

Outside Lifts

Installation & Owner's Manual

 **Harmar.**
America's Lift Leader™

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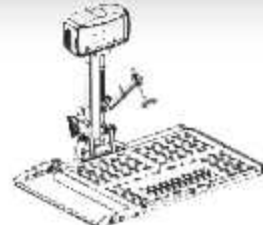
AL030 Power Tote Folding Manual Wheelchair Lift
Capacity: 100 lbs



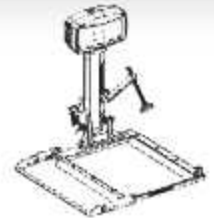
AL010/050 Micro Power Chair / Scooter Lift
Capacity: 135 lbs



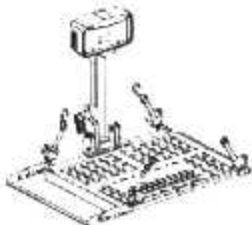
AL015 Micro Scooter Lift
Capacity: 100 lbs



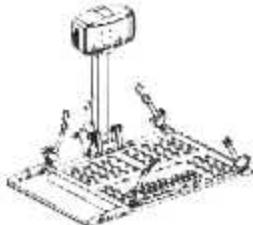
AL100 Universal Lift
Capacity: 350 lbs



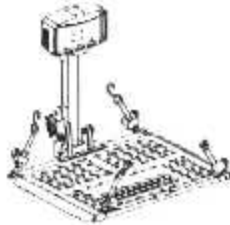
AL160 Low Profile Universal Scooter Lift
Capacity: 350 lbs



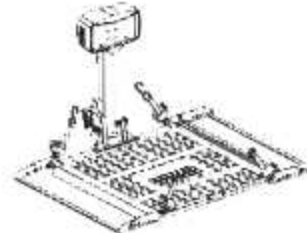
AL300 Universal Scooter/Power Chair Lift
Capacity: 350 lbs



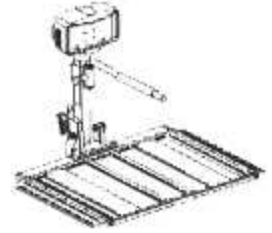
AL300RV RV Lift Scooter/Power Chair Lift
Capacity: 350 lbs



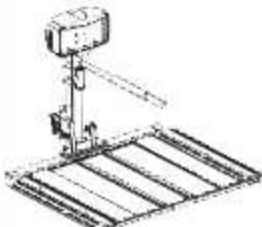
AL500 Universal Power Chair Lift
Capacity: 350 lbs



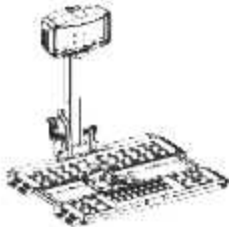
AL301XL Extra Wide Universal Power Chair Lift
Capacity: 350 lbs



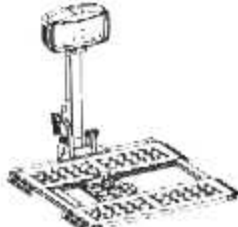
AL560 Auto Hold Down Power Chair Lift
Capacity: 350 lbs



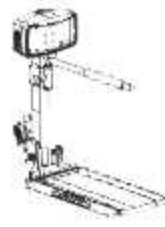
AL560XL Automatic Extra Large Power Chair Lift
Capacity: 350 lbs



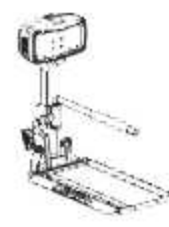
AL570 Auto Power Chair Lift
Capacity: 350 lbs



AL570 Extra Large Power Chair Lift
Capacity: 350 lbs



AL580 Power Chair Lift
Capacity: 350 lbs



AL580XL Extra Large Power Chair Lift
Capacity: 350 lbs



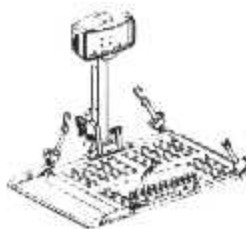
AL585-SEL Power Chair Lift
Capacity: 250 lbs



AL585-SS Power Chair Lift
Capacity: 250 lbs



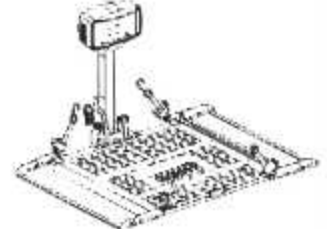
AL100HD Heavy Duty Scooter Lift
Capacity: 400 lbs



AL300HD Heavy Duty Scooter/Power Chair Lift
Capacity: 400 lbs



AL500HD Heavy Duty Power Chair Lift
Capacity: 400 lbs



AL301XLHD Extra Wide Heavy Duty Power Chair Lift
Capacity: 400 lbs

Read and understand this manual thoroughly before attempting to install or operate the lift. If you have any questions, please contact your Authorized Harmar Dealer or Harmar's Technical Service Department.

P 800-833-0478 | F 866-234-5680 | TECH@HARMAR.COM

TEC0093 160406

Dealer Name & Contact Information:

Serial # of Your Lift:

P/N: 610-00045 Rev B

Contents

Section 1: Owner

OPERATING YOUR LIFT

General Operation.....	3
AL010/050 and AL030 Micro Lifts	6
AL570 & AL570XL Lifts	7
Using a Swing-Away.....	8
Manual Override.....	10

SAFETY & MAINTENANCE 11

Section 2: Installer

PREPARATION

Tools Required.....	13
Unpacking the Lift.....	14
Installation Overview	15

INSTALLATION

Wiring the Vehicle	17
Vehicle Hitch.....	19
Hitch Adapters.....	21
Lift Installation	
Hitch Post Mount	23-24
AL030 Bumper Mount.....	27
Swing-Away	25
AL030 Power Tote Ball Mount.....	27

CHAIR PREPARATION 27

Anchor Plate	28
U-Bolt Kit.....	29

LIFT ADJUSTMENTS

AL015/AL100/AL100HD/AL160..	30-31
AL010/050 and AL030	32
AL560 & AL560XL.....	33

AL560 & AL580 Hold-Down Arm...	34
AL570 & AL570XL Chair Plow	35
Dock 'N' Lock: AL570 & AL570 XL	36-37

TROUBLESHOOTING 38-39

EXPLODED VIEWS

AL030	40
AL010/050	41
AL015	42
AL100.....	43
AL160.....	44
AL300	45
AL300RV.....	46
AL301XL.....	47
AL500	48
AL560	49
AL560XL	50
AL570	51
AL570XL.....	52
AL580	53
AL580XL	54
AL585SEL.....	55
AL585SS.....	56
AL100HD	57
AL300HD.....	58
AL301XLHD.....	59
AL500HD.....	60

ELECTRICAL HARDWARE 61

WARRANTY 63

NOTE: The following symbols indicate areas where you should take special care to avoid danger to individuals or property.



WARNING
Hazardous situation. If not avoided, could result in serious injury to installer or user.



CAUTION!
Hazardous situation. If not avoided, could result in serious damage to property.

GENERAL OPERATION

1. LOWERING THE LIFT

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. *[Figure 3-1]*

DO NOT over-lower to the point where the vehicle begins to rise. This will damage the lift.

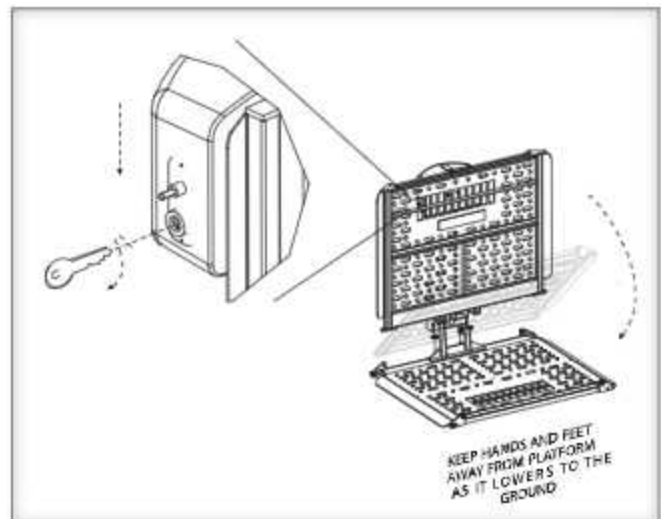


Figure 3-1

2. DRIVE CHAIR ONTO PLATFORM.

Drive slowly, stopping when the drive wheels fall between the platform bars on the side or center depending on the lift and chair model. *[Figure 3-2]*

IMPORTANT

Positioning the chair properly on the platform is critical to ensure it is properly locked onto the lift. Always verify wheels are captured by cradles or bars. Please consult your dealer on the specifics of your application.

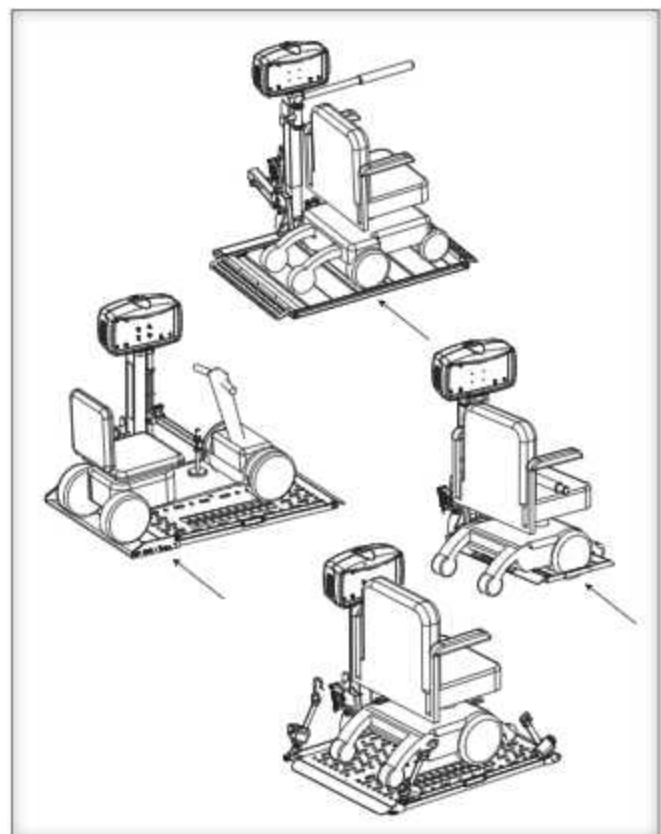


Figure 3-2

3. SECURING THE CHAIR

Depending on your lift model and the type of securement device it uses, you may wish to raise the platform halfway, using the 'UP' toggle switch, in order to avoid having to bend over while you attach straps or flip the chair's armrest out of the way of the hold-down arm. [Figure 4-1]

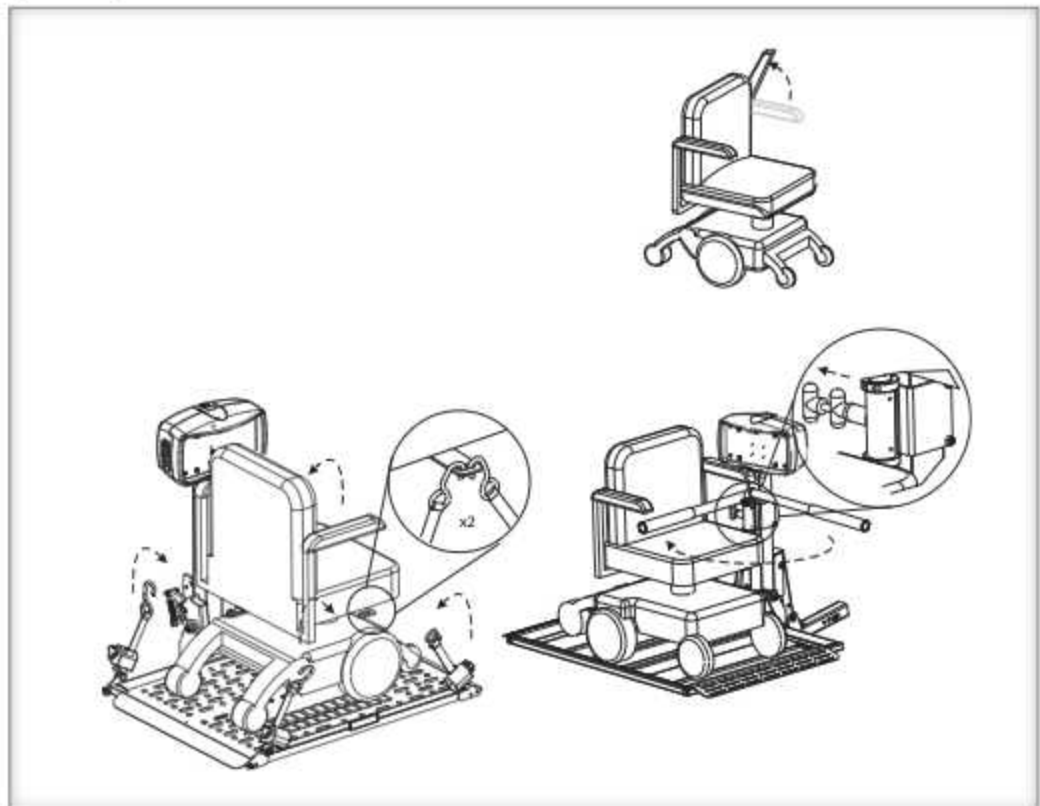


Figure 4-1

4. RAISING THE LIFT

When the chair is secure, use the 'UP' toggle switch to continue raising the lift. Stop when it reaches the top of travel when you hear the clutch sound. Twist the key to remove.

[Figure 4-2]

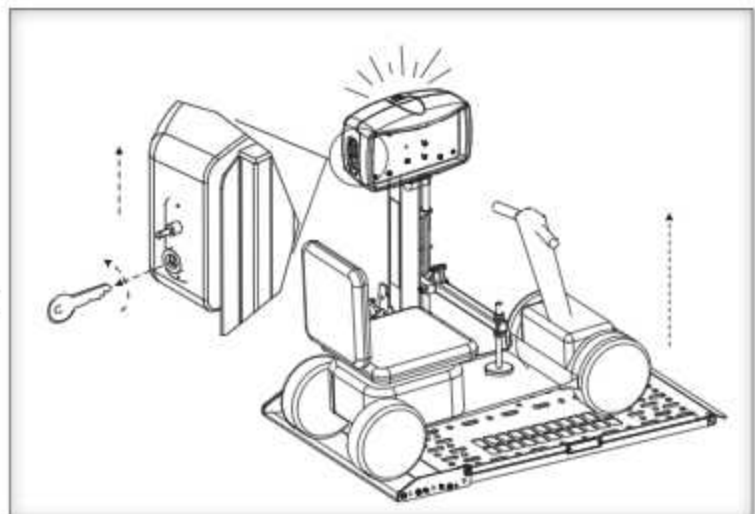


Figure 4-2

5. UNLOADING THE CHAIR

Insert the key and switch to 'ON' position. Press 'DOWN' to lower the lift. Do NOT continue travel to the point where the vehicle rises; that will damage the lift.

[Figure 5-1]

Drive the chair off the platform carefully. When the chair is unloaded, press 'UP' and the platform will automatically fold. (Except AL010/050 and AL030).

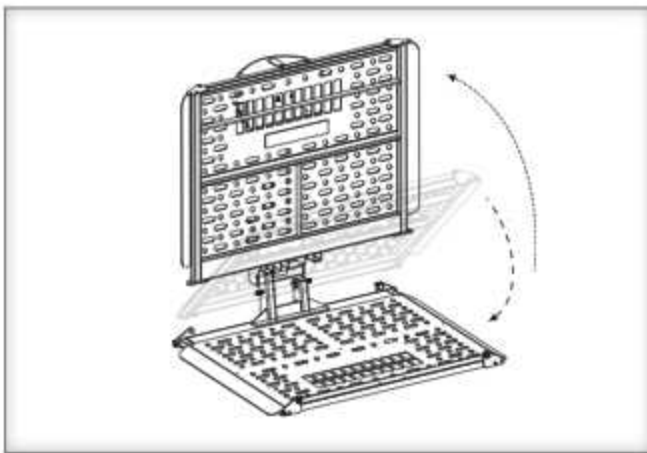


Figure 5-1



CAUTION

These are general instructions. Specifics may vary based on your chair model and lift combination. Please follow the specific instruction suggested by your dealer.



CAUTION

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

- **Always** run the lift fully to the top for transport. The lift will make a ratcheting sound which indicates that all mechanisms are locked and prepared for travel.
- **Never** attempt to move the vehicle without the lift being in the full up or stowed position. This may damage the lift.
- **Drive slowly** over rough terrain such as pot holes, unpaved roads, railroad tracks. Excessive loads from rough driving will damage your lift and is not covered by the warranty.
- **If you notice any damage, 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.

AL010/050 AND AL030 MICRO LIFTS

MICRO LIFTS / FOLDING

AL010/050 and **AL030** models require the platform to be folded and unfolded manually.

The locking mechanism consists of a pin and keeper plate, which must be disengaged before unfolding. Simply hold the platform firmly and lower it approximately 2" to allow the platform to disengage and unfold. *[Figure 6-1]*



WARNING

Hold platform firmly while lowering the lift to its down position.

To lock in the upright position, lift platform up before the pin engages the keeper plate. *[Figure 6-2]*



WARNING

Hold platform firmly while raising the lift until the pin has engaged the keeper plate.

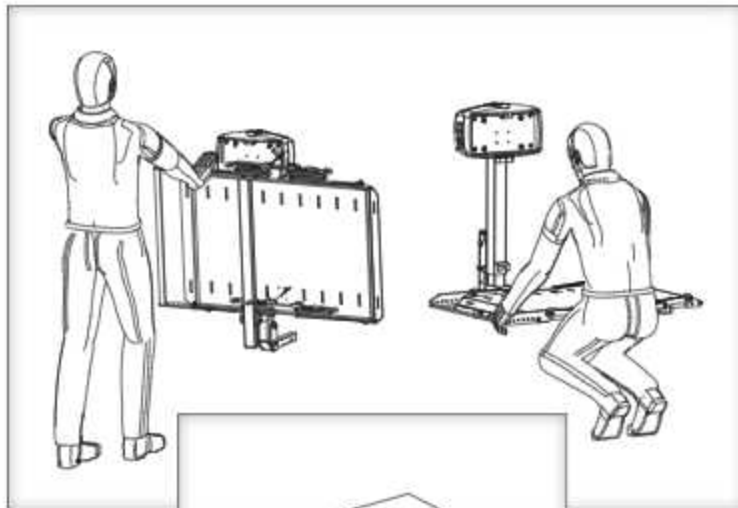


Figure 6-1

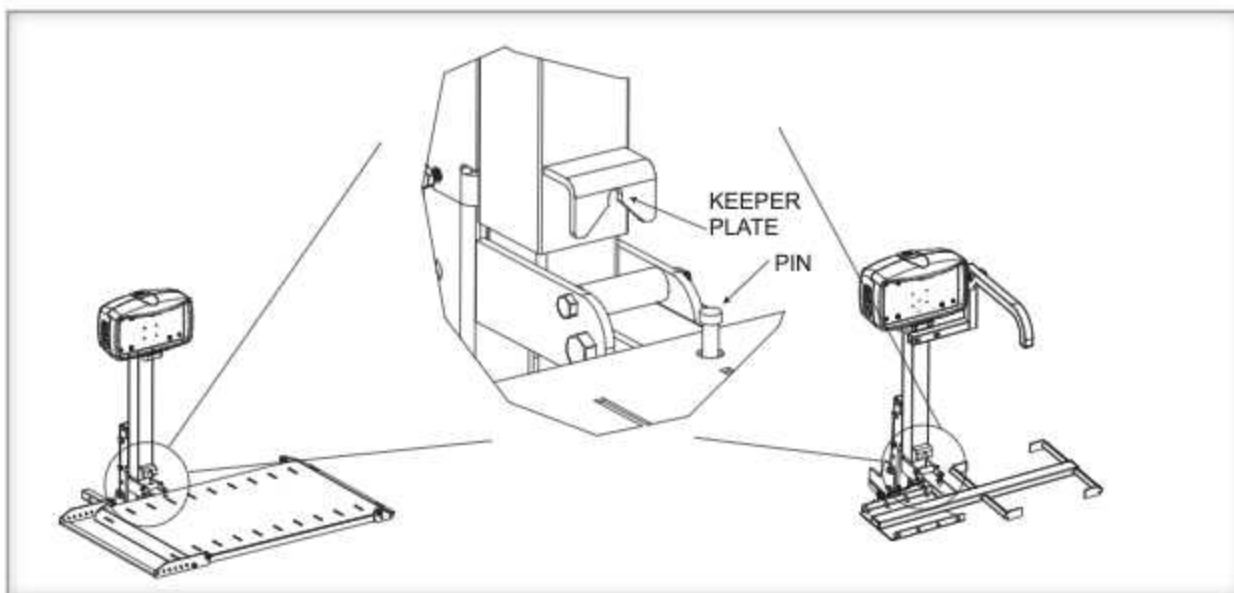
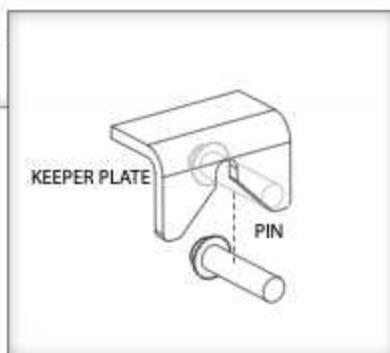


Figure 6-2

AL570 & AL570XL

LOADING THE CHAIR

Set chair speed to SLOW. Drive chair forward carefully until the chair plow engages with the Dock 'N' Lock [Figure 7-1]

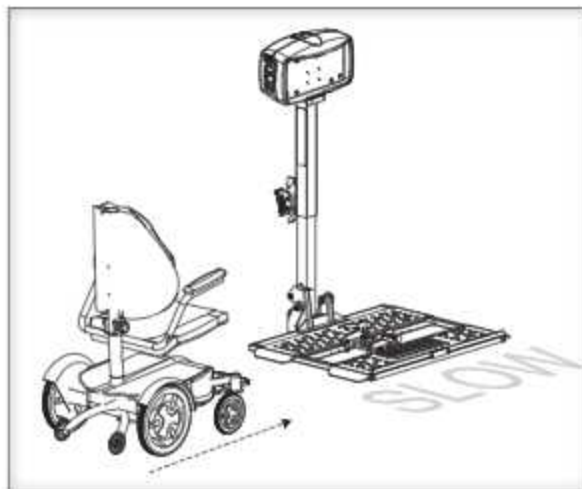


Figure 7-1



CAUTION

Set chair speed to SLOW and use extra caution while driving on and off the platform.

Raise lift 2"-3" to close the Dock 'N' Lock. [Figure 7-2]

TEST SECUREMENT

Raise the lift platform 3"-6" off the ground. Set the chair speed controller to slow and attempt to move the chair in reverse. If successfully locked, the chair will not move in reverse. [Figure 7-3]

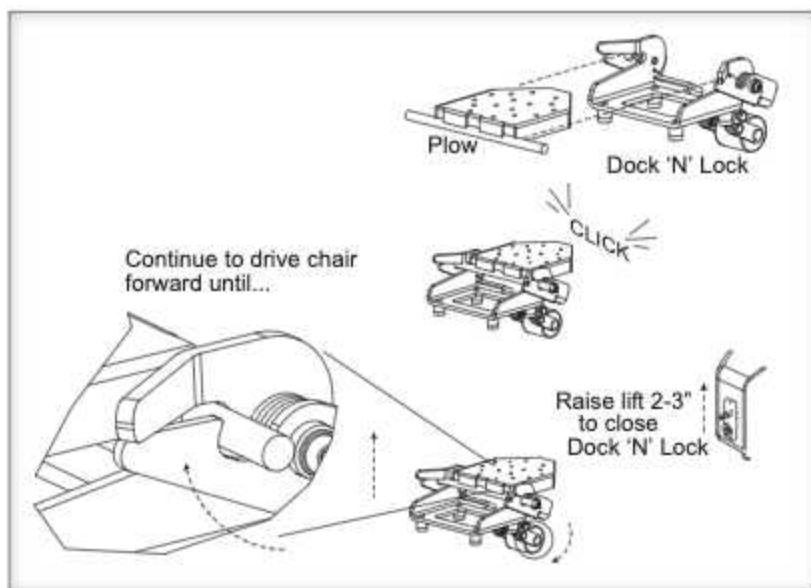


Figure 7-2

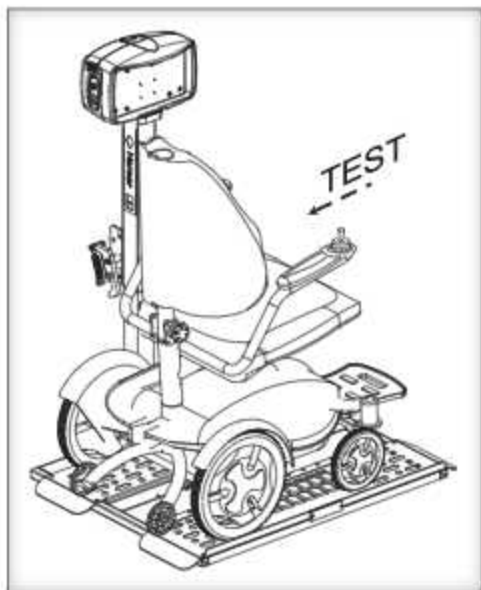


Figure 7-3



WARNING

The Dock 'N' Lock **MUST** be tested **EVERY** time you load the chair for transport. **DO NOT** attempt to travel with the chair until you verify that the chair is fully engaged on the platform. Failure to do so could result in serious injury or property damage.

SWING-AWAY

The Swing-Away allows you to easily swing the installed auto lift away from the back of the vehicle for convenient access to the trunk or lift gate. The Swing-Away option can be purchased from an authorized dealer and added at any time.



WARNING

NEVER open the Swing-Away with the chair on the lift.

You will damage the Swing-Away and the lift. It will potentially damage the vehicle and the chair. Any of these actions will VOID your warranty.



Figure 8-1



WARNING

Open **ONLY** on Level Ground

Failure to open on level ground may result in losing control of the lift, resulting in personal injury or damage to property.

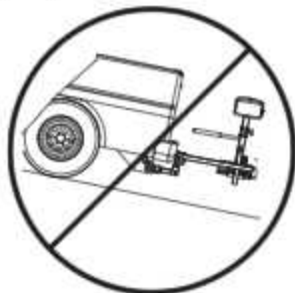


Figure 8-2

OPENING THE SWING-AWAY

1. Remove Safety Pin [Figure 8-3]

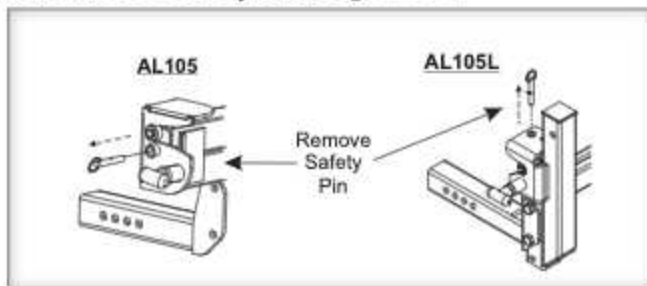


Figure 8-3

2. Pull T-Handle [Figure 8-4]

- 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 vehicle's cargo area. [Figure 8-5]

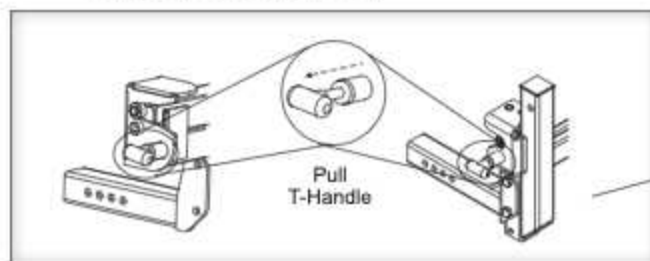


Figure 8-4

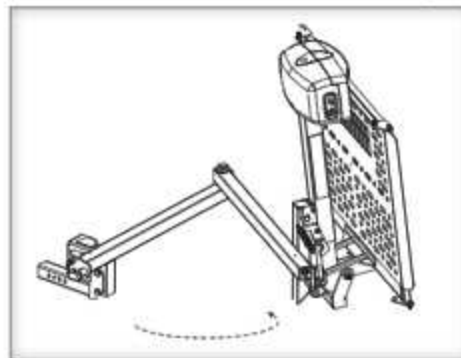


Figure 8-5

NOTE: Two Swing-Away models are available, a standard **AL105** and the lightweight **AL105L**. They work basically the same way but the parts differ slightly as noted in [Figure 8-3].

CLOSING THE SWING AWAY

Close the Swing-Away unit as you would a car door.



Stay clear of the latching mechanism

WARNING

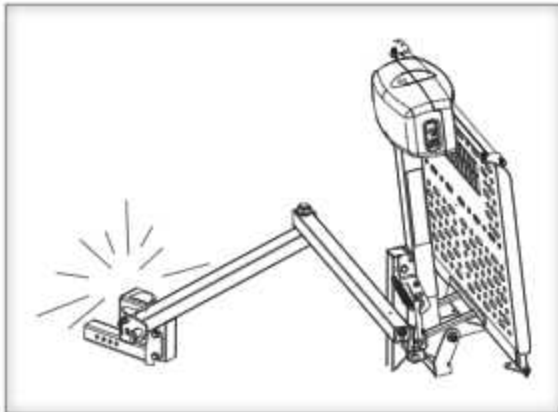


Figure 9-1



CAUTION

Verify that the T handle has fully retracted.

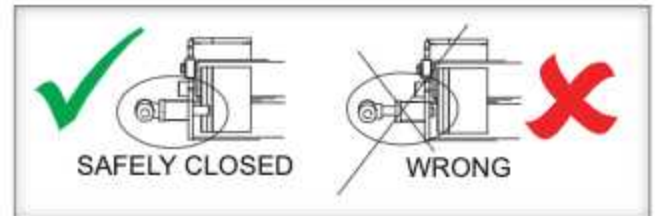


Figure 9-2



WARNING

Always install the safety pin.

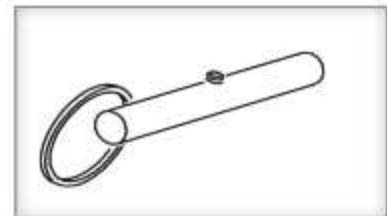


Figure 9-3

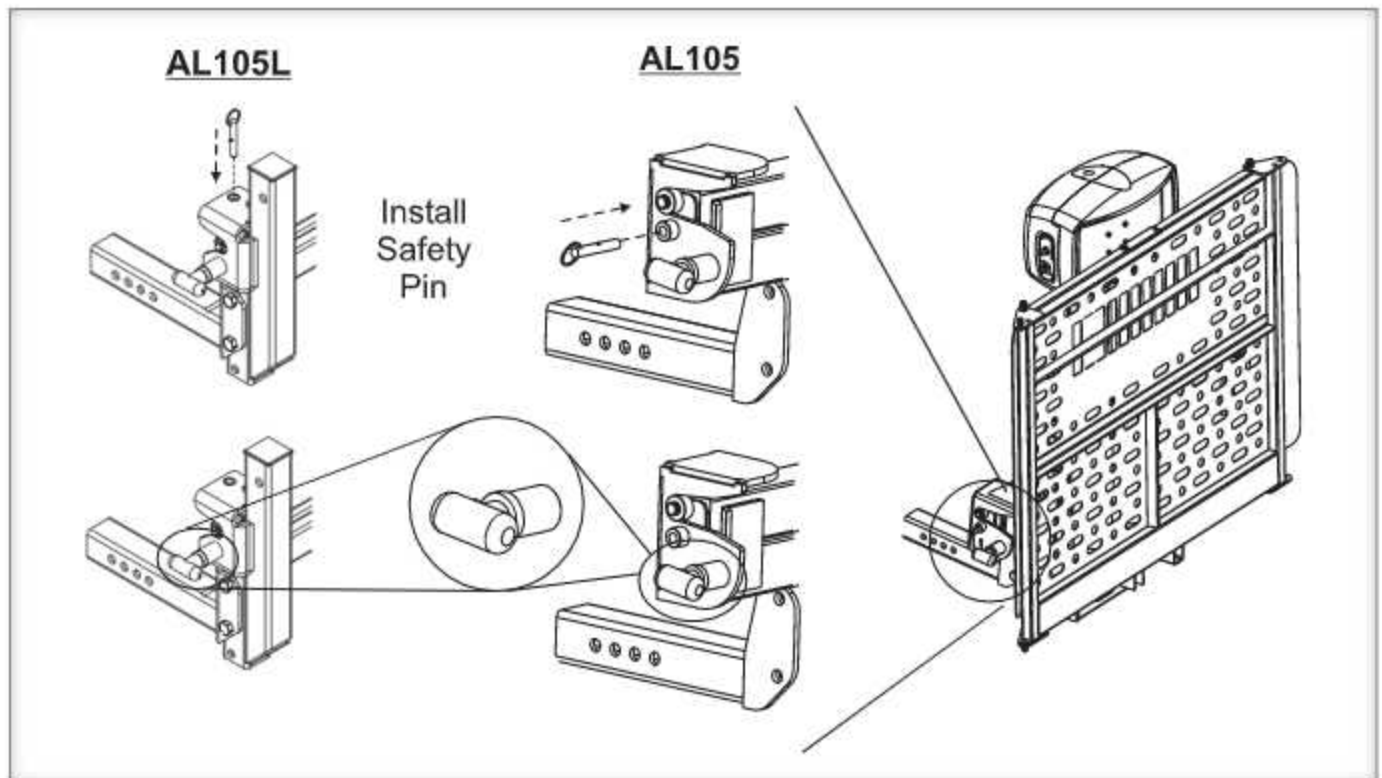


Figure 9-4

MANUAL OVERRIDE

In the event of a power failure, for example if your car battery dies, your lift can still operate using the Manual Override system.

1. Unplug Power to the Lift. [Figure 10-1]

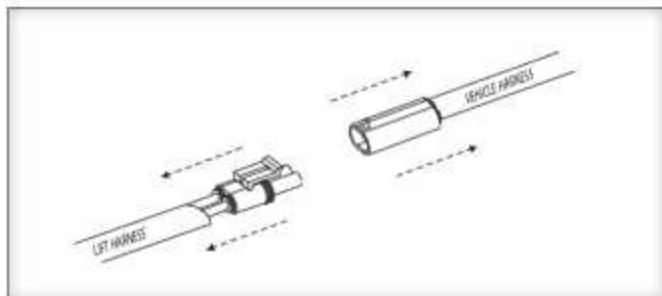


Figure 10-1

2. Remove the cap on top of the motor cover, using a coin or key. [Figure 10-2]

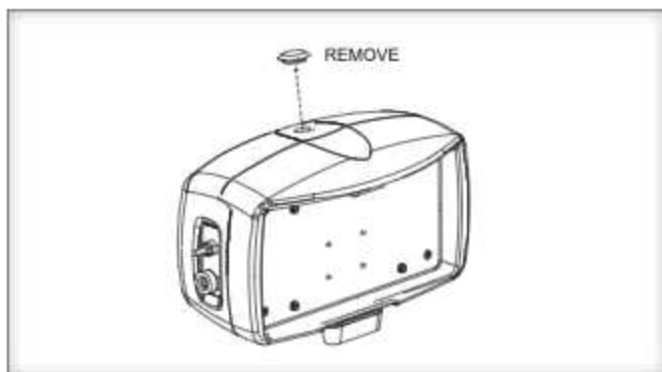


Figure 10-2

3. Insert a 3/8" socket wrench into the actuator and rotate the Hex Shaft. [Figure 10-3]

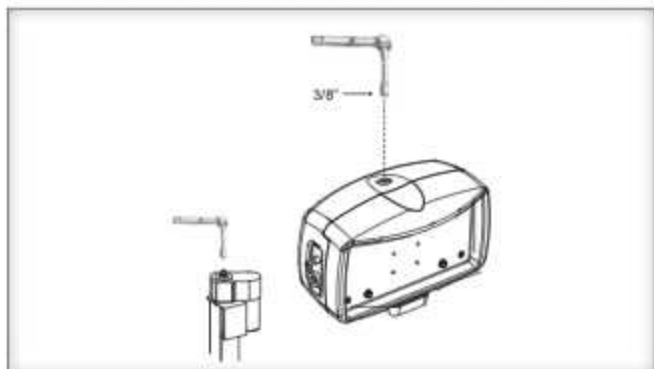


Figure 10-3



Disconnect power from lift **BEFORE** attempting manual override.

