



*INNOVATION IN MOBILITY™*

**Mirage™  
F9A Series  
Transit Use  
Wheelchair and Standee Lift**

*PRINT*

**Operator Manual**

01/13/03

32DF9AS01.A

©97-2003 RICON CORPORATION  
All Rights Reserved



U.S. Patent Nos: 5,228,538; 5,253,973; 5,373,915; 5,556,250;  
Australian Patent No: 661127, 680501; Canadian Patent No: 2,129,821; French Patent No. 0-446-224;  
German Patent Nos. 68925368.0-08, EP 0625896 B1; U.K. Patent Nos. EP 0625896 B1, EP 0703766,  
GB 2,224,992 B; Other U.S. and foreign patents pending.

Printed in the United States of America

**This RICON product must be installed and serviced by authorized RICON service technicians.**

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

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

## REVISION RECORD

| REV                    | PAGES | DESCRIPTION OF CHANGE                               | ECO             |
|------------------------|-------|---|-----------------|
| 32DF9AS0.F<br>07/08/99 | All   | Change "dealer" to "service agent".                 | 002708/<br>4058 |
|                        | 1-1   | Delete Canadian product support listing.            |                 |
| 32DF9AS01<br>.A        | All   | New release, in two-book format.                    |                 |
|                        | 3-1   | Added A. Additional Maintenance Information section |                 |
| <b>END OF LIST</b>     |       |   |                 |

## TABLE OF CONTENTS

---

| <i>Chapter:</i>                            | <i>Page</i> |
|--|-------------|
| <b>I. INTRODUCTION.....</b>                | <b>1-1</b>  |
| A. RICON 5-YEAR LIMITED WARRANTY.....      | 1-1         |
| B. SHIPMENT INFORMATION.....               | 1-3         |
| C. GENERAL SAFETY PRECAUTIONS.....         | 1-3         |
| D. MAJOR LIFT COMPONENTS.....              | 1-4         |
| <b>II. OPERATING INSTRUCTIONS.....</b>     | <b>2-1</b>  |
| A. SAFETY PRECAUTIONS.....                 | 2-1         |
| B. DAILY SAFETY CHECK.....                 | 2-2         |
| C. LIFT FUNCTIONS.....                     | 2-3         |
| D. CONTROLS AND INDICATORS.....            | 2-4         |
| E. LIFT OPERATION.....                     | 2-8         |
| <b>III. MAINTENANCE.....</b>               | <b>3-1</b>  |
| A. ADDITIONAL MAINTENANCE INFORMATION..... | 3-1         |
| B. DAILY INSPECTIONS.....                  | 3-1         |
| C. MAINTENANCE SCHEDULE.....               | 3-3         |
| D. LIFT DECALS.....                        | 3-5         |

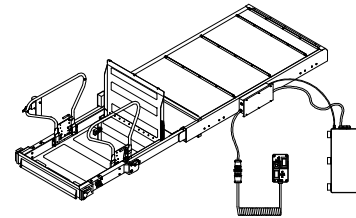
This page intentionally left blank.

[-BACK TO FRONT COVER-](#)

[-GO TO NEXT CHAPTER-](#)

## I. INTRODUCTION

The RICON Mirage™ F9A Series Transit Use Wheelchair and Standee Lift provides wheelchair access to mass transit vehicles. The patented movement ensures smooth, safe entry and exit and easily lifts up to 660 pounds (300 kilograms). It is designed to be operated by a trained attendant or vehicle driver. After activating the vehicle manufacturer installed safety interlock and by using the lift control switches, the lift extends OUT (or deploys) from the vehicle and rises to the vehicle floor height. The user boards the large non-skid platform and the operator uses the control switches to gently lower the platform to the ground. After the user departs, the platform is raised and retracted IN (stowed).



The F9A Series Lift is an underfloor, electro-hydraulic wheelchair lift with a powerful electric motor and electrical hydraulic pump, and a powered rollstop. The lift also contains a built-in manual backup pump and rollstop manual control knob. If the lift loses electrical power, two or more people can extend the lift and raise and/or lower the lift manually.

This manual contains operation and main-tenance instructions and a troubleshooting guide for the lift. It is important to user safety that the lift operator(s) be completely familiar with the Operating Instructions chapter of this manual. 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.

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

**Ricon Corporation**  
7900 Nelson Road  
Panorama City, CA 91402..... (818) 267-3000  
Outside (818) Area Code..... (800) 322-2884  
World Wide Website ..... [www.riconcorp.com](http://www.riconcorp.com)

**Ricon U.K. Ltd.**  
Littlemoss Business Park, Littlemoss Road  
Droylsden, Manchester  
United Kingdom, M43 7EF .....(+ 44) 161 301 6000

A. RICON ONE-YEAR LIMITED WARRANTY (refer to following page)

## RICON CORPORATION ONE-YEAR LIMITED WARRANTY

**Ricon Corporation (Ricon)** warrants to 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 date of purchase.
- Labor costs for specified parts replace under this warranty for a period of one year from date of purchase. A Ricon rate schedule determines the parts covered and labor allowed.

**If You Need to Return a Product:** Return this product to Ricon. 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 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 an authorized Ricon service technician at least once every six months, or sooner if necessary. Any required maintenance should be performed at that time.



**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 an authorized Ricon 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

Because of the specialized nature of the product, Ricon does not sell directly to the user. Instead, the product is distributed through the worldwide network of authorized Ricon dealers, who perform the actual sale and installation.

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

**NOTE:** The Sales/Service personnel must review the Warranty and this Operator Manual with the user to be certain that they understand the safe operation of the product. Instruct the user to follow the operating instructions without exception.

