012-EXPRESS

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NOTE to Readers:
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Editorial

Header:
Dear readers

„ … Please apologize the delay " – this was the end of numerous public address announcements at railway stations during the last weeks. This surely wouldn`t be remarkable if we were back in January 1875. You probably do remember the stories of the self-proclaimed "railway demoniac" Mr Karl-Ernst Maedel. He was able to specify all conceivable situations during railway trips and cab rides in detail like no one else. In his stories an impression was conveyed that coal dust and steam were real, every time locomotive driver Oskar Schneidereit was opening regulator and cylinder valves in order to set Loco No. 65 and train set in motion – powerfully steaming and hissing. Temperatures far below freezing and heavy snowfall were no unusualness during January and February at that time, not only in the east of Germany. Delays lasting for hours or complete train cancellations were daily occurrences and even the snowplough wasn`t able to cope with the snow masses on the tracks.

What do we learn from this? First of all: already more than one century ago masses of snow and severe cold were no exception and by no means they are indicating the climate change. Second of all: even after 175 years of railway history the German railways is still reaching its mobility limit. Sometimes there are adverse conditions where there is no getting through, even for the modern Bahn AG train-sets. In such "extreme conditions" also our highly developed technology is failing, which is likely to provide us with plentiful food for thought – how supersensitive this world around us is created. Unfortunately the railways is serving as an acceptable example: if modern passenger trains have to be withdrawn from service due to inadequate wheel sets this surely is no calling card for German engineers. But, like our railway director Rüdiger Grube would probably say at this point, it all has nothing to do with the adverse weather conditions. All the same he made it his business to order his "bread-and-butter" affair. „Adequate trains" – whatever is meant with this statement – are the solution for getting the ageing railways going again. Taking a look at our Swiss neighbour is possibly inspiring since there failures caused by weather or technical malfunctions are a thing of the past. But pay attention: please do not revert to high-priced CDs with unknown data from unknown persons – we don`t want to approach a slippery slope and descend into a life of crime!

But let us get back to the weather. The long winter is not altogether inconvenient for us railway modellers except for the garden train community. Ice and snow are providing for gearing down a bit. The outside world has become quiet and peaceful. At home an open fire is burning and if Christmas was still to come one was almost tempted to decorate the fir trees with chains of light again. This is the season for our well-beloved model railway and we are noticing our itching fingertips. We might as well benefit from this weather and continue building on our layout - or just seeking the hobby room in order to playing with our model railway.What a wonderful feeling it is to watch the iron horses rolling along the wide territory and letting them perform shunting operations in the station area. That`s pure relaxation at our own domestic spa area! Releasing the mind from all everyday worries. And instantly new ideas are coming up of how to further improve the domestic layout. The brain is overflowing and we are scheming the extension of a steeply sloping section with bridge

construction in secret. The landscape is virtually coming into being without any PC planning program.
The matching locos and wagons are also already planned. With pen and paper at hand we are writing down the great dream. With the material list in hand we are catching a glimpse of our loved ones in unbelieving amazement, putting on our jacket and head for the door. And regrettably we find out that there is no way of getting through! The streets are completely deserted and no DIY or model railway shop is within reach. By foot this undertaking would mean a day trip. So we have to give up and return to our lucid dreams. And we have to discover that we reached the limit of our capacities in person.
After a few moments the excitement dies away and gradually we are returning to the repose state of mind. Days and weeks are passing by and we are restricting our railway modelling activities on working on details. Locos and wagons should already be treated with some weathering patina in order to let them appear more realistic. Material and tools are available in the domestic basement. Without interruption we are enjoying the artistic work rejoicing in the created unique copies.

Outside, finally the grass is beginning to grow. Our hibernation, which was dedicated to our hobby this year, ends abruptly. Pretty relaxed we walk to the door and breathe deeply. The odour of spring is in the air. On the fence next to the gate the sign at the mailbox is indicating incoming mail. Radiant with joy we discover that the latest issue of the 012-Express has arrived – without any delay – that`s the way it should be.

Yours sincerely

Wolfgang Häußler

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Showcase

Bar:
Toy Fair 2010

Header:
A Touch Of Wide Gauge Optimism

Intro:
The year of the great depression has passed by without any effect on wide gauge modellers – full steam ahead for the New Year: the fair novelties

Perfection is definitely no question of size!
This slogan could be read at the Audi-Stand in hall 4A – you did not misread, we were at the Nuremberg Toy Fair and not at the Auto Show in Geneva. While strolling around the sensational stand we found out why the manufacturer of quite impressive automotives from Ingolstadt did choose to attend this fair: miniatures of the Audi range. Many visitors was flabbergasted when looking at the originals decreased in size. The male visitors were especially taken with the Union Type C racing car being a „High-Level-Bobby-Car“. Not even the equally striking beauties behind the counter were able to deflect their attention. For hard-working photographers and journalists like us this sight was a welcome diversion, in every respect.

Not that we had forgotten about the actual request of our fair attendance, which was to capture the wide gauge novelties for you.
On request the manufacturers were optimistic concerning “our” gauges. Some manufacturers predicted a triple-digit increase in turnover – which is depending on the implicated basis condition, as is often the case. Nevertheless, in plain language it is obvious that there is no room left for “manufacturing dinosaurs”. Mass productions of the umpteenth A-typed vehicle version are a thing of the past. Today downsizing the range of products is the message. Or specialization and simultaneous manufacturing of reasonable numbers of items – like shown by the large gauge manufacturers – are the basis of success.

Therefore it is hardly surprising that the former market leader Märklin has constricted the portfolio of novelties this year. Although the profit showed a double-digit growth in the year 2009 the Damocles sword of insolvency is still hanging over the company. The remedial design will only work out in the end if belts are remaining tightened and further cash injections will be taking place. But: cautious optimism always is better than burying the head in the sand. And at least one new loco model is coming from Göppingen this year – although only available to „Insiders“.

At the KM1 stand it is completely different: this year the variety of vehicle models and accessories on a scale of 1:32 is hard to beat. Located in hall 4A for the first time the Lauingen company caused some obstructions of visitors who wanted to take a look at all novelties operating on the exhibition layout. The new models were presented without making a fuss or costly video clips – nothing but the pure models were shown.

The visitors were also crowding around the new Lenz exhibition layout, gazing at the new gauge 0 models inside the showcases. Although many of them were shown as prototype samples only they are giving an idea of the rebound concerning the wide gauge sector.
Companies with a long tradition as well as newcomers and manufactures, who are participating the Nuremberg fair for the first time, seem to testify the economic upswing.
Is it possibly true that perfection is a question of (model) size after all!
All "large models" we carried together this year can be found in the following pages.

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Abrex
Gauge 0: For anyone who is fancying car models according to Czech exemplars the right company is Abrex. In addition to the classic Skoda Popular Sport Monte Carlo and Superb 913 also newer versions of the Felicia and the Fabia Combi on a scale of 1:43 are available for an attractive price. The cars are appealingly detailed and painted. Hood and doors are not opening.
(www.abrex.cz)

Addie-Modell
Gauge 0: This year a new diesel filling station together with petrol pump and attendant is coming from Wöllstein. Two versions with different tanks sizes and petrol pumps for small, medium and large depot layouts are offered. The tanks are made from plastic and detailed with brass precision casting parts.
A signal bell construction set for level crossings is available, which is featuring the double clang of the Rhenish and Brunswick railways.

The range of tin figures was supplemented with Mother Gertrud with pram, corporal Hans and his girlfriend Evi as well as "furious Robert". The last one can be used as a railway employee and for example in combination with the Weinert handcar. Further figures such as painters and lumbermen were announced.
(www.addie-modell.de)

Audi Miniaturen
Gauge 0: The magnificent Audi stand in hall 4A was amazing many visitors. Besides nice ladies and high-quality pedal cars for the small ones also some railway modelling items could be found: the Audi miniature collection on a scale of 1:43: starting with the Auto Union 1000 Sp Roadster up to the Q5 – models at its finest!
(www.audi.com)

Beli-Beco
Gauge 0, 1, 2: The lighting specialist again is offering a smart novelty: street lights in fibre optics. They can be used for replicating prototypical lamps, especially on narrow gauge environments. This new technology surely is also interesting for large gauge modellers. The illuminant is located inside the socket underneath the layout surface. The lamps can easily be inserted into the socket and illuminated via optical fibres.
(www.beli-beco.de)

Besig
Gauge 1: The gantry crane completely made from brass and painted with a special state railway colour is new at the Besig product range. The very beautiful model is equipped with a

wooden platform and delicate steps. The complete mechanism (without actuation) is replicated in detail.
The semaphore signals are now equipped with a prototypical steel cable actuation. The "cables" are made from delicate strands and are available in different strengths, according to the intended purpose. A prototypical DR semaphore signal with wait board post is also new; it can be actuated via an elaborately worked redirecting device.
Also new is the signal bridge designed after the Potsdam original. Initially the bridge was dimensioned for six tracks but back-built later. The left and right tunnel support is different due to the retaining centre support. The bridge is equipped with pre-fabricated socket bearings; actuation is implemented via a patented redirection system located at the bridge foot. The delicate ascension ladder is also available separately.
The retrofitting sets of washers for the light signals are really smart, too. So the LED light appears more "delicate" and a perfect visual appearance is guaranteed.

New furnishing details are sand blasted barrels from aluminium. A brass rack or a gantry with chequer plate roof is also available.
A delicate bench with brass frame and triply painted weatherproof wooden slats is perfect for a relaxing break.
The telegraph poles with four or eight insulators surely do not only please friends of the Gräfental railway.
(www.besiggmbh.de)

Danki
Gauge 1: Mr Sauer is coming up with more versions of the MAN F8. The very beautifully detailed vehicles will be a real eye candy in the streets of a model railway environment. The same applies to the F8 trailer truck equipped with long trailer, loading platform and tarpaulin and to the F8 motor coach equipped with logos of various mineral oil companies on cab doors and platform gates. Also new is the F8 with 2-axle trailer „Deutsche Bundesbahn": soon there will be a lot going on at the 1:32 scaled cargo handling facilities ... only the grumbling noise of the V8 engine is missing!
(www.danki-models.com)

Demko
Gauge 0, 1: The company attended the fair for the first time and as a novelty Mr Helmig presented a catenary system for gauge 0 and 1. In addition to individual masts with different brackets also transverse support structures and individual components such as insulators and holders are offered. The very delicately worked masts are made from etched brass, assembled with brass cast parts. The masts are available as DB and DRG versions.

The Taes 888 goods wagons completely made from brass were announced for both gauges. Delivery will take place in autumn this year.
(www.demko-modellbahn.de)

Dietz Modellbahntechnik
Gauge O - 2: Under the designation „SDL01" a reasonably priced digital package is offered. It includes a 3A-Decoder for DCC and Motorola use, a sound electronic component, which can be equipped with any Dietz sound and one Visaton speaker. The electronics will be delivered ready for operation.
The sound module X-clusive-S was overworked and now it requires less space. The price was also reduced.

The Servo decoder SWD01 is also new. It is equipped with two additional inputs where pushbuttons or Reed contacts can be connected. This allows for actuating the decoder also while the loco is operating.
The DSE F8 can be used as a DCC decoder or a SUSI function block. The outputs are invertible and do possess timing functions. Up to 29 different functions can be switched.
(www.dietz-modellbahntechnik.de)

ESU
Gauge 0 - 2: The next generation of the ECoS as 50200 is coming now. The large colour touch-screen offers an excellent resolution. This simplifies handling and enhances the visual presentation.
The used locos are displayed as real pictures. All function keys are illuminated.
The ECoS is a multi protocol digital unit. The locos can be controlled via motor-supported cruise controls or the touch-screen.
The Navigator, which was already presented last year, is a digital unit, especially adapted for smaller layouts. The now individually available IR receiver is also new. Via an extension cable it can be positioned spatially separated from the central unit. This is increasing the operating distance of the Navigator considerably.
(www.esu.eu)

Fine Models
Gauge 1: This year the successor of the company „FineArt Models“ attended the fair for the first time and presented the V 200.1, although still as a brass version. The delicately detailed model will be available in 13 different variations, starting with Epoch III up to the still in use locos of the EfW (painted in antique red and grey) and the BEG (painted in orange and grey). All locos from 200 121 upwards will be prototypically equipped with sound deadening. The model will be delivered with a Demko drive system and a digital sound decoder.
The kkStB 310 (BBÖ 310, DRG BR16) made from brass and stainless steel was also shown in Nuremberg as a prototype sample. The very beautiful model impresses with a consistently and thoroughly designed four-cylinder engine, the delicate frame and low flanges. Two coal and two oil versions will be available with different ruling, in accordance with the constructional executions during the years 1911 and 1923.
The announcement of the most powerful cog railway steam loco worldwide, the DRG 97.401 respectively ÖBB 297.401 in Epoch-II execution was causing a lot of excitement.
(www.finemodels.de)

Fulgurex
Gauge 1: The model of the originally designed as a “4-1200“ tender loco of the French railways, constructed by engineer Marc de Caso, was to be admired in Nuremberg: the NORD / SNCF 141 TC. The quality and detailing of this loco is excellent. The valves are accentuated via a camshaft („de Caso“ drive system). As a matter of course the model is equipped with a completely furnished cab. The elaborately handcrafted model is equipped with DCC decoder and sound. The model is available in three versions and in brown or green painting.
Matching the 141 TC the company Fulgurex is delivering the local passenger coaches „Banlieue“ of the NORD and SNCF railways in March. Up to the 60s these train sets with control car were characterizing the French railway network. The wagons are available as a set of three with NORD-society or SNCF control car. The third class wagon can be purchased individually.
(www.fulgurex.ch)

Heljan
Gauge 0: In Nuremberg the „Class 20“ was shown as an already painted model in the green or blue version. The sharp-shaped loco with its striking yellow front is about to being delivered in the first quarter of 2010. The model is equipped with a NEM interface.
Also announced was the „Class 55“ out of the British range of diesel locos and the Mk1 passenger coach (in 15 different paintings), like it still can be seen today along suburban routes on the British island.
(www.heljan.dk)

Hrm Modelltechnik
Gauge 0: New in the range of Mr Meier are the gondola cars according to Swiss examples in a scale of 1:45. The chassis, ascensions, levers, locks and also the completely replicated braking system of the SBB Type L^4 wagons is made from metal. The sides are prototypically made from wood. The doors cannot be opened. The outwardly opening rear side is also replicated, but cannot be opened on the model. The wagons are available as finished versions or as construction sets in an Epoch II and III version in grey or brown painting and with or without brakeman`s cab. Weathered wagons are also offered on request.
The already delivered crane truck SBB 96309 is also worth seeing. The prototypically executed beautiful model is available with or without digital control or equipped with a pre-arrangement for the assembly of a remote control. The crane is available as Epoch III or IV version with corresponding buffer wagon.
(www.hrm-modelltechnik.ch)

JoWi Modellbahnhintergrund
Gauge 0,1: Joachim and Karsten Wischermann were attending the Nuremberg fair for the first time. In addition to the well-known semi-relief cardboard punch-out sheets they showed brand-new laser-cut construction sets. The first series contains houses, typical for mining settlements in the Ruhr area. The semi-relief buildings will help to create very beautiful factory motifs for the background of a layout. Very charming are the beautifully worked out facade ornamentations, the mouldings and arched windows. The construction sets are precisely cut from thin medium density fibre-boards; they can be assembled and glued easily. If some matching colour is added the buildings will receive the typical look of the 50s and 60s.
More British and Swiss typed buildings will follow within a short time.
(www.modellbahn-hintergund.de)

KM1
Gauge 1/1e: With legendary speed the Lauingen company turned into a gauge 1 full-line distributor and it hardly is astonishing that their range of novelties is beating everything that the scale of 1:32 had to offer this year.

Gauge 1: The absolute highlight surely is the IV^H / BR 18^3 of the Baden region which ought to be delivered midyear. At the KM1 stand this loco was operating in front of the impressing Rhinegold train. Both, wagons and loco are captivating just as much. The felicitously painted wagons in a dark-purple colour are outstanding and to our knowledge no model manufacturer had ever been able to implement this colour in such an authentic way.
The streamlined BR01.10 locos are now completed and equipped with the prototypically drop-shaped streamline nose.
The cab tender version of a BR 50 was doing shunting operations at the KM1 stand. This loco is as striking as the model of the BR62.

The prototype sample of the BR03 could also be seen in Nuremberg. Like all other KM1 locos this model is also completely made from brass and equipped with the typical KM1 features such as dynamic smoke, cylinder steam and KM1 High Quality Sound. Driving mechanism, cab and smoke box are illuminated; axles and drive are ball bearing mounted. The prototypically small inducers will guarantee that this loco can also be used on a 1.020 mm radius with piston protective pipe attached.
The model of the BR23 was also announced in Nuremberg. It will be available in 8 versions and in NEM or FineScale variation.
The fleet of vehicles from Lauingen was complemented, too. As aforementioned, the Rhinegold wagons are almost completed and will be available together with the BR 18 in the third quarter of 2010 at the latest.
All eight versions of the standard type baggage car Pw4ü36/37 and the blue painted Epoch IIIa variation with streamlined cockpit should already be in delivery when this magazine went to press. The BAY05 is added to the range of branch line wagons. The brass model is equipped with a complete interior furnishing and a replicated brake system. Optionally, this wagon is available with illumination. The luggage car is provided with moveable sliding doors. The highly detailed model offers spring-mounted and ball bearing mounted axles as well as profiled wheels on both sides.
The gravel wagon DGW 266 is added to the KM1 range of goods wagons. The detailing is made in the typical KM1 standard, which already had been mentioned while introducing the BAY05. Five versions are announced, starting with Epoch IIIa up to Epoch V. In addition to the brown painted wagons also a grey „Eisenbahn und Häfen GmbH“ version and a brown Epoch V „Kirow Leipzig AG“ variation will be available. Fine scale wheels and a load of gravel will be offered optionally.

The track system, which will be delivered mid-year, will also be available as a set.
A reasonably priced starter kit will be offered together with the new KM1 digital unit (see text below).
The 10° live wire switch with polarized frog was also presented in Nuremberg. The turnout radius is 2.321 mm and the track length is 600 mm. The 15° and 7°35’41’’ standard switches will follow, equipped with turnout radius and executed as manually operated switch with ground frame or as an actuated version. The latter is including the decoder. The size of the actuation is corresponding to the original dimensions of the drive gearbox. The visual appearance of the tracks with laser-cut wood structure is excellent. If some patina is added a prototypical look will be guaranteed.
The corresponding ballast for this track system – replicated exactly on as scale of 1:32 – is rounding off the range.

A prototype sample of a 23 metre turning platform is complementing the KM1 novelties shown in Nuremberg. Platform and pit are CNC milled or laser-cut, the brakeman`s house is illuminated. Two servomotors are powering this model and provide for interlocking when the final position is reached. The outputs can be chosen individually and can be added easily with the help of the included drilling template. All loco functions are also available at the turning platform. The turntable itself can optionally be delivered with a sound decoder, where the typical alarm signal also can be recalled. This model will also be available as a 19 metre version.
The standard and articulated water cranes made from metal are also perfectly executed.

Gauge 1e: A huge surprise was the presentation of the TSSD, the Baden-Wuerttemberg dinosaur alias BR 99 633. Not only narrow gauge enthusiasts will be pleased at the sight of this model made from brass and stainless steel. The loco is equipped with a functioning

replication of the Mallet-double-engine power unit. Various details are as convincing as the KM1 typical equipment with Sound & Smoke. The front frame is accomplished as an articulated frame and the rear frame is fixed. The laterally attached coal boxes at the heater`s side and the rolling shutters at the backside of the driver`s cab are typical for this loco. The cross clamp is executed as a double tracked clamp. Five versions are offered, among others the „Oechsle“ of the Aulendorf museum railway.

Baden-Wuerttemberg passenger coaches and goods trains matching the TSSD were announced and it is planned to add a wagon carrier truck to the range of products.

Especially all narrow gauge modellers will get excited abut the new 1e track. With this track Mr Krug is complementing the gauge 1 track range, which offers all 1:32 scale enthusiasts the possibility of performing their hobby with a minimum of space. A track with three rails serving as a connection between narrow gauge and standard gauge will also be available.

