Installation & Service

rave STAIR LIFT

WARNING! STRICT ADHERENCE TO THESE INSTALLATION INSTUCTIONS is required and will promote 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 attorney fees, that might arise out of or in connection with such deviation.

20419 / P/N: 630-00078 Rev E

This stair lift installation manual has been written to provide clear and precise instructions for proper installation procedures for Rave stair lifts. Please refer to the Owner's Manual for Limited Warranty information and operating instructions. The Owner's Manual must be given 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. Lifts are designed to install with as little assembly by the installer as possible. If you have questions, concerns or comments, please contact AmeriGlide's Technical Service Department at 1-866-378-6648.

Important!

It is imperative that this manual be read and understood prior to attempting installation of the stair lift. Please observe all cautions and warnings in this manual, as well as on labels on the equipment.

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INDICATIONS OF USE STATEMENT
The Rave stairway chairlift assists with the transfer of patients or mobility impaired persons, up and down between levels of a residential or private facility.

TOOLS REQUIRED

The following is a suggested list of basic tools to have on hand during installation.

☐ Cordless drill
☐ Allen wrench (5/64", 5/32", 3/16", 5/16")
☐ Phillips screwdriver (#3)
☐ Nut driver (3/8" and 5/16")
☐ 6–10" driver extension
☐ T30 Torx bit (included)
☐ Level
☐ Hack saw or chop saw
☐ Voltmeter

INCLUDED PARTS

Before beginning installation, please inspect and check the box contents. Report any damage to your dealer.

Chassis Box:

- Chassis
- Call/send parts
- 2 Call/send hand controls
- Velcro® fasteners
- Battery charger
- Manual hand crank
- Installation manual
- Owner's manual
- Rail Brackets (2, 3, 4 or 6 per set)
- Wood screws #14 x 2"(4 per rail bracket)

Chair and Footrest Box:

- Chair and seat belt
- Footrest complete with:
- Adjustable seat height frame
- Plastic vertical cover
- Nylon plugs
- Seat swivel post with fasteners

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 (2 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

A. DETERMINE OVERALL RAIL LENGTH (Only if track did not come pre-cut to length)

Step 1: Determine any obstructions that will affect the position and length of the rail. These may include walls, doors, hallway orientation, etc.

Step 2: First, measure the overall length of the stairs from the nose at the top landing of the stairs to the floor at the bottom (nose to floor measurement, e.g., 128", see image below).

Step 3: For a normal stairway where there is adequate space for a landing, add 7" to the nose to floor measurement. This will provide enough rail length to allow the stair lift to be adjusted so that the floor-to-seat height will be the same at both the top and bottom (e.g., 135").

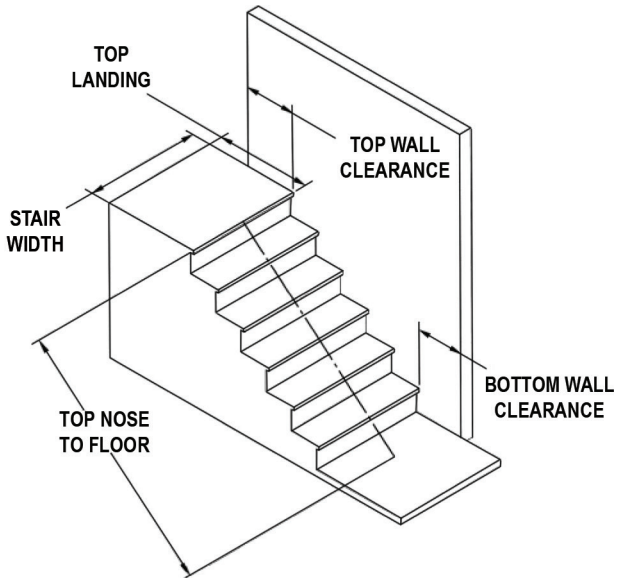
Step 4: If the top landing has restrictions (i.e., a wall or doorway), use the chart below to determine the length of extension needed.

Step 5: To cut the rail, use a standard 12" chop saw, with a blade designed to cut aluminum.

Do not cut rail inside the house (aluminum chips are very hard to remove from carpets).

Tip!

DO NOT cut the end of the rail that contains the joint holes. Remove the charger strips and wire harness before cutting.



Extension

7"	9"	11"	13"
3.9"	5"	6.1"	7.2"

Horizontal intrusion on top landing

B. RAIL INSTALLATION

Step 1: Open the rail box and remove the contents.

Step 2: Position the bottom rail (the rail with end plate attached) directly on the stairs with the end plate towards the bottom of the stairs and the plastic rack facing up. Place an object that measures between 3/4" and 1" between end plate and the floor.

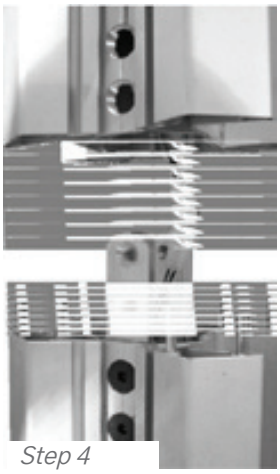
Step 2

Tip!

Use the chair box or another heavy object, like a toolbox, at the bottom to prevent the rail from sliding down the stairs.

