

# Inside Lifts

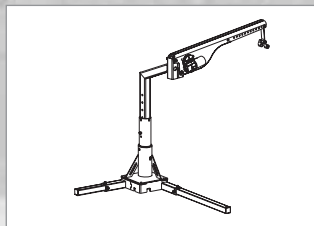
Installation & Owner's Manual



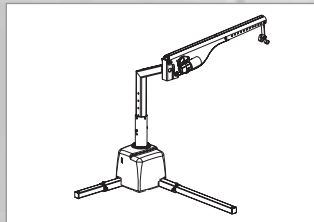
www.harmar.com | 800-833-0478



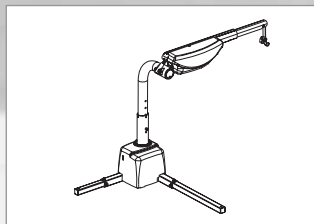
**AL215 Axis I**  
Single Axis Inside Lift  
Capacity: 250 lbs.



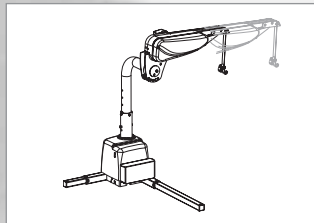
**AL425 Axis II**  
2-Axis Inside Lift  
Capacity: 400 lbs.



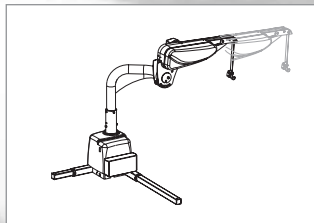
**AL225 Axis II Lift**  
2-Axis Inside Lift  
Capacity: 250 lbs.



**AL435 Axis III**  
3-Axis Inside Lift  
Capacity: 400 lbs.



**AL435T Axis III**  
Truck 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**

TEC0091 2016JUN30 P/N: 630-00076-Rev A

Dealer Name & Contact Information:

Serial # of Your Lift:



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



#### WARNING!

Hazardous situation to avoid possible serious injury to installer or user.



#### CAUTION!

Hazardous situation to avoid serious damage to property.

## OPERATING YOUR LIFT

1. **Park power chair or scooter ready to be picked-up** along the side and parallel to the vehicle. [Figure 2-1]



Always make sure the vehicle's parking brake is firmly set.

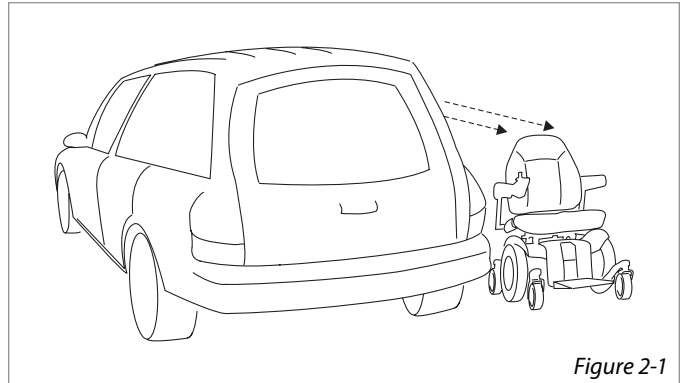


Figure 2-1

2. **Open the vehicle's hatch.** Fold the seat-back of the chair or scooter. [Figure 2-2]



Keep hands and feet away from the bottom of the chair or scooter as it is being lifted.

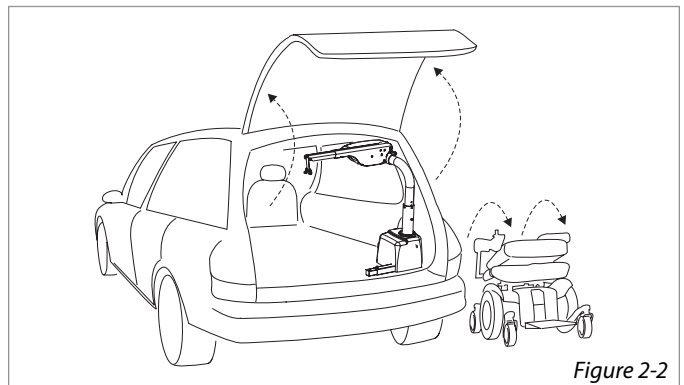
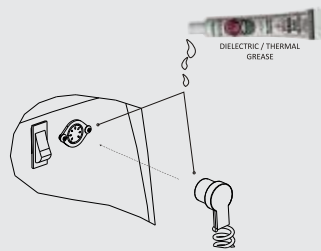


Figure 2-2

3. **Press the 'OUT' button** on the hand controller to rotate the arm outside the vehicle. [Figure 2-3]

**NOTE:** For the **AL215**, manually rotate the lifting arm outside of the vehicle.



IF LIFT WILL BE EXPOSED TO OUTSIDE ELEMENTS

USE DIELECTRIC GREASE OR THERMAL PASTE TO BOTH FEMALE AND MALE HAND CONTROL CONNECTIONS

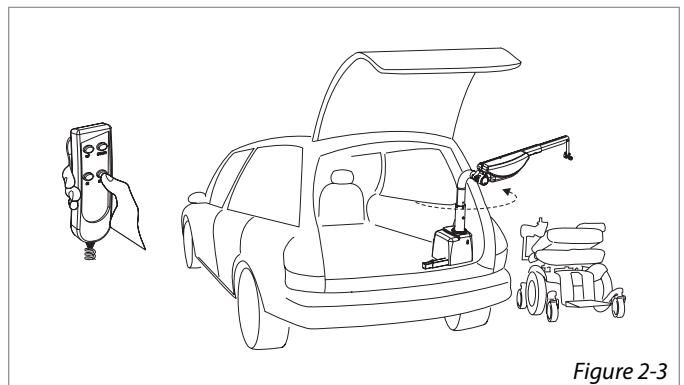


Figure 2-3

**NOTE: AL435** series lifts (AL435 / AL435T) have an "EXTEND" button which can be pressed to extend the arm outside, providing more clearance past the vehicle for wider chairs or scooters. [Figure 2-4]

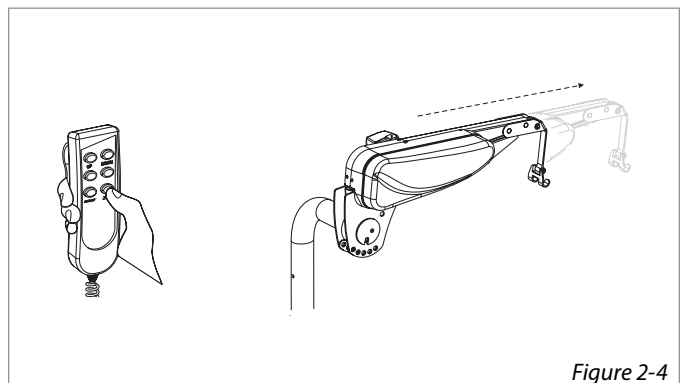


Figure 2-4





**CAUTION!**

Inspect lifting strap prior to use. **Ensure the lifting strap is secure and that it points straight down.** Failure to do so could result in the chair or scooter swinging, causing damage to operator, chair or vehicle.

4. **When the lift has cleared the vehicle,** press the "DOWN" button to lower the strap.

Attach the docking device supplied with your lift. Attach the strap hook to the docking device. [Figure 3-1]

5. **Press the "UP" button** to begin raising the power chair or scooter. [Figure 3-2]

**NOTE:** On **AL435** series lifts, you can press the `RETRACT` button to shrink the radius for rotating into the vehicle. This is especially helpful for wider chairs or scooters and for narrower rear vehicle openings. [Figures 3-3]

6. **When the chair is raised enough to clear the bumper/threshold,** rotate the chair or scooter into the vehicle by pressing the "IN" button. [Figure 3-4]

**NOTE:** For the **AL215** manually rotate the lifting arm inside the vehicle.

7. **When the chair or scooter is fully inside the cargo area,** press "DOWN" until the chair or scooter is placed firmly on the floor.

Leave some tension on the strap during transport to eliminate movement of the chair or docking device.

8. **To unload, reverse the process.**

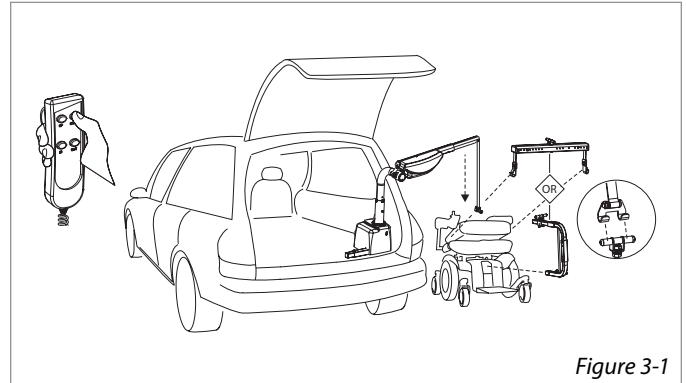


Figure 3-1

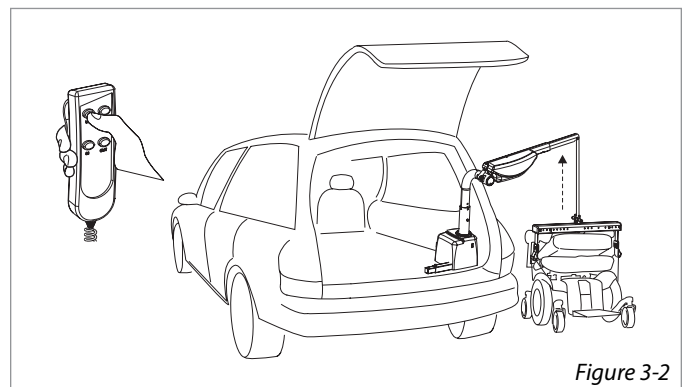


Figure 3-2

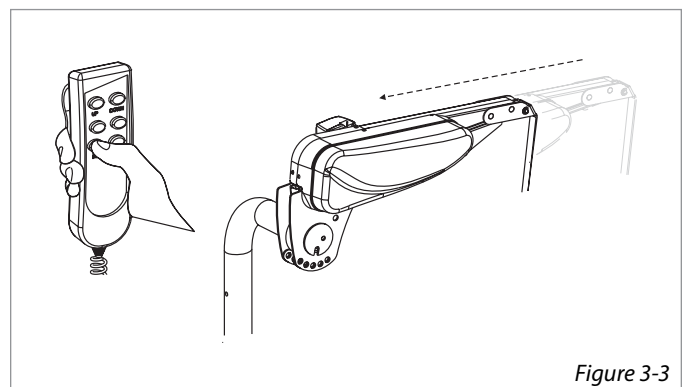


Figure 3-3

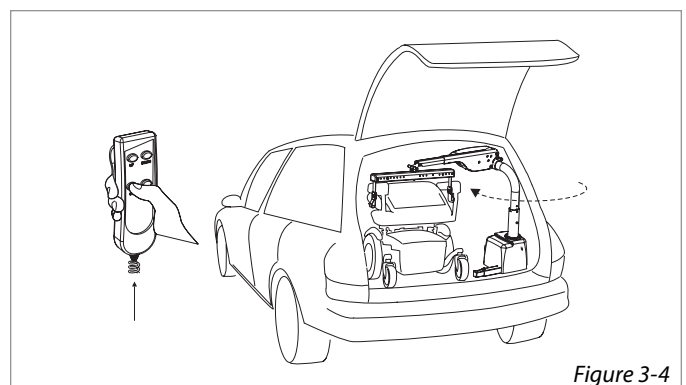


Figure 3-4

# OWNER OPERATING YOUR LIFT

When the lift is not being used, press the UP button to run the strap up and keep the hook from swinging. [Figures 4-1 thru 4-3]



### CAUTION!

Tighten the strap only enough to prohibit the lift from rotating. Over-tightening may cause damage to the strap and/or lift.

**NOTE:** The AL215 is manually rotated and does not have a lock to keep it from rotating. In order to prevent it from moving when not in use, we recommend that the strap be run down by holding the DOWN button until the hook has reached the gusset nearest the side wall of the vehicle. Latch the hook on the gusset and press the UP button until the strap is taut, as shown for passenger side applications. [Figure 4-4]



### CAUTION!

Always hook the strap to the gusset and run taut when AL215 is not in use.

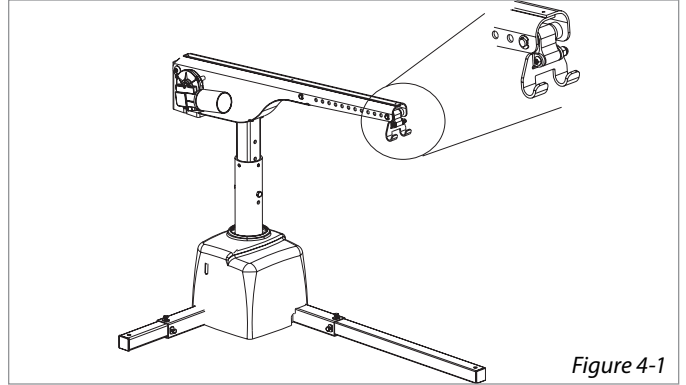


Figure 4-1

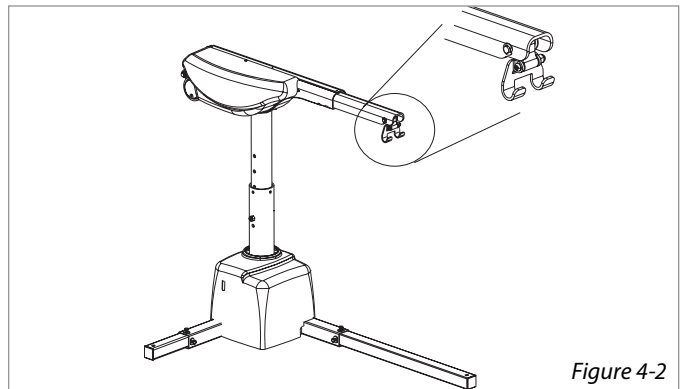


Figure 4-2

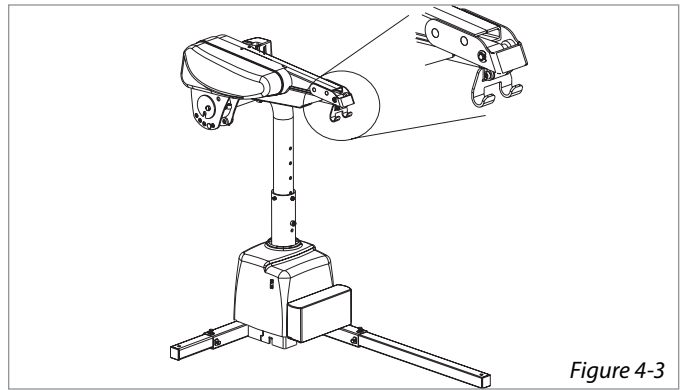


Figure 4-3

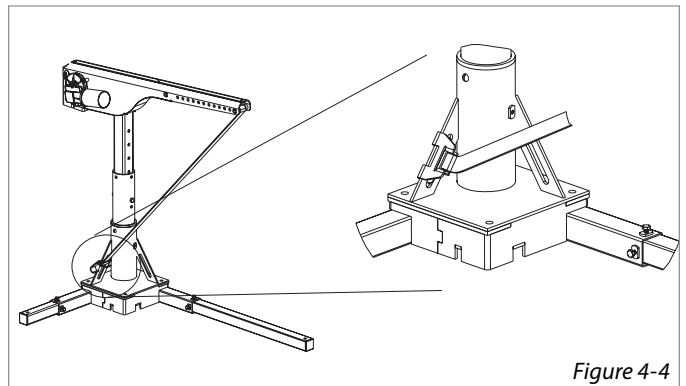


Figure 4-4

## SAFETY



**DO NOT** operate this lift until your dealer has satisfactorily instructed you in its proper operation.



Check regularly before use for any worn, loose, or damaged parts of the lift. [Figure 5-1]

Although your lift is designed and engineered for years of trouble-free use, regular use may result in some parts becoming loose or worn.

- If you notice any problems, **DO NOT USE THE LIFT!** Contact your mobility dealer or installer for repairs or have the strap replaced immediately.
- Use your Inside Lift only for loading and unloading the power chairs and scooters for which it is designed.
- If your particular application (vehicle & chair/scooter) changes, for example, if you buy a new car or change your power chair or scooter, consult your dealer or installer since the original equipment may not configure in the same way.
- **DO NOT** add to or modify any part of the lift system without first consulting the lift manufacturer.
- Any modifications may void warranties as well as compromise the structural integrity of the lift.



### WARNING

ALWAYS CHECK THE LIFTING STRAP BEFORE EACH USE FOR DAMAGE OR WEAR

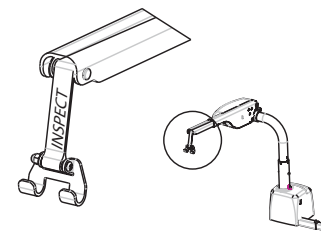


Figure 5-1



### CAUTION!

- Ensure the lifting strap is secure and taut when attaching the strap hook to your chair or scooter. Make sure the strap points straight down before lifting. Failure to do so could result in the chair or scooter swinging toward the operator or vehicle, causing damage.
- Avoid having hands and feet under the chair / scooter as it is loaded or unloaded.
- Stop lifting before the strap hook contacts the strap roller or frame. Contact will damage the lift. [Figure 5-2] A properly adjusted lift will avoid contact.

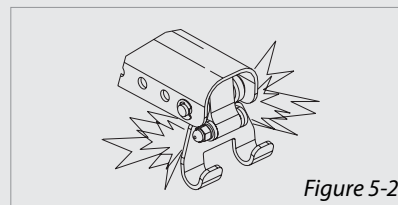


Figure 5-2

- Ensure the chair / scooter is firmly sitting on the floor of the vehicle and not suspended by the lift during transportation. If the chair / scooter is not firmly on the floor, it may move during transport causing damage to the lift, vehicle, chair / scooter, or passengers.

## MAINTENANCE

Your Inside Lift has been designed and engineered to be as trouble-free as possible. But as with any mechanical device, it requires regular care while owning and using it.

**ALWAYS** check the lifting strap before use and while using the lift. If any wear or damage is noticed **DO NOT USE THE LIFT!** Contact the dealer or installer for repair. Failure to do so may result in serious injury or damage.

**Schedule a preventative maintenance inspection** with your dealer at least once a year on motors, lift frame, wiring harnesses, and all moving parts.

**Check for paint chips and touch up any bare metal** with a good gloss black enamel or lacquer to inhibit rust. This may be necessary more frequently if the lift is subjected to salt air or road salt.

**Store hand control units inside the vehicle** whenever possible. If the lift is installed in the back of a pickup truck, unplug the hand control after each use and store it inside the cab. Submerging the hand control in water may cause it to fail.

## 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.

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. We strongly recommend having 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.

**NOTE:** The components of this lift are packaged as separate units that should be lifted out and installed individually.



**WARNING!**

**DO NOT** attempt to pick up the entire lift box from the ground; **DO NOT** try to put the lift in or take out of a vehicle alone.



