Great Division Wind Reservoir – Phase I

On Monday, August 9, 2021, a crew from Messrs. Czelusniak et Dugal, Inc., went to the First Church of Monson to disconnect and remove from the organ and the church the main wind reservoir for the Great division of the pipe organ, the same component then to proceed directly through the thorough shop releathering restoration. The following images document that entire process.

First, the removal of the reservoir

Out of the chamber, temporarily on top of the console, and then on its way out of the building ….

Back in the workshop, the full extent of age and deterioration were fully apparent.

As the reservoir was dismantled for overhaul, the wind-flow regulator valves for the Great division were the first parts to come into view.

The dimensions of the rest of the reservoir (expansion especially) were documented, and the bellows ribs and gussets started to come apart for stripping and cleaning.

After stripping the original leather off of all wood surfaces, then sanding and cleaning that wood, the releathering process began very quickly, first reconstructing the bellows folds, or ribs, using comparable materials as found, all bound with hot hide glue.

This image shows the inner hinges of the bellows ribs bound together with sturdy twill, but all exterior ribs, to frames, and of gusset corners are accomplished with a special selection of leathers.

One strip of exterior rib leather being skived on its edges (by hand, with razor blade against glass) so that when glued down, it will lay very flat, adhere well, and not be pulled up at its edges later.

This image shows the process of gluing the exterior rib hinges to the reservoir frame. The blue tape is used temporarily to protect the original finish of the reservoir structure.

The next step in the releathering process is to expand the reservoir to its maximum height, and then apply the gusset corners.

This image shows the Great wind reservoir fully releathered in the shop.

The reservoir repeats its travels to the church

Those are the tubular Chimes hanging vertically to the left of the wind reservoir

These images show the Great wind reservoir restored within the organ, and at work supplying the wind to the main windchest. The black galvanized pipe delivers wind from the organ blower to the reservoir; the black flexible conductor delivers regulated wind pressure (3.00” water column) to the Great windchest.

Pedal Division Wind Reservoirs – Phase II

On Thursday, October 7, 2021, a crew from Messrs. Czelusniak et Dugal, Inc., went to the First Church of Monson to disconnect and remove from the organ and the church the two wind reservoirs serving the Pedal division of the pipe organ, the same components then to proceed directly through the thorough shop releathering of both reservoirs first.

This image is the reservoir from within the more accessible right side of the organ case

Pedal-stop treble pipes are visible to the rear, as the wind-feed pipe to that wind reservoir and the same pipe sealed off temporarily.

Removal of the
Pedal reservoirs

This image shows the eight pressure springs from the two reservoirs, as well as the four spring rails, all of which will be cleaned, repaired, and refinished for reinstallation later.

The image on the left illustrates the cracking rib leather and triage-based over-covers of leather on some corners. The image on the right illustrates at least one failing leather cover that was leaking to the atmosphere.

This is the curtain valve inside one of the two Pedal reservoirs. These cut-off devises restrict the in-flow of static wind pressure as the individual reservoir rises, thus maintaining equilibrium in the wind supply and the specific pressure regulations being fed to the Pedal pipework.

This image shows the inside of one of the two Pedal wind reservoirs, including the high-pressure inlet box with the grid for curtain valve regulation. The reservoir box has been stripped, cleaned, and sanded; the first binding hinges for the bellows ribs are being applied to the top of the reservoir frame.

Thereafter, the curtain valve, with all materials renewed, is reinstalled inside the inlet box, facing the grid.

This image shows the inside of the floating top panel of one of the Pedal wind reservoirs which has been stripped, cleaned, and sanded

The reinstallation of the Pedal wind reservoirs

The pairs of bellows ribs are attached to the top panel of the wind reservoir and bound into place by the outside covering of white hinge leather.

New leather out hinges bind together the bellows ribs, all around the periphery of the windbox. One wind reservoir is blocked and bound open to permit the application of the leather gusset corners.

The application
of leather
gusset corners

Choir Division Wind Reservoir – Phase III

On Tuesday, January 18, 2022, a crew from Messrs. Czelusniak et Dugal, Inc., went to the First Church of Monson to disconnect and remove from the organ and the church the main wind reservoir and related wind trunks serving the Choir division of the pipe organ.

The Choir wind reservoir in place within the organ case.

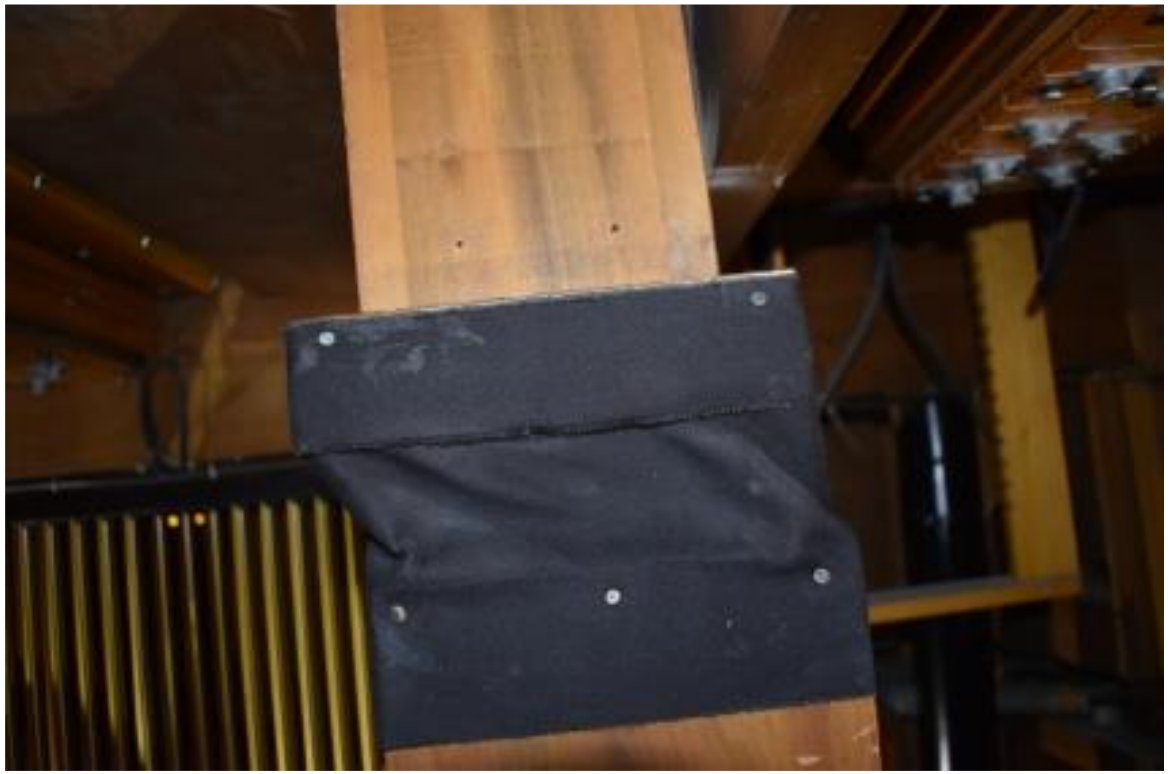
The Choir wind reservoir and its various wind ducts delivering or conveying wind pressure in and out of the regulator box.

