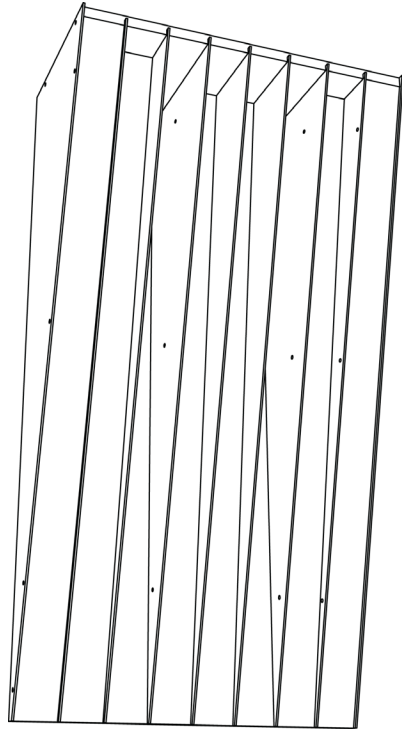


# The Acoustic Ramp™ Diffuser Assembly & Installation



Version 1.5 || 12/13/2012

**XIX Acoustics**

www.XIX-Acoustics.com  
294A Boston Avenue Medford, MA 02155

## INTRODUCTION

Congratulations! You now own the best acoustic diffuser on the market today! There is no better back wall for your control room, no better treatment for your home theater, studio or performance space.

The Acoustic Ramp™ is most effective when used in an array of 2 or more Ramps. The wedge shape of the diffuser allows the installer to direct reflections away from the sound source to prevent the mal-effects of comb filtering in the listening position.

If you are a genius and you never read instructions, you certainly don't *need* to read the directions to assemble your Acoustic Ramp™.

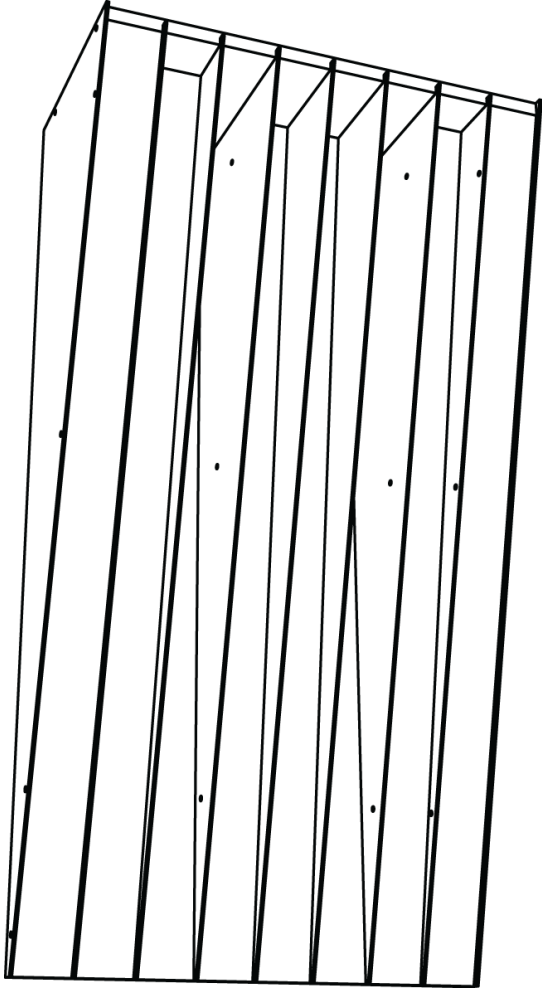
However, if you don't have an offset screwdriver we **STRONGLY RECOMMEND** that you read and follow the directions to avoid the frustration of not being able to fit your screwdriver between the dividers. We spent a lot of time figuring out the easiest, fastest way to assemble the Acoustic Ramp™ with the fewest possible tools.

Please do let us know if you have found an easier way, we would love to know about it!

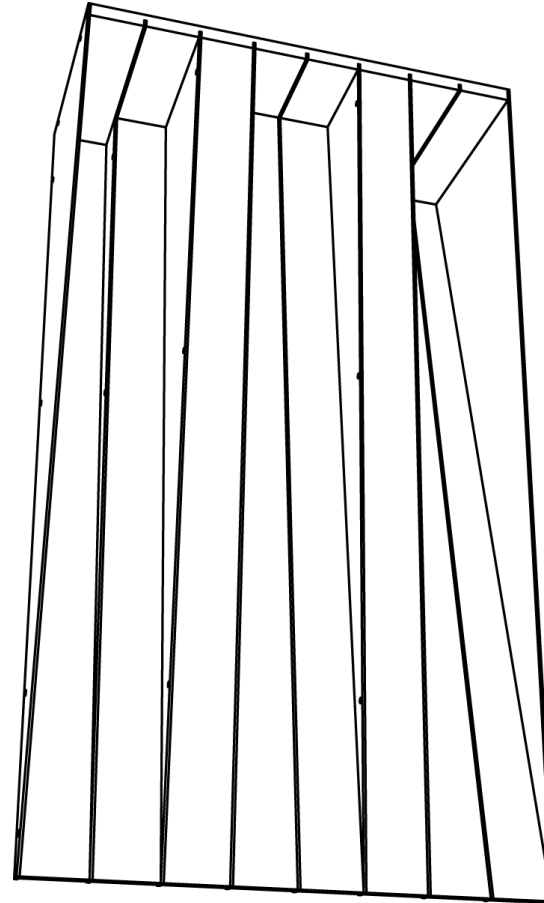
If you need help or have questions, you can call Hendrik Gideonse, the acoustic designer, on his cell phone at (781) 710-4521. Please try to call between 9 AM and 8 PM Eastern (Boston) time.

## Diagrams of Completed Assembly

Front View Assembled



Rear View Assembled



## Parts List

### Acoustic Ramp Parts

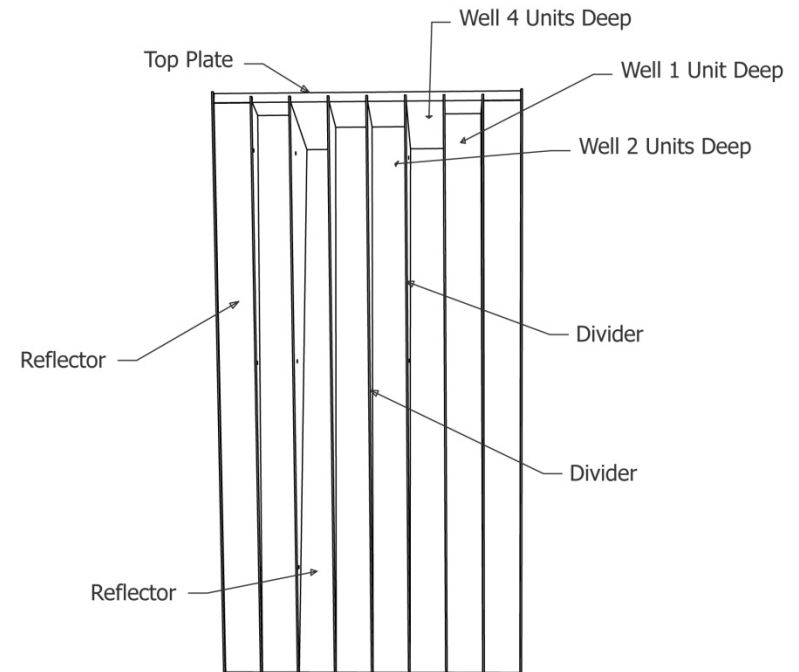
- (8) Reflectors made of 1/2" Plywood
- (1) Top Plate made of 3/4" Plywood
- (9) Dividers made of 1/8" Powder-Coated Aluminum
- (48) 3/4" 8/32 Flat head Phillips Machine Screws
- (3) 3 1/2" 8/32 Flat head Phillips Machine Screws

