



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE 15-007
Date Opened: 02/27/2015
Investigator: Nate Seymour
Approver: Otto Matheke
Subject: LCI RV Entry Step Failures

Date Closed: 10/19/2015
Reviewer: Bruce York-B

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: Lippert Components, Inc.
Products: 2007-2014 LCI RV Three Step Electric Powered Entry Steps
Population: 47,340

Problem Description: The vehicle entry steps may unexpectedly fail in a manner that causes a loss of balance and increases the risk of personal injury.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	4	42	43**
Crashes/Fires:	0	0	0
Injury Incidents:	1	4	5
Number of Injuries:	1	4	5
Fatality Incidents:	0	0	0
Other*:	0	505	505

*Description of Other: Warranty claims for bolt failure/replacement

** Total eliminates duplicates received by ODI and manufacturer.

ACTION / SUMMARY INFORMATION

Action: This investigation is closed. See Recall 15E-007.

Summary:

The Office of Defects Investigation (ODI) opened this investigation based on four Vehicle Owner Questionnaires (VOQ). The VOQs report failures of the motorized entry steps used on some recreational vehicles. When extended the steps reach out and down from the vehicle. In the retracted position the step platforms are stacked on top of each other in a compact package under the vehicle body. The gear used to actuate the steps can separate from the actuation motor allowing the steps to unintentionally extend or retract in an uncontrolled fashion. ODI was aware of one injury event prior to opening the investigation. An additional four injuries were reported to Lippert Controls Inc. (LCI) during the investigation.

An Information Request Letter (IR) was sent to LCI in order to gather detailed information about the alleged defect. ODI analyzed the IR response data, simulated the failure on an exemplar set of stairs, and inspected broken parts. Complaint and warranty data indicated that the alleged defect was occurring at a significant rate. Constructing a test stand and recreating the failure mode clearly demonstrated the safety consequence of a separated drive gear. Extended steps with a separated drive gear retract when a vertical force is applied to the step. This retraction can capture an individual's foot or ankle as they ascend or descend the steps. Such an action can cause the individual to fall more than three feet to the ground. After analyzing the failure mode, the Vehicle Research and Test Center (VRTC) suggested that the center drive gear bolt appeared to fail from a bending moment. Several conditions might contribute to this type of failure. LCI reported no design changes during the production of the subject components including the drive gear bolt. Through testing, LCI attempted to determine the root cause of the gear bolt failures, but voluntarily recalled the subject components prior to completing this testing and making this determination.

This investigation is closed because recall 15E-007 addresses the alleged safety defect.

The ODI reports cited above can be reviewed at:

<http://www-odi.nhtsa.dot.gov/owners/SearchNHTSAID> under the following complaint identification numbers:10537821, 10605447, 10684011, 10684277