(1) A double-channel shape, 2C9×20, is used as a tension member. The channels are bolted to a ½-inch gusset plate with 1-inch diameter bolts. Both the Gusset Plate and the Channels are of A572 grade 50 Steel ($F_y = 50$ ksi, $F_u = 65$ ksi). If LRFD is used, how much factored tensile load can be applied? Check the limit states of yielding, fracturing and block shear.

(2) Select an $S$ shape for the tension member shown in the figure. The member shown will be connected to two strong plates with eight 7/8-inch diameter bolts. The service dead load is 150 kips and the service live load is 75 kips; the length is 25 ft. Use LRFD and A36 Steel. No need to do check on Block Shear.