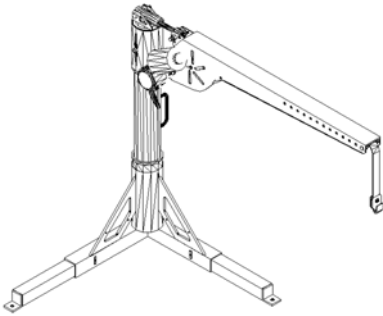


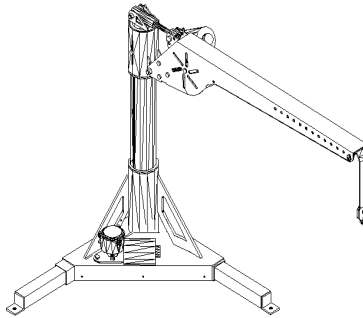
Inside Style Lift

AL200 / AL400 / AL055

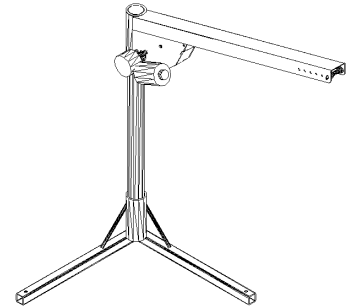
Installation Guide & Owners Manual



AL200 Manual Rotation Lift



AL400 Fully Powered Lift



AL055 Economy Lift

Congratulations on your new lift purchase. The Universal Inside Lift line is one of the easiest and most trouble free ways to transport your scooter or power chair. This manual is written to be used both as an installation guide as well as an operation guide for the end user. Please read the manual thoroughly BEFORE attempting any installation, adjustment or use of the lift.

Both installers and operators should familiarize themselves with this entire manual.

The manual will be divided into the following sections for easy reference;

- Section 1 - Unpacking the Lift
- Section 2 - Vehicle Preparation
- Section 3 - Wiring the Vehicle
- Section 4 - AL200 Installation & Operation
- Section 5 - AL400 Installation & Operation
- Section 6 - AL055 Installation & Operation
- Section 7 - Safety & Maintenance

If you have any questions or comments concerning the installation or operation of your scooter lift, please contact your local distributor for additional technical information. Only authorized dealers should install this lift.

Caution: *Some scooters and power chairs may be unsuitable for transport in or on a motor vehicle. Please contact the manufacturer of your mobility device to determine its transportability.*

Section 1 - Unpacking the Lift

Your Fully Powered Inside Lift was factory pre-assembled to require little assembly before installation.

AL200 / AL400 Box contents should include:

Package Check List

- Lifting Arm (# 1)
- Standard Post (# 2)
- Base (# 3)
- Strap & Hook Assembly (# 4,5,6)
- Leg Extensions (#9)

Hardware Package

- Contents include:
- Vehicle Wiring Harness (# 7)
- Hand Control (#8)
- 3 - Installation Washers
- Required Fasteners
- Black zip ties

Figure 1.1
AL200 Universal Inside Lift

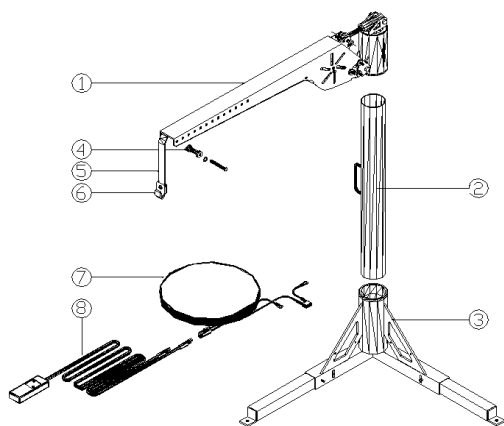


Figure 1.2
AL400 Fully Powered Lift

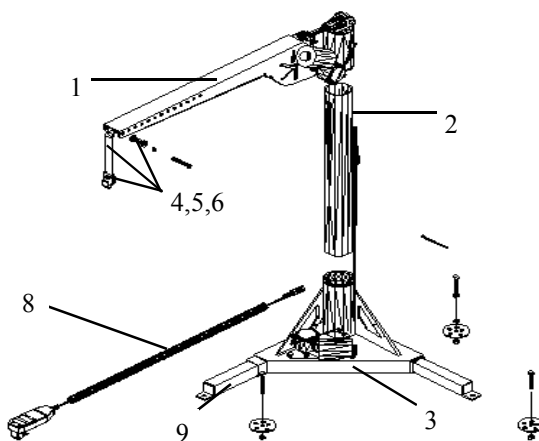
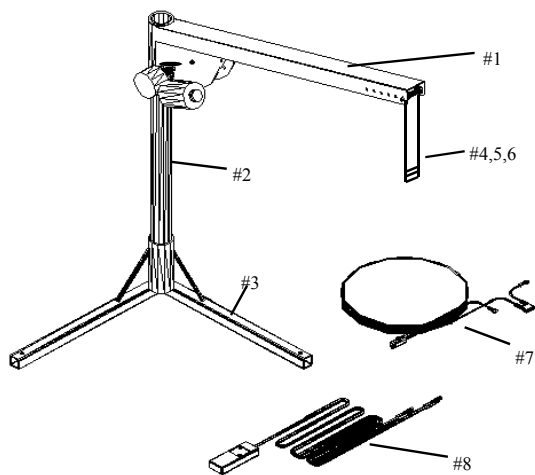


Figure 1.3
AL055 Economy Lift



Package Check List

- Lifting Arm (# 1)
- Post (# 2)
- Base (# 3)
- Strap & Hook Assembly (# 4,5,6)

Hardware Package

- Contents include:
- Vehicle Wiring Harness (# 7)
- Switch Harness (#8)
- 3 - Installation Washers
- Required Fasteners
- Black zip ties

Be sure and check the contents of the box against the package check list to be sure that all parts are included with the lift that are required for proper installation. If any parts are missing or if any damage is noted, immediately contact the distributor from which you purchased your lift. DO NOT attempt to install or use the lift with any missing or damaged parts.

Section 2 - Vehicle Preparation

The Inside Lift has been designed with the shortest height and smallest footprint requirements to allow maximum room for the loading and unloading of your scooter or power chair. If there is 30" of headroom and room for the scooter or chair in the vehicle, then our lift should be able to be installed and operate properly. (The AL055 requires 37" of headroom unless the post is cut for smaller openings)

- To obtain the ideal mounting location and avoid possible interference, the lift should be pre-assembled and "trial fit" in the desired installation location. This procedure may require two people, one person to hold the lift in the desired position and another to move the Lifting Arm through its full range of motion. Please refer to Figure #1.1—1.3 for the parts identification and exploded view of the lift. The Inside Lifts have been engineered so that it can easily be configured as a solution for most applications. This "trial fit" will also help you determine where the Vehicle Wiring Harness will be run.

Hint: *It is always best to check with the customer when determining lift placement and ask permission before drilling through the vehicle's floor.*

- **Typical Applications**
 - Car Trunk—AL200 and AL055 only
 - Rear Cargo Area—for most vans and SUV's.
 - Side Door—for use on either side door of a van.
 - Tailgate applications for SUV's, Station Wagons and Trucks using the offset arm conversion option. (Except AL055)

NOTE: The base should be mounted as far to the rear corner of the vehicle as possible in most rear mount applications. This allows for the maximum reach of the lifting arm.

