where $T_{ub}$ is the nominal tensile strength of bolts from the T flanges to the column flange which should be taken as the quantity $90A_{bolt}$ for A325 bolts and $113A_{bolt}$ for A490 bolts.

**Step 9:** Determine the moment $M_{fail}$ at the face of the column at net section fracture of the beam flange, in accordance with Equation 3-65 and check for adequacy to meet the criteria of equation 3-54 in Step 4:

$$M_{fail} = \left(F_{ubm}\left(Z_b - 2\left(d_{bt} + 0.062\right)t_{fb}\left(d_b - t_{fb}\right)\right)\right)L_{TF3} \tag{3-65}$$

where:

$L_{TF3}$ is a length ratio to transfer moment from the bolt hole farthest from the column face, to the column face, given by Equation 3-66:

$$L_{TF3} = \frac{L - d_c}{L - d_c - 2(S_1 + S_3)} \tag{3-66}$$

**Step 10:** Determine the moment $M_{fail}$ at the face of the column at initiation of block shear failure and pull-through patterns of the stem of the tee (See Figure 3-19), according to the methods in *AISC-LRFD.*

**Step 11:** Calculate the adequacy of column flange thickness for beam flange tension, in accordance with the equation:

$$t_{cf} \geq 1.5t_{f-t} \tag{3-67}$$

If the column flange thickness is less than that calculated in accordance with Equation 3-67, continuity plates are required. Continuity plates should be designed as described in Section 3.3.3.1.

**Step 12:** Calculate the adequacy of column web thickness for the beam flange compression forces, in accordance with the equation:

$$t_{wc} \geq \frac{M_f}{\left(d_b - t_{stem}\right)\left(6k + c\right)F_{yc}} \tag{3-68}$$

where $k$ is the dimension of the column-flange-to-web fillet, as indicated in *AISC Manual*.

If the column web thickness does not meet the criteria of Equation 3-68, then provide continuity plates in accordance with the criteria of Section 3.3.3.1.

**Step 13:** If continuity plates are required, the column flange thickness must be equal to or larger than the flange thickness, $t_{ft}$, of the T. If the column flange thickness is less than this amount, a column with a thicker flange must be selected.