Ricon
A Wabtec subsidiary

Ricon Corporation
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June 21, 2019

Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
West Building, 41-304
Washington D.C. 20590

Re: Petition for Inconsequential Noncompliance
Recall No. 19E-038

To Whom It May Concern:

Pursuant to 49 U.S.C. § 30118(d) and 49 C.F.R. Part 556, enclosed please find the petition for inconsequential noncompliance of Ricon Corp. related to provisions of FMVSS 403.
Please contact me with any questions.

Sincerely,

Cecilia M. Cheng, P.E.
Director of Engineering
Ricon Corporation
A Wabtec Company

E819-002410

safercar.gov
U.S. Department of Transportation

Ricon Corporation

Equipment Report

Transaction ID: 19-002702-22743-10 (Original Report)

Required fields indicated with *

Manufacturer: Ricon Corporation

1135 Aviation Place
San Fernando CA 91340-1460

Cecilia Cheng Director of Engineering
(818) 267-3000,

This is a Noncompliance Report. Filing a petition pursuant to 49 CFR 556

Equipment Information

Ricon S&K Series Classic Various see attached

* **Brand/Trade:** Ricon
* **Model:** S&K Series Classic

Production Dates Begin: 10/02/2012
End: 05/24/2019

* **Part No.:** Various see attached
Size: Various see attached

Function:
Wheelchair Lift

Descriptive Information:
Ricon S&K Series Classic Model Wheelchair Lifts produced between October 2, 2012 and May 24, 2019. The recall population includes all units of these models beginning with the effective date of the inner roll stop interlock requirements in FMVSS 403, October 2, 2012, until a production stop was implemented on May 24, 2019.

Ricon S&K Series Classic Model RIK1132VG00100100

* **Brand/Trade:** Ricon
* **Model:** S&K Series Classic Model

Production Dates Begin: 10/02/2012
End: 05/24/2019

* **Part No.:** RIK1132VG00100100
Size:

Function:
Wheelchair Lift

Descriptive Information:
Ricon S&K Series Classic Model Wheelchair Lifts produced between October 2, 2012 and May 24, 2019. The recall population includes all units of these models beginning with the effective date of the inner roll stop interlock requirements in FMVSS 403, October 2, 2012, until a production stop was implemented on May 24, 2019.

Number potentially involved: 20862 **Estimated percentage of involved with defect:** 100%

Defect / Noncompliance Description

For this Defect/Noncompliance:

* **Describe the defect or noncompliance:**
If one or both front wheels of the wheel chair test device are placed in certain locations on the inner roll stop nearest the hinge axis, the inner roll stop may deploy when occupied and the platform may move more than the allowed distance of ½" per the standard. As such, the inner roll stop may not conform to FMVSS 403, S6,10.2.4 and S6.10.2.7 based on the test procedure in S7.6.1.

If a noncompliance, provide the applicable FMVSS:
403 - Platform lift systems

If applicable, provide any further FMVSS affected:

Describe the cause:
When tested in accordance with the FMVSS 403 test procedure (with the wheel chair test device oriented facing the vehicle) and when one or both front wheels are placed in locations nearest the hinge axis, there may be insufficient force to activate the inner barrier interlock.

* **Describe the safety risk:**
In normal foreseeable use and outside of the wheelchair test device loading process contained in FMVSS 403, there is no safety risk. In order for the platform to perform as described above, the wheelchair would have to be loaded or unloaded from the lift with the wheelchair facing the vehicle which is inconsistent with the proper operation of the lift, industry practice and contrary to information provided in Ricon's operator's manuals. When the wheelchair is loaded facing away from the vehicle, the inner roll stop and platform meet the requirements of FMVSS 403.

Identify any warning which can precede or occur:
None

This Recall affects all vehicles.

If applicable, identify the manufacturer of the defective or noncompliant component. If the manufacturer of the component is unknown, provide the information for the company that supplied the subject component.

Component manufacturer

Company Information

Company Name:
Country:
Address 1:

Company Contact Information

First Name:
Last Name:
Position:

Address 2:
City:
State:
Zip/Postal Code:
Email:
Phone:

Purchaser Information

Chronology of Defect / Noncompliance Determination

Provide the chronology of events leading up to the defect decision or test data for the noncompliance decision.:
In late November 2018, one of Ricon's OEM customers raised questions about the performance of the inner roll stop in a lift that it was evaluating internally. In the course of the customer's testing, questions were raised about the lift's ability to meet the inner roll stop interlock requirements. Ricon reviewed its internal compliance documentation which indicated that in prior testing the lifts met the requirements of the standard. In late 2018 and early 2019, Ricon continued to gather information from the customer on the processes it used to test the lifts. Ricon also initiated a review to understand the performance of the particular lift that the customer was using for internal evaluation and whether there was a broader quality related concern. From March - April 2019, Ricon conducted a further review of the FMVSS 403 requirements for the inner roll stop interlock, including the means by which Ricon had been conducting testing of the inner roll stop interlock as compared to its customer, Ricon's historic testing as well as its production and internal testing processes. On May 24, 2019, Ricon decided to submit a noncompliance report to address the issue. Ricon will also submit a petition for inconsequential noncompliance given the performance of the lifts in the field and the lack of any safety concern.

