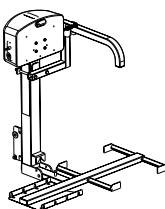
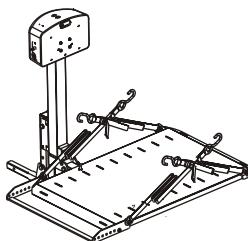


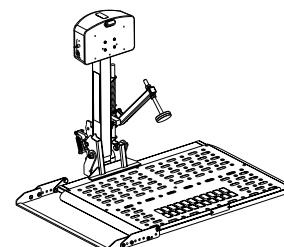
INSTALLATION & OWNER'S MANUAL



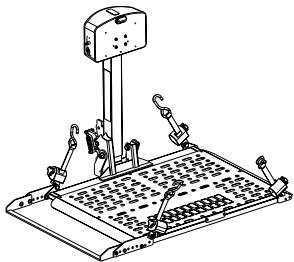
AL030 Power Tote
Folding Manual Wheelchair Lift
Capacity: 100 lbs



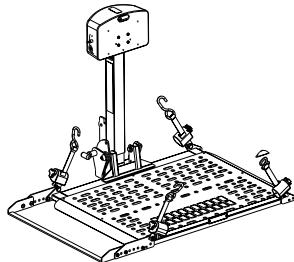
AL010/050 Micro Power
Chair / Scooter Lift
Capacity: 135 lbs



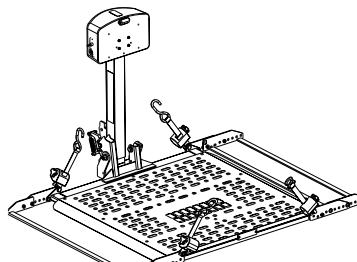
AL100 Universal Scooter Lift
Capacity: 350 lbs



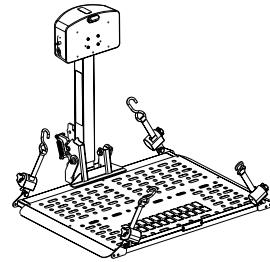
AL300 Universal Scooter/Power Chair Lift
Capacity: 350 lbs



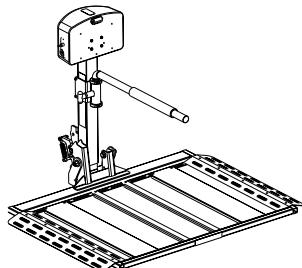
AL300RV RV Lift
Scooter/Power Chair Lift
Capacity: 350 lbs



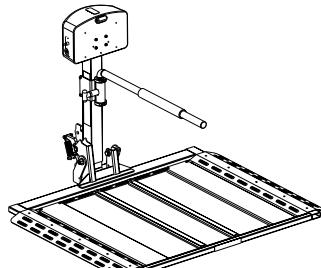
AL301XL Extra Wide Universal
Power Chair Lift
Capacity: 350 lbs



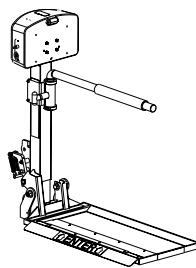
AL500 Universal Power Chair Lift
Capacity: 350 lbs



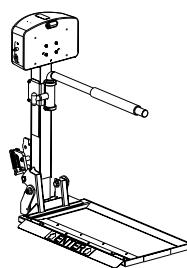
AL560 Auto Hold Down
Power Chair Lift
Capacity: 350 lbs



AL560XL Extra Wide Auto Hold
Down Power Chair Lift
Capacity: 350 lbs



AL 580
Power Chair Lift
Capacity: 350 lbs



AL580XL
Power Chair Lift
Capacity: 350 lbs

Read manual thoroughly before attempting to install or operate lift.

This manual has been provided to assist you with lift installation and operation. For further assistance please contact your authorized Harmar Mobility dealer or Harmar's Technical Service Department.

Tech: 866-378-6648
Fax: 941-308-7399

Email: tech@harmar.com

Harmar
2075 47th ST
Sarasota, FL 34234
Tel: 800-833-0478

**Dealer /
Installer :**

Please place information here

Serial Number:

TABLE of CONTENTS



Tools Required	p 2
Unpacking the Lift	p 3
Installation Overview	p 4

INSTALLATION

Wiring the Vehicle	p 5
Vehicle Hitch	p 6
Hitch Adapters	p 7-8
Installation with a Hitch Post.....	p 9
Installation with a Swing Away.....	p 10
Installation AL030 Bumper Mount	p 11

PREPARATION

Chair Preparation General	p 12
Lift Preparation AL100 Hold Down Foot.....	p 13
Micro Lift Preparation.....	p 14
Lift Preparation AL 560 Series.....	p 15
Hold Down Arm Adjustment AL560 & AL580 Series	p 16

OPERATION

Operation General	p 17
Operation Specifics (Micro-Lifts)	p 18
Operation Swing Away Option (AL105)	p 19

TECHNICAL

Using the Manual Override	p 20
Safety & Maintenance	p 21
Troubleshooting	p 22
Exploded Views / Parts List	p 23-33
Electrical.....	p 34
Service Notes	p 35-39

SIGNAL WORDS	DEFINITION
 WARNING	Indicates a hazardous situation that if not avoided, could result in moderate to serious injury.
 CAUTION	Indicates a hazardous situation that if not avoided, could result in moderate to serious property damage.



REQUIRED TOOLS

The following is a suggested list of basic tools to have on hand during installation. Harmar lifts are designed to install with as little assembly by the installer as possible.



SOCKET SET
Specifically

3/8"
7/16"
1/2"
9/16"
3/4"



WRENCH SET
Specifically

7/16"
1/2"
9/16"
3/4"



ALLEN WRENCH
Specifically

1/8"
3/16"
5/16"



WIRE CUTTERS



NEEDLE NOSE
PLIERS

#2 FLAT HEAD
SCREWDRIVER



#2 PHILLIPS HEAD
SCREWDRIVER



MARKING
IMPLEMENT

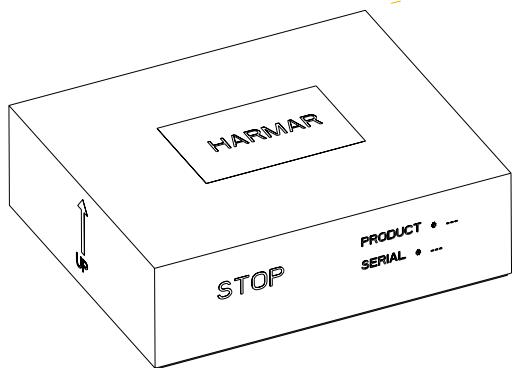


TAPE MEASURE

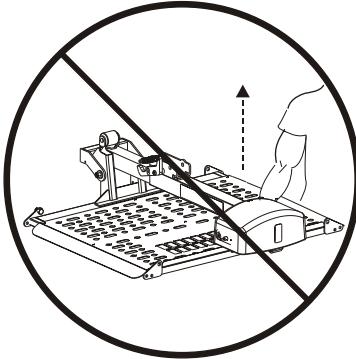


As always, if you have any questions, concerns or comments, please feel free to contact Harmar's Technical Service Department at 1-800-833-0478 or "tech@harmar.com" 

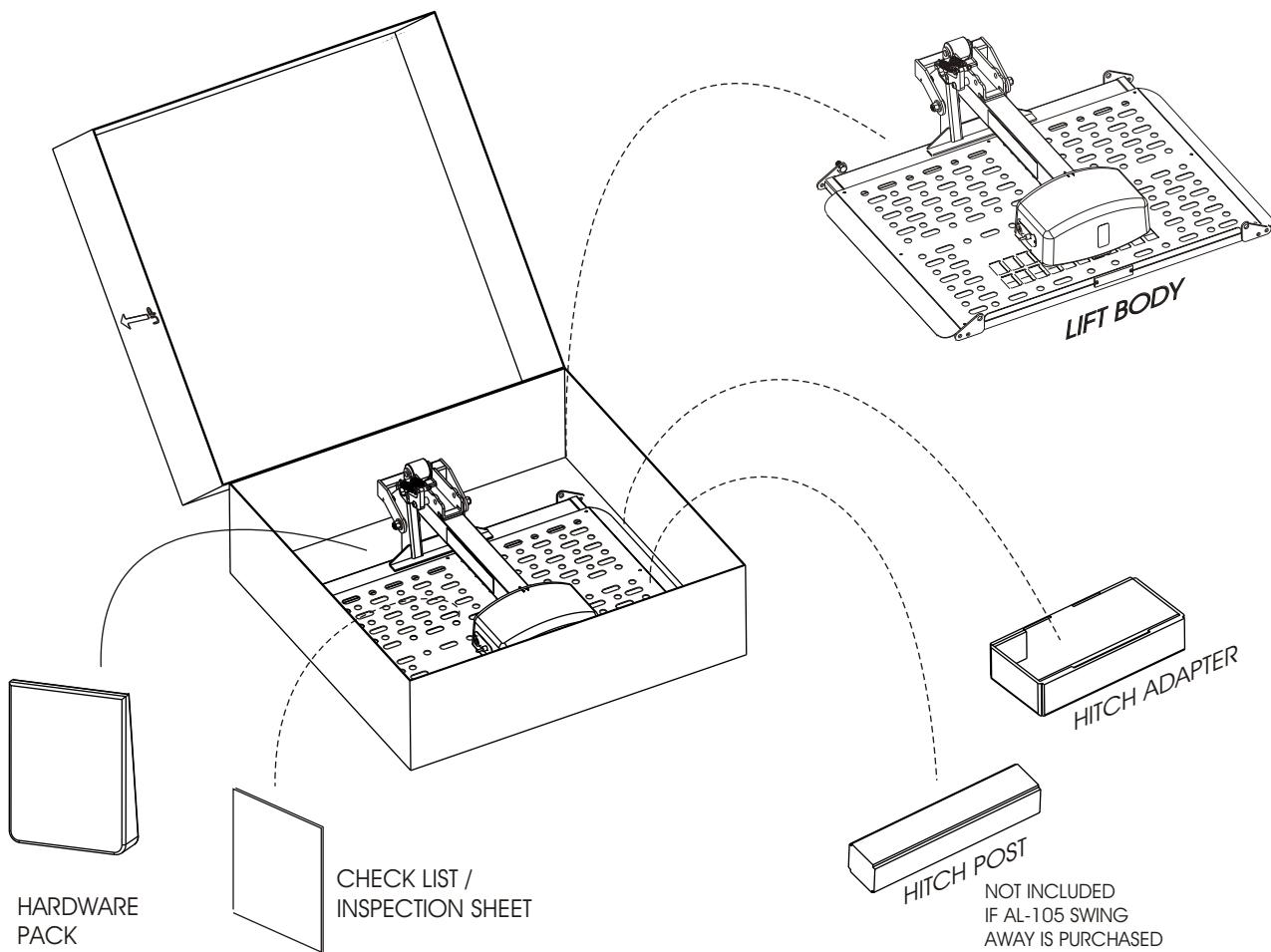
UNPACKING THE LIFT



DO NOT
LIFT
FROM
MOTOR
COVER



Be sure to check the contents of the box against the package checklist verifying all parts are included with the lift for a proper installation. If any parts are missing or damaged, immediately contact the distributor from which you purchased the lift. DO NOT attempt to install or use the lift with any missing or damaged parts.



HARDWARE
PACK

CHECK LIST /
INSPECTION SHEET



HITCH POST
NOT INCLUDED
IF AL-105 SWING
AWAY IS PURCHASED



Never attempt to pickup the lift from the box, from the ground, or on/off a vehicle by yourself. If the proper installation procedure is followed, it will never require lifting, and practically installs itself.

Please read, follow, and fully understand the installation section of this manual before beginning. Knowledge of the lift's adjustments and valuable hints on technique will save time, and possible injury.



WARNING

Quick Reference - Installation Procedure

As easy as 1-2-3 !

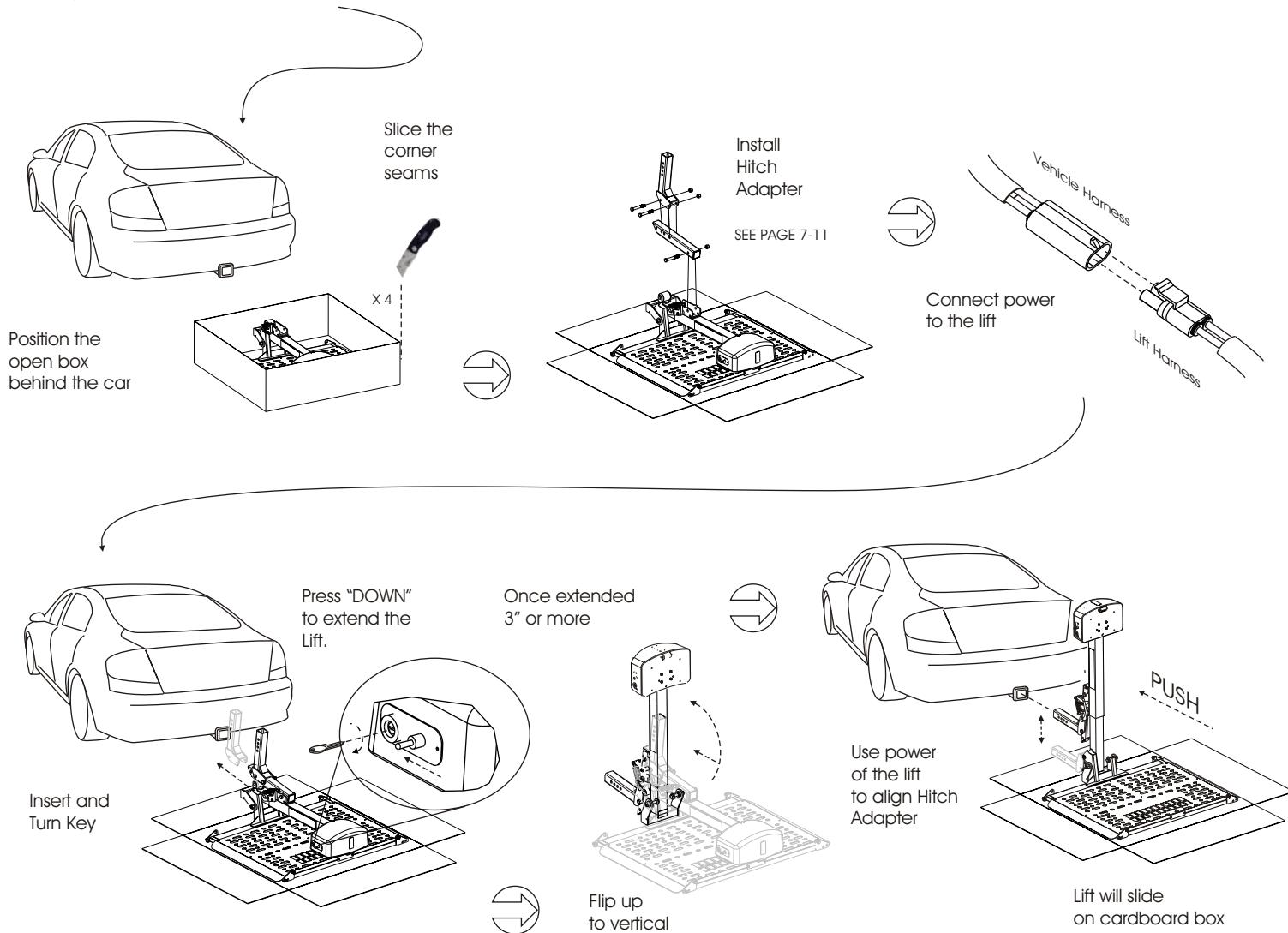
1 > Install Vehicle Harness --- page 5 -----

Installing the vehicle harness first will assure you have power to the lift during installation. This allows the motor to do the lifting for you. (If this step is skipped, use a shop battery.)

2 > Determine / Install Hitch Height / Adapter --- page 7-11 -----

Measuring the hitch to ground distance assures you select the proper orientation of the components the first time between the lift and the vehicle, so the platform reaches the ground while maintaining the best ground clearance.

3 > Power up Installation



WIRING THE VEHICLE

IMPROPER WIRING IS THE #1 CAUSE OF PROBLEMS IN THE OPERATION OF A VEHICLE LIFT.

FOLLOW THE WIRING INSTRUCTIONS CAREFULLY

Located in the hardware pack is the vehicle wiring harness. The harness is manufactured to, and complies with the SAE J1128 requirements. The harness is approximately 23 feet long and will accommodate most vehicles. Follow these instructions to assure proper installation.

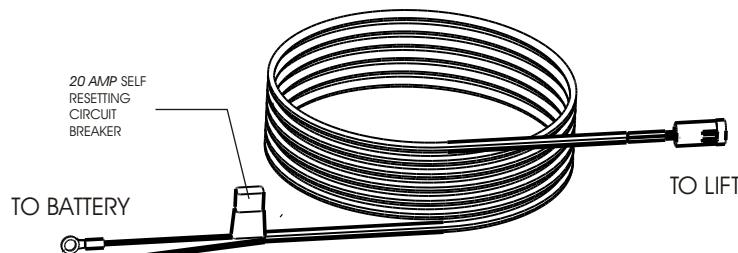
WARNING

DO NOT CONNECT RED WIRE UNTIL THE VERY END.

1 Unwind the harness and lay it flat. One end of the harness has a black connector. This is the lift end of the harness and goes to the trailer hitch area where the lift will mount.

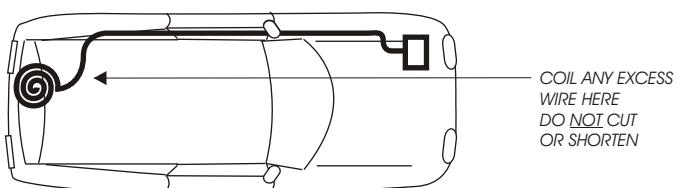
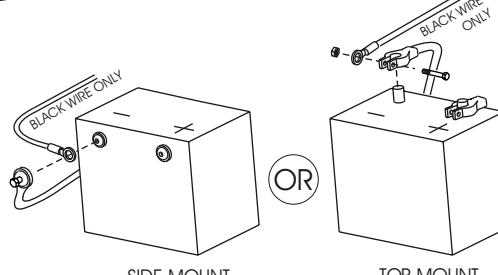
2 Begin routing the wiring harness at the vehicle battery. Attach the black wire to the negative terminal on the battery. **DO NOT ATTACH THE RED WIRE UNTIL THE END.**

3 Run the wiring harness under, or when possible through the vehicle, back to the bumper / trailer hitch. Always locate the wiring where it cannot be snagged by road debris and away from the gas tank. Through the vehicle is best, gaining entry into the vehicle through the firewall. However if you wish to run the harness under the vehicle, use supplied wire ties to secure the wire against the frame, avoiding moving parts / hot parts such as exhaust. If the harness is too long, coil the excess wire and secure it to the frame / bumper with supplied wire ties.



CAUTION

NEVER ATTEMPT TO CONNECT THE HARNESS TO A SECONDARY POWER SOURCE. ALWAYS CONNECT BOTH LEADS DIRECTLY TO THE BATTERY



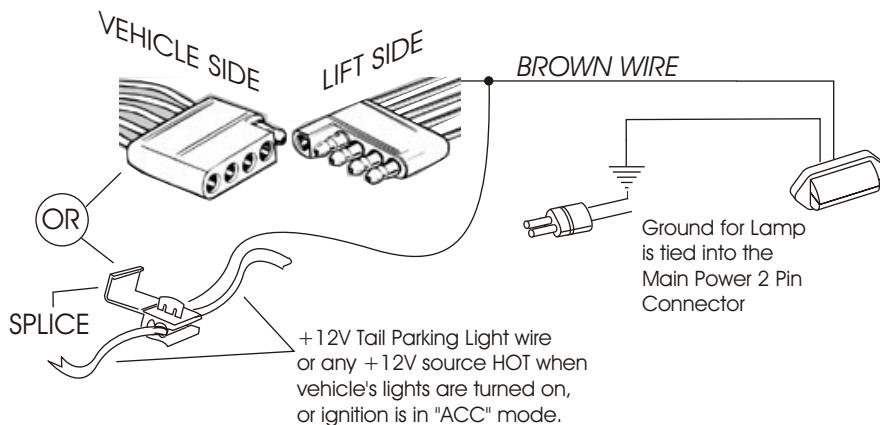
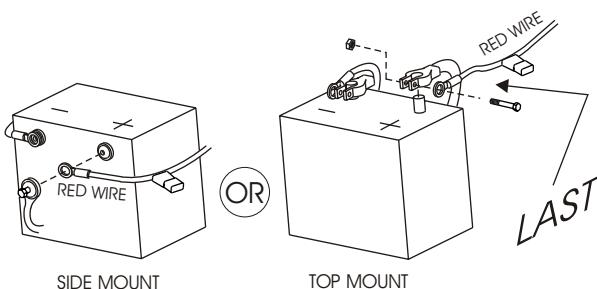
CAUTION

DO NOT CUT OR SHORTEN THE HARNESS.

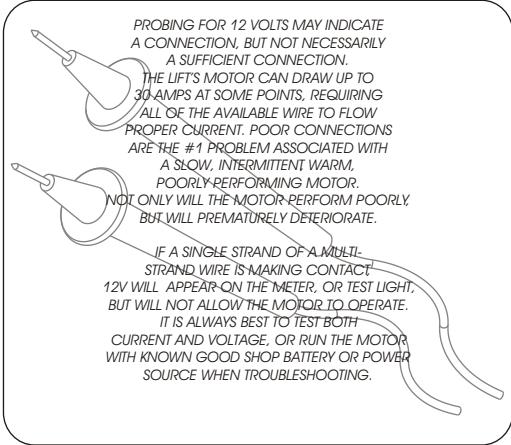
4 Plug connector into the lift.

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

6 A standard 4 contact trailer connector is also included with the lift. This is for the illumination of the license plate lamp. If your vehicle is not equipped with the proper connector, a wire splice, using the BROWN WIRE can be made to achieve the same result.



TECH NOTE: MOTOR TEST



To install an Outside Lift on a vehicle, the vehicle must be capable of accepting a Class 2 or Class 3 Hitch. If you are unsure about the vehicle and hitch compatibility, contact a local hitch installer or the web sites below. The vehicle should also be wired with a standard 4 connector trailer wiring.

