## Chronology of Defect

In mid-July 2020, the fuel-pump supplier for the subject vehicles analyzed a returned fuel-pump and determined that excess material in the form of burrs was inside the fuel-pump's mixing tube. Based on that discovery, in late July 2020, the supplier conducted a large-scale containment evaluation of mixing tubes and found zero failures in their current production. On August 18, 2020, a GM design release engineer submitted a Speak Up for Safety (SUFS) report to understand the full scope of this potential safety issue and whether suspect tubes escaped containment efforts.

Between late July and mid-September 2020, GM worked with the fuel-pump supplier to better understand the condition and its potential effect on vehicle performance. GM and the supplier also analyzed field data and worked to identify a potential suspect build window. In parallel, GM's safetyfield-investigation team worked the SUFS case through the emerging issues process and tried to better understand whether there were suspect parts in the field based on the small suspect build window provided by the supplier. On Sept 19, 2020, GM opened an investigation. Between September 19 and Oct 5, 2020, GM analyzed field data initially from a large potential manufacturing window - all vehicles dating back to each suspect model's start of production date. That analysis indicated that the limited number of fuel-pump-modules involved in field complaints were all produced in a narrow vehiclemanufacturing build window (Nov 2019 to Jan 2020). On Oct 5, the fuel-pump supplier reviewed GM's investigation and confirmed that there was a manufacturing "spill" of 520 parts produced for GM vehicles. On Oct 7, GM received trace data from the fuel tank supplier that helped identify the vehicle VINs that received the suspect fuel-pump modules.

On Oct 8, 2020, GM's Safety and Field Action Decision Authority decided to conduct a safety recall. GM is not aware of any injuries or accidents related to this condition.