There are some vehicles that, due to their setup, will not accommodate a standard lift installation. Please check for the following:

- Vehicle must have 30" **clear headroom** for operation. Be sure and check during "trial fit" that a full range of motion can be achieved without any roof or lift gate interference. (37" headroom required for AL055)
- Spare tire storage—Some vehicles store the spare tire under the floor of the vehicle. Make sure that the base can be bolted through to a steel floor or frame.
- Some vehicles have been manufactured with a "false floor" which is made of composite materials. The lift must be anchored to a steel floor or frame.
- Trunk applications must be secured to a flat trunk floor. (AL200 and AL055 only) Make sure that there are not deep wells in the trunk that will affect placement of the base. Most of these can be overcome.
- Offset Arm Applications (Except AL055) - The offset arm allows the lifting arm to reach around to the side of the vehicle. This allows the loading and unloading of the scooter or power chair when there is a tailgate to contend with or when the base location does not allow a straight post to be used. Many times this application is referred to as a "curbside" installation. (See Figure #4.2 or #5.3)

Trial Fit Procedure:

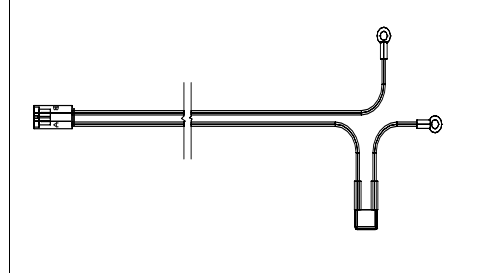
- Place the assembled lift as it is configured in the shipping carton into the desired location.
 - When using the Offset Post Conversion, bolt the Lifting Arm to the Post using the supplied 3-3/4" Hex bolt and lock nut. The offset arm can be configured to left side or right side applications by bolting the Lifting Arm to the Offset Post in either orientation.
- Raise the Lifting Arm to achieve to an 1/8" clearance to the lowest point of the vehicle's roof that the Lifting Arm will encounter during its travel (usually the door opening or rear A/C vents).
- On the AL200 and AL400, unscrew the Adjustable Link to provide the desired height of the Lifting Arm and bolt the two components together using the supplied 3/8" x 2" hex bolt, washers and 3/8" Stover lock nut—no nylon.
- Mark the desired position for installation including the power wire and proceed to the wiring Section #3.

Installing the Vehicle Wiring Harness

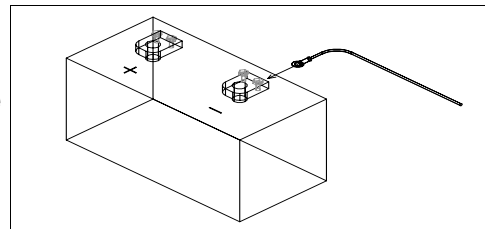
Important Note: IMPROPER WIRING IS THE #1 CAUSE OF PROBLEMS IN THE OPERATION OF A VEHICLE LIFT. FOLLOW THE WIRING INSTRUCTIONS CAREFULLY

Located in the hardware package is the vehicle wiring harness. The harness is manufactured to, and complies with the SAE J1128 requirements. The wire harness is approximately 23 ft. long and will accommodate most vehicles.

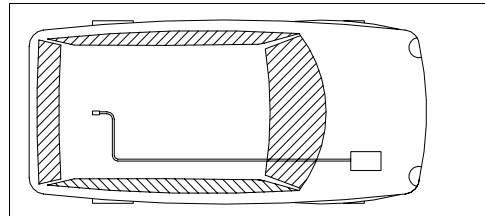
1. Unwind the harness and lay it flat. One end of the harness has a black plug. This is the lift end of the harness and goes to the back of the vehicle.



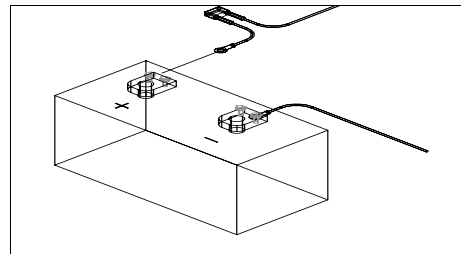
2. Begin routing the wiring harness at the vehicle battery. Attach the black wire to the negative terminal on the battery. **Do not attach the red wire yet.**



3. Run the wiring harness under or when possible through the vehicle, back to the lift. If you need to pass the wiring through a fire wall or hole in the vehicle you may cut the double wire and reassemble it with butt connectors. Always locate the wiring harness where it can not be snagged by road debris and away from the vehicles gas tank.



4. 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.
5. Attach the red wire to the positive terminal on the battery.



Important Reminder: Never attempt to attach the wire harness to a secondary power source, The lift requires direct connection to the battery.

Caution: When the installation requires the wiring harness be run on the underside of a vehicle, route the harness away from the exhaust system, brake lines, fuel lines, gas tank, pinch points, and sharp edges. Locate the wiring harness where it can not be snagged by road debris.

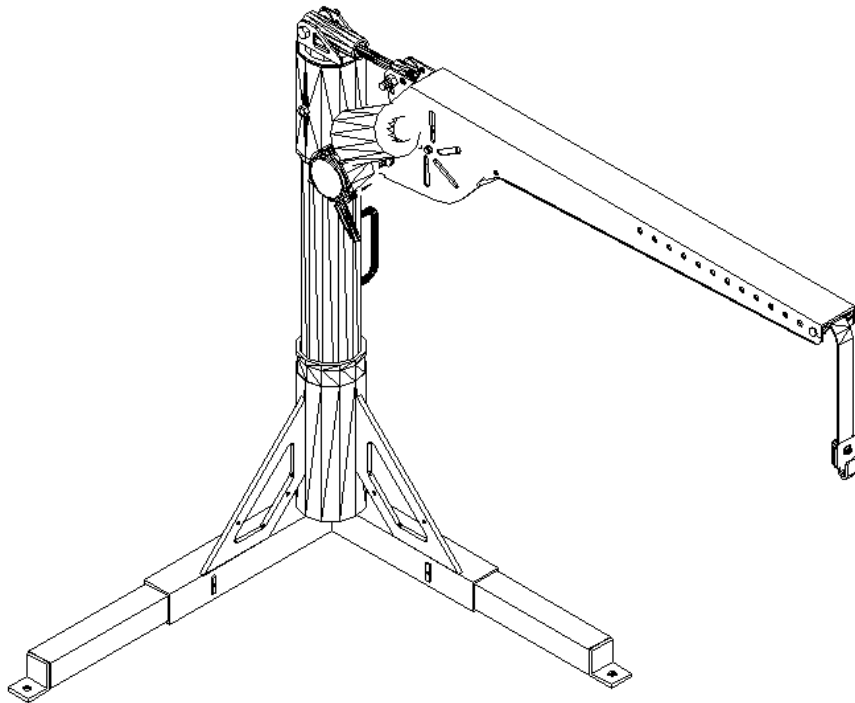
Manufactures Recommendation: Schedule a routine maintenance visit with the end user. Har-mar recommends the lift be greased in the applicable areas, and the wire harness connections be checked for corrosion, and/or decay, as such conditions are normal due to environ-

Section #4

Installation & Users Manual

AL200

Universal Inside Lift



Section 4 - Installing the AL200 Lift

- You should have established a mounting position for the lift during the “trial fit” as described in Section #2 of this manual. If not, it is recommended that you go through that procedure.
- Mount the lift in the location determined during the “trial fit” in the vehicle. The Leg Extensions in the Base telescope in and out to avoid potential obstacles. For heavy application, pull the Leg Extensions out as far as is practical for increased base stability. Mark the 3 mounting hole locations or use the Base as a guide and drill holes using a 3/8” drill bit. Bolt the Base to the floor of the vehicle using the supplied 3/8” x 3” hex bolt in the corner, two 3/8” x 2” hex bolts for each Leg. Use the supplied multi-hole Installation Washers on the underside to help reinforce the vehicle’s floor, see Figure #4.1. Replace an Installation Washer with a 3/8” fender washer if necessary due to size constraints. Secure the Telescoping Legs by tightening the 2 set screws on the inside of the base. Hint: Variations in the flatness of the vehicle’s floor can be compensated for by adding 3/8” washers to the mounting hardware under the base. Always mount the base so it is level.