Listed below are three web sites of hitch companies that can be used as reference.



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

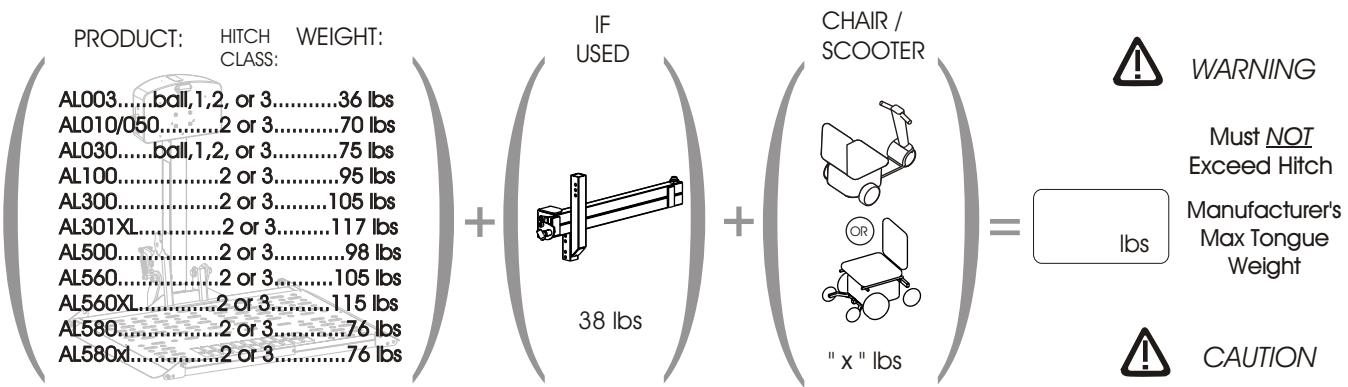


Be sure to use a hitch installer that is reputable, insured, and capable as their work has a direct reflection on the customers perception of a properly installed mobility lift.

NOT EVERY VEHICLE IS CAPABLE OF HAVING A HITCH INSTALLED

Calculate the weights of the lift, mobility device, and where applicable the swing away option, being certain that the total weight does not exceed the recommended tongue weight of the hitch. Different types of hitches are capable of bearing different amounts of weight.

The lift manufacturer suggests the installer observe the vehicles *Gross Vehicle Weight Rating* restrictions.



Some states have very strict license plate obstruction laws, so be sure to familiarize yourself with the local and state laws.

Assure the receiver tube of the hitch is installed parallel to the ground. This is not a recommendation, but a requirement. If the hitch is not properly installed it will affect the function of the lift.

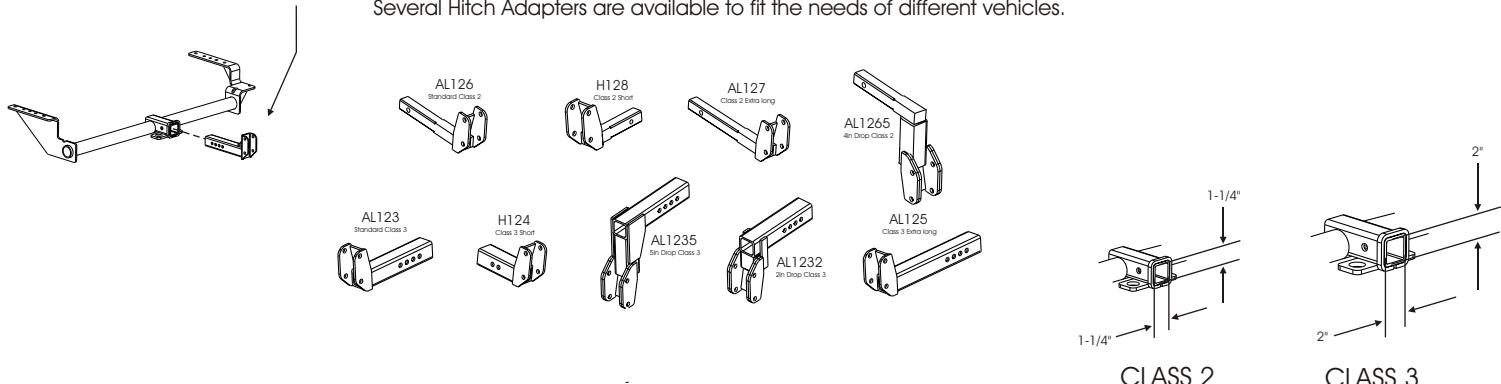
Some vehicles will require that the rear suspension be supplemented. The manufacturer recommends the installer contact a suspension specialist for additional technical support.

A vehicle with a Class 3 (Class 2 requires optional accessories) hitch and standard 4 connector wiring is ready for installation.

HITCH ADAPTERS



A Hitch Adapter is the interface between the lift and vehicle. It is a part that plugs into a vehicle's trailer hitch. Several Hitch Adapters are available to fit the needs of different vehicles.



For proper lift operation:

When selecting a Hitch Adapter you should determine the Hitch Class, measure Bumper Distance, and measure Hitch Height.

Usually printed on the trailer hitch, it can also be determined by measuring the inside of the receiver on the trailer hitch.

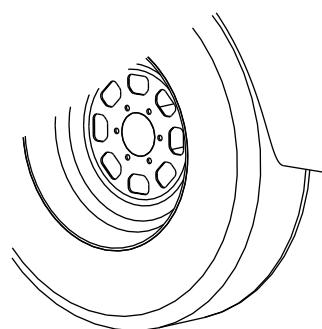
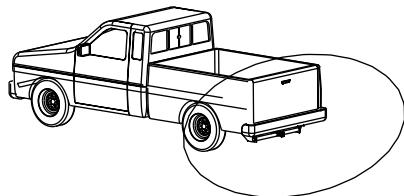


WARNING

- HARMAR REQUIRES THE USE OF HARMAR APPROVED HITCH ADAPTERS ONLY.
- THE USE OF HITCH EXPANDERS AND EXTENDERS IS STRICTLY PROHIBITED.
- USE OF SUCH ITEMS OR ANY OTHER AFTERMARKET ACCESSORY MAY CAUSE DAMAGE TO VEHICLE, LIFT, AND/OR PERSON.

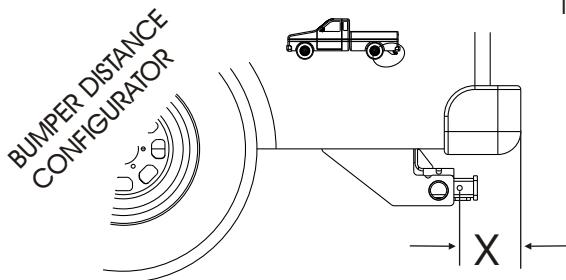
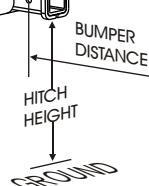


WARNING



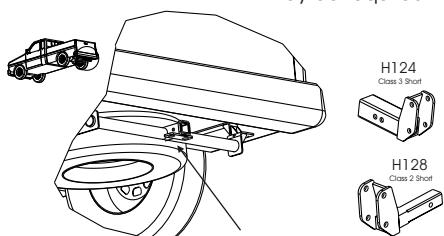
Bumper distance is the length from the trailer hitch's bolt hole to the rear most point on the vehicle.

Hitch Height is the distance from the bottom of the hitch receiver to the ground



IF:	X=0-7.5"	X=7.5"-10"	X=10"-13.5"
CLASS 3	AL123 (Standard Class 3)	AL125 (Class 3 Extra Long)	AL125 (Class 3 Extra Long)
CLASS 2	AL126 (Standard Class 2)	AL127 (Class 2 Extra Long)	Please contact Harmar's Technical Service Dept.

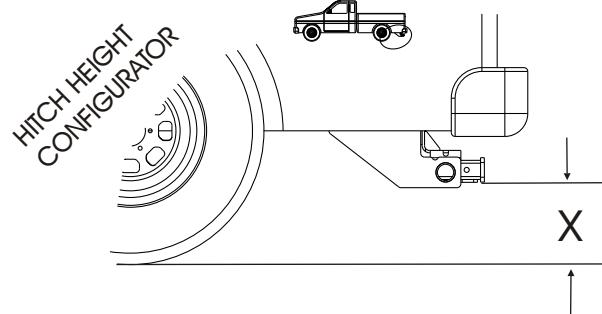
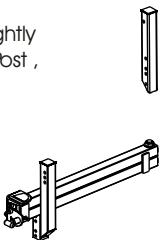
For SOME shallow hitches, ex. Spare Tire blocked hitches, a short Hitch Adapter may be required.





The effective range of the Hitch Adapter changes slightly if the Lift is equipped with the standard AL-107 Hitch Post ,

or if equipped with a Tail Gate / Back Hatch accessibility option, the AL-105 Swing Away



CLASS 3 HITCH



CLASS 2 HITCH

if X =	STANDARD MOUNT AL-107 HITCH POST (NO SWING AWAY)	OPTIONAL AL-105 SWING AWAY	if X =
6"			6"
7"			7"
8"			8"
9"			9"
10"			10"
11"			11"
12"			12"
13"			13"
14"			14"
15"			15"
16"			16"
17"		AL-123 ²	17"
18"		AL-123 ²	18"
19"	AL-123 ²	AL-1235	19"
20"	AL-123 ²	AL-1235	20"
21"	AL-1235		21"
22"	AL-1235		22"
23"	AL-1235		23"
24"	AL-1235		24"
25"	AL-1235		25"
26"	AL-1235		26"
PLEASE CONTACT TECHNICAL SERVICE DEPARTMENT FOR AVAILABILITY OF LARGER DROP ADAPTERS			

if X =	STANDARD MOUNT AL-107 HITCH POST (NO SWING AWAY)	OPTIONAL AL-105 SWING AWAY	if X =
6"			6"
7"			7"
8"			8"
9"			9"
10"			10"
11"			11"
12"			12"
13"			13"
14"			14"
15"			15"
16"			16"
17"	AL-126 ²	AL-1265	17"
18"	AL-126 ²	AL-1265	18"
19"	AL-126 ²	AL-1265	19"
20"	AL-126 ²	AL-1265	20"
21"	AL-126 ²	AL-1265	21"
22"	AL-126 ²	AL-1265	22"
23"	AL-126 ²	AL-1265	23"
24"	AL-126 ²	AL-1265	24"
25"	AL-126 ²	AL-1265	25"
26"	AL-126 ²	AL-1265	26"
PLEASE CONTACT TECHNICAL SERVICE DEPARTMENT FOR AVAILABILITY OF LARGER DROP ADAPTERS			

Should the measurement fall in between, ex. 18-1/2", round up if greater than or equal to 1/2", round down if less than 1/2".

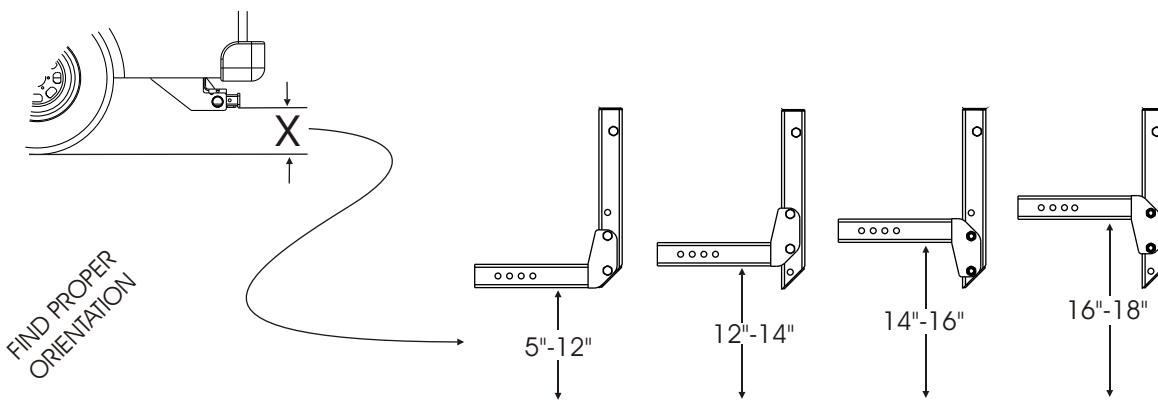
Combination Hitch Adapters are available (ex. Short Class 3, 5in Drop or Long Class 2, 2in Drop)

If you have any questions / concerns about selecting the appropriate Hitch Adapter for your application, please contact Harmar's Technical Service Department, and a highly trained representative will be happy to assist

INSTALLATION w/ HITCH POST

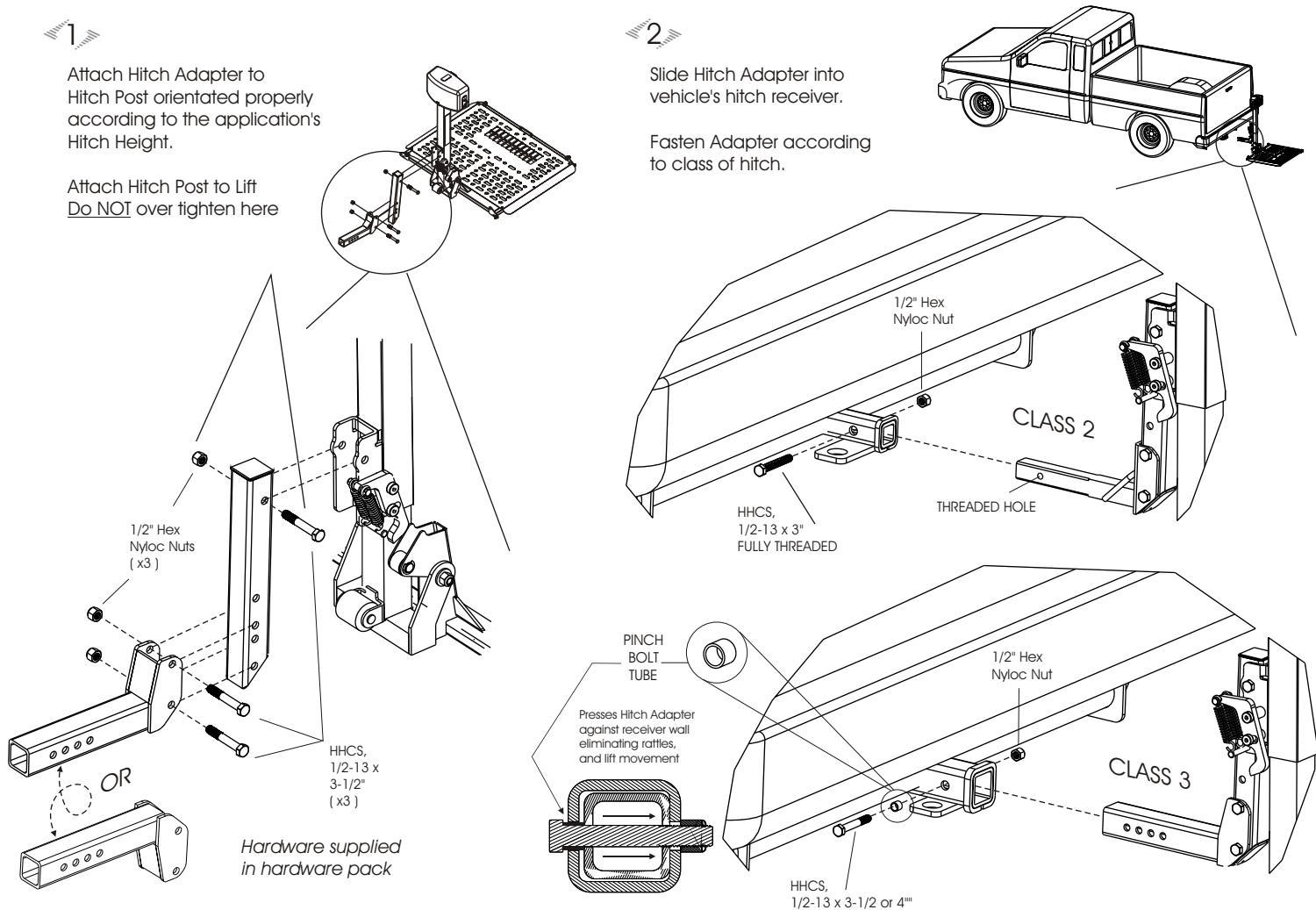


The Hitch Adapter's orientation and location can be utilized to achieve a range of different lift heights, optimizing the vehicle's ground clearance, while assuring the platform will reach the ground and lay flat at the end of travel. Please consult the diagram below to select the orientation needed for the vehicle, based off the Hitch Height. (Vehicle's hitch receiver distance to the ground.)



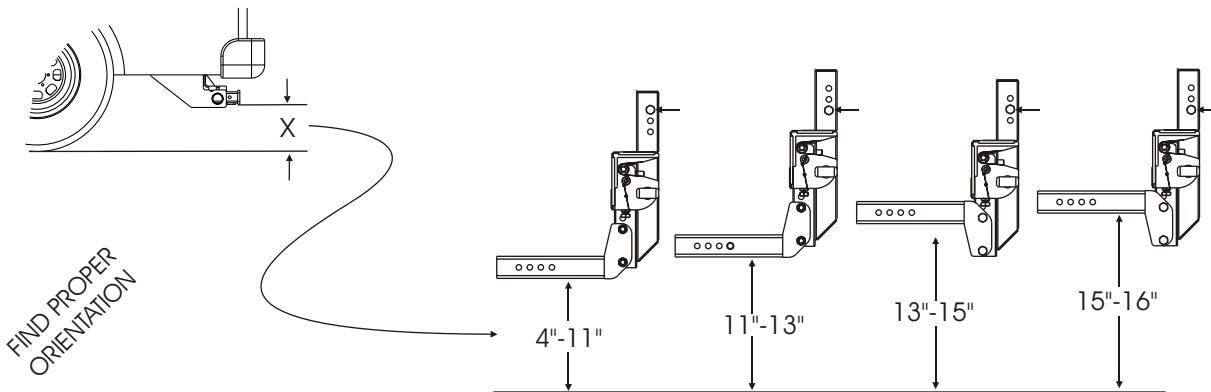
WARNING

Please refer to page 4 for a helpful procedure on performing this installation



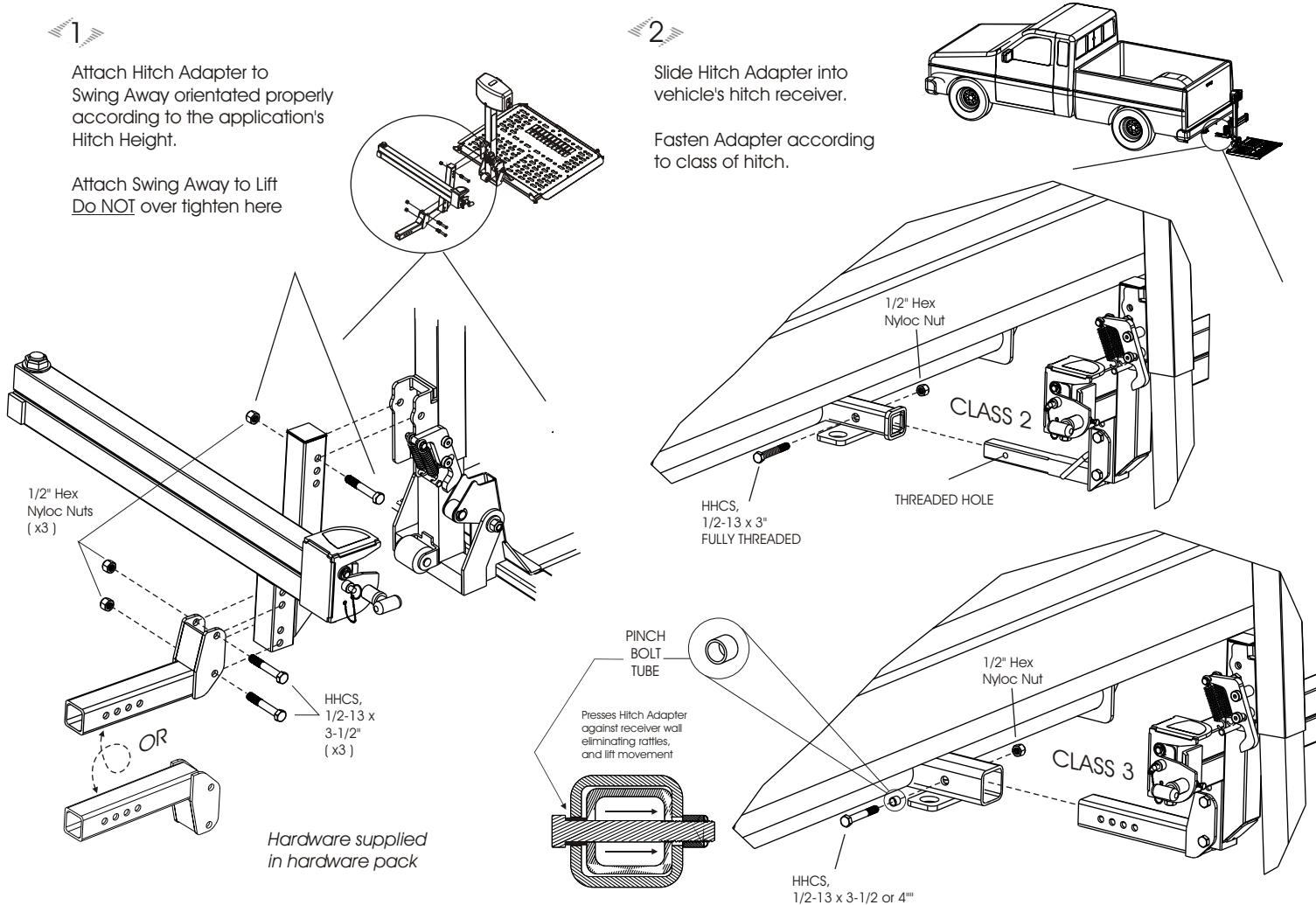
INSTALLATION w/ SWING AWAY

The Hitch Adapter's orientation and location can be utilized to achieve a range of different lift heights, optimizing the vehicle's ground clearance, while assuring the platform will reach the ground and lay flat at the end of travel. Please consult the diagram below to select the orientation needed for the vehicle, based off the Hitch Height. (Vehicle's hitch receiver distance to the ground.)

