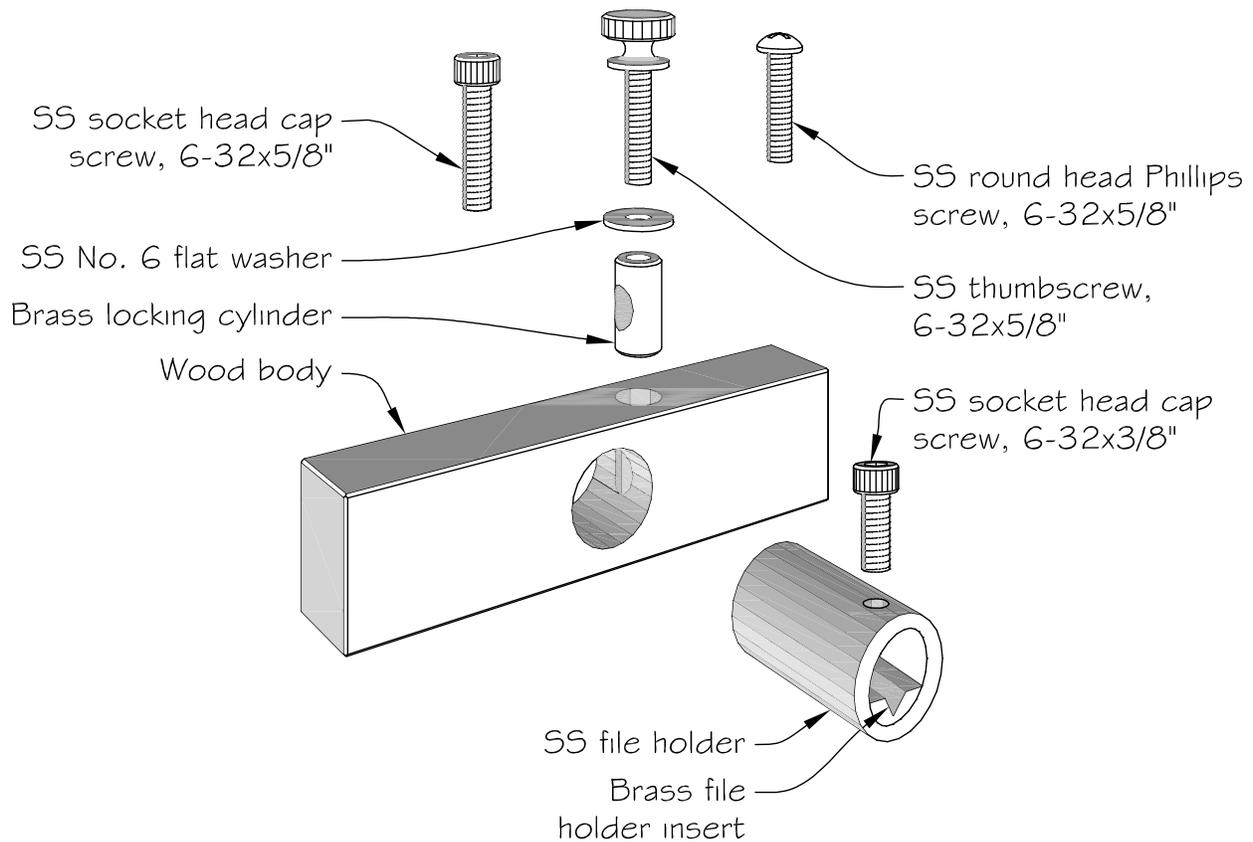




RakeMaker I Instructions



MADE IN THE USA ♦ Fully warranted for one year



About the RakeMaker I

The RakeMaker I fits over the end of a saw file, providing visual and tactile references that help you achieve and maintain accurate and consistent rake angles (rake is the angle that saw teeth form with the wood while sawing - Figure 4, page 6). Made of stainless steel, brass, and tropical hardwood, the RakeMaker I is a valuable aid for beginning and expert saw sharpeners alike.



Setting up the RakeMaker I

Removing the file holder from the body

1. Loosen the thumbscrew approximately one turn.
2. Push down on the thumbscrew to release the locking cylinder.
3. Remove the file holder from the body by pulling it out. Do not lose the locking cylinder, as it is now held in place by friction alone.
4. **Do not remove by twisting on the file.** Files are made of hardened steel, and consequently very brittle. Twisting the file **will** break it.