## C. GENERAL SAFETY PRECAUTIONS

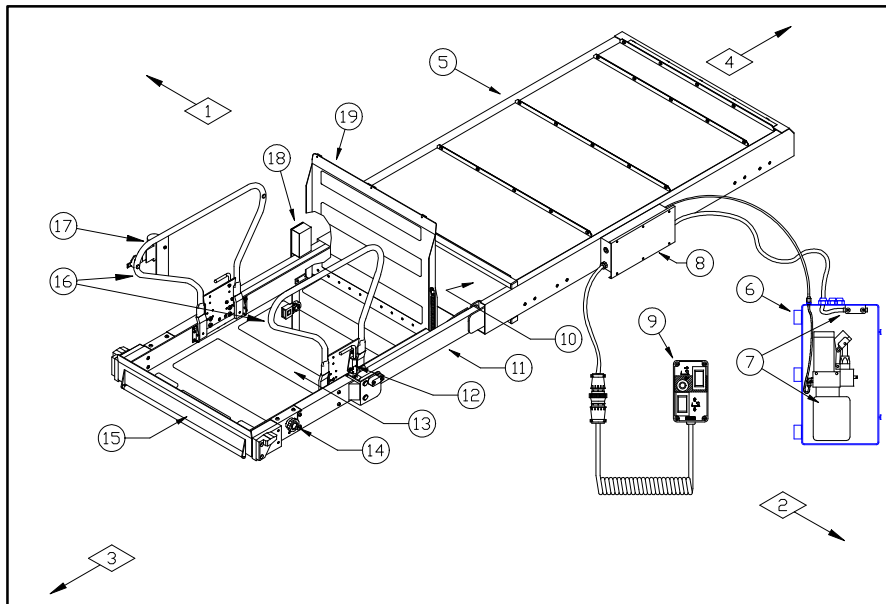
The following general safety precautions must be followed during installation, operation, service and maintenance:

- An injury, no matter how slight, should always be attended. Always administer first aid or seek medical attention immediately.
- 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.
- Read and thoroughly understand the operating instructions before attempting to operate.
- Inspect the product before each use. If an unsafe condition, unusual noises or movements, exists, do not use it until the problem is corrected.
- Keep others clear during operation.
- The product requires regular periodic maintenance. A thorough inspection is recommended at least once every six months. The product must always be maintained at the highest level of performance.



## D. MAJOR LIFT COMPONENTS

The references used throughout this manual are illustrated in **Figure 1-1** and defined in **Table 1-1**.



**FIGURE 1-1: F9A SERIES TRANSIT WHEELCHAIR AND STANDEE LIFT**

| TABLE 1-1: F9A SERIES TRANSIT LIFT TERMINOLOGY |  |   |
|--|--|---|
| REF.   | NAME   | DESCRIPTION   |
| 1  | Left   | Reference points from outside the vehicle looking inward at the platform.   |
| 2  | Right  |   |
| 3  | Front  |   |
| 4  | Rear   |   |
| 5  | Lift Enclosure                                 | Cassette type structure, rigidly attached to the vehicle, that contains the lift.   |
| 6  | Pump Enclosure                                 | Optional enclosure that contains the lift electrical and hydraulic control components.  |
| 7  | Electrical Circuit Breakers and Hydraulic Pump | Circuit breakers that protect the lift in the event of an electrical short circuit and electro-hydraulic pump that performs the lift raise/UP and lower/DOWN functions. |
| 8  | Pull Box                                       | Contains electrical connections/terminals.  |
| 9  | Control Pendant                                | Hand-held device used to control the lift operating functions.  |

|                     |                              |  |
|---------------------|------------------------------|--|
| 10                  | Carriage                     | (Not shown) Part of traveling frame that contains the necessary components to extend/deploy the platform OUT and retract/stow the platform IN.   |
|                     | Deployment System            | (Not Shown) The electrical gear-motor and associated mechanical hardware used to extend/deploy the platform OUT and retract/stow the platform IN.  |
|                     | Lower Parallel Arm(s)        | (Not Shown) Located within the lifting frame, these arms connect the platform to the carriage to maintain the platform horizontal position.  |
| 11                  | Lifting Frame                | Part of the frame that connects the platform to the hydraulic cylinder for raising/UP and lowering/DOWN.   |
| 12                  | Slam Lock Assembly           | Manually activated mechanism used to lock the retractable handrail in the upright position.  |
| 13                  | Platform                     | Component where the occupant sits or stands during lift operations.  |
| 14                  | Rollstop Manual Control Knob | Provides manual control of the rollstop in the event of a loss of electrical power.  |
| 15                  | Platform Roll-stop           | Front barrier to prevent the wheelchair from slow, inadvertent rolling off the platform during lift operation.   |
| 16                  | Handrails                    | Provide a hand-hold for the platform occupant.   |
| 17                  | Occupant Safety Belt         | Electrically interlocked safety belt that when properly engaged helps prevent unintentional acceleration of wheelchair from platform. The lift will not operate using the "UP" or "DOWN" switches unless the belt is properly engaged. |
| 18                  | Sto-Loc                      | Electrical solenoid that "safety-locks" the lift in the stowed IN position.  |
| 19                  | Bridgeplate                  | Plate that bridges across the platform and the vehicle threshold. Also serves as a rear rollstop when the platform is at the deployed/OUT and ground level positions.  |
| <b>END OF TABLE</b> |                              |  |

This page intentionally left blank.

[-BACK TO TABLE OF CONTENTS-](#)

[-GO TO NEXT CHAPTER-](#)

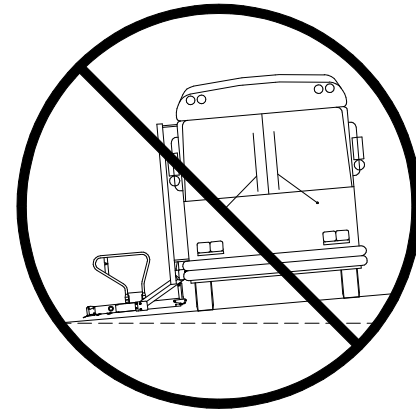
## II. OPERATING INSTRUCTIONS

This chapter contains safety precautions, daily safety check, lift functions, control and indicator descriptions, and operating instructions for the RICON Mirage™ F9A Series Transit Use Wheelchair and Standee Lift. This chapter must be read and thoroughly understood by the operator before attempting to use the lift.

### A. SAFETY PRECAUTIONS

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

- Refer to **Figure 2-1**. A dangerous situation exists when using the lift if the vehicle is parked on a slope. Always operate the lift with the vehicle parked on level ground.



**FIGURE 2-1: UNSAFE VEHICLE SLOPING**

- Vehicle must be safely parked with the emergency brake ON before using the lift.
- Inspect the lift prior to each use. If any unsafe condition exists or unusual noises or movements are noticed, DO NOT use and contact an authorized Ricon service technician for repair.
- Read and comply with all warning labels and symbols affixed to the wheelchair lift.
- When using the lift, it is recommended that the occupant FACE OUTWARD.
- The platform rollstop is designed to prevent slow inadvertent rolling off the platform. The large rear wheels of a wheelchair can roll over the platform rollstop, so we insist you always face outward. Hitting the platform rollstop with the small front wheels can tip the wheelchair and possibly injure the wheelchair occupant. Do not expect the rollstop to stop a quick moving wheelchair as it is not designed for that purpose. Use extreme care, board the platform slowly and then lock the wheelchair brakes.
- Be certain wheelchair fits safely on the platform and does not extend over the edges of the platform or interfere with operation of the rollstop.
- When exiting vehicle NEVER back onto the platform. Always face outward and make sure that the platform is at a safe vehicle floor-level position and the outer rollstop is in an up and locked position.

