# The Hashemite University

Faculty of Engineering

*Mechanical Engineering Department*

## *Pro/ENGINEER Term Project*

**Course:** *Mechanical Drawing (402344)*
**Instructor:** *Dr. Ala Hijazi*

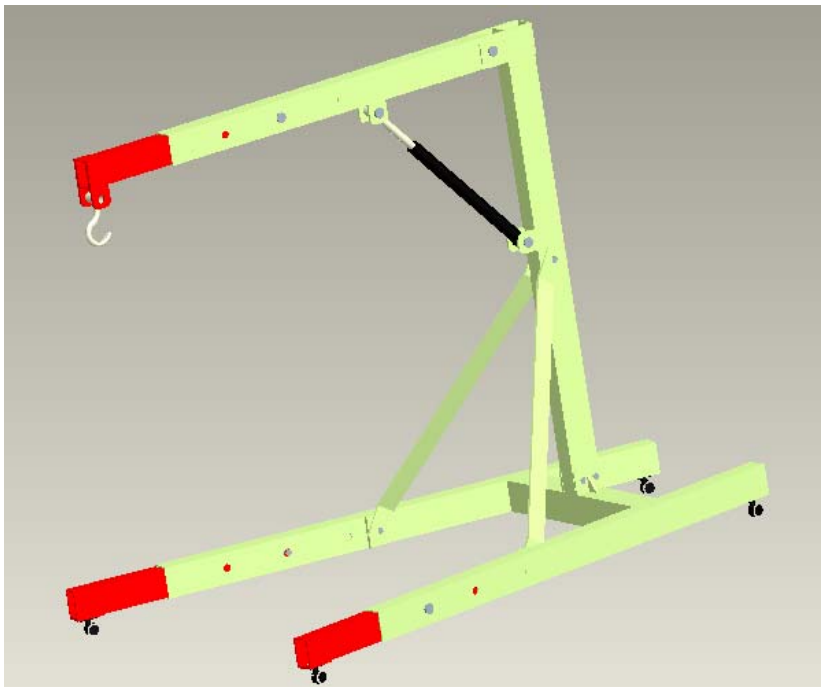
**Name:** *your name*
**Student #:** *your ID#*
**Section:** *your section #*
**Project:** *A shop Hoist*

**Semester:** *Fall - 2007*
**Due date:** *27 / 12 / 2007*

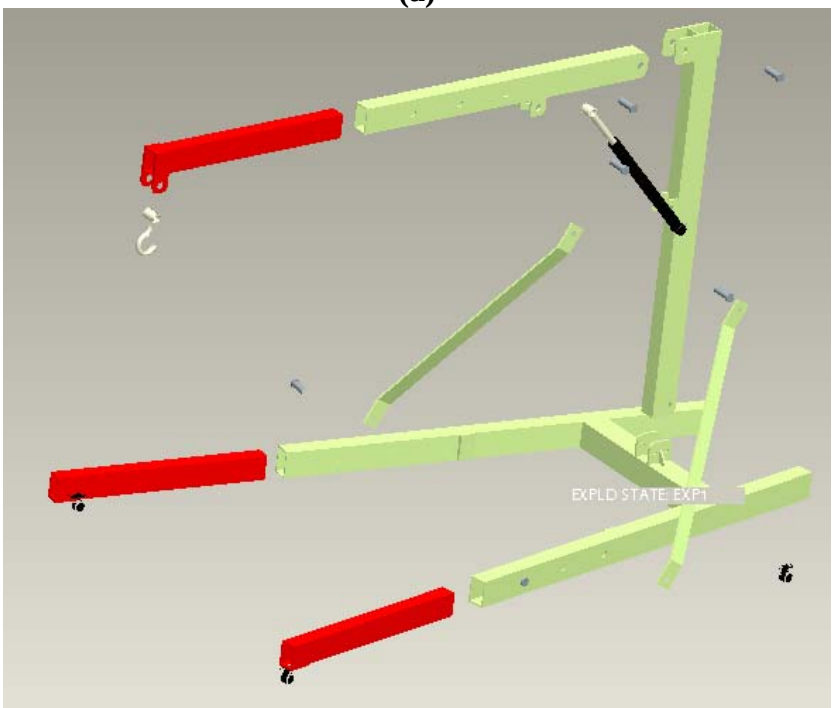
***Brief Description:***

In this project a manually operated hydraulic hoist was modeled. This type of hoists is usually used in shops (such as auto-repair shops and machine shops) for lifting heavy components and moving them around the shop. The hoist has extendable base and extendable lifting arm for increased functionality.

The hoist assembly and an exploded view showing the major components are shown in figure 1. Also, a drawing of the hoist showing its major dimensions is included.



