



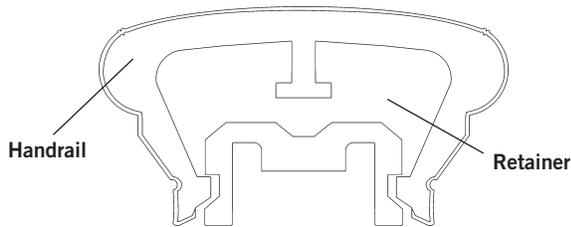
GeoDeck™

**RESIDENTIAL INSTALLATION
AND CARE**

RESIDENTIAL INSTALLATION AND CARE

How to Install GeoDeck Plus Railing

Assembly and Installation Instruction



Sleeve Installations:

The GeoDeck Plus sleeve is designed to slide over a 4" x 4" (see Figure 1). 4" x 4" should extend down to the bottom of the rim joist. Cut the sleeve to the desired height before installation. For firmest attachment, completely box in the sleeve so there is support on all four sides. Ensure the sleeve is plum and rises to the proper height before fastening with three (3) 3" weather-resistant screws driven from each of the four sides, for a total of twelve (12) screws (see Figure 2). If lag bolts are preferred, pre-drill pilot holes through the sleeve. If carriage bolt attachment is desired, bolt through blocking on both sides of sleeve, or use steel or wood plate for added support to reduce the possibility of fracture from over-tightening.

NOTE: If optional Post Skirt is desired, install prior to railing.

Rail Instructions

Preparation:

Before proceeding, check the contents of the carton against the parts list to ensure your kit is complete.

Check the rail opening to ensure the sleeves, newels or walls where the rail is to be installed are square and plum. Measure between the sleeves to obtain the rail length. Be sure to measure the distance of the top and bottom between the sleeves.

Measure the Handrail and Retainer from the center of each part. Trim each side to obtain the top length measured between the sleeves. Measure the Bottom Rail from the center and trim each side to obtain the bottom length measured between the sleeves. Be sure to make clean, square cuts during this operation.

RAIL KIT PARTS LIST

1pc. x 72" or 96"	Handrail
1pc. x 72" or 96"	Retainer
1pc. x 72" or 96"	Bottom Rail
1pc. x 6"	Center Support
13pc. for 6-foot rail	Balusters
18pc. for 8-foot rail	29" for 36" Rail
	35" for 42" Rail
1	Hardware Kit

HARDWARE KIT PARTS LIST

1	-	Instruction & installation guide
18	-	1 1/2" x #8 wood screws
18	-	3" x #8 wood screws
4	-	Brackets
8	-	1/4" x 1 1/2" lag bolts
8	-	Lag bolt cover caps
3	-	Small screws for the Top Rail fastening
8	-	#8 x 1 1/8" wood screws

FIG. 1

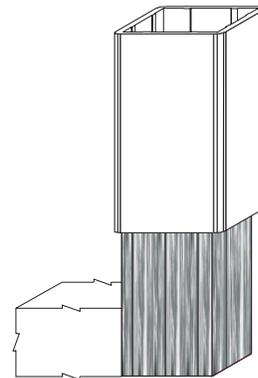
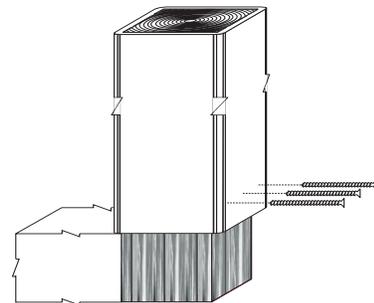


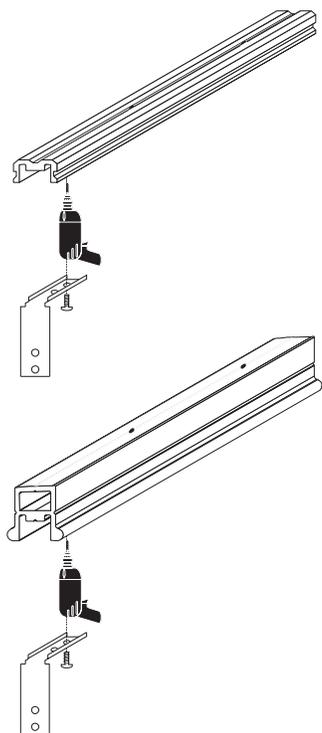
FIG. 2



The Retainer and the Bottom Rail have been factory drilled to assist with the assembly.

