

NAVAL SHIPS' TECHNICAL MANUAL  
CHAPTER 583 - VOLUME 1  
BOATS AND SMALL CRAFT



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## FOREWORD

NSTM Chapter 583 Volume 1 provides information on BOATS AND SMALL CRAFT and contains the following 14 sections:

- SECTION 1 ADMINISTRATIVE POLICIES PROCESSES AND CONTROLS
- SECTION 2 DIMENSIONS, WEIGHTS, AND CHARACTERISTICS
- SECTION 3 REGISTRY NUMBERS AND IDENTIFICATION
- SECTION 4 BOAT CAPACITY, OPERATING INSTRUCTIONS AND SAFETY PRECAUTIONS
- SECTION 5 EQUIPMENT AND REPAIR
- SECTION 6 PREVENTION OF COLLISIONS AT SEA
- SECTION 7 HOISTING SLINGS AND FITTINGS
- SECTION 8 MAINTENANCE
- SECTION 9 PRESERVATION OF BOATS ASHORE
- SECTION 10 BARGES AND GIGS
- SECTION 11 ANTI-TERRORISM/FORCE PROTECTION AND SPECIAL MISSION BOATS AND CRAFT
- SECTION 12 LIFE RAFTS AND ABANDON SHIP BOAT
- SECTION 13 SEARCH AND RESCUE (SAR)
- SECTION 14 BOAT TRAILERS

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## SAFETY SUMMARY

Warnings and Cautions listed throughout document summarized below:



Operate exhaust fans/blowers for at least 4 minutes before starting engine, and check engine compartment bilge for gasoline vapors. (Page 4-7)



No list of precautions can provide for every conceivable situation that might arise. The only adequate safety precaution is a constant awareness of the hazards and a consistent application of common sense to situations that arise. (Page 4-9)



In the case of the Navy standard 7-meter RIB and the Navy standard 11 meter RIB, there will be instances when the boat must be launched from a ship while the ship is underway. In such instances, it is imperative the boat's engine(s) be started during the launch phase and in advance of the boat's water entry in order for the boat coxswain to safely accelerate the boat to a speed approximately equal to that of the ship. This operation requires that each engine's seawater impeller run dry for a short period. Each engine seawater system is equipped with an auxiliary hose connection to allow the boat to be started in its shipboard stowage to ensure the crew of its reliability and ensure the seawater impeller is operating properly and the boat is, in all respects, ready for launch. (Page 4-3)



Aramid fiber (Kevlar) rope slings require specialized manufacturing process controls to maintain safety standards. Slings shall not be obtained from any source other than those designated on the approved drawings. (Page 7-2)



Stringent precautions shall be taken in the case of mercury. The presence of mercury, even in small amounts, causes severe corrosive attack and under no circumstances are the two metals to be permitted to come in contact with each other. (Page 8-2)

**CAUTION**

The nature of aluminum hull boats merits special attention for mooring location, particularly next to steel ships, buoys, and piers. Under these conditions, it is essential that non-conducting mooring lines be used, as well as insulating camel sections, to prevent electrical contact of the aluminum hull with a steel structure, since this could result in galvanic corrosion of the aluminum hull. (Page 8-5)

**CAUTION**

Magnesium and aluminum anodes shall not be used on aluminum hulls. (Page 8-8)

**CAUTION**

Anode faces shall not be coated or covered in any manner except for masking while painting adjacent surface. (Page 8-8)

**CAUTION**

Drain bilges under guidance of local regulations for HAZMAT. (Page 9-1)

**CAUTION**

On some craft such as the LCAC (landing craft, air cushion) it may be necessary to orient the sea painter end of the life raft container to face forward to move the sea painter away from the air intake of the lift fans. (Page 12-6)



**CHAPTER 583****VOLUME 1  
BOATS AND SMALL CRAFT****SECTION 1****ADMINISTRATIVE POLICIES PROCESSES AND CONTROLS****583-1.1 INTRODUCTION**

583-1.1.1 BOATS AND SMALL CRAFT. Chief of Naval Operations (CNO), OPNAVINST 4780.6 Series, provides policy for boats of the U.S. Navy. Chapter 583 reinforces this policy by providing the administrative procedures, processes and controls which implement it, and related policy, for these boats, as well as their associated equipment and ancillary items such as trailers and shipping/storage cradles. This chapter also covers life rafts and paint punts, which are specific small craft not managed as boats. In addition, this chapter covers a range of boat and small craft information to facilitate readiness, operational effectiveness and safe operation under normal and emergency conditions and to enable effective Economic Service Life (ESL) of Navy boats.

OPNAVINST 4780.6 Series states: "Commander Naval Sea Systems Command (COMNAVSEASYSKOM) shall purchase, procure, acquire or otherwise obtain all boats including boats required by the Military Sealift Command for operational use." The Program Executive Office (PEO), Ships is COMNAVSEASYSKOM's Acquisition Program Manager (APM) and Life Cycle Manager (LCM) for Navy boats. As a program office, PEO Ships, Program Manager Ship (PMS) 325, has overall responsibility for boat acquisition and life cycle management. The exception to this is that acquisition and life cycle management responsibility for the Landing Craft, Utility (LCU) boats is assigned to PEO Ships, PMS 377.

PEO Ships accomplishes acquisition and life cycle related efforts with technical support from engineering agents designated by the Combatant Craft and Boats Technical Authority namely the Acquisition Engineering Agent (AEA), Test and Evaluation Authority (TEA), In-Service Engineering Agent (ISEA), Planning Yard (PY) and Integrated Logistics Support Manager (ILSM). The roles, responsibilities and functions delegated to these engineering agents, as they relate to the program office, are provided in this chapter. The engineering agents (i.e., AEA, TEA, ISEA, PY and ILSM) for Navy boats designated in accordance with NAVSEAINST 5400.57 Series, "Engineering Agent Selection, Assignment, Responsibility, Tasking and Appraisal" are resident within Naval Surface Warfare Center, Carderock Division, Detachment Norfolk, Code 23, Combatant Craft Division (CCD). Additionally, PEO Ships, PMS 325 transferred the functions of the Boat Inventory Manager (BIM) to CCD via a Memorandum of Agreement on 1 May 1998. CCD point of contact information is available at <http://www.boats.dt.navy.mil>. Technical contacts on the website relate to the functions as follows: for AEA functions contact Naval Architecture (Code 231); for ISEA and PY contact Life Cycle Management and Sustainment Engineering (Code 234); for ILSM and BIM contact Integrated Logistics Support (Code 236).

Virtual SYSCOM Joint Instruction VS-JI-22, Virtual SYSCOM Engineering and Technical Authority Policy, of 3 Jan 2005 established the policies for weapon systems assigned to COMNAVSEASYSKOM which includes Navy boats and craft. In accordance with this policy COMNAVSEASYSKOM established the Deputy Warranting Officer under SEA 05. COMNAVSEASYSKOM Memo 5400, Ser TAB/07, dated 9 Jun 2005 identifies the Technical Area Expert (TAE) for Combatant Craft and Boats. As such, warranted TAE responsibilities are organized by the following competencies:

- a. Setting Technical Standards
- b. Technical Area Expertise

- c. Ensuring Safe and Reliable Operation
- d. Systems Engineering Expertise
- e. Judgment in Making Technical Decisions
- f. Stewardship of Engineering Capabilities
- g. Accountability and Technical Integrity

The scope of this technical warrant includes the following:

- a. Full Life Cycle/Full Spectrum/In-Service responsibilities for Combatant Craft and Boats (manned and unmanned) including Life Rafts and Encapsulated Life Raft Stowages, Patrol Coastal Ships, Seaborne Targets, High Performance Craft, other Watercraft and associated HM&E and Mission systems, subsystems and equipment.
- b. Total platform systems engineering for combatant craft and boats, including: Mission Systems Integration; Science and Technology; Research and Development; Test and Evaluation; Design; Acquisition; Smart Buyer; Construction Technical Support; Integrated Logistics Support; Design Management; Life Cycle Management; Technology Advancement and Transfer; In Service Engineering; Repair, Modification and Modernization support; Fleet Support; regulatory compliance throughout the lifecycle; and ensuring contract administration and oversight.

PEO Ships, PMS 325 and COMNAVSEASYS COM, SEA 05D have designated CCD as their engineering agent, in accordance with NAVSEAINST 5400.57D, Engineering Agent Selection, Assignment, Responsibility, Tasking and Appraisal.

## **583-1.2 GENERAL INFORMATION**

**583-1.2.1 DEFINITION OF A NAVY BOAT.** Navy boats are powered waterborne craft ranging from small outboard engine powered Utility Boats to large non-commissioned vessels (e.g., Torpedo Weapons Retriever; Landing Craft, Utility). The OPNAVINST 4780.6 Series definition and description of Navy boats includes the fact that boats, by definition, are “self-propelled craft suitable primarily to be carried on-board ships and to operate in and around naval activities,” are supported by appropriated funds and are listed in the Craft and Boat Support System (CBSS); boats include those of standard Navy design or commercial design, and the term ‘boat’ includes combatant craft and landing craft.

Not all boat-like vessels meet the definition of a Navy boat as defined by the policy in OPNAVINST 4780.6 Series. The following lists boat-like vessels which are not under the cognizance of the OPNAVINST 4780.6 Series policy, are not managed as Navy boats, and are not covered by this chapter:

- 1. Wholly inflatable boats (e.g., Combat Rubber Raiding Craft (CRRC)); these are items of supply to be managed as any other personal property.
- 2. Boats supported with non-appropriated funds such as those for the Morale, Welfare and Recreation (MWR) program.
- 3. Service craft (also known as ‘Y Craft’), including powered service craft such as yard tugs (YTBs and YTs) and dive tenders (YDTs).
- 4. Waterborne craft which are part of the Cargo Offloading and Transfer System. such as the Maritime Prepositioning Force Utility Boat (MPF UB); these are managed as an element of the Cargo Offloading and Trans-



fer System by the Naval Facilities System Command (NAVFAC) and are not classified as boats, unless they are accessed by the Cargo Offloading and Transfer System program and transferred into the Navy boat inventory.

5. Landing Craft, Air Cushion (LCAC); the OPNAVINST 4780.6 Series policy explicitly states it does not apply to these specific landing craft.
6. Naval Special Warfare watercraft assets; these are managed by the United States Special Operations Command (USSOCOM), and are not classified as boats, unless they are excessed by the USSOCOM and transferred-in to the Navy boat inventory.
7. Watercraft assets of the United States Marine Corps (USMC) are not classified as Navy boats; however, some boats are assigned to Navy personnel based at USMC installations. These boats are part of the Navy boat inventory.

In addition to the watercraft listed above, paint punts and life rafts are not managed as boats; however, they are covered in this chapter for shipboard safety and suitability purposes.

All Navy boats are centrally managed personal property assets and are classified as military equipment. The Boat Inventory Manager (BIM) is the accountable owner of all assets managed as Navy boats. In addition, the BIM is the Navy boat Personal Property Manager and maintains auditable chain of custody records. The BIM issues boats to custodian activities to fill authorized boat allowances. Upon physical receipt of boats, assigned activities become responsible officers (i.e., custodians) for ensuring the due care and safekeeping of boats assigned to their custody or the custody of those persons reporting to them. Boat custodian activities are responsible for physical control of assigned boats. The BIM has sole disposition authority for Navy boats. Boats which become excess to a custodian activity are referred to the BIM for disposition as described in this chapter. Based on the material condition of the boat and the Navy's on-going need for the boat, the BIM executes disposition authority to retain the boat in Navy inventory by transfer or turn in to stock, or to remove the boat from Navy inventory by authorizing disposal, sale or transfer.

**583-1.2.2 BOAT RECORDS.** All records (e.g., correspondence, technical reports, Naval messages, inspections, records of maintenance action, log book entries, etc.) related to a specific boat shall cite the boat's assigned Navy hull registry number (see [Section 3](#)). Wherever practical, records related to multiple boats shall cite applicable Navy hull registry numbers or other definitive identification data such as class or applicable acquisition contract number. In addition, applicable Navy hull registry numbers are to be included as metadata in electronic records, whenever practical. Local names or numbering assigned by the boat custodian command may also be included in records as secondary reference information.

By definition records include: "all books, papers, maps, photographs, machine readable materials or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States Government ." All boat related records are considered temporary records (i.e., they are not permanent records) by the SECNAV M-5210 Series manuals which provide details of the Navy records management program. Questions concerning disposition scheduling for specific boat records can be referred to the BIM for resolution.

**583-1.2.2.1 Boat Life Cycle Records.** The Craft and Boat Support System (CBSS) is the authoritative data source for individual boat life cycle record data relating to each boat's acceptance, its custody assignment, configuration management, condition history and inventory status throughout its useful life through its ultimate removal from the Navy inventory. CBSS development and maintenance is a BIM function, with specific record data maintained by the applicable technical support agent (i.e., AEA; BIM; ISEA; PY; LCLM). CBSS boat record data has associated substantiating records which provide an audit trail of key information such as accountability and configuration transactions. Substantiating records are scanned and stored electronically. CBSS boat records

are retained, as required, after boats are removed from Navy inventory to support data repository needs and issuance of title documentation. The BIM, in accordance with DoD Manual 4160.21-M, issues a Builder's Certificate, a Certificate in lieu of a Builder's Certificate, or a Quasi-title to a private party who purchases an ex-Navy boat.

583-1.2.2.2 Boat Accountable Property Records. Accountable property record data for boats is entered into the Defense Property Accountability System (DPAS) by and maintained by the BIM. The BIM is the accountable owner of all Navy boats and individual boat custodians shall not enter boat records into DPAS or any other property accountability system.

583-1.2.3 BOAT REQUIREMENTS. The term "requirement" has several meanings as it relates to boats, and the meanings are defined as follows:

- Operational Requirement. The boat capabilities needed by the custodian to accomplish mission essential tasks, usually expressed in matrix format with thresholds and objectives and indication of key performance parameters.
- Technical Requirement. The technical description, or specification, which provides the detailed configuration and/or performance parameters required for the boat(s).
- Budget Requirement. The procurement funding required, across the Future Year Defense Plan (FYDP), to fulfill all of the allowance requirements (i.e., the inventory objective) for a specific boat allowance type.

The Acquisition Engineering Agent (AEA) works with the custodian activity and their chain of command to clarify operational requirements, and the AEA develops the technical requirements which describe the needed boat(s). The allowance requirements for the custodian activity, and as applicable, their overall enterprise, result in budget requirements. The allowance requirements are fulfilled by boats from Navy stock if stock boats are available. The budget requirement results in a budget submittal supported by budget exhibits which articulate boat shortfalls which need to be fulfilled by new boat procurements.

583-1.2.4 BOAT PROCUREMENT. In its role as the APM for boats, PEO Ships, PMS 325 is responsible for acquisition of all types of Navy boats. This policy achieves three significant goals for the Navy:

- a. It ensures each boat has valid requirements, minimizing redundancy and waste.
- b. It ensures application of appropriate technical suitability criteria so safe platforms are procured.
- c. It allows for efficient use of budget resources over the life cycle while ensuring each boat meets its operational requirement.

Navy activities are not authorized to procure boats without a specific written "delegation of authority for procurement" from PEO Ships, PMS 325, regardless of the boat cost. Boat procurement is funded by Other Procurement, Navy (OPN) funds as part of budget execution, or by funding provided to PEO Ships, PMS 325 from other echelon 2 commands or program offices.

Nearly all Navy boat requirements are met by procuring commercial-off-the-shelf (COTS) products utilizing the General Services Administration (GSA) Federal Supply Schedules. PEO Ships, PMS 325 began using this approach with small utility boats in the late 1990s, then continued and refined the procurement approach in 2000 and on, as requirements for new security boats and combatant craft emerged. While this approach allows for real time acquisition it introduces complexities and risks into the development, acquisition, budgeting, engineering, and support processes including risks imposed by the lack of complete design disclosure.

### **583-1.3 AUTHORIZED ALLOWANCE OF BOATS**

**583-1.3.1 ALLOWANCE OF BOATS.** The allowance of boats for forces afloat is established by the applicable CNO Requirements and Resource Sponsor (a.k.a., OPNAV Sponsor or Resource Sponsor) and for shore activities by the BIM, in concert with the custodian activities' chain of command. A boat allowance is defined as the authorized quantity of boats of a specific Boat Allowance Type (BAT) authorized for a specific Custodian Activity. A boat allowance can either be filled by a specific Navy boat, or be unfilled, awaiting availability of or issue of a specific boat to fill the authorized allowance. Custodian boat allowances are maintained in the CBSS by the BIM, and where applicable, are retained in sync with custodian activities mission Tables of Allowance (ToA). Boat allowances help define the Navy's budget requirements by capturing the inventory objective (i.e., total quantity required) for each specific BAT.

**583-1.3.2 CHANGES IN BOAT ALLOWANCE.** Any request for a change in the boat allowance should be the subject of a written request (i.e., official letter or message; may be forwarded as a scanned pdf of original signed letter) clearly stating the reasons for the change. This request should be addressed to CNO, or to the Naval Surface Warfare Center, Carderock Division, Detachment Norfolk, Code 23 BIM, as appropriate, and forwarded through the requester's chain of command for endorsement. For afloat activities, the CNO will determine if the allowance change is approved or disapproved, and will issue necessary instructions to the BIM and funding to PEO Ships, PMS 325, as applicable. The request for an increase or for establishment of a boat allowance should cite the BAT and the nominal boat length, justify the quantity requested and, as applicable, should summarize the intended end use and reference the operational requirements document. Once an allowance change is authorized, the custodian activity allowance quantity for the associated BAT is updated in the CBSS by the BIM to reflect the authorized allowance. Unfilled boat allowances are included as shortfalls in boat budget requirements input.

**583-1.3.3 BOATS ASSIGNED TO FLAGS AND COMMANDS.** Boats for Flag Officers and Commands will be authorized only by CNO. When assigned, these boats are not part of any ship's allowance but are assigned to the custody of the flag. Boats assigned for personal use of flag officers are referred to as barges. Boats assigned for personal use of Chiefs of Staff, Squadron, Group, and Division Commanders, not of flag rank, and for Commanding Officers are referred to as gigs. When referring to such boats in correspondence they shall be designated by Navy hull registry number. Assignment and management criteria for barges and gigs are set forth in OPNAVINST 4780.6 Series.

**583-1.3.4 HOW BOATS ARE OBTAINED.** Because boats are centrally managed personal property assets, they are not subject to standard requisitioning procedures. Under normal conditions, boats are obtained by written request (i.e., official letter or message) to the BIM citing the need for the boat(s) (e.g., as a replacement boat or to fill an unfilled boat allowance). In an emergency, requests may be submitted by email or telephone. Except in cases of a national security emergency, or other emergency or disaster, telephone or email requests shall be confirmed by a follow-up message or letter within seven calendar days.

### **583-1.4 BOAT ASSIGNMENT**

**583-1.4.1 DETERMINING SPECIFIC BOATS TO BE ASSIGNED.** Once a custodian activity has an established boat allowance, the BIM can issue boat(s) to fill the allowance. A boat may be issued to fill an allowance, or may be issued as a replacement for an assigned boat (see [paragraph 583-1.7.3](#)) which has reached the end of its Economic Service Life (ESL). The specific boat issued depends on several factors which focus on either issuing an available boat from Navy stock or procuring a boat to meet the custodian's validated/authorized requirements.

583-1.4.1.1 Issue of a New Boat. If the custodian's sponsor (i.e., OPNAV resource sponsor, or echelon 2 program sponsor, as applicable) has funded boat(s) to fulfill the requirements and these boat(s) are available in Navy stock and are Ready For Issue (RFI), the BIM can readily issue a boat from Navy stock to fill the allowance. If boats are not available in Navy stock, but the custodian's sponsor has funded boat procurement, the BIM can readily issue a boat to fill the allowance once the boat is received in inventory and is RFI. Custodians need not provide an official request for issue of RFI boats to fill established unfilled allowances; informal coordination with the BIM is satisfactory.

Requests for issue of new boats which are not yet RFI, shall be the subject of a written request (i.e., official letter or message; may be forwarded as a scanned pdf of original signed letter), forwarded through/endorsed by the applicable chain of command, clearly stating the custodian is prepared to accept custody in advance of resolution/completion of outstanding product support package items or fielding issues. For example, the letter might state the custodian has compelling mission need for the boat(s) and requests issue in advance of completion of Navy logistics support products. For this example, if the custodian has an interim logistics support strategy for the boats, the BIM could issue the boats in advance of them being fully RFI.

Requests for issue of new boat(s) as replacements in kind for assigned boats shall be made by official letter and can be included in the request for disposition instructions letter simply by requesting disposition instructions "with replacement;" see [paragraph 583-1.8](#).

583-1.4.1.2 Issue/Transfer of "As-is" Boats. If new boat(s) are not available, because of an emergent requirement which has not yet been funded through the budget process, or because the custodian activity does not have an identified boat resource sponsor, the BIM may have suitable non-RFI boat(s) (typically used boats), in inventory with remaining service life which can be issued from stock or transferred from another custodian to fill the allowance. Often used boats are in need of repair and will need to be groomed or overhauled to be made serviceable prior to, or in conjunction with issue/transfer to the receiving custodian activity. In addition, any applicable Class A Boat Alterations (BOATALTs) authorized for implementation on a boat shall be installed prior to the boat being placed in service by the receiving custodian activity (see [paragraph 583-1.6.2.5.2](#)). The receiving custodian or Type Commander is responsible for funding any repairs and/or accomplishing BOATALTs necessary to make a boat serviceable for the intended mission. Prior to issue or transfer of a used boat, the BIM shall ensure the receiving custodian or Type Commander is responsible to take custody of the boat in "as-is" condition. Unless otherwise authorized by the BIM, upon accepting custody of a boat in "as-is" condition, the receiving custodian or Type Commander agrees to make the boat serviceable and accomplish any pending Class A BOATALTs prior to placing the boat in service.

Requests for issue or transfer of an "as-is" boat to fill an allowance shall be made by official letter. The letter should cite the Navy hull registry number of the requested boat and state the boat is requested in "as-is" condition.

Requests for issue or transfer of an "as-is" boat as a replacement in kind for an assigned boat shall be made by official letter and can be included in the request for disposition instructions letter by requesting disposition instructions "with replacement", citing the Navy hull registry number of the requested replacement boat and stating the boat is requested in "as-is" condition; see [paragraph 583-1.8](#).

583-1.4.2 UNFILLED ALLOWANCE. Pending custody assignment of suitable boats to fill an authorized allowance, an unfilled allowance is maintained for the custodian activity account in the CBSS. The authorized allowance remains unfilled until boat(s) are identified and issued/transferred to fill the allowance, or until a subsequent allowance change is authorized for the custodian activity. The establishment of an allowance is important in that it establishes a requirement (need) for a specific quantity and type of boat, even if the requirement cannot be immediately fulfilled and the custodian activity must rely on use of suitable substitute boats in the interim until boats fully meeting mission requirements are available.

583-1.4.3 ASSIGNING BOATS TO A CUSTODIAN. Specific boats are assigned by the BIM to a custodian activity by official correspondence. Custody assignments are usually accomplished by issue of a boat from stock or transfer of a boat from one custodian to another custodian.

Except for the sub-custody procedures described in [paragraphs 583-1.4.5.1](#) and [583-1.4.5.2](#) below, Navy activities are prohibited from taking custody of boats without BIM authorization; this prohibition includes directly obtaining boats from other Navy activities or non-Navy activities, including obtaining excessed boats from the Defense Logistics Agency (DLA) Disposition Service (formerly known as Defense Reutilization Management Offices (DRMOs)) or GSA disposition services.

583-1.4.3.1 Custodian Boat Account Update. At the time the BIM custody assignment letter is distributed, a CBSS inventory tracking record for each applicable boat is created to assign the boat to the custodian activity's boat inventory account. The "boat account" is sometimes called a "SABAR account." SABAR account is a historical term for a printed report called a "Service craft And Boat Accounting Report (SABAR);" this report is available in real time in the CBSS.

In addition to assigned boats, data recorded in the CBSS for each custodian activity account includes the activity Unit Identification Code (UIC), Plain Language Address (PLA), official mailing address, BIM assigned activity acronym, the activities boat related points of contact and time-based authorized boat allowance records.

Each CBSS boat inventory tracking record includes a physical activity data field, as well as a custodian activity. The BIM maintains positive control over boat custody assignment transactions by retaining the originating physical activity (i.e., the stock facility or the "from" custodian activity) information in the current tracking record until confirming a boat has reached its assigned custodian activity. The BIM manages the record as an open action, in suspense until receipt of documentation confirming the applicable boat has been received by the custodian activity. At the time of receipt confirmation, the BIM updates the associated tracking record in the CBSS to reflect physical receipt and fulfillment of the boat allowance requirement.

583-1.4.4 BOAT TRANSFER/RECEIPT. Details about the origin and shipping method will vary; however, key requirements apply to completing any boat custody assignment transaction. First, the originating command (i.e., the "from Custodian") is responsible for the condition and completeness of the boat package at the time the boat is physically released to the shipper or, as applicable, physically transferred to the receiving custodian or other authorized entity. Second, the receiving custodian is responsible for receipt inspection and for forwarding receipt confirmation documentation to the BIM (i.e., signed/dated DD 1149 or DD 1348-1A, as applicable).

583-1.4.4.1 Originating Custodian Transfer Responsibilities. The originating custodian (i.e., the 'from' activity) is to ensure the general condition, configuration and completeness of the boat package at the time of release agrees with the Boat Inspection Report (BIR) and requirements of the BIM authorization letter. The boat "package" varies, but includes the boat, and if applicable, ancillary items such as cradle or trailer, loose items such as outfit, covers, technical manuals, spares and hoisting sling. The originating custodian is responsible to ensure any removable items are included in the boat package (e.g., manual bilge pump handle, communications helmets and microphones, cushions, benches, etc.). Unless cannibalization is explicitly authorized in the BIM letter, the boat package shall not be cannibalized, but shall be released with complete equipment. Unless otherwise authorized, BOATALTs which have been accomplished on the boat are to remain intact.

Prior to releasing the boat to the shipper or, as applicable, physically transferring the boat, the originating custodian is responsible to accomplish preservation and prepare the boat for shipment in accordance with [paragraphs 583-1.8.5.3](#) through [583-1.8.5.5](#), and [583-9.2](#). Any deviation from these responsibilities will be explicitly authorized in the BIM letter. At the time the boat package is released to the shipper, the originating custodian is responsible to forward shipping confirmation documentation (i.e., signed/dated DD 1149 or DD 1348-1A, as applicable) to the BIM.

583-1.4.4.2 Receiving Custodian Receipt Responsibilities. At the time of receipt, the receiving command is to review the boat package looking for any obvious shipping damage or missing items. If there is any evidence of damage/missing items obviously related to the shipment of the boat package, it is critical for the receiving command to document it on the shipper's receipt document and in the presence of the shipper's delivery driver prior to accepting receipt of the boat package. The BIM can facilitate resolution of shipping related issues, but only if they are documented in conjunction with boat receipt. For each boat received, the receiving command is to forward receipt documentation by fax or email to the BIM as soon as possible, but no later than four calendar days after receipt. The BIM then updates the CBSS and the boat is officially received into the custodians boat account (a.k.a., SABAR).

583-1.4.4.3 Boat Receipt: New Boats. The general responsibilities in [paragraphs 583-1.4.4](#) and [583-1.4.4.2](#) are applicable to all boats, including new boats. New boats are normally issued with outfit items (e.g., batteries, anchor and anchor line, mooring lines, boat hook, etc.) and interim support items (e.g., filters, anodes, etc.). The receiving activity is responsible to inventory these items using the packing list provided with the boat. If any items are missing, the receiving activity is responsible to notify the BIM as soon as possible, but no later than four calendar days after receipt.

In some circumstances new boats are delivered directly from the boat builder (contractor) to the custodian. The BIM may elect to appoint the receiving custodian to participate in the acceptance inspection process. In this case, the receiving custodian performs the acceptance inspection and provides input to the BIM Acceptance and Fielding Manager who prepares the official Post-Delivery Inspection Report (PDIR) for the boat. The PDIR is used to notify the contractor of any discrepancies (i.e., defects in material or workmanship, or non-conformance to the contract requirements). The acceptance inspection should be performed as soon as possible, but no later than five calendar days after boat delivery. Final acceptance is dependent upon the contractor providing Post-Delivery discrepancy resolution notification (i.e., correction or an acceptable plan of action for correction). The BIM Acceptance and Fielding Manager will coordinate discrepancy resolution with the contractor and the custodian and will determine when the boat is considered to be Ready For Acceptance (RFA). Boat technical issues which are not the responsibility of the boat builder (contractor) should be communicated to the ISEA via the Liaison Action Report (LAR) process (see [paragraph 583-1.5.2](#)).

No boat shall be placed in operation until custody is assigned by the BIM to a custodian activity by official correspondence. Custody assignment is contingent upon confirmation of boat acceptance, completion of any necessary post-delivery testing, installations, or alterations, completion of product support package items (see [paragraphs 583-1.4.1.1](#) and [583-1.4.1.2](#)), or BIM determination that the planned custodian has an interim plan for logistics support pending completion of product support package items.

583-1.4.4.4 Boat Depreservation and Reactivation. Depreservation is the process of removing the compounds which were applied to a boat, it's equipment and components to preserve it for long term storage. Some new boats have been preserved for long term storage and will require depreservation prior to operation. Reactivation is the process of activating the systems (e.g., filling with operating fluids; installing drain plugs, etc.), starting up the boat and checking the boat systems to ensure the boat is fully operational. The custodian activity is responsible to depreserve (if required) and reactivate the boat in accordance with the manufacturer's recommendations and the boat's Technical Data Package (TDP) before placing the boat in operation. Alternatively, the custodian activity may make arrangements with the ISEA to fund depreservation and reactivation in conjunction with boat issue. Note that procurement contracts for outboard powered boats usually include the engine break-in and initial maintenance as part of the procurement contract requirements, prior to delivery of the boat to the Navy.

583-1.4.4.5 New Boat Warranty. Each new boat and its associated equipment are covered under warranty. The boat builder (contractor) is responsible for the construction of the boat and the installation of equipment; therefore, any associated latent defects in material or workmanship, or non-conformance to the contract requirements

may be warranty issues. Individual equipment items are covered by the original equipment manufacturer warranty. In the event of equipment failure contact the equipment manufacturer for repair under warranty. Some boats are held at Navy Inventory Control Points for extended periods of time, awaiting issue to new construction ships or ashore activities. Generally, the warranty for a new boat and its major propulsion components begins upon receipt at the custodian activity; this date is called the Fleet Introduction date. For assistance with warranty start dates contact the BIM. The warranty duration varies by boat and equipment manufacturer; warranty information can be found in the manuals provided with the boat's hard copy Technical Data Package (TDP). Be sure to fill out the equipment registration cards provided with the boat and return them to the equipment manufacturers. For assistance with warranty claims, or any technical issues related to the boat, contact CCD Code 234 (Life Cycle Management and Sustainment Engineering Branch). CCD Code 234 contact information is available at <http://boats.dt.navy.mil/organization.asp>.

**583-1.4.5 CUSTODIAL ACCOUNTABILITY FOR ASSIGNED BOATS.** Upon receipt of boats, assigned custodians are responsible for ensuring the due care and safekeeping of boats assigned to either to their custody or to the physical custody of those persons reporting to them. Custodial responsibilities begin upon physical receipt of assigned boats and are terminated only upon completion of authorized boat custody reassignment or disposition actions.

Custodian activities are responsible to respond to boat validation data calls in accordance with OPNAVINST 4780.6 Series; specific data call requirements are provided in [paragraphs 583-1.10.3.3](#) and [583-1.10.3.4](#).

**583-1.4.5.1 Sub-Custody Procedures: Higher Level Custodians.** Custodians, such as support units, group level or regional level custodians may assign sub-custody (a.k.a., physical custody) to units within their chain of command to suit real time operational requirements provided the custodian maintains positive control of the boats assigned to their custody. For example, "Custodian Activity" Explosive Ordnance Disposal (EOD) Group ONE, can assign or reassign "Physical Activity" sub-custody of their assigned boats to EOD Mobile Unit THREE or EOD Mobile Unit FIVE, etc. Sub-custody assignments can be considered temporary if they are for a period not greater than 90 days. Temporary sub-custody assignments need not be reported to the BIM. Sub-custody assignment changes which are greater than 90 days or are considered permanent sub-custody reassignments shall be reported to the BIM, by forwarding a completed form DD 1149, as soon as practicable to ensure accurate data is maintained in the CBSS.

**583-1.4.5.2 Sub-Custody Procedures: Ship's Boat Pools.** Loaner boat pools are assigned to custodians such as Type Commanders or regional maintenance centers to enhance operational flexibility and facilitate responsiveness to emergent fleet requirements with a minimum number of ship's boat assets. Assigned custodians of loaner boat pools are authorized to temporarily assign replacement-in-kind boats to ships with established allowances for the same Boat Allowance Type to meet real time fleet requirements for operational ship's boats. Pool assignments can be considered temporary sub-custody assignments if they are for a period not greater than 90 days, and they need not be reported to the BIM. Assignments which are greater than 90 days or are considered permanent shall be reported to the BIM by the pool custodian or Type Commander in a request for custody transfer letter, as soon as practicable to ensure accurate data is maintained in the CBSS.

**583-1.4.5.3 Physical Inventory Control.** Custodians are to accomplish physical inventory control to the degree necessary to be able to readily provide accurate physical activity assignment information of individual boats by Navy hull registry number. Custodians, with the authority to assign sub-custody, are expected to keep positive control of sub-custody boat assignments (i.e., real time knowledge of boat assignment to a specific physical activity). This can be accomplished by use of a daily log book, status board or other tracking method.

583-1.4.6 BOATS TRANSFERRED WITH A FLAG. Boats assigned for personal use of flag officers afloat or their staffs, regardless of whether custody is assigned to the flag command or a Type Commander, may be transferred from ship to ship, with the flag, without specific authority of the BIM. However, transfers shall be reported to the BIM, by the assigned custodian. Informal correspondence such as email providing the date of the transfer, the Navy hull registry number and the current ship the boat is being carried aboard, shall be provided to the BIM as soon as practicable to ensure accurate physical activity location data is maintained in the CBSS.

583-1.4.7 EMERGENCY BOAT TRANSFER. Boats shall not be transferred, except in cases of a national security emergency, or other emergency or disaster, without specific custody transfer authority from the BIM. In the event a boat must be transferred without prior authorization, the applicable custodian shall provide full details to the BIM at the earliest practicable date.

583-1.4.8 BOAT ASSIGNMENT TO SPECIAL PROJECTS AND TEMPORARY LOANS. Boats may be assigned by the BIM to special projects such as disaster relief or environmental cleanup efforts. These boats may be operated by other government agencies or commercial corporations. The recipient shall assume temporary custodial responsibility. The recipient (temporary boat custodian) is responsible for restoration of the boat to as-issued condition upon return to U.S. Navy custody. Before/in conjunction with U.S. Navy acceptance, a completed Boat Inspection Report (BIR) ([Figure 583-1-1](#)) shall be completed by a BIM designated boat surveyor. This completed form will be used by the BIM to determine the financial liability of the user custodian from funds allotted to the special project.



**Navy Streamlined Boat Inspection Report (BIR):**

Navy Hull Registry #: Activity/UIC:

Other ID: (Mfr's HIN, Local Name, etc.) Inspection POC:

Phone/DSN:

Inspection Date: Email:

**Inspection Findings:**

Describe (in words) the condition of the boat in the blocks below & provide **digital photos** (approx 100 kb each) of Hull Registry Number marking and photos as needed to depict the boat's overall arrangement and current condition. Include exterior & interior photos; above & below deck, and in accessible compartments (e.g., console interior; machinery spaces; cabin interior). Include photos of the engine(s) & other equipment, piping & wiring. Include photos showing damage or poor condition. Photos of the boat out of the water are preferred, if this is practicable.

<u>Hull Exterior (overall):</u>	<u>Boat Interior (overall):</u>
<u>Transom/Bow/Sheer/Collar/Guard Rail:</u>	<u>Windows/Deck Covering/Cox'n Station:</u>
<u>Shafting/Rudder/Outdrive/Jet:</u>	<u>Interior Outfitting (seats, grab rails, etc.):</u>
<u>Interior Spaces/Structure</u> (i.e., metal or fiberglass 'skeleton' of the boat):	<u>Electrical Systems:</u>
<u>Bilges/Bilge Piping:</u>	<u>Navigation/Comms Equipment &amp; Systems:</u>
<u>Engine/Marine Gear</u> (include engine type/model, qty & operational status):	<u>Mechanical &amp; Piping Systems:</u>
<u>Weapon Mounts or Other Mission Systems:</u>	<u>Trailer/Cradle:</u>
<u>Remarks</u> (additional info on boat condition or other features such as dive door, cabin, security equipment, etc.):	
Overall Boat Rating: (1 = good condition; 2 = operational, but needs grooming – or – not operational, but can be economically repaired; 3 = not operational, needs significant repair/overhaul)	

Figure 583-1-1 Boat Inspection Report (BIR) Form

## 583-1.5 BOATS IN SERVICE

### 583-1.5.1 OPERATING AND SUPPORT (O&S) RESPONSIBILITIES.

583-1.5.1.1 Office of the Chief of Naval Operations (OPNAV) Sponsor. In accordance with OPNAVINST 4780.6 Series, applicable Readiness Resource Sponsors are responsible for funding support. This includes budget resources for Engineering Technical Support, provided by Navy Working Capital Funded (NWCF) System Commands, in-service support, modernization and Operation and Maintenance (O&M) support.

583-1.5.1.2 PEO Ships, PMS 325 Life Cycle Manager (LCM). In accordance with OPNAVINST 4780.6 Series, the LCM is responsible for establishing procedures for configuration management (CM), boat alteration, modernization, technical refresh, repair and maintenance. CM is typically maintained through the establishment of Configuration Control Boards (CCBs) where decision authority resides with applicable OPNAV Sponsor, Support Commander and the LCM.

583-1.5.1.3 Support Commander. In accordance with OPNAVINST 4780.6 Series, applicable support commanders (e.g., Type Commanders, Systems Commanders, etc.) are responsible for funding the operation and maintenance (i.e., routine planned maintenance and overhaul, as well as repair) of boats assigned to the custody of their subordinate activities.

583-1.5.1.4 Custodian Activity. In accordance with OPNAVINST 4780.6 Series, the assigned custodian activity (a.k.a., user command) is responsible for the administration, operation, manning, safety, security, development and submission of maintenance requirements budgets, maintenance, stocking and replacement of repair parts for assigned boats. These responsibilities are terminated only upon completion of authorized boat custody reassignment or disposition actions.

A boat custodian activity without an identified OPNAV sponsor or support commander bears the O&M funding responsibility for assigned boats.

### 583-1.5.1.5 Engineering Technical Support.

583-1.5.1.5.1 In-Service Engineering Agent Support. The function and responsibility of the In-Service Engineering Agent (ISEA) is to provide technical knowledge and engineering support for boats that have been issued to the custodian activity. As the lead systems integrator, CCD will coordinate all inputs from other ISEA's. ISEA responsibilities include, but are not limited to the following:

- a. Configuration Status Accounting (CSA)
- b. Notifying the Configuration Control Board (CCB) of routine changes to component and system level items
- c. Verifying the physical configuration complies with technical requirements
- d. Providing technical input on system or equipment level change requests or issues requiring correction

583-1.5.1.5.2 Boat Planning Yard. The boat PY is responsible for life cycle engineering technical decisions for boats. This includes supporting the development of Boat Alterations (BOATALTs) and modifications and associated configuration management. Planning Yard (PY) responsibilities include, but are not limited to:

- a. Providing technical knowledge and engineering support for in-service boats
- b. Providing review/recommendations for proposed configuration changes
- c. Developing and maintaining configuration change documentation and status
- d. Coordinating with appropriate commands for implementation of approved changes
- e. Developing Cost Benefit Analyses, as directed
- f. Total boat configuration control tracking and reporting
- g. Maintaining BOATALT technical data
- h. Serving as Weight Control Program Manager
- i. Preparing BOATALT Records and supporting documentation
- j. Assisting custodian activities, the custodian's chain of command or Configuration Control Board (CCB), as applicable, in developing Configuration Change Requests (CCRs)
- k. Maintaining boat drawings and ensuring all drawings are current and available
- l. Tracking planned and installed BOATALTs and emergent LARs
- m. Supporting CCRs by developing feasibility studies, calculations, drawings, history and BOATALT installation documentation
- n. Developing and maintaining fielding plans and schedules for alteration installation and applicable tests/certifications as conducted by assigned Port Engineers
- o. Providing industrial availability Statement Of Work (SOW) development and oversight as tasked and funded
- p. Conducting boat baseline configuration and condition assessments
- q. Conducting familiarization/instruction of configuration changes for the custodian activity, as applicable
- r. Proofing and validating BOATALT installations

583-1.5.1.5.3 Integrated Logistics Support Manager. CCD is the assigned boats Integrated Logistics Support Manager (ILSM), responsible for the logistics support of boats equipment/material. The CCD ILSM will coordinate with and inform PMS 325 of all CCB related logistics actions. ILSM functions include, but are not limited to:

- a. Transforming initial OEM TDP into standard Navy boat ILS products, including but not limited to Supply Support (APLs, AELs), Planned Maintenance System (PMS) documentation (i.e., Maintenance Index Pages (MIPs) and Maintenance Requirement Cards (MRCs), Government developed Technical Manuals (TMs), and Navy Training Systems Plans (NTSPs)
- b. Ensuring changes to the baseline configuration are incorporated into individual boat configurations
- c. Providing baseline configuration to the Configuration Data Manager (CDM) for Configuration Data Managers Database Open Architecture (CDMD-OA) data loading when the boat is issued to the User Command
- d. Analyzing Configuration Change Requests (CCRs) for impact to ILS products and reporting findings to the CCB
- e. Updating/developing ILS products to incorporate changes resulting from the BOATALT Record
- f. Updating individual boat configurations in CDMD-OA as BOATALT accomplishment is reported

583-1.5.2 LIAISON ACTION RECORD. The Liaison Action Record (LAR) ([Figure 583-1-2](#)) provides the boat custodian with a documented request to the ISEA or the PY for maintenance and engineering issues support. A LAR may be used as official correspondence to make a configuration change request for a boat alteration.

LARs are approved by the ISEA or PY and provide the official technical response or serve as the official technical authority document to the original request.

<b>LIAISON ACTION RECORD</b>			
<b>From:</b>		<b>Date:</b>	<b>Priority:</b> ___ Emergent (24 hour) ___ Urgent (5 working days) ___ Routine (10 working days)
		<b>UIC:</b>	
<b>To: Naval Surface Warfare Center</b> Carderock Division Det Norfolk 2600 Tarawa Court, Suite 303 Virginia Beach, Va. 23459-3239 <b>Attention:</b> Robert Bradford (Fax 757-462-4725) CCD ISEA BRANCH HEAD		<b>LAR No.</b>	
<b>Originator</b>			
<b>Name:</b> (Full Name)	<b>Phone:</b>	<b>Email:</b>	
<b>DSN:</b>	<b>Fax:</b>	<b>Cell:</b>	
<b>Planner:</b>	<b>BOATALT No. (if applicable):</b>		
<b>Submitting Authority Signature:</b>			<b>Date:</b>
<b>Subject/Brief:</b>			
<b>Request/Problem:</b>		<b>Boat Type:</b> <b>Hull No.:</b>	
<b>References: (A)</b>			
<b>Reply/Resolution:</b>			
<b>Technical POC:</b> <b>Code:</b> <b>Telephone:</b> <b>Email:</b>		<b>Approved By (Branch Head):</b> <b>Signature</b> <span style="float: right;"><b>Date:</b></span>	

DISTRIBUTION STATEMENT D: DISTRIBUTION AUTHORIZED TO DEPARTMENT OF DEFENSE AND U.S. DOD CONTRACTORS ONLY; ADMINISTRATIVE OR OPERATIONAL USE (2012). OTHER REQUESTS SHALL BE REFERRED TO DIRECTOR, NAVAL SURFACE WARFARE CENTER, CARDEROCK DIVISION, DETACHMENT NORFOLK.

Figure 583-1-2 Liaison Action Record (LAR) Form

583-1.5.3 IN-SERVICE INSPECTIONS. Although in most cases Navy boats are designed and fabricated to requirements that meet or exceed United States Coast Guard (USCG), American Boat and Yacht Council (ABYC), and other regulatory agencies, Navy boats need not meet any such requirements. USCG documentation, inspection or certification is not required for U.S. Navy boats. Utilization of specific regulatory agencies or their requirements for in-service inspections is determined by the sole discretion of the Technical Area Expert (TAE) for Combatant Craft and Boats in concert with boat program stakeholders.

583-1.5.3.1 Boat Materiel Inspection. A Navy boat assigned to a custodian will be scheduled to receive a Materiel Inspection (MI) three years from the date placed in service or the previous inspection, as applicable. At no time will the interval between in-service MIs exceed 54 months. The purpose of the boat MI is to validate the condition, operational readiness and configuration of the boat to ensure the boat is safe and suitable for its assigned mission. All MI discrepancies reported will be corrected as soon as practicable within one calendar year from the date of the inspection report. Discrepancies affecting the safe operation of the boat will be corrected immediately. Custodian activities are responsible for promptly reporting corrected discrepancies to the boat PY.

583-1.5.3.1.1 MI Conduct and Reporting. Boat MIs shall be conducted or validated by the boat PY. Boat MI schedule and data will be maintained in the CBSS to indicate compliance with these requirements and to provide associated metrics. Additionally, the boat PY shall submit an annual report of the results of boat MIs and boat assessments to the President, Board of Inspection and Survey (PRESINSURV), in accordance with the requirements of OPNAVINST 5420.70 Series, to provide technical assistance and insight. The report shall include an annual Schedule of Boat Materiel Inspections and Assessments for large and/or complex boats recommended for periodic inspection by INSURV. The inventory of large and/or complex boats is comprised of those recommended by the BIM via official correspondence (e.g. letter serial 23BIM/7247 of 14 Sep 2011).

583-1.5.3.1.2 Condition Inspection. The MI includes a static (shipboard/pier side) inspection of the boat's condition and, if necessary, an underway inspection. The MI consists of a complete visual inspection of all boat spaces. The condition of the hull, associated structure, installed fittings, including hoisting fittings, is inspected. Inspection of all boat systems (propulsion, mechanical, electrical, electronic and auxiliary), including lifting gear, is also completed.

583-1.5.3.1.3 Operational Inspection. During the underway trial, systems are checked for proper operation. The boat's operation is evaluated to assess the boat's ability to safely and effectively fulfill the technical requirements.

583-1.5.3.1.4 Configuration Audit. The inspection includes a Physical Configuration Audit (PCA), ensuring the boat's configuration is in accordance with the current authorized boat configuration (i.e., baseline configuration, plus any changes resulting from implementation of BOATALTs).

583-1.5.3.1.5 MI Report. The results of the MI are captured in an inspection report containing the boat's materiel discrepancy list and a list of implemented BOATALTs. Each discrepancy included in the MI report shall be classified as either a major discrepancy or a minor discrepancy. Major discrepancies are those that degrade the safety and/or effectiveness of the boat to perform one or more missions. Minor discrepancies do not affect the operational readiness of the boat; however, a boat with one or more minor discrepancies does not meet the configuration standardization criteria established for that boat. If a discrepancy can be directly associated with a training, maintenance or engineering issue, this is annotated in the report.

583-1.5.4 BOAT ASSESSMENT. Boat assessments aid in boat replacement planning and budgeting efforts. As a boat ages and O&M costs increase, it may be more economical to replace the boat, instead of incurring the increased O&M costs for the remainder of the boat's planned useful life. MI Reports or other boat condition factors may indicate a Boat Assessment is warranted. A Boat Assessment compares cost data to retain the existing boat in service to cost estimates of a replacement boat and determines the Economic Service Life (ESL) of the in-service boat. The ESL information is used by the BIM to update the CBSS, leading to improved boat budget reporting (see [paragraph 583-1.7](#)).

## 583-1.6 CONFIGURATION MANAGEMENT

583-1.6.1 BOAT SYSTEM CONFIGURATION IDENTIFICATION. Nearly all Navy boats are procured as Non Acquisition Category (Non ACAT) systems and are considered COTS items configured for military applications. The boat configuration fulfills the approved technical requirements (see [paragraph 583-1.2.3](#)). Boat configuration documentation includes the commercial drawings, manuals, and associated data procured under contract when the boat is built, as well as Government developed documentation. Boat procurement contracts require the boat builder (contractor) to ensure all follow-on boats and their systems are identical to the first boat in the order.

Once a boat procurement contract has been awarded, the contract technical requirements, along with any planned post-delivery installation or outfitting prior to fleet introduction/fielding, will comprise the boat configuration baseline. The configuration baseline is established at the time the first boat (i.e., of each configuration in a procurement contract) is Ready for Issue (RFI) to the boat custodian. At any point in the boat's service life, the authorized configuration is defined as the baseline configuration, plus any approved changes.

The boat's configuration baseline documentation is comprised of the boat builder (contractor) provided Technical Data Package (As-Built TDP), which includes drawings and COTS manuals for installed equipment, supplemented by any Government developed technical data (Gov TDP). The composition of the Gov TDP (e.g., drawings, publications, etc.) varies with boat complexity and post-delivery installation or outfitting. The Allowance Parts Lists (APLs) and Allowance Equipage Lists (AELs) developed for each boat and its subsystems represent the baseline for spares and support equipment. The boat PY accomplishes Life Cycle Configuration Identification (LCCI) and documentation support.

### 583-1.6.2 BOAT SYSTEM CONFIGURATION CHANGES.

583-1.6.2.1 Configuration Changes: General. Each boat type provides a needed mission capability that will be used in a wide range of operational circumstances. As missions evolve and technology and component availability changes over time, boat configuration changes are usually required. Change analysis and approval is constrained by the boat requirements documents (see [paragraph 583-1.2.3](#)), technical feasibility and affect on cost of ownership. For example, engine horsepower and associated top speed is limited to that needed to meet the validated operational requirements. Engine upgrades are not driven by the capability of a particular boat model to accept higher horsepower engines. Engine upgrades are only authorized if the higher horsepower is supported by boat requirements documents, if it is technically feasible and is supported by a Cost Benefit Analysis.

All configuration changes which consist of a physical change to the boat or its associated equipment, including ancillary items such as the boat's trailer or cradle, hoisting gear, or equipage will be based on the procedures described herein. Boat system configuration changes are often necessary for boat custodians to accomplish assigned tasks in their geographic location.

Alterations may affect characteristics such as speed, displacement, cargo or hoisting capacity, passenger capacity, or outfit.

Boat configuration changes to any extent not shown on the accepted boat builder (contractor) supplied As-Built drawings or an approved NAVSEA drawing, are not permitted without prior authorization from the cognizant PEO Ships Acquisition or Life Cycle Manager regardless of the funding source. Unauthorized alterations are strictly prohibited and may result in formal administrative review procedures, particularly when funds are required to restore the boat to its former configuration.

Configuration changes to boats under construction are authorized by contract modification and most are applicable to all boats in the contract. However, some circumstances necessitate changes to a follow-on boat under contract after the configuration baseline for the applicable series of boats has been established. Once the

configuration baseline has been established, any configuration changes to follow-on boats under contract will be approved and implemented within the bounds of the procurement contract. The AEA is responsible to ensure the accepted As-Built TDP includes boat specific details of the configuration differences from the baseline configuration to facilitate life cycle configuration identification.

Frequently, configuration modifications accomplished after boat delivery from the boat builder (contractor) are separate from the acquisition contract. These are planned modifications accomplished as post-delivery installation or outfitting prior to initial issue (a.k.a., fleet introduction or fielding) and are to be included in the baseline configuration. The AEA shall ensure boat specific details of the any post-delivery/pre-fielding modifications are documented as part of the baseline configuration.

Any configuration changes accomplished after boat delivery from the boat builder (contractor), related to boat acceptance or claims during the guaranty period, shall be adjudicated in accordance with the contract acceptance and/or guaranty requirements. For configuration changes related to acceptance and guaranty prior to a boat's initial issue, the AEA is responsible to ensure boat specific details of the configuration differences are documented in the As-Built TDP. Once the boat is issued and in service, configuration changes related to claims during the guaranty period become the responsibility of the PY. The PY is responsible to ensure boat specific details of boat builder (contractor) responsible configuration changes to in-service boats are documented in the As-Built TDP or in a BOATALT, as appropriate.

Throughout a boat's useful life, most configuration changes are proposed after the configuration baseline is established and the boat is issued and in service. These changes are most often requested by the boat custodian activity and they are accomplished by implementing a BOATALT. A BOATALT Record (NSWCCDDN FORM 583-BASF [6-02]) is developed and issued by the boat PY to provide technical direction for specific boats to authorize and document changes to the baseline configuration. BOATALTs will be developed to cover (be applied to), to the maximum extent practicable, the applicable inventory of Navy boats to reduce engineering costs.

**583-1.6.2.2 Configuration Change Request Submission.** In order to initiate a configuration change, the requesting activity shall submit a Configuration Change Request (CCR). All CCRs shall be submitted by official correspondence (e.g., LAR, NAVMSG, letter, etc.) via the custodian's chain of command or Configuration Control Board (CCB), as applicable. The request must justify the need for the change, for example: citing safety issues, logistics problems, increased mission requirements/capabilities, reduced operation and/or support costs, etc.

Responses will be provided for all CCRs; however, for in-service boats, CCR processing and analysis will be limited to those boats which fill a custodian's authorized boat allowance. In addition, CCR processing and analysis will be limited to those boats/custodian activities for whom the cognizant OPNAV Resource Sponsor, or program stakeholder provides boat life cycle management funding (e.g., O&M) to the applicable ISEAs) and the boat PY. In cases where custodian activities do not have an identified boat life cycle management resource sponsor, the activity will need to provide technical support funding to the PY to enable CCR processing; a technical support proposal (work scope and funding requirements) can be provided by the PY upon request.

**583-1.6.2.3 Configuration Change Request Analysis.** The PEO Ships Life Cycle Manager and applicable Type/Area (Support) Commander(s) and OPNAV Resource Sponsor(s) will review the Configuration Change Request and will determine if the alteration is economically and operationally justified based on the following analysis developed by the boat PY:

- a. **Requirements Analysis.** Evaluate whether the proposed change is in concert with the approved boat requirement documents (see [paragraph 583-1.2.3](#)). If the proposed change would require a change in the requirements documents, requested changes to the boat requirements documents shall be submitted for CCB review and shall be endorsed by the applicable chain of command and OPNAV Resource Sponsor(s) prior to initiating further analyses (i.e., Technical Feasibility Study or Cost Benefit Analysis).



- b. Technical Feasibility Study. Evaluate the technical feasibility of the proposed change. Specifically:
- (1) Validate the current configuration.
  - (2) Investigate alternatives.
  - (3) Estimate weight change.
  - (4) Estimate mass properties, stability, and performance impacts.
  - (5) Evaluate structural impact.
  - (6) Evaluate system impact.
  - (7) Evaluate interface impact.
  - (8) As applicable, evaluate impact on certifications (e.g., hoisting, air transport, weapon system, etc.).
  - (9) As applicable, evaluate impacts to transport modes, safety, human factors, mission conduct, damage control and survivability features, and signatures impacts.
- c. Cost Benefit Analysis. Evaluate the cost feasibility of the change by performing a Cost of Ownership Analysis (COA) and completing a Justification/Cost form (NAVSEA FMP Manual refers). The COA compares the cost of the existing configuration with the replacement or new configuration. Total cost of ownership includes:
- (1) Performance cost and saving (e.g., increase and decrease in fuel cost; reliability of the equipment).
  - (2) Maintenance cost and saving (e.g., changes to manuals, training, provisioning, PMS, etc.).
  - (3) Cost of installation of the new configuration.
  - (4) One time cost of the new configuration (e.g., COA, BOATALT development, prototyping, testing and evaluating).
  - (5) Intangible costs and benefits (performance, safety, maintainability, etc.).
  - (6) Evaluation of the remaining life of the boat proposed for the installation (survey via correspondence and on-site; review maintenance and performance records).
  - (7) Calculation of the total COA of the new configuration versus the existing configuration, based on the remaining life of the boat.
  - (8) Evaluate current/future boat procurement impact.

583-1.6.2.4 Alteration Authority to Develop. If justified by the PY analyses, PEO Ships, PMS 325 will facilitate CCB adjudication of the CCR. Upon approval by the CCB, PEO Ships, PMS 325 will prioritize, determine funding source, and issue an Authority to Develop (ATD) authorizing the PY to develop the proposed alteration. If available program funding is insufficient, the requesting activity may assume the cost of the development of the alteration. Unfunded ATD alterations will be deferred and considered in the next budget cycle. Configuration Change authority may be issued by BOATALT.

583-1.6.2.5 BOATALT Records. The BOATALT record describes the authorized configuration change in detail. During BOATALT development, equipment installation requirements are reviewed for impact on boat weight and stability, and a standard installation method is established which identifies installed equipment removal, provides detailed engineering drawings or sketches, and describes installation techniques, test methodology and standards, lists concurrent boat alterations to be accomplished, provides a material list and summarizes logistics support, special tool requirements and technical documentation requirements.

583-1.6.2.5.1 Numbering. The BOATALT identification consists of the boat length, abbreviated boat type, the alteration serial number, and an accomplishment classification letter (Example: 35HS/2A). A revision to a basic BOATALT carries a letter sequence designation (Example: Rev D for the fourth revision). If an alteration has

application to several different types of boats, then it will carry a GENERAL designation with the serial number, an accomplishment classification letter, and the sequential revision letter designation (e.g., GEN/54B rev A).

583-1.6.2.5.2 Classification. The BOATALT class indicates the relative importance for accomplishment. The priorities are defined as follows:

- a. Class A: MANDATORY ACCOMPLISHMENT. Usually for safety reasons or compliance with effective public laws, regulations or court decisions.
- b. Class B: ESSENTIAL FOR ACCOMPLISHMENT. Essential to maintain boat capabilities or provides a needed improvement in boat capabilities.
- c. Class C: DESIRABLE ACCOMPLISHMENT. Useful to maintain boat capabilities or provide an improvement in boat capabilities.

Example: BOATALT RECORD 35HS/2A is the second alteration approved for the 35-foot Harbor Security boat, which has first priority for accomplishment because of safety or regulatory compliance.

583-1.6.2.5.3 BOATALT Issuance and Cancellation. The BOATALT records are approved by the PY. Distribution is subsequently made by the PY to applicable boat custodian commands, repair activities, and operational and administrative commanders. The PY may subsequently cancel a BOATALT record. Once a BOATALT is cancelled, it is no longer authorized for implementation on any applicable boats. The BOATALT file is reviewed annually by the PY to identify candidates for cancellation. Periodic cancellation summaries are issued to a wide distribution list.

