I N S T A L L A T I O N  I N S T R U C T I O N S

RAIL EASY™

# NAUTILUS

ATLANTIS
RAIL SYSTEMS

# RailEasy™ Nautilus Installation Guide


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The RailEasy™ Nautilus System combines the modern look of horizontal stainless steel cable and tensioners with the low maintenance quality of highly polished or brushed tubing and optional vinyl post components.

The following guide will take you step-by-step through the process of installing your RailEasy™ Nautilus System. Along the way, we'll offer you tips and tricks to help you get your railing installed today and ready for tomorrow.

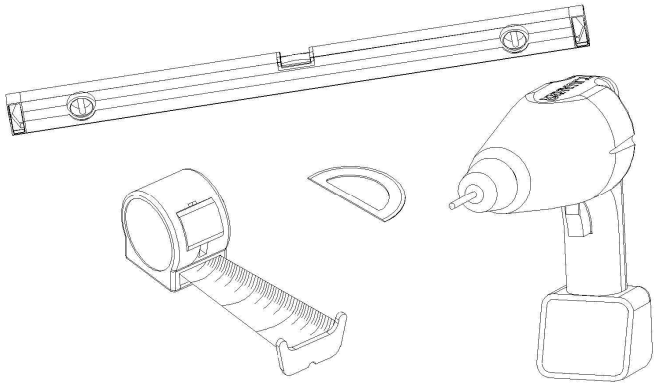
## Table of Contents

# Building your RailEasy™ Nautilus System

## Step 1 – Necessary Tools

Before you begin, you will need the following tools to install your railing.

- Power drill
- 1/8” Bit for tensioners
- 7/32” Bit for cable thru-holes
- Chalk line (Optional)
- 25’ Tape measure
- 1/8” Allen wrench
- 5/16” Allen wrench
- Carpenter’s square
- Level



**RAILEASY™ INSTALLATION KIT (OPTIONAL)**

Atlantis Rail offers an installation tool kit to aid your installation. Ask your sales representative for more information.

Part Number: C0988-0000

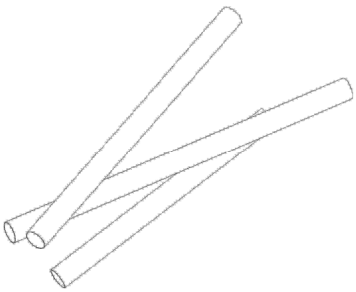
## Step 2 – Laying Out Your Railing System

### Rail Lay Out

Custom cut rails are laid out numerically from the left of your project, beginning with rail section one. For two rail systems, each rail section will have two rails, an upper hand rail (labeled UH) and a lower hand rail (labeled LH). Your railing system will be packaged in the same numeric fashion so you can lay out your boxes accordingly. Stock length rails follow your own determined order and are cut in the field per your measurements.

### Locate and check the parts of your rail system

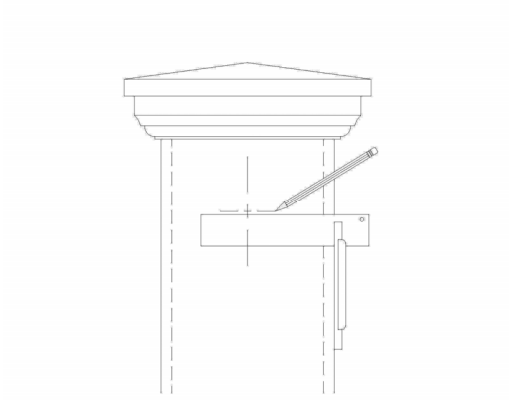
When your rail system arrives on site take the time to make sure that the parts are included and undamaged. Report any inconsistencies with your Atlantis Rail sales representative as soon as you are aware of the issue.



Lay out your rails between the appropriate posts. Open the boxes of fittings and lay the appropriate fittings out along with the rails. Once all the parts are laid out and accounted for, you are ready to begin.

