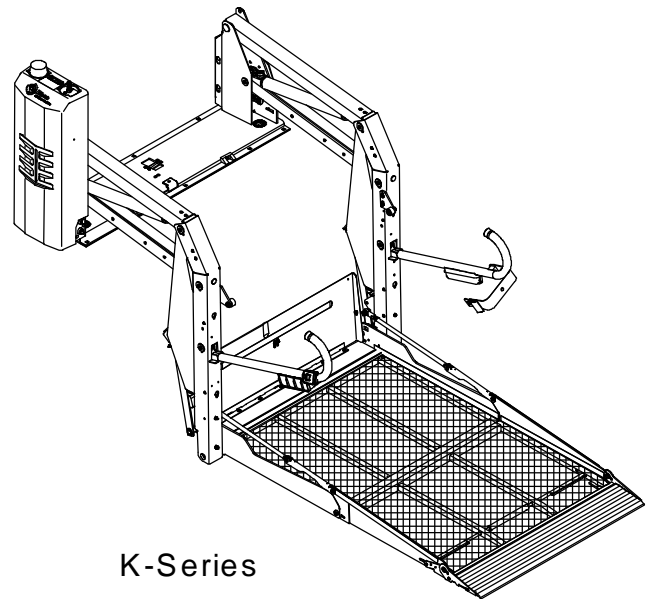
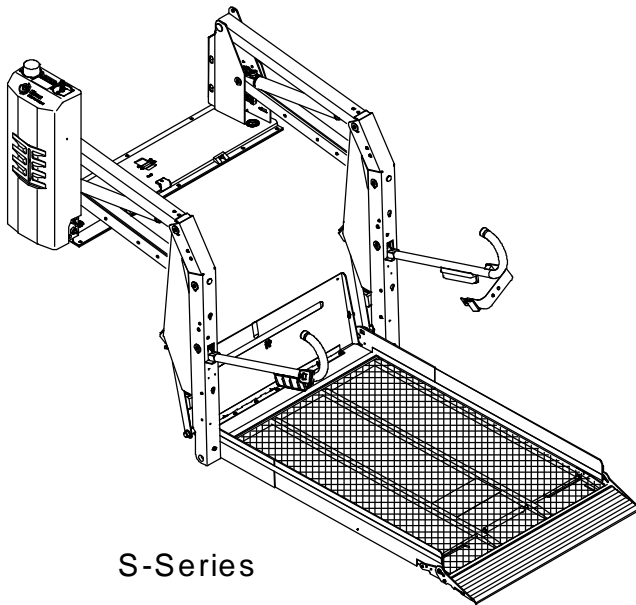




**Ricon**<sup>®</sup>

**A Wabtec subsidiary**

# **S-SERIES<sup>®</sup> AND K-SERIES<sup>®</sup> DOT – PUBLIC USE LIFT**



## **Service Manual**

*-PRINT-*

*-HOME-*

This Ricon service manual is for use by qualified service technicians, and is not intended for use by non-professionals (do-it-yourselfers). The manual provides essential instructions and reference information, which supports qualified technicians in the correct installation and maintenance of Ricon products.

Qualified service technicians have the training and knowledge to perform maintenance work properly and safely. For the location of a Ricon Dealer or qualified service technician, call Ricon Product Support at 1-800-322-2884 or visit our website at [www.riconcorp.com](http://www.riconcorp.com).

“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 Name: \_\_\_\_\_  
Installing Dealer: \_\_\_\_\_  
Date Installed: \_\_\_\_\_  
Serial Number: \_\_\_\_\_

**REVISION RECORD**

REV	PAGES	DESCRIPTION OF CHANGE	ECO
32DSKL02. A.1	Cvr	Update to trademarks.	6663
	i	Update to introduction verbiage.	
	1-1	Update to Address.	
	1-2	Update to registered logo.	
	1-2	Update to warranty verbiage.	
	2-8	Update to Electrical Installation.	
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	4-4	Update to Figure 4-2.	
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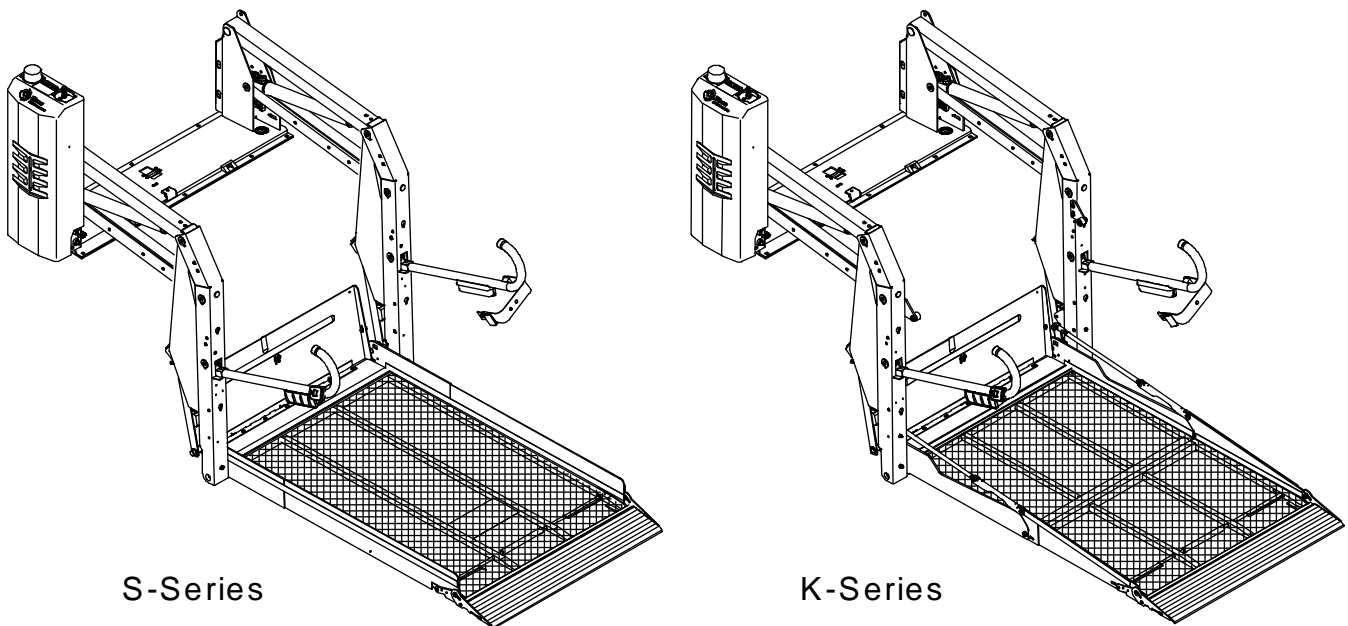
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## I. INTRODUCTION

The RICON 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 which are DOT compliant. The patented movement provides a smooth, safe entry and exit and lifts up to 800 pounds (363) kilograms. It is to be operated by a trained attendant. The lift contains a powerful electro-hydraulic pump that includes a built-in manual backup pump. If the lift loses electrical power, it can be raised or lowered manually.

The S-Series has a solid, one-piece platform that is raised and folded into the vehicle when stowed. The platform on the K-Series has a two-piece folding platform that 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.

This manual contains warranty information, installation instructions; maintenance and repair instructions; troubleshooting guide; parts and diagram lists that apply to Ricon 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 cleaning, lubrication, and inspection instructions.



### A. RICON PRODUCT SUPPORT

If you have questions about this manual, or additional copies are needed, please contact Ricon Product Support at one of the following locations:

**Ricon Corporation**  
**1135 Aviation Place**  
**San Fernando, CA 91340..... (818) 267-3000**  
**Outside (818) Area Code ..... (800) 322-2884**  
**Website ..... [www.riconcorp.com](http://www.riconcorp.com)**

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**Vapor Ricon Europe Ltd.**  
**Meadow Lane**  
**Loughborough, Leicestershire .....0044 (9) 1509 635 920**  
**LE 1HS United Kingdom**  
**Website ..... [www.riconuk.com](http://www.riconuk.com)**

## RICON FIVE-YEAR LIMITED WARRANTY



### RICON S-SERIES AND K-SERIES PUBLIC USE WHEELCHAIR LIFTS FIVE-YEAR LIMITED WARRANTY

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

- Repair or replace parts for a period of one year from the date of purchase. A complete list of parts covered by this warranty can be obtained from Ricon Corporation.
- Labor costs for specified parts replaced under this warranty for a period of one year from the date of purchase. A Ricon rate schedule determines the parts covered and labor allowed.
- Repair or replace lift powertrain parts for a period of five years from the date of purchase. A list of parts covered can be obtained from Ricon Product Support.

**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 repairs.

**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.  
MODIFICATION OF THIS PRODUCT IN ANY RESPECT CAN BE DANGEROUS.

***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.

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, and there may be other rights that vary from state to state.***

**B. SHIPMENT INFORMATION**

- When the product is received, unpack the product and check for freight damage. Claims for any damage should be made to the carrier immediately.
- Verify that the installation kit contains all items listed on the enclosed 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 for the warranty to be valid.

**NOTE:** The Sales or Service personnel must review the Warranty and this Operator Manual with the user to be certain that they understand how to safely operate the product. Instruct the user to follow the operating instructions without exception.

**C. GENERAL SAFETY PRECAUTIONS**

The following general safety precautions must be followed during installation, operation, and maintenance:

- Under no circumstances should installation, maintenance, repair, and adjustments be attempted without the immediate presence of a person capable of rendering aid.
- An injury, no matter how slight, should always be attended. Always administer first aid or seek medical attention immediately.
- Protective eye shields and appropriate clothing should be worn at all times.
- To avoid injury, always exercise caution when operating and be certain that hands, feet, legs, and clothing are not in the path of product movement.
- Batteries contain acid that can burn. If acid comes in contact with skin, flush affected area with water and wash with soap immediately.
- Always work in a properly ventilated area. Do not smoke or use an open flame near a battery.
- Do not lay anything metallic on top of a battery.
- Check under vehicle before drilling to avoid drilling into frame, subframe members, wiring, hydraulic lines, brake fluid lines, fuel lines, fuel tank, etc.
- Read and thoroughly understand the operating instructions before attempting to operate.
- Inspect the product before each use. If an unsafe condition is noted, such as unusual noises or movements, do not use lift until the problem is corrected.
- Never load or stand on the platform until installation is complete. Upon completion of installation, test load the lift to 100% of its rated load capacity.
- Stand clear of doors and platform and keep others clear during operation.
- The product requires regular periodic maintenance. Inspections are recommended at the intervals prescribed in chapter three. The product must be maintained at the highest level of performance.

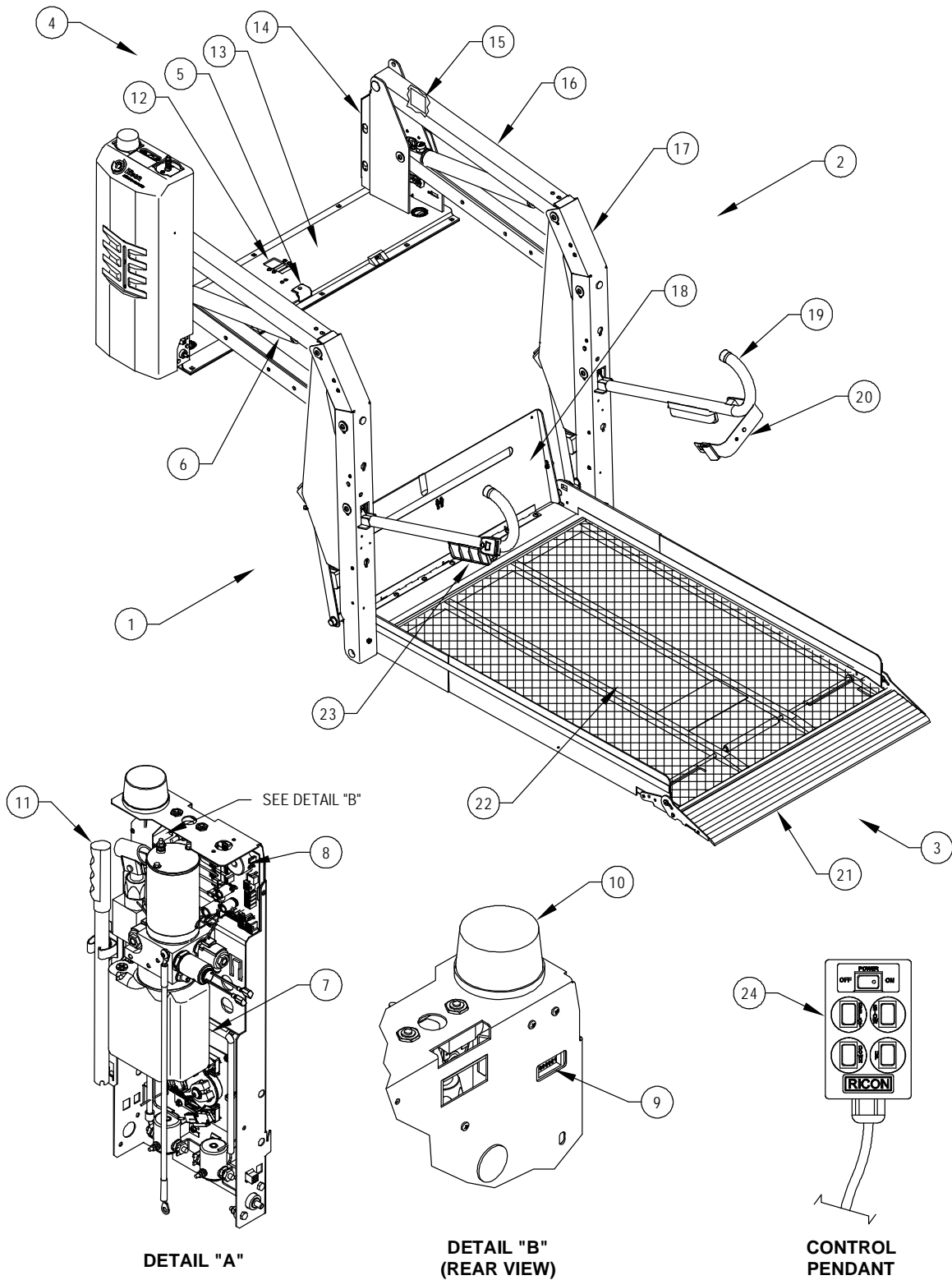
**D. CUSTOMER ORIENTATION****IMPORTANT****- Customer Orientation -**

Ricon Sales or Service personnel must review the warranty card and Operator manual with the customer to be certain they understand how to safely operate the lift. The customer should be instructed to follow the operating instructions without exception.



**1. S-SERIES MAJOR LIFT COMPONENTS**

The references used throughout this manual are illustrated in **Figure 1-1** and defined in the **Table 1-1**. Refer to **Chapter IV** "Parts Diagrams and Lists" for more details.



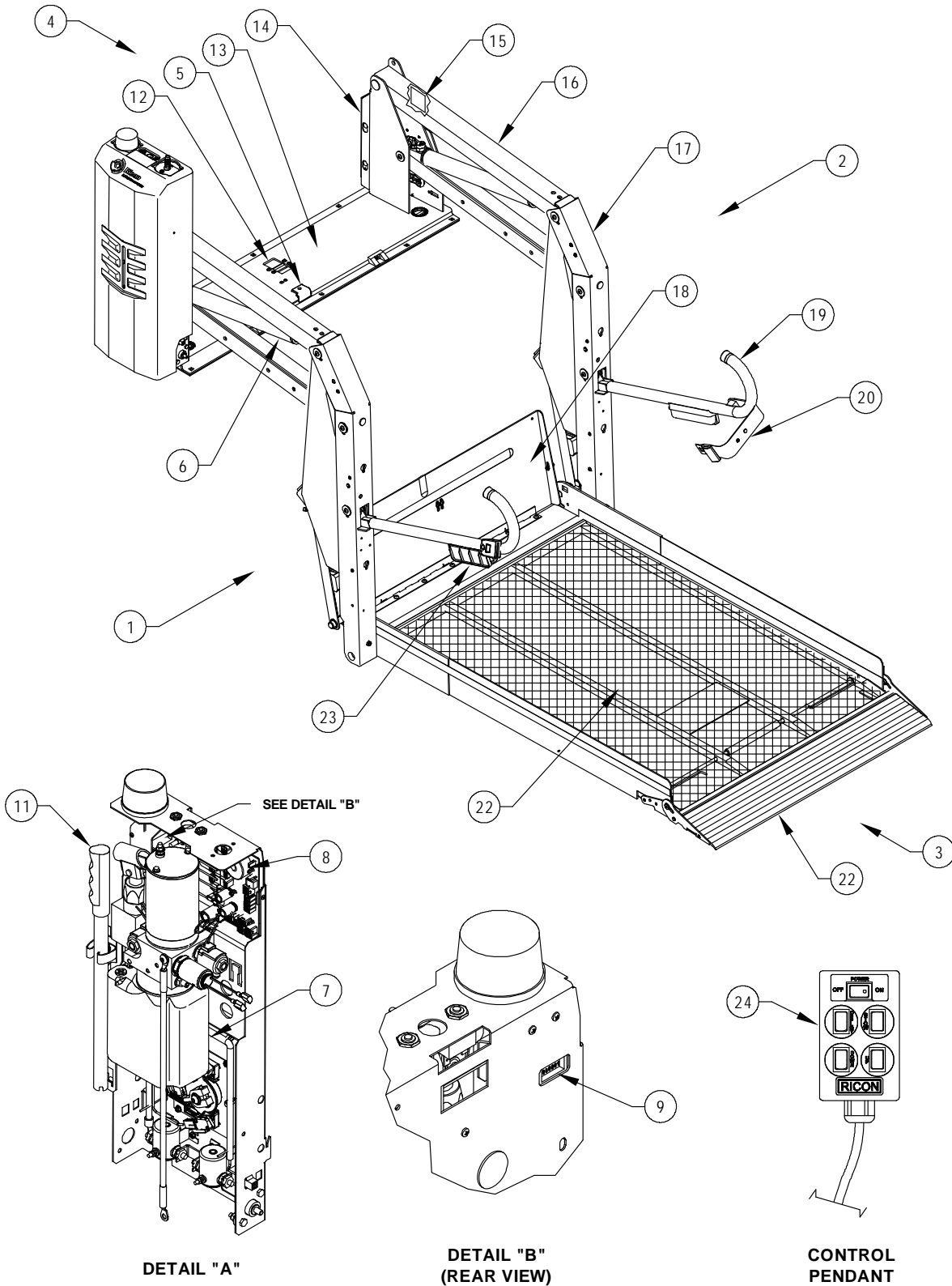
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**FIGURE 1-1: S-SERIES PUBLIC USE WHEELCHAIR LIFT**

<b>TABLE 1-1: S-SERIES MAJOR COMPONENT TERM DEFINITIONS</b>		
<b>REF</b>	<b>NAME</b>	<b>DESCRIPTION</b>
1, 2, 3, 4	Left, Right, Front, Rear	Position references when the lift is viewed from outside of the vehicle.
5	Bridgeplate Load Sensor	Senses if weight is present on the lowered bridgeplate.
6	Hydraulic Cylinder	(Left and Right) Telescoping, single-acting cylinders convert hydraulic pressure into platform lifting and folding force.
7	Hydraulic Power Unit	Contains hydraulic pump driven by an electric motor that produces pressure to raise and fold platform, and a pressure release valve to unfold and lower platform.
8	Audible Alarm	(Inside housing for hydraulic unit) Announces when something is passing over threshold. Activated by threshold beam.
9	Cycle Counter	Visible at rear of pump housing, it records number of times platform has deployed from the vehicle floor to ground and stowed back to vehicle floor.
10	Visual Alarm	Flashing light makes it known when something has passed over threshold. Activated by threshold beams.
11	Manual Backup Pump Handle	Used to operate manual back up-pump (located on hydraulic power unit inside pump housing).
12	Stow-Lock Latch	Engages ratchet block located on bottom of bridgeplate when platform is fully stowed.
13	Baseplate Assembly	Bolts to vehicle floor; provides secure foundation for lift.
14	Threshold Beams	Light-beams detect presence of objects in threshold area.
15	Serial Number	This is the location of lift serial number decal.
16	Top and Bottom Arms	(Left and Right) Upper and lower links connecting vertical arm to baseplate assembly.
17	Vertical Arms	(Left and Right) Connects platform to top and bottom arms.
18	Bridgeplate (Inboard Rollstop)	Plate that bridges gap between platform and baseplate when platform is at floor level. Acts as barrier to prevent wheelchair from rolling off of the platform during "Up" and "Down" platform motions.
19	Handrail	(Left and Right) Provides a handhold for standing passenger.
20	Occupant Restraint Belt	Electrically interlocked safety belt that is intended to prevent acceleration of wheelchair from platform. Lift will not operate unless belt is properly connected.
21	Front Rollstop	Front barrier prevents the wheelchair from inadvertently rolling off of the platform during lift operation.
22	Platform	Component of lift where the wheelchair and occupant are situated during "Up" and "Down" lift motions.
23	Platform Light	(Left and Right) Directs light onto platform surface.
24	Control Pendant	Hand-held device controls platform motions.
<b>END OF TABLE</b>		

**2. K-SERIES MAJOR COMPONENTS**

The terms used throughout this manual are illustrated in **Figure 1-2** and defined in **Table 1-2**. Refer to the parts diagrams and lists in **Chapter IV** for more details.



**FIGURE 1-2: K-SERIES PUBLIC USE WHEELCHAIR LIFT**

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**TABLE 1-2: K-SERIES MAJOR COMPONENT TERM DEFINITIONS**

REF	NAME	DESCRIPTION
1, 2, 3, 4	Left, Right, Front, Rear	Position references when the lift is viewed from outside of the vehicle.
5	Bridgeplate Load Sensor	Senses if weight is present on the lowered bridgeplate.
6	Hydraulic Cylinder	(Left and Right) Telescoping, single-acting cylinders convert hydraulic pressure into platform lifting and folding force.
7	Hydraulic Power Unit	Contains hydraulic pump driven by an electric motor that produces pressure to raise and fold platform, and a pressure release valve to unfold and lower platform.
8	Audible Alarm	(Inside housing for hydraulic unit) Announces when something is passing over threshold. Activated by threshold beam.
9	Cycle Counter	Visible at rear of pump housing, it records number of times platform has deployed from the vehicle floor to ground and stowed back to vehicle floor.
10	Visual Alarm	Flashing light makes it known when something has passed over threshold. Activated by threshold beams.
11	Manual Backup Pump Handle	Used to operate manual back up-pump (located on hydraulic power unit inside pump housing).
12	Stow-Lock Latch	Engages ratchet block located on bottom of bridgeplate when platform is fully stowed.
13	Baseplate Assembly	Bolts to vehicle floor; provides secure foundation for lift.
14	Threshold Beams	Light-beams detect presence of objects in threshold area.
15	Serial Number	This is the location of lift serial number decal.
16	Top and Bottom Arms	(Left and Right) Upper and lower links connecting vertical arm to baseplate assembly.
17	Vertical Arms	(Left and Right) Connects platform to top and bottom arms.
18	Bridgeplate (Inboard Rollstop)	Plate that bridges gap between platform and baseplate when platform is at floor level. Acts as barrier to prevent wheelchair from rolling off of the platform during "Up" and "Down" platform motions.
19	Handrail	(Left and Right) Provides a handhold for standing passenger.
20	Occupant Restraint Belt	Electrically interlocked safety belt that is intended to prevent acceleration of wheelchair from platform. Lift will not operate unless belt is properly connected.
21	Front Rollstop	Front barrier prevents the wheelchair from inadvertently rolling off of the platform during lift operation.
22	Front Platform Section	Front portion of platform that unfolds during deploy and folds during stow. See "Platform folding linkage".
23	Platform Hinges	Three hinges provide a flexible connection between front and rear platform sections.
24	Rear Platform Section	Rear portion of platform that is folded by linkage located within the vertical arms.
25	Platform Folding Linkage	(Left and Right) Links that cause front platform section to unfold as it deploys or fold as it stows.
26	Platform Light	(Left and Right) Directs light onto platform surface.
27	Control Pendant	Hand-held device controls platform motions.
<b>END OF TABLE</b>		

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## II. INSTALLATION

This chapter contains instructions for installing the RICON S-Series and K-Series Public Use wheelchair lift into most vans and busses, although custom installations are also possible in other types of vehicles. Due to the wide range of lift applications, specific information for every possible application is not available. The following general procedures will apply to most installations. Contact Ricon Product Support for instruction concerning installations not covered. To install lift, refer to following sections and perform procedures carefully and in the order that they are presented. Be certain that installation instructions are followed exactly and do not eliminate any steps or modify product.

**NOTE:** Please review carefully the installation instructions (32ii399e) that are supplied with this lift before beginning the following procedures. Where these procedures conflict, the installation instructions take precedence.

### A. GENERAL MECHANICAL INSTALLATION

#### 1. LIFT LOCATION

The installation surface must be flat and level. It is recommended that lift be installed on a ½", minimum, high-grade plywood sub-floor. However, this additional installation height may not be acceptable in cases where overhead clearance is limited.

Refer to Figure 2-1.

**NOTE:** Check for proper travel clearance through doorway.

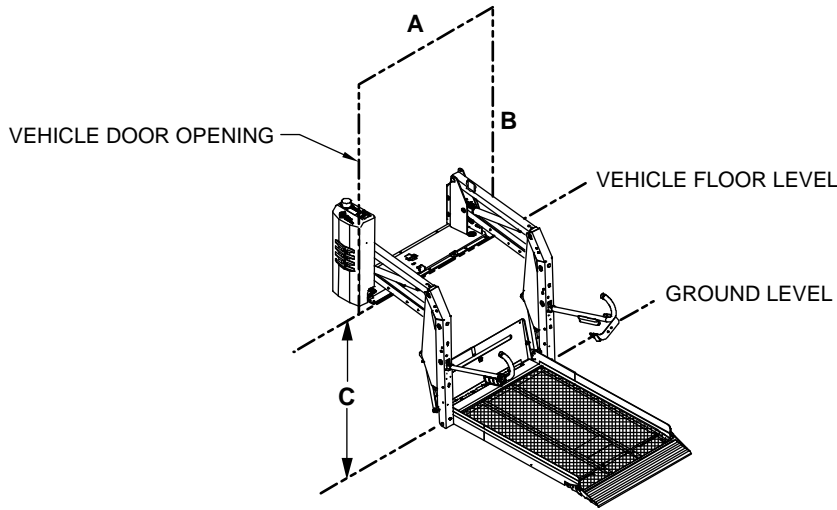
- a. With doors fully open, place/position lift in vehicle doorway as close as possible to door, with lift's baseplate assembly parallel to side of vehicle.
- b. Allow a distance of 3/4", if possible, between door and the part of lift closest to it. Adjust lift left and right-side locations to accommodate subframe members.
- c. Verify proper clearance of door frame, passenger seats, and outer edge of vehicle floor and possible interference with wires, fluid lines, subframe members, etc.

