

Equipment Recall Report
(Section 573.6)

Manufacturer Name: Cruise LLC
Submission Date: August 9, 2024
NHTSA Recall No: _____
Manufacturer Recall No: 24-01

Manufacturer Information

Manufacturer Name: Cruise LLC
Address: 333 Brannan St., San Francisco, CA 94107
Company phone: 415-335-4097

Population

Number of potentially involved: 1194
Estimated percentage with defect: 100%

Equipment Information

Brand/Trade 1: Cruise LLC
Model: Cruise Automated Driving System (“ADS”) software versions prior to the restart of supervised operations on May 14, 2024.
Part No: N/A
Size: N/A
Function: N/A
Descriptive Information: The subject population includes the Cruise ADS software versions prior to the restart of supervised operations on May 14, 2024. The population includes Cruise’s U.S. fleet of 1194 Cruise AVs.
Production Dates
Begin: June 1, 2021
End: May 14, 2024

Description of the Defect

Description of the Defect: The Cruise ADS may, in rare circumstances involving vehicles or cyclists who suddenly approach the rear of the AV, command an unexpected braking maneuver. In prior software versions, these unexpected braking maneuvers could occur if the ADS inaccurately predicts the immediate future path of the close-following actors, experiences diminished sensor precision from the close proximity of the close-following actors, or erroneously responds to a perceived risk ahead of the AV unrelated to the rear actor.

Description of the Safety Risk: Unexpected braking maneuvers may increase the risk of a rear-end collision from a close-following road user.

Chronology:

On December 12, 2022, NHTSA opened PE22-014 to investigate allegations of hard braking during certain events that Cruise reported to NHTSA under Standing General Order 2021-01. Specifically, NHTSA noted that it had received three reports of rear-end collisions with Cruise AVs in situations where the Cruise ADS initiated a hard braking maneuver in response to another road user that was quickly approaching from the rear. All three of the reports occurred while the Cruise AV was operating in supervised mode with an onboard human safety driver in the driver's seat.

Over the next eleven months, as part of PE22-014, Cruise responded to NHTSA's information requests, producing various documents and videos, and holding discussions with the Agency.

On January 29, 2024, Cruise met with NHTSA to discuss the status of PE22-014, including NHTSA's preliminary review of the materials and data Cruise provided in 2023. NHTSA also provided insight into the peer information requests sent to other AV companies related to hard braking.

On February 29, 2024, Cruise met with NHTSA and provided data demonstrating that the rate of occurrence for unexpected braking events in Cruise AVs is very low and much lower than a human driver based on relevant and available human-driver datasets. Cruise also provided data demonstrating that various Cruise ADS software updates had improved ADS braking performance resulting in a significant reduction in unexpected braking.

On May 9, 2024, Cruise met with NHTSA to follow-up on the discussion from February 29 regarding the low rate of occurrence of unexpected braking events and the effectiveness of Cruise's software improvements. Further, on July 17, 2024, Cruise met with NHTSA and NHTSA requested that Cruise file a safety recall to close the PE based on software updates that Cruise had implemented. Although Cruise does not agree with NHTSA's conclusion, in the interest of resolving PE22-014, Cruise decided on August 5, 2024, to voluntarily submit this safety recall report.

As of August 9, 2024, Cruise has identified eight collisions which occurred between June 2021 and October 2023 that may be related to the condition described above.

Description of the Remedy

Description of the remedy program: Software updates made throughout 2023 as well as during Cruise's pause of operations, between October 26, 2023 and May 13, 2024, significantly reduced the risk of unexpected braking events with close-following road actors. These software updates improved components in several systems of the ADS including perception, prediction, and planning.

How remedy component differs from recalled components: The remedy includes new software updates.

Identify how/when recall condition was corrected in production: The prior ADS software installed in vehicles was updated with the newer software releases.

Recall Schedule

Description of the Recall Schedule: Cruise AVs have never been offered for sale to third parties and are solely owned by Cruise or GM. As such, there are no owners or dealers to notify under 49 C.F.R. Parts 573 or 577 and part 577 is therefore inapplicable.

Planned Dealer Notification Date: N/A

Planned Owner Notification Date: N/A

Purchaser Information

Name: N/A

Address: N/A

Country: N/A

Company Phone: N/A