Caution! If the set screws on the base do not contact the Leg Extensions, they are telescoped out too far and must be moved into the Base further.

Caution! Avoid the vehicle wiring, fuel lines, fuel tanks, spare tires, etc. when drilling holes for mounting hardware!

- The Hand Control has two plugs on it. One, the male plug, attaches to the Vehicle Wiring Harness that was installed earlier. The other, the female plug, attaches to the motor on the lifting arm. At this time, reconnect the vehicle’s ground (-) cable on the battery.
- Tie the long leads of the Hand Control Harness to the Post using the plastic ties where necessary. This step will be skipped when using the lift in a “Take Apart” configuration, as the Lifting Arm and the Post must be disassembled.
- Follow the Operator Instructions in Section #5 to Load and Unload the scooter or chair from the vehicle to test operation and clearances.
- Determine if the scooter or chair will need to be moved closer to the lift or further from the side of the vehicle. This will be done by adjusting the location of the Strap Roller on the Lifting Arm. The Lifting Arm is factory pre-assembled with the strap out at the furthest extent and may need to be adjusted to fit a particular application.
- Measure the distance the scooter should be moved to clear any obstacles.
- To move the Strap Roller, remove the Split Ring (like on a key chain) from the Clevis Pin. Pull out the Clevis Pin and Strap Roller and replace it in the desired hole location. Holes on the Lifting Arm are on one inch centers.
- Recheck all fasteners.

Refer to the instructions included with your docking device for information on preparing the scooter or power chair for use with the Universal Inside Lift.

Figure #4.1
Installation of Base

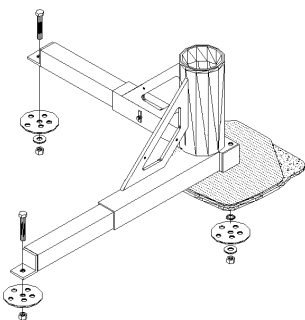


Figure #4.2
Offset Post Option

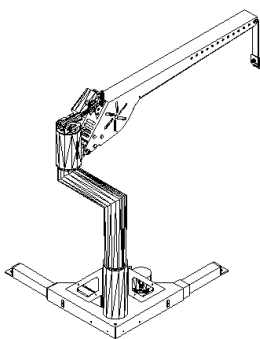
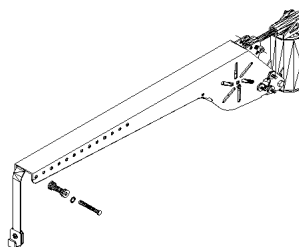


Figure #4.3
Adjustable strap on Lifting Arm



Section 4 - Operating the AL200 Lift

Trunk Applications:

Operational Guidelines:

- Inspect the Lifting Strap prior to each use. Contact your distributor if it shows signs of wear or fraying.
- Do not operate this lift until you dealer has satisfactorily instructed you in the proper operation of this lift.
- Always make sure the vehicle's parking brake is firmly set before operation.
- Keep hands and feet from under the scooter or power chair as it is being lifted.
- Take care not to hold one of the buttons on the Hand Controller until the Lifting Strap switches direction. The UP button should always pull the strap up and vice versa. If your buttons cause opposite movement, contact your distributor.

Loading your Scooter or Power Chair —Trunk Applications

Note: Due to the wide variety of scooters, power chairs and vehicles, your dealer may offer a different method for Loading and Unloading your scooter. Please follow the guidelines they have offered.

- To assemble your lift, begin by inserting the Post into the Base mounted on the floor. Next, slide the Lifting Arm onto the top of the Post.
- Plug the Hand Control into the lifting arm and into the Vehicle Harness.
- Swing the Lifting Arm out of the vehicle toward the scooter.
- Maneuver the scooter parallel to the rear bumper and two inches behind the vehicle. Depending on the vehicle, it may be necessary to: remove the seat; fold down or remove the handle bar; remove accessories such as brackets, baskets, crutch holders, etc.
- With the docking device positioned directly under the Strap Hook, lower the Lifting Strap using the DOWN button on the Hand Control until the Strap Hook can be engaged into the docking device installed on the scooter or chair. Hook the docking device on the scooter or chair with the Strap Hook and remove any play in the strap by pushing the UP button on the Hand Control until tension is felt.

Caution: Ensure that the Lifting Strap is secure and taught and that it points straight down. Failure to do so could result in the scooter or chair swinging toward the operator of the vehicle.

- Raise the scooter or chair using the UP button until the scooter or chair is just above the trunk lip.

Caution: Stop lifting before the Strap Hook contacts the Strap Roller mounted on the Lifting Arm. Contact will result in damage to the lift. A properly adjusted and operated lift will avoid this.

- Swing the scooter or chair into the vehicle, ensuring that the scooter or chair does not contact the vehicle.
- With the scooter or chair positioned above its stowed position, lower the lift using the DOWN button on the Hand Controller. Continue lowering the Strap Hook slightly beyond the scooter touching the floor to allow removal of the Strap Hook from the Docking Device on the scooter or chair.
- To disassemble the lift, first raise the strap until the freed Strap Hook is about an inch away from the Lifting Arm. Unplug the Hand Control harness from both the Vehicle Harness and the Lifting Arm.
- Pull the Lifting Arm off the Post and lay it on the floor of the trunk. Then, pull the Post out of the Base using the handle and set it down with the Lifting Arm.

Section 4 - Operating the AL200 Lift continued

Trunk Applications

- If preparations needed to be made to secure the scooter or chair for transport, such as parking brakes or wheel chocks, do these now. Dealers should instruct operators on how, if necessary, to secure the scooter or chair for transport. Close the trunk and you are ready to go.

Unloading Your Scooter or Power Chair —Trunk Applications

- Undo any preparations made to secure the scooter or power chair for transport.
- To assemble your lift, begin by inserting the Post into the Base mounted on the floor. Next, slide the Lifting Arm onto the Post.
- Plug in the Hand Control.
- By pressing the DOWN button on the Hand Control harness, run the Strap Hook down until it is slightly lower than the docking device on the scooter.
- Attach the Strap Hook to the docking device on the scooter or chair and remove any play in the strap by pressing the UP button on the Hand Control until tension is felt.

Caution: *Ensure that the Lifting Strap is secure and taught and that it points straight down. Failure to do so could result in the scooter or chair swinging toward the vehicle or operator.*

- Raise the scooter or power chair using the UP button until the scooter or chair is just above the trunk lip.

Caution: *Stop lifting before the Strap Hook contacts the Strap Roller mounted on the Lifting Arm. Contact will result in damage to the lift. A properly adjusted and operated lift will avoid this.*

- Swing the scooter or chair out of the vehicle, carefully ensuring that the scooter does not contact the vehicle.
- With the scooter or chair positioned away from the vehicle, lower the lift using the DOWN button. Continue lowering the lift slightly beyond the scooter or chair touching the ground to allow removal of the Strap Hook from the docking device on the scooter.
- To disassemble the lift, first raise the Lifting Strap until the freed Strap Hook is about an inch away from the Lifting Arm. Unplug the Hand Control harness from both the Vehicle Harness and the Lifting Arm.
- Pull the Lifting Arm off of the Post and lay it on the floor of the trunk. Then pull the Post out of the Base using the handle and set it down with the Lifting Arm.