## INSTALLATION OVERVIEW

### 1. Trial Fit for Base Mounting Location

To install the lift, you'll most likely need to drill three holes in the vehicle's floor. Do not drill until you simulate the lift's range of motion inside the vehicle. Also simulate the object to be loaded. Determine an accurate location for the lift while maximizing the remaining cargo area. [Figure 8-1]

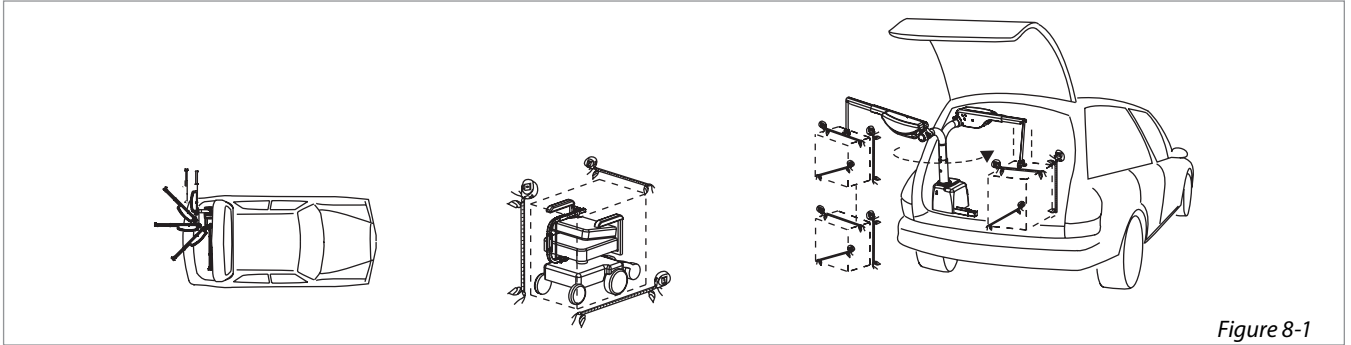


Figure 8-1

### 2. Vehicle Wiring Harness

Install the vehicle wiring harness first, power will be available to move the lift, making installation easier. [Figure 8-2]

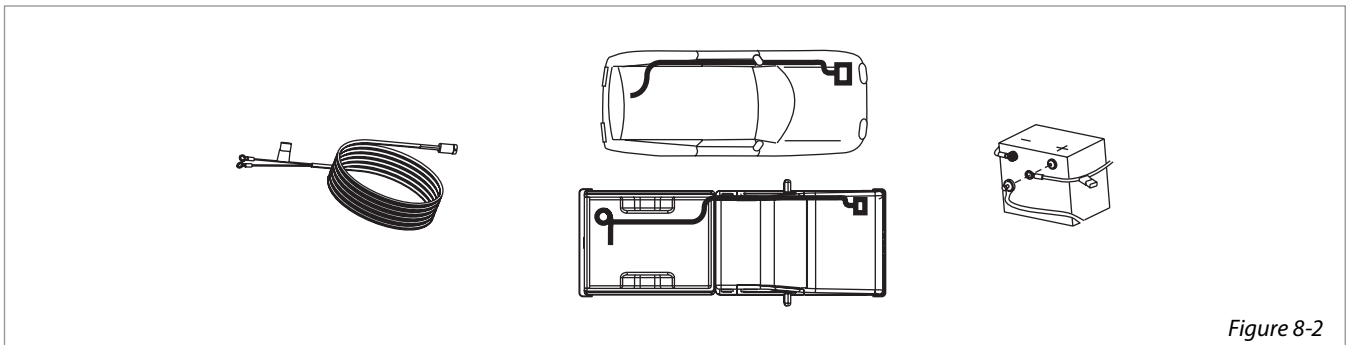


Figure 8-2

### 3. Installing Lift Components

You'll install the base adapter in the chosen location based on the trial fit procedure. Install base of lift onto the base adapter, then install the lifting arm. [Figure 8-3]

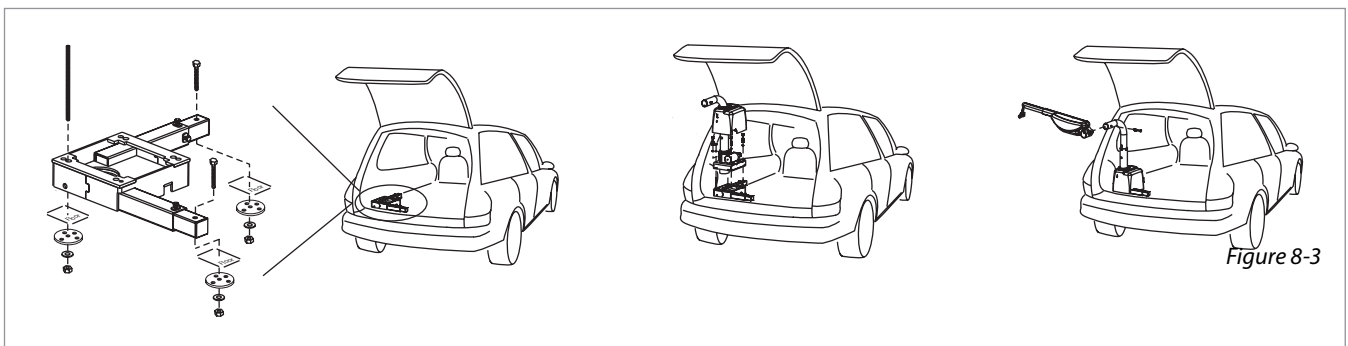


Figure 8-3

## TOOLS REQUIRED

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



SAE SOCKETS

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



SAE WRENCHES

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



SAE ALLEN WRENCHES

5/32"  
1/8"  
3/16"  
5/16"  
3/8"



WIRE  
CUTTERS



NEEDLE NOSE  
PLIERS



#2 FLAT HEAD  
SCREWDRIVER



#2 PHILLIPS HEAD  
SCREWDRIVER



SMALL HACKSAW



ELECTRIC DRILL



MARKING IMPLEMENT



TAPE MEASURE



DRILL BITS

PILOT DRILL BIT  
3/8" DRILL BIT  
9/16" DRILL BIT

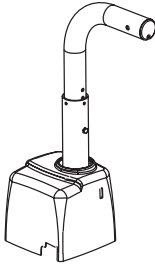
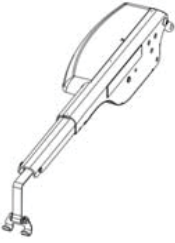
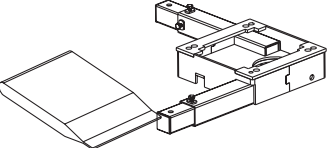
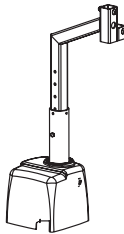
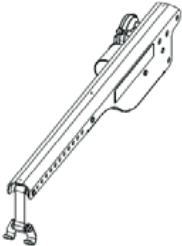
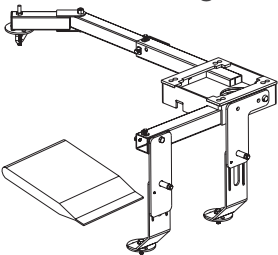
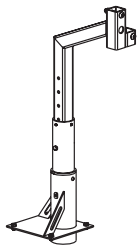
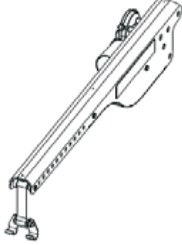
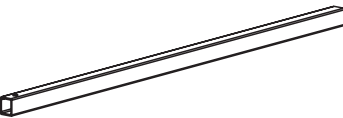
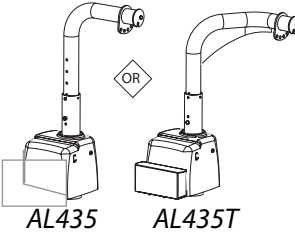
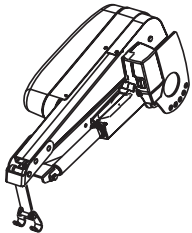


METAL FILE

## 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.

<b>Base Adapters &amp; Hardware Pack</b>		<b>Base Assembly &amp; Offset Post</b>	<b>Arm Assembly</b>
<p>The base adapter for your specific application is included in the lift package.</p>	AL425		
<p><b>BA00 Standard</b> Used on any flat surface</p> 	AL225		
<p><b>BA01R1 Stow 'n Go</b> Used with folding seats</p> 	AL215		
<p><b>AL207 Leg Extension</b> Required for some BA00 applications</p> 	AL435 or AL435T		



## WIRING THE VEHICLE

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

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.

### 1. Unwind the wiring harness and lay it flat.

One end of the harness has 2 covered pins. This is the lift end and goes to the rear cargo area where the lift mounts. [Figure 11-1]

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

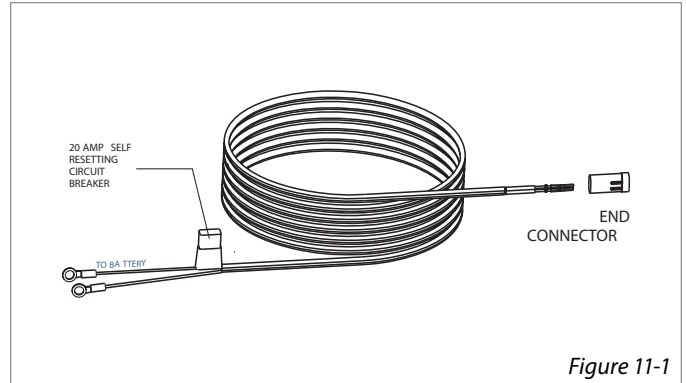


Figure 11-1

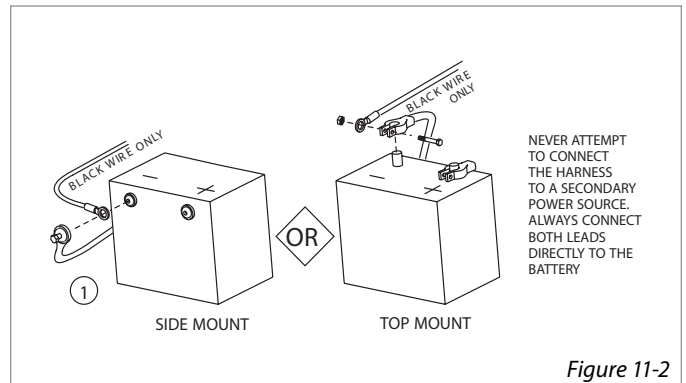


Figure 11-2



**DO NOT** attach the red wire until the very end of installation.

**WARNING!**

### 2. Route the wire harness beginning at the battery. Attach the black wire to the negative terminal on the battery. [Figure 11-2]



**DO NOT** attach the red wire until the very end of installation.

**WARNING!**

### 3. Run the vehicle harness to the rear cargo area/trunk. Run the wire under and through the vehicle whenever possible, gaining entry into the vehicle through the firewall. [Figure 11-3]

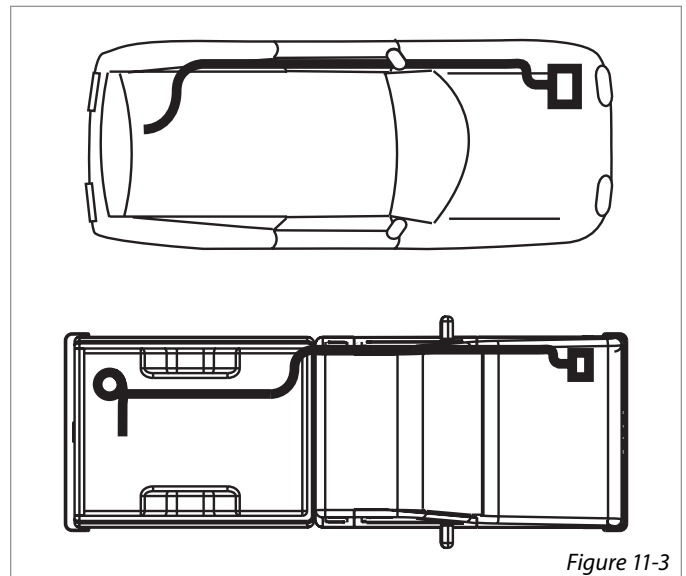


Figure 11-3

**DO NOT** run wiring where it can be snagged by road debris or near the gas tank.

**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.

## INSTALLER INSTALLATION

If you want to run the harness under the vehicle, you will most likely need to drill a hole to get the wire into the rear cargo area/trunk. Use the supplied 3/8 grommet in the hole to protect the wire.

If the harness is too long for the vehicle, coil the excess wire and secure it to the vehicle frame with the supplied cable ties.

**DO NOT** cut or shorten the harness.

4. **When the harness is through the vehicle, remove the pin's protective tubing.** [Figure 12-1]
5. **Inspect the pin's retaining flanges.** The flanges may have been deformed while being run through the vehicle. These are critical to secure the pins inside the connector. Adjust as needed. [Figure 12-2]
6. **Flip open end connector's hinged retainer.**
  - Insert pins as shown. [Figure 12-3]
  - Verify the wires cannot be pulled out by moderately pulling on the wires.
  - Be sure rubber seals are inside the back of the connector.
  - Close the hinged retainer.
  - Plug connector into lift.
7. **Attach red wire to the positive terminal on the battery.** [Figure 12-4]

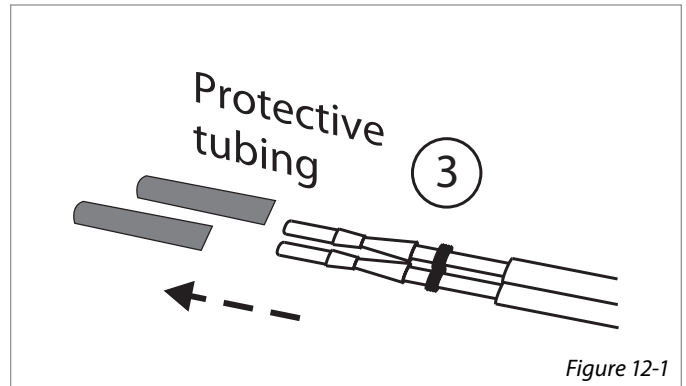


Figure 12-1

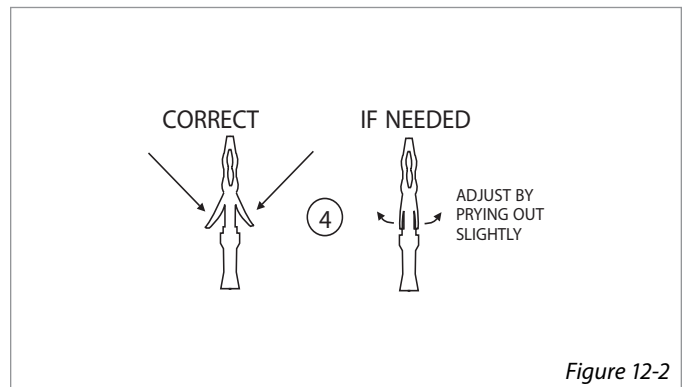


Figure 12-2

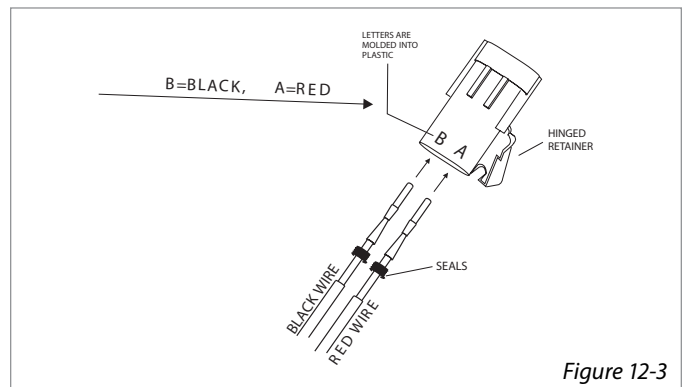


Figure 12-3

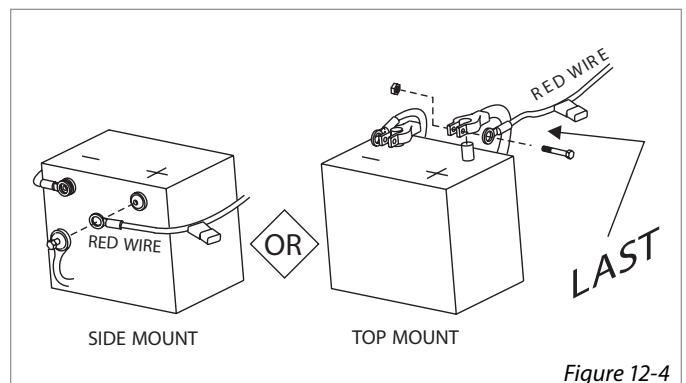


Figure 12-4

## TRIAL FIT PROCEDURE

The **AL215, AL225, AL425, AL435, AL435T** require a minimum of three holes to be drilled into the vehicle's floor to secure the base. The positioning is vital to the lift's successful installation and operation.

Before drilling any holes, ensure that the lift can be positioned to permit a full range of motion. [Figure 13-1]

1. **Place the base in the vehicle's cargo area.**  
Shown is passenger-side installation. [Figure 13-2]  
Driver's side is identical, but mirrored.
2. **Fold the chair or scooter's seat back** (or remove seat), preferably with the docking device attached, to roughly observe the chair's transportable dimensions. Measure length, width and height. [Figure 13-3]
3. **With an assistant, place the lift on top of the base** in the extreme back corner of the cargo space. This will yield the greatest available loading area. Slide the arm onto the post. [Figure 13-4]
4. **Simulate each of the chair's dimensions** (length, width and height) while running the lift through its full range of motion in and out of the cargo area. [Figure 13-5 Bottom]
5. **Verify that each of the measurements allows full range of motion** within the cargo area and the opening, mark the three locations to drill. [Figure 13-6]

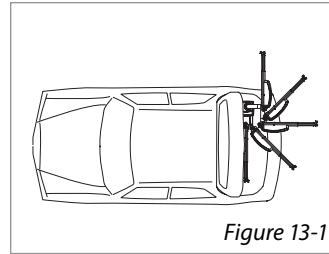


Figure 13-1

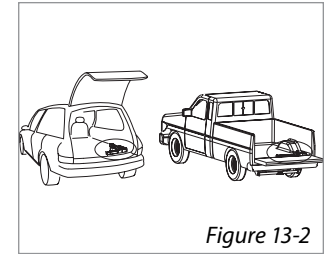


Figure 13-2

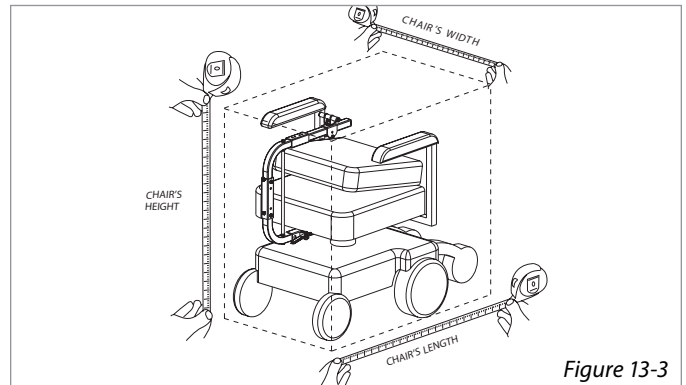


Figure 13-3

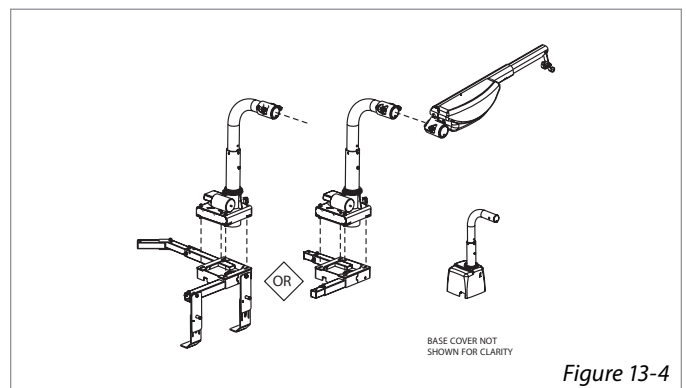


Figure 13-4

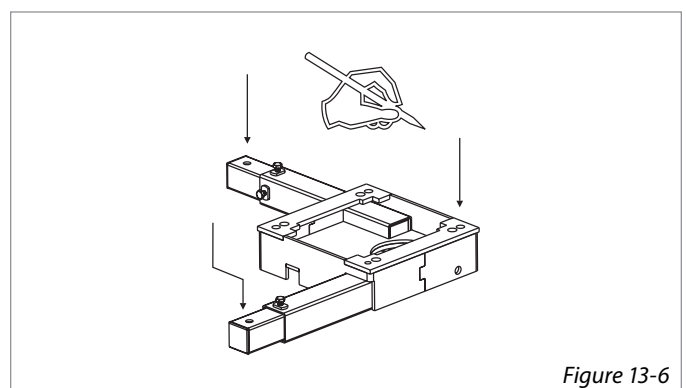


Figure 13-6

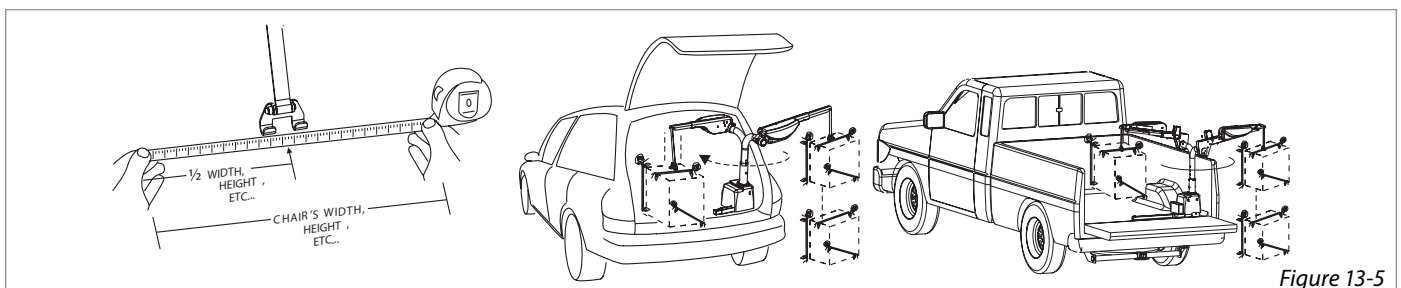


Figure 13-5

## BASE INSTALLATION: FLAT FLOOR

After you know the lift position from the trial fit procedure, you are ready to drill three 3/8" holes in the locations you marked.

### 1. Drill Pilot Holes

- Choose a safe location to drill a single pilot hole from above in one of the three marked locations.
- Look under the vehicle and measure the specified distance from the pilot hole.
- If all is clear in that area continue to drill in remaining locations.
- Inspect all three pilot holes under the vehicle.
- If all clear, drill 3/8" holes in pilot locations.

[Figure 14-1]



Avoid vehicle wiring, fuel lines, fuel tanks, spare tires, etc. when drilling.

### CAUTION!

### 2. Fasten Base

When holes are drilled, fasten base to vehicle floor using supplied hardware in the hardware pack. Be sure to tighten all fasteners. [Figure 14-2]

### Special Cases

Storage compartment or well can potentially affect lift placement. Most of these situations can be managed with the help of an All Thread Kit.

[Figure 14-3]

### Spare Tire Storage

If the spare tire is stored under the floor, be sure that the base can be bolted through a steel floor or frame.