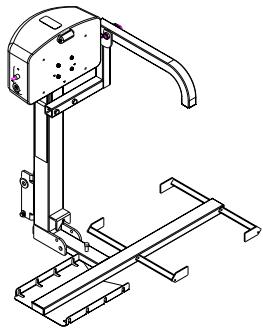


WARNING

Please refer to page 4 for a helpful procedure on performing this installation



AL030 POWER TOTE INSTALLATION

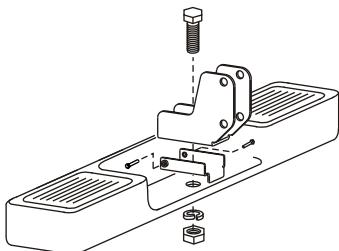


Ball Mount Hitch Adapter and stabilizer

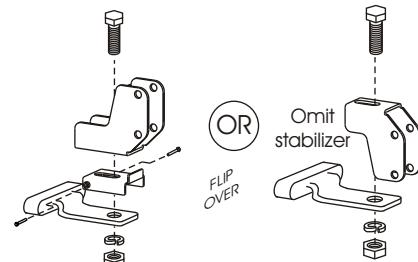


FOR AL030 ONLY
(Ball Mount Hitch adapter)

Bumper Mount
(Be sure to comply with vehicle's bumper rating)

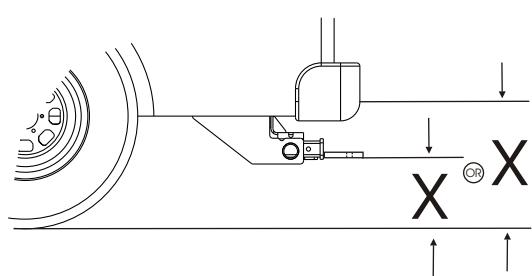


Flat Bar Style
(Be sure to comply with vehicle's bumper rating)



STANDARD EQUIPMENT SHIPPED
w/ AL030 POWER TOTE

(AL030 can also be upgraded w/
Class 3 and Class 2 Hitch adapters)

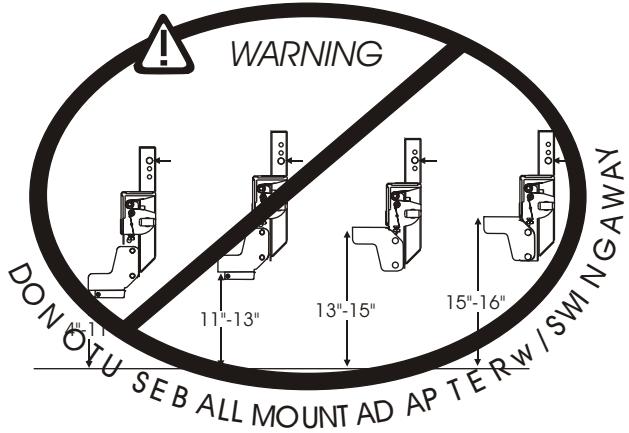
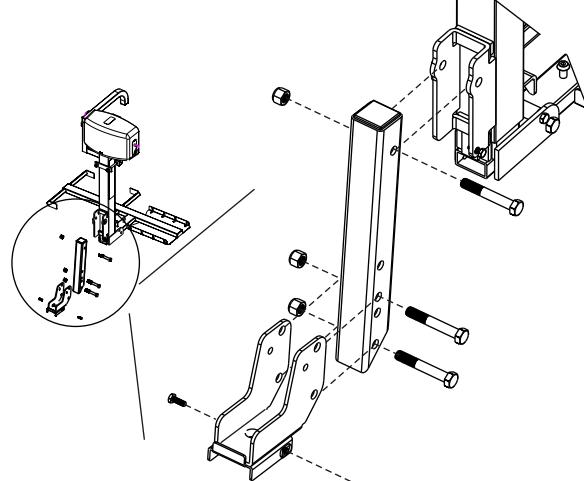
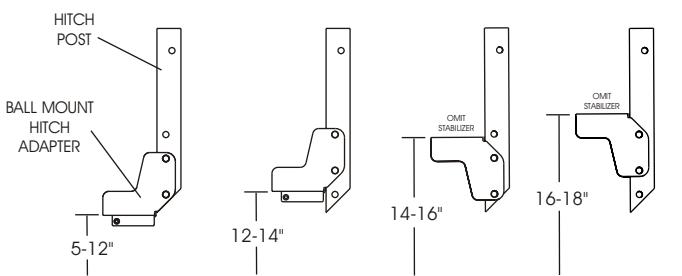


WARNING

Do not attempt to
mount up from under
Flat Bar

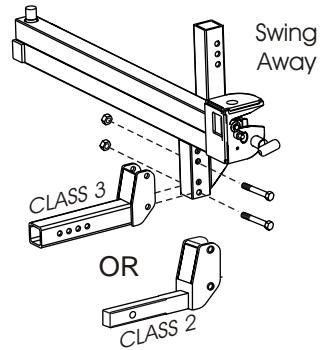


When using the Ball Mount Hitch adapter, Hitch Height is dependant on whether the Adapter will be located on the bumper, or on the flat bar of the vehicle.



Only Class 3 or 2
Hitch Adapters
can be used with
a Swing Away

Please refer to
"Installation w/
Swing Away"
for mounting
orientation



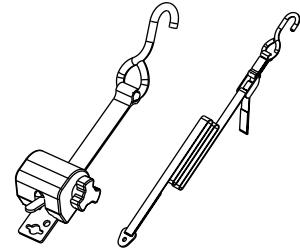
IF USING A LIFT WITH 4 STRAPS FOR SECUREMENT,
THERE ARE 2 OPTIONS ON HOW TO ATTACH
THE STRAP HOOKS TO THE CHAIR
EACH OPTION IS INCLUDED WITH THE LIFT.

ANCHOR PLATE:

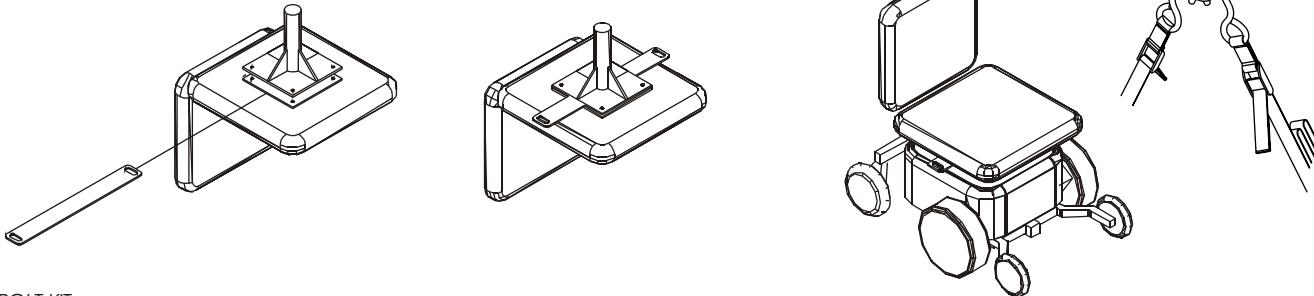
The Anchor Plate is a flat plate that is 20" long with a slot in each end. This plate will work with any chair or scooter that has a center seat post and attaches to the bottom of the seat.

The Anchor Plate should extend about 1-1/2" out from the side of the cushion. This will allow the user to attach the strap hooks to the Anchor Plate to secure the chair to the lift.

Attach the Anchor Plate by the following steps:



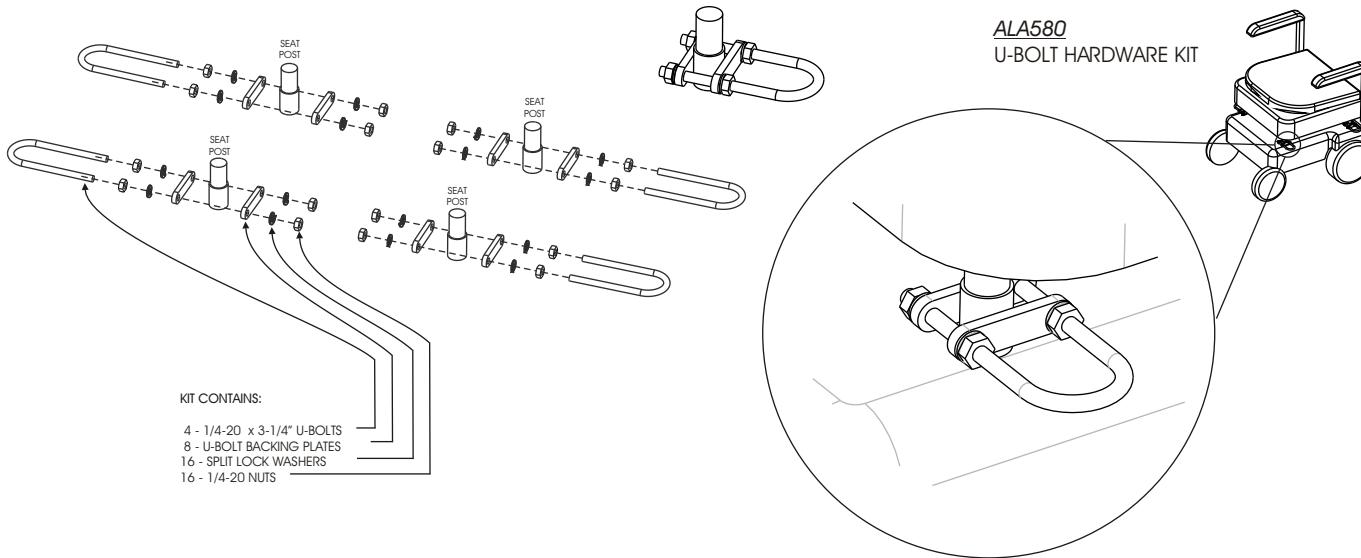
1. Remove the seat from the chair.
2. Loosen the screws that attach the plate to the bottom of the seat. Allow enough room to slide the Anchor Plate between the seat and the seat plate.
3. Attach the Anchor Plate in the center of the seat plate with the holes on each end extending evenly on each side of the seat.
4. Re-tighten the screws that hold the seat plate to the bottom of the seat.
5. Replace the seat on the chair.



U-BOLT KIT:

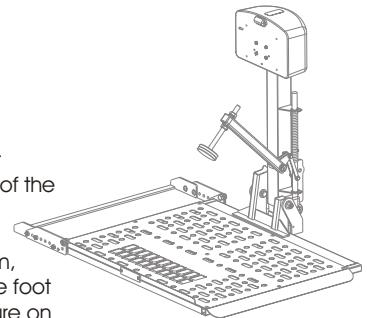
The U-bolts are to be used with power chairs or scooters that do not have a center seat post. On this type of chair, the seat is normally attached to a tubular frame. Attach the U-bolts two on each side, to the frame as shown below. Make sure that the loop extends to the outside of the chair to allow the strap hooks to be attached by the end user.

Each type of chair will differ slightly and the placement of the U-bolts will differ between different models and manufacturers. Place the U-bolts towards the center of the seat if possible. Because of the different types of seats, you may be forced to attach the U-bolts more towards the front or rear of the seat, but we recommend attachment as close as possible to the center of the seat.





SETTING HOLD DOWN FOOT HEIGHT



With platform on the ground, drive scooter onto platform, from the left (driver's side) to right, until the rear wheels are located in the rear wheel spreader bar assembly. Stop when the rear tires contact the ramp of the platform.

Raise the platform until the motor's clutch is heard (top of travel). Loosen both nuts on the hold down arm, and raise or lower the foot to contact the scooter's deck. Lower the platform about 1-2 inches. Lower the foot once again to the scooter's deck. Raise the platform. Verify the hold down foot places adequate pressure on the scooter. DO NOT adjust the leg down so far that the top of the threaded rod does not protrude through the top of the pivot tube. 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 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.



WARNING

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.



WARNING

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 the lift if not properly secured.



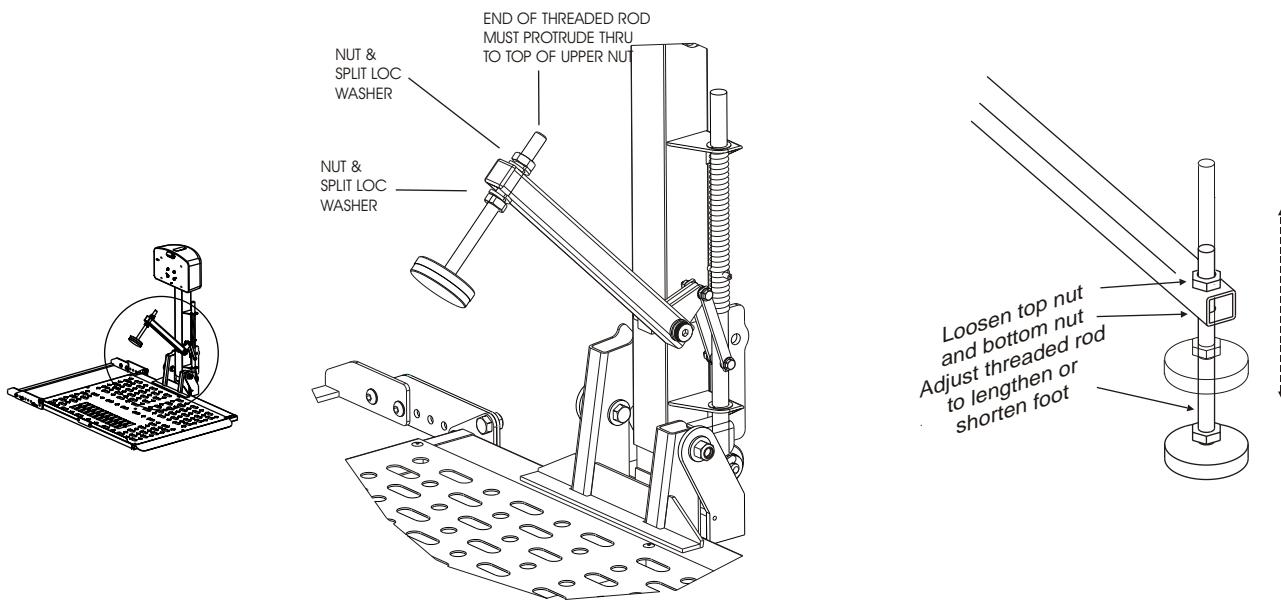
WARNING

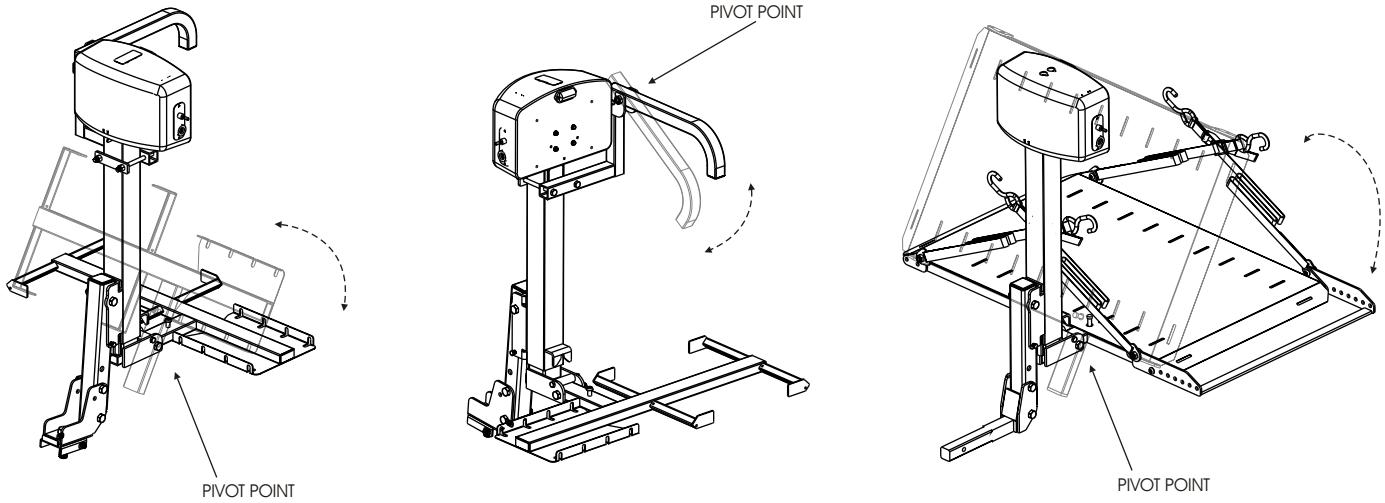
Be sure to instruct the end user not to enter steep driveways straight on. Enter and leave at an angle to the street so that the lift platform does not drag on the ground.



CAUTION

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



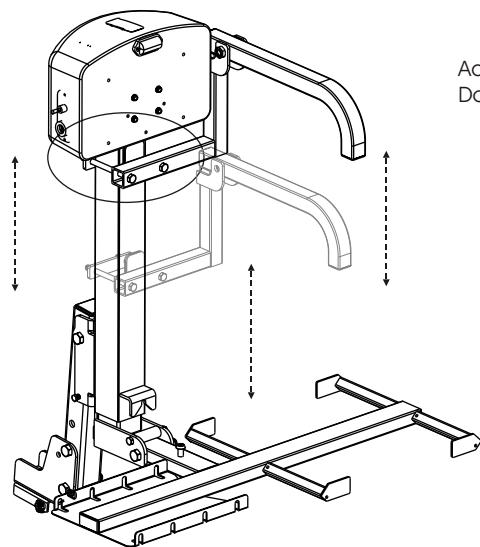
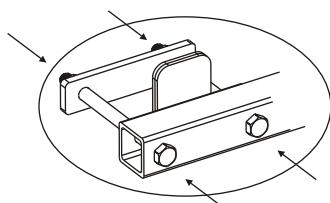


The manual folding hinge points of the AL010/050 and AL030 contain tensioning washers. The amount of force required to move these parts is determined by the tension of these washers. The tension also dampens the movement and allows a controlled operation of the folding of platform or hold down arm. To adjust, simply tighten or loosen the bolt and nut located at the pivot point. The tension is set at the factory and should not need adjustment. However if more or less resistance is desired, adjust accordingly.

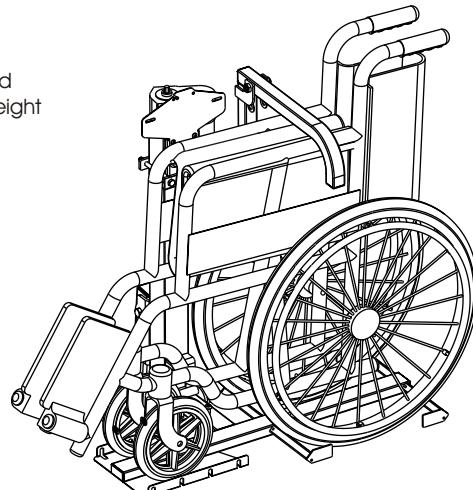


CAUTION

The AL030's Hold Down Arm height requires adjustment to properly clamp your specific wheelchair to the platform. Position the folded wheelchair on the platform being certain the large rear wheels fall into the cradles of the platform. Loosen the two bolts and nuts located in the drawing below. Allow the arm to rest on the padded armrests. Remove chair, and allow the arm bracket to fall approx 1 inch. Tighten bolts and nuts. Replace chair on platform and test the Hold Down Arm. Chair should be secure, and not moveable in any direction. Adjust as needed.



Adjusting Hold
Down Arm height



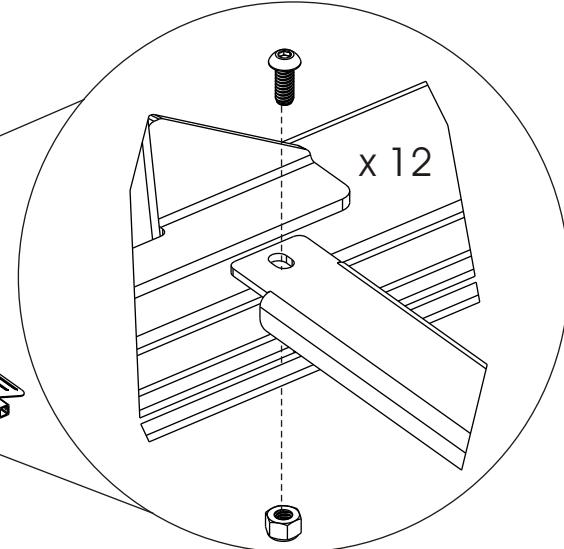
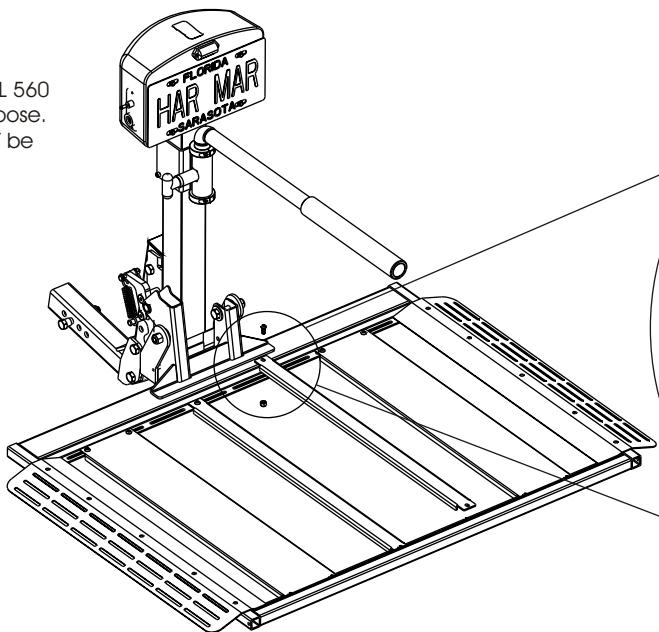
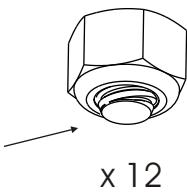
LIFT PREPARATION - AL 560 SERIES



CAUTION

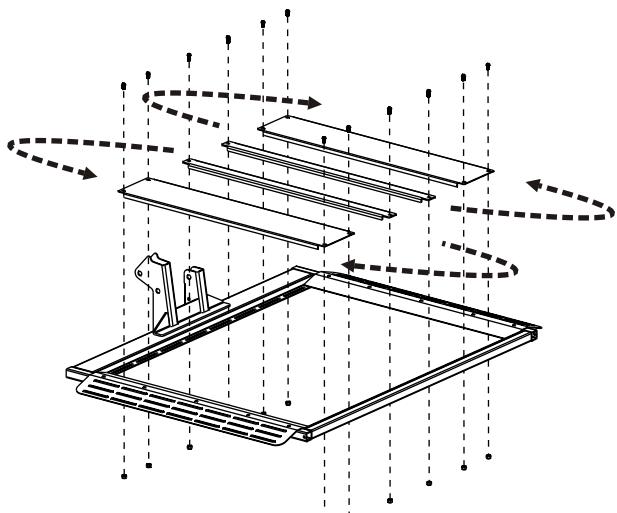
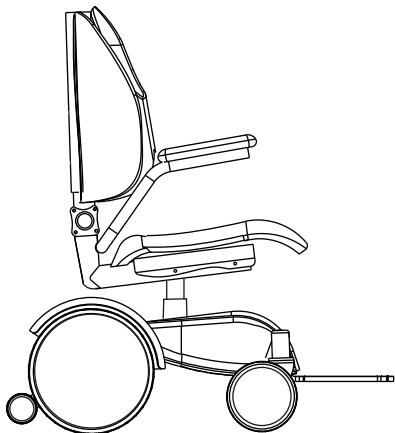
For adjustment purposes ALL 560 platform components are loose. These screws and nuts MUST be tightened before use.