Step 3: Position the two ends of the track close together. Locate and connect the plug on the ends of the two charger harnesses inside the two track pieces.

Step 4: With the plastic rack facing up, slide the top rail into the bottom rail and guide them together using the pre-installed pins. Gently tap the top rail if necessary to get them close together. Be cautious not to pinch the charger harness.



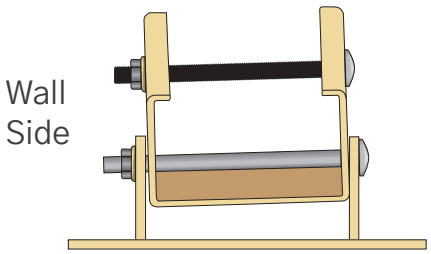
Step 4

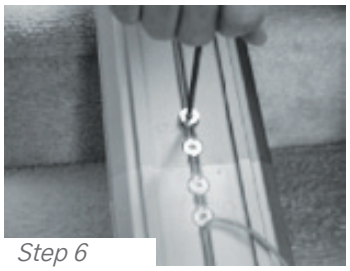
Step 5: Install two (2) joint fasteners and firmly tighten with 3/16" Allen wrench. Then slide rack pieces down to cover joint.

Step 6: Turn over joined rails and install the remaining two (2) joint fasteners and firmly tighten with 3/16" Allen wrench. Then slide rack pieces down to cover joint.

Step 7: Install rail brackets by loosening the screws and snapping each bracket edge into the slot, or slide the brackets on from the top of the rail. When in final position, the nuts will be on the wall side.

Step 5



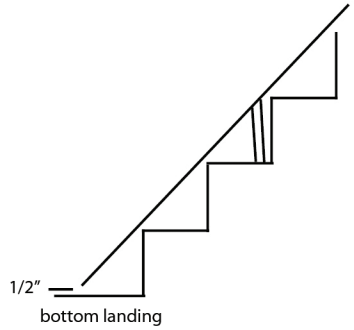


Step 6

Step 7

Step 8:

A. For double rails, tighten the first rail bracket in place so that, when turned over, the back of the bracket touches the rear of the first step from the bottom landing. Place and tighten the second and third brackets on the steps on each side of the rail joint, again so the back of the bracket touches the rear of the step. Then place the fourth and final bracket on the last step before the top landing, again tightening it so it touches the front of the rear of the last step.



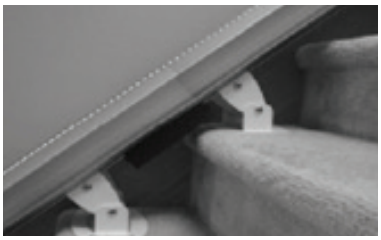
B. For single rails, tighten the first rail bracket in place so that, when turned over, the back of the bracket touches the rear of the first step from the bottom landing. Place the other rail bracket on the last step before the top landing, again tightening it so it touches the rear of the last step.

Step 9

Step 9: Turn the rail right side up (plastic side facing up).

Step 10: Measure any obstruction from the wall (this may include handrails,molding, light switches, etc.) and adjust the edge of the brackets an equal distance from the wall.

Step 11



Step 11: The underside of the rail must be at least 2" above the stair tread nose to provide clearance for the footrest. **To achieve this 2" clearance move the rail and bracket forward.** Once the clearance is 2" tighten all bracket nuts to hold the brackets in position. To maintain the 2" clearance, and to hold the rail in place,secure the bottom bracket to the first step from the floor with 2–2" wood screws, using a 3⁄8" nut driver on a 6–10" extension of a cordless drill.

C. CHASSIS INSTALLATION

Step 1: Remove plastic bag from chassis box. Lift the chassis with the manual override hole (on bottom) facing the downhill side of the stairs and gently slide the chassis onto the rail until it makes contact with the plastic rack. Do not let the chassis free fall down the rail.

Step 1

CAUTION!

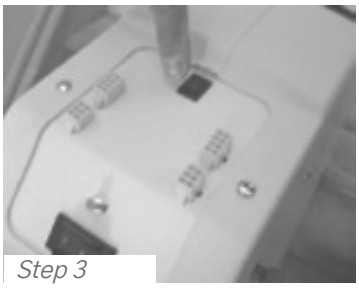
Be careful not to trap fingers between the rail and the chassis.

Step 2

Step 2: Remove the safety tie and turn the red "ON/OFF" switch to the "ON" position (I).

Step 3: Use the installation switch (the black switch on the top of the chassis) to move the chassis at least two (2) feet down the rail, pushing gently on the chassis to ensure the chassis does not pull any rack to the top.

Step 4: Loosen, but do not remove, the four (4) seat-leveling bolts – two (2) on each side of the chassis — and then align them vertically using a level. Firmly tighten the two (2) bolts on the side of the chassis facing the wall.



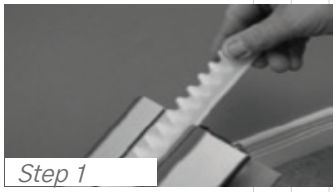
Step 3

CAUTION!

Do not ride on the chassis or lift until the install is complete.

D. FINAL RAIL INSTALLATION

Step 1: Install the remaining plastic rack pieces in the upper rail.


Step 1

Step 2: Use a hacksaw or chop saw to cut the last plastic rack piece flush with the rail end. Place something on the floor to catch debris or mark and cut the rack outside.

