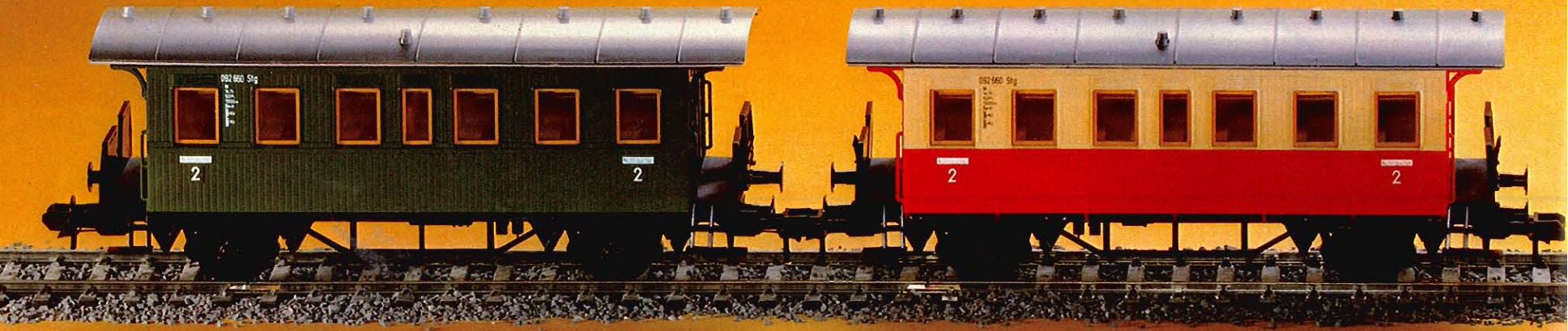
■ During the late 1950s, surging traffic on the German rails demanded a versatile, powerful diesel. Thus the 212 was born. Since 1962, 381 units have been outshopped. Its motor is rated at 993 kW, and has a top speed of 100 kmph (62 mph). The diesel is equipped with an oil-fired boiler to supply heat for passenger cars.

Like its predecessor the 211, the 212 is a multi-purpose diesel designed for branch line work and short hauls on non-electrified track.

Passenger Cars

1
5801 · **Coach** · Based on type used by the Royal Württemberg state Railway · Same features as the 5800, but with a green finish

2
5800 · **Coach** · Model based on coach used by private railway · Operating doors · Simulated roof ventilators · Windows set in plastic frames · Interior features include simulated wooden seats · Length 31 cm (1′ ¼″)