THREAD MUST PROTRUDE OUT THE TOP OF NYLON PORTION OF ALL THE NUTS

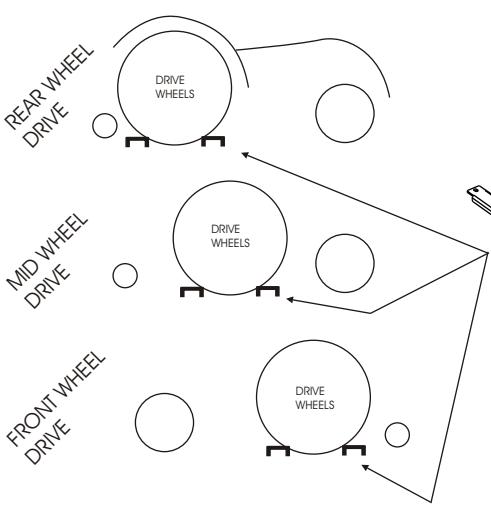


CAUTION

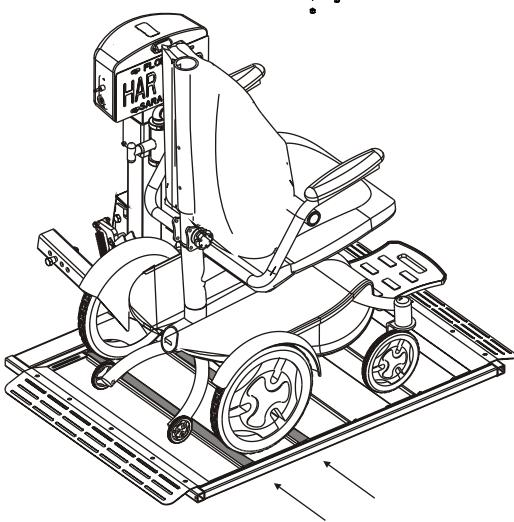
RE-ARRANGE PLATFORM SKINS AND CRADLES AS NEEDED TO CAPTURE THE DRIVE WHEELS



Estimate the chair's center position depending on driver's side or passenger's side entry preference. Locate the drive wheel's position. Adjust the 2 main cradle positions to match. Capture smaller wheels on the 2 larger skins.



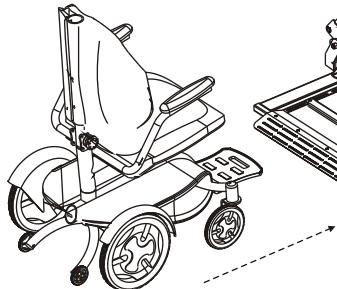
Drive chair onto platform. Verify chair is secure and does not move in any direction once positioned between the skins and cradles.



AL560 & AL 580 SERIES - HOLD DOWN ARM ADJUSTMENT

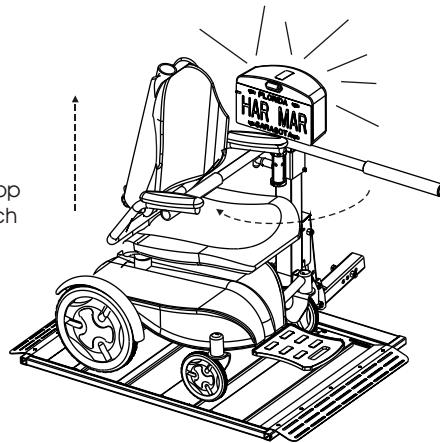
1

Drive chair onto platform after cradles have been adjusted (previous page)



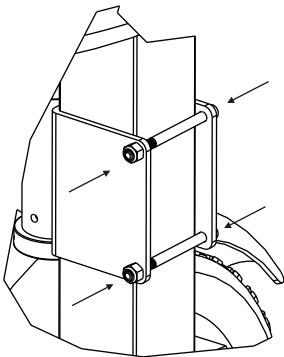
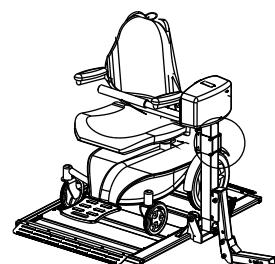
2

Raise platform to top of travel (until clutch is heard)



3

Loosen the 2 bolts and nuts in back of vertical tube.



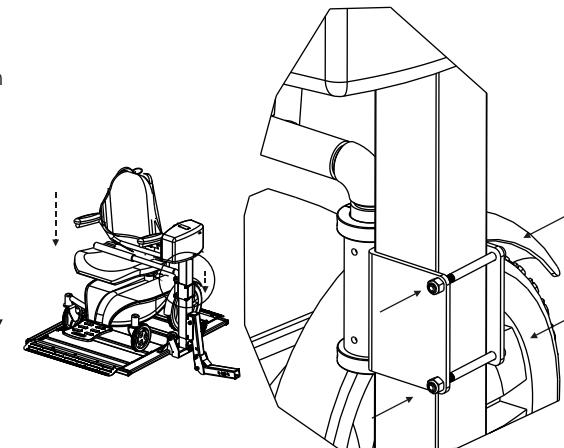
Allow arm assembly to lower until the arm contacts the seat

4

Lower the platform approx. 2" to 3"

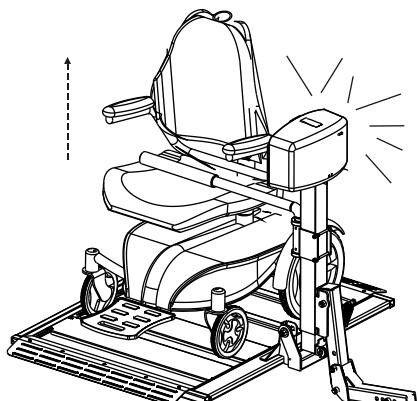
Allow arm to drop with seat

Re-Tighten the 2 bolts and nuts.



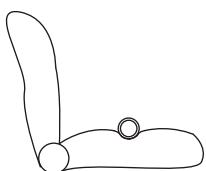
5

Run lift up until top of travel (clutch is heard)

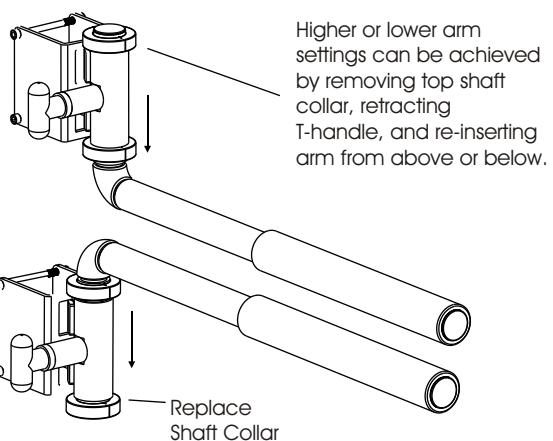


CAUTION

VERIFY ARM PRODUCES ENOUGH PRESSURE ON SEAT TO FIRMLY HOLD



Power chair to platform seat should be somewhat deformed by arm.

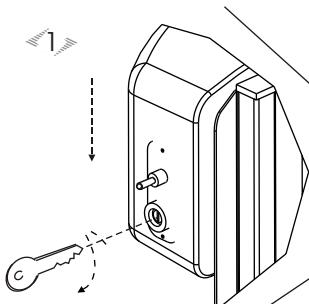


This method allows the red T-handle to remain on the same side as the key and toggle switches.

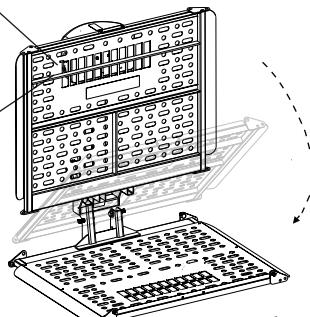
OR

Entire assembly can be flipped IF desired for opposite T-handle location.

OPERATION - GENERAL

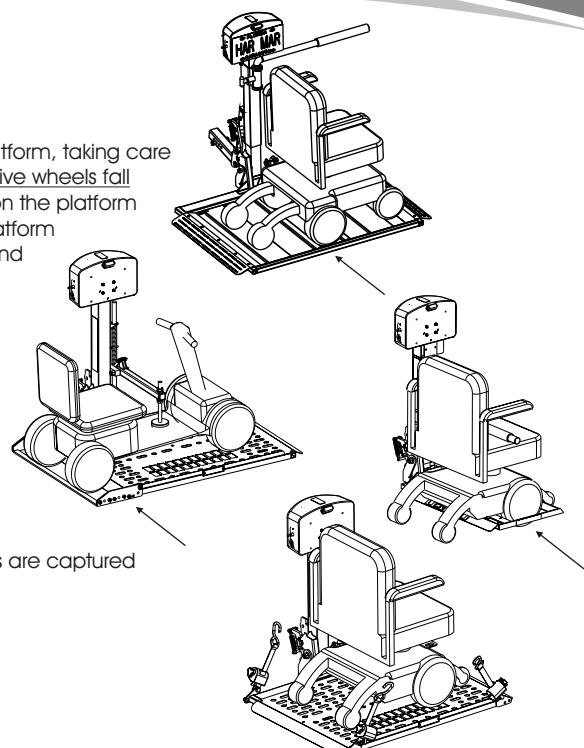


Insert Key and switch to "ON" position.
Press DOWN on toggle switch.
The platform will unfold.
Continue to lower until platform reaches the ground and becomes level.
DO NOT continue to travel downward so much so, that the vehicle starts to raise.
This will damage the lift.



2

Drive chair onto platform, taking care to stop when the drive wheels fall between the bars on the platform or center on the platform depending on lift and chair model.

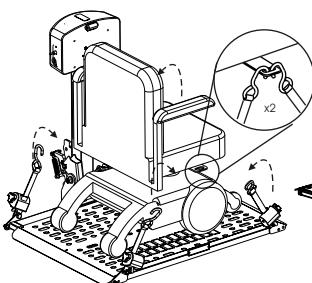
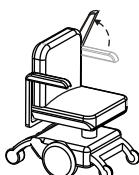


Positioning on the platform is critical to properly lock on most models. Please consult your dealer on the specifics of your application.

Always verify wheels are captured by cradles or bars.

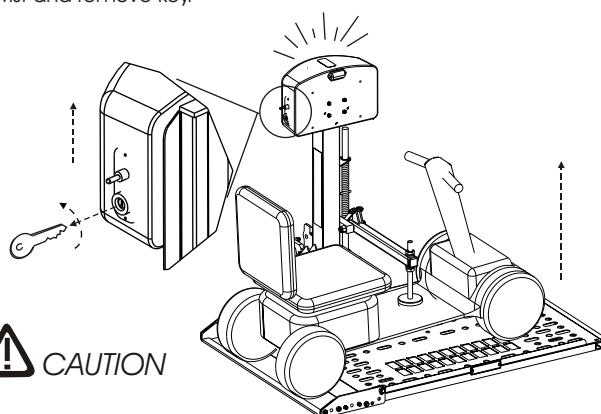
3

Depending on model lift and your application's securement means, you may wish to raise the platform half way to raise the level at which you will be attaching straps to avoid bending over, or flip the chair's armrest out of the way for the hold down arm.



4

Once the chair is secure, continue to raise the lift using the toggle switch, until the top of travel (clutch is heard). Twist and remove key.



CAUTION

ALWAYS

Verify the chair or scooter is held firmly in place prior to transport.

Always run the lift to the top of travel for transport. The lift will make a ratchet type sound at the top, which is the best indication that all mechanism are locked and ready for travel.

Never attempt to move the vehicle without the lift being in the full "up" or "stowed" position. This may cause damage to the lift.

Slow Down for pot holes, rough roads, railroad tracks etc... Excessive loads imposed from rough driving will damage your lift, and will not be covered by the warranty.

If any damage is noticed, stop using the lift immediately. Do not attempt to transport a chair or scooter with a compromised lift. Damage to your chair, lift, vehicle may occur. Take the lift to your nearest dealer, and have it evaluated prior to further use.

5

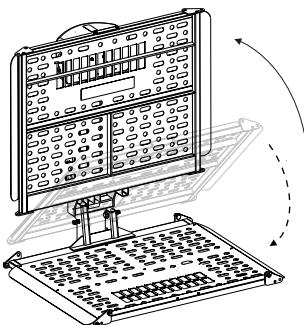
To unload, follow these instructions in reverse, and reverse the direction of the arrows.

When unloaded, the platform will automatically fold. (except AL010/050 and AL030)

These are generic instructions



Please follow the instruction suggested by your dealer as each application varies slightly depending on chair make and model.





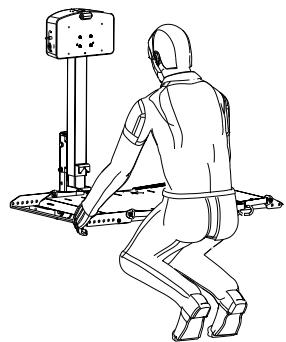
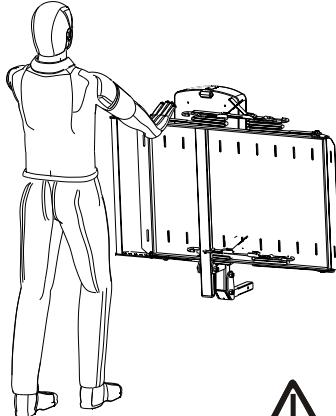
Micro-Lifts

The AL010/050 and AL030 both require the platform to be folded and unfolded manually.

The locking mechanism consists of a pin and keeper plate, which must be disengaged prior to unfolding.

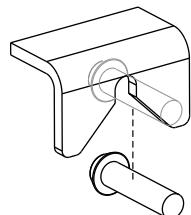
Simply hold the platform firmly and lower it approx. 2" to allow the platform to disengage and unfold.

To lock in the upright position, lift platform up prior to the pin engaging the keeper plate. Approximately 2" or more.



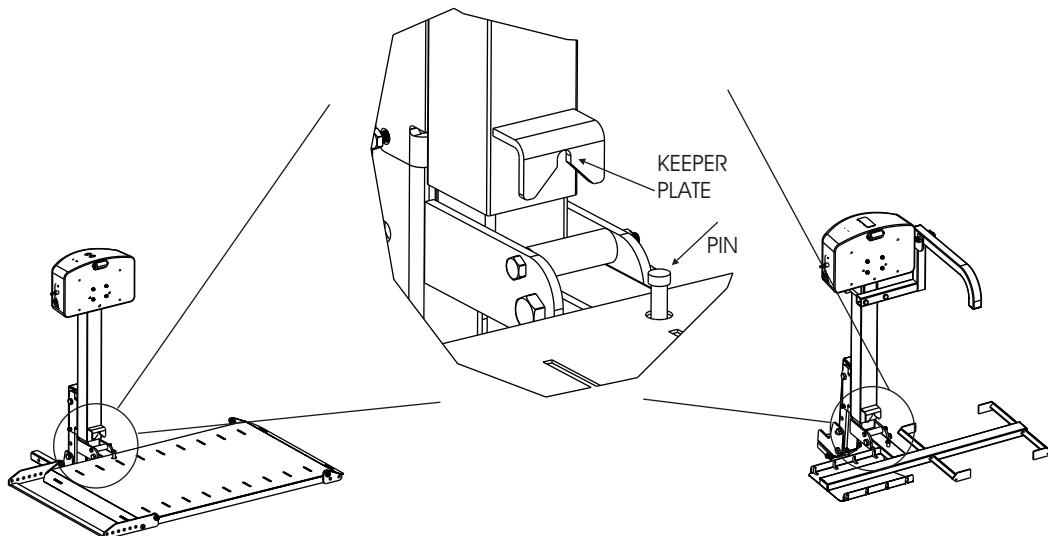
WARNING

HOLD PLATFORM FIRMLY WHILE LOWERING THE LIFT TO ITS DOWN POSITION.



WARNING

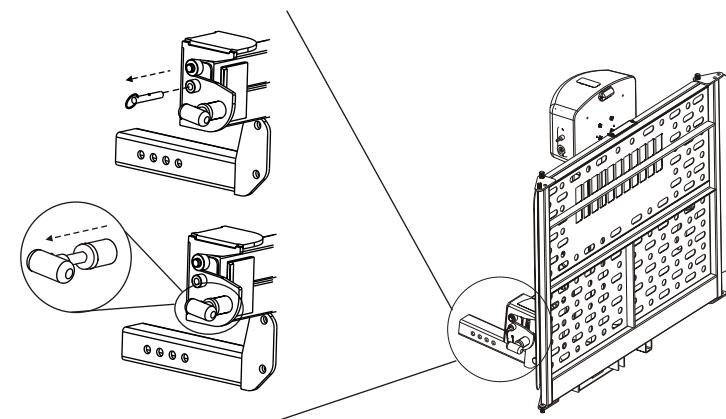
HOLD PLATFORM FIRMLY WHILE RAISING THE LIFT UNTIL THE PIN HAS ENGAGED THE KEEPER PLATE.



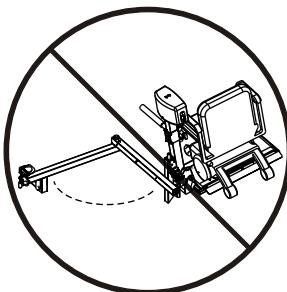
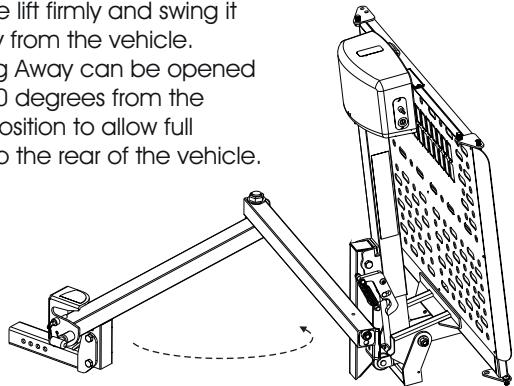
OPERATION - SWING AWAY

Many scooter and chair 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 dealer and added at any time.

OPENING THE SWING AWAY:



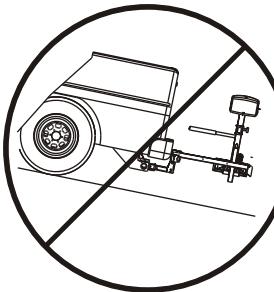
Grasp the lift firmly and swing it out away from the vehicle. The Swing Away can be opened up to 180 degrees from the closed position to allow full access to the rear of the vehicle.



WARNING

!! NEVER OPERATE THE SWING AWAY WITH THE CHAIR ON THE LIFT !!

This will cause damage to the Swing Away, lift, and potentially cause damage to the vehicle and the chair. This will VOID your warranty.



WARNING

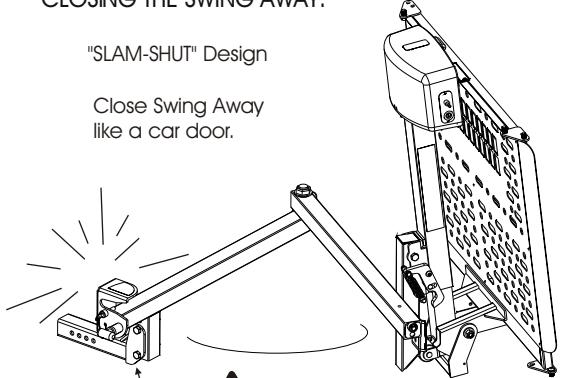
!! OPEN ONLY ON LEVEL GROUND !!

Failure to do so may result in the operator losing control of the lift causing damage to persons and property.

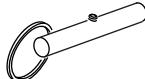
CLOSING THE SWING AWAY:

"SLAM-SHUT" Design

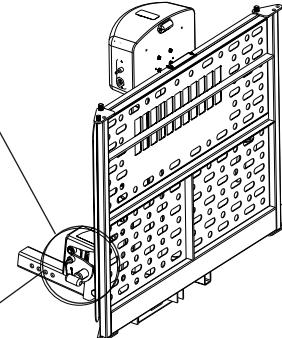
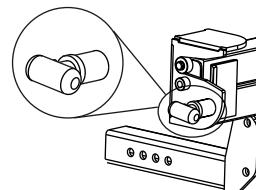
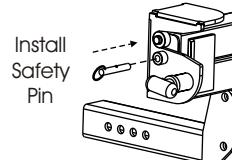
Close Swing Away like a car door.



KEEP CLEAR OF LATCHING MECHANISM.



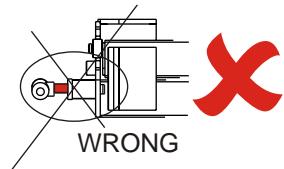
Always install the safety pin.



