

21S21 – CERTAIN 2019 FORD TRANSIT– WHEEL STUD FRACTURE

Provide the chronology of events leading up to the defect decision.

On July 29, 2019, Kansas City Assembly Plant (KCAP) issued a stop ship for 2019 Transit SRW 410L rear axle with aluminum alloy wheels after receiving a field report claiming rear wheel separation due to fracture of all five wheel studs. This item was reviewed with Ford's Critical Concern Review Group (CCRG) on August 1, 2019. CCRG's investigation found that stud fracture was likely related to flange flatness on certain axle shafts that did not meet the parallelism specification. A total of eight reports on vehicles equipped with aluminum wheels were identified, all at low time in service: the original wheel separation report, and seven reports indicating fracture of one or more studs but no wheel separation. Based on statistical analysis reviewed in October 2019, it was believed that field data for affected units would follow a Limited Failure Weibull analysis prediction of a declining trend. CCRG monitored field data throughout 2020. A declining trend was noted through early 2020, however an increasing number of reports were received through latter 2020 into 2021. It is now believed that the declining trend in early 2020 may have resulted from reduced vehicle miles driven caused by the Covid pandemic. The majority of ongoing reports pertained to vehicles produced April 1, 2019 to June 28, 2019, with customers typically observing fractured studs during routine maintenance or experiencing vibration or noise concerns. No additional reports of wheel separation were received. Updated statistical analysis found that aged vehicles continued to exhibit the condition, and that the pattern of reports did not fit the Limited Failure Weibull analysis model as originally expected. The current field data coincides with a more constant, ongoing failure rate consistent with an Unconstrained Weibull model.

On April 30, 2021, Ford's Field Review Committee reviewed the concern and approved a field action.

Ford is not aware of any reports of accident or injury related to this condition.

May 7, 2021