The removal of the bridging of the main wind line to the shop … thus exposing the main wind line across the floor of the chamber

The same parts awaiting loading and, later still, the same parts have been cleaned and rebuilt in the shop with stronger connections before their reinstallation

On January 19, 2022, this special adaptor was installed and connected to secure wind-pressure lines so that the Swell stop actions would continue to function.

The wooden wind trunk connecting the Choir reservoir to its windchest



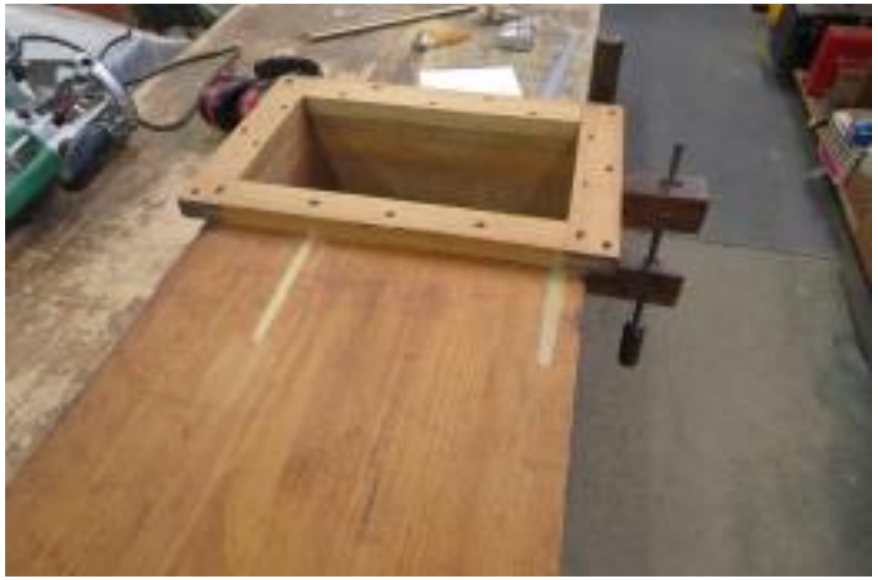
This is the wooden wind trunk. The gold-colored tubes of the Chimes accessory can be seen hanging in the background

The wooden wind trunks are disassembled for stripping and cleaning in preparation for repairs and releathering

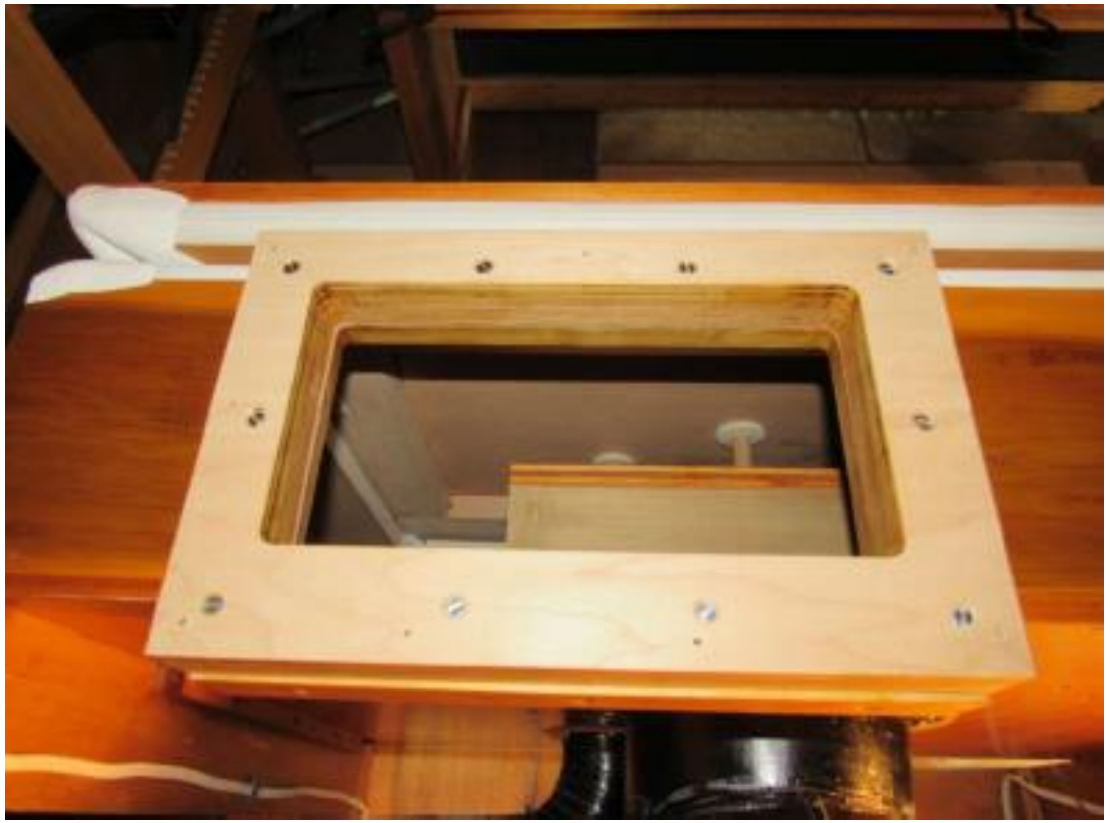
New extension plates of custom plywood were fabricated. The extension plate is clamped onto the original flange at the end of the wind trunk

Cracks found within the wooden wind trunk were corrected permanently by routing out the split areas of the trunk and gluing in splines of aged and dry wood of similar species

