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German Magazine for Z Gauge

International Edition

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for railroad enthusiasts
in the scale 1:220
and Prototype**

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Lots of Traffic in the Sixties

Greatest Era of the Steam Crane
A Water Tower Project

Introduction

Dirk Kuhlmann
Editor

Dear Readers,

For over 50 years, the 1:220 scale has been firmly anchored in our minds. In every decade, with the simultaneously growing range of products, extraordinary and highly attractive Z-gauge layouts have been created.

Some have even survived the times and have been given a place of honour in our very personal charts. In other gauges, the press likes to talk about super layouts, and this is exactly where “Werdersheim” belongs, which we will portray in detail today.

The choice of motifs and materials, suitable models and a large portion of individuality have created a very special overall result that leaves lasting impressions. The railway traffic shows itself with a versatile touch, whereby even the admirer of long trains is accounted for.

Very rare is the strict reduction to a certain year, which in the model can be classified in the middle of era III. On the following pages, dive with us into a world that seems to represent a hitherto completely unknown town in the Bergisches Land and experience everyday life there amongst the local population.

After leaving the fantasy world and arriving back in reality, a drop of melancholy remains: “Werdersheim”, as a non-portable residential layout, will unfortunately never be shown at an exhibition. But it would certainly have been an extraordinary eye-catcher there.

What we can do to counter this insurmountable gap is a presentation on **Trainini *TV***: Ralf Junius made, edited and moderated video recordings for us. As episode 16, we were able to make it available on our channel shortly before the publication of this edition.

But we have more topics to offer in this edition. And, if I have already mentioned that elsewhere superlatives are often used to stand out from the crowd, we Zetties may not be too impressed: our community seems to be full of them and this is also reflected in this edition.

Jochen Brüggemann has ventured on a self-build project that may seem easy only at a first glance. As we all know, the devil is in the detail, and he demonstrates this very clearly with his water tower project. Mathematics and model railways are two threads that rarely meet at this level.

On the manufacturer's side, too, we find offers that fit perfectly into what we have described so far. Not without reason we had awarded the Ardelt steam crane 57 to. by NoBa-Modelle, which was published last year. Today, we underline this with a construction report and some prototype history in a way that will hopefully draw your attention also!

On that note, I now hope you enjoy reading and realising your own ideas!

Sin-Z-erely,

Dirk Kuhlmann

Trainini® *International Edition*

German Magazine for Z Gauge

Editorial

Model

Prototype

Currently no items

Design

Technology

Currently no items

Literature (not translated - only in German)

News

We thank Jochen Brüggemann for his guest article and the Eisenbahnstiftung and Walter Schepperle (Eisenbahnfreunde Wehratal e.V.) for historical photo material.

Date of publication of the German language version of this issue: 31 August 2023

Cover photo:
V 60 563 has only completed a short period of service with DB and still has a much longer one ahead of it. In Werdersheim, it earns its living by shunting the many freight wagons that want to be moved along the loading road and goods shed. Meanwhile, the increasing car traffic has to wait at a closed barrier.

The Ardelt-Crane 57 to. from NoBa-Modelle

Powerful Help for heavy Loads

Rail service cars are something special. The editors of* Trainini® *know this at the latest since we have focused on them and service wagons in our reports: The success of these issues proves us right. We were all the more pleased that NoBa-Modelle recognised these signs and filled a gap in the market with the 57-ton steam crane from Ardelt. When using the layout, the model also provides a lot of tinkering fun and also offers challenges.

In **Trainini®** 1/2023 we have published our decision to select the Krupp Ardelt rail crane 57 to. (art. no. 5319R) from NoBa-Modelle as the new release of the year 2022 in the technology category.

Consciously, we advised that we chose the resin kit instead of a finished model (5319RF). However, the simultaneously announced article on building this model was delayed, which was also done with respect to this year's summer break of this manufacturer.

The crane train from NoBa-Modelle in layout use: The way from the kit to here, poses some challenges, and at the same time offers plenty of tinkering fun.

But now the time has come: We show how the model is gradually built from the resin and metal parts plus the application of paint and decals. On **Trainini** ***TV***, too, we will be covering the construction project in moving pictures in episode 16, which will be released soon, and will also discuss a few special features, challenges and tricks.

If one or two readers who didn't get their hands on it last year now still have an appetite for this giant on Z gauge tracks: NoBa-Modelle resumes production with the start of the tinkering season in October. Our report will at least shorten the waiting time a bit.

Before we present the construction of the model, we would like to take a look at its prototype. This should help to correctly classify the tasks of this rail crane and its importance. After all, there were many types of rail cranes with very different tasks and loads, which was already a topic in our magazine.

In the age of steam cranes

No sooner was the Second World War over than there was (also) a lot of cleaning up to do in the western zones. The railway had played an important role in the logistics of the war, and was, therefore, also the focus of Allied bombing raids. During their retreat, the Wehrmacht had desperately tried to stop their advance by blowing up bridges: 3320 railway bridges were affected.

To accomplish this task, a sufficient number of heavy railway cranes were also needed. One of the pre-war manufacturers of such equipment was the Ardelt company in Eberswalde. In spring 1945, the owner's family fled to Lower Saxony to escape the approaching Red Army. In 1946, they ventured a new start in Osnabrück and Wilhelmshaven with Ardeltwerke GmbH.

In 1948, an order from the Deutsche Reichsbahn of the Bi-Zone for the construction of four steam cranes with a lifting capacity of 57 tonnes went to Osnabrück. They were to be delivered as early as 1949, which was only possible if they could be based on designs that had already been built in the pre-war period. In fact, Ardelt's 90-tonne steam crane was used as a basis.

The Ardelt 57 t “Mainz 6600” steam crane is on the way to a job site on June 22, 1968 near Schwäbisch Hall-Hessental. Its jib rests on the "Mainz 6650" crane tender. Photo: Heinz Hangarter, Collection Eisenbahnstiftung

The tonne figure, which is crooked and seems arbitrary compared to the other steam cranes, is easy to explain: Only with this load capacity limit was it possible to limit the wheelset load to 18 tonnes on average, so that the counterweights could remain mounted on the crane superstructure (i.e., on the slewing cab) and there was no need for a counterweight wagon.

For the DR, which was in dire financial straits and had placed the order, economy was the highest priority at the time. And, so, it was also an advantage that the entire crane unit consisted of only five wagons: crane and protection wagons, plus water wagons, equipment wagons, and a caravan – four of which NoBa-Modelle took up for its implementation.

By the time the new cranes could be put into service, the “DR Brit-US-Zone” had already become the Deutsche Bundesbahn. It classified the four new additions as Essen 6600, Mainz 6600, Munich 6664 and Wuppertal 6602, which also indicates a focus of use in the particularly hard-hit Ruhr area.

On 13 July 1968, the 57 to. crane “München 6664” stands in Gaildorf-West station to replace bridge parts on the Kocher Bridge. The photo also shows the supplying tender 2'2' T 34 and the staging car for the crane personnel – a former “Hechtwagen”. Photo: Wolf Schneider, Collection Eisenbahnstiftung

The main tasks were to put vehicles back on the track, bridge construction sites, and the reloading of other heavy loads, also in the service of private railway customers. For particularly heavy tasks, two crane units were used together, which could then also lift heavy locomotives. Such operations lasted until 1978/79.

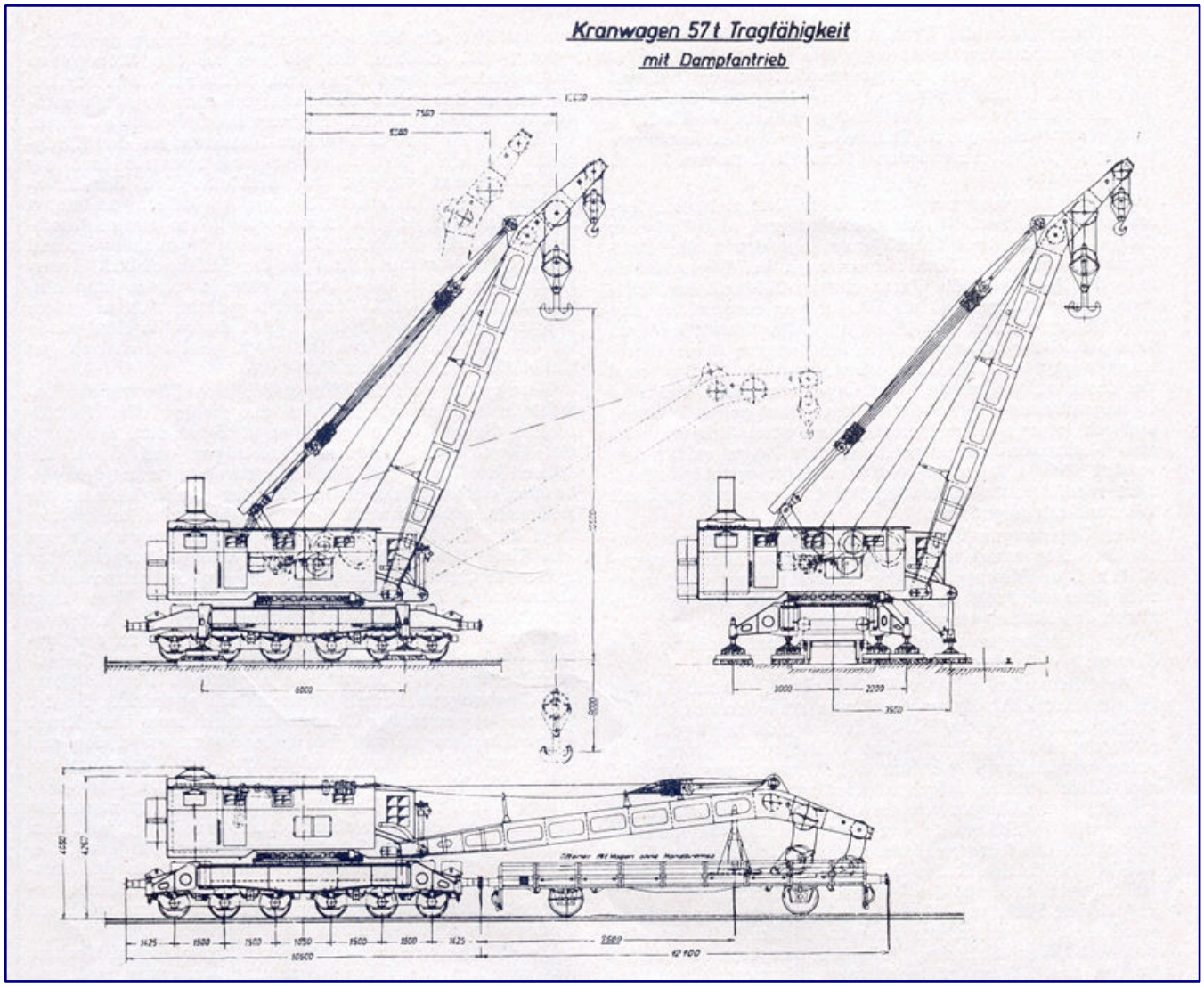
The last of the four cranes to be taken out of service was the former Mainz 6600, which was later assigned to the Ludwigshafen depot as Karlsruhe 6601. It ended its service in 1979 under the UIC number 30 80 974 0 035-9, under which UIC number it also became the model for the miniature of NoBa-Modelle. It is the only one that has been preserved for posterity at the Technik Museum Sinsheim.

continues on page 8

In 1957, Ardelt's 57-tonne cranes were still among the most modern lifting equipment the Bundesbahn had to offer. Thus, during a trade fair demonstration, the performance of the apparently golden-yellow painted rail crane is demonstrated on a tender. This was done with a low outreach but maximum support. Interesting for the model to be presented today is the layering of the construction sleepers on which the stabilisers of the supports rest. Photo: Slg. Eisenbahnstiftung

The outrigger width was 6 metres. With a total weight of 106 tonnes, the steam crane of 1949 could lift a maximum load of 57 tonnes with an outreach of between 5.5 and 7.5 metres. The maximum possible outreach of the rigid jib was 15 metres, which still allowed 15 tonnes of suspended load on the auxiliary hook all around. Unsupported, it could lift 23 tonnes in the direction of the track, but only a modest 3 tonnes in all-round operation.

But in order to be able to operate in this way, a rail crane first had to get to its place of use. In order not to exceed the clearance gauge of the tracks, the chimney top was designed to be removable and was lashed behind the crane house above the weights.



When the cranes were new, the trade publications were also devoted to them. In June 1950, Glaser's Annalen showed drawings of the crane both in the transport position and supported with the jib extended. In addition, a third drawing provided the dimensions for the highest and widest design. Drawing: Glasers Annalen, Collection Walter Schepperle

Some prototype photos show the four cranes in use without the attached chimney, which presumably was not a problem if there was enough wind to light the fire. The boom was placed on the bearing block of a protection wagon during the approach, so that it could not swing out. It, created from a stake wagon, and the crane wagon together, had a length over buffers of 22.6 m.

If the team had to be transported over longer distances, it could also be put on goods trains, as it was allowed to travel at a cruising speed of 80 km/h. However, the cranes belonged to the railway service cars and consequently did not serve public transport.

The maximum permissible speed of the 57-ton steam crane represented the maximum among all rail cranes and made it a frequently requested tool on the tracks of the Bundesbahn. They were also frequently on their way to the site of operation as a special trip.

Its steam engine may seem small in size, but its power was actually only required for the strokes. When the load was hanging on the hook, its power was not required; only the mechanics of the crane kept the load suspended. Thus, the 27-ton crane was content with a twin steam engine of 75 hp, which had an upright heating tube boiler in the rear part of the crane house.

Steam crane in operation

About two hours before the operation, it had to be heated up to reach the boiler pressure required for the work. If operations were requested at short notice, these preparations were already done during the journey (without chimney top). The set-up time on site was about 25 to 30 minutes.

Four men together made up the regular crew that was on duty here. These were always trained and experienced personnel from the respective home service depot of a crane. This was necessary to ensure the required routine and also to cope with difficult operational situations.

Helpful reading on the great role models:
The exciting subject of the various service goods and railway service cars is to be systematically dealt with in a new series of books by Stefan Carstens.

Volume 1 is presented in this issue. One of the planned follow-up volumes will also be dedicated to the various rail cranes and will fill this extremely productive complex of topics comprehensively and with background information helpful to model railway enthusiasts.

Until then, the EK photo volume by Udo Kandler presented in **Trainini®** 3/2022 provides some prototype impressions and basic framework information.

These included over height curves (up to 30 mm can be easily compensated for), confined spaces, or the obstructions on electrified lines (switching off and earthing the overhead line). The weights to be lifted had to be calculated in advance in order to be able to request the appropriate crane.

The crane was used in accordance with the DV 933 lifting regulations (DV = Dienstvorschrift; Service Regulation), to which the head of the crane unit was responsible for adhering. If the requested activities were not compatible with these, he had to refuse the assignment.

If an operation in accordance with the rules was to be expected, the transport to the immediate place of operation proceeded as follows: First, the escort wagons, except for the protection wagon, were separated from the crane train and parked. The necessary accessories such as tools, crane ropes and support timbers made of sleepers were placed on the protection wagon.

The work train locomotive then pushed the crane and protection wagon to the place of use, where, after lifting the boom, the protection wagon was then also uncoupled and pulled off again. Now the upper carriage could turn 180˚ and thus take up its working position.

If the loads to be lifted required full support, the swivel arms were swung out and underlaid with up to eight layers of construction sleepers. In the first layer, they were laid close together and occupied an area of about 2.60 x 2.60 metres.

Up to the top edge of the sleepers, they were then stacked as a cross pile and, if necessary, levelled with so-called support timbers up to the stabilisers. Spindles on the swivelling supports, with which the punches were moved, allowed fine adjustment.

If the crane crews encountered soil with insufficient load-bearing capacity, it had to be compacted before stacking could begin. It was important that the working crane was exactly horizontal and could not sink into the ground.

Another time we see the Ardelt 57 t steam crane "München 6664" on 13 July 1968 at Gaildorf West station. It still has to be heated up before it can be used, but the break in the station gave us the opportunity to look closely at its undercarriage and to study the signs with the operating instructions on the superstructure. The handbrake wheel and the tilt scale at the side of the crane cab, which we will also put down on the model, are also clearly visible. Photo: Wolf Schneider, Slg. Eisenbahnstiftung

Anyone who has looked at prototype photos of rail cranes for a longer time will have noticed that the tender, which is usually carried along, cannot be seen at all or only at a considerable distance from the crane. The transport path for the coal is recognisably too long for constant supply, nor is a hose connection with the water tank to be seen.

The reason for this is the relatively small steam engine, which also proved to be very frugal due to its small dimensions. During an operation, it was usually simply not necessary to supply the steam crane.

Only when the crane was in operation for an above-average length of time or had to make an exceptionally large number of strokes, its consumption increased to such an extent that the water supply had to be replenished in between.

Then it was also quite possible that the grate had to be cleaned and fresh coal had to be laid on. For such cases, the tender was at least ready nearby. From our point of view, this opens up a welcome opportunity not to reproduce the tender 2'2' T 34 supplied by NoBa-Modelle filled to the brim with coal, but to make its coal chute visible and to reproduce it only with a very manageable fuel residue.

Long awaited start of construction

Without any exaggeration, the creation of the 57-ton steam crane from Ardelt, in 1:220 scale by NoBa-Modelle, can be described as a personal project of the heart. As in the case with many other model railway enthusiasts, a rail crane unfolds very special charms, when in use.

It is eye-catching, arouses interest and is simply an attention getter that catches the eye even at a fleeting glance. This is the only way we can explain the extraordinary success of the small-series model, which will (hopefully) further fuel this report.

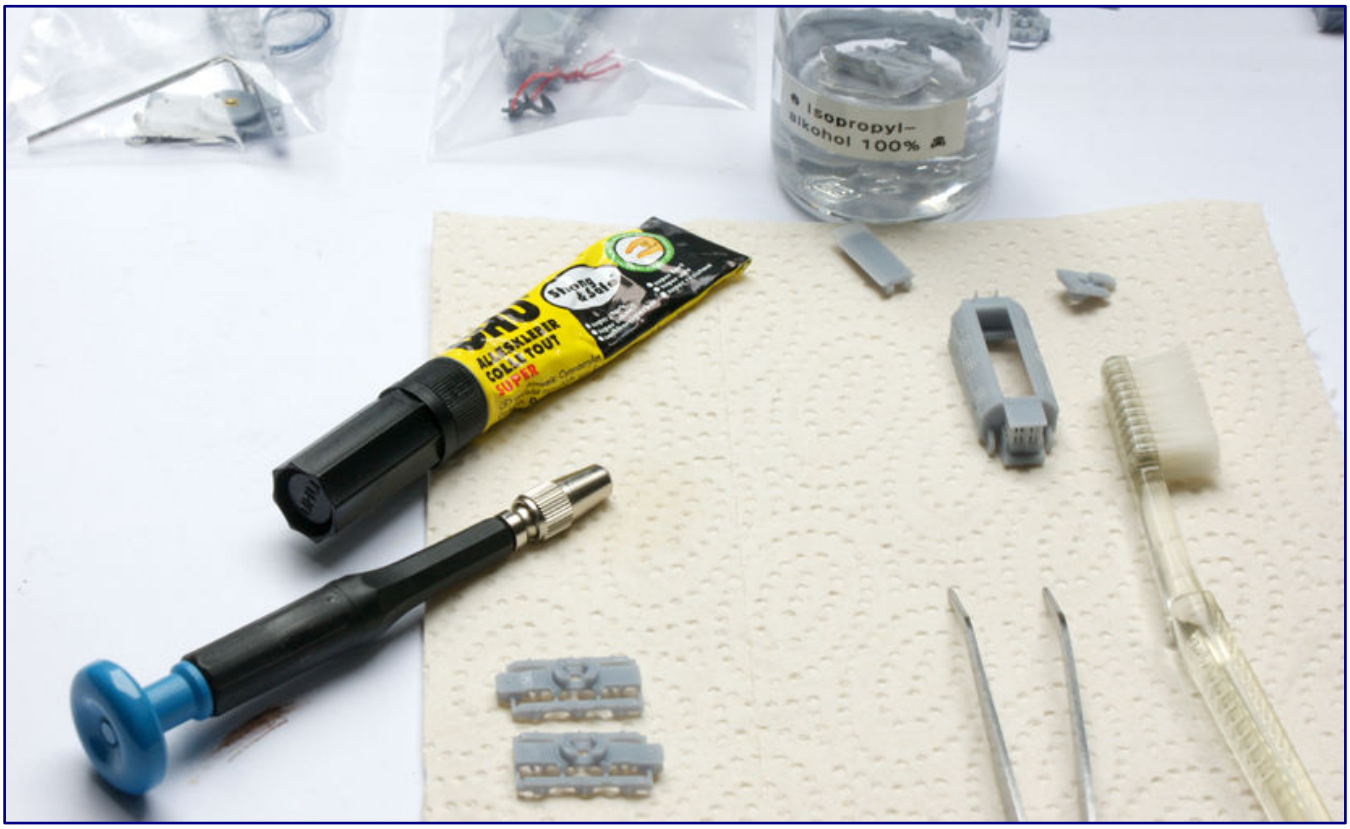
The parts for the crane and the protection trolley are delivered separately according to assembly groups: One bag each contains the parts for the superstructure and undercarriage, movable attachments (lintels and deflection pulleys), the crane protection trolley and decals. This ensures sufficient overview.

