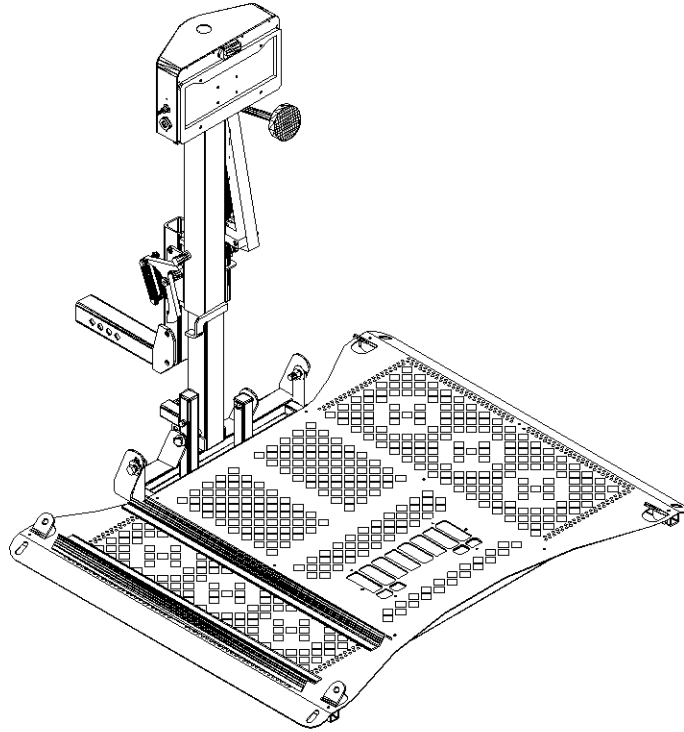


# Universal Scooter Lift - Outside Style

## *Installation Guide & Owners Manual*



Congratulations on your new lift purchase. The Universal Scooter Lift is one of the easiest and most trouble free ways to transport your scooter. 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 - Installing the Lift ( No Swing Away )
- Section 5 - Installing the Lift with Swing Away Option
- Section 6 - Operating the Lift
- 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.

## Section 1 - Unpacking the Lift

Your Universal Scooter Lift was factory pre-assembled to require little assembly before installation.

Box contents should include:

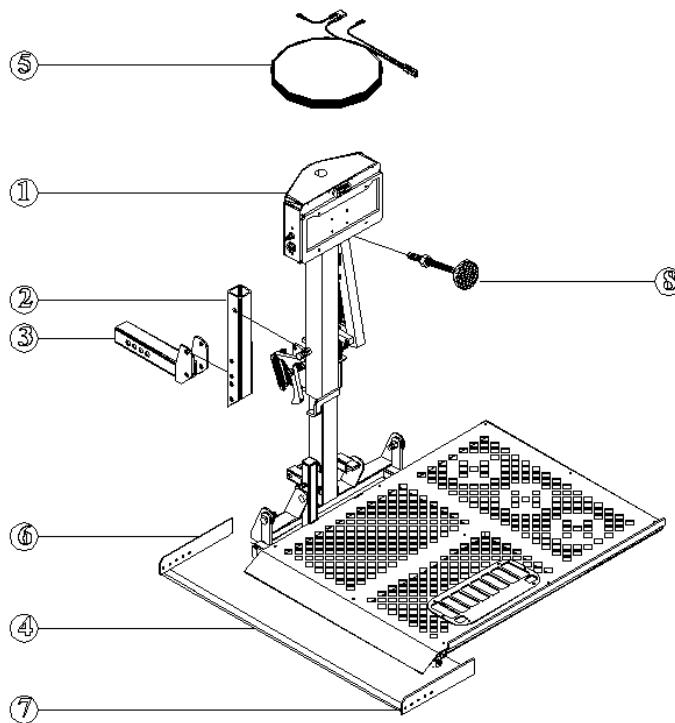
### Package Check List

- Main lift body (# 1)
- Hitch Post (# 2)
- Hitch Adapter (# 3)
- Spreader Bar Brackets L & R (# 4)
- Spreader Bar (# 5)
- Rubber Hold Down Foot & Rod (# 7)

### Hardware Package

- Contents include:
- Vehicle Wiring Harness (# 6)
  - Keys
  - Required Fasteners
  - Black tie wraps

FIGURE 1



Each lift is packaged to be used with a standard Class III hitch. If a Class II hitch or Swing Away option is required, separate packages will be used for the additional parts. See Section 5 for installing a lift with the Swing Away option in this manual.

