

Class 11b:

Team Project Re-Design

11b.1 Team Project Re-Design Assignment

Design Check #8: Re-Design of One Project Part

Your team almost certainly knows your product very well by now. First you selected it by being interested in it. Then you disassembled it so you could identify the subsystems and the individual parts. This was followed by measuring and sketching the parts. From the sketches and measurements, the team was able to build 3-D solid models of the individual parts. Finally, your team is building 3-D printed parts in the Longhorn Maker Studio.

As your team has become familiar with the product and its parts, you may have thought of ways to improve the existing design. Could the function or operation be improved in some way? Do you agree with the material selected for each part? Did your product have parts that you thought were extraneous? Could those parts be eliminated or simplified? Could several parts be combined and manufactured as a single part to improve the assembly and operation? Did you encounter any sharp edges or sharp points that could cause an injury? So, as you can see, there are many possibilities for considering an improvement to the reverse engineering project.

Study the reverse engineered product and recommend the re-design of one part that your team feels will improve the product. This re-design should be discussed in sufficient detail to state why the improvement would enhance the product and how the recommendation meets the need. Also for this re-design assignment, open the existing part in SolidWorks and using editing features, make a new SolidWorks part that incorporates the geometry for the new re-designed part. Save both the existing design part and the new re-designed part.

For the design check #8 submission, include the following:

1. The standard team project cover sheet.
2. The 1-2 page typed discussion of your re-designed part, including how the improvement would enhance the product and how the recommendation meets the stated need.
3. A picture (screen shot) of both the existing SolidWorks part and the new re-designed SolidWorks part.

Team Name _____ Unique No. _____

Design Check No. 8 Grading Form

Grade

Cover Sheet (5 points)

1. Semester and Year
2. Project Title
3. Team Name and Logo
4. Team Members Names, Emails, Leader
5. Instructor Name and Section Unique No.

Discussion of Re-Design (10 points)

1. Rationale for Part Selected
2. Rationale for Proposed Re-Design
3. Discussion of Part Geometry
4. List of New Values Chosen
5. Improvement Expected of Re-Design
6. Discussion Linked to Images
7. Effect of Re-Design on Other Parts
8. Re-Design Meets Stated Needs
9. Font and Formatting Style
10. Writing and Grammar

Images Showing Re-Design (10 points)

1. Image of Part Before Re-Design
2. Image of Part After Re-Design
3. Orientation of Images
4. Size of Images
5. Quality of Images
6. Images Clearly Show Re-Design
7. Images Linked to Discussion
8. Use of Captions and Numbering
9. Font and Formatting Style
10. Overall Graphical Quality

Total Grade (25 points max.)