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Le mans le 01/10/2013

2 Straight Razor Niolox , M3 Lava et G10

Day 1 30 mn

A poor picture of the steel inked and marked . You can see three blade, 2 are in niolox and one in C130, i make the second in niolox just for the case i brocked the one in C130

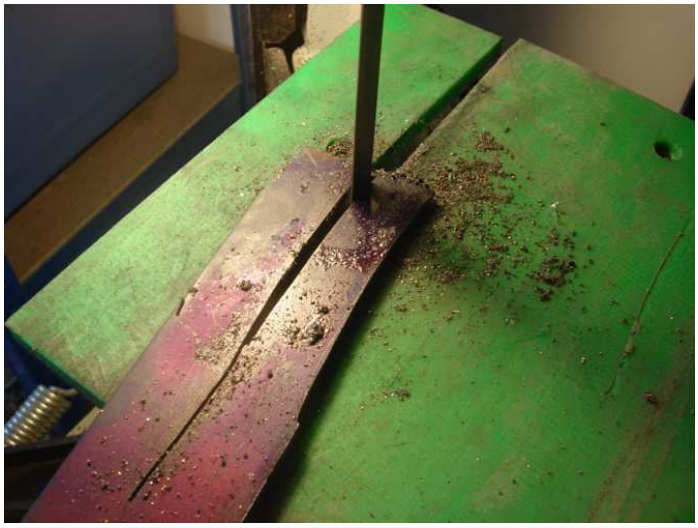
during the quench

Sorry for the background that is the paper to protect the floor of the kitchen during the inked process (i wasn't in my workshop because i inked during my son sleep)

Day 2 : 2h30

The real start of the project

Band saw work



The cut between the two draw (niolox of 6,7mm thick)

The two straight are cut.

One one of the design i punched the "hole of the nose"

3,3mm drill bit

4,8 mm drill bit

I cut the nose

The first one begin to be a straight

the second one too

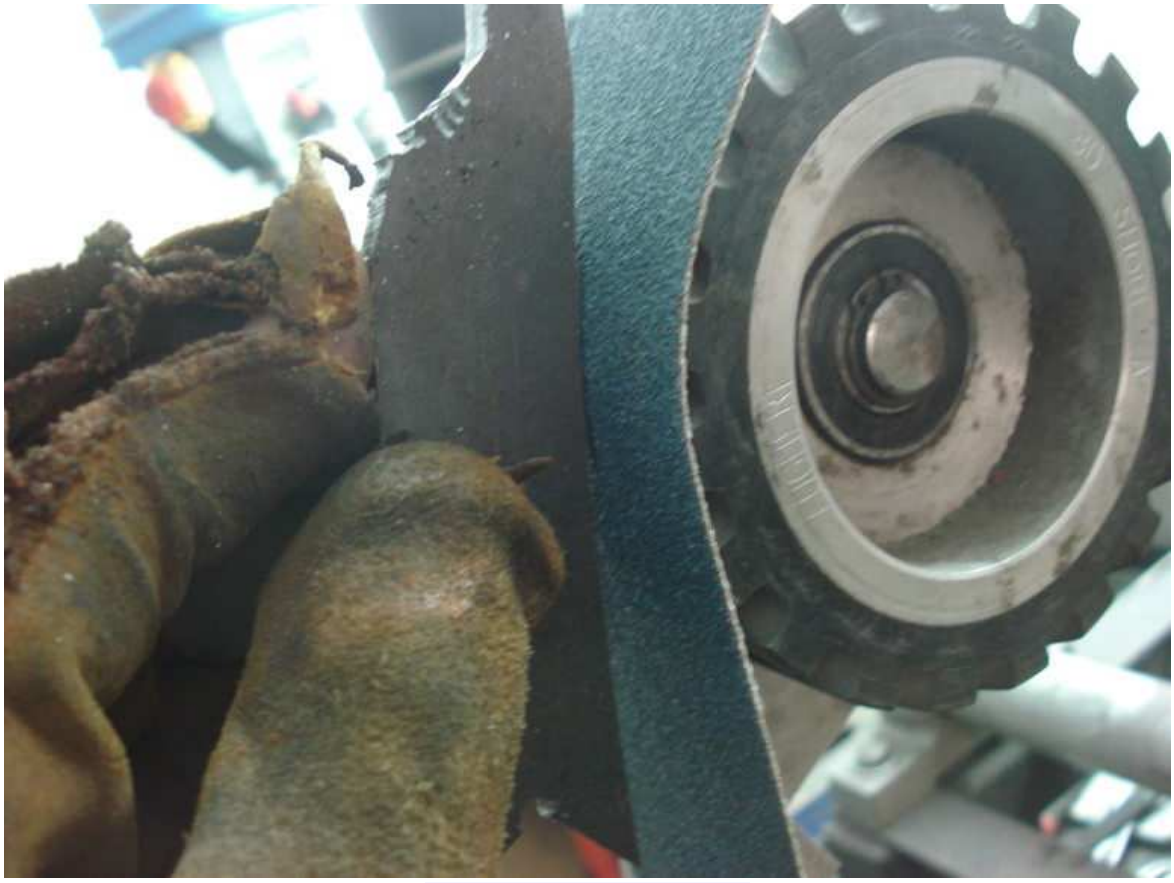
I punched the two futur hole of the nose

3,3mm drill bit

6,5mm drill bit

I cut the nose of the second

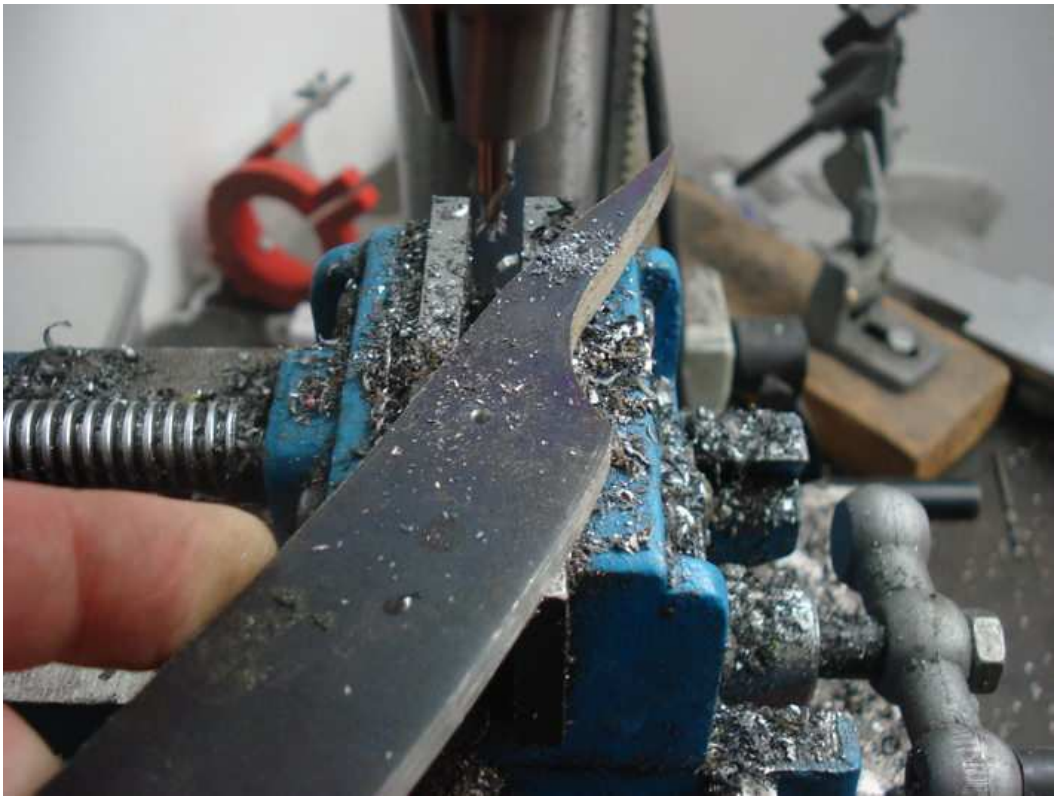
I begin to shape the tang with the ceramic belt 60 grit



Same thing for the back

Almost shaped

I punched the pivot hole and the spyderhole



Center drill bit

3,8mm drill bit

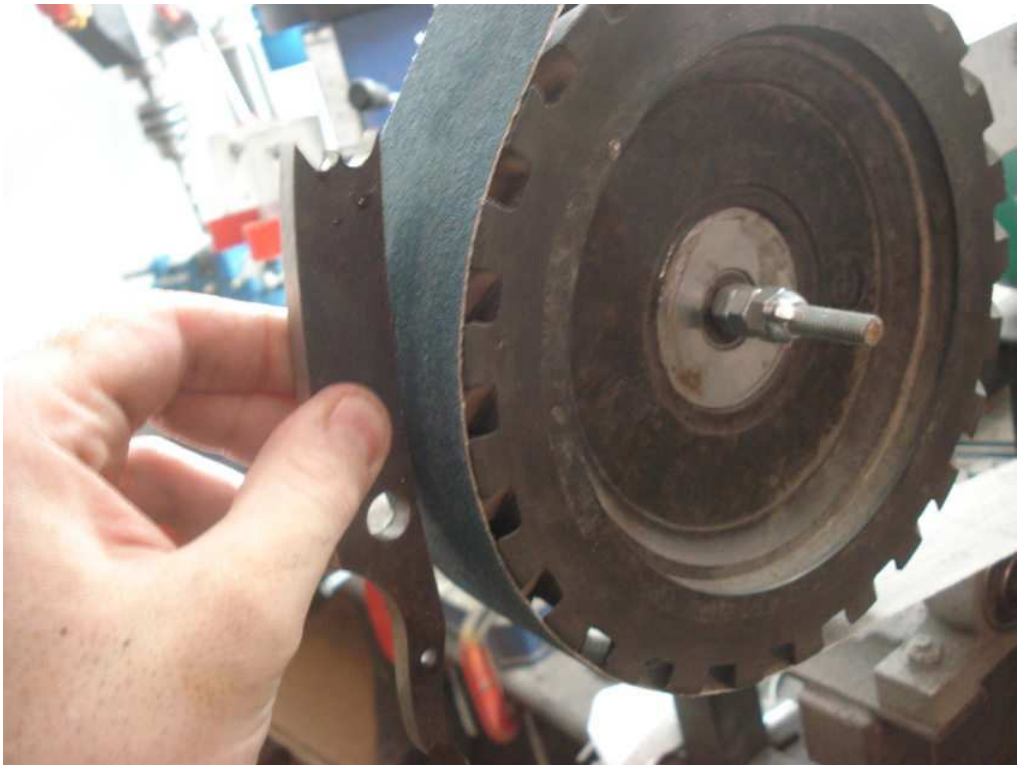
4mm reamer.