The continuation of the rebuilding of the wood wind trunk

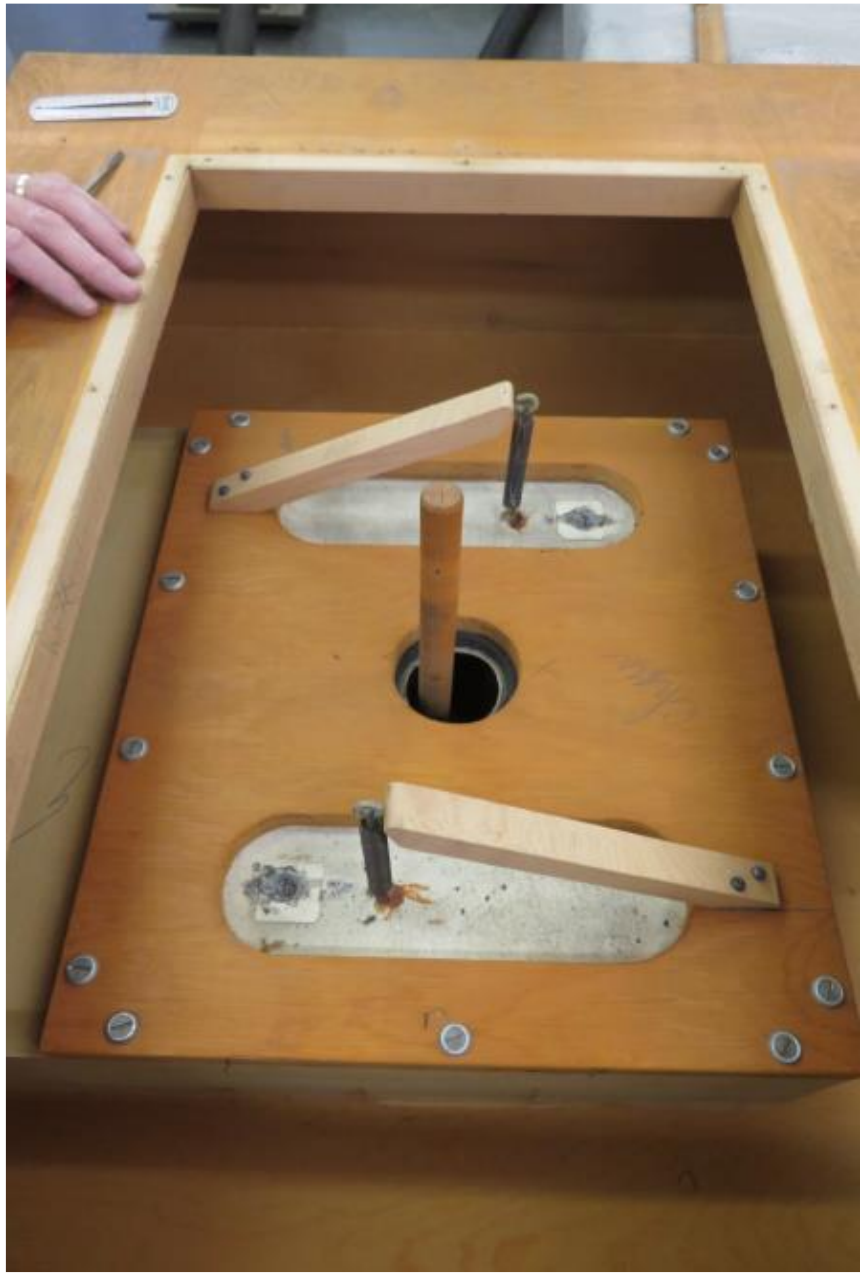


The interiors of the trunk sections were releathered where necessary to secure the old cracks against internal wind pressure

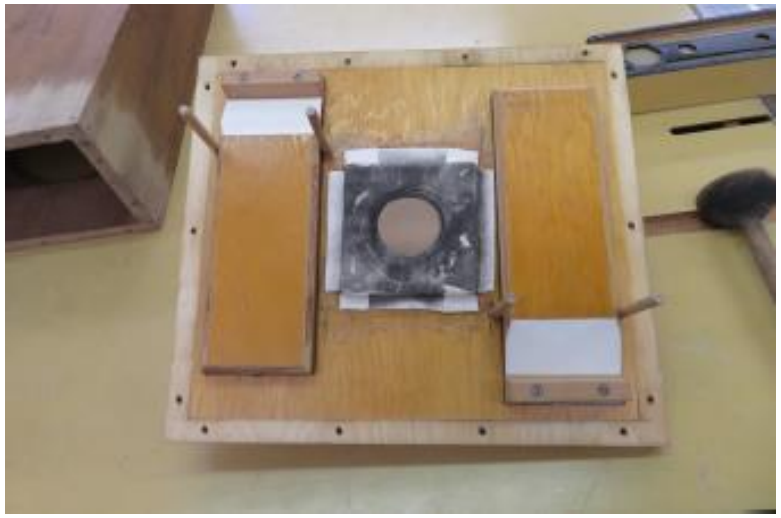


Unpacking of the fully refurbished wind trunk and already in place in the restored Choir wind reservoir, with a new extension plate showing on its face, where the wind trunk will mount.

The wind-pressure conveyance reinstalled between the reservoir and windchest inside the organ chamber, with the black pipe connecting the regulated Choir division wind pressure to the accessory Tremolo machine located on the floor of the organ chamber

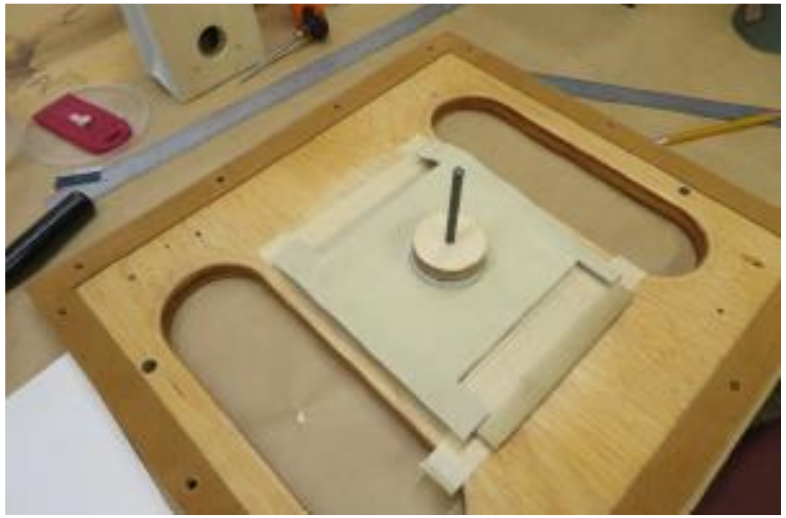
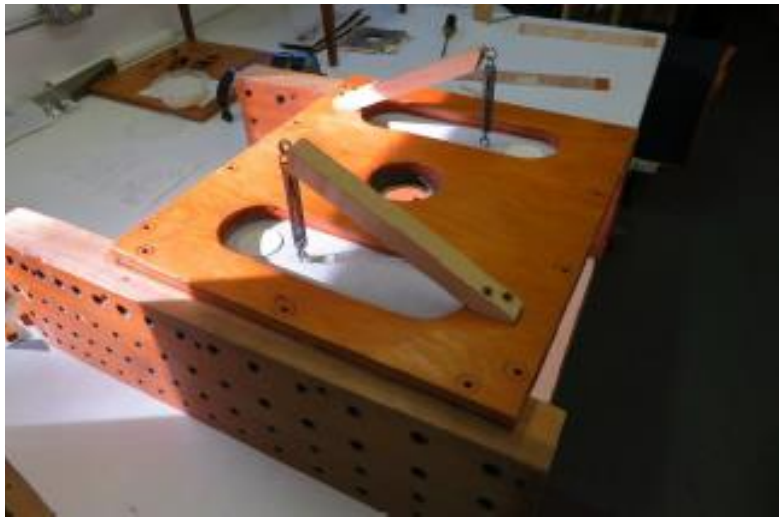