- Do not operate with a load in excess of 660 lbs. (300 kg).
- Do not place arms, legs, or clothing in or near moving parts.
- The lift is designed for ONE wheelchair and its occupant. Do not overload lift.
- Keep others clear while operating.
- Do not allow an untrained person to operate.
- Careful supervision is necessary if used by or near children.
- Do not allow anyone to stand on the bridgeplate. Bending this bridgeplate can cause dangerous interference with the platform as its raises or lowers.
- Always LOCK WHEELCHAIR BRAKES (power chair users should turn off power and set brake) before lift is operated.
- Use extreme care in wet conditions. Wheelchair brakes are less effective if the platform and/or wheelchair wheels are wet.
- Never leave platform outside of vehicle. Always return lift to stowed position after use.

Be sure that these safety precautions have been read and understood. Review them periodically, and ask any attendants or other operators to read them as well. If there are any questions, contact an authorized Ricon service technician or call Ricon Product Support.

## **B. DAILY SAFETY CHECK**

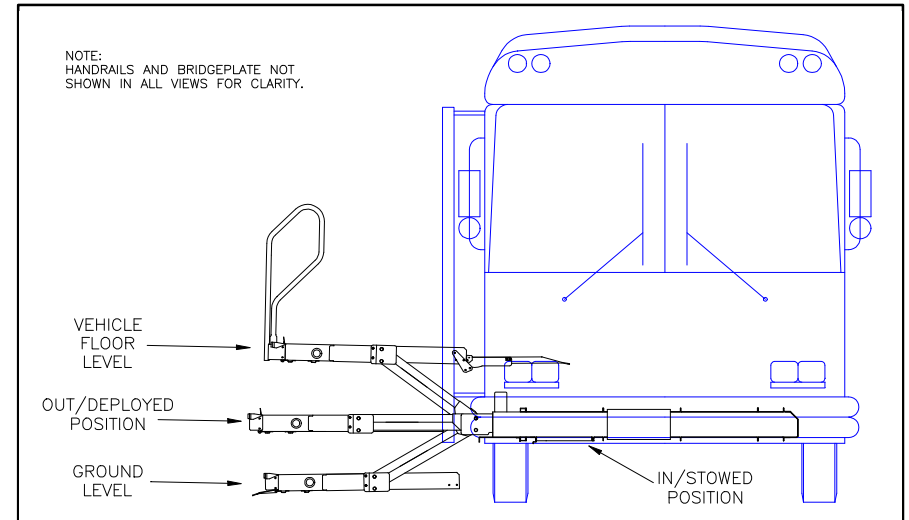
Inspect the lift before each use and check that the following conditions are met before operating:

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

### C. LIFT FUNCTIONS

| TABLE 2-1: LIFT FUNCTIONS |   |
|---------------------------|---|
| FUNCTION                  | DESCRIPTION   |
| Ⓜ / OUT                   | Platform extends/deploys OUT of the vehicle from the IN/stowed position.  |
| - / DOWN                  | Platform is lowered from its present position, either vehicle floor level or OUT/deployed position. (The rollstop automatically lowers when the platform reaches ground level.) |
| - / UP                    | Platform is raised from its present position, either ground level or OUT/deployed position. (The rollstop automatically raises when the platform leaves ground level.)          |
| ↶ / IN                    | Platform retracts/stows from the OUT/deployed position to the IN/stowed position.   |

**END OF TABLE**



**FIGURE 2-2: PLATFORM POSITIONS**

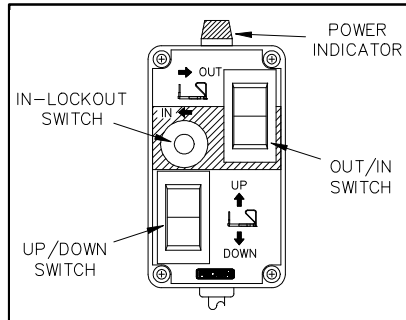
## D. CONTROLS AND INDICATORS

### **WARNING!**

THE LIFT IS ALLOWED TO OPERATE **ONLY** WHEN THE VEHICLE MANUFACTURER'S INTERLOCK CIRCUITRY IS ACTIVATED. NEVER ATTEMPT TO OPERATE THE LIFT WITH THE INTERLOCK BYPASSED. REFER TO THE VEHICLE OWNER/OPERATOR MANUAL FOR INTERLOCK INSTRUCTIONS BEFORE OPERATING THE LIFT.

#### ▪ CONTROL PENDANT

Refer to **Figure 2-3**. The control pendant is a hand-held, hardwired remote device that controls the lift functions. The pendant contains two spring-loaded, double-acting switches and one spring-loaded push-button switch. To operate the @/OUT, -/UP, or ~ /DOWN functions, press and hold the appropriate switch until the function is completed. To operate the "IN" function, the → /IN and the IN-LOCKOUT switches must be pressed and held at the same time.



**FIGURE 2-3: CONTROL PENDANT**

The lift is equipped with a feature that removes electrical power to the lift when it is not in use. The power indicator contained on the control pendant shows when this power is supplied and illuminates only when the lift is in operation.

**NOTE:** THE POWER INDICATOR SHOULD PROPERLY ILLUMINATE ONLY WHEN THE LIFT IS IN OPERATION. IF THE INDICATOR DOES NOT ILLUMINATE **DURING** OPERATION OF THE LIFT OR REMAINS ILLUMINATED WHEN THE LIFT IS **NOT** IN OPERATION, CONTACT AN AUTHORIZED RICON SERVICE SERVICE TECHNICIAN FOR REPAIR.