583-1.6.2.6 Alteration Authority to Implement. Upon completion of BOATALT development, the PY may provide an Implementation Plan for the BOATALT across the inventory of applicable boats when appropriate. PEO Ships, PMS 325, will facilitate CCB adjudication of the Implementation Plan and issue an Authority to Implement (ATI) the Configuration Change on specific boats. The Implementation Plan consists of the following elements:

- a. Specific boat applicability.
- b. Implementation approach (i.e., during overhaul, OCONUS Tiger Team, custodian installation).
- c. Type/Area (Support) Commander priority.
- d. Material and Industrial Availability funding source identification.

583-1.6.2.7 Emergent Liaison Action Record. At the sole discretion of the PY emergent boat modifications may be documented via LAR and converted into a BOATALT when a configuration change results. Prototyping and/or testing a proposed configuration change on an in-service boat and/or boat system via a LAR may be accomplished at the discretion of the PY, providing the proposed modification meets the following criteria:

- a. The cost to return the boat and boat system to an unmodified state is less than 30% of the cost to modify the asset.
- b. A Plan of Action and Milestones (POA&M) is submitted to, and approved by the CCB documenting the planned schedule for modifying, testing, and returning the boat and boat system to an unmodified condition. The modification of a boat and boat system shall not commence prior to receiving the approval of the POA&M from the CCB.

583-1.6.2.8 BOATALT Implementation. Depending on factors such as complexity, BOATALTs may authorize accomplishment the custodian activity, or by a maintenance activity (e.g., during overhaul, Alteration Installation Team (AIT), etc.).

583-1.6.2.8.1 Active Boats. BOATALT accomplishment is funded by the boat custodian activity, usually by funds provided by the custodian activity's OPNAV resource sponsor. Class A BOATALTs should be accomplished at the next scheduled repair availability. Ship's force or the supporting organization level maintenance organization should complete an A priority BOATALT as soon as possible. A Class B BOATALT should be accomplished within one year of the approval date on the BOATALT. The elective C class BOATALT may be accomplished at the earliest convenience of the boat custodian activity. Navy O&M funds administered through the major fleet commanders to subordinate activities are the usual source for BOATALT material acquisition and commercial contractor installation services, if required.

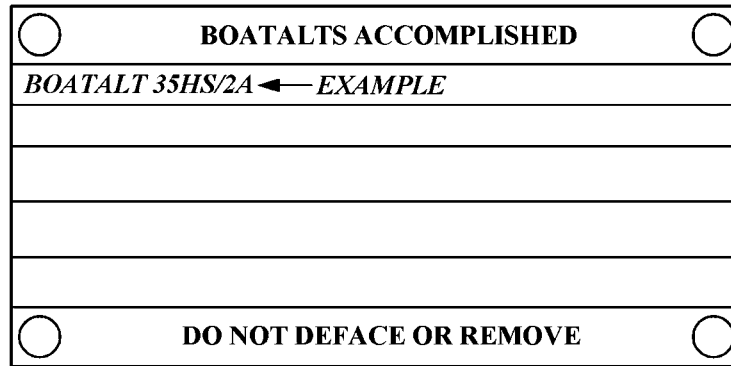
583-1.6.2.8.2 Repair Activities. Repair activities should maintain active files of approved BOATALTs and LARs by boat type (e.g., HS, RPB, etc.). The files should be updated annually and cancelled BOATALTs and LARs deleted from the active files. BOATALTs and LARs not on file should be requested from the Planning Yard PY. The boat's BOATALT completion label plate should be examined for accuracy during boat repair availabilities or overhauls and compared to the BOATALT file for the type boat under repair. A review of the technical specifications for each applicable BOATALT, coupled with a boat inspection, will identify which BOATALTs were not completed or only partially completed for the specific boat under repair. The boat custodial activity should be advised of discrepancies for entry into the Current Ship's Maintenance Project (CSMP) for subsequent repair availability planning purposes.

583-1.6.2.8.3 Reporting BOATALT Installation Records. Boat custodians are responsible to comply with OPNAV 4790 Series reporting instructions, including documenting the alteration implementation work (i.e., planning/work request and work completion) on OPNAV Form 4790/2K and reporting configuration changes to the responsible CDM via OPNAV 4790/CK.

Boat custodians are responsible to report BOATALT accomplishment/completion to the PY. This is best accomplished by boat custodians including the PY on distribution of OPNAV 4790 Series planning and completion documentation to facilitate necessary updates to boat configuration data for supply support. Alternatively, custodians may forward hard copy or pdf documents directly to the PY (see [paragraph 583-1.1.1](#) for contact information).

Boat custodians are responsible for requesting update of the boat's PMS documentation by submitting a Technical Feedback Report (TFBR).

583-1.6.2.8.4 BOATALT Completion Record. Accomplishment of all BOATALTs shall be recorded on the boat's BOATALT label plate. Upon completion of an authorized BOATALT, a Type 316L stainless steel label plate shall be installed or updated with permanent lettering by the installing activity with completion information as depicted in [Figure 583-1-3](#).



**BOATALT LABEL PLATE**

**MATERIAL: 3/32" MINIMUM 316L STAINLESS STEEL SHEET-  
 ABOUT 6" WIDE BY 3-1/2" HIGH-  
 WITH 1/4" ENGRAVED BLACK FILLED LETTERS.  
 BOATALT INFORMATION MAY BE STAMPED.**

Figure 583-1-3 Boat Alteration Label Plate

**583-1.7 BOAT SERVICE LIFE AND REPLACEMENT**

583-1.7.1 SERVICE LIFE FOR NAVY BOATS. The service life (also called ‘useful life’) of any boat is dependent on a number of factors, such as:

As-Built Factors:

- a. Material Quality (e.g., engine duty rating, materials, equipment and components are designed for use in a marine environment, etc.)
- b. Design Quality (i.e., robust design; engineering rigor applied in design and/or proven in-service use)
- c. Manufacturing Execution Quality (e.g., quality welding/laminating, system installation and outfitting)

Operation Factors:

- a. Environmental Conditions (i.e., water conditions (sea state, temperature, depth, bottom type, debris); weather; transport terrain)
- b. Use Conditions (i.e., operating hours, operational profile (percent idle, cruise and sprint), mission profile (e.g., threat conditions, pushing/towing, launch and recovery, etc.)
- c. Training (i.e., trained/experienced coxswains and crews)

## Support Factors:

- a. PMS (i.e., availability of boat specific planned maintenance documentation)
- b. PMS performance
- c. Ready access to intermediate maintenance depot, repair capability or performance based logistics support
- d. Boat overhaul and/or reset (i.e., at least one overhaul availability at/near the midpoint in the expected useful life; reset availabilities, as required)

Technology and material obsolescence are not applicable factors in the determination of useful life. Program stakeholders should develop a proactive approach to technology refreshment planning and effective resolution of obsolescence issues before they have an adverse impact on boat availability and life cycle costs.

The expected useful life of a Navy Standard 7-meter Rigid Inflatable Boat (RIB) and a Navy Standard 11 meter Rigid Inflatable Boat (RIB) is twelve years. Most other boats have an expected useful life of ten years when routinely operated at less than 1000 hours per year, and seven years for those which have an increased operational tempo (e.g., 24/7 security operations or service in combat) throughout their service life. Some steel and aluminum boats have service life expectancies of up to 25 years.

**583-1.7.2 SERVICE LIFE BUSINESS RULES.** Each boat is assigned a Service Life when it is entered into the CBSS. The Service Life entry in the CBSS is a Reference Service Life ( $SL_{REF}$ ); it is an estimate of the boat's useful life based on engineering judgment and historical information. It includes consideration of factors related to the as-built quality of the boat and its intended operational use. It assumes factors related to support will have no net affect on useful life. The  $SL_{REF}$  is assigned for each boat by the BIM in concert with the AEA and boat program stakeholders. The boat valuation data in the DPAS is based on the  $SL_{REF}$ .

The useful life of a boat comprises the total in-service usage of the boat from the time of initial issue (i.e., Fleet Introduction Date [FID]) until the boat is disposed/removed from the boat inventory. For each boat, the notional planned end of useful life is called the Planned Disposal Date (PDD); the PDD is stored in the CBSS and is initially based on the  $SL_{REF}$ . That is, the initial  $PDD = FID + SL_{REF}$ .

PEO Ships, PMS 325 uses the boat PDDs to develop the boat replacement portion of the Future Years Defense Plan (FYDP) budget for all boats in the inventory. As a boat ages and O&M costs increase, it may be more economical to replace the boat before its PDD, instead of incurring the increased O&M costs at the end of the boat's useful life. To determine the breakeven point (i.e., retain vice replace), a comparison of the Annual Equivalent Cost (AEC) of the in-service boat against the AEC of a replacement boat may be performed. The AEC is the sum of the annual cost of ownership and the annual cost of operating and maintaining the boat. When Materiel Inspection Reports or other boat condition factors indicate the AEC to retain the boat in service is greater than the AEC of a replacement boat, PEO Ships, PMS 325 shall request the boat PY perform a Boat Assessment (see [paragraph 583-1.5.4](#)) to determine the Economic Service Life (ESL). The ESL is the useful life of a boat that results in the minimum AEC that breaks even with the AEC of a replacement boat. The ESL shall be used to update the PDD in the CBSS for each assessed boat, thereby updating the associated FYDP budget for boats of the same BAT in the inventory.

**583-1.7.3 BOAT REPLACEMENT.** A boat can be considered for replacement when it has reached its Economic Service Life (ESL). Boat's usually reach their ESL by age (i.e., time in service) or by encountering a major catastrophe (i.e., damage of significant impact rendering the boat irreparable). The feasibility of replacing a boat will be determined solely by the BIM in concert with the boat ISEA and PY, and other boat program stakeholders.

In the case of a custodian requesting disposition instructions for a boat which has not reached its ESL, the custodian should address the extenuating circumstances that led to the boat's condition and subsequent request for disposition instructions. If the circumstances cannot justify the boat's condition, the BIM may require the boat be turned in to stock in RFI condition.

583-1.7.4 REPAIRABILITY OF BOATS. If the repair activity, boat custodian or Support Commander, as applicable, considers the cost of repair to be excessive, the responsible activity may contact the boat ISEA. If the ISEA decides the boat can be repaired, repairs shall be made and funded with boat custodian or Support Commander funds.

## **583-1.8 BOAT DISPOSITION**

583-1.8.1 CUSTODIAN DISPOSITION RESPONSIBILITIES. When a boat becomes excess to a custodian activity, either because of a boat allowance decrease or because the boat is being replaced (e.g., with a new boat or transferred boat), the custodian activity is responsible to request disposition instructions from the BIM and accomplish the actions necessary to execute boat disposition instructions provided by the BIM. In the event a boat is damaged to the point it is rendered useless for its intended purpose and/or beyond economical repair, the assigned custodian activity is responsible to complete necessary investigations, provide substantiating records, and make all reasonable efforts to reclaim and return the boat to Navy custody, as applicable ([paragraph 583-1.10.4.2](#) provides additional process details for this and other cases related to property loss).

Costs associated with preparing for and accomplishing boat turn-in or disposal, are borne by the custodian, except for the transportation cost for boats turned in to stock (see [paragraph 583-1.8.5.6](#)). Costs associated with custody transfers vary; however, in general preparation costs are borne by originating custodian and transportation costs are borne by the receiving custodian. The custodian's responsibilities are terminated only upon completion of authorized boat custody reassignment or disposition actions. The custodian activity is responsible to:

1. Request disposition instructions by letter (or message)
2. Provide a Boat Inspection Report (BIR), ([Figure 583-1-1](#)) with digital photos documenting the boat's condition and configuration
3. Prepare the boat for turn in (for disposal or to stock) or custody transfer
4. Transfer or turn in the boat (or facilitate on site transfer or disposal actions)
5. Provide properly completed documentation confirming completion of transfer, turn in or disposal (e.g., DD Form 1149 or DD Form 1348-1A)

583-1.8.2 REQUESTING DISPOSITION INSTRUCTIONS. The custodian activity is responsible to provide an official letter (i.e., serialized; dated; with an authorized signature) or Naval message, requesting disposition instructions from the custodial commanding officer. The letter should also cite the point of contact (name, phone, fax and email address) at the custodian activity, or onboard the ship, responsible for the proper preservation and preparation of the boat for turn in or transfer. The request letter should have the BIR either enclosed or referenced. The disposition request is forwarded to the BIM via the chain of command. Specific chain of command requirements vary at the different activities. Custodians can contact the BIM office for guidance on endorsement requirements. In lieu of mailing the official letter to the BIM, the official letter, and any endorsements, can instead be faxed or preferably scanned and emailed, along with the completed BIR and digital photographs to the BIM office to facilitate faster service.

**583-1.8.3 BOAT INSPECTION REPORT.** When requesting disposition instructions, the custodian activity is authorized to prepare BIR utilizing the BIR form in [Figure 583-1-1](#). Digital photographs are to be provided with the BIR to thoroughly document the boat's configuration and condition at the time of the disposition request. The BIR and photograph instructions are provided on the BIR form.

**583-1.8.4 DISPOSITION DETERMINATION.** The BIM has sole disposition authority for Navy boats. The specific disposition instructions the BIM provides are based on various factors including the material condition of the boat and the Navy's on-going need for the boat. The BIM will provide disposition instructions for retaining the boat in Navy inventory by authorizing custody transfer or turn in to stock, or will provide disposition instructions for removal of the boat from Navy inventory by authorizing disposal, sale or transfer. The disposition instructions will be provided in an official letter. The letter will cite the requirements of this chapter, providing any exceptions or details required to suit the specific disposition circumstances.

**583-1.8.5 PREPARATION FOR DISPOSITION.** The boat custodian activity is responsible for preparing the boat for disposition. The custodian activity is responsible for any expenses associated with failure to properly prepare the boat for shipment to its turn-in or transfer destination. Any additional shipping, hazardous material removal, and/or preservation costs resulting from rejection or non-compliance with turn-in requirements will be the responsibility of the custodian activity.

The custodian is responsible to ensure the general condition, configuration and completeness of the boat package at the time of disposition agrees with the BIR and requirements of the BIM authorization letter. It is the responsibility of the custodian activity to ensure that a lack of preservation or presence of environmentally hazardous materials onboard does not impose an additional burden on the receiving activity.

The custodian activity is responsible to furnish a shipping/storage cradle ([Figure 583-1-4](#)) or trailer ([Figure 583-1-5](#)) for each boat to be turned in to stock. Any exceptions to this requirement for large boats will be authorized by the BIM. Shipboard boat dollies are not a suitable replacement for a cradle or trailer unless explicitly authorized by the BIM. Shipboard boat dollies are part of the ships equipment handled by the cognizant Planning Yard for the ship class.



Figure 583-1-4 Boat Cradle



Figure 583-1-5 Boat Trailer

583-1.8.5.1 Demilitarization. Depending on the circumstances of the specific disposition, some boats will require demilitarization (a.k.a., demil) as part of preparation for disposition. With respect to boats, demil can best be described as the act of elimination by removal or destruction of the military offensive or defensive advantages inherent in certain types of equipment or material on the boat. The purpose of demil is to prevent the future use of the boat, including applicable equipment, material and components, for its original intended military or lethal purpose. The BIM serves as the demilitarization authority for Navy boats, making final boat demil determination in accordance with the DoD Manual 4160.28 Series and BIM procedures to ensure all military features are removed and the boat is rendered to a non-military commercial item, as required. The BIM will provide specific demil direction and instructions, usually prior to providing the disposition instruction letter for the boat. The custodian activity is responsible to ensure the demil direction and instructions provided by the BIM are accomplished and confirmation documentation and photographs are provided, as required.

583-1.8.5.2 Preservation. The custodian activity shall preserve the boat in accordance with [paragraph 583-9.2](#) before turn-in to stock or make arrangements with the BIM to fund preservation in conjunction with turn-in to stock.

583-1.8.5.3 Removal of Hazardous Materials. The custodian activity is responsible to ensure the boat is environmentally neutral, including the following:

- a. Hull is free of any growth of marine flora and fauna.
- b. Batteries are removed.
- c. Fire extinguishers are removed.
- d. Tanks are drained (note: additional details are provided [paragraph 583-9.2](#)).
- e. Bilges are dry and free of petroleum products or other foreign residue.
- f. Drain plugs are removed and attached to the steering wheel.

583-1.8.5.4 Packaging. The custodian activity is responsible to ensure the boat package is complete, loose items are boxed or secured, as required, to prevent damage during transit. The boat package varies, but includes the boat and its applicable ancillary items such as cradle or trailer, loose items such as outfit, covers, technical



manuals, spares and hoisting sling. Unless cannibalization is explicitly authorized in the BIM letter, the boat package is not to be cannibalized. The boat package is to be shipped with complete equipment and removable items included in the package (e.g., manual bilge pump handle, communications helmets and microphones, cushions, benches, canopy, etc.). Unless otherwise authorized, BOATALTs which have been implemented are to remain intact.

583-1.8.5.5 Shipment Preparation and Loading. The Custodian is responsible to ensure the boat package is properly prepared and loaded for shipment. Observe the following precautions when preparing and loading the boat for shipment:

- a. Carefully accomplish any required boat disassembly to ensure boat structure, systems and components remain intact, and can be readily re-assembled.
- b. Secure all loose items against movement during shipment, including masts and antennas.
- c. Secure doors and windows.
- d. Seal unprotected openings to prevent entrance of dirt or water. Note: do not seal vents.
- e. Use only those tie downs specifically designed for securing the boat to the trailer/cradle when securing the boat package for shipment. For example, do not use mooring or towing fittings as attachment points for shipment, unless specifically designed for dual purpose use.
- f. Ensure tie down straps, etc. are secure, but do not cause damage to the boat. Install bumpers or suitable padding to distribute the load, as required.
- g. Ensure the boat is not snubbed (i.e., make sure it is not loaded in a way that transit forces will be transmitted to the bow or transom ends).
- h. Ensure the weight of the boat is supported primarily by the longitudinal keel supports, not the transverse or longitudinal bunks. Bunks should be located in way of the boat's structure (e.g., frames, girders or bulkheads) and have adequate contact area to ensure the hull is not overstressed. In case the boat does not have structural type keel, full strength supports should be installed opposite the interior longitudinal stringers.

583-1.8.5.6 Boat Shipment/Disposition Execution. In accordance with the disposition instructions provided in the BIM letter, the custodian activity will arrange shipment of the boat package, or initiate turn-in for disposal by contacting DLA Disposition Services, or will continue to maintain physical custody of the boat until an in-place sale is completed and the boat is removed, as applicable. A Navy Transportation and Accounting Code (TAC) will be provided by the BIM for funding transportation costs for turn in to a stock point; however, costs for crane services are the responsibility of the custodian, if required. If needed, the custodian is responsible for contacting the stock point to arrange for crane services. The BIM letter will provide receiving activity or sales points of contact, as applicable, for the custodian to coordinate disposition execution details.

At the time the boat package is released to the shipper, accepted by DLA Disposition Services, or removed by the sales buyer, as applicable, the custodian activity is responsible to forward shipping/acceptance/removal confirmation documentation (i.e., signed/dated DD 1149 or DD 1348-1A, as applicable) to the BIM. Once satisfactory documentation is provided, the BIM closes out the disposition action and updates the Custodian's boat account information (SABAR) in the CBSS.

583-1.8.5.7 Boat Transportation Management. The BIM Stock Point Manager serves as the point of contact and validator responsible and accountable for ensuring shipments of Navy boats are financed via the appropriate TAC. The BIM Stock Point Manager works in concert with the custodian activity and applicable authorities, as required, to facilitate shipment of large or complex boats, or boats traversing long distances, to ensure required delivery objectives are met at a reasonable cost.

## **583-1.9 WHOLESALE INVENTORY STOCK**

**583-1.9.1 STOCK FACILITY MANAGEMENT.** The BIM accomplishes the management of Navy boat wholesale inventory stock points, including on-site direct management of the East Coast wholesale Navy boat stock point in Williamsburg, VA (a.k.a., Stock Facility CAX) and remote management of the West Coast stock point in San Diego, CA (a.k.a., Stock Facility SDIEGO) in concert with Defense Logistics Agency (DLA) authorities. Boat stock facility management includes:

- a. Developing requirements for and executing management of permanent, semi-permanent, or temporary real property assets required to support boat stock operations, including conducting studies to define facilities or facility improvements, locations, space needs, utilities, environmental requirements, and real estate requirements, in concert with applicable authorities.
- b. Developing requirements for and executing management of equipment (mobile or fixed) required for support of boat stocking operations and management, including ground handling, lifting and maintenance equipment, tools and test equipment.
- c. Facilitating cleanliness, security and environmental (fire and boat related potential hazmat) safety of boat and related storage areas, in concert with applicable authorities.

**583-1.9.2 STOCK BOAT MANAGEMENT.** The BIM accomplishes the management of Navy boat wholesale inventory stock points, including on-site direct management of the East Coast wholesale Navy boat stock point in Williamsburg, VA (a.k.a., Stock Facility CAX) and remote management of the West Coast stock point in San Diego, CA (a.k.a., Stock Facility SDIEGO) in concert with Defense Logistics Agency (DLA) authorities. Boat stock facility management includes:

- a. Accomplishing on-going boat warehousing activities (e.g., damage reports; boat asset monitoring and reporting; evaluating systems condition of boats in storage; minor repair/discrepancy correction).
- b. Executing the processes, procedures, design considerations, environmental considerations, and methods necessary to ensure that stock inventory boats and associated systems, equipment, and support items are suitably preserved, stored, packaged, handled, and transported.
- c. Accomplishing review of boat stock levels against inventory objectives and execution of disposal sales or transfer of boats, as stock levels dictate.

**583-1.9.3 STOCK BOAT RECEIPT, INSPECTIONS AND STORAGE.** Except for new construction boats, boats will not be received at stock facilities without formal BIM correspondence authorizing turn-in to stock. Stock facility personnel responsible for boat receipt and shipment, are responsible to provide a daily report to the BIM of all boat, associated equipment and support item receipts and shipments, along with shipment or receipt documentation for the applicable boat/item.

The receiving stock facility will inspect new construction boats at the time of delivery to ensure the shipment is complete and free of any shipping damage. Any damage or shortages will be annotated on the delivery driver's documentation at receipt. The receiving stock facility will inspect boats turned-in to stock to ensure they comply with all turn-in requirements. Any necessary hazardous material removal and/or preservation, resulting from rejection or non-compliance with turn-in requirements, will be the responsibility of the custodian activity.

The BIM will prepare a Stock Boat Inspection Report (SBIR) in the CBSS, documenting the boat's turn-in configuration, condition and compliance with the requirements in the disposition instructions. The SBIR will be

completed/input into the CBSS within seven days of boat receipt at the Williamsburg, VA stock facility (a.k.a., Stock Facility CAX) and within seven days of return from site visits to the San Diego, CA stock facility (a.k.a., Stock Facility SDIEGO).

Except for large boats such as landing craft or work boats, all stock boats with remaining useful life will be provided with shelter to the maximum extent practicable and within available funds. It is imperative that there be no delay in affording shelter to repaired and repairable boats, to new boats received for stock or for issue immediately after they become Ready For Issue (RFI), to boats awaiting shipment, or boats being held for ships.

Once a boat has been accepted for turn-in, it is the responsibility of the Stock Point to accomplish the following storage requirements:

- a. Adequate shelter/protection has been provided sufficient to prevent damage to the boat package.
- b. Boat is rigidly supported by keel blocking timbers (6-inch by 8-inch) placed beneath the keel at maximum intervals of 6-feet, or by a cradle or trailer designed for the boat, as applicable.
- c. Side bunks (chocks) are used for preventing racking and not bearing weight as evidenced by absence of local hull deformation.
- d. Deformation of the hull by overhang at the bow and the transom ends is prevented by rigid supporting timbers and adequate padding to prevent damage to the hull.
- e. Frost heaving or settling of the ground has not caused racking of the hull or deformation of the hull at the side bunks (chocks).

**583-1.9.4 STOCK BOAT PART REMOVAL.** The removal of engines or other parts from boats in stock and from boats received for stock shall not be accomplished unless explicitly authorized by the BIM.

### **583-1.10 BOAT INVENTORY MANAGEMENT CONTROLS**

**583-1.10.1 BOAT INVENTORY CONTROL.** Boat inventory control encompasses the processes, controls and business rules necessary to ensure accurate and timely data is maintained for boat accountability, boat service life/remaining useful life, boat inventory transactions (i.e., additions to and removals from inventory, inventory status and custody assignment), boat configuration and boat condition. The boat inventory management and life cycle management record data is maintained in the CBSS. CBSS data includes some property asset information which, along with other data from the CBSS, is used to augment accountable property system reporting, boat acceptance and fielding, and budget reporting. The accountable property record data for boats is maintained in the Defense Property Accountability System (DPAS). Boat inventory processes are designed to ensure inventory transactions have necessary technical oversight, are maintained and tracked as active actions until all requisite steps are complete, and are executed in a timely manner. Processes in place provide a complete trail of all transactions, suitable for audit (i.e., a transaction-based history of asset activity, including individual additions and deletions). In the event historical information is not available, the record is appropriately annotated.

**583-1.10.2 ADDITION OF BOATS TO THE NAVY INVENTORY.** All boats purchased, procured, acquired or otherwise obtained by the Navy, regardless of how obtained, will be added to the Navy boat inventory. The process of adding the boat to the inventory is called a “Navy Boat Addition Transaction” and the process flow is summarized in [Figure 583-1-6](#).

583-1.10.2.1 Boat Addition to Inventory: New Construction Boats. A newly constructed Navy boat delivered to, or received by a Navy activity, will be added to the Navy boat inventory, recorded in the DPAS and managed in the CBSS.

As soon as practicable after procurement contract award, the BIM will assign a unique Navy hull registry number and add the boat record, including its associated physical characteristic data to the CBSS. The boat inventory stage will be designated as “under construction.” At minimum, the physical characteristic data will include the boat builder, nominal boat length, hull material and engine model.

Upon delivery to the Navy, receipt documentation shall be provided to the BIM as soon as possible, but no later than four calendar days after boat receipt. Within three calendar days of confirmation of receipt/obtaining acceptable receipt documentation, the BIM will update the associated CBSS inventory tracking record and will enter the inventory addition into the DPAS.

Once a new boat is received in the CBSS inventory tracking record, the boat inventory stage will be designated as “inventory” and the boat inventory status will be designated as “active.”

583-1.10.2.2 Boat Addition to Inventory: Existing Boats. An existing non-Navy inventory boat transferred to, or received by a Navy activity, regardless of how the boat was obtained, will be added to the Navy boat inventory, recorded in the accountable property system (i.e., DPAS) and managed in the CBSS. The boat addition transaction for existing boats is the same as for new construction boats, except that the boat may have already been received by the Navy prior to reporting the boat’s existence to the BIM. Emphasis will be placed on ensuring boats are added to the CBSS and added to/transferred in the DPAS within seven calendar days of receipt into Navy inventory. In the event procurement documents are not available to substantiate acquisition cost for entry into the DPAS, the procedures in SECNAVINST 7320.10 Series will be used to estimate acquisition cost using the cost of similar assets.

583-1.10.2.3 Boat Addition to Inventory: Contractor Purchased Boats. Contractor Purchased Boats. In accordance with SECNAVINST 7320.10 Series, boats purchased for use in the performance of a government contract with the intent that the Federal Government retain ownership of the boat, will be recorded and tracked in an accountable property system. Accordingly, such boats will be added to the CBSS and DPAS, as existing boat additions, upon physical transfer to the Navy.

583-1.10.2.4 Boat Addition to Inventory: Boats from Other Defense Agencies. Existing boats transferred-in to the Navy boat inventory from other Defense agencies will be transferred within DPAS, including updating the DPAS record to associate the assigned Navy hull registry number in the existing DPAS asset record, as applicable.