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

To install a Universal Scooter Lift on a vehicle, it must be capable of accepting a Class III or Class II hitch. If you are unsure about the hitch required, there are different places for you to check.

**Hitch Shops** - Check your local area for shops that specialize in trailer hitches. They will normally have in stock the hitch that would be required for use with the lift.

**Internet** - Some web sites list the compatibility of hitches with vehicles. These include the following;

www.hitch-web.com,  
www.reeseprod.com, or  
www.draw-tite.com

These sites have areas where you can enter your vehicle information and it will list the types of hitches available to be installed. Remember, not every vehicle is capable of having a hitch installed.

Each type of hitch is capable of bearing a different amount of tongue weight. Remember that you must add the weight of the lift to the weight of the scooter that you are purchasing and make sure that the total weight does not exceed the recommended tongue weight of the hitch. The Universal Scooter Lift weighs 89 lbs. Add 50 lbs. when using a swing away.

Your Universal Scooter Lift is equipped with a license plate holder and light. If possible, have the installer of your hitch run a standard 4 post trailer light harness to the hitch area. This will allow you to simply plug the license plate light wiring into the trailer plug with no additional wiring required at the time of lift installation.

**IMPORTANT NOTE: A trailer light wiring plug is good only for the license plate light and not to power your lift. All lifts must be wired directly to the positive pole of the battery using the wiring harness supplied with the lift. Any attempt to wire the lift into ANY secondary harness will cause the lift to run poorly and possibly damage the motor. The trailer light wiring simply does not carry the proper current to power the lifting motor.**

- **IMPORTANT NOTE: The receiver tube on the hitch must be installed so that it is parallel to the ground. This is not a recommendation, but rather a requirement.** If the hitch is not installed properly, it may affect the working of the lift.
- Some vehicles will require that the rear suspension be supplemented by the addition of air adjustable shocks, air bags in the springs or other devices to keep the vehicle level.
- Because receiver tubes on Class II and Class III hitches have a wide variance of tolerance, it may be necessary to reduce the movement of the lift in the receiver tube by installing a pinch bolt as shown below. This would reduce any rattle caused by the movement of the Hitch Adapter in the receiver.
- A vehicle with a Class III ( Class II requires optional accessories ) hitch and standard 4 post trailer wiring is ready for installation of the scooter lift.

FIGURE 2

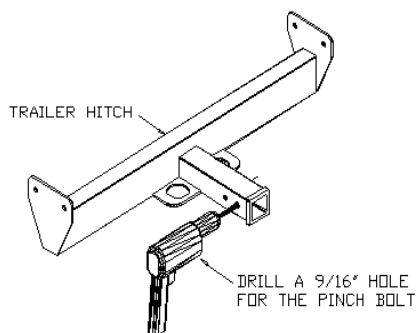
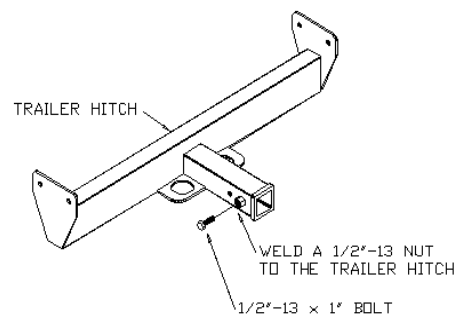


FIGURE 3



### Section 3 - Wiring the Vehicle

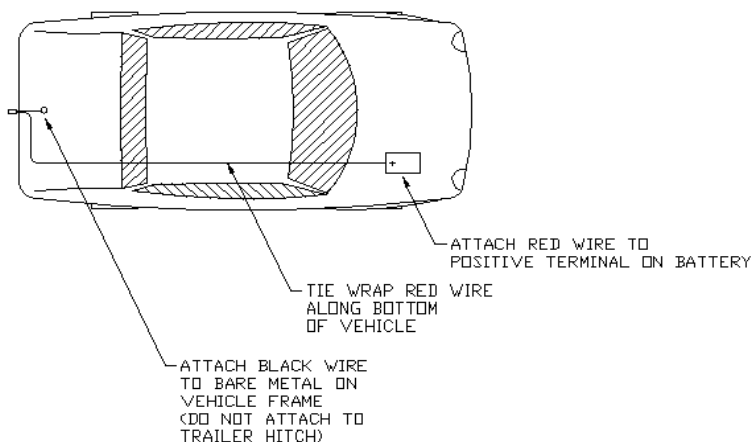
**IMPROPER WIRING IS THE #1 CAUSE OF PROBLEMS IN THE OPERATION OF A VEHICLE LIFT. PLEASE FOLLOW THE WIRING INSTRUCTIONS CAREFULLY**

