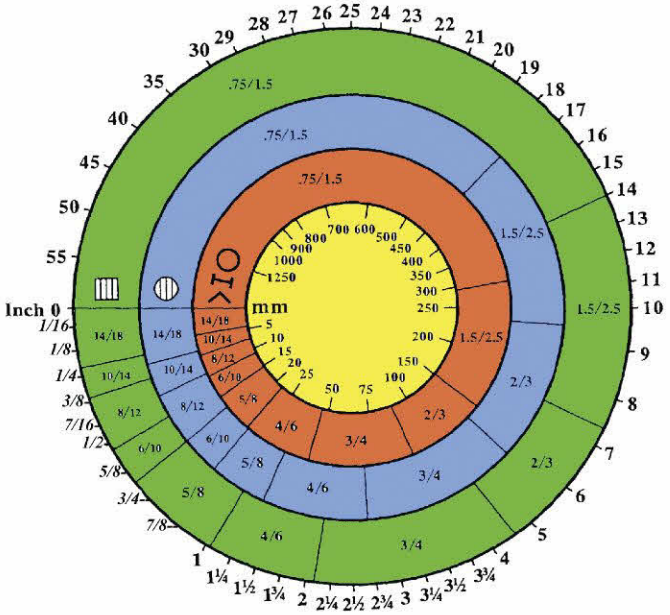
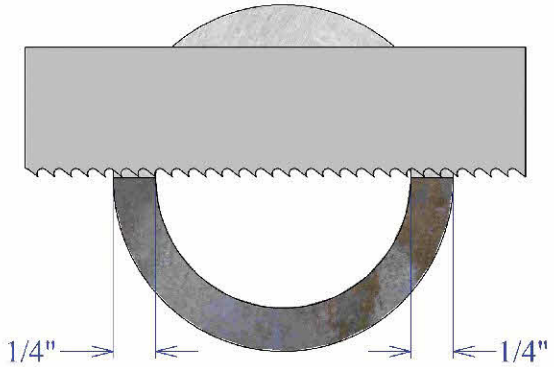
Bandsaw Blade Selection

The primary factors to consider in choosing a saw blade are: the Pitch, or *the number of teeth per inch of blade*; the tooth form; and the blade type (material and construction). Tooth pitch selection depends upon the size and shape of the work, whereas tooth form and blade type depend upon material properties of the work piece and on economic considerations of the job.



Example: This illustration is to help demonstrate length of cut in an odd shape. In this case, a tube; you must add the two wall thickness together to get the actual length of cut.



The tooth selection chart above is a guide to help determine the best blade pitch for a particular job. The tooth specifications in the chart are standard variable-pitch blade sizes as specified by the **NORTH AMERICAN SAWING ASSOCIATION**. The variable-pitch blades listed are designated by two numbers that refer to the approximate maximum and minimum tooth pitch. A 4/6 blade, for example, has a maximum tooth spacing of approximately 1/4 inch and a minimum tooth spacing of about 1/6 inch. Blades are available, from most manufacturers, in sizes within about ± 10 per cent of the sizes listed.

To use the chart, locate the length of cut in inches on the outside circle of the table (*for millimeters, use the inside circle*) and then find the tooth specification that aligns with the length, on the ring corresponding to the material shape. ***The length of cut is the distance that any tooth of the blade is in contact with the work as it passes once through the cut.***

For cutting **Solid Square** or **Solid Rectangle** stock, use the length of cut and select a blade from the ring with the *solid square*.

For cutting **Solid Round** stock, use the diameter as the length of cut and select a blade from the ring with the *solid circle*.

When cutting **Angles, Channels, Beams, Tubular pieces, Pipe and Hollow or Irregular shapes**, the length of cut is found by finding the narrowest cross-sectional area of the cut by the distance the blade needs to travel. If, for instance, there are multiple cuts happening at the same time, the cut lengths may be added to find the actual cut length. Locate the length of cut on the outer ring (*inner ring for millimeters*), and select a blade from the ring marked with the *Angle, I-Beam and Pipe sections*.

