

*International Edition*

Free,  
electronic magazine  
for railroad enthusiasts  
in the scale 1:220  
and Prototype

[www.trainini.eu](http://www.trainini.eu)

Published monthly  
no guarantee

ISSN 2512-8035

# Trainini

German Magazine for Z Gauge



**Cherry Blossom Season in Japan**

**The Rail-Road-Bus  
A Kingdom of Heaven is Created**

## Introduction

Dear Readers,

as Rudi Carell once sang: "When will it be real summer again...?" I can't complain about the weather after last year's extreme and prolonged heat.

I like to give the trees and soils the pleasant wetness they need to regenerate, as they are also such an important resource for the future.

And on top of that, all leisure activities remain somehow restricted: Be it the face mask in publicly accessible buildings, distance regulations on the beach and in parks or any other implemented access regulations in zoological gardens and other excursion locations.

There is no question that our life should be as normal as possible and every entrepreneur is dependent on turnover if he does not want to go down the drain in the long run. But honestly, this year I don't really feel like going on holiday.

Small trips with the family, outdoor sports and model railroading are the things that keep me happy. It feels normal, does benefit us, is fun and likewise creates memories.

Two topics in this edition fit in well with this: Our reader and translator Christoph Maier takes you to the cherry blossom in Japan. He shows how wanderlust can be overcome in the times of Covid-19 and, as part of our annual theme, creates a decorative art object that also delights the other family members.

However, our Himmelreich project will remain in our home realm. After the station building from the Höllental is finished in the meantime, this month the wooden box will be put up to accommodate the diorama and later the electrics inside. This work, too, needs to be done with diligence, as it is a showpiece that will be presented at trade fairs and exhibitions in the future.

However, two completely different articles take up a lot of space. In detail we turn to the Schi-Strä-Bus. We pay tribute to its role as a pioneer of two-way vehicles and trace its history and technology in detail. A lot of material has been collected and the history of its manufacturer NWF deserves a few lines of its own.

So we have decided to dedicate a model article to this quaint vehicle. And we have even found a suitable book that deals with extinct commercial vehicle brands, i.e. looks far beyond the NWF. The second book recommendation focuses on a model whose detailing has recently been addressed by several Zetties.

For the recently released model of the rail-road bus, we have thought about improving its appearance in order to meet even more sophisticated requirements. Together with many current news this edition should have become a pretty good one again!

I hope you enjoy reading

Holger Späing



**Holger Späing**  
Editor-in-Chief

## **Editorial**

**Introduction** ..... 2

## **Model**

**The Impetus for new Mobility** ..... 4

## **Prototype**

**An unusual Pioneer**.....15

## **Design**

**A bonsai-sized Diorama** .....37

**Creating a two-levelled Terrain Base** .....49

## **Technology**

Currently no items

## **Literature** (not translated - only in German)

**Expired German Trademarks**.....65

**Detailed Tripod Portrait**.....67

## **News**

**Zetties and Trainini in Dialogue**.....69

**Imprint**.....82

We thank the Eisenbahnstiftung (Railway Foundation), Roland Klinger (Archive Helmut Theis) and Christine Stoll-Kaiser for historical model recordings, and Bernd Coldewey for his valuable information, archive material and recordings.

Date of publication of the German language version of this issue: 28 July 2020

### **Cover photo:**

Green tea and cherry blossoms are two things that probably come to mind when the keyword "Japan" is mentioned. This month's reader's layout portrait is about preserving such impressions of a trip to Japan and creating a souvenir with memorable value. Photo: Christoph Maier

Schi-Stra-Bus by 1zu220-Shop

## The Impetus for new Mobility

*The rail-road bus of the German Federal Railways remained a German speciality, which could not prevail in the long term and also found no imitators abroad. Nevertheless, this vehicle is and remains extremely popular and was on the Zetties' wish lists for well over ten years. Having waited long enough, thought the people at the 1zu220 shop and started the conversion to the scale 1:220 on their own account.*

Once officially presented as a road-rail bus, later, after an exchange of syllables, briefly called a Schi-Stra-Bus (translator: Short form of Schienen-Straßen-Bus, means rail-road bus), this curiosity for local transport probably fascinates model railroaders of all gauges and scales. This vehicle is just as unique as it is spectacular.

Already in the **Trainini® Desired Model Survey 2009**, long forgotten by most readers, it was the clear favourite among the road vehicles, setting itself apart from other suggestions by a large margin.



Here, the Schi-Stra-Bus, designated BS 300 by its manufacturer NWF, is on the road and has a stop at the Holtgaster Feld. But before the new model of the 1to220 shop looked so appealing, some preliminary work had to be done - we describe what has to be done in detail.

Not surprisingly, this bus quickly attracted the interest of small-series manufacturers, who wanted to be presented with useful additions to their product range based on this opinion. Eleven years ago, MO-Miniatur seemed to be predestined with regard to the program and the quality of the implementation, and from their side a reservation was made for the category winner.

Unfortunately, however, nothing happened in the five years since the publication of the results, which were named as the target window for this market sentiment. Nevertheless, the interest did not decrease,





The model is still quite rough and comes with two attachable trolleys. So the use on the track as well as on the road is adjustable.

as forum discussions, suggestions to our editorial staff or even reactions to models on a larger scale proved.

MO-Miniatur was even one of the suppliers themselves who realized a Schi-Stra-Bus, but in the other extreme of the scale 1:32, i.e. gauge 1, where it is even possible to get the track cars running and give them a propulsion. Models for the nominal size H0 were also well received and increased the longing of the Zetties.

Jörg Erkel was finally tired of waiting and the many inquiries from his customers and without further ado ordered the Schi-Stra-Bus including suitable track trolley from the Hungarian manufacturer Wespe Models. He consciously focused on a larger range of customers and also opened up to the Z-Car system which is meanwhile available. Therefore he focused on an attractive price and not on a model that was perfect in every aspect.

We have already briefly presented the result of the project in the last edition. Today it will be discussed here in more detail. On the basis of our own work, we will also show suggestions on how the two-way vehicle can meet even higher standards.

## Model and implementation

Fresh from the box, the model (item No. WM-HRT09-001) makes a cohesive impression in terms of size, shape and proportions. In order to be able to be retrofitted in general with a chassis for the Z-Car-System from KK Produkcja, which was introduced three years ago, the vehicle has been converted into three components: Body, chassis and window insert.

However, a suitable chassis is not yet available, nor is there any manufacturer's statement on a possible development. The offered bogies of different axle bases do not fit, because the Schi-Stra-Bus has special features in the gauge at the front and rear axle.

It is also not based on a rectangular chassis layout due to its round shapes from the immediate post-war period. This would require at least some adjustment work on the customer side.

If we look at the model as it is delivered, we feel a well-balanced price-performance ratio, but by no means do we hold in our hands a high-end model by today's standards: The chassis has been cast in black and raises a few questions regarding its implementation.

**Dimensions and data of the Rail-Road-Bus NWF BS 300:**

	<u>Original</u>	<u>1:220</u>	<u>Model</u>
Total length	11.300 mm	51,4 mm	50,1 mm
Largest width	2.500 mm	11,4 mm	12,9 mm
Largest height	2.860 mm	13,0 mm	13,6 mm
Wheelbase	5.180 mm	23,5 mm	23,6 mm
Pivot spacing	9.500 mm	43,2 mm	44,1 mm
Axle base of trolley	1.900 mm	8,6 mm	8,6 mm
Rail wheel diameter	850 mm	3,9 mm	3,6 mm
Unladen weight (without bogies)	6.500 kg	---	3 g

The rear wheels with a narrower wheel gauge show the typical rim shape with thick spokes on a solid wheel, as was typical at the time the prototype was created. However, the rim is not colour-contrasting from the factory. At the front, however, the rim is silver, but looks rather chunky: Tire and rim (without spokes) merge almost seamlessly, only the hub appears a bit exaggerated.



Only with a little bit of tact can the Schi-Stra-Bus be placed on the trolleys in such a way that it rests on them in a position appropriate to the model and seems to have track contact on the rear wheels. The factory painting on the rear wheels and on the trim lines is still very poor.

The window insert is a clear deep-drawn part - simple but cleverly solved. Although this does not allow flush-fitted window panels in the bus, we do not find it disruptive. After all, this idea guarantees a view into the interior on the seats, which can be decorated with figures.

The coachwork consists of a resin part in crimson colour, thus following the painting specifications of the German Federal Railways at that time. The radiator grill, some trim lines and the chrome trim at the rear are silver, the box for the destination display is white at the front. The split windscreen and especially the window frames at the sides look a bit clumsy, because the struts are too wide being a concession to the production method.



The rail-road bus was constructed in three parts: The body and chassis are made separately from resin, the window replicas are transparent deep-drawn parts.

The trolleys are also cast in resin and painted crimson according to RAL 3004. The treads of the wheels have been set off in silver. Shape and size of these parts are coherent, only the brackets attached to the outer wheels seem very dominant and like impurities. But we were able to classify them by means of model photos, which diminishes this impression.

On the rails, the trolleys have only little grip, which is due to the tiny wheel flanges. But that's completely ok, because it is a floor model and the prototypical effect here is more important than a safe guiding. The decisive factor here is rather that the 6.5 mm gauge was correctly maintained.



The connection to the bus is created by central pivots, whose counterpart (chassis) has matching holes. This solution makes it possible to place the bus both on the road and on any track section: Whether straight or curved does not matter in this case.

No question, this model was long yearned for and is affordable. Concerning the detailing, there would have been room for improvement, but this would also have pushed the price up significantly. And whether the majority of customers would have been willing to put the price of a passenger coach or even a small locomotive on the table for this tiny model, may at least be doubted.

That is why we adjust it to our own wishes in the following and thus bring it even closer to its original. In the form in which it is delivered, we nominate it for the new releases of 2020 in the accessories category because of its idea, gap closure and excellent price/performance ratio.

## Working on the chassis

The template for our rework was the original, which can be compared at any time with the photos in our model report. Therefore, they should also serve here as a suggestion for our readers, for whom this vehicle was just as high on their wish list and who are not yet satisfied with the delivery condition of the model.



It takes almost entirely color work to prepare the Wespe Schi-Str-Bus according to our preferences. On the body it is mainly the chrome strips and window frames, only destination indicators and rear lights/taillights are an exception in terms of color. The passenger seats are highlighted fire-red according to the original model.



Our post-processing began with a key file from the Faller needle file set (170525). Especially in the window openings some smaller burrs had to be removed, which affected the overall appearance. If you feel up to it, you can of course use this opportunity to grind down window struts so that they later appear more filigree.

Some of the decorative lines, as well as the door handles, exterior mirrors and side window frames still wanted to be painted in chrome. While the windows and door handles were not treated with any colour at all at the factory, the manufacturer Wespe simply forgot some of the model's decorative lines and mouldings. This becomes clear when comparing the before and afterwards photos in this article.

In order to rework this satisfactorily, from our point of view a hands-free work with the brush was recommended. A raised structure or the lateral edging of the windows provide support for the brushwork. Work is done with a pointed Rotmarder brush smaller than size 0 - we have chosen 5/0.

But the choice of colour also has to be made carefully. Anyone who has already worked with metallic paints may be familiar with the phenomenon that even (apparently) dried layers will still stick to fingers later on and then leave annoying marks on the model that cannot be easily removed.



Not to be forgotten is the central lettering "DEUTSCHE BUNDESBAHN" along the sides, because when the NWF BS 300 was put into service, the DB emblem known as Ege-Keks did not yet exist. On this photo you can also see the reduced size of the destination display inside the attached indicator light box above the windscreens.

This effect is based on the properties of the metal particles which, as ground pigments, are part of the paints. They do not lie flat on the model, but stand slightly upright. Thus, despite the binder, they leave a slightly rough surface that can be removed with the skin as long as it has not been finally sealed with clear varnish.

Heinz Wagner of Modellbaukompass recommended "Metal Color" by Vallejo to the author of this article and successfully demonstrated its features at the last toy fair. Convinced, he now opted for the colour chrome (77.707). After only a short drying time this colour does not rub off the model anymore! The reason for this is the choice of a special binder which ensures that the pigments lie flat.

The box for the destination indicator placed above the windshield showed up correctly in shape and size. However, the fact that it was white across its entire surface did not correspond to the historical model.

With silk-matt paint in RAL 3004 crimson from Oesling Modellbau we also found a solution here and reduced the white area a little.

The location of the number plates could be determined from historical photographs, and then contrasted in white. Turn indicators and tail lights were not set off from the shape at the front of the vehicle, so there was no need for reworking at this point.



In preparation, some Preiser figures of the box for self-painting (88500) are trimmed to size and then painted with Revell paints.

However, the rear lights or tail lights in rail operation have been taken into account in the design. In order to make their function recognisable, fiery red Revell Aqua-Color paint was dabbed on. The glass surfaces of the lamps / lanterns and the destination indicator were then finished off with a glossy clear varnish, which again came from the Revell Aqua-Color series.

But this work step was at the very end of the construction work on the chassis! Prior to this, a measure had to be taken which required a delay: The prototype carried the inscription "Deutsche Bundesbahn" in capital letters on the side walls. The "Ege-Keks" (logo of the German Federal Railways from 1955 till 1993) was not yet in use when the NWF BS 300 was released.

Suitable wet decals in signal yellow can be found in sheet 0865 of Modellbahndecals Nothaft. They were cut out and attached to both side walls with the help of adhesive primer and plasticizer. When everything is well dried, a silk-matt clear varnish sealant - applied by spraying with a spray gun - provides permanent protection.

## Rework on the chassis

Although the bus would remain without interior lighting and allow only little insight into the interior, the floor part could not remain unfinished. As already explained at the beginning, the rims are only of limited beauty. So again the chrome paint from Vallejo was used to give all four wheels a metallic touch.

Alternatively, you could choose RAL 3004 Purple Red, because we have also found originals with rims in car color. The customer's taste should therefore be decisive at this point and possibly more buses will be used, which may then differ slightly.



As soon as the base-painted figures are dry, they are separated from the casting frame and distributed in the bus. After they have been glued on, their hair or hats can also be painted.

Also the seats of the passengers could benefit from a slightly fresher look. It was difficult to determine how the seats once were covered. The only safe orientation today is provided by the surviving original in the Bochum-Dahlhausen Railway Museum. The red synthetic leather seemed to be typical for this era of the German Federal Railways, which is why we chose fire red (Revell). Only the driver's seat remained black, because in comparable rail buses the driver did not sit on the same chairs.

For the perfect interior it still needed a driver (in uniform) and a handful of passengers. Since the benches would be too narrow due to the material thickness of the walls, we didn't want to overload the Schi-Strabus with figures. On the other hand, many lines were badly frequented and therefore only lasted for a short time.

From the package of unpainted Preiser figures (88500) we selected train drivers and suitable passengers. While the uniformed man was simulated sitting and only his lower legs had to be removed, all other passengers were made of standing "Preiserlein", which are already shortened in the pelvic area.



This was not noticed any further between the narrow benches, which cannot accommodate legs and feet anyway. For painting you still have to choose suitable colours. Revell offers a large selection of matte-drying enamel and acrylic paints: Skin tones, brown and blonde tones for hair as well as white, black, blue and subtle burgundy for uniform, hats and clothing.



At the end of all work, the deep-drawn insert is placed back into the housing and pressed in. The chassis is then glued back to the housing at the front and rear. As the inside is very tight, the front is fixed for a few more minutes with a Revell model building clamp to prevent the chassis from being pushed out accidentally.

However, attention should be paid here to selecting contemporary color shades. In the fifties and sixties, muted colors still dominated fashion, and great importance was attached to a serious appearance. Bright colours only appeared in the seventies and experienced a peak in the eighties. But then the rail-road bus was history for a long time!

A dry break should be given to the figures. Smaller repairs and the final color spot at the base of the molding grid (top of the head) were done after the gluing on the seats. The glue of choice is Uhu Kraft. This all-purpose glue is also suitable for contact gluing, dries quickly and is transparent. As long as it does not pull any threads, nothing will be visible of it later.

But that's it with the finishing operations. Once everything has dried well, the vehicle components can be put back together again. We renewed the two adhesive points between chassis and bodywork with Uhu Kraft and thus created permanent bonding.





The deep-drawn insert is not exactly ideal for a peek inside. It is definitely worth considering to do without it as part of the detailing and to replicate the panes with the adhesive varnish Micro Kristal Klear from Microscale. This would also ensure that the panes are flush-fitting. But the figures inside are absolutely recognisable.



A motorisation is not planned on our part, we will use the now very respectable model rather for photo shooting on tracks.

Our images may serve as an inspiration and reference for your own work! The pricewise nevertheless very attractive model is worth it in any case.

Picture left:  
The completed design of the rail-road bus makes it a good one and it can also be used as a stationary model on the layout. Here it is making a stop in Wilhelmsthal.

**Exclusive distribution for the model:**

<https://www.1zu220-shop.de>

**Materials, equipment and tools:**

<https://www.faller.de>  
<https://www.modellbahndecals.de>  
<https://www.oesling-modellbau.com>  
<https://www.preiserfiguren.de>  
<https://www.revell.de>  
<https://www.uhu.de/de>

**Vallejo products and tools with reader discount:**

<https://www.modellbaukompass.de>

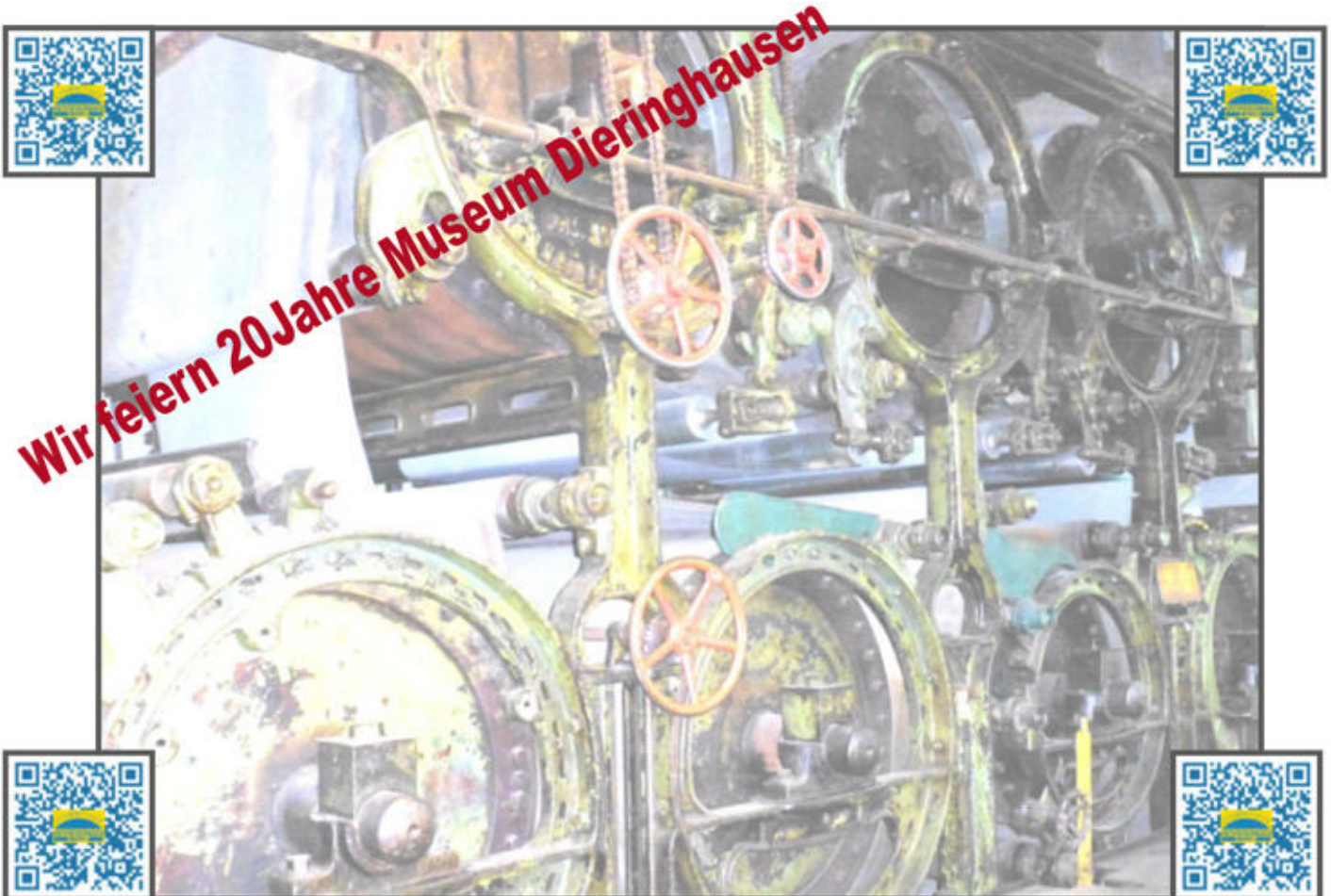
Please mention the keyword **Trainini** in the order's free-text!