Gauge 0, 1, 2: The new KM1 in-house digital command station comes with an easy-to-handle infrared control device, where up to 40 permanent loco addresses can be memorized in alphanumeric characters and up to 100 magnetic articles and functions can be recalled. Function keys and turning knobs are clearly arranged and easy to handle; the display gives a quick review of all currently activated functions. Up to 4 mobile controls can be connected to this command station. KM1 is offering a special price for the command station when locos are ordered (the same applies to already ordered locos). In the next issue of the 012-Express (issue No. 14 June 2010) we will present the digital command station in detail testing it under operating conditions.
(www.km-1.de)

Lenz
The company Lenz came up with their partially finished exhibition layout. The “master practitioners” really made a good job of it, even if various details are still missing. They have to be added in the course of this year –but there is plenty of time left. At least, it was possible to show the beautiful gauge 0 models “in motion” now, which was – besides the novelties - persuading a lot of visitors to a lengthier stay at the stand of the company Lenz.

Gauge 0: The BR64 definitely will be no „Never-Ending-Story“: this is what Bernd Lenz has verbally assured. Although presented as a prototype sample the further construction will be pushed extensively. And there will be no compromises concerning functionality and quality. Delivery is announced for the third quarter of 2010.
Considerably advanced is the development of the diesel locos designed after the V160 and the BR 216/218, which were presented as prototype samples in a dark blue priming. Due to undercarriage and structure an excellently detailed loco is to be expected. The same applies to the rail car, which will be delivered as a set of three in summer 2010. The VT98 with control car and trailer vehicle will inspire many gauge 0 modellers. Both models are coming up with authentic sound. Low flanges, USP, bi-directional communication via RailCom, coupling operated by remote control and automatic brake control are some of the features which are characteristic for the company Lenz.
This year also another version of the Köf II will be released, with set back head light and a new compressor arrangement.
The shunting loco V60 was announced, it will come up with the customary Lenz equipment.

The four-axle converted coaches are already under construction. They will be delivered as first/second class (AB4yg) wagons and second-class (B4yg) wagons.

Newly announced were the three-axle converted first and second-class coaches AB3yg, the second class B3yg (with two different standard company numbers) and the second-class BD3yg wagon with luggage compartment. All wagons are equipped with digitally switchable interior lighting, short coupling rail guiding and Lenz gauge 0 coupling.

The range of goods wagons will be widened with the stake car type R20 and the covered goods wagon Gl „Dresden“. In Nuremberg both wagons were shown as prototype samples.

This year the Lenz track range will be completed. The electrical switches with integrated actuation and illuminated lanterns will be delivered soon. The construction of curved turnouts and three-way turnouts has reached its final stage and they will be delivered in the second or third quarter of 2010.

Gauge 0,1, 2: Digital plus is now offering the follow-up model of the LZ100 – the LZV200 command station. Now loco as well as function names can be stored. The inbuilt RailCom Detector allows for reading out the CVs during operation. The address range of magnetic articles was enlarged to 0 up to 2048; the XpressNet was extended and offers up to 128 connectable components.
Via a software update all new LZV200features are available for LZV100 users

The development of the RailCom Transmitter LRC110 allows for exchanging RailCom data and can be used with all RailCom suitable DCC systems. The significant advantage is the bi-directional decoder response, which means the possibility of reading out the decoder on all track sections.
(www.spur0.de)

Lotus Lokstation
Gauge 2: The green painted diesel loco ÖBB 2092.04 is new in the range of products. The original loco with expanded cab was operating as from 1963. The model is a conversion of the LGB serial model and is equipped with exquisite detailing and sound decoder.
On occasion of the 100th anniversary of the RhB the company Lotus is releasing the small luggage rail car RhB De 2/2 151, the oldest vehicle, which is operating at the Berninabahn. The detailed model made from brass and wood is handcrafted and equipped with a sound decoder.
(www.lotuslok.at)

Märklin
Gauge 1: As a novelty in the gauge 1 range the company Märklin presented the DB version of the BR58 as insider model of the year 2010. For the first time this loco is equipped with a functioning inboard engine and it also features a wheel-synchronous smoke alternator, which is actuated via a mfx decoder. Operating this loco in DCC format is also possible. Actuation is acting on all five axles. Whether the attached traction tyres are necessary or not will be shown under operating conditions.
This was all the Märklin gauge 1 range came up with. Some cardboard dummies in the display are suggesting the re-launch of vehicles out of the Hübner range, amongst others the four-axle converted coach and the acid carrying wagon. The in-house “slimming program” is leaving marks. It was assured on request that the (formerly Hübner) track range would be available as from spring this year.
(www.maerklin.com)

Massoth
Gauge 1, 2: The sound decoder eMOTION XLSpro surely is not only interesting for scale 1:22,5 modellers. Compared to the predecessor it is able to process 16bit sound sequences directly which allows for a sampling rate of 22 kHz and hi-fi quality of sound. The memory size was increased to 64 MB.
(www.massoth.com)

Modelmates
Gauge 0, 1, 2: The brand-new weathering spray provides for prototypically shaded buildings and wagons and it can be used for the ballast substructure, too. The pigment can be applied thinly and wiped off subsequently by using a wet cloth. Different degrees of weathering can be reached depending on how many layers of paint have been applied and removed. Different shades of colour are available such as slate grey, oily brown, rust coloured and so on.
(www.modelmates.co.uk)

Prehm-Modellbahn
Gauge 2: Siggi Prehm is now offering a waiter and waitress set of zinc die-cast figures for restaurant cars and corresponding scenarios. Since a lavatory is helpful especially after a slap-up lunch the company Prehm is providing a matching motif together with “users”.
The alpine horn players, which had been introduced last year, were equipped with a CD containing Swiss folk music. Now an adequate sound can also be added to the familiar mountain climber scenarios.
To the range of “living” figures various railway attendants and labourers were added. They are activated via a miniature engine and gear. Additional attention-getters on the layout are guaranteed for the future.
(www.prehm-modellbahn.de)

Peco
Gauge 0: All friends of the British railways will be pleased by various new environmental details made from wood and synthetics: a simple loading crane, a loading gauge and a small refuge. A single-tracked level crossing with the typical British protective grating instead of gates is supplementing the range of novelties.
(www.peco-uk.com)

Preiser
Gauge 0: Not only for US oriented railway modellers: the presidential couple Obama on a scale of 1:45. The six campsite ladies are appearing in a revealing dress.
Gauge 1: The campsite ladies (set of three) are also decorating layouts in a scale of 1:32.
Gauge 2: Hikers in an upright position, a pensively group of men, two girls and a cabin scenario are supplementing the range of novelties.
(www.preiserfiguren.de)

Proto models
It was the first time that the supplier of prototypical European models attended the Nuremberg fair.
Gauge 0, 1: The SNCF local traffic rail car X2800 in a scale of 1:43,5 and 1:32 will be released as a precisely worked brass model. Ten different versions with different paintings of the individual French transport associations are announced. The blue and beige „Bleu d’Auvergne“ version was presented in Nuremberg. The vehicles are powered by a Portescap (gauge 0) and a Maxon engine (gauge 1) und equipped with a DCC sound decoder.

The grain silo wagon Uas is announced for both gauges, with lettering and painting of different European railway authorities. A list of all offered models is available on the Website. The delicate brass model is equipped with Y25 bogies.

Gauge 1: The Swiss Ae8/14 (11801) is a mighty loco, indeed. In Nuremberg it was still shown in its brass "outfit". This loco will be available in two versions: the original shape with four pantographs and the present state SBB-Historic loco with three pantographs.
The loco will be equipped with Fine scale wheel sets; actuation is implemented by eight Maxon engines. A DCC sound decoder is responsible for the control.
(www.proto-model.eu)

Schuco
Gauge 0: The new Mercedes-Benz SLS AMG and its implementation to a scale of 1:43 surely is the automotive highlight of the year. All relevant details of the original are perfectly implemented and it is – self-evidently – equipped with gull-wing doors. Other modern car models are the Audi A5 Sportback and the R8 Spyder, the 5-typed BMW and the X1, the Mercedes E-class cabriolet, the Porsche 911, the VW Passat and the Touareg. The historic cars are coming up with colour or lettering variations. A real form-oriented novelty is the Opel GT/J.
The range of 1:43 scaled Solido vehicles, which was taken over by the company Schuco this year, surely is interesting for all gauge 0 fans. The range is containing French vehicles like the Citroen HY box wagon or the famous DS limousine and also German classics like the Porsche 356A.

Gauge 1: The road vehicles in a scale of 1:32 announced last year are remaining unrealized due to the low demand of the traders. This is why the focus in the gauge 1 sector still is on agricultural vehicles. The two combine harvesters Fendt 9460 R and Massey Ferguson MF9865 are new in the range of vehicles. The CLAAS CARGOS forage wagon and the Fendt 211 Vario are completing the assortment of modern agricultural vehicles. The historic tractors Fendt LSA and Eicher 3145 were announced.
Gauge 2: The Distler figures (scale 1:24) are traditionally influenced: the elaborately detailed brewery parade float „Hacker-Pschorr" drawn by four horses and equipped with figures is already awaiting the next Oktoberfest.
(www.schuco.de)

Siku
Gauge 1: In spring the Fendt crawler tractor 8430T with Siku Control will be released, which can be controlled via remote control. The original is mainly used in forestry and agriculture working on difficult terrain.
The reversible plough, which is announced for autumn will also be equipped with remote control.
Owners of a large model estate will be proud to have the harvester "Tiger" at hand for future sugar beet gathering. Lumberjacks will receive a John Deere „Forwarder" with attached crane and trailer for loads of lug.
(www.siku.de)

Stangel
Gauge 0, 1: The series of town houses was enlarged and two new buildings for both gauges were added. The noble Lindenhof hotel is designed as a corner house and covers an area of 150 x 326 x 250 mm in a scale of 1:43,5. The construction set is consisting of 374

components and is made from laser-cut cardboard. Various synthetic and brass etched parts are completing the construction set.
The second new building is also two-storeyed and in the ground floor a florist shop is located. The construction set is consisting of 125 parts and the size of the building is 180 x 60 x 240 mm.
Both buildings are currently being prepared in a scale of 1:32 and delivery will take place in the second half of the year.
(www.stangel.pl)

Train Line 45
Gauge 1: Suitable primarily for garden train modellers but probably also interesting for one or two gauge 1 modeller: a switch with 2.100 mm radius and a 15° turnout was added to the 45-mm-track system. Crossings for the double crossover switch with an angle of 45° are also available.
(www.train-line45.de)

Uhlenbrock
Gauge 0 - 2: With the new IB-Control II an additional control device, which can be connected to the LocoNet central unit is available. So, two more cruise control units with loco selection via loco name, stored in a database, a keyboard displaying switches and signals via icons and monitoring options for repeater and LISSY acceptor as well as a timer are provided.
Each IB-Control II is extending the digital control by 80 running tracks, which can be recalled via keystroke or activated via train feedbacks. The LCD display possesses a backlit keyboard.
Also new is the LED effect lighting, which is able to illuminate complete houses or storeys and individual windows. The control electronics comes with four outputs for up to five LEDs each. Individual lanterns equipped with LEDs can also be connected to this device.
The now available LocoNet IR sets together with the LocoNet-digital central unit are providing for wireless operation of locos, switches and running tracks.
The powerful multi protocol Booster Power 7 is very interesting for large gauge modellers. It allows for an increased output current of 7 A on the layout. The output is short-circuit-proof and secured against capacity overload.
Also new is the terminal loop relay. If multiple terminal loops are used further relays can be connected to the Power 7.
(www.uhlenbrock.de)

Wiking
Gauge 0: After the Rosenbauer Panther 6x6 has been released the company WIKING now is adding the Metz turntable ladder DL32 in a scale of 1:43 this year.
Gauge 1: For all modern countrymen now the model of the CLAAS Xerion is available in a scale of 1:32. The all-metal model is equipped with movable bonnet, windows and doors, as was the case with the preceeding die-cast models.
(www.wiking.de)

Wunder
Gauge 0: Exhibited in Nuremberg was the model of the diesel loco BR 215, which had already been announced in the year 2008. The original loco was a short-term version of the V160 and a forerunner of the BR 218. The model is completely made from brass. Two Faulhaber engines are powering the two bogies; control is carried out with a Zimo decoder.

In addition to the BR 215 also the V 160, the BR 216 and the BR 218 were announced in different colourings.
Announced in 2009 the express train wagons typed „Hecht“ are completed now and they also are available for gauge 0. The bogies are spring mounted. Different versions such as a luggage van and a post coach will be available for Epoch II up to IV. They can be purchased individually or as a set of four.

Gauge 1: The V 100 for Epoch III up to V will be released in a total of 9 different versions. The brass model is equipped with ball bearing mounted axles, a Zimo decoder and two Faulhaber engines. The cab doors can be opened. Special paintings for private railway use are available on request.
The VT08 „Rheinblitz“ is offered as a standard type and a DB/TEE version, as a set of three or four.
A long-awaited model will be released this year: the Prussian 4-axle compartment coach. A total of 15 different versions for Epoch I up to IIIa are announced as well as a post coach and a luggage van. The wagons will be completely made from brass and they will be equipped with illumination actuated via functional decoder and opening doors. The interior furnishing will be replicated completely.
(www.wunder-modelle.de)

Wyko Echtdampf
Gauge 1: Mr Wyrwich was the only representative of the Live Steam league who took the chance of attending the Nuremberg fair. The exhibited model was the BR58. The excellently detailed model came up with a powerful tractive force: coping with 80 axles is no problem, at all. The operation period without feeding is about 40 minutes. The loco can be used at a 2.000 mm radius upwards and it is available as a finished model or construction set and as a green painted regional railway version.
The BR61 002 was exhibited still without housing. The 3-cylinder engine surely will trigger excitement among the live steam modellers – just think of the Henschel-Wegmann train!
At the Spur1 meeting in Sinsheim in June this loco will be shown in operational conditions for the first time.
(www.wyko-echtdampf.de)

Page in Original German Version: 20

Category:
Showcase

Bar:
More novelties for large gauge modellers

Header:
Apart from Nuremberg

Intro:
On the following pages we will introduce the spring novelties of all companies who didn`t attend the Nuremberg fair

Atelier Schreiner
Gauge 0: New is the all-purpose rivet stamping mould. Guiding and die plate are made from hard etched stainless steel and the form punch is made from spring stiff stainless steel wire, which is enabling to achieve particularly delicate and round rivet diameters of 0,5 mm. Different templates for individual rows of rivets or rows for board fastening and also double rows for imitating steel-plate connections are available. Further templates with rows of rivets for other scales will also be available in the course of the year.

Gauge 0e, 0f: Now available is a track system made from 0,8 mm etched German silver for imitating grooved tramway rails with straight or curved tracks. It comes together with a pair of switches, threadings for triple track sections and crossings with an angle of 22,5° and 90°. The track system is designated for RP-25 wheel sets only; NEM wheel sets cannot be used. On the one hand the depth of the grooves allows for a smooth run on the wheel flange and on the other hand when mounted onto a 4 mm substructure an offset free combination with the commonly used Peco track material is guaranteed. Due to the low height of profile also earthy municipal and rural roads can be displayed, where the rail profile usually was not bordered. Exceptional cases were areas around road junctions and branches, where timber planks had been used.
Info: www.feldbahn.de

ASOA
Gauge 1: To the range of recently introduced vehicle number plates of southern Germany now northern Germany and the Rhine-Ruhr area were added. The number plates are printed on a glossy and self-adhesive plastic foil (no digital print). The plates are matching the period between 1956/57 and 1999. If desired the front plates are available with smoke check sticker, which was necessary as from 1985. The rear plates are available as single-spaced or double-spaced version. A special feature is the enclosed 0,15 mm aluminium plate, which serves as number plate holder. By using a scissors the plate can be cut easily.
Also new is the model of a Deutz MAH 916 engine. The constriction set is consisting of white metal and cast-ceramic components.
The new solder and bending gauge for handrails consists of a spiral-shaped milled piece, which allows for variably constructed handrails in every desired length. The matching edge parts with accurately replicated fastening nuts are also available.
Info: www.asoa.de

Bergischer Modellbau

Gauge 0 (1:45): Andreas Neidert is offering a shed designed after an existing one in Müllenbach. The model is available as resin construction set or as a finished model (with or without weathering).
Info: www.bergischermodellbau.de

Dingler
Gauge 1: Two more versions of the MB319 will be released this year, equipped with the usual richness of detail, which is also featuring the Dingler standard models: the yellow „Deutsche Bundespost“ wagon and the very elaborately painted and lettered Spedition Dachser „Luftfracht“ carrier.
Info: www.dingler.de

Easygleis
Gauge 1, 2: New is the model of the electronic train protection according to the US example (Fred or EOT). Since many years it is replacing the Caboose. The operating current is taken out of the track via pickup shoes. The electronic components are located in a small box. The intensifying and softening lighting effect out of the red lamp and the flash are a real eye-catcher. The electronics can be powered analogue or digitally with a supply voltage of up to 24 Volt.
Info: www.easygleis.de

HEGOB
Gauge 1: Thomas Obst now is offering one thing that many scale 1:32 railway modellers had eagerly awaited, not only because of lack of space: the new three-way turnouts. Like all other components of the HEGOB track system the three-way turnout does also possess a German silver profile with a height of 5,2 mm. The delicate rail chairs with replicated screws and rail spikes according to track system K 47 are made from synthetic material (ABS) as well as the sleepers. The guide rails are also made from German silver. The three-way turnouts are optionally available as left/right or right/left version. The turnout radius is 3.000 mm, the branch angle is 9,5°. The complete turnout has a length of 900 mm.
Matching the three-way turnout also the standard turnout executed as 9,5° left-hand or right-hand turnout with as a radius of 3.000 mm and a length of 700 mm will be available soon. All turnouts can optionally be ordered with real oak sleepers and rail chairs made from German silver.
Info: www.hegob.de

Henke
Gauge 0e: All narrow gauge fans will be pleased: The TSSD (BR99 633) will be released in a scale of 1:43,5. Co-produced with the company Spieth the delicately detailed construction set will be made from synthetic and brass. The loco will receive a Faulhaber engine, which is acting onto all axles. The linkage is completely made from German silver casting. Three versions are planned, a DB, a DR and a museum execution. Presumably, the loco will be available at the end of 2010. Matching wagons are available at the company Spieth.
Info: www.modellbauhenke.de

IMS
Gauge 0: The windmill in Lindennaundorf near Leipzig will be implemented into a model. The original post mill currently is being restored and will be dedicated at Whitsun. The roof covering of the laser-cut wood model is made from synthetic material. The building is positioned onto the completely replicated rotary post. Delivery of the construction set will take place as of April (if desired the mill is also available as finished model).

Info: www.ims-modell.de

Kiss

Gauge 0: This year the model of the BR 01.10 will be released in a scale of 1:43,5. The loco will be available with historic and reconstructed boiler for Epoch III and IV.
The BR232 „Ludmilla“ will be implemented in a scale of 1:45. The model is equipped with smoke generator and ESU sound. The cab doors can be opened. A total of 7 different versions are planned.
The SSym46 / SSym „Cologne“ will also be available in a scale of 1:45. The 6-axle flat car is equipped with insertable stakes and the railing will be demountable. The wagon can be used at an 800 mm radius upwards and will be delivered with screw coupling. The Lenz coupling adaptor is already assembled. Not less than 18 different versions of Epoch II up to Epoch IV models are announced.

Gauge 1: The „Ludmilla“ will also be available in a scale of 1:32, featured with the same equipment as the gauge 0 loco.
The powerful BR45 will be available as all-metal model in three different versions and different undercarriage colouring according to DB or DRG execution. The loco comes with the customized Lenz smoke and sound features. Directionalization is carried out via a servomotor. A claw coupling at the tender buffer beam can be retrofitted optionally.
Just as attractive is the announced BR95, which will be delivered in the second quarter of 2011. Three versions with the two typical Westinghouse pumps are planned.
As an optional extra the locos can be equipped with an individual standard company number.

