



**APPENDIX H  
SHIP ALTERATION RECORD (SAR)  
ALTERATION MATERIAL LIST (AML)  
PREPARATION GUIDE**

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**PREPARATION GUIDE**

**1. Scope.** This guide is intended to clarify/supplement guidance available for SAR AML preparation (reference (a)) and shall be used for all SARs prepared. In addition, this guide provides guidelines for quality assurance of SAR AML data. Exhibit (1) identifies source codes and Exhibit (2) provides Unit of Issue definitions. Per Chief of Naval Operations (CNO) direction to ensure effectiveness of Modernization efforts, all must adhere to established policies to provide new equipment only when proper support is in place. Less than full adherence to Integrated Logistics Support (ILS) and Life Cycle Management policies results in reduced reliability, maintainability, and readiness.

**2. References.**

- a. Appendix A, Subj: NAVSEA Technical Specification 9090-500c, Ship Alteration Preparation
- b. Defense Integrated Data System (DIDS) Procedures Manual (DOD 4100.39-M). Volume 10, Chapter 4, Table 53

**3. General Guidance.** Material items that should be included in the SAR AML are:

- All Centrally Provided Material (CPM) including Headquarters CPM (HCPM), non-standard material, material with design unique to the Ship Alteration (SHIPALT), material of unusual quantity, high dollar value items (\$15,000 or more), material with a history of procurement problems, Long Lead Time Material (LLTM) (Material considered to have a high probability of not being obtainable in a timeframe greater than six months per subparagraph 7-2.2.2 of Volume 1 of this manual), all Logistically Significant Material (LSM) (requires development of new/revised logistics (Provisioning Technical Documentation (PTD), Allowance Parts List (APL), Training, Planned Maintenance System (PMS), Technical Manuals, Test Equipment)), and Level 1 Submarine Safety (SUBSAFE) material. CPM items not to be included are On Board Repair Parts (OBRPs) and anything readily available from shop stores or tender load lists, or that can be locally purchased (e.g., piping, bolts, fasteners, outfitting material, standard material plates).
- Material to be discussed in the SAR text should be included in the SAR AML. All NAVSEA Data Environment – Navy Modernization (NDE-NM) (formerly FMPMIS) should be included.
- If no NDE-NM material is required, add a statement similar to the following on the SAR AML page: "ALL INCIDENTAL MATERIALS REQUIRED FOR THIS SHIPALT TO BE PROVIDED BY THE NSA/IA."

**4. For Each Item on the AML:**

- Assign a separate "Item Number" for each material item beginning with "1" and list in numerical order.
- Different items to be procured together as a system, assembly or kit shall also have a single item number with the words "CONSISTING OF" and alpha-numeric sub-

numbering included in the material item identification area.

#### **5. Procuring Activity Column.**

- The SAR developer should enter the procuring activity into the "Procuring Activity" column on the SAR AML (e.g., "Defense Logistics Agency (DLA)").
- Procuring activity is defined cognizant inventory manager purchasing material that is dependent on SHIPALT requirements in NDE-NM (e.g., Acquisition Manager (NAVSEA 93), Life Cycle Manager (NAVSEA 03), Naval Inventory Control Point – Mechanicsburg (NAVICP-M), DLA). See Exhibit (1).

#### **6. Description.**

- For standard stock material, provide the following information on the SAR AML:
  - Noun name and technical characteristics, including type, size, capacity, shock requirements, etc.
  - Military Specification (MILSPEC)/Military Standard (MILSTD)/Standard Drawing (STD DWG), etc. with all applicable options identified.
  - National Stock Number (NSN) or Navy Item Control Number (NICN) including cognizance code.
- For non-standard material, provide the following ordering data information on the SAR AML:
  - MILSPEC/MILSTD.
  - Manufacturer's name and Commercial and Government Entity (CAGE) number.
  - Manufacturer's model or part number.
  - Manufacturer's drawing or piece number.
  - Navy Standard Drawing or piece number.
  - Standard ordering data per paragraph 6.1/6.2 of the applicable MILSPEC.
  - Physical characteristics.
- To help reduce costs to the Navy, every effort should be made to utilize existing standard stock material. Utilization of Navy supported equipment or components which are identified in the Hull, Mechanical and Electrical (HM&E) Equipment Data Research System (HEDRS) should be considered first.

**7. Unit of Issue.** The unit of issue for each item on the SAR AML must match the unit of issue code as specified in Exhibit (2). Unit of issue codes and definitions contained in Exhibit (2) are in accordance with reference (b).

**8. Quantity Required (Per Ship).** Identify quantities required. If uncertain, identify the largest quantity that may be needed.

**9. Applicable ship(s).** The Ship Program Manager (SPM) has final authority over the SHIPALT but will notify PYs of changes made during their final review.

