# Gartenbahn Profi #4/03

English Summary



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Mikados from Aristo-Craft and LGB

# The Beauty and The Beast.., Page 12

The Mikado models hit the market close together. LGB created a beauty, shortly after Aristo-Craft presented a value priced workhorse. Do these heavy steamers measure up in the running and scale department?

So far Large Scalers had seldom the choice between two makes of the same engine type. Can one really compare LGB's Mikado beauty at €1500 with an intentionally "simpler" model? An engine at a reasonable price intended to be run, with only a casual relation to a prototype? At least that's how Lewis Polk, Aristo-Craft's president likes to "position" the product, which in Germany sells for €600 and features neither sound nor a decoder.

One needs to compare. Even if the price gap is an indication of major differences, both engines are still an investment which bears some thought. Especially since our tests were eye openers: Both Mikados are compromises, which depending on disposition one could assess kindly or with brutal honesty. The choice is up to the buyer.

A few comments regarding the prototypes: The "Mikado" is named after the Japanese emperor and the reason was the early sale of a series of 2-8-2s to Japan. The first versions of Light and Heavy Mikes date back to 1917 when USRA took over the lead role on American railroads in order to expedite and coordinate rail transport to the East coast. Much like the Reichsbahn standardized engine design in Germany after 1920, USRA attempted to reduce the types and number of different versions of steam engines to a managable level. Baldwin delivered the first Light Mikado in July of 1918 to the B&O. 625 engines of the same type left various factories in short order. To be followed by 1266 engines going to 50 different railroad companies over the next decades. The engine used the same boiler as the USRA Pacific - the trigger for the Aristo model, which sports the boiler of a Pacific produced in the early 90s.

Looking at pictures of different Mikados one quickly realizes that there is no such thing as "The Mikado". There are too many differences in the versions delivered to the various companies if one pays attention to details. The common denominators are the dimensions, the wheel sizes and the arrangement of the wheels. This is what we used to evaluate the models' scale factors. All other elements need to be judged with generosity and for that reason we placed more emphasis on the utility score.

### Scale is Scale

Many Large Scalers know and LGB even notes it in the catalogue: "Deviating from precise scale serves well in operating models." In order to run Field railways, Meter gauge and even Standard gauge on the same 45mm track, LGB reverts to standardizing the width and the height of their products. Countless LGB fans aren't bothered by this, other Large Scalers are very upset and readily apply the "TOY" label to the products from Nürnberg - but still keep buying.

The 1:29 proportions are an attempt by the American producers, who started a bit later, to match LGB's bulk. A bad compromise considering that Standard gauge on 45mm track scales to 1:32 aka Gauge1.

At 1:29 the track gauge is 10% too narrow. Hardly noticeable, considering the grossly-oversized Code 332 track. At least the American products complement each other since the newer models, despite selective length compression, are in 1:29 scale as far as width and height are concerned.

Why "Narrow Gauge Specialist" LGB decided to use 1:26/1:27 for the F7 and the Mikado is anyone's guess. The deadly result is an oversized Standard gauge engine running on a narrow gauge chassis and neither 1:29 nor 1:32 will be proportionately even close.

Even if many LGB customer are of a different opinion: To establish a larger "scale" after the, by USA fans, widely accepted 1:29 (at least the bodies conform), just wasn't such a good idea on LGB's part.

### Wrong proportions

Of course neither of the Mikados has much in common with a prototype. The LGB engine is a beauty which will catch even your neighbour's eye - he who isn't train-crazy. However the engine is too short, too high, has a tender that is puny and running gear that is in the wrong position. Especially the trailing axle, which depending on version is either just before or right at the front edge of the cab, but had to be moved back on account of the motor that sits below the fire box. The wheels on the trailing axle are between 20 to 25% undersize. The cab is too high. The boiler sits too high and doesn't project the long silhouette of the original.

The Aristo version looks better in that respect, but the running board which dips ahead of the cab, which sits too low, is a cost related legay item from the Pacific. Twelve percent undersize on the drivers and close to 19% on the pilot wheels are ample proof that this is not a real model. There are prototypes for the Vanderbilt tender, but the details on a SP type would be different as their Mikes were usually oil fired, not coal fired.

### Flaws in the detail

The LGB engine looks well detailed when compared to the competition's. Yet exactly the details have several flaws: the whistle should be pointing to the rear. The generator with itss long exhaust pipe (that's where the overall height stems from!), is a typical type usually found on narrow gauge engines. Freight car trucks on the tender are just as misplaced as the marker light imitations (in black plastic) which mounted at a completely different

location on the prototype.

At least the Aristo marker lights are lit, even if they are a bit coarse, mounted too low and have annoying printing on the cables. The piping to the stylized generator is missing like so many other detail. The air pumps show their design vintage. The bell sits too low and the number boards are missing. The windows which, in contrast to the LGB engine, can be opened (sliders) are a real disappointment: the imitation wood is very coarse and there are distinct marks from the mould ejector pins.