Bandsaw Blade Selection

Fig. 1

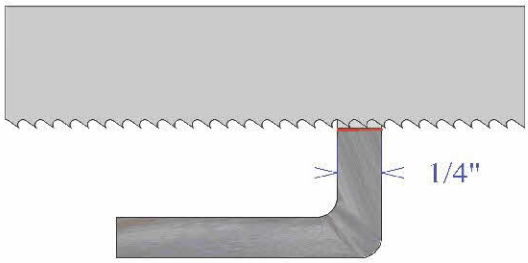
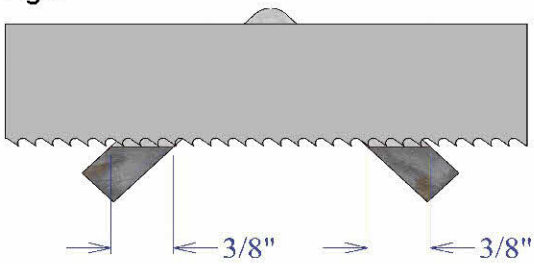


Fig. 2



3/8" + 3/8" = 3/4" LENGTH OF CUT

Fig. 3

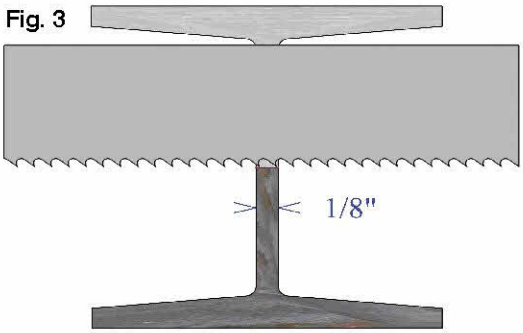


Fig. 4

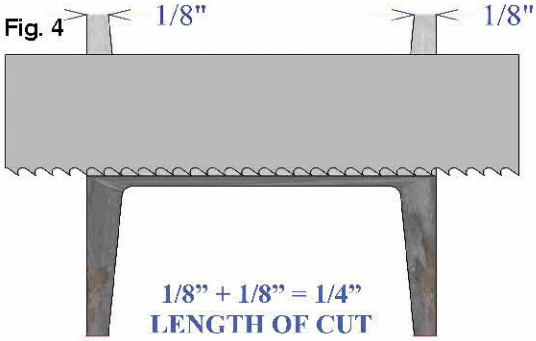


Fig. 5

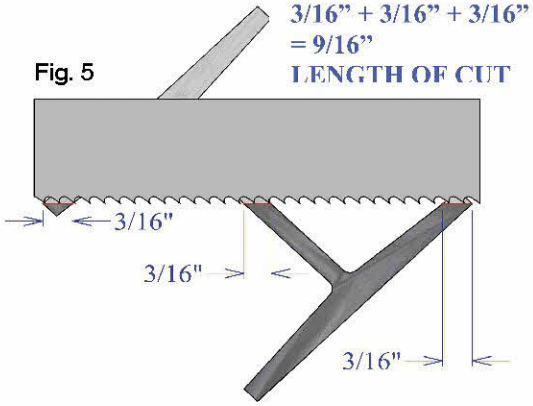
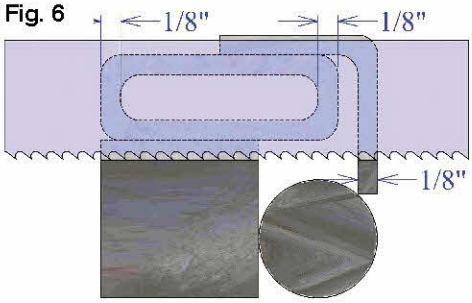


Fig. 6



(Fig. 1) Non-optimal method for cutting angle iron stock. Notice, the short cut length initially and the long cut length at the end.

(Fig. 2) Optimal method for cutting angle iron stock. Notice, better cut length over the entire cut, and the option to use a coarser tooth pitch because of the longer cut length. This offers a faster cut!

(Fig. 3) Non-optimal method for cutting I-beam stock. Notice, two long cut lengths with a very short minimum cut length in the middle. The short cut length requires a fine tooth pitch, thus a very slow cut.

(Fig. 4) Better cut length, still less than optimal.

(Fig. 5) Optimal cut length, coarser tooth pitch, fast cut!

(Fig. 6) When cutting bundles or multiple different shapes, always figure the maximum pitch by the minimum length of cut.