

## TWO GROUND DISCS, ONE ABOVE THE OTHER

Ground discs were uncommon in Victoria. The Victorian Railways always preferred to mount disc signals on posts. Post mounted discs were definitely easier to see, particularly when the engine was at the far end of a train. This preference probably also reflected the Victorian practice of providing a separate disc signal for each possible route; often requiring two or three (and occasionally four and rarely five) discs per track.

Ground discs were used, however, whenever it was required to place a disc in the 'six foot' between two tracks. Even rarer than the ground disc was the double ground disc

*(Below) Ground Discs 'Post' 18 at Benalla B Box in 1989. These were officially described as "Two Ground Discs, on above the other, Up Signals - (Controlled by "A" Box). Top Disc, from Siding "K" to No 5 Road - towards Ground Disc, No 8B; or to No 6 Road - towards Ground Disc No 9B. Bottom Disc, from Siding "K" to Goods Yard.' In the background on the right can be seen the double ground disc "Post 17". These two double ground discs were the first installed in 1914. This photo gives a good idea of the restricted clearance between the two tracks, indeed the upper disc has a restricted width Disc (14" wide instead of the usual 18" diameter disc).*





where it was required to signal two separate routes past a location. Such signals were described in the quaintly formal language of the 'Book of Signals' as 'Two Ground Disc Signals, one above the other'.

Double ground discs appear to have been introduced in 1914 at Benalla. Two sets were provided at 'B' Box. They were described in WN 32/14 as 'Two Ground Disc Signals, one of which is higher than the other'.

Benalla B ended up with three sets of double ground discs, the most, as far as I know at any one location. Other examples existed at No 1 Box (2 sets) Geelong B (1 set), Stawell A (1 set), Woodend (1 set) and Seymour A (2 sets). This is not an exhaustive list; other examples probably existed, but they were not common.

Appropriately the last sets in existence were at Benalla and were removed when B Box was abolished.

(Above) A side on view of Ground Disc "Post 10" at Benalla B with the lower disc 'off' courtesy of a friendly signalman during the SRS visit. The 'upper' disc was a standard ground disc. The 'lower' disc was completely separate and consisted of a separate disc mechanism and counterweight. The operating chain comes in on the right around the flat pulley in the foreground. The chain is connected to the flat operating slide which runs through the base of the lower disc. A second chain is connected to the rear of the slide and, running past the upper ground disc, is connected to the counterweight in the left background. The counterweight has the important function of returning the disc to danger when the lever is restored to normal in the frame. A serious disadvantage of this design was that the lower disc was not failsafe; if the counterweight became disconnected the disc would not return to danger. The counterweight, incidentally, appears to be the standard counterweight used to hold wicket gates shut. (Top Right) A close up view of the lower disc of "Post" 10 at danger. The mechanism consisted of a flat base in which the operating slide worked. A stud was fixed to the slide which worked in a 'Y' shaped slot in the target carrier (one arm of this slot can be seen in the photo). When the operating lever was reversed the slide was drawn to the right. The stud was drawn along one arm of the slot until it bore against the target carrier. This pressure rotated the carrier around a vertical stud to clear the signal. Towards the end of the movement of the slide the stud entered the other arm of the slot. These slot arms provided some lost motion to enable the disc to properly go to 'danger' and 'clear' despite varying wire travel. This slot mechanism was identical to that used in the standard ground disc. (Bottom Right) A close up view of the disc at 'clear'. The slide has been drawn to the right and the target has been rotated 90 degrees.