VERIFY RED KNOB HAS FULLY RETRACTED.



SAFELY CLOSED



WRONG

**WARNING**

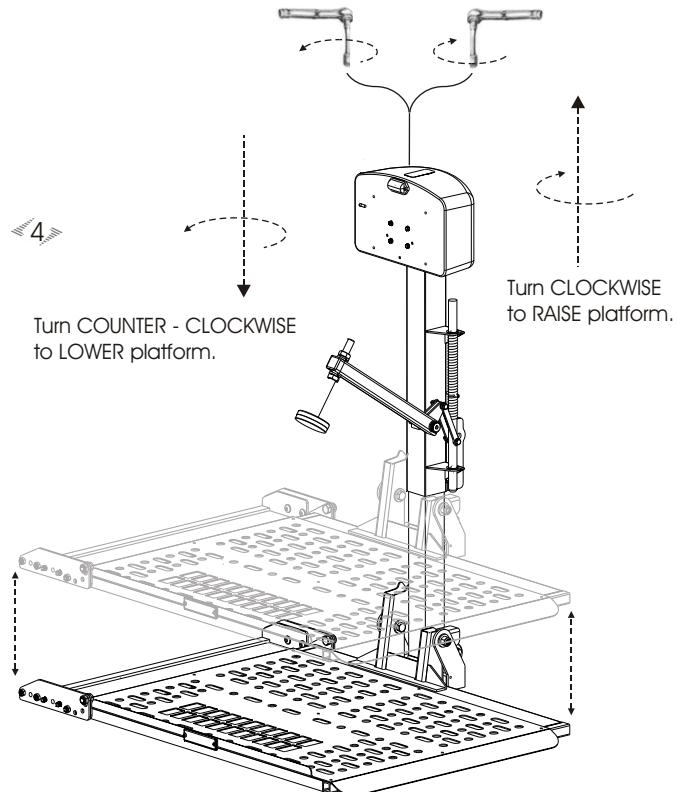
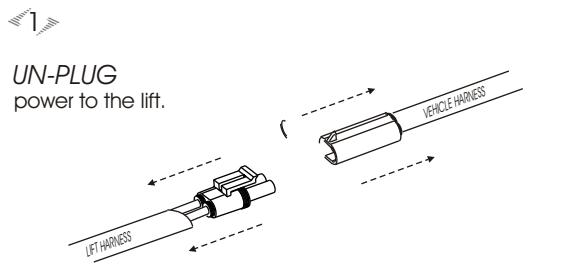
DISCONNECT POWER FROM LIFT
BEFORE
ATTEMPTING MANUAL OVERRIDE

Ideally, the Manual Override system should never be needed.

However, in the event of power failure (ex. Dead Battery,) your lift is equipped with the ability to operate the platform for emergency purposes. The very first, and most important step is to unplug the 2 connector plug BEFORE attempting to use the override. Failure to do so can result in serious injury.

Please remember to disconnect power prior to any effort to operate the Manual Override.

REMOVE
**REMOVE STICKER TO
ACCESS MANUAL OVERRIDE**
**DISCONNECT POWER BEFORE
INSERTING WRENCH**



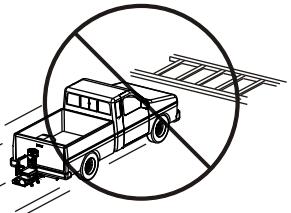
MOTOR COVER IS NOT A SEALED UNIT AND IS ACCEPTABLE TO USE WITHOUT STICKER IN PLACE. CONTACT YOUR LOCAL DEALER FOR SERVICE.

SAFETY & MAINTENANCE



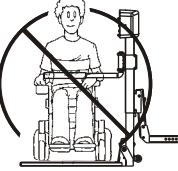
CAUTION

When driving with your chair on the lift, drive with EXTREME CARE. SLOW DOWN for pot holes, speed bumps, railroad tracks, etc. Your lift, vehicle, chair can be badly damaged by abuse if subject to excessive loads imposed by rough driving.



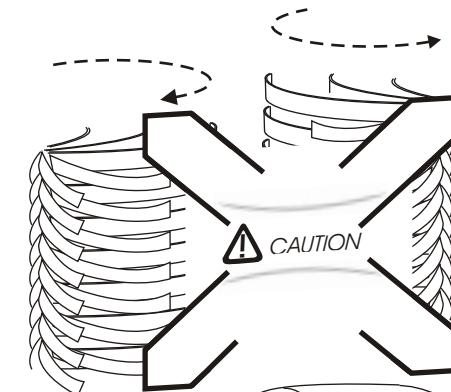
WARNING

This lift is NOT meant for human transport. Chair MUST be unoccupied before operating the lift. These lifts are designed for a specific chair transport only. DO NOT attempt to move any other power chairs, vehicles, objects, people, or materials other than for what the lift was designed.



CAUTION

Before folding an un-loaded platform, be sure to return the Hold Down Arm to one of the side positions. Failure to do so, will damage your lift.



CAUTION

Keep hands and feet away from PINCH POINTS. As with most mechanical objects, the hinge point of a moving part creates a pinch point. Be sure not to stick fingers or extremities at or near these points.



Keep hands, feet, and any other objects out from under the platform as it lowers.



Keep your chair's tires properly inflated. Improper inflation will change how the chair fits and secures on the platform, therefore changing the amount of clamping pressure.



Before driving off with your chair on the lift, make sure that the chair is firmly held to the platform.



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.

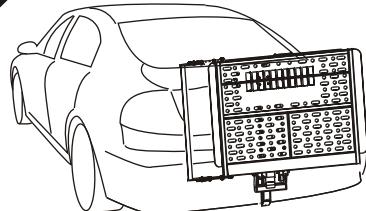


Do not enter steep driveways straight on. Enter and leave at an angle to the street so that the lift does not drag on the ground.



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

YOU MUST HAND WASH
OR USE TOUCHLESS
AUTOMATIC CAR WASH
TO PREVENT LIFT DAMAGE



MAINTENANCE

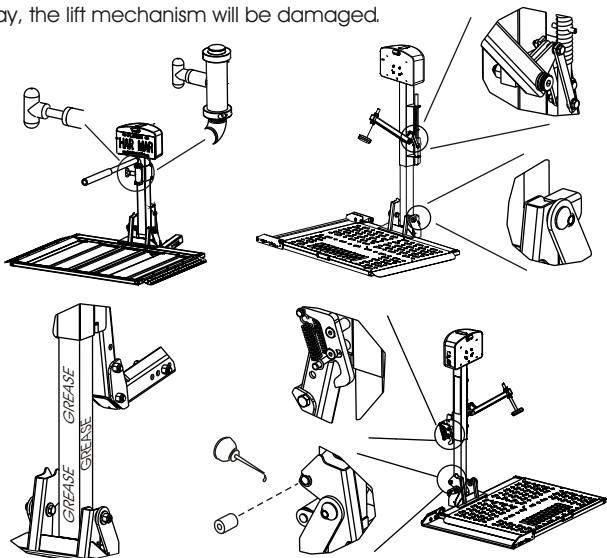
This outside lift has been designed to be as trouble free as possible for the owner. The maintenance schedule is no exception.

Every 30 days oil the pivot points on all moving parts.



During winter, or under dirty and dusty conditions, re-grease the inside vertical square tube every 30 days. To accomplish this, lower the platform to the ground and clean with mineral spirits, WD-40, or a good solvent. Once clean, grease the square vertical tube shaft with high grade water resistant grease such as boat trailer wheel bearing grease.

Check for paint chips and touch up any bare metal with a good gloss black enamel or laquer to inhibit rust. This may be necessary more frequently when subject to salt air or road salt during winter months.



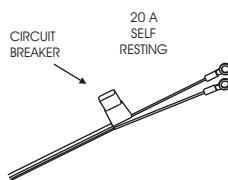


PROBLEM: LIFT WILL NOT OPERATE, OPERATES SLOWLY, or OPERATES INTERMITTENTLY.
REASON: BAD ELECTRICAL CONNECTIONS / CIRCUIT BREAKER

PROCEDURE:
 CHECK / CLEAN ALL CONNECTIONS THAT MIGHT BE LOOSE OR DIRTY. THIS IS THE #1 CAUSE OF A POORLY PERFORMING LIFT. THE MOTOR ON THE LIFT REQUIRES QUALITY ELECTRICAL CONNECTIONS TO OPERATE AT FULL CAPACITY. ANY BREAK IN THE WIRING WILL SLOW DOWN THE MOTOR, OR CAUSE IT TO OPERATE INTERMITTENTLY. WHICH IN TURN WILL PREMATURELY DETERIORATE THE MOTOR.

THE LIFT'S VEHICLE POWER HARNESS RUNNING THROUGH OR UNDER THE VEHICLE IS SUBJECT TO ROAD DEBRIS, AND RUBBING AGAINST THE VEHICLE'S FRAME, CAUSING A SHORT. INSPECT THE FULL LENGTH OF THE HARNESS TO BE SURE THE JACKET OF INSULATION IS NOT TORN.

THE CIRCUIT BREAKER IS LOCATED ABOUT 6" FROM THE CONNECTIONS TO THE VEHICLE'S BATTERY. THE BREAKER WILL SELF RESET IF OVER-LOADED. HOWEVER VERIFY (w/ OHM METER) THE BREAKER IS FUNCTIONING, OR REPLACE IT WITH A NEW / KNOWN GOOD CIRCUIT BREAKER.



PROBLEM: THERE IS A RATCHETING SOUND WHEN THE LIFT IS ALL THE WAY UP OR DOWN.

REASON: ACTUATOR CLUTCH

PROCEDURE: N/A --- THIS IS NORMAL OVERLOAD PROTECTION. THIS SOUND MUST BE HEARD IN THE UP DIRECTION TO INDICATE THE PLATFORM IS ALL THE WAY UP AND THAT THE CHAIR/PLATFORM IS SECURE. TAKE CARE NOT TO DO THIS ON THE WAY DOWN AS THIS WILL RAISE THE CAR AND IS BAD FOR THE LIFT. ONLY LOWER THE PLATFORM LEVEL TO THE GROUND. DO NOT START TO RAISE THE CAR WITH THIS LIFT.

PROBLEM: THE LICENSE PLATE LIGHT DOES NOT WORK.
REASON: 4 PRONG CONNECTOR NOT WIRED

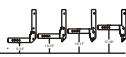
PROCEDURE: THIS LIGHT RUNS FROM THE 4 PRONG TRAILER PLUG LOCATED ON THE VEHICLE HARNESS THAT POWERS THE LIFT. MOST HITCH INSTALLERS WILL INSTALL THIS TYPE OF WIRING WHEN THE HITCH IS INSTALLED. IF NO SUCH PLUG EXISTS IT MAY BE WIRED DIRECTLY TO A TAIL LIGHT OR LICENSE PLATE LIGHT (BROWN WIRE ONLY (+))

PROBLEM: WHAT DO I DO WITH THE EXTRA LENGTH OF WIRE LEADING TO THE MOTOR OF THE LIFT?
REASON: FOR OPTIONAL SWING AWAY.

PROCEDURE: THIS WIRE IS THERE IN CASE A SWING AWAY OPTION IS USED WITH THE LIFT. IF A SWING AWAY IS NOT INSTALLED, COIL THE EXTRA WIRE AND ZIP TIE IT TO THE FRAME, OUT OF THE WAY OF ANY MOVING PARTS. WE RECOMMEND LEAVING THE EXTRA WIRE IN CASE A SWING AWAY IS ADDED TO THE LIFT AT A LATER TIME.

PROBLEM: THE LIFT DOES NOT REACH THE GROUND.
REASON: HITCH ADAPTER INSTALLATION.

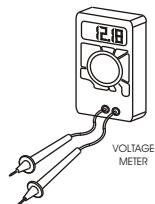
PROCEDURE: CHECK THE ATTACHMENT OF THE HITCH ADAPTER TO THE HITCH POST ON THE BACK OF THE LIFT (SEE INSTALLATION PAGE OF THIS MANUAL.) THE NORMAL RANGE OF OPERATION OF THE LIFT IS 5 TO 16 INCHES TO THE BOTTOM OF THE HITCH RECEIVER OF THE VEHICLE. ANY HIGHER VEHICLES WILL REQUIRE A DIFFERENT HITCH ADAPTER. (SEE HITCH ADAPTER SECTION OF THIS MANUAL)



CAUTION

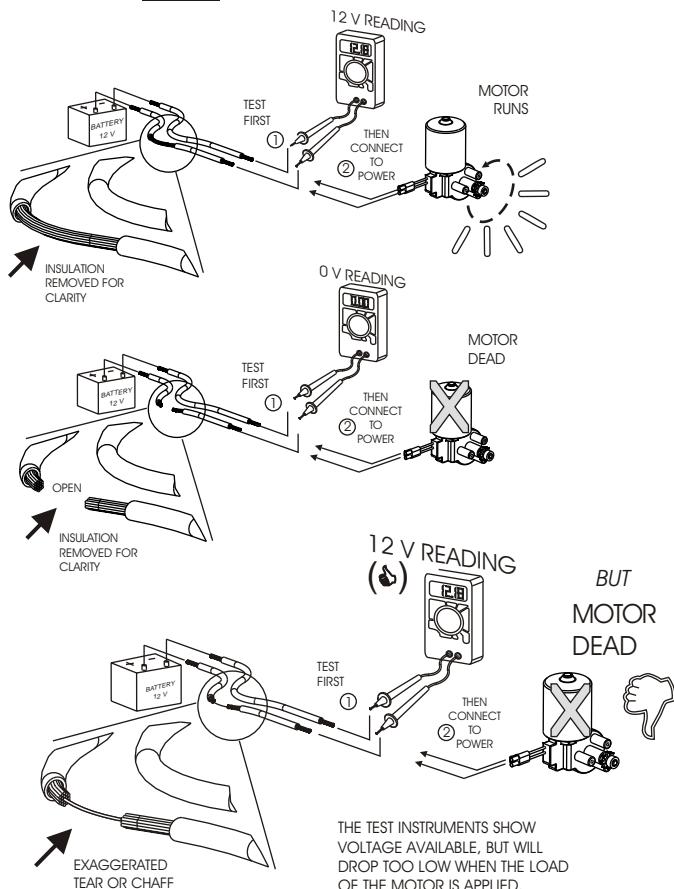
This section is reserved for the installer / dealer. Harmar does not recommend these procedures be attempted by anyone without proper knowledge of automotive electrical circuitry.

BE CAREFUL WHEN TROUBLESHOOTING WITH VOLTAGE METERS. THEY MAY GIVE FALSE INDICATIONS.



THESE INSTRUMENTS WILL DETECT VOLTAGE, BUT MAY NOT INDICATE A TEAR OR POOR CONNECTION IN THE WIRING.

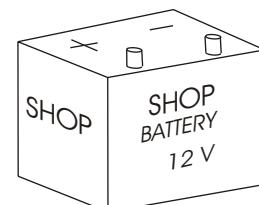
EXAMPLE:



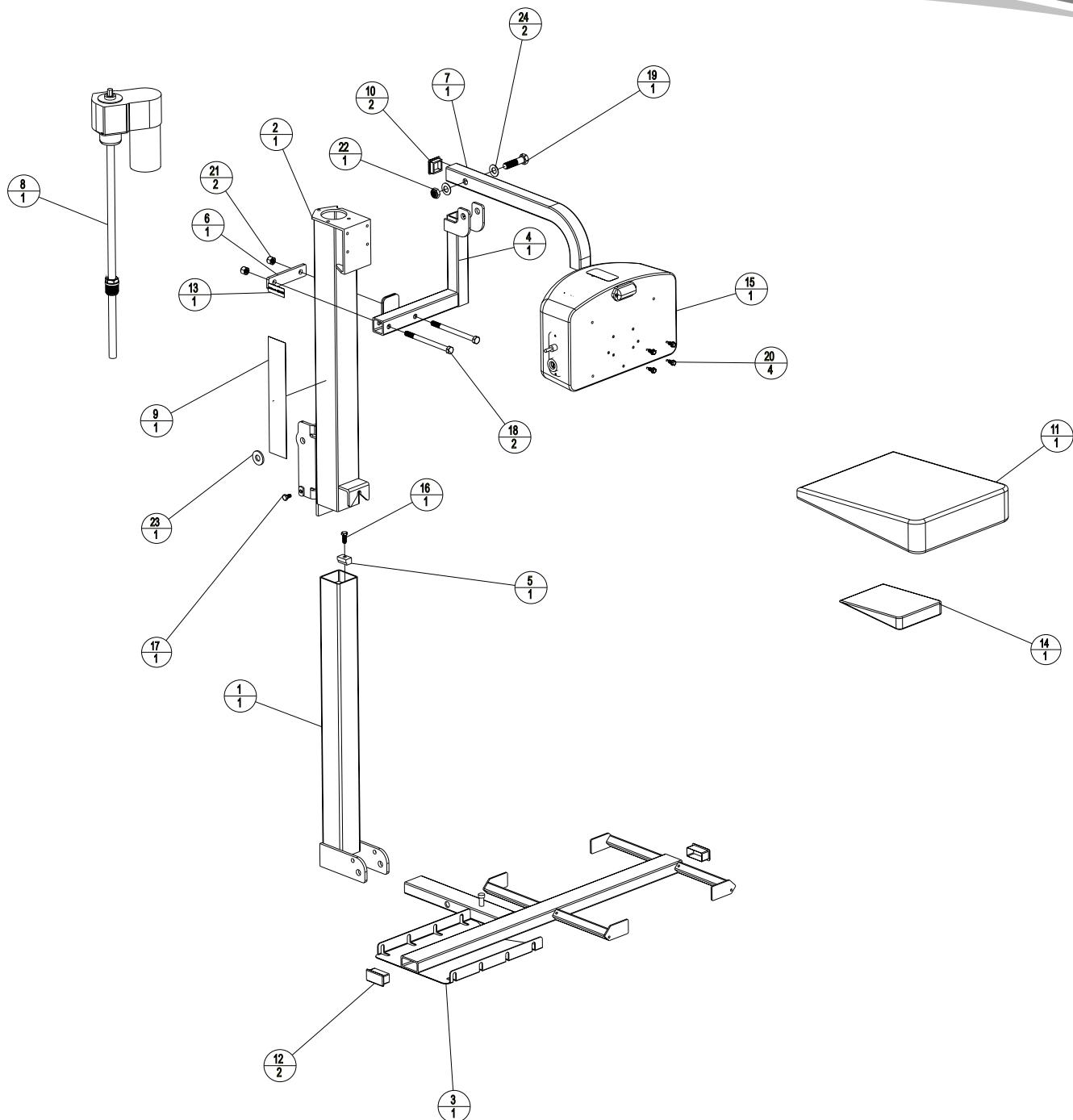
THE TEST INSTRUMENTS SHOW VOLTAGE AVAILABLE, BUT WILL DROP TOO LOW WHEN THE LOAD OF THE MOTOR IS APPLIED.

BE CAREFUL WHEN TROUBLESHOOTING WITH VOLTAGE METERS. THEY MAY GIVE FALSE INDICATION AS SHOWN ABOVE. THEY WILL ONLY INDICATE THERE IS SOME WIRE CONNECTION--NOT NECESSARILY--ENOUGH.

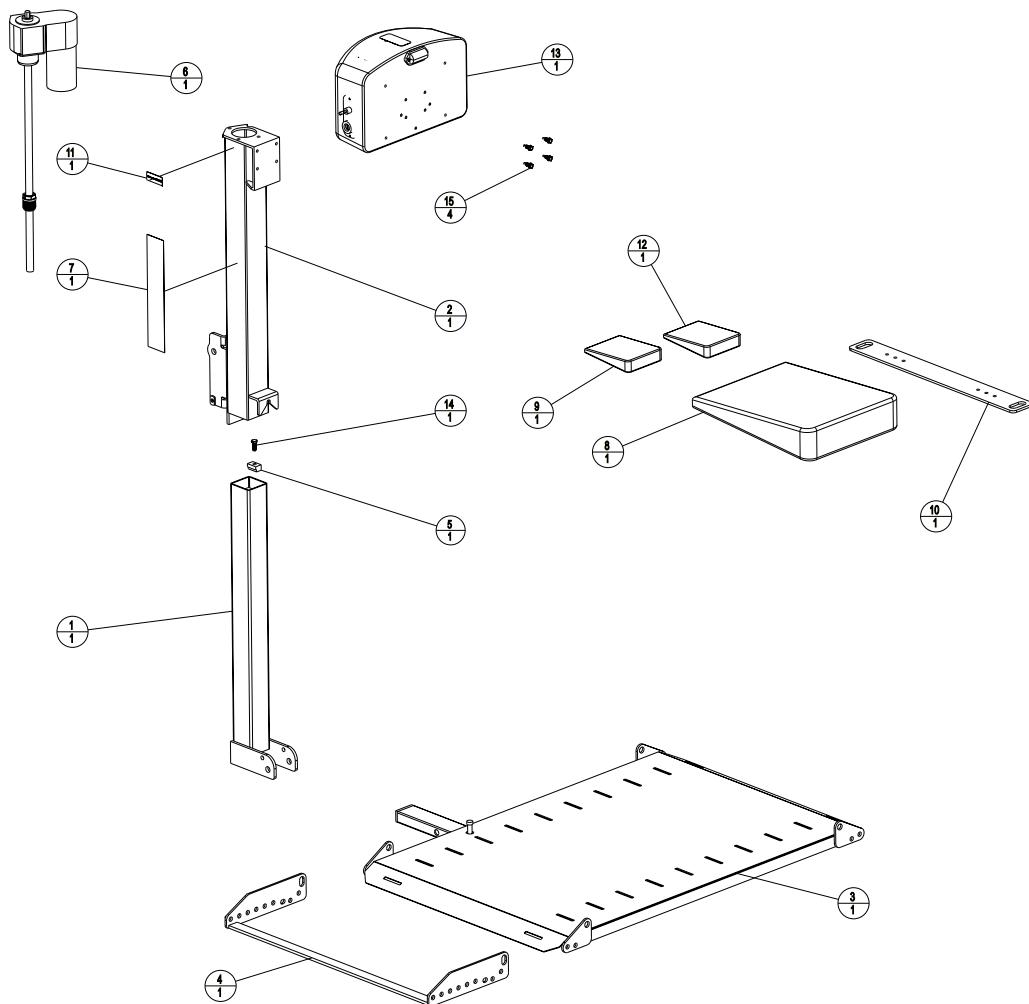
HARMAR STRONGLY RECOMMENDS TROUBLESHOOTING ELECTRICAL PROBLEMS WITH KNOW GOOD / FULLY CHARGED 12 V AUTOMOTIVE BATTERY or KNOW GOOD / FULLY CHARGED POWER CHAIR/SCOOTER BATTERY.