In unison, all manufacturers report in personal conversations that almost all types of construction and auxiliary trains promise success as models. If we are honest, this does not surprise us. After all, they stand out clearly and extremely pleasantly from the rest of the freight traffic, both in terms of colour and appearance. It is astonishing how long relevant types have been neglected by all manufacturers across all scales!

Fortunately, at least NoBa-Modelle has recognised this gap and responded appropriately. To build the crane train, the crane and protection wagon (item no. 5319R) and the tender 2'2' T 34 with equipment wagon G 10 Kassel (5323R) are required. The only thing missing is the staff car, but this can easily be provided from the Märklin range in the form of a chrome oxide green “Blunderbuss” (“Donnerbüchse”) car.

The two kits consist of many grey resin printed parts, brass blocks, pins, metal round profiles, screws, nuts, neodymium magnets, axles, enamelled copper wire and water-sliding decals. Already at first glance it becomes clear that there is a lot of work waiting here, because the crane is designed to be just as mobile as its large prototype.

The work starts with a bath of all printed parts in isopropyl alcohol, regardless of this pre-treatment by the manufacturer. We also brush all surfaces afterwards with an old toothbrush. We want to make sure that no material residues, chips or skin grease remain on the surfaces to be painted.



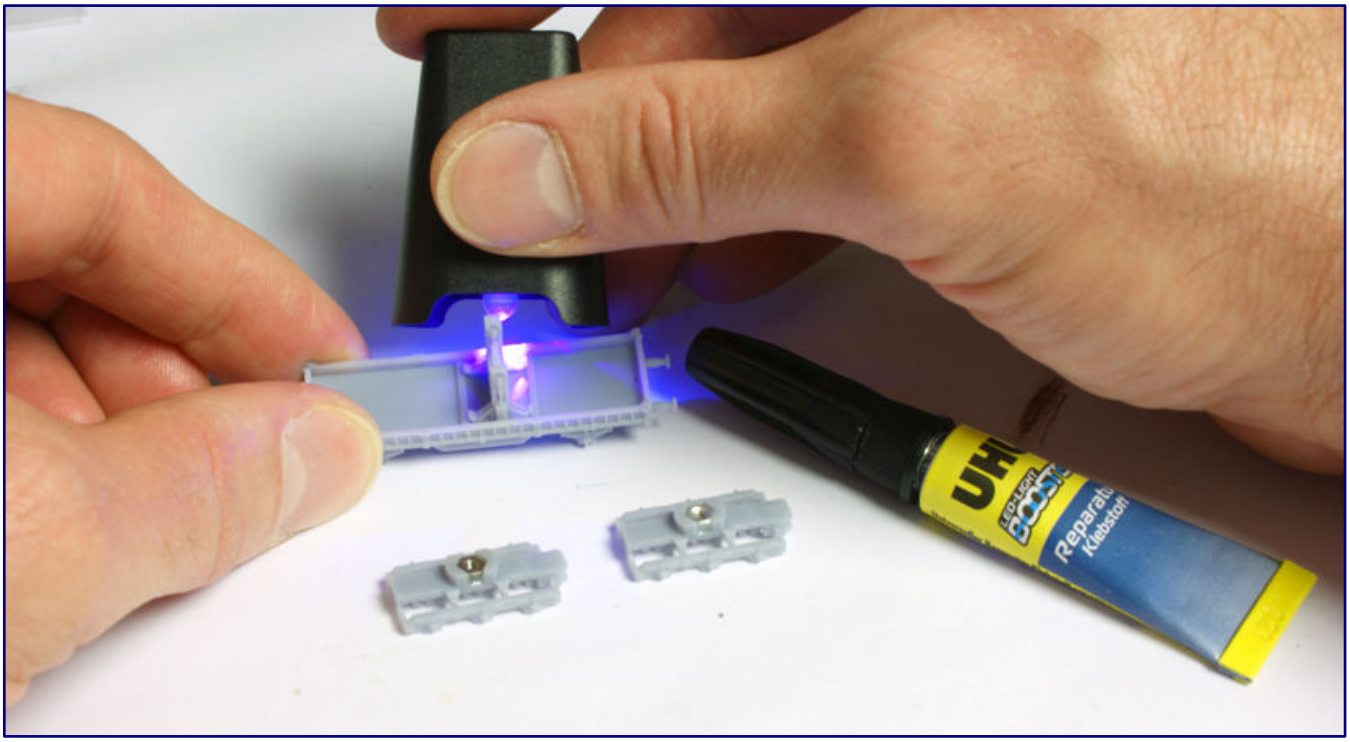
Absolutely grease-free parts are important for the subsequent colour application. Therefore, we subject the residual prints to a separate bath in isopropyl alcohol.

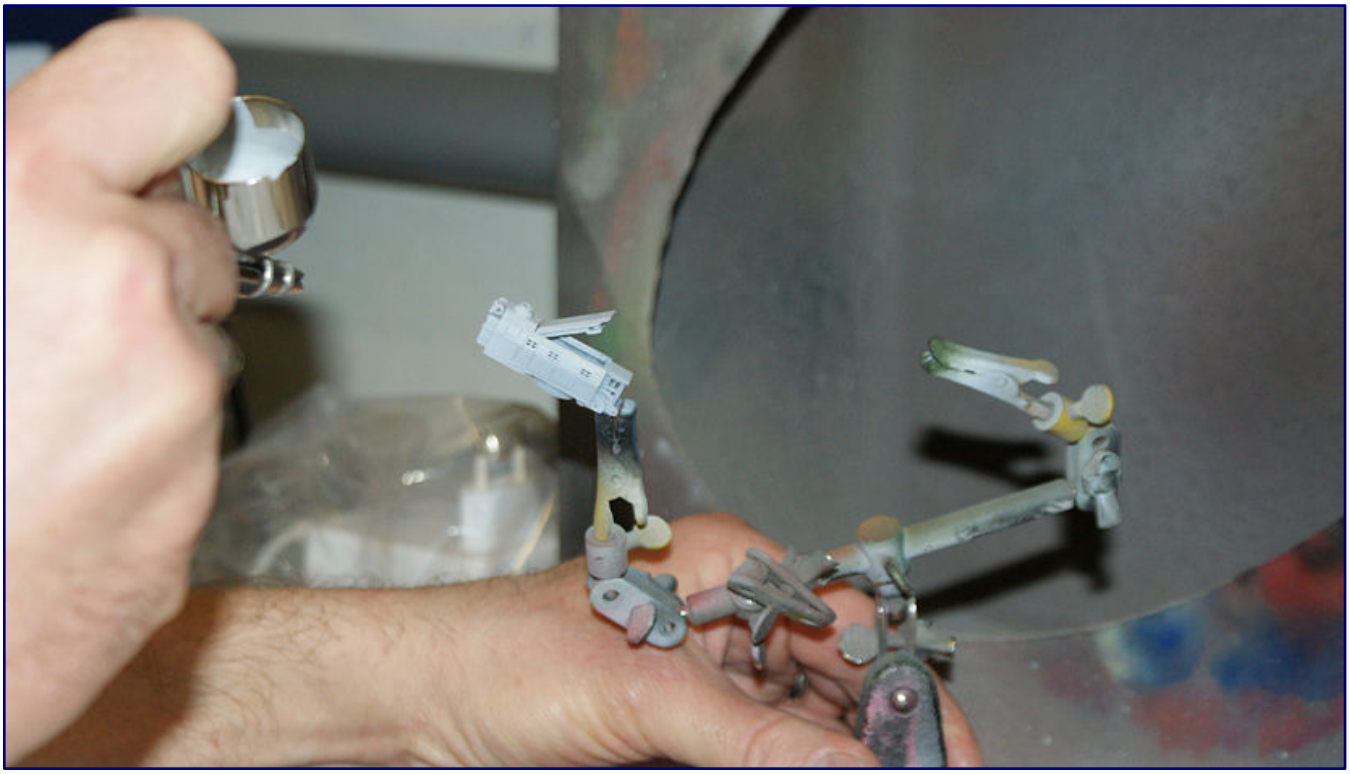
The first preparations can be made in the next step after drying. So, we glue the bearing block with Uhu LED-Light Booster onto the low side car and in the same way the M2 nuts into the bogies of the crane undercarriage and tender. The brass plates supplied are glued invisibly to the wagons, i.e., inside the superstructures and, in the case of the barrier wagon, to the running gear from below.

After that we can start the painting work, which seems to be easy because of the clearly defined areas, but which will be a challenge for us. For example, some masking work is needed to protect areas that have already been coloured with Vallejo masking tape (sold by Faller). Only in this way the roof of the equipment wagon can be set off in umber grey and the undercarriage of the protective wagon in deep black.

Contrary to Märklin's usual design, the body and the running gear consist of a single part. Masking off is not easy in this case because the platform gate and running gear have many structures.

Before applying the top colours, however, we almost forgot to prime all resin parts. For the tender and all undercarriages we used “Black Primer” from Badger (SNR-403) and for all other parts grey primer from Vallejo (74601; distributed by Faller). Both are based on water and polyurethane (PU), the light grey provides more luminosity and forms the best base for yellow paint application.



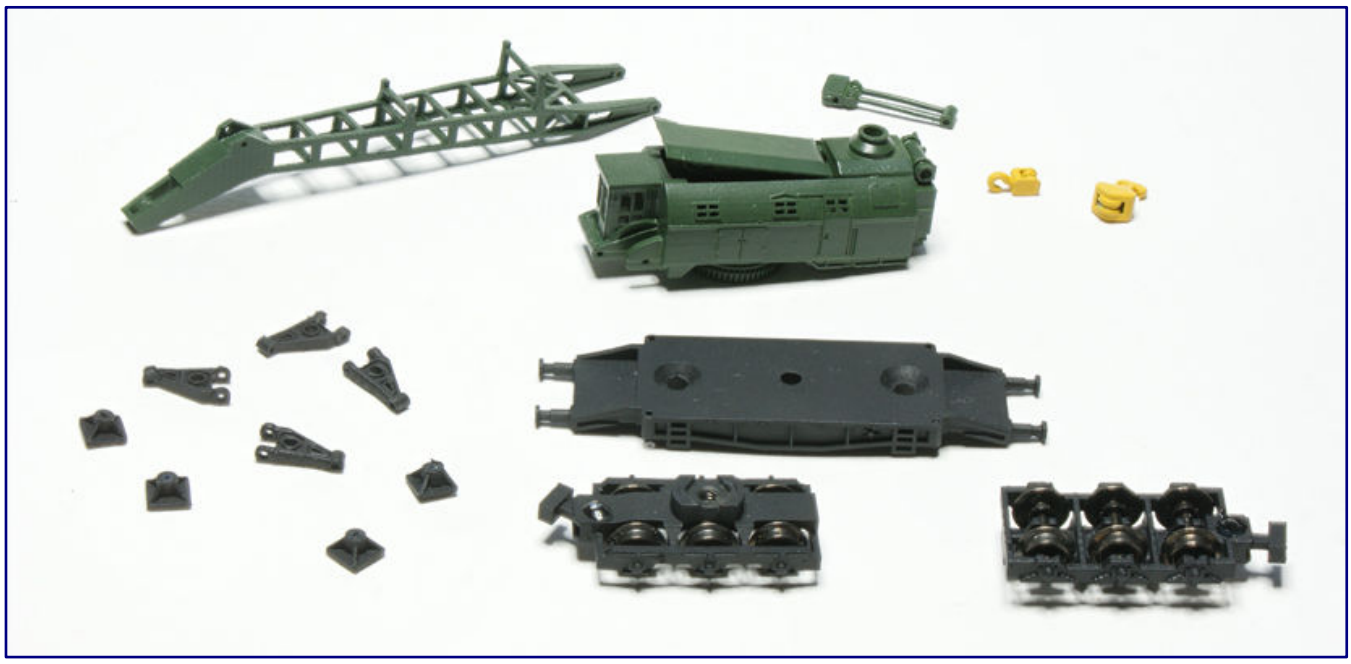


All necessary bonding is preferably done with the LED Light Booster from Uhu (photo above) because it hardens within five seconds of activation using ultraviolet light and provides the best adhesive strength of all adhesives tested, so far. Before applying the top coats, all resin parts are primed (photo below). Except for the later black parts, a light grey primer is shown throughout.

This was done with the spray gun during priming as well as the subsequent top coat in order to achieve a thin but covering application that does not cover the fine engravings. The water-based paints for this step also came from Oesling Modellbau. The following colours are required for the construction of the Ardelt crane and the additional wagons:

Art.-Nr.	Colour number / designation	Application area
81001004	RAL 1004 Golden yellow satin finish	Crane hook and auxiliary hooks
81003000	RAL 3000 Fire red satin finish	Handbrake wheels on crane undercarriage
81006020	RAL 6020 Chrome oxide green satin finish	Crane superstructure, jib, and car bodies
81007022	RAL 7022 Umbra grey satin finish	Roof of equipment car (base G 10)
81009002	RAL 9002 Grey white satin finish	Tilt scale on crane house and tender lanterns
81009005	RAL 9005 Deep black satin finish	Chassis parts, crane undercarriage and tender

The spray-painting is the step that visibly conveys the later work of the crane to the viewer, because more and more the kit parts now take on their prototype appearance and also reveal their details.



In the meantime, all parts have received their basic colour according to the layout and have been laid out here in order to be able to understand their position on the rail crane. The chimney top has been glued lying behind the crane house, which is also already assembled from a total of four parts (base with slewing ring, superstructure, chimney insert and openable roof), before the paint applications.

Brush and pen work is only required on the tender lanterns (reflector insert), the tilt scale on the sides of the crane cab, and on the handbrake wheel of the crane undercarriage. At the very end we will put a few final dabs on selected correction points with the help of a micro brush from the dental field.

Personal refinements

We are not completely chronological in our descriptions, because we always remember smaller steps that were completed long before the spray gun was used. For example, there is the chimney top that we stuck into the holder above the counterweight.

This was still guided by the original idea of being able to transport the crane on the layout in the train formation, in any case, because the movements of the bogies and the boom in the bearing block certainly catch the eye. Similarly, a crane construction site also has a special attraction.

An error in our thinking led to the temporary assumption that the jib could still be raised at any time. However, in contrast to the very simplified rope guidance of the small Märklin switch crane, the carrying ropes of the jib and those of the hooks are separate. Since they cannot be rolled up, they would then hang slack.

For the upcoming assembly steps, the metal pins are assigned to the individual parts (of the boom) according to length. The jib supports and punches are inserted and connected with the help of the pins, because the crane is reproduced in working position.

The reproduction in the upright operating condition resulted from the fact that a decision had already been made in favour of mounted supports on the swing-out stabilisers – during the journey they were removed from the prototype and were therefore also printed as separate parts.

This is because they hinder the swinging out of the bogies and cornering when mounted on the stabilisers. In order to comply with the clearance gauge, the stabilisers must be folded onto the undercarriage during transport.

So, it was clear by now at the latest that our crane would be shown in action. NoBa-Modelle has reproduced the supports on swivels; they are attached separately and held by a pin to be shortened, which is inserted from above and glued to the undercarriage.

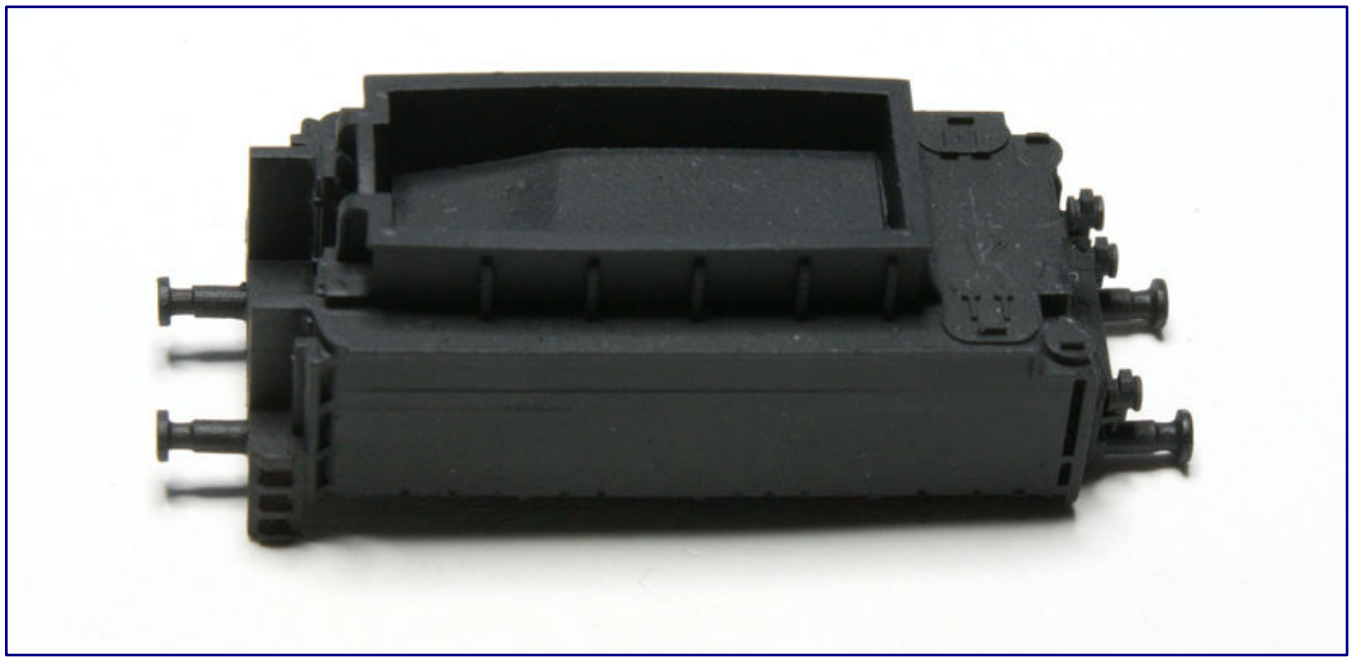
This is helpful when the crane is placed in changing locations and aligned according to the terrain structure. However, this method of construction does not help when building in transport position, because the stamps are then to be left out anyway and loaded separately. The pins are then shortened accordingly. But what does this mean for our project?

The decision was quickly made to simply purchase a second model: NoBa-Modelle finally makes it easy for its customers by offering the crane hoist disassembled into two components. Thus, only one additional crane and protection wagon is needed, the other two can also be used together with the crane in transport position.

This puts us in a uniquely comfortable position: exchanging the crane truck keeps us flexible and ensures double the fun, and it would also be possible to take up an operation with two cranes in the model: one of the two cranes would then be ready for use while the other is just being pushed to the site. Ingenious!

In the meantime, our construction report is limited to the first model we bought. We continue with the attachment of the opening roof, the boom and the pulley unit at its upper end. The manufacturer has included metal pins of different lengths for these. The position of each one is quickly clarified when a test fit is carried out.

This also indicates that, if necessary, the hole should be widened again slightly with a pin block and HSS twist drill if the paint application inhibits the feed. NoBa-Modelle itself recommends drilling out all holes with a 0.8 mm bit before assembly.



The brass weight has disappeared under a black PS plate according to my own idea, which makes it possible to reproduce the slope of the coal chute in the front area. This makes it easier to reproduce a cone of repose when the real coal is placed on top.

After all, it should move smoothly so that the printed parts are not damaged. Once everything is in place, a drop of Uhu's UV-curing adhesive helps to secure the pin against slippage and falling out.