#### 2. VEHICLE STRUCTURAL REQUIREMENTS

The following figures and text provide installation guidelines for the RICON S-Series and K-Series Public Use wheelchair lift into most vans and busses. Adherence to these requirements will verify that the lift installation conforms to the requirements of FMVSS 403 and 404.

- a. **VEHICLE DOOR OPENING DIMENSIONAL REQUIREMENTS** in inches and [millimeters].

MODEL	A (Width)	B (Height)	C (Floor-To-Ground)
S2005	40.5 [1029]	55.0 [1397]	42.0 [1067]
S2010	43.0 [1092]	55.0 [1397]	42.0 [1067]
S5005	40.5 [1029]	55.0 [1397]	48.0 [1219]
S5010	43.0 [1092]	55.0 [1397]	48.0 [1219]
S5505	40.5 [1029]	58.0 [1473]	51.0 [1295]
S5510	43.0 [1092]	58.0 [1473]	51.0 [1295]
K2005	40.5 [1029]	55.0 [1397]	37.0 [940]
K2010	43.0 [1092]	55.0 [1397]	37.0 [940]
K5005	40.5 [1029]	55.0 [1397]	43.0 [1092]
K5010	43.0 [1092]	55.0 [1397]	43.0 [1092]
K5505	40.5 [1029]	58.0 [1473]	48.0 [1219]
K5510	43.0 [1092]	58.0 [1473]	48.0 [1219]



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FIGURE 2-1: DOOR OPENING REQUIREMENTS

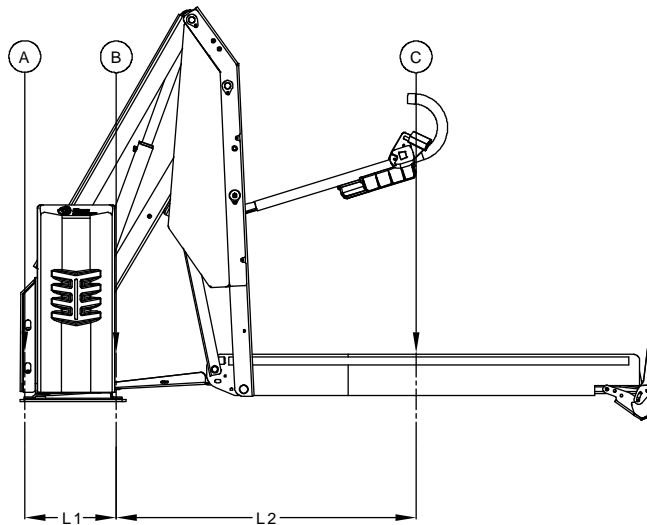
b. **VEHICLE FLOOR STRENGTH REQUIREMENTS**

Rated Load: 800 lbs      Standard Load: 600 lbs      Standard Load Test: 1800 lbs

MODEL	L1	L2	A *	B **	C
S2000 w/51" platform	11"	36.25	-5930	7730	1800
S2000 w/54" platform	11"	37.75	-6180	7980	1800
S5000 w/51" platform	11"	41.50"	-6790	8590	1800
S5000 w/54" platform	11"	43.00"	-7040	8840	1800

\* Negative numbers (column A) indicate tensile load pulling upward at the inboard edge mounting holes of the base plate.

\*\* Positive numbers (column B) indicate compressive load pushing floor downward at the outboard edge mounting holes of the base plate.



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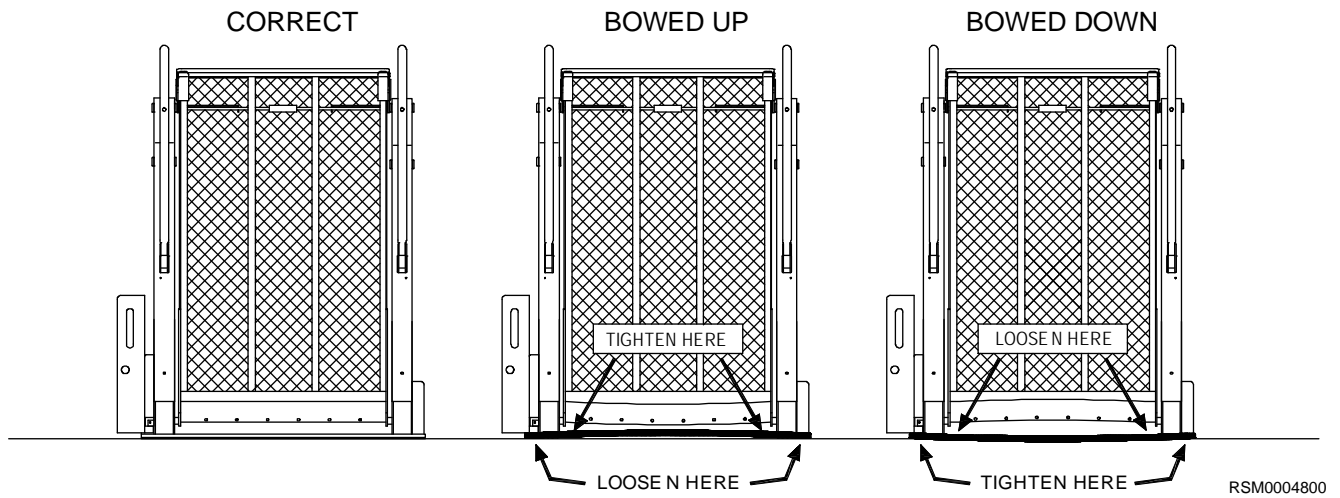
FIGURE 2-2: FLOOR STRENGTH REQUIREMENTS

**3. LIFT INSTALLATION GUIDELINES**

The lift mounting is a very important step. Improper mounting or fastening of baseplate can adversely affect lift performance. Although fastening details may vary from one vehicle to the next, these general principles apply:

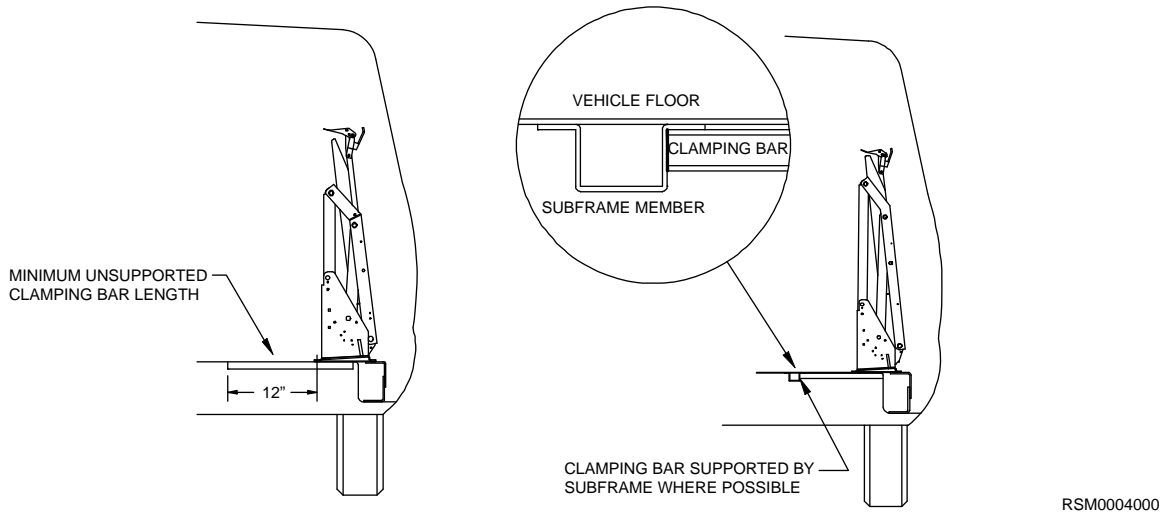
- ◆ Be certain that all mounting bolts are properly installed and tightened. Bolts used to fasten baseplate assembly to vehicle floor must have a minimum strength rating of SAE Grade 5 and be torqued to 28 ft lbs, dry. Recognize that the most important bolts are those along the rear of lift, since these bolts retain the majority of the load.

- ◆ Refer to **Figures 2-3** and **2-7**. Improper torquing sequence of baseplate bolts may result in a warped or bowed baseplate, which can cause platform to move erratically.



**FIGURE 2-3: FORD VAN CLAMPING BAR ARRANGEMENT**

- ◆ Refer to **Figure 2-4**. On Ford van installations, clamping bars are used to help evenly distribute floor loading and should only be cut if needed to clear a subframe member. A subframe member must be used to support clamping bar.



**FIGURE 2-4: FORD VAN CLAMPING BAR ARRANGEMENT**

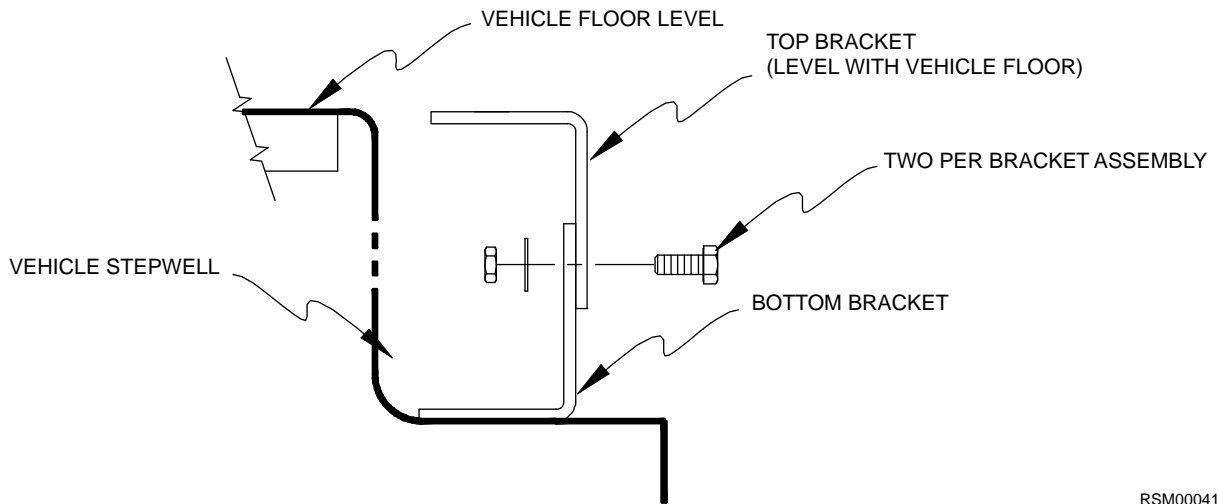
**4. LIFT INSTALLATION INTO VANS**

This is a general procedure for installing Ricon lifts into Ford, Dodge, and Chevrolet full size vans.

- Refer to **Figure 2-5**. Use four 1" x 3/8" bolts, 3/8" washers, 3/8" lock washers, and 3/8" hex nuts to assemble two bracket assembly kits.

**NOTE:** The top bracket must overlap bottom bracket, and both slots must face outward.





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FIGURE 2-5: STEPWELL BRACKET

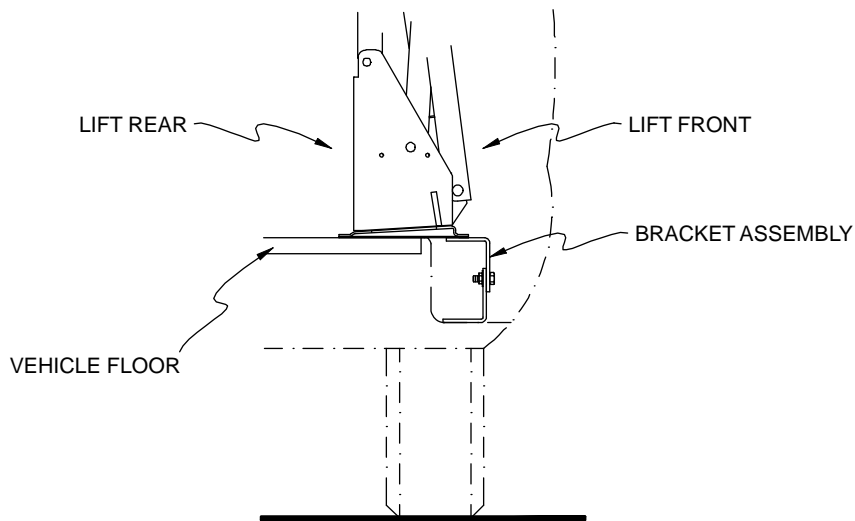
- b. Position brackets on stepwell and adjust height of both bracket assemblies so that top bracket is level with vehicle floor. Tighten bracket assembly bolts.
- c. Verify that lift is fully folded (stowed) with handrails folded tight against vertical arms. If necessary, use manual pump.



**WARNING**

LIFT WEIGHT IS APPROXIMATELY 340 - 370 LBS. USE EXTREME CARE WHEN POSITIONING BECAUSE STEPWELL BRACKETS MAY TIP. THIS PROCEDURE MUST NOT BE ATTEMPTED BY ONE PERSON.

- d. Refer to **Figure 2-6**. With doors fully open, position lift in vehicle doorway so that back of lift is supported by vehicle floor, and front of lift is supported by both bracket assemblies.



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FIGURE 2-6: BRACKET ASSEMBLY

- e. Fasten Baseplate to Floor:

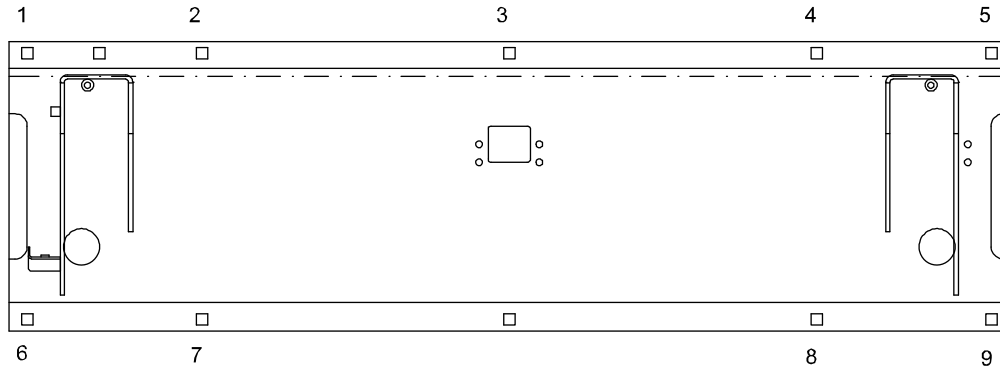
**NOTE:** If Ricon power door operators are used, install them first. They may influence location of lift.

- ⌘ Be certain baseplate is flush against vehicle floor. The baseplate may be slightly offset in door opening to provide proper clearance for passenger seats.
- ⌘ Before drilling, verify that lift position does not interfere with closing of vehicle doors or operation of passenger seats.
- ⌘ If this lift is being installed in a Dodge van with sliding doors, omit the bolts in baseplate holes 7 and 8.

f. Mark and Drill Holes:

 <b>CAUTION</b>
Before drilling holes, verify that underlying wires and tubing will not be damaged.

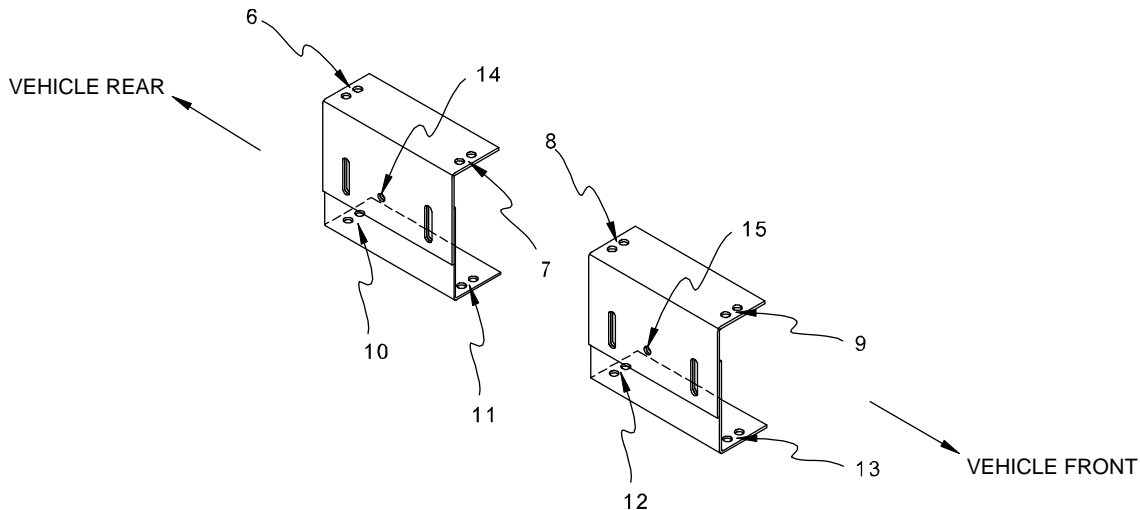
- 1) Refer to **Figure 2-7**. Mark and drill five 25/64" baseplate mounting holes (1, 2, 3, 4, and 5) through vehicle floor. (On Dodge and GM vans, you must drill through vehicle floor and subframe).
- 2) Place five 8" x 3/8" carriage bolts (use 4" x 3/8" bolts on Ford vans) into holes to secure position.



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**FIGURE 2-7: VAN BASEPLATE HOLES**

- 3) Refer to **Figure 2-8** on the following page. Match and align top holes of stepwell brackets 6, 7, 8, and 9, with baseplate holes 6, 7, 8, and 9. Mark lower stepwell bracket holes 10, 11, 12, and 13 onto vehicle step.
- 4) Remove five carriage bolts installed in step 2). Carefully push lift into vehicle interior.
- 5) Drill 1/4" dia holes through marked locations 10, 11, 12, and 13.



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**FIGUR FIGURE 2-8: STEPWELL BRACKET HOLE LOCATIONS**

g. Fasten Bracket Assemblies and Lift:

- 1) Use 1-1/2" x 5/16" sheet metal screws with 5/16" lock washers to secure lower brackets to vehicle step holes 10 through 13.

**NOTE:** If the screw in position 13 interferes with proper door operation, do not install.

- 2) Reposition lift and verify that surface beneath lift is free of obstacles.
- 3) Insert five 8" x 3/8" carriage bolts through mounting holes at rear of baseplate assembly, and insert four 1-1/2" x 3/8" carriage bolts through baseplate and bracket assemblies. Place 3/8" washers, lock washers, and nuts under bracket assemblies, and finger tighten nuts.

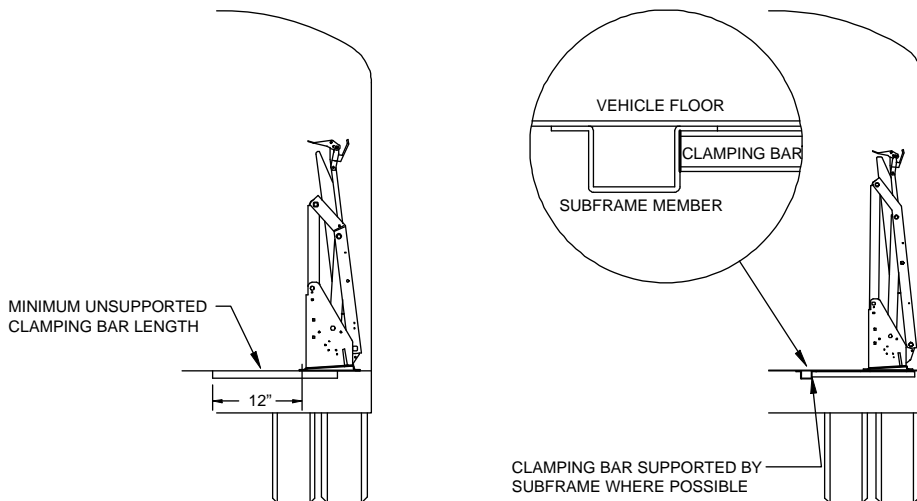
- NOTE:** On Dodge and GM vans, place five 4" x 4" plates, 3/8" washers, lock washers and hex nuts on 8" x 3/8" carriage bolts under van and finger tighten. On Ford models, reinforce vehicle floor with clamping bars. They are installed in positions 1, 2, 3, 4, and 5 and run across width of baseplate towards center of van.
- 4) Before tightening carriage bolts, verify that lift is level with vehicle floor. Adjust bracket assembly bolts if necessary.
  - 5) Tilting lift towards inside of van may hinder its initial unfolding. Install lift with its baseplate assembly as level as possible. Tightening carriage bolts requires special care to keep baseplate assembly from warping when secured to vehicle floor. If baseplate assembly warps, the vertical arms will not be parallel. Make corrections by shimming at appropriate locations. To help prevent warping, tighten the eight carriage bolts (six on Dodge van with sliding door) to 28 ft. lbs. in the appropriate sequence:

DODGE WITH SWING DOORS, ALL FORD AND GM VANS ..... **3, 1, 2, 4, 5, 6, 7, 8, 9**  
 DODGE WITH SLIDING DOORS ..... **3, 1, 2, 4, 5, 6, 9**

- NOTE:** Vertical arms must be parallel for proper operation. Adjust bolts as required. Best results are obtained when lift is mounted on plywood. Shims, although best avoided, may be used if required.
- 6) Make certain that holes 14 and 15 on the front of each bracket assembly are drilled through, and 5/16" bolts are inserted to lock position of bracket assemblies.

**5. LIFT INSTALLATION INTO BUSES**

Refer to **Figure 2-9**. Clamping bars are used on most bus installations to help distribute floor loading, and should only be cut if needed to clear a subframe member. A subframe member should be used to support clamping bar.

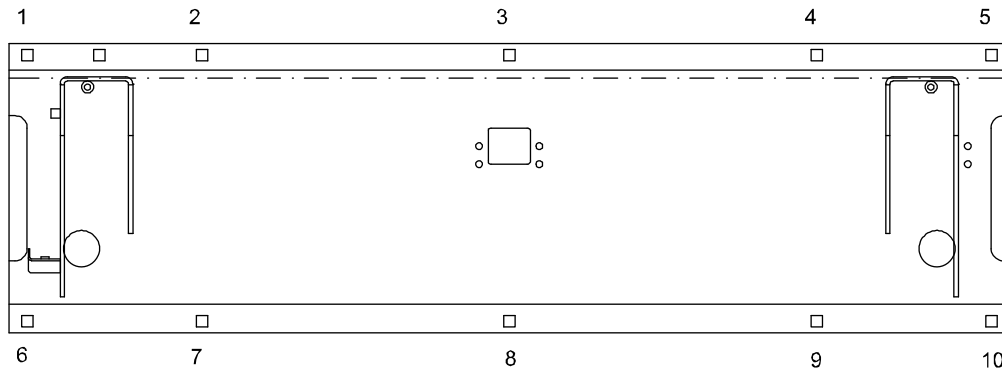


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**FIGURE 2-9: BUS CLAMPING BAR ARRANGEMENT**

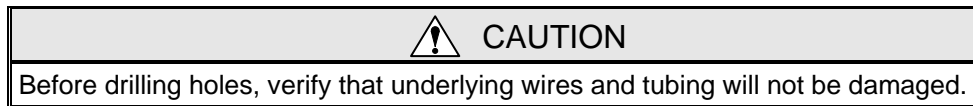
<b>WARNING</b>
<p>LIFT WEIGHT IS APPROXIMATELY 340-370 LBS. TAKE EXTREME CARE WHEN POSITIONING BECAUSE STEPWELL BRACKETS MAY TIP. THIS PROCEDURE MUST NOT BE ATTEMPTED BY ONE PERSON.</p>

- a. Open doors fully and position lift so that it is centered in vehicle doorway. Close doors and move lift outward until it clears doors by a minimum of 1/2". The baseplate must be parallel to side of bus. Open manual pump release valve (CCW) and allow folded platform to fully settle against latch on baseplate. Verify that interference is not present between lift and doors. Reposition lift, if necessary. Close pump release valve; do not overtighten valve.
- b. Refer to **Figure 2-10**. Mark and drill ten 25/64" baseplate mounting holes (1 thru 10) through vehicle floor.