### Mounting Hardware

- (1) Wall Hanger Hook
- (1) Wall Hanger Clip

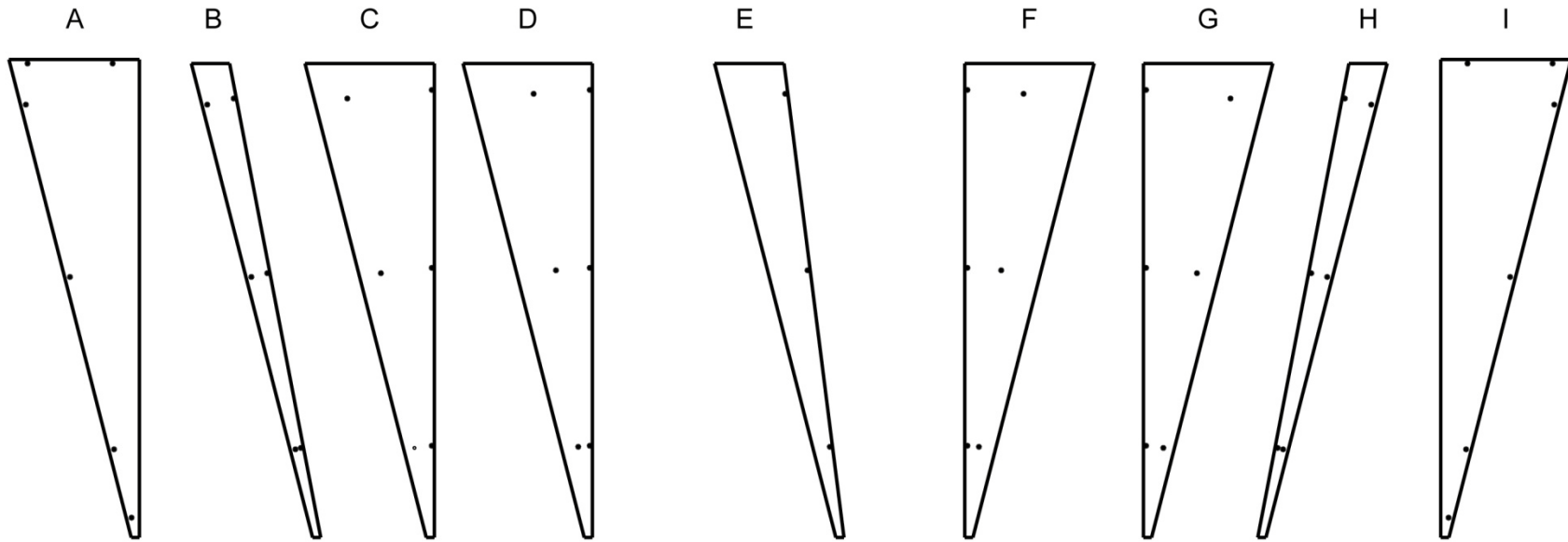
Please note that drawings of the parts are not to scale!

## Acoustic Ramp Anatomy



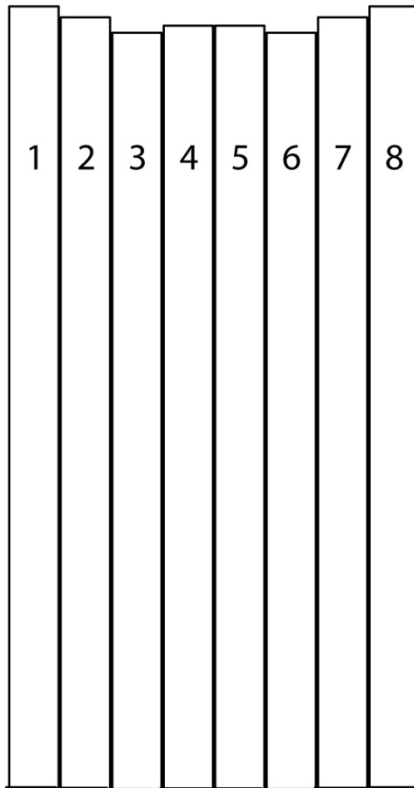
### Aluminum Dividers

Pictured in order from the Left to the Right looking from the FRONT/OUTSIDE of the diffuser. At this time, the metal is not labeled so each piece needs to be identified before assembly.



## Reflectors

Reflector labels are on the inside, non-visible side of the reflectors and are closer to the top of the completed ramp. The order shown below is what you would see looking at the rear/inside of the assembled ramp.



## How to Identify the Reflectors

Sometimes the labels fall off and you can't tell which parts you are looking at. Sometimes Joey the guy at the factory was drinking too much Wild Turkey and forgot to put the labels on. Sometimes you think "I should take these labels off because they are unattractive. Crap. Which piece is this?"

1 and 8: These are the longest reflectors. On the outside side of each of the two there are 4 holes with threaded inserts.

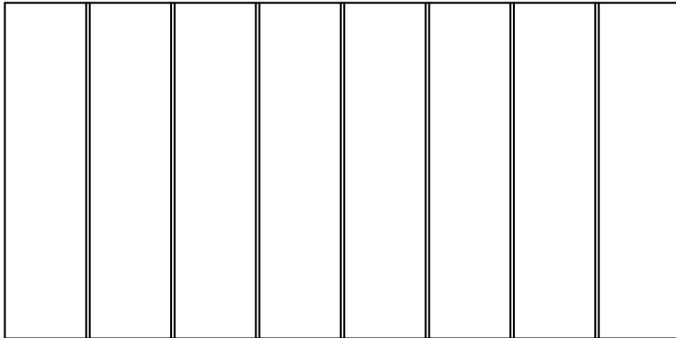
3 and 6. These are the shortest reflectors and they are cut at 90° or square angles. These are the reflectors that you would use to permanently mount the diffusers on a wall with through-hole fasteners. These two reflectors are identical.

4 and 5 are the third longest of the reflectors. These two reflectors are identical.

5 has three holes drilled all the way through the reflector and has no threaded inserts in any of the holes.

2 and 7 are the second longest of the reflectors. These two reflectors are identical.

## Top Plate



## Hardware

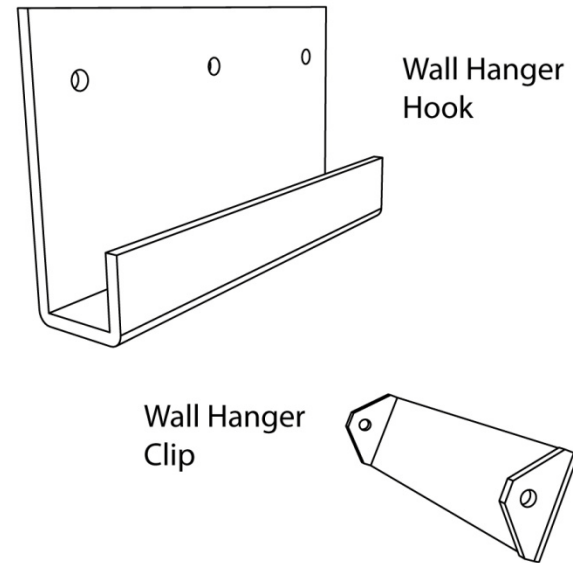


#8-32  
3 1/2 in.  
Flat  
Head  
(3)



#8-32  
3/4 in.  
Flat  
Head  
(45)

## Wall Hanging Hardware



## Tools

### **Essential Tool:**

Standard #2 Phillips Type Screwdriver (not included)

### **Nice-to-Have Tools:**

You're going to be driving screws in some tight spaces so any tools that make this easier are welcome, especially if you are assembling more than 1 or 2 ramps.

Short or Stubby #2 Phillips Screwdriver

Low Speed/Low Torque Electric Screwdriver

Offset Phillips #2 Screwdriver

## Step 1. Layout all the parts and hardware

This is a really important step because the metal might be hard to identify. The metal is countersunk only on the side that is visible from the front of the assembled diffuser.