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FIG. 3



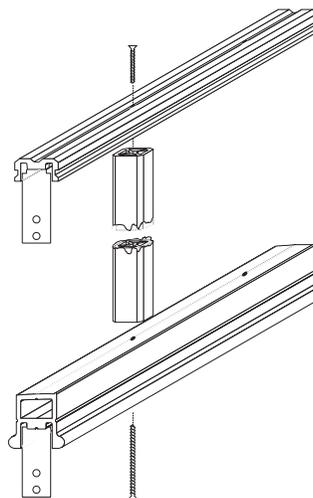
Place the Bracket on the underside of each end of the Retainer and Bottom Rail (see Figure 3). Align the edge of the bracket $\frac{1}{16}$ " outside of each profile to allow for expansion, as this will ensure proper bracket placement. Drill the two pilot holes through the bracket holes with a $\frac{1}{16}$ " drill bit. When drilling the Bottom Rail, drill through the bottom wall only — do not drill through the top surface. Fasten the mounting brackets to the underside of the Retainer and Bottom Rail using the #8 x $1\frac{1}{8}$ " screws. Make sure the brackets are straight and $\frac{1}{16}$ " inside the end of each profile.

Assembly:

Place the Retainer on a clean flat surface. Align the end of each Baluster with the pre-drilled holes in the Retainer (see Figure 4). Using the $1\frac{1}{2}$ " #8 wood screws, fasten the Balusters to the Retainer through the pre-drilled holes. Do not over torque.

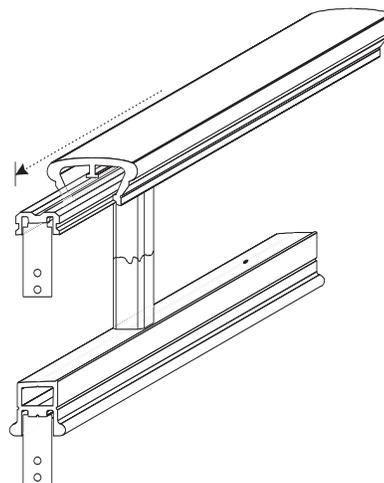
Align the ends of the Balusters with the holes in the Bottom Rail and fasten the Balusters to the Bottom Rail through the pre-drilled holes using the 3" #8 wood screws.

FIG. 4



NOTE: If the mounting brackets cover any of the pre-drilled Baluster holes in the Retainer or Bottom Rail, or is too close not to allow the installation of a Baluster, do not use the end Balusters. Seal any exposed holes with a white, silicone exterior-grade caulking. Place the partially assembled railing against a solid surface and slide the handrail over the Retainer. (See Figure 5.)

FIG. 5

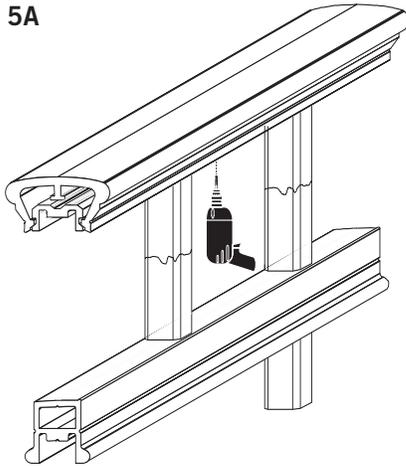


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Once the Handrail is in place over the Retainer, fasten the Handrail to the Retainer through the pre-drilled holes in the Retainer and retighten Retainer bracket screws (See Figure 5A). This will ensure a secure fit. There are 3 pre-drilled holes in the 6' rail kit and 4 pre-drilled holes in the 8' rail kit. Do not over torque. Additional screws have been provided in your GeoDeck Plus rail kit (#8 x .75" Phillips head). Follow the same procedure for a stair rail installation.

NOTE: Bracket screws through retainer will need to be backed out to allow top rail to slide over retainer.

FIG. 5A



Installation:

Take the assembled rail and place it into the opening on two, 2" x 4" spacers on edge (ie. 3½" high), making sure the lip is to the outside of the deck. This will give the proper spacing from the deck surface.

NOTE: Check with your local building codes for the correct rail height.