IMPORTANT!

You **MUST** unplug the two-connector plug **BEFORE** any attempt to use the Manual Override. Failure to do so result in serious injury.

4. Turn **COUNTER-CLOCKWISE** to **LOWER** the platform. [Figure 10-4]

5. Turn **CLOCKWISE** to **RAISE** the platform. [Figure 10-4]

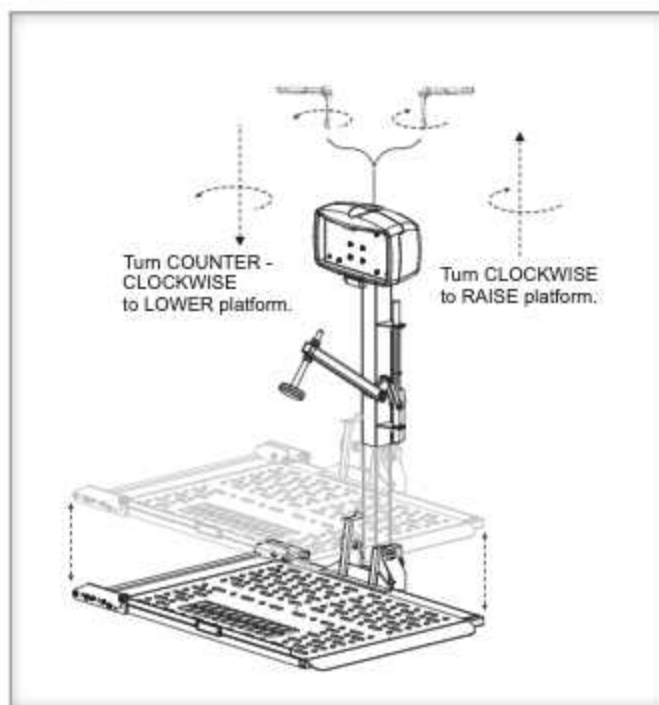


Figure 10-4

SAFETY & MAINTENANCE

**WARNING!**

This lift is **NOT** meant for human transport. The chair or scooter **MUST** be unoccupied before operating the lift. Each lift is designed to transport a specific chair only. **DO NOT** attempt to move any mobility devices, objects, people, or materials other than those for which the lift was designed.

**CAUTION!**

Drive with **EXTREME CARE** while transporting your chair or scooter on the lift. **DRIVE SLOWLY** over rough terrain such as pot holes, unpaved roads, railroad tracks. Excessive bumping creates stress on the lift and vehicle and can badly damage your lift, vehicle, and mobility device.

**SPECIAL CAUTIONS**

- **Return hold-down arm to a side position before folding platform.** Failure to do so will damage your lift.
- **Beware of pinch points.** These are areas of mechanical objects with moving parts that can catch extremities or clothing. Do not place fingers, extremities or allow clothing near such points.
- **Keep hands, feet and objects away from Platform as it Lowers.**
- **Keep chair tires properly inflated.** Improper inflation will change how the chair fits and secures on the platform, and changes the clamping pressure.
- **Secure chair firmly before driving.** Double-check that it is secured properly to the platform before you transport it.
- **Inspect the lift condition 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 Move the Vehicle with Platform Down.** If you move with the platform in the down position, you will damage the lift mechanism.
- **Hand Wash or Use Touchless Automatic Car Wash only.** To prevent lift damage do NOT use automatic wash systems.

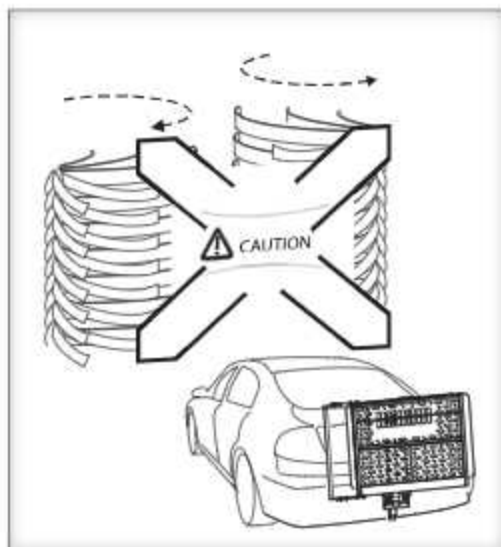


Figure 11-1

NOTES FOR AL015, AL100 AND AL160 MODELS



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 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.



CAUTION!

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

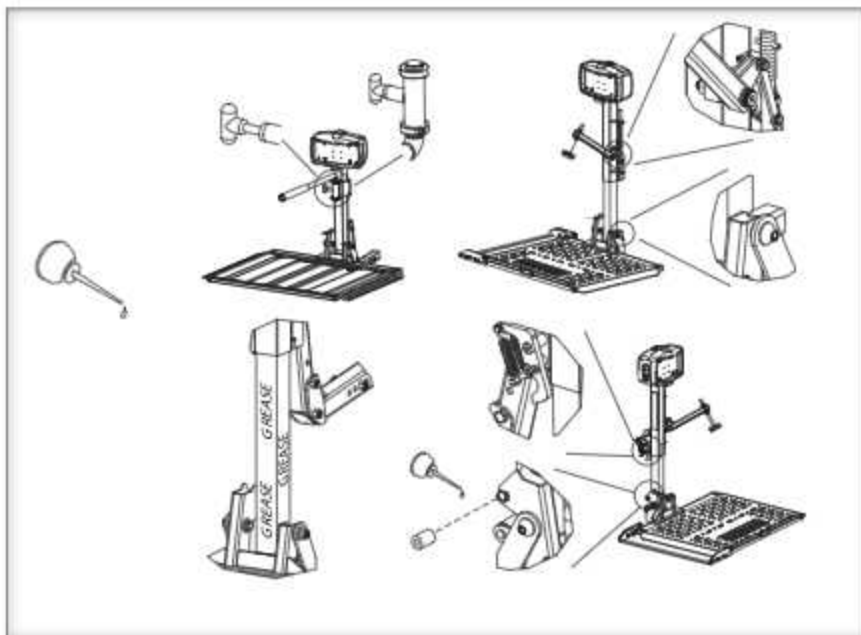


Figure 12-1

MAINTENANCE

This Outside Lift is designed to be as trouble free as possible; however, some basic maintenance will ensure that it continues to offer reliable use for years to come.

Oil pivot points on all moving parts every 30 days.

Re-grease the inside vertical square tube every 30 days in winter or in dirty or dusty conditions. Just lower the platform to the ground and clean the tube with mineral spirits, WD-40, or a good solvent. When clean, grease the square vertical tube shaft with high grade water-resistant grease such as boat trailer wheel bearing grease. [Figure 12-1]

Check for paint chips and touch up bare metal. Use a good gloss black enamel or lacquer to inhibit rust. You may need to do this more frequently if your lift is subject to salt air or road salt in the winter.

PROFESSIONAL INSTALLATION RECOMMENDED

NOTE: The following section is designed for the professional installer. We strongly recommend that a certified dealer install the lift, configure the docking device, and instruct the user on correct operation as well as establish a Safety and Maintenance Schedule.

If you do not understand any portion of installation or operation, please consult our technical service department or authorized mobility dealer. Do not attempt to install or use this

lift with any hesitation or question. Serious injury or damage can result if proper procedures are not followed.

Read & Understand this Manual Prior to Installation or Operation.

Having an overall understanding of the lift and proper installation techniques will help you save time, energy and avoid possible injury.

TOOLS REQUIRED

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

If you have any questions, concerns or comments, please contact our Technical Service Department at 800-378-6648 or tech@harmar.com



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



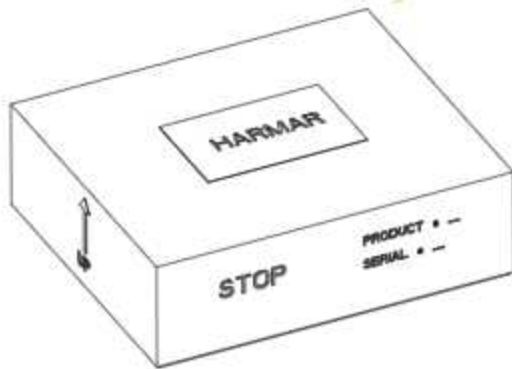
TAPE MEASURE



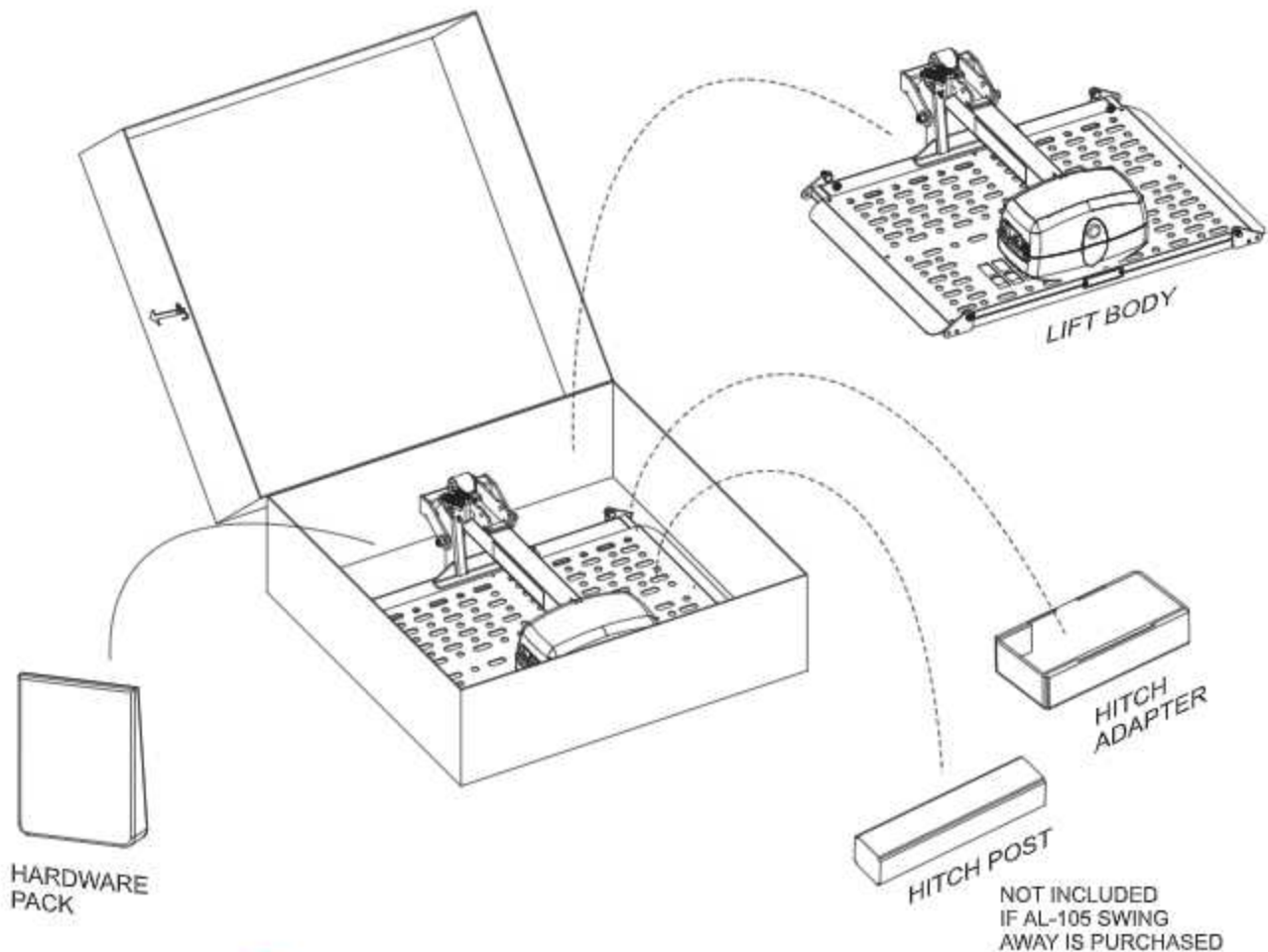
UNPACKING THE LIFT

Check the box contents. Review each part against the packaging checklist to ensure that all parts have been included.

If any parts are missing or damaged, immediately contact the dealer who sold the lift. Do not attempt to install or use a lift that has missing or damaged parts.



DO NOT
LIFT
FROM
MOTOR
COVER



INSTALLATION OVERVIEW

Never attempt to pick up the lift from the box, ground or on/off a vehicle alone.

If you follow the proper installation procedure, no heavy lifting will be needed, and the lift practically installs itself.

Read & understand this Manual prior to installation or operation.

Knowing the lift's adjustments and the tips on proper installation techniques will save time, energy and avoid possible injury. If you do not understand any portion of installation or operation, please consult our technical service department or authorized mobility dealer.

**Quick Reference – Installation Procedure**

1. Wire the Vehicle. See page 17.

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

2. Position the open box behind the vehicle. Slice the corner seams. [Figure 15-1]

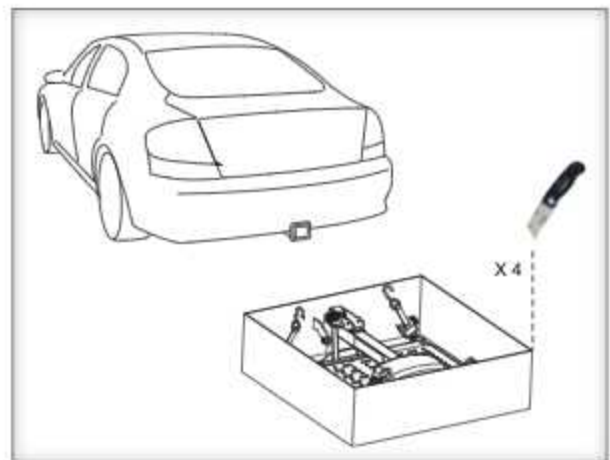


Figure 15-1

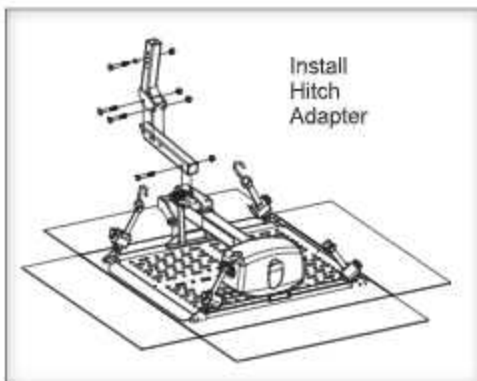


Figure 15-2

3. Determine / Install Hitch Height / Adapter. Measure the hitch to ground distance so you can save time by selecting components that fit between lift and vehicle so as to maintain proper ground clearance. [Figure 15-2] Install Hitch Adapter that fits the application. See pages 21 to 25.

4. Connect power to the lift. [Figure 16-1] Insert and turn key. Press 'DOWN' to extend the lift. [Figure 16-2]

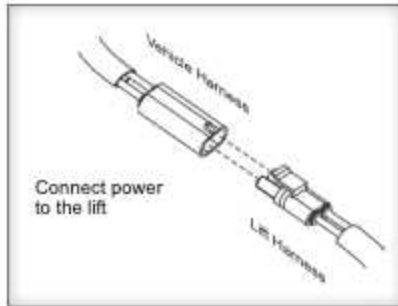


Figure 16-1

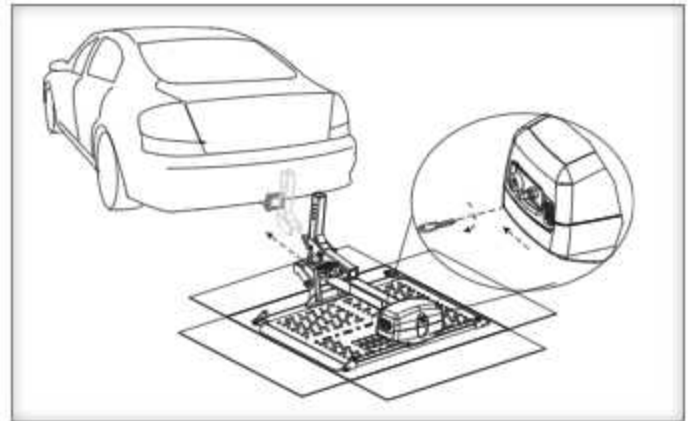


Figure 16-2

5. When extended 3" or more flip up to vertical. [Figure 16-3]

6. Align the hitch adapter, using the power of the lift. The lift will slide on the cardboard box. [Figure 16-4]

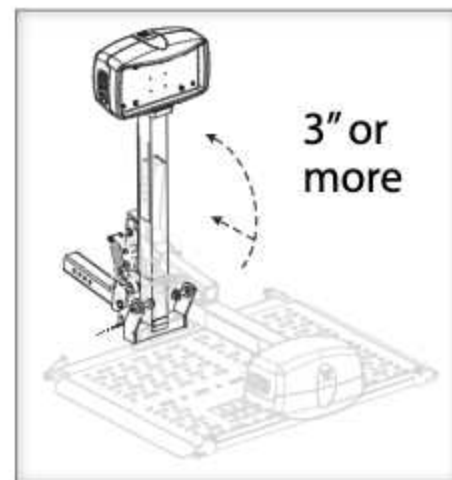


Figure 16-3

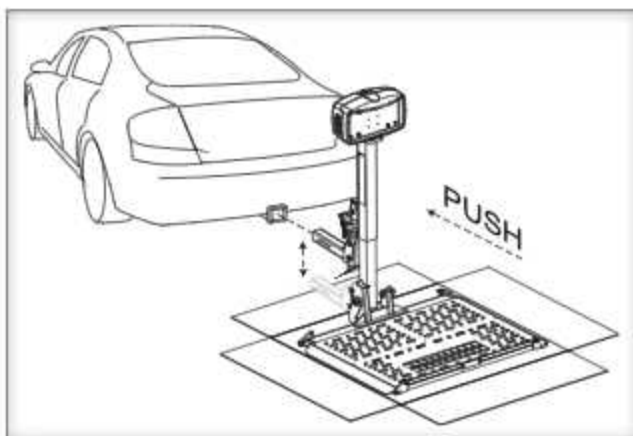


Figure 16-4

WIRING THE VEHICLE

Improper wiring is the #1 cause of problems in the operation of a vehicle lift. Follow the wiring instructions carefully

WARNING!  **DO NOT** connect the red wire until **LAST**.

The vehicle wiring harness is located in the hardware pack. The harness is manufactured to comply with SAE J1128 requirements. It is approximately 23 feet long and will accommodate most vehicles.

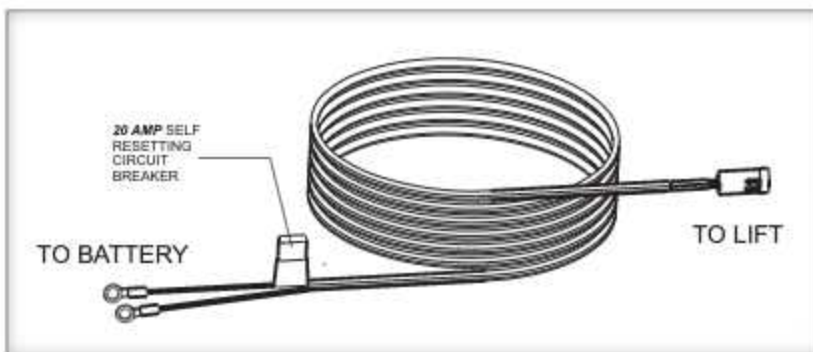


Figure 17-1

1. Unwind the wiring harness and lay it flat.

The harness end with the black connector is the lift end. It goes to the trailer hitch area where the lift will mount. [Figure 17-1]

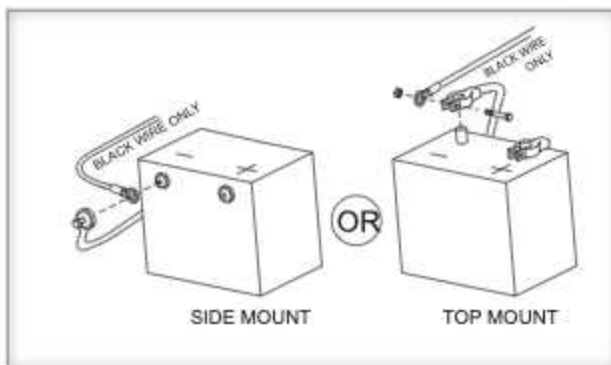


Figure 17-2

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 very end of installation. [Figure 17-2]



CAUTION!

NEVER attempt to connect the harness to a secondary power source. Always connect both leads directly to the battery.

3. Run the vehicle harness under and, when possible, through the vehicle back to the bumper/trailer hitch area.

- Run the wire under and through the vehicle whenever possible, gaining entry into the vehicle through the firewall
- **DO NOT** run wiring where it can be snagged by road debris.
- **DO NOT** run wiring near the gas tank.
- If you wish to run the harness under the vehicle, use the supplied wire ties to secure the wire against the frame, avoiding moving parts / hot parts such as exhaust.

continued

- If the harness is too long, coil the excess wire and secure it to the vehicle frame/bumper with the supplied wire ties. [Figure 18-1]



DO NOT cut or shorten the harness.

CAUTION!

4. Once harness is run into the vehicle, remove the pin's protective tubing.

5. Inspect the pin's retaining flanges. They may have become deformed while run through the vehicle. These are critical to secure the pins inside the connector. Adjust as needed.

6. Flip open end connector's jigned retainer, insert pins as shown. [Figure 18-2]

Verify the wires can not be pulled out by moderately pulling on the wires.

Be sure rubber seals are inside back of connector and close the hinged retainer.

7. Plug connector into the lift.

8. LAST...attach red wire to the positive terminal on the battery. [Figure 18-3]

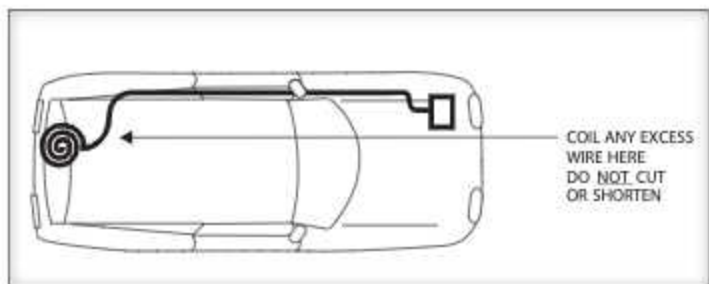


Figure 18-1

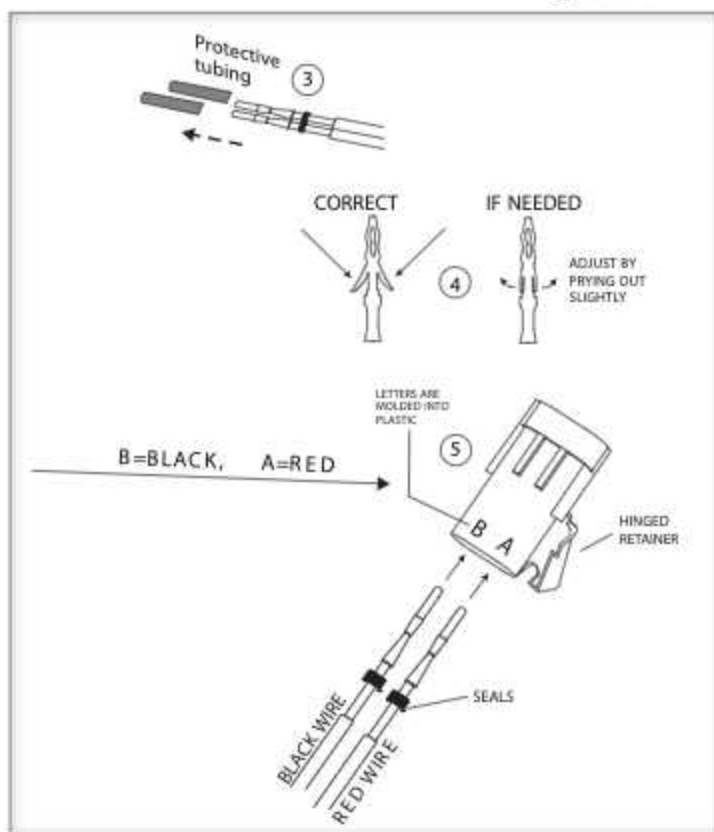


Figure 18-2

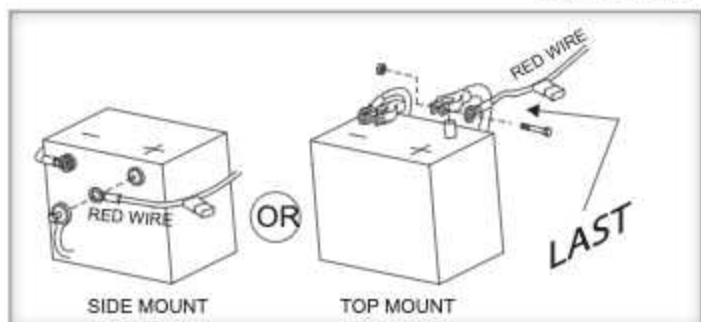


Figure 18-3

IMPORTANT!

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

NOTE: A standard two-contact trailer connector is included with the lift. This is for the license plate lamp. If your vehicle is not equipped with the proper connector, you can use the **BROWN WIRE** to make a wire splice and achieve the same result. [Figure 19-3]

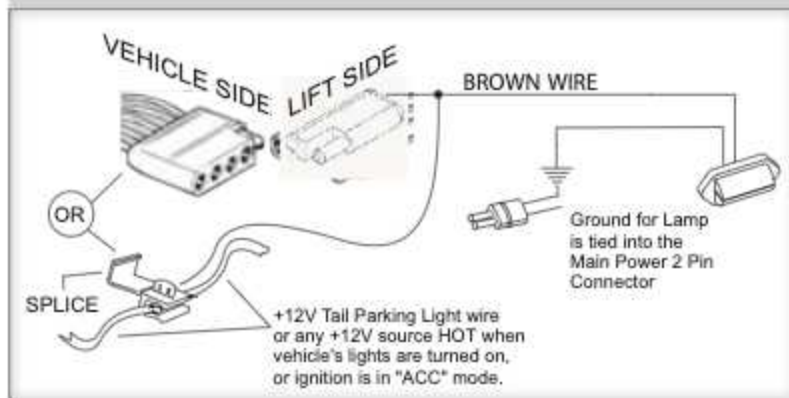


Figure 19-3

TECH NOTE: MOTOR TESTING

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

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

If a single strand of a multi-strand wire is making contact, 12V will appear on a meter or test light, but it will not allow the motor to operate. It is always best to test both current and voltage, or run the motor with known good shop battery or power source when troubleshooting.

VEHICLE HITCH

Outside Lifts require a vehicle that can accept a Class 1, 2 or 3 hitch. The vehicle should be wired with a standard 4 connector trailer wiring.

If you are not sure about the vehicle and hitch capability, contact a local hitch installer or you can visit web sites of a hitch company. For example: www.hitch-web.com; www.reeseprod.com; www.draw-tite.com

Be sure to use a hitch installer that is reputable, insured, and capable. Their work reflects directly on the customer's perception of your mobility lift installation.

NOTE: Not every vehicle is capable of having a hitch installed.

1. Calculate the weights of the lift, mobility device, and, where applicable, the Swing-Away option. Be certain that the total weight does not exceed the hitch's recommended tongue weight. A range of hitches are available, capable of bearing different amounts of weight.

The lift manufacturer suggests the installer observe the vehicle's Gross Vehicle Weight Rating restrictions.

Some states have strict license plate obstruction laws. Familiarize yourself with local and state laws.

2. Ensure the receiver tube of the hitch is installed parallel to the ground. This is a requirement, not merely a recommendation. If the hitch is not installed properly it affects the lift's functionality.

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 2 hitch requires optional accessories.

A vehicle with a Class 3 hitch and standard 4 connector wiring is ready for installation.

PRODUCT:	HITCH CLASS:	WEIGHT:							
AL003	ball, 1, 2, or 3	25 lbs	+	IF USED	+	CHAIR / SCOOTER	=	lbs	Must NOT Exceed Hitch Manufacturer's Max Tongue Weight
AL010/050	1, 2 or 3	71 / 67							
AL015	1, 2, or 3	62 lbs							
AL030	ball, 1, 2, or 3	49 lbs							
AL100	2 or 3	83 lbs							
AL160	1, 2, or 3	74 lbs							
AL300	2 or 3	80 lbs							
AL301XL	2 or 3	100 lbs							
AL500	2 or 3	75 lbs							
AL560	2 or 3	89 lbs							
AL560XL	2 or 3	101 lbs							
AL570	2 or 3	69 lbs							
AL570XL	2 or 3	79 lbs							
AL580	2 or 3	63 lbs							
AL580XL	2 or 3	63 lbs							
AL300HD	3 or 5	82 lbs							
AL500HD	3 or 5	77 lbs							
AL301XL HD	3 or 5	102 lbs							

AL105	40 lbs	OR	AL105L	24 lbs
				" x " lbs

HITCH ADAPTERS

The Hitch Adapter plugs into the vehicle's trailer hitch and serves as the interface between the lift and vehicle. Hitch adapters are designed for the needs of different vehicles. Some are shown in. [Figure 21-1]

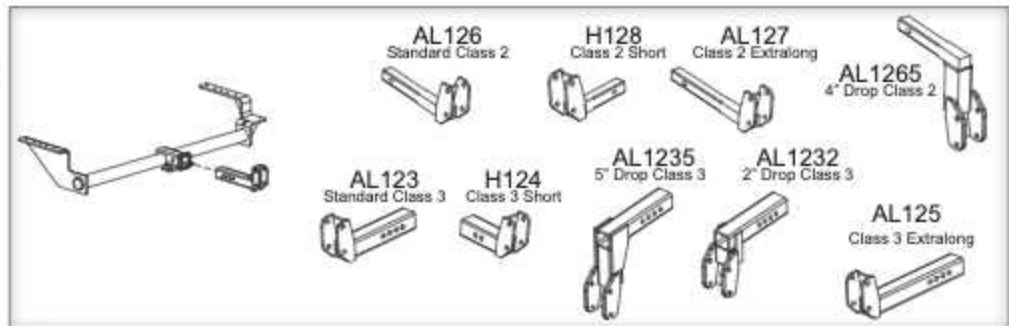


Figure 21-1

Selecting a Hitch Adapter

To determine the Hitch Adapter that will ensure proper lift operation, first determine the Hitch Class. Measure the Bumper Distance and the Hitch Height. [Figure 21-2]

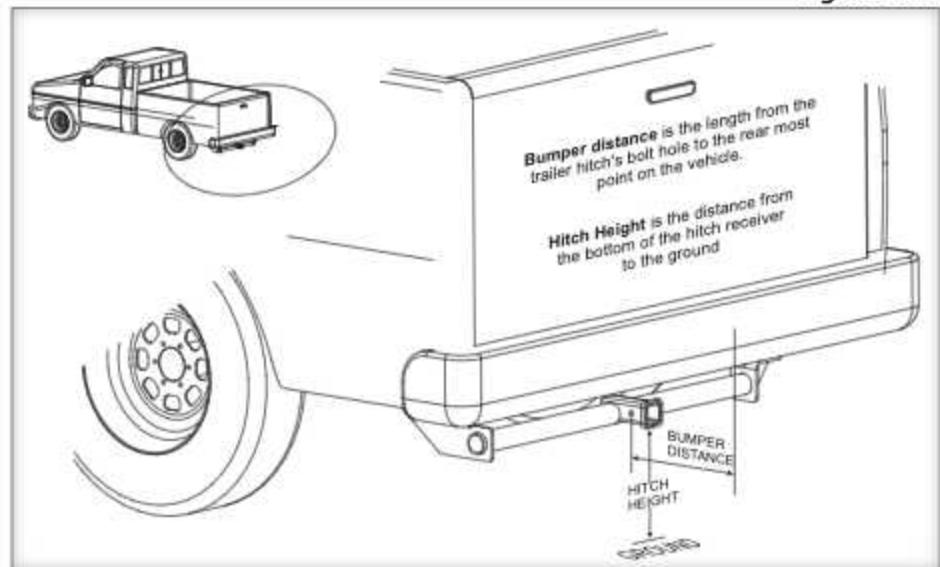


Figure 21-2



WARNING! Harmar lifts require Harmar-approved hitch adapters. Hitch Expanders and Extenders are strictly prohibited – using them or any other aftermarket accessory may result in damage to the vehicle, lift, and/or personal injury to the user.

Hitch Class is usually printed on the trailer hitch. You can also determine it by measuring the inside of the receiver on the trailer hitch as shown. [Figure 21-3]

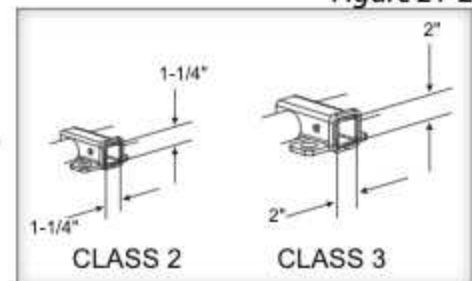


Figure 21-3

NOTE: Some shallow hitches, ex. Spare tire blocked hitches, may require a short Hitch Adapter. [Figure 21-4]

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.

Figure 21-4

Figure 22-1

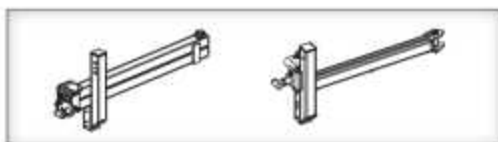
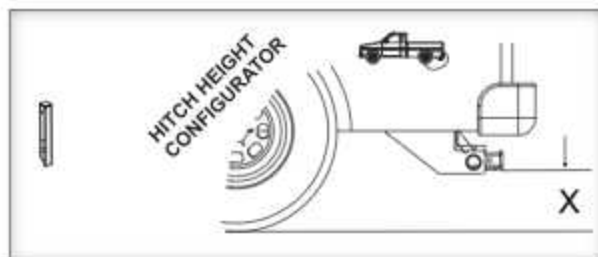




Figure 22-2




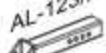









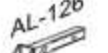


HITCH ADAPTERS (Con't)

The effective range of the Hitch Adapter changes slightly if the lift is equipped with the standard **AL107** Hitch Post. [Figure 21-1] or if it's equipped with a tail gate/hatch accessibility option, either the **AL105** or **AL105L** Swing-Away. [Figure 22-2]

 CLASS 3 HITCH 

 CLASS 2 HITCH 

if X =	STANDARD MOUNT AL107 HITCH POST (NO SWING-AWAY)	SWING-AWAY (OPTIONAL)	if X =
6"			6"
7"			7"
8"			8"
9"			9"
10"	AL-123/HD	AL-123/HD	10"
11"			11"
12"	STANDARD	STANDARD	12"
13"			13"
14"			14"
15"			15"
16"			16"
17"			17"
18"			18"
19"			19"
20"	AL-1232/HD	AL-1235/HD	20"
21"			21"
22"	AL-1235/HD		22"
23"		PLEASE CONTACT TECHNICAL SERVICE DEPARTMENT FOR AVAILABILITY OF LARGER DROP ADAPTERS	23"
24"	PLEASE CONTACT TECHNICAL SERVICE DEPARTMENT FOR AVAILABILITY OF LARGER DROP ADAPTERS		24"
25"			25"
26"			26"

if X =	STANDARD MOUNT AL107 HITCH POST (NO SWING-AWAY)	SWING-AWAY (OPTIONAL)	if X =
6"			6"
7"			7"
8"			8"
9"			9"
10"	AL-126	AL-126	10"
11"			11"
12"	STANDARD	STANDARD	12"
13"			13"
14"			14"
15"			15"
16"			16"
17"			17"
18"			18"
19"			19"
20"			20"
21"	AL-1265		21"
22"		PLEASE CONTACT TECHNICAL SERVICE DEPARTMENT FOR AVAILABILITY OF LARGER DROP ADAPTERS	22"
23"			23"
24"	PLEASE CONTACT TECHNICAL SERVICE DEPARTMENT FOR AVAILABILITY OF LARGER DROP ADAPTERS		24"
25"			25"
26"			26"

If the measurement falls 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, 5" Drop or Long Class 2, 2" 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 trained representative will be glad to help.

