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The Märklin Club  
Magazine

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**märklin**

# TELEX



- ◆ Instructions for installing the Märklin live overhead system ◆
- ◆ Rail-Toy-Museum at Oostvoorne ◆ The most important 1992 models σ ◆
- ◆ The standard European "Eurofima" coaches ◆ The f7, a GM/EMD masterpiece ◆

**MÄRKLIN TELEX**  
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**EDITOR/PUBLISHER**  
MÄRKLIN, INC.  
PO Box 51319  
16988 W. Victor Rd.  
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**Concept & Layout**  
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**Asst. Publisher:**  
Tammy Schoen

**Contributing Editors:**  
Riley O'Connor  
Carl Weaver

Dr. Tom Catherall

**Technical Editor:**  
Jeff Stimson

**Technical Advisor:**  
Ken Brzenk

**Materials are also provided by:**  
Märklin GmbH - Germany  
S.A.R.L. Märklin - France  
S.A. Märklin N.V. - Belgium  
Märklin Club - North America

**Märklin Club**  
**North America**  
**PO Box 51559**  
**New Berlin, WI 53151-0559**

**Administration Manager**  
Brenda Julin

The Märklin Club is dedicated solely to serving the special interests of the Märklin enthusiast. Its goal is to help you to get the most from your Märklin trains and model railroading.

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## Editorial

### *Exciting News for 1992*

I am sure you have all read stories about the fact that we are living in a global environment. This is certainly true in the world of Märklin trains which are sold on a worldwide basis.

In 1985 when the Märklin Club of North America was established, it was a one of a kind. However, over the past seven years Märklin Clubs have been established in both France and Benelux. These Clubs were organized and operated by wholly owned subsidiary companies of Märklin GmbH in Germany. These subsidiary companies are structured much like Märklin, Inc. in the United States.

There is very close contact between the subsidiary companies. The general managers meet twice a year in Göppingen to exchange experience and ideas. During one of these sessions the idea of a global Club newsletter was presented. It was enthusiastically accepted.

For a number of years, we had been exchanging our Club newsletters. Each country's newsletter had interesting sto-

ries which we felt Club members in other countries would enjoy reading. The biggest problem for us was being able to translate the materials into English and reprinting the stories in our HotTraks newsletter in a timely manner.

However, this problem has been solved and it is now possible to consolidate all three newsletters into one.

This is the first issue of the English edition of Telex, the official newsletter for all Märklin Clubs worldwide. As you can see, it is in color and has a much broader range of articles than our HotTraks newsletter. In addition to the expanded amount of information, it will be printed five times a year instead of the four issues of HotTraks.

We hope you will enjoy this new newsletter format and we look forward to any comments you may have about it.

**Fred Gates**  
**President**  
**MÄRKLIN, INC.**

#### Cover photo.

The new ICE is a completely new design, modeled after the class 30 of the prototype that has been in operation between Hamburg and Munich on an hourly schedule since June 1991. With over 6300 h.p. per powered car the ICE railcars often reach the maximum permissible speed of 250 km/h (167 m.p.h.) for passenger trains on this line.

The ICE's that have been in the program up till now (no. 3371 and 3671) were modeled after the experimental version of these intercity railway trains, as they entered service for test runs in 1985.

The numerous alterations, especially the modified pressure-tight diaphragm sections, but also the changed profile of the powered cars, and trailing cars necessitated a completely new design.

On the model one powered car is motorized, the other is a dummy. The close couplers of the trailing cars and the powered cars are electrically conducting and are part of the interior lighting circuit. The center rail power pick-up of the train is reversed automatically in such a way that only the leading pick-up shoe is operational. 3370 conventional version. 3370 digital version with high-efficiency motor and electronic throttle.

Photo: H.K.

# Contents

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## 4 New models 92

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Presentation of the most important new models at the 1992 Nürnberg Toy Fair.

From Februar 6-12 Märklin introduced its new program at the annual toy fair, traditionally held at the beginning of the year at Nürnberg, toy-capital of the world.

## 8 The Eurofima coaches

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Illustration of a large family of European coaches.

In 1969 a special committee was founded to design a European standard coach. Several European railroad companies participated in this enterprise. In 1970 the first coaches were delivered. Most versions of this coach can be found in the Märklin catalog.

## 12 The F7, a GM / EMD masterpiece

---

A legend, also in the Märklin program.

"F Units", a revolution on rails. With express train speed the F Units conquered the United States. Märklin reproduced a large number of versions of these engines, both in HO and for Mini Club.

## 16 Exploded view

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Accessories and parts for F7 engines in HO, cat. no. 3060, 3062, 3129 and 3181.

## 18 Märklin DELTA

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Once again the future of your layout looks different. Discover with us the possibilities of Märklin DELTA, the new train control system for small and medium layouts. By the way, this revolutionary, modestly priced system is fully DIGITAL compatible.

## 20 The Rail-Toy Museum at Oostvoorne

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A Märklin treasure in the Netherlands.

The Netherlands now have their own version of the Märklin museum at Göppingen. It's the Rail-Toy Museum at Oostvoorne, where the fabulous privately-owned collection of Mr. Spreeuwenberg can be admired. A visit is strongly advised !

## 27 How do we tackle this one ?

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Directions for the installation of the Märklin live overhead system.

An electric locomotive on a layout without catenary: doesn't that make you feel sick ? The installation of an overhead system is easier than you thought and the result is amazing (both visually and functionally).

## 32 Exclusive

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The Märklin Mini-Club anniversary.

On the occasion of the 20th anniversary of the Märklin Mini-Club, Märklin introduces a limited number of silver plated, operating class 78 steam engines of the DB.

# News from Nürnberg

*The new items for Märklin for 1992*

One of the completely new designs is: 3368 conventional version and 3768 digital version with high-efficiency motor and electronic throttle, the class 118 DB.

This model features all-metal construction. The very crisp detailing can truly be considered to be the finest ever. Anyone who compares the model with its predecessors, the n°. 3023 and 3024, that were available until 1980, will acknowledge the progress that has been made, not only in plastic, but especially in the detailing of metal as a model construction material.



1. The Märklin stand. The introduction and presentation of the DELTA system was one of the winners this year.
  2. The show-case with all 1992 ECXCLUSIV models.
  3. Official presentation of "Tristan", the engine in the "King Ludwig" set.
- All photo's: H.K.

experiments of the SJ, trying to find a new look, appear to have been successful at last. A perfect match for the engine, also sporting the new colors, are 4377 express coach and 4378 express dining car of the SJ with close couplers.

Secondary roads as an alternative to the highways blocked by heavy freight-traffic. Notably last summer the ever increasing freight traffic across the Alps has been annoying.

The Ae 6/6 is presented this year as a "City engine" - City of Zürich. The technical design is identical with that of the two anniversary engines Bern and Geneva, but without the silver striping of the Canton engines and with the imprinted coat-of-arms of the city of Zürich. 3339 conventional version. 3739 digital version with high-efficiency motor and electronic throttle.

All fans of Scandinavian models will be delighted. As catalog number 3341, the RC 2 of the Swedish State Railways (SJ) is presented in the new, very attractive livery. The long lasting



Märklin now offers the alternative as a model: **4796** flatcar set for truck transport on the Swiss Federal Railways (SBB) 4797 flatcar set for truck transport on the Austrian Federal Railways (ÖBB). Car frame and superstructure are all-metal. On pages 14 and 15 the new products catalog already shows



3339/3739



3368/3768

motor with fly-wheel and miniaturized electronic decoder.

Photo: hand made pilot model

The streamlined express locomotives of the class 03 **3089 / 3094** have been extensively revised and are being re-issued as **3391** in the conventional version and as **3790** in the digital version with high-efficiency motor and

how the buffer beams can be moved out of the way to facilitate the loading of trucks.

The German Federal Railroad (DB) class E 70, nicknamed "Bavarian Crocodile" is being introduced as number **3448** the conventional version and as



3391/3791

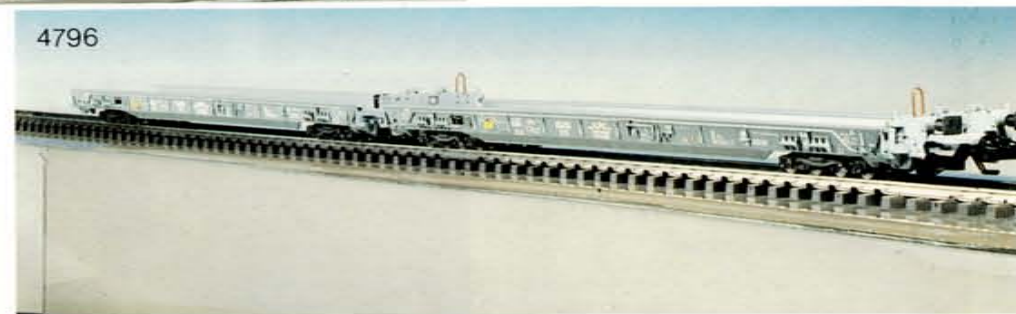


3341

electronic throttle. With new frame and reworked all-metal superstructure. Tender with NEM coupler pocket.

As the first model of a locomotive of the Deutsche Reichsbahn of the former German Democratic Republic (DDR), the class 204 is being presented as catalog n° 3449.

number **3648** the digital version. The model is a joint effort of Märklin and Trix. Frame and superstructure are all-metal. Like the prototype the trucks pivot, but the extensions are rigidly mounted. Due to the dimensions and small size, the model is equipped with a specially designed



4796



3448/3648

A whole series of very interesting privately owned cars is presented this year.

**4733** Interfrigo refrigerator car. Used by the Italian State Railways (FS). The car is finely detailed and comes equipped with close couplers.

**4757** Chemical tank car. Prototypical



3326 Electric locomotive of the class 1600 of the NS is renumbered 1607 and now sports the coat-of-arms of the city of Vlissingen, together with the 150 years anniversary text "I pulled the longest passenger train in the world". Further modifications: airhorn holder, NEM coupler pockets.

3334/3634: Electric locomotive BB 26 000. The Sybic is renumbered 26 006 and is decorated with the coat-of-arms of the Museum of Transport for Mülhausen.

### **Märklin I**

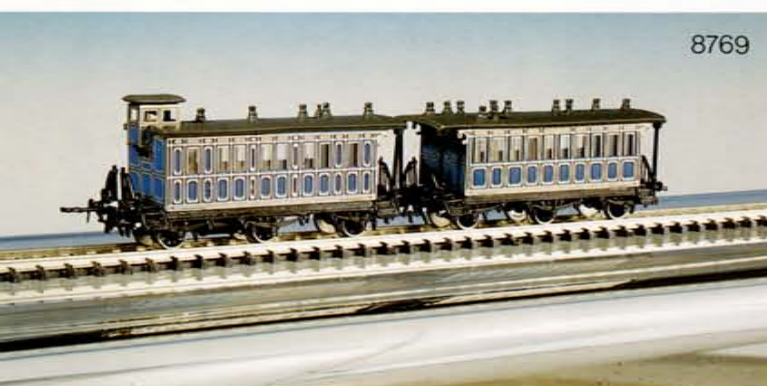
5509: Tank engine class 8970-75. Anyone who immediately pins down this model as a simple repaint of a 5501 T3 engine should take a closer



8917



8138



8769



funnel-flow tank. Finely detailed open frame. Close couplers.

4756 Oil tank car. Finely detailed frame with close couplers.

Not an everyday appearance are the crude iron cars of the firm of Mannesman (4478) and the slag car of the same owner (4479). Both cars feature close couplers and were jointly developed with Trix.

### **Changing the existing program.**

Models that have been changed without changing the catalog numbers.



look. The steam dome surely is not the only modification, although the most important one, as compared to the T3.

**Mini-Club**

The Mini-Club is celebrating its 20th anniversary this year. The provincial



3326



4757

**Exclusiv**

A single production run of a museum engine will be presented, supplementing the present total of 5 museum cars that were available at the museum.

Attention: The museum engine will not be available at the museum, but

railroad coal train (8138) has pleased us very much: engines and cars in limited run edition. Not available separately.

The supplementary King Ludwig car set (8769) is a logical successor for the successful King Ludwig train. The



4733



4756

from authorized Märklin dealers only.

**Märklin Museum items:**

The different items offered every year at the museum are enjoying a steadily growing interest. This year the HO tank car is very pleasing.

The racing car RAK tradition is being continued with a 4 car set of Porsche

two cars permit frequent variations in the consist, depending on the occasion.

The fire truck set 8917 will not exclusively be used to animate Mini Club layouts.



4479



MUSEE / MUSEUM

cars in 1:43 scale. The cars are diecast in zinc.

D.L.  
All photo's: H.K..