Located in the hardware package of your lift is the vehicle wiring harness for the lift to be installed. The harness is designed to run under the vehicle that the lift is being installed on. Unwind the harness and lay it flat. One end has a plug that both the red and black wires attach to. This is the lift end of the harness and goes to the back of the vehicle. The black wire will be a ground that attaches to the frame of the vehicle. The red wire will run under the vehicle and attach to the positive post on the vehicle battery.

- Start at the rear of the vehicle and tie the plug about even with the end of the hitch receiver tube. Run the red wire under the vehicle and up to the engine compartment to the battery. The red wire is approximately 23 ft. long and should accommodate most vehicles. In fact, at times you will have excess wire when you reach the battery. In this case, determine the proper length to reach the battery and mark the wire. **(Remember to leave enough wire to allow the attachment on the underside of the vehicle)**. It is recommended to attach the wiring to the vehicle before cutting the wire.
- After making sure that the plug in the back is in the proper place, go back to the red wire at the battery and remove the circuit breaker from the end of the red wire by unplugging the connector at the breaker. Cut and strip the red wire at the predetermined mark and attach a new insulated connector that is located in the hardware package. Reconnect the circuit breaker to the red wire and attach the short red wire with the terminal end to the positive post on the battery.

• **IT IS IMPORTANT THAT THE RED WIRE BE RUN DIRECTLY TO THE BATTERY OF THE VEHICLE.** Failure to wire the lift directly to the battery will cause the lift not to work properly and possibly cause damage to the lift!! Any attempt to run the power from a secondary wiring harness in the vehicle will not supply the proper power to the lift.

- Once wiring is attached to the vehicle, use the black plastic ties to secure the wire to the vehicle. **CAUTION! Route the harness away from the exhaust system, brake lines, fuel lines and sharp edges.**
- Once the red wire is in place, you will need to install the ground wire to the **frame of the vehicle**.



**IMPORTANT!! The ground must be run to the VEHICLE FRAME ONLY!!** If you ground the lift to any other source the motor will not ground properly and it will cause it to operate at less than the desired capacity. **DO NOT GROUND THE LIFT TO THE HITCH OR THE FRAME OF THE LIFT!!** The only proper place to ground the black wire is to the frame of the vehicle.

In many instances, there will be a bolt on the frame that you can use. If not, you may be required to drill a hole and bolt or screw the wire to the frame. **It is also important to remove any dirt, paint or undercoating from the area that you are grounding to.** Prep the area using a small piece of sand paper. The ground needs to be touching **BARE METAL** on the frame.

It can not be stressed enough that the wiring of the lift be done exactly as described above. Any warranty claim will not be covered if it is determined that the lift was not wired to the battery or grounded properly.

## Section 4 - Installing the Lift ( no Swing Away option )

Your lift will come shipped to you factory pre-assembled.

- To prepare the lift for installation you must attach the lift to the Hitch Adapter that is shipped with the lift (See parts list in section 1). The proper attachment place is determined by the height of the installed hitch on the vehicle.
- Measure from the bottom of the hitch to the ground. Use Figure 6 below to determine which set of holes to use when setting up the Hitch Post attached to the lift and Hitch Adapter. (See figure #5) Use the 1/2" x 3-1/2" bolts and nuts provided and tighten.