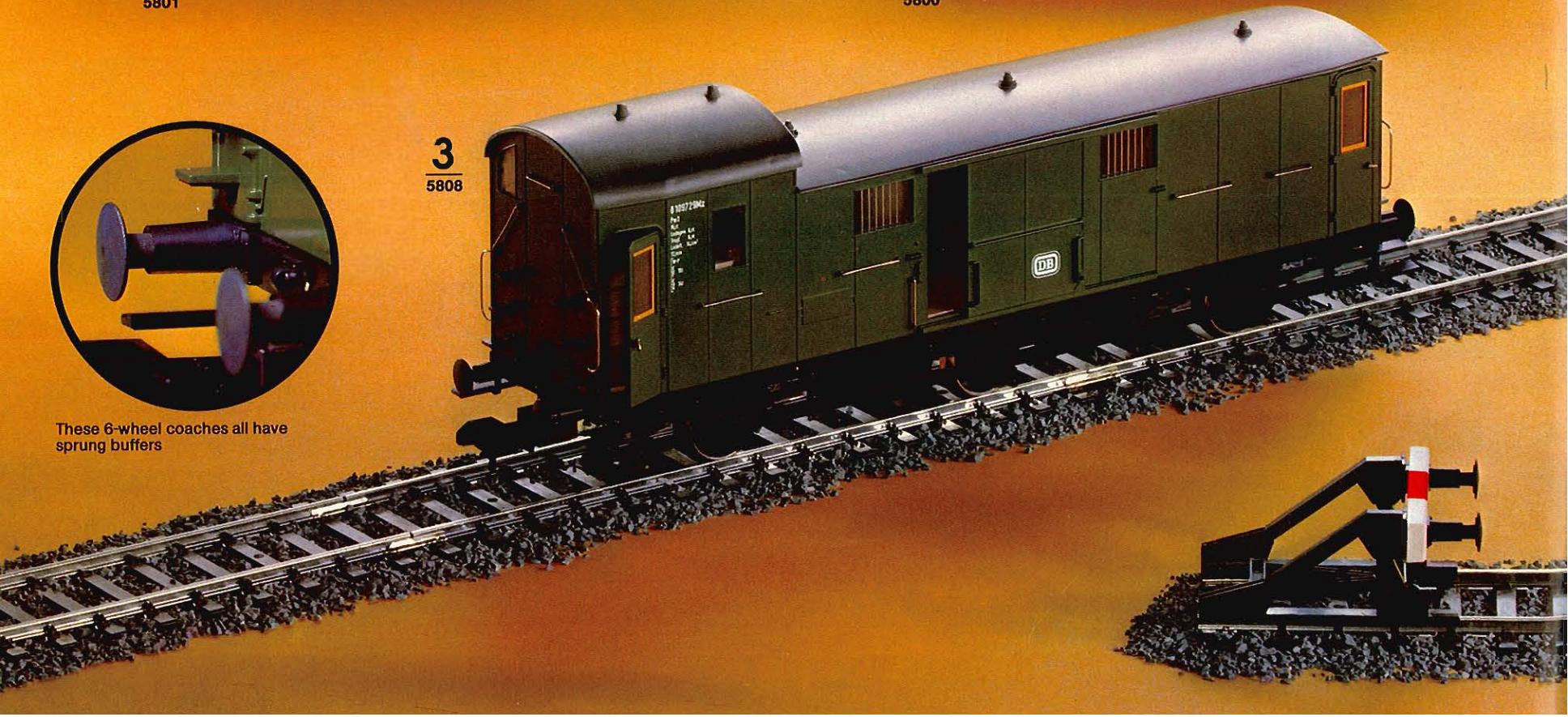


1
5801

2
5800

These 6-wheel coaches all have sprung buffers

3
5808



Cars 5804, 5805, and 5808 have: 6 wheels · Axle frame articulated to accept curves · Sprung buffers · Operating doors · Windows set in plastic frames · Interior detailing · Removable roof · Length 39.1 cm (1' 3-3/8") · Will accept interior lighting set 5605

3

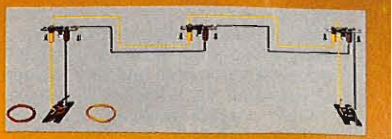
5808 · Baggage car · German Federal Railways' type D3pr02

4

5804 · Compartment Car · German Federal Railways' type B3pr07 · 2nd class

5

5805 · Compartment car with brakeman's cab · German Federal Railways' type B3pr07 · 2nd class



6

5605 · Interior lighting set for cars 5804, 5805, 5808, 5809, 5810 and 5811 · Includes 2 pick up shoes, 3 lighting units, leads and plugs plus instructions