Gauge 1e: A special treat for all narrow gauge enthusiasts is the Saxon I K. The brass model will be released as an Epoch I loco of the K.Sächs.St.E.B. (No. 50) and as a SBB I K 54 version, each painted in dark-green and red brown or as a DRG Epoch IIa loco (BR99 7520) in black and red painting. A smoke generator is assembled. For digital operation a decoder can be refitted via a 21-pin interface. The announced delivery date is the second quarter of 2011.
Info: www.kiss-modellbahnen.de

Lematec

Gauge 0, 1: This year the Swiss company is limiting themselves on accomplishing the models, which already had been announced in the years 2008 and 2009 - the „Ludmilla“ in gauge 0 and 1 and the SNCF CC 6500 as well as the 141 R in gauge 0.
Also announced were various 4-axle passenger coaches of the French railways in both gauges, amongst others the SNCF OCEM FL and the DEV AO.
Info: www.lematec.ch

Real-Modell

Gauge 0: The company from Lütjenwestedt is offering the „Wernigerode“ track scales as a construction set of dyed resin. Delicate doors and windows from 0,3 mm brass are enclosed as well as a detailed construction manual. The very beautiful half-timbered model will optionally be available as a standard gauge or narrow gauge weighbridge. The switch signal on the roof of the building is movable and can be motorized.
The delicate roof panels are available separately.
Info: www.real-modell.de

WEMA-Bahnatelier
Gauge 1: Mr Weickmann is presenting the DDM 915. The handcrafted model in mix-construction is equipped with ball bearing mounted axles. Painting and lettering are absolutely prototypical. The model is equipped with short coupling kinematics. Eight different DB versions with screw coupling or claw coupling are available and can be used for Epoch IIIb up to VI as train set wagons or tail wagon. The latter is equipped with a red LED taillight, which is digitally switchable and a reinforced buffer beam on one side.
Info: www.wema-bahn.de

„Nurse, the tweezers please!!“

This typical call for help during the mounting of a screw coupling should become silent in the future and also the reams of maledictions and contortions while using the coupling tweezers probably will be a thing of the past. And that’s just fine.
This is possible with the help of the coupling aid developed and distributed by Thomas Schluppeck. With the help of this aid the screw coupling can be grabbed AND the wagons can be pressed onto the coupling AND holding up while affixing the loco is succeeding in almost every possible position.

In doing so the coupling aid is grasping the u-shaped D-link close to the thread, precisely and in a force-locked manner so that the coupling can be guided during the coupling and decoupling procedure. After the coupling procedure the coupling aid can be removed easily, even with overhanging wagon parts or in curves.
The pictures are showing the usage of the coupling aid after delivery; the screw coupling at the U-leg is highlighted in white colour. The weight of this auxiliary attachment is only a few gram, an additional LED light is already planned in order to simplify working under dim lighting conditions.
This practice-related item can be purchased at a price of EURO 12,50 and we only have to answer the question of how to assign the redundant scrub nurse in the future, since passing over the tweezers will be water under the bridge now!
Info: info@lokbox.de

Dr. Thomas Brodrick

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Category:
Original & Model

Bar:
Series 03

Header:
The „Lightweight“ maid

Intro:
The lowlands are their home: the low weight trailing tender locos series 03: a brief history of the original

Author: Klaus-Gerd Schoeler
Pictures: Slg. Thomas Obst

Actually in the DRG classification during the years 1923 and 1924 the BR03 did not exist. Already five years after the delivery of the first BR01, however, the prototype of the BR03 was standing on the tracks.
The company Wagner/Nordmann had planned this loco, which corresponded to the standard type locos and can be considered as the smaller equivalent of the BR01. The BR01, 02 or 39 locos were powerful express locos during the late 1920s but they could only operate on main lines, which were developed for an axle load of 20 tons. The locos were mainly used at the former Prussian-Hessian route network where they managed the entire heavy express train operation.

On the other hand, modern and powerful express locos were missing along the non-expanded routes in Northern Germany. The used S10 locos were only able to cope with the increasing tensile load to a certain extent.
Upon request of the North German authority the DRG headquarters came up with a draft of more low weight express locos. The standardization department and the manufacturers Kraus-Maffai and Schwartzkopf started working full speed on the construction, which was leading to a total of eight conceptual designs. For reasons of component equality with the BR01 / BR02 and ease of maintenance it was decided in favour of a two-cylinder loco. The Prussian manufacturers Henschel, Krupp and Schwartzkopf were entrusted with the construction of 298 locos and the company Borsig was assigned to deliver the three prototypes.
In summer 1930 the first BR03 was registered and given to Osnabrück depot for testing purposes.

Subtitle:
The delicate sectional frame

The BR03 was equipped with a sectional frame from 90 mm steel plate. From buffer beam to trailing axle the frame had a width of 1.000 mm, in the trailing axle area it was reduced by 40 mm in order to allow for the lateral clearance. Due to downward openings in the axle bearing area the delicate frame was quite flexible, therefore it only was allowed to dismount or change the wheel sets with attached boiler.

Up to loco number 03 162 the front bogie was equipped with 850 mm wheel sets, later 1.000 mm wheel sets were assembled, which increased the lateral clearance amongst other things. The design of the bogie was a development of the regional railways. The three coupling wheel sets respectively drive wheel sets with a diameter of 2.000 mm were solidly attached to the frame, the 1.250 mm trailing wheel set was placed 3.500 mm behind the rear coupling wheel set due to the location of the ash pan.

Actuation was implemented by two cylinders featuring an original diameter of 600 mm, later 570 mm in order to avoid any slipping. The cylinders respectively connecting rods were acting on the central wheel set and the control was a Heusinger type.

Until loco number 03 162 the braking system was consisting of Knorr brakes, which were unidirectionally acting on the drive wheels respectively coupling wheels. As from loco number 03 163 all locos, which were permitted for a speed of 130 km/h received caliper brakes.

The BR03 was equipped with a Wagner long boiler with pipes 6.8 metres long. The boiler was consisting of two shots, in the middle of the front shot the feed dome was located and the steam-extracting dome was attached at the rear shot. The sand box was placed in-between. The large ash pan was located between rear coupling wheel set and trailing wheel set. The outer firebox was protruding over the sole bar; therefore the front wall was diminished downwards.
The preheater was embedded crosswise into the smoke box at the top of the chimney, the steam turbo generator was placed laterally along the chimney at the heater`s side. It is interesting that the BR03 had been the first standard type loco which received an engine illumination.

The cab of the BR03 was a standard type cab, which was furnished with separating walls in the rear area as a protection of the staff. The rest of the equipment was corresponding to standard type locos. With a few exceptions the BR03 locos were equipped with a 2’2’T32 tender.

Subtitle:
Loco behind schedule

As expected, tests showed that the BR03 was less powerful than the BR01. Despite a smaller piston diameter the loco tended to slip during accelerating. The consumption was classified as economical. Test runs based on normal operating plans showed that the BR03 had absolutely no power reserves. Late arrivals could only be compensated if the staff ignored the allowed speed or if some time was bought during scheduled stops. Above all this well-versed staff was required who was able to cope with the slipping tendency of heavy trains.
After completion the locos were approved at the repair workshop Braunschweig and allocated to lowland regions. Before the War Osnabrück depot stationed the largest number of 17 locos. Further locos were registered at Hamburg-Altona, Breslau, Essen, Halle, Hannover, Cologne, Königsberg and Stettin. In South Germany the BR03 scarcely was used for ancillary operations because the engine power along upland routes was not satisfactory.

After the Second World War 1412 locos were remaining in the West German region, 110 of these were again ready for operation in the year 1948. The DR owned around 85 BR03 locos, 78 of these had been overhauled and operated according to schedule. The DB headquarters

Hamburg, Hannover and Muenster had registered the most BR03 locos. The general application area was the route Hamburg via Bremen, Osnabrueck and Muenster to Cologne. They were operating in front of fast trains and express trains with a daily output of up to 850 km.
As soon as the compressed timetables were introduced the low weight locos were no longer able to manage the smooth-running long-distance routes. The last BR03 locos were operating at Ulm depot, in September 1972 the last BR03 with the loco number 003 088-2 was sorted-out.

The 03 104 served as a template for our test loco. After its technical approval made at the repair workshop in Braunschweig the loco was commissioned at 2nd May 1933. The first place of application Cologne-Deutzerfeld depot. During its whole operating time it was one of the few locos that were coupled onto a riveted 2'2'T32 tender. Its last home depot was Hamburg-Harburg, where it was sorted out at 1st June 1967.

Further information concerning the original:
Eisenbahn Journal: Manfred Weisbrod/Horst Obermayer, Die Baureihe 03; Sonderausgabe I/91, ISBN 0720-051X

Facts on the original BR03

Piece number:	298
Manufacturer:	Henschel, Krupp, Schwartzkopf
Years of construction:	1930 - 1938
Withdrawal from service:	1972
Type:	2'C1' h2
Total length over buffers:	23.905 mm
Maximum speed:	120 km/h (03 001–162) and 130 km/h (03 163–298); reversing 50 km/h
Indicated power:	1.450 kW
Driving wheel diameter:	2.000 mm
Front trailing wheel diameter:	850 mm (03 001–162) and 1.000 mm (03 163–298)
Rear trailing wheel diameter:	1.250 mm
Number of cylinders:	2
Cylinder diameter:	600 mm and the 03 001-003 with 570 mm
Piston stroke:	660 mm
Boiler overpressure:	16,0 bar
Grate area:	3,97 m²
Superheater area:	70,00 m²
Evaporative surface:	201,96 m²
Tender:	2`2 T30/32/34
Water reserve:	30/32/34 m³

Picture headers

No.	Text
1	The BR 03 228 in May 1930 at Osnabrück depot
2	A characteristic of the BR03: the delicate sectional frames and the riveted tender
3	Two 03s combined: the DRG loco on the left side, the DB loco with third head light to the right

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Category:
Original & Model

Bar:
Testing the Kiss BR03

Header:
A delicate flat country courser

Into:
Recently delivered: the Kiss model of the BR 03 in gauge 1. The following test report will show if driving characteristics and lean appearance of this loco are harmonious

Author: Klaus-Gerd Schoeler
Pictures: Manfred Weihrauch

For this test we had an Epoch III 03 104 loco available, equipped with Wagner smoke deflectors.
The cardboard box contained loco and tender individually packed in styrofoam trays and via recessed grips they can be pulled out very easily.
Supplementary devices such as piston rod protection tube, wind deflector, locomotive driver and heater as well as a hexagon spanner for the linkage screws are included in delivery. The short but clear design of the user guide and the ESU decoder description, which is especially adapted to this loco, are completing the scope of delivery.

After unpacking the appearance of this loco is attracting attention right away. Compared to BR 01 locos its design is considerably more delicate. This “optical lightness” is characteristic for the original and the model of the BR 03. When removing the model from the box and rerailing it we noticed that this loco is not lightweight at all. The large Wagner smoke deflectors of this Epoch IIIa model are quite unusual but absolutely appealing. It really is difficult to break away from this airy open-worked frame.

Subtitle:
Technology

The loco is almost entirely made from brass, which is reflected in its stately weight of around 7.3 kilograms. The traction voltage is picked off on both sides of all four tender wheel sets and on the driving and coupling wheel sets. With these 14 positions and the weight of loco and tender plus suspension and bogie flexibility unrestricted current supply is guaranteed.
Gearing and wheel sets are equipped with maintenance-free ball bearings, only the connecting rod and coupling rod bearings have to be greased before commissioning and after a corresponding mileage is reached.

The actuation of this three-coupling loco is implemented by a 12V-Pittman engine with 32W via a permanently lubricated gearing and a drive belt acting onto the rear coupling wheel set. Drive and front coupling wheel sets are actuated via the coupling rods.
The loco is designed for an operation on 1.020 mm radii. If a larger radius is chosen the piston rod protection tubes may not be mounted. In this case also the loco-tender connection has to be adjusted at a larger clearance.

Subtitle:
Boiler and cab detailing

The detailing of the boiler leaves nothing to be desired. The boiler washout plug, the delicate wiring with clamps as well as the attached aggregations are just perfect. Each flap and every covering plate at the turbo generator for instance is equipped with replications of tiny screws leading to the electrical connection. The safety valves and release strings are as pleasing as the sand dome, the feed dome and the steam dome – all of them are prototypically equipped with handles, but unfortunately they cannot be opened.
Similar to most of the steam generating models the chimney is not completely drilled through in the downward direction, after a length of 10 mm the borehole is reduced to a diameter of 6 mm. The sand pipe valves, the wire flanges and all other cast parts are very pleasing due to their accurate and delicate execution.
The execution of the large Wagner smoke deflectors is also pleasing and they are attached to the boiler with the help of very small cross-recess countersunk screws. The openings for pump maintenance are to be found inside the smoke deflectors; so their detailed replication remains regrettably hidden.
The smoke box door, which can be opened for pouring in the steam distillate, is equipped with delicate and moveable sash fasteners.
On the circular shaft plates also flaps for the different maintenance accesses do exist and all treads leading to the boiler are equipped with open-worked step grids. Underneath the circular shaft plates replicated electrical wires can be found.

The cab is mounted onto the boiler in an accurately fitting way, all instruments such as pressure gauge, level indicator, stopcocks and gate valves are replicated in the same delicate way as the seats for the staff, the main brake valve and the fire flap. All steps leading to the cab as well as the lengthwise treads underneath are equipped with completely etched grids. The dimension of the rows of rivets on the cab is true to the original. The cab doors are spring load-mounted and together with the identically executed tender doors they do make a harmonious impression, even when cornering.

Subtitle:
Undercarriage, frame, wheel sets and linkage

All openings in the sectional frame do exist, which reveals the view onto the inner surface of the large spoke-wheels. The gearing cover plate located at the rear coupling wheel set is affixed with the help of black matt-finished screws. A red painting would have been more prototypically, though – although it hardly is visible during operation.
The wheel sets are inspiring. The delicate webs at the spokes are instantly attracting attention. The replication of the spokes and the elliptical profile is carried out prototypically; compared to older models the impression of this loco is a lot more attractive.
The black finished coupling, main and connecting rods are prototypically placed close to one another and so the vehicle does appear to be long-legged, especially at an angular view. All fundamental details on control unit-support, slipway and crosshead with oil cup are reproduced prototypically. Via a slipping clutch at the driving axle the control is turned-over according to change of running direction and later start-up procedures. Unfortunately, there were some malfunctions on our test loco, but we did not readjust the slipping clutch screw.

The pusher bogie is equipped with all prototypical constructional components such as braking system, air cylinder and suspension. The trailing axle with its long drawbar is also

convincing and if the model would be weathered the first two boreholes, which are not completely drilled-through would stand out to a lesser extent. The support structures on the adjusting lever underneath the cab floor are missing.
Compared to the original the model brake shoes were thinned down due to cornering mobility reasons. The return springs on the trailing axle brake pulling to one side is accurately replicated. The sand pipes are almost touching the rails, which is rounding off the good impression of this loco.
The replication of the inductive train safety device is prototypically placed tight to the frame and the height is chosen accurately.

Subtitle:
The tender

The BR 03 104 is coupled with the typical delicate 2'2'T32 tender. The prototypical rows of rivets are replicated completely.
The water tank flaps and actuating linkage are also entirely replicated. The backside of the tender is equipped with toolbox, treads and the large DRG lamps with reflectors. The side leading to the cab is also completely replicated. The counterbalanced brake, the water-level indicator, the wooden plates at the coalbunker and the delicate handles and treads – all these details are prototypical. The tender is filled with uniformly fine coal.

The bogies on the tender are as highly detailed as the undercarriage of the loco. Although the coil springs are slip cast they are executed in a delicate way. All screws on the bogie panel are replicated, the spring rods and close-fitting brake shoes are convincing. Lubrication tubes with oil cups are completing the good impression – and if the bearing shells were equipped with manufacturer lettering the undercarriage would hardly be distinguishable from the original.
Although not all parts are visible form a lateral perspective the braking system underneath the tender floor and inside the bogies is almost completely replicated.
The buffer beam of the tender is equipped with all relevant connections.

Subtitle:
Painting and lettering

The loco is painted evenly and covering. The lacquer coat is thin, which is accentuating the sharp-edged details. Areas painted in red and black colour are well defined and perfectly separated. The degree of gloss is matching a brand-new loco. The finishing is well done; the red colour looks authentic.
The instruments in the cab designed in white colour are equipped with graduations and needles; the overall impression is excellent. The hand wheels are painted in black instead of red or metallic bight.
The lettering is complete and as far as it is visible the dimension is correct and applied precisely, the revision date "9th November 1955" is matching the early Epoch IIIa. Loco number, nameplate and depot label as well as the DB letterings are neatly etched and painted selectively.

Subtitle:
Lighting

The DB version of the loco possesses two large DRG lamps on the front side, so does the tender. They are provided with warm white LEDs. For the first time very small LEDs are

mounted on wires in an upright position to imitate the reflector. The impression is striking and the lamps are almost similar to the original. The cab lighting is pleasing to the eye. This kind of illumination does accentuate the pointer instruments and fittings very well. The tender platform lighting, which is switched together with the cab illumination, is very attractive.

The jitter replication of the burning coal inside the firebox is very realistic and it does not outshine the entire cab. Via small slots in the fire flap the glow is shining through and illuminates the direct surrounding only.
The engine illumination is visible also when the loco is placed inside a deep and dark depot or at a poorly lit platform hall. Also in this case a high value was set on a lifelike light intensity.

Subtitle:
Driving characteristics

As usual we tested the loco on two different layouts in order to exploring both, the driving characteristics on grades respectively the minimum radii and the co-action of loco and train set along larger radii and generous sets of points at high speed.
On both layouts the test loco didn`t show any dropouts. The mounting of pusher bogie and trailing bogie with pressure springs and return springs as well as the spring system of the coupling wheel sets is well-balanced and aligned with the weight of the loco. Also at shunting speed on Märklin tracks no interruption of the power consumption was observable.
The gearing is running extremely smooth and after a warm-up time of a few minutes the minimal untrue running was gone. Both, engine and gearing are running absolutely smooth and at low speed no rumbling noises could be heard. During acceleration no whistling or singing noise did occur.

Our test loco was equipped with a relatively short set-up deceleration. This setting allows for approaching a train at slow speed and decelerating for shunting purposes, followed by a slight push in order to hook in the coupling with the help of a tweezers. Shunting operations can be done similar to the original, which is a lot of fun. The top speed of this loco is frightening, especially if eight express train wagons are on the hook and a double bend of nine metres (radius 15 metres) is passing into a 2,4 metre radius. We took a chance and reduced speed not until the running-in point was reached. There was no derailing and the undercarriage also did stand the test.
Accelerating an express train with eight Märklin wagons was no problem at all and, compared to the original, both loco as well as staff were doing fine.
Operating on Hübner switches and double-slips was no problem either and the larger radii of HEGOB switches worked out fine, too. On our second test layout the loco coped with the long-established Märklin switches. On this layout we added an adaptor to the original claw coupling and neither pulling nor pushing operations did cause any problems.
Only when starting-up from a low layout level the friction failed to work, but a train set of seven blunderbusses together with loco and tender had coped with a bend and a grade of 4,5 %. As soon as the blunderbusses had been decoupled the excessive grades could be managed – the model and the original are obviously designed to being a lowland loco.
During continuous operation with load and at all possible speed ranges over a period of one hour there was absolutely no cause for complaints.

Subtitle:
Decoder and sound

The documents relating to the used ESU decoder are complete and include more than just a list of special features.
The engine control setting is perfect; the Pittman motor is running absolutely true and powerful.
The loco is equipped with a Visaton FRS5 speaker on the front and a Visaton FRS7 speaker on the tender. The speaker inside the tender can be deactivated via a switch underneath the water intake.
The sound is absolutely convincing although the sound level is adjusted a bit too loud for a home layout. The exhaust stroke during slow approach or while accelerating is lifelike; at terminal velocity it barely is audible.
All other sound such as whistle, pumps and coal shovelling are implemented properly although the coal shovelling could hardly ever been heard at the original loco. In addition to the various supplementary sounds also cab light, tender platform illumination, engine lighting and the rhythmical steam output out of chimney and cylinders can be activated, which is synchronized with the engine and can be switched-off via an on/off switch inside the smoke box in order to avoid any unintentional activation and possible damage.