# Stammtisch - Untereschbach

Jubiläumspräsentation

Spur Z Modelleisenbahnen und Zubehör



*In der Dombacher Maschinenhalle PM IV  
Im LVR Museum in 51465 Berg. Gladbach.*

*Am 12.06.2021 von 11:00 Uhr - 18:00 Uhr  
Am 13.06.2021 von 11:00 Uhr - 18:00 Uhr*

[www.Stammtisch-untereschbach.de](http://www.Stammtisch-untereschbach.de)

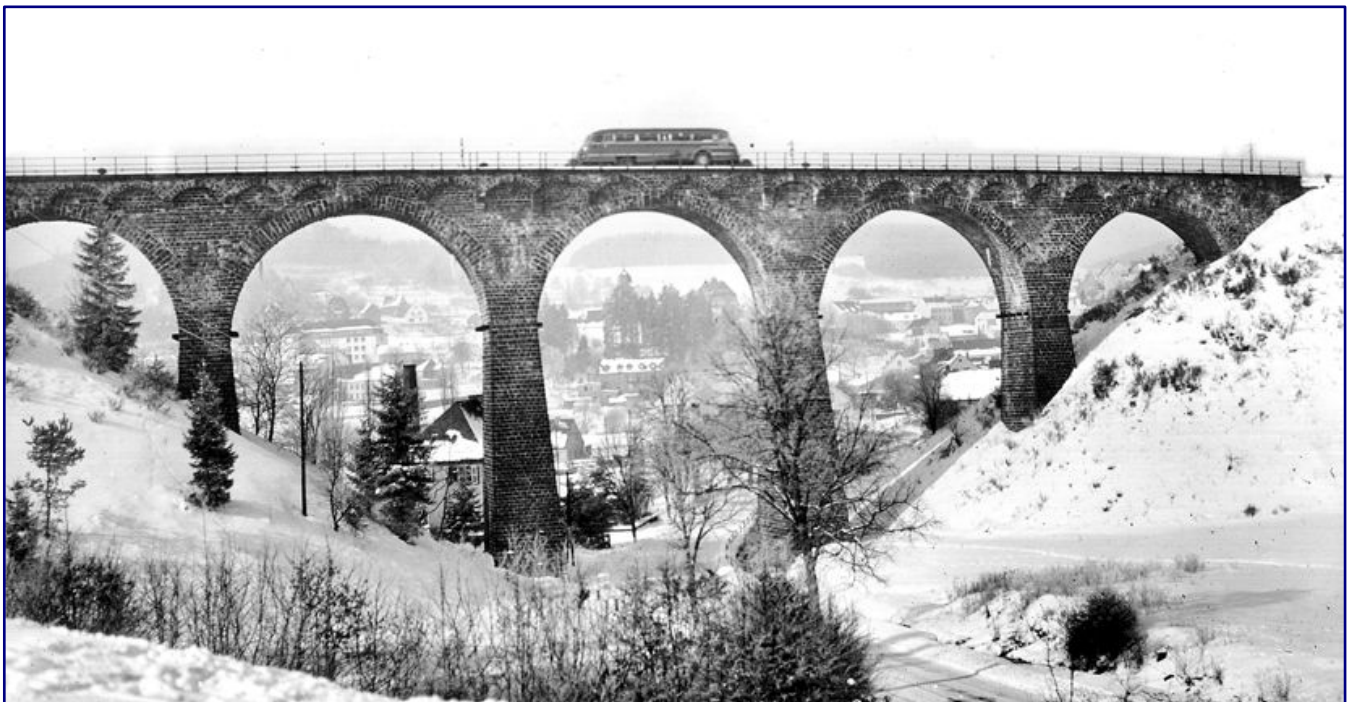
The forefather of two-way vehicles

## An unusual Pioneer

*Both the rail-road-bus and the closely related manufacturer NWF are now only marginal notes in German railway history. Nevertheless, this curious vehicle will probably remain in people's memories for a long time to come and enjoys special attention. The recently released model in 1:220 scale prompts us to take a closer look at the history of this pioneer and its manufacturer.*

The history of two-way vehicles in Germany begins very early. During the First World War, road vehicles were also used in experiments in rail transport. For this purpose, their tyres were simply exchanged for steel wheels with wheel flanges. This is how the first lorries were used in rail transport.

Admittedly, these were not yet vehicles that could run on both road and rail, because it was not easy to simply exchange the wheels. Nevertheless, the use of trucks, which were constructed in a completely different way for operation on roads, on rails, marks the historical starting point.



The Schienen-Straßenbus (rail-road-bus) was used both on tracks and as an “ordinary” railbus. Here the vehicle with the road number 22789 crosses the railway viaduct near Daun in the Eifel (connection Remagen - Bernkastel - Remagen) on 8 March 1955 as a train journey. Photo: Carl Bellingrodt, Eisenbahnstiftung

After all, initial experience was also needed to prepare the much lighter cars for the tough rail traffic. The drive on track-guided wheels (bogies) is by no means the end of the story, as will soon become clear.

A first two-way vehicle was developed from 1934 onwards, but it did not reach series-production readiness before the Second World War. Based on an English design, the idea was to fold up external tyre wheels for operation on tracks. With the outbreak of the war there was no more interest in such vehicles and the design was forgotten.





At the time, the almost revolutionary looking rail-road bus attracted a great deal of media interest wherever its deployment was planned (newspaper report from Thursday, 7 October 1954, on the start of the connection between Moselle, Eifel, Ahr and Rhine). Source: Archive Helmut Theis

But shortly after the end of the war, railway managers remembered this approach.

The road network had not yet been developed to cope with increasing traffic, and war destruction caused gaps and interruptions on railways.

In view of the financial situation, the construction or further construction of branch lines was out of the question in the ongoing reconstruction.

Creativity was required and one answer was found in the approach of simply linking road and rail, ideally with one and the same vehicle.

Great hopes were pinned on the rail buses, which were ready for series production at the same time. They too took many liberties in the Omnibus construction.

continues on page 18



In 1951, the prototype based on KM vehicles was presented to the press in Wengern Ost. The innovative vehicle is also attracting great interest on the edge of the Ruhr area. Photo: Willi Marotz, Eisenbahnstiftung.





Here, according to records in May 1954 in Dürrstadt, the vehicle based on a Krauss-Maffei bus with the crew registration number AB 06-5410 is placed (photo above). The view on the track car also shows the brake cylinders and the supply lines (photo below). Photos: A. Dormann, Slg. W. Löckel (Eisenbahnstiftung)

So what was more obvious to pursue this approach by simply putting an ordinary bus on rails where it was possible and advisable? If this idea were to bear fruit, gaps between individual branch lines could be closed with little effort, and unprofitable lines could be sensibly linked to form new break-of-the-route routes through the low mountain ranges in order to increase their economic efficiency.

A technical prerequisite for this was that the change from road to rail wheels could be carried out quickly, easily and safely. This idea was not new, as we have already pointed out, but the way in which it would now be implemented was unusual and unique.

## New approach from 1951

The development contract was awarded to Krauss-Maffei AG when two prototypes were ordered in 1951, and the company passed it on to the still young Nordwestdeutsche Fahrzeugbau GmbH (NWF) in Wilhelmshaven, in which it held a stake. Waggon- und Maschinenbau GmbH (WMD) in Donauwörth designed and built the bogies known as "Spurwagen" (track bogies) for operation on rails.

The young Bundesbahn (German Federal Railways) was encouraged by its rail buses, which were now in the starting blocks and which also took some borrowings from modern truck and bus technology. The first attempts were finally made in 1952 with two buses from Krauss-Maffei (partner of NWF) and Faun.



The Schi-Stra-Bus was derived from ordinary road vehicles. The road version of the series vehicle was this NWF BS 300, also powered by a KHD engine, and the specimen with Wilhelmshaven crew registration number was intended for the local public utility company. Photo: Factory photo NWF, Archive Bernd Coldewey

The intensive test drives carried out with them included steep sections and even two rack sections, which were successfully mastered. The tests thus ran to the satisfaction of the designers. Above all, they praised the good and balanced handling even at high speeds and on winding roads.



**Nordwestdeutsche Fahrzeugbau GmbH:**

As early as 1953, therefore, series production followed. The company that was to be abbreviated to NWF) was founded by six men in 1946 on the site of the former naval artillery depot Mariensiel near Wilhelmshaven.

It was part of the newly oriented Wilhelmshaven economic structure after the Second World War. Initially, simple transport vehicles such as handcarts, pushcarts and sack trucks were produced and repaired there, but also railway spare parts and trailers for agriculture.

When iron allocations failed to materialize in 1948, orders were acquired from the Ford works in Cologne to fill the gaps. This was the start of the company's activities as a body shop, commercial vehicle and automobile manufacturer.

Now NWF also built buses on the chassis of Ford, Borgward, Opel Blitz and Büssing. In 1949, Krauss-Maffei took a stake in the company to improve its strategic position in Northern Germany. This was followed by a rise to Germany's second-largest bodywork plant for a time. KM gave the Wilhelmshaven-based company a free hand when purchasing engines.

In 1951, the manufacturer presented the KML 90 lightweight bus at the IAA, designed by aircraft designer Henrich Focke. The main design features were the streamlined shape ("Zeppelin der Landstraße" ["Zeppelin of the highway"]), a self-supporting grid construction and the rear-mounted engine. In the same year, the two prototypes for the rail-road-bus were built.

In addition, between March 1954 and August 1955, the Fuldomobil was produced under licence by NWF. NWF and Krauss-Maffei finally agreed to end their strategic cooperation on 1 January 1955.

The end of the still young company followed, completely unexpectedly for outsiders, with the bankruptcy on 18 November 1955, resulting in the loss of around 1,500 jobs.

As early as 1953, series production vehicles followed, the first of which was shown in March of the same year at the International Motor Show in Frankfurt (Main).

With the summer timetable, scheduled service with passengers was introduced from 8 June 1953.

After the system proved successful in the first few months of operation, orders for a further 50 vehicles followed from NWF. The delivery of only 15 units for two-way traffic covered the years 1953 to 1955 (bankruptcy of NWF).

All other buses of this manufacturer ran only as ordinary road vehicles. The official documents of the Bundesbahn showed a stock of 6 vehicles at the end of 1953, 11 in 1954 and finally 15 on 31 December 1955.

Due to the unexpected end of NWF, the construction programme could not be continued.

No further producers for a rail-road-bus could be found, which meant that even a two-way articulated bus could no longer be ready for series production. Nevertheless, in the first years there was a noticeable euphoria about this development, all 15 buses together reached an annual mileage of 335,000 km in 1955.



The basic model was also built as a coach version with the air-cooled KHD engine and was then called BS 311 at the factory. Roof edge glazing and roof rack were features of more upscale equipment at that time. Photo: Factory photo NWF, Archive Bernd Coldewey

By 1960, this had fallen to 40,000 km - but by then only three of them were still in service, and by 1967 they were to have achieved a total mileage of 1.68 million km. By 1956, the first four rail-road-buses had already left the fleet. The bright shine of this new hope apparently burnt out as quickly as a shooting star.

## The technology of the special vehicle

The manufacturer's official designation for the rail-road-bus was BS 300, which was a special model with all the facilities and equipment prescribed for road traffic by the Road Traffic Licensing Regulations (StVZO) in force at the time.



On this undated factory photograph, one of the vehicles, registered in Wilhelmshaven, is undergoing test runs with modified bogies (track cars) of the prototype type. Here, three brake cylinders on each side do not act on the disc wheels, but on a track support which is pressed onto the track similar to a magnetic rail brake. Photo: Factory photo NWF, Archive Bernd Coldewey

The vehicle was equipped with an air-cooled F 6 L 514 diesel engine from Klöckner-Humboldt-Deutz, which generated an output of 88 kW (120 PS) from 8 litres of displacement. This unit was known from the bus industry. The permissible maximum speed was 80 km/h on the road and 120 km/h on rail. Inside there was room for 43 seated passengers; the number of standing passengers was between 15 and 24.

The very innovative self-supporting construction method of that time was used, as buses and coaches had previously still had bodies mounted on rigid ladder frames. This lightweight construction was originally developed for aircraft construction by the aircraft designer and helicopter pioneer Henrich Focke.

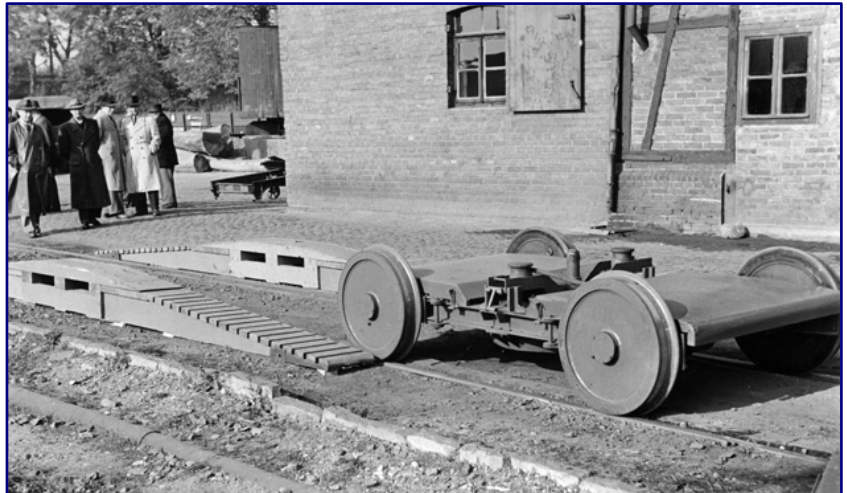
This lightweight construction also provided the impetus for the connection with the railways, where a sufficiently stable construction and compliance with weight restrictions always competed with each other. Thus the vehicle body was made of welded steel and light alloy profiles. The car body was equipped with additional cross beams at the front and rear with ball and support cups for the gauge cars. The bearings for their pivots were located in front of the front axle and behind the rear axle.



For operation on rails, the Schi-Strabus also received parallel approval in accordance with the railway construction and operating regulations (EBO).

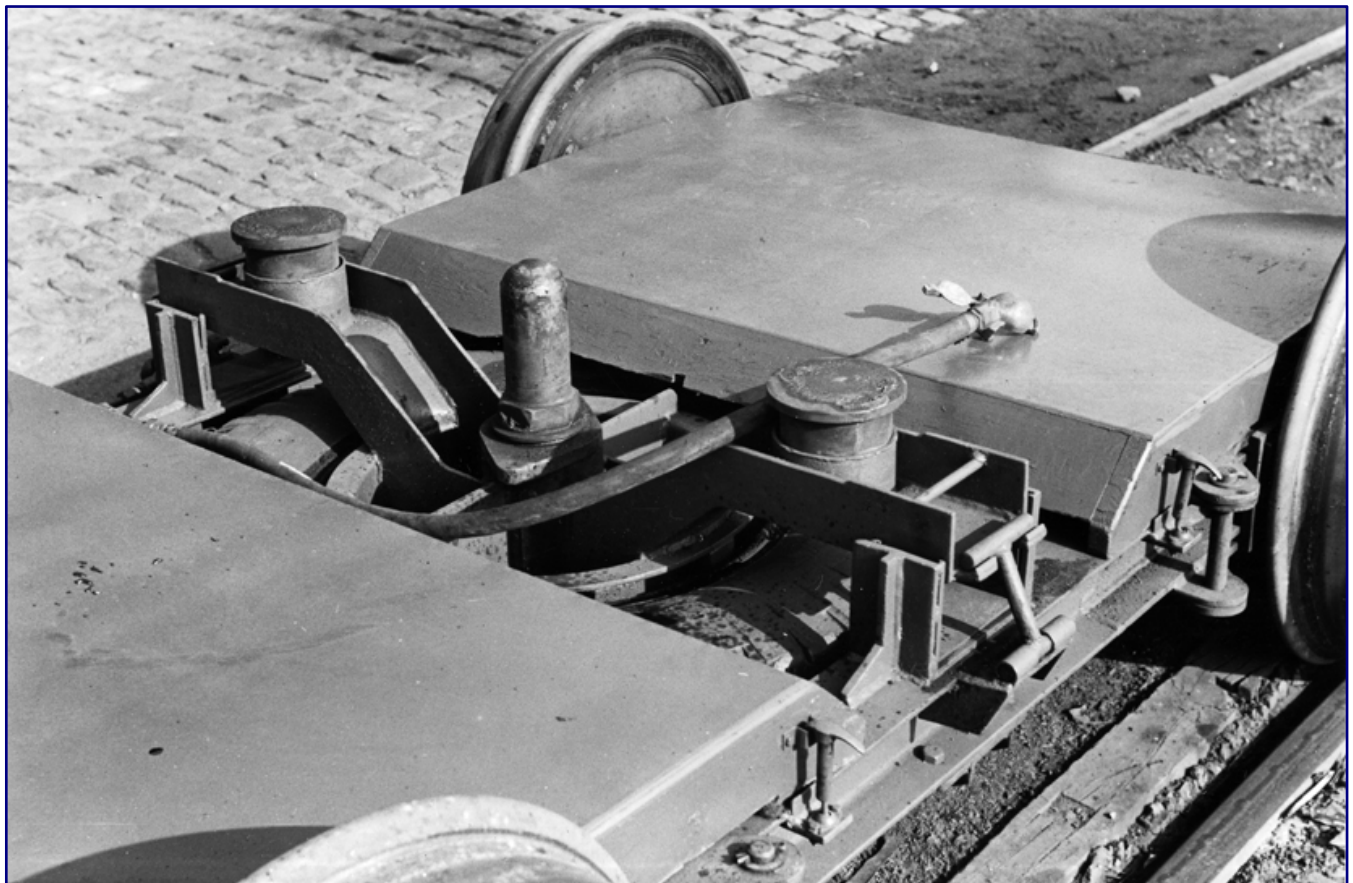
For the operation on rails the Schi-Strabus was equipped with a special bogie, which had to be additionally equipped according to the requirements for rail vehicles.

Therefore, in contrast to the pure road buses, it had doors on both sides for operating at platforms, a railway-suitable brake acting via the two-axle sub-frames, finally, also a compressed-air-operated sand scattering device to increase the friction, a dead man's control in the form of the safety driving circuit (Sifa) as well as the obligatory emergency braking device for passenger train traffic.



According to records, this picture was taken during test drives in the area of the BD Hannover on October 19, 1951, and according to current research, the picture probably dates back to 1952. Possibly, it even shows the NWF area. Photo: Hans Berkowski, Eisenbahnstiftung

The doors, lockable on the left side in road operation, were equipped with automatic folding steps to compensate for different entry heights. Two luggage compartments located under the vehicle floor held the luggage. A spare wheel was also stowed under the floor.



This view of one of the prototype rail cars manufactured by WMD shows the sliding surfaces for supporting the body, the pivot pin and the compressed air connection for the rail brake. Photo: Hans Berkowski, Eisenbahnstiftung

The main load of the bus was to rest on the track bogies for the track journeys. For this purpose the front wheels were raised and only the rear wheels kept contact with the rails. It remained their task to provide the drive for the vehicle even when it was running on rails. For this purpose, the rear axle was equipped with a special profile. The steering system was locked when the vehicle was placed on the rails.



The Schienen-Straßen-Omnibus (road-rail-bus) (so named in the destination display) with the crew registration number AB 04-5028 shows the final series version of the bus and gauge coach in 1954, which was also selected for the Z gauge model. The front and rear entrance doors on the left side of the vehicle can be seen clearly; a sanding device on the gauge cars is still missing. The roof rack is only visible on some Schi-Stra-Bus. Photo: Below, Eisenbahnstiftung

Fast shunting on rails was made possible by a second reverse gear of the transmission, which also allowed driving at up to 40 km/h in this direction. The braking system installed in the bus was adapted to this and had separate settings for rail and road operation.

Because the compressed air requirement for this additional equipment was higher than for a pure road bus, the NWF BS 300 was fitted with four additional air tanks. They each had a capacity of 40 litres and ensured reliable operation of the equipment required by the EBO.

### Further development of the system change

The key factor for the success of the concept was apparently the fast and uncomplicated change from road to rail and back. Only a grooved rail track at street level should be required to implement a Schi-Stra-Bus. Passengers were to remain on the bus during the approximately ten-minute changeover to and from rail cars.