### Perfect power pick-up

One should be able to expect good power pick-up on any engine that measures in excess of 3+ft. LGB limits itself to the eight drivers and the four pick-up shoes, which provide reliable pick-up through the customary brush and spring arrangement.

Aristo-Craft uses the axles of the drivers and additionally only one wheel on each axle of the rear tender truck. There were very few stalls.

### The basic question: running gear

LGB products need to negotiate the R1, that's LGB's philosophy. Which means serious compromises on a long engine like the Mikado: the technical challenge called for tricks that affect the running quality as well as the visual appearance. The drivers are divided into two groups, which are connected by a driveshaft with universal joints. The motor sits aft of the rear power unit and necessitated moving the trailing truck. The cylinders are part of the front unit and in curves they will swing left and right. The articulated power unit is a nuisance when placing the engine on the track and has an unwelcome side effect: Coming out of a curve the running gear fails to align with the axis of the track, instead the units will sit at a slight slant. This means increased friction and additional wear on the wheels, which depending on the power unit will either point left or right. As a result the engine will be offset on the track and the cylinders will peek out the side. The universal drive shaft generates an annoying pitch. The running gear has other deficiencies: if the power is cut the engine stops immediately and a longer train will invariably derail. Having a "zero coast" engine on a garden railway can certainly be rated in the KO (knock out) category. The drive design of the LGB Mikado is a compromise which very few Large Scalers expected. No one expects a Boeing 747 to land on a grass strip intended for gliders. Few customers would seriously demand that a Standard gauge engine of 3+ft negotiate field railway trackage.

Aristo-Craft states right up front that a 4ft minimum radius is required. The engine will negotiate 40" curves, but the cab (on both engines) has so much overhang in 4ft curves to look toy-like. The drive to the four axles is based on the SD-45 drive, it runs quietly, trouble free and negotiates even minor abrupt vertical changes. The shape of the gears (lots of engagement!) makes for a sturdy drive. The flywheel on the motor helps to cope with power interruptions without leading to derailments. The pulling power is more than sufficient on either engine. Twelve heavy four-axle cars posed no challenge on grades and curves.

The drawbars between engine and tender are less than perfect since both units have them mounted to the tender truck. Aristo's can be slightly shortened. LGB's combination of hook and loop coupler, coupler geometry and low tender weight will have the tender derail when backing a heavy train through a curve. The coupler mounting - a technical inheritance from HO - on the trucks is a necessity on long models to negotiate 4ft radii, but absorbing the forces of long pushed trains is not possible.
It would be high time for the LS industry to come up with innovative drawbar designs that are reliable and adjustable for different radii.

Aristo-Craft manages the electrical connection between engine and tender with connectors which are easy to attach and part; the design prevents mix-ups of the cables.

On LGB's Mikado the socket is mounted under the foot plate of the tender and is hard to reach, pulling on the cable or splitting a fingernail will get it detached. Connecting is a "blind operation". This arrangement dates back to the decades old Mogul design and should have long ago been replaced with a user-friendly successor.

### The sonic add-ons

The LGB engine has factory-installed sound, a definite PLUS. While standing (up to about 5V on the track) one will hear the air pump and the feed water pump. The engine starts at 5.5V. The whistle blasts and the bell can be triggered by magnets as well as using DCC. The exhaust, from the speaker mounted in the fire box, is synchronized to the rotation of the wheels, but should have twice the cadence.

The sound is disappointing in analogue operation: The sound quits immediately when polarity is reversed because LGB skimped on the necessary capacitors - unforgiveable on an item in this price bracket. The sound-programming fails to convince: When the engine starts ahead there should be two whistle blasts as well as the bell, backing-up should trigger three whistle blasts. The warning whistle when moving forward, as well as the brake squealing, worked only intermittently on our sample. Apparently the sound generator needs substantial voltage ramps to trigger properly. The volume adjustment in the smoke box isn't user friendly.

### Including sound.....

Aristo's Mikado is sound-ready. The large tender contains a weather-proof speaker, mounted just aft of the front truck, which should generate good sound given the tender volume. The synchronization to the exhaust is missing.

### .....and smoke

Both engines come with hefty smoke generators. LGB's generates a dense white smoke which exits the stack in compact fashion.

Aristo uses a fan to move the smoke up the stack and the smoke looks more realistic due to less density. A further plus is: the generatot will automatically switch off when the fluid runs out.

### Overall: dissimilar sisters

Chosing between the Mikado sisters from Nürnberg and Irvington is not easy. Due to the many compromises, unnecessary ones in our opinion, neither of the two can convince in a solid fashion. So it is up to the buyer, which features he prefers and which compromises he can

accept.