▪ ELECTRICAL CIRCUIT BREAKERS

The lift electrical circuit breakers are designed to interrupt electrical power to the lift in case of a short circuit. The circuit breakers are located on the hydraulic power unit (or optional pump enclosure) and the vehicle engine/battery compartment. For descriptions of the lift electrical controls and indicators, refer to **Figure 2-4** (shown within the optional pump enclosure) and the following paragraphs:

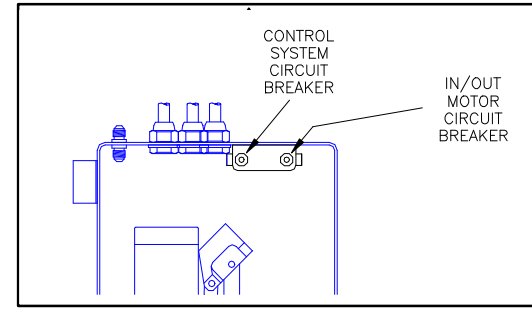



FIGURE 2-4: LIFT CIRCUIT BREAKERS

|  |
|--|
|  <b>WARNING</b>   |
| <b>REMINDER TO RICON SERVICE TECHNICIAN:</b><br>NEVER REPLACE ANY CIRCUIT BREAKER WITH A CIRCUIT BREAKER OF GREATER VALUE. LOCATE AND REPAIR SHORT CIRCUIT TO CORRECT PROBLEM. |

- Control System Circuit Breaker

The Control System Circuit Breaker is found on the hydraulic pump assembly. In case of a control system short circuit, the circuit breaker button will “pop-out”. If pressing and releasing the button does not reset/restore power, **DO NOT** press and hold. Contact an authorized Ricon service technician for repair.

- IN/OUT Motor Circuit Breaker

The IN/OUT Motor Circuit Breaker is found on the hydraulic pump assembly. In case of an IN/OUT motor short circuit, the circuit breaker button will “pop-out”. If pressing and releasing the button does not reset/restore power, **DO NOT** press and hold. Contact an authorized Ricon service technician for repair.

- Main Circuit Breaker

Refer to **Figure 2-5**. The main circuit breaker is located in the vehicle engine/battery compartment and is designed to interrupt electrical power to the lift electrical system in case of a short circuit. In case of a short circuit, the circuit breaker reset tab will “pop-down”. If pressing the reset tab UP and releasing does not reset/restore power, **DO NOT** press and hold. Contact an authorized Ricon service technician for repair.

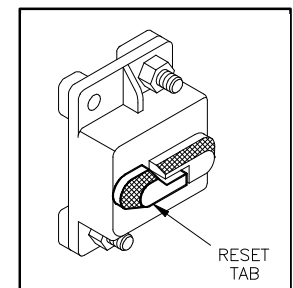


FIGURE 2-5: MAIN CIRCUIT BREAKER



MANUAL CONTROLS

Manual controls of the lift consist of the manual backup pump and the rollstop manual control knob. For the descriptions of the manual controls, refer to the following sections:

Manual Backup Pump

The manual backup pump is used to operate the lift if there is no electrical power. Refer to **Figure 2-6**. (The manual backup pump is shown within the optional pump enclosure.) The controls for the pump consist of the pump handle extension (installed by the vehicle manufacturer near the pump or stored within the optional pump enclosure cover) for raising the lift platform and the pump release valve for lowering.

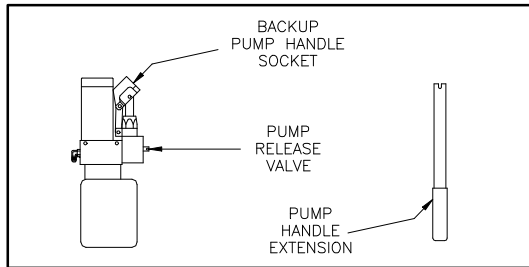


FIGURE 2-6: MANUAL BACKUP PUMP & HANDLE EXTENSION

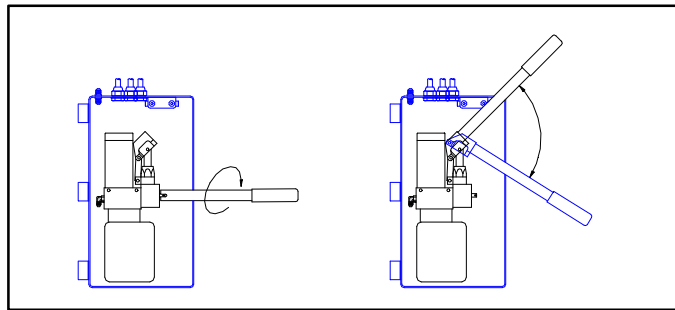


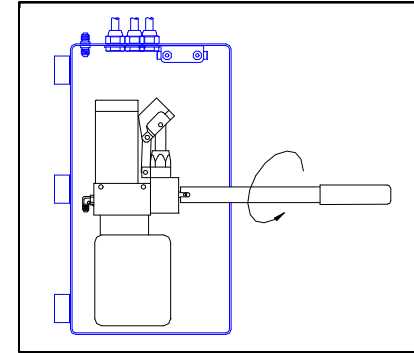
FIGURE 2-7: PLATFORM MANUAL RAISING

Refer to **Figure 2-7**. To raise the platform, insert the pump handle extension onto the pump release valve. Make sure the notches at the end of the handle are fully engaged by the release valve pin. Twist the handle **CLOCKWISE** until lightly-snug to make sure that the pump is in the “raise mode”. Insert the handle extension into pump handle socket and move the handle extension in the appropriate directions (the manual backup pump may be installed either vertically or horizontally) to raise the platform.

**CAUTION**

DO NOT TURN PUMP RELEASE VALVE MORE THAN 1/4-TURN COUNTER-CLOCKWISE. THE VALVE IS TOTALLY REMOVABLE WHICH WILL DISABLE ALL AUTOMATIC AND MANUAL UP/DOWN FUNCTIONS

Refer to **Figure 2-8**. To lower the platform, insert the handle extension onto the pump release valve, and slowly twist the handle 1/4-turn COUNTER-CLOCKWISE until the platform begins to lower. Allow the platform to lower to the desired position.

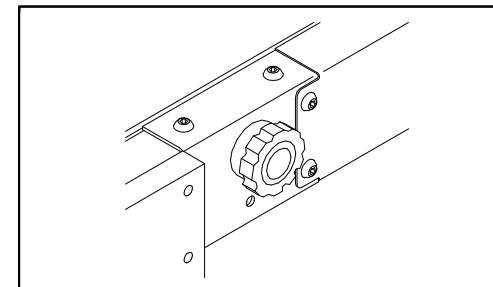


**FIGURE 2-8: PLATFORM MANUAL LOWERING**

- Rollstop Manual Control Knob

The rollstop manual control knob is used to operate platform rollstop if the lift is being operated manually. Refer to **Figure 2-9**. To open the rollstop, allow lift to lower to ground position, pull and hold the control knob OUT and turn the knob COUNTER-CLOCKWISE until the rollstop opens completely. To close the rollstop, pull and hold the control knob OUT, turn the knob CLOCKWISE while raising the rollstop with the other hand until the rollstop closes and latches.