The exposed, cut end of the plastic rack should be facing the top end of the rail (the factory-cut side should butt against the lower rack).

Step 2

Step 3: Slide the top limit cam into one of the cam slots (it doesn't matter which side), and tighten the pre-inserted Allen screw with a 5/64" Allen wrench. This will be used to set the final upper limits for the stair lift.

Step 4: Remove charging strip from the rail box. Connect charging strip connector to the charger wire that runs through the center of the rail from the lower charging strips.

Step 9

Insert the two (2) charger strips into the keyed slots at the top of the rail (while standing on the top landing looking down). The charging strip with the red wire should be inserted into the left slot with the metal strip facing out. The charging strip with the black wire should be inserted into the right slot with the metal strip pointing out.

Bend the red and black wire tabs in toward the center of the rack.

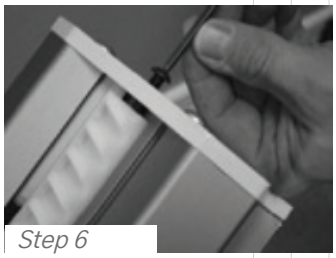
Insert excess cable into the rail, leaving the pigtail with the Molex connector.

Step 5

Step 5: Install the end plate to the top of the rack with the four (4) self-cutting Torx screws using the supplied T30 Torx bit.

Tip!

Too much torque applied to these screws may result in damage. Take your time and apply grease to threads.


Step 6

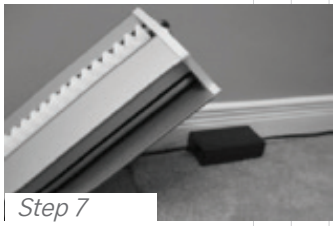
Step 6: Install one of the rack pre-compression screws in the threaded hole in the top plate of the rail, and tighten it as firmly as possible by hand with a 5/32" Allen wrench.

There are three (3) kinds of pre-compression screws:

1. 3/4" for tracks up to 12'
2. 1" for tracks over 12'

Step 6

Step 7: Plug in the battery charger at either end of the rail, depending on the closest or most convenient location of a wall power supply. Minimize wire length and intrusion.


Step 7

E. FOOTREST & SEAT INSTALLATION

Step 1: Remove footrest from box and use the installation switch to drive the chassis downward to a position about 6" clear of the floor. This will provide a safe area to install and adjust the footrest. Do not drive the unit into bottom stop.

Step 1

Step 2: Turn the red "ON/OFF" switch located on the top of the chassis to the "OFF" position (0).

Step 3: Position the footrest onto the two (2) seat-leveling bolts on the outside of the chassis by aligning the large opening at the slot ends of the footrest.

Step 5

Step 4: Ensure the footrest is fully engaged.

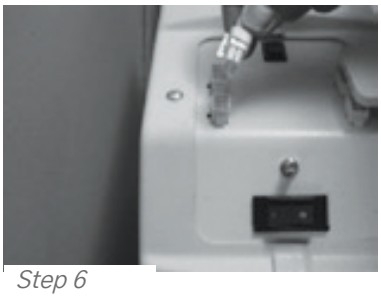
Step 5: Check that the height of the seat base is correctly set for the intended user. A seat height guide is provided behind the plastic footrest shroud. Consult with the client and use an existing chair or walker with armrests as a guide.

If the height of the seat needs to be adjusted, loosen and remove the four (4) bolts on the sides of the seat base using a 5⁄32" Allen wrench. Adjust the seat base up or down relative to the footrest structure until the holes align, then replace and securely tighten the four (4) bolts.

Step 5

Step 6: Connect the footrest cable to the 6-pin connector on the chassis.

Step 7: Position the keyed seat swivel post in the hole in the seat base hole closest to the top of the stairs. Securely tighten the two (2) bolts on the sides of the hold using a **5⁄32**" Allen wrench.


Step 6

Step 8: Use the supplied white plastic plugs to secure the vertical footrest shroud to the main footrest cover plate.

Step 9: Position the seat directly aligned over the carriage and place onto the seat swivel post. Depress the swivel lever until the seat is fully engaged with the swivel post. Check the swivel lever to test the locking mechanism. **The system will not function if proper engagement is not achieved.**

Step 7

Step 10: Connect the seat cable to the 8-pin connector on the chassis.

Tip

When the 6-pin footrest and the 8-pin chair cables are both connected to the chassis, the black installation switch on the chassis is disabled and will not function.

Step 10

Step 11: The armrest control is factory set for right-hand operation. If the user prefers to operate the armrest controls with their left hand, loosen the single screw on the underside of each armrest and slide each armrest upwards. Disconnect the plug on the armrest control, switch the armrests, and reconnect the plug. Replace armrests and tighten screws.

Step 11

Step 11

Step 12: If the lift is equipped with the optional key lock, ensure that the key switch on the armrest control is in the locked position (with the key in the vertical position).

Step 12

Step 13: Turn the red "ON/OFF" switch located on the top of the chassis to the "ON" (I) position. You should hear a single beep and the LED indicator light on the armrest control should cycle through a test sequence, showing red, yellow and green respectively. If any of the system controls or safety sensors are engaged the LED indicator light will turn to yellow.