FIGURE 5

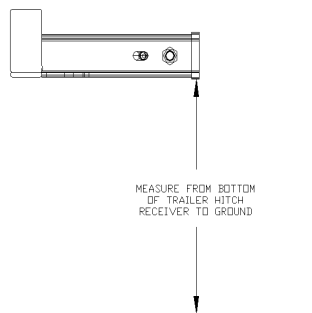
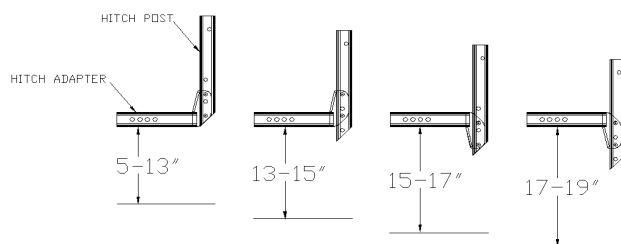


FIGURE 6



- Once you have determined the proper adjustment for the Hitch Adapter, insert the adapter into the hitch receiver and attach it using the 1/2" x 3-1/2" bolt, (2) washers and lock nut provided. **NOTE:** If a Class II hitch is used, the Hitch Adapter must be replaced with a Class II Hitch Adapter—Part #AL126.
- Move the folded lift to the rear of the vehicle with the motor box folded away from the vehicle. With assistance, carefully lift the unit up to the Hitch Adapter and attach it using the 1/2" bolts and lock nuts provided.

**HINT!!!!** Once the lift is placed behind the vehicle, plug the power cord into the harness that you have installed on the vehicle. Turn the key on and use the toggle DOWN switch to raise the motor box. Continue to power the lift until the mounting holes in the lift are even with the holes in the Hitch Adapter. Attach the lift using the supplied 1/2" bolts with lock nuts. Using this method will allow you to attach the lift without physically having to lift the unit and hold it while the bolt is inserted.

- The AL100 is shipped with the Spreader Bar Assembly already attached to the back of the platform on the lift. You must rotate it down until the hole in the side bracket lines up with the open hole on the attachment point on the platform. The Spreader bar should be flat on the ground at this point. Tighten the bolts where the Spreader Bar Assembly attaches to the platform.

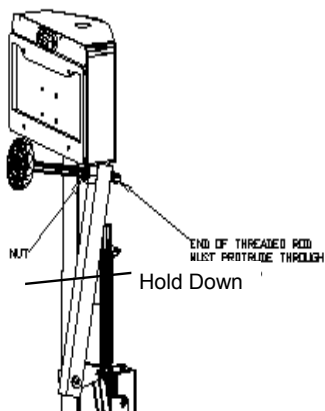
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## Section 4 - Continued

- Route the lift power cord down the lift away from its moving parts. The cord should follow along the post and be secured with zip ties provided to allow the lift to operate without disconnecting the power cord.
- Once the lift is secured, load the scooter on the center of the platform. Adjust the spreader bar according to the size of the scooter that is being transported on the lift. Forward for smaller scooters and back for larger scooters. Make sure that all fasteners on the Spreader Bar Assembly are tightened before attempting to use the lift.

- Now thread the Adjustable Hold Down Foot ( part #8 ) onto the hold down arm as shown in Figure 9. To begin with, thread the rod completely into the arm. Lower the platform to the ground and place the scooter to be used on the lift and using the toggle switch, raise the platform and scooter up until it reaches the traveling position (all the way up). The lifting motor has a clutch mechanism that will stop the lift when it reaches the top. You will hear a clicking sound when the lift is at the top. Release the switch at this time.
- You will notice that as the lift reached the top, the hold down arm with the foot will lower to the deck of the scooter. The foot should put pressure down on the deck of the scooter to secure it in place while traveling. If the foot does not reach the scooter, unthread the adjustable leg until the foot presses securely on the deck of the scooter.

FIGURE 9



- **DO NOT** adjust the leg so far down that the top of the threaded rod protrudes through the top of the pivot tube. In some cases, you may be required to purchase a longer adjustable foot in order to obtain the proper pressure to hold the scooter down. Once the foot is adjusted to the proper position, tighten the jam nut to lock it in place.
- Once the lift is properly adjusted, lower the platform to the ground and raise it back to the transporting position. Repeat this several times to make sure all parts are operating properly and the scooter is properly secured. Next, remove the scooter from the lift and using the toggle switch, cycle the lift completely up and down to make sure that all parts are in working order and the lift folds up when it is empty.
- When satisfied the lift is in proper working condition, refer to sections 6 and 7 of this manual and review operation with the end user.

## Section 5 - Installing the Lift with Swing Away option

Your lift will come shipped to you mostly pre-assembled.