INSTALLATION WITH HITCH POST

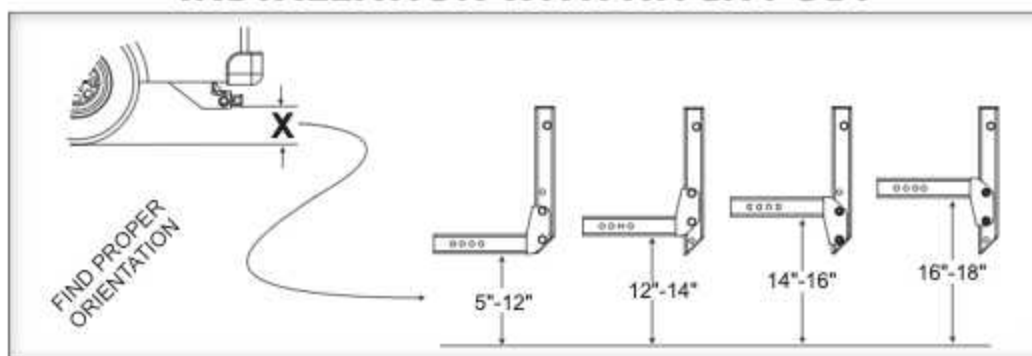


Figure 23-1

OPTIMIZING HITCH HEIGHT

You can vary the lift height by changing the Hitch Adapter's location.

This helps you optimize the vehicle's ground clearance to ensure that the platform lays flat when it reaches the end of its travel.

Consult *Figure 23-1* to select the orientation needed for the vehicle based on the Hitch Height, the vehicle's hitch receiver distance to the ground.

Refer to pages 15 & 16 for an overview of the procedure.

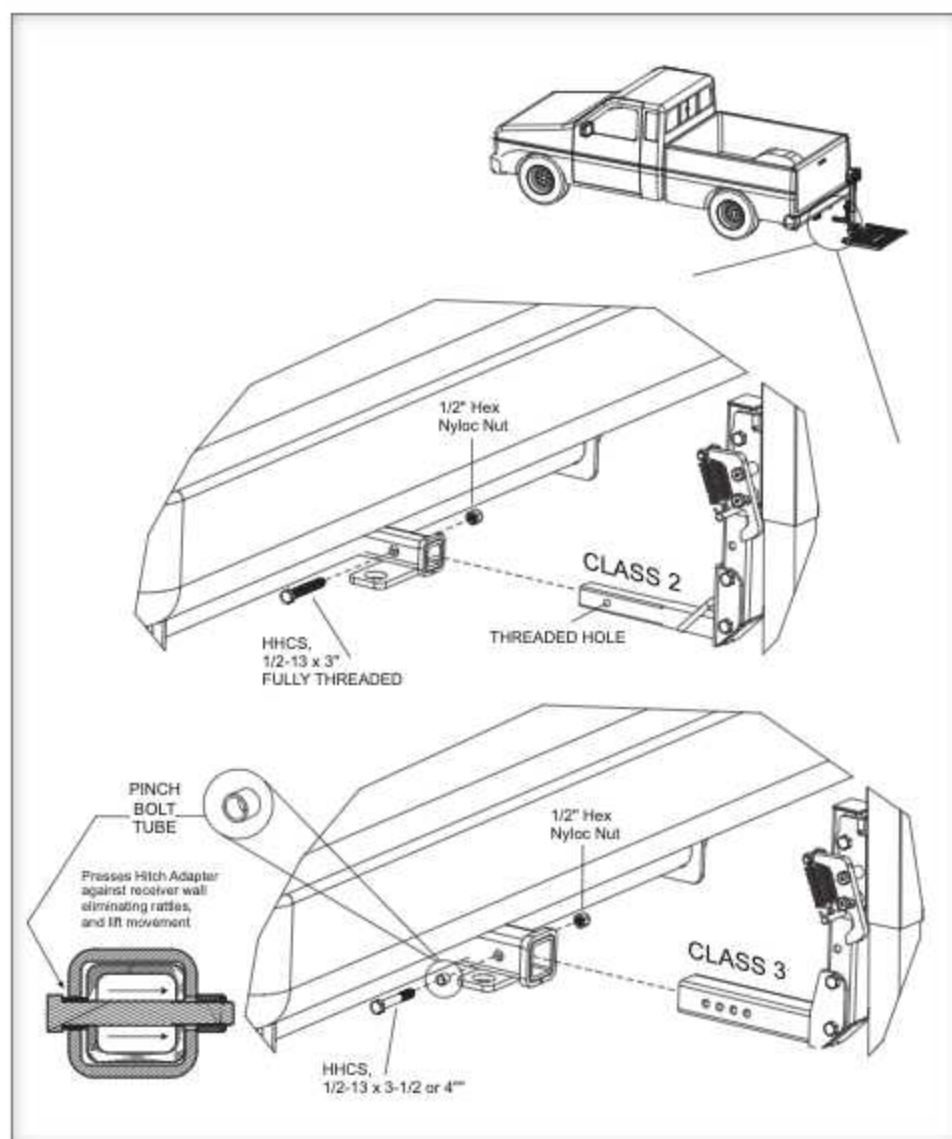


Figure 23-2

INSTALLING THE HITCH ADAPTER

- 1. Attach hitch adapter to hitch post** orientated properly according to the application's Hitch Height. [Figure 24-1]
- 2. Attach Hitch Post to lift.** Do NOT over tighten.
- 3. Slide Hitch Adapter into vehicle's hitch receiver.** Fasten Adapter according to hitch class. [Figure 23-2]

NOTE: ONLY the AL123 or AL126 can be safely inverted.

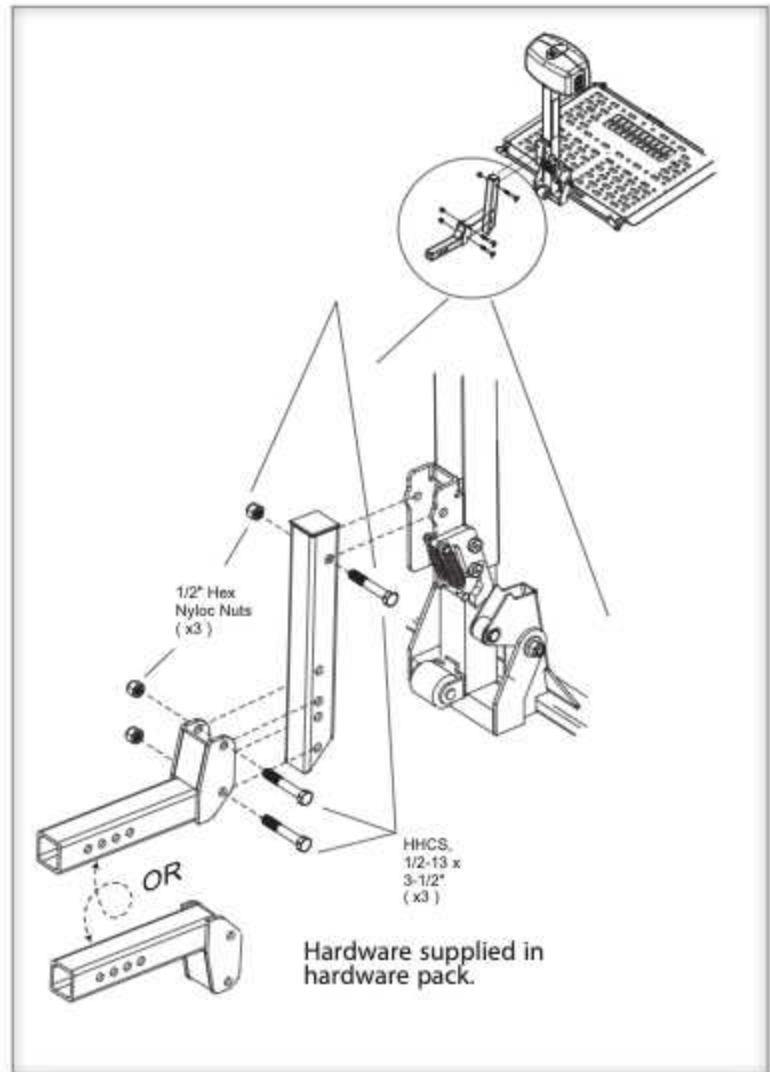


Figure 24-1

INSTALLATION WITH SWING-AWAY

OPTIMIZING HITCH HEIGHT

You can vary the lift height by changing the Hitch Adapter's orientation and location. This helps you optimize the vehicle's ground clearance to ensure that the platform lays flat on the ground when it reaches the end of its travel.

Consult *Figure 25-1* to select the orientation needed for the vehicle based on the Hitch Height, that is, the vehicle's hitch receiver distance to the ground.

Figure 25-1

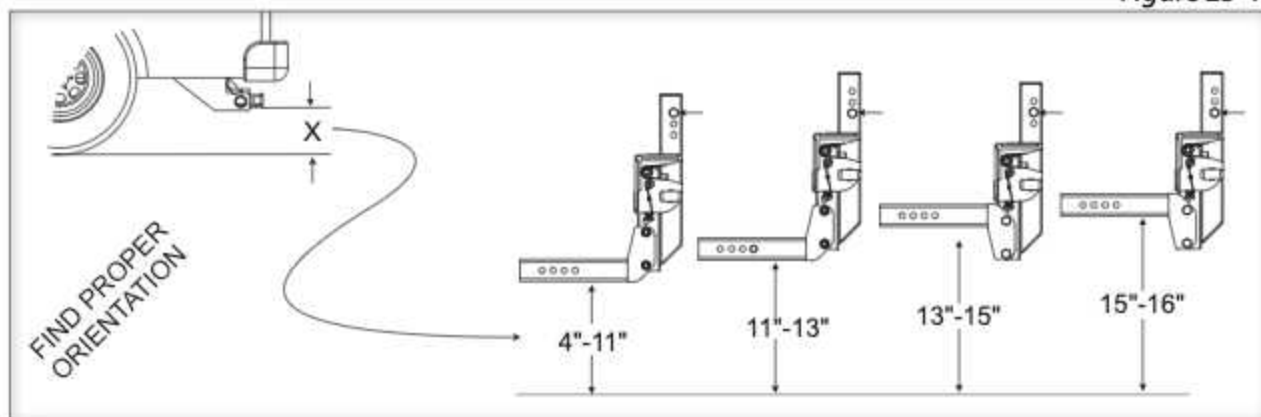
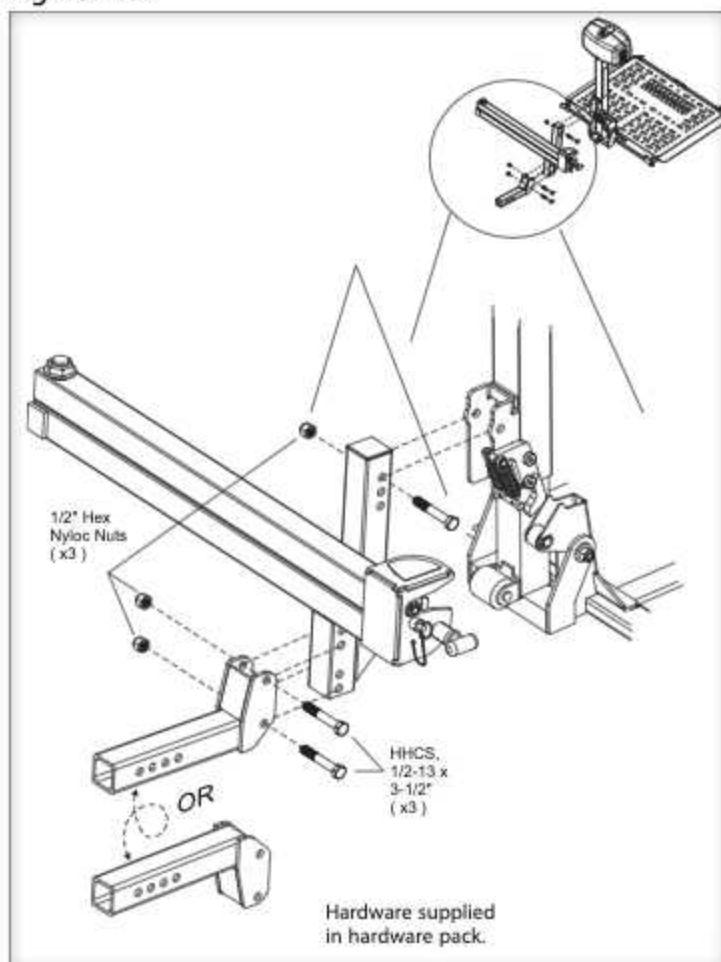


Figure 25-2



1. Attach Hitch Adapter to Swing-Away positioned properly according to the application's Hitch Height. [Figure 25-2]

Attach Swing-Away to lift. Do NOT over-tighten.

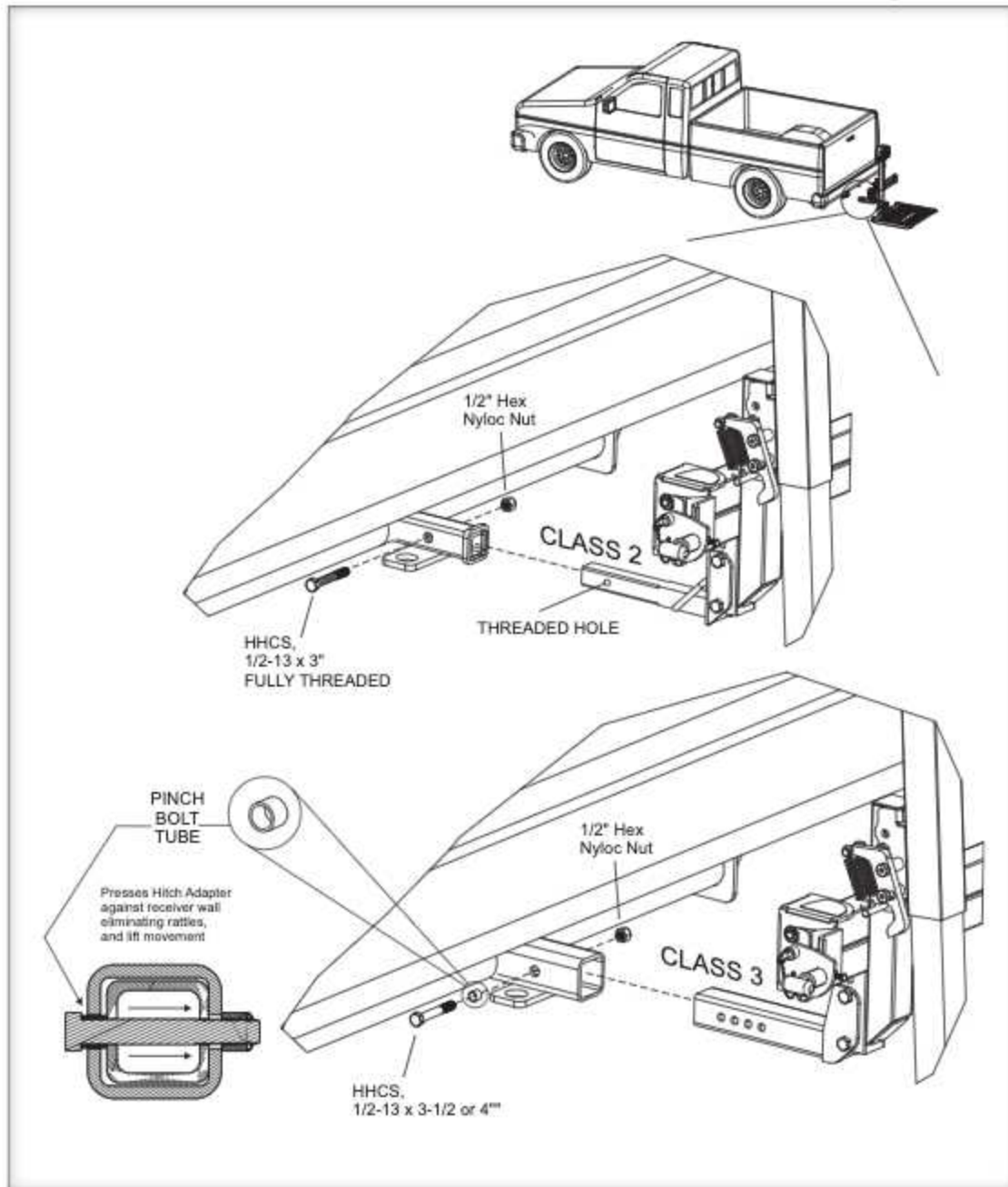
NOTE: The Swing-Away replaces the hitch post.

NOTE: ONLY the AL123 or AL126 can be safely inverted.

2. Slide Hitch Adapter into vehicle's hitch receiver.

[Figure 26-1] Fasten Adapter according to hitch class.

Figure 26-1



AL030 POWER TOTE INSTALLATION WITH BALL MOUNT HITCH ADAPTER

1. Install bumper mount or flat bar.

[Figure 27-1]

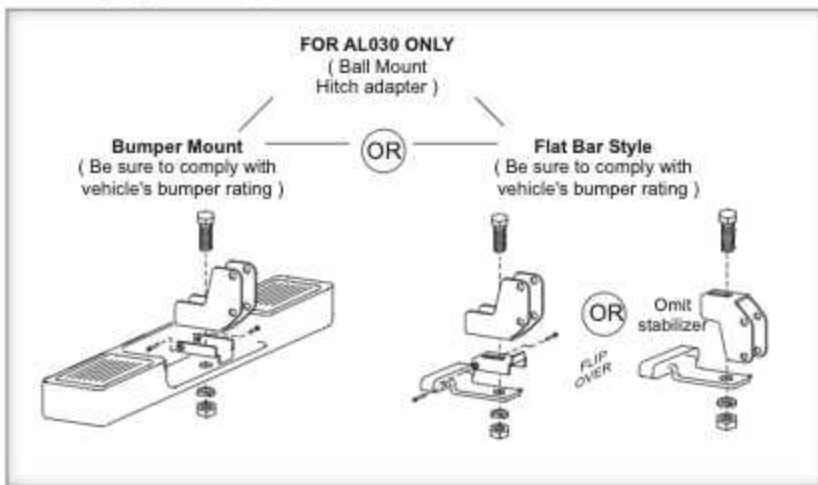


Figure 27-1

2. Install hitch post assembly [Figure 27-2]

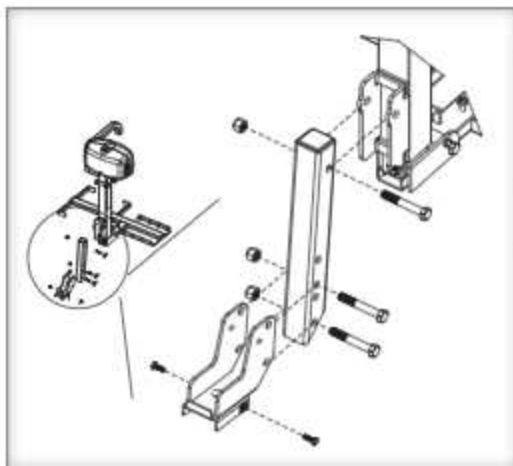
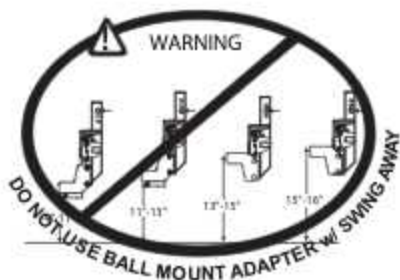


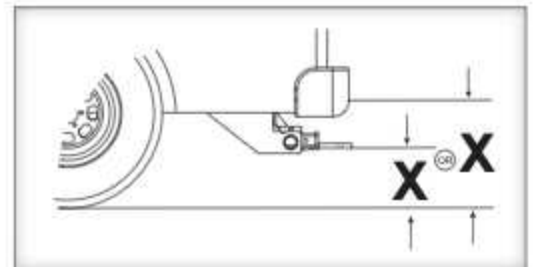
Figure 27-2



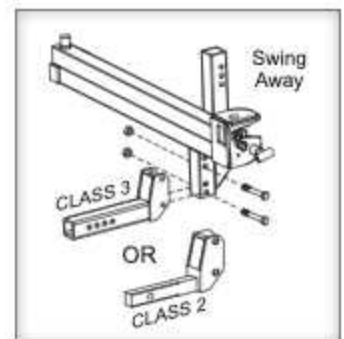
WARNING!

Do not attempt to mount up from under Flat Bar

3. Adjust for bumper height. [Figure 27-3 & 27-4]



Only class 2 or 3 adapters can be used with Swing-Away. Refer to installation with Swing-Away for mounting orientation, page 23.



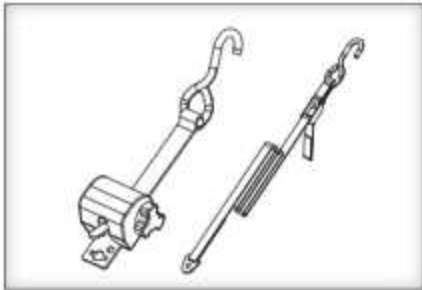


Figure 28-1

CHAIR PREPARATION

A lift with four securement straps offers two options for attaching strap hooks to the chair, Anchor Plate or U-Bolt Kit. The lift includes both sets of options. [Figure 28-1]

ANCHOR PLATE

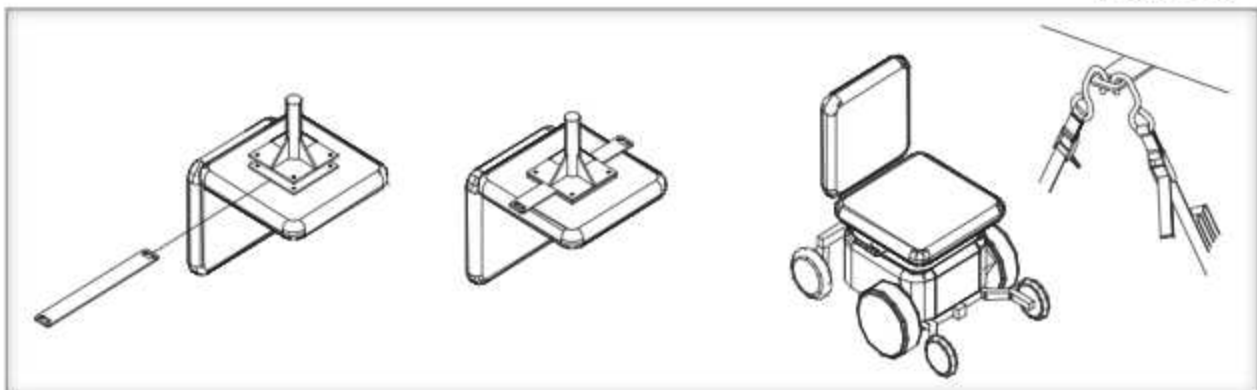
The Anchor Plate is a 20" long flat plate with a slot in each end. It attaches to the bottom of any chair or scooter that has a center seat post. [Figure 28-2]

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

INSTALLING THE ANCHOR PLATE

1. **Remove the seat from the chair.**
 2. **Loosen the screws that attach the plate of 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.**
- [Figure 28-2]

Figure 28-2



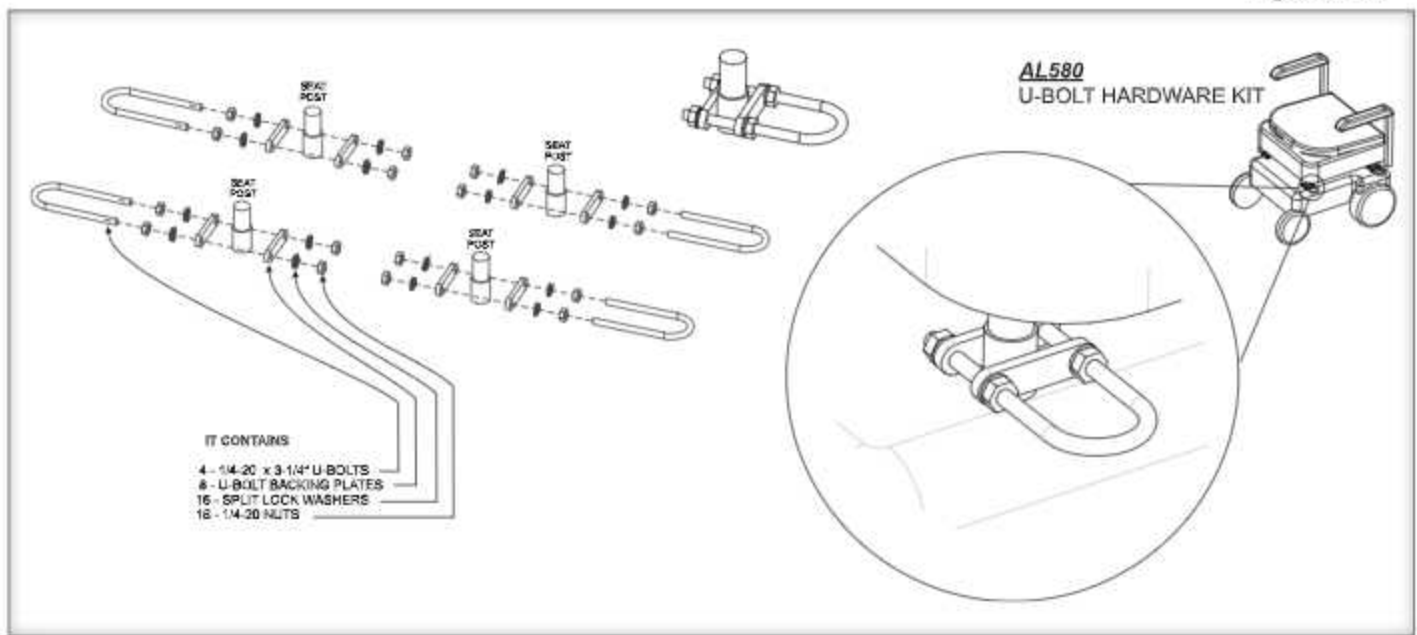
Installing U-Bolt Hardware Kit

The U-bolts are used with power chairs or scooters that do not have a center seat post. On this type chair, the seat is normally attached to a tubular frame. Install the U-bolts, two on each side, to the frame as shown. [Figure 29-1]

Ensure that the loop extends to the outside of the chair so the user can attach the strap hooks.

Each chair is slightly different so the U-bolt placement will differ among models and manufacturers. Place the U-bolts towards the center of the seat if possible. Due to different seat types, you may be forced to install 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.

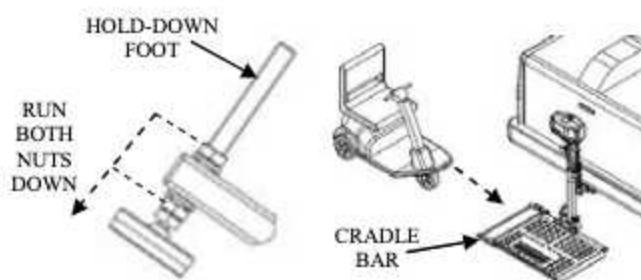
Figure 29-1



AL015, AL100, AL100HD, AL160 LIFT ADJUSTMENTS

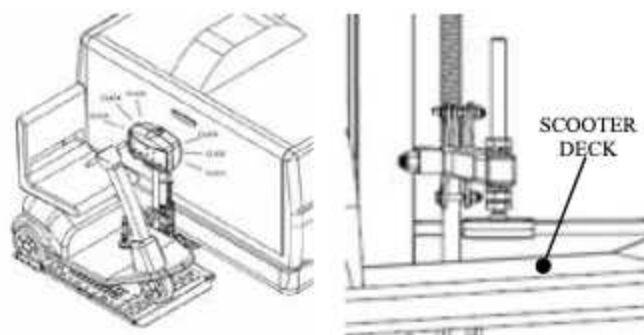
SETTING HOLD-DOWN FOOT HEIGHT

1. With the platform on the ground, run both nuts down onto the Hold-Down Foot, so the Foot will not catch onto the Scooter's Deck. Drive the scooter onto the platform, from left (driver's side) to right, until the rear wheels are positioned in the Cradle Bar assembly. Stop when the rear tires contact the ramp of the platform. [Figure 30-1]



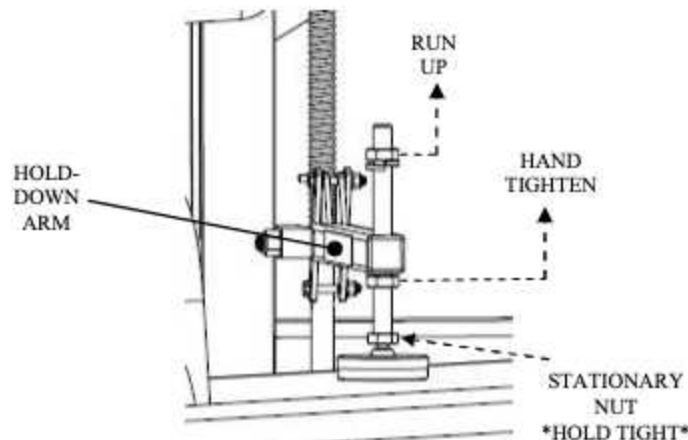
[Figure 30-1]

2. Raise the platform until you hear the motor clutch, which indicates the top of travel. The Hold-Down Foot should be above the Scooter's Deck. [Figure 30-2]



[Figure 30-2]

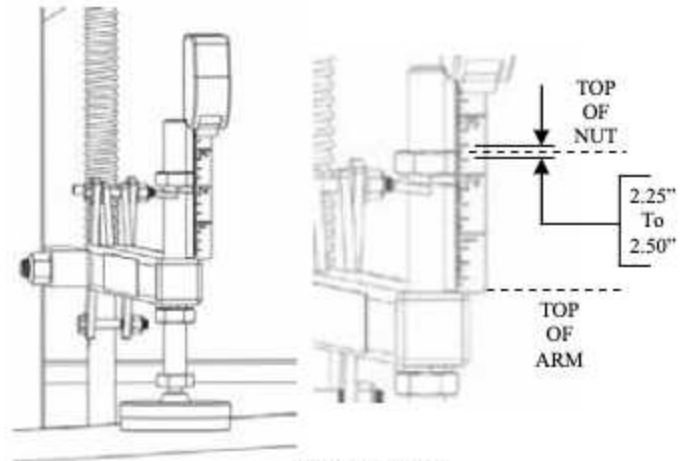
3. Raise both nuts on the Hold-Down Foot and allow the Foot to rest on top of the Scooter Deck. While holding the Stationary Nut, run the Bottom Nut up to the Hold-Down Arm and hand tighten. Lift the Hold-Down Arm up to eliminate slack and to ensure the Arm is at its highest point. There should be pressure on the deck of the scooter and the bottom Lock Washer should be compressed from the Bottom Nut. [Figure 30-3]



[Figure 30-3]

AL015, AL100, AL100HD, AL160 LIFT ADJUSTMENTS (Con't)

4. Adjust the Top Nut, so that the top of the nut measures 2.25" to 2.50" above the top of the Hold-Down Arm. Once the measure has been set, DO NOT adjust the Top Nut or the Stationary Nut. [Figure 31-1]

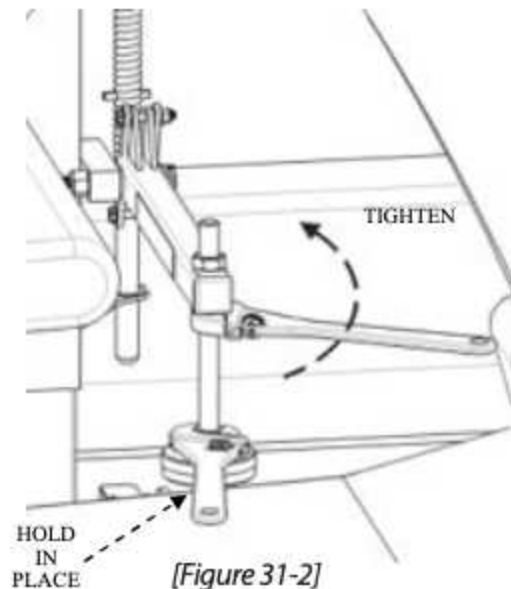


[Figure 31-1]

**CAUTION!**

If the Hold-Down Foot is set too loose, the Foot may not have enough pressure to hold the scooter down. If too tight, the Foot may cause damage to the scooter and/or lift.

5. Lower the platform about 5" to relieve pressure from the Scooter Deck. While holding the Stationary Nut in place, run the Bottom Nut up to the Hold-Down Arm and tighten. [Figure 31-2]



[Figure 31-2]

**CAUTION!**

Do not rotate the Stationary Nut, otherwise it will change the pressure that was previously set.

AL010/050 & AL030 MICRO LIFT ADJUSTMENT

TENSIONING WASHERS

The **AL010/050** and **AL030** micro lifts contain tensioning washers on their manual folding hinge points. The force required to move these parts depends on 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, tighten or loosen the bolt and nut located at the pivot point. [Figure 32-1]

Adjusting the **AL030** Hold-Down Arm

The **AL30's** hold-down arm height requires adjustment to properly clamp a specific wheelchair to the platform.

1. Position the folded wheelchair on the platform, being certain the large rear wheels fall into the cradles of the platform.
2. Loosen the two bolts and nuts located in [Figure 32-2]. Allow the hold-down arm to rest on the padded armrests.
3. Remove chair, and allow the arm bracket to fall approximately 1 inch.
4. Tighten bolts and nuts.
5. Replace chair on platform and test the hold-down arm. Chair should be secure and not moveable in any direction. Adjust as needed.

