

INSTALLATION MANUAL

Econo Stair Models



Illustrations are general and may not match your specific stair design.



Thank You!

Thank you for selecting this Econo Stair product. Designed, engineered and manufactured in the USA, this staircase was built by our skilled artisans, using high-grade American-made materials and proven welding and woodworking processes to build you an exceptional product. It is important that you read and fully understand this Installation Manual. Following the steps exactly as specified in the manual will ease installation and reduce the amount of time necessary to complete the process. Keep this manual even after the installation process has been completed. Understand how to use tools that may be required and observe all safety warnings called out in this manual. Make sure those who may install this product for you understand this manual as well as you do. Enjoy your new staircase!

Scan the QR code to follow along with detailed step by step video!



Table of Contents

Parts & Hardware	4-6
Center Column Assembly	8
Platform and Base Installation	9-10
Adjustable Tread and Baluster Installation	11-12
Bottom Baluster Installation	13
Aluminum Handrail Forming	14-15
Checking the Handrail Curvature	16
Pulling the Handrail into a Spiral	17
Aluminum Handrail Installation	18
Vinyl Handrail Installation	19
Center Baluster Installation	20-22
Platform Rail Installation	23
Wood Tread Covers	24-25
Wood Platform Cover	26

NOTICE !!!

Unauthorized modifications may present extreme safety hazards and could also result in injury or product damage. Paragon Stairs (the manufacturer) strongly warns against, rejects and disclaims any modifications, add-on accessories or product alterations that are not designed, developed, tested and approved by the manufacturer's Engineering Department. Any product that is altered, modified or changed in any manner not specifically authorized after original manufacture – including the addition of "aftermarket" accessories or component parts not specifically approved by the manufacturer – will result in the warranty being voided. Any and all liability for personal injury and/or property damage caused by any unauthorized modifications, add-on accessories or products not approved by the manufacturer will be considered the responsibility of the individual(s) or company designing and/or making such changes. Paragon Stairs will vigorously pursue full indemnification and costs from any party responsible for such unauthorized post-manufacture modifications and/or accessories should personal injury and/or property damage result.



This symbol means:

ATTENTION! BECOME ALERT!

Your safety and the safety of others is involved.

Signal word definitions:

The signal words below are used to identify levels of hazard seriousness. For your safety and the safety of others, read and follow the information give with these signal words and/or the symbol shown above.



DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices or property damage.



CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage

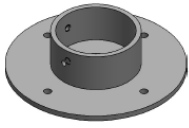


CALIFORNIA PROPOSITION 65 – RAW WOOD PRODUCT EXPOSURE
WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood



CALIFORNIA PROPOSITION 65
WARNING: This product can expose you to chemicals including formaldehyde, ethylbenzene, titanium dioxide, cumene, carbon black, silica and wood dust, which are known to the State of California to cause cancer, and toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

PARTS LIST



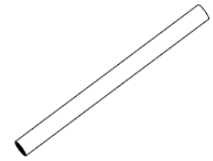
1
Base Plate



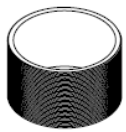
2
Main Balusters



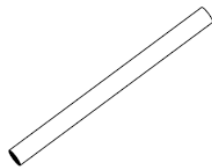
3
Center Balusters



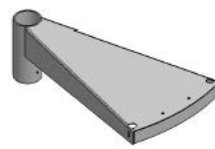
4
Single Threaded Column



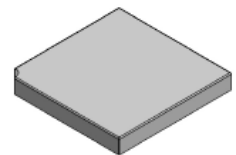
5
Threaded Coupler



6
Dual Threaded Column



7
Tread



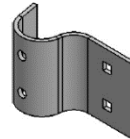
8
Platform



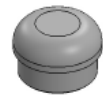
9
Vinyl Handrail



10
Aluminum Handrail



11
Top Baluster Bracket



12
Aluminum HR End Cap



13
Bottom Baluster Bracket



14
Column Side Platform Rail



15
Non-Column Platform Side Rail



16
Vinyl HR End Cap

HARDWARE LIST (PRIMED ECONO)



A

5/16" -18 x 5/16"
Socket Set Screw



B

3/8" Flat
Washer



C

3/8"x3" Lag
Screw



D

1/4" Flat Washer



E

1/4" Lock Washer



F

1/4"-20 Hex Nut



G

1/4"-20 x 1-1/2" Carriage
Bolt



H

1/4"-20 x 3/4" Carriage
Bolt



I

#10 x 3/4" SQ.
Drive D&T



J

Vinyl Handrail Clip



K

Vinyl Handrail Screw



R

#12-1" Baluster Screw



S

1/4"-20x1" Tube
Connector Screw



T

Tube Connector



U

#12x1-1/2" Wood Screw



V

#12-11x1 Square Pan
Head Wood Screw

HARDWARE LIST (GALVANIZED)



A
5/16" -18 x 5/16"
Socket Set Screw



B
3/8" Flat
Washer



C
3/8"x3" Lag
Screw



D
1/4" Flat Washer



E
1/4" Lock Washer



F
1/4"-20 Hex Nut



G
1/4"-20 x 1-1/2" Carriage
Bolt



H
1/4"-20 x 3/4" Carriage
Bolt



I
#10 x 3/4" SQ.
Drive D&T



J
Vinyl Handrail Clip



K
Vinyl Handrail Screw



R
#12-1" Baluster Screw



S
Baluster Slug
Screw



T
Baluster Slug



U
#12x1-1/2" Wood Screw

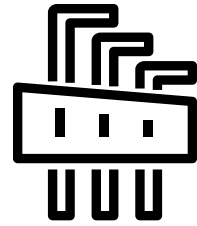
TOOLS



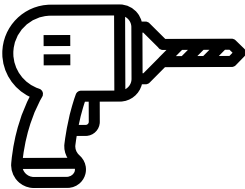
7/16" Wrench



9/16" Wrench



5/16" Allen Wrench



Drill



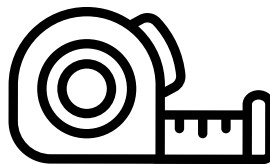
7/32" HSS Drill Bit



9/32" HSS Drill Bit



Level



Measuring Tape



Hacksaw

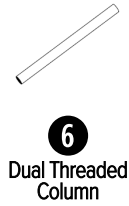
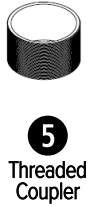
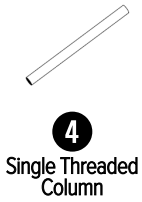


Zip Ties

CENTER COLUMN ASSEMBLY

PLEASE DISREGARD IF YOU HAVE A SINGLE COLUMN

Parts

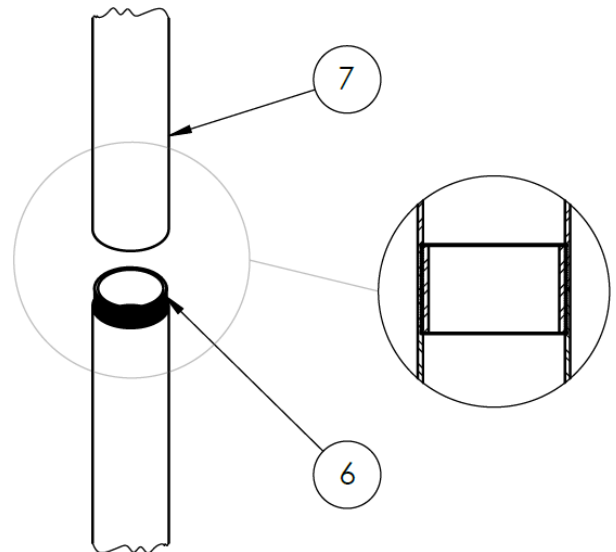
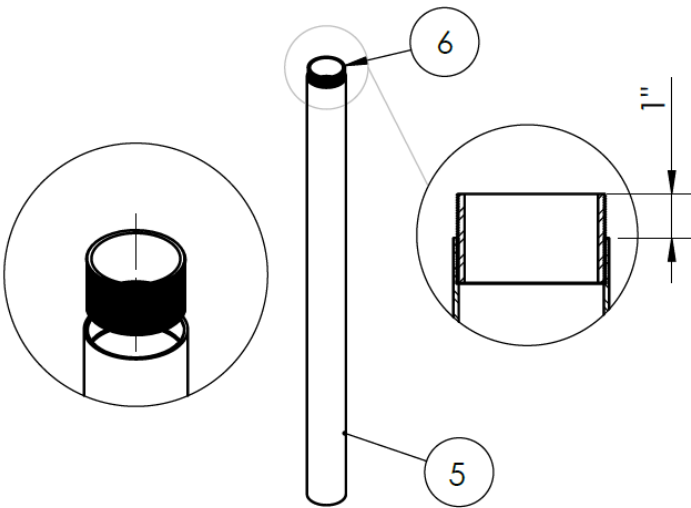


Hardware

Tools

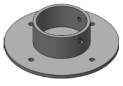
1. Start with a single threaded column section 4 and screw a threaded coupler 5 into the threaded end.
2. Screw a double threaded column section 6 onto the exposed half and tighten until there are no gaps between the column pieces.
3. Screw another threaded coupler 5 into the threaded end of the assembly.

