



Safety recommendation no. 160

Date of the publication	11.05.2021
Number of the final report	2020091102
Safety deficit	<p>At around 20:40 on 11 September 2020, the second panorama carriage (As 111) of MOB train No 2238 travelling from Montreux to Zweisimmen derailed at the exit of Rossinière station. None of the 25 passengers on board the train were injured.</p> <p>The MOB train No 2238 derailed at the exit of Rossinière station because of a breakage of the first axle of the front bogie on carriage As 111. The axle broke in the area of the earthing disc. Corrosion between the axle and the earthing disc had triggered the formation of a crack, which subsequently spread through the axle shaft, eventually causing it to break from fatigue.</p> <p>The following factors contributed to the accident: Failure to carry out a full ultrasound check of the axle during servicing.</p> <p>In the course of the investigation, the following risks were identified:</p> <ul style="list-style-type: none">• During the periodic maintenance of the panorama carriages, the condition of the protective layer of the axle shafts and the wheels was not checked.• The serviced axles, which were awaiting use, showed damage to the axle shafts as a result of inappropriate handling. <p>Axles are important components in the safety of rolling stock. A broken axle or wheel can have serious consequences. During maintenance, it is essential to pay special attention to these components. Only non-destructive testing (e.g. ultrasonic (UT), magnetic (MT)) can detect the beginnings of a crack.</p> <p>Article 51 Section 1.19 of IP-RailO (2016 version), Non-interoperable vehicles, stated with regard to non-destructive testing that vehicle axle shafts must be non-destructively inspected for cracks at each change of wheels or tyres along the whole length of the vehicle. This article in the 2020 version of the IP-RailO has been adapted to state that wheels and vehicle axle shafts / trailing axles must undergo regular non-destructive testing. [...] For this procedure, industry-specific maintenance regulations must be applied.</p> <p>The 2020 version of the IP-RailO is thus less comprehensive than the previous one and defines the scope of non-destructive testing simply as the industry-specific maintenance regulations.</p>
Safety recommendation	<p>The STSB recommends that the FOT adapt RTE 41500 (industry-specific maintenance regulations) so that non-destructive testing is thoroughly regulated, while at the same time recommending a complete inspection of the entire axle when changing wheels or tyres.</p>
Addressees	Bundesamt für Verkehr
Stage of the implementation	Partially implemented. The industry (Association of Public Transport,

APT) or the railway undertakings are responsible for the publication of the Railway Technical Regulations (RTRs). The FOT has no statutory basis upon which to demand a modification of the RTRs. However, the FOT intends to address the issue in consultation with the industry.

It will also ensure that wheelset axle testing is included in FOT monitoring of maintenance-related processes.

**Investigation report concerning
the safety recommendation**

Rapport de première information
Rapport final