LGB's beauty shines because of the details and the good looks which set products from Nürnberg apart. Annoying are the oversize and the incorrect scale, the shorty tender, the problematic running gear and the so-so performance of the sound unit in analogue mode. DCC users will be happier with the sound. Considering the price, we expected more.

Garden railway operators will find Aristo's beast, with its solid drive, to their liking.

Distracting from a "model" are the boiler which sits too low, the sparingly applied details and the drivers that are too small. Those who want a Mikado to drag long freight trains, will go for the "Made in China" Aristo item, not least because of the price.

Regrettable is that both manufacturers missed the chance to produce a convincing, pleasing replica of a popular American freight engine. The customer has the choice between two stand-ins, which at best have some similarities to a USRA Mikado - each in a different manner.

Shiloh signals

# Nice signals... Page 24

On either side of “The Pond” there are many small companies which produce specialty items for garden railways.
Shiloh Signals in Gloversville, NY produces signals - but not just American prototypes; no, German and Swiss ones as well.

When one orders from Mark Pollak, one needs a measure of patience. The owner of Shiloh Signals crafts his products all by himself and delivery is between 2 and 3 months. But the signals are worth the wait, ten years of experience in HO, S, O and Large Scale show in the quality he delivers. His one goal is: satisfied customers.

That handmade signals compete at the same price point as the massproduced variety is a result of an artisan's overhead structure. There are no large PR campaigns, just the odd ad in the model railroad magazines. The catalogue is a collection of photocopied and stapled black&white sheets; the recently started website is unassuming.

## Signals for the RhB and DB

The first Online catalogue doesn't contain all the signals, but holds a surprise. Mark Pollak followed through on the announcement from July 2002 and developed signals modeled on the DB and RhB. Last summer, when Mark was looking for information on the European market, we corresponded back and forth. We encouraged him and pointed out the steadily growing Large Scale segment of the market. Nice to see that Shiloh Signals delivers to Europe and to the North American RhB fans. This much interest in European clientel is the exception with North American LS producers. The potential of the "Old World" is not often recognized in the USA, consequently the lack of attention to European demand and understanding of distribution channels.
Mark Pollak sells only to the end user at very reasonable prices. A German dwarf-signal sells for US$12, a large multi-light signal for US$ 26 to 38. The same price range applies to the five RhB signals.

## The whole shebang for US railroads

The selection for US railroads is much larger. It comprises searchlight signals, the type that was introduced in 1920 and uses a far reaching beam of light. The prototype used an electromagnetic drive to position coloured glass discs in the beam. The model uses very bright LEDs. The searchlight signals come in one to three head versions. A special version has the larger target of the AT&SF.

Colour-light signals are the type which uses different bulbs in different colours to indicate aspects. The prototype was introduced in 1914, the model features a ladder and a service platform just like the searchlight signals. Position signals as used on the PRR, B&O and N&W have large targets on which many bulbs are mounted. different combinations show the various aspects. Even if the odd bulb failed on the prototype the signal could still be read. The prices for theses signals are between US$22 and 50. Apart from signals on low masts, Shiloh also produces dwarf signals; these are very handy on garden railways being as they are less likely to get damaged. For multi track lines of the 1:29 crowd there are signal bridges in both silver and black. New are the cantilevered signals. And as if that's not enough there are old fashioned and modern crossing signals.

More on the American signaling system starting in GARTENBAHNprofi 5/03

## Metal - no plastic

Mark Pollak assembles the signals from brass tubing and wire, they are painted and decals provide the lettering. Very seldom does he use stainless steel and plastics. The signals are weather proof, the LEDs are equipped with resistors to work on either 12V AC or DC, the circuitry to display the different aspects is to be provided by the end user. Modules (they look a bit "home made") are available for train detection and other functions. We couldn't test them but plan on doing so in future. Too bad that the functions of the modules are uni-directional.

Something original are the relay boxes made from brass and wire, perfect to mount small circuits. Mile markers and limit markers are also available.

Without question, Mark Pollak is kept busy with his product line. There is a one year warranty on any of the items. One can order by email or snail mail. Payment is by Mastercard, Visa or Paypal.

Regner's Ol'Smoky live steamer

# Wild Frieda... Page 40

This could tempt even the most hardened "Marlboro Man" to get off his horse: Live Steam manufacturer Regner, Aurach provides entry in the live steam scene the American way.

Ol' Smoky is a fantasy engine dressed up in typical "Western" look, the Frieda lineage is quite obvious, the technical specs identical.
The silvery smoke box, stack and functioning headlight - strictly for look - along with the distinct pilot set the "American note".
Closer inspection reveal brass handrails on the pilot plate, the round cab windows have brass frames, the cab of #7 has extra embossing .

Hidden below the Western-look is the gasfired boiler of the single expansion engine with the Frieda specs: 150ml of water allow for 25 to 30 minutes of running time while pulling six LGB four-axle cars.
The basic kit which Regner sells for €860 is lacking a pressure gauge and comes with only the reversing valve.

