DECKPLATE GUIDE TO LOGISTICS OVERHAULS

ProLog
ENGINEERING & LOGISTICS SOLUTIONS

LOGISTICS OVERHAULS AND UPGRADES

INTERNAL DECKPLATE GUIDE

REVISION DATED 27 JANUARY 2011

The attached deck plate guide is issued for performance of RRF shipboard logistics support as required by MARAD Contract DTMA91C20110011.

The purpose of this guide is to provide direction for effective, efficient, and safe performance of MARAD shipboard logistics support, and to standardize procedures used in accomplishing applicable tasks. The contract and this guide are to be followed by all ProLog and subcontractor employees who provide logistics services to MARAD. Where the term ProLog is used it is intended to include subcontractors to the above contract as well as ProLog. This guide is not intended to restrict the effectiveness of the individuals involved, but to provide a foundation for effective, consistent and complete consideration of all aspects of the task. The expected result is a positive, professional relationship between MARAD, ProLog, subcontractors, and RRF ship managers leading to completion of a successful overhaul.

The contract Statement of Work (SOW) takes precedence over this guide. Numbers in parentheses refer to paragraphs of the SOW. ProLog and subcontractor Supervisors and Team Leaders are to use this guide and the contract SOW to train and to evaluate employees for their work.

If there are any questions or concerns relative to the guide, or the ability of the employee to respond effectively to the requirements, it is the responsibility of each employee to bring such matters to my attention or their supervisor's immediately.

This guide will be refined and revised over time as more experience is gained in the use of the NS5 system, and program enhancements are released. I encourage and expect questions and feedback from all employees to improve the quality and safety of our work, as well as to reduce the costs incurred.

This guide is to be followed at all times unless written exceptions are made by the Program Manager.

Don Colley
Program Manager

DECKPLATE GUIDE FOR LOGISTICS OVERHAULS AND UPGRADES

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PURPOSE OF THE MANUAL

1. **Purpose.** To establish standard policies and procedures governing the logistics overhaul and upgrades process for the Department of Transportation, Maritime Administration (MARAD) under contract number DTMA91C20110011.

LOGISTICS OVERHAUL, UPGRADE PLANNING AND SETUP (C.2.1)

Planning Requirements

1. MARAD will prioritize in writing those vessels that have been selected by MAR-614 to undergo logistics overhauls or upgrades. MARAD will also determine the scope of the overhaul or the upgrade. The schedule will be cognizant of ship activations, operational requirements, and other shipboard logistics work being carried out on RRF ships. The following issues and requirements provide a template for the logistics overhaul and upgrade process.

(a) **Overhaul budget plan**. ProLog will provide to MARAD by 15th July each year a logistics overhaul budget plan for the next fiscal year (C.2.2.2).

(b) **Overhaul cost estimate.** ProLog will provide to MARAD a cost estimate of a scheduled upgrade or overhaul 60 days prior to the commencement of the upgrade or overhaul (C.2.2).

(c) **Pre-overhaul brief.** Prior to the start of the overhaul, ProLog will attend a pre-overhaul brief hosted by MAR-614. During this briefing, MAR-614, ProLog, Ship Manager, and MARAD division representatives will discuss issues and concerns pertinent to the logistics overhaul, including scope of work and issues that will impact the overhaul. The plan for concurrent storeroom alterations and parts/documentation cabinet installations is to be coordinated. Potential cost savings measures are to be identified. An outline of the ProLog briefing to be used at this meeting is provided at Appendix A. At this meeting, MARAD will provide ProLog with Special Overhaul Instructions (C.2.1.2).

(d) **Special Overhaul Instructions.** Generated by MARAD Headquarters and the Region Logistics Management Officer (LMO), the Special Overhaul Instructions will:

- describe the general location of spare parts to be included in the overhaul or upgrade,
- provide guidance on collocating similar or related spare parts, and
- identify equipment or systems that will be installed, changed out or removed by the Ship Manager during the period of the overhaul (C.2.1.3).

(e) **Tasking Order.** ProLog accepts the final Tasking Order.

(f) **Safety Briefing.** Conduct Shipboard/Shore-based personnel and equipment safety briefing prior to start of overhauls or upgrades and comply with the RRF Logistics Management Manual. Ship Manager participation will be requested for this safety briefing. Further safety information is detailed in the ProLog Standard Operating Procedures for Safety (SOP 0).

(g) **Pre overhaul reports.** The Team Leader is to pull these reports prior to data entry starting for an overhaul; list of interchangeable parts, spares list by equipment, equipment particulars report, technical manual index, drawing index. The Team Leader may need to ask the Logistics Support Manager to pull some of these specialized reports. These reports are to be retained to show the starting point of the overhaul.

Setting up NS5 Access Aboard the Ship

2. The overhaul team will need access to the ship's NS5 to complete data entry. The team will need to confirm the NS5 network setup onboard the ship. The NS5 network will be in either a SeaWave or non-SeaWave configuration. Procedures for both configurations follow.

(a) **SeaWave.** Coordinate with the Chief Engineer to set up a designated space that the Overhaul Team will use when networking their laptops to the vessel's SeaWave system/NS5 server. Once a space has been assigned, conduct a test of the connectivity for the assigned drop to NS5 by attaching the teams Cat 5 cable to the NS5 drop and attempt to access NS5. If you cannot access the vessel's server, contact the Chief Engineer and check the NS5 hub and router Cat 5 cable connections. It is possible that the NS5 drop that has not been connected to the hub or router due to the assigned working space not being in use by the ship.

(b) **Non-SeaWave.** On some RRF vessels, there is a stand-alone NS5 server that is still being used pending SeaWave installation. Coordinate with the Chief Engineer to set up a designated space that the Overhaul Team will use when networking their laptop to the vessel's NS5 server. Our laptops are not set up to operate with non-Sea-Wave stand-alone systems. In order for the team to network their laptops with the non-SeaWave system, they must contact management who will set up a phone conference with the MARAD NS5 System Administrator to walk them through set-up of the laptops to function with the non-SeaWave server.

In some cases other alternatives may be needed, in which cases special procedures will be provided.

3. MARAD will ensure shipboard access to RMS/NS5 for the overhaul team (C2.5.7.6).

TECHNICAL MANUAL INVENTORY (C.2.5.3)

Preparation

1. To prepare for a full inventory of the technical manuals aboard the ship, the following actions are to be undertaken.

(a) Inventory aids are provided by the Logistics Support Manager upon request of the Team Leader. Normally give two weeks notice to get the aids. A sample inventory aid appears in Appendix B as Form 2.

(b) Search ship for, assemble, and organize manuals in a designated location for inventory.

(c) For technical manual accountability, a sign-in/out log will be maintained by the contractor. All technical manuals needed by the inventory team or ship's crew must be documented within this log. A sample of this log is available in Appendix B as Form 5.

Procedures

2. The following is a summary of the procedures for the technical manual inventory (more detailed procedures are located at Appendix F):

(a) Conduct inventory. Technical manuals are sorted in alphabetical order by manufacturer, then within each manufacturer alphabetically by the title. The manuals should now be in the same order as the inventory aids that were created. Any exceptions to this order must be approved by MAR614. For new technical manuals an add sheet is used to record the details and a sample appears in Appendix B as Form 13.

(b) Consult with the Chief Engineer (CE) and take out as many excess manuals as possible, segregating them for later. The logistics analyst will then ensure that all information on the inventory aids is correct and matches the technical manuals on hand. Having all manuals in one central location also gives the logistics analyst a chance to compare the technical manuals, and make sure they are identical in content and complete. Handwritten information must comply with Appendix C-1.

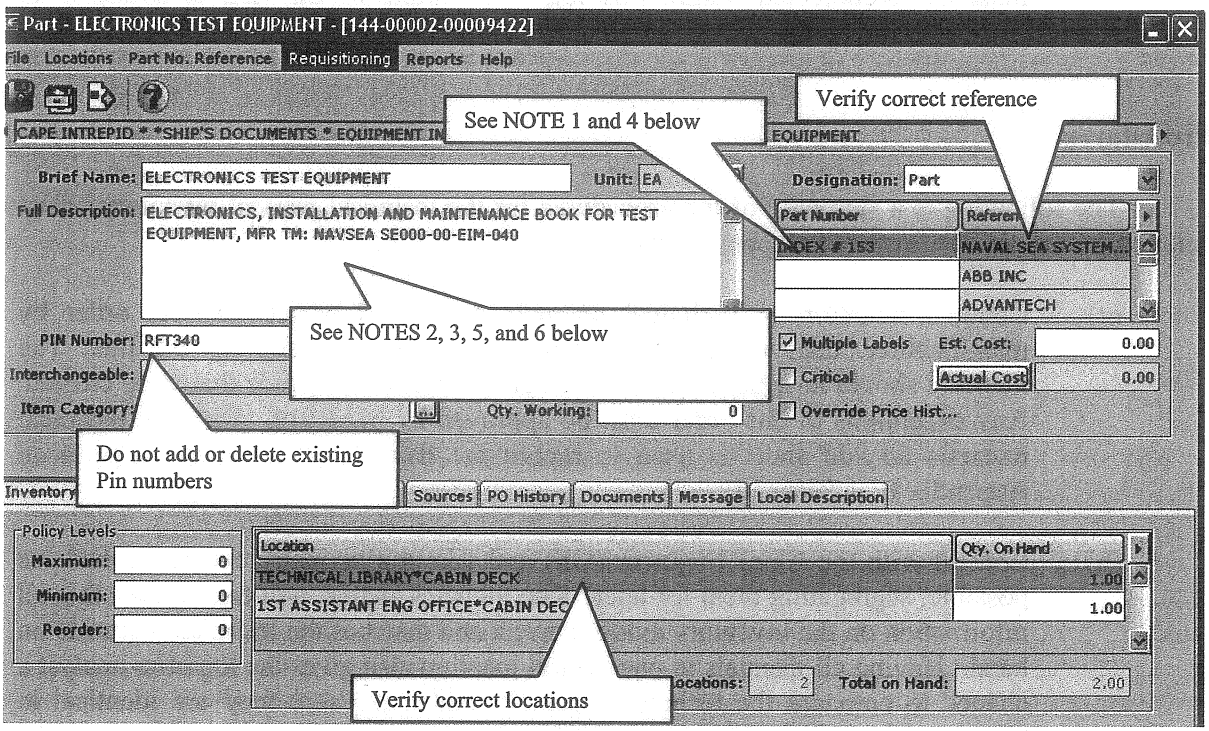
(c) Once this is complete, new index numbers are assigned. Ensure that the index number has three digits meaning that one or two leading zeros may be required. A white temporary label will be placed on each technical manual to number the technical manuals and the number will also be annotated on the inventory aids. All technical manuals with quantities of less than two are noted on the inventory aids for purposes of making additional copies. (C.2.5.3.5)

(d) If there are more than two copies of a technical manual consult with the LMO and the CE as to disposition of the extra manuals. Only two copies of each technical manual will be inventoried and entered into NS5. Extra copies will not be page checked or entered into NS5 but can be retained by the CE.

3. **Missing Technical Manuals.** Defined as a technical manual that is in the data base index and is verifiable against installed equipment, but cannot be found. These manuals will be reported in the Overhaul Weekly Report (example in Appendix B as Form 4) and a list (example at Appendix B as Form 4) will be provided to the LMO within 15 days of discovery (C.2.5.3.5)

Conduct Technical Manual Data Entry

4. In *NS5*, (LOGIN) Select Equipment Explorer⇨Ships Documents⇨Equipment Instruction Books ⇨Part (manual) Name. ***Caution DO NOT reuse/recycle records, the possible adverse effects of this practice is unknown.***



NOTE 1 Technical Manual Index number is normally placed in the Part Number field. Exceptions have been made been in the past for some ships with written guidance from MARAD. Any additional exceptions must be documented separately.

NOTE 2 Condition code – If SAT, no action required. If UNSAT, enter "**COND:**

UNSAT" in Full Description field.

NOTE 3 Language – if other than English, enter the applicable language if known in the Full Description field (e.g. "**LANG: GERMAN**").

NOTE 4 Index # - Keep "Index #" in this block since it is only way for user to know the number is an index number.

NOTE 5 Place manufacturer's number for the TM in the full description field as "**MFR TM:**"

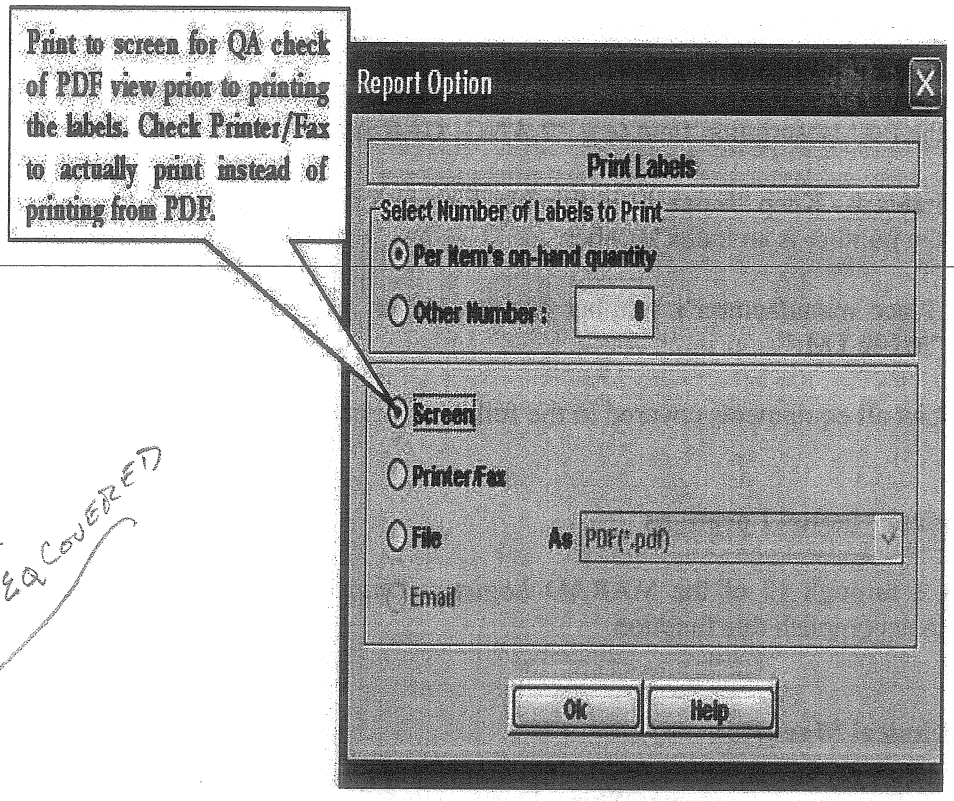
NOTE 6 List all equipments covered in the full description field.

Add/Change Technical Manual Locations

5. Use Sections 1 through 12 of the MARAD *Logistics Guide to NS5 Maintenance and Purchasing Module* to accomplish this function.

Print Labels for Technical Manuals

6. In *NS5*, select Equipment Explorer⇨Ships Documents⇨Equipment Instruction Books ⇨Part (manual) Name ⇨Reports⇨Print Labels



SEE TM FOR EQ COVERED

Technical Manual Bar Code Labels

7. Print bar code labels then affix them to technical manuals and stow manuals in their designated locations. Only labels printed on a laser jet printer are to be used by overhaul teams. This task is not complete until all technical manual copying is finished.

> NOTE: **Due to the current *NS5* Label sizes, the technical manual barcode labels are placed on the inside front cover.**

> CAUTION: **Do not re-number technical manuals unless you have been tasked to re-number parts and equipment references.**

8. Print and affix a label with the technical manual index number and location on the front cover, ensuring not to cover up any important printed information on the front cover. These standard labels are created using the *Microsoft Label Wizard* or similar software installed on team laptops.

9. Replace worn or damaged technical manual binders (C.2.5.3.6).

Copying Technical Manuals: (C.2.5.3.5)

10. The ship shall be provided with two copies of each applicable technical manual. The Team Leader will set up copying services with a local copier, and then deliver manuals for copying in groups of about 10. For technical manual accountability, a sign-in/sign-out log will be maintained by the contractor, similar to Form 5 in Appendix B. Upon completion, the technical manuals must be QA checked page by page with the original technical manual to ensure they are complete prior to labeling and placing into the ship's designated location.

Excess Technical Manuals

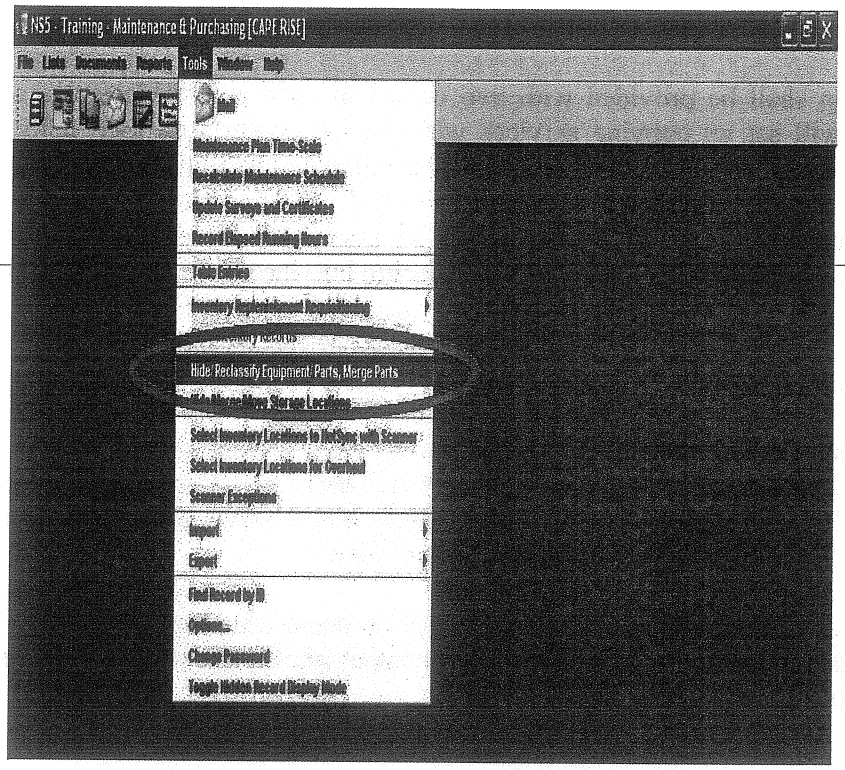
11. When a technical manual has been identified as excess the record is to be edited in NS5. Put {EXCESS} at the beginning of the Brief Name and Full Description fields and move the record in the NS5 hierarchy to VESSEL SUPPORT → Z-REMOVED TECH MANUALS. This will allow easy identification and removal at a later date.

12. Removal of excess technical manuals will be documented using the NS5 Transfer order function. Once the quantity in each excess technical manual record has been reduced to zero, then the record can be hidden.

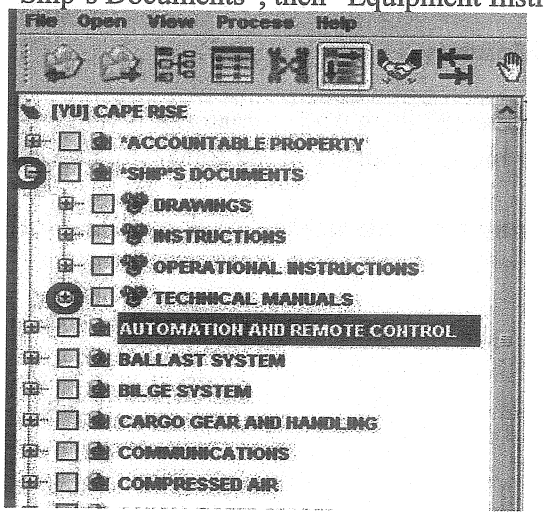
Hiding Excess Technical Manuals

13. Records cannot be "deleted" from *NS5*. If material is removed and the record is no longer needed, the record should be hidden. Adhere to the following process.

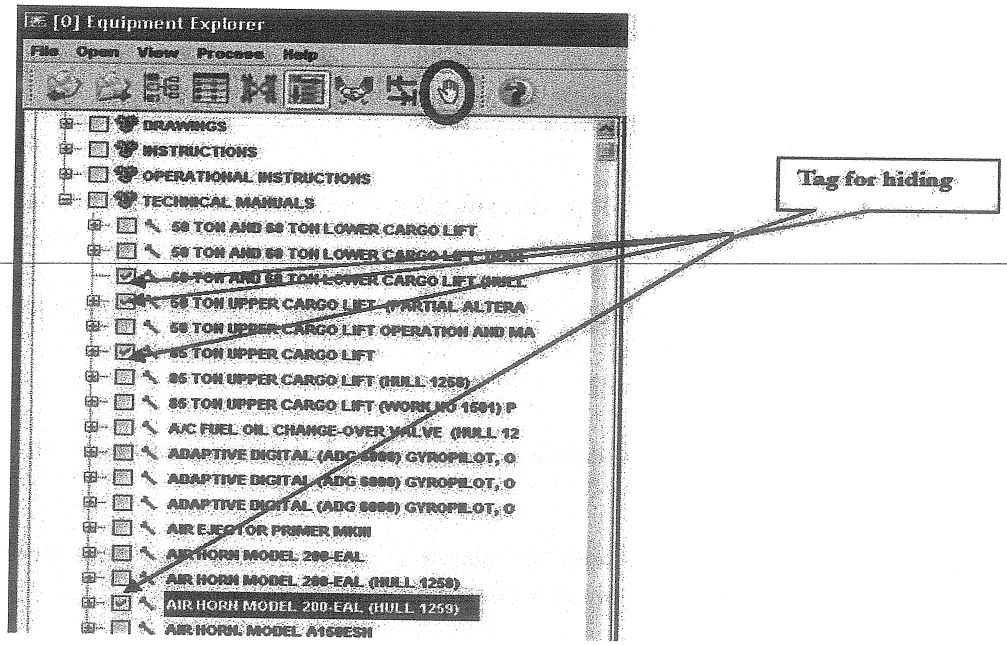
(a) Select **"Tools"** from the Menu Bar and click on "Hide/Reclassify Equipment/Parts, Merge Parts".



(b) Next, select "Ship's Documents", then "Equipment Instruction Books".



(c) This action will open the below screen. Tag the manuals you wish to hide by clicking on the box next to them. Once you have tagged all your manuals, click the 'Hide Function' icon on the toolbar.



(d) The excess technical manuals are now hidden from view in the hierarchy.

CAUTION: Do not hide records that have an on hand quantity.

DRAWING INVENTORY (C.2.5.4)

Preparation

1. To prepare for a full inventory of the drawings aboard the ship, the following actions are to be undertaken.

(a) Inventory aids are provided by the Logistics Support Manager upon request of the Team Leader. Normally give two weeks notice to get the aids. A sample inventory aid appears in Appendix B as Form 6.

(b) Search for, assemble and organize drawings in designated location aboard ship for inventory.

(c) Set up check-out procedures for ship's crew to use the drawings. Refer to the technical manual check-out procedures for guidance.

(d) If required, procure hanging folders and racks.

(e) Populate the NS5 drawing manufacturer field from PC-Sal data if required.

Procedures

2. The following is a summary of procedures that are to be undertaken when conducting the inventory of shipboard drawings (more detailed procedures are located at Appendix G):

(a) The drawings are sorted by shipbuilder then by vendor drawings. The vendors are then sorted alphabetically. If a ship has conversion overhaul drawings, treat them as another shipbuilder and file them accordingly.

(b) Sort the drawings by a vendor group according to their drawing number. The drawings should now be in the same order as the drawing inventory aids that were created. For new drawings an add sheet is used to record the details and a sample appears in Appendix B as Form 14.

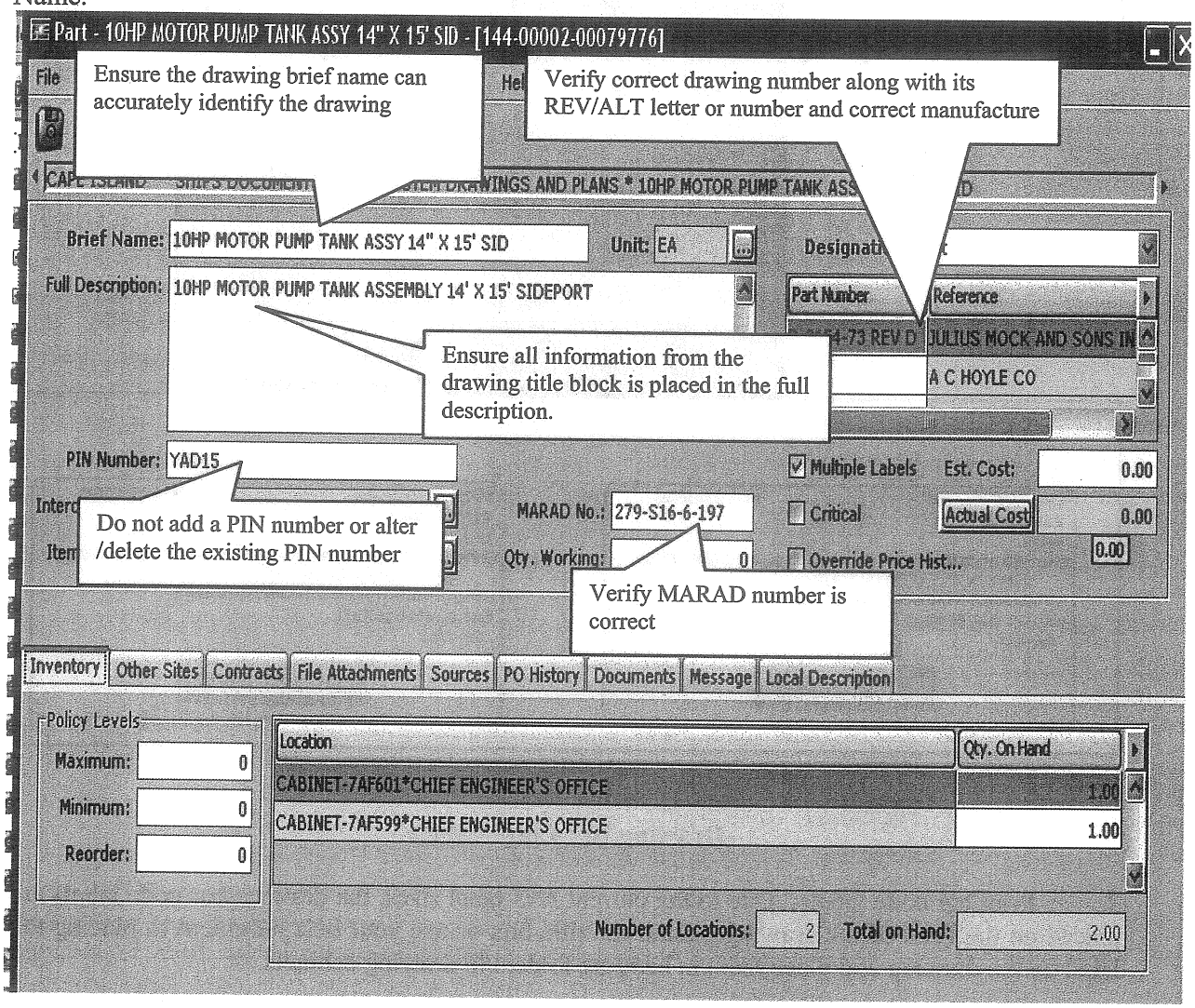
(c) Consult with the Chief Engineer and take out any excess drawings, segregating them for later removal.