Identify the Remedy

Describe the defect/noncompliance remedy program, including the manufacturer's plan for reimbursement.
Petition for inconsequential noncompliance to be submitted.

Describe what distinguishes the remedy component from the recalled component.
New production S and K Series Classic lifts will incorporate a feature that will allow for load sensing on the inner barrier to detect the presence of an occupant when located on any portion of the inner roll stop, including locations nearest the hinge axis.

Identify and describe how and when the recall condition was corrected in production.
A solution is still being developed. All units produced after the non-compliance decision will incorporate the production change.

Identify the Recall Schedule

Describe the recall schedule for notifications.:

Planned Dealer Notification Begin Date:
Planned Dealer Notification End Date:
Planned Owner Notification Begin Date:
Planned Owner Notification End Date:

Manufacturer's identification code for this recall (if applicable):

Please be reminded that owner notification letters must be mailed no more than 60 days from submission of this report.

Manufacturer Comments to NHTSA Staff

Document Upload

There are 1 documents associated with this report.

Ricon Corp. - Petition for Inconsequential Noncompliance

NHTSA Recall 19E-038

I. Introduction.

Ricon Corp. ("Ricon") is a corporation with its principal place of business in San Fernando, California. Since 1971, Ricon has been a manufacturer of wheelchair lifts and ramps for use in commercial vehicles, school buses, paratransit and transit vehicles, motorcoaches and private vehicles. Ricon has manufactured the models of wheelchair lifts discussed in this petition, the S-Series and K-Series Classic lifts for many years and without incident.

Ricon filed noncompliance reports pursuant to 49 U.S.C. § 30118(d) and 49 C.F.R. § 573.6 involving 20,862 S-Series and K-Series Classic Model lifts on June 3, 2019 (the "Classic units") that do not meet the inner roll stop interlock requirements of FMVSS 403 when tested in accordance with the orientation of the wheelchair test device stated in the test procedure. *See* Recall No. 19E-038 (attached). Ricon submits this petition in accordance with the provisions of 49 C.F.R. Part 556. Ricon is currently in the process of validating a production change for the lifts, but has stopped the sale and shipment of all noncompliant product since the filing of its noncompliance report with NHTSA.

Ricon first learned about potential concerns with the performance of its inner roll stop in late November 2018, when one of Ricon's OEM customers raised questions about a lift that it was evaluating internally. Ricon initiated a review to understand the performance of the particular lift that the customer was using for internal evaluation and whether there was a broader quality related concern. Ricon conducted a detailed review of the FMVSS 403 requirements for the inner roll stop interlock, including the means by which Ricon had been conducting its internal certification testing of the inner roll stop interlock, the manner in which Ricon's

customer was conducting such testing and the history, policies and purposes of the interlock provisions of FMVSS 403. Ricon initiated a detailed review and analysis of the standard's requirements for the inner roll stop interlock and associated test provisions. Ricon also considered various inconsistencies in the standard and the manner in which the Classic Lifts operate in the field. Based on this review, on May 24, 2019, Ricon decided to submit a noncompliance report to address the issue along with a petition for inconsequential noncompliance. Despite a technical noncompliance in limited instances of operation when the wheelchair test device is oriented in a specific and unlikely position, as described below, any safety risk presented by the Classic Lifts is inconsequential to motor vehicle safety.

The agency has in the past recognized that noncompliances with the performance of wheelchair lifts that do not result in a real world safety risk and are inconsequential to safety. Consistent with the agency's past decisions, the actual use and performance of the Classic Lifts in the field does not present any significant safety risk. The lack of a real world safety concern is demonstrated by the decades of successful use of the Classic Lifts where the inner roll stop has performed consistently without incident. As Ricon is not aware of any claims or reports that the performance of the inner roll stop potentially caused or contributed to any incident or injury to a platform lift user in the field.

As described below, the performance of the inner roll stop creates an inconsequential risk to safety for multiple reasons. First, the orientation of the wheelchair test device required by the FMVSS 403 test procedure (with the empty wheelchair facing the vehicle) is not representative of the way that occupants exit the vehicle in actual use in most instances so that the condition would not be encountered. Second, there are redundant safety features built into the lifts so that

despite the above, even if the inner roll stop deployed while occupied, there are features in place to preclude occupant injury. Third, in instances where the Classic Lift is installed as a private use lift without an attendant and the lift is operated by the occupant alone, the occupant has been approved as having the physical and mental capability to operate the lift so that if in the unlikely event the inner roll stop were to start to deploy while occupied, the occupant is able to release the momentary switch which will immediately cease the operation of the platform.