- NOTE: Additional double threaded column sections 6 may be included depending on the height of the stair being installed. Repeat steps 2 and 3 to join the additional sections.*
4. Screw the final single threaded column section 4 onto the assembly. Tighten all of the sections and ensure that there are no gaps between the column sections.



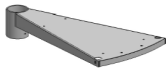
PLATFORM AND BASE INSTALLATION

Parts



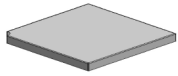
1

Base Plate



7

Tread



8

Platform



Best to use three people

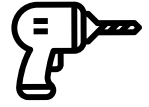
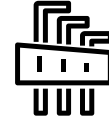
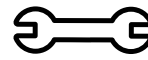
Hardware

A

B

C

Tools



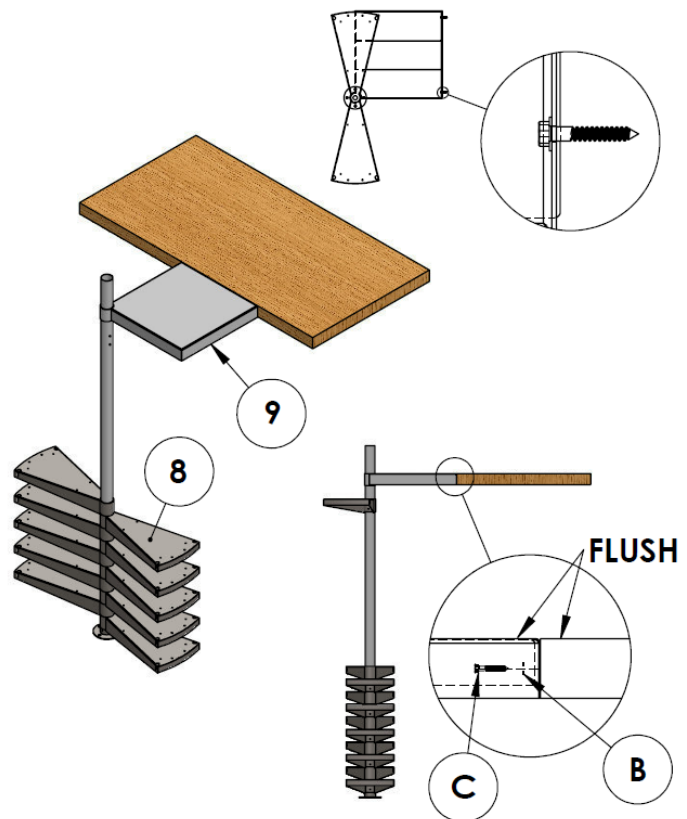
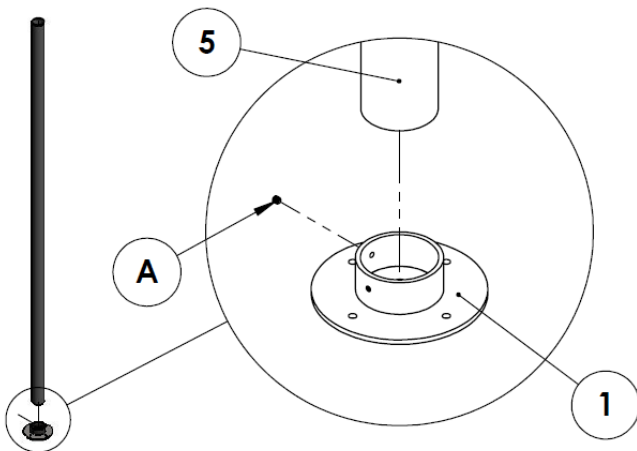
1. While all treads **7** and the platform **8** are on the ground, partially thread set screws **A** into each tread and the platform sleeve.
2. Partially thread set screws **A** into the baseplate **1**. Insert the center column assembly into the baseplate until it is fully seated and attach baseplate **1** to column with set screws **A**.
3. Stand center column assembly up inside the well opening.

⚠ WARNING: The platform is heavy. Steps 4 through 6 require a minimum of 3 people. One to keep the column steady and 2 people to hoist and hold the platform in place. A fourth person may then drill and fasten the platform.

4. Slide the treads over the center column assembly.
5. Slide the platform over the center column assembly. Position the platform so the top surface of the platform is flush with the mounting floor surface.

NOTE: Depending on how the platform is being mounted, 3/8" holes may need to be drilled through the platform edge to install the mounting lag screws. If the platform is being mounted in a corner, make sure that both edges of the platform are secured to the wall.

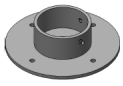
6. Use 3/8"x3" lag screws **C** and washers **B** to attach the platform to the mounting surface.



PLATFORM AND BASE INSTALLATION

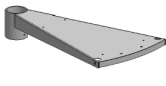
(CONTINUED)

Parts



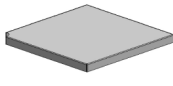
1

Base Plate



7

Tread



8

Platform

Hardware

A

B

C

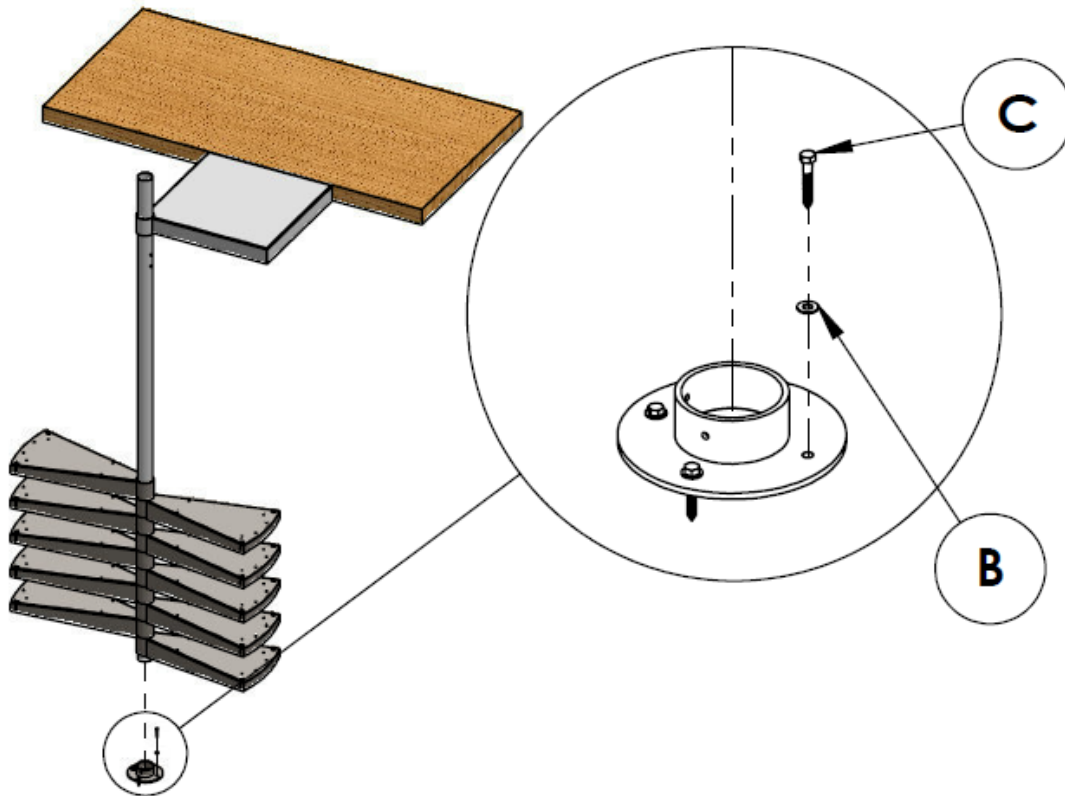
Tools



Best to use three people

7. Plumb center column assembly and attach base plate to floor with 3/8"x3" lag bolts (C) and washers (B). Lead anchor shields (not supplied) will be needed if installing into concrete.

⚠ WARNING: The lag screws securing the base plate to the floor and the platform to the wall must be installed and fully tightened before continuing with the installation process. Failure to do so could cause the stair to be unstable and could result in serious injury or death.

