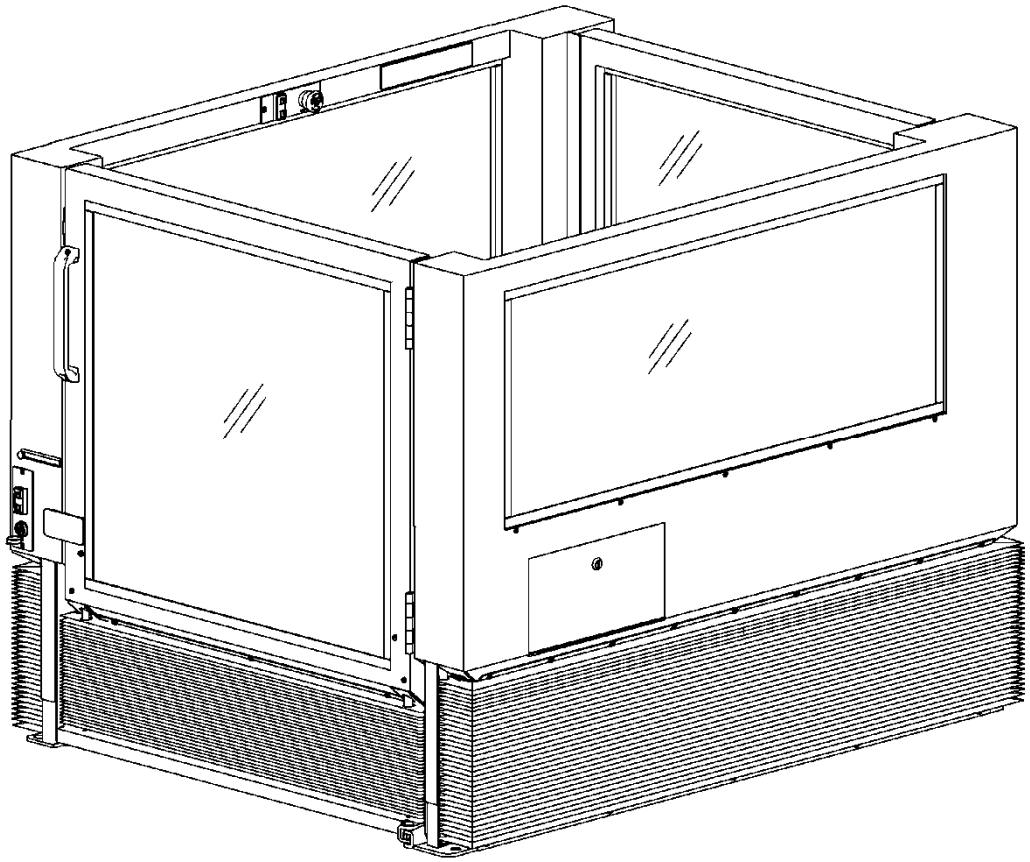
ASCENSION VIRTUOSO
PORTABLE WHEELCHAIR LIFT
5460P MODEL SERIES

OPERATING MANUAL



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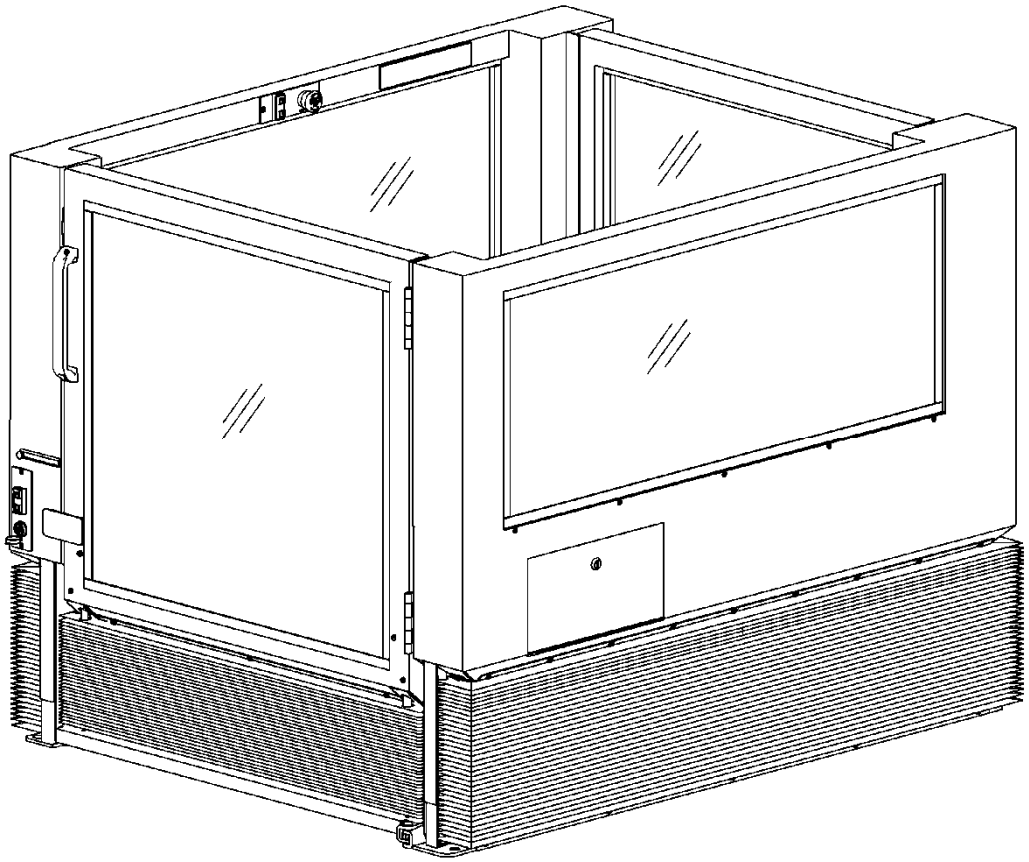

