

Part 573 Safety Recall Report

21E-088

Manufacturer Name : Tilting Motor Works

Submission Date : DEC 02, 2021

NHTSA Recall No. : 21E-088

Manufacturer Recall No. : NR



Manufacturer Information :

Manufacturer Name : Tilting Motor Works

Address : 17007 102 Ave NE

Bothell WA 98011

Company phone : 2063990102

Population :

Number of potentially involved : 310

Estimated percentage with defect : 1 %

Equipment Information :

Brand / Trade 1 : Tilting Motor Works

Model : TRiO

Part No. : TRiO

Size : NR

Function : Conversion Kit

Descriptive Information : Affects all three hundred and ten (310) TriO accessory kits produced from May 2014 through 2/4/2021.

Production Dates : MAY 01, 2014 - FEB 04, 2021

Description of Defect :

Description of the Defect : The bolt that provides the connection from the shock hoop to the pivot plate may be susceptible to failure

FMVSS 1 : NR

FMVSS 2 : NR

Description of the Safety Risk : Failure of the bolt can cause the unit to become inoperable or cause immediate loss of traction power, which would make the vehicle more difficult to control, increasing the risk of a crash.

Description of the Cause : The root cause of the failure has been identified to be a loss of clamp load on the bolts. The loss of clamp load could be caused by any of the three following scenarios. The first possible scenario is correct torque without threadlocker. The second possible scenario is improper torque without threadlocker. The third possible scenario is improper torque with threadlocker.

Identification of Any Warning that can Occur : None

Involved Components :

Component Name : 1 1/4 inch bolt

Component Description : 1 1/4 inch bolt

Component Part Number : 006443

Supplier Identification :

Component Manufacturer

Name : NR

Address : NR

NR

Country : NR

Chronology :

Beginning in May 2014, Tilting Motor Works Inc. used two designs of TRiO kits in the field, the original with a single bolt per side, and a new style with two bolts per side. The correct grade 8, 3/8-16 fastener length is 1.25 inches, whereas the short fasteners are 1.0 inch. In September 2021, two TriO kits exhibiting the failure (SN 000242 & SN 000258) were identified as having the shorter bolts, and TriO kits (SN 000007 (single bolt) & SN 000242 (double bolt)) were found to also have broken bolts. One kit failure, SN 000242, occurred at highway speeds, and the vehicle was safely brought to a stop. Moreover, there was a Loose Heim joint jam nut on another kit, SN 000258, which the vehicle was reported as having steering issues while braking.

On September 15, 2021, a Problem Committee Meeting (PCM) was held to discuss issues related to the broken bolts found in two different TriO kits. More specifically, the investigation centered around failure of a connection from the shock hoop to the pivot plate, which caused the unit to become inoperable or fail while in motion.

On September 20, 2021, a follow-up PCM was held, and it was discovered that the majority of kits in inventory (SN 000124 – 000320) have the 1.0” bolt. It is still unknown whether or not the 1.25 inch bolt is adequate, but more information is being gathered. Since the above indicated there were validated concerns about the larger population, and there is no known advance warning to the vehicle operator of the failure, the PCM group voted to present this as a recall candidate and recommended a “yes” vote. On September 24, 2021, Leadership accepted the recommendation with a majority vote and declared a voluntary safety recall.

Description of Remedy :

Description of Remedy Program :	Owners will be notified by mail and instructed to contact Arcimoto, or their dealer, to have remedy performed at no charge. Owners will be asked to bring their vehicle to Arcimoto to have their equipment inspected and re-worked to ensure lockthread is present and to have the bolts torqued to the appropriate ft/lbs of torque.
How Remedy Component Differs from Recalled Component :	The previous bolts used on the failing equipment showed that they were installed with the improper torque and improper lockthread on the bolts. The remedy will ensure that the equipment is inspected and that proper torque and lockthread are used.
Identify How/When Recall Condition was Corrected in Production :	Tilting Motor Works Inc as part of the asset sale to Arcimoto Inc ceased production of new units on February 4, 2021. Arcimoto Inc has informed Tilting Motor Works Inc that production of this product was suspended on September 24th 2021. Production of this product was suspended on September 24th 2021 pending determination of a corrective action. With the root cause being discovered and using high accelerated testing to ensure that the new specifications will correct the defect. Production will begin 11/18/2021

Recall Schedule :

Description of Recall Schedule :	Notification dates will be dependent upon the development of the remedy and will be updated once there is further information.
Planned Dealer Notification Date :	NOV 22, 2021 - NOV 29, 2021
Planned Owner Notification Date :	NOV 22, 2021 - NOV 29, 2021

Purchaser Information :

The following manufacturers purchased this defective/noncompliant equipment for possible use or installation in new motor vehicles or new items of motor vehicle equipment:

Name :	NR
Address :	NR
	NR
Country :	NR
Company Phone :	NR

* NR - Not Reported