



## IL500 SIERRA INCLINED PLATFORM LIFT

### *Installation and Service Manual*



**WARNING! STRICT ADHERENCE TO THESE INSTALLATION INSTRUCTIONS IS REQUIRED and will promote the safety of those installing this product, as well as those who will ultimately use the lift for its intended purpose. Any deviation from these instructions will void the LIMITED WARRANTY that accompanies the product. Additionally, any party installing the product who deviates from the INSTALLATION INSTRUCTIONS shall be taken to agree to indemnify, save and hold harmless the manufacturer from any and all loss, liability or damage, including attorneys fees, that might arise out of or in connection with such deviation.**

# Table of Contents

This manual provides clear instructions for proper installation of Sierra Inclined Platform Lifts. Please refer to the Owner's Manual for operating instructions. Be sure to give the Owner's Manual to the owner of the lift before it is put into service. Any alterations to the equipment without written authorization by the manufacturer may void the warranty. Harmar lifts are designed to install with as little assembly by the installer as possible. If you have questions, concerns or comments, please contact Harmar's Technical Service Department at 1-866-378-6848 or tech@harmar.com.

## CONTENTS:

I. Lift Specifications.....	2
II. Preliminary Checks.....	3
A. Headroom.....	3
B. Tools required.....	3
C. Included parts.....	3
III. Installation Procedures.....	4-9
IV. Remote Call/Send Controls.....	10
V. Completion Procedures.....	11

## Sierra Inclined Platform Lift Specifications

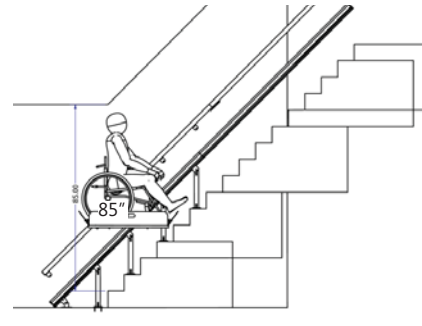
<b>Rated Load</b>	500 lbs
<b>Drive</b>	Rack and worm gear / 24 VDC 1/8 hp motor with brake
<b>Power Supply</b>	115 VAC 15 amp grounded circuit
<b>Control Circuit</b>	24 VDC
<b>Platform</b>	25" x 36" Manual fold Power folding ramps for entry and exit
<b>Travel</b>	40 feet maximum
<b>Speed</b>	14 feet per minute

<b>Controls</b>	Constant pressure rocker switch on platform Radio frequency wireless remote fobs
<b>Manual Lowering</b>	Device provided
<b>Safety Design Standards</b>	ASME A18.1, Section 6 - Incline Platform Lifts
<b>Safety Features</b>	Overspeed governor Upper and lower landing limits Upper and lower final limit Ramp obstruction sensors Under platform safety pan obstruction sensors Drive chassis obstruction sensors Non-skid surface

## I. PRELIMINARY CHECKS

### A. HEADROOM

Before beginning installation, ensure that there is an 85-inch vertical clearance for installation of the lift.



### B. TOOLS REQUIRED

Basic tools to have on hand during installation:

- |  |  |
|--|--|
| <input type="checkbox"/> Cordless drill            | <input type="checkbox"/> Allen wrench (5/64", 5/32", 3/16", 5/16") |
| <input type="checkbox"/> Phillips screwdriver (#3) | <input type="checkbox"/> Nut driver (3/8" and 5/16")               |
| <input type="checkbox"/> 6-10" driver extension    | <input type="checkbox"/> T30 Torx bit (included)                   |
| <input type="checkbox"/> Level (3' and 4')         | <input type="checkbox"/> Hack saw or chop saw                      |
| <input type="checkbox"/> SAE socket set            | <input type="checkbox"/> Tape Measure                              |

### C. INCLUDED PARTS

Before beginning installation, inspect and check the box contents. Report any damage to your dealer. Parts are packed on a long skid. Skid will contain the following:

#### Chassis Box:

- Chassis
- Call/send parts
- 2 Call/send hand controls
- Battery charger
- Manual hand crank
- Installation manual
- Owner's manual

#### Rail Bracket Box:

- Rail brackets (2, 3, 4, or 6 per set)
- Wood screws (#14 X 2" (4 per rail bracket)