II. Inner Roll Stop Requirements Under FMVSS 403

A. Purpose of the Inner Roll Stop

As NHTSA contemplated the adoption of a safety standard for platform lifts, it considered including a requirement for an inner roll stop. As described in the early SNPRM, "inner roll stops are barriers at the transition point between the lift and the vehicle. They are designed to prevent pinching or shearing of an occupant or a wheelchair between the vehicle and the lift platform when the lift moves." *See* 65 Fed. Reg. 46228, 37 (July 27, 2000). NHTSA also indicated that in many cases, the vehicle wall can perform the same protective function as the inner roll stop. The fundamental purpose of an inner roll stop is to prevent the wheelchair or mobility aid occupant from rolling forward and into the gap between the platform and vehicle wall.[1] The foundation of the inner roll stop requirement, including the performance requirements, are derived from Federal Transit Agency (FTA) guidelines which in some instances refer to the Americans with Disabilities Act. *See* Guideline Specifications for Passive

[1] *See* 67 Fed. Reg. 79416, 431 December 27, 2002, (stating the inner roll stop interlock "will prevent injuries resulting from an occupant being crushed or pinched between the lift and the vehicle.")

Lifts, Active Lifts, Wheelchair Ramps and Securement Devices, Federal Transit Administration, September 1992.

In developing the FTA Guidelines, an analysis of the relative safety concerns between the inner roll stop and the outer barrier were considered. While the initial proposal was to impose the same performance requirements for the strength of the inner roll stop and outer barrier, this approach did not ultimately come to pass because it was recognized that in actual use, there were no reports of instances where transit operators reported that the existing inner roll stop did not already meet the safety need. It was also recognized that in situations where a wheelchair occupant ran over inner roll stop or off the inside of a lift, these situations appeared to involve less risk of serious injury. As a result, the requirements for the inner roll stop strength test were intended to be less stringent than those for the outer barrier. *See* FTA Guidelines, pp. 12-13. The inner roll stop in the Classic Lifts is designed to lay flat in order for the lift occupant to easily transition from the platform into the vehicle and vice versa. When the inner barrier is deployed (i.e. raised upright), it prevents the occupant from moving off of the platform edge, consistent with the stated purpose of this feature. Thus, the inner roll stop in the Classic Lifts meets the fundamental safety function that was intended for this aspect of the lift and prevents a wheelchair or mobility device user from rolling forward and into the gap between the lift and the vehicle edge.

The inner roll stop interlock was adopted with the purpose of keeping the lift occupants secure during lift operation. The inner roll stop interlock was intended to prevent vertical movement of the lift unless the inner roll stop had deployed as well as to prevent movement of the inner roll stop if portions were occupied by the user's mobility device. One of the concerns

sought to be addressed by the occupancy interlock provision is preventing injuries that could occur as a result of a wheelchair flipping backwards when the outer barrier started to deploy. The rulemaking describes a transit agency that observed this condition occur when the occupied outer barrier began to deploy. Despite the fact that there were apparently no such reports related to an occupied inner roll stop, the agency nevertheless proposed and adopted a similar interlock on this same basis.[2]

B. FMVSS 403 Language

The language at FMVSS 403, S6.10 sets out a series of interlocks to be included on platform lifts that will be installed in motor vehicles. The purpose of the interlocks is to prevent the movement of various portions of the lift under certain conditions to prevent injury to lift occupants. The current requirement for an inner roll stop interlock consists of two different provisions and provides:

> **S6.10.2** The platform lift system must have interlocks or operate in such a manner when installed pursuant to the installation instructions, as to prevent:
>
> [...]
>
> **S6.10.2.4** Movement of the platform up or down throughout the range of passenger operation, unless the inner roll stop required to comply with S6.4.8 is deployed. When the platform reaches a level where the inner roll stop is designed to fully deploy, the platform must stop unless the inner roll stop has fully deployed. Verification with this requirement is made by performing the test procedure specified in S7.6.1.
>
> **S6.10.2.7** Vertical deployment of the inner roll stop required to comply with S6.4.8 when it is occupied by portions of a passenger's body or mobility aid throughout the lift operations. When the platform stops, the vertical change in distance of the horizontal plane (passing through the point of contact between the wheelchair test device wheel(s)

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[2] *See* 65 Fed. Reg. 46228, 243 (July 27, 2000)

and the upper surface of the inner roll stop or platform edge) must not be greater than 13 mm (0.5 in). Verification of compliance with this requirement is made using the test procedure specified in S7.6.1.

The test procedure for the inner roll stop interlock at S7.6.1 provides:

S7.6.1 Determine compliance with both S6.10.2.4 and S6.10.2.7 by using the single test procedure in S7.6.2 and S7.6.3.

S7.6.2 Maneuver the platform to the vehicle floor level loading position, and position the wheelchair test device specified in S7.1.2 on the platform with the front of the wheelchair test device facing the vehicle. Using the lift control, move the platform down until the inner roll stop fully deploys. Stop the lift and note that location.

