

Chronology of Defect / Noncompliance Determination

On November 21, 2017 Jaguar Land Rover opened a Product Safety and Compliance Committee (PSCC) investigation to review 3 Electronic Quality Product Reports (EPQR) from retailers where customers had reported excessive fuel odor in the passenger compartment. On inspection, it was identified that fuel was leaking from the end of the engine mounted fuel rail.

Jaguar Land Rover engineering and Supplier Technical Assistance (STA) reviewed the concern and ordered a supplier review of the fuel rail manufacturing processes. During these reviews in November and December 2017 it was identified that the brazing on the end caps of engine mounted fuel rail did not have a continuous braze on the internal circumference of the end cap although the external face showed no braze imperfection.

Sample inspection of parts identified that the brazing of the fuel rail end cap was inconsistent.

Testing and root cause investigation continued through December 2017 and into January 2018. The engineering investigation also reviewed the brazing process, fuel rail material properties and surface treatments, it identified differences in internal the surface finish of pipe stock. A supplier review of failed assemblies returned from the market confirmed that the fuel rail to end cap joints were inconsistently brazed and not to specification.

At the PSCC on January 09, 2018, engineering confirmed that the lack of braze on the fuel rail to end cap joint was the fuel leak path and the joint would fail at some time in the future but the failure could not be correlated to mileage or time. Further testing identified that due to the high pressure in the fuel rail and the pressure pulsation force within the system, joints not fully brazed will fatigue over varying amount of time or distance.

Engineering also confirmed that during the sub-supplier manufacture of the fuel rail the annealing process was an uncontrolled process which led to part of the raw material not receiving the correct treatment. This accounted for difference in internal surface finish of the metal tube supplied for brazing and subsequently the surface finish of these component did not allow the braze to adequately flow.

During January 2017, investigations with the component supplier revealed that the supplier 100% End of Line leak test would not reliably detect an inadequately brazed end cap.

The PSCC concluded that this issue be progressed to the Jaguar Land Rover Recall Determination Committee (RDC).

The RDC reviewed all information on January 12, 2018 and requested further information to understand nature of the failure mechanism and likely severity over time. Further, RDC requested confirmation about the supplier inspection procedures.

The PSCC again reviewed the RDC request on January 23, 2018 and concluded that the information provided to PSCC was complete and correct.

The RDC reviewed the latest information on January 25, 2018 and determined that fuel leaking in the engine bay represented an unreasonable risk to safety and that a voluntarily safety recall be conducted.

There have been no reported accidents, injuries or fires as a result of this concern.