Leather Flogger Workshop

Lord Braven, July, 2010

To read about the different kinds of leather and how they are made, go to the following article.

http://en.wikipedia.org/wiki/Leather

The method we'll learn in this workshop was used for all the floggers you see here.

The parts are:

1. Cupboard knob
2. Furniture leg or other wooden handle
3. A lag bolt embedded into the end with the falls in order to give balance and weight to the handle.
4. The falls, which are wrapped around the lag bolt until level with the circumference of the handle.
5. A piece of leather wrapped around the join between the handle and the falls.

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Sources of leather

Thrift store leather coats can be a good source. Usually the leather is suede or lightweight.

Check that the leather is still strong. Also check that there are sections that are at least 18 inches in length.

In this example there are section at the top, bottom and in the middle. The arms have a seam in the middle, making them too short for regular floggers, but they could make sensation floggers for the genitals.

Note: these coats are no longer a great bargain compared to pieces of leather from Tandy or other leather stores. And it can be overly time-consuming to take apart the seams and then fit together multiple sections of falls.

It's best to only get coats that provide something special, such as the blue leather in this example or genuine fur trim that can be used for sensation toys.

Specialty stores like Tandy offer sales at different times of the year.

The best value is to buy a whole "side" of leather. You can see from these examples that a cow once fit inside them.

Leather will have faults and weak areas. And obviously it will not be shaped in nice squares or rectangles.

When purchasing, have in mind the size that you need and try to find a single piece of leather.

For these examples, I wanted squares of 20" by 20" but I would settle for 18" by 20". Using a tape measure, I determined that I could get four floggers out of each "side". With lots of bits and pieces left over.

Also have in mind the weight of the leather you want for the flogger. "Car wash" floggers require a heavy yet flexible weight and a larger number of falls, which means you may have to piece together sections of falls. Not as convenient as a single piece, but often necessary.

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Handles

Furniture legs are the most common type of handle, but simple dowelling works, as does dollar store items like the walking stick shown here.

The most attractive finish on bare wood is varnish, but you can paint the wood or cover the wood with some leather as in the third example from the right in the above picture.

Spray varnish is quick and easy. The can provides better value and can let you do a large number of handles at the same time.

Dollar store foam brushes are great because they can be used once and thrown away.

You can tie fishing line around the bolt in the end of the furniture leg to hang it for drying.

A staple or nail can be driven in if there is no bolt.

Once the varnish is dry, the bolt is removed with pliers.

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Cupboard knobs come in a wide variety of styles and prices.

Be careful to choose one with a wide or flared bottom.

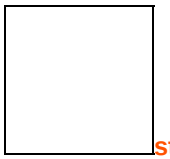
All have the same size bolt.

The head of the bolt is cut off with a hacksaw, then screwed into the knob.

Sometimes it's easy to find the centre of the handle for drilling a hole for the bolt.

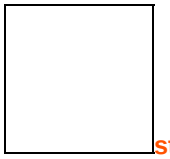
And sometimes the milling process doesn't do you any favours. In this example the hole is off-centre, so the end of the handle might have to be sawn off before the hole for the knob is drilled.

Finding the centre of a circle.



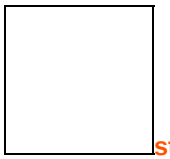
step 1 Draw a chord across the circle

Draw a line across the circle near the edge so it cuts the circumference in two places. This is called a chord. If you can also make the chord a nice easy length i.e. 10, 20, 24, etc this might make life easier in the next step.



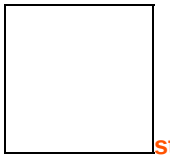
step 2 Find the mid point of the chord

Draw a line perpendicular to the chord, half way along it's length. Now you know why it's easier to pick an easy length to start with. Make sure it goes past where the center of the circle should be. You can go straight across if that's easier.



step 3 Repeat step 2 for another chord

Repeat step 2 for another chord. This should be enough to find the center of the circle, but you can add more if needed.



step 4 Use more chords for accuracy

If you're not that confident of your measurements, then you can use as many chords as you like, until you're happy with the result. Once you have the center marked you can use this information for other things, like drilling a hole in the middle, drawing concentric rings etc.

Use a 5/32 drill bit or one step smaller or larger. You want the hole to have some grip on the knob bolt, but because it's not a screw, the bolt won't go easily into a hole much smaller than itself.