## Step 3 – Installing Rails For Straight Sections

**NOTE:** IF INSTALLING THE MICRO STAR™ LED LIGHTING, PLEASE SKIP AHEAD TO THE MICROSTAR SECTION BEFORE PROCEEDING.

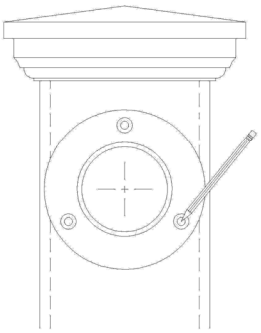


### Find the center of the top rail

Begin with the straight sections, saving the stairs for last. Use a square and a tape measure to mark the center of the first post. For 36” systems, measure 35” from the deck surface and mark a line on the post at this height. Measure 41” from the deck for 42” systems. The intersection of these lines is the center point for your top rail. If installing a two rail system, repeat at the desired lower rail height.

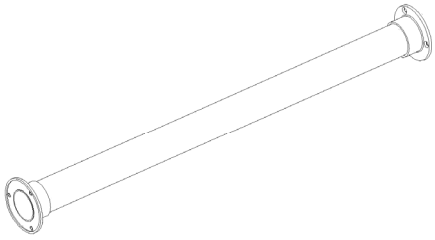
*****WARNING***  ALWAYS WEAR YOUR SAFETY GLASSES WHEN OPERATING POWER TOOLS**

### Mark and pre-drill holes for screws



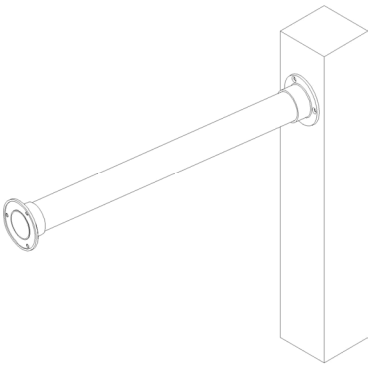
Using the straight side mount fitting (C0975-0000) center the hole on the mark made in the previous step with the set screw facing down. Carefully mark the center of the three screw holes. Remove the side mount fitting and pre-drill using an 1/8” drill bit.

Loosen set screws and slide a side mount fitting on either end of the appropriate rail with the flange facing outward.

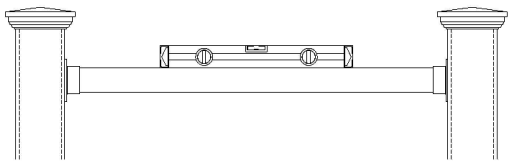


### Install side mount

Slide side mount fitting to post and install using three (3) #10 x 1-1/2” screws (supplied). Slide the other side mount fitting to the other post and lay flush against post.



With one side mount installed, slide the other fitting against the opposite post. Slide it up or down until level. When level, mark and pre-drill holes as before. Install side mount in place and recheck for level. Slide the rail between side mount fittings and tighten set screws to prevent the rail from rotating. Repeat previous steps for each straight rail section you have, top and bottom.



*Put rail in place and check for level*

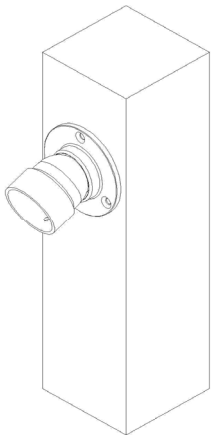
| HELPFUL HINT |
| --- |
| Longer drill bits may help keep the head of the drill from interfering with the side mount fitting. |

## Step 4 – Installing Rails For Stairs & Angled Sections

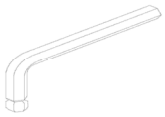
### Installing the top rail

As before, begin with a square and a tape measure to find the center of your post face. Your assembly drawing will tell you the height to the center of the adjustable flange. Using the same technique as before, measure from the surface of the deck up to the appropriate height. Mock up the base of the adjustable flange and mark the center of the screw holes in the same fashion as the straight side mount. Repeat on the opposite post.

We recommend that you apply a small amount of adhesive to the threads of the set screw inside. Tighten down screw as far as you can while still maintaining the adjustability of the angle.

