



Helix Components *Build Tips*

www.tracksidescenery.com

This document provides only basic information and tips on the assembly of our helix components. It is not intended to be an all inclusive step by step instruction manual for the planning, design and construction of a helix in general. It is to be assumed that the builder is knowledgeable about the helix he or she intends to build.

For additional information on planning - refer to the [Helix Planning Guide](#).

Assembly Required



Example of an assembled Helix



General Information

Before You Begin:

Some may already have experience building a helix, but chances are that you have not built one using this particular substrate. All components are made from laser cut Gatorboard. When these components are securely fastened together, they will provide a lightweight and very strong structure. If you are using our precut risers, care should be employed when handling and installing, as the areas around the notches are thin.

Take your time!

Putting components together (GLUE):

All components should be secured with an adhesive on contact surfaces and contact points. While you could use a wide variety of glues, in our pinion, a fast setting (strong) glue works best. Inexpensive Super Glue or CA Glues are very easy to work with and provide a strong bond. In our tests, we found that it was a time vs money consideration. Wood glue was cheaper, but the setting times were long. Super Glue and CA Glue, while more expensive, have proven to be well worth it.

Tools:

Ruler or tape measure, a straight edge, masking tape and a utility or hobby knife. You may not need to cut deck sections to get the desired angle of your entry or exit points. You also may need to cut excess height or levels from the risers etc.

Quick notes:

Deck Sections

Although deck sections have a scribed centerline on one side, they can be used either way. Other than the line, there is no top or bottom, left or right.

Clamps

The clamps have no markings and no fixed orientation (no top or bottom) and can be used either way. Clamps may have a slight over/under cut with regards to the deck section depending on radius. This is normal as clamps are design to fit a range or decks.

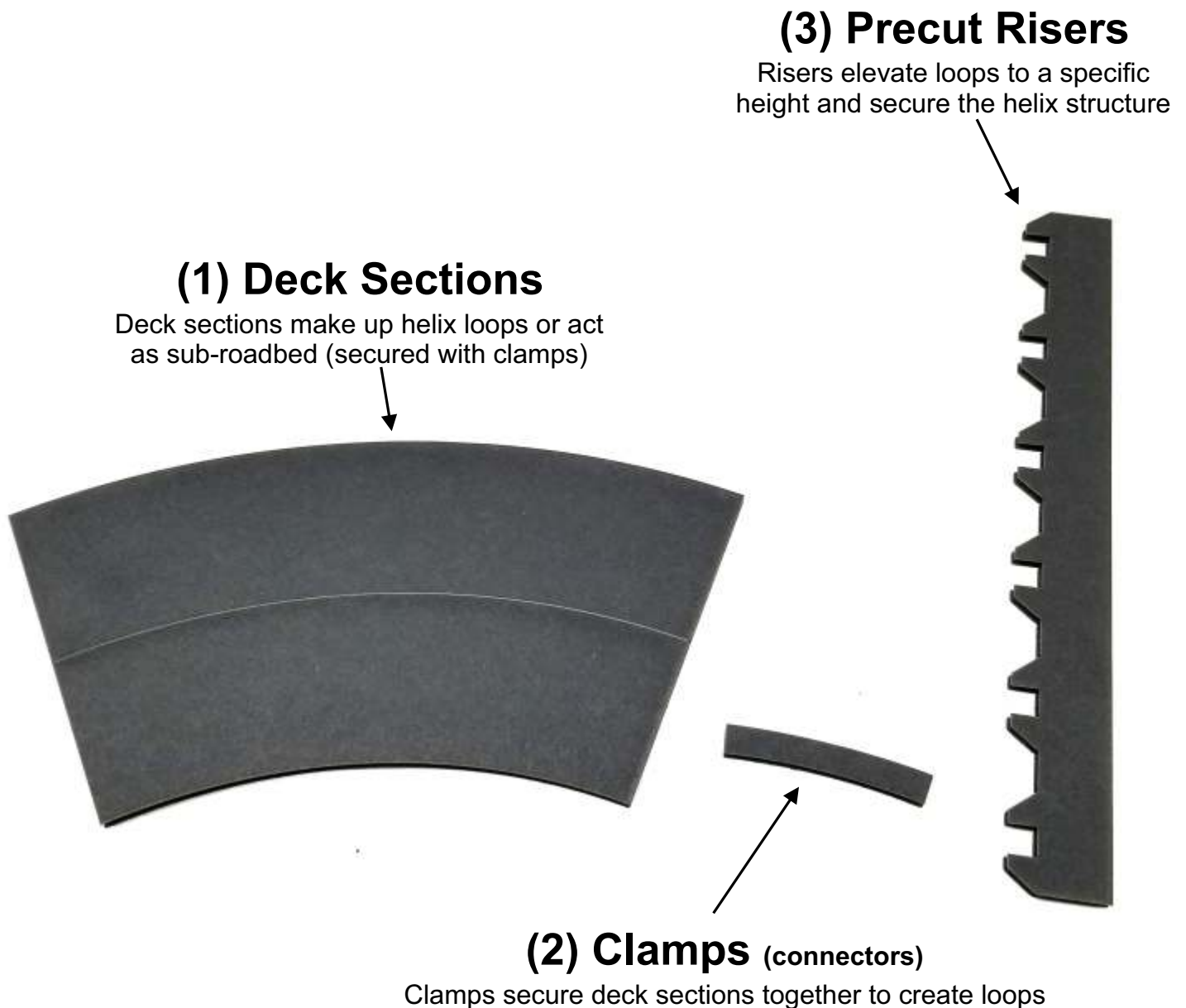
Risers

The precut risers have no top or bottom orientation and can be used either way. In areas where your loops enters or exits the helix, you can cut away excess heigh or levels with a utility or hobby knife.