Those reluctant to assemble their own can buy a R-T-R version from either Reppingen or Modell-Dampftechnik Pieczewski. Pieczewski assembles an enhanced version. In addition to the reversing valve they also install a regulator valve, which provides very good speed control. The reversing valve is strictly used for its intended function - reversing. In addition there is a steam whistle.

But even in this case there will be some electronics required: a three channel R/C control is used for the regulator valve and the steam whistle. The R/C control is included (complete with charger) with the enhanced R-T-R version.
The 0-4-0 takes about 5 minutes to steam-up after starting the piezo ignition. The running time is up to 25 minutes, however blowing the whistle with exuberance will shorten the running time.
Completely assembled and equipped with the extras, Ol' Smoky will be about €1600.
And yes, that includes a pressure gauge.

Berlyn Locomotive Works'

# Goose #6... Page 42

Berlyn Locomotive Works produced a second edition of RGS Goose #6 in 1:20.3 scale. The unique vehicle is well suited for the garden railway and the collectors will be pleased.

The Rio Grande Southern (RGS) started in the 30s to build Passenger and MoW vehicles based on buses and trucks. #6 came into service in 1933 and was based on a Buick with a six cylinder engine, a later rebuild changed that to a Pierce-Arrow chassis and Pierce engine.

The MoW Goose survived and is today on exhibit at the Colorado Railroad Museum ( www.crrm.org ) in Golden, CO.

The second edition Goose has metal construction throughout and replicates the drive of the original with a drive shaft and chains. Paint and finish of the model, which weighs in at 1.3kg, is excellent. The by-packed white gloves will prevent finger prints while handling the model. The doors and toolbox can be opened, the sidewalls, made of castings with wood grain imitation, can be removed. The hood can be opened (it is articulated like the prototype's) to reveal the finely detailed six cylinder engine. What is missing is the radiator behind the grille. Unfortunately only the windshield has glass in it, the side windows and the rear window lack that feature. The small plows are mounted in a fixed position on the pilot. A driver, cast in metal, completes the unit.

Both trucks swivel and the spring on the king pin allows for enough play. The axles are mounted in brass journals, reliable current pick-up is via springs on the inside of the wheels.

The running quality is superb. The high reduction of the gear box generates a slight whistle, the vehicle accelerates very smoothly and coasts nicely. The top speed is prototypical and is limited by an electronic circuit. Three grain of rice bulbs provide the illumination of the headlights, the marker lights display red to front and rear, green to the sides.

All in all...:

The second edition of the Berlyn Goose #6 has more going for it than the unusual form and being a must have for Colorado fans. The running qualities are excellent. An eye-catching addition for any garden railroader and the collectors will be equally happy.

Kiss presents RhB's

# Gondola Ek 6070...Page 44

Gondolas are very versatile. Coal, scrap metal, wood or agricultural products, the Kiss model with the brake platform is ready for work on any RhB layout.

The series of cars of the Rhaetian Railways (RhB) numbered Ek 6069 - 6073 were ordered in 1931 by the Chur - Arosa railway from Schweizerische Industrie Gesellschaft (SIG) in Neuhausen. Being as the Arosa line was powered by 2000V DC (later 2200V), has grades of 6% and a much smaller freight volume than the main portion of the RhB, the Ek series with the small axle distance and a maximum loading capacity of 10t can almost be called diminutive. At least when compared to the old L1 types, now numbered E 66xx. The gondolas are used for anything that can be transported in an open car: firewood, straw and construction materials.

The overall impression of the model is good, the wood grain of the side walls is nicely done both inside and out. The lettering is crisp, however the paint job appears slightly too dark, even for a freshly out-shopped car. The frame, railings, brakehoses and platform are gray, the colour is a good match. The swing doors are only imitated and can not be opened. The detailing of the under-body is sufficient, various levers, valves and the brakehose fittings are off-set in red. The brake lines at the car ends could be improved, after all the lines on the prototype reach below the end sills.

The tie-down loops fail to convince: In my picture collection there is only one picture of Ek 6071, which didn't have tie-down loops. The loops appear too big when compared to the type on the E 66xx types. One could also assume that the brackets would be rotated by 90° in order to allow the loops to swivel in a vertical direction.

The design of the car is interesting; the walls are injection moulded as separate pieces. The side walls fit into notches on the end walls and all the walls are fastened to the floor with screws. This makes mould design much simpler.

The couplers and the wheelsets are from Aristo-Craft. The wheel sets are metal, unfortunately in the very shiny execution. The nice detail of the yellow segments on the rim - used to check for blocked wheels while the train is moving - is, as a result, only partially effective. The wheel sets are also too small, but that is on account of the gleaming wheels not so noticable.

The Aristo couplers are not as smooth as some other makes. The coil spring can't simply be shortened, unless one is prepared to loose the odd one.