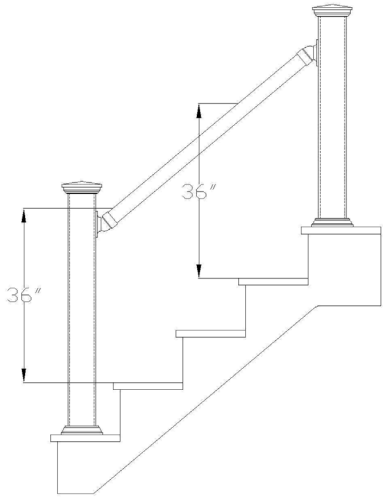


*Adjustable Side Mount C0976-0000*

| ADDITIONAL TOOLS |
| --- |
| A 5/16” ball socket Allen wrench is necessary for tightening the side mount set screws.  |

### Dry fit stair rail sections

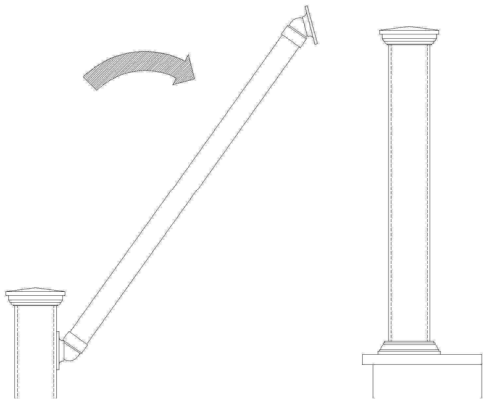
Before installing the rail it is important to be sure that the length of tubing is correct for the rail section. With a partner, place an adjustable fitting (C0976-0000) on either end of the appropriate tube. Slide assembly between two posts and adjust accordingly. Measure vertically 36” from the edge of the nosing of the stair. This is the height of the top of the rail. Measure again from a different tread and make sure that the entire length of the rail is 36” above the leading edge of each tread. With the rail mocked up in place, mark and drill screw holes using a ¼” drill bit. Be sure that the set screws are facing down.




### Assemble the rails

Begin with the adjustable angle on the bottom post. Install the flange separate from the rail. You can move the fitting out of the way to screw in the top screw. Fasten the fitting with three (3) #10 x 1-1/2” screws (supplied). Rotate railing down and line up the top holes with the pre-drilled holes from the previous step. Fasten this fitting with three (3) #10 x 1-1/2” screws (supplied).

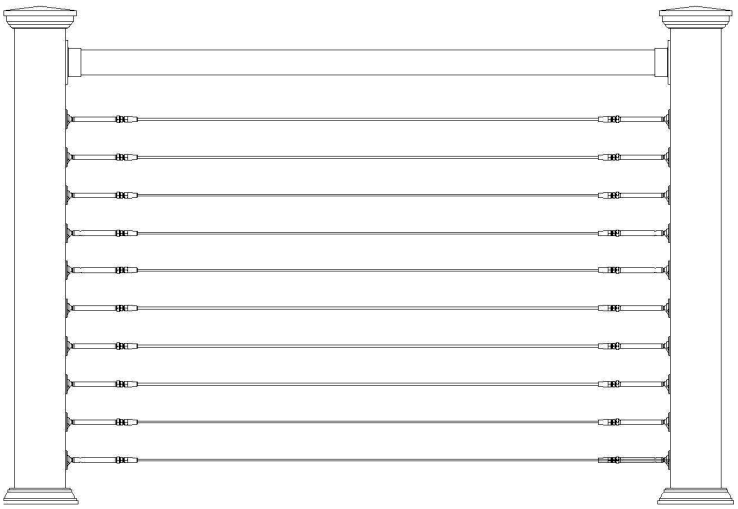
You should always make sure the set screw in the bottom of the mounting bracket is tightened after the rails are properly placed.