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INTRODUCTION

The Americans with Disabilities Act (ADA) of 1990 established the legal requirement for public facilities to provide access and reasonable accommodations for people with disabilities. In response to this requirement, the Ascension VIRTUOSO portable wheelchair lift provides the means for individuals who cannot negotiate stairs to gain access to a moderate vertical floor elevation change, such as a stage, riser, or platform.

This portable wheelchair lift has been designed with both the passenger and the facility in mind. It provides the passenger with safe access to a stage, and gives the facility maximum flexibility and ease of use. Because it is transportable, the lift can be quickly set up for use when needed or put into storage when not needed. The lift can be used at almost any stage or platform up to 60 inches [1525 mm] high.

About This Manual

This manual provides facility personnel with all the necessary information to safely and correctly set up, break down, and transport the lift. In the interest of safety, it is essential that all personnel performing these tasks read and understand this manual.

Section 1 presents operational and physical information, and describes the basic components and operation of the lift. Section 1 also covers important safety information.

Section 2 describes the correct set up of the lift for operation.

Section 3 provides the necessary information for safe operation of the lift.

Section 4 describes the break down procedures for the lift and gives recommendations for transportation.

Section 5 provides basic troubleshooting information in the event that the lift does not operate correctly.

Additional Information

The following sources of information supplement this manual:

Maintenance and Repair Manual A comprehensive maintenance and repair manual is supplied with each lift. It contains component replacement instructions, as well as detailed procedures to disassemble, test and reassemble major components.

Setup and Operation DVD A short setup and operation DVD is supplied with each lift.

Getting Help

If you have a question or problem with the lift, review the troubleshooting guide in Section 5 of this manual, as well as the comprehensive troubleshooting guide in the *Maintenance & Repair Manual*. If you are unable to resolve the problem, please contact Ascension as indicated on the following page, making sure that you have the serial number of your lift ready. The serial number can be found on the data plate located inside the lift car on the upper left rail. Also, it is recommended that you contact Ascension while in the immediate vicinity of your lift, as this will reduce the time required to properly diagnose the problem.

Contacting Ascension

Ascension's business hours are 8 a.m. to 5 p.m. Mountain Standard Time, Monday through Friday.

Telephone: 800-459-0400
Fax: 520-881-4983
Email: sales@ascension-lift.com
Website: ascension-lift.com

Mailing Address: Ascension
Customer Service
PO Box 40020
Tucson, AZ 85717-0020

SECTION 1

Product Information

Operational

- VERTICAL TRAVEL DISTANCE: 12" to 60" [305 to 1525 mm], infinitely adjustable
- OCCUPANCY: 1 person
- MAXIMUM PASSENGER LOAD: 750 pounds [340 kg]
- AVERAGE SPEED: 7' per minute [35 mm/s]

Physical

- DIMENSIONS: 48" wide x 44" high x 64" long [1220 x 1120 x 1625 mm]
- WEIGHT: 1025 pounds [465 kg]
- MATERIALS: Lift car, base frame, lifting device: Mild steel
  Windows: High impact strength clear thermoplastic
- FINISH: Lift car and base: Oven baked powder coat
- ELECTRICAL: 120† VAC, 60 Hz, Single Phase, 13 Amps

† Electrical ratings may differ on lifts outside the USA. Check lift data plate for electrical ratings.