Summing up...

Apart from dimensional bloopers - like the platform at 44 instead of 38.9mm above railhead, the center buffer at 37 instead of 27.3mm - this is a nice and well built model. If used "out of the box" or perhaps weathered and extra details added, this is a model that offers good value.

From American Model Supply

# Premium Boxcar...Page 46

Fascinating engines are nothing exceptional for the garden railroader. But fascinating cars? The box car from American Model Supplies, part of Accucraft, is one of those.

If this were a HiFi magazine we would simply call the model "the benchmark". This freight car is by far the best injection moulded product on the market. Regardless which other mass manufacturer one compares to: AMS is in both quality and detailing way ahead of the competition. No one offers a comparable product. This at a price, which due to the production in China, is truly reasonable. Discounters in USA list it at approx US$140, the European importers at around € 250.

The boxcar belongs to a series originally built by American Car and Foundry, modernized in 1924 by the Denver & Rio Grande Western and completely repainted in 1945 (boxcar red). The body of the car, available in nine different lettering schemes, is a plastic injection moulding with metal detail parts added. The underbody features complete brake rigging; the truss rods are, just like the prototype's, asymmetrical. Both the brake wheel as well as the brake valve are very nicely detailed. The Accucraft couplers are body mounted and the cut levers are functional. The brake hoses are mad from rubber. The multipart door latches are plastic.

The sprung trucks, with 32mm wheels featuring 1.8mm flanges, negotiated the test track without problems. Further proof that 3mm flanges are not a must for reliable operation.

The flat paint job is, apart from a small piece of fuzz on the truss rods, without flaws. The lettering copies the stenciling of the prototype perfectly. The cars are also available in sets of four with different lettering and car numbers. The only negative point are the brake shoes which are too far from the treads. One can live with the non-opening vent hatch on the one end.

To close....

A first class model of the popular Colorado narrow gauge company. This is the best injection moulded car available today - bar none. The AMS model sets the standard at a tremendous height.

Bachmann's GE 45-ton

# Diesel.. complete with side rods...Page 48

GE built the 45-ton engines since 1939 in many different gauges from 762mm to 1676mm. The Bachmann 1:20.3 model represents the 3ft series built in 1958.

GE built about 700 of the 45-ton diesel-electric engines, equipped with only 1 motor in each truck, starting in 1939. They were delivered to industrial railroads in the USA and other countries, seeing mostly switching duty. Bachmann selected the narrow gauge version last built in 1959.

The evaluation started with a surprise: while unpacking the engine the endsteps fell off, followed a little later by one of the platform steps. The cast railings, which in contrast to the body have an uneven paint job, were partially detached from the brackets. As a precaution it is advisable to also secure the brake cylinders with a better adhesive.

Other than that there are few flaws on the bulky and unusally wide narrow gauge diesel. The tanks and piping on the frame are very nicely engraved. There is a small opening for a speaker in the floor. The cab has quite prototypical detail. Unfortunately the engineers legs will need to be amputated for him to fit in the seat. The headlights are powered by white LEDs, there are no tail lights. The cab is lit, the switches for the lights, smoke generator and polarity selection are hidden underneath a hatch in the hood. The doors of the cab open, the windows slide. The rod engine runs very smoothly in low speeds, but has a slight roll at the unprototypically high top speed. There is plenty of pulling power, The unsprung axles have ballbearings which should provide almost wear free performance. Othe manufacturers are still using plastic bearings despite having higher engine weights. The power pick-up for the two motors happens on the inside of the wheels via metal pins and springs.

The four springs in the truck side frames have no function. Two smoke generators supply the exhaust. The couplers are mounted very low, in typical Bachmann fashion; but can be replaced with Kadee # 835.

While running the tests in the garden one of the screws securing the side rods came lose. We found the tiny screw in the ballast, but concluded that the engine couldn't be repaired. An inquiry with Bachmann China brought good new: the counterweights can be detached after removing the small plastic cap. Below that cap is a screw. A very valuable tip - except when prying on the plastic cap it broke.

Running the engine is fun, the light coloured side rods dancing up and down are a nice contrast to the black wheels and the black body. The bulky engine makes quite an impression as a switcher or industrial engine and should really be fitted with a sound module of a slow running diesel engine.

The trucks negotiate 2ft radius curves with ease. Being as the couplers are body mounted that could pose a problem. For that reason and for looks a 3ft radius would be better.

We couldn't find a prototype picture of the Santa Fe version, but apart from two undecorated versions there is a authentic version of the Midwest Quarry Mining Co. which will look good with the new Bachmann side-dump cars.
To be remembered: This is a narrow gauge engine. 1:29 models will look much too small beside it.

All in all...

Apart from small QC problems this engine is pleasing. Favourable mention deserve the ballbearings of the axles, the nicely detailed cab, and the solid railings. Those who have the necessary clearances on their layout might want to consider this engine for their next purchase.

