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## “Nicola Rossi 1844” Double Bass Restoration

The instrument is property of the “Conservatorio G. Verdi” of Milano

I began the restoration in the late springtime 2008.

The aim of the work was to show it in the institution's museum. The teachers are allowed to play the bass regularly.

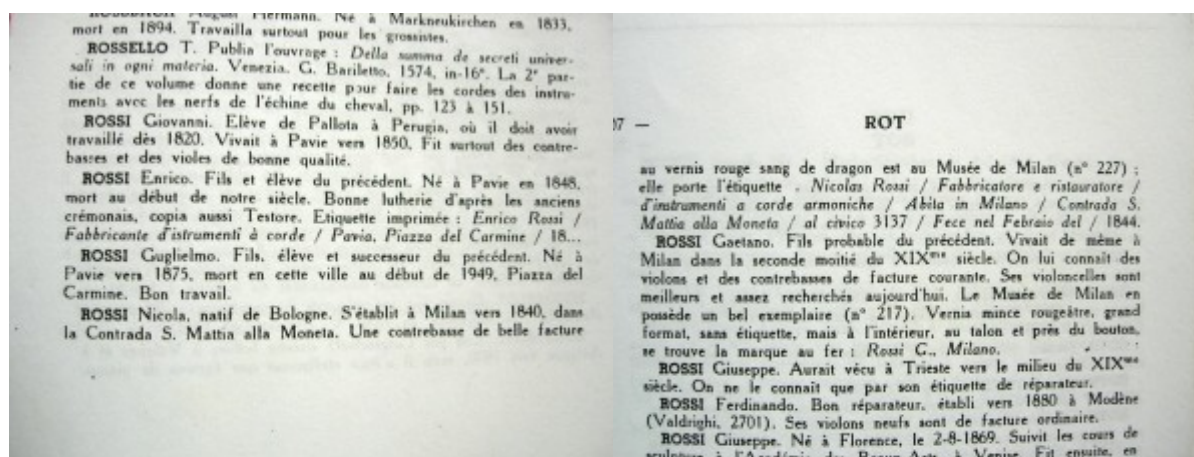
These notes and pictures were collected to document the work I made.

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## Premise

The instrument is probably the double bass mentioned by Rene' Vannes in the 1951 edition of his book. (Rene' Vannes, Dictionnaire Universel des Luthiers, deuxième édition, Bruxelles, Les amis de la musique.)



Picture 1 Picture 2

The making is fine. The thick red orange varnish seem to be an oil one.

The front was made with spruce; back, ribs and scroll with beech. There is a maple neck graft, maybe made by the luthier Erminio Malaguti, of whom two 1965 repair labels are glued inside the instrument.

There is an aluminium endpin button, not original, from the "Ferrarotti" factory of Torino.

An high "saddle" is screwed at the lower block to reduce the bridge pressure on the top.

The six pieces front is in good conditions, with some wears and replacements of the edges and an unglued joint.

On the ribs there are many cracks, heavily repaired with perpendicular fiber spruce. A sector of the ribs near the lower block was replaced with plane tree wood.

The two pieces carved back is bent at the upper part

The central joint is partly unglued, there is a crack at the E side shoulder, the bend and the bend bar are broken.

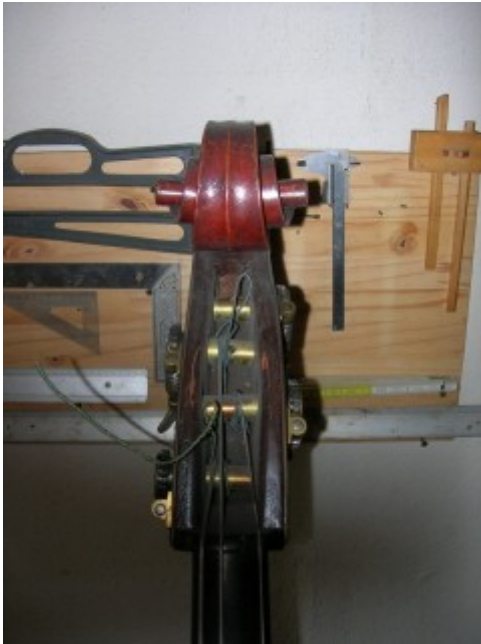
The back button was modified with replacements of edges and purfle.