Step 13

Step 14: If the LED indicator light is not green, check the safety sensors:

1. Seat swivel sensor (seat should be in the locked position)
2. Footrest lower sensor (check by pushing in on the safety pan on the footrest)
3. Upper foot pan safety sensor (check by pushing on the safety pan on the footrest).
4. Front foot pan safety sensor (check by pushing on the safety pan on the footrest).
5. Uphill safety sensor (ensure nothing is blocking upward passage)
6. Downhill safety sensor (ensure nothing is blocking downward passage)

Step 14

If the LED indicator light is still not green after testing sensors, turn the unit off and recheck all wire plugs. Turn the unit on again and recheck the LED indicator light cycle. When the LED indicator light remains green the lift is ready to operate.

III. REMOTE CALL/SEND CONTROL OPERATION

A. REMOTE CONTROL OPERATION

The optional key switch on the arm of the chair must be in the "ON" position to use the remote call/send control.

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

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

Step 2: If the chair lift fails to respond, this may be an indication that the batteries are 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 footrest and 8-pin chair 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 footrest and 8-pin chair 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.

IV. COMPLETION PROCEDURES

A. TEST ARMREST CONTROL SWITCH

The optional key switch on the arm of the chair must be in the “ON” position to use the remote call/send control.

Step 1: Ensure that the unit travels correctly by operating the armrest 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 chair all the way up and down the rail to ensure that the top of the seat back has at least a 1/2" clearance from the wall and any obstructions.

Caution!

Do not ride on the chassis or 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, a pilot hold should be drilled first. For plywood or particle board stairs care must be taken 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 unit 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 user 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.

Step 4: Repeat the above Steps to set the upper limits. For safety, the footrest should be set at least level with the upper landing.

Step 5: The optimum position is met when the seat height above the floor is the same at the top and bottom of the stairs.

D. TEST SAFETY STOP SWITCHES

Step 1: Safety stop switches are located in both the upward and downward ends of the chassis providing protection from obstructions on the rail.

Step 2: Safety stop switches are located in the footrest bottom pan providing protection from obstructions and trapping hazards on the stairs.

Step 3: Safety stop switch is part of the swivel seat mechanism and prevents the lift from operating when the swivel is in use.

Step 4: Test all the safety stop switches by driving the lift down and touching the downward end of the chassis, the lower edge of the footrest, and the underside of the footrest in both its folded and unfolded positions.

Step 5: In each of the above cases the unit should come to an immediate halt. The LED indicator light on the armrest control should turn to orange and the unit should beep intermittently.

Step 6: When the control switch is released, the unit should NOT be able to be driven in the direction that the lift initially engaged the obstacle. Test this condition.

Step 7: Test to ensure that the lift can only be driven away from the obstruction. The LED indicator light will turn to green and stop beeping indicating a safe operating condition.

Step 8: Repeat the above tests while driving the lift in opposite direction.

Step 9: If any safety condition does not function properly, carefully review all installation instructions, reset the “ON /OFF” switch and check that the LED indicator light is green. Repeat the above tests.

Step 10: If any safety stop switch fails to immediately stop the lift and/or a red LED indicator light appears, remove the key to prevent further use of the lift and immediately call the manufacturer for assistance in diagnosing and repairing the problem.
Do not use the lift until repaired.

E. ADDITIONAL SYSTEM CHECKS

Step 1: After the successful testing of all safety switches, sit on the lift and operate to the top of the stairs. Keeping the control switch depressed continuously, the lift should gently decelerate and then stop at the top of the track.

Step 2: As a final adjustment, sit on the lift and do two (2) complete up trips and stop with the chair at the bottom. Then tighten the compression screw in the top end plate, then run the chair to the top and again tighten the compression screw. Run the chair to the middle and do a final tightening of the compression screw.

Step 3: Drive the lift to the bottom, keeping the control switch depressed all the time, and check that the lift gently decelerates and stops so the footrest pan is clear of the floor. If necessary adjust the limit cams with a $^{5}/_{64}$" Allen wrench.

Step 4: Move the lift about three (3) feet from either the top or bottom of the rail. After 30 seconds the armrest LED indicator light will show orange and beep indicating that the lift is not positioned on a charge point. The beep will stop after 30 seconds, but the armrest LED indicator light will continue to flash orange.

Step 5: Test the seat swivel at the top by using the levers and swiveling the seat towards the landing and stop the seat at 35° and 85°. The seat swivel levers will release into a locked position at each of these angles. The lift will not operate in any of these positions if the control switch is depressed, and the LED indicator light will turn orange. Return the seat to its normal position and the LED indicator light will turn green and the lift will now operate normally.

Step 6: Drive to the top or bottom and check the battery charging light. If the light is orange or red, the batteries are being charged.

THE LIFT IS NOW READY TO USE!

Note!

The photos in this section show a 'left' folding rail, assembled to be installed on the left side of the stairway. If you're assembling a 'right' side, please complete all of these steps in mirror-image to what's shown. The rail can be disassembled and switched from a 'left' or a 'right' if necessary. Instructions for this procedure can be found on page 20 of this book. As always, if you encounter any difficulty, please call Technical Support.