**(a)**




**(b)**

**Figure 1:** a) the hoist assembly; b) exploded view.

***Assembly:***

The assembly consists of the following:

| Name | Type/Repeats | File name | Comments |
|---|---|---|---|
| Base | Part/1 | base | |
| Base Extender | Subassembly/2 | base_extender | Consists of: baseextender.prt + wheel.prt |
| Vertical Stand | Part/1 | stand | |
| Vertical-stand Support | Part/2 | support | |
| Hydraulic Actuator | Subassembly/1 | actuator | Consists of: piston.prt + cylinder.prt |
| Lifting Arm | Part/1 | arm | |
| Arm Extender | Part/1 | arm_extender | |
| Hook | Part/1 | hook | |
| Wheel | Part/2 | wheel | |
| Pin | Part/5 | pin | Used for locking the extenders, and for pivoting the actuator and the lifting arm |
| Bolt | Part/8 | bolt | Used for fixing the vertical stand on the base and for the vertical stand supports |

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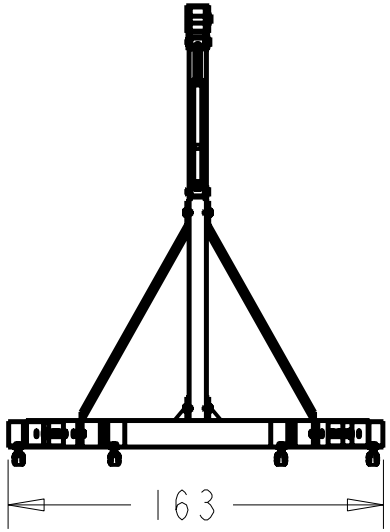


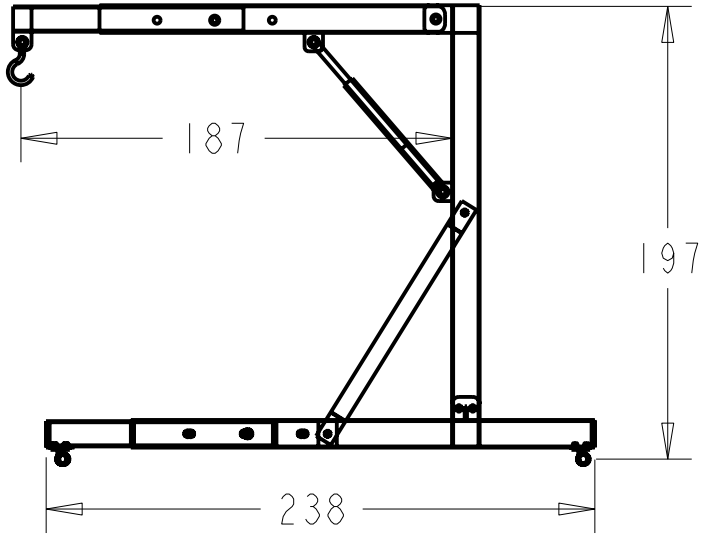


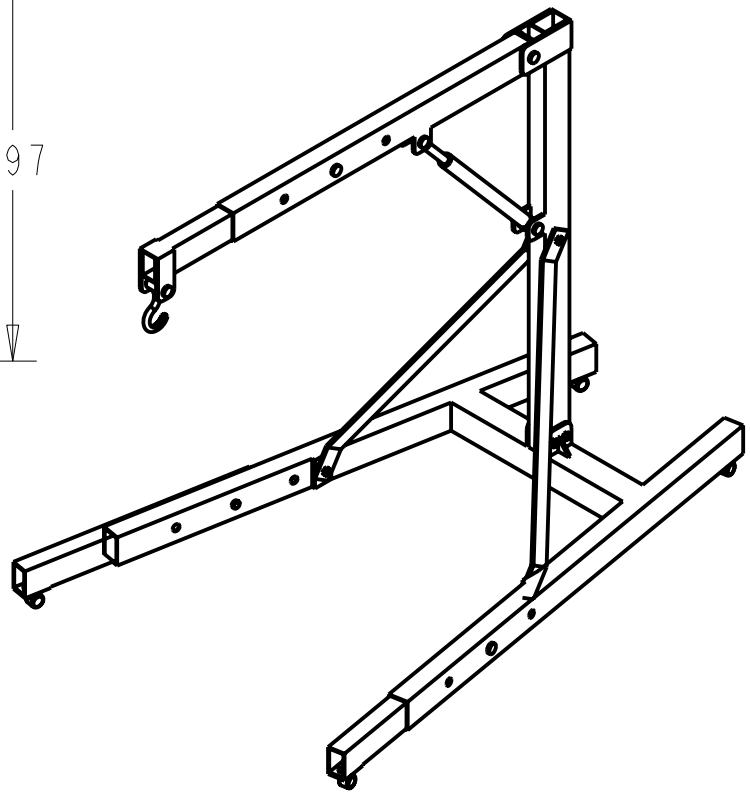

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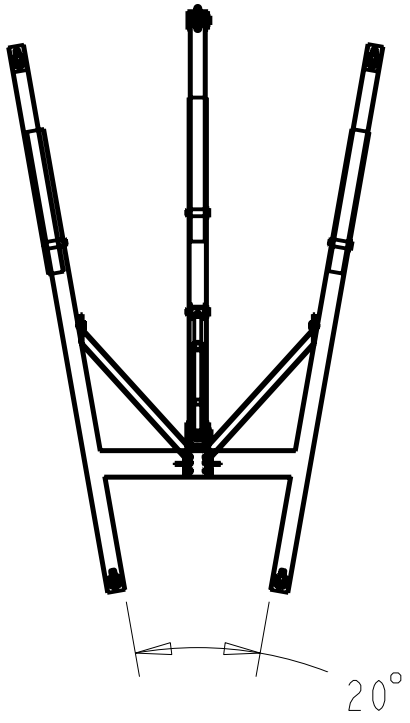


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|---|---|
| The Hashemite University | Project: Hoist |
| | Prepered by: Your Name |
| Scale: 0.012 | dimensions: cm |

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