

INSTALLATION INSTRUCTIONS



TOOLS REQUIRED:

Drill Bits (for the appropriate fastener)
Drill (with adjustable clutch, recommended)
Level
String Line
Tape Measure
Tools to install fasteners

NOTES:

- When installing the AFCO-Rail Post onto a treated wood surface, install the provided ACO pad between the post base and the treated surface.
- Stainless steel washers may be required to properly level or plumb post for proper installation.

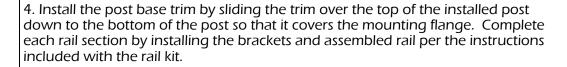
FOR A SUCCESSFUL INSTALLTION:

- Read the instructions completely before beginning the installation.
- Plan your railing project. Sketch your project with the actual measurements of your layout with the
- location of the posts for the railing that needs to be installed.
- Check local building codes to ensure compliance.
- Check carton(s) to determine part count is complete.
- After cutting rails, balusters, or posts, paint exposed metal for maximum protection against the elements.
- Installation is best accomplished with two people.
- Wear personal protection equipment; safety glasses, etc.
- Use care not to over-torque the screws. Pre-drilling is recommended.
- Fasteners for mounting the AFCO-Rail Post to the flooring surface are not included. The installer must acquire the appropriate mounting fasteners for the surface material on which the AFCO-Rail is being mounted.

3" AND 4" POST INSTALLATION:

- 1. Measure and locate the position of the post(s) based on the project layout.
- 2. The post will be installed by attaching the aluminum mounting flange to the flooring surface. The installer must acquire the appropriate mounting fasteners for the surface material on which the AFCO-Rail Post is being mounted. If mounting onto a deck, position the post(s) so the fasteners will go into the floor joists, and make sure the decking is firmly attached to the joists at each post location. If necessary, use wood blocking as reinforcement underneath the decking where the posts are located. Post mounting fasteners should be able to secure into joists or reinforcement braces not just the decking itself. When installing AFCO-Rail Post(s) on top of decking, screws must be lagged into at least 3" of solid wood. Deck boards do not provide sufficient material for a safe installation.
- 3. Position the post(s) on the flooring surface based on the project layout described in steps 1 & 2. Mark the locations of the four (4) 3/8" diameter holes provided on the mounting flange, and remove the post. Drill the marked locations into the flooring surface material and fasteners being used. Reposition the post in the location that has been marked and drilled, and secure the post mounting flange to the flooring surface making sure post(s) are plumb.

Note: When installing the AFCO-Rail Post onto a treated wood surface, install the provided ACO pad between the post base and the treated surface.



5. Install the post cap by setting the cap in place on top of post and strike with a rubber mallet to drive the post cap onto the post. Silicone or water based caulk may be used to secure the post cap and base trim.









AFCO-RAIL 1-7/8" OVER-THE-POST INSTALLATION:

The instructions below are to install the following Over-the-Post applications:

180 Post





45 Post



End Post



- 1. Measure and locate the position of the post(s) based on the project layout.
- 2. The post will be installed by attaching the aluminum mounting flange to the flooring surface. The installer must acquire the appropriate mounting fasteners for the surface material on which the AFCO-Rail Post is being mounted. If mounting onto a deck, position the post(s) so the fasteners will go into the floor joists, and make sure the decking is firmly attached to the joists at each post location. If necessary, use wood blocking as reinforcement underneath the decking where the posts are located. Post mounting fasteners should be able to secure into joists or reinforcement braces not just the decking itself. When installing AFCO-Rail Post(s) on top of decking, screws must be lagged into at least 3" of solid wood. Deck boards do not provide sufficient material for a safe installation.
- 3. Use the 3-1/2" square driver bit tip (included in the rail hardware kit) to remove the screw securing the top bracket assembly from the post (retain screw for later use to re-attach the bracket assembly in step 9). Slide the base trim off of the post and set aside to re-install later.



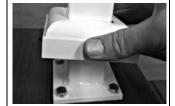
4. Position the post(s) on the flooring surface based on the project layout described in steps 1 & 2. Mark the locations of the four (4) 3/8" diameter holes provided on the mounting flange, and remove the post. Drill the marked locations into the flooring surface material and fasteners being used. Reposition the post in the location that has been marked and drilled, and secure the post mounting flange to the flooring surface making sure post(s) are plumb.