## Step 5 – Installing Tensioners and Cable

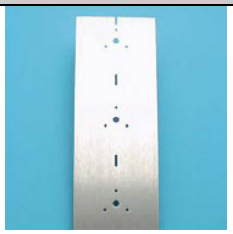
The infill for the RailEasy™ Nautilus System is comprised of tensioners and horizontal cable. This section will show you how to install the infill between your posts. You will need the following tools to continue:

- Power drill
- 1/8” Bit for tensioners
- 7/32” Bit for cable thru-holes
- 25’ Tape measure
- 1/8” Allen wrench
- Carpenter’s square



**RAILEASY™ DRILLING TEMPLATE (OPTIONAL)**

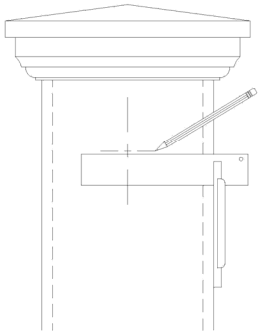
Atlantis Rail offers a drilling template (included within the RailEasy™ Installation Kit or sold separately) for easy installation of cable railing infill. Cables are spaced at 3” on center. Ask your Atlantis Rail sales representative for more information.



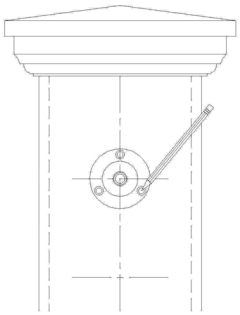
Part Number: C0988-1000

### Space and install the tensioners

Determine the number of cable runs you will need to maintain code compliance. **Check with your local building codes**. Atlantis Rail recommends spacing your cable at 3” to ensure you will not have any building inspection issues. Using a square, find the center of the post face and draw a vertical line. Measure your spacing up from the surface of the deck to the underside of the railing. Using the square, draw lines across the post face making sure they intersect with the center line you just drew. Repeat for each post. The drilling template makes this much easier.

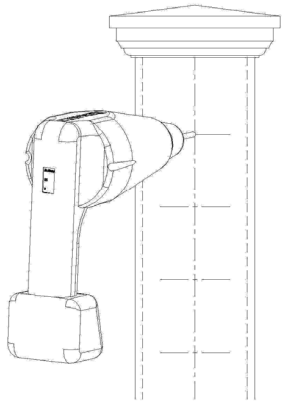


Next, place the center of a tensioner on the intersection of each line and carefully mark the center of each screw hole. Remove the tensioner and pre-drill the holes using an 1/8” drill bit. Fasten tensioners using (3) #8 x 1-1/2” screws. Install tensioners on all end and corner posts using equal spacing throughout. When installing tensioners on straight sections, make sure the recess in the base is facing downwards. This will help to keep water out of the tensioner base as well as to hide the recess.



## Drill through mid posts

Mark the centers of the mid posts on both sides in the same fashion as for finding the center of the tensioners. The intersections of these lines mark the centers of the through holes for the cable. Using a 7/32" drill bit, drill through approximately 2/3 of the post from either side. Drilling through both sides will give you a clean hole on each side and give you a cleaner installation. It is important that the holes you drill meet in the center of the post so accurate measurements are imperative.



With all the mid posts drilled through and tensioners mounted, you are ready to begin cable installation.

### RAILEASY™ CABLE CUTTER (OPTIONAL)

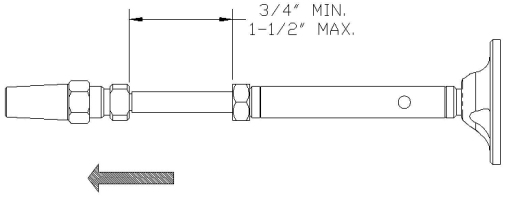
Atlantis Rail offers cable cutters to aid in the cutting of 5/32" cable. It is important that you use sharp tools to cut the cable, as a dull tool will splay it. RailEasy™ Cable Cutters last approximately 20 cuts. Ask your Atlantis Rail Sales representative for more information.

