



Ricon®

A Wabtec company

TITANIUM™ LINE
S-SERIES® AND K-SERIES®
DOT – PUBLIC USE LIFTS



-PRINT-

Operator Manual

riconcorp.com

05/15/12

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U.S. Patent Nos: 4,534,450; 5,228,538; 5,308,215; 5,373,915; 5,445,488; 5,605,431; 5,944,473

Australian Patent No: 661127; 687,066 Canadian Patent No: 1,245,603

German and U.K. EP0625896B1

Other U.S. and foreign patents pending.

Printed in the United States of America

This RICON product must be installed and serviced by a Ricon dealer or qualified service technician.

The operator must refer to this manual for operating instructions, then retain it for future reference.

“DOT – Public Use Lift” verifies that this platform lift meets the public use lift requirements of FMVSS no. 403. This lift may be installed on all vehicles appropriate for the size and weight of the lift, but must be installed on buses, school buses, and multi-purpose passenger vehicles other than motor homes with a gross vehicle weight rating (GVWR) that exceeds 10,000 lbs (4,536 kgs).

Customer Information	
Customer name	
Installing dealer	
Date installed	
Serial number	

REVISION RECORD

REV	PAGES	DESCRIPTION OF CHANGE	ECR/ECO
32DSKF01. A		New Release.	

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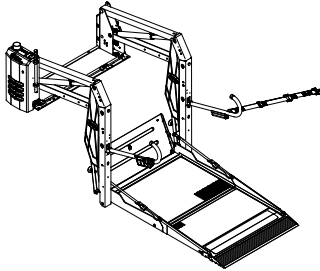
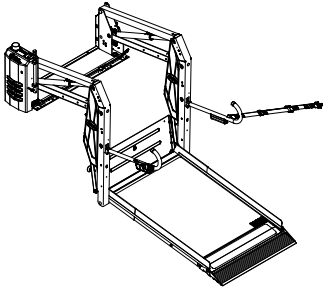
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I. TITANIUM™ LINE S-SERIES® AND K-SERIES® PUBLIC USE LIFTS

The Ricon Titanium™ Line S-Series® and K-Series® Public Use wheelchair lifts provide wheelchair access to public use vehicles including buses, school buses and large multi-purpose vehicles, and are DOT compliant.



The Ricon S-Series® has a solid, one-piece platform that is raised and folded into the vehicle when stowed. The platform on the Ricon K-Series® splits horizontally to reduce overall lift height when stowed. This results in a less obstructed view, either into or out of the vehicle. The mechanical linkages provide smooth movement to both non-skid platforms where the wheelchair and occupant are situated during the "Up" and "Down" lift motions. Ricon

The Ricon Titanium™ Line S-Series® and K-Series® Public Use wheelchair lifts have a rated load capacity of 1,000 pounds, (454) kilograms.

All S-Series and K-Series Public Use wheelchair lifts contain electro-hydraulic pumps with built-in manual backup pumps. If a wheelchair lift loses power, it can be raised or lowered manually.

Trained personnel operate the wheelchair lift by using a durable and water resistant control pendant. The control pendant is used to unfold the platform out from the vehicle (deploy). The operator securely fastens the occupant restraint belt by inserting the belt tongue into the belt buckle and listens for a "click" then "tug" on the belt to ensure the occupant restraint belt is securely fastened.

The passenger boards the center of the non-skid platform, facing outward then locks the wheelchair brakes. The operator lowers the platform to the ground then unfastens the occupant restraint belt. After the passenger departs, the platform is stowed back into the vehicle.

This manual contains warranty information, safety precautions, operating and maintenance instructions that apply to the Ricon Titanium Line S-Series and K-Series Public Use wheelchair lifts. It is important to user safety that the lift operator be completely familiar with the operating instructions. Once the lift is installed, it is very important that the lift be properly maintained by following the Ricon recommended maintenance and inspection instructions provided in Chapter III.

A. PRODUCT SUPPORT

If there are questions about this manual, or you need copies, please contact Ricon Product Support at the following location:

- Ricon Corporation
- 7900 Nelson Road
- Panorama City, CA 91402(818) 267-3000
- Outside (818) Area Code(800) 322-2884
- Website www.riconcorp.com
- Vapor Ricon Europe Ltd.
- Meadow Lane
- Loughborough, Leicestershire.....0044 (0) 1509 635 920
- LE 1HS United Kingdom
- Website www.riconuk.com

B. PRODUCT WARRANTY

RICON CORPORATION TITANIUM™ LIMITED WARRANTY

Ricon Corporation (Ricon) warrants to the original purchaser of this product that Ricon will repair or replace, at its option, any parts that fail because of defective material or workmanship as follows:

- Repair or replace parts for a period of three (3) years from date of lift purchase. (Note: See specified labor costs for explanation of when labor is covered under this warranty.)
- Labor costs for specified parts replaced under this warranty for a period of three (3) years from date of lift purchase. A Ricon rate schedule determines parts covered and labor allowed.
- Repair or replace only power train parts for a period of five (5) years from date of lift purchase. A complete list of parts covered under the power train warranty can be obtained from your Ricon dealer or Ricon Corporation. (Note: See specified labor costs for explanation of when labor is covered under this warranty.)

If You Need to Return a Product: Return this product to Ricon, following the Ricon RMA procedure. Please give as much advance notice as possible, and allow a reasonable amount of time for repair.

This Warranty Does Not Cover:

- Malfunction or damage to product parts caused by accident, misuse, lack of proper maintenance, neglect, improper adjustment, modification, alteration, the mechanical condition of the vehicle, road hazards, overloading, failure to follow operating instructions, or acts of nature (i.e., weather, lightning, flood).

NOTE: Ricon recommends that this product be inspected by a Ricon dealer or qualified service technician at least once every six months, or sooner if necessary. Required maintenance should be performed at that time.

WARNING

THIS PRODUCT HAS BEEN DESIGNED AND MANUFACTURED TO EXACT SPECIFICATIONS. ~ ANY MODIFICATION OF THIS PRODUCT CAN BE HAZARDOUS ~

This Warranty is Void If:

- The product has been installed or maintained by someone other than a Ricon dealer or qualified service technician.
- The product has been modified or altered in any respect from its original design without written authorization by Ricon.

Ricon disclaims liability for any personal injury or property damage that results from operation of a Ricon product that has been modified from the original Ricon design. No person or company is authorized to change the design of this Ricon product without written authorization by Ricon. Ricon's obligation under this warranty is exclusively limited to the repair or exchange of parts that fail within the applicable warranty period and the authorized labor to accomplish said repair. Ricon assumes no responsibility for expenses or damages, including incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply. Important: The warranty registration card must be completed and returned to Ricon within 20 days after installation of this Ricon product for the warranty to be valid. The warranty is not transferable. The warranty gives specific legal rights. There may be other rights that vary in each state.

