

Ford Motor Company (Ford) Recall No. 22C27 Chronology

22C27 – CERTAIN 2021-2022 FORD BRONCO VEHICLES WITH REAR VIEW CAMERA SYSTEMS – REAR VIEW CAMERA IMAGE RE-ENTRY IN 4L MODE

Date of Submission: November 3, 2022

Chronology of Defect / Noncompliance Determination

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

July – August 2022: In reviewing Bronco enthusiast online forums, an engineer read a post of a customer who took their Bronco into the mountains for vacation and stated that “[W]hen in 4L the backup camera stays on after being in reverse. It’s super annoying.” Ford Engineering evaluated two vehicles to better understand the issue raised in the forum post and had found that, with the vehicle in 4-Low mode, which is intended primarily for off-road use, the rear view camera and image display functioned properly throughout the duration of the backing event. It also properly ceased when the backing event ended (vehicle shifted to a forward gear and the vehicle speed exceeded 10 m.p.h.). A black or blue screen would then be displayed rather than the expected SYNC screen. This occurred regardless of whether the “Rear View Camera Delay” setting was turned on or off. It was also noted that the rear view camera would display again at a very low speed. In one occurrence, a message appeared in the blue screen that said, “Camera Unavailable. Please contact dealer.”

Informal discussions occurred between the Automotive Safety Office and Ford’s Engineering groups to search for and review any claims and to better understand the concern. This included a vehicle drive evaluation. To simulate the concern, the drive evaluation occurred on dirt roads. When the vehicle was placed into 4L mode, a pop-up appeared to the driver acknowledging that the vehicle was in “off-road mode.” However, on the drive back, an engineer noted that the off-road pop-up did not occur when shifting into 4L mode. Based on this informal internal review, an investigation entry was created and it was referred to Ford’s Critical Concern Review Group (CCRG) for further evaluation and analysis for compliance with FMVSS No. 111.

September – October 2022: On September 8, 2022, Ford’s CCRG held its first investigation meeting regarding the rear view camera image display on certain Bronco vehicles. CCRG reviewed the work completed to date by the Ford Product Development engineers. CCRG’s primary concern at the time was whether the vehicles would meet the “linger time” requirements in S5.5 of F/CMVSS 111 if the rear view image is “stuck on.” Because the rear view image would disappear at ten (10) m.p.h, CCRG continued its evaluation. Separate from the CCRG investigation, an initial wave of over-the-air Ford Power-up software updates launched for various Sync upgrades, including the repair for not displaying the expected SYNC screen in 4L mode, on September 28th for Model Year (“MY”) 2021 vehicles and October 12th for MY 2022 vehicles. This OTA update was halted on October 12, 2022 due to an error in a SYNC Module update unrelated to the vehicle camera. Ford filed a report on this OTA Powerup with NHTSA on September 29, 2022.

CCRG continued its evaluation for potential compliance concerns regarding the conditions that would be needed for the rear view image to re-appear while in forward motion. CCRG further investigated issue repeatability, evaluated whether the image displayed upon re-entry would meet the allowances of a customer-selectable permissible rear view image not during a backing

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event, reviewed the FMVSS 111 test procedure protocols, and investigated whether there were any applicable NHTSA interpretations for a similar issue. In October, further evaluations were conducted with both automatic and manual transmission vehicles to better understand this condition on each application. CCRG identified the following set-of-events, all of which are necessary for the image to reappear:

- In either an automatic or manual transmission vehicle, 4L must first be selected, irrespective of any “G.O.A.T.” mode selection.
- A backing event in 4L mode must occur and the vehicle is shifted into a forward gear.
- If the vehicle is driven under 10 m.p.h, the rear view image will stay displayed, irrespective of any rear view camera delay setting. If the vehicle is driven over 10 m.p.h, the rear view image will disappear and is replaced with a blank blue or black screen.
- If the vehicle is driven above 10 m.p.h. for approximately 60 seconds, a pop-up would appear on the blank blue or black screen stating that the rear view image is not available. Upon touching the “Okay” button, the vehicle’s SYNC screen would reappear.
- If the vehicle decelerated to ~5 m.p.h. or less before the pop-up appeared, the rear view camera image would reappear on the screen with no input from the driver.
- The concern occurred only on vehicles with rear view-camera-only system and an 8-inch screen display, and not other configurations. The condition would only be introduced with the vehicle in 4-Low but would persist when switched to 2-High mode within the same ignition cycle.
- The condition would reset with a key cycle.

After reviewing the vehicle drive results, CCRG concluded that a rear view camera image would reappear consistently if the previous conditions were met.

Ford is aware of four reports potentially relating to this topic, received between June 21, 2022 and October 24, 2022. Ford is not aware of any accidents, injuries or VOQs pertaining to this topic.

On October 27, 2022, Ford’s Field Review Committee reviewed the concern, determined that a potential noncompliance existed, and approved a field action.