



Analyzing Multiple Web Holes as a Single Encompassing Hole

There are several prescriptive provisions regarding the location of web holes in BCI[®] and AJS[®] joists. One such provision dictates the clear web distance between holes must be equal to or greater than 2 times the greatest dimension of the largest hole. For example, a 4" diameter round hole and a 3" x 6" rectangular hole require a minimum of 12" (6"x2) of clear web between holes.

If the holes are closer than twice the greatest dimension, they may still be allowable. One can utilize BC Calc[®] software to analyze multiple web holes as a single encompassing rectangular hole. Figure 1 shows an example condition that may be analyzed in BC Calc.

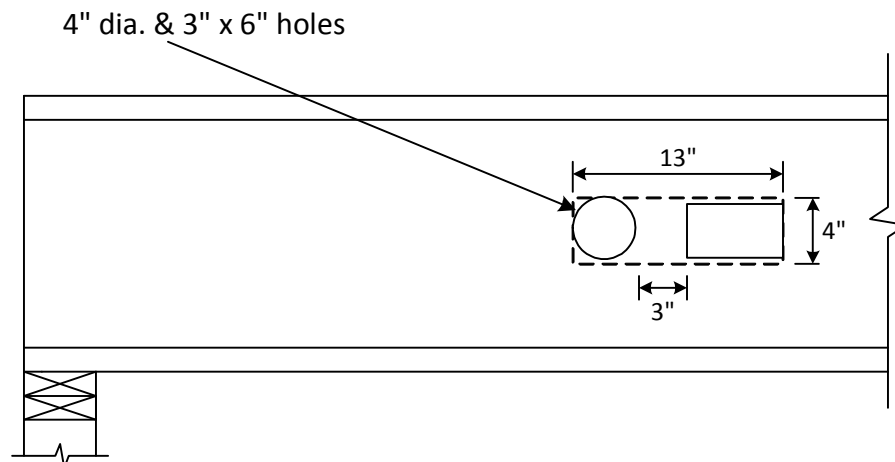


Figure 1: Multiple Web Hole Example

The two holes in the example have been cut 3" apart. Since the clear web distance between holes is less than 12", these holes cannot be analyzed separately. However, BC Calc can analyze a single 4" x 13" rectangular hole that encompasses the two actual holes.

When entering an encompassing hole in BC Calc, the location from the end is measured to the middle of the encompassing hole. All other web hole provisions apply to encompassing holes, including the 18" maximum length limit. If the encompassing hole is analyzed in BC Calc and is not over 100% allowable, the actual web hole condition does not need to be repaired or reinforced.