The wind-flow regulator valves were examined, documented, and removed for releathering restoration



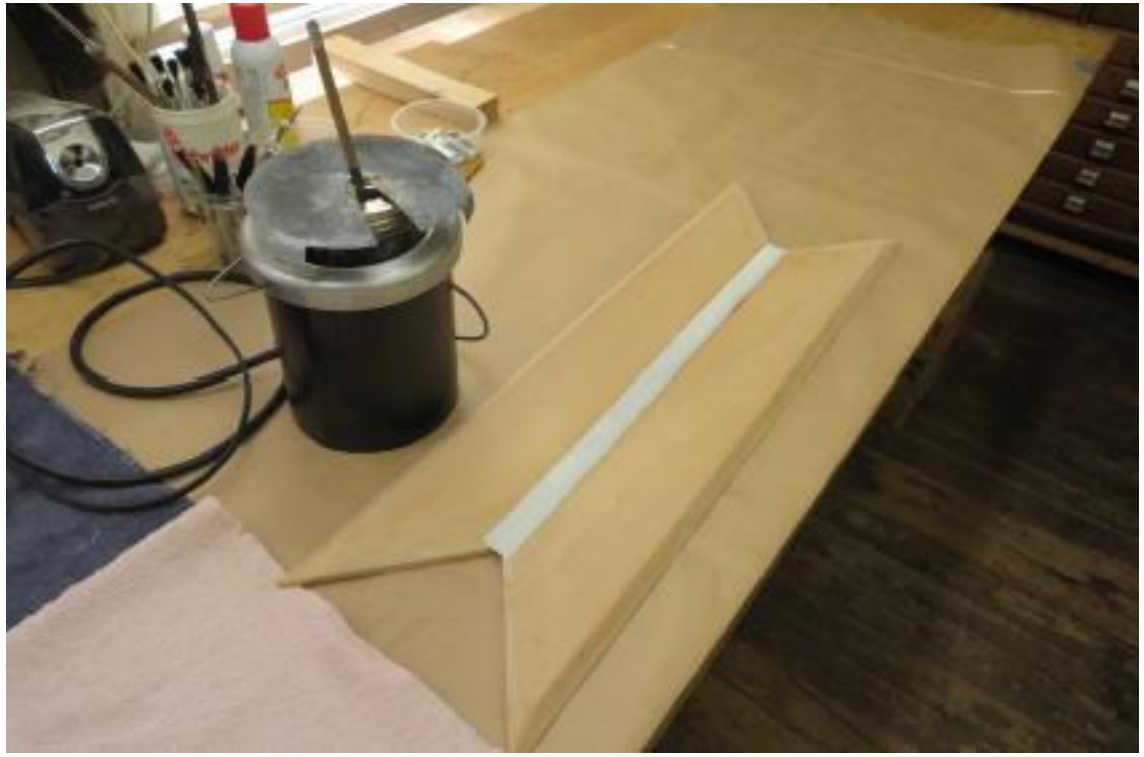
The inside view of the wind-flow regulator valves and the small cone valve

Crafting a new leather seat for the cone-valve


First, the cone valve is fitted to its new leather seat; secondly, the three valves are assembled in the regulator plate, completing their restoration treatment as benchwork; then, the whole regulator-plate assembly is reinstalled within the wind-reservoir box

Meanwhile, the main windbox of the Choir division reservoir has been stripped down and was undergoing repairs.



Bellows ribs for the movable top frame of the Choir division reservoir have been stripped, sanded, cleaned, and receive their new center hinges. The ribs are bound together by tabs of heavy twill tape, glued and tacked in placed. The leather hinges cover all of these binders

The movable top frame of the Choir division reservoir has been stripped of old leather and corner connections and are sanded clean and flat. After thorough preparation, the top frame of the wind reservoir received heavy twill hinge-strips around its perimeter.

The preceding hinge-strips bind the bellows ribs to the movable top frame of the wind reservoir. The next step is the application of the leather gusset corners and their protective over-patches.
The completed wind reservoir is slid inside the case, over and behind the organ console.

With the choir wind reservoir firmly in place, the wind lines are fitted to the wooden box of the reservoir construction.

Swell & Choir Divisions' Tremolos – Phase IV

On Tuesday, January 18, 2022, a crew from Messrs. Czelusniak et Dugal, Inc., went to the First Church of Monson to disconnect and remove from the organ and the church the Choir division main wind reservoir. At the same time, site documentation of the Tremolo machines was accomplished.