Figure 32-1

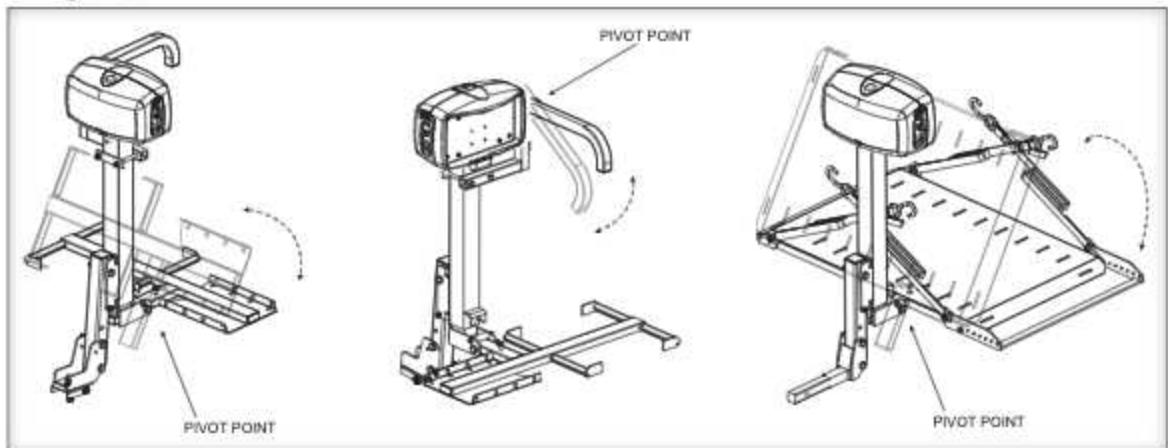
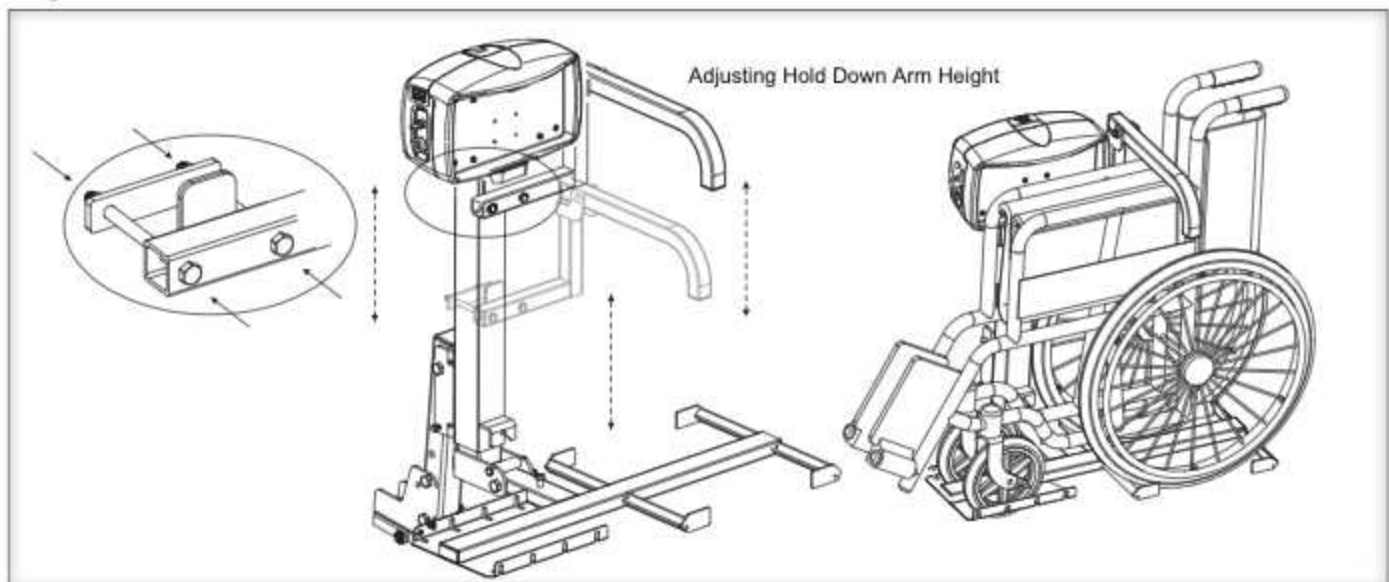


Figure 32-2



AL560 & AL560XL PLATFORM ADJUSTMENTS

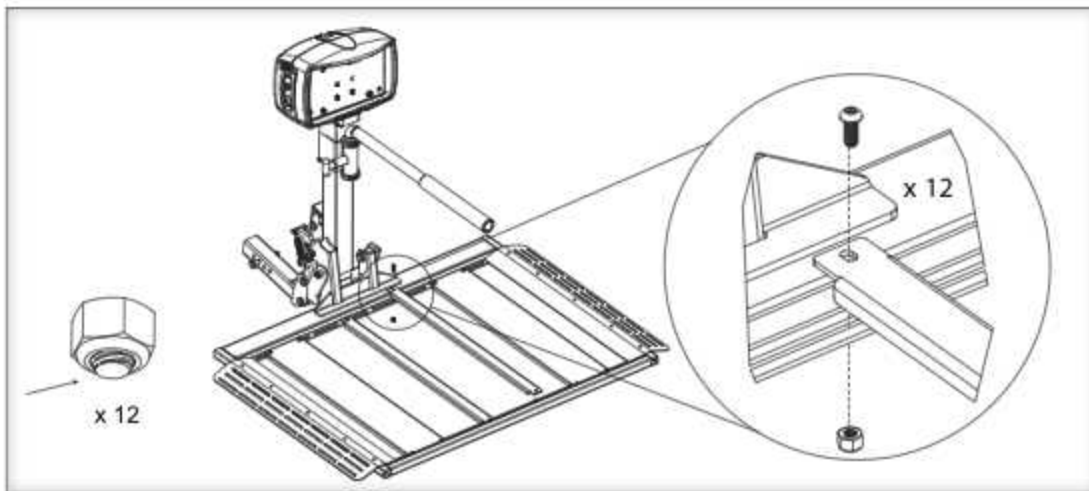


Figure 33-1

Thread must protrude out of top of nylon portion of all nuts.



CAUTION!

For adjustment, ALL AL560 platform components are loose. You MUST tighten these screws and nuts before use. [Figure 33-1]

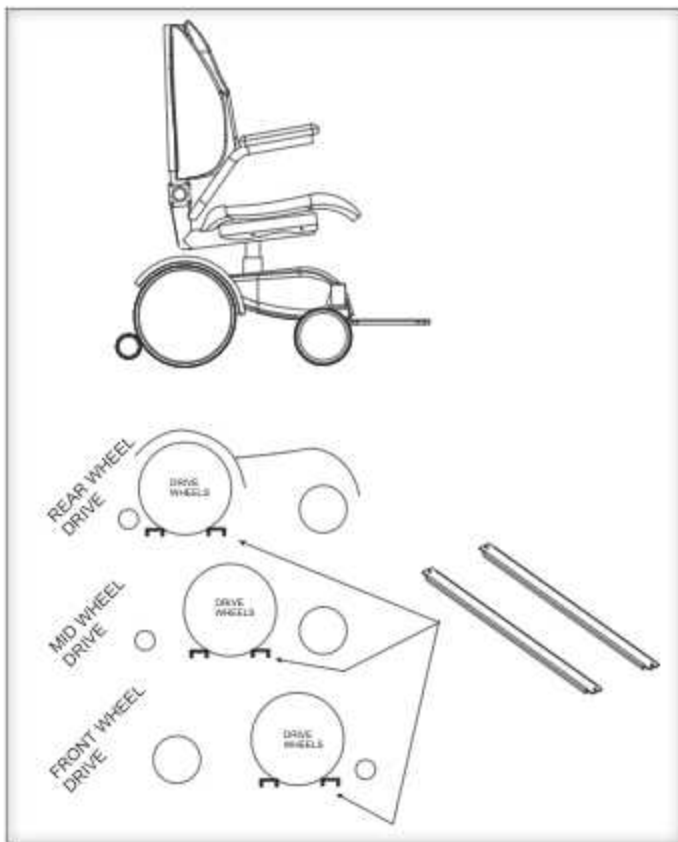


Figure 33-2

1. Estimate the chair's center position depending on driver's side or passenger's side entry preference.

Locate the drive wheel's position. [Figure 33-2] Adjust the two main cradle positions to match. Capture smaller wheels on the two larger skins.

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

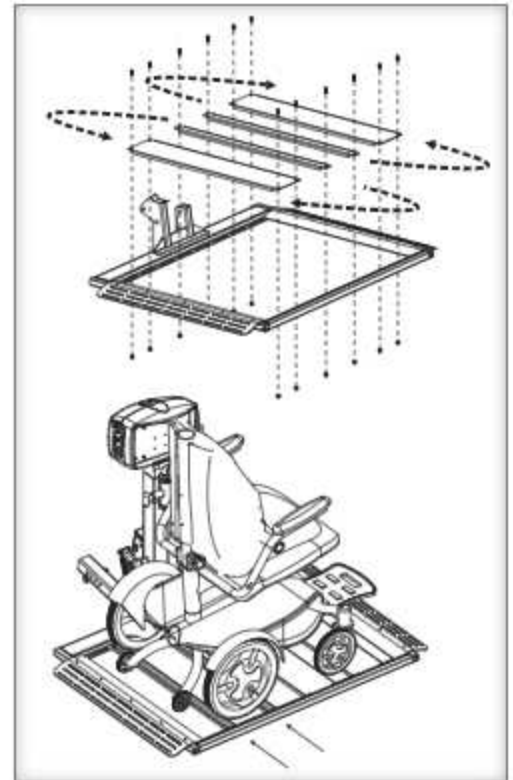


Figure 33-3



CAUTION!

Rearrange platform skins and cradle as needed to capture the drive wheels. [Figure 33-3]



Figure 34-1

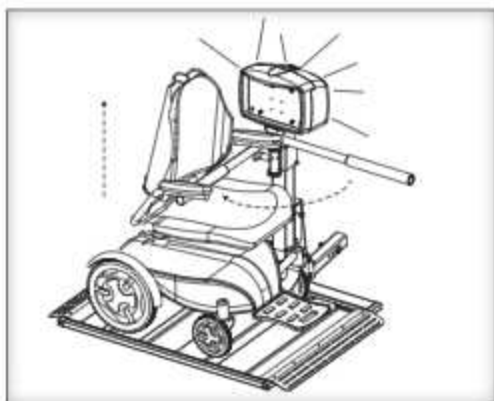


Figure 34-2



Figure 34-3

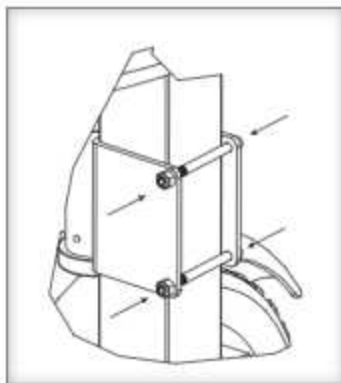
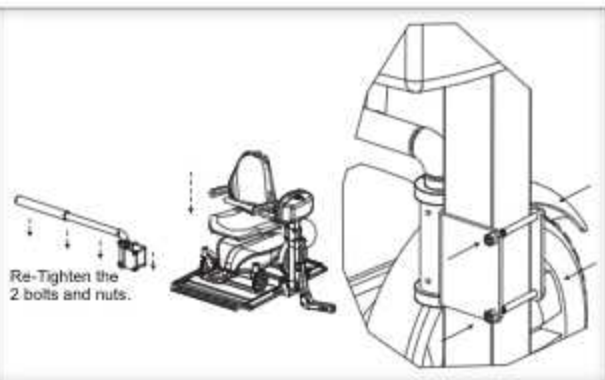
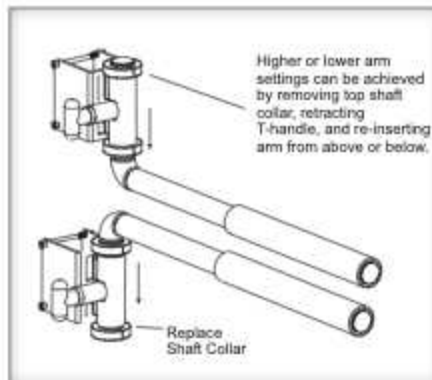


Figure 34-4



Re-Tighten the 2 bolts and nuts.

Figure 34-5



Higher or lower arm settings can be achieved by removing top shaft collar, retracting T-handle, and re-inserting arm from above or below.

Replace Shaft Collar

Figure 34-6

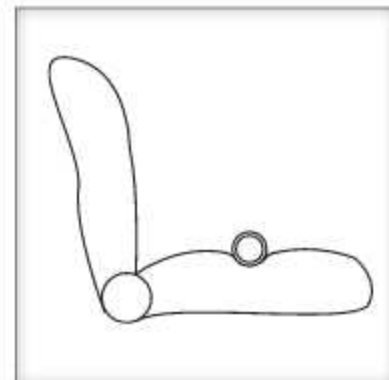


Figure 34-7

AL560 & AL580 SERIES HOLD-DOWN ARM ADJUSTMENT

1. Drive chair onto platform after cradles have been adjusted. (See prior page.) [Figure 34-1]
2. Raise platform to top of travel until you hear the clutch. [Figure 34-2]
3. Loosen the two bolts and nuts in back of the vertical tube. [Figure 34-3 and 34-4] Allow arm assembly to lower until the arm contacts the seat.
4. Lower the platform approximately 2" to 3." Allow arm to drop with seat. Re-tighten the two bolts and nuts. [Figure 34-5]
5. Run lift up until top of travel, when you hear the clutch.

NOTE: Higher or lower arm settings can be achieved by removing top shaft collar, retracting T-handle, and re-inserting arm from above or below. [Figure 34-6]

This method allows the 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.



CAUTION!

Verify that the hold-down arm produces enough pressure on the seat to hold the power chair firmly to the platform. The seat should be somewhat indented by the arm. [Figure 34-7]

AL570 & AL570XL CHAIR PLOW INSTALLATION



CAUTION!

Use extreme care in drilling to avoid electronics or wires!



The plow attaches to the underside of the power chair, enabling automatic locking and unlocking of the chair to the platform of the lift.

Due to the many different makes and models of power chairs, a variety of plow arrangements exist [Figure 35-1] to ensure the chair will be compatible with the Dock 'N' Lock system.

Read, understand, and follow the instructions provided with your specific plow.

We highly recommend installing the Plow under the chair prior to adjusting the heights of the Dock 'N' Lock on the platform [Figure 35-2]. This ensures the guidelines on the next page are accurate.

If you need additional holes to install the plow, be sure to remove the power chair's batteries and inspect the back side of the tray. Avoid drilling electronics or wires, damaging the chair.

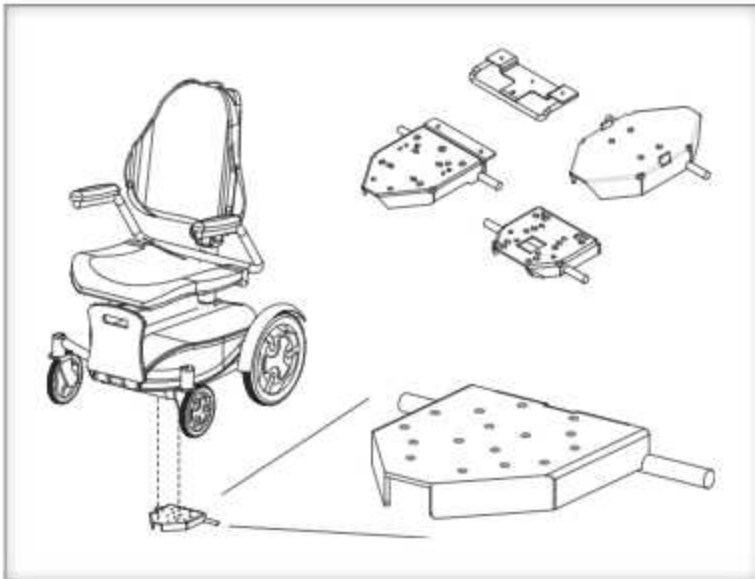


Figure 35-1

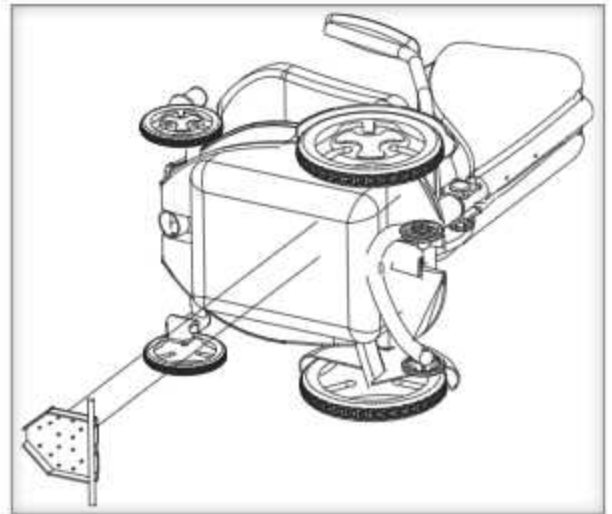


Figure 35-2

AL570 & AL570XL DOCK AND LOCK INSTALLATION

1. Measure Distance.

When the plow is attached to the chair (based on instructions provided with the plow), measure the distance from the ground to the approximate center of the 1/2" pin of the plow.

[Figure 36-2]

Be sure the chair is on a hard, level surface when obtaining this measurement.

The **AL570** and **AL570XL** are shipped from the factory with the Dock 'N' Lock system attached directly to the platform. Subtract 1-1/4" from the measurement taken to the right, and use the appropriate number and combinations of spacers to raise to Dock and Lock to match the chair. [Figure 36-1]

Example: For AL570, if the chair's pin-to-ground measurement is 2.00" then subtract 1-1/4."

To prepare the need for a total of 3/4" of spacers, use a 1/4" spacer and a 1/2" with each bolt under the system.

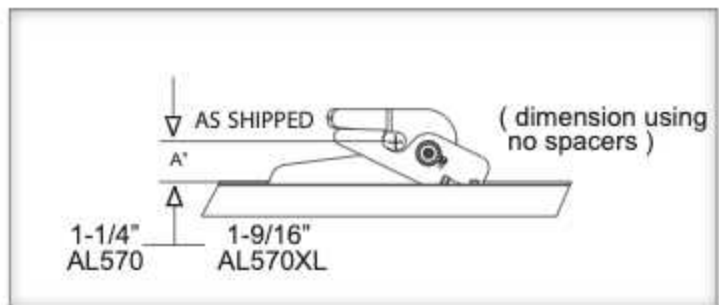


Figure 36-1

X" minus A" = sum of spacers to use [Figure 32-2]

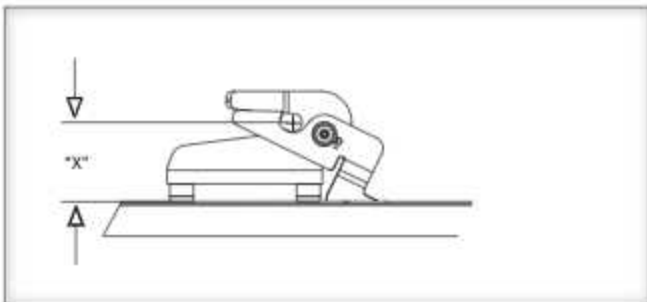


Figure 36-2

2. Remove Dock 'N' Lock Bolts.

Using a 9/16" socket and wrench, remove bolts from Dock and Lock. Retain nylock nuts for reassembly. [Figure 36-3]

continued

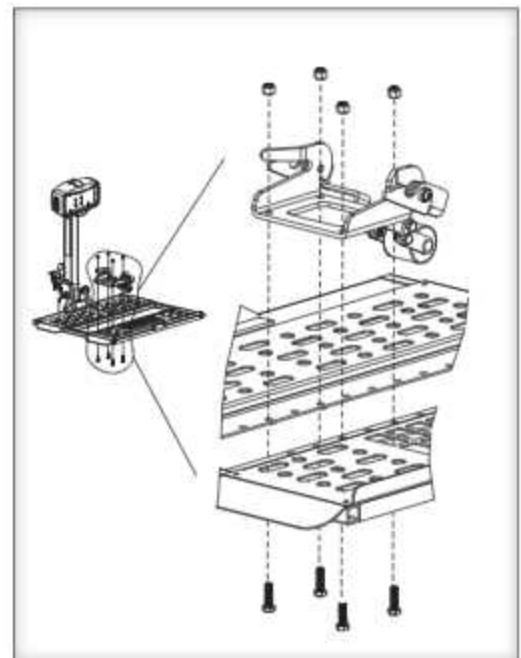


Figure 36-3

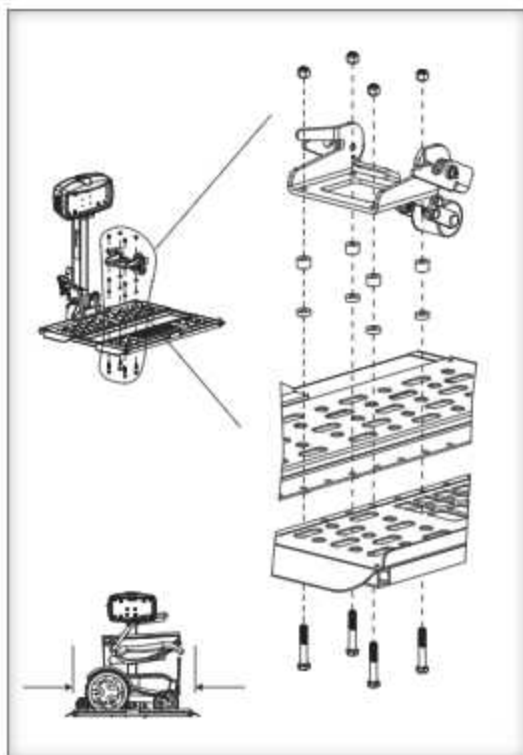


Figure 37-1

3. Reassemble Dock 'N' Lock. Select the holes that will center the chair width-wise onto the platform. Use spacers as required to match the height of the plow on the chair. [Figure 37-1]

Be sure to use bolts that are long enough for the bolt's end to protrude through the upper nylon portion of nut – but not so long that the bolts interfere with the plow. [Figure 37-2]

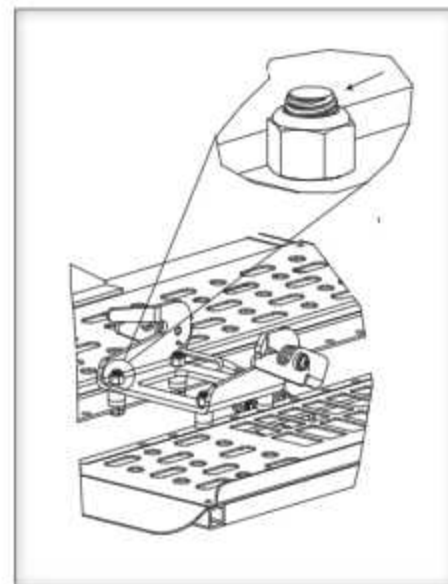


Figure 37-2

4. Test Chair Locking.

Drive chair onto the platform. Test its locking on the platform. Verify that the plow's pin engages the Dock and Lock system. Adjust as needed. [Figure 37-3]

Raise platform to engage lock and test the chair to ensure that it is secure in all directions.

If Dock and Lock station does not fully retract with platform on the ground, change to longer linkage as shown. [Figure 37-4]

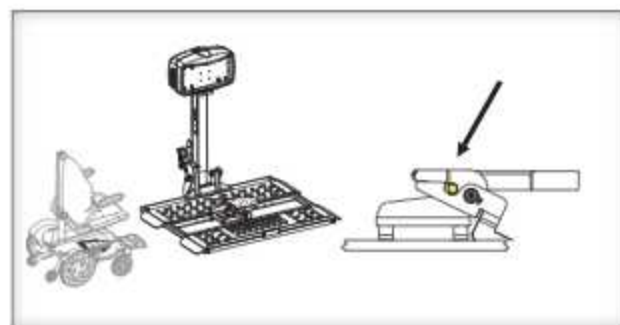


Figure 37-3

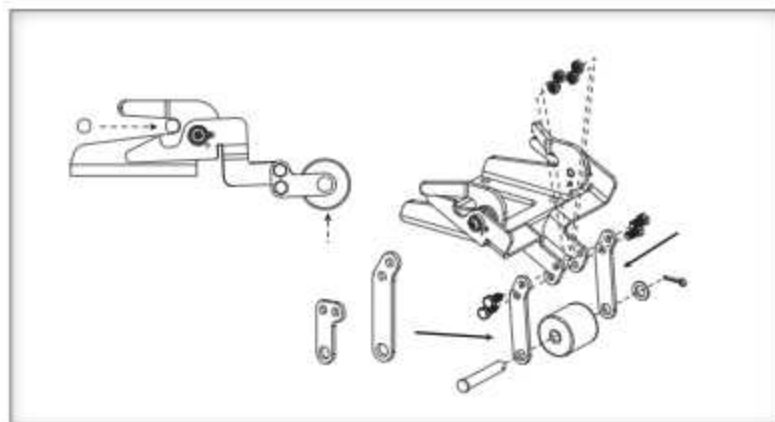


Figure 37-4

TROUBLESHOOTING

DEALER ONLY SECTION

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

Be careful when troubleshooting with voltage meter. The instruments will detect voltage but may not indicate a tear or poor connection in the wiring.

It may give a false indication since it will only indicate that there is some wire connection –not necessarily enough. [Figure 38-2]

It is strongly recommended that you examine both voltage and current, or isolate sections of the lift wiring using process of elimination with a known good/fully charged 12V automotive battery or known good/fully charged power chair/scooter battery.

PROBLEM

- Lift does not operate.
- Lift operates slowly or intermittently

CAUSE

Bad electrical connection(s) / Circuit breaker

SOLUTION

Check / clean all connections that might be loose or dirty. The lift motor requires quality electrical connections to operate at full capacity; any break in the wiring will slow down the motor and it will deteriorate prematurely.

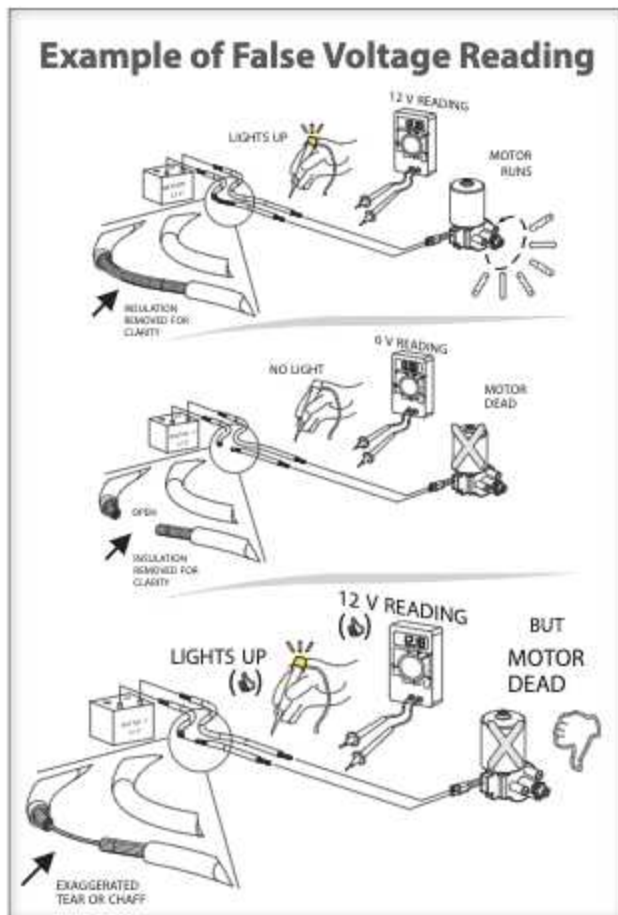
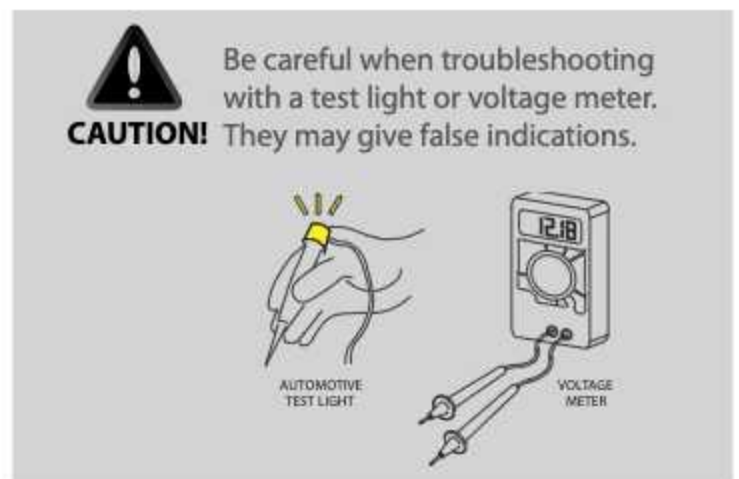


Figure 38-2

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

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



PROBLEM

License plate light does not work.

CAUSE

Four-prong connector is not wired.

SOLUTION

The license plate light runs from the four-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 of license plate light. (Brown wire only (+)).

PROBLEM

A ratcheting sound occurs when the lift is all the way up or down.

CAUSE

Actuator clutch

SOLUTION

In the UP direction, the ratcheting sound indicates normal overload protection and **MUST** be heard since it indicates platform is all the way up and that the chair/platform is secure.

**CAUTION!**

Do NOT allow the ratcheting as the lift goes **DOWN**. Only lower the platform level to the ground level. **Do NOT** begin to raise the car with the lift; it can damage the lift.

PROBLEM

Extra length of wire leads to the lift motor

CAUSE

Wire was provided for optional Swing-Away

SOLUTION

The extra wire is provided 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 at a later time.

PROBLEM

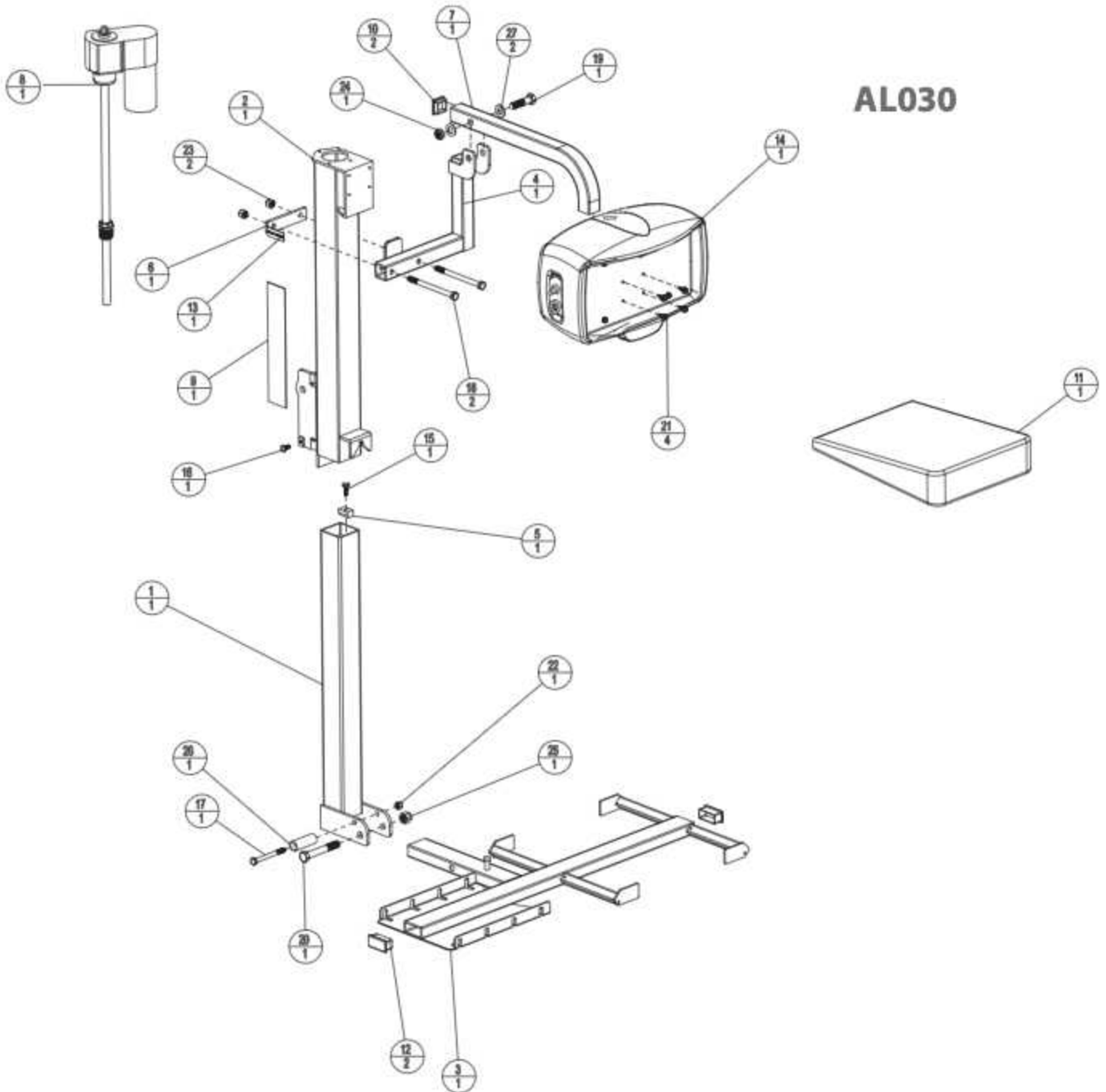
Lift does not reach the ground

CAUSE

Hitch adapter installation.

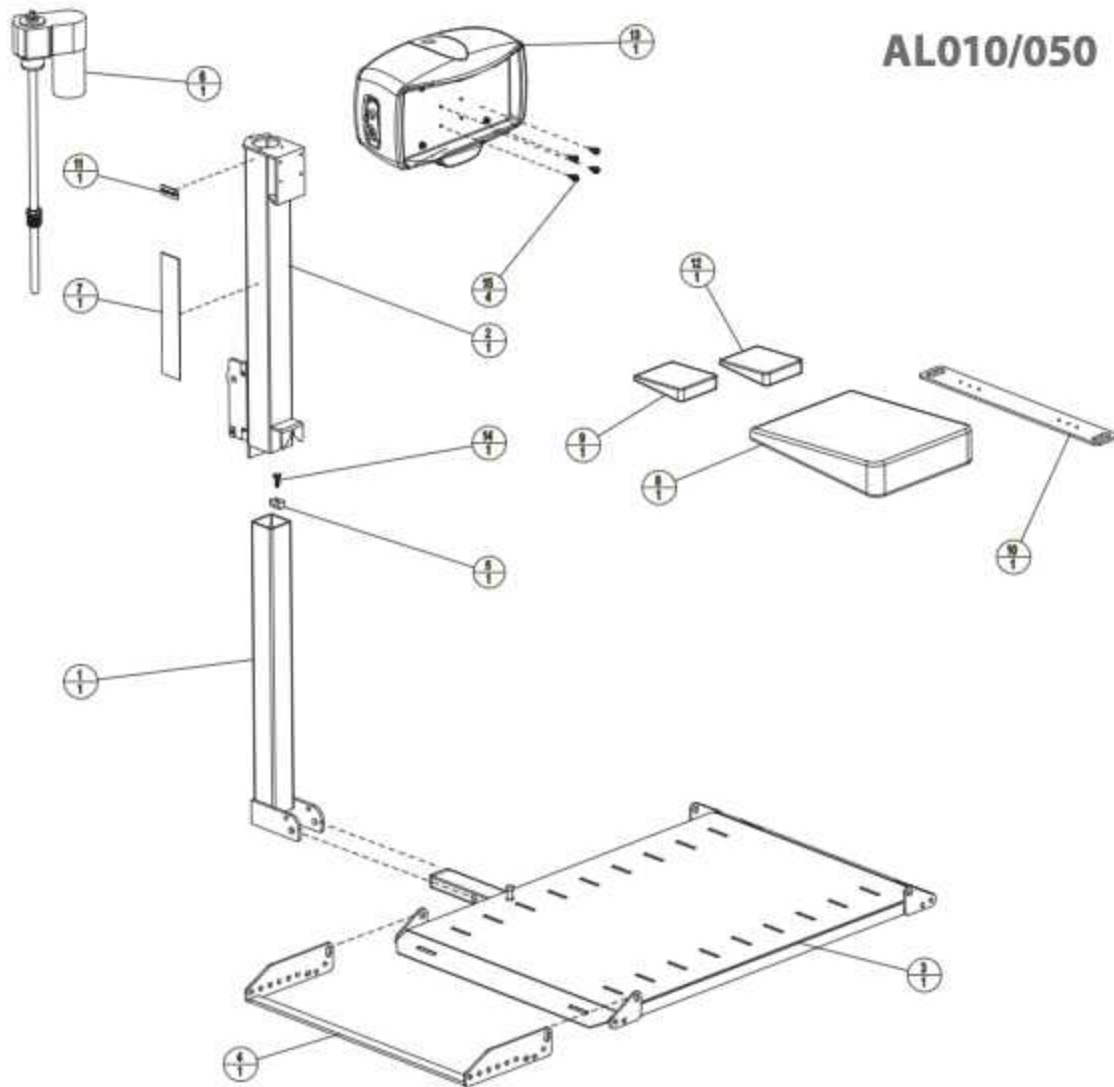
SOLUTION

Check the attachment of the hitch adapter to the hitch post on the back of the lift. (See installation page 21 to 25.) The normal range of lift operation is 5" to 16" 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.)



