

I-36 Hull Restoration

09 March – 19 June 2015



Preface

This article documents the events of a four month long effort to sand, repair, and paint the keel and hull of a 1978 Islander 36 sailboat.

The boat's designer was Alan Gurney. It was manufactured by Islander Yachts, Irvine CA. Its characteristics are as follows: LOA: 36ft 1in; LWL: 27ft 6in; Beam: 11ft 2in; Draft: 4ft 9in; Height: 53ft. Its displacement is 13,600 lbs (6.8 tons). It carries a ballast of 5600 lbs (2.8 tons).

I believe the boat may have been re-painted once before around 1984. Recent integrity surveys had been conducted in 1993 and 2010. My wife and I are the 4th owners, caring for Charisma since 1993.

The boat yard that did the hull restoration work is part of Ferry Point Marina, which is located off the Chesapeake Bay's Choptank River, in Trappe, Maryland.

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Introduction

The hull and bottom of our 1978 Islander 36 needed sand blasting, repair, and refurbishment.

Background

We had looked into painting our sailboat for several years. However, the cost was always prohibitive for us. Imron, Awlgrip, and Perfection were the hull paints that we considered.

In May of 2001 my wife painted the topside with 4 quarts of Interlux Toplac paint. The color was Mediterranean White. It took her 3 days and the results looked very nice. Cost \$140!



We have hauled our boat out of the water every fall and re-launched it in the spring since 1993. I maintained the bottom each year by sanding it and applying Pettit Trinidad SR bottom paint. Occasionally, I had to sand down to iron and apply Pettit RustLok; then a layer of Pettit Protect barrier coat paint. I had switched to Pettit Ultima SR-40 ablative bottom paint in recent years to reduce the amount of sanding required. Copper and iron don't get along well in salt water; and so I used fiberglass resin and barrier coat paint to shield the iron keel from the cuprous oxide in the bottom paint. Still after 22 years, the iron keel was pretty rough.





After we had set aside enough money and selected a boat yard to do the work, we had to decide on a color scheme. Our boat was white with a blue cove stripe, tan canvas, and a blue (recently black) keel. We decided to change her hull to green. A big decision! The boat yard went through the various Awlgrip color chips with us. Each chip had a large hole in the center so you could compare different color combinations. We selected the following:

- Cove Stripe - Tan (San Mateo Wheat. Matches our canvas)
- Pin Stripe – Cordovan Gold
- Hull - Jade Mist Green
- Lettering - Cordovan Gold
- Boot Stripe - Tan
- Bottom - Green-Black (50%). This didn't work; so we changed to solid black.

We also wanted a rub rail installed to protect the hull from dings and scrapes. The yard helped us select a black, semi-rigid, 1-7/8" wide, rub rail with a tubular insert that covers the attachment screws. The rail protects the port and starboard sides from stem to stern. The existing tank vents had to be removed and reinstalled to accommodate the rub rail.



Discussion

I initially contacted a business across the river from our summer marina. It specialized in boat restoration and came with a favorable recommendation from a fellow slip holder. Six months later I had yet to receive a detailed estimate of the work. I gave up trying to have the project started in 2014. In December 2014, I was contacted by Ferry Point Marina in Trappe, MD inquiring if I wanted to have my boat painted. Ferry Point Marina is a new business and is located adjacent to Composite Yacht, the first business I spoke to. I later learned that Composite Yacht is part owner of Ferry Point. Needless to say, I was confused by the Ferry Point call.

In January 2015 we began negotiations with Ferry Point Marina concerning the project. We had moved our boat to Ferry Point in November for winter storage. The final estimate for the project was signed on January 29th. The mast was un-stepped on March 9 and the boat was moved into a covered paint shop.

Hull bottom surface appearance can be deceiving. Osmotic blisters were discovered on the hull bottom. Liquid was seeping from them. It was decided to grind all the blisters that could be found, perform fiberglass patch repairs, apply a barrier coat, and bottom paint over the area. The keel-hull junction was cleaned up and sealed with vinyl ester resin and putty. The keel bolts were tight.



The rudder support needed patching. Vinyl ester resin putty with adhesive filler was used to fill in the small voids.