C. SHIPMENT INFORMATION

- When the product is received, unpack the product and check for freight damage. Claims for damage should be made to the freight carrier immediately.
- Be sure the installation kit contains all items listed on the kit packing list. Please report any missing items immediately to Ricon Product Support.
- The warranty and owner registration cards must be completed and returned to Ricon within 20 days to validate the warranty.

The sales or service personnel must review the Warranty and Operator Manual with the user to be certain that they understand how to safely operate the product and instruct the user to follow the operating instructions without exception.

D. GENERAL SAFETY PRECAUTIONS

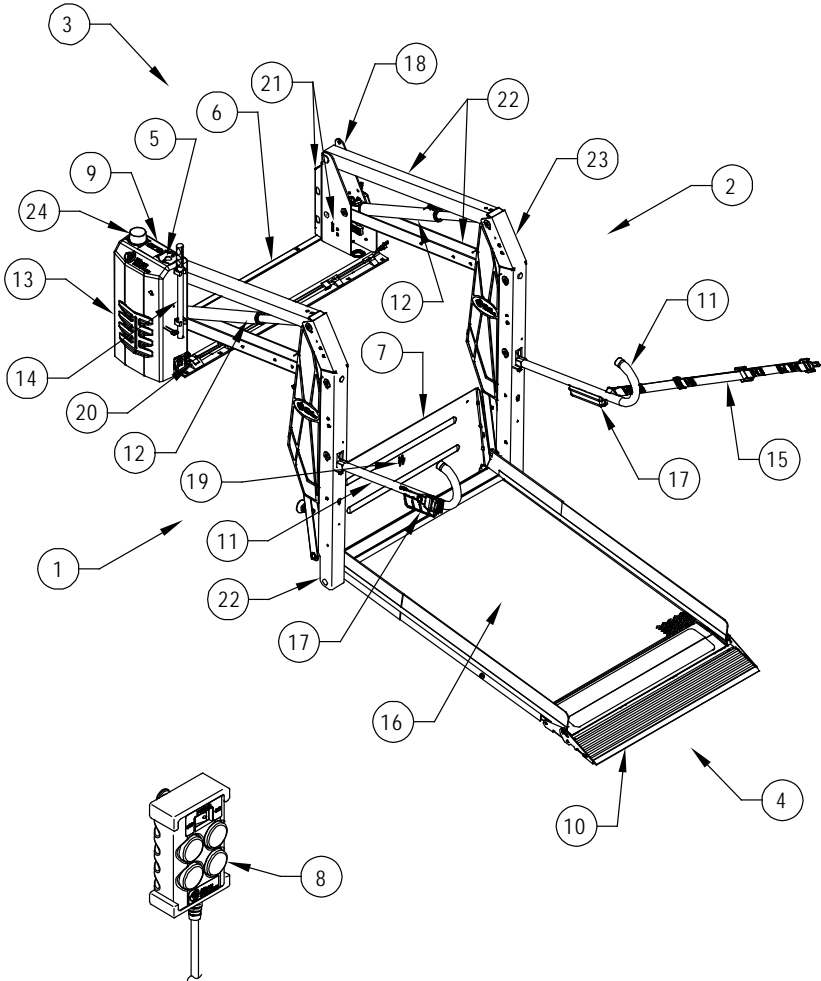
The following general safety precautions apply to the Titanium Line S-Series and K-Series Public Use wheelchair lifts and must be followed during operation and maintenance:

- Read and thoroughly understand the operating instructions before attempting to operate the wheelchair lift.
- Inspect product before each use. If unsafe conditions, unusual noises or movements, do not operate lift until the problem is corrected.
- Exercise caution when operating wheelchair lift to avoid injury, and be certain that hands, feet, legs or clothing are not in the path of product movement.
- Stand clear of doors and platform and keep others clear during operation.
- The wheelchair lift requires regular periodic maintenance. A thorough inspection is recommended at least once every six months. The product should be maintained at the highest level of performance.

E. MAJOR LIFT COMPONENTS

1. TITANIUM LINE S-SERIES PUBLIC USE LIFT MAJOR COMPONENTS

The major components of the Titanium Line S-Series Public Use wheelchair lift are in Figure 1-1. A description of each of the components is in Table 1-1.



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FIGURE 1-1: TITANIUM LINE S-SERIES MAJOR COMPONENTS

Table 1-1: Titanium Line S-Series Major Component Terms	
TERM	DESCRIPTION
1, 2, 3, 4	Position references when installed lift is viewed from outside of vehicle.
5	Audible Alarm - (inside housing of hydraulic unit) Announces when something passes through the threshold area while the lift platform is below floor level. The alarm is activated by threshold beams.
6	Baseplate - Bolts to vehicle floor; provides secure foundation for lift structure.
7	Bridgeplate - Plate that bridges gap between platform and baseplate when platform is at floor level. Also acts as a rear in-board rollstop when platform is in motion.
8	Control Pendant – Heavy duty and water-resistant hand-held device used to control platform motions.
9	Cycle Counter - Visible at top rear of housing, it records number of times platform has moved from floor to ground and back to floor.
10	Front Rollstop – Front, rollerized outboard rollstop prevents wheelchair from inadvertently rolling off of platform during platform movement.
11	Handrail - (left and right) Provides handhold for standing passenger.
12	Hydraulic Cylinder - (left and right) Telescoping single-acting cylinders convert hydraulic pressure into platform lifting and folding force.
13	Hydraulic Power Unit - Contains hydraulic pump driven by electric motor that produces pressure to raise and fold platform, and a pressure release valve to unfold and lower it.
14	Manual Back-up Pump Handle - (located outside housing of hydraulic unit) Used to operate manual back-up pump.
15	Occupant Restraint Belt - Electrically interlocked safety belt that is intended to prevent acceleration of wheelchair while on the platform. Lift will not operate unless belt is securely fastened.
16	Platform - Component of lift where the wheelchair and occupant are situated during “UP” and “DOWN” lift motions.
17	Platform LED Light - (left and right) Directs light onto platform surface.
CONTINUED	

