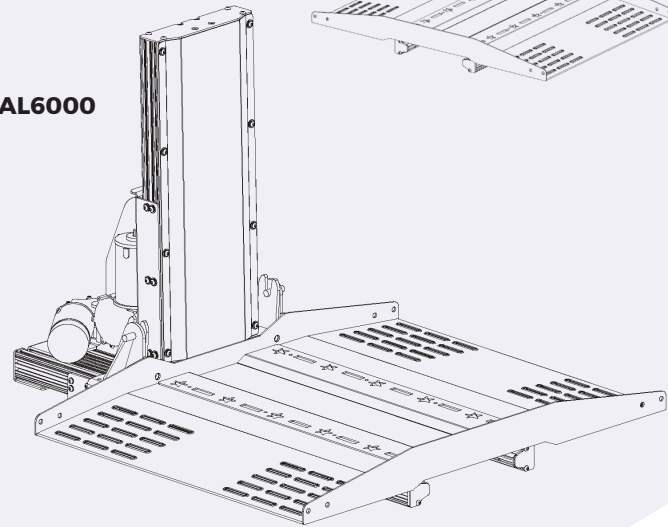


AL6000 SERIES UNIVERSAL HYBRID LIFT

INSTALLATION & SERVICE MANUAL

AL6000



AL6000HD

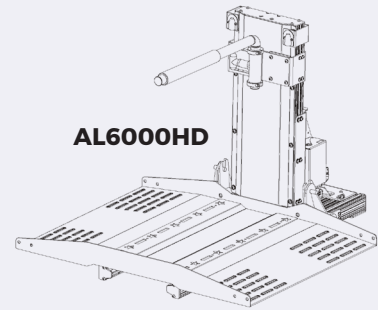


TABLE OF CONTENTS

SAFETY	4
Safety Definition	4
INTRODUCTION	5
Device Name: AL6000 / AL6000HD	
Hybrid Vehicle Lifts	5
Read and Understand	5
Technical Specifications	5
PREPARATION	6
Required Tools	6
Unpacking the Lift	6
Packing List	7
Wiring Harness	7
Remove Seating and Determine Lift Placement ...	7
INSTALLATION	8
Installing the Wiring Harness	8
Installation Overview	10
Rear Mount Installation	10
Front Mount: Flat Floor Installation	14
Front Mount: 3rd Row Folding Seat Installation (BA25)	15
Platform Installation and Lift Function	19
Mobility Device Preparation	21
ADJUSTMENTS	23
Hold-Down Arm Adjustment	23
TROUBLESHOOTING	28
Manual Override	30
MAINTENANCE & INSPECTION	32
Dealer Maintenance Schedule	32
Preferred Cleaning and Lubrication Maintenance	32

SAFETY

SECTION 1

SAFETY

SAFETY DEFINITIONS



This safety alert symbol appears with safety statements. It means attention, become alert, your safety and the safety of others are involved! Please read and abide by the message that follows the safety alert symbol.

WARNING

Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION

Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE

Indicates a situation which can cause damage to the lift and/or the environment, or cause the lift to operate improperly.

NOTE: Indicates a condition that should be followed in order for the lift to function in the manner intended.

If you do not understand any portion of the installation procedures, please consult Harmor's Technical Service Department at 800-833-0478. Do not attempt to install or use this lift if you have any hesitation or question. Serious injury or damage can result if proper procedures are not followed.

SECTION 2

INTRODUCTION**DEVICE NAME:
AL6000 / AL6000HD
HYBRID VEHICLE LIFTS**

Indications of Use: The intended use of the AL6000 / AL6000HD is to lift, secure and transport an unoccupied mobility device for patients or mobility-impaired persons.

READ AND UNDERSTAND

This manual provides instructions for proper installation and maintenance of your AL6000 / AL6000HD Hybrid Vehicle Lift. Please refer to this installation manual for install instructions. Any alterations to the equipment without written authorization by the manufacturer is prohibited and will void the warranty.

TECHNICAL SPECIFICATIONS

Visit harmar.com for specifications on the specific lift model and configuration.

PREPARATION

SECTION 3

PREPARATION

Installations may vary to some degree, but below are the basic tools to have on hand for a Vertical Platform Lift installation.

If you have any questions, concerns or comments, please contact our Technical Service Department at 800-833-0478 or tech@harmar.com.

REQUIRED TOOLS

- Wire Cutters
- Needle Nose Pliers
- #2 Flat Head Screwdriver
- #2 Phillips Head Screwdriver
- Marking Implement
- Tape Measure
- Socket Set
 - $\frac{9}{16}$ "
 - $\frac{7}{16}$ "
 - $\frac{3}{4}$ "
 - $\frac{3}{8}$ "
- Wrench Set:
 - $\frac{7}{16}$ "
 - $\frac{9}{16}$ "
 - $\frac{3}{4}$ "
- Allen Wrench:
 - $\frac{1}{8}$ "
 - $\frac{3}{16}$ "
 - $\frac{5}{16}$ "
 - $\frac{5}{32}$ "

UNPACKING THE LIFT

1. Check the box contents. Review each part against the packaging list to ensure that all parts have been included. If any parts are missing or damaged, contact Harmar immediately.

WARNING

Do not attempt to install a lift that has missing or damaged parts.

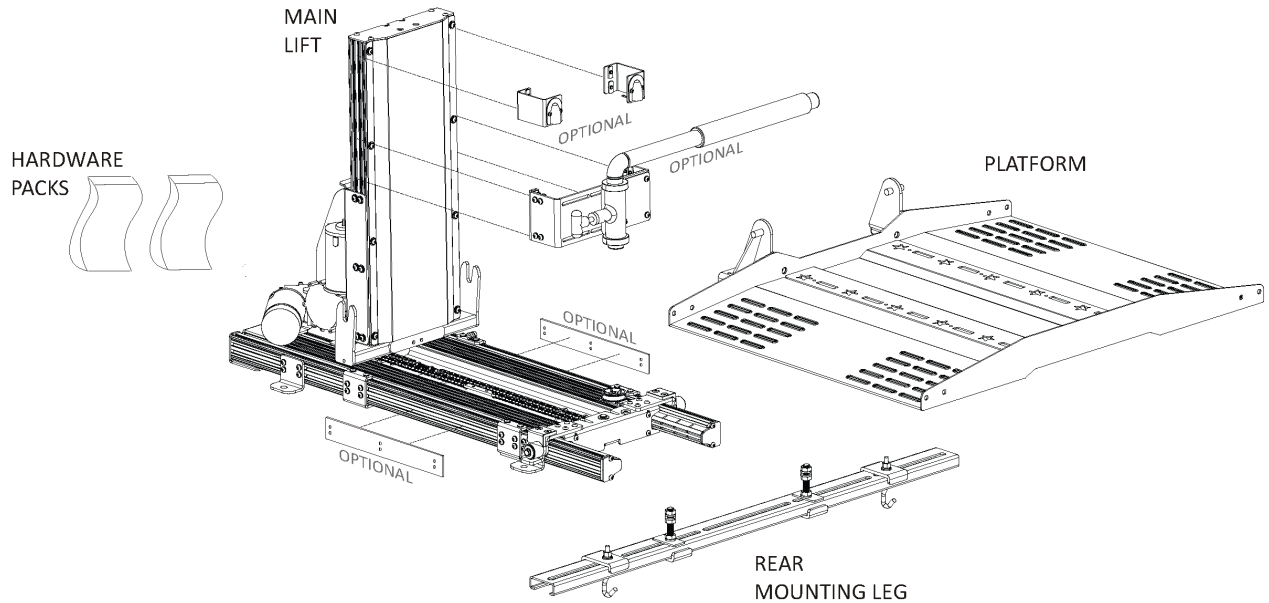
WARNING

Never attempt to pick-up the lift from the box, ground or on/off a vehicle alone. Two people should work together to place this lift inside a vehicle.

RECOMMENDED TORQUE TABLE

THREAD DIAMETER	TORQUE (FT-LB)		WRENCH SIZE
	Nylon Lock Nut	Hex Nut	
$\frac{1}{4}$	8	10	$\frac{7}{16}$
$\frac{5}{16}$	17	19	$\frac{1}{2}$
$\frac{3}{8}$	30	35	$\frac{9}{16}$
$\frac{1}{2}$	69	85	$\frac{3}{4}$
$\frac{5}{8}$	135	170	$1\frac{5}{16}$

PACKING LIST



WIRING HARNESS

Installing the wiring harness first will ensure power to the lift during installation. This allows access to platform assembly outside the vehicle and at waist level. If the wiring harness is not installed first, a 12V shop battery can be used to power the lift.

REMOVE SEATING AND DETERMINE LIFT PLACEMENT

1. This is usually the third row. Determine the mounting range by climbing inside the cargo area and by closing the access door. Measure from the inside the door threshold to determine the lift's fully-stowed placement *See Figure 3-1.*
2. Look at the floor in the mounting area. If the seat removal reveals seat attachment points, or "dog bones", drilling will not be necessary.
3. If no attachment points exist in the area, two $\frac{3}{8}$ " holes will need to be drilled approximately 1" to 10" from your measurement point.

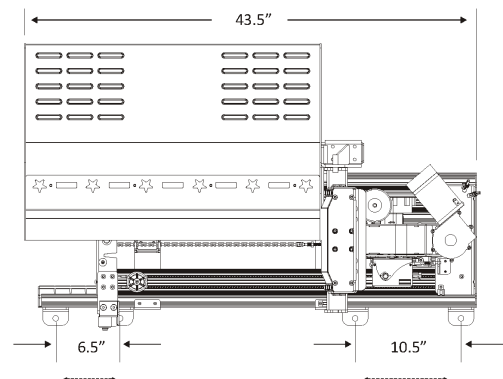


Figure 3-1

INSTALLATION

SECTION 4

INSTALLATION

INSTALLING THE WIRING HARNESS

The vehicle wiring harness is located in the hardware pack. The harness is manufactured to comply with SAE J1128 requirements. It is approximately 19' long and will accommodate most vehicles.

1. Unwind the wiring harness and lay it flat. One end of the harness has two (2) covered pins. This is the lift end and goes to the rear cargo area where the lift will mount.

The wiring harness is unassembled for easier installation. The end connector is included separately from the harness to enable running the wire under and through the vehicle with the smallest clearance possible.

2. Route the wire harness beginning at the battery. Attach the black wire to the negative terminal on the battery. *See Figure 4-1.*

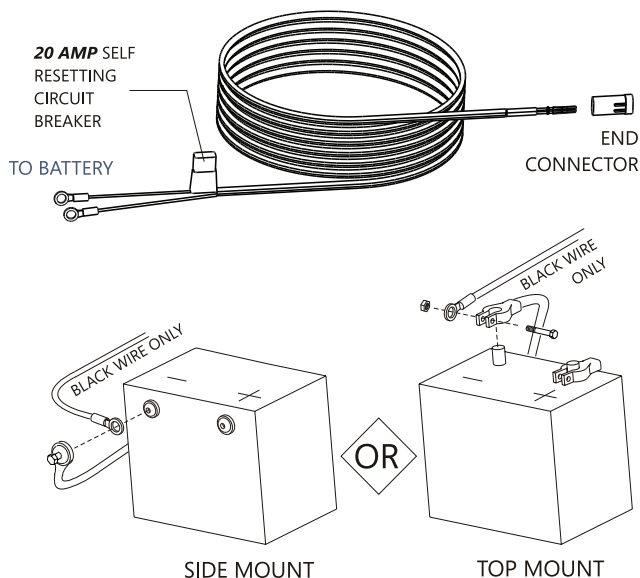


Figure 4-1

3. Run the vehicle harness under and, when possible, through the vehicle back to the rear cargo area / trunk, gaining entry into the vehicle through the firewall. *See Figure 4-2.*

For installation running the harness under the vehicle, a hole will need to be drilled to get the wire into the rear cargo area/trunk. Use the supplied $\frac{3}{8}$ " grommet in the hole to protect the wire.

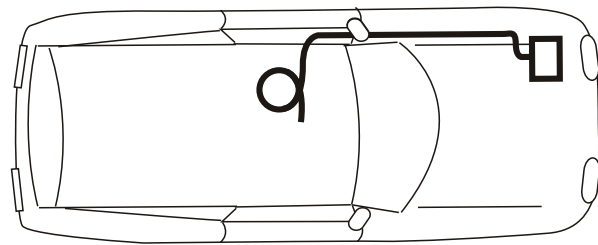


Figure 4-2

CAUTION

If the installation requires the wiring harness to run on the underside of the vehicle, route it away from the exhaust system, brake lines, fuel lines, gas tank and any moving parts. Avoid pinch points and sharp edges. Avoid locating the harness where it can be snagged by road debris.

If the harness is too long for the vehicle, coil the excess wire and secure it to the vehicle frame with the supplied tie wraps. Do NOT cut or shorten the harness.

4. When the harness is through the vehicle, remove the pin's protective tubing. *See Figure 4-3.*

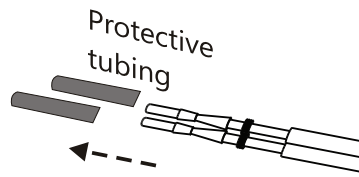


Figure 4-3

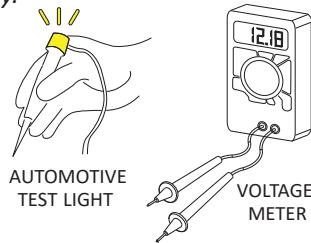
NOTICE

Troubleshooting with a test light or voltage meter may give a false indication.