#### Upper Guide Rail

#### Platform

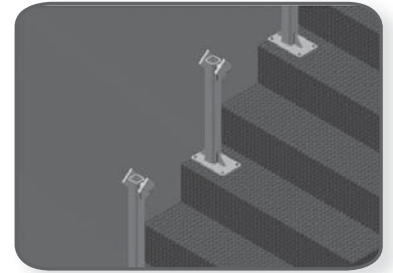
#### Unit Box

#### Rail Box:

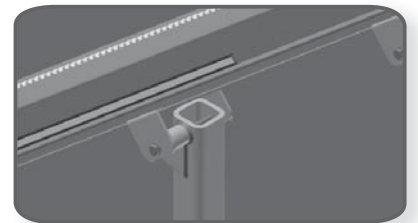
- Bottom rail pre-installed with:
  - Bottom end plate
  - Charge strip wire harness
- Bottom limit cam
- Joint pins and joint brackets (two-piece rail only)
- Plastic gear rack
- Top rail pre-installed with:
  - Charge strip wire harness
- Rail accessories (plastic bag):
  - Top end plate
  - Compression bolts (3 sizes)
- Self-cutting screws (1/4"-20 X 1")
  - Torx T30 driver bit
- Rail parts (plastic bag):
  - Extra plastic racks (2 or 3)
  - Top limit cam

## II. INSTALLATION PROCEDURES

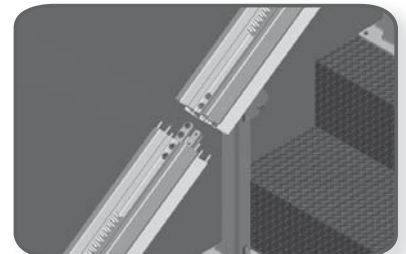
**Step 1:** Position rail mounting legs on steps. The number of legs and spacing will be determined by the overall length and number of pieces of rail. If your lift was ordered with the rail pre-cut to length, a drawing for your specific installation will detail the leg locations.



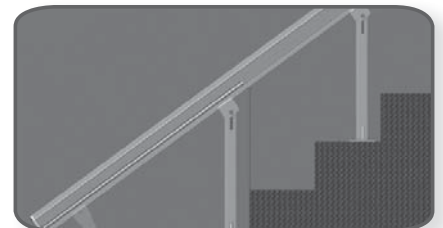
**Step 2:** Set the lower section of rail into the mounting legs. The clamps fit into a small channel on the bottom of the rail. Do not fully tighten the clamps at this time.



**Step 3:** If your lift has multiple rail sections, splice them together using the supplied splice bars and screws. The alignment pins will come pre-installed in one of the rail sections. Before sliding rail sections together be sure to plug together the charge wires running inside the rail. After tightening the splice bar screws slide down the sections of gear rack so there are no gaps.



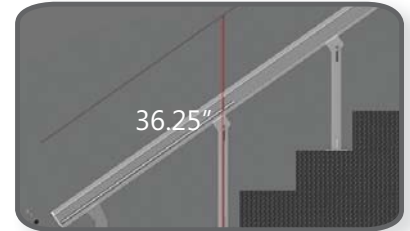
**Step 4:** Position the rail and mounting legs on the stairs until you obtain the desired dimension from the nose of the steps to the underside of the rail. This dimension is noted on your specific installation drawing. The bottom end of the rail should be no more than ½" off the floor; a short leg secures the bottom. After ensuring the rail is in the proper location, anchor the legs with the four #14 wood lags provided with each leg.



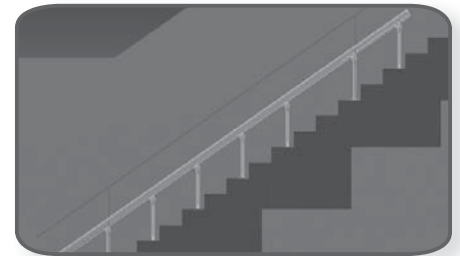
The top end of the rail will typically stop short of the top landing and never needs to extend beyond.



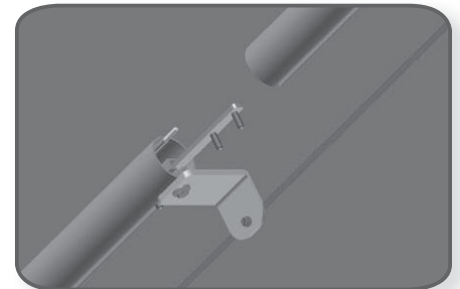
**Step 5:** To mark the location for the upper guide rail, measure from the leg base plate up the wall 36.25" (as indicated by the red vertical line). Be sure to measure in the center of the leg and use a 3 or 4' level to help ensure that the measurement is plumb vertically.