**Figura 3, Figura 4,**



**Figura 5, Figura 6**



**Figura 7, Figura 8, Figura 9, Figura 10**





**Figura 11, Figura 12**



**Figura 13, Figura 14**



**Figura 15, Figura 16**



**Figura 17**



**Figura 18, Figura 19 -**



**Figura 20 , Figura 21**

The measurements are: lower width mm708, upper width mm485, C bouts width mm335, body length mm1133, rib height at the lower block mm220, at the bend mm203, at the neck block mm135

The instrument has small shoulders and large lower bouts

The design of the C bouts and corners is made with wide and soft curves.

The scroll carving is firm, not perpendicular, with long ears.



The pegbox was modified and double cheeked.



**Figura 22**

The body stop, mm 578, as indicated by the f holes cuts, is very near the center of the body length,

So the string length is short if related to the body size.

At the moment the string length is mm1045 with an Eb neck graft.

## First works

On the instrument I can see marginal woodworms attacks. As any woodworm hole is filled with wax or filler, I think that previous disinfestations were successful.

To be sure I inject a product ( Xilamon ) with dichlofluanid and permetrin into the holes. I will use the same product with a brush on the interior surfaces.

I take off strings, bridge and soundpost.



**Figura 23**

I will not use again the warped bridge.

I take off the tuning gears to lighten the neck during its removal.



**Figura 24**

The gears are a craftmade turning work of the '50 years of the last century. They are heavy and unpleasant for our contemporary taste, but well machined and perfectly working.

The pegbox double cheeking was made before the placement of these gears, as previous ones were inserted in the new cheeks. They had 4 single rectangular plates, and were probably german or austrian.



**Figura 25, Figura 26**

I take off the neck.

I will make a new neck graft to cut the heel at D, which is a condition now for playability.

I remove it before opening the body to save the ribs from excessive weight which would deform or break them.

The mortise is almost perpendicular, and some plane tree pieces are glued in.



**Figura 27, Figura 28**

I freeze for now the work on the neck and I start opening the back.



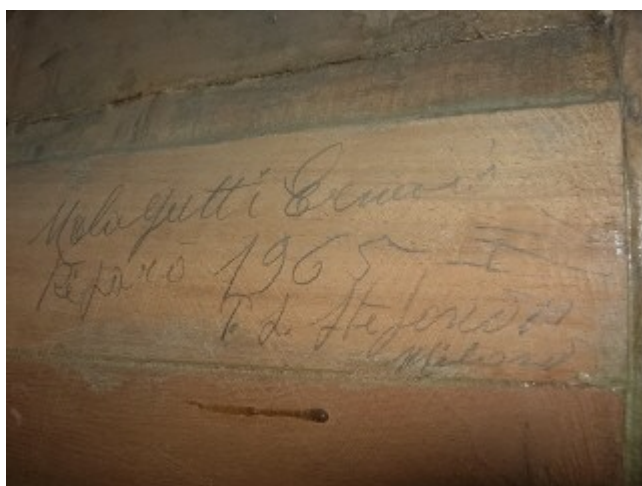
Once opened the back I can see that:

The ribs are completely doubled ( except under the linings) with perpendicular fiber spruce



**Figura 29, Figura 30**

This work was signed by the luthier Erminio Malagutti (1965 restoration)



**Figura 31**

The plane tree replacement of the ribs, under the lower block, is doubled with a parallel fiber walnut wood sector

The spruce block is probably not original.



**Figura 32 , Figura 33**

The neck block was made with poplar, like the corner blocks, and shows two holes and two different wedges, probably to adjust the neck angle



**Figura 34 , Figura 35**

My guess is that before the 1965 restoration another neck (original or not ) was screwed to the block to strengthen the joint.

Maybe during that work the pegbox was modified.