Replace anything removed from the scooter or chair for loading purposes. Close the trunk and you are ready to go.

Section 4 - Operating the AL200 Lift Enclosed Vehicle Applications:

Operational Guidelines:

- Inspect the Lifting Strap prior to each use. Contact your distributor if it shows signs of wear or fraying.
- Do not operate this lift until you dealer has satisfactorily instructed you in the proper operation of this lift.
- Always make sure the vehicle's parking brake is firmly set before operation.
- Keep hands and feet from under the scooter or power chair as it is being lifted.
- Take care not to hold one of the buttons on the Hand Controller until the Lifting Strap switches direction. The UP button should always pull the strap up and vice versa. If your buttons cause opposite movement, contact your distributor.

Loading your Scooter or Power Chair —Enclosed Vehicle Applications

Note: Due to the wide variety of scooters, power chairs and vehicles, your dealer may offer a different method for Loading and Unloading your scooter. Please follow the guidelines they have offered.

- Unhook the Strap Hook or optional C-Arm from the gusset on the Base (recommended stowed position).
- Swing the Lifting Arm out of the vehicle toward the scooter.
- Maneuver the scooter parallel to the rear bumper and two inches behind the vehicle. Depending on the vehicle, it may be necessary to: remove the seat; fold down or remove the handle bar; remove accessories such as brackets, baskets, crutch holders, etc.

Note: When using the Offset Post Conversion, position the scooter on the side of the vehicle parallel to the vehicle with the front tires even with the vehicle's rear bumper.

- With the docking device positioned directly under the Strap Hook, lower the Lifting Strap using the DOWN button on the Hand Control until the Strap Hook (or C-Arm) can be engaged into the docking device installed on the scooter or chair. Hook the docking device on the scooter or chair with the Strap Hook and remove any play in the strap by pushing the UP button on the Hand Control until tension is felt.

Caution: Ensure that the Lifting Strap is secure and taught and that it points straight down. Failure to do so could result in the scooter or chair swinging toward the operator of the vehicle.

- Raise the scooter or chair using the UP button until the scooter or chair is just above the highest obstacle. This is usually the van floor, door sill or tailgate.

Caution: Stop lifting before the Strap Hook contacts the Strap Roller mounted on the Lifting Arm. Contact will result in damage to the lift. A properly adjusted and operated lift will avoid this.

- Swing the scooter or chair into the vehicle, ensuring that the scooter or chair does not contact the vehicle.
- With the scooter or chair positioned above its stowed position, lower the lift using the DOWN button on the Hand Controller. The scooter or chair should be lowered until it is sitting firmly on the floor but the strap should remain taut. This facilitates a quicker and easier unloading of the scooter later.

Caution: Ensure that the scooter or chair is firmly sitting on the floor and not suspended by the lift

If preparations need to be made to secure the scooter or power chair for transport, such as parking brakes or wheel chocks, do these now. Dealers should instruct operators on how, if necessary to secure the scooter or chair for transport. Place the Hand Control on the Velcro mounting pad and close the doors or tailgate and you are ready to go.

Section 4 - Operating the AL200 Lift continued Enclosed Vehicle Applications

Unloading Your Scooter or Power Chair —Enclosed Vehicle Applications

- Undo any preparations made to secure the scooter or power chair for transport.
- Raise the scooter or chair by pressing the UP button on the Hand Control until the tires are high enough to clear the highest obstacle, usually the door sill or tailgate.

Caution: *Stop lifting before the Strap Hook contacts the Strap Roller mounted on the Lifting Arm. Contact will result in damage to the lift. A properly adjusted and operated lift will avoid this.*

- Swing the scooter or chair out of the vehicle, carefully ensuring that the scooter does not contact the vehicle.
- With the scooter or chair positioned away from the vehicle, lower the lift using the DOWN button. Continue lowering the lift slightly beyond the scooter or chair touching the ground to allow removal of the Strap Hook from the docking device on the scooter.

Caution: *Do not allow the scooter or chair to come in contact with the vehicle. Damage may result to both the vehicle AND the operator.*

Replace anything removed from the scooter or chair for loading purposes. Swing the Lifting Arm back into the vehicle and place the Hand Control on the Velcro mounting pad. Close the doors or tailgate and you are ready to go.

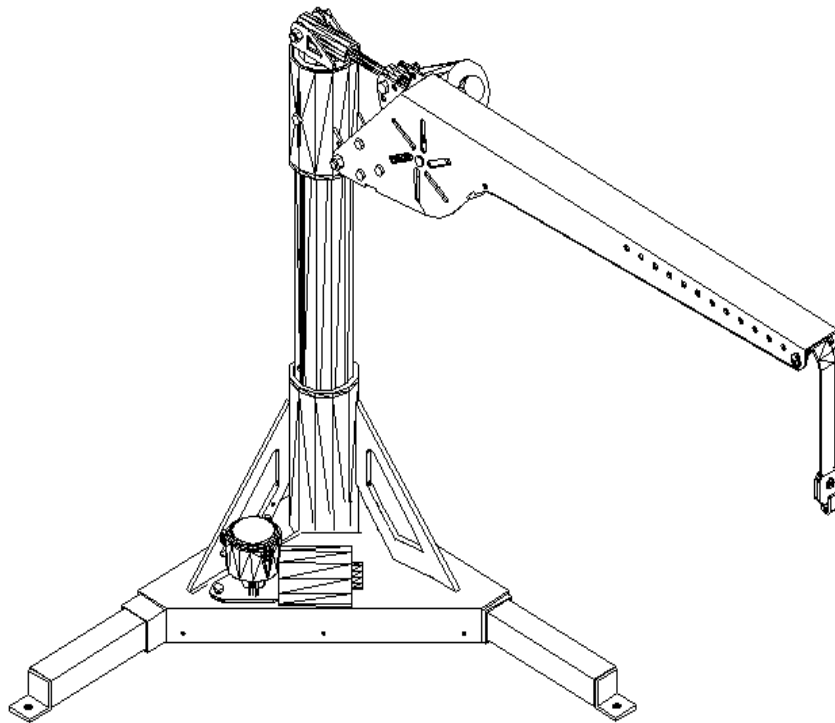
PLEASE PROCEED TO SECTION #7 FOR SAFETY AND MAINTENANCE INFORMATION.

Section 5

Installation & Users Guide

AL400

Fully Powered Lift



Section 5 - Installing the AL400 Fully Powered Lift

- You should have established a mounting position for the lift during the "trial fit" as described in Section #2 of this manual. If not, it is recommended that you go through that procedure.

Note: The Base should be mounted as far to the rear corner of the vehicle as possible in most rear mount applications.

- Mount the lift in the location determined during the "trial fit" in the vehicle. The Leg Extensions in the Base telescope in and out to avoid potential obstacles. For heavy applications, pull the Leg Extensions out as far as is practical for increased base stability. Mark the 3 mounting hole locations or use the Base as a guide and drill holes using a 3/8" drill bit. Bolt the Base to the floor of the vehicle using the supplied 3/8" x 3" hex bolt in the corner, two 3/8" x 2" hex bolts for each Leg. Use the supplied multi-hole Installation Washers on the underside to help reinforce the vehicle's floor, see Figure #5.2. Replace an Installation Washer with a 3/8" fender washer if necessary due to size constraints. Secure the Telescoping Legs by tightening the 2 set screws on the inside of the base.

