An Introduction to Leathercraft

By

Paul Hughes

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Dedication

To Will Kalif of stormthecastle.com .

To be his “new tool” for the box. For his help and encouragement.

To my wife Valerie for putting up with

burning our midnight oil on my many projects.

A note from Will: Paul put a lot of time into this ebook. And he offered it to me, and you, totally free.

Why don't you send him an email and let him know what you think of it? His email is here: paulh3915@gmail.com

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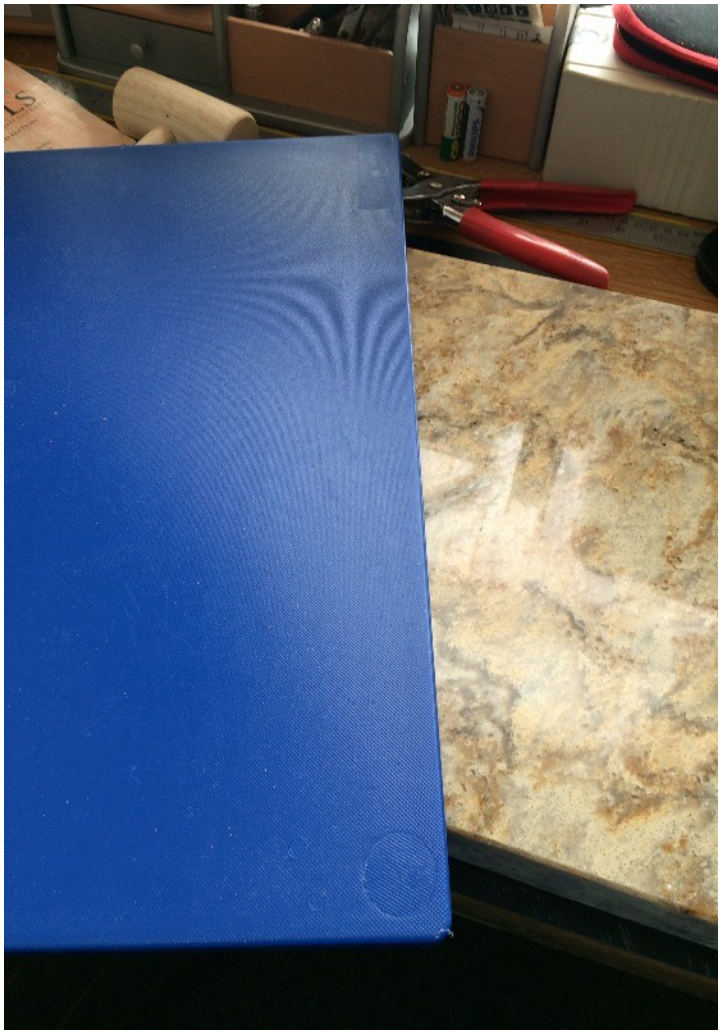
Please note that before starting any cutting of leather use a surface which will take the pounding of a stamp or a stitching tool. Be careful of using any sharp implement especially cutting toward yourself and make sure all blades are sharp as blunt ones can cause more accidents.



Blue polypropylene - for cutting without damaging blades.

Quartz block - solid surface for marking out ,cutting material and using stamping tools and riveting.

Above.

Rubber mat for putting underneath the quartz block to absorb the blows to stitching chisels or stamping tools.

Choosing leather

Leather is a natural material and of course it comes from an animal.

Naturally we think of the cow as a source but there is Buffalo, Goat, Pig,

Kangaroo, Alligator and Python to name but a few.

Anything that can provide a skin that can be worked into almost anything by the crafter. You do not have to get the exotic skins for projects as there are cowhides which can be treated to simulate the other animals and so avoid any unnecessary killing of endangered species.

For the purposes of this book we shall be dealing with cowhide.

Suppliers of leather offer it in different sizes and weight and it is either purchased as a full hide or parts of the hide. Single shoulder, double shoulder, Sides. There is different weight and thickness too.

Examples - 4 to 5 ounce which is 1.6 to 2.0 mm thick, 6 to 7 ounce which is 2.4 to 2.8 mm thick and 7 to 9 ounce which is 2.8 to 3.6 mm thick.

It can be treated in different ways too, although I suggest working with a vegetable tanned leather as it is the most suitable.

It can be dyed, painted in acrylic paints or have finishes applied to enhance the look of it. A good starting point would be of a shoulder size, which is more than enough for small projects.

