Lengthening Tennis Racquet(s)

(ATP/WTA Maximum Legal Length is 29 inches)

For those of you brave souls that wish to lengthen your beloved frames, I have put together a guide to help you on your way.

Please note a word of warning/caution:
This is not a simple procedure and requires numerous materials, tools and expertise.
& will obviously void the manufacturers warranty

If you decide to go ahead you will need the following:

A WELL VENTILATED AREA TO WORK!

A gas mask (for epoxy and dust)
Safety Glasses
Latex Gloves (numerous pairs)
Aramid / Carbon cloth
Epoxy Resin & Hardener (normal or slow. SP 106)
Measuring/Mixing Pots
Small paint brushes (at least 4)
Stiring Sticks
Masking Tape
Very clean and sharp cloth scissors
Mitre Block
Large Hacksaw
Pencil
Long Ruler
Plastic Sheet
Plastic Bags (to cover your frame(s)
Dense Expanding Foam
P40 Grit Sand Paper
Sanding Block / Large straight file

A special thanks to Joe Cooper for choosing Lampwick for your customisations.

(Joe has, in the past had several racquets extended to the full 29" and this time is having 4 new frames extended at the same time)

Remove the staples that hold the butt cap on.
(Usually 4)
If you intend on re-using them keep them safe

Protect the frame with a plastic bag and masking tape the handle leaving 3inches at the end

Measure, mark and cut AROUND the handle.
:: IMPORTANT ::
Only cut the cream foam handle NOT the inner tubing.

With a chisel or a sharp flathead screwdriver, remove the cream foam grip

When the cream, foam grip is removed, using a large hacksaw blade, lightly roughen the surface of the core making sure to skim across the surface at 30 - 45%
Do not remove or cut the handle core.

So far so good.

--- Okay. If you got this far, Coolio. ---

(Tricky bit to come)

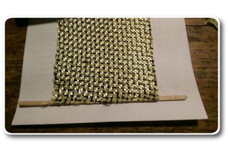
This is Aramid / Carbon hybrid fabric as it comes in bulk.

This fabric combines the properties of 2 unique re-enforcement yarns. Carbon provides high levels of stiffness and strength, whereas Aramid provides huge impact/abrasion/fracture resistance. This distinct looking hybrid cloth is used in many high-performance, high-impact applications such as canoes, military ballistics and rally-car panelling...and Tennis racquet extentions.

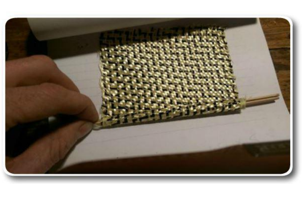
Measure two pieces around 5" x 5.5"
(I have measured out more as I was extending 4 frames at the same time)

You will need to use masking tape to lay your cutting boundaries so the cloth does not fray and separate.

Using sharp cloth scissors, cut your cloth as close to the edge of the masking tape as comfortable.
(one frame will require at least two pieces)
(5" x 5.5")



Rolling the cloth.
This is done using two stirring sticks (make sure you sand them both very smooth so as to not snag the cloth) sandwich the cloth between the sticks and tightly roll.



Insert the rolled cloth onto your frame. when the desired length is reached, unroll the cloth as evenly as possible.
Carefully remove the sticks trying not to catch the cloth.

-------------- Glueing time --------------
(Safety gear for this bit. Mask, Gloves and Glasses)

SP 106 is a simple to use, all-purpose epoxy which can be used for glueing, coating, laminating and filling. With its range of hardeners, and easy 5:1 mix ratio by volume, SP 106 provides a quick and convenient way of using one epoxy system for a very wide range of tasks.

Manufacturors website:
http://www.gurit.com/sp-106.aspx

106 PDF Data Sheet

This bit you have to take your time but work within the paramiters of the epoxy, so work efficiently.

You are trying to 'layup' the cloth from inside the frame and bond the cloth to the inside of the handle. Try and adhere it to the inside of the handle as much as possibe without gaps.
You will have time to re-visit it every 5 mins or so (depending on room temperature and your mix)

When you're happy with the shape, leave in a warm, dry place to cure for 24 hrs.

If you have got this far, you are charlie big potatoes
--------------- / ---------------
Take a break Charlie, not much you can do for 24hrs

24 hrs Later

Okay, that old trick again of using a large hacksaw blade, lightly roughen the surface of the core making sure to skim across the surface of your cured cloth at 30 - 45%
Do not remove or cut any cloth.

Laying the second cloth skin around the outter handle

Let cure

24 hrs Later

--- Time for a light inner core ---

For this use two part expanding foam.
such as:
Polycraft LD40 Rigid / Hard Polyurethane Foam System

This part you will need protective gloves, gas mask and eye ware.

Measure on a stick the distance the foam will need to be inserted. You only want a small amount to fill just enough to create a barrier for the pouring of the core foam.

--- Time for a dense outer core ---

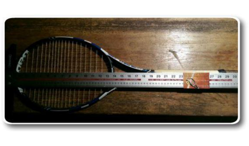
The trick to this stage is to only mix the volume of foam that you can whip the air out quicker than the foam can expand. This will leave you with a tacky paste that can be applied to the handle and whilst it is still tacky you can roll in between your hands. To compact if further, use light taps with a hammer working around the handle. Repeat the process to build a dense grip that can be sanded to shape.

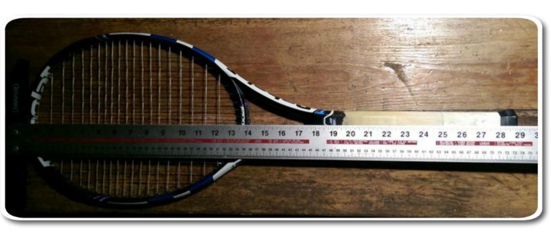
Using P40 grit sandpaper wraped around a large flat file, shape and copy the bevels. Check frequently against a straight edge and your butt cap to ensure the extention is level and aligns with the butt cap bevels.
Take your time as this is the last stage.!

...and that's it!... All that's left to do is fit your butt caps (staple gun is best) and very long grips!
(these have been fitted with sony compatable sensor caps)

If you have come along for the ride, I realy hope it went well. If you have any questions or would like to post images of your conversions, feel free to contact me and I'll include them in this guide.

. Fin .





RACQUET CUSTOMISATION | TOP | LEATHER GRIPS

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