

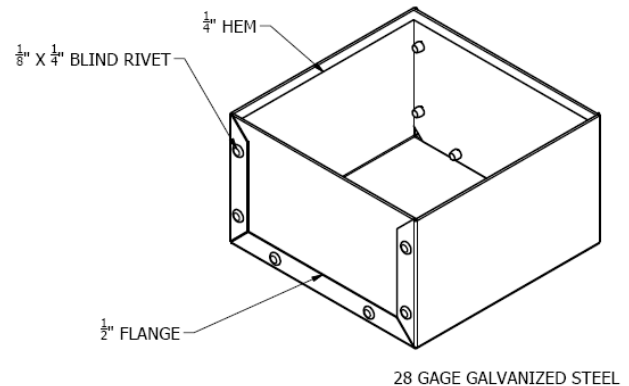
# Small Sheet Metal Box

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In this activity you will create a small 5" x 5" x 3" sheet metal box out of 28 gage galvanized steel. The purpose of this activity is to learn the basic principles of sheet metal layout and fabrication techniques. Dimensions are important so make sure you measure twice and cut once. Clearly mark all bends and cut lines you can never really unbend a thin a piece of sheet metal and you definitely cannot uncut one.

## Materials:

- 24" x 24" piece of 28 gage galvanized steel
- Vis-a-Vis marker
- Tin Snips
- Cutting Sheer
- Bar Folder
- Pan Break
- Mallet
- Manila Folder



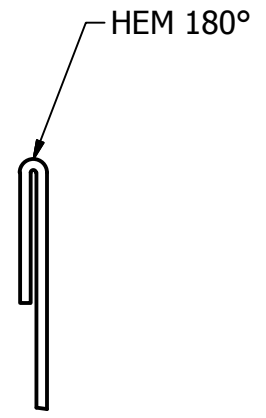
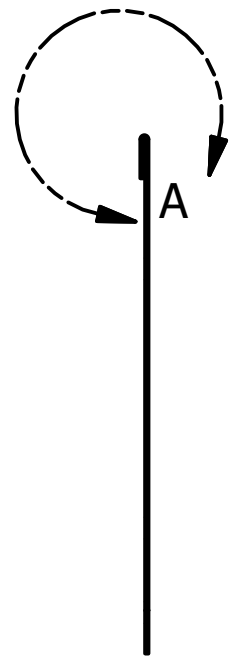
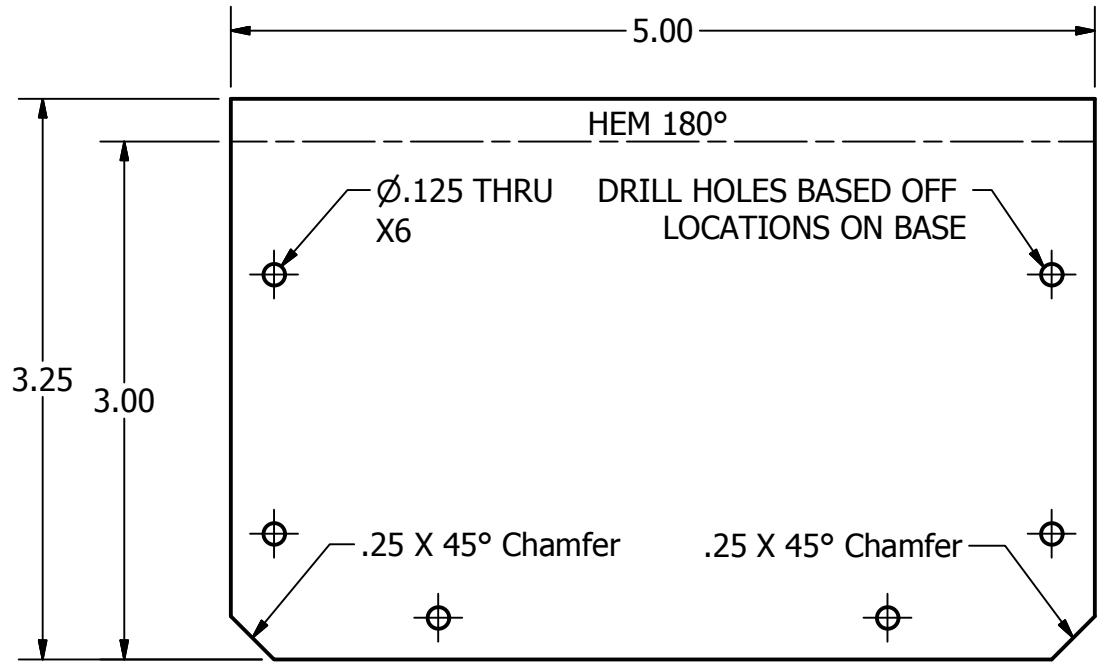
## Procedure:

1. Use the working drawings for the small box supplied by your instructor to create a set of templates out of a manila folder. Mark out all cut lines on the manila folder and then cut out the template.
2. Once your templates are cut out mark all bend lines on your templates. Then come up with a bend sequence for your pieces. Mark each bend line on your template with a number to show the order the bends should occur in.
3. Now bend your templates using just your hands to make sure your templates will make the correct box. A manila folder is much cheaper than steel so you want to catch any mistakes now before cutting out the sheet metal form.
4. Have your instructor sign off on your templates.
5. Use the cutting sheer to cut the 3 pieces of sheet metal to the correct sizes on for the flat base and then two for the sides.
6. Mark all bend lines on the pieces of sheet metal.
7. Drill the holes in the box base in the appropriate locations using a 1/8" drill bit.
8. Make all appropriate bends using the sequence you came up with in step 2. Us the mallet on the anvil or table edge to flatten the flanges and corners.
9. Place the sides into the box base and make sure they fit, make any adjustments for a good fit by trimming the edges with either the sheer or tin snips.
10. Use the holes in the base to mark and drill the holes in the sides.
11. Attach the sides to the base using a 1/8" x 1/4" blind pop rivet for each hole.
12. Clean up any sharp edges with a file.

Congratulations your box is finished.



# SMALL BOX SIDE



DETAIL A  
SCALE 3 : 1

SIDE VIEW WITH HEM

28 GAGE GALVANIZED STEEL  
2 EACH

B

B

A

A

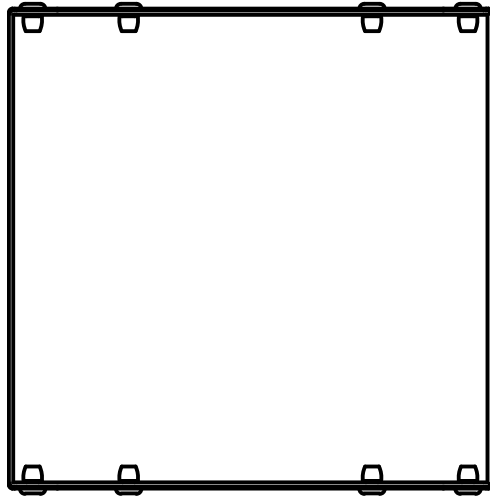
2

1

2

1

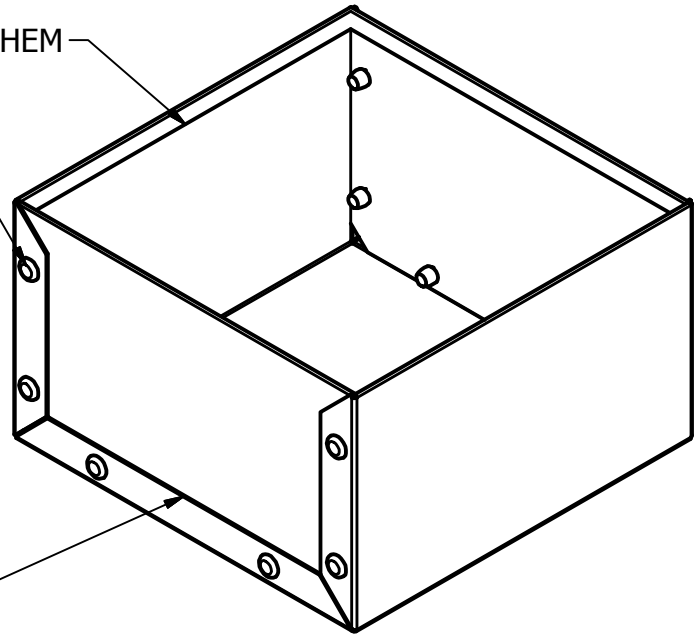
# SMALL BOX ASSEMBLY



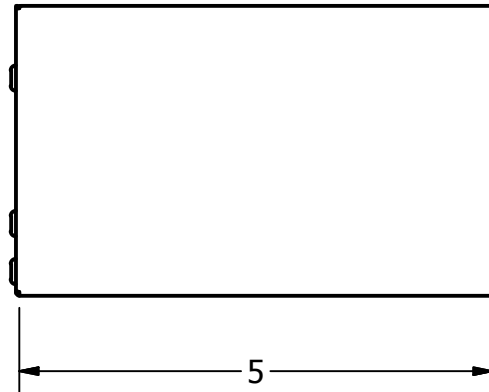
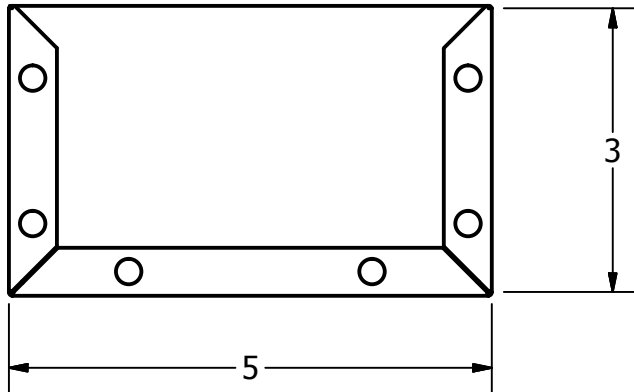
$\frac{1}{8}$ " X  $\frac{1}{4}$ " BLIND RIVET

$\frac{1}{4}$ " HEM

$\frac{1}{2}$ " FLANGE



28 GAGE GALVANIZED STEEL



2

4

1

B

B

A

A

2

1