 **WARNING**  
ROLLSTOP MUST BE IN UP POSITION BEFORE OPERATING LIFT.



**FIGURE 2-9: ROLLSTOP MANUAL CONTROL KNOB**

## E. LIFT OPERATION

### **WARNING!**

- 1) IMPROPER USE OF THE LIFT CAN RESULT IN PERSONAL INJURY. USERS MUST READ AND FOLLOW OPERATING INSTRUCTIONS IN THIS SERVICE/OWNER MANUAL. ADDITIONAL COPIES OF THE SERVICE/OWNER MANUAL ARE AVAILABLE FROM:

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

- 2) DO NOT EXCEED RATED LOAD CAPACITY OF 660 POUNDS (300 KG).
- 3) PRIOR TO USE, INSPECT WHEELCHAIR LIFT FOR PROPER FUNCTION, REQUIRED MAINTENANCE, OR DAMAGE. IF A PROBLEM EXISTS, DO NOT USE LIFT AND CONTACT AN AUTHORIZED RICON SERVICE TECHNICIAN FOR REPAIR.
- 4) THIS LIFT IS DESIGNED FOR USE BY WHEELCHAIR AND STANDEE OCCUPANTS ONLY.

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

- Before operating lift, be certain vehicle is safely parked on a level area away from traffic with the emergency brake ON. Allow enough space for lift operation and passenger boarding.
- Take special care to ensure that the area is clear of obstacles and open vehicle door(s) completely before deploying the lift.

### **WARNING**

ATTENDANT SHOULD **ALWAYS** REMAIN NEAR PASSENGER TO RENDER IMMEDIATE ASSISTANCE IF NECESSARY. KEEP OTHERS CLEAR OF LIFT WHEN OPERATING. MAINTAIN PRESSURE ON SWITCH UNTIL FUNCTION IS COMPLETE. BE CERTAIN WHEELCHAIR FITS PROPERLY ON PLATFORM AND DOES NOT CONTACT ROLLSTOP AND PREVENT IT FROM LOCKING AS THE PLATFORM RISES.

#### ▪ **TO ENTER VEHICLE**

**ACTIVATE INTERLOCK:** Refer to the vehicle manufacturer operators manual to activate the vehicle interlock (e.g., set parking brake, place transmission in park, etc.).

**DEPLOY PLATFORM:** Press and hold the @/OUT switch until the lift is fully deployed.

**RAISE HANDRAILS:** Raise RIGHT handrail until slam lock engages then raise LEFT handrail until slam lock engages.

**MAKE SURE OCCUPANT RESTRAINT BELT IS FASTENED.**

**LOWER PLATFORM:** Press and hold the ▾ /DOWN switch until the platform reaches ground level and the rollstop opens completely.

**RELEASE OCCUPANT RESTRAINT BELT.**

**BOARD PLATFORM:** Position wheelchair, facing outward if possible, in center of platform and LOCK WHEELCHAIR BRAKES.

- STANDEES should stand in center of platform and firmly grasp handrails.

**FASTEN OCCUPANT RESTRAINT BELT.**

**RAISE PLATFORM:** Press and hold the /UP switch until platform stops at vehicle floor level.

**EXIT PLATFORM:** Carefully exit platform.

**RELEASE OCCUPANT RESTRAINT BELT.**

**LOWER HANDRAILS:** Raise LEFT slam lock handle and lower LEFT handrail to platform. Raise RIGHT slam lock handle and lower RIGHT handrail.

**STOW PLATFORM:** Press and hold /IN switch and the red IN-LOCKOUT switch until the lift is fully stowed. The lift will raise or lower to the proper stowing level and retract into the vehicle.

▪ **TO EXIT VEHICLE**

**ACTIVATE INTERLOCK:** Refer to the vehicle manufacturers' operators manual to activate the vehicle interlock (e.g., set parking brake, place transmission in park, etc.).

**DEPLOY PLATFORM:** Press and hold the @ /OUT switch until the lift is fully deployed.

**RAISE HANDRAILS:** Raise RIGHT handrail until slam lock engages then raise LEFT handrail until slam lock engages.

**MAKE SURE OCCUPANT RESTRAINT BELT IS FASTENED.**

**RAISE PLATFORM:** Press and hold the - /UP switch until platform stops at vehicle floor level.

**BOARD PLATFORM:** Position wheelchair, facing outward if possible, in center of platform and LOCK WHEELCHAIR BRAKES.

- STANDEES should stand in center of platform and firmly grasp handrails.

**LOWER PLATFORM:** Press and hold the ▾ /DOWN switch until the platform reaches ground level and the rollstop opens completely.

**RELEASE OCCUPANT RESTRAINT BELT.**

**EXIT PLATFORM:** Carefully exit platform.


**LOWER HANDRAILS:** Raise LEFT slam lock handle and lower LEFT handrail to platform. Raise RIGHT slam lock handle and lower RIGHT handrail.

**STOW PLATFORM:** Press and hold → /IN switch **and** the red IN-LOCKOUT switch until the lift is fully stowed. The lift will raise or lower to the proper stowing level and retract into the vehicle.