EXPLODED VIEW - AL030

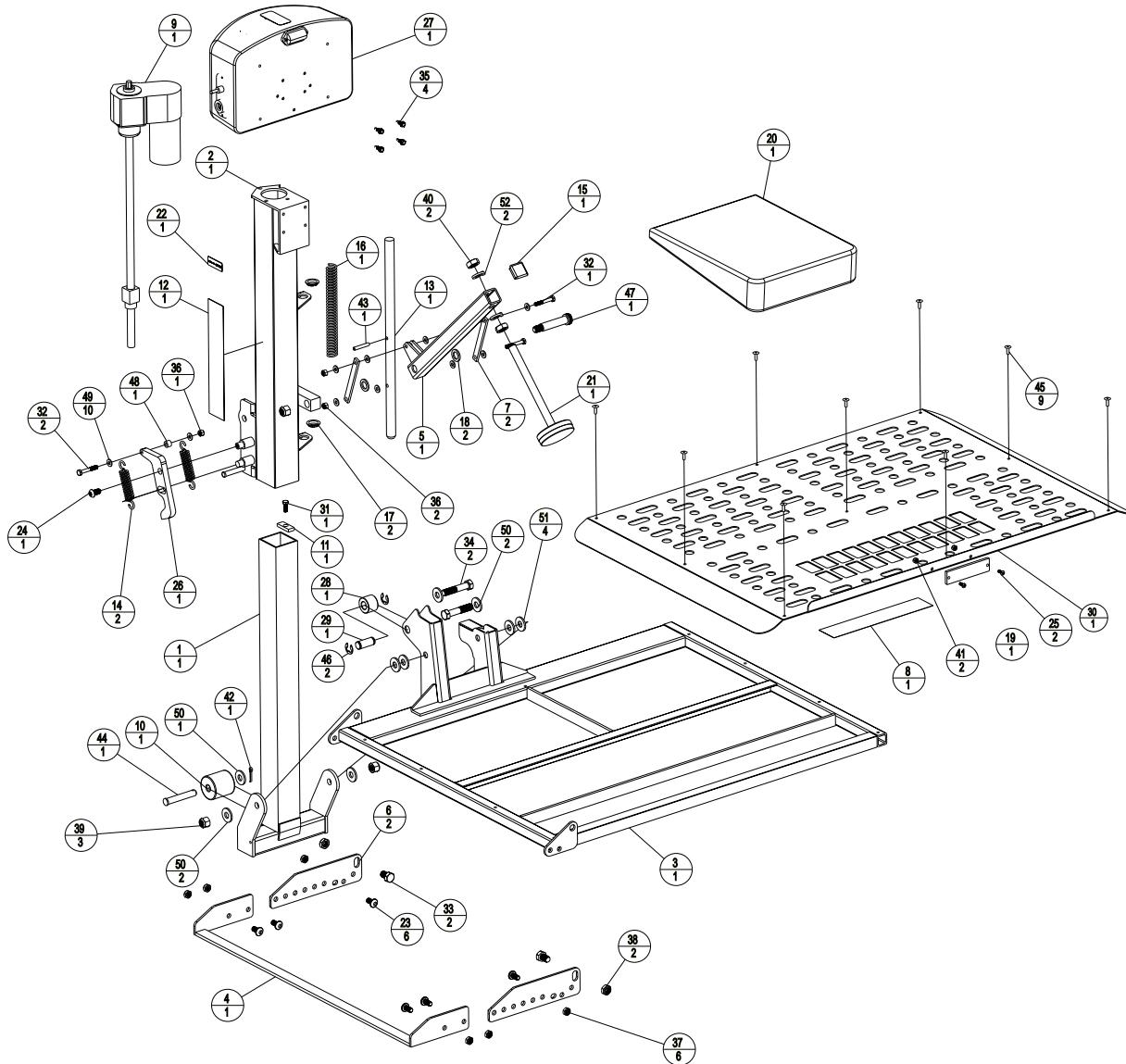


ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA03-C	INNER TUBE	13	1	ALA99995	LABEL, SERIAL NUMBER
2	1	202-ZA03-C	OUTER TUBE	14	1	H00-2A04-A	BALL MOUNT & PLATFORM HARDWARE PACK
3	1	203-ZA04-C	PLATFORM	15	1	H12050	MOTOR COVER ASSY
4	1	206-ZA04-C	HDA MOUNT	16	1	HHCS-0.25-20-0.75-NP-Z	HEX HEAD, 1/4-20 x 0.75, ZP
5	1	500-2A03-A	LOCKING TAB - L.C. ACME ACTUATOR	17	1	HHCS-0.25-28-0.75-Z	HEX HEAD, 1/4-28 x 0.75 ZINC PLT
6	1	500-ZA04-C	BACKING PLATE	18	2	HHCS-0.37-16-5.00-Z	HEX HEAD, 3/8-16 x 5.00, ZP
7	1	501-ZA04-C	HOLD DOWN ARM	19	1	HHCS-0.50-13-2.25-Z	HEX HEAD, 1/2-13 X 2.25 ZINC PLT
8	1	800-ZA03-A	L.C. ACME ACTUATOR	20	4	HWTS-14-0.75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
9	1	ALA1095	STICKER, OUTSIDE LIFT	21	2	NUT-0.37-16-NYLOCK-Z	NUT, NYLOCK, 3/8-16, ZP
10	2	ALA125SPI	INSERTS, 1 1/4 BLACK PLASTIC	22	1	NUT-0.50-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
11	1	ALA180	HARDWARE PACK	23	1	WASH-0.50-1.06-0.08-RH-SS	WASHER, FLAT, 1/2", SS
12	2	ALA60085	CAP FOR 1 X 2 TUBE	24	2	WASH-0.52-0.97-0.04-BS-SS	WASHER, BELLEVILLE, 1/2 ID, SS



ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-2A03-C	INNER TUBE
2	1	202-ZA03-C	OUTER TUBE
3	1	203-ZA03-C	PLATFORM
4	1	204-ZA03-C	SPREADER BAR
5	1	500-2A03-A	LOCKING TAB - L.C. ACME ACTUATOR
6	1	800-2A03-A	L.C. ACME ACTUATOR
7	1	ALA10085	STICKER, OUTSIDE LIFT
8	1	ALA180	HARDWARE PACK
9	1	ALA580	U-BOLT HARDWARE KIT
10	1	ALA58040C	ANCHOR PLATE
11	1	ALA99985	LABEL, SERIAL NUMBER
12	1	H00-1A03-A	HARDWARE PACK
13	1	H12050	MOTOR COVER ASSY
14	1	HHCS-0_25-20-0_75-NP-Z	HEX HEAD, 1/4-20 x 0.75, ZP
15	4	HWTS-14-0_75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP

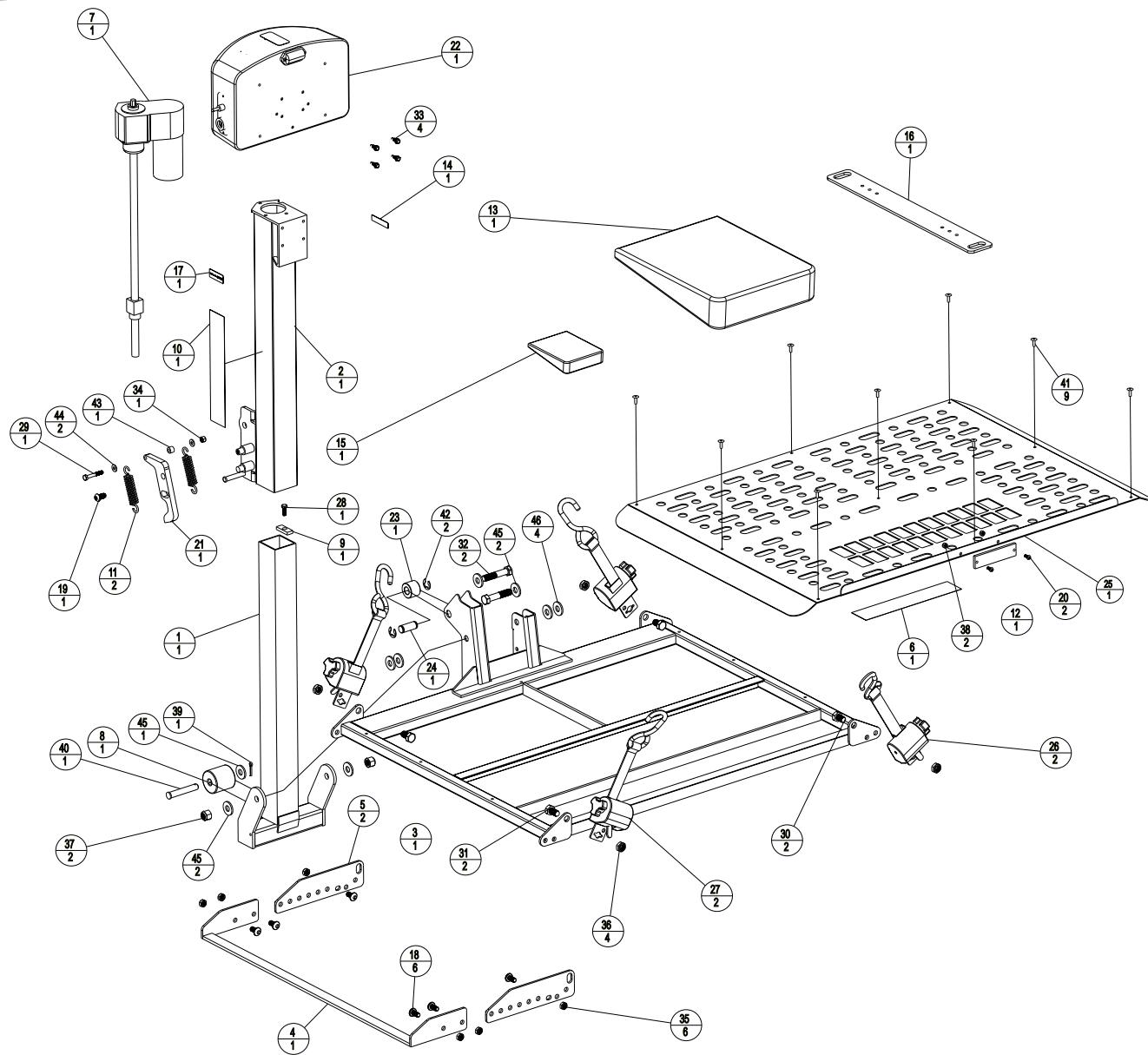
EXPLODED VIEW - AL 100



ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA06-C	NARROW INNER TUBE	27	1	H12050	MOTOR COVER ASSY
2	1	202-ZA06-C	OUTER TUBE	28	1	H14044	ROLLER
3	1	203-ZA06-C	PLATFORM	29	1	H14045	CLEVIS PIN
4	1	204-ZA06-C	EXTENDED CRADLE BAR	30	1	H14407	ALUMINUM PLATE
5	1	205-ZA06-C	HOLD DOWN ARM	31	1	HHCS-0_25-20-0_75-NP-Z	HEX HEAD, 1/4-20 x 3/4" L, ZP
6	2	501-ZA06-C	SPREADER BAR BRACKET	32	3	HHCS-0_25-20-1_75-Z	HEX HEAD, 1/4-20 x 1.75, ZP
7	2	502-ZA06-C	BAR, LINK, 3/16"	33	2	HHCS-0_50-13-0_75-Z	HEX HEAD, 1/2-13 x 0.75, ZP
8	1	H10096	STICKER, PLATFORM	34	2	HHCS-0_50-13-2_50-Z	HEX HEAD, 1/2-13 x 2.50, ZP
9	1	ALA10010REV2	ACUTATOR	35	4	HWTS-14-0_75-Z	HEX WASHER, #14 SELF DRILL, 3/4" L, ZP
10	1	ALA10032	ROLLER 2" DIA UHMW	36	3	NUT-0_25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
11	1	ALA10050	TAB, ACTUATOR	37	6	NUT-0_37-16-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 3/8-16, ZP
12	1	ALA10095	STICKER, OUTSIDE LIFT	38	2	NUT-0_50-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
13	1	ALA108-PLT	HOLD DOWN ARM ROD	39	3	NUT-0_50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP STEEL
14	2	ALA11025	EXTENSION SPRING	40	2	NUT-0_62-11-JAM-Z	NUT, JAM, 5/8-11, ZP
15	1	ALA125SPI	INSERTS, 1/4 BLACK PLASTIC	41	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, 10-24, ZP
16	1	ALA13025	COMPRESSION SPRING	42	1	PIN-0_12-1_50-CO-SS	COTTER PIN, SS
17	2	ALA13030	NYLINEAR BEARINGS - 3/4"	43	1	PIN-0_18-1_50-RP-Z	ROLL PIN, 3/16, SPLIT, ZP
18	2	ALA13050P	HOLD DOWN ARM WASHER	44	1	PIN-0_50-3_00-CL-Z	CLEVIS PIN, 1/2" X 3.00, ZP
19	1	ALA14096	RED REFLECTOR	45	9	RIV-188-SS	BLIND RIVET 0.188 DIA SS.
20	1	ALA180	HARDWARE PACK	46	2	RR-0_62-EC-Z	E-CLIP, for 5/8" SHAFT
21	1	ALA18020	HOLD DOWN FOOT	47	1	SHSB-0_62-2_50-Z	SHOULDER BOLT, 5/8 DIA x 2.50, ZP
22	1	ALA9995	LABEL, SERIAL NUMBER	48	1	SPCR-0_25-0_50-0_31-N	SPACER, 1/4", for CAM SPRINGS
23	6	BHCS-0_37-16-0_75-SS	BUTTON HEAD, 3/8-16 x 0.75, SS	49	10	WASH-0_25-0_62-0_04-RH-SS	WASHER, FLAT, 1/4", SS
24	1	BHCS-0_37-16-1_00-SS-NP	BUTTON HEAD 3/8-16 x 0.75 SS	50	5	WASH-0_50-1_06-0_08-RH-SS	WASHER, FLAT, 1/2", SS
25	2	BHCS-10-24-X_050-SS	BUTTON HEAD, #10-24 X 0.50, SS	51	4	WASH-0_50-1_06-0_12-N	WASHER, FLAT, 5/8", PLASTIC
26	1	H11010	J CAM	52	2	WASH-0_62-1_08-0_15-SL-Z	WASHER, SPLIT-LOCK, 5/8, ZP

