

**Takayama-Denver Sister City Partnership
60th Anniversary Project**

**Denver Float Repairing Project
Repairing Item Implementation Report**



Gifu Prefectural Takayama Industrial High School

Repairing item

Repair 1 Daiwa (Plinth Block) ... Change the surface material and
decoration of Daiwa

Repair 2 Lower part of the rim ... Change the decorative fitment (made
by wood)

Repair 3 Lower handrail ... Change of decoration panels

Repair 4 Middle Misu (blind)... Have new front Misu (blind)

Repair 5 Middle stage rim ... Change of decorative fitment (made by
wood)

Repair 6 Lower and middle rim ... Repaint the lower and middle rim

Repair 7 Roof ... Replace surface materials of ridge

Repair 8 Lantern decorations ... Create new lanterns on the middle
and upper stage

Repair 9 See-through curtain ... Install new See-through curtain on
the back side

Repair Details

Repair 1 Daiwa (Plinth Block)

Make new parts of Daiwa and replace because its whole front is peeled off.

Also make new golden decoration and replace. Fit red and white color strings on the front of float.

In charge of Takayama Industrial High School

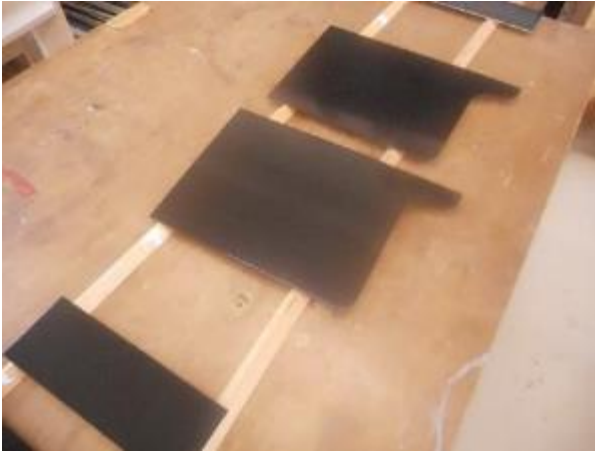


Current status and repairing section



Daiwa repairing process

1 Cut and black paint plywoods



2 Form decorative fitment with carving knife



3 Substrate polish (using sand paper)



4 Base paint (apply rough paint)



5 Gold paint (overpainted 4 times with spray)



6 Assemble each parts tentatively



Student impressions

Cutting out the contour line of each parts was very fine work. By taking care of every work very carefully, measured parts were perfectly fit and got well finished.

Repair Details

Repair 2 Lower rim

Make and replace decorative fitments made by a single plate because Lower edge rims (paper decoration) is peeled off a lot.

In charge of Takayama Industrial High School



Current status repairing section



Lower edge rim repair process

(Manufacturing 27 pieces of plated items)

1 Cutting plate for single piece



2 Bending and forming a plywood using a pipe



3 Cutting along the outline



4 Base paint (apply rough paint)



5 Process corner material to 45 °



6 golden paint (overpainted 4 times with spray)



Student impressions

When laminating plywoods to three layers and bending with a pipe, it was difficult to bond well. In the process of cutting along the contour, there was a happening that one of them slightly cut his hand.

Repair Details

Repair 3 Lower handrail

There are deformation of the decoration panel of the lower handrail and tears of the paper base due to its drawings.

Make and replace the entire panels including the decoration.

In charge of Takayama Industrial High School



Current status and repairing section



Lower level handrail repair process

(Made 20 decorative frames)

1 Cutting off a gold cloth



2 Bond gold clothes to the base plates



3 Trimming frames



4 Finishing processing of decoration frame



5 golden paint (overpainted 4 times)



6 Combining gold cloth and decorated frame



Student impressions

Cut the gold cloth carefully by setting the position of the main pattern comes in the middle. Also processed the decorative frames carefully because they are very thin. When combining gold cloth and decorative frame, took care not to cause a gap between each parts.