S7.6.3 Reposition the platform at the vehicle floor level loading position. Place one front wheel of the wheelchair test device on the inner roll stop. If the platform is too small to maneuver one front wheel on the inner roll stop, two front wheels may be placed on the inner roll stop. Note the vertical distance between a horizontal plane (passing through the point of contact between the wheelchair test device wheel(s) and the upper surface of the inner roll stop) and the ground. Using the lift control, move the platform down until it stops. Compare the location of the platform relative to the location noted in S7.6.2 to determine compliance with S6.10.2.4. Measure the vertical change in distance of the horizontal plane (passing through the point of contact between the wheelchair test device wheel(s) and the upper surface of the inner roll stop) to determine compliance with S6.10.2.7.

III. Description of the Ricon Classic Lifts and Description of the Noncompliance.

Ricon's Classic Lifts move vertically up and down from ground level loading position to the vehicle entry. When an occupant is entering the vehicle from the ground level loading position, the inner roll stop deploys to a vertical position and serves as a barrier to prevent the platform occupant from entering the gap between the platform and the vehicle entryway. When an occupant is exiting the vehicle from the vehicle floor level loading position, the inner roll stop acts as a bridge plate that connects the vehicle entryway to the platform itself and which the occupant traverses to reach the platform. Once the occupant is safely positioned onto the

platform and the operator activates the platform via the pendant control, the inner roll stop deploys (moves to vertical position) and the lift descends.

The inner roll stop interlock strategy for the Classic Lifts is based on detecting the presence of an occupant on the inner roll stop based on sensing weight being added to the platform. The Classic Lift models utilize a microswitch located under a leaf spring which is embedded near the middle of the lift base plate. (See Photo Below).[3] A plastic cover is riveted to the top of the leaf spring. When the plastic cover is depressed and weight is placed on the inner roll stop, the microswitch is activated. When the microswitch is activated, this communicates that an occupant is present on the inner roll stop. In normal operation and consistent with the manner in which the Classic Lifts are used in the field, the inner roll stop will not deploy if it is occupied. This is because the microswitch is triggered from to the weight of the occupant's wheelchair or other mobility device and prevents the inner roll stop from deploying. Once the occupant moves off of the inner roll stop and onto the platform, the weight of the occupant is no longer detected by the microswitch which signals that the inner roll stop is no longer occupied. Once the occupant is positioned appropriate onto the platform, the inner roll stop will fully deploy and the platform will move downwards.

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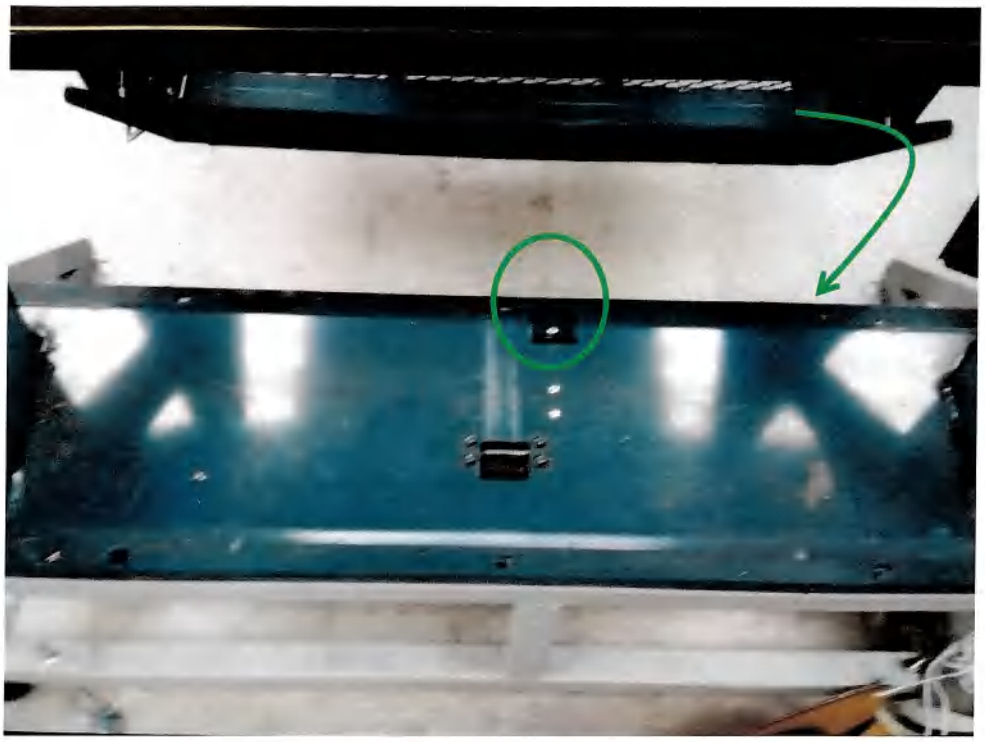
[3] In the photo below, the inner roll stop is deployed (vertical) and will move in the direction of the arrow to connect with the baseplate attached to the vehicle. In this position, the inner roll stop acts as a bridge plate that connects the platform to the vehicle. The microswitch is contained within the circle on the bridge plate.



