

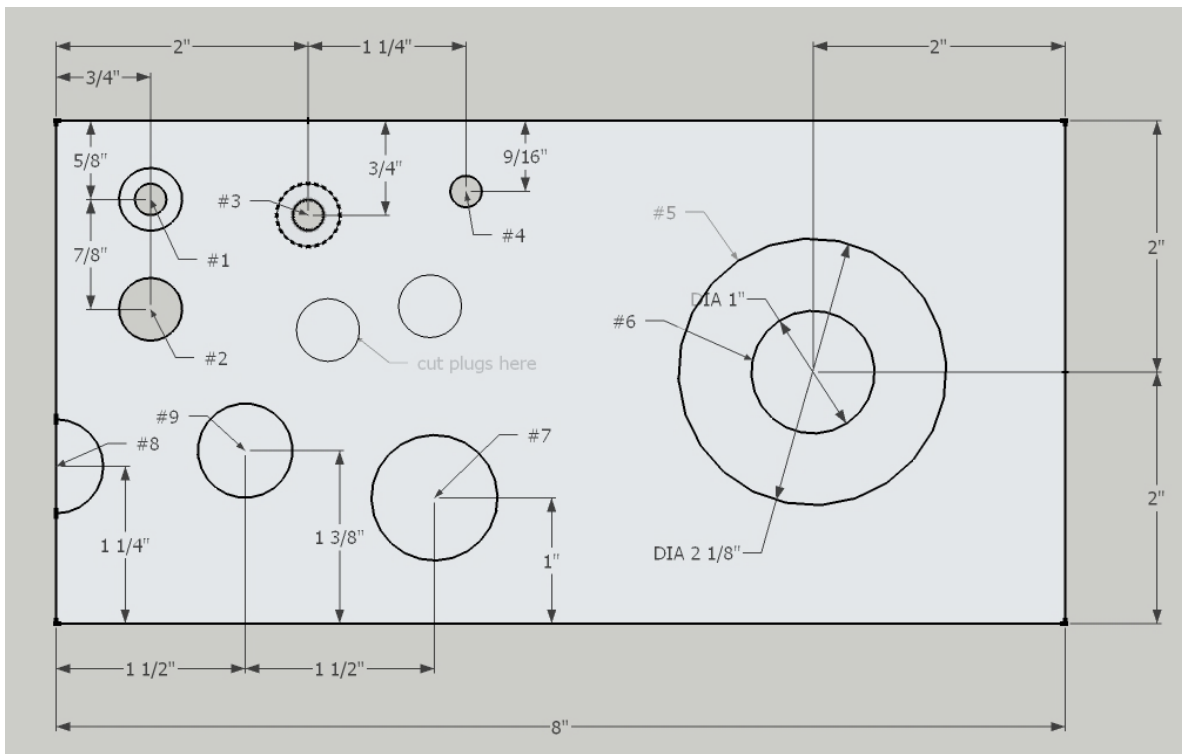
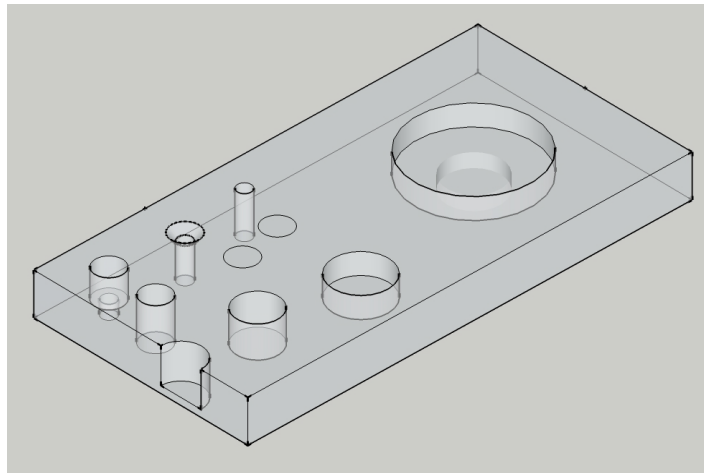
Exercise 4.2

DRILL PRESS

This exercise is designed to give you practice in accurate layout, as well as practice in using all of the tooling you have examined in the SKILL you develop, and your ABILITY to do the work to exact specifications.

Completed	Procedure
<input type="checkbox"/>	1. Obtain stock from the instructor, 3/4 x 4 x 8. Lay out the hole locations and mark them exactly as shown on the drawing. (Before doing any drilling, make sure you have a clean backing board insert for the drill press table to prevent tear-out.)
<input type="checkbox"/>	2. Insert the 1/2" brad point bit into the chuck. (Make sure the chuck is tightened securely, and the drill press speed is set properly).
<input type="checkbox"/>	3. Bore hole #1 to 1/2" deep. Bore hole #2 all the way through the stock.
<input type="checkbox"/>	4. Use a 1/4" twist drill to bore through the center of hole #1 . Then drill holes #3 and #4 , both as thru-holes.
<input type="checkbox"/>	5. Obtain a #14 flat head wood screw. Using a countersink and the depth stop as a guide, countersink hole #3 so that the screw will fit flush with the surface of the stock.
<input type="checkbox"/>	6. Hole #5: Set the machine to its slowest setting. Install a 2.125" diameter Forstner bit in the chuck. Use scrap stock to check your set-up. When you are satisfied with the setting, clamp the exercise stock in place and bore a 3/8" deep hole. Leave the stock clamped in place for step #7.
<input type="checkbox"/>	7. With the stock clamped in place, remove the Forstner bit, and install a 1" Forstner or Multi-spur bit. (If you have to lower the table to change tooling, be careful not to move the hole center out of alignment.) Using hole #5 as the center, drill a 1" diameter counter bore, 1/4" deep (This is shown as hole #6).
<input type="checkbox"/>	8. Install the 1" spade bit, clamp the stock, and bore hole #7 , 3/8" deep.
<input type="checkbox"/>	9. Bore hole #8 , 5/8" deep, using a 3/4" Forstner bit and centering the hole on the edge of the stock as shown. The stock must be clamped in place. Using the same 3/4" Forstner bit bore hole #9 to a depth of 9/16".
<input type="checkbox"/>	10. Use the 1/2" plug cutter to cut 2 plugs 1/2" deep, as shown on the drawing. The stock must be held tightly to a fence or clamped in place when cutting plugs to keep the stock from slipping and resulting in undersized plugs.
<input type="checkbox"/>	11. With a small screwdriver, break one of the plugs loose from the stock, and glue it in hole #1 . After the glue sets up, pare the plug flush with the surface using a SHARP Paring chisel. You have now completed drill press skill exercise.
	Evaluation: Submit your exercise piece to the instructor for review.

Exercise 4.2



Hole 1: 1/2" dia. X 1/2" deep	Hole 2: 1/2" dia. thru- hole	Hole 3: 1/4" dia. thru- hole	Hole 4: 1/4" dia. thru- hole	Hole 5: 2-1/8" dia. x 3/8" deep
Location/ Quality	Location/ Quality	Location/ Quality	Location/ Quality	Location/ Quality
Hole 6: 1" dia. x 1/4" deep	Hole 7: 1" di. X 3/8" deep	Hole 8: 3/4" dia. x 5/8" deep	Hole 9: 3/4" dia. x 9/16" deep	Quality of plugs drilled
Location/ Quality	Location/ Quality	Location/ Quality	Location/ Quality	Quality of plug fit & finish

Dimensional Accuracy +/- 1/32"
Quality = minimal burning or
tearout
Depth Accuracy +/- 1/16"

Total: _____ /10 (min. score 8/10)

Comments: