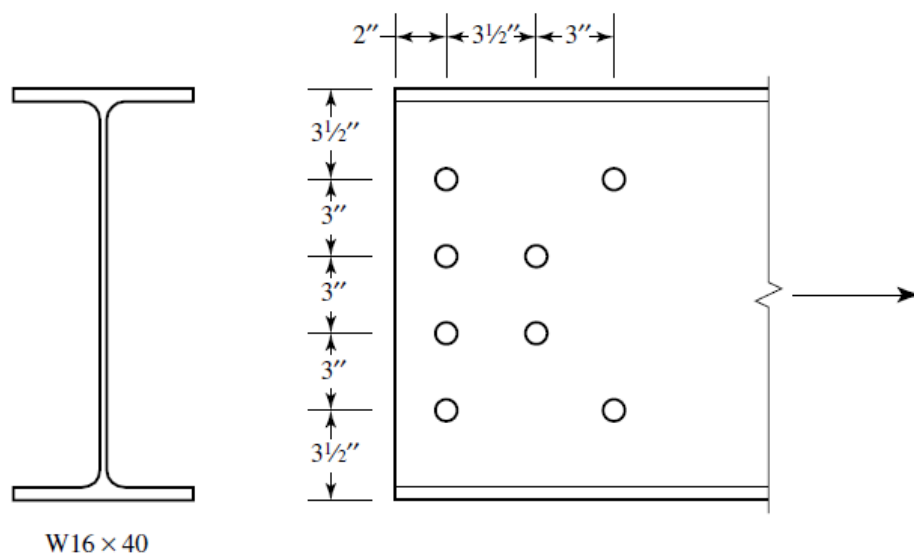3.4-4 A992 steel is used for the tension member shown in Figure P3.4-4. The bolts are ¾ inch in diameter. The connection is to a ⅜-in.-thick gusset plate.

    a. Determine the nominal strength based on the gross area.

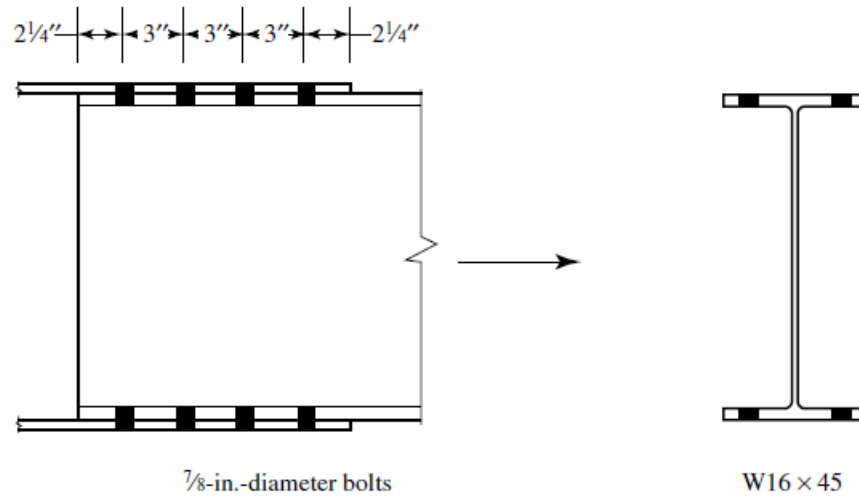   b. Determine the nominal strength based on the effective net area.

FIGURE P3.4-4

3.3-5   A W16 × 45 of A992 steel is connected to a plate at each flange as shown in Figure P3.3-5. Determine the nominal strength *based on the net section* as follows:

a. Use Equation 3.1 for the shear lag factor, U.

b. Use the alternative value of U from AISC Table D3.1.

7/8-in.-diameter bolts   W16 × 45

FIGURE P3.3-5