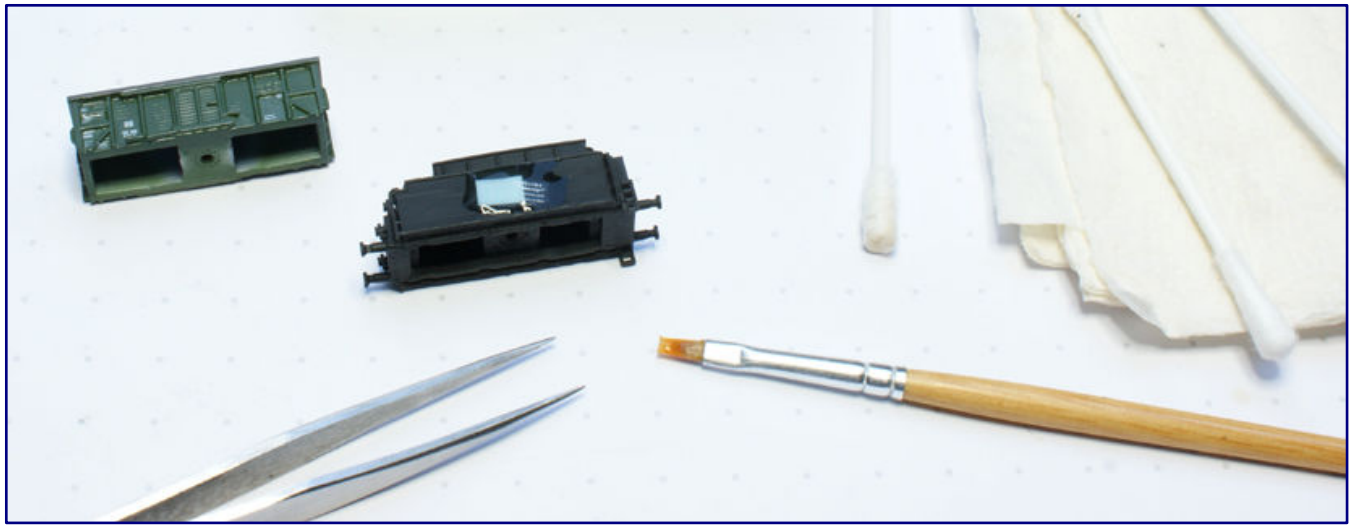
Up to this point, the construction corresponds to what the manufacturer intended. For the tender, which carries supplies of coal and water for the steam crane, the freestyle takes the form of an individual approach. That is why we do not simply fill the brass block, which is glued into the coal container to weigh it down, with coal.

There are several reasons for this: On the one hand, it would need reworking here anyway to make a cone of repose recognisable. Secondly, we don't like the structure and colour of the coal supplied, which NoBa models obtained from the Faller range. The brass block, correctly positioned, proves to be the perfect support surface for the coal chute inside the tender.

So, we measure the interior and cut out a suitable strip from a black Evergreen sheet (9113; thickness 0.5 mm). We scribe it in the direction of the coal outlet so that we can make the last part of the slide steeper. As soon as the fitting test gives the expected result, the self-made part is glued in place.

Construction progresses

Now is the right time to apply the decals on the individual models. The superstructure of the equipment wagon, the tender box in the central position, the chassis of the protection wagon and the crane undercarriage are given white company markings.



The crane protection wagon and tender (photo above) will be provided with white company inscriptions by means of (water sliding) decals. Two address plates and a coat of arms are to be applied to each of the crane superstructures (photo below). To ensure success, adhesive primer (Mr. Mark Setter) and softener (Mr. Mark Softer) are also used.

On both sides of the crane superstructure, white fields with black company inscriptions (for operation and load capacity) as well as the Ludwigshafen city coat of arms are applied. They are all cut out as accurately as possible, exactly along the print edges, and applied according to the same scheme.

The surface on the model is prepared with an adhesive primer, the decal is soaked in a water bath for about ten seconds, and placed on the lid of the jar. Here we let a drop of softener soak in to make the decal supple.

The transfer to the model is then done with the help of tweezers and a soft hair brush, which can also be used to correct the position of the decal. If it does not float sufficiently, a drop of softener will help. When it is finally in position, a cotton swab placed at the edge removes excess liquid, and the brush can be used to smooth out the image towards the edges.

Sufficient drying time must be allowed each time, especially if several fonts are to be applied to one side or if it is the turn of the opposite side and the model has to be placed on the possibly still damp side. Then, there is always the risk of unwanted changes in position or damage to the print image due to the substrate.

The number inscription (barely visible in the photo under the guide block) is sealed with Bergswerk clear varnish. The Vallejo masking tape is used again to protect the parts that are not to be sprayed.

To prevent this from happening permanently, we spray on a protective lacquer. For this purpose, we use a silk-matt clear acrylic lacquer from Bergswerk (83213). If desired, the deep matt finish can also be chosen, always following personal taste. It is only important that the base colour is silk matt or even glossy so that the wet sliders can bond with the base.

The next step is the tender. At the coal extraction point, plug-in boards are to be used, because NoBa-Modelle has reproduced their holding guides perfectly without reproducing the boards themselves. So that the coal cannot fall out freely here, the timbers must not be missing.

The pegboards at the coal extraction are made from the remainder of a wooden arch left over from the construction of a building. For gluing the material to plastic / synthetic resin, Pattex Special, which has been in the Henkel range for some time, proves to be perfect.

They look best when they are also made from the original material in the model – this was certainly the reason for the manufacturer's decision. A suitably thin layer, from which they can be separated with the help of a cutting ruler and a Mozart knife, is provided by the remnants of an architectural kit that contained wooden parts as well as hard cardboard.

With the help of the calliper gauge, the width and required height of the three boards are quickly determined and cut almost as quickly. What is needed now is a waterproof glue that bonds just as well with the resin as with the wood.

That's where Pattex Special, an adhesive for model making, comes in handy. Thanks to the dispensing needle, a tiny drop can be applied precisely to the glue spot. The three pegboards are glued in no time. Now fine coal is added. As we said at the beginning, only a very small amount should be visible in the tender, which will still be enough for the rest of the day's operation with the small boiler of the steam crane.

The finely and to scale grained material we have chosen comes from the Belgian supplier Jeweha Modelbouw (0400.5) and is made of real hard coal. Therefore, it shows matching fracture edges and different degrees of gloss, which are determined in each case by the position and direction of the fossils.

This extra-fine stone charcoal is sprinkled generously into an adhesive layer of Uhu Kraft Alleskleber (all-purpose glue). Light pressure with a finger or the stump of a brush handle ensures perfect adhesion in the adhesive. It is important that its traces are nowhere to be seen after drying.

Adhesive threads are therefore carefully removed with tweezers, the coal is poured off and reapplied in places and pressed on if there are still traces. With this conscientious, but certainly not laborious procedure, we achieve a realistic appearance that will also give our crane train a very realistic appearance.

We have always found the most suitable coal for the scale 1:220 in the product range of Jeweha Modelbouw. It is also used here and finds sufficient hold in the tender thanks to Uhu Kraft Alleskleber.

There is still a preparatory step to be taken on the crane superstructure, because otherwise access through the jib will be blocked in the subsequent construction steps: The glass reproductions in the windows of the room for the steam engine and rope pulleys, but above all of the crane operator's cabin, are still missing.

They are a case for the Micro Kristal Klear (MI-9) from Microscale. An extremely fine brush, dot glue tools and the drawing pen are required here to hit the sometimes very tiny openings safely. The adhesive varnish is always placed in one corner and then applied as a film in an oblique direction to the opposite corner so that it wets all four sides of the frame.

After drying, the originally white liquid is solid, transparent and shows a slight glass sheen. The lenticulation that can often be observed with such products is also only very slight here and is completely negligible.

Sisyphus work on the boom

The construction of our crane and its accompanying wagons has now entered a decisive phase. Enthusiastic about the photos of the prototype, which are particularly impressive because of the extensive rope work, there is no way around transferring this to the model, as much as possible.

As here when setting down the tilt scale on the driver's cab, Standard graph drawing nibs and nib holders are also used when glazing the cab windows. They prove to be valuable tools for every finest and precise colour application!

In the tiny space that remains for working, it is probably not possible to pull in all the ropes and it will have to remain with a compromise. Nevertheless, the overall picture should be reproduced, which conveys the impression of large masses and heavy loads on load-bearing steel cables to the viewer.

This then also means increasing the effort at this point compared to the manufacturer's finished model. It is a benefit that a kit inevitably brings with it, because it leaves room for own ideas. In this case, the work involved takes a back seat because it represents a fun factor, and is not to be paid for by the customer – the present model would then also explode in price, which must not be concealed.

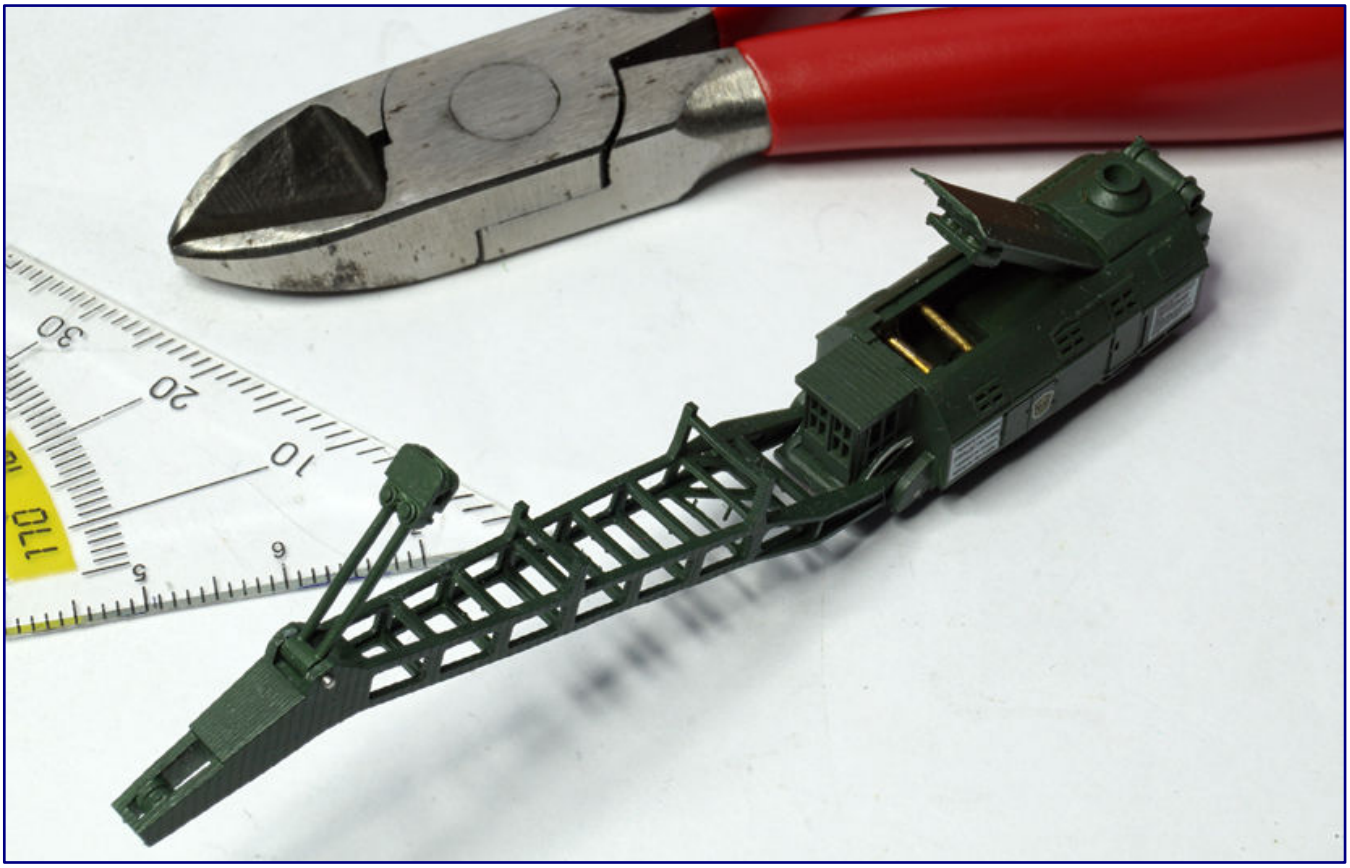
In order to be able to realise one's own ideas, additional installations are required inside the crane house: If the main and auxiliary hooks are not only attached to the jib, but their rope replicas are guided in its “machine house” in a prototypical manner, an attachment possibility is required there, i.e., replicas of the prototypical rope pulleys.

These must be sufficiently stable so that they do not break during later tensioning, must be securely fastened so that the glued joints do not represent the decisive weak point and at the same time must also be able to be used through the narrow roof opening. The material of choice for both reel replicas are therefore brass round rods from the model building accessories.

The calliper can be used to determine the width of the opening, to which sufficient mark-up is then added for the gluing points. The first profile, cut off with a suitable side cutter, is used to test the fit: can it be passed lengthwise through the roof opening, turned by 90˚ and placed in the position determined by the prototype drawing?

If all three questions can be safely answered with yes, the piece serves as a template for the second roll. With the help of a toothpick tip, we now place a drop of the UV glue (Uhu) at the front of the two positions, which has already proven its usefulness. Then the first roll is inserted as explained and placed in the prepared bed of glue.

The adhesion force is sufficiently high so that it does not fall off. This gives us time to put the tweezers aside and grab the UV LED unit to exposed both glue spots to a blue light glow, which activates the glue and cures it within five seconds. Next, attach the second roll in the same way, which now requires a little more dexterity as the space to turn the profile piece has now become smaller.



We place our rope pulley replicas at about the same height as the prototype drawing. They are held securely in place by UV adhesive, which has proven to be enormously resistant to both tension and pressure.

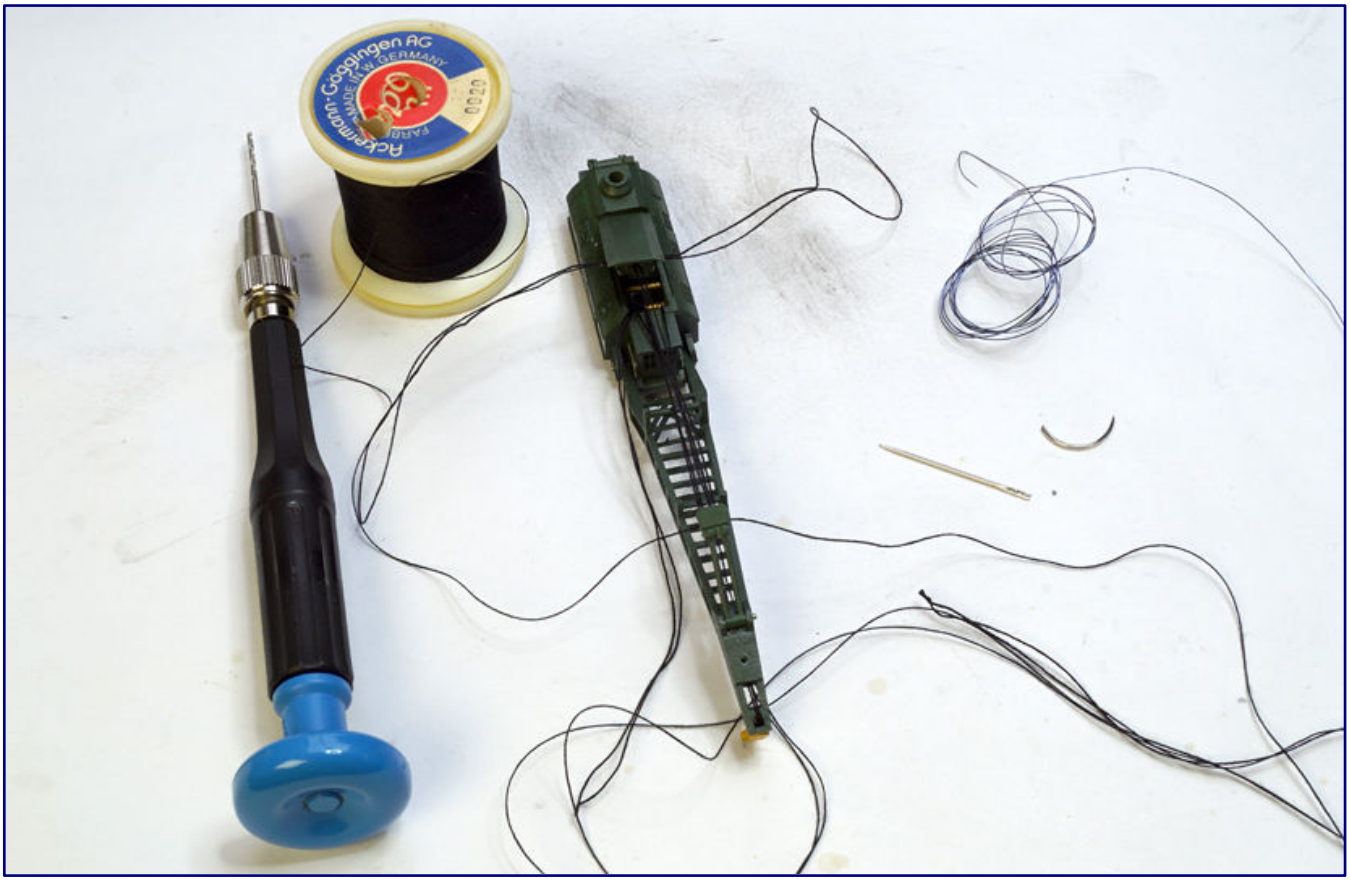
The metallic sheen of the pulleys does not bother us for the time being, this is remedied at the very end. Instead, the steel rope replicas from the crane house to the jib and up to the crane hooks now demand full concentration.

A total of four “ropes”, which are still considerably fewer than on the prototype, are to carry the boom and two lead to each of the two hooks. With eight replicas we come sufficiently close to the prototype impression. However, we do not use the enamelled copper wire supplied by NoBa-Modelle, but rather twisted thread.

The wire is more rigid and stable than the thread, but it will immediately reveal unavoidable kinks in macro shots and interfere with the prototypical effect. A thread, on the other hand, is easier to tension, but must then, subsequently, solidify in its final position.

The thought process is triggered by the fact that four of them have to pass through the narrow head of the boom end, in which the pulleys are reproduced. Due to the curve, these cannot simply be drilled out and widened in this way.

Guiding aids and even two auxiliary holes now become necessary. The thread can only be guided with a curved surgeon's needle. A classic darning needle from grandmother's sewing box is much too large in diameter. The only thing that helps here is to ask a doctor you know, because medical equipment is expensive and, in this case, cannot be ordered individually.



The elaborate retraction of the ropes, simulated by black twisted thread, into the crane boom is done with the help of surgeon's needles and enamelled copper wire as a guide. Not shown in this photo is the microsurgery tool that is crucial at the end. The auxiliary hole described in the text can be seen at the top of the angle of the boom.

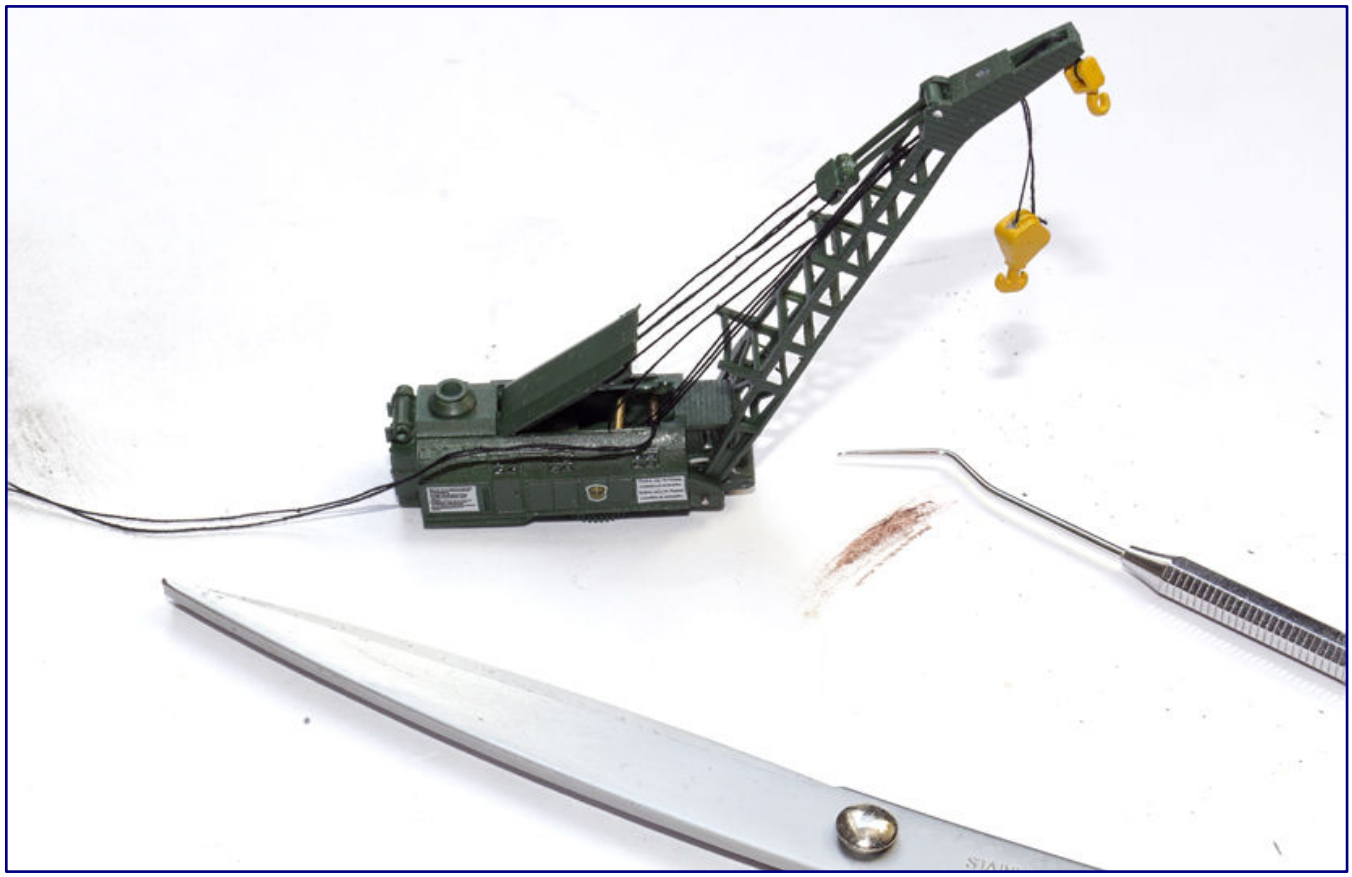
However, the first attempt is not without setbacks. While we manage quite well in the area of the crane superstructure and manage the 360˚ turns with the help of clamping tweezers and guide wire, we initially fail in the upper area of the jib, which is angled.