- To prepare the lift for installation you must remove the hitch post and attach the lift to the Swing Away and Hitch Adapter. The proper attachment place is determined by the height of the installed hitch on the vehicle.
- Measure from the bottom of the hitch to the ground. Use Figure #6 below to determine which set of holes to use when setting up the Swing Away and Hitch Adapter. Use the 1/2" bolts and nuts provided and tighten.

FIGURE 5

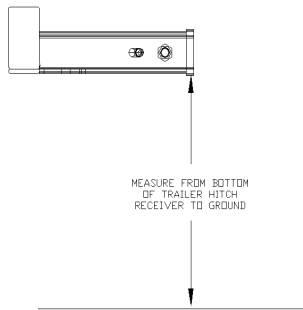


FIGURE 6

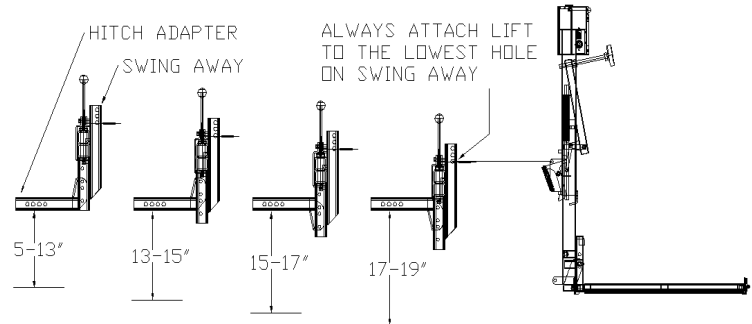
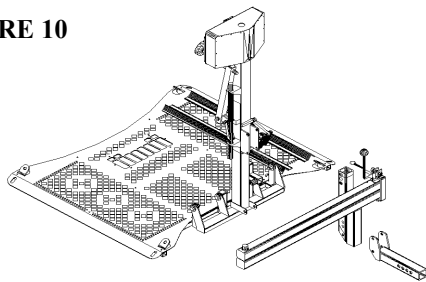


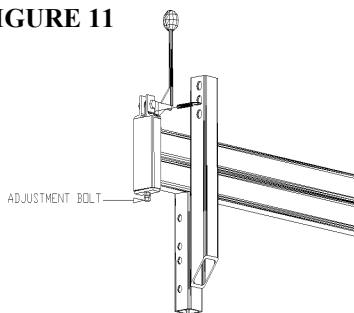
FIGURE 10



- Once you have attached the Swing Away to the Hitch Adapter, insert the Hitch Adapter into the hitch receiver. **NOTE:** If a Class II hitch is used, the Hitch Adapter must be replaced with a Class II Hitch Adapter.

**CAUTION! Never modify the Hitch Adapter in any way! This includes adding or removing material and drilling any extra holes.**

FIGURE 11



- At this point, attach the lift to the Swing Away. Move the folded lift to the rear of the vehicle with the motor box folded away from the vehicle. With assistance, carefully lift the unit up to the Swing Away and attach it using the 1/2" bolt and lock nut provided. **Do not over tighten as this is a pivot point.**

**HINT!!!!** Once the lift is placed behind the vehicle, plug the power cord into the harness that you have installed on the vehicle. Turn the key on and use the toggle DOWN switch to raise the motor box. Continue to power the lift until the mounting holes in the lift are even with the hole in the Swing Away. Attach the lift using the supplied 1/2" bolt with lock nut. Using this method will allow you to attach the lift without physically having to lift the unit and hold it while the bolt is inserted.

- Route the lift power cord down the lift away from its moving parts. The cord should follow along the Swing Away arms secured with zip ties provided to allow the arms to open without disconnecting the power cord.

**IMPORTANT!! NEVER OPERATE THE SWING AWAY WITH THE SCOOTER ON THE LIFT!! This will cause damage to the lift and potentially cause damage to the vehicle and the scooter!!**

**CAUTION!! If the bracket that locks the swing away closed is not tight when the lever is in the closed position DO NOT use the lift until it has been properly adjusted using the nut on the bottom of the clamp. See Figure #11**

## Section 5 - continued

- Once the lift is secured to the Hitch Post on the Swing Away load the scooter on the center of the platform. At this time, take the (2) wheel chocks and attach them to the surface of the platform as shown in Figure #7 with the phillips drive pan head screws, lock washers and nuts supplied. Each scooter may require the chocks to be attached in different places or in different configurations on the platform. Make sure that the largest chock is attached in front of the rear wheel. The smaller chock should be attached as shown in Figure #8 behind the front wheel.