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FIGURE 2-10: BUS BASEPLATE HOLES



## c. Fasten Lift:

- 1) Insert ten 4" x 3/8" carriage bolts through baseplate and vehicle floor.
- 2) Refer to **Figure 2-9**. Install five clamping bars on bolts underneath vehicle floor (across baseplate), i.e., from 1 to 6, 2 to 7, etc, and secure lift to vehicle floor with 3/8" washers, lock washers and hex-nuts.
- 3) Use care when tightening carriage screws to prevent baseplate warpage. If baseplate assembly warps, vertical arms will not be parallel. Make corrections by shimming at appropriate locations. To help prevent warping, tighten the eight carriage bolts to 28 ft. lbs. in the following sequence:

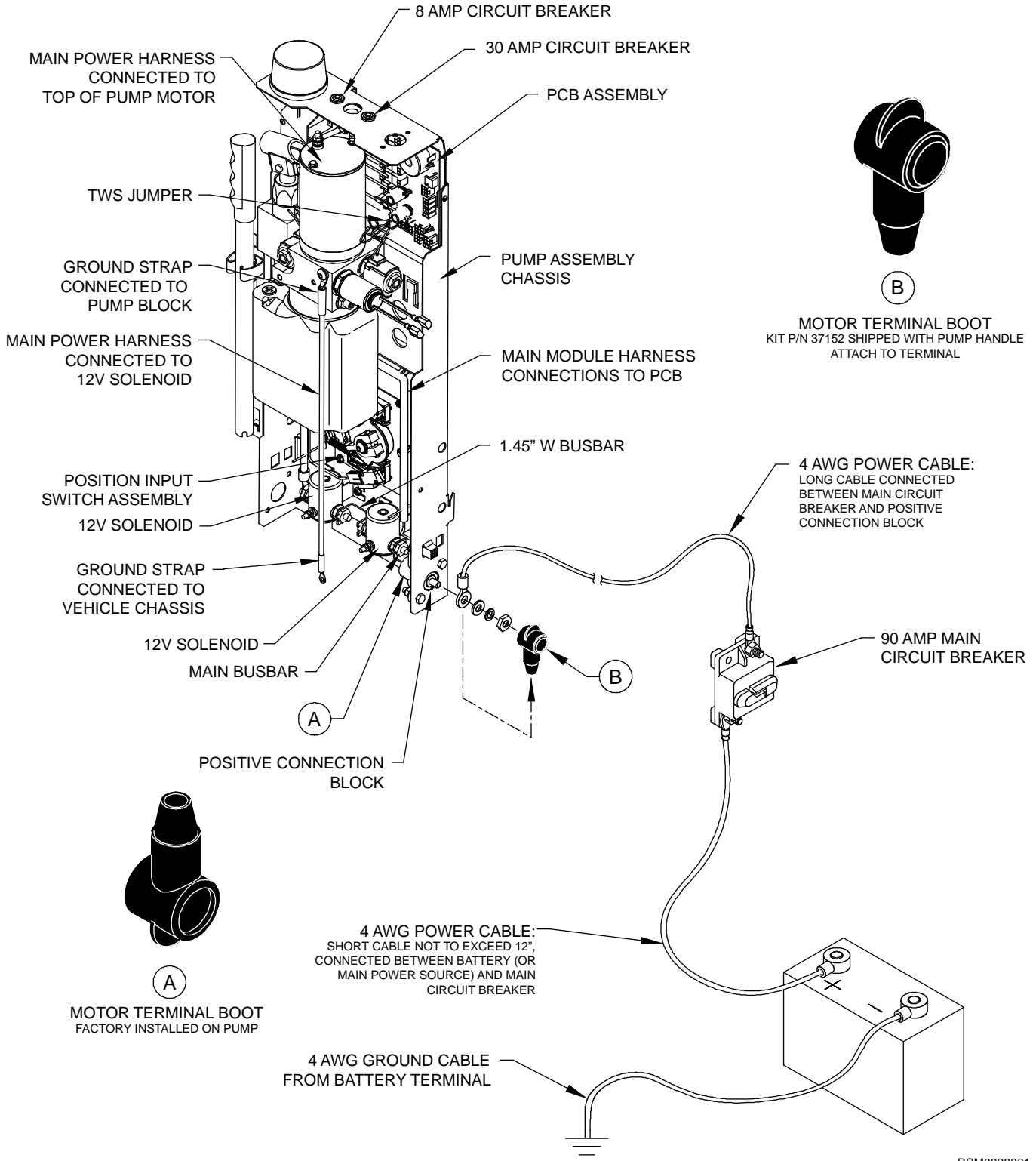
**3, 8, 2, 4, 7, 9, 1, 5, 6, 10**

**NOTE:** Vertical arms must be parallel for proper operation. Adjust bolts as required. Best results are obtained when lift is mounted on plywood. Shims, although best avoided, may be used if required.

B. ELECTRICAL INSTALLATION

**CAUTION**

- Do not route any wire while it is connected to the battery.
- Route wires clear of moving parts, brake lines, and the exhaust system. Secure to the vehicle.
- When routing an electrical wire through vehicle floor or walls, use a grommet to protect wires from chafing.
- Check underside of vehicle before drilling to avoid damage to fuel lines, vent lines, brake lines, or wiring.



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FIGURE 2-11: ELECTRICAL INSTALLATION DIAGRAM

**1. INSTALL MAIN CIRCUIT BREAKER**

- a. Disconnect battery.
- b. Mount main circuit breaker inside engine compartment within 12 inches of battery (to minimize length of unprotected cable). Avoid installing near a heat source.

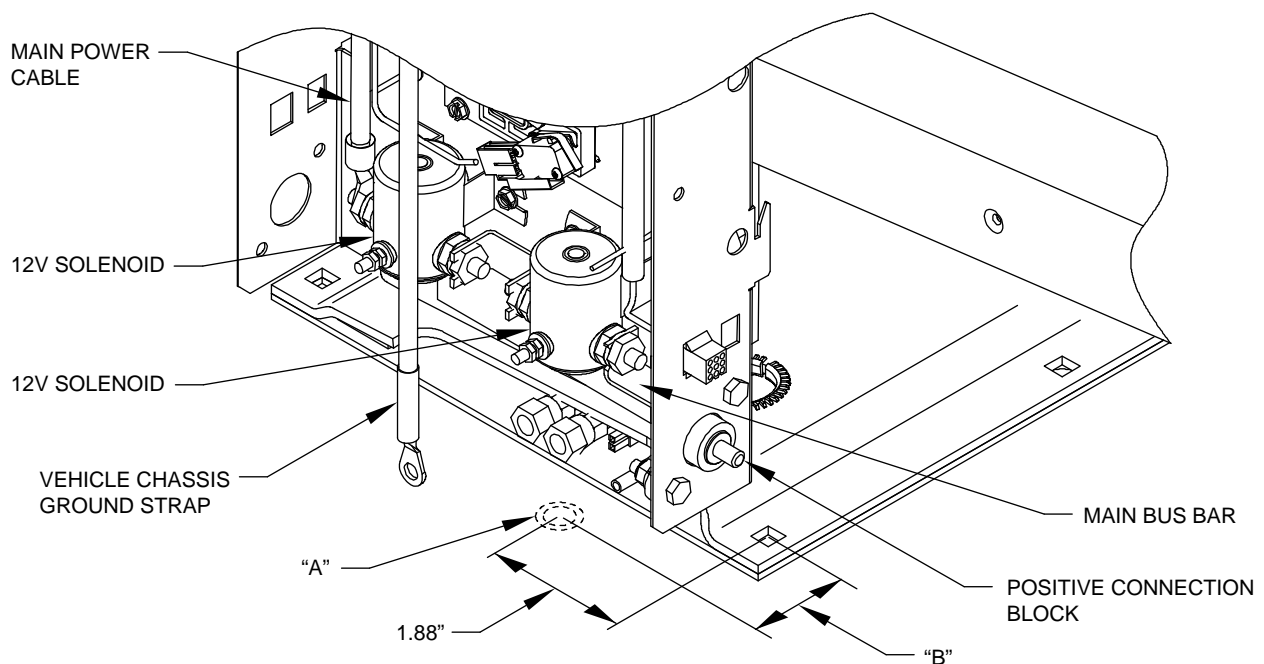
**2. ROUTE AND CONNECT MAIN POWER CABLE**

 **CAUTION**

Check under-side of vehicle before drilling to avoid damage to fuel lines, vent lines, brake lines, or wiring.

**NOTE:** For applications where power cable is to pass through sheet metal, drill a 3/4" hole and use wire clamp provided. For applications where cable is to pass through plywood, drill a 1" hole and use black plastic grommet provided.

- a. Refer to **Figure 2-12**. Drill a hole through the vehicle floor near the positive connection block (stud on the side of the pump chassis that is attached to the main bus bar) so power cable can be connected. Drill hole where the installed pump cover will cover it.



"A": 0.75 DIAMETER FOR FLOOR METAL  
1.00 DIAMETER FOR OTHER MATERIAL

"B": 30" PLATFORM WIDTH = 1.25"  
32" PLATFORM WIDTH = 2.25" L

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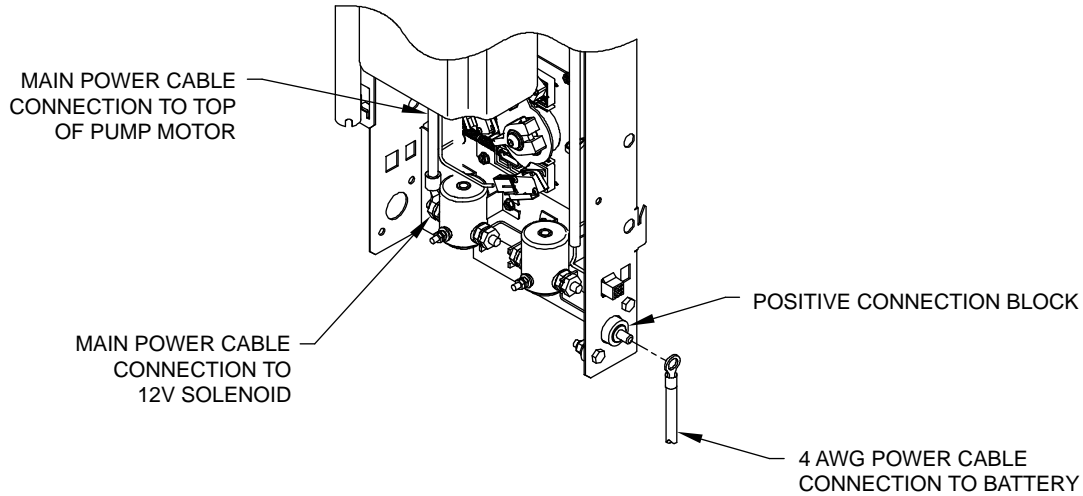
**FIGURE 2-12: POWER CABLE ACCESS HOLE**

- b. Install supplied heavy ring terminals to each end of the short (12" long) 4 AWG power cable. Install one ring terminal, only, to one end of long power cable. Use an appropriate crimp tool (such as Ricon hammer tool, part of kit P/N 01243).
- c. Connect ring terminal end of long 4 AWG power cable to 90A main circuit breaker, then route power cable underneath vehicle floor and up through hole in floor.
- d. Tie power cable to vehicle chassis, using cable ties. Avoid pinch points, exhaust system, moving parts, and brake lines. Verify that power cable is secure.

 **CAUTION**

Be sure that there is no interference with any parts that could damage power cable or other wires in any way.

- e. Refer to **Figure 2-13**. Cut excess wire from long cable, install heavy ring terminal, and then connect to positive connection block. Verify that red wire from main circuit breaker (if applicable) is connected to positive connection block.



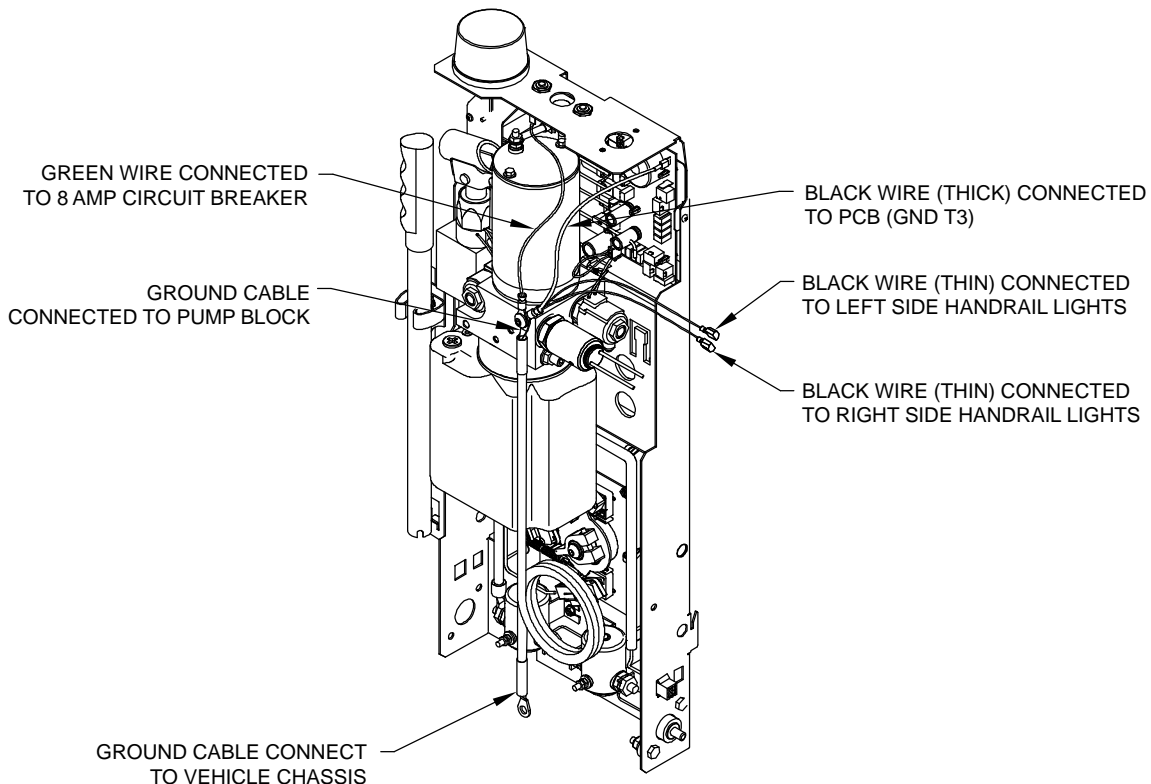
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**FIGURE 2-13: CABLE ROUTING**

- f. Connect 12" cable, with ring terminals, from positive battery terminal to main circuit breaker terminal.

**3. GROUND CONNECTIONS**

- a. Refer to **Figure 2-14**. Locate 4GA ground cable that is pre-installed then install ground cable to vehicle chassis. Avoid pinch points, exhaust system, moving parts, and brake lines. Verify that ground cable is secure.



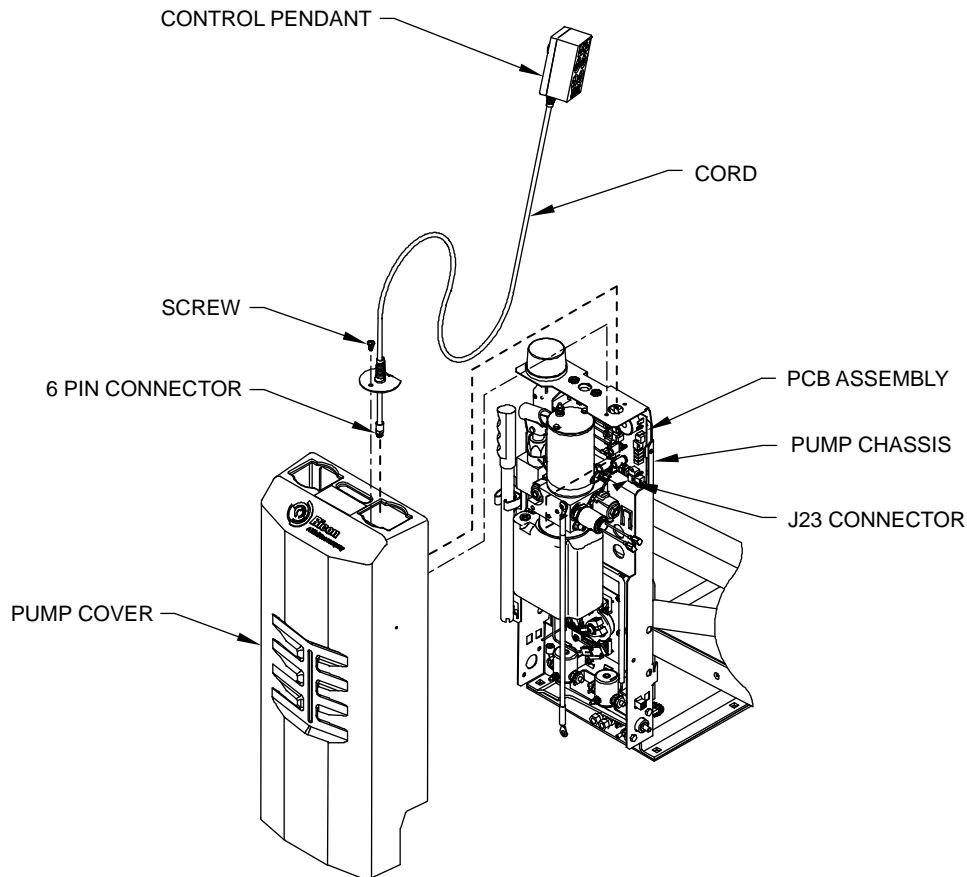
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**FIGURE 2-14: GROUND CABLE**

- b. Refer to **Figure 2-14**. Ensure other wires that are fasted with the ground cable are secure and remain connected after installation.
- c. **12 VDC Systems**  
12 VDC powered lifts are chassis grounded and do not require a separate ground cable connection to battery. However, if the common side of the lift electrical system is connected to chassis with a cable, the cable must be attached in a manner that provides a reliable electrical connection. If ground cable is attached to an existing ground circuit, the circuit must be capable of conducting an additional 90 amps.
- d. **24 VDC Systems**
  - 1) Ricon recommends that a dedicated ground cable be used in 24 VDC installations. A 4GA cable, or heavier, must be used.
  - 2) Refer to **Figure 2-15**. The ground cable is connected from the negative stud (-) on pump motor to the negative battery terminal.

#### 4. CONTROL PENDANT

- a. Refer to **Figure 2-15**. Remove pump cover to gain access to PCB assembly then insert six-pin connector with cord through pump cover and chassis assembly openings.
- b. Refer to **Figure 2-15**. Install six pin connector of hand-held control pendant to J23 input connector of PCB.
- c. Slide pump cover back onto pump assembly chassis.



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**FIGURE 2-15: CONTROL PENDANT**

- d. Refer to **Figure 2-15**. Install screw to secure control pendant bracket to pump assembly chassis.



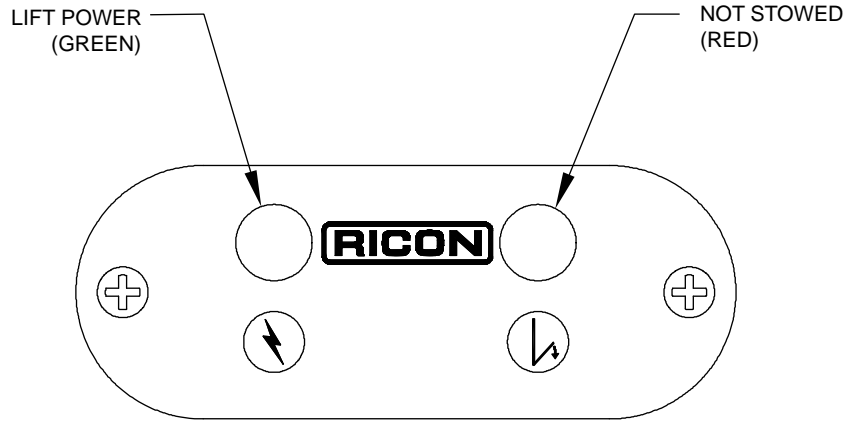


**5. INSTALLATION OF INTERLOCK DEVICE**

The supplied interlock device must be installed to prevent operation of the lift or vehicle when it is unsafe to do so. The S and K-Series lifts provide an electrical interlock signal to the vehicle that prevents movement of the vehicle unless the platform is fully stowed. The interlock control also supplies power to the lift only when the vehicle parking brake is set and the transmission is in PARK.

**NOTE:** A 30-amp circuit breaker is located within the lift as a circuit protection device. The circuit interface used by the installer must be capable of carrying an additional 30 amps of continuous current.

Refer to **Figure 2-16**. The interlock installation kit provides a display panel for mounting on the vehicle dashboard. The figure shows an LED display panel. The Lift Power LED lights green when the vehicle transmission is in PARK and the parking brake is set. While the LED is green the lift is lowered and the platform can be deployed. The Not Stowed LED lights red when the platform is not fully stowed into the vehicle. While the LED is red the transmission cannot be shifted out of PARK.



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**FIGURE 2-16: INTERLOCK DISPLAY PANEL**

The installer must verify that none of the original equipment circuit breakers, fuses, or solenoids are bypassed, removed, or altered. Be sure that no wires are left frayed or hanging loose after installation of the interlock device. If you have any questions concerning the proper installation of this interlock device, please contact our Product Support department.

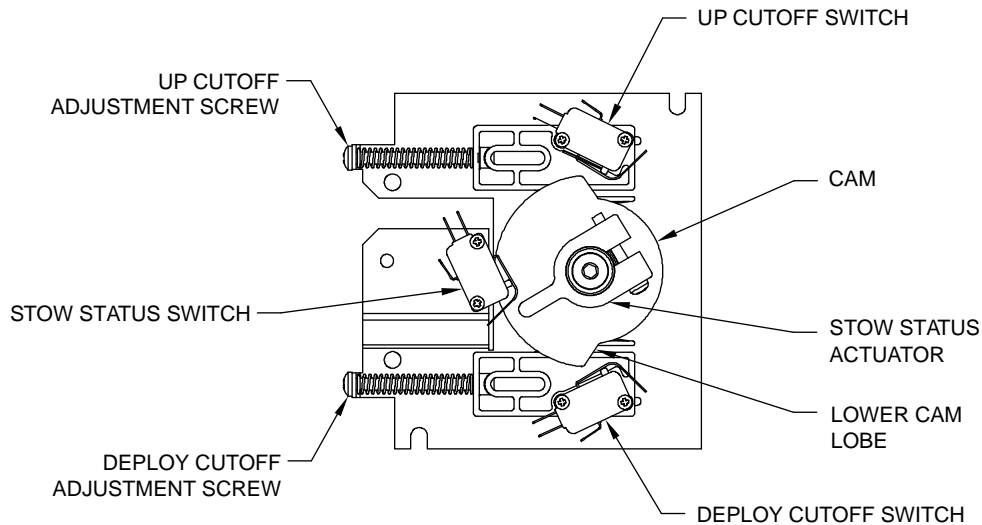
## C. FINAL ADJUSTMENTS

### 1. LIMIT SWITCH ADJUSTMENT

Refer to **Figures 2-17, 2-18**, and the following procedure.

**NOTE:** To avoid operational “dead-spots”, adjust DEPLOY CUTOFF SWITCH before UP CUTOFF SWITCH.

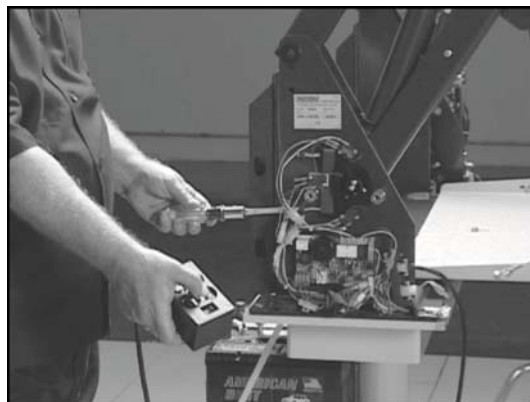
**NOTE:** When loosening adjustment screws, apply enough pressure to screw to move block instead of screw. (The block might stick if insufficient pressure is applied to screw.)



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**FIGURE 2-17: LIMIT SWITCH ADJUSTMENT DIAGRAM**

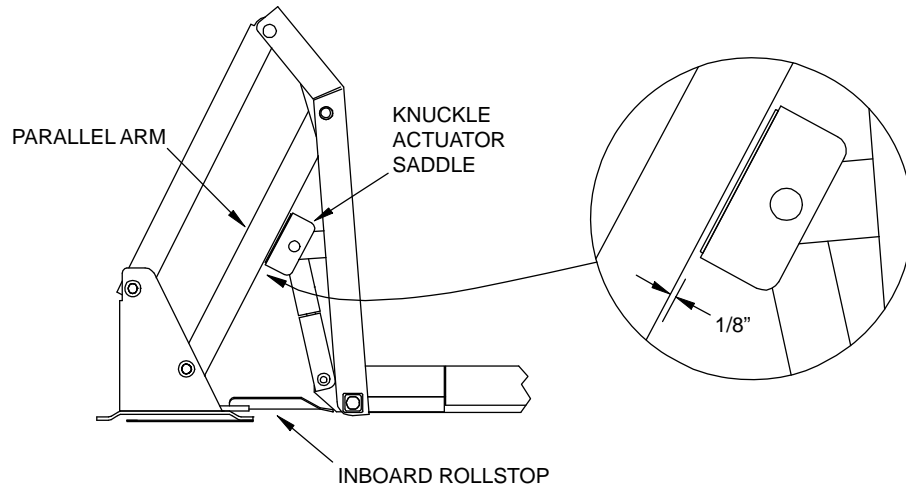
- a. Fully DEPLOY platform.
- b. Adjust UP CUTOFF ADJUSTMENT SCREW and DEPLOY CUTOFF ADJUSTMENT SCREW 6-8 turns **counterclockwise** (CCW) and then push screws FORWARD.
- c. Cycle platform to STOW then DEPLOY.
- d. When in DEPLOY position, platform should stop at an angle and NOT even with vehicle floor. If not, turn DEPLOY CUTOFF ADJUSTMENT SCREW an additional 2-3 turns **counterclockwise** (CCW), push screw forward, STOW then DEPLOY platform, then repeat this step.
- e. Cycle platform to UP position.
- f. When in UP position, platform should stop short of vehicle floor level. If not, turn UP CUTOFF ADJUSTMENT SCREW an additional 2-3 turns **counterclockwise** (CCW), push screw forward, cycle platform DOWN then UP, then repeat this step.
- g. Cycle platform to STOW then DEPLOY.
- h. Push and hold control pendant DEPLOY switch. Slowly turn DEPLOY CUTOFF ADJUSTMENT SCREW **clockwise** (CW) until platform “jogs” down to vehicle floor level. Make sure that clearance between knuckle actuator saddle and parallel arm is 1/8" minimum (distance may be 1/2" maximum and unequal from left or right arm), stop turning screw and release DEPLOY switch.



**FIGURE 2-18: LIMIT SWITCH ADJUSTMENT DIAGRAM**

- i. Position platform DOWN to ground level then UP until it stops.
- j. Push and hold control pendant UP switch. Slowly turn UP CUTOFF ADJUSTMENT SCREW **clockwise** (CW) until platform "jogs" up to vehicle floor level. Make sure that clearance between knuckle actuator saddle and parallel arm is 1/8" minimum (distance may be 1/2" maximum and unequal from left or right arm), stop turning screw and release UP switch.

**NOTE:** If lift does not operate after 1-2 full turns of adjustment screw, cycle platform UP and DOWN (The UP CUTOFF SWITCH is less sensitive than DEPLOY CUTOFF SWITCH.)



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**FIGURE 2-19: LIMIT SWITCH ADJUSTMENT CLEARANCE**

- k. Cycle platform through all functions (DEPLOY, DOWN, UP, and STOW) to verify correct adjustment. Refer to **Table 2-1** if necessary.