Ricon determined that its Classic Lifts do not comply with the inner barrier interlock requirements of FMVSS 403, S6.10.2.4 and S6.10.2.7 when tested to the test procedure at S7.6.1. The noncompliance only occurs if any empty and unoccupied wheelchair test device enters the lift from vehicle floor level loading in the backwards direction (with the occupant facing the vehicle). In the Classic Lifts, if one front wheel[4] of the empty wheelchair test device is placed in certain limited locations on the inner roll stop (with the occupant exiting the vehicle backwards), the inner roll stop may deploy when occupied and the platform can travel vertically before the inner roll stop is fully deployed. This occurs because when tested to the test procedure set in the standard, if the front wheel is placed in certain locations relative to the inner roll stop hinges, there is insufficient weight transfer on the inner roll stop to trigger the

[4] In certain instances, if both front wheels are placed on the inner roll stop in the same unloading orientation, the inner roll stop may begin to deploy.

microswitch. This occurrence arises only when the occupant enters the lift from vehicle floor loading position by entering the platform backwards (with the occupant facing the vehicle). While this occupant unloading orientation is provided in the standard, in actual use, this orientation does not generally occur.

IV. Analysis and Argument.

From its inception, the Safety Act has included a provision recognizing that some noncompliances may pose little or no safety risk. In applying this recognition to particular fact situations, the agency considers whether the noncompliance gives rise to "a significantly greater risk than . . . in a compliant vehicle [or item of equipment]." 69 Fed. Reg. 19897, 900 (April 14, 2000). The Classic Lifts similarly fall into this category of noncompliances that poses little or no safety risk whatsoever. This principle is borne out not only by Ricon's unblemished field history in this respect, but also by the manner in which the Classic Lifts are used and their redundant safety features described below.

A. The Occupant Unloading Orientation in the Test Procedure Does Not Represent Real World Use.

For public use lifts, Ricon's operator instructions (and the industry standard practice) instructs that an occupant is to exit the vehicle from vehicle floor loading level facing frontwards, not backwards per the test procedure. In this orientation, the occupant is facing away from the vehicle and is able to view his/her surroundings on the street or parking lot. In this configuration, the inner roll stop for the Classic Lifts performs as designed. When disembarking

the vehicle consistent with Ricon's operator instructions, and consistent with the manner in which occupants regularly exit the vehicle,[5] the microswitch is triggered consistently regardless of the placement of the wheelchair because there is always sufficient weight distribution from the mobility device to the microswitch. The loading and unloading direction in the test procedure is not consistent with real world application or use and is not consistent with industry practice or the way that Ricon (or its competitors)[6] instruct that the lifts should be used. As such, in real world operation, there is no safety risk presented.

The position of the wheelchair test device specified in the FMVSS 403 test procedure is inconsistent with the actual use of the lifts and therefore, in actual use, no real world safety risk is presented. The test procedure provides that the platform should be maneuvered to vehicle floor level loading position and the wheelchair test device should be placed on the platform with only one front wheel of the wheelchair test device facing the vehicle. *See* FMVSS 403, S7.6.2. This instruction is contrary to the instructions provided in the Ricon operator's manual instructions and contrary to industry practice. For public use lifts, the standard industry practice

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[5] The reason why loading with the occupant's back to the vehicle is the standard practice is that it is designed to prevent injury to the occupant's lower extremities and feet.

[6] In the pictorials on their websites, competitors also promote that the appropriate way to enter and exit the platform lift is facing away from the vehicle. *See e.g.* https://www.braunability.com/us/en/commercial/wheelchair-lift-product-applications/school-buses.html (lifts installed on school buses), https://www.braunability.com/us/en/commercial/wheelchair-lift-product-applications/paratransit.html (lifts installed on paratransit vans and cutaway buses). Competitors also indicate in their operator's manuals that the appropriate way to enter and exit the lift is facing away from the vehicle and so that the weight of the rear wheels of the wheelchair or mobility device is located on the inner roll stop. *See* Owner's Manual, Braun ULV Series Lifts, page 9 "Face outward and lock wheelchair brakes before operating lift." "Passenger Orientation (Boarding Direction): Inboard facing of wheelchair passengers is not prohibited, but outboard facing of passengers is recommended by The Braun Corporation. Passengers loading from ground level should back onto the platform. Passengers loading from floor level should proceed onto the platform facing outward (outward from the vehicle)." *See also,* Owner's Manual for Maxon WL7 Series Public Use Lift, page 5, "MAXON recommends positioning the wheelchair so most of the weight is by the inboard rollstop (see illustration below)."

is to load and unload occupants with mobility devices rearward, facing away from the vehicle and with their back to the vehicle.[7] Significantly, NHTSA's own literature is consistent with Ricon's approach and states that wheelchair occupants should be loaded and unloaded facing away from the vehicle.[8]

As written, the instructions in the test procedure are inconsistent with the industry standard and Ricon's operator's manual for public use lifts.[9] An excerpt from the operator's manual for the private use Classic Lifts which describes how an occupant should board the lift is provided below with the relevant portions highlighted.[10]