6mm drill bit

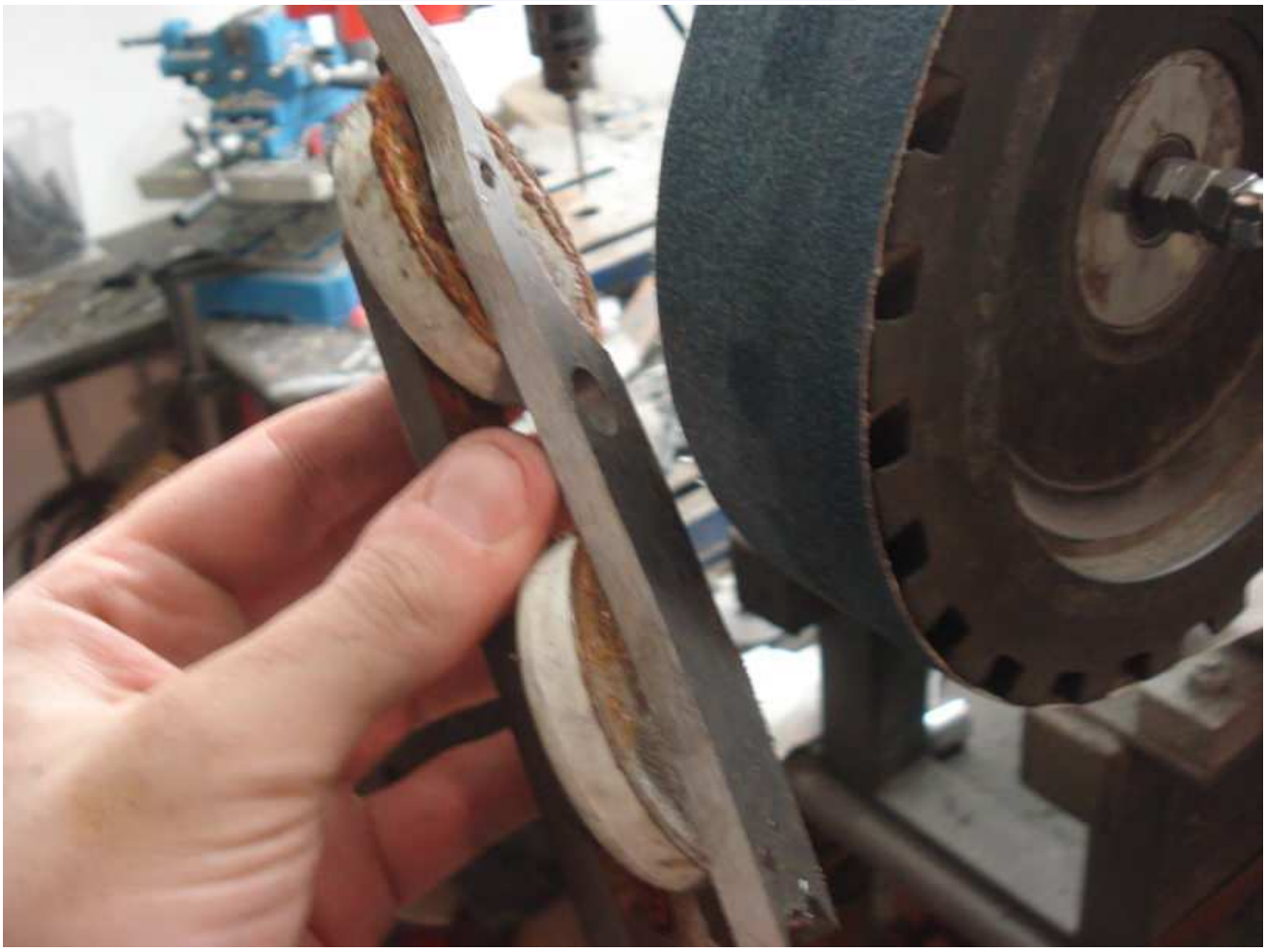
9mm drill bit

11 mm drill bit

Shaped and drilled



I clean the curve with the 200 mm wheel



I straighten the steel with the 60-120-240-500 belt.

It's clean now.

Day 3 : I started morning, my piece of C130 wasn't perfectly annealed and i have had problem to drill and cut it yesterday. I annealed it during 2 hour that morning. I hope to be able to shaped the third one tonight

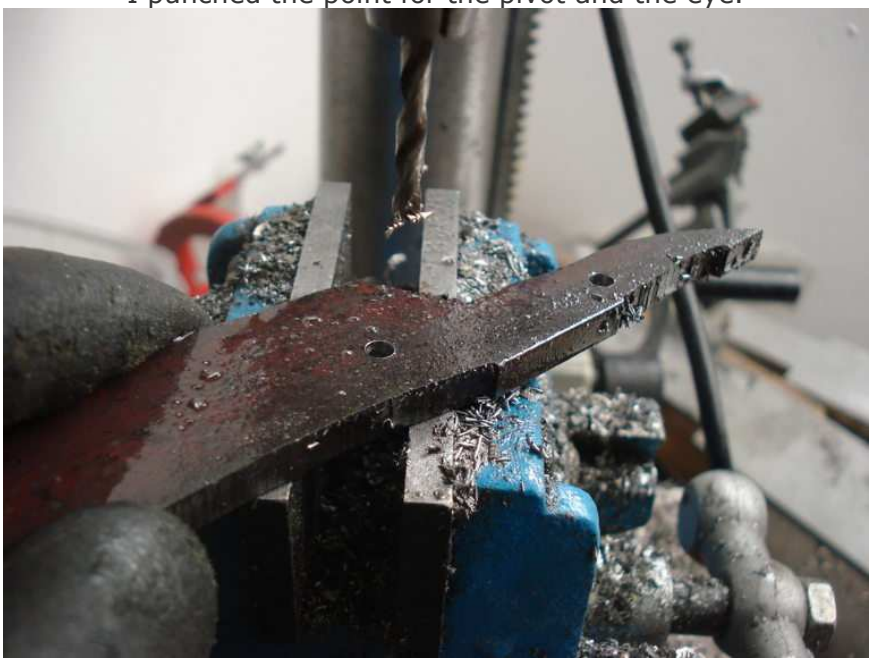
Day 3, 1h40 of work

After a second annealing. The razor and the scrap

4,8 mm drill bit for the point

I cut the point

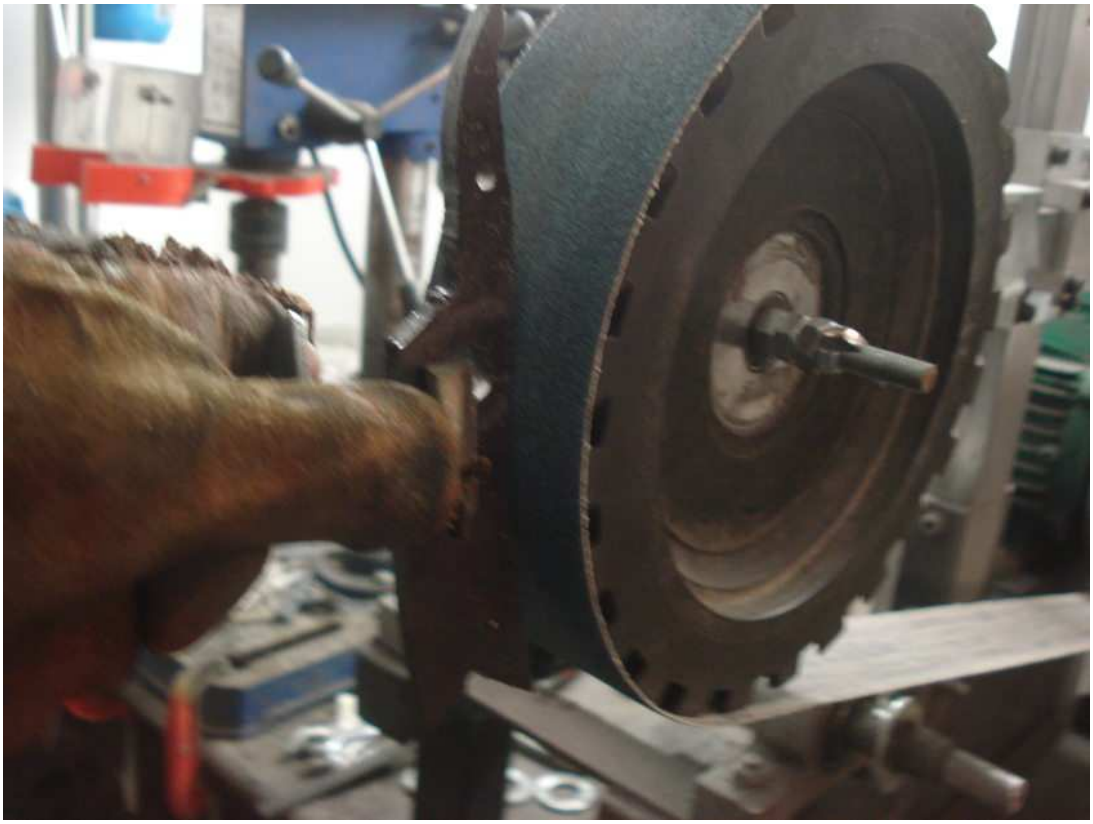
I punched the point for the pivot and the eye.



3,5-3,8mm drill bit to make the first hole

4mm reamer

The spyderhole is drilled with 6,5-9-11mm drill bit.



I shaped with the 200mm wheel and ceramic 60 grit belt

Top in C130 , down in niolox

The steel is cleaned with 60-120-240-500 belt and the designed are almost shaped

WIth the 40mm wheel i shaped the choil.

Same thing for the kami

The two are shaped and cleaned.

The four together

I take the measurement of the thickness. Divided by two.

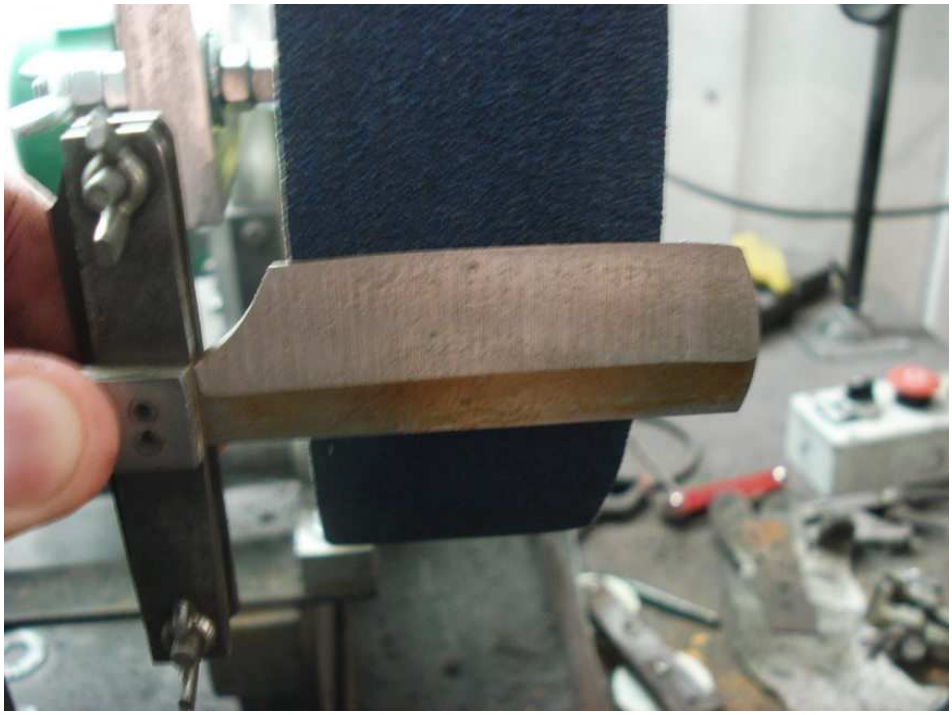
And draw the center of the blade

I put my grind wrench.

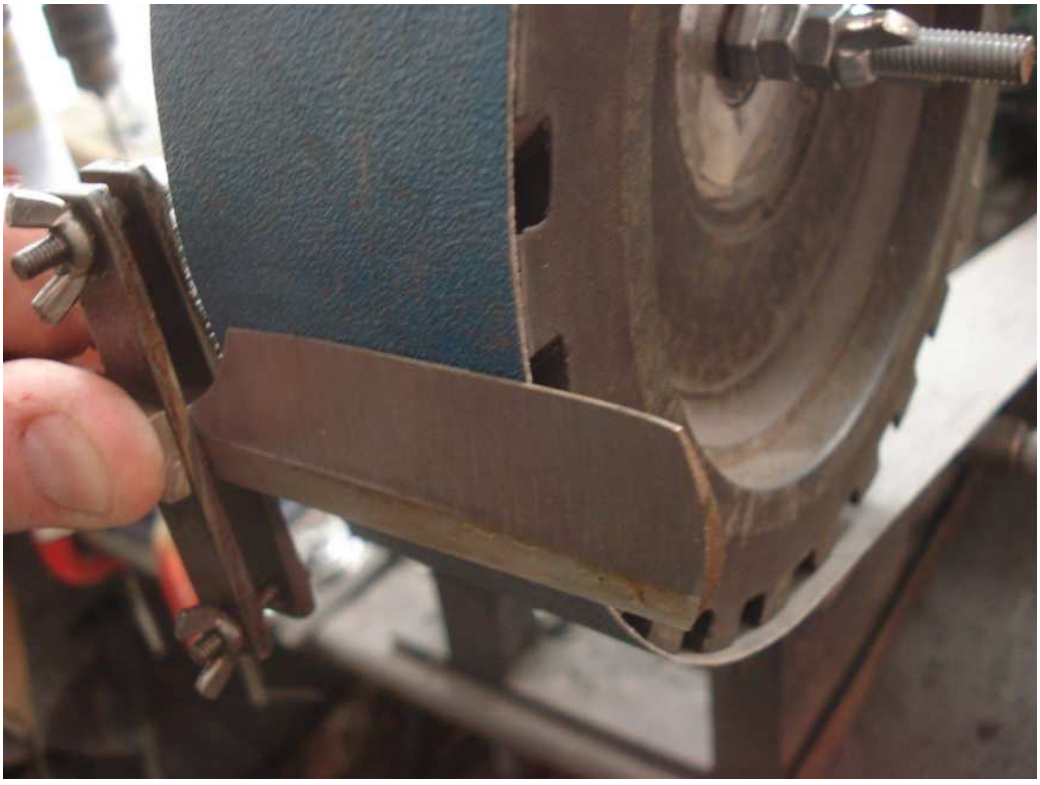
First grind (flat grind) with the 60 grit ceramic belt.

The other side.

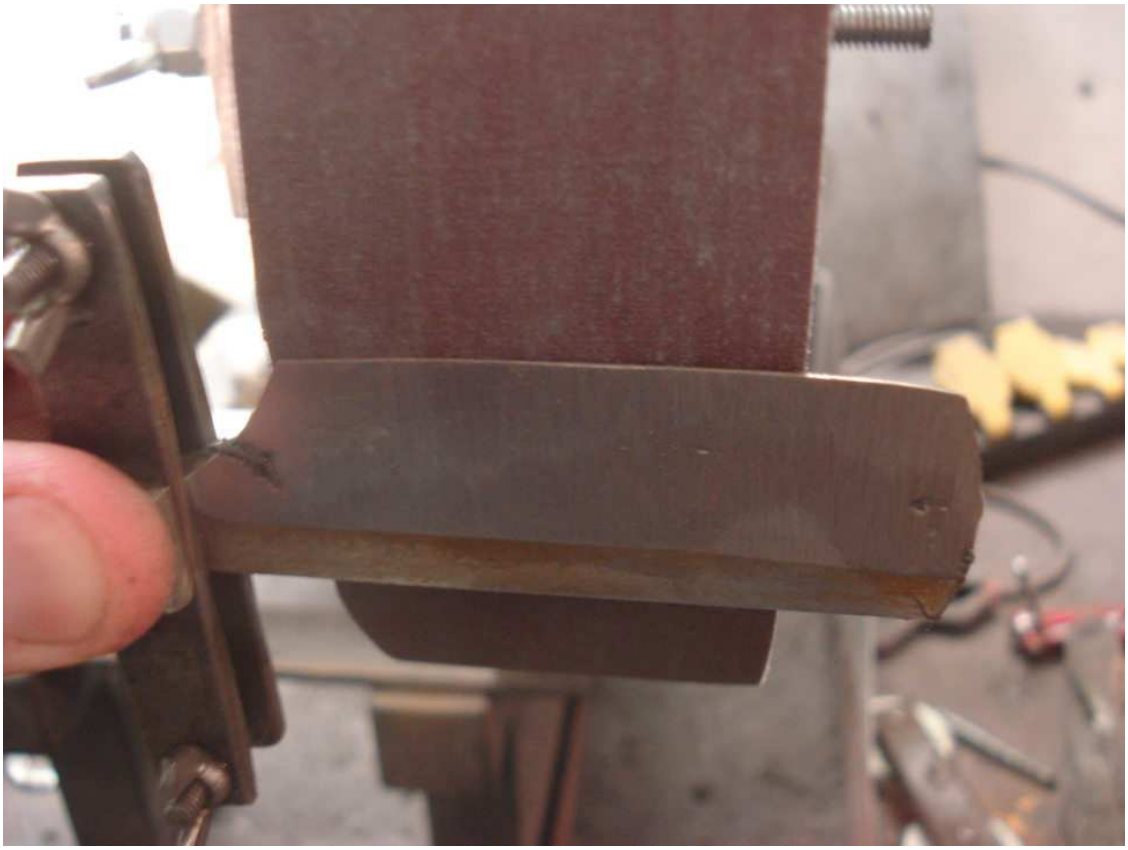
Day 4 1h30



I can now work on the hollow grind with 200 mm contact wheel and ceramic belt 60 grit.
The top of the flat grind help to not move with the hollow grind.



Same thing with a 120 grit belt



Same thing with a 240 grit belt

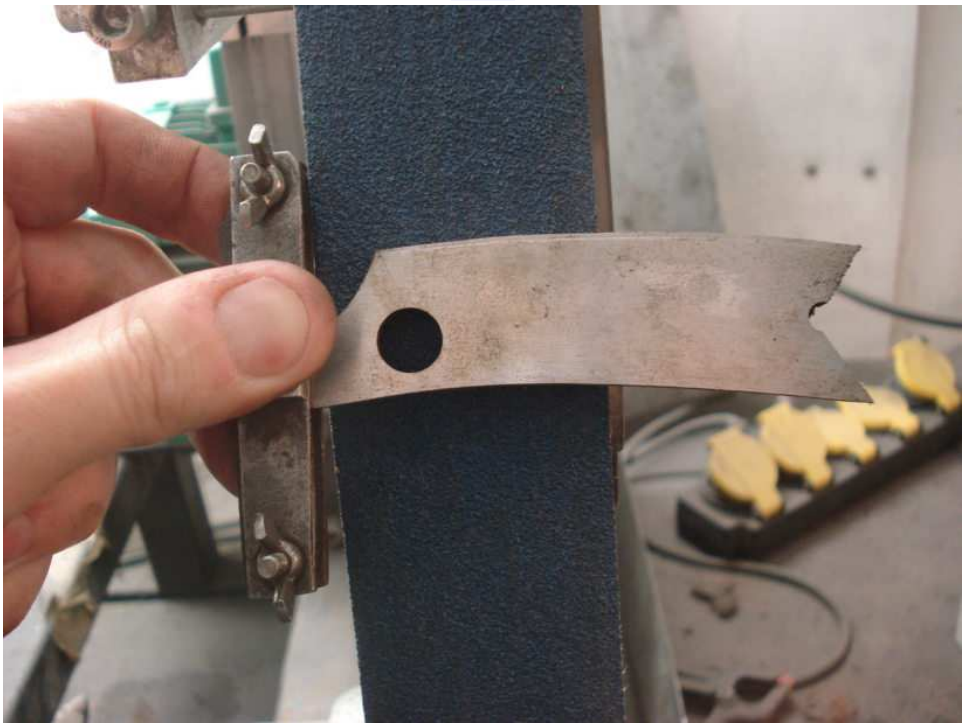
I check the thickness of the edge before hardening. It's seem correct.

I buffed the edge in order to round the angle and to put away the main scratch.

The westerner kamisori is ok for the hardening.

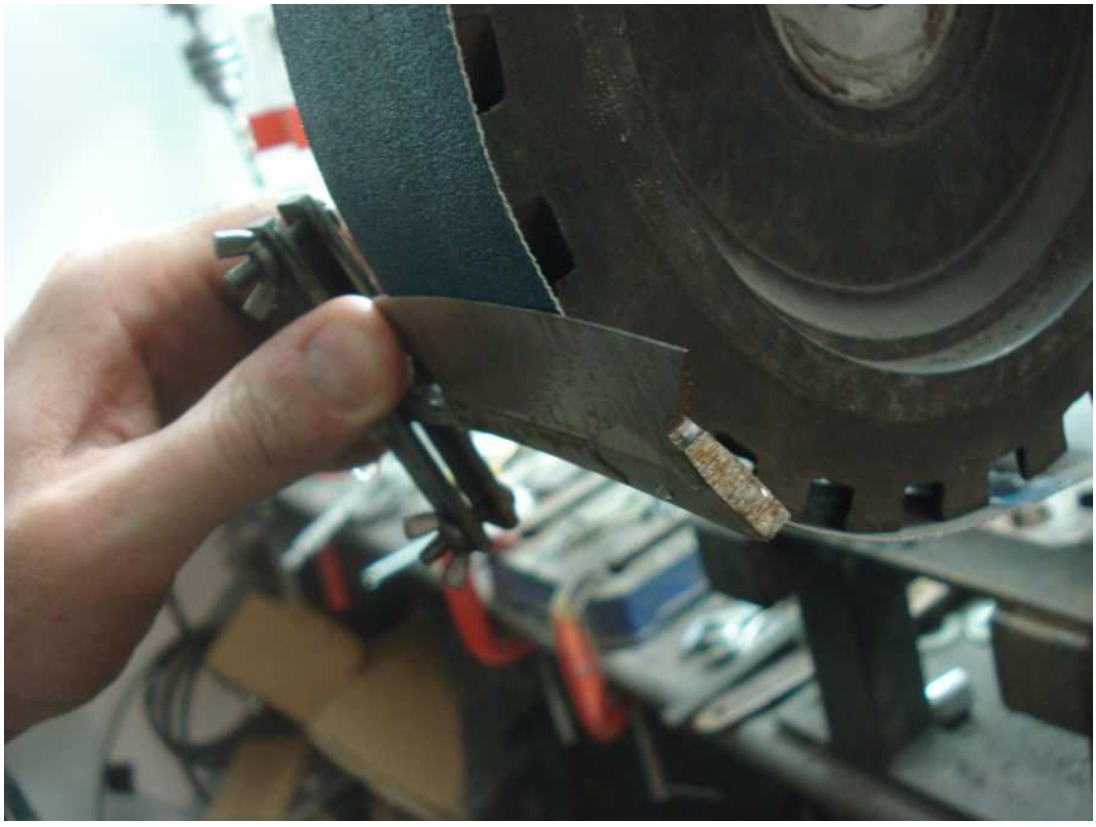
I start the second blade in 140Cr2 (i thought it was C130 but my friend said to me that is in fact 140Cr2, the water quench will be a big stress with the Cr)
I check the thickness to draw the center of the blade

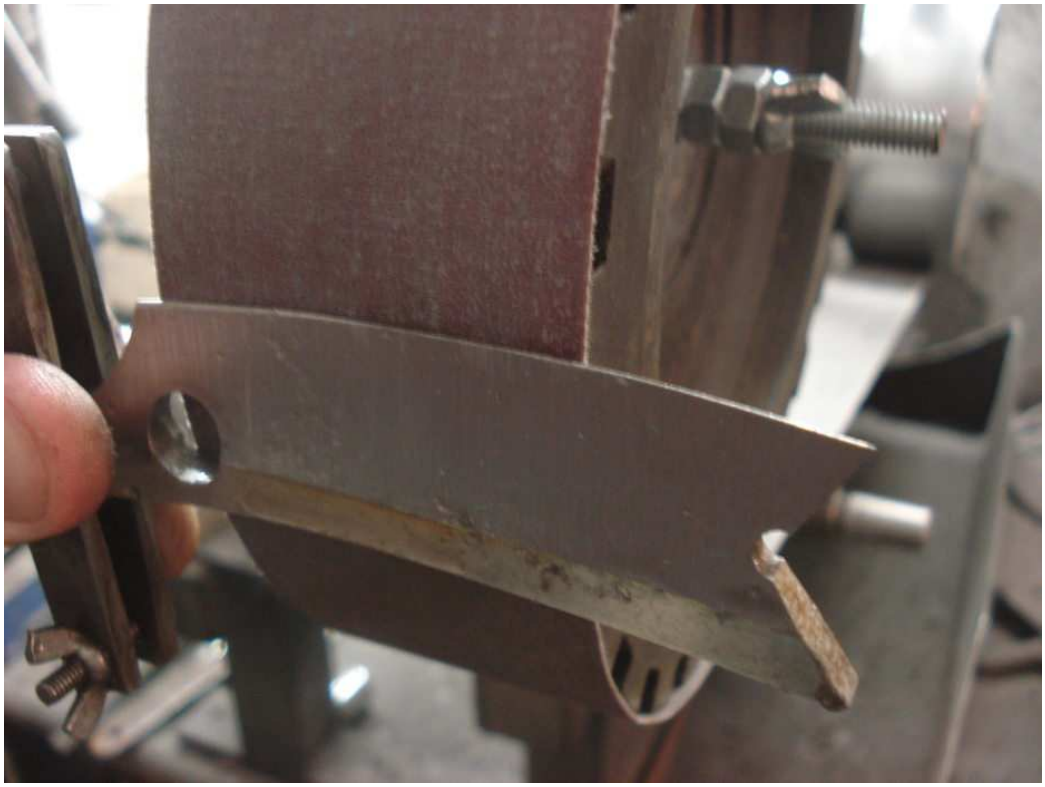
It ok



I start with the flat grind belt 60

Flat grind done





I start the hollow grind with the 200 mm contact wheel (to make a near wedge or a quarter hollow grind at worst.

ceramic belt. 60 Grit , 120 grit and 240 grit

Buffer

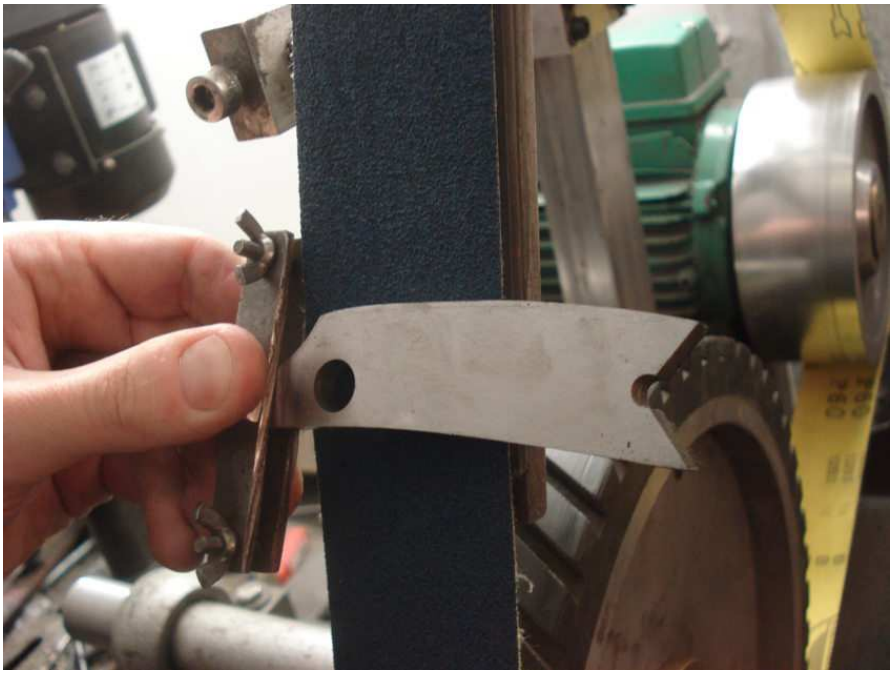
Two blade are ready for heat treatment, normalization and quench

Day 5 2h for almost nothing...

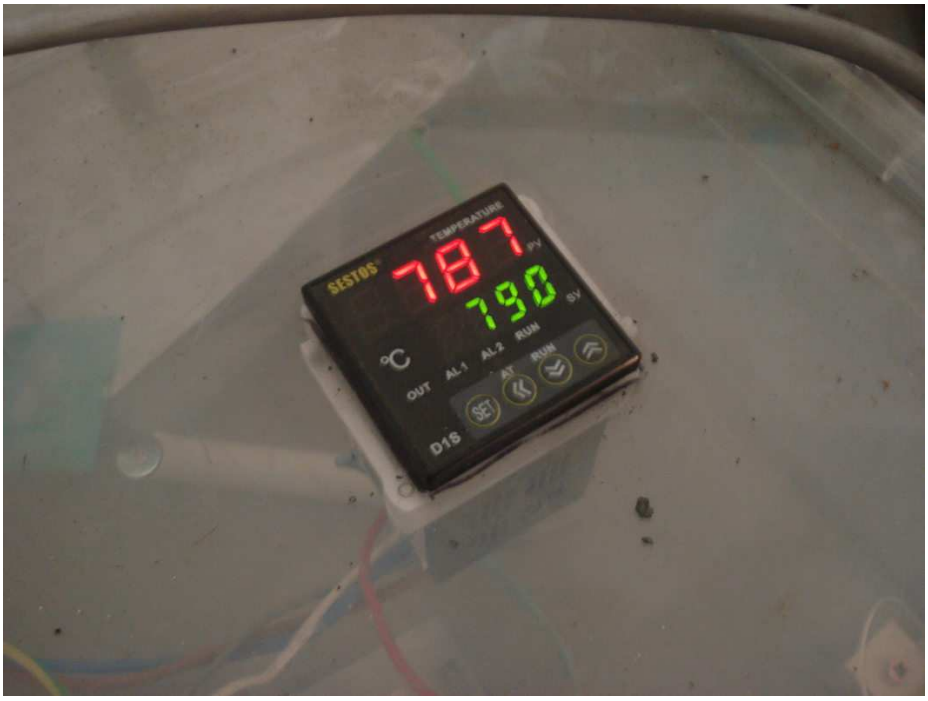
I start the niolox blade. I check the thickness to center the grind

I draw the center

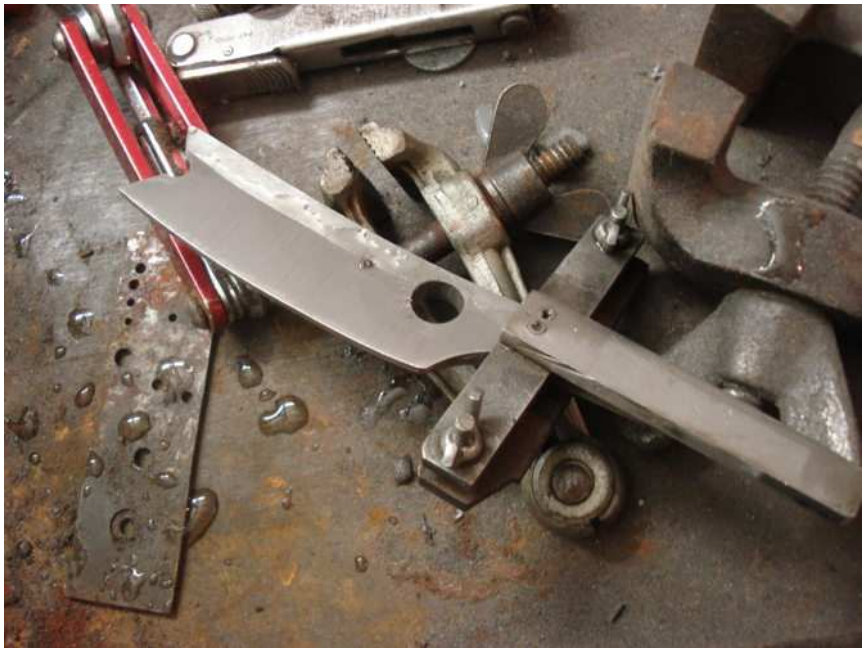
The grind wise



I begin the flat grind



Normalization of the three blade in tool steel, the two razor are in 140Cr2 and the kiridashi is in 115w8. I normalized 3 time to 790°c

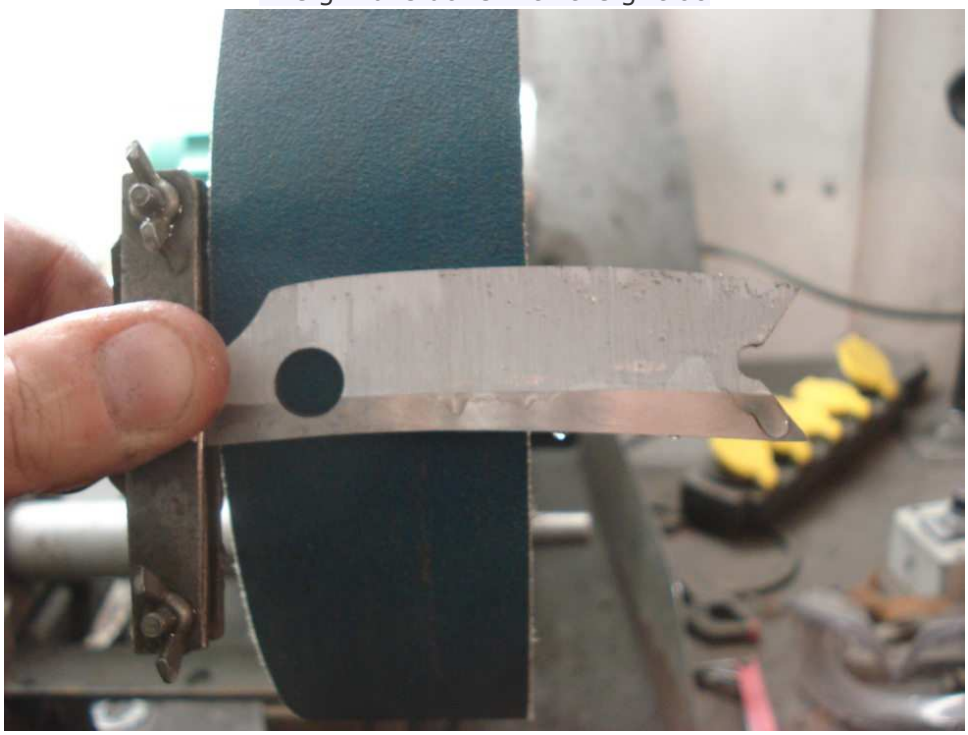


After the grit 60 on the ceramic flat.

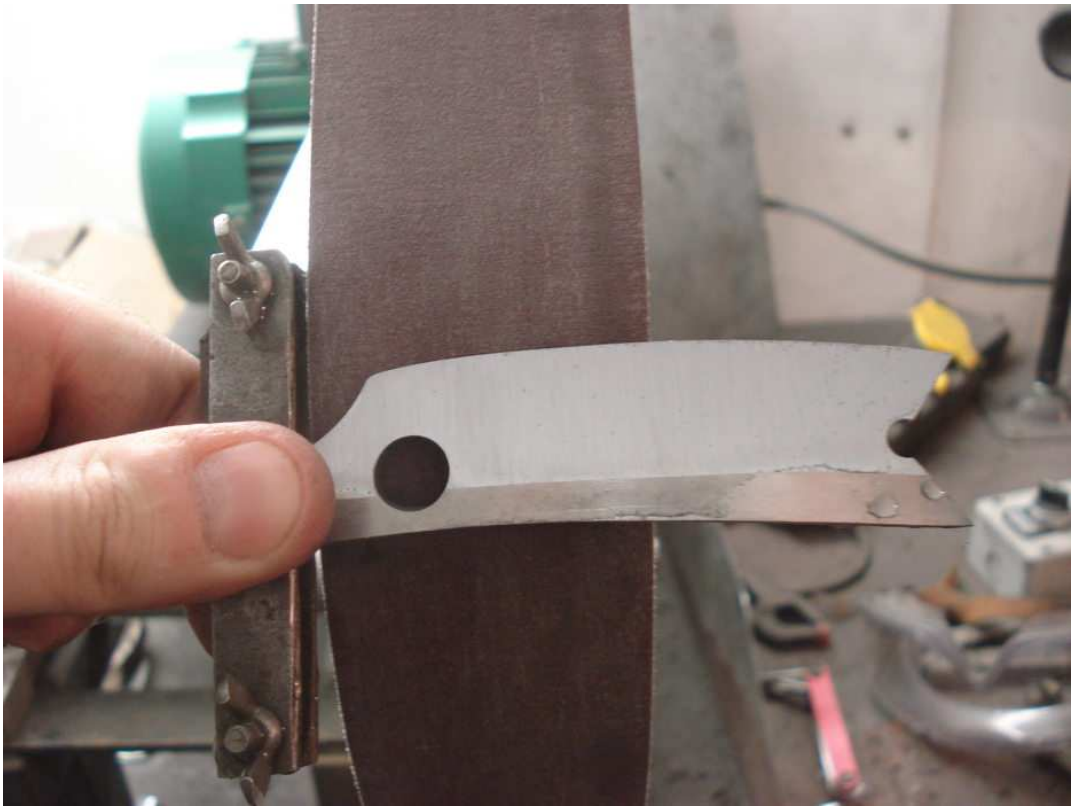
Start of the hollow grind

The two refractory mask on the blade in 140Cr2

The grind is done with the grit 60



grit 120



grit 240

Buffer time to break the angle.

That one is ready to be put in a stainless choil.

790°c it's time to quench the three tool steel blade.

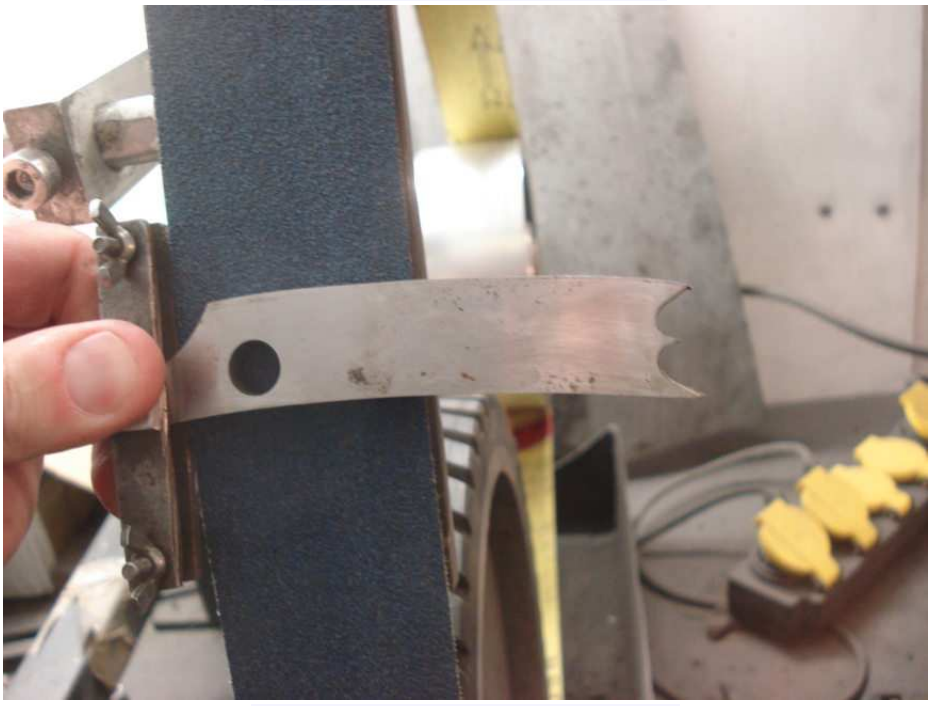
Oups..... Some crack, i'm a dumb i polished the spyderhole and the edge but not the hole

in the point and the crack began to the point.....

I think that one will not shave perfectly

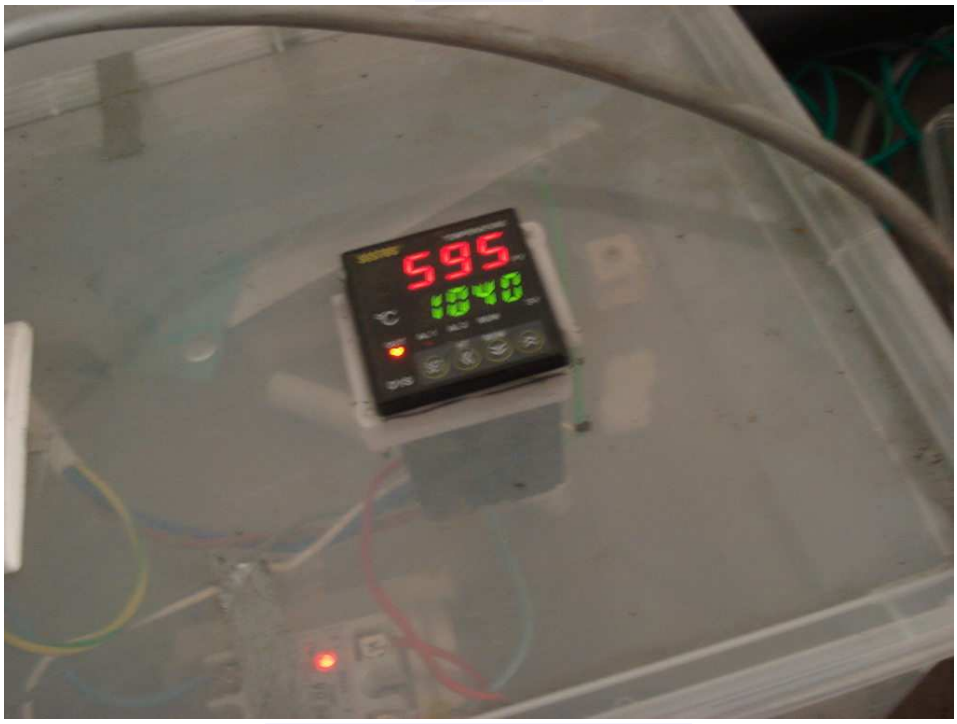
The kamisori is ok.... I hope to not break the two niolox blade.....

I draw the center of the blade



Flat grind with the ceramic belt.

It's done.



During that time the oven heat.

I begin the hollow grind.

I won't make the same error two time, i clean all the nose

Of the two blade

I start the cook with the stainless choil.

I closed two side after to have folded the choil.

I put away most of the air and i closed the frill

The two frill are done.

1040°c during 25 mn

It's cooked

Out of the frill

I cleaned the grind to check if it's OK. It's seem to be Good, no krack. I did double tempering 165°c during 45 mn.

I have a lot of work to complete the work on the metal

Thank you

Day 8 2H30 of work

The blade are tempered two time to 165°c . You can see a kogatana i did during the heat of the oven

I continu the grind with a 60 grit belt

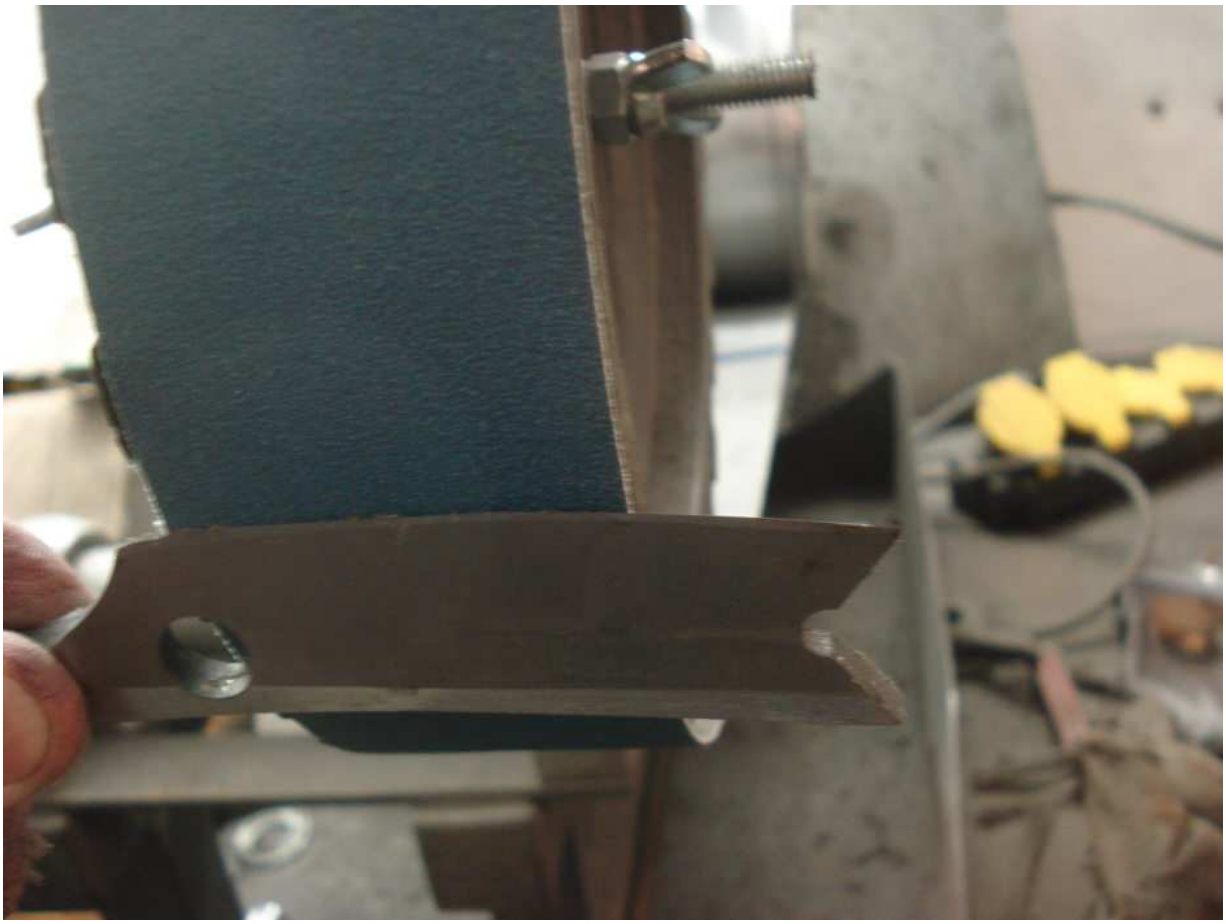
The grind is almost done

After belt 120-240

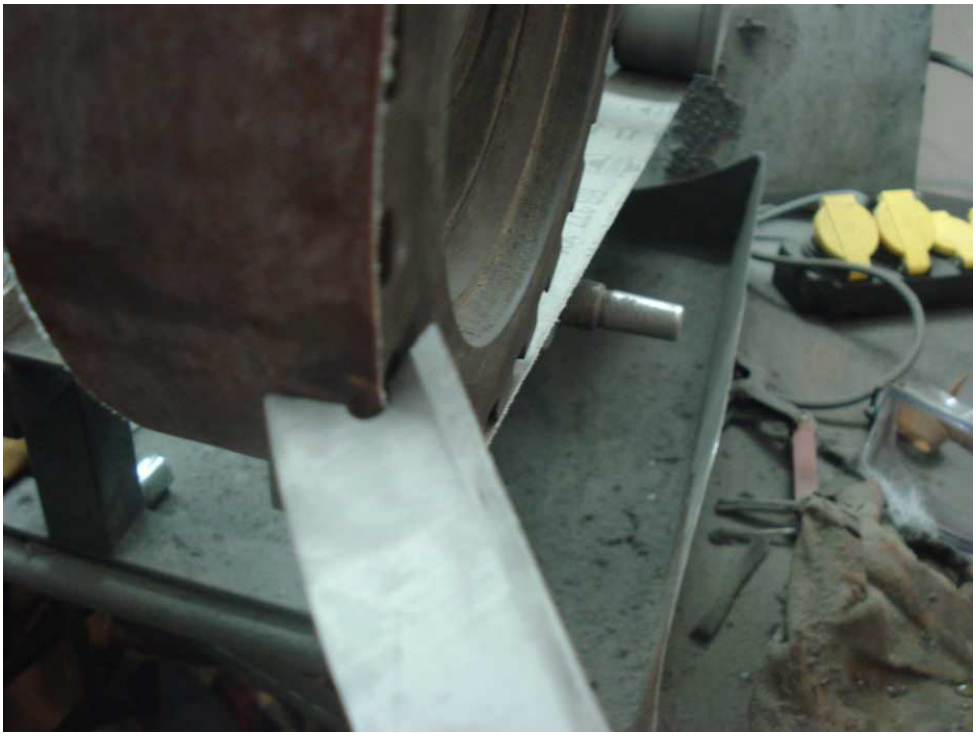
Some taps in order to create the edge in order to see the thickness variation to the edge

I create the edge on a 500 grit belt

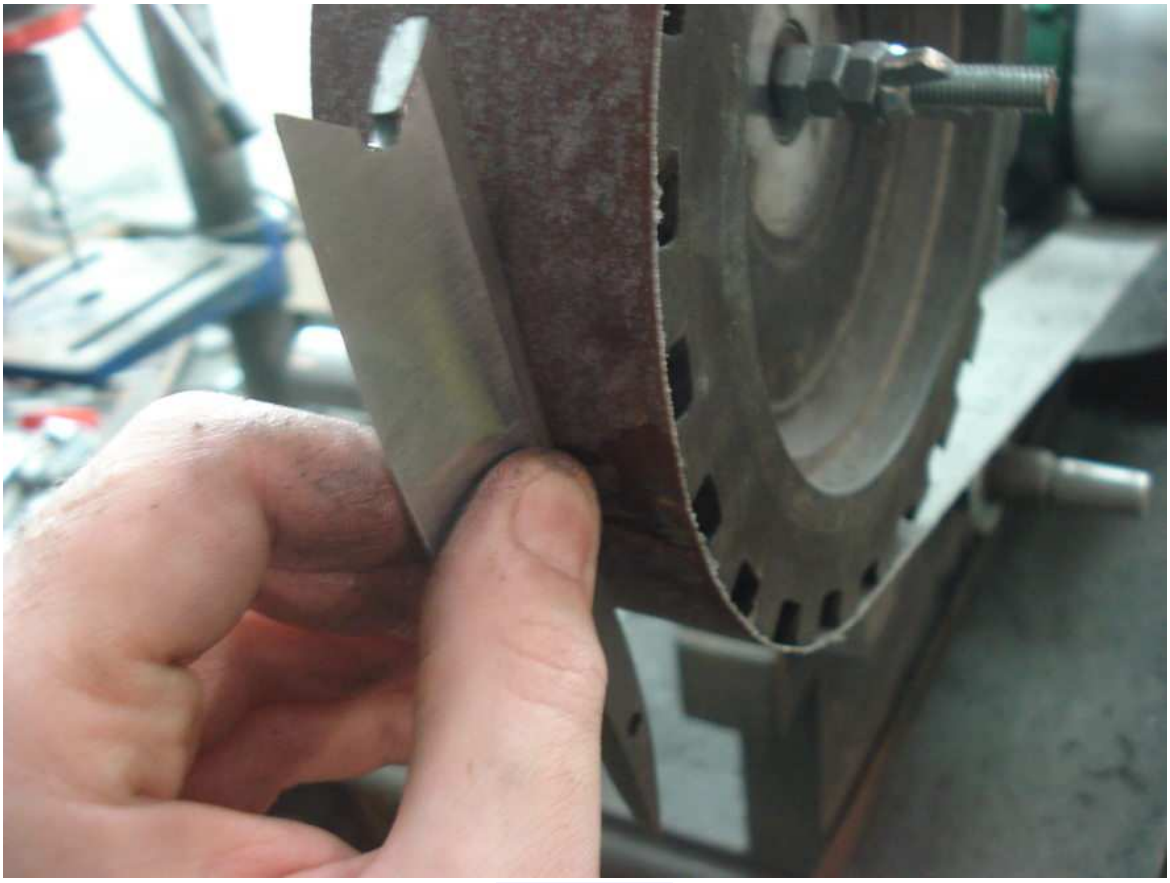
Edge done



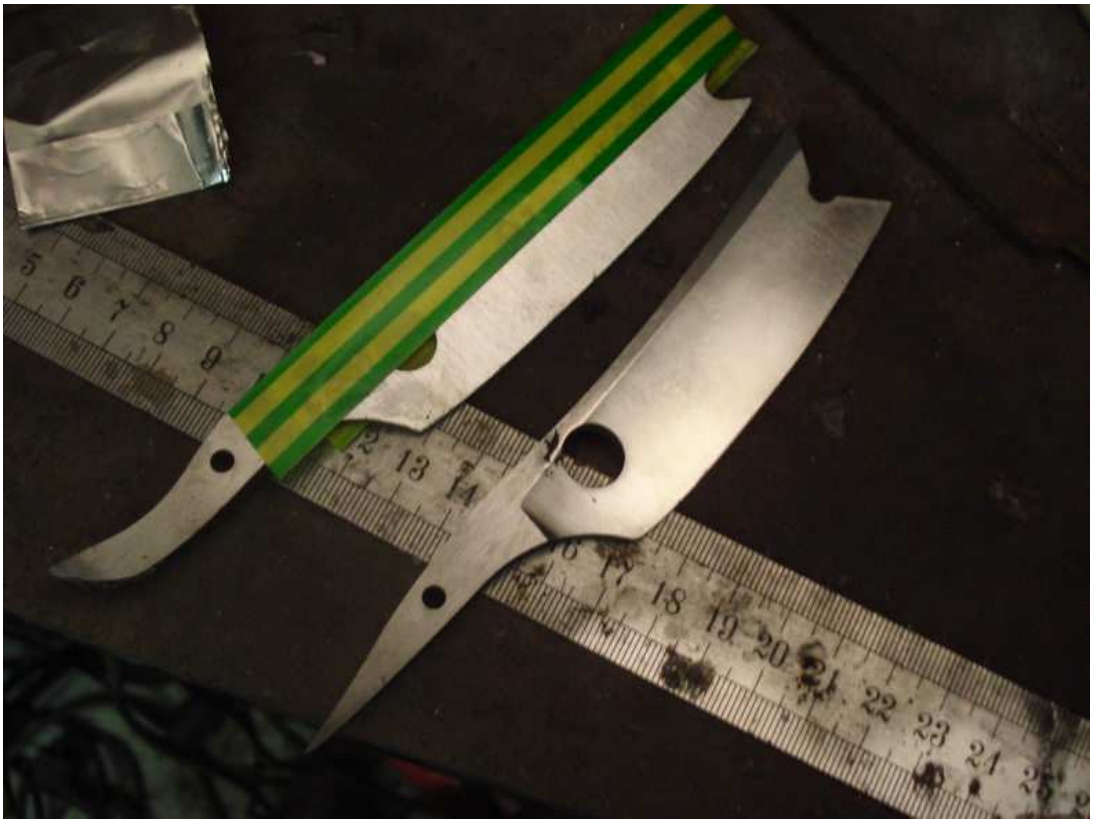
I complete the grind



I clean the point



And the back



One is done, i have to make the second

Taps, and electro etching

Day 9 2 hour of work

I create the edge on the second one on a 500 gr

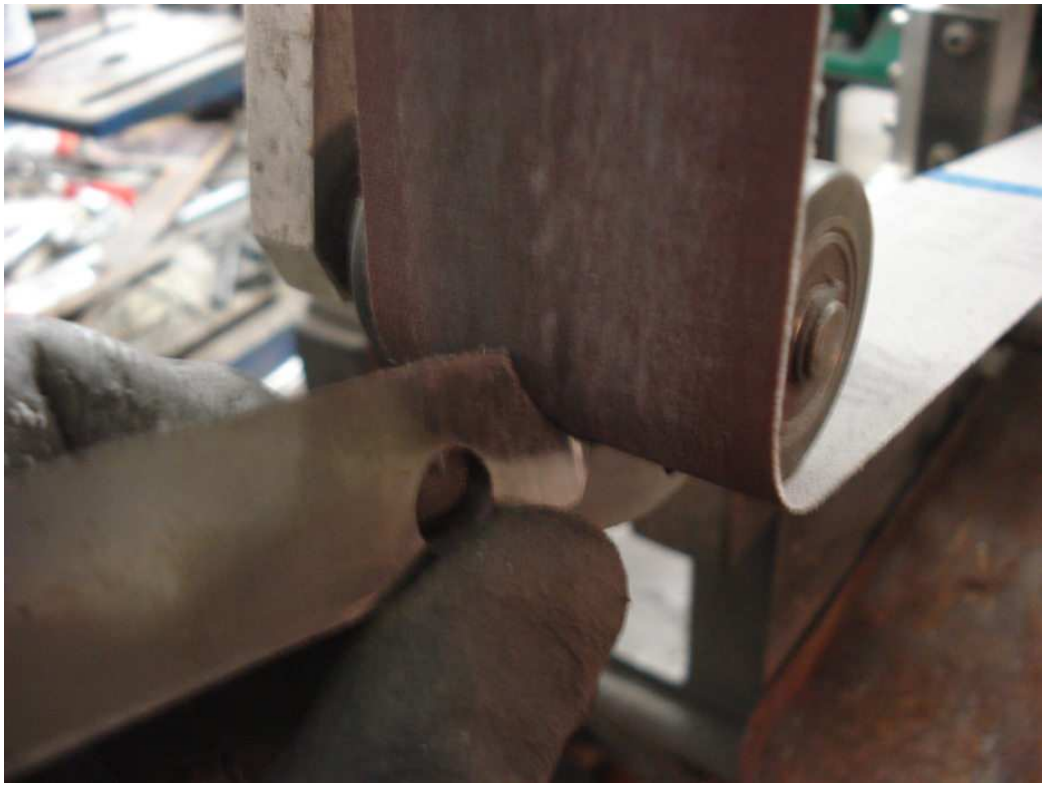
The edge is done, as you can see it's more or less 2mm high, i have to continue to grind

I continue

It's done

With carbide rotary burr i clean the nose

It's cleaned and always magnetized



I clean the finger choil and the part uncleaned now.

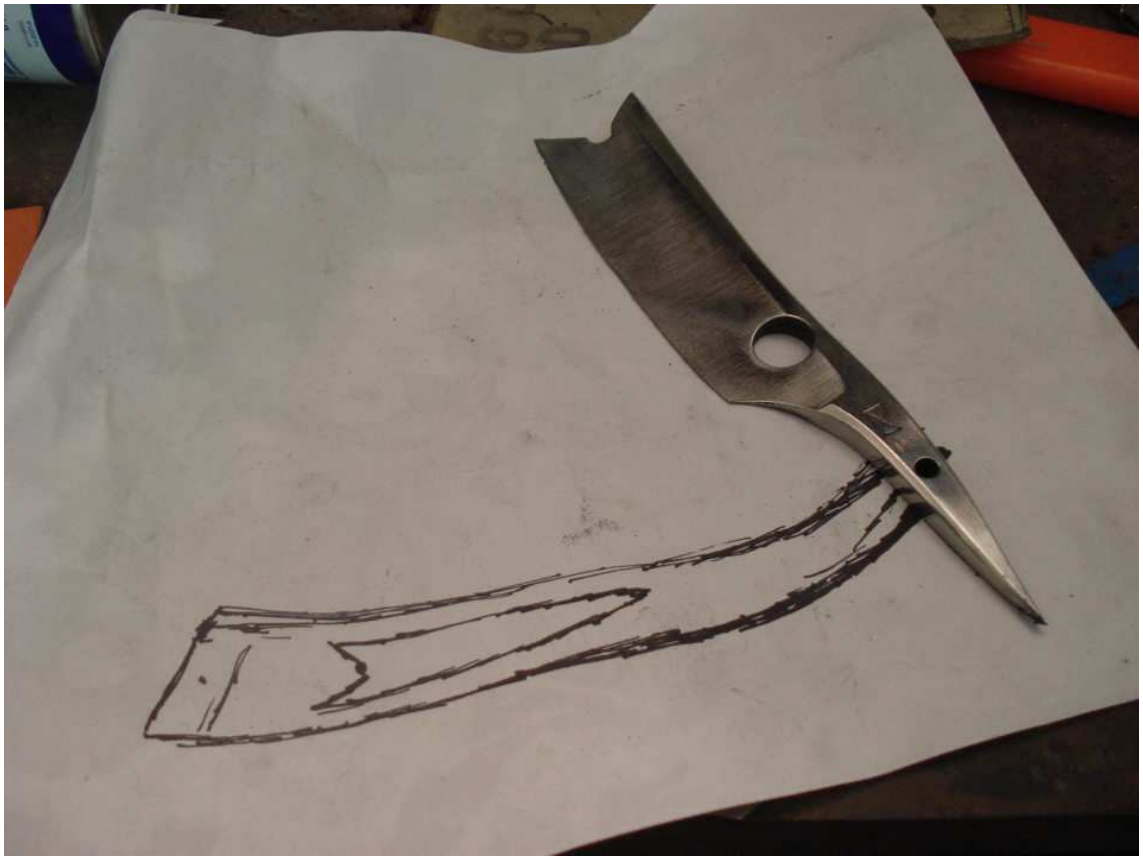
I make the "countersink" of the back and tail.

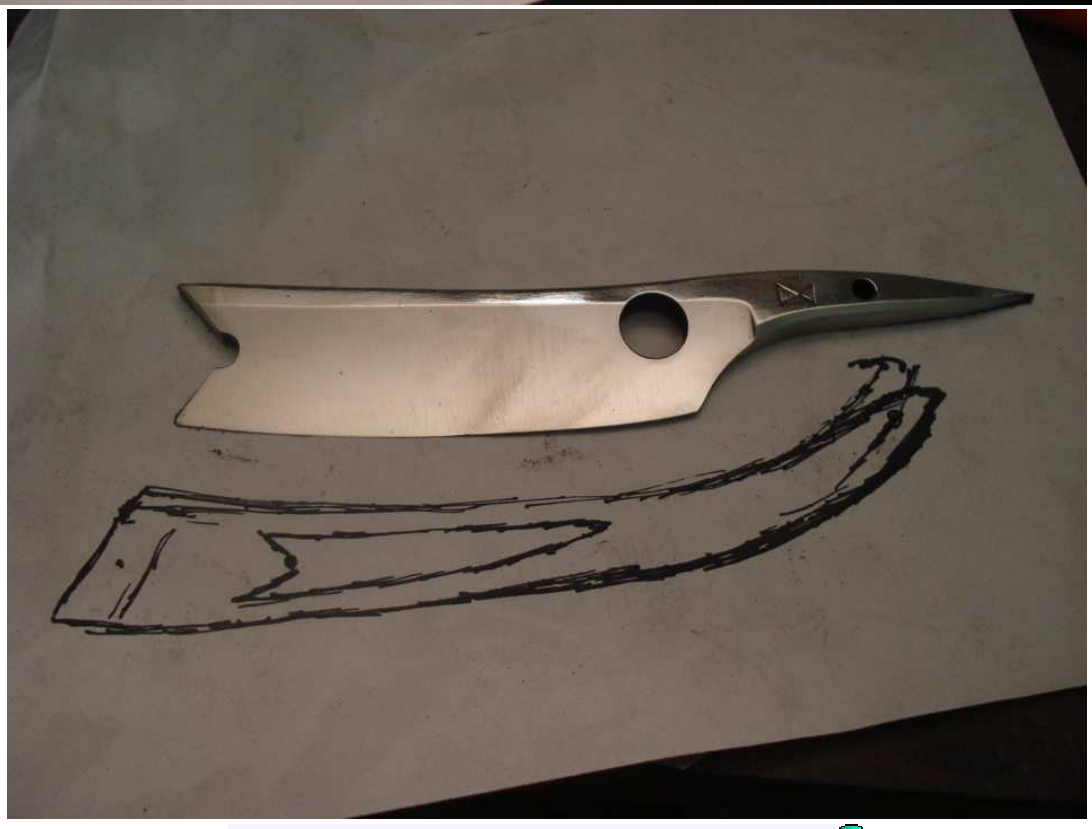
The two blade are ok, polishing time

They are polished now

Metal work is done

Each blade with her scale material. M3 lava black and copper for the top one and Red and orange halloween style g10 for the bottom one.





I try to make a draw in function of the blade

I copy the draw on the material

I check if the blade go where i want

Before the cut with the belt saw

First contact with the belt saw blade.... The material splintered.....

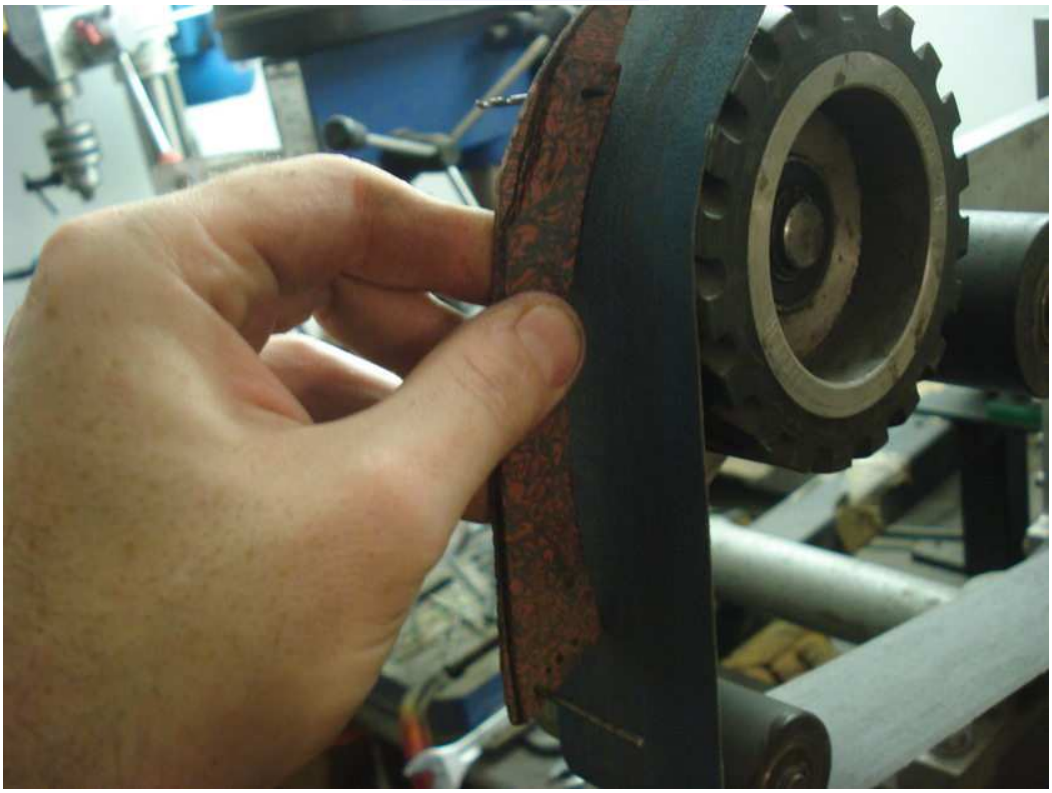
I continued with some martyr under.

It's always possible to make a scale....

I wanted to punch the place of the pivot hole..... The M3 smashed..... It's really a shit to work with that thing....

As i want really to use that material the scale will be shorter
I drilled through the first hole to 2mm.

Blade and scale are more or less ok, As i don't have a lot of place the screw for the spacer will be to the bottom of the scale and not to the heel. And the spacer will be "under" the blade.



I shapped the scale. The work is more or less the same than with G10...

I draw the futur spacer.

After two hole

A piece of carbon fibre and a drill bit.

Taps time.

Everything in place. i will maybe make another spacer, that one is a bit short on the "heel" of the scale. I have to decrease a bit his thickness in order to prevent the edge to contact the spacer. But finally i hope it will be great

Day 10 2h30 of work

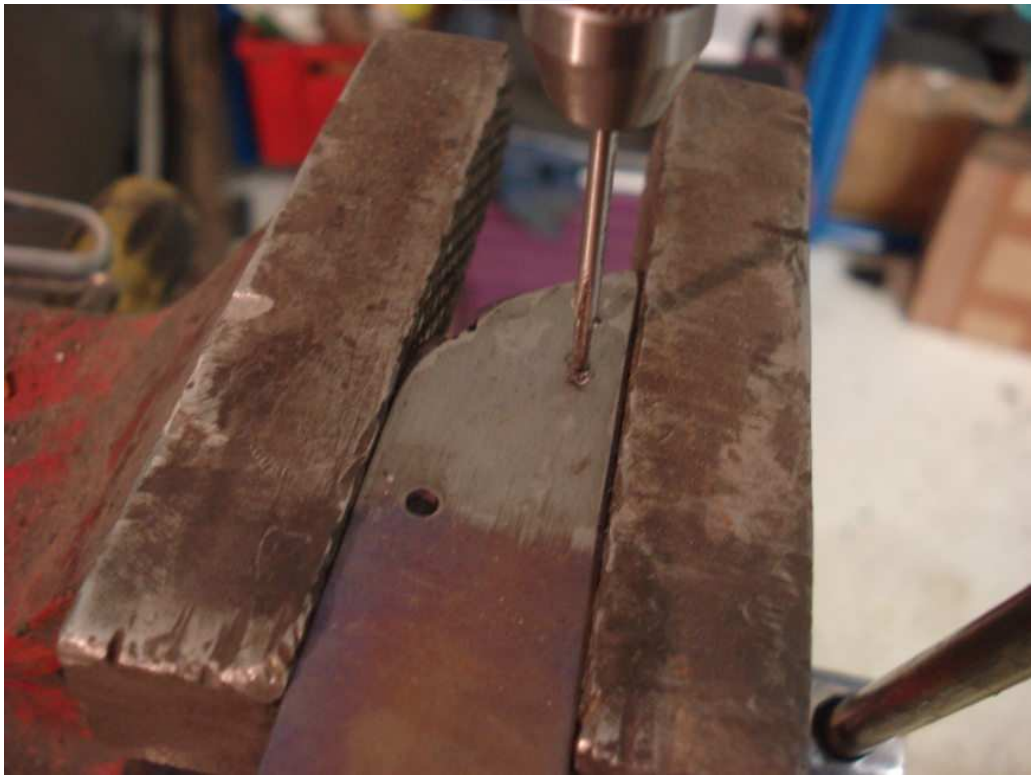
As i said the spacer is not good, i make a second one
I drilled, tappered and decreased the thickness

Shapped with the dremel

Countersinked

I did some screw to the right size.

Pre built



The second in carbon fibre is not perfect too, i did a third one in titanium..... Tapering time

I changed the screw for pan head, some won't enjoy but with the first set the result wasn't good because of the thickness of the material.

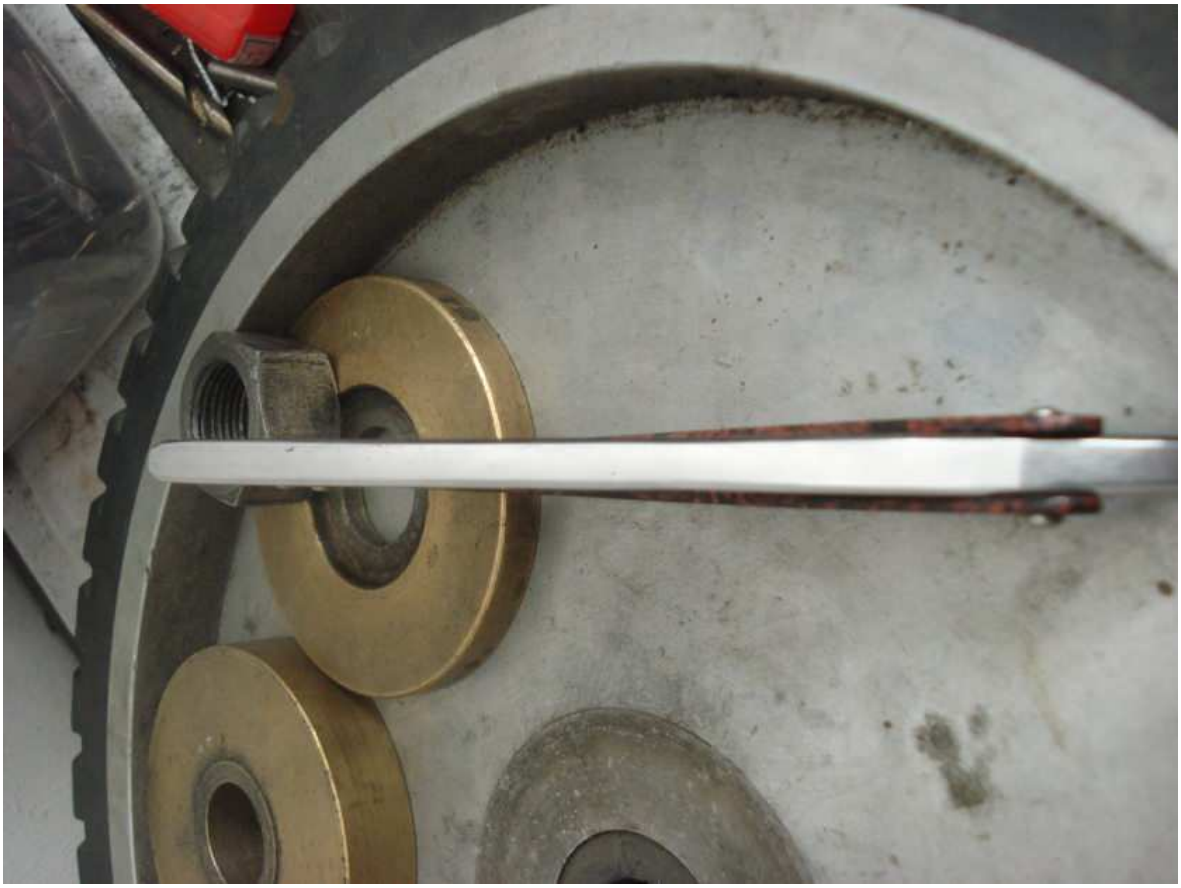
I hand softened the angle with 400 grit sand paper.

And cleaned everything

Buffer time.

Before and after.


0-25mm
0.01mm



That one is almost done.
Day 11 1 hour of honing

First shave tomorrow

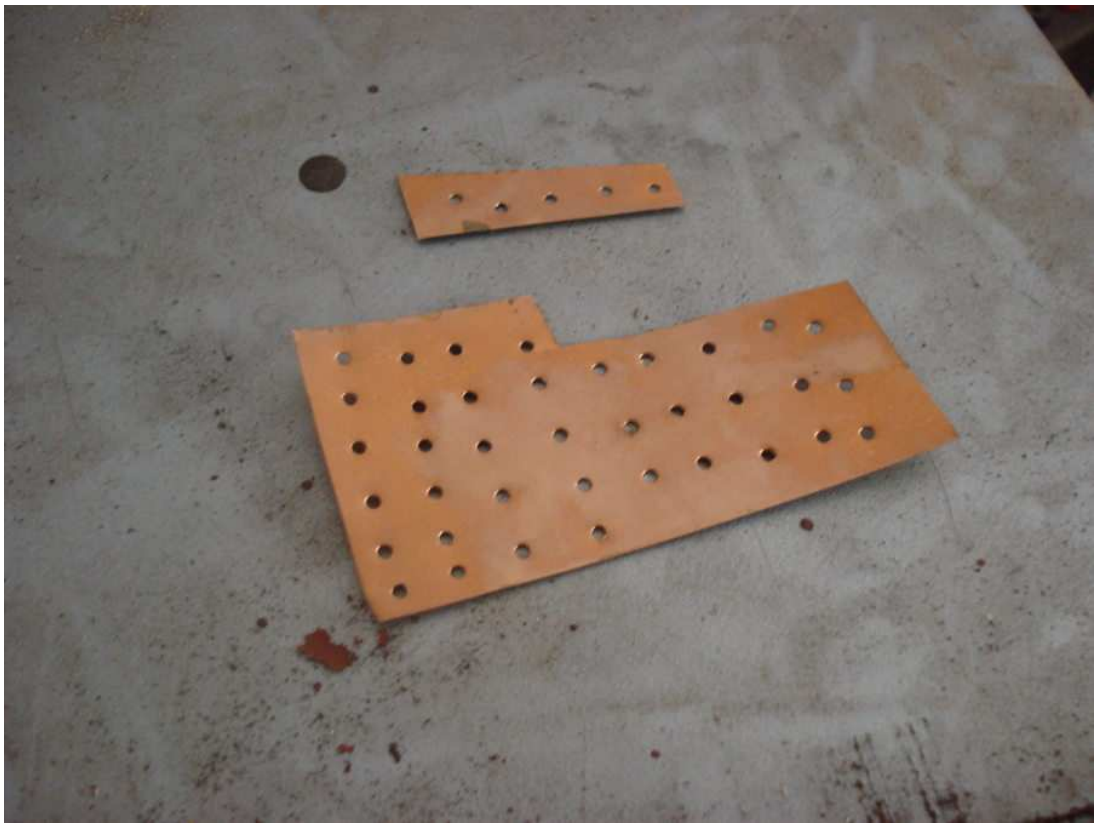
De Double Tongue (Bifide in french)

Thank you Guys

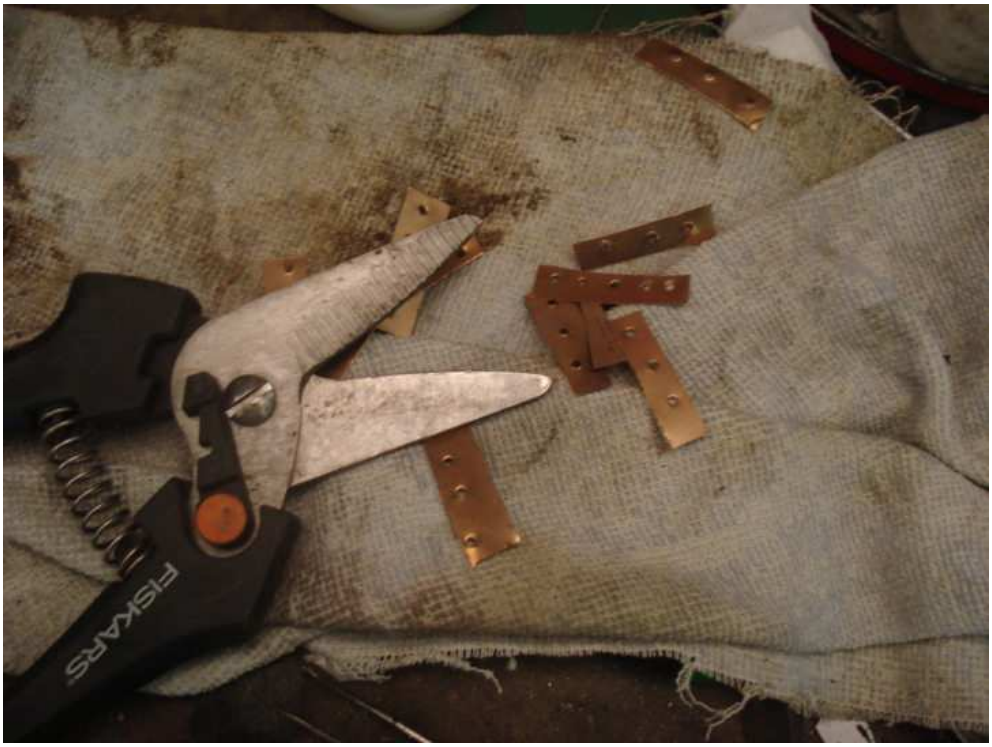
The final result. The double tongue (Bifide in french)

Niolox, M3 mokume Black Lava and Copper. (it's really something i won't use anymore....it's too breakable even if the result is really nice).
8/8 blade, near wedge, bronze phosphore washer, stainless screw, titanium spacer.
Spyderhole licenced by Spyderco

Bonus track . Day 0 : 45 mn of work : how i do bronze phosphore washer



A thin piece of bronze phosphore (here 0.1mm), some 1.9 mm hole with the drill press.



With a fiscar scissor i cut some square

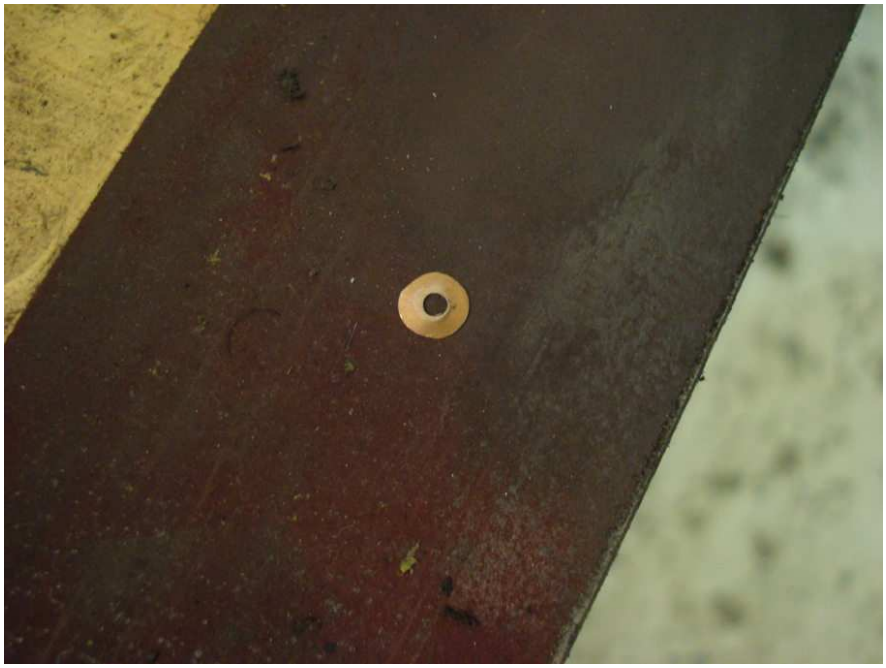
I put all the piece on a m2 screw with a pivot barrel to tight everything.

With a 60 grit belt i round everything.

Most of the piece are OK

It's more or less round.

With the finger i sanded the two side in order to polish and flattened a bit



My washer is ready to be put on a straight razor

I shave myself with the double tongue since last Friday and the result is now as i wanted, soft and efficient . the point is a bit dangerous around the ear, but i'm really satisfied by that straight . Niolox is really not bad for straight razor

Day 11 and 12 more or less 4 hour of work.

Draw of the scale

Report on the G10

Band saw work.

It's cut

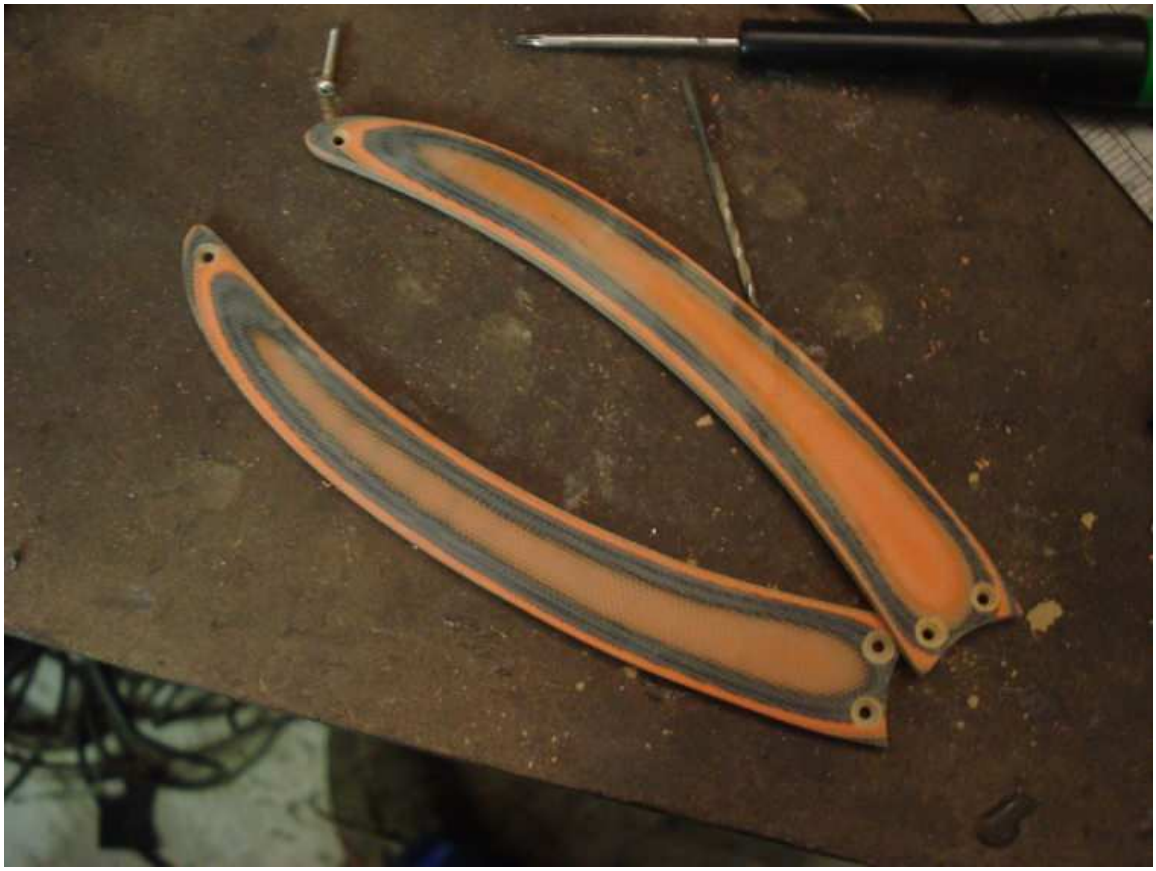
Drill press with 1.7mm drill bit.

A piece of Titanium to make the wedge. Drilled to 1.7mm.

the hole on the scale are now at 1.9mm.

I countersinked the hole

everything is ok.



I round a bit the scale

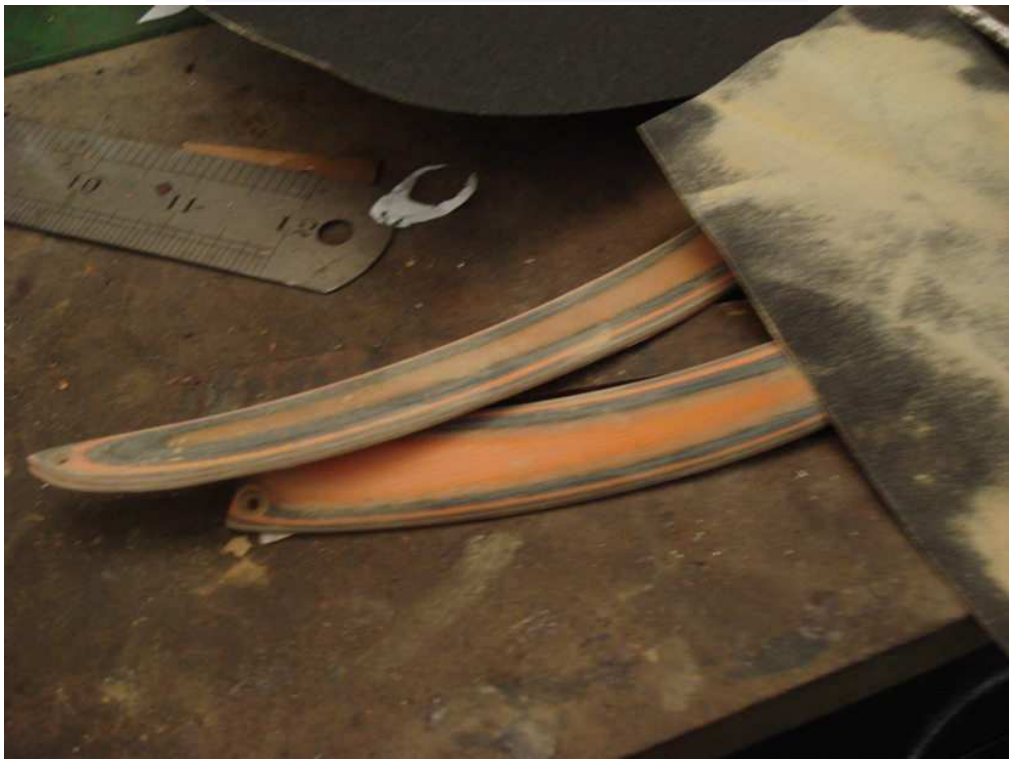
M2 taps

I work a bit the wedge

Pre build of the scale with wedge.

The final product pre build

I decreased a bit the thickness of the G10 sc



I hand sanded to grit 180-400-600 to round and soft everything.

Buffer time

Final product before honing

Final after 1 hour of honning and stropping

the cerastes

8/8 niolox double tempered to 165°c, more or less 8 cm sharp. Halloween G10 and titanium wedge.

The shaving is smooth. I have a video that i need to build

The set is done .

I hope you have enjoy the trip in my workshop and have had pleasure to see the birth of those straight razor and the problem i meet