

## **Safety Alert**

**Subject:** Infrastructure - track system

**Equipment:** Double slip switch with jaw lock of type VZ 200

### **Description**

National Investigation Body of the Czech Republic (NIB CZ) has been investigating accident which happened 8th December 2022 in the railway station Brno-Maloměřice on switch No. 48a. It was a derailment of three wagons during ride of train Nex 60310. Similar sequence of events occurred at the accident which happened 7th September 2018 in the railway station Kolín. NIB CZ created Final report (č.j.: 6-3133/2018/DI), including Safety Recommendation for National Safety Authority of the Czech Republic (Dražní úřad). Final report describes in details issues of double slip switch with jaw lock of type VZ 200, particularly inner locking hook and hook of jaw lock on the moveble nose of crossing. In both cases of the accidents there was a total break of inner thinner part of locking hook.

In the range of investigation there were checked hooks on a few other double slip switches. Somewhere traces after hits and visible nonstandard touch of locking hook with flange of the stock rail were detected. But above all at the accident in the railway station Kolín there was found broken inner hook with significant crack, which is the condition before its unpredictable final breakage with all consequences and impact to Safety.

Based on the official statement of the manufacturer of above mentioned hooks AŽD Praha s.r.o. there are 120 pieces of this kind of hooks on the double slip switches in Slovakia. As the investigation has not been finished yet, we are sending Safety Alert regarding the above mentioned risks. It is clear that further breakage can occur anytime. Until today NIB CZ knows about six cases of damaged hooks of this type and that's why it's clear that it is not only an individual case but systematic problem.

Currently the manufacturer AŽD Praha s.r.o. is changing old cast hooks for new forged hooks. Until the final solution is made, it is necessary to take effective measures in the form of extra checking of all double slip switches and the moveble nose of crossing with jaw lock and focus on the condition of locking hooks which are used in the inner point blade of double slip switches and similar types of the locking hooks which are used in jaw switch locks for moveble nose of crossing. It is necessary to carry out visual checking of all the above mentioned findings. In the case of detection of cracks, it is necessary to take immediately measures for provision of safety operation. These extra checks must be repeated in regular short intervals on all the switches until final solution and removal of problem.

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