A. RAIL INSTALLATION PREPARATION

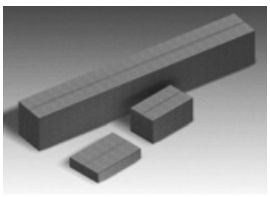
TOOLS REQUIRED

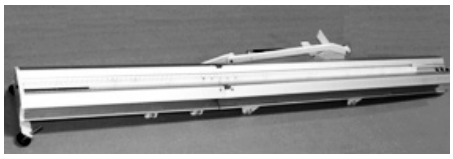
The following is a suggested list of basic tools to have on hand during installation.

- ❑ Wrenches
- ❑ High torque drill
- ❑ Allen wrenches (standard SAE set)
- ❑ Carpenter's square
- ❑ Pencil
- ❑ Tape measure

INCLUDED PARTS

Before beginning folding rail installation, please inspect and check the box contents. Please note that the Rave Parts Box is omitted on new units since these parts are factoryinstalled on the stair lift. Report any damage.





- Assembled Folding Rail

Track Bracket Box:

- Two (or more) assembled short track brackets, rack pieces, two adjustable feet

Rave Parts Box:

- Folding track side-plate
- Screw
- Modified front and rear Rave safety switch bumpers. For new units, this box is omitted and these parts are already installed on the stair lift.

B. FOLDING RAIL INSTALLATION PROCEDURES

STEP 1: Orient the two track brackets onto the folding rail as shown at right, with the nuts on the same side as the folding mechanism (for either left or right folding).

STEP 2: Expand and snap the two brackets over the track, so the top is in the bracket–groove.

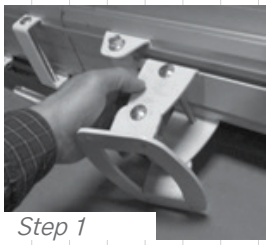
STEP 3: Tighten partially the two whiz nuts that position these on the track, using a ½" wrench (deep socket preferred), so they won't slide when you're test–fitting the position.

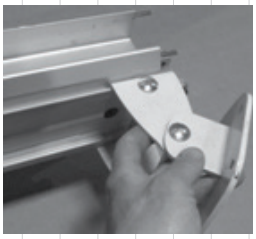
STEP 4: Place the track onto the stairway with the bottom bracket on the second step, as shown. Note that the bottom feet should approximately rest on the floor with the rail straight, but they will be adjusted later. If you're adding the folding rail to an existing stairway, run the Rave all the way to the top of the stairs so it is out of the way. Note that the track brackets install with the roundhead of the carriage bolts facing the stairs, the nuts are toward the wall. In this position, they are designed to lean the track slightly toward the wall.

STEP 5: Measure to verify that the underside of the rail is more than 2 inches from the stair noses, both at the second step bracket and at the upper bracket. If not, reposition the brackets as needed. This clearance is required for the stair lift footrest. In some installations, you may not be able to get 2 or more inches with the standard stair–bracket. Contact us to get higher brackets.

STEP 6: Retrofits: FIT THE RAIL: If this is a new–install, the upper rail will be pre–cut at the factory to the correct length. If this installation is a retrofit to an existing stair lift, use a carpenter's square to match–mark from the top of the folding rail to the point on the existing rail where it will have to be cut to splice.

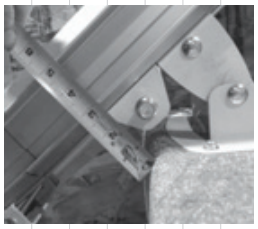
STEP 7: Retrofits to existing stair lifts, measure how much you've marked to cut from the upper section, but don't cut it at the splice because you'll need to keep the countersunk holes. Instead, remove the very top cap and cut it from the top of the very top track piece. Loosen the remaining brackets and slide the tracks all up so the new cut part is at the top where the old part was.


Step 1



Step 3

Step 4



Step 6

Step 7

STEP 8: Retrofit to existing track, saw the track following the usual procedure, described in the installation manual.

STEP 9: Measure from the side of the rail to the wall. The minimum clearance that will work with a folding stair lift rail is 3". Set the folding section of the stair lift rails to a distance of 3" from the wall or more. This will leave about ½" of clearance at the ball of the gas-spring.

Step 9

Step 10

STEP 10: Fasten down the near corner of the lower bracket using a drill that has extensions at least ten-inches long and a ⅜" socket.

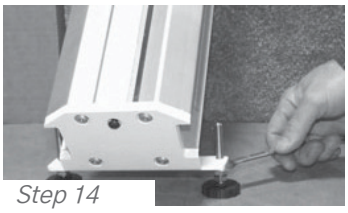
STEP 11: Measure from the side of the rail at the upper bracket of the folding rail. Also set this at 3" or more. Screw down one corner of the bracket.

Step 11

STEP 12: Install new or join to existing upper rail, following regular procedures (this procedure is detailed in the Rave Installation Manual (not shown). This procedure includes plugging the battery charging wire harness for the folding rail into the charging harness from the upper track. The charger itself can be plugged into either the top rail (for the top of the stairs), or to the charge plug from the folding rail, which comes out just higher than the folding mechanism for the bottom of the stairway.

STEP 13: Fasten down the other three bolts of both track brackets using the power drill and long extension with the ⅜" socket.

Step 13


Step 14

STEP 14: Install and adjust the height of the two feet using a 9/16" open end wrench. Set them so that both rest on the floor with the rail fully straight. The foot farther from the wall should be set a little taller than the inside one to get it to seat flat on the floor, since the Rave track brackets intentionally lean the track toward the wall just a little.

