

## Scroll Saw Blade Clamp Maintenance from Sheila Landry

### Then It Happens!

So you have your new scroll saw. You've cut your first few projects. You're starting to feel that you are getting the hang of this scrolling thing. Then it happens. Your blade slips out of the saw's blade clamps while cutting. No worries, it's happened before. You put the blade back in the clamp and continue cutting but then it happens again. You think to yourself, "Maybe I didn't put it in tight enough, or far back enough into the clamp." So put it in tighter this time. Not long after the blade slips out again! What is going on?

### Oily Scroll Saw Blades

There are several reasons why your blade clamps may no longer be holding the blade properly. The first and most likely reason is oil. Most scroll saw blades come with trace amounts of oil left on them from the manufacturing process. This oil also helps to keep the blades from rusting before you use them. Some blades are quite oily but the amount varies from manufacturer to manufacturer and even within batches. You may have been cutting for months before having this problem, or maybe the first blade you put in was very oily and you had problems from the get-go.

This problem has some easy solutions. The first of which is to clean the tips of your blades before using them. There are many products that can be used to clean the oil. One product that you probably already have around the house that works well is paint thinner or mineral spirits. I keep a small container next to the scroll saw and clean the tips of every blade before using it.



Mineral spirits make short work of oil. To clean the blade tips, you can just dip them in the paint thinner and wipe them on a paper towel. As you can see in the photos, even a blade that looks clean can still have trace amounts of oil on it. You could even go one step further and use window cleaner (with ammonia) to clean of the paint thinner since that can be slightly slippery as well. There are surely other chemicals that would work on their own, but these are products that everybody has around the house. I personally just use the paint thinner.



The traces of oil are easy to see.

## Cleaning Blade Clamps

So now we know that we can clean our blades to minimize the amount of oil that gets into our clamps, but we still have to clean out the oil that has already made it into the clamps. This is very easy to do. All you have to do is remove the thumbscrew and set screw that hold your blade in the clamps and clean the tips in the same way that you cleaned your blades.

This next picture shows what most common blade clamps look like. As you can see, there is a set screw on the opposite side of the thumbscrew. The blade is clamped in between the two screws. After cleaning, when putting the screws back in, be sure to put the set screw in far enough that it sticks out slightly into the slit as you can see in this picture. If the set screw is not in far enough, your blade tips will get bent when you clamp them in.



You can see the set screw protruding slightly into the right side of the gap.

As you can see in this picture, my set screw was a little dirty. They can sometimes look much worse. This is going to give you problems! Clean the screw tip with mineral spirits.

Oil here is not your friend.

A good practice when putting your set screw back in, is to put a small drop of REMOVABLE threadlocker (such as blue Loctite) on it to keep it from wandering out over time as they sometimes do. **Do not use a permanent threadlocker** and do not put any on the thumbscrew!

Sometimes this set screw can wander over time.

Removable threadlocker can help.

## Rounded Blade Clamp Screws

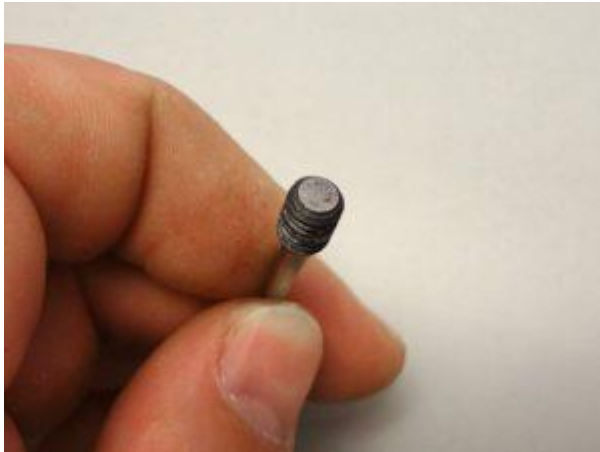


Another problem that could be causing blade slippage is wear on your screw tips. Sometimes, after the blade slips out a lot, or just after a lot of use, the tips of your clamp screws can get worn and are no longer flat. Usually you can spot this quite easily as the corners of the clamping surface get quite angled or rounded.

When this happens you could just go out and buy new clamp screws. Most manufacturers sell replacement screws for their clamps.

You may not have to go this route just yet. You can try to restore the tips of your screws by sanding them flat again. These screws are often

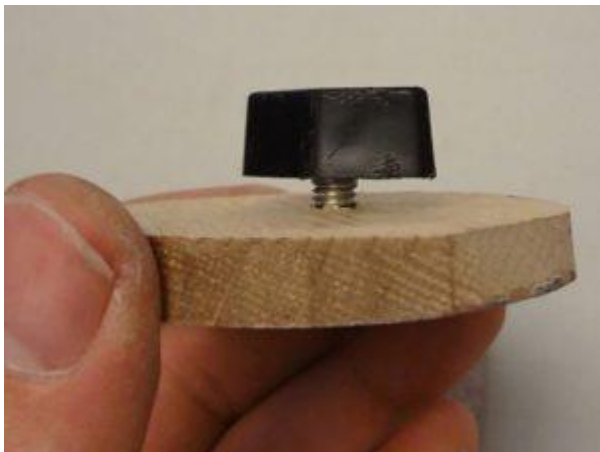
made of a hardened steel and you may only be able to sand the tips a few times before you get to a softer steel inside that will not hold up very well to regular use.



To sand them flat, you could just sand them on a piece of 220 grit paper sitting on a hard, flat surface, being very careful to hold the screw straight as shown in the next photo. The hex key can help you to keep a good grip on the tiny set screw.

You can use the hex key to help hold your screw straight when sanding.

A better approach might be to make a jig to help hold your screw perpendicular to the sandpaper. To do this you just have to drill an appropriate sized hole with your drill press into a flat piece of wood (MDF works well for this) and thread your screw into the hole. A tap would make threading much easier however this can be done without one. Try to use wood that is thick enough so that your threads are easier to get straight and will hold the screw firmly. Be sure that your screw is in there straight before sanding!



A jig like this is easy to make if you need help holding your screw straight.

To restore your screw tip, simply screw it in so that it just barely protrudes through the bottom of your jig, and run it across some 220 grit sandpaper on a hard flat surface a few times. Try not to remove more material than is necessary. As I mentioned earlier, when you put the set screw back in the clamp, be sure that you put it in far enough that it protrudes slightly; otherwise your blade tips will get bent when they are clamped tight.

You want the screw to barely protrude through the jig and make sure it is straight!  
Sand lightly on ~220 grit sandpaper.

## Thumbscrew Insert

While you have your screws out, one final thing that you may want to check is whether or not the tip of your thumbscrew rotates freely. Most if not all of these types of blade clamps use a thumbscrew with a separate tip that can rotate freely. If the tip does not rotate, this can also cause your blade tips to get bent and will give you some difficulty in getting the blade clamped properly. To the right is a picture of a disassembled Excalibur thumb screw so you can have an idea of what I am talking about.



Excalibur thumbscrew with replaceable tip.

## Bent Scroll Saw Blade Clamp

If your blades have been slipping, in frustration you may have over-tightened your thumbscrew. It is possible that you have bent your saw's blade clamp apart slightly. Most of these clamps are made with a soft material, and you can pretty easily find yourself with this issue. Once this happens, the blades will want to slip out since the tips of the two screws are no longer flush with each other. Likely the only solution to this is to buy a whole new clamp. I have tried bending them back, but the metal was incredibly soft and it turned out badly. (This soft material is also the reason why the screw threads in the clamp wear out over time.)