FIG. 6

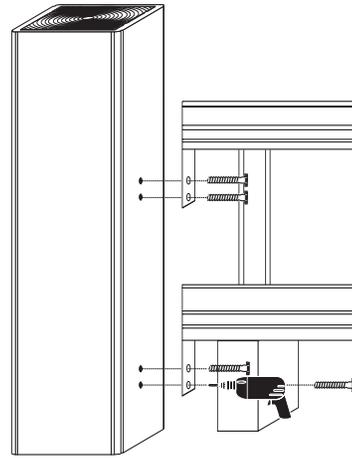
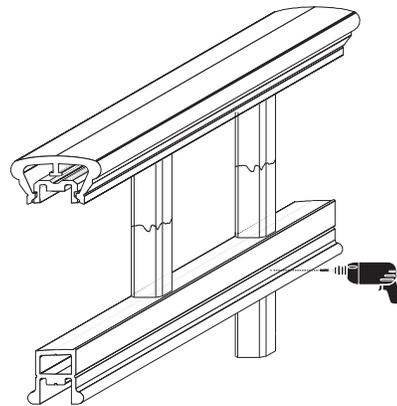


FIG. 7



Making sure the railing is plum and square, or matches the width dimensions previously taken, mark the bracket holes on the sleeves (see Figure 6). Remove the railing and drill pilot holes in the sleeves with a ¼" drill bit. Cut the center support to the correct length and wedge it into the underside of the bottom rail in the center of the rail section. If desired, pre-drill a small hole (1/16") through the bottom rail and into the center support to hold it in place (see Figure 7). Cover the nail or screw with paint or caulking. Place the railing back into the opening and attach the railing to the sleeves with the ¼" x 1½" lag bolts supplied in the hardware kit with a 7/16" x ¼" drive socket or a 7/16" wrench.

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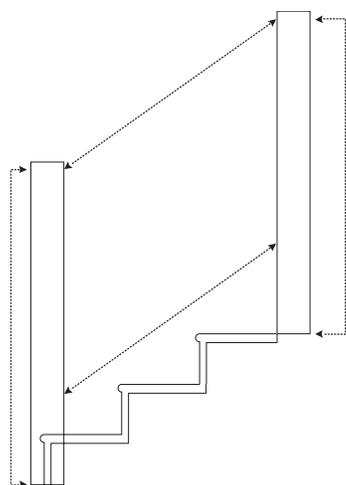
Stair Rail Installation

Preparation:

First, check the rise and run of the stairs to determine the proper stair rail angle. Check the rail opening to ensure the sleeves, newels or walls where the stair rail is to be installed are square and plumb (see Figure 8). Measure between the sleeves to obtain the rail length. Be sure to measure between the sleeves at both the top and bottom.

NOTE: Stair Bracket Kit sold separately.

FIG. 8



TIP: Ensure the proper fit by cutting a test piece of wood to the previously determined length and angle and fit it into the opening. Once the proper measurements have been confirmed, measure the handrail and retainer from the center of each part and trim an equal amount from each side to obtain the top length measured between the sleeves.

IMPORTANT NOTE: When two parallel stair rails are used, cut the bottom rail as a left- and right-hand pair, keeping the lip of the bottom rail to the inside of the stairs (see Figure 9). Repeat this procedure for the bottom rail using the bottom rail measurement. Cut both ends of the balusters at the same angle in the same direction as the bottom rail and retainer (see Figure 10). Be sure to make clean square cuts during this operation.

FIG. 9

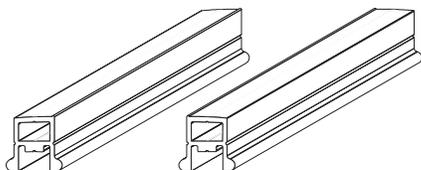
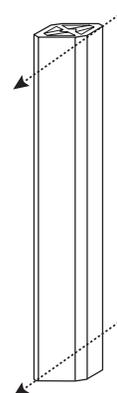


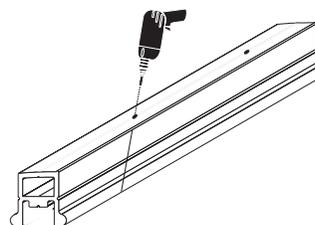
FIG. 10



The retainer and the bottom rail have been factory drilled for horizontal rail installations to assist with the assembly.

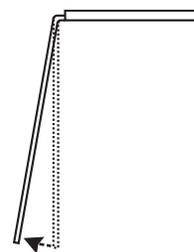
IMPORTANT: For a stair rail installation, the bottom rail holes will need to be re-drilled to match the required stair rail angle. From the center of the top holes, draw a line the proper angle down the side of the bottom rail to be used as a guide (see Figure 11). Using a $\frac{3}{16}$ " bit, drill through the top hole following the angled guideline, and through the bottom of the rail making sure to drill through as close to the center line as possible. **TIP:** Use a drill guide to ensure accuracy.