Repair Details

Repair 4 Middle Misu (blind)

Currently, Misu is set on the back side mistakenly by the past assembly. Create new Misu and install on the correct front side.

In charge of Takayama Industrial High School



Current status and repairing section

Backward Misu



Image (Composition)

Middle Misu repair process

1 Trimming the timber of Misu frame



2 Polishing its surface



3 Cutting in 45 °



4 Frame assembly



5 Attaching the decolated items



6 Completed



Student impressions

It was a difficult task to attach the decolated items in a well-balanced and beautiful manner. It was nice the blind part, which color we chose, to fit in the frame perfectly.

Repair Details

Repairing 5 Middle stage rim

The gold decorations (made by papers) of the middle stage rim are peeled out. Make new one by plywood and replace them.

In charge of Takayama Industrial High School



Current status and repairing section



Middle stage rim repair process

(Manufacture of 25 pieces of silverware)

1 Rough cut based on the outline



2 Cutting along the contour line



3 Applying the first coat by urethane paint



4 Processing nail holes for attaching



5 Rough coating of their surface



6 Gold paint



Student impressions

It was very difficult process to cut out along the contour line with curved surface. We worked carefully by enhancing concentration so as not to fail it because the same work continued. It was good to be able to make it without major mistakes.

Repair Details

Repairing 6 Lower and middle rim

Repaint the lower and middle step rims by aqueous black paint after peeled off all the old gold decorations and polished its surface.

In charge of the Denver Takayama Sister City Committee



Current status and repairing section



Lower and middle rim repair contents

(A total of 80 pieces are made by adding 38 pieces of gold decolation)

1 Bonding plywoods (for gold decolations)



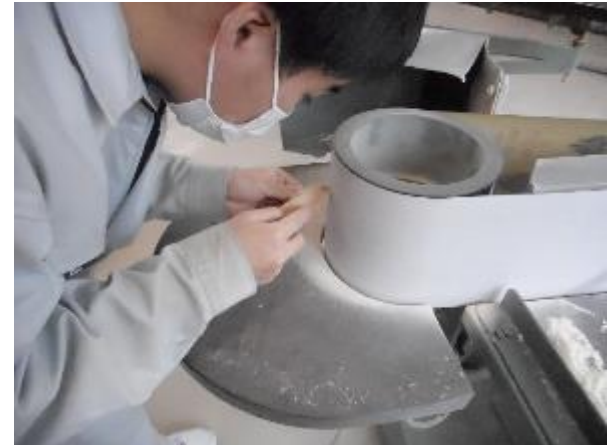
2 Make a cutting tool in 45°



3 Base paint (aqueous urethane paint)



4 Cutting and shaving



5 Gold painting the inner part



6 Finished gold paint (4 processes)



Student impressions

We made the total of almost 80 pieces of gold decolation parts. When painted primer and rough paint, we needed to focus on not to apply too much paint. It was good to be able to make a beautiful decolations.

Repair Details

Repair 7 Roof

The board of the ridge of its roof is peeled off.
After cutting off the surface and applying new
plywoods, painting in black.
Also it is missing one chrysanthemum crest.
Making new 6 crests and replacing all.

In charge of the Denver Takayama Sister City
Committee
(Mr. Kida • Mr. Thomas requested)
Takayama Industrial High School



Current status and repairing section



Roof decoration contents

1 Manufacturing a chrysanthemum mold in silicon



2 Preparation of resin



3 Pour resin into the chrysanthemum shape mold



4 Take out from the mold



5 Gold finish



Students of electronic machine department
who are in charge of its manufacture



Student impressions

The resin gets hard easily when it is mixed with the curing agent. Therefore we carefully poured resin into the mold with making sure not to spend too much time. It was great that our technology could help for the Denver project.

Repair Details

Repair 8 Lantern decoration

Installing and decorating the lanterns in the lower and middle stages. Make about 40 lanterns.