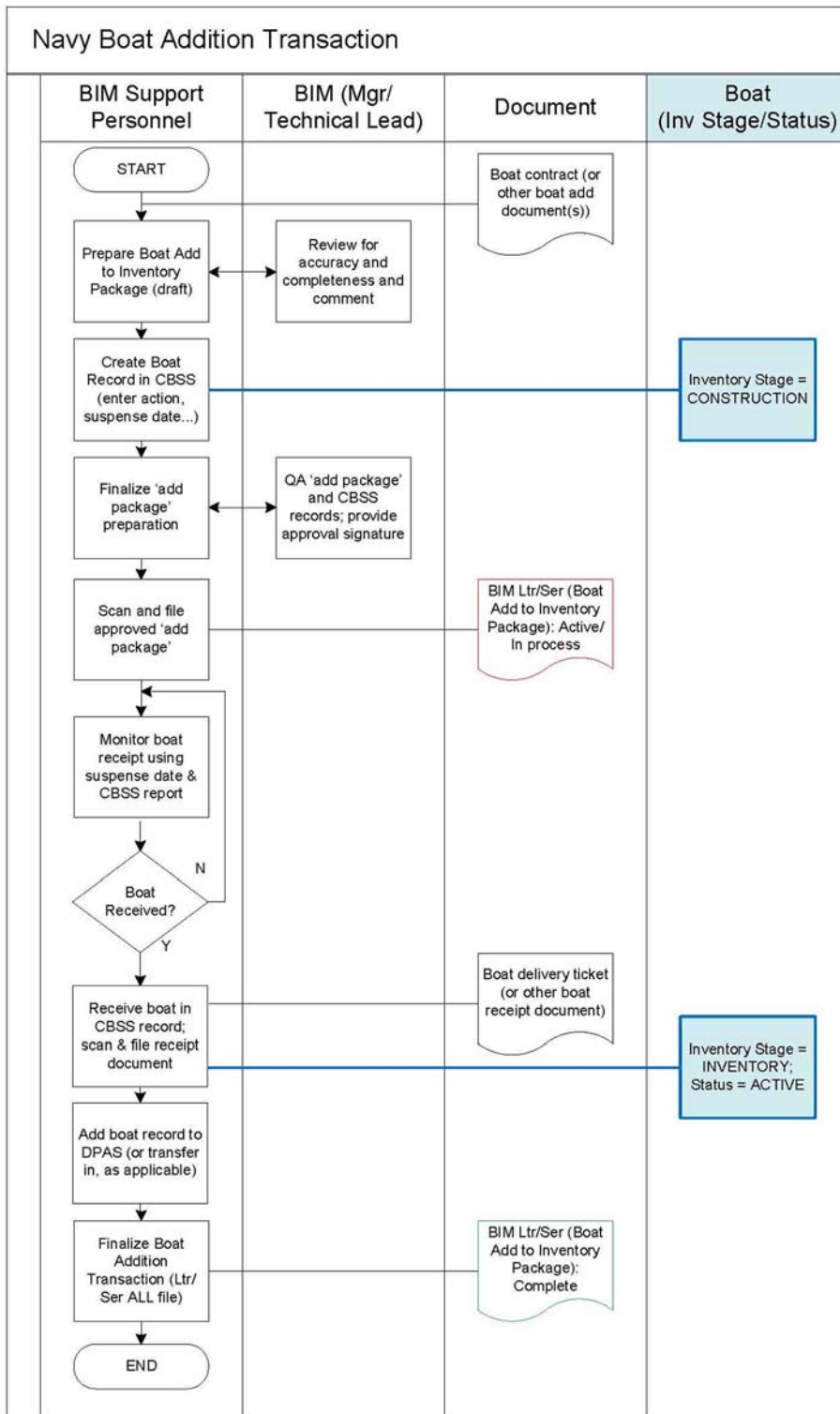


Figure 583-1-6 Navy Boat Addition Transaction Process Flow

**583-1.10.3 CONTROL OF BOATS IN THE INVENTORY.** Boats are maintained in the Navy boat inventory throughout their service life until they are removed from the inventory. That is, the inventory stage equals “inventory” in the CBSS and the boat remains recorded in the DPAS. Any required changes to boat property asset information will be executed by serialized BIM correspondence to ensure applicable boat data is recorded and tracked in the CBSS and the DPAS.

**583-1.10.3.1 CBSS/DPAS Inventory Reconciliation.** The BIM performs quarterly checks, to ensure applicable record changes in the CBSS are updated in the DPAS. The results of each quarterly check are recorded in a BIM administrative letter/serial record which documents the results of the review and any updates required to reconcile DPAS data to agree with the CBSS.

**583-1.10.3.2 Inventory Status.** While a boat remains in the inventory, the boat’s inventory status is tracked in the CBSS. Inventory status is designated as either active or retired, segregating the inventory into viable active assets and retired assets for the purpose of maintaining an accurate asset position. A boat with an inventory status of “retired” remains in the inventory, but is not considered a viable asset unless a restoration action (i.e., overhaul) is accomplished. Upon completion of the restoration effort, the inventory status will be changed to “active,” in concert with an associated inventory tracking transaction, such as a return to stock from overhaul, or issue to a custodian activity after overhaul. Boats in inventory for which actual status is unknown remain designated as active.

**583-1.10.3.3 Annual Boat Inventory Validation.** In accordance with the OPNAVINST 4780.6 Series, the BIM is responsible for annual validation of all Navy inventory boats with data provided by user Commands/activities. Boat custodians accomplish the annual validation data call via the CBSS. Custodians are responsible: 1) to validate assigned boats, including affirming custody and operational status and providing data on configuration and condition, as required; 2) to provide information on any boats in custody which are not listed in their boat account; and 3) to validate custodian point of contact information. The BIM administers the annual boat inventory validation, working with boat custodians to resolve discrepancies. Boat inventory transaction records resulting from discrepancy resolution are recorded in a BIM letter/serial record.

**583-1.10.3.4 Triennial Physical Inventory.** The SECNAVINST 7320.10 Series stewardship requirements require the BIM to perform physical inventory of Navy boats at least once every three years. The BIM has the discretion to use valid “inventory by exception” methods as authorized (refer to the DODI 5000.64 Series), to minimize the need for on-site physical validation at Custodian activities. Last inventory date information is recorded in DPAS and is completed in conjunction with CBSS/DPAS inventory reconciliation.

**583-1.10.4 REMOVAL OF BOATS FROM THE NAVY INVENTORY.** Boats will be removed from the Navy inventory only upon BIM confirmation of completion of authorized disposition actions. The process of removing the boat from the inventory is called a “Navy Boat Removal Transaction” and the process flow is summarized in [Figure 583-1-7](#).

**583-1.10.4.1 Boat Removal from Inventory: Disposition Instructions.** In the case where the BIM provides disposition instructions for removal of the boat from Navy inventory by authorizing disposal, sale or transfer, the disposition instructions will be provided in an official letter. Coincident with release of the BIM disposition authorization letter, an associated inventory tracking record is added in the CBSS for the applicable boat. The record’s action field indicates disposal (removal) is authorized; however, the tracking record remains active/in process and the boat remains in Navy inventory, assigned to the custodian activity, pending confirmation of the authorized disposition.

Upon completion of the authorized disposition action, receipt documentation (or other documentation, as applicable) shall be provided to the BIM as soon as possible, but no later than four calendar days after disposition completion. Within three calendar days of confirmation of disposition/obtaining acceptable disposition documentation, the BIM will update the associated CBSS inventory tracking record and will execute removal or transfer actions in the DPAS.

Once the receipt date (signifying disposition completion) is entered in the CBSS inventory tracking record, the boat inventory stage will be designated as “not inventory” and the boat inventory status will be designated as “removed.”

583-1.10.4.2 Boat Removal from Inventory: Property Loss. With respect to the Navy boat inventory, property loss includes: 1) unauthorized boat disposal or transfer, 2) loss of custodial accountability in which the boat cannot be found after a reasonable search, or 3) damage that renders the boat useless for its intended purpose and/or beyond economical repair. Assigned custodians are responsible to complete necessary investigations, provide substantiating records, and make all reasonable efforts to reclaim and return the boat to Navy custody, as applicable. Based on the substantiating background information, the BIM may provide disposition instructions or may request official correspondence from the custodian activity prior to providing disposition instructions. Some instances of property loss require removal of boats from the Navy inventory. In these instances, a boat will be removed from the Navy inventory at the discretion of the BIM based on substantiating information and policy constraints. The removal from inventory process follows the same work flow as the “Navy Boat Removal Transaction” in [Figure 583-1-7](#), except that the removal is authorized after the fact by serialized BIM correspondence.

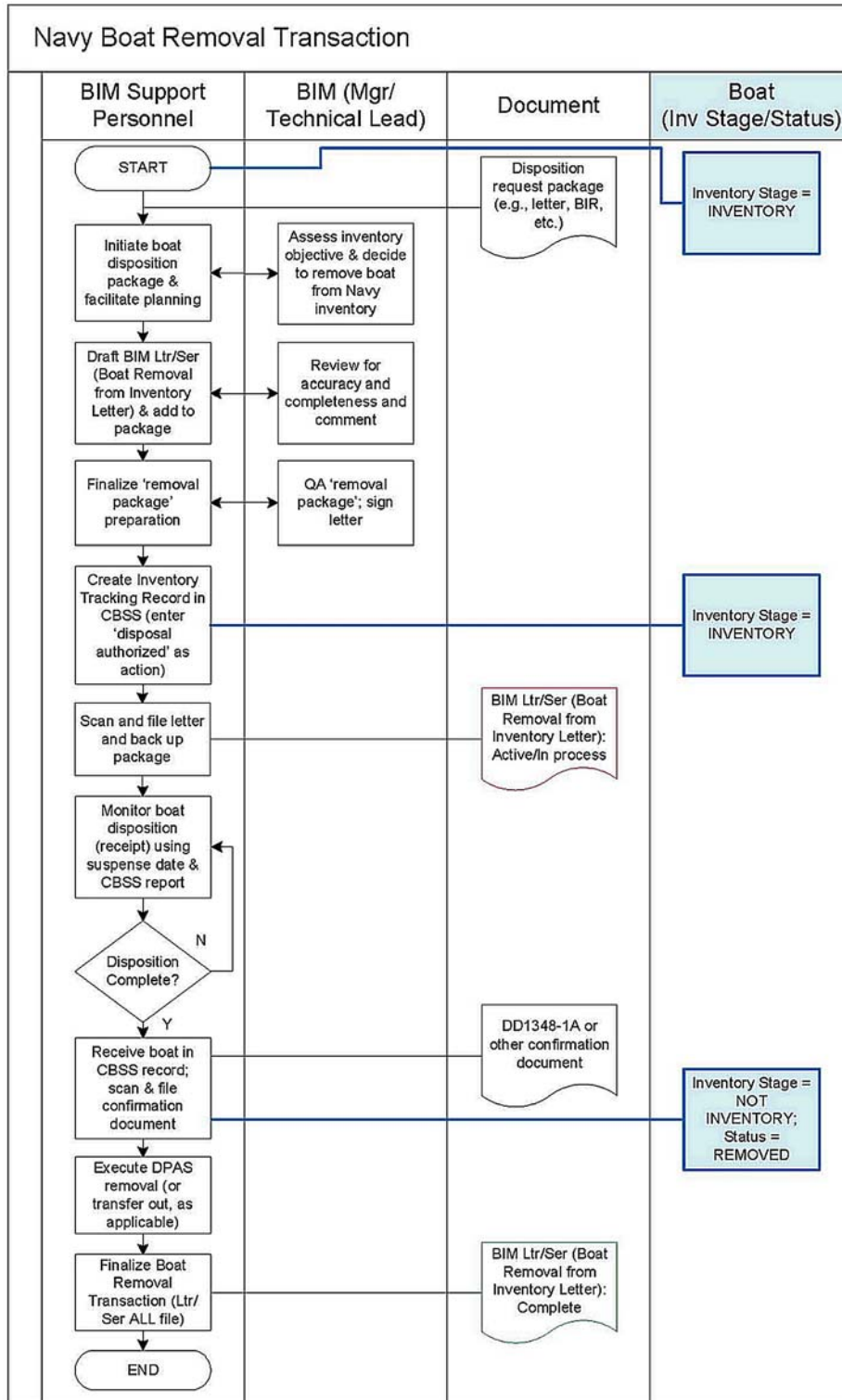


Figure 583-1-7 Navy Boat Removal Transaction Process Flow



## SECTION 2

### DIMENSIONS, WEIGHTS, AND CHARACTERISTICS

#### 583-2.1 PRINCIPAL CHARACTERISTICS

583-2.1.1 DIMENSIONS AND CHARACTERISTICS. These measurements of Navy boats can be found from a variety of sources including the CBSS, the boat's Technical Data Package (TDP) and the boat's label plates. The boat Planning Yard (PY) accomplishes Life Cycle Configuration Identification (LCCI) and assists custodian activities and other stakeholders with Navy boat physical configuration information.

583-2.1.2 WEIGHT REPORTING. Navy boats and craft are weighed prior to delivery and this weight is recorded as the As-Built scale weight. For ships' boats, a Design Hoisting Weight is established which typically includes: the weight of the authorized number of crew members (see Paragraph 583-4.1.2 for personnel weight information), full fuel tank(s), authorized equipment and outfit. The actual hoisting weight of the boat should never exceed the Design Hoisting Weight (i.e., Working Load on the Hoisting Label Plate on the boat), or the Safe Working Load rating of the associated davit or crane.

#### 583-2.2 STANDARD SHIP'S BOATS CHARACTERISTICS

583-2.2.1 SHIP'S BOAT PRINCIPAL CHARACTERISTICS. [Table 583-2-1](#) provides a ready reference for operating personnel of the important characteristics of Navy standard ship's boats. The hoisting weights given in this table are not to be used for testing boat-handling davits. All weights listed in [Table 583-2-1](#) are average weights. Boats are glass reinforced plastic, unless otherwise noted.

**Table 583-2-1** Characteristics for Navy Boats and Craft

Boat	Overall Length	Beam	Engine (HP)	Nominal Fuel Capacity (gals)	Designed Hoisting Weight (lbs)	Maximum Displacement (lbs) (approx.)
7-meter Rigid Inflatable Boat (RIB)	24.25 ft	9 ft	Single 180 to 230	35	5,600	7,700
11 meter RIB (Cabin Variant)	39 ft	11.83 ft	Twin 380	265	17,640	19,000
11 meter RIB (Open/Center Console Variant)	39 ft	11.83 ft	Twin 380	280	17,640	19,000
36 foot/11 meter Landing Craft, Personnel (Light) (LCPL)	36 ft	12.17 ft	Single 425 to 455	200	22,400	24.630

For additional principal characteristic and shipboard interface information for 7-meter Rigid Inflatable Boats (RIBs) and 11 meter RIBs, refer to the latest revision of the following Installation Control Drawings (ICDs):

- 7m RIB Installation Control Drawing: NAVSEA Dwg. No. 52711-7MRB-583-5106524
- 11m RIB Installation Control Drawing: NAVSEA Dwg. No. 52711-11MRB-070-5108447

### 583-2.3 PAINT PUNTS

583-2.3.1 PAINT PUNT DEFINITION AND USE. The punt is a non-powered craft used to inspect the waterline area of a ship while at anchor or in port. The punt is manhandled from its stowed position, and then lowered from the deck to the water by rope pendants secured to the bow and stern handles. Up to three persons with painting or other gear board the punt from the ship's access ladders. The punt is propelled by paddles or positioned using the pendants. Lightweight, stability, resistance to swamping and durability are valued characteristics for the application.

583-2.3.2 PAINT PUNT PURCHASE DESCRIPTION. In February 1998, paint punt procurement and property management transitioned from centralized NAVSEA procurement and inventory control to general property authorized for open purchase in accordance with the technical requirements herein. Use the following technical requirements for paint punt purchase criteria:

- a. General form: the punt shall be a flat bottom, transom-ended punt or jon boat with bow, center and stern bench seats.
- b. Dimensions:
  - (1) Length: 13.5 to 14.5 feet (4.1m to 4.4m)
  - (2) Overall beam: at least 55 inches (1.4m)
  - (3) Chine beam (bottom width): at least 36 inches (0.9m)
  - (4) Depth: at least 17 inches (0.43m) measured vertically (punts designed to accommodate outboard motors may have transom cutout of not less than 15 inches (0.38m) depth)
  - (5) Weight: shall not exceed 200 pounds (90.9kg)
- c. Materials and construction: the hull and structural components shall be manufactured of 5000 or 6000 series aluminum alloy suitable for use in seawater, except that stainless steel fasteners may be used. Use of wood shall be limited to plywood suitable for exterior exposure, where necessary for backing plates, and as reinforcement of the transom and similar components. The punt shall be fitted with a minimum of two handles on each end of the punt (four handles total). Handles shall be well rounded to prevent injury to or undue stress on hands. Handles shall be secured to the punt with through-bolts or solid rivets, or may be integral to the hull. Tubular rivets, pop rivets, or self-tapping screws shall not be used to secure handles. Handles shall, as a minimum, be strong enough to support the entire weight of the punt when suspended from a single handle.
- d. Stability and load capacity: the punt shall have a capacity of at least three persons and a total load capacity of at least 600 pounds (persons and gear). The punt shall provide level flotation and a load capacity plate installed in accordance with the requirements of 33CFR183.

Acceptable products are: Alumacraft 1436 Lite, Alumacraft 1436, Alumacraft 1442, Lowe 1436. However, due to the possibility of manufacturing changes, the specifications of the product shall be verified against the requirements of this purchase description before procurement.

## SECTION 3

### REGISTRY NUMBERS AND IDENTIFICATION MARKINGS

#### 583-3.1 REGISTRY NUMBERS

583-3.1.1 ASSIGNED NAVY HULL REGISTRY NUMBERS. Each boat is assigned a unique Navy hull registry number by the Boat Inventory Manager (BIM). The registry number can usually be found on the transom of the boat. Hull registry numbers consist of the boat length (in feet or meters), boat type, and serial number. The first numerals in the boat's identifying numbers signify boat length (in feet or meters) followed by letters identifying the boat type. The final series of numbers indicate the fiscal year of the procurement and boat number (in sequence of its completion) starting with 01 or 1. The hull registry number is cited in all records concerning the boat (see [paragraph 583-1.2.2](#)).

EXAMPLE: 28HS0801 is the first Harbor Security boat delivered under an FY 2008 boat acquisition contract. 11MRX1002 is the second 11 meter Rigid Inflatable Boat delivered under an FY 2010 boat acquisition contract in which the boat design or model is based on the metric system.

583-3.1.2 REQUEST FOR REGISTRY NUMBER. In the event a Navy boat has no Navy hull registry number marking, the boat custodian is responsible to contact the BIM (see [paragraph 583-1.1.1](#) for contact information) to determine the hull registry number or to have one assigned, and mark the boat as required in this section.

#### 583-3.2 IDENTIFICATION MARKINGS

583-3.2.1 STANDARD MARKINGS. The Navy hull registry number ([Figure 583-3-1](#)) shall be clearly marked on the transom of each boat. Hull registry number marking is approximately three inches in height (75 mm) and applied on the transom in a location that provides readily visible identification. To the maximum extent practicable, hull registry numbers shall be welded on metal hull boats (e.g., engraved plate welded to hull, welded bead, etc.) and laminated into/onto composite hulls.

Boat markings beyond the Navy hull registry number and associated markings described herein, such as local names (e.g. "UB-1," "HPU ,6" etc.) or other personalization may be applied if approved by the Commanding Officer of the custodial command.

- a. Where installation of permanent welded/laminated hull registry numbers is not practicable, marking may be painted. Paint used for numbers and letters should conform to MIL-PRF-24635C. See NSTM Chapter 631, Preservation of Ships In Service-Surface Preparation and Painting, for additional information.
- b. Letters and numbers may not be shaded.

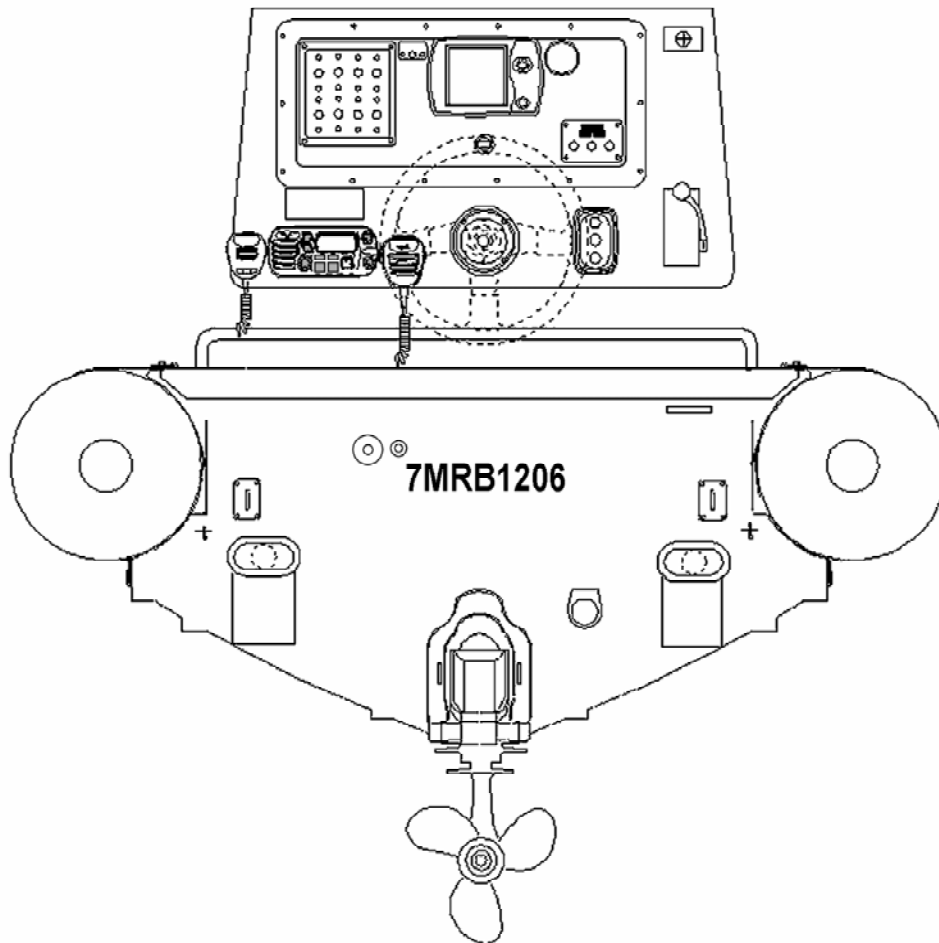


Figure 583-3-1 Hull Registry Numbers

583-3.2.1.1 Flag Officer. Flag Officers' barges may be marked as follows:

- a. Chrome stars may be fitted on the bow according to the arrangement on the admiral's flag. The stars shall be of the size and spacing shown on Standard Boat Detail, Sheet 21 (C&R Drawing 220598).
- b. The official abbreviated title of the command may appear on the transom in gold leaf decal letters (for example, Surface Force, Atlantic (SURFLANT)).

583-3.2.1.2 Unit Commander. The insignia on boats assigned for the personal use of unit commanders not of flag rank, shall be as follows:

- a. Broad or burgee command pennants, as appropriate, may be fitted on the bow, with the squadron or division numbers superimposed, together with chrome arrows according to Standard Boat Detail, Sheet 7 (C&R Drawing 258943).
- b. The official abbreviated title of the command may appear on the transom in gold leaf decal letters (for example, Destroyer Squadron TWO (DESRON 2)).

583-3.2.1.3 Chief of Staff. The gig for a Chief of Staff, not of flag rank, may be marked with the official abbreviated title of the command in chrome letters with an arrow running fore and aft through the letters. The letters shall be according to Standard Boat Detail, Sheet 21 (C&R Drawing 220598). Other boats assigned for staff use may be similarly marked except that the arrows shall be omitted and the letters shall be brass (bright).

583-3.2.1.4 Commanding Officer. Boats assigned to Commanding Officers of ships may be marked on the bow with the ship type or name and number in chrome letters and numerals with a chrome arrow running fore and aft through the markings. Officers' boats may be similarly marked except that the arrow shall be omitted and the letters shall be brass (bright). The ship's name, abbreviated name, or initials may be used in place of the ship's type. An assigned boat number may be used in place of the ship's name.

583-3.2.1.5 Ships' Boats. Other ship's boats may be marked on the bow with either the ship's type and number, followed by a dash, and the boat number, such as DDG 70-1, or the ship's name, abbreviated name or initials, followed by a dash, and the boat number, such as HOPPER-1, or the ship's boat's local name, such as AMAZING. These markings should also appear on the transoms of all boats. Letters and numbers shall be of brass, and may be painted black or chrome-plated. Markings on the boat's inflatable tube/sponson should be made of material compatible to the sponsor such as polyurethane coated fabric and glued on to the sponson with the applicable adhesive. Type commanders may designate which of the above methods of markings shall be used on the boats assigned to ships under their command. The method of marking shall be uniform for all ships of the same type assigned to the same command.

583-3.2.1.6 Shore Based Commands. Personnel boats for shore-based commands will normally carry the same command insignia prescribed for forces afloat on each bow. In addition, they will carry the command abbreviation and location of the command neatly lettered on the transom. Personnel boats assigned names will carry the name displayed on each bow, and the command abbreviation and geographical location of the command on the transom. Gigs will carry the abbreviated name of the command in chrome letters, struck through with a chrome arrow on each bow and the location of the command on the transom in gold leaf decals. Refer to [Section 10, Table 583-10-2](#) for recommended colors for barges and gigs.

583-3.2.1.7 Letters and Numeral Location. The locations, bevels, and proportions of letters and numerals shall be as indicated on Standard Boat Detail, Sheet 21 (C&R Drawing 220598). Brass letters on personnel boats should be chrome plated.

583-3.2.2 IDENTIFICATION MARKINGS FOR COMBATANT CRAFT. Combatant craft will have applicable numbers painted at bow location port and starboard and at centerline of stern. Color of numbers shall be such as to provide nominal contrast with the craft color scheme, acceptable to the custodian command, force or enterprise, as applicable.



## SECTION 4

### BOAT CAPACITY, OPERATING INSTRUCTIONS AND SAFETY PRECAUTIONS

#### 583-4.1 BOAT CAPACITY

583-4.1.1 BOAT REGISTRY AND BOATALT LABEL PLATES. Every boat should be fitted with a label plate, which provides data concerning its design, manufacture, and maximum capacity. The maximum capacity designated on the label includes the boat crew and passengers. A BOATALT label plate (Figure 583-1-3) shall be provided according to paragraph 583-1.6.2.8.4. Boat Information Books (BIBs) are provided with most Navy boats. The BIB provides general configuration, operational, and maintenance information. It contains guidelines on the safe operation and proper maintenance of the specific boat. The BIB is designed for use at the organizational level to support boat crews.

583-4.1.1.1 Registry Plate Format. Boat registry plates on boats will be of sheet stainless steel, grade 316L, approximately 6 inches by 2-1/4 inches with engraved letters approximately 5/16 inch high, filled with black sealing wax. The data on the label plates will be formatted as follows (the exact data to suit the particular boat): Length, Boat Type, unique Navy hull registry number built for the United States Navy, Builder, City, Month, Year, Contract Number, Crew Persons, Capacity Persons (including crew).

Drawing Numbers:

- a. Formal Procurement: The Naval Sea Systems Command (NAVSEA) drawing number shall be the general arrangement plan from which the boat was built. In case the inboard profile, deck, and sections are not all on the same drawing, the drawing number of the inboard profile should be used. The general arrangement or inboard profile drawing will refer to the other drawings of the set.
- b. Commercial Procurement: Commercial-Off-The-Shelf (COTS) Boat Drawings. Boat builders provide drawings for use and are not assigned a NAVSEA number, but are listed by drawing number and title in the BIB.

583-4.1.2 DETERMINATION OF PERSONNEL CAPACITIES. It is assumed that each person will be wearing a lifejacket. Boats used to support Vessel Boarding Search and Seizure (VBSS)/Maritime Interdiction Operations (MIO) are not to be overloaded.

#### NOTE

In December 2011, the United States Coast Guard (USCG) raised its estimate of average boat crew person or passenger weight from 75 kg (165 lbs) to 84 kg (185 lbs). Navy boats, accessories and ancillary equipment procured after September 30, 2012, will be procured with the assumption that the average person weighs 84 kg (185 lbs). Boat loads and capacities will be based on an average person weight of 84 kg (185 lbs). This weight does not include any specialized equipment typically worn or carried by personnel for specific missions. The weight of such equipment must be determined and considered on a case basis.

Boats procured prior to September 30, 2012 are unaffected by the USCG weight estimate change. These boats were procured with the assumption that the weight

of the average person was 75 kg (165 lbs). Boat loads and capacities for boats procured prior to September 30, 2012 will remain as is, based on the assumption that the weight of the average person is 75 kg (165 lb).

583-4.1.3 SHIP'S 7-METER RIB WEIGHT CONSIDERATIONS. The Navy standard 7-meter ship's RIB is a weight critical boat in two ways. First, its hoisting condition weight (i.e., both design and actual scale weight) is close to the rated capacity of some davit systems. Second, when loaded out for some missions, the mission payload requirements may approach the maximum payload capability of the boat. As a result, the coxswain and boat officer should pay careful attention to loading for launch and recovery and load out for operations. The VBSS/MIO load out consists of the maximum carrying capacity of 1,350 kg (2,970 lbs), or the equivalent boarding party (including equipment and crew), plus full fuel and hoisting slings.

The following provides load condition information for the Navy Standard 7-meter RIB. for 7-meter RIBs procured prior to September 30, 2012 (i.e., Navy hull registry numbers up to 7MRB12xx) the load conditions are based on the assumption that the weight of the average person is 75 kg (165 lbs). For 7-meter RIBs procured on, or after September 30, 2012 (i.e., Navy hull registry numbers 7MRB1301 and up) the load conditions are based on the assumption that the weight of the average person is 84 kg (185 lbs).

583-4.1.3.1 Ship's 7-Meter RIB Full Load Condition: Boats Procured Prior to September 30, 2012. Navy standard 7-meter RIBs procured prior to September 30, 2012, have Navy hull registry numbers up to/including 7MRB12xx. For these boats, the maximum load (Full Load Condition) consists of full fuel, hoisting slings, and the payload capacity, which is 1350 kg (2970 lbs) (formerly the equivalent of 18 persons (including the crew) at 75 kg (165 lbs) each)). The maximum load shall continue to be based on a payload capacity of 1350 kg.

583-4.1.3.2 Ship's 7-Meter RIB Full Load Condition. Boats Procured On/After September 30, 2012. 7-meter RIBs procured after September 30, 2012, have Navy hull registry numbers 7MRB1301 and up. For these boats, the maximum load (Full Load Condition) consists of full fuel, hoisting slings, and the payload capacity, which is 1350 kg (2970 lbs) or the approximate equivalent of 16 persons (including the crew) at 84 kg (185 lbs) each.

583-4.1.3.3 Ship's 7-Meter RIB Hoisting Condition. The hoisting condition weight of the Navy Standard 7-meter RIB is limited to 2540 kg (5,600 lbs) by boat design and shipboard davit considerations. For boats procured prior to September 30, 2012 the design was based on crew members averaging 75 kg (165 lbs) each. For boats procured on/after September 30, 2012 the design hoisting weight is based on crew members averaging 84 kg (185 lbs) each.