Once you become familiar with the material you will see that there are other leathers suitable for clothing, handbags, holsters and may be classed as splits or with hair on.

Here, I have a single shoulder and from left to right you can see that it measures a little over 3 ft x 2 ft. It is also 6 to 7 ounces in weight.

If you do not wish to purchase this size then I believe some suppliers may sell you offcuts for purchase to practise on. The smooth side up is called the face side and the rear or flesh side is rough, fibrous and like suede in texture.

Some of the tools we will be using

Basic beginners kit to build and use.

There are roughly four main types of tools you will encounter.

The cutting tools - consisting of craft knife,scalpel, swivel knife and safety beveller.

Piercing tools - stitching chisels usually found in sets of 4 having 1, 2, 4 and 6 teeth, beveller/gouge and punches of which there are two types, rotary fixed tubes and single punch with replaceable tubes. Bradawl, stitching awl with thread reel and of course the needle and waxed thread.

Measuring tools - metal rulers 1 or 2 ft length, try square, set square and compass.

Moulding tools - grooved plastic wheel called a slicker, bone or plastic folder.

Cutting tools

Swivel Knife

Craft knives

Rotary cutter - and in use on thin leather.

Piercing tools

Stitching chisels - notice that in this set of four, the teeth are arranged as 1, 2, 4 and 6. For long rows the 6 tooth chisel can be used and for square shaped grooves you can change to a lower tooth spacing to negotiate corners more accurately.

Piercing tools - continued

The Bradawl is a pointed tool with either a rounded or a square shaft as pictured here.

They are used to enlarge needle holes to ease off sewing where a needle may be binding.

Bradawl

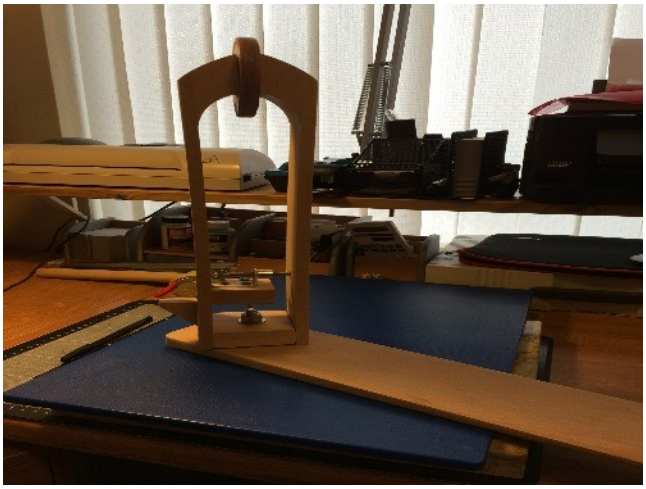
Stitch awl

Stitch awl, a device that has a handle to hold a needle and which feeds it with waxed thread from an attached reel.

Often used in conjunction with a stitching pony which has a clamp of wood to hold the workpiece steady for sewing. Usually it has pieces of leather attached to the inside of the jaws to hold leather cleanly and securely.

Vises of metal are definitely NOT suitable for holding leather as it would seriously mark the workpiece.

Additional



Stitching pony

The stitching pony as mentioned previously. This device is a most desirable piece of equipment in any leatherworker's kit.

It holds the leather firmly, will not mark it, often has leather pads in between the jaws for a much more controlled grip.

You sit on the extended portion while the jaws and clamp can be rotated to any position for working at a comfortable height.

Rotary or daisy wheel punch

A set of hole punches arranged in a circle so that each size is selected by a rotation of the wheel. Place leather between the punch and anvil (jaws) and squeeze handles and the hole is produced. Select the smallest for sewing and anything between for riveting or fitting eyelets. Downside is that it is only suitable for edging.

