

Group Project 01:
Complete Assembly Drawing of a Winch-and-Cart System
[25 Points]

*Last Updated 2/25/2009
By Matthew J. Traum*

Due: Monday, March 23, 2009 @ 2pm

This assignment is to be submitted digitally on your MEEN 2250 jump drive.

Only one submission per team is required (associate all team member's names with the file)

In class on 2/9/2009, each Group Project 01 Team was given a working winch-and-cart system built by students in MEEN 1110. By now teams should have disassembled their devices, and individual team members should have started digitizing simple parts (Assignment 03) and complex parts (Assignment 04). The major deliverable of this group project is to now assemble those individual digitized parts into a complete assembly drawing, an exploded assembly drawing, and a bill of materials to facilitate reassembly.

Teams will bring their completely disassembled winch-and-cart artifacts to class on 3/23/2009 along with the digital assembly drawing files. Groups will trade artifacts and try to reassemble other team's winches and carts using only the digital assembly drawings and bill of materials as aids. A portion of the final score will be assigned based on complete and correct assembly by another team using the owner team's drawings.

If the winch-and-cart is not fully and correctly reassembled, it is the responsibility of the owner team to correctly reassemble the artifact before the end of class. Failure of a team to correctly reassemble their artifact will result in a score of 0 on Group Project 01.

The following grading rubric items will be utilized.

- A. Using assembly, exploded assembly, and bill of materials, % of parts correctly reassembled [6 points]
 $< 70\% = 0 \text{ pts.}, 75\% = 1 \text{ pts.}, 80\% = 2 \text{ pts.}, 85\% = 3 \text{ pts.}, 90\% = 4 \text{ pts.}, 95\% = 5 \text{ pts.}, 100\% = 6 \text{ pts.}$
- B. All parts are present and match in the bill of materials and assembly [2 points]
- C. All digital parts fit together with no interference [4 points] (-1 for each improper fit)
- D. All digital parts are accurately and correctly represented [2 points]
- E. A bill of materials is present with all parts properly named and numbered [3 points]
- F. The sequence of assembly indicated by the bill of materials and digital drawings is logical [3 point]
- G. Continuous assembly center lines show all fixture mating relationships [1 point]

H. The drawing's orientation is representative of the artifact's natural context [1 point]

I. Final returned artifact is fully assembled without any original parts missing [3 point] (all or nothing)

Notes:

1. Each member of the group will share the same grade on this assignment, and group assignments will not be dropped when calculating students' course grades.