The maximum hoisting load (Hoisting Condition) reflects the required Ready Service Lifeboat (also called: Ready Service Rescue, Man Overboard, Search And Rescue (SAR)) Party load out. The Ready Service Lifeboat Party consists of full fuel, stokes litter for the injured person, security package (Small caliber automatic weapon and ammunition), hoisting sling and five persons as follows:

- a. Coxswain
- b. Bow Hook/Swimmer/Corpsman
- c. Stern Hook/Engineer
- d. Boat Officer
- e. Rescued Individual



No adjustment of design hoisting weight is required for boats procured prior to September 30, 2012 based on the small increase in average crew member weight, the number of crew members involved, and the design safety factors required for hoisting design.

## CAUTION

In the case of the Navy standard 7-meter RIB and the Navy standard 11 meter RIB, there will be instances when the boat must be launched from a ship while the ship is underway. In such instances, it is imperative the boat's engine(s) be started during the launch phase and in advance of the boat's water entry in order for the boat coxswain to safely accelerate the boat to a speed approximately equal to that of the ship. This operation requires that each engine's seawater impeller run dry for a short period. Each engine seawater system is equipped with an auxiliary hose connection to allow the boat to be started in its shipboard stowage to ensure the crew of its reliability and ensure the seawater impeller is operating properly and the boat is, in all respects, ready for launch.

**583-4.1.4 CAPACITY NOT TO BE EXCEEDED.** When carrying liberty or boarding parties (e.g., VBSS; MIO), exceeding the designated carrying capacity should be avoided. In carrying stores or boarding parties, the load in pounds, including crew and stores or gear, should never exceed the maximum allowable cargo load, as given on the boat label.

**583-4.1.4.1 Flotation Material.** The installation of flotation material shall not be considered as relieving operating personnel from exercising sound judgment in the loading of boats or providing of lifejackets when conditions warrant. Since the amount of flotation material to be installed is limited by the space available in the boat, it has been possible to provide a reserve buoyancy of only 22 pounds per man. In rough seas, the boat should be loaded to less than capacity so that this margin of reserve buoyancy will be somewhat greater. Twenty-two pounds will support a seated man submerged in water approximately to his armpits. With water this high, there will be a tendency for passengers to stand up, which could result in the sinking or capsizing of the swamped boat. If lifejackets are worn, personnel near the sides may take to the water and hold onto the gunwale. Other personnel should remain seated to avoid overcrowding around the outside.

**583-4.1.5 HANDLING OF MISSION PAYLOAD.** The mission functionality of ship's boats results in them frequently operating with a combination of mission cargo and personnel. For the benefit of personnel, and particularly coxswains, the following example is presented. Example: Assume the coxswain of a Navy Standard 7-meter RIB is ordered to follow up on an interdiction operation to pick up 500 kilos of drugs and the two law enforcement officers providing escort for the confiscated drugs. Using the updated value of 185 pounds per person, how should the crew load out the boat?

The 500 kilos weighs approximately 1,100 pounds. The rated capacity of a Navy Standard 7-meter is 16 persons (including the crew) or, in terms of pounds, 16 times 185 or 2,960 pounds. The coxswain could, therefore, pick up the 500 kilos of drugs (1,100 lbs), the two escorts (185 lbs x 2 = 370) and have 1,490 pounds remaining (2,960 lbs - 1,100 lbs - 370 lbs = 1,490 lbs) up to eight crew/passengers (1,490 lbs / 185 lbs = 8.05).

Operating personnel should be familiar with the designated carrying capacity of the boat and be able to calculate the load and regulate the number of passengers accordingly.

583-4.1.6 REDUCTION IN CAPACITY. The rated capacity designated on the label plate, represents the maximum capacity under normal weather conditions in sheltered waters. Reduction of capacity is always necessary for extreme weather conditions or in the open sea. Frequently, conditions will be such as to greatly reduce this rated capacity.

## 583-4.2 OPERATING INSTRUCTIONS FOR EMERGENCY USAGE

Safe boat operations depend on a number of factors. Coxswain skills, environmental conditions and the specific boat performance capabilities all have a significant impact on operational safety. Qualified coxswain with adequate operator training and good seamanship skills are necessary for safe, secure boat operations.

In general, small boats (less than 20 meters or 65') are able to operate safely in a Sea State 3 and survive a Sea State 4 (Ref: Pierson-Moskowitz Sea Spectrum). Most other boat performance characteristics are typically described in the applicable BIB or Operator's Manual and other technical manuals provided with each boat.

"Maximum," "Safe," or "Optimum" speed for any particular boat is dependent on a combination of factors, including mission, passengers, loading, environmental conditions, visibility, boat condition (structure and systems), hull form (displacement, planning, catamaran, etc.) and propulsion system power.

Operational limitations for some boats and craft are the result of real engineering and design limits that the operators must acknowledge and avoid to prevent inadvertent operational problems. Examples of design constraints include hoisting weight limits, tow load limits and electrical load capacity limits. During mission execution it is left to the operational commander to ensure the boat is not operated beyond design limitations or beyond the skills and abilities (or limitations) of the boat crew and passengers.

Each boat type provides a needed mission capability that will be used in a wide range of operational circumstances. Only a few limited scenarios require the full capability inherent in the boat. Boats are procured to ensure they are inherently safe to the extent possible within the operational requirements.

583-4.2.1 INTERNAL BUOYANCY. Open boats, to be acceptable for use as life rafts under the U.S. Coast Guard Regulations, shall be provided with internal buoyancy according to the Code of Federal Regulations. Title 46; Chapter 1, Shipping; Subchapter Q, Subspecification Part 160.035, Lifesaving Equipment.

583-4.2.2 LIFE PRESERVERS STOWED IN BOATS. Except for landing craft, which are not fitted to stow life preservers for passengers, life preserver stowage in boats is established upon 50 percent allowance of maximum boat capacity. This is based on the following:

- a. Suitable stowage space is not available for 100 percent allowance.
- b. The maximum number of persons permitted to be carried is a matter of ship's administration based upon the boat's loading and boating conditions. One life preserver for each crewmember shall be aboard before embarking. When conditions warrant, boat passengers shall be issued life preservers before embarking.
- c. The number of life preservers shall be drawn from the regular ship's allowance. Conditions under which life preservers are carried may vary to a considerable degree; thus, they have not been included as items of boat outfit.
- d. Boats issued to shore and expeditionary commands other than ships will have the required type and quantity of life preservers for the operating crew identified on the outfit Allowance Equipage List (AEL) for the boat. It is the responsibility of the operating unit to provide additional life preservers for passengers.

Boat personnel should frequently (particularly after wet weather, or when spray has entered the boat) break out all stowed life preservers for drying and airing out.

### 583-4.3 BOATS AND SMALL CRAFT FIRE HAZARDS

583-4.3.1 LIST OF FIRE HAZARDS. A fire is serious at any time, but in a gasoline or diesel powered boat; it has a more fatal aspect. Boats are equipped with firefighting devices; but the best safeguard to those concerned with the handling of boats is recognition of the hazard and knowledge of the cause. This information may then be used to prevent conditions leading to a fire. The following is a list of fire hazards that exist. Each will be discussed in detail.

- a. Gasoline
- b. Clothing and oily waste or rags
- c. Fuel leaks
- d. Ventilation
- e. Fueling
- f. Bilges and sumps
- g. Exhaust pipe
- h. Dirty engines

583-4.3.2 GASOLINE. As gasoline vapor is highly combustible when mixed with air, the use of gasoline for cleaning the engine or bilges is strictly prohibited. A spark, caused by smoking or various other sources, may ignite the fumes and cause a dangerous fire.

583-4.3.2.1 Containers. Inspect portable gasoline containers periodically for any leaks. If leaky containers are found, transfer their contents immediately to a tight container. Leaky, defective gaskets and plugs should be replaced. Water should not ordinarily be introduced into a gasoline drum but if a leaky container cannot be made tight by tightening up on the filling and vent plugs, or repairs are required involving the application of heat, the drum should first be filled with water, emptied, and blown through with a steam or air jet to eliminate any vapor present. Repairs to gasoline drums or containers are not ordinarily required to be made by ships' force as they are repaired at their distribution depots. Before making shipment of empty containers, inspect them carefully to see that they are tight and that all plugs are tightly secured. Unless this is done, empty containers constitute a fire hazard to the carrier. Refer to NSTM Chapter 542, Gasoline and JP-5 Fuel Systems.

583-4.3.3 CLOTHING AND OILY WASTE OR RAGS. Keep engine room clear of clothing. Cleaning rags and waste shall be kept in a closed container and disposed of in accordance with the hazardous material guidelines. Clean engines, clean engine rooms, and clean bilges are requisites of efficient boat engineering.

583-4.3.4 FUEL LEAKS. The presence of fuel in the bilges or in a free state in a boat is dangerous. The fumes may be ignited easily and fire results. Free fuel may come from leaks in the fuel lines or units of the system, or result from filling the fuel tanks too full. Fumes shall be disposed of by proper ventilation.

583-4.3.4.1 Shutoff Valves. Fuel lines, connections, and fittings shall be kept tight. Follow manufacturer's recommendations and instructions for sealing connections and fittings. Fuel lines in all cases, shall be fitted with shutoff valves installed near the fuel tank and so fitted as to be readily accessible for closing in an emergency. Shutoff valves are to be fitted with extension rods and operating hand-wheels so that they may be operated from a convenient location outside of the probable fire area.

583-4.3.4.2 Components of the Fuel System. Components of the fuel system include, but are not limited to, fuel tanks, connections, electrical connections and wiring, hoses, piping, sending units, valves, and mounting hardware. Components should be inspected prior to operation of the boat or fueling.

583-4.3.4.3 Stowages. Anchors or other heavy items should not be stowed near fuel lines because of the danger of them striking lines or fittings and causing leaks. Lightweight items, such as lifejackets, should not be stowed on top of fuel lines, since such stowage interferes with inspection.

583-4.3.5 VENTILATION. The importance of proper ventilation to expel all fuel fumes cannot be overemphasized.

583-4.3.5.1 Leakage. On boats using gasoline as fuel, there exists danger of explosion and resulting fire due to leaky gasoline lines, strainers or tanks, and overflow during fueling. This involves a very serious fire hazard and is as dangerous as other explosives aboard ship.

583-4.3.5.2 Gasoline Vapor. Gasoline is a highly volatile liquid, which will give off a flammable vapor if left exposed to the air. Gasoline vapor is about three times as heavy as air and the highest percentage is found in the lowest places. The mixture will gradually spread throughout the whole boat. The mixture, formed by gasoline vapor and air, is highly explosive in character and only needs a slight spark or flame to cause a violent explosion and fire.

583-4.3.5.3 Vapor in Bilges. All personnel are to strictly observe the safety precautions relating to the use and handling of gasoline. Practically all fires can be traced to the presence of explosive gasoline vapors in the bilges. Evidence shows that this condition frequently occurs immediately after taking on fuel.

583-4.3.5.4 Explosive Sparks. In a gasoline engine installation, there is the possibility of gasoline vapors being present continuously, especially in the lower spaces. The danger of a spark necessary for an explosion is always present and cannot be eradicated. A spark, so minute as to be invisible to the eye, may be formed by striking a nut with a wrench, by arcing of the brushes of a motor or generator, by grounds or shorts in electric circuits, by opening or closing electric switches, by static electric charges formed by the rubbing of two surfaces together, or by nails in shoes hitting or rubbing metal. Sparks may be produced in so many ways that the only insurance against explosion and fire is to take every precaution to prevent the accumulation of gasoline vapors in the boat and this can be done with proper ventilation.

583-4.3.6 FUELING. The following procedures should be observed when fueling a boat:

**NOTE**

Before beginning, brief each member on the correct procedures that must be observed while fueling.

- a. One member of the boat crew shall be tasked to stand by with a portable dry chemical fire extinguisher ready for use. Extinguisher is not to be returned to stowage position until fueling is completed and engine is operating satisfactorily.

- b. Remove the filling pipe cap. Sound the tank to determine the approximate amount of fuel required to fill the tank.
- c. Insert the hose nozzle into the fill point. Open the nozzle valve and begin filling the tank.
- d. The nozzle shall be manned and kept under control to ensure that the fuel flow rate is acceptable to prevent overflow and spilling at all times. Diesel oil passes through the strainer more slowly than gasoline.
- e. When the tank is filled, withdraw the nozzle from the fill point and secure the cap as applicable.
- f. If a fuel spill has occurred wash/wipe down in accordance with current policy and guidelines.

583-4.3.6.1 Before Starting Engine. Before starting the engine, it is particularly important to clear the boat compartments and bilges of any gasoline vapor that may be present from the fueling operation.



Operate exhaust fans/blowers for at least 4 minutes before starting engine, and check engine compartment bilge for gasoline vapors.

- a. On boats having an enclosed engine compartment, open the engine covers to permit circulation of air to dissipate fuel vapors. The same precautions apply if gasoline vapor is noticed in the boat while underway. Gasoline fires have occurred through ignition by sparks from some part of the electrical equipment while the engine is turning over. It is safer for both personnel and material to stop and clear out gasoline vapor and to remove its cause rather than to continue running the engine. When stopped for this purpose, one of the crew should stand by ready to operate the fire extinguishing equipment. This is particularly important with motorboats having closed engine compartments. This is particularly important with motorboats having closed engine compartments.
- b. If gasoline is spilled during fueling and runs into the bilges, the bilges should be washed down, pumped, wiped out, and aired thoroughly before the engine is started.

583-4.3.6.2 Flame Screen. Tank wire gauze in the filling connection is a flame screen designated to minimize possibility of a flame flashing into the tank from some outside source (Figure 583-4-1). It should always be kept in place.

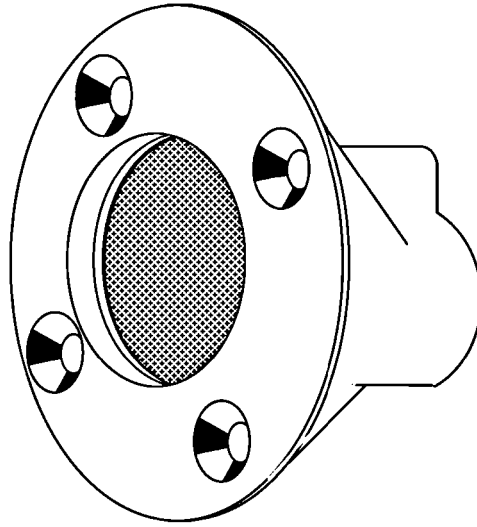


Figure 583-4-1 Gas Tank Vent

**583-4.3.7 BILGES AND SUMPS.** Bilges and sumps shall be kept dry and frequently washed out to clear them of fuel and oil. They should be washed before hoisting into the boat skids. The space directly under the engine can be readily washed down by using hot water or a steam hose. This method will carry heavy oil and grease over into the sump from which it can be pumped. Oily bilge water should be pumped to a location where the oil can be separated from the water rather than pumped over the side of the ship. Frequent inspections of engine room bilges should be made to ensure that residue is not present. The forward and after engine space bulkheads should be inspected for tightness in the bilges in order that liquid and gas may be prevented from passing over into adjacent compartments.

**583-4.3.8 EXHAUST PIPE.** Improper insulation of the dry exhaust pipe, where it passes through the hull, may set the boat on fire. A poorly insulated exhaust pipe may set fire to nearby objects or ignite gas fumes if the hot pipe is exposed to gas in the engine room. Any defects of this type should be corrected immediately. Exhaust pipes should be properly insulated with refractory felt, covered by glass cloth, and attached with nonconductive fittings.

**583-4.3.9 DIRTY ENGINES.** Greases and oil with which an engine becomes encrusted are sources of danger if not cleaned at regular intervals. These petroleum products will feed a fire, enabling it to get out of control rapidly.

#### **583-4.4 SAFETY PRECAUTIONS**

**583-4.4.1 GASOLINE VAPOR.** Most gasoline fires and explosions in boats occur when engines are started which is due to an accumulation of gasoline vapor in the bilges. Exercising proper safety precautions can prevent such fires and explosions.



No list of precautions can provide for every conceivable situation that might arise. The only adequate safety precaution is a constant awareness of the hazards and a consistent application of common sense to situations that arise.

**583-4.4.2 CLOSED ENGINE ROOM.** Except in an emergency, a boat with a closed engine room should not be operated without the engineer being onboard at his station.

**583-4.4.3 ELECTRIC CONNECTIONS.** At least once a day during periods when the boat is in use and preferably just prior to getting underway, visually inspect as practicable, all connections are satisfactory and secured mechanically. Electric cabling shall be secured with clamps to prevent movement and resultant wear of any cable in contact with metal surfaces and the attendant danger of short circuits. The inspection should be made any time the operator has reason to believe the cable or connections may have been loosened by operating conditions, passengers or cargo.

**583-4.4.4 FUEL PIPING AND TANK FITTING.** At least once a day, during periods of operations and at any time the operator has reason to believe damage may have occurred, the fuel lines, strainers, and tank fittings should be inspected for possible leaks and loosening of tanks in the saddles. Fueling connections shall be tight in the tank and the filling cap in place. Any opening in the top of the fuel tank through which fuel may slop out due to rolling or pitching, or through which fuel vapor may be forced out during fueling operations, shall be tightly plugged.

Any defects discovered during inspection shall be remedied immediately.

**583-4.4.5 WIRE GAUZE SCREENS.** At least once a day, during periods when the boat is in use, inspect to see that wire gauze screens are intact and clean. On gasoline engines, screens over carburetor and breather pipe connections shall be securely clamped so they cannot be blown loose in case of backer or crankcase explosion. Backfire screens shall be installed according to the latest NAVSEA instructions.

**583-4.4.6 BILGES AND SUMPS.** Bilges and sumps should always be inspected before the engine is started. If they are not dry and free from fuel, vapor, and oil, they should be pumped and dried out. If gasoline is spilled in the boat during fueling, the bilges should be flushed down with water, pumped, and wiped dry before starting the engine.

**583-4.4.7 VENTILATION.** On gasoline engine boats, ventilation is of prime importance at all times. All spaces subject to accumulation of gasoline vapor shall be inspected and thoroughly ventilated. Before the engine is started, every precaution should be taken to ensure that the bilges are open to ventilation, and that any gasoline or gasoline line vapors in bilges and sump are removed. Explosion proof exhaust fans are required on all gasoline engine boats and should be run at least four minutes before the engine is started, intermittently for at least one additional hour daily, and at any time the presence of gasoline vapor is suspected. At any time gasoline is spilled, the exhaust fans shall be run sufficiently to remove all gasoline fumes. On boats with enclosed engine compartments, after each fueling and before starting, open the cover of the engine compartment for ventilation to remove gasoline vapor. Diesel engine boats with ventilation fans shall follow the guidelines in this paragraph also.

583-4.4.8 SAFETY INSTRUCTIONS. Safety instructions posted in all gasoline-powered boats shall include the following requirements:

- a. The bilges should be inspected for the presence of gasoline and gasoline vapor immediately before each starting of the engine.
- b. Before starting the engine, the engine cover should be lifted exposing the top of the engine for not less than four minutes while the bilge exhaust blower is operating, if applicable.
- c. The engine cover should not be closed until after the engine is started and operating satisfactorily.
- d. All fire extinguishers should be in place and charged.

In performing the foregoing inspection, special attention should be given to boats that have been out of service for several days or subjected to overhaul. For additional information, refer to NSTM Chapter 233, Diesel Engines, for diesel-powered boats.

583-4.4.9 LIQUIFIED GAS. The use of liquefied gas (propane) for any purpose is prohibited.

583-4.4.10 SIGNALING DEVICE. All powered boats are to carry a signaling device.



## SECTION 5

### EQUIPMENT AND REPAIR PARTS

#### 583-5.1 GENERAL

NAVSEAINST 4790.8 (series) requires implementation of the Maintenance and Material Management (3-M) system, in accordance with OPNAVINST 4790.4 (series), for all Navy boats except for boats operated and maintained by civilians. Note that the instructions do authorize use of the 3-M system for boats operated and maintained by civilians if the support contract specifically includes the use of 3-M as a requirement.

583-5.1.1 BOAT EQUIPMENT AND OUTFIT. The allowance of equipment required to operate and maintain a given boat is set forth in Allowance Parts List (APL) and Allowance Equipage List (AEL).

Boat APLs and AELs are provided to the ship or other activity's Configuration Data Manager (CDM) by the ISEA upon issue of a boat to a custodian for inclusion in the operating command's COSAL. If assistance is required to identify applicable APLs or AELs for a specific boat, contact or the ILSM (see [paragraph 583-1.1.1](#) for contact information). Boat APL numbers can be found in the CBSS.

583-5.1.1.1 Boat Equipment. Boat Equipment is defined as systems, equipment or components permanently installed, or intended to permanently accompany the boat. An example of the latter is the flagstaff. These systems or equipment are referred to as boat equipment, as differentiated from boat equipage or outfit. Logistically significant boat equipment will be either included on, or listed as an accessory item on the applicable boat APL. In general, logistically significant boat equipment consists of:

- a. Propulsion system and components
- b. Electrical system and components, including generators (if installed)
- c. Fendering and collars
- d. Electronic systems and components (permanently installed)
- e. Dewatering systems and components
- f. Fuel systems and components
- g. Fire extinguishing systems (built-in)
- h. Steering system and components
- i. Ventilation systems and components, including ventilation systems for gasoline engine compartment ventilation applications, heating and air conditioning, etc.
- j. Security systems and components
- k. Gray and black water systems and their components
- l. Boat Trailers

583-5.1.1.2 Allowance Parts List. When each boat, or group of boats, under a procurement contract are accepted by the Navy, boat Allowance Parts Lists (APLs) are developed for each boat. The boat APL is characterized by having "72" as its first two characters. This hull registry number specific APL is the primary supply support configuration document for the boat. The boat APL identifies allowances for repair-by-replacement parts and identifies APLs for accessory items. For example, the engine, marine gear, and outdrive will have individual

APL numbers. APLs are issued by the Naval Supply Systems Command (NAVSUP), Mechanicsburg, PA, and may be incorporated into an activity's Coordinated Shipboard Allowance List (COSAL) or Coordinated Shore Based Allowance List (COSBAL).

583-5.1.1.3 Outfit Items. Outfit items, also known as equipage for boats, are defined as required equipment that is not permanently installed onboard the boat or craft, and may include required safety-related items. Examples of this type of equipment include, but are not limited to:

- a. Ropes.
- b. Boat hooks.
- c. Fiberglass or inflatable tube repair kits.
- d. Starting or other batteries.
- e. Portable fire extinguishers.
- f. Anchors, anchor line, and lines.
- g. Canopies, canopy bows, covers and cushions (initial outfit only - local support thereafter).

583-5.1.1.4 Allowance Equipage List). The Allowance Equipage List (AEL) identifies, and lists the allowance of equipage required for safe operation of a given boat. Individual AELs are developed for each boat class, and may be found listed in the Accessory APL portion of the applicable boat APL. Copies of AELs are available from NAVSUP, Mechanicsburg, PA.

583-5.1.2 PROCUREMENT OF OUTFIT AND MAINTENANCE PARTS. Although some maintenance parts may be provided with a boat upon initial issue, it is the responsibility of the boat custodian to procure equipage and parts as defined in the activity's COSAL or COSBAL. Outfit and corrective or preventive maintenance parts are to be requisitioned in accordance with NAVSUP P-485, CURRENT EDITION. Although some equipage may be provided with a boat upon initial issue, it is the responsibility of the boat custodian to procure and maintain the equipage identified on the AEL in accordance with PMS requirements, per OPNAVINST 4790.4 (series). NSNs can often be obtained by referring to the applicable APL or AEL in the custodial activity's COSAL or COSBAL. Materials supporting PMS procedures can be found in the Standard PMS Materials Identification Guide (SPMIG).

583-5.1.3 DISPOSITION OF OUTFIT AND MAINTENANCE PARTS. All ships, shore activities, and other activities shall dispose of maintenance parts in accordance with NAVSUP P-485. Outfit items and applicable spare parts shall accompany the boat, unless otherwise specified in the disposition instructions provided by the Boat Inventory Manager (BIM) (see [paragraph 583-1.8](#)).

**SECTION 6**  
**PREVENTION OF COLLISIONS AT SEA**

**583-6.1 COMMAND RESPONSIBILITY**

The command operating and owning the asset is responsible to conduct all maintenance in accordance with OPNAVINST 4790.4 and applicable PMS program policy and guidance.

**583-6.2 NAVIGATION RULES (RULES OF THE ROAD)**

583-6.2.1 INTERNATIONAL AND INLAND NAVIGATION RULES. Navigation Rules shall be followed as set forth in U.S. Navy Regulations, Article 1120, Rules for Preventing Collision.

Comments and information should be addressed to Commandant, U.S. Coast Guard, (G-NSR-3).

- a. Prevention of collisions is the primary goal of the navigation rules. Navigation lights, day shapes, and sound signaling devices are a major part of the rules, indicating type and size of vessel, the movement of such vessels, the work a vessel is doing and the privileges and responsibilities of vessels.
- b. The adoption of the Inland Navigation Rules Act, 1980 (also referred to as UNIFIED RULES) on the inland waters, western rivers, and the Great Lakes has eliminated much of the confusion that previously existed between the International Regulations for Preventing Collisions at Sea, 1972 (COLREGS) and the U.S. Rules. With the exception of the maneuvering signals and some special rules for the western rivers and the Great Lakes, the rules are now truly uniform.
- c. The COLREGS have been in effect since 1977 and vessels fitted with the lights prescribed by these rules comply with the Inland Rules.
- d. Unless operating exclusively in an area where the Inland Rules apply, vessels must be outfitted with navigation lights required by the COLREGS.
- e. Since January 1, 1983, each self-propelled vessel on inland waters 39.4 feet (12 meters) or more in length must carry onboard and maintain a copy of the INLAND RULES for ready reference.
- f. The penalty provisions of the COLREGS and the INLAND RULES allow for a civil penalty.
- g. For information on the technical details regarding sound signaling devices and the placement of lights, obtain a copy of the U.S. Coast Guard booklet, "Navigation Rules, International-Inland (COMDTINST M16672.2A)" Request stock number 050-012-00-407.2. The COMDTINST are available from the:

Superintendent of Documents

U.S. Government Printing Office Washington, DC 20402 or visit website: [www.gpoaccess.gov](http://www.gpoaccess.gov)



## SECTION 7

### HOISTING SLINGS AND FITTINGS

#### 583-7. GENERAL REQUIREMENTS

Navy Crane Center letter 11262 Code 09W3 Series 99-153 waives the requirements of NAVFAC P-307 for all Navy boats and craft. The basic requirements for design and construction are provided here. The design of each hoisting system, including boat hoisting structure, hoisting fittings, and hoisting slings shall be approved by NAVSEA prior to fabrication. Requests for approval shall be submitted through PMS 325.

#### 583-7.1 NAVSEA REQUIRED SAFETY FACTORS

583-7.1.1 BOATS AND CRAFT ASSIGNED TO SHIPS. Because of the dynamic nature of boat hoisting loads and the potential for large accelerations, it is the policy of the NAVSEA to require safety factors as follows for all boats and craft normally assigned as ship's boats or boats to be lifted into shipboard stowages:

- a. All parts, including the boat structure, hoisting fittings and hoisting slings are to be designed to a minimum safety factor of six, based on the ultimate strength of the material.
- b. Sling shackles are to be in accordance with Federal Specification RR-C-271D, IV A, Class 3, bolt type anchor shackles. Unthreaded pins are not acceptable and are to be replaced with a threaded pin or bolt, nut, and stainless steel cotter pin.
- c. Wire rope sling sockets are to be in accordance with Federal Specification RR-S-550D, open end sockets. Unthreaded pins are not acceptable and are to be replaced with a threaded pin or bolt, nut, and stainless steel cotter pin.
- d. Welded parts such as links and rings, if used, must meet requirements above standard industry supplied components. The weld filler material for new welded master links, welded master link assemblies, welded rings, and welded sling links (pear links) shall be in accordance with AWS specification 5.5 or 5.28. The welded area shall be RT inspected in accordance with NAVSEA Technical Publication T9074-AS-GIB-010/271 with acceptance criteria to MIL-STD-2035 class 3 for welds prior to initial use only. Additional radiographic inspection is not required as part of periodic recertification testing.

583-7.1.2 BOATS AND CRAFT ASSIGNED TO SHORE STATIONS AND NON-SHIP EXPEDITIONARY COMMANDS. For boats and craft not designed to be routinely hoisted aboard ship, such as Landing Craft, and those permanently assigned to shore stations, the minimum factor of safety shall be five. Such hoisting gear is considered to be logistical only. Logistical lifts shall not be made with personnel onboard. The hoisting condition for logistical lifts may be further restricted to exclude variable load items other than fuel, such as weapons, ammunition, miscellaneous mission gear, etc. This category of boats includes extensively reconfigured craft where the specialized nature of the craft, as modified, precludes its being returned to service requiring shipboard hoisting (such as Landing Craft reconfigured to diving tenders, work boats, and so forth) as well as other specifically designed craft. In addition:

- a. All parts, including the boat hoisting structure, hoisting fittings and hoisting slings are to be designed to a minimum safety factor of five, based on the ultimate strength of the material.
- b. Sling shackles are to be in accordance with Federal Specification RR-C-271D, IV A, Class 3, bolt type anchor shackles. Unthreaded pins are not acceptable and are to be replaced with a threaded pin or bolt, nut, and stainless steel cotter pin.