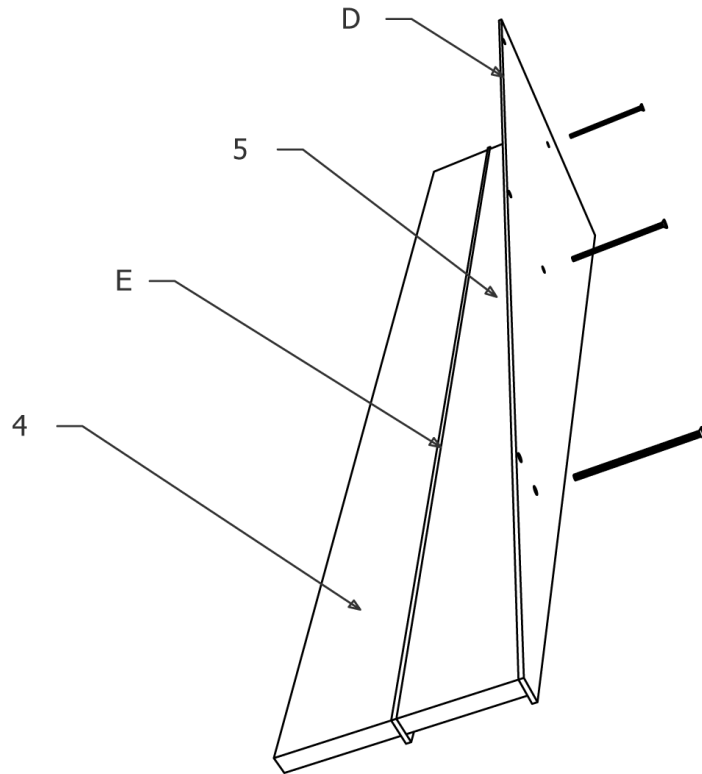
Assembly begins with the front of the Ramp facing down, so you will be looking at the REAR/INSIDE of the ramp. This means that you should be able to see all of the stickers that label each one of the reflectors clearly.

All drawings that show the REAR of the ramp will be labeled “Ramp is Upside Down.”

It is much easier if:

- you have someone to help you hold pieces together as you drive the screws
- put all the screws in by hand first for each step and *then* tighten them with a screwdriver
- Work on a large table covered with a blanket or carpet to prevent scratching
- Read the instructions BEFORE you start putting the pieces together

Ramp is upside down



## Step 2.

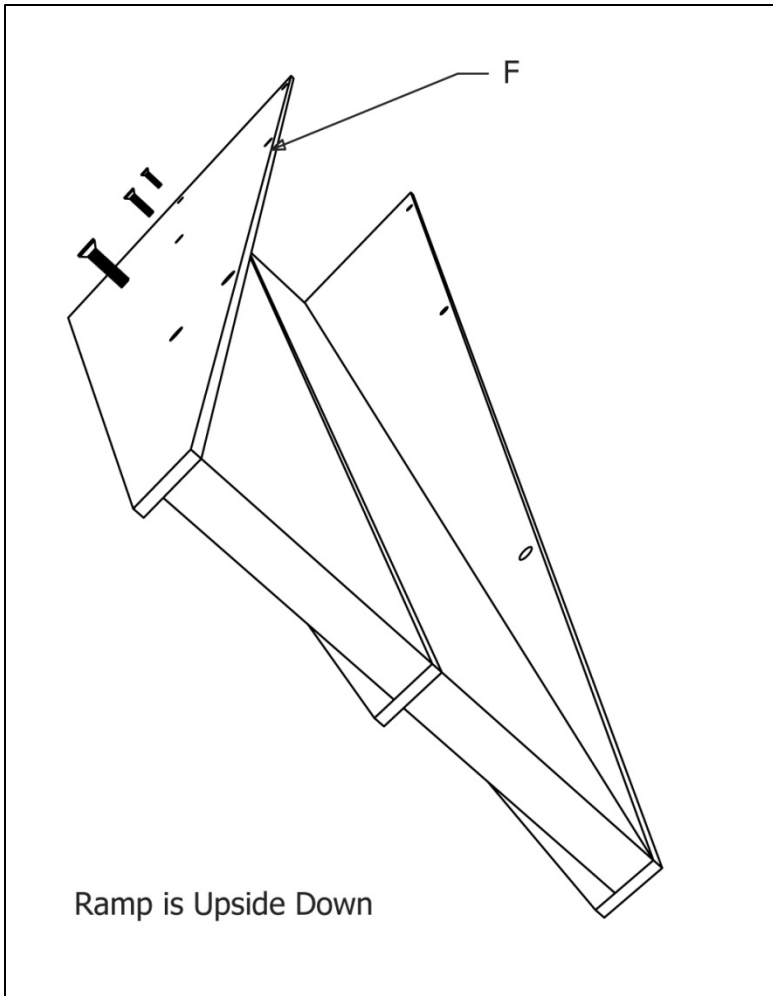
Using the 3 3/2" flat head machine screws, join Divider D to Reflector 5, the center Divider E and Reflector 4.

Reflectors 5 and Divider E have unthreaded holes to allow the screw to pass freely. Reflector 4 has a threaded insert.

We found that it was easiest to push the screws through the D Divider first and then lay the divider down so that the screws point up. Then thread the screws through Reflector 5, then through the Center Divider E and then screw them into the inserts in Reflector 4.

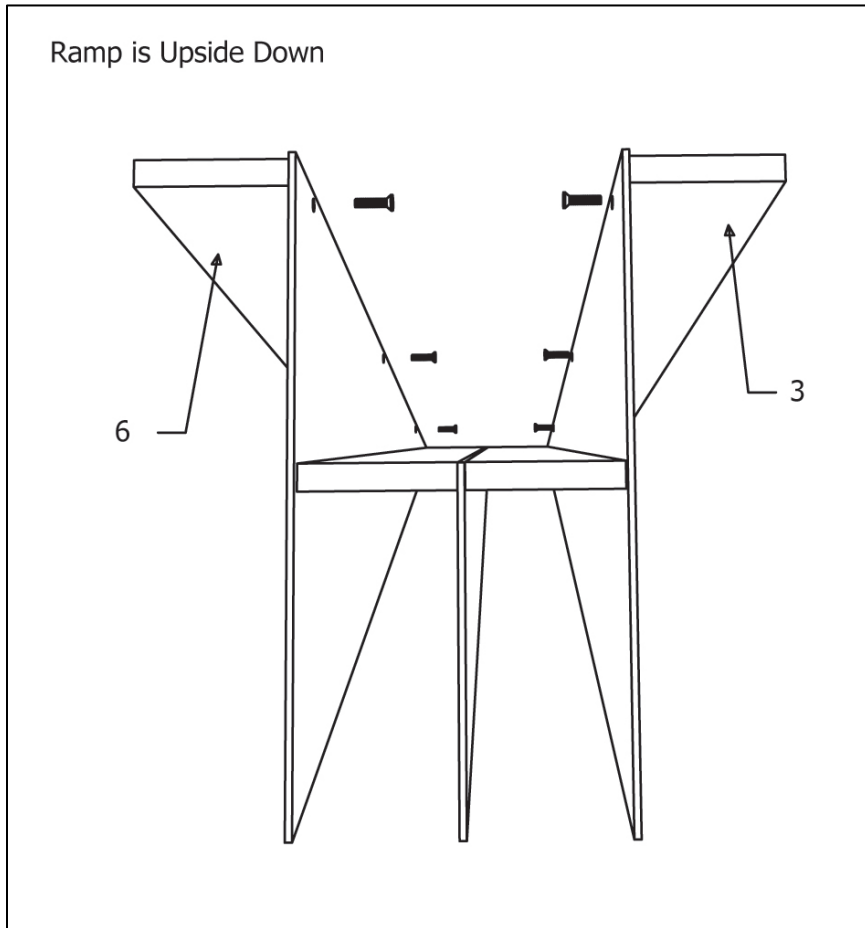
The aluminum Dividers will extend beyond the length of the Reflectors by about a 1/4". This is to allow the Dividers to be countersunk into the Top Plate of the Ramp.





**Step 3.**

Using 3 flat head  $\frac{3}{4}$ " machine screws attach Divider F to the assembly as shown.