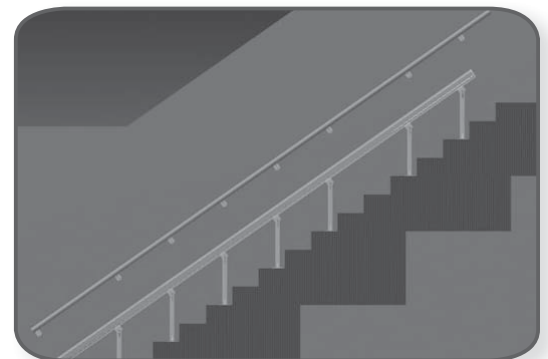
**Step 6:** Repeat this measurement at one more leg at a minimum. Then mark a straight line between these measurements. If needed, a chalk line can be filled with talcum powder so there is no risk of discoloring the wall with standard chalk or pencil line. This line is where the upper guide rail mounting brackets will be anchored.



**Step 7:** The upper guide rail brackets do not need to be directly above the track mounting legs. They need to be lagged into a wall stud and spaced out evenly. Put one as close to each end of the rail as possible. The guide rail will be longer than needed to allow placing the joint splice directly on one of the mounting brackets. The joint will have one alignment pin and a splice bar. The bracket attachment bolt will tighten into the splice bar and the remaining three set screws are tightened into the splice bar.

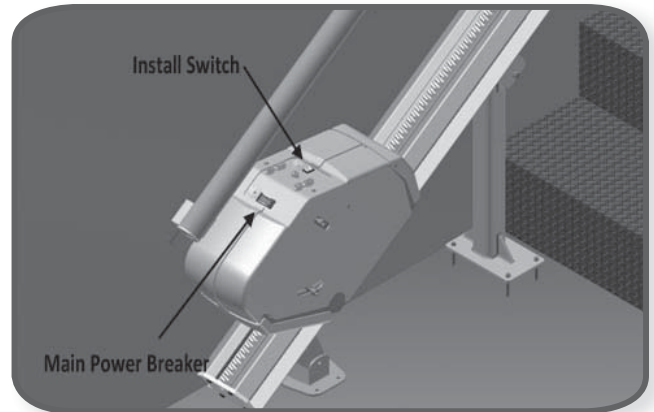


**Step 8:** Secure the remaining guide rail mounting brackets to the rail with the threaded bars inside the rail channel. The bottom end of the guide rail should extend at least as far as the bottom end of the rail. The upper end may be extended farther so the guide rail can be used as a handrail for people traversing the stairs on foot.

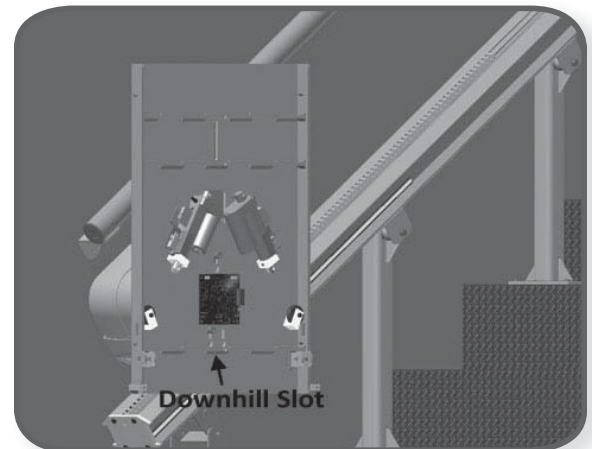




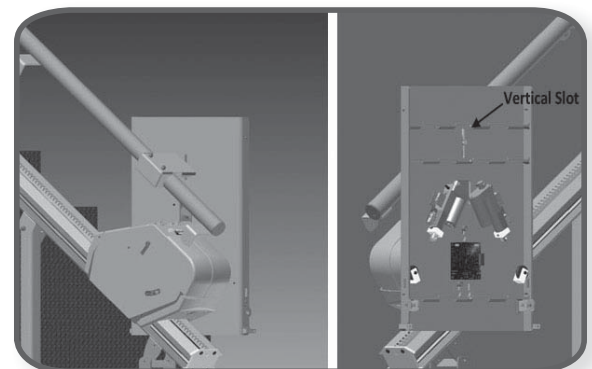
**Step 9:** Slide the chassis onto the top of the rail until it engages the gear rack. Turn the main power breaker on; the lift will emit a long beep. Run the lift down near the bottom of the rail using the install switch (black rocker) on top of the chassis. When you have the lift in the location you want it turn off the main power breaker.