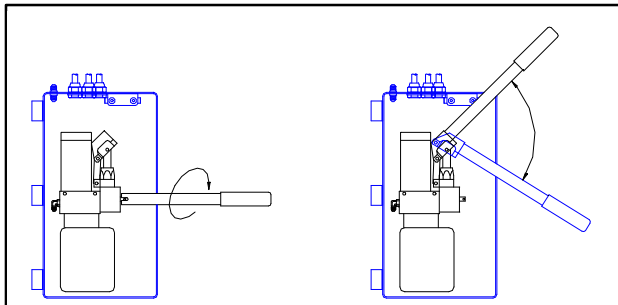
▪ **MANUAL/EMERGENCY OPERATION**

If the lift becomes inoperable under its electrical power, it can be operated manually:

- **TO MANUALLY DEPLOY THE PLATFORM:**
  - ◆ Allow enough space for lift operation and passenger boarding. If a break down situation exists and the vehicle cannot be moved so that the lift system can be operated safely, the operator must summon emergency assistance to move the vehicle before operating the lift.
  - ◆ Fully open vehicle door(s). Ensure that there are no obstacles in the path of the lift.
  - ◆ At the left-side of the lift, raise and hold the stow-loc piston UP.

|  <b>WARNING</b>   |
|--|
| <b>USE EXTREME CAUTION TO AVOID INJURY.</b>  |
| <ul style="list-style-type: none"><li>• DO NOT ATTEMPT TO MANUALLY DEPLOY OR STOW THE LIFT USING LESS THAN TWO PEOPLE. MANUALLY DEPLOYING AND/OR STOWING OF THIS LIFT REQUIRES FORCES GREATER THAN <b>100 LBS.</b></li><li>• ENSURE THAT THE PERSON OR OBJECT HOLDING THE STOW-LOC PISTON IS NOT IN THE PATH OF THE LIFT PLATFORM OR FRAME DURING THIS OPERATION.</li><li>• TO MANUALLY DEPLOY THE LIFT PLATFORM, A LARGE FORCE IS REQUIRED TO OVERCOME THE TORQUE CLUTCH INITIAL RESISTANCE. AFTER THE LIFT STARTS MOVING OUTWARD, SUSTAIN A CONSTANT FORCE UNTIL THE LIFT REACHES THE DEPLOYED POSITION.</li></ul> |

- ◆ Using **ONE PERSON ON EACH SIDE** of the lift to prevent mechanical binding, grasp the handrails and pull firmly. Best results are attained by starting the deployment with a sharp tug and sustaining a constant pull until the lift is all the way out against the carriage stops.
- **TO MANUALLY RAISE THE PLATFORM:**
  - ◆ Refer to **Figure 2-10**. Insert the pump handle extension onto manual backup pump release valve. Make sure the notches at the end of the handle are fully engaged by the release valve pin. Twist the handle **CLOCKWISE** until lightly-snug and remove.



**FIGURE 2-10: LIFT OPERATION – PLATFORM MANUAL RAISING**

**CAUTION**

DURING MANUAL RAISING OF THE LIFT, **DO NOT RAISE THE PLATFORM MORE THAN 1-1/2" ABOVE THE VEHICLE FLOOR LEVEL.** ANY EXCESSIVE TRAVEL WILL MAKE IT DIFFICULT TO ENTER THE PLATFORM AND/OR DAMAGE THE LIFT BRIDGEPLATE ACTUATOR. THE OUTER EDGE OF THE BRIDGE PLATE MUST REST SQUARELY ON THE VEHICLE FLOOR.

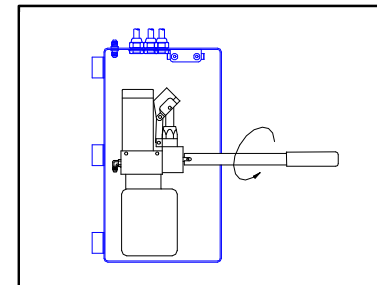
- ◆ Insert handle extension into manual backup pump handle socket. Move pump handle in the appropriate directions to raise the platform to the vehicle floor level.
- ◆ The lift passenger and attendant must follow the instructions to ENTER or EXIT the vehicle, as described in the lift Operating Instructions section of this manual.

• **TO MANUALLY LOWER THE PLATFORM:**

**CAUTION**

DO NOT TURN PUMP RELEASE VALVE MORE THAN 1/4-TURN COUNTER-CLOCKWISE. THE VALVE IS TOTALLY REMOVABLE WHICH WILL DISABLE ALL AUTOMATIC AND MANUAL UP/DOWN FUNCTIONS.


- ◆ Refer to **Figure 2-11**. Insert the pump handle extension onto manual backup pump release valve. Make sure the notches at the end of the handle are fully engaged by the release valve pin. Slowly twist the handle 1/4-turn COUNTER-CLOCKWISE until the lift platform begins to lower.



**FIGURE 2-11: LIFT OPERATION – PLATFORM MANUAL LOWERING**

- ◆ Allow the platform to reach ground level.
  - ◆ Insert the pump handle extension onto manual backup pump release valve. Twist the handle COUNTER-CLOCKWISE until lightly-snug and remove.
  - ◆ Using the rollstop manual control knob and one hand on the rollstop, OPEN the rollstop.
  - ◆ The attendant and lift passenger should follow the instructions to ENTER or EXIT the vehicle, as described in the lift Operating Instructions section of this manual.
- **TO MANUALLY STOW THE PLATFORM:**
- ◆ Raise or lower the platform to the deploy/stow position, the platform frame must be parallel to the side of the lift enclosure. If the exact position cannot be obtained, slightly low is preferred to slightly high.

- ◆ Using the rollstop manual control knob and one hand on the rollstop, close the rollstop until it latches.


|  |
|--|
|  <b>WARNING</b>   |
| MANUALLY DEPLOYING AND/OR STOWING OF THIS LIFT REQUIRES FORCES GREATER THAN <b>100 LBS.</b> DO NOT ATTEMPT TO MANUALLY DEPLOY OR STOW THE LIFT USING LESS THAN TWO PEOPLE. |

- ◆ Use **ONE PERSON ON EACH SIDE** of the lift to prevent mechanical binding.
- ◆ With fingers up and palms forward, push the platform forcefully to start the lift moving inward. As the lift begins to move inward, maintain a constant pushing motion until the lift comes to rest completely inside the lift enclosure.
- ◆ Check that the stow-loc plunger is engaged in the top-front of the platform guide block.

• **TO MANUALLY STOW THE LIFT FROM GROUND LEVEL:**

In the unlikely event there is a hydraulic system failure and the manual backup pump is inoperative, the lift may be stowed as follows **by two or more able-bodied persons**:

- ◆ Raise or lower the platform to the deploy/stow position, the platform frame must be parallel to the side of the lift enclosure. If the exact position cannot be obtained, slightly low is preferred to slightly high.
- ◆ Using the rollstop manual control knob and one hand on the rollstop, close the rollstop until it latches.

|   |
|---|
|  <b>WARNING</b>  |
| <ul style="list-style-type: none"> <li>• MANUALLY DEPLOYING AND/OR STOWING OF THIS LIFT REQUIRES FORCES GREATER THAN <b>100 LBS.</b> DO NOT ATTEMPT TO MANUALLY DEPLOY OR STOW THE LIFT USING LESS THAN TWO PEOPLE.</li> <li>• THE PLATFORM IS HEAVY AND SHOULD BE LIFTED WITH USING EXTREME CAUTION AND PROPER LIFTING TECHNIQUE:</li> <li>• <b>ALWAYS LIFT WITH LEGS AND NOT THE BACK</b></li> <li>• <b>WHEN ATTEMPTING TO LIFT HEAVY OBJECTS.</b></li> </ul> |

- ◆ Use **ONE PERSON ON EACH SIDE** of the lift to prevent mechanical binding.
- ◆ With fingers up and palms forward, push the platform forcefully to start the lift moving inward. As the lift begins to move inward, maintain a constant pushing motion until the lift comes to rest completely inside the lift enclosure.
- ◆ Check that the stow-loc plunger is engaged in the top-front of the platform guide block.