The two prototypes still used specially constructed wooden ramps, over which they were placed on the enclosed bogies and lifted off again at a slow speed. The production vehicles, on the other hand, were fitted with fixed hydraulic rams.

With these lifting devices, the front and rear halves of the vehicle could be lifted alternately for the installation and removal of the bogies. Nevertheless, this procedure required a lot of time and was also quite strenuous for the personnel.



The test vehicle is used to illustrate the operation of the hydraulic lifting system for the works photographer. One after the other, they lift the bus at the front and rear so that the trolley can be pushed underneath. The two prototype rail cars with the different track block brakes are used here again as a demonstration object. Photo: Factory photo NWF, Archive Bernd Coldewey

At the beginning of the planned operation, the rail-road-buses were manned by two men. Drivers and locomotive drivers took turns steering the vehicle depending on the mode of transport (road / rail). The person not in charge of driving the bus assumed the function of a conductor. In order to save one person, however, the (bus) drivers were trained as train drivers at an early stage.

In April 1953, NWF chief designer Ulrich Kaiser submitted an offer to the German Federal Railways for a railbus that was more advanced than the first model. The idea was that this railbus should be able to get by without the two track bogies, which meant a considerable effort for the overall system.

A prototype with the designation V4 was built by the NWF, successfully tested and presented at the beginning of 1954, but, in the meantime, politics seemed to have lost interest in this innovation. The new vehicle carried four large light-alloy wheels for driving on tracks and was able to move from a road section to a rail section without outside assistance and to leave it again on its own.

This further development would have made it superfluous to keep the track bogies available. Since shunting columns at the transfer stations would no longer have been necessary, operation and technology would become much more economical.

continues on page 25





During the press presentation at the Nordstraße level crossing in Wengern Ost, the prototype was also used to demonstrate the change from road to rail cars with the help of a wooden ramp. Photos: Willi Marotz, Eisenbahnstiftung



When the Schienen-Straßenbus (rail-road bus) with the French crew registration number FR 36-9789 is put on the tracks in Dierdorf (Westerwald) in April 1956 to continue its journey to Altenkirchen, it also demonstrates the work of the two front hydraulic rams of the series vehicle. Photo: Reinhard Todt, Eisenbahnstiftung

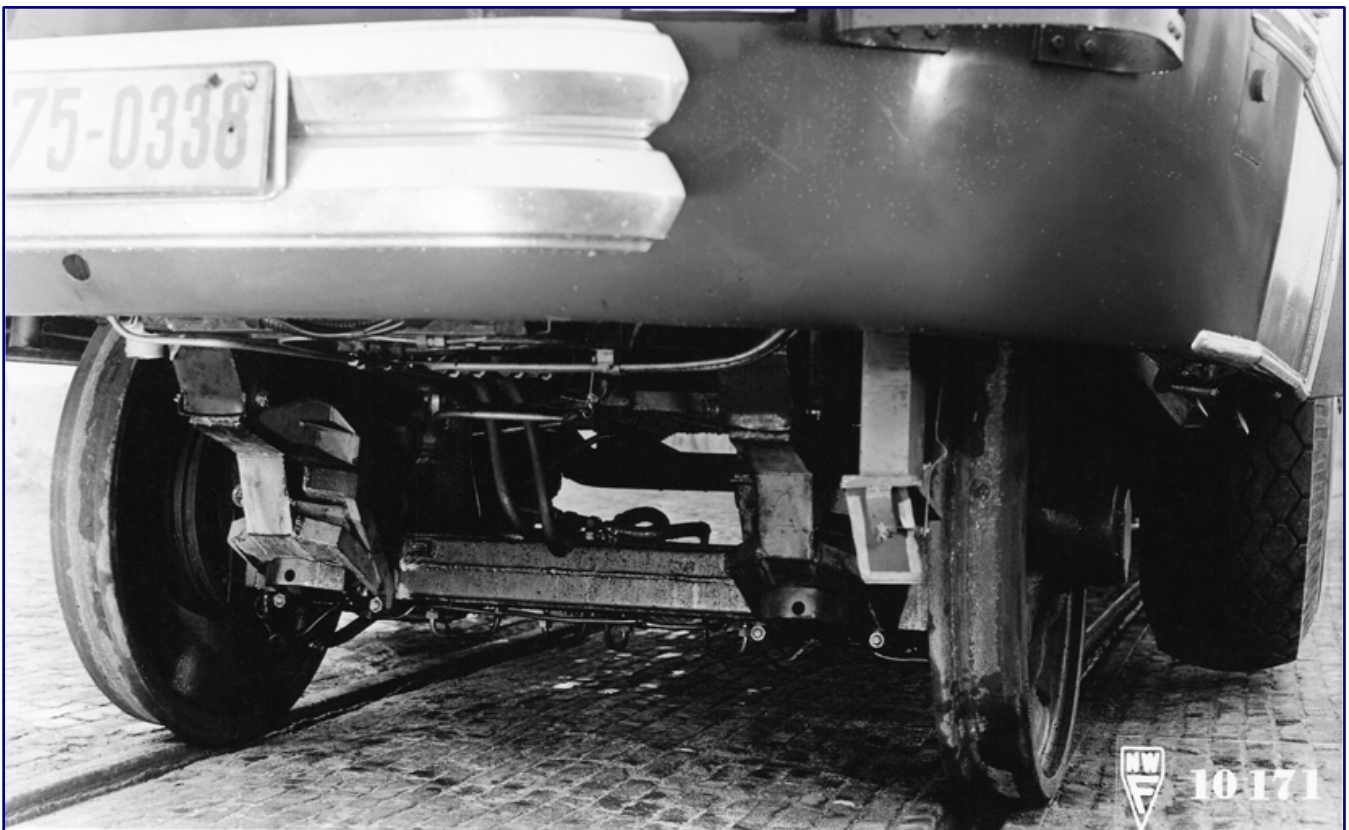
Ulrich Kaiser, previously active as an aircraft construction engineer, had, in his own words, based his design on the principle of an aircraft landing gear: The rail bogie with two wheels each was permanently mounted at the front and rear, and swung hydraulically under the vehicle for road travel.

To make it easier to observe when the bus was set down from the road onto the rail, four “windows” were cut into the bus floor, through which the driver could follow and control the exact positioning of the rail wheels.

In retrospect, the NWF designer regretted that the Deutsche Bundesbahn (German Federal Railways) did not want to grant approval for smaller, and thus lighter wheels, for this hopeful prototype with the prototype designation V4.

continues on page 27





The V4 prototype, which has remained virtually unknown outside Wilhelmshaven, represents the link between the Schi-Stra-Bus and modern two-way vehicles: It already had its rail wheels with it at all times and could fold them down and put them on track when needed. However, the mechanism worked differently in a modern excavator or Unimog; the way of operating the retraction and extension as well as the locking system originated in aircraft construction. Photos: Factory photos NWF, Archive Bernd Coldewey



The weight of the large rail wheels meant that, as test riders at the time still report, they ultimately influenced the road handling characteristics above all. Unevenness in the road surface sometimes caused the suspension of the bus to “shatter.” At the beginning of the fifties, overland journeys were still mostly over bumpy cobblestones.



A historical document of inestimable value today has been slumbering in the family album for decades: It shows the prototype V4, ancestor of all modern rail-road vehicles, during its acceptance by the German Federal Railroad in early 1954. The registration number shows that the vehicle was converted for this unique piece, which can also be seen on pages 20 and 23. Photo: Archive Kaiser

Incidentally, NATO also showed a short-term interest in the Schienen-Straßen-Bus (rail-road-bus). They were looking for a vehicle that was suitable for both road and rail under military considerations. Demonstrations in front of a three-man delegation of officers from England, Italy and France took place on 16 February 1954 on the tracks of the suburban railway in Wilhelmshaven. Although they impressed a general, the NWF was unfortunately unable to book any orders afterwards.

Ulrich Kaiser summed up his view of the last prototype as follows: “Unfortunately, it remained with the V4 test bus, which had passed all tests with flying colours and was recognised everywhere, but unfortunately had no customers. I had taken great pleasure in its development, as I was able to realize an idea that had not exactly been solved economically with the Schi-Stra-Bus (rail-road-bus) of the Bundesbahn”.

## The track operation

Two-way buses should offer passengers cheap connections without changing buses. For this reason, the Bundesbahn relied on routes that could not be served by other means because of the poor roads at that time, or because rail alone would have meant major detours. In this way it wanted to remain competitive against the already foreseeable individual transport.

But unfortunately it soon became clear that this actually good idea was fraught with many practical problems. On the one hand, the rail-road buses showed an extraordinary tire wear, which was caused by the rail operation. Here the very small contact surface had to transmit high forces to the iron substrate, which caused rapid wear of the tread.



One of the first three Schienen-Straßen-Busse (rail-road-buses) from series production was captured in the picture on 10 August 1953 on the journey from Zwiesel to Grafenau. This first connection had been made a few months earlier and remained in service until the end of the summer timetable in 1956. Photo: Below, Eisenbahnstiftung

The other problem, also not to be neglected and seemingly unsolvable, was caused by winter.

Under extreme weather conditions with wetness, ice and snow formation, safe traction was not always guaranteed.

But initially there was still euphoria after the good experiences in test operation of the prototypes:

The first three production vehicles were put into service for the summer timetable from 8 June 1953 from Passau via Grafenau and Bodenmais to Cham.

They covered 76.9 km by road and a total of 63.8 km by rail between Grafenau and Bodenmais and between Kötzing and Cham.

.....  
: **Where does the political interest in the Schienen-Straße-Bus (Rail-road-bus) originate?**  
: Both Ulrich Kaiser, head of the technical development of the Schi-Stra-Bus at :  
: NWF, and its technical director Werner Bach attached great importance to the :  
: following sketch in independent talks on political interest and the first choice of :  
: route (new course book route 423 k).  
: .....  
: According to their presentation, a campaign promise of the then Federal :  
: Minister of Transport Christoph Seebohm (CSU) was the trigger for the "new" :  
: concept of the German Federal Railways.  
: .....  
: Seebohm had announced in his constituency of the Bavarian Forest that after :  
: his intended re-election in 1953, three separate sections of the DB rail network :  
: in the Bavarian Forest would be connected with each other parallel to the :  
: Czechoslovakian border.  
: .....  
: Seebohm's idea here was to better connect branch lines of the Bundesbahn, :  
: which ran through structurally weak and low-traffic areas and ended up partially :  
: blind due to the demarcation of the border after the Second World War, to the :  
: rest of the transport network, in order to improve the living conditions of people :  
: living in the border areas.  
: .....  
: If we follow this description, then in the context of accelerated road construction :  
: and increasing individual motorisation, the interest of politics, which also forced :  
: the Federal Railways to rethink, can be explained.  
: .....

continues on page 30





The series vehicles were produced in three different designs, some of them even parallel, as can be easily seen from photographs taken in 1953. The two fundamentally different front shapes are shown in the photos on this one, the two different rear shapes in the front area of largely identical vehicles (as shown here in the picture below) can be seen when comparing the photos on pages 28 and 35. The specimen shown here (in the picture below) has the streamlined rear, as can be seen from the window arrangement of the long side and the "fin" exposed in the rear area. Later specimens corresponded to the arrangement shown on page 22 and also had an attached aiming indicator.

**Photo above:**


This picture was taken in 1953 at Zwiesel station. Photo: Burger, Eisenbahnstiftung

**Photo below:**

Here is the re-railed rail-road-bus in February 1954 in the station Kötztling. Photo: Carl Bellingrodt, Eisenbahnstiftung



Due to the lack of shelter in Cham, the line was finally extended by 19.2 km to Furth im Wald. This line was in operation until the summer timetable 1956, but the end came mainly because of the mentioned problems in winter.


**Straßenschienen-  
omnibus**

## 423k Cham (Oberpf)–Kötzting–Bodenmais –Zwiesel–Grafenau–Passau Hbf

		ab		423		an			
...		Nürnberg.....		.....		an		21.40	
...		Schwandorf ....		.....		an		19.28	
...		Cham (Oberpf)		.....		ab		18.41	
		Zug Nr	ED Regensburg				Zug Nr		
To 3074		km	ab Cham (Oberpf)					an	To 3089
Schiene		14,5	Miltach 423 h, 426 e					Schiene	18.24
...		17,7	Blaibach.....	} 423 g				Schiene	18.03
...		22,4	an Kötzting .....					Schiene	17.57
...		29,9	ab Traldendorf .....					Schiene	17.49
...		34,0	Thalersdorf .....					Schiene	17.39
...		36,2	Arnbrück (Denkmal) .....					Schiene	17.23
...		39,2	Drachseirled (Brücke) .....					Schiene	17.15
...		48,4	an Bodenmais Bf ....					Schiene	17.12
...		50,8	Böhmhof .....					Schiene	17.06
...		56,6	Langdorf .....	} 426 g				Schiene	16.49
...		58,3	Außenried .....					Schiene	16.39
...		62,9	an Zwiesel (Boy) 426 ..					Schiene	16.34
...		66,5	Lichtenthal .....					Schiene	16.21
...		69,4	Zwieselau .....					Schiene	16.18
...		72,1	Frauenau .....					Schiene	16.09
...		79,0	Killingenbrunn.....	} 426 f				Schiene	15.42
...		82,4	Spiegelau .....					Schiene	15.35
...		87,3	Großarmschlag ....					Schiene	15.30
...		94,5	an Grafenau .....					Schiene	15.24
...		102,2	Schönberg .....					Schiene	15.11
...		111,7	Abzw Saldenburg .....					Schiene	15.04
...		119,2	Tittling (Marktplatz) 426 c .....					Schiene	14.54
...		124,7	Neukirchen .....					Schiene	14.40
...		129,5	Ruderting .....					Schiene	14.30
...		142,7	an Passau Hbf					Schiene	14.09
...								Schiene	13.48
...								Schiene	13.38
...								Schiene	13.27
...								Schiene	13.19
...								Schiene	12.51

♣ verkehrt nur auf besondere Anordnung

Timetable of the first connection with a "rail-road-bus" on the newly included railway line 423 k from Cham via Kötzting, Bodenmais, Zwiesel and Grafenau to Passau. Illustration: Archiv Bernd Coldewey

After a sufficient number of further vehicles had been delivered, another connection followed in 1954: Augsburg - Füssen via Pforzen and Roßhaupten. From Augsburg it went first by road to Pforzen, then via the Allgäubahn, the railway line Biessenhofen - Füssen and the railway line Marktoberdorf - Lechbruck to Roßhaupten. Here, another road section followed to the destination Füssen.

This relation had arisen rather out of necessity. The extension of a bus line between Augsburg and Bad Wörishofen into the Allgäu had been opposed by regional bus companies. The Schi-Stra-Bus (rail-road-bus) made it possible to offer a continuous connection, nevertheless.

In the course book it was listed under the number 406c. One trip took three hours and ten minutes. Like the line mentioned above, it was discontinued in 1958, unfortunately, again due to insufficient friction of the wheels in wet rail conditions.

Between May 1953 and November 1955 the Schienen-Straße-Bus (rail-road-bus) made short guest appearances from Waldshut via the Hochrhein railway, on the Bernkastel - Remagen connection (winter timetable 1954/55) and via the Black Forest railway to Immendingen.



This advertisement shows how passionately the responsible persons have advertised for passengers for the rail-road-bus on routes of tourist interest. Summer visitors, people seeking relaxation and the hallmark of a revolutionary vehicle seemed to be made for each other to create pleasant memories. Photo: Archiv Helmut Theis

Hopes, that were not fulfilled, were trips on the "Sauschwänzlebahn" (Wutachtal line), which had once been built for strategic military reasons. Its middle section between Weizen and Blumberg covered a distance of only 9.6 km as the crow flies over a distance of 24.7 km due to the gradients.

Rail journeys were correspondingly long, and the operating result was always negative, as expected at the time of construction. Finally, the fare was based on the length of the route, not the linear distance.

With the post-war period, the military importance of the line declined and finally traffic was suspended in the middle section between Weizen and Zollhaus-Blumberg, to which the line owed its nickname. However, rail traffic remained on the northern and southern sections. Despite a renovation at the expense of NATO between 1962 and 1965, the line was never used again according to plan.

On the interrupted section of the route, buses should take over. For passengers on the entire route, this meant two changeovers in Weizen and at the Blumberg customs house. The Bundesbahn (German



Federal Railways), therefore, had high hopes of becoming more competitive and attractive with the Schi-Stra-Bus (rail-road-bus).

In 1955, it therefore used the Schi-Stra-Bus (rail-road-bus) on this route, using the parallel B 314 road on the disused section. However, an unfinished concept and bad experiences with the two-way vehicle led to the fact that the timetable change in December 1955 was already over.

The Westerwald crossing between Koblenz and Betzdorf turned out to be the only success. Three vehicles served this line from the winter timetable 1954/55. This last rail-road connection remained in operation until the end of the winter timetable 1966/67. This is also where the vehicles achieved their greatest popularity.

Coming from Koblenz, the transfer took place at Dierdorf station. From here it went over the Engers - Au (Sieg) railway line and from there on the Sieg line to Betzdorf. With the road section, about 20 km could be saved compared to the 112 km long railway line.



The Schienen-Straßen-bus (rail-road-bus) with the new registration number DB 25-13 arrived here in August 1957 as P 3765 on its way from Koblenz via Dierdorf to Betzdorf in the station Altenkirchen. This connection proved to be the most successful in every respect and lasted until 27 May 1967. By the way, this photograph also shows the sand spreading device for the first time, recognizable by the feed lines and the brackets in front of the wheels to which the spreading nozzles were attached. Photo: Kurt Eckert, Eisenbahnstiftung.

Therefore, unlike the other connections, the offer was also well received here. Often the number of seats on offer was not sufficient. Thus, it remained the only rail-road connection on which two trips per day and direction were offered.

One trip on the entire route took two and a half hours. Another blessing for the Bundesbahn was the fact that operations were stable even in winter. Nevertheless, the two-way operation remained only one episode in railway history, which finally came to an end on 27 May 1967.

Although the series number 790 was still intended for rail-road buses on 1 January 1968, the date on which the computer-readable vehicle numbers were introduced, not a single copy was given this designation. In the meantime, even the very last models had been parked and taken out of service after the deadline.



## Historically significant

The increasing road construction, which was strongly driven by politics, and the increasing individual motorization went hand in hand from the fifties onwards. This led to a rapid growth in road traffic, which noticeably pushed the German Federal Railways offside on many secondary routes.

The Federal Ministry of Transport thus lost all interest at an early stage in the consistent further development of this interesting technology. And DB too soon had to recognise the lack of future prospects for its concept: The rapid expansion of the road network made this vehicle comparatively slow. The massive problems in winter on many routes did the rest.



Although the Schienen-Straße-Omnibus (rail-road-bus), as here at the press presentation at the western head of Wengern Ost station, always attracted great public interest, it remained only a marginal note in German railway history. Wrongfully, many ideas and approaches that were pursued with it have long been forgotten. Photo: Willi Marotz, Eisenbahnstiftung

However, the Schi-Stra-Bus (rail-road-bus) does not stand alone historically. There were similar development approaches in France in the early forties. In the United States, experiments were carried out in the second half of the sixties. Two Red Arrow Lines buses were converted so that they could also run on rails with retractable metal wheels.

Schiene-Straßen-Omnibusse (rail-road-buses) developed in Japan were given the designation "DMV". The DMV920 model finally managed without external bogies and had two axles, which were also only lowered. However, this technical approach was nowhere to be found.

The German Schi-Stra-Bus (rail-road-bus), which is, at least, operationally the most important, plays the role of a pioneer for modern two-way vehicles in this context. More than forty years after its demise, there are many vehicles that can travel both on road and rail.

But nowhere are they used for passenger transport; instead they are used for maintenance and construction purposes on the track, and in the case of private sidings in the form of a Unimog, also for moving freight wagons. However, DB was not aware of the importance of the ancestors at the time.



The greatest weaknesses of the system desired by the German Federal Railways were eliminated with the V4 prototype. The suggestions for improvement made by its designer already anticipated the development that makes today's two-way vehicles successful, such as the Certis-Unimog for vegetation control, which was seen at Rottweil station on 22 August 2019. Photo: Olga Ernst (CC-BY-SA-4.0)

As soon as they were parked, the vehicles were usually disassembled a little later and returned to the raw materials cycle. Only one single vehicle, which was in use until the very end, was preserved. This was the bus with the registration number DB 29-3, which, together with the two bogies 1913 and 1916, was saved from being scrapped.

It was initially handed over to the Nuremberg Transport Museum, but due to lack of space it found its new and probably permanent home in the Bochum-Dahlhausen Railway Museum, as early as 1976.

