

Through the mountains with a shiny chrome finish

The Ge 4/4 III "Glacier on Tour" of the Rhaetian Railway



When the demand for more traction units at the Rhaetian Railway became evident at the end of the 1980s – not least due to the expected increase in traffic levels after the opening of the Vereina Tunnel, which was planned for the end of the 1990s – the Rhaetian Railway believed it was high time to procure further powerful electric locos. Although the twenty-three Ge 4/4 II class thyristor controlled locomotives, which had entered service from 1973 onward in two series, were still reliable and powerful



A film would have been too thick and hidden certain details. This is why an elaborate chrome finish was chosen.

enough to perform their duties and conquer the mountainous routes in Grisons, new three-phase technology appeared on the market at the end of the 1980s. The Rhaetian Railway therefore decided to develop a new generation of electric locos in collaboration with SLM (Schweizerische Lokomotiv- und Maschinenfabrik in Winterthur) and ABB (Asea Brown Boveri in Zürich). The control technology was adopted from the Re 460 of the Swiss Railroad (SBB), which was built at roughly the same time. The resulting locomotive – also a four-axle loco with two



trucks – was given the class designation Ge 4/4 III. It weighed in at 62 tons (68 US t) and boasted 2,400 kW of traction – equivalent to roughly 3,200 bhp. In short bursts – for instance when starting running on inclines – the loco achieves up to 3,100 kW of traction, which is equivalent to almost 4,200 bhp. It was therefore possible with this loco to haul both the planned car trains through the Vereina Tunnel at 62 mph and heavy express and freight trains along the mountain lines. The 52.5 ft long loco thus ensured universal use, which would not have been the case with

Model quality in a nutshell: The Ge 4/4 III “Fideris” from LGB

an additionally conceived six-axle version of the Ge 4/4 II – developed especially for car transport trains in the tunnel.

The first loco of this series was delivered and put into service at the end of 1993, displaying road number 641. A

further eleven locos were delivered in three batches over the next five years, so that in total twelve of these machines are now in service on the Rhaetian Railway. Further – or at least similar – locos of this kind are employed on the MOB (Montreux-Oberland Bernois Railroad) as Ge 4/4 no. 8001 to 8004 and on the BAM (Bière – Apples – Morges Railroad) as Ge 4/4 no. 21 and 22.

To reflect the taste of that period, the design of the loco body was kept fairly simple, e.g. there are no windows or air vents in the side panels. ►

The reason for this is that the largest component – the transformer – is suspended underfloor, and the various components – in particular the semi-conductors and control electronics – are installed in control cabinets inside the machine room. This is also similar to the Re 460 design of the SBB.

What is uniquely different, on the other hand, is the cab, which has a very interesting design: The large, one-piece panoramic windscreen gives the cab a look that is in stark contrast to other modern electric locos. Also new was replacement of the compressed air whistle, which had previously been installed on all Rhaetian Railway locos, with a signal horn.

The locos proved their worth and are still a mainstay of transport on the Rhaetian Railway. They are used to pull many heavy

express trains and all car trains through the Vereina Tunnel.

The locos were supplied with the normal red livery painting of the Rhaetian Railway. As is common in Switzerland, each loco received the emblem and name of a municipality from the Swiss canton of Grisons, the region in which the Rhaetian Railway operates its entire network of railroad lines. Needless to say, the flat side panels of the locos were deemed a great advertising medium and today almost all of the locos of this class are adorned with self-adhesive film adverts. Within the many multicolored locos, there is one which stands out from the colorful masses: The Ge 4/4 III no. 651 with the emblem of the municipality of Fideris. This loco is decorated with a gleaming chrome film and hauls the famous Glacier Express. Furthermore, it also displays the ►

RhB ELECTRIC LOCO 651 "FIDERIS"



HIGHLIGHTS

RhB Class Ge 4/4 III "Glacier on Tour" Electric Locomotive, era VI, item 21428

- 1 Prototypical paint scheme and lettering
- 2 Genuinely chrome-plated body parts
- 3 mfx/DCC digital decoder with many sound and light functions
- 4 All four wheel sets are driven by two powerful Bühler motors
- 5 Pantographs are powered by servomotors, and can be controlled digitally
- 6 Engineer inside cab
- 7 Length over the buffers 25-5/8"







Just 399 garden railroaders worldwide will be able to own this masterpiece of model railroading: This amazing, genuinely chrome-plated loco is the perfect model for the Glacier Express panorama cars (items 33666, 33667 or 33668).

Matterhorn, the names of the train's terminus stations – St. Moritz and Zermatt – as well as the “Glacier on Tour” logo. It is always fascinating to see this loco at the head of the panorama cars of the Glacier Express from which the spectacular mountain scenery of Grisons can be enjoyed.