Inserting the file holder into the body

1. Insert the locking cylinder (attached to the thumbscrew) into its hole.
2. Sighting through the hole in the body for the file holder, align the notch in the locking cylinder with the file holder hole.
3. Insert the file holder into the body.
4. Tighten the thumbscrew.
5. **Do not insert by twisting on the file.** Files are made of hardened steel, and consequently very brittle. Twisting the file **will** break it.

Installing file in file holder

1. Loosen the file holder socket head cap screw with a 7/64" hex wrench (provided).
2. Insert the file into the file holder. **File must be inserted from the end of the file holder that has the socket head cap screw.**
3. Tighten the socket head cap screw, making sure that the file is seated firmly and evenly in the groove.

Setting the rake angle (Figure 1)

1. Cut the end of a block of wood to the desired rake angle.
2. Loosen the thumbscrew approximately one turn.
3. Push down on the thumbscrew to release the locking cylinder.
4. If the handle of the saw is on the right (when it is clamped in the vise), set the block of wood to the right of the file; if the handle is on the left, set it to the left. Rotate the file/file holder until the edge of the file matches the angle on the end of the wood. Or, to match the existing rake on a saw, set the file in the gullet of the teeth and rotate the body until it is parallel to the point line.
5. Tighten the thumbscrew.

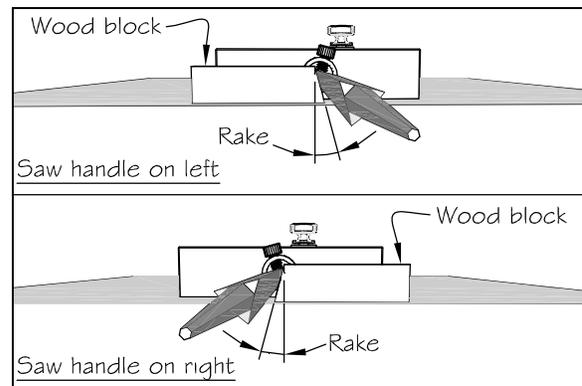


Figure 1. Setting the rake angle.

NEVER ATTEMPT TO ADJUST THE ANGLE WITHOUT RELEASING THE LOCKING CYLINDER. Files are made of hardened steel, and consequently very brittle. Twisting or bending the file **will** break it.



Using the RakeMaker I

After setting the desired rake angle, filing that angle is simply a matter of keeping the body of the RakeMaker I horizontal, or parallel to the point line (Figure 2). When filing, there are two approaches: filing all of the teeth from one side, or filing from both sides.

- i. **Filing from one side:** For *rip* saws, file each tooth consecutively. For *cross cut* saws, you may file each tooth in order, or file every other tooth, then come back and file the remainder. There is no need to adjust the RakeMaker I, but you will need to swing the file from side to side to add fleam (Figures 3, page 5, and Figure 5, page 6).
- ii. **Filing from both sides:** After filing every other tooth and flipping the saw, you will need to adjust the RakeMaker I. Follow **Setting the rake angle**, page 3, but this time place the block of wood on the other side of the file to set the angle.

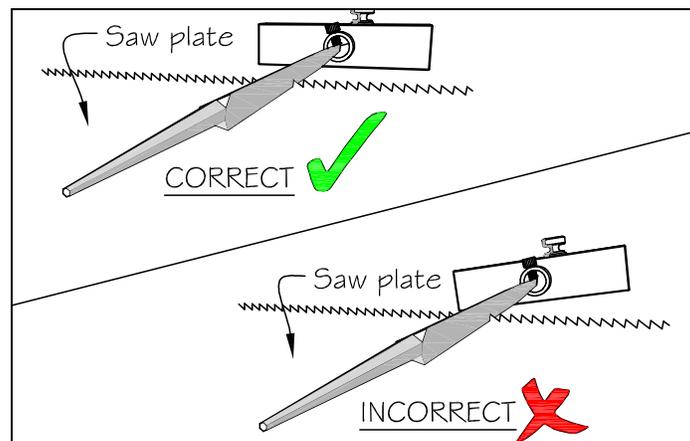


Figure 2. Hold RakeMaker I parallel to the point line.

Using the RakeMaker I for fleam angles. Please see FAQ's and Tips for Use: Why wood for the body?, page 5.