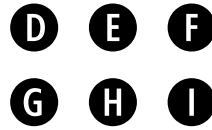


ADJUSTABLE TREAD AND BALUSTER INSTALLATION

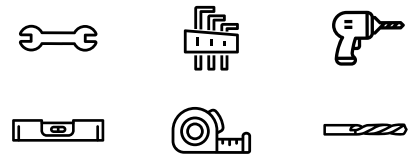
Parts



Hardware



Tools

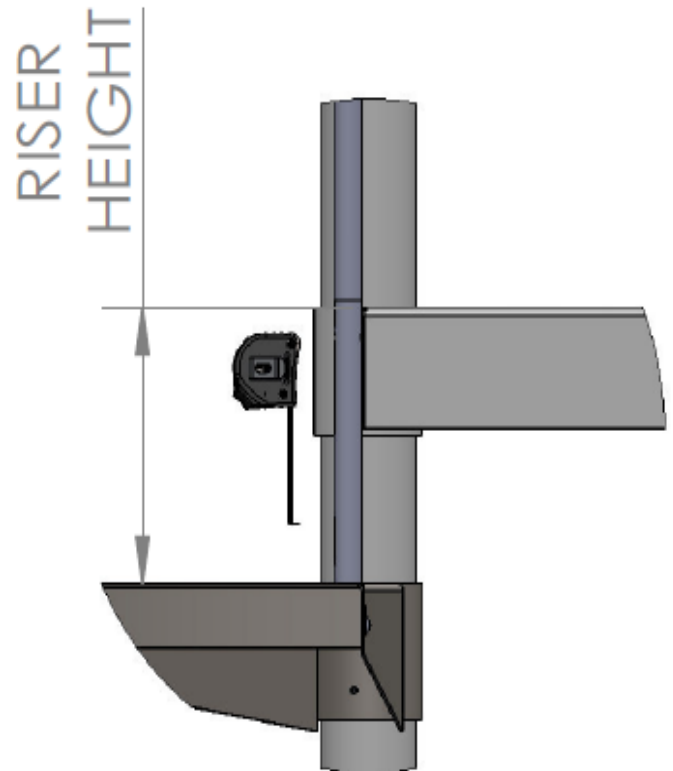
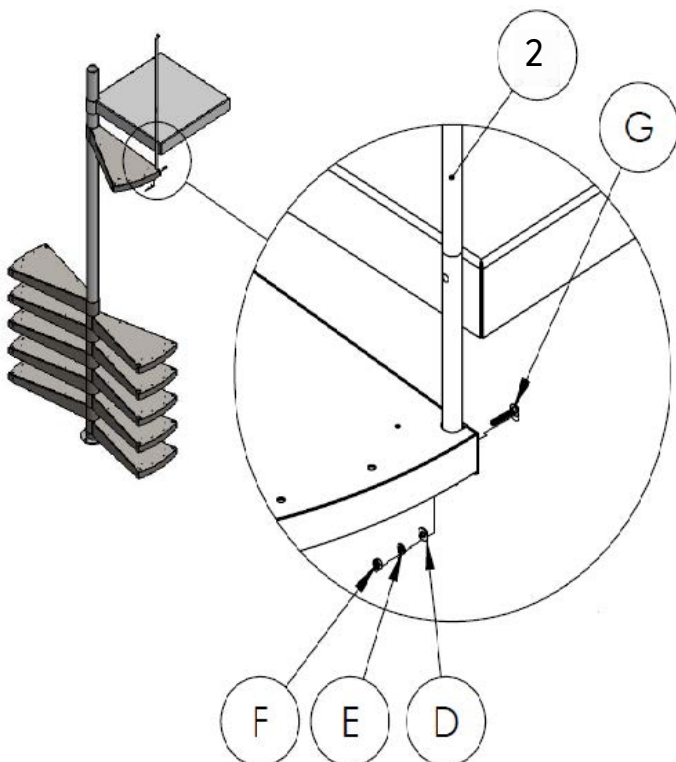


1. Start this installation with the top tread. Place a main baluster **3** in the hole closest to the platform.
2. Attach this baluster to the tread using the carriage bolt **G**, nut **F**, washer **D** and lock washer **E**.

NOTE: Main balusters have two holes drilled near the bottom.

3. Move the top tread to the proper riser height required. If you do not know your riser height, determine it by using the simple calculation below:

- a. Add number of treads and platforms = _____
- b. Measure the floor-to-floor height in inches = _____
- c. **Divide 3b by 3a (above) = _____**
- d. Riser height is usually between 8½” and 9½”.

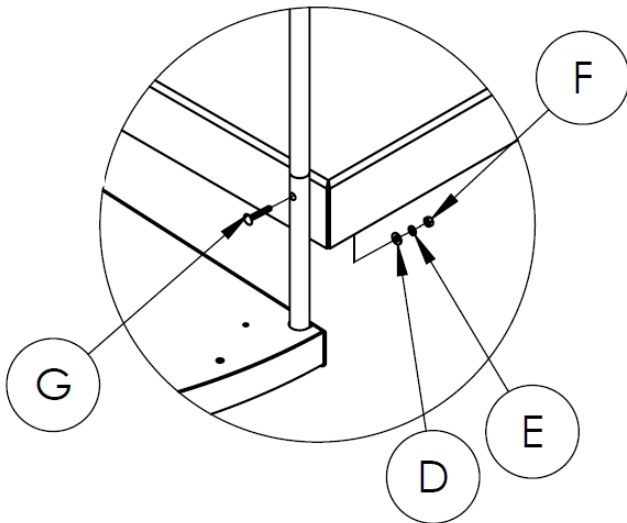


ADJUSTABLE TREAD AND BALUSTER INSTALLATION

(CONTINUED)

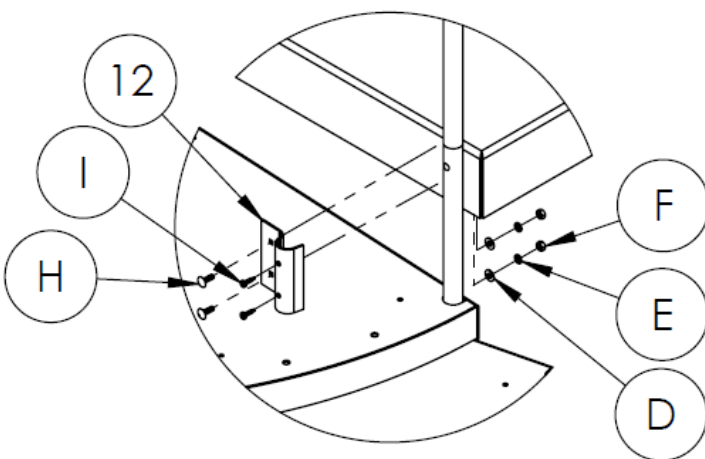
1. For stairs that are 42"-54" in diameter, plumb the main baluster and attach to the face of the platform using carriage bolt **G**, nut **F**, washer **D** and lock washer **E**. A 1/4" diameter hole must be drilled in the platform at the location of the pre-drilled hole in the baluster.

42"-54" in diameter

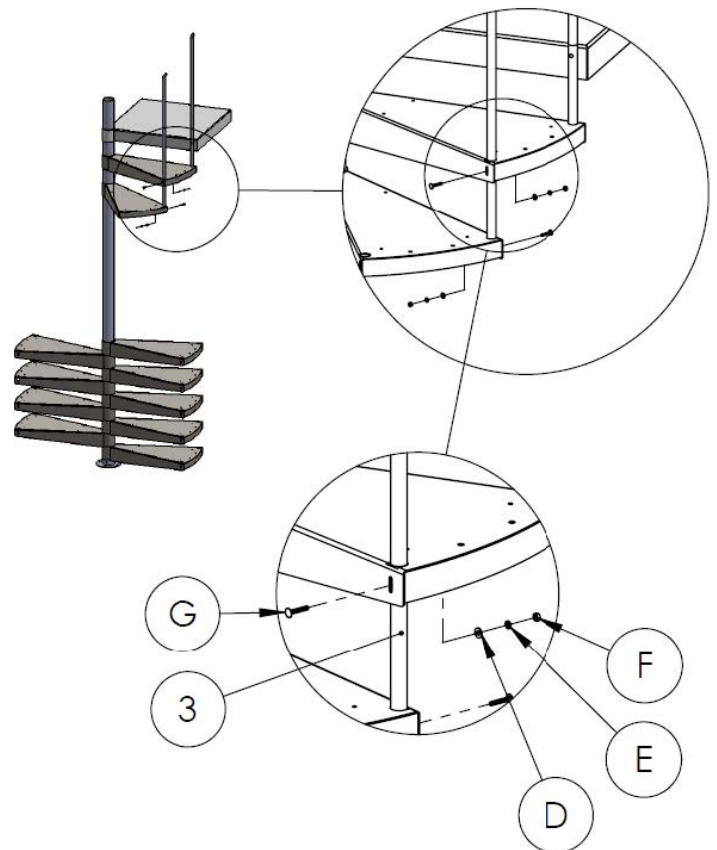


For stairs that are 60" or more in diameter, plumb the main baluster and attach to the face of the platform using the top baluster bracket, carriage bolts **H** and SQ Drive D&T screws **I**, nut **F**, washer **D**, and lock washer **E**.

60" or more in diameter



2. Check that the baluster is plumb. Tighten the 5/16" set screws in the tread hub to lock the top tread to the center column.
4. Spin the next tread into position beneath the tread above. Place a main baluster through the upper tread and into the lower tread.
5. Secure the baluster to the lower tread using carriage bolt **G**, nut **F**, washer **D** and lock washer **E**.
6. Adjust the height of the lower tread to be one riser height below the tread above. Fasten the baluster with carriage bolt **G**, nut **F**, washer **D** and lock washer **E**.
7. Repeat steps 4-6 with the remaining treads.



