

Lunar Rover Project

A photograph of the Apollo Lunar Module on the moon surface. An astronaut in a white spacesuit is standing next to the Lunar Roving Vehicle (LRV). The LRV is a four-wheeled vehicle with a large antenna on a tall mast. The moon's surface is covered in grey dust and rocks, with a large, dark, rounded lunar hill in the background under a black sky.

Carleton University

MB05

Objectives

- two-person, peddle powered vehicle
- lightweight structure
- collapsible to a 4'x4'x4' configuration for transport
- easily assembled
- meet safety requirements
- complete 1 mile simulated lunar race track



Group Overview

Superstructure

- structural analysis
- fold point
- turning angles
- Acumen

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- materials
- frame construction

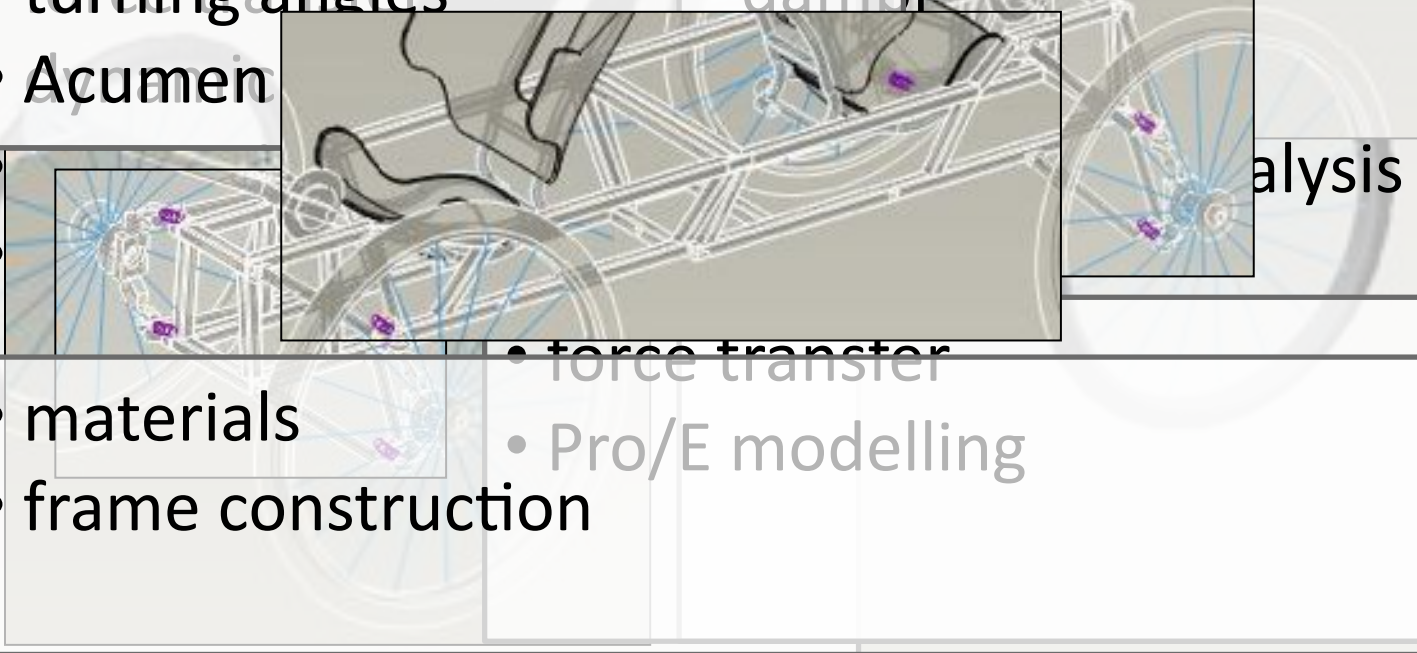
Suspension

- force analysis
- damper

analysis

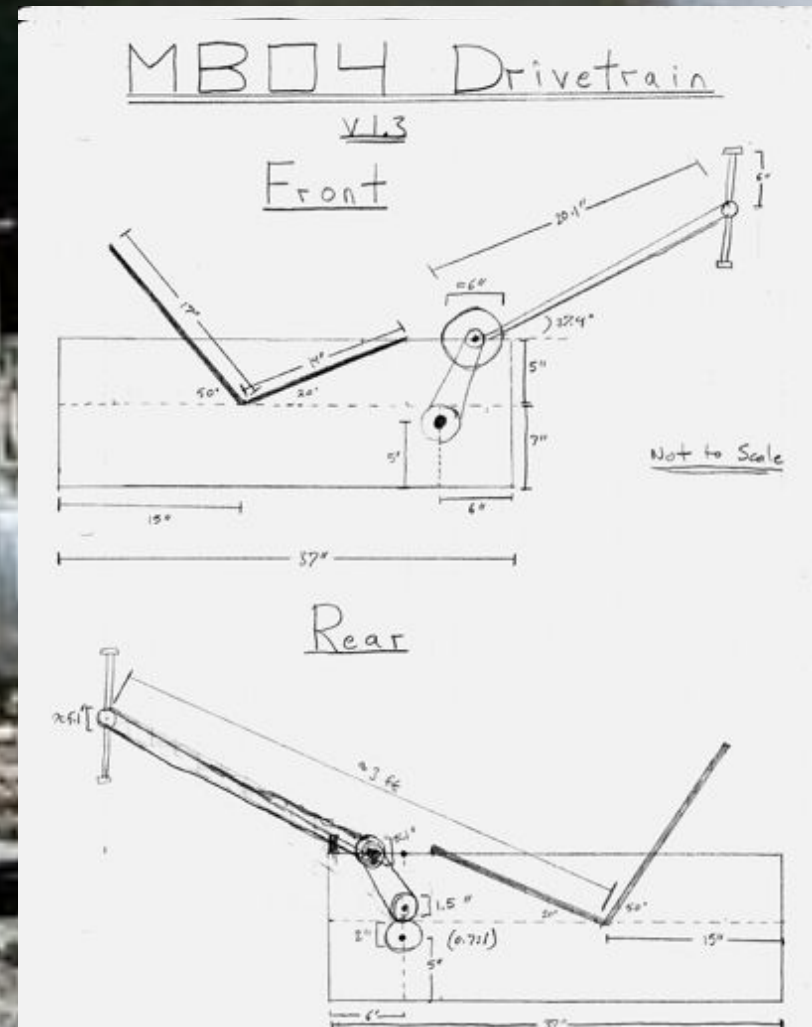
- force transfer

- Pro/E modelling



Design Process

- Initial conceptual design
- Size and function of possible working parts
- 3D modelling
- Proof of concept
- Redesign and weigh options
- Consider entire design
- Develop final design
- Working drawings and fabrication



Previous project: MB04