Hint: Variations in the flatness of the vehicle's floor can be compensated for by adding 3/8" washers to the mounting hardware under the base. **VERY IMPORTANT!!! Always mount the base so it is level.**

Caution! If the set screws on the base do not contact the Leg Extensions, they are telescoped out too far and must be moved into the Base further.

Caution! Avoid the vehicle wiring, fuel lines, fuel tanks, spare tires, etc. when drilling holes for mounting hardware!

Figure 5.1
Power Base

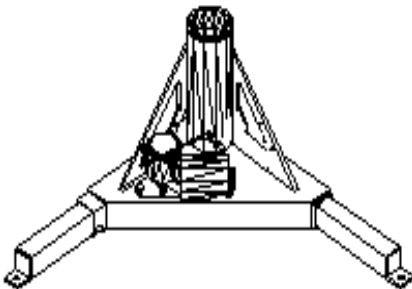
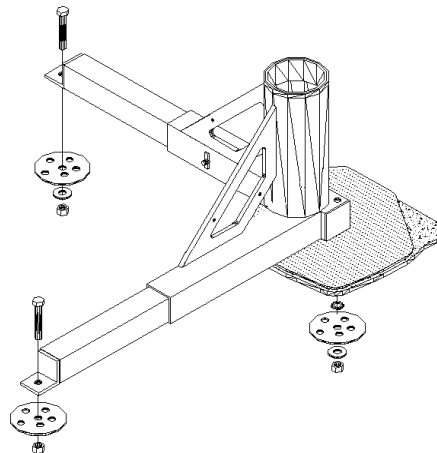


Figure 5.2
Installation of Base



- Place the assembled lift as it is configured in the shipping carton into the desired location.
- Bolt the Lifting Arm to the Post using the supplied 5/16" x 3-3/4" hex bolt and lock nut.
- Raise the Lifting Arm to achieve an 1/8" clearance to the lowest point of the vehicle's roof that the lifting arm will encounter during its travel (usually the door opening or rear A/C vents).
- Unscrew the Adjustable Link to provide the desired height of the lifting Arm and bolt the two components together using the supplied 3/8" x 2" hex bolt, two 3/8" washers and one 3/8" Stover lock nut (no nylon).
- The lift has been wired with a Hand Control Harness. The short red lead from the Hand Control Harness plugs into the Vehicle Wiring Harness to power the lift.
- Plug the 6 prong connector on the Hand Control into the 6 prong plug on the Hand Control harness located near the base of the lift. This quick connect plug will allow you to remove the Hand Control while not in use if desired.

Section 5 - Installing the AL400 Continued

IMPORTANT! Make sure that the Post is seated completely down into the white Power Base bushing. If there is any wobble to the post, rotate it in the base bushing until it drops completely onto the pin located in the bottom of the base unit. **DO NOT ATTEMPT TO OPERATE THE LIFT IF THE POST IS NOT SECURELY SEATED IN THE BASE!** THIS MAY CAUSE DAMAGE TO THE ROTATING MOTOR AND WILL NOT BE COVERED UNDER WARRANTY!

NOTE: The lift is factory set to rotate 190 degrees for passenger (right) side applications. However, the lift can be configured for right or left side applications by changing the orientation of the Post. This can be accomplished using the following steps:

1. Pull out the Bolt from the bottom of the Post by removing lock nut and pulling the bolt through.
2. Press the OUT button until the motor hits the rotation limit and stops rotation (the lift stops itself). Because the Shear Pin is removed, the Lifting Arm is not coupled to the Power Base and may not turn on its own. Position the Lifting Arm manually so it is pointing straight out the back of the vehicle.

Figure 5.3
Offset Post Option

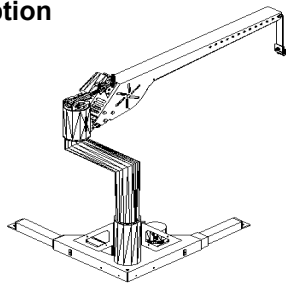
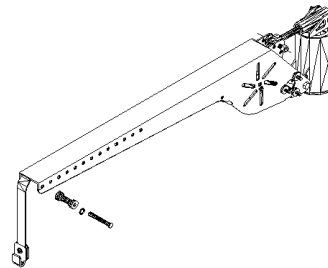


Figure 5.4
Adjustable Strap



3. The hole for the bolt in the Post should be lined up to allow the bolt to be inserted. Insert the bolt and put lock nut on the end. You may need to rotate the Lifting Arm slightly to get the holes to line up.
4. Using the Hand Control, swing the Lifting Arm through its entire range of motion to check for interference. Also, close any doors to check that the lift does not interfere. Adjust the Power Base location and Lifting Arm height as necessary. The Lifting Arm should rotate until it is pointing straight out the back of the vehicle and then stop itself.

NOTE: When using the Offset Arm Conversion, the Lifting Arm should rotate until it is pointing perpendicular to the side of the vehicle and stop itself. Also, pay particular attention that the Lifting Arm rotates in far enough to load the scooter.

- Follow the Operator Instructions to Load and Unload the scooter or chair from the vehicle to test operation and clearances.
- Determine if the scooter or chair will need to be moved closer to the lift or further from the side of the vehicle. This will be done by adjusting the location of the Strap Roller on the Lifting Arm. The Lifting Arm is factory pre-assembled with the strap out at the furthest extent and may need to be adjusted to fit a particular application.
- Measure the distance the scooter should be moved to clear any obstacles.
- To move the Strap Roller, remove the Split Ring (like on a key chain) from the Clevis Pin. Pull out the Clevis Pin and Strap Roller and replace it in the desired hole location. Holes on the Lifting Arm are on one inch centers. (See Figure #5.4)
- Recheck all fasteners.

Refer to the instructions included with your docking device for information on preparing the scooter or power chair for use with the Universal Inside Lift.

Section 5 - Operating the AL400 Lift

Operational Guidelines:

- Inspect the Lifting Strap prior to each use. Contact your distributor if it shows signs of wear or fraying.
- Do not operate this lift until you dealer has satisfactorily instructed you in the proper operation of this lift.
- Always make sure the vehicle's parking brake is firmly set before operation.
- Keep hands and feet from under the scooter or power chair as it is being lifted.
- Take care not to hold one of the buttons on the Hand Control until the Lifting Strap switches direction. The UP button should always pull the strap up and vice versa. If your buttons cause opposite movement, contact your distributor.

Loading your Scooter or Power Chair

Note: Due to the wide variety of scooters, power chairs and vehicles, your dealer may offer a different method for Loading and Unloading your scooter. Please follow the guidelines they have offered.

Note: The Hand Control may be removed between uses by unplugging the 6 prong plug from the hand control harness. Simply reverse this process to reattach the Hand Control to the lift. The lift can not be operated without the Hand Control plugged in.

- Unhook the Strap Hook or optional C-Arm from the gusset on the Base (recommended stowed position).
- Using the OUT button on the Hand Control, swing the Lifting Arm out of the vehicle toward the scooter.
- Maneuver the scooter parallel to the rear bumper and two inches behind the vehicle. Depending on the vehicle, it may be necessary to: remove the seat; fold down or remove the handle bar; remove accessories such as brackets, baskets, crutch holders, etc.

Note: When using the Offset Post Conversion, position the scooter on the side of the vehicle parallel to the vehicle with the front tires even with the vehicle's rear bumper.

