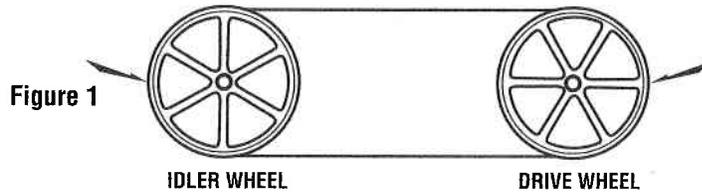


BAND SAW MACHINES

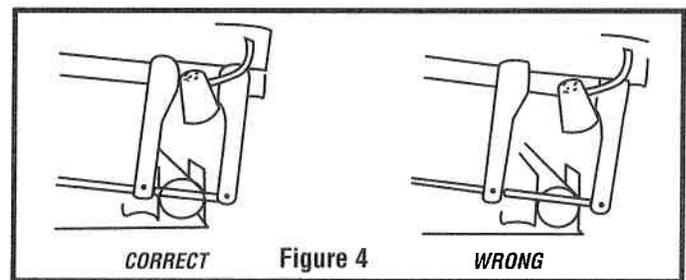
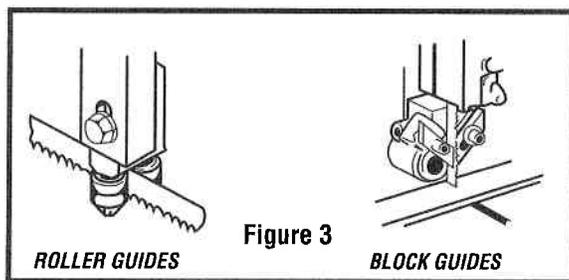
Machine Components

The number of different band saw machines is overwhelming, but there are only two basic designs: horizontal, and vertical. They all have common parts and the proper or improper adjustment of these parts can dramatically effect blade performance.

Band Wheels All machines have band wheels, both "drive" and "idler". These move the blade. (Figure 1) The drive and idler wheels must be in the same plane for correct blade tracking.



Guides All machines also have blade guides (either block or roller) which keep the blade rigid and in a cutting plane perpendicular to the work. (Figure 3) The guides should support the blade firmly but not so tightly that the blade cannot be moved or the rollers turned by hand. Blade teeth should never touch the guides or set will be destroyed. Guide arms should be as close to the work as possible. (Figure 4.)



Springs / Cylinders Most horizontal machines have springs and/or hydraulic cylinders to compensate for head weight. These parts determine feed pressure and therefore require attention. Too little or too much feed pressure will cause a good blade to perform poorly.

Brush All machines have - or should have - a chip brush. This helps to keep the blade free of chips. This is important because gullets clogged with chips cannot continue to remove metal. In addition, chips carried on the blade can cause premature wear on both drive and idler wheels.

Chip Formation A critical test with a new blade or a new application is the condition of the chip. A nicely curled, silvery chip indicates correct feed pressure, band speed and tooth selection. Chips which are thin or powdery like filings indicate insufficient feed pressure, too many teeth per inch or a combination of the two. If increased feed pressure does not produce a good chip, a coarser blade should be used. Large, heavy burned chips indicate excessive feed pressure, slow blade speed or a combination of the two (Figure 5). Powdery chips are ok when cutting certain cast irons and D2.



Figure 5