Subtitle:
Conclusion

The Kiss BR03 loco is a model, which features a good cost/performance ratio. Driving characteristics and sound are excellent, although final velocity and sound level could have been adjusted somewhat lower. But these two parameters can be modified easily. The spokes, which are showing to advantage especially on these large wheels, are sparkling. Replicating the screw heads in the frame area would have upgraded the model even more. The detailing on boiler, cab and tender is sufficing, only the hand wheels inside the cab could have additionally been designed in red colour or metallic bright. The new LED lamps are inspiring.
The control system should be powered according to direction of travel – the decoder capacity would be sufficient. Compromises in respect on running Märklin radii can hardly be noticed, all dimensions are accurately executed in a scale of 1:32.

The BR03 is cutting a brilliant figure, as a showcase model and on the layout. The open-worked sight through the undercarriage or the angular top view underneath the boiler, both are indicating the contrast to gauge 1 locomotives, which had been produced a few years ago. It surely will be interesting to compare this loco to the KM1 model, which is about to being released soon.

Picture headers:

No.	Text
1	The Epoch IIIa model of the Kiss BR03: a delicate appearance with the slender boiler and the high-legged driving wheels, in spite of the bulky Wagner smoke deflectors
2	The cab is equipped with all instruments and operating levers/wheels
3	Absolutely prototypical: the spoke wheels; the NEM version is well worth seeing, too
4	The typical riveted BR03 tender is contributing to the delicate overall appearance of this loco

Box:
Dimensions of the model compared to prototype dimensions taken from the construction drawings

All dimensions in mm	**Original BR03**	**Theoretical 1:32**	**Kiss BR03**
Total length over buffers	23.905	747,0	748,0
Total length loco	15.100	471,9	472,0
Total length tender	8.650	270,3	271,0
Distance between loco and tender	150	4,7	5,0
Height centre line of boiler above track	3.100	96,9	97,2
Width above cab	3.050	95,3	95,1
Top of chimney above track	4.450	139,1	140,5
Height buffer above track	1.025	32,0	31,7
Front driving wheels	850	26,6	26,5
Rear driving wheels	1.250	39,1	39,1
Driving/coupling wheels	2.000	62,5	62,5
Wheelbase loco	12.000	375,0	374,8
Wheelbase tender	5.700	178,1	178,5
Distance front driving wheels	2.200	68,8	68,5
Distance driving/coupling wheels	2.250	70,3	70,4
Distance between front driving wheel and coupling wheel	1.800	56,3	56,4
Distance between coupling wheel and rear driving wheel	3.500	109,4	110,4
Distance tender bogie wheel sets	1.900	59,4	59,5
Distance tender bogies	3.800	118,8	120,0
Distance between buffer and first inducer	1.900	59,4	59,2
Distance between driving wheel and loco tail	1.200	37,5	39,3
Distance between first tender wheel and top of tender	1.185	37,0	36,7
Distance between rear tender wheel and buffer beam	1.130	35,3	34,1

Overview:

Box 1:
Overview:

Available versions	BR03 033 Epoch II Wagner BR03 092 Epoch III Wagner BR03 064 Epoch III Witte BR03 088 Epoch III Witte BR 03 131-1 Epoch IV Witte	
Loco number of the test loco / Epoch	03 104 Epoch III	
Engine / transmission	32W-Pittman engine with downstream gearing and drive belt	
Electricity discharging / traction tyres	8 points on the tender and 6 on the loco	
Axles	All spring-mounted and equipped with ball bearing	
Sound regulation	Axle synchronized steam exhaust sound	
Jittering firebox	existing	
Smoke generator, cylinder steam	Asynchronous exhaust on chimney and cylinders	
DCC / Motorola	ESU XL 3.5	
Decoder features	DCC address 03 F0 Headlight on/off F1Sound on/off F2 Whistle long F3 Whistle short F4 Engine light F5 Cylinder blow-down F6 Shunting gear shunting light F7 Smoke F8 Cab light F9 Station announcement	Motorola address 03 F0 Headlight on/off F1Sound on/off F2 Whistle long F3 Whistle short F4 Engine light And under the combined address 04 F0 Station announcement F5 Cylinder blow-down F6 Shunting gear shunting

	F10 Train conductor whistle F11 Coal shovelling F12 Air pump F13 Water pump F14 Injector F15 Break squeal on/off	light F7 Smoke F8 Cab light
Weight	7,3 kg	
Pre-order price / manufacturers recommended retail price	2.790,00 EUR / 3.290,00 EUR Fine-Scale version and 1pur possible, price on application	2.990,00 EUR currently seen at a shop

Comparison of pulled axles

Precondition	
Planar with 2300 mm radius and Hübner switches	32 axles were accelerated from a standing position without any problems when crossing sets of points or on curves. With preset starting delay and maximum speed the loco attains a speed of approximately 150 km/h
Planar with 1020 mm radius and MÄRKLIN switches	7 blunderbusses with illumination without sideslip tendency during acceleration, even when accelerating in bends
Ascending a grade of 45‰ on a 1174 mm radius	5 blunderbusses were pulled at slow approach
Pulling-off on a grade with 45‰ on a curve	The loco was able to accelerate 3 blunderbusses safely but with slipping tendency from a standing position

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Gauge 0

Category:
Modelling

Bar:
Sophisticated Goods Wagons

Header:
An Original With Extensions

Intro:
The following article describes how a gondola car can be turned into a prototypically model marked by the hard daily routine

Author and pictures: Heinz-Werner Stiller

My first Lenz goods train was an „Om12“ equipped with brakeman`s platform and EUROP lettering. The original Om12 wagons belonging to the DB EUROP fleet were sorted out in the late 50s. A hypothetical application of this model in the 60s therefore requires new lettering. At the same time the braking system was modulated and some improvements as well as adjustments in terms of colour were made.

Some basic modifications, which can be carried out on all goods trains are summarized in the two boxes below.

Subtitle:
Specific modification measures concerning the Om

The spindle at the brakeman`s platform as well as the part reaching beneath the vehicle floor was supplemented by plastic components taken from a O-Scale goods train kit. The connection to the braking system was made via a polystyrene strip. The crank handle at the handrail was cut off with the help of a sharp knife and bored up from the bottom via a 0,4mm drill. The bulky rodding was replaced by 0,3mm brass wire. Using a file the handrail was thinned a bit and smoothened afterwards. Then the crank handle along with actuation were glued in place. In doing so the whole platform received a more delicate look.
The tail and front of the vehicle were equipped with fixed-point blocks, which are typical for Kunze-Knorr brakes. According to the drawing they were self-manufactured from a piece of paper. The connections for brake hoses and compressed air pipings were added.

The top of the box sections were sloped prototypically. The top flange at the head cap was reinforced by sticking on a polystyrene strip. The signal lamp holders were bent outward.

This model is equipped with replicated straps. At the original they already had been replaced by angle irons during the 40s. Since no matching components could be found so far I decided not to remove the strap. The final procedure was replacing the wheel sets by more delicate ones from the company Munz.

The affixed standard steel patches and laborious weathering are taking away the toy attributes. The pictures are self-explanatory.

Subtitle:
Yet another „new“ model

The second wagon out of the Lenz range was a non-braked Om12, again with EUROP letterimg. This time not only the wheel sets were replaced but also the brake hoses were exchanged for such equipped with stopcocks and furthermore spring-mounted screw couplings were attached.

The model was modified after the example of a matching DDR vehicle equipped with non-sloping box sections and drawstrings. More information concerning the original can be learned from the book „Güterwagen Band 3“ by Stefan Carstens (MIBA publishing house). The wagons were operating until the mid 60s and they were to be seen along the whole German railways network.

The newly required lettering at the body was self-generated with the help of a graphical software using standard, close-spaced and medium-spaced lettering. The frame simply needs a new vehicle number.
Also the chalk lettering „empty“ at the sidewalls was made by using this technique. For ordering purposes the graphic file can be sent via email to the company Simrock&Simrock (info: www.setzkasten.com). Within ten days the ISO A4 decal sheet arrived ...

As a further refinement the box supports were replaced by brass etch components taken from the Petau range (info: www.mbpetau.de). Since the box sections at the vehicle are extricable the extruded box supports are easily accessible in order to break them off (with caution!). Any leftovers can be removed via filing and grinding. The new box supports have to be bent together and glued onto vehicle floor and frame.

The procedure of weathering the vehicles can be looked up at the pictures of the different weathering stages – don´t lose heart!

Box 1:
Basic modification proposals for Lenz goods wagons in gauge 0

Component	**Technique**
Black handrails and signal lamp holder	Painting in red brown colour
Brake releasing draw (ring on both sides underneath the vehicle)	Using contrasting colour (red)
Brake adjusting tool	The base has to be painted white, lever and raised parts are painted red
Railing	Painting in black colour
Vehicles without brakeman´s cab	The remaining stops of the non-existing brakeman´s doors have to be removed
Wheel sets	Painting the inside and outside wheels in red brown and the axles in black colour
Box supports	Painting in black colour

Bar 2:
Practical suggestions for handling paint and varnish:

For the colour design of vehicles mat synthetic resin varnish, in this case Revell, is used. For varnishing purposes it has to be diluted with white spirit. This long-oiled solvent ensures that the colours are drying not so fast. Another advantage, especially when larger areas have to be painted: the colour can be levelled out more easily.

The clear varnish spray coating was made by using Revell synthetic resin thinner. When using white spirit the matt finished effect will not appear!

The shades of brown colour are mixed by using the basic colours black, „goods train red brown“, brown and yellow (semi gloss yellow should be used since the matt yellow colour contains too much white). If any shade of colour is not pleasing after drying a recoating can be made by using brown varnish.

Brown and grey colours are tending toward darkening. If a chocolate brown shade is mixed by using some red and black paint and a wee bit of yellow colour it may be possible that the result is „black-brown“. Therefore, it is advisable to apply the mixed shades onto a piece of cardboard for way of trial first.

Picture headers:

No.	Text
Drawing 1	The two fixed-point blocks for completing the braking system, representation in a scale of 1:43,5. The upper block serves for attaching the brakeman`s platform
Drawing 2	Side view of the Kunze-Knorr brake at a goods wagon. Marked in red: the fixing construction and the blocking valve
A	The O wagon with its new lettering. The old EUROP inscription is (deliberately) shimmering through – it was prototypically painted over
1	Underbody and new box support are painted black. Clearly visible: the supplemented brass air hose. The exchanged wheel sets (0-Scale-Models) are black finished, the tread profiles are cleaned afterwards
2	The steps at the front end area are painted in matching body colour
3	The floor received a first coat (partially not dry yet)
4	The gaps between the planks are accentuated with the help of a thin lead pencil
5	In order to reduce the chrome effect, which appears depending on the perspective, the floor is oversprayed with clear matt varnish; here the still wet coating is shown
6	A first comparison with the model in its original condition (in the back): the dark interior walls are accentuating the outer contours of the vehicle! After weathering this effect is diminished a bit, though.
7	The delicate cramps on the floor are varnished in brown colour

No.	Text
8	The lettering (brown transparent paint was added) was recoated by using shaded clear matt varnish. That way the screaming white of the lettering is softened. Via manifold coatings of transparent paint (spraying) the shading level can be chosen. Thereby weathering traces, especially in the undercarriage area can be achieved.
9	To imitate dirt residues the box profiles are accentuated in dark brown colour. The model appears even more three-dimensional …
10	The top edges of the body are painted in a slightly darker shade than the interior walls; that way the wall thickness is reduced optically
11	The elevated areas outside are additionally highlighted by using light colours, other areas are appearing to be deeper by using darker colours – for example at the side and at the door hinges. With the different shades of colour the pyramid structure of the doorplates receives a very beautiful accentuation. Using the wet-on-wet method the dark and light colours are running together. Partial damages and scratches can be produces by applying small and bright dots or short bars.
12	The three-dimensional effect is enhanced significantly by the colour nuances. Also colour corrections which seem to be „in near mint condition“, like shown down right are used for weathering a vehicle.
13	Weathering helps a lot to reach an authentic appearance of the wagons and every single vehicle is going to become a unique copy. At the left sidewall of the Om 12 it still is observable: the chalk lettering „empty“.

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Gauge 1

Category:
Modelling

Bar:
Catenary on a scale of 1:32

Header:
Energized!

Intro:
The self-construction of a prototypical overhead wiring on a scale of 1:32 is not an easy undertaking. But: a catenary is essential for operating electric locos!

Author and pictures: Ernst-Peter Weischenberg

Using electric locos on a model railway layout without catenary is not really convincing. Therefore, I decided to build an overhead contact line some years ago. Right from the start it was clear that the catenary should remain inoperable. For train operation on digitally controlled layouts this is not necessary anyway.

At the beginning of all planning lots of catenary related technical literature for original and model use had to be read (recommended literature see box).

A true to design operation does require one thing – a guyed overhead traction line. The necessary mechanical equipment was placed in the hidden areas or underneath the layout with the help of pull-springs, deflexion pulleys or counterbalances. An accurate planning is essential, especially in the areas where switches, curves on the track and branch connections are located. The positioning of guys and pull-offs were determined in advance with the help of rubber threads.

In some cases, compromises have to be accepted, though. According to this for example narrower clearances on curves in the track are unavoidable. Also if model radii of 3.000 mm are used it is necessary to deviate from the scale. In this case it is worth aspiring and pleasantly to the eye to position the masts alternately on the left and right side of the track.

Subtitle:
Most important is the appropriate mast

My choice fell on the tower and mainline masts from the company Kesselbauer, which are made from steel and do possess a sufficient tensile strength. But the rather simple design of the masts does require an elaborate refurbishment and supplementary devices. After some test assemblies 0,5 mm phosphor bronze wire was chosen as the most qualified catenary material.
The catenary wire was made from thin, black rubber thread. The decisive advantage of rubber is its elasticity and the prototypical sagging of the wire can be replicated that way.
For the model railway layout the catenary wire tension can be controlled via the hangers (rubber threads). The hangers were manufactured from 0,3 mm pieces of copper wire. A loop

on the bottom area served as soldering aid, the top was bent directly during the mounting procedure.
All soldering works in the loop and catenary area were made using (few!) soldering flux and tin-solder.

Similarly, the transverse support structures with tower masts were crafted. The catenary and indicatory wire of the transverse support structures were clamped in the mast area using small coil springs. Through this a permanent and uniform tractive force is acting on both, the catenary and the indicatory wire.

The plastic insulators are originating from the Sommerfeldt gauge 0 range. Compared to the original the scale appears harmonious. Initially the insulators were passed over a 0,8 mm tube. The phosphor wire was inserted at the edges and grouted with the help of a flat nose plier.

Subtitle:
Closer to the original by adding finishing touches

The Kesselbauer masts have to be modified in the foot area in order to giving them a more prototypical appearance. Additionally the rivet replication had to be altered. The foundations were made with the help of “real formwork” which was filled with casting ceramics. The mast feet were strengthened by using 0,3 mm aluminium sheet, which was glued all-around the foot. Small brass screw heads (ASOA) are imitating the threaded connection to the foundation. Later weathering of the mast is providing for a realistic weathering appearance.
The mast cap was also designed anew. Screw imitations (ASOA) are also providing for a prototypical look. Rivet imitations were created with the help of two-component adhesive, which was dubbed on selectively.

The bracket areas were also modified. Via compression fittings any regulation and adjustment to the track geometry is possible at any time while mounting the masts. Both brackets are made from 0,3 mm steel cable. The correct adjustment was made via the pantograph of an electric loco, which was positioned directly under the bracket.

For the detailing on the brackets I used original pictures again. The mast fastening was made by using an ingrained M5 screw under the mast foot in order to connecting the mast to the layout board.

Every single catenary and each catenary wire was reworked in terms of colour. Good results can be achieved by using a highly diluted mix of Humbrol “green” and “black/brown” paint. Even in this case some tests may be necessary to achieve the desired shade of colour.

Subtitle:
A diversified construction

Finally, I want to point out that an original catenary also does not look harmonious at all; in terms of functioning and safety it is adjusted to the local conditions. A diversity of catenary structures is providing a diversified sight, also for model railway use. The connection of two catenaries is one example. Riders used as spacers are attached between the two catenaries. For a model environment they were replicated from brass wire.
The connection to superstructures often has to be made via special components and in our case they had been manufactured from brass profiles.

Also anchor masts with pull-offs and line post insulators are necessary to create a lifelike catenary.

My conclusion is that building a catenary wire for a model railway environment does require a lot of patience and time. But as soon as the first electric loco is operating in an “energized” way and the pantographs are interplaying when changing switches the enthusiasm is unwaning … and the motivation concerning follow-up work is guaranteed. Because there is still work to be done, lots of details are still missing such as a turnout heating with mast transformer, a mast switch or a route separator and so on.

Literature:

- MIBA Report 19, Elektrische Fahrleitungen
- Elektrifizierung, Lexikon A-Z, DB Regelfahrleitung 1950, Einbauzeichnungen; Transpress-Verlag
- Fa. Sommerfeldt: Mit Oberleitung fahren wie beim Vorbild
- Fahrleitungen elektrischer Bahnen; Verlag Teubner, Stuttgart/Leipzig

Picture headers:

No.	Text
1	The E44 in „Emschertal/West“: what a fascinating sight, not only for electric loco enthusiasts
2	The E44 again, at the signal tower and energized: just like the original loco!
3	Very impressive: the prototypical catenary wiring in the station area. In the front: one of the Kesselbauer masts affixed onto the self-constructed foundation
4	The aluminium sheet formwork of the mast foundation is grouted via casting ceramics
5	The mast foot with reinforcements from thin aluminium sheet and screw head imitations
6	Screw imitations are also giving a realistic appearance to the mast head
7	Ready for assembly: the colourized mast
8	Parade of brackets! Remarkable: the mounting of the masts. The traces of rust are portraying a realistic look
9	A bracket, self-constructed from brass profile and brass wire, the picture was taken before painting
10	The hangers are consisting of 0,3 mm copper wire; clearly visible: the soldering loop at the bottom, which is imitating the frequently used original hangers with current-resistant cable loops
11	Mast with double bracket
12	Transverse support structure in the station area; clearly visible: the insulators
13	The prototypical catenary signalling should not be forgotten
14	The original catenary station …
15	…and its model
16	The counterbalances at the tension unit for compensating the stress-strain deviations of the catenary

No.	Text
17	Perspective underneath the gantry signal box: sets of points and catenary in „Emschertal/West“ are a harmonious overall picture of a prototypically designed station movement area
18/19	Superstructures along the route do require special catenary constructions
20	Double running of catenary with riders serving as spacers
21	Detailed view: a route insulator
22	Clamping device for fastening the mast and for compensating tractive forces; noteworthy: the „Stabilit“ rivets on the mast!

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Category:
Fundamentals

Bar:
Construction of a gauge 0 layout

Header:
The Lenz Master Practitioners

Intro:
Since our last article in the December issue (012-Express issue No. 12) we diligently continued working on our exhibition layout. In this issue the focus is on track construction and how the Lenz master practitioners managed this task

Author and Pictures: Bruno Kaiser, HaJo Wolf

Somehow we had imagined this task being more simple: double scale should mean half as much work. Far wrong, that`s what we found out promptly. But let us start at the very beginning.

The track plan – like it was shown in the 012-Express issue No. 12 – was created with the help of the Apple RailModeller. We printed out the plan of the two central segments on a scale of 1:1. A wise idea, which enabled us to arrange tracks and switches precisely.

Since an exhibition layout has to be built as flexible as possible in terms of setting-up and disassembly especially the joints on the individual segments had to be taken into account. At the third longitudinal segment the switch and the diamond point are all in all oversized by no more than two sleepers. We didn´t want to shorten the switch that much, since the point blade area is already reaching the second sleeper. We placed the last sleeper directly at the segment edge in order to cut it off diagonally, later. The double-slip switch was no problem since the point blade is located inwards – here enough sleepers are available for applying the separating cut.