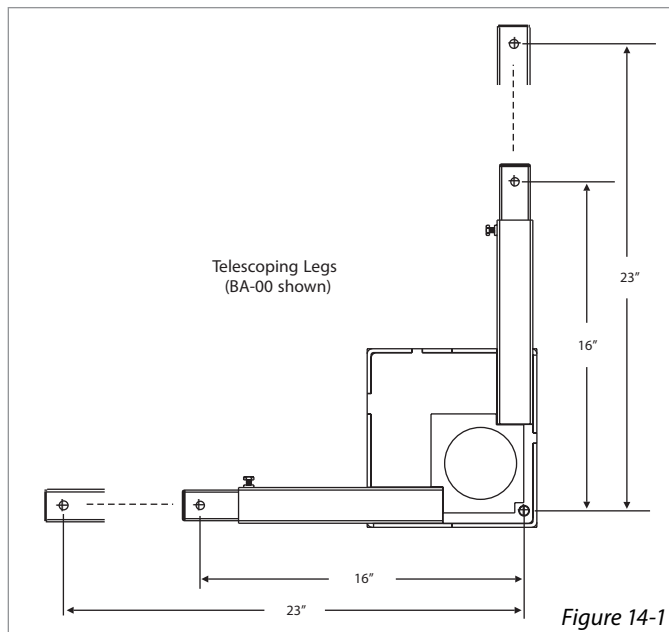


Figure 14-1

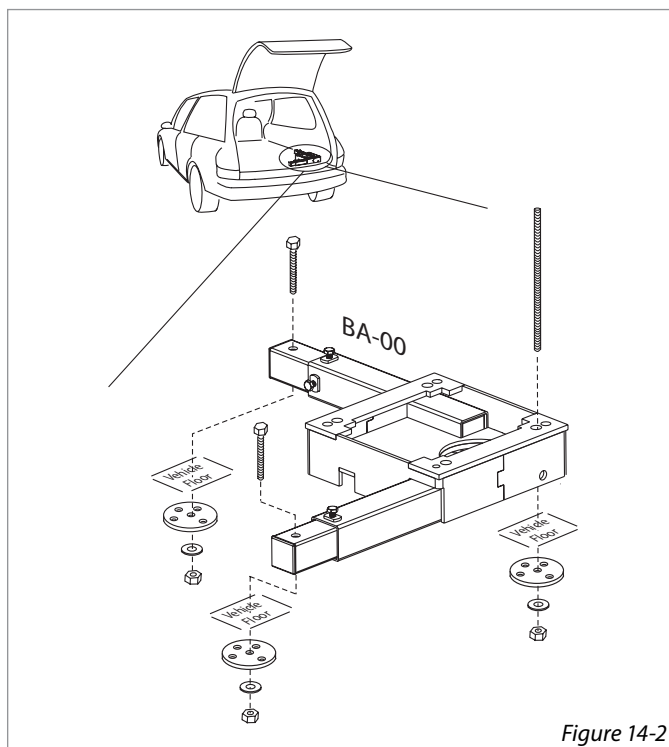


Figure 14-2

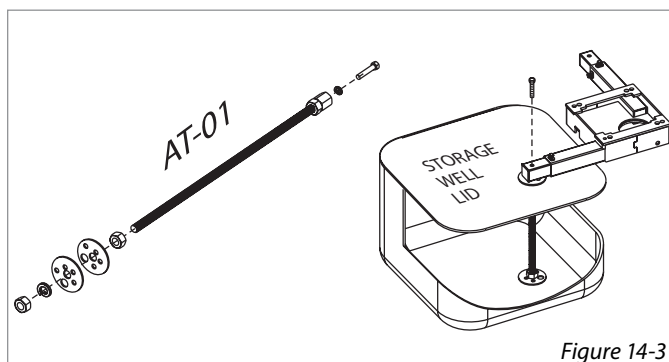


Figure 14-3

## BASE INSTALLATION: 3<sup>RD</sup> ROW FOLDING SEATS

- Place vertical joiners on back wall** of seating well corner. [Figure 15-1] Use base as template for position.
- Establish height** by having mounting holes show over threshold. [Figure 15-2] Attach joiners, using small screws provided, to lock height.
- Preferred Installation.** Mandatory when lifting heavier payloads.
  - Drill two 3/8" holes in floor of well using joiners as template. Fasten 3/8" hardware (x2). [Figure 15-3]
  - PLUS** Drill two 3/8" holes through back well wall using joiners as template to accept full-threaded 3/8" bolts.

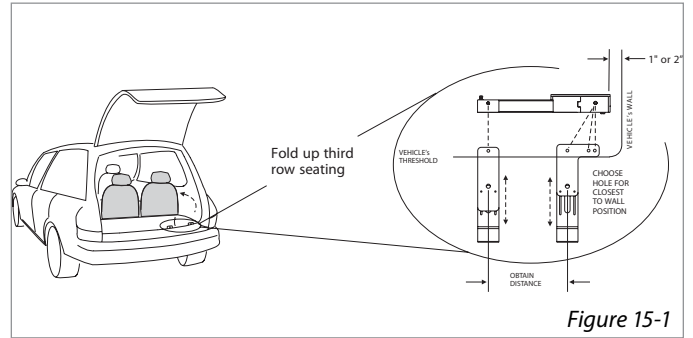


Figure 15-1

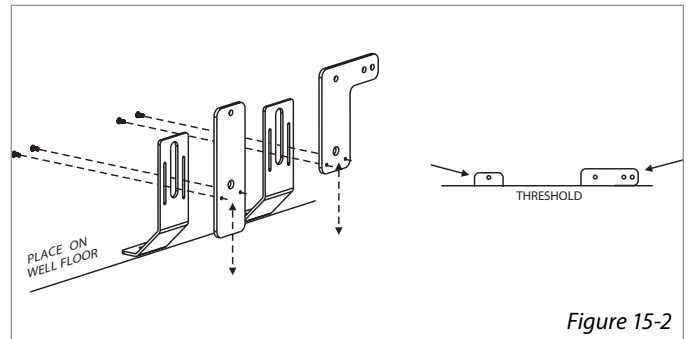


Figure 15-2

**VERIFY THAT ALL MATING SURFACES ARE FLUSH.**

- Fold third-row seating back into well.** Verify vertical joiner mount holes are above threshold. [Figure 15-4]
- Attach vertical joiners to base** using supplied hardware as indicated. [Figure 15-5]
- Insert telescoping leg.** Attach swivel leg. Drill, or where possible, use J-hook to seat attachment point and secure leg. [Figure 15-6]  
**Tighten all fasteners.**

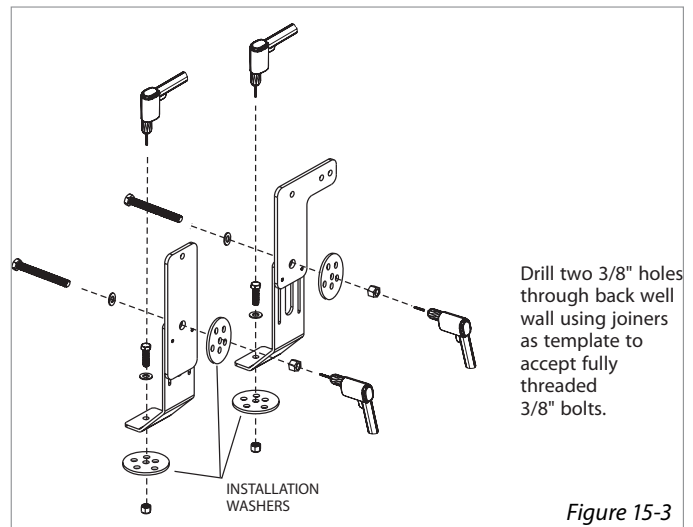


Figure 15-3

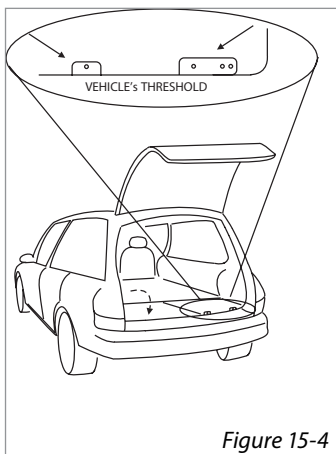


Figure 15-4

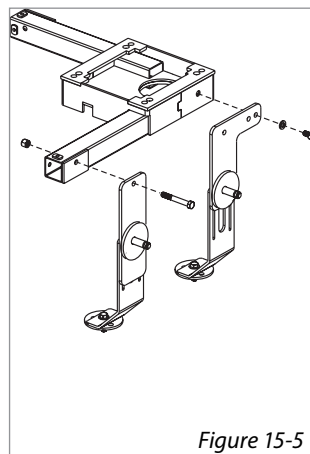


Figure 15-5

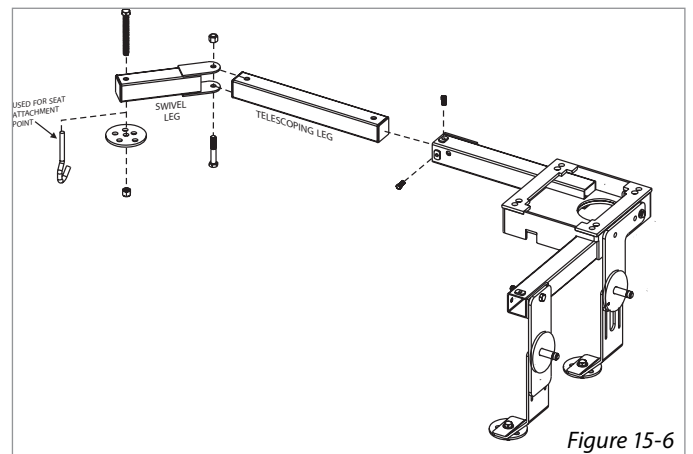
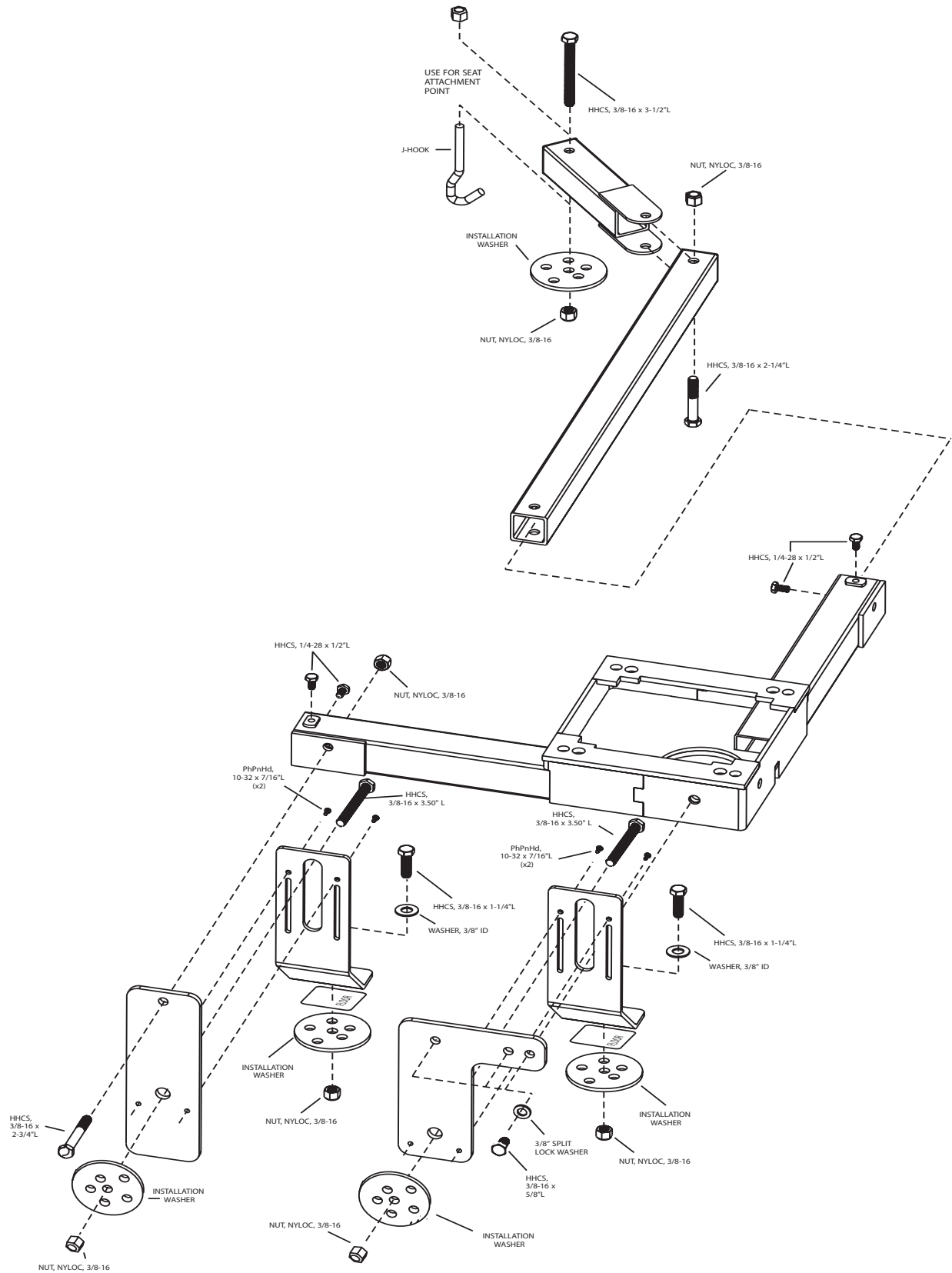


Figure 15-6

# EXPLODED VIEW OF ASSEMBLY FOR 3RD ROW INSTALLATION



## BASE INSTALLATION: TRUCK BED

1. **Place base in corner of truck bed.** Attempt to position as close to the corner as possible while leaving at least 1" clear around the base on all sides. [Figure 17-1]
2. **Install leg extensions** into base tubes and extend them as far as they will go. The Long Leg Extension should run parallel with the bumper. Set screws can be hand-tightened at this time. [Figure 17-2]



**CAUTION!**

**USE EXTREME CAUTION!** Examine area for obstructions or potential hazards such as gas tank and fuel / brake / electrical lines.

3. **Recommended practice before drilling.** With base in position, use a tape measure to estimate the distance in both directions from an exterior reference point (Ex. outside body panel) to all three potential bolt holes. Repeat this underneath the truck bed. [Figure 17-3]

Check framing, bracing, or other nearby thickened structure on which to mount the lift. Adjust position of base and leg extensions to capture as much frame as possible while avoiding the vehicle's gas tank, spare tire, suspension components etc.

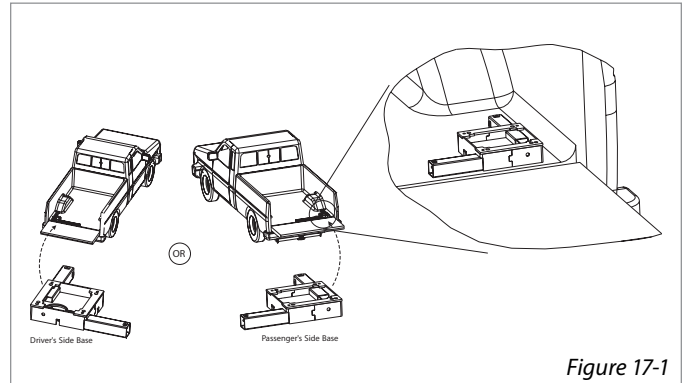


Figure 17-1

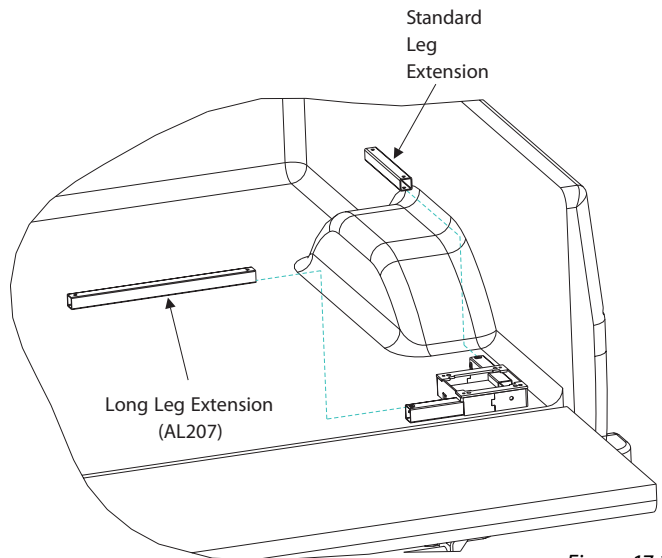


Figure 17-2

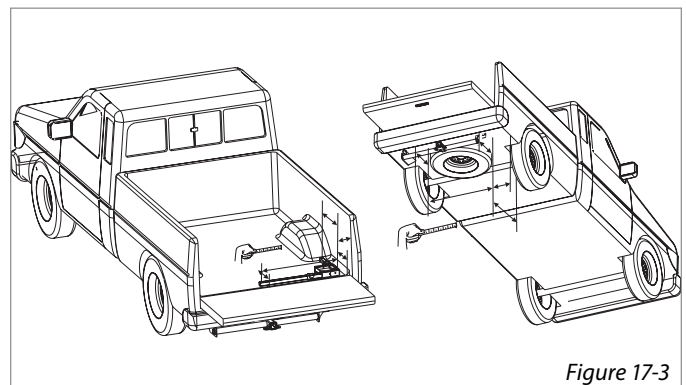


Figure 17-3




# INSTALLER INSTALLATION

**4. Double-check hole positions for pilot holes.** Mark the three hole locations. Use the base as a template, then remove base. Drill pilot holes down through truck bed in the marked locations. [Figure 18-1]


**5. Climb under truck and inspect location of pilot holes.** Again, be sure that the larger hole will avoid the vehicle's gas tank, spare tire, suspension components, etc.

**Finish drilling** by making 3/8" holes through the truck bed and when possible, through the frame of the truck in the locations shown by the arrows. [Figure 18-2]

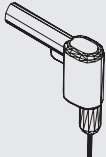
Wherever possible, incorporate the frame rails of the truck. This is a requirement when lifting heavier chairs and scooters. [Figure 18-2]

 If incorporating the frame is impossible, large plates (not supplied) may need to be used to spread the force and keep the truck bed from distorting. Call the technical service department for further explanation.

**CAUTION!**

 Avoid Gas Tank Fuel / Brake / Electrical Lines

**CAUTION!**



**6. Drill two more 3/8" holes** for the base leg anchors through the truck bed; if the frame is not captured, if bed material is too thin, and/or application is very heavy. [Figure 18-1 and 18-3]

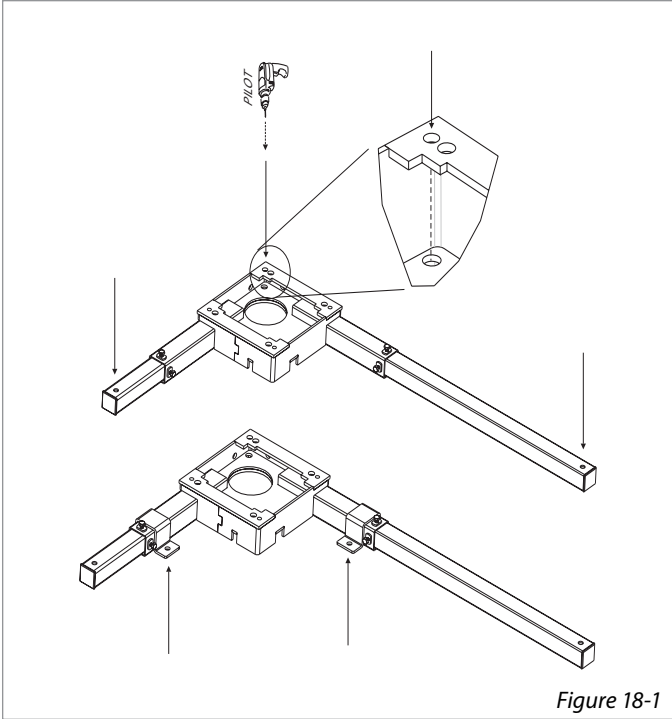


Figure 18-1

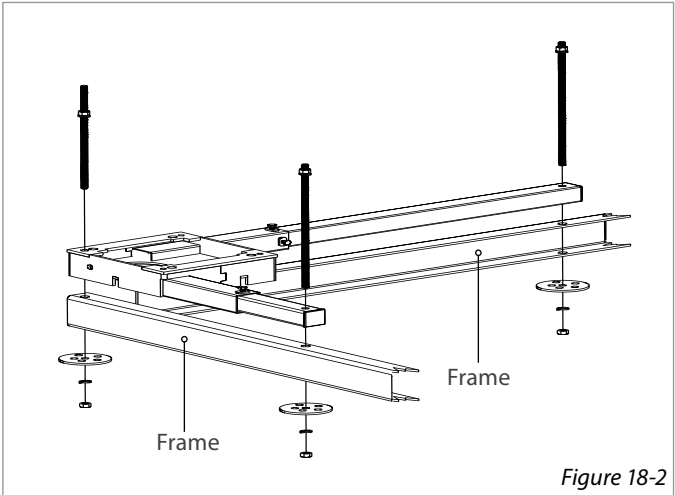


Figure 18-2

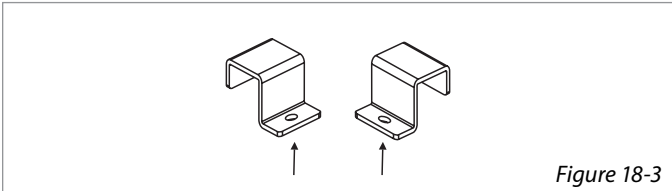


Figure 18-3



Where ever possible, incorporate the frame rails of the truck. This is a requirement when lifting heavier chairs and scooters.



**CAUTION**

If incorporating the frame is impossible, large plates (not supplied) may need to be used to spread the force and keep the truck bed from distorting. Call the technical service department for further explanation.