The knob usually doesn't take a lot of load unless you like swinging the flogger by holding it only by the knob.

We're going to glue the knob into place anyway, which will make it very solid.

Five-minute epoxy glue is your friend because it dries in 5 minutes. You don't have to hold parts for long.

Five-minute epoxy is also your nemesis because it dries in 5 minutes. You must complete the positioning quickly and you've little leeway for error.

The injection tubes come from a dollar store and cost only $1.25. The same thing is $6-$9 in hardware stores.

For serious gluing, it's best to buy the component parts in larger bottles. Follow the instructions for mixing. See the resource section at the end of the handout for sources.

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The gluing will get very messy, so be prepared with paper towels, gloves and whatever cleaning fluid your glue recommend. And wear clothes you won't mind getting glue on.

For the large bottles of glue, the separate components (before mixing) can be cleaned up with everyday white vinegar.

Other invaluable aids for working with epoxy include tongue depressors, coffee stir sticks or similar throw-away mixer/applicators.

For the actual mixing, dollar store aluminum tart holders work fine.

Some people prefer a larger area in which to mix and therefore use pieces of cardboard or scrap wood.

For the knob and bolt, put glue on the bottom of the knob, on the bolt and into the hole. Then insert the bolt into the handle. Wipe off excess glue with a paper towel and let dry.

The size of lag bolt depends on your handle and the number and length of your falls. The idea is to balance the handle so it's tipping point is where the falls and handle meet.

The lag bolts are screwed into the handle all the way to the smooth section. The top part of the falls will be the same width as the smooth section of the bolt, not including the head of the bolt.

The hole for the lag bolt needs to give the bolt plenty of wood to hold onto, but can't be so small that the wood splits. That's one reason for using furniture legs, which are made from a fairly hard wood.

To ensure you have the correct depth, screw the bolt into the handle and then remove it. Adjust the depth as needed.

Apply blue to both the bolt and the hole and screw the bolt in. Let the glue dry.

When the flogger is finished, you can fold back the falls and see the head of the bolt. Some people like to glue a little piece of leather over the bolt head.

Length and breadth of the falls and the number of falls.

The length of the falls as well as the thickness of the leather determine how the falls will stay grouped together when you are actually using them.

Average floggers have falls of 18" – 20".

Adding the section at the top of the falls that is not split (because it wraps around the lag bolt) makes the total length of the leather 20" to 22".

In these examples, the lower one has 18" falls and the longer one has 26" falls.

As to the number of falls, the average is between 30 and 40.

Width of the falls determines the stinginess versus the thudiness of the flogger. The most common widths are 3/8" and ½". "Car wash" floggers might have falls as wide as ¾".

Cutting the Falls

If you are very detail-oriented or are making floggers to sell, you'll want the falls to be a standard width with the same length.

I was mass producing floggers for a while for use by guests and I found that the lightweight suede from the Value Village coat was difficult to get exactly even without a great deal of care.

And I had some sections from the coat that were shorter than other sections. I decided to deliberately make a flogger with two different lengths of falls.

In the end, these "imperfect" floggers do just as well as "store bought" floggers. I defy bottoms to tell the difference.

Once you've determined your measurements, cut the leather into squares or rectangles.

If you are using cutting tools like these, use a pencil or pen and draw lines for all the falls, leaving 1½" to 2" inches at the top that will not be cut.

The circular cutter is the fastest method. You lay down a straight edge, e.g. a yardstick, on your line and run the cutter back and forth. You need something under the leather that is somewhat soft and that you don't mind marking, such as plywood.