FIGURE 7

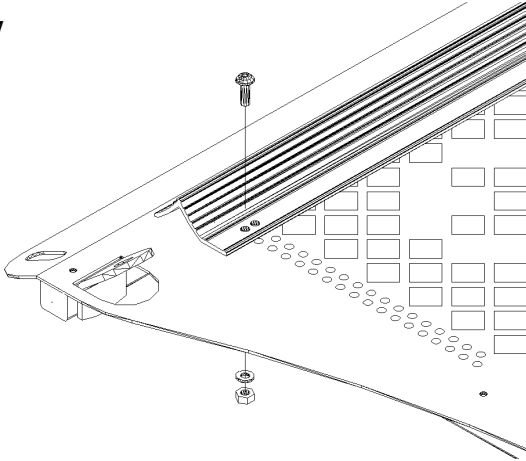
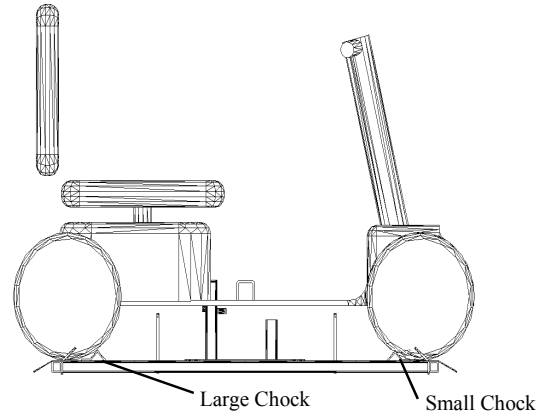
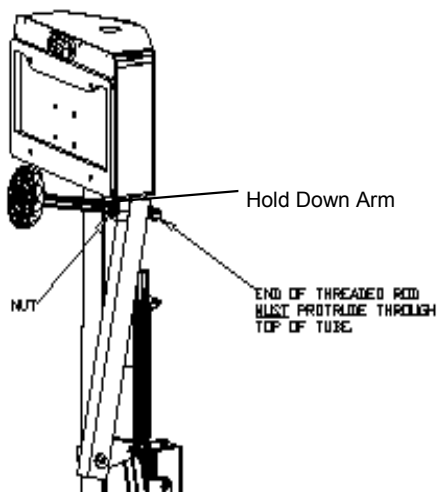


FIGURE 8



- Now thread the Adjustable Hold Down Foot ( part #8 ) onto the hold down arm as shown in Figure 9. To begin, thread the rod completely into the arm. Lower the platform to the ground and place the scooter to be used on the lift and using the toggle switch, raise the platform and scooter up until it reaches the traveling position (all the way up). The lifting motor has a clutch mechanism that will stop the lift when it reaches the top. You will hear a clicking sound when the lift is at the top. Release the switch at this time.
- You will notice that as the lift reached the top, the hold down arm with the foot will lower to the deck of the scooter. The foot should put pressure down on the deck of the scooter to secure it in place while traveling. If the foot does not reach the scooter, unthread the adjustable leg until the foot rests securely on the deck of the scooter.
- DO NOT** adjust the leg so far down that the top of the threaded rod does not protrude through the top of the pivot tube. In some cases, you may be required to purchase a longer adjustable leg for the foot in order to obtain the proper pressure to hold the scooter down. Once the foot is adjusted to the proper position, tighten the jam nut to lock it in place.

FIGURE 9



- Once the lift is properly adjusted, lower the platform to the ground and raise it back to the transporting position. Repeat this several times to make sure all parts are operating properly and that the scooter is properly secured. Next, remove the scooter from the lift and using the toggle switch, cycle the lift completely up and down to make sure that all parts are in working order and the lift folds up when it is empty.
- When satisfied the lift is in proper working condition, refer to sections 6 and 7 of this manual and review operation with the end user.