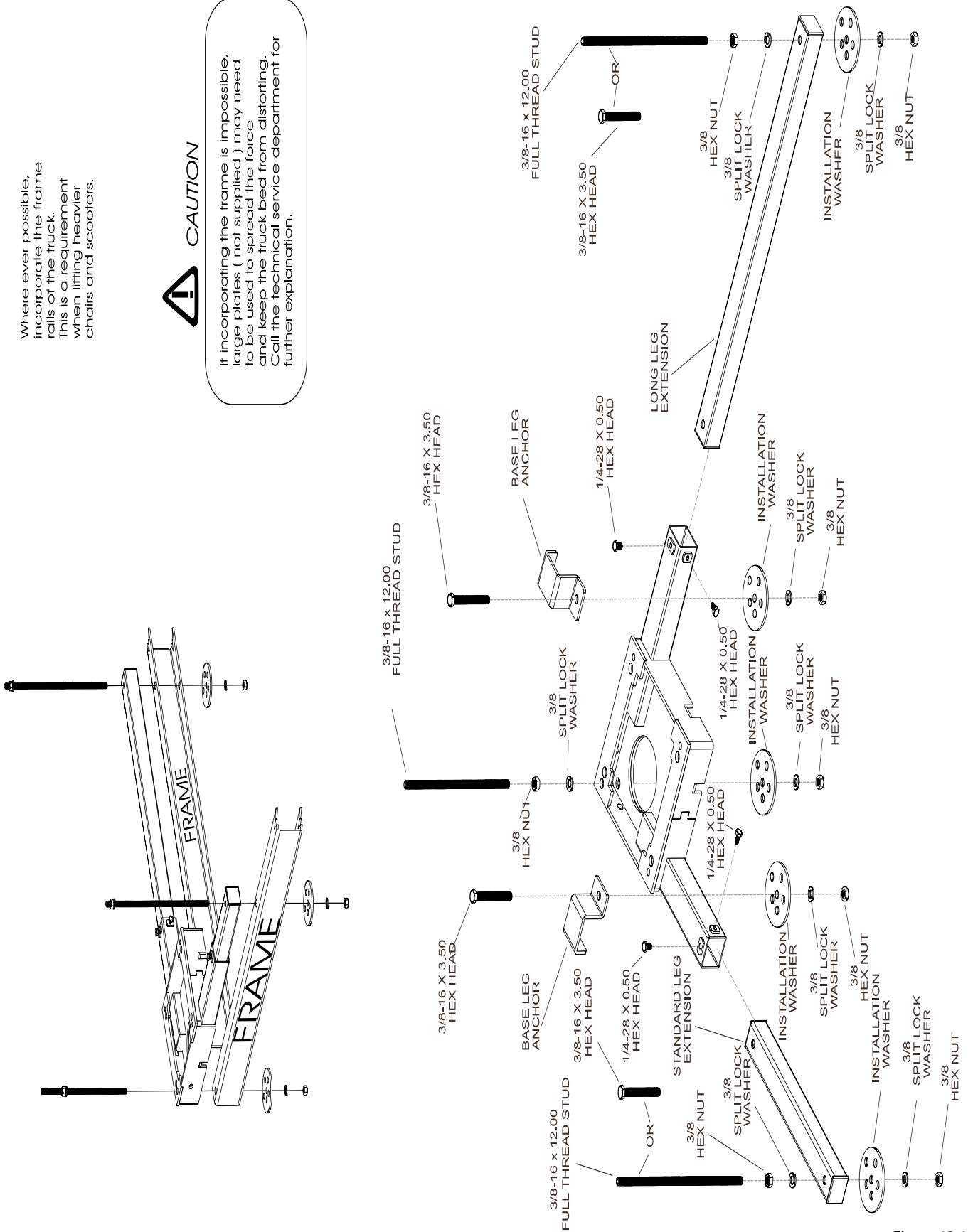


Figure 19-1

## LIFT INSTALLATION

1. **Raise the plastic base cover when the base has been fastened to the vehicle floor, and attach the lift to the base as shown.** [Figure 20-1]
2. **Be sure to compress all split lock washers when tightening all fasteners.**
3. **Cut off remaining All Thread after it is tightened against the washer.** This allows nut removal to deburr thread as it is removed. [Figure 20-2]

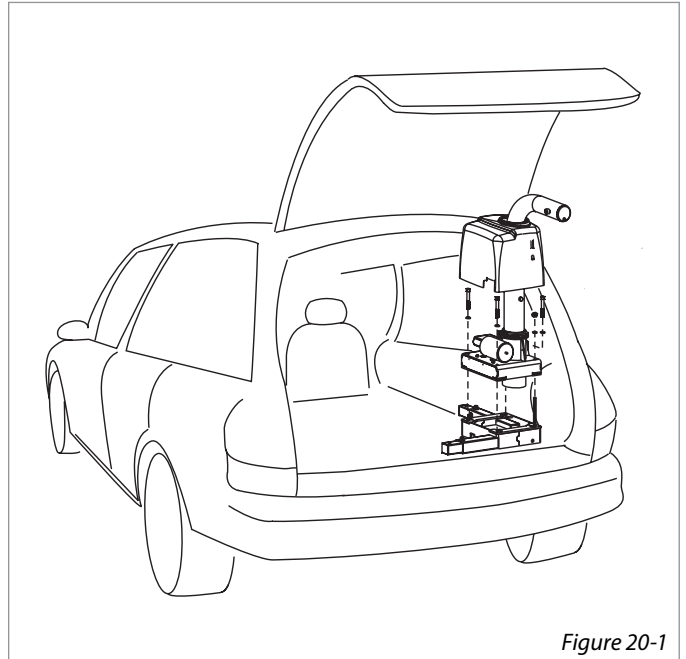


Figure 20-1

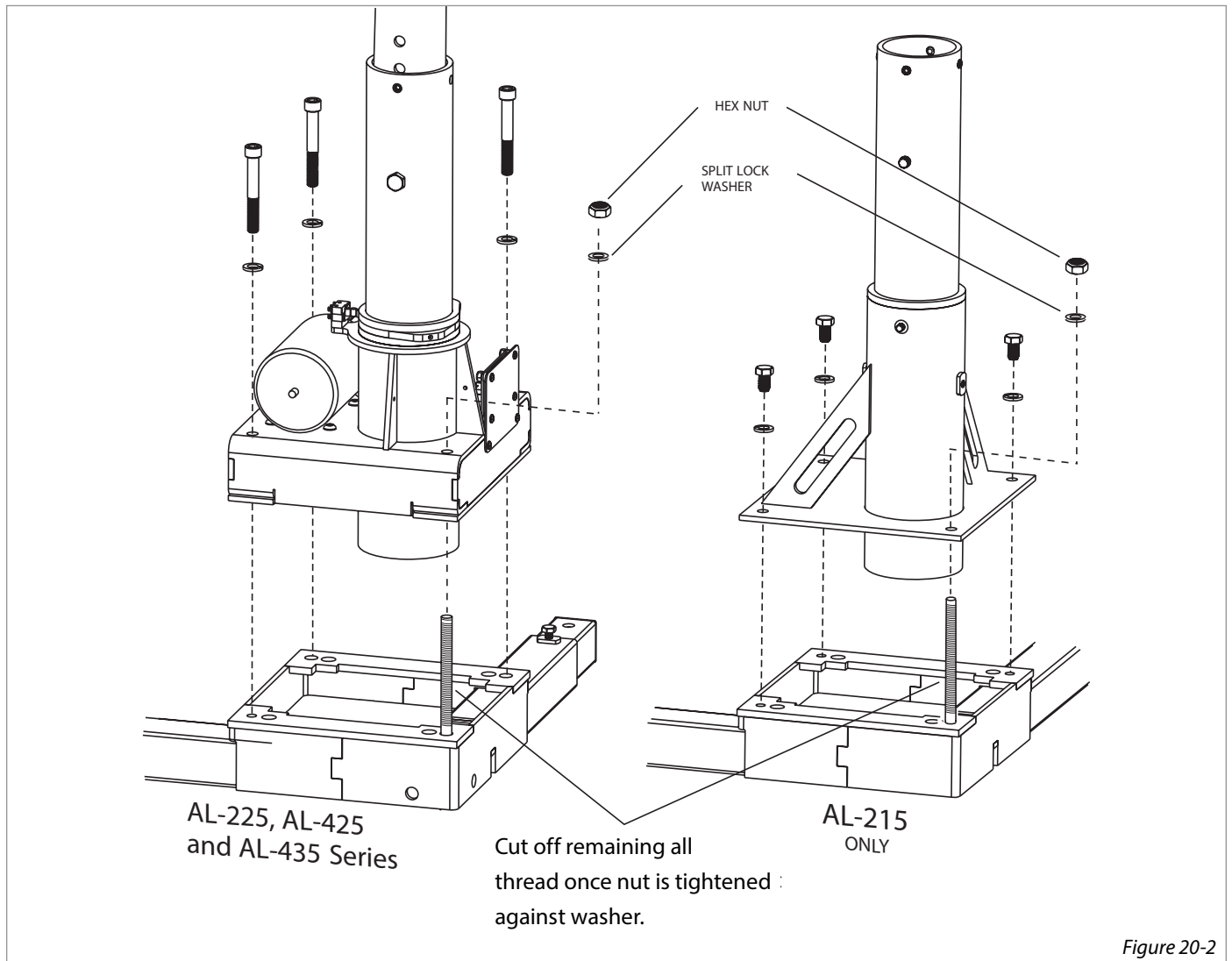
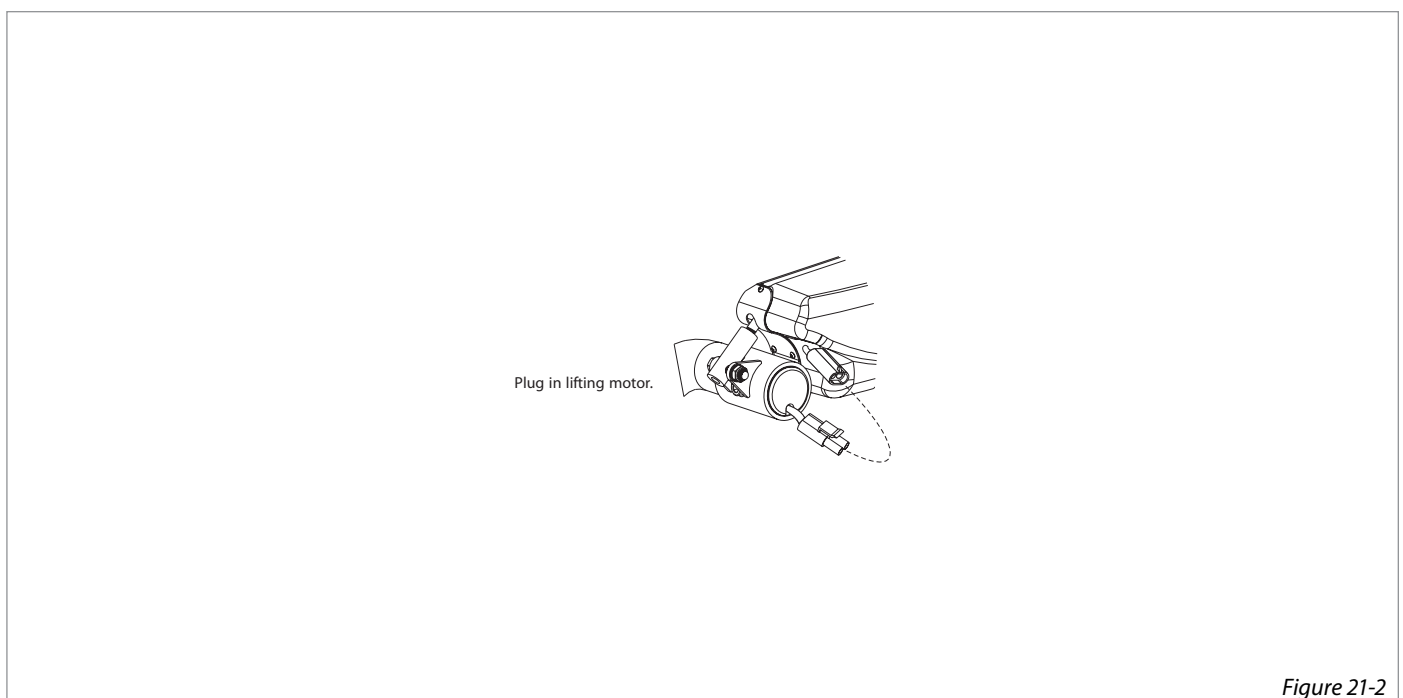
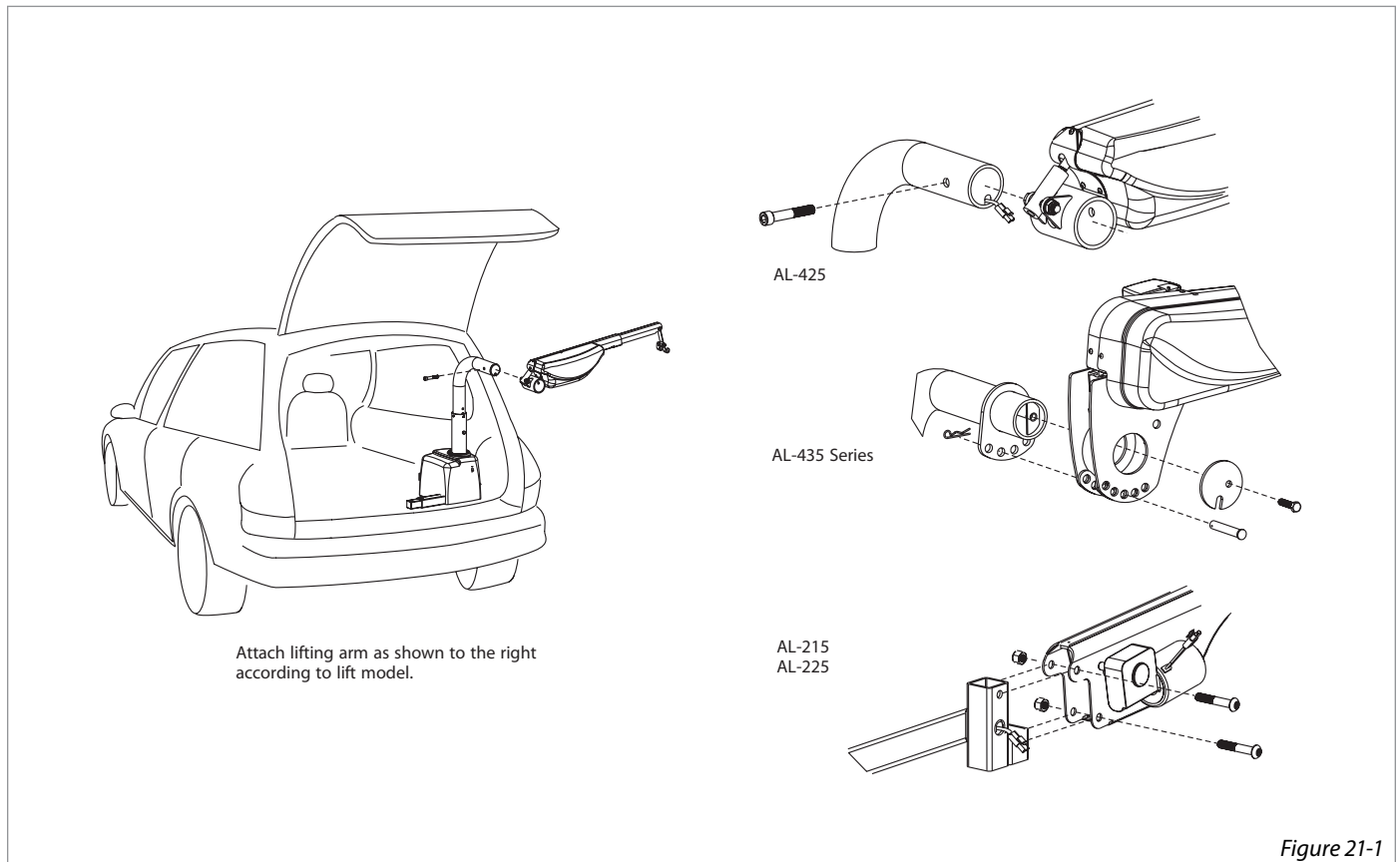


Figure 20-2

4. **Attach lifting arm** as shown according to lift model. [Figure 21-1]

5. **Plug in lifting motor.** [Figure 21-2]



## ADJUSTMENTS: HEIGHT

AL425 / AL435 / AL435T

- Remove bolt.
- Loosen set screws (x4) [Figure 22-1]
- Slide inner vertical post.
- Replace bolt.
- Tighten set screws/ (x4) [Figure 22-2]

AL215 / AL225

- Remove bolt.
- Loosen set screws (x4) [Figure 22-3]
- Replace bolt.
- Tighten set screws (x4) [Figure 22-4]

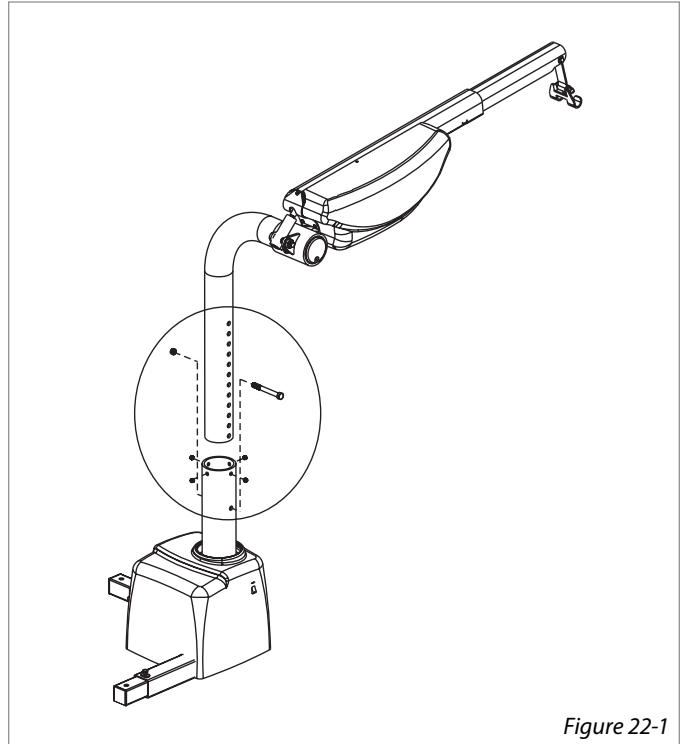


Figure 22-1

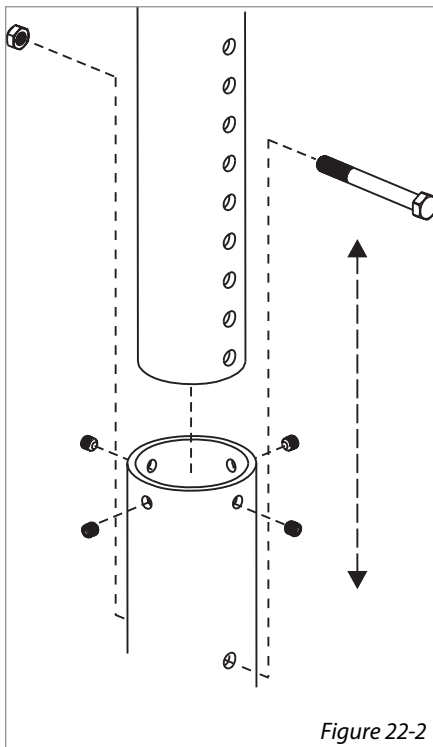


Figure 22-2

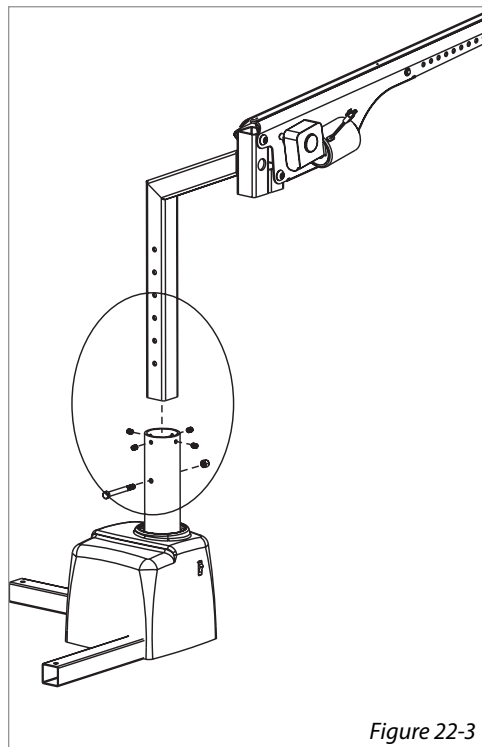


Figure 22-3

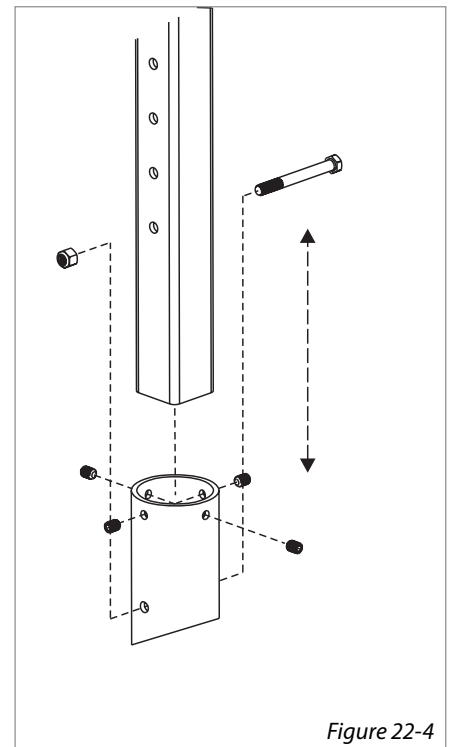


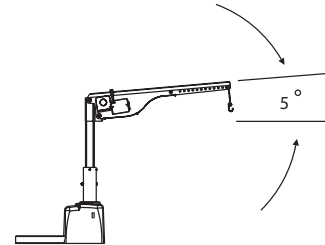
Figure 22-4

## ADJUSTMENTS : PITCH

### AL425

- Remove bolt.
- Rotate turnbuckle.
- Replace bolt. [Figure 23-1]

**NOTE:** The AL215 and AL225 are manufactured with a 6 degree pre-load so pitch adjustment is not necessary.



### AL435 / AL435T

- Loosen bolt.
- Remove pin.
- Rotate arm.
- Replace pin.
- Tighten bolt. [Figure 23-2]