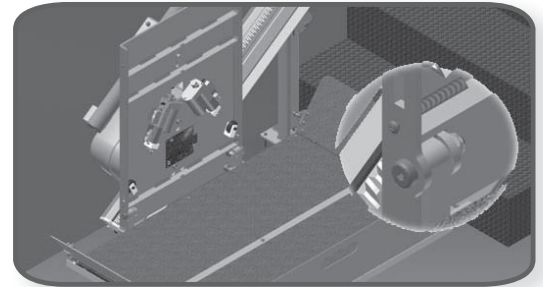
**Step 10:** Install the platform mount onto the chassis by aligning the two large holes on the end of the slots with the two large Allen headed cap bolts protruding from the side of the chassis. For the bottom slot, use the one on the downhill side of the mount. Ensure that the bolt heads are fully seated in the top of the slots, level the mount and tighten securely. Tighten the two more cap bolts on the back side of the chassis as well.



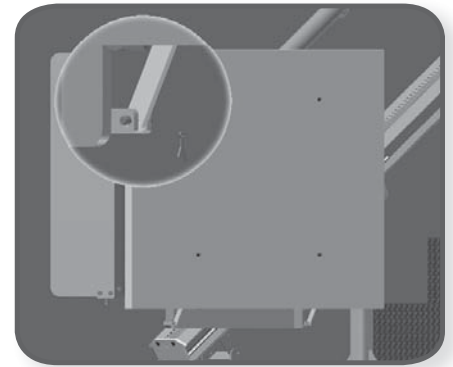
**Step 11:** Install the Upper Guide Roller on the back side of the platform mount. Align the two wheels with the guide rail and secure with a washered bolt through the vertical slot in the platform mount. Plug in the three wire harnesses from the platform mount to the top of the chassis. All three plugs are different so they cannot be plugged into the wrong connector.



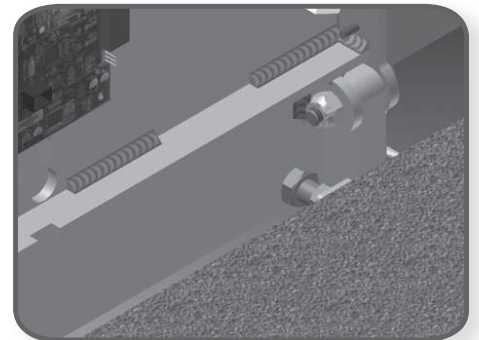
**Step 12:** Mount the platform onto the lift using the shoulder bolts and nuts. Plug in the safety pan wire harness from the platform to the two pin plug on the bottom of the platform mount.



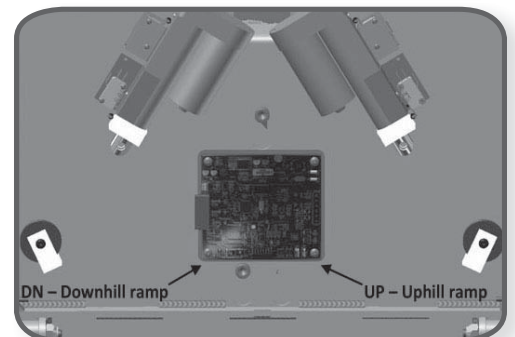
**Step 13:** Fold the platform up and attach the ends of the assist struts using the clevis and cotter pins.



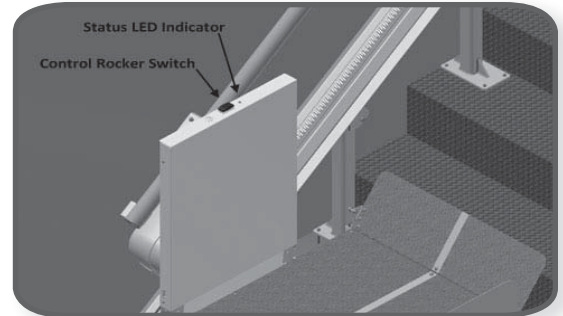
**Step 14:** The back side of the platform has two leveling bolts. Loosen the jam nut on each and turn the bolts in or out to position the platform. When empty, the edge furthest away from the chassis should be slightly ( $1/2'' - 3/4''$ ) higher to compensate for the deflection when fully loaded with a passenger and chair.



