



Safety recommendation no. 130

Date of the publication	12.12.2017
Number of the final report	2016090101
Safety deficit	<p>On 1 September 2016 at 07:51 a driverless shunting tractor with four passenger train carriages rolled away from the railway siding at Andermatt station towards Göschenen. Below the Teufelsbrücke bridge the vehicles derailed in the Bänzberg gallery and were thereby stopped. There was no one in the vehicles. There was major material damage to the infrastructure and the vehicles. Railway operations between Andermatt und Göschenen were interrupted for several days. The runaway can be attributed to inadequate clamping force of the shunting tractor's parking brake as the design of the brake rods could not ensure the required friction. Contributing factors to the accident were:</p> <p>Because the parking brake's braking rods are independent of the shunting brake, the brake pads never rubbed against the rotating wheel discs and were never bedded in to the wheel discs. The lack of a guideline for the adjustment and assessment of the parking brake's braking effect. The following factors were neither causal nor contributing in this accident, they were, however, recognised as risky:</p> <p>In the event of a shunting brake failure only the shunting tractor's parking brake is still effective. In this regard, it is safety-relevant that, as a minimum, the parking brake provides the clamping force required for a gradient of up to 40 ‰. The current parking brake does not meet this requirement.</p> <p>Once a year, maintenance staff replace the parking brake's brake pads with partially worn brake pads from the shunting brake assuming that they would still be bedded in to the wheel discs. There are no guidelines for this work or for the adjustment of the parking brake's braking rods. There are also no guidelines for the assessment of the parking brake's braking effect. Due to the lack of checking the parking brake's effectiveness, there is a risk that inadequate braking effect may go undetected. The STSB does not know if there are any other vehicles with a similar design featuring separate braking rods between shunting and parking brake. This risk would be the same in such vehicles.</p>
Safety recommendation	<p>The FOT should examine if there are other vehicles with a similar parking brake design and propose to the respective railway companies that they develop guidelines for the parking brake's adjustment and the assessment of its braking effect in these vehicles.</p>
Addressees	Bundesamt für Verkehr
Stage of the implementation	<p>This safety recommendation applies to shunting locomotives of type Tm 2/2 manufactured by Schöma. They have an immobilisation brake of a similar design. The FOT has contacted the transport</p>

companies which, according to the vehicle register, own such vehicles. These are RhB, MGB, TPF (infrastructure), RBS and AB. The Schöma locomotives operated by most of the transport companies mentioned are not affected because they have different braking systems. The remaining transport companies have been made aware of the problem (see Safety Recommendation No. 129). The FOT therefore considers safety recommendation no. 130 to have been implemented..

**Investigation report concerning
the safety recommendation**

Schlussbericht
