

# The Rhaetian Railway

The Rhaetian Railway is a small independent railway in south east Switzerland. It was built in the late 19<sup>th</sup> century, partly to open up this isolated part of the country and also to provide a link between this part of Switzerland and Italy. However, it never really succeeded in this latter role as the main railway routes through the Gotthard and Simplon tunnels have always dominated railway traffic. It was built to the metre gauge (smaller than normal gauge) which allowed it to traverse sharper curves and steeper gradients. It forms part of the route of the Glacier Express and has been granted a Unesco World Heritage status. Originally the trains were pulled by steam engines but these had limited power and due to severe shortages of coal in the First World War (Switzerland has no coal fields) a decision was made to convert to electric traction as quickly as possible. (Of course Switzerland has plenty of hydro-electric power.)

The loco on the top shelf is nick-named a “crocodile” – it is built in three part – a power unit at each end and a control unit which sits between them. The end units have sideways movement allowing free travel around sharp bends. The early electric motors were very big so they were placed above the wheels and connecting rods were used to transfer power to the wheels (rather like a steam engine with the pistons replaced by an electric motor).

The loco on the middle shelf is the final development of the steam engines. It is a “mallet” type locomotive which means the power units are independent of the main body and can rotate allowing travel round sharp bends. These engines were rapidly withdrawn when the first electric locomotives went into service.

The engine on the bottom shelf represents a typical modern locomotive. The electric motors are now so small and powerful they are part of the bogies so there is no need for complex connecting rods. This particular loco (and its carriages) were painted in this

special colour scheme to advertise a spectacular branch line from Chur to Arosa. Alas, the trains have now reverted to the normal red livery.

All these locos run on my garden railway, but on the bottom shelf are examples of similar locos in a much smaller scale. A project for the coming winter months is to build a small in-door layout so I can see these locos running (I've collected them over a number of years but never had a layout).

Pete Shaw