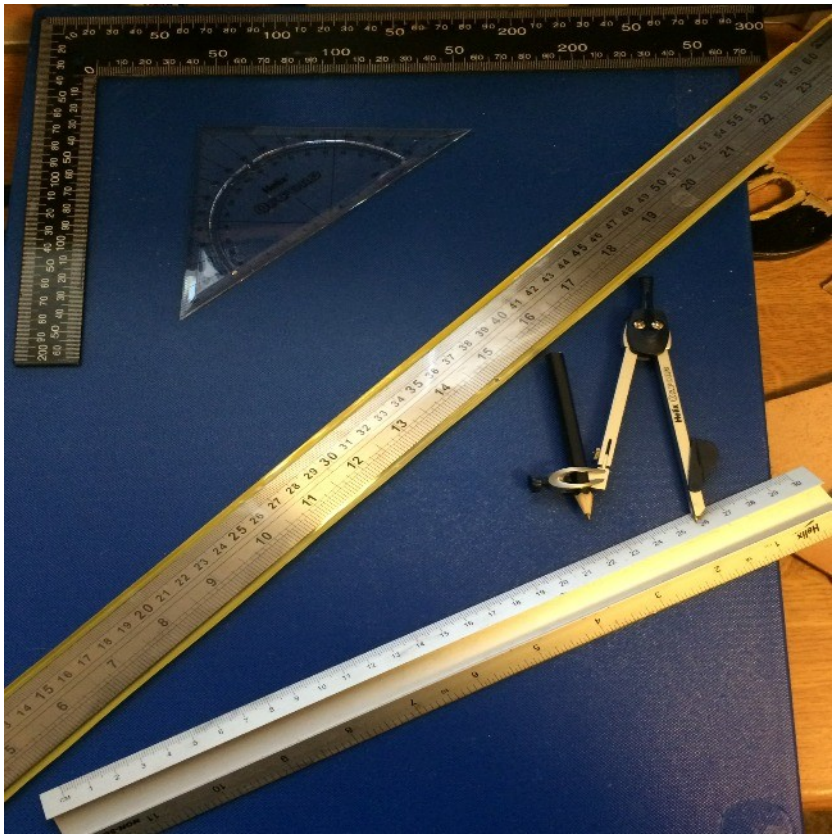
Single punch

For piercing holes for decoration or further into the body of leather it is much more adaptable to use the single punch. Its replaceable tips are tightened with a small spanner. However, you must use a poly board to absorb the blows from the maul and to avoid making the tips blunt.

Lastly, there is the one we are all familiar with - the needle. Using waxed thread it is the most simplest of all for piercing and sewing. Without using stitching chisels and bradawls to make our stitching holes it would be a difficult job to push a needle through a tough piece of leather. Therefore it would be useful to have a sailmaker's palm which comes either right or left handed.

(Examples courtesy of Internet)

Measuring tools



Metal rulers, one preferably with a finger groove and an anti slip back.

A metal try square, a set square and a compass for drawing circles.

Moulding & finishing

Pulley wheel - no, this device is actually for finishing the edge of leather, by burnishing it. It is called a “slicker.”

Before you can use this, you have to prepare the face and rear side of your leather piece.

This means using a beveller to clean up the rough shaped edge ready for the slicker to do its work.

The leather edge is slightly dampened with plain water and then set into the groove and the wheel is slid back and forth along the edge of the workpiece. After a short time you will notice a more shiny and rounded edge.

Bone folder

This is an item quite often associated with and used by bookbinders. The bone or plastic folder. Essentially it is used to shape the leather to work it while it its wet .

Measuring and cutting out

Exercise 1 : measuring and making square - the first cut.

Take your leather selection and using the metal try square mark and cut a piece into a nice true square.

Practise measuring and cutting until you feel comfortable and confident.

Exercise 2: cutting straight lines

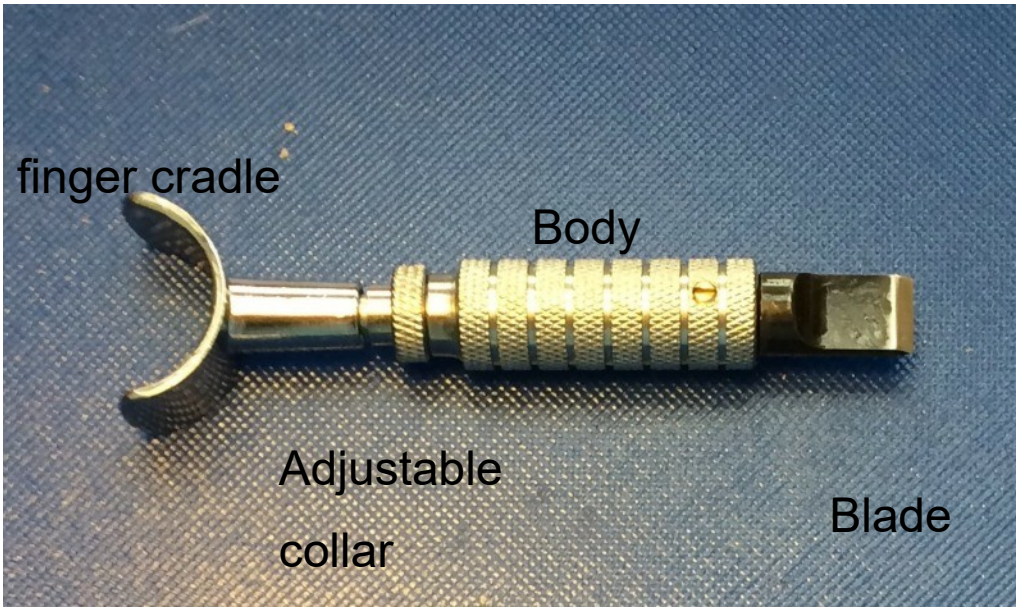
Take a ruler and craft knife and measure off and cut a straight line leaving a strip of leather about 1\4 of an inch wide.

