Times past - "Landilok" : Boyd Misstear looks at the history of SBB Ae 8/14 No.11852

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Zürich Wollishofen 1939 Ae 8/14 No.11852.

Currently located in the Verkehrshaus (Swiss Transport Museum - VHS) in Luzern is a milestone in Swiss locomotive building. This is the world's most powerful locomotive of its day, built in 1939 for display at the Swiss National Exhibition in Zürich the "Landi", hence No.11852 became known as the "Landilok" or "Landi Locomotive".

During the inter-war years between 1918 and 1939, the railway reached its pinnacle as a means of national prestige. New world records eclipsed old ones. Germany, France, England and the USA vied with one another with ever more powerful and faster record-breaking trains and locomotives. Switzerland joined in the test of strength and exceeded everyone. For the Swiss National Exhibition in Zürich in 1939, the SBB ordered a 14-axle locomotive, which would be the most powerful locomotive of its day with an output of 8,800 kW, designed to be used on the Gotthard railway with its steep 2.7% grades. These locomotives could pull trains directly from Zürich or Luzern over the Gotthard and Monte Ceneri to Chiasso. This eliminated the stops for adding and removing additional locomotives in Erstfeld and Biasca, so that shorter travel times would be possible. Only three prototype engines were built between 1931 and 1938, each of them in a different design. The first two were numbered 11801 and 11851 and were built to evaluate the best-suited drive system. A few years later a third prototype No.11852 was built, which was quite similar to 11851 but with increased traction power. All were double locomotives (2 x Ae 4/7). The chassis was designed for 100kph so that the locomotives could be used in passenger trains.

Initially, all locomotives were equipped with "Adhäsionsvermehrern" – a system that would remove weight from the trailing axles, thus putting more weight on the driving axles. The axle weight in Switzerland is limited to 20t. The locomotive weight is 240t. The weight on the driving axles is 20t. Temporarily, to overcome adhesion problems, the axle weight can be increased to more than 20t for a short time by removing weight from the trailing axles. This "Adhäsionsvermehrern" was shut down in the 1950s in all three locomotives.

With its streamlined shape made out of lightweight materials, and its striking lime green livery, No.11852 was the showpiece of the Swiss engineering industry and Swiss Railways in the 1939 exhibition. It went on to be used in regular service until 1971, when the locomotive was damaged in an electrical fire while driving through the Gotthard summit tunnel. The damage was so severe that an economic repair was deemed impracticable. The outside of the locomotive was cosmetically refurbished and the locomotive was displayed for a number of years in front of the Verkehrshaus, before being moved inside the museum where it now rests.

For anyone interested in HO scale models of the "Landilok" these are to be found, and include examples from Roco of Austria who have produced both 2-rail and 3-rail versions. These are sometimes available second hand in stores and on eBay. Seek catalogue numbers 63771 (2-Rail) and 69771 (3-rail). For digital operation, it might be worth considering installing or replacing the decoder with a more up-to-date version.

Technical data - SBB Ae 8/14
Original Electric twin-locomotive Ae 8/14 No.11852
Year of construction 1939
Built By SLM Winterthur, BBC Baden (Machinenfabrik Oerlikon)
In service 1940 - 1971
Weight 235.7 t
Length 34'010 mm
Axle Configuration (1A) A1A (A1) + (1A) A1A (A1)
Power 16 traction motors, with an hourly output of 8'170kW / 11'100 PS traction
Drive SLM Universal Drive invented by Jakob Buchli
Maximum speed 110kph (Normal 70kph)