Title: 2.1: Design for Manufacturing

Why are these ergonomic practices?

- Reduce the number of fasteners
- Use unique orientations
- Design Features for Alignment
- Make Parts & Features Accessible

Mass Properties

Volume — How much raw material must be purchased?

Surface Area — How much might it cost to coat/paint the product?

Density — How strong is the material and what machines are needed to process it?

Mass — Weight determines how much it will cost to transport

Materials

Considerations: Strength, durability, cost, availability, Environmental impact, finishing costs, & shipping and transport.

Strength and Durability

considerations: Will the product be strong enough to perform its function but not at an increased price? Will the product perform over time, or is it designed to have an lifespan.

Cost and Material Availability

considerations: How much will does the raw material cost? Will the raw material make the end-product too expensive? Is the material readily available or in limited supply?

Environmental Impact

Does the manufacturing process create pollution? What happens to the excess material from manufacturing?

Shipping and Transportation

Considerations: weight, equipment, efficiency

Signature:	Date: 10/16/25	Team Members:
Witness:	Date:	
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