**III. MAINTENANCE**


Regular maintenance of the RICON Mirage F9A Series Transit Use Wheelchair and Standee Lift is required to ensure its optimum performance and reduce the need for repairs. This chapter contains a list of daily inspection check-points, a recommended maintenance schedule, and a troubleshooting section that utilizes the control pendant power indicator.

**A. ADDITIONAL MAINTENANCE INFORMATION**


Additional maintenance information is available in the Mirage F9A Series Transit Use Service manual, part number 32DF9AS02. This manual is available from Ricon in printed hard copy, or at the Ricon website in PDF format. The website is located at [www.riconcorp.com](http://www.riconcorp.com). Click on RICON CORPORATION and then DEALER'S ROOM at the website. Entry to the dealer's room will require a Dealer Number and a Password.

|   |
|---|
|  <b>WARNING</b>  |
| THIS RICON PRODUCT IS HIGHLY SPECIALIZED. MAINTENANCE AND REPAIRS MUST BE PERFORMED BY AN AUTHORIZED RICON SERVICE TECHNICIAN USING RICON REPLACEMENT PARTS. MODIFYING OR FAILING TO PROPERLY MAINTAIN THIS PRODUCT WILL VOID THE WARRANTY AND MAY RESULT IN UNSAFE OPERATING CONDITIONS. |

**B. DAILY INSPECTION**


| <b>TABLE 3-1: DAILY SAFETY CHECK</b> |   |
|--------------------------------------|---|
| SERVICE POINT                        | DESCRIPTION   |
| <b>LIFT AT STOWED POSITION</b>       |   |
| Control Pendant                      | Check that control pendant is not damaged and cable connectors are tight.   |
| Hydraulic Power Unit                 |  <b>CAUTION</b><br>DO NOT ADD FLUID UNTIL PLATFORM IS LOWERED TO GROUND LEVEL. ADDING FLUID WHILE LIFT IS FOLDED WILL CAUSE TANK TO OVERFLOW WHEN PLATFORM IS LOWERED TO GROUND LEVEL.                     |
|                                      | <ol style="list-style-type: none"> <li>1. Check for visible hydraulic fluid leakage.</li> <li>2. Ensure backup pump manual release valve is lightly-snug.</li> </ol>  |
| Vehicle Interlock                    | Place vehicle in a NON-INTERLOCK mode and attempt to operate lift.  |
| <b>LIFT AT DEPLOYED POSITION</b>     |   |
| Lift Operation                       | <ol style="list-style-type: none"> <li>1. Listen for any abnormal noises as the lift operates (i.e, grinding or binding noises).</li> <li>2. Torque Limit Clutch overloads properly (clicks) at the end of travel.</li> <li>3. Carriage stops are in place and stop lift squarely.</li> </ol> |
| Decals                               | Ensure that all decals are affixed properly, clearly visible and legible.   |




| TABLE 3-1: DAILY SAFETY CHECK                |   |
|--|---|
| SERVICE POINT                                | DESCRIPTION   |
| Main Lifting Pivots                          | Ensure carriage/lifting frame/platform pivot pins are free from damage and locked in position with fasteners.   |
| Platform                                     | Check that platform mounting brackets are properly fastened to both sides of the platform.  |
| Handrails                                    | Check that handrail mounting bolts are tight.   |
| <b>RAISE PLATFORM TO VEHICLE FLOOR LEVEL</b> |   |
| Lift Operation                               | Listen for any abnormal noises as the lift operates (i.e, grinding or binding noises).  |
| Platform Level                               | Check that the lift platform stops at vehicle floor level.  |
| Bridge-plate                                 | Check that bridgeplate operates without obstruction(s), and rests squarely on vehicle floor.  |
| <b>LOWER PLATFORM TO GROUND LEVEL</b>        |   |
| Lift Operation                               | Listen for any abnormal noises as the lift operates (i.e, grinding or binding noises).  |
| Rollstop                                     | Ensure that rollstop opens and locks properly without obstruction(s) when it contacts the ground.   |
| Hydraulic Power Unit                         | While platform is at the ground level, check that hydraulic fluid level is at the FULL level.   |
| <b>STOW LIFT</b>                             |   |
| Rollstop                                     | Ensure that rollstop closes and locks properly without obstruction(s) when the platform leaves ground level.  |
| Lift Operation                               | Listen for any abnormal noises as the lift operates (i.e, grinding or binding noises).  |
| Stow Level                                   | Check that platform seeks proper stow level.  |
| Torque Limit Clutch                          | Torque Limit Clutch overloads properly (clicks) at the end of travel.   |
| Sto-Loc                                      |  <b>WARNING</b><br>MANUALLY DEPLOYING AND/OR STOWING OF THIS LIFT REQUIRES FORCES GREATER THAN <b>100 LBS</b> . DO NOT ATTEMPT TO MANUALLY DEPLOY OR STOW THE LIFT USING LESS THAN TWO PEOPLE. |
|  | Check that sto-loc engages and lift will not deploy manually  |
| <b>END OF TABLE</b>                          |   |

### C. MAINTENANCE SCHEDULE

Maintenance inspections must be performed by an authorized Ricon service agent at least once every six months or sooner, depending on usage. Maintenance inspections are required at least every six months and a thorough inspection should be performed at the service intervals referenced in Table 3-2. Under conditions of excessive use (more than 10 cycles per day), service should be increased.