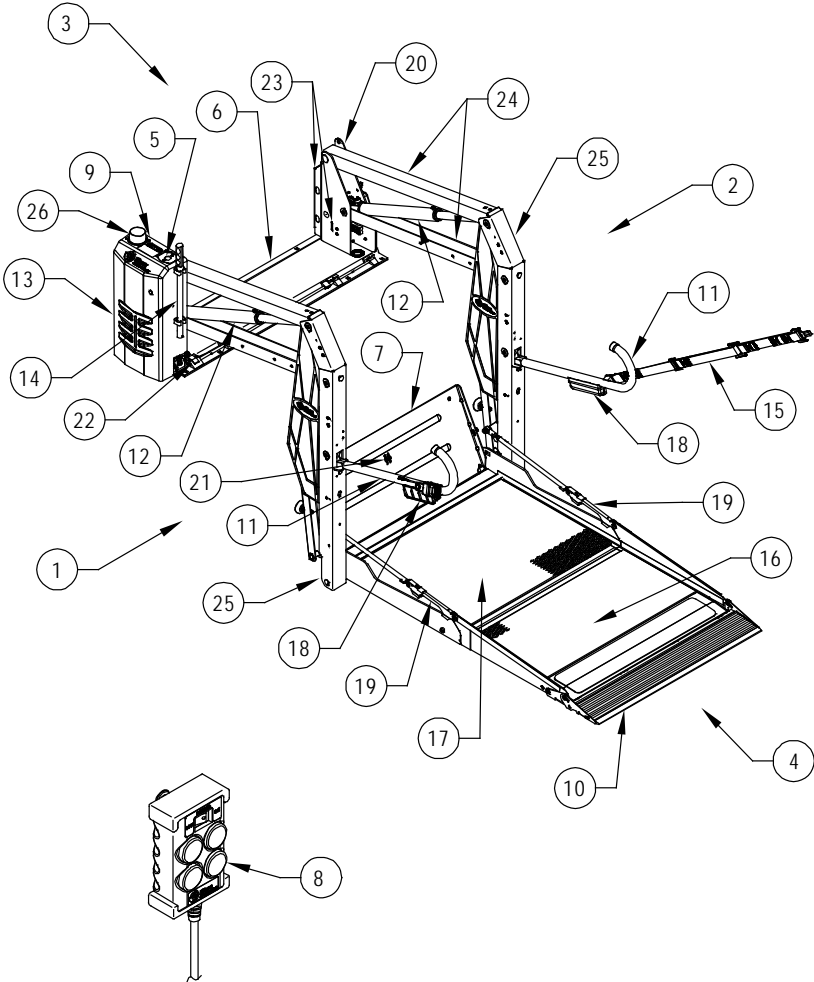
Table 1-1: Titanium Line S-Series Major Component Terms

TERM	DESCRIPTION
18	Serial Number - Location of lift serial number decal.
19	Sto-Loc Catch - Engages latch located on bottom of bridgeplate when platform is fully stowed.
20	Switch (Bridgeplate Load Sensor) – Senses if weight is present on the lowered bridgeplate.
21	Threshold Warning System (TWS) - Light-beams detect something passing through the threshold area while platform is below floor level.
22	Top and Bottom Arms (left and right) - Upper and lower links that connect vertical arms to baseplate.
23	Vertical Arm (left and right) - Connects platform to top and bottom arms.
24	Visual Alarm - Flashing light makes it known when something passes through threshold area. Activated by threshold beams.
END OF TABLE	

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2. TITANIUM LINE K-SERIES PUBLIC USE LIFT MAJOR COMPONENTS

The major components of the Titanium Line K-Series Public Use wheelchair lift are in Figure 1-2. A description of each of the components is in Table 1-2.



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FIGURE 1-2: TITANIUM LINE K-SERIES MAJOR COMPONENTS

Table 1-2: Titanium Line K-Series Major Component Terms

TERM	DESCRIPTION
1, 2, 3, 4	Position references when installed lift is viewed from outside of vehicle.
5	Audible Alarm - (inside housing of hydraulic unit) Announces when something passes through the threshold area while the lift platform is below floor level. The alarm is activated by threshold beams.
6	Baseplate - Bolts to vehicle floor; provides secure foundation for lift structure.
7	Bridgeplate - Plate that bridges gap between platform and baseplate when platform is at floor level. Also acts as a rear in-board rollstop when platform is in motion.
8	Control Pendant – Heavy duty and water-resistant hand-held device used to control platform motions.
9	Cycle Counter - Visible at top rear of housing, it records number of times platform has moved from floor to ground and back to floor.
10	Front Rollstop – Front, rollerized outboard rollstop prevents wheelchair from inadvertently rolling off of platform during platform movement.
11	Handrail - (left and right) Provides handhold for standing passenger.
12	Hydraulic Cylinder - (left and right) Telescoping single-acting cylinders convert hydraulic pressure into platform lifting and folding force.
13	Hydraulic Power Unit - Contains hydraulic pump driven by electric motor that produces pressure to raise and fold platform, and a pressure release valve to unfold and lower it.
14	Manual Back-up Pump Handle - (located outside housing of hydraulic unit) Used to operate manual back-up pump.
15	Occupant Restraint Belt - Electrically interlocked safety belt that is intended to prevent acceleration of wheelchair while on the platform. Lift will not operate unless belt is securely fastened.
16	Platform (Front) - Front portion of platform that unfolds during deploy and folds during stow. See "Platform folding linkage".
17	Platform (Rear) - Rear portion of platform that is folded by linkage located within the vertical arms.
CONTINUED	

Table 1-2: Titanium Line K-Series Major Component Terms	
TERM	DESCRIPTION
18	Platform LED Light - (left and right) Directs light onto platform surface.
19	Platform Folding Linkage - (left and right) Links that cause front platform section to unfold as it deploys or fold as it stows.
20	Serial Number - Location of lift serial number decal.
21	Sto-Loc Catch - Engages latch located on bottom of bridgeplate when platform is fully stowed.
22	Switch (Bridgeplate Load Sensor) – Senses if weight is present on the lowered bridgeplate.
23	Threshold Warning System (TWS) - Light-beams detect something passing through the threshold area while platform is below floor level.
24	Top and Bottom Arms (left and right) - Upper and lower links that connect vertical arms to baseplate.
25	Vertical Arm (left and right) - Connects platform to top and bottom arms.
26	Visual Alarm - Flashing light makes it known when something passes through threshold area. Activated by threshold beams.
END OF TABLE	

II. TITANIUM LINE S-SERIES® AND K-SERIES® PUBLIC USE OPERATING INSTRUCTIONS

This chapter contains safety precautions, daily safety check instructions, control and indicator descriptions and operating instructions for the RICON Titanium Line S-Series® and K-Series® Public Use wheelchair lift. This chapter must be thoroughly understood before using the lift.

A. SAFETY PRECAUTIONS

The following safety precautions must be complied with 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 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.