<b>TABLE 2-1: LIMIT SWITCH ADJUSTMENT CHART</b>			
<b>COMPONENT</b>	<b>SYMPTOM</b>	<b>CORRECTIVE ACTION</b>	<b>ADJUSTMENT PROCEDURE</b>
Fold cutoff actuator	Lift does not fold tightly.	Rotate CAM (CCW).	With lift fully folded (handrails should be folded tight against vertical arms), rotate actuator so that it barely trips fold cutoff switch.
	Pump runs continuously.	Rotate actuator (CW).	
Up cutoff adjustment screw	Lift stops low.	Adjust screw (CW).	Adjust up cutoff switch so that lift stops just before first knuckle actuator saddle or roller touches underside of lower parallel arm. (Saddle or roller should be about 1/8" from lower parallel arm.)
	Lift stops high.	Adjust screw (CCW).	
Deploy cutoff adjustment screw	Lift stops low.	Adjust screw (CCW).	Adjust deploy limit switch so that lift stops just below "Up" cutoff described in above step. This will give the necessary overlap to avoid "dead" spots.
	Lift stops high.	Adjust screw (CW).	
<b>END OF TABLE</b>			

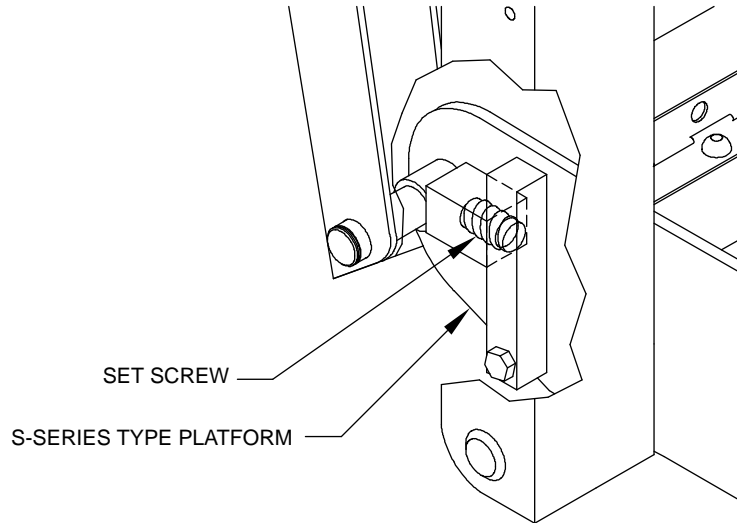
## 2. PLATFORM TILT ADJUSTMENT

Correct platform tilt adjustment is crucial for proper platform rollstop operation, but cannot be adjusted at factory. Factors such as vehicle floor height, lift tilt angle and stiffness of vehicle springs will vary installation geometry.

- Deploy and lower lift platform to a position halfway between vehicle floor level and ground level.
- Refer to **Figure 2-20**. Adjust left and right platform set screws until platform is level at zero (0) degrees. Turn setscrews clockwise to angle front-end of platform upward, or counter-clockwise to angle downward.

**NOTE:** At ground level, the distance between heel of platform and ground should be 3/4" to 1". This distance should be measured at initial point of rollstop full deployment.

**NOTE:** Adjust setscrews on both sides of platform simultaneously and evenly to ensure proper leveling of platform.



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**FIGURE 2-20: S/K-SERIES PLATFORM SET SCREWS**

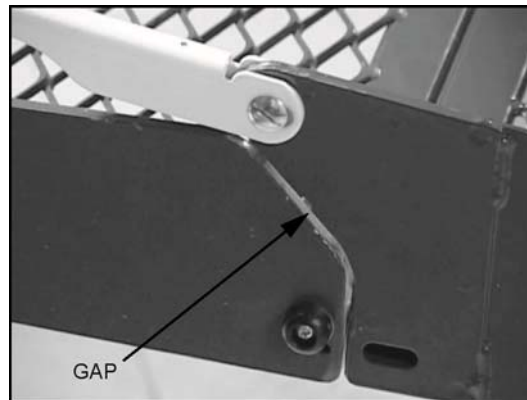
- Repeat steps a and b as required to achieve proper rollstop operation.

## 3. K-SERIES PLATFORM FOLDING LINKAGE ADJUSTMENT

For K-Series with split platforms, the front portion of the platform is connected to the rear portion with a hinge. The front portion is folded with linkages located at the right and left sides of the platform. The length of the linkage might require adjustment after installation of the lift or after disassembly of the platform.

**NOTE:** Perform the PLATFORM TILT ADJUSTMENT procedure before adjusting the linkage.

- Deploy and lower the platform to a position about halfway between floor level and ground level.
- Refer to **Figure 2-21**. Inspect the gaps on both sides of the platform folding joints. The gaps must be uniform. If the gaps are not uniform, adjustment is required.



**FIGURE 2-21: S/K-SERIES PLATFORM SET SCREWS**

- Refer to **Figure 2-22**. Loosen the jam nuts (right and left sides) and use the adjusters to set the length of the linkages so that the front and rear portions are in the same plane; the two surfaces of the platform portions must be flat without any apparent folding along the hinge.

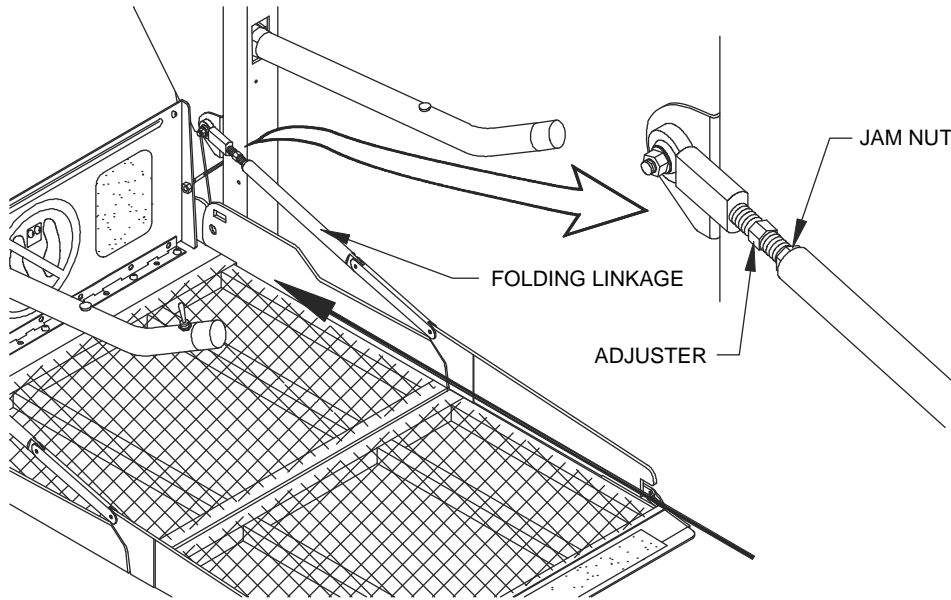


FIGURE 2-22: ADJUSTMENT HARDWARE FOR PLATFORM FOLDING LINKAGE

- d. Verify that the tension of both linkages is the same by sighting along the outer edge of the platform (arrow in figure). Tighten jam nuts.
- e. Lower platform until it settles on the ground. Verify that a slight amount of slack is present in both linkages. If either linkage is under tension, repeat steps a and b.

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4. K-SERIES OUTER ROLLSTOP BARRIER ADJUSTMENT

**NOTE:** This procedure is done to tighten the outer rollstop barrier by adjusting the universal platform folding brackets that are attached to the vertical arms on a K-Series lift.

- a. Fully stow the platform and check to see if there is movement of the outer rollstop barrier. If there is sufficient movement, deploy the platform to floor level.
- b. Refer to **Figures 2-23**. Turn the screws to loosen the folding bracket. Slightly move the bracket down to add pre-load on the platform link assembly.

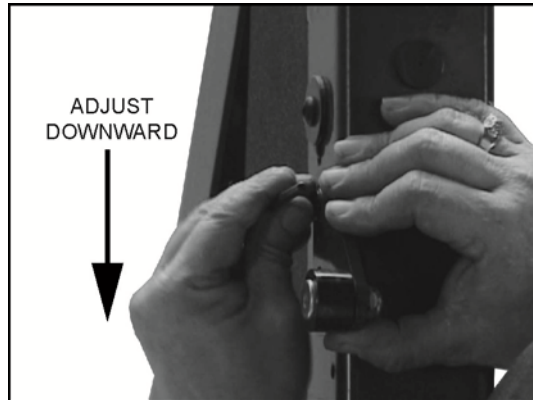


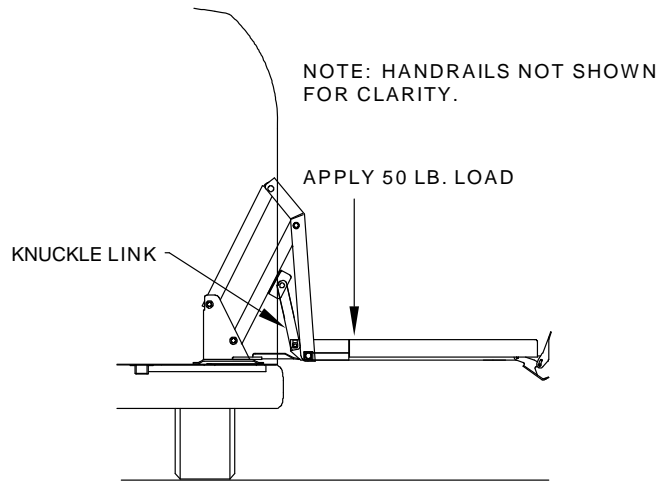
FIGURE 2-23: PLATFORM FOLDING BRACKET

- c. Tighten the screws then repeat for the opposite folding bracket.
- d. Stow the platform and verify that the outer rollstop barrier securely folds and locks with no movement.

5. PLATFORM PRESSURE SWITCH CHECK AND ADJUSTMENT

Correct adjustment of this pressure switch is required to prevent platform from folding into vehicle when there is a load of 50 lbs., or more, on the platform.

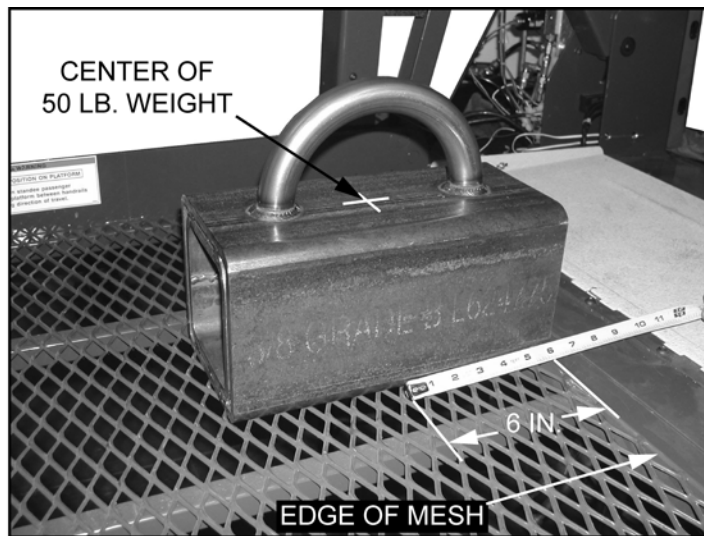
- a. Refer to **Figure 2-24**. Deploy and lower platform to ground.



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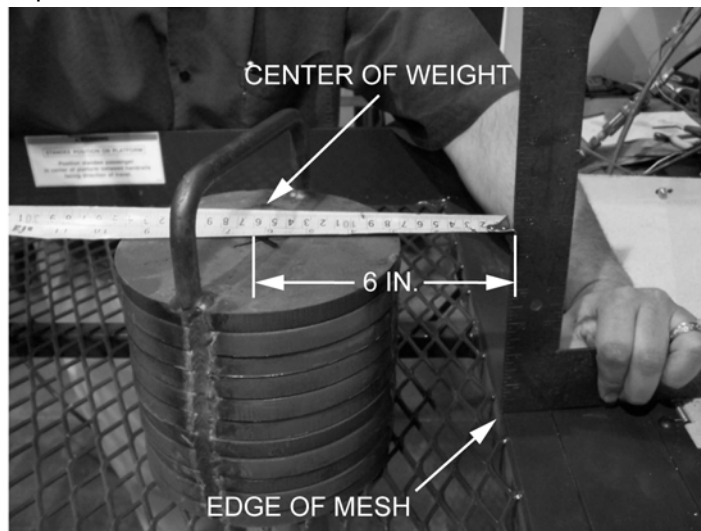
**FIGURE 2-24: PRESSURE SWITCH TEST AT FLOOR LEVEL**

**NOTE:** Weight must be 50 lbs. and placed 6 inches from rear edge of platform mesh as shown in **Figure 2-25**.



**FIGURE 2-25: 50 LB. WEIGHT PLACEMENT ON PLATFORM**

- b. Place a 6" x 6" x 12", 50 lb. load on the rear, center portion of platform then raise platform to floor level by pressing and holding the STOW switch.
- c. Refer to **Figure 2-26**. If an alternate weight is to be used, the center of the weight must be 6 inches from the rear edge of the platform mesh.

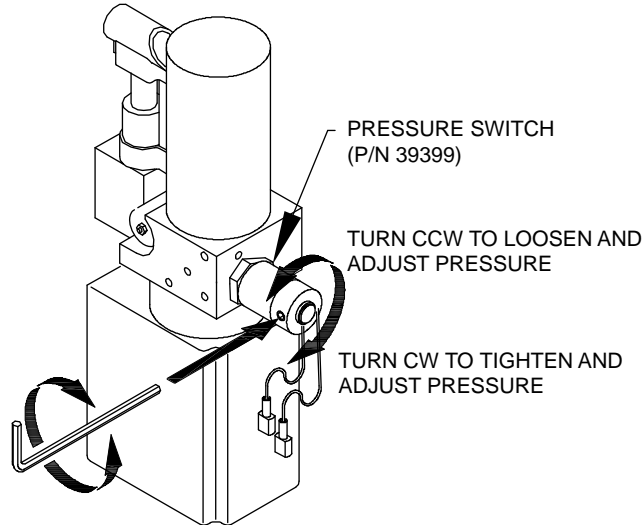


**FIGURE 2-26: ALTERNATE 50 LB. WEIGHT**

- d. The pressure switch is correctly set if pump motor shuts off when attempting to stow the lift, preventing inward movement of the platform.
- e. The pressure switch is not correctly set if pump motor does NOT shut off and there is inward movement of the platform. Adjustment of the pressure switch will be required.

**NOTE:** If adjustment is necessary then pressure switch must be adjusted as shown in **FIGURE 2-27**.

- f. Refer to **Figure 2-27**. Loosen the locking set screws from the hydraulic pressure switch, using a 5/64" hex wrench to allow adjustment of the hydraulic pressure switch.



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**FIGURE 2-27: PRESSURE SWITCH ADJUSTMENT (P/N 39399)**

- g. Turn the hydraulic pressure switch enclosure 1/8 of a turn **counterclockwise** (CCW), by hand to reduce the pressure.

**NOTE:** Turn the hydraulic pressure switch enclosure **clockwise** (CW) to increase pressure and **counterclockwise** (CCW) to decrease pressure, by hand.


- h. Stow platform and observe if the motor shuts off.
- i. If the motor does not shut off, turn the hydraulic pressure switch enclosure 1/8 of a turn **counterclockwise** (CCW), by hand to reduce the pressure.

**NOTE:** The lift should NOT stow or have inward movement with the weight on the platform.

- j. Repeat pressure switch adjustment as necessary to achieve correct setting.
- k. Tighten the locking set screw when the correct pressure setting is achieved.

**D. VERIFY INSTALLATION**

- ˘ Be certain that no vehicle components interfere with operation of lift.
- ˘ The lift is designed to carry the weight of a wheelchair and its passenger. The vehicle structure must be capable of supporting all loads produced during lift operation as well as those forces caused by motion of vehicle when it is driven.

 **CAUTION**

- Do not operate lift when test weight is on platform. This load test is designed to test the lift **mounting method**, not the lift capacity. Remove test weight immediately after check.
- Vehicle suspension will compress and vehicle will lean when test weight is placed on platform. If weighted platform contacts ground, remove weight, raise platform, and retest.

- ˘ Ricon recommends that the lift be test loaded at its rated 800 pound load capacity to verify integrity of installation. Position lift platform 2" - 6" above the ground, place 600 pounds in center of platform, and inspect lift mounting brackets and hardware. **REMOVE TEST WEIGHT.**
- ˘ Run lift through several complete cycles while checking for proper operation.

**NOTE:** The installing dealer affixes the Operating Instructions decal to vehicle in a location clearly visible to the lift operator.

**E. SAFETY CHECKLIST FOR VEHICLE MANUFACTURER**

This checklist is intended to verify safe operation of Ricon FMVSS 403 and 404 compliant wheelchair lifts. All requirements must be met for the wheelchair lift to be considered compliant.

COMPLIANT	NON-COMPLIANT	REQUIREMENT
		Wheelchair lift and vehicle properly interlocked (lift cannot be powered unless vehicle interlocks are activated, and interlocks cannot be disengaged unless lift is fully stowed).
		Threshold warning device functioning properly (audible warning and visual warning is activated if threshold area is entered when platform is at least one inch below vehicle floor level).
		Main power switch enables and disables the lift control system.
		Control pendant illuminated when the lift is powered (Public Use Lift Only).
		Inboard rollstop does not rise from floor level with 25 pounds, or more, at center of barrier.
		Platform unable to rise more than 3" above ground if safety belt is not engaged.
		Platform lighting functional when lift is powered.
		Platform does not stow if a weight of 50 pounds, or more, is present on platform.
		Manual back-up operation fully functional (see operator manual for directions).



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### III. S/K-SERIES PUBLIC USE MAINTENANCE AND REPAIR

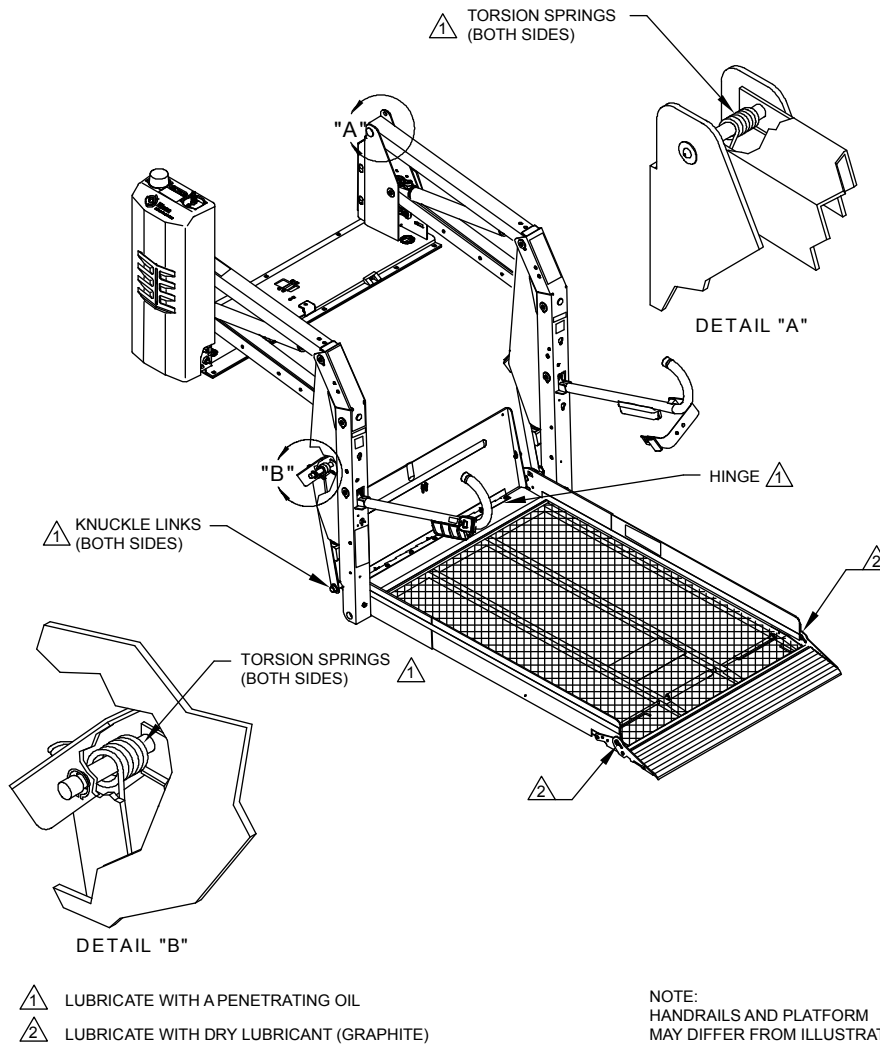
Regular maintenance of the RICON S-Series and K-Series Public Use wheelchair lift will help optimize its performance and reduce the need for repairs. This chapter contains cleaning and lubrication instructions, maintenance schedule, troubleshooting section, and maintenance diagrams.

<b>⚠ CAUTION</b>
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 warranty and may result in unsafe operating conditions.

#### A. LUBRICATION

<b>⚠ CAUTION</b>
Do not lubricate motor or other electrical components. Lubrication of electrical components may create unintentional short circuits.

Lubrication should be performed at least every six months, or sooner depending on usage. Refer to **Figure 3-1** and the following Maintenance Schedule. Lubricate lift at points specified.





**FIGURE 3-1: LIFT LUBRICATION POINTS**

#### B. CLEANING

Regular cleaning with mild soap (i.e. dish soap, 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 remain clear and clean prior to lubrication.

**C. MAINTENANCE SCHEDULE**

Under normal operating conditions, maintenance inspections are required at least every six months (1750 cycles) and a thorough inspection should be performed at service intervals referenced in **Table 3-1**. Service should be increased under conditions of heavier use (more than 10 cycles per day).

<b>TABLE 3-1: MAINTENANCE SCHEDULE</b>	
<b>SERVICE POINT</b>	<b>ACTION TO PERFORM</b>
<b>10 CYCLES</b>	
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.
Threshold warning system	Verify that system properly detects objects in threshold area and actuates the audible alarm.
Bridgeplate load sensor	Verify that sensor inhibits downward movement of platform when a weight is present on lowered bridgeplate.
<b>150 CYCLES</b>	
Electrical wiring	Inspect electrical wiring for frayed wires, loose connectors, etc.
Vehicle interlock	Place vehicle in non-interlock mode and verify that lift does not operate.
Decals	Verify that lift decals are properly affixed, clearly visible, and legible. Replace, if necessary.
Armrests	Verify that armrest fasteners are properly tightened.
Lift mounting points	<ul style="list-style-type: none"> <li>▪ Verify that vehicle mounting and support points are undamaged.</li> <li>▪ Verify that mounting bolts are sufficiently tight and free of corrosion.</li> </ul>
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.
Bridgeplate	<ul style="list-style-type: none"> <li>▪ Verify that bridgeplate operates without binding during lift functions.</li> <li>▪ Verify that bridgeplate deploys fully when platform stops at floor level.</li> <li>▪ Verify bridgeplate rests flat against baseplate.</li> </ul>
Front rollstop	<ul style="list-style-type: none"> <li>▪ Verify that rollstop is opened completely when platform is at ground level.</li> <li>▪ Verify that rollstop closes and locks when platform leaves ground.</li> </ul>
Hydraulic power unit	 <b>CAUTION</b>
	<p>Check and add fluid when platform is at ground level. Fluid that is added when platform is raised will overflow when platform is lowered.</p> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Verify there are no hydraulic fluid leaks.</li> <li>▪ Verify that manual backup pump operates properly.</li> </ul>
<b>1800 CYCLES</b>	
Cleaning and lubrication	<ol style="list-style-type: none"> <li>1. Clean lift with mild soap and water and wipe dry. Prevent rust by coating all surfaces with a light weight oil. Remove excess oil.</li> <li>2. Spray penetrating oil (Curtisol® Red Grease 88167 or WD-40®) where specified following directions on container. Remove excess grease from surrounding areas.</li> </ol>
 <b>CAUTION</b>	
A Ricon dealer or qualified service technician must perform the following safety check.	
<b>3600 CYCLES</b>	
Hydraulic cylinder, hoses and fittings	<ul style="list-style-type: none"> <li>▪ Check hydraulic cylinder for evidence of leaks.</li> <li>▪ Inspect hydraulic hoses for damage.</li> <li>▪ Verify that all fittings are tight.</li> </ul>
<b>END OF TABLE</b>	

**D. TROUBLESHOOTING**

The troubleshooting guides are designed to provide logical starting points to locate general problems that could occur with lift. However, not all possible problems or combinations of problems are listed. For troubleshooting lift, refer to **Tables 3-2**. The guide do not incorporate routine safety precautions or preliminary procedures and assume that vehicle battery is fully charged and battery terminals/connectors are clean and tight.