For the celebrations of the 150th anniversary of the railway in Germany it was reconditioned until 1985 and took part in the vehicle parades in Nuremberg-Langwasser. Due to a lack of suitable registration certificates, however, its use was initially restricted to rail and the DGEG site in Bochum.

A main inspection, which was carried out with great effort, was completed on 24 July 2002 and even resulted in a limited road approval, which finally made it possible to use the vehicle on rail and road again. This happened in the context of a museum operation in the Westerwald, where this vehicle was once active.





Only a single Schi-Stra-Bus (rail-road-bus), which formerly carried the registration number DB 29-3, together with two track cars, has been preserved. Its home has been the Bochum-Dahlhausen railway museum for many years. However, contrary to the assumption of those active there, their vehicle by no means represents the high point and technical completion of the development of Schienen-Straßen-Bussen (rail-road-buses) in Germany.

Later, stricter rail network access conditions (PZB-90 obligation and train radio) prevented the free use of this museum vehicle. Thus, tunnel journeys and encounter traffic on multi-track lines are no longer permitted.

However, the last of its kind is still on public display in Bochum-Dahlhausen. At larger events, the transfer between road and rail is occasionally demonstrated.

**Information and photos of the prototype on the Internet:**

<https://www.westerwaelder-bahnen.net/index.php?nav=1000068&lang=1>



# Ihre Bildsammlung braucht einen sicheren Hort!

## Unsere Aufgaben:

### Bildsammlungen:

- **bewahren**
- **bewerten**
- **veröffentlichen**

### Eisenbahnprojekte:

- **fördern**
- **initieren**

## Unsere Garantien:

- + **personenunabhängig**
- + **sicher**
- + **gemeinnützig**
- + **steuerlich privilegiert.**

**Sie möchten  
eine Sammlung  
der Nachwelt  
erhalten?**

**0173 / 295 19 21**

Rufen Sie uns einfach an!

**Sie möchten  
unsere Arbeit  
unterstützen?**

### Spendenkonto:

Sparda-Bank West

Kto.: 579 484

BLZ: 330 605 92

EISENBAHNSTIFTUNG

JOACHIM SCHMIDT



[www.eisenbahnstiftung.de](http://www.eisenbahnstiftung.de)



## Cherry blossoms in Shizuoka A bonsai-sized diorama

*It does not always have to be a sophisticated large-scale layout. Our reader and translator Christoph Maier proves the point by having built a tiny, but very creative and attractive gem. Making the best of the situation of the past weeks, he has turned his currently unfulfillable holiday dreams into a diorama, with which he takes us today on a virtual trip to faraway Japan.*

From Christoph Maier. Since an eventful trip to Japan in spring last year, I have always had the plan to translate some of my memories into a model. From Tokyo I had already brought back some Z scale rolling stock and a few building kits.

But then it took me longer than expected to find the time and leisure to actually do something with it. And instead of a "real" layout, which always comes together much faster in ones imagination than in reality, the outcome (for the time being) is only a bonsai-sized operational diorama.



On a square space of just 18.5 x 18.5 cm, a small, idealized slice of Japan around the theme of green tea cultivation took shape slowly but steadily over the past few weeks at the kitchen, garden and living room table.



Green tea is so ubiquitous in Japan that this national drink just had to be taken into account when designing this micro layout. Christoph Maier decided to play on the theme of cultivation, care and harvesting of tea.

Tea plantations dominate the landscape in many places of the southern and central regions of the country, including areas around the city of Shizuoka, which is situated against the mighty backdrop of Mount Fuji. Hence the title “Spring in Shizuoka” for this tiny showpiece.

The starting point of my initially fuzzy ideas for designing the scenery was a Rokuhan Z Shorty track oval with a curve radius of 45 mm. One or two buildings, a small Shinto shrine, a very common sight throughout Japan, as well as some tea fields should also find their place on the layout.

Also not to be missed: a few blossoming cherry trees, which make the Japanese spring the most beautiful travel time (in combination with the then prevailing mild weather) plus a typical railway crossing.

To get a better feeling for the dimensions of the different elements, I first assembled the buildings and equipped them with LED interior lighting. They were built from kits made by the company Sankei, which I had bought in Japan, but which can also be found and ordered over the internet.

The laser-cut components made of coloured hard cardboard and printed paper are very precise and can be easily assembled with a little care and without much pre-treatment.

After some slight weathering and several trials, the future position of the buildings was determined: The agricultural main building and shed were to be placed within the more or less centrally positioned and, with respect to the front edge of the layout, diagonally offset track oval.



The Shinto shrine was placed on a small mount in the back left corner of the diorama. Here, as well as later on when adding vegetation and other design features along the trackside, the overhang of even the very short Shorty railcar and a corresponding clearance along the tracks had to be taken into account, due to the extremely tight curve radius.



After a satisfactory trial run with the already assembled buildings, the foamboard panels, which form the understructure of the landscape of the micro layout, are cut to size.

Afterwards the terrain was built up using foamboard panels of different thicknesses (10, 3 and 1.5 mm) and the rough contours of the terrain were carved out with a craft knife. After priming with acrylic paint - brown or grey depending on the area - the track oval was laid out with the previously weathered rail flanks and sleepers.

Then I led the soldered feeder cable through a pre-drilled hole in the base plate, fixed the tracks to the ground with some super glue and ballasted them with a slightly rust-coloured Z-gauge ballast from Koemo.

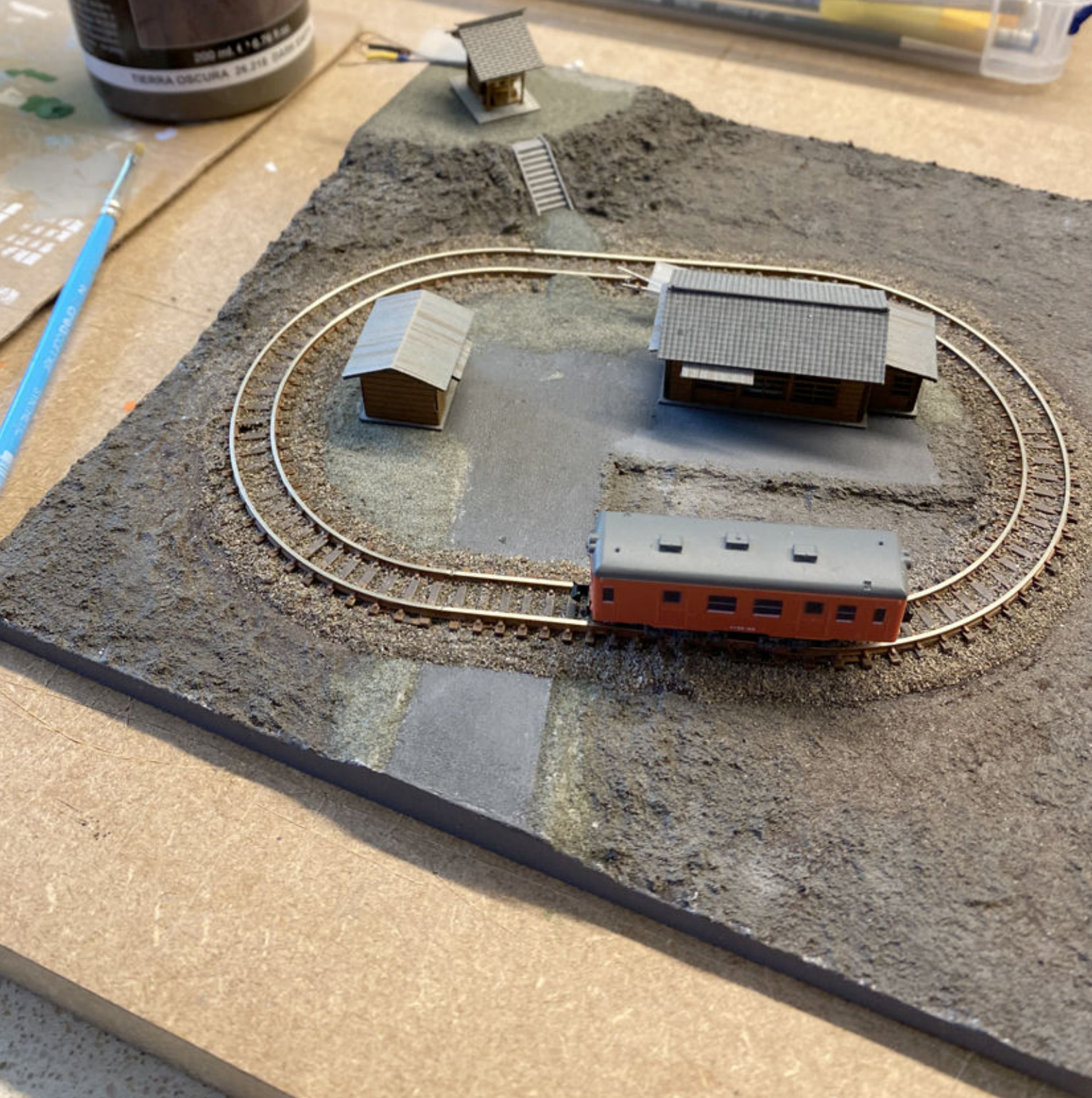
## Landscaping

With the basic shape of the terrain finished, the stone staircase, made of polystyrene profiles, was fitted into the hill and the fine contours of the landscape were modelled using Vallejo's dark and light brown acrylic-based texture paste.

This was a quick way to finish the terrain and saved me from having to re-paint the surface. For a larger project one would probably choose a cheaper material, but here the costs did not matter. And the result is convincing, in my opinion..

continues on page 42











**Photo on page 40:**

The stone staircase to the shrine is built of polystyrene profiles and has been integrated into the landscape. Modelling the terrain with acrylic texture paste in two earth tones from Vallejo makes any further painting of the ground unnecessary.

**Page 41 top:**

The groundcover consists of fine turf and grass fibres, which were applied with the small "Pro Grass Precision Applicator" from War World Scenics.

**Page 41 bottom:**

The basis of the tea bushes are plastic straws, which were filled with texture paste at their ends, primed with spray paint, and covered with fine turf.

The road and paved areas were painted with road paint by Heki and later slightly aged with weathering powders. Unpaved gravel paths and the area around the shrine were built with a thin layer of diabase stone powder of finest grain size by Koemo.



A few, but carefully selected and positioned figures, such as these tea pickers in traditional Japanese garments contribute greatly to the overall harmony of the layout. They were commissioned from and custom made by Trafofuchs.



After the ground had dried, the gardening work started: first came a layer of groundcover using previously sieved fine turf from Woodland Scenics (colours T44 and T46), followed by 0.5 and 1 mm grass fibres in spring and autumn colours.



A clear geometry and structured arrangement of the selected elements was essential for creating a coherent and authentic looking atmosphere within the confines of the layout's tiny size and the restrictions imposed by the extremely tight radius of the oval track.

Static grass was applied with the help of a "Pro Grass Precision Applicator" from War World Scenics, which I had purchased some time ago for previous projects and which is well suited for work on small areas such as here. But with only slightly larger surfaces it soon reaches its limits due to the very small capacity of its head.



Incidentally, an identical device is also available from the French supplier Microrama (see product presentation in **Trainini®** 6/2019). In a few places, I also placed isolated tufts of grass made of beige 4.5 mm fibers and small bushes made of Woodland Scenics coarse turf.

As for the hedgerow-like and always accurately trimmed tea bushes of a prototypical Japanese tea plantation, I was first at a loss for how to model them in a convincing way.



A Japanese railway crossing with no barriers was a must, but the tea plants of the small plantation are always in the picture from every perspective.

After some experimenting I found a solution by cutting plastic straws lengthwise into half, then cutting them to desired lengths, rounding the ends with texture paste and finally priming the pieces with dark green spray paint.

They were then covered with fine turf which I had previously put through a sieve in order to obtain more scale specific particles. The resulting mini tea bushes were lined up closely together on the diorama and glued into their intended position.

### Skilfully presented

Following the landscape gardening, the half-finished diorama was attached to a previously painted beechwood box purchased at a crafts shop. The wooden base is 6 cm high and has a footprint of 20 x 20 cm. The side length, which is somewhat longer than that of the diorama, was chosen so that the layout can later be fitted with a transparent cover flush with the base.

A recess at the front of the base accommodates the operating elements: a knob for the speed controller and switches for direction and lights. They are attached to a front panel made of anodised and brushed



aluminium, which was designed with the help of the front panel designer software from Schaeffer AG and ordered via their webshop.



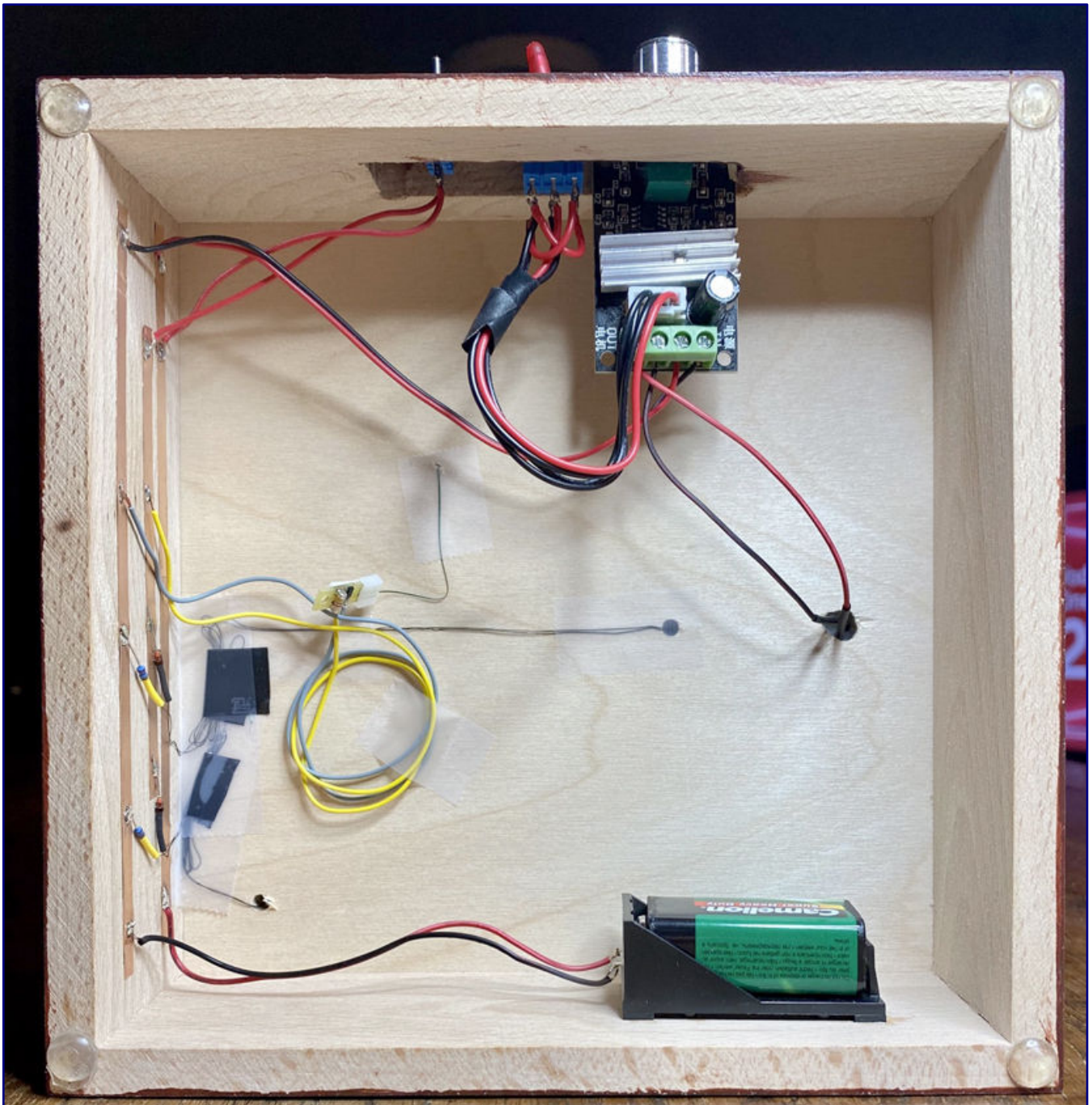
An exquisitely lacquered beechwood body and the labelled panel of the control unit provide a decorative exterior that makes this micro-layout a showpiece for the living room.

The PWM speed controller was purchased for little money from a large online retailer and is connected to a 9-volt battery along with the lighting. With a bit of thinking and trying, the wiring and the necessary soldering work was easy to do even for an absolute electronics beginner like me.

The only things left to do now were the detailing and decoration of the micro layout. A small street lamp on a wooden pole from Märklin, which unfortunately is no longer available, provides some illumination in addition to the interior lighting of the main building and the shrine.

A scratch built torii gate in vermilion marks the entrance to the shrine area. The level crossings were designed with parts from a Sankei kit and guard rails from HOS Modellbahntechnik line the access road. A hydrant (Weinert), a bicycle leaning against the main building (Artitec) and a pick-up truck (Trafofuchs) make for some further visual interest.

The blossoming cherry trees were made of trimmed seafoam. Primed with olive brown spray paint and thickened with a slightly grey-brown texture paste on the trunk, they were sprinkled with fine, white-pink turf material. The light green sprouting trees around the shrine are ready made filigree bushes in spring colours from Silhouette (Mininatur).



The view into the interior shows toggle switches, PWM speed controller and block battery for power supply including a well-ordered cable structure. Strips of solderable copper adhesive tape, such as those offered by Busch, serve as distribution boards.

As a final step, the tea plantation had to be populated with some sentient life. With the limited range of Z-scale figures produced by the big European modelling companies, no Z-scale figures apparently available at all from any of the Japanese suppliers (with the exception of some laser cut silhouette figures), and me lacking the skill and patience to create them myself, I contacted the company Trafofuchs. Applying their great artistic skills to my request for a few custom made Japanese figures, my wishes were fulfilled in a swift and convincing way. Now five small tea pickers are busy with a permanent spring



harvest, while a few plantation workers handle the logistics and a young couple in traditional robes is seeking divine assistance at the Shinto shrine.



A custom-made acrylic glass cover helps to make the layout more presentable and protects the delicate landscape from possible damage.



A young couple dressed in traditional robes asks for divine assistance at the Shinto shrine. To their left is the vermilion Torii Gate, which has to be crossed on the way to the shrine.

A custom-made hood made of acrylic glass (Sora) protects the diorama from dust and cat paws. The finished piece now sits on a side board in the living room, reminding us of past journeys and letting us dream of future travels into the wide world as soon as they are possible again.