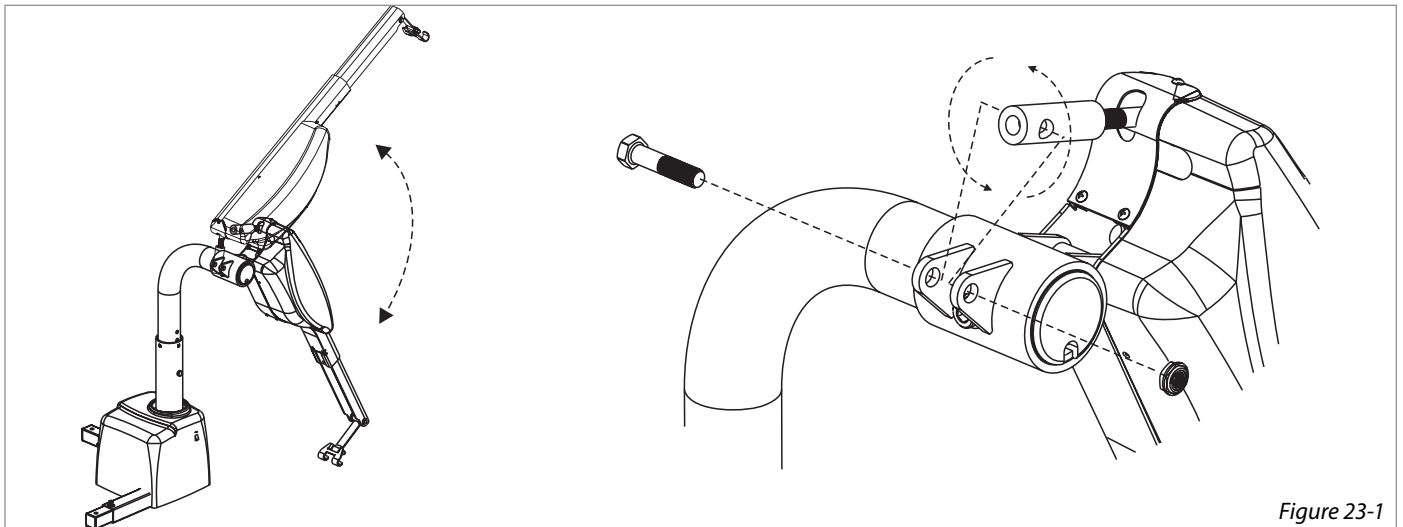


Figure 23-1

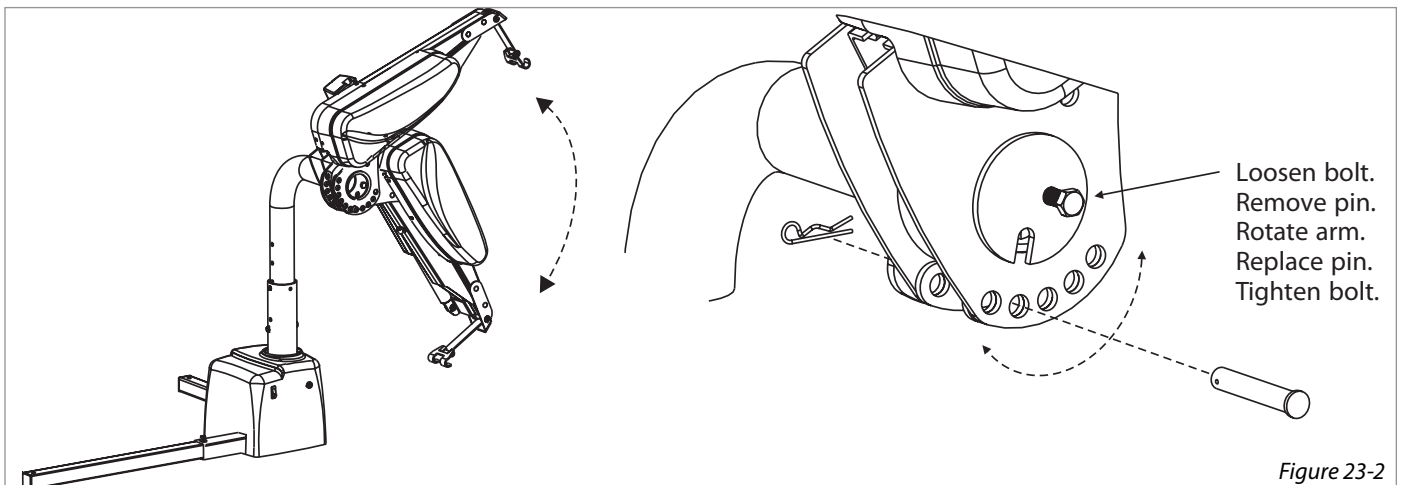


Figure 23-2

## ADJUSTMENTS : ROTATION

### AL225 / AL425 / AL435 / AL 435T

The amount of allowable rotation is determined by the cams indicated below. Loosen set screw and rotate as required. [Figure 24-1]

If installing the lift on the driver side, or if the post rotates in the wrong direction, simply reverse the wires at the rotational motor. [Figure 24-2]

Rotation Limit Switches may also need to be flipped to properly stop the motor. [Figure 24-3]

The average installation will require approximately 180 degrees of rotation. [Figure 24-4]

Set the rotation so that the arm has enough room to transport the mobility device in and out of the vehicle without any contact with the vehicle.



### CAUTION!

Do not set the limits to over rotate the arm. Damage may occur to the vehicle.

### AL215

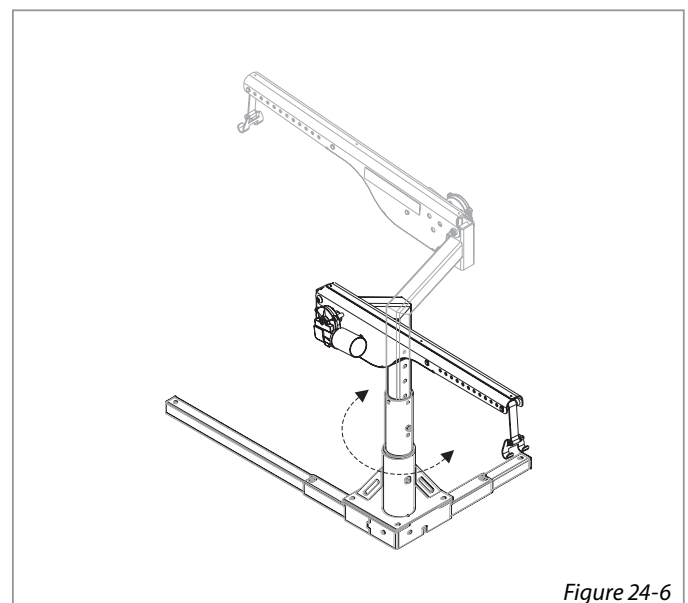
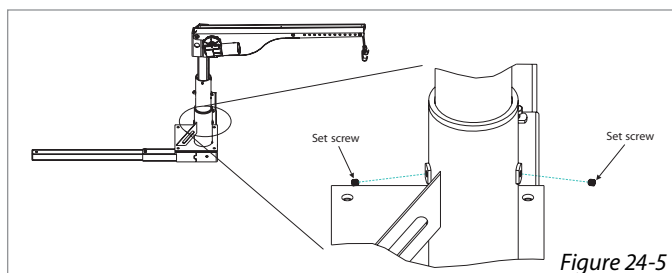
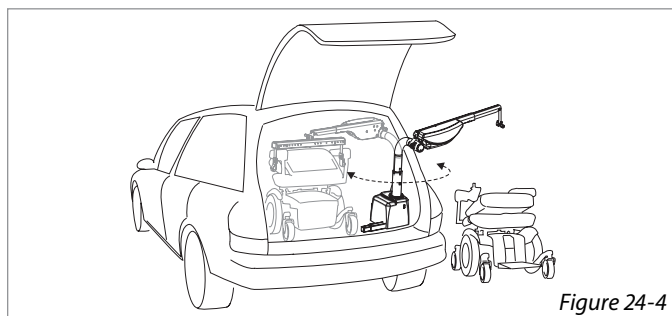
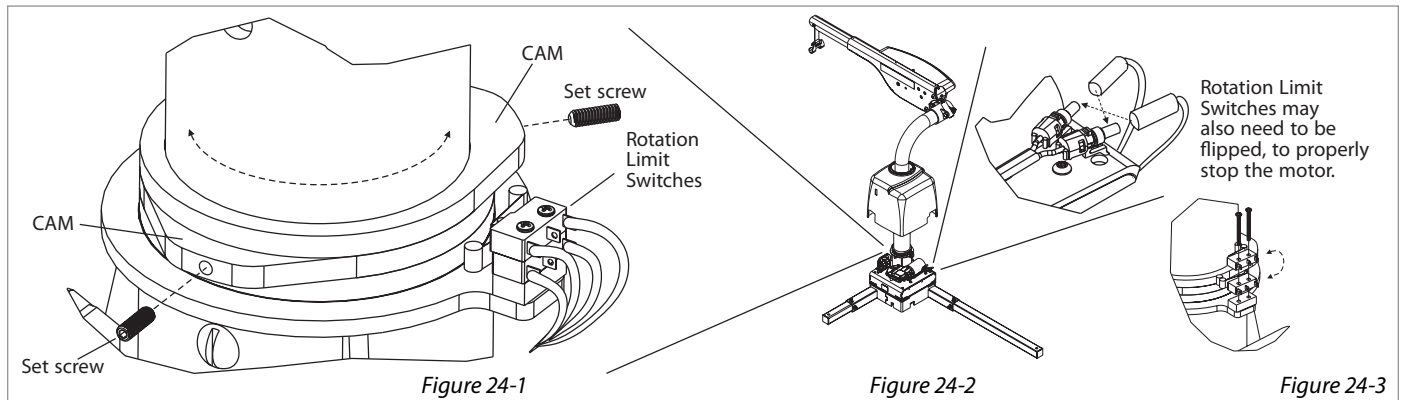
The AL215 is manufactured with manual rotation. The base has two set screws which act as mechanical stops to limit the rotation of the arm. [Figure 24-5]

When the arm is rotated, it should stop at its full in and out positions. [Figure 24-6]



### CAUTION!

Be sure that set screws are in place, but not so tight as to prohibit the arm from rotating.



## DOCKING DEVICES

The Docking Device is an interface between the lift and the power chair or scooter.

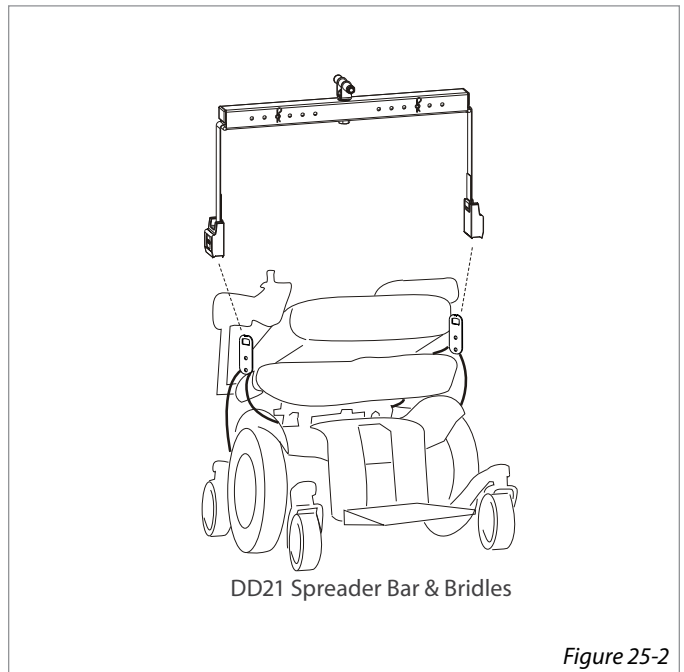
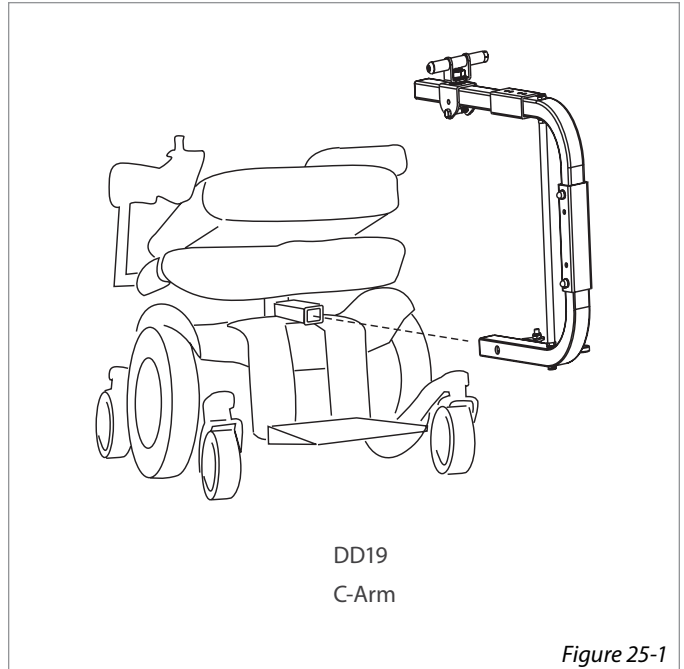
Most power chairs and scooters can be lifted either by the center seat post or the four-post seat frame.

### Types of Docking Devices

[Figures 25-1 and 25-2]

These Docking Devices are two of the most common and can lift most power chairs and scooters. However, many other devices are also available which may be more appropriate to your application.

Please consult the instructions provided with your Docking Device or contact our technical service department to find the specific device that will work best for you.



**TROUBLESHOOTING**

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

**Problem**

Lift does not operate or lift operates slowly or intermittently.

**Cause**

Bad electrical connection(s) / Circuit breaker

**Solutions**

- Check / clean all connections that might be loose or dirty. The lift's motor requires quality electrical connections to operate at full capacity; any break in the wiring will slow down the motor and it will deteriorate prematurely.
- Inspect the full length of the 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 tests shown in *Figure 26-1*.

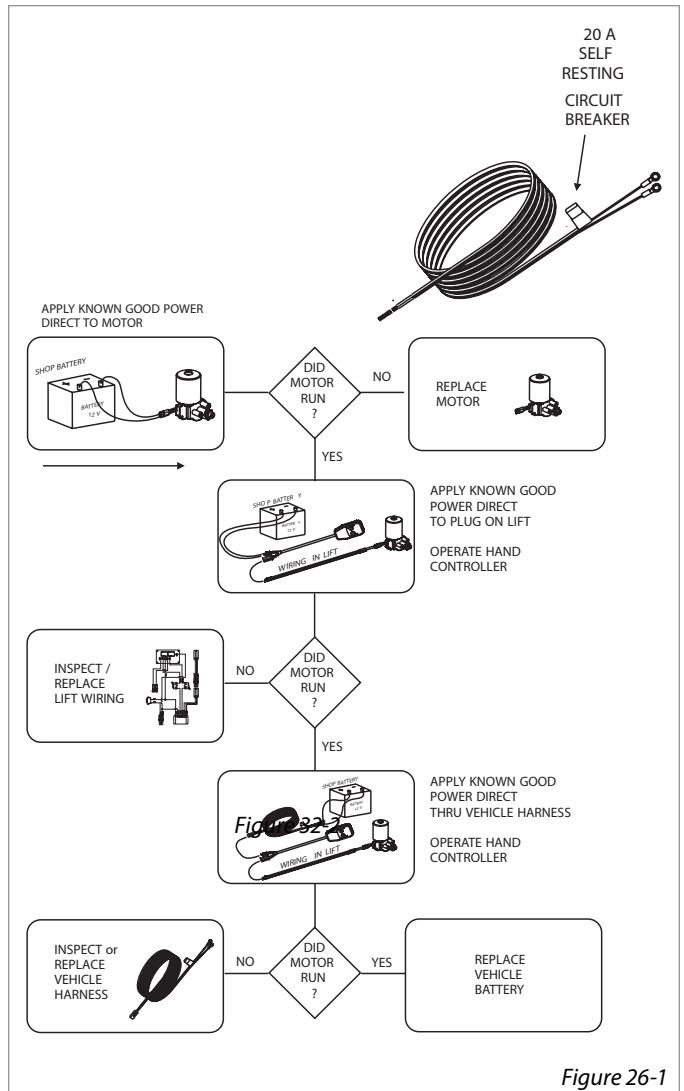


Figure 26-1

**Problem**

Lifting strap operates in reverse

**Cause**

Button was held too long and unwound the lifting strap like a yo-yo. The lifting strap wound in reverse.

**Solutions**

Press the button that extends the strap and continue to hold until the strap returns to the proper direction. Strap should always wrap over the top of the spool.

[Figure 26-2]

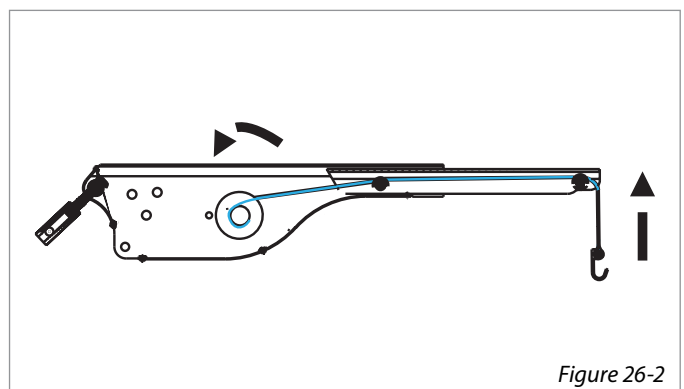


Figure 26-2



**NOTE:** Be cautious when troubleshooting with a test light or voltage meter. You may get a false indication as shown below. [Figure 27-1] It will indicate that a wire connection exists – but it may not necessarily be enough.

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

**Problem**

Scooter or chair tips front or back while being lifted.

**Cause**

Chair or Scooter is being lifted off center.

**Solution**

Adjust for center of gravity on docking device. Check to see if proper docking device is being used.

**Problem**

Lifting arm is hard to rotate.

**Cause**

Dry / dirty bushings.

**Solution**

Clean and lubricate bushings in base with white lithium grease or equivalent.

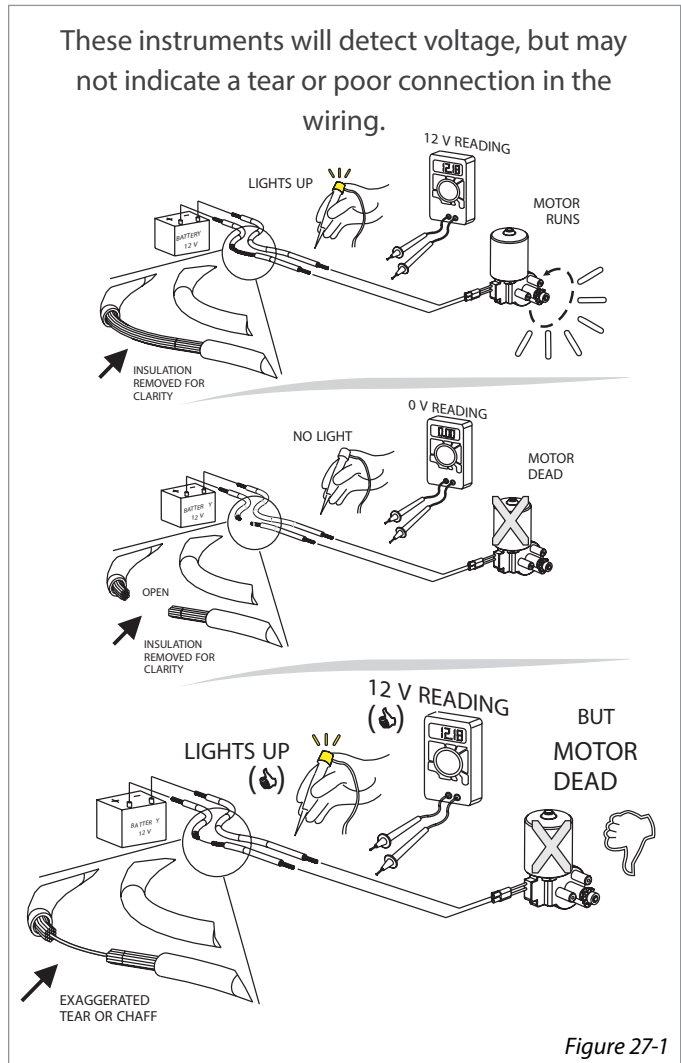
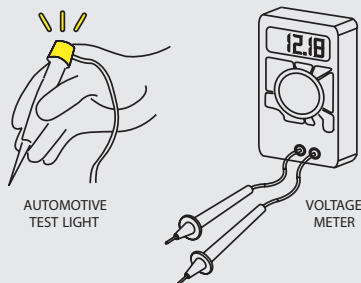


Figure 27-1



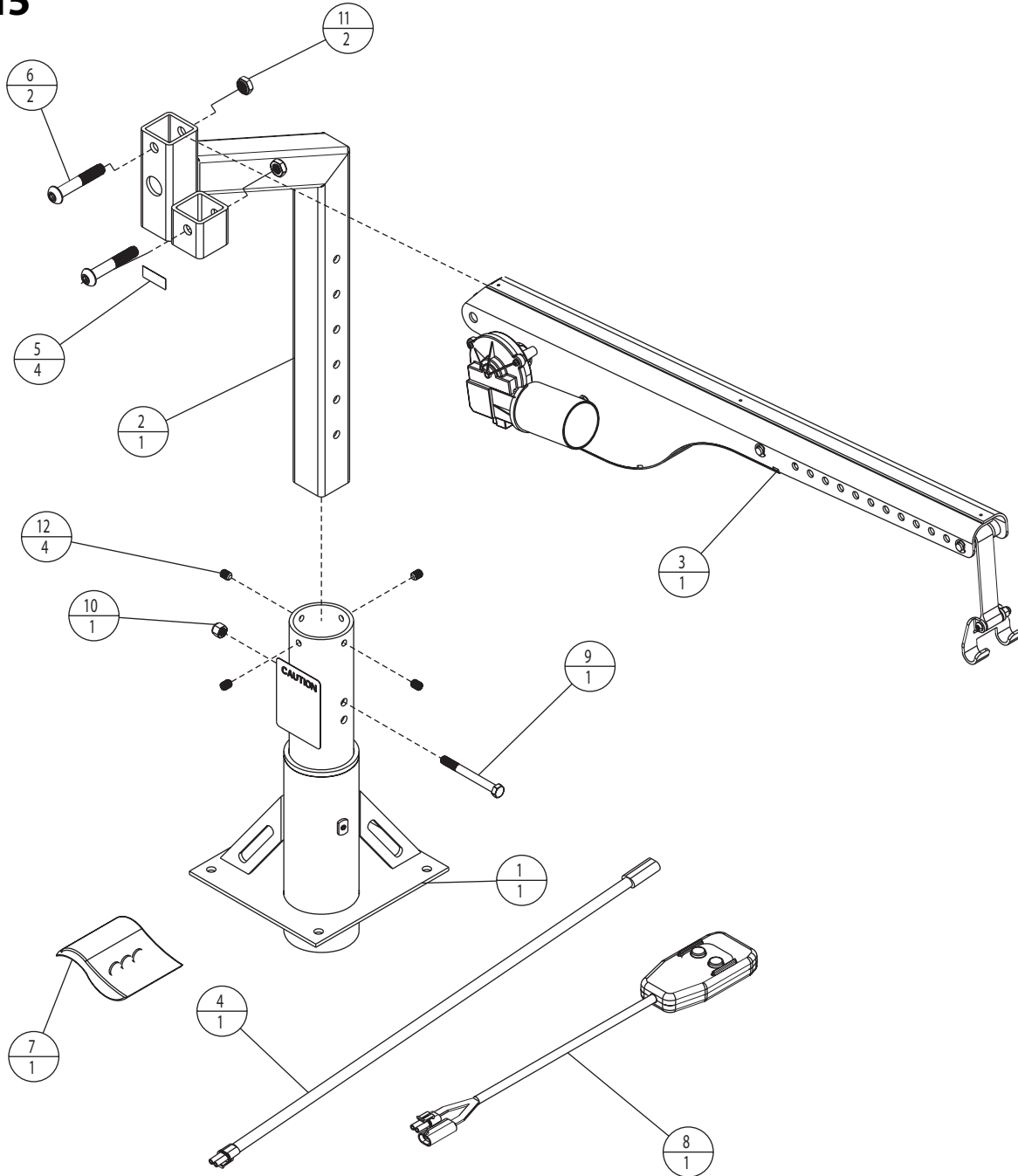
Be careful when troubleshooting with a test light or voltage meter. They may give false indications.