## Section 6 - Operating the Lift

### LOADING YOUR SCOOTER ON THE LIFT

Turn ON the power switch with the key furnished with your lift. Lower the platform using the UP/DOWN toggle switch. Pushing the switch downward will cause the platform to lower. The platform will first unfold to the horizontal position, then continue lowering to the ground. Release the UP/DOWN switch just as the platform reaches the ground; do not attempt to raise the rear of the vehicle with the lift or damage could be done to your lift or vehicle.

**CAUTION: Keep your feet out from under the platform as it lowers.**

Once the lift platform is on the ground, drive your scooter onto the platform, from left to right, until the rear wheels are located in the rear wheel stops. Stop when the rear tires contact the ramp on the platform.

With the scooter on the platform and the rear wheels located in the wheel stops, raise the platform with the UP/DOWN switch until the platform stops automatically.

Your scooter is now ready for travel. You may wish to remove your key from the power switch to avoid any potential tampering with your lift and scooter.

**Caution:** On some scooters, it may be necessary to temporarily move the steering tiller forward to clear the hold down arm as it lowers into the lock down position.

**Caution:** Some scooters have pneumatic (air inflated) tires. If your scooter has this type tire, be sure the tires are properly inflated. Improper inflation of the tires will change the deck height of the scooter and therefore change the amount of clamping force the hold down arm places on the scooter. The scooter can fall off of the lift if not properly secured.

**Caution:** Before driving off with your scooter on the lift, make sure that the scooter is firmly held down on the platform.

**Caution:** When driving with your scooter on the lift, slow down for pot holes, speed bumps, railroad tracks, etc. Your lift could be damaged by abuse if subjected to excessive loads imposed by rough driving.

**Caution:** Do not enter steep driveways straight on. Enter and leave at an angle to the street so that you lift platform does not drag on the ground.

**Caution:** Do not attempt to move the vehicle with the lift platform in the down position. If moved this way, the lifting mechanism will be damaged.

### UNLOADING YOUR SCOOTER:

To unload your scooter, just turn ON the power switch and push the UP/DOWN toggle switch to the down position. Hold the switch down until the platform just touches and is level to the ground.

Drive your scooter off in REVERSE. When the scooter is clear of the platform, raise the platform by pushing up on the UP/DOWN switch.

**Caution:** If the steering tiller needed to be moved when loading the scooter, be sure that it is out of the way of the hold down arm prior to lowering the platform.

To park your lift in the stowed position, hold the UP switch. The platform will start up in the horizontal position. During its travel upward, the platform will fold up into the stowed or vertical position. Hold the switch until the platform travel stops automatically.

You may wish to remove you key from the power switch to avoid any tampering with your lift.

**Special Note:** The lift features a manual override. If the vehicle or lift loses power, simply remove the round plastic cap from the top of the motor box and using a 3/8" socket, turn the wrench clockwise to raise the lift and counter clockwise to lower the lift. ( If the lift does not operate properly, immediately take it to the local dealer. DO NOT attempt to modify the lift in any way!)

Do not attempt to move the vehicle without the lift in the stowed or travel position. Any attempt to move the vehicle without the lift fully up may cause damage to the lift, scooter or vehicle.

## Section 6 - Operating the Lift ( Swing Away Option )

Many scooter owners require access to the rear of a vehicle. To accomplish this a Swing Away option is added to the lift installation. This allows the complete lift to be conveniently and easily swung away from the back of the vehicle and allow easy access to the trunk or lift gate. The Swing Away option can be purchased from any authorized Harmar dealer

### OPENING THE SWING AWAY:

- Unlock the safety clamp by pulling the snap pin chained to the clamp.
- Open the safety clamp by pulling the lever down and away from the lift. This will unlock the Swing Away and allow it to be pulled open.

**IMPORTANT!! NEVER OPERATE THE SWING AWAY WITH THE SCOOTER ON THE LIFT!! This will cause damage to the lift and potentially cause damage to the vehicle and the scooter!!**

**CAUTION!! Always insure that the vehicle is on level ground before attempting to open the Swing Away. Failure to do so may result in the operator losing control of the lift causing damage to persons and property.**

- Grasp the lift firmly and swing it out away from the vehicle. The Swing Away can be opened up to 180 degrees from the closed position to allow full access to the rear of the vehicle.

### CLOSING THE SWING AWAY:

- Grasp the lift firmly and swing it back towards the vehicle into the closed position. This will place the two 2" square horizontal tubes parallel with each other.
- While holding the bracket around the bottom horizontal tube, push the safety clamp up and towards the lift. This will lock the Swing Away and ready it for travel.
- Insert the snap pin into the safety clamp to lock it into place.