All photos: Christoph Maier

**Film clip with further impressions of "Spring in Shizuoka":**

<https://youtu.be/7LqznbJWQM0>

**Company websites for materials used for this project:**

<https://www.artitec.nl>

<http://www.hos-modellbahntechnik.de>

<https://www.koemo.de>

<https://www.maerklin.de>

<https://www.mininatur.de>

<https://www.m-sankei.co.jp>

<https://www.rokuhan.de>

<https://www.sora.de>

<http://www.trafofuchs.de>

<https://weinert-modellbau.de>

<https://www.wwsenics.com>



## Station Diorama “Himmelreich” (Part 2) Creating a two-levelled terrain understructure

*In the first chapter of this series, we built Märklin’s Himmelreich station kit and equipped it with some custom made interiors. Today, we are laying the foundations for the diorama that will go with it and will also start designing the immediate surroundings of the station. In doing so, we will be using accessories from standard kits, which we will modify to our needs.*

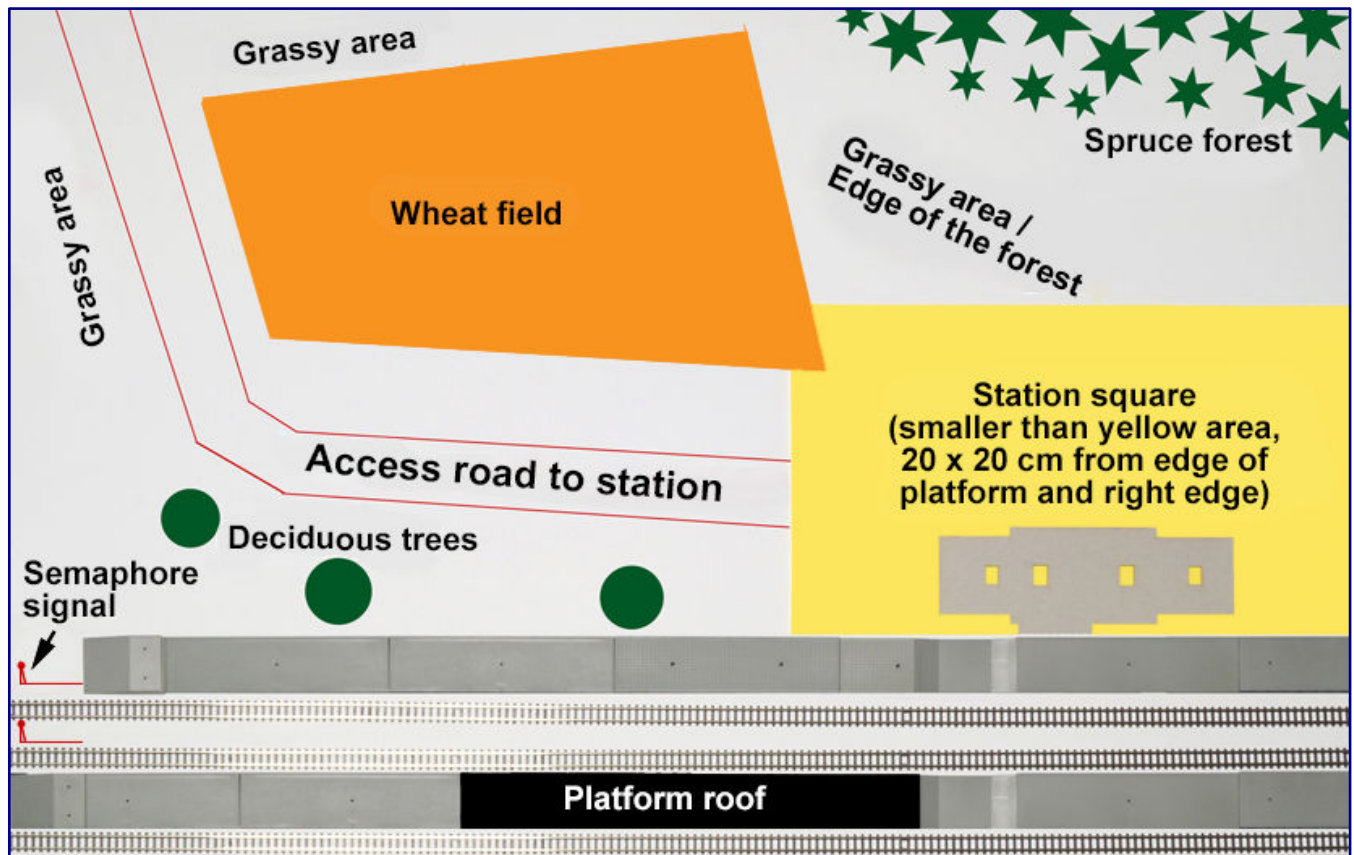
The first part of this diorama engineering series was dedicated to building the Himmelreich station kit and enhancing its interiors with some custom made extras. It is now waiting to add life to the diorama whose construction we are going to tackle now.

The plan is to create a piece of landscape which complements the station building and which matches as closely as possible its prototypical surroundings. Another requirement is to design this showpiece in a such a way that it can be inserted later as a module into a picture frame type presentational box and to connect its tracks to concealed loops behind the scenery. The structure therefore needs to be sufficiently strong to survive the rough exhibition circuit and to be transported without problems.



By the end of today’s chapter, we will have taken a large step towards designing the immediate surroundings of the station. A provisionally erected tree, a few figures, a ticket machine from Modellland, a station building and trains already give us a first taste of how the finished diorama will look.

The solution is to construct a baseboard in the form of a wooden box, with external edges measuring 66 x 50 cm and made of 10 mm poplar plywood panels. The length follows the Märklin track geometry and corresponds to the length of a flexible track segment. The width, which determines the depth of the landscape, results from trials for positioning the different elements of the scenery for an overall harmonious effect and for guiding the observer’s eye slowly from the front to the back of the diorama.



In the course of the woodworking a final test of the positioning of the different scenery elements was carried out. This led to a change of plan compared to the original idea, which we presented in the last issue. A third track is now added, causing the entire scenery to slide back a little.

All joints of the wooden base are later both glued and screwed together. But first of all, the position of the abutting surfaces must be determined, which also determine the dimensions of the four outer walls in function of a given panel thickness.

In addition, there is an internally inserted base panel and two further plywood panels with a slight overhang to each other, which are also to be inserted and screwed in place at different heights between the outer panels.

As a foundation for the station building we also need a 20 x 20 cm piece of 6 mm plywood. It will later be used to elevate the building to platform level. Thick squared timber will be added to the inside corners of the baseboard in order to provide torsional rigidity and stability.

The shopping list for the woodworking shop or DIY store is now ready and the necessary material can be procured. Some readers may now miss cross braces, which would further reinforce the structure and to which the level surfaces can be attached.

Indeed, we cannot do without them and the thought is therefore completely correct. However, there was no need to buy them as we still had some leftover pieces from a disposable wooden pallet on which a larger household appliance had been delivered.



## Off to some DIY engineering

Once the shopping is done, construction can begin. But before we create irreversible facts, we lay out all of the wooden parts on floor again and check that there have been no errors in thinking or calculation and that everything fits together as planned.

The thick squared timber reinforcements are mounted close to the floor area where they receive the screw shafts of the adjoining walls. The floor panel is the only element which is fastened to the four squared timbers with screws only but no glue. The reason for this is that it needs to be removable for any future installation of electrical components underneath the baseboard.



Before the wooden box is assembled, all parts are laid out once again for checking their correct fit.

The two horizontal plywood panels for the landscape substructure are inserted into the frame from above. They are mounted on two levels in order to create the desired topography. After all, the Black Forest is far from flat and needs some sloping terrain in the model. The only exception is the station area with buildings, platforms and tracks that will be placed on completely level ground.

And so the upper edge of the baseboard defines the level of the tracks and platforms. Our station building, as mentioned above, has to be raised by another 6 mm. We have measured this by means of the height of the platform parts that are to be used here and to which the building will virtually “snuggle up”.

To sum up: The first landscape panel is inserted flush with the upper edge of the baseboard on the viewer's side. Behind the station area, the second plywood panel is then inserted three centimetres lower.

For the time being, however, it will be placed loosely on the transverse frames and remain removable, as we still need space for constructing the access road!



The baseboard box is assembled and its corners reinforced. This is the time to cut and insert the crossbars which will later support the two horizontal levels of the diorama. The Bindulin wood glue in the photo was unfortunately way past its expiration date and of no more use. Instead, we used a large bottle of Uhu wood glue, which can also be applied with a brush to larger surfaces.

For those readers with only little woodworking experience, we would like to pass on a tip which might be self-evident for the more experienced: pre-drill your screwholes in order to avoid splits in the wood.

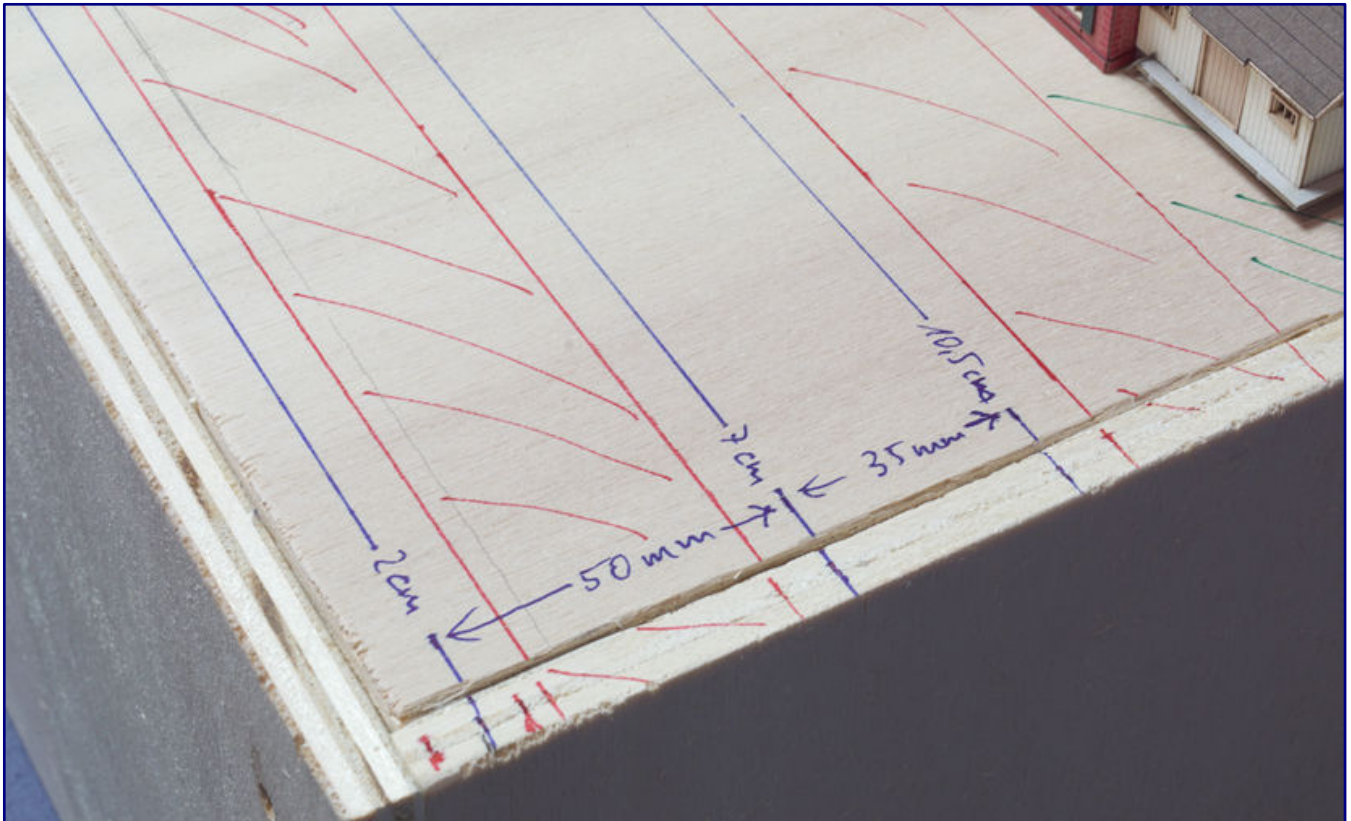
For this purpose, one should select a drill bit which is (at least) 1 mm smaller in diameter than the dimension of the screw. This allows the screw to take a strong hold of the material and ensures a safe entry into the wood. For the gluing a normal express wood glue is sufficient; it does not have to be waterproof, as we will most certainly not leave the diorama out in the rain!

We prefer Uhu wood glue, which is also available in larger containers and can be applied with a brush. The wood screws must be sufficiently long and have a countersunk head. Choosing a cross-head or Torx variant is up to personal preferences and available tools. Screws with diameters between 3 and 4 mm are sufficient.

In the steps that follow, we will also mark the position of the tracks, platforms and the course of the station access road on the upper base plate. In order to be able to clearly distinguish all elements and to keep an overview of the structures at all times, we use markers in different colours.



This also involves a second dry run for positioning the different scenery elements, which can now be carried out under real conditions instead of on a large sheet of paper. Now is also the time to check the lines of sight for observing and photographing the diorama in order to avoid any visual obstacles which would be difficult to correct later on. It is also important to check whether all scenes can be well incorporated in the overall composition with regard to their vertical position.



As soon as the upper level can be installed, the positions of the platform and tracks are marked, along with other important elements.

And as chance would have it, this final check reveals a need for improvement: the original idea of having the edges of the diorama and the platform at the same height may have opened up a good line of sight towards the station. The camera would get closer and the catenary masts of track 3 would not be in the way. Two tracks would have been fine if the diorama was to be encased and exclusively presented in a picture frame box.

Nevertheless, the two track solution did not really convince after all, as it would have meant to position the platform's edge right on the front edge of the diorama without a track running along it. In a small change compared to the original plan, track 3 (which originally did exist in the prototypical setting, but was later removed) was finally added.

Adding the third track meant that everything else had to move a little bit towards the back – a quite small change, but with an amazingly big effect with respect to its visual impact! We feel lucky to have planned the depth of the diorama with sufficient reserves which allowed implementing this change without any problems.

Thus, the station's access road also moves one track width further to the back, a thing that is no problem thanks to the generously sized foundation for the station (20 x 20 cm surface; 6 mm thickness). Once the course of the road is determined, the jigsaw comes into action. The road width of 3 cm is based on existing norms for comparable types of prototypical roads, as well as on the paint roller that is later used for painting the road.

With a short saw blade and mitred, we cut the base of the road away from the upper base plate. From the edge of the upper plate to the rear edge of the diorama we extend the road with a strip of 4 mm plywood.

Where the road meets the edge, as well as in many other places towards the back of the side panels and the back panel itself, we use the jigsaw to cut out the profile of the future landscape. In doing so, we try to avoid regular or geometric looking shapes and aim for arbitrary and natural looking patterns.



The marked course of the station access road is mitred with the jigsaw and lowered from the upper base plate. Afterwards the lower plate also needs to be firmly attached to the base board in order to continue further works on the road. The joints between the base of the road and the base plate are closed with Molto fine wood filler. The base plate for the station building is also glued on and a transition to the road created with filler.

Some wooden blocks glued underneath the road base provide additional support. We also add a screw where the road transitions to the thicker base plate. As soon as the glue has dried, we fill and smooth all joints and edges with Molto fine wood filler, which can be sanded afterwards.

Now we continue on the other side of the station. Having studied prototype photos, we decided to go for a spacing of 35mm between track 1 and track 2, which is different from Märklin's standard track geometry. The distance to track 3, however, is determined by the width of the platform (see photo on page 53).

This is also an opportune moment to drill holes for the wires of the station lighting, the track feeder cables and the drives for the semaphore signals. With a diameter of 13 mm, the latter require a rather unusual hole size, for which suitable drills are by no means available in every DIY store. In addition, regular drill





The necessary holes are now being drilled for lighting, feeder wires and signal drives. The only problem here may be the rather unusual 13 mm diameter hole for the Viessmann signals, for which one first has to find a suitable drill bit that also fits into the drill chuck.

chucks only accept shafts of up to 10 mm diameter, something which has to be considered in good time when choosing a drill or tool.

## Platforms and tracks

Now some preparatory work is necessary. Our plan is to build the main and island platforms of Himmelreich station from components of Kibri's "Friedrichsthal" kit.

Its design comes closest to the prototype, especially in the area of the platform roof. But as suspected, we cannot build it from a single kit.

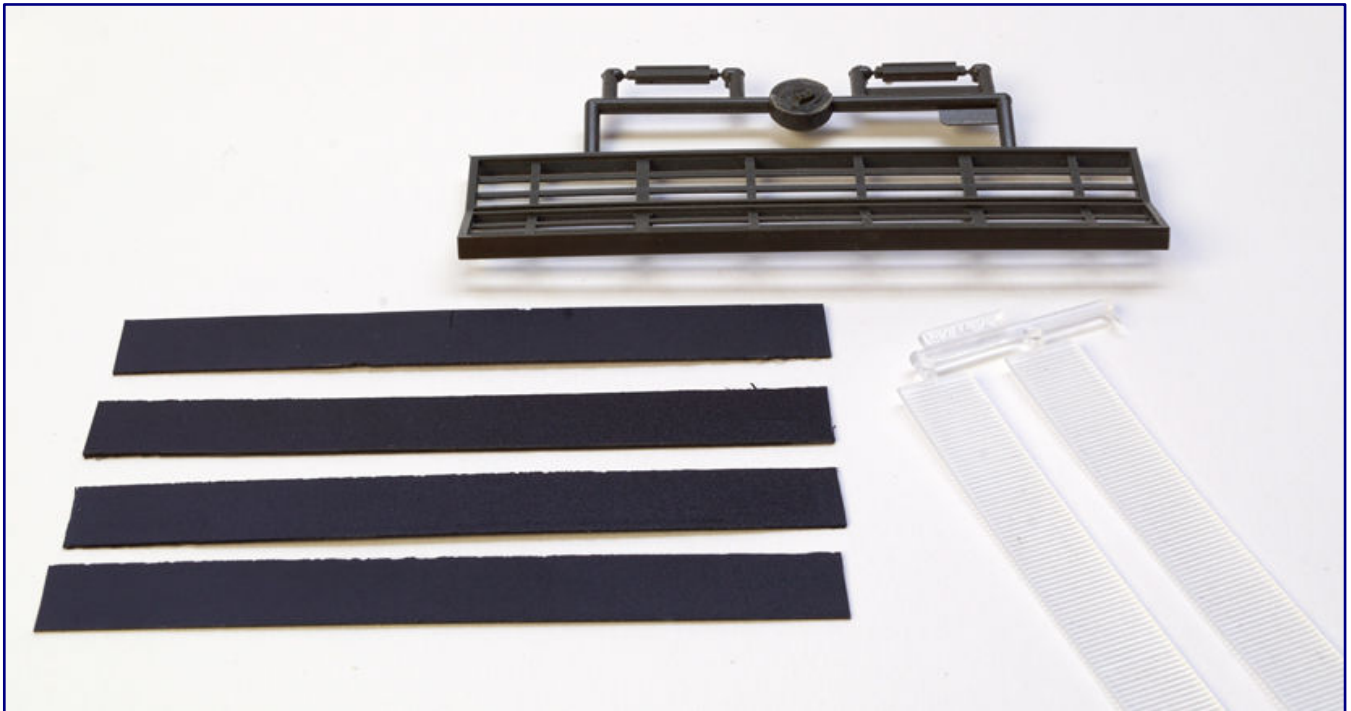
The contents of one kit are simply not enough to achieve the required platform length and to provide all the parts necessary for an authentic model.

Instead, we need three kits of the Friedrichsthal platform (36747) and even



From different Kibri kits we select the suitable parts for the platforms, before adapting them individually to our needs.

five of the corresponding extension kits (36707). Any remaining parts will go into the box for future modelling projects.



The transparent platform roofing is replaced by black Evergreen polystyrene sheets, which are cut to size with a circular table saw (top). On some platform sections, the only one-sided front panels also need some modification, which requires some further cutting and adjustment (bottom).



We now put the two platforms together in a jigsaw puzzle like manner and glue the different pieces into place. In real life, the dropped section of the platforms was in the area of the signal box room of the station building, which roughly also defines the location on the diorama. On the island platform, the drop must therefore be at the same level. The position of the rather short platform roof is also determined in view of the prototype.

With the injection-moulded polystyrene platform model, the dropped section extends to both sides of the platform which is something that does not fit our plans: The platform edge facing track 3 runs straight along the entire length of the platform and is flush with the platform surface itself so that passengers can get on and off the train without any problems. At the main platform next to the station building, the drop runs a bit differently in prototype pictures.

All this creates the need for some adjustments and modifications the Kibri design. Some parts of the platform are shortened with the help of a circular table saw, with others we deviate from the instructions, and the platform roof receives a different covering made of black Evergreen polystyrene sheets (distributed by Faller).

However, the most labour intensive part is the creation of the already mentioned dropped sections in the platform for the only one-sided track crossings. This is only possible with sawing, addition of self-built components and level adjustments as well as filling and sanding of the modified parts.