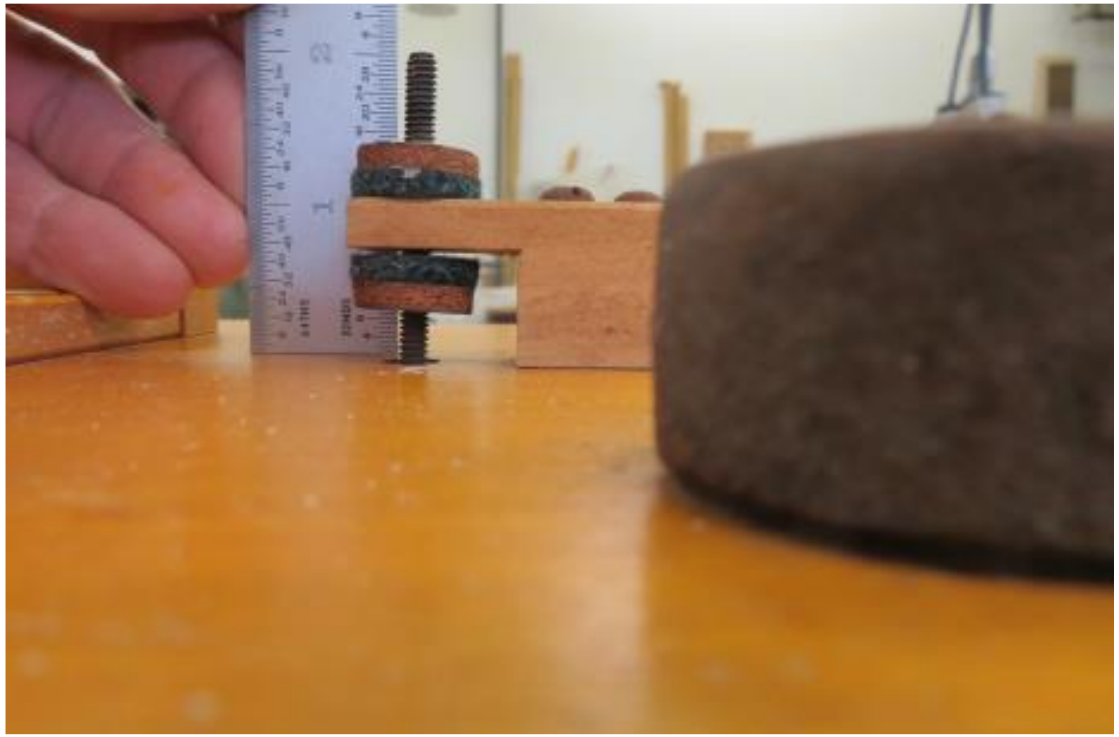
The pair of Tremolos in place on the floor of the organ chamber

A closer look shows the existing placement, functional settings, wind and wiring connections, operating settings and prevailing conditions of the leather

This end-view shows the wind connection from the divisional reservoir and the depth-adjustment screw for the Tremolo effect

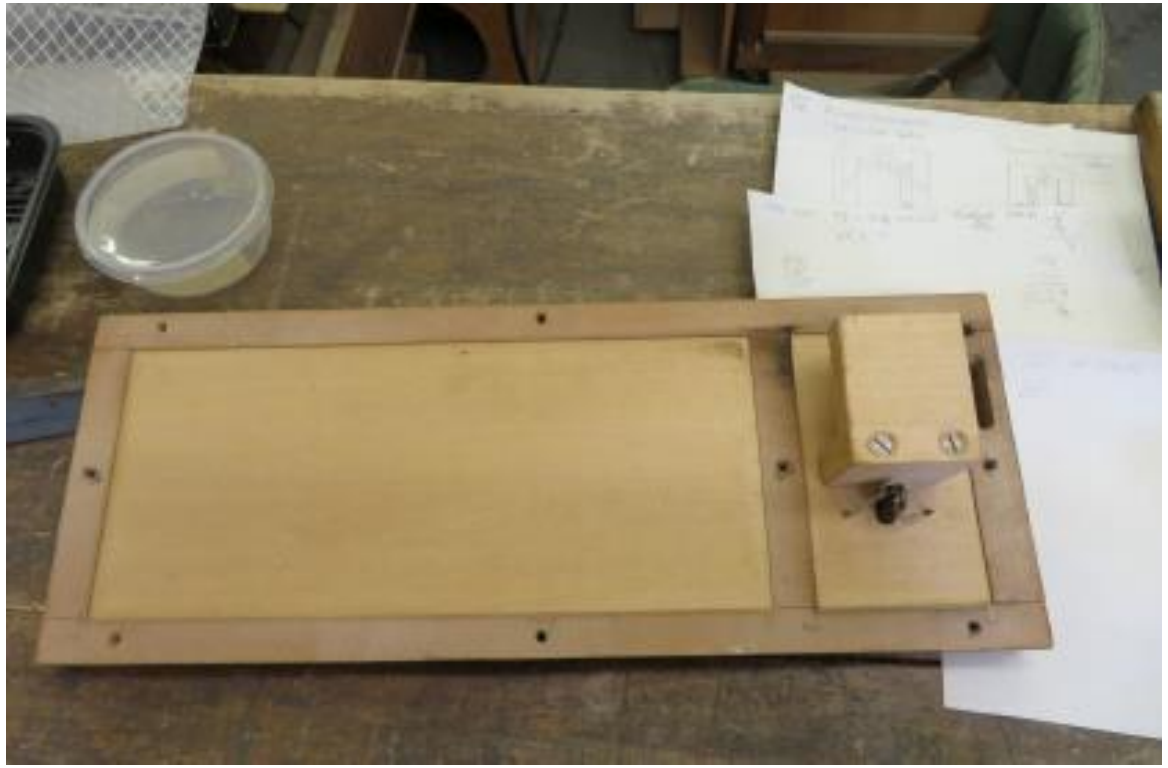
The side-view shows the connection from the console draw knob and the stop-action magnet and primary valve for the Tremolo operation

A closer look at the stop-action control for one of the two units



Closer measurements are taken to document the existing settings of the internal exhaust valve and of the opening of the exhaust pipe. These numbers give us a starting point for the operating settings of valves and effects