# The standard European "EUROFIMA" coaches

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*Also an extensive coache series in the Märklin program*

On the 20th of November 1956, 16 railroad companies founded an association in order to facilitate the purchase of railroad equipment: the principal goal was to combine the orders of several roads to standardise the rolling stock fabricated and, consequently, to realize better costs. This association, named 'Eurofima', designated Basel (Switzerland) as its permanent seat.



1. This very nice picture, taken along the banks of the Vesdre river at Dolhain - Limbourg (Belgium), shows us a SNCB series 16 (electric engine) heading a string of EC's (Euro-City) 'Memling'. This new Eurofima livery of the SNCB (Belgian State Railways) will done in the 1992 export program. Photo: Max Delie.

In 1969 a committee was assigned to define the characteristics of a 'standard European' coach, and it produced a complete report in 1970, incorporating the design essentials of a type A9 coach (which is a first class coach with 9 compartments) and a type B11 coach (second class coach with 11 compartments); followed additionally by the establishment of the features for a type A4B6 coach (4 first class compartments and 6 second class compartments).

At the end of these studies, 10 prototypes were built by the Linke - Hofman - Busch company; these coaches were sent for extensive evaluation to the following railroad companies: four coaches to the DB, two coaches to the SNCF and four to the FS. These coaches thus endured multiple test



2. Right from the start these coaches were designed in the spirit of 'standardized' European railroad equipment; thus it was only natural that all were given the same orange livery, like this example of the SNCF. Photo: D.P.

3. After hesitating for a long time, the SNCF finally opted for the 'Corail' livery, instead of the orange. Photo: D.P.

runs and they were added to countless international consists; that is why they could be spotted many times in Belgium, in the Cologne- Paris consist via Brussels, in the trains numbered E 432 and E433.

A working committee was established which was assigned to develop a set of

4. Towards the end of the 1980's the ÖBB realized a new livery for their international rolling stock; the Eurofima coaches didn't escape the same fate, as evidenced by this photo. Photo: D.P.

6. In 1990 the SBB/CFF made proper use of their paint brushes: the 'Eurofima' rolling stock received the same paint job as the very recent type 'EC' coaches. Photo: D.P.

5. More recently the Italians did the same, creating two new liveries for the 'Eurofima' equipment: one for international service (grey with dark grey lining), the other for inter city use (grey/ tan). Photo: Capi.





7. New paint schemes for the Austrian IC's: second class coach, produced under no. 4273.

8. New DB design: superb detailing on this no. 4246.

specifications and to work out an extensive program of international proposals. In this way in July 1971 not less than 23 companies were consulted by 'Eurofima'. When all the suggestions had been examined for their technical aspects by the working committee and for their commercial aspects by the 'Eurofima' association, the final result was a combination that included the following companies:

- Linke Hofmann Busch at Salzgitter in Germany
- La Brugeoise (Alstohm) at La Rochelle in France
- Fiat at Torino in Italy

The six railroad companies that jointly purchased coaches ordered an impressive number of 500 that were assigned as follows:

**Germany (DB):** 100 first class



coaches.

**Italy (FS):** 30 first class coaches, 70 second class coaches.

**Austria (ÖBB):** 25 first class coaches, 75 second class coaches.

**Switzerland (SBB/CFF):** 20 first class coaches.

**Belgium (SNCB):** 20 first class coaches, 60 second class coaches.

**France (SNCF):** 100 first class coaches.

The contract was signed on the 18th of May, 1973 at Bruges, in the rooms of the European college, under the presidency of Mr. Jean Rey, Minister of State at the time, and by diplomatic

representatives of the various countries involved.

### **The Märklin 'Eurofima' coaches**

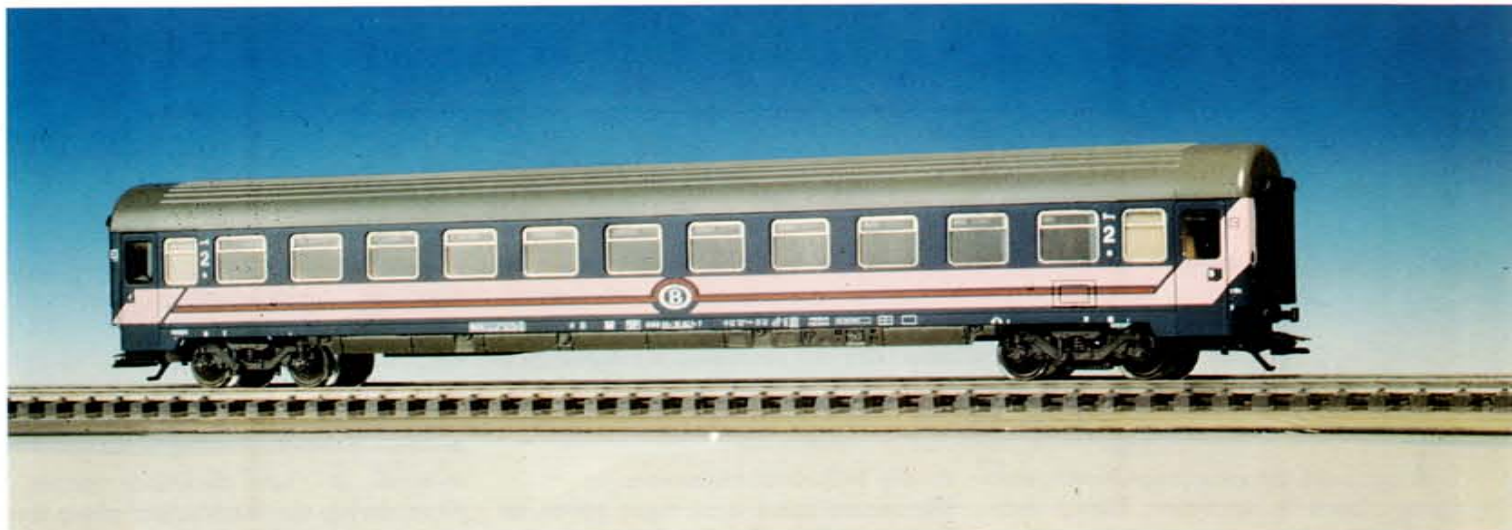
These coaches marked a positive turn in the history of luxurious rail travel, and were reproduced as models by Märklin. All possible versions were presented, following the most recent development of liveries, as proposed by the various railroad companies. The models are characterized by very nice detailing and a correct and complete lettering job, that further accentuates the neatness of the detailing

9. The first class SNCF version of the coach in classic 'Corail' livery, catalog no. 4253.



10. This first class coach in ex TEE





11 & 12. Very classic, because of the orange version (no. 4252), but very much less so because of the sleeping compartments (no. 4274): coaches 'SNCB' style.

- 4272: first class coach in the new red and brown ÖBB livery.
- 4273: same livery as above, but for the second class coach.

**DB (Germany)**

- 4247: first class coach in IC livery, red and cream (former 4147)
- 4248: first class coach in the new DB livery.

and the perfectly reproduced open windows. All models brought out since 1990 are equipped with close couplers and NEM coupler pockets. Let's summarise all available versions (catalog numbers preceded by an asterisk are not yet equipped with close couplers):

**SNCF (France)**

- 4253: first class coach in 'Corail' livery (former 4161).

- \* 4156: first class coach in orange livery.

**SNCB (Belgium)**

- 4251: first class coach in orange livery.

- 4252: second class coach in orange livery.

- 4274: second class sleeper in the new midnight blue SNCB concept.

**SBB/CFF (Switzerland)**

- 4267: first class coach in orange livery.

- 4266: first class coach in the new 'Euro-City' SBB/CFF livery.

- 4168: second class sleeper in blue livery.

**ÖBB (Austria)**

- \* 4149: first class coach in orange livery.

- \* 4167: second class coach in orange livery.

In Z scale we also find an Eurofima model: the IC coach in DB livery, catalog number 8740. In spite of the small scale, the model exhibits the same exceptional quality, down to the lettering and detailing, which are absolutely remarkable. You won't believe it, until you take out your magnifying glass.

D.P. / Francis Beckers.

livery was sold under catalog no. 4147.

13. The most recent Märklin 'Eurofima' model: the new SBB/CFF livery, distributed under no. 4266. Photo's 7 - 13: H.K.



# The F7, a GM/EMD masterpiece

*A legend on tracks also in the Märklin program*

The astonishing thing about it was that it was totally different from any thing that had ever been seen on a railroad: A diesel-electric locomotive with the factory designation "Electro-Motive Demonstrator Locomotive no.103". The name given to this new locomotive system' "F Units", quickly spread from coast to coast with this sensation. It conquered the States like wild fire and received just as fast a triumphal entry into the history of American railroading.

**T**hey were the most revolutionary unit ever placed in operation. Hardly ever before or since has a locomotive been built in such quantities, a total of over 7000 units. They became an unforgettable legend even during their lifetime. This motive power concept stood for strength, dependability and for superlative operation, something that nobody could beat at that time. The F7 overshadowed all of its predecessors and decendants. It became the most famous and successful locomotive of its series because it introduced the Diesel Era to American railroading. We will talk about it and the history of the "F-Units" in the following section.

At the end of the thirties the steam locomotive ruled the American railroad system. From the very start the streamlined, high-speed diesel locomotives were used specially as the motive power for most of the modern passenger trains and small switching locomotives. GM/EMD was the first one to make a challenge with the diesel locomotive: the diesel-electric locomotive. The company provided a new power unit: GM built in the mid-thirties an economical and powerful two-cycle diesel motor with 16 cylinders - heart of the future F-units. Builders and designers did something extra. The result was amazing in every aspect !

At first glance it was a 193 feet, 414 ton monster, put together with 2 engineer's cab units and 2 boosters in the middle. The amazing power concealed in it was proven during the 11 month trial period. With its over 4000 kilowatts of power, the No.103 thundered more than 80,600 miles through 37 states and was accepted by 21 national railways. The locomotive passed every test; without exception it worked just as well at -72°F in Alaska as well at over 104°F in the desert heat. It pulled its load smoothly at sea level and at elevations of over 10,200 feet. On a test trip it pulled over 1600 tons of iron-ore over the Californian Techachapi Pass. On the 25 mile long incline (2.5%) it left its competitors far behind. With a load of 240 tons it pulled twice as much as any pre-

viously built steam locomotive.

The testers noted even more points on their check lists: The F units "were easier to operate, accelerated faster, climbed grades with greater ease; due to their low point of gravity they could take curves with ease, maintenance was immensely

reduced", & " were cheaper to operate". Even during the introduction phase the importance of the F units was clear to everyone. With them diesels were to make a name for themselves on American tracks.

The tests were succesful. They were



1. The F7 - a legend on tracks. Chicago July 1991. Foto: M. Hanssens



2. In 1990 an F7 A-B-A appeared in the demonstrator paint scheme of its manufacturer, General Motors / EMD, as a special one-time series to commemorate the 50th anniversary of the F series. The model is equipped with two motors and has electronic reversing.

3. In 1960 the 3062 appeared, an F7 for the "New Haven". Produced 1961 to 1976. (In 1964 the manual reverse lever and the center buffer over the coupler disappeared).

ordered by the thousands from GM. Santa Fe was the first to order and on 4 February 1941 the first one was placed in service. Southern Railway was even less patient; the company bought the Demonstrator unit No. 103 right after the tests. One unit of the original is still preserved. An engineer's cab is on display at the National Transportation Museum in St. Louis.

A risky buy ? Never ! The future balance of the railway belied all of the pessimism. With the F units the yearly cost of fuel and maintenance was reduced by over a billion dollars, an example of their economy ! On a run through the States they covered the work load of 15 steam locomotives. During the 21 years that they were built

the F units worked in every corner of the States. Every additional unit also changed the railway scenery, governed by the golden age of the steam locomotive and its necessary requisites. Thousands of coaling stations, maintenance tracks, maintenance depots, water tanks, and turntables were eventually unnecessary; the costs therefore were clearly cut.

4. At about the same time that the last F-type locomotives were built by General Motors, Märklin began in 1960 with the production of the F7 in scale HO. The model appeared as the 3060 in the Santa Fe Railway colors, the railway with the most F7 units; a total of 910 were in use. (Production year 1961 to the present). Starting in 1964 the manual reverse lever and the center buffer over the coupler was left off. in 1984 the Märklin emblem was left off. As a complement to the 3060, the 4060 dummy unit has been produced since 1961.





5. The F7 appeared as the 3061 (In the color scheme of another well-known railway, the Union Pacific). Produced 1969 to 1972. The 3061 was available for another 4 years as kit 3961. As a complement to the 3061 the 4061 dummy unit was offered from 1961 until 1972 and as a kit from 1973 to 1976.

6. Since 1989 the F7 has been produced in the green color scheme of the Burlington Northern.

### **Attractive and reliable from Alaska to Saudia Arabia**

The famous "Bulldog-Nose" was the unmistakable symbol of the F units and their successors. The basic exterior design remained unchanged on all of the following models; standardization prevailed.

