

INT112 LAB 2.2: SAWING

Student Name: _____

Student ID: _____

LAB OUTCOMES:

Upon completion of this lab procedure, the student should be able to:

1. Safely use a horizontal band saw to cut square stock to a designated size.
2. Safely use a horizontal band saw to cut round stock to a designated size.

LAB PROCESS:

Before entering the machine shop, ensure that you have observed all required safety procedures:

- Safety glasses on
- Closed-toed shoes
- No rings or other jewelry
- No loose-fitting clothing
- Long hair pulled back
- Not under the influence of any substance that dulls reaction time or judgement

Part 1

1. Pick a piece of stock metal to cut to the indicated size.
Material: Steel
Size: 2" x 3" x 1"
Tolerance $+.125 / +1/8"$
2. Measure and mark the stock. Minimize waste when possible.
3. Secure the stock to the cutting surface. Use the horizontal band saw to cut the stock.
4. Measure your sawn block. What are the dimensions?
5. Is this within tolerance?
6. Keep this block, it will be used for the Benchwork Lab (112 – 3.2).

Part 2

1. Pick a piece of stock metal to cut to the indicated size.
Material: Steel
Size: 2.5" x 2" x 1.5"
Tolerance $+.125 / +1/8"$
2. Measure and mark the stock. Minimize waste when possible.
3. Secure the stock to the cutting surface. Use the horizontal band saw to cut the stock.
4. Measure your sawn block. What are the dimensions?
5. Is this within tolerance?
6. Keep this block, it will be used for the Milling Labs (114 – 1.2 and 114 – 2.1).

Part 3

1. Pick a piece of stock metal to cut to the indicated size.
Material: Steel
Size: 1.5" x 1.5" x 1.5"
Tolerance $+.125 / +1/8"$
2. Measure and mark the stock. Minimize waste when possible.
3. Secure the stock to the cutting surface. Use the horizontal band saw to cut the stock.
4. Measure your sawn block. What are the dimensions?
5. Is this within tolerance?
6. Keep this block, it will be used for the Grinding Lab (113 – 3.1).

Part 4

1. Pick a piece of stock metal to cut to the indicated size.
Material: Steel 1" round stock
Size: 5.25" long

Tolerance $\pm .125$ / $\pm 1/8$ "

2. Measure and mark the stock. Minimize waste when possible.
3. Secure the stock to the cutting surface. Use the horizontal band saw to cut the stock.
4. Measure your workpiece. What is the length?
5. Is this within tolerance?
6. Keep this block, it will be used for the Lathe Labs (113 – 1.1 and 113 – 2.1).

Questions

1. If any of your sawing was outside of the specified tolerance, what caused it?

If all four pieces were within tolerance, what could cause one or more of these pieces to be outside the acceptable tolerance?

The outcomes of this exercise (listed on page 1) specifies the skills that the Student must demonstrate to the Instructor. Once the Instructor is satisfied with the demonstration of Knowledge & Skills by the individual student, they will sign this document (for the student), then enter a 100% into the Hands-On Lab grade in Sakai.

I verify that this student has completed all of the requirements of this Hands-On Assessment:

Student Name: _____

Faculty Signature: _____ Date: _____

DOL DISCLAIMER:

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