

Chronology of Defect/Noncompliance Determination

In September 2020, MBAG received an initial report from the supplier of the side impact crash sensors describing the possibility that in a certain batch of these sensors, the electrical connector housing might not meet specifications.

Subsequently, potentially affected vehicles were determined based on the production date and serial numbers of the potentially affected sensors as reported by the supplier. In October and November 2020 plant rework campaigns were started to rework potentially affected vehicles. In parallel, analysis of the vehicles' locations showed that some vehicles with sensors from the batch identified by the supplier had already left the plant.

In December 2020, initial analyses regarding the potential effects of installing an affected sensor were conducted.

Between January and March 2021, further analyses of the potential consequences were conducted based on shaker and shock tests. During these tests, affected sensors were exposed to vibrations and loads which are expected to occur over the vehicle's lifetime. During these tests, the electrical connectors did not loosen despite the locking mechanism not meeting specifications.

From April 2021, the results of these tests were evaluated and the initial test results did not suggest a deterioration in the performance of the affected sensors. In order to confirm those initial findings, additional analyses of the sensor, connector and wiring harness installation in different affected door variants were conducted in order to determine if there is a possibility of the sensor loosening on a built-up vehicle. Additionally, pull-out forces of the connectors on affected housings were measured.

In June 2021, simulations of the performance of restraint systems and occupant loads in the event of a side impact crash with an already loosened plug connection were performed. The results indicated that should a side impact crash occur in this condition, the necessary restraint systems would be activated by signals from other sensors within the SRS system.

While the analysis indicated that it is unlikely that an affected connector could loosen over the lifetime of the vehicle, it is possible the detection of a side impact crash and activation of the restraint systems might be delayed, which would result in a reduced restraint and protection performance of the vehicle.

On July 2, 2021, MBAG determined that a potential safety risk cannot be ruled out and decided to conduct a recall.