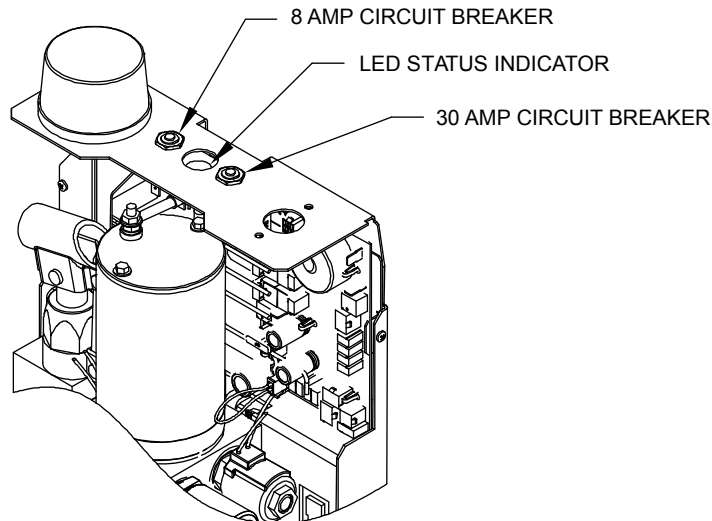
 <b>WARNING</b>
<p>THE TROUBLESHOOTING GUIDES DO NOT INCORPORATE ROUTINE SAFETY PRECAUTIONS OR PRELIMINARY PROCEDURES. DURING THE RICON WARRANTY PERIOD A TRAINED, RICON DEALER OR QUALIFIED SERVICE TECHNICIAN MUST PERFORM TROUBLESHOOTING. AFTER THE WARRANTY PERIOD, IT IS RECOMMENDED THAT TROUBLESHOOTING BE CONTINUED BY A RICON DEALER OR QUALIFIED SERVICE TECHNICIAN.</p>

**1. LIFT TROUBLESHOOTING**

<b>TABLE 3-2: TROUBLESHOOTING LIFT OPERATION</b>			
<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY</b>	
Hydraulic fluid leaks	Loose hydraulic fitting.	Make sure fitting is PROPERLY tightened.	
	Hydraulic component defective.	Discontinue use of lift. Have repairs made by a Ricon dealer or qualified service technician.	
Rollstop does not open	Obstruction of rollstop release latch.	Raise lift and remove obstruction.	
Lift functions	Abnormal Operation.	Obstruction in lifting frame.	Remove obstruction and check for any damage
		Backup pump manual release valve OPEN.	Turn manual release valve CLOCKWISE until slightly snug.
		Hydraulic fluid may be low.	While platform is at GROUND LEVEL, be certain that pump hydraulic fluid level is maintained at required FULL level. Add only Texaco 01554 Aircraft Hydraulic Oil or equivalent U.S. mil spec H5606G fluid.
		Air may be trapped in hydraulic system.	Purge hydraulic system by operating lift through its maximum range of travel for at least four complete cycles. (For vehicles that do not use full travel of lift, the maximum range of travel is accomplished by raising vehicle on a service hoist or ramp.)
	No Operation.	Control system circuit breaker tripped.	Reset circuit breaker.
		Backup pump manual release valve OPEN.	Turn manual release valve CLOCKWISE until slightly snug.
		Hydraulic hose or fitting leak.	Contact a Ricon dealer or qualified service technician for repair.
		Hydraulic fluid may be low.	While platform is at GROUND LEVEL, be certain that pump hydraulic fluid level is maintained at required FULL level. Add only Texaco 01554 Aircraft Hydraulic Oil or equivalent U.S. mil spec H5606G fluid.
		Air can be trapped in hydraulic system.	Purge hydraulic system by operating lift through its maximum range of travel for at least four complete cycles. (For vehicles that do not use full travel of lift, the maximum range of travel is accomplished by raising vehicle on a service hoist or ramp.)
<b>END OF TABLE</b>			

## 2. PUMP SOLENOID LED STATUS INDICATOR

Refer to **Figure 3-2**. Two identical solenoids provide a margin of safety in the event that one of the solenoids fails with its contacts closed. A two-color status indicator LED is located between the 8A and 30A circuit breakers to monitor the condition of the two solenoids. The LED is normally off when the pump is not operating and becomes green when the pump operates. When the pump is not operating and the left solenoid has failed the LED will be red. The LED will be green when the right solenoid has failed.



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**FIGURE 3-2: STATUS INDICATORS FOR PUMP SOLENOIDS**

## 3. BRIDGEPLATE CABLE ASSEMBLY REPLACEMENT

The following steps provide instructions for replacing the bridgeplate (also known as inner rollstop or IRS) cable assembly. Refer to **Figure 3-3** on following page. Please follow these instructions carefully. Call Ricon Product Support if you need assistance.

- a. Study the routing of the cable before removing it.
- b. Deploy the lift platform to vehicle floor level. Be certain that bridgeplate is resting against baseplate assembly.
- c. Remove pinch point shields from the left and right vertical arm assemblies.
- d. Assemble and secure one end of an IRS cable to the IRS pulley mount block (#1; located inside the left vertical arm assembly) using a hex screw, bushing, and washer.
- e. Route the cable around the IRS pulley mount block bushing (#2). Verify that cable is routed between the bushing tab and the point where the cable makes contact with the bushing. Install washer and hex nut over bushing and cable assembly.
- f. Continue to route the cable around grooved bearings #3, #4, and #5.
- g. Route the cable down the length of the vertical arm assembly and around grooved bearing #6.
- h. Assemble and secure the end of the IRS cable to the left side of the bridgeplate (#7) using a hex screw, washer, bushing, and he nut. Be sure to install a hex nut on the inside of the inner rollstop.
- i. Repeat for right side.
- j. Reinstall pinch point shields removed in step 2.



5. BRIDGEPLATE ADJUSTMENT

**NOTE:** The purpose of the bridgeplate adjustment is to adjust the floor level setting by adjusting the Up Cutoff Adjustment Screw and Deploy Cutoff Adjustment Screw so that the bridgeplate properly sits onto the load sensor.

- a. Fully STOW platform.
- b. Refer to **Figure 3-5 and 3-6**. Insert the screwdriver into the DEPLOY CUTOFF ADJUSTMENT SCREW (bottom adjusting screw) then deploy the platform to floor level. Push and hold control pendant DEPLOY switch.

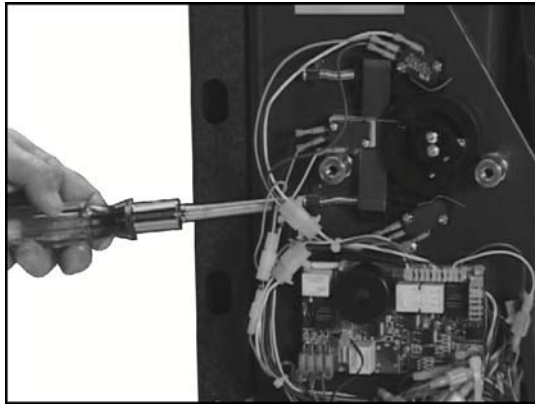


FIGURE 3-5: BOTTOM ADJUSTING SCREW

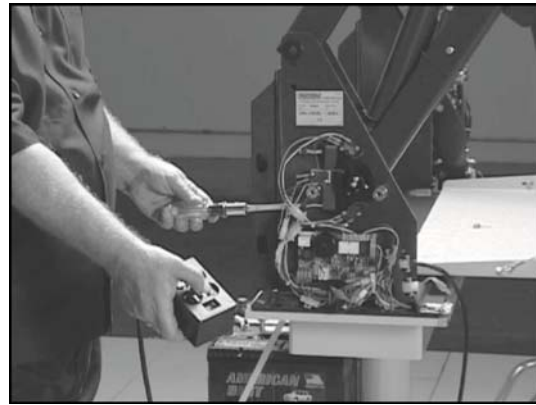


FIGURE 3-6: PUSH AND HOLD DEPLOY

- c. Slowly turn DEPLOY CUTOFF ADJUSTMENT SCREW **clockwise** until the bridgeplate moves onto the load sensor, as shown in **Figure 3-7**.

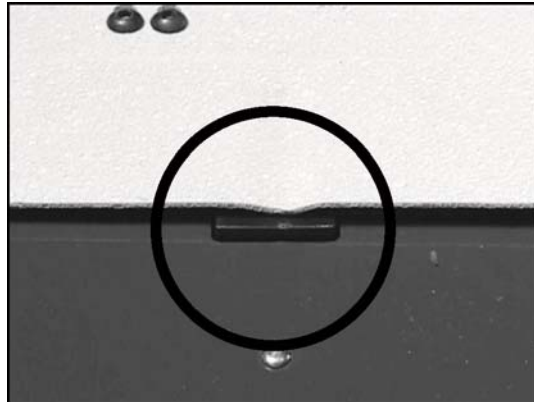


FIGURE 3-7: BRIDGEPLATE ADJUSTED CORRECTLY

- d. DEPLOY platform about 10 inches from ground.
- e. Refer to **Figure 3-8**. Insert the screwdriver into the UP CUTOFF ADJUSTMENT SCREW (top adjusting screw) then push and hold control pendant UP switch to cycle the platform back up to floor level.

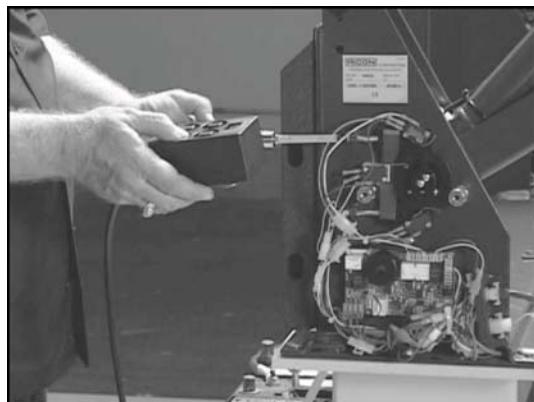
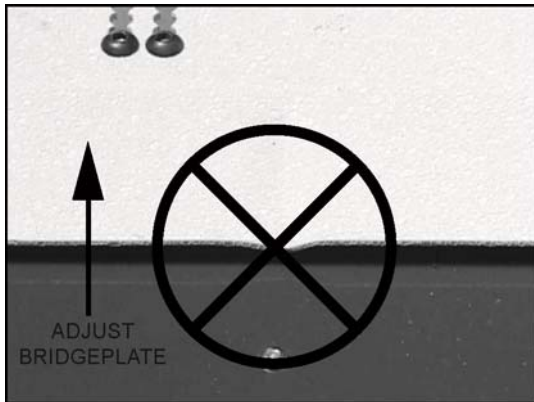
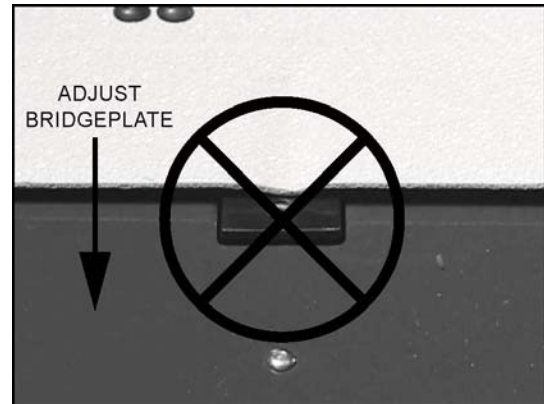


FIGURE 3-8: PUSH AND HOLD UP

- f. Refer to **Figure 3-9 and 3-10**. When the platform is at floor level, observe where the bridgeplate sits on the load sensor.



**FIGURE 3-9: ADJUSTMENT REQUIRED**



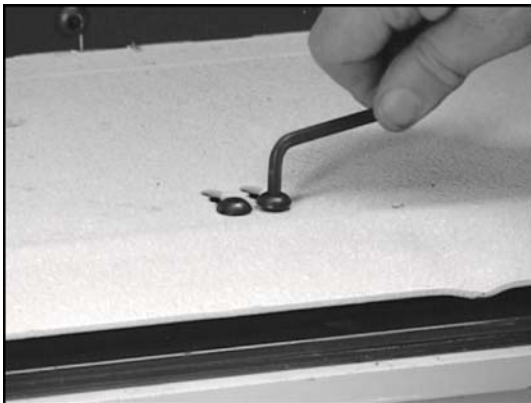
**FIGURE 3-10: ADJUSTMENT REQUIRED**

- g. Refer to **Figure 3-9 and 3-10**. If the bridgeplate sits over the load sensor where it is not visible or if the rivet head is visible, slowly turn the UP CUTOFF ADJUSTMENT SCREW **counterclockwise** to adjust the bridgeplate backward or **clockwise** to adjust the bridgeplate forward.
- h. Cycle platform to DEPLOY then UP to floor level. Observe the position of the bridgeplate to the load sensor and make any necessary adjustments. The bridgeplate should sit on the load sensor, as shown in **Figure 3-7**.

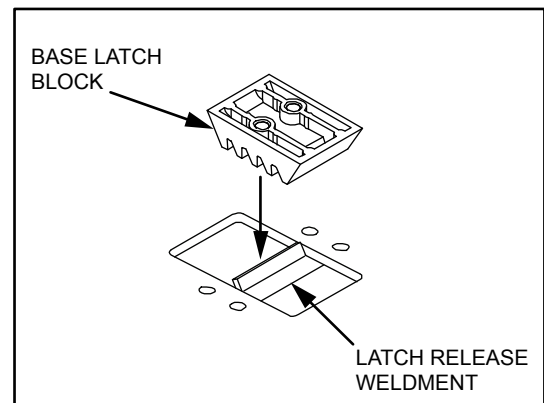
## 6. STOW-LOCK ADJUSTMENT

**NOTE:** The purpose of this procedure is to replace and properly set the stow-lock.

- Fully STOW platform.
- Refer to **Figures 3-11 and 3-12**. Use a 3/16" allen wrench to remove the two screws and washers that attach the base latch block to the bridgeplate. Partially deploy platform then remove base latch block for replacement.



**FIGURE 3-11: PUSH AND HOLD UP**



**FIGURE 3-12: BASE LATCH BLOCK**

- Place sharp edge of the base latch block against the blade of the platform latch release weldment in the baseplate, as shown in **Figure 3-12**.
- Stow the platform.
- Add medium strength thread lock to the screws then install the two screws and washers. Turn the screws out one turn so that the screws are not completely tightened.

**NOTE:** This is done to ensure the sharp edge of the base latch block contacts the blade of the platform latch release weldment in the baseplate before tightening.

- Slowly open the manual release valve to apply load to the lift. The weight of the lift will pull the base latch block flush with the blade of the platform latch release weldment. Tighten the screws until the base latch block is secured in place.
- Close the manual release valve the press the STOW function to remove the load from the lift.
- Partially deploy the lift. Ensure that the platform deploys with no delay. Stow the lift and verify that there is a positive lock when the lift is stowed.



7. REAR SPRING REPLACEMENT

**NOTE:** A well maintained and lubricated parallel arm spring will prolong the life of the spring. In the event that the spring will need to be replaced, proceed with rear spring replacement.

- a. Deploy platform to ground level onto a pallet for support and to maintain the parallel arms at a 90 degree angle perpendicular to the rear of the platform towers. The tine of the spring will load straight up and down when done so.
- b. Use a 3/16" allen wrench to remove screw and lock washer from the pin.
- c. Refer to **Figures 3-13 and 3-14**. Attach pin alignment tool to pin. Replace pin with appropriate tool to hold parallel arm and rear spring in place.



FIGURE 3-13: PIN WITH PIN ALIGNMENT TOOL



FIGURE 3-14: PIN WITH PIN ALIGNMENT TOOL

- d. Refer to **Figure 3-15**. Carefully remove tool holding parallel arm and rear spring in place. Hold rear spring and parallel arm, then pull parallel arm up and remove rear spring.

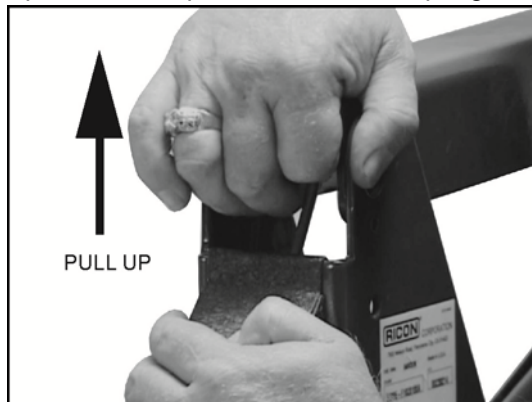


FIGURE 3-15: PIN WITH PIN ALIGNMENT TOOL

- e. Replace and install rear spring.
- f. Refer to **Figures 3-16**. Install a 2" extension pin through parallel arm and rear spring.

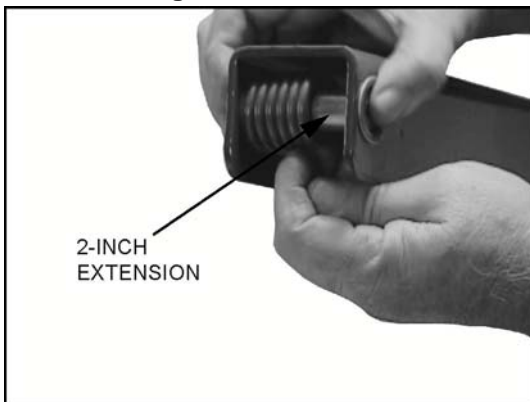


FIGURE 3-16: 2-INCH EXTENSION

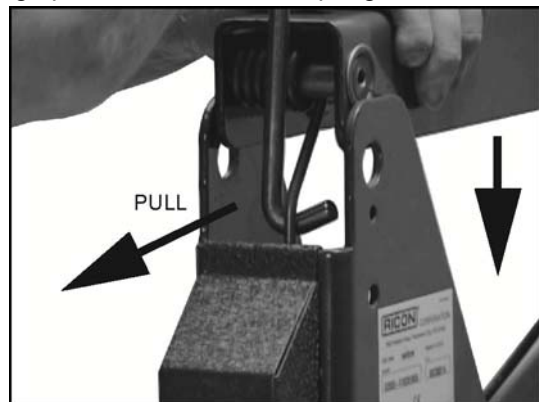


FIGURE 3-17: PLACE REAR SPRING

- g. Refer to **Figure 3-17**. Use appropriate tool to use as leverage to pull back tine of bent rear spring and place into baseplate tower.

- h. Replace 2-Inch extension with existing pin.
- i. Reinstall screw and lock washer.
- j. Repeat removal and installation for opposite parallel arm.

## 8. HYDRAULIC CYLINDER GLAND NUT AND PISTON REPLACEMENT

- a. Lower lift to ground level.

**NOTE:** Lift must be lowered as far as possible to avoid personal injury and oil spillage when hydraulic components are dismantled.

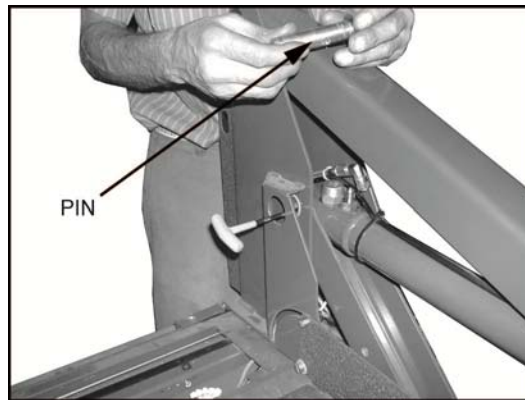
- b. Fully open manual release valve.

**NOTE:** Important for allowing easy removal/insertion of ram into cylinder.

- c. Install hydraulic breather tube if available.

**NOTE:** The hydraulic breather tube may help in avoiding oil overflow from filler neck when reinstalling ram. An assistant may be required to check oil level in filler neck as ram is reinserted, if breather tube is not available.

- d. Loosen both hydraulic button head screws with 3/16" hex wrench to loosen pin.
- e. Remove and retain cap screw with 5/32" hex wrench.
- f. Refer to **Figure 3-18**. Drive rear pin out and retain. Use pin driver, pin is driven towards bushing side.

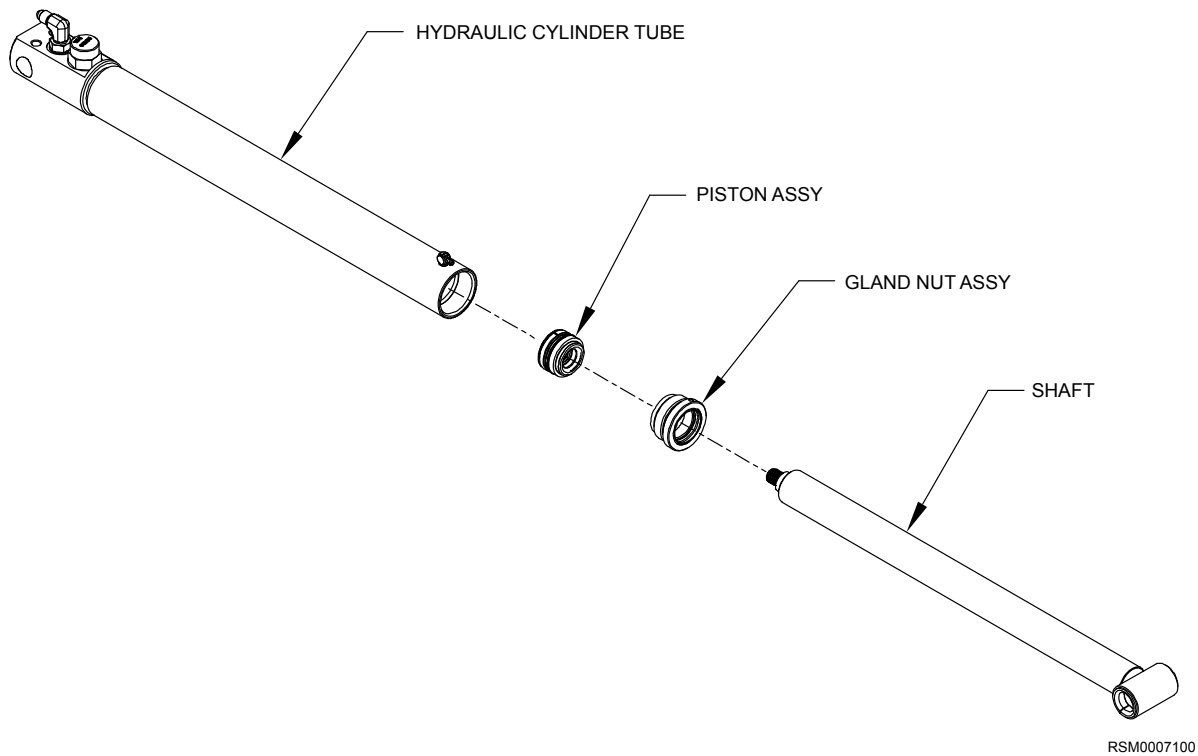


**FIGURE 3-18: PLATFORM FOLDING BRACKET**

- g. Drive front pin out and retain.

**NOTE:** Hydraulic cylinder may be left in baseplate "U" tower for this and proceeding operations.

- i. Refer to **Figure 3-19**. Unscrew gland nut.
- j. Refer to **Figure 3-19**. Pull shaft out.
- k. Refer to **Figure 3-19**. Remove old piston using appropriate tool. Heat piston thread if required to soften the thread lock and remove piston.



**FIGURE 3-19: HYDRAULIC CYLINDER**

- l. Refer to **Figure 3-19**. Replace gland nut with the gland nut supplied in kit. Apply thin film of hydraulic fluid to the seals before installing.
- m. Thoroughly clean shaft and new piston threads.

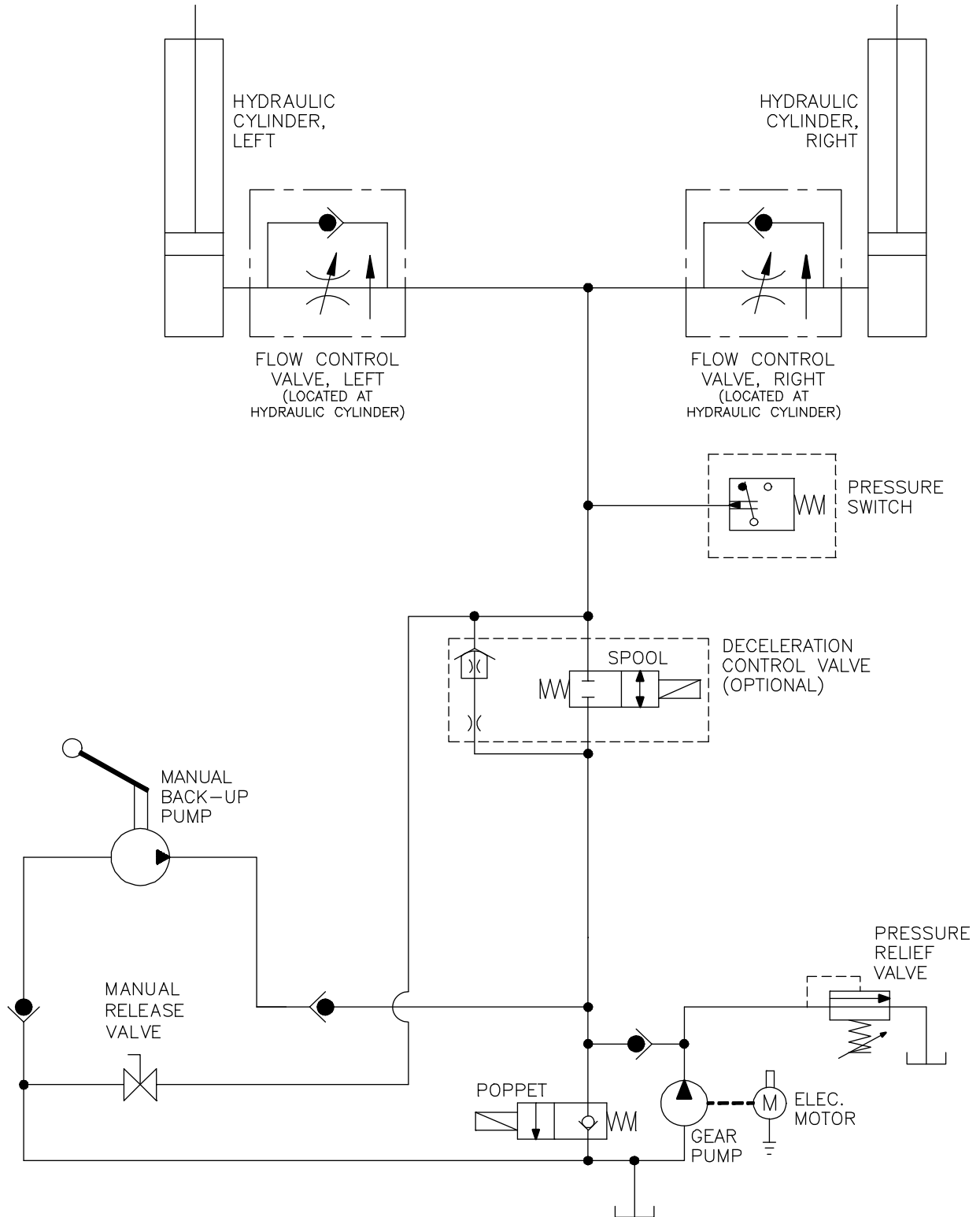
**NOTE:** If shaft threads were damaged by the thread locking punch, rethread with 1/2-20 die. Use a wire brush to remove all thread sealer from shaft threads. Blow clean. Always blow piston threads clean even if no dirt is visible.

- n. Refer to **Figure 3-19**. Install new piston supplied in kit. Apply medium strength thread lock (blue) on shaft threads and tighten securely.
- o. Refer to **Figure 3-19**. Reinsert shaft into cylinder. Apply thin film of hydraulic fluid to seals before installing. Use split cup tool to insert piston.

