

Ford Motor Company (Ford) Recall No. 22S51 Chronology

22S51 – CERTAIN 2017–2020 MODEL YEAR FORD F-SUPER DUTY AND LINCOLN CONTINENTAL VEHICLES EQUIPPED WITH 360-DEGREE CAMERA SYSTEMS – REAR VIEW CAMERA FOGGY

Date of Submission: August 26, 2022

Chronology of Defect / Noncompliance Determination

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

August 2021

On August 26, 2021, Ford's Critical Concern Review Group (CCRG) initiated an investigation into an increase in warranty reports for diminished rear view camera image quality in certain Super Duty and Continental vehicles equipped with 360-degree camera systems. The warranty reports generally indicated that the rear view camera image was foggy or cloudy and that the condition did not improve after cleaning the outer rear view camera lens.

September – October 2021

Ford's investigation determined that an internal lens on the Magna Zurich Lite digital rear cameras on the subject vehicles has an anti-reflective coating that is susceptible to damage from exposure to ultraviolet (UV) radiation over time. Ford's analysis of field data and field return parts found this condition to be progressive in nature, increasing with time in service.

November 2021 – January 2022

Ford conducted a weathering study in accordance with ASTM D7869 for the subject cameras. The weathering study showed that the subject Magna Zurich Lite digital cameras experienced cracking of the anti-reflective coating on the third inner lens to a degree that would be expected to impact image quality. This evaluation had not been conducted or completed by the supplier during camera development prior to Job #1 of the subject vehicles.

Concurrent to the weathering study, Ford monitored ongoing field data to understand the occurrence rate and customer experience of a progressively foggy or cloudy rear view camera image. There were no accidents or injuries attributed to this concern.

February 2022 – June 2022

From February through June 2022, warranty return cameras were collected for analysis to quantify the progressive nature of lens degradation due to UV exposure. Rear view camera images were analyzed in a laboratory environment as well as installed on-vehicle. In June 2022, Ford used the image analysis data from the warranty return cameras to develop a model to determine degradation of rear view camera image based on UV exposure. Conclusions of the study indicate that while various noise factors influence the level of lens degradation (e.g. camera angle, camera location on-vehicle, exposure time to UV radiation), vehicles in the field can be expected to experience progressively increasing levels of rear camera lens fogging/clouding. A statistical (Weibull) analysis of the field data was conducted.

July 2022

Ford continued to monitor its field data and as of July 13, 2022, is aware of 7,625 Super Duty warranty reports in the United States potentially related to this concern, received from February 2, 2017, through July 12, 2022. As of July 13, 2022, Ford is aware of 1,236 Lincoln Continental

Ford Motor Company (Ford) Recall No. 22S51 Chronology

warranty reports in the United States potentially related to this concern, received from September 8, 2017, through July 12, 2022. Ford also monitored VOQs and identified 11 VOQs potentially related to foggy or cloudy camera images.

On **August 19, 2022**, 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.