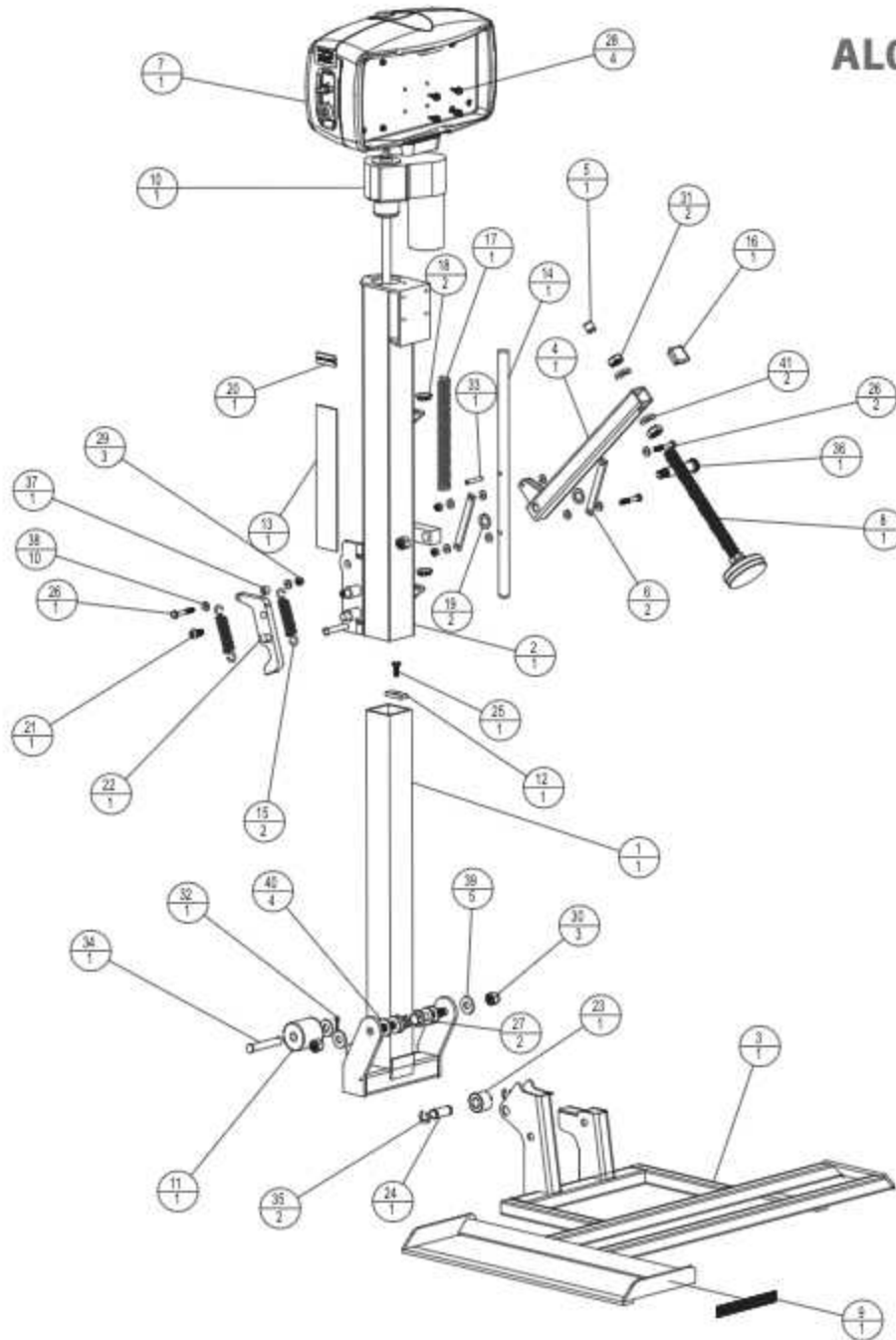
AL030

ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-2A20-C	INNER TUBE	25	1	HWCS-0, 25-20-0, 75-MF-Z	HEX HEAD, 14-20 x 0.75, ZP
2	1	202-2A20-C	OUTER TUBE	26	1	HWCS-0, 25-20-0, 80-Z	HEX HEAD, 14-20 x 0.80, ZP
3	1	203-2A24-C	PLATFORM	27	1	HWCS-0, 27-18-0, 25-Z	HEX HEAD, 8-15 x 0.25, ZP
4	1	206-2A24-C	HDA MOUNT	28	2	HWCS-0, 27-18-0, 80-Z	HEX HEAD, 18-18 x 0.80, ZP
5	1	305-2A25-A	LOOKING TAB - L.C. ACME ACTUATOR	29	1	HWCS-0, 29-13-2, 25-Z	HEX HEAD, 10-13 x 0.25 ZNC FLT
6	1	306-2A24-C	BACKING PLATE	30	1	HWCS-0, 29-13-2, 80-Z	HEX HEAD, 10-13 x 0.80, ZP
7	1	307-2A24-C	HOLD DOWN ARM	31	4	HWTS-14-0, 75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
8	1	305-2A25-A	L.C. ACME ACTUATOR	22	1	NUT-0, 31-19 NYLOCK-Z	NUT, NYLOCK, 5/16-18, ZP
9	1	AL100B	STICKER, OUTSIDE LEFT	23	2	NUT-0, 31-16 NYLOCK-Z	NUT, NYLOCK, 3/8-16, ZP
10	2	AL125SP1	SHIELDS, 1 1/4 BLACK PLASTIC	24	1	MUTO, 28-13 NYLOCK-MTE-Z	THIN NUT, NYLOCK, 10-13, ZP
11	1	AL18B	HARDWARE PCK	25	1	NUT-0, 30-13 NYLOCK-Z	NUT, NYLOCK, 10-13, ZP
12	2	AL005B	CAP FOR 1 X 2 TUBE	26	1	TU1 051 080-2, 20C	TUBING 5/8" OD x 0.875WAL x 2.22PL
13	1	AL005B	LABEL, SERIAL NUMBER	27	2	WASH0, 32-0, 37-0, 04 85-03	WASHER, BELLEVEUE, 10 D, 33
14	1	300-2A21-A	MOTOR COVER ASSEMBLY				



ASSEMBLY PARTS				
ITEM	QTY	PART NO.	DESCRIPTION	
1	1	201-2A03-C	INNER TUBE	
2	1	202-2A03-C	OUTER TUBE	
3	1	203-2A03-C	PLATFORM	
4	1	204-2A03-C	SPREADER BAR	
5	1	500-2A03-A	LOCKING TAB - L.C. ACME ACTUATOR	
6	1	800-2A03-A	L.C. ACME ACUTATOR	
7	1	ALA10095	STICKER, OUTSIDE LIFT	
8	1	ALA180	HARDWARE PACK	
9	1	ALA590	U-BOLT HARDWARE KIT	
10	1	ALA58040C	ANCHOR PLATE	
11	1	ALA99995	LABEL, SERIAL NUMBER	
12	1	H20-1A03-A	HARDWARE PACK	
13	1	200-2A01-A	MOTOR COVER ASSEMBLY	
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	

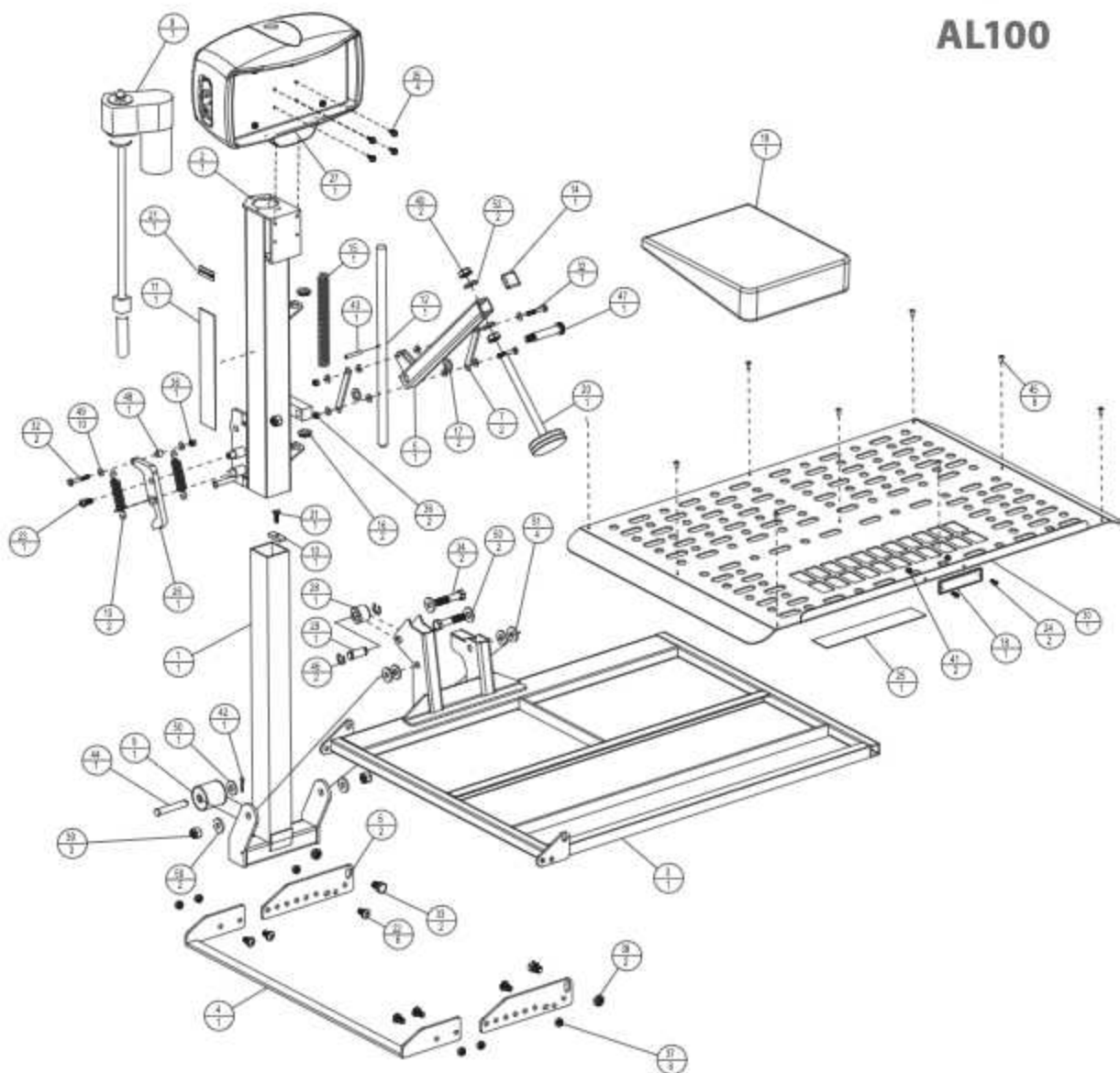
AL015



		ASSEMBLY PARTS	
ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-2A95-C	INNER TUBE
2	1	301-2A95-C	OUTER TUBE
3	1	203-2A95-C	GO OD DS PLATFORM
4	1	205-3A05-C	HOLD DOWN ARM
5	1	400-2A95-A	VWYL CAP FOR 1/2 OD STUD
6	2	502-2A95-C	BAR LINK, 3/16"
7	1	200-2A91-A	MOTOR COVER ASSEMBLY, OUTSIDE LIFTS
8	1	903-2A95-A	LONG HOLD DOWN FOOT
9	1	903-3A93-A	75" X 8.00" RED REFLECTIVE STICKER
10	1	ALA11010REV2	L.C. ACTUATOR
11	1	ALA10033	ROLLER 2" DIA UHMW
12	1	ALA10069	TAB ACTUATOR
13	1	ALA10069	STICKER, OUTSIDE LIFT
14	1	ALA1189-PLT	HOLD DOWN ARM ROD
15	2	ALA11025	EXTENSION SPRING
16	1	ALA1258P1	INSERTS 1/4 BLACK PLASTIC
17	1	ALA13025	COMPRESSION SPRING
18	2	ALA13033	NYLON BEARINGS - 3/4"
19	2	ALA13058P	HOLD DOWN ARM WASHER
20	1	ALA92995	LABEL, SERIAL NUMBER

		ASSEMBLY PARTS	
ITEM	QTY	PART NO.	DESCRIPTION
21	1	BHCS-2 31-16-1 30-88-NP	BUTTON HEAD 3/8-16 x 1.08 SS
22	1	H11193	J-CAM
23	1	H14044	ROLLER
24	1	H14045	CLEVIS PIN
25	1	HMCS-2 25-20-0 75-NP-2	HEX HEAD, 14-20 x 0.75, 2P
26	2	HMCS-0 25-20-1 75-Z	HEX HEAD, 14-20 x 1.75, 2P
27	2	HMCS-0 90-13-2 53-Z	HEX HEAD, 10-13 x 2.56, 2P
28	4	HWTS-14-0 75-Z	HEX WASHER, #14 SELF DRILL, 0.75, 2P
29	3	NUT-0 25-23-NYLOCK-Z	NUT, NYLOCK, 14-20, 2P
30	3	NUT-0 93-13-NYLOCK-Z	NUT, NYLOCK, 10-13, 2P
31	2	NUT-0 63-15-JAM-Z	NUT, JAM, 5/8-11, 2P
32	1	PN-4 12-1 58-CO-88	COTTER PIN
33	1	PN-4 25-1 58-RP-2	ROLL PIN, 1/4 X 1.93, SPLIT, 2P
34	1	PN-6 30-3 00-CL-Z	CLEVIS PIN, 1/2" x 3" L, 2P
35	2	RR-0 62-EC-2	E-CLIP, 5/8" SHAFT
36	1	SHSB-0 82-2 50-Z	SHOULDER BOLT, 5/8 DIA x 2.50, 2P
37	1	SPCR-6 25-3 55-0 31-N	SPKDR, 1/4" for CAM SPRINGS
38	10	WASH-0 25-0 62-0 34-RH-SS	WASHER, FLAT, 1/4" SS
39	5	WASH-0 50-1 85-0 28-RH-SS	WASHER, FLAT, 1/2" SS
40	4	WASH-0 53-1 50-0 52-N	WASHER, FLAT, 1/2", NYLON
41	2	WASH-4 10-1 18-3 15-SL-Z	WASHER, SPLIT-LOCK, 5/8, 2P

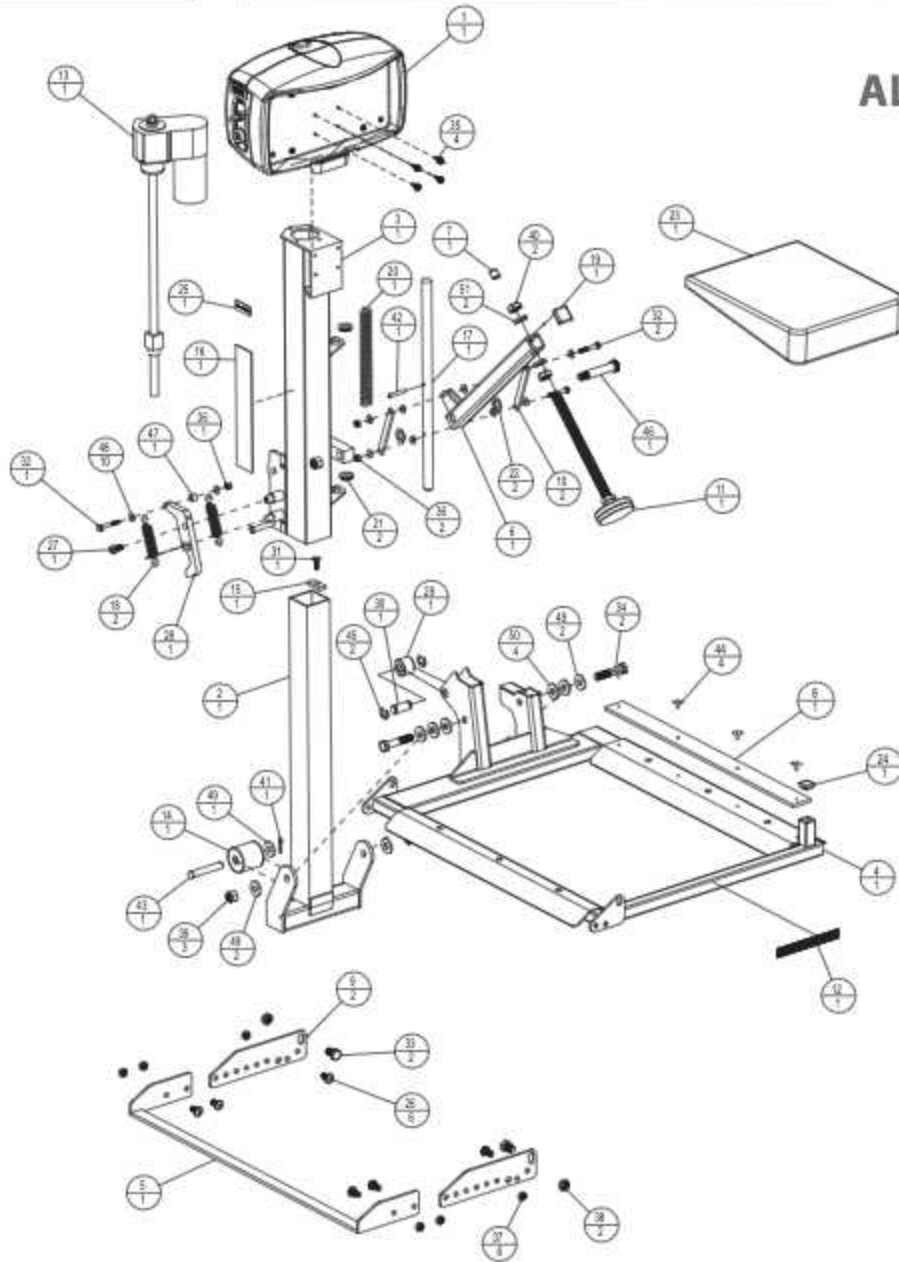
AL100



ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-2A05-C	INNER TUBE	27	1	290-2A01-A	MOTOR COVER ASSEMBLY
2	1	202-2A05-C	OUTER TUBE	28	1	H1404	ROLLER
3	1	203-2A05-C	PLATFORM	29	1	H1405	CLEVIS PIN
4	1	204-2A05-C	EXTENDED CRACLE BAR	30	1	H1407	ALUMINUM PLATE
5	1	205-2A05-C	HOLD DOWN ARM	31	1	HHCS-0 25-20-0 75-NP-2	HEX HEAD, 1/4-20 x 0.75, ZP
6	2	501-2A05-C	SPREADER BAR BRACKET	32	3	HHCS-0 25-20-1 75-2	HEX HEAD, 1/4-20 x 1.75, ZP
7	2	502-2A05-C	BAR LINK 3/8"	33	2	HHCS-0 50-13-0 75-2	HEX HEAD, 1/2-13 x 0.75, ZP
8	1	ALA1001REV2	ACTUATOR	34	2	HHCS-0 50-13-2 50-2	HEX HEAD, 1/2-13 x 2.50, ZP
9	1	ALA1002	ROLLER 2" DIA UHMW	35	4	HWT5-14-0 75-2	HEX WASHER, #14 SELF DRILL, 0.75, ZP
10	1	ALA1005	TAB, ACTUATOR	36	3	NUT-0 25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
11	1	ALA1009E	STICKER, OUTSIDE LEFT	37	6	NUT-0 37-16-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 3/8-16, ZP
12	1	ALA108-PLT	HOLD DOWN ARM ROD	38	2	NUT-0 50-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
13	2	ALA1105E	EXTENSION SPRING	39	3	NUT-0 50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
14	1	ALA1255P	INSERTS, 1/4" BLACK PLASTIC	40	2	NUT-0 50-11-JAM-Z	NUT, JAM, 5/8-11, ZP
15	1	ALA1302E	COMPRESSION SPRING	41	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, #10-24, ZP
16	2	ALA1303E	NYLINEAR BEARINGS - 3/4"	42	1	PN-0 12-1 50-00-SS	COITER PIN
17	2	ALA1305P	HOLD DOWN ARM WASHER	43	1	PN-0 16-1 50-RP-2	ROLL PIN, 3/16, SPLIT, ZP
18	1	ALA1406E	RED REFLECTOR	44	1	PN-0 50-3 00-CL-2	CLEVIS PIN, 1/2" x 3" L, ZP
19	1	ALA150	HARDWARE PACK	45	9	RR-188-SS	RIVET
20	1	ALA1502E	HOLD DOWN FOOT	46	2	RR-0 62-EC-2	E-CLIP, 5/8" SHAFT
21	1	ALA5995E	LABEL, SERIAL NUMBER	47	1	SHBB-0 62-2 50-Z	SHOULDER BOLT, 5/8 DIA x 2.50, ZP
22	6	BHCS-0 37-16-0 75-SS	BUTTON HEAD, 3/8-16 x 0.75 SS	48	1	SPCR-0 25-0 50-0 31-N	SPACER, 1/4", 1/4" CAM SPRINGS
23	1	BHCS-0 37-16-1 00-SS-NP	BUTTON HEAD 3/8-16 x 1.00 SS	49	10	WASH-0 25-0 60-0 04-RH-SS	WASHER, FLAT, 1/4", SS
24	2	BHCS-10-24-0 50-SS	BUTTON HEAD, #10-24 X 0.50 SS	50	5	WASH-0 50-1 06-0 08-RH-SS	WASHER, FLAT, 1/2", SS
25	1	H1069A	STICKER, PLATFORM	51	4	WASH-0 50-1 50-0 12-N	WASHER, FLAT, 1/2", NYLON
26	1	H11013	J-CAM	52	2	WASH-0 62-1 88-0 15-SL-Z	WASHER, SPLIT LOCK, 5/8, ZP

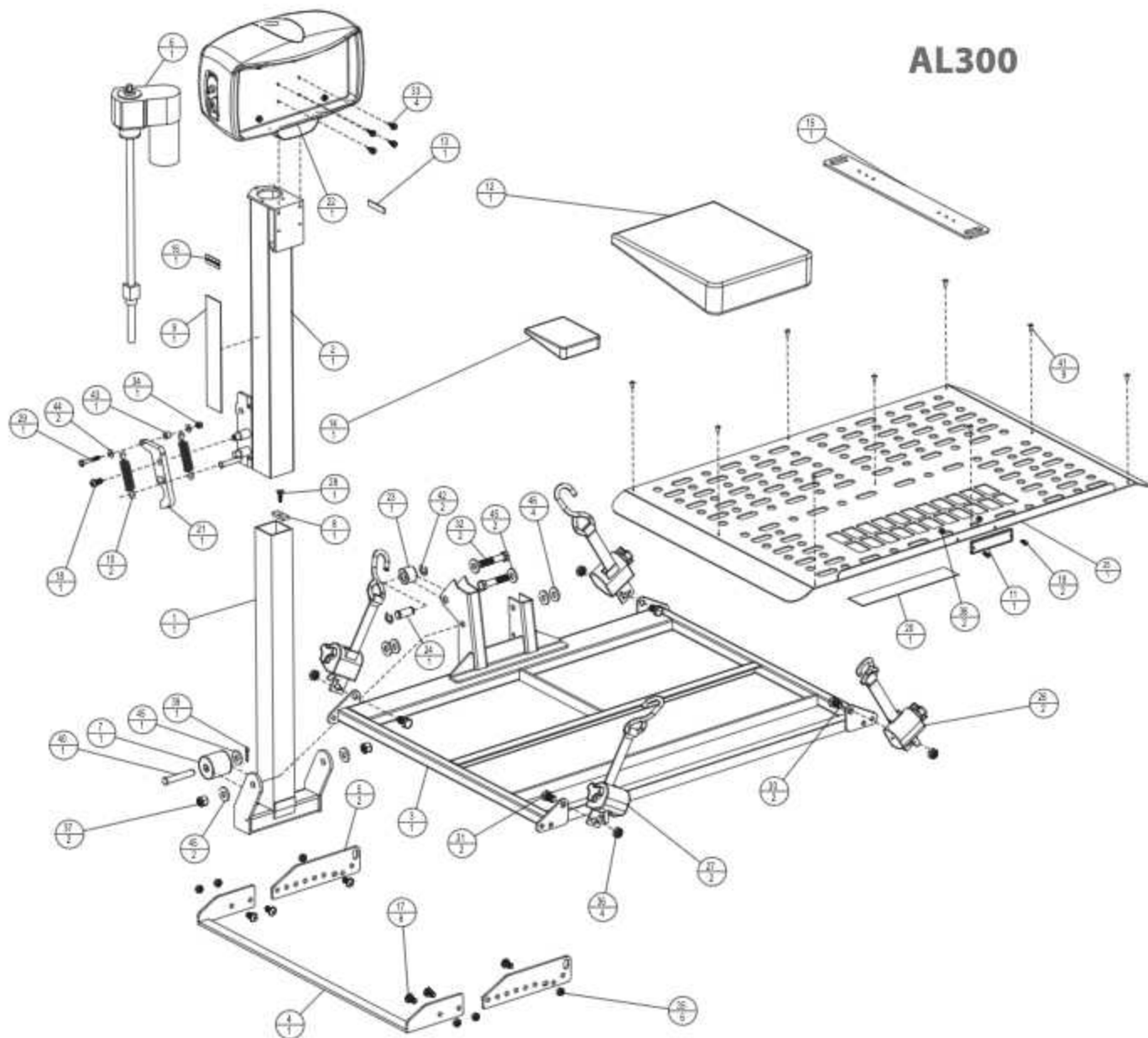
Exploded Views SECTION 2 : INSTALLER

AL160



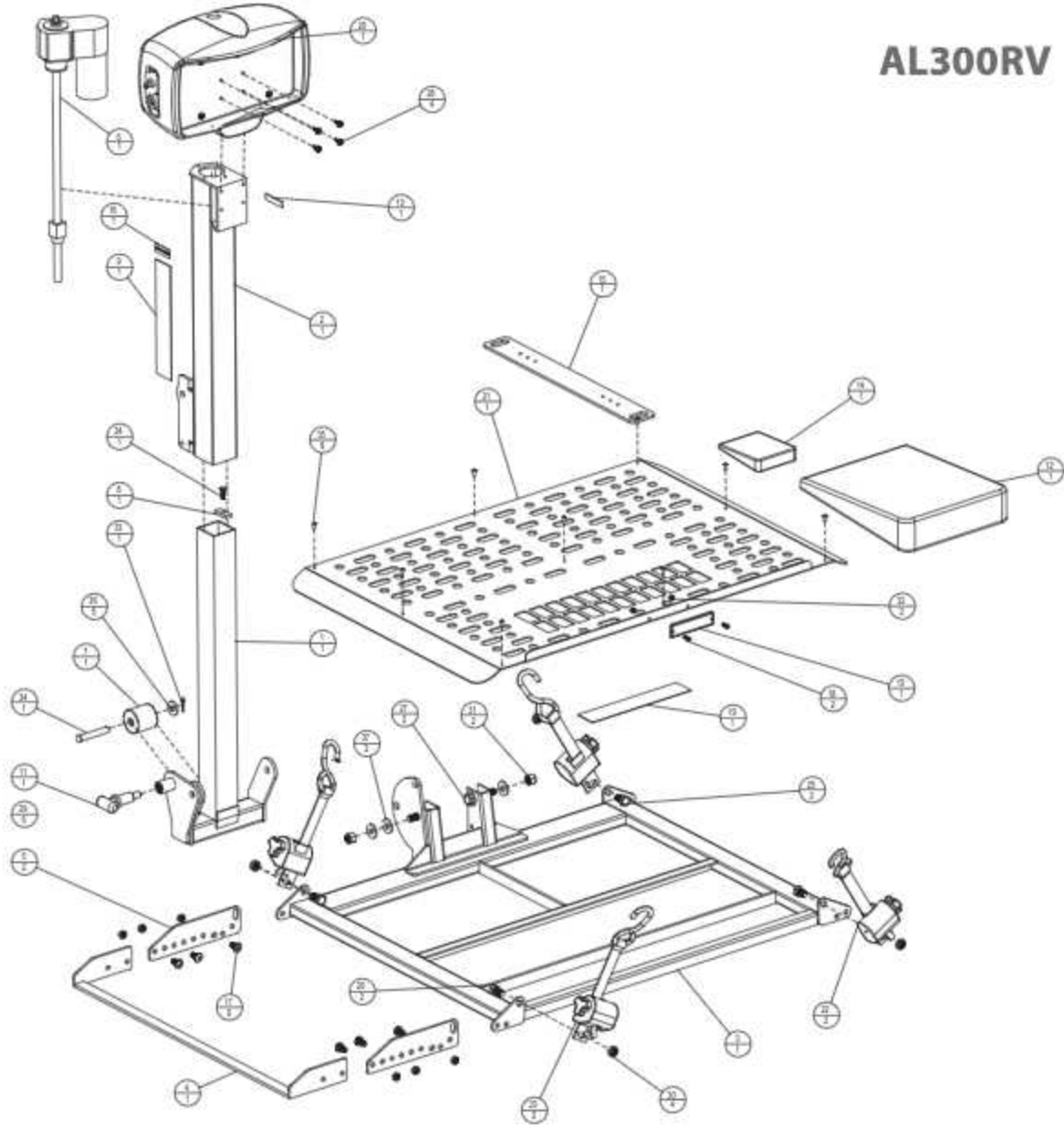
ITEM		ASSEMBLY PARTS	
ITEM	QTY	PART NO.	DESCRIPTION
1	1	200-2A01-A	MOTOR COVER ASSEMBLY OUTSIDE LIFTS
2	1	201-2A06-C	INNER TUBE
3	1	202-2A06-C	OUTER TUBE
4	1	203-2A36-C	AL160 PLATFORM
5	1	204-2A06-C	EXTENDED CRADLE BAR
6	1	205-2A06-C	HOLD DOWN ARM
7	1	400-2A06-A	VINYL CAP FOR 1/2 OD STUD
8	1	400-2A06-A	RUBBER STRIP FOR AL160
9	2	901-2A06-C	SPREADER BAR BRACKET
10	2	902-2A06-C	BAR LINK, 3/16"
11	1	903-2A36-A	LONG HOLD DOWN FOOT
12	1	903-2A05-A	75" X 6.00" RED REFLECTIVE STICKER
13	1	ALA10019REV2	ACTUATOR
14	1	ALA10032	ROLLER 2" DIA X 3/8"
15	1	ALA10050	TAB, ACTUATOR
16	1	ALA10095	STICKER, OUTSIDE LIFT
17	1	ALA106-PLT	HOLD DOWN ARM ROD
18	2	ALA11025	EXTENSION SPRING
19	1	ALA1258PI	INSERTS, 1 1/4 BLACK PLASTIC
20	1	ALA13025	COMPRESSION SPRING
21	2	ALA13030	NYLON BEARINGS - 3/4"
22	2	ALA13050P	HOLD DOWN ARM WASHER
23	1	ALA180	HARDWARE PACK
24	1	ALA2505FP	(CAPLUGS FPI-161 30276AB)
25	1	ALA99995	LABEL, SERIAL NUMBER

ITEM		ASSEMBLY PARTS	
ITEM	QTY	PART NO.	DESCRIPTION
26	6	BHCS-0 37-16-0 75-SS	BUTTON HEAD, 3/8-16 x 0.75, SS
27	1	BHCS-0 27-16-1 00-SS-NP	BUTTON HEAD 3/8-16 x 1.00 SS NP
28	1	H1010	J-CAM
29	1	H14944	ROLLER
30	1	H14945	CLEVIS PIN
31	1	HHCS-0 25-20-0 75-NP-Z	HEX HEAD, 1/4-20 x 0.75, ZP
32	3	HHCS-0 25-20-1 75-Z	HEX HEAD, 1/4-20 x 1.75, ZP
33	2	HHCS-0 90-13-0 75-Z	HEX HEAD, 1/2-13 x 0.75, ZP
34	2	HHCS-0 90-13-2 50-Z	HEX HEAD, 1/2-13 x 2.50, ZP
35	4	HHTS-14-0 75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
36	3	N/T-0 25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
37	6	NUT-0 37-16-NYLOCK-NTE-Z	NYLOCK NUT, THIN, 3/8-16, ZP
38	2	NUT-0 50-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
39	3	NUT-0 50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
40	2	NUT-0 62-11-3/8-Z	NUT, 3/8-11, ZP
41	1	PN-0 12-1 50-00-SS	COUPLER PIN
42	1	PN-0 25-1 50-RP-Z	ROLL PIN, 1/4 X 1.50, SPLIT, ZP
43	1	PN-0 16-1 00-CL-Z	SLIVER PIN, 1/2" x 1.75, ZP
44	4	RW-0 16-0 57-0 48-SS	3/16" RIVET 575" LONG WITH 60° HEAD SS
45	2	RR-0 42-EC-Z	E-CUP, 5/8" SHAFT
46	1	SH-SR-0 62-2 50-Z	SHOULDER BOLT, 5/8 DIA x 2.50, ZP
47	1	SPCR-0 25-0 50-0 31-N	SPACER, 1/4" 3/4 CAM SPRINGS
48	10	WASH-0 25-0 52-0 04-RH-SS	WASHER, FLAT, 1/4", SS
49	5	WASH-0 50-1 58-0 08-RH-SS	WASHER, FLAT, 1/2", SS
50	4	WASH-0 50-1 50-0 12-N	WASHER, FLAT, 1/2", NYLON
51	2	WASH-0 30-1 08-0 15-SS-Z	WASHER, SPLIT LOCK, 3/8", ZP

