

Manufacturing objects

Complete this concept review handout and keep it as a record of what you have learned.

EST Definitions

- Manufacturing is a series of operations resulting in the creation of a technical object.
- A tool is an instrument used in the manufacture of an object.
- A machine tool is a tool that is held and operated by forces other than human force.

EST Stages in the manufacturing process

Stage	Description
1. • <u>Measuring</u> • <u>Laying out</u>	• <u>Act of determining the size or position of a marking</u> _____ • <u>Act of tracing markings or reference points onto a material</u> _____
2. • <u>Machining</u>	• <u>Act of shaping a material into a desired configuration</u> _____
3. • <u>Assembling</u> • <u>Finishing</u>	• <u>Set of techniques by which various parts are united to form a complete technical object.</u> _____ • <u>Set of techniques that complete the manufacture of the parts of a technical object.</u> _____

EST Machining techniques

Technique	Definition	Examples of tools used
<u>Cutting</u>	Act of giving a material a desired shape	<u>Aviation shears, band saw, retractable knife</u>
<u>Drilling</u>	Act of making a hole in a material	<u>Bit mounted on a hand or an electric drill</u>
<u>Tapping</u>	Technique in which screw threads are formed inside holes drilled into a material.	<u>Tap</u>
<u>Threading</u>	Technique in which screw threads are formed around a rod.	<u>Die</u>