= 49342 = 60000

4
5804





Hinged doors have operating handles

5
5805



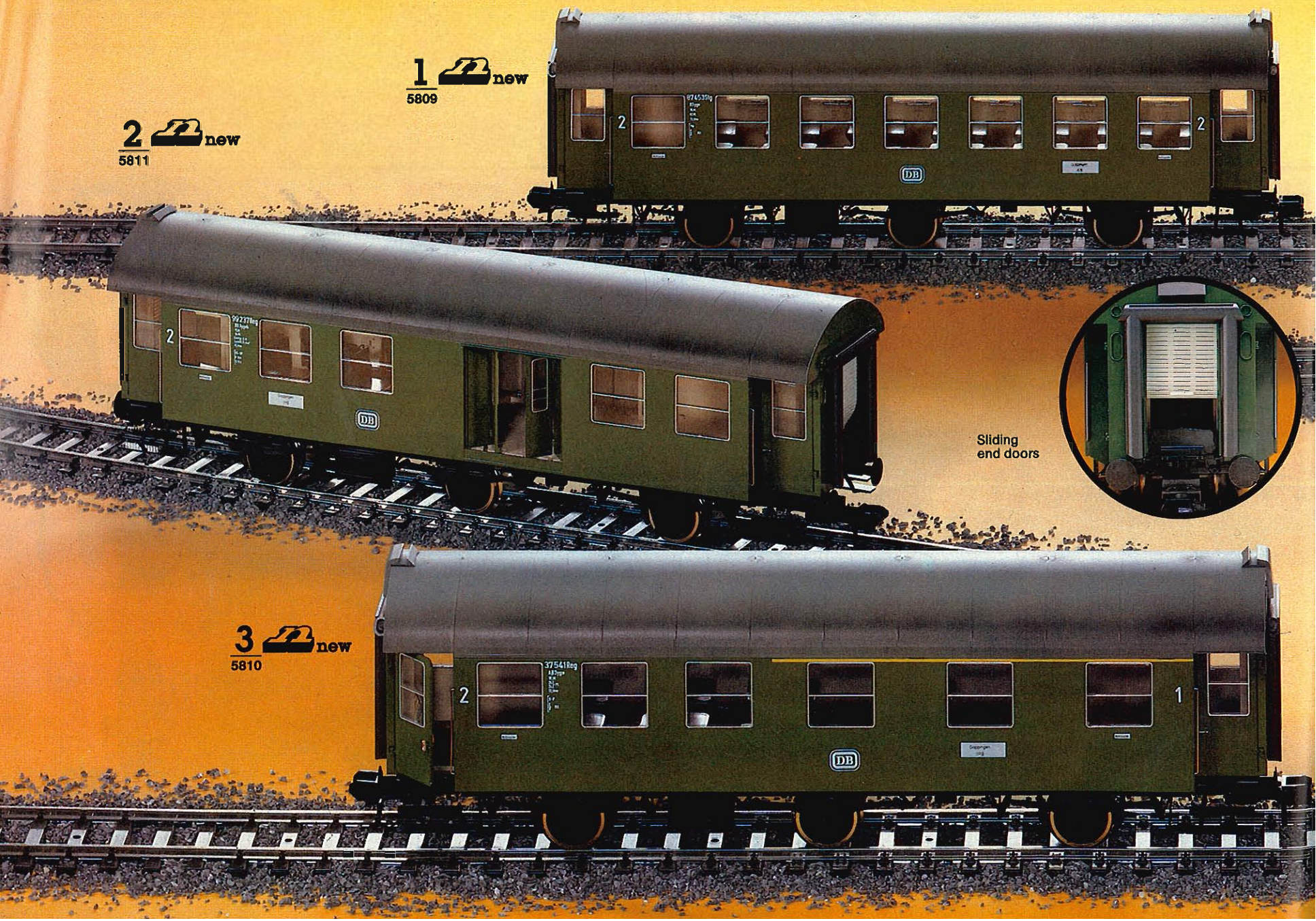
These passenger cars have: 6 wheels · Axle frames articulated to accept curves · Sprung buffers · Operating doors · Diaphragms and sliding doors at each end · Windows set in plastic frames · Interior detailing · Removable roof · Length 41.6 cm (1' 4-3/8") · Will accept interior lighting set 5605 (page 153)

1 new
5809 · **Coach** · German Federal Railways' type B3yge 761 · 2nd class

2 new
5811 · **Combine** · German Federal Railways' type BD3yge 766 · 2nd class

3 new
5810 · **Coach** · German Federal Railways' type AB3yge 756 · 1st and 2nd class

■ In the late 1945's there were many obsolete and damaged coaches on the rip tracks of the German Federal Railways. By modifying the underframes, some 5,000 rebuilds were constructed during the years 1954 to 1958. Some cars also acquired 1st class compartments. In addition, the wooden superstructure was given welded steel sheathing and all cars were outfitted with diaphragms.



Freight cars

These freight cars have: 8 wheels · Operating doors · Detailed bodies · Metal sideframes · Sprung buffers · Length 43.8 cm (1' 5")

4 Italy

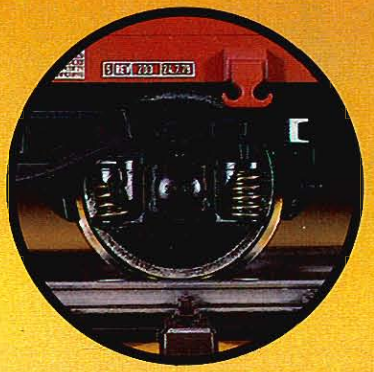
5881 · **Gondola** · Italian State Railways' (FS) type Eaos 106

5 Belgium

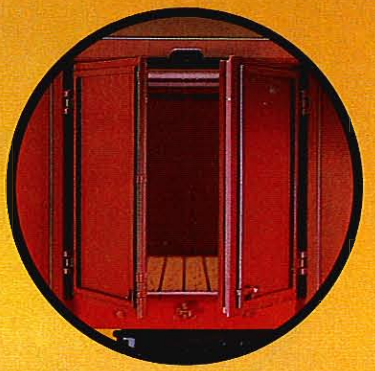
5883 · **Gondola** · Belgian State Railways' (NMBS/SNCB) type Eaos 106

6 new

5880 · **Gondola** · German Federal Railways' type Eaos 106



Highly detailed trucks



Operating doors

■ Because these gondolas have a larger loading area and can carry heavier loads, they are gradually replacing the general purpose gondolas (Märklin modell 5850/5851) on modern trains. The Eaos 106 have the 621 trucks.