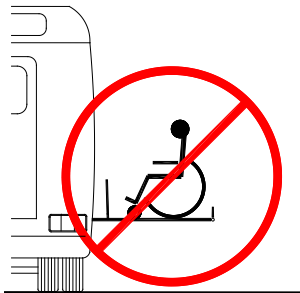


FIGURE 2-2: RICON RECOMMENDS PASSENGERS FACE OUTBOARD WHEN RIDING LIFT PLATFORM

- 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.
- Do not place large equipment inside vehicle that can prevent pivoting of a wheelchair. Being able to pivot assures that a passenger can safely exit facing outward.
- The raised front rollstop prevents slow and unintentional rolling off of the platform. It is not intended to stop a fast-moving wheelchair, which might tip forward if the small front wheels collide with the rollstop.
- Be certain wheelchair fits safely on platform; it must not extend beyond edges or interfere with rising and locking of front rollstop.
- Do not operate with a load in excess of 1,000 lbs (454 kgs).
- Keep arms, legs, and clothing away from moving lift parts.
- The lift is intended for one wheelchair and its occupant or one standee. Do not overload lift.
- Refer to Figure 2-3. Do not stand in front of lift while deploying platform.



FIGURE 2-3: STAND CLEAR OF PLATFORM

- Keep others clear while operating lift.
- Do not allow an untrained person to operate lift.
- Careful supervision is necessary if used near children.
- Do not allow anyone to stand on bridgeplate. A bent bridgeplate can interfere with the platform as it rises and lowers.
- Lock wheelchair brakes when on platform (power chair users must turn off power and set brake).
- Use great care in wet conditions, because the wheelchair brakes are less effective if wheels or platform are wet.
- Never leave platform outside of vehicle. Return platform to stowed position after use.
- Do not load an oversize wheelchair into vehicle if it is too large to pivot freely inside vehicle.

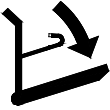
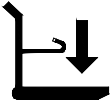
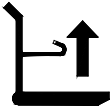

Read and understand these safety precautions. Review them periodically and ask other operators to read them as well. Contact a Ricon dealer or call Ricon Product Support if there are questions.

B. DAILY SAFETY CHECK

Inspect the lift before each use and check that the following conditions are met before operating:

- All functions operate properly. DO NOT use if unusual noises or movements exist, and contact a Ricon Dealer for repair.
- Vehicle interlock is operating properly.
- No objects that may interfere with operation are present.
- General appearance and lubrication are satisfactory and fasteners are tight.

C. PLATFORM MOTIONS

TABLE 2-1: PLATFORM MOTIONS	
MOTION	DESCRIPTION
	<p>DEPLOY</p> <p>Platform unfolds, or deploys, out of vehicle from stowed position. If equipped with a power door operator, the doors automatically open before lift deploys.</p>
	<p>DOWN</p> <p>Platform lowers from vehicle floor level towards ground level. The rollstop automatically lowers when platform reaches ground level.</p>
	<p>UP</p> <p>Platform rises from ground level towards vehicle floor level. The rollstop automatically rises (closes) when platform leaves ground level.</p>
	<p>STOW</p> <p>Platform folds, or stows, from vehicle floor level to stowed position. If equipped with a power door operator, the doors automatically close after lift stows.</p>
END OF TABLE	

NOTE: The up and down motions do not operate if platform is in stowed position.

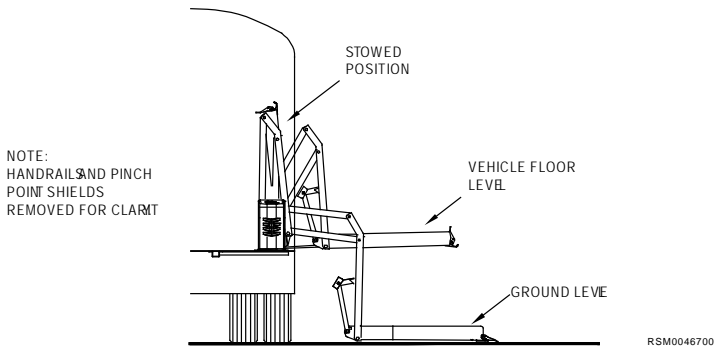


FIGURE 2-4: PLATFORM POSITIONS

D. CONTROLS AND INDICATORS

⚠ WARNING

THE LIFT IS ALLOWED TO OPERATE ONLY WHEN THE VEHICLE MANUFACTURER INTERLOCK CIRCUITRY IS ACTIVATED. IF NECESSARY, REFER TO VEHICLE OPERATOR MANUAL FOR INTERLOCK INSTRUCTIONS. DO NOT ATTEMPT TO OPERATE LIFT WITH INTERLOCK BYPASSED.

■ CONTROL PENDANT

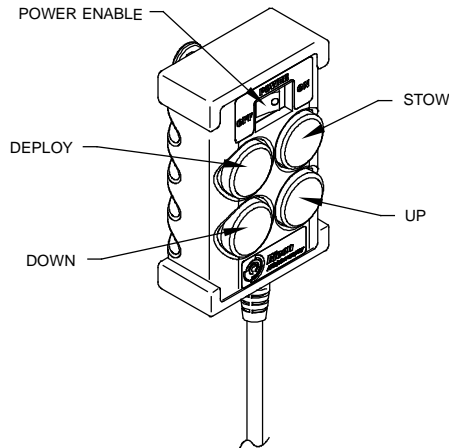
Refer to **Figure 2-5**. The lift is operated with four push-button switches and an ON-OFF switch located on the hand-held, hard-wired remote-control pendant. Turn on the POWER switch and then press an appropriate push-button switch to control each lift motion.

The POWER switch enables the pendant by providing power to it and must be turned on before the lift can be operated. When turned on, the power switch will illuminate.

Pressing the DEPLOY push-button switch unfolds the platform from the vehicle, and pressing the STOW push-button switch folds the platform back into the vehicle. Pressing the DOWN push-button switch lowers the platform towards the ground, and pressing the UP push-button switch raises the platform towards the floor.

A push-button switch must be held depressed until the motion is completed. Movement of the platform can be halted at any time by releasing the push-button switch.

The pendant is typically stowed on a wall-mounted clip inside the vehicle, near the lift.