How the units were painted was left to the imagination of the railroads, a small revolution in itself. Since 1900 the steam locomotives had only one color: black. The F units stood out in this monotony like a peacock; they shined in all of the colors of the rainbow.

The public usually saw the F units in double-headed configurations. Usually the two locomotives with an engineer's cab (often with one or more boosters in between) were coupled back to back. A pair (locomotive and booster) originally produced about 2000 kilowatts. Every combination was possible: The triple version (locomotive-booster-locomotive) or the multiple version (pairs back to back) that brought over 4000 kilowatts. In addition to the power, the double-headed locomotives simplified the reversing direction. While the steam locomotives had to be turned around on (expensive) terminal loops and time-consuming turntables, the

7. From 1976 until 1983 the 3062 bore the Rio Grande railway color scheme. 4062 (complementary dummy unit for the 3062) has been offered. 1961 - 76 "New Haven" color scheme. 1976 - 83 "Rio Grande" color scheme.



F units could be turned at a moment's notice and continue at the same power.

The first locomotive series was called "FT". They were the only locomotives that were allowed to be produced in the States during World War II. 555 locomotives and 547 boosters were built by 1945. The next model, the F2, became a rarity because it was a makeshift. Technical, electrical, and mechanical improvements did not come until after the war. The most important change was an improved diesel motor (model 567 b) that provided 1120 kilowatts. The motor could be installed immediately but not the necessary generator; there was a one year wait for them. The F2 bridged the emergency, it ran with a new motor and an old generator, 70

locomotives and 30 boosters were delivered.

The F3 proved itself as the postwar top runner. Its special feature was the 8 different interchangeable transmission ratios which enabled the power and the speed required for a given situation (for example, top speed or full power). For 28 months (until September 1949) 70 units, 1111 locomotives and 696 boosters left the factory.

For the new locomotive series, GM jumped 6 numbers. At the beginning of 1949, the F7 started its glorious triumphal run thru the States. The engineers had increased its pulling power up to 52 tons. For the railways that meant up to one third more tonnage! A new regulating step gear





8. & 9. Shows an Amtrak F7. 8862 - produced 1985-1989

10. The F7 of the Santa Fe Railway is shown in mini club 8860. Produced since 1984.

11. Shows a Southern Pacific F7. 8861 - this livery was also called the Black Widow paint scheme due to its overwhelming black color. Produced 1984-1989

shift facilitated handling, and better brakes brought 23% more efficiency. The passenger train version, "FP7", permitted non-stop cross-country trips. The "F7" was by far the best liked model of the "F units". It worked through Alaska with a front snow plow and ran ever so reliably (with a sand filter snorkel on its roof) in Saudia Arabia. From November 1948 to December 1953 GM delivered 4228 "F7s" (2362 locomotives, 1500 boosters, and 366 P-locomotives) to 49 railroads. This masterpiece was even exported to Canada, Mexico, Saudia Arabia and Australia.

The most powerful F units were also the last of its type. Even though the F9 could deliver a maximum of 1301 kilowatts, only 387 units were built between January 1954 and May 1960. The era of the "F Units" was replaced by a more modern locomotive system.

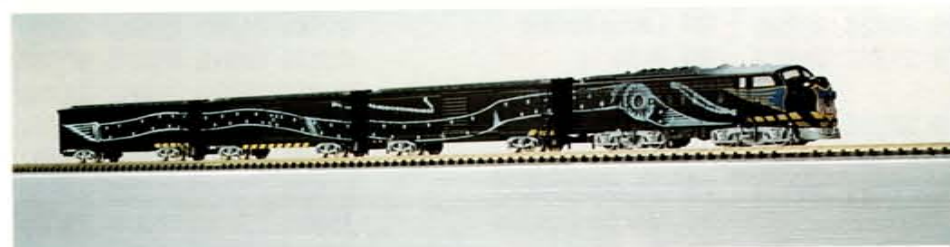


However, the "F units" dominated the American railroad system for 21 years. Just about every railroad had its freight and passenger trains pulled by these color-

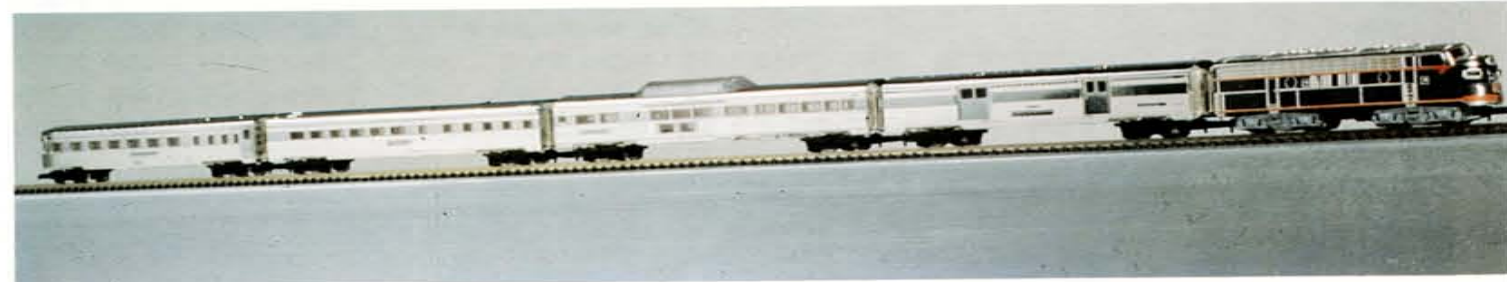
ful, highly recognizable locomotives. Discover with us all the Märklin versions of this exceptional locomotive series.

T.R.

12. Every evening thousands of people in New York, London, and Bochum, Germany were fascinated by the railway musical "Starlight Express". Who could better symbolize the locomotive competition between the diesel, steam, and electric locomotive than the F7. With "Greaseball", a train set made up of an F7 and 3 cars, Märklin commemorated it phantastically. Produced in 1988 - Production limited world-wide to 6000 sets.



13. Shows the legendary California Zephyr in Z scale. This American luxury train travelled from 1949-1970 between San Francisco and Chicago. It passed through such famous areas as the Sierra Nevada and the Rocky Mountains. To mark the exclusivity of the trains they were plated in real silver. The trains were announced as a one time series for 1989. Due to technical problems with the silver plating for the cars, the 8189 could not be delivered until 1990. Model photos: H.K.



# Diesel Engines 3060, 3062, 3129 and 3181



Part n°	Description				
		3060	3062	3129	3181
1	Locomotive superstructure (complete) with headlight lens	21587	21638	24879	28778
2	Headlight lens	21594	21594	21594	21594
3	Fuel tank	21569	21635	28697	28697
4	Machine screw	78526	78526	78526	78526
5	Power truck with	21571	21571	21571	21571
6	Idler gear Z 30/14	20226	20226	20226	20226
7	Idler gear Z 31/14	21572	21572	21572	21572
8	Shaft	22310	22310	22310	22310
9	Gear Z 33	20005	20005	20005	20005
10	Gear Z 25	22830	22830	22830	22830
11	Driving wheel and axle Z 22 D 12 with	21574	21574	21574	21574
12	Traction tires	7154	7154	7154	7154
13	Driver with traction tire D 12	21567	21567	21567	21567
14	Field magnet	21486	21486	21486	21486
15	Armature	20068	20068	20068	20068
16	Motor cover	20490	20490	20490	20490

Part n°	Description				
		75017	75017	75017	75017
		3060	3062	3129	3181
17	Machine screw	75017	75017	75017	75017
18	Motor brushes (pair)	60030	60030	60030	60030
19	FM choke	60091	60091	60091	60091
20	Reverse unit with	20824	20824	20824	20824
21	Tension spring and	7194	7194	7194	7194
22	Machine screw	78510	78510	78510	78510
23	Bottom / frame assembly	34773	34773	34773	34773
24	Lamp holder	21581	21581	21581	29779
25	Bulb	60015	60015	60015	60008
26	Body bolster	21462	21462	21462	21462
27	Screw (flat head)	78619	78619	78619	78619
28	Truck frame assembly	21570	21631	21631	21631
29	Coupler (back)	21586	21586	21586	21586
30	Machine screw	75001	75001	75001	75001
31	Truck (complete)	21575	21575	21575	21575
32	Screw (shouldered)	75351	75351	75351	75351
33	Coupler (front)	21583	21583	21583	21583
34	Insulation piece	21470	21470	21470	21470
35	Pick-up shoe assembly	7185	7185	7185	7185
36	Machine screw (flat head)	75608	75608	75608	75608

# The care and Feeding of Locomotives

## Part II

In a previous column, we talked about "running repairs", those that can be done while the locomotive is still in service. Locomotives also need heavy repairs, when they must be taken out of service. These repairs involve more time, require specialized machines, and are done in a facility called a "back shop". The roundhouse is a classic back shop, and has a strong place in the minds of railroad enthusiasts. But the square buildings used by electric and diesel locomotives also are back shops. The roundhouse design is ideal for steam locomotives; the wedge shaped stalls allow work on the parts of the locomotives that most commonly need attention. This is why steam locomotives are normally facing into the roundhouse, with their tenders closest to the turntable. The turntable allows the turning of locomotives, and allows selection of different stalls. Electric and diesel locomotives can be serviced in roundhouses, but a square building's design is more convenient. Since diesels and electrics generally run equally well in either direction, the turntable often is not necessary. The back shop serves as an area where these more complex repairs can be performed. In all cases, workers need to be protected from the elements, notably rain and cold. The most substantial back shops are usually built of brick. Given that steam locomotives are portable sources of fire, brick is a natural choice since it does not catch fire easily. As you have learned to expect, there are lots of exceptions. In milder climates, back shops can even be open sheds.

So what work is done in a back shop?

A primary job is to regularly inspect locomotives for routine wear

and tear, to prevent mishaps from happening when the locomotives are far away from service points. Partially, this may be mandated by railroad regulating authorities. In the United States, railroads are required to inspect the locomotives at stated intervals. Usually, this is every 30 days for locomotives that are in heavy service. Railroads that do not have as much traffic, whose locomotives do not work as hard, inspect their locomotives less frequently. The inspection process examines the parts of a locomotive that wear out. When a part is found to have worn beyond its tolerance, it is replaced so that the locomotive can continue to offer reliable service. It is this replacement process that illustrates the difference between steam engines and other locomotives. The steam locomotive, by its nature, requires extensive down time, the time required to replace worn parts. Steam locomotive shops were filled with skilled machinists, very expensive for the railroad. Shops were filled with a variety of machine tools to custom make parts for each locomotive. Imagine going to your car mechanic for a repair and having to machine all the parts from a series of basic castings. The expense would be incredible, not to mention the time required to do the job. With the arrival of the electric and diesel locomotives, such repairs became less expensive. Many of these locomotives' parts can easily be exchanged and the defective part can either be rebuilt or disposed of.

Meanwhile, the locomotive can return to revenue service. This lower down time leads, in part, to the departure of the steam locomotive. The electric and diesel offered the opportunity to lower the expense of locomotive maintenance simply by cutting the time necessary for repairs.

To provide access to the locomotive parts, back shops have drop pits under the tracks in the locomotive bays. Also, jacks and cranes were used to lift the locomotives so that parts could be replaced. Machine tools such as lathes, presses, and milling tables were used frequently with steam locomotives. These tools often would be located at the outside wall of the roundhouse; windows allowed natural light to illuminate this

work area. With diesels and electrics, many parts are repaired at a separate facility, or even repaired by a contractor. One key feature of most roundhouses is the turntable.

Although not common, turntable accidents do occur. Locomotives seem to obey a mysterious attractive force which causes them to dive into turntable pits. They usually make it halfway, ending up with their front in the pit and their rear hoisted into the air. In the days of the steam engine, this was merely a major inconvenience. With diesels, the turntable accident took on a new dangerous aspect, since the locomotives' fuel tank is on the bottom of the engine. As the nose dive would take place, the fuel tank often was damaged to the point that fuel would begin leaking, creating a fire hazard. In any case, the locomotive would have to be fished out of the pit. While this was taking place, the turntable was not operable, creating a huge bottleneck. Locomotives that were ready to go into service were captured inside the roundhouse, while others ready for major repair were kept out. Turntable accidents usually guaranteed the presence of lots of railroad officials. And a lot of very pointed questions about how this was allowed to happen, again. This also serves to point out that railroads are dangerous places. With very heavy things moving around at speed, railroad people are very safety conscious. This was especially true in the locomotive service areas. With grease and oil about, and turntable and drop pits there to fall into, railroad managements have always made safety the highest priority. Railroad rules specify that when in doubt, the safe course must be taken. So, there often are signs and posters encouraging safe work habits. Entrances to work areas also have signs with red and green lights, indicating how many days have gone by without an accident. The exhortation of "Keep the Green Light Burning" reminds all that safety is of the utmost concern. In addition to the main shops, there often are related facilities. Some buildings adjacent to the main locomotive shop are used for parts and material storage. Others are used for steam and compressed air generation. Steam is used to clean locomotives, com-

pressed air is used to drive certain hand tools such as grinders and buffers. Elevated steam and air pipes would come from the boiler house and compressor building to the back shop. The steam lines are thicker, since they are wrapped with insulation to keep the steam hot. Back shop areas also have vehicles which help move parts and tools about. Fork lift trucks often do the job, but some big facilities have a narrow gauge railroad to help move things. Many shops have a specialized switching locomotive which is used to move "dead" locomotives. In steam shops, this engine has to be small enough to fit on the turntable with a steam locomotive that is not under fire. These "shop goats" were amazing locomotives, often cobbled out of otherwise obsolete locomotives. Modern electric and diesel shops usually have a small diesel locomotive to handle switching chores. Often given names, the shop engines enjoy a particular affection from the shop crews.