These cars can carry a wide assortment of freight: gravel, coal, lumber, ashes, scrap, barrels, etc. Items requiring weather protection can also be carried since the car sides have hooks for tarpaulin.

4 new
5881

5 new
5883

6 new
5880

1

5873 · Hopper car with rotary bar · German Federal Railways' type Fc[090] (formerly type Ed 090) · Rotary bar will open hoppers · Sprung buffers · Length 30.1 cm (11-⅞″)

■ The hold of an open hopper car is like a twin funnel. The sheer weight of the heavy cargo assures rapid unloading. With twin hopper doors on each side, the cars can be unloaded on either side. The rotary bar handle is located at one end of the car. These bars control discharge as, for example, when unloading onto a conveyor belt.



Operating rotary bar trips hoppers

2

5877 · Container car with stakes · German Federal Railways' type Sgjs[716] · Two 4-wheel trucks · Loaded with 2 type Htt 6 252 large containers · Container doors open · Detailed body cast underframe · Ends and stakes are removable · Containers are secured to the car by means of adjustable tie bars · Sprung buffers · Length 65.5 cm (2′ 1-¾″)

■ The 8-wheel container car, type Sgjs[716], was first used on German Federal Railways in 1969. Its loading length is 18.8 m (61′ 1-¾″). Maximum tonnage capability is 55 tons. The cars have wood floors with additional UIC stakes so that the car can carry containers of varying dimensions. These cars can also be used as flats. The containers are secured in transit by adjustable tie down bars which are recessed in the floor.

(UIC = Union International des Chemins de Fer – International Railway Association –, a Europe wide organization of railroads that sets interchange regulations, operating procedures, etc.)

3

5874 · Hopper car with 4-wheel trucks · German Federal Railways' type Fal[168] (formerly type Fad 168) · Discharge doors open · Sprung buffers · Length 37 cm (1′ 2-½″)

■ Bulk freight cars like these are used, nationally and internationally, for the transport of coal, coke, ore, etc. In order to make efficient use of rapid unloading ability, the cars are often coupled together in unit trains, often as long as 40 cars.



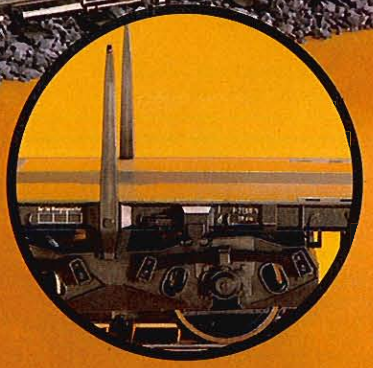
3
5874

Operating discharge doors











Tie bars hold containers fast

Container doors open

The finely-detailed Märklin i scale freight cars offer many possibilities for fun. Length of cars 31 cm (1' ¼").

1
5863 · **Beer car** · Lettered for the Haller Löwen brewery · Sliding doors open

2
5857 · **Box car** · Lettered for Miele Washing Machine Co. · Sliding doors open

3
5872 · **Box car with end markers** · German Federal Railways' type Gls^{205} · Sliding doors open · Endmarkers have 2 LEDs adjustable for day or night settings

4
5860 · **Box car** · German Federal Railways' type Gls^{205} · Sliding doors open



Illuminated end markers for day or night settings

5
5879 · **Refrigerator car** · Lettered for Sinalco Beverage Co. · Sliding doors open

6
5853 · **Flat car** with removable stakes

7
5850 · **Gondola** · German Federal Railways' type Es^{040} (Omm 55)

8
5851 · **Gondola** · Lettered for the Belgian State Railways (NMBS/SNCB)

9
5859 · **Dump car** · Buckets can be unloaded by manual tipping



1

5871 · **2 flat cars with center pivots** · Steel pipe load · Length 64 cm (2' 1-¼")

2

5875 · **Lumber car** · Removable stakes · 9-piece lumber load · Length 31 cm (1' ¼")

3

5876 · **Low sided gondola with autos** · The 2 autos are clipped to the floor and can be removed · Length 31 cm (1' ¼")

4

5866 · **Tank car** · SHELL · Can carry real liquids – hatch and spigot operate · Length 31 cm (1' ¼")