In the meantime, the locos of this class have been in service for almost 25 years and a major overhaul is now required:

Potential damage, for example caused by rust, needs to be eliminated, the electronics upgraded, and new LED headlights installed – and quite interestingly the signal horn is to be removed and replaced with a compressed air whistle – as used in the past. The locos will also be given a new paint finish – let us hope that the shiny loco continues to wear this outfit for a very long time ...



A haven of tranquility ... can be found on-board the “world’s slowest express train”. A dream team for the largest garden railroad in the world: The Rhaetian Railway.



Project: Chrome-plated loco

G-gauge shines in all its splendor where chrome plating is otherwise only performed 1:1.



The long journey to a luxurious finish: The “wellness course” for the body parts made of a special polymer compound contains up to 41 baths and is responsible for the loco’s chrome-plated finish. Resulting in surfaces that meet industrial standards.



Schaal-Oberflächensysteme in Sigmaringendorf/ Germany: Mercedes, Siemens, Grohe, Philips, and many other manufacturers benefit from the services provided by the Danube Valley based company. This is where proper care is taken of every single part. Even during large production runs.



PROFESSIONALS ENSURE TOP QUALITY MODELS: LGB COOPERATES WITH CHROM-SCHAAL

The Ge 4/4 III model is well-known to garden railroaders and - besides the normal red paint scheme - there have been many versions of this loco, including several colorful advertising ones. So it is hardly surprising then that railroad fans kept asking for the "Glacier on Tour" and that a few imaginative hobbyists or low-volume manufacturers attempted to recreate this loco using various means. But a film is too thick for the scaled model, resulting in certain body details being indistinguishable, and a paint job fails to give the impression of high-gloss chrome. Even though another manufacturer that produces this loco on a small scale of HOm managed to solve this problem with a chrome vapor-coated body, this was not a suitable solution for garden railroads.

Fortunately, the technicians at LGB kept researching and experimenting: After several years of preliminary work, it was possible along with Chrom-Schaal in Sigmaringendorf an der Donau to find a solution to galvanically chrome-plate the body. The daily operations of this company include manufacturing parts for the automotive industry or sanitary engineering; so this loco also rolled out a brand-new challenge for the employees at Chrom-Schaal. For example, it had to be ensured that the parts - irrespective of large body, small door or rear mirror - were attached to the jigs used to immerse them into the baths in a way that guaranteed the electric current passes equally to all sections of the part. It is important that the parts are not in contact with each other so as to obtain uniformity and equal thickness of the coating. The smallest of deviations represents a flaw in the metal coating (copper, nickel, chrome), which is obviously not acceptable. Baths - is a keyword here: Before a part is fully chrome plated it has to go through up to 41 plating baths. Ten of these contain active liquids in which the part is functionalized (such as etching, palladium coating, copper plating, nickel plating in several stages, chrome plating ...), otherwise the part would need to be constantly rinsed and cleaned to prevent the smallest amount of liquid from one bath being transferred to another. In the worst case scenario this would lead to the complete loss of a bath and ultimately extensive costs. Further, it would have a negative impact on the quality of the loco finish. When nickel plating in several stages, one of these nickel layers is a special coating used for heavy-duty parts in the automotive industry and guarantees, for example, that a radiator grille is not chipped by road stones. You can therefore see that enormous demands are placed on the quality of surface treatment and also have to be met. Obviously, the more work steps involved, the more expensive the process becomes; which goes some way to explaining the loco's price tag.

The parts are inspected individually and packaged before being sent to the Hungarian facility in Győr where they are then extensively imprinted. The large red surfaces are applied using a screen printing method, which enables a wonderfully even coat. Further details - for example the emblem of the municipality of Fideris - are applied using a normal pad printing process. The individual parts are then considered fully finished and the loco can be assembled.

Technically speaking, the "Glacier on Tour" mirrors the previous Ge 4/4 III, in other words, it is equipped with two powerful Bühler motors that power all the wheel sets in both trucks. Naturally, there is a built-in mfx/DCC decoder which can also be used to operate the loco in analog mode. Numerous light and sound functions as well as pantographs that can be raised and lowered are also incorporated.

This beautiful loco will be available from the summer on-

ward (item 21428) from all good retailers and, along with the already available Rhaetian Railway panorama cars, will allow garden railroad enthusiasts to watch an authentic model of the Glacier Express race around their layouts. It might have taken quite a while for this highly sought after model to become reality, but thanks to the outstanding cooperation with Chrom-Schaal it has been possible to create a fantastic result that works in the best interests of all LGB fans: All 399 Locos are ordered in advance by LGB Dealers.



Even the frame is genuinely chrome plated: This model in particular required a great deal of care and attention in each production stage.



No matter how small: Absolute surface quality of each and every part is the top priority at Schaal. As it is at LGB.



Insider tip: What falls into this acid bath could disappear ... just in case you want to chrome plate something you no longer need.