

This assignment requires you to submit your assignment online, please do not turn in a hardcopy; due day/time is 8am on Thursday, October 25th.

When you submit your assignment (problems 3 and 4) make sure you tell us the cam pieces used and then include your .sldasm and necessary .sldprt files; also turn in screenshots from Solidworks showing your cam and sva plots(.gif, .png, .jpeg file), the files have to be named as follows
YOURFULLNAME-PROBLEMNUM-filename.SAVEDFORMAT

Homework problems from required text: "Design of Machinery," R.L. Norton, 5th Edition

Problems:

1. [5 points each] Reproduce (screenshot) the figures from the text and label clearly on that picture the pressure angle for each of the following:

- FIG. 8-1a and 8-1b, Page 403
- FIG. 8-2a and 8-2b, Page 404
- FIG. 8-3a and 8-3b and 8-3c, Page 405

2. [25 points]

PROBLEM 8-7, Page 472, but do not, 'choose suitable functions ... to minimize acceleration;' instead, use cycloidal functions; analytically graph your svaj and determine the theoretical maximum acceleration

For Problems 3 and 4, use SolidWorks and:

- design the svaj according to the specification (15 points), and then
- size the cam (15 points)

3.[30 points]

Problem 8-45, and then 8-51 (do not worry about plotting radius of curvature but do explain why you believe you have designed is a 'good' cam!), Page 475

4.[30 points]

Use the data from Problem 3 and design a translating roller follower instead (see Page 459 as regards the radius of your roller follower; again do not worry about plotting radius of curvature, but do explain why you believe you have designed a 'good' cam).