

smallboat shop

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The Restoration Process – An Outline

When discussing canoe restoration with boat owners and other visitors to the shop we are often asked questions that point up a need for a sort of outline that describes the process and care necessary to bring a venerable old canoe back to service. Because we work at the job each day we forget how unique it is and how certain aspects of construction and finishing dictate the methods and materials used in restoration. We use traditional materials and techniques as much as possible to keep the canoes and boats as close to original as we can.

The following outline of the restoration process is typical for most canoes that we encounter.

- First we remove the gunwales, stem bands, outside stems and keel, sorting and labeling screws and noting any peculiarities that will be needed when the parts are reattached.
- Next we remove the old canvas. The canvas is usually attached with two tacks near the top of each rib and tacks in each of two layers of canvas that have been wrapped around the stems. As we remove these tacks and the canvas we see the condition of the rib ends, sheer plank, and the junction of the stem, deck and inwales. This step in the process sets up the job and tells us nearly all the challenges that we will face.
- After assessing the work and making a check list we will begin stripping the interior of varnish. We remove the seats, thwarts, carry handles and decks and then apply chemical stripper to one small area at a time. Because the canoes are cedar and the surfaces are mostly curved we rely on nylon brushes and rough sawdust to abrade the softened varnish and soak up the gunk. Stripping the interior reveals any damage that needs repair. The stripping process is followed by a cleaning with a two part cleaner and then before the interior is hand sanded we reseat any proud tacks, and sand and oil the outside of the hull. Next the interior is given three coats of varnish or Cetol.
- Before we can attach new canvas we must complete any repairs and reinstall the refinished decks and thwarts. Once this is done, new canvas is prepared and stretched and fastened to the canoe. The nap is seared and then filler is applied and hand rubbed into the canvas filling the nap offering a smooth surface for painting. Rubbing the filler into the nap is done with a canvas mitten and is good exercise for a number of hours. After filling, the canoe is set aside to cure of about a month.
- While the filler is curing the gunwales are stripped, repaired and finished, the seats are stripped and re-caned if necessary, the stembands are stripped and cleaned, the keel and outside stems are stripped, repaired and primed, and the screws and other fasteners are cleaned and readied for use.

As you can see from the description so far your canoe or boat may differ somewhat but the steps will still be nearly the same. Your boat may be a row boat with a square end. It may have floor boards or half ribs, plank seats on risers or it may be a 25' war canoe with birch decks but the care and attention to detail must always be maintained.

- Once the filler has cured it is sanded and painted with a marine undercoat that is very hard and is sanded to an almost translucent finish to smooth the surface of the canvas. The keel and outside stems (if included) are attached. A second coat of undercoat is applied and sanded with 220 grit and then three coats of marine enamel are applied, hand sanding between coats. Before the last coat of paint is allied, the gunwales and seats and remaining hardware are attached.
- The hull is given its final coat of enamel, the gunwales given final coat of varnish and the job is completed.
- As you can imagine there is a lot left out of this outline that would be helpful for the restorer; like steam bending ribs, stems and rails, repairing and reconditioning ribs, planking, rails, and keel; staining new wood to match old; removing fiberglass, and generally much information about materials, techniques and tools. But we hope that this outline will give you a flavor of the work that brings one more beautiful boat or canoe back to the water.

We love to talk about canoes and offer any assistance that we can to help you repair or restore one of these great old boats. Please feel free to call or drop by the shop.

Canoe Recanvassing 2014

1. Remove as necessary:

Gunwales, Stem bands, Outside stems, Keel & Canvas.

2. Sand hull.
3. Reset tacks as necessary.
4. Oil hull – ½ boiled linseed oil & ½ turpentine
5. Attach canvas (#8 or #10 duck, treated as mildew resistant)

Scorch and clean

Fill canvas weave – cure 3 to 4 weeks

Sand and paint 5 coats

(after 2nd coat, reattach keel and outside stems)

6. Clean/sand/paint - keel and outside stems
7. Clean stem bands
8. Clean/sand/varnish – gunwales – 3 coats
9. Clean/wire brush – all fasteners
10. Trim painted canvas
11. Attach gunwales & stem bands

Cost: Labor & Materials - \$100 per foot of canoe length

Canoe Interior Refinishing 2014

This is complete stripping and refinishing while the canvas is off the canoe. This process usually exposes cracked or broken ribs and broken planking that need repairs or replacements. All woodwork is done at \$40 per hour plus the cost of materials. The amount of time required to complete the stripping varies depending on the condition of the interior finish (varnish, stain, paint, etc.), and the amount of time required to sand varies depending on the condition of the ribs, planking, thwarts, decks, and rails.

1. Remove

 Seats & thwarts
2. Strip all varnish from interior including decks, thwarts, inwales and gunwales
3. Scrub and clean interior.
4. Sand and seal and apply 3 to 4 coats of varnish.
5. Reassemble canoe to prepare for canvas

It is difficult to estimate the cost of refinishing without seeing the canoe. The range is \$900 to \$1,200 not including repair work.

Estimated Cost of Complete Canoe Restoration

Restoration almost always requires:

Recanvassing (16 foot canoe)	\$1,600	\$1,600
Interior refinishing – labor & materials	900 to	1,200
Seats – stripped, re-glued, varnished, re-caned (2)	200	200
Repairs – labor & materials	<u>500 to</u>	<u>1,450</u>
Total estimate	\$3,200 to	\$4,450

This is ball park estimate and does not include items like new gunwales, inwales, decks or removal of fiberglass. The estimate does not cover canoes with sponsons, war canoes, row boats, etc. Each would have to be seen for an estimate to be given. It is always best to see the boat or canoe before discussing what may be necessary and how much it might cost.

Prices subject to change without notice due to increased costs of materials and/or overhead.