Go ahead and practise making strips of varying widths. Get a feel for both blade and material.

* Be safe, use a ruler with a finger groove and which has a non slip back. Make sure your blade is new and sharp. If the leather does not cut straight through on the first cut just keep on slicing but if it is caught by a small point do not be tempted to pull it - IT WILL TEAR!

Persevere and just keep cutting.

Cutting curves: the swivel knife.



Introducing the swivel knife.

This versatile tool can be used for both cutting curves and for carving leather.

For now, we will concentrate on cutting curves.

Place your forefinger on top of the cradle and using your thumb and second finger to hold the body it should feel comfortable and not stretched. It can be adjusted via the locking collar to adapt to the user. The forefinger just supports the tool. .

Exercise 3 : cutting curves.

To start the cut, tilt the blade backward so that you are using a corner. “Drive” the blade by creating a wavy line swivelling the tool body from side to side as you move it.

Go and do a series of cuts and get a feel for the tool and its affinity with the material. At this stage change to a craft knife to cut right through to separate the pieces.

Gouging & Piercing

So far you should have mastered the cutting of straight lines and curves. The next process is preparing the leather for stitching.

Here we employ a tool known as the gouge and this one being a dual use device we can utilise it later for bevelling.

This particular tool as I mentioned earlier is shaped with a “V” profile.

This gives it a dual purpose,

However, there are tools which are totally dedicated to being bevellers and not for the purpose we wish to use this one.

Exercise 4: creating a groove prior to stitching.

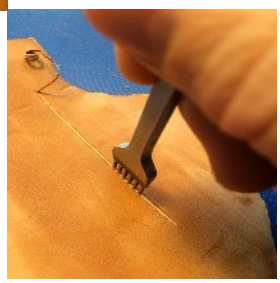
Dampen the leather with plain water using a sponge.It will darken slightly. Do not wet it. Let it dry for a few minutes or until you notice it almost back to its normal colour. Push the gouge in a straight line. It should create a thin “string” and a groove. Go and create some more grooves and get the feel for getting them straight.

Piercing holes prior to stitching

Now that you have practised cutting a groove with the gouge and the reason we need to do that is to allow stitching to sit snugly within it and ultimately avoiding the wear on the thread that so often happens if the stitching happened to be sitting exposed upon the surface of the project. Plus, it gives it an aesthetically pleasing look.

Stitching chisel in use.

Moving up to next placement.



Starting the hole

Stitching chisels a set of four

Chisels and later stamping tools are struck with a poly maul.

Having already started the first entry by using a rawhide mallet or polymer maul to strike the chisel, it is then moved up by placing two teeth into the last two holes to consistently create a line of evenly spaced holes for stitching.

Exercise 5: creating the stitching holes.

To start the process scrape or stick the chisel into a block of beeswax or a piece of candle prior to piercing the leather. The wax should make it easier to extract ready for the next stage.

Practise gouging in a square, using the chisels to work your way around the square (tip when you get to a corner use a single tooth chisel then continue with a two tooth then back to a six for an even spacing.)

Skiving

If we were to try and fit a buckle now, the leather being doubled, the tongue of the buckle cannot be seen and its clearance will not allow the opposite portion to pass through.

One of the skills that will prove useful is that of “skiving.” This procedure is used where we need to reduce the thickness of leather to accommodate an accessory. For example the fitting of a buckle.

Here we have the strap that is not quite ready. It is too thick. The tool we will use is a safety beveller.

This tool has a shielded blade which can be aligned in such a way, as to “shave” the flesh side, to pare it down to an acceptable level. At least 50% is required.

Skiving - continued

The skiving process produces some quite powdery shavings in consistency but do not worry this is more or less a normal occurrence. Your target is for an overall reduction in thickness to be achieved .

Now you can see the overall improvement that skiving can make to a project. The leather is reduced, the tongue is seen and the gap will now allow the end of the strap to locate.

Exercise 6

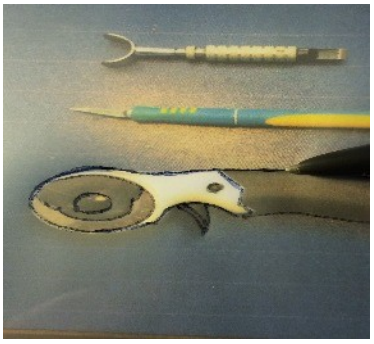
Take your leather straps produced from exercise 1 and skive the ends. Get a feel for the beveller and the angle of cut and ultimately try and get down to at least 50% of your original material. Remember to skive each side then the middle. Do not try to do it in one cut.

Making & using Templates

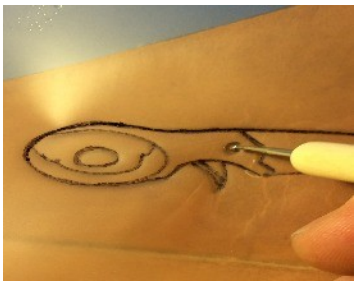
First of all what are templates? By definition, according to the Cambridge Dictionaries, they are a pattern made of metal, plastic or paper, used for making many copies of a shape or to help cut material accurately.

If you intend making more than one item it will be useful to make and use a template.

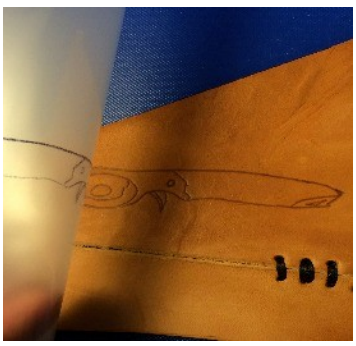
I have found one of the easiest template materials is the plastic pouch as those used in a laminator. It has the right consistency for having a stylus or ballpoint pen or even a blunt pencil for tracing onto a piece of leather.



Here I have taken my plastic sheet and placed it over a picture of the rotary cutter. I have drawn around it, with ballpoint pen.



Taking the image and dampening the leather I can now transfer the outline with a stylus.



As you trace your outline make sure you lift the plastic sheet periodically to check that you have traced the entire design fully onto the leather.

Templates - continued

Card stock acquired from cereal packets, or from stationer's supplies are also good to use for templates.

The circle template I made for a crown piece of leather. The outer circle was for cutting out the disc and the inner marked circle was for scribing the gouge line and ultimate fold in the edging.

Exercise 7 - moulding leather

Make a template like the one I have shown previously and use the following dimensions : outer circle radius 40 cm and the inner circle 30 cm. Cut this out - this is your template. On the face side, dampen your leather and wait for a while until it changes to a lighter colour after a few minutes. Draw around the template and check for an indentation in the material. (Scribe the inner circles only.) Cut the leather disc to shape. Use the gouge to make a groove around the inner circle face side. You may have to do this a few times to work the material. Wet both sides and scribe the inner circle on the flesh side. Skive the outer edge until it is at least half of original thickness. Now we use the bone folder to work the wet leather up into a lip around the disc. Keep working it, and as it is wet, it will allow for bending. Squeeze out any excess water with your fingers. Keep working it, until it can stand up stiffly.

This exercise is combining the previously learned skill sets.



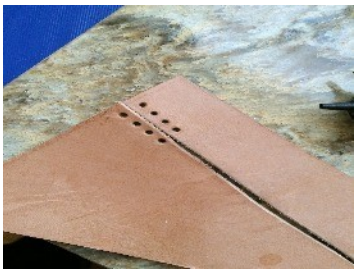


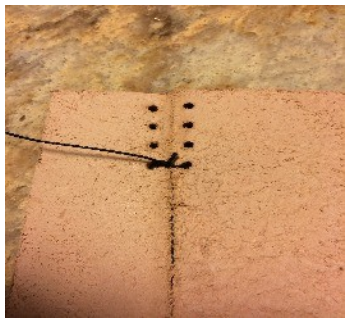




Stitching

We learn two different ways to stitch leather, side by side and one on top of another. We must make some preparation for stitching. If we decide to use the punching method - then we must select the smallest tube and punch material in a regular and evenly spaced way.





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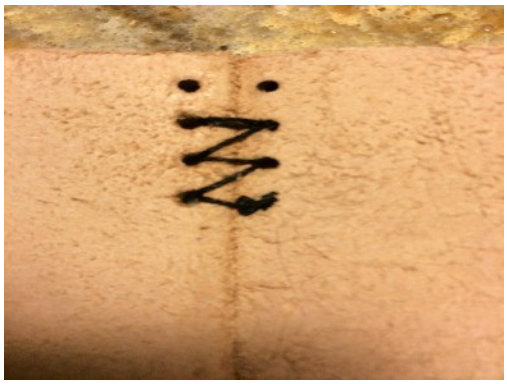
For number 1 - sewing side by side. I have turned over one piece and placed my doubled thread knot on the inside.

For number 2 using a single thread. I have knotted this together on the flesh or inside.

Types of stitching



Stitching rear facing view.

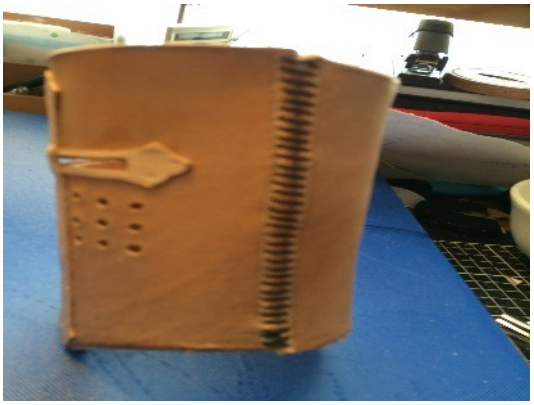
Stitching front facing view

By sewing up and down a few times then finishing off by trimming excess thread.

Types of stitching - continued

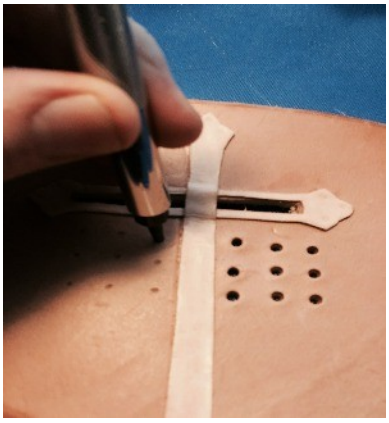
Two views of stitching one on top of another. As you can see it is a very basic stitch. Simply going in one hole and looping over the top into the next from the rear. To finish this off ,you only have to loop back and forth a few times then trim off the excess thread.

Remember your grooving exercise? Now take a piece of leather and prepare it for sewing, starting with the grooving tool, moving on to the stitching chisel and finally joining the two pieces side by side.



Decoration

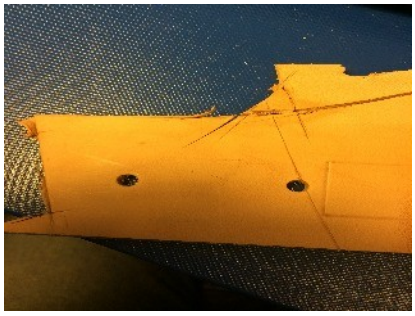
Our tool of choice - the single punch.

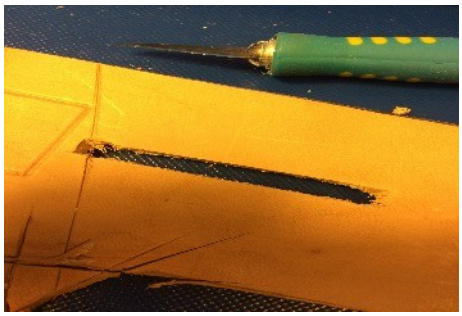


As you can see, the holes here are being punched quite easily to give the effect of air holes in this project.

Using the maul and punch to penetrate the leather

Decoration - continued





To create a slit, first punch two holes. Then using a craft knife cut between them. The holes are to stop the blade from going too far.

For my project, It was not crucial to be an exact slit as there was to be a thin piece of leather to cover it and a long piece to replicate a nose bar. A template was made to mark out these pieces.

Project made using skills learned within the exercises

Additional skill - using water based cement to secure crown disc in helmet. Tip : apply to both internal headpiece and outer lip of disc and just before it gets tacky slide it into place, otherwise it will grab before being fully seated.

Side pieces glued in place to hide the stitching.

Acrylic paints to finish off the project to replicate metal helmet.

PH