**CAUTION!**



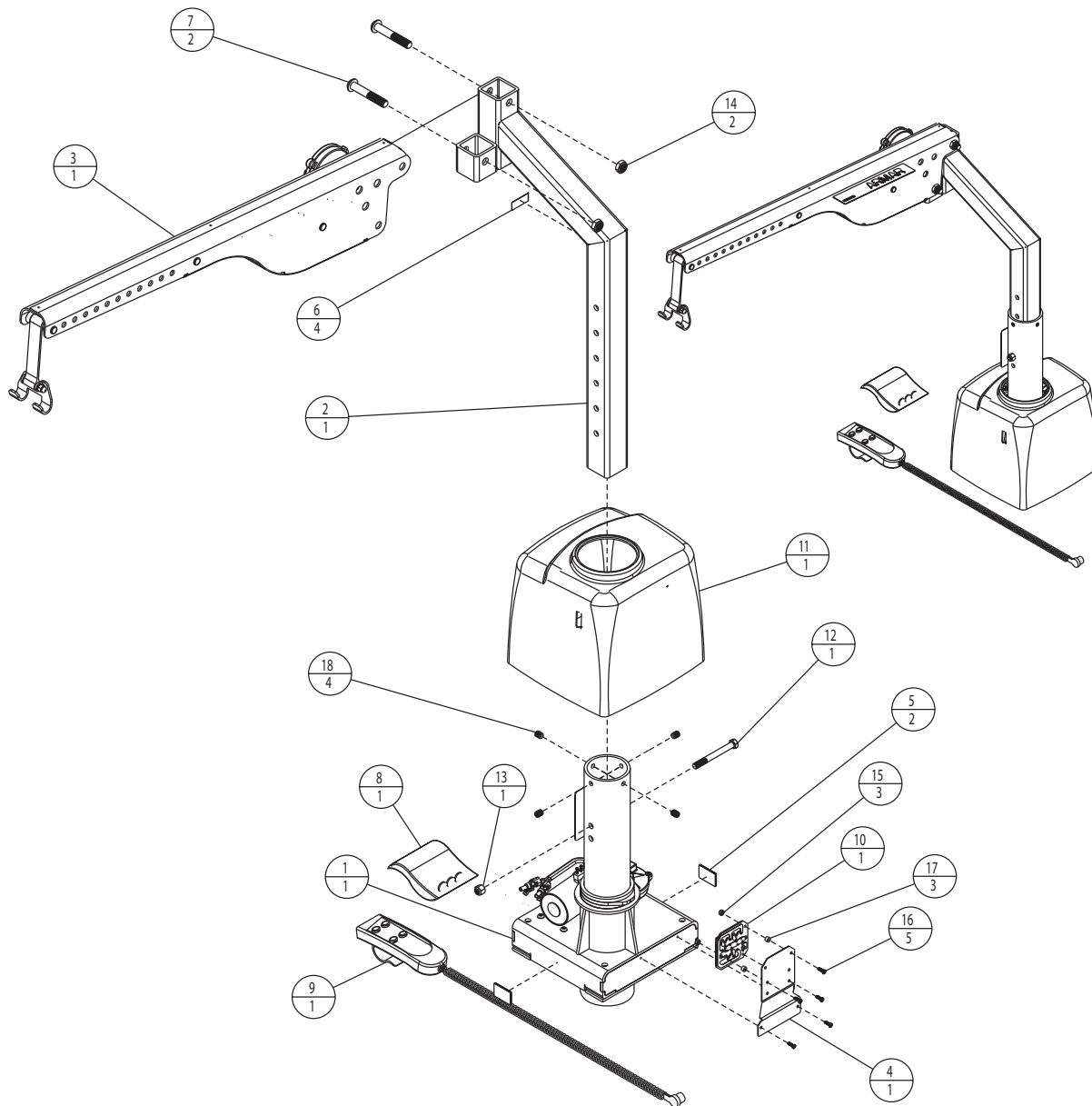
# INSTALLER EXPLODED VIEWS

## AL215



ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	200-3B01-A	BASE COVER ASSEMBLY	7	1	H10-ZB01-A	HARDWARE, KIT, MANUAL BASE MOUNTING
2	1	240-ZB01-C	SQUARE POST	8	1	H20000	2 BUTTON HAND CONTROL
3	1	260-ZB01-A	ARM ASSEMBLY	9	1	HHCS-0_37-16-3_50-Z	HEX HEAD, 3/8-16 X 3.50, ZP
4	1	ALA06550	AL065 HARNESS	10	1	NUT-0_37-16-NYLOCK-Z	NYLOCK NUT, 3/8-16, ZP
5	4	ALA99995	STICKER, SERIAL NUMBER	11	2	NUT-0_50-13-NYLOCK-Z	NYLOCK NUT, 1/2-13, ZP
6	2	BHCS-0_50-13-3_00-SS	BUTTON HEAD, 1/2-13 X 3.00, SS	12	4	SSCP-0_37-16-0_50-Z	SET SCREW 3/8-16 X 0.50, ZP

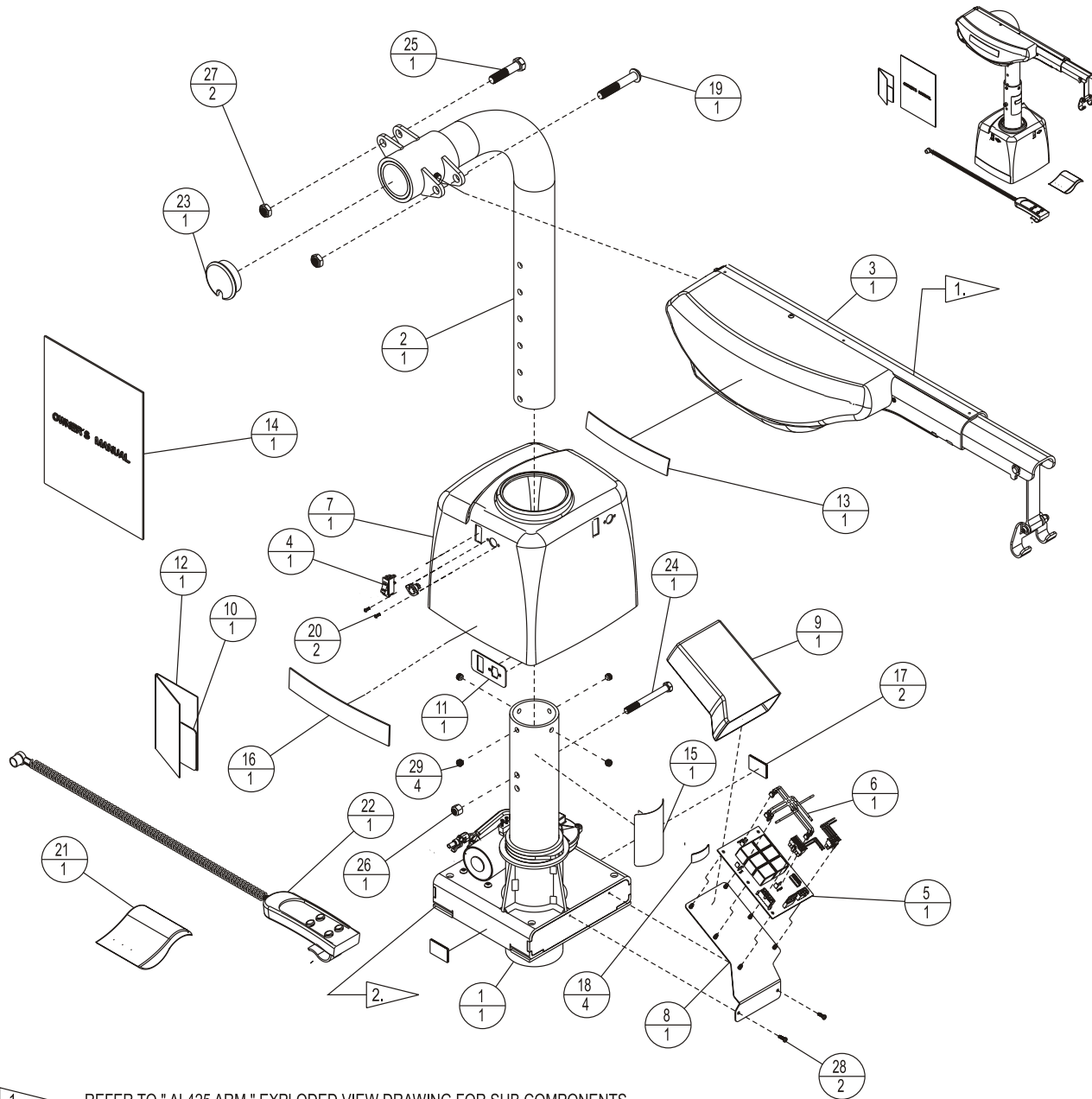
AL225



ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	200-3B03-A	MOTOR HOUSING ASSEMBLY	10	1	H425054	HARNESS (WIRES & SWITCHES NOT SHOWN)
2	1	240-ZB01-C	SQUARE POST	11	1	H425435	BASE COVER
3	1	260-ZB01-A	ARM ASSEMBLY	12	1	HHCS-0_37-16-3_50-Z	HEX HEAD, 3/8-16 X 3.50, ZP
4	1	577-1D05-C	PCB PLATE	13	1	NUT-0_37-16-NYLOCK-Z	NYLOCK NUT, 3/8-16, ZP
5	2	ALA28060	VELCRO, 1" PC from 25 YD ROLL	14	2	NUT-0_50-13-NYLOCK-Z	NYLOCK NUT, 1/2-13, ZP
6	4	ALA99995	STICKER, SERIAL NUMBER	15	3	NUT-6-32-NYLOCK-Z	NYLOCK NUT # 6-32, ZP
7	2	BHCS-0_50-13-3_00-SS	BUTTON HEAD, 1/2-13 X 3.00, SS	16	5	PHMS-6-32-0_50-Z	PAN HEAD, # 6-32 X 0.50, ZP
8	1	H10-2B03-AA	HARDWARE, KIT, POWER BASE MOUNTING	17	3	SPCR-0_140-0_312-0_187-NYLON	SPACERID= 0.14, OD=31, L=0.18, N
9	1	H41000	HAND CONTROL-4 BUTTON	18	4	SSCP-0_37-16-0_50-Z	SET SCREW 3/8-16 X 0.50, ZP

# INSTALLER EXPLODED VIEWS

## AL425



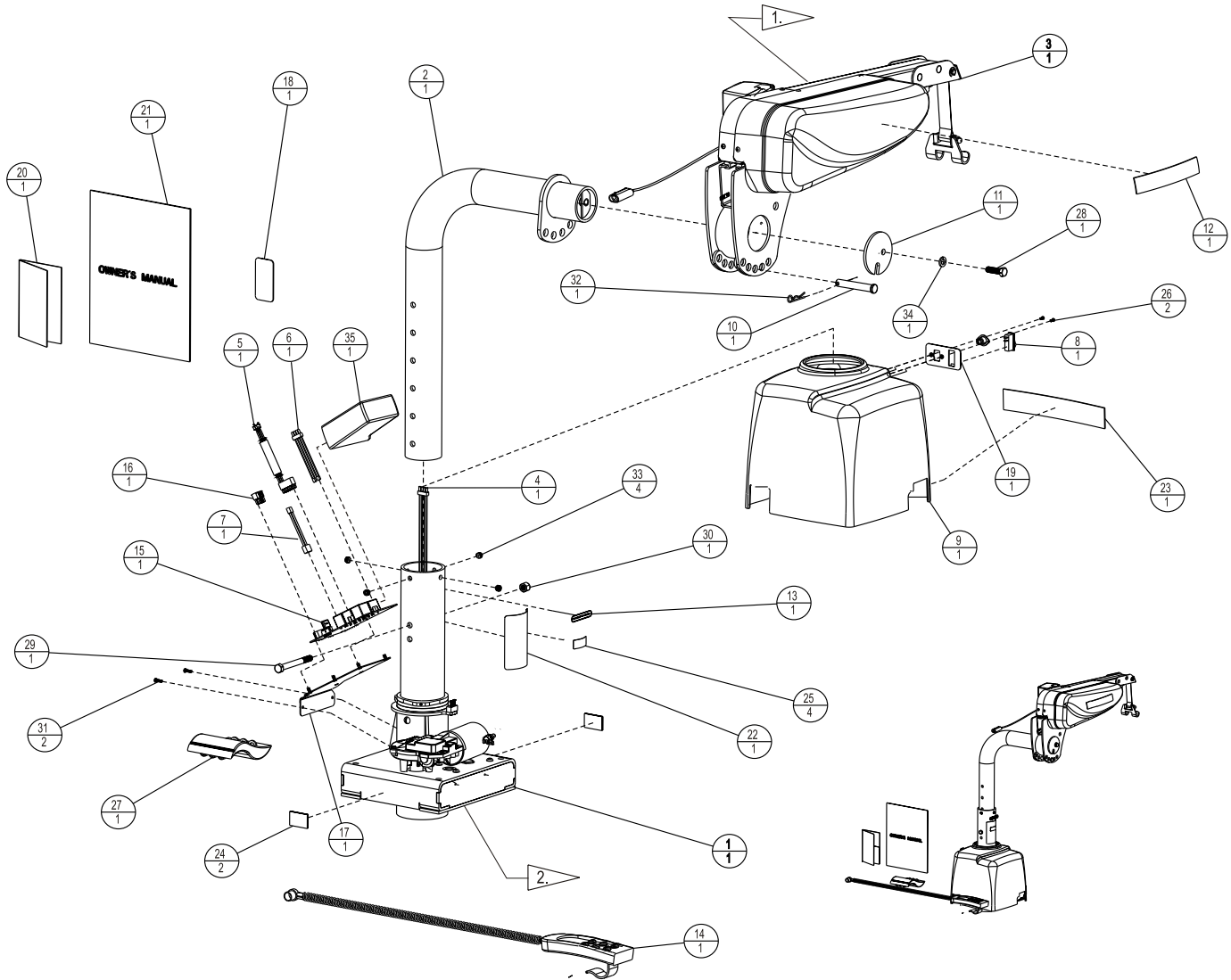
1. REFER TO "AL425 ARM" EXPLODED VIEW DRAWING FOR SUB COMPONENTS

2. REFER TO "BASE" EXPLODED VIEW DRAWING FOR SUB COMPONENTS

ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	200-3B03- AA	MOTOR HOUSING ASSEMBLY
2	1	240-ZB03- AC	COLLAR & POST ASSEMBLY
3	1	260-3B03- AA	HOISTASSEMBLY
4	1	312-ZC04- AA	SWITCH, ON/OFF RED ANDBLACK
5	1	360-00010	UNIVERSAL MOBILITY BOARD
6	1	390-00033	WIRE HARNESS, AL425 FOR UMB
7	1	410-3B03- AA	BASECOVER
8	1	515-2B04- CA	PCB MOUNTING PLATE FOR UMB
9	1	520-00001	CIRCUIT BOARD SLEEVE
10	1	520-00030	LABEL, BLACK, BASE HOLE COVER
11	1	530-0033C	BACKING PLATE, AL425 CONTROL, POWDERCOATED
12	1	630-00060	INSTRUCTION, BLACK LABEL
13	1	910-3L02- AA	STICKER
14	1	999-3B01- AB	OWNER'S MANUAL
15	1	ALA21094	STICKER, "CAUTION"

ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
16	1	ALA21095	STICKER, HARMAR
17	2	ALA28060	VELCRO, 1" PC FROM 25 YD ROLL
18	4	ALA99995	LABEL, SERIAL NUMBER
19	1	BHCS-0_50-13--3_00-SS	BUTTON HEAD, 1/2-13 X 3.00, SS
20	2	BHCS-4-40--0_31-SS	BUTTON HEAD 4-40 x 0.3125
21	1	H10-2B03-AA	HARDWARE, KIT, POWER BASE MOUNTING
22	1	H41000	HAND CONTROL-4 BUTTON
23	1	H425009	ROUND TUBE PLUG
24	1	HHCS-0_37-16--3_50-Z	HEX HEAD, 3/8-16 X 3.50, ZP
25	1	HHCS-0_50-13--2_25-Z	HEX HEAD, 1/2-13 X 2.25, ZP
26	1	NUT-0_37-16-NYLOCK-Z	NYLOCK NUT, 3/8-16, ZP
27	2	NUT-0_50-13-NYLOCK-Z	NYLOCK NUT, 1/2-13, ZP
28	2	PHMS-6-32--0_50-Z	PAN HEAD, # 6-32 X 0.50, ZP
29	4	SSCP-0_375--0_3	SET SCREW, 3/8-16 x 5/16"L ZINC

AL435



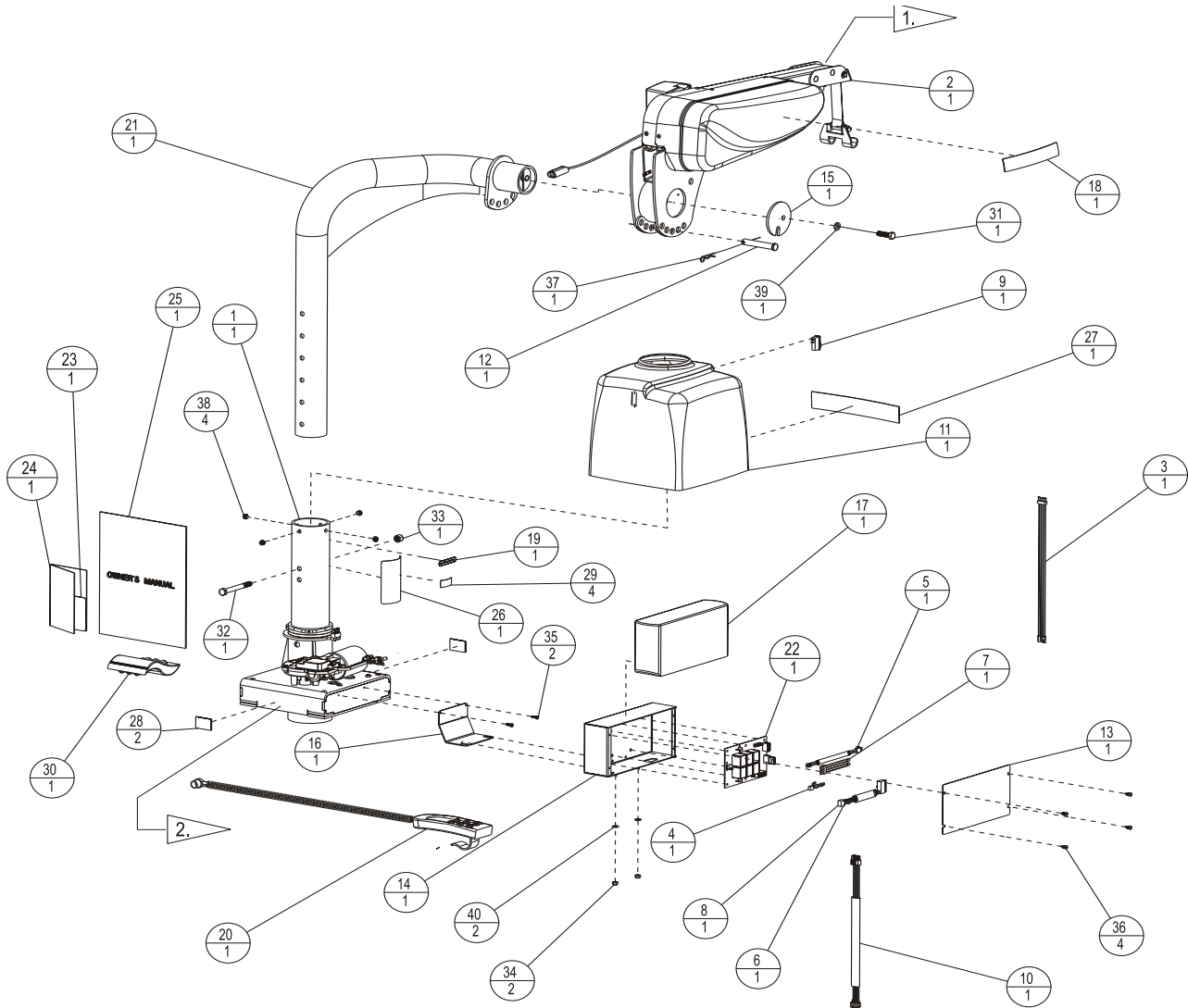
- 1. REFER TO "AL435 ARM" EXPLODED VIEW DRAWING FOR SUB COMPONENTS
- 2. REFER TO "BASE" EXPLODED VIEW DRAWING FOR SUB COMPONENTS

ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	200-3B03-AA	MOTOR HOUSING ASSEMBLY
2	1	250-ZB09-CE	AL435 STANDARD COLUMN ARM WELDMENT
3	1	275-ZB09-AD	3 AXIS LIFTING ARM
4	1	303-ZB09-AE	HARNESS, UPPER COLUMN
5	1	306-ZB04-AB	HARNESS, LIMIT SWITCHES, AL435
6	1	306-ZB09-AF	LOWER COLUMN EQ HARNESS
7	1	307-ZB09-AD	EQ ROTATIONAL MOTOR HARNESS
8	1	312-ZC04-AA	SWITCH, ON/OFF RED AND BLACK
9	1	410-3B03-AA	BASE COVER
10	1	450-00001-01	CLEVIS PIN, 1/2" x 3.00", GRADE 8, ZP
11	1	569-ZB09-CA	LIFT ARM RETAINER
12	1	910-3L02-AA	STICKER
13	1	916-ZB09-AA	PATENT STICKER
14	1	H81000	HAND CONTROL- 6 BUTTON
15	1	380-00010	UNIVERSAL MOBILITY BOARD
16	1	380-00074	POWER AND CONTROL HARNESS, UMB, 3AXIS AL435 BOOM LIFT
17	1	515-ZB04-CA	PCB MOUNTING PLATE FOR UMB

ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
18	1	520-00030	LABEL, BLACK, BASE HOLE COVER
19	1	530-00333C	BACKING PLATE, CONTROL, POWDER COATED
20	1	630-00060	INSTRUCTION, BLACK LABEL
21	1	999-3B01-AB	OWNER'S MANUAL
22	1	ALA21094	STICKER, "CAUTION"
23	1	ALA21095	STICKER
24	2	ALA28060	VELCRO, 1" PC FROM 25 YD ROLL
25	4	ALA99995	LABEL, SERIAL NUMBER
26	2	BHCS-4-40-0_31-SS	BUTTON HEAD 4-40 x 0.3125
27	1	H10-ZB03-AA	HARDWARE, KIT, POWER BASE MOUNTING
28	1	HHCS-0_37-16-1_25-Z	HEX HEAD, 3/8-16 X 1.25, ZP
29	1	HHCS-0_37-16-3_50-Z	HEX HEAD, 3/8-16 X 3.50, ZP
30	1	NUT-0_37-16-NYLOCK-Z	NYLOCK NUT, 3/8-16, ZP
31	2	PHMS-6-32-0_50-Z	PAN HEAD, # 6-32 X 0.50, ZP
32	1	PIN-0_09-0_37-1_62-HP-SS	HAIF PIN, 1.62 L FOR 1/4-1/2 PIN
33	4	SSCP-0_375-0_312-Z	SET SCREW, 3/8-16 x 5/16", ZINC
34	1	WASH-0_37-0_68-0_09-SL-Z	SPRING LOCK WASHER, 3/8, ZP
35	1	520-0001	CIRCUIT BOARD SLEEVE

# INSTALLER EXPLODED VIEWS

## AL435 T

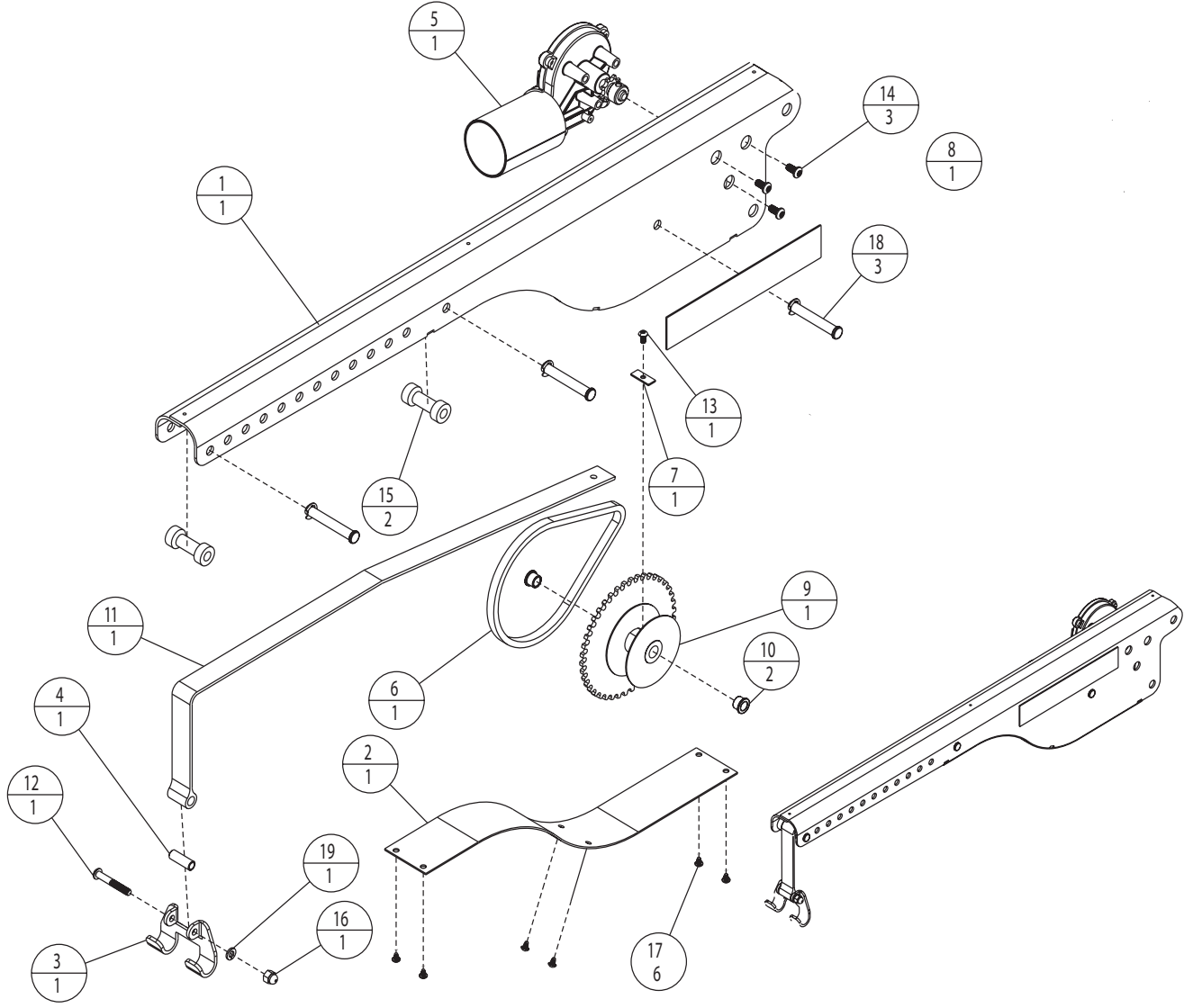


1. FOR MOTOR HOUSING ASSEMBLY COMPONENTS SEE 200-3B03-AA PRINT.

2. FOR 3 AXIS LIFTING ARM COMPONENTS SEE 275-ZB09-AB PRINT.

ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	200-3B03-AA	MOTOR HOUSING ASSEMBLY	21	1	250-ZB15-CC	AL435T POST ASSEMBLY
2	1	275-ZB09-AD	3 AXIS LIFTING ARM	22	1	360-00010	UNIVERSAL MOBILITY BOARD
3	1	303-ZB09-AE	HARNESS, UPPER COLUMN	23	1	520-00030	LABEL, BLACK, BASE HOLE COVER
4	1	304-ZB09-AE	MAIN POWER HARNESS	24	1	630-00060	INSTRUCTION, BLACK LABEL
5	1	305-ZB04-AB	HARNESS, POWER, AL435	25	1	999-3B01-AB	OWNER'S MANUAL
6	1	306-ZB04-AB	HARNESS, LIMIT SWITCHES, AL435	26	1	ALA21094	STICKER, "CAUTION"
7	1	306-ZB09-AF	LOWER COLUMN EQ HARNESS	27	1	ALA21095	STICKER
8	1	307-ZB09-AD	EQ ROTATIONAL MOTOR HARNESS	28	2	ALA28060	VELCRO, 1" PC FROM 25 YD ROLL
9	1	312-ZC04-AA	SWITCH, ON/OFF RED AND BLACK	29	4	ALAS9995	LABEL, SERIAL NUMBER
10	1	363-3B04-AA	HARNESS, CONTROL, 6 CHANNEL, 7 PIN DIN	30	1	H10-2B03-AA	HARDWARE, KIT, POWER BASE MOUNTING
11	1	410-1D05-AB	BASE COVER, AL835	31	1	HHCS-0_37-16-1_25-Z	HEX HEAD, 3/8-16 X 1.25, ZP
12	1	450-00001-01	CLEVIS PIN, 1/2" X 3.00", GRADE 8, ZP	32	1	HHCS-0_37-16-3_50-Z	HEX HEAD, 3/8-16 X 3.50, ZP
13	1	538-ZB09-CB	CONTROL BOX COVER	33	1	NUT-0_37-16-NYLOCK-Z	NYLOCK NUT, 3/8-16, ZP
14	1	539-ZB09-CC	CONTROL BOX	34	2	NUT-10-24-NYLOCK-Z	NUT, NYLOCK, 10-24, ZP
15	1	569-ZB09-CA	LIFT ARM RETAINER	35	2	PHMS-4-32-0_50-Z	PAN HEAD, # 6-32 X 0.50, ZP
16	1	571-3B09-CA	RELAY BOX BRACKET	36	4	PHSS-4-1_50-Z	PAN HEAD, PHILLIPS, NO. 8 X 0.50, ZP
17	1	906-ZB09-AA	RELAY BOX COVER	37	1	PIN-0_09-0_37-1_62-HP-SS	HAIR PIN, 1.52 L FOR 14-12 PIN
18	1	918-3L02-AA	STICKER	38	4	SSCP-0_375-0_312-Z	SET SCREW, 3/8-16 X 5/16", ZINC
19	1	918-ZB09-AA	PATENT STICKER	39	1	WASH-0_37-0_68-0_08-SL-Z	SPRING LOCK WASHER, 3/8, ZP
20	1	HB1000	HAND CONTROL- 6 BUTTON	40	2	WASH-10-0_5-0_05-RH-Z	WASHER, 3/8" ID X 5/8" OD X 0.06" THICK, 18-8SS

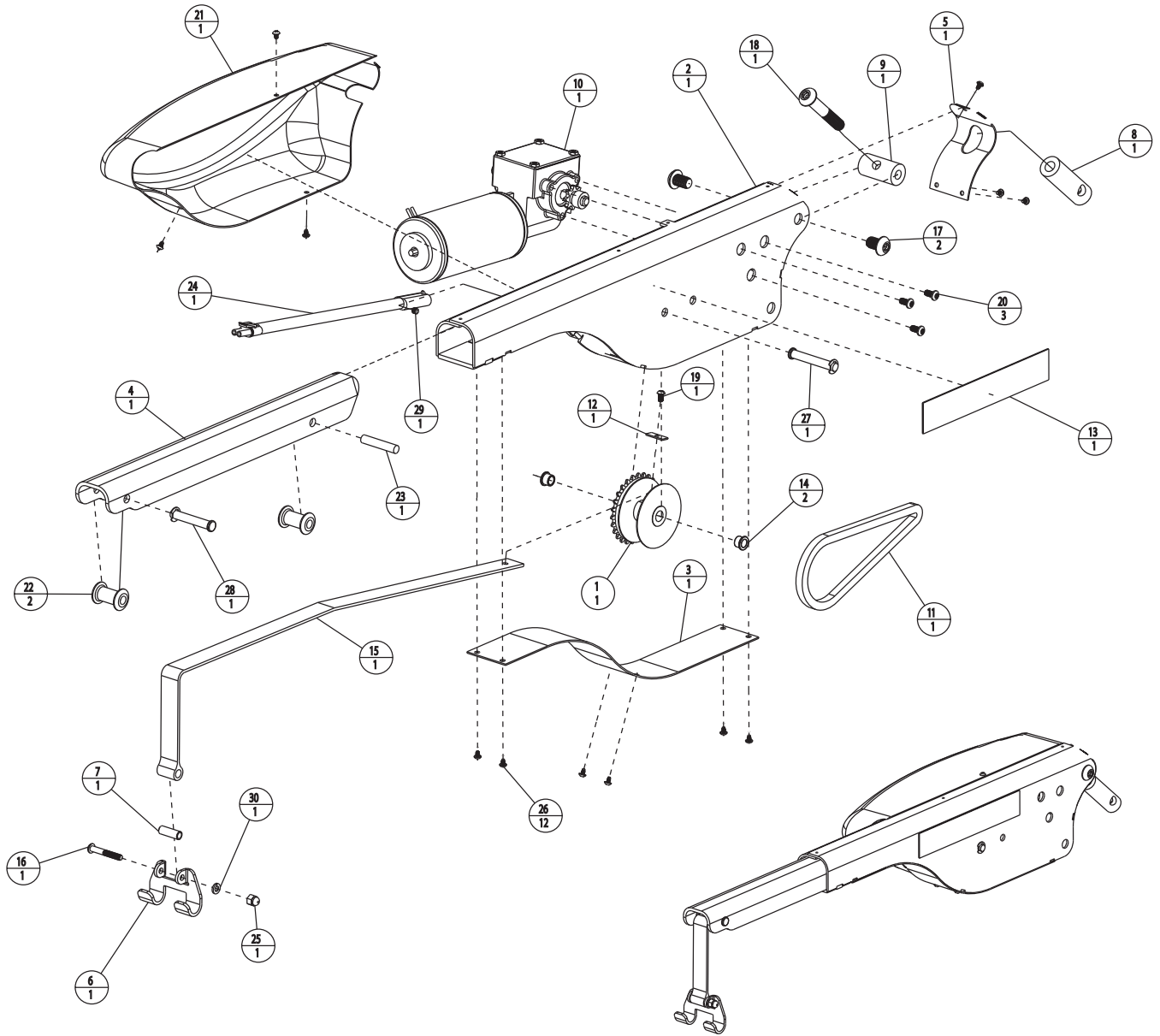
AL215 & AL225 ARM



ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	261-ZB01-C	HOIST HOUSING	11	1	ALA67997	LIFTING STRAP
2	1	570-ZB01-C	HOIST HOUSING COVER	12	1	BHCS-0_25-20-1_75-SS	BUTTON HEAD, 1/4-20 x 1.75, SS
3	1	590-ZB01-C	DETACHABLE HOOK	13	1	BHCS-10-32-0_37	BUTTON HEAD, 10-32 x 3/8
4	1	591-ZB01-C	HOOK SLEEVE	14	3	BHCS-M6-1_00-16-SS	BUTTON HEAD, M6-1 X 16MM, SS
5	1	ALA06111	LIFTING MOTOR	15	2	H225402	AL215 & AL225 ROLLER
6	1	ALA21020	SPOOL CHAIN, 50 LINKS	16	1	NUT-0_25-20-ACORN-N	ACORN NUT, 1/4-20, NI
7	1	ALA21055	STRAP TAB	17	6	PHTS-8-32-0_25-BZ	PAN HEAD - THREAD FORMING 8-32 X 0.25, BZ
8	1	ALA21095	STICKER	18	3	PIN-0_37-2_50-CL-Z	CLEVIS PIN & E-CLIP: 3/8 X 2.50, ZP
9	1	ALA214-PLT	SPOOL	19	1	WASH-0_25-0_50-0_06-SL-Z	1/4" SPLIT LOCK WASHER
10	2	ALA21410	FLANGE BUSHING BRZ 3/8X1/2X3/8				

# INSTALLER EXPLODED VIEWS

## AL425 ARM

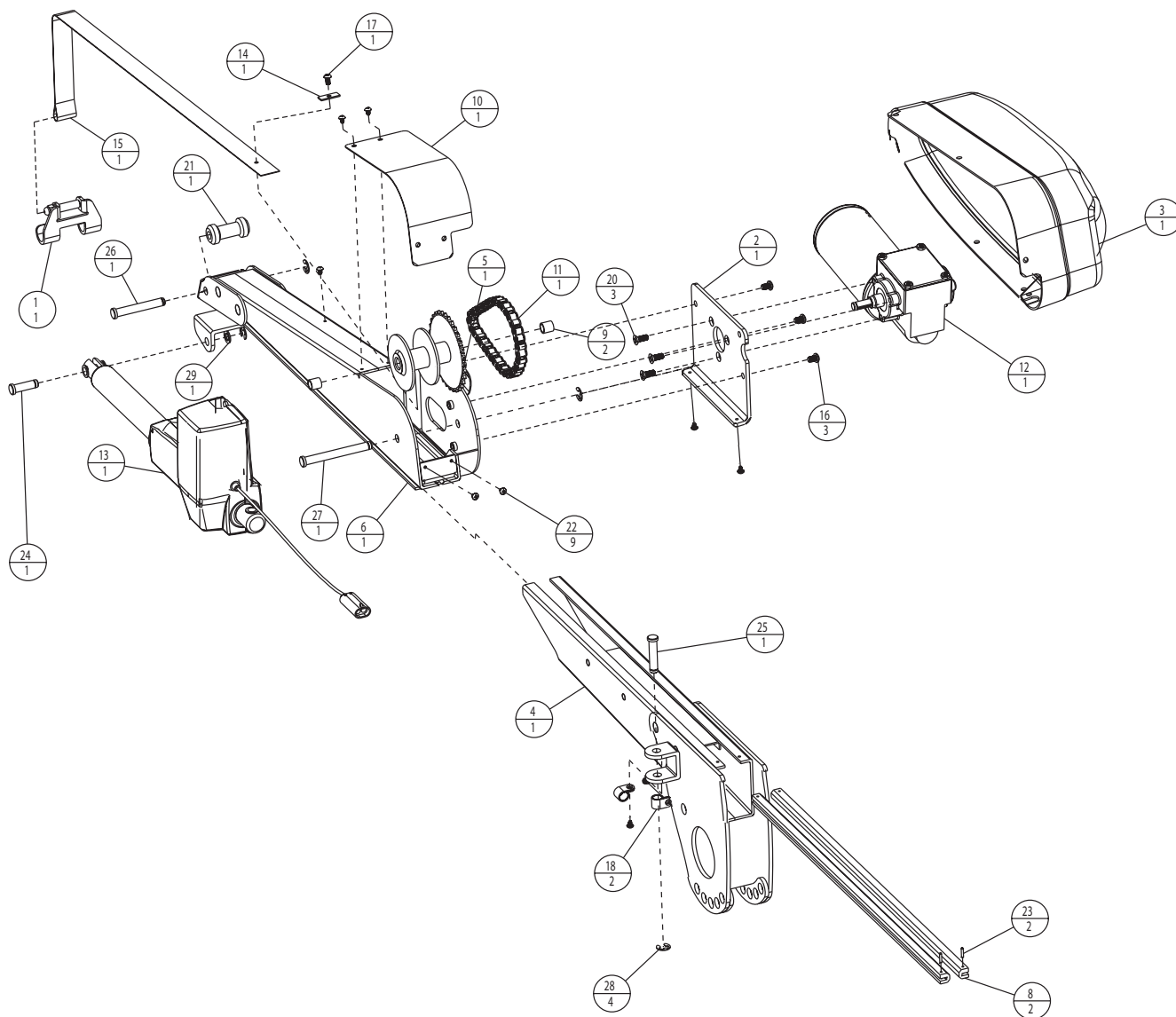


ASSEMBLY PARTS				
ITEM	QTY	PART NO.	DESCRIPTION	
1	1	214-2B03-P	26 TOOTH SPOOL	
2	1	261-2B03-C	HOIST HOUSING	
3	1	570-2B01-C	HOIST HOUSING COVER	
4	1	570-2B03-C	HOIST INNER ARM	
5	1	572-2B03-C	HOIST HOUSING COVER - BACK	
6	1	590-2B01-C	DETACHABLE HOOK	
7	1	591-2B01-C	HOOK SLEEVE	
8	1	H425421-PLT	TURNBUCKLE NUT	
9	1	H425423-PLT	TURNBUCKLE X-CYLINDER	
10	1	700-2B03-A	MOTOR, LIFTING EUCLID	
11	1	ALA21020	SPOOL CHAIN, 50 LINKS	
12	1	ALA21055	STRAP TAB	
13	1	ALA21095	STICKER	
14	2	ALA21410	FLANGE BUSHING BRZ 3/8X1/2X3/8	
15	1	ALA67997	LIFTING STRAP	

ASSEMBLY PARTS				
ITEM	QTY	PART NO.	DESCRIPTION	
16	1	BHCS-0_25-20-1_75-SS	BUTTON HEAD, 1/4-20 x 1.75, SS	
17	2	BHCS-0_50-13-0_75-Z	BUTTON HEAD, 1/2-13 X 0.75, ZP	
18	1	BHCS-0_50-13-3_00-SS	BUTTON HEAD, 1/2-13 X 3.00, SS	
19	1	BHCS-10-32-0_37-BO	BUTTON HEAD, 10-32 X 0.37, BO	
20	3	BHCS-M6-1_00-16-SS	BUTTON HEAD, M6-1 X 16MM, SS	
21	1	H425430	HOIST MOTOR COVER	
22	2	H425444	STRAP ROLLER	
23	1	H425445	PIN, ROLLER, STRAP, AL425	
24	1	H48056	SHORT HOIST HARNESS	
25	1	NUT-0_25-20-ACORN-N	ACORN NUT, 1/4-20, NI	
26	12	PHTS-8-32-0_25-BZ	PAN HEAD - THREAD FORMING 8-32 X 0.25, BZ	
27	1	PIN-0_37-2_50-CL-Z	CLEVIS PIN & E-CLIP: 3/8 X 2.50, ZP	
28	1	PIN-0_38-2_25-Z	CLEVIS PIN & E-CLIP: 3/8 X 2.25, ZP	
29	1	SSCP-0_25-28-0_375	SET SCREW: 1/4-28 X 0.37	
30	1	WASH-0_25-0_50-0_06-5L-Z	1/4" SPLIT LOCK WASHER	



