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San Fernando, CA 91340

14E-041  
(5 pages)

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July 14, 2014

**RECEIVED**

*By Recall Management Division at 9:56 am, Jul 16, 2014*

Ms. Nancy Lewis  
Associate Administrator for Enforcement  
National Highway Traffic Safety Administration  
Attention: Recall Management Division, NVS-215  
1200 New Jersey Ave., SE  
Washington D.C. 20590

Subject: Part 573 Defect Report – Occurrence of Fatigue Cracks in Certain S-Series Wheelchair Lifts

Reference: Ricon S-Series Platform Lifts

Dear Ms. Lewis:

On July 8<sup>th</sup>, 2014, Ricon Corporation decided that a defect which relates to motor vehicle safety exists in items of motor vehicle equipment listed below, and is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 – Defect and Noncompliance Reports.

This report was prepared on July 10, 2014.

1. The full name of the fabricating manufacturer is:  
Ricon Corporation, A Wabtec Subsidiary  
1135 Aviation Place  
San Fernando, CA 91340

The corporate official who prepared this report and whom the agency should contact with respect to this recall is the undersigned, and may be reached at the above address and telephone and email listed below

Respectfully Submitted,

Stanton D. Saucier, PE  
Vice President – Marketing and Product Planning  
Ricon Corp.  
A Wabtec Company  
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Enclosure: Part 573 Recall Report – Occurrence of Fatigue Cracks in Certain S-Series Wheelchair Lifts



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## **Part 573 Defect and Noncompliance Report**

### **I and II - Identify the Recalled Items of Equipment and the Recall Population**

**2. Identify the Items of Equipment Involved in this Recall:**

Ricon Public Use,"S" 2000 and 5500 Series lifts equipped with platforms measuring 32"x51" and 34"x54" used in vehicles produced on truck chassis vehicles<sup>(1)</sup>

The affected population is comprised of six (6) primary model numbers:

S2005-XXXXXXXX
S2010-XXXXXXXX
S5005-XXXXXXXX
S5010-XXXXXXXX
S5505-XXXXXXXX
S5510-XXXXXXXX

(1) Used in vehicles produced on medium heavy duty school bus/truck chassis such as but not necessarily limited to the Freightliner C2/M2 and Navistar 3800.

3. **Identify the Recall Population:** All lifts of the aforementioned models manufactured after January 1, 2006. The total number of lifts being recalled is approximately 10,000.
4. **Approximate percentage of total wheelchair lifts estimated to actually contain the defect or noncompliance:**  
Approximately 7% of the referenced population.

### **III. Describe the Defect**

**5. Describe the defect:**

In vehicles of the type referenced above, the platforms included on the subject S-Series model wheelchair lifts can exhibit cracking of the platform side plate while in the stowed position which, if left unchecked, can propagate to the point where separation of the rear portion of the side plate occurs rendering the lift potentially inoperable and possibly unsafe for the operator.

**Describe the cause(s) of the defect:**

Though the root cause is not known, analysis of failed components indicates the aforementioned cracks are the result of high load, low cycle fatigue occurring in the stowed position. Ricon believes that the excitation frequency found in vehicles of the type referenced above combined with a variety of other factors including but not necessarily limited to a drifting hydraulic system, a poorly adjusted or non-functional stow lock, bent vertical arms and/or a low hydraulic fluid level precipitate the conditions under which the lift side plates may crack.



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**Describe the consequence(s) of the defect:**

In the event the aforementioned crack occurs on both sides of the platform and is allowed to propagate to the point of material separation on both sides it is possible for the lift platform to lean against the vehicle lift door(s) and fall out of the vehicle when the door(s) is opened putting the lift operator at risk.

It is not believed that cracking of the platform side plate poses a safety hazard for lift occupants. Field observations indicate that the subject failure is precipitated by cracking that propagates from the bottom of the stowed platform. When the lift is deployed and loaded normally, the load experienced by the area adjacent to the point of crack initiation is primarily compressive. Accordingly, the crack will not propagate when the platform is loaded. Moreover, in the event the crack propagates all the way through the compressive zone and into the tensile zone, the amount of material loaded in tension required to support the rated load on the platform is less than 10% of the total height of the side plate.

Further, as the construction of the joint between the side plate and the vertical arm is redundant (present on both sides of the lift). A complete separation of the side plate on one side of the lift does not result in a catastrophic failure of the platform.