BOTTOM BALUSTER INSTALLATION

Parts



2

Main Balusters



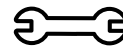
13

Bottom Baluster Bracket

Hardware

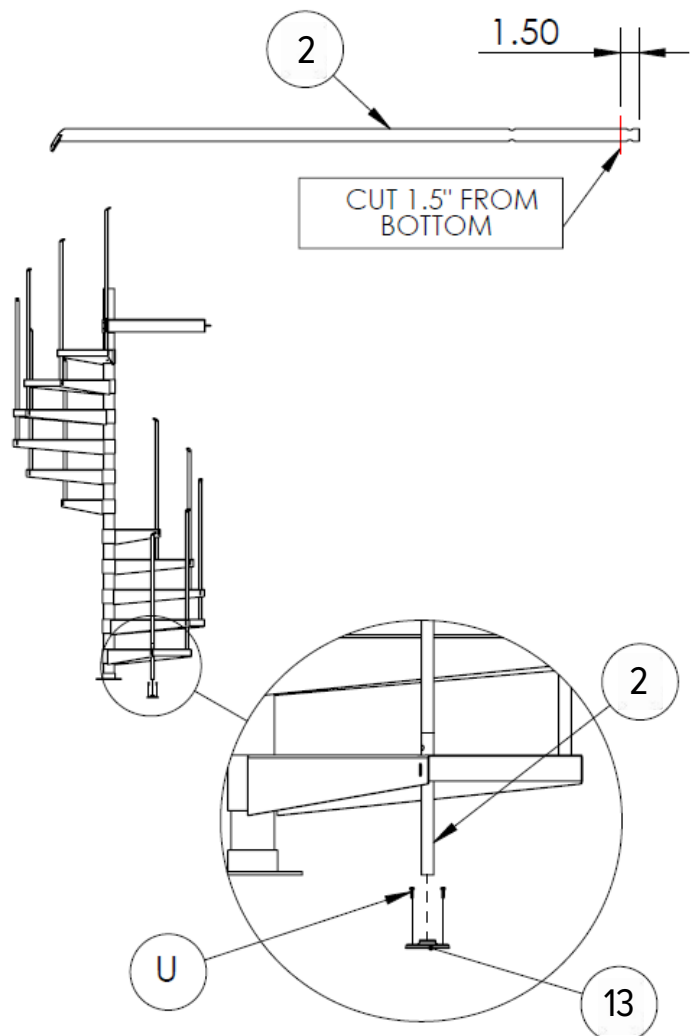


Tools



NOTE: The main baluster connecting the bottom tread to the floor must be cut.

1. Cut 1½" off the bottom of the last main baluster.
2. Place the bottom baluster bracket on the ground below the first tread. Guide the baluster through the hole in the first tread and into the hole of the bottom baluster bracket.
3. Adjust the height of the lower tread to be one riser height below the tread above. Fasten the baluster with carriage bolt **G**, nut **F**, washer **D** and lock washer **E**.
4. Check that the baluster is plumb. Tighten the 5/16" set screws in the tread hub to lock the tread to the center column.
5. Ensure that the baluster remained plumb, then fasten the bottom baluster bracket to the floor using wood screws **U**. Masonry fasteners (not supplied) will need to be used if installing into concrete.



ALUMINUM HANDRAIL FORMING

Parts



10

Aluminum Handrail

Hardware

Tools



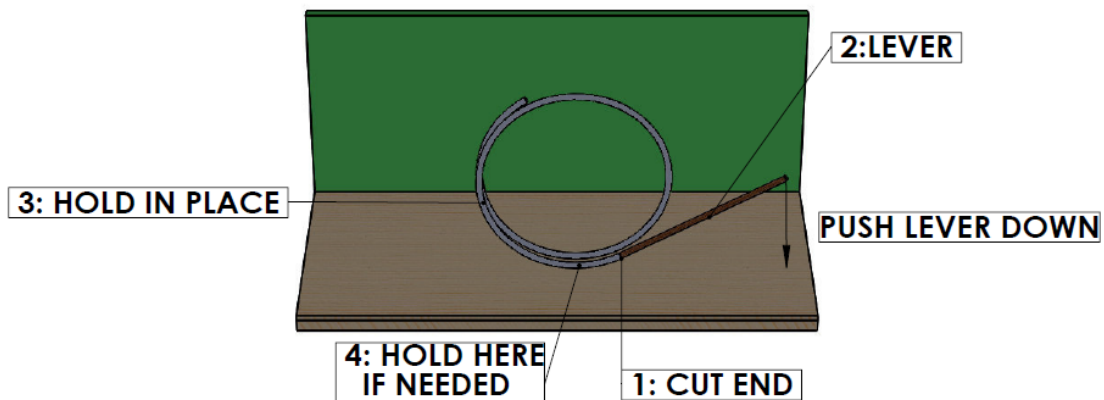
Best to use two people

- The handrail is shipped in a coil that is typically between 36” and 48” in diameter. The first step to fitting the handrail is increasing this diameter to the proper coil diameter listed below. If you don’t see your diameter size listed below please contact us.

Stair Diameter	3’-6”	4’-0”	4’-6”	5’-0”	5’-6”	6’-0”
Coil Diameter	60”	65”	70”	75”	80”	85”

NOTE: The coil diameter should be larger than the stair diameter.

- On a soft surface such as carpet, position the coil as depicted below. The cut end **1** should be approximately 4”-6” off the ground.
- Insert a lever **2** into the cut end. A lever such as a broom handle or pipe, is suitable.
- Hold the coil in place on the side opposite the cut end. Push the lever down until the coil bends slightly. It may be necessary to brace the coil where it contacts the ground to prevent it from slipping.

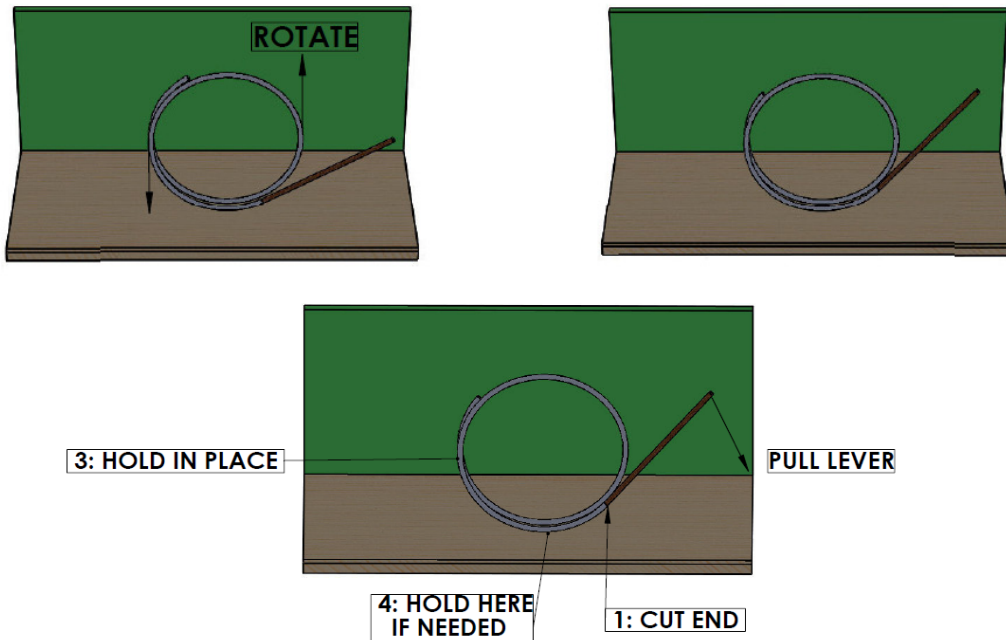


NOTE: This example depicts a right hand up handrail. The lever would be on the left side of a left hand up handrail.

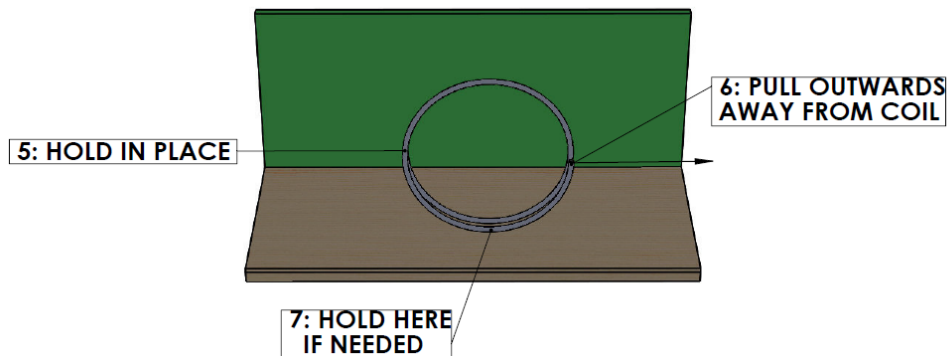
IMPORTANT! The handrail is best formed with many small adjustments and regular measurements. To avoid kinks and/or warped sections, do not sharply bend the handrail.