STEP 15: If you're installing the feet onto carpet, you may want to screw-down a piece of wood or metal to make the feet seat reliably. Otherwise, you can set the lift at the bottom of the rail and let it compress the carpet for a day, and then re-adjust the feet.

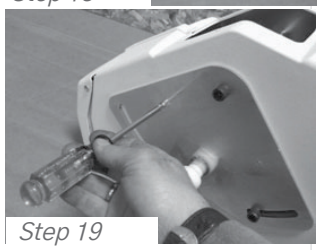
STEP 16: Carefully move the fork with your hand (don't get pinched!) To make sure it operates smoothly. Watch it go to the floor. Make sure both feet sit fully on the floor. Make sure the hinge-joint is going fully straight.

STEP 17: Follow the normal procedure for installing track brackets and tightening them. This procedure (not shown here) is detailed in the Rave Installation Manual.

STEP 18: Begin to install the folding rail parts onto the Rave chassis. Shown here is just a bare Rave chassis, to make the pictures more clear. First, with a 5⁄16" Allen wrench, remove the two large black cap screws from the wall-side of the unit, then install the folding rail side-plate, but don't tighten them yet.

Step 18

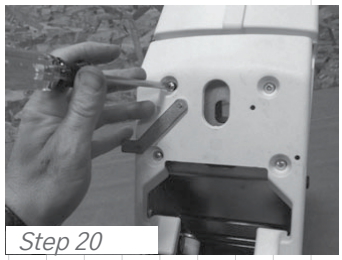
STEP 19: Install the #8 screw, then tighten it and the two Allen head bolts. If your Rave stair lift is still installed on the track, you'll have to use a short wrench and maybe a right-angle screwdriver.


Step 19

STEP 20: Remove both the front and the rear 'bumpers' from the Rave chassis. Switch them for the ones in the parts box. They both are attached with Phillips screws.

STEP 21: Test ride the unit a couple of times to verify that the folding rail is operating properly.

STEP 22: This completes this procedure. We recommend you use a household cleaner and paper towels to clean it before turning it over to the end user.


Step 20

Note!

The folding rail for Rave is designed so that all of the parts are 'ambidextrous' and can be switched from one side to another in about 15 minutes by a skilled technician. Also, these pictures show the changes to the Rave being made to a chassis that are not installed on a rail. There's no reason that these changes cannot be made on a Rave that is already mounted on a rail, but you may have to remove more items than are shown here.
If you encounter any problems or questions, contact us.

VI. FOLDING RAIL CONVERSION

A. WHERE YOU SHOULD WORK

Ensure that you have a sufficient amount of space. This process can be done on a workbench or on the floor. Choose a work surface that isn't going to damage the finish, such as carpet or a large piece of cardboard.

B. TOOLS REQUIRED

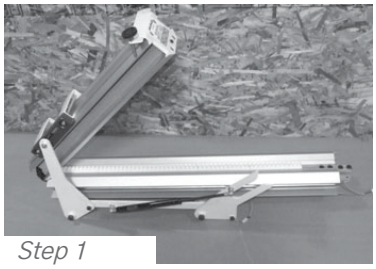
- ❑ Wrenches (½" deep socket, 9⁄16" open end and 13mm wrench or socket
- ❑ Allen wrenches (3⁄16", ¼", and 5⁄16")
- ❑ Pencil
- ❑ Phillips screwdriver, size #2 (the "medium" size)

TOOLS Optional

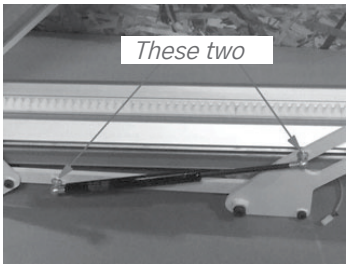
- ❑ White lithium grease
- ❑ Spray cleaner
- ❑ Paper Towels

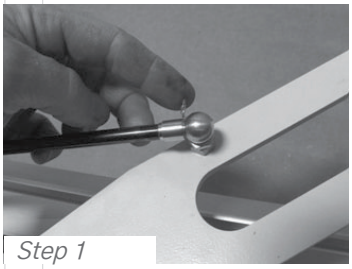
C. FOLDING RAIL CONVERSION PROCEDURES

STEP 1: Remove the gas strut from the right-hand stair rail's two ball mounts.



Step 1





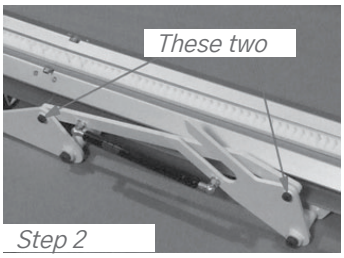
Step 1

To remove the ball mounts, remove the wire retainer clips that hold them on. Pull the ball-ends straight-up to remove.

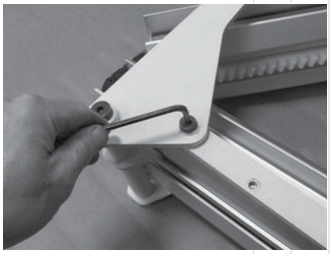
Use a 13mm wrench to remove both ball mounts from the link arm and fork. Take both ball-ends out and set them aside. Leave the jam-nuts on them.