Terminology

To get the maximum benefit from this manual, you should be familiar with the following terms. Refer to Figure 1 as necessary.

Dock Plate The plate that bridges the gap between the lift car floor and the upper landing surface when the lift car is at the upper landing.

Lift Car The compartment in which the passenger rides.

Lower Landing Gate The gate that serves the lower landing, or ground level.

Machinery Cabinet The enclosures in which the lifting and control mechanisms are located. There is one cabinet on each side of the lift. The contents of the machinery cabinets are accessible through the access panels.

Operating Stations The controls for raising and lowering the lift car. All three operating stations are located on the left side of the lift car. The operating station inside the lift car has an emergency stop switch.

Override Keyswitch The switch used to operate the lift while installing and removing the casters.

Upper Landing The stage, platform, or riser that the lift serves.

Upper Landing Gate The gate that serves the upper landing, or stage.

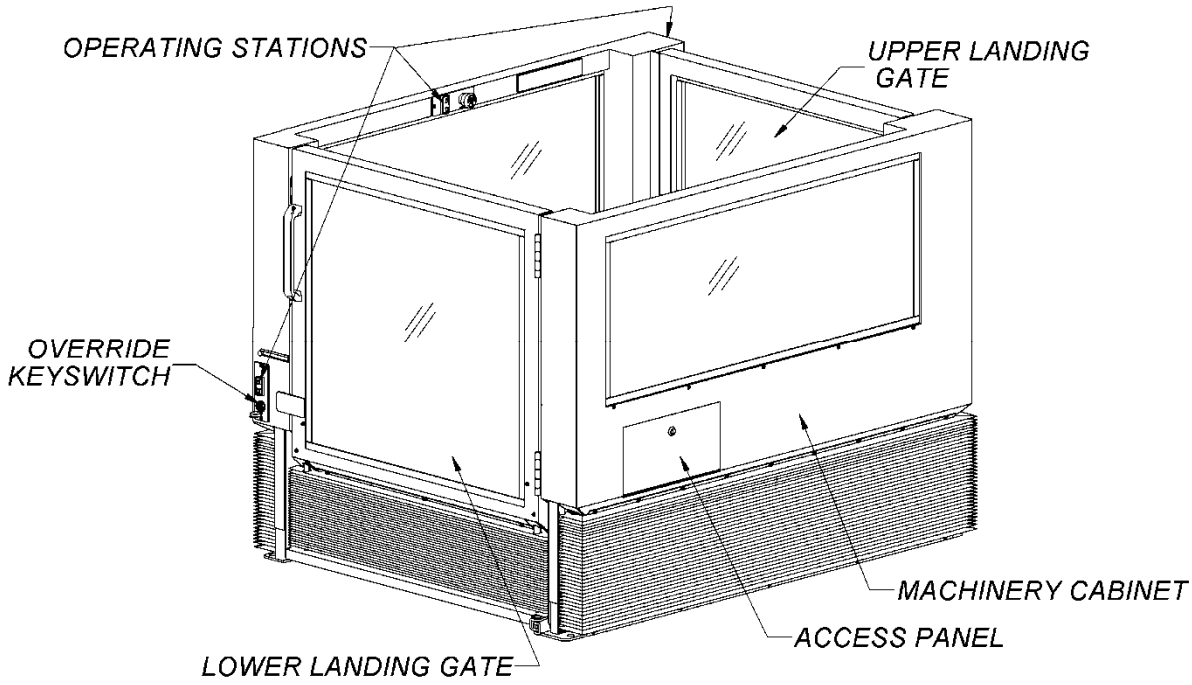

Figure 1

Important Safety Information

When using the lift, the following basic safety precautions and practices *must* be observed:

1. Read and understand all of the information contained in this manual.
2. Do not expose any part of the lift to a direct liquid stream or spray, such as a water hose. This could create an electrical shock or fire hazard.
3. Do not operate the lift if its safety skirt is frozen or iced over. This could damage the safety skirt.
4. Do not operate the lift in the presence of combustible or explosive gas or fumes. The electrical components of the lift could cause ignition of these chemicals.
5. Do not operate the lift if the electrical cord has become frayed or if its outer insulation has been removed, as this could create an electrical shock or fire hazard.
6. Do not allow any equipment, including the lift itself, to lie across or on the electrical cord, as this could cause the cord to become damaged, resulting in electrical shock or fire hazard.
7. Set up the lift for operation *only* in accordance with the instructions in Section 2 of this manual. If the lift cannot be set up as described, contact the manufacturer to determine the correct set up for a particular application.
8. The height limit knob must be reset every time the lift is relocated. Failure to do so could result in serious injury to the user.
9. Operate the lift only as described in Section 3 of this manual.
10. Use extreme caution when moving the lift on an incline, as the lift weighs approximately 1025 pounds [465 kg].
11. Transport the lift as described in Section 4 of this manual.
12. Use the lift for movement of people only.
13. Use an extension cord only as described in Section 4 of this manual.
14. Always close and lock all access panels and remove all keys before leaving the lift unattended.
15. Never leave the lift unattended while setting the lift up for operation or installing the casters for transport.

Description of Operation

Two hydraulic cylinders raise and lower the lift car. When the "up" circuit is energized, an electric motor operates a hydraulic pump which provides pressurized hydraulic fluid to the cylinders, causing the cylinder rods to extend and raise the lift car. When the "down" circuit is energized, a hydraulic valve is shifted so that the fluid flows in the opposite direction through the hydraulic circuit and the lift car is lowered.

A gate at each end of the lift permits passengers to enter and leave the car. The lower landing gate will open only when the car is lowered all the way. The upper landing gate can be fully opened only when the lift car is at the upper landing. Both gates are self-closing.

The height limit switch is located in the left-hand machinery cabinet. This switch halts the movement of the lift car when it reaches the upper landing, and must be reset every time the lift is relocated.

The motion of the lift car is controlled by any of the three operating switches located on the left side of the car. These are constant-pressure type switches, so that when a switch is released the lift car stops. It takes approximately 45 seconds for the car to move through its full range of 60 inches [1525 mm]. These switches are interlocked so that while one switch is activated, pressing another switch in the opposite direction will not cause the lift to stop--the original action will continue.

The dock plate is tethered to the bottom of the upper landing gate by a cable that lowers the dock plate as the gate opens. When the upper landing gate is closed, the dock plate is raised by its tether.

The unit is equipped with a hand pump that can be used to raise or lower the lift car in an emergency, or when the casters are being put under the lift car and power is not available. The hand pump is located in the right-hand machinery cabinet.

The casters are stored in the lift base. They can quickly and easily be installed underneath the lift so that the lift can be moved to another location. The hydraulic system is used to raise and lower the lift car and base frame when installing or removing the casters.

The electrical control panel is located inside the left-hand machinery cabinet. This panel includes the power supply, control system relay, and main power relay. A Ground Fault Circuit Interrupter (GFCI) and lockable disconnect switch with integrated overload protection are located on the electrical cord near the wall plug.

SECTION 2

Setup Instructions

> ***⚠ WARNING!***
> ***Always close and lock all access panels and remove all keys before leaving the lift unattended.***

> ***⚠ WARNING!***
> ***Never leave the lift unattended while performing the following procedures.***

1. Prior to operation, position the upper landing end of the lift 2 to 4 inches [50 to 100 mm] from and approximately parallel to the edge of the upper landing (stage).
2. Unlatch both gates. To unlatch the lower landing gate, slide the latch to the left. To unlatch the upper landing gate, rotate the small handle 180°. Both gates should remain unlatched while the lift is set up for operation; the gate latches are provided for transport only.
3. Follow the directions in the following section titled "Removing the Casters". **The casters must be removed for the lift to operate correctly**.
4. Open the inner access panel on the left-hand machinery cabinet. Move the height adjustment knob to the maximum height position (60 inches [1.5 m]) and then retighten the knob. See Figure 2.

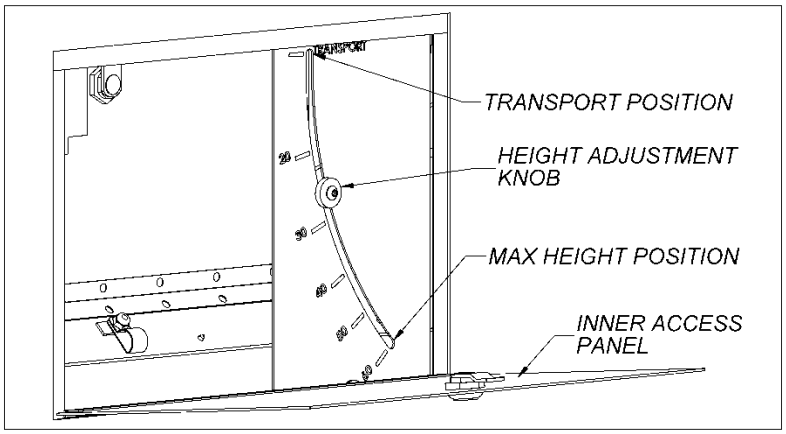

Figure 2

5. Hold the operating switch located inside the lift car "Up" to move the lift car to the upper landing (i.e. stage height).