- Rotate the handrail counterclockwise (clockwise for left hand up) approximately 20 degrees.
- Hold the coil in place on the side opposite the cut end. Push the lever down until the coil bends slightly. It may be necessary to brace the coil where it contacts the ground to prevent it from slipping while forming.

ALUMINUM HANDRAIL FORMING (CONTINUED)



7. Repeat steps 5 and 6 until the cut end is vertical. It should now be long enough to form by hand.
8. Hold the coil in place and pull the unsecured side outward and away from the center of the coil until the coil bends slightly. It may be necessary to brace the coil where it contacts the ground to prevent it from slipping while forming.



9. Continue rotating the coil and forming until the whole coil has been worked through. Measure the coil diameter to determine if more adjustment is needed. If so, repeat the forming process from the beginning.

IMPORTANT! Do not try to bend the handrail into shape on the first pass through the coil. The handrail is best formed with many small adjustments and regular measurements. Repeat the process as needed.

CHECKING THE HANDRAIL CURVATURE

Parts



10

Aluminum Handrail

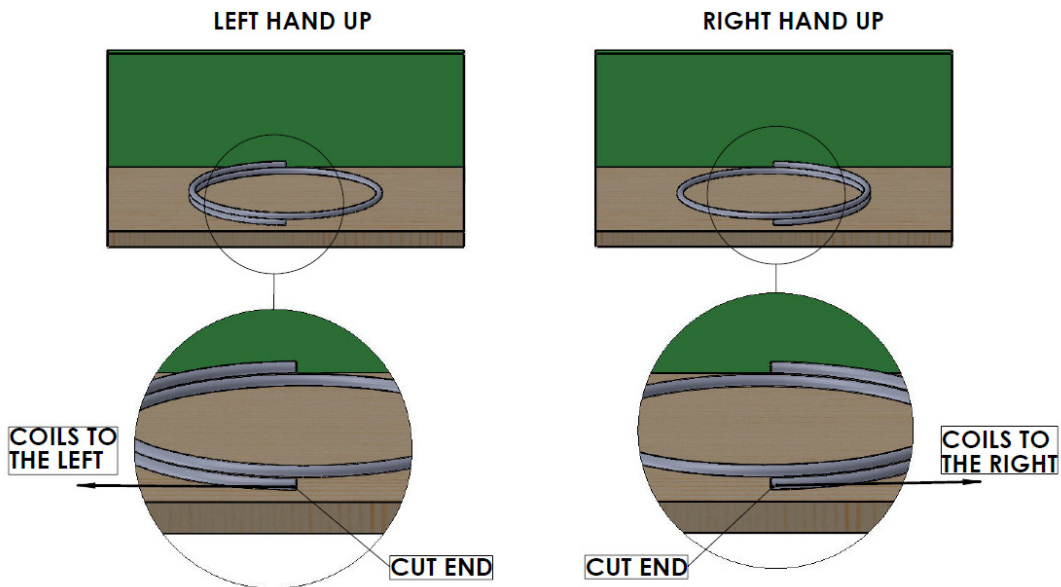
Hardware

Tools



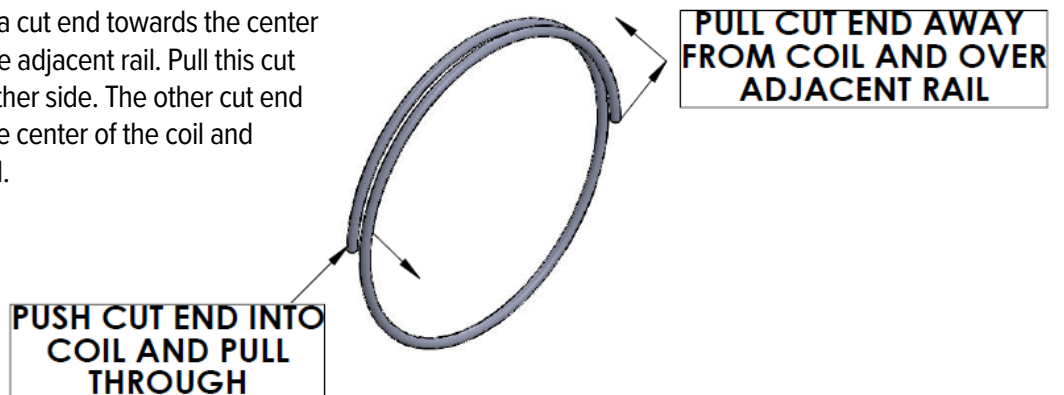
Best to use two people

10. Lay the handrail down and find the cut end that contacts the ground. Use the method below to determine the orientation of the handrail.



NOTE: If the handrail orientation matches the orientation of the stairs being installed, skip to the next step.

11. Stand the handrail up. Push a cut end towards the center of the coil enough to clear the adjacent rail. Pull this cut end through the coil to the other side. The other cut end must be pulled away from the center of the coil and pushed over the adjacent rail.



PULLING THE HANDRAIL INTO A SPIRAL

Parts



10

Aluminum Handrail



Best to use two people

Hardware

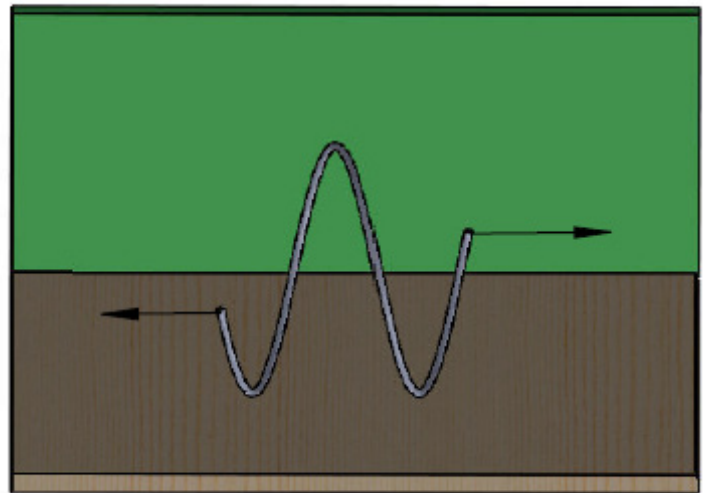
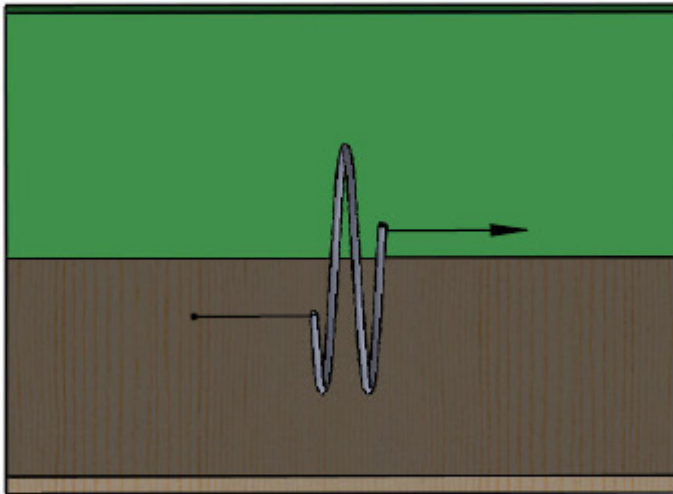
Tools



1. Determine the end-to-end length needed based on the diameter of the stair being installed.

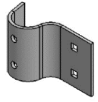
Stair Diameter	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"
End to End Length	14'	13'	12'	11'	11'	10'

2. With the help of another person, pull the handrail apart to the desired end-to-end length. Stop regularly to remeasure the handrail and inspect it for any kinks that may be forming.