When you probe for 12-volts, the reading may indicate a connection, even if the connection is not necessarily sufficient. The lift's motor can draw up to 20 Amps at some points, requiring all of the available wire to flow proper current. Poor connections are the #1 problem associated with a slow, intermittent, warm, poorly performing motor, which will also deteriorate prematurely.

If a single strand of a multi-strand wire is making contact. 12V will appear on a meter or test light, but it will not allow the motor to operate.

It is always best to test both current and voltage, or run the motor with a known good shop battery or power source when troubleshooting.



AUTOMOTIVE TEST LIGHT

VOLTAGE METER

5. Inspect the pin's retaining flanges. The flanges may have been deformed while being run through the vehicle. These are critical to secure the pins inside the connector. Adjust them as needed. **See Figure 4-4.**

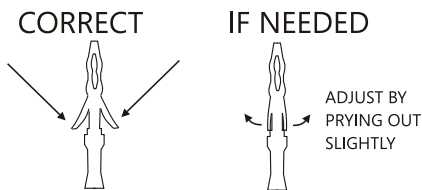


Figure 4-4

6. Attach connector to wire harness. Flip open the end connector's hinge retainer and insert the pins as shown. **See Figure 4-5.**

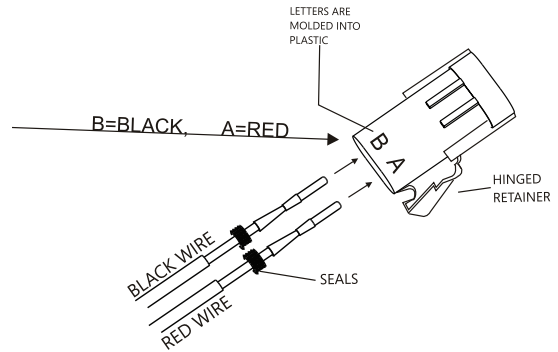


Figure 4-5

- Verify the wires cannot be pulled out by moderately pulling on the wires. Be sure the rubber seals are inside the back of the connector.
 - Close the hinged retainer.
 - Plug the connector into the lift.
7. Attach the red wire to the positive terminal on the battery. **See Figure 4-6.**

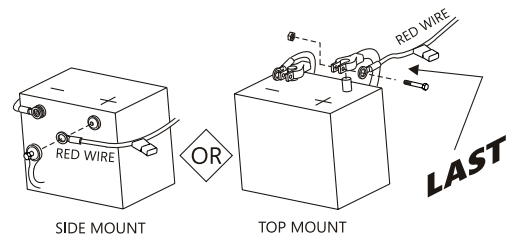


Figure 4-6

INSTALLATION OVERVIEW

The installation of the lift requires a rear mounting leg and front support.

The rear mount is a structural connection which either:

- A. Utilizes the seat attachment points, or
- B. Requires drilling two $\frac{3}{8}$ " holes through the floor if no attachments are available.

The front support allows for adjustments so that the platform just clears the vehicle threshold to achieve maximum allowable payload height. *See Figure 4-7.*

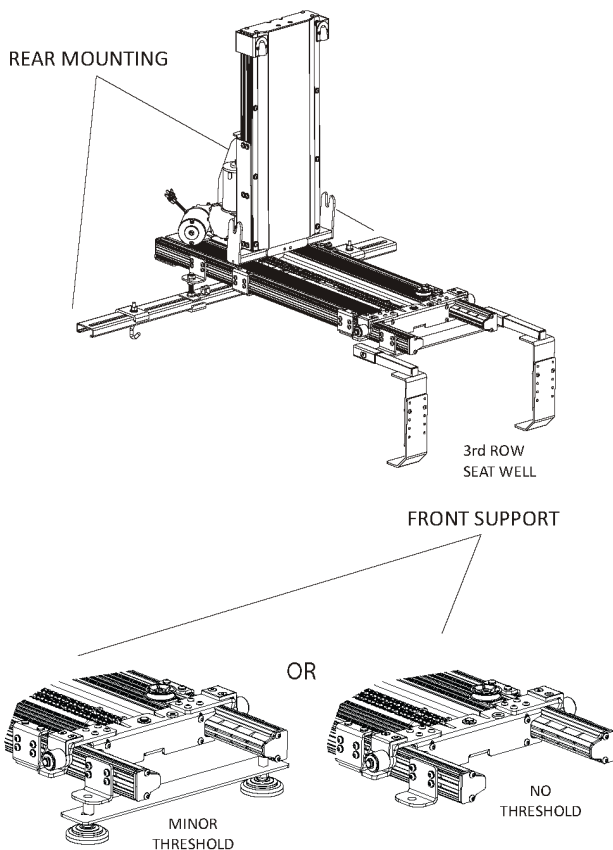


Figure 4-7

REAR MOUNT INSTALLATION

1. If applicable, remove the 3rd row seating, or fold the 3rd row into the stowed position.
2. The AL6000 leg must be mounted between 32" and 42" from the internal surface of the closed back door of the vehicle. *See Figure 4-8.*

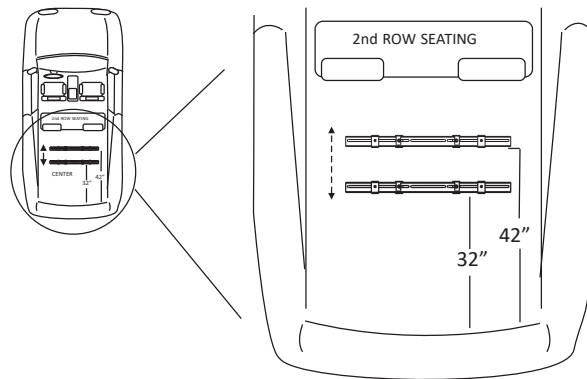


Figure 4-8

CAUTION

Attachments points must be flush or lower than the floor.

3. Examine the floor for additional seat attachment points. These must be recessed into the floor. *See Figure 4-9.*

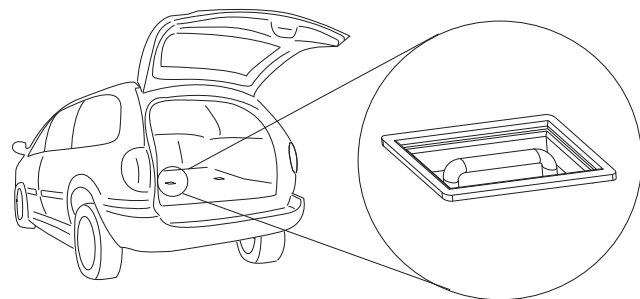


Figure 4-9

4. A. If seat attachment points are available, follow the mounting diagram. *See Figure 4-10.*

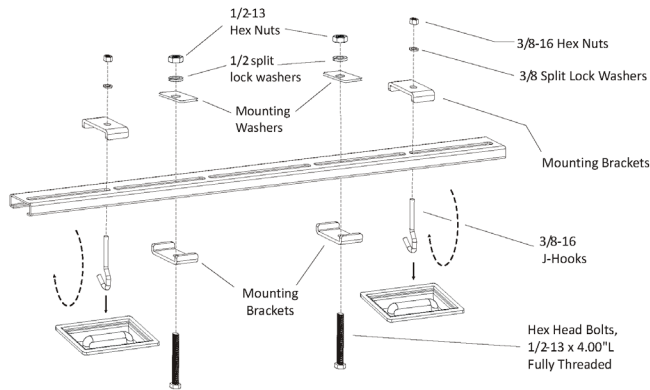


Figure 4-10

B. If seat attachment points are not available. Look under the vehicle in approximate area where the leg will need to be mounted.

Drill a pilot hole first, up from under the vehicle to ensure nothing will be damaged.

Find the hole from inside the vehicle and drill a $\frac{3}{8}$ " hole down through the vehicle floor. See Figures 4-11 and 4-12.

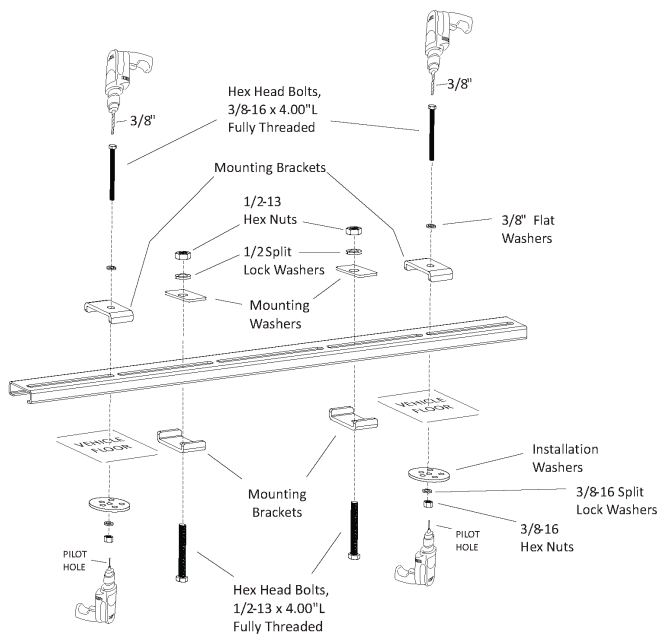


Figure 4-11



Figure 4-12

WARNING

Avoid gas tank, fuel, brake, and electrical lines.

5. Mounting bolts will need to be positioned for lift base brackets. Position the mounting brackets $13\text{-}\frac{1}{8}$ " apart measuring from the inside of the mounting brackets or $17\text{-}\frac{1}{8}$ " apart if measuring from the outside of the mounting brackets. This will position the bolts $15\text{-}\frac{1}{8}$ " apart to fit into the lift base brackets. See Figure 4-13.

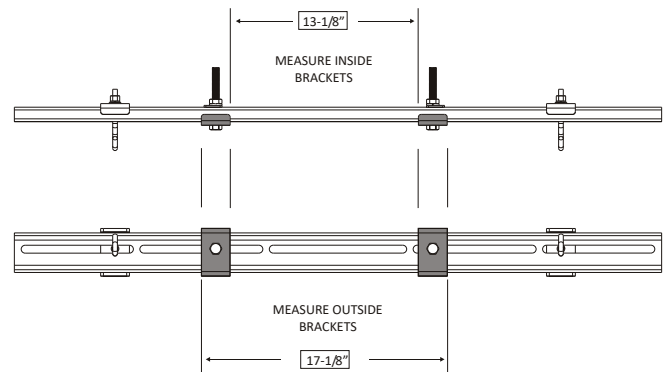


Figure 4-13

NOTICE

To keep the center of gravity of the scooter closest to the lift's tower, the front wheels of the scooter will rest on the extension plate. Please check with the customer on which side they prefer to enter.

NOTE: Depending on the mobility device used, the mounting bolts may need to be positioned off center.

INSTALLATION

If using a platform extension plate for a scooter, the lift will need to be offset. Slide the two bolts approx. 3-1/2" to the opposite side. The extension plate will be installed onto the platform. **See Figure 4-14.**

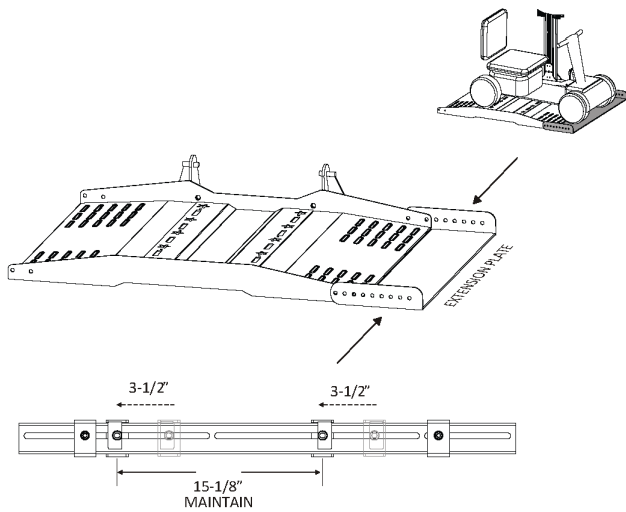


Figure 4-14

6. Thread 1/2-13 nuts onto 1/2-13 x 4" L bolts. Place 1/2" lock washers onto bolts. Mounting washers will not be used. **See Figure 4-15.**

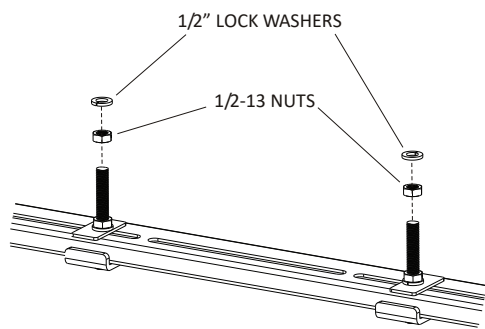


Figure 4-15

NOTICE

If the vehicle has a third row seat that folds into the floor, add the BA25 foot and top leg assembly now. **See Page 15.**

7. With the help of an assistant, place the lift onto the bolts through the L-shaped mounting brackets on the lift. Place 1/2" lock washers onto the bolts and thread the 1/2-13 nuts over the washers. Only finger tighten each nut at this time until the front mounting is complete and the height of the lift is properly adjusted. **See Figures 4-16 through 4-18.**