There is about 270˚ to go around here. The surgical needle is too thick to be passed through the narrow channel. Even an auxiliary hole on the top of the boom, which splits the total angle into two approximately equal partial angles, does not yet lead to success.

This only came about when we were given a much smaller needle with an identical curvature from the field of microsurgery. Many thanks at this point to the doctor we trust, who does not wish to be mentioned by name here!

Now a straight surgeon's needle guides the twine through the boom mast, where the fine tool takes over. With the help of the hole, the project succeeds, the loop protruding at the top can be pulled back in at the end, close the hole with the LED Light Booster from Uhu, because it can also fill gaps.

Before this, however, the ropes must be passed through the pulleys at the roof opening and the opposite end of the cantilever, tensioned and knotted in a defined length that is always the same. The glued joints are permanently secured with the UV adhesive against unintentional loosening. Only now does the apparent chaos of many thread ends begin to clear.



At the very end, all the ropes are brought to tension, starting with the support ropes of the boom, and knotted. Loose ends can be cut off, the knots secured with a drop of glue. As soon as the threads are also hardened, they seem to hang down tightly like steel cables and the crane hooks also remain permanently in the desired position.

After that, the final length of the ropes for the hooks can also be determined, fixed with knots and secured in the same way. Overhanging thread ends are cut off before the glue is applied and brought to invisible places by pulling. At the main hook (double hook) a horizontal hole through the pulley is also needed in the course of the process, because obviously paint or hardened resin.

The conclusion of this most difficult construction step is the wetting of all ropes with a liquid superglue (“Uhu superglue precision”), partly spread with a toothpick. When put under tension, the glue hardens quickly and leaves the desired image without slack ropes. Colour corrections by small dabs on the auxiliary holes make them disappear for good.

Final assembly and completion

What can be described here in comparatively few words drags on over several days during the construction of the crane. The parallel work on a video report for **Trainini *TV*** which is to follow in September, shows the dilemma again and again: extremely limited space where precise work is required. The targeted illumination of the “construction sites” also proves to be difficult again and again.

In addition, there is extreme concentration and quietness when working, which results in high body tension and requires additional rest breaks. Accepting this and taking it to heart is a key to success. A good result cannot be forced.

But once the crane superstructure with its ropes and golden hooks is in front of us, the sight compensates for all the efforts that have been necessary up to this point. The remaining activities prove to be manageable and much easier to accomplish.

The screws of the bogies engage from above through the undercarriage into the glued-in nuts. The undercarriage floor, on the other hand, is screwed from below with a hexagon socket screw in the melted-in sleeve of the tender body

Now the wheel sets are pressed in, the couplings are inserted and the superstructures are bolted to the running gears. The individual wagons are connected to each other with magnetic couplings and only have the classic “lobster claw” on the outside (of the equipment and protection wagons). This must be taken into account with regard to the different coupling shafts, but also with regard to the polarity of the magnets.

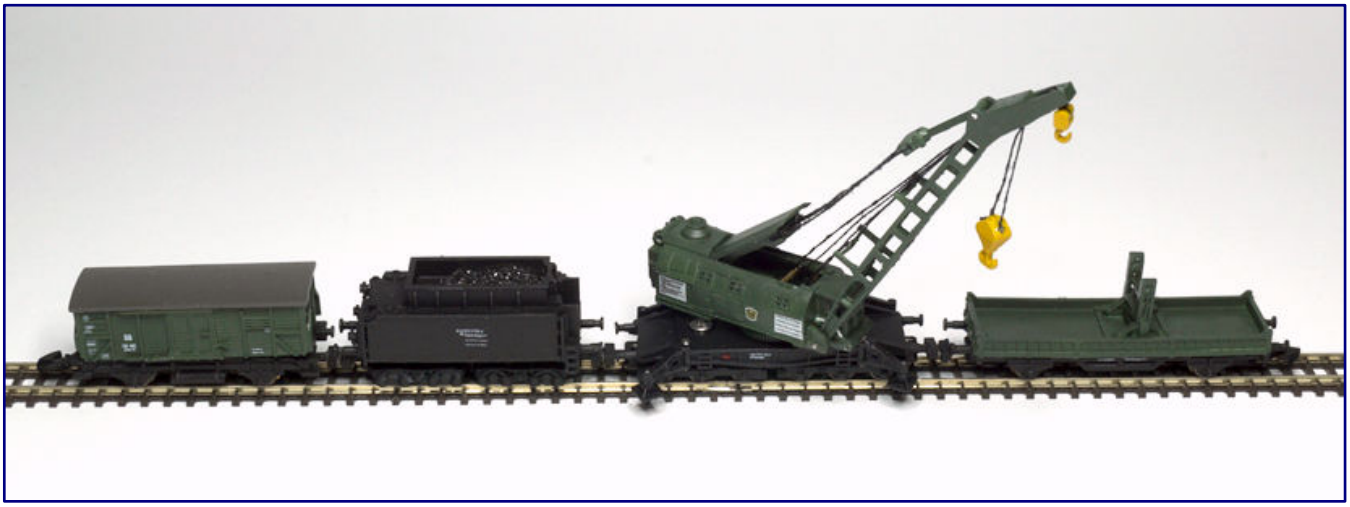
The four carriages are to be mounted in the desired order and position and then fitted with the neodymium magnets, taking into account the polarity. Glue them in with Uhu-Alleskleber Super. As two couplings are glued at the same time, the two carriages are not separated until full adhesive strength is guaranteed.

NoBa-Modelle advises to first screw one bogie into the undercarriage, then to mount the upper carriage and only then the second bogie. If, as shown here, the superstructure is bolted first, this is also possible: if the boom is turned 90°, it gives access to both bogie bolts.

There is a small hint for the assembly of chassis and superstructure on the crane and on the tender. Since both vehicles have bogies and these make access to the central housing screw more difficult, a targeted approach is required here.

On the tender, the bogies can be turned 90˚ to gain sufficient access. However, we should bear one thing in mind: the front bogie is restricted in its rotation by the access ladder on the right and left and should not damage the painted surfaces.

For the crane undercarriage, the manufacturer specifies a sequence in its assembly instructions. It says: “Connect bogies and chassis with countersunk screws. Before mounting the 2nd bogie, insert the Allen screw from below into the chassis, then mount the 2nd bogie”.



As a result of all the work described, here we have the finished crane train from two kits. If you prefer to get the equipment wagon and tender from a Märklin model, you can stick with the kit for the two vehicles on the right. However, at least one Märklin vehicle would then have to be converted to the magnetic coupling of the small series manufacturer.

The screw holes for the bogies are easily accessible because the superstructure can be turned without any problems and thus both remain easily accessible when superstructure and bogie are connected. Because of this visibility, the two screw heads should also be covered with a brush coat of black primer so that they do not enter the picture in a disturbing way.

The same applies to our pulleys, which can best be reached with the micro brush as a substitute for a brush without smearing parts of the superstructure unintentionally. Equipped like this, it's time for the final photo shoot: A Kö 1 has derailed during the switch run and has to be lifted back onto the track.

The standing model, which the model crane can also lift without any problems, comes from Z-Doktor Modellbau (ZD-220-01001-1). When instructing the crane operator and subsequently guiding the wheel flanges when setting down the hanging locomotive, the “workers in protective clothing” from Preiser (88537) help.

Our crane with 57 tonnes lifting capacity is certainly not over dimensioned here, because it has to work with a strong outreach, at times, and, thus, loses a considerable part of its lifting capacity. It doesn't always have to be a bridge construction site, because we don't yet have a second crane that could come to the rescue.

The Ardelt 57-to steam crane in action: prototypically, the stabilisers of the outrigger supports rest on two layers of construction sleepers to recover the derailed Kö 1 and put it back on the rails. This prototypical scene was created with a locomotive model from Z-Doktor Modellbau and Preiser figures. It proves how impressive a crane looks on the layout, especially when it is shown in action.

Model manufacturer:
https://www.noba-modelle.de

Materials and tools used:
https://www.bergswerk.de
https://www.faller.de
https://www.fohrmann.com

https://www.oesling-modellbau.com
https://www.pattex.de
http://www.peter-post-werkzeuge.de

https://www.standardgraph.com
https://www.uhu.de

Accessories in the scene photos:
https://www.preiserfiguren.de
https://www.z-doktor.de

Pages with prototype information:
https://www.eisenbahndienstfahrzeuge.de
http://www.wehratalbahn.de

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Portrait of a large private layout

Welcome to Werdersheim

16 years of planning and building, but much more Mini-Club experience, have gone into Dirk Rohwerder's large, private, Z scale layout. It is unprecedented in its basic dimensions, control system, the attention to detail and the craftsmanship that has gone into it. Dirk Kuhlmann reports for us on a true masterpiece by his namesake – an engineer by profession, and nothing is too hard for an engineer, as we all know.

Welcome to Werdersheim, a small town in the Bergisches Land region of Germany. Not far from Wuppertal, the town nestles in a green landscape and is a home to happy citizens. We are in the early autumn of 1960 and are now taking a leisurly stroll through its busy streets.

The postwar economic boom has also arrived here and is clearly noticeable; business is good and many people can afford their first motor vehicle. The triangle of Remscheid-Solingen-Wuppertal is a good place to live, especially since the textile industry and the stell blade manufacturers guarantee a secure livelihood.

The access road to the DB depot is somewhat hidden. This is where the tender locomotives and the auxiliary train are usually parked.

Many workers are already eying the latest TV sets in the local electronics shop, with the newest Kuba Imperial model being eagerly awaited. The cinema at the end of town is, of course, screening the film of the year: “La dolce vita,” which means “the sweet life”.

If we continue downhill along the main road, we reach Werdersheim station, which is a little out of the way from the village. The black steamers still dominate the scene and especially on this important main line they offer the railway enthusiast a varied picture. Keen observers of depots should know that the best place to watch the operations is in the small-town park opposite the hotel “Zur Post”.

At lunchtime, the roundhouse is only partly occupied and business is largely quiet. In 1960, most of the shops in the suburb also only reopen at 3 p.m. after a lunch break.

Have we sparked your interest? Do you need a map of how to get there? I'm sorry to disappoint you, the village of Werdersheim is purely fictional, but at least it is a model of the typical life and hustle and bustle of the Bergisches Land.

Track plan, substructure, and track laying

Around 2007, Dirk Rohwerder, the owner of this four-metre-long layout, started planning his project together with a good friend. Experiences from earlier projects, whether positive or negative, were immediately incorporated here.

The mighty-looking 03 1001 from Hagen-Eckesey, which is not far away, will soon leave the depot again and take over a D-train in the direction of its hometown.

The theme was to consist of a small suburban station with two main and three passing sidings, a level crossing, a goods dispatch depot, and a small maintenance depot – quite a normal and prototypical setting at that time.

In the concealed area, a 14-track staging yard on a level approximately 90 cm below the scenery would allow the rolling stock to travel over a double-track helix to a higher level (main plate at the 105 cm level.

The large staging yard is located at a height of about 70 cm behind the actual layout and is connected to it via a double-track spiral. The rolling stock waiting here to run leaves nothing to be desired.

In a junction it is then decided whether the train enters the station from the right or the left. The areas around the maintenance and freight handling depots should be manually operated, but the majority of the tracks should be equipped with an automatic system.

The choice fell on the MpC control system from Gahler & Ringstmeier. With this, the existing and future rolling stock should be immediately usable without a digital conversion.

Work on the layout began in 2010 with the construction of angle irons and anchors in the wall. The very distinctive helix is constructed from laser-cut, bolted aluminium quarter sheets and threaded rods.

This makes it very torsionally stiff and even minimally adjustable in clearance height. The centre of the track guide in the circular arc had to remain open and accessible and thus leaves enough room for cleaning the tracks.

With the laying of rails in the later concealed area, the construction and installation of the Gahler & Ringstmeier components began at the same time. The circuit boards and their power supply are located in a self-built 19-inch electrical cabinet.

A PC set up for this control programme is the heart of all processes; its monitor shows the status of all train runs. An integrated track diagram also allows each train to be specifically selected and controlled with a mouse click.

Three years after starting to lay these technical foundations, Dirk Rohwerder finally reached the top level: from here on we are in the visible area of the layout. And here, too, the ambitions for the landscaping were at least as high as they were for the technical aspects of the layout.

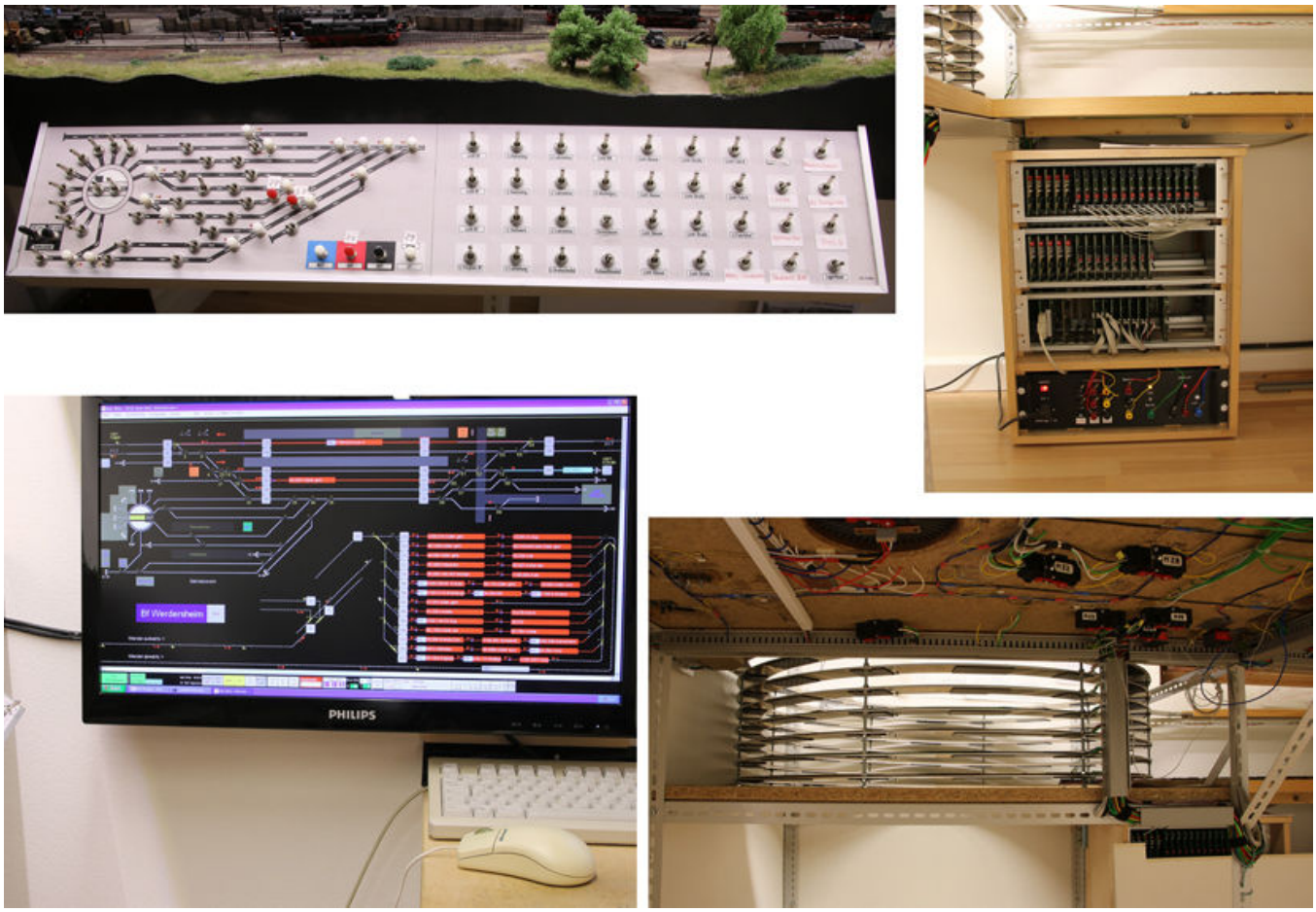
For the track work in the hidden part of the layout, the use of Märklin track was justified for economic and operational safety reasons. However, the ambition was to be much less compromising in view of achieving as much realism as possible with the track, points, and wide sweeping curves in the visible area, and, therefore, required a different type of material.

With a slightly backlight shot, the filigree König track can be seen very well. Paired with the 1:9 turnouts, it is the best there is in 1:220 scale.

So the owner swiftly decided to go with the König (“Weichenlaterne”) system with its wonderful Code 40 rails and 1:9 turnouts, which strictly follow the German Federal Railway prototype. Due to the fact that it is produced manually, Dirk Rohwerder had to allow for a sufficient waiting time for the fabrication and delivery of the track.

All sections of the tracks then had to be individually treated and soldered; track separations (0.15 mm) are so fine that a visually cohesive and coherent scene is created with standard points and original sleeper spacing.

All electrical connections are invisibly led downwards and all turnouts are equipped with an underfloor motor. With this, the builder achieved the highest degree of realism that is currently possible in Z scale.



Various views show main elements of the control system that is based on Gahler + Ringstmeier components: classic track diagram control panel (top left), plug-in card cabinet for the circuit boards (top right), computer for intervention and screen monitoring (bottom left) and the track helix (bottom right), via which all trains are sent onto the layout.

Dirk & Dirk as a Duo

Dirk Rohwerder already had concrete ideas for the landscape he wanted to create, many of which drawing on his childhood memories. His aunt's house with a backyard, the ubiquitous Aral petrol station or the often visited railway crossing on the edge of the small town are just a few examples.

Knowing fully well that landscape design is not necessarily his forte and that mistakes from his previous layout builds should not be repeated, he sought experienced and proven help. Fortunately, he found a (completely crazy; editor's note) modeller in his circle of friends, namely the author of these lines.

I quickly agreed to join in on the project, especially since we do not live to far from each other and the “personal chemistry” for working together was right. Now, we had a lot of planning work ahead of us over the next few months: looking at photos, consulting specialist literature and making lots of sketches.

continues on page 37

Photo above:
In the evening hours, there is still hustle and bustle at the station; many commuters do not want to miss their train home.

Photo below:
Later in the evening, slowly but surely all the locomotives arrive back at their depot. The night shift takes care of the arriving engines, which includes keeping each steam locomotive at rest, ready to go back into service early in the morning, or to be kept in reserve.

The houses with scaffolding and façade advertising positioned at the front edge of the layout prove to be attention getters (top) and effectively frame the level crossing. Here, the proud owner transposed one (of several) childhood memories into the layout.

All the vehicles have been selected to match the year 1960, and the forest of signs also corresponds to the German road traffic specifications of that time (bottom). But many other details also enhance the harmonious effect. The tanker truck is just turning in at the Aral petrol station to supply it with more fuel.

We had to throw some of my namesake's wonderful ideas overboard, so that the later representation of his “perfect world” would not appear overloaded. To give our readers a better idea, it should be mentioned here that at that time there was nothing but a 4-metre long, flat board with very beautiful tracks in front of us.

A modern model railway always shows an “up and down” in its landscape. Incorporating a hill or a wall would be easiliy possible on the flat board, but putting holes into the base plate for deeper landscape parts was almost impossible because of the very extensive electrical components already installed or planned.

So we agreed on adding a small river in the foreground, because this required only some minimal carving of the 22 mm particle board. And in order to avoid an overly obvious appearance of a classic model railway, a topographically shaped front edge added to the layout. In this way, everything was ready to create the hoped-for scenery of the Bergisches Land.

In addition, the originally conceived layout depth of 120 cm was trimmed to a maximum of 70 cm on the left-hand side. The layout simply looks better this way and it ensures the accessibility of all its parts.

Unfortunately, this meant that the already completed staging yard behind the scene could not be integrated as originally foreseen. With increasing age, it becomes more and more difficult to slide down on one's knees. But wait, isn't there a small room next door? Who knows, maybe there is hope to find an alternative solution.