Two unused seacocks were removed and glassed over from both sides of the hull.

Two primer applications were used to reduce future hull crazing. First, a hi-build polyester primer was applied; then, AwlGrip's 545 primer.

The mast base had corroded and fused with the step plate. A new aluminum plate had to be fabricated.



A steel plate had been concreted into the keel below the mast step. The plate was tapped for two 3/8" by 2" bolts. The threads were fine. There was a small, 1/8" thick, rubber pad between the step and the keel. It was in reasonably good condition; so it was returned to insulate the mast step and keel plate metals. The new aluminum mast base plate would be affixed to the restored concrete encased keel plate by means of the original stainless steel bolts.



The electrical wiring to the mast lights was in good condition. I had previously installed a terminal block for the connections and each wire had been tagged with a label. This was a big help.

An inspection of the top of the mast disclosed wear on the upper starboard spreader and a missing wind vane.

The wear on the spreader arm next to the mast was assessed to result from attaching the main halyard, when not in use, to the starboard shroud at a cable cleat. The main halyard cable had worn a hole on the aft side of the spreader caused by the wind blowing the halyard against the spreader. The hole was filled with JB Weld 2-part epoxy. I changed the main halyard "idle" attachment point to the boom in order to prevent further wear.



When the mast was unstepped, the wind vane mount was knocked off the mast near the VHF antenna. An aluminum extrusion was fabricated and attached to the mast cross-arm using JB Weld 2-part epoxy. A 15 inch long wind vane was attached at the end of the extrusion. The offset enabled the vane to swing clearly through 360 degrees, missing the VHF antenna.



A local Sign-A-Rama office produced a vinyl stencil for the gold lettering on the stern. We transferred the lettering to the stern with some difficulty.

The rub rail was attached on 7 May.



On May 13, 2015 CHARISMA was rolled out of the paint shop for its mast stepping.



The local weather did not cooperate in the effort to re-step the mast. Wind and rain hampered the effort for over two weeks. The mast was stepped on May 28.

In the process of stepping the mast, a starboard lower turnbuckle was broken and the wind vane spike was bent slightly. Otherwise, the mast stepping went smoothly. The shrouds and stays required minimal adjustment. Final tuning of the rig will be done later underway.

A replacement mast boot, to fit around the mast's 25 inch circumference, was acquired by the yard. After insertion through the mast boot, the mast was threaded through the deck into the cabin. Wooden wedges were inserted around the mast where it went into the metal deck collar. Fast drying 3-M 5200 caulk was used to fill in the voids between the wedges. Rubbaweld rigging tape was wrapped around the wedges to protect the inside of the mast boot.

The mast foot went smoothly onto the new base plate. It was a huge relief to have the mast back up.



The mast lights were reconnected and tested. A test light was used to verify correct connectivity to the switch panel. A visual observation of the appropriate lights was made.

The engine seawater intake hose was reconnected to its seacock. The engine seawater screen was examined, cleaned, and coated with a thin layer of anti-fouling paint. New sacrificial zinc anodes were put on the prop shaft. The prop was sprayed painted with anti-fouling zinc paint.

New fender covers were purchased to protect the reconditioned hull when docked. We expect some crazing of the hull over time.

We reattached our dodger and bimini canvas. Life preserver equipment was reinstalled. The winter cover on our GPS antenna was removed. The helm station was reinstalled.



Charisma was re-launched on June 19. It was 7 months since her haul-out.



The cost of the project was as follows:

Item	Description	Rate	Cost	Subtotal
M-4065	Step Mast to Move Boat in Building	350.00	350.00	
M-4065	Deck Mast Upon Completion	400.00	400.00	
	Subtotal			750.00
M-4065	Lift Boat, Move in Building & Reblock (flat rate)	144.00	144.00	
M-4065	Lift Boat, Move Back Out & Block (flat rate)	144.00	144.00	
M-4065	DISCOUNT - If \$3500 or more worth of work is completed	-288.00	-288.00	
	Subtotal			0.00
M-4060	Prep & Prime Hull w/AwlGrip Primer – Prep & Paint Hull w/AwlCraft Topcoat	3,150.00	3,150.00	
M-4120	Shop Supplies	10.00%	315.00T	
M-4120	A/G Primer	350.00	350.00T	
M-4120	A/C Topcoat (Jade Mist)	700.00	700.00T	
	Subtotal			4,515.00
M-4060	Prep & Paint Cove Stripe	350.00	350.00	
M-4120	Shop Supplies	10.00%	35.00T	
M-4120	A/C Topcoat (Castle Tan)	120.00	120.00T	
	Subtotal			505.00
M-4060	Prep & Paint Pin Stripe	350.00	350.00	
M-4120	Shop Supplies	10.00%	35.00T	
M-4120	A/C Topcoat (Cordovan Gold)	120.00	120.00T	
	Subtotal			505.00
M-4060	Prep & Paint Boot Stripe	350.00	350.00	
M-4120	Shop Supplies	10.00%	35.00T	

M-4120	A/C Topcoat (Castle Tan, 2" stripe starting 1" above bottom paint)	120.00	120.00T	
	Subtotal			505.00
M-4030	Remove Existing Bottom Paint & Barrier Coat	1,550.00	1,550.00	
M-4060	Prep & Apply New Barrier Coat (4-5 coats) & Bottom Paint (2 coats)	700.00	700.00	
M-4120	Shop Supplies	10.00%	70.00T	
M-4120	Epoxy Barrier Coat	700.00	700.00T	
M-4120	Premium Interlux Bottom Paint (1 st "hard" paint, 2 nd Micron Extra. All black)	575.00	575.00T	
	Subtotal			3,595.00
M-4060	Install Rub Rail	750.00	750.00	
M-4120	Shop Supplies	10.00%	75.00T	
M-4120	Taco rub-rail V11-2423	600.00	600.00T	
M-4120	SS fasteners	50.00	50.00T	
M-4120	Marine sealant	25.00	25.00T	
	Subtotal			1500.00
M-4060	Grind all blisters found at time of peeling. Perform VE fiberglass repairs to existing blisters. Strip; apply RustLok primer to keel; and barrier coat. Grind loose laminate from keel and fill with VE filler; then barrier coat.	1000.00	1000.00	
M-4126	Shop Supplies	10.00%	100.00T	
M-4126	Fillers, primers, FRP, etc	400.00	400.00T	
	Subtotal			1500.00
M-4060	Remove unused thru-hulls as requested by customer. Fill and fiberglass locations	400.00	400.00	
M-4126	Shop Supplies	10.00%	40.00T	
M-4126	Fillers and FRP	60.00	60.00T	
	Subtotal			500.00
M-4060	Repair falling cabin headliner on starboard side	70.00	70.00	
M-4126	Shop Supplies	10.00%	7.00T	
	Subtotal			77.00
M-4060	Winter storage credit		-576.00	-576.00
	Sales Tax (6%)			271.92
	Total			13,647.92

Clients have been advised that significant crazing does exist in/on hull and that this estimate does not address the crazing issue(s). Ferry Point advised the clients that the crazing will return with the description of work provided in this estimate and Ferry Point cannot provide an accurate estimation of when crazing may return.

Clients were advised of the possibility of additional issues (blisters, etc...) found after or during the removal process. Significant amounts of moisture levels, water intrusion, and blisters were found throughout the bottom and rudder. Failed laminate and coatings were also found on keel. It was advised that a "new" bottom (i.e. remove damaged laminate and replace) would be the proper fix. Clients elected a "patch" option.

Clients were advised that this process will not "fix" issues, just slow down the existing damage, and additional blisters will return. Cannot warranty rudder, hull, or keel joint due to the same issues.

Conclusion

It was a pleasant experience working with the yard once the project got started. They showed a genuine interest in the project and provided a satisfactory result whenever an issue arose. Their action on our corroded mast foot was commendable. Another favorable observation occurred after Charisma was placed in a travel lift to be moved out of the paint shop - a worker ground down and painted the underside of the keel. That action was unexpected and very professional.

While we realize that we selected a cheaper restoration option, which may result in a return of blister and crazing, we are very satisfied with the project results. Accordingly, we would recommend Ferry Point Marina to other sailors seeking to address sailboat maintenance issues.