The shop measurement for the depth of the Tremolo effect



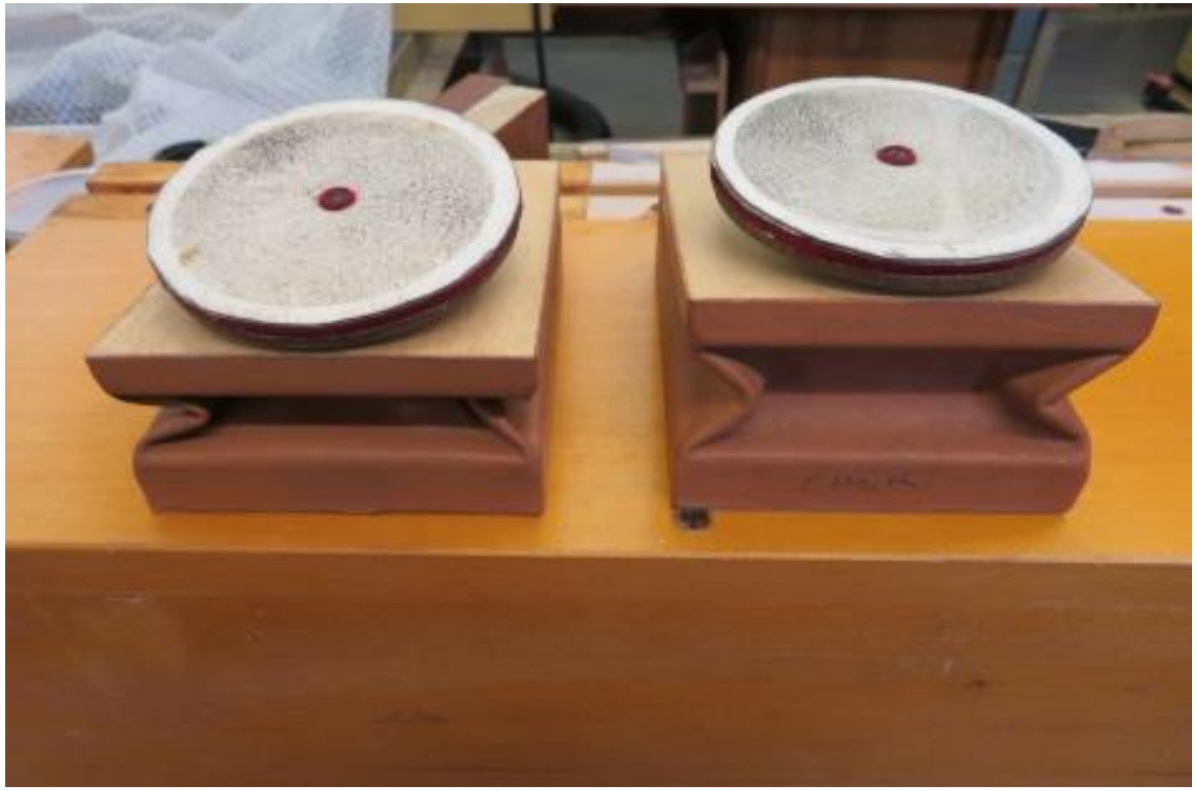
With one side panel removed, we have work access to the primary action for the stop-control valve of this Tremolo

The large stop-action valve inside the Tremolo

This is the internal pallet valve in one Tremolo machine

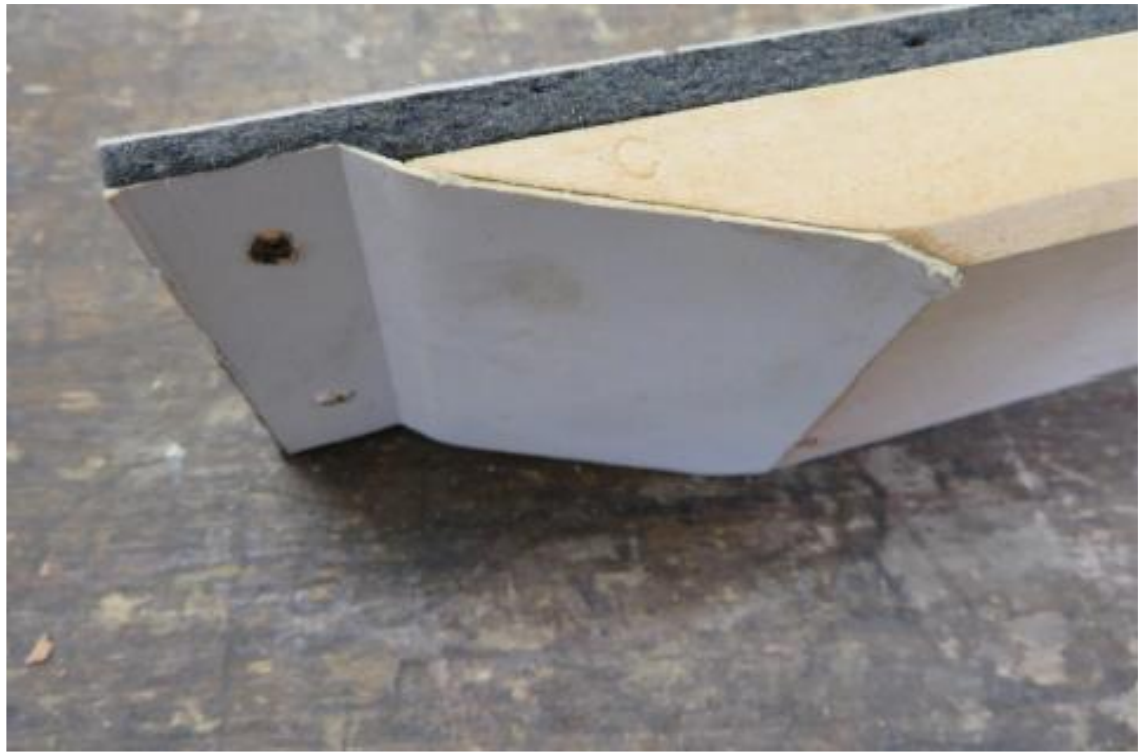
The large pallet valve exhausts wind pressure into the floating top of the Tremolo machine, where the adjustable escape portal exists

Original spacing material between the inside and outside plates of the movable top of the Tremolo was replaced