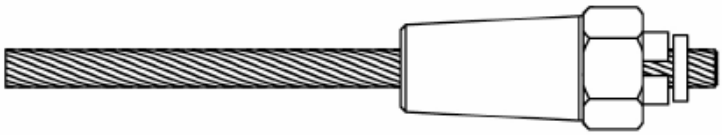
Part Number: C0989-0000

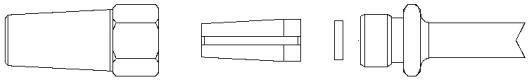
*****WARNING***** **ALWAYS USE WORK GLOVES AND WEAR SAFETY GLASSES TO PROTECT YOUR HANDS AND EYES WHILE WORKING WITH CABLE. DO *NOT* OVER-TENSION.**

## Install the cable

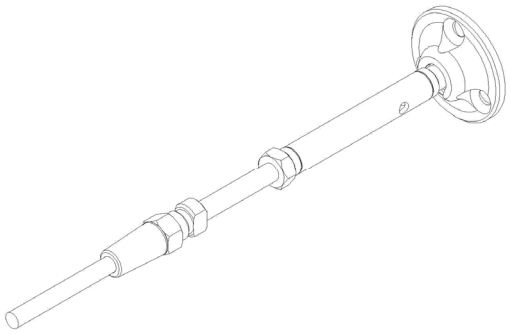
With the tensioners installed, begin by extending the receiver outward a minimum of ¾". For longer cable runs, you will need to extend the receiver 1-1/2" to be sure you have enough room to tension the cable. Remove cone and aluminum wedge, taking care not to lose the small bronze washer. Insert cable through each individual piece and reassemble around cable.



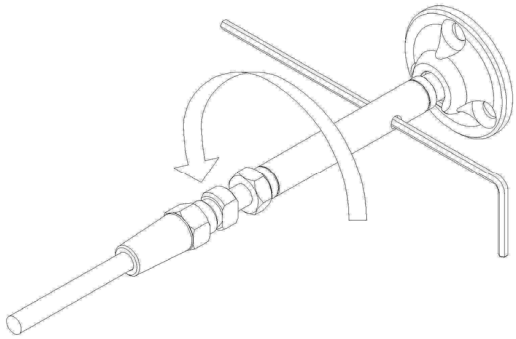


Next, thread the completed assembly back onto the receiver. Tighten cone down until threads are no longer visible and the cone is tight. Upon doing this, the aluminum wedge will crimp down on the cable and hold it in place. With the cable installed in one tensioner, pull the cable to the opposite tensioner. Pull the cable tight to the tensioner and cut it. Using the first run as a guide cut the remaining runs to the same length. This will ensure uniformity among the tensioners. Thread the cable through each mid post and install the cable into the opposite tensioner using the same process as before.



**Tensioning the cable**

Begin with the center run of cable. Insert a 1/8" Allen wrench into hole as shown and hold the receiver nut with 5/16" open wrench. Rotate the Allen wrench and turnbuckle body counter-clockwise to tension. Tension each side equally until taut. Do **NOT** over tension. Over tensioning will cause posts to deform and deflect. When all runs are properly tensioned, tighten lock-nut down to maintain tension.



*****WARNING*** ALWAYS USE WORK GLOVES AND WEAR SAFETY GLASSES TO PROTECT YOUR HANDS AND EYES WHILE WORKING WITH CABLE.**

When tensioning, it is important that you begin with the center run of cable and alternate working above and below the center, much like tightening the lug nuts on a tire. This will help to ensure that your posts don't deflect during tensioning. It will also help tension equally throughout. Continue tensioning all the cables in this same fashion until all cables are tensioned.

## Product Specifications

The RailEasy™ Nautilus System uses either pre-existing or new railing posts. Recommended posts are standard 4" x 4" wood. Other materials may be used at your own discretion, but be aware that tension must be applied to tensioners and cable. Posts should be capable of receiving the mounting screws and holding under tension.

### Components

Post covers are available in white vinyl sleeves with top and bottom caps.

Post Height: posts should be 39" for a 36" system and 45" for a 42" system.

Railing: 2" O.D. x .06" wall 316 s/s tubing. Available finishes; satin brushed & mirror polished

Infill (Cable): Cable is spaced 3" on center wire to wire using the RailEasy™ Drilling Template.