(d) The logistics analyst will then ensure all information on the aids is correct and matches the drawings on hand, including quantity and location. Handwritten information must comply with Appendix C-1.

Conduct Drawing Data Entry

Caution DO NOT reuse/recycle records, the possible adverse effects of this practice is unknown.

3. In *NS5*, (LOGIN) Select Equipment Explorer⇨Ships Documents⇨Drawings ⇨Drawing Name.

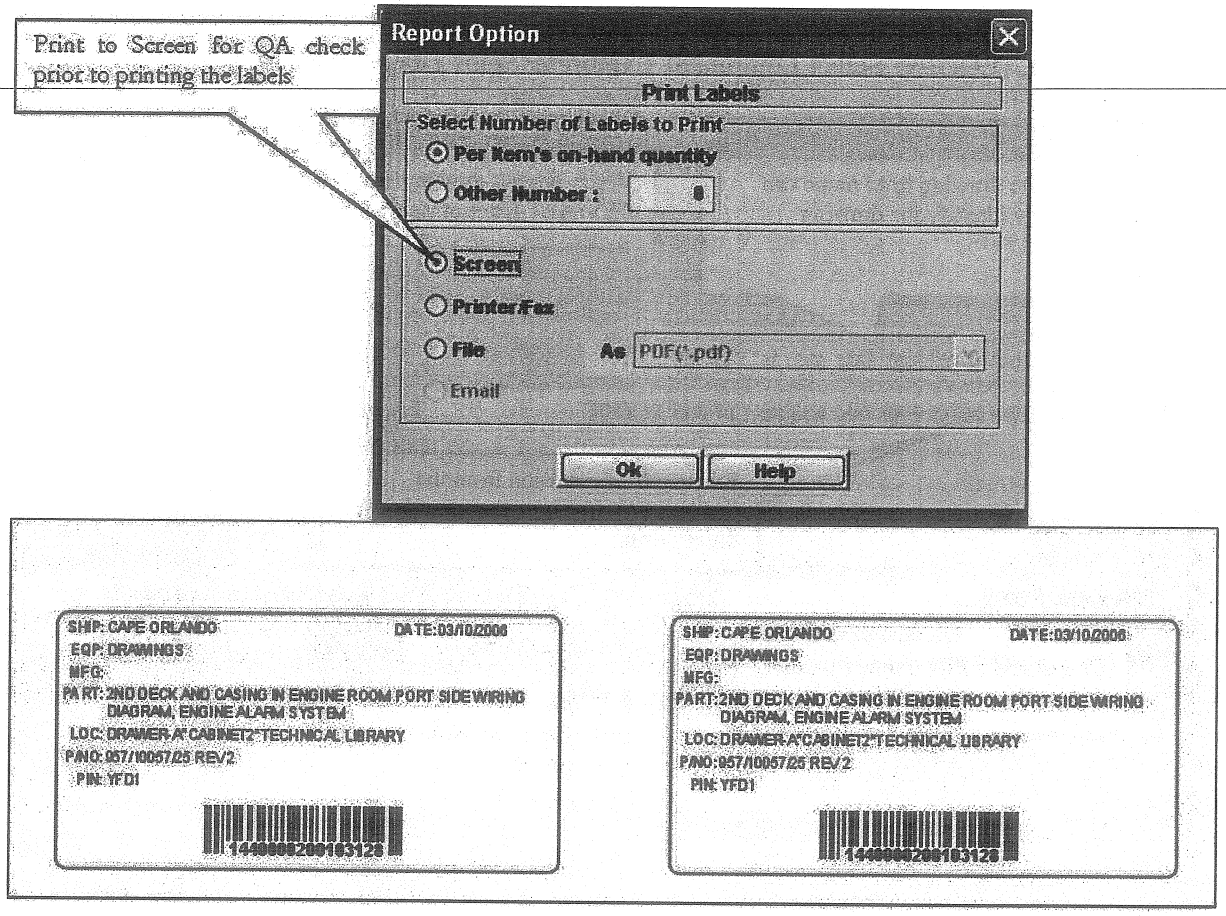


4. For any rolled drawings, put [ROLLED] at the end of the Full Description and Brief Name fields.

5. For drawings that are labeled in a foreign language, insert the drawing name in foreign words into the Full Description and the Brief Name. If the foreign language is known then insert the name of the foreign language into the Full Description Field (e.g. LANG: GERMAN).

Print Labels for Drawings

6. Select Equipment Explorer⇨Ships Documents⇨Drawings ⇨Drawing Name⇨Reports⇨Print Labels



Drawing Bar Code Labels

7. Print bar code labels. Due to the current *NS5* label sizes, the drawing bar code labels are placed on the back of the drawing behind the title box or use your best judgment to placing the label on the drawing and place them in hanging folders in drawing cabinets.

8. Print and affix the label with the drawing number on the file folder tab. These tab labels are created using *Microsoft Label Wizard* installed on your laptop.

> NOTE: **When stowing drawings place an identifying tab between the builders and vendors drawing section in the drawer and between each individual vendor.**

Excess Drawings

9. When a drawing has been identified as excess the record is to be edited in NS5. Put {EXCESS} at the beginning of the Brief Name and Full Description fields and move the record in the NS5 hierarchy to VESSEL SUPPORT → Z-REMOVED DRAWINGS. This will allow easy identification and removal at a later date.

10. Drawings may be removed throughout the overhaul based on the results of the validation and other things such as equipment change outs, etc. Removal of excess drawings should be documented using the NS5 Transfer Order function. Once the quantity in each excess drawing record has been reduced to zero, then the record can be hidden. Do not hide drawing records that have a quantity.

EQUIPMENT VALIDATION (C.2.5.1)

1. Accurate ship equipment configuration records are the foundation for proper spare parts support, maintenance plans, and technical documentation. It is essential that the equipment data in NS5 be complete and accurate. Equipment validation is the process of establishing or updating the ship equipment configuration in NS5.

Preparation

2. To prepare for a full equipment validation aboard the ship, the following actions are required:

(a) Validation aids are provided by the Logistics Support Manager upon request of the Team Leader. Normally give two weeks notice to get the aids. A sample validation aid appears in Appendix B as Form 7.

(b) Validation aids are printed in the same order that they appear in the ship's *NS5* equipment hierarchy.

(c) Review the current Non Validation Worthy (NVW) list and other MARAD directed amendments to this list. Equipment listed as NVW does not have to be validated. If doing a logistics overhaul aboard a FSS vessel then review the valve validation list detailed later in this section.

(d) Review the current equipment hierarchy guidance. Since NS5 includes planned maintenance functionality it is critical that the hierarchy be in conformance with the guidance. Also there may be a need to validate some equipment which in the past was not validated. If the ship plans to link standard jobs to equipment it needs to be in NS5. In some cases dummy equipment records are needed to provide a place to attach parts or maintenance for equipment groups. When in doubt the Team Leader is to consult with the Logistics Support Manager.

Procedures

3. The following procedures are to be followed for equipment validation:

(a) Validation aids for some equipment can be removed from the package as they are for subsystems or dummy categories rather than for actual equipment.. For new equipments an add sheet is used to record the details and a sample appears in Appendix B as Form 15.

(b) The validation sheets are grouped by major equipments and their associated equipments. These groups are assigned a validation package number, created

from the validation aid page number of the major equipment being validated. Page numbers of associated equipments are lined out and the major equipment number with "a", "b", "c", etc. is written in its place. This ties the equipments together into a validation package. A cover sheet (Form 8 in Appendix B) is prepared and attached to the package to track package progress. The package number is documented on the Equipment Validation Tracking Report (Form 9 in Appendix B).

(c) **Recording nameplate information**: For safety and accuracy two-person teams will validate equipment nameplate data. One team member will read off the nameplate data while the other member fills in or verifies the data against the validation aid and marks it up with edits and additions. Next, the recorder will read back his recorded information to confirm it is correct. All numbers, letters and abbreviations will be in accordance with ProLog current approved standards. Samples of these are located in Appendix C. Lastly, the team will stick a brightly colored dot on the equipment to indicate that it has been validated; the dot will contain the last five (5) numbers of the Equipment Record ID.

(d) **Recording technical manual information:** Check the nameplate information and ensure a match with the technical manual identified for the equipment. If there is a mismatch, the TM may not be the correct one for the equipment. If the TM matches, record any additional information called for on the validation aid including TM Index Number.

(e) Validator's should sign and date the completed validation aid.

Equipment Data Entry

Caution DO NOT reuse/recycle records, the possible adverse effects of this practice is unknown.

4. Data obtained from the equipment nameplate and technical manual should be recorded in NS5 as follows. Nameplate info takes precedence. Any symbols are to be spelled out (i.e " should be inch).

Data in Top Part of Equipment Record

Brief Name: Lists the name of equipment with noun first, e.g. PUMP, FIRE NO 1. Abbreviation may be necessary to get enough helpful information to appear. Enter alternate names in the Remarks field.
Full Description: Same as Brief Name field but without abbreviations (if possible) and with additional useful information.
Designation: Choose Unit (UN) or Component (CP). A CP can only be below a UN in the hierarchy. A CP is a piece of equipment which accumulates running hours at the same time the

parent UN is running.
Equipment Code: Do not enter anything in or edit this field.
Equip. Location: Enter location of the equipment including (in this order); level, space, port/center/starboard, forward/midship/aft. If this information is already in the Remarks field, verify and move it to this field and then delete location information from the Remarks field. The following localizing terms are to be used within the space: PORT, CENTER, STARBOARD, FORWARD, MIDS~~HIP~~, AFT. Ensure that all words in this field are fully spelled out and the forward slash is immediately after the word (e.g. 03 LEVEL/ PASSAGEWAY/ PORT/ FORWARD). If doing an overhaul aboard a FSS vessel then review the engine room location guide later in this section.
Status: This should be "Installed." The field can be used to indicate that a piece of equipment has been temporarily or permanently removed. Procedures are provided separately for permanently removed equipment.
Date Installed and Year Made: Enter if verified on name plate or in onboard technical documentation.
Manufacturer: Pick the closest match from the pull down menu. If adding a company select the company type as Manufacturer. Try to be consistent with the manufacturer name where there are multiple equipment records for the same type of equipment.
Serial Number, Model, Size and Type: From nameplate or onboard documentation. Ensure that all spaces and tacks for the numbers are entered into NS5.

Data in Remarks Tab

5. The additional data listed on the validation aid form are to be recorded in the Remarks Tab if found on the nameplate or in onboard technical documentation.

6. The data is to be recorded as follows:
   - For FSS equipment move all existing MSC remarks down several spaces. All new remarks are to be entered above the old MSC data and begin with MARAD VALIDATION and the year, e.g. 2010.
   - If there is no nameplate enter "NO NAMEPLATE". If there is a nameplate but nothing is legible enter "NAMEPLATE ILLEGIBLE". If the equipment or nameplate is inaccessible enter "NAMEPLATE INACCESSIBLE".
   - If there is additional unidentified numbers or data on the nameplate enter ADDITIONAL NAMEPLATE DATA: followed by the data/numbers.
   - If there is no technical manual enter "NO TM".
   - Enter the remaining data from the validation aid.
   - If preexisting data cannot be verified from the nameplate, TM or other referenced source leave it in place but note that. For example enter SERIAL NUMBER NOT VALIDATED, or CAPACITY 65 GPM NOT VALIDATED.
   - Enter NOT VALIDATION WORTHY if equipment is listed on the NVW list.
   - Enter NOT VALIDATED and the reason for it not being validated, other than NVW.
   - Enter [NVW] before Brief Name and Full Description.

7. If a piece of equipment is not found

- Move the equipment to the REMOVED EQUIPMENT subsystem under VESSEL SUPPORT.
- Enter [REMOVED] before Brief Name and Full Description
- Follow procedures provided below to eventually hide the record when parts, locations links, and any attached maintenance have been dealt with.

Notes:

- It is required to collect the data listed on the validation aid if available. However, additional useful info, like nameplate bearing data, can be added.
- Critical codes should be deleted from remarks since they have now been migrated to a separate field. The validation team does not have to review or update critical codes.
- An EGC is no longer required. Leave existing EGC in remarks.

8. Refer to the MARAD *Logistics Guide to NS5 Maintenance and Purchasing Module*, for further guidance.

9. When done the data entry logistics analyst should print out an Equipment Detail Report, sign and attach it to the validation aid for use in the team QA process.

Subject Index Field

10. The Subject Index field in the equipment record is used to track equipment validation through use of the several codes. This allows the Team Leader to compile the equipment validation statistical data for the weekly report and ensure that all equipment records are reviewed during the overhaul. The following codes are to be used:

(a) NON EQUIPMENT. This code is used when the equipment record does not represent an actual piece of equipment aboard the ship (e.g. place holders inserted into the NS5 hierarchy or anything in the vessel support category).

(b) VALIDATION NOT REQUIRED. This code is used when the equipment is not required to be validated as it falls in the non validation worthy list.

(c) DATA ENTRY COMPLETE. This code is used once data entry has been completed following the initial validation.

(d) TEAM QA COMPLETE. This code is used once the equipment has been QA'd by the team and any subsequent changes have been data entered.

(e) CONTRACTOR QA COMPLETE. This code is used when the equipment is ready for QA by MARAD. This code is only used by ProLog management and not by the overhaul teams.

(f) MARAD QA COMPLETE. This code is used when MARAD has completed progress or final QA on the equipment. This code is only used by ProLog management and not by the overhaul teams.

Cross Referencing

11. Cross referencing is the method by which you tell NS5 that two pieces of equipment are of the same make and model and share the same common list of spare parts. The advantage of cross referencing is that if you add spare parts to one equipment, it will appear in the list of parts for the other equipment. Cross referencing is be used sparingly. Before cross referencing equipments, ensure that any attached spare parts are applicable to both equipments.

Team QA

12. Two team members should take the completed Equipment Detail Report, locate the equipment, and check the report against the nameplate and technical documentation. If any errors are found make the corrections on the report and return it to the team leader for NS5 correction. If the report is correct, sign and file it with the validation aid. The QA process is also to ensure that the dot placed on the equipment contains the last five numbers of the equipment record ID. This is especially important if the equipment has an add sheet as the equipment record ID would not have been known during initial validation.

Procedures for updating NS5 for equipment removals:

13. Once it is determined that equipment has been permanently removed from the ship, the following process is used to update NS5 with the removal:

(a) Part number references; if this tab is highlighted in blue, then part manufacturers are listed. If the main part number box is checked, then uncheck it. The manufacturers list can stay.

(b) Cross references: If the cross reference tab is highlighted in blue, then the equipment to be removed is still cross referenced to one or more other equipments. (Note: The cross reference to the next higher equipment listing in the hierarchy is necessary and need not be addressed). Right click on each of the other equipments listed and select "unlink" until they have all been removed.

(c) Maintenance history: If this tab is highlighted, all work orders must be in a completed (CLOS) status. If one or more are not, then inform the Chief Engineer via the team leader.

(d) Maintained Parts: If this tab is highlighted, then there are still maintained parts associated with this equipment. This is another item that the Chief Engineer must be informed of.

(e) If the spares storage area has listings, then one or more spare parts records may still be associated with this record.

(i) To the right of the spares storage listing is a button with 3 dots. Left click on the button. All of the spare parts storage locations will appear in a new window. At the bottom center of this window is another button with three dots. Left click on this button. All of the non-applicable locations will be removed. For all locations that are still applicable to this record a window will pop up with the text "This Storage Location is linked to Part(s) of this Equipment". Left click on OK for each of these until all are complete. Left click on OK and the location window will close.

(ii) If spare parts locations are still listed, then there are still spare parts records associated with this equipment record. Close the equipment record, leave it highlighted and left click on the sub-items icon next to the equipment search icon. If the parts records are still listed on the right hand side, then they must be addressed. If this equipment legitimately cross references to another equipment, then these parts can safely be moved to that equipment. If not, then further action will be performed during the inventory phase of the overhaul.

(iii) A hidden location still tied to a parts record associated with this equipment will be in listed in the spare parts storage location list. Toggle the hidden record display mode. Check the list of spare parts associated with this equipment. If any are flagged as hidden, then open those records. If a spare parts location is still listed on the parts record, then that record must be unhidden, disassociated with the location, and then re-hidden

(iv) Any spare parts records still associated with this equipment record will remain tied to it until research during the inventory phase determines its final status.

(f) Open the documents tab. If any documents are listed, then check with the Chief Engineer for status. (Note: Do not hide a record with an outstanding purchase order)

(g) A remark which lists the reason for an equipment record removal is required. Left click on the remarks tab. Go to the end of the listed remarks, if any. Hit the enter key two times. Type in the remark.

(i) If the equipment is removed without replacement; "NOTE: EQUIPMENT REMOVED WITHOUT REPLACEMENT"

(ii) If the equipment is not validation worthy; "NOTE: NOT VALIDATION WORTHY"

(iii) If the equipment was removed and replaced; "NOTE: EQUIPMENT REMOVED AND REPLACED BY EQUIPMENT RECORD 104-00285-00000176" OR "NOTE: EQUIPMENT REMOVED AND REPLACED BY GMDSS"

(iv) If the record is a duplicate: "NOTE: DUPLICATE RECORD"

(h) If all of the foregoing has been completed, then the equipment status can be safely changed to "removed" by left clicking on the arrow to the right of the "installed" status and changing it to "removed". A window will pop up addressing standard jobs, running hours, etc. Left click on "yes". The status of the equipment record will be changed to 'removed' when the record is saved.

(i) Flag the Name and Complete Name;

(i) Ensure that there is enough room in the complete name to append {HIDE}, {REMOVED} or {REMOVED/P} at the beginning by truncating the end of the name.
(ii) Place {HIDE} in front of the complete name if the record is Not Validation Worthy or a duplicate
(iii) Place {REMOVED} in front if the equipment has been removed and no longer has any parts support
(iv) Place {REMOVED/P} in front if the equipment has been removed and still has parts support

(j) Hiding an equipment record;

(i) Under tools select Hide, Merge, Move Equipment/Parts
(ii) Left click in the box to the left of the equipment record to be hidden.
(iii) Left click on the white hand at the top of the window.

(k) Moving an equipment record;

(i) Perform steps (j) 1. and 2.
(ii) Left click (highlight) the location of the tree that the record is to be moved to. For instance, {REMOVED} AND {REMOVED/P} records should be moved under the Z-REMOVED EQUIPMENT under VESSEL SUPPORT
(iii) Click yes on the move question window. It will close and the record will move
(iv) Close the Hide, Merge, Move Equipment/Parts window
(v) Reopen the Equipment Explorer and verify that the record moved properly.

FSS Valve Validation Worthy List

14. The following is a list of valves that are to be validated aboard any FSS vessel. Any valves not on this list are to be marked NOT VALIDATION WORTHY in the Remarks field.

(a) Boiler safety, stop, and blow down valves.

(b) Main engine throttle valves and guardian valves.

(c) SSTG steam supply valves.

(d) Sea valves (i.e. intake and overboard valves below the waterline).

(e) High pressure air valves (>580 psig).

(f) Valves with hydraulic, pneumatic or electrical actuators (e.g. feed water regulation valves, pressure regulator valves, dump valves, emergency shut off valves, etc., unless they are an integral subcomponent of a validated equipment).

(g) Any other valves identified by the CE as needing individual standard jobs or parts support.

FSS Engine Room Equipment Location Guide

15. In order to standardize the equipment locations across the FSS, the following scheme is to be followed (starting from the bottom of the ship and going up):

(a) ENGINE ROOM/ FORWARD LOWER LEVEL/

(b) ENGINE ROOM/ AFT LOWER LEVEL/

(c) ENGINE ROOM/ OPERATING FLAT/

(d) ENGINE ROOM/ FLAT 2/

(e) ENGINE ROOM/ FLAT 1/

(f) MACHINERY CASAING/ MAIN DECK/

(g) MACHINERY CASING/ 01 LEVEL/

(h) MACHINERY CASING/ 02 LEVEL/

16. The engine room lower levels are split into forward and aft areas that are not accessible except via the operating flat. The machinery casing levels above the main deck would be numbered sequentially if equipment or storage locations need to be recorded there. Enter further localizing terms (in this order); port/center/starboard, forward/mid/aft, information. The following localizing terms are to be used within the space: PORT, CENTER, STARBOARD, FORWARD, MID~~SHIP~~, AFT.

Post Validation Actions:

17. Compile a list of equipment tags upon completion of equipment validation, as directed by MARAD.

18. Attach the equipment tags when they have been produced. This is to be done within three months of the end of the overhaul. (C.2.5.8.1)

19. Review hierarchy and criticality codes (if directed by MARAD).

SPARE PARTS INVENTORY (C.2.5.2)

Preparation

1. To prepare for a spare parts inventory aboard the ship, the following actions are to be undertaken.

(a) Inventory aids are provided by the Logistics Support Manager upon request of the Team Leader. Normally give two weeks notice to get the aids. A sample inventory aid appears in Appendix B as Form 10.

(b) The parts will be sorted by location and then alphabetically by part name prior to printing them out on blue-colored paper. A blank inventory aid printed on white paper must also be printed and will be used as an add sheet.

(c) Inventory Aid sheets are grouped into inventory packages according to their location and identified by the location name. A cover sheet (Form 11 in Appendix B) is prepared and attached to the package to track package progress; the package number is documented on the Inventory Package Tracking Report (Form 12 in Appendix B).

(d) Prior to starting the spare parts inventory, the Team Leader is to request a spreadsheet from the Logistics Support Manager that details all spare part locations along with the number of spare part records in each location. Ensure that the spreadsheet includes not only spare part records with quantity, but also spare part records without quantity. Team Leaders are to use this spreadsheet to track spare parts inventory progress and compile statistical numbers required by the weekly report. An example of this spreadsheet is at Appendix B Form 13.

Procedures

2. The following is a summary of the spare parts inventory procedures (more detailed procedures are located at Appendix I).

3. The Team Leader will assign each team member an inventory package. The logistics analyst will start by locating the appropriate technical references to use while conducting the inventory. The logistics analyst will verify the part against the technical reference and record the TM reference information on the Inventory sheet. The logistics analyst will also verify all data on the inventory aid including on hand quantity. Corrections will be noted on the inventory aid. For new spare parts an add sheet is used to record the details and a sample appears in Appendix B as Form 16. All numbers, letters and abbreviations will be in accordance with currently approved standards. These standards are located in Appendices C and D. If there is any doubt whether the material should be inventoried, consult with the Team Leader. The final determination will be made by MARAD.

4. Boiler tubes, including super heater and economizer tubes are not to be inventoried, however economizer u-bends will be inventoried. If boiler tubes are already in the inventory, they may be left as is or the quantity zeroed out as the CE desires. We will not count or label them.

4. **Packaging and preservation.** Ensure the material is properly packaged and preserved. Preservation is applied to protect the spare part from deterioration during storage. The preservation may include cleaning of bare surface and spraying with a protective coating, wrapping in cosmoline paper / bubble wrap, or covering with flexible plastic tubing. As a general rule machinery parts should be wrapped in cosmoline paper or preservation spray used, while electrical parts should be wrapped in bubble wrap, however judgment will apply. Any previously applied preservation method, or existing packaging in good condition, can be repaired and reused. The spare part is to be placed in a zip lock bag or if too big for a zip lock bag then a Tyvek tag is attached for labeling purposes by a cable tie. If practical, package items with multiple quantities in such a way that the quantity can be verified without removing the packaging.

5. Retain all prior inventory labels/identification, for example MFR, NSN, or other system label when conducting the Repair Parts inventory and place these old labels inside the plastic bag with the material to ensure material identification.

3. For used and/or shelf life expired parts, bring them to the notice of the CE for a decision as to whether to keep them or not. If the parts are to be kept and recorded in NS5, then create a separate part record. For used parts ensure that the part record full and brief description details that the part is used in the following way: USED. For shelf life expired parts ensure that the part record description details that the part has expired and the date of expiry in the following way: SHELF LIFE EXPIRED ON 1/4/2005.