Note: When installing the AFCO-Rail Post onto a treated wood surface, install the provided ACO pad between the post base and the treated surface.



5. Reinstall the post base trim by sliding the trim over the top of the installed post, down to the bottom of the post so that it covers the mounting flange.



6. The AFCO-Rail that will be mounted between the posts can now be cut to length to fit the required opening between the posts. Start by measuring the distance between the two facing sides of the posts near the bottom of the posts and calculate the amount of rail that needs to be cut. Divide the trim length amount in half, and transfer this dimension to each end of the bottom rail, marking the cut locations, and cut the bottom rail to length.



Note: There must be at least 1-7/8" from the end of the rail to the center of the first baluster for bracket clearance.



7. Place the bottom rail which has been cut to length, parallel to the top rail aligning the balusters and transfer the cut lengths to the top rail. If the end of the top rail is being mounted into the Over-the-Post Top Rail Bracket, cut that end of the rail at the marked position. If the end of the top rail is being mounted into a Post-to-Post Top Rail Bracket (like those supplied with the rail kit), cut an additional 7/16" of material from that end.



8. Assemble the top and bottom rail sections with the required balusters along with the top and bottom brackets per the instructions included with the rail.

Note: AFCO-Rail top bracket cover will not be required on the end where the Over-the-Post bracket is installed.

9. Insert the ends of the top rail of each rail section that have been assembled, into each end of the Over-the-Post bracket assembly (1) (removed in step 3). Lower the top bracket assembly with the two adjoining rail assemblies onto the top of the post (2) where it was previously removed in step 3 and reinstall the screw(s) also previously removed (3). Complete each rail section by installing the brackets and assembled rail per the instructions included with the rail kit.



Note: Install a screw from the rail kit through the bottom of the Over-the-Post Bracket in the provided pre-drilled holes securing both of the top rails in place.

AFCO-RAIL 1-7/8" FIXED STAIR LINE POST INSTALLATION:

• 1-7/8" FIXED STAIR LINE POST



- 1. Measure and locate the position of the post(s) based on the project layout.
- 2. The post will be installed by attaching the aluminum mounting flange to the flooring surface. The installer must acquire the appropriate mounting fasteners for the surface material on which the AFCO-Rail Post is being mounted. If mounting onto a deck, position the post(s) so the fasteners will go into the floor joists, and make sure the decking is firmly attached to the joists at each post location. If necessary, use wood blocking as reinforcement underneath the decking where the posts are located. Post mounting fasteners should be able to secure into joists or reinforcement braces not just the decking itself. When installing AFCO-Rail Post(s) on top of decking, screws must be lagged into at least 3" of solid wood. Deck boards do not provide sufficient material for a safe installation.
- 3. Remove the top bracket assembly from the post (retain screw which is attached inside of the top bracket assembly for later use to reattach the bracket assembly in step 11). Slide the base trim off of the post and set aside to re-install later.



4. When installing a Fixed Stair Line Post it will be required first install the upper and lower posts at the top and bottom of the stair run respectively, as well as install the Top Rail Saddle Brackets that are included with the Fixed Stair Rail Kit on both the upper and lower posts per the Fixed Stair Rail installation instructions. With the saddle brackets installed, fasten a string line passing through the holes of the upper and lower saddle brackets top side down as shown in the photo. Position the post(s) on the step surface based on the project layout described in steps 1 & 2. Mark the locations of the four (4) 3/8" diameter holes provided on the mounting flange. At the location where the string line crosses the 1-7/8" post, place a mark on the post 1/4" below the string line following the same angle.



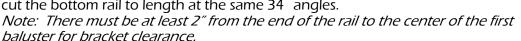


- 5. Remove the post and cut the post to length at the same 34° angle at the mark placed on the post $1/4^{\circ}$ below the string line in step 4 above.
- 6. Drill the marked locations on the step surface with the appropriate drill for the step surface material and fasteners being used. Reposition the post in the location that has been marked and drilled, and secure the post mounting flange to the step structure making sure post(s) are plumb.

