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Extraordinary Experimental Locomotive - the History of the Class 78.10

The new DB (apparently) lacked powerful tank locomotives for the increasing demand for shuttle trains. There was a desire to avoid time-consuming changes of motive power as well as turning locomotives with tenders, because they were not designed for operation with the tender at the front. The maximum speed in reverse for such locomotives was therefore limited to 50 km/h / 31 mph. The change in motive power to diesel locomotives was already looming, and a powerful tank locomotive was already being designed and built in the form of the class 65. However, in the short term neither were available in the necessary quantities.

An inexpensive intermediate solution that could be done quickly was needed. A locomotive comparable to the proven class 78 was required. A suggestion from Professor Friedrich Mölbert of the Hannover Technical College resulted in a tank locomotive developed with the help of a short two-axle tender and based on the class 38.10-40. This design could operate both forward and reverse at 100 km/h / 63 mph. The P 8 was considered in view of the fact that it could reach the desired speed and many of the Prussian box-style tenders on these locomotives were more worn out than the locomotives.

Two units from Vulcan's shops were equipped at Krauss-Maffei in 1951 with the short, welded type 2T17 two-axle tender. The tender was coupled to the locomotive by a drawbar to ensure reliable operation in reverse, and this design was derived from the Krauss-Helmholtz frame. The frame for the tender was braced against the locomotive with two buffers and a strong spring.

A Short Period of Operation

Both locomotives were stationed starting March 22, 1951 until February 10, 1954 at the Munich Main Station. Used in the service plans of the class 38.10-40, it was quickly evident that the unsatisfactory running characteristics of the tender in reverse required that the maximum speed be limited to 60 km/h / 37 mph. A cab photograph with a schedule and a 50 km / 31 mile sign allows the assumption of a further reduction. This made the locomotives unusable in the planned shuttle train operation. Furthermore, the lower fuel supply compared to the normal P 8 reduced the range of operation and thereby use in the service plans of the class 38.10-40.

The short guest appearance from the beginning of 1954 to the beginning of 1955 at Lindau and use on the Lake Constance belt line saw the class 78.10 in service to Friedrichshafen, Radolfzell, and as far as Singen. Of special interest might be the use of the locomotives pulling the "D-Zug" express train Lindau–Offenburg–Kehl and its counterpart.

At Augsburg, the two class 78.10 units were also used preferably smoke box forward.

There they hauled passenger and limited stop fast passenger trains on the Lake Ammer line Augsburg–Geltendorf–Weilheim as well as passenger trains on the routes Augsburg–Ingolstadt and Augsburg–Buchloe. These services and planned use extended to 1959. After that, the short tender P 8 units stood ready as operational reserves and they were occasionally used in maintenance trains. Now and then, there was also still a passenger train to haul on a temporary basis.

Road number 78 1002 was already withdrawn from service in October of 1960 and retired in January of 1961. At the beginning of June of 1961, road number 78 1001 followed it with withdrawal from service and retirement in August of the same year.

Even if the class 78.10 units led an existence as outsiders, they are definitely of interest to a model railroader due to their use pulling passenger and limited stop fast passenger trains in P 8 service areas. In addition, there is the compact appearance of a Prussian passenger locomotive coupled to a modern short tender design. *gp*