# AL435 SERIES ARM

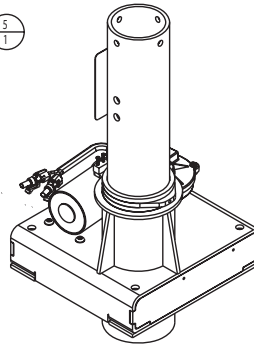
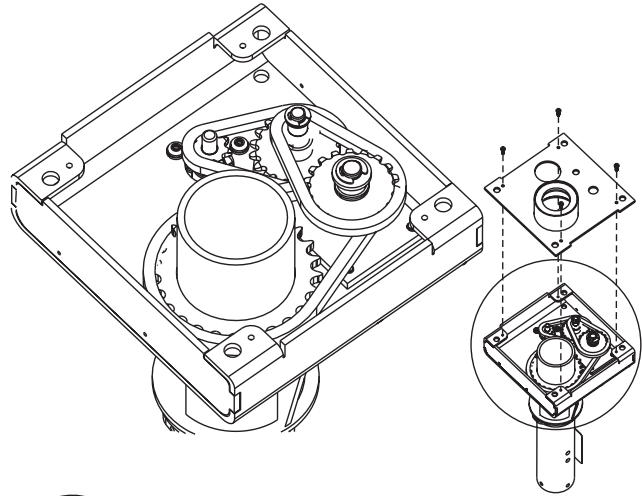
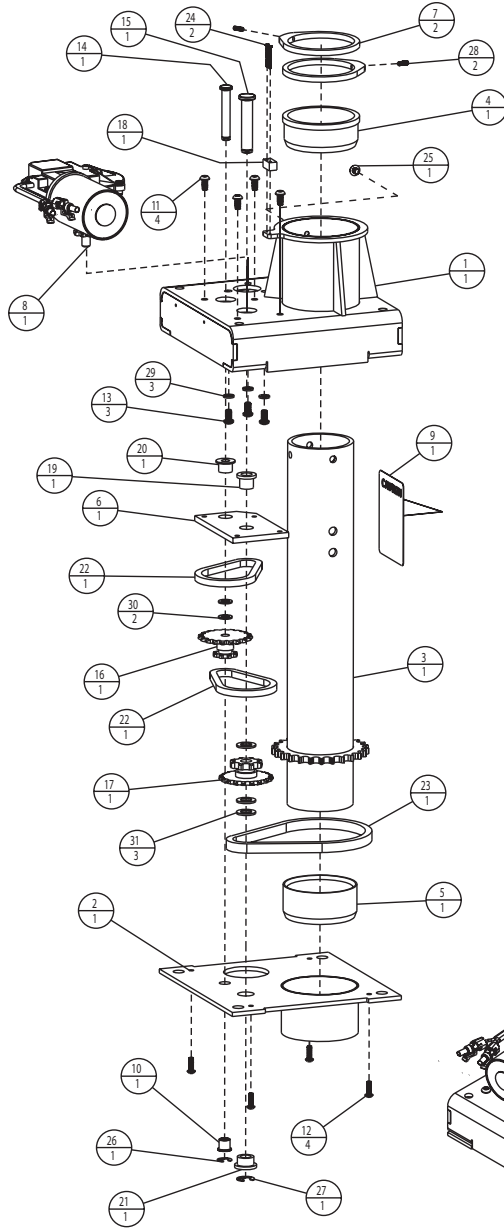


ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	290-ZB01-A	DETACHABLE HOOK ASSEMBLY
2	1	535-ZB09-C	MOTOR AND COVER PLATE
3	1	498-ZB09-A	MOTOR COVER
4	1	276-ZB09-C	LOWER LIFTING ARM
5	1	278-ZB09-A	32 TOOTH SPOOL
6	1	280-ZB09-C	UPPER LIFTING ARM
7	1	311-ZB09-A	MALE TO FEMALE HARNESS (NOT SHOWN)
8	2	401-ZB09-A	LIFTING ARM PLASTIC GUIDE
9	2	411-ZB09-A	LIFTING SPOOL BUSHING
10	1	530-ZB09-C	LIFTING ARM REAR COVER
11	1	557-ZB09-A	AL435#35T LIFTING CHAIN
12	1	703-ZB04-A	435#435T 400lb EUCLID LIFTING MOTOR
13	1	800-ZB09-A	AL435#435T ACTUATOR W/INT. SWs
14	1	ALA21055	STRAP TAB
15	1	ALA67997	LIFTING STRAP

ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
16	3	BHCS-0_25-20-0_37-NP-SS	BUTTON HEAD, NYLON PATCH, 1/4-20 X 0.37, SS
17	1	BHCS-10-32-0_37	BUTTON HEAD, 10-32 X 3/8
18	2	C36001835	CLIP, "P" 1/4" (RICHO INC, E4-AMor EQ)
19	1	CT-14-BLK	1/4" BLACK WIRE TIE (NOT SHOWN)
20	3	FHMS-0_25-28-0_62-SS	1/4"-28 X 5/8" FLAT HEAD MACHINE SCREW
21	1	H225402	AL215 & AL225 ROLLER
22	9	PHTS-8-32-0_25-BZ	PAN HEAD - THREAD FORMING, 8-32 X 0.25, BZ
23	2	PIN-0_09-0_50-RP-Z	0.09 X 0.50" ROLL PIN
24	1	PIN-0_375-1_06-GCL-Z	ACTUATOR FRONT MOUNTING 3/8" GROOVED CLEVIS PIN
25	1	PIN-0_375-1_56-GCL-Z	ACTUATOR REAR MOUNTING 3/8" GROOVED CLEVIS PIN
26	1	PIN-0_375-2_41-GCL-Z	ROLLER MOUNTING 3/8" GROOVED CLEVIS PIN
27	1	PIN-0_375-3_31-GCL-Z	SPOOL MOUNTING 3/8" GROOVED CLEVIS PIN
28	4	RR-0_37-EC-Z	E-CLIP 3/8 SHAFTE Z
29	1	WASH-0_37-0_62-0_06-RH-SS	3/8" WASHER .62 OD .06" THICK

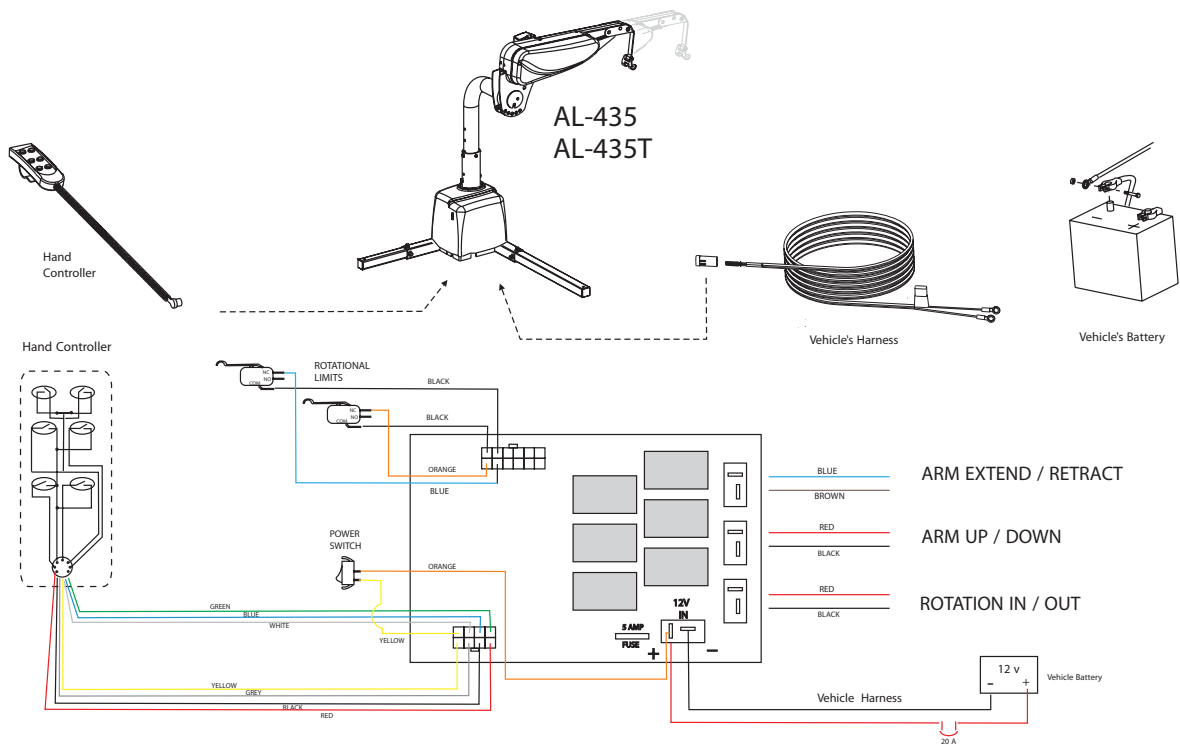
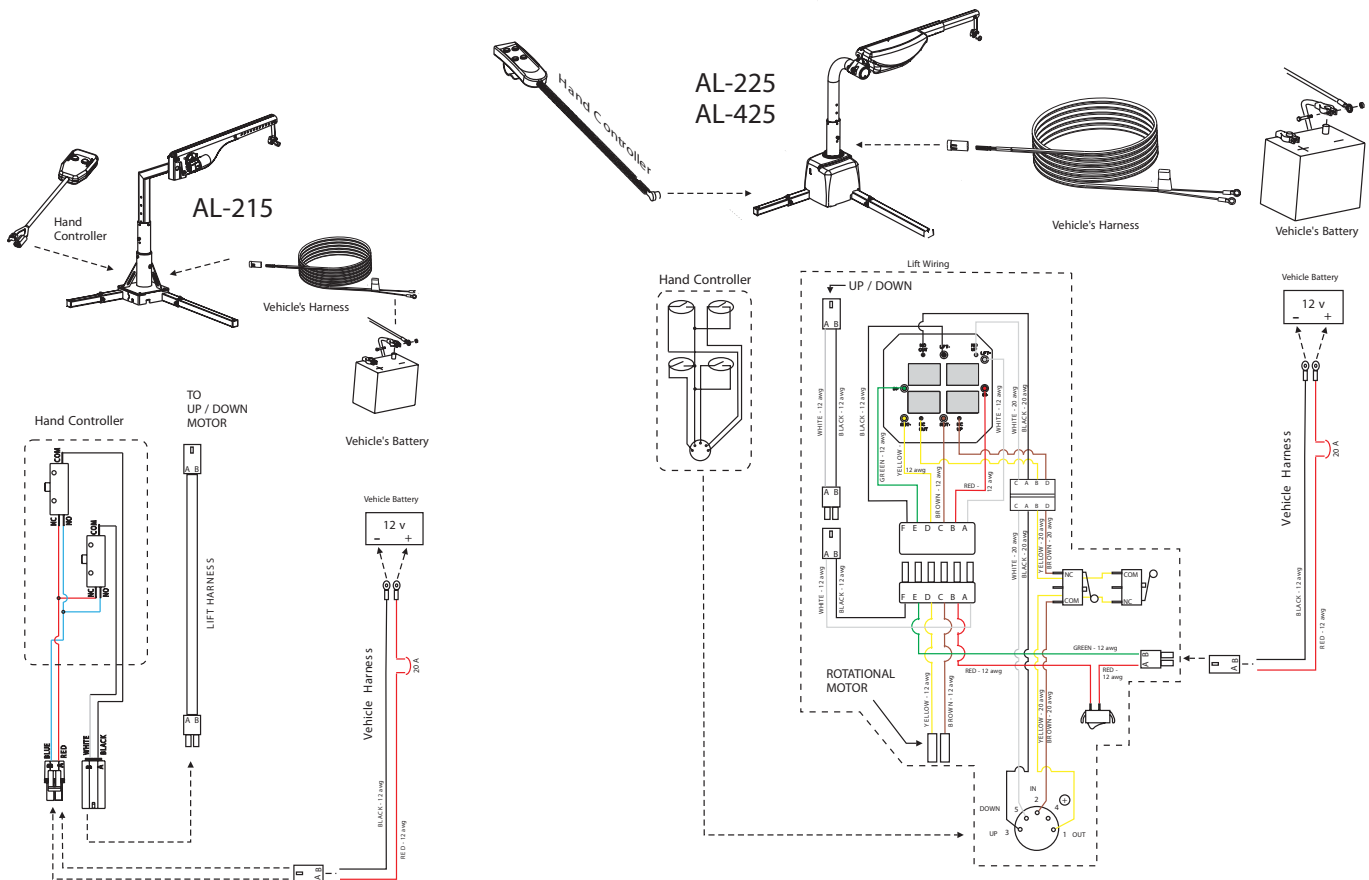
# INSTALLER EXPLODED VIEWS

## AL225, AL425 & AL SERIES BASE



ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	201-ZB03-C	MOTOR HOUSING
2	1	210-ZB03-C	MOTOR HOUSING COVER
3	1	220-ZB03-C	OUTER POST TUBE
4	1	400-3B01-A	FLANGE BUSHING
5	1	401-3B01-A	CUP BUSHING
6	1	529-ZB03-C	MOTOR HOUSING - GEAR PLATE
7	2	530-ZB03-C	LIMIT RING
8	1	700-1D02-A	MOTOR, ANKARSRUM, KSV 4030-822
9	1	ALA21094	STICKER, "CAUTION"
10	1	ALA21411	FLANGE BUSHING BRZ 3/8X1/2X1/2
11	4	BHCS-0_25-20-0_50-SS	BUTTON HEAD, 1/4-20 X 0.50, SS
12	4	BHCS-10-24-0_50-NP-SS	BUTTON HEAD, 10-24 X 0.50 W/ NYLON PATCH, SS
13	3	BHCS-M6-1_00-16-SS	BUTTON HEAD, M6-1 X 16MM, SS
14	1	H425231	MOTOR HOUSING GEAR PIN - A
15	1	H425232	MOTOR HOUSING GEAR PIN - B

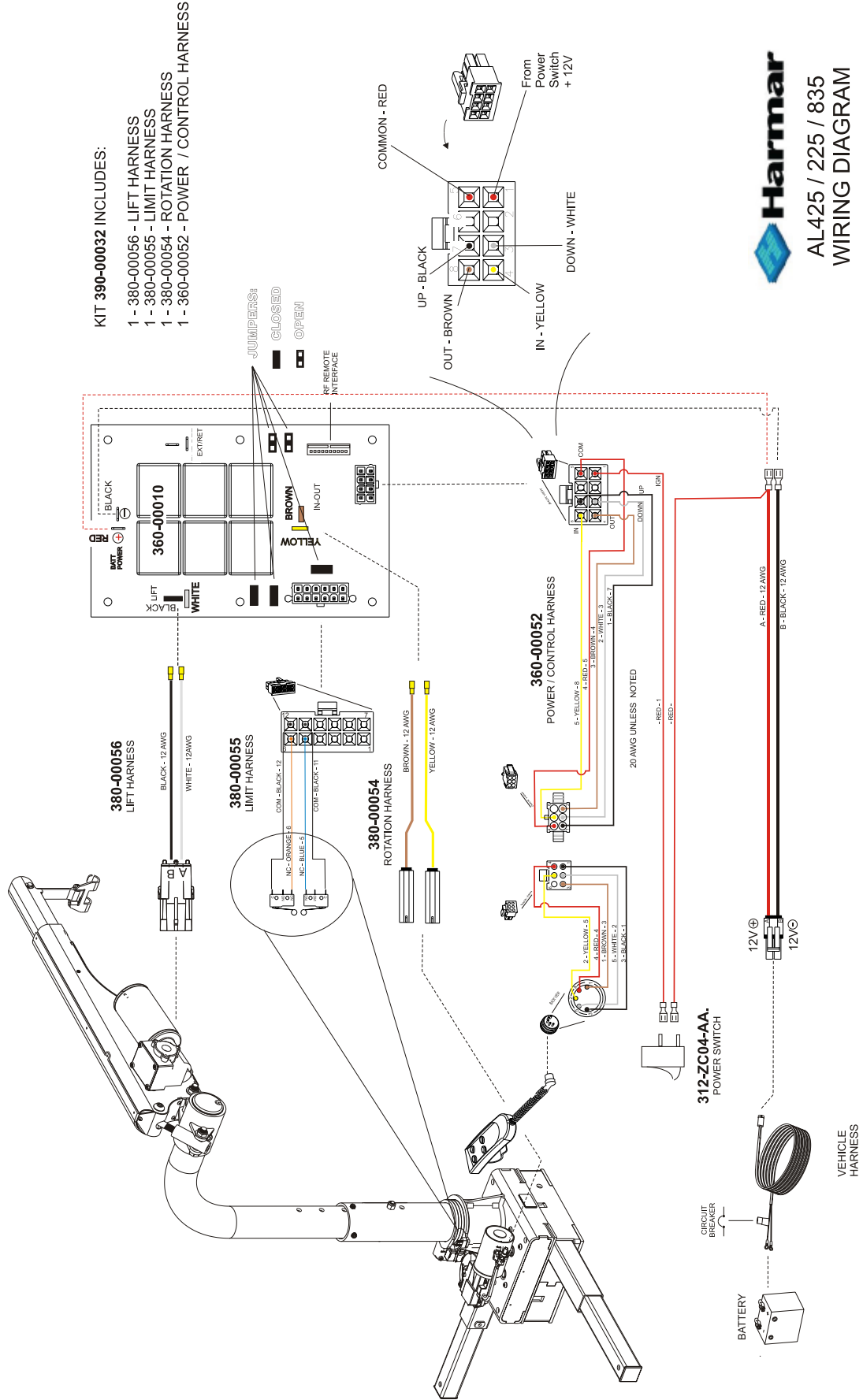
ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
16	1	H425240	DOUBLE SPROCKET 19-35, 8-35
17	1	H425241	DOUBLE SPROCKET 19-35, 8-40
18	1	H425255	LIMIT/MOTOR HOUSING SPACER
19	1	H425262	BUSHING 1/2ID, 5/8OD, 5/8L
20	1	H425263	BUSHING 3/8ID, 5/8OD, 1/2L
21	1	H425264	BUSHING 1/2ID, 1"OD, 1/2L
22	2	H425900	CHAIN, 35 PITCH - 26 LINKS
23	1	H425901	CHAIN, 40 PITCH - 33 LINKS
24	2	PHMS-2-56-1_00-SS	PAN HEAD, #2-56 X 1.00, SS
25	1	RHSS-0_25-20-0_25-N	ROUND HEAD, 1/4-20 x .25" NYLON
26	1	RR-0_37-EC-Z	E-CLIP 3/8 SHAFT, Z
27	1	RR-0_50-EC-Z	E-CLIP 1/2 SHAFT, Z
28	2	SSCP-8-32-0_50-SS	SET SCREW, 8-32 X 0.50, SS
29	3	WASH-0_25-0_50-0_06-SL-Z	1/4" SPLIT LOCK WASHER
30	2	WASH-0_37-0_62-0_06-RH-SS	WASHER, 3/8" ID x 5/8" OD x 0.06" THICK, 18-8SS
31	3	WASH-0_50-0_88-Z	WASHER, 1/2" ID x 7/8" OD x 0.075" THICK, ZP



# INSTALLER ELECTRICAL

**KIT 390-00032 INCLUDES:**

- 1 - 380-00056 - LIFT HARNESS
- 1 - 380-00055 - LIMIT HARNESS
- 1 - 380-00054 - ROTATION HARNESS
- 1 - 360-00052 - POWER / CONTROL HARNESS



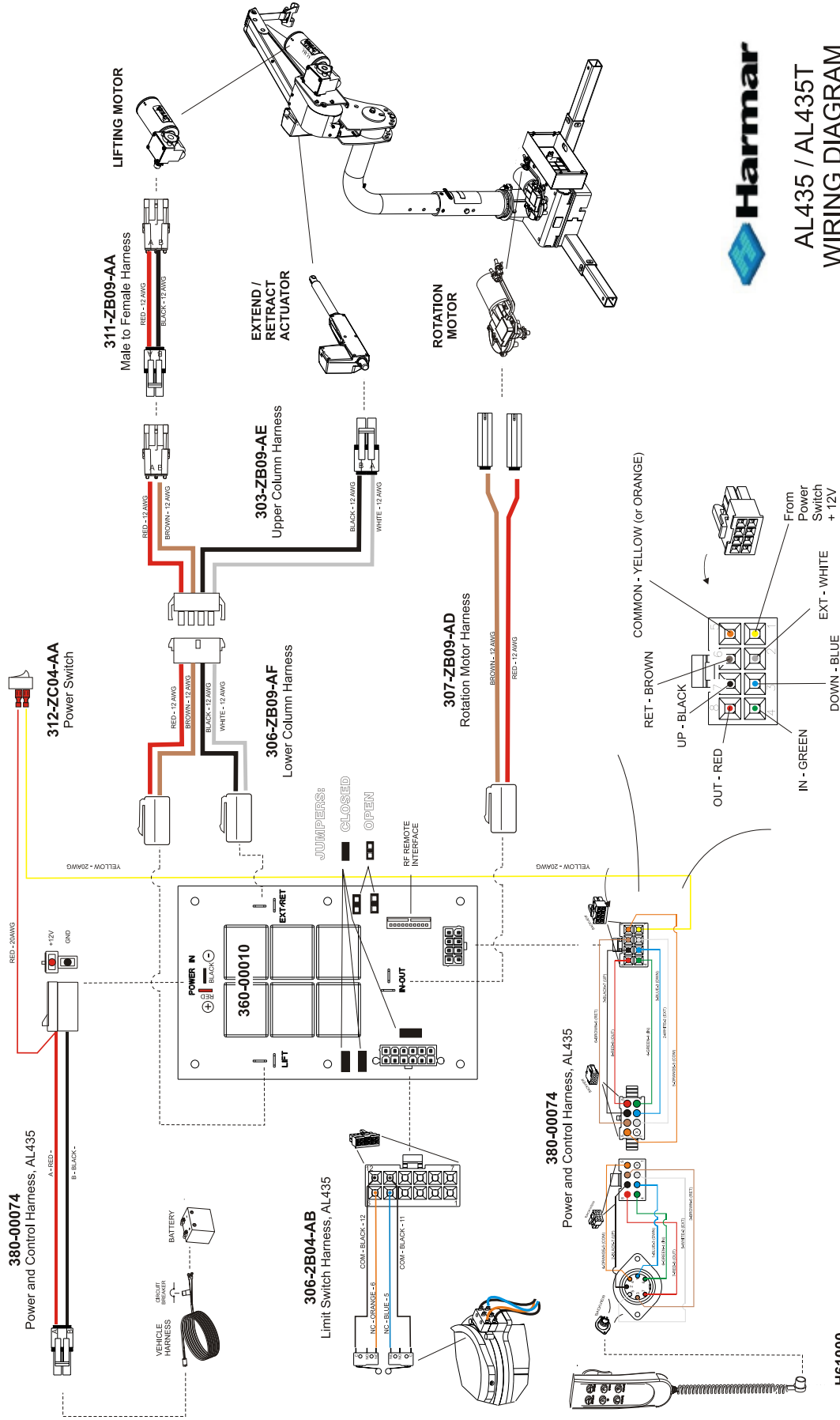
**AL425 / 225 / 835  
WIRING DIAGRAM**

650-00003



## AL435 / AL435T WIRING DIAGRAM

650-00006







# 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](http://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



# Inside Lifts

Installation & Owner's Manual



[www.harmar.com](http://www.harmar.com) | 800-833-0478

2075 47th Street Sarasota, Florida 34234