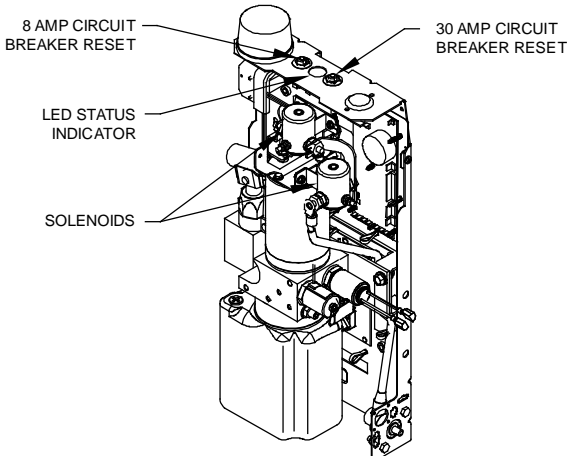
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FIGURE 2-5: CONTROL PENDANT

CIRCUIT BREAKERS AND INDICATOR LIGHTS

- Interlock Indicator Light

Refer to **Figure 2-6**. The purpose of a vehicle interlock system is to prevent operation of lift if an unsafe condition is present. When vehicle interlock systems are interfaced with lift circuitry, the interlock indicator shows whether or not interlock is operating properly. The light is interfaced with electrical system so that no matter which interlock system/method is used, the light will be ON when interlock allows electrical power to lift and OFF when interlock has disabled power to lift. When there is no interlock system installed, the light stays illuminated at all times.



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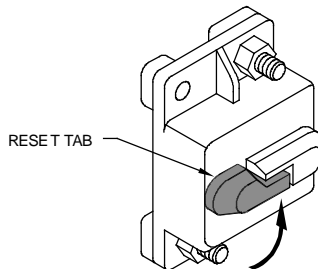
FIGURE 2-6: LED STATUS INDICATORS & CIRCUIT BREAKERS

- Pump Solenoid LED Status Indicators

Refer to **Figure 2-6**. The pump has two solenoids that provide a margin of safety if one of them fails with its contacts closed. Green and red LED status indicators monitor the condition of the two solenoids, and are located between two circuit breakers. The green LED is normally off when the pump is not operating and will illuminate when the pump operates. When the pump is not operating and the second solenoid has failed the red LED will illuminate. The green LED will illuminate if the first solenoid has failed. For more information on both indicator lights refer to Service manual 32DSKF02.

- Main Circuit Breaker

Refer to **Figure 2-7**. The main circuit breaker is located in vehicle engine compartment and is used to interrupt electrical power to lift electrical system when a major short circuit occurs. In the event of such a short circuit, the circuit breaker reset tab will "flip-down". If pressing reset tab UP and releasing does not restore power, do not press and hold tab. Contact a Ricon dealer for repair.



RSM0047400

FIGURE 2-7: MAIN CIRCUIT BREAKER

- Door Operator Circuit Breaker

Refer to **Figure 2-6**. The circuit breaker for the power door operator is located on the hydraulic pump assembly. In the event of a door operator short circuit, the circuit breaker button will "pop-out". If pressing and releasing button does not reset power, **DO NOT** press and hold.

Contact a Ricon dealer for repair. Refer to appropriate Power Door Operator Service Manual for further details.

- Control System Circuit Breaker

Refer to **Figure 2-6**. The Control System Circuit Breaker is on hydraulic pump assembly. In case of a control system short circuit, the circuit breaker button will "pop-out". If pressing and releasing button does not reset power, **DO NOT** press and hold. Contact a Ricon dealer for repair.

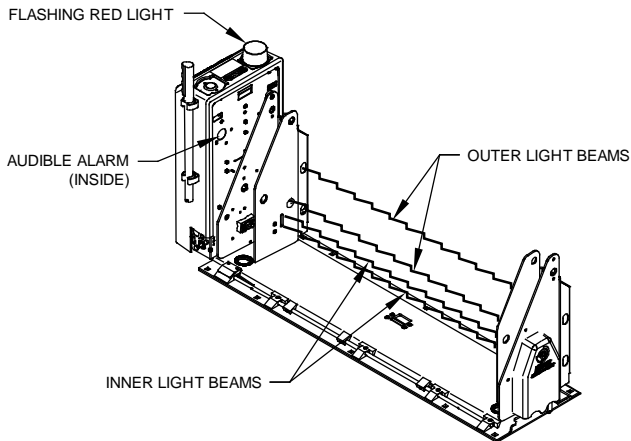
■ BRIDGEPLATE LOAD SENSOR

Refer to **Figure 1-1** and **Table 1-1** (in Chapter 1) for the location of the switch that detects the presence of a load on the bridgeplate. When the sensor switch detects that an object is present on the bridgeplate it inhibits lowering of the platform. This protects the passenger from possible injury when the bridgeplate rises. It also protects the bridgeplate from damage, which could later interfere with proper operation of the lift.

■ THRESHOLD SAFETY WARNING SYSTEM

Refer to **Figure 2-8** for the location of threshold warning system components. The lift provides 360° visibility by incorporating three light beams that detect when a passenger (or object, such as a wheelchair) is in the vicinity of the baseplate or bridgeplate (threshold area). The beams are enabled when the platform is one inch, or more, below the vehicle floor. If someone passes through either of the beams when the platform is one inch below the floor an audible buzzer and flashing red light are actuated.

This system provides a margin of safety for lift users by warning them if the platform is below floor level. The platform must be at floor level when a passenger is boarding the platform prior to exiting the vehicle.

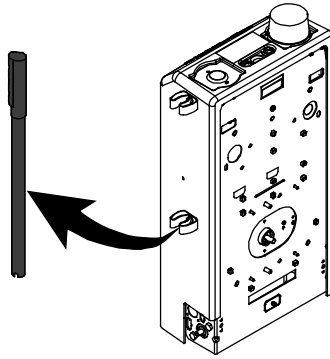


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FIGURE 2-8: THRESHOLD WARNING SYSTEM

■ MANUAL BACKUP PUMP

Refer to **Figure 2-9**. The manual backup pump is used to operate lift if electrical power is not functional. The controls for the pump consist of a pump handle for raising the platform and a pump release valve for lowering it. Instructions for operating manual pump are provided in the MANUAL OPERATION paragraph, which is part of the LIFT OPERATION section in this chapter.

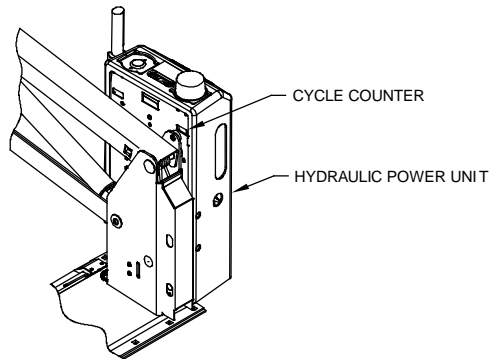


RSM0047200

FIGURE 2-9: MANUAL BACK-UP PUMP & HANDLE

■ LIFT CYCLE COUNTER

Refer to Figure 2-10. The cycle counter is located inside the hydraulic pump housing and visible through a slot on the rear side. The counter advances each time the platform moves through a complete cycle, which consists of the platform moving from the vehicle floor to the ground and back to the floor. The number of cycles displayed is used to schedule maintenance operations.