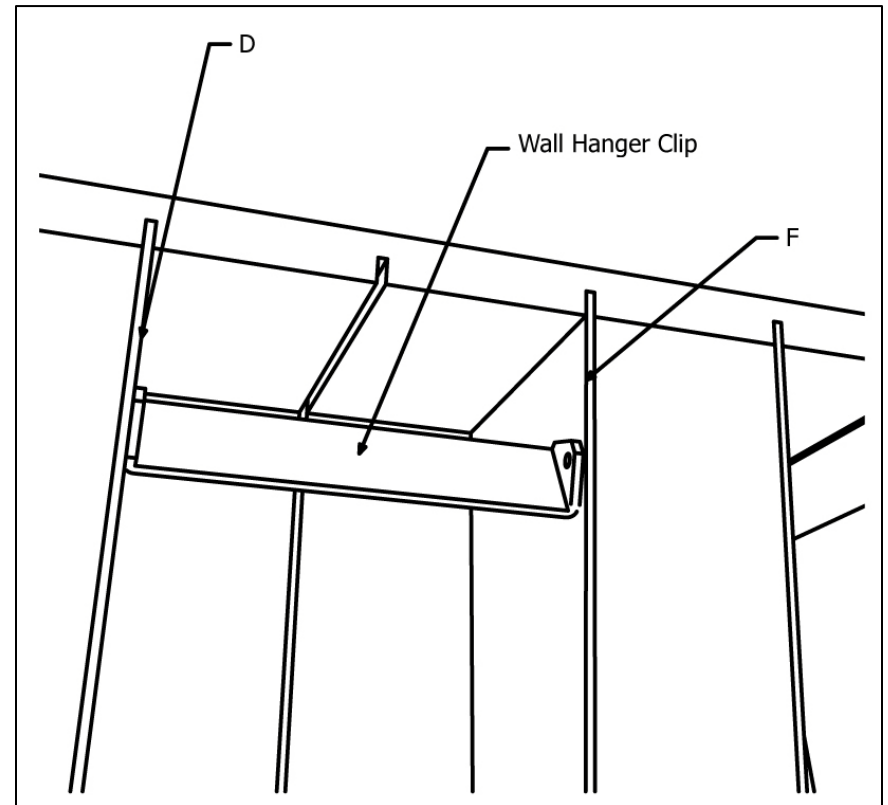


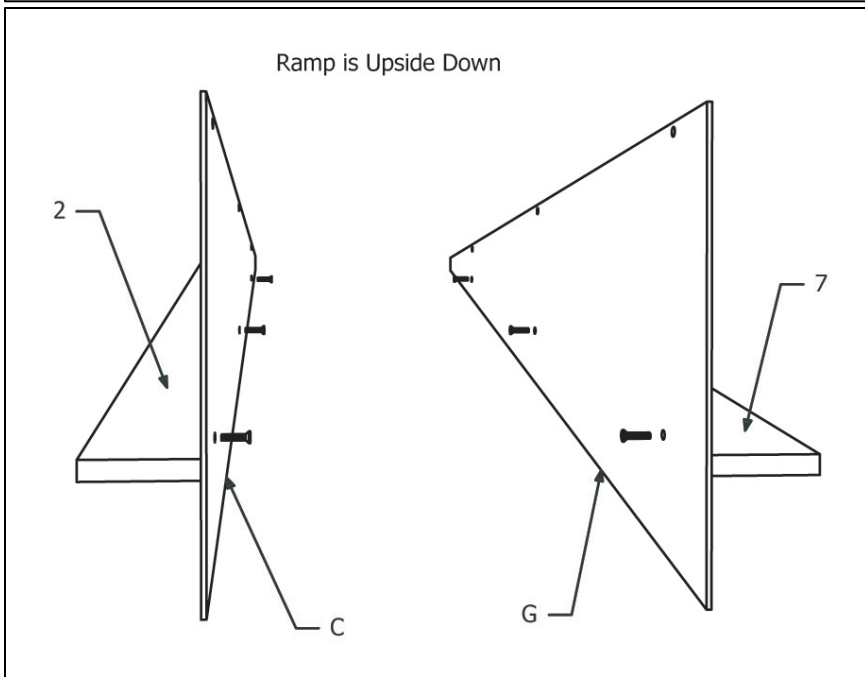
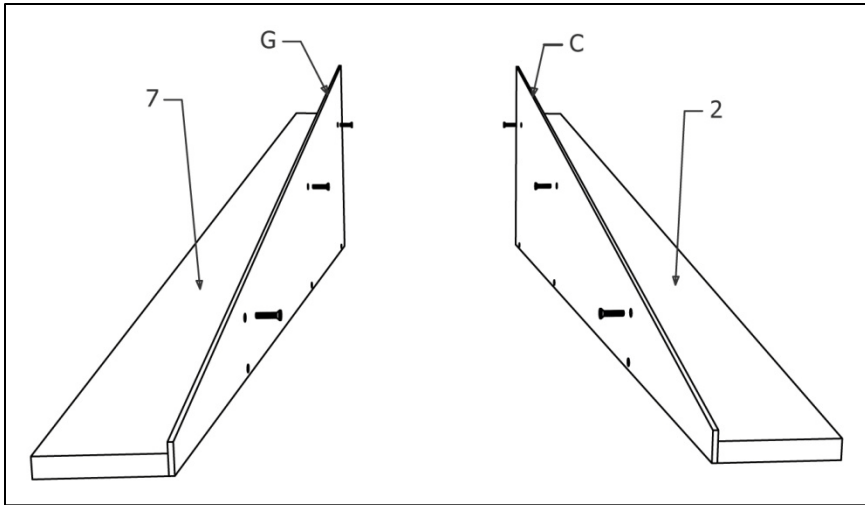
#### Step 4.

Attach Reflectors 3 and 6 to the assembly with 6 3/4" machine screws as shown.

Now that these "wings" are attached you will begin to assemble the two sides of the ramp.

If you are planning on using the included Wall Hanger Hardware, you can install the Wall Hanger Clip at this time (see Mounting Instructions on p. 17) . The diagram below shows the Wall Hanger Clip installed. The view is from the rear of the Ramp.





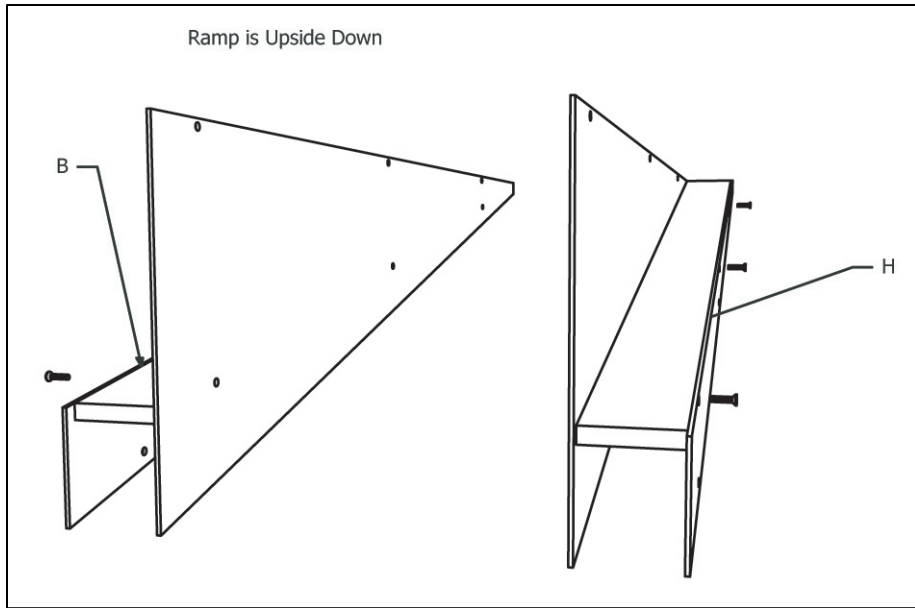
### Step 5

Now that the Center Section of the Ramp is assembled, you will begin to assemble the two sides.

Using 3 Flat Head  $\frac{3}{4}$ " machine screws attach Divider C to Reflector 2 as shown.

Repeat with 3 additional Flat Head  $\frac{3}{4}$ " machine screws and attach Divider G to Reflector 7 as shown.

NOTE: These screws CANNOT be driven with a standard screwdriver if you have already attached these side pieces to the Center Assembly.