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[7] *See Best Practices for Loading and Unloading Wheelchair Students* ("**back the student onto the platform** and set the brakes on the chair. Secure the wheelchair with the student facing outward (back to the bus), so he doesn't risk pinning his feet beneath the bus as the lift goes up.") https://www.schoolbusfleet.com/article/610156/best-practices-for-loading-and-unloading-wheelchair-students (last accessed, June 18, 2019), *Michigan Department of Transportation*, ("For safety, the wheelchair passenger should **face away from the vehicle** when using the lift.") https://www.michigan.gov/documents/mdot/RR564Univ_19_Part_2_546827_7.pdf (last accessed, June 18, 2019),

[8] *See School Bus Driver In-Service Safety-Series, Transporting Students with Special Needs, Loading and Unloading*, "Back the student onto the lift. **Always face the student away from the school bus.**" https://one.nhtsa.gov/people/injury/buses/UpdatedWeb/topic_9/handout6.html emphasis added (last accessed, June 18, 2019).

[9] In response to a comment from a manufacturer during the FMVSS 403 rulemaking about inconsistent loading direction in the manufacturer's operator manual and the test procedure, NHTSA concluded that since the ADA does not apply to private use lifts, the loading requirements were not inconsistent with the ADA. The agency did not, however, address that same concern as it applied to public use lifts and thus it remains an open point that was not addressed through the rulemaking process. *See* 67 Fed. Reg. 79416, 26 (December 27, 2002).

[10] The same language exists in the relevant excerpt for Ricon's K-Series Classic Lift.

II. S-SERIES® PERSONAL USE OPERATING INSTRUCTIONS

This chapter contains safety precautions, daily safety check instructions, control and indicator descriptions and operating instructions for the RICON S-Series® Personal Use Wheelchair Lift. This chapter must be thoroughly understood by operator before attempting to use lift.

A. SAFETY PRECAUTIONS

The following safety precautions must be complied with at all times when operating lift:

- Refer to **Figure 2-1**. Deploying the lift when vehicle is on sloped ground is hazardous. Operate lift with vehicle parked on level ground.

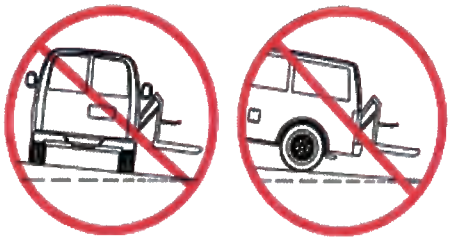

FIGURE 2-1: SLOPED PARKING HAZARD

- Vehicle must be safely parked with parking brake set before using lift.
- Inspect lift before use. Do not use lift if an unsafe condition exists, or unusual noises or movements are noticed, and contact a Ricon dealer or qualified service technician for repair.
- Read and comply with all warning labels and symbols affixed to wheelchair lift.
- Refer to Figure **2-2**. Wheelchair occupant must face outward on platform when entering or exiting vehicle. Due to variations in the size and configuration of mobility aids, for maximum safety, Ricon requires that passengers always face outward when riding the lift platform.

FIGURE 2-2: ALWAYS FACE OUTBOARD WHEN RIDING ON THE LIFT PLATFORM

- It is never safe for a wheelchair occupant to exit a vehicle facing inboard. It is not safe to rely on a threshold warning device (audible or other) to confirm that it is safe to exit vehicle while facing inboard. Exiting the vehicle while facing outboard allows for visual confirmation that the lift platform has been raised in the event that the threshold warning device is inoperative or unheard and prevents the occupant from exiting the vehicle backwards when the platform is still on the ground.
- When exiting vehicle, verify that platform is at same height as floor and front rollstop is up and locked.

Similar instructions on passenger orientation are provided for the public use version of the Classic Lifts:

II. S-SERIES® ADA TRANSIT USE OPERATING INSTRUCTIONS

This chapter contains safety precautions, daily safety check instructions, control and indicator descriptions, and operating instructions for the RICON S-Series® (ADA) Transit Use Wheelchair and Standee Lift with Manual Rollstop. This chapter must be thoroughly understood by operator before attempting to use lift.

A. SAFETY PRECAUTIONS

Comply with the following safety precautions when operating lift:

- Refer to **Figure 2-1**. Deploying lift when vehicle is on sloped ground is hazardous. Always operate lift with vehicle parked on level ground

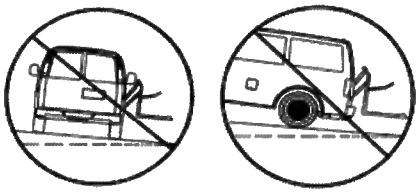

FIGURE 2-1: DO NOT DEPLOY LIFT WHEN VEHICLE IS ON SLOPED GROUND

- Vehicle must be safely parked with parking brake ON before using lift.
- Inspect lift prior to each use. DO NOT use if any unsafe condition exists or unusual noises or movements are noticed. Contact a Ricon dealer or qualified service technician for repair.
- Read and comply with all warning labels and symbols affixed to wheelchair lift.
- Refer to Figure 2-2. Due to variations in the size and configuration of mobility aids, for maximum safety, Ricon recommends that passengers always face outward when riding the lift platform.