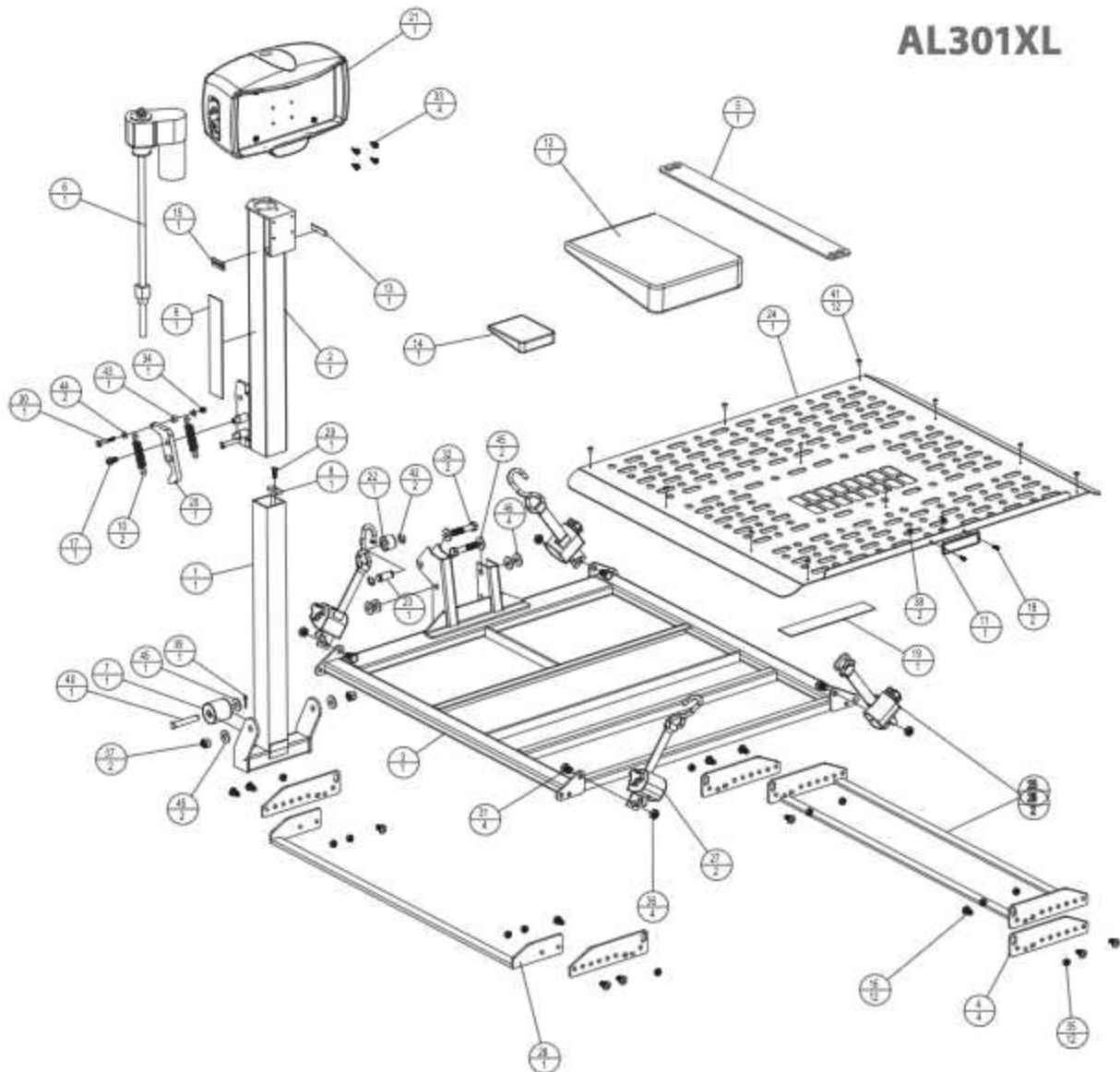


ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA05-C	INNER TUBE	24	1	H14045	CLEVIS PIN
2	1	202-ZA10-C	OUTER TUBE	25	1	H14407	ALUMINUM PLATE
3	1	203-ZA10-C	PLATFORM	26	2	H50010E	LEFT HAND, G-STRAINT - BLUE
4	1	204-ZA09-C	EXTENDED CRADLE BAR	27	2	H90018B	RIGHT HAND, G-STRAINT - BLUE
5	2	S01-ZA09-C	SPREADER BAR BRACKET	28	1	HHCS-0 25-50-0 75AP-Z	HEX HEAD, 1/4-28 x 0.75, ZP
6	1	ALA1001REV2	ACTUATOR	29	1	HHCS-0 25-20-0 75-Z	HEX HEAD, 1/4-28 x 1.75, ZP
7	1	ALA1002	ROLLER 2" DIA UHMW	30	2	HHCS-0 50-10-0 75-Z	HEX HEAD, 1/2-13 x 0.75, ZP
8	1	ALA1005C	TAB, ACTUATOR	31	2	HHCS-0 50-10-0 87-Z	HEX HEAD, 1/2-13 x 0.86, ZP
9	1	ALA1006S	STICKER, OUTSIDE LEFT	32	2	HHCS-0 50-10-0 90-Z	HEX HEAD, 1/2-13 x 2.50, ZP
10	2	ALA1102S	EXTENSION SPRING	33	4	HRTS-14-0 75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
11	1	ALA1406A	RED REFLECTOR	34	1	NUT-0 25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
12	1	ALA150	HARDWARE PACK	35	6	NUT-0 37-16-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 3/8-16, ZP
13	1	ALA9006	PATENT STICKER	36	4	NUT-0 50-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
14	1	ALA560	U-BOLT HARDWARE KIT	37	2	NUT-0 50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
15	1	ALA9040C	ANCHOR PLATE	38	2	NUT-15-24-NYLOCK-Z	NUT, NYLOCK, #10-24, ZP
16	1	ALA9996	LABEL, SERIAL NUMBER	39	1	PN-0 12-1 50-CO-SS	COTTER PIN
17	4	BHCS-0 37-16-0 75-SS	BUTTON HEAD, 3/8-16 x 0.75, SS	40	1	PN-0 50-3 00-CL-Z	CLEVIS PIN, 1/2" x 3" L, ZP
18	1	BHCS-0 37-16-1 00-SS-AP	BUTTON HEAD, 3/8-16 x 1.00, SS	41	9	RV-188-SS	RIVET
19	2	BHCS-10-24-0 50-SS	BUTTON HEAD, #10-24 x 0.50, SS	42	2	RR-0 62-EC-Z	E-CLIP, 5/8" SHAFT
20	1	H1008E	STICKER, PLATFORM	43	1	SPCR-0 25-0 50-0 21-N	SPACER, 1/4" I.D. CAM SPRINGS
21	1	H1010	J-CAM	44	2	WASH-0 25-0 62-0 04-RH-SS	WASHER, FLAT, 1/4", SS
22	1	293-0431-A	MOTOR COVER ASSEMBLY	45	6	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", NYLON

AL300RV



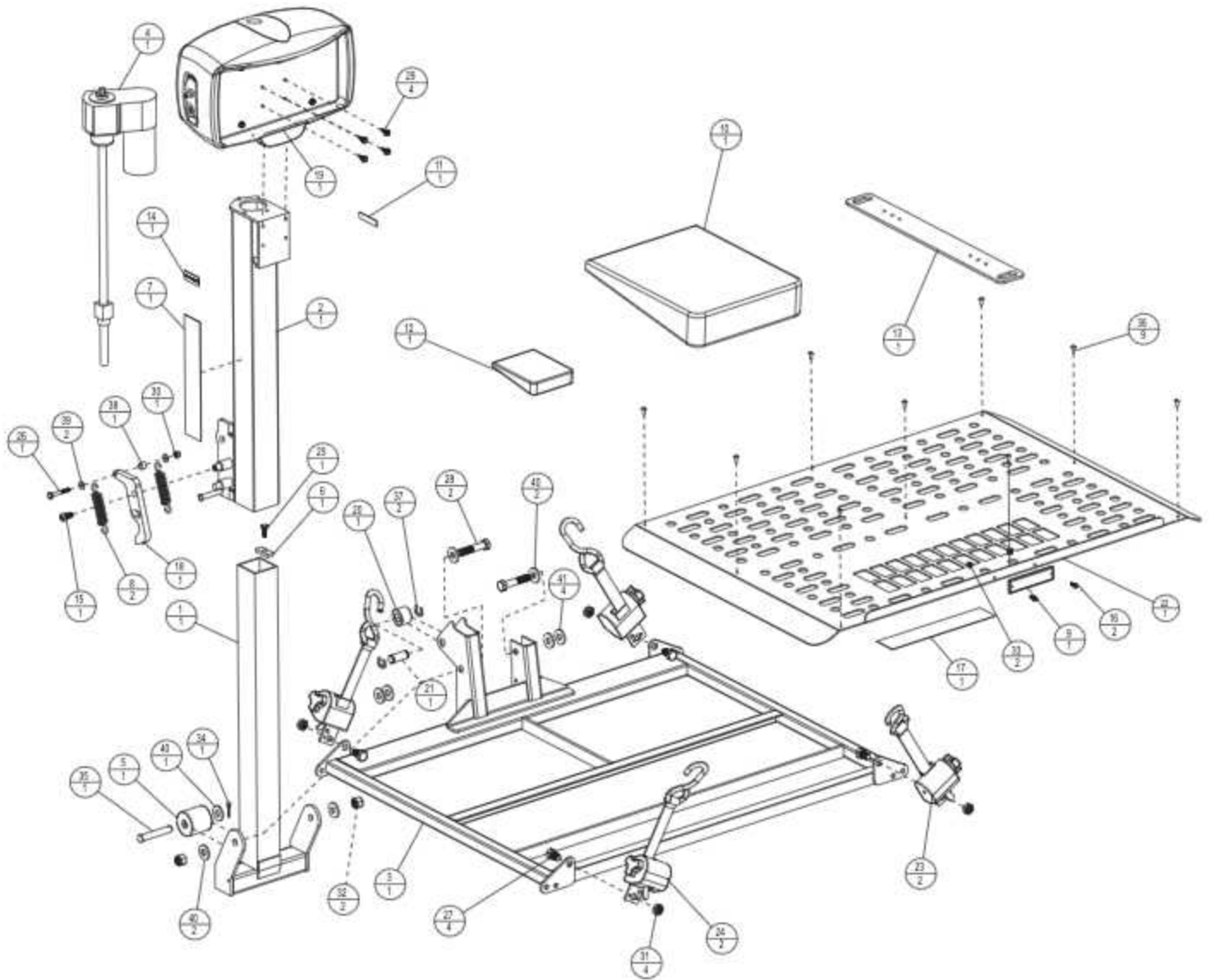
ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA06-C	INNER TUBE	20	1	200-2A01-A	MOTOR COVER ASSEMBLY
2	1	202-ZA06-C	OUTER TUBE	21	1	H14407	ALUMINUM PLATE
3	1	203-ZA06-C	PLATFORM	22	2	H60012B	LEFT HAND, G-STRAINT - BLUE
4	1	204-ZA06-C	EXTENDED CRADLE BAR	23	2	H90011B	RIGHT HAND, G-STRAINT - BLUE
5	2	501-ZA06-C	SPREADER BAR BRACKET	24	1	HHCS-0_25-25-0_75-NP-Z	HEX HEAD, 1/4-28 x 0.75, ZP
6	1	ALA10016REV2	ACTUATOR	25	2	HHCS-0_55-13-0_75-Z	HEX HEAD, 1/2-13 x 0.75, ZP
7	1	ALA10032	ROLLER 2" DIA LHMW	26	2	HHCS-0_55-13-0_87-Z	HEX HEAD, 1/2-13 x 0.87, ZP
8	1	ALA10050	TAB, ACTUATOR	27	2	HHCS-0_55-13-2_50-Z	HEX HEAD, 1/2-13 x 2.50, ZP
9	1	ALA10066	STICKER, OUTSIDE LIFT	28	4	HWTS-12-14-0_75-Z	HEX WASHER, #12-14 SELF DRILL, 3/4" L, ZP
10	1	ALA14096	RED REFLECTOR	29	6	NUT-0_37-15-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 3/8-16, ZP
11	1	ALA15152R1	T-HANDLE 1/2" SPRING PIN ASSY	30	4	NUT-0_50-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
12	1	ALA1180	HARDWARE PACK	31	2	NUT-0_50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
13	1	ALAS0099	RIGHT STICKER	32	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, #10-24, ZP
14	1	ALAS60	U-BOLT HARDWARE KIT	33	1	PN-0_12-1_50-CO-SS	COTTER PIN
15	1	ALAS6040C	ANCHOR PLATE	34	1	PN-0_50-3_00-CL-Z	CLEVIS PIN, 1/2" x 3" L, ZP
16	1	ALAS6066	LABEL, SERIAL NUMBER	35	9	RV-188-SS	RVET
17	6	BHCS-0_37-16-0_75-SS	BUTTON HEAD, 3/8-16 x 0.75, SS	36	5	WASH-0_50-1_06-0_08-RH-SS	WASHER, FLAT, 1/2", SS
18	2	BHCS-10-24-0_50-SS	BUTTON HEAD, #10-24 x 0.50, SS	37	2	WASH-0_50-1_50-0_12-N	WASHER, FLAT, 1/2", NYLON
19	1	H10884	STICKER, PLATFORM				



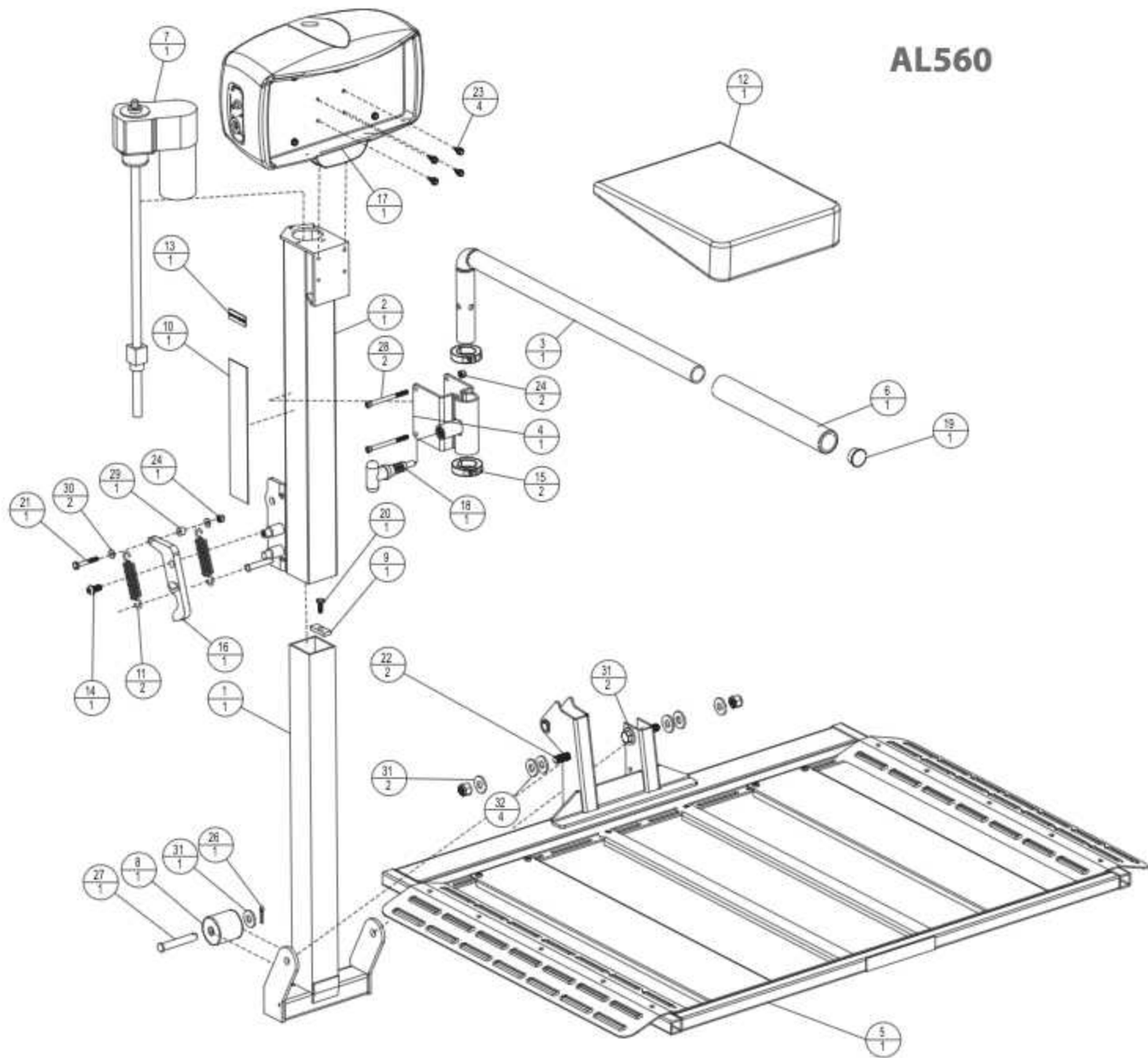
AL301XL

ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	5	201-ZA54-C	INNER TUBE	24	1	H30190	ALUMINUM SKIN 50XKL
2	1	202-ZA19-C	OUTER TUBE	25	1	H30151	AL301XL FRONT WHEEL CRADLE
3	1	203-ZA39-C	PLATFORM	26	2	H500168	LEFT HAND, G-STRAINT - BLUE
4	4	501-ZA55-C	SPREADER BAR BRACKET	27	2	H500115	RIGHT HAND, G-STRAINT - BLUE
5	1	ALS91	ANCHOR PLATE, 27.90	28	1	H52393KL	AL301XL EXTENDED CRADLE BAR
6	1	ALA1010REY2	ACTUATOR	29	1	HHCS-0 25-20-0, 75-NP-Z	HEX HEAD, 1/4-20 x 0.75, ZP
7	1	ALA10032	ROLLER 2" DIA UHMW	30	1	HHCS-0 25-20-1, 75-Z	HEX HEAD, 1/4-20 x 1.75, ZP
8	1	ALA10056	TAB, ACTUATOR	31	4	HHCS-0 56-13-4, 75-Z	HEX HEAD, 1/2-13 x 0.75, ZP
9	1	ALA10056	STICKER, OUTSIDE LEFT	32	2	HHCS-0 50-13-2, 56-Z	HEX HEAD, 1/2-13 x 2.50, ZP
10	2	ALA11025	EXTENSION SPRING	33	4	HWT5-14-0, 75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
11	1	ALA14006	RED REFLECTOR	34	1	NUT-0 25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
12	1	ALA180	HARDWARE PACK	35	12	NUT-0 37-16-NYLOCK-NITE-Z	THIN NUT, NYLOCK, 3/8-16, ZP
13	1	ALA50096	PATENT STICKER	36	4	NUT-0 50-13-NYLOCK-NITE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
14	1	ALA580	U-BOLT HARDWARE KIT	37	2	NUT-0 50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
15	1	ALA99956	LABEL, SERIAL NUMBER	38	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, #10-24, ZP
16	12	BHCS-0 37-16-0, 75-BS	BUTTON HEAD, 3/8-16 x 0.75, BS	39	1	PNM 12-1, 50-03-BS	COTTER PIN
17	1	BHCS-0 37-16-1, 00-BS-NP	BUTTON HEAD 3/8-16 x 1.00 BS	40	1	PN-0 50-3 00-CL-Z	CLEVIS PIN, 1/2" x 3", ZP
18	2	BHCS-13-24-0, 53-BS	BUTTON HEAD, #13-24 X 0.53, BS	41	12	RM-18A-SS	RNET
19	1	H10006	STICKER, PLATFORM	42	2	RR-3 62-EC-Z	E-CLIP 5/8" SHAFT
20	1	H11010	J-CAM	43	1	SPCR-0 25-0 53-0 31-N	SPACER, 1/4" for CAM SPRINGS
21	1	206-2A21-A	MOTOR COVER ASSEMBLY	44	2	WASH-4 25-0 62-0 04-RH-SS	WASHER, FLAT, 1/4", SS
22	1	H14044	ROLLER	45	5	WASH-4 50-1 06-0 06-RH-SS	WASHER, FLAT, 1/2", SS
23	1	H14045	CLEVIS PIN	46	4	WASH-4 50-1 30-0 12-A	WASHER, FLAT, 1/2", NYLON

AL500



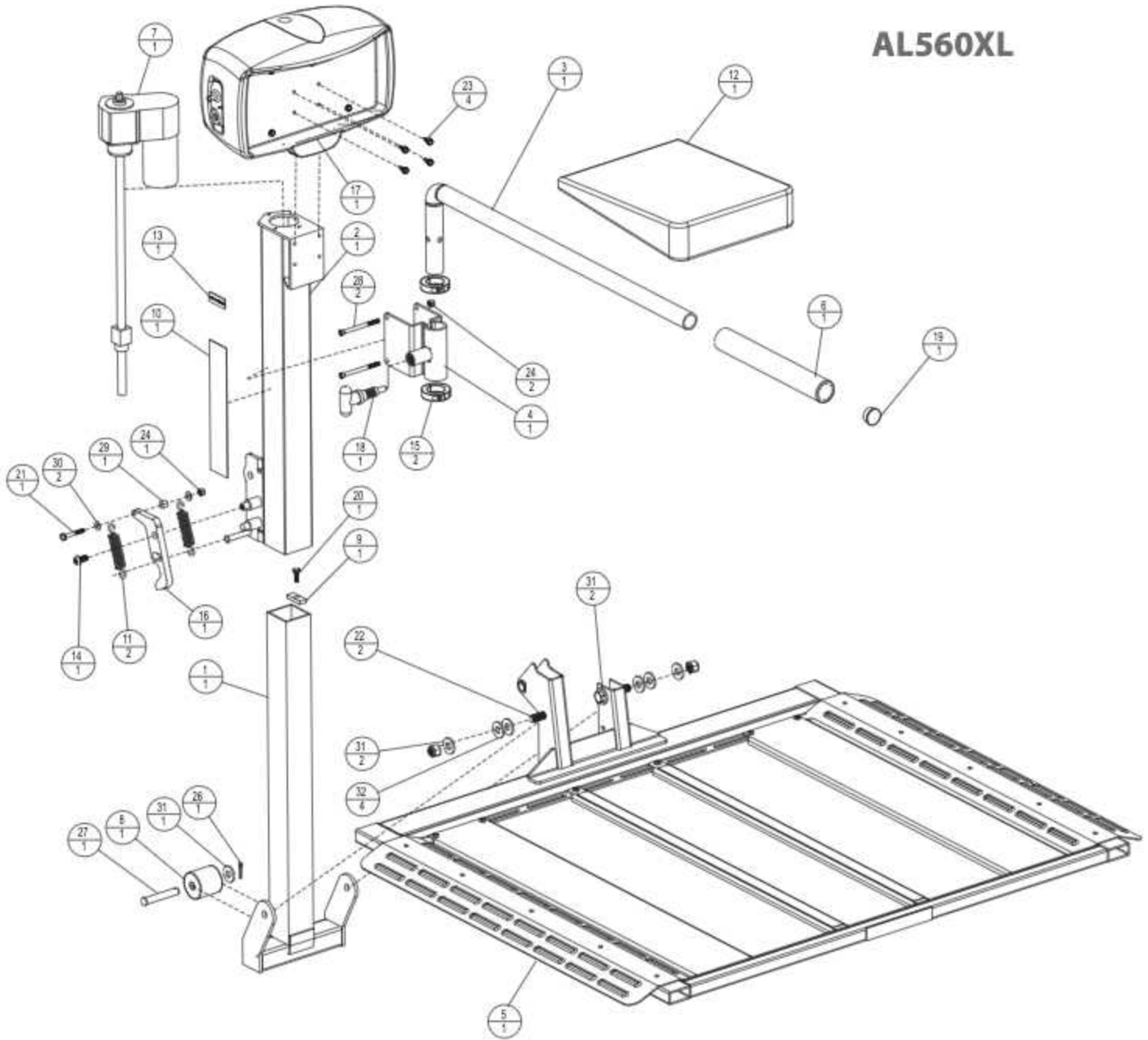
ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-2A06-C	INNER TUBE	22	1	H1440T	ALUMINUM PLATE
2	1	202-2A10-C	OUTER TUBE	23	2	H00010B	LEFT HAND, Q-STRANT - BLUE
3	1	203-2A10-C	PLATFORM	24	2	H00011B	RIGHT HAND, Q-STRANT - BLUE
4	1	ALA10019REV2	ACTUATOR	25	1	HHCS-0 25-20-0 75-NP-Z	HEX HEAD, 1/4-20 x 0.75, ZP
5	1	ALA10032	ROLLER 2" DIA UHMW	26	1	HHCS-0 25-25-1 75-Z	HEX HEAD, 1/4-20 x 1.75, ZP
6	1	ALA10050	TAB, ACTUATOR	27	4	HHCS-0 50-13-0 75-Z	HEX HEAD, 1/2-13 x 0.75, ZP
7	1	ALA10086	STICKER, OUTSIDE LEFT	28	2	HHCS-0 50-13-2 50-Z	HEX HEAD, 1/2-13 x 2.50, ZP
8	2	ALA11025	EXTENSION SPRING	29	4	HWTS-14-0 75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
9	1	ALA14098	RED REFLECTOR	30	1	NUT-0 25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
10	1	ALA160	HARDWARE PACK	31	4	NUT-0 55-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
11	1	ALA50089	PATENT STICKER	32	2	NUT-0 60-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
12	1	ALA580	U-BOLT HARDWARE KIT	33	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, #10-24, ZP
13	1	ALA58043C	ANCHOR PLATE	34	1	PIN-0 12-1 90-CO-SS	COTTER PIN
14	1	ALA59895	LABEL, SERIAL NUMBER	35	1	PIN-0 55-3 10-CL-Z	CLEVIS PIN, 1/2" x 3" L, ZP
15	1	BHCS-0 37-16-1 06-88-AP	BUTTON HEAD 3/8-16 x 1.00 SS	36	6	RM-188-SS	RINET
16	2	BHCS-0 37-24-0 50-SS	BUTTON HEAD, #10-24 X 0.50, SS	37	2	RR-0 62-EC-Z	E-CLIP, 5/8" SHAFT
17	1	H10296	STICKER, PLATFORM	38	1	SPCR-0 25-0 30-0 31-N	SPACER, 1/4", 1/4" CAM SPRINGS
18	1	H10100	J-CAM	39	2	WASH-0 25-0 62-0 24-RH-SS	WASHER, FLAT, 1/4", SS
19	1	200-2A01-A	MOTOR COVER ASSEMBLY	40	5	WASH-0 50-1 08-0 28-RH-SS	WASHER, FLAT, 1/2", SS
20	1	H14344	ROLLER	41	4	WASH-0 30-1 50-0 12-N	WASHER, FLAT, 1/2", NYLON
21	1	H14345	CLEVIS PIN				



AL560

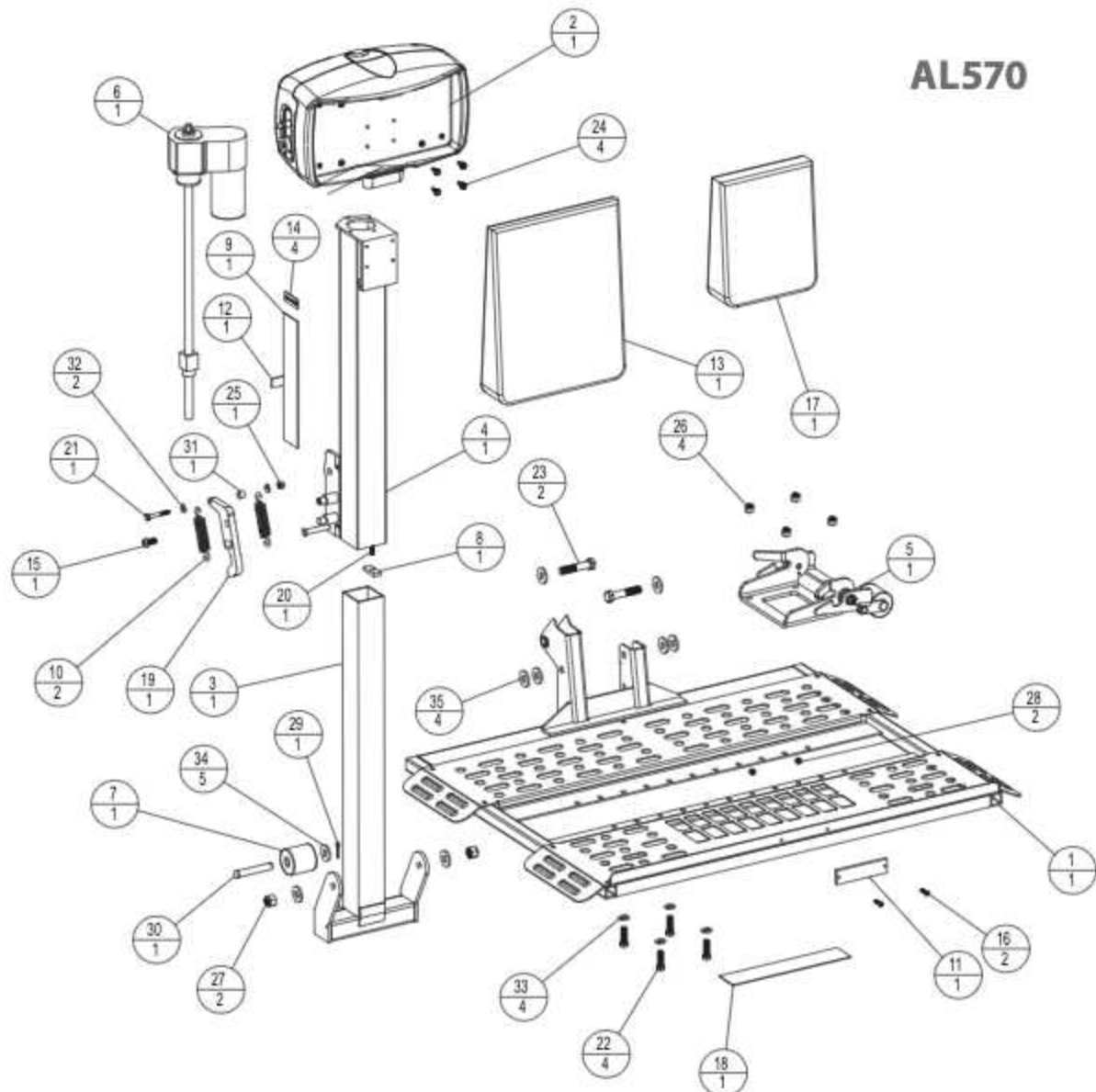
ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-2A06-C	INNER TUBE	17	1	230-2A01-A	MOTOR COVER ASSEMBLY
2	1	202-2A10-C	OUTER TUBE	18	1	HS066R1	T-HANDLE SPRING PIN ASSY 3/8" P.W. BLUE
3	1	205-2A13-C	HOLD DOWN ARM	19	1	HS210	1.25 DIAMETER END CAP
4	1	206-2A13-C	FORMED HOLD DOWN ARM BRACKET	20	1	HHCS-0 25-20-0 75-NP-2	HEX HEAD, 1/4-20 X 0.75, ZP
5	1	210-2A13-A	PLATFORM ASSEMBLY	21	1	HHCS-0 25-20-1 75-2	HEX HEAD, 1/4-20 X 1.75, ZP
6	1	ALA3059	FOAM RUBBER GRP 12x LONG	22	2	HHCS-0 30-13-0 50-2	HEX HEAD, 1/8-13 X 2.50, ZP
7	1	ALA10310REV2	ACTUATOR	23	4	HWS-14-0 75-2	HEX WASHER, #14 SELF DRILL, 0.75, ZP
8	1	ALA10832	ROLLER 2" DIA UHMW	24	3	NUT-2 25-25-NYLON-2	NUT, NYLON, 1/4-20, ZP
9	1	ALA10690	TAB ACTUATOR	25	2	NUT-3 55-13-NYLON-2	NUT, NYLON, 1/2-13, ZP
10	1	ALA10295	STICKER, OUTSIDE LIFT	26	1	PN-8 12-1 55-CO-55	COTTER PIN
11	2	ALA11825	EXTENSION SPRING	27	1	PN-0 50-3 08-CL-2	CLEVIS PIN, 1/2" X 3" L, ZP
12	1	ALA183	HARDWARE PACK	28	3	SHCS-0 25-20-3 25-2	SHCS, 1/4-20 X 5-1/4", ZP
13	1	ALA30691	LABEL, SERIAL NUMBER	29	1	SPCR-0 25-3 55-0 31-N	SPACER, 1/4" 3/4 CAM SPRINGS
14	1	HHCS-0 37-16-1 80-SS-AP	BUTTON HEAD 3/8" 16 X 1 80SS	30	2	WASH-0 25-0 62-0 04-RH-55	WASHER, FLAT, 1/4", SS
15	2	COLLAR-1 25-SH-0P-2	SHAFT COLLAR, 1-1/4" BORE	31	5	WASH-0 50-1 96-0 0 04-RH-55	WASHER, FLAT, 1/2", SS
16	1	H1E10	J-CAM	32	4	WASH-0 50-1 58-0 12-N	WASHER, FLAT, 1/2" NYLON

AL560XL



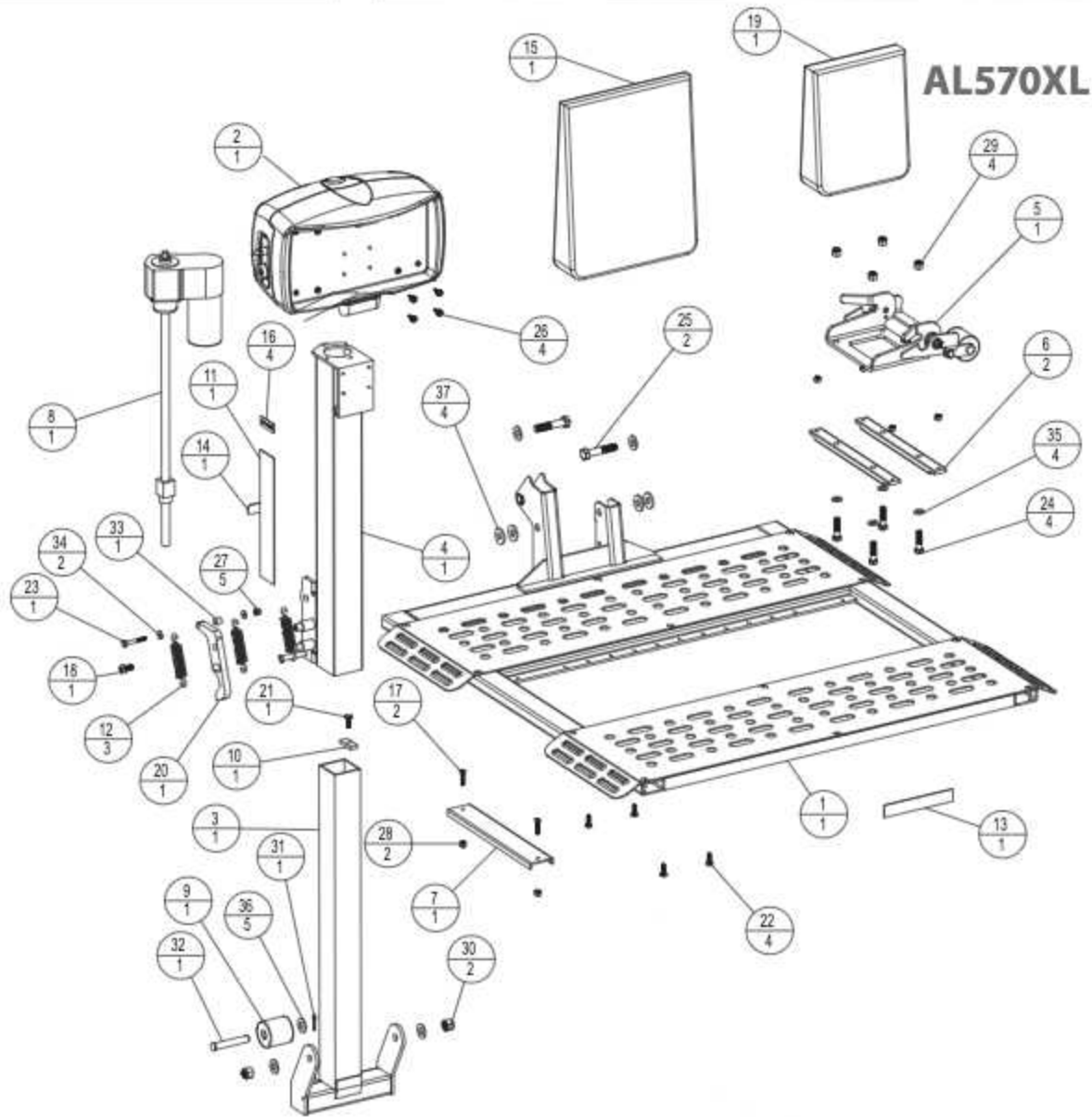
ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-2A06-C	INNER TUBE	17	1	200-2A01-A	MOTOR COVER ASSEMBLY
2	1	202-2A16-C	OUTER TUBE	18	1	HE6200R1	T-HANDLE SPRING PIN ASSY 3/8" PIN, BLUE
3	1	205-2A14-C	HOLD DOWN ARM	19	1	H52102	1.25 DIAMETER END CAP
4	1	206-2A13-C	FORMED HOLD DOWN ARM BRACKET	20	1	HHCS-0 25-26-3 15-Z	HEX HEAD, 1/4-20 X 0.75, ZP
5	1	219-2A14-A	PLATFORM ASSEMBLY	21	1	HHCS-0 25-26-1 15-Z	HEX HEAD, 1/4-20 X 1.15, ZP
6	1	AL09896	FOAM RUBBER DRIP 12H LONG	22	2	HHCS-0 50-13-2 50-Z	HEX HEAD, 1/2-13 X 2.50, ZP
7	1	ALA1010REV2	ACTUATOR	23	4	HWTS-14-6 15-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
8	1	ALA1050	ROLLER 2" DIA/1MM	24	3	NUT-0 25-26-NYL00K-Z	NUT, NYLON, 1/4-20, ZP
9	1	ALA1050	TAB ACTUATOR	25	2	NUT-0 50-13-NYL00K-Z	NUT, NYLON, 1/2-13, ZP
10	1	ALA1050E	STICKER, OUTSIDE LEFT	26	1	PN-0 12-1 50-00-83	COTTER PIN
11	2	ALA1102E	EXTENSION SPRING	27	1	PN-0 55-3 06-01-Z	CLEVIS PIN, 1/2" X 7", ZP
12	1	ALA180	HARDWARE TRAY	28	2	SHCS-0 25-26-3 25-Z	SHCS, 1/4-20 X 3-1/4", ZP
13	1	AL09896	LABEL, SERIAL NUMBER	29	1	SPDR-0 25-0 50-0 31-N	SPRINGER, 1/4", 16 CAM SPRINGS
14	1	SHCS-0 37-16-1 00-55-NP	BUTTON HEAD 36 - 16 X 1"	30	2	WASH-0 25-0 62-0 04RH-SS	WASHER, FLAT, 1/4", SS
15	2	COLLAR-1 25-2H-0P-Z	SHAFT COLLAR, 1-1/4" BORE	31	5	WASH-0 50-1 06-0-88-RH-SS	WASHER, FLAT, 1/2", SS
16	1	H1310	J-CAM	32	4	WASH-0 50-1 51-0 12-N	WASHER, FLAT, 1/2", NYLON