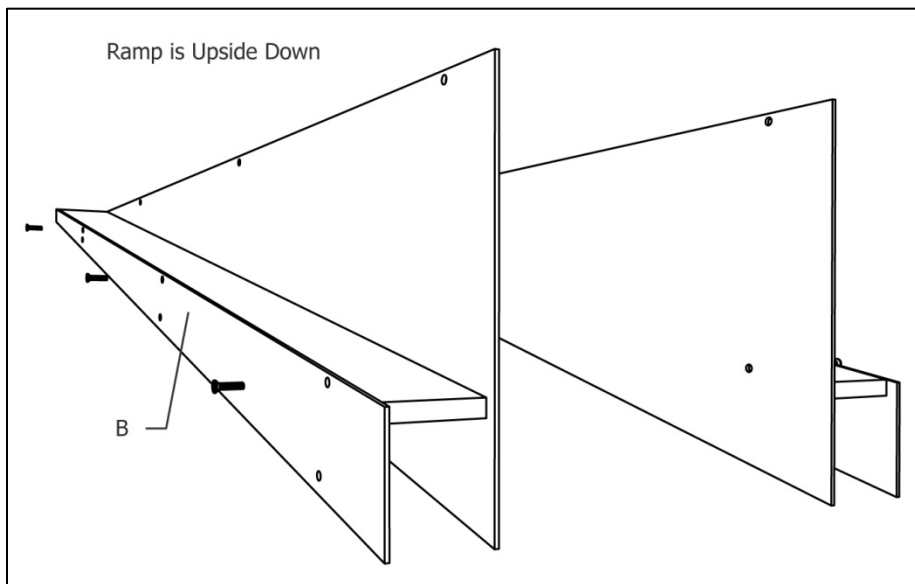


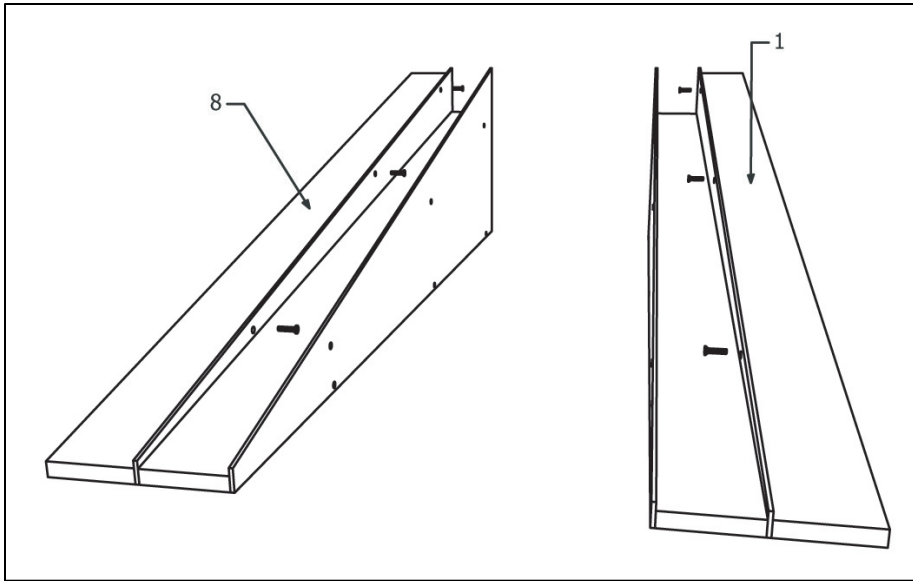
## Step 6

Using 3 3/4" machine screws for each side attach Divider B to the left side assembly and attach Divider H to the Right Assembly.

The Dividers B and H are the smallest divider pieces in the kit.

If you are assembling the Ramp with the Rear of the Ramp facing up, the left and right sides are reversed.

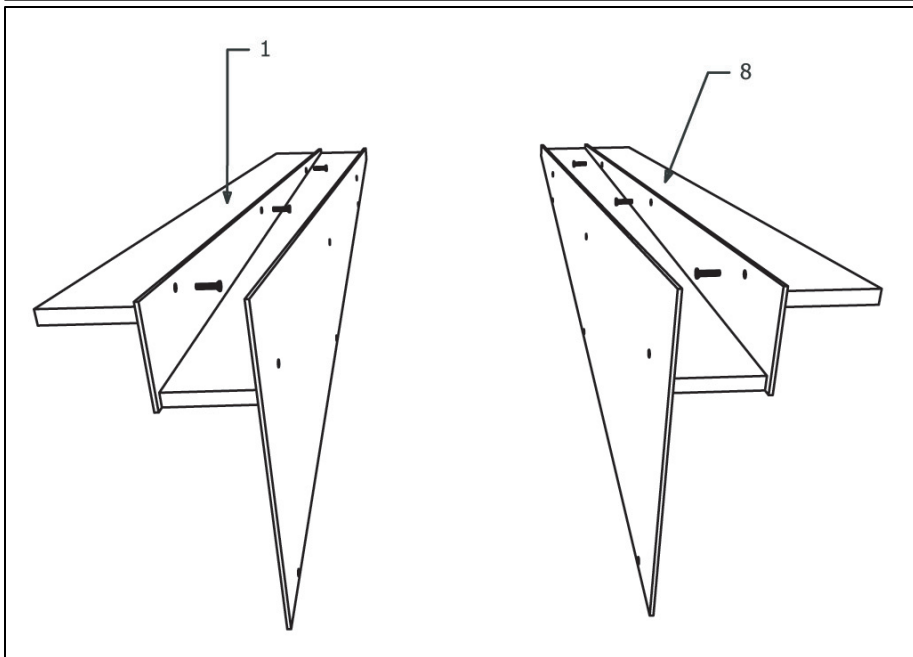


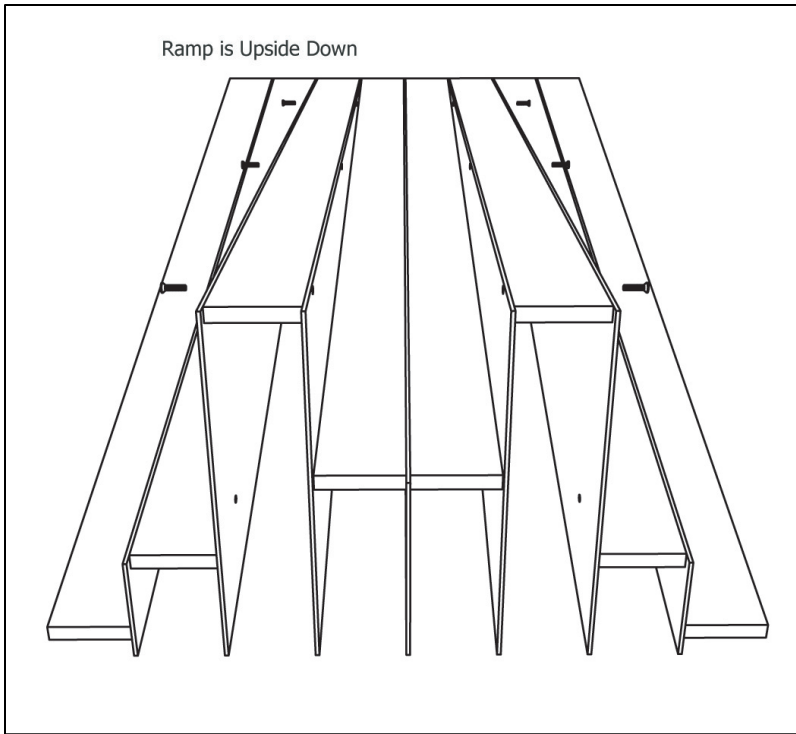


### Step 7

Flip the Side Assemblies over so that the Rear faces down.

Using 3 flat head  $\frac{3}{4}$ " machine screws for each side, attach Reflector 1 to the Left Assembly and attach Reflector 8 to the Right Assembly.