## COGNIZANT ACTIVITY LISTING

### COG/ROUTING IDENTIFIER

### COGNIZANT ACTIVITY

OA Q11	Field Command/DNA (Defense Nuclear Agency)
OE N23	NAVSEA (Naval Sea Systems Command)
OI R92	NAVICP-P Phila., PA
OJ N35	NAVICP-M Mechanicsburg, PA
OK N36	CNET (Chief of Naval Education and Training)
OL N77	SPAWAR/ NAVICP-M (Space and Naval Warfare Systems Command/Naval Inventory Control Point - Philadelphia)
OM N35	NAVICP-M Mechanicsburg, PA
ON R41	Civil Engineering Support Office
OO N35	NAVICP-M Mechanicsburg, PA
OQ N32	NAVICP-P Philadelphia, PA
OR N32	NAVICP-P Philadelphia, PA
OS N35	NAVICP-M Mechanicsburg, PA
OT MHQ	CMC (Commandant of the Marine Corps)
OU N35	NAVICP-M Mechanicsburg, PA
OV PPZ	NAVAIR (Naval Air Systems Command)
OX Q6D	DCMS (Defense Communications Material Systems)
1B N22	NAVSUP (Naval Supply Systems Command)
1H N35	NAVICP-M Mechanicsburg, PA
1I R92	NAVICP-M Mechanicsburg, PA
1Q Q27	NRSO (Naval Resale and Service Support Office)
1R N32	NAVICP-P Philadelphia, PA
1V N47	FMSO (Fleet Material Support Office)
1X N47	FMSO (Fleet Material Support Office)
2B N325	NAVICP-M Mechanicsburg, PA
2C R41	Civil Engineering Support Office in lieu of NAVFAC
2D Q81	Joint Cruise Missile Project Office
2E NCB	NAVICP-M Mechanicsburg, PA
2F N23	NAVSEA (Naval Sea Systems Command)

**COG/ROUTING  
IDENTIFIER****COGNIZANT ACTIVITY**

2J N23	NAVSEA (Naval Sea Systems Command)
2L Q6D	DCMS (Defense Communications Material Systems)
2M N21	NAVAIR (Naval Air Systems Command)
2O N45	NTSC (Navy Training Support Center)
2P RCZ	NAVPRO (SPG), Pittsfield, MA (SPG)
2Q N35	NAVAIR/ NAVICP-M Mechanicsburg, PA (Naval Air Systems Command/ Naval Inventory Control Point - Philadelphia)
2S N23	NAVSEA (Naval Sea Systems Command)
2T NCB	NAVICP-M Mechanicsburg, PA
2V N21	NAVAIR (Naval Air Systems Command)
2W N21	NAVAIR (Naval Air Systems Command)
2X RAZ	NAVPRO (SPL-60), Sunnyvale, CA
2Z N77	SPAWAR (Space and Naval Warfare Systems Command)
3H N35	NAVICP-M Mechanicsburg, PA
4E NCB	NAVICP-M Mechanicsburg, PA
4K N21	NAVAIR (Naval Air Systems Command)
4M N77	SPAWAR (Space and Naval Warfare Systems Command)
4P R31	NAVPRO (SPL (W)), Sunnyvale, CA
4R N32	NAVICP-P Philadelphia, PA
4T NCB	NAVICP-M Mechanicsburg, PA
4V N21	NAVAIR (Naval Air Systems Command)
4X RKZ	NAVPLANTTECHREP (SPI), Anaheim, CA
4Y N35	NAVICP-M Mechanicsburg, PA
4Z N32	NAVICP-P Philadelphia, PA
5L B56	Army Communications Security Logistics Agency
5M B46	Army Security Agency
5N FPD	San Antonio Air Logistics Center, Kelly AFB, TX
5P FPZ	San Antonio Air Logistics Center, Kelly AFB, TX
5R N32	NAVICP-P Philadelphia, PA
6A N35	NAVICP-M Mechanicsburg, PA
6B N35	NAVICP-M Mechanicsburg, PA