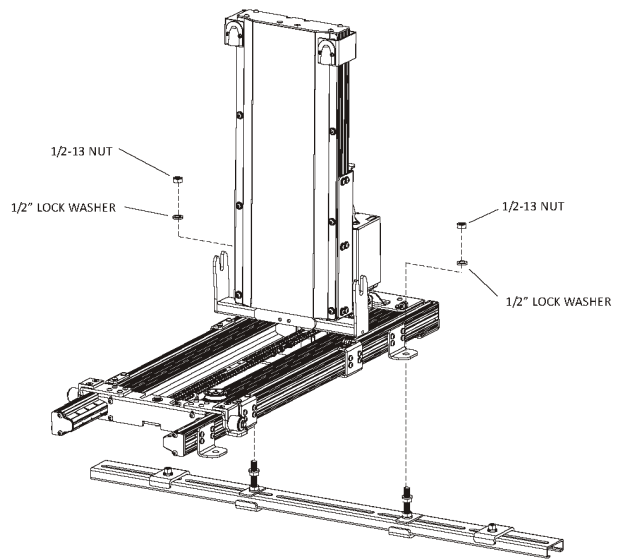


Figure 4-16

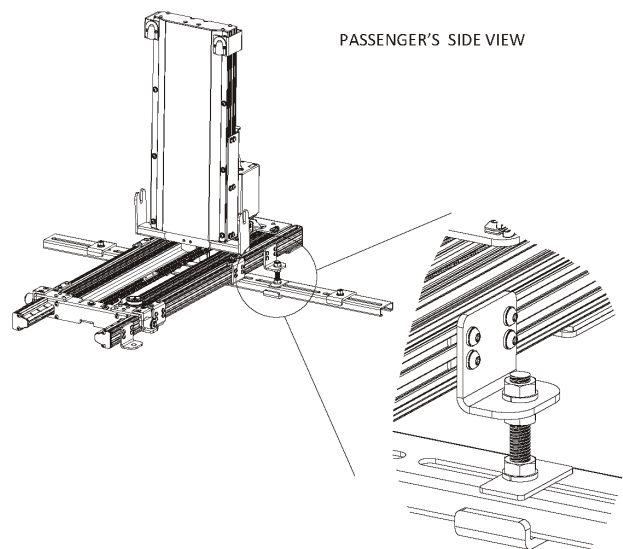


Figure 4-17

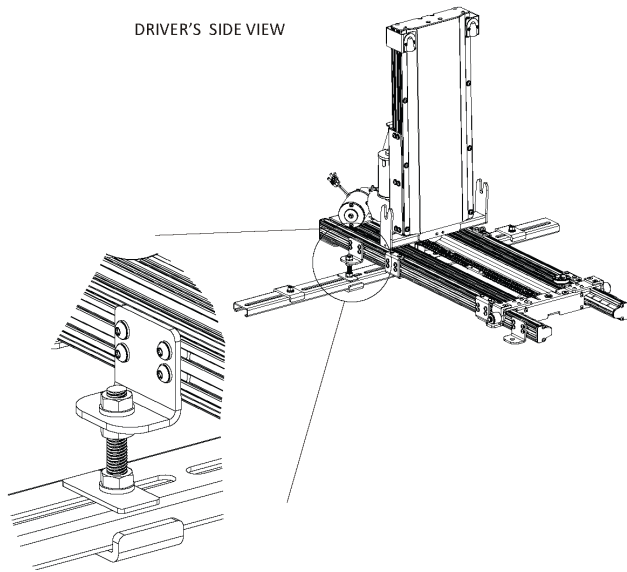


Figure 4-18

NOTE: All four L-shaped mounting brackets are adjustable. Loosen (do not remove) 4x screws and slide to the desired position. See Figure 4-19.

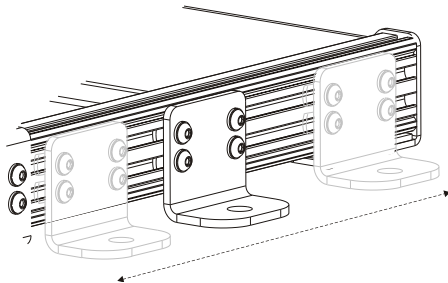


Figure 4-19

Screws are held in place by weld nuts in the channel. Should the screws fall out, simply push the weld nuts back into alignment with the L-shaped mounting bracket, install the lock washers and screws, and tighten (8 ft-lb). See Figure 4-20.

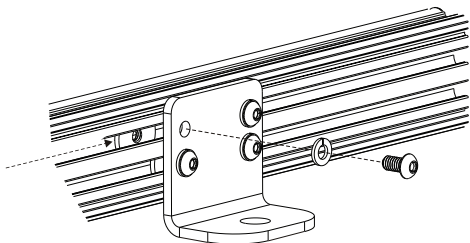
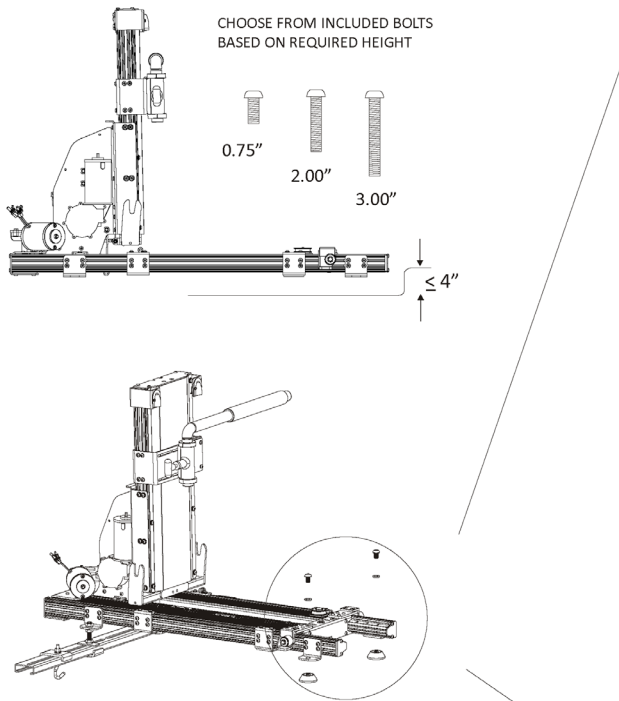


Figure 4-20

INSTALLATION

FRONT MOUNT: FLAT FLOOR INSTALLATION



1. **A. No threshold:** Rest on floor without foot pads. *See Figure 4-21.*



Figure 4-21

2. **B. Short threshold:** Add foot pads using provided hardware. *See Figure 4-22.*

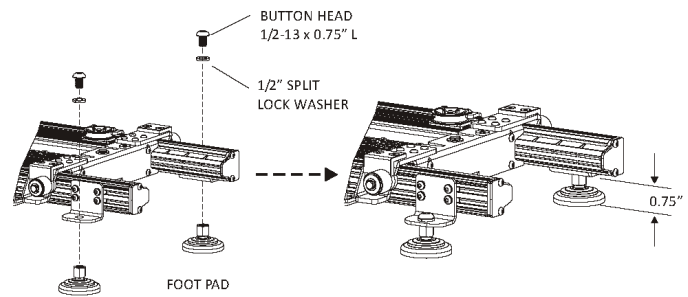


Figure 4-22

3. **C. High threshold (up to 4"): Add foot pads using longer hardware.** *See Figure 4-23.*

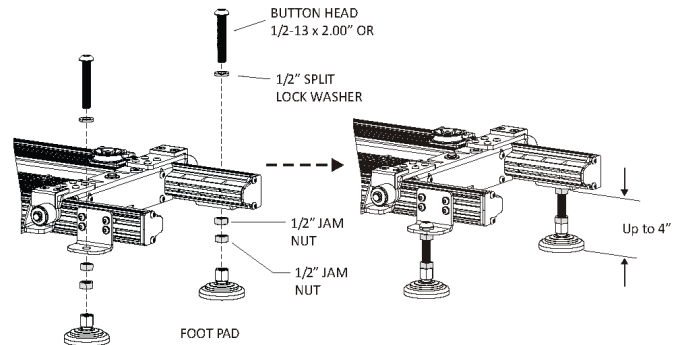


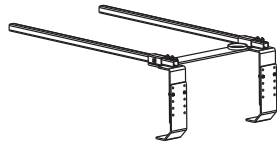
Figure 4-23

2. Thread appropriate length button head bolt, washer and hardware 1/2" washers into the threaded holes of the food pads. Test full motion of lift into and out of the vehicle. Be sure the lift is level and there are no obstructions to interfere with the platform travel.
3. Tighten all fasteners from all previous steps at this time. *Reference torque specs on page 6.*

FRONT MOUNT: 3RD ROW FOLDING SEAT INSTALLATION (BA25)

NOTICE

If the BA25 kit is provided with the lift, read and understand the following instructions prior to installation.



1. Overview of BA25 installation. *See Figure 4-24.*

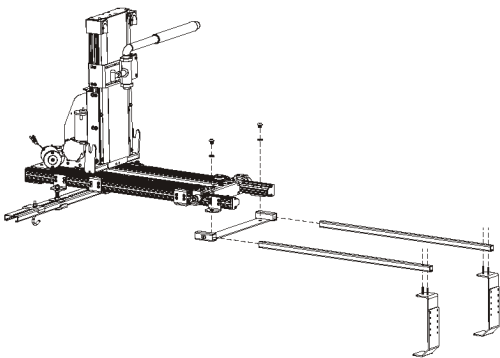


Figure 4-24

2. Fold third row seating up, exposing the storage well. *See Figure 4-25.*

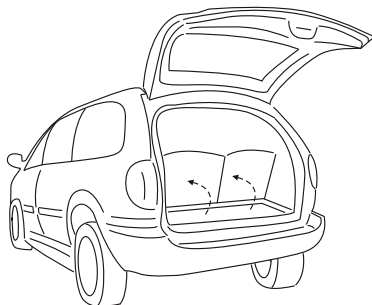


Figure 4-25

3. Measure the height of the well up to the top of door threshold. *See Figure 4-26.*

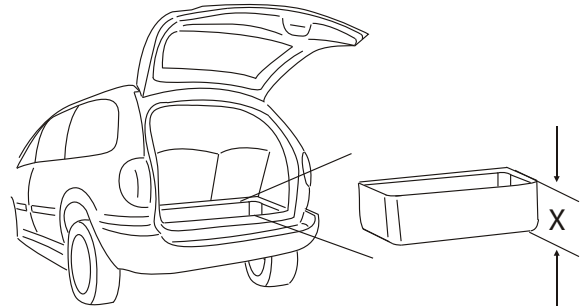


Figure 4-26

4. Obtain the foot and top leg assembly from the BA25 kit. Adjust the brackets as shown. Slide up or down until the measured well height is achieved. Holes are arranged for 1/4" increments. *See Figure 4-27.*

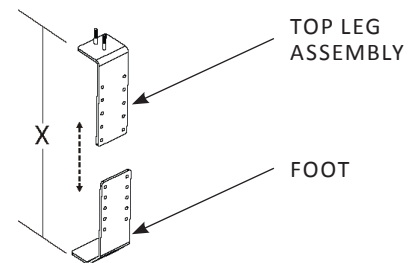


Figure 4-27

5. Attach the foot and top leg assembly together and fasten using supplied hardware (8 ft-lb). *See Figure 4-28.*

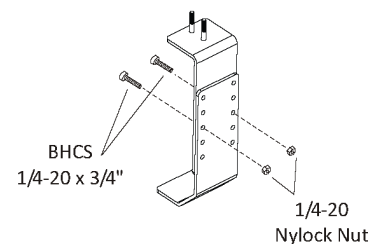


Figure 4-28

INSTALLATION

- Position assembled parts around third row seat(s) then fold into well. *See Figure 4-29.*

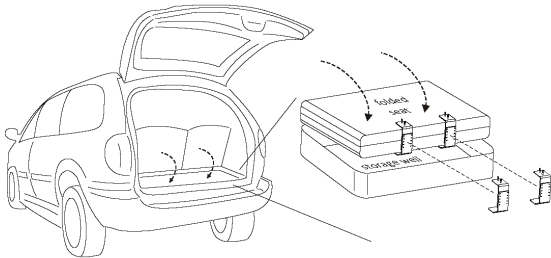


Figure 4-29

- Verify that the top of the top leg assembly are visible over the threshold. Space the top leg assemblies about 19 1/4" apart as indicated for the lift base. *See Figure 4-30.*

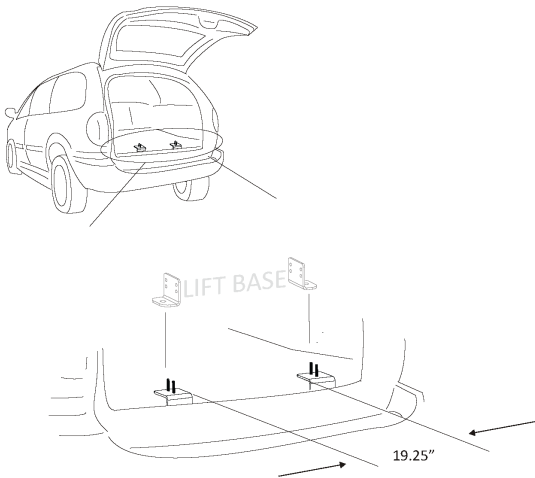


Figure 4-30

- Add 1/4-28 set screws to each side of the foot plate. Leave them loose, then take each 1" square tube and slide the hole end through the foot plate. *See Figure 4-31.*

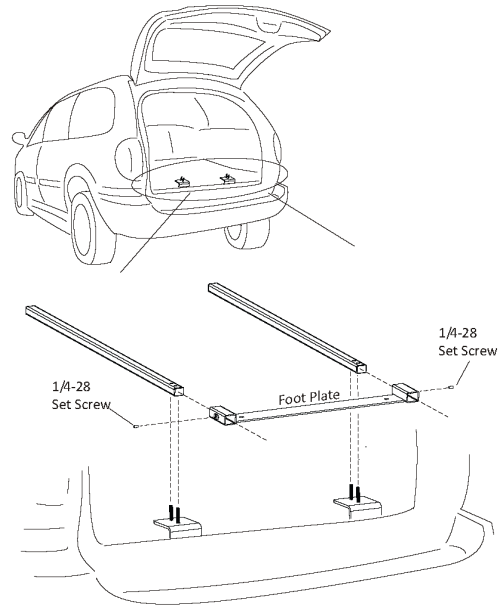


Figure 4-31

- Place the assembly down onto threaded studs on the top leg assembly. Add 1/4" split lock washers and 1/4-20 acorn nuts to each threaded stud and tighten (10 ft-lb). *See Figure 4-32.*

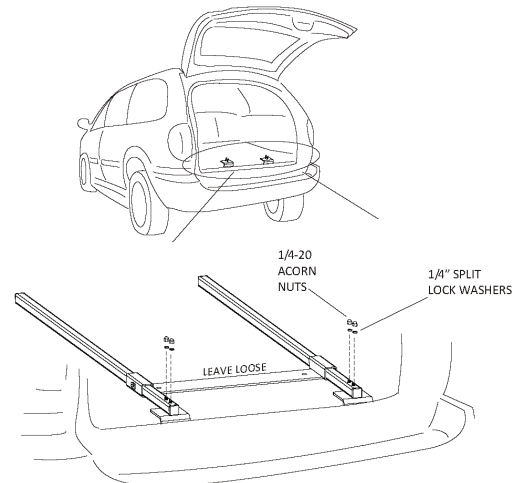


Figure 4-32

⚠ CAUTION

The BA25 foot and top leg assembly should have been adjusted for the platform to overcome the threshold/bumper. See Figure 4-33.