**NOTE:** Be extra careful not to damage piston seals.

- p. Firmly tighten gland nut. Apply medium strength thread lock (blue) on gland nut threads.
- q. Install front pin. Place set screw face down. Apply medium strength thread lock (blue) on cap screw. Tighten using 5/32" hex wrench.
- r. Install rear spring using spring installation tools.
- s. Install rear pin. Insert pin from bushing side. Apply medium strength thread lock (blue) to button head screw. Tighten using 3/16" hex wrench.

E. HYDRAULIC CIRCUIT DIAGRAM



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FIGURE 3-20: S/K-SERIES HYDRAULIC CIRCUIT

F. ELECTRICAL WIRING DIAGRAM

1. DIAGRAM LEGEND

a. Wire Color Codes

TABLE 3-3: WIRE COLOR CODES			
LETTER	COLOR	LETTER	COLOR
BLK	Black	RED	Red
BLU	Blue	VIO	Violet
BRN	Brown	GRY	Gray
GRN	Green	WHT	White
ORG	Orange	YEL	Yellow
END OF TABLE			

b. Electrical Connector Description

Refer to **Figure 3-6**. The standard electrical connectors used by Ricon are Molex .062" Series. These connectors have terminal numbers molded onto the back. Use these numbers and colors to identify all wires.

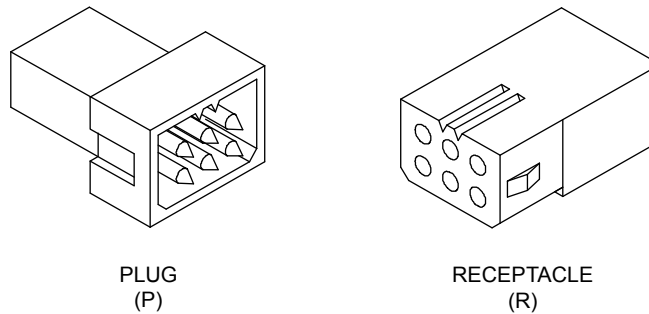


FIGURE 3-21: MOLEX CONNECTORS

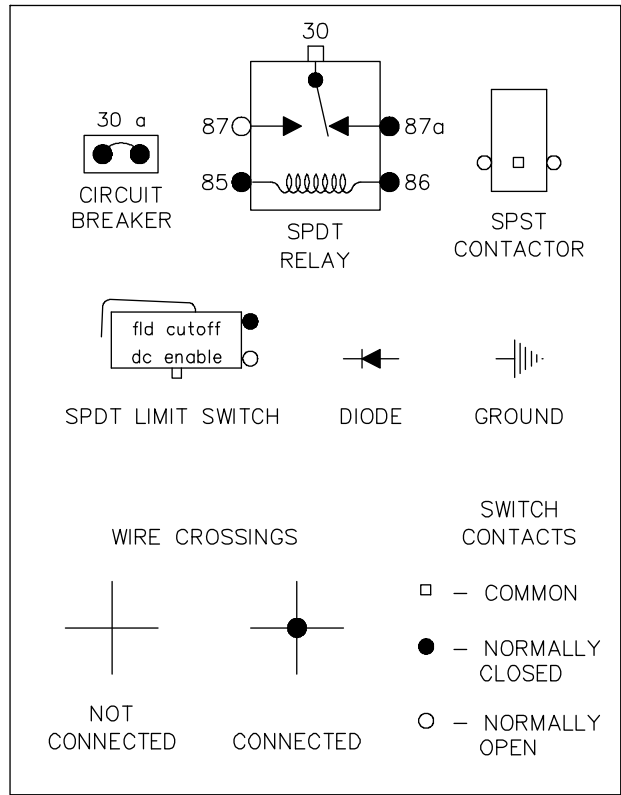
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c. Diagram Labels

TABLE 3-4: DIAGRAM LABELS		
Diagram Label	Definition	Command/Description
12V	12 Volts	Circuit current rating is also given
DC	Door Close	Direct Command
DO	Door Open	Direct Command
DOE	Door Open Enable	From Door Open Cut-off switch.
DWN	Pump Down	Used by OUT and DOWN
DWNA	Down Attempt	Must be enabled
FAST		Signal to speedup valve for UP and DOWN
GND	Ground	
OUTA	Out Attempt	Out must be enabled
SDA	System Deploy Attempt	DO followed by OUT
SSA	System Store Attempt	IN followed by DC
UP	Pump Up	Used by UP and IN
UPA	Up Attempt	Up must be enabled
END OF TABLE		

d. **Electrical Symbols**

Figure 3-22 shows standard symbols used in the electrical wiring diagram.



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**FIGURE 3-22: DIAGRAM SYMBOLS**

e. **WIRING DIAGRAM**

Refer to **Figures 3-23** on the following page for the S/K-Series Public Use wiring diagram.

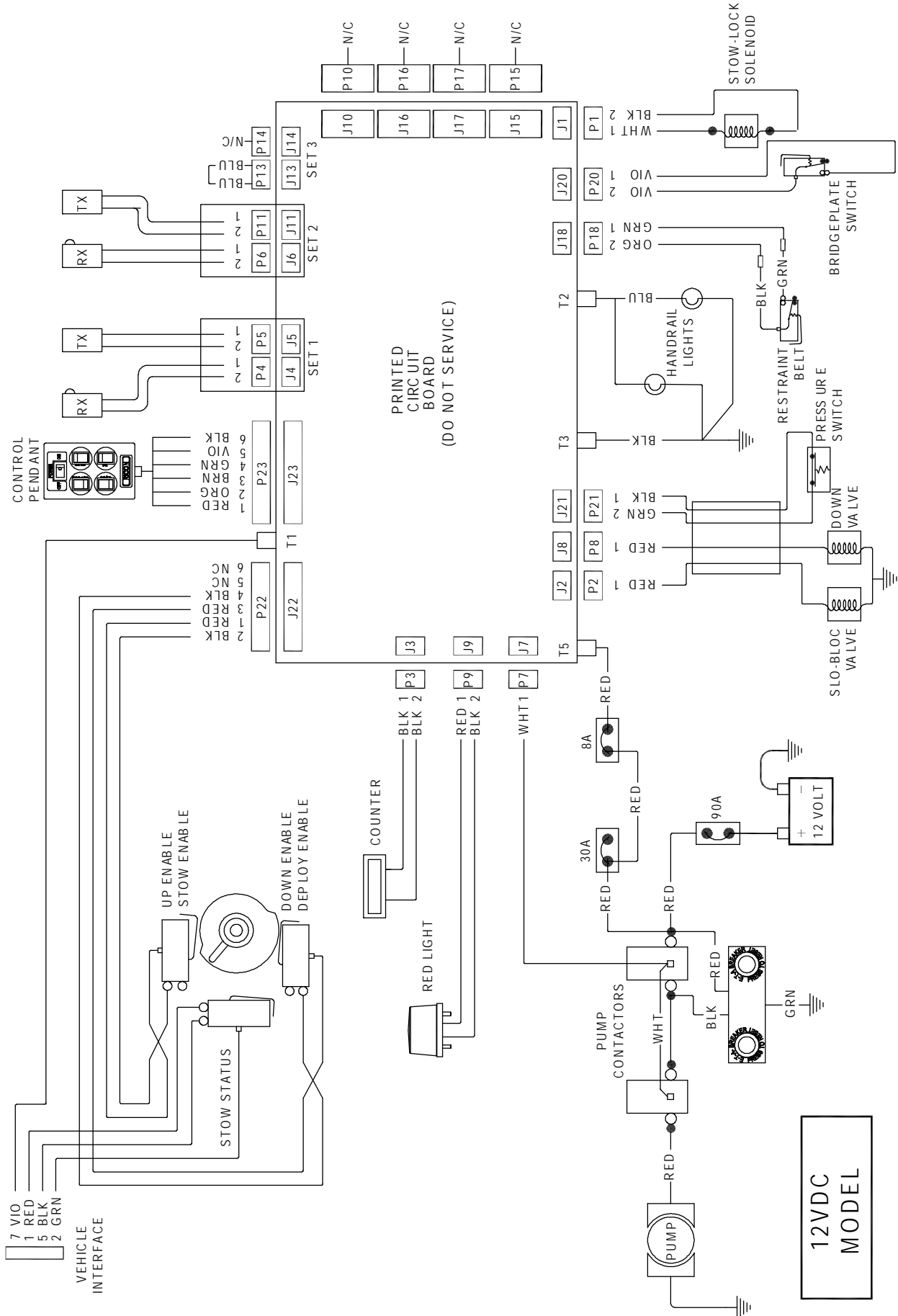
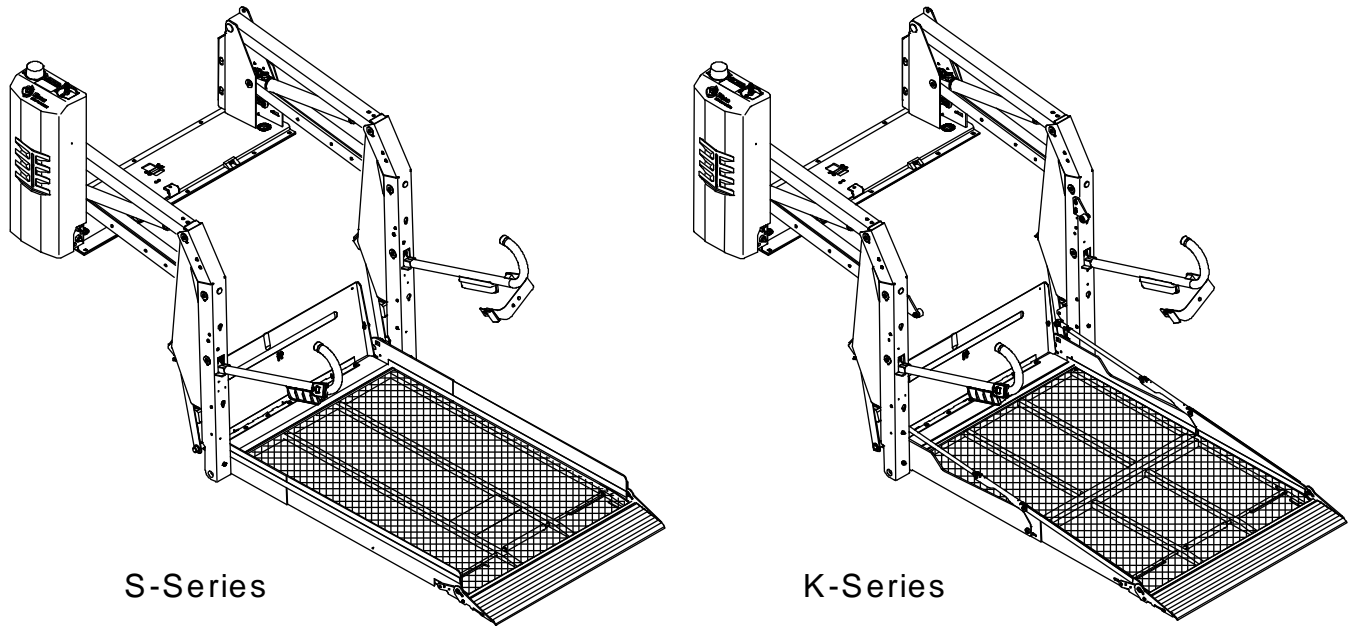


FIGURE 3-23: S/K-SERIES DOT PUBLIC USE WIRING DIAGRAM

**IV. S-SERIES AND K-SERIES PUBLIC USE SPARE PARTS**

This chapter contains spare parts diagrams and lists for the RICON S-Series and K-Series Public Use wheelchair lifts. The part diagrams are exploded views of each major lift assembly, with individual parts and components referenced by numbers. Each accompanying parts list contains figure item numbers, part descriptions, quantities used, configurations and the Ricon part number. To order parts, locate part on an appropriate diagram and note the figure item number. Find the figure item number on the accompanying parts list and use the part number in the far right column. Note that parts identified with (REF) in the QTY column of the spare parts list are for reference purposes only and are not sold for spare parts. Refer to the DECAL LOCATIONS AND PART NUMBERS figure in **Chapter II** for decal part numbers.

**NOTE:** Most kits contain a single part (plus hardware). Therefore, you may need to order more than one kit if the part is used more than once on a major assembly.



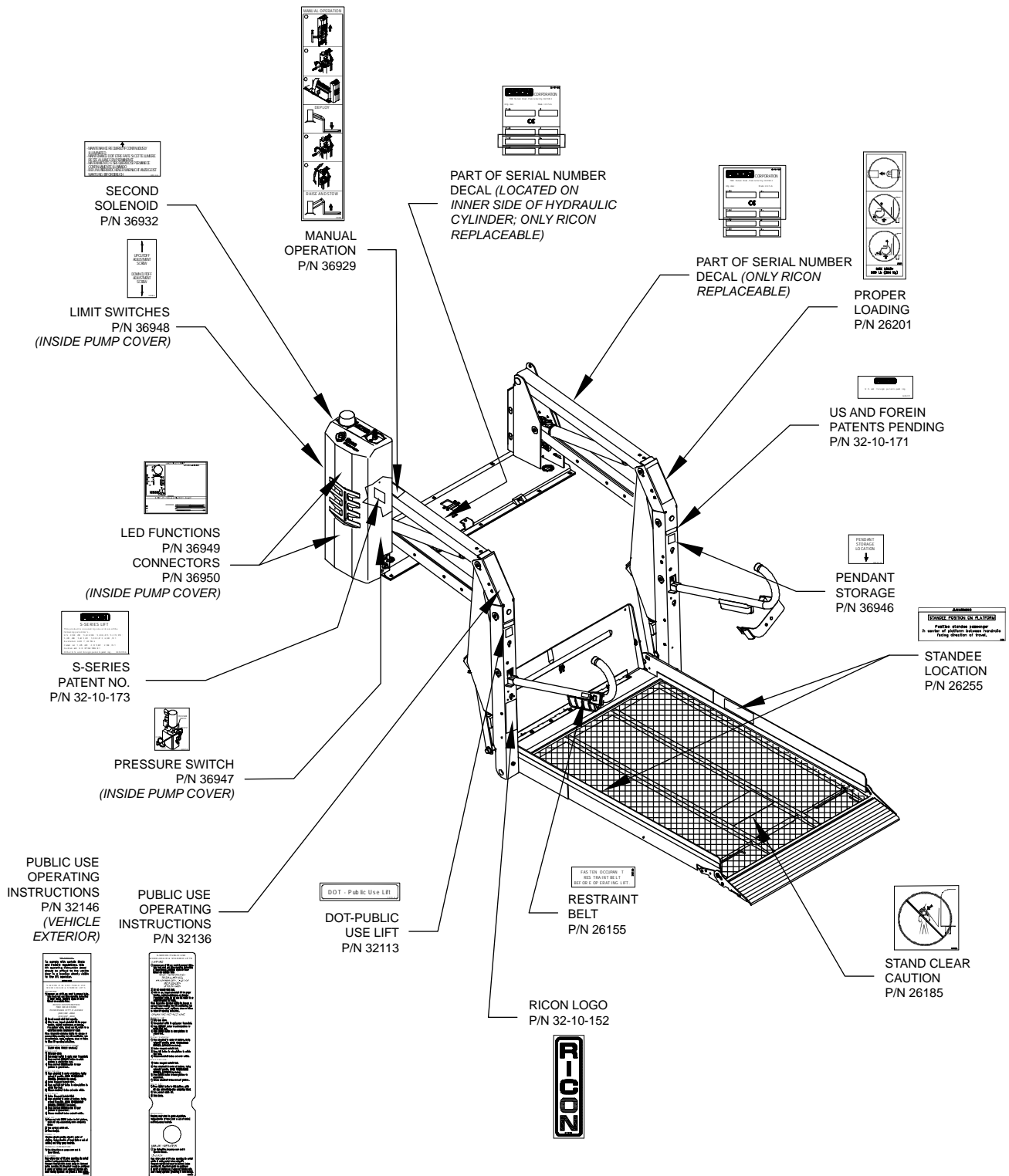
S-Series

K-Series

<b>LIFT MODEL AND KIT NUMBERS</b>	
PRODUCT NUMBER	S2010-L1120401E (first model in number sequence)
DOCUMENTATION KIT NUMBER	36927
SPARE DECAL KIT NUMBER	36955( S-Series) 36928 (K-Series)

<b>PARTS DIAGRAM</b> .....	<b>PAGE</b>
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FIGURE 4-1.1: S-SERIES PUBLIC USE LIFT DECAL LOCATIONS AND PART NUMBERS

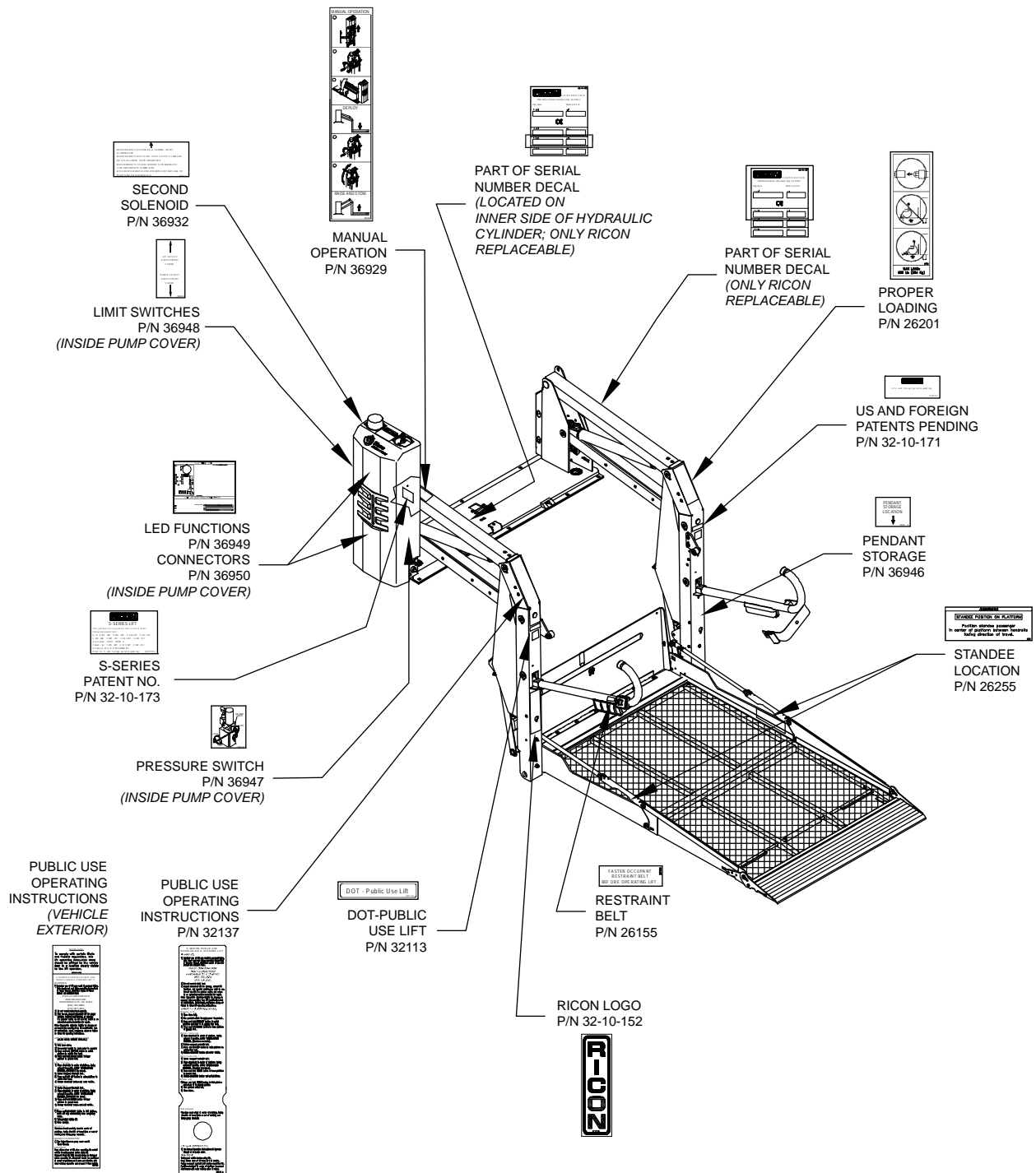


FIGURE 4-1.2: K-SERIES PUBLIC USE LIFT DECAL LOCATIONS AND PART NUMBERS

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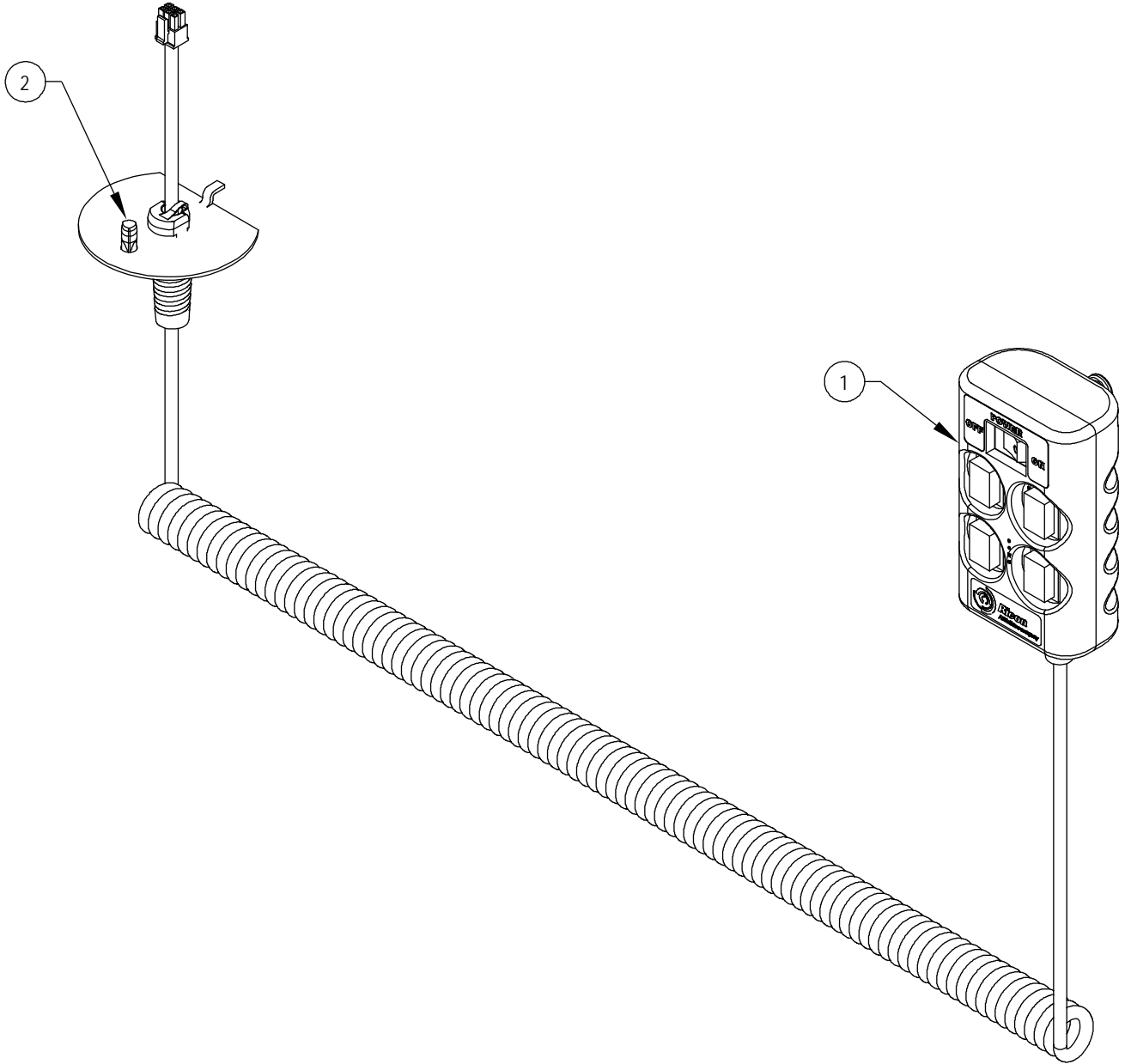


FIGURE 4-2: S/K-SERIES DOT PUBLIC USE PENDANT

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**FIGURE 4-2: S/K-SERIES DOT PUBLIC USE PENDANT**

<b>FIG. ITEM</b>	<b>DESCRIPTION</b>	<b>QTY</b>	<b>CONFIG.</b>	<b>PART NO.</b>
1	PENDANT ASSY, COIL CORD, 12FT, W/PUSH BUTTON & MAGNET	1		42891
1A *	PENDANT ASSY, 7 FT CORD, MOD ( <i>SUPERSEDED P/N 37386</i> )	1		42891
1B *	PENDANT ASSY, 12 FT COIL CORD, MOD ( <i>SUPERSEDED P/N 42510</i> )	1		42891
2	SCREW,PHP,1/4-20,TAP TITE,BLK ZINC (BAG OF 10)	1		45529

