

Bandsaw

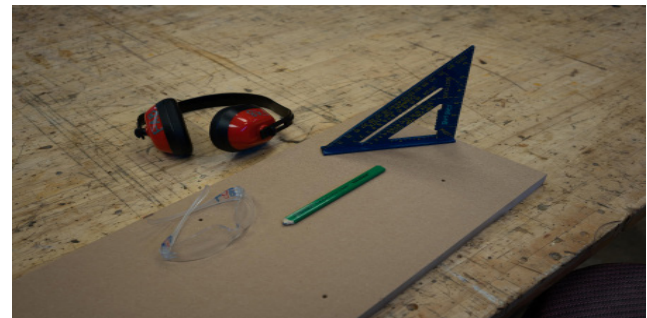
Overview

In this assignment focused on using the bandsaw, you can expect to learn essential techniques for working with MDF sheets. The assignment begins with the process of resizing the MDF sheet into a manageable 6"x6" block using the bandsaw. The instructions guide you through measuring and marking your dimensions, donning personal protective equipment (PPE), activating the dust collection system, and starting the bandsaw. Once the setup is complete, you'll position the MDF on the cutting surface, adjust the fence for accuracy, and initiate the saw. The guide underscores the importance of maintaining a 6" gap between the blade and the fence for proper guidance. Upon completing the initial cuts, you'll proceed to create angled edges on all sides by adjusting the cutting surface to a 10-degree angle and making the necessary cuts with the fence properly set. This assignment equips you with hands-on experience in utilizing the bandsaw effectively and safely for shaping and resizing MDF sheets.

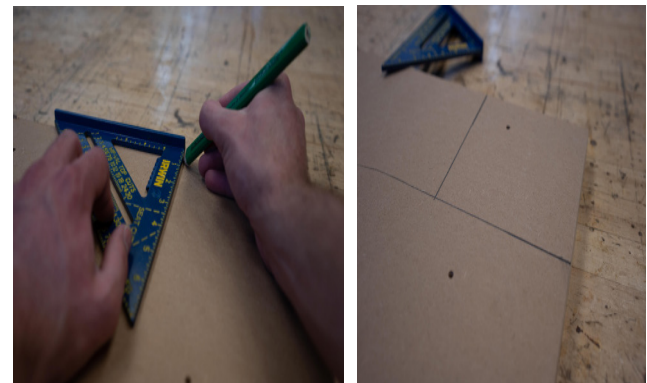


Procedures

1. First, in order to bring your MDF sheet down to a workable size, we're going to use the bandsaw to cut out a 6"x6" block.



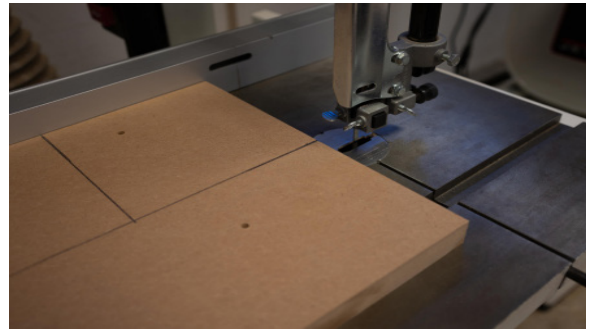
2. Take a speed square or ruler to measure out your dimensions and draw your cut lines.



3. Put on your PPE, ensure the shop's dust collection system is engaged, and finally turn on the bandsaw.



4. Place your MDF on the cutting surface and adjust the fence to achieve a straight and accurate cut, then turn on the saw and let it build up to speed.



5. Finally make your cuts, allowing the 6" gap in between the fence and the blade to guide you. Turning off the blade after finishing.



6. After cutting the block down, angle the cutting surface approximately 10 degrees in order to create angled edges on all sides.



7. Adjust the fence and make your cuts.



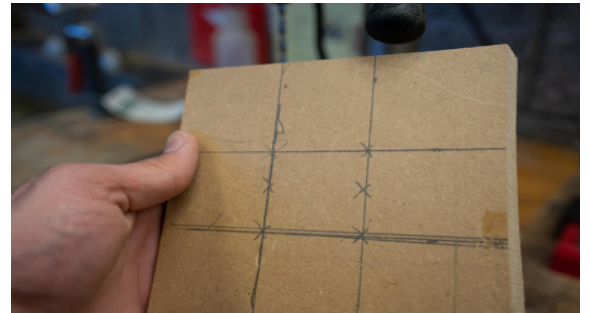
Drill Press

Overview

In this assignment focused on utilizing the drill press, you can expect to delve into the process of enhancing your project's foundation. After finalizing your cuts and confirming your satisfaction with the block's shape, the assignment leads you to the drill press. Here, you'll follow precise steps, beginning with marking out a pattern of 6 gridded holes at the base's center, serving as a fundamental support structure for your future creation. Ensuring accuracy, you'll then secure a 1/8" drill bit, aligning the marked holes with the bit before gradually drilling down around an inch using the right-hand handle. It's emphasized to exercise care and avoid excessive tightening of the bit. The assignment also presents an optional element – the opportunity to further customize your model base by drilling holes to accommodate trees or additional design features. This assignment equips you with the knowledge and practical skills needed to effectively operate the drill press for foundational enhancements, and encourages creative exploration through optional design choices.

Procedures

1. After completing your cuts and if you're happy with its overall shape, carry the block over to the drill press. Grab a ruler or straight edge and mark 6 gridded holes in the center of the base. These holes will act as a foundation for your future build.



2. Insert a 1/8" drill bit and tighten using the ring and wrench. Do NOT overtighten as you will need to remove and put the bit back afterward.



3. Align marked holes to line up with the bit. Drill down using the handle on the right being sure to only dig down roughly an inch. Repeat for all 6 holes.



4. (Optional) Depending on how you might want to design your model base, you can also go ahead and drill holes to place trees as well.

Belt Sander

Overview

In this assignment, you can anticipate gaining hands-on experience with the belt sander and refining your woodworking skills. The task involves bringing your workpiece to the tabletop belt sander to achieve neatly polished edges by carefully sanding the material (take caution, as the sander can quickly dig into MDF). You'll learn how to adjust the base plate of the sander to a 10-degree angle, consistent with the bandsaw's setup, in order to sand beveled edges effectively. The desired outcome is a finished product with improved edges. Ultimately, this concise and accessible tutorial aims to introduce you to the fundamentals of using the bandsaw, drill press, and belt sander.

Procedures

1. Bring your piece over to the tabletop belt and sander and clean up your edges where you can clean up your (BE CAREFUL Sander will dig into MDF rather quickly so be sure to take gentle passes).



2. To sand the beveled edges, tilt the base plate of the sander to the same 10 degrees used on the bandsaw.



3. The finished product should look something like this. Ultimately, this quick and easy tutorial should show you the basics of the band saw, drill press, and belt sander. If you have interest in learning more, we'd love to help please reach out to us at capfablab@bsu.edu