- c. Wire rope sling sockets are to be in accordance with Federal Specification RR-S-550D, open end sockets. Unthreaded pins are not acceptable and are to be replaced with a threaded pin or bolt, nut, and stainless steel cotter pin.
- d. Welded parts such as links and rings, if used, must meet requirements above standard industry supplied components. The weld filler material for new welded master links, welded master link assemblies, welded rings, and welded sling links (pear links) shall be in accordance with AWS specification 5.5 or 5.28. The welded area shall be RT inspected in accordance with NAVSEA Technical Publication T9074-AS-GIB-010/271 with acceptance criteria to MIL-STD-2035 class 3 for welds prior to initial use only. Additional radiographic inspection is not required as part of periodic recertification testing.

**583-7.1.3 HOISTING CONDITION WEIGHTS.** The design and testing of all components related to hoisting are based on the Design Hoisting Weight of the boat. The Design Hoisting Weight generally includes hull, machinery (wet), full fuel, full outfit (boat hook, fire extinguishers, etc.), crew, and a growth margin. The Design Hoisting Weight is specified on the hoisting test data plate generally located near the coxswain's station. General information on Design Hoisting Weights is given in [Table 583-2-1](#). Only the weight indicated on the hoisting test data plate shall be used for the baseline weight for determining the overload weight for tests. Should the hoisting test data label plate be missing or illegible, the applicable Hoisting Arrangement and Details drawing shall be consulted to determine the correct Design Hoisting Weight. If the drawings do not provide the information, contact the ISEA.

**583-7.1.4 GALVANIZING OF PARTS.** Ferrous (i.e., ordinary steel) chain, shackles, sockets, links, rings, equalizing thimbles attached to wire rope, and chains shall be galvanized.

## **583-7.2 MANUFACTURE OF HOISTING SLINGS, BAILS, AND FITTINGS**



Aramid fiber (Kevlar) rope slings require specialized manufacturing process controls to maintain safety standards. Slings shall not be obtained from any source other than those designated on the approved drawings.

**583-7.2.1 TESTING FACILITY.** Any repair activity that has the capability of testing slings, bails, hoisting shackles, rods, pins, chain links, and rings is authorized to manufacture such equipment according to applicable drawings, EXCEPT for Aramid fiber (Kevlar) slings which shall not be obtained from any source other than those given on the applicable drawing.

Manufacture shall not be accomplished if the equipment is available as a standard stock item. Testing, inspections, marking, and record keeping shall be accomplished in accordance with the further provisions of this section.

## **583-7.3 INSPECTIONS**

**583-7.3.1 GENERAL.** All slings, bails, and hoisting fittings shall be visually inspected for proper assembly and condition at least once a month or before each lift and in accordance with PMS requirements. They shall not be used if signs of deterioration are noted. Sockets and shackles shall be checked to ensure the intended pins are

used. Before conducting any hoisting test, a careful inspection shall be made of all hoisting fittings, slings, or bails to determine whether the parts are in proper condition. After any load test, inspect all components for signs of permanent deformation, cracking of any of the components or supporting boat structure, elongated holes, or bent shackle or socket pins.

583-7.3.2 WIRE ROPE SLINGS. Wire rope slings shall be inspected for broken or damaged strands, crimps, kinks, cuts, and corrosion. Inspection and removal shall be in accordance with NSTM Chapter 613.

583-7.3.3 WEBBING SLINGS. Webbing slings shall be inspected for abrasion, tears, cuts, snags, punctures and fraying of the webbing and stitching. Slings exhibiting any of the following shall be removed from service:

- a. Acid or caustic burns.
- b. Melting or charring of any part of the sling.
- c. Snags, punctures, tears, or cuts.
- d. Broken or worn stitches.
- e. Distortion of fittings.
- f. Wear or elongation exceeding amount recommended by manufacturer.
- g. Other apparent defects that cause doubt as to the strength of the sling.
- h. Loading of the sling beyond its rated capacity.
- i. Exposure of Red Guard warning yarn.
- j. Paint present on any part of webbing.

Since new webbing exhibits different stretch characteristics from older webbing, the entire sling should be disposed of in lieu of replacing only the bad sling legs. Tying knots in webbing slings will dramatically reduce the strength of the webbing and is not allowed. Paint will also reduce the strength of the webbing and should not be used for stenciling.

583-7.3.4 ARAMID FIBER (KEVLAR) SLINGS. Slings should be inspected for cuts, abrasions, snagging and badly worn areas in the outer jacket. Extensive damage to outer jacket could indicate damage to inner load bearing core. Slings exhibiting any of the following shall be removed from service:

- a. Core has been cut or damaged.
- b. Slings have been exposed to excessive heat (greater than 150 degrees Fahrenheit).
- c. Slings have been loaded beyond their rated capacity.
- d. Distortion of fittings.
- e. Other apparent defects that cause doubt as to the strength of the sling.
- f. Abrasions or cuts on the jacket, which prevent the jacket from providing sufficient protection for the core. Since new Aramid Fiber (Kevlar) rope exhibits different stretch characteristics from older Aramid Fiber (Kevlar) rope, the entire sling should be disposed of in lieu of replacing only the bad sling legs. Tying knots in the slings will dramatically reduce the strength of the sling and is not allowed.

583-7.3.5 LIFTING FRAMES, INSPECTION. Lifting frames shall be inspected for cracks, deformation, corrosion, crimping, and loose fasteners. Frames that contain cracks, deformation, corrosion, or crimping shall be taken out of service. Loose fasteners and similar discrepancies shall be corrected before the bail is placed into service.

## 583-7.4 TESTING

583-7.4.1 HOISTING SLINGS LOAD TESTS. Job orders or contracts for manufacture of boat slings shall require that the sling and associated hardware not permanently attached to the boat be tested as indicated under the heading of Test Procedures on the respective Hoisting Arrangement and Details drawings. The number for this drawing can usually be found on the hoisting label plate located near the coxswain's station or in the Boat Information Book (BIB). Test loads are intended to be 100 percent in excess of the design-working load of the part. Sling tests shall be performed in load testing equipment designed for that purpose. One hundred percent overload tests are never performed in the boat. Unless specifications call for testing slings in the same configuration as used, one or more legs may be tested at a time using the straight line pull method at 100 percent overload based on the design load for each leg. In general, all slings used in shipboard boat hoisting applications must be tested and recertified every 18 months. Hoisting slings shipped with new boats shall be marked prior to use, and recertified at 18 month intervals from being placed in service. Hoisting slings for boats assigned to non-ship expeditionary commands or shore stations shall be subjected to a 100 percent overload test and recertification every 24 months. Refer to the applicable Maintenance Index Page (MIP) for the exact recertification periodicities for your boat.

583-7.4.1.1 Wire Rope Sling Load Test Periodicity. All wire rope slings used in shipboard boat hoisting application require testing and recertification every 18 months. Wire rope slings shipped with new boats shall be marked prior to use, and recertified at 18 month intervals from being placed in service. Wire rope slings for boats assigned to non-ship expeditionary commands or shore stations shall be subjected to a 100 percent overload test and recertification every 24 months. Refer to the applicable MIP for the exact recertification periodicities for your boat slings. Wire rope slings shall be maintained in accordance with Planned Maintenance System (PMS) requirements.

583-7.4.1.2 Webbing Sling Load Test and Replacement Periodicity. All webbing slings used in shipboard boat hoisting application require testing and recertification every 18 months. Webbing slings shipped with new boats shall be marked prior to use, and recertified at 18 month intervals from being placed in service. Webbing slings for boats assigned to non-ship expeditionary commands or shore stations shall be subjected to a 100 percent overload test and recertification every 24 months. Refer to the applicable MIP for the exact recertification. Webbing slings shall be maintained in accordance with PMS requirements. Webbing slings must be stored in a clean 5 gallon plastic container with a sealable top, such as a 5-gallon bucket when not in use.

583-7.4.1.3 Aramid Fiber Sling Load Test and Replacement Periodicity. All Aramid fiber slings used in shipboard boat hoisting application require testing and recertification every 18 months. Aramid fiber (e.g., Kevlar) slings shipped with new boats shall be marked prior to use, and recertified at 18 month intervals from being placed in service. Aramid fiber slings for boats assigned to non-ship expeditionary commands or shore stations shall be subjected to a 100 percent overload test and recertification every 24 months. Refer to the applicable MIP for the exact recertification periodicities for your boat slings. Aramid fiber slings shall be maintained in accordance with PMS requirements. Aramid fiber slings must be stored in a clean 5 gallon plastic container with a sealable top, such as a 5-gallon bucket when not in use.



583-7.4.1.4 Retesting of New Slings. The time interval after which the first periodic testing is required for new slings received from stock or shipped with new boats is taken from the date the slings were placed in service as indicated on the In-Service tag. If the In-Service tag is not present, the retesting period is taken from the date on the certification test markings. If test markings are not present, the sling certification shall be assumed out of date and the slings shall be retested.

583-7.4.2 LIFTING FRAME LOAD TESTS. Lifting frames or rigid bails are similar to other permanently installed hoisting fittings in that they are less prone to wear and damage than wire rope, webbing or Aramid fiber (e.g. Kevlar) slings. Lifting frames (or rigid bails) shall be load-tested upon completion of a new boat or after any repairs to the frame/bail. These fittings do not require periodic testing. A Lifting frame (or rigid bail) shall be tested by weighting the boat 50 percent in excess of its normal design hoisting weight and lifting it, using the frame/bail, just clear of the water or shop floor for 10 minutes. When conducting the 50 percent overload test, it is absolutely necessary that the correct weight be used. The Design Hoisting Weight (DHW) is specified on the hoisting test data plate. Only the weight indicated on the hoisting data plate shall be used for the baseline weight for the 50 percent overload test. The added weight shall be distributed, one half forward and one half aft, as near the hoisting fittings as possible, care being taken not to place any significant added weight amidships.

583-7.4.3 HOISTING FITTING LOAD TESTS. Hoisting fittings permanently attached to the boat shall be load-tested upon completion of a new boat or after extensive repairs have been made to a boat in service. These fittings do not require periodic testing. The boat's lifting slings or lifting frame shall be inspected before conducting this test to ensure their adequacy for the test load and to verify that they have been load tested as required in this section. The boat's hoisting fittings shall be tested by weighting the boat 50 percent in excess of its DHW and lifting it by its hoisting slings or frame/bail just clear of the water or shop floor for 10 minutes. For boats that have fittings for both sling lifting and davit lifting, the overload test shall be conducted for both configurations. When conducting the 50 percent overload test, it is absolutely necessary that the correct weight be used. The DHW indicated on the hoisting data plate shall be used for the baseline weight for the 50 percent overload test. The added weight shall be distributed, one half forward and one half aft, as near the hoisting fittings as possible, care being taken not to place any significant added weight amidships.

583-7.4.4 FIT TESTS. Before finally accepting newly issued, repaired, or altered hoisting slings, frames or bails, ships shall test them for fit by hoisting the boat using the method that normally will be used in service. The boat shall be lifted by its slings and suspended for at least 10 minutes, just clear of the water, deck, or stowage, to minimize damage in case of failure.

## **583-7.5 MARKING**

583-7.5.1 GENERAL. Slings are not designed to be interchangeable between different boat types and/or a variant of the boat. Due to differences in the details of the design, slings for a given boat are not always suitable for use on all other boats of the same type. For these reasons, identification markings must be placed on all slings. Slings shall not be issued without test markings attached. If unmarked slings are found in stock or if slings, frames or bails have been repaired, they shall be retested and marked. Naval shipyards receiving boats with hoisting slings that are uncertified may use these slings before recertification testing to hoist the boat within the shipyard if the following steps are adhered to:

- a. The sling is verified as having previously been tested to the correct load from the test bands installed on the sling.
- b. The wire rope or webbing and fittings are visually inspected for damage, wear, corrosion, or other defects.

- c. If the above inspections determine that the sling is satisfactory, the boat should be secured to the sling and hoisted just clear of all other support and held for a minimum period of 10 minutes by the sling. The sling is then reinspected for evidence of failure or permanent deformation.

**NOTE**

Aramid fiber (e.g., Kevlar) slings shall be marked in accordance with the MIP.

**583-7.5.2 WIRE ROPE SLINGS.** When slings are manufactured and after the load test has been satisfactorily completed, a copper or stainless steel band shall be fitted to each sling leg, identifying the leg (for example, aft-port), indicating the test has been made and giving the name of the certifying activity, the contract number (if applicable), the registry number of the boat for which manufactured (for example, 13MPE9904), the government inspecting office (if applicable), and the date of the test. If the sling is being returned to service after periodic testing, the bands shall be marked with the test date and name of the testing activity. If, for any reason, slings are assigned to another boat of like design (type and mark), the boat number on the band shall be changed accordingly.

**583-7.5.3 WEBBING AND ARAMID FIBER.** When slings are manufactured and after the load test has been satisfactorily completed, an etched leather tag shall be sewn to each sling leg, identifying the leg (for example, aft-port), indicating the test has been made and giving the name of the certifying activity, the contract number (if applicable), the registry number of the boat for which manufactured (for example, 34PB1003), the government inspecting office (if applicable), and the date of the test. If the sling is being returned to service after periodic testing, the tags shall be marked with the test date and name of the testing activity. If, for any reason, slings are assigned to another boat of like design (type and mark), the boat number on the tag shall be changed accordingly.

**583-7.5.4 LIFTING FITTINGS.** New boats shall be delivered with a hoisting test data label plate which identifies the DHW of the boat and the weight of the boat for the 50 percent overload test. Repair activities shall update the hoisting test data label plate by stamping or engraving the data and activity certifying subsequent overload tests of the boat's lifting fittings. If there is no hoisting test data label plate, a new label plate may be fabricated in accordance with the applicable Hoisting Arrangement and Details drawing and installed in the vicinity of the coxswain's station. This includes the lifting frame.

**583-7.5.5 IN-SERVICE TAGS.** Slings shipped with new boats or received from stock should be marked by the receiving activity to indicate the date the slings are actually put into service. This is done to avoid unnecessary retesting when new slings, which were load tested during manufacture, have been kept in storage before issue. The date placed in service should be engraved or punched on the In-Service tag provided with the sling (see [Figure 583-7-1](#)). If no tag is provided, an In-Service tag may be fabricated by the receiving activity and attached to the lifting ring in a manner that does not interfere with any of the working surfaces of the sling. The In-Service tag should indicate the date placed in service and the activity placing the sling in service. The original load test tag shall not be removed. The in-service date is the date the sling is placed on a boat aboard ship or begins use by a shore facility. For new ship construction, service begins when the slings are first used for handling the boat after delivery to the shipbuilder.

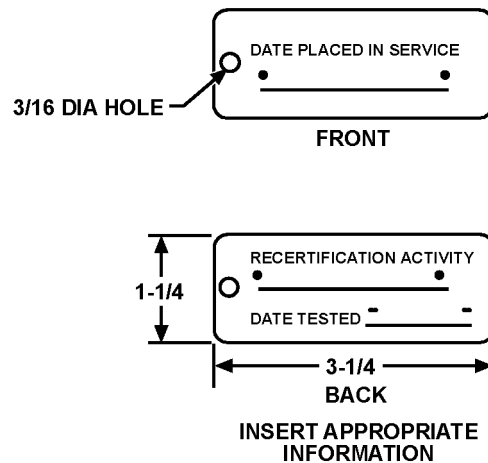


Figure 583-7-1 In-Service Tags

## 583-7.6 RECORDS OF INSPECTION AND TESTS

583-7.6.1 **BOAT LOG.** Boat custodians are responsible to maintain a record of inspections and tests of hoisting fittings and gear, including applicable hoisting fittings, lifting frame, rigid bail, shackles, rings, and slings, for each assigned boat. Records shall include the date, and shall describe the condition of the parts inspected and tested. These records shall be kept as a part of the normal boat log. See also [paragraph 583-1.2.2](#) for boat record requirements.

583-7.6.2 **REPAIR ACTIVITIES' RECORD OF INSPECTIONS AND TESTS.** Repair activities shall keep a record of inspections and tests of hoisting fittings, rigid bails, shackles, rings, and slings. Records shall show the date and boat registry number, and shall describe the condition of the parts inspected and tested. Results of these inspections and tests shall be entered in the material history of the boat by the ship or other cognizant activity concerned.

## 583-7.7 SIDE GUYS

583-7.7.1 **GENERAL.** Side guys (steading lines for slings) are required on certain boats where the hoisting fittings are below the center of gravity. Their purpose is to prevent the boat from rolling to one side while being hoisted. Wire rope shall not be used. These guys are not intended to take any part of the weight of the boat in lifting; therefore, no separate load test is required. However, side guys shall be properly installed prior to conducting overload tests on the boat's hoisting fittings.

583-7.7.2 **RIGGING FIBER LINE SIDE GUYS.** The following procedure should be used in rigging side guys:

- a. Secure a fiber guy to each padeye or cleat intended for its use.
- b. While the boat is onboard ship, take a strain on the slings, adjust length of side guys so that they will not take the hoisting strain.

- c. Secure side guy with a rolling hitch backed up by a half hitch and marry the bitter end of each side guy to the standing part with a length of marline.

## SECTION 8 MAINTENANCE

### 583-8.1 INTRODUCTION

In accordance with the OPNAVINST 4780.6 Series, proper boat maintenance is the responsibility of the user command/activity. Each user command/activity or custodian will establish a boat maintenance program following policies and procedures contained in the OPNAVINST 4790.4 (series). Additional boat maintenance procedures will be established by NAVSEA, as required. NAVSEAINST 4790.8 (series) requires implementation of the Maintenance and Material Management (3-M) system, in accordance with OPNAVINST 4790.4 (series), for all Navy boats except for boats operated and maintained by civilians. Note that the instructions do authorize use of the 3-M system for boats operated and maintained by civilians if the support contract specifically includes the use of 3-M as a requirement.

**583-8.1.1 PLANNED MAINTENANCE SYSTEM.** Preventive maintenance for all boats shall be in accordance with the requirements of OPNAVINST 4790.4 (series). Planned Maintenance System (PMS) preventive maintenance shall be conducted in accordance with the applicable Maintenance Index Page (MIP) and Maintenance Requirement Cards (MRCs).

**583-8.1.1.1 Maintenance Support Documentation.** Technical manuals from the manufacturer and the Navy should be used to support the performance of all maintenance. In the event of conflicting procedures, PMS MRC instructions take precedence.

**NOTE**

Insist on good housekeeping at all times.

### 583-8.2 ALUMINUM BOATS

**583-8.2.1 GENERAL.** Special requirements for maintaining aluminum boats are described in the following paragraphs.

**583-8.2.1.1 General Characteristics.** Aluminum is a lightweight material. It is for this reason that it is used for boats and craft. It is strong, weldable, and has excellent general corrosion resistance when proper marine alloys are employed. In the past, most interior spaces of naval boats were left unpainted in aluminum construction. There are some precautions in the handling of aluminum, however, that shall be observed if the full corrosion resistance capability of aluminum is to be achieved. As with many materials, although mild acidic solutions cause slight damage, it is necessary to avoid caustic solutions of any sort, such as sodium hydroxide, sodium carbonate, or sodium phosphate as they cause severe etching of the aluminum, possibly resulting in perforation.

**CAUTION**

Stringent precautions shall be taken in the case of mercury. The presence of mercury, even in small amounts, causes severe corrosive attack and under no circumstances are the two metals to be permitted to come in contact with each other.

By observing these precautions, routine maintenance can be kept to a minimum.

**583-8.2.2 GALVANIC CORROSION.** Galvanic corrosion caused by dissimilar metal contact with aluminum is a problem that can occur. In marine applications, aluminum and its alloys are frequently the anodic metal and could corrode in preference to most other common contacting metals except zinc and magnesium. For galvanic corrosion to occur, the following conditions must be satisfied:

- a. A cell is present, consisting of at least two metals having different solution potentials and in electrical contact with each other (no matter how indirect).
- b. A conductive medium (electrolyte) is present between the metals.

**583-8.2.2.1 Galvanic Corrosion Locations.** Galvanic corrosion normally occurs with different metals, while crevice corrosion (another form of galvanic action produced by ion concentration) can take place with improper joint design involving different members of the same alloy. In addition, the metallic compounds in a copper bearing or mercury bearing antifouling paint applied to an aluminum hull can result in a galvanic type of attack. Antifouling paints currently specified for aluminum boats do not contain copper or mercury. It is important to recognize that the amount of corrosion resulting from galvanic action is not a criterion of the metal's inherent resistance to corrosion. The extent of galvanic corrosion will vary greatly with the type of dissimilar metals involved and the nature of the corrosive environment. For example, the rate of galvanic corrosion in atmospheric exposures is far less than that under immersed conditions because of the substantial absence of an electrolyte or its low conductance when present. In immersed conditions, particularly in seawater, a strong electrolyte is present continuously and serious galvanic corrosion can result. For this reason, the use of dissimilar metals below the exterior and interior water line shall be avoided. Three applications account for most galvanic corrosion situations:

- a. Connections of aluminum deck house bulkheads to a steel boundary bar.
- b. Attachment of steel or brass fittings to an aluminum structure.
- c. Dissimilar metal components such as rudders and propellers on an aluminum hull.

**583-8.2.3 CLEANLINESS.** Cleanliness is always important. Dirty, wet bilges or accumulations of dirt and water anywhere, are to be avoided. A freshwater rinse on a regular basis is generally sufficient. Adherent soil and greasy deposits can be removed using cleaners conforming to MIL-C-22230. Painted areas retain a good appearance for a long period. Regular wash down is all that is needed to maintain appearance.

**583-8.2.4 FORMING ANNEALED ALLOYS.** Forming 5086 and 5456 alloys at temperatures in the range of 150 to 400°F may lower resistance to corrosion and stress corrosion cracking, particularly if the stock is being held at these temperatures for prolonged periods. If the starting stock is in the annealed temper, forming at temperatures in excess of 400°F or reannealing after forming at lower temperatures is recommended. The primary advantage to hot forming annealed stock is to reduce the rate of strain hardening.

583-8.2.5 FORMING STRAIN HARDENED ALLOYS. Forming the foregoing alloys in strain hardened tempers presents a little different problem, since the effects of temperature on mechanical properties, as well as corrosion characteristics, shall be considered. A satisfactory compromise is to form in the temperature range of 400 to 450°F. Heating stock to 450°F for 30 minutes results in approximately 5 percent reduction in the tensile and yield strength. Hot forming is beneficial in processing the alloys in question in the strain-hardened tempers.

583-8.2.6 REFORMING DAMAGED PARTS. Formed parts of a boat that have been damaged shall not be reformed using heat. When possible, it is suggested that the damaged part be replaced by new material formed for the job. Distorted plates whether caused by damage or the heat of welding, shall not be straightened by flame quenching (torch heating followed by spray cooling). The method does not work well and can result in overheating or melting as described previously. If the distortion does nothing more than detract from appearance, it should be left alone. Distortion in shapes should be straightened cold, using jacks as necessary. Distortion in plate panels may be relieved either cold or by making a saw cut in the center of the panel and rewelding it. The normal shrinkage associated with aluminum welding will tend to remove the distortion.

583-8.2.7 PAINTING. Aluminum marine alloys under proper care are resistant to saltwater corrosion. In some cases commercial aluminum hull boats have been in saltwater service for several years with the hull left unpainted but with proper cathodic protection. Corrosion, from any source, will attack at the point of least resistance. It is important therefore, that proper maintenance be given to painted systems. It should also be noted that properly applied paint films have excellent adhesion to aluminum and that problems of spalling, cracking, rust streaks, and chipping, prevalent in steel and wood construction, are greatly minimized with aluminum. Additional information can be found in NSTM Chapter 631, Volume 1 -S9086-VD-STM-010, Volume 2 -S9086-VD-STM020, and Volume 3 -S9086-VD-STM-030.

583-8.2.7.1 Underwater Hull on Boats that Require an Antifouling Coating System. The underwater hull should only be coated with an approved non-copper bearing antifouling system as directed by NAVSEA. Direct application of copper antifouling will severely damage the aluminum hull plating. Antifouling materials used in aluminum underwater hull coating systems are toxic. Personnel engaged in the application of antifouling coatings are cautioned to follow all safety procedures specified for the application of this material by the paint manufacturer and appropriate Maintenance Requirement Cards (MRC). Additional information can be found in NSTM Chapter 631.

583-8.2.8 CATHODIC PROTECTION. Aluminum boats are usually equipped with sacrificial anodes to offset adverse effects of dissimilar metal connections, stray electrical currents, improper grounding, and other sources of electrolytic corrosion. These anodes provide a continuous flow of protective current to corrosion susceptible areas but are sacrificed in doing so. In addition to external hull anode protection, some installations contain anodes that are provided for protection in bilge areas, ballast tanks, sea chests, and overboard discharges. See paragraph 583-8.5 for additional information on cathodic protection.

583-8.2.9 SEACOCKS. Seacocks are usually bronze or stainless steel. If bronze, they will be fitted to the hull with some type of insulation such as neoprene gaskets and PVC ferrules and should be checked periodically for their integrity. If an insulation pad is used, it should be checked for signs of crazing or cracking. Some systems may incorporate a waster piece or an anode as part of the seacock installation. It should be routinely checked and replaced when necessary.

583-8.2.9.1 Lubricating Aluminum Fittings. Aluminum body valves should be checked periodically for signs of freezing. Some assemblies use aluminum-to-aluminum moving parts which can gall. Where possible, moving aluminum parts should be lubricated or replaced with a compatible metal. Some aluminum fittings and valves

may require periodic breakdown for inspection, replacement of anodic waster pieces, rerouting systems, and so forth. It is important that all aluminum fittings be reassembled with an approved thread lubricant. A mixture of 50 percent zinc dust in 50 percent mica flour in silicone grease or molybdenum disulfide is a suitable vehicle which will perform an antiseize function. The viscosity of the compound is such that it remains within the joint and forms a tight seal. It should also be non-hardening to facilitate disassembly. The product should be free of lead, tin, or graphite.

583-8.2.9.2 Pipe Hangers. Aluminum piping systems are normally supported by aluminum hangers and brackets and should pose no particular problem. If installed in areas such as ballast tanks, bilges, void spaces, and other areas of high humidity or contaminant concentrations, the hangers should be checked periodically for signs of crevice corrosion of the pipe under the hanger clamp. Some systems may be installed with a layer of rubber or fiberglass tape surrounding the pipe before being fastened to the hanger. Such installations minimize vibration with a subsequent reduction in sound levels. These should be checked for corrosion.

583-8.2.9.3 Propeller Shafting. Propeller shafts are generally stainless steel or monel. If replacement is necessary, they should be replaced with equal type material. When pulled, the area within the shaft log and stuffing box should be inspected.

583-8.2.9.4 Shaft Buildup. In cases where a shaft has excessive scoring in way of the shaft strut bearings and shaft log seals, the deteriorated or worn area can be refurbished by a thermal spray process. After the worn areas have been machined to sound metal, the spray process applied according to MIL-STD-1687 (Thermal Spray Processes for Naval Ship Machinery and Ordnance Applications) can be used to build up the shaft to the required diameter. The buildup process does not replace the strength of the removed metal; therefore, the shaft shall not be machined below minimum diameter requirements.

583-8.2.10 MOORING AND TOWING DECK FITTINGS. Most aluminum naval craft have aluminum mooring and towing fittings. These are welded directly to an aluminum doubler pad or insert plate. Fittings and weld areas should be inspected periodically for beginning signs of cracking or other failures due to overload conditions.

583-8.2.10.1 Dissimilar Metal Fittings. If dissimilar metal fittings are used, they will be bolted through the deck. The bolting arrangement should consist of insulated bolts and insulation of the fitting base from the deck.

If such a system has been installed, care should be taken to maintain the sealing bead around the outside of the fitting. A polysulfide product can be formed into a fillet around the outside to prevent seawater from seeping beneath the fitting.

583-8.2.10.2 Deck Equipment Reinstallation. If it is necessary to remove a piece of deck equipment, care should be taken to reinstall it with proper insulation. If gasketing material is used between the faying flanges, it should be replaced with a similar kind. Under no circumstances should red lead, canvas, or any other wicking type material be used as an insulation gasket. Synthetic rubber is acceptable; the material selected, however, should not be subject to cold flow, cracking, or creeping. A new gasket should be used whenever possible.

583-8.2.11 ADDITIONAL REQUIREMENTS. Additional requirements for maintenance of aluminum boats are contained in the following paragraphs:



**CAUTION**

The nature of aluminum hull boats merits special attention for mooring location, particularly next to steel ships, buoys, and piers. Under these conditions, it is essential that non-conducting mooring lines be used, as well as insulating camel sections, to prevent electrical contact of the aluminum hull with a steel structure, since this could result in galvanic corrosion of the aluminum hull.

583-8.2.11.1 Mooring. Since aluminum is more electrochemically active than other materials of construction used in marine hulls, it is necessary to avoid direct metal coupling of aluminum hulls to steel hulls, buoys, and docks. For example, when tying aluminum craft to a common buoy to which steel hulled craft are tied, lines or hawsers should be made of a non-conducting material such as nylon or manila hemp. In the event a metallic chain or cable is used, it is essential that there be an insulation line or break in the chain or cable. This can be effected by an insert of a nonmetallic non-conducting segment.

583-8.2.11.2 Shore Power. Shore power should be taken aboard the craft either through a Galvanic Isolator or a 1:1 Isolation Transformer via the craft's shore power receptacle. The system utilizes the Galvanic Isolator or Isolation Transformer to conductively separate the shore feeder conductors from the electrical load circuits on the boat. The shore-grounding conductor is used to ground the noncurrent carrying parts of the isolation transformer but is conductively separate from the boat ground. The Isolation Transformer or Galvanic Isolator effectively separates the aluminum hull from all other hulls on a common grounding circuit.