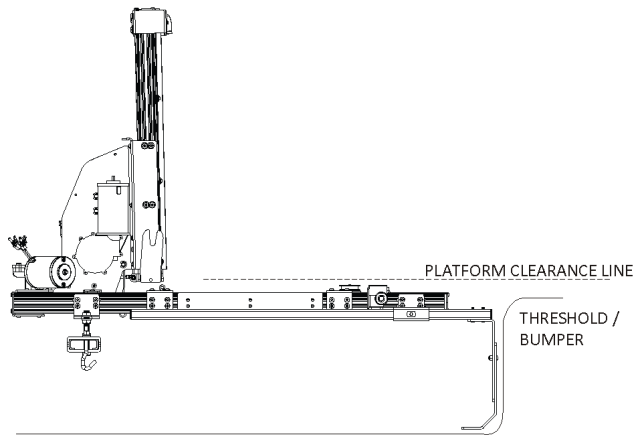


Figure 4-33

10. Mount lift to BA25 foot plate. Insert two each 1/2" lock washers and 1/2-13 x 1/2" long bolts into the L-shaped mounting brackets and thread directly into the foot plate. See Figure 4-34.

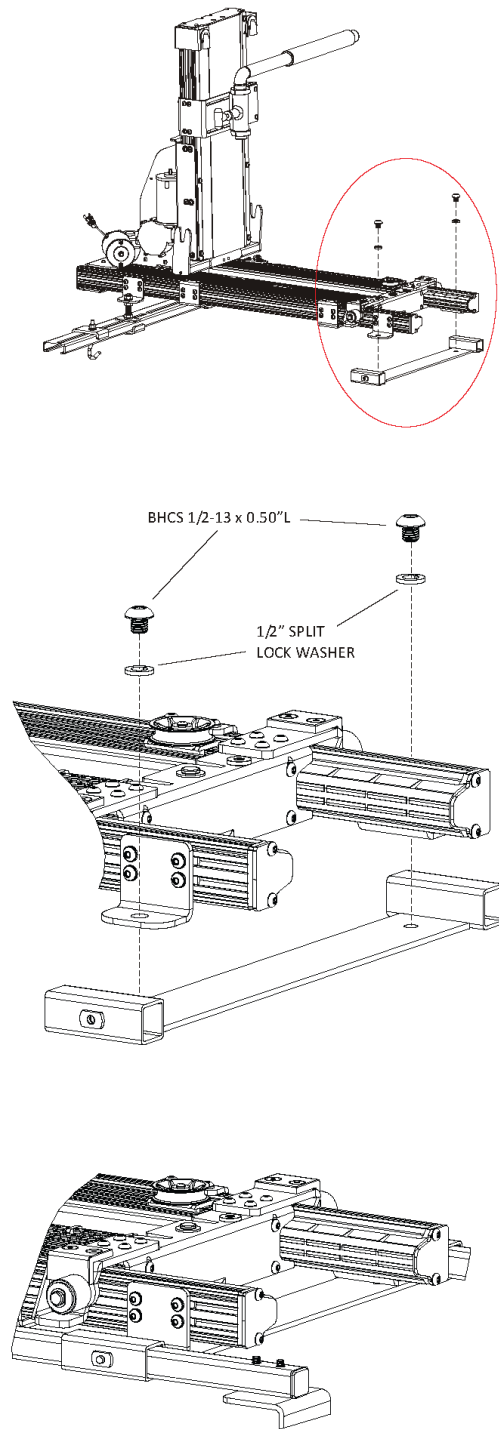


Figure 4-34

INSTALLATION

11. Height adjustment for vehicles with a high threshold, use either the 2" or 3" long 1/2-13 button head screws provided with the lift. **See Figure 4-35.**

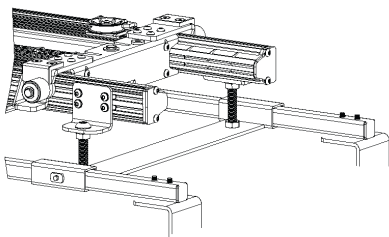
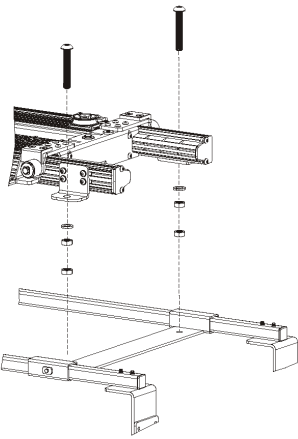
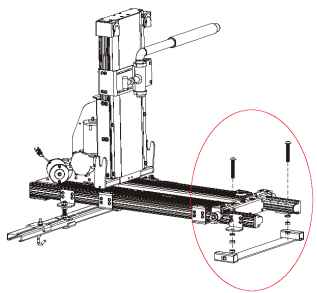


Figure 4-35

12. Insert bolt through hole in L-shaped mounting bracket. **See Figure 4-36.**

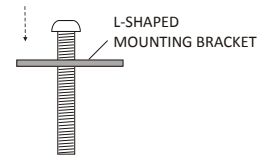


Figure 4-36

13. Add 1/2" lock washers and thread 2x 1/2-13 nuts onto each bolt below the L-shaped mounting bracket. **See Figure 4-37.**

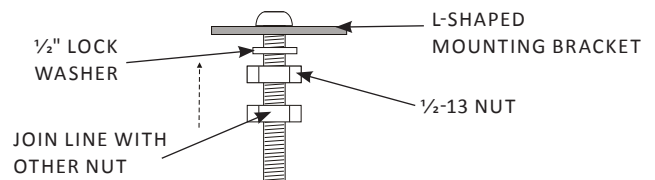


Figure 4-37

14. Thread the bolt into the foot plate until it is flush with the bottom of the foot plate. **See Figure 4-38.**

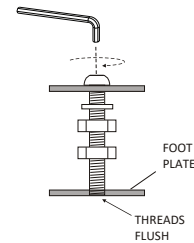


Figure 4-38

15. Hold the bolt and tighten the bottom nut against the foot plate, and the top nut up against the L-shaped mounting bracket, compressing the split lock washer. **See Figure 4-39.**

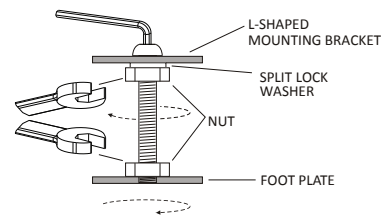


Figure 4-39

PLATFORM INSTALLATION AND LIFT FUNCTION

1. Plug the hand control into the control box on the passenger's side of the lift. The plug in the pre-run vehicle harness into the base of the lift. *See Figure 4-40.*

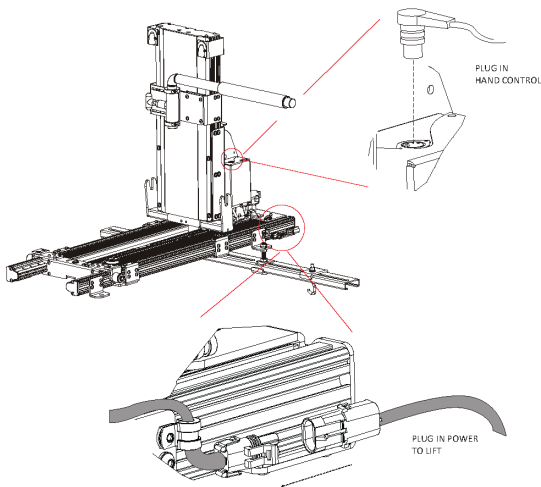


Figure 4-40

2. Press the power button and run the lift out to attach the platform. The Power button must be pressed to enable the hand control to operate. At which time, buttons will light up and front LEDs will act as a flashlight. If no button is pressed after approx. 2-minutes, the hand control will turn off automatically. To turn the hand control back on, the power button will have to be pressed again. With the lift in the out position, hook the platform onto the side flanges of the lifts tower. *See Figure 4-41.*

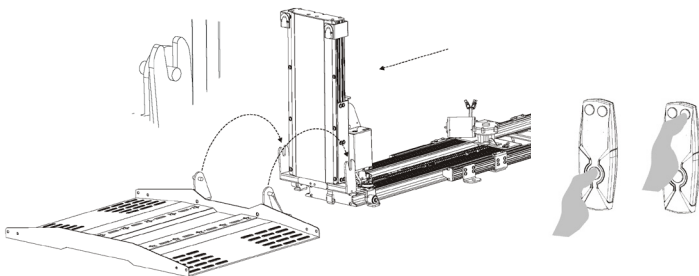


Figure 4-41

3. The platform will come with the tilt adjusted to be parallel to the ground. If the angle of the platform needs to be adjusted, the platform can be tilted by adjusting the set screws and nuts on the back flange of the platform. *See Figure 4-42.*

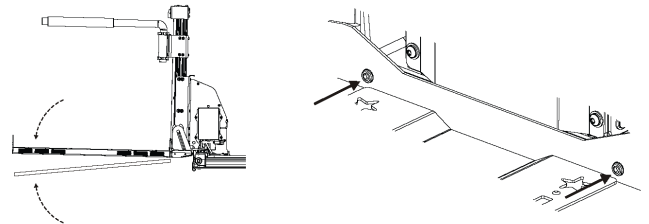


Figure 4-42

4. To adjust the tilt of the platform, loosen the nut and back out the set screw to tilt the platform down towards the ground. To tilt the platform up and away from the ground, loosen the nut and thread the set screw in. Once the proper tilt is set, hold the set screw in place and tighten the nut. *See Figure 4-43.*

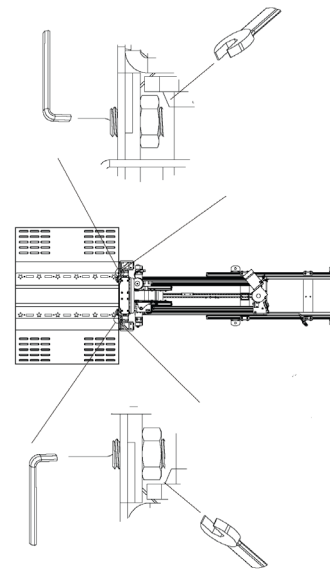


Figure 4-43

INSTALLATION

5. If the platform has been adjusted, be sure to keep the rollers in contact with the platform rails throughout travel with the platform both empty and loaded. *See Figure 4-44.*

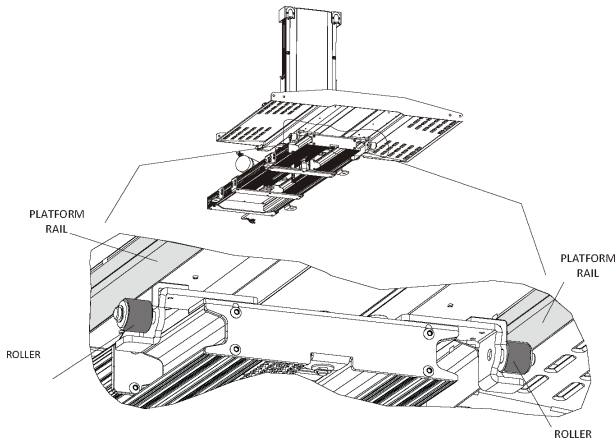


Figure 4-44

6. Test the function and full range of motion of the lift with the platform unloaded. Check that the platform clears the vehicles opening and any obstructions within the vehicle. *See Figure 4-45.*

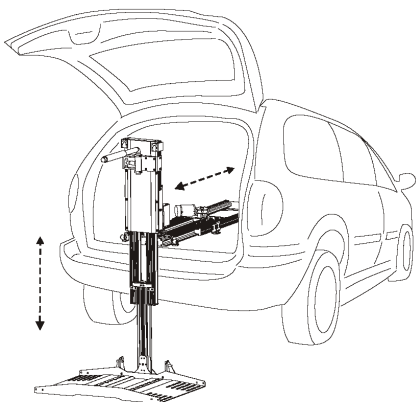


Figure 4-45

7. Test the function and full range of motion of the lift with the platform loaded. Check that the platform and the mobility device clears the vehicles opening and any obstructions within the vehicle. *See Figure 4-46 and 4-47.*

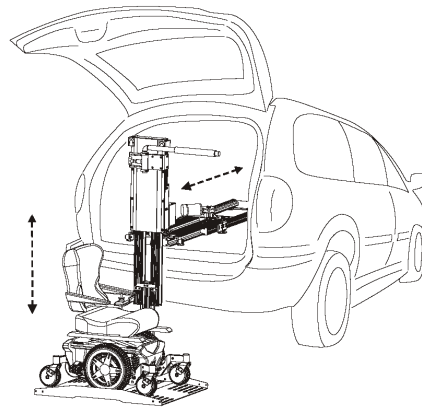


Figure 4-46

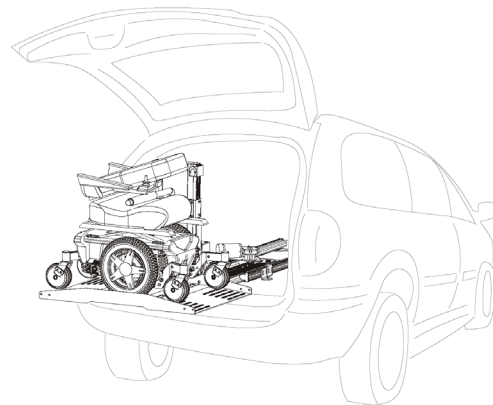


Figure 4-47

 CAUTION
<p>Make sure hold-down arm won't hit either side of the opening when not in use.</p>

MOBILITY DEVICE PREPARATION

The strap hooks included with the lift can be attached to the mobility device by means of an Anchor Plate (for mobility devices with a center seat post) or U-Bolts (for mobility devices without a center seat post.)

