

# Part 573 Safety Recall Report

# 22V-561

**Manufacturer Name :** E-One Incorporated**Submission Date :** AUG 01, 2022**NHTSA Recall No. :** 22V-561**Manufacturer Recall No. :** NR**Manufacturer Information :**

Manufacturer Name : E-One Incorporated

Address : 1601 S.W. 37TH AVENUE

Ocala FL 34474

Company phone : (904) 237-1122

**Population :**

Number of potentially involved : 196

Estimated percentage with defect : 1 %

**Vehicle Information :**

Vehicle 1 : 2021-2022 E-ONE Cyclone 2, Cyclone N, Quest 2, Typhoon, Typhoon N

Vehicle Type : BUSES, MEDIUM &amp; HEAVY VEHICLES

Body Style : OTHER

Power Train : DIESEL

**Descriptive Information :** A small number of steering gears were assembled without the required number of recirculating balls. The recall population was determined by identifying the oldest production lot associated with a gear failure and including all production from that lot to the date in February 2022 when the improvements in the assembly processes were instituted.

QTY: 26 – 2021 Cyclone 2 vehicles are affected

QTY: 19 – 2022 Cyclone 2 vehicles are affected

QTY: 25 – 2021 Cyclone N vehicles are affected

QTY: 19 – 2022 Cyclone 2 vehicles are affected

QTY: 1 – 2021 Quest 2 vehicle is affected

QTY: 12 – 2021 Typhoon vehicles are affected

QTY: 2 – 2022 Typhoon vehicles are affected

QTY: 73 – 2021 Typhoon N vehicles are affected

QTY: 19 – 2022 Typhoon N vehicles are affected

Production Dates : JUN 15, 2021 - JUL 25, 2022

VIN Range 1 : Begin : 4EN3AAA84M1004086 End : 4ENPAAA81N1004632  Not sequential**Description of Defect :**

**Description of the Defect :** Steering gear was assembled with fewer than the required number of recirculating balls which can lead to a fracture in the steering gear worm-shaft and loss of vehicle steering.

FMVSS 1 : NR

FMVSS 2 : NR

**Description of the Safety Risk :** A steering gear with fewer than the required number of recirculating balls may bind when loads are applied. In some cases, the balls may align on the same side of the gear's worm-shaft and concentrated loads may cause the gear's internal parts to fracture resulting in loss of vehicle steering. Loss of steering increases the likelihood of a crash.

**Description of the Cause :** An anomaly in the steering gear recirculating ball insertion operation occurred during assembly. Subsequent rework processes and inspections did not detect the missing recirculating balls.

**Identification of Any Warning that can Occur :** Preceding the internal fracture, the steering may be perceived as strained by the driver. No audible or visual warning is available.

## Involved Components :

**Component Name 1 :** Steering Gear

**Component Description :** Steering Gear

**Component Part Number :** M110P

## Supplier Identification :

### Component Manufacturer

**Name :** R.H. Sheppard Co., Inc.

**Address :** 101 Philadelphia Street

P.O. Box 877 Hanover Pennsylvania 17331-0877

**Country :** United States

## Chronology :

2/8/22-Sheppard warranty lab receives a gear built 8/20/2021 with failed worm-shaft.

2/9/22 - warranty lab inspection/disassembly indicates fracture of the worm-shaft and less than the required number of recirculating balls.

2/10/22-plant stops production. Additional inspections and process verifications put in place. Clean point is established. Material on hand is inspected and confirmed defect free. Production resumes. (2/10/22 - 5/13/22): review of all warranty from 2015-present indicated no similar failure ever received. engineering tests are performed to understand and to reproduce failure mode.

3/10/2022 - Sheppard contacted vehicle driver for description of event and confirmed no accident or injury, low speed and while backing up.

4/12/22 - Sheppard receives a second gear at incoming shipping facility

5/5/22- Sheppard warranty lab receives/inspects/disassembles the second gear built on 6/26/21 with failed worm-shaft and less than the required number of recirculating balls.  
5/6/22- The Product Integrity Committee meets for update on the product investigation.  
5/13/22 - The Product Integrity Committee meets and recommends submission of a defect report 573.  
7/18/22 – REV Group was notified on Sheppard’s recall 22E-047 and began gathering the necessary information and approval to conduct a pass-through recall.  
7/26/22 – REV Group informed E-ONE to proceed with filing the Recall

## Description of Remedy :

**Description of Remedy Program :** Purchasers will identify the unique serial number imprinted on the recalled equipment. A web-based tool is available after August 1, 2022, to vehicle manufactures and their service networks to classify the serial number. Serial numbers will be classified as either suspect and must be replaced or as not suspect and may remain in service. Sheppard assumes cost burden for the remedy being performed. The estimated time of repair is 4 hours.

**How Remedy Component Differs from Recalled Component :** The remedy component was assembled after the recall condition was corrected in production when additional controls were put in place. The remedy component has been verified to have the correct number of recirculating balls. Each remedy component is identifiable by an imprinted unique serial number.

**Identify How/When Recall Condition was Corrected in Production :** At RH Sheppard, On Feb 10, 2022, the recirculating ball insertion process control was enhanced. Additional process controls and inspectors were added to the process to verify that the correct number of recirculating balls in each steering gear.

At E-ONE, all trucks have been prevented from shipping, awaiting the activation of the web-based tool that RH Sheppard states will be available after 8/1/2022. Once the web-based tool is available, all serial numbers will be checked to see if the specific unit is affected. If it is affected, the truck will be Red Tagged to prevent shipping until the steering gear is replaced. All inventory has been placed in Red Tag and will also be verified using the web-based tool.

## Recall Schedule :

**Description of Recall Schedule :** 1) Email dealers a copy of the recall approximately 1 week before customers.  
2) Mail customers the recall

**Planned Dealer Notification Date :** AUG 15, 2022 - AUG 22, 2022

Planned Owner Notification Date : AUG 29, 2022 - SEP 05, 2022

\* NR - Not Reported