AL570



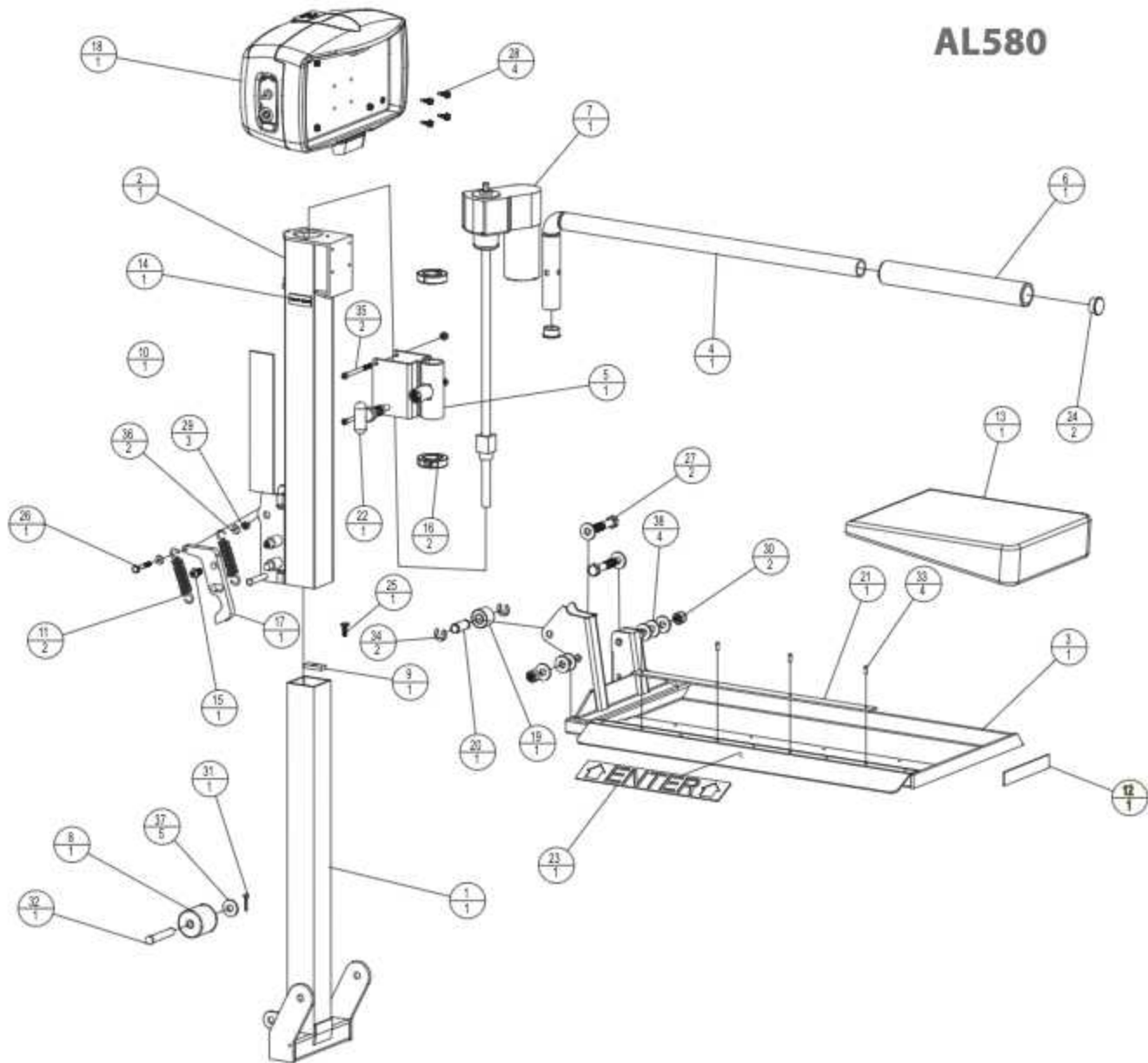
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	200-1A15-A	PLATFORM ASSEMBLY	18	1	H10006	STICKER, "HARMAR"
2	1	200-2A01-A	MOTOR COVER, ASSEMBLY, OUTSIDE LIFTS	19	1	H11010	J CAM
3	1	201-2A06-C	NARROW INNER TUBE	20	1	HHCS-0 25-20-0 75-NP-Z	HEX HEAD, 1/4-20 X 0.75, ZP
4	1	202-2A10-C	OUTER TUBE	21	1	HHCS-0 25-20-1 75-Z	HEX HEAD, 1/4-20 X 1.75, ZP
5	1	240-1A15-A	DOCK AND LOCK ASSEMBLY	22	4	HHCS-0 37-16-1 25-Z	HEX HEAD, 3/8-16 X 1.25, ZP
6	1	ALA10010REV2	ACTUATOR	23	2	HHCS-0 50-13-2 50-Z	HEX HEAD, 1/2-13 X 2.50, ZP
7	1	ALA10032	ROLLER 2" DIA UHMW	24	4	HW75-14-0 75-Z	HEX WASHER, #14 SELF DRILL, 3/4" L, ZP
8	1	ALA180	TAB, ACTUATOR	25	1	NUT-0 25-20-NYLOCK-Z	NUT - NYLOCK, 1/4-20, ZP
9	1	ALA10096	OUTSIDER STICKER	26	4	NUT-0 37-16-NYLOCK-Z	NUT - NYLOCK, 3/8 X-16 ZP
10	2	ALA11025	EXTENSION SPRING	27	2	NUT-0 50-13-NYLOCK-Z	NUT - NYLOCK, 1/2-13, ZP
11	1	ALA14006	RED REFLECTOR	28	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, 10-24, ZP
12	1	ALA17096	LABEL, PATENT PENDING	29	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, 10-24, ZP
13	1	ALA180	HARDWARE PACK	30	1	PN-0 12-1 50-CO-SS	DOTTER PIN, SS
14	4	ALA09996	LABEL, SERIAL NUMBER	31	1	PN-0 50-3 00-CL-Z	CLEVIS PIN, 1/2" X 3.00, ZP
15	1	BHCS-0 37-16-1 00-SS-NP	BUTTON HEAD 3/8-16 X 0.75 SS	32	2	SPCR-0 25-0 50-0 31-N	SPACER, 1/4", FOR CAM SPRINGS
16	2	BHCS-10-24-0 75-SS	BUTTON HEAD, 10-24 X 0.75, SS	33	4	WASH-0 25-0 02-0 04RH-SS	WASHER, FLAT, 1/4", SS
17	1	H00-1A15-A	DNL HARDWARE PACK	34	5	WASH-0 37-0 02-0 06RH-SS	WASHER, FLAT, 3/8" X, SS
				35	4	WASH-0 50-1 50-0 12-N	WASHER, FLAT, 1/2", NYLON

Exploded Views SECTION 2 : INSTALLER



ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	200-1A19-A	PLATFORM ASSEMBLY
2	1	200-2A01-A	MOTOR COVER, ASSEMBLY, OUTSIDE LIFTS
3	1	201-2A05-C	NARROW INNER TUBE
4	1	202-2A10-C	OUTER TUBE
5	1	240-1A15-A	DOCK AND LOCK ASSEMBLY
6	2	505-1A16-C	ONE BEAM
7	1	515-1A16-C	CASTER BRACKET
8	1	ALA10012REV2	ACTUATOR
9	1	ALA10032	ROLLER 2" DIA UHMW
10	1	ALA10050	SM. ACTUATOR
11	1	ALA10080	STICKER, OUTSIDER
12	3	ALA11025	EXTENSION SPRING
13	1	ALA14005	RED REFLECTIVE STICKER
14	1	ALA17000	LABEL, PATENT PENDING
15	1	ALA180	HARDWARE PACK
16	4	ALA99995	LABEL, SERIAL NUMBER
17	2	BHCS-0_25-20-1_00-SS	BUTTON HEAD, 1/4-20 X 1.00, SS
18	1	BHCS-0_37-16-1_00-SS-NP	BUTTON HEAD 3/8-16 X0.75 SS

ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
19	1	H00-1A16-A	DR. HARDWARE PACK
20	1	H11010	J CAM
21	1	BHCS-0_25-20-0_75-NP-Z	HEX HEAD, 1/4-20 X3/4", ZP
22	4	BHCS-0_25-20-0_75-Z	HEX HEAD, 1/4-20 X0.75, ZP
23	1	BHCS-0_25-20-1_75-Z	HEX HEAD, 1/4-20 X1.75L, ZP
24	4	BHCS-0_37-16-1_50-Z	HEX HEAD, 3/8-16 X1.50, ZP
25	2	BHCS-0_50-13-2_50-Z	HEX HEAD, 1/2-13 X 2.50L, ZP
26	4	HWTS-14-0_75-Z	HEX WASHER, #14 SELF DRILL, 3/4" L, ZP
27	5	NUT-0_25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, K2P
28	2	NUT-0_25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
29	4	NUT-0_37-16-NYLOCK-Z	NUT, NYLOCK, 3/8-16 ZP GRADE 5
30	2	NUT-0_50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP STEEL
31	1	PIN-0_12-1_50-CO-SS	COTTER PIN, SS
32	1	PN-0_50-3_90-CL-Z	CLEVIS PIN, 1/2" X 3.00, ZP
33	1	SPCR-0_25-0_50-0_31-N	SPACER, 1/4", 60-CAM SPRINGS
34	2	WASH-0_25-0_62-0_04-RH-SS	WASHER, FLAT, 1/4", SS
35	4	WASH-0_37-0_62-0_05-RH-SS	WASHER, FLAT, 3/8", SS
36	5	WASH-0_50-1_06-0_08-0-RH-Z	WASHER, FLAT, 1/2", Z
37	4	WASH-0_50-1_50-0_12-N	WASHER, FLAT, 1/2", PLASTIC

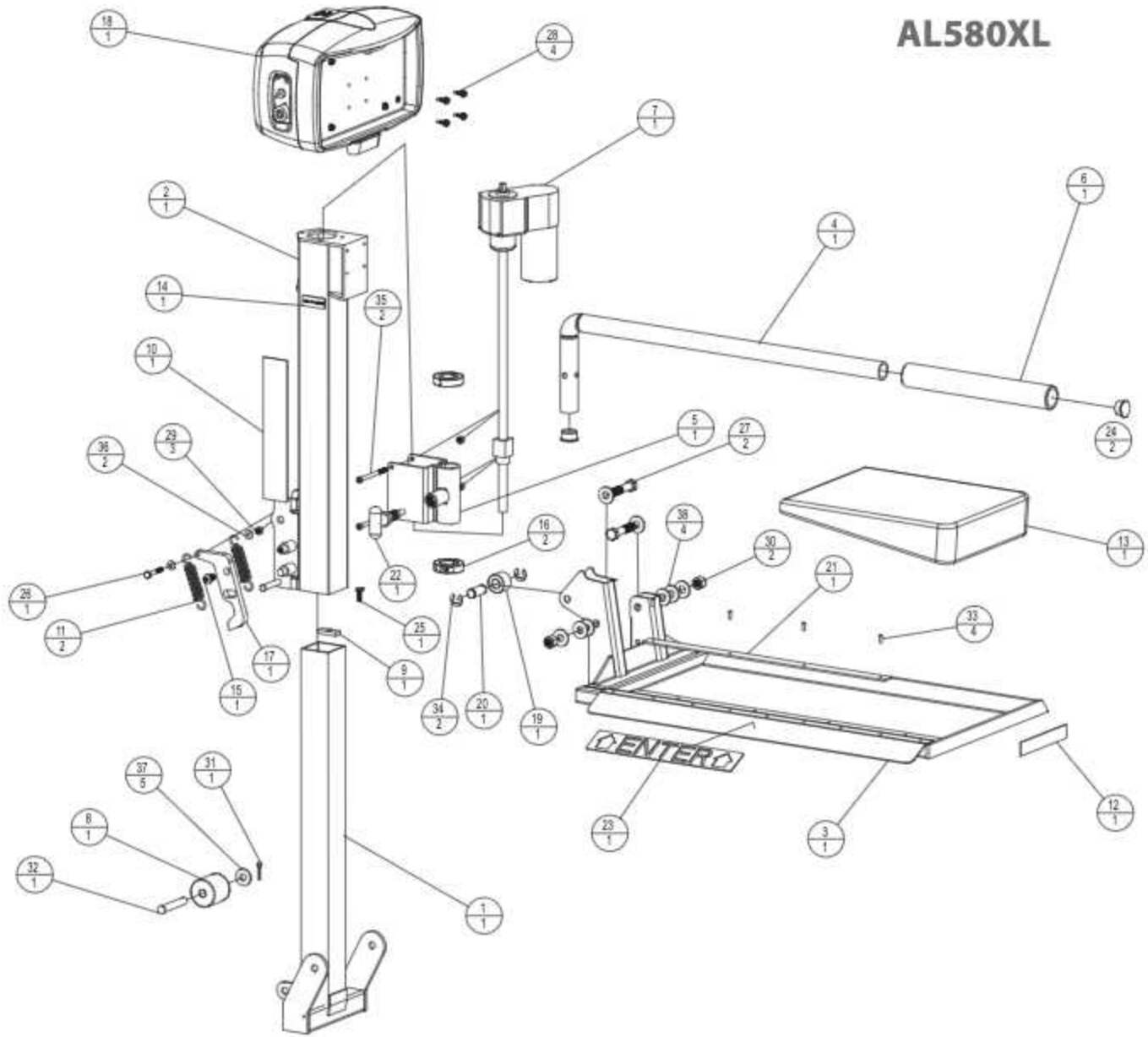


AL580

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	H591110	RAMP PAD
3	1	203-ZG06-C	PLATFORM	22	1	H56069R1	T-HANDLE SPRING PIN ASSY 3/8" PIN, BLUE
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	ALA15013REV2	ACTUATOR	26	1	HHCS-0 25-20-1 75-Z	HEX HEAD, 1/4-20 X 1.75, ZP
8	1	ALA10332	ROLLER 2" DIA UHMW	27	2	HHCS-0 30-13-2 90-Z	HEX HEAD, 1/2-13 X 2.50, ZP
9	1	ALA10030	TAB, ACTUATOR	28	4	HWTS-14-0 75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
10	1	ALA10395	STICKER, OUTSIDE LEFT	29	3	NUT-0 25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
11	2	ALA11025	EXTENSION SPRING	30	2	NUT-0 50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
12	1	ALA14095	RED REFLECTIVE STICKER	31	1	PN-0 12-1 50-CD-SS	COTTER PIN
13	1	ALA180	HARDWARE RACK	32	1	PN-0 30-3 00-CL-Z	CLEVIS PIN, 1/2" X 3" L, ZP
14	1	ALA99995	LABEL, SERIAL NUMBER	33	4	RV-188-SS	RIVET
15	1	BHCS-0 37-16-1 00-SS-NP	BUTTON HEAD 3/8-16-1.20-SS	34	2	RR-0 K2-EC-Z	E-CLIP 5/8" SHAFT
16	2	COLLAR-1 25-SH-OP-Z	SHAFT COLLAR, 1-1/4" BORE	35	2	BHCS-0 25-20-3 25-Z	BHCS, 1/4-20 X 3-1/4", ZP
17	1	H11010	J-CAM	36	2	WASH-0 20-5 56-0 07-RH-SS	WASHER, FLAT, 1/4", SS
18	1	Z00-2A01-A	MOTOR COVER ASSEMBLY	37	6	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

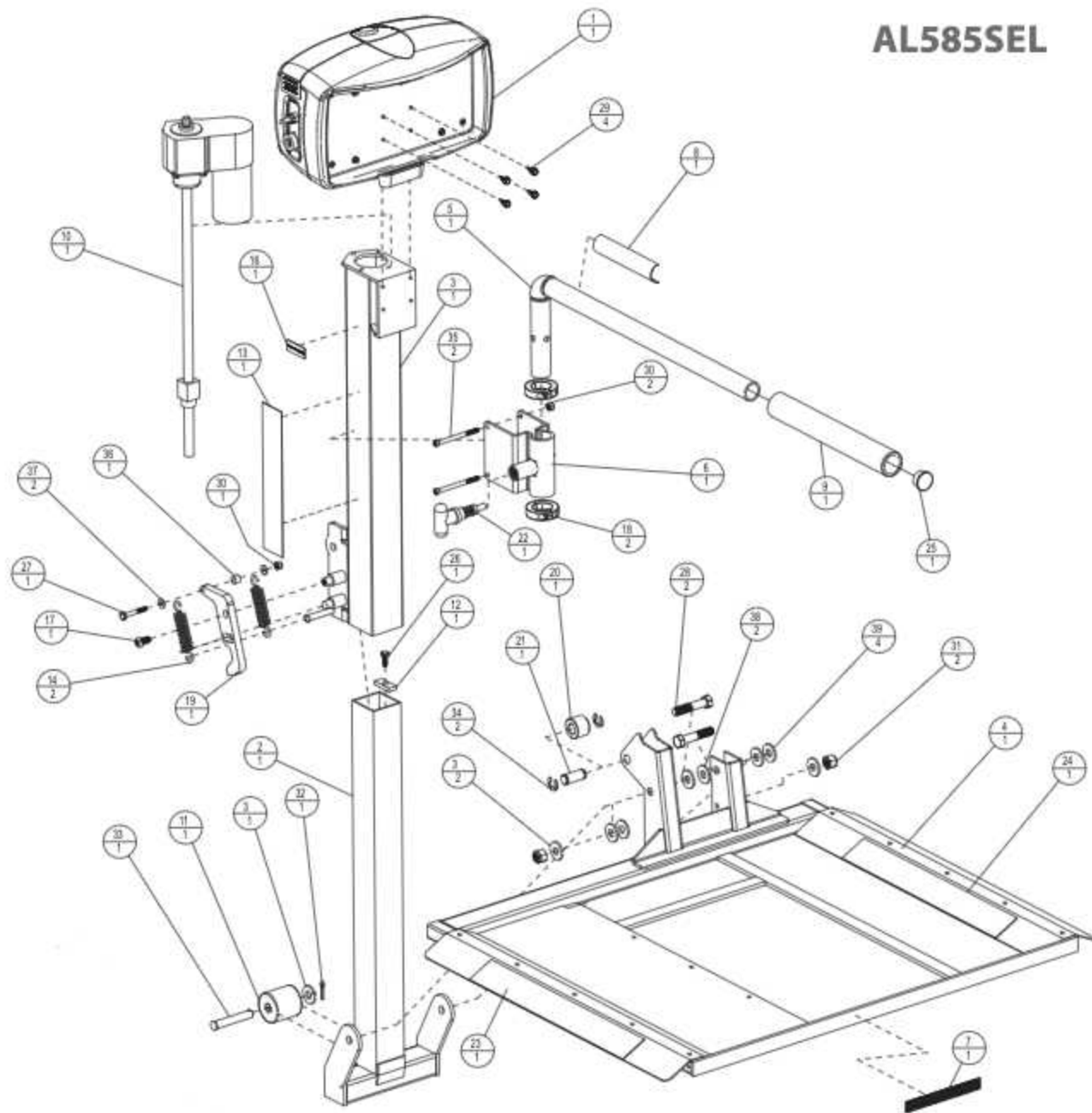
Exploded Views SECTION 2 : INSTALLER

AL580XL



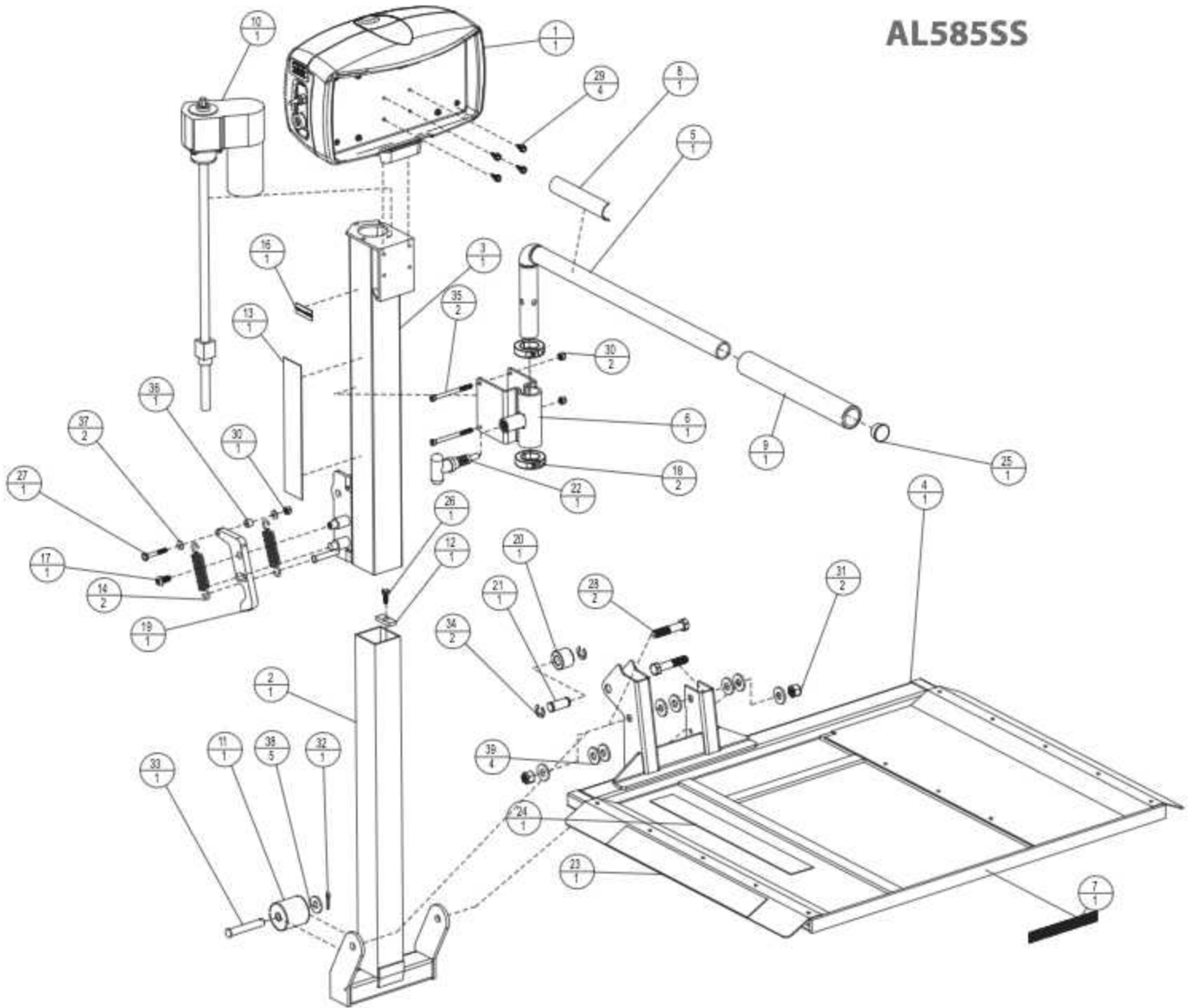
ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZA06-C	INNER TUBE	20	1	H14045	CLEVIS PIN
2	1	202-ZA10-C	OUTER TUBE	21	1	H330110	RAMP PAD
3	1	203-2G07-C	PLATFORM	22	1	H66059R1	T-HANDLE SPRING PIN ASSY 3/8" PIN, BLUE
4	1	205-ZA13-C	HOLD DOWN ARM	23	1	H670101	"ENTER" STICKER
5	1	206-ZA13-C	FORMED HOLD DOWN ARM BRACKET	24	2	H752102	1.25 DIAMETER END CAP
6	1	ALA00559	FOAM RUBBER GRIP 13" LONG	25	1	HHCS-0 25-20-0 75-Z	HEX HEAD, 1/4-20 X 0.75, ZP
7	1	ALA10010REV2	ACTUATOR	26	1	HHCS-0 25-20-1 75-Z	HEX HEAD, 1/4-20 X 1.75, ZP
8	1	ALA10032	ROLLER 2" DIA UHMW	27	2	HHCS-0 50-13-2 50-Z	HEX HEAD, 1/2-13 X 2.00, ZP
9	1	ALA10050	TAB, ACTUATOR	28	4	HVTS-14-0 75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
10	1	ALA10095	STICKER, OUTSIDE LEFT	29	3	NUT-0 25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
11	2	ALA11025	EXTENSION SPRING	30	2	NUT-0 50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
12	1	ALA14095	RED REFLECTIVE STICKER	31	1	PIN-0 12-1 50-CO-SS	COTTER PIN
13	1	ALA180	HARDWARE PACK	32	1	PIN-0 50-3 03-CL-Z	CLEVIS PIN, 1/2" X 3" L, ZP
14	1	ALA69995	LABEL, SERIAL NUMBER	33	4	RIV-188-SS	RIVET
15	1	BHCS-0 37-16-1 00-SS-NP	BUTTON HEAD 3/8-16-1.00 SS	34	2	RR-0 52-EC-Z	E-CLIP, 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 06-0 07-RH-SS	WASHER, FLAT, 1/4", SS
18	1	203-2A01-A	MOTOR COVER ASSEMBLY	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

AL585SEL



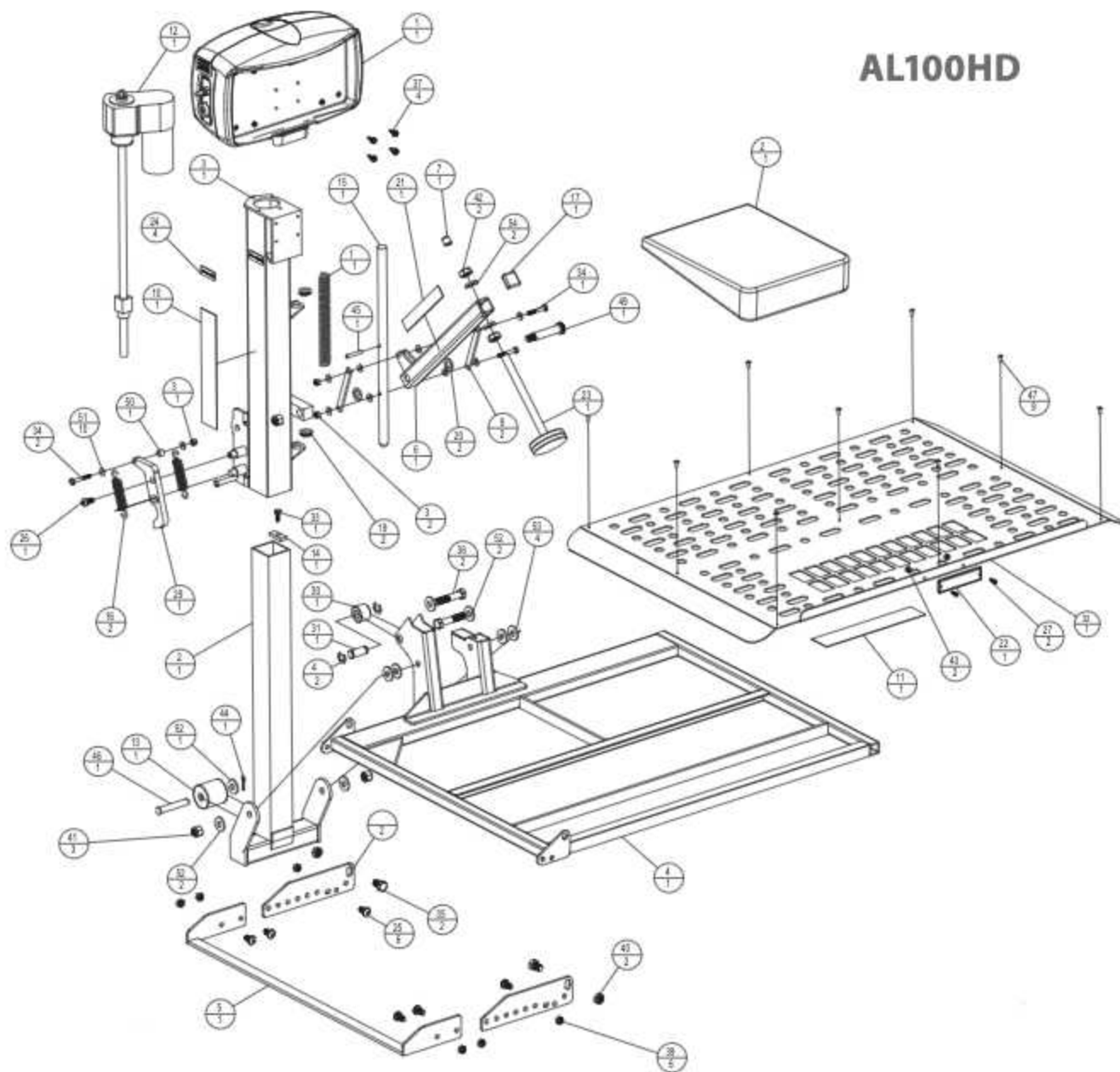
ASSEMBLY PARTS - AL-585SEL				ASSEMBLY PARTS - AL-585SEL			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	280-2401-A	MOTOR COVER ASSEMBLY OUTSIDE LIFTS	21	1	HW548	CLEVIS PIN
2	1	201-CAB6-C	INNER TUBE	22	1	HW069R1	T-HANDLE SPRING PIN ASSY 3/8" PIN, BLUE
3	1	202-2A15-C	OUTER TUBE	23	1	HT8181	"ENTER" STICKER
4	1	203-2204-C	PLATFORM	24	1	HT8182	"PUSH" STICKER
5	1	205-2104-C	HOLD DOWN ARM - 1SS	25	1	HT52182	1.25 DIAMETER END CAP
6	1	206-2A15-C	FORMED HOLD DOWN ARM BRACKET	26	1	HWCS-6 25-25-3 75-NP-2	HEX HEAD 1/4-20 x 0.75, ZP
7	1	205-2A03-A	18" X 6.00" RED REFLECTIVE STICKER	27	1	HWCS-6 25-25-1 75-2	HEX HEAD 1/4-20 x 1.75, ZP
8	1	289-1A13-A	FOAMER ON/OFF STICKER	28	2	HWCS-6 25-13-2 50-2	HEX HEAD 1/8-13 x 2.50, ZP
9	1	AL40309	FOAM RUBBER GAP 12in-LONG	29	4	HWTS-14-0 75-2	HEX WASHER #14 SELF DRILL, 0.75, ZP
10	1	AL4101182V2	ACTUATOR	30	3	WUT-0 25-20-MYLOCK-2	WUT. MYLOC. 5/8-20, ZP
11	1	AL41032	ROLLER 2" DIA LUBRI	31	2	WUT-0 20-12-MYLOCK-2	WUT. MYLOC. 1/2-12, ZP
12	1	AL41080	TAB ACTUATOR	32	1	FW-6 12-1 50-CO-SS	COTTER PIN
13	1	AL41085	STICKER, OUTSIDE LIFT	33	1	FW-6 25-3 50-CL-2	CLEVIS PIN 5/8" x 2" L, ZP
14	2	AL41025	EXTENSION SPRING	34	2	HW-6 60-CL-2	E-CLIP for 5/8" SHAFT
15	1	AL4106	HARDWARE PUCK	35	2	HWCS-6 25-25-3 25-2	HWCS 1/4-20 x 3 1/4" ZP
16	1	AL40925	LABEL, SERIAL NUMBER	36	1	SPKRL-25-3 25-3 31-N	SPACER 1/4" for CAB SPRINGS
17	1	HWCS-6 37-16-1 30-SS-NP	BUTTON HEAD 3/8-16 x 1.30 SS	37	2	WASH-0 25-3 62-0 26-PP-SS	WASHER FLAT, 1/4" SS
18	2	COLLAR-1 25-SS-CP-2	SHAFT COLLAR, 1-5/4" BORE	38	5	WASH-0 25-1 21-0 12-PP-SS	WASHER FLAT, 1/2" SS
19	1	H11310	J OAM	39	4	WASH-0 20-1 25-0 12-PP-LF	WASHER FLAT, 1/2" PLASTIC
20	1	H1484	ROLLER				

AL585SS



ASSEMBLY PARTS: AL-585-SS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	390-2K21-A	MOTOR COVER ASSEMBLY, OUTSIDE LIFTS
2	1	201-2A30-C	INNER TUBE
3	1	202-2A10-C	OUTER TUBE
4	1	203-2D28-C	PLATFORM
5	1	204-2D04-C	HOLD DOWN ARM - 1SS
6	1	206-2A15-C	FORMED HOLD DOWN ARM BRACKET
7	1	930-3A83-A	7/8" X 8 1/2" RED REFLECTIVE STICKER
8	1	890-1A15-A	POWER CHAIR OFF STICKER
9	1	AL4000S1	FOAM RUBBER GRIP 12in LONG
10	1	AL1000R2V2	ACTUATOR
11	1	AL1000S2	ROLLER 2" DIA UHMW
12	1	AL1000S0	TAB, ACTUATOR
13	1	AL1000S5	STICKER, OUTSIDE LIFT
14	2	AL1000S3	EXTENSION SPRING
15	1	AL1000S4	HARDWARE POUCH
16	1	AL4000S5	LABEL, SERIAL NUMBER
17	1	BHCS-0 37-16-1 30-SS-MP	BUTTON HEAD 3/8-16 x 1.00 SS
18	2	COLLAR-1 25-5H-0P-2	SHAFT COLLAR, 1-1/4" BORE
19	1	H1010	J-CAM