*Maude, the shop engine at Southern Railway's Atlanta shop, had originally pulled elevated passenger trains in New York City in the early 1900's. With the departure of steam locomotives, she ultimately was donated to a historical society. From a modelling perspective, back shops are very useful. They give us the opportunity to store and display more locomotives, a very happy alternative to leaving them in their boxes. And, there is the opportunity to buy just one more ...*

**Carl Weaver**

*Contributing Editor*

## Lighting Your Layout Vehicles With Fiber Optics

The use of fiber optics is a good way to get a bright point of light to a tough place. Detail buffs will love fiber optics and there is no end to the possibilities of their use.

### What Are Fiber Optics ?

Simply explained, fiber optics are very fine, flexible glass or clear plastic rods inside a sheath. Light is transmitted by internal reflection. Fiber optics look like insulated wire and come in all diameters and lengths. Usually the smaller diameters are the more expensive.

If a light source is placed at one end, the other end of the fiber optic will shine brightly. Märklin uses a clear plastic piece in some of its locomotives to transmit a bright light to the scale headlight lens. Although solid plastic is used to transmit light, the principle is the same as that for fiber optics.

Even though very small light emitting diodes (LEDs) are available, the smallest points of light can be produced by using a colored bulb, or by dyeing the source end of the fiber optic. I found the filter method to be the best. For some applications, such as simulating a light bulb, you may want to form a bulbous end. If the fiber optic is plastic and not glass, you can heat the end quickly with a small flame after stripping away a little of the sheath. The heat will cause a small bulb to form.

Fiber optics can be purchased from well stocked hobby stores and through electronic mail order catalogs. There are several fiber optic experimenter's kits available. The one I purchased was less than \$5 and had a good variety of sizes and lengths for experimentation.

### How Can Fiber Optics Be Used ?

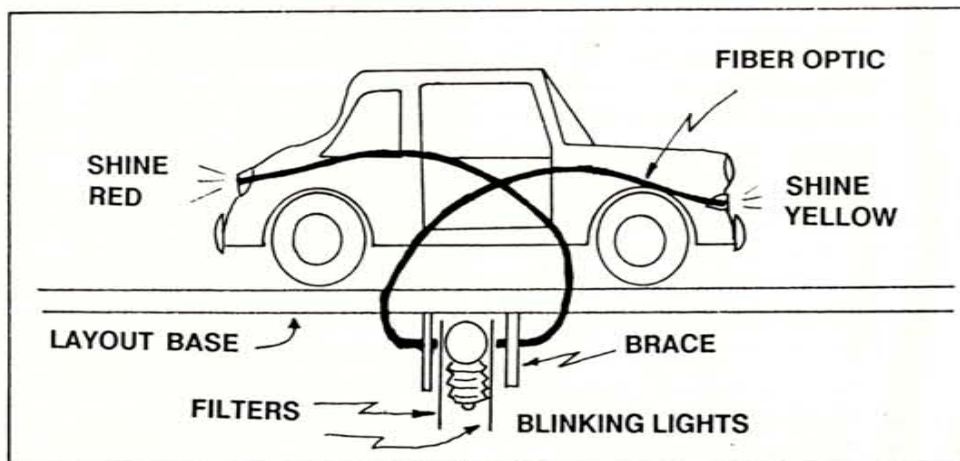
There are many uses for fiber optics on a model railroad layout. Some

of the more spectacular are blinking turn signals on an HO scale vehicle, a flashlight in the hand of an HO scale person, small lights over doors in buildings, table lamps, blinking lights on top of towers, and railroad car tail-lights. The most clever use of fiber optics I've seen was an HO scale man smoking a cigar. The last 4 or 5 millimeters of the fiber optic was the cigar. The remainder of the sheath was cleverly hidden in a slit in the man's body and carefully painted. The source was red light that slowly increased in intensity and then faded off. The modeler used a unit from a Christmas tree light controller that had a light fading mode.

### How To Place Fiber Optics Lights On A Vehicle

Z scalers will have to use the smallest fiber optics you can find. HO modelers will have a little leeway in selecting fiber optic diameters. First, decide which lights you want to have shine. For example, let us select the right turn blinkers. Next, use a collet and hand drill out the right front parking lights lens of the vehicle. Make sure that the hole is exactly the diameter of the fiber optic to be used. Cut off the lighted end of the fiber optic tube square or at an angle to match the parking light lens before it was drilled out. Place this end in the drilled hole from the inside out. Secure the sheath with a SMALL amount of CA glue. Don't get any on the clear end of the fiber optic. Secure the sheath a second time somewhere inside the vehicle. Use a shim if necessary. Repeat these steps for the right taillight. If you are ambitious, you can also do the headlights

### Vehicles Lights Using Fiber Optics



with a larger diameter fiber optic.

Run the fiber optic sheaths through the layout base to a convenient point underneath (See Figure 1). Square off the source ends of the fiber optics with a razor blade. Use a single blinking bulb as the source of light. Use colored plastic filter between the bulb and the ends of the sheaths. Move the source end of each

sheath around in the vicinity of the bulb while watching the lighted end. Note the positions that produces the brightest light. Secure the sheath in that position with a makeshift brace and CA glue. You will need a second, non-blinking bulb as a source for the headlights, but this time, don't use any filters.

Got the picture now ! Have fun

with fiber optics on your layout.

#### (EDITOR'S NOTE)

Carl Weaver is a charter member of the Märklin Club and a respected author of several articles and books on model railroading. His latest book, *Greenberg's Model Railroading With Märklin HO*, will be available from the Märklin Depot in New Berlin.

### Layout Showcase

## HO LAYOUT

by Robert J. Drumm #5621 St. Petersburg, FL

"I am 71, and a retired teacher. I got started with Märklin in 1985 on a trip to Germany and Austria. My layout is 8' x 10', all digital and running on K track laid on Mossmer foam. Locomotives are: 3650 Seiss; 3631; 3157; 3042; 3058; 3610; an old E18 3024; a 2663 VW train and 4228 "Rheingold". Buildings are all Vollmer including the Hauptbahnhof, and the covered walkways are Faller.



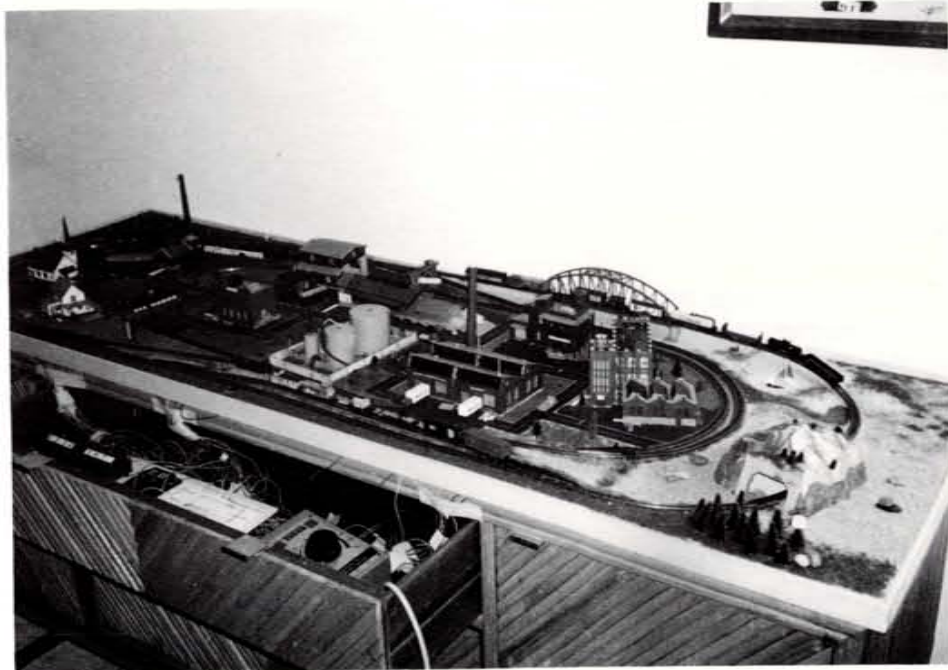
Have recently added Infra-red control. I feel that model railroading

keeps you mentally alert. My next step is computer control."

## Z LAYOUT

by John L. Switzer, M.D. #11229 Los Angeles, CA

I have enclosed some photos demonstrating my Märklin Z layout. It measures 5' x 2' and consists of two loops with seven turnouts and a cross-over which gives access to two independent or connected loops. The houses are primarily Märklin but several are Pola N-kitbashed to fit Z scale. The track is laid on Z corkbed. The blacktop is Scale-Crete applied by brush. The roadway is Noch Z scale blacktop. The chain link fence surrounding the Shell tanks is cut down from an HO kit. The street lights were made from seed bulbs glued to wire and painted black which forces light towards roadway. The water is Noch plastic blue glued to the base. One transformer controls both loops. I run both F-7's and a 2-6-



2 Mikado steam engine together with an assortment of Märklin European and American prototypes. The grass areas (Woodland Scenes) were applied over glue (Sobo) and rolled flat

with a wallpaper roller. Trees were made from evergreens by trimming and rolling in grass material. This layout fits our condominium space and gives me great pleasure.

## How About You ?

# Showcase Your Layout in Telex

Send a black and white photograph of your layout, along with a brief essay (100 words or less) which describes your layout. Tell us what era your layout represents, which Märklin trains you run on it, and anything else of interest you would like to share. **We especially need you to send us information on your HO layouts.** If your layout is featured,

you will receive a \$25 Gift Certificate which can be applied to any gift featured in the Märklin Depot. Get going now ! Send your black and white layout photos, along with your layout description to:

Telex Layout Showcase  
c/o The Märklin Club  
PO Box 51559  
New Berlin, WI 53151-0559

## Club Member Q & A

John Surak, Jr. #5268  
Lake Forest, IL

### QUESTION

After viewing the Depot's recently available "252 MPH On Rails" video, I was fascinated by the sophisticated technology that has gone into the line, and this presented several questions:

1. Is this line to be exclusively used by ICE, or will there be other passenger and freight trains; and if so, how fast will these other trains go ?

2. If one has ever observed the passing of express trains on a conventional line he will notice a trail of dust that follows the train, yet the ICE left no dust trail implying that the line must be super clean. How is it that the line is so clean; perhaps there is a lining between the ballast, and the ground that prevents finest (dust) from creeping up ?

