

2.000 How and Why Machines Work, Lecture # 4

Today in 2.000

- ⊙ Manufacturing activities
- ⊙ Homework 3
- ⊙ Mfg plant trip?
- ⊙ No class on Tuesday, Monday schedule

Manufacturing videos available for checkout

- ⊙ How a car is made
- ⊙ Ford mfg plants
- ⊙ Casting
- ⊙ Turning
- ⊙ Milling
- ⊙ Extrusion

ME Manufacturing Overview

Manufacturing: Developing processes, products, equipment, and other means to satisfy human/customer needs and create wealth

Key issues:

- ⊙ **We are your resources, use us to learn about the process!**
- ⊙ **Consider what you will need to know to do the homework**
- ⊙ **Think about how the mfg process/choice relates to the machine function**

2.000 Survey of common mfg processes

2.007 Design and Mfg. I Design process

- ⊙ **Design and build a robot**

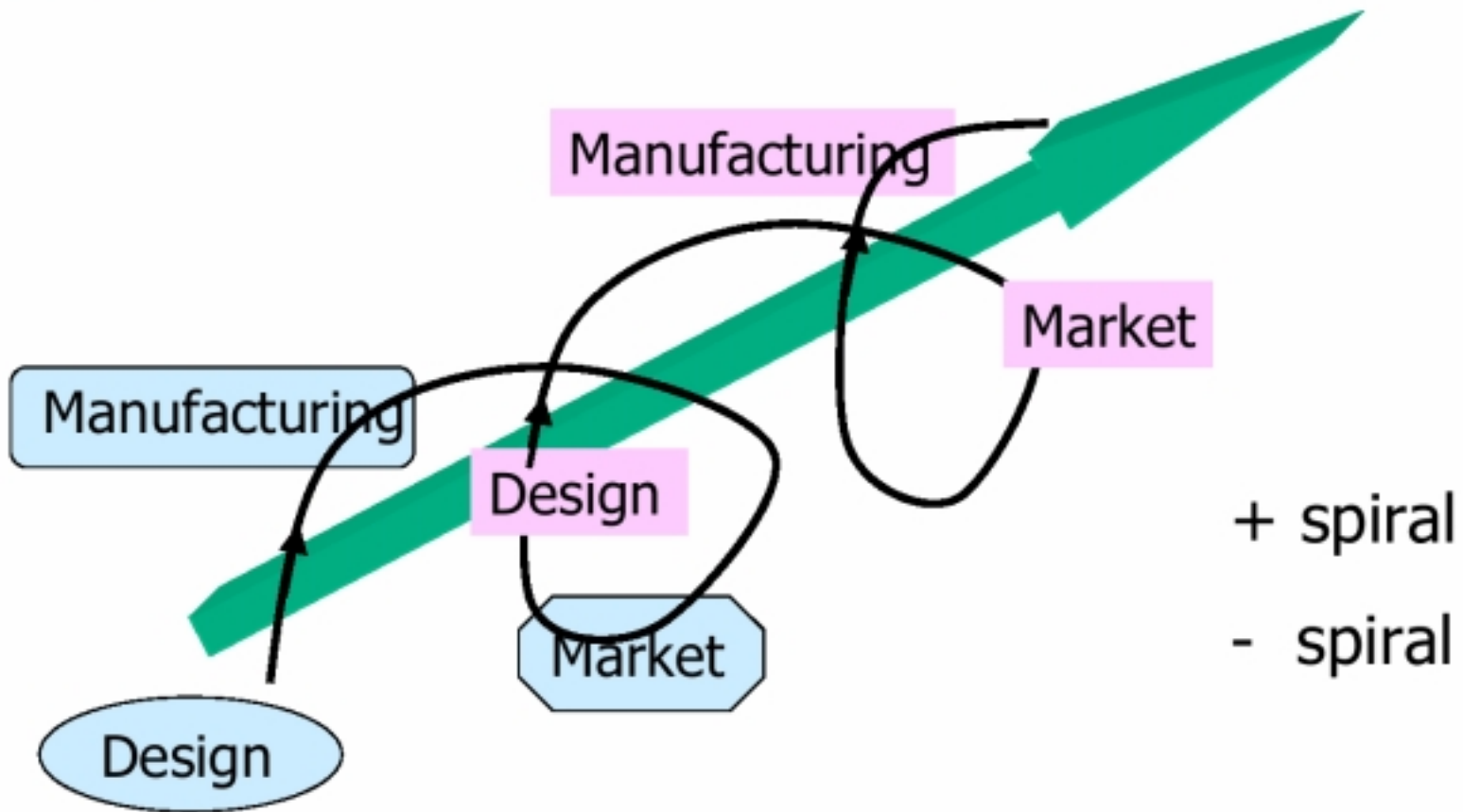
2.008 Design and Mfg. II Detail mfg. Processes

- ⊙ **Design and build tools, process, and associated materials to make a yo-yo**