5. Relocate parts as required to ensure boxes or cabinets are not filled beyond 80% capacity. Refer to MARAD *NS5 Shipboard Guidance* manual, for changing a part location.

6. Co-locate parts according to supported equipment as required in accordance with the Special Overhaul instructions provided by the Area. Where space permits collocate related spares not provided for on the regions special overhaul instructions. At the present time *NS5* does not have the ability to scan bar code labels. Due to the time- intensive labor required to relocate each part piece-by-piece using NS5, collocation will only be accomplished upon specific instruction of MAR-614.

7. Print and attach location labels on all locations.

Printed on : 06/16/2009

Storage Location Name : VID-1*A/C MACHINERY ROOM

1480028500000008

Printed on : 06/16/2009

Storage Location Name : DRAWER-A*VID-1*A/C MACHINERY ROOM

1480028500000009

If there is not enough room to apply the location label cut it down or resize it for the printer.

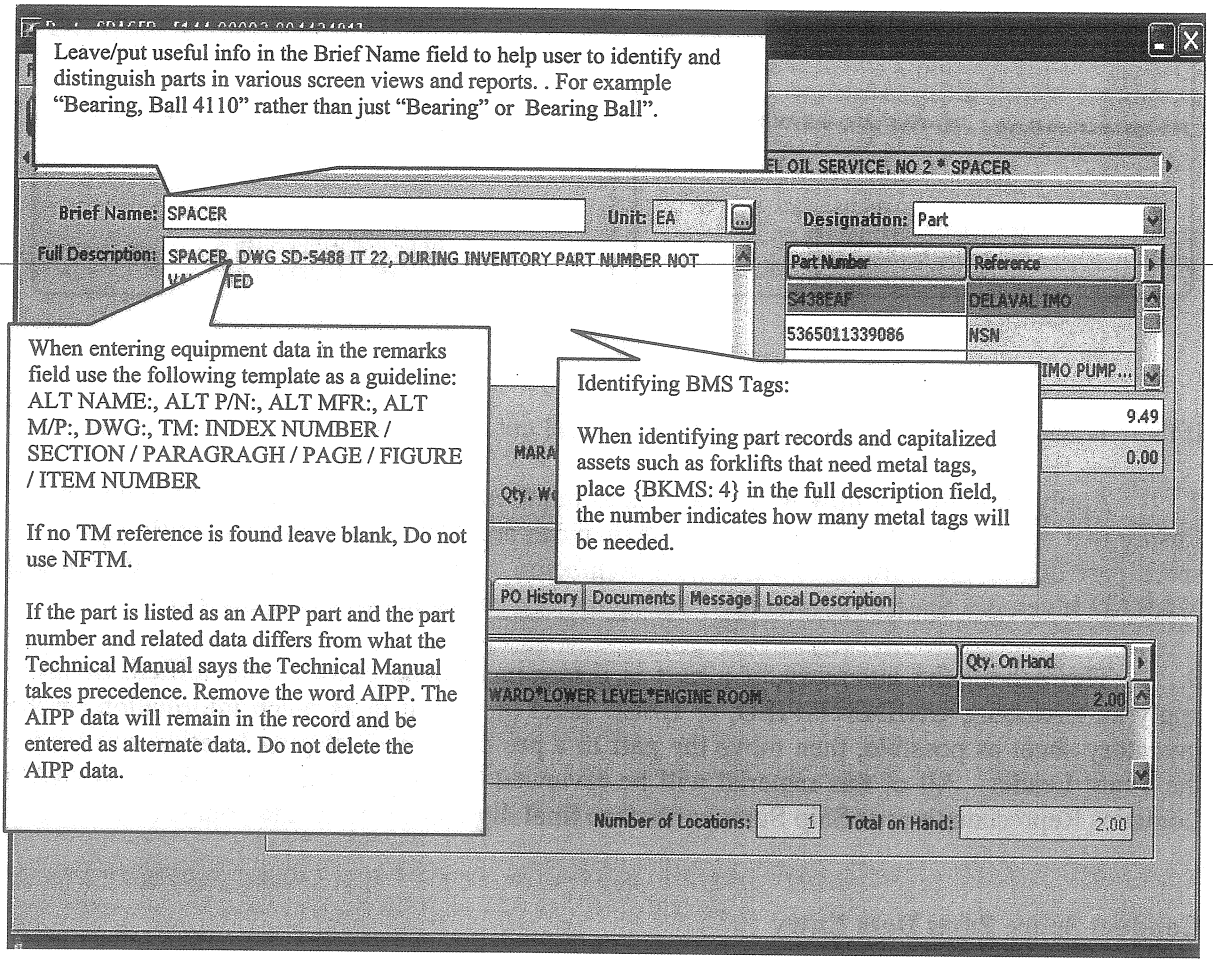
8. Apply temporary yellow wire-wrap ties as required to maintain integrity of the inventory. Ensure that the CE knows what the yellow seals mean and that he is to inform you if he takes a spare part out of the drawer. Permanently numbered seals are applied only by the assigned MARAD Inventory Specialist, although ProLog may be tasked to assist (C.2.5.2.18).

8. Throughout the inventory, if a part is determined to be excess, unidentified, or used, apply an EXCESS, UNIDENTIFIED, or USED label on it. Fill in as much information on the inventory sheet as possible, then move the part to a pre-determined staging location and advise the Team Leader. All of this material will be reviewed by the Chief Engineer/crew, MARAD Logistics Representative, or Ship Surveyor before final disposition of the material is determined.

Conduct Spare Parts Data Entry

Caution DO NOT reuse/recycle records, the possible adverse effects of this practice is unknown.

9. In *NS5*, (LOGIN) Select List⇨System⇨Equipment ⇨Sub Equipment⇨Part, to edit or add new parts refer to the MARAD *NS5 Shipboard Guidance* manual.


Leave/put useful info in the Brief Name field to help user to identify and distinguish parts in various screen views and reports. . For example "Bearing, Ball 4110" rather than just "Bearing" or Bearing Ball".
Brief Name: SPACER
Unit: EA
Designation: Part
Full Description: SPACER, DWG SD-5488 IT 22, DURING INVENTORY PART NUMBER NOT
Part Number
Reference
5438EAF
DELAVAL IMO
53650113390 86
NSN
When entering equipment data in the remarks field use the following template as a guideline: ALT NAME:, ALT P/N:, ALT MFR:, ALT M/P:, DWG:, TM: INDEX NUMBER / SECTION / PARAGRAGH / PAGE / FIGURE / ITEM NUMBER
If no TM reference is found leave blank, Do not use NFTM.
If the part is listed as an AIPP part and the part number and related data differs from what the Technical Manual says the Technical Manual takes precedence. Remove the word AIPP. The AIPP data will remain in the record and be entered as alternate data. Do not delete the AIPP data.
Identifying BMS Tags:
When identifying part records and capitalized assets such as forklifts that need metal tags, place {BKMS: 4} in the full description field, the number indicates how many metal tags will be needed.
9.49
0.00
PO History
Documents
Message
Local Description
Qty. On Hand
2.00
Number of Locations: 1
Total on Hand: 2.00

Used and Shelf life items:
For used and/or shelf life expired parts, bring them to the notice of the CE for a decision as to whether to keep them or not. If the parts are to be kept and recorded in NS5, then create a separate part record. For used parts ensure that the part record description details that the part is used in the following way: USED. For shelf life expired parts ensure that the part record description details that the part has expired and the date of expiry in the following way: SHELF LIFE EXPIRED ON 1/4/2005.

If there is no part number but you have a manufacturer place N/A in the part number field.

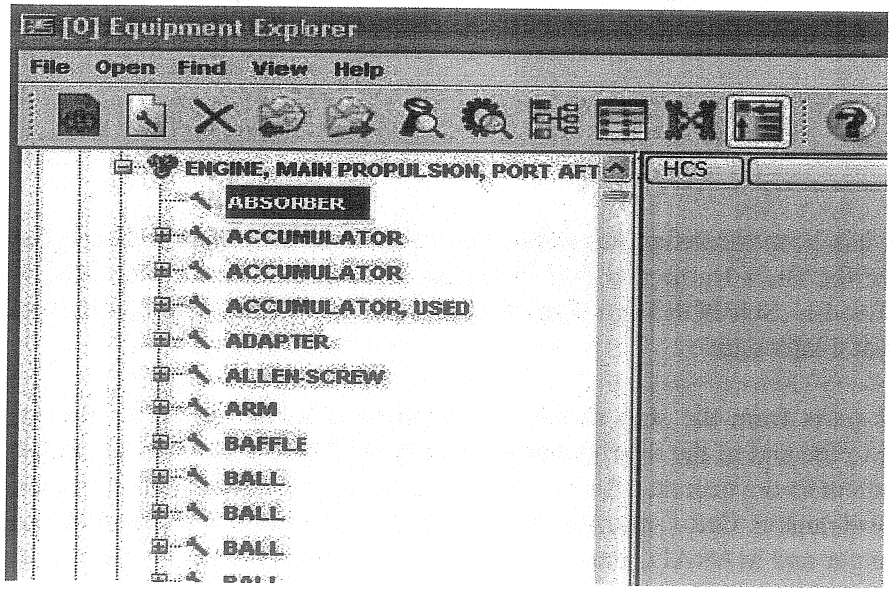
If no part number or manufacturer place N/A in the part number field and unknown in the reference field.

Do not make parts interchangeable

Do not use Item category field for any thing other than tools until further direction is given.

Do not input price information if there is no supporting document. Leave it as "0". Do not use $33.33

10. Once all your data has been entered on a part, click on the 'Save' function in the tool bar to save your changes and return to the parts listing below. Repeat the steps above for each additional part record



10. **Moving parts on FSS.** Many FSS parts have multiple part numbers; sometimes even hundreds. When these parts are moved from one equipment to another in the NS5 hierarchy a transaction is generated in NS5 for each part number. This can slow NS5 down significantly. During the course of FSS parts inventories we are eliminating all but one part number. However in some cases attempts have been made to move parts before eliminating extra part numbers. Before moving parts from one equipment to another, perform the step of eliminating the extra part numbers first.

Printing Labels

11. Refer to the section on Functional Instructions (Inventory) in the *MARAD NS5 Shipboard Guidance* manual, for instructions on printing labels. In addition for printing labels on a laser printer, refer to the LaserJet label printing procedures at Appendix F.

Applying Labels and Team QA

12. Once the location has been inventoried, data entered and labels printed out, the team will place a new NS5 label on the exterior of the zip lock bag or on a Tyvek tag attached to the part by cable tie. Ensure that tape is placed over the NS5 label for protection.

13. At the same time the team will conduct a team QA of the spare parts at the same time that the labels are applied. During this QA process the team member will match the location inventory list data to the NS5 label on the zip lock bag to the information contained on the actual part. Any discrepancies are to be advised to the data entry person, who will make the change in NS5 and print a new label. The QA member is then responsible for removing the old NS5 label and attaching the updated label. Once the team QA is completed, then the Team Leader is to use a blue seal to seal a normally sealed location and then update the seal log in NS5 with the seal number.

Excess Spare Parts

13. When a spare part has been identified as excess the record is to be edited in NS5. Put {COD} at the beginning of the Brief Name and Full Description fields and move the record in the NS5 hierarchy to VESSEL SUPPORT → Z-EXCESS PARTS. This will allow easy identification and removal at a later date.

14. Removal of excess parts from the ship should be documented using the NS5 Transfer Order (TO) function. Prior to the end of the overhaul assist the ship to create a Transfer Order for excess spare parts for shipment to the nearest SBS Warehouse (C.2.5.2.11). Hazardous items are not to be included on the Transfer Order and are to be turned over to the CE for disposal (C.2.5.2.11). The ship manger and MARAD should review the spare parts and decide what is to

be done with it. If it is to be retained aboard the ship, or scrapped, then remove it from the TO. The ship manager will issue the TO. If directed by the LMO, arrange for shipment of the material on the TO.

Hazardous Material

15. The overhaul team will identify and segregate all items that appear to be hazardous. If the MSDS sheet for the material is not available, contact the ProLog Warehouse Manager at (757) 422-4105 with the applicable material description information and obtain two copies of the MSDS. Attach one copy to the material and provide the other copy to the vessel's Chief Engineer. Under no circumstance will ProLog employees remove or dispose of any hazardous material without MAR-614 approval. (C.2.5.8.3)

Bulkhead Mounted Spares List

16. The Bulkhead Mounted Spares (BMS) Inventory is normally the first element of the spare parts inventory to be completed. A spare part requiring a metal tag is defined as a part that is physically mounted in some type of mounting rack or bracket, specially designed to hold the part, and permanently attached to the deck, bulkhead, overhead, stanchion, angle iron, or other permanent part of the ship. A metal tag should be applied to the mounting as well as attached to the part. Also metal accountable property tags are to be applied to forklifts and other mobile powered equipment.

17. If a part is loose on the deck, or shelf, or in angle iron, or tied to an angle iron or stanchion it will not be classified as a bulkhead mounted spare and therefore not get a metal tag. It will however be labeled or tagged with a NS5 label like other non-bulkhead mounted parts

18. At the beginning of a logistics overhaul the team leader will survey the ship, with a crew member if possible, to identify all loose parts that should be mounted and recommend to the CE that he/she have them mounted as soon as possible so we can include them on the list for metal tags.

19. When ready to commence the inventory of bulkhead mounted spares, the Team Leader is to request a report of all spare parts that are in a not normally sealed location, and use this as the basis for identifying parts. Liaison with the CE will be required to ensure that all BMS parts are located as some may not be included in the report. When identifying part records that need metal tags, place {BKMS: 4} in the full description field, the number indicates how many metal tags are needed. Ensure that there is one metal tag for the location and one metal tag for each of the parts.

20. Once all BMS have been identified, and upon the request of the Team Leader, the Logistics Support Manager will generate a BMS tags report. The Team Leader will compare this report against his inventory sheets prior to the Logistics Support Manager ordering the BMS

tags. Metal tags are to be attached no later than three months after the end of the overhaul. (C.2.5.8.1).

Cross Referencing and the Interchangeability Code

21. **Cross referencing.** Cross referencing is the method by which you tell NS5 that two pieces of equipment are of the same make and model and share the same common list of spare parts. The advantage of cross referencing is that if you add spare parts to one equipment, it will appear in the list of parts for the other equipment. Cross referencing is be used sparingly. Before cross referencing equipments, ensure that the attached spare parts are applicable to both equipments.

22. **Interchangeability code.** A spare part may be applicable to several different related or unrelated equipments aboard a ship, and in this case it is assigned an interchangeability code. Do not make parts interchangeable.

23. **Removing interchangeability of spare parts.** Prior to removing interchangeability of parts you should remove any cross referencing of equipments that are associated with these parts. The procedures for doing this are as follows:

(a) Go to reports Menu → inventory reports → storage location seal status. Print the seal status report for all locations.

(b) In the equipment with the interchangeable part, create a new part record and transfer all of the information (except the interchangeability code), in the interchangeable part record to the new part record. Add the same storage location and quantity of parts and save.

(c) Remove the on hand quantity and storage location from the record with the interchangeability, then save and hide the record.

(d) Go to Tools → Manage Normally Sealed Location and enter the same seal number printed in step 1 for the location listed on the new part record.

QUALITY ASSURANCE

1. Both ProLog and MARAD will conduct quality insurance inspections to ensure that the work performed meets the expected standards.

ProLog Quality Assurance (QA)

2. The guiding principal of ProLog QA is the proper training and supervision of team members so that work is performed correctly the first time. Rework and duplication of inspections is to be minimized in favor of doing it right the first time. The QA process will abide by the following levels.

(a) Once the item has been inventoried and data entry completed, then the team will conduct QA on every record to verify that the details were recorded from the equipment nameplate/TM properly and also entered into NS5 correctly.

(b) Sampling of individual results will be conducted by the team leader to determine procedural adherence and individuals for which additional training is needed.

(c) Contractor QA may be conducted by ProLog management to further ascertain the overall quality of the team's work prior to advising MARAD that the work is ready for inspection.

MARAD QA

3. MARAD will conduct progress and final inspections to ensure that the work performed meets the required standards. MARAD will conduct inspections on inventory lists that ProLog has provided.

Progress Inspections

4. Progress inspections will be performed by MARAD regional representatives on receipt of an inventory list from ProLog. At the end of the inspection, the MARAD representative will brief the Team Leader on the inspection results and provide a physical copy of any errors identified.

5. The Team Leader is to immediately research the errors and email a copy of the inspection results along with any comments regarding the errors to ProLog management. Upon review, ProLog management will advise whether the Team Leader should email any disagreements on errors to the MARAD representative. ProLog has one business day to challenge the errors after the Team Leader briefing by MARAD. MARAD HQ will be the final arbiter of errors and will provide a copy of the progress inspection report to ProLog.

COTR Acceptance Inspections

6. COTR inspections will be performed at the end of a logistics overhaul by a MARAD HQ representative. During the COTR inspection any errors will be immediately researched and the results brought to the attention of the COTR. At the end of the inspection, the MARAD representative will brief the Team Leader on the inspection results and provide a copy of any errors identified.

END AND POST OVERHAUL ACTIONS

End of Overhaul Actions

1. The following actions and procedures are to be undertaken at the end of the overhaul or upgrade aboard the ship.

(a) QA of locations-to-parts relationships in the database.

(b) Ensure seal log is updated.

(c) Ship excess parts, or other material as directed by LMO to the nearest SBS Warehouse using Form 1149 or NS5 Transfer Order (C.2.5.2.11).

(d) Stage or ship excess metal boxes. (C.2.5.8.2)

(e) Hide storage locations that are no longer valid. Do not hide locations showing an on-hand quantity.

(f) Ensure that there are two copies of all technical manuals and that any technical manuals have been returned from the printer.

(g) Ensure that a technical manual index and a drawing index has been printed out and handed to the CE.

(h) Ensure that a sweep has been done to find any parts in locations not normally used for storing parts, and update NS5 and label these parts as necessary.

(i) Ensure that metal tags, or other tags as directed by MARAD, have been attached to all bulkhead mounted spares or to a nearby location where the bulkhead mounted spare is or will be mounted. (C2.5.2.13). If not completed by the end of the overhaul then this must be completed within three months of the end of the overhaul. (C2.5.8.1).

(j) Ensure that metal tags have been attached to all equipment. (C2.5.8.1). If not completed by the end of the overhaul then this must be completed within three months of the end of the overhaul. (C2.5.8.1).

(f) Print out and check these reports; list of interchangeable parts, equipment report to ensure locations are consistent, list of hidden parts with quantity, spares list by equipment, equipment particulars report, technical manual index, drawing index, list of equipment with validation not required, list of hidden equipment grouped by subject index code, list of hidden equipment with on hand parts/maintenance history or standard jobs. The Team Leader may need to ask the Logistics Support

Manager to pull some of these specialized reports. These reports are to be retained to show the finishing point of the overhaul.

2. **Overhaul out brief.** Prior to the final acceptance of logistics overhaul, ProLog employees will attend an overhaul out brief hosted by MAR-614. During this out briefing, MAR-614, ProLog employees, the Ship Manager, and MARAD region representatives will discuss issues and concerns pertinent to the completion of the logistics overhaul. (C.2.1.4)

3. **Formal acceptance.** Following this overhaul out brief, MAR-614 will conduct a formal acceptance for the logistics overhaul or upgrade and conduct a COTR QA inspection.

Post Overhaul Work

2. The following actions and procedures are to be undertaken as part of the post overhaul or upgrade work for the ship.

(a) Obtain and attach equipment, BMS, and forklift tags, if not already completed during the overhaul. (C.2.5.8.1)

(b) Send all overhaul documentation to ProLog, Virginia Beach.

(c) Update criticality codes, if directed by MARAD.

(d) Produce a report for all items with quantity that have $0 estimated cost and send to MARAD.

OVERHAUL MANAGEMENT REPORTS

Overhaul Management Reports

1. ProLog is to prepare and submit as required the following reports to MAR-614 for all logistics overhauls.

(a) **Gantt chart.** A Gantt chart is to be submitted by the 15th of each month that is produced in MSPROJECT, for each vessel undergoing a logistics overhaul (C.2.4.3).

(b) **Weekly logistics overhaul report.** This report is prepared weekly to track overhaul progress but does not contain cost data which is reported monthly. It is submitted to MAR-614 each Monday for activity during the previous week. Submission is to occur on Tuesday if the Monday is a public holiday (C.2.4.4). See Appendix B, Form 3 for an example. Team Leaders are to be aware of the following when compiling the report.

(i) The work statistics table incorporates line items in the completion figures.

(ii) If personnel are absent then make a note under the team members heading.

(iii) Fill in the start and completion dates for technical manuals, drawings, equipment validation and spare parts, and update as the overhaul progresses.

(iv) If MARAD conducts any QA then put the results in the appropriate area under the comments heading.

(v) Put any problems, unusual events, work progress, completion issues, items excessed in the appropriate area under the comments heading.

(c) **Quarterly Schedule Update.** This quarterly report provides an updated schedule of logistics overhauls, warehouse inventories, turnover inventories, and Tiger Team evolutions by 15 March, 15 June, 15 September, and 15 December each year. (C.9.11) This update will be submitted in MSPROJECT format.

SUSPENSION OF OVERHAUL ACTIVITIES (C2.5.7.1)

Suspension of Overhaul Activities

1. MARAD may suspend, modify or scale back an ongoing overhaul at any time. When directed to suspend an ongoing overhaul, the Overhaul Team must:

(a) Make all spare parts boxes and/or cabinets, and loose storeroom items 'ready for sea'.

(b) Return all spare parts, drawings and technical manuals to a location recorded in the NS5 database.

(c) If conducting a spare parts inventory, print labels for all spare parts being worked and put them inside the bag with the spare part.

(d) Clean any spaces used by the Overhaul Team.

(e) The Team Leader must ensure that a clear record is compiled of what has been completed, what is currently being worked on, and what is yet to be completed.

(f) When directed by MARAD, be prepared to supply a ship rider to assist the Chief Engineer.

(g) Depart the vessel within 96 hours (C.2.5.7.1), or when directed by MARAD or the Ship Manager

2. If the suspension is temporary (such as for sea / harbor trials, turbo activations, docking etc) then the team will be redeployed to work taskings in the MARAD regional warehouse, work aboard other ships at the same location, complete safety training, or undertake overhaul training. Some suspensions are planned well in advance and the Team Leader should liaise with the Chief Engineer to ascertain whether any activities are planned that will disrupt the overhaul.

ADMINISTRATION

Training in the MARAD Logistics Program

1. Team Leaders and data entry team members are required to use the current MARAD shipboard logistics program (NS5) and must be trained properly in this system. All team members are trained in the specific work and safety procedures related to their task, including the provisions of this document. Each team member is to be given, read, and retain a copy of these procedures. The Team Leader will normally provide the required training on the job, but if more extensive training is advisable, the Team Leader will recommend such training to management or in turn my request formal training support from MARAD.

Working Hours (C2.5.7.3)

2. The working hours of the shipboard logistics team must not significantly interfere with the day-to-day work of the ship's crew. To avoid conflicts between the schedule of the ship and the overhaul team, the Team Leader will obtain approval from the region LMO before working on any MARAD vessel during the following periods:

(a) before 8:00 AM or after 5:00 PM on weekdays,
(b) on Saturdays and Sundays,
(c) during any Federal holiday, and
(d) any day between December 21 and 5 January.

3. The ProLog Program Manager will obtain approval from MAR-614 before working during any of the following periods:

(a) any day a vessel is underway,
(b) any day of, or the day before, a vessel's departure,
(c) any day of, or the day the immediately after a ship has returned from activation,
(d) any hours that will result in a member of the ship's crew having to work overtime outside of 8:00 AM or 5:00 PM, on weekends or on holidays (C.2.5.7.3).

4. If overtime is required to complete a job then the Program Manager will seek approval from MARAD before work can be started.

Operating Ship Equipment

5. Overhaul Team Members are not permitted to operate or open installed machinery or material handling equipment aboard ship. In special situations, consult with the ProLog Logistics Support Manager and the ship's crew. See the Safety Section of this SOP for further safety information.

Authority of and Communication with the Ship Manager

6. While aboard any RRF ship, the overhaul team must comply with all safety and security orders, instructions and directives issued by the ship's Port Engineer, Master, Chief Engineer or their representatives in the exercise of their legal authority. (C.2.5.7.8). Normal overhaul processes require that the team leader communicate regularly with the Chief Engineer and MARAD region LMO, as well as ProLog Managers.

Cleanliness

7. All team working spaces will be kept clean and uncluttered. Trash generated by the team will be removed from the ship daily. Upon final departure the spaces used by the team should be cleaner and more shipshape than when the team arrived.

Identification

8. All employees are required to obtain a Transportation Workers Identification Credential (TWIC) card. Employees must display a security badge at all times aboard ship. This requirement may be satisfied a company issued badge, MARAD badge, or a TWIC card.

SAFETY

1. The safety and health of our employees continues to be the first consideration in the operation of this business. Safety and health in our business must be a part of every operation. Without question it is every employee's responsibility at all levels.

2. It is the intent of this company to comply with all applicable laws and regulations. To do this we must constantly be aware of conditions in all work areas that can produce injuries. No employee is required to work at a job he or she knows is not safe. Employee's cooperation in detecting hazards and, in turn, controlling them is a condition of employment. Inform your Supervisor immediately of any situation beyond your ability or authority to correct.

3. ProLog overhaul team members are to comply with all applicable safety regulations, however as their work place is located at MARAD work places such as ships or warehouses, they are also to comply with the relevant MARAD regional warehouse safety plan, and also with any Ship Manager safety policies.

4. When commencing a ship logistics overhaul the Team Leader is to arrange for the team to receive a comprehensive safety briefing from the Ship Manager. Further safety briefings from the Ship Manager should be requested at regular intervals during the ship logistics overhaul to reinforce safety knowledge and awareness. If the Team Leader is not able to arrange for these briefing he should inform the ProLog Logistics Support Manager who will take necessary action.

5. The shipboard working environment requires extra caution be taken. Below are some of the most important requirements.

   a. Wear authorized steel toe shoes, and a hard hat as required by local working conditions.

   b. Always have a working flashlight on your person.

   c. Memorize the escape route for the space in which you are working.

   d. Watch for open deck hatches and scuttles, and missing deck plates.

   e. Be careful with cutting devices

   f. Get help moving boxes and use good lifting techniques.

   g. Be aware of foul air; report such conditions to your supervisor.

   h. Think before you take any action.

6. Further detailed policy and procedures are provided in ProLog's Standard Operating Procedures for Safety (SOP 0).

APPENDIX A

LOGISTICS OVERHAUL BRIEFING
SHIP NAME: _____
DATE: _____

Overhaul Schedule: Start _____, complete _____

Overhaul Location: _____

MARAD COTR/QA: MAR614/ LMO

Contractor Team: Team Leader _____

Overhaul Scope (SOW):
- Technical Manuals
- Drawings
- Equipment Validation including any NVW exceptions
- Spare Parts inventory – TM referencing
- Accountable Property - usually not done by contractor
- Relocation/consolidation
- Other Concurrent Logistics work –Provisioning/Procurement, ETC.

Assistance Needed from Ship Manager Crew:
- Safety briefing at start and as required
- Round up any material hidden away; i.e. parts, manuals and drawings.
- Identify parts that team is unable to ID.
- Advise on "Keep/Toss" decision for used parts.
- Point out past or planned equipment change-outs or modifications.
- Issue Transfer Order for excess material removal.

Vidmar Cabinet/BMS Installation Plan:
- Procurement Schedule
- Installation Schedule
- Bulkhead Mounted Spares planning

NS5
- Connection to NS5 server
- Assist with issue/stow of parts, accountable property transactions, etc.
- Training

Administrative Support
- Work Space/Head
- Access to Pier/Ship
- Place to eat
- Parking
- 10 hour work days/boat schedule
- Safety Briefings

QA Process

Activation Readiness

Walk Through of Affected Areas – the following may be accomplished at this time or by the team leader in the following days:

a. Identify work spaces and establish work hours for the team members.

b. Coordinate requirements with the Chief Engineer for toilet facilities, refrigerator, ventilation, lighting, keys and identify any possible impact due to industrial work in progress.

c. Review major engineering spaces, storerooms, repair parts locations, and unique spaces which logistics team members will be working.

d. Determine accessibility for equipment validations.

e. Locate and estimate the number of technical manuals and ship's drawings. Discuss their locations for storage, sorting; and their sign out during inventory with the CE.

f. Review box listings and note location of all repair parts. Determine if movement of boxes from remote locations to designated storerooms is necessary.

g. Discuss loose items on deck, in bins, and on shelves. Identify which items are not inventory worthy and mark with "DO NOT INVENTORY" label. Determine which loose items will be removed from the ship, moved to a non-inventory location, or collected and placed in repair parts boxes to facilitate inventory.

h. Survey all spaces for bulkhead mounted spares. Identify any loose parts that should be bulkhead mounted and recommend to the CE that he/she have them mounted as soon as possible.

i. Determine any possible safety hazards such as missing grating, loose writing, inadequate lighting, standing water or oil, or on-going crew or shipyard work.

j. Estimate support requirements, required supplies and blank sheets requirements.

k. Identify staging area for EXCESS spare parts and technical manuals, and empty spare part boxes.

l. Identify the ships technical point of contact for review of EXCESS, KEEP/TOSS and unidentified spare parts.

APPENDIX B

LOGISTICS OVERHAUL FORMS

Form 1	Requisition and Invoice/Shipping Document (DD Form 1149)
Form 2	Technical Manual Inventory Aid
Form 3	Logistics Overhaul Weekly Report
Form 4	Missing Technical Manual and Drawing Report
Form 5	Technical Manual / Drawing Sign Out / In Log Sheet
Form 6	Drawing Inventory Aid
Form 7	Equipment Validation Aid
Form 8	Equipment Validation Package Cover Sheet
Form 9	Equipment Validation Package Tracking Report
Form 10	Spare Parts Inventory Aid
Form 11	Spare Parts Inventory Package Cover Sheet
Form 12	Spare Parts Locations Tracking Spreadsheet
Form 13	Technical Manual Inventory Add Sheet
Form 14	Drawings Inventory Add Sheet
Form 15	Equipment Validation Add Sheet
Form 16	Spare Parts Inventory Add Sheet
Form 17	NS5 Transfer Order

SHIPPING CONTAINER TALLY → 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

REQUISITION AND INVOICE/SHIPPING DOCUMENT

Form Approved
OMB No. 0704-0246
Expires Jan. 31, 2003

The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0246), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR FORM TO THIS ADDRESS. RETURN COMPLETED FORM TO THE ADDRESS IN ITEM 2.

1. FROM (Include ZIP Code)
CAPE TAYLOR 713-923-9985
C/O CROWLEY LINER SERVICES SITE OFFICE
7600 AVE. P, CITY DOCKS, PIER 41-46
HOUSTON, TX 77012

SHEET NO. 1 | NO. OF SHEETS | 5. REQUISITION DATE | 6. REQUISITION NUMBER

7. DATE MATERIAL REQUIRED (YYYYMMDD) | 8. PRIORITY

2. TO: (Include ZIP Code)
DOT MARITIME STAGING FACILITY 757-441-3681
1545 CROSSWAYS BLVD. SUITE G FAX 757-441-3680
CHESAPEAKE, VA 23320

9. AUTHORITY OR PURPOSE

10. SIGNATURE | 11a. VOUCHER NUMBER

3. SHIP TO - MARK FOR

12. DATE SHIPPED (YYYYMMDD) | 11b. VOUCHER DATE (YYYYMMDD)

13. MODE OF SHIPMENT | 14. BILL OF LADING NUMBER

15. AIR MOVEMENT DESIGNATOR OR PORT REFERENCE NO.

4. APPROPRIATIONS DATA

PLEASE TAKE DELIVERY IN NSS UPON RECEIPT OF MATERIAL FOR THE BELOW PURCHASE ORDERS AND COMPLETE BLOCK 19 AND RETURN TO ABOVE ADDRESS OR FAX TO 757-441-3680 ATTN: CURTIS SMITH.

AMOUNT: $0.00

ITEM NO. (a)	FEDERAL STOCK NUMBER, DESCRIPTION, AND CODING OF MATERIEL AND/OR SERVICES (b)	UNIT OF ISSUE (c)	QUANTITY REQUESTED (d)	SUPPLY ACTION (e)	TYPE CONTAINER (f)	CONTAINER NOS. (g)	UNIT PRICE (h)	TOTAL COST (i)
1	SEE ATTACHED LIST OF TECHNICAL MANUALS BEING EXCESSED							$0.00
2								$0.00
3								$0.00
4								$0.00
7								$0.00

16. TRANSPORTATION VIA MATS OR MSTS CHARGEABLE TO

17. SPECIAL HANDLING

18. RECAPITULATION OF SHIPMENT

ISSUED BY	TOTAL CONTAINERS	TYPE CONTAINER	DESCRIPTION	TOTAL WEIGHT	TOTAL CUBE
CHECKED BY					
PACKED BY					

19. RECEIPT

	DATE (YYYYMMDD)	BY	
CONTAINERS RECEIVED EXCEPT AS NOTED			SHEET TOTAL $0.00
QUANTITIES RECEIVED EXCEPT AS NOTED			GRAND TOTAL
POSTED			20. RECEIVER'S VOUCHER NO.

DD FORM 1149, APR 2000

51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

PREVIOUS EDITION MAY BE USED.

FORM 1

CAPE ISLAND TECH MANUAL INVENTORY AID

CAPE ISLAND TECH MANUAL INVENTORY AID

MANUFACTURER	A.L. HACKER COMPANY INC
TITLE	PNEUMATIC ACTUATED UNIT CB-420;

INDEX NO	INDEX # 001	MARAD No:	144-00002-01291533
LOCATION	MAIN DECK*AFT*SUPPLY OFFICE*LIBRARY	QTY	1
LOCATION	MAIN DECK*AFT*TECHNICAL LIBRARY 1-109-2*CABINET-1*SHELF	QTY	1
LOCATION		QTY	

MANUFACTURER	ABB INC
TITLE	LOW VOLTAGE AIR-MAGNETIC POWER CIRCUIT BREAKERS, WITH ELECTRONIC TRIP CONTROL UNIT MODEL MPS-C 2000 AND LOW VOLTAGE POWER CIRCUIT BREAKERS, INSTALLATION AND MAINTENANCE INSTRUCTIONS, MFR TM: 1B 61.12.1-1C

INDEX NO	INDEX # 001	MARAD No:	144-00002-00009781
LOCATION	1ST ASST ENGINEERS OFFICE	QTY	1
LOCATION	CONTROL ROOM	QTY	1
LOCATION	TECHNICAL LIBRARY	QTY	4
LOCATION		QTY	

MANUFACTURER	AERCO INTERNATIONAL INC
TITLE	HELITHERM HEAT EXCHANGERS, MODEL SW1B-PLUS PACKAGED WATER HEATERS;

INDEX NO	INDEX # 003	MARAD No:	144-00002-01291535
LOCATION	MAIN DECK*AFT*SUPPLY OFFICE*LIBRARY	QTY	1
LOCATION	MAIN DECK*AFT*TECHNICAL LIBRARY 1-109-2*CABINET-1*SHELF	QTY	1
LOCATION		QTY	

MANUFACTURER	AERCO INTERNATIONAL INC
TITLE	TEMPERATURE REGULATOR, AERCO TYPE CXT, OPERATING, TROUBLESHOOTING, MAINTENANCE, REPAIR AND INSTALLATION INSTRUCTIONS WITH ILLUSTRATED PARTS;

INDEX NO	INDEX # 002	MARAD No:	144-00002-01291534
LOCATION	MAIN DECK*AFT*SUPPLY OFFICE*LIBRARY	QTY	1
LOCATION	MAIN DECK*AFT*TECHNICAL LIBRARY 1-109-2*CABINET-1*SHELF	QTY	1
LOCATION		QTY	

TECH SIGNATURE:		DATE:	
DATA ENTRY SIGNATURE:		DATE:	

FORM 2

ALTAIR
LOGISTICS OVERHAUL
WEEKLY REPORT

TASK NUMBER: TO-1111

DATE: OCT 8, 2010

Start Date: 13 NOV 08
Estimated Completion Dates:
TM: TBD, pending tech library installation
DWG: TBD, pending tech library installation
~~EQ Validation: 12 November 2010~~
Spare Parts Inv: 14 February 2011

TEAM LEADER: E. ROSE

BASE LINE STATISTICS

EQUIPMENT: 1700
TECH MANUALS: 297
DRAWINGS: 1848
PARTS: 7328 WITH QUANTITY: 3696 (does not include 2447 previously done)

	COMPLETED THIS WEEK	TOTAL COMPLETED	DATA ENTRY	TEAM QA	MARAD QA	EXCESS	LABOR TRACKING THIS WEEK	LABOR TRACKING TOTAL
EQUIPMENT	0	2280	2175	2075	637		60	8872
TECH MANUALS	0	387	387	379	379	40	0	1931
DRAWINGS	0	2775	2775	1860	1860		0	3261
SPARE PARTS	104	1318	418	0	0	0	160	2356
BMS TAGS	0	224	224	224	224		0	511

COMMENTS:

Equipment: Continuing equipment data entry and team QA.

Technical Manuals: Initial inventory, data entry and team QA completed in Mar 2009. We will complete the re-labeling and team QA after the 04 and 05 Technical Library Vidmars have been installed.

Drawings: Initial Inventory, and data entry completed in Dec 09. Some Drawings are stored in cardboard boxes. We will complete the re-labeling and team QA after the 04 and 05 Technical Library Vidmars have been installed.

Spare parts: Continue spare parts inventory and data entry. We are currently not tasked to inventory 2447 line items done previously by crew and DGO.

Team members:

I. HARVEY	J. ROBERTSON	K. DAIGLE **	P. PATTERSON
N. JONES	J. BUTENHOFF *	J. CSORBA	F. BROWN

* On leave this week, ** On US Navy reserve duty this week

FORM 3

TECHNICAL MANUAL / DRAWING SIGN OUT / IN LOG SHEET

Tech Manual/Drawing Number	Tech Manual/Drawing Title	Date Out	Person/Company signing out TM/DWG	Date In	REMARKS

FORM 5

MISSING TECHNICAL MANUAL AND DRAWING REPORT

DATE: _____

VESSEL NAME: _____

TECHNICAL MANUAL OR DRAWING NAME	MANUFACTURER	INDEX NUMBER OR DRAWING NUMBER	QUANTITY MISSING	LAST KNOWN LOCATION

Team Leader Name and Signature: _____

MARAD Representative Name and Signature: _____

FORM 4

ALGOL DRAWING INVENTORY AID

ALGOL DRAWINGS INVENTORY AID

Sorted by: MFR/ Drw No/ Name

MFR: [redacted]

TITLE: BILL OF MATERIALS, NOTES AND CALCULATIONS FOR CO2 FIRE EXTINGUISHING SYSTEM SL-7 CLASS TO T-AKR (X) CONVERSION, SHEET 1 THRU 7

DRAWING NO: | **QTY:** 2 | **ID CODE:** 144-00438-00002006

LOC: 05 TECHNICAL LIBRARY"CABINET 8"DRAWER D

REMARKS

TITLE: COMBINATION ADJUSTMENT WRENCH, MODEL 7081 G

DRAWING NO: | **QTY:** 1 | **ID CODE:** 144-00475-00000013

LOC: 05 TECHNICAL LIBRARY"CABINET 7"DRAWER D

REMARKS

TITLE: DELIVERY SPECIFICATION HATCH COVERS FLIGHT DECK PG 1 AND 8-ED 3, PG 2,3,4 AND 5-ED 1, PG 6 AND 7-ED 2

DRAWING NO: | **QTY:** 1 | **ID CODE:** 144-00438-00002081

LOC: 05 TECHNICAL LIBRARY"CABINET 9"DRAWER A

REMARKS

TITLE: END HINGE COMPLETE

DRAWING NO: | **QTY:** | **ID CODE:** 144-00438-00001624

LOC:

REMARKS

TITLE: JOINER BULKHEAD PLAN 06 LEVEL AFT. PASSAGE P.S

DRAWING NO: | **QTY:** | **ID CODE:** 144-00349-00001647

LOC:

REMARKS

TECH SIGNATURE: | **DATE:**

DATA ENTRY SIGNATURE: | **DATE:**

FORM 6

ALTAIR EQUIPMENT VALIDATION AID

☐ NVW ☐ NO NAMEPLATE ☐ INACCESSIBLE ☐ NAMEPLATE ILLEGIBLE ☐ STANDARD JOBS ☐ MAINTENANCE HISTORY ☑ PARTS

HIERARCHY LOCATION

AIR HANDLING * CARGO VENTILATION SYSTEM * EXHAUST FANS * FAN, EXHAUST, BOX GIRDER, STARBOARD * MOTOR, EXHAUST FAN, BOX GIRDER, STBD

EQUIPMENT NAME	DESIGNATION	EQUIPCODE	ID CODE
MOTOR, EXHAUST FAN, BOX GIRDER, STBD	CP	51211#000031	104-00311-00017996

MFR:	GENERAL ELECTRIC CO.		
MODEL	5K184MK2353	TM REF:	
TYPE:	K	DWG NO.:	
SERIAL NO:		SIZE:	
YEAR MADE:		CRITICALITY:	D

REMARKS: MARAD VALIDATION DATA 2009: ~~EQ-6945~~, MOUNTING: HORIZONTAL, MFR. ID: CODE J, TEMP: 50 DEG C AMB, 100 DEG C RISE, INSUL CL B, OPERATION: CONTINUOUS, ENCLOSURE: TEAO WATER PROOF, VOLT: 440, AMP: 6.8, CYCLE: 60, PHASE: 3, HP: 5, RPM: 1,750, FRAME: 184TDZ, DWG: 144B2758-1, REMARKS: NEMA DESIGN B, BEARINGS PE 732A501AW-P1, 35BC02XDD FE 732A500AL-P1, 25BC02XDD, TECH MANUAL INDEX: 140□□□Characteristics : MFR: GENERAL ELECTRIC CO.,3135 EASTON TPKE, MFR ID NO: 5K184MK2353, VOLTAGE: 440, PHASE: 3, AMPS: 6.8, RPM: 1740, HP: 5, FAIRFIELD, CT 06431, CYCLE: 60, CAGE- 24446CCF DATE: 12/01/99

MATERIAL:		VOLTS:	
MOUNTING:		AMPS:	
MFR ID:		WATTS:	
SPECS:		HERTZ:	
TEMP:		PHASE:	
PRESSURE:		HP:	
OPER:		RPM:	
CAPACITY:		FRAME:	
ENCL:		LOCATION:	AFT MOORING ROOM/ STARBOARD/ FORWARD

ADDITIONAL INFORMATION:

VALIDATOR'S SIGNATURE:		DATE:	/ /
DATA ENTRY SIGNATURE:		DATE:	/ /

Page 14 of 3563

FORM 7

EQUIPMENT VALIDATION PACKAGE COVER SHEET

Validation System Name:_____

Ship: _____ Package No. _____ Page_____of_____Pages

Total Number of Equipments in Package: _____

Equipment Name	Validation No Record ID (LAST FIVE DIGITS)	Validation Completion Date	Data Entry Date	Team QA Date	Contractor QA Date	REMARKS

FORM 8

EQUIPMENT VALIDATION PACKAGE TRACKING REPORT

VESSEL NAME: _____

DATE: _____

Page _____ of _____ Pages

EQUPMENT NAME	PACKAGE NO.	NO. OF SHEETS OUT	VALIDATOR	DATE OUT	DATE IN	NO. OF SHEETS BACK	DATA ENTRY DATE	TEAM QA DATE	CQA DATE	REMARKS

FORM 9

CAPE ISLAND

Spare Parts Inventory AID- Location Inventory List

Old Seal #: _____

NewSeal #: _____

LOCATION: B DECK*AFT DEHUMIDIFICATION ROOM*VID-28*DRAWER-B

PIN / MARAD PKEY / INTERCHANGEABLE ##	Full Description	Part Number / Manufacturer / NSN	Quantity This Location / Unit of Issue	
YA4441 YAP11LZ000	O RING, PRESSURE COMPENSATOR, TM: 207/SECT VI/ON BOARD SPARE PARTS AND SPECIAL TOOLS/DWG 82007-B-323/SH 4/IT 20	* 671-00222 * DENISON ENGINEERING CORP * NSN:	1 EA	Label Used Tool

PART ID *144-00002-00443565*

Equip Name	Equip ID	TM #	Alt Part No	Alt Mfr
PUMP, WINCH, STERN RAMP, W2, NO 2A	104-00002-00038604			
PUMP, WINCH, STERN RAMP, W2, NO 2B	104-00002-00038605			

YA4426 YAP13Q5000	O RING, PRESSURE COMPENSATOR, TM: 207/SECT VI/ON BOARD SPARE PARTS AND SPECIAL TOOLS/DWG 82007-B-323/SH 4/IT 26	* 5330005708377 * DENISON ENGINEERING CORP * NSN:	2 EA	Label Used Tool

PART ID *144-00002-00443551*

Equip Name	Equip ID	TM #	Alt Part No	Alt Mfr
PUMP, WINCH, STERN RAMP, W2, NO 2A	104-00002-00038604			
PUMP, WINCH, STERN RAMP, W2, NO 2B	104-00002-00038605			

YA4463 YAP15TP000	O RING, TM: 207/SECT VI/ON BOARD SPARE PARTS AND SPECIAL TOOLS/DWG 82007-B-323/SH 2/IT 10	* 5330008045694 * DENISON ENGINEERING CORP * NSN:	4 EA	Label Used Tool

PART ID *144-00002-00443584*

Equip Name	Equip ID	TM #	Alt Part No	Alt Mfr
PUMP, WINCH, STERN RAMP, W2, NO 2A	104-00002-00038604			
PUMP, WINCH, STERN RAMP, W2, NO 2B	104-00002-00038605			

Inventoried By: _____ Date: _____ Data Entry By: _____ Date: _____

FORM 10

SPARE PARTS INVENTORY COVER SHEET

VESSEL: _____

LOCATION: _____

VID_____DRW_____CAB _____ BOX/CRATE NO _____ SHELF _____

INVENTORY TECH: _____ DATE: _____

LINE ITEMS BLUE: _____ ADD: _____ TOTAL: _____

EXCESS:_____

DATA ENTRY: _____ DATE: _____

TEAM QA: _____ DATE: _____

LABELED: _____ DATE: _____

MARAD Q/A QTY SAMPLED: _____ DATE: _____

REFERENCES:

1: _____

2: _____

3: _____

4: _____

5: _____

REMARKS:_____

_____

_____

_____

_____

FORM 11

TRACKING SPREADSHEET FOR SPARE PARTS LOCATIONS

Location	With Qty	INV BLUES	INV ADDS	INV TOT	TECH	DATA ENTRY	Team QA	C/ QA	MARAD QA	EXCESS	Relocated
0	16			0							
00000	10			0							
02XXX LOCATIONS*02002	1			0							
CFL01	2			0							
CFLO1	1			0							
CHIEF ENGINEERS OFFICE	38	30	12	42						6	2
CMATE	1			0							
CRANE	3			0							
CRANE LOCKER*VID-4*DRAWER-J	0		3	3							
CRANE LOCKER*VID-4*DRAWER-K	2			0							
CREW	1			0							
CREW'S MESS	0		13	13						4	1
DCLKR	0			0							
DECK	4			0							
DLR-1	14			0							
ENGINE ROOM	3			0							
ENGINE ROOM*LOWER LELEL	2			0							
ENGINE ROOM*OPERATING LEVEL	1			0							
ENGINE ROOM*OPERATING LEVEL*PORT*AFT*MOUNTED BULKHEAD	5			0							
ENGINE ROOM*OPERATING LEVEL*STARBOARD*AFT*MOUNTED BULKHEAD	7			0							
ENGINE ROOM*OPERATING LEVEL*VID-41	1			0							
STARBOARD TUNNEL*ST66C	32			0							
STBD	1	1	2	3							
STBD1	1			0							
STEERING GEAR ROOM*VID-43	1	1	6	7							
STEERING GEAR ROOM*VID-43*DRAWER-B	3			0							
STEERING GEAR ROOM*VID-43*DRAWER-C	2			0							
STEERING GEAR ROOM*VID-43*DRAWER-D	8			0							
STEW	4			0							
STRGR	5			0							
UNDER	1			0							
		INV BLUES	INV ADDS	INV TOT	TECH	DATA ENTRY	Team QA	C/ QA	MARAD QA	EXCESS	Relocated
	170	32	36	68	0	0	0	0	0	10	3

FORM 12

TECHNICAL MANUAL INVENTORY ADD SHEET

LOCATION & QUANTITY

INDEX NUMBER_____

TECH LIBR QTY_____, CAB_____, DRW_____, SHF_____, COND UNSAT_____

CEOF QTY_____, CAB_____, DRW_____, SHF_____, COND UNSAT_____

AE QTY_____, CAB_____, DRW_____, SHF_____, COND UNSAT_____

RR QTY_____, CAB_____, DRW_____, SHF_____, COND UNSAT_____

BRDG QTY_____, CAB_____, DRW_____, SHF_____, COND UNSAT_____

_____ QTY_____, CAB_____, DRW_____, SHF_____, COND UNSAT_____

_____ QTY_____, CAB_____, DRW_____, SHF_____, COND UNSAT_____

TITLE_____

_____

_____

_____

MFR TM NO_____

NSTM NO_____

EQUIPMENT COVERED_____

_____

_____

_____

_____

_____

MANUFACTURER_____

_____
'NVENTORIED BY/DATE

_____
DATA ENTRY BY/DATE

FORM 13

DRAWINGS INVENTORY ADD SHEET

DRAWING TITLE:_____

_____

_____

_____

_____

_____

_____

_____

BOOKLET/SHEETS _____ THRU _____OF_____ SHEET _____OF_____

LOCATION: TECHLIBR CEOF CMOF AEOF PEOF RR SHOF_____
(OTHER)