One half of the duo Dirk & Dirk: This one goes by the surname Kuhlmann and models on the later river before pandemic regulations required a forced break.

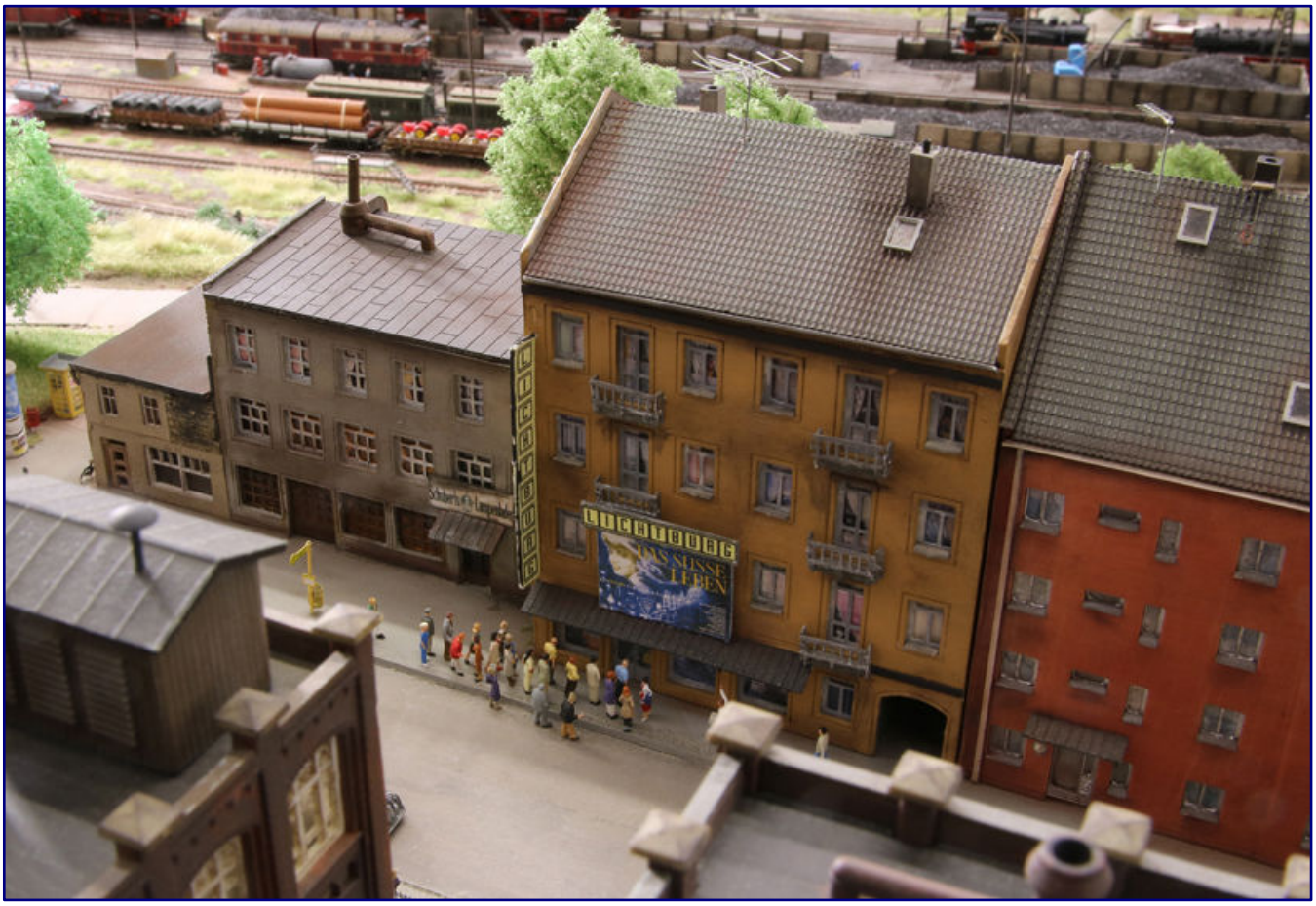
With a final plan agrred upon, we distributed our areas of responsibility. Dirk Rohwerder continued to lay the remaining track and perfected “Werdersheim” in terms of operational technology.

In the meantime, I built a large number of houses and other buildings in my small workshop, several pure landscape parts in their raw form and countless small parts. The complete suburb of “Werdersheim” had found its home arranged on a suitable separate base and could later be fitted exactly into the layout.

Finishing touches to the landscape

The multi-storey townhouse models from Lütke Modellbahn come with a shop on the groundfloor. So, of course, I equipped them all with an interior and also installed interior lighting. To do this, I had to go through countless photos from the early sixties.

Small paper backdrops depicting interiors even create an illusion of some depth in the shops. I was even able to incorporate some backcourt atmosphere with many buildings. With only 1 mm high Evergreen strips, even the kerbs of the streets of Werdersheim are correctly reproduced.



Normal visitors to the layout will get these views; Schubert's lamp shop and the cinema can only be seen from the courtyard side. The movie of the year called "La Dolce Vita" is playing in the cinema. Werdersheim has detailing down to the last corner, which also includes the interiors of various shops.

The next major construction site then dealt with the depot. The roundhouse comes from Archistories and is, of course, also equipped with interior fittings. The coal bins, on the other hand, are completely scratch-built and faithful to prototype dimensions.

Fortunately, Dirk Rohwerder had accumulated many useful materials and small parts over the decades, which we could now use. This collector's mentality is typical for Z-scale enthusiasts: “Parts for Z gauge are bought when they are available, not when you need them.”

Many products came or come from small series producers and are only available for a limited time. Over the years, a lot of “stuff” accumulates. And, so, the desired Aral petrol station could also be made very realistically from combining existing parts with a lot of modifications. Once the buildings and structures were finished, shaping the terrain was next in line.

To do this, we glued (more) layers of 20 mm thick rigid foam boards to the layout until the desired height was reached. With sharp, toothed knives and various rasps, the foam board was shaped in order to give the landscape its basic contours.

An effective detail from the large-scale construction site of the depot: the coal bins consist of tiny boards and double-T beams made of brass, which, with matching colours, make for a very authentic looking model.

Soon, retaining walls and other structures were installed in their intended places. Over time, my constant work on many layouts has given me both a relaxed attitude to model making and an eye for the essentials. There are no quick solutions for a layout of the high standard envisaged here.

For example, we all too often see modellers applying static grass and ground cover directly on top of a brown painted surface. However, this can be done much better, but admittedly requires a more deft technique! Armed with various putty spatulas, a rich coat of Molto wood repair filler was applied over the foam board terrain.

Although this material is not exactly inexpensive in the quantities processed here, the excellent result and the achievable properties for the final appearance justify this investment. The compound dries to a sand-like consistency and, with its rough surface, makes for a very good adhesive base for the subsequent application of static grass.

Afterwards, the terrain was painted with an earth-like colour to match the region and the desired weather conditions. An irregular application is quite desirable here, nature always provides us with the best template.

The last action is to sieve out the finest topsoil, which in this case was collected in Sprockhövel (near the target region), some stones, and various types of sand. The material is either scattered on the glued base or washed in with thin gravel glue.

After that, we jointly turned to weathering the tracks, followed by adding and glueing the ballast. And finally we were ready to move on from this watery and sticky phase of the build to the next steps.

So far, of course, the result looked rather bleak, almost like a desert. But this was soon to change for the positive. The subsequent technique of modelling of water with emulsion paints and boat paint has been known to many **Trainini®** readers for years.

If depth is feigned with a little illusion painting and everything is sealed at the end with a few layers of very high-gloss varnish, the impression is remarkable for such a small river when viewed from a right angle.

Werdersheim presents itself in the state shortly before adding vegetation. The plan can be seen in the background. The river in the foreground is still visibly marked by the Molto filler, which is the preferred material of our editorial team for modelling landscapes.

There is only one thing that should be taken into account: The layout must be covered and left to rest for a few days; the paint dries slowly during this time and needs to be protected from dust during this period.

Before the addition of first layers of vegetation, the layout is carefully vacuumed and any visible defects will be repaired before work continues.

Different, finely sieved types of turf from Woodland Scenic always form the first green base. The first layer of grass fibres (Mininatur, 2 mm) was then applied to a 20 x 20 cm section.

The grass glue was not applied over the whole surface, but dabbed on irregularly. This was done section by section, in order to maintain as much control over detail, as possible. Later locations of trees and bushes are to be excluded from the treatment.

After two more applications of grass, the ground cover reached its desired look. Dense, more or less tall grass, weeds, and lichens alternate with bare soil. I always prefer some length with the ground cover part of my layout builds, but it is definitely worth the effort.

Now, it was the turn of the trees to be built and there were hundreds! As always, they are only my own creations, made with the typical tools, such as wire and self-mixed “wood trunk paint.” The foliage is from Polak and/or Mininatur. In the end, it's always your own taste that decides.

Werdersheim is truly not a big city, in most cases it is still tranquil. Only the postman, who was later transferred to Westheim in Sauerland and became a civil servant, has to take the bend very rapidly in the usual manner.

There are, of course, excellent and specialised tree manufacturers, but I find that self-built trees tend to give more control for achieving overall visual harmony of a layout. This way everything comes from one source and it's also more fun!

One exception were five large oak trees which were sourced from Silhouette. When around 50 to 60 trees were finished, it was time to go back to the layout to “plant” them. This took several months, during which Dirk Rohwerder had already built more small parts and further developed his new passion for painting with an airbrush. Nothing stood now in the way of weathering the rolling stock.

Second green phase and a forced break

Let's jump back a little in the last construction steps described: Before the prepared trees and bushes completed the scenery, small accessories and details were to be placed in exposed, and later, no longer easily accessible places.

This was true even if some objects (almost) disappeared into the forest or thicket in the future. The countless logs and timbers were also given their place. Here, of course, my handwriting came through (once) again and so a few old boards had to be placed against various house walls.

I don't see any direct sense in it, but it looks good and makes for real life scenes. Left and forgotten – see our contribution to the annual focus theme in the last issue of the magazine.

Just outside the city limits, one finds only forest and meadows. We experience a scenery that is rarely found anymore in modern times.

By the way, this time I also chose the fine “Naturex” material from Polak for the bushes. A small colour comparison on site was the deciding factor.

Unfortunately, our joint work was then abruptly interrupted in spring 2020: The Covid 19 pandemic took its long course. Our regular meetings were cancelled, remained very rare in the course of time and could only be carried out with greater caution.

This is not going well! At least the guitar case is about to end up on the track. The frozen suspense of the scene allows us a glimpse of two of the homemade semaphore signals.

At least, we realised that a large swathe of trees was still needed. We divided up the rest of the work and Dirk Rohwerder concentrated on further detailing his layout. For him, for example, the prototypical placement of signals is an important cherry on the cake of realism, but, in the end, he had no choice but to make the signals himself.

One of the famous F trains rushes through Werdersheim station in the direction of Cologne. It could be the F 24 "Schwabenpfeil", which runs from Dortmund to München (Munich) - but usually not with so many coaches. In the photo are again some specimens of the scratch-built signals.

The ready-made products available on the market did not meet his expectations. Using cast brass pieces from non-functional signals (Schmidt / Bahls) and by means of precision turned and milled parts, functional 8 meter form signals with a narrow mast were built.

The decisive factor was to be the scale, which also included the signal lanterns, so lighting was dispensed with in favour of appearance. Thanks to the “Miba-Report” special editions on signals (Volumes 17 and 18), he was able to determine the appropriate prototype dimensions and to successfully overcome also this hurdle in his quest for authenticity.

Final work and review

Anyone who has been around Z gauge for a while will know that my namesake has been a known quantity for decades when it comes to locomotives and wagons. Modifications and super-detailing have accompanied him for half his life. There is no need for further words, because the pictures already say it all.

One could only guess that we are looking at a Z scale layout, if it weren't for the clunky couplers. Only the best is good enough! The last big step towards perfection started at the same time as the landscaping of this layout. After some hesitant first steps, the project also resulted in an extensive effort of weathering the rolling stock. (Editors note: The editor-in-chief of this magazine will not forget how Dirk Rohwerder came to him with small-series material to have a patina applied, and to learn how to use an air brush).

This enhanced the coherent overall picture of “Werdersheim” even more. By the way, the prototypes of most of the locomotives on the layout were based in the Wuppertal depot in 1960.

The class 50 locomotive is still being supplied with coal, while the BR 78 is moving out again, after maintenance. The coaling facilities are authentic, which is still a great challenge even in Z scale. Many parts are self-made.

Of course, a few strangers are also allowed to run here, but even 85 007 had its raison d'être here in 1961: For a short time, the former Höllental locomotive pushed heavy trains towards Wuppertal on the steep line in Erkrath. Actually, a second part of this report would be needed at this point, as the topic of locomotives and wagons alone is far too extensive to be dealt with conclusively here.

Werdersheim is a layout based on the basic principle of the “peep-box”, but with a stationary, non-transportable design. It is, therefore, also a classic home layout, but with a fixed operator perspective. The closed system shows only the intended scenes and also protects the layout.

A panoramic backdrop with typical scenes from the Bergisches Land creates a fine and very bright stage set. The realistic illumination is provided by several daylight spectrum LED strips, which can be switched to two brightness levels. It should also be noted that due to the many green and yellow tones in the landscape, a light colour of 4000 K is used to reduce the notorious colour cast on model railways.

From the early summer of 2022, we have ramped up the joint activity again. Many, many figures and other small details are now breathing real life into “Werdersheim”. They may only be trackside details, but, without these decorations, something would be missing, and the first visitors were particularly enthusiastic about the many little stories that are told right into the last corner of this layout.

Our cooperation worked out very well and shows once again that even model railroaders with different areas of interest can cooperate very well, and that the results speak for themselves in the end.

With a deliberate break of several months, I photographed the layout for the last time and let it have a new effect on me. It only took a few minutes, and I was immersed in the scenes. They created the emotions I had hoped for: This is what it must really have been like at the beginning of the sixties.

Our final photo shows two superlatives: the beautifully wide curves of the track with slender points and the effect of a perfectly matching scenic backdrop.

People lived and worked here, perhaps with a little more joie de vivre in their little free time, compared to the digitalised life of present times. Dirk Rohwerder and I were privileged to experience these times as small children, and they have influenced who we are. We've created a part of our perfect world.

Suppliers mentioned in the report:
http://www.bahls-modelleisenbahnen.de
https://www.luetke-modellbahn.de
https://www.maerklin.de

https://www.mininatur.de
https://www.molto.de
http://www.mpc-modellbahnsteuerung.de

http://www.polakmodel.com
http://www.weichenlaterne.de
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Build your own structures (part 3)

Mathematics in Modelling

In the first two parts of a small continuing series, the construction of a locomotive control tower and a signal box were described. Now follows a water tower that is not characterised by straight wall and roof surfaces but has barrel and cone-shaped elements. Our readers can examine the result for themselves now.

By Jochen Brüggemann. Since I have started building my current layout more than 20 years ago, I have been looking for a water tower kit for the planned railway depot modelled on the Ottbergen example: a round tower, built up on bricks, and crowned by a cylindrical sheet steel water tank with a conical roof.

Due to the lack of commercial offers, the only way to build a water tower based on the Ottbergen model was to build it completely from scratch. How this came about will be explained in detail in two parts. Photo: Jochen Brüggemann

The longer I looked and waited for a model, the more I thought about building it myself. Again, only the dining table came into question as a building site, and to avoid a break in style, the materials and tools used in parts 1 and 2 were to be used again to a large extent.

I wanted to make the brick parts of the tower out of polystyrene (PS) with a surface structure, the water tank, and the roof out of smooth PS panels. In addition, I still had to develop a practicable process for creating conical and barrel-shaped tower parts from flat PS wall die plates

End of shift at the Ottbergen depot on 15 May 1976: After the arrival of Ng 64444, 044 149-3 moved into the Ottbergen depot for restoration shortly after 18:00. On the right is 044 195-6 (ex 44 1202), on the left 052 262-3 of the Lehrte depot, which is waiting to be scrapped and was last used as a heating locomotive in the Göttingen depot. And all this takes place against the backdrop of the striking water tower. Photo: Joachim Schmidt, Railway Foundation

The tower base consisted of a lower part with a conical shape (truncated cone) and an upper section that was round with a constant diameter (barrel shape), as can be seen in the prototype photo.

But before I could start building, I had to plan it. I used full-scale plans and photos of the model from several books as a basis. My goal was a (slightly simplified) model of the tower.

Among other things, I did without the “cut-off” foundation on one side, which was necessary in the original to keep the necessary clearance for a neighbouring track. A further simplification is not visible for a viewer later: On the rear side of the building, which cannot be seen, I have omitted some windows.

Also, the access to the circular platform was only hinted at. I also simplified its supports in their shape and reduced their number - as well as the railing supports - from 16 to 12.

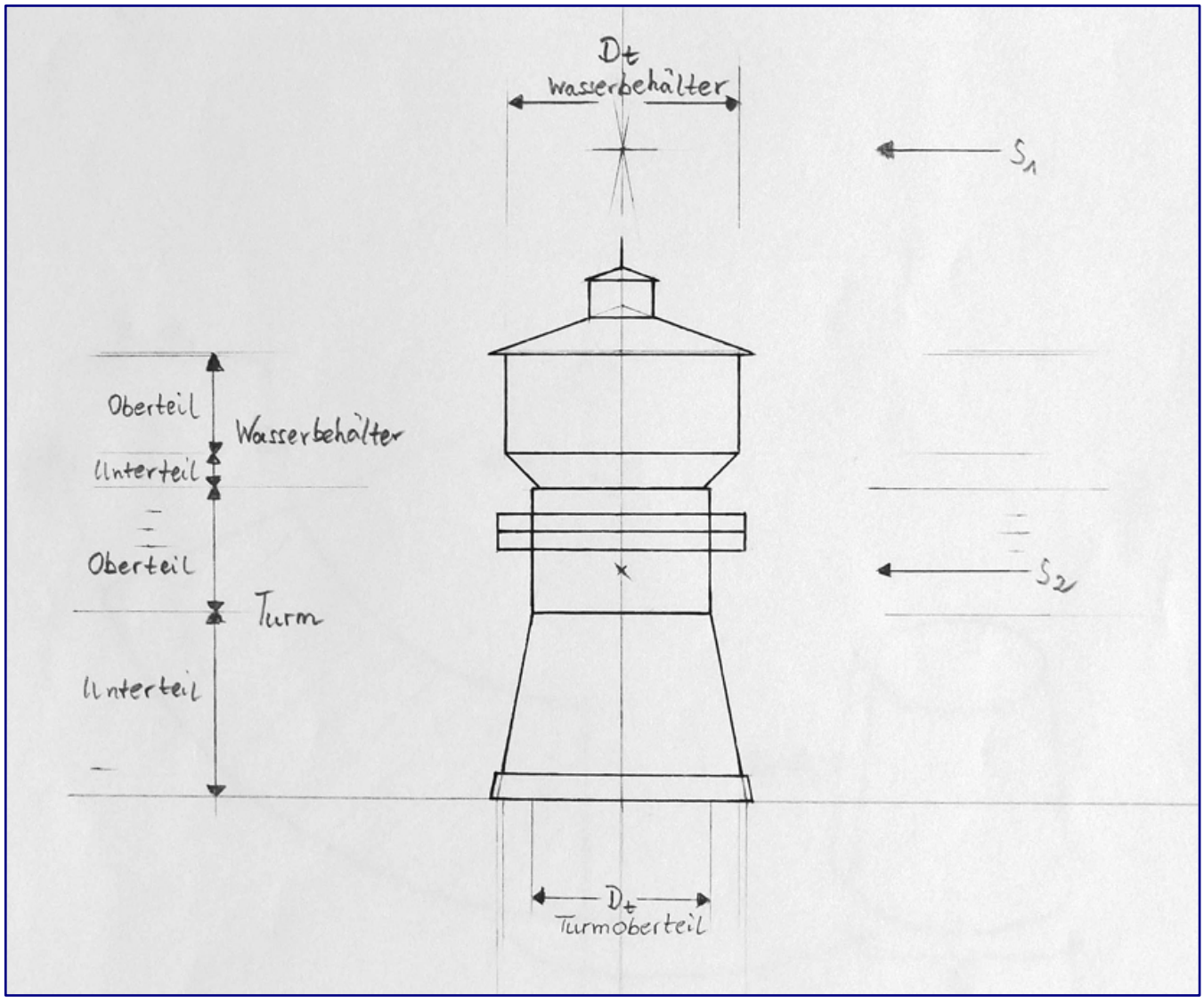
Under these conditions, I created a side view of the Ottbergen water tower that was as exact as possible, and almost to scale. I did not yet consider windows, doors, and other details, as I could determine their size, shape, and position at any time, if necessary. I made the necessary sketches and notes separately, as required.

Determining dimensions

If we do not want to leave the later result to chance, we cannot get around mathematical calculations and remembering what we learned at school. Only with precise calculations is it possible to produce all parts exactly, and to reproduce the prototype impression correctly.

For the theoretical part that follows, I recommend looking up the shapes and abbreviations in the two sketches to be able to follow the explanations. The second sketch contains the three parts A to C, which graphically explain the conical roof, the truncated cones, and barrel-shaped parts.

The side profile, provided with additional, useful construction lines, now served as an important basis for the calculations that now had to be made. It was particularly helpful to draw the lines of the cone mantle edges of the two truncated cone-shaped elements beyond the vertical centre line of the side elevation to determine their respective point of intersection (S_1 and S_2 in the drawing).



Almost to scale side profile of the Ottbergen water tower. Drawing: Jochen Brüggemann

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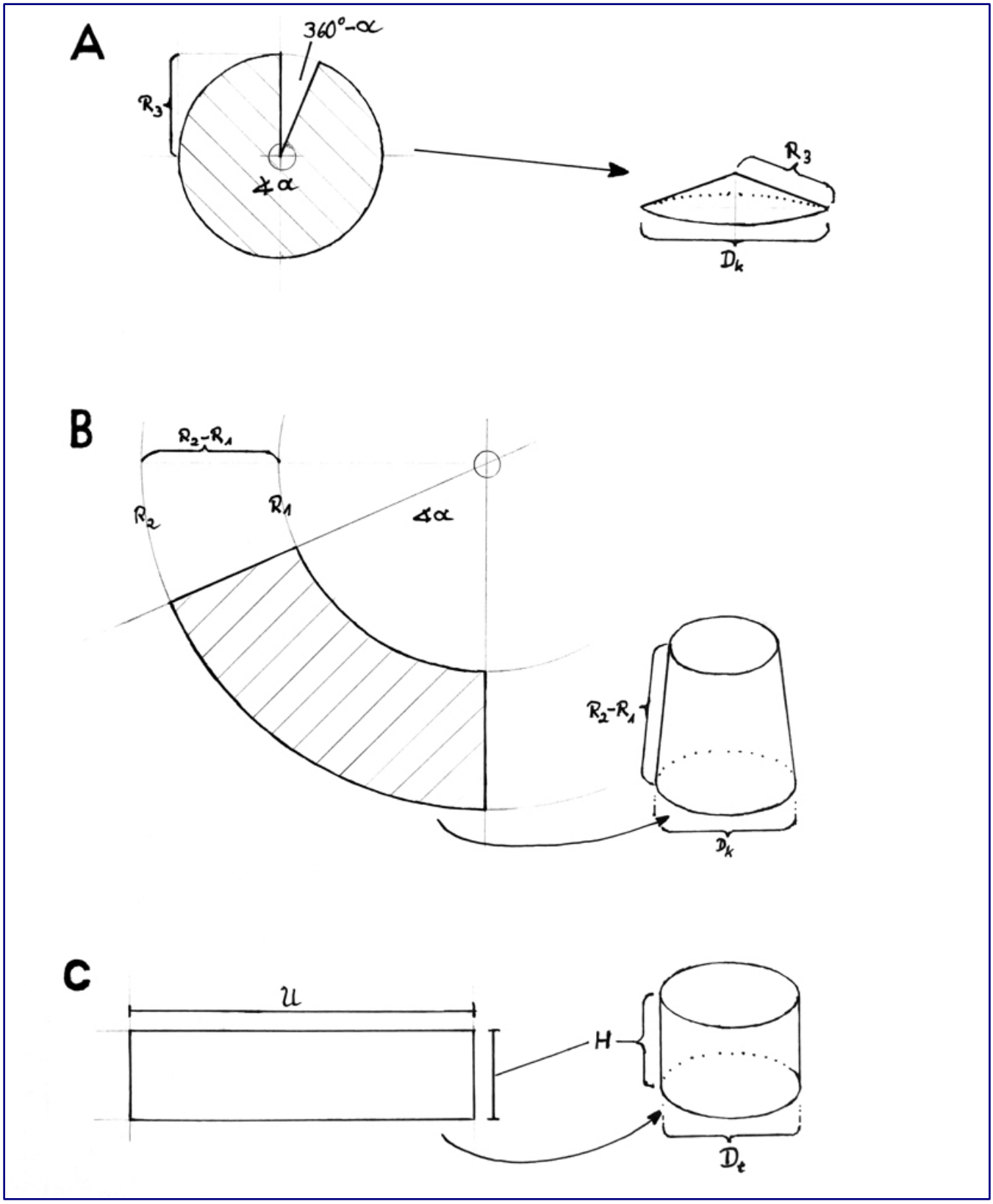


Sketches of the procedure for determining the dimensions of components in the shape of a cone, a truncated cone, or a barrel-shaped body (A - dimensions for a cone-shaped component / B - dimensions for a truncated cone-shaped component / C - dimensions for a barrel-shaped component). Drawings: Jochen Brüggemann

To calculate circular figures and objects, the geometric constant π is required. For this project, an accuracy of π = 3.15 (or 3.2) was sufficient. A circular cone is created from a circular plate from which a segment is cut out. The inclined surface of the cone is called the cone mantle.

On a flat plate (e.g., paper), a circle with a radius R_3 is created around a point with the help of a compass. The angle at the centre point is 360°. If a segment is cut out of this circle towards the centre (pie slice), a circle segment with an angle α (smaller than 360°) remains, which can be shaped into a cone.

The following applies: The smaller the remaining circle segment or the smaller the angle α, the steeper the cone and the smaller its diameter at the bottom. Determining the dimensions for a cone is done in several steps:

1. Circumference of the conical roof
   The radius R_3 of the cone mantle can be taken from the side plan. The circumference U_3 of the circle with radius R_3, from which the cone is to be formed, is given by the following formula:
   $U_3 = 2 * R_3 * \pi$

2. Circumference of the cone at the lower edge
   The diameter D_k of the base of the cone at its lower edge can be taken from the side profile. The circumference U_k of the cone bottom is therefore given by the formula:
   $U_k = D_k * \pi$

3. Angle α of the desired circle segment
   $\alpha = (U_k * 360°) / U_3$
   From this ring segment (with the angle α), the desired cone is created by even bending, with the cone radius R_3 and the diameter D_k at the cone bottom.

If we cut off a part of a circular cone parallel to its base, we get a truncated cone at the bottom and the residual cone at the top, also called a supplementary cone. In both bodies, the mantle (the inclined outer surfaces) retains the same angle of inclination.

At this point we are interested in the truncated cone, and how it can be made from a flat plate. For this consideration, the truncated cone is assumed to be standing on its base (top surface above). On the side elevation of the water tower, only the diameters of the base and top surfaces are visible, as well as the lines of the mantle edges (with the slope of the mantle) and their point of intersection.

Starting from the point of intersection, two distances are to be determined:
1. R_1 = distance from the point of intersection to the upper edge of the truncated cone.
2. R_2 = distance from the intersection point to the lower edge of the truncated cone.

On a piece of paper, two circles with the radii R_1 and R_2 are drawn around a point with a compass. If a segment is cut out of the larger circle (with radius R_2) in a wedge shape, a segment of a circle with an angle α remains.

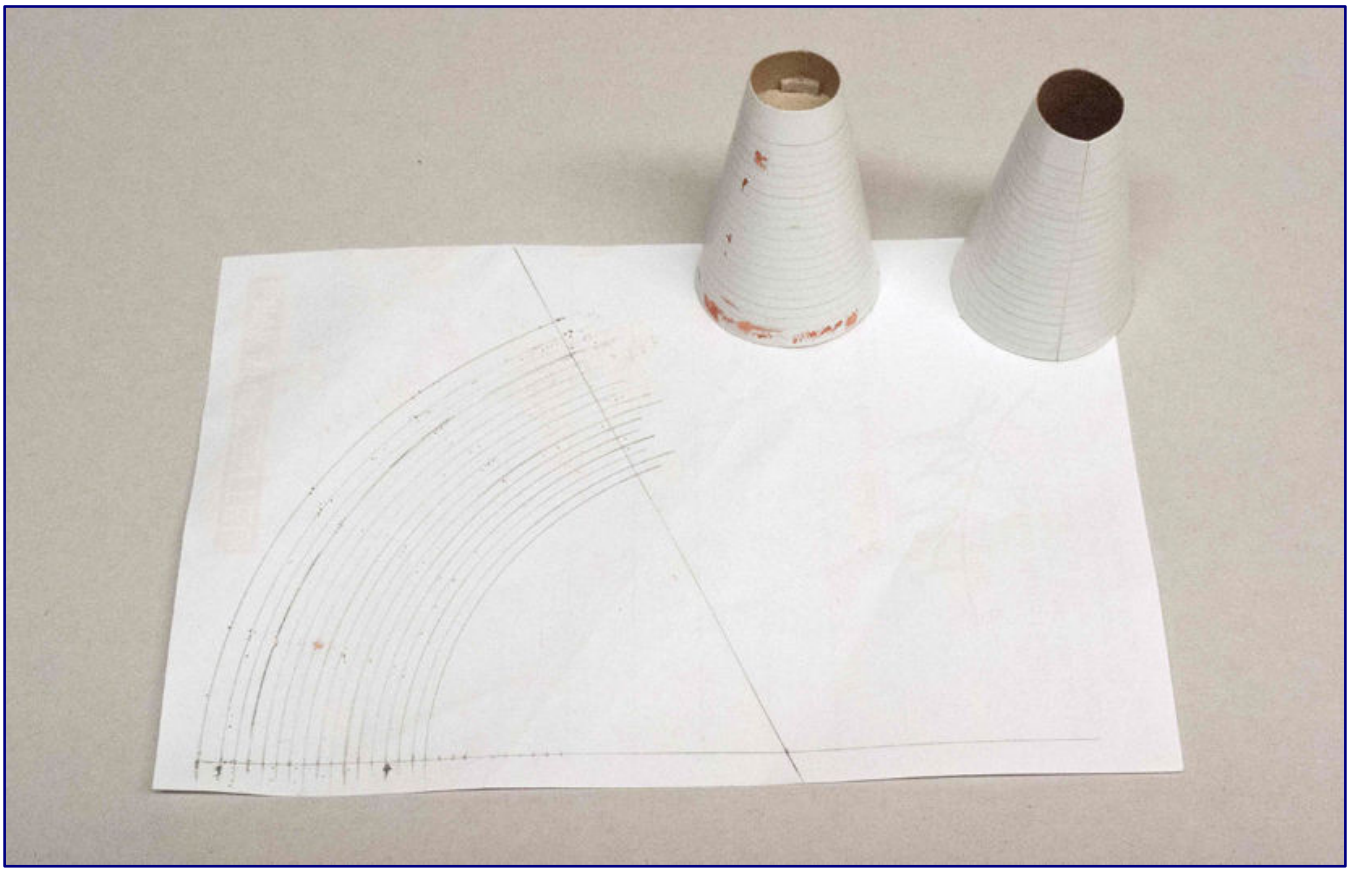
If we now only consider the area between the two circles (with radii R_1 and R_2) for the truncated cone, the result is a flat, circular ring segment that can be shaped into a truncated cone. Determining the required dimensions for the truncated cone is done in several steps.

1. The circumference U_2 of the full circle with the radius R_2, from which the truncated cone is to be formed, results from the formula $U_2 = 2 * R_2 * \pi$.

2. The diameter D_k of the truncated cone on its bottom side can be taken from the side profile. The circumference U_k of the truncated cone is given by the formula $U_k = D_k * \pi$.

3. The angle α of the desired ring segment results from α / 360° = U_k / U_2, in other words α = (U_k * 360°) / U_2. The truncated cone is formed from this ring segment with the angle α by evenly bending.

A barrel-shaped structure with a circular cross-section is created from a rectangle with a height H and a width U that corresponds to the later circumference of the barrel. Only the diameter of the barrel D_t and the height H are to be determined from the side profile.



The supports for the construction of the tower base are two truncated cone-shaped gauges. Below is the drawn truncated cone mantle segment on which the brick wall strips were mounted in the second trial. Photo: Jochen Brüggemann

This is sufficient to calculate the circumference U of the circle with diameter D_t from which the barrel is to be created, according to the formula U = D_t * π. The dimensions U and H result in the rectangle from which the barrel-shaped component is created by bending it evenly.

Water tower substructure

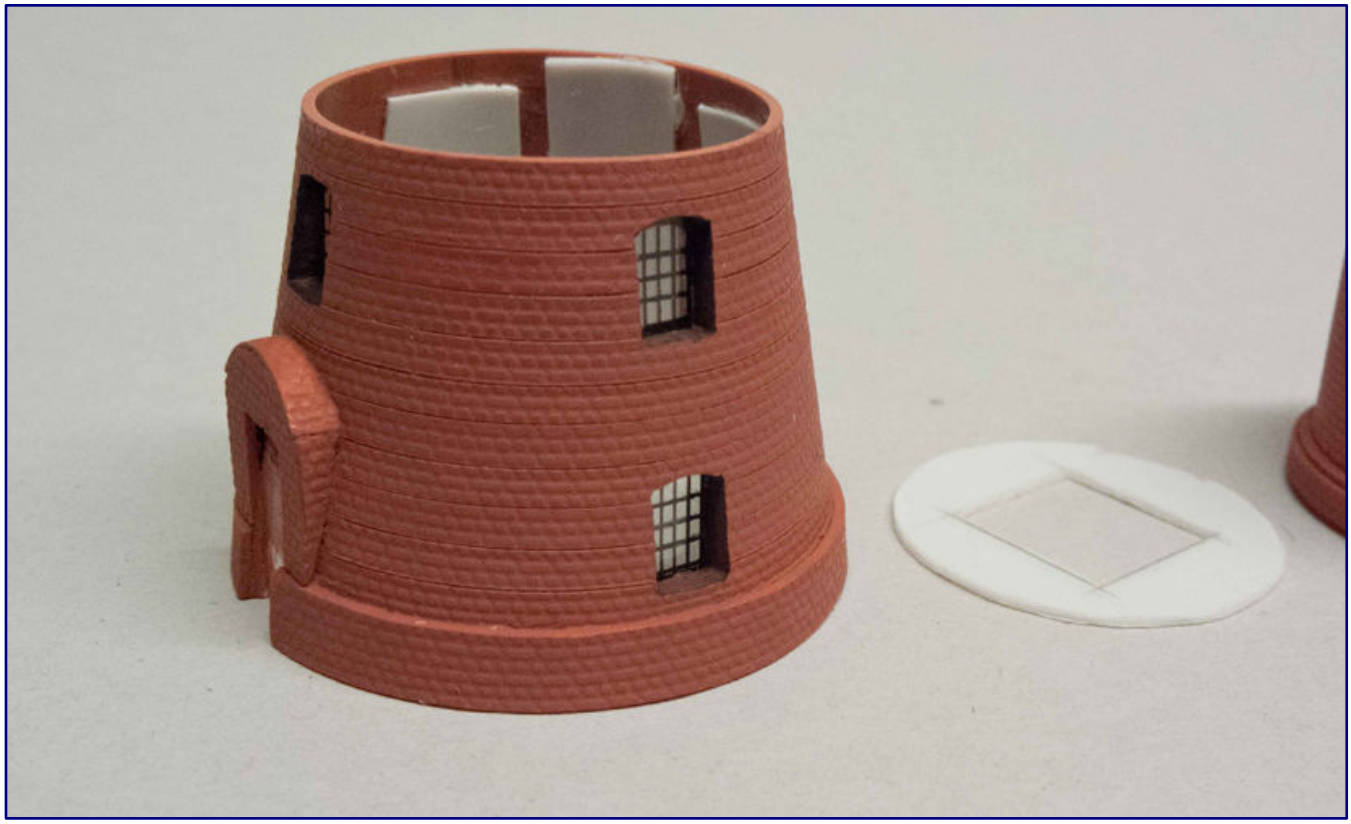
After the theoretical part, the handicraft work could begin. Besides my “household remedies” presented in part 1 (**Trainini®** 12/2022) and 2 (**Trainini®** 1/2023), I used a pair of compasses, a mini electric drill, and plastic clamps.

For various equipment details I resorted to Evergreen profiles, 0.5 mm thick wire, remnants of etched ladders from the former small-series manufacturer Beier Modellbahn-Technik and high-gloss photo paper remnants. My window building methods are described in a digression of part 2.

The construction started with the truncated cone-shaped tower base. First, I prepared the elevation of the truncated cone shell. I determined the dimensions from my side profile; the reference point here was the intersection point S_1 above the top of the tower.

The finished water tower should approximately comply with the specified dimensions and proportions. For this purpose, the material thickness of the PS embossing plates had to be considered. Therefore, I drew a simplified side profile for the truncated cone, in which the diameters of the bottom of the truncated cone and the top surface were each reduced by twice the material thickness (1.5 mm). The angle of inclination of the frustum sides remained unchanged.

This reduced the radii R_1 and R_2 equally by about 3 mm compared to the side profile. Using the method described above, I calculated the angle α for the desired segment, i.e., the truncated cone shell.



The lower part of the tower is already in an advanced state of construction. The outer, ring-shaped wall reinforcement and the attached tower entrance are already in place. A brick-coloured coat of paint has also been applied and the windows inserted. To the right of the cone lies the upper stabilising plate of the tower base, which will occupy us in the next episode.

With these corrected measurements, I made a truncated cone out of medium-thin, smooth cardboard as a gauge for the lower part of the water tower. When I drew it on the cardboard, I made the top of the truncated cone taller by reducing R_1 to make it easier to use as a handle.

Indispensable tools in the construction steps covered today are a brush handle and low-viscosity plastic glue and superglue, which are applied precisely to the most delicate gluing points with the help of pins.

I also drew parallel lines at 2 mm intervals on the circle segment with the compass; these marks were intended to make it easier to keep the brick layers horizontal. My first plan: around this gauge, wall panel elements glued together in a ring shape, each consisting of three brick layers, were to be stacked on top of each other.

Unfortunately, the PS panel material could not be bent well enough, it continuously stretched back a little into its original shape, and the glued joint at the ring seam could not cope with the great tension. So, this trial was a failure. I kept the two cardboard gauges – I had made two to be on the safe side – and continued to use them.

For a new attempt I drew the outline of the truncated cone together with the parallel concentric lines on paper. I attached this sheet with pins to a small plywood board as an assembly aid.

I marked the position of the lower and upper edges of the truncated cone with arrows. Along the lower edge I placed very sharp and hard pins at intervals of about 1 cm, slightly inclined towards the upper edge. These pins served as supports to fix the curved brick wall strips exactly.

I now very carefully cut strips of three brick layers each from the brick embossing plate. The cut was made from the top of the panel, as centrally as possible, in a joint. As a cutting tool I used a scalpel with a fresh, sharp, and thin blade.

The sharper and thinner the blade, the more precise the cut and the finer the remaining cut joints later. The wall strips were measured in length so that after the ring-shaped bending they extended slightly beyond the side boundary of the drawn truncated cone.

I placed the first (and at the same time longest) brick strip on a cutting pad and bent it with my hands into an even circular shape that roughly corresponded to the first line marked by the pins.

Then, I placed the strip with the embossed side down on the mounting aid, pressed it with its outer curve against the row of needles and fixed it on the free side with pins so that it lay with its embossed side flat on the paper of the assembly aid.

In the same way, I bent the next brick strip, placed it next to the first and moved the pins so that both brick strips were practically without gaps next to each other and fixed in the correct arc. I made sure that the brick strips were parallel to each other, based on the concentric strips on the paper backing.

The gluing was done with thin plastic glue, which was applied carefully and in small amounts to the back of the strips facing upwards. This step required great care because excess glue could easily run through remaining gaps or soften the PS strips. I left the glue seam to set for several hours.

The following brick strips were bent, pressed on, and fixed in the same way. Where necessary, I also used plastic clamps to ensure that the embossed side was evenly positioned on the assembly aid.

This photograph, which shows the water tower after the water tank has been assembled but without further details, is intended to illustrate the geometric figures. It had to be disassembled into such figures and manufactured step by step with high precision so that in the end a coherent building would be standing in front of the constructor. Photo: Jochen Brüggemann

In such cases, I first limited the gluing to the freely accessible seam sections; only after these glued areas had dried, I carefully moved needles or plastic clamps, so that I could continue with the gluing of the seam pieces that had now become free. During this work I could add a maximum of two brick strips per day.

After the last one had been added and the glue had dried, I carefully cut off the lateral protrusions with a scalpel and removed the resulting, still flat truncated cone shell from the assembly aid for checking. However, I fixed the component back onto it to correct any imperfections.

With my hands and the help of a sturdy wooden brush handle, I now bent the structure into a tapered truncated cone. I immediately repaired any cracks that appeared; only after they had dried, I continued the bending work.

Preview of the next edition: The finished water tower has been positioned at its intended location for its installation test. It becomes apparent that the distance to the retaining wall should be increased a little before it is glued down, and its surroundings designed. Photo: Jochen Brüggemann

Once the desired shape was nearly achieved, I provided the inside of the component along the glue seam with a strap made from a piece of PS board that I had pre-bent evenly to match the inside at this point.