At contact points where deck and clamps fit into riser notches - some may slip in freely where others do not. This is normal. With your thumb and index finger, simply pinch (squish) the deck/riser point slightly with your fingers to condense the material and slip into the riser notch.

Familiarize yourself with the Components

Components that make up a helix are as easy as 1, 2, 3
There are only 3 types of parts:



Helix components are provided in raw material form and can be cut and shaped as needed with a sharp utility or hobby knife.

Build Scope

Build Methods:

There are two common approaches for building your helix structure.

1) Section by section from the entry angle on the bottom 1,2,3.....and so on, round and round as you clamp them together until you reach your exit angle.

This could be a faster approach, but would require that the first loop be completely circular in order for you to maintain uniform loops as you go.

2) Build one loop at a time separately with 1/4 sections, then 1/2 sections and then complete each loop. Once you have all of your loops assembled, you can then create the helix spiral.

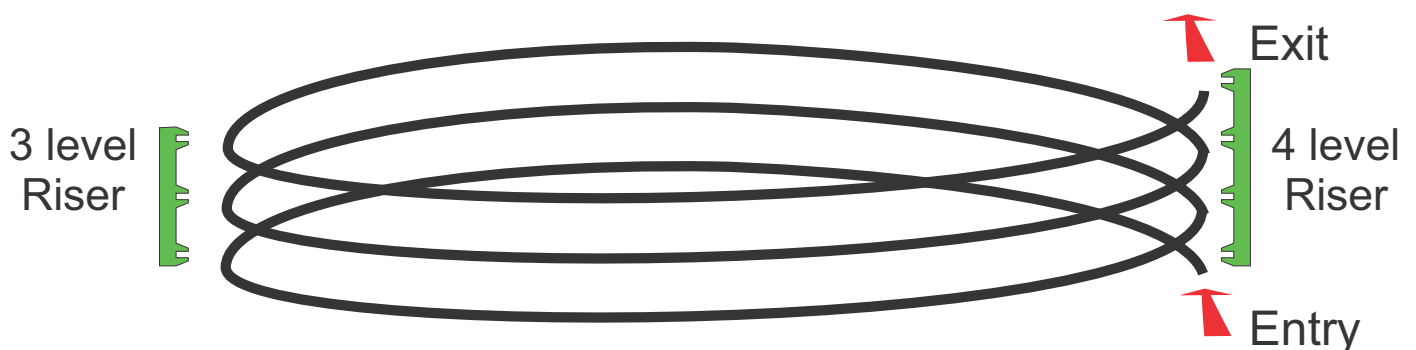
This method (as described later in this booklet), might make it easier to ensure the creation of uniform circles.

Entry - Exit and Risers:

Consider your entry and exit angles - Consider how your risers will work.

As many will enter and exit the helix at different angles, consideration should be given to full loops and partial loops and the number of levels a riser will have at each point.

Example: A helix with 3 complete loops would require 4 level risers at the entry and exit point. As you can see in the illustration below, 3 level risers would be used elsewhere. It's easier to have taller risers that you can cut down to the levels you need.



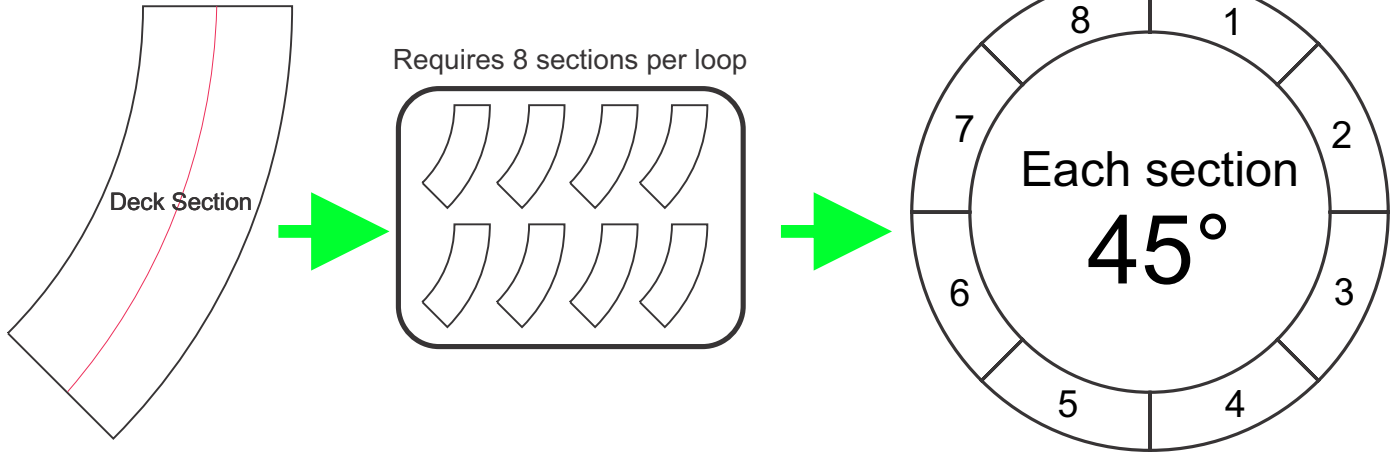
Levels
2 Level riser takes you 1 level higher
3 Level riser takes you 2 levels higher
4 Level riser takes you 3 levels higher
5 Level riser takes you 4 levels higher
6 Level riser takes you 5 levels higher