In charge of Takayama Industrial High School



Current status and repairing section

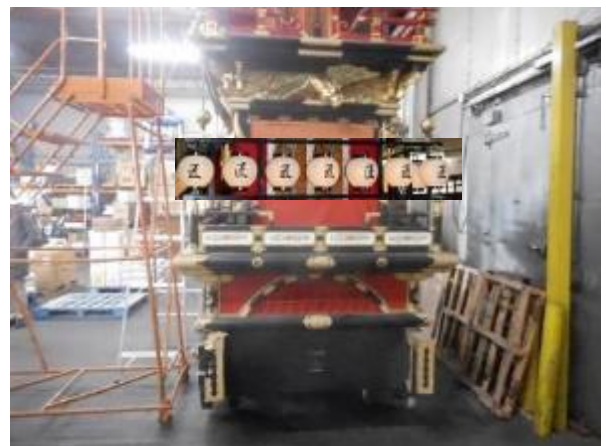


Image (Composition)

Lantern decoration process

1 Producing rings (250 pieces)



2 Producing lanterns



3 Gluing Japanese papers



4 Producing black rings



5 Combing lantern parts



6 Creating the lantern frame



Student impressions

Lantern parts were the biggest challenge in this project. We did all the process, making rings, glueing Japanese washi paper, and combing all lantern parts. There were many delicate processes and needed to make many lanterns. We got some troubles too, but it was great to produce 50 lanterns eventually.

Repair Details

Repair 9 See-through curtain

When the float was donated to Denver, the curtain seems to be with it.

Making and installing new one because currently it is missing.

In charge of Takayama Industrial High School
(Requested to Calligraphy Club)



Current status and repairing section

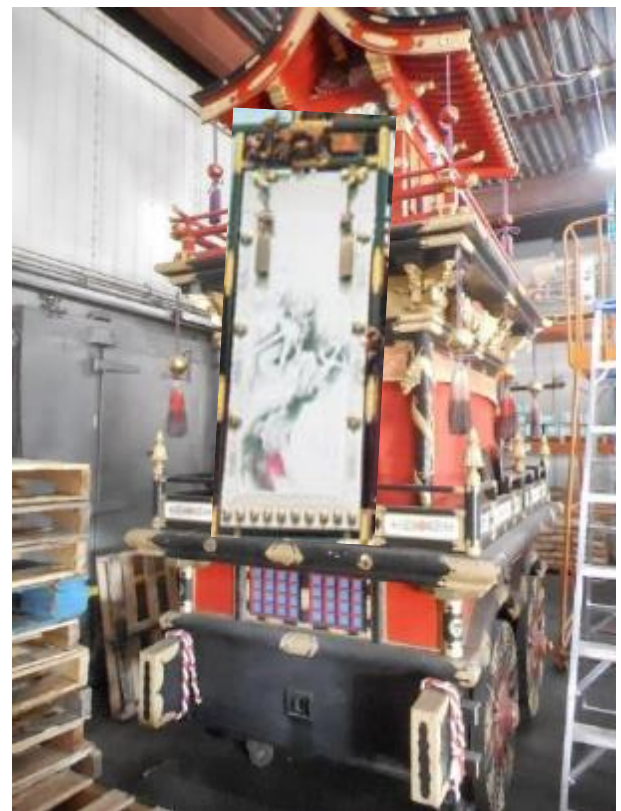


Image (Composition)

See-through curtain production process

1 Drawing the original draft



2 coloring work



3 Processing wood into frame



4 Frame assembly



5 Decorating the gold parts



6 Making Tenkoku stamp



Student impressions

The see-through curtain was produced together with the engineering department, the art department, and the calligraphy club. So we were able to create an excellent see-through curtain as the results that everyone focused on its role.

Completed parts list

Repair 1 Daiwa (Plinth Block)



Repair 2 Lower part of the rim



Repair 3 Lower handrail



Repair 4 Middle Misu



Repair 5 Middle stage rim



Repair 6 Lower and middle rim

Repair 7 Roof (Kikumon)



Repair 8 Lantern decorations



Repair 9 See-through curtain