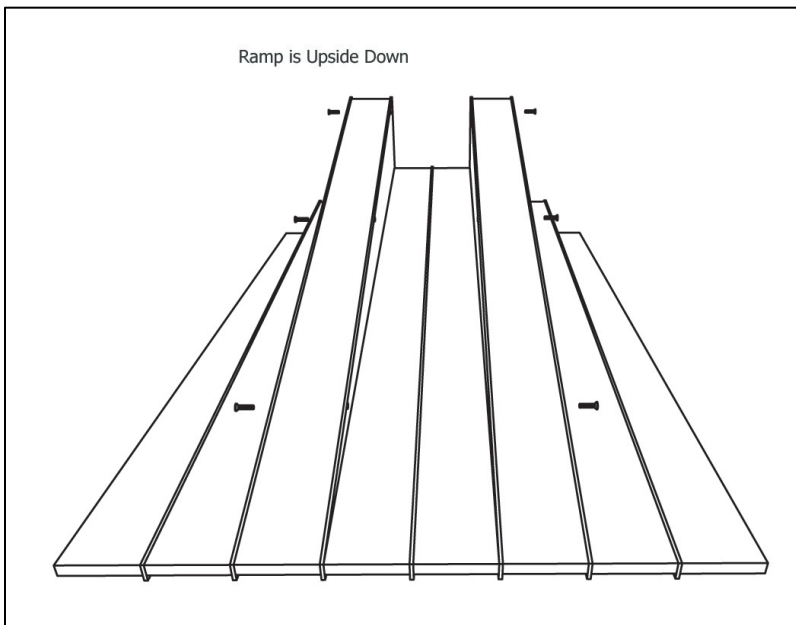


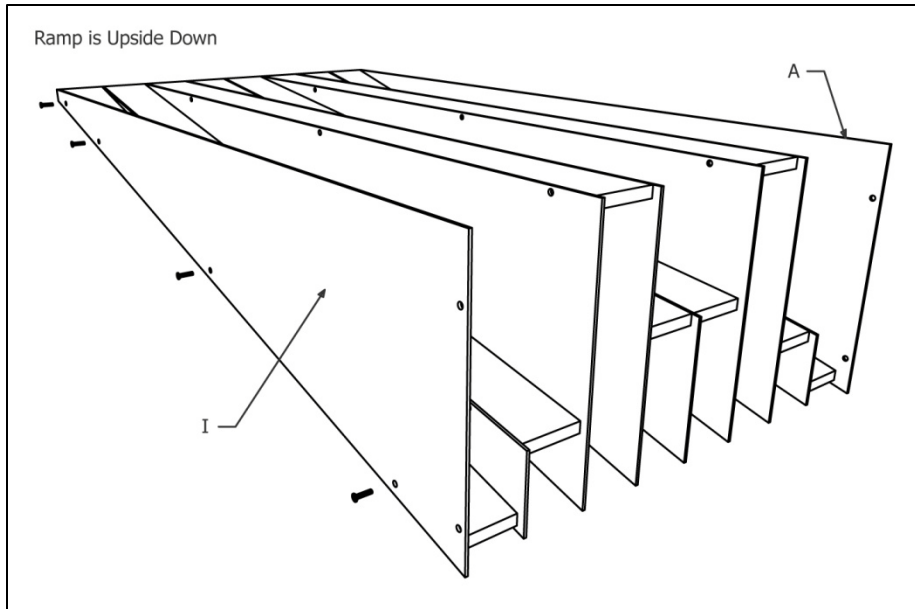
## Step 8

Flip the Right and Left Assemblies over and position them to either side of the Center Assembly as shown.

Using 3 3/4" machine screws to attach the Left Assembly to the left side of the Center Assembly, which will be on the right because the Ramp is facing down.

Using 3 3/4" machine screws, attach the Right Assembly to the right side of the Center Assembly, which will be on the left because the Ramp is facing down.

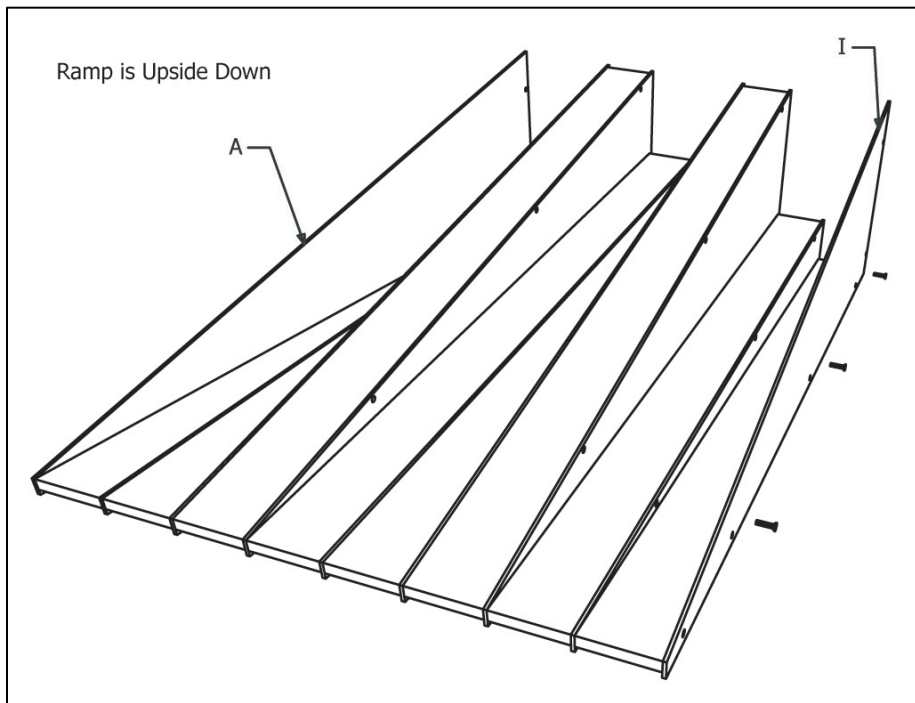


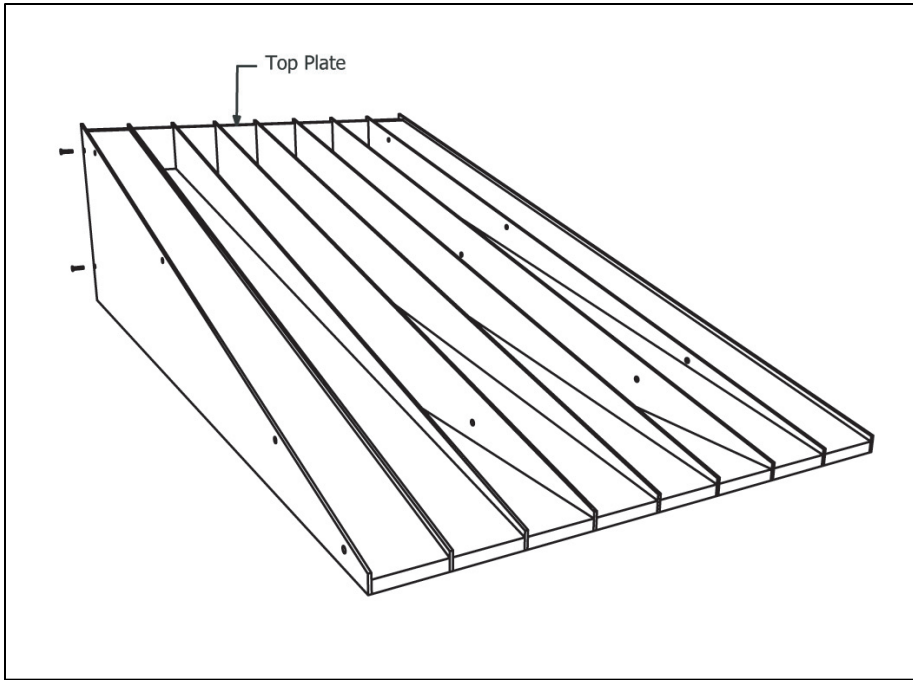


### Step 9

Using 4 ¾" flat head screws for each side, attach the A Divider to the Left Side of the Ramp.

Attach the I Divider to the Right Side of the Ramp.





## Step 10

Turn the entire assembly over length-wise so that the front of the Ramp is facing up.