Subtitle:
Track-laying on the segments

We decided to build the train path from 8 mm plywood. This substructure material serves much better than cork or other stuff in order to ensure a permanent and solid mounting. As soon as the tracks were laid onto the plan some sleepers were drilled through at the corresponding spots and a small steel pin was driven in. Then all tracks were taken down segmentally (in one piece!), the plan was removed and the tracks simply had to be placed onto the steel pins again. Et voilà, everything is just perfect.

Well, “the simple placement” is easier said than done. Altogether four hands and a little patience are required until the procedure of putting one piece of the connected switches, diamond points and tracks over the steel pins is done. For, using this method it is impossible to placing the tracks individually – the firmly attached tracks cannot be connected to the rail joiners ...

Despite all “hodgepodge” the chosen method has proved its worth: the tracks are really lying properly, not least due to the really precise track laying software.

As can be seen on the pictures, the site for building the segments is quite constricted: in the background an H0 layout is shown – all gauge 0 enthusiasts may forgive us. Die available building area does only suffice for building two segments at a time, but this is no problem if the work is done with care.

As soon as the tracks on the two most difficult segments were positioned (reason: lots of switches and double-slip switches) they were stuck together and nailed to the intended sleepers, additionally. As a precaution all sleepers along the edges were also affixed by using small nails.

The bonding was made using wood glue, which is thoroughly sufficient since the tracks are to be receiving an additional connection to the subsurface via a ballast bed later. We did without noise reduction measures because we are building an exhibition layout and the ambient noise level at exhibitions will surely be much louder than the driving noises.

Subtitle:
Fixed-point: segment edges

At the segment edges the rail profiles were cut off carefully by using a small diamond-cutting disc. The gap resulting from cutting was acceptable since it could serve as an electric disconnection point. Afterwards we carefully separated the sleepers with the help of a sharp hobby saw. Using a Rocco saw is producing a finer cut than the circular saw does with its brute force.

The edges of the rail profiles on a frequently set-up and dismantled segmental layout have to be affixed separately; simple gluing of the tracks is not enough! Primarily we had planned to solder the rail profiles to the bolt heads but eventually we decided against doing so because the bolt heads were popping through underneath the profile. So we used small brass nails, which have the additional advantage that they can be adjusted in height more easily, even on already laid and affixed tracks. Just a pat on the rugged rail profile is bringing down the brass pin and when tapping too deep a small gripper will help to bring them back to the required position.

At this point we want to point out one thing: the end sleepers do not stabilize the rail profiles sufficiently due to the recesses, which are required for the connectors. Especially when flexible tracks are concerned the profile endings are tending to bend upwards by some tenth millimetres after affixing/gluing of the tracks. This is no tragedy but it should be kept in mind during soldering the rail profiles to the brass pins.

Further news concerning the progress of track laying on the individual segments and the special attention, which has to be given to the switchpoint lights will be described in detail in the „012-Extrapress“ special issue No. 1, gauge 0, which will be released in autumn this year.

On the occasion of the Toy Fair in Nurmeberg the (partially completed) layout could be gazed at. Anyone who wants to take a look at the further progress in person may peer at this layout, which will be shown at the Lenz stand during the Intermodellbau in Dortmund (14th – 18th April 2010).

Picture headers:

No.	Text
1	The track plan was printed out on a scale of 1:1 and transferred to the segment boxes
2	The first dry-run with O wagons: the track plan is accurate!
3	Affixing the rails onto the segment edges is made by placing small brass nails underneath the profiles and soldering them to the tracks

012-EXTRAPRESS

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Category:
Layouts

Bar:
Layout segment: A large depot in gauge 1

Header:
At home in Schwabstadt

Intro:
Where lots of locomotives are operating every now and then supplies have to be replenished and maintenance work has to be done – stopover at the depot

Author: Dr. Wolfgang Häußler
Pictures: Manfred Weihrauch

Primarily a depot is used to provide our steam locos with the three basic necessities, which are coal, water and sand. It therefore is self-evident that the size of a loco treatment facility belonging to a railway station is depending on the particular operating sequence and the traffic volume. Thereby the considerably fast development of the railways is playing a decisive role. While during the 19th century wicker baskets were used to forwarding the "black gold" from the coal storage manually, techniques changed around the year 1870, when coal feeding was made with the help of rotary cranes. Almost at the same time the first water towers were built. Ten years later the first bunker coal feeding facility was built at the depot Hannover-Hagenkamp. In contrast, roundhouses had already been built far earlier: in 1841 the first construction was raised in Aachen. At that time motor-driven turntables did not exist. Not until the end of the 19th century the first turntables appeared, which were actuated via pressurised water at that time. With the development of huge trailing tender locomotives the requirements for treatment facilities were rising. As from 1923 the first turntables with a diameter of 23 metres were built, followed by 26 metre diameters in the year 1939. In many places the articulated water cranes had been replaced by standard cranes according to the Prussian example. The development of large-scaled bunkers with scales made a multiplied coal capacity possible. When the DB launched oil firing in 1956 the depots were equipped with oil fuelling facilities.

In order to create an authentic operation also model railway layouts should be equipped with a depot. If only a flag stop or a rather trivial intermediate station without loco stationing is simulated there surely is no need to implement a treatment facility. But as a general rule: if a depot is provided for it is necessary to be geared to the original in order to achieve the correct dimensions. It would be absurd to equip a secondary line station with a roundhouse and a major junction with a small coaling facility. Also in model use the size of the depot has to be in line with the (assumed) volume of traffic.

Subtitle:
A home in „Schwabstadt"

On some layouts this may mean that actual operation is eclipsing and only the depot is dominating the scenery. In issue No. 11 (012-Express September 2009) we presented the model railway layout of Josef Strobl, where both station and main track were only indicated.

The real focus here is the large-scaled depot. Together with the holding siding in the front the total dimension of the depot "Amberg" is 9 metres!
In „Schwabstadt" it's different. On this all around layout presented in issue No. 6 (012-Express June 2008) a brisk train operation is going on. On the movement area of the station, which is created as an oval, long goods and passenger trains are operating together with local trains. The used locos and train sets are diversified accordingly. The topic of this layout is Epoch III, where steam traction technology reached its peak and the beginning of the diesel engine era was initiated. In Schwabstadt a total of 32 steam locos, 7 diesel locos and 3 diesel railcars are operating.
Such traffic volume naturally does require a stately depot. In Schwabstadt it is situated in the centre, on a tongue of the layout in the station area.

After passing the overhead signal tower at the westward exit of the station the locomotives are reaching the depot entrance via a semi-circled branch connection. The spacious dimension of the treatment facilities on an area of 1,75 x 4,10 metres is not oversized at all with regard to the here shown scenery.
The high and long-dimensioned coal storing room is located directly on the entry track. It is equipped with a coal crane for loading the tenders (Studio 95). Between entry and exit track the sand storage with its delicate sand tower (Studio 95) is arranged in front. Once the locos are equipped with coal supplies they are reaching the turntable, which was designed after a 23metre model. It is originating from the workshop of Detlef Neuhof. This turntable can be used for both, steam engines and diesel locos such as the V 200 in order to store them inside the adjoining roundhouse. For lack of space the shed is equipped with three shorter holding tracks, which can be used for tender locos only and three longer-dimensioned holding sidings. The shed from Studio 95 is perfectly integrated in the limited space of the layout tongue. The six-road shed is made from brickwork (cast Resin), equipped with delicately brass etched and wooden gates, which can be opened. The lateral and rear windows are executed just as delicately. The roof structure is made from real wood trusses. The attached fans and chimneys are also very beautiful.

Subtitle:
There is a lot going on inside the loco shed

The rear part of the roof can be removed together with the woodwork, which opens up the view onto the busily working Swabians. The staff of altogether forty employees (Preiser, Hübner, Siku, Carrera, MASRO, KM1) is performing all sorts of maintenance and repair work on the locos, which are stopping over in Schwabstadt.
Wardrobes, storage racks, benches, machines and the smith's heart – as well as the formerly mandatory cigarette machine - are taken from the range of Schmitz-Modellbau in Frickenhausen. The brickwork in front of the machine stands was made from Faller H0 boards. Small parts such as tools, vices, wire-wrapping machines and so forth were all self-constructed or snatched on the occasion of exhibitions or Internet auctions. The loco parts are remnants from the modification of a BR23 and the loco labelling is originating from the company Beckert.

In Schwabstadt the focus is not only on the job: The "coffee break team" was arranged from Siku figures. Their arms were cut off and readjusted in the required position – sometimes a "surgical intervention" is necessary to show sceneries in a convincing manner. Soft tissue is serving as sandwich paper; the "Bildzeitung" was self-printed. The beer crates were purchased at ASOA.
A gantry crane (Dingler) on the right next to the shed is helping to load bulky loco parts and

to handle maintenance work on heavy machines. The pipe rack was self-constructed from corresponding brass, copper and plastic tubes (crafts supply).
Outside the engine shed eight additional holding sidings are available and all of them are accessible via the turntable. In addition to various working platforms also an oil crane, an oil tank and a rack for pipe cleaning is located here. They all were self-constructed by a model building friend of mine.
The large girder mast lamps (Studio 95) are providing for a proper illumination of the whole depot area.
Another holding siding used for repair work is located next to the exit track. The old wooden working platform (Devision Models) facilitates the maintenance work.
The signalling via Besig switch signals and self-constructed wait boards is providing for a smooth traffic flow at the depot.
For without any doubt in Schwabstadt a lot is going on!

And yet another treat is worth mentioning: next to the depot an additional track with three rails is running. The brick train is operating here. The diesel and steam locos were taken out of the Fleischmann „Magic-Train" range in gauge 0e. Rebuilding, digitalization and sound equipment were provided by "Lokführer Lukas". The train is operating on Peco tracks (gauge 1f). The carrying lorries were made from balsa wood. A total of 1.600 ASOA bricks were stuck on and the cargo was clamped with the help of 1mm decorative straps available at ship modelling suppliers. It has really been a pile of work! And proverbially spoken " Swabians are busy as a bee" …

Picture headers:

No.	Text
1	Above: Photographer „Mani" in action: the platform of the sand store tower is a good place for observing all proceedings at the depot. Left: detail of the track plan: the "Schwabstadt depot (the overall plan can be found in the 012-Express No. 6, page 49)
2	The BR50 with cab tender (Kiss) while restocking coal supplies at the depot
3	After a short rest at the depot the BR94 (KM1) is on its way again. In the front: the narrow gauge brick train (reconstructed by "Lokführer Lukas")
4	Willing Swabian hands at work: view into the open engine shed
5	While Wolf-Dieter is struggling with heavy brass tubes Hans and Heinrich are unhurriedly enjoying their lunch break!
6	Well equipped: the work benches at the depot with all sorts of tools for maintaining the machines
7	Sweaty: why are the delicate grid boxes that heavy? Never mind; in the background the beer crates are already waiting in the wings …
8	Working scenes like this are the reason why this depot is appearing in a lively manner …
9	…and also the coffee break is providing an authentic flair!
10	View from behind through the gates of the engine shed and onto the turntable; in the front: one of the inspection pits
11	Meeting of the giants: in Schwabstadt a lot is going on!
12	Maintenance of the „01" at the service bench; the bicycle comes from Annaberger Modellbahnen

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Category:
Fundamentals

Bar:
Shunting fun in gauge 0

Header:
What's new at quay number eight?

Intro:
The subsequent article describes what happened at „Quay 8" upon completion of the planning work

Author and Pictures: Dirk Becker
Drawings: Andreas Schwenzer

Surely you remember our article in issue No 8 ((012-Express December 2008) concerning the planning of a harbour facility in gauge 0.

Meanwhile there was enough space available in the hobby room for implementing the track plan.
In order to get a realistic impression of the track course and the arrangement of buildings I concentrated on producing a three-dimensional layout drawing at a pretty early stage. I wasted my time making some attempts but the results were not satisfying at all. A good friend of mine, Andreas Schwenzer, who lives in Halle/Saale is more experienced in this field and he kindly generated this fantastic drawing – thank you very much indeed!

Subtitle:
The proper frame

The frame parts and beams were made from 16 mm core boards. In the front area of the inner harbour the frame beams are 10 cm high, apart from that area their height is 15 cm. This way an absolutely sufficient level difference of around 5 cm between water surface and ground level is given.
The distance between the individual crossbeams is 38 up to 40 cm. 6.5 cm birch-layered plywood served as base-plate. Four height adjustable metal racks are supporting the complete layout. The width of the racks (80 cm) is specifying the inside dimension for the frames of the first two layout parts. If the material thickness of the core-board is added a complete layout depth of 84 cm is resulting. The length of both layout parts, which are forming the left arm of the L-shaped layout structure, has a dimension of 1,58 m respectively 1,26 metres. The reason for this is the location of the disconnection point in the track geometry. A separation of both layout parts at the same length would have cut-off the DS almost in centre – extremely disadvantageous. Therefore the chosen lengths are a balance between transport length and track course.
The construction of the second layout arm frame with a length of 1.60 metres was made analogical to the already described proceeding. Now a total area of 2.84 x 2.44 metres is available.

Subtitle:
Laying the tracks

All tracks and switches are originating from the company Lenz. Intentionally, only finished track parts were used and any flexible tracks were avoided. Before mounting the switches were modified and prepared for the new underground operation. All original actuation dummies were removed in order to reach an optical enhancement of the switches. Although the initially used Wenz ground frames were looking more delicate they unfortunately they did not withstand continuous operation. For this reason all ground frames were replaced by Weinert ones in the end. All five switches are operated by Hoffmann motor-driven underground actuations, the frogs are polarised.
At the train path area a cork layer of 3 mm was affixed with the help of water-resistant paste in order to reduce the noise. For the same reason all tracks and switches were not tacked with nails but just pasted on! Before laying the tracks the electrical feeding was soldered in. In order to keep the cables invisible all feedings leading to the tracks were fed in from the bottom.
After the laying of tracks was finished the rails were painted by using Revell No. 83 („rust“). After drying the tracks were aerolised by using an airbrush and highly diluted Revell No. 46 paint („olive-green“). That way the plastic material of the sleepers is losing its brightness and the rust coating of the tracks is receiving a slightly darker shade.
The next step was the ballasting of the tracks. This was done with the help of 3 kilograms of natural stone gravel – purchased by auction at a well-known Internet auction house. The pasting of the gravel was made using protective coating (wall papers). It was diluted with water in a ratio of 1:1 and applied twice in a wet on wet manner.

Subtitle:
The electric system – no cable spaghetti

The electrical system of the layout is kept as simple as possible. The digital operation is made via a Lenz control unit. Switches, uncoupler and illumination are analogically controlled.
The electricity supply of the tracks is made via a loop underneath the layout, which has a width of 0,75 mm. This loop is feeding all track inputs.
A plastic housing (Conrad-Electronics) was used for building a simple switchboard. Some black adhesive foil served for displaying the track course.
All switches are operated via lever keys and the activation of the uncouplers (modified REPA-H0 uncouplers) is made via push buttons. Yellow LEDs are ensuring a better visual control of the switch stands.
The illumination of the harbour area, the interior lighting of some buildings and a welding light module inside the hangar are also operated via rocker switches on the control board.
That was it with regard to the electric system. For the future it is planned to provide the two factory gates at the metalworking plant with a servo or geared motor in order to move them remotely controlled.

Subtitle:
The waterside border – the wall of quay 8

After completion of the track works the focus was on building the quay wall. In order to give it a realistic appearance it was necessary to find the matching material. Printed sheets of paper or plastic boards were the initial ideas but those plans were abandoned, soon. Finally an absolutely new manner was applied.
The building material „Acrylstal Prima Gips“ (available at Modulor in Berlin:

www.modulor.de) can be handed like plaster. This raw material is a water-based two-component acrylic resin unit. It hardens without shrinking, it is impact resisting and odourless. While mixing some highly pigmented liquid paint was added. The so imbued mixture doesn't show any white holes in case of partial damages. The harbour border was built from individual wall parts. In doing so a plywood framework was made, which was used to pour the quay wall bit by bit. Some aluminium gauze was inserted to reinforce the structure. Silicone spray was serving as mould release agent.
For building the concrete areas along the quay wall the same material was used. Individual concrete buildings were separated with small wooden profiles, similar to the original, instead of pouring the whole area without interruption. By adding a minimum amount of liquid paint the concrete area is receiving some discreet colour differences.

The quay walls on the right part of the layout were carried out as bulkhead walls. And again I found the suitable plastic boards at Modulor in Berlin. In this case powdered colour pigments were helping to give the plastic material a realistic appearance.

Subtitle:
Building equipment

In contrast to the small DR attendance building from the company Spur 0-Gebäude (*www.spur-0-gebaeude.de*) and a garage for four cars from the company MKB (www.mkb-modelle.de*)* the large and dominant factory buildings should be self-constructed. The initial construction was the „VEB Metallverarbeitung Streselow" building complex. This factory is consisting of two parts, which makes building and transport a lot easier. The hearts of the buildings were made from 6 mm plywood, which were faced with plastic boards out of the ADDIE range. Some small parts are loosening up the façade. Finally the boards were weathered by using powder paint. The two other buildings of the metalworking factory were manufactured in the same way. In the future all three buildings will receive an interior decoration and illumination
Harald Brosch (*www.lasergang.de*) manufactured the buildings of the „Volkswerft" from laser-formed plywood, according to individual drawings. Therefore the whole factory complex was fitting in the available space in an optimal way.

Subtitle:
Future prospects

On quay No. 8 a first dry-run of ships is already giving an idea of the harbour scenery. But unfortunately "water" and the various equipment details, which are necessary for a realistic impression, are still missing. You can read about this in one of the next issues of the 012-Express.

Box:
On the occasion of the Intermodellbau exhibition in Dortmund the world premiere of the harbour layout Streselow together with Quay No. 8 will be shown on 14th –18th April 2010

Picture headers:

No.	Text
1	Graphic view of the harbour layout from bird's eye view
2	The substructure construction of "Quay No. 8"
3	Cork bedding with Lenz switches, the actuation was cut off
4	The switch with its newly mounted Weinert ground frame, clearly visible: the rusted tracks
5	The simple control board of the harbour layout
6	The material for building the quay wall: bonder, plastic powder and pigment paint
7	The "Volkswerft" factory buildings are finished except for a few details … and the surroundings are also taking shape
8	The right part of the layout with the relief building of the metalworking factory; the sliding gate is still missing
9	Testing assembly of the plastic sheeting for the plywood structures …
10	… and the first test run with a Köf an a weathered G10 after completion of the factory building
11	The first dry-run for the harbour tug – still the water is missing at quay No. 8

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Gauge 1

Category:
Modelling

Bar:
Self-construction of series 50 in gauge 1, part 2

Header:
Economic activity at the boiler shop

Intro:
The twin 50s, part two: onward it goes with the construction of boiler and superstructure

Author: Hans and Walter Ziegler
Pictures: Jörg Chocolaty, Walter Ziegler

In the last issue of the 012-Express (issue 12, December 2009) we gave an account on the "difficult path to our 50" and the undercarriage construction – the second part will be about the building of the boiler.

The boiler with smoke chamber and outer firebox was made out of one piece. In the following we will describe generally interesting manufacturing details of sand dome and sand pipes, outer firebox and lubrication tubes.

Subtitle:
The sand dome

The dimensions of the sand dome were taken from the original and sidewalls, cover plate and base plate were etched from 0,5 mm sheet brass. After the components were detached from the etching plate, neatened and cleaned the assembly was about to taking place.
At first, the sidewalls and longitudinal walls, available as winding-off parts, were edged and soldered at the joint. At the inside a second brass plate was soldered in the joint area and "safeguarded" with four M1.2 screws in order to avoid any dislocating during the following soldering operations.

In the second step, the top edge of the longitudinal and side parts received L-profiles, which were soldered in and connected together non-detachably via end-to-end screws.
A bore centred in the base plate was added afterwards and the plate was screwed onto a pipe segment, featuring the same radius as the boiler. Then the soft-annealed plate was adapted to the radius of the boiler, the sand box was attached and pressed on with the help of a screw clamp. Now the soldering flame came into operation again. After this the sand box cover was edged and attached to the prefabricated unit, which was still affixed to the pipe segment.
After soldering of both components the finished sand box was removed from the pipe half shell and neatened.
The movable cover was arranged onto the finished base body of the sand box by using a reconstructed Kiss sash fastener.

On the side parts the handrails and refined WILGRO sevenfold sand-nozzles were mounted. Like all other brass precision casting components the sand-nozzles were also cleaned first by using "brass glossy agent". This acid is removing all natural contaminations. The furbished sand nozzles received 0.5 mm bores at the compressed air entry point. 0.3 mm steel wires were inserted here and the screw connection was replicated by using M 0.6 model nuts.
The completely finished sand box was bolt together with the boiler using a M 3.0 screw.

Subtitle:
The lacquer-coated wire trick: creating the sand pipes

The sand pipes are soldered from several components, simply because directly below the sand nozzles the diameter is shorter than it is at boiler and undercarriage. The optical impression is that the sand pipes are running 2.5 mm above the top of rail, in reality they are cut off at the height of the circumferential board.
While the replicated sand pipes in the undercarriage area are consisting of lacquer-coated wire the sand pipes above the circumferential board had to be manufactured from several individual wires. At the company Ätztechnik Saemann we purchased 1.3 x 0.8 mm brass tubes and 1.0 mm brass wire. At first 28 small tubes dimensioned 1.3 x 0.8 mm were cut according to a pre-calculated length plus safety margin. The same amount of 1.0 mm thick and 30 mm long brass wires were made ready.
The brass tubes were drilled open approximately 5 mm deep on one side. Brass wires were inserted into these boreholes. Since brass wire is not dimensionally stable when bending, and it was necessary to avoid kinks or deformation, we inserted lacquer-coated wire into the small brass tubes, which is as soft as butter. Afterwards the brass components were soldered together and annealed.
The sand pipes are mounted via milled brass components and brass precision casting parts. Before we had taken the matching dimensions from the original. At first we produced pre-masters for the different pipe holders. Later, the casting of the required number of holders was carried out by a specialist company.

Subtitle:
The outer firebox comes into being

Not as delicate but no less complicated was the manufacturing of the outer and inner firebox.
At the loco boiler the total length of the outer firebox pipe did exist. For attaching the vertical walls of the outer firebox an area of 0.75 mm was milled into the loco boiler in the outer firebox region on both sides. The milled area was proceeding along the total length of the outer firebox with a width of approximately 5 mm. Right beneath this area the tube segment was cut off so that the bottom of the firebox is open. The inner surface of the firebox sidewalls, which had been made from 0.5 mm brass plates, also received a milled slot, 0.47 mm deep and 8 mm wide. This served for an extensive support. Simultaneously a flow channel for the soft solder was given. Using the cross table of the milling machine enabled to work in all required rivet replication drills in one work-step.
Via clamps the sidewalls were affixed to the milled area at the loco boiler one after the other, then the individual boreholes were transferred and via rivets a permanent joint was accomplished. Bit by bit, all rivets were inserted and the parts were soldered together.
This way the rivets are more than decoration; they are serving as a necessary mounting and constructional element.
We used a trick to avoid the time-consuming procedure of fabricating a winding off for the outer firebox front-wall. Behind the last boiler ring we cut a 0.5 mm groove leading to the

centre of the boiler. Then we were able to insert a rectangular brass plate, adjusted and soldered it to the firebox form.

As soon as the basic construction was finished the edges were rounded off and the WILGRO boiler washout plugs were assembled. The plugs at the boiler peak are a do-it-yourself-construction made from precision cast parts.
The inner firebox came from the company WILGRO. Unfortunately this component was not in accordance with the original neither in height nor in depth, so we levelled the dimensional difference with the help of brass attachment parts.
As a result of this dimensional correction we had to remove the holder of the lubrication pipe at the back wall of the inner firebox and attached it at the correct level. Furthermore, some pipes had to be milled off since their guiding did not correspond with 50 2988.
After these corrections had been made the basic model of the inner firebox was fit with WILGRO precision casting parts according to original pictures.

Subtitle:
Indispensable: the lubrication pipes

Several work-steps were necessary to produce the lubrication pipes on the left side of the boiler.
First, an adhesive foil with adhesive side up was fastened onto a glass pane. 14 enamelled wires with 0.2 mm diameter were placed in parallel without any visual spacing and pressed on the glued surface.
The boreholes for the WILGRO wire holders were drilled into the loco boiler. Alongside the top edge of the wire duct adhesive foil was attached to the loco boiler.
Then the pre-fabricated lubrication pipe package was separated from the glass pane and the glued surface was removed at a length of 150 mm. Some clear two-component adhesive was added along the adhesive foil and the pipe was affixed herewith. Any surplus glue was removed promptly. On the top the problem of surplus glue was solved immediately by simply removing the adhesive foil. After that the pipe holders were glued in place and the pipes were prototypically fed into the cab, which meanwhile had been firmly attached to the boiler. Screw connections on the cab wall were simulated by the use of M 0.6 model nuts.

Unfortunately one detail didn`t turn out the way we had expected. It was planned to mounting the two smoke box clip angles onto the smoke box. But the front clip had to be glued onto the smoke box saddle. The reason is the support bracket for the circumferential board, which is positioned about 200 mm away from the cab. This angle doesn`t allow for vertical lifting of the loco boiler off the undercarriage. After releasing the fixing bolt underneath the cab and removing spark catcher and blow pipe the boiler / cab unit has to be pushed rearwards at first. Not until the angle is placed underneath the circular shaft plate the loco boiler can be lifted up.

Subtitle:
Boiler detailing

During the construction of the boiler a real division of work took place among the two boiler smiths.
After the busy screwing, milling and soldering work was done the installation of the precision casting components could be initiated.
Before that another trip to the “curly route railway” was necessary. This time we took lots of pictures of the fittings and their location.

While Walter was assembling the loco boiler with WILGRO brass fittings Hans was completing the prefabricated units with wiring and handrails.
The boiler attachment parts are originating from the company WILGRO to a large extent.
KM1 provided the open-worked treads at cab and boiler. Their form and size was suited to match the original dimensions. All boiler treads received a skirting from brass strips (1.0 x 0.2 mm) and securing straps.
The company Kiss contributed the opening smoke box door with sash fastener.
The handrail holders (order number 2712 and 2713, gauge 0) and the air pipe holders (order number 8466, H0) are originating from the Weinert range.
The boiler washout plugs, the blower connection, the feed water heater and the sand pipe holders are do-it-yourself constructions. The smoke box fittings were also self-constructed. They are consisting of the replicated tube wall as well as 35 superheater elements and the superheater box.

Upgrading the boiler was the ultimate pleasure. Pictures of the original were the inspiration for laying the piping. Curved parts and pipe offsets as well as screw bolts and pipe holders were replicated – because nothing is more harmful to a model than a bolt upright and rectangular piping! With each mounted part the “brass tubing” became more similar to a loco boiler.

In March 2009 the moment has finally arrived. Shortly before Easter the finished boiler could be mounted on the undercarriage for the first time.
Subsequently only the ”connecting” parts such as for example the smoke box treads had to be produced.

The Tender of our two „50s“ was already completed in summer 2008. We will report more on this and about the finishing work in the next issue of the 012-Express.

Picture headers:

No.	Text
1	From bird`s eye view: an overview of the boiler superstructures on the left ... c
2	... and right side
3	The sand box at the peak of the long boiler with opening cover and sand pipes; to the left: the steam dome with the small steam whistle bell
4	Drain of the sand pipes leading to the driving wheels; clearly visible: the prototypically narrow diameter of the pipe toward the sand box
5	The chimney of the „50“ above the smoke box; in front: the large compressed air signal bell; to the right: the turbo-generator. Clearly visible: fastening and insulation of the steam pipes on preheater and boiler superstructures
6	Regulator, steam and lubrication pipes at the front end of the long boiler
7	Steam extracting neck at the outer firebox; beneath: the control rods and lubrication pipes leading to the cab
8	The boiler is mounted. Front view onto the buffer beam and the opened firebox. The smoke box saddle is etched from brass, the smoke box fittings are completely replicated

No.	Text
9	The smoke box door, ready for assembly
10	Self-constructed from brass plate: the smoke deflectors with soldered holders
11	The back wall of the outer firebox and the sidewalls and base-plate of the cab are attached
12	The already painted cab “module” before mounting: equipped with hand wheels, levers and gauge-glasses for verifying the water level. Not yet replicated: the pressure gauges
13	View onto the fire box after attaching the “module” to the cab
14	One of many eye candies: the riveted side walls at the cab and the sheet metal at the boiler
15	Set up: the „50“ after mounting the boiler (still without smoke box door). The construction of the tender and the painting can be looked up in the next issue!

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Category:
Layouts

Header:
WILDESHAUSEN SUD LOCO DEPOT

Intro:
A model building chap like Peter Smith who frequently is showing his layouts on exhibitions sometimes is left empty handed at home: the layout is too large for assembling it at home – at „Kestrel Road“ a remedy has to be found in order to solve this problem!

Author and pictures: Peter Smith

My exhibition layout 'Colnrade' is based on a secondary line I have imagined running between the real railways at Wildeshausen and Barndorf, to the west of Bremen. When I decided to build a small locomotive shed layout purely for use at home, it was natural therefore to place it at the junction at Wildeshausen, which in my version of the world is south of the town, hence Wildeshausen Sud. The period is 1962 so that I can run the new diesels but with plenty of different steam types still in use.

Subtitle:
Locomotive operations with low space requirements

I wanted a small layout that could be kept up all the time in the house; I could put up part of Colnrade in the garage or all of it along the drive, but sometimes I just want to play trains for half an hour without any of the fuss involved in putting the layout up; usually, by the time I've done that I've lost the desire to operate it. If I had a layout in the house Colnrade could be stowed away between exhibitions allowing me more working space in the garage, and it would also be somewhere to display my locomotives which up to now have tended to gather dust on a shelf.

I worked out that I could squeeze in a layout 3m long and 0.45m wide, which is small for O Gauge. The intention was never more than to be able to run loco's around and shunt the odd wagon; full length trains could wait until Colnrade goes out to exhibitions.

I haven't built a fixed layout for years, and it was lovely to be able to do away with considerations such as baseboard joins; there aren't any! Fitting in the pointwork was therefore much easier, and I came up with a plan using Lenz pointwork that would allow some interesting movements around the shed yard.

The baseboard was built up from 5mm thick plywood braced with timber, fixed to a long timber screwed to the wall at the back & with three supporting legs along the front edge. This edge was cut with a jig saw so that it flows in a continuous curve which blends in with the end of the layout, much more easy on the eye than straight edges to my mind. A 20cm high backscene was added along the back edge from 5mm thick plastic sheet simply because I happened to have some off cuts handy; this was stuck to the wall behind using double sided adhesive pads.

The baseboards were covered in cork floor tiles in the hope that the noise would be reduced, but they don't seem to have made any difference in fact. The Lenz track was then laid loosely on these, before being stuck down with Evostick once all was well; I thought pinning it would transmit noise to the baseboard, but again I'm not convinced it has made any difference. The two wires which are all a DCC layout with Lenz points requires were soldered in place and let through holes in the baseboard. That was it for the wiring; no plugs over baseboard joins, and the points are wired through as they come as well as having a built in polarity switch. I work the points by brass wire in plastic tube running to the front of the layout, with wooden drawer knobs on the wire ends to make it look nice. This wouldn't do for an exhibition layout, but at home it's fine and it's a *lot* cheaper than point motors and the associated decoders.

I spray painted the trackwork in a mixture of brown & black, and when that was dry it was ballasted using Woodland Scenics ballast, using the finer grades near the loco shed building where the area between the tracks tends to be fairly smooth, and coarser ballast at the other end of the layout. It was stuck down in the usual way with dilute PVA, and heaps of ash were then added near the shed and attached in the same way. Built into the ballast are some puddles; pieces of 3mm thick clear plastic were stuck in place on 3mm square plastic blocks to raise them above the board surface to which had been stuck a printed paper showing a gravel surface. The ballast was built up around these and once it was dry the surface of the plastic 'puddle' was left, reflecting the light and the wheels of adjacent locos. It's a small thing, but well worth doing and much better than just a blob of gloss varnish.

Control is by a Bachmann 'Dynamis' DCC unit, simply because I had one sitting doing nothing and this project was designed to cost as little as possible, using up all the odds & ends I had collected over the years but never found a use for. I wouldn't want to use the Dynamis at an exhibition, but for playing at home it's fine.

Subtitle:
Paint, gravel, ashes, „plastic puddles“ and cardboard

There isn't much room on the layout for scenery of buildings, so I used a couple of tricks to give the impression of a larger space. Along the backscene I created a townscape using images of northern Germany from 'Flickr' which were resized & printed before being stuck in place; in the case of the flats a second picture was reversed so that the images could be joined to give double the length. A wall was added in front of the backscene, made up using my own printed papers which I had just introduced; I wanted to see how they would look in place on a layout. The wall varies in height and in the materials used which breaks up the length of it somewhat.

The loco shed building was another trick, as it is only the first part of the shed; hopefully the eye is tricked into believing that the full length shed exists off scene. It is possible to fit two locos into the shed - just! The two road shed was made up from card, covered again with my building papers and bedded into the ballast. The area between the tracks in the shed is filled in with stone setts. The doorways are rather narrow, but space was at a premium as I wanted room for the short siding alongside the shed. This was going to be the diesel fueling point, but in the end there just wasn't room.

To find a suitable protoype shed to copy, I turned to the Vollmer catalogue and copied a shed from there; I did the same for the coaling stage. I don't have a huge library of reference

material for German railways, so I find these catalogues are a very useful source of inspiration. The coaling stage is a bit large but I liked the design, totally unlike anything that a British shed would have had.

The last building is a small bothy for the crews, again inspired by a Vollmer kit.

The area along the front and the end of the layout was finished with a variety of footpaths & road surfaces as though the shed continues off the layout and beyond; a bus stop gave an excuse for a few 'civilian' figures, and there is room for the occasional car which adds a splash of colour. What little grass there is was added using my Noch static grass machine, which I wouldn't be without now, I love it. One track crosses the road at the end of the layout to imply that there is a connection to the outside world there; this was really done to make the headshunt for the loop as long as possible which it does, but I have to be careful as there is no buffer stop on that track.

Subtitle:
Yet another extension technique

Two Viessman lamps illuminate the shed yard; they are HO items but are OK for O Gauge in this instance. A 'W' warning board stands where the line exits across the road and off scene.

A cream coloured curtain tidies up the front of the layout, matching the wallpaper behind; because it is in the house this is important, the railway is really a piece of furniture and should not look out of place in the room.

Subtitle:
Conclusion

A layout like this comes into it's own with DCC operation; apart from needing virtually no wiring, all the loco's have sound and lights which adds a tremendous amount to the pleasure of operation. Add to that the automatic uncoupling on the Lenz locos and it really is relaxing to operate for an hour or so. It has achieved all I wanted when I planned it, and it means that my exhibition layout can now be kept for what it was designed for. And maybe one day it will be presented in the 012-Express ….

Operating Locomotives

Series	**Standard company number**	**Manufacturer**
V36	36 413	Lenz
V100	100 1259	Lenz
Köf	4958	Lenz
BR 64	64 335	Kiss
BR 44	44 1558 (number changed from original)	Kiss
BR 78	78 275	Kiss
BR 89	89 7538	Gebauer

Picture headers:

No.	Text
1	The simple track plan of Wildeshausen Sud
2	The 44 1558 at Wildeshausen Sud while restocking water supplies
3	Rendezvous at the loco shed: the BR64 followed by the BR78; the lamp in the front is originating from the Viessmann H0 range
4	The Köf is shunting next to the Rw exit
5	Bird`s eye view of the layout: the ballast bed soiled with „ashes“ is clearly visible. The planting vegetation was made using Woodland fabric and the Noch static grass machine; in the background: the small coal feeding facility
6	The “Crew Shed” at the rear end of the layout: the Rw headquarters
7	The puddle next to the water crane is made from a piece of plastic
8	To the right the small gauge 0 layout is limited by a road junction
9	The 64 335 has done its daily task and is approaching Wildeshausen Sud
10	A very special treat at the end: The 64 has left Wildeshausen Sud, locomotive driver „Peter“ is pleased by the bathing beauties; this picture is originating from the „Colnrade“ exhibition layout

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Gauge 2

Category:
Modelling

Bar:
Self-construction of a Köf in gauge 2, Part 1

Header:
An exquisite Köf

Intro:
After the completion of the Saxon IV-K the great expert Franz Stellmaszyk is starting his new construction project: a Köf in a scale of 1:22,5 – a fantastic model!

Author: Franz Stellmaszyk
Pictures: Franz Stellmaszyk, Manfred Weihrauch

„May I introduce myself, my name is Köf, on secondary lines I am playing the leading part". Something like that the famous German entertainer Harald Juhnke would have said to announce this loco. To us railway modellers it is perfectly clear that the Köf is a shunting loco with an impressive tractive power!

Already two years ago I made the decision to building a loco like this for my layout, especially since my „IV-K" is a little oversized (please refer to the constructional article in 012-Express issue No. 4 December 2007 and No. 5 March 2008).
Due to time constraints I planned purchasing a finished model of this loco in gauge 2 at first. But when I compared the dimensions of the Köf with the place requirements on my layout I soon discovered that this loco was too big.

For years the original loco of „my Köf II" was lonesomely standing at a basalt plant in the Eifel region, not far away from Gerolstein. During my annual visits I took a lot of pictures and I noticed that, although the loco was used for shunting operations every now and then, more and more superstructural parts were missing. Luckily I had started my „investigations" early enough.

Subtitle:
A robust model

Already in the planning stage it has to be considered thoroughly if the loco should be built according to original dimensions or carried out with a necessary compromise, like I did. I do not build showcase models, in no case, but vehicles in accordance with the original, which have to meet the requirements of considerable operational demands during fairs and exhibitions.

„It isn`t like there is nothing better to do" - according to this often-cited saying plans for this self-construction project were initiated.

First of all original plans from all sides of the Köf had to be added to my pictures. The scale had to be adjusted and enlarged so that the plan is in agreement with the wheelbase of the used Aristo Craft drive unit to some extent.

The main concession had to be made with regard to the vehicle width. On my layout a structural clearance of only 111 mm was available. Any changes or even modifications were absolutely impossible.
For this reason the requirements concerning the design of my model were determined: it was essential to reach an optically justifiable proportion of length and width of the Köf and to allow for an unrestricted application on my layout at the same time.

As with previous projects I started building a prototype first and after a few attempts I had detected the correct size for my Köf. This procedure does help to avoid some expensive „write-offs“ later.

Now the building itself was about to get started.
Since I had taken pictures of Köf locomotives at many different locations I noticed that all these diesel locos are considerably differing in their visual appearance. They mainly were privately owned or used as industrial locomotives. They were designed for their special application and were no subject of any German State Railway norm. This was an opportunity for me to benefit from the individual design flexibility.

Subtitle:
Unlimited soldering „pleasure“

Now it got serious. I sketched the determined basic measurements on a piece of cardboard and transferred them onto a medium-hard 1,25 mm brass plate. A workshop milled out the marked parts for me by using a NC milling machine.
From my point of view soldering of individual sheet metal components is the most pleasing modelbuilding work. Every added part is showing the gradual development of the loco, which is reaching its final shape step by step. An adventure like this cannot be experienced when buying a finished model!

Building an elaborate loco like this should only be made by skilled modelbuilding specialists. It has to be considered that this is going to be a prototype model and unforeseen difficulties or supply shortfalls have to be managed, like it had happened to all manufactures while constructing their premasters, either for small series or large-scale production.

Using high-quality tools is the basic requirement for a successful construction.
The decision whether to solder the brass material in a soft or hard-soldering way is left to everybody`s own discretion. The advantage of soft-soldering is that the material doesn`t deform that easily. According to requirements I alternately used a 60 or 90 watt soldering gun. This proceeding should provide for an adequate stability for modelbuilding purposes, especially since the loco is not run as a live steam model and therefore it doesn`t heat up.

My prototype pictures at hand enabled me to being geared to and preparing for the next construction stage occasionally. The pictures of the „Gerolsteiner“ were my benchmark, my personal target!

As soon as the housing was completed the Aristo Craft drive unit had to be positioned together with the engine block from bottom up and in a way, that the centre line is almost true to scale matching the original plan.

Subtitle:
Unlimited „slouching“ pleasure

An important characteristic of the Köf is the almost invisible wheel between track and bottom edge of the locomotive. This is why one gets the impression that the loco is „slouching“ along the tracks. By installing an additional digital decoder from the company Massoth the desired slow approach of the model could be achieved on my layout – this is giving a very realistic impression.

The chain drive, which is visible through an opening at the lower body housing is an optically and technically interesting eye-catcher.
A chain should not be a rigid plastic structure, I thought to myself. After some deliberation I had figured out the construction of a visible drive. The plan was to letting the chain move along without being adapted to the drive.
Finally I found a high-quality plastic chain with a thickness of 4 mm and a roller spacing of 3 mm together with the matching gear wheels at a modelbuilding store.

For the rear drive wheel I had a special support table turned, which was provided with an axle for the gear wheel. A second and smaller table was turned analogically.
I affixed the large gear wheel onto the brass table on the rear drive wheel. Now the ensemble was firmly attached to the rear wheel. For the upper gear wheel and its support table I manufactured a small block from dental plastic material (PalaXPress, Heraeus-Kulzer), which should serve as fixation. The block was accurately lined-up with small table and front table and attached to the loco housing afterwards.
Consequently, the small gear wheel is loosely moving along with the axle at vehicle speed. The last task was to detect the accurate length of the chain – which should sag a bit in accordance with the original – and the visual appearance is perfect. The quite large effort that had to be made for completing this stage of construction is compensated completely by the excellent result: a unique eye-catcher for my Köf!

Next, I had another sophisticated and time-consuming work step in mind: attaching rivets! More on this can be looked up in the next issue of the 012-Express – after a well-deserved relaxation break.

Comparison of original and model dimensions (scale 1 : 22,5)		
Description	Original dimensions in mm	Model dimensions in mm
Total length over buffers	6.450	245
Height	2.700	118
Width	3.050	111
Wheelbase	2.500	100
Wheel diameter	850	35
Other data		
Motorization	6-cylinder, Diesel	E-motor Aristo-Craft
Power /hp	110	
Maximum speed	30 km/h	
Weight in kilogram	16.000	1,84
Year of construction	1952/54/59	2009

Picture headers:

No.	Text
1	The completely soldered but still unpainted engine; the roofless cab reveales the instruments inside
2	The „untreated“ housing of the Köf II
3	Soldering of components via unshielded flame
4	The compressed air reservoir is attached, the location of the engine sheet covers are marked
5	Lateral engine cover made from triangular brass plates ...
6	…the typical pyramid-shaped covers are coming into being
7	The diesel tank with bearing block, before and after installation ...
8	Front view onto the typical cooling ribs at the engine mount and the coupling of the Köf
9	Prototypically: the instruments and the fuel gauge filled with „real liquid“ (Jan Torf Kräuterbitter!)
10	The chain drive at the original loco
11	Propulsion unit with Aristo-Craft engine and transmission chain with different gear wheels
12	The first field-tests of master-builder Franz and engine driver Mani: already the „raw version“ is convincing!

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Gauge 0

Category:
Modelling

Bar:
Line-keeper´s lodges by Vampisol and IMS

Header:
Prussian or Bavarian?

Intro:
The companies Vampisol and IMS both released a construction set for a line-keeper`s lodge almost simultaneously. Vampisol created a gypsum construction and IMS used a laser-cut wood design. In the following article Jacques Timmermans will point out the handling of the different materials and the assembly of the buildings

Author and pictures: Jacques Timmermans

In reality a functioning communication between all track sections is playing a decisive role. Nowadays this is done via computer technology in many cases but in the early days of railway use this was a true challenge. In order to enable a seamless voice or signal connection sentry posts along the routes were set-up and equipped with watchmen. Depending on the communication mode these sentry posts were installed within the range of vision or earshot. The signals were made with the help of bugles or flags. The watchmen were also responsible for inspecting and checking the serviceability of the routes. This is why sentry posts were also to be found on civil engineering structures such as tunnels and bridges. The watchmen had another task, which was the observation of level crossings. Dwelling houses for the watchmen families were also built within spitting distance to the sentry posts. Due to the very low wages many families planted vegetable gardens and kept small domestic animals for covering their daily needs – these gardens were the forerunners of the railwaymen allotments, which still can be found today.

As soon as the telegraphy technology came out the sentry posts did gradually become less important. Only a few block posts remained for signal transmission purposes and just the responsibility for monitoring the level crossings did remain. The former sentry posts were turned into mere level crossing posts more and more. Line-keeper`s lodges which were located directly along the route did retain as unmanned telephone huts (provided with the black “F” on white background). A few manned level crossing posts can still be found today in some places.
Meanwhile most of the line-keeper`s lodges are torn down or used as garden sheds for instance.

Subtitle:
Prussian or Bavarian?

The Vampisol and IMS line-keeper`s lodges in gauge 0 are not only varying with respect to the used materials, the inspiring sample is different, too.

The quite small Prussian clinker lodge offered by Vampisol is modelled on post No. 99 and 110 of the former Hanover Südbahn. It is offering a floor measurement of 85 x 85 mm and a ridge height of 96 mm. For building the skeleton only the gypsum components have to be glued together: the two side walls, the front and rear gable-ends, the foundation and the windowsills. The roof construction (rafters, roof beams, eaves sheeting and side boards) is made using the milled air-ply parts. Milled polystyrene components for the roof panels, all doors and windows, metal fittings and number templates (for marking the route) are enclosed in delivery. Some red and grey coloured gypsum is also added so that open joints can be sealed. A rain pipe set and a piece of 2,0 mm aluminium wire serving as down pipe is also included.
The roof tiles are not included in delivery since the company Vampisol still is in the developing stage concerning the panel of interlocking tiles. Of course it is possible to solve this problem by using roof tiles from other manufacturers.

The larger IMS lodge designed after a still existing one along the former DB route Gedern (Hesse) – Stockheim (Bavaria) is almost completely made from solid wood components. The main building does possess a floor measurement of 110 x 170 mm and a ridge height of 155 mm. The adjoining building is offering a floor measurement of 42 x 100 mm with a height of 76 mm. Except for roof covering and rain drain this lodge is completely made from CNC laser-cut wood. Due to the manufacturing process black-brown or even black discolorations may occur at the laser-cut edges. But they do not have any impact on the value and quality of the timber and they can easily be removed with the help of a rubber or some sandpaper grain size 800. A plentiful amount of window inserts is attached; they are laser-cut from 0,2 mm veneer and equipped with two crossbars. Plastic rain drains and down pipes with a diameter of 2 mm are enclosed. The construction set also includes a cute wall lamp, which can be attached above the front door.

Box:

Wood or gypsum? Here are some basic considerations relating to these materials for model building use

Wood and gypsum (calcium sulphate) are two absolutely different materials with different physical characteristics. But there is one thing both materials are having in common: both of them are natural products. The two materials even if modified can be used in many cases of modelbuilding, such as layout substructure, landscaping and construction of model buildings.

In nature wood is to be found in many different variations, which are varying in terms of colour, hardness, grain and moisture-sensitivity. But one thing is characteristic for all types of wood and for modelbuilding purposes it is rather disadvantageous: wood is swelling up due to entrapped moisture and fluctuating ambient temperature is causing expansion and distortion. For this reason liquids containing water as for instance water-based colours or adhesives diluted with water definitely should not be used for modelbuilding purposes. During the space of time in which the water is evaporated completely, in the majority of cases the connected components have already warped.
On the other hand, wood is also offering unbeatable pros: it is easy to handle, it can be treated with the help of customary workshop equipment and it can be purchased at every DIY or a special timber trade for a reasonable price. Since laser technology had found its way into modelbuilding it is easy to replicate the delicate details on original vehicles and also duplicating of components is possible, cost-efficient and at any time.

As a natural product gypsum is barely used. The types of gypsum offered on the market mostly are a mixture of pure calcium sulphate and other chemical substances. Amongst others the purpose of blendings is accelerating or decelerating the setting time or increasing the hardness. There are different types of special gypsum available on the market depending on the designated use. The grain size of the gypsum powder also is playing a major role: the more delicate the gypsum particle the more delicately detailed is the produced workpiece. A disadvantage in the processing of gypsum, for example at buildings, is the mostly complicated and expensive mould making. The number of replicas only plays a subordinate part, as long as the mould does not get damaged irreparably. Minor damages such as cracks can be fixed in the majority of cases. In case the mould, normally made from silicone rubber, will be worn out after a while it can easily be replicated by using the master form. This is why gypsum moulds are very useful for creating low priced replicas of an original, which is particularly advantageous if a larger lot of one component is produced.
As soon as the replicas are completely dry they can be treated with sand paper, used files and fine teethed saw blades. Gypsum replicas, which are not completely hardened, can be engraved with the help of a delicate chisel or the like. Moisture has absolutely no bearing on hardened replicas and this is why almost all customary colours can be used for further treatment. Bonding can be made by using oridinary PVAC glue or standard and special adhesives.

Subtitle
Assembling the line-keeper´s lodges

The „Prussian“ made from special gypsum: The Vamipsol kit

The skeleton

After all parts of the Vampisol kit are allocated properly initially the “sharp edges” of the gypsum components are removed with the help of a grinding sponge. The next step is truing the adhered surface with a fine abradant onto a completely flat underlay in order to achieve glassy surfaces. If this work-step is executed in an accurate manner at the later assembly of the wall parts barely no cracks or joints will appear and an additional sealing can be avoided.

Now the time has come to begin with assembly. In order to building the roof as a separate component and facilitating the subsequent colouring the work-steps were not always made analogue to the very detailed construction manual. The skeleton of the brickwork building is consisting of four parts. Adhering the wall components is no problem at all using the Ruderer L530TF-adhesive, also available at Vampisol. Corrective actions during the surface drying time of one minute are still possible. After the adhesive is applied on one side with the help of a toothpick the wall parts are pressed together for a few seconds. Due to the strong initial adhesive power just little pressure has to be applied and corrective actions are still possible. As soon as all walls are attached and the three-dimensional rectangularity is verified the skeleton can be put aside.

The roof construction

Similar to the original the roof construction of the model is made from wood. Initially some fine sandpaper, a sharp Stanley knife or a scalpel is used to remove any edges that remained from milling. Analogue to the construction manual now seven reduplicated rafter heads are manufactured by gluing 14 single heads together using a drop of PVAC glue. While the adhesive is setting the heads have to be compressed with the help of miniature pegs. While

the adhesive is hardening the eaves sheeting has to be aligned to the building and affixed with some strips of sticky tape. As soon as the roof panels are mitred to the roof ridge via filing, they are bonded with the help of some thin adhesive. By smoothing the panels a larger glued surface and a straight-lined roof ridge can be achieved. Afterwards the rafter heads, which have to be flush with the interior walls, are glued onto the eaves sheeting at an exact right angle by using some PVAC glue. Now the edge rafters have to be glued flush underneath the eaves sheeting in accordance with the original lodge 99. Adhesive residues and all irregularities at the edge rafters in the ridge area are removed with the help of fine emery. The roof covering was made using an ordinary plastic roofing slab, which can be glued onto the eaves sheeting with the help of the Ruderer adhesive. As soon as the glue has hardened completely occurring irregularities at the roof-edge have to be smoothed using the grinding sponge. Now, similar to the original, the soffit has to be glued to the edge rafters in a way that a protrusion to the rooftop of approximately 1 mm is given. The roof construction is hereby completed. If all work-steps have been carried out properly the construction can simply be attached on top of the building and removed again. Since adhesive residues can cause fading of colour or stain later, it is necessary to remove them carefully. This can be done using a flat file and some emery cloth. At last the chimney together with the cowl has to be glued on top of the roof.

Windows and front door

The polystyrene windows together with door and fittings again have to be smoothed using a small file and some emery after they have been separated from the injection-moulded article with a scalpel. Subsequently the edges have to be trimmed with the help of some steel wool. The door and window fittings have to be glued according to the construction manual by using some ordinary plastic adhesive. In order to mounting the door and window hinges (made from 0,5 mm brass wire) in a prototypical way the hinges have to be adjusted projecting outwards. The hinge axles have to be adjusted by using some superglue. Now door and windows are completed and they can be put aside for further painting.

The „Bavarian“ from wood: the IMS kit

The skeleton

Due to minor changes in the material thickness some reworking of the wooden components may be necessary. With the help of a small file, a scalpel and some emery they can be eliminated easily. It may be possible that the laser beam did not cut the wood completely. In this case the components can be separated using a sharp knife or a razor blade.

In order to stabilize the walls among one another it is necessary to attach some 8 x 8 mm square timbers at the corner joints using some fast setting PVAC glue. The edges have to be weight down with a stone while drying in order to achieve a solid connection. Please make sure that the scantlings are ending underneath the ground floor ceiling. The ceiling has to be added later. The scantlings of the first floor are glued in place subsequently. It is necessary to achieve a flush edge of both components while gluing gable and sidewall, which can be reached by using a small angle serving as stop unit. If gable and sidewall are not exactly adjusted in a rectangular way it won`t cause much consequences. This can be straightened out by sticking in the compartment floor, which can be manufactured from the included base plate.

The mentioned scantlings are also necessary for mounting the eaves sheeting and the complete adjoining building. Using some PVAC glue they have to be glued in the relevant areas in advance and affixed with small clamps until the adhesive has dried.

Windows and eaves sheeting

The very delicate and fragile windows made from 0,2 mm laser-cut veneer, have to be reinforced before mounting. Luckily the kit has enough laser-cut windows available and so they can be glued in a three-folded way. This is ensuring stabilization and a more compact appearance. The windows are glued into the openings by using a drop of PVAC glue.
Subsequently the eaves sheeting can be bonded in its final position. Two 8 x 8 mm rectangular blocks of wood are serving as roof-beam construction. They have to be glued between the gables and connected to the waves sheeting via adhesion. Some small clamps are helping to press the components together.

Now the skeletons of both buildings are completed. Further treatment such as colouring and weathering and the positioning of the line-keeper`s lodges on the layout can be looked up in the next issue of 012-Express.

Box:
Kit prices:
Prussian lodge, Vampisol: € 54,00
Bavarian lodge, IMS: € 78,95
Source: directly from the manufacturer
Further info is available at the Websites:
www.vampisol.de
www.ims-modellbau.de

Picture headers:

No.	Text
A	The Vampisol kit: it includes hard ceramic components for walls, widow sills and base wall masonry, milled wood and plastic parts for the construction of roof, windows and front door as well as metal fittings and two envelopes with a grey and light red ceramic mass in it for sealing joints and cracks

1	The grinding sponge is used to smoothing sharp edges on the components
2	Remaining dust in the joints can be removed by using a tooth brush
3	With the help of two angles the walls are adjusted accurately three-dimensional
4	While the adhesive is hardening all components are compressed using small clamps
5	Every two rafter heads are connected with each other by using some PVAC glue and then they are compressed with the help of pegs
6	The eaves sheeting are reworked by using a sharp file and some emery
7	In order to mounting the 0,5 mm brass wire hinges prototypically the window fittings have to overlap a bit
8	The recesses for the rafter heads may have to be widened by using a glass file in order to inserting the rafters without any lateral clearance
9	The eaves setting is affixed with some adhesive tape strips as soon as they are adjusted to the building
10	The roof panels are glued to the ridge with the help of thin adhesive

11	With some PVAC adhesive the rafter heads are glued onto the eaves sheeting in an accurately rectangular position
12	The edge rafters are glued flush with the eaves sheeting underneath, in accordance with lodge 99
13	The soffit is glued onto the edge rafters leaving a projection to the roof plane of approximately one millimetre
14	The finished roof construction: if the work has done properly it can be removed from the building and attached again
15	Finally chimney and cowl are glued onto the roof
1	The IMS kit components are mainly made from laser-cut wood except for guttering, down pipes and roof covering for main building and adjoining building, which are manufactured from plastic
2	Before continued processing of the laser-cut components can take place the protective foil has to be removed
3	It may be possible that the laser beam did not cut the wood completely – a scalpel helps to separate the wooden parts
4	The corners of the walls are reinforced by rectangular blocks of wood
5	An angle serves as a stop unit while gluing gable and side wall
6	The eaves sheeting is also glued to the roof using scantlings
7	Since the floor is glued in later the scantlings may only reach to the ceiling
8	The delicate and fragile windows are glued in a three-folded way
9	Before the final gluing of the eaves sheeting the windows have to be glued into the window apertures
10	While gluing the eaves sheeting is affixed to the roof beam construction via small clamps

B	The two line-keeper`s lodges after skeleton completion: the Prussian Vampisol version on the left side and the Bavarian IMS version on the right side. Further treatment and colouring can be looked up in the next issue

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Gauge 1

Category:
Modelling

Bar:
The „Duchess of Sutherland“ as a Live Steam Model in Gauge 1, Part 2

Header:
The Red Lady

Intro:
The self-construction model of the „Duchess of Sutherland“ will be accomplished – and initial test runs have already been made: to the delight of all participants. Here is part 2 of our report

Author, Pictures:
Jürgen Pietsch

After we concentrated on chassis and cylinders in our issue no. 10 in June 2009 we now are going to tinker with the boiler and tender construction of the “Duchess” and with the finishing.

Subtitle:
The steam generator

When the company Fulgurex reanimated the Live Steam Thought at the end of the 70s the first locos were still equipped with outside fired, so-called Smithie boilers, which had been used during the toy train era. At these the spirit flame is led from the outward boiler to the inboard boiler by an intake flow with the tiresome secondary effect that the bottom side colour on the outward boiler is burning up slowly but surely. The efficiency of the boiler is pretty good, though. Other manufacturers of live steam products initially also followed this principle. In search of inwardly fired boilers and after many years of development the spirit-fired or gas-fired boilers had emerged, which are still used today. For spirit firing the boiler is equipped with 2 15 mm heat pipes and for gas firing the boiler is equipped with one 20 or 22 mm heat pipe with 3 up to 5 slightly overlapping 6 mm transversal fire tubes, which are meeting the today’s standard.
At my „Duchess“ the boiler is consisting of a 52 mm external pipe made from copper with a length of 230 mm. As already mentioned, the heat pipe is manufactured from a 22 mm copper pipe with 5 transversal fire tubes made from a 6 x 1 mm copper pipe. They are arranged in a slightly overlapping way at intervals of 10 mm in the front area of the heat pipe. The boiler has to be provided with scores of brazed unions, like they are necessary for safety valves and fittings. As a basic principle they have to be turned from 10 mm brass with M6 threads. Since not all of the screw connections can be mounted on the upper section of the boiler back wall some of the brazed unions on the boiler inner surface are provided with a 3 mm piece of copper pipe, which has to be bent upwards towards the upper side of the boiler. That way for example a bolting for the pipe valve can be soldered at half height of the boiler back wall and the steam still is extracted out of the boiler inner surface only. Self-evidently

all parts have to be hard-soldered. Upon completion of the boiler a compression test with a pressure of 10 bar has to be carried out.
An approximately 120 mm slot burner made from stainless steel is serving as a burner. The slots have to be carved in at intervals of 4 mm till the half depth of the pipe by using a jigsaw. The pipe has to be soldered up to approximately 30 mm of the tail with a round 10 mm brass support, which has to be inserted into the flue tube and fastened by using a M2 screw. Outside the flue tube is additionally receiving a continuous air hole of 6 mm so that the gas flow, coming from the 0,2 mm gas nozzle is able to transport the combustion air. The gas nozzle should end flush with the air hole and is fastened by a M2 screw. The best position can be detected by sliding the nozzle during operation. A longer flue tube would not make sense for the flame does not burn along the complete length of the burner anyway. Instead of saw notches the flue tube can also be provided with 1 mm boreholes. It is important to point out that the flue tube certainly has to be sealed at the front end. The easiest way is to squash the tube by using a bench vice.
The steam is extracted via the regulating valve and passed over a 3 mm copper tube on the affiliated extrusion lubricator, then it is passing through the boiler via a 3 mm copper wire and at the front end it is lead through the heat pipe by forming another queue via a 3 mm stainless steel wire for overheating purposes before the superheated steam is finally reaching the steam chest.
Since my locos are equipped with a continuous back-feed of water via the axle-feeding pump it does not make sense to dimension the boiler larger than necessary. The boiler described here is offering a service water capacity of approximately 200 ml and produces plenty of steam. If a larger length of the boiler is chosen, an unnecessary quantity of water would be produced, which would not be beneficial. In case boilers without back-feed are used naturally different circumstances do exist.