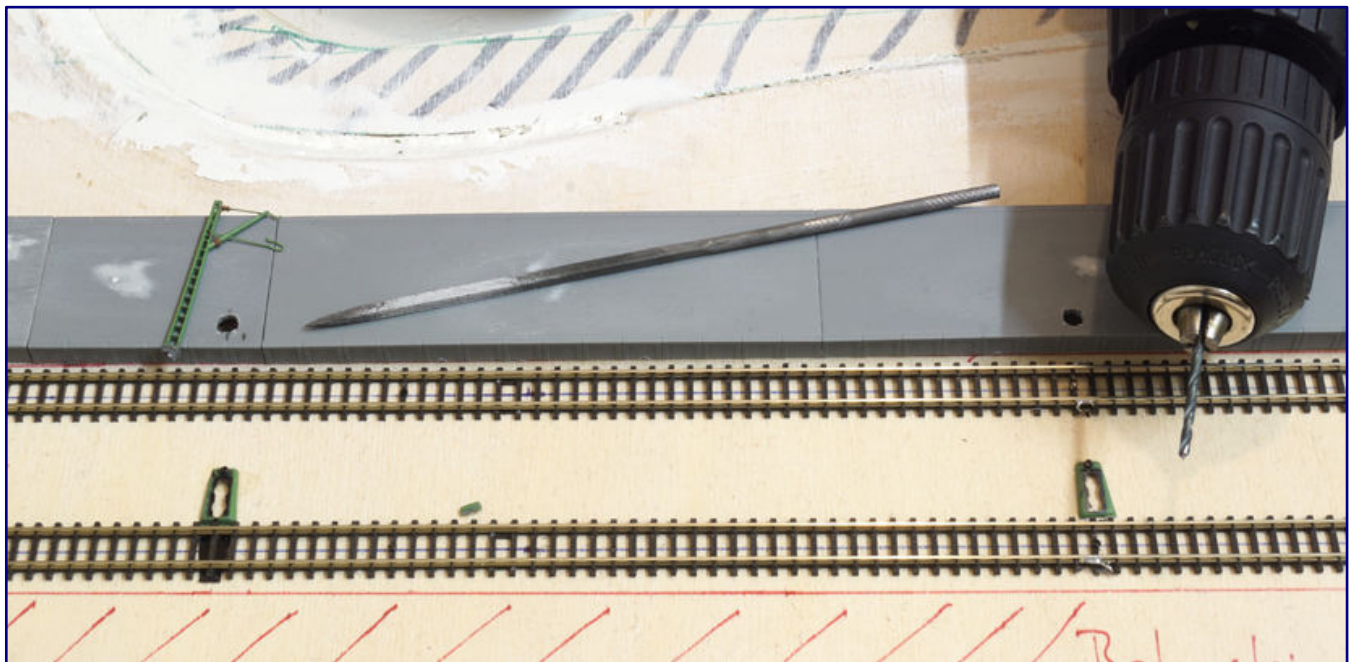
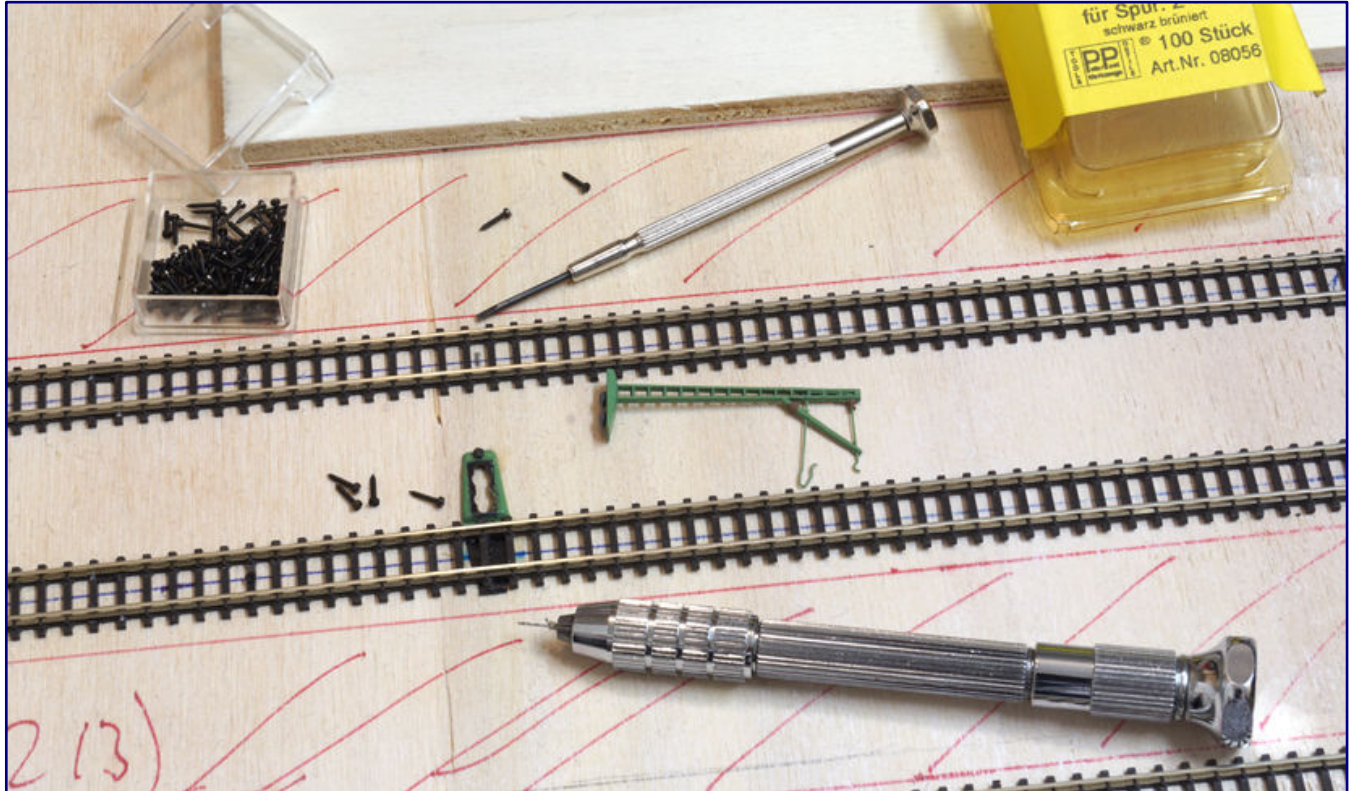


The kit-bashed parts are filled and sanded before being painted.

However, we had in any case foreseen to paint all plastic parts after assembly, in order to take away their plastic shine. Otherwise the platform would not fit harmoniously into the overall picture, given that the tracks as well as the landscape and buildings have a matt appearance.

As for overhead lines we calculated a need for 15 type 8911 catenary masts. But only 11 of them can be installed with the Märklin mast feet. The four others will be installed on and precisely in line with the edge of the main platform.

The only possibility to install them is to place them in predrilled holes and then pour them a foundation of Uhu plus acrylit (an acrylic resin adhesive). The central located mast feet along tracks 2 and 3 will be relieved of their brackets and screwed into position directly next to the track.



The catenary mast feet must be placed and fixed before the tracks are screwed on. For them and the tracks we have used 0.9 x 5 mm wood screws from "Peter Post Werkzeuge" (top). We also screw in place the central masts' bases, after having removed their bracket (bottom). Moreover, we prepared the drill holes for those catenary masts which will have to be glued into place on the main platform.

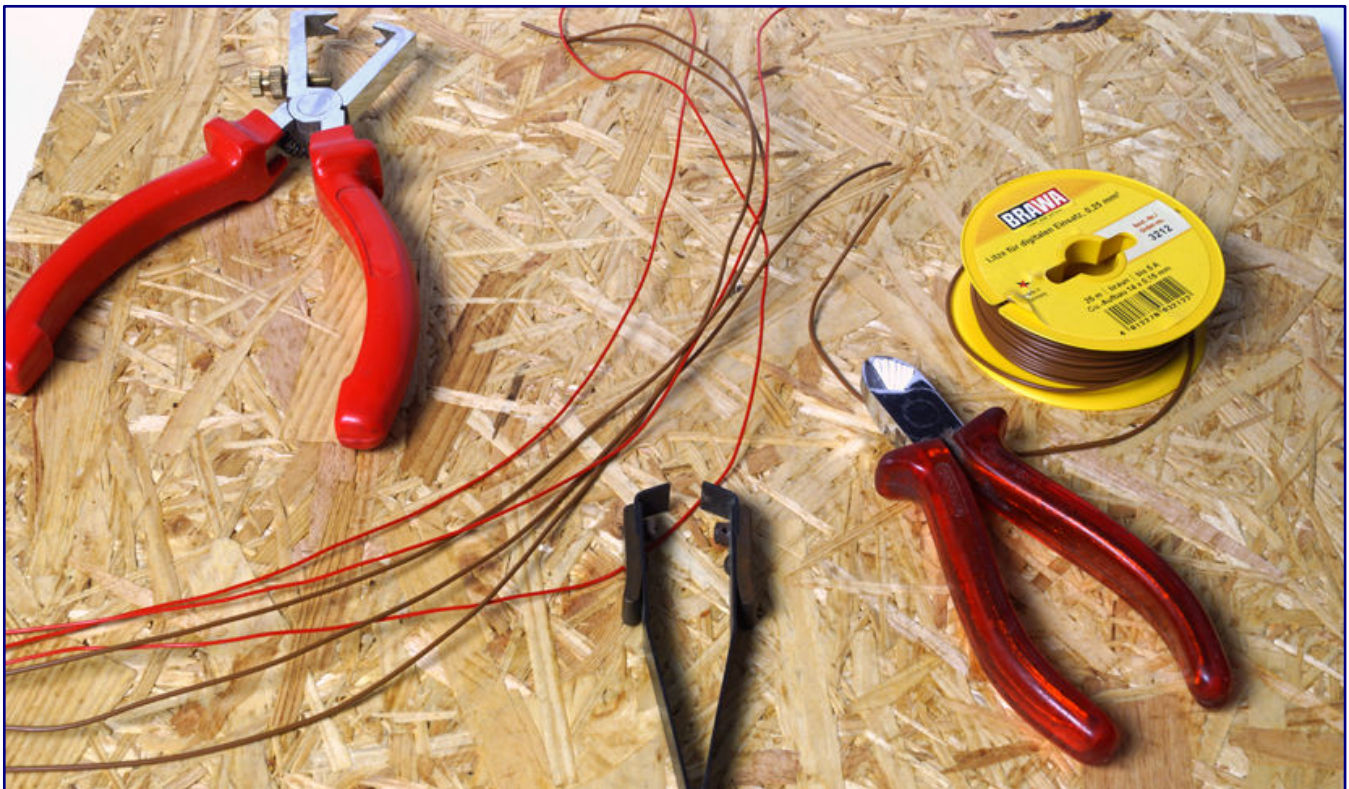


Suitable 0.9 x 5 mm wood screws, which we have used here, are available at “Peter Post Werkzeuge”. The reason for removing the brackets is that we want to place the track feeder cables as inconspicuously as possible at this point and therefore want to camouflage them a bit with the help of the mast bases.

To prepare the masts for the installation, they now need a coat of paint in order to take off their plastic shine. We spray all 15 of them with an airbrush. The colour of choice is RAL 6011 reseda green, which was the official or customary colour used by the German Federal Railways.

This colour is available, like many other RAL shades, in a silk matt gloss at “Oesling Modellbau”. Since semi-transparent, greenish glass insulators cannot be reproduced credibly in the model, we give those in our model a ceramic appearance by painting them with a brush and with Revell 84 “Brown leather mat”.

With that done, it is now time to turn to the installation of the three flexible tracks (Märklin 8594). We deliberately do not want to use any of the shorter standard tracks and prefer continuous pieces of track. Half way along each track, we solder a feeder wire to the rails, in order to allow us later on to turn this into an operational diorama or at least take photos of illuminated locomotives and coaches.



When selecting the wires, we follow Märklin's colour scheme and use 0.25 mm<sup>2</sup> Brawa wires for digital operation instead of just 0.14 mm<sup>2</sup>. We solder the wires in the middle directly to the outer edges of the rails. This requires some practice to avoid melting the plastic sleepers.

We follow Märklin's colour scheme and choose red (3211) and brown 0.25 mm<sup>2</sup> wires (3212) from Brawa for digital operation. To facilitate a quick, strong and safe connection, we that the solder flows well and we can solder quickly but hot and therefore safely, we use a soldering flux paste. If the heat is applied for too long, the plastic sleepers can easily melt, while the rails partially dissipate the heat.

But this also means that we have to afterwards clean the soldering joints from acidic residues with water and an old toothbrush. By the way, we will later foresee the possibility to install a transformer and controls on the back (landscape side) of the diorama.

We can now put the tracks on the base and align them according to the markings. At this stage and where necessary, catenary pole bases have to be placed underneath the tracks. After positioning, the bases are immediately fixed.

Initially, we were undecided about attaching the tracks with nails, screws or contact glue. Screws are the easiest to remove or reposition, which is why the decision was again made in favour of the above-mentioned mini screws from "Peter Post Werkzeuge".



The rail flanks get a rust patina with air-brushed Tamiya paint. In order to keep paint from unwanted areas, we use a self-made spray stencil made of polystyrene pieces.

The rail flanks now get a rust patina by means of an air brush. Our colour of choice was Tamiya red- (XF64). Self-made stencils made of poly-styrene sheets from Evergreen (available from Faller) protect the sleepers from too much unwanted paint.

After drying, we can now also put the different platform components into place, align them and glue them together (Uhu plast liquid) and permanently attach them to the wooden base with Uhu power glue. Until the glue has hardened. We then weigh down the long parts until the glue has hardened and in order to keep them completely level.

Remaining gaps, especially to the base plate of the reception building, are filled and sanded with Revell Plasto. At the locations of the catenary poles, the holes must now be drilled into the platform and widened to a square using a needle file (Faller)

Afterwards the masts are cast into the holes, as already mentioned. The edges of the glued joints are removed and smoothed only after drying. Finally, the platform and the station base plate can now get a light grey colour coating from a spray can.

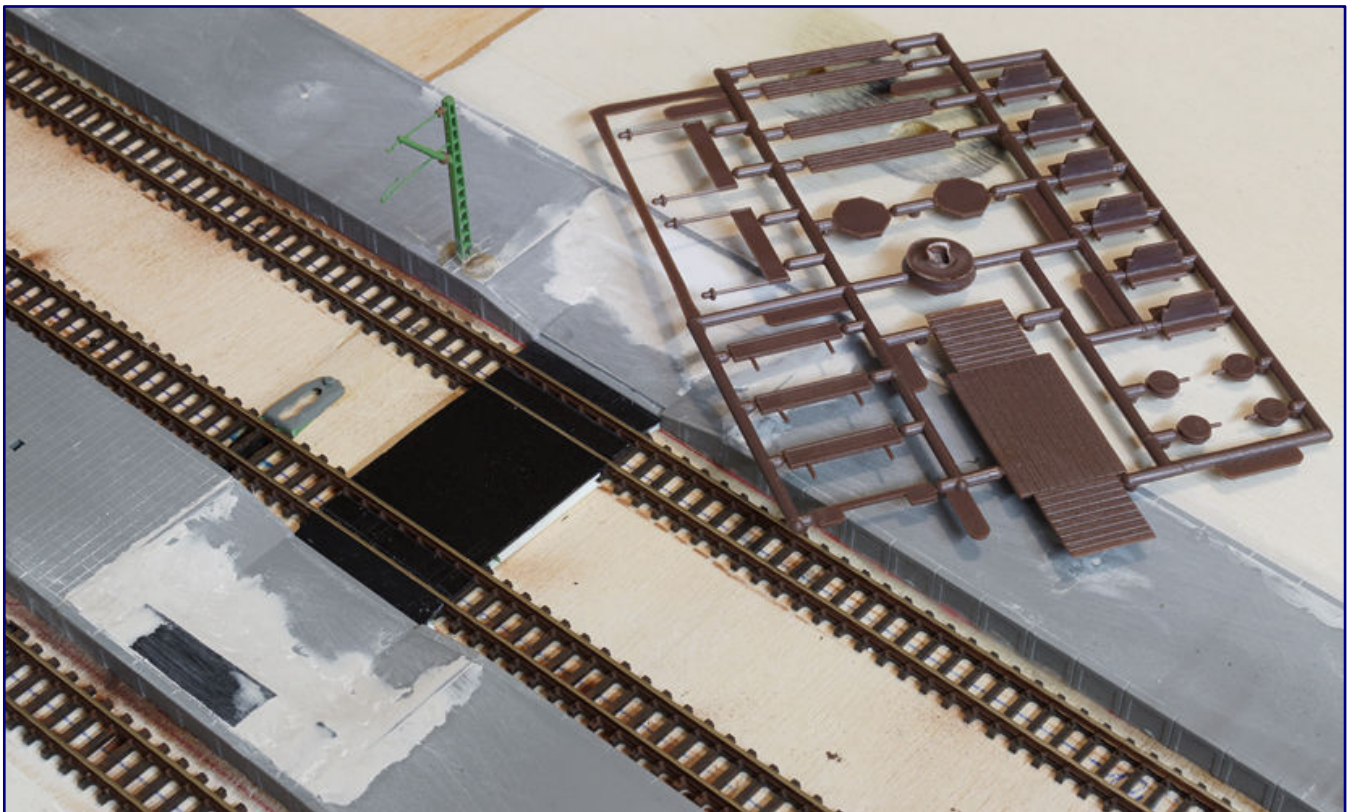


Apart from helping to remove any plastic shine, this coating also has the function of harmonizing the appearance of the platform, its manipulated sections (poured holes and drops) and the base plate for the station building.

It is very important to protect the already weathered rails with (regular) masking tape and the reseda green painted catenary masts with Tamiya masking tape (10 & 18 mm wide) from any unwanted paint. Otherwise, there will be a thin grey haze on them, which will ruin our work!

Some preparation is now required for the track bed, which is almost ready to receive the ballast. But before that, we will build the crossing between tracks 1 and 2 right where the platforms drop.

To do so, we cut several layers of polystyrene sheets (Evergreen; distributed by Faller) in the width of the original Kibri parts (which are unfortunately too short for our purposes), glue them together and adapt them to their surroundings with Revell 47 (mouse-grey matt) and a brush.



Since the Kibri components from the kit (on the right) do not fit anymore between the tracks, we have to build the crossing ourselves from Evergreen sheets. It is important to have a underlay between the tracks and a flush finish with the rail heads, whilst ensuring that the wheels and their flanges are not obstructed during passage.

Next to the signals, Indusi track magnets (large version) for train control are now installed. We found parts (044301) from Ebert Modellbahntechnik's N-gauge product range to be suitable for this. We paint them yellow and grey in line with era IV prototypes and glue them to the track. Track power boxes from the same supplier will follow in the next part.

The ballasting of the tracks will be done the old fashioned way. We deliberately choose a grain size that is also suitable for N-gauge, because they make for a better and more coherent overall perception than a ballast with a true to scale grain size. After all, one main visual reference point when viewing a model railway track is the height of the track which is always to the points of comparison of the eye, such as the rail flanks, are always too large in any gauge.

The signals are temporarily put in place in order to get the ballast up to their bases but without accidentally filling up again the holes for the signals. The ballast, optionally from Noch or in our case an older gneiss ballast from Tams from our leftover stock, is now distributed out with the help of suitable tools. Outside the platform areas, we use once again and to good effect a device from Modellbahn Union (MU-Z-A00001 Z ballast aid), which comes as a laser-cut kit in five parts.



Before ballasting the tracks, we install the two semaphore signals (Viessmann 4800 and 4801) and two track magnets from Erbert Modellbahntechnik, which we have previously painted according to their prototype colours.

In the platform area, we use a folded, thin piece of cardboard as a dosing aid, and then bring the ballast into shape everywhere with a bristle brush. Afterwards, it is first sprayed from some distance with water until moist (with a little dish soap added to the water). This makes for a better absorption and diffusion of the ballast glue and avoids washing away parts of the ballast when applying the glue.

### Himmelreich station – what's next?

#### Part 3 (August 2020):

The sub-terrain structure and scenery grows, whilst the road is built according to historical patterns. Signals, overhead line, platforms and street lighting will follow. Finally, detailed scenes including figures are added.

#### Part 4 (September 2020):

Final work on the diorama, including wiring all electrical components and building an integrated control panel. And to make sure that the finished piece will cut a good figure at exhibitions, the wooden base will also be painted.

By the way, we mixed our gravel glue from Noch latex glue (61135), some water and a drop of dish soap.

It retains some flexibility after drying which helps to muffle noise from the tracks. But now we first have to wait at least a day until the glue is dry. Good things take time.





The material for ballasting is ready: ballasting tool, a bristle brush for spreading and aligning, gneiss ballast from Tams and the latex glue from Noch, which we dilute and mix with a drop of dish soap. The spray bottle contains water whose surface tension has been reduced (also with some dish soap) to wet the ballast before applying the glue.

**Manufacturers' websites:**

- <https://www.brawa.de>
- <http://www.erbert-signale.de>
- <https://www.faller.de>
- <https://viessmann-modell.com/kibri/>
- <https://www.maerklin.de>
- <https://www.modellbahnunion.com>
- <https://www.modellland.de>
- <https://www.molto.de>
- <https://www.noch.de>
- <https://www.oesling-modellbau.com>
- <https://www.revell.de>
- <https://www.tamiya.de>
- <https://tams-online.de>
- <https://www.uhu.de>
- <http://www.peter-post-werkzeuge.de>
- <https://viessmann-modell.com>



Spende und werde ein Teil von uns.  
[seenotretter.de](https://www.seenotretter.de)

OHNE  
DEINE  
SPENDE  
GEHT'S  
NICHT

Einsatzberichte, Fotos, Videos und  
Geschichten von der rauen See erleben:

    [#teamseenotretter](https://www.instagram.com/teamseenotretter)



Spendenfinanziert



Note for English readers: The literature section that follows is not translated into English because the original texts of the books involved are in the German language. The original German is left here for information purposes only.