MARAD #:_____-S _____-_____-_____REV_____

MSC #:_____*(PLACE IN NS5 FULL DESCRIPTION FIELD)*

SEQ #:_____*(PLACE IN NS5 FULL DESCRIPTION FIELD)*

SHIPBUILDER:_____

SHIPBUILDER #:_____REV_____

VENDOR:_____

VENDOR #:_____REV_____

CAB_____DRW_____

QUANTITY_____ SAT_____ UNSAT_____

_____ _____
INVENTORIED BY DATE DATA ENTRY BY DATE

FORM 14

CONTROL NO. _____

EQUIPMENT VALIDATION ADD SHEET

☐NVW ☐NO NAME PLATE ☐ NAME PLATE UNACCESSIBLE ☐ NAMEPLATE UNREADABLE

EQUIPMENT NOUN NAME _____

APPLICATION / DESCRIPTION _____

MFR: _____

MODEL: _____ TM REF: _____

TYPE NO: _____ DWG NO.: _____

SERIAL NO.: _____ SIZE: _____

YEAR MADE: _____ VOLTS: _____

MOUNTING: _____ AMPS: _____

MFR ID: _____ WATTS: _____

SPECS: _____ HERTZ: _____

TEMP: _____ PHASE: _____

PRESSURE: _____ HP: _____

OPERATION: _____ RPM: _____

CAPACITY: _____ FRAME: _____

ENCL: _____

LOCATION: _____

ADDITIONAL INFORMATION

VALIDATOR'S SIGNATURE: _____ DATE: _____

DATA ENTRY SIGNATURE: _____ DATE: _____

FORM 15

SPARE PARTS INVENTORY ADD SHEET

LOCATION_____

VID _____ DRW _____ CAB _____ BOX/CRATE NO _____ SHELF _____

NAME_____

ALT NAME_____

DESCRIPTION_____

_____

_____

_____

MANUFACTURER_____

ALT MANUFACTURER_____

PART NUMBER_____

ALT PART NUMBER_____

REF TM _____

EQUIPMENT_____

ON HAND QUANTITY_____ USED "U" _____

LABELS REQUIRED _____ METAL TAGS (BKMS) _____

UNIT OF ISSUE (UI) _____ TOOL (Enter "T" if part is a tool.) _____

CURE DATE _____ EXPIRATION DATE _____

COST $ _____ COST SOURCE _____

_____

INVENTORIED BY DATE

_____

DATA ENTRY BY DATE

FORM 16

Transfer Order(TO) No.: 4380008 | Fiscal Effective Date: 12/08/2009 | Printed On: 10/14/2010

Location: CAPE ISLAND	Location: SRF ALAMEDA
Account No.: [040-002] Warehouse	Account No.: [040-002] Warehouse
Project No.: *TRANSFER ORDER	Project No.: MAR-WR-WHSE
Ship To:	Contact.:
	Tel.:
Ship Via.:	Total Cost: 0.00
Expected Delivery.:	Expedite:

Remarks: ALL TRANSFER ORDERS EXCESS MATERIAL DUE TO INVENTORY PERFORMED BY MARAD LOGISTICS CONTRACTOR

SOURCE (CAPE ISLAND)	UNIT COST	QUANTITY	DESTINATION (SRF ALAMEDA)
S: SHEAVES AND GRAVITY DAVITS, LIFEBOATS P No.: N/A EQ: Z-EXCESS PARTS ST: WAREHOUSE*SPARE PARTS*EXCESS AC:040-002 PJ: *TRANSFER ORDER MI: SHEAVES AND GRAVITY DAVITS, LIFEBOATS	0.0000	1.00	S: SHEAVES AND GRAVITY DAVITS P No.: UNKNOWN EQ: Parts ST: *STAGE AREA AC:040-002 PJ: MAR-WR-WHSE MI: SHEAVES AND GRAVITY DAVITS
S: METAL BOXES, VARIOUS SIZES P No.: N/A EQ: Z-EXCESS PARTS ST: WAREHOUSE*SPARE PARTS*EXCESS AC:040-002 PJ: *TRANSFER ORDER MI: METAL BOXES, VARIOUS SIZES	0.0000	3.00	S: METAL BOXES ISLAND P No.: EQ: Parts ST: *STAGE AREA AC:040-002 PJ: MAR-WR-WHSE MI: METAL BOXES ISLAND
S: CIRCUIT BREAKERS VARIOUS AMPERAGE P No.: N/A EQ: Z-EXCESS PARTS ST: WAREHOUSE*SPARE PARTS*EXCESS AC:040-002 PJ: *TRANSFER ORDER MI: CIRCUIT BREAKERS VARIOUS AMPERAGE	0.0000	2.00	S: {HIDE} CIRCUIT BREAKERS ISLAND P No.: EQ: Parts ST: *STAGE AREA AC:040-002 PJ: MAR-WR-WHSE MI: {HIDE} CIRCUIT BREAKERS ISLAND

ISSUED BY: Kennedy, Mike 253-383-8066 DATE: 12/10/2009
DELIVERED BY: Streblow, Michael DATE: 01/27/2010

[ST] Storage Location	[MI] Maintenance Item	[AC] Account	[PJ] Project
[S] Stock	[N] Non Stock	[*] Delivered	[P No.] Main Part No. Ref

Page : 1 of 1

FORM 17

APPENDIX C

STANDARD HANDWRITTING FOR DATA RECORDING

A B C D E F G

H I J K L M N

O P Q R S T U

V W X Y Z

Ø 1 2 3 4

5 6 7 8 9

NOTE:

- The letter S has extended vertical lines on it to distinguish it from the number 5.
- The letter Z has a line through it to distinguish it from the number 2.
- The number Ø is slashed to distinguish it from the letter O.

APPENDIX D

ABBREVIATIONS FOR TECHNICAL TERMS

ABBREVIATION	LONG FORM
“	Inch
“HG	Inches of Mercury (Vacuum)
‘	Foot/Feet
A	Amp/ AM PERF
A/C	Air Condition
AFT	AFT
AM	Amplitude Modulation
AUX	Auxiliary
ALT/PN	Alternate Part Number
ALT MFR	Alternate Manufacturer
ASSY	Assembly
BLST	Ballast
C	Centigrade
C.O.	Cargo Oil
CAT	Catalog Number
CCW	Counter Clockwise
CDS	Certification Data Sheet
CM	Centimeters
CPU	Central Processing Unit
CRT	Cathode Ray Tube
CU	Cubic
CU”	Cubic Inch
CU’	Cubic Foot
CW	Clockwise
D.0./DO	Diesel Oil
DEG	Degree
DFT	De-aerating Feed Tank
DIA	Diameter
DP	Drip Proof
DPDT	Double Pole-Double Throw Switch
DPST	Double Pole-Single Throw Switch
DSL	Diesel
DWG	Drawing
EDG	Emergency Diesel Generator

F	Fahrenheit
F	Female
F.0./FO	Fuel Oil
FDW	Feed Water
FM	Frequency Modulation
FND, FNDS	Foundation
FNT	Flush Non-Tight
FOT	Flush Oil Tight
FR	Frame: FR45 to FR 67
FT/LB	Foot/Pound
FW	Fresh Water
FWD	Forward
FWT	Flush Water Tight
GPD	Gallons Per Day
GPH	Gallons Per Hour
GPM	Gallons Per Minute
H	Height
H.P./HP	High Pressure
H.S.	High Speed
HF	High Frequency
HP	Horse Power
HT	High Temperature
HZ	(Hertz Cycles)
IC CHIP	Integrated Circuit Chip
ID	Inside Diameter
IT	Item Number
K	Kilo (Followed by other element)
KVA	Kilo Volt Amps
KW	Kilowatt
L.O./LO	Lube Oil
L.P./LP	Low Pressure
L. S./LS	Low Speed
L/M	List of Material
LB	Pound
LED	Light Emitting Diode
LF	Low Frequency
LG	Long, Length
LH	Left Hand
LP	Low Pressure
LT	Low Temperature
LO	Lube
M	Male
M	Meters
MAX	Maximum (Equipment Specs Only)
MFD	Micro Farad
MFR	Manufacturer
MG SET	Motor Generator Set
MIN	Minimum (Equipment Specs Only)

M/P	Manufacturer/Part Number
MM	Millimeters
MW	Megawatt
NAVI	Navigation
NC	Normally Closed
NC	National Coarse Thread
NF	National Fine Thread
NO	Normally Open
NPT	National Pipe Thread
OD	Outside Diameter
OT	Oil Tight
OVBD	Overboard
P/D	Product Detail
P/N	Part Number
PC	Piece
PCB	Printed Circuit Board
PH	Phase
PSI	Pounds Per Square Inch
PSIG	Pounds Per Square Inch Gauge
PWB	Printed Wiring Board
RH	Right Hand
RPM	Revolutions Per Minute
RWT	Raised Watertight
S/N	Serial Number
S/S	Ships Service
SATCOMM	Satellite Communications
SPDT	Single Pole-Double Throw Switch
SPST	Single Pole-Single Throw Switch
SQ	Square
SQ"	Square Inch
SQ'	Square Foot
SSB	Single Side Band
SSDG	Ships Service Diesel Generator
SSTG	Ships Service Turbo Generator
SW	Salt Water
THK	Thick
TM	Technical Manual
TWT	Traveling Wave Tube
UHF	Ultra High Frequency
V	Volt
VAC	Volt AC
VAC/DC	Volt AC and DC
VDC	Volt DC

VHF	**Very High Frequency**
W	**Watt/Wattage**
W	**Width**
W/D	**Wiring Diagram**
WCB	**Wrought Carbon Body**
WOG	**Water, Oil, or Gas**
WSP	**Wet Steam Pressure**
WT	**Water Tight**
WTQA	**Water Tight Quick Acting**

APPENDIX E

NON VALIDATION WORTHY EQUIPMENT

The following equipment and components are designated non-validation worthy due to their non-critical nature, low failure rate, commonality, or ease of replacement and repairability. This list is not all-inclusive and any recommendations for additions, deletions, or changes may be submitted to MAR-614.

- Access closures - manually operated (doors, hatches and scuttles)
- Accountable property
- AC/DC power supplies integral to equipment
- Air conditioning units, stateroom porthole type
- Amplifiers integral to an equipment
- Anchors, anchor chain, and lines
- Battery chargers, unless installed
- Batteries, portable
- Bells associated with an alarm system
- Circuit breakers, less than 100 amps
- Computers not integral to a system
- Connectors
- Cooling coils, air duct type
- Couplings, with the exception of those that are part of the main propulsion shafting, main turbines, generators, and diesel engines
- Cylinders for watertight doors
- Dial telephone sets
- Dimmers/rheostats - controlling status board lights
- Distribution boxes
- Electrical connection boxes
- Exciters, except power generator exciters
- Expansion joints and flexible pipe couplings
- Fans and brackets, open-bladed, bulkhead mounted, and portable filters
- Fuse boxes
- Gauges and meters
- Header assemblies
- Heaters for habitability spaces
- Household type washers and dryers
- Indicators, sight liquid
- Interconnecting boxes
- Junction boxes
- Lighting, with the exception of navigation, aircraft facility, special cargo installations, and searchlights
- Nozzles, fire hose type
- Office equipment
- Panels, with the exception of control and monitoring panels for critical systems such as vessel's whistle, fire fighting systems, main engine controls, boiler controls, salinity indicating systems, and alarm panels
- Plotting boards - other than tactical display
- Plumbing fixtures

- Portable galley equipment
- Portable equipment, with the exception of materials handling equipment such as forklifts
- Radio frequency filters
- Relay and relay arms - other than reverse current (type CON and CRN)
- Solenoid, valve
- Sprinkler heads
- Strainers
- Stuffing boxes
- Switch boxes
- Switches
- Tank level indicators
- Terminal boxes
- Thermometers
- Transformers - other than power distribution and lighting
- Traps
- Urinals/water closets/lavatories
- Valves except for:

  - Boiler safety, stop, and blow down valves
  - Main engine throttle and guardian valves
  - SSTG steam supply valves
  - Sea valves (i.e. intake and overboard valves below the waterline)
  - High pressure air valves (>580 psig)
  - Valves with hydraulic, pneumatic, or electrical operators (e.g. feed water regulation valves, pressure regulator valves, dump valves, emergency shut off valves, etc. unless they are integral subcomponent of a validated equipment.
  - Any other valves identified by the CE as needing individual standard jobs or parts

- Ventilation motors under 3 horsepower, and associated fans, controllers, and heat exchangers; except those installed to ventilate engine rooms, machinery spaces, cargo spaces, flammable storage, battery storage, and charging rooms, and other hazardous spaces.

APPENDIX F

LASERJET LABEL PRINTING PROCEDURES

NOTE: These procedures are also used to print labels from a single part record.

1 To Print labels, you will need to start from main NS5 tool bar (Figure-1).

(a) Select **LIST** and click on **SPARES STORAGE LOCATION.**

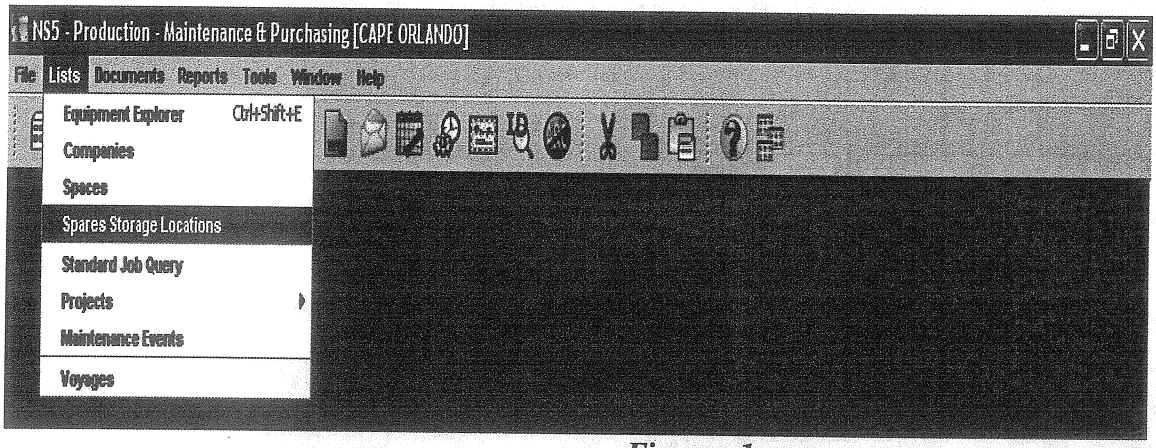


Figure - 1

(b) Next this will bring up the **STORAGE LOCATION Hierarchy**, (Figure-2). Highlight the location to which you want to print labels for, click on **Reports** and then click **Print inventory Labels.**

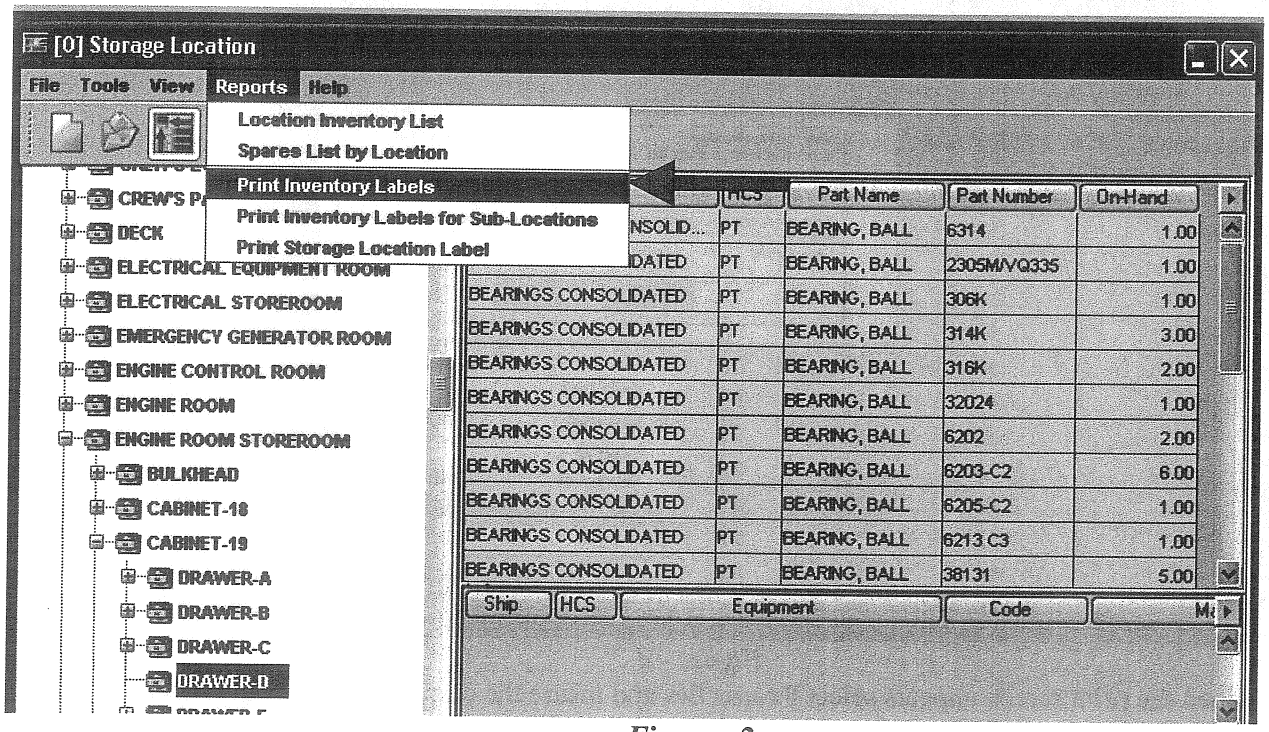


Figure - 2

(c) On **Report Option** (Figure-3) if you only need one label select the following and click **ok.**

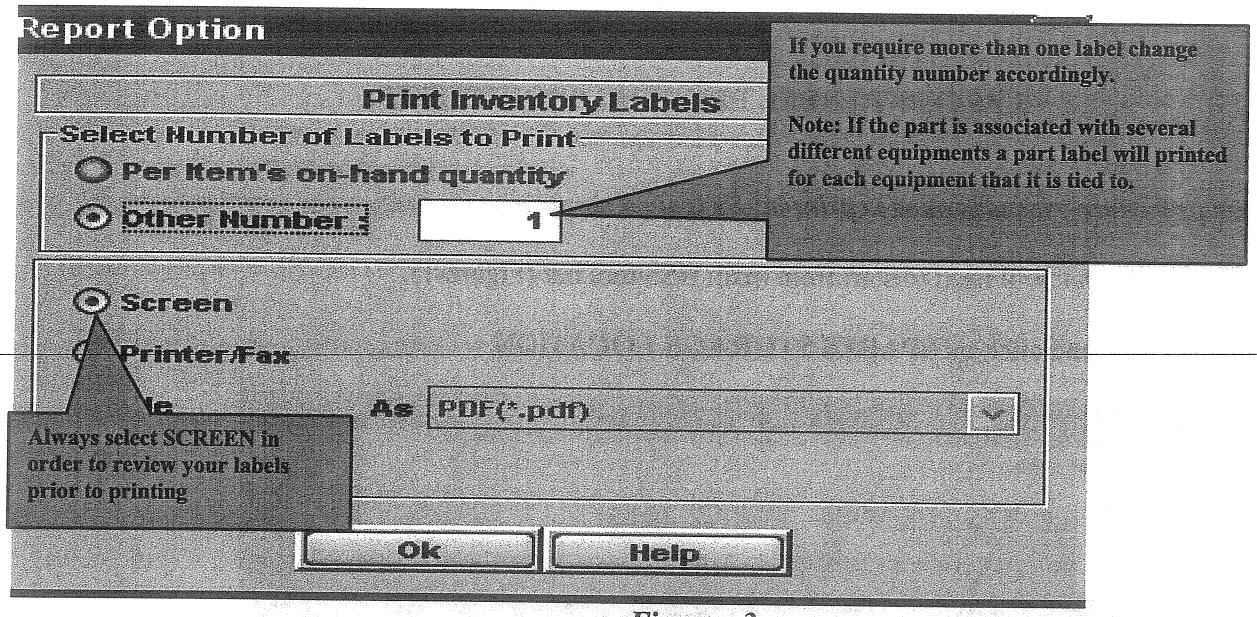


Figure - 3

(d) Next right click the mouse any where on the screen and then select **print** (Figure-4).

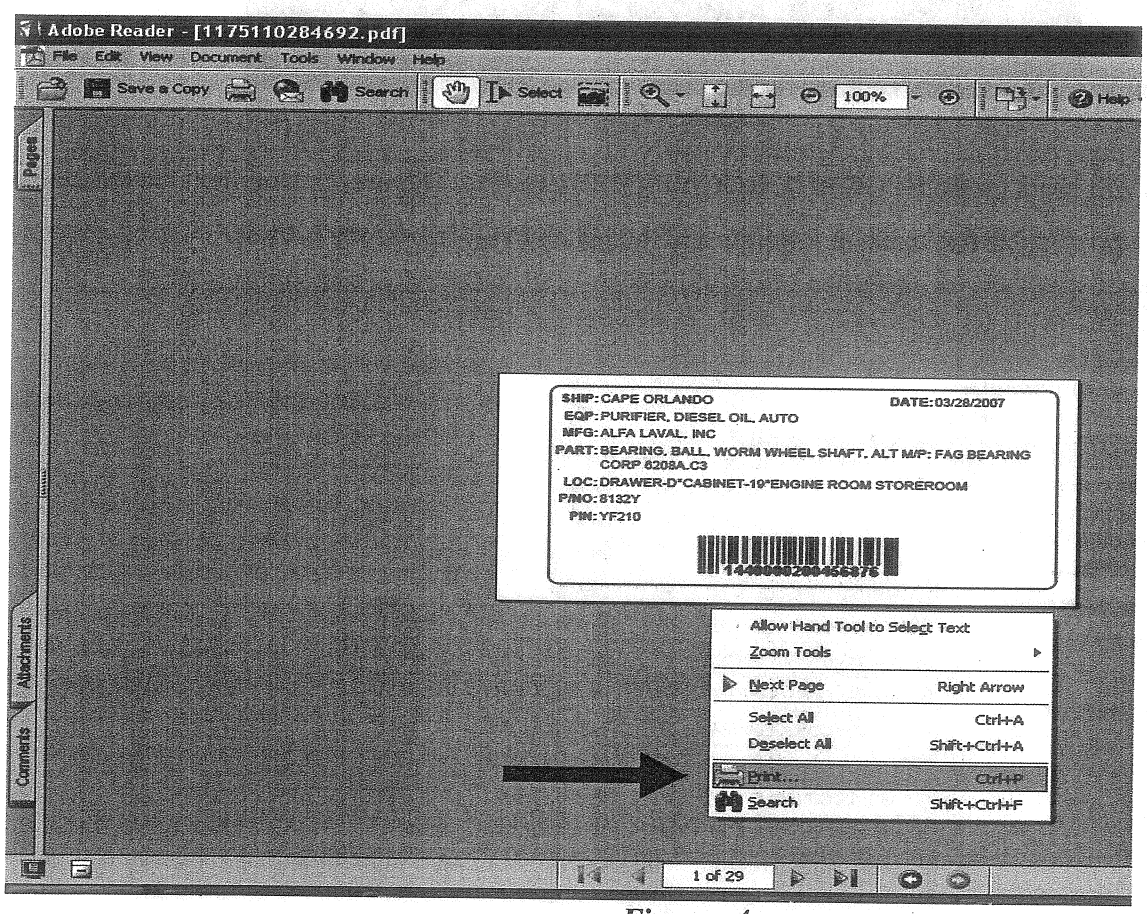


Figure - 4

(e) When the print screen appears select **Properties** and insure the correct paper size is chosen. This will be determined by which label stock is being used. 8 ½ x 11 (LETTER) or 8 ½ x 14 (LEGAL) and click **ok.** (Figure-5).

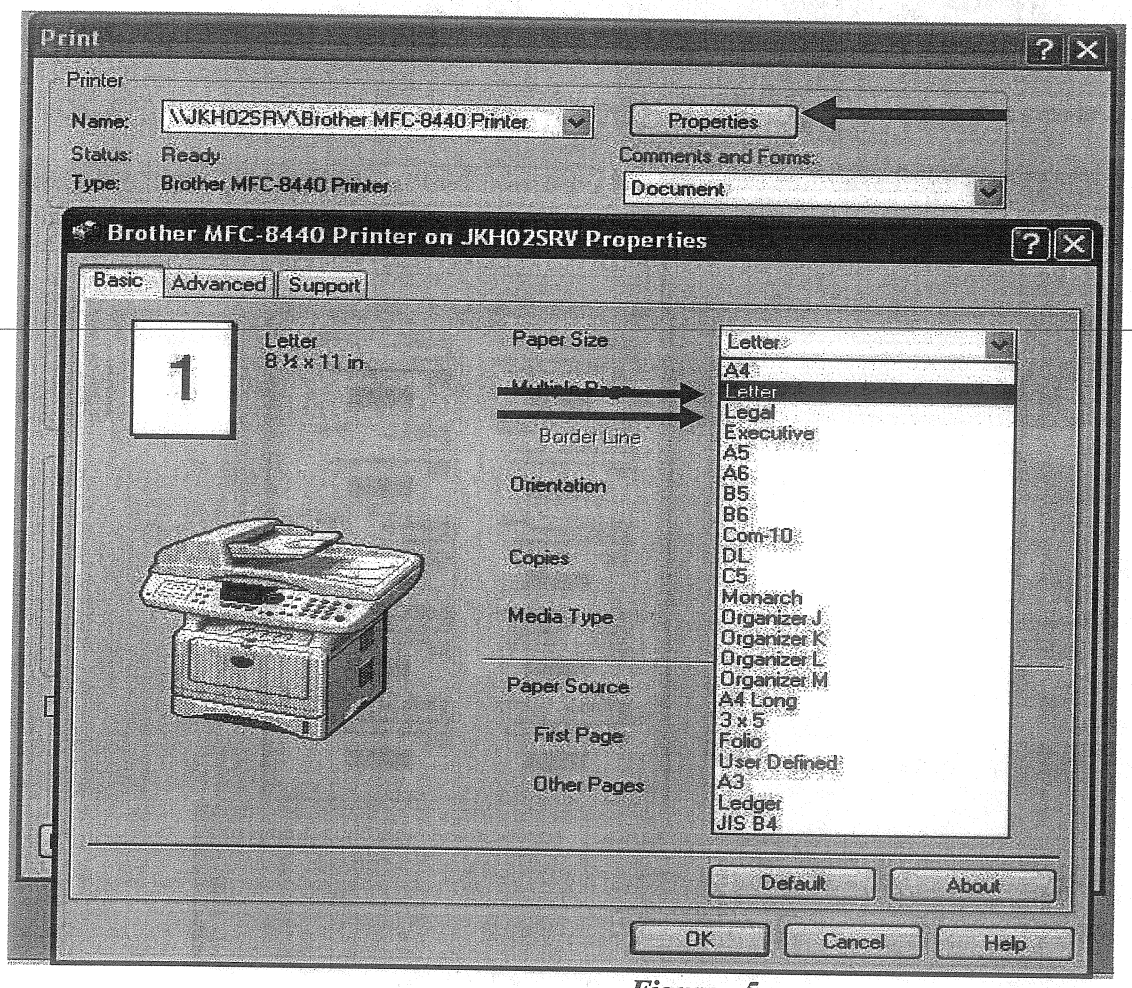


Figure - 5

(f) Next refer to (Figure-6) select your printer from the printer name menu. Then set the parameters in the **Page Handling field** as follows. **Page Scaling**: set to multiple pages per sheet. If you are using 8 ½ x 11 (LETTER) size label stock set the **Papers per sheet** field to **Custom 2 by 5** to produce 2" by 4" spare part labels or **Custom 3 by 9** to produce 1" by 2" drawing labels.

