



SIMON GALLUS

Notes on edgework and purfling

A method for creating classical forms inspired by the work of the Cremonese masters

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IN MY VIEW, the disciplines of edgework and purfling are deeply intertwined and often dependent on each other. The method I have adopted cannot really be called new, but is a personal system of applying well-known techniques. I find it to be a quick, logical way of creating classical forms that I can imagine the old masters using in their time.

As well as giving an even overhang for the instrument, this method gives a natural, organic feel to many of the finer details, echoing that of classical instruments. This can be observed in their slight asymmetries, the natural cut of the corners, the placement of the f-holes, and the edge and fluting shapes.



The outlines of the rib structure

1 I begin with the outlines of the finished rib structure, with the linings in place on both sides. I transfer them to the back and front, including the desired overhang – initially this is 3.5mm, though when finished it will be 2.5mm. I try to use the middle seam as the centre line of the instrument because it plays an important part in the whole construction process.

For fixing the centre I like to use pins, which connect the plates with the rib structure and also define the length of the instrument. (The position of one of the pins is indicated here by an arrow.) It also allows me to shift the rib structure and make an asymmetric copy without changing the main proportions.



Cutting the edge with an electric saw

2 I use a small electric saw to cut the edge to the thickness of the finished corners and button. This saw can be used very precisely, owing to its small size and the large surface that rests against the plate. The thickness of the plate will depend on the depth of the fluting and the radius of the gouge – I generally cut it to 4.7mm.



The fluting goes all the way to the edge

3 To begin the arching, I create a flat platform around 15mm from the edge for the bouts, and around 8mm for the C-bouts, using the saw cut as a guide. I then cut the provisional fluting, leaving an extra 0.2mm–0.3mm for security. The fluting goes all the way to the edge, leaving a margin of just 2mm. I never need to measure this – fingertips or the presence of a good shadow are precise enough.

For a Stradivari model, I use a 25mm no.6 sweep gouge for the flutings in the bouts. The C-bouts require a 12mm no.6 sweep. These are unsuitable for a Guarneri 'del Gesù' model, however, which has tighter curves. (The model in the pictures is a 'del Gesù'.)

ALL PHOTOS: ULRICH HINSBERGER



4

Scraping the arching

4 I connect the arching with the preliminary fluting and finish it. This step gives the arching the look of a classical model, but requires a little practice as the outlines and purfling are not yet finished. Scraping the arching right up to the edge creates a nice fluting and connecting area with a natural look. I am convinced of its historical validity.



5

A flat file is used to finish off the outlines

5 To finish off the outlines, I prefer to use a flat thumb plane for the bouts and a knife, plus a range of different files, for the inner curves.



6

Two cutters are useful for cutting the purfling channel

6 Using two separate cutters to cut the purfling channel gives more freedom and a more organic look to the finished article. A very well-executed cut made with a double cutter can look too good, owing to its uniform width. I am also able to make finer adjustments to the distance between the inner and outer lines than I could do with a double cutter. Plus, it is easy to make mistakes on the front, where the rings are parallel, and using a single cutter means a mistake can be avoided when cutting round the second time. I then insert the purfling.



7

Scraping to the edge

7 After cutting the fluting almost all the way to the edge (leaving around 0.2mm), I cut down the purfling. Next, I work on the transitions to the arching and scrape the arching. I scrape to the edge again (as described in step 4) without worrying about damage to the edge, as any mistakes will disappear when the edges are rolled over. ▶



8

Tape is used to protect the ribs

8 I start the edgework at the inner edges, using a light masking tape to protect the ribs. This way, I can let the flat thumb plane rest on it, maintaining a constant angle without damaging the ribs. The support also means the weaker hand can be used for the planing (with a little practice). I use a knife for the inside curves, taking care not to cut into the ribs. The same procedure can then be used for the outer edges.



9

Sanding the edge with carefully folded sandpaper

9 I make a few chamfers, then file and sand the whole edge with three different sandpapers of increasing fineness (150, 220 and 280 grit). I fold each sandpaper at least four times, starting with the end-grain. This gives the paper a degree of internal support, so that when sanding, it will not affect the critical areas of soft wood along the grain.

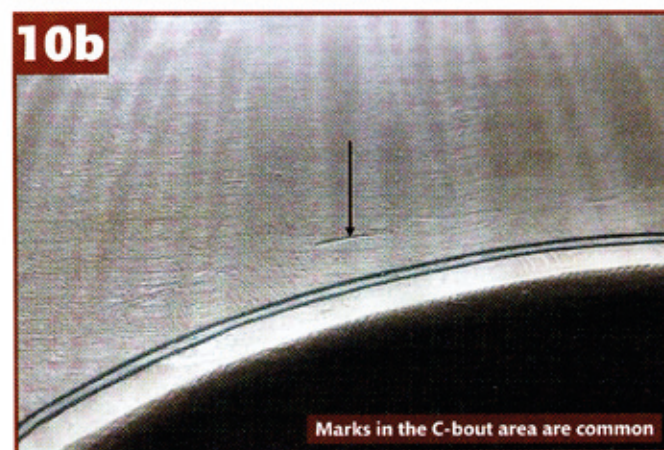
Using this method to finish the edges and the transition to the fluting, I reduce the thickness of the edge to around 4mm. However, only the corners and button show the increased thickness. I love this method because it makes it easy to give the edge a classical profile, with clean transitions to the fluting.



10a

Small variations in the edge thickness are common

10 Depending on how precisely the fluting is executed, there will always be small variations in the thickness of the edge, which I adjust with a flat thumb plane or a file (figure 10a). This could be one reason for the marks in the C-bout area on instruments by Stradivari and others. Instruments from throughout Stradivari's career bear such marks, as do earlier Guarneri 'del Gesù' works (figure 10b). This ties in with Stradivari's working method, as well as the earlier period of 'del Gesù', who considered such details unimportant in his later career. Stradivari, however, attended to these details throughout his life. ■



10b

Marks in the C-bout area are common



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