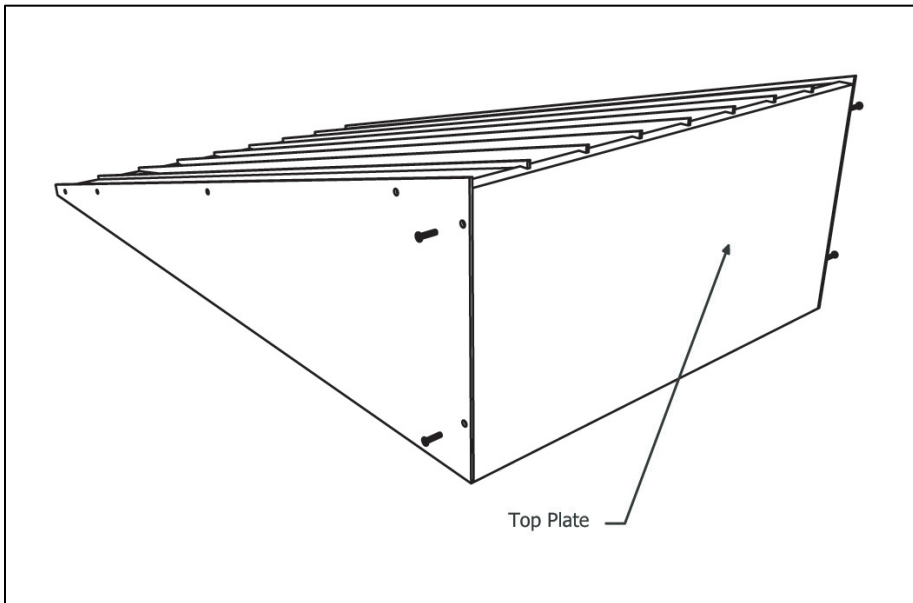
Fit the Top Plate into position.

The dividers should extend beyond the front face of the top plate by  $\frac{1}{4}$ ".

Using two  $\frac{3}{4}$ " flat head machine screws for each side, attach the top plate to the rest of the assembly.

Hurray! You're done! Have a tall frosty glass of melonade!

Now you get to assemble a bunch more exactly the same way!





## Mounting Instructions

The Acoustic Ramp™ may be installed in many different ways depending on the desired results, the existing architecture of the space and the number of Ramps™ used.

We have provided mounting hardware for the most common type of installation, though additional types of mounting hardware may be purchased or manufactured as needed. The basic installation of the Acoustic Ramp is in a vertical position with deepest part of the Ramp on the top (see Fig. 1). This type of installation is not permanent and does not require any modification to the Acoustic Ramp™. For permanent installation please see page

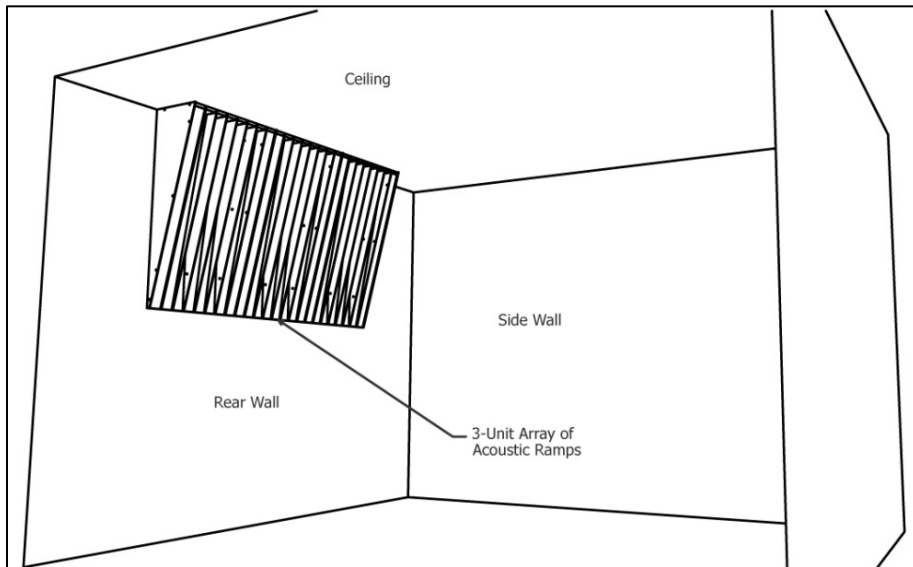


Figure 1 Basic Installation of a 3-Ramp Array

### ***Step 1: Attach the Wall Hanger Clip to Each Ramp***

The Wall Hanger Clip is installed between Dividers D-2R and F on the back of the Ramp™ using the existing machine screws provided. Do not over-tighten the screws! The clip should be able to rotate with gentle pressure.

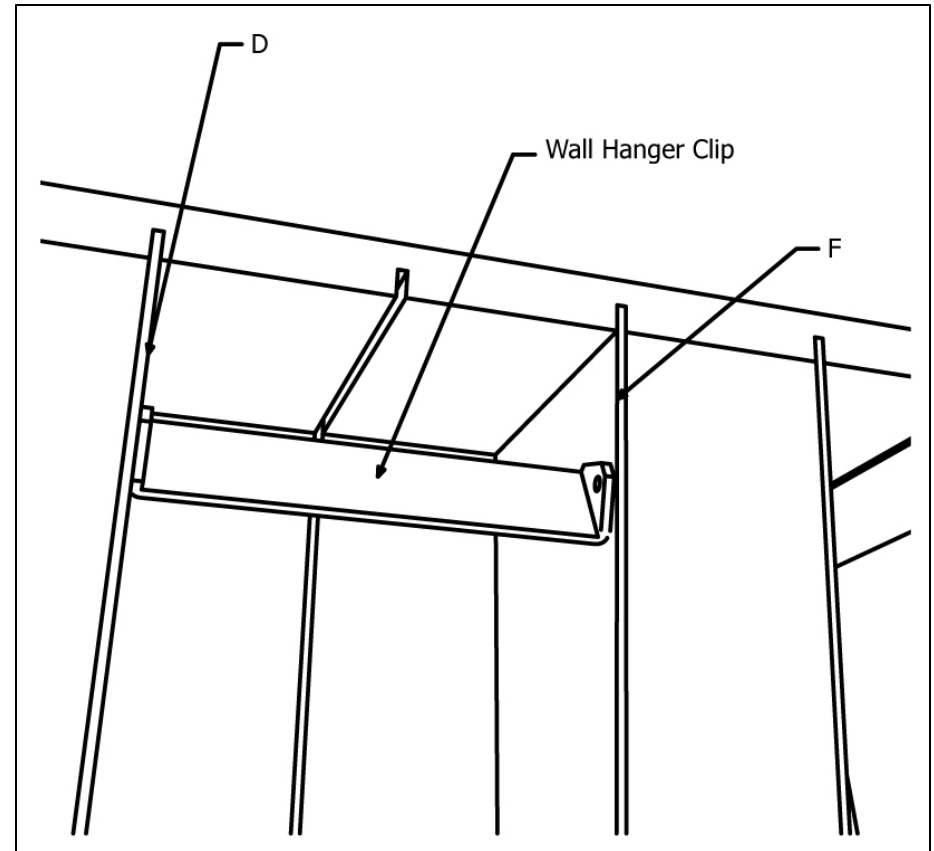
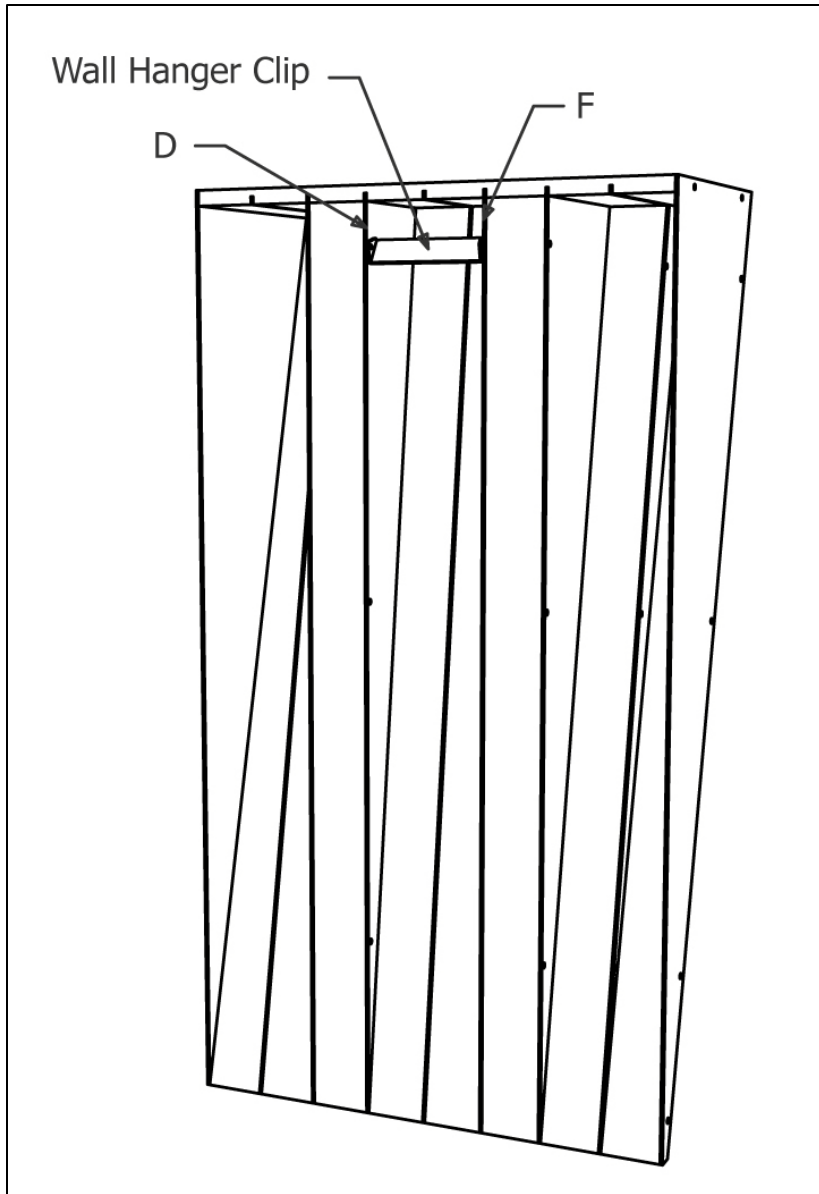