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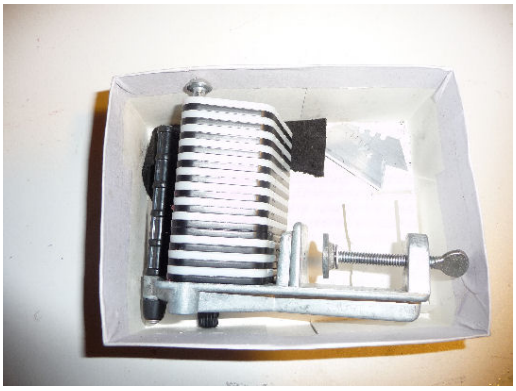
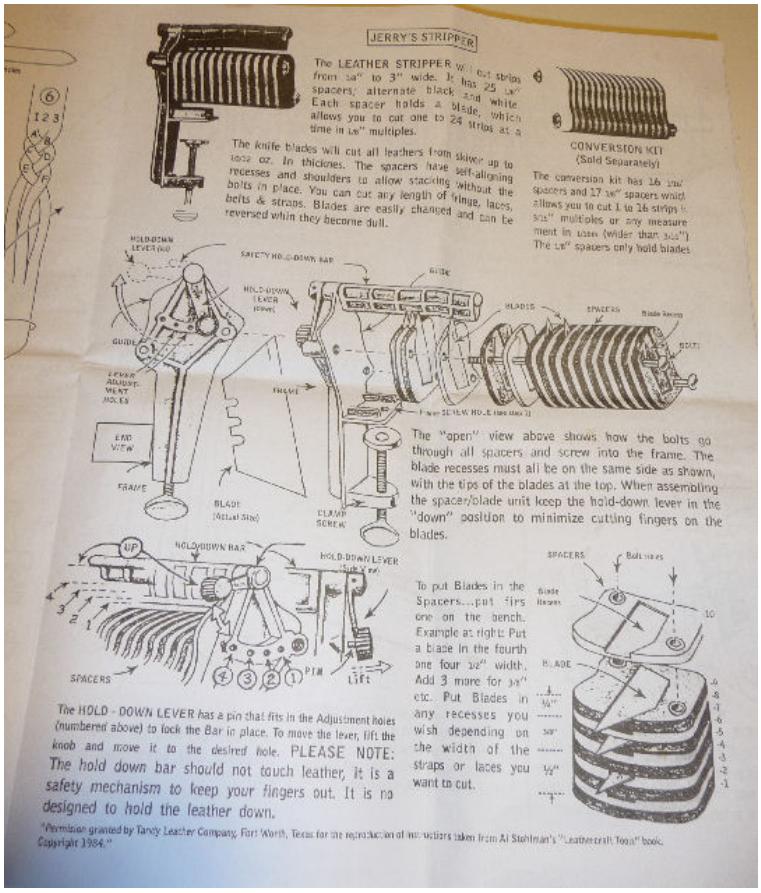
Jerry's Stripper

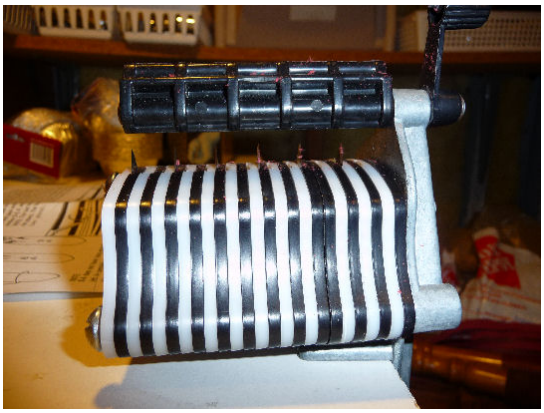
This is a great invention for quickly cutting the falls without the need to draw lines.

Tandy has them at a regular price of $71 with sales as much as 50% off.

The plates are 1/8" thick, so you can have falls as thin as that or stack the plates for other thicknesses, spacing the blades accordingly.







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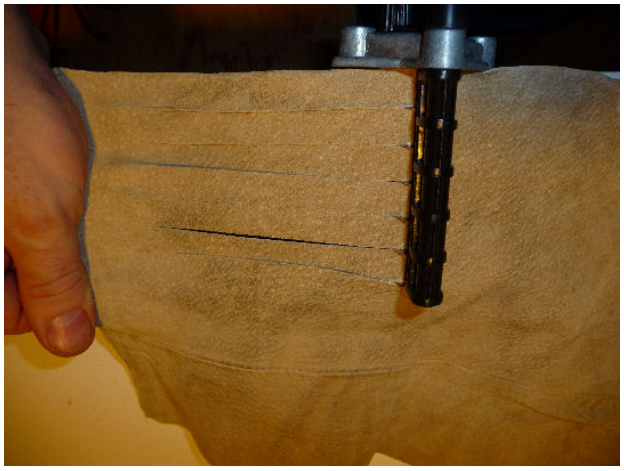
Here is a piece of suede positioned for cutting. There's a section that won't be cut that will wrap around the lag bolt.