6. Open the upper landing gate completely. Verify that the dock plate rests securely on the upper landing, and provides a smooth, level, and safe transition to and from the lift car. See Figure 3.

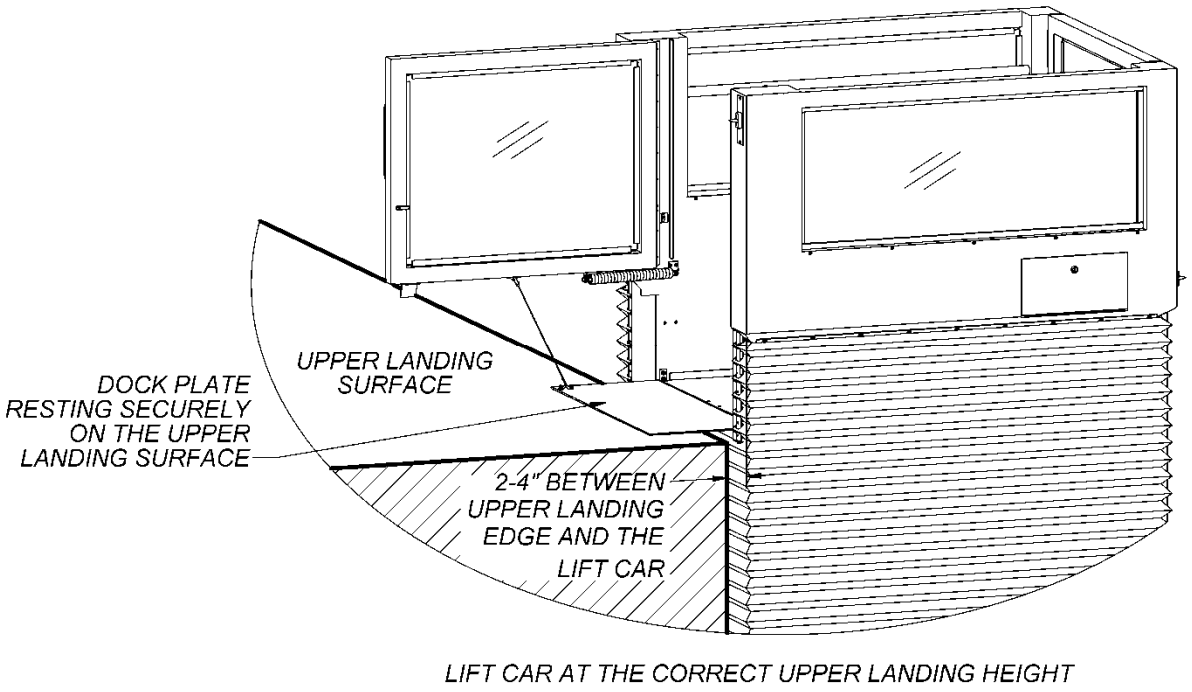

Figure 3

7. If the lift car is not at the correct height, repeat Steps 5 & 6 until it is correct.
8. With the lift car at the correct height, loosen the height adjustment knob and move it along the adjustment scale until a detent (or "click") is felt and then retighten it.
9. Lower the lift car several inches and then raise it again until it stops automatically. Repeat Step 6 to verify that the height is correct. Re-position the height adjustment knob if necessary.

> ***⚠ WARNING!***
> ***Every time the lift is relocated, the height adjustment knob MUST be reset and firmly tightened so that the lift car stops at the upper landing and the dock plate unfolds to a secure and approximately level position resting on the sill. Failure to reset or tighten knob could result in serious injury to the user.***

10. The lift is ready for use.

Removing the Casters

> ***⚠ WARNING!***
> ***Always close and lock all access panels and remove all keys before leaving the lift unattended.***

> ***⚠ WARNING!***
> ***Never leave the lift unattended while performing the following procedures.***

1. Plug the power cord into a grounded electrical outlet and turn on the lift. The ON/OFF switch is located on the electrical panel in the left-hand machinery cabinet. The lift controls require 6-8 seconds for initialization after the lift is turned on. Alternately, if power is not available, the hand pump located in the right-hand machinery cabinet may be used to raise and lower the lift car. See the instructions for hand pump operation in Section 4.
2. Prop the lower landing gate open approximately 45º using the hold-open washer on the door closer. You may need to hold an operating switch "Down" while turning the override key to disengage the gate interlock so that the gate can be opened. See Figure 1 on page 5 for the location of the override keyswitch.
3. The height adjustment knob located inside the inner access panel of the left-hand machinery cabinet should already be in the "TRANSPORT" position. If it is not, move it to the "TRANSPORT" position. See Figure 2 on page 9.

> ***⚠ CAUTION!***
> ***Ensure that the floor beneath the lift base is clear of any obstructions, including the lift's power cord, prior to performing the following step.***

4. Hold an operating switch "Up" while turning the override key to lower the lift base to the ground and then raise the lift car until it stops automatically. The lift car will rise approximately 10 inches [250 mm] off of the ground before it stops. If you are using the hand pump, stop pumping when the lift car floor is 10 inches off the ground.
5. Lift the right-hand section of the lift car floor and remove the casters from the lift car brackets. You will need to pull the lock pins in order to remove the casters from the

brackets. Reinstall the lock pins in the brackets after removing the casters. See Figure 4.

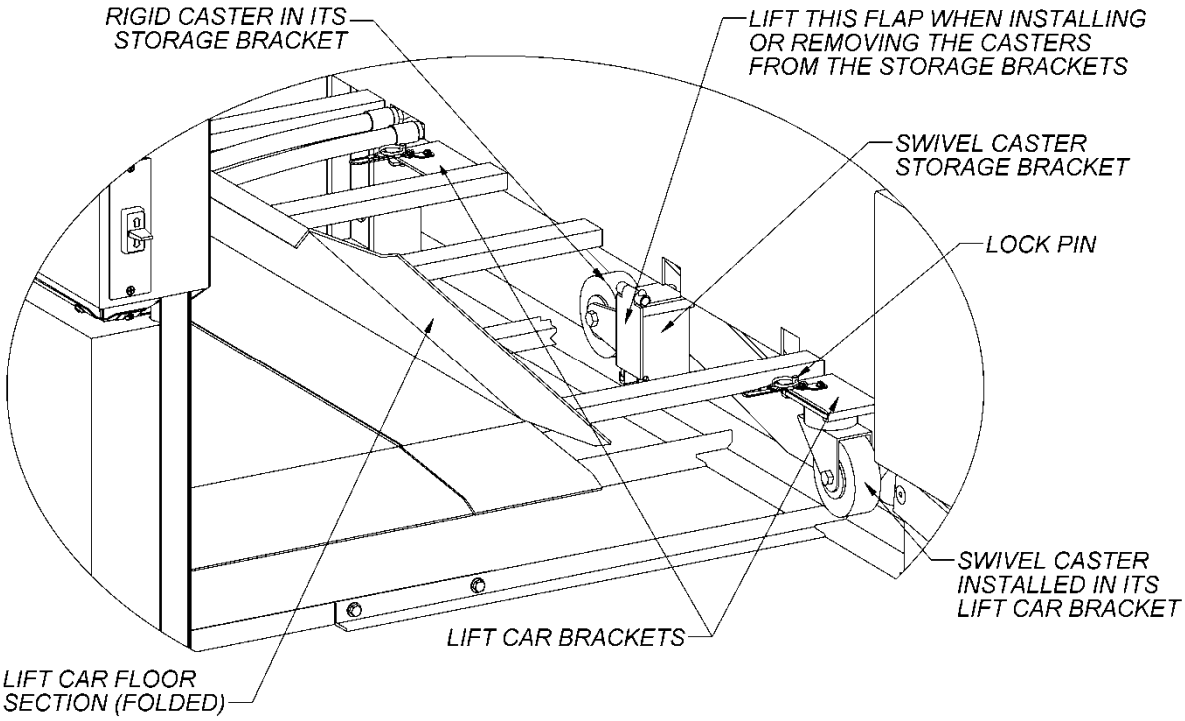

Figure 4

6. Place the casters in the caster storage brackets located in the base, under the hydraulic cylinder, and then return the lift car floor to its original position.
7. Repeat Steps 5 and 6 for the left-hand lift car floor section.
8. Hold an operating switch "Down" while turning the override key to lower the lift car to ground level.
9. Re-position the hold-open washer on the lower landing gate closer and close the gate.