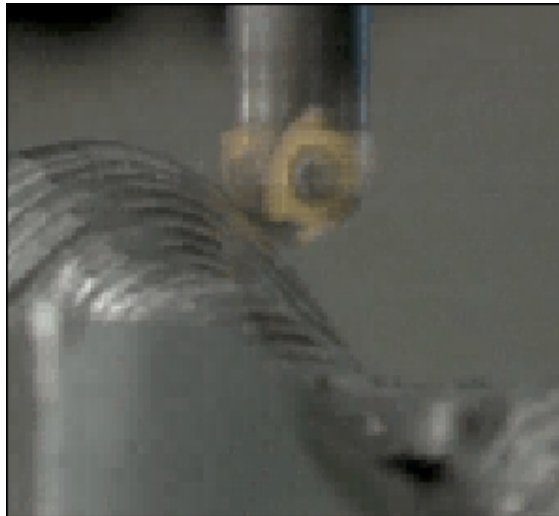
How Design and Manufacturing work



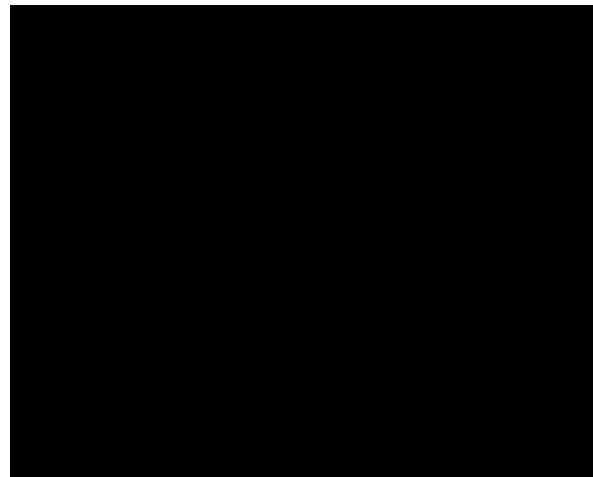
Manufacturing Chain



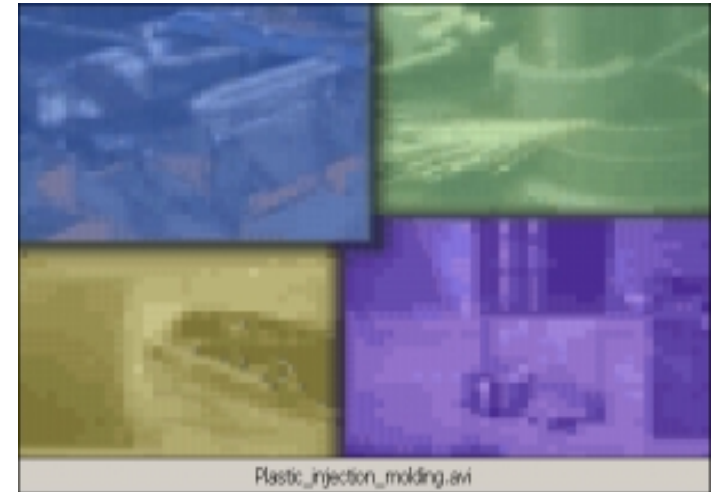
Processes examples



Milling.avi



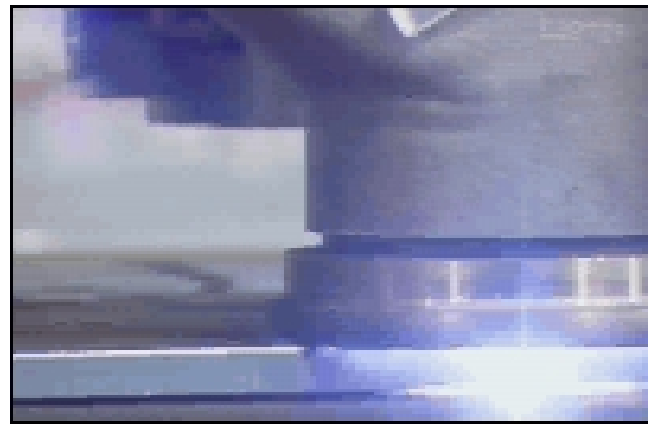
Forging.avi



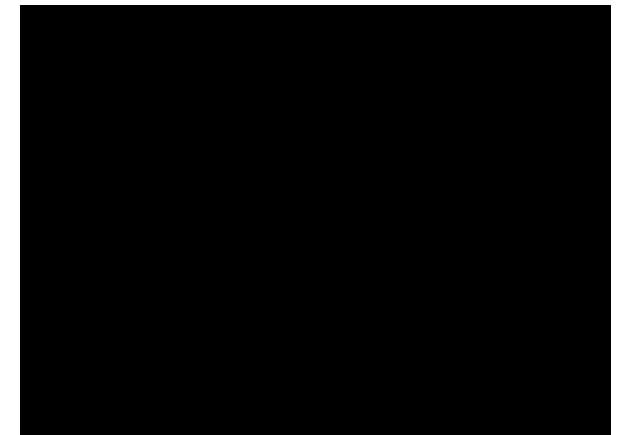
Plastic_injection_molding.avi



Casting.avi



Plasma_cutting.avi



Die_casting.avi