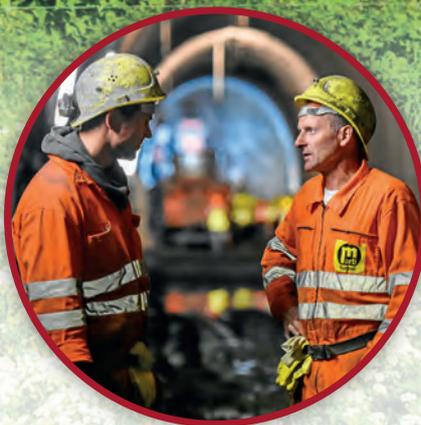


# Mountains, tunnels, powerful locos

The Albula railroad line of the Rhaetian Railway and the new Ge 4/4 II "Tiefencastel" electric loco.



Virtually every railroad fan knows the Albula railroad line of the Rhaetian Railway from Chur to St. Moritz. Strictly speaking, however, the Albula line begins at Thusis Station, where it connects with the Landquart-Thusis railroad constructed in 1896. Behind the station at Thusis, the line crosses the Hinterrhein river and enters into the Schinschlucht gorge, where it passes numerous bridges and tunnels. After Solis Station, eight kilometers from Thusis, the line crosses the Albula for the first time, on the 292-foot-high Solis Viaduct,



**They're going full blast:** The new tunnel is being constructed using drilling and blasting techniques rather than with a drilling machine.

which is not only the highest bridge on the Rhaetian Railway, but also the broadest span viaduct on the Albula Railway. The line then crosses further bridges and passes through numerous tunnels until, shortly before Filisur, it reaches world-famous Landwasser Viaduct, which spans the valley in an arc with a radius of just 328-5/64 feet and leads directly into a vertical cliff on the other side. The line continues in the direction of Bergün. Trains on this section must overcome a height difference of 958 feet before they reach the most challenging part of the



Albula line between Bergün and Preda: In order to surmount the height difference of 1,368 feet over a distance of just 4 miles as the crow flies without requiring excessive radii, the route was extended to 7.5 miles by means of engineering structures. These include three spiral tunnels, two curved tunnels and four large viaducts. Hikers with an interest in railroad engineering can also get a closer appreciation of this fascinating section – also referred to as the Albula carousel – with a railroad nature trail experience. Soon after Preda station, which, at 5,869 feet

## *Albula Tunnel: After more than 100 years, it was time for a rebuild*

above sea level, is the highest train station on the Albula Railway, is the Albula Tunnel which was constructed between 1899 and 1903. After passing through this tunnel, the line reaches Spinas Station before entering the Oberengadin (Upper

Engadine) near Bever and meeting the Scuol – Tarasp line. The line then continues through Samedan, where it branches off towards Pontresina and Bernina to the terminus at St. Moritz. It was originally planned to extend the line over the Maloja Pass as far as Chiavenna in Italy, where it was to connect with the Italian railroad network. For this reason, the station at St. Moritz is actually designed as a through station, however the through-track comes to an end a short distance further on. Although the plans on the Swiss side were at an advanced stage, ►

Italian efforts amounted to little more than vague letters of intent. The First World War and its consequences signaled the end of these plans.

The Glacier Express has been operating on the Albula railroad line since 1930, and was joined by the Bernina Express after World War Two. Both trains are responsible for the Rhaetian Railway's legendary reputation among railroad fans all over the world.

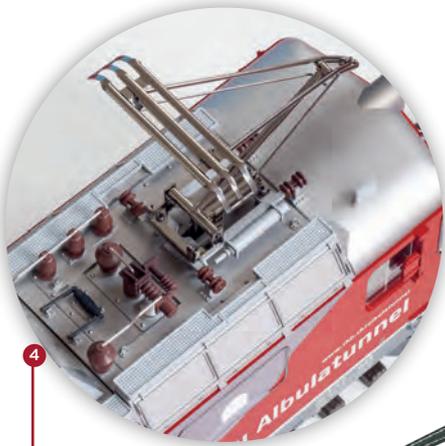
However, the high point was reached in the summer of 2008, when the Albula and Bernina line was listed as a UNESCO World Heritage Site - high praise indeed. We can be sure that the RhB will not miss the opportunity to mark the tenth anniversary of this award with a suitable celebration. However, let's now focus on the Albula summit tunnel, the centerpiece of the route: Given that modern tunnel boring machines can dig tunnels as long as 37-9/32 miles in just a few years, we can scarcely imagine today what sort of problems the engineers and miners had to contend with over 100 years ago. These ranged from water ingress to rock fractures all the way to the collapse of the tunnel to a distance of 39-3/8 feet. Added to this were the appalling weath-