- If preparations need to be made to secure the scooter or power chair for transport, such as parking brakes or wheel chocks, do these now. Dealers should instruct operators on how, if necessary to secure the scooter or chair for transport. Hook the Hand Control on the top of the Post and close the doors or tailgate and you are ready to go.
- With the docking device positioned directly under the Strap Hook, lower the Lifting Strap using the DOWN button on the Hand Control until the Strap Hook (or C-Arm) can be engaged into the docking device installed on the scooter or chair. Hook the docking device on the scooter or chair with the Strap Hook and remove any play in the strap by pushing the UP button on the Hand Control until tension is felt.

Caution: Insure that the Lifting Strap is secure and taught and that it points straight down. Failure to do so could result in the scooter or chair swinging toward the operator of the vehicle.

- Raise the scooter or chair using the UP button until the scooter or chair is just above the highest obstacle. This is usually the van floor, door sill or tailgate.

Caution: Stop lifting before the Strap Hook contacts the Strap Roller mounted on the Lifting Arm. Contact will result in damage to the lift. A properly adjusted and operated lift will avoid this.

- Using the IN button on the Hand Control, swing the scooter or chair into the vehicle, insuring that the scooter or chair does not contact the vehicle.
- With the scooter or chair positioned above its stowed position, lower the lift using the DOWN button on the Hand Controller. The scooter or chair should be lowered until it is sitting firmly on the floor but the strap should remain taut. This facilitates a quicker and easier unloading of the scooter later.

Caution: Insure that the scooter or chair is firmly sitting on the floor and not suspended by the lift.

Section 5 - Operating the AL400 Lift continued

Unloading Your Scooter or Power Chair

- Undo any preparations made to secure the scooter or power chair for transport.
- Raise the scooter or chair by pressing the UP button on the Hand Control until the tires are high enough to clear the highest obstacle, usually the door sill or tailgate.

Caution: *Stop lifting before the Strap Hook contacts the Strap Roller mounted on the Lifting Arm. Contact will result in damage to the lift. A properly adjusted and operated lift will avoid this.*

- Using the OUT button on the Hand Control, swing the scooter or chair out of the vehicle, carefully insuring that the scooter does not contact the vehicle.
- With the scooter or chair positioned away from the vehicle, lower the lift using the DOWN button. Continue lowering the lift slightly beyond the scooter or chair touching the ground to allow removal of the Strap Hook from the docking device on the scooter.

Caution: *Do not allow the scooter or chair to come in contact with the vehicle. Damage may result to both the vehicle AND the operator.*

Replace anything removed from the scooter or chair for loading purposes. Raise the strap first using the IN button on the Hand Control and swing the Lifting Arm back into the vehicle. Close the doors or tailgate and you are ready to go.

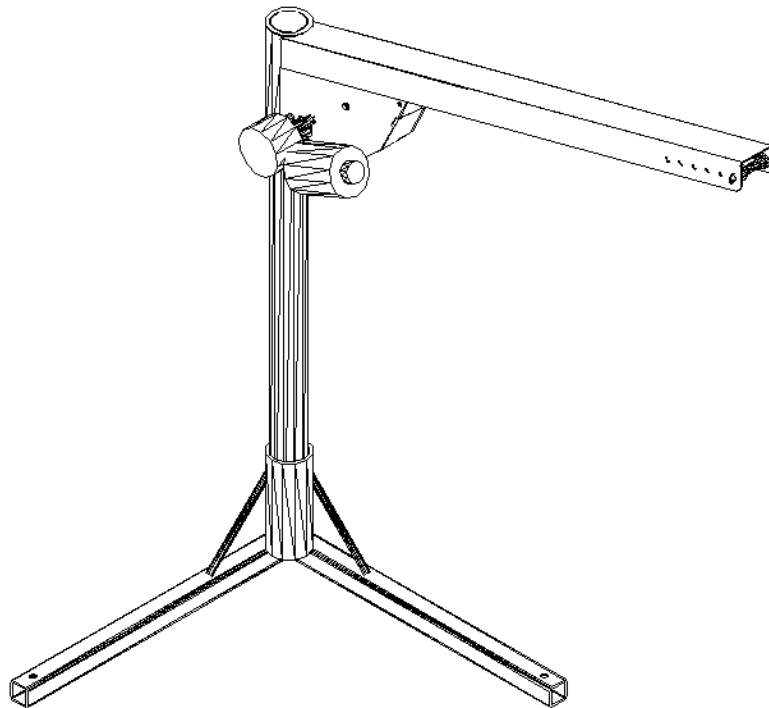
PLEASE PROCEED TO SECTION #7 FOR SAFETY AND MAINTENANCE INFORMATION.

Section #6

Installation & Users Guide

AL055

Economy Inside Lift



Section 6 - Installing the AL055 Economy Lift

- You should have established a mounting position for the lift during the “trial fit” as described in Section #2 of this manual. If not, it is recommended that you go through that procedure.
- Mount the lift in the location determined during the “trial fit” in the vehicle. Mark the 3 mounting hole locations or use the Base as a guide and drill holes using a 3/8” drill bit. Bolt the Base to the floor of the vehicle using the supplied 3/8” x 3” hex bolt in the corner, two 3/8” x 2” hex bolts for each Leg. Use the supplied multi-hole Installation Washers on the underside to help reinforce the vehicle’s floor, see Figure # 6.1. Replace an Installation Washer with a 3/8” fender washer if necessary due to size constraints. Secure the Legs by tightening the 2 set screws on the inside of the base.

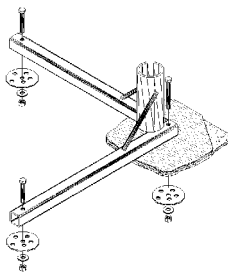
Hint: Variations in the flatness of the vehicle’s floor can be compensated for by adding 3/8” washers to the mounting hardware under the base. Always mount the base so it is level.

Caution! Avoid the vehicle wiring, fuel lines, fuel tanks, spare tires, etc. when drilling holes for mounting hardware!

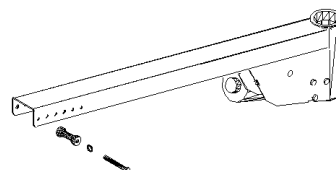
- Once the base has been mounted, place the Post into the nylon bushing that is located in the base.
- When the Post is properly seated in the Base, place the Lifting Arm onto the Post until it rests on the Adjustment Collar located on the Post. Adjust the height of the Lifting Arm by loosening the hex screw on the Adjustment Collar, move the Lifting Arm to the desired height and retighten the collar.
- The Hand Control has two plugs on it. The male plug attaches to the Vehicle Wiring Harness that was installed earlier. The other, the female plug, attaches to the motor on the lifting arm. At this time, reconnect the vehicle’s ground (-) cable on the battery.
- Tie the long leads of the Hand Control Harness to the Post using the plastic ties where necessary. This step will be skipped when using the lift in a “Take Apart” configuration, as the Lifting Arm and the Post must be disassembled.
- Follow the Operator Instructions in this section to Load and Unload the scooter or chair from the vehicle to test operation and clearances.
- Determine if the scooter or chair will need to be moved closer to the lift or further from the side of the vehicle. This will be done by adjusting the location of the Strap Roller on the Lifting Arm. The Lifting Arm is factory pre-assembled with the strap out at the furthest extent and may need to be adjusted to fit a particular application.
- Measure the distance the scooter should be moved to clear any obstacles.
- To move the Strap Roller, remove the Split Ring (like on a key chain) from the Clevis Pin. Pull out the Clevis Pin and Strap Roller and replace it in the desired hole location. Holes on the Lifting Arm are on one inch centers. See Figure #6.2
- Recheck all fasteners.