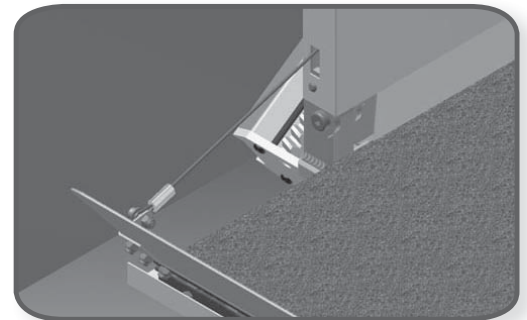
**Step 15:** The ramp control board has two sets of terminals for the ramp motors, UP and DOWN. The UP terminals are for the uphill ramp and the DOWN terminals are for the downhill ramp. Depending on the hand of your lift, it may be necessary to switch the ramp motor wires on these terminals.



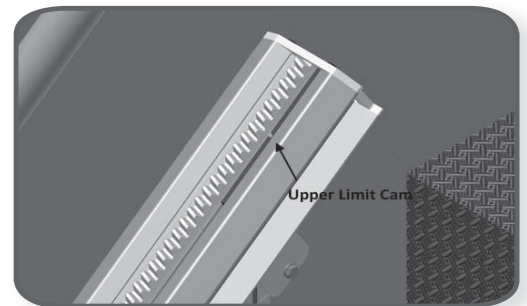
**Step 16:** Plug the harness on the shroud into the harness at the top of the platform mount. Route the two ramp cables through the two slots on either side of the shroud then secure the shroud with the four screws on the sides.



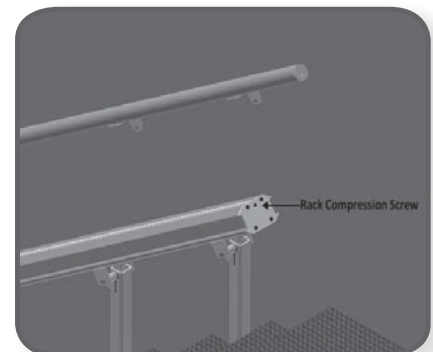
**Step 17:** Attach the ends of the ramp cables to each ramp by inserting the shoulder bolts through the loop on the end of the cable.



**Step 18:** Insert the upper limit cam into the slot in the rail at the top and tighten the set screw, this will need to be adjusted later to stop the lift in the proper location. Insert the rest of the gear rack into the top of the rail. The gear rack should be even with the end of the rail and the last piece may need to be cut off. Install the end plate using the four Torx head screws and Torx driver (provided).

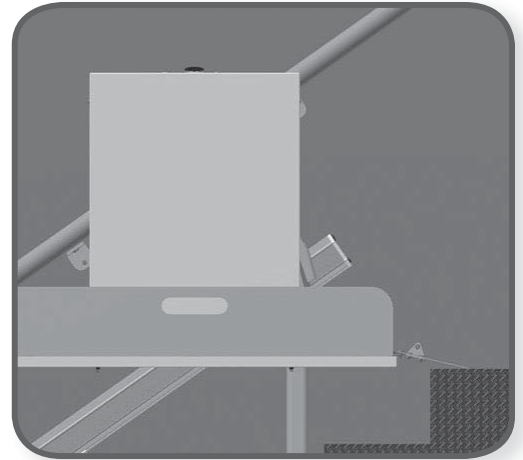


**Step 19:** Install the rack compression screw into the end plate to pre-load the gear rack. Install the Hand Rail end plates into each end of the Hand Rail.





**Step 20:** The top and bottom of the rail each have a short wire and plug coming from the rail end. Plug the charger into one of these plugs and plug the other end of the charger into a wall outlet. You may use whichever end is a more convenient location to a wall outlet.



**Step 21:** Turn on the main power breaker on the chassis. The status LED indicator will cycle from RED to AMBER to GREEN to OFF, and then the lift will emit a beep. The indicator should then return to GREEN, indicating the lift is now ready to run.