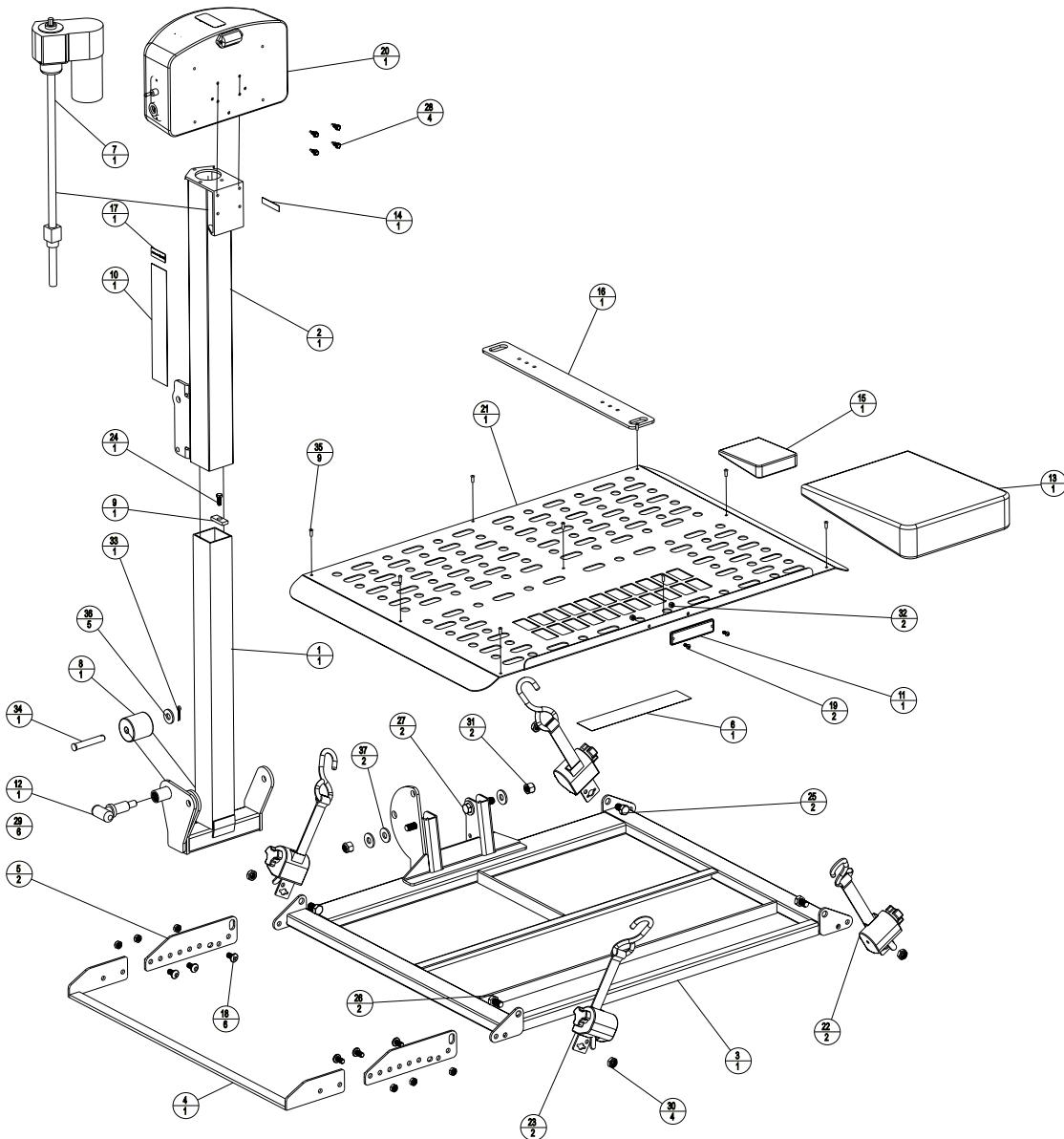


EXPLODED VIEW - AL300

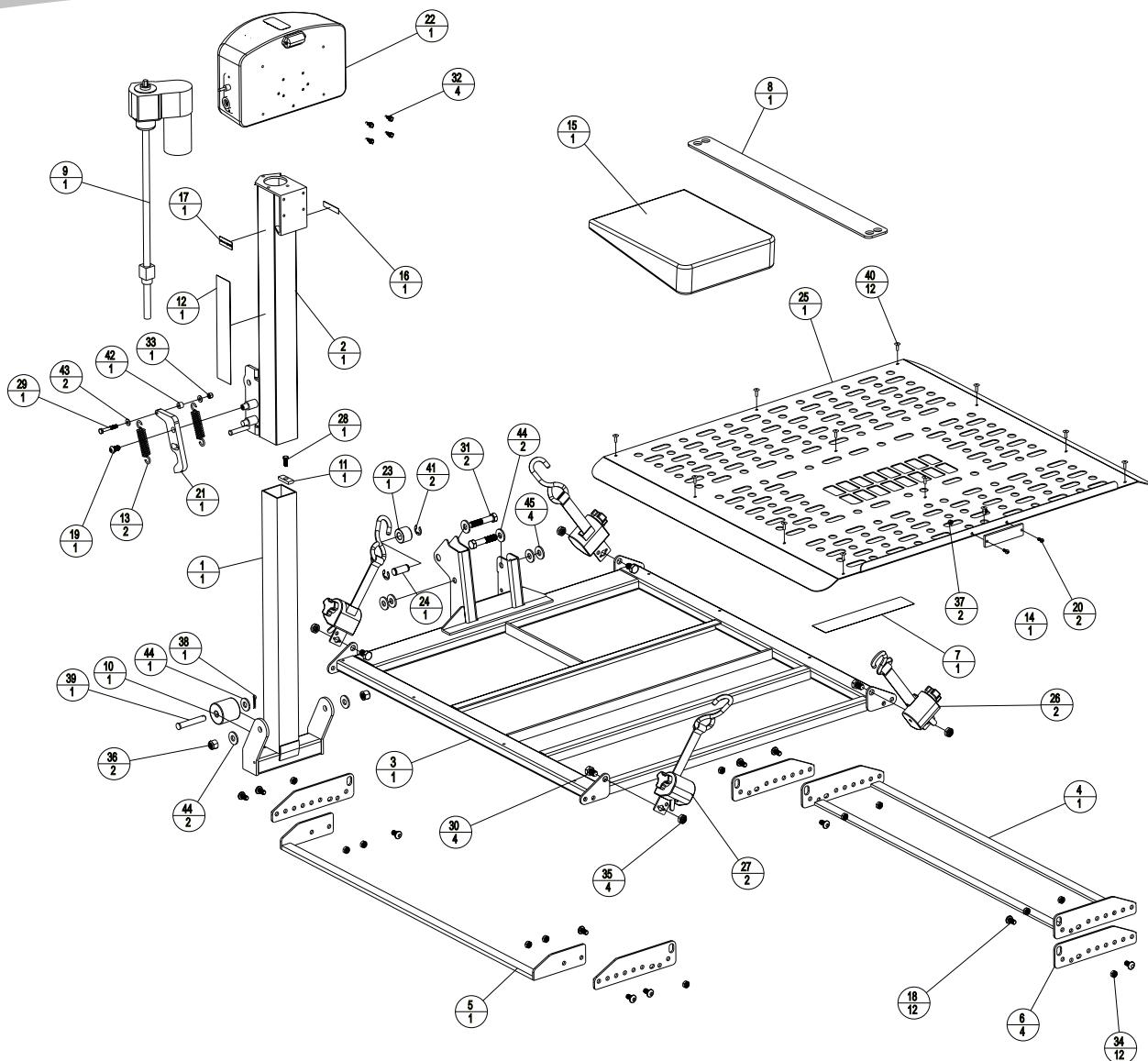


ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA06-C	NARROW INNER TUBE	24	1	H14045	CLEVIS PIN
2	1	202-ZA10-C	OUTER TUBE	25	1	H14407	ALUMINUM PLATE
3	1	203-ZA10-C	PLATFORM	26	2	H50010B	RIGHT HAND, Q-STRAINT - BLUE
4	1	204-ZA06-C	EXTENDED CRADLE BAR	27	2	H50011B	LEFT HAND, Q-STRAINT - BLUE
5	2	501-ZA06-C	SPREADER BAR BRACKET	28	1	HHCS-0_25-20-0_75-NP-Z	HEX HEAD, 1/4-20 x 3/4" L, ZP
6	1	H10096	STICKER, PLATFORM	29	1	HHCS-0_25-20-1_75-Z	HEX HEAD, 1/4-20 x 1.75L, ZP
7	1	ALA10010REV2	ACTUATOR	30	2	HHCS-0_25-20-0_75-Z	HEX HEAD, 1/2-13 x 0.75, ZP
8	1	ALA10032	ROLLER 2" DIA UHMW	31	2	HHCS-0_50-13-0_88-Z	HEX HEAD, 1/2-13 X 0.88, ZP
9	1	ALA10050	TAB ACTUATOR	32	2	HHCS-0_50-13-2_50-Z	HEX HEAD, 1/2-13 X 2.50L, ZP
10	1	ALA10095	STICKER, OUTSIDE LIFT	33	4	HWTS-14-0_75-Z	HEX WASHER, #14 SELF DRILL, 3/4" L, ZP
11	2	ALA11025	EXTENSION SPRING	34	1	NUT-0_25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
12	1	ALA14096	RED REFLECTOR	35	6	NUT-0_37-16-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 3/8-16, ZP
13	1	ALA180	HARDWARE PACK	36	4	NUT-0_50-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
14	1	ALA50099	PATENT STICKER	37	2	NUT-0_50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP STEEL
15	1	ALA580	U-BOLT HARDWARE KIT	38	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, 10-24, ZP
16	1	ALA58040C	ANCHOR PLATE	39	1	PIN-0_12-1_50-CO-SS	COTTER PIN, SS
17	1	ALA99995	LABEL, SERIAL NUMBER	40	1	PIN-0_50-3_00-CL-Z	CLEVIS PIN, 1/2" X 3.00, ZP
18	6	BHCS-0_37-16-0_75-SS	BUTTON HEAD, 3/8-16 X 0.75, SS	41	9	RIV-188-SS	BLIND RIVET 0.188 DIAM.
19	1	BHCS-0_37-16-1_00-SS-NP	BUTTON HEAD 3/8-16 X 0.75 SS	42	2	RR-0_62-EC-Z	E-CLIP, for 5/8" SHAFT
20	2	BHCS-10-24-0_50-SS	BUTTON HEAD, #10-24 X 0.50, SS	43	1	SPCR-0_25-0_50-0_31-N	SPACER, 1/4", for CAM SPRINGS
21	1	H11010	J CAM	44	2	WASH-0_25-0_62-0_04-RH-SS	WASHER, FLAT, 1/4", SS
22	1	H12050	MOTOR COVER ASSY	45	5	WASH-0_50-1_06-0_08-RH-SS	WASHER, FLAT, 1/2", SS
23	1	H14044	ROLLER	46	4	WASH-0_50-1_50-0_12-N	WASHER, FLAT, 1/2", PLASTIC

EXPLODED VIEW - AL300RV

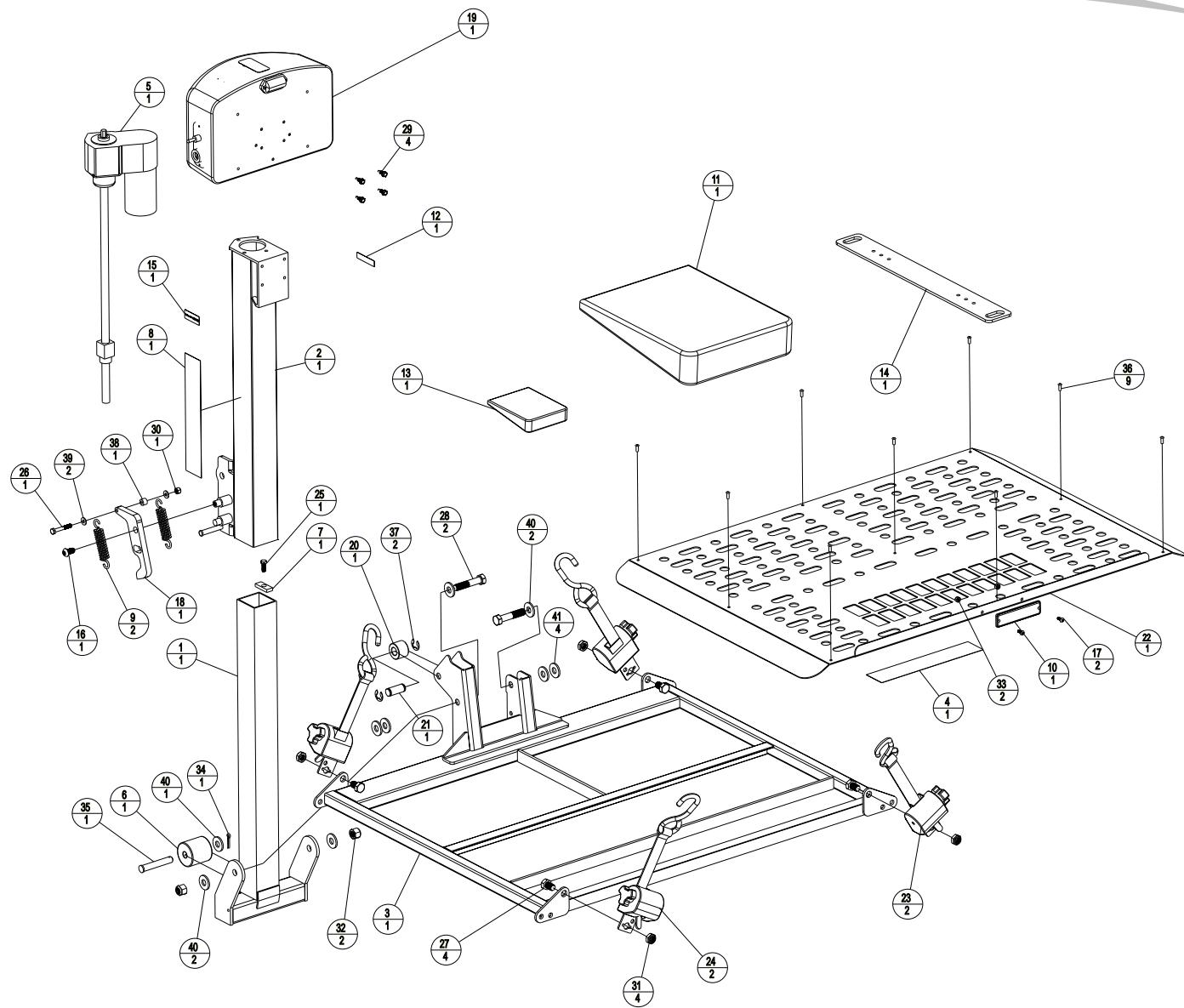


ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA08-C	INNER TUBE	20	1	H12050	MOTOR COVER ASSY
2	1	202-ZA08-C	OUTER TUBE	21	1	H14407	ALUMINUM PLATE
3	1	203-ZA08-C	PLATFORM	22	2	H50010B	RIGHT HAND, Q-STRANT - BLUE
4	1	204-ZA08-C	EXTENDED CRADLE BAR	23	2	H50011B	LEFT HAND, Q-STRANT - BLUE
5	2	501-ZA06-C	SPREADER BAR BRACKET	24	1	HHCS-0_25-20-0_75-NP-Z	HEX HEAD, 1/4-20 x 0.75, ZP
6	1	950-2A06-A	STICKER, PLATFORM	25	2	HHCS-0_50-13-0_75-Z	HEX HEAD, 1/2-13 x 0.75, ZP
7	1	ALA10010REV2	ACUTATOR	26	2	HHCS-0_50-13-0_87-Z	HEX HEAD, 1/2-13 X 0.88, ZP
8	1	ALA10032	ROLLER 2" DIA UHMW	27	2	HHCS-0_50-13-2_50-Z	HEX HEAD, 1/2-13 x 2.50, ZP
9	1	ALA10050	TAB, ACTUATOR	28	4	HWTS-14-0_75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
10	1	ALA10095	STICKER, OUTSIDE LIFT	29	6	NUT-0_37-16-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 3/8-16, ZP
11	1	ALA14098	RED REFLECTOR	30	4	NUT-0_50-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
12	1	ALA15162R1	T-HANDLE 1/2" SPRING PIN ASSY	31	2	NUT-0_50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
13	1	ALA180	HARDWARE PACK	32	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, #10-24, ZP
14	1	ALA50099	PATENT STICKER	33	1	PIN-0_12-1_50-CO-SS	COTTER PIN
15	1	ALA580	U-BOLT HARDWARE KIT	34	1	PIN-0_50-3_00-CL-Z	CLEVIS PIN, 1/2" x 3", ZP
16	1	ALA58040C	ANCHOR PLATE	35	9	RIV-188-SS	RIVET
17	1	ALA99995	LABEL, SERIAL NUMBER	36	5	WASH-0_50-1_06-08-RH-SS	WASHER, FLAT, 1/2", SS
18	6	BHCS-0_37-16-0_75-SS	BUTTON HEAD, 3/8-16 x 0.75, SS	37	2	WASH-0_50-1_50-0_12-N	WASHER, FLAT, 1/2", NYLON
19	2	BHCS-10-24-0_50-SS	BUTTON HEAD, #10-24 X 0.50, SS	38	1	H28010	VEHICLE HARNESS (NOT SHOWN)

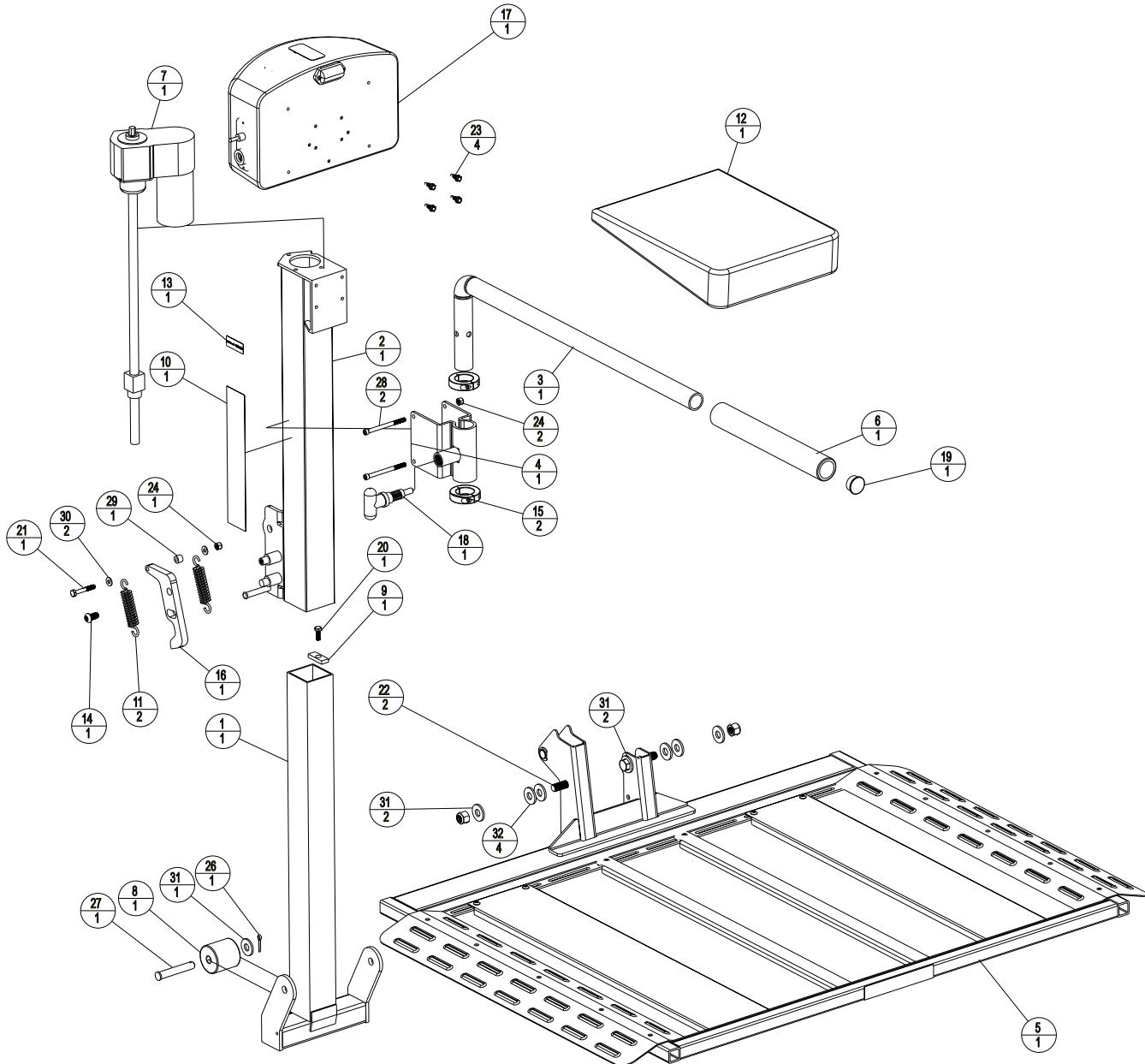


ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA06-C	NARROW INNER TUBE	24	1	H14045	CLEVIS PIN
2	1	202-ZA10-C	OUTER TUBE	25	1	H30110	ALUMINUM SKIN 301XL
3	1	203-ZA09-C	PLATFORM	26	2	H50010B	RIGHT HAND, Q-STRAIN - BLUE
4	1	204-ZA09-C	AL301XL FRONT WHEEL CRADLE	27	2	H50011B	LEFT HAND, Q-STRAIN - BLUE
5	1	205-ZA09-C	AL301XL EXTENDED CRADLE BAR	28	1	HHCS-0_25-20-0_75-NP-Z	HEX HEAD, 1/4-20 x 3/4", ZP
6	4	501-ZA06-C	SPREADER BAR BRACKET	29	1	HHCS-0_25-20-1_75-Z	HEX HEAD, 1/4-20 x 1.75L, ZP
7	1	950-ZA06-A	STICKER, PLATFORM	30	4	HHCS-0_50-13-0_75-Z	HEX HEAD, 1/2-13 x 0.75, ZP
8	1	AL591	ANCHOR PLATE, 27.00	31	2	HHCS-0_50-13-2_50-Z	HEX HEAD, 1/2-13 x 2.50L, ZP
9	1	ALA1001REV2	ACTUATOR	32	4	HWTs-14-0_75-Z	HEX WASHER, #14 SELF DRILL, 3/4" L, ZP
10	1	ALA10032	ROLLER 2" DIA UHMW	33	1	NUT-0_25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
11	1	ALA10050	TAB, ACTUATOR	34	12	NUT-0_37-16-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 3/8-16, ZP
12	1	ALA10095	STICKER, OUTSIDE LIFT	35	4	NUT-0_50-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
13	2	ALA11025	EXTENSION SPRING	36	2	NUT-0_50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP STEEL
14	1	ALA14096	RED REFLECTOR	37	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, 10-24, ZP
15	1	ALA180	HARDWARE PACK	38	1	PIN-0_12-1_50-CO-SS	COTTER PIN, SS
16	1	ALA50099	PATENT STICKER	39	1	PIN-0_50-3_00-CL-Z	CLEVIS PIN, 1/2" x 3.00, ZP
17	1	ALA9995	LABEL, SERIAL NUMBER	40	12	RIV-188-SS	BLIND RIVET 0.188 DIA SS.
18	12	BHCS-0_37-16-0_75-SS	BUTTON HEAD, 3/8-16 x 0.75, SS	41	2	RR-0_62-EC-Z	E-CLIP, for 5/8" SHAFT
19	1	BHCS-0_37-16-1_00-SS-NP	BUTTON HEAD 3/8-16 x 0.75 SS	42	1	SPCR-0_25-0_50-0_31-N	SPACER, 1/4", for CAM SPRINGS
20	2	BHCS-10-24-0_50-SS	BUTTON HEAD, #10-24 x 0.50, SS	43	2	WASH-0_25-0_62-0_04-RH-SS	WASHER, FLAT, 1/4", SS
21	1	H11010	J CAM	44	5	WASH-0_50-1_06-0_08-RH-SS	WASHER, FLAT, 1/2", SS
22	1	H12050	MOTOR COVER ASSY	45	4	WASH-0_50-1_50-0_12-N	WASHER, FLAT, 1/2", PLASTIC
23	1	H14044	ROLLER				

EXPLODED VIEW - AL500

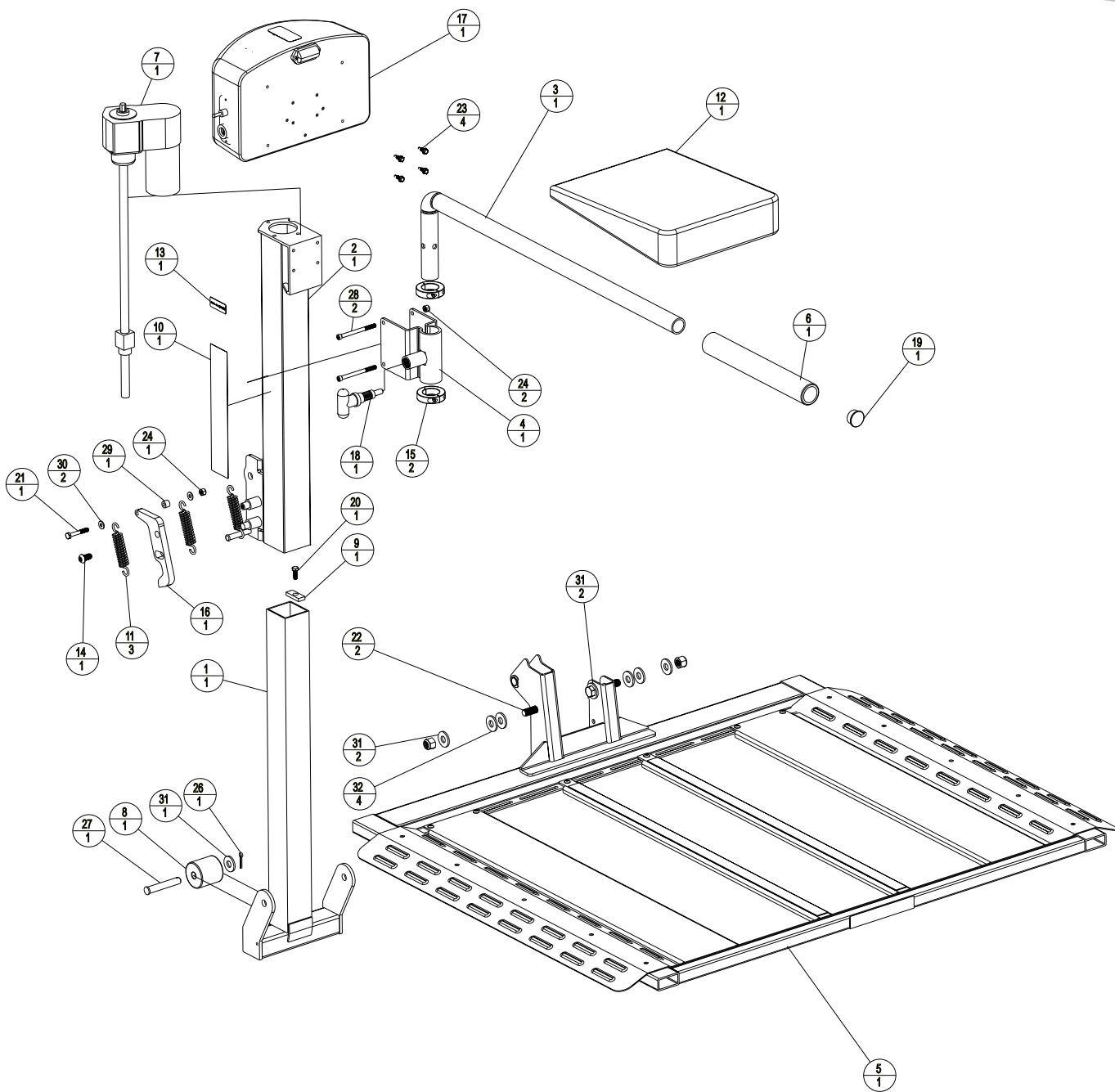


ASSEMBLY PARTS			ASSEMBLY PARTS		
ITEM	QTY	PART NO.	ITEM	QTY	PART NO.
1	1	201-ZA06-C	22	1	H14407
2	1	202-ZA10-C	23	2	H50010B
3	1	203-ZA10-C	24	2	H50011B
4	1	950-2A06-A	25	1	HHCS-0_25-20-0_75-NP-Z
5	1	ALA10010REV2	26	1	HHC-S-0_25-20-1_75-Z
6	1	ALA10032	27	4	HHC-S-0_50-13-0_75-Z
7	1	ALA10050	28	2	HHC-S-0_50-13-2_50-Z
8	1	ALA10095	29	4	HWTS-14-0_75-Z
9	2	ALA11025	30	1	NUT-0_25-20-NYLOCK-Z
10	1	ALA14096	31	4	NUT-0_50-13-NYLOCK-NTE-Z
11	1	ALA180	32	2	NUT-0_50-13-NYLOCK-Z
12	1	ALA50099	33	2	NUT-10-24-NYLOCK-Z
13	1	ALA580	34	1	PIN-0_12-1_50-CO-SS
14	1	ALA58040C	35	1	PIN-0_50-3_00-CL-Z
15	1	ALA99995	36	9	RIV-188-SS
16	1	BHCS_0_37-16-1_00-SS-NP	37	2	RR-0_62-EC-Z
17	2	BHCS_0-10-24-0_50-SS	38	1	SPCR-0_25-0_50-0_31-N
18	1	H11010	39	2	WASH-0_25-0_62-0_04-RH-SS
19	1	H12050	40	5	WASH-0_50-1_06-0_08-RH-SS
20	1	H14044	41	4	WASH-0_50-1_50-0_12-N
21	1	H14045			