## Back

On the back the Nicola Rossi label is glued. There are also the two (!) Malagutti labels of the 1965 restoration ( printed Malaguti and signed Malagutti )



Figura 36



Figura 37, Figura 38

I remove the bend bar from the back, which is broken and seems to be not original.

I also remove the central joint and the repaired cracks reinforcements. I clean the inside surface from the dirt and the glue drops.

I leave the Nicola Rossi and the Erminio Malagutti labels



**Figura 39, Figura 40**

The back is quite thick. Along the central joint the thickness increase to mm14,6 at the lower part and mm8 above the bend.

The edges are mm6 above the bend and mm8 elsewhere.

Between the central joint and the edges the thickness is more or less mm8 at the lower part and mm6 above the bend.



The broken bend was repaired with a poorly done replacement and with filler.



**Figura 41, Figura 42**

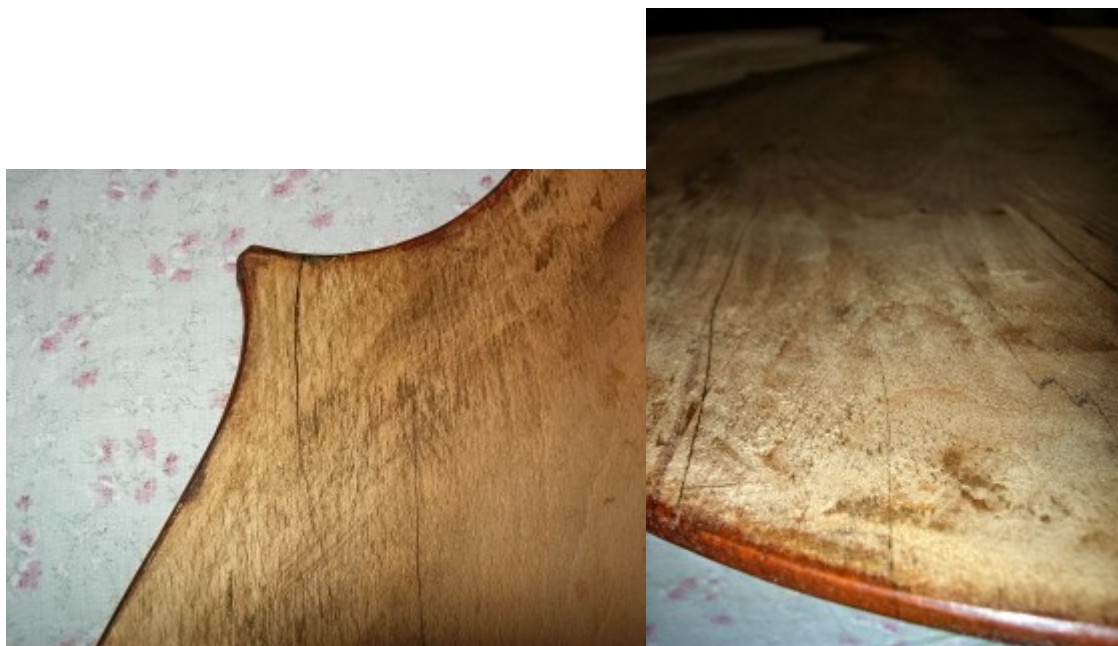
Firstly I repair separately the two parts of the back above and under the broken bend.

On the lower part the central joint, the two cracks near the G side upper corner,



**Figura 43, Figura 44**

and, on the E side, the cracks at the lower corner, at the lower bout “slab” of the beechn, the knot near the upper corner



**Figura 45, Figura 46**



**Figura 47**

On the upper part, the crack at the G side,



**Figura 48**

the one on the E side near the central joint and the joint itself.



**Figura 49**

A peg is inserted in an hole at the joint, where probably a centring pin was removed in a previous restoration.

While the two back parts are separated I also double the back at the neck block area, which is quite damaged

I leave some extra wood at the cut back button to put an ebony replacement later.



**Figura 50**



**Figura 51**



I use a parallel fibre “bar” to glue the two parts of the back.

I test the angle on the front-ribs whole.



**Figura 52**



**Figura 53, Figura 54**

I make a new filling slice at the bend.



