United States Coast Guard
Surface Forces Logistics Command (SFLC)

SFLC NAVAL ENGINEERING DIRECTIVE (SFLC NED) – 5834-01

INSPECTION AND TEST PROCEDURE FOR SMALL BOAT LIFTING POINTS AND SLINGS ON BOARD ALL CUTTERS

DATE: 05/2010

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ABSTRACT

This directive covers the inspection and testing of a typical small boat's lifting points and sling. The procedures listed here are based upon guidance of the United States Coast Guard Naval Engineering Manual, COMDTINST M9000.6E, manufacturers' recommendations and other noted references.

FEEDBACK & UPDATES

The latest version of this document is available at:

http://www.uscg.mil/SFLC/mlclant/vdiv/standard_specifications.asp

Beneficial comments, recommendations, additions, deletions and other pertinent data which may be of use to improve this document can be provided to the SFLC ESD.

REVISION RECORD

Revision Date	Summary Of Changes	INITIALS
3/01/05	Initial Release	JW
1/20/06	Corrected typographical error on sheet 5. Changed "PFCW" to "TOW".	JW
5/6/2010	Converted entire document to SFLC format and style.	PWB

REFERENCES

The following references were used to develop and/or are cited in this document.

A. Naval Engineering Manual (COMDTINST M9000.6E)

C. Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), Jan 2009, Auxiliary Machine Systems

Personnel

The roles of operator, rigger, and inspector are designated as follows: the operator shall operate the system as specified, the rigger shall perform all necessary tasks to facilitate the specified operation, and the inspector shall perform all specified inspections and verifications. A repair facility may be required to fill one or more of these three roles, and shall perform each task assigned. The following bullet styles denote:

- An operational task that shall be performed by one or more operators or a rigging task shall be performed by one or more riggers, as applicable.
- An inspection or verification that shall be performed by one or more inspectors.

Part 1. Determine Required Test Weights

- Obtain the following data from unit personnel.

DATA DESCRIPTION	VALUE FORMAT	VALUE
A - The maximum number of personnel that will be hoisted in the small boat during normal underway operations.	A = Number (1, 2, 3,...)	A = _____
B - Volume of the small boat's fuel tank.	B = Number (Gallons)	B = _____
C - The type of fuel the small boat engine uses.	If Gasoline C = 6 If Diesel C = 7	C = _____
D - The total weight of all other loose outfit and cargo that will be loaded onboard the small boat during normal underway operations.	D = Number (Pounds)	D = _____

- Determine the small boat's Total Outfit Weight (TOW) as follows.

(TOW) = (A x 200 pounds) + (B x C) + D

= _____ pounds

- Determine the small boat's Actual Weight (AW) by suspending the small boat from a certified dynamometer.

(AW) = _____ pounds

WARNING!

If the unit EO/EPO determines that the hull weight of the boat exceeds 115% of the "new boat weight" specified in the boat manufacturer's specifications, or if the maximum launch weight exceeds the working load limit of the davit DO NOT PROCEED. All further testing of the boat lifting eyes and slings will be suspended until EO/EPO contacts the cognizant MLC for instructions.

- Determine what the small boat needs to weigh after loading test weights onboard, the Weight of Boat During Test (WBDT).

(WBDT) =((AW) + (TOW)) x 1.5

= _____ pounds

- Determine the Total Test Weight (TTW) required to perform the weight test.

(TTW) = (WBDT) - (AW)

= _____ pounds

Part 2. Visual Inspection.

- Visually inspect the following components for corrosion, wear, or damage and determine that the system is safe to handle weights. Do not proceed if any discrepancies are found.
- The lifting sling(s) for the small boat and all associated fittings, shackles, etc. Further verify that these sling(s) are the sling(s) recommended by the small boat manufacturer and are of the correct size and length.
- The lifting points on the small boat, all associated fasteners, and the structure of small boat that surrounds each lifting point.

Part 3. Small Boat Lifting Point and Sling Weight Test.

- Furnish multiple individual test weights whose combined weight shall equal the (TTW) plus 0% minus 5%. The number of individual test weights shall be equal to or greater than the number of lifting points on the small boat. The test weights shall be fabricated from sand bags, water bags, or similar soft material or shall be placed on pads to prevent damage to the small boat.

CAUTION!

Once the RHIB is loaded with test weights to achieve the (WBDT) value, the weight of the small boat and sandbags together may exceed the full load displacement of the small boat, therefore, the small boat must be supported by an external lifting device while loaded out with test weights to ensure it does not capsize.

- Determine the optimum arrangement for the test weights on the waterborne small boat. The arrangement of the test weights shall distribute the tension caused by the added weight evenly on each strap of the lifting sling. Arrange the test weights as close to each lifting point on the small boat as practicable in conjunction with maximizing overall stability of the boat.
- With the small boat in the water and partially supported from the small boat's slings by an external lifting device (e.g., a crane or davit whose working load limit is greater than or equal to the (WBDT), etc...) carefully and evenly distribute test weights over the deck of the small boat as prescribed above.
- Check the water line of the RHIB as test weights are added to ensure that as the water line moves up the freeboard it stays parallel to the unloaded water line.
- Verify that the correct amount of weight has been properly distributed over the deck of the small boat as prescribed above.
- After all test weights have been added, slowly lift the small boat out of the water, just clearing the surface, using the external lifting device. Hold this position for 10 minutes.
- Lower the boat back into the water and remove all test weights.
- Visually inspect all slings and lifting points on the small boat. Verify that no damage or permanent deformation has occurred.
- Return the small boat all other disturbed equipment back to the stowed and secured position.

Part 4. Label plates and test reports.

- Document the satisfactory completion of the procedure by fabricating and installing a label plate and submitting a report as specified in SFLC Std Spec 5000.