

Restoration Required for the Bernida to Race Again

The following is a description of the work required to restore the Bernida to racing trim. The Irish Boat Works in Harbor Springs, Michigan was hired to do a “decks off” inspection of the entire boat. This is what was found.

1. The lead ballast keel has some strange bulges in the sides. These would be dug out and filled with an epoxy material and faired.
2. The forward lower part of the ballast has been damaged and looks as if perhaps it has been poorly repaired. This would be repaired as in No. 1
3. Strip and repair dead wood, caulk with cotton, then caulk with 3-M 4200 and tighten keel bolts. *Note: It is possible that keel bolts will require replacement. This would not be known until tightening is attempted.*
4. The rudder requires repair.
5. On both the port and starboard sides the garboard plank and three additional planks up will be replaced. This may be just the outside planking, but may include inner planking as well.
6. On the port side, 8' forward of the transom and near the waterline, three planks require replacement.
7. The port sheer plank requires a Dutchman 12' aft of the stem. *Note: The raised sheer planks were extended aft at sometime in the past in an apparent attempt to increase the “Cabin Volume”. We would return the sheer configuration to original.*
8. Refasten most of the port topside and bottom and plug screw holes.
9. A 12” Dutchman is needed on the stem timber.
10. The sheer plank on the starboard side from the stem 12' aft requires replacement.
11. Install Dutchman in 3 planks on the starboard side amidships
12. Replace two-12' planks amidships at the turn of the bilge, starboard side.
13. Refasten most of the starboard topside and bottom and plug screw holes.
14. Replace the transom and transom frame.
15. Fair the topsides with a 8” disc sander. *Note: A disc sander in the hands of a highly skilled person can do a nice job of fairing at modest cost. But the quality of the fairing is clearly inferior to fairing with a smooth plane and longboard sanding by hand. Our judgment is that disc fairing is appropriate for this project.*
16. Replace a 24” section of the stern post or horn timber, (two names for same piece)
17. Cut out a 36” piece of the keel at the scarf because of rot and replace and through bolt back together.
18. Scrape, clean, and paint the inside of the boat.
19. Remove and replace 28 frame ends, sister in place.
20. Sister 25 frames at the turn of the bilge.
21. Replace 6 frames completely.
22. Build and install a new mast step.
23. Install new chain plates with wooden covers.
24. Install Dutchman in lower sheer clamp (bilge stringer) both port and starboard

25. Replace 9 butt blocks
26. Install 2 new bulkheads for cockpit. *Note: Unspecified whether a shallow self bailing cockpit will be attempted, or rather if the original configuration of full depth cockpit will be used*
27. Install new cockpit floorboards and seats as original, or self bailing cockpit. *Note that these options are of considerably different cost—and seaworthiness!*
28. Remove old deck beams, pattern out new deck beams (larger), and install.
29. Lay out and cut, and frame deck openings; mast partner, and two hatches
30. Cut and fit deck support framing around sheer and glue and screw in place.
31. Fit, lay, glue and fasten the plywood foredeck .
32. Deck covering, which was originally canvas set in paint would now be done with fiberglass over the plywood.
33. Steps 28 to 33 would be done for the side and aft decks.
34. Paint decks.
35. Make and install rub rails and toe rails port and starboard. *Note: The break in the sheer would be returned to its original profile and location.*
36. Make and install combing boards P&S
37. Make and install splash board as original. *Note: The combing boards, splash boards, rub rails and transom would be good candidates for varnish finish if the extra cost to execute and maintain that is justified.*
38. Dig out all bottom seams and caulk with 3-M 4200.
39. Strip bottom to bare wood and fair with disc sander.
40. Prime and paint bottom.
41. Steps 38 to 40 also on the topsides. Topsides would be block sanded to some extent to improve fairness.

This scope of work gets us to a sound hull and deck, ready for the water.

We think the boat will be solid and seaworthy within the design limitations. The boat may leak. As discussed, the boat originally had a layer of cotton fabric impregnated with tar or some other goo between the inner and outer planking. This layer is doubtless not intact now, and it is not at all practical to replace it. However the work proposed above should limit any leakage to small and manageable amounts.

At this stage the boat has no provision for auxiliary power, electrics, deck hardware of any kind, and of course rig and sails.

October, 2004