

MP101 Manufacturing Processes

Machine Shop Lab Project #1 – Hammer

The machine shop lab project will be to follow the specifications on the engineering working drawings and corresponding process sheets for each respective part. The hammer consists of two components: the head and the handle.

The hammer handle will be made from a cut section of raw round bar stock using various lathe operations.

The hammer head will be made from a cut section of square bar stock using various milling, drilling, and related hole making operations.

This lab project will be conducted approximately over 10 weekly 3-hour lab periods or sessions with approximately 5 weeks spent on each part.

An inspection report is required for each part after all machining has been accomplished and due along with the physical hammer parts during the last week of the term.

A composite grade will be based upon attendance for lab sessions, completion of all machining operations, adherence to process sheet operations, adherence to tolerance specifications on the engineering drawings and completion of inspection sheets. As a part of the inspection sheet, students are asked to identify the how and why reasons related to mistakes and deviations on dimensions from tolerance specifications.

Note: The main objective of this lab assignment is not entirely based upon a perfect hammer produced but upon the learning process of the various operations and the performance during the lab sessions.

Reference:

Hammer handle drawing, process sheet, inspection report

Hammer head drawing, process sheet, inspection report

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[AMPed NH](#) is sponsored by a \$19.97 million grant from the U.S. Department of Labor, Employment & Training Administration TAACCCT Grant #TC-22504-11-60-A-33. The Community College System of NH is an equal opportunity employer, and adaptive equipment is available upon request to persons with disabilities.



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