The leather is pushed onto the blades and the restraining bar is lowered into place.

Both ends of the leather are gripped tightly and then the leather is drawn across the blades.

Care is needed to keep the edge closest to you against the housing the stripper.



You can see here that the edge is curling a bit. That will make the first fall wider than it should be and make all the falls crooked.

The light suede is much harder to work with than heavier leather.

Here you can see how much the suede is stretching as it goes through the splitter.

It's necessary to keep up a consistent speed when pulling the leather through the splitter.

It takes practice, so work with scraps to begin with.

After the first falls are cut, position the leather to cut the next set of falls. Tricky, but be patient.

Winding the Falls onto the Lag Bolt

You now have your falls ready to attach.

If you're using an old coat, you'll probably have several segments that have to be rolled onto the lag bolt.

Imagine that the lag bolt is inside the handle.

The section between the handle and the lag bolt needs special consideration. You can either cut a piece of scrap leather to wind around the lag bolt so that the level is even with the head of the bolt or you can cut the falls so that the top part fits between the bolt head and the handle.

Roll the top section around the lag bolt. Keep adding sections until the roll of leather matches the circumference of the handle. Too low or too high will seriously affect the aesthetics.

In this example, I would make the first few inches of the top section of leather a little thinner so it rolls around the lag bolt below the head of the bolt. Once enough leather is wrapped, then the top section can be longer.

This is key because if the top section doesn't sit snuggly in the section between the head of the bolt and the handle, it is almost impossible to get the roll of leather to cinch up tight and look neat.

In this example, I obviously need more falls to match the circumference of the handle.

Once you have the right number of falls, lay out them out, whether they are in one segment or several, with the top section(s) smoothed out.

Be sure that you put the glue on the underside of the leather.

Mix your glue and cover the top sections of all segments.

Wrap the leather around the lag bolt, getting the leather fairly tight without stretching the leather.

If you have more segments, add them immediately before the glue dries.

If you prefer, do one segment at a time, letting the glue dry in between. It's just more time-consuming and you inevitably waste more glue because you have to mix up a batch for each segment. But it can save considerable frustration!

When the falls are dry, glue a piece of leather over the joint between the falls and the handle. It's hard sometimes to avoid getting glue on the outside the leather as in the example below.

Nails are optional, but can be a nice touch. They have to go into the leather because the wood is too hard unless you drill holes first.

Note that the nails may have to be driven at an angle for regular size floggers otherwise you'll be trying to hammer into the lag bolt.

Care and Cleaning of Leather Floggers

from http://evasevilimplements.com/flogger%20information.html

There are many schools of thought about cleaning and care, so make up your own mind.

Maintain as high a hygienic standard as you can in storing and using your tools. Never toss your flogger on a dirty floor, let it get wet, or use weird cleaning products on it. Most of my floggers come with hanger straps. The name implies the function, so hang them up in a clean area where they can't fall on a dirty floor. People often drop tools on the floor when they're playing and toss them right back in the toy bag. Don't do that!

Even if you only use your flogger on one other person, clean it occasionally. If you use it on multiple partners, clean it after each partner. I know this sounds like a lot of work and I suppose it is, but so is picking up your laundry off the floor. It goes with the turf of scene play. Some cleaning products can damage leather to various degrees. On request, I can include a test piece of leather with your flogger so you can see prior to using any cleaning product how it will react with the material.

I clean leather falls in various ways, depending on the hide and what problems I have previously encountered with it. Some I UV (ultra violet flash), using the old sun-lamp tanning bulbs from years ago. I set them in another room with a remote switch on the lamp as not to expose myself to the UV radiation. Usually, only the lower few inches of the falls make contact, so I carefully fan them out so the botton 8 inches of all the ends are exposed, flash them with the UV for a few seconds, flip them over, and flash the other side a few seconds. That will kill quite a gamut of nasties. Large water purification systems work in this manner, using UV light projected onto flowing water to kill bacteria. Remember, though, that too much of a good thing is usually bad. Excessive UV radiation will damage skin, and leather is skin. You don’t need a degree in rocket science to think “moderation”.

There are hospital-grade disinfectants with a non-alcohol base that are pricy but very efficient at killing almost anything nasty. 3% bleach in water can work, but it needs to be applied carefully since water, and bleach more so, will damage leather, especially over the long term. Antibacterial soap and water usually damage the leather because they need more saturation and end up being less effective. Alcohol by itself will dry leather out and often leave stains on it as well.