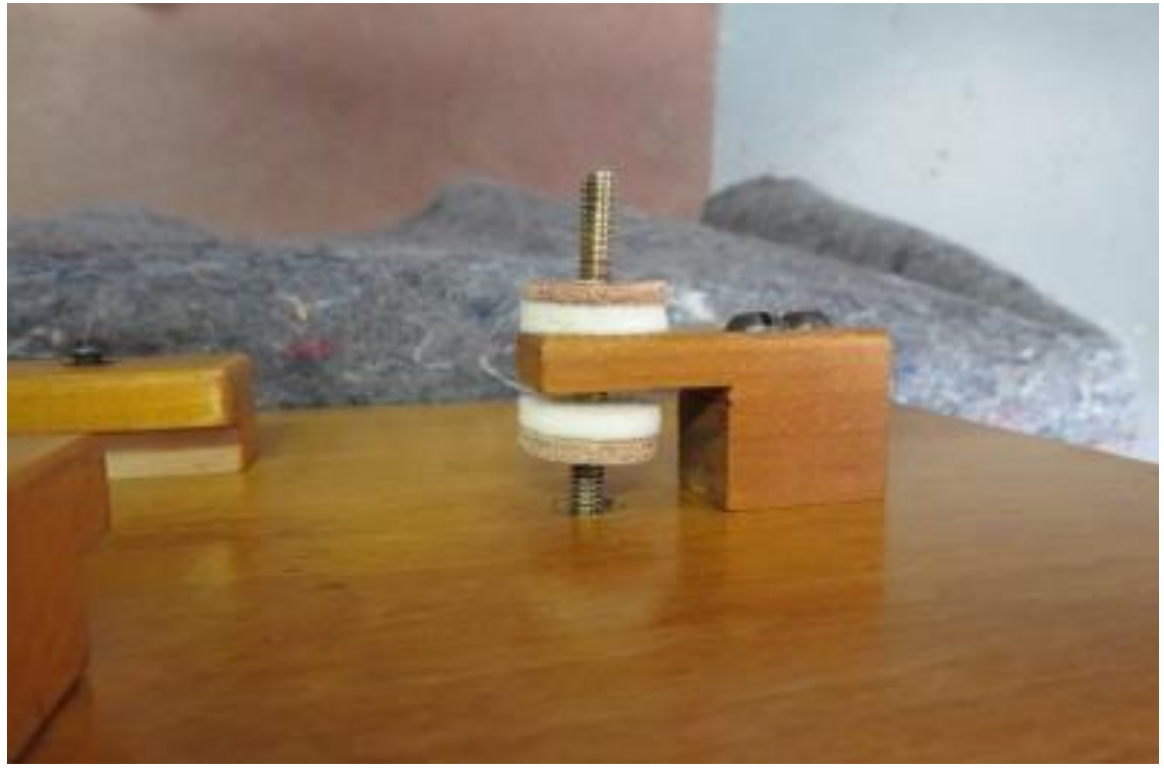


The two large disc valves that work as the stop actions for each of the two Tremolo

The parts and materials of the primary actions controlling those large motors and valves were renewed completely



The two large pallet valves were stripped, cleaned, sanded, and recovered in new but matching materials, appearing as “before and after” conditions



On the interior of these machines, other parts are reassembled … the large stop-action motors and valves, and then the release-pallet valve with its operating position set on the exterior according to prior measurements

Once all these holes are filled, back they go … the two machines are reinstalled

New LED service lighting was installed through the instrument

Swell Division Wind Reservoir – Phase V

On Tuesday, April 18, 2022, a crew from Messrs. Czelusniak et Dugal, Inc., went to the First Church of Monson to disconnect and remove from the organ and the church the main wind reservoir for the Swell division of the pipe organ. This is the final phase of the restoration project.

The Swell main wind reservoir, the first revealing considerable wind piping surrounding the unit and the leather deterioration found

The original gasket between the static-wind delivery line and the bottom of the Swell wind reservoir box

The Swell wind reservoir came apart for inspection, documentation, and disassembly and stripping for restoration

The Swell wind reservoir also required exceptional attention to the condition, repair, and improvement of the flanges, screw joints, and wind conveyances for pressure connections between the reservoir and the windchest

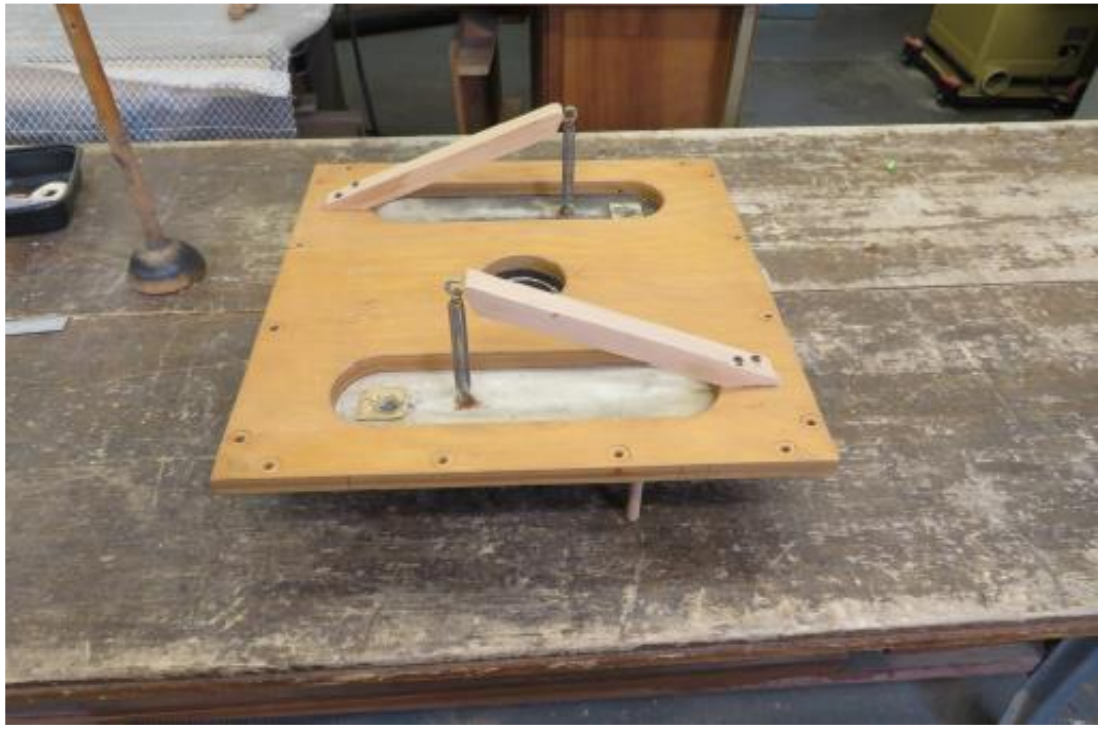
The interior conditions found with the static-wind feed hole in the Swell reservoir – repairs and improvements were made

On the exterior, screw holes were plugged and re-attached for certainly tight connections