RSM0047300

FIGURE 2-10: CYCLE COUNTER

E. NORMAL LIFT OPERATION

⚠ WARNING

- IMPROPER USE OF LIFT CAN RESULT IN PERSONAL INJURY. USERS MUST READ AND FOLLOW OPERATING INSTRUCTIONS. ADDITIONAL COPIES OF OPERATOR MANUAL ARE AVAILABLE FROM:

RICON CORPORATION
7900 NELSON ROAD
PANORAMA CITY, CA 91402
(800) 322-2884 OR (818) 267-3000

- DO NOT EXCEED RATED LOAD CAPACITY OF 1000 POUNDS (454 KGS).
- PRIOR TO USE, INSPECT WHEELCHAIR LIFT FOR PROPER FUNCTION, REQUIRED MAINTENANCE, OR DAMAGE. IF A PROBLEM EXISTS, DO NOT USE LIFT AND CONTACT A RICON DEALER OR QUALIFIED SERVICE TECHNICIAN FOR REPAIR.
- THIS LIFT IS FOR USE BY WHEELCHAIR OCCUPANTS AND STANDEES.

RICON CORPORATION DISCLAIMS LIABILITY FOR DAMAGE OR PERSONAL INJURY RESULTING FROM MODIFICATION TO LIFT, LACK OF MAINTENANCE OR REPAIR, NEGLIGENCE, ABUSE, OR FAILURE TO FOLLOW LIFT OPERATING INSTRUCTIONS.

- Before operating lift, be certain vehicle is safely parked on a level area away from traffic. Provide space for lift operation and passenger boarding.
- The lift operator must take special care to ensure that area is clear before deploying lift. Be certain there are no obstacles beneath platform.
- Open doors completely if lift is not equipped with a power door operator. If so equipped, the vehicle doors will automatically open before platform deploys or close after platform is stowed.
- If equipped with a safety interlock mechanism (e.g. transmission, parking brake, etc) be certain that it is properly engaged before attempting to operate lift. The lift will not operate until this feature has been engaged properly.
- A person that uses the wheelchair lift while standing (does not require mobility aid equipment) is referred to in this manual as a Standee.

⚠ WARNING

ATTENDANT MUST REMAIN NEAR PASSENGER TO
RENDER IMMEDIATE ASSISTANCE WHEN
NECESSARY.

1. ENTERING VEHICLE

NOTE: The occupant restraint belt must be fastened to enable the DEPLOY, DOWN, and UP motions; the platform will not operate unless this safety mechanism is connected. Turn pendant power switch on.

- a. **DEPLOY PLATFORM** - Push and hold DEPLOY button until platform completely unfolds from vehicle and stops at floor level.
- b. **LOWER PLATFORM** - Push and hold DOWN button until lift contacts ground and rollstop opens completely.
- c. Unfasten occupant restraint belt, carefully place wheelchair in center of platform, facing outward (away from vehicle), and lock wheelchair brakes.

⚠ CAUTION

Be certain wheelchair is safely within platform perimeter and does not interfere with operation of platform rollstop.

- ✘ A Standee must stand near the center of the platform, facing in the direction of travel (into vehicle), and firmly grasp handrails.
- d. Fasten occupant restraint belt. Insert belt tongue into buckle and listen for “click” then “tug” on belt tongue to confirm belt is securely fastened.
- e. **RAISE PLATFORM** - Push and hold UP button until platform rises and stops automatically at vehicle floor level.
- f. Release wheelchair brakes, carefully board passenger into vehicle, and secure wheelchair.
- g. Refer to “STOWING PLATFORM” section on next page and stow platform.

2. EXITING VEHICLE

NOTE: The occupant restraint belt must be fastened to enable the DEPLOY and DOWN motions. The platform will not operate unless this safety mechanism is connected.

- a. **DEPLOY PLATFORM** - Push and hold DEPLOY button until platform completely unfolds from vehicle and stops at vehicle floor level.

⚠ WARNING

VERIFY THAT PLATFORM IS AT VEHICLE FLOOR LEVEL
AND FRONT ROLLSTOP IS UP AND LOCKED IN
POSITION.

- b. Fasten occupant restraint belt. Insert belt tongue into buckle and listen for “click” then “tug” on belt tongue to confirm belt is securely fastened.
- c. Carefully place wheelchair in center of platform, facing outward (away from vehicle), and lock wheelchair brakes.

⚠ CAUTION

Do not stand on bridgeplate as platform lowers.

- ✘ A Standee must stand near the center of the platform, facing in the direction of travel (away from vehicle), and firmly grasp handrails.
- d. **LOWER PLATFORM** - Push and hold DOWN button until platform settles at ground level and front rollstop is fully lowered.
- e. Unfasten occupant restraint belt, release wheelchair brakes, and carefully assist passenger off platform.
- f. Refer to “STOWING PLATFORM” section and stow platform.

3. STOWING PLATFORM

NOTE: The occupant restraint belt must be fastened to enable the UP and STOW motions. The platform will not operate unless this safety mechanism is connected.

- a. If platform is at ground level, push and hold UP button until platform rises and stops automatically at floor level.
- b. Push and hold STOW button until platform folds completely into vehicle.

⚠ CAUTION

Be certain lift has folded completely before closing doors. To prevent damage to doors, do not release switch until lift has folded completely and lift pump motor has stopped automatically.

- c. Close vehicle doors if lift is not equipped with a power door operator. If so equipped, the vehicle doors will automatically close after platform is stowed.

F. MANUAL LIFT OPERATION

The lift can be operated manually if lift electrical power is not functioning. Ricon recommends that manual operation be used only for exiting from vehicle.

Preparation:

- Be certain vehicle is on a level area and away from traffic. Allow space for platform movement plus space to exit from platform.
- The vehicle operator must summon assistance to move vehicle to a safe area if a break down situation exists where vehicle cannot be moved under its own power.
- Open doors manually if vehicle is not equipped with a power door operator. If equipped with a power door operator, refer to its operator manual for manual operation directions.

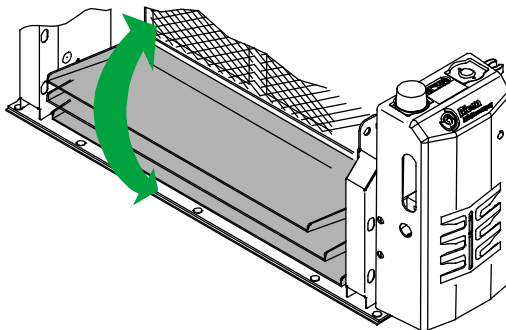
⚠ WARNING

FOLLOW PRECAUTIONS AT BEGINNING OF "LIFT OPERATION" SECTION WHEN USING MANUAL BACKUP SYSTEM TO EXIT VEHICLE.

