

Engadin engineering

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Ardez station, RhB, 18/06/09, seen from the tower. A blockage is in place between Ardez and Scuol-Tarasp, and bahnersatz bus services are operating between the two. Nearest the camera is the train for Disentis/Mustér; furthest from the camera is the push-pull shuttle to Pontresina.

ALL PHOTOS: Michael Donovan

As noted in *Swiss Express*, during 2009 the RhB's line in the Engadin has been closed between Ardez and Scuol-Tarasp for engineering work. The reason for the work is the condition of one of the tunnels, although the opportunity has been taken to remodel the layout at Scuol-Tarasp. During two weeks based at Ardez this summer I took advantage of this opportunity to learn more about the reason for the work, how it was being undertaken and the manner in which the RhB railway operations took place around it.

TASNA TUNNEL. This runs through four different types of rock. The band at the west end is apparently moving west (along the railway) at 3-5mm per annum whilst towards the east end, another band of rock is moving across the railway at 8-10mm per annum – and those mms soon add up to a significant deformation. In addition, there's the little matter that we British railwaymen know and love! – modern "standards" were

not being met! The solution appears to be to build the tunnel lining in the form of overlapping cones that, under load from the unstable strata, will compress together in order to resist future movement.

SCUOL-TARASP STATION. The original station building fronted onto the one proper platform that was used by the Regional Express (RE) from Disentis/Mustér that used the Vereina Tunnel. The local Engadin valley trains from Pontresina used a ground-level platform out in the station yard. On site it was clear that the main platform had been cut back to the building line, and work was taking place at cellar level, although it is not clear whether this was to provide a subway to the new island platforms. These platforms are being built, with a bay track on the south (station building) side and a track to the north whilst two sidings will be laid to the north of this. The push-pull Pontresina trains will, apparently, use the bay track and the

Regional Expresses will use the other face, with their locomotives running round via the first siding. The spur that would have led to the putative extension of the line towards Landeck has been lifted, with the exception of one track panel over the bridge, and the route appears to have been blocked by construction work.

THE RAILWAY OPERATIONS. The timetabling of this single-track railway is constructed around connections at Saglians, from where the line through the Vereina tunnel to Klosters diverges from the Engadin route. The RE from Disentis/Mustér arrives via the Vereina tunnel to connect into the train from Scuol-Tarasp (presently Ardez) to Pontresina. The RE then continues to Lavin, the next station, where it crosses its equivalent in the opposite direction, before continuing to Ardez/Scuol-Tarasp. The RE bound for Disentis/Mustér itself connects at Saglians out of the local train from Pontresina, which itself has just crossed its opposite number at Susch, the first station west of Saglians. Thus, late running of any one of these trains would delay one or more of the remainder. Fortunately, the RE bound for Disentis/Mustér appears to have extra (pathing) time allowed just inside the Vereina tunnel to accommodate the car-carrying shuttle in the opposite direction. This acts as a service recovery margin.

At Ardez, a new entrance to the car park had been created to permit the substitute buses (bahnersatz) a through run, and a temporary bus-only connection created between the local road and the main highway. These can be seen in the high-level photograph. “Bus” pictograms were stencilled on the platform used by the Pontresina trains, pointing along the platform to the foot crossing. A bus meets each train, although only one is



TOP: There was a blockage between Ardez and Scuol-Tarasp. The RhB train from Disentis/Mustér arrived late, and its locomotive, Ge4/4^{II} 625, is awaiting the departure of Ge4/4I 607, 17/06/09.

MIDDLE: RhB Ge4/4^{II} approaches Ardez on a train from Disentis/Mustér, 25/06/09.

BOTTOM: RhB electro-diesel 802 heads a train from Tirano to St Moritz at Pontresina, 24/06/09.





TOP: Unusually, an RhB EMU is formed of just two coaches at Landquart, 27/06/09.

MIDDLE: RhB locomotive 35 adds a timber carrier to a train from St Moritz to Tirano at Pontresina, 24/06/09.

BOTTOM: RhB Ge4/4II 618, a regular performer on the Ardez - Pontresina shuttle, arrives at Zernez from the latter while Ge 6/6II 707 waits for the road behind it to Pontresina. 18/06/09



advertised. The first arrival, in the main platform was the RE, and its locomotive run-round, delaying the arrival of the push-pull Pontresina train if it was at all late. The unadvertised bus departed, arriving at Scuol-Tarasp at around the same time as half-a-dozen Post Autos from various locations. Passengers were exchanged, and the bus left for Ardez at the advertised departure time, usually arriving at Ardez in good time to connect with the first departing service (to Pontresina).

The second bus then left Ardez with passengers from the Pontresina train, waiting at Scuol until passengers off the Post Autos, who had arrived without through tickets, had rebooked at the temporary ticket office. This often resulted in it leaving late, and in consequence departures of trains from Ardez were often delayed, hence causing delays to the trains in the opposite direction. Turnrounds at Pontresina are quite tight, and there were also connections to be made at

Samedan to and from St Moritz, but there appeared to be sufficient slack in the timings for minor delays to be recovered. The bus drivers made announcements regarding which train will leave from which platform at Ardez, and there was also ample signage.

Wryly amusing for a British railwayman was the need for a very slick run-round of the RE at Ardez. The train arrived, and the shunter dived between locomotive and train and knocked off brake-pipe and coupler. The bell for the level crossing was already ringing, the locomotive pulled forward, the points were reversed, the driver sets back – without changing ends! – along the loop, with the shunter hitching a lift on the locomotive's step. Arriving at an appropriate point towards the other end of the station, the shunter dropped off, the locomotive continued beyond the

points, which were promptly reversed. The locomotive dropped back onto the train, the points were immediately reversed to allow the train from Pontresina to enter the station whilst the shunter coupled the locomotive to the RE. Predictably, this was a good, slick Swiss operation but, by its very nature, it is fragile, and delays to a PostAuto several miles beyond the Rhätischebahn network caused knock-on effects for some time.

One evening, as I was returning from a walk, I was surprised to see the 16.46 Ardez to Pontresina leaving after the 16.50 to Disentis/ Mustér. Clearly, it must have crossed its incoming equivalent at Lavin instead of Susch, and the reason became clear – the train from Disentis/ Mustér was late. It had followed the Pontresina train from Saglians, and this was the only way in which the connection at Saglians could be maintained.

However, I was then further surprised to observe the arrival from Pontresina moving away towards Lavin – until I saw the driver was working from the rear cab. It became apparent that it had been decided to complete the run-round operation of the RE, due to leave at 17.50, rather than waiting until the departure of the 17.46 to Pontresina. The stock for the latter was propelled out beyond the white cross on a black background – what in English parlance I would have regarded as a limit of shunt board, although it wasn't used in the same way. The locomotive off the RE was then run through the loop, stopping short of the 17.46 and dropping back into the station. After this the points were reversed and the local dropped back into the loop. Both trains departed on time.



TOP: An interesting shunt is performed at Ardez, RhB, 25/06/09, to allow Ge4/4ⁿ 631, late arriving from Disentis/Muster, to run-round its train; the other train is the Ardez-Pontresina shuttle, worked by an unidentified Ge4/4ⁿ.

BELOW: View of Ardez station from the north west, 13/06/09; RhB push-pull set waits to leave for Pontresina.

One morning, the RE had clearly arrived behind the train from Pontresina, and its locomotive was standing on the loop behind the latter, the run-round being completed after the departure of the latter. As some drivers were taking the bus to and from Scuol-Tarasp, where there must be a dépôt, I assume no driver was available on this occasion for a similar shunt to the one above. To a British railwayman it was all fascinating stuff.