er conditions that had to be endured at the altitude of around 5,900 feet above sea level. Consequently, it is almost miraculous that "only" 16 people lost their lives during the construction. A memorial stone at Preda Station commemorates their sacrifice.

The Albula Tunnel remained fit for purpose for more than 100 years. The route was electrified as early as 1919 and an automatic absolute block was installed in 1969.

However, by the turn of the millennium, the structure had begun to show its age. In 2009, the Rhaetian Railway launched an investigation to determine whether and how the tunnel could be thoroughly modernized, or whether a completely new structure made more sense. By 2010, it was already apparent that a new tunnel, although around 10 percent more expensive, offered benefits in terms of safety, technology and safety during construction. However, the greatest advantage was that train operations could be maintained throughout the construction work - a persuasive argument on a single-tracked route such as this. Once the construction work is complete, the old tunnel will be converted into a rescue tunnel, thereby significantly enhancing operational safety. ▶

**RhB ELECTRIC LOCO 629 "TIEFENCASTEL"**



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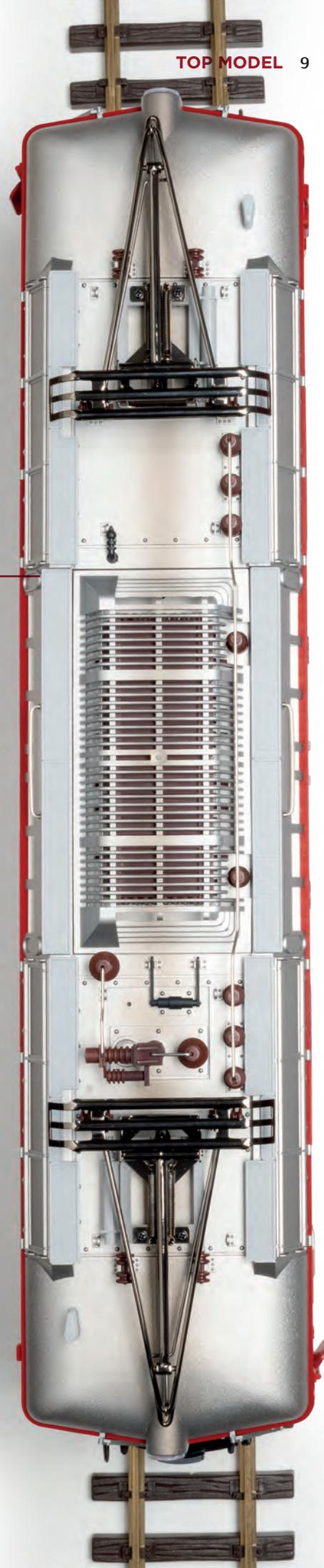


**August 2015:** After 14 months of intensive preparations (which involved adding construction site stations and sidings at the northern and southern portals in Preda and Spinas), work on the actual Albula Tunnel commences in Preda.

## HIGHLIGHTS

RhB electric loco Ge 4/4 II "new construction of the Albula tunnel", era VI, item 28441

- 1 Prototypically painted and lettered
- 2 mfx/DCC digital decoder with numerous sound and lighting functions
- 3 All 4 wheel sets are driven by two powerful Bühler motors
- 4 motorized pantographs, digitally controllable
- 5 Length over buffers 22-7/16 inches





The familiar information policy by RhB – a company that knows its audience: The construction site open day for the new construction of the Albula Tunnel II on the Rhaetian Railway in Preda on September 10, 2016. To the rear right in the photograph, the Ge 4/4 II 629 “new construction of the Albula tunnel” can be admired.