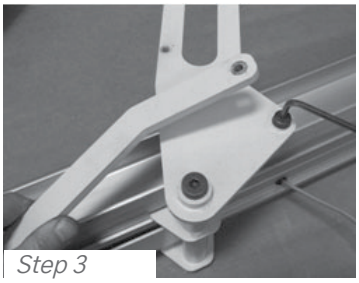
Step 1

STEP 2: Remove the shoulder bolts for the link arm. Use a 3⁄16" Allen wrench to remove the link bolt from the lift arm.



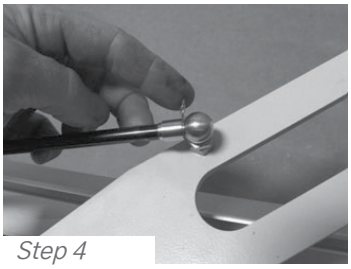
Step 2

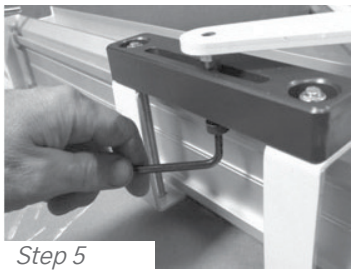



Step 3

STEP 3: Catch the link and set it aside. Be careful not to damage the paint.

STEP 4: Use a 1⁄4" Allen wrench to remove the shoulder bolt that the lift-arm pivots from.

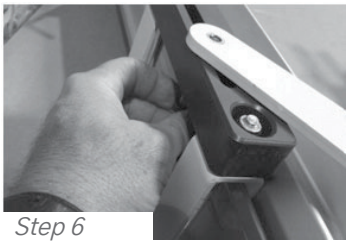

Step 4


Step 5

STEP 5: Remove the shoulder bolt that the fork pivots from.

STEP 6: To remove the lift arm from the slider shoulder-bolt, insert a 3⁄16" Allen wrench into the shoulder bolt of the lower bracket.

STEP 7: Remove the shoulder bolt and jam-nut from the lift arm.


Step 6

Step 8

STEP 8: Flip the lift-arm over and reinstall the shoulder bolt with its jam-nut.

STEP 9: Use a 1⁄2" socket to loosen the two nuts that hold the lower slide-bracket tothe lower track. Don't remove them, only loosen about two turns.

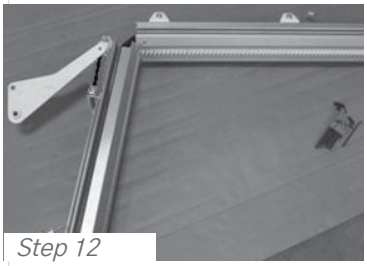
Step 9

Step 10

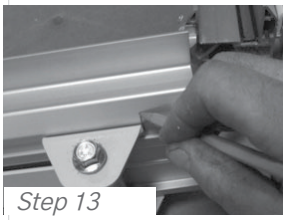
STEP 10: With the 'elbow' of the folding track 'bent,' slide the hole lower slide–bracket off the lower track out of the opening from the 'elbow.' Flip it over so the black plastic is toward the floor.

Step 11

STEP 11: Reinstall it back on the track. Slide it to about the same position where it was. Don't tighten it yet.


Step 12

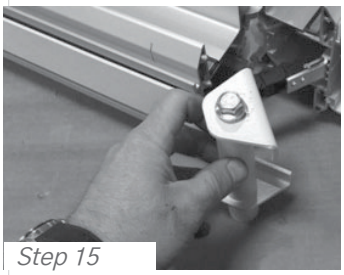
STEP 12: Turn the whole assembly over to allow you to reach the other side.


Step 13

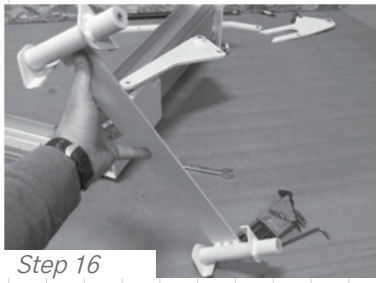
STEP 13: Use a pencil to mark where the upper bracket is mounted on the track.

Step 14

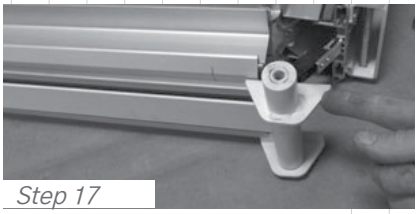
STEP 14: Use a $^{9}/_{16}$" wrench to loosen the two bolts on the upper bracket. Loosen each about 2 turns.


Step 15

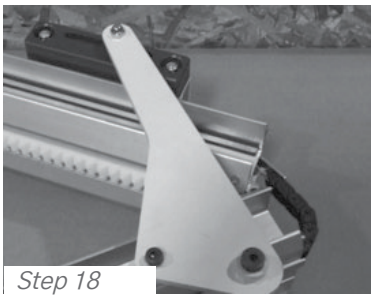
STEP 15: Slide the upper bracket off the upper track out of the open 'elbow.'


Step 16

STEP 16: Flip the upper bracket over.


Step 17

STEP 17: Slide it back onto the upper track section.