Figura 55



**Figura 56**

I put apart the back and begin the work on the ribs.



**Figura 57**



**Figura 58**



## Ribs

I remove the screwed and glued “saddle”



**Figura 59**

I unstick the ribs from the front.

There are centring nails (!) at the upper and lower blocks



Figura 60, Figura 61

I remove the spruce doubling, gluing the blocks where needed.

The E side upper rib has a long crack at the beech slab. There are also some small cracks and a xilofages attack near the front gluing joint. The related lining has to be replaced to repair the rib, while the back one has a lack near the bend.



**Figura 62**



**Figura 63**

The E side C rib has a crack at the beech slab and a woodworm lack near the upper corner. Here too the front lining, partially worm eaten, has to be replaced.



**Figura 64**



**Figura 65**

The E side lower rib has two series of cracks, near the corner block and near the lower block, while elsewhere it is in better conditions. I see a xilofages attack near the lower block too.



Figura 66, Figura 67



Figura 68, Figura 69



At the lower block a rib sector was replaced, and the joint reinforced with a walnut doubling.

It is strong enough, so I leave it to avoid damages during the removal. I replaced the block, not original, poorly done and partially unglued.



**Figura 70**



**Figura 71**

The G side lower rib has three long cracks along the beech slab, and some smaller ones towards the front joint.



**Figura 72**



**Figura 73**

The G side C rib has two cracks at the beech slab.



**Figura 74**



**Figura 75**

The G side upper rib has a long crack at the beech slab and some smaller ones near it.

There is a crack near the neck block too, where the rib is partially unglued. The back lining has a lack near the bend, where the rib is cracked and deformed.

Between the bend and the block I replace the lining to repair the crack and correct the deformation. The neck block is fragile for the two holes, the wedges and the deep mortise. I replace it too



**Figura 76**



**Figura 77**



I repair with new wood the lacks from beech shrinks and woodworms attacks



**Figura 78**



**Figura 79**



**Figura 80, Figura 81**



**Figura 82**



**Figura 83, Figura 84**

## Front

The front is in fairly good conditions.

There is no soundpost crack; the joints are well glued, except the one from the E side F hole to the lower edge; there is a small crack near the neck block, G side, and similar others at the lower block.



**Figura 85**



The gluing plane is partially duobled: with spruce at the neck block joint;



**Figura 86**

walnut at the E side upper corner and lower maximum width;



**Figura 87, Figura 88**



filler (!) at the G side upper corner and at the lower block joint.



**Figura 89, Figura 90**

The E side shoulder has an undoubled replacement of the edge.



**Figura 91**

The inside surface shows traces of a toothed tool

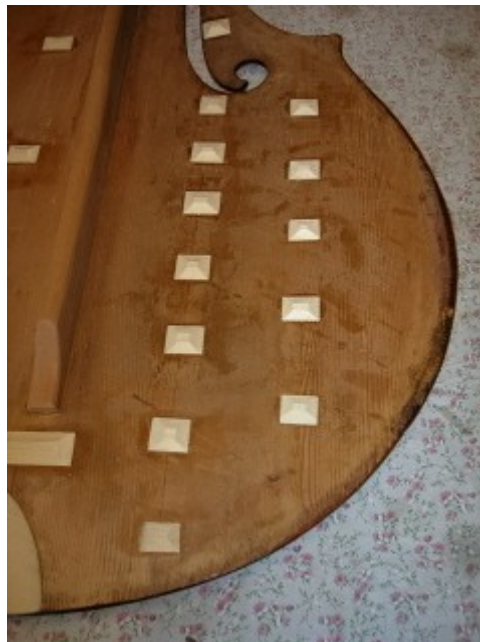
The front is not so thick as the back is, but still it is consistent.

Here too there is an increase along the central joint, mm9 to mm10

The edges thickness is mm8 at the lower bouts and mm7 at C bouts and shoulders;  
the area between the central joint and the edges go down to mm6,3 at the lower G side,  
and to mm7,5 – 8 elsewhere.

The arching height is low, more or less mm27 including the edge thickness.