### Rhaetian Railway freight train

- 1 Type Xas self-unloading hopper car of Rhaetian Railway, era VI. The car has four unloading hatches that can be opened, and it also has metal wheel sets. Length over buffers 21-5/8 inches (item 46695).
- 2 This is a model of a Rhaetian Railway two-axle flat car for containers, loaded with a refrigerated container from Aldi Switzerland, fitted with metal wheel sets (item 46892)
- 3 Stake car with end walls and loaded with pipe (item 45923), available exclusively to Club members.
- 4 RhB type Za tank car painted and lettered for the firm Conrad-Storz AG. The car has a prototypical new tank platform without handrails. The tank can be filled and emptied. The car has metal wheel sets (item 47832).



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### RhB waste removal train

- 1 A realistically weathered flat car as used in the construction of the new Albula Tunnel (item 40895).



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The downside is that the excavated material must be carried away, which imposes an additional burden of rail traffic on what is already a busy line. Construction of a new tunnel very quickly became the favored solution, with permission issued and work commencing in 2014. The current planned completion date is the end of 2021, and as we have seen with the new Gotthard Tunnel, these deadlines tend to be met in Switzerland. It is interesting to note that the new tunnel is being bored not with the drilling machines normally used these days, but with mining techniques of drilling and blasting. It would probably have been significantly more difficult and costly to haul a drilling machine up into the mountains – which makes the work of the engineers and miners employed at the construction site all the more praiseworthy.

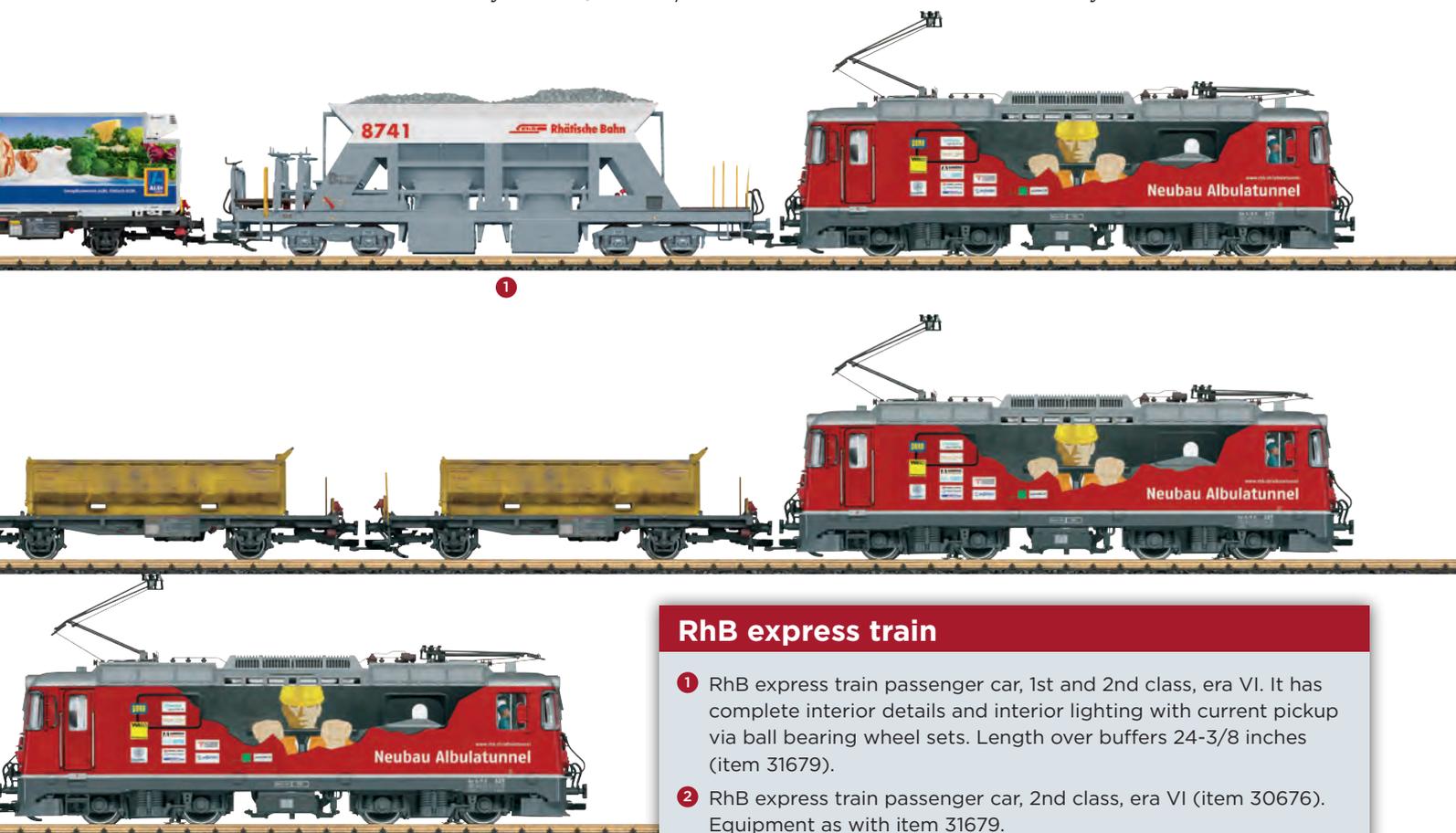
### The Ge 4/4 II “new construction of the Albula tunnel” electric loco as a model

