

## Chronology of Defect

### **Fuel pump may fail on MY2019 and MY2020 Mazda2, MY2018 Mazda3, MY2018 Mazda6, MY2019 CX-3, MY2018 and MY2019 CX-5, MY2018 and 2019 CX-9, MY2018 and MY2019 MX-5**

- March 26, 2019: Mazda received the first field information from outside the U.S, which reported the engine could not start due to an inoperative fuel pump. Mazda planned to collect the fuel pump from the subject vehicle and investigate it.
- April 2019 through August 2019: As a result of parts investigation, it was confirmed that the fuel pump did not function because the deformed impeller in the fuel pump interfered with the fuel pump body. As part of the analysis, additional observations of cracking on the impeller surface were made. To understand the relationship between surface cracks and impeller deformation, Mazda began an investigation to attempt to determine which factors potentially contribute to cracking.
- September 17, 2019: Mazda decided to conduct a recall for the purpose of confirming the root cause of the defect on CX-5 in China.
- September 2019 through February 2020:As part of the investigation, Mazda hypothesized that testing solvent used during the manufacturing process and low density impellers may be factors causing impeller cracking and began duplication testing. During the test, the surface of the impeller cracked as the solvent dried over time. It was confirmed that fuel pumps produced with impellers of lower density exposed to production drying solvent for longer periods of time could experience the impeller cracking at a level that could lead to excessive fuel absorption, and could cause impeller deformation.
- May, 2020: Mazda received no field information regarding this defect from the U.S or U.S territories. As a result of examination about the details of field information received from outside the U.S, Mazda found that there was a difference in occurrence rate among each region and hypothesized the high ambient temperature condition of usage environment may contribute to the occurrence of this defect.
- July 10, 2020: Mazda decided to conduct a recall campaign on certain vehicles in China, South-eastern Asia, Central America, and the Middle East, where ambient temperature are relatively high. Since this defect did not seem to occur as often in other countries, Mazda determined to monitor future occurrence in other countries including the U.S and U.S territories. Concurrently, Mazda submitted a foreign recall report regarding this issue to NHTSA. In the report, Mazda explained that due to differences in U.S. logistic conditions, typical customer usage and other factors, this defect was not likely to occur in U.S. market vehicles. The U.S. market field data at that time supported this assessment. Mazda would continue to monitor the U.S. and U.S. Territories for future occurrences.
- August 20, 2020: Mazda received the first field information on MY2019 CX-9 from the U.S market, reporting the vehicle experienced a lack of power due to this defect.
- September, 2020 through January, 2021: Mazda recognized this failure was beginning to increase in some countries other than the U.S.
- July 30, 2021: Mazda decided to conduct a recall campaign on a certain vehicle model in Mexico due to increasing field occurrences in that market.
- August 6, 2021: Mazda submitted a foreign recall report regarding this issue to NHTSA. In the report, Mazda explained that due to differences in U.S. logistic conditions, typical customer usage and other factors, this defect was not likely to occur in U.S. market vehicles. The U.S. market field data at that time supported this assessment. Mazda would continue to monitor the U.S. and U.S. Territories for future occurrences.

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August, 2021: Mazda recognized this failure was beginning to increase on a certain vehicle in Europe.

September 1, 2021: Mazda received the fourth field information on MY2018 CX-5 from the U.S market, reporting that fuel pressure was reduced.

Late August, 2021 through September, 2021: This defect frequency continued to increase in Australian markets. Although this defect continues to have a low rate of occurrence in the U.S at present, Mazda began to make arrangements for remedy parts correcting this defect as a precaution in case of global field action. Mazda had received four related field reports from the U.S and U.S territories up to this date.

November 5, 2021: Mazda held a Quality Audit Committee meeting to review all available information to date, and out of an abundance of caution, determined to conduct a proactive field action on certain MY2019 and MY2020 Mazda2, MY2018 Mazda3, MY2018 Mazda6, MY2019 CX-3, MY2018 and MY2019 CX-5, MY2018 and 2019 CX-9, MY2018 and MY2019 MX-5 in the U.S and the U.S territories. No accidents, injuries or deaths have been reported as a result of this defect.