Subtitle:
External boiler and other sheet metal forming

While most of the German locos usually have simple cylinder boilers, which hardly come up with a Belpaire firebox, English locomotives are offering a diversity of differently formed boilers. In the “Duchess” for example the boiler has a cylindrical smoke-box door, adjoined by a conical long boiler and a Belpaire firebox. The conical long boiler part does belong to the only component of the model, where I needed outside help. A small company, where nautical devices are manufactured, produced the part for me out of a 0,7 mm brass plate. This company is having appropriate tools available.
The production of the long boiler started with the smoke-box door, which was made from a piece of brass pipe. The striking rows of rivets on the smoke-boxes were replicated by using 0,7 mm copper rivets, which were soft-soldered from the inside. Afterwards the long boiler was soft- soldered to the smoke-box with the help of three inner plates. For the manufacturing of the smoke-box a wood pattern made from softwood was created and tied together with the long boiler in a removable manner. By using this heart of wood the firebox was formed from a 1 mm brass plate in two halves and attached by using spikes. Then the parts were soft-soldered, the transitions were filled with soft solder and plastered afterwards. After removing the heart of wood the boiler jacket was finished. Whereas the twin chimney was rasped out of a piece of brass by myself numerous other details such as the dome, the feed valve, the boiler washout plugs, the oil press, the set of springs for the tender and many more are originating from the production of Michael Gregory, Pemberton Models, England. This company is manufacturing the „Duchess-Class“ in the English gauge 1 scale of 1:32 as life steam models with coal firing. The discrepancy to the scale of 1:32 is not noticeable for the used parts are very small. The external boiler was additionally equipped with all details

such as dome, feel valve, boiler washout plugs, handrail supports, boiler fittings and so on, which were soft soldered, where required. Then the insulation was made from the inside by using glass wool mats, which were glued in place by using PVAC glue. This provides for a high firmness. Without further ado the parts can be soft-soldered, although the boiler is heating but the melting temperature of soft solder will never be reached.
The running board, the driver's cab, the smoke deflector plates and so on were manufactured from a 1 mm brass plate and soft-soldered. I did without the small rows of rivets, which can only be replicated in the correct size by etching. The basic rule for me was to carry out only the detailing, which can be replicated properly.
Missing details are attracting less attention than badly designed ones.

Subtitle:
The tender

The side bolsters of the tender frame were crafted from a 1,5 mm brass plate, the front and rear transversal girders from a 3 mm brass plate and afterwards screwed to the side girders.
The side bolsters received a 10 mm flange on the upper edge where the tender body has to be fastened by using 4 M2 screws.
During the manufacturing of all components it is crucial to ensure that they stay removable since everything has to be taken apart again at least for the lacquering. The side bolsters then were equipped with the soft-soldered brass precision casting parts of the axle-boxes and spring sets. The wheel sets are not spring mounted and the first as well as the last wheel set is exactly adjusted, while the central wheel set has an upwards and downwards play of 1 mm. Herewith inaccuracies of the tracks can be compensated.
The watertight soldered tender frame was equipped with a cross wall on a length of two thirds which is separating the water containing area from the dry section where batteries and the remote control receiver are stored. The water section is containing the gas tank and the manually operated feeding pump. Instead of the bypass valve control for the feed water, which was described as being a fiddly thing already in 012-EXRESS, issue No. 7 (report on the Live Steam Loco 140 C 287) here a simple control was used, which appears to be rather unqualified but works perfectly. It has to be considered that if an axle pump with a piston diameter of 5 mm and a stroke of 6 mm is used the boiler should not be overfilled during operations with heavy trailing loads. In case this should happen and it will be visible by a really wet exhaust stroke, the water supply can simply be switched off by turning the interconnected valve, which is located inside the tender and behind the manually operated feed pump. The axle pump will continue to run for a certain time in its own juice but the pump will tolerate this according to my own experiences. After about 5 minutes the valve opens and the water is led back to the axle pump by 3 or 4 pumping movements on the manually operated feeding pump.
The gas tank was manufactured by using a 60 x 1 mm brass pipe with a bottom of 1,5 mm brass and naturally it has to be hard-soldered. For filling the gas tank the coupling system of the company Reppingen is used, which is working properly. The gas valve was self-constructed.
The cover of the tender is made with the help of a plywood panel coated with coal imitation. The plywood is protecting the receiver and simultaneously it prevents its shielding. As soon as all supplementary devices like spring buffers, hooks, air hoses, stairs, handrails and so on are attached the tender was completed and the first test drive could be initiated.

Subtitle:
Test phase

The „Duchess“ was tested on an oval with a 1020 mm radius in the same way I tested all other self-manufactured locos before, for a test run on the chassis dynamometer is only representing a function test and doesn't give any testimony concerning the real efficacy and steam consumption during on-load operation. As the locomotive in full-scale version requires a radius of at least 2500 mm the trailer frame was removed and replaced by a specially manufactured bogie with very small wheels, which is offering a wide lateral clearance and the wheels cannot touch the cylinders.
For testing purposes the loco was equipped with radio remote control. After the loco was greased and provided with supplies the first test run on my basement tracks could begin.
The first rounds without load proceeded very promising, but this should change soon.
As linkage load I took 5 three-axis compartment coaches and converted coaches from the company Märklin and the dilemma began! Very slowly the loco was pulling off and the steam pressure faded steadily although the burner was completely open. When the gas pressure declined due to the high consumption the end of the journey was near and after a few minutes the joy has died. Instead of clouds of steam suddenly many question marks were hovering through the air in the direction of the steadily falling face of the constructor. Further test runs did not bring about any change for the better.

Experiments with new steam pipes for an individual operation with outboard or inboard cylinders only showed that the running of the loco always did improve during two-cylinder operation though, but the force of the cylinder at a 10 mm drilling was not sufficient to ensure an easy pulling off. The conversion of the cylinder pistons to Teflon ring seals did not gain any leverage.

Now a technical modification was needed: the internal engine (not visible from the outside) was only executed as a mock-up and connected with the external engine via a 13 mm drilling. For these purposes only the pistons of the internal cylinders had to be cut off, the flat side valve had to be removed and the steam supply of the cylinders had to be cut. Since every engine of a four-cylinder configuration has to be shifted to 90° the external cranks of a two-cylinder locomotive are also shifted to 90°. This solution made sense without any further modification.
For this purpose the company Reppingen delivered so-called cylinder blanks, cylinder bodies with already milled steam channels and a keenly 13 mm drilling. The pistons were – as per description – also made from brass, ground in and both furnished with 2 piston rings each, delivered by the company Twerenbold Modellbau. Externally the cylinders could be finished in such a way that they are meeting the cylinders of the „Duchess-Class“.

Already the trial run on the chassis dynamometer resulted in a completely different running performance. Even at the smallest burner setting the steam pressure retained, also at a high speed.
Then the desired relief occurred: the locomotive ran perfectly! With the load of all available wagons the loco moved with a forceful exhaust stroke and the steam pressure kept up at an average burner setting. At maximum power of the burner the pressure was increasing until the safety valves were starting to blow off constantly. During an uninterrupted pulling off the loco is sliding significantly, which shows that enough force is available.
The endurance test took place in September 2007 on the occasion of the “Herbstdampffest” of the Spur-1-Team Hagen (for further information: www.eisenbahn-technik-park-krefeld.de

and www.spur1team-hagen.de). The „Duchess“ successfully completed all runs on the grand scale gauge 1 layout and to the constructor’s pride it gained a lot of admiration.

Subtitle:
The lacquering

For the painting of live steam locomotives all aerosol can paints cannot be used for they are not heat-resistant. Only two-component car paints can come into consideration. I ordered a half-litre can of red, wine red and black paint each at a specialist shop as well as wash primer, thinner and hardener. Before painting the loco has to be completely disassembled and thoroughly cleaned.
For this purpose the components have to be thoroughly brushed in hot water by using a strong cleaning agent, then they have to be rinsed with clear water and dried. Since the paint is very smelly the priming should be made out of doors by using a paintbrush. The finishing paint of small parts can also be carried out by the use of a paintbrush. Bigger parts were sprayed inside the well-ventilated basement with an airbrushing paint of the company Revell. At a pressure of 2,5 bar the small spray gun is producing excellent results. The first layer should be applied thinly. After a few minutes, as soon as the colour is setting, the second and, if necessary, the third layer can be applied. Flat parts have to be deposited for drying purposes. Round parts such as the boiler have to be swung back and forth constantly until they are becoming a dry touch in order to avoid paint drips and paint runs. During this work it is necessary to wear a respirator mask!
After all parts are successfully painted the trim lines have to be applied. For this purpose Revell colours are used, which are offering a good adhesive force as well as a good heat resistance. The application is made by using a ruling pen, which has to be provided with a screwed-on guidance made from a 1 mm piece of brass. With this support the drawing of lines in any distance to the edges of the component is possible. Parts where this procedure is not feasible will receive a guidance made from 1 mm plywood.
In case a ruling does not succeed the colour can be wiped off by using white gas without any interference with the base colour, for all car paints are gasoline-resistant. In the end the required lettering of loco and tender have to be made by using water-dip lettering from the company Tenmille, England. The lettering has to be covered with two-component clear lacquer. Afterwards the loco was built together and was ready to start again.

Conclusion
The first great performance of the loco again took place on the occasion of the “Herbst-Dampffest” on the gauge 1 layout of the Spur-1-Team Hagen, on 13th and 14th September 2008 in Krefeld. Under the critical eyes of all other live steam enthusiastic members of the team and further spectators the loco gave its best with a trailing load of eight bogie wagons. According to the unanimous opinion of all viewers the loco was as impressive as the „Duchess“ of the company Aster Hobby. The fact that my loco is driven by two cylinders only is not visible … I got over this with a smile and the motto that a railway modeller should ungrudgingly acknowledge if others are doing an even better job!

Picture headers:

No.	Text
1	The components of the steam boiler; above: the external pipe made from copper, beneath the heat pipe with the receivers for the transversal fire tube in the front area; left and right besides the external pipe: the covering sheet with drillings for safety valves and fittings
2	The heat pipe (below) after soldering with the components
3	The completely soldered steam boiler with the numerous valves and fittings
4	The steam boiler at its compression test: hermetically sealed!
5	Above: the steam boiler after mounting onto the chassis, below: the external boiler with rows of rivets
6	The front part of the loco with its long boiler, still without “cab”
7	The first trial on the chassis dynamometer
8	View from above into the tender and the cab
9	Really smart: the lettered, but not yet lacquered „Duchess“
10	Long boiler (above) and chassis (centre) after lacquering, below: the steam boiler
11	Driver’s cab of the completely lacquered and lettered loco, clearly visible: the subtle trim lines on the circuit and the tender
12	The red lady is gleaming in all its beauty – a real masterpiece

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Category:
Info-Express

Bar:
Model Railway in Birmingham on 20th and 21st November 2009

Title:
The Warley Show

Every year the admittedly largest model railway exhibition is taking place at the National Exhibition Centre in Birmingham. The „Warley Model Railway Club“ had formed a Ltd. especially for hosting this event. Under the guidance of General Manager Paul Jones more than 75 model railway layouts and dioramas were shown. One of the main sponsors took a responsible part for the presentation of these excellently executed and really interesting layouts from all over Europe: the PECO Group who is engaged in the field of modelbuilding, too. Amongst other things they are publishing the „Continental Modeller“ magazine. This journal was celebrating its 40th anniversary. With his engagement and technical knowledge Andrew Burnham, successful editor since 26 years, has contributed a lot to the success of the Warley Show.

The significance of this exhibition in the home country of railways was demonstrated by an unremitting stream of visitors. And the British are a very versed and grateful clientele, indeed. It was fun to explain and perform the details of a layout – the gratitude of the visitors was expressed by warm and positive responses.

It is self-evidently that a fair has to be cost-effective – the same applies to Birmingham. A large number of expert companies and accessory dealers were offering the complete range of products all about modelbuilding. This is a place for every model maker to playing his ambition ad libitum and satisfying the material requirements and this exhibition also is a source for inspiration.
Two exhibition days were absolutely not enough to take a closer look at all the layouts and offers of manufacturers and dealers. But this is the charm of the Warley Show and every exhausted visitor has the opportunity of taking a rest on the provided rows of chairs so as to peer at all remaining attractions shortly after. The organizers` intention of providing this service surely was right!

In a press summarization the Warley Model Railway Club did proudly declare that this show with an increase in visitors of 5,5 % had been the best ever. Probably this was caused by the large variety and high quality of the exhibited layouts. The German layout: “Slate, Gravel and Records” received an award and won the first price from the jury, handed over by General Manager Paul Jones, for the best “Large Scale Layout”. In my capacity as editor-at-large I am very pleased and as an exhibitor I would like to thank the „Warley Model Railway Club“ and the „Continental Modeller“ magazine.

This exhibition is a must for everybody who is interested in modelbuilding.

Franz Stellmaszyk

Further info concerning exhibition and NEC Birmingham on the Internet:
www.thewarleyshow.co.uk/

Picture headers

No.	Text
1	The V100 on its way in UK: captured at the gauge 0 layout „Colnrade“ by Peter Smith
2	„Irish Folk“: a detail from exhibition layout of the Model Railway Society of Ireland

Box:
Correction concerning Info-Express, issue 12:
Peter Jung kindly pointed out that the layout shown in the KS-Modellbahntage article on page 78 does correctly come from our modelbuilding fellow Simon. Please accept our apologies for the incorrect description.

Category:
Info-Express

Bar:
Recommended reading

Title:
Series V100

Like no other loco the V100 is signifying the generational change at the German Federal Railways. The book about one of the most important locos during the German post-war period, which was released in 2005 but meanwhile out of print, was reissued now. On more than 440 pages the reader learns all about this loco, starting with its development and the first test runs up to the upgrading of this loco for its use at the Deutsche Bahn AG. Although the diesel engines of this type were sorted out in the year 2004 they still can be found along various private railway routes today. Besides the meticulous presentation of the assignment to the respective directorates also the daily operation is explained in words and pictures. Also special reconstruction measures such as the steeply sloping section equipment of the V100 2332 up to 2341 are included. More than 500 black-and-white and 150 coloured pictures are showing the application of the V100 – scenes, which will inspire railway modellers to implement some unusual scenarios into their model railway environment at home. Further amendments added to the first edition are rounding off this book.

Box:
Peter Große, Josef Högemann: Die Baureihe V100. EK-Verlag, ISBN 978-388255-104-6; Price: 48 EURO
Info: www.eisenbahn-kurier.de

Category:
Info-Express

Bar:
The 17th Spur1-Treffen in Zell

Title:
Meeting of the supreme gauge

Already for the 17th time the group of gauge 1 fans got together in Bad König-Zell from 15th till 17th January 2010. This year the „Krone“ hotel was again hosting about 30 enthusiasts who demonstrated their models. The focus was on Live Steam – except for one electrically powered BR18 201 loco from the company Fulgurex. The magnificent steam locos had either been constructed from Aster model kits or entirely self-manufactured. Spectators and exhibitors had a great time operating and talk stopping together far into the night – proper food and refreshments were provided for. All interested persons should schedule the 22nd and 23rd January 2011 in order to participate in this event.

Helmut Grall

Category:
Info-Express

Bar:
Events - schedule

Subtitle:
Gauge 0 Days in Buseck

For the 11th time gauge 0 enthusiasts will meet in Buseck. Whether standard gauge or narrow gauge, the visitors will have the chance of gazing at lots of layouts and dioramas, amongst others Beachley Dock, the all-around layout Ziegeler and the harbour layout from Johannes Otterbach. Various dealers and manufacturers will also be on the spot. Many workshops on the subject of modelbuilding will round off this event. Accordingly: this show is not bound for gauge 0 modellers only!

Opening hours:
20th March 10am – 6pm and 21st March 10am – 4pm Info: www.busecker-spur-0-tage.de

Subtitle:
Live Steam Spectacle in Koblenz

In the course of the Live Steam Spectacle and the „175th anniversary of the German railways“ the Live Steamers are getting together over Easter at the Diehls Hotel in Koblenz. On the double tracked gauge 1 layout Live Steam and digital (Motorola) locos can be operated together. Straight behind the hotel original Live Steam locos can be gazed at while passing by!

DIEHL's HOTEL, Rheinsteigufer 1, D-56077 Koblenz-Ehrenbreitstein
Opening hours:
3rd – 5th April 10am – 5pm
Info: Peter Koch, Loher Str. 120, D-58256 Ennepetal, Tel. +49 2333 / 860 853
EMail: peterkoch2@gmx.de

Subtitle:
The 3rdModel Railway Days in Basel

This year at the 10th and 11th April the Basel Model Railway Days will take place at the Pfarrheim St. Anton. Amongst others the Modelleisenbahnclub Basel MCB (Gauge 0, 0e, 0m, 1) and the Modulbaufreunde Basel MFB (gauge 0) will join this event.

Pfarreiheim St. Anton
Kannenfeldstrasse 35
CH-4056 Basel
Opening hours:
10th April 10am – 7pm
11th April 10am – 5pm
Info: Bruno Thommen,
Email: railbruno@gmx.ch

Subtitle:
The 4th Gauge 1 Module Meeting in Borken

Already for the 4th time the IG Spur1 - Nordhessen and the Verein Eisenbahnfreunde - Borken e.V. will present the Gauge 1 Module Meeting at the 24th and 25th April. Due to a multiplicity of participants this event will take place at the Fest- und Tennishalle. The venue is located directly underneath the Borken water tower. Roughly 2000 m² of space is available for all module builders, manufacturers and dealers. More than 50 model builders from all parts of Germany and from neighbouring countries will assemble more than 200 individual modules to an enormous gauge 1 layout. You shouldn`t miss the chance of attending this gauge 1 spectacle!

Festhalle, Meruer Straße
D-34582 Borken (Hessen)
Opening hours:
24th April 10am – 6pm and 25th April 10am- 5pm Info: Ralph Müller,
Email: uhren-optik-mueller@arcor.de

Subtitle:
The IG Spur II Anniversary Meeting

At 15th May the IG Spur II will celebrate their 25th anniversary and on this occasion they are inviting to a great model railway exhibition in Schenklengsfeld. Modular layouts and vehicles of all usual gauges on a scale of 1:22,5 will be shown - standard gauge, narrow gauge as well as light railway.

Schulsporthalle, Eisenacher Straße, D-36277 Schenklengsfeld
Opening hours:
15thg May 10am – 6pm
Info: www.spur-ii.de

Subtitle:
The 32nd Intermodellbau in Dortmund

Fornthe 32nd time the Intermodellbau fair will take place in Dortmund. The Westfalenhalle 6 will be livened up with modelbuilding enthusiasts from all over the world. Scores of manufacturers and dealers as well as clubs and private exhibitors will show their model railway environments. Amongst others the gauge 0 harbour layout “Streselow“ will be shown.

Westfahlenhallen 2 – 8, Dortmund
Opening hours:
14th – 17th April: 9am – 6pm
1875 April: 9am – 5pm
Info: www.westfalenhallen.de

Subtitle:
The 21st International Gauge 1 Meeting

At 26th and 27th June the 21st Meeting of the gauge 1 community will take place at the Auto & Technik Museum. This year again more than 100 exhibitors, clubs, manufacturers and dealers will join this event.

Opening hours:
26th June 9am – 6pm and 27th June 9am – 5pm
Info: www.museum-sinsheim.de

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Self-constructed telegraph poles

An idea came up:
A large gauge coal storage facility

Reconstructed:
Goods train support vehicle

Test:
The Prussian workhorse:
Series 57 by KM1

… and further topics from the large gauge scenery…

For currency reasons some articles may be postponed

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