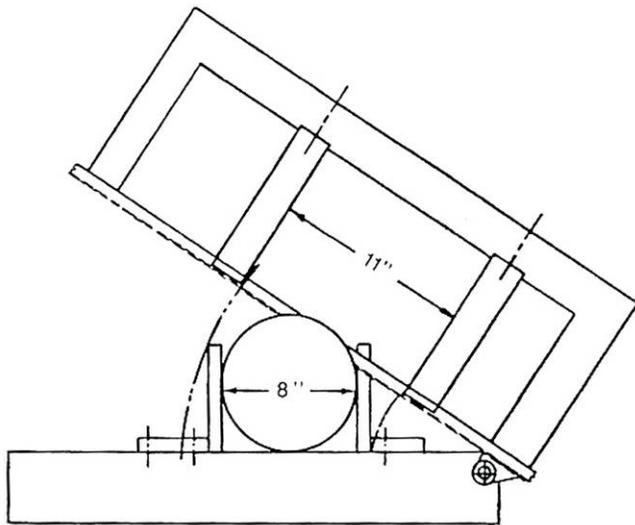




## Twin Post vs Hinge Type

All manufacturers of large, heavy-duty bandsaw machines now use the twin-column design pioneered by W.F. Wells, Inc. And there is a reason: the improved performance easily justifies the additional cost.

The illustrations below represent a twin column machine and a hinge type machine cutting work pieces of identical size. Note that the columns of the twin post machine are spread 30 inches to straddle the work piece. The pivot bearings of the hinge type machine are placed far outside the working area of the blade, and are spaced approximately 14 to 16 inches apart, thus allowing considerable free movement at the upper end of the frame.



When cutting, the blade guides of the twin column machine are set at 9 ½ inches apart. The hinge type machine requires the blade guides be spaced at 11 ½ inches to swing across the work area and clear the vise jaws.

Clearly, the closer spacing of the blade guides reduces blade deflection to provide greater accuracy and performance.

The deflection of the band blade can be evaluated by using the engineering formula for a simple beam with concentrated load at mid point. The maximum deflection equals:

$$\frac{\text{force} \times \text{length}^3}{48 \times E \times I}$$

All other factors being equal, the deflection will vary the same as the relationship of the span between the guides, cubed. 9 ½ inches cubed equals 857 while 11 inches cubed equals 1,331. Dividing 1,331 by 857 shows there will be 1.55 times greater blade deflection with the hinge type bandsaw.

Also, on the hinge type machine, if the frame pivot point is below the blade line the cutting action of the blade will tend to draw the frame into the work. This applies uncontrolled cutting force, and the result is a very unstable machine.

These comparative facts, plus the versatility of the twin column design, should be considered in the selection of a bandsaw machine.