Improving Bachmann's Indie

# Adding weight will do it...Page 52

In contrast to a lot of men, the small Bachmann Baldwin (GBp 3/03) is under-weight. The easiest fix are heavy pieces of brass sheet or weights glued to the top and bottom of the gear box. Without much work the engine can be dismantled and 360gr added which will result in almost twice the pulling power.

First one removes the exhaust pipe from the generator (in front of the cab). Then one removes the two screws below the cab. Next is the leading truck, followed by the screw which is in line with the stack. You can now remove the super structure from the chassis.

The spring of the leading truck is too heavy and reduces the adhesion weight of the engine. Remove one of the wheels from the axle by carefully twisting it off. This exposes the two screws which secure the spring-retainer housing. Remove the spring, shorten it by two turns, stretch it just slightly and reinstall. Use leadshot or the lead weights from a curtain to fill the three domes, secure the lead with white glue (i.e Weldbond). This will spread through the shot and at the same time provide an isolating layer. You can add more leadshot in the square cavity below the smoke box. Some will fit in the cavities of the air tanks and in the fire box, but make sure that there's still room for the wiring. Adding a crew made of pewter will add yet more weight.

Adding the lead shot gives the engine 360gr more weight. The pulling power increases to 3.3N which translates to five instead of the two four-axle cars on slight grades and the running quality is much better, the "rock 'n roll" is almost gone.

The light tender should get some weight as well. There is plenty of room. A big improvement in operating quality can be had by body-mounting a Kadee 830. This will remove the forces acting on the rear truck and transfers them to the tender body instead. This will prevent derailments when the consist pushes, either braking or descending grades.

Installing the coupler will take about ten minutes. Even with the new coupler restricting the swing of the truck, the engine will still negotiate 2ft radii. The distance to the first car will be noticably shorter, a big visual improvement.

The modifications will make a much better performer out of the little engine and are easy enough to be tackled by the less experienced.

According to Bachmann the scale is 1:22.5; so far they always quoted 1:20.3. The latest edition leaves the German distributor with the extra weight already installed.

Stainless steel turnouts from Flück

# Stainless.....anyone?? Page 54

Stephan Flück expands his line of turnouts. The third type of the stainless steel turnouts, which are compatible with the Gartenbahn-Team track, is now available.

The supply of (available) stainless steel turnouts is getting better - it took a while. Aristo-Craft has two new turnouts in the program, we'll review them in the next issue. Also available are three different types from Stephan Flück, both directly from him or through the "Gartenbahn-Team". Apart from the R3 type (440mm in length), there are the R7 (15°frog/570mm length) and, as of end of March, the curved turnout which has R2 and R3 radii. The stainless steel rail is compatible with the cross section of the Garten-Bahn Team products and visually fits the tie pattern of the LEBU tie strips which GBT uses for their track. Luckily this approach helps to bring some order into the multitude of track materials which the garden railroader had to use, not least because of the scarcity of stainless steel track. One bought whatever was available.

And what does Flück deliver? At very first glance: a clean and solid Swiss hand-made product, which has minor tolerance spreads due to the method of production. Small dimensional deviations and colour differences which we noticed on our test samples are normal, in operation however - especially in the garden - of no consequence. Tiny hex-head screws fasten the rail profiles to the tie-strip. The tie strip is cast of flame-resistant epoxy and has a relatively dark, non-shiny surface with slight woodgrain. A feederwire to polarize the frog is cast into the strip to protect it from mechanical strain. The turnouts are suitable for either LGB or Böhler turnout motors.

The Flück turnouts require a mechanism to hold the point rails in place, which otherwise tend to center between the stock rails.

The point rails on all three types are of the hinged type, the point rail is fastened to the closure rail with a strip held in place with four bolts. The points rest on chairs which are part of the tie, this minimizes the resistance when moving the points. The throw bar is made of plastic and a cover protects the mechanism.

To ensure proper operation it is highly recommended to polarize the frog by using auxillary switches. In consideration of the frog length (78mm to 113mm) this seems quite logical. The guard rails are also stainless steel (Type 1.4016) which will develop a very slight coat of rust which is electrically conductive. Due to the contact between rail and wheel there will be no oxidation on top of the rail, but the rest of the pre-weathered ( dark gray) profile will look more prototypical with the oxide.
Any apprehensions that rust will distroy the track in a few years are totally baseless. Our running tests were most satisfactory. Long coaches negotiated the turnouts without any dipping and rolling. The fastening method, together with the solid ties, results in great stability i.e. no warping, which is a great aid on less then firm subroad bed.

For those who would prefer brass track: the 15° turnout and the curved turnout are available with LEBU profiles. To each his own!

A narrow gauge turntable modeled on prototypes

# The Armstrong way...Page 56

Wood was the material of choice for many of the railway structures in North America. Michael Cardillo built a narrow gauge turntable of wood which has most of the prototype's features.