NOTE: The threshold warning system is not active during manual operation and cannot be used to indicate platform height.

1. DEPLOY PLATFORM

- a. Refer to **Figure 2-11**. Override the Stow-Lock feature by lifting bridgeplate by hand. This will separate the Stow-Lock catch (fastened to underside of bridgeplate) from Stow-Lock latch (fastened to base assembly). If Stow-Lock is difficult to separate, use manual backup pump to raise platform slightly and remove tension from catch; refer to "Stow Platform" paragraph in this section.



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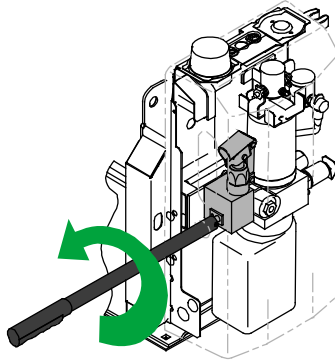
FIGURE 2-11: RAISE BRIDGEPLATE

- b. Refer to **Figure 2-12**. Insert notched end of pump handle into circular hole on hydraulic pump cover and engage pump release valve.

⚠ CAUTION

Do not open pump release valve more than ¼ turn. Opening valve further may cause it to disengage from pump body, which will disable manual pump.

- c. Refer to **Figure 2-12**. Open valve by turning it 1/4 turn counter-clockwise and platform will begin to lower.



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FIGURE 2-12: OPEN PRESSURE RELIEF VALVE (CCW)

- d. Refer to **Figure 2-13**. When platform reaches level of interior floor turn valve clockwise to close; do not over-tighten valve. Do not lower platform below vehicle floor level. The rear edge of bridgeplate must rest flat on vehicle floor.
- e. Load passenger. Carefully place wheelchair in center of platform, facing outward (away from vehicle), and lock wheelchair brakes.
- f. Fasten occupant restraint belt. Ensure restraint belt is securely fastened by clicking belt latch into buckle then tugging on belt to verify that belt buckle is locked.

2. LOWER PLATFORM

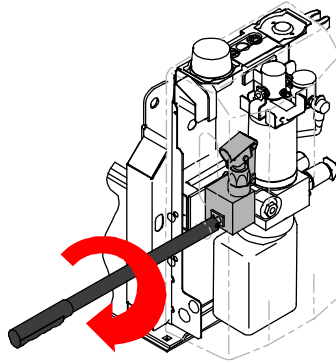
⚠ CAUTION

Do not open pump release valve more than ¼ turn. Opening valve further may cause it to disengage from pump body, which will disable manual pump.

- a. Refer to **Figure 2-12**. Turn valve 1/4 turn counter-clockwise to begin lowering platform.
- b. Hold valve open until platform settles at ground level. Refer to **Figure 2-13**. Turn handle clockwise to close valve; do not over-tighten valve.
- c. Unfasten occupant restraint belt, release wheelchair brakes, and carefully assist passenger off platform.

3. STOW PLATFORM

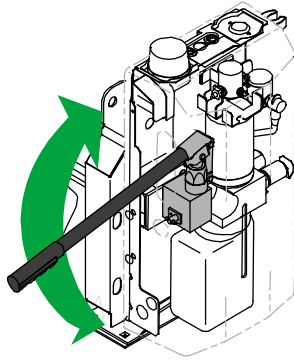
- a. Refer to **Figure 2-13**. Verify that pump release valve is closed; do not over-tighten valve.



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FIGURE 2-13: CLOSE PRESSURE RELIEF VALVE (CW)

- b. Refer to Figure 2-14. Insert pump handle into pump handle socket. Operate pump to begin raising and folding platform.



RSM0047700

FIGURE 2-14: PUMP HANDLE TO RAISE PLATFORM

- c. Operate pump until platform is completely folded inside vehicle and Stow-Lock has engaged.
- d. Stow pump handle. Close vehicle doors.

G. MAINTENANCE AND REPAIR NOTE

Follow the lubrication, cleaning, and maintenance instructions in the following chapter, MAINTENANCE. These instructions are meant to optimize the operating condition of wheelchair lift.

III. MAINTENANCE

This chapter contains cleaning instructions, a maintenance schedule, and decal information that applies to RICON S-Series and K-Series Public Use wheelchair lifts. Regular maintenance of the RICON S- and K-Series Public Use wheelchair lifts will provide optimum performance and reduce the need for repairs.

A. ADDITIONAL MAINTENANCE INFORMATION

Additional maintenance information is available in the RICON S-Series and K-Series Public Use service manual, part number 32DSKF02. This manual is available from Ricon in printed hard copy, or at the Ricon website in PDF format. The website is located at www.RiconCorp.com. At the website, click on "Technical Documents", "I agree", and then "Service Manuals".

 WARNING
THIS RICON PRODUCT IS HIGHLY SPECIALIZED. MAINTENANCE AND REPAIRS MUST BE PERFORMED BY A RICON DEALER OR QUALIFIED SERVICE TECHNICIAN USING RICON REPLACEMENT PARTS. MODIFYING OR FAILING TO PROPERLY MAINTAIN THIS PRODUCT WILL VOID THE WARRANTY, AND MAY RESULT IN UNSAFE OPERATING CONDITIONS.

B. CLEANING

Regular cleaning with mild soap (i.e. liquid hand soap or car wash liquid) and drying thoroughly will protect lift painted surfaces. Cleaning is especially important in areas where roads are salted in winter. Make sure that lift pivot points are clean and dry prior to lubrication.

C. MAINTENANCE SCHEDULE

Refer to cycle counter located on rear side of hydraulic power unit. Under normal operating conditions, maintenance inspections are required at the frequencies listed in Table 3-1. Ten cycles is considered an average number of cycles for one day.