ALUMINUM HANDRAIL INSTALLATION

Parts



11

Top Baluster Bracket



12

Aluminum HR End Cap

Hardware



Tools



zip ties
(optional/not supplied)

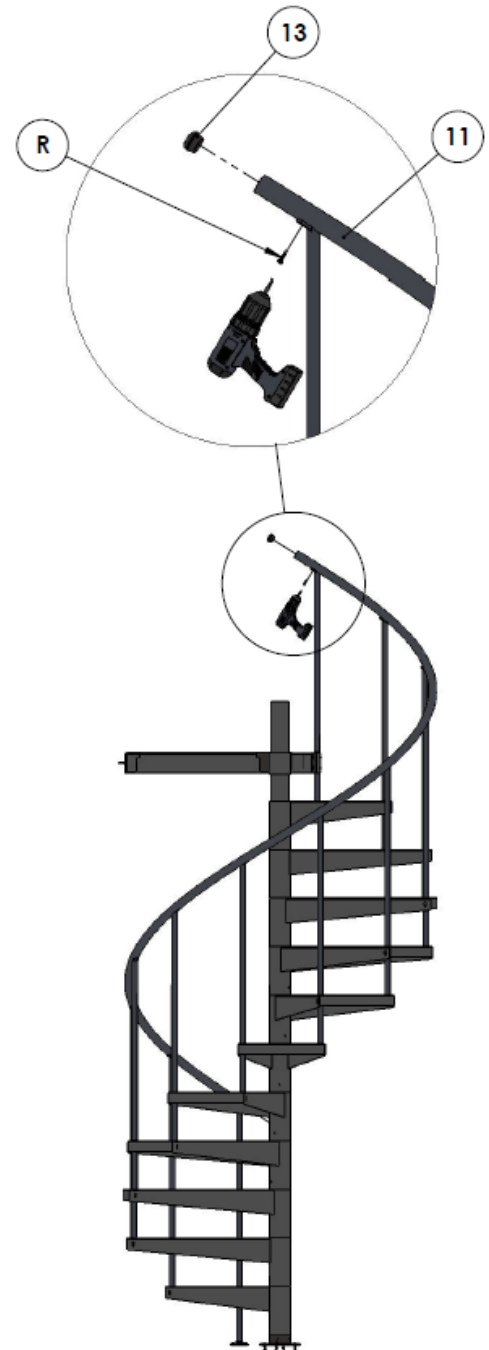
1. Once the Handrail has been shaped, dry fit the rail to the baluster tips.

NOTE: The handrail may be slightly kinked on both ends. This is normal and the handrail should be positioned so that these ends can be cut off after installation.

NOTE: To assist in installation, it may be beneficial to use zip ties to hold the handrail onto the baluster tips during the installation process.

NOTE: If the handrail does not sit flush on the baluster tips, the baluster tips can be bent up or down as needed with an adjustable wrench to better match the angle of the handrail. Place a rag between the wrench and the baluster tip to prevent damage to the finish of the baluster tip.

2. Working together with another person, start at the top of the stair and install each screw **R** through the hole in the tip of each main baluster. Push or pull the handrail as needed to match it up with the baluster tip.
3. Once the handrail has been attached to all the main balusters, cut the railing 3" above the top baluster and 3" below the bottom baluster. If your local building code requires a longer length, cut the handrail to meet the code.
4. Use the supplied two-part epoxy to bond the endcaps **B** to the handrail.



VINYL HANDRAIL INSTALLATION

Parts



9

Vinyl Handrail



16

Vinyl HR End Cap

Hardware



K

J

Tools



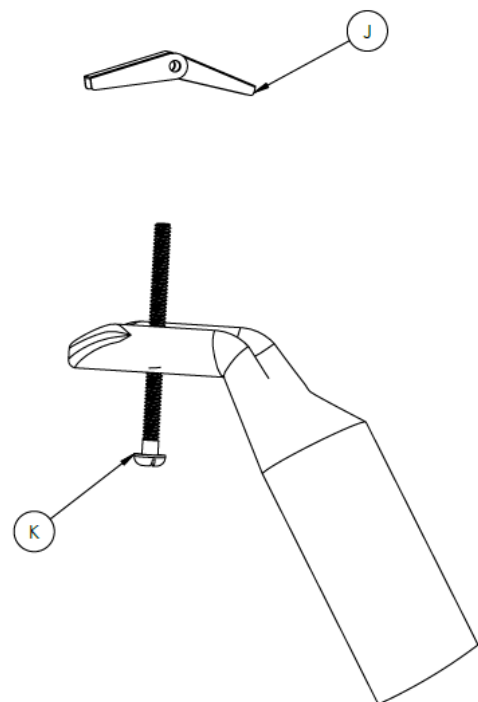
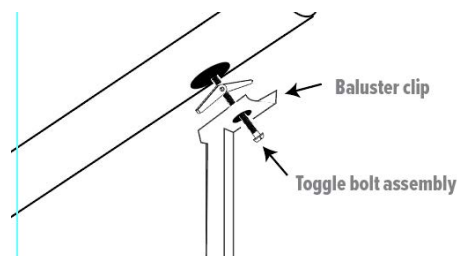
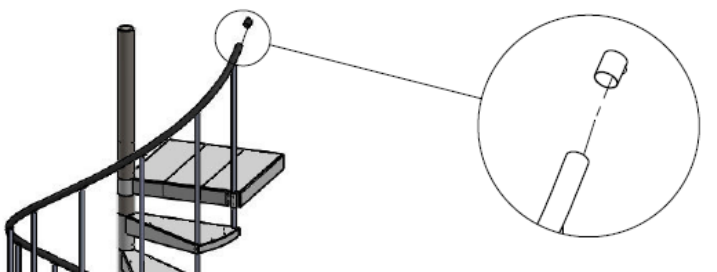
zip ties
(optional/not supplied)

1. The vinyl handrail 9 is shipped in a flat coil however it may be easy shaped by hand.
2. Dry fit the handrail to the balusters.
3. Ensure that the handrail is roughly equal at the top and bottom balusters

NOTE: To assist in installation, it may be beneficial to use zip ties to hold the handrail onto the baluster tips during the installation process.

NOTE: If the handrail does not sit flush on the baluster tips, the baluster tips can be bent up or down as needed with an adjustable wrench to better match the angle of the handrail. Place a rag between the wrench and the baluster tip to prevent damage to the finish of the baluster tip.

4. Mark the location of the holes of the baluster tips onto the vinyl handrail.
5. Drill a 3/8" hole in the handrail at the locations marked in step 4. Do not drill out the hole in the baluster tip.
6. Insert screw K upward through the baluster tip hole and thread on a vinyl handrail clip J. Squeeze the clip so the wings of the clip collapse and then insert it into the 3/8" hole drilled into the handrail in step 5.
7. Once the handrail has been attached to all the main balusters, cut the railing 3" above the top baluster and 3" below the bottom baluster. If local building code requires a longer length, cut the handrail to meet the code.
8. Slip the vinyl railing caps 16 onto the end of the handrail to complete installation.



CENTER BALUSTER INSTALLATION

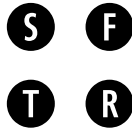
Parts



3

Center Balusters

Hardware



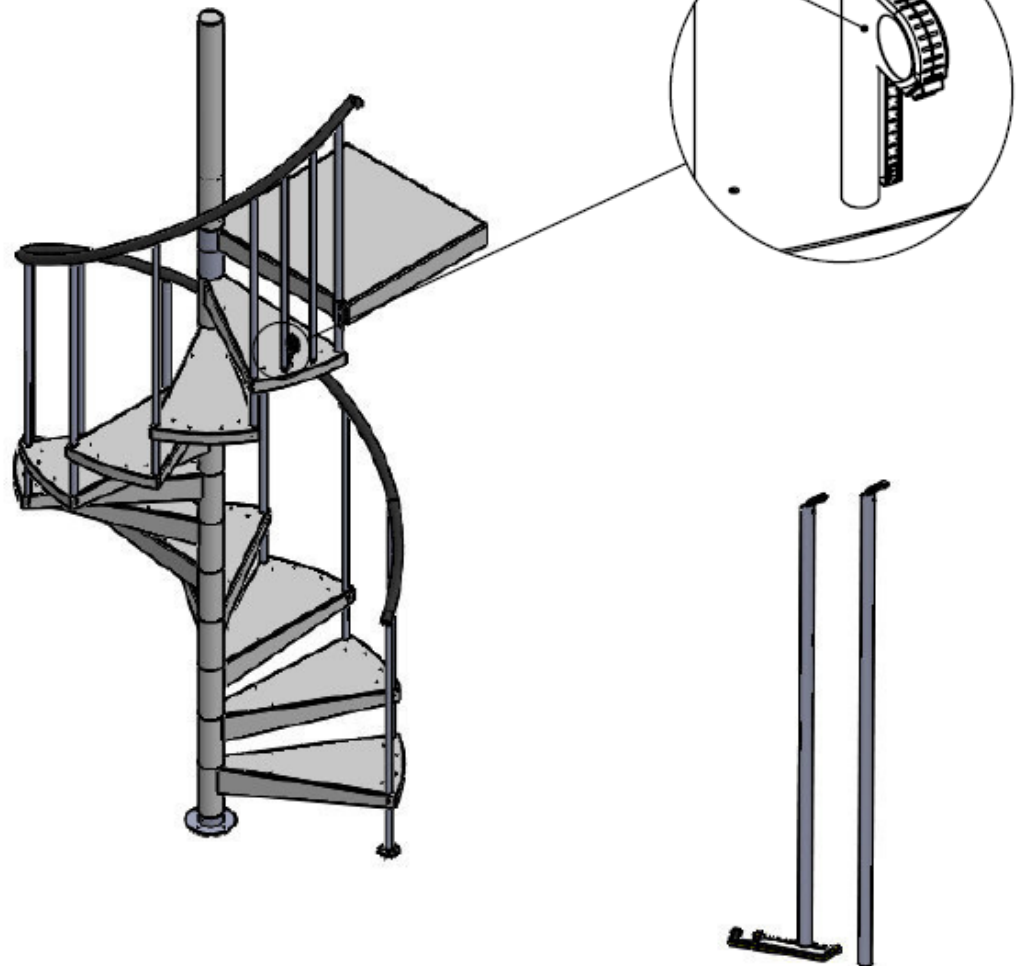
Tools



1. Measure each center baluster **3** from tip (at the handrail) to the top of the corresponding tread. Length is determined by measuring the top of the tread to the bottom of the handrail. Each Center Baluster should be measured and cut individually.