I clean the front and repair cracks and joints.



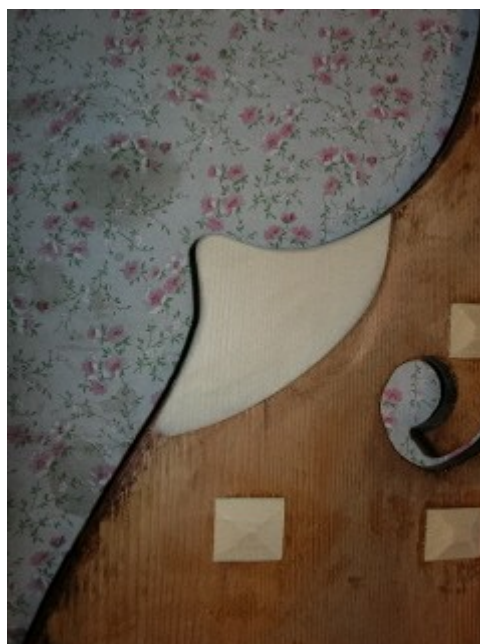
**Figura 92**

I remove the filler and double the G side upper corner and the lower block area



**Figura 93, Figura 94**

I double the G side lower corner too, as the previous walnut doubling is weak,



**Figura 95**

the E side shoulder and upper corner, for the undoubled edge replacement and surface damage.



**Figura 96**

I leave the spruce doubling at the upper block area and the walnut one at the E side lower bout. The bass bar is not original but well positioned, and the fibre is right.



**Figura 97**

The shape is very stiff, but I don't change it for the arching weakness and to save a typical half '900 work.





**Figura 98**

Firstly I glue the front



**Figura 99**

to cut easily the mortise. I leave some extra wood to fit the neck joint.



**Figura 100, Figura 101**

I reinforce with cloth the weak spots ( cracks, woodworm attacks ) to prevent future damages.



**Figura 102, Figura 103**





**Figura 104**



**Figura 105**



I close the body. I replace with ebony the back button,



**Figura 106**

which was modified in a previous restoration, to cut a D neck graft and an acceptable heel angle.

## Neck, Pegbox, Scroll

As said, the instrument has an Eb neck graft.



Figura 107, Figura 108, Figura 109

The graft is partly unglued and finished with filler.

I make a new D neck graft for playability and for the previous poor woodwork..

The pegbox was modified to double the cheeks (straightened and thinned). In the double cheeks 4 square plates gears where inserted, probably German or Austrian.

I cannot see any closed hole on the pegbox, so I think that the instrument always was a 4 stringer.

I do not remove the well glued duoble cheeks as they reinforce the thinned original ones.



**Figura 110**



**Figura 111, Figura 112**

I do not change the string length, which is mm1045 as before. To reach the D neck I make a longer heel and back button



**Figura 113**



## Varnish

I finish and glue the ebony parts. I clean the varnish with pumice powder and linseed oil.

Near the purfle the varnish was blackened during an old restoration, maybe to hide some purfle and edge replacement.

I do not clean this area completely, to avoid wider touch, new replacements and at last more damages for the original work.

I touch the new wood slices at ribs and back and the scratches with spirit varnish.

I finish with a fad and thin shellac. I polish with tripoli powder and linseed oil.

I clean the gears.

The work was soft on the patina. I did not touch the wears. I left the crackle and some melt rosin traces.

The aim was to give back the instrument an aesthetic coherence, to allow the perception of it as a whole, more than a sum of parts.



**Figura 114**



**Figura 115**



**Figura 116**





**Figura 117**



**Figura 118**

## Set up

I make a new fingerboard, soundpost and bridge.

I change the Ferrarotti endpin with a new one. ( it did not work )



**Figura 119**

The cuts are not positioned at the f holes centre. The Maker put them a little high.

The label is glued on the back under the G side f hole. So the soundpost cannot be placed too near the bridge.



**Figura 120**



**Figura 121**

The resulting set up has a short body stop, comfortable thumb playing and a “modern” soundpost position. The instrument was very ahead of the times when it was made, and it is quite suitable for today's needs.