Build Scope

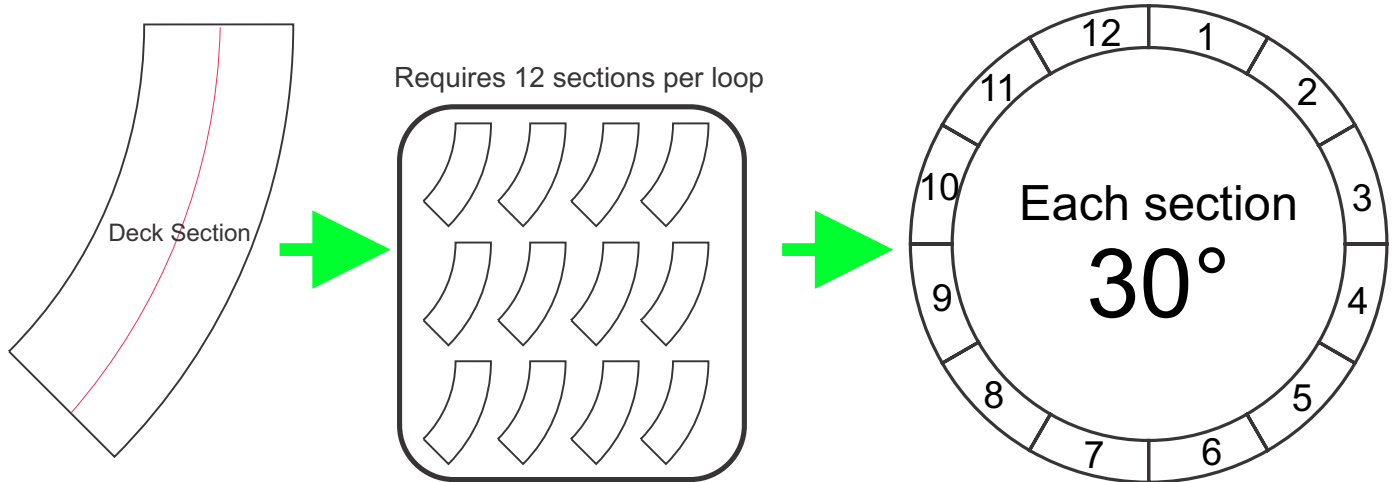
Deck Section (Loop Arrangement):

There are two common approaches for building your helix structure.