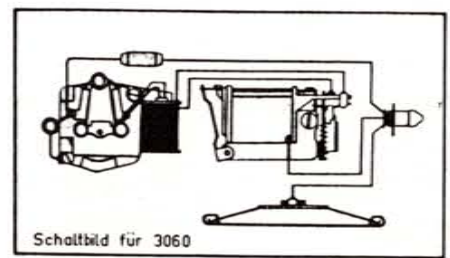
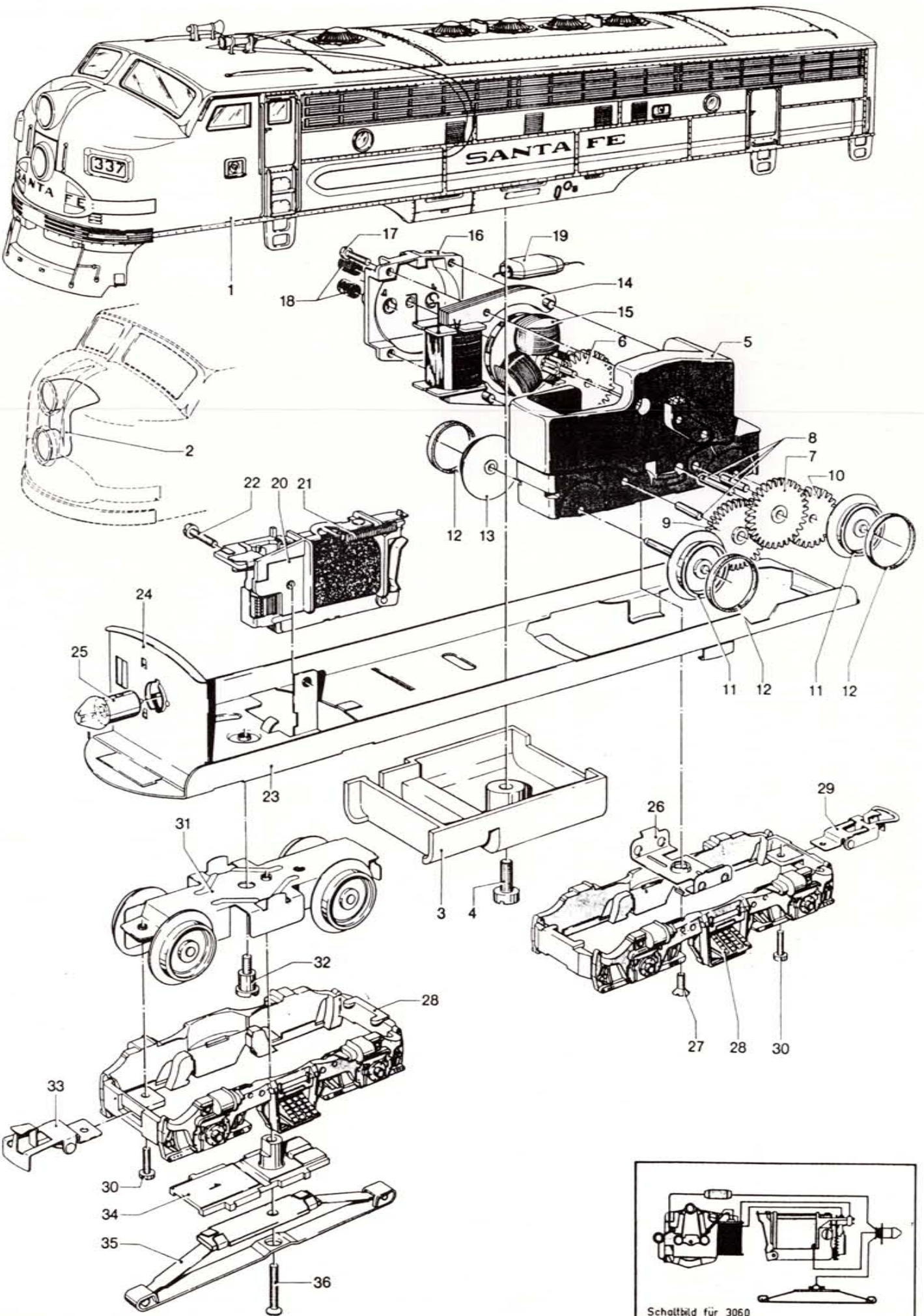
3. I could not help but wonder if passengers experienced uncomfortable pressure on their ears as the train darted into tunnels. Is the train perhaps pressurized to prevent this ?

### ANSWER

1. The new line is not used exclusively by ICE but also by passenger (InterCity) and freight trains. Special freight trains run up to 160 km/h and passenger trains, mainly "InterCity" trains up to approximately 200 km/h.

2. The new line is built on cement which does not permit any dust trail.

3. All gateways and doors are pressurized and the passengers' compartments are not disturbed by any pressure.



Prinzipdarstellung

# Multi-train operation with potential for expansion

## *More fun with model trains*

Without a doubt the first train under the Christmas tree leaves every kid's heart throbbing with excitement. But after some time has passed, the desire to expand arises. Then after the layout has been expanded, a second locomotive finds itself on the want list to make train operations more interesting.

Until now running several trains at the same time has been somewhat difficult. Now Märklin DELTA makes it easy to have more fun with model trains in your child's playroom. All of his/her playmates can have fun there operating the trains.



1. At the DELTA Control an engine can be selected by simply turning a switch, which causes the engine to respond to the setting of the speed control knob of the transformer. Like a radio transmitter, the DELTA control sends its signals to a receiver circuit in the engine selected.

To operate a model train you normally connect the feeder track with the sockets on the transformer. On this transformer you can control the locomotive's speed and direction. If you place several locomotives on the tracks, then all the trains operate in the same manner. Independent operation is only possible by dividing the tracks into several electrically separate circuits, for example: separate loops. Normally on these layouts you find several transformers in operation that supply the different circuits independently.

At this year's Nürnberg Toy Fair, Märklin presented (under the DELTA name) a new product line which solves such operation and wiring problems on a multi-train system. This piece of equipment is simply connected between a standard HO train transformer and the feeder track. In this way the layout is transformed into a multi-train system simply by the twist of your hand. The Delta system is not only adaptable to the expansion of an existing layout, but it is also designed for use in your child's playroom for a temporary setup. In

this way the fun can be increased tremendously even when the track operation is changed daily; otherwise complicated wiring would hardly be possible in this case.

The operation of this system is really "easy as pie" and it can be summed up in one sentence: On the Delta Control 6604 we choose the locomotive that we want to control with the transformer. Like a transmitter, this piece of equipment sends the settings of the transformer on a certain channel to the locomotive selected. In the

2. DELTA is the ideal answer for smaller layouts on which up to four trains have to be controlled simultaneously.

locomotive there is a matching receiver module that only reacts to this channel. In this way the layout can be used with several trains operating at different speeds, because the Delta locomotive keeps operating according to the commands it has previously received.

The Delta modul 6603 is available to be installed in an already existing locomotive, but also is part of the regular production of the following new models:

3396 Tank locomotive Class 086 - DB

3374 Diesel locomotive Class 216 - DB

3428 Accumulator railcar Class 515 - DB

3331 Electric locomotive BR 140 - DB

In addition, the locomotives in the following three Märklin starter sets already have the Delta module as standard equipment:



3. Never mind if the model is a steam, diesel or electric locomotive - DELTA gives you a completely free choice. The engines are selected with the rotary selector switch on the DELTA controller.

4. Or five ! The hand-held throttle DELTA Pilot 6605 can simply be plugged into the DELTA 6604 controller to share the fun with brothers and sisters, and it opens up new possibilities towards the "big" system.

Increased demands and the desire to expand will not leave you at a dead end with the Delta-System. You can move over at anytime to the Märklin HO-Digital system. An already existing locomotive that has a Delta module does not need a digital decoder. Delta holds down the cost of converting to Digital, but it can be very economical by itself for multi-train operations on small and medium layouts. Delivery is expected in the Spring 1992. In the next MM magazine there will be a special section where we will explain the Delta system in even fuller detail.

R.Czerwonka / Ec

2915 with Tank locomotive Class 89

2963 with Tank locomotive Class 81

2983 with Diesel locomotive Class 216 - DB

A 30 watt transformer is included with each set to provide enough power for multi-train operations.

The Delta Pilot 6605 is a hand held controller that can be added to the layout to control almost any locomotive in the Märklin Digital programm. This allows you to run a fifth locomotive on a Delta layout. The control in this case is completely independent from the locomotive selection on the Delta Control and speed control ??? on the transformer. In this way, for example, you can carry out the switching and double-headed train operations. In addition, it offers completely independent operation for the most fun with playmates.



# They reproduced virtually everything in Göppingen.

*Rail- Toy Museum at Oostvoorne, "The Märklin Museum" in The Netherlands*

To visit the Märklin Museum in Göppingen you have to travel quite a distance. Much closer to home there is a museum that deserves the same name, taking into consideration its huge collection. The building and the setup of this museum were undertaken on the initiative of Mr. C.J. Spreeuwenberg, recently retired from the Board of Directors of 'Spreeuwenberg Scaffolding' at Zwartewaal. He moved his extraordinary collection of trains and toys from his home to the building of the former 'Buitenlust' restaurant at the Hoflaan in Oostvoorne.

**E**njoy, that's the right expression when we go round the beautiful show-cases, loaded with rare toys. Hundreds of feet of track with hundreds of little locomotives, cars and toys, that fulfill the adventurous railroad world of kids. You never stop admiring the numerous scenes and details. Amazing, how happy we were ourselves, when we had a little Märklin toy train of our own. Here, almost the complete Märklin collection from 1890- 1940 is displayed.

Most men have played with trains during their younger years, or would have liked to do so. Most of the time this happened during the steam period, which we left behind us many years ago. The arrival of the steam locomotive inspired the imagination: the speed of travel could be increased tremendously. Next to churches, stations became the largest buildings; they were situated close to ancient city gates most of the time. People even considered quitting all road transportation during those heydays. The train would take care of it all. Steam in a way has an aura of energy. A power emerges from it and that is something adult men still appreciate. Many of the older products are presently being manufactured once again.

## **Scaffolding**

Cor Spreeuwenberg opened his own toy museum under the name of Rail-Toy last year after his early retirement from the contracting business in Oostvoorne, comfortably situated near the Rotterdam Harbor route. "Constructing and carpentry are a

family-business", Mr. Spreeuwenberg explains. "Grandpa was a carpenter and he owned a shop at Kralingen. My father was a carpenter foreman at Pernis and he started his own business during the late

an accident, I didn't have any clearcut plans at the time and I stayed with the company." The firm has known constant progress. During the late 1950's Spreeuwenberg made steel scaffolding its



**1. At the Rail-Toy Museum you'll find the oldest Märklin 1 Scale train, fabricated in 1891. "Scale proportions were obviously overlooked, but that doesn't make any difference for a real toy train."**

1940's. Steel scaffolding was added to the business late during the 1950's".

"During 1950 the company was located in Hoogvliet; in 1966 it was moved to Zwartewaal. I studied architecture myself and graduated in general contracting. Two months after my graduation my father had

specialty, making the entire country as its area of operations.

## **Hobby**

Besides his job in industries all over the country, he has found time for interesting hobbies. He says: "One at a time, that's

for sure. I did watercolors, later I furiously collected topography of the Netherlands, until I assumed my collection to be complete. About fifteen years ago I rediscovered my dusty old toy train and decided to sell the ancient atlases to invest this money in old toy trains. Everything I did in my life, I did exhaustively. This is one more example. You have to go out on the road, or nothing will happen at all."

**Busy without stress**

Early in 1990 Ir. Spreeuwenberg (59) retired from the daily management of the firm. "In this computerized society everything changes so quickly, you simply can't follow it all. If you decide not to stand in the way of progress, you must give the new generation a chance. You have to



2. The Rail-Toy Museum at the Hoflaan, Oostvoorne.

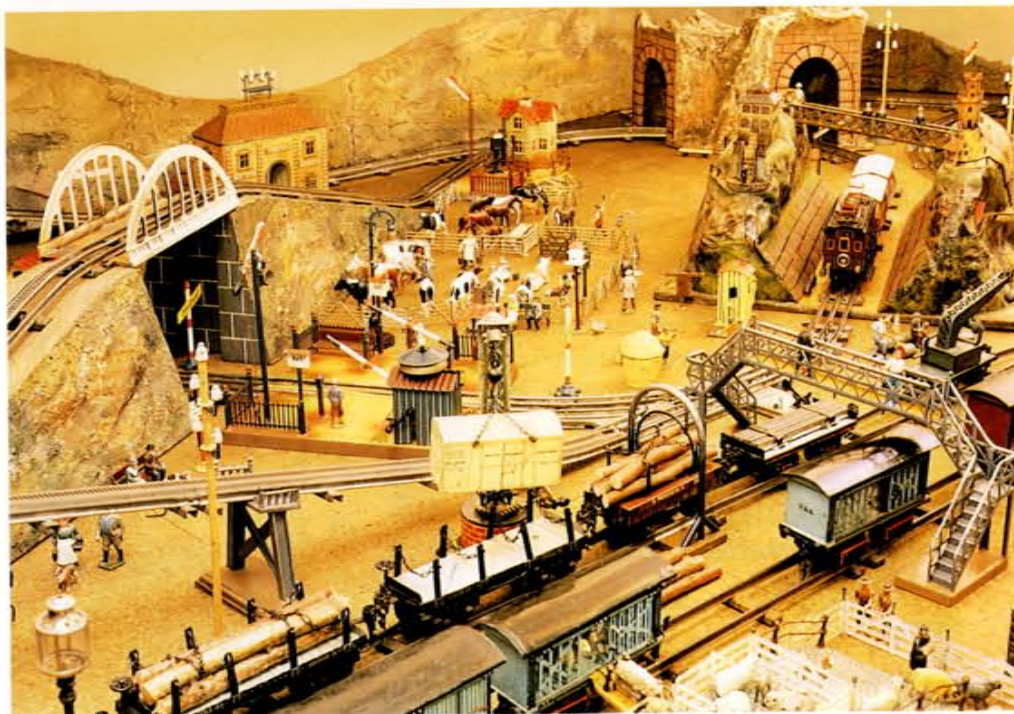


3. The exhibition room is tastefully furnished. Explanatory texts give an ample summary of the many things worth knowing about the models shown. The permanent collection, as far as old toy trains are concerned, is among the best in the world. The Märklin production from the 1890-1940 period is emphasized.