(g) If you are using 8 ½ x 14 (LEGAL) size label stock set the **Papers per sheet** field to **Custom 2 by 7** to produce 2" by 4" spare part labels or **Custom 3 by 11** to produce 1" by 2" drawing labels. Next set the **Page Order** field to Vertical. Once all parameters are set and you have loaded your label stock into the printer click ok and print labels. (Figure – 6)

(h) Cut out you labels using scissors stick them to your bag and cover them with clear tape to for durability.

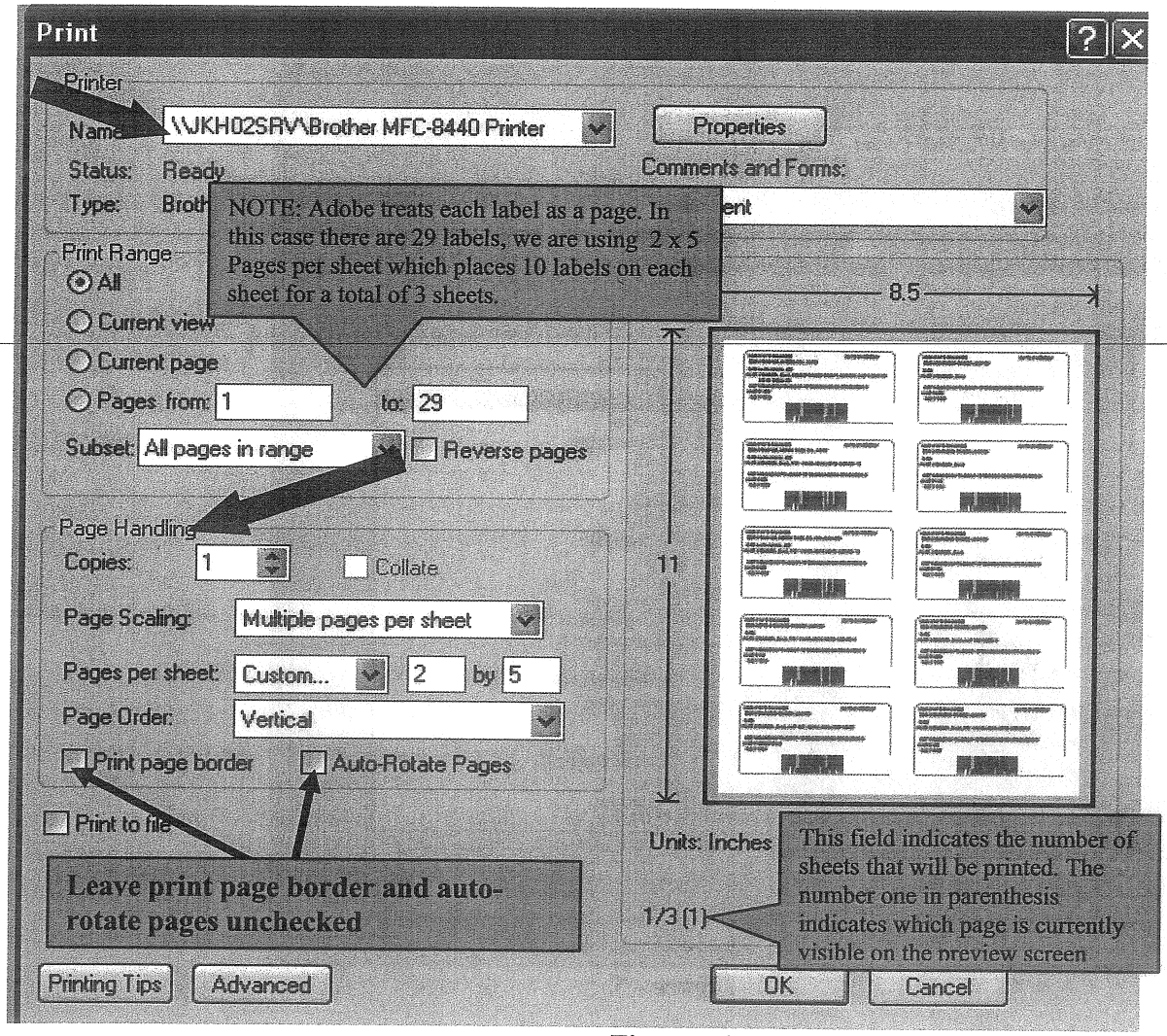

Print
Printer
Name: \\JKH02SRV\Brother MFC-8440 Printer
Properties
Status: Ready
Type: Broth
Comments and Forms:
ent
NOTE: Adobe treats each label as a page. In this case there are 29 labels, we are using 2 x 5 Pages per sheet which places 10 labels on each sheet for a total of 3 sheets.
Print Range
All
Current view
Current page
Pages from: 1 to: 29
Subset: All pages in range
Reverse pages
8.5
11
Page Handling
Copies: 1
Collate
Page Scaling: Multiple pages per sheet
Pages per sheet: Custom... 2 by 5
Page Order: Vertical
Print page border
Auto-Rotate Pages
Print to file
Units: Inches
Leave print page border and auto-rotate pages unchecked
1/3 (1)
This field indicates the number of sheets that will be printed. The number one in parenthesis indicates which page is currently visible on the preview screen
Printing Tips
Advanced
OK
Cancel

Figure - 6

APPENDIX G

DETAILED TECHNICAL MANUAL INVENTORY PROCEDURES

1. **Technical Manuals.** A ships set of technical manuals provides information for the operations and maintenance of installed equipment and related systems, and the operational procedures and policy guidance for operation of the ship. The ships set of technical manual are inventoried as part of a ships logistics overall, logistics upgrade, or as a separate task. Their inventory should be completed prior to equipment validation and spare part inventory.

2. **Technical Manual Inventory.** All technical manuals on board the ship will be assembled in one location and maintained as a set for the original storage location. Individual technical manuals located throughout the ship will be incorporated into these original sets.

a. **Accountability.** Once the ships technical manuals are assembled by the Logistics Contractor, the contractor is responsible for their accountability until the inventory has been accepted by the MARAD COTR.

(1) The contractor must maintain a sign out/in log for the technical manuals for use by validation and inventory personnel, or ships crew to maintain this accountability. The effort must be coordinated with the CE, to provide access to the technical manuals during established work hours for using personnel.

(2) The format for the sign out/in log sheet is provided at Appendix B Form 5.

(3) If copying of the technical manuals is required, their removal from the ship must be approved by the Chief Engineer to ensure technical manuals are available for current/planned work.

b. **Inventory Procedures**

(1) The technical manuals in each set will be sorted in alphabetical sequence; by manufacturers, then within each manufacturer, alphabetical by the technical manual title. If the Chief Engineer does not want the ships technical manuals arranged into this standard MARAD sort, the MARAD Logistics Specialist must be notified. MARAD (MAR-614) will make the final decision.

(2) A white temporary label will be placed on each technical manual cover to number the technical manuals after sorting. The label will not be placed over any printed information.

(3) The numbering will start with the Chief Engineers set, which is considered the master set. The technical manuals will be numbered in sequence starting with number 1. Technical manuals with the same manufacturer and title in all sets and additional copies, will have the same number. This number is identified in the database as the MARAD number.

(4) When several technical manuals are consolidated into a binder, the binder and all included technical manuals will have the same number.

(5) If the technical manuals are currently numbered, an index of the technical manuals with the original number will be used to provide a cross reference from the old number to the new number. The index is maintained to assist in equipment validation, and spare part identification.

The cross-reference will be retained until the MARAD COTR accepts the technical manual inventory.

(6) An inventory aid produced from the ships existing technical manual data base or NS5 will be used to inventory the technical manuals from each location. During inventory, the index will be marked up to indicate current technical manual information. All technical manuals not on the index will be written up using the technical manual inventory add sheet. The marked up inventory aid and technical manual add sheets will be used for data entry to update NS5.

(7) In these cases where no technical manual data base exists, the technical manuals will be sorted as identified in paragraph 2b (1) above. The technical manuals will be written up using the technical manuals add sheets. The add sheets will be used for data entry to updated NS5.

(8) During inventory of technical manuals, the manufacturer's number for the technical manual must be recorded. The manufacturer technical manual number will be placed in the full description field. Record **MFR TM NO:** (then the number).

(10) Bar coded labels are printed for each technical manual. The bar coded label will be covered with clear plastic tape to protect the label. The bar coded label will not cover any printed information on the technical manual cover. If the ship's NS5 is used to print the standard size bar code label, a small sticker should also be applied with the MARAD number and location on it.

(11) During the inventory, technical manuals which no longer apply to an on board equipment, are removed from the inventory, labeled as excess.

(12) Prior to the technical manual inventory, the CE may provide a list of removed equipment to assist in the removal of EXCESS technical manuals, by if not then the team leader will need to consult with the CE

(13) If the information for a removed equipment is in a consolidated equipment technical manual, the information will not be removed from the consolidated technical manual.

(14) The removal of EXCESS technical manuals is an ongoing process until the inventory is accepted by the MARAD COTR.

3. **Technical Manual Inventory Add Sheet.** The following information is provided to assist inventory personnel to correctly fill out the technical manual inventory add sheet.

(1) **LOCATION** and **QTY:** Record the quantity of each Technical Manual in the space provided next to its storage location.

(2) **COND UNSAT:** Record the total number of Technical Manuals that are in unsatisfactory condition in each storage location. A separate record must be added for each technical manual which is in unsatisfactory condition and the Chief Engineer wants it keep in the inventory.

(3) **TITLE:** Record the title of the Technical Manual starting with the Equipment name followed by the full title and the type of the Technical Manual, if it is specialized. Specialized Technical Manuals are an Installation Manual, Operating Manual, Maintenance Manual or Part Manual.

(4) **MFR TM NO:** Record the equipment manufacturer's technical manual number. If the number is longer than 15 characters, place the number in the title field after the title. Record **MFR TM NO** :(then the number).

(5) **EQUIPMENT COVERED:** Record the equipment covered in the Technical Manual but not stated in the TITLE. Such data may be the model number, drawing numbers, or a list of applications that the Technical Manual may apply. If the Technical Manual covers several types or models of equipment, each should be recorded in this field This is often found in galley equipment. If there appears to be more information that can be listed in this field, include the most important equipment/data.

(6) **MANUFACTURER:** This will always be the Manufacturer of the equipment, not the writer and/or publisher of the Technical Manual. It must always be completed.

(7) **INVENTORIED BY/DATE:** The individual who completes the technical manual inventory add sheet will enter their initials and the current date.

4. **Deletions or additions to the technical manual inventory.**

a. Technical manuals should be removed from the inventory as equipment is removed from the ship. The remaining technical manuals **will not** be renumbered because the current MARAD index number is listed in the equipment and spare part records.

b. Technical manuals may be added to the inventory for newly installed equipment, according to the equipment manufacturers name and technical manual title.

(1) The new technical manual will fall into sequence between two numbered technical manuals. Alphabetical characters are used to insert the technical manual into the inventory.

(2) The following example applies.

(a) Current Technical Manual #002, manufacturer ABC, Title: Pump centrifugal; current Technical Manual #3 manufacturer ABC, Title: Pump, rotary.

(b) New technical manual: Manufacturer ABC, title: Pump, gear.

(c) The new technical manual is added to the existing list as Technical Manual #002A. Its title: Pump, gear is in sequence between the Technical Manual #2 title, and Technical Manual #003 title.

(d) This same process is used when there are greater difference between the MARAD numbers which the new Technical Manuals number falls into sequence.

5. **Technical Manual Copying.** Two complete sets of the ships technical manual will be left onboard the ship and details entered into NS5, at the completion of the inventory.

a. Removal of technical manuals from the ship for copying must be approved by, and coordinated with the CE.

b. The technical manuals will be removed for copying from the master set in increments of the quantity approved by the CE.

c. The copied technical manual must be checked page by page with the original technical manual to provide a complete and usable copy.

d. The copy will be numbered the same as the original technical manual.

e. The copied technical manual will be bar code labeled without covering any printed information on the technical manual cover. The bar coded label will be covered with clear plastic tape to protect it.

APPENDIX H

DETAILED DRAWING INVENTORY PROCEDURES

1. **Drawings.** A ships set of drawings provides details of how the ship was built, altered or modified. They contain various types of drawings, plans, information booklets and certifications data sheets. The ships set of drawings are inventoried as part of a ships logistics overhaul, logistics upgrade, or as a separate task. Their inventory should be completed prior to equipment validation and spare part inventory. If the drawings are stored in hanging file folders, the file folder will be labeled with the drawing number using a small mini-label.

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2. **Drawings Inventory.** All drawings on board the ship will be assembled in one location and maintained as a set, unless the MARAD directs their storage in a different location. Sometimes, drawings for a modification or alteration of the ship to meet a special operational requirement are stored separately from the ships drawings. Individual drawings located throughout the ship will be incorporated into the original set.

a. **Accountability.** Once the ships drawings are assembled by the Logistics Contractor, the contractor is responsible for their accountability until the inventory has been accepted by the MARAD COTR.

(1) The contractor must maintain a sign out/in log for the drawings for use by validation and inventory personnel, or ships crew to maintain this accountability. The effort must be coordinated with the CE, to provide access to the drawings during established work hours for using personnel.

(2). The format for the sign out/in log sheet is provided as Appendix B Form 5.

b. **Sorting.** The drawings are sorted by shipbuilder then by vendor drawings. The vendors are then sorted alphabetically. If a ship has conversion overhaul drawings, treat them as another shipbuilder and file them accordingly. Sort the drawings by a vendor group according to their drawing number. The drawings should now be in the same order as the drawing inventory aids that were created.

(1) <u>DO NOT</u> un-staple any drawings; often associated drawings, booklets and certification data sheets are fastened together. These will be sorted by the manufacturer and drawing number of the main drawings.

(2) Do not remove any drawing from its folder or envelope, they will be sorted in numeric order of the main drawing unless otherwise directed by the MARAD Representative.

(3) If there is no manufacturer's drawing number on a drawing, that drawing will go in the front of that manufacturer's set of drawings.

(4) If there is no manufacturer or shipbuilder listed, the drawing will go in the first drawer and sorted by drawing number.

(5) A drawing may have several different company names and their drawing numbers listed on it: Ship designer, shipbuilder, manufacturer of the item or component. Always use the name of the manufacturer of the item and drawing is prepared for, or applies to.

(6) If a drawing has a shipbuilder's name and number, as well as a manufacturer's name and drawing number, the manufacturer's name and number will be used for sorting.

(7) Check carefully for duplicate copies of the drawings. Ensure they are **exactly** the same, including the title, drawing number, revision, alteration or sheet numbers. If all of the data on the drawings are identical, the drawings are duplicate copies.

Caution: If the title, drawing number, revision, alteration or sheet numbers are **not exactly** the same, the drawings **are not** duplicate copies.

(8) Certification Data Sheets are normally attached to the drawing they are certifying.

(a) When not attached to the certified drawing, and the certified drawing is not available, they will be written up separately.

(b) If the certifying drawing is available, the certification data sheet will be attached to it.

(c) The attachment is referenced in that drawing's **Full Description** field.

(1) The following information will be entered into the **Full Description** field of the certified drawing: WITH ATTACHED CD's.

(2) The abbreviations CDs, for Certification Data Sheet, ~~FCDS,~~ for Fan Certification Data Sheet; and DWG, for drawing, are authorized for use in the drawing **Full Description** field.

(10) A drawing may be made up of several sheets. The Sheet number is listed at the bottom of the drawing, and is usually found in a block labeled "Sheet", "sht", "page", or "pg". Sometimes, it is shown in the drawing number field.

Example: #2468 1/3 " the 1/3" indicates "Sheet 1 of 3 sheets"

There are three possible ways to inventory these drawings.

(a) If the sheets have the same title and drawing number, inventory using one drawing inventory add sheet, and following the description, write in "sheets X thru X". Fold and store these sheets together. They will be sorted by the manufacturer and manufacturers drawing number.

(b) If the drawing is made up of several sheets with different titles and the same drawing inventory add sheets. Following the description, write the number of the sheet being inventoried and the total number of sheets contained in the drawings:

Example: "Sheet 3 of 6".

(c) If all of the sheets are fastened together in a booklet, pertain to the same system or equipment, inventory them as a booklet:

Example: "Booklet, Sheets X thru XX" or "Booklet, Sheets X through XX, XX, XX and XX thru XX".

(11) Multiple drawings sets. Are those with several drawings attached together with each drawing having their own unique manufacturer or drawing numbers. In this case, each drawing must be written up separately and the drawings cross referenced to each other.

(a) Drawings are cross referenced in their **Full Description** field.

(b) The following example provides information on how to cross reference drawings: a General Electric drawing, #123B1234, which has an RCA drawing, #456789, and Square D drawing, #321C4321, attached. The following information will be entered in the **TITLE** field for each drawing after that drawings title.

(1) For the General Electric drawing, #123B1234: "WITH ATTACHED RCA, #456789, AND SQUARE D, #321C4321".

(2) For the RCA, #456789, and Square D, #321C43221 drawings: "ATTACHED TO GENERAL ELECTRIC, #123B1234".

(3) The RCA, #456789 and Square D, #321C4321, drawings will have the same location, file cabinet, and drawer as listed for the General Electric, #123B1234, drawing. Without this location information, the attached drawings may never be located.

(4) An "A" is placed in the upper right hand corner of the drawing inventory add sheets for the RCA, #456789 and Square D, #321C43221, drawings to indicate that the drawing is attached to another drawing for data entry purposes. This is done ONLY for the attached drawings.

c. **Inventory Procedures.** Once sorting is complete, the inventory can be started.

(1) On ships with a drawing data base, a printed drawing inventory aid will be provided for each drawing storage location to conduct the inventory. The drawing inventory aids will be printed in the drawing location, manufacturer, drawing number and revision or alteration sequence.

(2) On ships without a drawing database, the drawings must be inventoried and written up on the drawing inventory add sheets.

(3) Locate the drawing inventory aids and verify all printed information, correct and/or add information as necessary. If there are drawings that are not listed, use the drawing inventory add sheets to write up the drawings.

(4) When a field has no information available, place a tick in the field to indicate the information was reviewed and not available.

(5) All drawings attached to another drawing, or as part of a drawing set, must be inventoried and cross referenced in the **Full Description** field of the drawing they are attached to, and in the **Full Description** field for the attached drawing. There must be a record established for the attached drawing, even if the attached drawing is the only one available.

(6) When there are duplicate copies of a drawing and a copy is attached to other drawings, or drawing sets, the following must be followed.

(a) The **Full Description** field for the duplicate drawing will contain the following statements: "ONE ATTACHED TO General Electric, #123A7654".

(b) If there are several duplicate copies of a drawing attached to several other drawings, each attachment must be indicated in the **Full Description** field of the attached drawing and in the **Full Description** field of the duplicate drawing. If all attachment information will not fit into the **Full Description** field of the duplicate record, an additional record must be established and the additional attachment information entered into its **Full Description** field.

(7) After a drawing is inventoried or written up, place a small colored dot on the drawing to indicate that it has been completed. This will preclude additional work if the drawing is removed and returned during inventory.

(8) When a cabinet drawer, or box, is completely inventoried, place a small colored dot on the cabinet drawer or box to indicate that it is complete.

5. **Ship Drawing Inventory Add Sheets:** The following information is provided to assist inventory personnel to correctly mark up drawing inventory aids, or to fill out the drawing inventory add sheet. The drawing inventory add sheet used during an inventory will be numbered sequentially to track the drawing until it is entered in the data base and assigned a record ID. See Appendix B Form 14.

a. **Drawing Title** field. Record the **title** exactly as it is in the title block of the drawing. Record the information for any certification data sheets, sheet number or drawings attachment.

b. **MARAD Number** field. Record the MARAD number and any revision or alteration number or letter. A careful search of the drawing must be made because the MARAD number may be place in various locations on the drawing.

c. **SHIPBUILDER or MANUFACTURER'S Name** field. The manufacturer is the company that the drawing information pertains to for equipment description or installation. The manufacturer's name is normally found in the drawing title block.

CAUTION: Extreme care must be taken when determining the manufacturer because the drawing may include a name and drawing number for the ships designer, the ship builder, the manufacturer of the equipment or material installation the drawing,

The drawing manufacturer is always the manufacturer of the equipment or material installation. If the drawing is a shipbuilder's drawing, record the shipbuilder's name in the manufacturer's field.

d. **SHIPBUILDER or MANUFACTURER'S Drawing Number** field. Record the drawing number which is normally found in the drawing title block. Often, the drawing number is preceded by other data in a separate field preceding the drawing number field. **DO NOT** include this data as part of the drawing number.

(1) Record the drawing number as written on the drawing. If there are spaces between numbers or letters, leave a space, if there are dashes or slashes, record them.

(2) If there is no manufacturer's drawing number to use, write NOT LISTED in the drawing number field.

(3) If the drawing is one sheet of several sheets; record the sheet number as: SHT X of X, as listed on the drawing. Record the sheet number in the manufacturer's drawing number field and in the **Drawing Title** field.

(4) Check the drawing carefully for the revision or alteration number or letter. It is part of the drawing number. The information may be located in various places on the drawing. Insure the revision or alteration number or letter is the latest one recorded on the drawing. Record the information after the manufacturer's drawing number and proceeded by REV or ALT, as appropriate.

e. **LOCATION** field. Record the name of the shipboard location, cabinet, and drawer where the drawing is to be stored.

f. **QUANTITY** field. Record the number of copies of the drawings. During data entry, the duplicate drawing attached to other drawings will be identified by the A on the drawing inventory aid, and the on hand quantity adjusted.

g. **INVENTORIED by** field. The person competing the inventory must sign and date the drawing inventory aid or drawing inventory add sheet.

6. **Drawing Inventory Data Entry**. The information from the drawing inventory aids, or drawing inventory add sheets, is entered into NS5.

7. **Drawing Bar Code Labeling.** The bar code label will be placed on the drawing as near as possible to the title block. Do not cover any information on the drawing. If there is no room then the bar code label will be put on the reverse side of the title block page. The bar coded label will not be covered with clear plastic tape.

8. **Drawing Storage.** The drawings will be stored in the file cabinets, and file folder when used, in the order sorted and inventoried.

a. When the drawings are stored in hanging file folders, a small label containing the drawing number will be printed and applied to the drawing folder to facilitate retrieving and returning drawings to the correct storage location.

b. File cabinets and drawers will be bar code labeled to facilitate retrieving and returning the drawing, and for future inventory.

9. **Drawing Inventory Turn Over**. Once the drawings are stored and the MARAD COTR accepts the inventory, the drawing inventory is complete.

APPENDIX I

DETAILED SPARE PARTS INVENTORY PROCEDURES

SECTION 1 – SPARE PARTS INVENTORY

1. **The Ships Spare Parts.** A ships spare parts provides the crew with material to repair the ships installed machinery. The spare parts include Bulkhead Mounted Spares and Loose Spare Parts.

a. The ships spare parts are inventoried to correctly identify them, their on board quantity and location, and equipment assignment using the on board technical manual.

(1) They are inventoried as part of a ships logistics overhaul, logistics upgrade, or as a separate task.

(2) Their inventory should be conducted after the technical manual and ships drawing inventories, and the equipment validation to provide correct technical documentation for use during the inventory process and valid equipment for assignment of the Spare Parts.

b. The Spare Parts are usually stored in storerooms, on shelves and in Spare Part Boxes. Currently, there is an effort to convert an existing spare to a Vidmar Cabinet Storeroom. The Spare Parts are relocated into the drawers of the Vidmar Cabinets during the inventory process, if they are installed.

c. The final storage location for the Spare Parts is normally established during the Pre-Survey of the ship or during the Initial Task Meeting on the ship. The Logistics Contractor will follow the requirements in the task statement of work (SOW) and the direction for storage provided by the Region LMO and CE.

d. During the inventory process, spare parts locations such as Vidmar Cabinets and drawers are name and bar code labeled.

e. The ships NS5 Spare Parts Data Base is updated with the inventory results. The Process used for the NS5 updating is discussed in Section 2, Spare Part Data Entry.

f. The Bulkhead Mounted Spares (BKMS). These spares will be the first spare parts to be inventoried in order to get metal tags prepared by Prolog Virginia Beach office for application prior to completion of the Overhaul.