I have long admired the gallows type turntables and left some space for one on my new indoor layout. While looking for a suitable kit I quickly realized there's nothing available in good quality at an affordable price. I looked at many pictures, searched the Internet and sketched at every opportunity to arrive at a design for my turntable.

As a first step I decided to build the pit, with the turntable to be fitted later. Measuring revealed that a 24" turntable would be all that would fit. Just large enough for my Bachmann Shay! The pit was added to the benchwork, with a removable floor. Real stone lends realism to the pit walls. I cut my own Redwood timber and it took some time to distress the wood to bring out the grain, then add the detail i.e. N-B-W castings from Ozark Miniatures. Black paint thinned with water was used to weather the wood. After assembling the table I had to tackle the mechanism, the delicate parts like the gallows and tensioning wires would be added last. The mechanism centers on a large tube as axle, attached to this are the axles for the Ozark Miniatures wheels. Similar wheels support the end of the turntable bridge on the circular rail in the pit, which is also used for power pick-up to the turntable rails. Gapping the circular support rail will assure proper polarity to the table rails.

The turntable works on the Armstrong principle i.e. it is rotated by hand. I plan to add some gearing to the axle - it protrudes at the bottom of the bench work - which will allow me to install a hand crank in the fascia .
As is often the case with projects of this nature, it took a lot longer than anticipated. But I really like the result. It pays to be patient.

Second, improved edition of the LGB Bernina railcar

# If at first.....,try again... 

The second edition of the Bernina railcar is numbered 32. But LGB didn't just change the number, they improved some of the details and corrected the drive train to get better running performance under abruptly changing load conditions.

Half a year after the initial introduction LGB rolls out the second edition of the ABe 4/4, this one numbered 32 and painted in the mid 80s livery. Also improved is the running quality.

The most noticable changes on the 1984 vintage railcar are on the roof. The insulators in the front portion are now connected - those insulators are today no longer present. However, more important is the overhaul of 17 resistor bank covers. The see-through effect of the prototype was completely missing on LGB's #34. Partial printing of the tops as well as the sides of the covers has improved the overall impression. More detailing isn't necessary as it would just allow more dirt accumulation. The quick follow-up with the second edition has good reason: #34 derailed more often than one is used to from LGB products. The reason is the truck mounting which is asymmetrical i.e. the king pins are off-set in an extreme 1:4 ratio. In conjunction with the shortened axle distance in the truck the railcar would look OK in curves, but certainly not in each instance. A rapid change of the load - braking while pulling coaches - would transfer the weight to the outer axle (due to the off-set king pin) with the inner axles lifting and possibly derailing. The design couldn't be changed as the railcar would otherwise have too much overhang in the 2ft curves and as a consequence would have interfered with some of the detail parts. Or one would have to forego the reasonable scale accuracy of the railcar.

LGB redesigned the trucks of the second edition to correct the derailing problem. The unsprung king pin mounting on the floor is being stabilized with two pins, which are mounted at the center of gravity. This prevents the climbing of the inner axles. A wear plate, on which the pins rest, has been added. Time will tell how wear resistant this re-design is. Negotiating a few curves left fine scratches on the wear plate. The plate is easy to replace.

The newly restricted longitudinal tilt of the trucks is sufficient to cope with the vertical curves and changes common on garden railways.

Test runs on LGB track arranged with 2ft S-curves, as well as on the garden layout showed that even extreme load changes wouldn't derail #32. Even top speed (24V) through the tightest radii couldn't derail #32. Coasting from top speed in analogue mode would be 3/4 of the car length, still acceptable. DCC on the other hand provided 1.5 car length when the emergency stop was triggered. The railcar responds very quickly in the lower speed ranges when run without load. Slow speed running in analogue mode was superior to what can be had with MTS control. A distinct jerky motion at low speed spoils the otherwise OK preconfiguration of acceleration and braking. The gearbox is certainly not at fault.

Still incorrectly positioned are the handrails at the passenger doors. They don't belong on the outside of the car body, but rather in the recess of the doorway. In that position they should be mounted much closer to the wall, otherwise they would look more odd than in the present location. One can live with the compromise, just as one can with the snowplow which is intersected by the coupler and flattened in order to provide more clearance to the steps.

We were not impressed by the headlights. Those who run indoors or in the dark on the garden layout shouldn't have to put up with transparent headlight housings, not at the price of the railcar. The problem can be solved by the end user by applying an opaque coat of red paint to the inside of the light housing - not the reflector. The red tail lights are also not user-friendly. Granted, there are four of the red discs to be attached if the railcar is running solo - there is a white tail light when cars are attached. But that means that the car can only run in one direction and still look prototypical. A red bulb (perhaps a fiber optic) for the tail light would be desirable, especially considering the decoder to actuate it.