4. Showcase setup in O Scale. Apart from the approx. 200 locomotives (clockwork, steam and electric) and more than 600 cars, there is an impressive assortment of accessories like stations, signals, bridges, grade crossings, signalman shanty's, lamps, passengers, etc.

find something that better suits your own pace, to stay busy without any stress", says Mr. Spreeuwenberg, who has been succeeded in the firm by his ten-year younger brother. Keeping busy without stress.

So that's what his Rail-Toy Museum is all about. It wasn't until now that the trains started to play their role in the story. "Clearing away my attic I came across an ancient toy train. I enjoyed the discovery and I placed it in my living room. Later you encounter a little steam engine somewhere. Just bought it. You start to become more aware, but I discovered that antique shops were not the place to look for them. You'll never find a train there. My brother-in-law made me aware of exchange fairs and a new world opened up to me. Exchange fairs were the places to look for old toys, not shops. You really





5. Märklin carousel, produced around 1908. Plenty of attention is payed at the Rail-Toy Museum to other toys like steam engines, ships, automobiles, dolls and cooking stoves, among them (again) a lot of Märklin products.

we considered a museum, centrally located in the Netherlands. But then again, why: we live in Oostvoorne, we don't want to leave and Oostvoorne attracts many tourists. And the real buffs will show up anyway. Oostvoorne is located in the Rotterdam Harbor route, close to the sea, the area needs bad weather attractions, in short, Oostvoorne didn't have to be such bad a choice after all. " The Spreeuwenberg's then made a tour around the village, looking for the place that best suited their purpose. In November 1988 they discovered the 'Buitenlust' café-restaurant, which had



6. "It's a private world, mainly taking place at auctions and swap meets."

get involved in it this way", Mr. Spreeuwenberg tells us.

**Value**

"It's an art to become familiar with the value of those things. As a matter of fact those trains are cataloged and each piece has its own value, depending on the condition it is in, and the rarity. It takes years and actually no one knows it all. You get to know people in this world and they know exactly what I am looking for. Once you get involved, it gets worse all the time and you start to organize collecting in a more systematic way. What does it cost, what to pay attention to, collect catalogs and the like. I gathered most at meets in Germany, Belgium and in my own country, but pieces that wind up there come from owners all over the world. You also have to decide on your own specialty. For me that's Märklin without a doubt. Although other brands are represented at the museum, they serve the purpose of comparative material from the same period." Mr. Spreeuwenberg never mentions values and prices. Some articles didn't cost more than Dfl 25,- (\$ 10), other pieces of his collection were purchased at a much higher price.

**Attic**

"I got the idea for this museum two years

ago, in August. The collection was housed in my attic, closely stacked together. You could hardly move, much too crowded. My wife and I then figured: isn't it a shame, we've housed a collection of toy trains that can be considered to be the best in the Netherlands and nobody can come over to see it. You just don't have the room to invite people to our home. First

been badly damaged in a fire and had been vacant for many months. "That was it. I'm not such a bad organiser myself. So I made up an organizing plan, as an architect I made the drawings myself, I presented the construction plan, recruited a contractor, in brief: 'Buitenlust' was beautifully reconstructed by the end of 1989. We worked for three months, sixteen

7. Märklin "Budweiser" beer car in O Scale, 1913.



hours per day, to furnish the showcases. On March 1 the museum was opened, followed by an official opening once again by "train buff" former Secretary of State Nijpels. Because if you want some nationwide publicity, you have to make sure some nice pictures can be shot for the newspapers." The museum now has a "diner" and a shop plus a room for different displays. So many visitors are attracted that this room already has to be used for the reception of groups of visitors. Groups are treated to an explanation of fifteen minutes, emphasizing the details to pay attention to and this talk is held by Mr. Spreeuwenberg, who runs the museum together with his wife and some

8. Märklin platform dining car, ca. 1900.



9. Rare and restored model of the "Schwebebahn", as it exists in Wuppertal. This Märklin example dates back to 1902.

there are toy museums that predominantly have set their collection on a broad base. Here at the Rail-Toy Museum an attempt is made to show completeness and to give insight into toy trains of that period. Foreigners now inform me that this museum's collection is the world's largest in the field."

**Flat**

Museum Director Spreeuwenberg knows the history of everything displayed. "Tin plate toy trains were born in 1891. Much

volunteers. At this point you may say: it's an ideal excursion for anyone ten years of age or more.

**Trains**

"The first year, that is to say we had been open to the public for ten months, we attracted some 8,000 visitors. An encouraging start that got rid of a lot of uncertainties. The museum specializes in tin plate toys, especially trains, from the period of 1890-1940. You won't find any plastics. This material didn't enter the field until 1960. At Roden, Oosterhout and Deventer

10. Gare du Nord, the French version of the Südbahnhof, which clearly exhibits "Jugendstil" appearance on one side elevation (not visible).



11. One of the many show pieces at the Rail-Toy-Museum at Oostvoorne: the "Wilhelmina" passenger ship with clockwork drive, manufactured around 1909.

earlier, after the first prototype train traveled from Darlington to Stockton in 1825, it was immediately reproduced as a model. The famous locomotive constructor, Stephenson, was already performing test runs with working model trains. However, the very first toy trains were as flat as tin soldiers. You could only push them around: fantasy was supposed to do the rest. It wasn't until later in the last century that workable sheet metal became available, that is, thin steel plate that has been tinned, and with which it was possible to construct a really "functional" train."



12. Märklin vista dome car in O Scale, about 1905.

Märklin trains. Large quantities were out of the question, though. Toys were very expensive, due to the laborious production methods and it was solely a privilege for the rich. Until this century, only 10 % of all kids ever received manufactured toys. The balance was made up by daddy's or grandpa's craftsman efforts. The first turn-outs were presented by Märklin at the Leipzig Exhibition in 1891. Everybody then voluntarily adhered to this standardization. Trains and accessories have been sold in boxes ever since."

### **Boring times**

"The leading position that the German manufacturers achieved during the beginning of this century allowed them to successfully export mainly to France, England and the United States. World War I made them lose these markets again. In the meantime trains had become electric, but they operated on a hefty current of no less than 60 volts; potentially truly lethal to kids !

In the year 1920 a big improvement was made, when this kind of dangerous electric current was prohibited by law, which made a maximum of 20 volts obligatory. Transformers had to be improved. For present day collectors a rather boring time was due, because the models were chunky in order to incorporate the enormous electric motors. The wheels also were completely out of proportion. This lack of charm makes models of this period less desired by collectors. In the beginning of

### **Clockworks**

"We don't know very much about those very early pioneering years. We know in France the first trains were offered as occasional products. Also in other countries all sorts of trains appeared. They were pulled by a string across the floor and they were called "Carpet runners" for that reason. Those early models didn't look like real trains at all. It wasn't before 1930 when progress took the direction of true model building. A spiral spring ushered in mechanization, later they were replaced by coiled springs, bought from the clock industry. Therefore, manufacturers that offer model trains often originated not far from the places where clocks were fabricated, especially in Southern Germany and Switzerland. The names "clockwork train" or "windup train" confirm this. In Germany the industry concentrated in Nürnberg. There the earth contained tin and in the "Erzgebirge" traditionally wooden toys were manufactured. They changed to the new products without difficulty."

### **Christmas sales**

"The most important - and to many also the favorite - brand in the field is Märklin. The Märklin firm was registered in 1859 in Göppingen in southern Germany. It all started in a little shed, where the Märklin brothers, who were tinsmiths by profession, fabricated some tin plate toys as an extra for the local market around Christmas time."

13. Märklin I Scale steam engine for the USA market, about 1910.

### **System**

"Very soon they organized things better than their competitors, who often fabricated something they just ran into, without any systematic approach. The gauge for instance was different everywhere, at best a piece of straight track was supplied with the train, which could be used with that particular train only and when the month was over, the shop was empty. Märklin chose to be systematic, soon marketed track of a standardised gauge of which curved sections were also available and extra sections could be ordered as needed."

This alone opened up the possibility for hobbyists to purchase more and more



14. A Märklin III Scale steam engine with accessories and 11 cm Elastolin figures, about 1900.

the 1930's a decline occurred in the number of manufacturers. Many firms had to terminate business because they were owned by Jews, others went broke as a result of the economic depression."

**Catalogs**

"Up till 1930 there was no notion of scale proportions. Trains looked like they had been drawn by a child. The proportions just weren't right. Especially the length remained a problem. Then, about sixty years ago, the first fairly accurate Reichsbahn models started to be issued, with either a fine clockwork, or a vastly miniaturized electric drive system. They have become much sought after, which of course is reflected in the prices. People again could afford to spend some money in the 1930's and the prices were lowered thanks to the introduction of mechanical manufacturing methods. Märklin was not cheap, however. A clockwork engine cost Dfl 1.75 (approx. \$1,-) in 1930. The same amount would buy a complete train set from competitor Bing.

The famous Märklin I Scale Swiss Crocodile costed Dfl 240,- in the Netherlands and actually was the exclusive toy of the kids of industry magnates. Thanks to clever production methods and a broad marketing approach, a varied production of models was feasible, using the same very expensive moulds. At present, a true collector surely would want to own an example of all possible versions of a certain model. An important stimulus was the in-



roduction of catalogs for the customers. Although they were issued before 1925, they had been intended for dealer use only."

**Scales**

"The scale of the models was reduced, as soon as the technical possibilities permitted and people cramped for space could finally also afford toy trains. The scarcely produced II Scale (54 mm gauge, 1:22,5 scale) and III Scale (75 mm gauge) were supplied only up till World War I. III Scale especially is very rare. In this scale a minimum radius of 8 feet implied use by children of rich families only, who had plenty of playing room. I Scale (45 mm gauge, 1:32 scale) lasted until 1937 at

Märklin and O Scale (32 mm gauge, 1:45 scale) until about 1953. Bing was the first to introduce half O Scale (HO scale, 16,5 mm gauge, 1:87 scale) in 1923, which as a "Table Top" model railroad was aimed at the less prosperous classes. After the Second World War this scale flourished almost explosively and it became the favorite one, later to be followed by even smaller scales like TT (1:120), N (1:160) and Z (1:220).

Presently produced models are often very nicely detailed. However, they actually cannot be regarded as toys. In fact they should be considered to be true scale models. Although they still have the essence of playing in them, the effect is completely different."

**Corrosion proof**

"When we look back at the manufacturer Märklin, we conclude that the quality was consistently better than that of the competitors. The tin plate was more sturdy, the soldering job clearly was solidly done, the metal also was cleaned better before it was painted, so corrosion and flaking paint simply never occurred.

Also, the printing of texts and symbols was thoroughly done. When a model was to be exported, these texts were simply translated. The thing that makes collecting Märklin stuff more profitable and interesting, is the enormous assortment of accessories, the largest in the world of toys. They reproduced virtually everything in Göppingen that was related to model rail-



15. Märklin circus car and animal car in I Scale, about 1902.



16. Anything related to railroads can be found at the Rail-Toy Museum, like these Märklin pump-cars in O Scale and I Scale, about 1905.

17. For export purposes the texts were translated and adapted.

roads, and in an incredibly large variety. So the world of play was tremendous for a child.

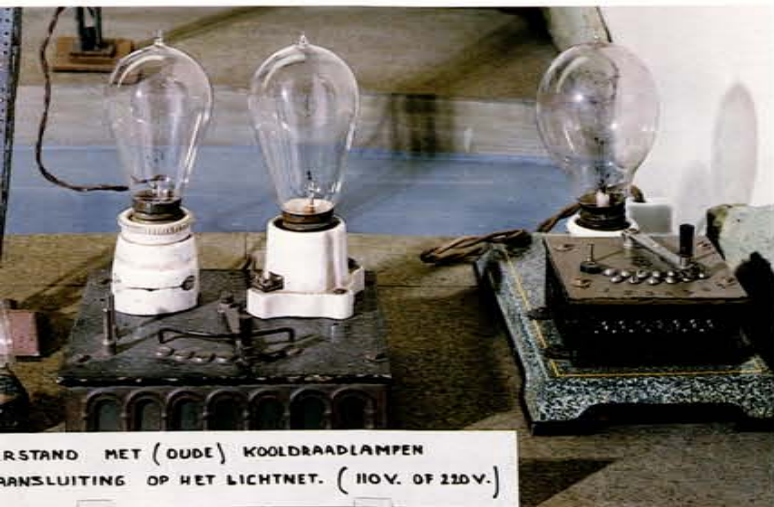
Despite the early mechanization, they constantly emphasized the art of the trade through the finishing of the products. Nothing left the factory that didn't stand up to the high standards. The tin plate was not printed and bent afterwards as was the usual practice with the others, but it was done the other way around, which was more expensive but also yielded superior quality. They also successfully manufactured other products, like automobiles, ships and humming tops. A nice collection



of these can be found in this museum also."