FIG. 11



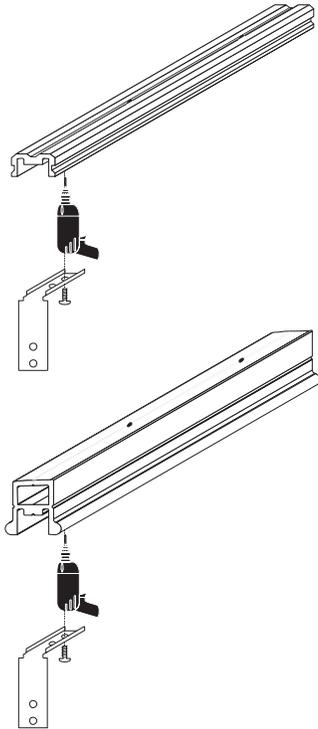
Bend the bracket supplied in the stair bracket kit to the desired angle (see Figure 12).

FIG. 12



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FIG. 13



TIP: Clamp the flat side of the bracket to the edge of a strong flat surface making sure to protect the painted surface, then use vise grips or pliers to bend the bracket at the desired angle.

Place the bent bracket into position close to or $\frac{1}{16}$ " from the edge of the bottom rail and retainer and mark the center of the hole. Drill the two mounting holes with a $\frac{1}{16}$ " drill bit (see Figure 13).

FIG. 14

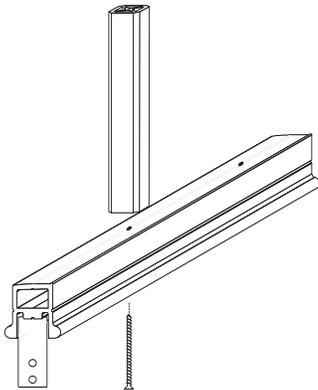
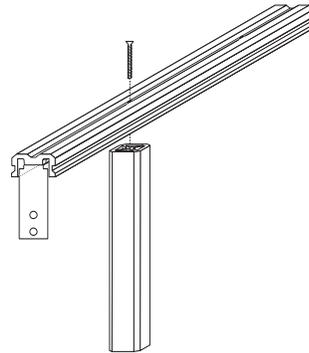


FIG. 15

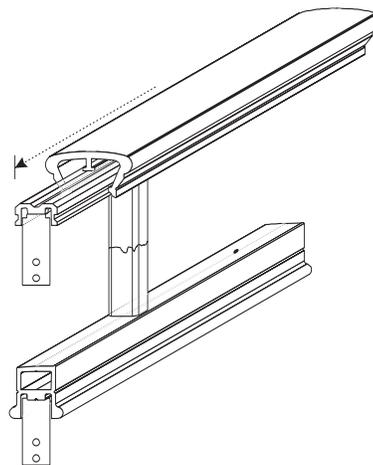


TIP: For better accuracy, pilot the holes with a $\frac{1}{16}$ " drill bit first. When drilling the Bottom Rail, drill through the bottom wall only — do not drill through the top surface. Be careful not to over torque. Fasten the mounting brackets to the underside of the retainer and bottom rail using the #8 x $1\frac{1}{8}$ " screws supplied. Make sure the brackets are straight and $\frac{1}{16}$ " inside the end of each profile.

Assembly:

Place the bottom rail on a clean flat surface. Using the 3", #8 wood screws, fasten the balusters to the bottom rail (see Figure 14). Be sure to place the screws into the screw hole at the end of the balusters. Do not over torque. Press the opposite end of the balusters into the retainer at the pre-drilled locations and using the $1\frac{1}{2}$ " #8 wood screws, fasten the retainer to the balusters (see Figure 15). Do not over torque.

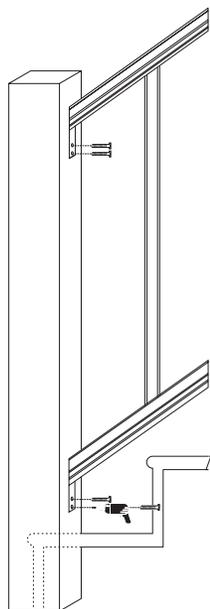
FIG. 16



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NOTE: If the mounting brackets cover any of the pre-drilled Baluster holes in the Retainer or Bottom Rail, or are too close not to allow the installation of a Baluster, do not use the end Balusters. Seal any exposed holes with a white, silicone exterior-grade caulking. Carefully slide the handrail over the Retainer (see Figure 16).