2. **Spare Part Inventory Procedures.** These Spare Parts Inventory Procedures provide a clear, logical process to complete the spare part and bulkhead mounted spares inventory. A thorough understanding of the process is required to perform an accurate inventory. When in doubt about a procedure, ask for clarification. Do not guess about what is required. Time will be saved if the first inventory write-up is correct.

3. **Spare Part Inventory Sheets.** There are two individual Spare Part Inventory Sheets used to conduct the inventory. Both contain data fields for all required information.

a. The inventory Aid Sheets are printed in spare part description sequence using the current information from the parts data base in NS5.

(1) They are printed on blue paper and are commonly referred to as "Blue sheets" or Inventory Aid.

(2) They are printed for each current storage location to conduct the inventory.

(3) They are printed in location, box, and shelf sequence.

(4) All items in the data base without an on-hand quantity will have a 'O' printed in the Inv/Qty field to limit Technical Manual reference time.

b. The Spare Part Inventory Add Sheet is printed on white paper, and contains all the required fields for recording data to add spare parts to the inventory.

4. **Inventory Packages.** The inventory Aid Sheets are grouped into Inventory Packages by Spare Part Box(s), or location when the spare parts and bulkhead mounted spares are not stored in a Spare Part Box.

a. **The Inventory process flow.** The Inventory Packages are identified by the box number or location name. An Inventory Package Cover Sheet is prepared by the Inventory Team Leader and the Inventory Aid Sheets are attached.

b. Several spare part boxes or locations may be combined into a large Inventory Package. The Inventory Package Cover Sheet for this combined package will list the individual Spare Part Boxes or locations.

c. The Inventory Packages are tracked through the process by the Inventory Team Leader using the Inventory Package tracking sheet.

d. The Inventory Team Leader will stamp a sequential number on multiple Spare Part Inventory add sheets for use by the Inventory Team to add spare parts to the inventory.

5. **The Inventory Process.** The Inventory Team will follow these procedures. This will identify the inventory process for Spare Parts. They apply whether inventorying a spare part box, a separate location or Bulkhead Mounted Spares.

a. The following describes the inventory process and provides information accumulated over the years to improve the process. Specific and detailed guidance is provided in paragraph 6 where the Inventory Aid Sheet and Spare Part Inventory Add Sheet data fields are discussed.

(1) The Inventory Packages are assigned by the Inventory Team Leader based on the expertise of the Inventory Team Members. He will prepare the Inventory Package Tracking Sheet as the Inventory Packages are assigned.

(2) The Inventory Technician should keep the assigned Inventory Package and Spare Parts Inventory Add Sheets in a 12" x 12" zip-lock bag to help keep them clean. Do not bend, fold, or roll the Inventory Package or the Spare Part Inventory Add Sheets.

(3) Upon assignment of an Inventory Package, locate and sign out the technical manual for the spare parts being inventoried.

(a) Use the equipment name and number from the Inventory Aid Sheets to determine the correct Technical Manual.

(b). The spare parts are researched to obtain the correct Technical Reference Data, equipment assignment, verify previously collected data on the Inventory Aid Sheet and to record data on the Spare Parts Inventory Add Sheets.

(c). Return and sign in the Technical Manual upon completion of your research. The Technical Manuals will be used by other Inventory Team Members during their inventory work.

(d). Ships drawings may provide information for material when no Technical Manual is available. However, they are not normally taken to the inventory site.

(4) Take your Inventory Tool Kit, Inventory Supplies and Inventory Procedures to the inventory site.

(a) The Inventory Tool Kit should include clear tape, pencils, erasers, knife, masking tape and flashlight.

(b) Inventory supplies includes each type of inventory labels, blank spare part labels, small labels, electrical cable ties, Tyvek shipping tags, an assortment of the various size zip-lock bags and a trash bag.

(5) Proceed to the location identified on the Inventory Package; identify the Spare Parts Box which you are to inventory.

(6) If need be move the Spare Part Box to a convenient location for the inventory. Do not block the walkway around your work area with the Spare Parts Box, spare parts or trash.

(7) Remove all material from the Spare Part Box.

(a) Place all trash in a trash bag

(b) Group all identical items prior to starting your inventory. If there are identical spare parts with different names or descriptions, determine the correct name using the Technical Manual and the One Word Noun Name Rule, then combine these identical parts into one zip-lock bag.

NOTE: The One Word Noun Name Rule is that all spare parts will be identified using a one word noun as the spare part name, which is then followed by the descriptive data for the spare part. Additional information is provided in paragraph 6.b. (5).

(c) Some identical spare parts support different equipment, and have different equipment numbers. Do Not combine these spare parts because they will have separate records in NS5. Each will be inventoried separately and assigned to the equipment they support.

(d) Do not consolidate spare parts with different part numbers.

(e) Do not consolidate spare parts with different manufacturers. This applies to bearing when the same bearing number is found but from different manufacturers.

(8) The Spare Part Box or location often contains consumables. They are removed and stowed in the location designated by the CE or MARAD Logistics representative.

(a) If consumables are to remain in the location, they must be placed in a zip-lock bag and labeled or if they are too large to be bagged, attach a Tyvek Tag to them. The Label/Tag will read as follows **NOT INVENTORIED.**

(b) If in doubt about whether the material should be inventoried, ask your Inventory Team leader. The final determination of whether these items are inventory worthy is always made by the MARAD Representative.

(9) When a Spare part is determined to be Excess because the equipment it supports has been removed from the ship, the Inventory Team Member will remove the spare parts from the inventory; place them in a zip-lock bag, apply an **EXCESS** label and place them in the designated **EXCESS** location, and enter **EXCESS** by the lines in the Inventory Package.

(a). The Chief Engineer will review all **EXCESS** spare part for application to other on board equipment.

(b). He will provide the equipment name and he wants the **EXCESS** spare parts assigned to for retention.

(10). When there are identical new and used parts, place the used parts inside their own zip-lock bag and put a **"USED"** label on the bag and move the part to the designated location for used parts. Do up an Add Sheet for the used parts ensuring that the part description includes USED.

(11) The **USED** label allows the CE / MARAD Representative to quickly decide whether to keep the **USED** part in the inventory.

(a) If the CE / MARAD Representative circles the **Keep** portion of the **USED** label, retain the spare parts in the Inventory. Leave the **USED** label on the zip-lock bag.

(b) If the CE / MARAD Representative circles the **TOSS** portion of the **USED** label, the inventory Team Member must remove the spare parts from the inventory, apply a **SCRAP** label to the spare parts and place them in the designated **SCRAP** location, and correct the Inventory Aid Sheet.

(12) The **USED** label is also applied to spare parts which are determined to be unserviceable / unusable because of broken or missing components. The MARAD representative will make his determination and the spare parts processed as in Section 2, paragraph 11a and 11b.

(13) When a spare part cannot be identified by the Inventory Team Member, it will be labeled with an **UNIDENTIFIED** label.

(a) Complete as much of an Inventory Spare Part Add Sheet as possible, and make sure your name and the spare part's original location is written in.

(b) Put the Inventory Spare Part Add Sheet and the spare part in a zip-lock bag. Apply the **UNIDENTIFIED** label to the zip-lock bag, place the item in the location designated for **UNIDENTIFIED** parts, and advise the Inventory Team Leader.

(b). The preservation may include cleaning of bare surface and spraying with a protective coating, wrapping in cosmoline paper / bubble wrap, or covering with flexible plastic tubing. As a general rule machinery parts should be wrapped in cosmoline paper or preservation spray used, while electrical parts should be wrapped in bubble wrap, however judgment will apply.

(c). Any previously applied preservation method, or existing packaging in good condition, can be repaired and reused.

(17) Place spare part into a zip-lock bag.

(a) Unless the old zip-lock bag is in very good condition, use a new zip-lock bag.

(b) Use the correct size of zip-lock bag. Do not over fill the zip-lock bag. The spare parts shall be easily removed and replaced. Do not use a zip-lock bag larger than required.

(c) Place the spare part in the zip-lock bag so the manufacturers data and part number can be read without removing the spare part from the zip-lock bag. This will assist in locating the spare parts for usage and during the QA process.

(d) If several zip-lock bags are required to stow a large number of spare parts, do not tape these zip-lock bags together.

(18) If the spare part will not fit into a zip-lock bag, attach a Tyvek tag for labeling.

(19) If a Tyvek tag can not be attached, make a circle around a portion of the spare part with masking tape or cable ties, and attach the Tyvek tag to it.

(20) After all possible spare parts are matched to the Inventory Aid Sheets and are inventoried, the remaining spare parts are to be inventoried using the Spare Part Inventory Add Sheets.

(a) Included all available information on the Spare Part Inventory Add Sheet. A full description is required.

(b) Provide sufficient descriptive data to allow positive identification, and to distinguish between similar, yet different items.

(21) During the bar code labeling, Do Not put a spare part label directly on a spare part.

(a) If a zip-lock bag is used, place the spare part label on the outside of the zip-lock bag and tape over the label with clear plastic tape.

(b) Do not place a spare part label on the inside a zip-lock bag

(c) If a Tyvek Shipping tag was attached, apply the spare part label on it, and tape over the spare part label with plastic tape.

(d) If the spare part is covered with the flexible plastic tubing, put the bar code label on a zip-lock bag, cover it with clear plastic tape, then tape the zip-lock bag to the flexible tubing. Do not cover any technical information on the spare part.

man-hours because of the new inventory persons must review the current status of all spare parts.

(27). **Inventory Data Entry.** The information from the Inventory Aid and Add sheets are entered into NS5 by the Data Entry Technician.

6. **Inventory Sheet Fields.** The data fields on the Inventory Aid Sheet and the Spare Part Inventory Add Sheet are used to record all available data for the Ships Spare Parts and Bulkhead Mounted Spares.

a. **Guidelines.** The below guidelines are provided to assist in correct recording of the inventory data. Some of the information may be repeated here that was found in paragraph 5 because of its importance. Additional guidance is provided for recording data when each field is discussed in paragraph 6.b below.

(1) The data must be recorded so that the QA, and Data Entry Technician can correctly understand what you have recorded.

(2) When the information for a field has been researched and no information found, place a single dash (-) in the field to show that information was researched but not found.

(a) Do not place "NONE", "NA", or any other information except the single dash in the field when the required information is not available.

(b) If any field is left blank, it is assumed that the field was overlooked.

(3) All entries on the Inventory Aid Sheet and the Spare Part Inventory Add Sheets will be made in <u>pencil</u> to facilitate corrections.

(4) Use capital letters when recording data on the Inventory Aid sheet or the Spare Part Inventory Add Sheets. See Appendix B for the proper formation of letters and numbers.

(5) Print neatly, legibly and clearly.

(6) Use proper spacing between words and letters.

(7) Use proper punctuation between data elements in a field.

(8) The following punctuation marks <u>cannot</u> be used on the Inventory Aid Sheet, the Spare Part Inventory Add Sheet or during data entry: An ampersand (&), pound symbol (#), a semicolon (;), or parentheses ().

(9) <u>DO NOT</u> use abbreviations except those that are provided for you in Appendix C, D, and E.

(10) You may need to add amplifying information for a spare part to further explain something. You can make a note in the margin, or on the back, of the Inventory Aid Sheet or the Spare Part Inventory Add Sheets. When information is placed on the back of the sheets, write "OVER" on the bottom of the front side of the Inventory Aid Sheet or the Spare Part Inventory Add Sheet to indicate the location of the additional information to the QA and Data Entry Technician.

compare this report against his inventory sheets prior to the Logistics Support Manager ordering the BMS tags.

(4) The **DESCRIPTION** field. The DESCRIPTION field is used to describe the spare part as listed in the Technical Manual. The One Word Noun Name Rule is applied in this field.

(a) The DESCRIPTION field is divided into two separate data elements by a comma. The first data element contains the nomenclature or name of the spare part, the second data element contains all available descriptive data for the spare part.

(b) The <u>One Word Noun Name Rule</u> is applied to the first data element. It required the spare part to be described with a one word noun for its name.

Example: Roller Bearing = Bearing, Roller

(1) The only exceptions to this rule are those spare parts which require multiple noun words to correctly name them or where the one word name would not make logical sense.

Example: Circuit Breaker; Grid Member; Valve and Gauge Assembly; Brake Repair Kit; Seal Assembly; Salinity Module; Contact Set.

(2) Do not use plurals names unless it makes common sense such as lens, pliers, or bellows.

(c) The primary sources of information for the spare part is from the Technical Manual, and on the spare part. The spare part packaging may provide useful data but it is questionable unless completely intact.

(d). If the spare part packaging is completely intact and appears to be factory sealed, the abbreviations <u>FS</u> will be place in the DESCRIPTION field, and the packaging will not be opened.

(1) The abbreviation <u>FS</u> will not be entered in the description field of the spare part record in NS5 by the Data Entry Technician.

(2) If all available technical sources have been used to obtain data and the Inventory Team Leader determines there is not sufficient descriptive data to identify the spare part, he will decide if the spare part should be opened to obtain the information.

(3) However, if opening the spare part could make it unusable, it should not be opened without the permission of the CE / MARAD Representative.

(f) <u>Underline</u> any data in the DESCRIPTION field that may be important for identification and should be considered for retention in the database. Disposition of the underlined data will be the responsibility of the Inventory Team Leader.

(g) Mark through incorrect data and record the correct data.

(h) Use the following guide to sequence descriptive data.

(b) You must provide a direct path to the spare part in the Technical Manual.

(c) The pages in the technical manual where the spare part is listed will be marked with Post-It notes with the spare part's part number written on it to assist in the QA process.

(8) The **PART NUMBER** field. The PART NUMBER field identifies the part number for the spare part. The part number is assigned by the manufacturer, and identified in technical documentation for procurement of an identical replacement.

(a) Never guess at part numbers. If unable to determine a part number from your Technical Manual research, or drawing, or from the spare part.

(b) The following abbreviations can be used on the Inventory Aids and the Spare Part Inventory Add Sheets by the Inventory Technician to indicate results of his technical research.

Abbreviation	Description
TMNA	Technical manual not available
NFTM	Item not found in technical manual
ALT P/N	Alternate Part Number
POS P/N	Possible Part Number
ALT M/P	Alternate Manufacturer and Part Number
POS M/P	Possible Manufacturer and Part Number
MPNV	Manufacturer and P/N not verified

(c) The best source of the part number is from the spare part.

(d) The spare part is researched in the Technical Manual and by the information on the spare part to determine the correct part number.

(e) During Technical Manual referencing, and using a drawing in the Technical Manual, the drawing number/item/piece, type, style, assembly, symbol, model, stock, catalog, or ID number will be entered in the part number field.

(1) This complete part number must fit into the part number field. DO NOT put a portion of the complete number in the part number field and the remainder of the part number in the description field.

(b) The following abbreviations can be used on the Inventory Aids and the Spare Part Inventory Add Sheets by the Inventory Technician to indicate results of his technical research.

Abbreviation	Description
TMNA	Technical manual not available
NFTM	Item not found in technical manual
MTM	Manufacturer verified from technical manual
MNV	Manufacturer could not be verified.
ALT MFR	Alternate Manufacturer
POS MFR	Possible Manufacturer
ALT M/P	Alternate Manufacturer and Part Number
POS M/P	Possible Manufacturer and Part Number
MPNV	Manufacturer and P/N not verified

(c) The best source of the manufacturer is from Technical Manual or the spare part.

(d) "Possible" manufacturers on the Inventory Aid sheets are those that cannot be verified with use of the technical sources. Circle the manufacturer and record MNV. This will inform the QA personnel that the manufacturer was not verified.

(e) If the inventory Aid Sheet indicates a possible manufacturer, and a valid manufacturer is identified, move the "possible" manufacturer to the last line of the description field and identify it as POS MFR.

(f) When a technical source is used to obtain information, the location in the technical source shall be marked with a Post-it Not to assist in the QA process.

(11) The **ON HAND QUANTITY** Field. The ON HAND QUANTITY field on the Spare Part Inventory Add Sheet identifies the total count of the spare part. The field is titled QTY THIS LOCATION on the Inventory Aid Sheet.

(a) For used part a new Add sheet is written up as used parts will have a separate record in NS5. Used parts are those parts which appear to the Inventory Technician to have been previously used and then returned to inventory, or are in a rusty condition (not minor superficial rust).

(12) The **UNIT OF ISSUE** field. The UNIT OF ISSUE indicates the form or quantity that the material is usually procured.

(a) The following abbreviations can be used on the Inventory Aids and the Spare Part Inventory Add Sheets by the Inventory Technician to indicate results of technical research to the Inventory Team QA and Data Entry personnel, and the MARAD representative. During data entry, they CAN BE put into NS5.

Abbreviations	**Description**
ALT P/N	Alternate Part Number
POS P/N	Possible Part Number
ALT MFR	Alternate Manufacturer
POS MFR	Possible Manufacturer
ALT M/P	Alternate Manufacturer and Part Number
POS M/P	Possible Manufacturer and Part Number

(b) The following abbreviations can be used on the Inventory Aids and the Spare Part Inventory Add Sheets by the Inventory Technician to indicate results of technical research to the Inventory Team QA and Data Entry Personnel, and the MARAD representative. During date entry, the abbreviation WILL NOT be put into NS5.

Abbreviations	**Description**
TMNA	Technical Manual not available
DDTM	Description data verified with technical manual
NFTM	Item not found in technical manual
PNTM	Part number verified from technical manual
PNV	P/N not verified
MTM	Manufacturer verified from technical manual
MNV	Manufacturer could not be verified
MPNV	Manufacturer and P/N not verified
FS	Factory Sealed

(c) The manufacturer abbreviations can be used by the Inventory Technician on the Inventory Aid Sheet or Spare Part Inventory Add Sheet. However, the manufacturer must be spelled out completely during data entry.

Example: G.E. = General Electric Company

(4) When describing bolts, nuts, screws, and other items that have a controlling dimension, give that dimension first.

Example: Bolt: ¼ IN, ½ IN

(5) Unless otherwise stated, as in transformers, when describing electrical specifications, use the following order; Volts, Hertz, Phase, Amps, Watts, Ohms, RPM, then Horse Power. Use their approved abbreviations without punctuation. Do not use the term "cycles", use "HZ".

Example: MOTOR, 220V 60HZ 3PH 50A 1000W 500 OHM 3500 RPM

(6) Transformers are described in the following order: Power rating, primary winding voltage and current rating, secondary winding voltage and current rating, line frequency and phase.

Example: 4.2KVA, PRI 120/220v 2A, Sec 220/440v .67A, 50/60HZ 3PH

(7) Some electrical or electronic items may have a <u>controlling electrical specification</u>, such as amps in fuses. In such cases, show the controlling specification first.

LSC

APPENDIX S

02/08/94

MANUFACTURER	CAGE	CODE 1	CODE 2
ADVANCED TRANSFORMER CO			
ALLEN-BRADLEL			
ALLIED CONTROL COMPANY	5M759		
AROMAT			
ARROW-HART & HEGMAN	04009	A-H&H	
AUTOMATIC ELEC. CO.	7D414		
AUTOMATIC SWITCH COMPANY	1L881		
BEARING COMPANY OF AMERICA		BCA	
BRYANT			
CENTRALAB INCORPORATED	71590		
CHARLES T. GAMBLE INDUSTRIES			CTG
CHICAGO MINIATURE LAMP WORKS			CM
CHICAGO RAWHIDE MANUFACTURING	5A257	C/R	
CIRCLE F INDUSTRIES	73586		
CONTROLS CO. OF AMERICA	8L125		
CORNELL-DUBILIER			CDE
CROUSE-HINDS CORP.	1F621		
CTS KNIGHTS INC			

MANUFACTURER	CAGE	CODE 1	CODE 2
CUTLER HAMMER	15605	CH	
DETROIT DIESEL ALLISON (GM)	3B518		
ELECTRO SWITCH CORP.	82121	ES CORP	
FAIRBANKS MORSE PUMPS	10613	FM	
FAIRCHILD	01359	F	
FEDERAL MOGUL		FM	
FEDERAL PACIFIC ELECTRIC	9D463	FPE	
GARDNER-DENVER	7N630		
GENERAL SIGNAL	M0035	GS	
GEORGE KENT LIMITED			
GLENN ELECTRIC HEATER CORP		G	
GOULD INCORPORATED	8U404		
GUARDIAN ELECTRIC MFR CO		G	
HAMMARLUND	56394	H	
HEATUBE		HTB	
HERBERT S. HILLER CO	62558	H H	
HOLTZER-CABOT	29196	HC	
INTERNATIONAL ELECTRONICS CORP	58889	IEC MULLARD	
INTERNATIONAL RECTIFIER CORP		IR	

ETON

MANUFACTURER	CAGE	CODE 1	CODE 2
NTERNATIONAL RESISTANCE	1A182	IRC	
JOHN & MANSVILLE	2A858	JM	
KING SEELEY THERMOS CO.	3A315	KST	
KINGSBURY	75333	K	
KLOCKNER-MOELLER	60249	M	
KOPPERS	6B069		
LAU INC		LAU	
LITTLEFUSE INCORPORATED	75915	LF	
MAGNETEK UNIVERSAL MFR			
MALLORY DISTRIBUTOR PRODUCTS	9C599		
MARK CORP		M	
MARLIN-ROCKWELL		MRC	
MASTER SPECIALTIES CO		MS	MSC
MECHANICAL EQUIP. CO., INC.	76371	MECO	
MIDLAND ROSS/DAYTON	1CF23	MR	
MILWAUKEE TRANSFORMER CO		MTC	
MOTOROLA INCORPORATED	34344		
NATIONAL ELECTRONICS		NL	
NATIONAL PNEUMATIC CO		NP	

MANUFACTURER	CAGE	CODE 1	CODE 2
NATIONAL SEALS		NS	
NEW DEPARTURE		ND	
NEW JAPAN RADIO		JRC	
NICHICON		Mic	
NORMA-HOFFMANN BEARING CORP		NM	
NORTH HILLS ELECTRONICS INC		nh	
PASS & SEYMOUR	81091	P&S	
PITTSBURG PLATE GLASS CO		PPG	
POTTER AND BRUMFIELD		P&B	AMF
POWER/MATE CORP		P M C	
RANCO INCORPORATED	49742	R	
RELIANCE ELECTRIC	3A698	R	
REPUBLIC MFG. CO.		RM	
RF COMMUNICATIONS	AAE42	rf	
RUSSELL & STROLL	AAD02	R&S CO	RS CO
SARKES TARZIAN		S	
SHAWMUT MILLS DIVISION	91072	S	
SOCIETE NOUVELLE ROULEMENT		SNR	
SOLA BASIC IND.	09701	S B	

MANUFACTURER	CAGE	CODE 1	CODE 2
,PEED QUEEN (RIPPON SERVICE PART CENTER	59618	RSPC	
STRUTHERS-DUNN INC.	78290	S-D	
SWITCH ASSOCIATES		SA	
SYNCRO-START CONTROL		SS	
TECHNICAL ASSOCIATES OF NEW ORLEANS		$	
THE HEART MFR CO		H	
THOMAS INDUSTRIES	01471	T1	
TUNG-SOL		ts	
U.S. INSTRUMENTS	M0075	US CORP	
UNITED ELECTRIC CONTROLS CO		UE	
VARIAN		VA	
VERNITRON CORP		V	
VICKERS INC.	46631		
WARD LEONARD ELECTRIC CO.	68356	W L	
WEBCO FLUID POWER			
WESTINGHOUSE			
WHITE RODGERS CO.	65289	WR	
ILDEN PUMP AND ENG. CO.			
WILLIAMS	79342	W	

RANCO

DETROIT DIESEL ALLISON

KST KING - SEELY THERMOS

RSPC RIPPON SERVICE PARTS CENTER

GS GENERAL SIGNAL

MR MILWAUKEE RELAYS

OHMITE

NOK NIPPON OIL SEAL INDUSTRY CO LTD.

CCS CUSTOM CONTROLS SENSOR INC.

B BROOKSIDE CORP.

JE JACKES EVANS CONTROLS

HAMWORTHY

TELEMECANIQUE

NATIONAL SEMICONDUCTOR

SQUARE D

Inventory Procedures for Gauges

There are five major types of gauges:

1. **DUPLEX** – TWO INDICATING NEEDLES, which measure different parameters on the same gauge.

2. **COMPOUND** – measures a range of vacuum (HG) to pressure (PSIG).

3. **DIFFERENTIAL PRESSURE** – measures the pressure difference between two parameters in units PSID (pounds per square inch differential).

4. **VACUUM** – measures vacuum only in units HG (inches of mercury).

5. **PRESSURE** – measures pressure only in units PSIG (pounds per square inch gauge).

The general format for writing up gauges is GAUGE, TYPE, RANGE AND UNITS, DIAL and TYPE OF CONNECTION

EXAMPLES

GAUGE, DUPLEX, DIAL 4", 0-50 PSIG, 0-50 PSI, 1/4" BACK CONNECTION

GAUGE, COMPOUND, 4" DIAL, 30" Hg – 2000 PSIG, 1/4" SIDE CONNECTION

GAUGE, DIFFERENTIAL PRESSURE, 4" DIAL, 0 – 500 PSIG, 1/2" TOP CONNECTION

GAUGE, VACUUM, 4" DIAL, 0 – 30" Hg, 5/8" BACK CONNECTION

GAUGE, PRESSURE, 4" DIAL, 1-100 PSIG, 3/4" BOTTOM CONNECTION

THESE GAUGES ARE EXAMPLES FOR A COMPRESSOR UNIT.

