

Chronology of Defect / Noncompliance Determination

Provide the chronology of events leading up to the defect decision or test data for the noncompliance:

April 9, 2020 – Subaru determined that a defect related to motor vehicle safety existed and decided to conduct a safety recall (NHTSA ID no. 20V-218).

May 2020 – October 2020 – Subaru continued to monitor the field data. In addition to field data monitoring, Subaru continued to investigate vehicles outside of recall population identified in 20V218. As part of the ongoing investigation, Subaru collaborated with the supplier to further analyze the density of the impellers.

May 2020 – August 2020 – In addition to continued field data monitoring, Subaru conducted a collection and analysis of healthy parts. The purpose was to compare impeller deformation by lot number, vehicle model, and geographic region. The result of the healthy collection study supported the determination outlined in 20V-218, and more broadly, the Subaru's decisions in other global markets.

November 17, 2020 – As a result of supplier's investigation, the supplier submitted report 20E-085. In that report, resin density was determined to more closely correlate with field cases than overall impeller density because the impeller material contains three elements (resin, glass fiber, and calcium carbonate), but only one element (resin) is susceptible to swelling. This improved understanding of density led to the identification of additional material lots which could contribute to the occurrence of the condition in combination with other factors.

November 2020 - December 2020 – As a result of the supplier's report, Subaru began correlating the additional material lots provided by the supplier with the field data, manufacturing information, vehicle specific variables, and other information to determine which vehicles, if any, may be susceptible to the condition.

December 2020 - Subaru, in collaboration with the supplier, found that use of fuel pump controller (FPC), especially where used in lowering the fuel pump impeller rotational speed, reduced the margin for the pump overcoming interference. For vehicles produced in the U.S., implementation of a FPC was not a primary consideration for vehicle population, because the other factors used to determine scope required inclusion of both FPC-equipped and non-FPC-equipped vehicles. However, the findings suggested that for vehicles produced outside of the U.S., where longer periods of solvent drying time had not been identified, the effect of an FPC, in combination with a lower resin density impeller, needed to be investigated further.

March 2021 – The supplier updated Subaru on the technical findings from the investigation into the potential effects of the FPC on Subaru models equipped with various sized engines.

April 2021 to June 2021- Subaru conducted a field correlation review including the updated part manufacturing lot numbers and the technical findings related to the FPC. The review included analysis of field data and field return part investigations.

July 22, 2021 – Subaru has identified, using best engineering judgement, 27 unique non-dealer Subaru field reports within the identified population and 8 VOQs from the model year/models listed in this report. The cumulative warranty claim rate for the identified population is below 1%. Out of an abundance of caution, Subaru decided to conduct a voluntary safety recall.