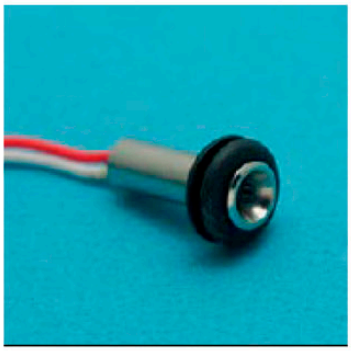
Cable spans (end to end between tensioners) should not be more than 50 ft in length

ATLANTIS RAIL SYSTEMS

| | Material | Finish | Dimensions | Notes |
|---|---|---|---|---|
| **Post** | -- | -- | 3.5" x 3.5" manufacturer recommendation | Posts may vary, customer supplied |
| **Vinyl** | PVC | White | 1/8" Thick 4"x4" outside, 3.75"x3.75" inside x 48" height | PVC optional. Skirts and caps sold separately |
| **Rail** | 316 s/s | B/P | 2" O.D., .06 Wall thickness | Custom and stock lengths available |
| **Cable** | 316 s/s | -- | 5/32" 1x19 316 stainless steel cable | 580 lb. WLL |
| **Tensioners** | 316 s/s | -- | See catalog for more information | 3 # 8 x 1-1/2" Fasteners |
| **Fittings** | 316 cast s/s | B/P | 3.5" Round Base, 2" Inside Diameter | 3 # 10 x 1-1/2", set screw to prevent rotation |

## MicroStar™ LED Lighting

MicroStar™ is a complete line of small, super bright white LED lights. These systems are available in both 12 volt and 24 volt and each draws only 0.02 amps. Each MicroStar™ has an expected bulb life cycle of 50,000 hours or 12 years of 10 hours per day usage. They provide sufficient levels of light to illuminate railing features without hot spots or dark shadows.



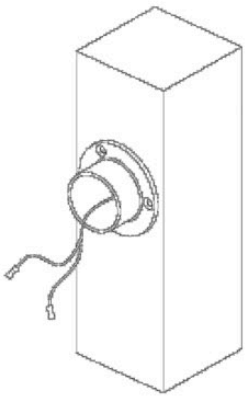
## Installing MicroStar™ LED Lighting

### Step 1 – Install MicroStar™ Transformer

Mount the MicroStar™ transformer (supplied) near a 110v, power outlet but leave transformer unplugged until it is needed. Select the end post closest to the outlet in order to connect to the transformer. You will need to run the low voltage wire down this post so plan accordingly. If you are using the white vinyl sleeves with your rail system, you can run the wire down inside the sleeve to keep it hidden and protected. If you are not using vinyl sleeves, other arrangements will need to be made to conceal the wire.

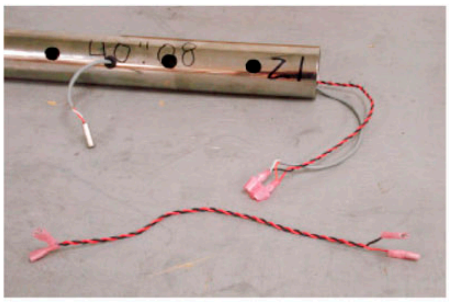
### Step 2 – Drill holes through posts for wire

Locate center of fittings as instructed in “Step 3 – Installing the rails.” (Page 3) At the centers, drill a hole with a ¼” drill bit 2/3 of the way through the post from both ends. It is important that these holes meet in the center of the post so care should be taken in locating the centers. Thread supplied jumpers through post and fittings.



### Step 3 – Connect rails with jumpers

Beginning with the end post closest to the transformer, connect rails sequentially with the jumpers. As you go, be sure to check each rail section for proper functionality and make any necessary wiring adjustments before installing the rails.



Install rails as they are connected according to instructions located in this installation guide. When all rails are connected and installed, connect the string of lights into the transformer. Plug the transformer into the wall and set the timer.

**NOTE:** Atlantis Rail checks each light in our shop to be sure that it is functioning according to manufacturer’s specifications. However, it is a good idea to check the lights on site to be sure that no wiring came loose in transit.

***WARNING*** **12 VOLT DC POWER SOURCE ONLY.** LED MICROSTAR™ LIGHTS FOR USE WITH DICRECT CURRENT TRANSFORMER ONLY. USING AN ALTERNATING CURRENT TRANSFORMER OR A TRANSFORMER OVER 12 VOLTS WILL CANCEL ALL WARRANTY CLAIMS AND CAUSE THE LIGHTS TO BURN OUT PREMATURELY.