ASSEMBLY PARTS: AL-585-SS			
ITEM	QTY	PART NO.	DESCRIPTION
20	1	H14044	ROLLER
21	1	H14046	CLEVIS PIN
22	1	H90000K1	T-HANDLE SPRING PIN ASSY 3/8" PNL BLUE
23	1	H51010	"TEXT" STICKER
24	1	H51012	"TRUCK" STICKER
25	1	H152102	1.25" DIAMETER END CAP
26	1	BHCS-0 25-28-2 75-0P-Z	HEX HEAD, 1/4-28 x 0.75, 2P
27	1	BHCS-0 25-28-1 75-Z	HEX HEAD, 1/4-28 x 1.75, 2P
28	2	BHCS-0 30-13-2 50-Z	HEX HEAD, 1/2-13 x 2.50, 2P
29	4	H8175-14-E 75-Z	HEX WASHER, #14 SELF DRILL, 0.75, 2P
30	3	NUT-0 25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, 2P
31	2	NUT-0 55-15-NYLOCK-Z	NUT, NYLOCK, 1/2-15, 2P
32	1	PNV-0 12-1 50-CD-SS	COTTER PIN
33	1	PNV-0 50-2 50-CL-Z	CLEVIS PIN, 1/2" x 3", 2P
34	2	BR0 50-EC-Z	E-CLIP, 5/8" SHWFT
35	2	BHCS-0 25-28-3 25-Z	BHCS, 1/4-28 x 3-1/4", 2P
36	1	SPCR-0 25-0 50-2 31-A	SPACER, 1/4" 6W CSM SPRINGS
37	2	WASH-0 25-0 10-0 35-RH-SS	WASHER, FLAT, 1/4", SS
38	5	WASH-0 50-1 37-0 12-RH-SS	WASHER, FLAT, 1/2", SS
39	4	WASH-0 50-1 35-0 12-RH-P	WASHER, FLAT, 1/2", PLASTIC

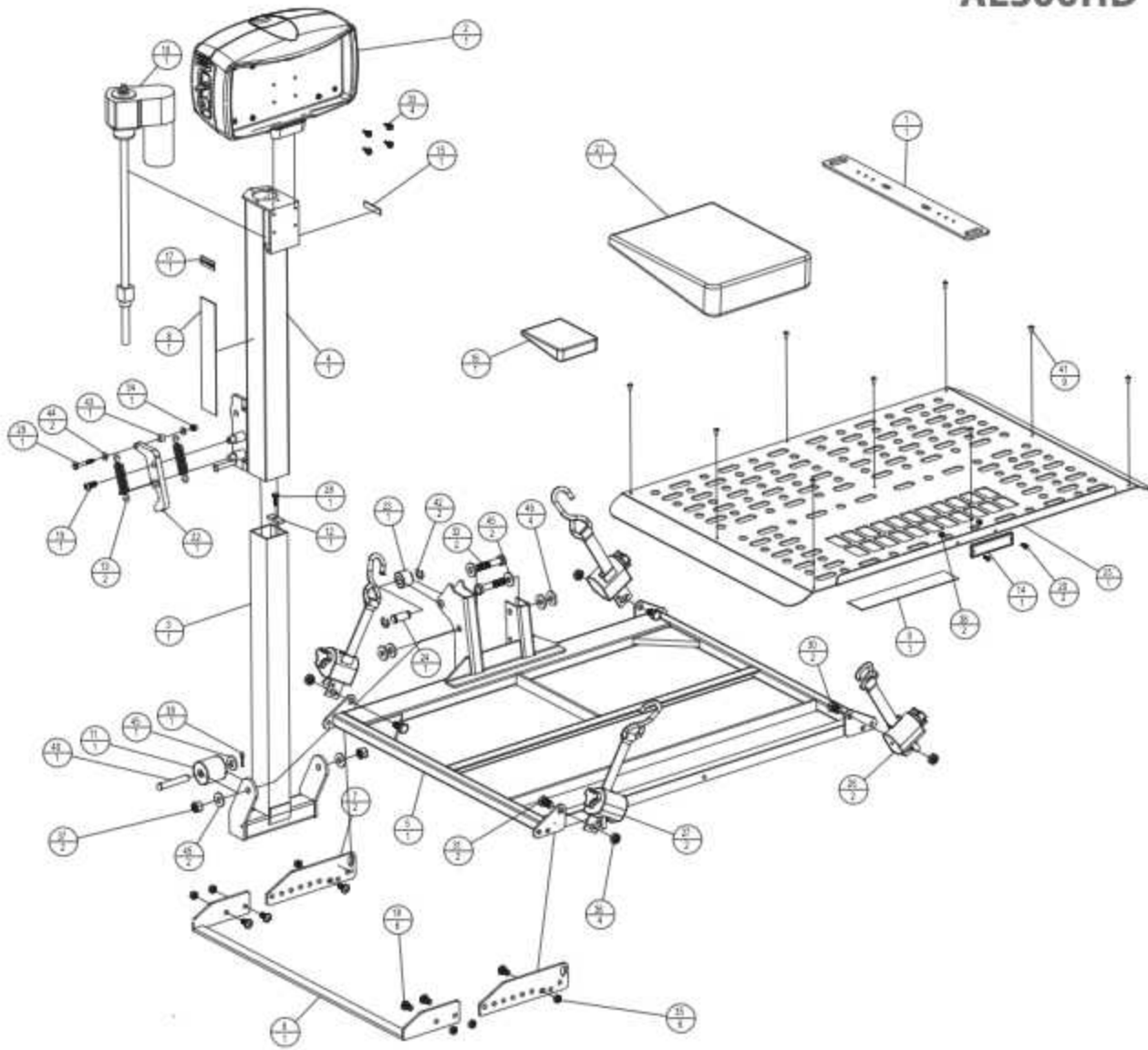


AL100HD

ITEM	QTY	PART NO.	DESCRIPTION
1	1	200-2401-A	MOTOR COVER ASSEMBLY, OUTSIDE LIFTS
2	1	201-2406-C	INNER TUBE
3	1	202-2406-C	OUTER TUBE
4	1	203-2443-C	AL100HD PLATFORM
5	1	204-2406-C	EXTENDED CRADLE BAR
6	1	205-2406-C	HOLD DOWN ARM
7	1	400-2406-A	VINYL CAP FOR 1/2 OD STUD
8	2	501-2406-C	SPREADER BAR BRACKET
9	2	502-2406-C	BAR LINK, 3/16"
10	1	900-3441-A	HD OUTSIDE LIFT STICKER
11	1	950-2406-A	STICKER PLATFORM
12	1	ALA1003REV2	ACTUATOR
13	1	ALA1003	ROLLER 2" DIA UHMW
14	1	ALA1005	TAB, ACTUATOR
15	1	ALA108-PLT	HOLD DOWN ARM ROD
16	2	ALA1102S	EXTENSION SPRING
17	1	ALA1255PI	INSERTS, 1/4 BLACK PLASTIC
18	1	ALA1302S	COMPRESSION SPRING
19	2	ALA1333J	NYLINEAR BEARINGS - 3/4"
20	2	ALA1355SP	HOLD DOWN ARM WASHER
21	1	ALA1338R	STICKER, CAUTION, HOLD DOWN ARM
22	1	ALA1418R	RED REFLECTOR
23	1	ALA1 530	HOLD DOWN FOOT
24	4	ALA5888S	LABEL, SERIAL NUMBER
25	4	BHCS-0 37-16-0 75-SS	BUTTON HEAD, 3/8-16 X 0.75, SS
26	1	BHCS-0 37-16-1 85-SS-NP	BUTTON HEAD 3/8-16 X 1.00, SS
27	2	BHCS-13-24-1 90-SS	BUTTON HEAD, #10-24 X 0.91, SS

ITEM	QTY	PART NO.	DESCRIPTION
2	1	HES-3441-A	HD HARDWARE PACK
28	1	H11010	J-CAM
29	1	H14044	ROLLER
30	1	H14045	CLEVIS PIN
31	1	H14407	ALUMINUM PLATE
32	1	H14407	ALUMINUM PLATE
33	1	HHCS-0 25-20-0 75-NP-Z	HEX HEAD, 1/4-20 X 0.75, ZP
34	3	HHCS-0 25-20-1 75-Z	HEX HEAD, 1/4-20 X 1.75, ZP
35	2	HHCS-0 50-13-0 75-Z	HEX HEAD, 1/2-13 X 0.75, ZP
36	2	HHCS-0 50-13-2 50-Z	HEX HEAD, 1/2-13 X 2.50, ZP
37	4	HWTS-14-3 75-Z	HEX WASHER, #14 SELF DRILL, 0.75, ZP
38	3	NUT-0 25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
39	6	NUT-0 37-16-NYLOCK-NTE-Z	NYLOCK NUT, THIN, 3/8-16, ZP
40	2	NUT-0 50-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
41	3	NUT-0 50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
42	2	NUT-0 62-11-JAM-Z	NUT, JAM, 5/8-11, ZP
43	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, #10-24, ZP
44	1	PN-0 12-1 90-CO-SS	COTTER PIN
45	1	PN-0 25-1 90-RP-Z	ROLL PIN, 1/4 X 1.50, SPLIT, ZP
46	1	PN-0 50-3 25-CU-Z	CLEVIS PIN, 1/2" X 3" L, ZP
47	9	RRJ-188-SS	RIVET
48	2	RR-0 60-EC-Z	E-CLIP, 60" SHAFT
49	1	SHSS-0 42-2 50-Z	SHOULDER BOLT 5/8 DIA, 2.50, ZP
50	1	SPCR-0 25-0 60-0 31-N	SPACER, 1/4" for CAM SPRINGS
51	10	WASH-0 25-0 52-0 04-RH-SS	WASHER, FLAT, 1/4", SS
52	5	WASH-0 60-1 06-0-0 08-RH-SS	WASHER, FLAT, 1/2", SS
53	4	WASH-0 90-1 90-0 13-N	WASHER, FLAT, 1/2" NYLON
54	2	WASH-C 62-1 06-0-0	WASHER, SPLIT-LOCK, 5/8, ZP

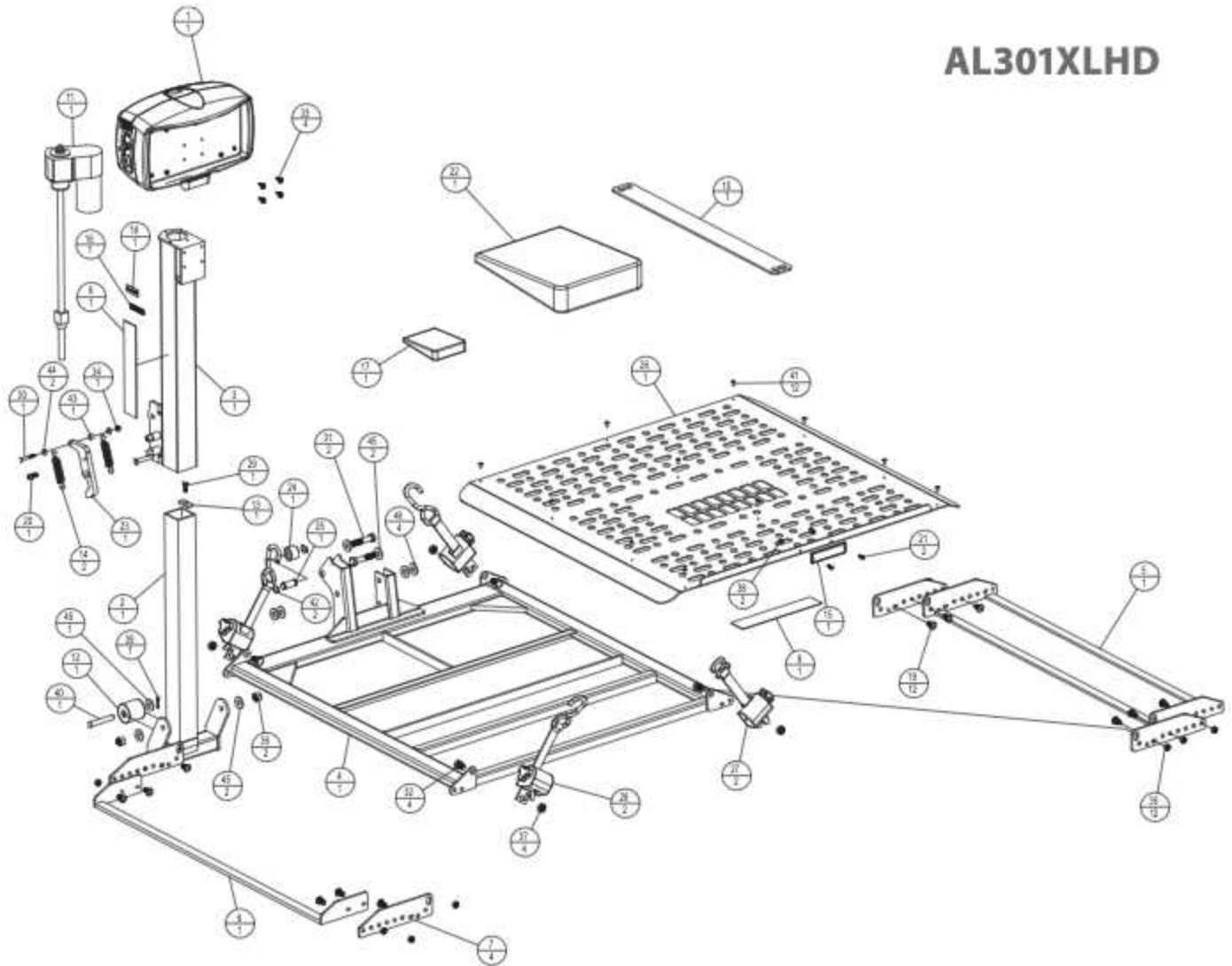
AL300HD



ASSEMBLY PARTS				
ITEM	QTY	PART NO.		DESCRIPTION
1	1	100-2P03-C		20" ANCHOR PLATE
2	1	200-2A01-A		MOTOR COVER, ASSEMBLY, OUTSIDE LIFTS
3	1	301-2A06-C		INNER TUBE
4	1	302-2A10-C		OUTER TUBE
5	1	203-3A41-C		HD PLATFORM
6	1	204-2A08-C		EXTENDED CRADLE BAR
7	2	301-2A06-C		SPREADER BAR BRACKET
8	1	900-3A41-A		HD OUTSIDE LIFT STICKER
9	1	900-2A08-A		STICKER, PLATFORM
10	1	ALA10015REV2		ACUATOR
11	1	ALA10032		ROLLER 2" DIA LHMW
12	1	ALA10050		TAB ACTUATOR
13	2	ALA11025		EXTENSION SPRING
14	1	ALA14095		RED REFLECTOR
15	1	ALA50189		PATENT STICKER
16	1	ALA580		U-BOLT HARDWARE KIT
17	1	ALA88955		LABEL, SERIAL NUMBER
18	8	BHCS-0 37-16-0 75-SS		BUTTON HEAD, 3/8 - 16 X 0.75, SS
19	1	BHCS-0 37-16-1 00-SS-NP		BUTTON HEAD, 3/8 - 16 X 1.00 SS
20	2	BHCS-10-24-0 90-SS		BUTTON HEAD, #10-24 X 0.90, SS
21	1	H03-3A41-A		HD HARDWARE PACK
22	1	H1010		J-CAM
23	1	H1404		ROLLER

ASSEMBLY PARTS				
ITEM	QTY	PART NO.		DESCRIPTION
24	1	H1404S		CLEVIS PIN
25	1	H1440T		ALUMINUM PLATE
26	2	H50110B		LEFT HAND, Q-STRAINT - BLUE
27	2	H50111B		RIGHT HAND, Q-STRAINT - BLUE
28	1	HHCS-0 25-20-0 75-NP-Z		HEX HEAD, 1/4-20 X 0.75, ZP
29	1	HHCS-0 25-20-1 75-Z		HEX HEAD, 1/4-20 X 1.75, ZP
30	2	HHCS-0 50-13-0 75-Z		HEX HEAD, 1/2-13 X 0.75, ZP
31	2	HHCS-0 50-13-0 8T		HEX HEAD, 1/2-13 X 0.8T, ZP
32	2	HHCS-0 50-13-2 90-Z		HEX HEAD, 1/2-13 X 2.90, ZP
33	4	HRTS-14-0 75-Z		HEX WASHER, #14 SELF DRILL, 0.75, ZP
34	1	NUT-0 25-20-NYLOCK-Z		NUT, NYLOCK, 1/4-20, ZP
35	8	NUT-0 37-16-NYLOCK-NTE-Z		NYLOCK NUT, THIN, 3/8 - 16, ZP
36	4	NUT-0 50-13-NYLOCK-NTE-Z		THIN NUT, NYLOCK, 1/2-13, ZP
37	2	NUT-0 50-13-NYLOCK-Z		NUT, NYLOCK, 1/2-13, ZP
38	2	NUT-10-24-NYLOCK-Z		NUT, NYLOCK, #10-24, ZP
39	1	PNW-0 12-1 90-CO-SS		COTTER PIN
40	1	PNW-0 35-3 00-CL-Z		CLEVIS PIN, 1/2" X 3" L, ZP
41	9	RAJ-188-SS		RIVET
42	2	RR-0 92-EC-Z		E-CLIP, 5/16" SHAFT
43	1	SPCR-0 25-0 95-0 31-N		SPACER, 1/4", 5/16" CAM SPRINGS
44	2	WASH-0 25-0 62-0 04-RH-SS		WASHER, FLAT, 1/4", SS
45	5	WASH-0 50-1 00-0 05-		WASHER, FLAT, 1/2", SS
46	4	WASH-0 50-1 50-0 12-N		WASHER, FLAT, 1/2", NYLON

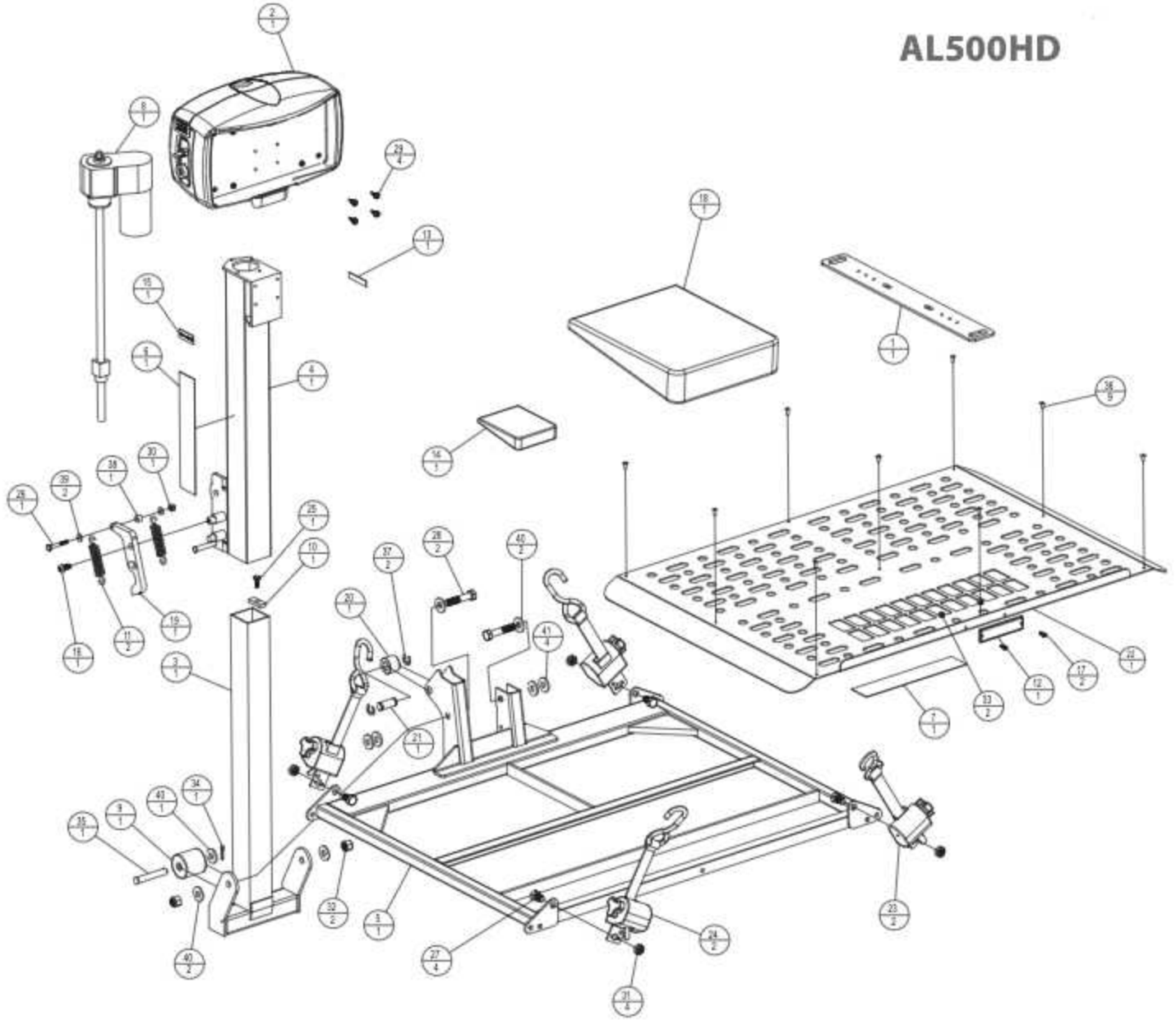
AL301XLHD



ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	203-2A01-A	MOTOR COVER, ASSEMBLY, OUTSIDE LIFTS
2	1	201-2A05-C	INNER TUBE
3	1	202-2A10-D	OUTER TUBE
4	1	203-3A40-C	HL HD PLATFORM
5	1	204-2A00-C	AL301XL FRONT WHEEL CRADLE
6	1	205-2A09-C	AL301XL EXTENDED CRADLE BAR
7	4	901-2A05-C	SPREADER BAR BRACKET
8	1	803-3A41-A	HD OUTSIDE LIFT STICKER
9	1	800-2A05-A	STICKER PLATFORM
10	1	AL591	ANCHOR PLATE 27-00
11	1	ALA10010REV2	ACTUATOR
12	1	ALA10032	ROLLER 2" DIA UHMW
13	1	ALA10083	TAB, ACTUATOR
14	2	ALA11925	EXTENSION SPRING
15	1	ALA14886	RED REFLECTOR
16	1	ALA06899	PATENT STICKER
17	1	ALA580	U-BOLT HARDWARE KIT
18	1	ALA06895	LABEL, SERIAL NUMBER
19	12	BHCS-0 37-19-3 75-SS	BUTTON HEAD 3/4" -16 0.75 SS
20	1	BHCS-0 37-16-1 80-SS-NP	BUTTON HEAD 3/4" -16 1.00 SS
21	2	BHCS-10-24-0 50-SS	BHCS #10-24 X 0.5" LONG SS
22	1	H03-3A41-A	HD HARDWARE PACK
23	1	H11270	J-CAM

ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
24	1	H14844	ROLLER
25	1	H14845	CLEVIS PIN
26	1	H90110	ALUMINUM SKIN 301XL
27	2	H90018B	LEFT HAND O-STRAINT - BLUE
28	2	H90018B	RIGHT HAND O-STRAINT - BLUE
29	1	HHCS-0 25-20-0 75-NP-Z	HEX HEAD 1/4-20 X 0.75 2P
30	1	HHCS-0 25-20-1 75-Z	HEX HEAD 1/4-20 X 1.75 2P
31	2	HHCS-0 50-13-2 50-Z	HEX HEAD 1/2-13 X 2.50 2P
32	4	HHCS-0 50-13-4 75-Z	HHCS 1/2-13 3/4" GRACE 5 ZP STEEL
33	4	HHTS-02-14-0 75-Z	HEX WASHER #13-14 SELF DRILL 3/4" L 2P
34	1	NUT-0 25-20-NYLOC-Z	NUT NYLOC 1/4-20 ZP STEEL
35	12	NUT-0 37-16-NYLOCK-NITE-Z	NYLOCK NUT THIN 3/8-16 ZP
36	2	NUT-0 90-13-NYLOC-Z	NUT NYLOC 1/2-13 ZP STEEL
37	4	NUT-0 50-13-NYLOCK-NITE-Z	THIN NUT NYLOCK 1/2-13 ZP
38	2	NUT-10-24-NYLOCK-SS	NYLOCK #10-24 SS
39	1	PN-0 12-1 88-CD-SS	COTTER PIN
40	1	PN-0 50-3 00-CL-Z	CLEVIS PIN 1/2" X 3" L 2P
41	12	RU-188 - SS	RIVET
42	2	RR-0 65-EC-Z	E-CLIP 5/8" SHAFT
43	1	SPCR-0 25-0 50-0 31-N	SPACER 1/4" for CAM SPRINGS
44	2	WASH-0 25-0 63-0 06-RH-SS	WASHER FLAT 1/4" SS
45	5	WASH-0 60-1 37-0 12-RH-SS	WASHER FLAT 1/2" SS
46	4	WASH-0 50-1 50-0 12-RHP	WASHER FLAT 1/2" PLASTIC

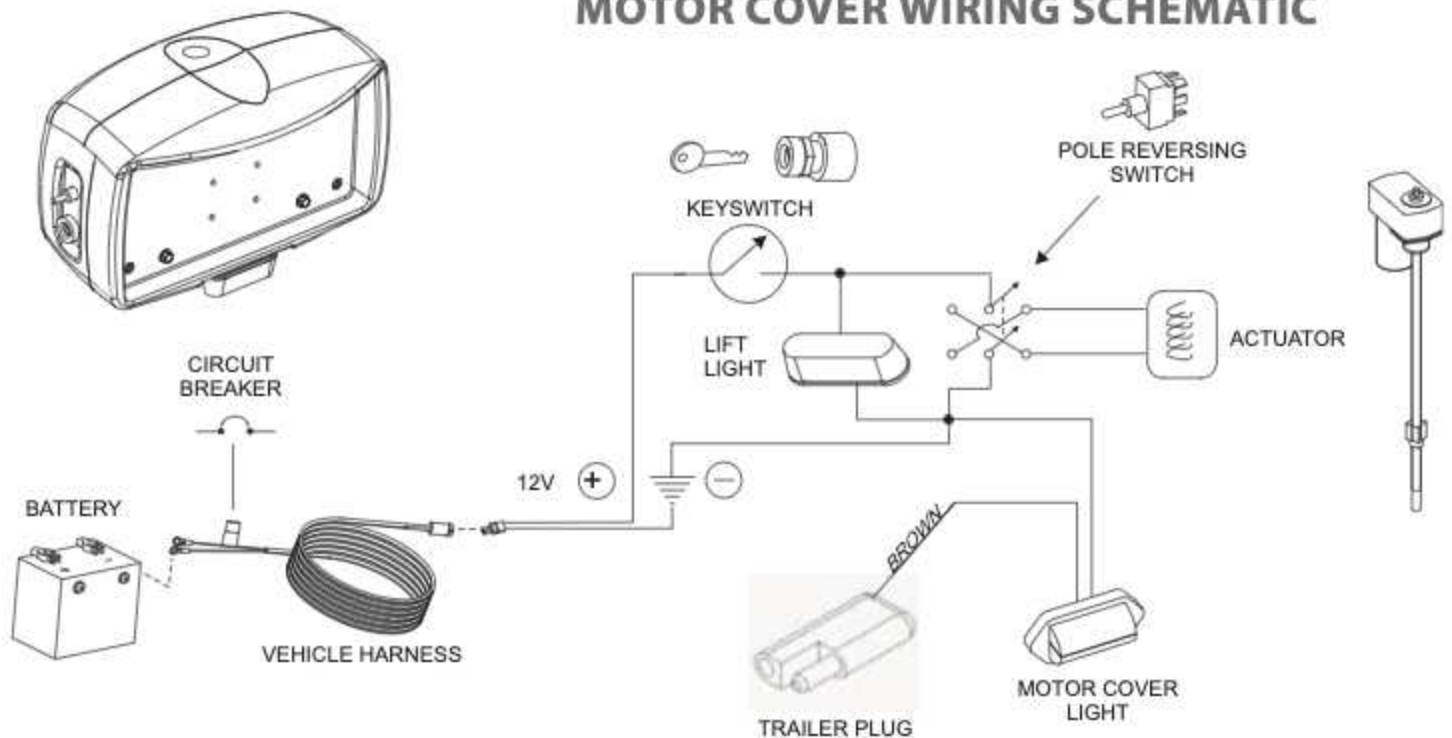
AL500HD



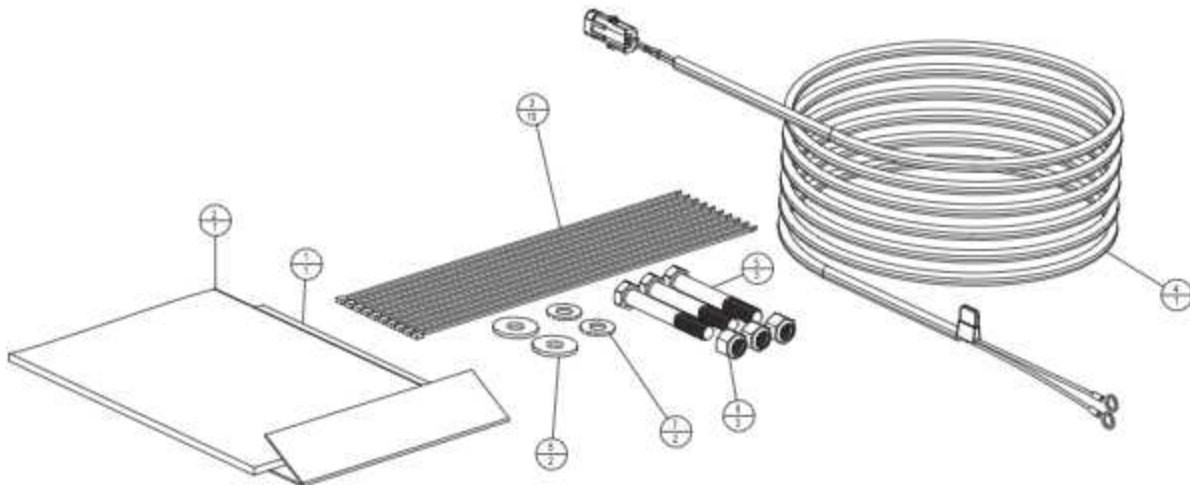
ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	100-2P93-C	20" ANCHOR PLATE
2	1	200-2A01-A	MOTOR COVER ASSEMBLY OUTSIDE LFTS
3	1	201-2A06-C	INNER TUBE
4	1	202-2A10-C	OUTER TUBE
5	1	203-3A41-C	HD PLATFORM
6	1	903-3A41-A	HD OUTSIDE LFT STICKER
7	1	890-2A06-A	STICKER, PLATFORM
8	1	ALA10010REV2	ACTUATOR
9	1	ALA10332	ROLLER 2" DIA UHMW
10	1	ALA10390	TAB ACTUATOR
11	2	ALA11025	EXTENSION SPRING
12	1	ALA14036	RED REFLECTOR
13	1	ALA00099	PATENT STICKER
14	1	ALA080	U-BOLT HARDWARE KIT
15	1	ALA99995	LABEL, SERIAL NUMBER
16	1	BHCS-0 37-16-1 00-SS-NP	BUTTON HEAD 3/16 X 1.00 SS
17	2	BHCS-10-24-0 90-SS	BUTTON HEAD, #10-24 X 0.50, SS
18	1	H03-3A41-A	HD HARDWARE PACK
19	1	H11010	J-CAM
20	1	H14944	ROLLER

ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
21	1	H14045	CLEVIS PIN
22	1	H14407	ALUMINUM PLATE
23	2	H60010B	LEFT HAND, Q-STRAINT - BLUE
24	2	H60011B	RIGHT HAND, Q-STRAINT - BLUE
25	1	HHCS-0 25-20-0 75-NP-Z	HEX HEAD, 1/4-20 X 0.75, ZP
26	1	HHCS-0 25-20-1 75-Z	HEX HEAD, 1/4-20 X 1.75, ZP
27	4	HHCS-0 50-13-0 75-Z	HEX HEAD, 1/2-13 X 0.75, ZP
28	2	HHCS-0 50-13-2 50-Z	HEX HEAD, 1/2-13 X 2.50, ZP
29	4	HWTS-14-0 75-Z	HEX WASHER, #14 BELF DRILL, 0.75, ZP
30	1	NUT-0 25-20-NYLOCK-Z	NUT, NYLOCK, 1/4-20, ZP
31	4	NUT-0 50-13-NYLOCK-NTE-Z	THIN NUT, NYLOCK, 1/2-13, ZP
32	2	NUT-0 50-13-NYLOCK-Z	NUT, NYLOCK, 1/2-13, ZP
33	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, #10-24, ZP
34	1	PN-0 12-1 60-CD-SS	CUTTER PIN
35	1	PN-0 50-3 55-CL-Z	CLEVIS PIN, 1/2" X 3" L, ZP
36	9	RVU-188-SS	RIVET
37	2	RR-0 62-EC-Z	E-CLIP, 5/8" SHAFT
38	1	SPCR-0 25-0 50-5 31-N	SPACER, 1/4", 5x CAM SPRINGS
39	2	WASH-0 25-0 62-0 34-RH-SS	WASHER, FLAT, 1/4", SS
40	5	WASH-0 50-1 06-0 3 1R-H-SS	WASHER, FLAT, 1/2", SS
41	4	WASH-0 55-1 50-0 12-N	WASHER, FLAT, 1/2", NYLON

MOTOR COVER WIRING SCHEMATIC



TYPICAL HARDWARE PACK CONTENTS



ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	NA	WARRANTY FORM
2	1	NA	OWNER'S MANUAL
3	10	C3-14-BLK	CABLE TIE, 14" BLACK
4	1	H26010	12 GAUGE VEHICLE WIRE HARNESS
5	3	HHCS-0 50-13-3 90-Z	HEX HEAD CAP SCREW, 1/2-13 X 3.56", 2P
6	3	NUT-0 50-13-NYLOCK-2	NUT, NYLOCK, 1/2-13, 2P
7	2	WASH-0 50-1 08-0 08-RH-Z	WASHER, FLAT, 1/2" ID X 1.66 OD X .9" TH, 2P
8	2	WASH-0 50-1 37-0 12-RH-Z	WASHER, FLAT, 1/2" ID X 1.37" OD X .9" TH, 2P



VEHICLE LIFTS THREE YEAR TRANSFERABLE LIMITED WARRANTY

PLEASE FILL OUT ALL FIELDS AND RETURN A COPY.

Fax completed form to 1-866-234-5680 or mail to Harmar, ATTN: Warranty Department, 2075 47th Street, Sarasota, Florida 34234. You may also register online at www.harmar.com. Keep a copy of this form for your records.

Harmar Mobility warrants its lift products against defects in material, mechanical and electrical components (parts), excluding labor cost, batteries, paint and covers, for a period of three (3) years from date of retail purchase, provided that the products have been installed, maintained and operated properly. This warranty does not cover defects in vehicles on which Harmar products are installed or defects in Harmar products caused by defects in any part of the vehicle upon which the product is installed. This warranty does not cover maintenance or adjustments. Harmar will not be charged for labor, consequential damage or repair expenses. Harmar will not, under any circumstances, be liable for the loss of the use of its products or loss of time. This warranty becomes null and void if the product has been lost, damaged by accident, over-stressed, misused and/or neglected, or if the product has been modified in any way. Defective parts must be returned, prepaid, to Harmar at the address listed above, for inspection prior to credit, repair or replacement, at Harmar's option. Harmar's sole obligation and the exclusive remedy under this warranty is limited to such credit, repair or replacement.

THIS EXPRESS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, INCLUDING ALL IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION OF THE LIMITED WARRANTY DESCRIBED HEREIN. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER LEGAL RIGHTS WHICH VARY FROM STATE TO STATE.

PRODUCT INFORMATION

Model: _____
Serial Number: _____
Purchase Date: _____

INSTALLER INFORMATION

Company Name: _____
Contact Name: _____
Address: _____

Phone: _____
Fax: _____
Email: _____

APPLICATION INFORMATION

Scooter Power Chair Wheelchair
Year: _____
Manufacturer: _____
Model: _____

PURCHASER INFORMATION

Name: _____
Address: _____

Phone: _____
Email: _____

ADDITIONAL INFORMATION

How did you hear about Harmar?

- Harmar Dealer Friend or Acquaintance
 Internet Saw Harmar product somewhere
 Magazine Other _____
Which _____

Do you have internet access? Yes No

I purchased my Harmar lift because of?

- Style/Appearance
 Harmar Representative
 Previous Experience
 Ease of Use
 Recommendation
 Price/Value

Outside Lifts

Installation & Owner's Manual



Harmar

America's Lift Leader™

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