If the indicator does not return to GREEN, check the following:

**AMBER:** Indicates an obstruction is triggered. There are five obstruction sensors; uphill chassis, downhill chassis, uphill ramp, downhill ramp, and platform safety pan. Check all of these to ensure that one of these is not triggered and check all these wiring connections.

**RED:** Indicates a fault or double obstruction. If two or more obstruction sensors are triggered at the same time the lift will disable itself. Turn the main power breaker off, wait a couple of seconds and then turn the breaker back on. If the lift is on the final limit it is also treated as a fault and the lift will have to be hand cranked off the limit. To do this, run the lift up to the top landing until the lifts stops. When the lift comes to a stop, the ramp motor will turn on to lower the ramp. If you let go of the rocker switch the ramp will stop; continue holding the rocker until the ramp stops on its own. It may be necessary to slide the upper limit cam down to get the lift to stop at the proper place in relation to the landing.

### IV. REMOTE CALL/SEND CONTROL OPERATION

#### A. REMOTE CONTROL OPERATION

**STEP 1:** Press and hold the appropriate directional button on the front of the hand control. The LED indicator light turns green when a signal is being sent.



The platform will operate with or without a rider. All safety sensors are designed to continue operating in their normal mode. The LED light indicator will also display the appropriate color.

**STEP 2:** If the platform lift fails to respond, the batteries may be discharged and need to be replaced. Remove the back cover of the control and replace with commonly available AAA batteries, ensuring that the polarity is correct.

#### B. REMOTE CONTROL RE-PROGRAMMING

All call/send controls are factory programmed. Re-programming is not normally necessary during installation. In the event that the remote call/send control needs to be re-programmed, it is essential to program BOTH controls in one programming cycle. Do so by completing the following:

1. Start with the red "ON/OFF" switch in the "OFF" position (0).
2. Disconnect the 6-pin and 8-pin wire harnesses from the chassis.
3. Press and hold the install switch (located on the top of the chassis) in either direction.
4. Turn the red "ON/OFF" switch to the "ON" position (I), and then release the install switch.
5. The lift will begin to beep rapidly (this means the first remote control is ready to program).
6. Press and release the "UP" or "DOWN" button of the first remote control (the first remote control is now programmed).
7. Press and release the "UP" or "DOWN" button of the second remote control (the second remote control is now programmed).
8. Upon completion, two beeps will indicate that both remote controls have been programmed.
9. Turn the "ON/OFF" switch to the "OFF" position (0).
10. Connect the 6-pin and 8-pin wire harnesses to the chassis and then turn the red "ON/OFF" switch to the "ON" position (I).
11. Test each remote control in both the up and down directions.

### V. COMPLETION PROCEDURES

#### A. TEST CONTROL SWITCH

**STEP 1:** Ensure that the unit travels correctly by operating the control switch while standing in front of the unit.

**STEP 2:** Depress the switch in the upstairs direction to move up. The lift will beep. Wait three (3) seconds and begin to smoothly accelerate upwards. The lift will continue to move upwards as long as the switch is depressed.

**STEP 3:** Release the switch and the lift will come to an immediate stop.

**STEP 4:** Depress the switch in the downstairs direction to move down. The lift will beep, wait three (3) seconds and begin to smoothly accelerate downwards.

**STEP 5:** Release the switch and the lift will come to an immediate stop.

**STEP 6:** Run the lift all the way up and down the rail to ensure there is at least a 1/2" clearance from the wall and any obstructions.

**CAUTION!** *Do not ride on the lift until the install is complete.*

#### B. TIGHTEN BRACKETS

**STEP 1:** Install and fully tighten the rail bracket mounting screws (four (4) screws per bracket). For hardwood stairs, drill a pilot hole first. For plywood or particle board stairs, take care to prevent stripping.

#### C. SET UPPER AND LOWER TRAVEL LIMITS

**STEP 1:** Test the lower travel limit by operating the lift downward, keeping the switch depressed. The lift should begin to decelerate about 3" from its final resting position and stop clear of the floor.

**STEP 2:** The final stopped position can be adjusted to accommodate the height of the ramp to the floor by repositioning the limit cam located in a slot in the rail.

**STEP 3:** Use a 5/64" Allen wrench to loosen the set screw in the limit cam. Adjust the limit cam up or down and retighten the set screws. Repeat the above steps until the lift stops in the desired position.

**YOUR LIFT IS NOW READY TO OPERATE.**