The same holds true with wood handles, which need less cleaning because they are not in the impact area . For wood handles I use antibacterial soap lightly, dry it right away, and then use a polish-like furniture wax or finish oil of some sort. I don't use alcohol because it tends to cloud lacquer and urethane and to remove oil finishes, but I suppose someone will come up with an argument for it.

Treat leather-wrap handles much the same as wooden ones. They shouldn’t be saturated, just lightly cleaned with antibacterial soap. The falls are more critical because they can hold bacteria and, because they are the striking point, can embed bacteria in the skin. Remember that leather is skin and can keep alive all sorts of nasties. If you want to use leather conditioner, try it on a test sample first since some conditioners will stain colored falls.

I normally use conditioners on black sheen side falls. Too much will over-soften the leather, so again use moderation and common sense. If you're not sure about a chemical, try a test patch and talk to your local supplier for what is available for the job.

You only need to use conditioners when the leather starts to feel dry . Over-conditioning the hide will soften it too much. Use common sense and examine the leather. If it seems that the texture of the leather is drier then when it was new, use conditioner a little bit at a time until the leather feels as supple as it was when you bought it. Never soak leather in conditioner.

Lastly, if your flogger is moldy, my advice is to just throw it out. I have yet to find a way to eradicate mold from impact toys that's effective enough so that the mold won't be a potential hazard. These toys don't go in the washing machine (just in case we have someone who was absent on laundry day).

Mink oil is a popular conditioner and inexpensive.

Resources

Tandy Leather Factory
King George Highway
Surrey, BC V3T 2X3
(604) 583-1681

Lonsdale Leather
21 East 5th Ave (between Ontario & Quebec St), Vancouver
TEL.(604) 873-6556

Coast Fibre-Tek Products,
1306 Boundary Road,
Burnaby.

For bulk epoxy glue, black nitrile gloves, tongue depressors and other fun stuff

Some additional notes about epoxy – with thanks to Howard

One more thing you might like to know about epoxy, is that the final strength of the cure material is dependent on the temperature of the material during cure.

The hotter the epoxy is during cure, the greater the final properties will be.

With those encapsualting compounds I was telling you about, we suggest curing at 65C for one hour. You get a way tougher product in the end. These epoxies are 24 hour room temperature cure.

Obviously you can't heat up a 5 min epoxy too much or it will instanly cure. Increasing the temperature by 10 degrees C cuts the cure time by 50%, so a 5 min epoxy at 20C is a 2.5 min epoxy at 30C, so hot day verses a cold day will affect your cure times.

When you start to go below 20C, you are getting into low temperature cures, which can take a while and once you go below 10C the product probably will not really cure properly.

So I was thinking, there might be a noticable difference in the bond strength of a 5 min epoxy if you did it outside on a cool day of 18C verses inside a warm room of 24C. Obviously it's not a huge issue because we did the workshop on a relatively cool day the other day and my flogger is holding together fine, but if you were going to do something high end or pushing what the epoxy could do, you'd want to do it in a warmer room.

One more thing that not everyone knows, and I'm not sure it would affect anything you do, is the cure time of an epoxy is dependent on the mass of epoxy you are mixing. The more you mix, the faster it cures. Mix too much, let it sit there too long, and it will flash cure, ie, the whole thing goes instantly hard and burning hot.

The reason is that epoxy is exothermic, so the cure reaction both gives off heat and is accellerated by heat. Also, epoxy is relatively thermally insulating. It does not conduct heat well.

When you have a large mass of epoxy, the stuff in the middle of the mass begins to cure and it heats up the center of the mass. This heat is trapped, so it accellerates the cure of the middle, releasing more heat, which is again trapped, raising the temperature more, accellerating the cure more, which accellerates heat production, etc, and that is how a flash cure happens. It's a total non issue for what we were doing the other day, but if you get into potting or casting and mixing up a litre or so, it's definitely something to be aware of, especially with quick cure stuff.

Normally when you see a published cure time for an epoxy, the time is for a 100 gram sample. More cures faster, less cures slower. For a 5 min duel syringe though, I'm not sure what mass they are talking about, because there's not 100 grams in the package.