GAUGE, PRESSURE, DISCHARGE, 4" DIAL, R12/-60 TO 86 DEG C, X1=bar, R502/-60 TO 60 DEG C, X0.1=MPa, R22/-60 TO 60 DEG C, X100=kPa, GLYCERIN FILLED, 5/8" BOTTOM CONNECTION

GAUGE, PRESSURE, SUCTION & OIL , 4" DIAL, R12/-60 TO 50 DEG C, X1=bar, R502/-80 TO 30 DEG C, X0.1=MPa, R22/-80 TO 30 DEG C, X100=kPa, GLYCERIN FILLED, 5/8" BOTTOM CONNECTION

NOTE: When negative units are required, use "to" between the lower and upper range instead of "-"as shown below

GAUGE, PRESSURE, 4" DIAL, -50 TO 100 PSIG, 1/2" TOP CONNECTION.

NOTE: Thermometers should have similar information recorded.

APPENDIX C

EXAMPLES OF CORRECT ITEM NAME AND DESCRIPTIONS

ACCUMULATOR
ACCUMULATOR, PRESSURE
ACTUATOR
ACTUATOR, VALVE, PNEUMATIC
ADAPTERADAPTER, 3/8"OD X ¼"ID, BRASS
AGITATOR
ALARM
ALARM, PRESSURE, LOW OIL
AMMETER, FIELD, -10 TO +10A DC, MODEL 3324
AMPLIFIER
ANCHOR, STOCKLESS, CAST STEEL, 11, 000LB
ANNUNCIATOR
ANNUNCIATOR, TYPE 6B, DWG 20-162-2
ANODE, ZINC
ARM, ACTUATOR
ARM, CONTACT
ARM AND BASKET ASSY
ARMATURE, COMPLETE
ARMATURE, DWG 889A166G02
ARRESTOR
ATOMIZER
ATOMIZER, BODY, STEEL
ATOMIZER, FUEL, MECHANICAL
ATOMIZER, FUEL, STEAM ASSIST
AUGER

BAFFLE, OIL LOWER HALF
BAFFLE, OIL, UPPER HALF
BALL
BALL AND LEAF ASSY
BALL BEARING (USE BEARING, BALL)
BALLAST
BAR
BAR, JACKING
BARREL
BARREL, FUEL OIL BURNER
BASE
BASE, STATIC CONTACT
BASKET
BASKET, STRAINER
BASKET, 3"DIA X 6 3/5"LG, WITH 1/16"DIA PERFORATION
BASKET, STRAINER, AIR, STAINLESS STEEL
BASKET, STRAINER, STEAM
BEAM
BEAM, LIFTING
BEAM, SUPPORT BAR
BEARING
BEARING, BALL
BEARING, BALL, ~~2 1/8"OD~~
BEARING, BALL, PUMP END
BEARING, BALL, SEALED
BEARING, HALF
BEARING, JOURNAL
BEARING, JOURNAL 2 ½" OD X1"ID

BEARING, NEEDLE
BEARING, ROD END
BEARING, ROLLER
BEARING, ROLLER, TAPERED
BEARING, THRUST
BEATER
BELL
BELL, 10", 20VDC, WATERTIGHT ENCLOSURE
BELLING TOOL, OIL COOLER
BELLOWS, SWITCH
BELLOWS, VALVE
BELT
BELT, B, MOTOR PULLEY TO FAN PULLEY
BELT, V
BIT, DRILL
BLADDER
BLADE, WIPER, 16"LG
BLANK
BLANK, PIPE, 1 9/16" TH X 25 ½" DIA
BLOCK, CONNECTION, 10 WIRE
BLOCK CONTACT
BLOCK, CONTACT, 6 TERMINAL, 2 GROUNDS
BLOCK, FRICTION CLUTCH
BLOCK, JACKING
BLOCK STATIONARY
BLOCK TERMINAL
BLOCK, THRUST
BLOWER
BLOWER, CENTRIFUGAL
BOARD, PRINTED CIRCUIT (USE PCB ASSY)
BODY
BOLT, EYE, GLAND HALF, ½"DIA-12 X 10"LG, BRONZE
BOLT, HEX HD, 5/8"DIA-8 X ¾"LG, CADMIUM STEEL
BOLT, ½" –13 X2" LG, HEX HEAD
BOLT, MACHINE, SQUARE HD, 7/8"DIA-NC X 2"LG X 1 ½"
BOOM
BORING TOOL
BOWL
BOWL, MIDJET BUBBLER

BOX
BRACKET
BRACKET, MOUNTING
BRAKE
BRAKE, MAGNETIC
BRAKE REPAIR KIT
BRAZOLET
BREAKER (USE CIRCUIT BREAKER)
BRUSH, CARBON
BRUSH, GYRO MG SET
BRUSH SET, COMMUTATOR
BRUSH WIRE
BUBBLER
BUFFER
BULB (USE LAMP WHERE APPROPRIATE; I.E. FOR LIGHT BULBS, ETC.)
BULLS-EYE UNIT
BUSHING, 1 ½" OD X ½" ID X ¾"
BUSHING, BEARING
BUSHING, 2 3/8"OD, 2"ID, 1 ¾"W
BUTTON
BUZZER

CABLE
CABINET
CAGE
CAP
CAP, AMBER
CAPACITOR
CAPACITOR, O.25MFD 660VAC 60HZ
CARRIAGE
CARTRIDGE
CARTRIDGE, DRIER
CARTRIDGE, FILTER
CARTRIDGE, FILTER, FUEL OIL
CASING
CASING, END COVER
CELL
CELL, PHOTO
CELL, SALINITY
CHAIN
CHAIN, 50 SPROCKET, 28"
CHAMBER
CHEST, STEAM
CHIMNEY
CHISEL
CHISEL, COLD
CHOKE
CHOKE, FILTER
CIRCUIT BOARD
CIRCUIT BREAKER
CIRCUIT BREAKER, 15A 600VAC 250VDC 2 POLE
CIRCUIT BREAKER, 3 POLE
CIRCUIT CARD
CLAMP
CLIP
CLOCK
CLOSET BOWL
CLUTCH
COIL
COIL, 110/115V 60HZ
COIL, BRAKE, WINCH
COIL, RELAY
COIL, SIZE 3, 110/92VAC 60/50HZ
COIL, SOLENOID
COLLAR
COLLAR, BEARING
COLLAR, THRUST
COLLAR, THRUST, OUTBOARD
COMPOUND
COMPRESSOR
CONDENSER
CONE
CONE, BEARING
CONE, DIFFUSER
CONNECTION
CONNECTION, SOCKET
CONNECTING ROD ASSEMBLY
CONNECTOR
CONTACT
CONTACT SET
CONTACT SET, MOVABLE
CONTACT SET, RELAY
CONTACT, STATIONARY
CONTACTOR

CONTACTOR, STARTER, MOTOR
CONTAINER
CONTROL
CONTROL, TEMPERATURE
CONTROL, VALVE
CONTROLLER
CONTROLLER, MAGNETIC REVERSING, 600V MAX 90A
CONTROLLER, MOTOR
CONTROLLER, TWO SPEED
CONVERTER
COOLER, OIL
CORD, ELECTRICAL
CORE
CORE, HEATER
COUNTER
COUNTER, MECHANICAL
COUPLING
COUPLING, HIGH SPEED PINION
COUPLING, REDUCING, 2 5/8" OD X 2 1/8" ID
COUPLING, SIZE 5, TYPE F, STEELFLEX
COVER
COVER AND GRID ASSY
COVER, BEARING
COVER, COUPLING HALF
COVER, DUST
CRADLE ASSY
CRANKSHAFT
CRANK SHAFT ASSEMBLY
CROSSBAR ASSY
CUP
CUP, BEARING
CUP LEATHER
CUTOUT
CUTOUT, HP
CYLINDER
CYLINDER, HYDRAULIC
CYLINDER REPAIR KIT
CYLINDER SERVICE KIT

DEFLECTOR
DEFLECTOR OIL
DEFLECTOR, OIL 2ND REDUCTION GEAR
DETECTOR
DETECTOR, LEAK
DIAL
DIAL, INDICATOR
DIAPHRAGM
DIAPHRAGM, ½"DIA
DIAPHRAGM, 1/32" X 6 ½"
DIAPHRAGM, BRONZE
DIFFUSER
DIFFUSER, LIGHT, GLASS, 4 3/8"DIA
DIODE
DIODE, ZENER
DIODE, ZENER, 100V 30MA
DISC
DISC, COUPLING
DISC AND DIAPHRAGM
DISC, FRICTION, BRAKE
DISCRIMINATOR ASSY
DISPENSER
DIVIDER

DOG
DOOR
DOWEL
DRILL
DRIVE, PINION
DRUM
DRYER
DRYER, FILTER
DRYER, STRAINER

ELBOW
ELBOW, 90 DEG
ELECTRODE ELECTRON TUBE
ELEMENT
ELEMENT, FILTER
ELEMENT, HEATER
ELEMENT, HEATING, 115V
ELEMENT, ROTATING, MAIN CONDENSATE PUMP, DWG 99K2
EXCHANGER, HEAT
EXPANDER
EXPANDER TUBE, 1 ¼"OD X 105
EXPANDER, TUBE, INNER, ½"OD X 20 GAUGE
EXTRACTOR
EXTRACTOR, CARD
EXTRACTOR, FRICTION CLUTCH
EXTRACTOR, PLUG

FAN
FAUCET
FEATHER
FERRULE
FILE
FILLER
FILLER, BATTERY
FILTER
FILTER, KIT, OIL
FILTER, OIL
FINGER
FINGER, CONTACT
FITTING
FITTING, GREASE
FLANGE
FLARING TOOL
FLOAT
FLOAT ASSEMBLY
FOLLOWER
FOLLWER, CAM
FRAME
FREQUENCY STANDARD
FUNNEL
FUSE
FUSE, 250V 10A
FUSE, 3A 125V, 3AG

GAG
GAG, SAFETY VALVE
GAG, TEST
GAGE (USE GAUGE)
GASKET
GASKET, COMPOSITION
GASKET, COPPER
GASKET, FLANGE

GASKET, HANDHOLE, FLEXITALLIC
GASKET, SHEET
GASKET, SET, CONSISTING OF ITEMS 172 THRU 192
GASKET, STRAINER
GASKET, 1/16" X 7/8" OD X 11/16" ID
GAUGE
GAUGE, COMPOUND, 30 "HG-200PSIG, SIDE CONNECTION
GAUGE, COMPOUND, 0-30PSIG, 50-250 DEG F, 2" DIAL, ¼"BACK CONNECTION
GAUGE, DIFFERENTIAL PRESSURE, 0-50-PSIG, TOP CONNECTION
GAUGE, DUPLEX, 0-50PSIG, BACK CONNECTION
GAUGE, FEELER
GAUGE, GLASS
GAUGE, PRESSURE, 0-100PSIG, BOTTOM CONNECTION
GAUGE, VACUUM, 0-30"HG, BACK CONNECTION
GEAR
GEAR AND SHAFT
GEAR PINION, DOUBLE HELIX
GEAR, PINION, HLICAL, 1"FACE, 12 TEETH
GEAR, REDUCTION
GEAR, SPUR
GEAR, WORM
GENERATOR
GLAND, PACKING
GLAND, TURBINE, SHAFT, CAST BRONZE-PHOSPHOR
GLASS
GLASS, GAUGE, ¾"DIA X 31" LG
GLASS, LOOK IN DOOR
GLASS, SIGHT
GLOBE
GLOBE, CLEAR
GLOBE, LIGHT, INDICATING, RED
GOVERNOR
GOVERNOR ASSEMBLY, EMERGENCY DIESEL
GOVERNOR, HYDRAULIC
GOVERNOR, PUMP
GRID, COUPLING, SIZE 4
GRIDMEMBER
GRIDMEMBER COUPLING
GROMMET
GUARD
GUARD AND STEM
GUIDE
GUIDE, VALVE STEM

HAMMER
HANDLE
HANDLE, SELECTOR VALVE CONTROL
HANDSET
HANDSET, SOUND POWERED TELEPHONE
HEAD ASSY
HEAD, CYLINDER
HEATER
HEATER, SPACE
HINGE, DOOR, WATERTIGHT
HOIST
HOLDER
HOLDER, BRUSH
HOLDER, BRUSH WITH SPRING
HOLDER, FUSE, 250V 15A
HOLDER, LAMP, 125V 75W
HORN
HOSE

HOSE, AIR, ¾" X 10"
HOSE, H.P., 2 ½" X 15', 7 ½ THD PER INCH
HOUSING
HOUSING, LINE BEARGING
HOUSING, GOVERNOR
HUB
HUB, COUPLING, 1 1/16"ID, STEEL
HUB, COUPLING, MOTOR END
HYDROMETER

IDLER
IMPERLLER
IMPELLER, FIRE PUMP
IMPELLER, MAIN CIRCULATING PUMP
INDICATOR
INDICATOR, HEAT
INDICATOR, SALINITY
INDICATOR, WATER LEVEL
INDUCTOR
INJECTOR
INJECTOR, FUEL
INJECTOR, TIMING TOOL
INSERT
INSULATOR
INSULATOR, ANTENNA
INTERLOCK
INTERLOCK, MECHANICAL

JACK
JOINT
JOINT, UNIVERSAL

KEY
KEY, ALLEN, HEX
KEY, ½" X 2 ¾"LG
KEY, CHUCK
KLOZURE
KNOB
KNOB, SWITCH, FOR TYPE 2013 HF TRANSMITTER
KNOCK OUT TOOL, TUBE

LAMP
LAMP, 1000W 120V
LAMP, BAYONET BASE, 115-125V 15W
LAMP, CANDELABRA, SCREW BASE, 120V 6W
LAMP, FLASHLIGHT
LAMP, INCANDESCENT
LAMP, NEON
LAMP, PILOT, DIMMER TYPE, BAYONET BASE, BLUE LENS
LATCH
LEAF
LENS
LENS, BLUE
LEVER
LIGHT
LIGHT INDICATOR
LINE
LINING
LINING, BRAKE
LINKAGE
LOCK
LUBRICATOR

LUG
LUG, AUTO

MAGNET
MAGNETRON, 10CM, S-BAND
MALLET
MANDREL
MERCURY
METER
MICA
MICROMETER
MICROSWITCH
MICROSWITCH, POWER AMPLIFIER, 250VAC 20A
MIRROR
MODULE
MODULE, FREQUENCY STANDARD
MOTOR
MOTOR, AC, 440V 15A 3PH 15HP 1725RPM, FRAME 234K
MOTOR, 220VAC 60HZ 3PH, 1825RPM 50HP, 40 DEG C
MOTOR, CARGO WINCH, 440V 60HZ 3PH 70A, 3515RPM 60HP
MOTOR, TIMER, GALLEY RANGE

NIPPLE
NIPPLE, 2 3/4" OD X 6" LG
NOZZLE
NOZZLE AIR EJECTOR, 1ST STAGE
NOZZLE AND BODY
NUT
NUT ACORN, 3/8"-24, STAINLESS STEEL
NUT CASTLE
NUT, HEX, ½"-13, BRASS
NUT, JAM, 3/8"-24,STEEL
NUT, LOCK
NUT, ½"-32 USS

O RING
OUTLET
OVEN
OVERLOAD

PACKING
PACKING, 2 ¾" ID X 4" OD
PACKING, MECHANICAL
PACKING, STEM 1/2SQ"
PAD
PANEL
PANEL KIT
PAPER
PAPER CHART
PCB, ASSY (FOR PRINTED CIRCUIT BOARD)
PCB, ASSY, RF AMPLIFIER
PCB, MONITOR INTERFACE A
PCB, POWER DRIVER
PEN
PETCOCK
PIGTAIL
PILOT ASSY
PIN
PIN, 1" W X 4 5/8"LG
PIN COTTER
PIN DOWEL, ¼"OD X 33/4"LG
PIN TAPERED, 11" X 2", 1ST REDUCTION H.P. AND L.P.

PINION
PINION GEAR ASSEMBLY
PIPE
PISTON
PISTON, MAIN ENGINE
PISTON, WITH RING
PISTON, VALVE
PLATE
PLATE, BEARING COVER
PLENUM
PLIERS
PLUG
PLUG, ELECTRICAL, MALE 3 PRONG, WATERTIGHT
PLUG, HANDHOLE
PLUG, INTERIOR
PLUG, TUBE, 2" X 7/8" X ½"
PLUNGER
POST
POST, BINDING
POT
POTENTIOMETER
POTENTIOMETER, INTERIOR, 440V 60A
POTENTIOMETER, 1K OHM, TYPE AB
POWER SUPPLY
POWER SUPPLY, REGULATED, LINEAR DC
PROTECTOR
PSHYCHROMETER
PULLER
PULLER, THRUST COLLAR
PUMP
PUMP, HYDRAULIC
PUMP, WATER
PUSH-BUTTON
PUSH-BUTTON STATION
PUSHER

REAMER
REAMER, TUBE REMOVAL
RECEIVER, SYNCHRO
RECEPTACLE
RECEPTACLE, FUSE
RECEPTACLE, LAMP
RECITIFIER, SELENIUM, EXCITER
REDUCER
REDUCER, 7/8"OD TO 5/8"OD, COPPER
REFLECTOR
REGULATOR, PRESSURE
REGULATOR, VOLTAGE, 100/125V 60HZ
RELAY
RELAY, 24VDC 700 OHM
RELAY, DPDT, 115V 50/60HZ 1PH
RELAY, HERMETICALLLY SEALED, PLUG IN TYPE
RELAY, OVERLOAD, 600VAC 250VDC
RELAY, TIME DELAY
RELEASE
REMOVAL TOOL, PACKING
RESISTOR, 1W 18K OHM, CARBON OHMITE
RESISTOR, VARIABLE
RESISTOR, WIRE WOUND, 6500OHM
RETAINER, BEARING, FRONT, ROTOR
RHEOSTAT, DIMMING
RING, PISTON

RING, WEARING, IMPELLER
ROD, CONNECTING, PISTON
ROLLER, CAM, CR-24, LOWER UNIT, PC 104

SCREEN, FLAME ARRESTING
SCREW, CAP, ½"OD-13 X 2"LG, CADMIUM PLATED STEEL
SCREW, CAP, HEAT TREATED
SCREW, FILLISTER HD, 3/8"OD-24 X ½"LG
SCREW, HOLLOW HD, COUPLING
SCREW, JACK, ½" X 2"LG
SCREW, SOCKET HD
SEAL KIT, CYLINDER
SEAL, OIL, TYPE HK, DWG W-60439, IT 33
SEAL, SHAFT
SEAT, VALVE, MAIN
SENSOR, TEMPERATURE
SETSCREW, ¼"-20 X ½"
SHAFT, FIRE PUMP
SHAFT, FORCED DRAFT BLOWER
SHELL, BEARING, MAIN
SHIM SET
SHIM, BEARING, THRUST
SHOE, THRUST
SLEEVE, SHAFT, STAINLESS STEEL
SLINGER, OIL
SOLENOID, 115V 60HZ
SPACER, ROTOR BEARING
SPANNER, 14MM
SPINDLE, SCREW, WITH COLLAR
SPRING, COMPRESSION
SPRING, 1 ½"OD X 6 ¼"LG
SPRING, CONTACT, MOVABLE
SPRING, MOVABLE
SPRING TENSION
SPRING, VALVE RELIEF
STEM VALVE, 16" LG, ¾", CONTINUOUS THREAD
STUD, CYLINDER BLOCK, PC 451
SWITCH ASSEMBLY
SWITCH, PRESSURE, WATER LEVEL
SWITCH, ROTARY SELECTOR
SWITCH, SPST, GENERAL ALARM
SWITCH, TOGGLE, SPRING LOADED
SYNCHRO, TIMER

THERMOMETER, 4 ½" DIAL, 0-250 DEG F, DIRECT READING
THERMOMETER, 8" DIAL, 400-950 DEG F, REMOTE READING
THERMOSTAT, PNEUMATIC, REMOTE BULB, TYPE LP916B-1082
TIMER, 115V 60HZ, 2 POLE
TRANSDUCER, PRESSURE
TRANSFORMER, 4.2KVA, PRI 120/220V 2A SEC 220/440V .67A 50/60HZ 3PH
TRANSFORMER, ISOLATION, 115V 50/60HZ 2PH 1.5A
TRANSISTOR, RELAY TRANSMITTER ASSEMBLY, DWG 1802550
TRANSISTOR, SILICON
TRANSMITTER, WIND SPEED
TUBE, BOILER, NO 1, 2"OD X .150"MW, DWG E-168-178
TUBE, CATHODE RAY
TUBE, CONDENSER, 4'LG
TUBE, ECONOMIZER, FINNED
TUBE, ELECTRON
TUBE, FINNED, STEAM AIR HEATER
TUBE, GLASS, ¾"OD X 22"LG, DWG S45-4-1 PC 71
TUBE, U BEND, ECONOMIZER, 1 ¾"R

VALVE, GATE, 4", FLANGED, BRONZE
VALVE, GLOVE, ANGLE, 1 5/8"OD, WING CAP, BRONZE
VALVE, RELIEF, ¾", STEEL
VALVE, SOLENOID
VALVE, STOP CHECK, ¼", UNION, BRONZE
VOLTMETER, MODEL 131

WASHER, FLAT, 5/8"ID, MONEL
WASHER, LOCK, ½"ID, STEEL
WHEEL, HAND, VALVE OPERATING
WRENCH, COMBINATION, 5/8"
WRENCH, ADJUSTABLE, 8"
WRENCH, ALLEN, 2/32"
WRENCH, BUBBLER
WRENCH, DOUBLE OPEN END, ½" X 9/16"
WRENCH, PROPELLER NUT, WITH KEY, CHAIN AND EYEBOLT
WRENCH, SLUGGING 1 ½"
WRENCH, SPANNER, 9/32"
WRENCH, TEE HANDLE, ½"

APPENDIX G

ABBREVIATIONS FOR UNITS OF ISSUE

Ampoule	AM
Assembly	AY
Assortment	AT
Bag	BG
Bale	BE
Ball	BA
Bar	BR
Barrel	BL
Board Foot	BF
Bolt	BO
Book	BK
Bottle	BT
Box	BX
Bundle	BD
Cake	CK
Can	CN
Carboy	CB
Cartridge	CA
Coil	CL
Cone	CE
Container	CO
Cubic Foot	CF
Cubic Yard	CD
Cylinder	CY
Dozen	DZ
Drum	DR
Each	EA
Foot	FT
Gallon	GL
Gross	GR
Group	GP
Hank	HK
Hundred	HD
Jar	JR
Kit	KT
Length	LG
Liter	LI
Meal	ME
Ounce	OZ
Outfit	OT
Package	PG

Packet ..... PZ
Pad ..... PD
Pair ..... PR
Pint ..... PT
Plate ..... PM
Pound ..... LB

Quart ..... QT

Ration ..... RA
Ream ..... RM
Reel ..... RL
Roll ..... RO

Set ..... SE
Sheet ..... SH
Shot ..... SO
Skein ..... SK
Skid ..... SD
Spool ..... SL
Square Foot ..... SF
Square Yard ..... SY
Stick ..... SX
Strip ..... SP

Thousand ..... MX
Thousand Cubic Feet ..... MC
Ton ..... TN
Troy Ounce ..... TO
Tube ..... TU

Vial VI

Yard ..... YD

APPENDIX J
INVENTORY PROCEDURES FOR NUTS, BOLTS, WASHERS, AND STUDS

A. Nuts, bolts, washers, or studs that appear on a blue inventory form will always be inventoried regardless of size. Always ensure the blue inventory form is changed to reflect the correct format as shown in paragraph C below.

NOTE: Measure nuts and washers ID. It is the controlling factor.

B. Nuts, bolts, washers, or studs that are **not on blue inventory forms** will be inventoried in accordance with the following procedures:

1. **Always** write up any nut, bolt, washer, or stud that has a **special purpose** or use, regardless of size.

2. Nuts, bolts, washers, or studs that are **NOT special purpose** <u>and</u> are **less that 5/8" in diameter** will be bagged and have a "<u>NOT INVENTORIED</u>" sticker placed on the bag. <u>No write up is required</u>.

3. **If found in a storage box,** nuts, bolts, washers, or studs that are **5/8" or greater in diameter** are to be inventoried and written up in the format shown below. If found on a shelf, bin, or drawer, <u>no write up is necessary</u>.

4. It is not necessary to gauge threads on bolts or studs, but if information concerning the thread gauge or type is available on the package, it will be included in the inventory form.

5. Record any heat treatment data on the package or part such as "B7", "B16", or "NITRIDED".

C. The generic format for nuts, bolts, washers, and studs is **NAME, SPECIAL DESCRIPTION, DIMENSIONS, MATERIAL.** Dimensions are written in the following manner:

1. Nuts and washers: ZZ"**ID** - THREAD GAUGE OR TYPE

2. Bolts and studs: ZZ"**DIA** - THREAD GAUGE OR TYPE **X** ZZ"**L X** ZZ"**THREADED**.

D. **Examples:**

1. NUT, STUD, 3/4"ID - 16, BRASS

2. NUT, GLAND BOLT, 3/4"ID - NF, BRONZE

3. WASHER, FLAT, 5/8"ID, MONEL

4. WASHER, LOCK, 1/2"ID, ASBESTOS
5. BOLT, EYE, GLAND HALF, 1/2"DIA - 12 X 10"LG, BRONZE

6. BOLT, HEX HD, 5/8"DIA - 8 X 3/4"LG, CADMIUM STEEL

7. BOLT, MACHINE, SQUARE HEAD, 7/8"DIA - NC X 2"LG X 1 1/2" THREADED

8. STUD, 5/8"DIA - 13 X 1 1/2"LG X 1/2"THREADED, MONEL

9. STUD, ONE END, 1/2"DIA - 8 X OTHER END 3/8"DIA - 12 X 2 7/8"LG, BRASS