5

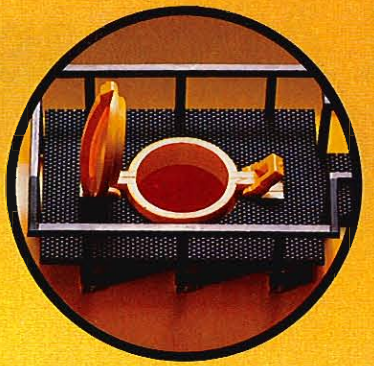
5867 · **Tank car** · ARAL · Can carry real liquids – hatch and spigot operate · Length 31 cm (1' ¼")



6
5865 · **Tank car** · ESSO · Can carry real liquids – hatch and spigot operate · Length 31 cm (1′ ¼″)

7 new
5868 · **Tank car** · BP · Can carry real liquids – hatch and spigot operate · Length 31 cm (1′ ¼″)





Spigot pours

Hatch opens

2
5875

3
5876

6
5865

7
5868
new

Layout Accessories

1

5615 · **"Altmühlhof" Station Kit** · A classic small town station · Transparent windows · Interior lighting · Accessories include station sign · Platform extensions and railings (length 31 cm (1′ 2¼″) · Made of corrosion resistant material · Base area 60 × 29 cm (1′ 11-5⁄8″ × 11-½″)

2

5612 · **Distant signal** · For use with home signal 5611 · Movable disc · Lights change from amber/amber to green/green · Double-solenoid operation · Height 19.3 cm (7-5⁄8″) · Width 6 cm (2-3⁄8″) · Length 11 cm (4-3⁄8″)
= 60000

3

5611 · **Home signal** · With one arm · Red/green light · Double-solenoid operation controls trains · Includes 2 terminals, 2 leads, and 6 track current isolators · Height 26.5 cm (10-½″) · Width 6 cm (2-3⁄8″) · Length 11 cm (4-3⁄8″)
= 60000

4

5616 · **Signal tower kit** · Classic style · Transparent windows · Interior details include signal levers and track schematic board · Interior lighting · Spans two tracks · Clearance 20 cm (7-7⁄8″) · Made of corrosion resistant material · Base area 41 × 24 cm (1′ 4-¼″ × 9-½″)

5

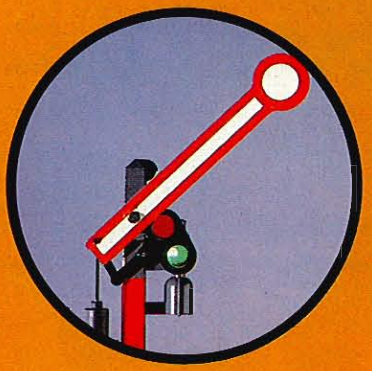
5621 · **Diesel servicing kit** · Includes fuel pumps, heating oil pumps, storage tanks and lights · Made of corrosion resistant material · (Track sections not included) · Base area 69 × 51 cm (2′ 3-1⁄8″ × 1′ 8-1⁄8″)

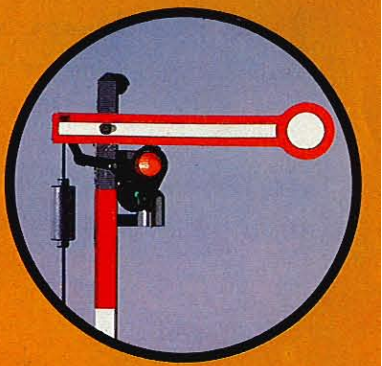
■ Servicing facilities are divided into three classes based upon the amount of monthly fill-ups. Along with these classifications, environmental protection steps are also considered. Perhaps the most important is the use of an impervious work area so spills will not contaminate the ground water.

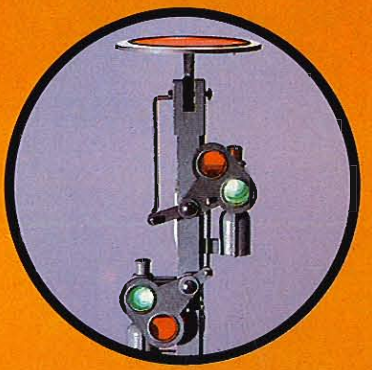


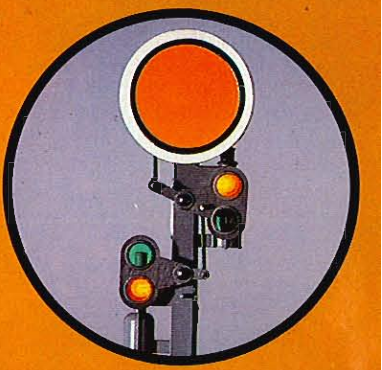
When the disc is horizontal (i. e. not visible to the engineer) the distant or advance signal is reporting that the home signal reads green, ok to proceed.