**NOTE:** \* Item or configuration not shown.

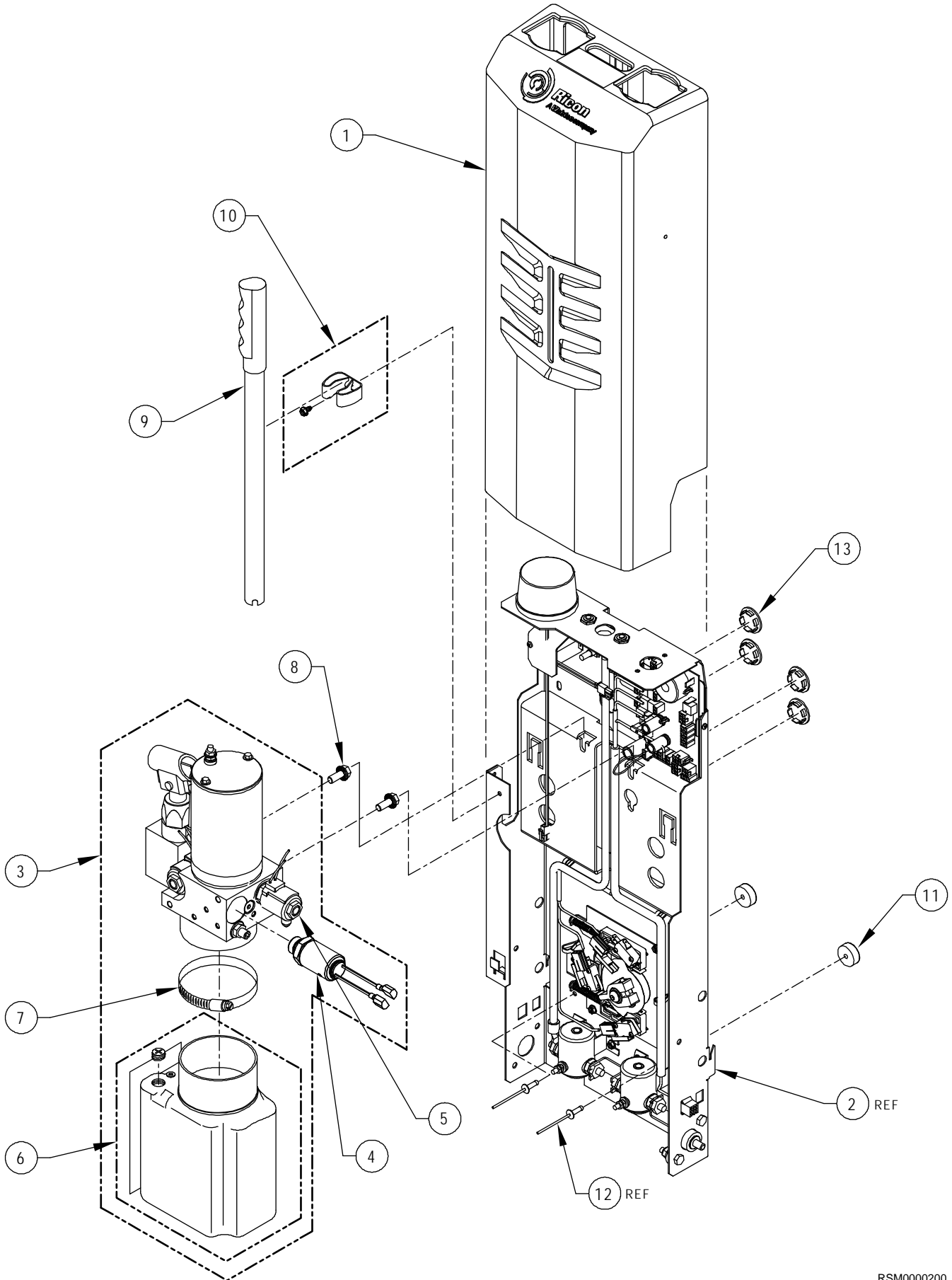


FIGURE 4-3: S/K-SERIES DOT PUBLIC USE PUMP ASSY (LEFT HAND SIDE PUMP SHOWN)

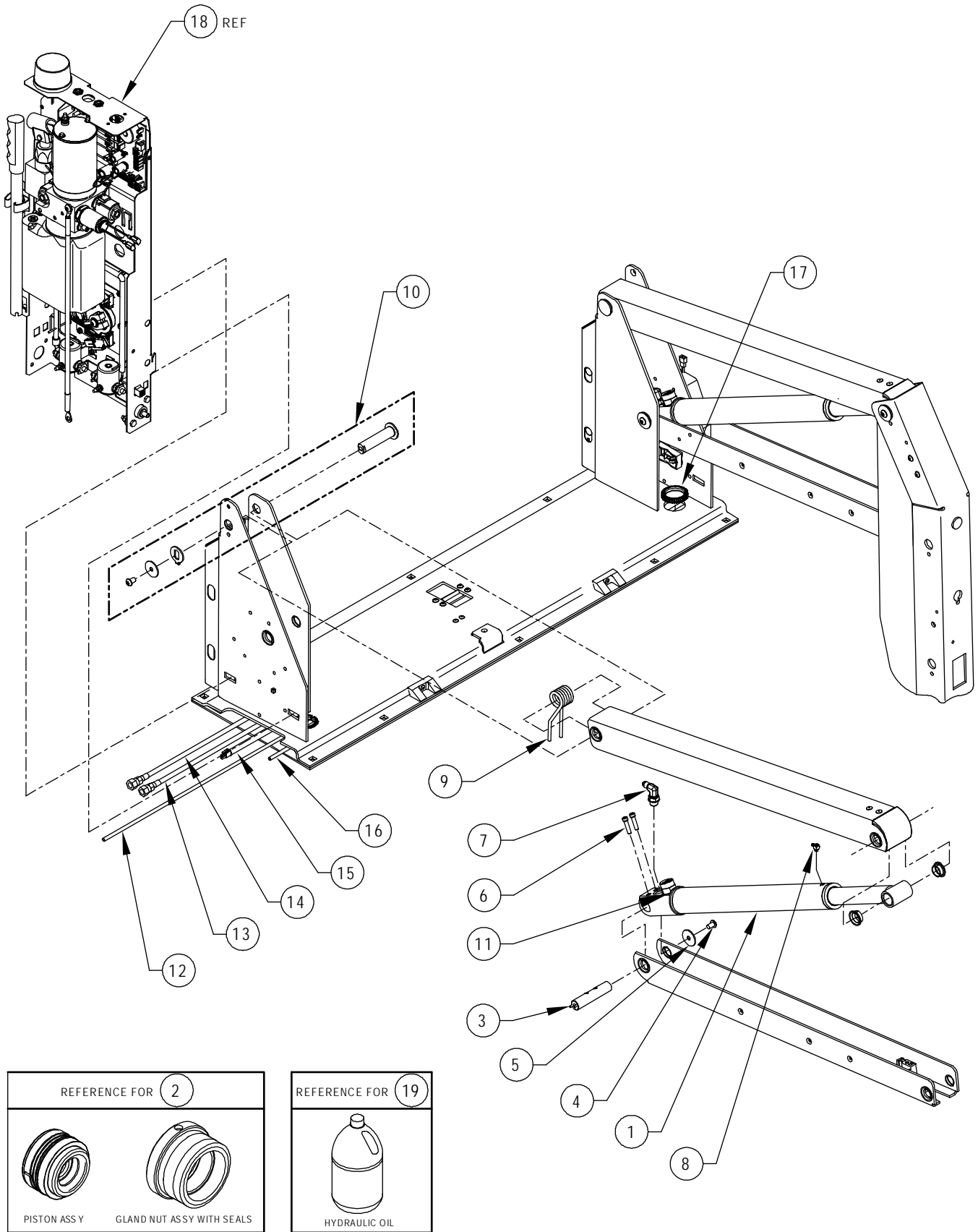
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**FIGURE 4-3: S/K-SERIES DOT PUBLIC USE PUMP ASSY**

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
1	COVER, PUMP, MODULAR	1		36585
2	BRACKET WLDT, PUMP CHASSIS	REF		36575
3	PUMP ASSY, 12V, MODULAR	1		PM212000008N
4	PRESSURE SWITCH, MODEL CJ	1		42395
5	VALVE ASSY, POPPET, DELTROL, 12V	1		V2-SH-105
6	RESERVOIR, PUMP, PLASTIC W/DECAL & PLUG	1		30938
7	CLAMP, RESERVOIR	1		V2-SH-109
8	SCREW, FLANGED, 5/16-18 X .75L, ZINC (BAG OF 10)	2		55682
9	HANDLE ASSY,PUMP,MANUAL OPERATION	1		V2-SH-111
10	KIT, CLIP, TOOL, EMERGENCY, PAINTED	1		42033
11	BUMPER, CHASSIS	2		38388
12	RIVET, POP, 3/16 X 3/8 A/S ##AD66BS (BAG OF 10)	2		15918
13	PLUG,1"BLACK NYLON LOW PROFILE	4		25563

**NOTE:** (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.

**NOTE:** \* Item or configuration not shown.



RSM0000300

FIGURE 4-4: S/K -SERIES DOT PUBLIC USE HYDRAULIC SYSTEM

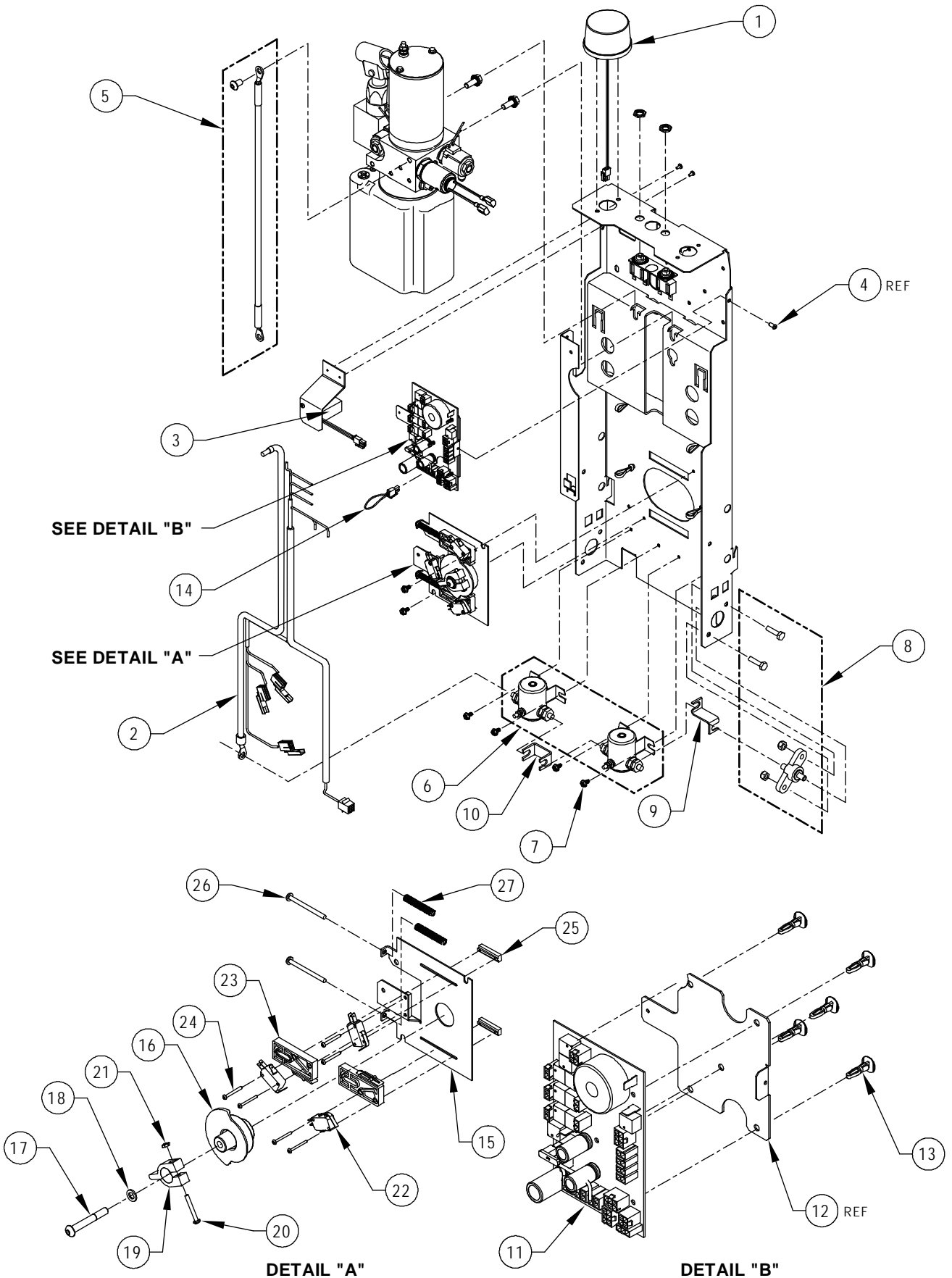
**FIGURE 4-4: S/K-SERIES DOT PUBLIC USE HYDRAULIC ASSY**

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
1	CYLINDER ASSY, 37" (BLACK) <i>(SUPERSEDED 35793)</i>	2	S/K20XX	VT-SH-105K
1A *	CYLINDER ASSY, 40" (BLACK) <i>(SUPERSEDED 38728)</i>	2	S/K50XX	V5-SH-105K
1B *	CYLINDER ASSY, 43" (BLACK) <i>(SUPERSEDED 38726)</i>	2	S/K55XX	30836K
2	KIT, CYLINDER REPAIR <i>(SUPERSEDED 21829)</i>	2		VT-SH-56
3	PIN ASSY, PIVOT, CAM SIDE	2		37780
4	SCREW, SHC, 1/4-20 X 1, BLK (BAG OF 10)	1		14491
5	WASHER, FDR, .31 X 1.25 SST BLK OXIDE (BAG OF 10)	1		15921
6	KIT, PIN, CAM, W/HARDWARE	2		42036
7	FITTING, STE, 1/4J/9/16-18STL	2		V2-SH-14
8	FITTING, "L", MALE, M5, BARB	2		V2-SH-16
9	SPRING, TOP ARM	2		V2-SP-97
10	KIT, PIN, LINK, ARM W/HARDWARE	2		16679
11	KIT, FLOW CONTROL, FIXED RATE .50 GPM, (KIT OF 2)	1		30968
12	TUBE, POLY, 6MM OD X 4MM ID, 5.0'	1		20229
13	HOSE ASSY, HYD, 74" X 1/4 JIC X 1/4 JIC	1		37716
14	HOSE ASSY, HYD, 36" X 1/4 JIC X 1/4 JIC	1		UV-SH-013
15	HARNESS, STOW-LOC SOLENOID EXTENSION	1		37333
16	TUBE, POLY, 6MM OD X 4MM ID, 8.0'	1		20228
17	GROMMET, CATERPILLAR, 3/16 X 12" LONG	2		26647
18	CHASSIS ASSY, LH PUMP, 12V <i>(DISCONTINUED P/N 37701)</i>	1	S/K20XX	42343
18A *	CHASSIS ASSY, RH PUMP, 12V <i>(DISCONTINUED P/N 38374)</i>	1	S/K50XX	42343
19	OIL, HYDRAULIC, TEXACO #15, MEETS MIL-H-5606G	1	GAL	20-16-051

**NOTE:** (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.

**NOTE:** \* Item or configuration not shown.





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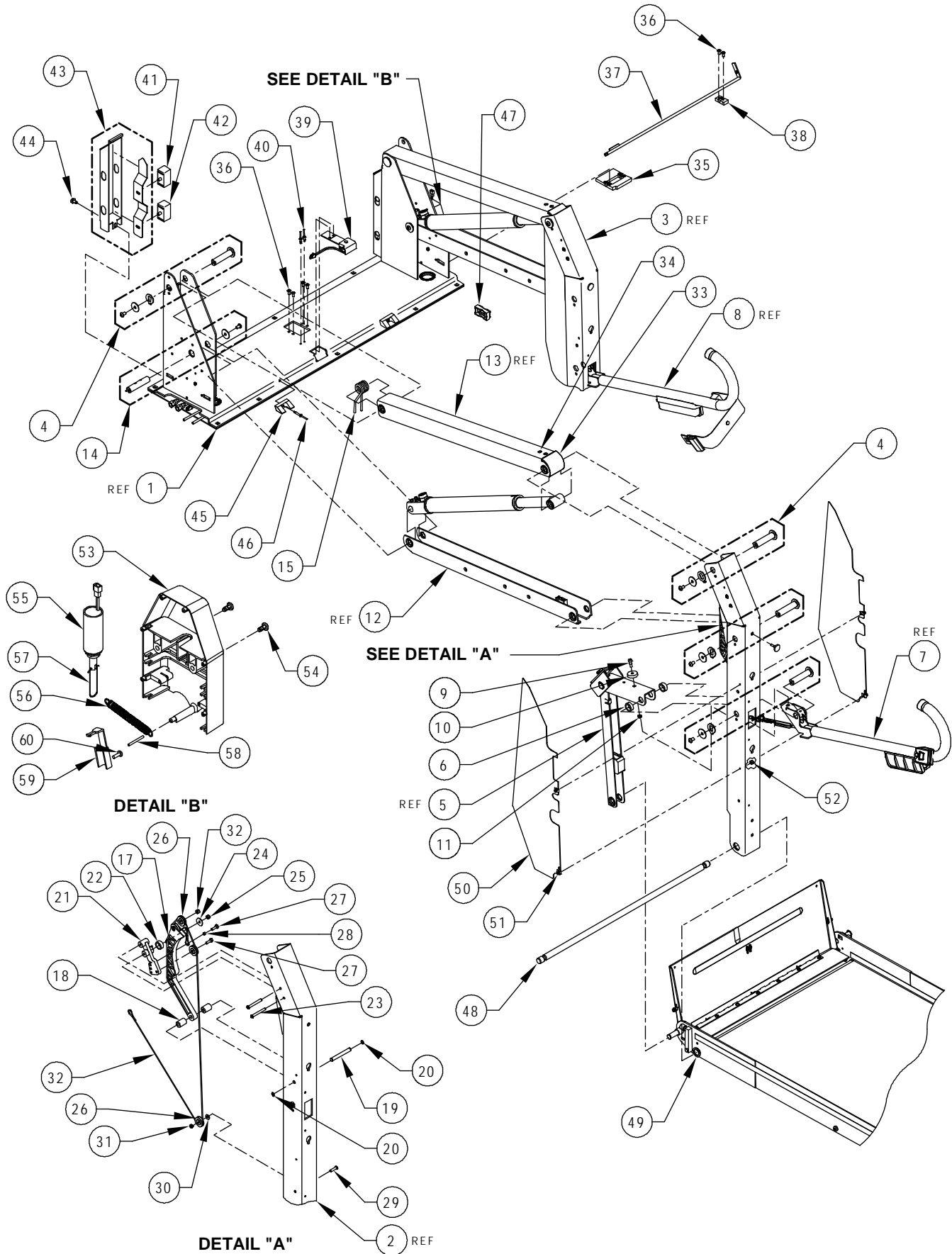
FIGURE 4-5: S/K-SERIES DOT PUBLIC USE ELECTRICAL SYSTEM

**FIGURE 4-5: S/K-SERIES DOT PUBLIC USE ELECTRICAL ASSY**

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
1	LIGHT ASSY, RED W/CONNECTORS	1		37319
2	HARNESS, PUMP CHASSIS, 12V (PACKAGED)	1		36276
3	COUNTER ASSY, 12V, MODULAR	1		38391
4	SCREW, PHP, 6-32 X 1/4, TYPE F, SST	REF		21953
5	KIT, GROUND STRAP, LONG	1		37388
6	KIT, SOLENOID, 12V, SGL POLE, SGL THROW	1		29297
7	SCREW, HEX, 10-24 X 3/8, QUICK-DRIVE	REF		37702
8	KIT, BLOCK, POSITIVE CONNECTION, W/HARDWARE (MODULAR)	1		35454
9	BUSBAR, MAIN	REF		36592
10	BUSBAR, 1.45" W	REF		37767
11	PCB ASSY, W/LEDS	1		35792
11A *	PCB ASSY, W/LEDS (FOR LIFTS W/SERIAL NUMBERS BELOW 242082)	1		45557
12	BRACKET, PCB MOUNT, MODULAR	1		37785
13	PCB STANDOFFS (BAG OF 5)	1		42034
14	JUMPER TWS	REF		37379
15	SWITCH ASSY, POSITION INPUT	1		37711
16	CAM, POSITION INPUT	1		36271
17	SCREW, BHS, 5/16-18 X 2 1/4 BLK (BAG OF 10)	1		36270
18	WASHER, FLT, .325 X .563 X .065 (BAG OF 10)	1		36269
19	ACTUATOR, FOLD CUTOFF	1		V2-AC-089
20	WASHER, SPL, 1/4" (BAG OF 10)	1		45815
21	NUT, ESN, 8-32 (BAG OF 10)	1		15907
22	SWITCH, LIMIT, UPPER/LOWER, (MODIFIED)	3		V2-ES-110
23	SWITCH BLOCK	2		34314
24	SCREW, PHP, 4AB X 1.00, ZINC (BAG OF 10)	1		42035
25	BLOCK, SWITCH MOUNT	REF		36578
26	SCREW, PHP, 10-24 X 2 1/4	REF		10860
27	SPRING, ADJUSTABLE LIMIT SWITCH	2		V2-ES-93
28 *	KIT, CIRCUIT BREAKER, MAIN (90A)	1		01010K

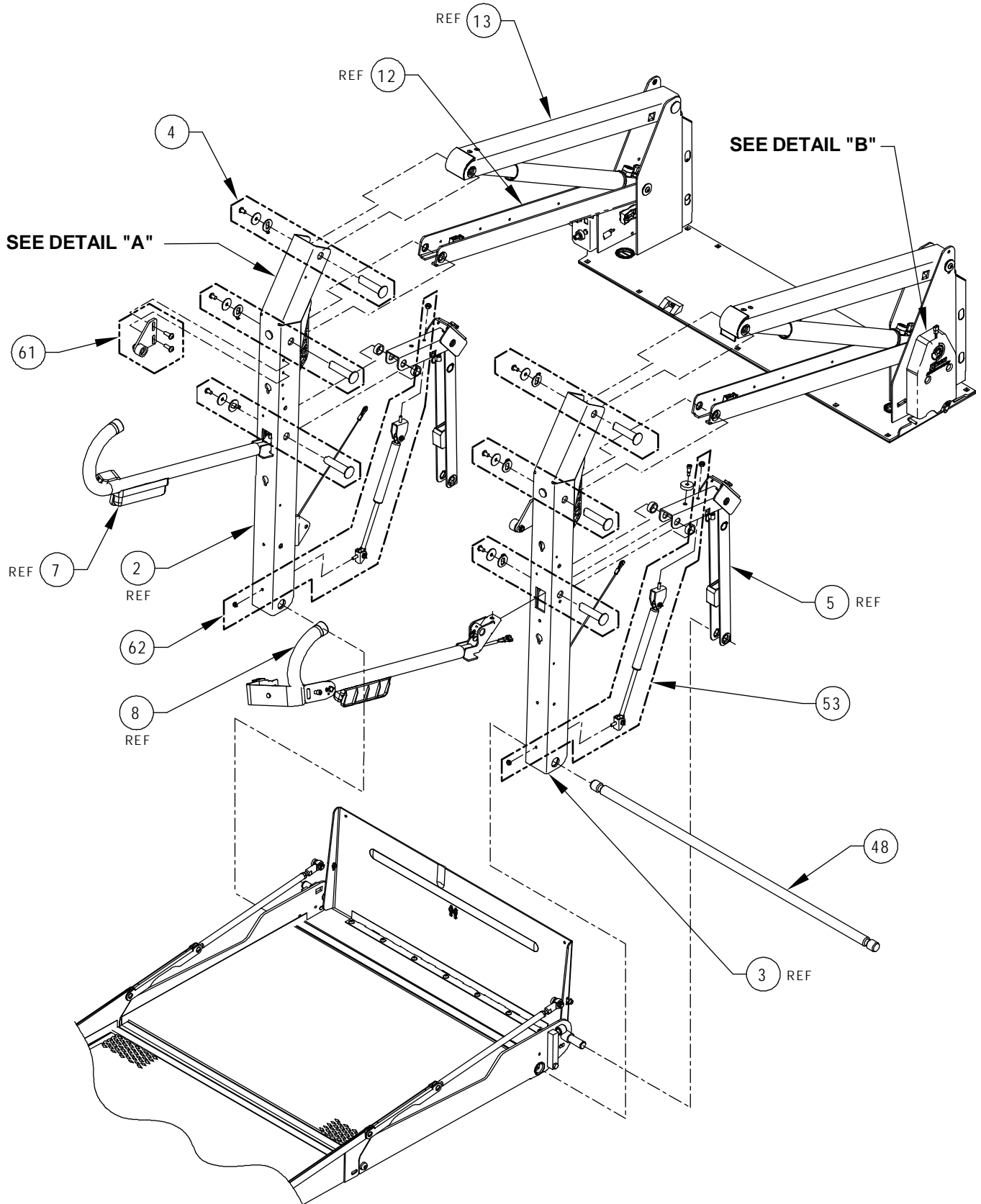
**NOTE:** (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.

