

Broken wheels or axles, 09/12/2010

On the basis of the findings of the enquiry, the Federal Ministry of Transport (Federal Accident Investigation Bureau, Rail Section), issued the following safety recommendations on 18 February 2011 in accordance with Article 16 (2) of the Accident Investigation Act [UUG]:

- A-01/2011,
- A-02/2011 and
- A-03/2011.

These have been withdrawn and replaced by the following safety recommendations:

Annual serial number Point	Safety recommendation (related to the cause of the accident)	Addressed to
11.1 A-80/2011	Ensure that “exact testing” and “occasional simplified testing” in accordance with the provisions for this type of crack are recognised where ultrasonic testing (UT) is manual. Justification: because the crack was not discovered in the ultrasonic test on 28 April 2009, the axle broke. Remark: for Austrian keepers of coaches and wagons, administrative decree GZ. BMVIT- 250.000/0001-IV/SCH4/2007 of 23 May 2007 made hand-held ultrasonic testing not sufficient by itself. Mechanical ultrasonic testing (amongst other techniques) was decreed to be state of the art (provisions of DB 663 (Austria) and DB 907.0202 (Germany)).	Vehicle keepers
11.2 A-81/2011	Investigate whether the technical rules permit the use of the “simplified ultrasonic test”. Remark: if using this technique it is not necessary to take out the wheelset. Normal heads with angle-beam probes are used from the end of the axle journal outward. That is a really difficult test considering the reflection of the edge of the axle and the depth of the hole in the axle journal and an effective interpretation of the oscillogram.	Polish national safety authority
11.3 A-82/2011	Investigate whether recognised European sets of regulations for maintenance (for example, those of the UIP) should be used in future for testing wheelsets. Justification: the findings of international working groups such as that drawing up the European Common Criteria for Maintenance are continuously incorporated in these sets of regulations.	Polish national safety authority
Safety recommendation (not related to the cause of the accident)		
11.4 A-83/2011	Ensure that the stress relieving grooves on the journals of axles have been cut in accordance with the regulations: <ul style="list-style-type: none"> • EN 13103:2001, diagram 7 – transition shape between: axle journal (bearing journal) and wheelseat (collar); and • EN 13261:2006-01-01, Table 7 – surface condition Ra <p>These EN are based on [the former] UIC leaflets 515-3 and 811-2. Justification: cutting the stress relieving grooves.</p>	Vehicle keepers Polish national safety authority

11.5 A-84/2011	<p>Ensure that the following processes which were developed by the Task Force Maintenance of Freight Wagons for the maintenance and documentation of wheelsets are used:</p> <ul style="list-style-type: none">• EVIC (European Visual Inspection Catalogue) <p>Justification: if the EVIC had been used in light maintenance procedures the fractured wheelset would have had to be removed immediately after it was discovered.</p> <ul style="list-style-type: none">• EWT (European Wheelset Traceability) <p>Justification: these provisions correspond to the greatest possible extent to the requirements of the German and Italian national safety authorities.</p>	Vehicle keepers Polish national safety authority
11.6 A-85/2011	<p>Investigate whether there is sufficient time available for the technical inspection of wagons [on handover].</p> <p>Justification: twenty-four minutes were available for the technical inspection of train 45043. This equates to 62.6 seconds for each vehicle. In the twenty-four minutes train 45043 must run some 800 metres and if Annex 1 to Appendix 9 to the GCU is to be applied, some 300 – 580 points must be checked per vehicle.</p>	Railway undertakings