## Blicke in die Nutzfahrzeuggeschichte Erschene deutsche Marken

**Autos und damit auch Nutzfahrzeuge spielen auch auf der Modellbahnanlage eine wichtige Rolle. Und wie die heutige Ausgabe zeigt, gibt es auch direkte Verbindungspunkte zwischen Straße und Schiene. So haben wir uns nach einem begleitenden Buch umgesehen, das (nicht nur) die Geschichte des kurzlebigen Herstellers NWF aufgreift. Auch Marken wie Goliath, Krupp oder Tempo bleiben ja unvergessen.**

Halwart Schrader  
Klassische deutsche Nutzfahrzeuge  
Enzyklopädie erloschener Marken

Motorbuch Verlag  
Stuttgart 2020

Gebundenes Buch  
Format 23,0 x 30,5 cm  
352 Seiten mit 659 teilweise farbigen Bildern

ISBN 978-3-613-04285-8  
Titel-Nr. 04285  
Preis 34,90 EUR (Deutschland)

Erhältlich direkt ab Verlag  
oder im Fach- und Buchhandel

Halwart Schrader, der den meisten unserer Leser noch unbekannt sein dürfte, ist ein deutscher Automobilhistoriker und bekannter Autor bei Motorbuch und vielen anderen Verlagen.



Auch als Herausgeber und Redakteur hat er auf seinem Stammgebiet viele Erfahrungen sammeln können und wurde bereits mehrfach mit Preisen für seine Arbeiten ausgezeichnet.

Dies qualifizierte ihn zweifelsfrei auch, eine Enzyklopädie über Nutzfahrzeugmarken zu erstellen, die heute nicht mehr bestehen, um diesem Gebiet der deutschen Verkehrsgeschichte gerecht zu werden. Immerhin revolutionierten die Erfindungen von Carl Benz und Gottlieb Daimler sowie des Verbrennungsmotors auch das Transportwesen.

Als aus Kutschen und Droschken Lastwagen und Busse geworden waren, Pferde und Ochsen auf den Feldern nach und nach von Traktoren und Erntemaschinen abgelöst wurden, da schossen auch Anbieter von Nutzfahrzeugen verschiedenster Art geradezu wie Pilze aus dem Boden. Nur die wenigsten von ihnen sind heute noch bekannt, doch einige Konstruktionen wurden zu Klassikern.

Es waren bei weitem nicht nur Borgward, Büssing, Hanomag, Krupp oder Eicher, die die verschiedenen Marktsegmente unter sich aufteilten. Die Weltwirtschaftskrise 1928/29 ließ die Zahl der Hersteller kräftig schrumpfen, verbleibende Anbieter wuchsen und wurden teilweise zu den Weltunternehmen, die wir heute kennen.

Trotzdem blieb die Zahl der Marktteilnehmer verblüffend hoch, was besonders die Zahl der Schlepperfabrikanten beweist: Nach dem Zweiten Weltkrieg waren hier immer auffallend viele große, kleine und kleinste Unternehmen übrig. Vor 1940 hatte es allein in Deutschland rund 220 verschiedene Fabrikate gegeben.

Das umschreibt deutlich die enorme Aufgabe, die der Autor zu bewältigen hatte. Entscheidend war nicht, was ins Buch aufgenommen würde, sondern was außen vor bleiben sollte. So war mit Bedacht eine Auswahl zu treffen, was als erloschene Marke gewertet werden sollte. Nicht immer bedeutete das Ende eines Unternehmens auch das Ende seiner Marke(n). Viele schlüpfen anderswo unter oder ihre Geschichte lässt sich unter völlig anderen Namen fortschreiben.

Aufgenommen ins Buch wurden daher Büssing, Goliath, Kaelble, Magirus / Magirus-Deutz oder auch Tempo, ebenso auch die einst eigenständigen Marken Daimler und Benz, nicht aber Mercedes-Benz, Ford oder Volkswagen. Nicht fehlen durfte auch die „jung gestorbene“ Marke NWF, die in den Artikeln dieser Ausgabe eine ganz besondere Rolle spielt.

Halwart Schrader porträtiert diese Marken mit ihren wichtigen Fahrzeugmodellen, wie sie im gewerblichen, behördlichen oder auch landwirtschaftlichen Verkehr eingesetzt wurden. Das tut er mit der erforderlichen Akribie und verständlichen Texten, aber ebenso in der gebotenen Kürze, um den großen, inhaltlichen Umfang überhaupt auf 300 Seiten unterzubekommen.

Unterstützt und eingerahmt wird das mit überraschend vielen und fast durchweg auch sehr gut reproduzierten Aufnahmen aus der Geschichte der deutschen Nutzfahrzeuge. Gut gefallen hat uns zudem auch die Struktur dieses Titels: Nach der Einleitung erfolgt mit der alphabetischen Reihung der ausgewählten Marken der Hauptteil des Buches. Eine sich anschließende Chronologie nennt die Meilensteine und wichtigen Ereignisse, die mit den Markengeschichten einhergingen.

Dazwischen immer wieder eingeschoben sind kurze Kapitel zu speziellen Themen, wo dies geboten schien. Sie beschäftigen sich mit Besonderheiten, technischen Ausreißern oder auch Klassikern, die sich nie durchsetzen konnten und doch immer wieder aktuell werden – beispielsweise elektrischen Antrieben in Nutzfahrzeugen.

Ein interessantes und zugleich verblüffendes Thema dieser Einklinker ist beispielsweise die erste Rückrufaktion in der Geschichte deutscher Nutzfahrzeuge, die den kleinen Hersteller Borgward traf. Seine Dreiräder waren einst aus Motorrädern abgeleitet und entwickelt worden. Als der Gesetzgeber sie als Automobile einstufte, drohten sie ihre Betriebserlaubnis mangels Rückwärtsgangs zu verlieren.

Spätestens damit sollte der hohe Nutzen dieses literarischen Werkes deutlich geworden sein: viele Informationen und Hintergründe, Wissenswertes für Geschichtsinteressierte und dazu auch ein paar unterhaltsam zu lesende Texte.

Automobilfreunde werden an diesem Band wohl nicht vorbeikommen, aber auch für Modellbahner ist es wieder ein Titel, der einen hohen Mehrwert mitbringt. Schauen wir auf den zeitlichen Schwerpunkt der meisten Anlagen, wird deutlich, wie groß die Wissenslücken heute sind.

Wer authentisch und korrekt sein und bleiben möchte, der braucht genau die Informationen und Bilder, die sich in diesem Buch finden, um ein stimmiges Gesamtbild früherer Jahre nachzuempfinden und auch mal abseits der Masse und des Alltagslebens ein paar Höhepunkte setzen zu können. Deshalb möchten wir dieses Buch unseren Lesern wärmstens empfehlen.

.....  
: Publishing pages with reference possibility: :  
: <https://www.motorbuch.de> :  
.....



## Die V 60 bei der Deutschen Bundesbahn Ausführliches Dreibein-Portrait

**Ein Baureihenportrait aus dem EK-Verlag lässt sich wohl gar nicht toppen: nach einem „roten Faden“ klar strukturiert, mit bekannten Inhalten und Themen, akribisch recherchiert und ausführlich wie verständlich abgearbeitet. Und doch gleicht kein Werk dem anderen, was sicher auch am persönlichen Stil der Autoren liegt. Im heute vorgestellten Band wird die V 60 der Bundesbahn behandelt, die auch in der Spur Z ein Klassiker und wieder höchst aktuell ist.**

Manfred Traube  
Die Baureihe V 60 - Band 1  
Technik und Einsätze bei der Deutschen Bundesbahn

EK-Verlag GmbH  
Freiburg 2019

Gebundenes Buch  
Format 21,0 x 29,7 cm  
352 Seiten mit 478 teilweise farbigen Fotos

ISBN 978-3-8446-6021-0  
Art.-Nr. 6021  
Preis 49,90 EUR (Deutschland)

Erhältlich direkt ab Verlag  
oder im Fach- und Buchhandel

Auf zwei Bände aufgeteilt werden musste die Geschichte zur Entwicklung und zum Einsatz der bekanntesten Rangierdiesellok der Bundesbahn: die dreiachsige V 60. Sie fehlt auch auf keiner Modellbahnanlage, was ihre Bedeutung bereits unterstreicht.

In der Spurweite Z war sie in den letzten Wochen und Monaten auch wiederholt ein Thema in Foren. Die längst nicht mehr zeitgemäße Konstruktion von 1972 wurde dort durch feinere Stangen und ein völlig neu konstruiertes Fahrwerk so weit aufgewertet, wie dies möglich schien.

Durch einen Motorenwechsel bietet sich zudem die Option, auch das Führerhausdach weiter nach unten rutschen zu lassen. Solche Mühen erfährt ein Modell nur, wenn es ohne Alternative und dennoch unverzichtbar ist – keine Frage, auch im Maßstab 1:220 spielt die kleine V 60 eine Hauptrolle.

Manfred Traube hat die Herausforderung angenommen und zusammengetragen sowie strukturiert, was in der nun schon über sechzigjährigen Geschichte des Dreibeins nicht nur für Modellbahner wichtig und wissenswert ist. Den zeitlichen Schnitt zwischen dem heute zu besprechenden Band 1 und dem folgenden zweiten Teil, zieht er bei der Gründung der Deutschen Bahn AG zum 1. Januar 1994.

Die Deutsche Bundesbahn nahm schon in den ersten Jahren ihres Bestehens in Zusammenarbeit mit der Lokindustrie die Entwicklung einer Diesellokomotive auf, die im leichten und mittleren Rangier- wie auch leichten Streckendienst zum Einsatz kommen sollte.

In diesen Diensten erwiesen sich die bis dato vorherrschenden Dampflokomotiven am unwirtschaftlichsten, zumal hier häufig anderweitig nicht mehr brauchbare Länderbahnmaschinen ihr Gnadensbrot



verdienten. Trotz noch hoher Diesel-Kraftstoffpreise war die Zeit reif für die Traktion mit Verbrennungsmotoren.

Der Autor beginnt mit einem kurzen, geschichtlichen Abriss, der die Geschichte und Probleme der Dieseltraktion, insbesondere der Leistungsübertragung, herausarbeitet und verständlich macht. Die Rolle der Wehrmachtsdiesellokomotiven als direkte Vorgänger der V 60 und erste Bauarten mit Stangenantrieb und hydraulischer Kraftübertragung stellt er ebenso verständlich heraus.

Dem Leser wird auch klar, warum die Bundesbahn bei der V 60 trotz erster guter Erfahrungen mit dem Gelenkwellenantrieb (V 80 und V 200) dem schon bald nicht mehr zeitgemäß erscheinenden Stangenantrieb den Vorzug gab.

Die Geschichte der kleinen Rangierlok beginnt schließlich 1955, als Henschel, Krauss-Maffei und MaK vier Probelokomotiven übergeben. Fast nahtlos schließt sich die Serienbeschaffung an, die schließlich in einer schwereren Bauart mündet.

Bis 1963 erhielt die DB insgesamt 942 Exemplare dieser Baureihe, die lückenlos hinsichtlich der Lieferliste der beteiligten Hersteller im Buch dokumentiert sind. So wird auch dieses Buch wieder zu einem Standardwerk der Eisenbahnfachliteratur, das in diesem Fall vor allem auch den Traktionswandel im Rangierdienst festhält.

Doch die V 60 war zeitweilig, wie etwa auf der Stichbahn Falls – Gefrees, auch im Personenzugdienst anzutreffen, als wahre Anekdote sogar kurzzeitig im Schnellzugdienst. Wegen ihres guten Bewährens im Betriebsdienst fand sie auch im Ausland Verwendung, überwiegend nach der Ausmusterung bei der Bundesbahn wegen Fahrzeugüberhangs.

Das wird im Teil 1 im Zusammenhang mit der ausführlich erläuterten Einsatzgeschichte in den Betriebswerken schon deutlich, ausführlich aber im noch folgenden Teil 2 behandelt. Zu allen Direktionen (abgearbeitet von Norden nach Süden) leitet Manfred Traube seine Ausführungen mit einem kurzen Abriss zu Schwerpunkten, Wandel nach Kriegsende und Besonderheiten ein.

Ebenso ausführlich wurden zuvor die Entwicklung, technische Merkmale zu Getrieben, Motoren und Hilfseinrichtungen sowie die vielen Versuche mit Doppeltraktionsteuerungen, Rangierfunk und automatischen Rangierkupplungen beschrieben. Den Abschluss bildet hier der Umbau zur funkferngesteuerten Baureihe 364/365 für den Rangierdienst.

Gut ausgewählt und wiedergegeben wurden auch die begleitenden Fotos: Sie dokumentieren wohl alles, was in den Texten behandelt wird, lassen diese Baureihe aber auch gleichzeitig in verschiedensten Landschaften und Umgebungen wieder lebendig werden. Auch der Wechsel ihrer Lackierungen inklusive Versuchsanstrichen taucht hier auf. Großen Anteil daran hat auch ein 16-seitiger Farbteil am Ende des Buches.

Unsere Zusammenfassung entspricht nahezu der fast jeden anderen Bands aus der Reihe von Baureihenportraits: Dieses Werk ist eine gelungene Dokumentation der wichtigsten DB-Rangierdiesellok, die längst nicht nur Technikbegeisterte anspricht.

Es ist ein weiteres Standardwerk, das auch Historiker und gewöhnliche Modellbahner mit Leidenschaft fürs Vorbild anspricht, rundum informiert und begeistert. Es sollte wirklich in keinem Bücherregal fehlen. Wir freuen uns auf Teil 2, der für den kommenden Jahreswechsel avisiert ist.

.....  
: Publishing pages with reference possibility:  
: <https://www.ekshop.de>  
: <https://www.eisenbahn-kurier.de>  
: .....



Readers' letters and messages

## Zetties and Trainini in Dialogue

*Thank you for each letter to the editor and all the feedback that reaches us. Write us (contact details are in imprint) - Trainini® lives from dialogue with you! Of course, this also applies to all suppliers in Z gauge, who would like to introduce innovations here. A representative sample is our goal. Likewise, here we note any events or meetings with significance to Z gauge reference, if we are informed in time.*

### Imparting of a reader:

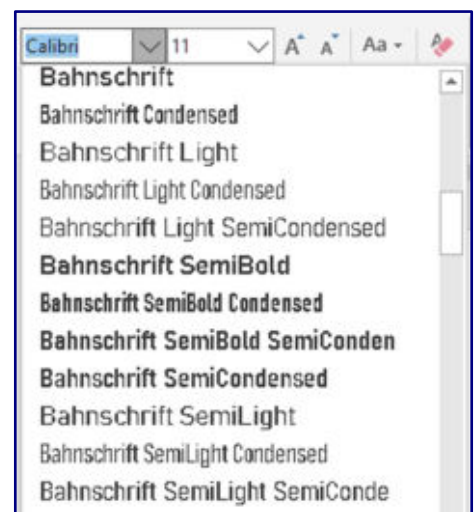
Thank you for your very good magazine. You will find the font "DIN 1451 Mittelschrift DB Regular".

You can show this to the readers and have it downloaded. Good luck to you.

Marc Vandenberg, Hasselt (Belgien)

Answer from the editors: DIN 1451 fonts are available from commercial providers such as Adobe or Linotype in a paid form. However, fonts are also available on the Internet as free fonts for private use. Most of them were created by model railroaders for model railroaders themselves and often do not contain a complete character set.

We don't want to offer fonts ourselves through our magazine, so instead we provide a frequently recommended and easy to find link: <http://www.modell-bahn-tipps.de/downloads.php>. By the way, a very similar font, which can be used well for hobbyists, is called "Bahnschrift" (railway script) and is also available in the current versions of Windows 10.



### New Products from Micro-Trains in July 2020:

The C&O's cameo test series is continued with wagon number 5 (item no. 505 00 425), which also has different colour graduations on both sides. At the same time, two spacious 50-foot freight cars each with external box struts, sliding door, and without roof walkways will appear for the New York Central (511 00 281 / 282) and the Denver & Rio Grande Western (511 00 291 / 292).

MTL models are available in Germany from Case-Hobbies (<http://case-hobbies.de>).

### No open house this year:

As was unfortunately to be expected in view of the current pandemic situation, Märklin has announced that it will not be holding an open house day at the main Göppingen plant this year. This was planned for September, when the summer holidays are over in all German states. It was also announced that there would be timely information regarding the opening of the "Märklineum" exhibition.

### High-quality seals thanks to Bergswerk:

Marco Bergs has introduced new clear coats under his premium brand Bergswerk (<https://www.bergswerk.de>). The four new products are water-based and, according to the manufacturer, not only seal model surfaces with high transparency, but hold firmly.

Thanks to an integrated UV blocker, they also protect the model and top coat from fading and colour changes caused by ultraviolet radiation in daylight. The clear lacquers are already prepared and ready for use and spraying and can be precisely measured thanks to a fine dropper bottle,



Bergswerk is launching its own acrylic clear varnishes as premium products on the market in four different gloss levels for every purpose. Photo: Bergswerk

Available are the gloss levels deep matt (Item No. 83211), silk matt (83212), silk gloss (83213) and high gloss (83214), each per 100 ml. According to Bergswerk, the deep matt version is the “mattiest” clear lacquer on the market. A decisive factor for successful work with it is the absence of the grey haze which otherwise frequently occurs.

#### Major bridge building in Hamburg:

The founders of the Miniature Wonderland dreamt of this for 14 years, now it finally became reality – Even, if not, in the desired way: The warehouse building, which houses the world's largest model railway layout, was connected across the canal at the rear to the building on the opposite bank.

Unfortunately, the spectacular bridge-building could not be completed in a public event, which the creators regretted very much. All the more reason for them to let the friends of the “Miwula” participate virtually in what happened in the days and nights until the early morning of 15 July 2020 (<https://youtu.be/kYsANYtRNm4>).



The second largest mobile crane in Europe lifted the 25-metre long and 39-tonne glazed pedestrian bridge over the warehouse at a height of 40 metres, where it was then anchored at a height of around 16 metres between the two buildings.



In the early morning hours of 15 July 2020, Europe's second largest mobile crane lifts the 39-tonne bridge 40 metres above the storage building. Photo: Miniatur-Wunderland.

From 2022, visitors and even small trains will be able to cross this bridge and reach the new world via it. This is to be understood literally in so far as another continent awaits the guests on the other side of the Fleet: The first stage of construction there will be South America, whose elements are currently being built in Argentina. The first segment is soon to be shipped to Germany.

Over the next ten to fifteen years, the 3,000 square meters waiting in the adjoining storage building will be used to build further and equally spectacular sections. We will keep you informed about this in the future.

Shortly after the editorial deadline for the last issue, the new funfair also went into operation in the Miniatur Wunderland. Since 2001 its predecessor was one of the attractions of the show grounds. In the meantime, many models may have been worn out, while technical developments today make many more possible.

“Over many years, our technical team has repeatedly expressed the wish to build the funfair from scratch again”, Gerrit Braun reports with a smile. And so, the model builders and technicians have built 150 new booths and rides, decorated them with over 100,000 LEDs and located a good 9,000 figures.



A daytime view into the main way of the new funfair in the Central Germany section of the Miniatur Wunderland. Photo: Miniatur-Wunderland

The eight square meter amusement park devoured 24,500 working hours and around 750,000 euros. The construction time, which had to be interrupted in the home stretch due to the Corona crisis, was around one year. Our readers can get an impression from a distance even before making a personal visit.

Under the following video link, the operators briefly present their latest attraction in just under two minutes:  
[https://youtu.be/oljz5pPoy\\_l](https://youtu.be/oljz5pPoy_l).

#### Summer new products at NoBa-Modelle:

Barbara and Norbert Heller, active under the company NoBa-Modelle, have presented a veritable flood of summer novelties, which we cannot present in detail at this point. From their 3D-printers now come some products that represent real gaps or fulfill special customer wishes.



The insert for the excursion carriage of a museum railway, shown here as a blank (item no. 5104R), was developed on customer request. Photo: NoBa-Modelle





We would like to highlight an excursion car that is intended to be used with the 8610 low side car from Märklin and turns it into an open passenger car, as it is used on some museum railways, mostly on narrow gauge.

This design was developed on customer request and is offered as a finished model (5104RF) and blank (5104R).

A giant among the summer novelties is the Wolff tower crane (3004R / 3004RF), which can be flanked by other construction site companions such as truck mixer, concrete pump (in working or driving position) or bulldozer Hanomag D 600 D.