| TABLE 3-2: MAINTENANCE SCHEDULE   |   |
|---|---|
| SERVICE POINT   | DESCRIPTION   |
| <b>TWO-WEEK SAFETY CHECK (or @ 140 - 180 cycles of operation)</b>   |   |
| Decals and Cleaning   | <ol style="list-style-type: none"> <li>1. Ensure that all decals are affixed properly, clearly visible and legible. Replace if necessary.</li> <li>2. Ensure that serial number is clearly marked and legible.</li> <li>3. Ensure that rollstop pivot points and springs, and bridgeplate pivot points, actuator pivot points, and cam followers are lubricated.</li> </ol> |
| IN/OUT Drive  | Ensure that there are no obstructions in the side channels.   |
| <b>THREE-MONTH SAFETY CHECK (or @ 900 - 1000 cycles of operation)</b>   |   |
| Stow Level  | Perform Stow Level Alignment Check Procedures located in Section V of this manual.  |
| Drive Chains and Shafts   | Following labeled directions on container, spray lubricant (Curtisol® Red Grease No.88167) on final and primary drive chains and drive shafts. Wipe clean any excess grease from drive chains and surrounding areas.  |
| Main Lifting Arm and Bridgeplate Pivot Points.  | Following labeled directions on container, spray lubricant (Curtisol® Red Grease No.88167) on ball and socket joints at bridgeplate actuator rod assemblies, bridgeplate pivot points and rod endpoints. Wipe clean any excess grease from parts and surrounding areas.   |
| Hydraulic Power Unit  | While platform is at the GROUND LEVEL, ensure that the pump hydraulic fluid level is maintained at the required FULL level. Add only Texaco #15 hydraulic fluid or equivalent U.S. mil spec H5606E (or F) fluid.  |
|  <b>CAUTION</b><br><b>THIS SAFETY CHECK MUST BE PERFORMED BY AN AUTHORIZED RICON SERVICE TECHNICIAN.</b> |   |
| <b>ANNUAL SAFETY CHECK (or @ 3600 - 4000 cycles of operation)</b>   |   |
| IN/OUT Drive  | Perform Torque Limit Clutch Adjustment located in Section V of this manual.   |
| Cam Followers   | Grease cam followers with an approved grease and wipe clean any excess grease from cam followers and surrounding areas.   |

| TABLE 3-2: MAINTENANCE SCHEDULE  |   |
|--|---|
| SERVICE POINT  | DESCRIPTION   |
| Drive Chains and Shafts  | <ol style="list-style-type: none"> <li>1. Perform Drive Chain Adjustment procedure located in Section V of this manual.</li> <li>2. Ensure that spur gears and final drive sprocket are securely pinned to main drive shaft.</li> <li>3. Ensure that torque limit clutch and final drive sprocket are securely pinned to idler shaft.</li> <li>4. Following labeled directions on container, spray lubricant (Curtisol® Red Grease No.88167) on final and primary drive chains and drive shafts. Wipe clean any excess grease from drive chains and surrounding areas.</li> </ol> |
| Hydraulic Cylinder, Flow Control Valve, Hoses and Fittings                                       | <ol style="list-style-type: none"> <li>1. Inspect hydraulic hoses for damage.</li> <li>2. Ensure that all fittings are tightly secured.</li> <li>3. Check Hydraulic Cylinder and Flow Control Valve for evidence of leaks.</li> </ol>   |
| Hydraulic Power Unit   | Perform Hydraulic Power Unit Fluid Flush and Renewal procedure located in Section V of this manual.   |
|  <b>CAUTION</b> |   |
| THIS SAFETY CHECK MUST BE PERFORMED BY AN AUTHORIZED RICON SERVICE TECHNICIAN.                   |   |
| <b>SEVEN-YEAR SAFETY CHECK (or @ 25,000 - 26,000 cycles of operation)</b>                        |   |
| Control Pendant  | Replace UP/DOWN, IN/OUT, and IN-LOCKOUT switches.   |
| Hydraulic Power Unit   | Perform Hydraulic Pump Motor Removal and Installation procedures located in Chapter V of this manual.   |
| <b>TEN-YEAR SAFETY CHECK (or @ 36,000 - 38,000 cycles of operation)</b>                          |   |
| RICON CORP. recommends that lift be refit after ten years of service.                            |   |
| <b>END OF TABLE</b>  |   |

## D. LIFT DECALS

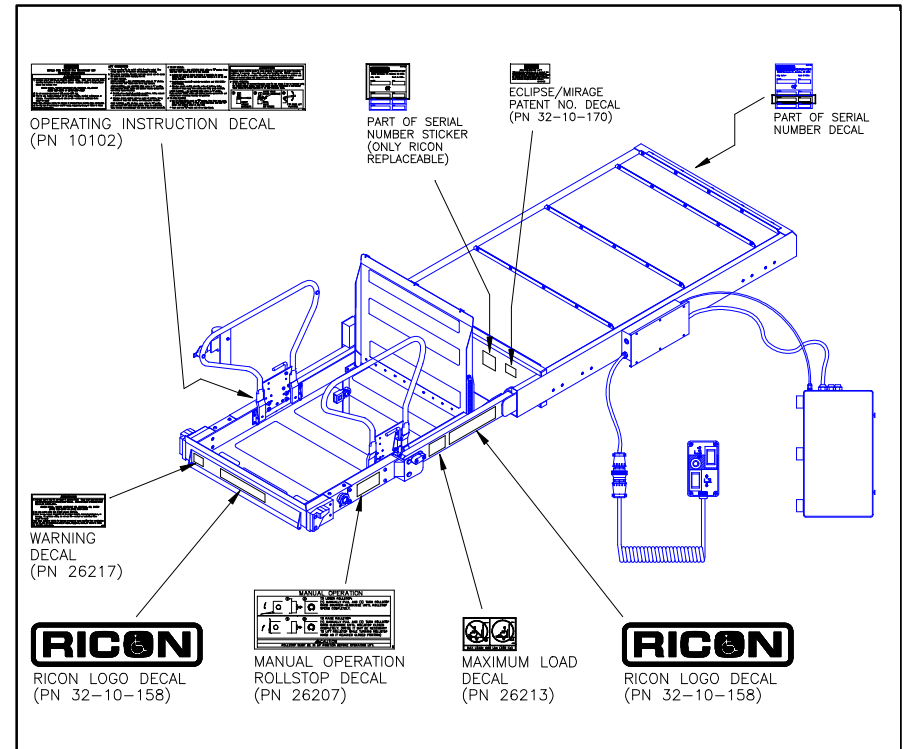


FIGURE 3-1: DECAL LOCATIONS AND PART NUMBERS

This page intentionally left blank.

[-BACK TO TABLE OF CONTENTS-](#)