**CAUTION!! Always leave the safety pin in the clamp to lock it when the Swing Away is closed.**

**IMPORTANT NOTE!! If your safety clamp does not SECURELY latch the Swing Away arm in the closed position DO NOT USE THE LIFT until the clamp is adjusted by an authorized dealer. Failure to make the proper adjustment can cause the unit to open when traveling down the road.**

FIGURE 10

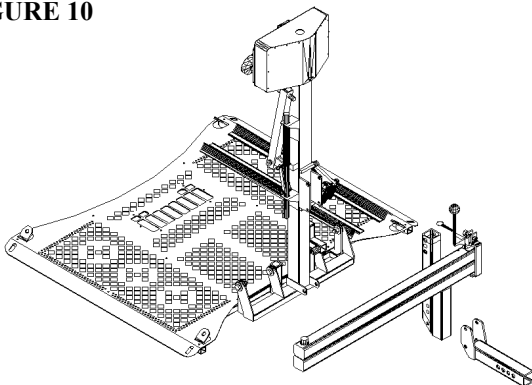
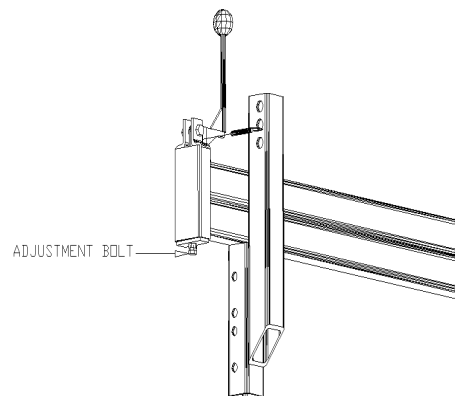


FIGURE 11



## Section 7 - Safety & Maintenance

### SAFETY:

- Inspect the condition of your lift often. **If any parts are worn or damaged DO NOT USE THE LIFT.** Immediately contact the dealer you purchased the lift from for repairs.
- Make sure the foot on the hold down arm is adjusted properly to secure the scooter during transportation. See Section 4. **CAUTION: Failure to maintain proper adjustment may cause scooter to fall off of lift during transport and cause serious damage.**
- **Caution:** Keep feet and any other objects out from under the platform as it lowers.
- **Caution:** On some scooters, it may be necessary to temporarily move the steering tiller forward to clear the hold down arm as it lowers into the lock down position and raises.
- **Caution:** Some scooters have pneumatic (air inflated) tires. If your scooter has this type tire, be sure the tires are properly inflated. Improper inflation of the tires will change the deck height of the scooter and therefore change the amount of clamping force the hold down arm places on the scooter. **The scooter can fall off of the lift if not properly secured.**
- **Caution:** Before driving off with your scooter on the lift, make sure that the scooter is firmly held down on the platform.
- **Caution:** When driving with your scooter on the lift, slow down for pot holes, speed bumps, railroad tracks, etc. **Your lift could be damaged by abuse if subjected to excessive loads imposed by rough driving.**
- **Caution:** Do not enter steep driveways straight on. Enter and leave at an angle to the street so that you lift platform does not drag on the ground.
- **Caution:** Do not attempt to move the vehicle with the lift platform in the down position. If moved this way, the lifting mechanism will be damaged.
- **WARNING! This lift is not meant for human transport. Scooter must be unoccupied before operating lift.**
- This lift is for scooter transport only. **Do not** attempt to transport any other vehicles or materials on the lift.

### MAINTENANCE:

- The Universal Scooter Lift has been designed to be as trouble free as possible for the owner. The maintenance schedule is no exception.
- Every 30 days oil the pivot points on all moving parts.
- During winter and under dirty and dusty conditions, re-grease the inside square tube every 30 days. Lower the platform to the ground and clean the square shaft with mineral spirits, WD-40 or any good solvent. Once clean, grease the square shaft with a high-grade water-resistant grease, such as boat trailer wheel bearing grease.

NOTE: Your lift was assembled at the factory with Slick 50 "ONE GREASE".

- 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.

### Warranty:

This lift is covered by a one year factory warranty on materials and workmanship. Contact your local dealer for more information.