Refer to the instructions included with your docking device for information on preparing the scooter or power chair for use with the Universal Inside Lift.

**Figure # 6.1
Base Installation**



**Figure # 6.2
Adjustable Strap**



Section 6 - Operating the AL055 Economy Lift

Trunk Applications:

Operational Guidelines:

- Inspect the Lifting Strap prior to each use. Contact your distributor if it shows signs of wear or fraying.
- Do not operate this lift until you dealer has satisfactorily instructed you in the proper operation of this lift.
- Always make sure the vehicle's parking brake is firmly set before operation.
- Keep hands and feet from under the scooter or power chair as it is being lifted.
- Take care not to hold one of the buttons on the Hand Controller until the Lifting Strap switches direction. The UP button should always pull the strap up and vice versa. If your buttons cause opposite movement, contact your distributor.

Loading your Scooter or Power Chair —Trunk Applications

Note: Due to the wide variety of scooters, power chairs and vehicles, your dealer may offer a different method for Loading and Unloading your scooter. Please follow the guidelines they have offered.

- To assemble your lift, begin by inserting the Post into the Base mounted on the floor. Next, slide the Lifting Arm onto the top of the Post.
- Plug the Hand Control into the lifting arm and into the Vehicle Harness.
- Swing the Lifting Arm out of the vehicle toward the scooter.
- Maneuver the scooter parallel to the rear bumper and two inches behind the vehicle. Depending on the vehicle, it may be necessary to: remove the seat; fold down or remove the handle bar; remove accessories such as brackets, baskets, crutch holders, etc.
- With the docking device positioned directly under the Strap Hook, lower the Lifting Strap using the DOWN button on the Hand Control until the Strap Hook can be engaged into the docking device installed on the scooter or chair. Hook the docking device on the scooter or chair with the Strap Hook and remove any play in the strap by pushing the UP button on the Hand Control until tension is felt.

Caution: Ensure that the Lifting Strap is secure and taught and that it points straight down. Failure to do so could result in the scooter or chair swinging toward the operator of the vehicle.

- Raise the scooter or chair using the UP button until the scooter or chair is just above the trunk lip.

Caution: Stop lifting before the Strap Hook contacts the Strap Roller mounted on the Lifting Arm. Contact will result in damage to the lift. A properly adjusted and operated lift will avoid this.

- Swing the scooter or chair into the vehicle, ensuring that the scooter or chair does not contact the vehicle.
- With the scooter or chair positioned above its stowed position, lower the lift using the DOWN button on the Hand Controller. Continue lowering the Strap Hook slightly beyond the scooter touching the floor to allow removal of the Strap Hook from the Docking Device on the scooter or chair.
- To disassemble the lift, first raise the strap until the freed Strap Hook is about an inch away from the Lifting Arm. Unplug the Hand Control harness from both the Vehicle Harness and the Lifting Arm.
- Pull the Lifting Arm off the Post and lay it on the floor of the trunk. Then, pull the Post out of the Base and set it down with the Lifting Arm.

Section 6 - Operating the AL055 Lift continued

Trunk Applications:

- If preparations needed to be made to secure the scooter or chair for transport, such as parking brakes or wheel chocks, do these now. Dealers should instruct operators on how, if necessary, to secure the scooter or chair for transport. Close the trunk and you are ready to go.

Unloading Your Scooter or Power Chair—Trunk Applications

- Undo any preparations made to secure the scooter or power chair for transport.
- To assemble your lift, begin by inserting the Post into the Base mounted on the floor. Next, slide the Lifting Arm onto the Post.
- Plug in the Hand Control.
- By pressing the DOWN button on the Hand Control harness, run the Strap Hook down until it is slightly lower than the docking device on the scooter.
- Attach the Strap Hook to the docking device on the scooter or chair and remove any play in the strap by pressing the UP button on the Hand Control until tension is felt.

Caution: *Ensure that the Lifting Strap is secure and taught and that it points straight down. Failure to do so could result in the scooter or chair swinging toward the vehicle or operator.*

- Raise the scooter using the UP button until the scooter or chair is just above the trunk lip.

Caution: *Stop lifting before the Strap Hook contacts the Strap Roller mounted on the Lifting Arm. Contact will result in damage to the lift. A properly adjusted and operated lift will avoid this.*

- Swing the scooter or chair out of the vehicle, carefully ensuring that the scooter does not contact the vehicle.
- With the scooter or chair positioned away from the vehicle, lower the lift using the DOWN button. Continue lowering the lift slightly beyond the scooter or chair touching the ground to allow removal of the Strap Hook from the docking device on the scooter.
- To disassemble the lift, first raise the Lifting Strap until the freed Strap Hook is about an inch away from the Lifting Arm. Unplug the Hand Control harness from both the Vehicle Harness and the Lifting Arm.
- Pull the Lifting Arm off of the Post and lay it on the floor of the trunk. Then pull the Post out of the Base and set it down with the Lifting Arm.

Replace anything removed from the scooter or chair for loading purposes. Close the trunk and you are ready to go.

Section 6 - Operating the AL055 Lift continued

Enclosed Vehicle Applications:

Operational Guidelines:

- Inspect the Lifting Strap prior to each use. Contact your distributor if it shows signs of wear or fraying.
- Do not operate this lift until you dealer has satisfactorily instructed you in the proper operation of this lift.
- Always make sure the vehicle's parking brake is firmly set before operation.
- Keep hands and feet from under the scooter or power chair as it is being lifted.
- Take care not to hold one of the buttons on the Hand Controller until the Lifting Strap switches direction. The UP button should always pull the strap up and vice versa. If your buttons cause opposite movement, contact your distributor.

Loading your Scooter—Enclosed Vehicle Applications

Note: Due to the wide variety of scooters, power chairs and vehicles, your dealer may offer a different method for Loading and Unloading your scooter. Please follow the guidelines they have offered.

- Unhook the Strap Hook or optional C-Arm from the gusset on the Base (recommended stowed position).
- Swing the Lifting Arm out of the vehicle toward the scooter.
- Maneuver the scooter parallel to the rear bumper and two inches behind the vehicle. Depending on the vehicle, it may be necessary to: remove the seat; fold down or remove the handle bar; remove accessories such as brackets, baskets, crutch holders, etc.

Note: When using the Offset Post Conversion, position the scooter on the side of the vehicle parallel to the vehicle with the front tires even with the vehicle's rear bumper.

- With the docking device positioned directly under the Strap Hook, lower the Lifting Strap using the DOWN button on the Hand Control until the Strap Hook (or C-Arm) can be engaged into the docking device installed on the scooter or chair. Hook the docking device on the scooter or chair with the Strap Hook and remove any play in the strap by pushing the UP button on the Hand Control until tension is felt.

Caution: Ensure that the Lifting Strap is secure and taught and that it points straight down. Failure to do so could result in the scooter or chair swinging toward the operator of the vehicle.

- Raise the scooter or chair using the UP button until the scooter or chair is just above the highest obstacle. This is usually the van floor, door sill or tailgate.

Caution: Stop lifting before the Strap Hook contacts the Strap Roller mounted on the Lifting Arm. Contact will result in damage to the lift. A properly adjusted and operated lift will avoid this.

