

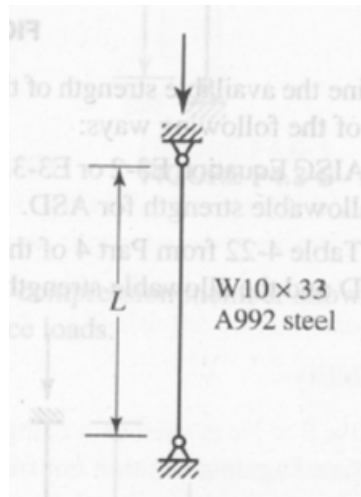
Homework No. 10 and Problem Set for Lab

Due Date: Wednesday, April 12, 2017

Problem No. 1

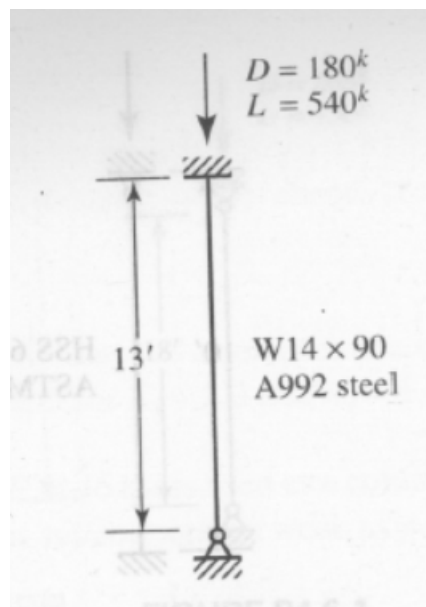
Use AISC Equation E3-2 or E3-3 and determine the nominal axial compressive strength for the following cases (Could use tables only for checking):

- a. $L = 15$ ft
- b. $L = 20$ ft



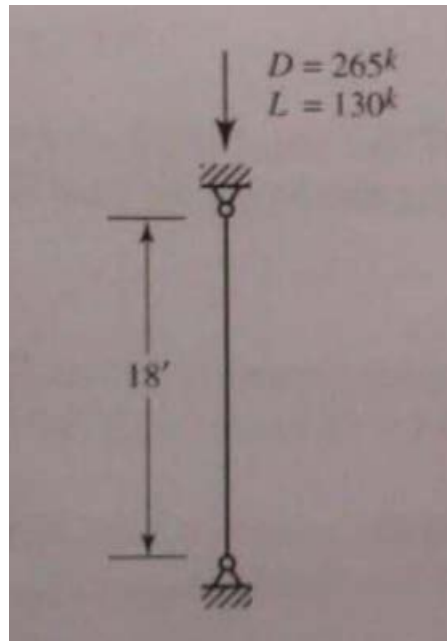
Problem No. 2

Does the column shown in the figure have enough strength to support the given service loads? (Could use tables only for checking)



Problem No. 3

Select a W12 of A992 steel. Use the trial-and-error approach. (Could use tables only for checking)

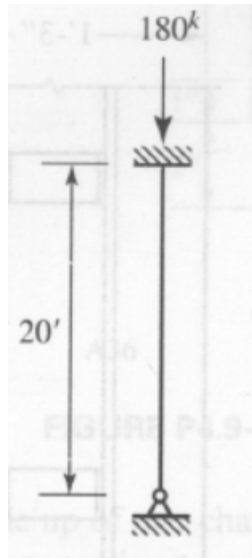


Problem No. 4

A W12*65 of A572 Grade 60 steel is used as a compression member. It is 26 feet long, pinned at each end, and has additional support in the weak direction at a point 12 feet from the top. Can this member resist a service dead load of 180 kips and a service live load of 320 Kips? (Could use tables)

Problem No. 5

Select a WT section for the compression member shown in the figure. The load is the total service load, with a live-to-dead ratio of 2:1. Use $F_y = 50$ Ksi. (Could use tables)



Problem No. 6

For the conditions shown in the figure, select a double-angle ($3/8$ in. gusset plate connection). Use A36 steel. Specify the number of intermediate connectors. (Could use tables)