The model of the Ge 4/4 II will be a familiar sight to garden railroad fans. There have already been numerous versions of this loco, including the wonderfully colorful anniversary locos. It therefore made sense for the Rhaetian Railway to design one of these locos to mark the construction of the new Albula Tunnel. Naturally, LGB is also making this loco available as a model for garden railroaders. The impressive model has been available from specialist dealers as item number 28441 since the summer. Technically speaking, it is identical to the other new Ge 4/4 II, and therefore features the new flush-mounted windows, additional rear view mirrors as well as roof-mounted antennas. Equipped with twin-ball-bearing-mounted Bühler motors and an mfx/DCC decoder with numerous lighting and sound functions as well as motorized pantographs, this heavy-duty powerhouse can handle any train and any gradient. Just like its full-size prototype, the model performs every task with ease. Used as a standard loco by the RhB, the Ge 4/4 II

hauls everything that runs on rails in the Canton of Grisons – from express trains and passenger trains to freight trains all the way to shuttle trains. Naturally, the same applies to the model: The LGB range also includes matching express train passenger cars such as the two new standard design 1st/2nd-class and 2nd-class cars finished in the latest paint scheme and available as item numbers 31679 and 30676, but also the existing type IV standard design cars. Of course, no train would be complete without a blue dining car, which can also be found in the LGB range.

The choice of freight cars from which to assemble a prototypical train is almost endless. It ranges from the stake car with high end walls and loaded with pipe – available exclusively to Club members as item number 45923 – to the white tank car painted and lettered for a fuel supplier in Grisons available as item number 47832, or the new container car of a food discounter available as item 46892, the large bulk-goods car, item 46695, all the way to the large sliding wall boxcar or the cement silo car typical of RhB – and colloquially known as a “Mohrenkopf” after a popular brand of confectionery – and reflects the diverse nature of freight traffic on the Rhaetian Railway.

There are also the excavation trains to carry away the material excavated during construction of the new tunnel: These generally comprise normal flat cars of the type used to transport containers. They are loaded with waste material hoppers in which the excavated stone is carried away. A car of this type is available under item number 40895. To simulate the harsh conditions in which the car is used, it is prototypically aged to appear as it would in real-life operation. With five or six of these cars behind the loco, your garden railroad already boasts a train that can be used to replicate the construction of the new Albula Tunnel – and perhaps some of the garden railroaders out there will even use it to carry away material excavated in the construction of their own layouts.



#### RhB express train

- 1 RhB express train passenger car, 1st and 2nd class, era VI. It has complete interior details and interior lighting with current pickup via ball bearing wheel sets. Length over buffers 24-3/8 inches (item 31679).
- 2 RhB express train passenger car, 2nd class, era VI (item 30676). Equipment as with item 31679.