NOTE: Do not cut all the balusters the same length. Measure each baluster position individually.

2. Using a saw, cut each baluster to the correct length.



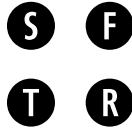
CENTER BALUSTER INSTALLATION

(CONTINUED)

Parts



Hardware

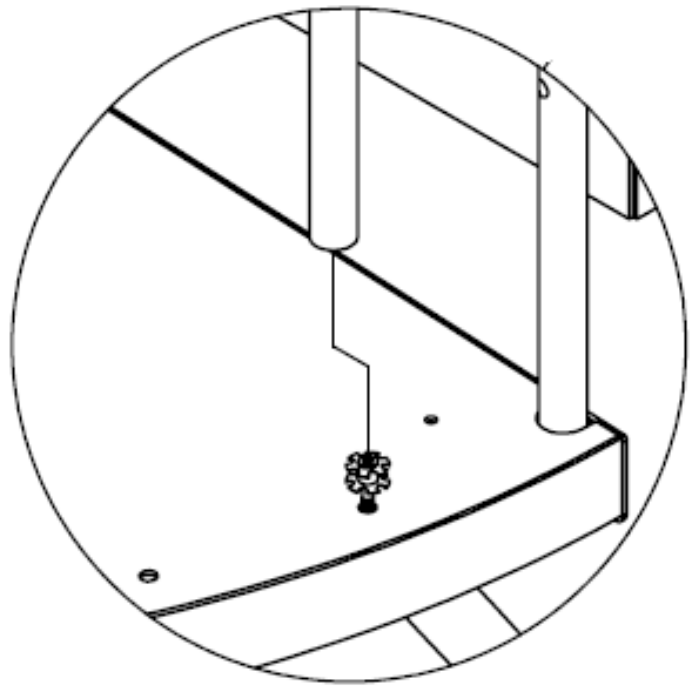
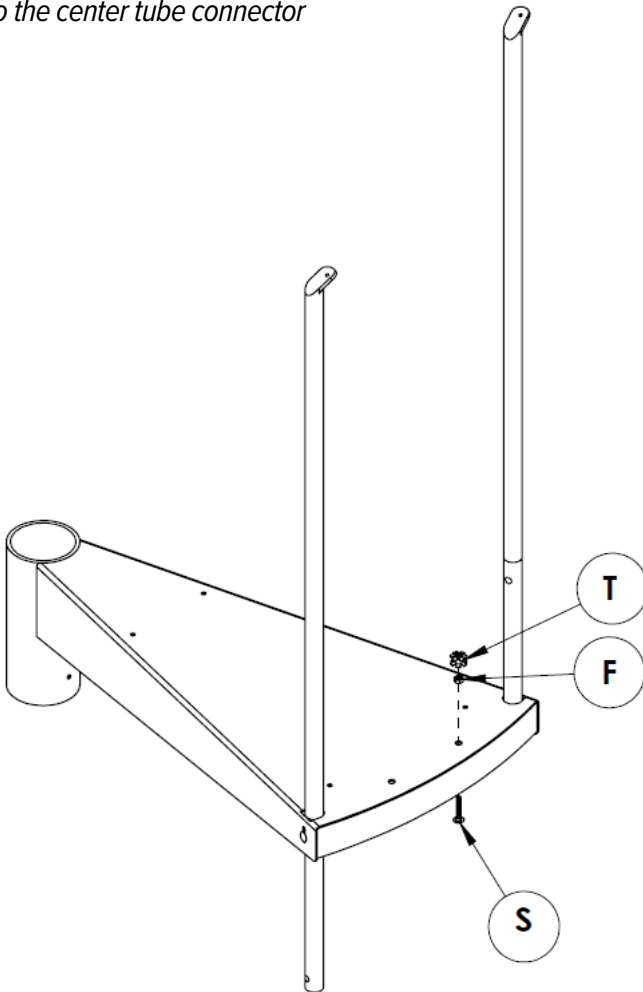


Tools



3. Insert bolt **S** through the tread into hex nut **F**. Do not fully tighten the hex nut.
4. Thread a tube connector **T** onto the exposed threads of the bolt until it is seated against the hex nut. Make sure the flanges on the tube connector are facing down toward the tread surface. Unscrew the tube connector one revolution to create a gap between the nut and the tube connector.
5. Ensure that the baluster tip is in line with the handrail, then slide the center baluster onto the tube connector.
6. Install screw **R** through the hole in the tip of each center baluster.
7. Plumb the baluster and tighten the screw that was installed in step 3. This will pull the baluster against the tread and complete the connection.
8. Repeat steps 1-7 for each center baluster.

NOTE: It may be easier to install center baluster at an angle onto the center tube connector



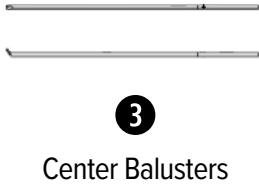
CENTER BALUSTER INSTALLATION

(CONTINUED)

For Galvanized Stairs

(Center baluster hardware is different from other stair products)

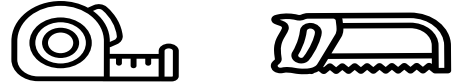
Parts




Hardware

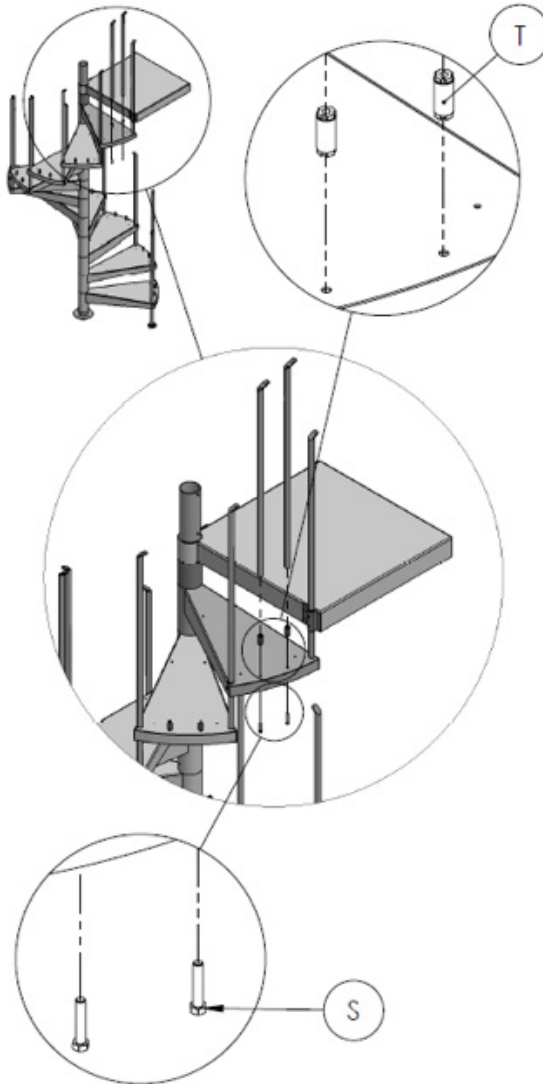


Tools



 Instructional video available at www.youtube.com/paragon

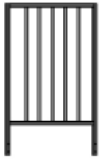
1. Insert bolt through the tread and into baluster slug. Do not fully tighten the bolt.
2. Slide the baluster onto the baluster slug. Tighten the baluster slug screw to lock the baluster in place.



3. Follow the same process that you used to attach the main balusters to the handrail to attach the center balusters to the handrail.
4. Repeat steps 1-5 for each center baluster.