What else did LGB improve? The toilet has now a frosted, white window, the sliding doors are easier to open. The cabs are nicely executed, including the foot plate mounted in front of the end door. The entryway floors have wood grain, but the mounting screws from the trucks are still plainly visible in the passenger compartment, together with a parting line from the mould. The wooden benches in second class look good, the red ones in first class drown in too much red of the railcar.

The railcar comes with an engineer, two passengers are already installed. Those who would like additional passengers better be prepared for some work. The manual gives no hint on how to gain access to the interior. The only mention is found under "Interior lights" which recommends to have the bulbs replaced at an authorized service depot. It would also be nice if mention were made how to remove the speaker cover from the floor - being as Phoenix offers a sound board for the railcar.

Summing up:

LGB's #32, which on the prototype can be run in MU with #31, received a visually pleasing remake and shows much better running qualities than the earlier #34. The body is quite close to scale and nicely detailed. Our test sample staid on track and double-heading is not necessary since two traction tires will enable lots of pulling power. Besides, who has those really steep grades in the garden.

The two-faced indoor layout

# Switching Pointless...

This is Guillaume Veenhuis' third layout, he likes to convert fantasy items to "might have been" models. "Pointless" is a layout that gives a simple oval two distinct faces. That's when running in circles turns into fun.

A Large Scale layout just for indoors? Certainly. As a stand-by for inclement weather or as a proofing ground for scenery aficionados, an indoor layout is a good alternative. One doesn't need a large attic. Even the equivalent space of a mid-sized HO layout will provide lots of possibilities. Provided one limits oneself to small rolling stock and uses small radii for the curves i.e. track and other items left over from inexpensive starter packs. With a bit of imagination the results can be a short line like "Pointless", which features a scenic divider down the centre; the viewer sees only part at any one time and there are two themes. Will running in circles be fun?

Guillaume Veenhuis has experience with this type of indoor layout, "Pointless" is his third layout. The first LGB layout was called "Heatley". Encouraged by the inexpensive LGB starter sets, Playmobil items and English accessories ( he has a weakness for British narrow gauge) he built a first diorama, followed by a second one modeled in Dutch city style and named: "Tramstadt". The likeable city scene through which a streetcar runs is not much of a challenge for the operator, admits Guillaume Veenhuis. Consequently he added a few LGB turnouts to the third layout.

To make maximum use of the available space, he remembered the scenic devider which let him have two separate themes. Running in circles is made more pleasureable by using a DCC control that allows easy switching on either segment.

"Switching is of course only for "show" and of little use - hence Pointless." quips Veenhuis. But who is going to notice at first glance when "Pointless" trundles by with a load of slate and two coaches in tow?

Instead one notices the details which capture the charm of this mini layout. For instance the structures which use portions of kits and are mostly built in relief form. The walls have been coated with filler compound , to simulate stucco. Open doors and interior lights invite the viewer into scenes, like the employee sitting at a desk stacked high with papers. Most of the purchased figures, cars and accessories have been altered with flat paint to get rid of the unrealistic plastic sheen. The rolling stock - some of it British imports, others converted from LGB starter models or kitbashed using sheet metal and white metal castings - reflect the style of the layout. Steam engines are highly polished, the pride and joy of the engineer; the small Field railway diesels are quietly rusting. The red model of the "Pointless" (a Quarry Hunslet engine) was scratchbuilt on a LGB chassis using parts of a British kit. "Little Fritz" can't deny his heritage, the 0-4-0 in green-black livery is LGB's Spremberger Cityrailway (or in the black livery found in the MTS starter set).

One of Veenhuis' specialties are the different types of tipple cars, most of which are based on a LGB chassis. Those who are not keen on kitbashing or scratchbuilding can weather and improve the LGB tipple car.

The quaint "Pointless" layout uses light weight construction throughout, which means one person can easily transport it. All structures, including the divider, are detachable. The landscape - actually just slight undulations - is made with insulating foam out of a can. The LGB track gets the same treatment to camouflage the large rail profile. The only parts that are spared are the point rail areas on the turnouts, the switch mechanism including the originally installed turnout motors got covered with masking tape. Being as the foam expands very rapidly it is advisable to apply small amounts in the turnout areas and repeat as required. The later installed throwbars add a special note.

After the foam had cured the scenery was brought down to track level using a long, sharp knife, grooves were carved for the flanges. This construction method is not inexpensive, but certainly very light. The surface was next covered with joint compound, ground and track were then painted. Small pieces of slate, worked into the ground, lend the partially weed covered scenery a special flair. Only the running surface of the rail profile retains the brass sheen. Hardly noticeable as there will be a train coming by so frequently on this small layout, which the builder also refers to as the "LGB with a difference" layout.

"Perhaps this will inspire others" hopes Guillaume Veenhuis.
Those who would like to see more "Pointless" pictures should check out www.geocities.com/modelspoor/pointless.html