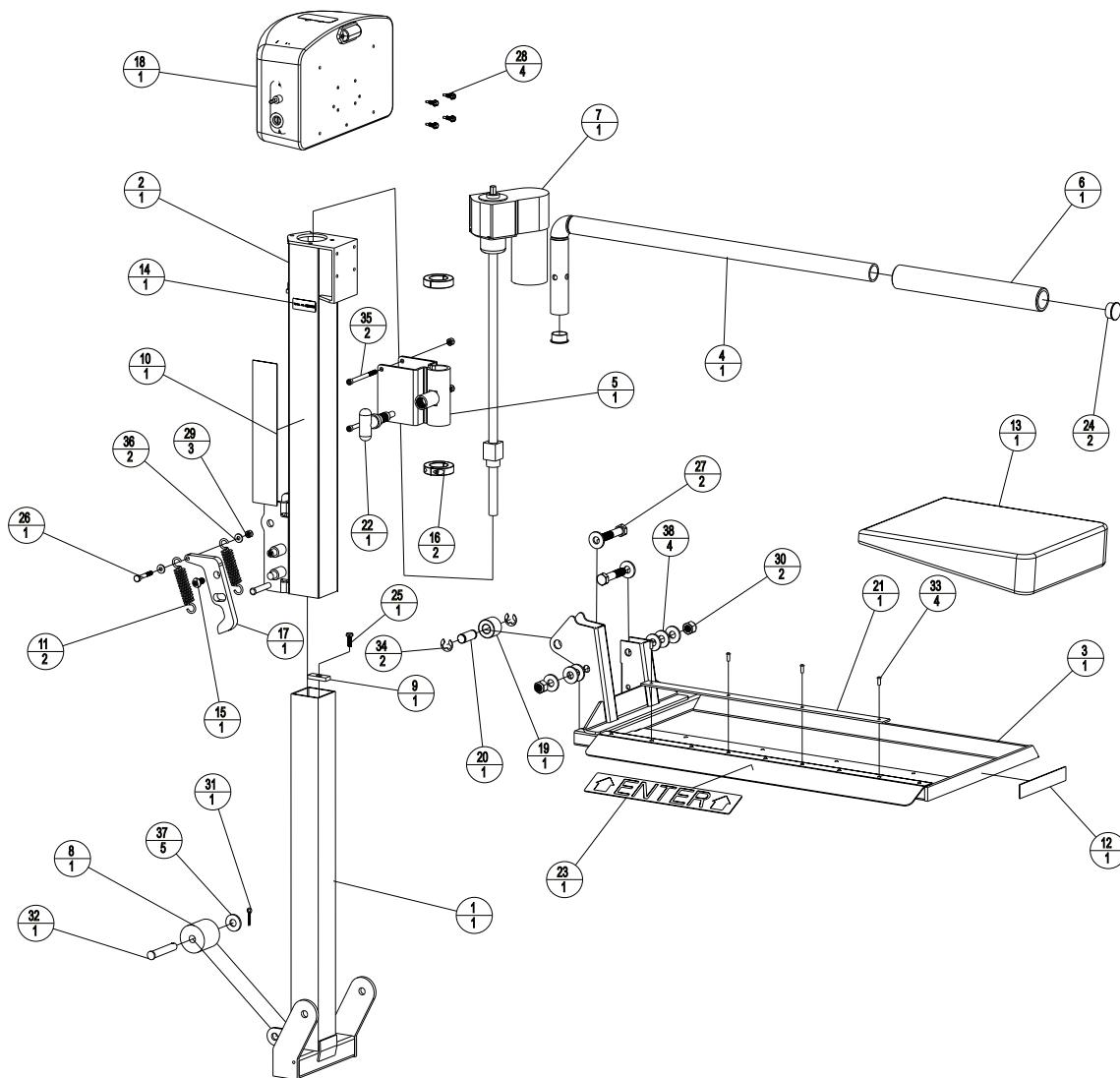


ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA06-C	INNER TUBE	17	1	H12050	MOTOR COVER ASSY
2	1	202-ZA10-C	OUTER TUBE	18	1	H5809R1	T-HANDLE SPRING PIN ASSY 3/8" PIN, BLUE
3	1	205-ZA13-C	HOLD DOWN ARM	19	1	H752102	1.25 DIAMETER END CAP
4	1	206-ZA13-C	FORMED HOLD DOWN ARM BRACKET	20	1	HHCS-0_25-20-0_75-NP-Z	HEX HEAD, 1/4-20 x 0.75, ZP
5	1	210-ZA13-A	PLATFORM ASSEMBLY	21	1	HHCS-0_25-20-1_75-Z	HEX HEAD, 1/4-20 x 1.75, ZP
6	1	ALA03059	FOAM RUBBER GRIP 12in LONG	22	2	HHCS-0_50-13-2_50-Z	HEX HEAD, 1/2-13 x 2.50, ZP
7	1	ALA10010REV2	ACUTATOR	23	4	HWTS-14-0_75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
8	1	ALA10032	ROLLER 2" DIA UHMW	24	3	NUT-0_25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
9	1	ALA10050	TAB, ACTUATOR	25	2	NUT-0_50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
10	1	ALA10085	STICKER, OUTSIDE LIFT	26	1	PIN-0_12-1_50-CO-SS	COTTER PIN
11	2	ALA11025	EXTENSION SPRING	27	1	PIN-0_50-3_00-CL-Z	CLEVIS PIN, 1/2" x 3", ZP
12	1	ALA180	HARDWARE PACK	28	2	SHCS-0_25-20-3_25-Z	SHCS, 1/4-20 x 3-1/4", ZP
13	1	ALA9995	LABEL, SERIAL NUMBER	29	1	SPCR-0_25-0_50-0_31-N	SPACER, 1/4", for CAM SPRINGS
14	1	BHCS-0_37-16-1_00-SS-NP	BUTTON HEAD 3/8-16 x 1.00 SS	30	2	WASH-0_25-0_82-0_04-RH-SS	WASHER, FLAT, 1/4", SS
15	2	COLLAR-1_25-SH-OP-Z	SHAFT COLLAR, 1-1/4" BORE	31	5	WASH-0_50-1_06-0_06-RH-SS	WASHER, FLAT, 1/2", SS
16	1	H11010	J-CAM	32	4	WASH-0_50-1_50-0_12-N	WASHER, FLAT, 1/2", NYLON

EXPLODED VIEW - AL560XL

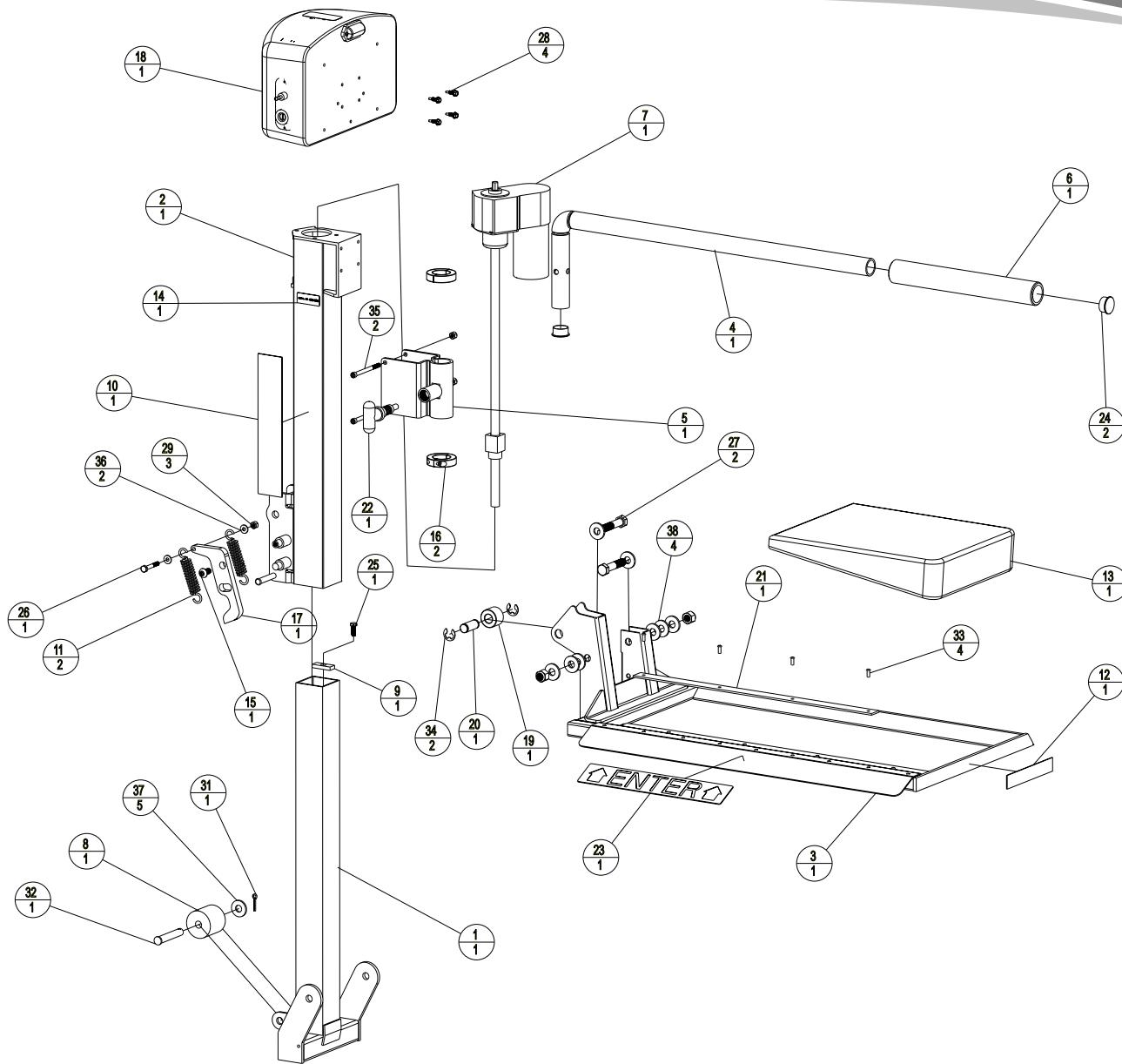


ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA06-C	INNER TUBE	17	1	H12060	MOTOR COVER ASSY
2	1	202-ZA10-C	OUTER TUBE	18	1	H56069R1	T-HANDLE SPRING PIN ASSY 3/8" PIN, BLUE
3	1	205-ZA14-C	HOLD DOWN ARM	19	1	H76210Z	1.25 DIAMETER END CAP
4	1	206-ZA13-C	FORMED HOLD DOWN ARM BRACKET	20	1	HHC84-25-20-0_75-NP-Z	HEX HEAD, 1/4-20 x 0.75, ZP
5	1	210-ZA14-A	PLATFORM ASSEMBLY	21	1	HHC84-25-20-1_75-Z	HEX HEAD, 1/4-20 x 1.75, ZP
6	1	ALA0309	FOAM RUBBER GRIP 12in LONG	22	2	HHC84-50-13-2_50-Z	HEX HEAD, 1/2-13 x 2.50, ZP
7	1	ALA1001REV2	ACTUATOR	23	4	HWT84-14-0_75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
8	1	ALA10032	ROLLER 2" DIA UHMW	24	3	NUT4-25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
9	1	ALA10050	TAB, ACTUATOR	25	2	NUT4-50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
10	1	ALA10085	STICKER, OUTSIDE LIFT	26	1	PIN4-12-1_50-CO-SS	COTTER PIN
11	3	ALA11025	EXTENSION SPRING	27	1	PIN4-80-1_00-CL-Z	CLEVIS PIN, 1/2" x 3", ZP
12	1	ALA1180	HARDWARE PACK	28	2	SHCS8-25-20-3_25-Z	SHCS, 1/4-20 x 3-1/4", ZP
13	1	ALA9995	LABEL, SERIAL NUMBER	29	1	SPCR-0-25-1_50-0_31-N	SPACER, 1/4", for CAM SPRINGS
14	1	BHCS-0_37-16-1_00-SS-NP	BUTTON HEAD 3/8-16 x 1.00 SS	30	2	WASH4-25-0_62-0_04-RH-SS	WASHER, FLAT, 1/4", SS
15	2	COLLAR-1_25-SH-OP-Z	SHAFT COLLAR, 1-1/4" BORE	31	5	WASH4-50-1_06-0_06-RH-SS	WASHER, FLAT, 1/2", SS
16	1	H11010	J-CAM	32	4	WASH4-50-1_50-0_12-N	WASHER, FLAT, 1/2", NYLON

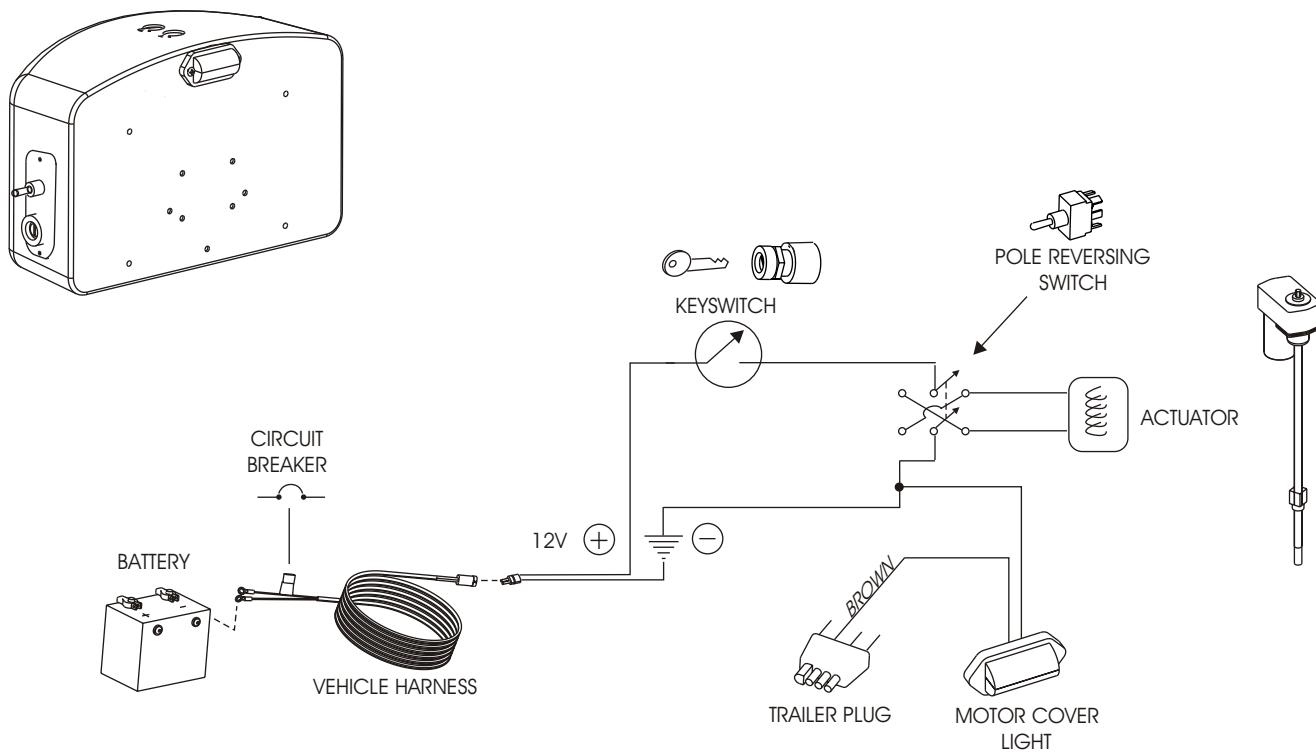


ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA06-C	INNER TUBE	20	1	H14045	CLEVIS PIN
2	1	202-ZA10-C	OUTER TUBE	21	1	H530110	RAMP PAD
3	1	203-ZG06-C	PLATFORM	22	1	H56069R1	T-HANDLE SPRING PIN ASSY 3/8" PIN
4	1	205-ZA13-C	HOLD DOWN ARM	23	1	H570101	"ENTER" STICKER
5	1	206-ZA13-C	FORMED HOLD DOWN ARM BRACKET	24	2	H752102	1.25 DIAMETER END CAP
6	1	ALA03059	FOAM RUBBER GRIP 12in LONG	25	1	HHCS-0_25-20-0_75-Z	HEX HEAD, 1/4-20 x 0.75, ZP
7	1	ALA10010REV2	ACUTATOR	26	1	HHCS-0_25-20-1_75-Z	HEX HEAD, 1/4-20 x 1.75, ZP
8	1	ALA10032	ROLLER, BLACK, 2", UHMW	27	2	HHCS-0_50-13-2_50-Z	HEX HEAD, 1/2-13 x 2.50, ZP
9	1	ALA10050	TAB, ACTUATOR	28	4	HWT5-14-0_75-Z	HEX WASHER, #14 SELF DRILL, 3/4" L, ZP
10	1	ALA10095	STICKER - OUTSIDE LIFT	29	3	NUT-0_25-20-NYLOCK-Z	NUT, NYLOC, 1/4-20, ZP
11	2	ALA11025	EXTENSION SPRING	30	2	NUT-0_50-13-NYLOCK-Z	NUT, NYLOC, 1/2-13, ZP
12	1	ALA14095	RED REFLECTIVE STICKER, 1 X 6	31	1	PIN-0_12-1_50-CO-SS	COTTER PIN
13	1	ALA180-IVC	HARDWARE PACK	32	1	PIN-0_50-3_00-CL-Z	CLEVIS PIN, 1/2" x 3", ZP
14	1	ALA99995	LABEL, SERIAL NUMBER	33	4	RIV-188-SS	RIVET
15	1	BHCS-0_37-16-1_00-SS-NP	BUTTON HEAD 3/8-16 x 1.00 SS	34	2	RR-0_62-EC-Z	E-CLIP, for 5/8" SHAFT
16	2	COLLAR-1.25-SH-OP-Z	SHAFT COLLAR, 1-1/4" BORE	35	2	SHCS-0_25-20-2.35-Z	SHCS, 1/4-20 x 3-1/4", ZP
17	1	H11010	J CAM	36	2	WASH-0_25-0_56-0_07-RH-SS	WASHER, FLAT, 1/4", SS
18	1	H12050	MOTOR COVER ASSY	37	5	WASH-0_50-1_37-0_12-RH-SS	WASHER, FLAT, 1/2", SS
19	1	H14044	ROLLER	38	4	WASH-0_50-1_50-0_12-RH-P	WASHER, FLAT, 1/2", PLASTIC

EXPLODED VIEW - AL580XL



ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA06-C	INNER TUBE	20	1	H14045	CLEVIS PIN
2	1	202-ZA10-C	OUTER TUBE	21	1	H530110	RAMP PAD
3	1	203-ZG07-C	PLATFORM	22	1	H56069R1	T-HANDLE SPRING PIN ASSY 3/8" PIN
4	1	205-ZA13-C	HOLD DOWN ARM	23	1	H570101	'ENTER' STICKER
5	1	206-ZA13-C	FORMED HOLD DOWN ARM BRACKET	24	2	HT52102	1.25 DIAMETER END CAP
6	1	ALA03059	FOAM RUBBER GRIP 12in LONG	25	1	HHCS-0_25-20-0_75-Z	HEX HEAD, 1/4-20 x 0.75, ZP
7	1	ALA10010REV2	ACUTATOR	26	1	HHCS-0_25-20-1_75-Z	HEX HEAD, 1/4-20 x 1.75, ZP
8	1	ALA10032	ROLLER, BLACK, 2", UHMW	27	2	HHCS-0_50-13-2_50-Z	HEX HEAD, 1/2-13 x 2.50, ZP
9	1	ALA10050	TAB, ACTUATOR	28	4	HWTS-14-0_75-Z	HEX WASHER, #14 SELF DRILL, 3/4" L, ZP
10	1	ALA10095	STICKER - OUTSIDE LIFT	29	3	NUT-0_25-20-NYLOCK-Z	NUT, NYLOC, 1/4-20, ZP
11	2	ALA11025	EXTENSION SPRING	30	2	NUT-0_50-13-NYLOCK-Z	NUT, NYLOC, 1/2-13, ZP
12	1	ALA14095	RED REFLECTIVE STICKER, 1X 6	31	1	PIN-0_12-1_50-CO-SS	COTTER PIN
13	1	ALA180	HARDWARE PACK	32	1	PIN-0_50-3_00-CL-Z	CLEVIS PIN, 1/2" x 3" L, ZP
14	1	ALA99995	LABEL, SERIAL NUMBER	33	4	RIV-188-SS	RIVET
15	1	BHCS-0_37-16-1_00-SS-NP	BUTTON HEAD 3/8-16 x 1.00 SS	34	2	RR-0_62-EC-Z	E-CLIP, for 5/8" SHAFT
16	2	COLLAR-1_25-SH-OP-Z	SHAFT COLLAR, 1-1/4" BORE	35	2	SHCS-0_25-20-3_25-Z	SHCS, 1/4-20 x 3-1/4", ZP
17	1	H11010	J CAM	36	2	WASH-0_25-0_56-0_07-RH-SS	WASHER, FLAT, 1/4", SS
18	1	H12050	MOTOR COVER ASSY	37	5	WASH-0_50-1_37-0_12-RH-SS	WASHER, FLAT, 1/2", SS
19	1	H14044	ROLLER	38	4	WASH-0_50-1_50-0_12-RH-P	WASHER, FLAT, 1/2", PLASTIC



SERVICE NOTES



Service Description:

Service Date:

Service Performed By:



Service Description:

Service Date:

Service Performed By:

SERVICE NOTES



Service Description:

Service Date:

Service Performed By:



Service Description:

Service Date:

Service Performed By:



THANK YOU FOR MAKING HARMAR AMERICA'S LEADER IN LIFTS AND RAMPS