FAQ's and Tips for Use

- ◆ **Why is there a thumbscrew, socket cap screw, and a round head Phillips screw?** The RakeMaker I comes with all of these to give you maximum flexibility. While the thumbscrew requires no tools, the other two have lower profiles that may be more comfortable for you. Any of them can be positioned above or below, and to the left or right of the file. Use whichever best meets your comfort and needs.
- ◆ **The locking cylinder is getting harder to release – is there a way to make it easier?** If the locking cylinder begins to bind in its hole, use a little paste wax to reduce friction.
- ◆ **Why wood for the body?** Wood was chosen for a variety of reasons, the main advantage being that you can easily customize its shape to fit your comfort and needs.

One customization is trimming both ends to the fleam angle you use most often, allowing you to file both consistent rake and fleam angles with the RakeMaker I. By flipping the RakeMaker I over, you still have a flat reference edge to use on rip saws (Figure 3).

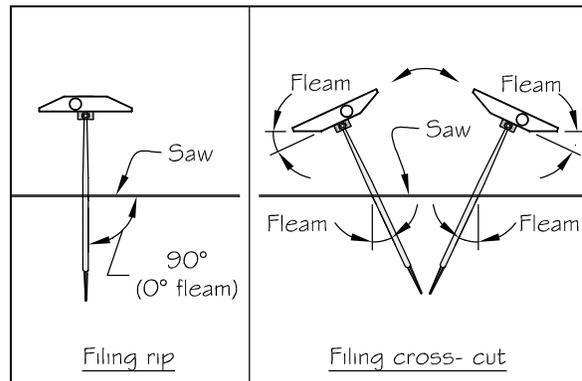


Figure 3. Hold RakeMaker I parallel to the saw plate.

- ◆ If you want to customize your RakeMaker I for different fleam angles, additional bodies are available separately.
- ◆ **About rake.** Rake controls the aggressiveness of a saw. Figure 6 (page 6) summarizes general guidelines for rake angles; experiment to find the angles that work best for you.
- ◆ **About fleam.** Fleam arises when the file is swung to the side in the horizontal plane. It is measured as the deviation of the file from a line drawn perpendicular to the saw plate (Figure 5, page 6). Figure 7 (page 6) shows general guidelines for fleam angles. While most rip saws are filed with no fleam, you may find that a few degrees of fleam helps smooth out the cutting action.
- ◆ **About jointing, setting the saw, sloped gullets, progressive rake and pitch, etc.** Although these are important concepts, they are beyond the scope of this document. That said, it is important to understand them. Fortunately, there is a lot of information online, and I urge you to spend time reading some of it. For links to some of the best resources, visit BlackburnTools.com.
- ◆ **Use a good quality file,** and discard it when it is worn. Cheap and worn out files are not economical, yield inferior results, and are frustrating to use.
- ◆ **Always use a handle on your file.** It is safer, more comfortable, and allows greater control.
- ◆ **For maximum accuracy and consistency,** level the point line and plumb the saw plate in the vise before filing.

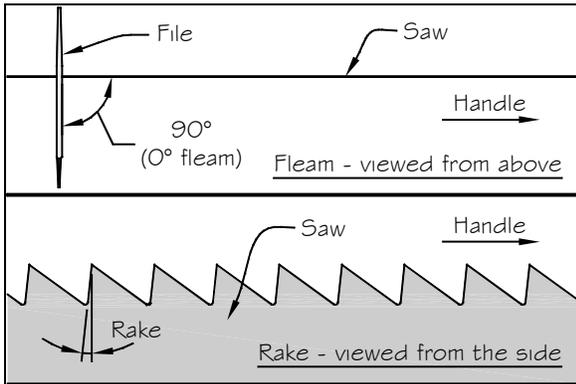


Figure 4. Rip saws – rake and fleam.

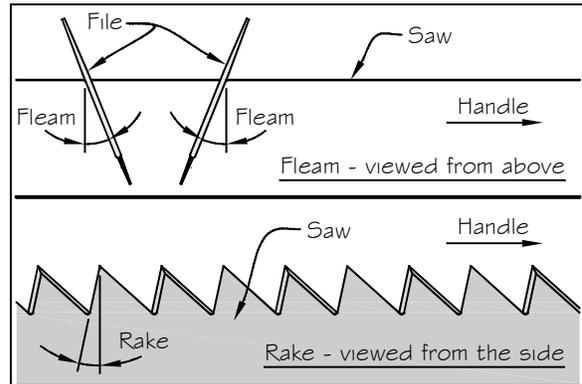


Figure 5. Cross cut saws – rake and fleam.