Garden railroads at the Park Railroad in Chemnitz

## Making tracks through the winter



Situated in the heart of Chemnitz is the wonderful KÜchwald Park. Although not apparent from the outside, it is in fact home to two different railroads with two different gauges – 23-5/8 inches and 1-49/64 inches. While trains including the one hauled by the Henschel type “Riesa” steam loco ferries visitors around the part, the atrium in the depot is devoted to all things G-gauge. Over the 705-3/8 feet of track of the beautiful and densely planted layout, 150 locos and cars provide varied model railroad entertainment – including at Christmas. The layout is open to all garden railroad fans from 10 a.m. to 12 p.m. and 1 p.m. to 4:30 p.m. on December 6, 2017 and from 1 p.m. to 4 p.m. on December 26, 2017. Entry is free of charge – donations are gratefully received. Anyone interested in experiencing the 23-5/8-inch-gauge trains can board the park railroad, which runs at the same times. Parkeisenbahn Chemnitz, KÜchwaldring 24, 09113 Chemnitz, Germany; [www.parkeisenbahn-chemnitz.de](http://www.parkeisenbahn-chemnitz.de).

Start small with an inexpensive DR freight car from era III

## New LGB models for fall 2017

Five models of freight cars, as used on many narrow-gauge routes of the GDR State Railroad, are now available from your local dealer. The cars feature the paint scheme and lettering of era III and are approximately 9-7/8 inches long. They are, from left to right: DR tank car (item 40552), also available as item 40555 with a different road number, DR stake car (item 40554), DR high-sided car (item 40553) and DR low-sided car (item 40551). These inexpensive mini stars are available individually by popular request. In the photo, they are hauled by steam locomotive 99 5604 of the Lenz Class i of the GDR State Railroad (item 20180). The cargo was suggested by a gardening enthusiast and is not included in the delivery.



New tooling: Saxon roller cars

## Surprise new release



For narrow-gauge freight traffic, they are the vehicles of choice for the speedy onward transport of goods without the need for transshipment: Roller cars provide piggy-back rides for standard gauge cars. They are now also available as a completely new tooling from LGB (item 49180). Thanks to die-cast central components, they guarantee excellent running characteristics even when unladen. When fitted with moving supports, they can also accommodate normal 1-49/64-inches-gauge LGB cars. The car set comprises two type Rf4 roller cars of the GDR State Railroad featuring a prototypical paint scheme and lettering from era III, as used on many narrow-gauge railways in Saxony. The roller cars, which run on metal wheel sets, are prototypically coupled to one another and to the loco or a car with a normal LGB coupling using the side rods supplied. Length of a car: 13-25/64 inches.

LGB in the Dynamikum Science Center

## Endurance test in Pirmasens

Meanwhile at the Dynamikum Science Center in Pirmasens, an LGB 2090 with two cars is in daily service on a layout where it plays a Christmas song by striking two beaters against water bottles filled to different levels. The exhibit will remain on display until the Christmas holidays. This unusual use for an LGB garden railroad train, which can certainly be considered an endurance test, was the result of a special exhibition entitled “Sounds great! Sounds you can see, hear and touch”. The railroad was used in a series of 30 acoustic experiments to discover how notes are created, how sound waves can be made visible, and how our voice and hearing function. Pedagogical Director Martina Kuntze worked together with Karsten Speyer and Cheyenne Ebelshäuser of Gartenbahner Südwest e.V. to realize the exhibit and they had to solve problems that do not arise on normal layouts. Issues to be addressed included the stability of the train on the track as the beaters struck the bottles, how to attach the beaters, the tonal range, volume and, above all, the repeatability of the entire process. An exhibition lasting five months during which the railroad was ready to operate at the touch of a button for eight hours daily demonstrated yet again how the reliability and production quality of the LGB railroad with metal wheel sets and track cleaning equipment (item 50050) permanently attached under a freight car guarantee trouble-free operation.

For more information, see: [www.dynamikum.de](http://www.dynamikum.de) and [www.gartenbahner-sw.de](http://www.gartenbahner-sw.de).