SECTION 3

Operation

- The lift must be turned on before the lift will operate. The ON/OFF switch is located inside the left-hand machinery cabinet. After turning the lift on, wait 6-8 seconds for the lift controls to initialize before operating the lift. The lift may be left on at all times if desired or if required by law.
- Both gates must be closed for the lift to operate.
- Move the lift car by using any one of the three operating switches. The operating switches must be held with constant pressure until the lift car stops at the upper or lower landing.
- Push the emergency stop button to activate it. Turn it clockwise to reset it.
- If the lift car is at the lower landing and the lower landing gate interlock prevents the gate from being opened, push an operating switch "Down" to disengage the interlock.

SECTION 4

Installing the Casters for Portability

> ***⚠WARNING!***
> ***Always close and lock all access panels and remove all keys before leaving the lift unattended.***

> ***⚠WARNING!***
> ***Never leave the lift unattended while performing the following procedures.***

1. Prop the lower landing gate open approximately 45º using the hold-open washer on the door closer.
2. Open the inner access panel on the left-hand machinery cabinet. Move the height adjustment knob to the "TRANSPORT" position and tighten it. See Figure 2 on page 9.
3. Plug the power cord into a grounded electrical outlet and turn on the lift. The ON/OFF switch is located on the electrical panel in the left-hand machinery cabinet. After turning the lift on, wait 6-8 seconds for the lift controls to initialize before operating the lift. Alternately, if power is not available, the hand pump located in the right-hand machinery cabinet may be used to raise and lower the lift car. See the instructions below for hand pump operation.
4. Hold an operating switch "Up" while turning the override key to raise the lift car until it stops automatically. See Figure 1 on page 5 for the location of the override keyswitch. The lift car will raise approximately 10 inches [250 mm] before it stops. If you are using the hand pump, stop pumping when the lift car floor is 10 inches [250 mm] off the ground.
5. Lift the right-hand section of the lift car floor and remove the two casters from their storage brackets underneath the hydraulic cylinders. Refer to Figure 4 on page 12.
6. Slide the casters into the labeled lift car brackets (the swivel caster in the bracket closest to you and the rigid caster in the further bracket). Install the lock pins to secure the casters in place. Refer to Figure 4 on page 12.

7. Return the floor section to its original position.
8. Repeat Steps 5 through 7 for the left-hand car floor section.

> **⚠ *CAUTION!***
> ***Stay clear of the front edge of the lift car floor while performing the following step.***

9. Hold an operating switch "Down" while turning the override key to lower the lift car. Continue to hold the switch "Down" until the casters are on the ground and the base is raised about 3 inches [76 mm] off the ground.
10. Re-position the hold-open washer on the lower landing gate closer and close the gate. It may be necessary to hold an operating switch "Down" while turning the override key to disengage the gate interlock and close the gate.
11. Secure both gates using the gate latches: for the lower landing gate, use the slide latch; for the upper landing gate, rotate the small handle 180°.
12. Unplug the electrical cord and coil it inside the lift car. The lift is ready to be moved.

Hand Pump Operation

The hand pump may be operated from either the inner or the outer access panel of the right-hand machinery cabinet. Where electrical power is unavailable, use the hand pump to move the lift car upward (Step 3 below) or downward (Step 4 below) instead of using an operating switch. It is not necessary to turn the override key while using the hand pump.

Instructions for use:

1. Locate the hand pump handle stored just inside the outer access panel on the right-hand machinery cabinet and remove it from its bracket.
2. Swivel the pump linkage outward and then insert the hand pump handle into it.

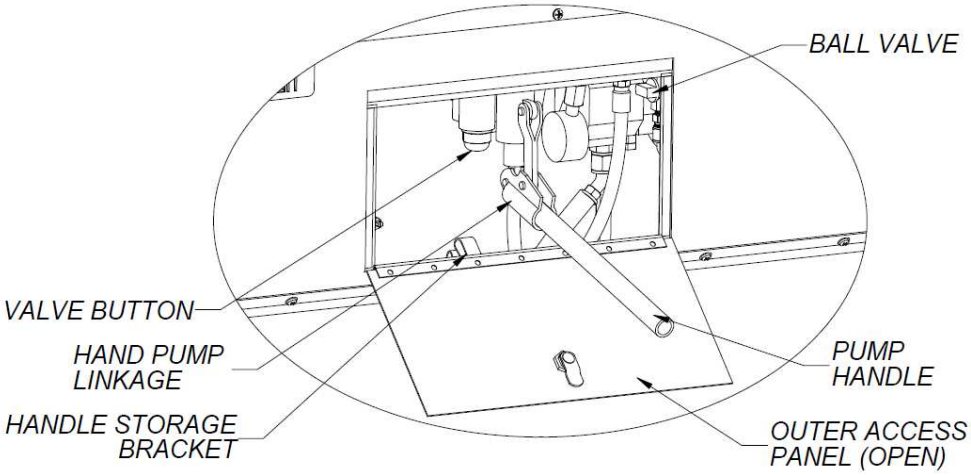

Figure 5

3. To move the lift car upward, pump the handle.
4. To move the lift car downward, pump the handle while depressing the black valve button located beside the hand pump.
5. To unlock the lower landing gate at the lower landing level, turn the ball valve (shut-off valve for main cylinders) handle 90 degrees and repeat step 4. Return valve to initial position to resume normal operation.