Example of an 8 section loop



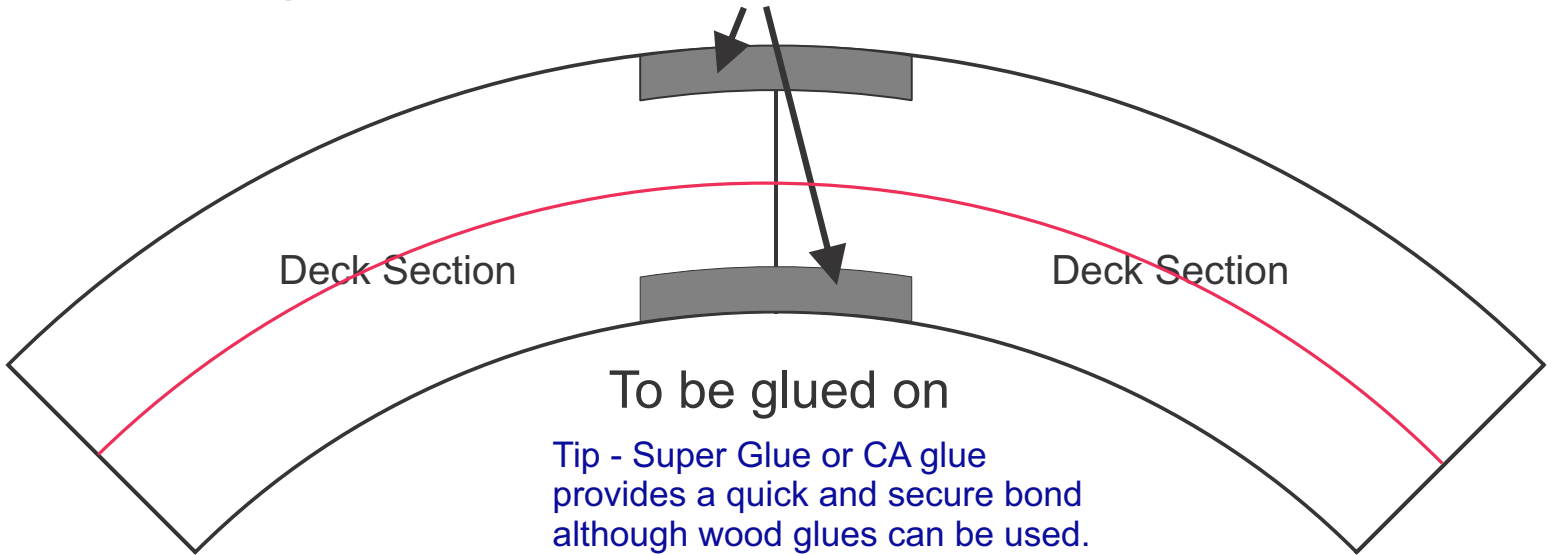
Example of an 12 section loop



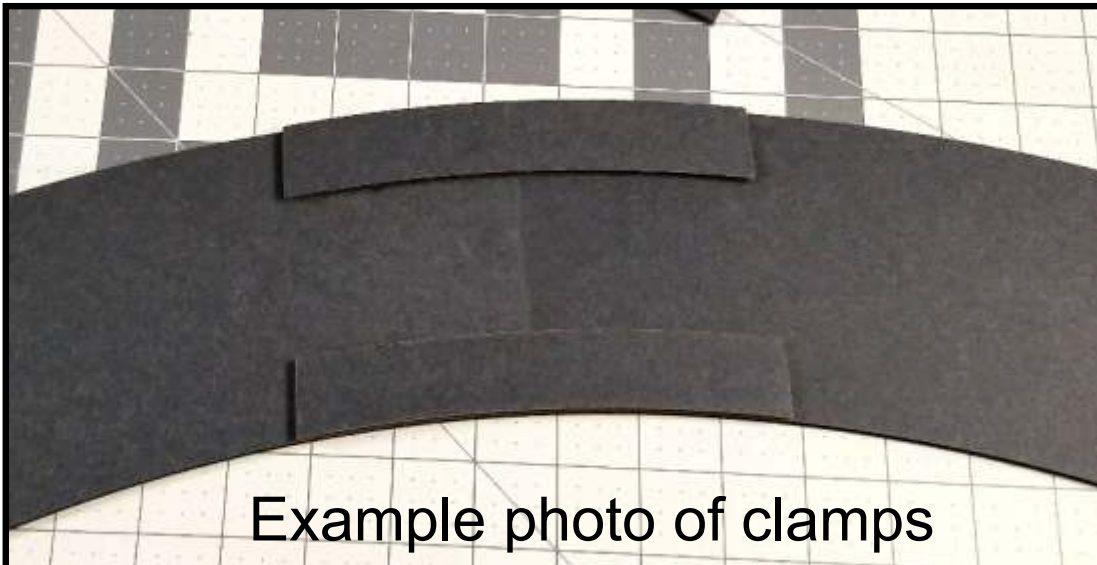
Build Scope

Clamps (connecting deck sections):

Clamps should be affixed to floor side of deck



★ Clamps have no specific right of left orientation (can be used either way)



Build Scope

Loop Assembly:

You can certainly do it any way you wish:

Similar to putting together a loop of sectional pre-curved track, you will need make sure all sections line up and make a uniform circular loop. The difference here is that you are working with raw material and there is no snap together feature.