If the disc is vertical (i. e. visible to the engineer), the distant or advance signal is reporting that the home signal reads red and train must be prepared to stop.





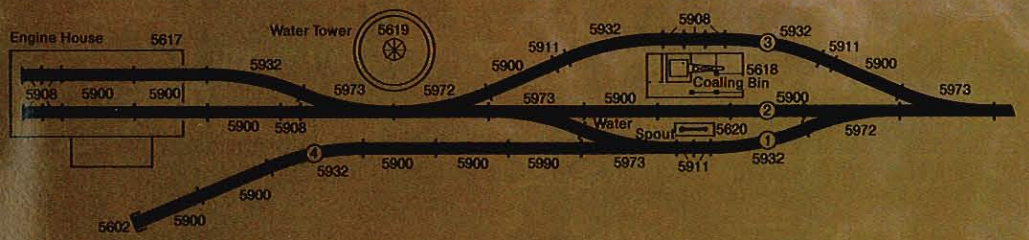




4
5616

5
5621

Locomotive Maintenance Depot



While all locomotives require periodic maintenance and inspection, steam locomotives also require extra routine servicing before each run.

Electric locomotives require just a little sand for braking; all their energy comes from the overhead.

Diesel locomotives also require fuel oil as well as sand. However, these servicing tasks can be accomplished while at the station, on a spur, or at the engine house as well as at major diesel overhaul facilities.

Steam locomotives, though, must undergo a regular series of servicing operations in a particular order. After each trip, the order usually is: coal-up, clean the smoke box, dump cinders, replenish water and sand, and spot the locomotive on a ready track.

1

5620 · Water Spout Kit · Includes pump and tank · Fully operational · Use with water tower 5619 for added realism · Position control box 7072 required for operation · Made of corrosion resistant material · Base area 16 × 5 cm (6-5/16″ × 2″)

2

5618 · Coaling Bin Kit · Includes coal bin, two narrow-gauge coal cars, and a manually operated crane · Made of corrosion resistant material · Base area 40 × 18 cm (1′ 3-3/4″ × 7-1/8″)



3

5617 · **Engine House Kit** · Classic style · Transparent windows · Interior lighting · Four individually operated track doors · Made of corrosion resistant material · (Track sections not included) · Base area 62×48 cm (2′ 3⅜″ × 1′ 6-⅞″)

4

5619 · **Water Tower** · Comes fully assembled · Hand painted · Holds water for use in conjunction with water spout 5620 · Prototype stands as Crailsheim, Germany · Made of corrosion resistant material · Base area 30×30 cm (11-⅞″ × 11-⅞″)

■ The 22 meter (72′ 2-¼″) high Crailsheim water tower has been declared an historical monument and is protected by the government of Baden-Württemberg (a province of Germany). Constructed in 1912, 50 steamers once quenched their thirst daily from its 600 cubic meter (160.000 gal.) tank.