Step 18

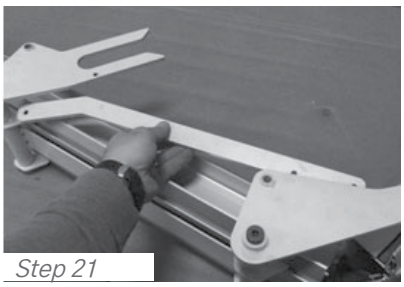
STEP 18: Line it up with your pencil mark and move the lift arm until the pivot aligns with the new position of the upper bracket.

Step 19

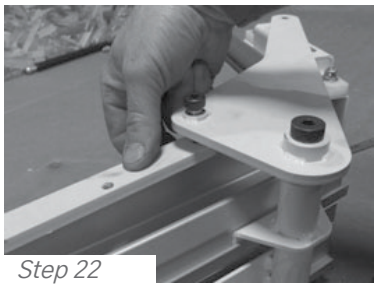
STEP 19: Install the pivot shoulder-bolt. Get it tight, ref about 15'-lb of torque.

Step 20

STEP 20: Position the fork on the other pivot. Install the fork pivot shoulder bolt and tighten.


Step 21

STEP 21: Position the link arm as shown at right between the tracks and the two pivoting arms.


Step 22

STEP 22: Start both shoulder bolts on the ends of the link arm. Don't tighten both until both are started.

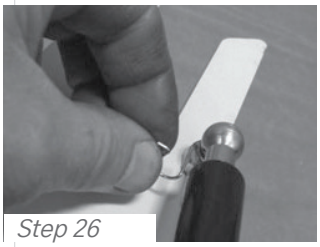
Step 23

STEP 23: Put the two ball-studs for the gas strut, with their two jam-nuts, into their holes and tighten them.

STEP 24: Make sure the wire-retainers aren't in the gas strut, then snap the gas strut onto the ball ends. You have to compress the strut a little to fit both ends.

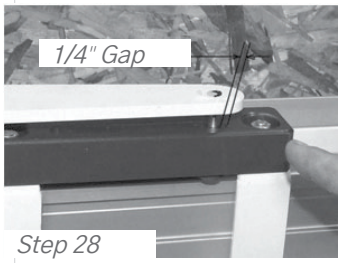
STEP 25: Push the ends of the gas strut onto the ball-studs.

Step 24


Step 26

STEP 26: Put the wire-retainers into both ends of the gas strut.

STEP 27: Unfold the rail so it is straight.



Step 28

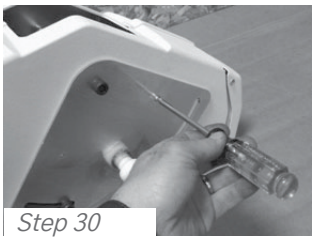
STEP 28: Position bottom bracket so there is about a ¼" gap between the shoulder bolt and the forward end of the slot.

Step 29

STEP 29: Tighten the two nuts with a ½" socket wrench, ref. tighten to about 10' lb.

STEP 30: Now begin the changes necessary for the Rave unit. The changes are shown here on the bar chassis for clarity here.

Use a #2 (medium size) Phillips screwdriver to remove the screw toward the up-side of the Rave side-plate.


Step 30

Step 31

STEP 31: Use a 5/16" Allen wrench to remove the two large bolts that hold the side-plate onto the Rave unit.

STEP 32: Remove the side plate.

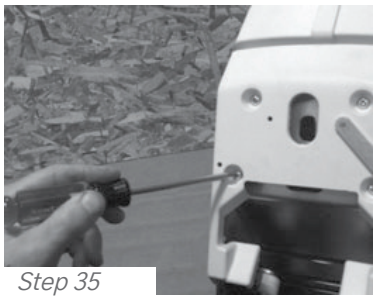
Step 32

Step 33

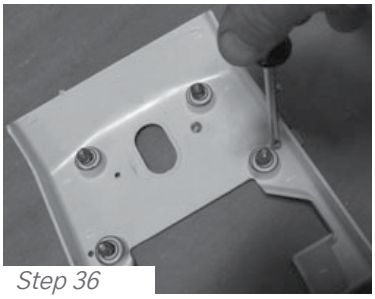
STEP 33: Reinstall both of the large Allen bolts in the unit and tighten them.

Step 34

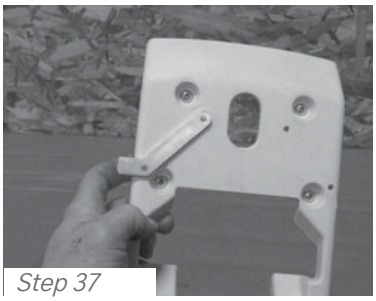
STEP 34: Remove the two large bolts from the other side and install the side-plate. Align and start the Phillips screw and the two large bolts before you tighten any of them.


Step 35

STEP 35: Use a #2 Phillips screwdriver to remove the lower safety switch bumper from the Rave unit. It has four screws.


Step 36

STEP 36: On the back side of the bumper, remove the two screws that hold the angled metal arm. This arm is to prevent the Rave from being able to travel down if the rail is already folded down.


Step 37

STEP 37: Flip the arm to the other side and reinstall it. The necessary holes should already be in the safety bumper.

Step 38

STEP 38: Reinstall the bumper onto the Rave.

STEP 39: You may now spray the unit with a household cleaner and wipe it clean.

NOTES:

NOTES: