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2.007 Design and Manufacturing I
Spring 2009

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Milestone 5
Fabricate MCM

Schedule for: week of 2-6 March.

Deliverable: **1. 2 pages documentation in your lab notebook.**
 2. Your MCM fabricated according to plan (demo in lab.)

Week's Activities

The next two weeks are devoted to fabricating your MCM so that it can be demonstrated before spring break. Since the majority of your work will be fabrication in the laboratory, the amount of information in your lab notebook is much less this week. But it's also important to continue applying and developing your CAD skills. We want to work toward a complete CAD model of your MCM.

1. Fabricate MCM

The starting point is your MCM design from last week. The working assumption is that you have had your design reviewed by your section instructor and TAs, UAs, shop people, etc. If any concerns or problems were raised in your design review, address them and resolve the problem. It is ALWAYS much more efficient to avoid problems than to discover them and have to correct them in the middle of fabrication.

Start by making a Fabrication Plan for your MCM. This plan should be a sequenced list of the steps necessary to fabricate and test your MCM. And it should cover the entire fabrication process, i.e. the next two weeks. For instance, if your MCM was a fork-lift/grabber kind of a bale lifter, the first four steps might be:

1. Make all pieces for the lifter.
2. Assemble the lifter.
3. Attach the actuator to the to the lifter so it can lift a simulated grabber.
4. Test the lifter, comparing its performance with performance predictions, etc.

When you make up your plan, estimate in a column how much time you think the step will take. Then as you do the actual fabrication, record how much time it actually takes. Doing this will help you plan your time better and give you an idea for how well you can implement your plans.

And keep meeting with your peer group to compare experiences, share ideas, and provide feedback.

Milestone 5 Specific Deliverables

1. MCM Fabrication

1. Your Manufacturing Plan, with planned and actual times recorded.
2. Do two more of your MCM parts in Solidworks, and assemble your parts using Solidworks. Paste print-out in lab notebook.
3. Your MCM fabricated to degree called for in your Plan. Be ready to demonstrate this assembly in your lab.
4. In your notebook, summarize any major problems you had or changes you had to make. How could these have been avoided?