ANCHOR PLATE INSTALLATION

The Anchor plate is a flat plate with a slot in each end. This plate attaches to the bottom of the seat and works with any mobility devices that has a center seat post. **See Figure 4-48.**

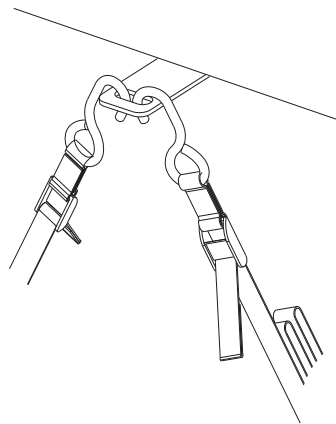


Figure 4-48

1. Remove the seat from the mobility device. See the owner's manual of the mobility device for instructions on how to remove the seat.
2. Loosen the screws that attaches the seat post plate to the bottom of the seat. Allow enough room to slide the anchor plate between the seat and the seat post plate. **See Figure 4-49.**

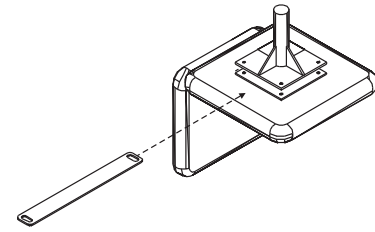


Figure 4-49

3. Make sure the anchor plate extends out about 1 ½" on each side of the cushion. This provides space for the strap hook to secure to the mobility device.
4. Position the anchor plate at the center of the seat post plate. **See Figure 4-50.**

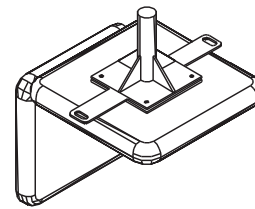


Figure 4-50

5. Tighten the screws that hold the seat post plate to the bottom of the seat (8 ft-lb).
6. Place the seat back onto the mobility device as instructed in the mobility devices owner's manual. **See Figure 4-51.**

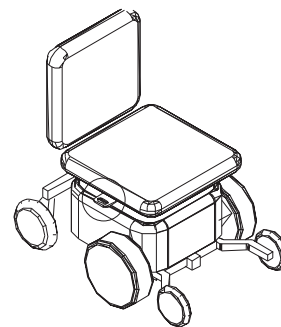


Figure 4-51

INSTALLATION

U-BOLT INSTALLATION

For mobility devices without a center seat post, the seat is normally attached to a tubular frame. Install the U-bolts, two on each side, to the frame.

See Figure 4-52.

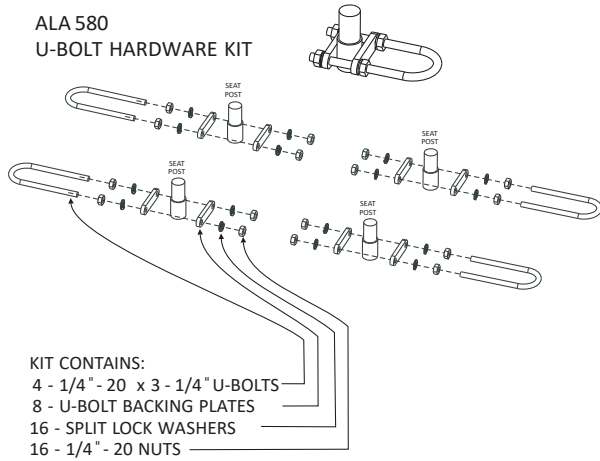


Figure 4-52

Ensure that the loop extends to the outside of the mobility device so the strap hooks can easily attach to the u-bolts. See Figure 4-53.

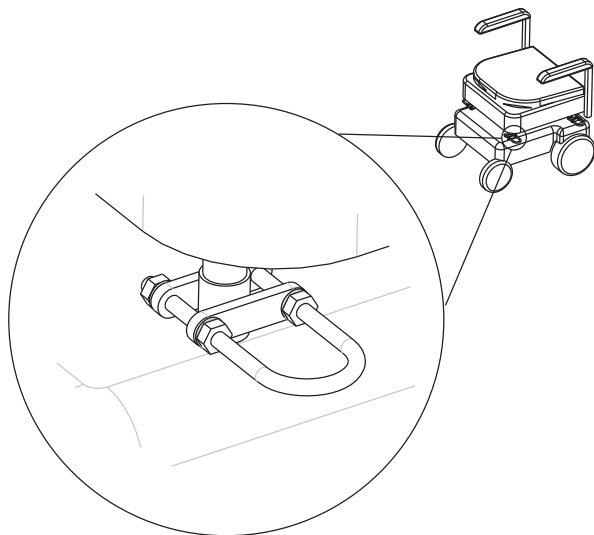


Figure 4-53

SECTION 5

ADJUSTMENTS**HOLD-DOWN ARM
ADJUSTMENT**

The hold-down arm is designed to secure a mobility device by applying pressure to the seat cushion. *See Figure 5-1.*

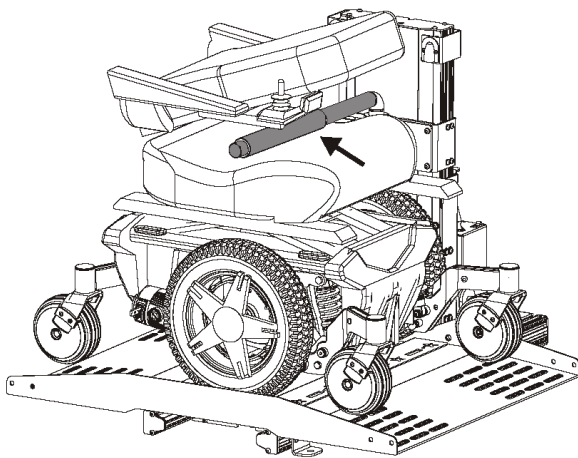


Figure 5-1

1. Measure the seat to ground height. *See Figure 5-2.*

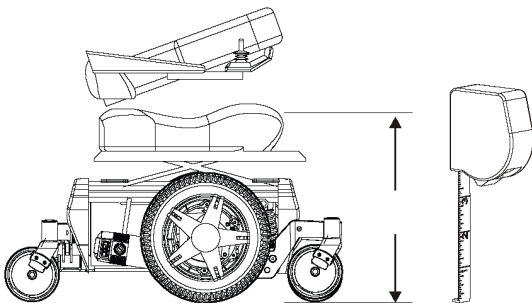


Figure 5-2

2. Measure the height of the hold-down arm from the platform. *See Figure 5-3.*

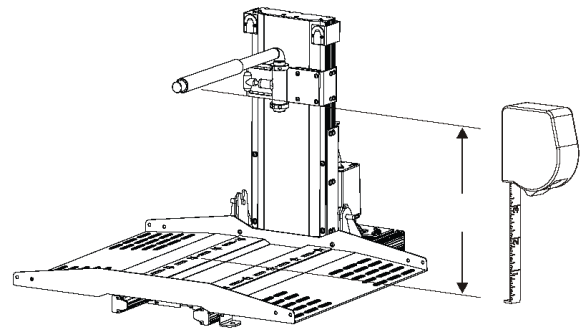


Figure 5-3

ADJUSTMENTS

VERTICAL ADJUSTMENT

1. Loosen the 12x screws on the sides and back of the hold-down arm bracket with a $\frac{5}{32}$ " hex key to slide the bracket up or down. Do not remove the screws. Only loosen the screws or the tee nuts will drop out of position. *See Figure 5-4.*

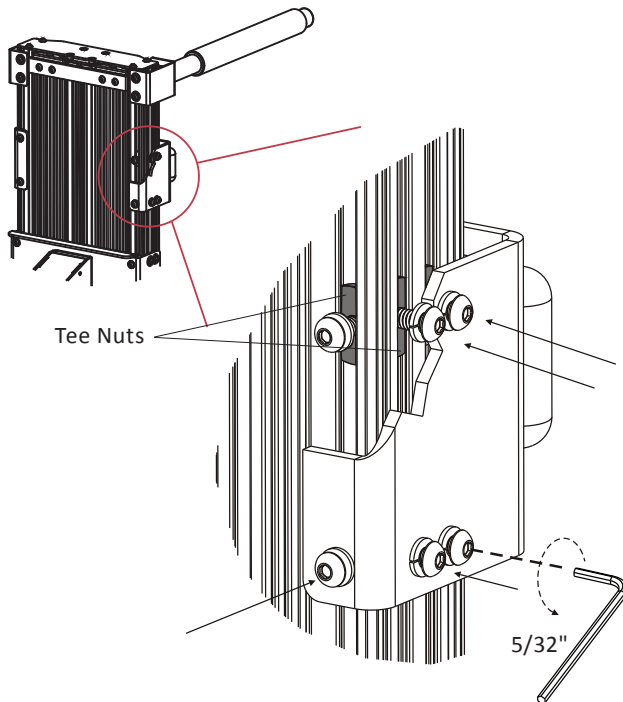


Figure 5-4

2. Slide the bracket to a height 1" or 2" less than the height measured from the mobility device and tighten all 12x screws. When tested with a mobility device, the hold-down arm should compress the seat cushion and keep the mobility device from moving on the platform. *See Figure 5-5.*

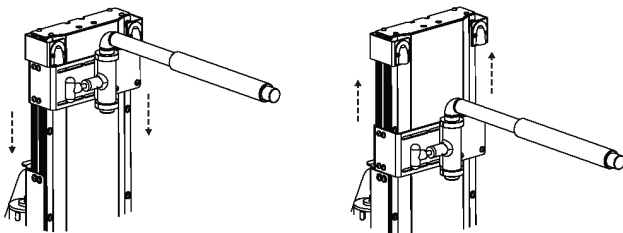


Figure 5-5

3. If a lower hold-down arm position is required, remove the lower shaft collar, pull the T-handle to release the hold-down arm, and lift out. *See Figure 5-6.*

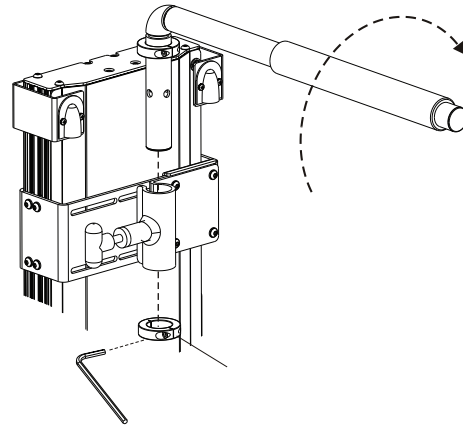


Figure 5-6

4. Flip the hold-down arm, insert it from the bottom, and fasten the shaft collar on top (10 ft-lbs). *See Figures 5-7 and 5-8.*

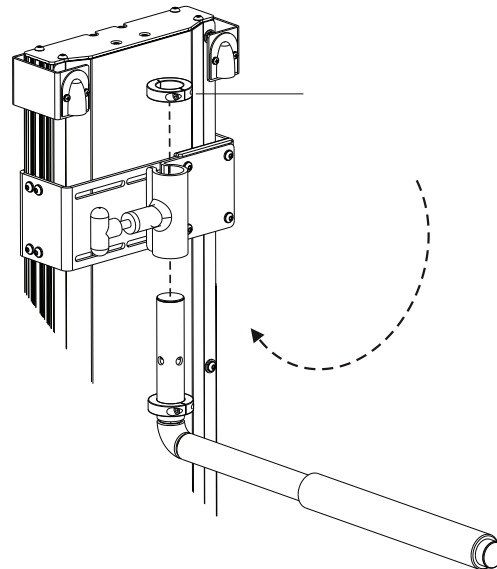


Figure 5-7

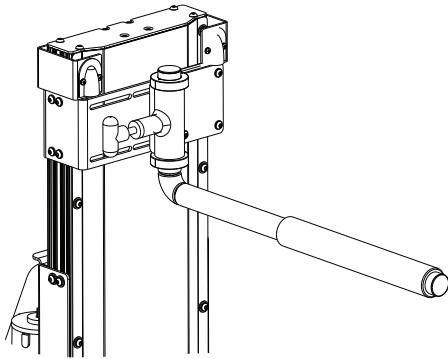
ADJUSTMENTS

Figure 5-8

NOTE: Should one of the tee nuts escape the screw, use a small implement to slide the tee nut back into alignment. See Figure 5-9

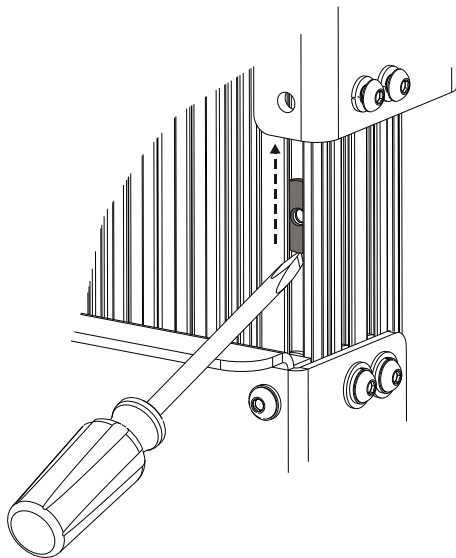


Figure 5-9

NOTE: If one of the tee nuts drops from the top, use a thin rod or tool with a magnet to retrieve the tee nut and realign with the hole. See Figure 5-10.