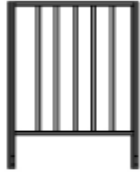
PLATFORM RAIL INSTALLATION

Parts



14

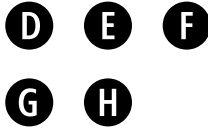
Column Side Platform Rail



15

Non-Column Side Platform Rail

Hardware



Tools



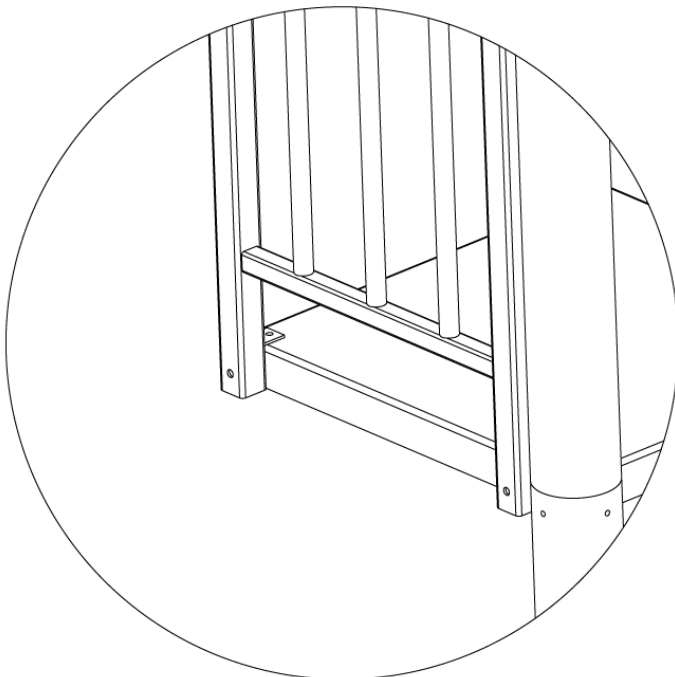
Instructional video available at www.youtube.com/paragon

1. Place the column side platform rail onto the platform in the correct location. The column side platform rail will be approximately 1/4" away from the column and 1/4" away from the end of the platform.
2. Using the holes on the bottom of the column side platform rail as a template, mark the location of the holes on the top and side surface of the platform.
3. Drill a 9/32" diameter hole in each location.
4. Using bolt **G**, nut **F**, washer **D** and lock washer **E**, secure the column side platform rail to the side of the platform.

5. Using bolt **H**, nut **F**, washer **D** and lock washer **E**, secure the column side platform rail to the top of the platform.
6. If your stair has a non-column side platform rail, follow steps 1-5 to install the non-column side platform rail.

NOTE: The column side platform rail will be approximately 2 1/2" shorter in width than the non-column side platform rail. Be sure to install the column side platform rail first and then the non-column side platform rail.

⚠ WARNING: The platform rail(s) must be installed on the platform of the stair. Failure to install the platform rail(s) could result in serious injury or death.



WOOD PLATFORM COVERS AND WOOD TREAD COVERS

(IF APPLICABLE)

**REFERENCE FOLDER
BEFORE PROCEEDING**

WOOD TREAD COVER INSTALLATION

Parts



Hardware

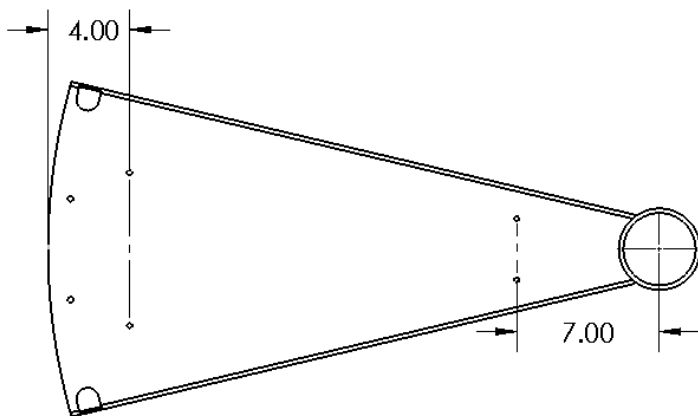


Tools



1. The treads are not pre-drilled to accept the tread covers **7**.

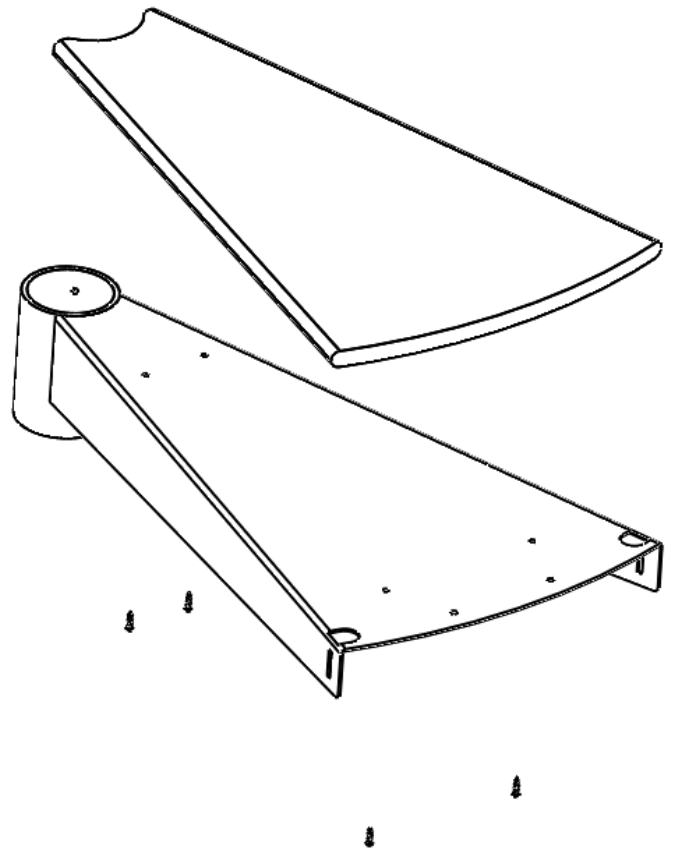
2. Drill four 1/4" holes in the steel tread top in the approximate location shown below. Do not drill the holes too close to the edge of the tread top as the wood tread cover could split when installing the screws.



3. Locate the wood tread cover on top of the tread and center it so the reveal is the same on the front and back of the tread.

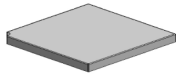
4. Install the pan head wood screw **V** through the holes drilled in step 2 and into the wood tread cover.

5. Repeat this step for each tread until all the tread covers have been installed.



WOOD PLATFORM COVER INSTALLATION

Parts



8

Platform

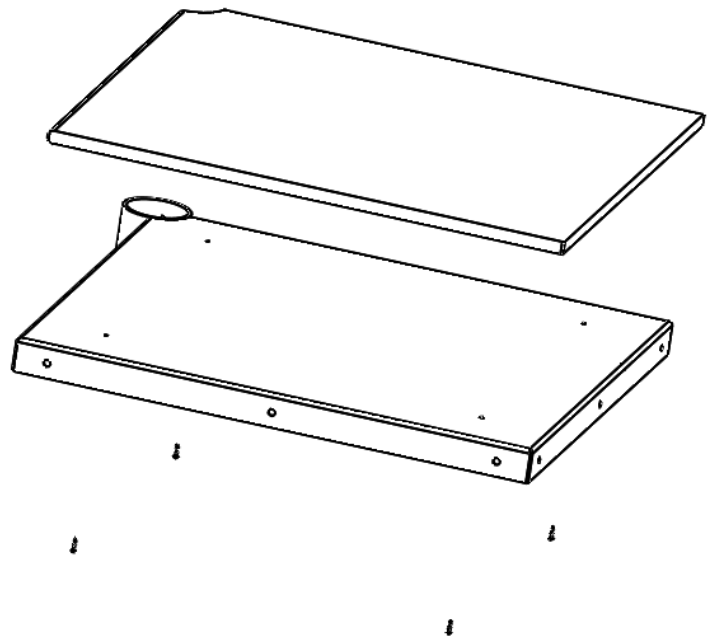
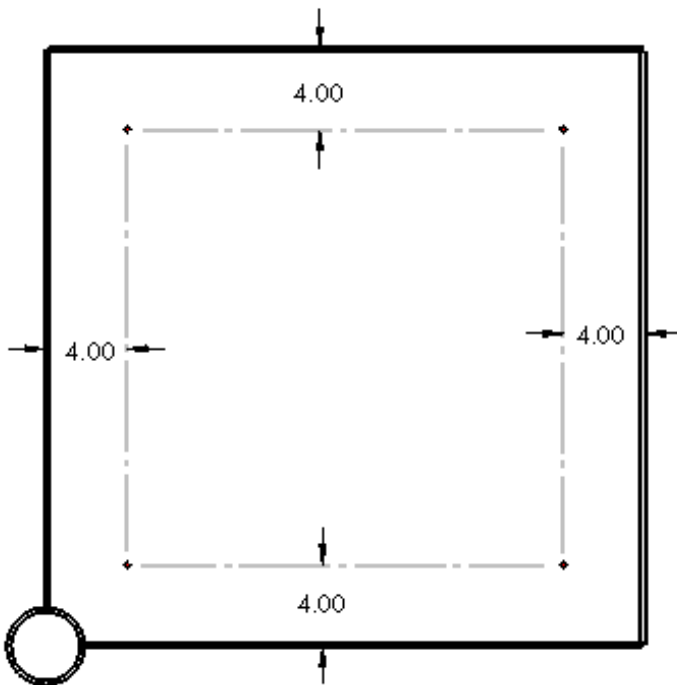
Hardware

V

Tools



1. The platform is not pre-drilled to accept the platform cover **8**.
2. Drill four 1/4" holes in the steel platform top in the approximate location shown below. Do not drill the holes too close to the edge of the tread top as the wood platform cover could split when installing the screws.
3. Locate the wood platform cover on top of the platform.
4. Install the pan head wood screws **V** through the holes drilled in step 2 and into the wood platform cover.



END

Thank you for purchasing this product. Please refer to the product folder provided if you have any questions or concerns.