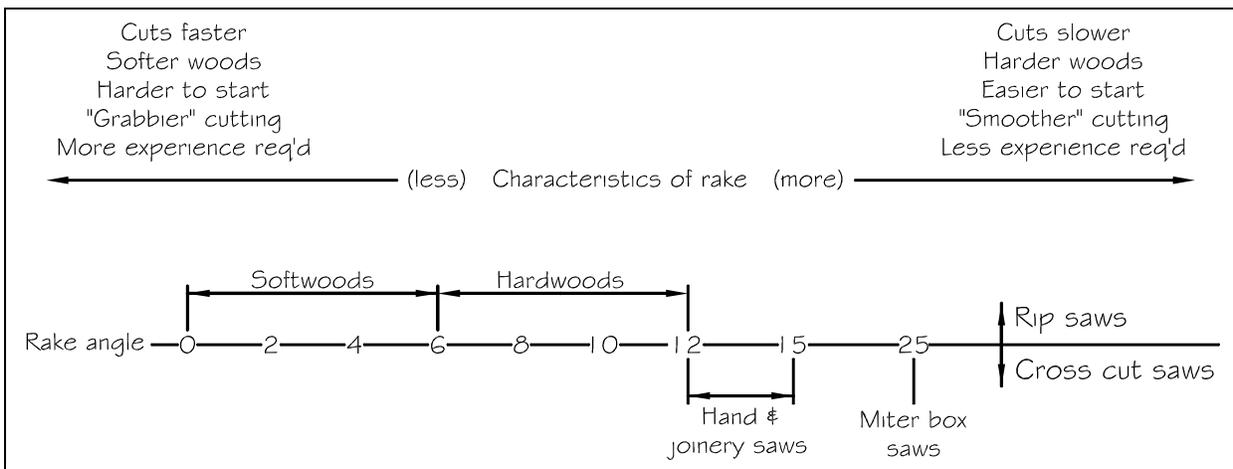


Figure 6. Guidelines for rake angles.

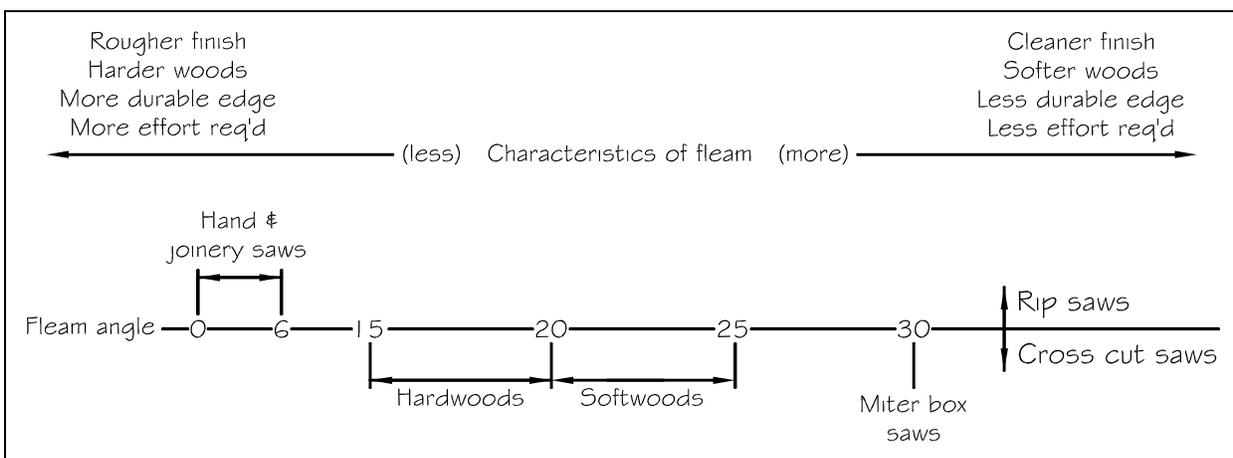


Figure 7. Guidelines for fleam angles.