FIG. 17



Installation:

Once the handrail is in place over the Retainer, follow the same procedure for a stair rail installation as outlined on page 4. Take the assembled stair rail and place it into the opening. Make sure the minimum spacing allowed by local code (4") from the nose of the stair tread to the bottom of the rail is maintained. Make sure the railing is plum and square, or matches the width dimensions previously taken, and mark the bracket holes on the sleeves (see Figure 17). Remove the railing and drill pilot holes in the sleeves with a $\frac{1}{4}$ " drill bit. Place the railing back into the opening and attach the railing to the sleeves with the $\frac{1}{4}$ " x $1\frac{1}{2}$ " lag bolts supplied in the hardware kit with a $\frac{7}{16}$ " x $\frac{1}{4}$ " drive socket or a $\frac{7}{16}$ " wrench. Cut center support to correct height. Prior to final tightening, insert center support under bottom rail, equal distance between posts.

Top Cap Installation:

Once the rail has been completely installed, apply the desired Ball Cap, Traditional Cap, Colonial Cap or Solar Cap as follows (see Figures 18, 19, 20, 21). Place a generous bead of exterior-grade caulking on the end of the sleeve and across the 4" x 4". Place the cap firmly onto the caulking, centering it over the sleeve. Allow caulking to set for 24 hours. For added strength, drive two long finishing nails or screws through the outer edge of the caps into the 4" x 4", and touch up with paint or fill the holes with exterior-grade caulking.

FIG. 18

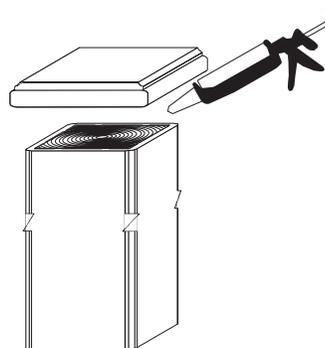


FIG. 19

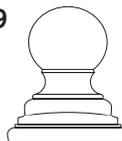


FIG. 20

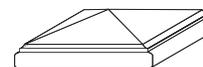
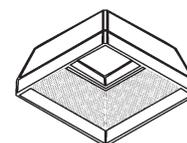


FIG. 21



Finishing:

Seal the seams between the Handrail and sleeves, Bottom rail and sleeves, and top caps and sleeve with a small bead of white, silicone exterior-grade caulking. Remove excess caulking.

TIP: For best results, dip the tip of your finger in soapy water and remove any excess caulking for a clean smooth joint.

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Installation Guide for GeoDeck Plus Sleeve Support for Existing Decks

GeoDeck Plus Sleeve Supports (Figure 22) can be used for wood or concrete decks, patios, or docks. They are easily installed — simply bolt to an existing surface, using $\frac{5}{16}$ concrete anchors or $\frac{5}{16}$ concrete lag bolts or carriage bolts, according to application.

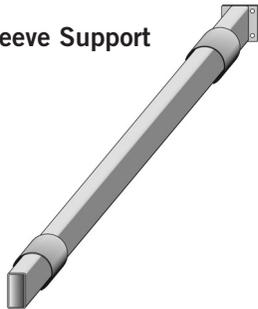
Concrete Applications (Surface Mount)

Concrete installation is a snap!

1. Layout sleeves for proper alignment.
2. **Make sure GeoDeck Plus Sleeve Supports are facing the same way.**
3. Drill four holes in the concrete for a $\frac{5}{16}$ concrete anchor bolt. (Any $\frac{5}{16}$ anchor bolt will work for this application. Check with your hardware professional).
4. Cut GeoDeck Plus Sleeve to proper length and install over GeoDeck Plus Sleeve Support.

NOTE: When using GeoDeck Plus Sleeve Supports, some applications may require metal lags for GeoDeck Plus Rail System.

FIG. 22
GeoDeck Plus Sleeve Support



Wood Application (Surface Mount)

When installing a surface mount application utilizing the GeoDeck Plus Sleeve Support System,

1. Layout sleeves for proper alignment.
2. **Make sure GeoDeck Plus Sleeve Supports are facing the same way.**
3. Trace four holes in bottom plate of support.
4. Double check layout.
5. Depending upon application — Lag, Screw or Carriage Bolt — some reinforcement will be necessary.
6. Deck boards must be reinforced from joist to joist on under side to ensure strength.
7. When completed, cut GeoDeck Plus Sleeve to proper size and slide over GeoDeck Plus Sleeve Support and continue installation of GeoDeck Plus Rail.

NOTE: Some applications may require metal lag screws to install GeoDeck Plus Rail, when using support. (Please see your local supplier for proper hardware.)