583-8.2.11.3 Gangways and Welding Machines. Gangways with metal runners can be a connecting path. They should be electrically insulated from the hull during docking. The electrolysis corrosion caused by welding and associated operations resulting from improper grounding, can be overcome by proper design in grounding of the welding machines and accessory equipment. These grounds should be as outlined in NSTM Chapter 074, Volume 1, Welding and Allied Processes.

583-8.2.11.4 Isolating Welding Sets. All DC cable for welding motor generator sets including resistors should be installed on the craft where the welding is to be done. A welding generator on one craft, grounded to that craft, shall not be used to perform welding on another craft. If it is not possible to install the welding machine onboard, it should be installed on shore in a location as close as possible to the craft. The generator shall be grounded directly to the craft in which the welding is being done. Care should be taken to ensure that no intermediate contact of the lead and ground cables is made between the generator and the craft. No ground connections shall be made between the craft and the shore or adjacent craft, for welding. Care should be taken to avoid cables hanging or sagging between the craft and shore.

583-8.2.11.5 Battery Chargers. Battery chargers shall be located aboard the boat being serviced during the charging operation, or the batteries should be removed and charged on shore.

583-8.2.11.6 Bilge Flush. Bilges and voids should be inspected periodically for signs of corrosion. Periodic fresh water rinsing and cleaning of bilges will minimize heavy concentration of undesirable contaminants. In the absence of freshwater rinsing, clean saltwater rinses are acceptable. The bilges should be pumped dry after rinsing and kept as dry as possible thereafter.

583-8.2.11.7 Drydocking. Inspection of aluminum boats for corrosion is usually confined to the interior structure, particularly the bilge area, and the underwater outside surface of the hull.

583-8.2.11.7.1 Bilge Area. The bilge areas, unless properly protected and maintained by good housekeeping techniques, may be subject to pitting type corrosion where bilge water and sediment remain in long time contact with the aluminum. In the event corrosion does occur, it will probably be found in the area where the bilge water is retained for the longest time.

583-8.2.11.7.2 Bilge Zinc Anodes. The condition of galvanic anodes used to suppress bilge area corrosion should be checked to assure continued protection by the anodes. Anodes that have been consumed should be replaced with new material, and those not consumed should be cleaned by stainless steel wire brushing at periodic intervals.

583-8.2.11.7.3 Exterior Hull Surface. The exterior surfaces of the hull should be examined to assess the condition of the antifouling paint systems and to look for localized corrosion resulting from galvanic attack between aluminum and non-aluminum components such as those found in the through hull fittings, the bearing housing, and struts for the shaft and propellers. Also check for pitting corrosion on the transom in the vicinity of the exhaust. Examine all structural welds; especially in the aft bottom area; to confirm there has been no cracking within the welds or in the plate adjacent to the welds as the result of vibration or fatigue.

### **583-8.3 STEEL BOATS**

583-8.3.1 PAINTING, SAND-BLASTING, AND SCRAPING. Painting and scraping of steel boats shall be done according to NSTM Chapter 631. Critical coating requirements specified by NSTM Chapter 631 are not applicable to craft covered by Chapter 583, Volume 1 unless otherwise requested by the craft custodian.

583-8.3.2 CATHODIC PROTECTION. Cathodic protection of steel boats shall be accomplished according to [paragraph 583-8.5](#).

583-8.3.3 STRAY CURRENT PROTECTION. Welding equipment hook up and grounding connections shall be done according to NSTM Chapter 074, Volume 1.

### **583-8.4 GLASS REINFORCED PLASTIC BOATS**

583-8.4.1 GLASS REINFORCED PLASTIC BOAT HULLS. Glass Reinforced Plastic (GRP) (also referred to as fiberglass) boat hulls generally require little maintenance other than cosmetic painting, except in cases of severe damage. Maintenance of cathodic protection, if installed, is done in accordance with PMS procedures.

583-8.4.2 GLASS REINFORCED PLASTIC BOAT CONSTRUCTION. The following is a brief description of procedures followed in fabricating GRP boats. The majority of the hulls are fabricated in female molds, the interiors of which are sprayed with a gel coat resin before lay-up of the hull commences. This results in a smooth outer hull surface. To this gel coat, layers of glass reinforcement, coarsely woven cloth (woven roving) or other forms, are laid in the mold and impregnated with resin.

583-8.4.3 GLASS REINFORCED PLASTIC BOAT CONSTRUCTION TYPES. There are two basic types of construction used in fabricating glass reinforced plastic (GRP) Navy boats: single skin and sandwich. Boats with

single skin construction are generally laid up with one ply of mat adjacent to the gel coat and varying numbers of plies of reinforcement to attain required design hull thickness. Sandwich construction is generally achieved by the use of mat and glass reinforcement skins sufficiently strong and firmly bonded to a thicker, lightweight foam. This type of construction increases the strength and rigidity of the flat panel without the use of a solid laminate. The bond strength between the GRP skins and core is extremely important to the panel performance.

**583-8.4.4 PAINT REMOVAL.** Old paint coats on plastic boats shall not be removed by applying heat. Mechanical means of paint removal must be used carefully to avoid removing the gel coat. Details on painting are contained in applicable Boat Information Books (BIB's) and NSTM Chapter 631. Additional guidance on inspection and maintenance of plastic boats is contained in NAVSEA 0900-LP-006-0010, Reinforced Plastics Preventive Maintenance and Repair Manual, for guidance.

**583-8.4.5 PREVENTIVE MAINTENANCE.** Preventive maintenance for all boats is imperative, particularly for GRP boats, since extensive deterioration can develop if delaminations, punctures, and cracks go uncorrected. For this reason the following guidance applies to GRP boats. Refer to NAVSEA 0900-LP-006-0010, Reinforced Plastics Preventive Maintenance and Repair Manual, for guidance on repairs.

**583-8.4.5.1 Inspection.** GRP hulls are normally smooth and fair. Abnormal indentations, bulges, cracks, or craze marks should be closely examined on both the exterior and interior of the hull, whenever possible, in accordance with PMS procedures.

**555-8.4.4.2 Loose Fastenings.** Fastenings penetrating the GRP structure should be regularly checked for tightness. Loose bolts will result in elongated holes, sheared-off fastener heads, and localized stresses causing cracks, fractures, or delaminations. Fastenings for cleats and handrails are particularly susceptible to loosening and should be checked and tightened regularly. Door hinges, deck plates, cabin fans, and machinery fastenings also have tendencies to work loose and should be checked regularly.

**555-8.4.4.3 Propeller, Shaft, and Strut.** While the boat is stowed in chocks (not waterborne) the propeller shaft should be checked for nicks, bends, and evidence of erosion, corrosion, or electrolysis. If necessary, the propeller should be removed and repaired or replaced. Work the propeller shaft by hand to check its fit in the strut bearing. If side play is considered to be excessive and causing vibration, the strut bearing should be replaced.

## **583-8.5 CATHODIC PROTECTION OF BOATS**

**583-8.5.1 GENERAL.** Cathodic protection is critical on steel and aluminum boats and on some types of wood or composite hull boats having large amounts of electronic equipment installed, such as torpedo retrievers and large support craft. The Technical Data Package (TDP) should provide details for hull anodes for a specific boat.

In the absence of specific technical direction on the boat's TDP, the following guidance is provided:

- a. Certified pure zinc anodes are installed on boats to provide cathodic protection. Aluminum and magnesium anodes may be used on some applications such as outdrives or outboard engines, but are not authorized for use on Navy boat hulls.
- b. Anodes are to be inspected and replaced in accordance with Planned Maintenance System (PMS) direction. If inspection finds sufficient anode material remains to provide protection the active surface of the anode should be power brushed to remove any calcareous buildup and improve the anode output.

- c. Zinc anodes should conform to MIL-A-18001, and be installed according to NAVSEA dwg 805-921865. Instructions regarding anode quantities and installation are detailed in NSTM, Chapter 633.

583-8.5.2 INSTALLATION OF ALUMINUM HULL ANODES. The following instructions provide supplementary information to NAVSEA Dwg. No. 805-921865 for installation of zinc anodes on aluminum hull boats:

**CAUTION**

Magnesium and aluminum anodes shall not be used on aluminum hulls.

**CAUTION**

Anode faces shall not be coated or covered in any manner except for masking while painting adjacent surface.

- a. All anodes shall be installed directly on the hull, over the hull coating, and attached with aluminum studs welded to the hull and stainless steel locknuts. To eliminate binding between the nuts and studs, use an acceptable antiseize compound (a compound consisting of equal parts by weight of petrolatum and zinc dust of 200 mesh fineness may be used).
- b. Where thickness of the hull is not considered adequate to support the attaching studs and anodes, a doubler plate should be coated with the same paint system as the hull and installed before attaching the anodes.
- c. ZTS anodes can be modified for stud attachment by drilling a 3/8-inch hole centered 1/2 inch from each core end. An 11-inch center-to-center stud location is necessary. Aluminum studs, 1/4-inch minimum diameter should be used.
1. Distribute anodes about the hull similar to steel hull ships (see NSTM Chapter 631), one-third in the stern area, and the remaining anodes equally divided port and starboard approximately amidships. ZHS and ZHC anodes shall be bolted with the long axis fore and aft. ZTS type anodes shall be bolted with the long axis fore and aft.
  2. Anodes shall not be installed in locations interfering with the operation of struts, propellers, propeller shafts, or rudders. Installation in paths of high velocity waterflow should be avoided whenever possible. Anodes shall be installed in the vicinity of dissimilar metal junctions. Anodes shall be installed in locations always submerged (light ship condition) while the ship is not moving.
  3. On aluminum high-speed boats in which the bow rises from the water, anodes shall be installed in areas that rise out of the main flow. Anodes shall be installed so that they are submerged when the boat is moored.
  4. Internal bilge anodes shall be installed in locations where the anode is submerged whenever water is present, generally near the bilge pump input. A zinc anode shall be installed in each area where water is held or trapped. All stringers shall be provided limber holes (large enough to avoid clogging) that drain into the immediate keel area.

## 555-8.6 ENGINE MAINTENANCE

583-8.6.1 ENGINE MAINTENANCE GENERAL. Engines installed in Navy boats must be operated and maintained at the highest practical level to provide maximum reliability, readiness, and efficiency. Engine maintenance requirements are provided in several publications such as:

- a. Planned Maintenance System documentation
- b. The engine manufacturer's technical manuals
- c. NSTM Chapter 233, Diesel Engines
- d. NSTM Chapter 220 Volume 3, Corrosion and Contamination Control for Diesel Engine Cooling Water Systems
- e. Applicable BIB

583-8.6.2 ENGINE MAINTENANCE RESPONSIBILITY. Engine maintenance is performed by the activity to which the boat is assigned. Daily maintenance check off by boat crews is of particular importance. Utilize the Planned Maintenance System (PMS) to properly maintain the engine.

583-8.6.3 WARNING CONCERNING ENGINE HIGH PRESSURE FUEL LINES. Newer model diesel engines have fuel systems which operate with very high pressures, especially when compared to older two and four cycle diesel engines. As an example, many Navy standard ship's boats have newer Cummins "Quantum" Series Diesel engines. Quantum series engines are easily identified by the "Q" prefaced in their model type (e.g. QSB, QSC, QSL, etc.). This engine type has a fuel pump, high-pressure fuel lines, and fuel rail which contain very high-pressure fuel. NEVER loosen any fitting while the engine is running or within 15 minutes after the engine is shut down. Personal injury and property damage may occur. Refer to the applicable engine technical manual for fuel system servicing.

## 583-8.7 GUIDANCE FOR FLEET PERSONNEL ON PREVENTIVE MAINTENANCE AND REPAIR OF BOATS AND LANDING CRAFT

583-8.7.1 INITIAL INSPECTIONS. On new boats in use, visual inspections should occur frequently during the initial 6 months' use period. As service experience is gained following this use period, periodicity between inspections should follow the PMS card requirements.

### NOTE

PMS periodicities are the maximum interval between maintenance actions. Activities may perform maintenance actions more frequently if required by the boat's operating tempo or conditions.

583-8.7.2 REFERENCE MATERIAL. Boat custodians must use PMS documentation for boat preventive maintenance. Additional information is available in the Boat Information Book (BIB), applicable U.S. Navy Technical Manuals, and commercial technical manuals from the equipment manufacturers included in the boat TDP for maintenance scheduling and repair techniques.



## SECTION 9

### PRESERVATION OF BOATS ASHORE

#### 583-9.1 PRESERVATION APPLICABILITY

583-9.1.1 PRESERVATION FOR TURN IN TO STOCK. Proper preservation of a boat to be turned in to stock is critical to successful storage. Depending on the boat's size and the available space at a stock point, a boat may be stored outside. Even when a boat is stored under a covered storage structure, or in a warehouse, it remains somewhat exposed to the elements, especially changes in temperature and humidity.

583-9.1.2 PRESERVATION FOR LOCAL STORAGE. Boats stored locally as battle spares, loaner boats, rotational assets, etc. may require preservation depending a variety of factors, including time in storage, storage location and weather conditions. The custodian activity is responsible to ensure boats in temporary storage are preserved to the degree necessary to ensure their service life is not adversely affected. Boats in local storage are to remain intact (i.e., they are not to be cannibalized).

#### 583-9.2 PRESERVATION PROCEDURES

583-9.2.1 CUSTODIAN RESPONSIBILITIES FOR PRESERVATION. Prior to shipment and/or delivery of a boat to a stock point or other storage facility, the custodian activity is responsible to ensure proper preservation has been accomplished. It is essential that there be no delay in accomplishing these procedures once a boat is designated for return to stock or for storage. Upon receipt of a boat (new or used), the storage facility is responsible to check the boat to ensure it had been properly preserved.

583-9.2.2 PROPULSION SYSTEM PRESERVATION. The instructions for preservation of engine, marine gear, and propulsion unit shall be accomplished in accordance with the Planned Maintenance System (PMS) procedures and the propulsion equipment manufacturer's recommendations. Manufacturer's recommendations are found in the equipment manuals in the Technical Data Package (TDP) provided with the boat. Additional guidance can be found in appropriate PMS Maintenance Index Page (MIP). Propulsion system preservation methods are intended to displace dirt, water, and oil, and leave a complete protective film on applicable surfaces. Excess preservative is to be drained off to prevent the formation of stagnant pools that may, with age, tend to solidify and complicate putting an engine back into service.

583-9.2.3 OVERALL BOAT PRESERVATION. Boat preservation includes the following:

- a. Drainage has been accomplished by trimming the boat, opening the existing drain plugs, or drilling drain holes.

**CAUTION**

Drain bilges under guidance of local regulations for HAZMAT.

- b. Layup for storage has been accomplished in accordance with Planned Maintenance System (PMS) procedures.

- c. Fuel tanks, drain tanks, expansion tanks, potable water tanks, and sanitary water tanks are dry or preserved for storage. If applicable, the connection to these tanks shall be broken at the lowest point and the system completely drained. Waterproof tags shall be attached to all broken connections, closed or open valves, filling connections, and to the helm or tiller to indicate the necessity for reconnection or replacement of plugs before filling tanks. Secure openings to fresh water tanks after draining to prevent contamination.
- d. The engine cooling and exhaust system has been drained and the engine and accessory equipment have been preserved. Refer to [paragraph 583-9.2.2](#) for preserving the propulsion system.
- e. All fresh water has been removed from piping, freshwater tanks, engines, pumps, exhausts, and bilges. All drain plugs have been removed and attached in a packet to the steering wheel or tiller. The boat is properly trimmed on its cradle/trailer to facilitate drainage.
- f. All dunnage, lifejackets, and rope are removed.
- g. All exterior surfaces, cabins and other interior spaces, lockers, holds and bilges have been cleaned and limber holes and scuppers are unobstructed.
- h. All surfaces intended to be painted have been painted to ensure prevention of rust or other corrosion in storage.
- i. Landing craft, work boats or other large boats that are exposed to the weather when stored are to be protected from entrance of water, dirt, or contaminants into the interior spaces. Vents remain open for air circulation. Engine exhausts are plugged with damage control type wood plugs, or otherwise suitably sealed.
- j. All fittings, piping, shafting, propellers, and bearings have been preserved with a coating of MIL-PRF-16173E, water displacing soft film (NSN 8030-00-244-1296).
- k. Propellers less than 24 inches in diameter, and those, whose blades protrude beyond the keel line, are removed and stored within the boat. Shaft keys, propeller nuts, cotter pins, and other parts shall be replaced on shaft and secured as necessary. Do not apply contact preservative to rubber. Propellers larger than 24 inches in diameter and not protruding beyond keel line need not be removed from the shafts.
- l. All canopies are stored in place (if applicable), or removed, dried and stored separately in a dry secure location on the boat or packaged in water resistant packaging and stored in areas exposed to the weather on the boat.
- m. The hull registry number is either molded or welded on the transom or otherwise legibly marked on the hull of the boat. If a hull registry number, which is only painted on the hull, is removed during repairs, it shall be replaced immediately after repairs to that area are completed.
- n. Check to be sure batteries have been removed after preservation is completed.



**SECTION 10**  
**BARGES AND GIGS**

**583-10.1 CONVERSION OF STANDARD BOAT**

583-10.1.1 STANDARD ITEMS APPROVAL AND INSTALLATIONS. All conversions of Navy standard boats to barges and gigs shall be accomplished in a cost effective manner.

**583-10.2 STANDARD ITEMS**

583-10.2.1 CONVERSION OF STANDARD BOATS TO BARGES AND GIGS. Barges and gigs, as outlined in [paragraph 583-1.3.3](#), are authorized for installation of standard items listed in [Table 583-10-1](#). Installation of these items shall be approved by type and fleet commanders for a float commands and by the immediate senior in command for shore commands. In no instance shall installation of standard items and conversions be accomplished which will increase weight to exceed the hoisting weight shown on the boat's hoisting label plate or impair operational and performance characteristics or result in a decrease in safety. Installation of items on gigs beyond the standard items is not authorized.

583-10.2.2 STANDARD ITEMS APPROVAL AND FUNDING. Conversion of standard boats to barges and gigs, will be funded by Type or Fleet Commanders. Serviceable items or components not in conformance with [Table 583-10-1](#), already installed in assigned boats, will be required to be removed when item is no longer serviceable. Buffed and polished stainless steel fittings, molding, and strips should be used wherever chrome-plated items are permitted, particularly if the item is commercially available at reasonable prices.

583-10.2.3 PAINTING OF BARGES AND GIGS. It is recommended that barges and gigs be painted in accordance with [Table 583-10-2](#) using polyurethane or epoxy-type paint for decks, hull and boot top stripe, and anti-fouling bottom paint below the boot top stripe. It is also recommended that barges and gigs which are in continual use (not hoisted at frequent intervals) receive two coats of antifouling paint on the underwater body.

**Table 583-10-1** Standard Items for Barges and Gigs

Standard Items	Barges	Gigs
Deck and engine cover caulked 2		
Cabin trim		
If wood-varnish finish		
Linoleum on flats or suitable indoor/outdoor carpeting (fire retardant 3)		
Seat cushions and curtains		
Ladders, wood, varnish finish		
Kick plates and treads, CRES, polished		
Water closet		
Galley		
Swimmer's platform		
Chrome plate 4		
Handrails		
Flagstaff, jackstaff and mast		
Sockets		
Sockets		

**Table 583-10-1** Standard Items for Barges and Gigs - Continued

Standard Items	Barges	Gigs
Bow lettering, nocks, arrowheads, and stars 5		
Portable rings		
Interior lighting fixtures		
Fire extinguisher bracket		
Chain plate		
Taffrail and bow rail		
Cleats		
Beading and stem band 6		
Horn, windshield fittings (less wipers)		
Chocks		
Towing post (if metal)		
Engine control		
Steering wheel (metal portions)		
Searchlight		
Deck vents and fuel covers		
Chafing plate 7		
Hatch moldings and fittings		
Door and ladder fittings		
Emergency tiller plate		
Bell, bracket, and stand		
Appropriate communications equipment 8		
<p>NOTES:</p> <ol style="list-style-type: none"> <li>1. Boats converted and used as barges and gigs generally are standard U.S. Navy designs. Non-standard commercial boats may also be assigned for flag officer's use as barges. Those items which are welded or otherwise affixed to the hull in such a manner that excessive expenditures would be required for their removal and replacement shall not be chrome-plated.</li> <li>2. Barges are authorized to have herringbone decks of unvarnished teak or herringbone decks consisting of varnished mahogany margins, king plank, and filler pieces with Alaska cedar or mahogany strakes. Caulked decks, if installed on standard craft being modified as gigs, shall not be removed.</li> <li>3. Vinyl tile may be used in place of linoleum. Color is to be in harmony with cabin interior.</li> <li>4. Where applicable, only the exposed portions of the items designated shall be chrome-plated. Stainless steel fittings shall not be chrome-plated as the purpose for the installation of these fittings is to avoid the cost of chrome-plating. Stainless steel fittings shall be polished.</li> <li>5. Chrome-plated bow letters, nocks, and arrowheads may be installed on any boat used as a gig.</li> <li>6. Polyurethane fenders are installed on new personnel boats and are selectively back fit by BOATALT on older boats. Maintainability is improved over the traditional white oak with stainless steel bar beading. The urethane fenders shall not be removed when a standard boat is issued as a barge or gig.</li> <li>7. Chafing plate is non-standard equipment which should be installed on transom corner angles (badgers).</li> <li>8. Equipment may be installed, permanent, or portable, to allow sufficient communications for command and safety purposes within the boat control station for the barge and gig operators.</li> </ol>		

**Table 583-10-2** Recommended Colors for Barges and Gigs

<b>Barges</b>		<b>Gigs</b>	
Deck	White/Off White	Deck	Standard Navy Grey
Hull	Black	Hull	Standard Navy Grey
Boot top	3 White Stripe 1 Above Waterline	Boot stripe	3 Red Stripe 1 Above Waterline
Bottom	Medium Green or Tropical Green	Bottom	Black



## SECTION 11

### ANTI-TERRORISM/FORCE PROTECTION AND SPECIAL MISSION BOATS AND CRAFT

#### 583-11.1 GENERAL INFORMATION

The changing mission and mission environment that the Navy supports, require different types of boats and craft. Since 2001, the Navy began procurement of Commercial-Off-The-Shelf (COTS) boats and craft that are used to support harbor patrol and security efforts, Search And Rescue (SAR), barrier tending, and escort duties.

#### 583-11.2 FORCE PROTECTION/ANTI-TERRORISM BOAT TYPES

583-11.2.1 HARBOR SECURITY (HS) AND PATROL BOATS (PB). Boats used to perform patrols, surveillance, and security related functions as required. Hull lengths and types will vary.

583-11.2.2 BARRIER BOATS (BB). Barrier boats are small tugs used to deploy and retrieve barriers in ports and harbors.

583-11.2.3 ESCORT BOATS. Escort boats provide protection for ships and submarines entering and exiting ports and harbors.

#### 583-11.3 FORCE PROTECTION/ANTI-TERRORISM HULL CONSTRUCTION

Boats and craft used as force protection or anti-terrorism assets may be constructed from aluminum, fiber reinforced plastic (GRP), or steel.

583-11.3.1 COLLAR TYPES. Certain hulls may be fitted with an inflatable air chambered collar or a sheath that contains foam surrounding an air filled tube, or a foam filled collar mechanically attached to the hull at the sheer. Information specific to the tube fitted will be found in the BIB.

#### 583-11.4 ENGINES

Individual boats will be fitted with inboard diesel engines or outboard gasoline engines. The type and size of engine depends on craft type and mission.

- a. Gasoline Outboard Engines: Two-or four-cycle-COTS engines.
- b. Inboard Diesel Engines: will be four-cycle COTS engines.

583-11.4.1 PROPULSION UNITS. Boats must be fitted with a means of propulsion and maneuvering. Outdrives or water jets will be fitted on inboard engine configurations.

#### 583-11.5 WEAPONS AND AMMUNITION

Individual security and patrol boats are fitted with weapons foundations and ammunition box foundations and/or munitions lockers. The weapons, weapon mounts and ammunition authorized for each boat is the responsibility of the Weapons Systems and Explosives Safety Review Board (WSESRB). The specific weapons and munitions carried onboard the boat is determined by the force commander depending on Force Protection Condition (FPCON) and/or boat mission and Area of Responsibility (AoR).



## SECTION 12

### LIFE RAFTS AND ABANDON SHIP BOAT

#### 583-12.1 INTRODUCTION

583-12.1.1 GENERAL. An inflatable life raft is one constructed of a coated fabric and inflated to its design shape by air or other gas. The raft is stowed aboard ship for use only in an emergency, as a life raft, when and as directed by the Commanding Officer.

583-12.1.2 TYPES OF INFLATABLE LIFE RAFTS. There are three basic Navy type inflatable life rafts for use throughout the fleet for ships and craft using life rafts with capacities of at least 25 persons. Some craft requiring smaller capacity life-saving devices may use USCG approved life rafts or inflatable buoyant apparatus' as required by mission parameters. The three types of Navy life rafts used are:

- a. Mark-6 (MK-6), 25-person (note: no longer in use).
- b. Mark-7 (MK-7), 25-person, replaces the MK-6.
- c. Mark-8 (MK-8), 50-person.

583-12.1.3 LIFE RAFT SPECIFICATIONS. The following military specifications and instructions apply for the construction of these rafts:

- a. MK-6, MIL-L-24489 (inactive) which includes:
  1. Inflation Equipment, MIL-I-24490.
  2. Rigid container, MIL-C-24491.
  3. Inflation cylinder MIL-C-24604.
- b. MK-7, Commercial Off-The-Shelf (COTS), U.S. Coast Guard approved with modifications provided in U.S. Navy designed container, Contract Number N00104-00-D-ZD00.
- c. MK-8, COTS, U.S. Coast Guard approved with modifications provided in U.S. Navy designed container, Contract Number N00104-01-D-ZD07.

583-12.1.4 ABANDON SHIP BOAT. The ship shall designate one of its boats as the abandon ship boat for marshalling life rafts and recovering survivors during abandon ship situations. An abandon ship boat gear locker shall be installed near the boat. An abandon ship survival bag or case that contains the equipment shown in [Table 583-12-1](#) and the following items shall be stowed in the abandon ship boat gear locker:

- a. Four boat oars (NSN 4220-00-268-9261)
- b. Twenty fathoms (120-feet) of 2-inch circumference nylon rope (NSN 4020-00-753-2887)
- c. Boat cover colored rescue orange with rigging for boats not having a fixed canopy. Shall be approximately 8 feet by 10 feet in size, 18-ounce vinyl or polyurethane coated fabric, UV resistant, heat sealed seams, with grommets installed around its periphery.

The locker shall be similar to NAVSEA drawing number 53711-671-5107293 Survival Equipment Locker for Abandon Ship Boat. The locker will have a label plate inscribed with “Abandon Ship Equipment – Load in boat upon hearing Abandon Ship Signal” attached to the locker.

**Table 583-12-1** Abandon Ship Survival Case Equipment<sup>1</sup>

Item	Quantity	Remarks	Ordering Information
Case, Abandon Ship Survival	1	Pelican Products Torrance, CA	Model 1560NF- Orange color
Bailer, Plastic 2-Quart Capacity	1	Rubbermaid #2885 64-ozs	Commercial
Batteries, Alkaline “D” cell	4		6135-00-835-7210
Blanket, Casualty	4		7210-00-935-6666
Dimenhydrinate, 50 mg Tablets	100		6505-00-116-9660
First Aid Kit	1		6545-00-168-6893
Flashlight, Type II, Style A	1		6230-00-299-3035
Food Packet	10		8970-01-434-3192
Knife, Pocket	1		5110-00-162-2205
Mirror, Signaling Type II	1		6350-00-261-9772
Sea Marker, Fluorescent	1		6850-00-270-9986
Water Emergency Drinking	30	500-ml plastic bottle	8960-00-000-0170
Whistle, Signaling, Type II Plastic	1	Plastic, Type II	8464-00-254-8803

<sup>1</sup> The abandon ship survival bag equipment shall be inspected every 60 months in accordance with NAVSEA drawing 583-5108335 Rev A.. The case shall be sealed and marked with the ship hull number, date packed, and the name of the packing facility.

## 583-12.2 ALLOWANCES AND ISSUES

583-12.2.1 CORRESPONDENCE. All correspondence related to inflatable rafts shall cite type (for example, MK-7) and Mod number. Whenever the status of a life raft changes, the life raft database must be updated. This database can be queried via the Internet at <https://boats.dt.navy.mil/liferaft>. Report all changes to the boat Planning Yard (PY) (see [paragraph 583-1.1.1](#) for contact information).

583-12.2.2 STANDARD SHIPBOARD ALLOWANCE. The allowance of inflatable life rafts for in-service ships is as follows:

- a. For ships with total accommodations greater than 295, life rafts shall be provided for 110 percent of accommodations, including surge or 110 percent of Manpower Authorization (MPA) whichever is greater. The number of rafts provided in excess of the number of rafts required to satisfy 100 percent of accommodations shall not exceed twelve 25-person life rafts or six 50-person life rafts.
- b. For ships with total accommodations less than 295, life rafts shall be provided for 100 percent of accommodations, including surge, or 100 percent of MPA whichever is greater. The total number of life rafts shall be sufficient to retain life raft capacity for 100 percent of accommodations in the event that the largest cluster of life rafts is destroyed. A cluster is defined as life rafts being supported by a common structure. In calculating the number of life rafts required, any fractional value shall be increased to the next higher unit value.



583-12.2.3 CHANGES IN ALLOWANCE. Changes in allowance will be considered by Naval Sea Systems Command (NAVSEA) PEO Ships PMS 325 only upon presentation of information documenting a Chief of Naval Operations directed change to ship's mission, or an official revised Ship's Manning Document, OPNAVINST 5320 (series) causing a change in the ship's accommodations.