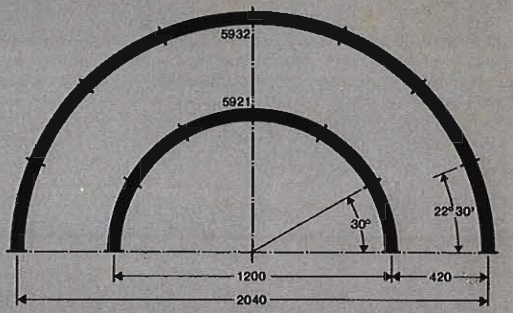
4
5619

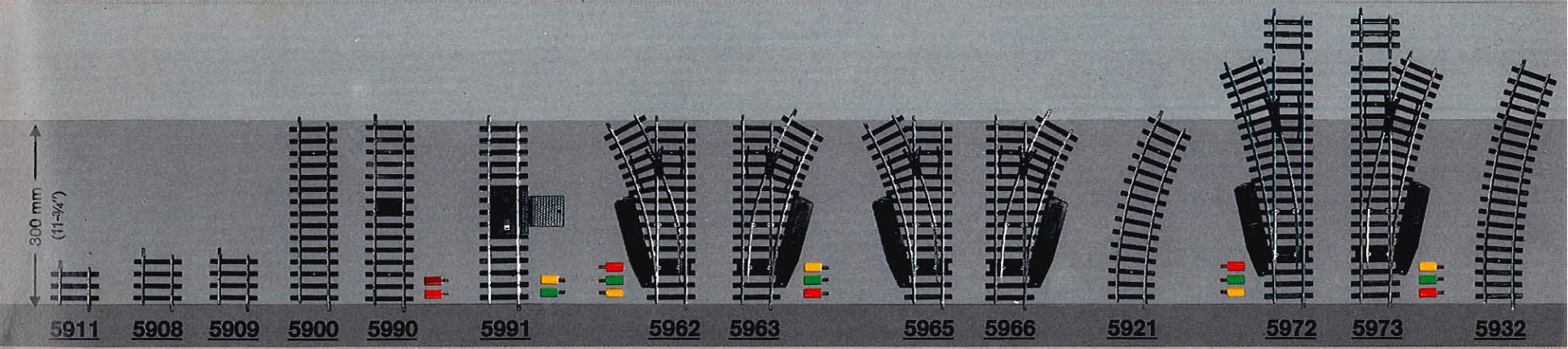
Track

The Märklin I track system includes curved tracks necessary for two different radii. For a circle with a 2,040 mm (6′ 8″) diameter, use 16 sections of 5932; for a circle with a 1,200 mm (3′ 11″) diameter, use 12 sections of 5921. Engines 5706, 5746, 5713, 5714, 5741, 5749, 5797, and 5799 can only negotiate the large circle.

Although I scale is 2-rail, no polarity problems are encountered with reversing loops, crossings, or wyes because this scale also uses the AC technology that has made Märklin a trademark for flawless operation. As with Märklin's HO locomotives, a direction switch is built into the I scale engines.

The stainless rust-proof Märklin I rails have a prototype look, and the ties are made of corrosion resistant material. Thus Märklin I tracks can be laid outdoors. Any apparent rust marks are caused by contact with rusty metals lying on the tracks. These marks can be easily removed with a damp cloth.



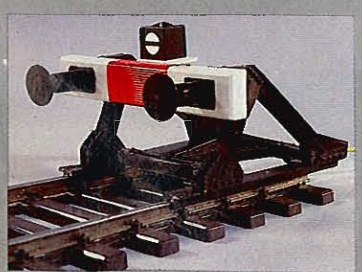


5911
Straight track · Length 59.5 mm (2-⅜″)

5908
Straight track · Length 80.4 mm (3-³⁄₁₆″)

5909
Insulated straight track · Length 80.4 mm (3-³⁄₁₆″) · For dividing the layout into electrically isolated sections

5603
Retaining clips · Package of 28 · For added strength at rail joints



5900
Straight track · Length 300 mm (11-¾″)

5990
Feeder track, straight · Length 300 mm (11-¾″) · Built-in capacitor to supress radio static · 2 feeder wires, each 1 meter (3′ 3″) long

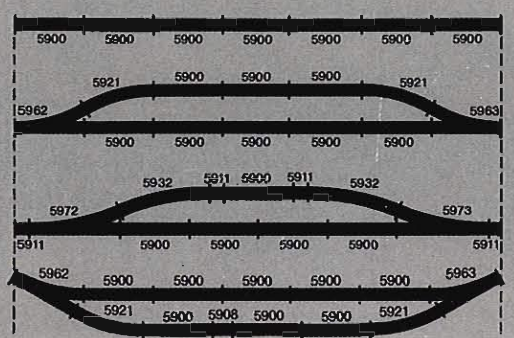
5991
Uncoupling track · Length 300 mm (11-¾″) · Includes electro-magnets · For remote control operation use position control box 7072

5602
Bumper · Riveted steel type · Sprung buffers · Clips onto rails · Length 9.8 cm (3-⅞″)

5607
Bumper · Riveted steel type · Illuminated signal · Sprung buffers · Clips onto rails · Length 9.8 cm (3-⅞″)
= 60000

5962
Left-hand switch, remote control · Double-solenoid operation · Sprung points · Angle of curve 30° · Radius of curve 600 mm (1′ 11-⅝″) · Length of straight track 300 mm (11-¾″)

5963
Right-hand switch, remote control · Double-solenoid operation · Sprung points · Angle of curve 30° · Radius of curve 600 mm (1′ 11-⅝″) · Length of straight track 300 mm (11-¾″)



5965
Left-hand switch, manual · Sprung points · Angle of curve 30° · Radius of curve 600 mm (11-⅝″) · Length of straight track 300 mm (11-¾″)

5966
Right-hand switch, manual · Sprung points · Angle of curve 30° · Radius of curve 600 mm (1′ 11-⅝″) · Length of straight track 300 mm (11-¾″)

5921
30° curved track · Radius 600 mm (1′ 11-⅝″)

