

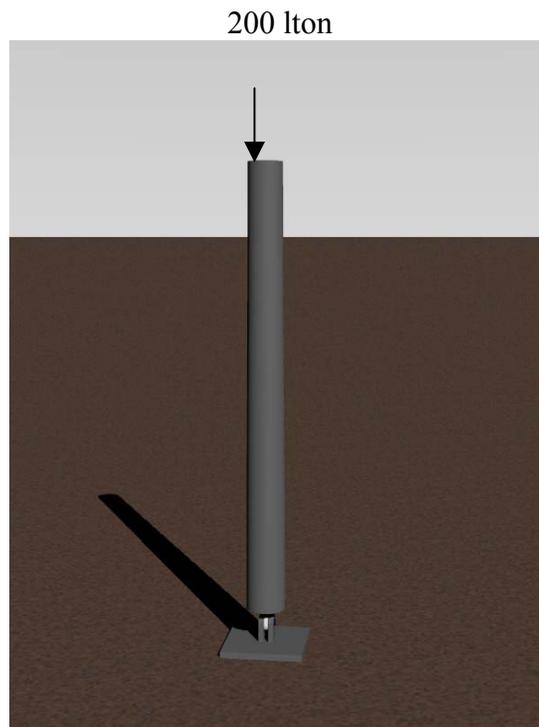
13.122 Ship Structural Design and Analysis

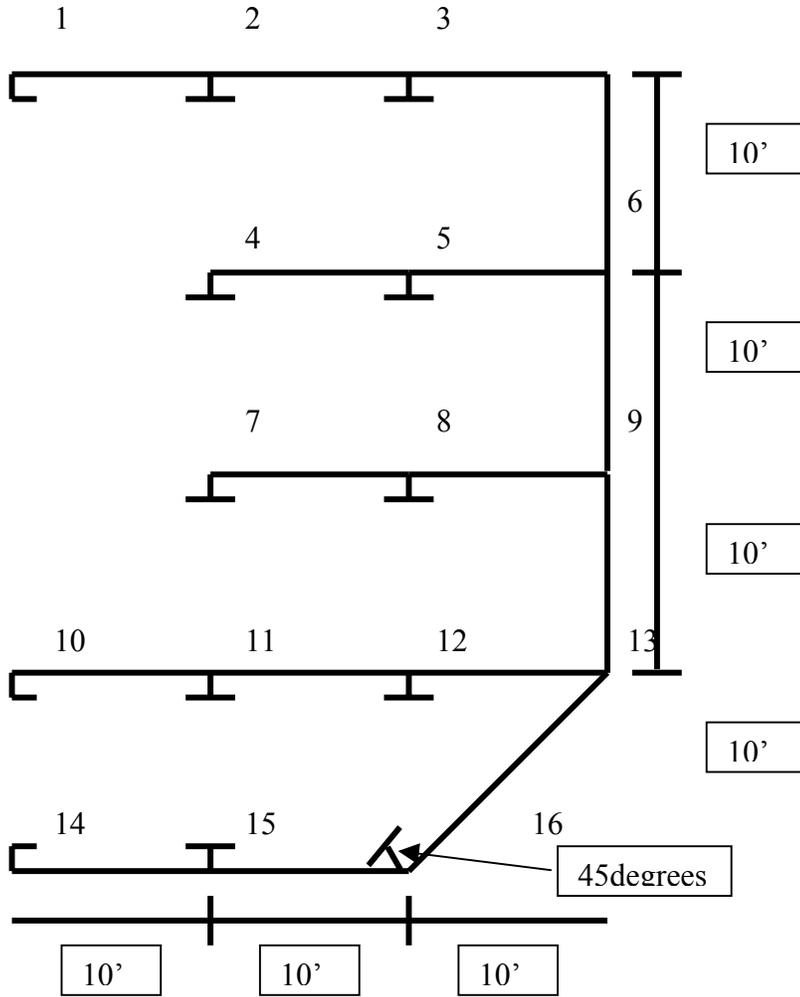
Problem Set 7

For this and following homework assignments requiring partial safety factor calculations, you are to use the below midship section, the loading condition used in problems set 6, and the Material Properties and Standard Component Catalogs. Please use the provided PS2 solutions to maintain consistency.

For your assigned strake, calculate the partial safety factors for PFLB, PCCB, PCSB, FYTF, FYCF, FYTP, FYCP, and FCPH for the range of structural elements at your disposal. Considering your role as a member of the design team, make a selection of catalog elements based on each partial safety factor calculation, choose the element(s) which satisfies the requirements of all the above partial safety factors, and discuss your reason for choosing one element(s) over another satisfactory combination. Recalculate, if necessary, weight/ft and the vertical moment of inertia for your strake relative to the midpoint of the plate. Summarize the element selection for each partial safety factor in a table. Provide an electronic copy of the design notes. Be sure you enter the preliminary data applicable to your strake in Sections 1-4 of the Design Notes.

As an additional exercise you are to calculate the CCB for a column consisting of a pipe with a 10" nominal diameter and 10 feet high. The loading condition is 200 lton compressive. Choose the inner and outer diameters to achieve an acceptable CCB. Do not include this weight with your strake.





Strake Number	Assigned To
1	Brown
2	Gecer
3	Greytak
4	Harper
5	Jai
6	Johnson
7	Miller
8	Pedatzur
9	Rucker
10	Small
11	
12	Tozzi
13	Wang
14	
15	West
16	Wolf