583-12.2.4 HOW RAFTS ARE OBTAINED. MK-6 life rafts are being phased out of service. The transition from MK-6 to MK-7 life rafts will involve the inventory maintained by the life raft repair facilities. These life rafts shall be used to replace an inflatable life raft of ships allowance for reasons of loss, survey, or deferral for repair. MK-7 life rafts to replace the MK-6 may be available from the rotatable pool at the closest Navy life raft service facility. If adequate pool stocks are not available, replacement life rafts will have to be ordered. To obtain a new MK-7 or MK-8 life raft, submit the requisition as required by current requisition procedures to Navy Supply Systems Command (NAVSUP), Mechanicsburg, PA. The following National Stock Numbers (NSN) apply:

- a. MK-7, NSN 4220-01-444-6260 (replaces the MK-6 life raft).
- b. MK-8, NSN 4220-01-475-3185 (50-person life raft).

### **583-12.3 REPORTS**

583-12.3.1 MAJOR REPAIR REPORTS. Major repair actions on life rafts shall be reported by certified repair facilities in accordance with NAVSEA S9008-AA-PRO-010 and forms listed therein. The repair shall be described briefly; it shall be identified and the date of release from shipboard and return to shipboard, shall be noted. These completed forms shall be kept on file at the repair facilities for review by the NAVSEA certification team.

583-12.3.2 LIFE RAFT TURN-IN OR EXCHANGE. Naval Supply Systems Command-Weapon Systems Support (NAVSUP-WSS formally NAVICP) Mechanicsburg does not maintain an inventory of life rafts. All life rafts shall be turned in at the nearest certified life raft repair facility for inclusion into the facility's pool for rotation.

583-12.3.3 RECEIPT OF NEW LIFE RAFT REPORT. Ships receiving new type life rafts will submit allowance Change Request/Report, NAVSUP Form 1220 to NAVSUP Form 1220 to NAVSUP-WSS and NSWC Detachment Norfolk according to NAVSEAINST 4441.1.

### **583-12.4 DISPOSALS AND SURVEYS**

583-12.4.1 DISPOSAL OF LIFE RAFTS. An inflatable life raft shall not be disposed of or surveyed by ships' force except as noted in the following paragraph. Rafts that are determined to be unrepairable by designated repair and certification facilities shall be disposed of or surveyed in accordance with NAVSEA S9008-AA-PRO-010, Inspection, Test, and Repair Procedures for Life Raft Inflatable MK-7 and MK-8.

583-12.4.2 REPLACEMENT AT END OF 25-YEAR SERVICE LIFE. As part of pre-inspection and inflation testing, any MK-7 or MK-8 life raft found to be 21 years or older prior to being repacked shall be considered unfit for further service and surveyed.

583-12.4.3 LOSS OF LIFE RAFT AT SEA. A raft lost at sea is considered surveyed.

583-12.4.4 CERTIFIED AND REPAIR FACILITIES DISPOSAL OF LIFE RAFTS. Disposals shall be made only by those designated repair and certification facilities listed in [paragraph 583-12.11.1](#), in which case, all salvageable parts in good condition shall be removed and retained in local stock to be used again. The raft shall then be destroyed. The life raft database shall then be updated with an entry of the destruction.

583-12.4.5 LIFE RAFTS FROM SHIPS BEING DEACTIVATED. For ships being deactivated, refer to [paragraph 583-12.3.2](#).

## **583-12.5 STOCK CLASSIFICATION, LEVELS, AND DISTRIBUTION**

583-12.5.1 CLASSIFICATION. Stock rafts are divided into categories listed in [paragraphs 583-12.5.1.1](#) through [583-12.5.1.4](#).

583-12.5.1.1 Condition A. Any raft ready for issue from a certified repair facility.

583-12.5.1.2 Condition F. Any raft economically repairable but not issuable without repair.

583-12.5.1.3 Condition H. Any raft that is uneconomical to repair. Rafts in this category are considered unserviceable and shall be surveyed according to [paragraph 583-12.4](#) when directed by PEO SHIPS PMS 325.

583-12.5.1.4 Condition M. Any raft in process of repair, in transition from Condition F to Condition A. Stock rafts shall be placed in the foregoing categories only as a result of inspection by qualified personnel of designated repair and certified facilities. Refer to [paragraph 583-12.11.1](#) for designated repair and certified facilities.

583-12.5.2 STOCK LEVELS. Based on demand, minimum stock levels of issuable rafts, by types, will be established at stocking activities.

583-12.5.3 DISTRIBUTION. Selection of rafts shall be on a first in and first out basis of Condition A rafts only, of the type and Mod to suit the individual ship requirements. Types and Mods shall be approved by PEO SHIPS PMS 325 if different from existing ship's rafts.

583-12.5.3.1 Repair Priority. Selection of rafts for repair to Condition A shall be from existing stocks of Condition F rafts determined to be most economical to repair, whenever possible.

583-12.5.3.2 Estimated Repair Costs. Estimated repair costs shall be reported on an approved NAVSEA Form and shall include (though separately identified from) costs to open and inspect.

## **583-12.6 IDENTIFICATION**

583-12.6.1 LIFE RAFT REGISTRY NUMBER. Each raft is assigned a registry number for purposes of identification. The number is molded into the raft's identification label attached to the hull tube on MK-6 life rafts or printed on a label glued to the floor on MK-7 and MK-8 life rafts.

## 583-12.7 CAPACITIES, WEIGHTS, AND DIMENSIONS

583-12.7.1 LIFE RAFT CHARACTERISTICS. Normal operation of the life raft is accomplished by applying tension to the sea painter line that actuates the inflation cylinders. As inflation occurs, the brass securing bands on the container are broken as the life raft emerges. Should circumstances impede the normal inflation of the raft, the life raft can sometimes still be deployed. Any cutting instrument, for example the scissors from the first aid kit of a deployed life raft, can be used to sever the brass securing bands of the containerized life raft. Remove the upper container half and locate the inflation cylinders. Under some circumstances the inflation cylinders can be actuated manually by extracting the inflation cable. [Table 583-12-2](#) lists characteristics for inflatable life rafts.

**Table 583-12-2** Characteristics for Inflatable Life Rafts

Raft Type	Capacity	Weight (Lbs)	Dimension Inflated L W H	Dimension Container H W L
Mark 6	25-Person	500	17' 10" X 8' 10" X 4'	27" X 56"
Mark 7	25-person	323	13' 5-3/4" X 13' 5-3/4" X 6' 2-3/4"	27" X 56"
Mark 8	50-person	585	21' 7-3/4" X 17' 3-3/4" X 8' 6-3/8"	35" X 65"

583-12.7.2 CONTAINER DESIGN. The container design is detailed on NAVSEA drawing number 803-4382176 for the MK-6, manufacturers drawing number RFD-D-45132 for the MK-7, and NAVSEA drawing number 583-5106577 for the MK-8. The containers are capable of withstanding a free fall drop of 23 meters (65 feet) from stowage into the water.

## 583-12.8 EQUIPMENT AND REPAIR PARTS

583-12.8.1 SURVIVAL GEAR AND REPAIR PARTS FOR MK 6, MK 7, AND MK 8 LIFE RAFTS. With the installation of encapsulated life rafts, the survival gear and repair parts become raft allowance (stowed within the fiberglass container, inaccessible to the ship's crew until the life raft is deployed).

583-12.8.2 LIST OF SURVIVAL GEAR FOR EACH TYPE LIFE RAFT. [Table 583-12-3](#) lists the survival gear provided for each type of raft.

**Table 583-12-3** Survival Gear

Item	Description	Specification	NSN	Qty MK-7/MK-8
1	Food Packet (Individual Ration) or Food Packet, Survival Abandon Ship	A-A-20247	8970-01-434-3192	25/50
2	Water, Plastic Container (500ml)		8960-00-000-0170	25/50
3	Manual Reverse Osmosis Desalinator (MROD)		4610-01-319-5337	1/1
4	Storage Bag, Drinking Water, Size A		8465-00-485-3034	2/2
5	Flashlight (2 Cell) Type II Style I, or Type III Style I		6230-00-269-3034 6230-00-299-3035	1/1
6	Battery, Dry, Flashlight Alkaline "D"		6135-00-835-7210	6/6
7	Sea Marker, Fluorescent		6850-00-270-9986	1/1
8	Mirror, Signaling, Type II		6350-00-261-9772	1/1

**Table 583-12-3** Survival Gear - Continued

Item	Description	Specification	NSN	Qty MK-7/MK-8
9	Sponge, Cellulose Type II Size 3, Porosity A		7920-00-240-2559	2/2
10	Knife, General Purpose, Pocket		5110-00-162-2205	1/1
11	Whistle, Signaling, Plastic, Type II		8465-00-254-8803	1/1
12	Motion Sickness Tablets Dimenhydrat, 50mg		6506-00-116-9660	3/6
13	Bailer, Pouch Type	Commercial		2/2
14	Kit, First Aid		6545-00-168-6893	1/1
15	Kit, Abandon Ship Signal		1370-01-366-0344	1/1
16	Kit, Fishing Survival		4220-00-125-8751	1/1
17	Flashlight Bulb (PR6)		6240-00-155-8675	2/2
18	Blanket, Combat Casualty (84" x55")	Commercial		12/25
19	Hand Pump, Air with Adapter	Commercial		1/1
20	Sealing Clamp, 3 inch		5340-00-720-8864	2/4
21	Sealing Clamp, 5 inch		5340-00-720-8863	2/4
22	Sealing Clamp, 7 1/2 inch		5340-00-720-8858	2/4
23	Oars , pair		2040-00-268-9261	1/2
24	Sea Anchor with Line Type 2 Size 1		2040-00-368-2880	2/2
25	Rescue Line with Quoit		4220-01-006-6103	1/1
26	Valise, Survival Equipment	Commercial		2/3
27	Floatable Knife		4220-01-006-6102	1/1
28	Survival/Operation Manual		S9008-EA-INS-010	1/1

**583-12.9 STOWAGE AND HANDLING**

583-12.9.1 STOWAGE. Inflatable life raft stowages should be located to permit ready manual overboard launching into the water without hitting obstructions; to be clear of overhead obstructions; to avoid adverse effects of gun, missile and jet blasts and heavy seas; and to interfere as little as possible with normal shipboard activity. They shall be located, longitudinally, where they will provide the maximum practical distribution of life-saving facilities. The preferred orientation of the life raft in the stowage is with the seam of the upper and lower halves of the container positioned approximately parallel to the baseline of the ship and the sea painter line exiting the life raft container facing the aft end of the ship. It may be necessary to slightly rotate the Mk-7 life raft container when installing the life raft into the Mk-6 life raft cradle. The mating flange of the Mk-7 container halves may prevent the container from seating properly into the cradle with the container exactly parallel to the ship's baseline. All caution labels shall be plainly visible. They shall be provided and stowed in accordance with appropriate NAVSEA standard drawings. Stowage harnesses shall have a knife severable section to allow for life raft deployment should the hydrostatic release device (HRD) fail to manually open. Typically a lashing of ¼-inch nylon line between the HRD and the thimble on the securing harness is used as a knife severable segment or if the legs of the securing harness are constructed from jacketed Kevlar rope, the securing harness itself can function as the knife severable segment.

**CAUTION**

On some craft such as the LCAC (landing craft, air cushion) it may be necessary to orient the sea painter end of the life raft container to face forward to move the sea painter away from the air intake of the lift fans.

583-12.9.1.1 Hydrostatic Release Device. Equipment for securing the rafts in their stowages shall include a hydrostatic release device. This device may be the can-type hydrostatic release device, NAVSEA DWG 803-5959322. The can-type hydrostatic release is not currently manufactured or in stock. When a hydrostatic release devices require replacement, a commercial design, Thanner model DK84.1M, NSN 1H-4220-01-493-9233 shall be used. The can-type hydrostatic release devices permit release of the life raft from stowage at approximately 10-40 feet in event of the ship sinking. The Thanner DK84.1M hydrostatic release device will release the raft from stowage at a seawater depth of approximately 5-15 feet.

583-12.9.1.2 Sea Painter. The life raft sea painter shall be attached directly to the ship structure adjacent to the stowage location.

583-12.9.2 HANDLING. Care should be taken in handling inflatable life rafts during shipping, in and out of stowage, inspection, and transportation to and from repair facilities. To minimize damage to the life raft during transportation each life raft should be banded to a wooden pallet. The life raft should be lifted and carried using the molded handholds in the fiberglass container or an approved NAVSEA lifting sling as shown on Norfolk Naval Shipyard drawing 4712507 for the MK-6 life raft. Care shall be exercised to ensure that the sealing bands are not inadvertently cut or damaged.

583-12.9.2.1 Covered Storage. Storage areas for life rafts shall be dry and free from effects of weather and from heat concentrations such as steam pipes. Warehouses or other covered storage spaces shall be used wherever possible.

## **583-12.10 INSPECTION**

583-12.10.1 TYPES OF PERIODIC MAINTENANCE. Inspections shall be made at the following levels of responsibility to ensure that rafts, stowages, handling equipment, survival gear, and rations are satisfactory for emergency use:

- a. Organizational level (shipboard) includes inspection of the container, raft stowage, and handling equipment in accordance with the maintenance index page (MIP) and applicable maintenance requirement cards (MRCs).
- b. Depot level (repair facility) will open and inspect the raft and the container contents replacing outdated survival gear and rations. Perform minor and major repair, tests, and repacking.

583-12.10.2 STOWAGE SECURING HARNESS. The stowage securing harness shall be inspected to ensure proper tension and that:

- a. Stowages with the can-type hydrostatic or the Thanner type hydrostatic release without the spring tensioner shall be torqued 8 to 10 pounds foot.
- b. Harnesses used on stowages with the Thanner type hydrostatic release shall be tightened until the life raft is securely seated in its cradle but so as not to damage the life raft container.

583-12.10.2.1 Hydrostatic Release. The hydrostatic release assembly shall be visually checked. Correct tightness of the securing harness (refer to [paragraph 583-12.10.2](#)) shall be ensured. The release assembly shall not be painted. In event the release assembly is painted, it shall be removed and replaced. Removed release assemblies shall be turned in to a repair facility for refurbishing and testing.

583-12.10.2.1.1 Hydrostatic Release Installation. The can-type hydrostatic release device shall be installed with the end bracket having the hairpin connected to the retaining harness and the open end of the can shield facing the aft-end of the ship. The hairpin shall be installed in a direction to facilitate removal. The Thanner DK84.1M device has a safety pin to prevent inadvertent release, so the pushbutton of that device should face toward traffic for easy release provided it does not cause any safety hazard to those passing by the life raft stowage.

583-12.10.2.1.2 Securing Sea Painter. The sea painter line from the container shall be checked to ensure that it is securely tied directly to the ship's structure, and accessible to the person launching the raft. The end of the sea painter is dyed red to provide a visual indicator that the length has not been altered. If the red end of the sea painter of a recently recertified life raft is not visible prior to installation on the ship or craft, a certified life raft repair facility shall be contacted and repairs made.

583-12.10.2.1.3 Inspect the Stowage Location. The rigid container and stowage interface shall be visually inspected to ensure that the stowed raft is sitting snug in the cradle and not subject to shifting.

583-12.10.2.1.4 Inspection and Test. With the periodicity stated in the appropriate maintenance index page (MIP), the rafts shall be turned in to a certified repair facility for inspection and testing. The maintenance interval for Navy certified life rafts is 60 months. The maintenance interval for all other USCG approved life rafts and inflatable buoyant apparatus' (IBAs) is typically 12 months or as specified by applicable USCG regulations. Some Navy combatant craft may be equipped with extended-service IBAs requiring service every 30 months. These IBAs have Navy approval to have an extended service interval. The extended-service IBAs are serviced in commercial servicing stations authorized by the IBA manufacturer to service those types of devices.

583-12.10.3 DEPOT LEVEL. Inspection, major, or minor repair of the various rafts ([paragraph 583-12.10.1](#)) shall be accomplished by an approved certified repair facility ([paragraph 583-12.11.1.1](#)).

- a. Conduct all applicable tests and inspections on raft, equipment, and systems listed in the appropriate technical manuals.
- b. Make any major and minor repairs as necessary.

## **583-12.11 SERVICING AND MAINTENANCE**

583-12.11.1 SERVICING. A facility that will provide service to Navy life rafts is any NAVSEA approved activity designated to accomplish minor and major repairs, inspection, maintenance, and survey of inflatable rafts. These facilities are annually certified by a NAVSEA certification team. The following designated activities are presently certified repair facilities:

- a. Norfolk Naval Shipyard (NNSY), Portsmouth, VA
- b. Naval Ship Repair Facility (NSRF), Yokosuka, Japan
- c. Southwest Regional Maintenance Center (SWRMC), San Diego, CA
- d. RFD-Beaufort, Inc., (formerly Inflatable Survival Systems, Inc. (ISSI)), Sharon Center, Ohio, Original equipment manufacturer (OEM) for the MK-7 and MK-8 life raft.

583-12.11.1.1 Repair. A repair is the correction of a problem which, when completed, will restore a raft to a fully operable condition. Any fabric repair on an air retaining surface will require a reliability test.

583-12.11.1.2 Maintenance. Life rafts that require repair or recertification shall only be accomplished by an activity designated in [paragraph 583-12.11.1](#) and in accordance with S9008-AA-PRO-010 and the various appropriate maintenance bulletins issued by NAVSEA.

## **583-12.12 RAFT CERTIFICATION AND EXCHANGE**

583-12.12.1 INSPECTION, CERTIFICATION AND EXCHANGE. Upon receipt of ships' inflatable life rafts for inspection and recertification or repair, the depot level activities shall accomplish inspections, tests, and repairs as cited in paragraphs of this section.

583-12.12.2 TEST OF THE HYDROSTATIC RELEASE DEVICE. When the life rafts for a ship or craft are removed for servicing, the hydrostatic release device (HRD) must be tested. There are two types of HRDs in use, the can-type and the Thanner DK84.1M diaphragm type. The two types of HRDs use different test procedures.

583-12.12.2.1 Can-Type Hydrostatic Release Device. The can-type HRD is tested using dimensional checks. The can component is measured in length using calibrated, micrometer-dial calipers. Two measurements are taken approximately 90° apart along the longitudinal axis of the can. The can must measure at least 4.16 inches (10.57 cm) in length at both places to pass the test. Can-type HRDs which fail the test shall be disposed.

583-12.12.2.2 Thanner DK84.1M Hydrostatic Release Device (HRD). The Thanner HRD is tested using a manufacturer approved test apparatus. The HRD is secured in the pressure chamber of the test apparatus with a load placed on its release pawl. The cover to the pressure chamber is secured closed and air pressure is supplied to the chamber until the HRD releases. The HRD must actuate between 0.15 and 0.40 bar to pass the test. If the HRD passes the test, it is reset, tagged with the test date, and is ready to use. A Thanner HRD that fails the test can be repaired according to procedures in NAVSEA S9008-AA-PRO-010, retested, reset, and returned to service.





**SECTION 13**  
**SEARCH AND RESCUE (SAR)**

**583-13.1 READY SERVICE RESCUE BOAT**

Every ship, while operating underway will designate one ship's boat as the Ready Service Rescue boat.

**583-13.2 PROCEDURES FOR SEARCH AND RESCUE OPERATIONS**

SAR procedures shall be in accordance with NTTP 3-50.1, NAVY SEARCH AND RESCUE MANUAL.

**583-13.3 SAR EQUIPMENT**

SAR equipment is required for both shipboard and boat SAR operations are specified in NTTP 3-50.1, NAVY SEARCH AND RESCUE MANUAL. This equipment is supported on an AEL in the ship's COSAL.



## SECTION 14 BOAT TRAILERS

### 583-14.1 BOAT TRAILER

Most boats will include a trailer designed specifically for transporting the boat over the road. Note that the engineering agent cognizance specified in [paragraph 583-1.1.1](#) is also applicable to boat trailers, as with any other mission systems, subsystems and equipment.

All boat trailers transporting boats over public roads and highways must meet CFR Title 49, Chapter V, National Highway Traffic Safety Administration, Department of Transportation, Part 571, Federal Motor Vehicle Safety Standards (FMVSS) and CFR Title 49, Chapter III, Federal Motor Carrier Safety Administration, Department of Transportation, Part 393, Parts and Accessories Necessary for Safe Operation. All boat trailers, regardless of use, must be capable of safely conveying the combined load of the boat and its accompanying load.

### 583-14.2 BOAT TRAILER RECEIPT

Upon receipt of a boat trailer (regardless of how it was procured), the receiving custodian will submit a DD Form 1342 (DOD Property Record), within 30 days to the Naval Facilities Expeditionary Logistics Center (NFELC) for inclusion into the applicable database. Custodians receiving or transferring boat trailers from/to another custodian will forward a DD Form 1149 (Requisition and Invoice/Shipping Document) to NFELC and notify (e-mail is acceptable) their chain of command. The receiving unit will report in the 3-M system, via the 4790/CK (Ship's Configuration Change Form) submittal process, the receipt of all boat trailers.

### 583-14.3 BOAT TRAILER MAINTENANCE

Boat trailers should be periodically inspected in accordance with the trailer manufacturer's recommendations or a regimented program developed by the cognizant activity (see [paragraph 583-8.1](#)).

### 583-14.4 BOAT TRAILER REPAIR AND MODIFICATION

As a result of the periodic inspections, it will be necessary to effect repairs upon the boat trailer. Repairs should be accomplished in accordance with the trailer manufacturer's recommendations using parts from an approved parts list. Approved parts lists are those parts lists provided by the trailer manufacturer or those parts that have been identified to comply with the requirements of CFR Title 49, Chapter V, National Highway Traffic Safety Administration, Department of Transportation, Part 571, Federal Motor Vehicle Safety Standards (FMVSS) and CFR Title 49, Chapter III, Federal Motor Carrier Safety Administration, Department of Transportation, Part 393, Parts and Accessories Necessary for Safe Operation and the intended service.

As with boats in general, all configuration changes shall be based on the procedures described herein. Boat trailer configuration changes to Navy boat trailers may be necessary for boat custodians to accomplish assigned tasks in their geographic location. Alterations may affect characteristics such as strength, weight, cargo capacity, safety, or outfit to support special conditions. As the trailer is subsystem of the boat, the Boat Alteration (BOATALT) process is applicable to boat trailers. BOATALTs are developed and issued by the Planning Yard for specific classes of boat's trailers or individual boat trailers with special requirements. If the trailer configuration is unchanged, e.g. no structural modifications or equipment changes, then no BOATALT is necessary.

### 583-14.5 BOAT TRAILER INTERNAL AIR TRANSPORT

There are special design requirements for transporting boats and trailers on fixed wing aircraft. These requirements are found in MIL-HDBK-1791, Designing for Internal Aerial Delivery in Fixed Wing Aircraft,

MIL-STD-209, Slings and Tie-Down Provisions for Listing and Tying Down Military Equipment and DLAR 4500.25, DOD Engineering For The Transportability. When boat requirements include air transport, the AEA typically obtains the air transport certification during the boat procurement.

#### **583-14.6 BOAT TRAILER EXTERNAL AIR TRANSPORT**

There are special design requirements for transporting boats and trailers with rotary wing aircraft. These requirements are found in MIL-STD-913, Requirements For The Certification Of Sling Loaded Military Equipment For External Transportation by Department of Defense Helicopters, MIL-STD-209, Slings and Tie-Down Provisions for Listing and Tying Down Military Equipment and DLAR 4500.25, DOD Engineering For The Transportability.

#### **583-14.7 BOAT LAUNCH AND RECOVERY FROM TRAILERS**

The following are standard practices for launching and recovering boats from trailers.

**583-14.7.1 BOAT LAUNCH.** Ensure that the ramp is 5-15 degrees slope and is long enough so the trailer will not fall off the end of the ramp before the boat floats off the trailer. Line up the trailer with the ramp. Ensure that the boat is prepared for operation. Insert and tighten all bilge plugs. Remove winch cable hook from boat's bow eye and remove tie-down straps between trailer and boat. With a coxswain on the boat, slowly back the trailer into the water until the boat hull is sufficiently submerged and nearly floating. Start the boat engines when the cooling water intakes (near the transom) are in clean water and slowly back the boat until it has cleared the trailer. Pull the trailer out of the water and clear of the launch ramp. The trailer should be rinsed with fresh water if it will not be used for several days. To prepare the trailer for road travel, test trailer lights and the trailer brakes.

**583-14.7.2 BOAT RECOVERY.** Ensure that the ramp is 5-15 degrees slope and is long enough that the trailer will not fall off the end of the ramp before the boat can land on the trailer. Attach the winch handle and unroll a few feet of cable from the winch to attach to the bow eye when the boat is on the trailer. Back the trailer into the water until it is sufficiently submerged for boat recovery. Position the boat on the trailer up to the forward bow stops. Attach the winch cable hook to the bow eye and tighten the cable. After powering, secure the engine and allow them to idle to cool. Slowly ascend the ramp. Ensure that the boat is sitting with its keel on the trailer's centerline and that the bow remains in contact with the forward bow stops. If the tow vehicle jerks the trailer out of the water, the boat may pull against the winch cable and move away from the bow stops. If that happens, back the trailer into the water to winch the boat against the bow stops again and ascend the ramp slowly. Check the bilges to ensure they are not contaminated with oil and remove the boat drain plug to drain the boat when still on the ramp. (Bilges will not drain when trailer is level.) Move boat to level ground and set brakes on tow vehicle to prepare boat for transit. Lower and secure appendages on the boat such as arches, canopies, and radio antennas. Attach the cargo straps. Verify that the brakes are functioning properly by making several short starts and stops prior to entering the roadway. Wash the hull and trailer with fresh water as soon as possible. Concentrate on the wheel and brake assemblies.

## APPENDIX A

### TECHNICAL MANUAL DEFICIENCY/EVALUATION REPORT (TMDER)

#### A-1. DISTANCE SUPPORT INFORMATION

Contact the Navy Distance Support (Anchor Desk) via the web

(<http://www.anchordesk.navy.mil/>), e-mail

([help@AnchorDesk.navy.mil](mailto:help@AnchorDesk.navy.mil)), or via the toll free number (1-877-4-1-TOUCH [86824])

#### A-2. TMDER INSTRUCTIONS

Ships, training activities, supply points, depots, Naval Shipyards and Supervisors of Shipbuilding are requested to arrange for the maximum practical use and evaluation of NAVSEA technical manuals (TMs). All errors, omissions, discrepancies, and suggestions for improvement to NAVSEA TMs shall be submitted as a Technical Manual Deficiency/Evaluation Report (TMDER). All feedback comments shall be thoroughly investigated and originators will be advised of action resulting there from. The NAVSEA/SPAWAR Technical Manual Deficiency/Evaluation Report form, NAVSEA 4160/1 is included at the back of the TM. Copies of form NAVSEA 4160/1 may also be downloaded from: [https://nsdsa.nmci.navy.mil/nsdsarepository/TMDER\\_BLANK\\_REV\\_9-2010-1.pdf](https://nsdsa.nmci.navy.mil/nsdsarepository/TMDER_BLANK_REV_9-2010-1.pdf) . The following methods are available for generation and submission of TMDERs against unclassified TMs:

- For those with a Technical Data Management Information System (TDMIS) account, the most expedient and preferred method of TMDER generation and submission is via the TDMIS website at: <https://mercury.tdmis.navy.mil>.
- For those without a TDMIS account, generate and submit TMDER via the Naval Systems Data Support Activity (NSDSA) website at: [https://mercury.tdmis.navy.mil/def\\_external/pubsearch.cfm](https://mercury.tdmis.navy.mil/def_external/pubsearch.cfm). (TDMIS accounts may be requested at <https://nsdsa.nmci.navy.mil>.)
- When internet access is not available, submit TMDER via hardcopy to: COMMANDER CODE 310 TMDERs NAVSURFWARCENDIV NSDSA 4363 MISSILE WAY, BLDG 1389 PORT HUENEME, CA 93043-4307.
- TMDERs against classified/restricted (includes all NOFORN) TMs must be submitted using the hardcopy method cited above.
- Urgent priority TM deficiencies shall be reported by Naval message with transmission to Port Hueneme Division, Naval Surface Warfare Center (Code 310), Port Hueneme, CA. Local message handling procedures shall be used. The message shall identify each TM deficiency by TM identification number and title. This method shall be used in those instances where a TM deficiency constitutes an urgent problem, (i.e., involves a condition, which if not corrected, could result in injury to personnel, damage to the equipment or, jeopardy to the safety or success of the mission).

Complete instructions for TMDER generation and submission are detailed on the NSDSA website at: <https://nsdsa.nmci.navy.mil/tmder/tmder.asp?lvl=1>.



## NAVSEA/SPAWAR TECHNICAL MANUAL DEFICIENCY/EVALUATION REPORT (TMDER)

INSTRUCTIONS: Continue on 8 1/2" x 11" on page if additional space is needed.

1. Use this report to indicate deficiencies, problems and recommendations relating to publications.
2. For **CLASSIFIED** TMDERs see OPNAVINST 5510H for mailing requirements.
3. For TMDERs that affect more than one publication, submit a separate TMDER for each.
4. Submit TMDERs at web site <https://nsdsa.nmci.navy.mil> or mail to: **COMMANDER, CODE 310 TMDERs, NAVSURFWARCENDIV NSDSA, 4363 MISSILE WAY BLDG 1389, PORT HUENEME CA 93043-4307**

1. PUBLICATION NUMBER	2. VOL/PART	3. REV/DATE OR CHG/DATE	4. SYSTEM/EQUIPMENT ID
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7. RECOMMEND CHANGES TO PUBLICATION

7a. Page #	7b. Para #	7c. RECOMMENDED CHANGES AND REASONS

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