**All ages**

In brief, the Rail-Toy Museum is a privately owned museum, intended for visitors of all ages although the collection is most inviting to kids. "Of course you have



18. Primitive transformers of the 20's. (Old resistors with filament lamps).

to perform maintenance, therefore the trains only operate when we have enough visitors. Together with my wife I enjoy a very pleasant early retirement, and thanks to a number of volunteers from Oostvoorne we keep things going. Any doubles in the collection are being traded in the shop, which means other collectors are attracted too. That enables me to keep in touch with like-minded people."

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May 1991

Written by M. Vleugels

Photo's: A. Rozenboom / Rail-Toy-Museum

**RAIL-TOY SPEELGOEDMUSEUM**

Hoflaan 16

3233 AN Oostvoorne

Tel. 01815-5085

Open to the public from early March till the end of December, Wednesday through Saturday from 10:30 am to 4:30 pm.

Visiting hours also on Sundays from 1:00 am to 4:30 pm, May through December.

Closed on December 25, 26 and 31.

Admission: adults Dfl 4,-; kids age 4-12 and seniors (65+) Dfl 2,-.

25 % discount for groups of 10 or more.



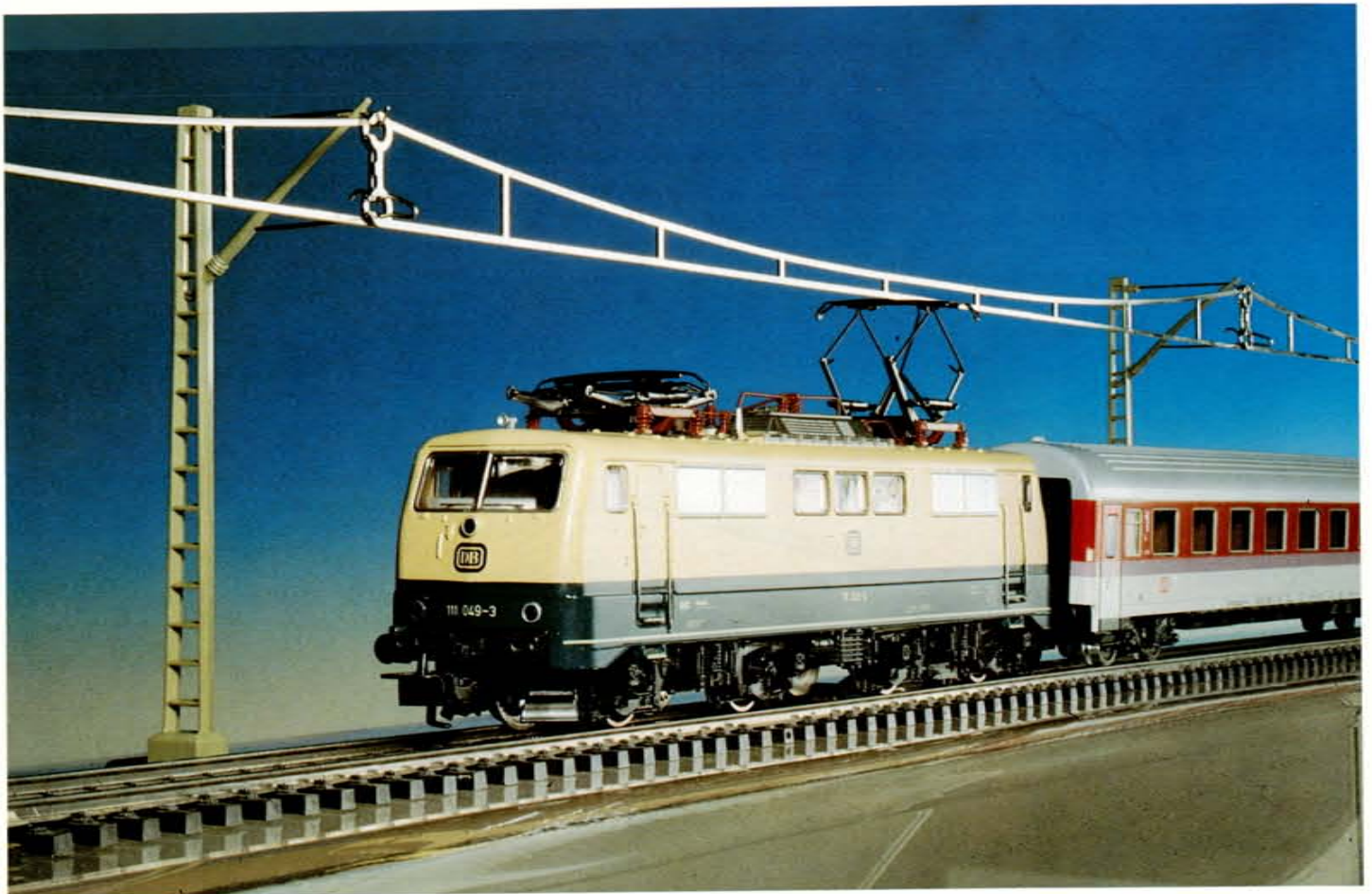
19. Mechanical signal, 1910.

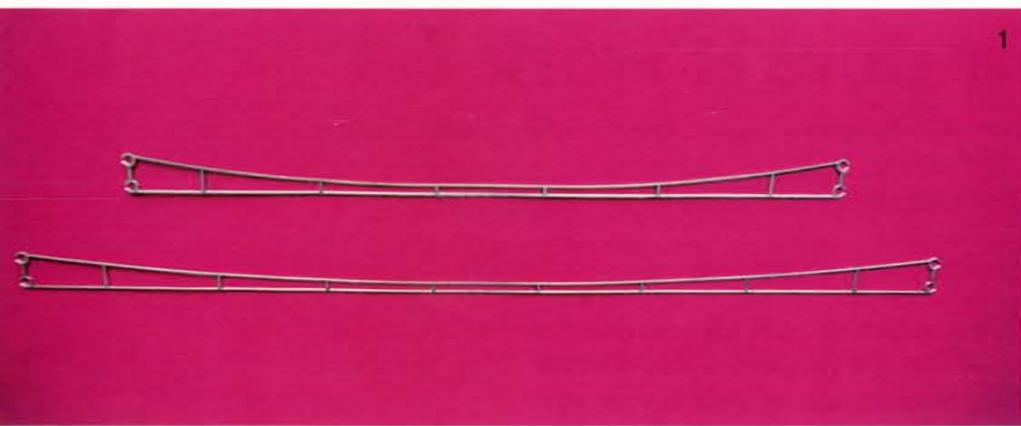
# How does it work ?

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*MÄRKLIN live overhead system-easy installation.*

Why not admit it: nit-pickers have a right to criticize you, when you operate electric locomotives on your layout and there isn't a catenary in sight for miles. You should realize though, that installing this feature does not commit you to electrification of the entire layout. There isn't a catenary on every track on the prototype either. You could just start with the mainline, enabling you to run fast passenger trains or heavy freights. Or you could install it on a short line that runs into the mountains, where an ample supply of fast running water permits the use of cheap electric power. Apart from the largely improved and prototypical appearance of your pike, the installation of a live overhead system offers you a number of technical possibilities as well. Let's have a closer look at these.





- **T**he fully functional catenary not only gives you more realism and operating pleasure, it also offers flexibility in train movements. When the overhead system is powered by a separate transformer, two trains can run simultaneously and independently on the same track- but only when at least one of the engines is an electric locomotive.

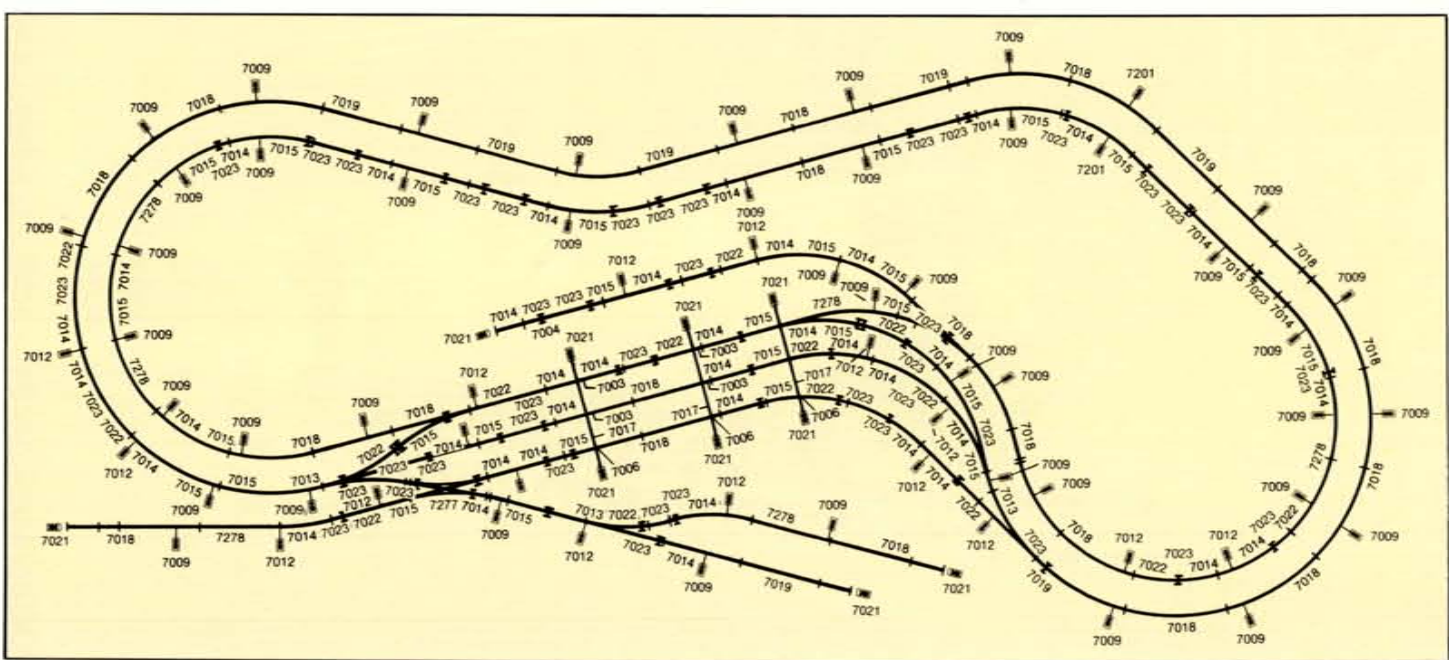
- Each MÄRKLIN electric locomotive can be switched easily to catenary pickup by a manually controlled lever. Power pickup from the center rail is thus cut off and the pantograph(s) become(s) functional.

- Signals with or without train control ? Imagine you are the dispatcher on your layout and you order locomotive engineers to stop

at a red signal; or you could be the engineer yourself and you would have to bring the train to a stop, right at the signal. With a functional overhead system you can have both options. For instance, you can leave the catenary power uninterrupted, regardless of the color the signal shows. But the power for the center rail is switched off in the insulated section of track, just in front of the signal, each time the signal shows red. As a result, steam locomotives with center rail pickup will stop at the signal, whereas the electrics will ignore the power cutoff, when they arrive at a later time from the opposite direction. Of course this option works as well the other way around: the catenary power can be controlled by the signal, while the center rail power remains unaffected.

- Take notice DIGITAL users! You have partly 'digitalized' your layout, or perhaps even completely, but you still haven't modified all your motive power. This offers you an interesting possibility. Instead of two speed control transformers- one for catenary power and one for center rail power - you can use the CENTRAL UNIT and BOOSTER for the center contact rail power and simultaneously connect a transformer for conventional operation from the overhead system. Steam and diesel engines will run digitally controlled, while non-modified electric locomotives will be switched to catenary operation and run on transformer power. Any DIGITAL equipped electric locomotives can have their pantographs up, but still be picking up power from the center rail and thus be digitally controlled as well. Using only DIGITAL you can eliminate the electric function of the overhead system and concentrate on the realistic appearance of it.

- Electricians and electronic experts pay attention please ! When a section of track is used exclusively to run on catenary power, the center rail power can be used for constant lighting of the cars and en-



gines. The center rail can then be connected to the accessory terminals of the transformer, or you can use a separate transformer. With all locomotives of the 30 and 31 series (NOT the 33 and 36 series) you can carefully unsolder the feeder wire for the headlights from the common connection plate for catenary and center rail power and obtain constant lighting for the headlights, even when the engine has come to a halt in the insulated rail section of a red signal. In this case the catenary power should be used for these engines only, while the center rail should be used for the common lighting current.