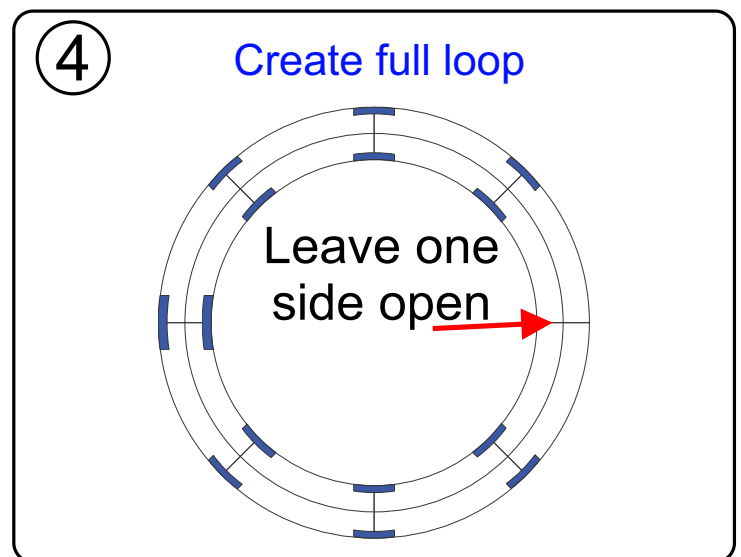
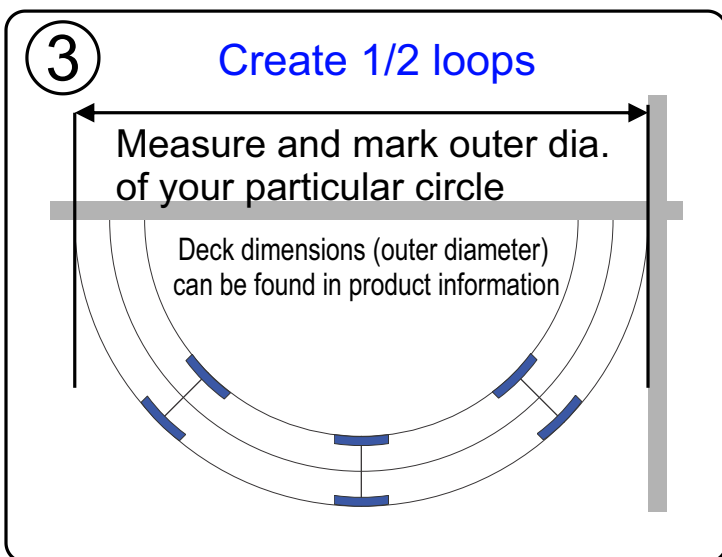
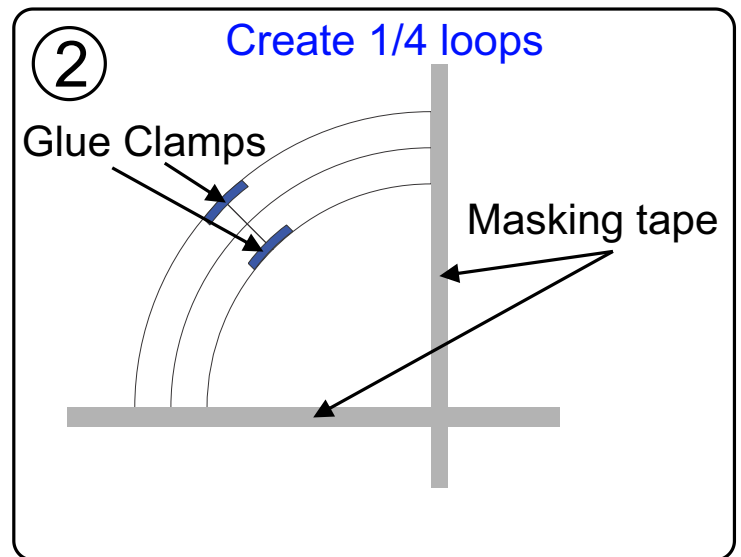
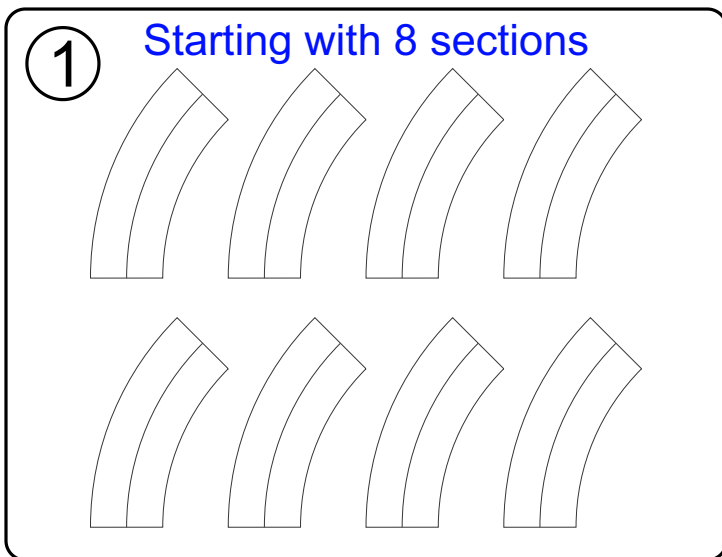
With that in mind, we suggest that you do not build a loop one section at a time in a clockwise or (CC) direction. This can cause misalignment if you are not using reference points.

An easy method is to build a 1/4 loop, then a half loop and then complete full loop

It only take a few extra minutes!

If working on a table or floor, you can tape perpendicular lines down to create an L shape and use that as a guide

Example of an 8 section loop

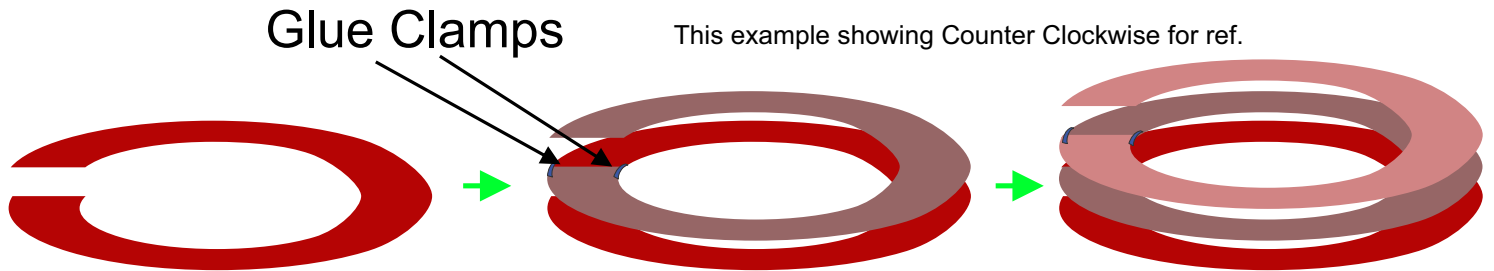


Build Scope

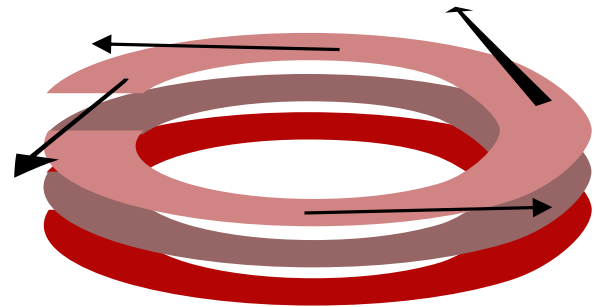
Creating the helix spiral:

These illustrations assume that you have built each loop separately first

Stacking loops Clockwise or Counter Clockwise Rise

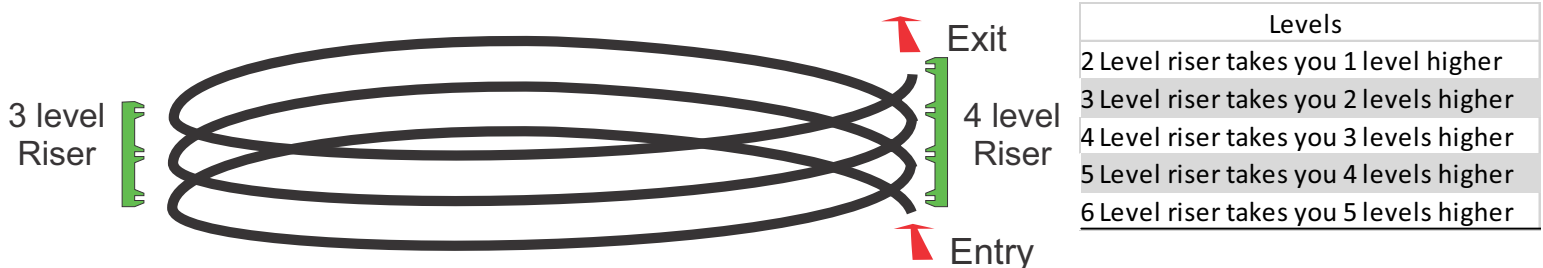


Full loops would allow you to enter and exit the helix in the same direction. The angles in which you enter and exit the helix will determine how many sections are required for partial loops as well as how many levels a riser should have at given points.



Consider your risers:

Example: A helix with 3 complete loops would require 4 level risers at the entry and exit point. As you can see in the illustration below, 3 level risers would be used elsewhere. It's easier to have taller risers that you can cut down to the levels you need.



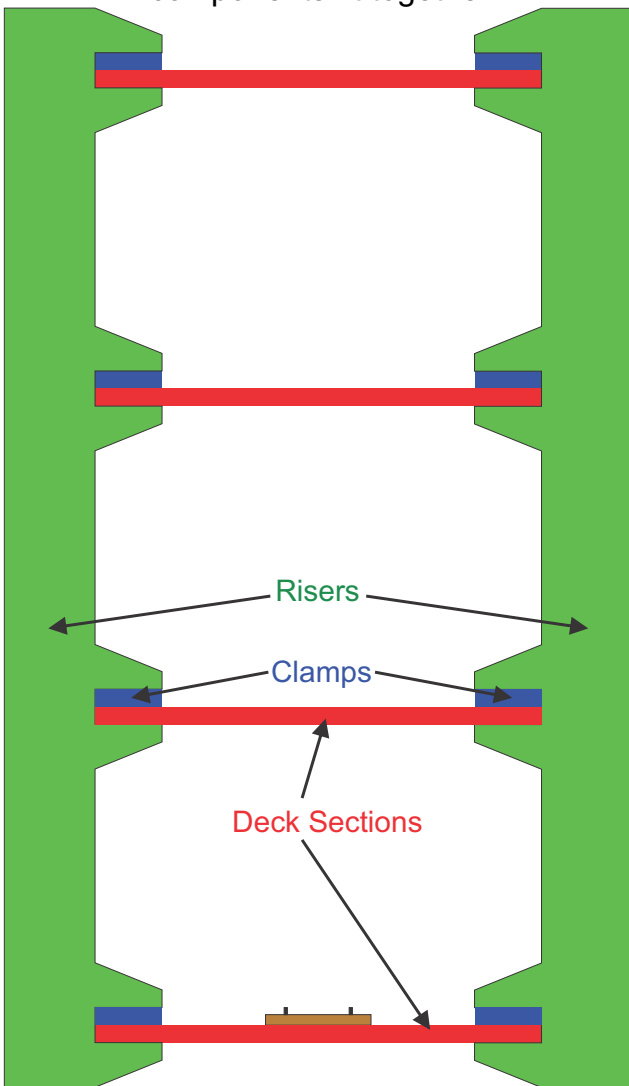
All components can be cut as desired with sharp utility or hobby knife

Build Scope

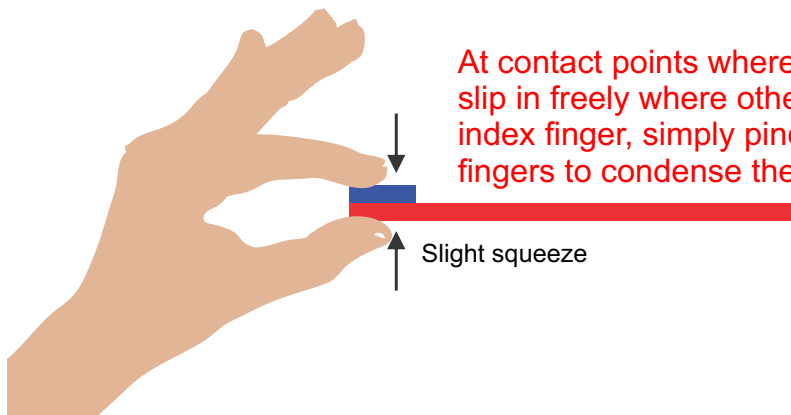
Risers:

How components fit together

Illustration shows how the separate components fit together.