> ***⚠ WARNING!***
> ***Only use the handle provided with the pump. If this handle does not provide enough leverage to move the lift car, stop and contact Ascension.***

Manual Transportation

One person can push the lift on a hard, level, and smooth surface. Two people may be required to push it on a carpeted surface.

> ***⚠ WARNING!***
> ***Use extreme caution when rolling the lift up or down an incline, as it weighs approximately 1025 pounds [465 kg]. Always use at least two (2) people to move the lift on an incline.***

Larger casters for easier rolling on especially rough or uneven surfaces are available from Ascension.

Forklift Transportation

On surfaces other than those mentioned above, the lift should be moved by a forklift. Set the forklift tine spacing at 24 inches [610 mm] outside-to-outside. (The forklift tine spacing is marked on the lift, below the upper landing gate.) The forklift pickup points are on the underside of the base at the upper landing end. *Do not* attempt to pick up the lift from the lower landing end. The unit should be in its transport mode before lifting it with a forklift.

Storage

The lift should be stored with its base on the ground, and the power cord unplugged and coiled inside the lift car. To put the lift's base on the ground, use an operating switch (if electrical power is available) or the hand pump in the right-hand machinery cabinet to move the base downward until it contacts the ground. Always ensure that the ground underneath the lift base is clear of any obstructions, including the lift's power cord, prior to pumping the base to the ground.

The lift should be stored indoors, with the temperature between 20°F (-7°C) and 100°F (38°C).

Outdoor Use

The lift is weatherized for use in outdoor conditions, including rain. However, the following limitations apply:

- The lift should not be used in temperatures lower than 45°F (7°C).
- The lift should not be used if the safety skirt is frozen or iced over, as the skirt could be damaged as it expands and contracts.
- If the lift is used on a soft or uneven surface, such as grass or rough asphalt, it is recommended that a 3/4" [20 mm] thick plywood sheet be placed under the lift base to ensure correct operation of the lift. Be sure to bevel the edge of the plywood where the lift user will roll or step onto the plywood.
- An extension cord may be used with the lift only in accordance with the instructions listed in the following section.

Extension Cord Use

Always obey the following instructions when using an extension cord with the lift.

⚠ WARNING!
Use extreme caution when using an extension cord. The lift's GFCI does not protect against electrical shock due to contact with extension cord conductors.

- All extension cords must be used under the direction of a licensed electrician, and in compliance with all applicable electrical codes.
- Use a UL listed and CSA certified extension cord only. When using an extension cord outdoors, use a UL listed and CSA certified outdoor extension cord only.
- Never use an extension cord longer than 80' [25 m].
- Never use an extension cord in wet or damp conditions or locations.
- Never use an extension cord rated for less than the voltage and amperage on the lift's data plate.

SECTION 5

Troubleshooting

If the lift will not operate after it has been set up as described in Section 2, check the following:

- The casters are removed and the lift is set up as described in Section 2.
- The outlet has power.
- The power cord is plugged in.
- The reset button on the GFCI is pressed.
- The disconnect switch on the lift cord is set to 'ON'.
- The lift is turned on. The ON/OFF switch is located on the control panel in the left-hand machinery cabinet. The lift controls require 6-8 seconds to initialize after the lift is turned on.
- Both gates are closed. The lift will not operate if either one of the gates is open.
- The emergency stop button on the passenger's operating station is not activated. Reset the emergency stop button if necessary.
- The shut-off valve for the lifting cylinders is open. Locate the shut-off valve at the top rear of the right outer machinery cabinet and ensure its handle points the same direction as the valve body (vertical). If the handle is in the horizontal position, turn it 90° to open the valve.

If these conditions are satisfied but the lift does not operate, refer to the comprehensive trouble shooting section in the *Maintenance & Repair Manual*. If the problem cannot be resolved with the help of the *Maintenance & Repair Manual*, call Ascension.

Notes:

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