After the glue had set, the free side of the strap could be coated with plastic glue and both sides of the shell could be joined together to fit.

First, I held the component with both hands to be able to fix any problems immediately. Then I put one of the two gauges over the fresh truncated cone shell from above and pressed the second gauge against it from below (inside). Holding it in shape like this, I let the glue joints in the tower base set overnight.

In the model of my water tower, the wall of the cone-shaped lower part was significantly reinforced at the base. I reproduced this with a six-brick wide and sufficiently long strip of embossed plate. This I bent with my hands as described above and then joined to the outside of the lower part of the tower flush with the lower edge but protruding slightly.

The gluing was done gradually, starting at the seam of the lower part, and fixing it with plastic clamps. After the plastic glue had hardened, I applied thin super glue to the remaining gap. With a pin, it could be finely dosed and applied with pinpoint accuracy to enforce the gluing surface.

In the following part 4 of this small series we will continue with the construction of the barrel-shaped middle section. We have already mastered the most difficult steps so far.

Supply Sources for Materials:
https://www.faller.de
https://www.fohrmann.com
http://www.peter-post-werkzeuge.de

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.

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Der Name Stefan Carstens hat im Bereich der Fachbuchautoren Gewicht: Seit rund drei Jahrzehnten beschäftigt er sich, intensiv wie niemand sonst, mit den Güterwagen der deutschen Eisenbahnen. Seine Buchreihe zu diesem Themenbereich hat längst die Funktion eines Standardwerks.

Doch trotzdem blieb im April 2023, als das hier vorzustellende Buch erschien, ungewiss, ob auch dieses Werk ein Erfolg werden könne. Unsere Rezension soll dem nachgehen und darauf eine Antwort finden. Unbestritten ist hingegen, dass dieses Werk bestens zum Baubericht in dieser Ausgabe passt, den wir als thematischen Kontext vorgesehen hatten.

Stefan Carstens und Wolfgang Henn betreten mit der vorliegenden Lektüre völliges Neuland: Nie zuvor sind Bahndienst- und Dienstgüterwagen von DRG, DB und DR so umfassend, ausführlich und systematisch aufgearbeitet worden. Da muss die Frage erlaubt sein, ob diese Wagen nur ein Randthema darstellen, das kaum einen Eisenbahnfreund interessiert oder ob sie eine echte Marktlücke entdeckt haben.

Unsere Antwort nehmen wir gleich vorweg, um sie im Anschluss noch ausführlich zu begründen: Es ist eine Marktlücke, deren Potenzial erst jetzt richtig deutlich wird und sicher einige erst auf den Plan rufen wird. Deshalb haben wir keinen Zweifel am Erfolg dieses Buches, denn es aber auch brauchen wird – das soll ebenso deutlich mitgegeben wird.

Beide Autoren haben fleißig recherchiert und mussten ihre Ergebnisse früh auf mehrere Bände aufteilen, weil die Themenfülle unmöglich in einem einzigen unterzubringen war. Der Leser wird zugleich aber auch

feststellen, dass die Präsentationsweise und -tiefe sich von den bisherigen Güterwagenbänden unterscheidet und nicht zufällig außerhalb dieser läuft.

Anders als bei Reisezug- und Güterwagen sind nur wenige Originaldokumente erhalten geblieben, was die Vorarbeiten zusätzlich erschwerte. Außerdem handelt es sich ja um rein dienstlich genutzte Fahrzeuge, die oft nur in relativ geringen Stückzahlen erforderlich waren und insofern auch einen höheren Spezialisierungsrad aufwiesen. Erhaltene Unterlagen erlauben deshalb kaum repräsentative Rückschlüsse auf das Aussehen.

In diesem Zusammenhang ist es umso beeindruckender, dass es den Autoren gelungen ist, einen vollständig erscheinenden Überblick ab etwa 1930 bis zur privatisierten Bahn zu geben, in deren Geschäftsmodell eigene Wagen an dieser Stelle nicht mehr passen wollten.

Der vorliegende Teil 1 erläutert Grundlegendes zum Einordnen eigener Fahrzeuge als Bahndienst- oder Dienstgüterwagen, den grundsätzlichen Unterschied zwischen diesen Typen sowie die angewandten Nummernsysteme. Anschließend aufgearbeitet werden dann die Dienstgüterwagen für bahnübliche Transport- und Sonderaufgaben wie das Befördern von Bau- und Betriebsstoffen, Abfällen, Radsätzen oder ganzer Fahrzeuge.

Bahndienstwagen für den Betrieb und die Instandhaltung schließen sich in Folgekapiteln an. Fahrbare Tankanlagen, die viele Modellbahner stets sehr interessiert haben, Schienenschleifzüge oder auch Sprengzüge sind hier zu finden – erfreulicherweise sogar mit Originalzeichnungen und Faksimiles.

Mögen die hier behandelten Wagen auf den ersten Blick noch weniger spektakulär gewirkt haben, so räumt das Buch schnell mit diesem mögliche, aber eben voreiligen Schluss auf. Noch spannender wird es freilich werden, wenn in den Folgebänden die Bahndienstwagen und Sonderfahrzeuge wie Schienenkrane, denen wir ja ein Modellthema dieses Hefts gewidmet haben, aufzuarbeiten sind.

Am wirtschaftlichen Erfolg von Band 1, der uns für ein Fortsetzen der Reihe unabdingbar erscheint, haben wir nun freilich keinen Zweifel mehr. Da bestätigen uns auch die bekannten, stets als sehr gut zu beurteilenden Rahmenbedingungen, die für Lesespaß und gutes Verständnis sorgen: gut gewähltes und aussagekräftiges Bebildern aller Textpassagen.

Annähernd 750 Fotos (von beinahe 800 Abbildungen) stammen von namhaften Eisenbahn-Fotografen wie Joachim Claus, Dr. Rudo von Cosel, Peter Driesch, Jörg van Essen, Günter Meyer, Reinhard Todt, Benno Wiesmüller oder auch Fritz Wilke (rund 200 Aufnahmen). Hier wird die fleißige Archivarbeit von Stefan Carstens ebenso deutlich wie sein wertvolles Netzwerk.

Fassen wir unsere Eindrücke zusammen: Schon nach wenigen Seiten wird deutlich, wie umfassend und aufregend das Themenfeld dieser Sonderfahrzeuge ist und welches Potenzial sie auch für die Modellbahn offenbaren. Bau- und Hilfszugwagen sollten sich doch überall im Bestand finden und standen auf irgendeinem Bahnhofsgleis herum. Gigantisch scheinen persönliche Wissenslücken, die dem Leser bei der Lektüre bewusst werden.

Um das zu erreichen, hatte das Autorenduo eine Herkulesaufgabe zu absolvieren, die sie mit Bravour gemeistert haben. Die wenigen Originaldokumente, fehlende, gezielte Bilddokumentation und eine Vielfalt beinahe individueller Konstruktionen wurden hier in beeindruckender Weise als Spannungsfeld aufgelöst. Geglückt ist das in der bekannten Qualität der Güterwagen-Reihe.

So sehen wir beste Voraussetzungen für einen Erfolg dieser neuen Reihe. Das scheint uns auch insofern wünschenswert, als dass wir die Folgebände kaum erwarten können. Den vorliegenden Band 1 nominieren wir deshalb auch in der Konsequenz der beschriebenen Eindrücke für die Neuerscheinungen des Jahres 2023 in der Kategorie Literatur.

Publishing pages:
https://www.stefancarstens.de
https://www.modellbahnunion.com

Zehn Jahre Dampflok im Zeitraffer

Rundreise durch Westfalen

Wieder liegt ein Filmstreifen von Ton Pruissen vor uns, der mit großem Aufwand in ein digitales Format überführt wurde und beinahe vergessen lässt, wie alt das gezeigte Material inzwischen ist. Wehmütig tauchen wir in die Eisenbahngeschichte ein, wie sie unwiederbringlich ist. Wie scheinbar selbstverständlich begegnen wir dabei auch seltenen Vorbildern, die meistens nicht oder allenfalls als Einzelstücke erhalten blieben.

Ton Pruissen
So war sie damals, die DB - Teil 5
Westfälische Dampf-Impressionen

Nord Süd Express GmbH
Gröbenzell 2023

DVD-Video
Bildformat 4:3
Tonformat Dolby-Digital 4.0
Sprache deutsch
Laufzeit ca. 51 Min.

ISBN 978-3-949665-13-4
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Preis 16,80 EUR (Deutschland)

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Die vorliegende, neue DVD von Ton Pruissen wurde wieder mit großem Aufwand digital aufbereitet und nachgearbeitet. Das Ergebnis lässt beinahe vergessen, dass die digitalisierten Filmstreifen zwischen fünfzig und sechzig Jahre alte sind.

Doch die bewegten Bilder haben ihren Charme und authentische Wirkung nicht verloren. Dampflokomotiven ohne Ruckeln in Bewegung zu sehen und nicht von übermäßigem Flimmern abgelenkt zu werden, hat einfach etwas Besonderes. Mag die klassische DVD längst als digitales Auslaufmodell wahrgenommen werden, so hat sie längst noch nicht ausgedient!

Wer einen Blick in diesen 51-minütigen Streifen wirft, der wird uns zweifelsfrei zustimmen. Auch dieses Werk basiert nämlich auf Material, das zwischen 1963 und 1970 vom holländischen Eisenbahn-Filmpionier Ton Pruissen aufgenommen wurde oder aus dem Bestand befreundeter Filmer zu ihm gelangt ist.

Dafür war er etliche Male mit einer 16-mm-Filmkamera in Westfalen und im Weserbergland unterwegs. Während die Inseln des Dampfbetriebs bei der Bundesbahn immer weniger wurden, konnte er noch ungeahnte Schätze sichern, die nur wenige Jahren später endgültig von den Gleisen verschwunden waren und heute entsprechend selten in vergleichbaren Produktionen zu finden sind.

Beispielhaft genannt sei die Baureihe 10, die als „Schwarzer Schwan“ wegen ihres eleganten Erscheinungsbilds bei Fotografen und Filmern sehr beliebt war, aber angesichts von nur zwei gebauten Exemplaren auch selten vor die Linse zu bekommen war. Ihre Dienstzeit war derweil so kurz wie bei keiner anderen Dampflok: nur gut zehn Jahre stand sie im Betriebsdienst.

Die filmische Reise beginnt mit einem ersten Höhepunkt im Bahnhof Hamm (Westfalen). Hier erleben wir zunächst 10 001 bei der Ausfahrt vor einem schweren Reisezug. Der Streifzug setzt sich fort zum dortigen Betriebswerk und zeigt dem Zuschauer weitere Raritäten: eine Neubaukessel-41 mit Kohlefeuerung (wie aktuell von Märklin als Modell angekündigt), Maschinen der Baureihe 50[40] (Franco-Crosti) oder auch eine vierfach gekuppelte Zechendampflok „Henschel D 600“ auf Überführungsfahrt.

Die Rundreise führt weiter nach Lengerich zur Teutoburger Wald-Eisenbahn und von dort zur Georgsmarienhütten-Eisenbahn mit weiteren Schmankerln, die nur selten für Videowiedergaben festgehalten wurden. So finden hier auch besondere Privatbahnen ihren Platz, die auch einen nicht unerheblichen Teil der Gesamtlaufzeit füllen.

Weiter geht es nach Lübbecke, Löhne, Altenbeken (mit Viaduktaufnahmen aus dem Führerstand), Langeland, Beringhausen und Bestwig – also an höchst unterschiedliche Bahnstrecken, die aber gleichermaßen viel Atmosphäre bieten. Im Gedächtnis bleiben die letzten Einsätze der Baureihe 03[10], der mit neuem Kessel keine lange Dienstzeit mehr vergönnt war.

Zu den wertvollasten Aufnahmen gehört wohl ein unerwarteter Abstecher ins oberhessische Kassel, denn der Titel richtet den Fokus ja schließlich auf den Dampfbetrieb in Westfalen. So finden auch einige in Farbe aufgezeichneten Sequenzen Eingang in den Film, mit 10 002 auch die zweite Maschine ihrer Baureihe. Kein Weg vorbei führte dort an den Schnellzuglokomotiven der Baureihe 0110, mit denen sie im gemeinsamen Plan liefen.

Zurück auf der Oberen Ruhrtalbahn erleben wir ein weiteres Mal die Baureihe 03[10] im Einsatz, wobei der filmische Ablauf auch schnell die Ablösung mit der Baureihe 23 ins Bewusstsein rückt. Aber auch diese Neubaulok gehört zu den Favoriten der Spurweite Z und wird im Vorbild entsprechend dankbar aufgenommen.

Folgen wir dem Streckenkartenverlauf, landen wir schließlich in Schwerte (Ruhr), wo die Ruhrtalbahn aus der Strecke Hagen – Dortmund ausfädelt. Zur Dampfzeit wäre es töricht gewesen, das dort ansässige Ausbesserungswerk auszulassen.

Es bildet im Film deshalb den End- und Schlusspunkt der Reise, zumal dort auch das Ende vieler Dampflokomotiven besiegelt wurde, während engagierte Bundesbahner den vermeintlichen Schrott als technische Denkmäler zu erhalten versuchten. Darauf gründete sich die Beliebtheit bei Fotografen und Filmdokumentaren wie Ton Pruissen maßgeblich.

Und so werden wir in Schwerte Zeuge der letzten Dampflokblüte wegen einer anziehenden Konjunktur und gleichzeitig ihres Niedergangs, der auch das Ende dieses Ausbesserungswerks im letzten Quartal 1967 mit sich brachte. Historischen Wert haben Aufnahmen der Schwerter Werkslokomotiven: Mit Lok 2 tat hier nämlich auch eine echte preußische T 3 hier noch ihren Dienst!

Blicken wir zurück, bleibt Wehmut über ein vergangenes Kapitel Eisenbahngeschichte zurück. Schon viele Filme haben sich der Dampfzeit gewidmet. Dabei haben die Ersteller alle als Dampflokparadiese bezeichneten Orte und Strecken besucht.

Doch immer wieder gelangen Aufnahmen in die Öffentlichkeit, die für sich besonders und im Gesamtbild abwechslungsreich sind, weshalb das Thema beinahe unerschöpflich scheint. Bei Ton Pruissen kommt noch hinzu, dass er seine Filmdokumente aufwändig nachbearbeitet und vertont wurden.

Publishing pages:
https://www.nordsuedexpress.de

Explaining digital film processing:
https://www.youtube.com/watch?v=f3i-PYjvaMg

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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.

One magazine for all scales:
I wrote “Trainini - Praxismagazin für alle Spurweiten, nicht nur Spur Z”, as subject. Each issue contains articles on the main model, tips on design, building layouts, presentations of new products, e.g., now the Uhlenbrock Intellibox 2neo, book reviews.

A treasure trove of knowledge, not only for fans of Z gauge, but also for the larger gauges.

It would certainly be interesting to find out who else reads Trainini, apart from Z followers. Perhaps there will also be a new subtitle soon.

Hans Helbach, Bonn

Editor's reply: There will be no new subtitle, because our focus remains on Z gauge, which is our passion. Nevertheless, we reach model railway enthusiasts far beyond this size with our publication. The monthly access numbers to the issues are about 14 times higher than our core target group would expect.

Incoming enquiries, calls and also trade fair discussions prove that we have a loyal readership in all nominal scales up to gauge 2, without exception. We are proud of this and it motivates us to give our best month after month.

Reader search for small prefabricated plants:
Is it possible to buy a Z-gauge layout, complete with base, station and buildings that fit on a coffee table? Do you know anyone who sells prefabricated layouts or a marketplace where they are offered for sale?

Simon O'Keeffe (Irland), by E-Mail

Editor's reply: Of course, professional layout builders such as the Spur-Z-Atelier (linked from our pages) are a possibility, but this question is probably more directed towards pre-formed layouts that can be equipped with tracks and buildings and wired with little effort. Then, it is worth taking a look at the range from Noch (also linked by us), which has a wide range from small case format to medium-sized layouts.

A round club anniversary:
Because the Model Railroaders Soest e.V. (MES 03) celebrated a round anniversary on 8 March 2023, they invited to a big summer party on 13 August 2023. At the club's home in Neuengeseker Heide, a district of the spa town of Bad Sassendorf in the Soest region, they exhibited various layouts of (almost) all gauges on an exhibition area of 400 m².

On the occasion of the 20th anniversary of the MES 03 Soest e.V., there was not only an ordinary driving day, but also plenty of professional exchange over coffee and cake as well as sausages from the grill. Meanwhile, the youngest visitors could let off steam on a bouncy castle, as the weather also played along.

These are the permanently built exhibits of the club, whose main focus is the nominal size H0, but which also has a small and very active Z gauge faction. The more than 10-metre-long 1:220 scale layout, built in a U-shape, has been the subject of much tinkering since last year. As an extension, the reconstruction of an older bridge and a new station entrance are planned, in order to create an efficient staging yard behind the visible scenery, which can provide even more varied operation.

With a large, digitally operated module layout in U-shape, there will also be plenty on offer for Zetties who want to visit the club's exhibition days.

For the time being, however, the conversion to digital operation is still being pushed forward, which in the meantime also includes the control of points and signals, in addition to operating. The z21 system from

Roco, which works with the DCC format, is in use here and enables operation via mobile phones and portable computers or tablets.

The layout is controlled by a z21 digital control unit from Roco, which also allows the convenient use of mobile devices. Meanwhile, the association's Z-gauge group still has many ideas for expanding, modernising, and further developing its layout.

The anniversary event was well attended, and some of the visitors stayed enthusiastically for several hours. This was also due to the accompanying offer, because with coffee and cake as well as sausages from the grill, sufficient provision was also made for this. Small visitors could also let off steam on a bouncy castle outside, as the weather also played along.

So, we also succumbed to the attraction of talking shop with like-minded people about the hobby of model railways, talking about digital technology and spinning ideas for future projects.

Managing Director Dieter Lichtenberger was particularly pleased in conversation with the editors that the association also has an energetic youth group. This is certainly no longer a matter of course, but all the more important for the future of the association and the model railway.

If you are interested in this association or would like to visit one of the next exhibitions, you will find all the necessary information on its own pages: http://www.mes03soest.de.

Project status of Azar Models:
Moïse Rogez from Azar Models (https://azar-models.com) advised us about the progress of the current wagon projects. For example, the four-axle sliding tarpaulin wagon of the SNCF Fret with the generic designation Shimms is also being injection moulded.

This photo shows the current project status of the sliding tarpaulin wagon Shimms, also with regard to painting and printing of the series models. Photo: Azar Models

A first pre-series sample is currently available, which has also been test-painted and lettered. All new models are manufactured and delivered according to this quality standard.

Trainini® meeting in midsummer:

Summer time is holiday time, and this also applies to all volunteers on the **Trainini®** staff. They made good use of this time to get to know each other better and to promote togetherness. Because the work on the magazine and video channel is completely digitalised and personal appointments are presented via video conferencing, there is always a great interest in meeting in person.

Alexander Hock (left) and Christoph Maier (right) used their meeting to visit the Belgian railway museum. Photo: Christoph Maier

Because of the great distances between the helpers, sometimes even national borders and oceans lie between them, this is not always so easy to do. The summer of 2023 turned out to be a real stroke of luck.

So our translators Christoph Maier and Alexander Hock met in Brussels to visit the railway museum together and promote personal exchange. A few days later, editor-in-chief Holger Späing had the chance to introduce Alexander Hock to the editorial office in Brussels.

A "Tour de Ruhr" took editor-in-chief Holger Späing (left) and Alexander Hock (right) to various sites of industrial culture: sites of a bygone age with a commemorative and memorial function, always also closely linked to railway history. Photo: Simone Hock

On a joint tour of the city, they delved deep into the history of industrial culture, which is closely interwoven with the railway, and with the modern logistics and technology location, they drew the bow to the present, in which the railway now plays a changed role.

Meanwhile, the personal exchange between translator Oleksiy Mark and Holger Späing is ongoing, because in this case the distance from home is the shortest. A timely meeting between editorial colleague Dirk Kuhlmann and Holger Späing is currently pending, in which material and work pieces on reports are also to be exchanged.

All those involved in the staff agree to continue and live personal encounters. After all, the personal and friendly atmosphere is a central element of everyone's motivation.

Rhine-Neckar Club Car 2023:
Once again, this year, the Rhine-Neckar regulars' table has presented itself with its own wagon pack. Produced by FR Freudenreich Feinwerktechnik in all-metal construction, it consists of two covered new-build freight wagons Gms 54 of the Bundesbahn (item no. 49.343.02) on the theme of agriculture.

Under the motto “From Fertiliser to Potatoes”, the two wagons were equipped as follows: The first one without handbrake shows a glued-on label “Pfälzer Frühkartoffeln” (Palatinate early potatoes) with the transport destination Eberbach (chalk address), the second one has a handbrake platform and bears an imprint “Kali” (potash) on a blue background.

