

Part 573 Safety Recall Report

21V-387

Manufacturer Name : Tesla, Inc.

Submission Date : JUL 09, 2021

NHTSA Recall No. : 21V-387

Manufacturer Recall No. : SB-21-33-002



Manufacturer Information :

Manufacturer Name : Tesla, Inc.

Address : 3500 Deer Creek Road
Palo Alto CA 94304

Company phone : 650-413-4000

Population :

Number of potentially involved : 5,974

Estimated percentage with defect : 1 %

Vehicle Information :

Vehicle 1 : 2019-2021 Tesla Model 3

Vehicle Type :

Body Style :

Power Train : NR

Descriptive Information : Select MY 2019-21 Model 3 vehicles with similar manufacturing records.

Production Dates : DEC 16, 2018 - MAR 16, 2021

VIN Range 1 : Begin : NR End : NR ☐ Not sequential

Vehicle 2 : 2020-2021 Tesla Model Y

Vehicle Type :

Body Style :

Power Train : NR

Descriptive Information : Select MY 2020-21 Model Y vehicles with similar manufacturing records.

Production Dates : JAN 14, 2020 - JAN 17, 2021

VIN Range 1 : Begin : NR End : NR ☐ Not sequential

Description of Defect :

Description of the Defect : The brake calipers of Model 3 and Model Y vehicles are attached to the wheel knuckle using two fasteners. If a fastener is not secured to the correct specification, the fastener may loosen over time and, in very rare circumstances, may become loose enough or separate from the knuckle such that the caliper makes contact with the inner surface of the wheel rim.

FMVSS 1 : NR

FMVSS 2 : NR

Description of the Safety Risk : While we are not aware of any crash or injury resulting from this condition, in very rare circumstances, if a fastener becomes loose enough or separates

Description of the Cause : from the knuckle such that the caliper makes contact with the inner surface of the wheel rim, the wheel may be prevented from freely rotating, which may cause loss of tire pressure and may increase the risk of a crash.

Identification of Any Warning that can Occur : During assembly, the operator is tasked with securing both fasteners to the correct specification, which are registered in the torque record. In rare circumstances, the operator may have subsequently loosened a properly secured fastener. The torque record may not have accounted for the loosening of the fastener.

Abnormal noise may occur and be detectable by the customer if the caliper makes contact with the inner surface of the rim.

Involved Components :

Component Name 1 : NR

Component Description : Brake Caliper, Front and Rear

Component Part Number : NR

Component Name 2 : NR

Component Description : Fastener, Brake Caliper to Knuckle

Component Part Number : NR

Supplier Identification :

Component Manufacturer

Name : NR

Address : NR

NR

Country : NR

Chronology :

In December 2020, Tesla Service was made aware of a field incident involving a 2021 Model Y with a missing fastener on the driver-side rear brake caliper. The Factory Quality team initiated a failure analysis of the field incident, beginning with a review of the production and torque records for the VIN, as well as the associated assembly operations.

From December 2020 through January 2021, after a thorough review of production records and assembly step operations, a root cause hypothesis for assembly of the VIN was developed that would require: properly securing one fastener; an operation that loosened the secured fastener; properly securing the second fastener; and not confirming or not resecuring the loosened fastener.

From January through April 2021, the Factory Quality and Service Engineering teams reviewed torque records of other Model 3 and Y vehicles as well as service data to further assess the suspected root cause and determine whether the field incident was unique or potentially the result of another root cause. A field study was initiated to validate whether other vehicles with the same or similar torque records showed the condition, during which time we identified one other vehicle with the same condition.

In May 2021, the Factory Team completed the study of all torque records of Model 3 and Model Y vehicles, confirming the suspected root cause and potentially affected population.

On May 18, 2021, a recall determination was made.

As of this filing, Tesla is not aware of any crash or injury related to this condition. Tesla is also not aware of any other warranty claims, field reports related to this condition.

Description of Remedy :

Description of Remedy Program :	Tesla Service will inspect affected vehicles for proper torque of all the fasteners that secure the brake calipers to the wheel knuckles (i.e., two fasteners at each of the four calipers, or eight fasteners in total). If a loose or missing fastener is found during the inspection, Tesla Service will re-torque the fastener to the correct specification. In the unlikely event that vehicle damage from a loose or missing fastener is found during the inspection, Tesla Service will arrange for a tow to the nearest service center for repair.
How Remedy Component Differs from Recalled Component :	Confirmed torque and angle of each fastener to the correct specifications.
Identify How/When Recall Condition was Corrected in Production :	On December 23, 2020, out of an abundance of caution while the failure analysis continued, a batch decrement was applied to the assembly step to ensure tool-controlled torque counts within the process interlock. The decrement assured that any loosening operation (counter-clockwise rotation) of a fastener requires securement to the correct specification (clockwise rotation) after the loosening. In addition, on January 4, 2021, a multi-spindle tool with a dedicated head for each fastener was applied to the assembly step. With a single operation, the tool simultaneously secures each fastener to the correct specification without requiring the operator to move from one fastener to the next. On April 5, 2021, the loosening feature on the multi-spindle tool was disabled by default. An operator can no longer unlock the tool to loosen or back out a bolt without a production manager's approval.

Recall Schedule :

Description of Recall Schedule : All Tesla stores and service centers will be notified on or about May 26, 2021. Owner notification letters will be mailed in accordance with 49 C.F.R. § 577.7.

Planned Dealer Notification Date : MAY 27, 2021 - MAY 27, 2021

Planned Owner Notification Date : JUL 23, 2021 - JUL 23, 2021

* NR - Not Reported