5972
Left-hand switch, remote control · Double-solenoid operation · Sprung points · Angle of curve 22° 30′ · Radius of curve 1020 mm (3′ 4″) · Length of straight track 390.5 mm (1′ 3-⅜″) · Includes straight track section 5911

5973
Right-hand switch, remote control · Double-solenoid operation · Sprung points · Angle of curve 22° 30′ · Radius of curve 1020 mm (3′ 4″) · Length of straight track 390.5 mm (1′ 3-⅝″) · Includes straight track section 5911

5932
22° 30′ Curved track · Radius 1020 mm (3′ 4″)

5600
Uncoupler · For use with straight track 5900 · Fits between rails · Releases couplers in one direction only, thus enabling cars to be pushed after uncoupling · Length 175 mm (6-⅞″)

Power Packs and Accessories

The following transformers and power packs are ideal for powering Märklin I scale locomotives.

Locomotive speed is proportional to track voltage, i. e.: the further to the right the knob is turned, the faster the train goes. To activate the direction switch in the engine, turn the control knob to the left of zero and release.

Connect to AC outlets ONLY!

Every Märklin transformer is completely safe; its insulation having been tested to several thousand volts. Further, a built-in circuit breaker protects against overloads and shorts. Power pack 6605 is recommended for outdoor use.

6605 new

Train controller for indoors and outdoors · For I gauge · For use with Märklin lighting transformer 6611 or with light sockets of a Märklin transformer with 30 VA output · Lighting voltage 16 volts · Electronic control of engine speed and direction · Maximum permitted load 2 amps · Plastic housing · Weight 315 grams (11 oz) · Measures 125 × 135 × 55 mm (4-15/16″ × 5-5/16″ × 2-3/16″) · Use Märklin wires and sockets to extend connecting leads

Connect the 6605 train controller to a 6611 or a 6631 and take the Big Trains outside! Remember to keep the transformers dry.

The power pack also permits I gauge locomotives to be run very slo-o-o-wly.

6631 220 Volt
6620 100 Volt Japan
6627 110 Volt (60 Hz) USA
6629 240 Volt

Transformer · Output 30 VA · Track current adjustable between 4 and 16 V · Lighting voltage 16 V · Plastic housing · Red pilot light · Weight 2.1 kg (4¾ lb) · Measures 158 × 135 × 75 mm (6-1/4″ × 5-5/16″ × 3-15/16″)

= 60015

6611 220 Volt

Transformer for lights and solenoid-operated items · Output 40 VA · Output voltage approximately 16 V AC · Plastic housing · Weight 2 kg (4¾ lb) · Measures 158 × 135 × 75 mm (6-1/4″ × 5-5/16″ × 3-15/16″)

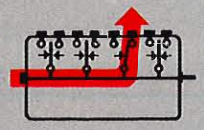


Accessories for Remote Control

7072



7072 schematic (3rd circuit closed)

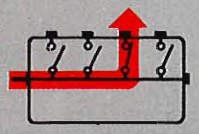


7072
Position control box with 8 sockets for connecting 4 single or double-solenoid operated items · Position of buttons corresponds to position of signals, switches, etc. · Length 80 mm (3-1/8″) · Width 40 mm (1-9/16″)

7210



7210 schematic (3rd circuit closed)

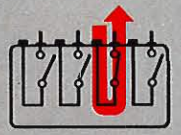


7210
Control box for distributing track or accessory current to 4 different circuits by means of indicating buttons · Length 80 mm (3-1/8″) · Width 40 mm (1-9/16″)

7211



7211 schematic (3rd circuit closed)



7211
Control box for controlling 4 different track or light circuits by means of indicating buttons · Length 80 mm (3-1/8″) · Width 40 mm (1-9/16″)

Standard colors used in Märklin circuitry:

Red = Track current

Yellow = Lights and solenoid-operated items

Brown = Track current and ground return from position control box to transformer

Blue = Return wire from solenoid-operated items to position control box (with green and red plugs)



7209
Distribution strip · With 11 single sockets · Size 50 × 20 mm (2″ × ¾″)

Wires

Copper wires consisting of 24 separate strands 0.10 mm (0.004″) in diameter each, for an overall circumference of 0.19 mm² (0.03 sq in). Can withstand short circuits.

7100
Wire · Single core · Gray · 10 m (33′)

7101
Wire · Single core · Blue · 10 m (33′)

7102
Wire · Single core · Brown · 10 m (33′)

7103
Wire · Single core · Yellow · 10 m (33′)

7105
Wire · Single core · Red · 10 m (33′)

Sockets



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


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1051



1052



1053

1057



1055





1054



1056

märklin

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