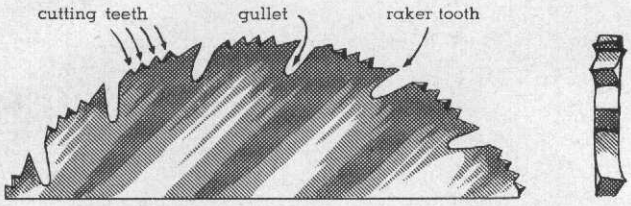
how to get maximum performance from CIRCULAR SAW BLADES

Blade description

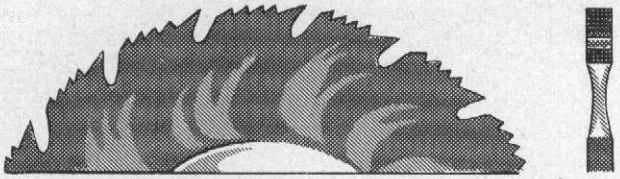
combination—designed to perform with equal efficiency for ripping, crosscutting, or mitering operations, hence their name. Because they make a smooth cut in all types of wood and because they need not be changed for different types of cuts, they are very popular for many general purpose woodworking operations.

Combination blades may be either flat ground or hollow ground. These differ in the means used to provide a kerf (cut) wide enough to clear the blade.

Teeth of a flat ground blade are spring set at alternate angles so that each tooth cuts only one side of the kerf. Teeth of a hollow ground blade are not set to either side, but the blade itself is ground so that the points of the teeth are thicker than the rest of the blade. The hollow ground blade makes a smoother cut than a flat ground blade because every tooth cuts the full width of the kerf. **Keep it sharp!**



combination flat ground circular saw blade



combination hollow ground circular saw blade

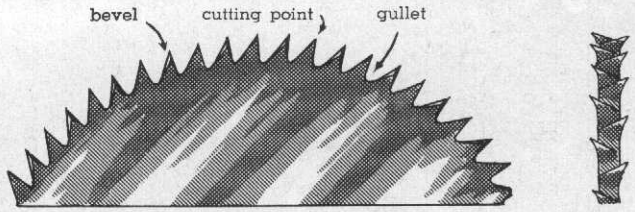
all-purpose rip and crosscut—new style thirty-tooth blade is equally efficient for crosscutting, ripping, or mitering. It cuts smoothly with low power requirements and greater ease for operator.

Because of the special double angle tooth design, it has been possible to make the gullets unusually deep. This makes the blade particularly effective for heavy cutting in either hard or soft woods. **Keep it sharp!**

all-purpose rip and crosscut circular saw blade

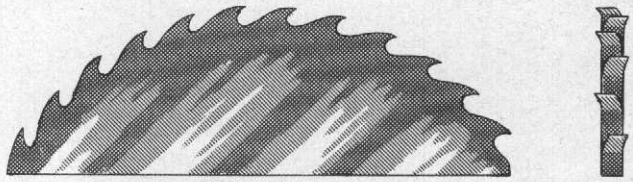
crosscut—designed primarily for cutting **across** the grain of wood. Crosscut blades are flat ground with the teeth spring set at alternate angles.

Each tooth is beveled with a sharp point at the outside edge of the kerf. Thus alternate teeth knife through the wood fibers on each side of the kerf so that the material can be easily removed by the inside sections of the teeth. **Keep it sharp!**



crosscut circular saw blade

rip—designed to cut **with** the grain of wood. Like crosscut blades, they are flat ground with the teeth spring set at alternate angles, but the teeth are not beveled to provide points at each side of the kerf. Instead they resemble a series of chisels with wide gullets between for chip clearance. **Keep it sharp!**



rip circular saw blade

SHOPSMITH safety saw

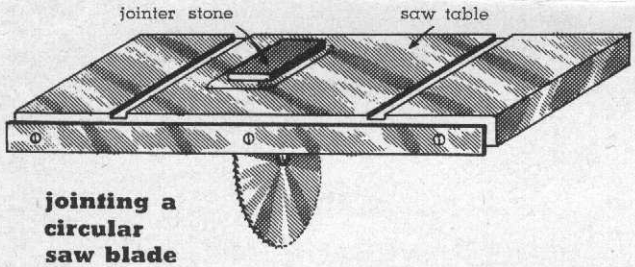
Designed for rip and crosscut sawing. "Cut-control" eliminates kick-back and minimizes danger. Special sharpening instructions included with each blade. **Keep it sharp!**

SHOPSMITH safety circular saw blade

Blade maintenance

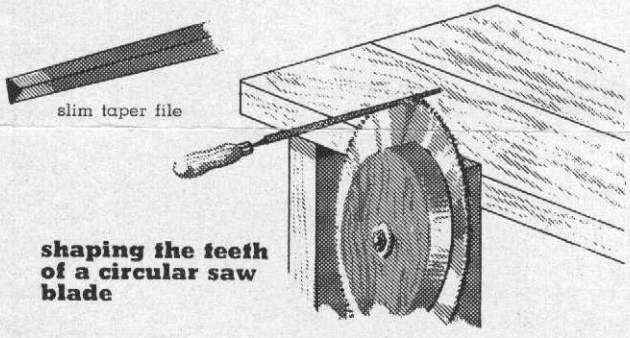
Maximum cutting efficiency of any saw blade depends on its sharpness. Because maintenance of proper tooth shape, set, and cutting edge is somewhat difficult and very important, it is strongly recommended that you have your blades maintained by a **professional saw filer.** If you wish to sharpen your blades in your own shop, however, the following information may be helpful.

