



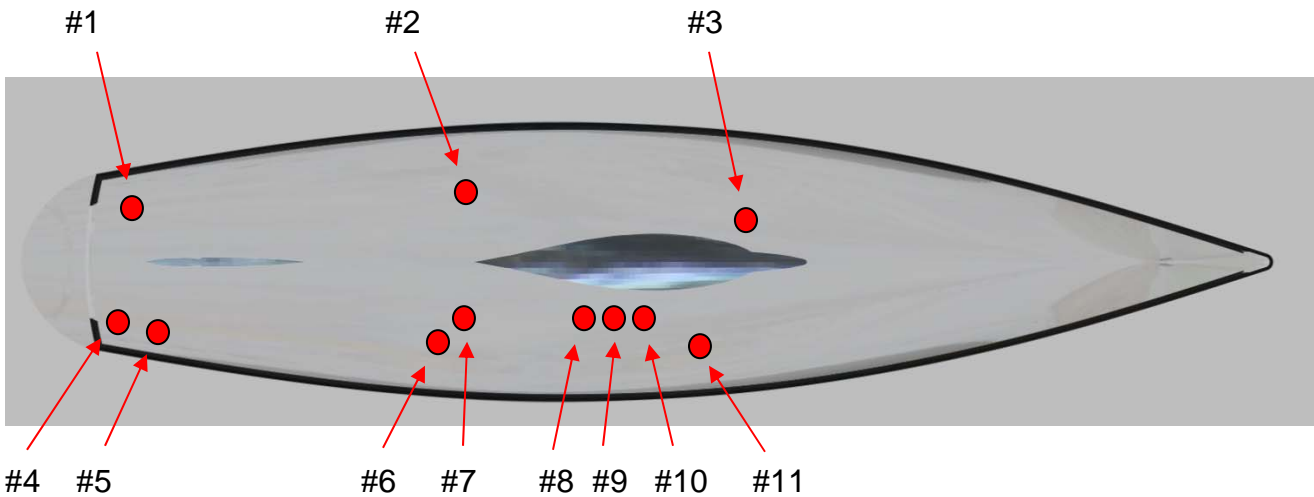
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Valves and Thru Hulls

May 12, 2015

**Valves:**

During the hauling of the vessel in April 2015, at Shipyard in West Palm Beach, Florida, a total of 11 were removed, hydro-statically tested at 110 psi ABS standards. All valves have had new liners and isolation discs installed with the exception of the one valve which was replaced.



| Valve # | Valve Description  | Service Performed  |
|---------|--|--|
| 1       | 4" Port Generator exhaust discharge (Above Water Line)       | Valve PT at 110psi / <b>pass</b> , new liners, new isolation disc, new butterfly disc and stem 316L SS<br><b>(NOTE: Valve failed when tested with old liner Shipyard WO/Task 42957/20.06 Once liner was replaced, valve tested pass)</b> |
| 2       | 2" Port Generator exhaust water discharge (Below Water Line) | Valve PT at 110psi / <b>pass</b> , new liners, new isolation disc, new butterfly disc and stem 316L SS   |
| 3       | 6" Discharge Bilge / Fire Pump, Sewage (Below Water Line)    | Valve PT at 110psi / <b>pass</b> , new liners, new isolation disc  |
| 4       | 4" Stbd. Generator exhaust discharge (Above Water Line)      | Valve PT at 110psi / <b>pass</b> , new liners, new isolation disc, valve body machined to accept new disc and stem SAF Duplex SS   |

| <b>Valve #</b> | <b>Valve Description</b>  | <b>Service Performed</b>   |
|----------------|---|--|
| 5              | 8" Main Engine exhaust discharge (Above Water Line)   | Valve PT at 110psi / <b>Fail</b> , Valve Replaced with Bray 8" series 21-0800-11010-1FABFV                                       |
| 6              | 2" Stbd Generator exhaust water discharge (Below Water Line)  | Valve PT at 110psi / <b>pass</b> , new liners, new isolation disc, new butterfly disc and stem 316L SS                           |
| 7              | 3" Main Engine exhaust water discharge (Below Water Line)   | Valve PT at 110psi / <b>pass</b> , new liners, new isolation disc, valve body machined to accept new disc and stem SAF Duplex SS |
| 8              | 4" Main Sea-chest intake for Main Engine, Generators, Water Maker, A/C & Refrigeration (Below Water Line) | Valve PT at 110psi / <b>pass</b> , new liners, new ( <i>Butterfly disc and stem are SAF Duplex</i> )                             |
| 9              | 4" Main Sea-chest intake for Main Engine, Generators, Water Maker, A/C & Refrigeration (Below Water Line) | Valve PT at 110psi / <b>pass</b> , new liners, new ( <i>Butterfly disc and stem are SAF Duplex</i> )                             |
| 10             | 4" Main Sea-chest intake for Main Engine, Generators, Water Maker, A/C & Refrigeration (Below Water Line) | Valve PT at 110psi / <b>pass</b> , new liners, new ( <i>Butterfly disc and stem are SAF Duplex</i> )                             |
| 11             | 4" Discharge for Water Maker, A/C & Refrigeration (Under Water)   | Valve PT at 110psi / <b>pass</b> , new liners, new isolation disc, valve body machined to accept new disc and stem SAF Duplex SS |

All valves have been leak tested after launch with no leaks found and exercised during dockside trials.

**Valves Prior to & During Removal:**



#9 Main Sea Chest 4"



#11 Discharge



#5 Main Engine Exhaust



#7 Main Engine Water Discharge



#2 Port Generator Water Discharge



#6 Stbd. Generator Water Discharge

**Serviced valves Installed:**





New Replacement Main Engine Exhaust

**Thru Hulls:**

During the removal of the valves, two of the thru hulls were found to have pitting and corrosion. These areas have been clad welded and new coatings applied as required.

The thru hulls repaired are relative to the valves #3 below the water line, and #1 above the water line.



# 3 Before / After but Before Welds Have Been Ground Back



#1 Before / After Welding and Grinding

This report is respectfully submitted without prejudice for the benefit of whom it may concern.

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Drawings Fabrication & Details Inc.