Figure 2 Detail of Assembly of Wall Hanger Clip

The Wall Hanger Clip should be rotated at an angle so that when the clip is hung on the hook the weight of the Ramp™ pulls it to the wall.



**Figure 3 Full View of Wall Hanger Clip Assembly**

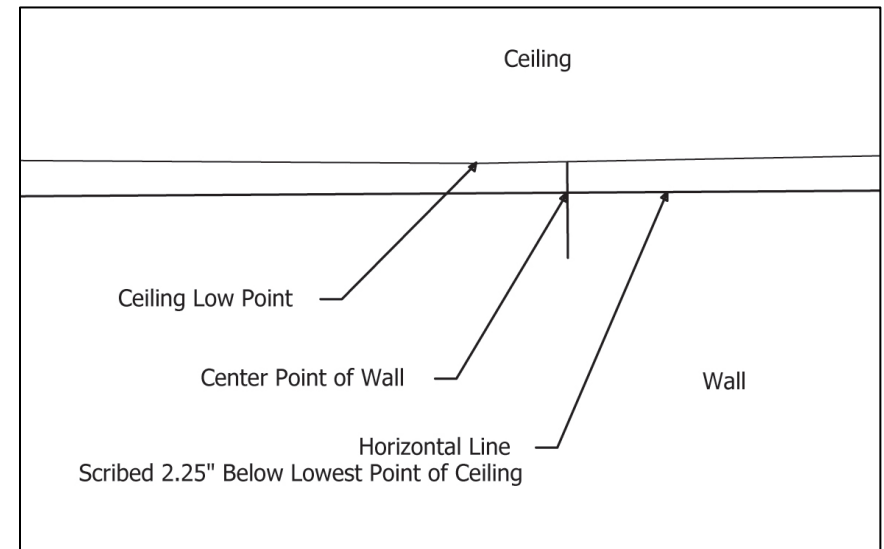
### *Step 2: Measuring and Planning*

The next step is preparing the wall for the installation of the Ramps™. Plan in advance where you want to put the treatment on the walls BEFORE you start to drill holes or screw the wall hooks to the wall.

Using the longest possible level for accuracy, determine to lowest point of the ceiling where it intersects with the wall. Ceilings are rarely level and in older buildings serious settling may have occurred.

Measure down 2.25" from the lowest point of the ceiling and then scribe a horizontal line where you plan on installing the Acoustic Ramps. This step ensures that there will be enough clearance to allow the Ramps to be placed above the wall hooks and dropped into position.

Measure the width of the wall in question and mark the center point on the horizontal line you have already drawn. You will center the Acoustic Ramp or Array of Ramps based on this point.



**Figure 4 Scribing Installation Lines and the Center Point**

### Step 3

Making sure that the top of the Wall Hanger Hook remains aligned with the horizontal guide line, fasten the hook to the wall using appropriate hardware. Use 3 fasteners for each Wall Hanger Hook for the safest, most stable installation.

### Gypsum Board

If you are installing the Ramp™ onto hollow-backed double or triple thickness gypsum board, use Molly bolts or Toggle bolts of appropriate length so as to ensure safe installation. Be sure to fill the holes in the wall with either 100% silicone or acoustic-type sealant to maintain the isolation properties of the wall.

### Solid Wood or Wood Studs

If you are installing the Ramp™ onto a solid wood wall or into a stud in a plaster or gypsum board wall use coarse-threaded drywall screws allowing for a minimum of 1 ½" penetration into the wood.

### Concrete and Masonry

For installation into concrete, CMU or brick walls use either expanding concrete anchors or pre-drill holes for threaded concrete fasteners.

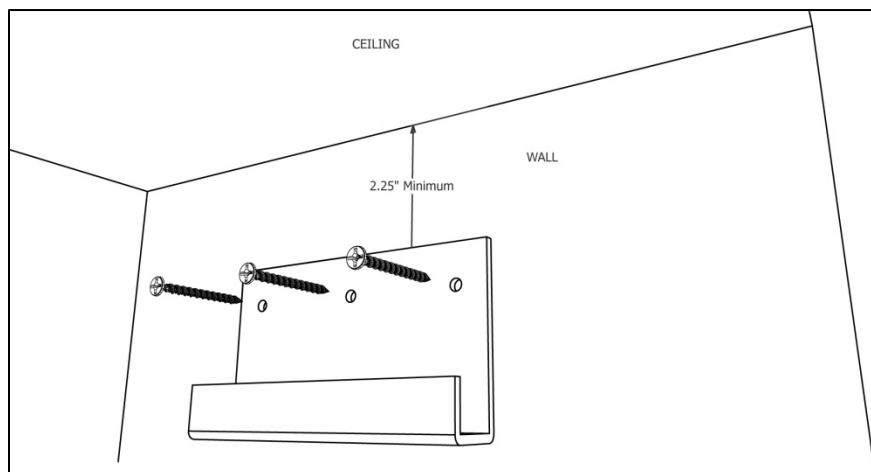


Figure 5 Screwing Wall Hanger Hook to Wall

### Step 4

After the Wall hanger Hook has been securely fastened to the wall, you can hang the Ramp™.

Lift the Ramp™ and press it into the upper corner where the wall meets the ceiling with the center of the Ramp™ aligned with the center of the Hanger Hook.

Carefully let the Ramp™ drop down approximately one inch so that the Hanging Bracket pulls the Ramp™ tight to the wall. The Ramp can be shifted to the right or left slightly to allow for exact placement at this time.

Give a slight downward tug on the Ramp™ to ensure that the bracket is seated properly in the Wall Hanger Hook.

There are many other ways to install and configure the Acoustic Ramp. Please visit our website for ideas and instructions.

[www.AcousticRamp.com](http://www.AcousticRamp.com)

We welcome any and all comments and suggestions! Please get in touch if you have any ideas!

### HELP ME!

You can call Hendrik Gideonse, the guy who designed the diffuser, on his wireless phone at (781) 710-4521. He will be very happy to help you with assembly problems, suggestions for installation or anything else ramp related. He wrote the instructions too. It's his fault.

## Permanent Professional Installation

The Acoustic Ramp™ may be installed in any orientation to obtain the desired acoustic and aesthetic results. The included Wall Hanger Hook and Clip assembly are intended for non-permanent installations in the vertical orientation only.

The Acoustic Ramp may be installed permanently by drilling holes through Reflector 3 and 6 and mounting the Ramp directly on a wall or ceiling. If this is the desired style of installation, we recommend that fender washers are used to distribute the stress of the heads of the screws evenly and that at least 4 fasteners be used for each ramp.

The following drawings show several ideas for alternative installation styles, each with its own benefits.