FIGURE 2-2: RICON RECOMMENDS PASSENGERS FACE OUTBOARD WHEN RIDING LIFT PLATFORM

- It is never safe for a wheelchair occupant to exit a vehicle facing inboard. It is not safe to rely on a threshold warning device (audible or other) to confirm that it is safe to exit vehicle while facing inboard. Exiting the vehicle while facing outboard allows for visual confirmation that the lift platform has been raised in the event that the threshold warning device is inoperative or unheard and prevents the occupant from exiting the vehicle backwards when the platform is still on the ground.
- When exiting vehicle, verify that platform is at same height as floor and front rollstop is up and locked.

To complement the operating instructions, Ricon applies decals on the vertical arms of the lift to remind the lift operator and reinforce the correct means to load and unload an occupant onto the lift. Representative copies are provided below.

B. The Classic Lifts Incorporate Redundant Safety Features.

For public use lifts, assuming the user exited the vehicle backwards per the test procedure, if the inner roll stop began to deploy there are redundant safety features that would preclude any injury. All of the Classic Lifts have an outer barrier that will remain deployed (in the vertical position) until the lift reaches the ground level unloading position. Because the outer barrier remains vertical throughout the entire lift operation, there is no risk that the occupant could roll backwards and off of the lift itself. In addition, on all public use lifts there is a belt retention device which acts as another redundant safety feature. The belt retention device would also restrain an occupant safely on the lift should the inner barrier begin to deploy while occupied and the handrails on the sides of the lift will prevent any tipping from the sides. The environment in which these lifts are used also diminishes any potential risk to safety. When the Classic Lifts operate as a public use lifts, there will always be a lift attendant present to monitor the lift to ensure the occupant enters and exits the lift safely and is properly positioned on the platform before activating the lift. When the lift attendant is correctly monitoring the lift occupant, as they should, even if the occupant were to exit the vehicle by backing onto the lift, if

the inner roll stop did begin to deploy while it was occupied the lift attendant can quickly stop lift operation.

While Classic Lifts used as private use lifts may not have the retention belt in all instances, if a passenger who is also the operator of the private use lift were to disembark the vehicle backwards and remain partially on the inner roll stop, the operator/passenger would simply need to release the momentary switch on the control pendant to automatically and immediately stop the operation of the lift. Because the control pendant utilizes a momentary switch, as soon as the individual releases the activation button the lift ceases operation.[11] In this situation, and despite all of the other factors which are necessary to create the condition in the first place, an operator/passenger can immediately prevent further movement of the inner roll stop. Private use lifts without a retention belt still have an operable outer barrier and handrails for protection. In addition, consistent with FMVSS 403, the private use lifts all have operating instructions near the lift controls and in the vehicle owner's manual, "that contain a warning that wheelchairs should back onto the platform when entering from the ground."[12]

V. NHTSA Has Previously Granted Petitions Where Wheelchair Lifts Did Not Meet the Performance Requirements of FMVSS 403.

The agency has granted inconsequentiality petitions where the manufacturer has not met the performance requirements of FMVSS 403, finding that the noncompliance did not pose an

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[11] Further, in a situation where a private use lift occupant is its sole operator (i.e. no lift attendant), the operator has undergone a medical assessment that includes a clinical evaluation of physical, visual and cognitive skills to confirm that the individual has the functional abilities to operate a motor vehicle and the attendant equipment on his/her own.

[12] *See* FMVSS 403, 6.4.8.2. This requirement also suggests that the agency is aware that the standard manner for entering/exiting the lift is in fact with the occupant facing away from the vehicle.

increased risk to safety as the lift is used in the real world. The performance of Ricon's platform lifts are consistent with this precedent.

For example, the agency granted a petition submitted by Braun where the lift handrails did not meet the values for deflection force stated in FMVSS 403. The agency recognized that while the handrails collapsed and did not meet the displacement requirement, they did not do so catastrophically. The agency explained the failure "would not cause the passenger to become unstable, adversely interact with the vehicle, or pose a safety concerns that the handrail requirements were intended to address" and that its concern in instituting the deflection force requirement was the possibility of a catastrophic failure of the handrails which would expose the occupant to a risk of injury. In granting the petition, the agency not only "anticipated that future tests will specify placement and direction of forces that will be more focused to address worst case handrail displacement and real world safety problems," but it also recognized the noncompliance did not "pose a safety concern that the handrail requirements were intended to address." See 72 Fed. Reg. 19754 (April 19, 2007). Thus, the agency has recognized that there are inherent provisions in FMVSS 403 that may not test for the types of safety risks that can arise in actual use and are therefore inconsequential.

As with the agency's finding with the Braun petition, in actual use, the Classic Lifts do not pose a safety risk. This is because the inner barrier interlock would sense the presence of the rear wheels of the wheelchair occupant who is loaded and unloaded facing away from the vehicle. The heavier weight of the rear wheels is picked up by the sensors and the inner barrier interlock is activated. The interlock performance is restricted only under the set up per the test procedure, with the front wheels on the inner roll stop and facing the vehicle.