Example below using QTY 4 of the 4 level risers at each connection point



At contact points where deck and clamps fit into riser notches - some may slip in freely where others do not. This is normal. With your thumb and index finger, simply pinch (squish) the deck/riser point slightly with your fingers to condense the material and slip into the riser notch.

Build Scope

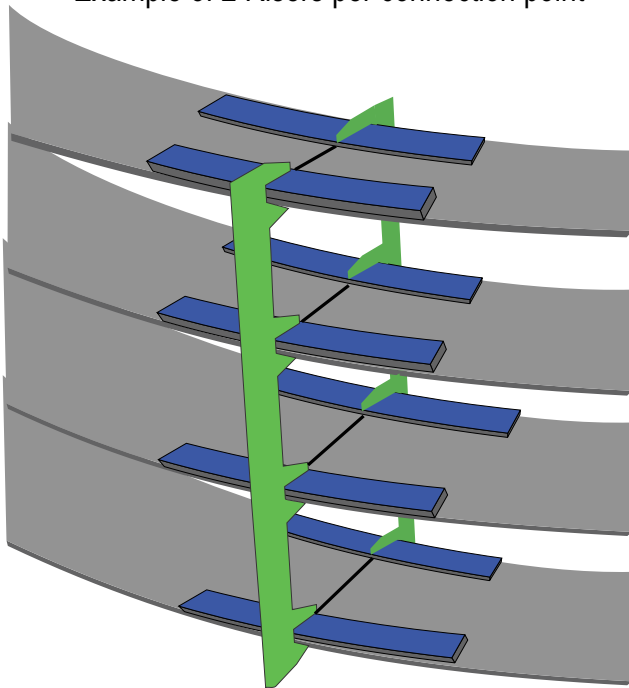
Risers:

Riser Configuration on Helix

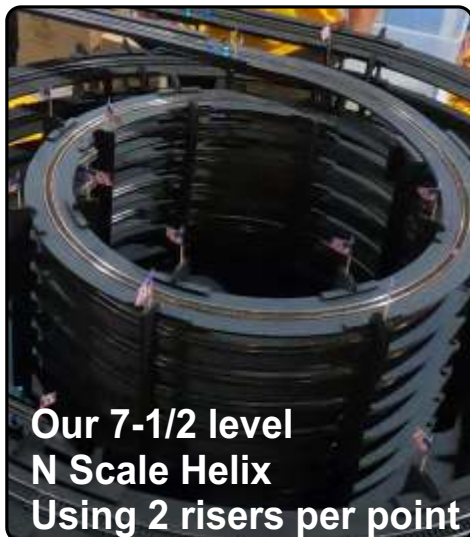
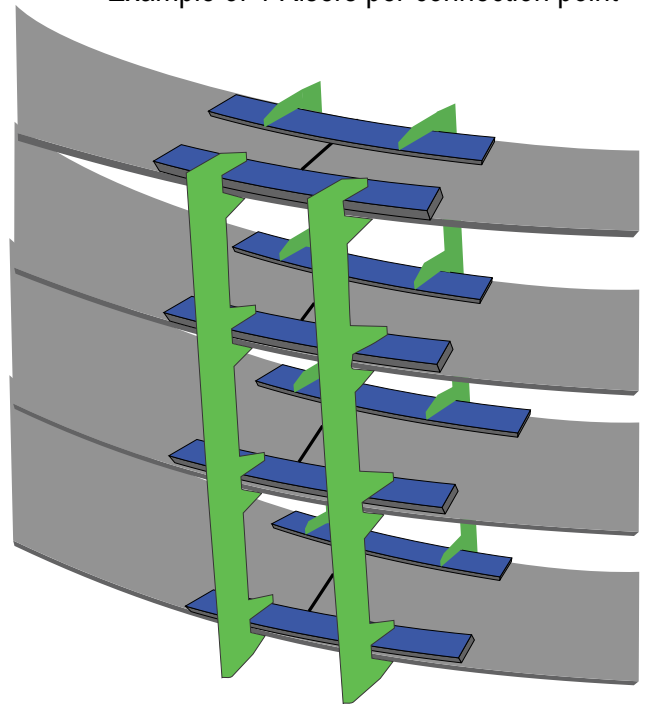
Risers should be mounted at the inside and outside of each connection point as the riser notch is designed to allow a deck section and clamp to sit inside each notch. A minimum of 2 risers at each connection point should be observed. When all contact points are glued, a minimum of 2 risers per connection point will allow for a secure structure with shorter N and HO applications.