Given the aforementioned, it is believed that separation is considerably more likely to occur while the platform is stowed than during normal operation. Ricon believes that the aforementioned mechanism accounts for why there have been no reported failures of occupied platforms.

**Identify any warning which can (a) precede or (b) occur:**

Cracks are visible and can be detected during routine checks outlined in the maintenance manual.

In the event separation occurs on one side of the platform, the platform will sag to one side increasing the likelihood that the issue will be perceived by the operator. Moreover, in the unlikely event that the operator does not notice the separation when the unit is deployed, the separated side will most likely not operate properly upon stow causing the unit to jam.

In the event separation occurs on both sides and the lift platform leans inboard against the interlocked occupant restraint belt and will not deploy.

In the event separation occurs on both sides and the lift platform leans outboard against the door, it will likely bounce against the door causing abnormal noise detectable by the driver.

**If the defect is in a component or assembly purchased from a supplier, identify the supplier by corporate name and address.**

Not applicable



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**Identify the name and title of the chief executive officer or knowledgeable representative of the supplier:**

Not applicable

#### **IV. Provide the Chronology in Determining the Defect/Noncompliance**

- 6. With respect to a defect, furnish a chronological summary (including dates) of all the principle events that were the basis for the determination of the defect. The summary should include, but not be limited to, the number of reports, accidents, injuries, fatalities, and warranty claims.**

On March 24, 2014, a Thomas Built, Conventional School bus built on a Freightliner C2 chassis and operated by First Student, Inc. in Independence, Baltimore, MD, experienced cracking on both sides of the platform as outlined above. The cracks went undetected such that they had propagated to the point of separation on both sides. Though neither damage to the vehicle nor injuries to passengers were reported, the vehicle operator reported that the lift platform had dropped against the door such that it would fall to the ground if the door were opened.

On May 7, 2014, the incident was reported to Ricon.

In mid May 2014, Ricon undertook an investigation into the aforementioned incident at First Student that involved the review of warranty claim data, informal interviews with Ricon field personnel and follow-up on alleged past incidents to verify pertinent data.

On June 23, an initial review of the findings led Ricon to publish a Service Bulletin outlining the subject issue and a proposed corrective action. Correspondingly, the investigation results and associated Service Bulletin were shared with NHTSA's Office of Defect Investigation.

On July 2, Ricon reopened its investigation of the matter.

On July 8, Ricon made the decision to file a Defect Report under 49 CFR Part 573.

- 7. With respect to a noncompliance, identify and provide the test results or other data (in chronological order and including dates) on which the noncompliance was determined.**

Not applicable

#### **V. Identify the Remedy**

- 8. Furnish a description of the manufacturer's remedy for the defect or noncompliance. Clearly describe the differences between the recall condition and the remedy.**

Ricon will supply a supplemental platform support bumper kit at no charge. The bumpers are fitted to the upper parallel arms and engage the sides of the platform when it is fully stowed. By limiting the amplitude through which the platform is allowed to oscillate, the



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load transferred through the structure at the pivot plate is significantly reduced such that mechanism that precipitates the cracks cannot occur.

Any platforms wherein a crack has begun to propagate, Ricon will replace the platform.

**Clearly describe the distinguishing characteristics of the remedy component/assembly versus the recalled component/assembly.**

- a. Any unit in the field that is not cracked is acceptable to use. The aforementioned bumper kit is recommended to ensure that the platform pivot plates do not crack in the future.

**Identify and describe how and when the recall condition was corrected in production. If the production remedy was identical to the recall remedy in the field, so state; If the product was discontinued, so state.**

Platforms on new construction will be made from higher strength steel and will not require the bumper kit.

## **VI. Identify the Recall Schedule**

**Furnish a schedule or agenda (with specific dates) for notification to other manufacturers, dealers/retailer, and purchasers. Please identify any foreseeable problems with implementing the recall.**

Ricon Corporation anticipates the recall campaign will begin on July 25, 2014 with the notification of vehicle manufacturers. Customers will be notified of their responsibilities in coordinating the campaign and making remedies to the recall population by the end of August, 2014.

## **VII. Furnish Recall Communications**

### **9. Furnish Recall Communications:**

To be provided to NHTSA for review and approval next week