**NOTE:** \* Item or configuration not shown.



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FIGURE 4-6.1: S-SERIES DOT PUBLIC USE TRAVELING FRAME



RSM0007001

FIGURE 4-6.2: K-SERIES DOT PUBLIC USE TRAVELING FRAME

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**FIGURE 4-6: S/K-SERIES DOT PUBLIC USE TRAVELING FRAME ASSY**

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
1	BASEPLATE WLDT, 34" PLATFORM	1		35772
2	VERTICAL ARM ASSY, LH, S20XX (DISCONTINUED)	REF	S20XX	38797
2A *	VERTICAL ARM ASSY, LH, S50XX (DISCONTINUED)	REF	S50XX	37747
2B *	VERTICAL ARM ASSY, LH, S55XX (SUPERSEDED 39912)	REF	S55XX	42341
2C	VERTICAL ARM ASSY, LH, GREY	REF	K20XX	38785
3	VERTICAL ARM ASSY, RH, S20XX, (DISCONTINUED)	REF	S20XX	38798
3A *	VERTICAL ARM ASSY, RH, S50XX (DISCONTINUED)	REF	S50XX	37746
3B *	VERTICAL ARM ASSY, RH, S55XX (SUPERSEDED 39911)	REF	S55XX	42341
3C	VERTICAL ARM ASSY, RH, K2003 SERIES	REF	K20XX	38786
4	KIT, PIN, LINK, ARM W/HARDWARE	1		16679
5	KNUCKLE ASSY (DISCONTINUED)	REF		37724
6	SPACER	4		VT-BU-42
7	KIT, HANDRAIL ASSY, LH W/BUCKLE	1		34895
8	KIT, HANDRAIL ASSY, RH W/BELT	1		34896
9	SCREW, 5/16 X 3/8 SSS (BAG OF 10)	2		45884
10	KIT, GROMMET (KIT OF 10)	2		23391
11	NUT, ESN, 1/4-20 THIN, SST (BAG OF 10)	2		13339
12	PARALLEL ARM ASSY, LOWER (SUPERSEDED 38748)	1	S/K20XX	VT-AC-252
12A *	PARALLEL ARM ASSY, LOWER (SUPERSEDED 38745)	1	S/K50XX	V5-AC-252
12B *	PARALLEL ARM ASSY, LOWER (DISCONTINUED)	REF	S/K55XX	39915
13	ARM ASSY, UPPER, PARALELL (GREY)	1	S/K20XX	VT-AC-250
13	ARM ASSY, UPPER, PARALELL (GREY)	1	S/K50XX	VT-AC-250
13A *	ARM ASSY, TOP	1	S/K55XX	30858
14	KIT, CAM, W/HARDWARE	1		42036
15	SPRING, TOP ARM	2		V2-SP-97
16A *	KIT, KICK-OUT SPRING	2	S2010	01115
16B *	KIT, KICK-OUT SPRING	2	S50XX	01115
16C *	KIT, KICK-OUT SPRING	2	S55XX	01115
17	CAM ASSY, IRS ACTUATOR	2		V2-AC-190
18	KIT, IRS SPACER	2		01224
19	PIN, SNAP RING, .38D X 3.09L	2		VS-PI-09
20	SNAP RING 3/8" (BAG OF 10)	1		11795
21	BRACKET, PULLEY MOUNT, IRS	2		V2-AC-112
22	BUMPER, IRS CAM ANTI-RATTLE	2		V2-BU-090
23	SCREW, BHS, 1/4-20 X 2 1/4, SST, BLK OXDE (BAG OF 10)	1		19720
24	WASHER, FDR, .281 X 1.00 X .065 (BAG OF 10)	1		25623

**CONTINUED**

**NOTE:** (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.

**NOTE:** \* Item or configuration not shown.

FIGURE 4-6: S/K-SERIES DOT PUBLIC USE TRAVELING FRAME ASSY

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
25	NUT, ESN, 1/4-20 (BAG OF 10)	1		15919
26	BEARING, GROOVED (SHEAVE)	6		VS-AH-06
27	SCREW, HEX, 1/4-20 X 3/4 GR5 (BAG OF 10)	1		13308
28	BUSHING, STEEL, .25ID X .32OD X .19L	2		V2-BU-003
29	SCREW, BHS, 1/4-20 X 1 SST, BLK OXIDE (BAG OF 10)	1		19715
30	WASHER, FLT, .281 X .625 X .065 (BAG OF 10)	1		17504
31	NUT, ESN, 1/4-20 THIN, SST (BAG OF 10)	2		13339
32	KIT, CABLE ASSY (52.75"), IRS (2 CABLES PER KIT)	1	S20XX	16094
	KIT, CABLE ASSY (52.75"), IRS (2 CABLES PER KIT)	1	K20XX	16094
32A *	KIT, CABLE ASSY w/SLEEVE (59.13"), (2 CABLES PER KIT)	1	S55XX	34247
*	KIT, CABLE ASSY w/SLEEVE (59.13"), (2 CABLES PER KIT)	1	K55XX	34247
33	CAP, END, UPPER PARALLEL ARM, PLASTIC	2		V2-AC-89
34	RIVET, POP, 3/16 X 5/8 STL SD68BS (BAG OF 10)	1		34519
35	BLOCK, SUPPORT, LOCK ROD	1		36587
36	SCREW, BHS, 1/4-20 X 1/2 BLK (BAG OF 10)	1		15985
37	LATCH WLDT, RELEASE, 34" PLATFORM	1		38437
38	BLOCK, MOUNT, BASE LATCH	1		V2-AC-001
39	SWITCH ASSY, BP LOAD SENSOR	1		35781
39A *	KIT, RETRO, BRIDGE PLATE SW, "L" MODEL	1		55917
40	RIVET, 3/16 STRUCTURAL, BLIND (BAG OF 10)	1		22021
41	SENSOR, PHOTOBEM, TRANSMITTER, MODULAR	2		37389
42	SENSOR, PHOTOBEM, RECIEVER, MODULAR	2		37390
43	KIT, TWS COVER, S&K	1		39979
44	SCREW, HWH, 5/16-18D X 1/2	REF		282155
45	KIT, GUIDE BLOCK, INNER ROLLSTOP, W/RIVETS	1		35708
46	RIVET, POP, 3/16 X 29/32 STL	REF		14-33-510
47	SPACER, CABLE OR HOSE, PANDUIT	2		25557
48	KIT, SHAFT, MAIN, 1.00 x 40.50L (PACKAGED)	1		34887
	KIT, SHAFT, MAIN, 1.00 x 40.50L (PACKAGED)	1	S2010	34887
	KIT, SHAFT, MAIN, 1.00 x 40.50L (PACKAGED)	1	K5510	34887
	KIT, SHAFT, MAIN, 1.00 x 40.50L (PACKAGED)	1	K2010	34887
48A *	KIT, SHAFT, MAIN, 1.00 X 39.13L (PACKAGED)	1	S5505	34893
*	KIT, SHAFT, MAIN, 1.00 X 39.13L (PACKAGED)	1	S2005	34893
*	KIT, SHAFT, MAIN, 1.00 X 39.13L (PACKAGED)	1	K5505	34893
*	KIT, SHAFT, MAIN, 1.00 X 39.13L (PACKAGED)	1	K2005	34893
49	SHIM, PVC SPACER	2		V2-BU-091
50	SET, PINCH POINT SHIELDS (P/N S21XX-XXXXXXXX0X)	1	S/K20XX	S21XX-

CONTINUED

NOTE: (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.

NOTE: \* Item or configuration not shown.

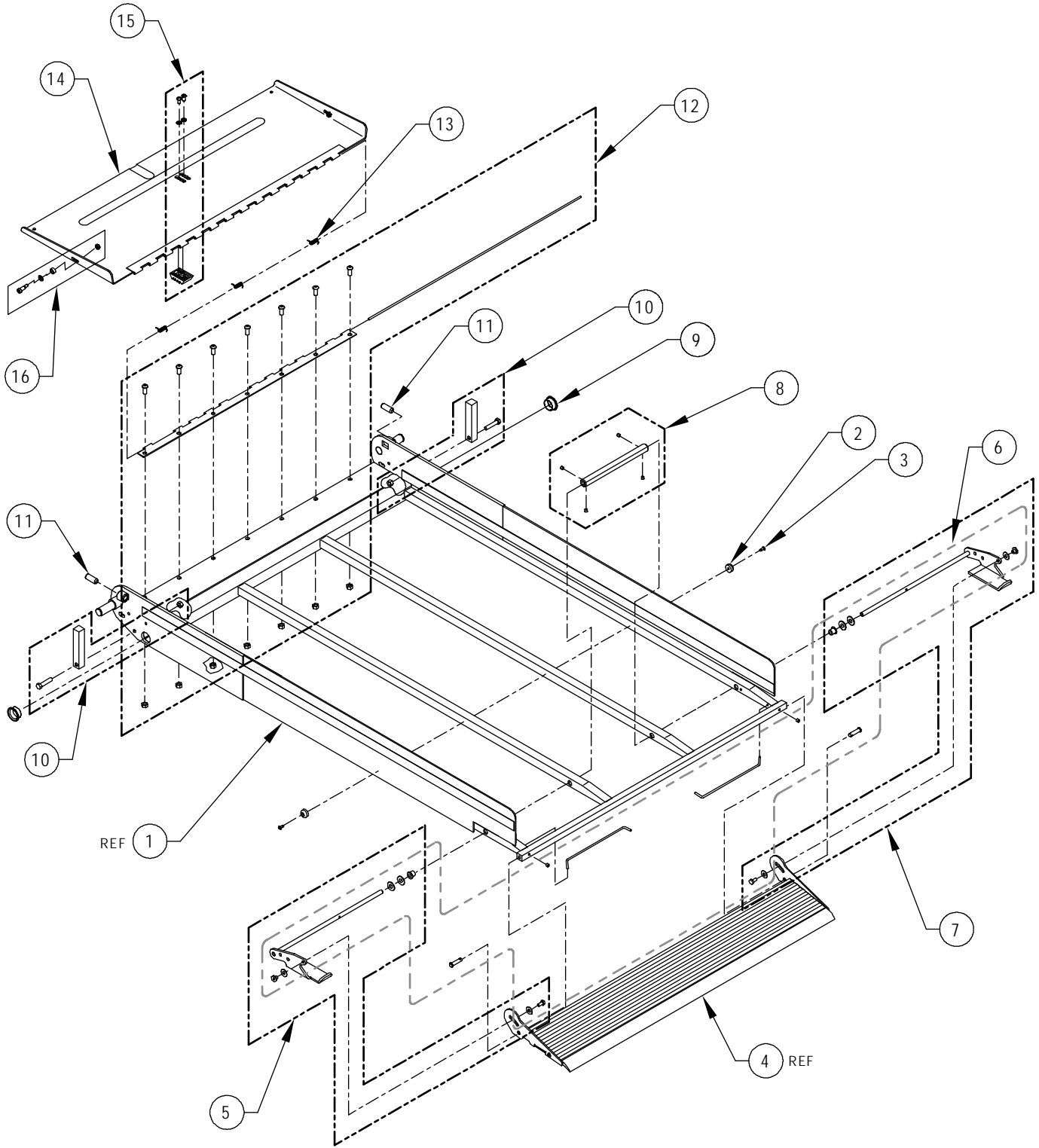
**FIGURE 4-6: S/K-SERIES DOT PUBLIC USE TRAVELING FRAME ASSY**

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
50A *	SET, PINCH POINT SHIELDS (P/N S50XX-XXXXXXX0X)	1	S/K50XX	S50XX-
50B *	SET, PINCH POINT SHIELDS (P/N S50XX-XXXXXXX0X)	1	S/K55XX	S50XX-
51	SCREW, PHP, 10-24 X ½ (BAG OF 10)	1		13304
52	NUT, SPRING, 10-24 U TYPE (BAG OF 10)	1		11799
53	COVER, STOWLOCK, MODULAR	1		36588
54	SCREW, PHP, 1/4-20, TAP TITE, BLK ZINC (BAG OF 10)	2		45529
55	KIT, SOLENOID ASSY, 12V,w/CLIPSPRING	1		V2-ES-127
56	SPRING,STO-LOC RELEASE	1		V2-SP-093
57	CLIP, SPRING, BASE LATCH, SST	1		V2-AC-009
58	ROLLPIN, 1/8" X 1 1/4" (BAG OF 10)	1		36252
59	HOOK, STOWLOCK	1		36251
60	SCREW, PHP, 10-24 X 1/2" TRS	REF		28111T
61	KIT, BRKTS W/CAM FOLLOWER	1	K20XX	31247
62	KIT, GAS SPRING ASSY, TRAVELING FRAME	1	K20XX	19318

**NOTE:** (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.

**NOTE:** \* Item or configuration not shown.

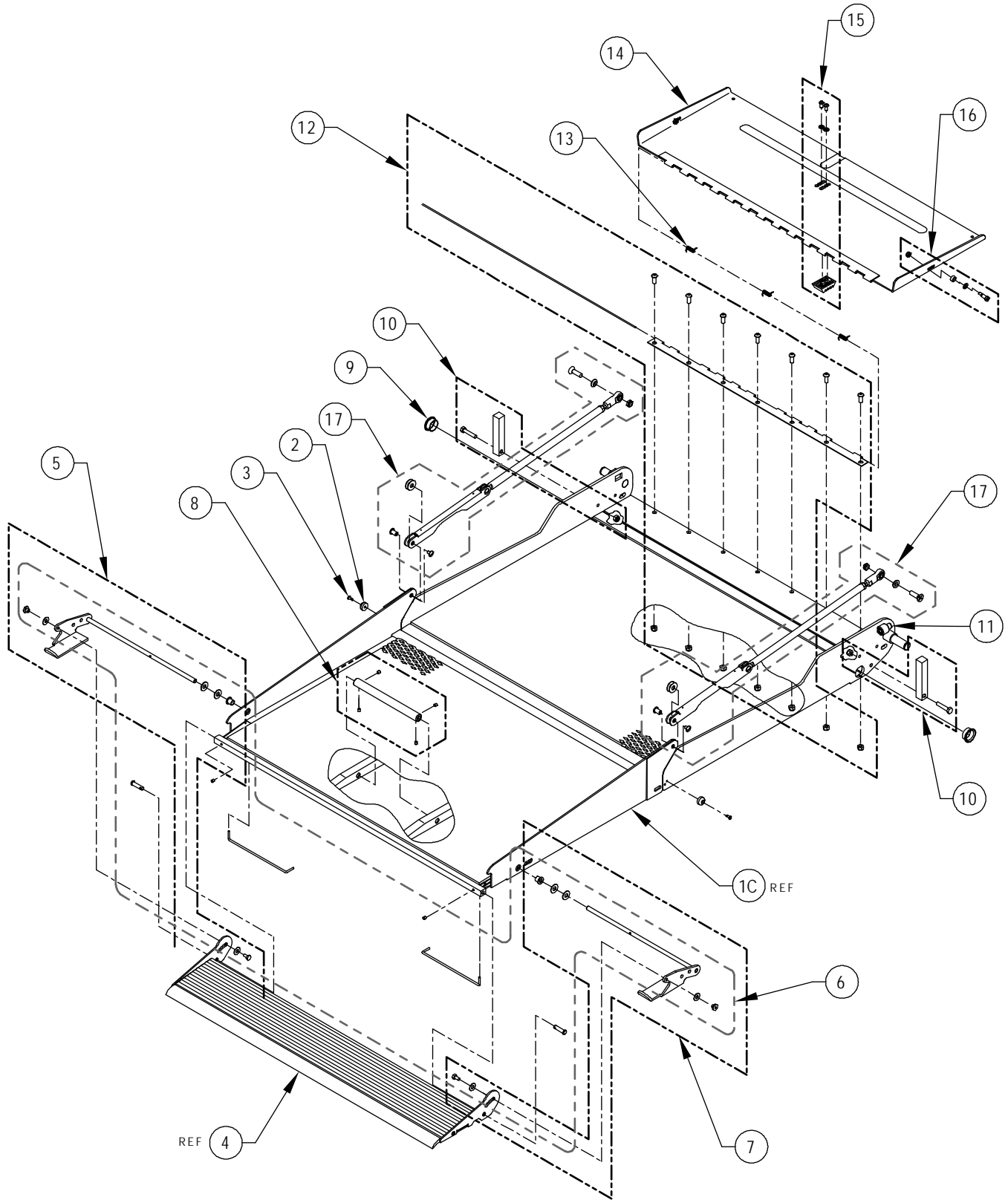




NOTE: S-SERIES PLATFORM SHOWN

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FIGURE 4-7.1: S-SERIES DOT PUBLIC USE PLATFORM ASSEMBLY



NOTE: K-SERIES PLATFORM SHOWN

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FIGURE 4-7.2: K-SERIES DOT PUBLIC USE PLATFORM ASSEMBLY

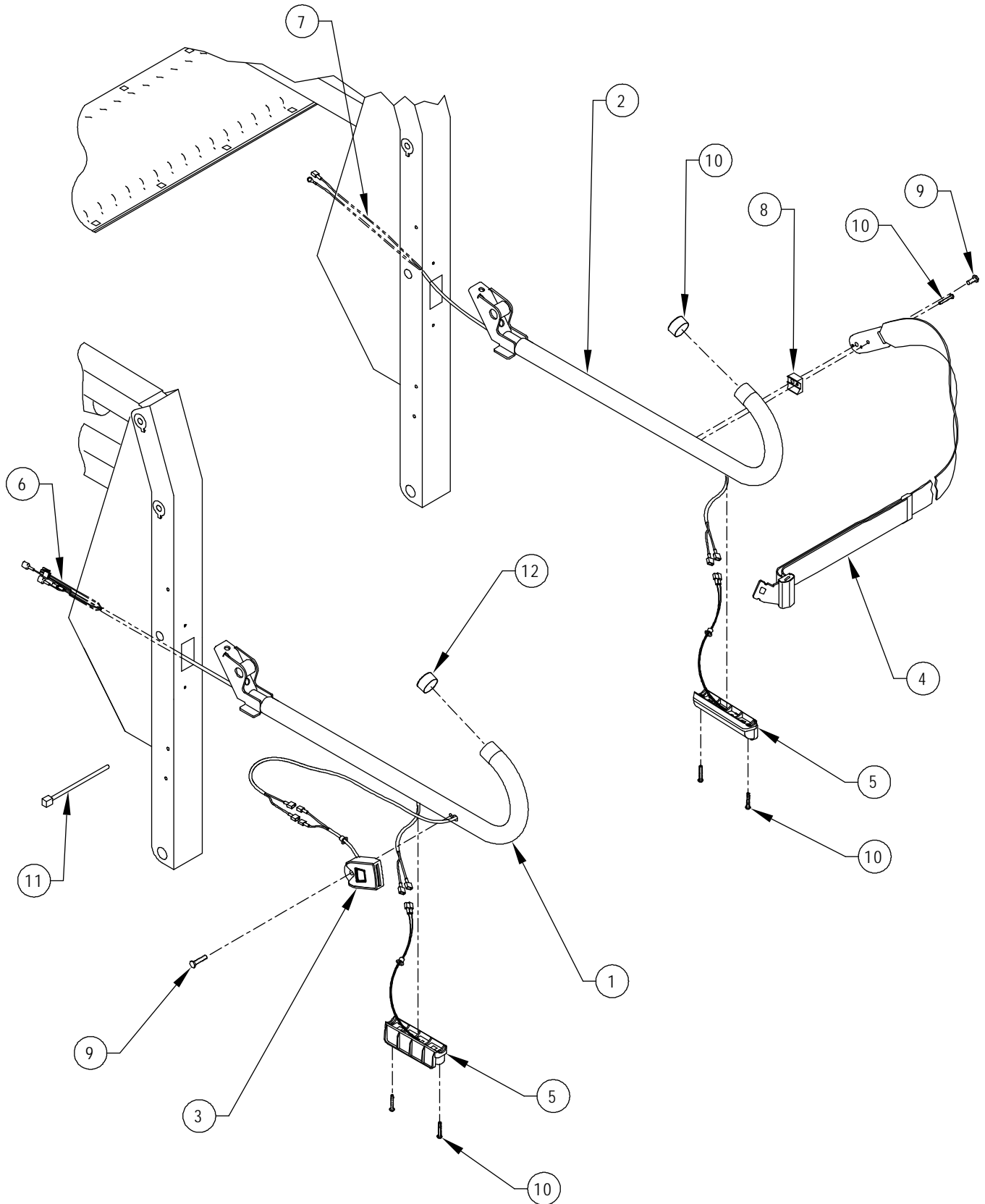
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**FIGURE 4-7: S/K-SERIES DOT PUBLIC USE PLATFORM ASSY**

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
1	PLATFORM WLDT, SOLID (34" X 54") GREY	REF	S2010	38332
1A *	PLATFORM WLDT, SOLID (34" X 54") GREY	REF	S50XX	38332
1B *	PLATFORM WLDT, SOLID (34" X 54") GREY	REF	S55XX	39925
1C	PLATFORM WLDT, SOLID (34" X 54") GREY	REF	K2010	30871
2	BUMPER, UHMW, .75D X .38T	2		V2-AC-027
3	SCREW, PHP, 8 TEK X 1/2 (BAG OF 10)	1		15961
4	ROLLSTOP ASSY, 6"H X 34"W	1		39953
5	KIT, REPLACEMENT, ROLLSTOP ACTUATOR, LH	1		22903
6	KIT, REPLACEMENT, ROLLSTOP ACTUATOR, RH	1		22902
7	KIT, HARDWARE, ROLLSTOPS	1		110011
8	KIT, COLLAR ROLLSTOP ACTUATOR, 8.25", W/HARDWARE	1		28773
9	KIT, FLANGE BEARING 1"ID (BAG OF 10)	1		19579
10	BLOCK, GREY, PLATFORM LEVEL ADJ	2		VT-AH-142
11	SCREW, HSS, 1/2-20 X 1 1/4 W/NYLOK	2		14403
12	KIT, HINGE, PLATFORM (GREY)	1		32107
13	SPRING, BRIDGEPLATE	3		25463
14	ROLLSTOP WLDT, INNER, 34" (YELLOW WRINKLE)	REF	S2010	32472
15	BLOCK, BASE LATCH, RATCHET ( <i>SUPERSEDED P/N 36576</i> )	1		V2-AC-103
16	KIT, SPACER, BRIDGEPLATE	2		42038
17	KIT, LINK ASSY, FRONT & REAR, YELLOW	2	K20XX	34523
	KIT, LINK ASSY, FRONT & REAR, YELLOW	2	K55XX	34523

**NOTE:** (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.

**NOTE:** \* Item or configuration not shown.



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FIGURE 4-8: S/K-SERIES DOT PUBLIC USE HANDRAILS

FIGURE 4-8: S/K-SERIES DOT PUBLIC USE HANDRAILS ASSY

FIG. ITEM	DESCRIPTION	QTY	CONFIG.	PART NO.
1	HANDRAIL WLDT, LH (YELLOW)	REF		35791
2	HANDRAIL WLDT, RH (YELLOW)	REF		35790
3	KIT, BUCKLE ASSY, W/SWITCH & HARDWARE	1		22017
4	STRAP ASSY, STRAIGHT SLIDER	1		37976
5	LIGHT ASSY, PLATFORM	2		32478
6	HARNESS, BELT & HANDRAIL LIGHT	1		37348
7	HARNESS, HANDRAIL LIGHT	1		37346
8	SPACER, TRANSIT HANDRAIL	1		V2-AC-063
9	SCREW, HEX, 5/16-18 X 1 SST (BAG OF 10)	2		19706
10	SCREW, PHP, 8TEK X 3/4 (BAG OF 10)	1		15911
11	CABLE TIE, 5.5" (NAT)	REF		25520
12	CAP, ROUND, BLK, CAPLUG MFG.NO. FCR-20	2		25550

**NOTE:** (REF) in QTY column is for Referenced Parts Only and are not sold as spare parts.

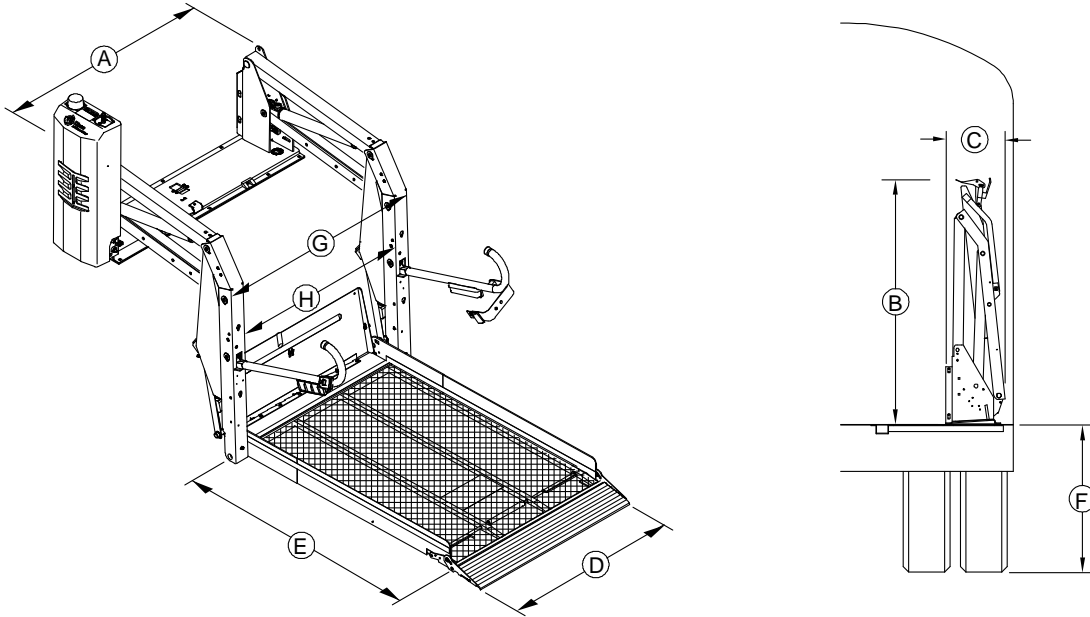
**NOTE:** \* Item or configuration not shown.

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**APPENDIX 1**

**LIFT SPECIFICATIONS**

<b>S/K-SERIES PUBLIC USE WHEELCHAIR LIFT</b>			
Power .....	electro-hydraulic	Rated load capacity, max .....	800 lbs
Motor rating@12 volts DC .....	65 amp avg/cycle, 1500 psi	Manual backup-up .....	hand pump
Motor rating@24 volts DC .....	32.5 amp avg/cycle, 1500 psi	Manual backup-down.....	pressure release valve
Hydraulic cylinders.....	2ea, 1.5", power up – gravity down	Lift weight.....	approx 340 - 370 lbs



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**DIMENSIONS (inches/millimeters)**

<b>MODEL</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
	Stationary frame width	Height (folded)	Installation depth (folded)	Usable platform width	Usable platform length	Floor-to-ground travel	Traveling frame width	Clear entry width
S2005	47 / 1194	55 / 1397	14 / 356	32 / 813	51 / 1295	42 / 1067	40 / 1016	32 / 813
S2010	49 / 1245	55 / 1397	14 / 356	34 / 864	54 / 1372	42 / 1067	42 / 1067	34 / 864
S5005	47 / 1194	58 / 1473	14 / 356	32 / 813	51 / 1295	48 / 1219	40 / 1016	32 / 813
S5010	49 / 1245	58 / 1473	14 / 356	34 / 864	54 / 1372	48 / 1219	42 / 1067	34 / 864
S5505	47 / 1194	58 / 1473	14 / 356	32 / 813	51 / 1295	51 / 1295	40 / 1016	32 / 813
S5510	49 / 1245	58 / 1473	14 / 356	34 / 864	54 / 1372	51 / 1295	42 / 1067	34 / 864
K2005	47 / 1194	55 / 1397	17 / 432	32 / 813	51 / 1295	37 / 940	40 / 1016	32 / 813
K2010	49 / 1245	55 / 1397	17 / 432	34 / 864	54 / 1372	37 / 940	42 / 1067	34 / 864
K5005	47 / 1194	58 / 1473	17 / 432	32 / 813	51 / 1295	43 / 1092	40 / 1016	32 / 813
K5010	49 / 1245	58 / 1473	17 / 432	34 / 864	54 / 1372	43 / 1092	42 / 1067	34 / 864
K5505	47 / 1194	58 / 1473	17 / 432	32 / 813	51 / 1295	48 / 1219	40 / 1016	32 / 813
K5510	49 / 1245	58 / 1473	17 / 432	34 / 864	54 / 1372	48 / 1219	42 / 1067	34 / 864

**END OF TABLE**



**NOTES:**