★ While there is no set rule as to how many risers have to be used at each point, it is suggested, that for taller structures or ones that require doubling risers for added height, additional risers be used. **Doubling? - See next page**

Example of 2 Risers per connection point



Example of 4 Risers per connection point

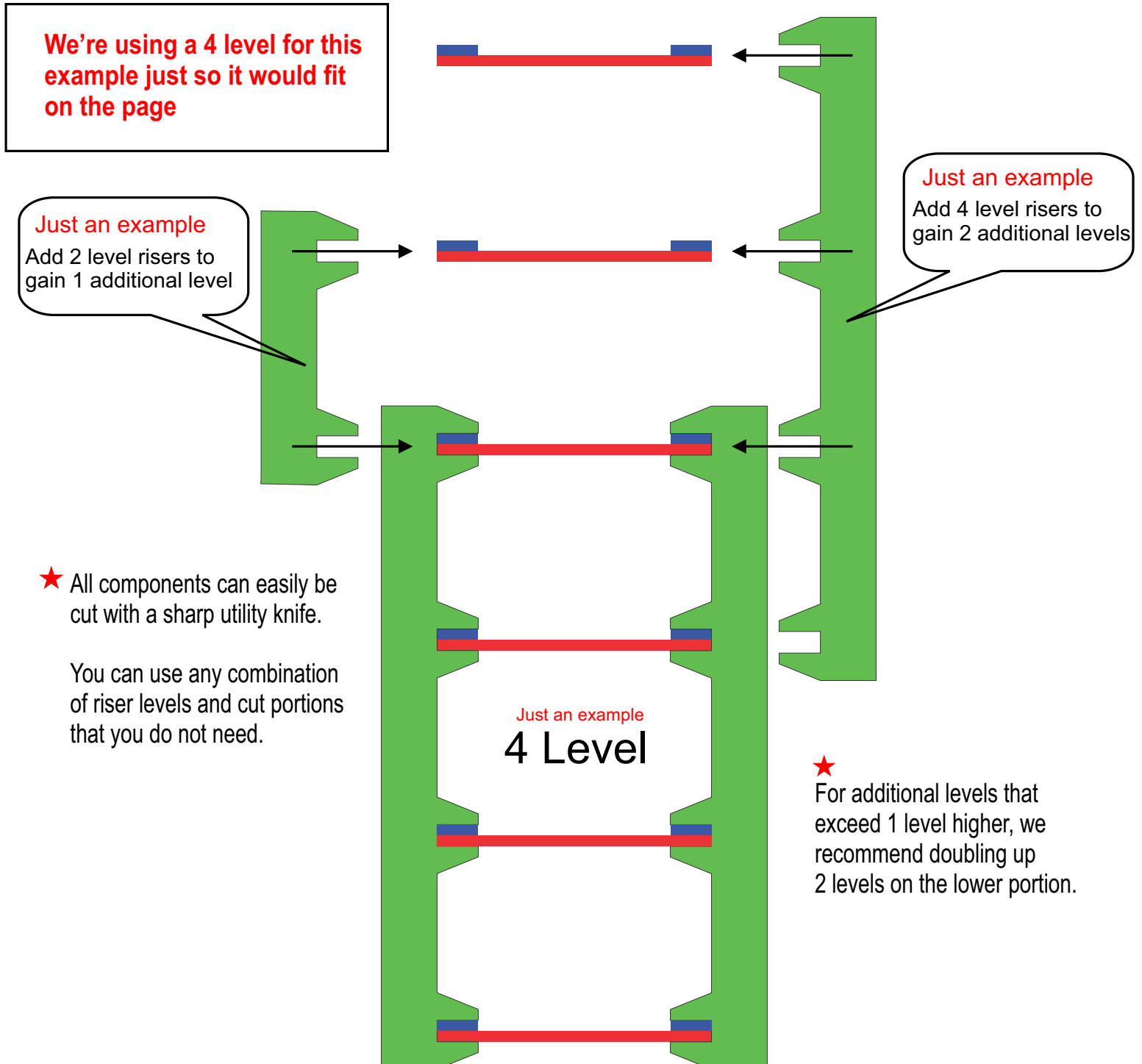


Build Scope

Risers:

Risers Doubling - Gaining extra height for a taller helix

Where your required number of levels exceeds the number of levels for an available riser, use risers in a double up fashion. See basic examples below. When all components are glued together, this adds extra strength to the entire structure. It's just as simple to use taller risers and cut off excess levels.



Resources

Online and at your service:

Contact Us Directly:

Website - www.tracksidescenery.com

Email - tracksidescenery@gmail.com

Phone - 304-279-7375 (Normal business hours EST)

Our contact information is on every page of the website at the bottom.



Our Facebook Page:

Updated regularly, we feature not only product announcements, but photos, video, project updates and much more. Located here www.facebook.com/tracksidescenery



Our YouTube Channel:

Here we feature How-To videos, real railfanning, layout tours and much more
Located here - www.youtube.com/tracksidescenery



Our customer photo gallery is full of customer photos showing how they use our products.
Located here > [CUSTOMER PHOTO GALLERY](#)

Thanks for your interest in
Trackside Scenery

Happy Modeling.....