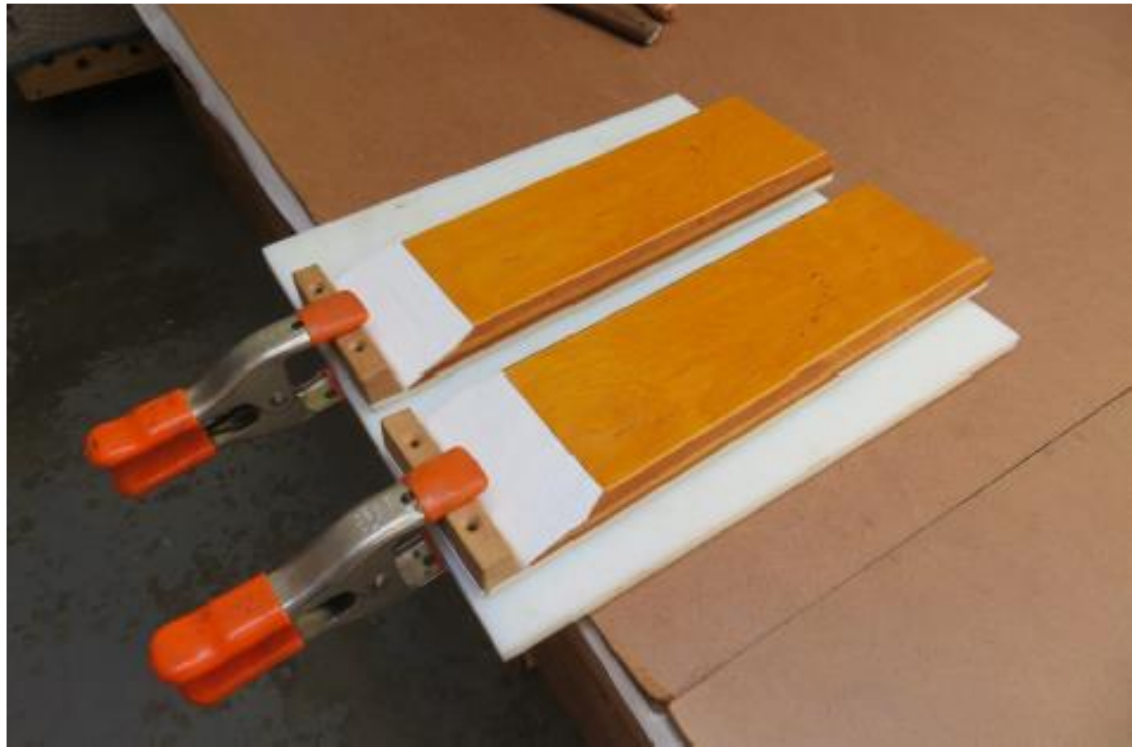
The wind hole in the reservoir was enlarged, squared off, and covered with a new exterior plate for mounting all of the flanges

This flange plate on the wooden wind trunk to the Swell chest required replacement

The replacement material for the flange plate

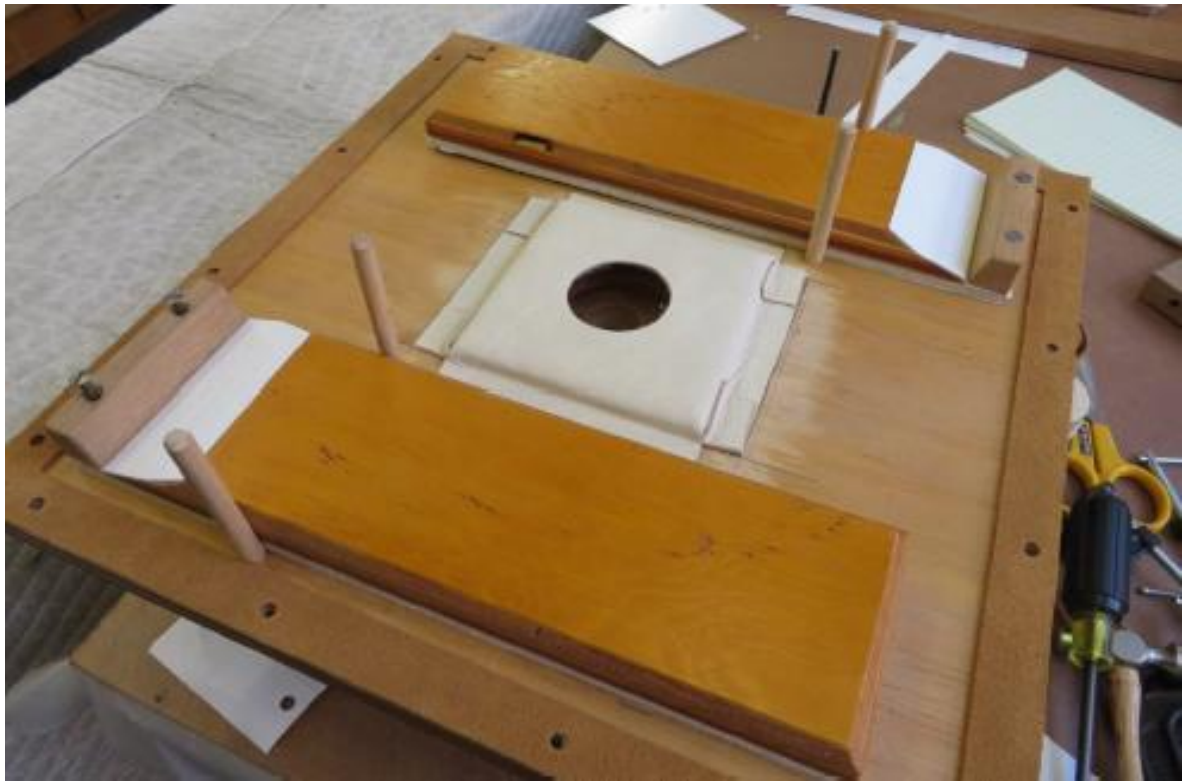


The regulating valve for the Swell division were removed, disassembled, restored with new materials, and put back into service



The wind-flow pallet valve for the Swell reservoir being resurfaced with new material

Very fussy work again to craft carefully a new seat for the central-valve in the regulating system for the Swell division



The wind-flow regulator plate for the Swell reservoir reassembled and reinstalled inside the reservoir

The top plate of the Swell wind reservoir underwent repairs in its joinery and edges, and then was sanded clean back to original shape and dimensions

The whole Swell wind reservoir was releathered and rebuilt

All wind conductors related to the Swell wind reservoir were cleaned, refurbished, and re-gasketed

Additional work was required on site, owing to the immovable wooden wind trunk leading to the elevated Swell windchest. The conduct was sealed and re-gasketed in place for the air-tight attachment of the new flange plate secured to the bottom of that trunk

The final view of the Swell main reservoir, fully restored, reinstalled, and connected to the wind – supply and delivery

An external view of the wooden wind trunk to the Swell windchest

A view inside the organ chamber of the reinstalled Swell reservoir with new flexible wind hoses leading to the new outlet flange

Thank you for the public trust and personal confidence of the Town, its voters, and the members of the First Church of Monson to commission our Firm for this critical preservation work and to authorize such a substantial commitment to the long-term preservation of this historic pipe organ, a public cultural artifact now in very good stead for future musical voice and reliability. We have been honored to have this unusual opportunity to share our experience and skills with all these parties for the long-term benefit of this magnificent and iconic pipe organ!