UBC mechanical engineering
THE UNIVERSITY OF BRITISH COLUMBIA

Design Project

MECH 360: Mechanics of Materials, Fall 2015, Dr. Mohammad Alemi

---

Design of a Landing Gear for DHC-2 Beaver

Design Specs:

- Gross Weight= 22.7 kN
- Approach Speed=35 m/s
- Rate of Descent= 5 m/s
- Material: Aluminum 6061-T6

Design Criterion:

- Length=1.5 m
- Factor of safety=1.8
- The goal is to satisfy the strength and geometric requirements while maintaining minimal mass.

Design two landing gears with different shapes and compare the results.

Design Project

MECH 360: Mechanics of Materials, Fall 2015, Dr. Mohammad Alemi

---

Report:

- Groups of 2 people
- Report is prepared using **Microsoft Word**
- CAD drawing is preferred
- If you use handwritten derivations and drawings, then they need to be at a professional level
- Matlab, Maple and other mathematical softwares can be used for calculations
- **Structure** of the Report (Word Document):
    - Cover sheet
    - Problem statement
    - Assumptions
    - Derivations of solutions
    - Conclusions
- Report (may include word, excel, matlab, CAD files, …) must be submitted electronically to alemi@mech.ubc.ca before final exam (Dec 15, 2015- 8:30 AM)
- No late extensions
- Bonus marks for students who present their work in class on Dec 03, 2015

Useful Sources:

http://www.youtube.com/watch?v=HxV5Gl10-R8

http://www.dhc-2.com/

http://austingwatson.com/yahoo_site_admin1/assets/docs/DHC-2-Beaver-POH.32573217.pdf