Note: When installing the AFCO-Rail Post onto a treated wood surface, install the provided ACO pad between the post base and the treated surface.



- 7. Remove the string line attached to saddle brackets. Reinstall the post base trim by sliding the trim over the top of the installed post down to the bottom of the post so that it covers the mounting flange.
- 8. The AFCO-Rail that will be mounted between the posts can now be cut to length to fit the required opening between the posts. Start by measuring the distance between the two facing sides of the posts near the bottom of the posts and calculate the amount of rail that needs to be cut. Divide the trim length amount in half, and transfer this dimension to each end of the bottom rail, marking the cut locations and cut the bottom rail to length at the same 34 angles.





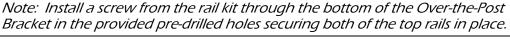
9. Place the bottom rail which has been cut to length, parallel to the top rail aligning the baluster connectors, transfer the cut length to the top rail. Cut the ends of the top rail that will mount into the Over-the-Post Top Rail Bracket at the marked position. Cut an additional 5/8" of material from the end of the top rail (as shown in the photo) that will mount into the Top Rail Saddle Brackets on the upper and lower post. All cuts should be made at the same 34 angle.

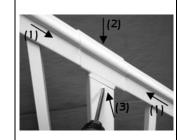


10. Assemble the top and bottom rail sections with the required balusters per the instructions included with the rail.

Note: AFCO-Rail top bracket cover will not be required on the end where the Over-the-Post bracket is installed.

11. Insert the ends of the top rail of the rail sections that have been assembled, into each end of the Over-the-Post bracket assembly (1) (removed in step 3). Lower the top bracket assembly, with the two adjoining rail assemblies into the top of the post(2). where it was previously removed in step 3. Install the painted screw(s) (packed inside the top bracket) into the side of the post (3) 1/4" down so it pierces into the bracket flange on the top bracket assembly. Complete each rail section by installing the brackets and assembled rail per the instructions included with the rail kit.







INSTALLATION INSTRUCTIONS



PARTS INCLUDED:			
TOP RAIL WITH CONNECTORS (1)		BOTTOM RAIL WITH CONNECTORS (1)	
A		В	
SADDLE BRACKET (2)	BRACKET COVER (2)	BOTTOM BRACKET (2)	10" SUPPORT BLOCK (1)
C	D	E	F
SUPPORT BLOCK CONNECTOR (2)	#10x1" SELF DRILLING SCREW (12)	3 1/2 " SQUARE DRIVER BIT (1)	ADHESIVE TAB (1)
G	Н		J

TOOLS REQUIRED:

Drill bit 5/32" (.156")

Drill (with adjustable clutch, recommended) Miter Saw (with metal cutting blade)

Level

Rubber mallet

Tape measure

Touch-up paint

NOTES:

- Post and balusters packaged separately.
- An AFCO-Tool is available to simplify the locating, pre-drilling and installation of brackets.

FOR A SUCCESSFUL INSTALLATION:

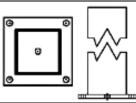
- Read the instructions completely before beginning the installation.
- Plan your railing project. Sketch your project with the actual measurements of your deck or balcony
- complete with post locations.
- Check local building codes to ensure compliance.
- Check carton(s) to determine part count is complete.
- After cutting rails, balusters, or posts, paint exposed metal for maximum protection against the elements.
- Installation is best accomplished with two people.
- Wear personal protection equipment; safety glasses, etc.
- Use care not to over-torque the screws. Pre-drilling is recommended.
- Provided hardware to install AFCO-Rail is for use with Aluminum AFCO-Rail posts. If installing to other surfaces the installer must acquire the appropriate hardware as needed for proper installation.

POSTS INSTALLATION:

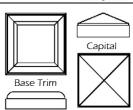
- 1. Measure and locate the position of the post(s) based on the project layout.
- 2. Install the post by attaching the aluminum mounting flange to the surface of the deck or balcony. Position the post so the fastener will go into the floor joist, and make sure the decking is firmly attached to the joist at the location of the post. If necessary, use wood blocking as reinforcement underneath the decking where the posts are located. Post mounting fasteners should be able to secure into the joist or reinforcement braces, not just the decking itself. When installing AFCO-Rail Post on top of a wood surface, screws must be lagged into at least 3" of solid wood. Deck boards sized 5/4" or 1 1/2" do not provide sufficient material for a safe installation.