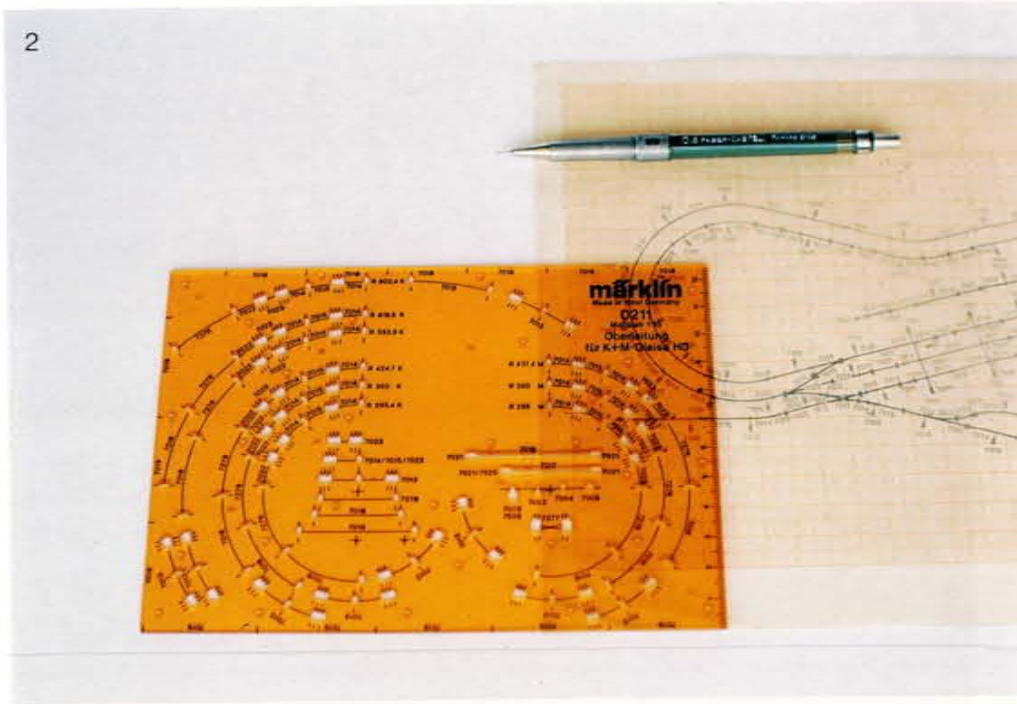
**Installation of the live overhead system**

Don't let the installation of the overhead system discourage you. The catenary simply replaces the function of the center rail, and that is all there is to it. In fact you just have to install the overhead system above a section of track that already exists and connect the center rail feeder wire(s) to the catenary system.

Some examples. Over straight track, catenary 7019 is used without exception, which spans two track sections at a time. For curved track 7018 is used, except for the smallest radius track sections (2210, 5120). Catenary 7018 is simply bent according to the radius of the track. 7013 is used over all turnouts (Photo 1).

**Planning and materials needed**

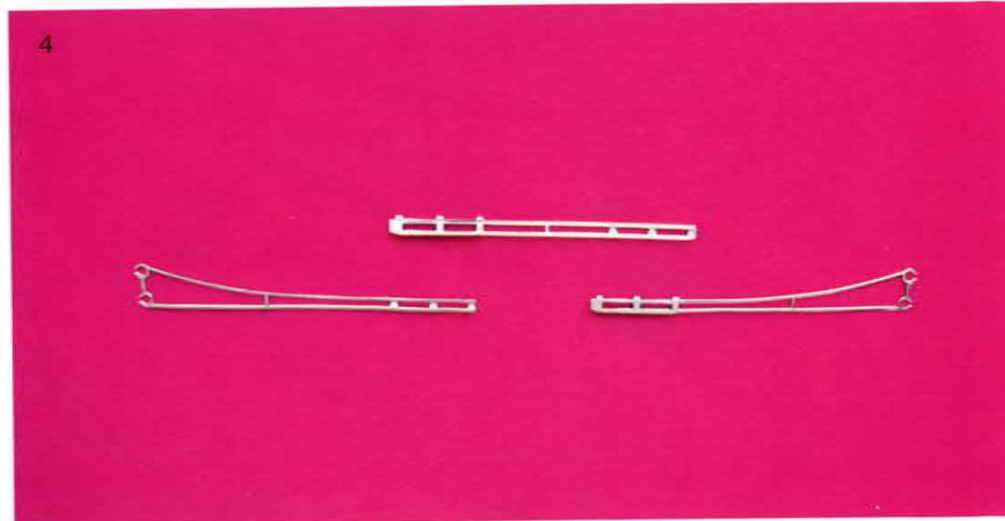
The best way to determine the supply of catenary materials needed is to use the track plan as a guide. On page 169 of the 1991/92 catalog the figures indicate the number of masts and catenary wires needed for the different applications. For exact planning the catenary drawing template 0211 (Photo 2) should be used. You should have a 1:10 scale track plan



ready to be able to use this template. The number of masts will always outnumber the catenary wires by one (7014 and 7015 are to be regarded as one single catenary section).

**Installation hint**

You should always start at the most difficult spots, such as the turnouts and crossings, with turnout piece 7013 and crossing piece 7277 respectively (Photo 3). To





5

tion of the next mast- until another turnout or crossing is reached, that will require priority treatment. The balance of the catenary from the last mast to the turnout will be made up with connection pieces 7014 and 7015. In case the length of 7014 + 7015 is insufficient, 7023 can be used for extension (**Photo 4**). Whenever the mechanical strength of the normal connection of the catenary is inadequate, a more sturdy construction can be obtained by using connection set 7004. Its use is indicated primarily for 3- way turnouts 2270 and 5214 and curved turnouts 5140 and 2267.



6

### **Overhead system in the station area**

In the station area the catenary masts for single track mainline use will not be needed. Instead, tower masts and cross spans will be installed. For three or more parallel tracks tower masts and cross spans are preferable. Cross span 7017 will span up to 4 tracks, depending on the distance between the tracks (**Photo 7**). Depending on this distance, cross span 7016 will span up to 6 tracks with standard spacing. Hanger 7525, which is attached to the tower masts, can be used to span one additional track (**Photo 8**). A maximum of 8 tracks can thus be spanned with one cross span 7016, two tower masts and two hangers 7525. To fasten the catenary to the cross spans and to simultaneously insulate them electrically, catenary insulating unit 7006 is used (**Photo 5**).

these the standard catenary wire sections are connected (7014 or 7013). In this way the locations of the first masts are established and

the catenary sections can then be installed. On straight track a section of catenary can be used as a guide to determine the exact loca-



### **Electrical installation of the overhead system**

As mentioned before, the catenary can either have just a cosmetic function without train control, or it can be installed with train control. All MÄRKLIN signals are supplied with an electrical terminal, with which the insulated catenary section for signals can be switched

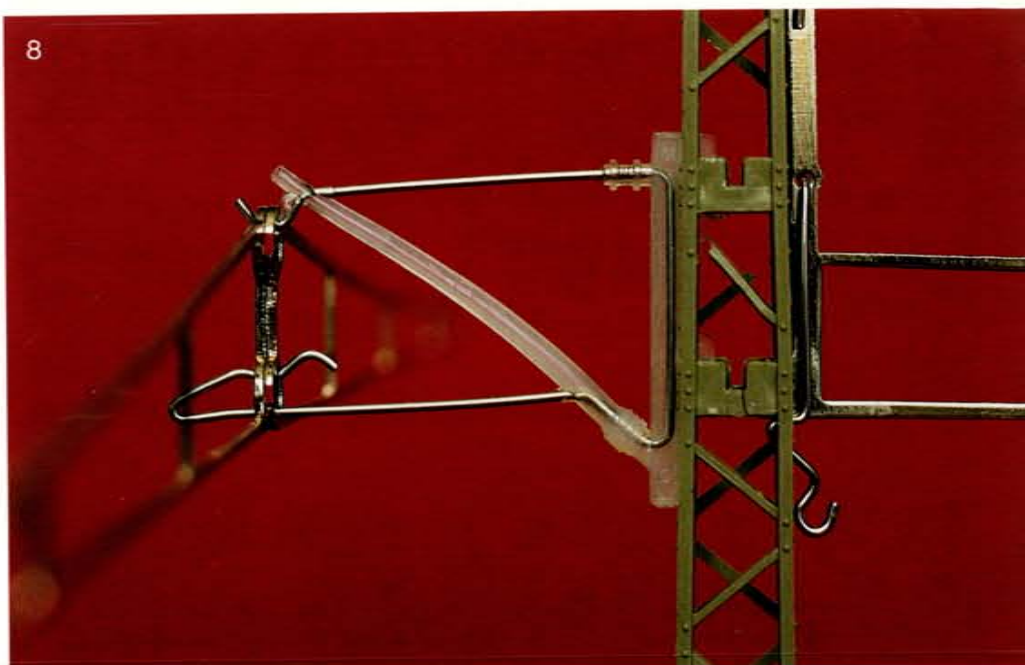
off. If you want to have your signals control the overhead system, you can use overhead set 7005 for M track and 7505 for K track, as long as your signal is not located near tower masts or cross spans. In the station area electric power insulation and power supply are accomplished with 7003 (catenary feeder wire) and 7006 (catenary insulation unit) (**Photo 5**). On the mainlines, that is track without tower masts and cross spans, the power is cut off with 7022 (**Photo 6**).

Electric current is supplied to the overhead system with feeder masts 7512 for K and 7012 for M track. Depending on the type of feeder track used, the transformer for the overhead system is connected to feeder mast 7510 for the K track and 7010 for the M track version without capacitor, and 7501 for the K track and 7001 for the M track version with capacitor (for DIGITAL operation always use the non-capacitor type).

**Construction hints for model railroaders**

In case you know how to handle a soldering iron and your overhead system is intended for a permanent layout:

When you install your overhead system on a permanent layout and if you are familiar with the trusty old soldering iron, you don't necessarily have to adhere to the instructions given so far. You can omit attachment set 7004 and variable length catenary wires 7014, 7015 and 7023. Instead you can adjust the length of catenary 7019 or 7018 with pliers. Next the catenary wires are tinned for a length of about 1/2 inch (use flux) and soldered together. Please make sure the wires are joined neatly and remain straight throughout. Your effort will pay off and the catenary will even be strong enough to be bent on curves and over turnouts (**Photo 9**). Over turnouts, specifi-



cally 3 way turnouts, a separate piece of catenary can be soldered onto the overhead system. The finishing touch will be the weathering of the overhead system, for which it is advised to develop your favorite method on pieces of scrap catenary first. Both the catenary

and the masts can be weathered using spray cans or hobby paints and a brush (**Photo 10**).

D.L.  
Photos: A. Lambert



# Mini-Club 20th anniversary

*The smallest electric train system manufactured in the world is celebrating its birthday. Fully operational 20th anniversary model of the class 78, featuring sterling silver superstructure (925).*

*Single production run to celebrate 20 years of Mini Club*

\* **1972** At the Toy Fair at Nürnberg Märklin presents the smallest electric train system in the world: Mini Club in Z scale. Such a thing never existed before ! You never saw the prototype roll by in the form of such fascinatingly minute and breathtakingly true to scale models ! The gauge of this smallest electric model railroad is only 6.5 mm, the length of the tank engine is not much more than that of a match. An enchanting world of miracles ..."

This was the introductory text of the first Mini Club catalog of 1972. 4 engines, 10 passengers and 11 freight cars made up the entire introductory program.

\* **1975** Märklin produces the most modern locomotives of the DB, the class 103, for the friends of the Mini Club and introduces a working overhead system.

\* **1978** The Mini Club engine 8885 travels

a distance of 720 real kilometers during a continuous run of 1219 hours. This equals about the distance between the cities of Stuttgart and Hamburg and the effort sets a world record for the continuous run of a model railroad engine. The record still holds today in the Guinness book of records.

\* **1981** The Mini Club layout "Geislinger Steige" with a length of 8 meters was presented at the Toy Fair. It was the first example of a fully operational layout having true to scale proportions in every aspect.

\* **1982** To commemorate the 10th anniversary of the Mini Club, Märklin offers a silver plated "Rail Zeppelin" with fully functional propeller.

\* **1984** At the German Achievement fair at Tokyo the visitors enthusiastically observed the Mini Club rail traffic on a 40

# märklin



## N<sup>o</sup> 8814

square meter large model of the German Federal Republic.

\* **1992** The smallest electric model railroad system in the world is celebrating its 20th anniversary. More than 250 items are presented in the Mini Club program in the Märklin General Catalog 1991/92.

\* **8814 Operational anniversary model of the class 78 with locomotive superstructure of solid sterling silver (925).**

Class 78 of the Deutsche Bundesbahn (DB). Superstructure of solid sterling silver (925). All driving axles powered. Metal frame. Length over the buffers 70 mm. With plexiglass dustcover for elegant presentation.

**Single production run to celebrate the 20th Mini Club anniversary.**