- Swing the scooter or chair into the vehicle, ensuring that the scooter or chair does not contact the vehicle.
- With the scooter or chair positioned above its stowed position, lower the lift using the DOWN button on the Hand Controller. The scooter or chair should be lowered until it is sitting firmly on the floor but the strap should remain taut. This facilitates a quicker and easier unloading of the scooter later.

Caution: Ensure that the scooter or chair is firmly sitting on the floor and not suspended by the lift

If preparations need to be made to secure the scooter or power chair for transport, such as parking brakes or wheel chocks, do these now. Dealers should instruct operators on how, if necessary to secure the scooter or chair for transport. Place the Hand Control on the Velcro mounting pad and close the doors or tailgate and you are ready to go.

Section 6 - Operating the Lift continued
Enclosed Vehicle Applications:

Unloading Your Scooter—Enclosed Vehicle Applications

- Undo any preparations made to secure the scooter or power chair for transport.
- Raise the scooter or chair by pressing the UP button on the Hand Control until the tires are high enough to clear the highest obstacle, usually the door sill or tailgate.

Caution: Stop lifting before the Strap Hook contacts the Strap Roller mounted on the Lifting Arm. Contact will result in damage to the lift. A properly adjusted and operated lift will avoid this.

- Swing the scooter or chair out of the vehicle, carefully ensuring that the scooter does not contact the vehicle.
- With the scooter or chair positioned away from the vehicle, lower the lift using the DOWN button. Continue lowering the lift slightly beyond the scooter or chair touching the ground to allow removal of the Strap Hook from the docking device on the scooter.

Caution: Do not allow the scooter or chair to come in contact with the vehicle. Damage may result to both the vehicle AND the operator.

Replace anything removed from the scooter or chair for loading purposes. Swing the Lifting Arm back into the vehicle and place the Hand Control on the Velcro mounting pad. Close the doors or tailgate and you are ready to go.

PLEASE PROCEED TO SECTION #7 FOR SAFETY AND MAINTENANCE INFORMATION.

Section #7

Inside Lift

Safety & Maintenance

Section 7 - Safety & Maintenance

SAFETY:

- **Caution:** Do not operate this lift until your dealer has satisfactorily instructed you in the proper operation of the lift.
- Your Harmar Inside Lift has been engineered and designed for years of trouble free use. Although, with everyday use, some parts may become loose or worn. **IMPORTANT!** Check regularly for any worn, loose or damaged parts of your lift. **If anything is observed, DO NOT USE THE LIFT!** Contact your dealer or installer of the lift for repairs to be made. **Failure to act may cause severe injury!**
- Your Harmar Inside Lift should only be used for the loading and unloading of scooters and power wheelchairs for which it is designed. DO NOT add to or modify any part of the lift system without first contacting the manufacturer of the lift. Any modifications may void any warranties as well as effect the structural integrity of the lift.
- **ALWAYS CHECK THE LIFTING STRAP BEFORE EACH USE FOR DAMAGE OR WEAR.**
- Always make sure the vehicle's parking brake is firmly set before operating the lift.
- **Caution:** Insure that the Lifting Strap is secure and taught and that it points straight down before lifting of the scooter or power chair. Failure to do so could result in the scooter or chair swinging toward the operator of the vehicle.
- **Caution:** When using the lift, keep your hands and feet from under the scooter or power chair as it is being loaded or unloaded.
- **Caution:** Stop lifting before the Strap Hook contacts the Strap Roller mounted on the Lifting Arm. Contact will result in damage to the lift. A properly adjusted and operated lift will avoid this.
- **Caution:** Insure that the scooter or chair is firmly sitting on the floor of the vehicle and not suspended by the lift. If the scooter or power chair is not firmly on the floor of the vehicle, it may move during transportation and cause damage to the lift, scooter or power chair, vehicle, or passengers.

MAINTENANCE:

The Harmar Inside Lift has been designed to be as trouble free as possible for the owner. But, as with any mechanical device, regular care should be given while owning and using this device.

Maintenance is no exception.

- We recommend that dealers should schedule a preventative maintenance inspection at least once a year on motors, lift frame, wiring harness and all moving parts of the lift.
- Check for paint chips and touch up any bare metal with a good gloss black enamel or lacquer to inhibit rust. This may be necessary more frequently when subjected to salt air or road salt.
- Always check the lifting strap before each use. If any wear or fraying is noticed DO NOT USE THE LIFT! Contact the installer or dealer for repair. Failure to act may cause damage to the vehicle or severe injury!
- Hand control units should not be exposed to the weather. If the lift is mounted in the bed of a truck, remove the hand control between each use. Exposure to the elements may cause the unit to fail.

WARRANTY:

This lift is covered by a three year factory warranty on materials and workmanship. Contact your local dealer for more information or go to www.harmar.com for complete details.

TROUBLESHOOTING:

PROBLEM: The lift will not operate or operates slowly.

Possible Causes:

Bad Ground—Verify the ground end of the Vehicle Harness is touching the vehicle frame in an area that is free of paint and corrosion. If the lift does not have a good ground, the motor will not run under full power and will affect the lifting capacity and the speed in which it operates. This can be tested by attaching a test harness to a fully charged shop battery that is not on a vehicle and running the lift.

Battery—Check to see if the battery needs to be replaced or if the terminals are corroded. Clean the terminals if any corrosion is present. 12 volts should be present at the lifting or rotational motors from the vehicles battery. This can be tested with a voltage meter.

PROBLEM: Intermittent power to the lift. The lift will operate for a short period of time and quit. At a later time it will start working again.

Possible Causes:

Circuit Breaker—Although the breaker resets itself automatically, it may be malfunctioning and need to be replaced. Check for power at the lift with a test lamp.

Bad Ground—Verify the ground end of the Vehicle Harness is touching the vehicle frame in an area that is free of paint and corrosion. If the lift does not have a good ground, the motor will not run under full power and will affect the lifting capacity and the speed in which it operates. An intermittent ground will cause the lift to lose power. This can be tested by attaching a test harness to a fully charged shop battery that is not on a vehicle and running the lift.

Hand Control—Test by bypassing the hand control. Do this for only a second or two. The lift, vehicle, scooter or chair may be damaged if continuous power is left supplied to the unit.

PROBLEM: Lifting arm is slow to swing in / out. (AL400 only)

Possible Causes:

Dirty Bushings—Clean and apply new grease to the white plastic bushing that is located in the Base.

Bad Ground—Verify the ground end of the Vehicle Harness is touching the vehicle frame in an area that is free of paint and corrosion. If the lift does not have a good ground, the motor will not run under full power and will affect the lifting capacity and the speed in which it operates. This can be tested by attaching a test harness to a fully charged shop battery that is not on a vehicle and running the lift.

PROBLEM: The lifting strap operates in reverse.

Possible Causes:

The lifting strap was overextended. The lifting strap was lowered too far, causing the strap to wind around the spool backwards. Lower the strap until it unravels from the spool. Then, raise the strap in the proper direction.

PROBLEM: AL400 rotates in wrong direction when installed on the passenger side of the vehicle.

Possible Causes:

The lift is shipped from the factory to be mounted on the drivers side of the vehicle. To change the rotation for the passenger side remove the bolt located near the bottom of the post, rotate the motor 180 degrees and reinsert the bolt. Next, change the rotation of the motor located in the base by switching the wires on the motor to reverse the polarity.

PROBLEM: The scooter or chair tips to the front or back while it is being lifted.

Possible Causes:

The scooter or chair is being lifted off center. The docking device should center the lifting strap over the center of gravity which is generally around the center of the seat. Check to make sure the proper docking device is being used.

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