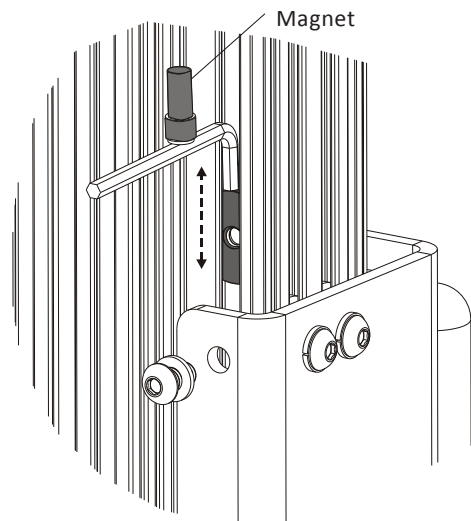


Figure 5-10

NOTE: If a magnet is not available, temporarily remove one of the lift's magnets located either near the in and out motor, or at the bottom and back of where the platform attaches. Replace the magnet after use, or the lift will not function correctly. See Figure 5-11.

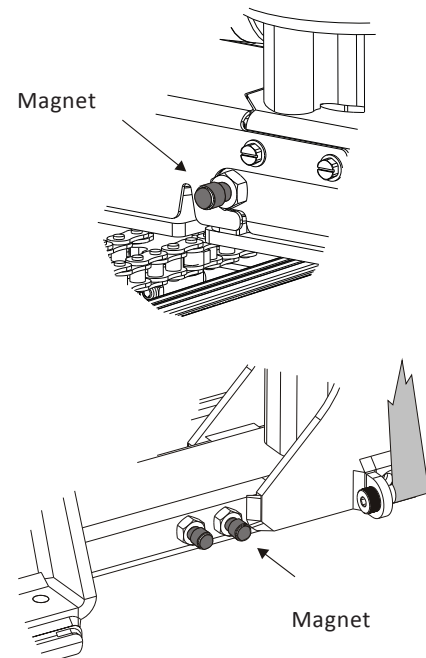


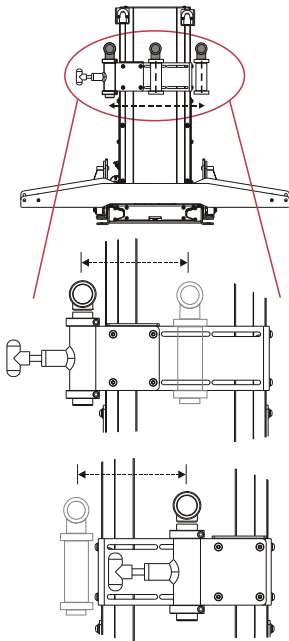
Figure 5-11

ADJUSTMENTS

HORIZONTAL ADJUSTMENT

The hold-down arm is to be positioned near the center of the seat or above the seat post of the mobility device. *See Figure 5-1.*

SEAT POSITION IS NEAR THE CENTER OF THE PLATFORM OR TOWARDS THE DRIVER'S SIDE



1. To adjust the hold-down arm horizontally, remove the 4x screws and hold-down arm assembly. Reposition the backing plate to the desired location and fasten the hold-down arm assembly (10 ft-lbs) *See Figure 5-12.*

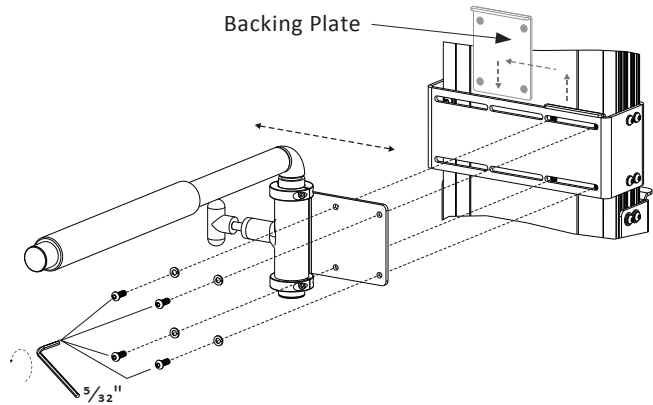
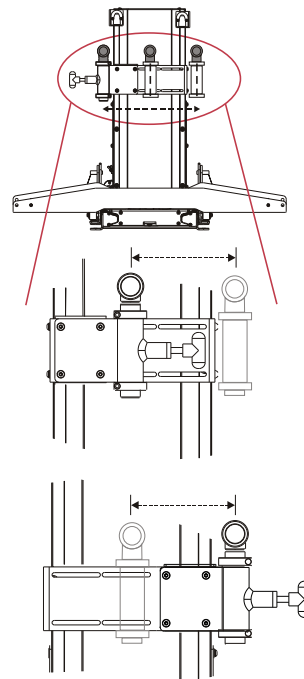


Figure 5-12

SEAT POSITION IS NEAR THE CENTER OF THE PLATFORM OR TOWARDS THE PASSENGER SIDE



1. Remove the lower shaft collar, pull the T-handle to release the hold-down arm, and lift out. *See Figure 5-13.*

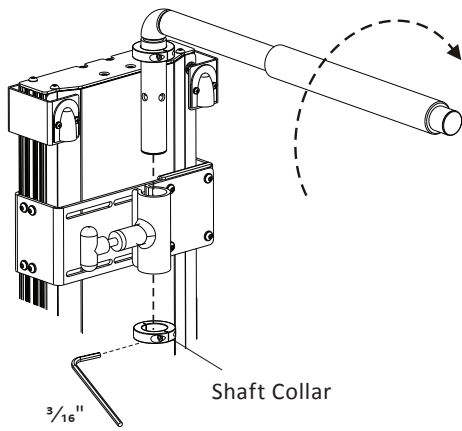


Figure 5-13

2. Flip the hold-down arm, insert it from the bottom, and fasten the shaft collar on top (10 ft-lbs). *See Figure 5-14.*

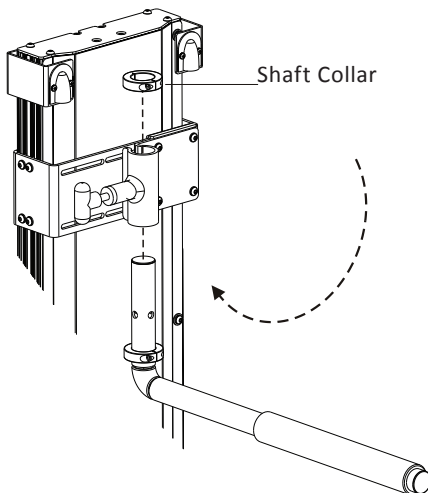


Figure 5-14

3. Remove the 4x screws and rotate the hold-down arm assembly 180°. Reposition the backing plate to the desired location and fasten the hold-down arm assembly (10 ft-lbs). *See Figure 5-15.*

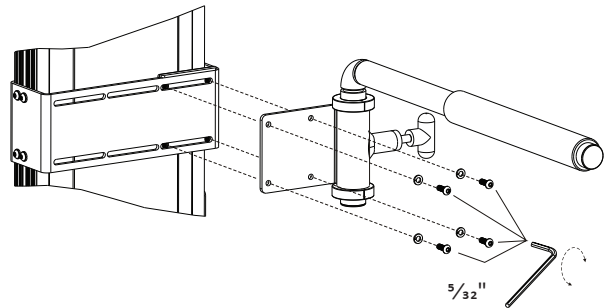


Figure 5-15

TROUBLESHOOTING

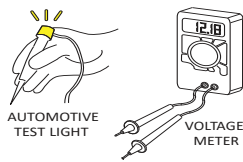
SECTION 6

TROUBLESHOOTING

The following procedures are reserved for the approved installer/dealer. They should not be attempted by anyone without proper knowledge of automotive electrical circuitry.

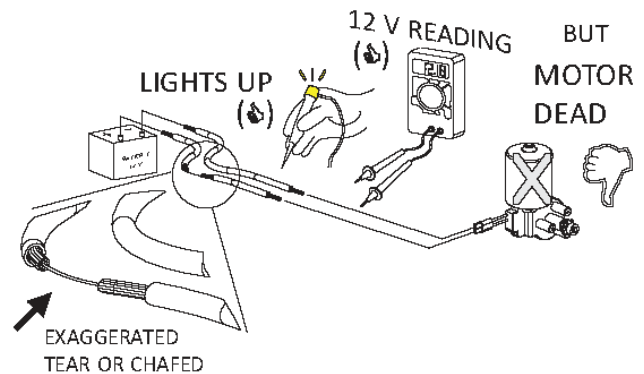
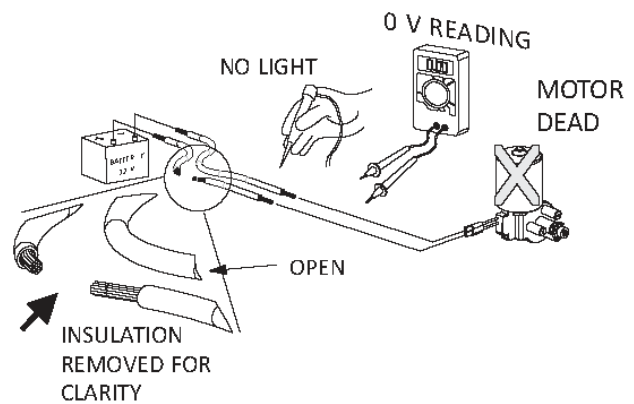
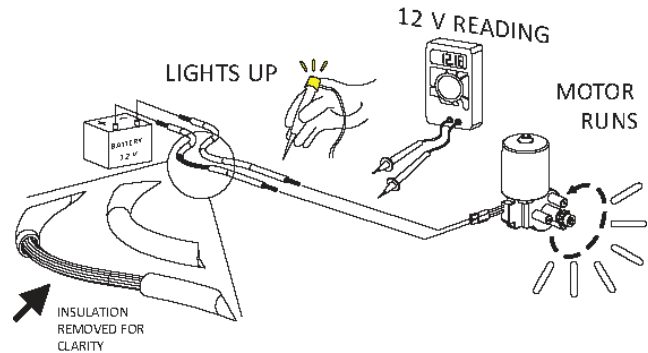
CAUTION

Be careful when troubleshooting with a test light or voltage meter. They may give false indications.



The instruments will detect voltage, but may not indicate a tear or poor connection in the wiring.

Examine both voltage and current, or isolate sections of the lift wiring using process of elimination with a known good/fully charged 12V automotive battery or known good/fully charged mobility device battery.



TROUBLESHOOTING

PROBLEM

Lift does not operate or lift operates slowly or intermittently.

CAUSE

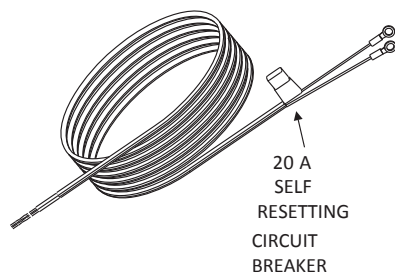
Bad electrical connection(s)/Circuit breaker.

SOLUTION

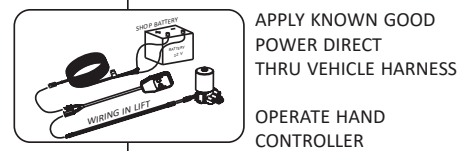
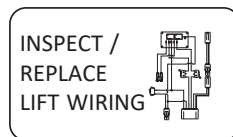
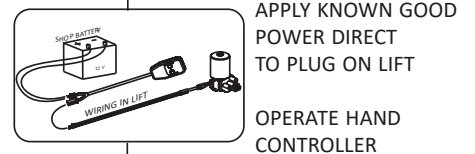
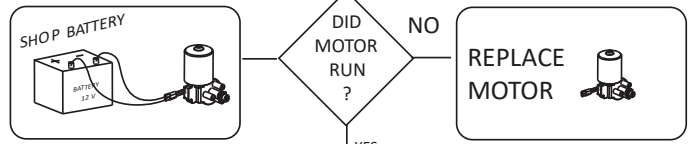
Check and clean all connections that might be loose or dirty. This is the number 1 cause of a poorly performing lift. The lifting motor requires quality electrical connections to operate at full capacity, any break in the wiring will slow down the motor and it will deteriorate prematurely.

Inspect the full length of the wire harness to ensure the insulation is not torn. The lift's vehicle power harness running through or under the vehicle is subject to road debris and rubbing against the vehicle's frame which can cause a short.

Verify the circuit breaker. The circuit breaker is located about 6" from the connections to the vehicle's battery. The breaker will self-reset if overloaded; however, verify (with Ohm meter or test light) that the breaker is functioning. Or replace it with a new/known good circuit breaker and perform the following tests.



APPLY KNOWN GOOD POWER DIRECT TO MOTOR



PROBLEM

Mobility device tips to the front or back while being lifted.

CAUSE

Platform is leaning to one side more than the other.

SOLUTION

Adjust the position of the mobility device on the platform. In some cases, a scooter cradle can be added to the platform to allow more offset.

TROUBLESHOOTING

PROBLEM

Lift rattles while driving

CAUSE

Platform is not docked.

SOLUTION

Be sure to press the "IN" button until the platform is fully engaged in its locking mechanism.

MANUAL OVERRIDE

In the event of power failure (for example, if your car battery dies), you can still operate the lift using the manual override system. The AL6000/HD has two motors; the Lifting Motor and the Rotation Motor. The manual override system on both motors is a 1/4" hex located at the center of the armature cover.

See Figure 6.1.

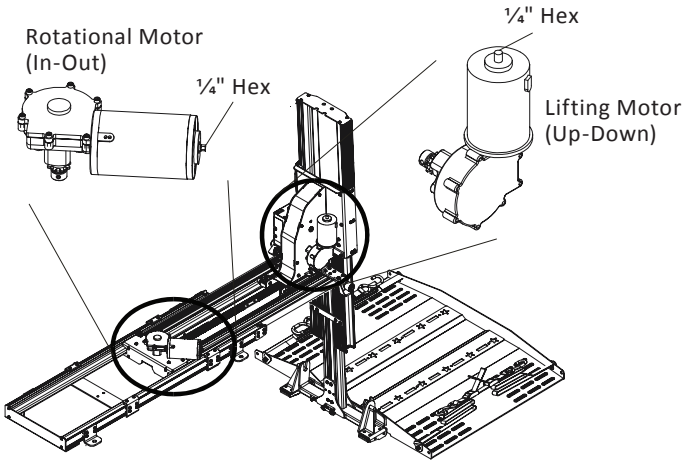


Figure 6-1

WARNING

Always disconnect the power from the lift by disconnecting the two connector plugs before attempting to use the manual override to avoid electric shock or unexpected activation of the motor.

1. Disconnect power from the lift. See Figure 6-2.

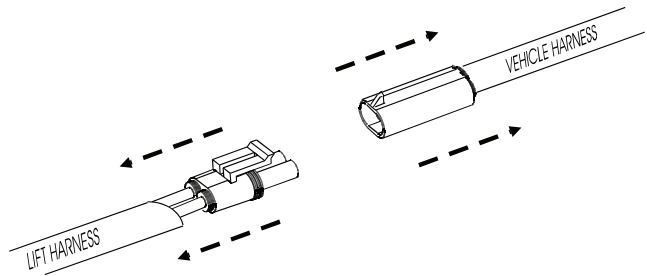


Figure 6-2

2. Use a 1/4" socket and rotate the hex either Clockwise (CW) or Counter Clockwise (CCW). See Figure 6-3. For Lifting Motor, see Figure 6-4. For Rotational Motor, see Figure 6-5.

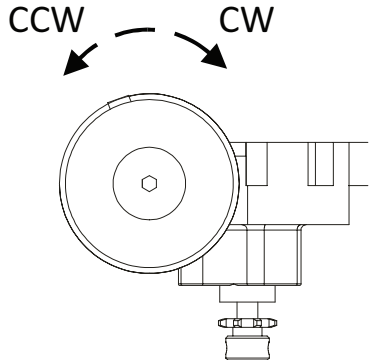


Figure 6-3

CAUTION

If using a power drill, start and end with a slow speed. If at anytime the manual override binds or locks up, release the trigger on the drill and stop. ****DO NOT USE IMPACT OR HAMMER DRILL****

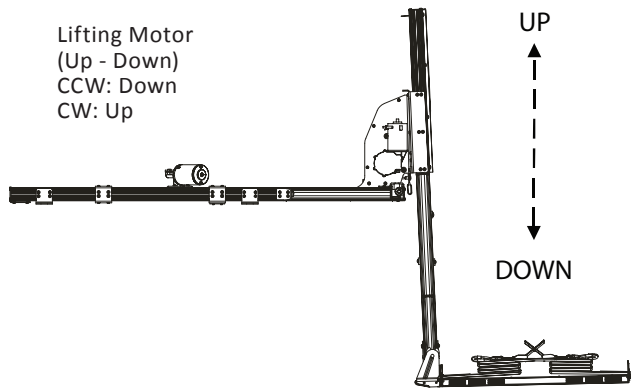


Figure 6-4

⚠ CAUTION

Before retracting the lift into the vehicle, be sure that the lift is fully compressed in the UP position. Not doing so may result in damage to the vehicle and/or lift. See Figure 6-4.

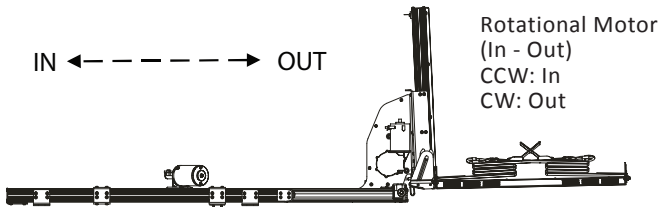


Figure 6-5

MAINTENANCE

SECTION 7

MAINTENANCE & INSPECTION

Annual inspections are highly recommended to help prevent unsafe conditions and operation.

DEALER MAINTENANCE SCHEDULE

RECOMMENDED EVERY 6-MONTHS

- Observe lift with and without weight.
- Check wiring travel.
- Inspect chains, clean and lubricate as needed.
- Inspect lifting strap, lifting spool, and flange bearings.
- Clean and lubricate pressure side of rails with Loctite LB 8700, Loctite Moly-50, or similar Metal-Free Molybdenum Disulfide Petrolatum grease. *See Preferred Cleaning and Lubrication instructions.*
- Possibly provide weight vs. expected current graph, if field techs have that capability.
- Check for any powder coat chips or scratches and touch up with black enamel or similar paint as necessary.
- Grease platform roller bearings.
- Check for any loose fasteners. *See torque specs on page 6.*
- If applicable, grease hold-down arm and T-Handle Pin.
- If applicable, verify hold-down arm pressure on mobility device seat and adjust as necessary.
- If applicable, test the function of the retractor straps.

RECOMMENDED ANNUALLY

- Replace batteries (if equipped)

PREFERRED CLEANING AND LUBRICATION MAINTENANCE

Should the lift become sluggish, cleaning and lubrication are required. Clean the rails thoroughly using shop rags, a degreaser, or denatured alcohol. Once the old grease and dirt are removed, wipe rails one more time with denatured alcohol and a microfiber towel to assure not only a clean surface but a surface on which the new grease will adhere. *See Figure 7.1.*

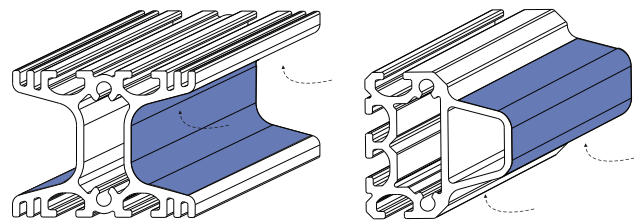


Figure 7-1

It is a good idea to coat the entire rail surface with grease. Please follow the diagrams that show the "pressure surfaces" of the rails that will require the most attention.

NOTE: There is no particular order to the application of the grease. The diagrams are arranged to show the most concise views. There is no requirement to remove the lift from the vehicle to perform this maintenance.

1. Remove the platform for easier access to remove the old grease and dirt. Clean the rails thoroughly with denatured alcohol and allow to dry.
2. Run the lift "OUT" and "DOWN" to full extension and remove the platform for easier access if possible. *See Figure 7-2.*

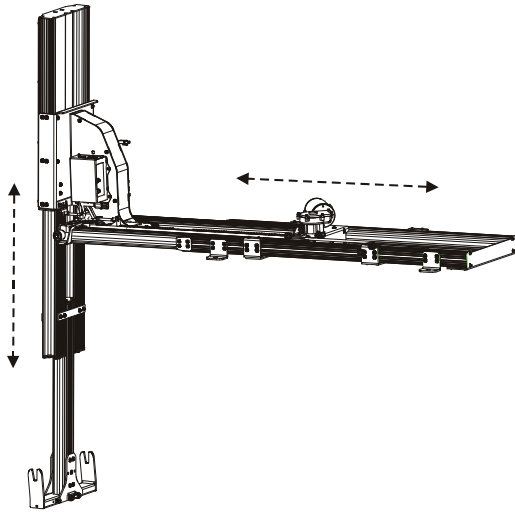



Figure 7-2

NOTICE



Use **LOCTITE LB 8700** or similar Metal-Free Molybdenum grease for best longest lasting results.

3. Apply grease to the tower on the passenger side inner rail. *See Figures 7-3 and 7-4.*

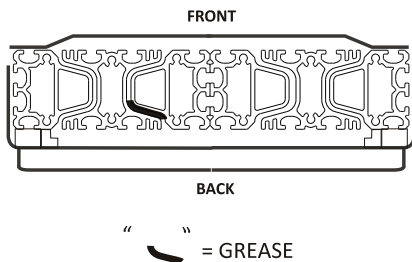


Figure 7-3

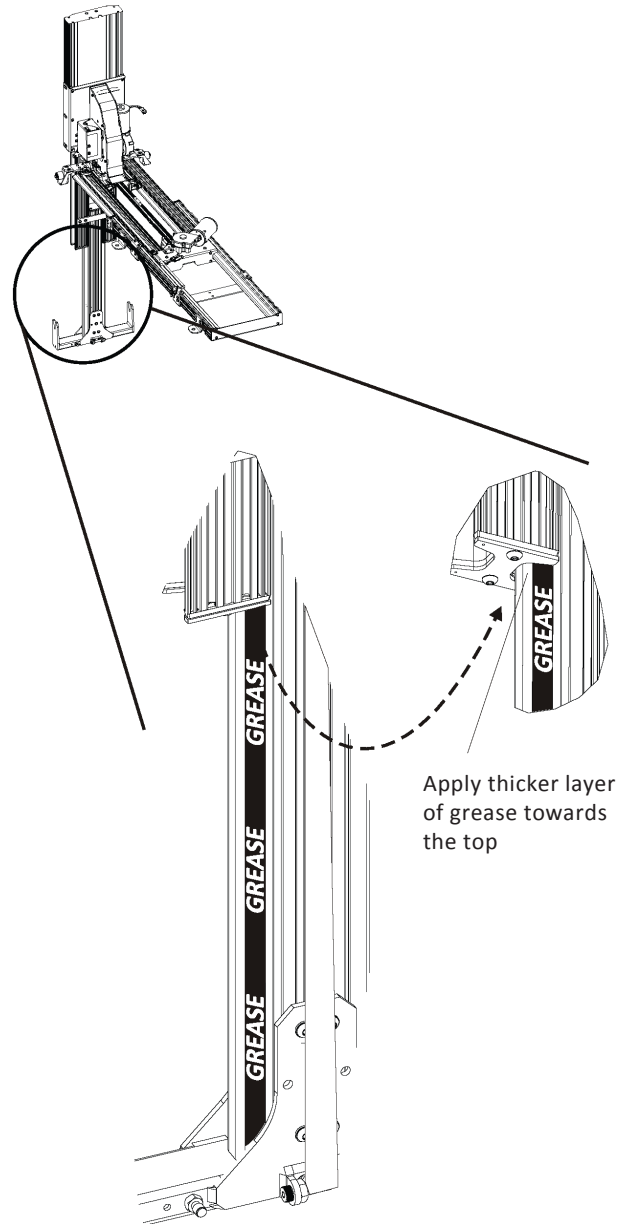
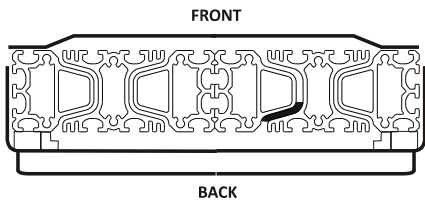


Figure 7-4

4. Then apply grease to the tower on the driver side inner rail. *See Figure 7-5 and 7-6.*

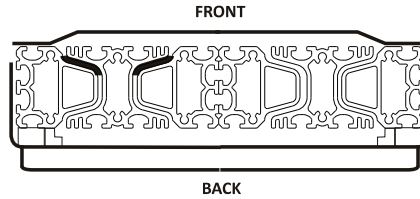
MAINTENANCE



“ ” = GREASE

Figure 7-5

- Continue to apply grease to the passenger side middle rails. *See Figures 7-7 and 7-8.*