TABLE 3-1: MAINTENANCE SCHEDULE	
SERVICE POINT	ACTION TO PERFORM
10 CYCLES	
Overall condition	Listen for abnormal noises as lift operates (i.e. grinding or binding noises.)
Control pendant	Verify that control pendant is undamaged and cable connector is tight. Verify that switch and buttons are illuminated.
Threshold warning system	Verify that system properly detects objects in baseplate area and actuates the visual and audible alarms.
Bridgeplate load sensor	Verify that sensor inhibits downward movement of platform when a weight is present on lowered bridgeplate.
Platform lights	Verify that both lights are on when lift is powered.
CONTINUED	

TABLE 3-1: MAINTENANCE SCHEDULE



SERVICE POINT	ACTION TO PERFORM
150 CYCLES (CONT.)	
Overall condition	Listen for abnormal noises as lift operates (i.e. grinding or binding noises). Inspect underside of vehicle for anything that is out of place.
Electrical wiring	Inspect electrical wiring for frayed wires, loose connectors, etc.
Handrails	Verify that handrail fasteners are properly tightened.
Lift mounting points	<ul style="list-style-type: none"> ▪ Verify that vehicle mounting and support points are undamaged. ▪ Verify that mounting bolts are sufficiently tight and corrosion free.
Main lifting pivots	Verify that link pins on arms are properly installed, free from damage, and locked in position.
Platform pivot points	Verify that platform moves freely, without binding, and does not wobble. (If applicable)
Bridgeplate	<ul style="list-style-type: none"> ▪ Verify that bridgeplate operates without binding during lift functions. ▪ Verify that bridgeplate deploys fully when platform stops at floor level. ▪ Verify bridgeplate rests flat against baseplate.
Front rollstop	<ul style="list-style-type: none"> ▪ Verify that rollstop is opened completely when platform is at ground level. ▪ Verify that rollstop closes and locks when platform leaves ground.
Hydraulic power unit	 CAUTION
	Check and add fluid when platform is at <u>ground</u> level. Fluid that is added when platform is raised will overflow when platform is lowered.
	<ul style="list-style-type: none"> ▪ Verify that pump hydraulic fluid level is at FULL mark when platform is at ground level. Add Texaco 01554 Aircraft Hydraulic Oil or equivalent U.S. mil spec H5606G fluid. ▪ Verify there are no hydraulic fluid leaks. ▪ Verify that manual backup pump operates properly.
1800 CYCLES	
Cleaning and lubrication	<ol style="list-style-type: none"> 1. Clean lift with mild soap and water and wipe dry. Prevent rust by coating all surfaces with a lightweight oil. Remove excess oil. 2. Spray penetrating oil (Curtisol® Red Grease 88167 or WD-40®) where specified in the service manual 32DSKF02 following directions on container. Remove excess grease from surrounding areas.

TABLE 3-1: MAINTENANCE SCHEDULE	
SERVICE POINT	ACTION TO PERFORM
 CAUTION	
A Ricon dealer or qualified service technician must perform the annual safety check.	
3600 CYCLES	
Hydraulic cylinder, hoses and fittings	<ul style="list-style-type: none"> ▪ Check hydraulic cylinder for evidence of leaks. ▪ Inspect hydraulic hoses for damage. ▪ Verify that all fittings are tight.
END OF TABLE	

D. DECAL PART NUMBERS AND LOCATIONS

Inspect decals at intervals in Table 3-1. Inspect for chipping, peeling, fading, and illegibility. Order replacement decals with part number given in Table 3-2, and apply where shown in Figure 3-1.

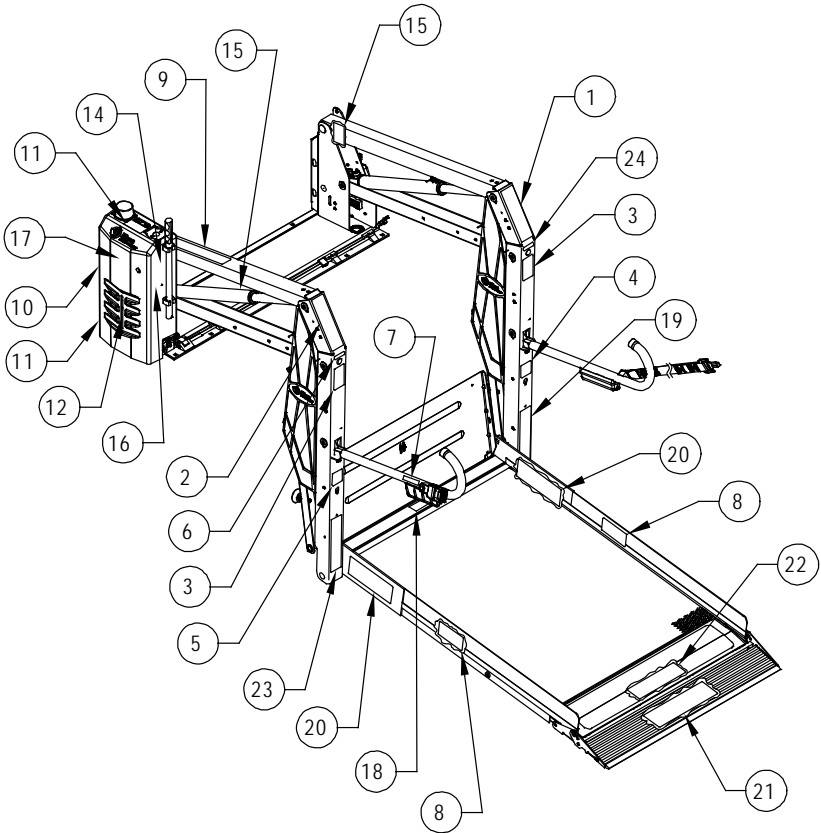


FIGURE 3-1: PUBLIC USE LIFT DECAL LOCATIONS AND PART NUMBERS

RSM0046900

Table 3-2: Titanium Line Decal Locations			
Item	P/N	DESCRIPTION	Qty
1	44244	Decal, Rated Load 1,000lb (454kg)	1
2	44241	Decal, Operation Instruction	1
3	42092	Decal, Standee	2
4	42099	Decal, Stand Clear	1
5	44262	Decal, Pendant Control Removal	1
6	32113	Decal, DOT Public Use Lift	1
7	26155	Decal, Caution Restraint Belt	1
8	42094	Decal, Standee Location	2
9	44240	Decal, Manual Operation	1
10	26292	Decal, Pump Cover (Release Valve)	1
11	36932	Decal, Second Solenoid	1
12	36948	Decal, Limit Switch Adjustment	1
13	42030	Decal, Oil Fill Level Warning	1
14	36947	Decal, Pressure Switch Adjustment	1
15	32-10-166	Decal, Serial Number	2
16	32-10-173	Decal, Patent Pending	1
17	44246	Decal, Connectors	1
18	42079	Decal, Do Not Step On Bridgeplate	1
19	46587	Decal, Ricon-Wabtec, 2.5"W x 8.5"H, Vert, White/Red	1
20	46586	Decal, Ricon-Wabtec, 3.5"H x 10"W, White/Red	2
21	44242	Decal, Ricon-Wabtec, 3.5"H x 10"W, Black/Red	1
22	46588	Decal, Ricon-Wabtec, 7.75"W x 2.75"H, White/Red	1
23	46589	Decal, Titanium Logo, 2.5"W x 8.5"H, Black/Diam	1
24	32-10-171	Decal, Patent #	1
END			