VI. Conclusion.

Based upon the foregoing data and information, Ricon requests that the agency make a finding that the noncompliance of the Classic Lifts is inconsequential to motor vehicle safety and that Ricon be relieved of its notice and remedy obligations.

Part 573 Safety Recall Report 19E-038

Manufacturer Name : Ricon Corporation
Submission Date : JUN 03, 2019
NHTSA Recall No. : 19E-038
Manufacturer Recall No. : NR

Manufacturer Information :

Manufacturer Name : Ricon Corporation
Address : 1135 Aviation Place
San Fernando CA 91340-1460
Company phone : 818-267-3000

Population :

Number of potentially involved : 20,862
Estimated percentage with defect : 100 %

Equipment Information :

Brand / Trade 1 : Ricon
Model : S&K Series Classic
Part No. : Various see attached
Size : Various see attached
Function : Wheelchair Lift
Descriptive Information : Ricon S&K Series Classic Model Wheelchair Lifts produced between October 2, 2012 and May 24, 2019. The recall population includes all units of these models beginning with the effective date of the inner roll stop interlock requirements in FMVSS 403, October 2, 2012, until a production stop was implemented on May 24, 2019.
Production Dates : OCT 02, 2012 - MAY 24, 2019

Brand / Trade 2 : Ricon
Model : S&K Series Classic Model
Part No. : RIK1132VG00100100
Size : NR
Function : Wheelchair Lift
Descriptive Information : Ricon S&K Series Classic Model Wheelchair Lifts produced between October 2, 2012 and May 24, 2019. The recall population includes all units of these models beginning with the effective date of the inner roll stop interlock requirements in FMVSS 403, October 2, 2012, until a production stop was implemented on May 24, 2019.
Production Dates : OCT 02, 2012 - MAY 24, 2019

Description of Noncompliance :

Description of the Noncompliance :	If one or both front wheels of the wheel chair test device are placed in certain locations on the inner roll stop nearest the hinge axis, the inner roll stop may deploy when occupied and the platform may move more than the allowed distance of ½" per the standard. As such, the inner roll stop may not conform to FMVSS 403, S6,10.2.4 and S6.10.2.7 based on the test procedure in S7.6.1.
FMVSS 1 :	403 - Platform lift systems
FMVSS 2 :	NR
Description of the Safety Risk :	In normal foreseeable use and outside of the wheelchair test device loading process contained in FMVSS 403, there is no safety risk. In order for the platform to perform as described above, the wheelchair would have to be loaded or unloaded from the lift with the wheelchair facing the vehicle which is inconsistent with the proper operation of the lift, industry practice and contrary to information provided in Ricon's operator's manuals. When the wheelchair is loaded facing away from the vehicle, the inner roll stop and platform meet the requirements of FMVSS 403.
Description of the Cause :	When tested in accordance with the FMVSS 403 test procedure (with the wheel chair test device oriented facing the vehicle) and when one or both front wheels are placed in locations nearest the hinge axis, there may be insufficient force to activate the inner barrier interlock.
Identification of Any Warning that can Occur :	None

Supplier Identification :

Component Manufacturer

Name :	NR
Address :	NR
	NR
Country :	NR

Chronology :

In late November 2018, one of Ricon's OEM customers raised questions about the performance of the inner roll stop in a lift that it was evaluating internally. In the course of the customer's testing, questions were raised about the lift's ability to meet the inner roll stop interlock requirements. Ricon reviewed its internal compliance documentation which indicated that in prior testing the lifts met the requirements of the standard. In late 2018 and early 2019, Ricon continued to gather information from the customer on the processes it used to test the lifts. Ricon also initiated a review to understand the performance of the particular lift that the customer was using for internal evaluation and whether there was a broader quality related concern. From March - April 2019, Ricon conducted a further review of the FMVSS 403 requirements for the inner roll stop

interlock, including the means by which Ricon had been conducting testing of the inner roll stop interlock as compared to its customer, Ricon's historic testing as well as its production and internal testing processes. On May 24, 2019, Ricon decided to submit a noncompliance report to address the issue. Ricon will also submit a petition for inconsequential noncompliance given the performance of the lifts in the field and the lack of any safety concern.

Description of Remedy :

Description of Remedy Program :	Petition for inconsequential noncompliance to be submitted.
How Remedy Component Differs from Recalled Component :	New production S and K Series Classic lifts will incorporate a feature that will allow for load sensing on the inner barrier to detect the presence of an occupant when located on any portion of the inner roll stop, including locations nearest the hinge axis.
Identify How/When Recall Condition was Corrected in Production :	A solution is still being developed. All units produced after the non-compliance decision will incorporate the production change.

Recall Schedule :

Description of Recall Schedule :	NR
Planned Dealer Notification Date :	NR - NR
Planned Owner Notification Date :	NR - NR

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