

Henry Morris Memorial Trust

CELLO RESTORATION & UPCYCLE

By Samuel Lewes



BEFORE

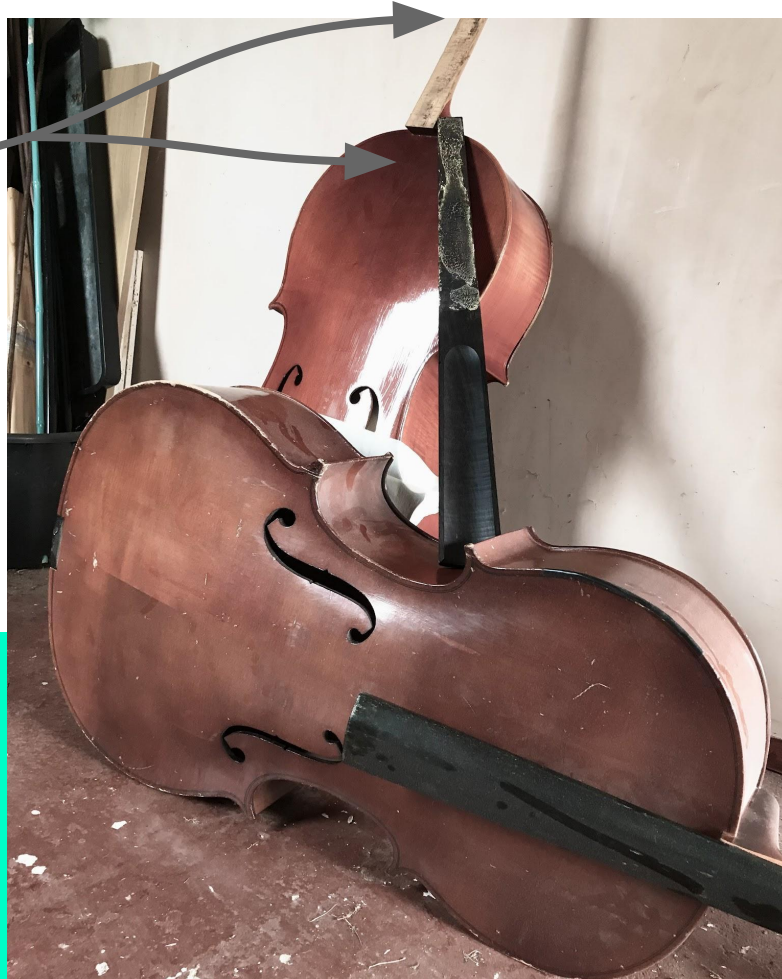


Faulty areas

Neck broken in two places

Peeling, scratched and discoloured varnish

Missing strings, tail pieces, endpins and bridges



Overview:

My school's music department had two, old, unplayable cellos which they were going to skip, but I claimed them and took them home to repair. However, in the sanding process, 2 unexpected cracks were uncovered in one of the cello's neck requiring professional repair. This meant only one of the cellos could be repaired where the other I decided to upcycle into a clock.



Cello A



Cello B



Step 1. First, me and my dad started removing the varnish from **cello A**. We started on the front and used up an open tin of varnish remover from the garage. We dabbed it on the wood with a small sponge and let to blister before scraping. The varnish was extremely stubborn and you could tell it was not meant to come off. A couple hours of scrubbing and scraping later, we managed to remove most of the varnish from the surface. This is when we realised that because of the resistant varnish, our method wasn't going to work so we sanded the rest down with an electric sander and used coarse sandpaper on the head and neck. This is when we found the crack in the neck and concluded that it wouldn't be able to withstand the tension of the strings and therefore unplayable.

As for **cello B**, we were determined to remove as much varnish as we could to improve the sound quality and resonance of the cello so we used our rotational sander and used a high speed setting.



Cello A



Cello B



Cello A



Cello B

Step 2. Because we were turning **cello A** into a clock, we didn't have to worry about sound quality so we were able to paint a primer for added protection. Next, we glued the cracks in **cello A** and the split in **cello B** (which is quite common between the sides and back and is easily fixable) with wood glue.

Step 3. After the glue dried, I sprayed the cellos with a black spray paint. Originally, we were going to use a black wood stain but when we tested it on **cello A** the results were terrible. We then settled on the spray because it wouldn't affect the sound as much as normal paint,



Cello A



Cello B

Step 4. I painted the cello heads and the fingerboard with some gold paint. The gold paint used for cello B was thicker and I only needed 2 coats where the gold I used for cello A was thinner and took many coats. Each took a long time to dry. I also gave the pegs a coat of black with the same paint used for the rest of the cello.



Cello A



Cello B



Step 5. After all the paint was dry on **cello A**, I glued the fingerboard onto the neck with wood glue and clamped it overnight. I used sticky-back acrylic sheets and placed them through a card-cutting machine to stamp out the letters. Then I sprayed the cellos with a clear laquer to protect the paint and produce a shiny finish. On application of the laquer, the gold paint on the heads blistered a little, but actually turned out looking OK because the paint had formed a cool pattern.

STEP 6

Put in the clock mechanism, hands, numbers and touch-up missed spots with black paint. (Cello A)



To put in the clock hands I had to cut a hole in the back of the cello with a jigsaw and drill a hole in the front of the cello. Then I inserted the clock mechanism, attaching it to the front with a bolt on the other side, and slid on the hands.

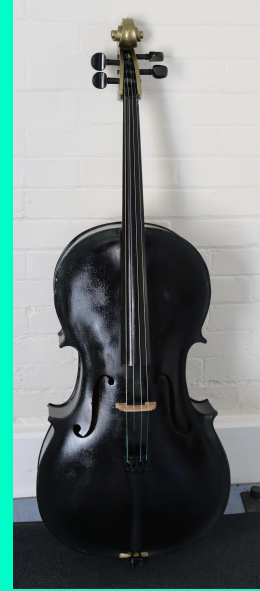
AFTER





I would like to thank the Henry Morris Memorial Trust for giving me the opportunity to save two instruments from the skip and giving Sawston Village College a working cello estimated to be worth over £1,200. Both cellos were gifted to the school's head of music, Clare Irwin and were strongly appreciated. This project was a fantastic experience and I learnt skills which will help me in my DT GCSE coursework.

“This plays brilliantly! I don’t know what you did Sam, but it sounds better than when it was new.”



Ms Johnson –
cello teacher at SVC.

Special thanks to Arwen Gilbert for the support, Lesley Morgan for encouraging me to persue the project, and Ms Johnson for stringing the cello.