jointing. To joint a saw is to restore all teeth to the same height so that each tooth will cut to the same depth. First, place a jointer stone or a fine flat file over the saw slot in the table. Then, lower table until saw teeth barely touch stone. Hold the stone lightly and turn saw blade **backward** by hand. Turn until **all** teeth have touched stone but do not joint any more than is necessary.



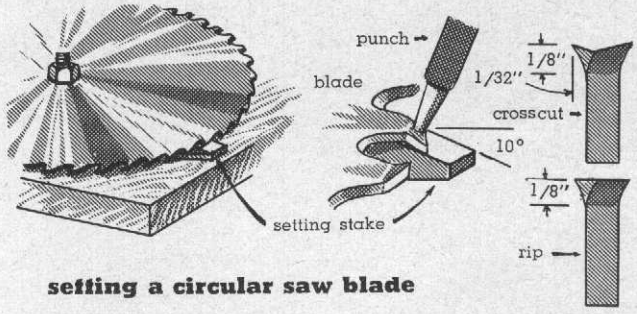
jointing a circular saw blade

shaping. Clamp blade in home made clamp similar to sketch. (Use of a common metal vise may damage blade tension.) Restore teeth to original shape by filing each tooth. A slim taper file is best for combination cutting teeth and a flat file is best for the rakers. Maintain the chisel edge on rip teeth and the spear point on cross-cut teeth. Always file straight across the blade with the file parallel to the floor.



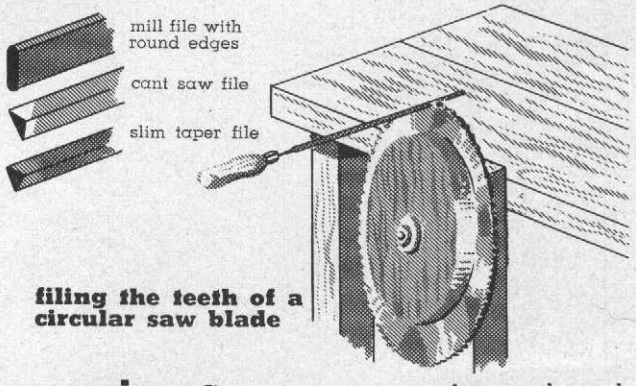
shaping the teeth of a circular saw blade

setting. After the teeth of **flat ground** blades have been gummed and shaped, they should be spring set. Setting consists of bending the tips of the teeth alternately to the right and left to provide clearance for the blade. This can be done with a hand set (similar to a three-jawed pair of pliers) or with a setting stake as shown in sketch. The set for normal use should be a 10° bend, ⅛" long—see sketch. Blades which are to be used on soft wood require more set than is necessary for hard wood. Set alternate teeth on one side then reverse blade and set remaining teeth. Raker teeth, which clean out material left by cutting teeth, should not be set but should be about 1/64" - 1/32" lower than cutting teeth.



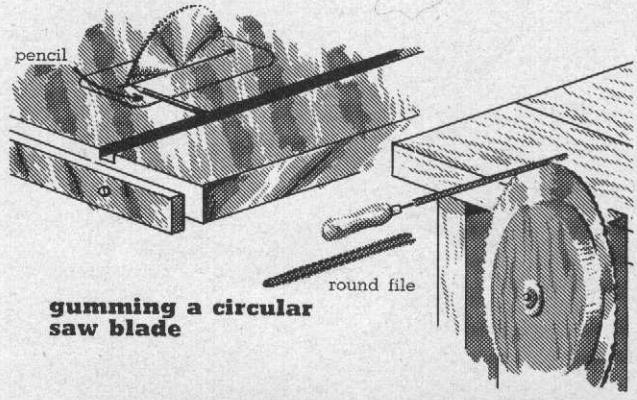
setting a circular saw blade

sharpening. The cutting teeth of a combination blade should be filed with a slim taper file. File the rakers straight across with a cant or mill file with two round edges. Keep them lower than the cutting teeth. A rip blade is filed straight across using a mill file with two rounded edges. File at right angles to blade and do not bevel teeth. Teeth should be filed from **both** sides to equalize filing strain. On a crosscut blade a slim taper file is used at an angle to conform to original shape of tooth. It is very important to maintain **original** shape.



filing the teeth of a circular saw blade

gumming. Gumming means to deepen the gullets—particularly between ripping teeth. With the blade in position in table slot, make a circular pencil line to show bottom of deepest gullet. See sketch. Mount saw in clamp and use a round file to deepen each gullet to pencil line.



gumming a circular saw blade