Note: When installing AFCO-Rail Post onto treated wood surface, install the provided ACO pad (included in the post kit) between the post base and the treated surface.

3. Position the post to the deck surface. Four 3/8" diameter mounting holes are provided on the mounting flange. Mark the mounting flange hole locations and remove the post. Drill the marked locations into the decking and reinforcement. Remount the post. Insert the appropriate fasteners to secure the mounting flange to the deck structure.



4. Finish by sliding the base trim to the bottom of the post to cover the mounting flange.



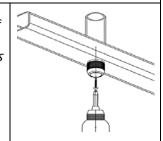
5. To install the post cap, set post capital in place on top of the post and tap lightly with a rubber mallet to drive the post cap onto the post. Silicone or water based caulking may be used to secure the post cap and base trim.

LEVEL RAIL INSTALLATION:

- 1. Carefully measure the opening between posts or walls and calculate the length of rail that needs to be cut. Divide the trim length amount in half, and starting with the bottom rail (B), transfer and mark the measurement to each end of the rail. For the sake of baluster spacing or personal preference, all of the trim length could be cut from one end of both rails. Make this determination before cutting the rails. Always refer to local building code requirements to determine the baluster spacing requirements in your area (4" maximum is typical). Carefully cut the rail. Mark top rail (A) and cut. For clearance purposes the top rail is precut 3/4" shorter than the bottom rail.
- 2. Install support block connectors (G) using self-drilling screws (H) to the underside of bottom rail (B). The support block will be installed in step 11.

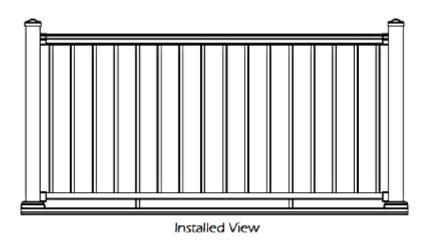
 Note: One support block, cut from support block material (F), is recommended for rails measuring 72" in length or less: two support blocks for longer lengths. If one support

measuring 72" in length or less; two support blocks for longer lengths. If one support block is required, install the support block connector (G) at center point of bottom rail (B]. If two support blocks are required, install support block connectors (G) equal distance from each end of the bottom rail (B).



3. To assemble rail, begin with top rail (A) and insert balusters over pre-installed connectors. Firmly tap each baluster with a rubber mallet to ensure the baluster is fully seated against the top rail. Note: It is recommended to use the box as a pad to prevent scuffing of the painted finish. If installing square balusters, make sure they are properly seated in the slot on the underside of the top rail to prevent twisting.				
4. Attach balusters to bottom rail (B) beginning at one end and working to opposite end. Stand the assembly upside down on the surface of the box and firmly tap the bottom rail with a rubber mallet to secure the balusters in place. Stand assembly upright. Note: Notches are provided on the front of the box to help align balusters and aid in the assembly of the rail in this step.				
5. Slide bottom brackets (E) with screw holes down and counter bore holes facing toward the balusters, over each end of the bottom rail (B).				
6. Slide bracket covers (D) at least 3-4 inches inward over each end of the top rail (A). A small piece of tape may needed to hold the bracket covers in place.				
7. Measure up 34 1/2" (36" rail height) or 40 1/2" (42" rail height) from the floor and mark a level, horizontal line on the post or wall. Note: This measurement may vary by local code or personal preference.				
8. Align screw holes in saddle bracket (C) on the horizontal line making certain the saddle bracket (C) is centered on the post. Mark screw locations. Repeat process at opposite end.				
9. Attach both saddle brackets (C) with self-drilling screws (H) at the marked screw locations completed in Step 8. Pre-drilling is recommended.				
10. Set the rail assembly into the saddle brackets (C) letting the bottom rail hang freely between the posts. Note: Check for level.				