“ ” = GREASE

Figure 7-7

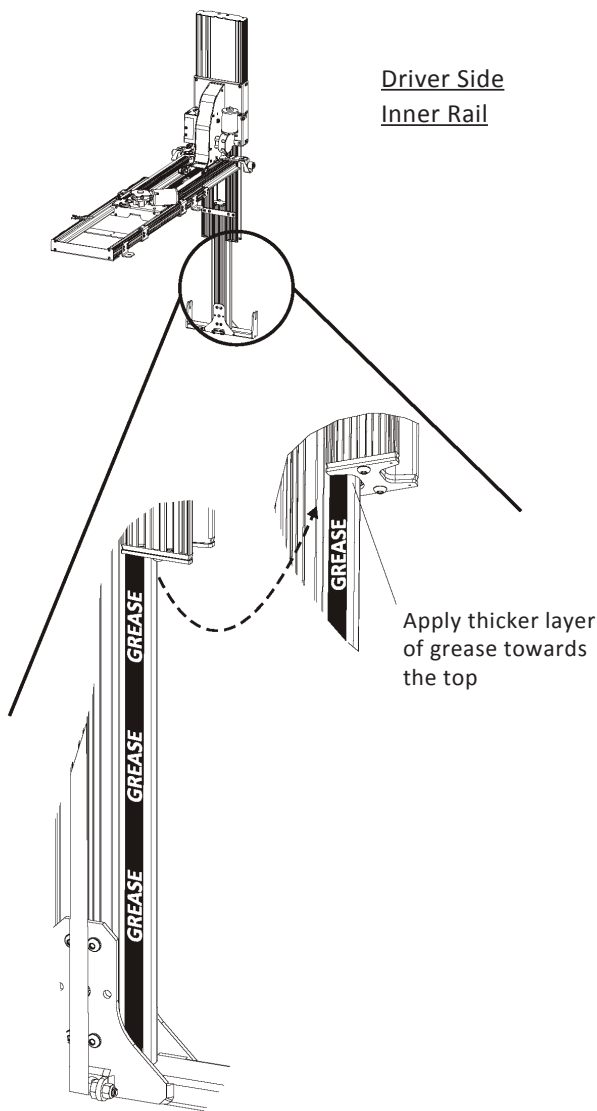


Figure 7-6

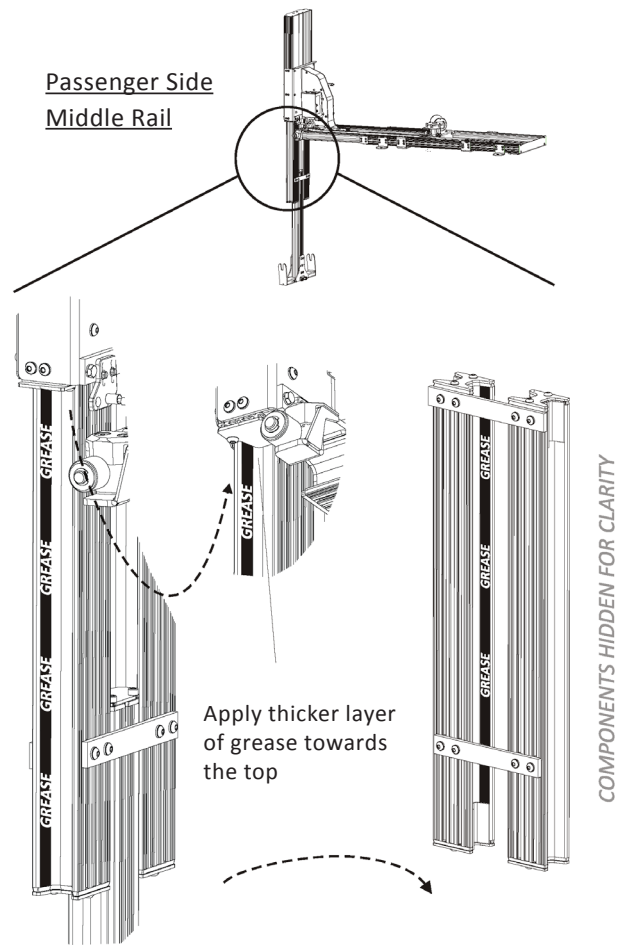


Figure 7-8

6. Continue to apply grease to the driver side middle rails. *See Figures 7-9 and 7-10.*

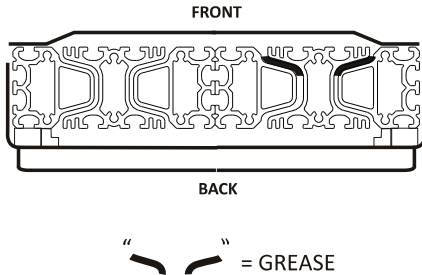


Figure 7-9

7. Apply grease to the tower sections. *See Figures 7-11 and 7-12.*

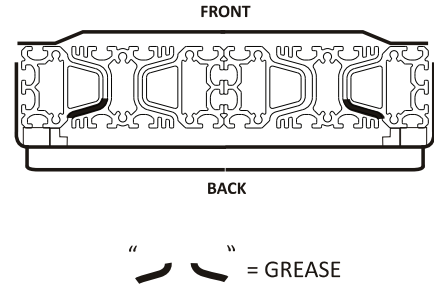


Figure 7-11

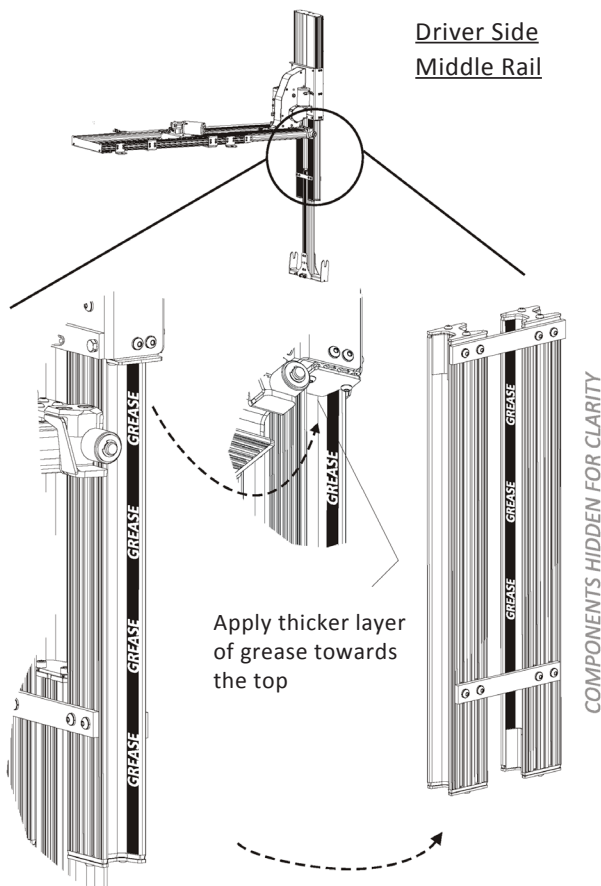


Figure 7-10

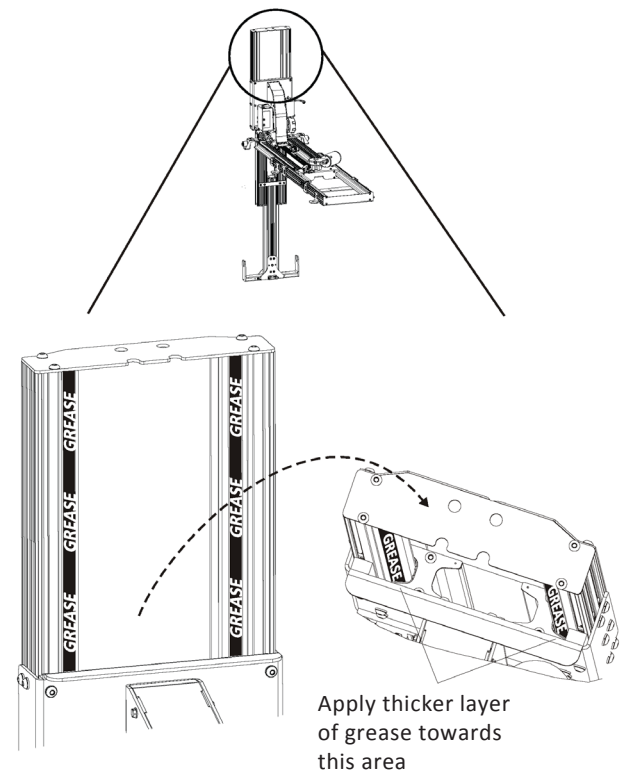


Figure 7-12

8. Apply grease to the base outer rail on both sides. Make sure that the lift is fully extended and apply grease to the underside of the outer rails ONLY. *See Figures 7-13 through 7-15.*

MAINTENANCE

Apply thicker layer of grease towards this area

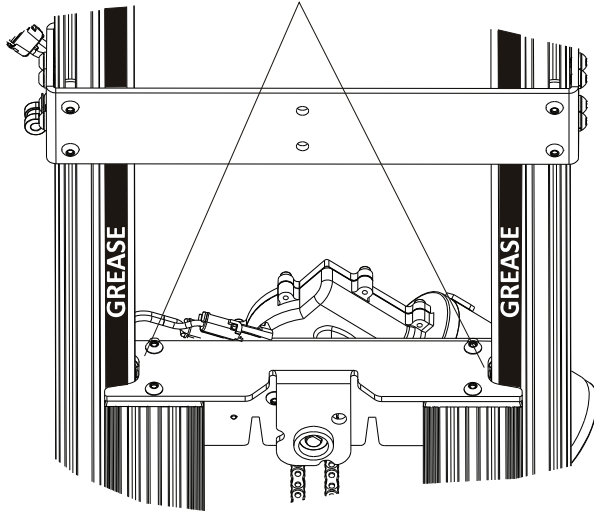


Figure 7-13

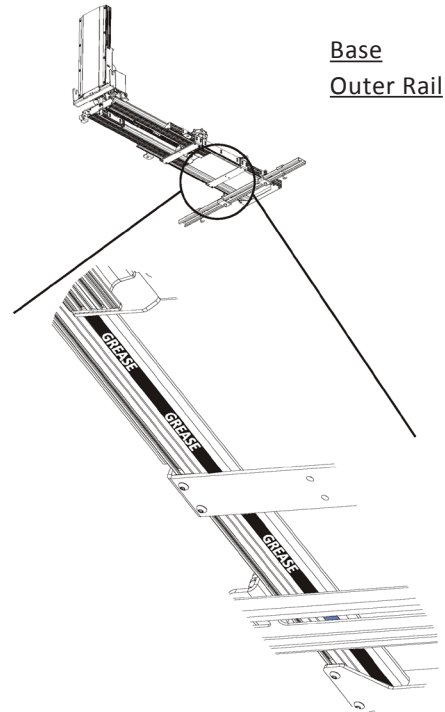
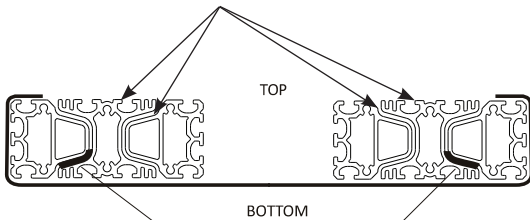


Figure 7-14

CAUTION

Do NOT apply grease to the base middle or inner rails.



“ ” = GREASE
ONLY apply grease to these areas.

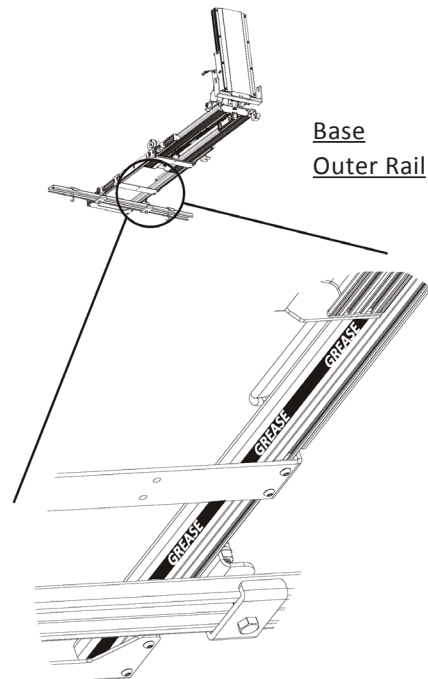


Figure 7-15

9. Run the lift "UP" and "IN" through a few cycles to help spread the grease throughout the rails. **See Figure 7-16.**

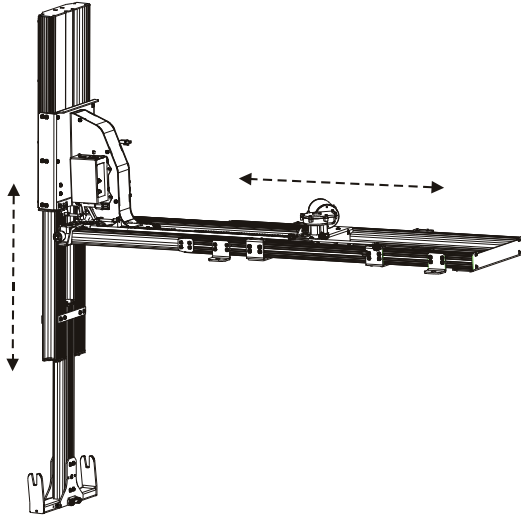


Figure 7-16

For best results, run the lift "OUT" and "DOWN" again, and add a small amount of additional grease to the rail where a thicker layer was instructed. **See Figure 7-17.**

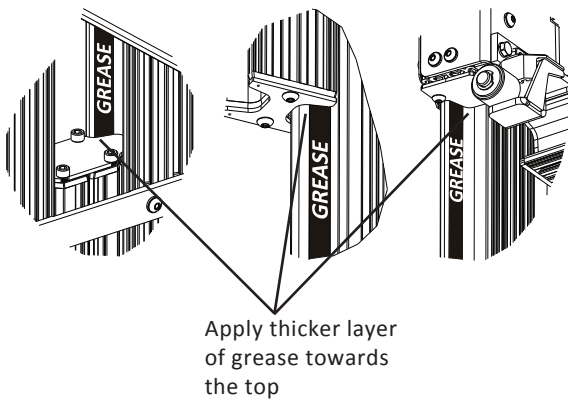


Figure 7-17



1500 Independence Blvd., Suite 220 | Sarasota, FL 34234
800.833.0478
harmar.com