Step 6: Determine the moment $M_{\text{fail}}$ at the face of the column at net section fracture of the T stem in accordance with Equation 3-57 and check for adequacy to meet the criteria of Equation 3-54 in Step 4:

$$M_{\text{fail}} = F_{uT} \left( w - 2 \left( d_{bt} + .125 \right) \right) t_{stem} \left[ d_b + t_{stem} \right] L_{TF2} \tag{3-57}$$

where, $d_{bt}$ is the bolt diameter and:

$w$ is taken as the lesser of the flange length of the T, the width of the T at the first line of bolts, as defined in Figure 3-22, or the quantity given by the equation:

$$w \leq g + S_3 \tan \theta_{\text{eff}} \tag{3-58}$$

$$15^\circ \leq \theta_{\text{eff}} = 60t_{stem} \leq 30^\circ \tag{3-59}$$

$L_{TF2}$ is a ratio to transfer moment from the center line of the bolts closest to the column flange to the face of the column, and is given by the equation:

$$L_{TF2} = \frac{L - d_c}{L - d_c - 2S_i} \tag{3-60}$$

Step 7: Determine the moment $M_{\text{fail}}$ at the face of the column at initiation of plastic bending of the tee flanges in accordance with Equation 3-61 and check for adequacy to meet the criteria of equation 3-54 in Step 4:

$$M_{\text{fail}} = \left( 2a' - \frac{d_{bt}}{4} \right) wF_{yT} \left( d_b - t_{stem} \right) \frac{16a'b' - d_{bt}(a' + b')}{4a'b' - d_{bt}(a' + b')} \tag{3-61}$$

where:

$$a' = a + \frac{d_{bt}}{2} \tag{3-62}$$

$$b' = b - \frac{d_{bt}}{2} \tag{3-63}$$

Step 8: Determine the moment $M_{\text{fail}}$ at the face of the column at the initiation of tensile failure of the bolts at the tee flange, considering prying action, in accordance with Equation 3-64 and check for adequacy to meet the criteria of equation 3-54 in Step 4:

$$M_{\text{fail}} = N_{as} \left( d_b + t_{stem} \right) \left[ T_{as} + \frac{wF_{yT}^2}{16a'} \right] \frac{a'}{a' + b'} \tag{3-64}$$