11. At the point(s) where you installed support block connectors (step 2), carefully measure the distance from the underside of the bottom rail (B) to the floor. Cut support block material (F) to fit. Remove rail assembly from the saddle brackets (C). Slip support blocks over support block connectors (G). Slide the rail back into place and make certain the rail is plumb.	
12. Slide and hold the bottom bracket (E) firmly against the post or wall. Secure the bracket with self-drilling screws (H). Repeat the process at the other side. Note: Screw holes in bracket (E) are angled to make mounting the brackets easier.	
13. Apply adhesive tab (J) to flat, top surface of top rail (A), near the post. Slide bracket cover (D) to interlock with flange on the saddle bracket (C).	ADHESIVE TAB
14. Screw self-drilling screws (H) into the top rail (A) from the underside of each saddle bracket (C) through the provided locating hole to securely fasten the rail.	





INSTALLATION INSTRUCTIONS



PARTS INCLUDED:			
TOP RAIL WITH CONNECTORS (1)	BOTTOM RAIL WITH CONNECTORS (1)	UPPER SADDLE BRCKET (1)	LOWER SADDLE BRACKET (1)
A	В	C	D
BRACKET COVERS (2)	UPPER BOTTOM BRACKET (1)	LOWER BOTTOM BRACKET (1)	10" SUPPORT BLOCK (1)
E	F	G	H
SUPPORT BLOCK CONNECTOR (2)	#10-1"SELF DRILLING SCREWS (12)	3 1/2 " SQUARE DRIVER BIT (1)	ADHESIVE TAB (1)
	•	K	
TOOLS REQUIRED:		NOTES:	
		IVOTES.	
Drill bit 5/32" (.156") Drill (with adjustable clutch, recommended) Miter Saw (with metal cutting blade) Level		Post and balusters packaged separately.	

TOOLS REQUIRED:

Rubber mallet

Tape measure

Touch-up paint

NOTES:

- Post and balusters packaged separately.
- An AFCO-Tool is available to simplify the locating, pre-drilling and installation of brackets.

FOR A SUCCESSFUL INSTALLATION:

- Read the instructions completely before beginning the installation.
- Plan your railing project. Sketch your project with the actual measurements of your deck or balcony complete with post locations.
- Check local building codes to ensure compliance.
- Check carton(s) to determine part count is complete.
- After cutting rails, balusters, or posts, paint exposed metal for maximum protection against the elements.
- Installation is best accomplished with two people.
- Wear personal protection equipment; safety glasses, etc.
- Use care not to over-torque the screws. Pre-drilling is recommended.
- Provided hardware to install AFCO-Rail is for use with Aluminum AFCO-Rail posts. If installing to other surfaces the installer must acquire the appropriate hardware as needed for proper installation.

POSTS INSTALLATION:

1. Begin by determining where the top and bottom post will be located. Mark the desired location of the post.

Note: To ensure post location is compatible with railing, prior to securing to the deck surface, place both posts in position, and lay the bottom rail along the stair-nosing from top to bottom adjacent to both post. On the rail side of the post, measure up from the top of the rail and ensure there is a minimum of 34" for the 36" rail height and a minimum of 40" for the 42" rail height to the top of the post. Post location may have to be adjusted to ensure minimum is obtained. Repeat this step for the bottom post.

- For railing mounted 36" high use a 44" post at the bottom of the stairs. For railing mounted 42" high use a 54" post at the bottom of the stairs. For a wooden deck position the post so the fasteners will go into the floor joists, and make sure the decking is firmly attached to the joists at the location of the posts. If necessary, use wood blocking as reinforcement underneath the decking where the posts are located. Fasteners which hold the brackets to the surface should be able to secure to joist or reinforcement braces, into at least 3" of solid wood.



2. When the final position is determined for the post, mark the hole locations of the four 3/8" diameter mounting holes provided on the base and remove the post assembly. Drill the marked locations into the decking and reinforcement using the proper size drill required for the fasteners being used.