The two goods wagons of the Club special pack 2023 (art. no. 49.343.02) differ not only with regard to details in the colouring.

The roof colour was not painted in RAL 9006 white aluminium according to DB colour specifications, but in two slightly different shades of light grey in order to come closer to the typical operational impression. The ventilator flaps are also painted in different shades of reddish brown and white aluminium. On one of the two wagons, the slip box is also set off in black.

The edition of the Club car pack 2023 is 46 copies, which were individually numbered by client Volker Töpfer. The remaining stock that was not sold via the Club was passed on to the 1zu220 shop, but was already sold out by the editorial deadline.

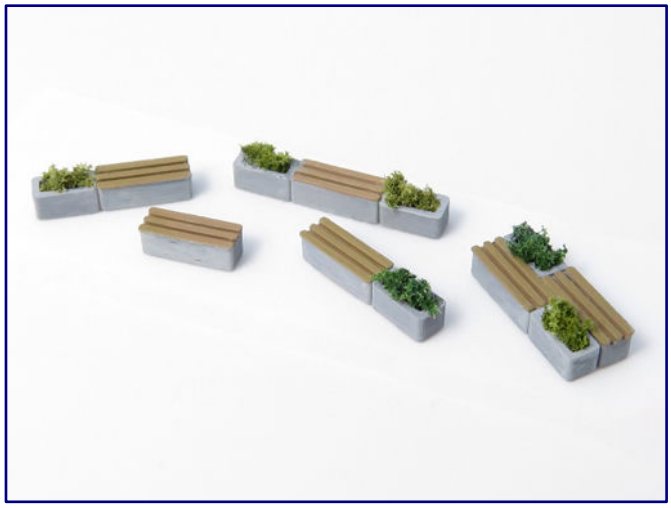
No summer slump in sight at AZL:
There is no sign of a summer slump at American Z Line, where monthly deliveries continue unchanged. In August, the EMD E8A in the Brunswick green of the Pennsylvania (art. no. 62605-5 / -6) rolls onto the dealers' shelves.

PRR's EMD E8A (item no. 62605-5; picture on the left) and UPFE's double pack R-70-20 refrigerated wagon (914831-2; picture on the right) are current novelties from American Z Line. Photos: AZL / Ztrack

This version of the diesel locomotive is also particularly striking due to the antennas running parallel to the roof line in the longitudinal direction, which were once very typical for the PRR.

Back in the programme are now the R-70-20 refrigerator cars of the UPFE (Union Pacific Fruit Express9, which certainly cannot be overlooked on the layout as a yellow snake of cars. They are offered as double (914831-2) and quad pack (914801-2).

No Pause at Yellow Dwarf:
3D printing supplier Yellow Dwarf (https://www.yellowdwarf.eu) does not take a break. Month after month, new items for Z gauge are also derived from the existing products. In August, new “benches II” (art. no. 60048) for the modern cityscape were added to the range.



Three ongoing novelties from the Czech Republic: benches II (art. no. 60048; photo above left), concrete bollards (60072; photo above right) and traffic safety traffic cones (60238; photo left). Photos: Yellow Dwarf

The concrete bollards (60072) have a guiding or blocking function in a permanent capacity or the traffic safety traffic cones (60238) have a temporary function, which will find just as many possible uses on the installation.

New source of supply for Minichamps:
As part of our coverage of spring new products and the Intermodellbau in Dortmund (incl. **Trainini *TV*** episode 13), we presented the very detailed and finely structured 3D models by Imprintium, which are produced by this supplier according to Minichamps' designs.

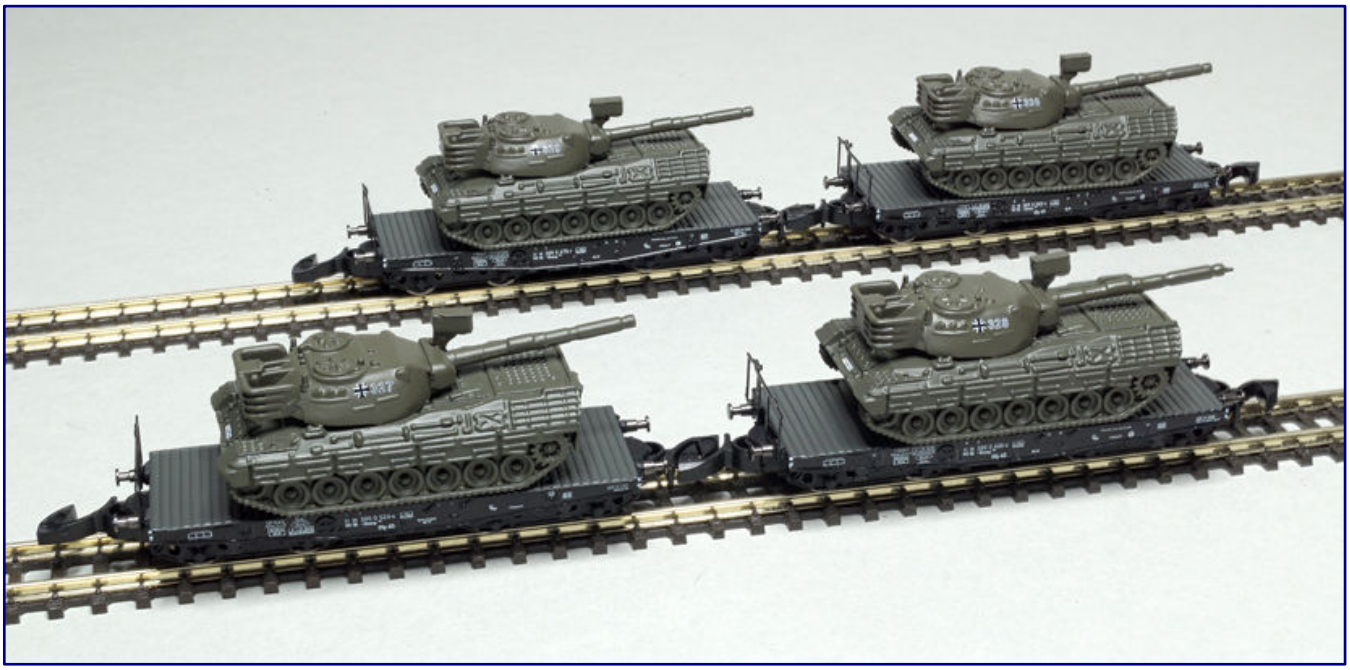
Meanwhile, some of our readers reported that there was great interest in the vehicles and accessories, but that the calculated shipping costs were not economically viable in relation to the model prices.

In the meantime, a viable solution seems to have been found for everyone, as the 1zu220-Shop (https://www.1zu220-shop.de) from Westheim now reports that it has added the Minichamps brand to its range. Customers can now benefit from the retailer's services and shipping offers, which can be combined with all items in the range.

The range of the dealer from the eastern Sauerland includes both unpainted raw models and painted finished models. Not all of them are immediately available from stock (as of the editorial deadline).

Only a few Märklin deliveries:
The only new wagon arrived at the dealers in August was a heavy-duty transport wagon pack (item no. 82228), but it was delivered complete at the same time. This set consists of four heavy-duty wagons of the type Rlmmp 700, former SSy 45.

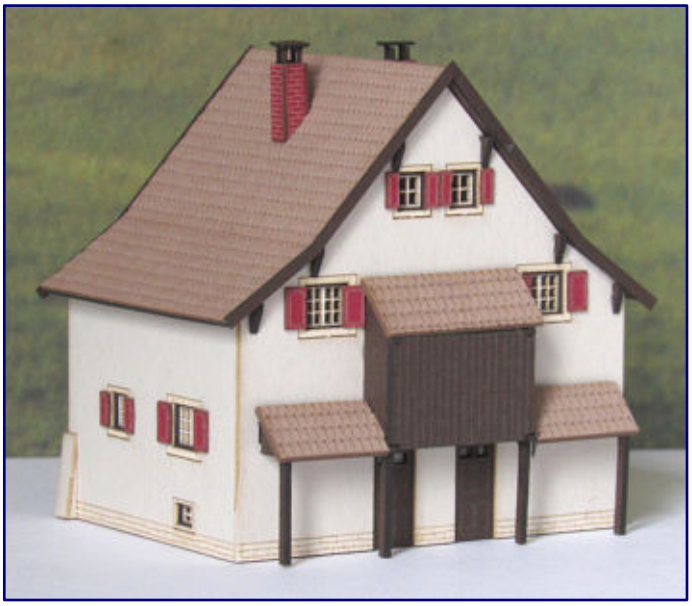
The wagons are labelled according to a transitional scheme that was used when the Bundesbahn converted its wagon fleet to UIC-standardised class symbols. Thus, three of the four wagons also bear the former SSy 45 in addition to the new generic designation Rlmmp 700. This was once intended to make it easier for the staff to find their way around.



The four-axle heavy-duty tracked vehicles now also carry lettering matching the Leopoard 1A1 battle tanks in terms of time as the type Rlmmp 700 (art. no. 82228). All four tanks bear different turret numbers.

In the news item on our portal pages, there are two more individual photos showing both lettering schemes of the four-axle bogie wagons from this pack, in detail. They are again loaded with a Leopard 1A1 main battle tank each, which have been printed quite elaborately.

The box also contains stanchions for the cars and four pieces of plasticine for temporarily fixing the load. At the same time a three-part pack (89025) of further tank models with different numbers on the turrets was delivered.

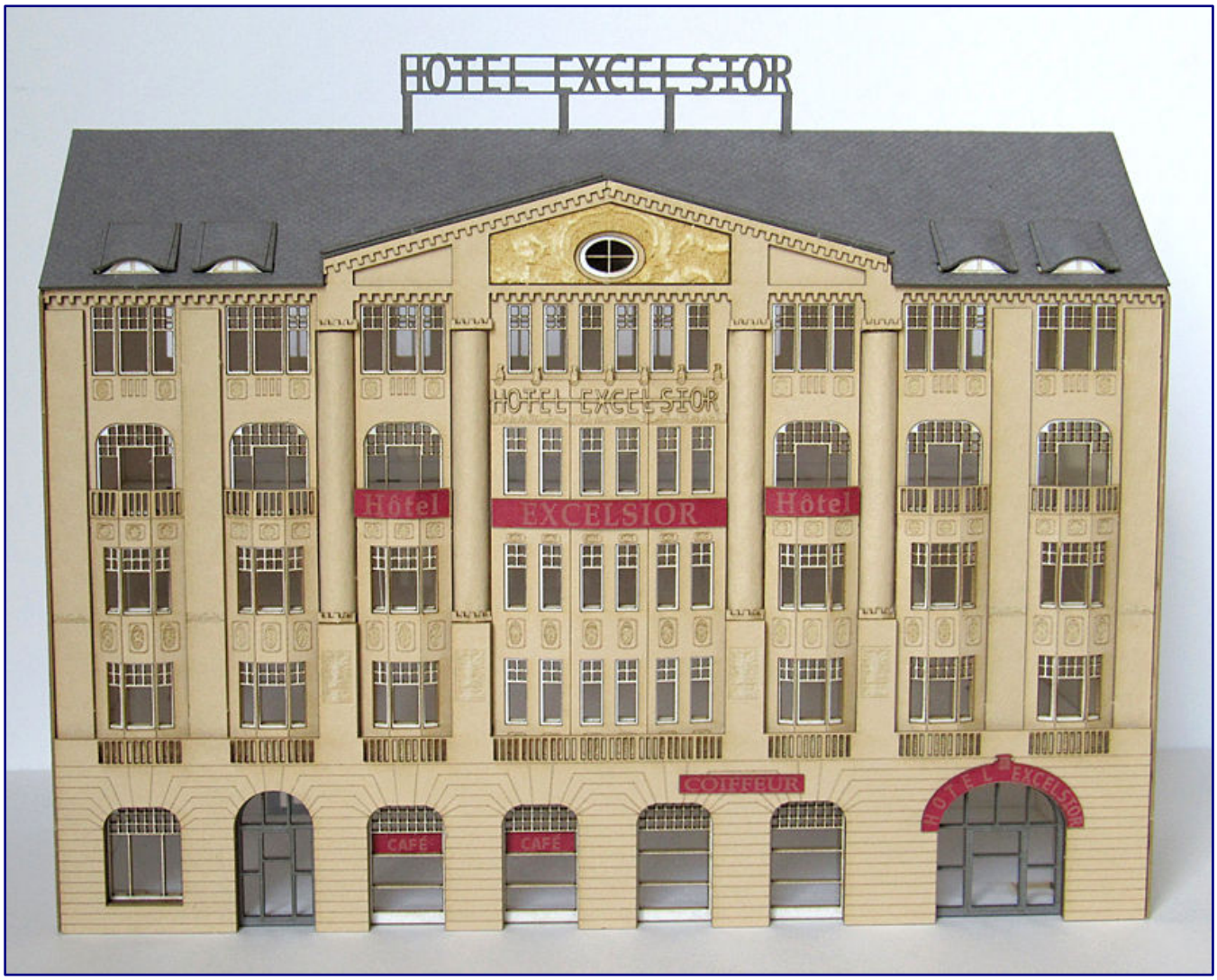


Here we show the back of the Wiesen semi-detached house (art. no. Z7701), which has an unusual effect and attracts attention. The picture below shows the front of the Berlin Hotel Excelsior (Z7401) Photo: Modellbau Laffont

Swiss surprises from Modellbau Laffont:
Modellbau Laffont (https://modellbau-laffont.com) surprises the Zetties with two new architectural building kits. They are made of solid-coloured hardboard, and, therefore, do not require any colour finishing.

The Restaurant Wiesen (Item No. Z6901) certainly does not have to stand on the tracks of the Rhaetian Railway, and also impresses at any other alpine location with fine, two-coloured window frames, an outside terrace with fence and finest tile engravings on the roof. The smart Swiss restaurant can be used from epoch II onwards.

Matching this, i.e., originating from the same region, is the semi-detached house Wiesen (Z7001), also usable from Era II. Here, too, the finest base and roof tile engravings are joined by the equally fine, two-coloured window frames.



At home in pre-war Berlin was the Grand Hotel Excelsior (Z7401). This exclusive hotel could be found on Askanischer Platz and was opposite the Anhalter Bahnhof, which was offered as a polystyrene kit by Märklin many years ago. At that time, it was the largest hotel in Europe, the front part of which has now been compressed.

The finest engravings are again a matter of course. However, this kit is only available directly from the manufacturer and from Stadt im Modell (https://www.stadtimmodell.de).

Good ideas from Schrax:
Schrax (https://www.schrax.com) now has a model of a free-standing cast iron bathtub in its range. Such tubs were once widespread and are nowadays partly in a time use also as cattle watering troughs or water reservoirs for irrigation water in large gardens, as they are simply indestructible.

A bathtub and a hand-operated swing pump are two welcome accessories in the garden or even in the pasture. Photo: Schrax.

The openings for the drain and overflow, as well as the small feet, are also reproduced. If there is not enough precipitation to fill the tub, a hand-operated swivel pump appears to be a suitable aid. This is also new in the range in a reliable, simple form.

As these pumps proved to be very robust, they can still be found in rural areas today, often, also, at cemetery wells. In the fifties and sixties, they were still part of everyday life.

Timely deliveries of Micro-Trains:
MTL continues the War of the Worlds series with wagon number 6 (art. no. 518 00 844). Once again, this is a boxcar with a historical illustration of the literature for this special series.

We have also newly discovered light passenger coaches of the business class with boarding platforms at the ends of the coaches. They run on three-axle bogies and are lettered for the Pennsylvania (556 00 021), Union Pacific (556 00 061) and Norfolk & Western (556 00 240). All three are scheduled for delivery in the near future.

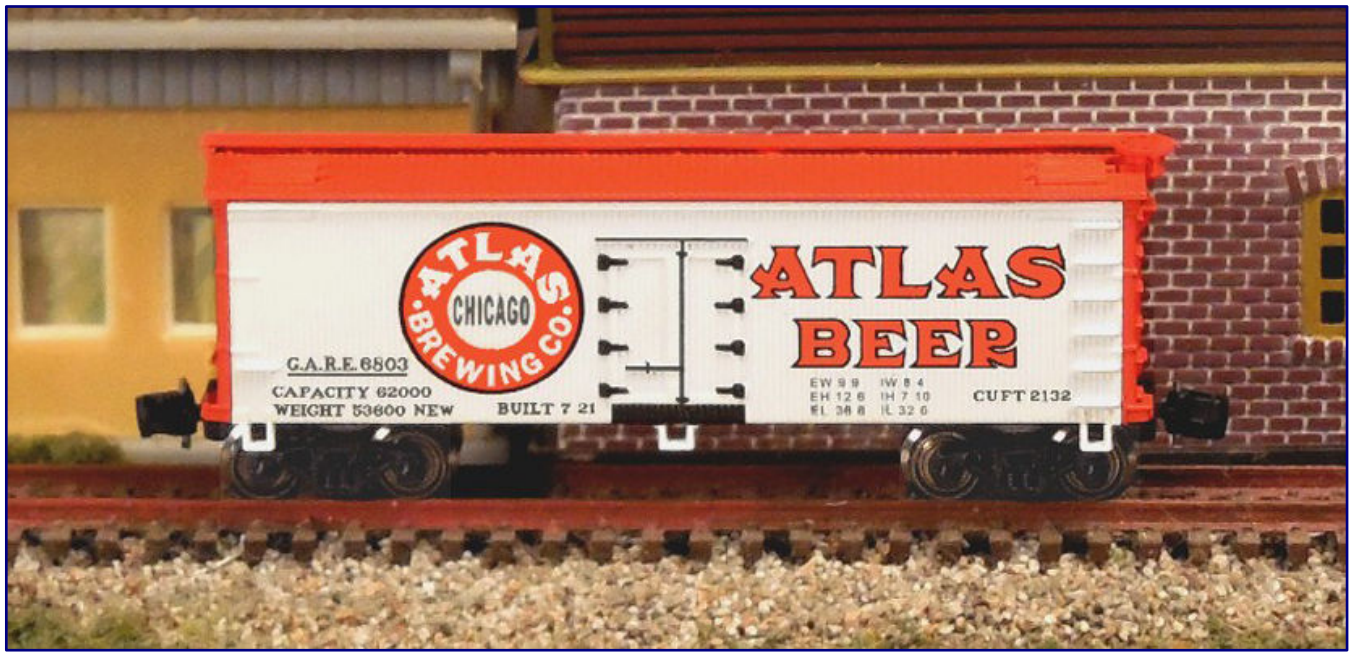
In-house adhesive from Busch:
Busch has now delivered a new laser-cut glue (art. no. 7594) in professional quality. It is said to reliably glue wood, cardboard, paper, polystyrene, and many other materials. Like comparable products from other suppliers, it dries transparently.

The solvent-free glue can also be used instead of white glue in model making, with its extra fine dosing tip. It can also be applied to larger gluing surfaces with a brush or spatula.

A current collector's pack (item no. FTCOL64) contains these two bulk goods wagons. Photo: WDW Full Throttle

Selected new products at WDW Full Throttle:
The latest WDW Full Throttle (http://www.wdwfullthrottle.com) new product is a two-piece collector's pack (item no. FTCOL64). It contains two covered ACF Centre Flow bulk freight cars, one of which is lettered for the Southern Pacific and one for the Cotton Belt.

William Dean Wright announces a new refrigerator car, in limited quantity, with advertising for the US beer brand Atlas (9403). The former brewery started production in Chicago in 1896 and became very popular, but had to close down as a result of Prohibition.



This red and white Atlas beer wagon (9403) continues the currently running refrigerated wagon series with a traditional brand. Photo: WDW Full Throttle

Later, the brand name returned in association with other breweries. At the turn of the 20th century, the brewery modernised many of its wooden refrigerated wagons and fitted them with steel bogies with Bettendorf bogies and new braking systems. The prototype of such a 34-foot wagon was in use until the early diesel era.

Full Throttle is sold in Germany by Case Hobbies, among others (https://case-hobbies.de).

The Herpa late summer new products:
Herpa has announced its aircraft new products for the months of September and October 2023. As usual, we are limiting ourselves to 1:200 scale models in a layout-suitable format up to a length of 30 cm. Aircraft models based on Russian models are not included, as they are currently not allowed to use European airspace anyway due to international sanctions and thus do not fit European-style layouts.

We have put together the following models for you under these criteria:

Air Baltic Airbus A220-300, re-issue (Art.-Nr. 571487-001),
Interflug Ilyushin IL-18 (572873),
Jersey European Airways British Aerospace BAe 146-300 (572828), and
Eurowings Airbus A320 “BVB Fanairbus” (572750).

With the Airbus A320 "BVB Fanairbus" of Eurowings, Herpa once again provides a splash of colour and delights the friends of successful Dortmund professional football. Photo: Herpa

The aircraft in the design for Borussia Dortmund can also be purchased as a simplified snapfit model in flight display (613927). This series also includes a Lufthansa Airbus A320neo in the “Lovehansa” livery (613880).

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