The OEG's half-train as a blank (5702R) or even with drive (5702.1R), the historic München (Munich) tram (5701R), and five matching tram catenary masts (10338R), bring variety to urban scenes.

Two ice carts (10602R), three market stalls with charging baskets (10603R) or the Piaggio delivery service (8073) round off the urban offer.

The historic München (Munich) tram (photo above) is among the summer new products as is the concrete pump, which is available in either driving or working position (photo below). Both photos: NoBa-Modelle.

But also Hollywood swings, swivel grills, patio furniture and figures, including those with lawnmowers, can now be found in the program.



Three more summer new products we have put together here for the photo (from left to right): Concrete mixer (11012R), one of the market stalls with charging basket (10603R) and a man with lawnmower (10814R) — all still in unfinished condition.



With the freight car Tads-y (5305.3; photo above) and the makeshift packaging car MD4ie (5303; photo below) there are also two new car models. Both photos: NoBa-Modelle

(5303), a makeshift packing trolley, without any further equipment descriptions.

Even illuminated is a new ambulance (9043). This year NoBa models have also ventured into the field of building models with the colour printed Forsthaus (4121).

It's worth looking through the programme, because between the announcements compiled for the International Toy Fair and the new products now available, there are many more 3D printing implementations to be found, which we can't even list at this point.

Finally, however, we would like to give a brief explanation of the article number system: Models with pure number identification are produced in filament printing; those with an "R" after the number are resin models in high printing resolution. Finished models are additionally marked with an "F" at the end.



With the new and multi-coloured, printed forester's lodge (4121) also an entry into building model making took place. Photo: NoBa-Modelle

You can find and purchase all the new products presented and the complete range of products under the manufacturer's own pages (<https://noba-modelle.de>).

#### Recent deliveries of AZL:

The ALCO RSD-4 diesel locomotive with a central driver's cab is now also new and, technically speaking, is similar to the closely related RS3 presented in the last issue, but will initially be painted black with white lettering and typical features of the ATSF. Three different car numbers are offered (item Nos. 63305-1 to -3).

Among the new car models, we would like to highlight the Mercedes-Benz 207 as delivery service (8070), school bus (8072), panel van without (6234R) and with windows (6235R).

The Actros 6x4 is also particularly worth seeing as a skip loader in working position (6354R / 6354F). Two new wagon models have also been added to the range.

The four-axle rotary self-unloading wagon with a swivel roof of the Tads-y type is available either as a blank (5305), painted (5305.1), finished model (5305.2) or with decals (5305.3).

At the time of going to press, the most recent innovation was the MD4ie





The ALCO RS3 is also available in the extremely attractive Delaware & Hudson livery with three serial numbers among the deliveries (63309-1 to -3). The EMD GP38-2 is painted in Frisco's red-white-white-red (62523-1F / -2F) front.



Bright yellow with a black band above the window strips are the light passenger coaches in the C&NW painting scheme, which occupy the part of the coaches in July.

Offered are sleeping cars 4-4-2 (73005-1 / -2) and 6-6-4 (73105-1 / -2), dining cars (73505-0), baggage cars (73605-0), seating cars (73705-0), pulpit cars (73805-0) and mail cars (73905-0).

For the first time, the six-axle ALCO RSD-4 with ATSF addresses (part no. 63305-1; photo above) is now in the range, while the ALCO RS3 presented last month now comes in the attractive colour scheme of Delaware & Hudson (63309-1; photo below). Photos: AZL / *Ztrack*.

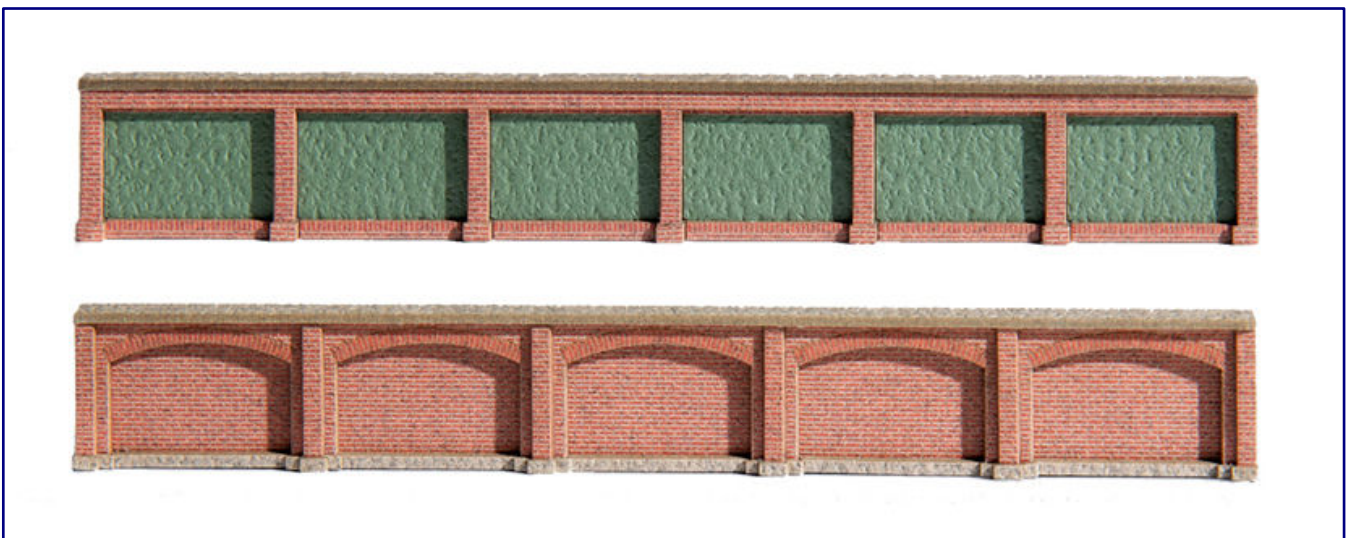
In the area of freight cars, there is a re-edition of the five-part Gunderson MAXI I container wagons from BNSF

with the so-called "Swoosh" logo. This time, however, they are already equipped with five containers each, either from Cosco (906508-1C / -2) or TMM (906508-3T / -4T).

Manufacturer photos of the current deliveries can be found at <http://www.americanzline.com>.

#### Simulate access restrictions with Archistories:

Archistories has also informed us about summer novelties, which are available immediately and currently only in their own sales department (<https://www.archistories-shop.com>). After a large number of different fences have long been available in the range, Frank Drees has once again turned his attention to the fencing of properties.

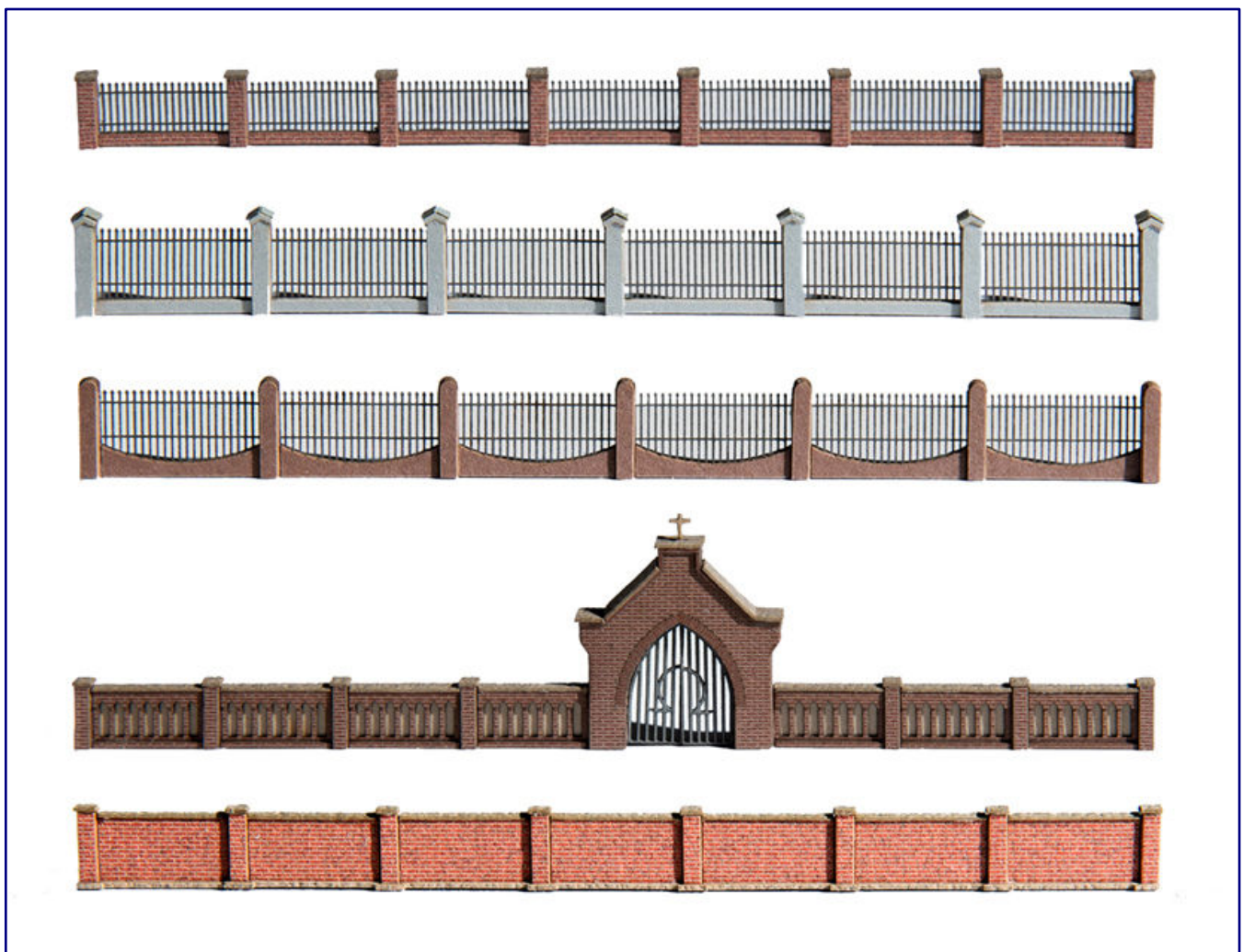


The arcade wall (item no. 811191; below) and the coffered wall 'AW Lingen' (813191; above) are two of the summer new products from Hannover. Photo: Archistories

The result is seven different walls, which are partly combined with fences. All variants are made of solid-coloured hard cardboard, are 303 mm long and between 7 and 14.5 mm high.

This new range of walls includes, for example, an arcade wall (Art. No. 811191) as a classic factory wall or route fortification with lower wall surfaces under arched motifs. The cassette wall (813191) is modelled on the factory boundary wall of the former AW Lingen and shows green painted cassettes. The rear sides of both walls are plastered in light grey and structured by pilaster strips.

The low fence with pillars (817191) is a widely used metal fence, bordered by brick pillars with sandstone covers. It is well suited for residential buildings, but also places higher demands on the skills of the model builder. The same applies to the high fence with pillars (816191), which is bordered by light grey plastered pillars with sheet metal covers.



Five other fences and walls complete the list (from top to bottom): low (817191) and high fence with pillars (816191), villa fence with pillars (815191), cemetery wall with gate (814191) and a low border wall (812191). Photo: Archistories

The low boundary wall (812191) can be used in many ways in townscapes and industrial zones. This simple brick wall has pilaster strips and sandstone elements on both sides. The villa fence with pillars (815191) shows Art Nouveau forms in the fence grid and is bordered by medium-brown plastered pillars that are rounded off at the top. Here, too, advanced skills are required for assembly.



This year's spring new product is completed by the cemetery fence with gate (814191). The cemetery wall is elaborately decorated with plaster surfaces, while the rear side is simply bricked and structured by pilaster strips. A cemetery gate with Omega signs completes this kit.

#### **New Grasmaster delivered in both versions**

Noch presented its third generation of the Grasmaster at the International Toy Fair at the beginning of the year, has now been delivered to the specialist trade. The new devices work according to the well-known and proven principle, but have each received three new screens (for different grass lengths), containers and handles.

With this generation, there is now a device called "Gras-Master 3.0" (item No. 60110), which is aimed at the average model railroader, and a "Gras-Master 3.0 Profi" (60112) for more demanding tasks. The electrical negative pole of both devices is still an alligator clip on a long cable.

The entry-level unit again works with a 9 V block battery and is in the same power class as the Grasmaster 2.0. Compared to its predecessor, however, the price has been reduced by around a third, which certainly makes the tool interesting for new customer groups.



The Grasmaster 3.0 with the article number 60110 replaces the previously offered device and also belongs to the same performance class. Like its predecessor it works with a 9-volt block battery. Photo: Noch

The Profi version offers significantly higher performance and covers its energy requirements from eight 1.5 V AA batteries. They supply the device with power for about 10 to 12 hours. The high voltage field generated by the electrostatic flocking device is about 16 kV, compared to 11 kV for the simpler unit.

“Evolution, not revolution” was the guiding principle for the ergonomic design of the tool, which is why both tools still look similar and familiar, even though they are no longer based on a rod torch (flashlight) housing. We are currently preparing a number of test objects in order to be able to present the professional version in practical use.



The Gras-Master 3.0 Profi (60112) is already recognizable by its slightly longer handle and operates in a higher performance class that should allow for more demanding applications. It draws its power from eight 1.5-volt AA batteries. We will be subjecting this device to an extensive practical test. Photo: Noch

Matching the new tools, the five grassing templates (60139) are now also available, which are manufactured using the laser cutting process and allow easy covering of surfaces, for example, to carry out multiple grassing in places. As long as they do not come into contact with spray adhesive or glue, they can be used repeatedly.

Three new types of grass fibres with a length of 4 mm, designed for meadows, pastures, reeds or marshes, were also made available in good time. With beige and brown fibres, dried up grasses can be represented. Delivered were the litter grass types “meadow” (08361), “beige” (08362) and “light green” (08363).

Those who do not want to build their own and want to be quickly ready to drive may be pleased that the following four model railway briefcase layouts have now been delivered, for which Noch had developed the new laser-cut building series: “Meran” (88303), “Interlaken” (88308), “Serfaus” (88313) and “St. Anton” (88318). You will find explanations of the equipment on the Noch pages or in **Trainini®** 2/2020.



**Popular new product shipped again:**

Many readers repeatedly regretted that they had not yet received one of the highly demanded Kittel steam railcars CidT 8 in DB version (item no. 88145). This model impressed with finest detailing, especially in the area of the buffer plank, and outstanding driving characteristics. Now the waiting people can be happy, because the delivery was finally continued in July 2020.

The “compartment car” (item No. 87211) packs are now also on the shelves. As a MHI special series, these cars are a supplement to the WGmh 824 for the special company train, which was presented in detail in the last issue. The set consists of one 1st class coach Am 203 and two 2nd class compartment coaches Bm 234.

The cars are painted in ocean blue/ivory (also on the front sides), excellently printed and with pictograms and modern class numbers, they replicate a previously unavailable variant. With close couplers and interior fittings, they have also opened up to a modern standard in other respects.



The three compartment coaches (item no. 87211) are intended to complete the special company train and appear as an MHI special series. As great as the joy of a 1st class carriage appearing for the first time in this lettering variant is, the interior lighting, which is not practical and disappointing all along the line, does not justify the requested extra price compared to earlier versions.

However, an unacceptable nuisance from the customer's point of view remains the insufficiently solved interior lighting. With warm-white SMD light diodes on a circuit board that is capable of both directions of travel, it is also based on a modern standard, but we have not yet been able to find the “current buffer” promised in the product description without any changes after several days of searching.

Since this has unfortunately also led to a noticeable price increase, it is simply annoying that no buffering of the current can be detected in the practical test: All three cars are extremely voltage-sensitive and react with dropouts even at the smallest changes of direction, switch runs, or unclean spots.

If the traction current is turned off, not a single second of afterglow can be detected even after five minutes of operation, which at least indicates the absence of sufficiently sized capacitors. In this form, the interior lighting is more reminiscent of carousel lighting, and is, unfortunately, completely unsuitable for practical use in night operation on layouts.

Although the anniversary year at Märklin has long since passed, it will certainly be remembered for a long time on the Era VI facilities. Deutsche Bahn AG's express locomotive 101 064-4 advertised "160 years of Märklin" from July 1, 2019.



With the help of digital printing, the different design of the 101 064-4 "160 Years of Märklin" (87677) on both sides of the Z scale model was excellently reproduced. Above is the metal construction kit motif, below the historical Märklin H0 motif.



On both sides it has different motifs on the topics “metal construction kit” and “model railway”, which came from historical catalogues and were very attractively integrated into the overall image and adapted to the modern locomotive.

We were present during the application process and presented this process and its results in a report last summer.

Now the locomotive, which is already sold out at the factory, has also arrived at dealers as a Z scale model (88677).

Elaborately coloured in digital print, the miniature reproduces all four sides of the original correctly and completely. Only the Dürr biscuit, which was glued to the front of the prototype at a slight angle, was straightened in the model.

Without a visible roof screw, with warm white LED headlights and red tail lights at the other end as well as the bell-shaped armature drive, the 101 series in its now delivered form is also up to date.

Only the somewhat oversized pantographs offer starting points for contemporary improvements. The anniversary locomotive was appropriately packed in a real wood case. This makes it a “must” not only for collectors, but for almost every Märklin fan.



**A special feature of the prototype and model is the Dürr biscuit on the front ends, whose red frame was not, as is usually the case, lifted off the red basic colour of the locomotive by a thin white one. Only on the prototype, the railway logo is slightly skewed on the opposite front side. This was not planned, and, therefore, not relevant for the production models.**

---

## Imprint

ISSN 2512-8035

Bibliographic information of the German National Library: The German National Library lists this publication in the German National Bibliography. Detailed bibliographical data and editions can be found in the DNB catalogue at <https://portal.dnb.de>.

The publication of **Trainini Praxismagazin für Spurweite Z** is voluntary and non-commercial. **Trainini German Magazine for Z Gauge** does not aim for any sources of income. This publication is governed exclusively by German law.

Contributions marked by name exclusively reflect the personal opinion of the author. This is not necessarily the same as that of the editor or publisher. Unless otherwise indicated, photos are taken by the editor.

Board of Editors:  
Holger Späing (Editor-in-Chief)  
Dirk Kuhlmann  
Joachim Ritter

Correspondent North America:  
Robert J. Kluz

English translation:  
Alexander Hock, Christoph Maier, Martin Stercken

Further voluntary work: Stephan Fuchs, Torsten Schubert

Licensed **Trainini Discussion Group** (<https://www.facebook.com/groups/1597746057122056/>): Michael Etz (**Trainini Locomotive Doctor**)

Publisher and V.i.S.d.P. is Holger Späing, Am Rondell 119, 44319 Dortmund; Contact: 49 (0)231 9598 7867 or by e-mail to [redaktion\[at\]trainini.de](mailto:redaktion[at]trainini.de).

Advertisements of events and advertisements of third parties are free of charge, but will only be accepted after availability and recognisable track Z reference. They appear separately from the editorial part on the sole responsibility of the advertiser. Advertisements from small series providers always have priority.

Letters to the editor must be submitted in writing by post or e-mail to [leserbriefe\[at\]trainini.de](mailto:leserbriefe[at]trainini.de), stating the full name and address of the responsible reader, and are always welcome. Publication is reserved to the editorial staff. The editorial team always endeavours to present a representative picture and therefore to take every submission into account.

By submitting pictures, photos and drawings, the sender agrees to the publication and indemnifies the publisher against any possible claims by third parties. This expressly includes a future repetition in the magazine, annual video as well as in brochures and posters.

All company names, trademarks and designations mentioned in this publication belong to the respective manufacturers or rights owners. Their reproduction takes place without guarantee of the free usability. For misprints, errors, price quotations, product descriptions, building specifications or transmission errors of any form whatsoever, the editorial staff and publisher assume no liability.

**Trainini Praxismagazin für Spurweite Z** is published monthly (without guarantee) and is available to all interested model railroaders, especially friends of gauge Z, to download free of charge and for a limited time from <http://www.trainini.de>. Downloading may incur third-party connection and network service provider costs. The placement of only the complete magazine on other domains is expressly permitted after it is no longer available on **Trainini**'s own pages, and as long as the download is not offered for a fee.

All contributions, photos and reports are subject to copyright. Translation, commercial printing and any other form of reproduction, even in part, require the prior express consent of the publisher. Unauthorized commercial use will not be tolerated.

**Trainini®** is a legally protected trademark, registered in the register of the German Patent and Trademark Office (Munich), No. 307 30 512. The trademark is owned by Holger Späing, Dortmund. Misuse will not be tolerated. All rights reserved.