3. Remount the post assembly. Insert the appropriate fasteners then secure the base to the deck structure. Make certain the posts are plumb. If the post requires adjustment, add stainless steel washers under the base plate. Do not install the base post trim and post capitals until step 4 of the rail installation. Note: When installing AFCO- Rail Post onto treated wood surface, install the provided ACO pad that is included in the post kit between the post base and the treated surface.

FIXED RAIL INSTALLATION:

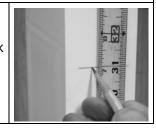
1. Lay the bottom rail (B), with baluster connectors facing up and centered between the posts, on the stair nosing from top to bottom, adjacent to the posts and mark a line on the rail from the inside of each post (1). Also, make a reference mark on the bracket side of both posts at the point where the top of the rail meets the post (2). Note: This reference mark will be used to locate saddle brackets in step 5.



2. Place the top rail (A) next to the bottom rail (B), align the baluster connectors and duplicate the marks from the bottom rail cut line onto the top rail. Now mark the top rail 5/8" shorter on each end; this is the cut line for top rail. Only the top rail is cut 5/8" shorter on each end.



- 3. Cut the rails along the marked lines.
- 4. Install the base post trim on the upper and lower posts.
- 5. To install the saddle bracket (C&D) on both upper and lower post, measure and mark a level line up from the reference marks, previously completed in step 1. Mark 31" for 36" railing or 37" for 42" rail.



6. Align screw holes in the upper and lower saddle brackets (C&D) on the marked lines. Make sure the brackets are centered on the posts. Mark the screw hole locations with a pencil.



7. Attach saddle brackets (C&D) with 1" self-drilling screws (J) at the marked screw locations in Step 6. Pre-drilling is recommended.



8. Install support block connectors (I) using 1" self-drilling screw (J) to the underside of bottom rail (B).

Note: One support block, cut from support block material (H), is recommended for rails measuring 72" in length or less; two support blocks for longer lengths. If one support block is required, install support block connector (I) at center point of bottom rail (B). If two support blocks are required, install support block connectors (I) equal distance from each end of the bottom rail (B).



9. To assemble rail, begin with top rail (A) and insert balusters over pre-installed connectors. Use a rubber mallet to tap the balusters into place. Note: It is recommended to use the box as a pad to prevent scuffing of the painted finish. If installing square balusters, make sure they are properly seated in the slot on the underside of the top rail to prevent twisting.



10. Attach balusters to bottom rail (B) beginning at one end and working to the opposite end. Stand the assembly upside down on the surface of the box and tap the bottom rail with a rubber mallet to secure the balusters in place. Stand assembly upright.

Note: Notches are provided on the front of the box to help align balusters and aid in the assembly of the rail in this step.



11. Slide bracket covers (E) at least 3-4" inward over each end of the top rail (A) so the angle of the cover matches the angle of the top rail.

Note: A small piece of tape may be required to hold the bracket covers in place.



12. Slide bottom brackets (F&G) with the counter bore holes facing down and toward the balusters, over each end of the bottom rail (B). A small piece of tape may be required to hold lower bottom brackets in place. Next, set the rail assembly into the saddle brackets (C&D) letting the bottom rail hang freely between the posts. Note: May use option (not shown) to install brackets with holes facing up based on customer preference and accessibility.



13. At the point(s) where you installed support block connectors (step 8), carefully measure the distance from the underside of the bottom rail (B) to the floor. Cut support block material (H) to fit. Slip support blocks over support block connectors (I). Slide the rail back into place and make certain the rail is plumb.



14. Slide and hold the upper bottom bracket (F) firmly against the top post. Secure the bracket with 1" self-drilling screws (J). Repeat the process securing lower bottom bracket (G) to the bottom post using 1" self-drilling screws (J).

Note: Screw holes in brackets (F&G) are angled to make mounting the brackets easier.



15. Apply adhesive tab (L) to flat, top surface of top rail (A), near the post. Slide bracket covers (E) to interlock with flange on the saddle brackets (C&D).



16. Screw 1" self-drilling screws (J) into the top rail (A) from the underside of saddle brackets (C&D) through the provided locating hole.



This photo depicts a fully assembled rail section of AFCO-Rail 100 Series Fixed Stair Rail installed between two posts on a standard set of steps.