**COG/ROUTING  
IDENTIFIER****COGNIZANT ACTIVITY**

6C N35	NAVICP-M Mechanicsburg, PA
6D N35	NAVICP-M Mechanicsburg, PA
6H N35	NAVICP-M Mechanicsburg, PA
6K N32	NAVICP-P Philadelphia, PA
6L N35	NAVICP-M Mechanicsburg, PA
6M N35	NAVICP-M Mechanicsburg, PA
6P RAZ	NAVPRO (SPL-60), Sunnyvale, CA
6R N32	NAVICP-P Philadelphia, PA
6T N79	NMEF (Naval Mine Engineering Facility)
6V N52	NALC (Naval Aviation Logistics Center)
6X N35	NAVICP-M Mechanicsburg, PA
6Y N35	NAVICP-M Mechanicsburg, PA
7E N35	NAVICP-M Mechanicsburg, PA
7G N35	NAVICP-M Mechanicsburg, PA
7H N35	NAVICP-M Mechanicsburg, PA
7N N35	NAVICP-M Mechanicsburg, PA
7R N32	NAVICP-P Philadelphia, PA
7Z N35	NAVICP-M Mechanicsburg, PA
8A N21	NAVAIR/NAVSEA (Naval Air Systems Command/Naval Sea Systems Command)
8E N21	NAVAIR (Naval Air Systems Command)
8M N21	NAVAIR (Naval Air Systems Command)
8N N32	NAVICP-P Philadelphia, PA
8P R29	NAVPLANTECHREP, Sperry, Great Neck, NY
8S N24	NAVSEA (Naval Sea Systems Command)
8T N24	NAVSEA (Naval Sea Systems Command)
8U NCB	NAVICP-M Mechanicsburg, PA
8X R33	NAVPLANTECHREPO (SPA), Anaheim, CA
9A AKZ	ATAC (Army Tank-Automotive Command)
9C S9C	DSCC (Defense Supply Center Columbus)
9D S9T	DSCP (Defense Supply Center Philadelphia)

**COG/ROUTING  
IDENTIFIER****COGNIZANT ACTIVITY**

9E B17	Army Troop Support Command
9F FLZ	Warner-Robins Air Logistics Center, Robins AFB, GA
9G S9G	DSCR (Defense Supply Center Richmond)
9H B14	Army Armament Command
9I FGZ	Ogden Air Logistics Center, Hill AFB, UT
9J FHZ	Oklahoma Air Logistics Center, Tinker AFB, OK
9K FFZ	Sacramento Air Logistics Center, McClellan AFB, CA
9L S9M	DSCP (Defense Supply Center Philadelphia)
9M S9S	DSCP (Defense Supply Center Philadelphia)
9N S9E	DSCC (Defense Supply Center Columbus)
9O MAB	Marine Corps Logistics Base, Atlantic, Albany, GA
9P G13	National Weather Service
9Q GSA	Appropriate General Services Administration (GSA) Regional Office
9S B64	Army Missile Command, Redstone Arsenal, AL
9T G69	Federal Aviation Administration
9V FPZ	San Antonio Air Logistics Center, Kelly AFB, TX
9W B17	Army Troop Support and Aviation Material Readiness Command
9X S9F	DESC (Defense Energy Support Center)
9Y B16	U. S. Army Electronics Command
9Z S91	DISC (Defense Industrial Supply Center)

## UNIT OF ISSUE CODES

Note: Those terms preceded by an asterisk (\*) require a quantitative expression.

CODE	TERM	DEFINITION
<b><u>A</u></b>		
AM	*Ampoule	A small glass or plastic tube sealed by fusion after filling
AT	Assortment	A collection of a variety of items that fall into a category or class packaged as a small unit constituting a single item of supply. Use only when the term "assortment" is a part of the item name.
AY	Assembly	A collection of parts assembled to form a complete unit, constituting a single item of supply, e. g., hose assembly. Use only when the term "assembly" is part of the item name.
<b><u>B</u></b>		
BA	*Ball	A spherical-shaped mass of material such as twine or thread
BD	*Bundle	A quantity of the same item tied together without compression.
BE	*Bale	A shaped unit of compressible materials bound with cord or metal ties and usually wrapped, e. g., paper and cloth rags.
BF	Board Foot	A unit of measure for lumber equal to the volume of a board 12" X 12" X 1"
BG	*Bag	A flexible container of various sizes and shapes which is fabricated from such materials as paper, plastic or textiles. Includes "sack" and "pouch".
BK	*Book	A book-like package, such as labels or tickets, fastened together along one edge, usually between protective covers.
BL	*Barrel	A cylindrical container, metal or wood, with sides that bulge outward and flat ends or heads of equal diameter. Includes "keg".
BO	*Bolt	A flat fold of fabric having a stiff paperboard core.
BR	*Bar	A solid piece or block of various materials, with its length greater than its other dimensions, e. g., solder. Not applicable to items such as soap, beeswax, buffing compound.
BT	*Bottle	A glass plastic or earthenware container of various sizes, shapes and finishes such as jugs but excluding jars, ampoules, vials and carboys, with a closure for retention of contents.
BX	*Box	A rigid, three-dimensional container of various sizes and material. Includes "case", "carton", "tray", and "crate".
<b><u>C</u></b>		
CA	*Cartridge	Usually a tubular receptacle containing loose or pliable material and designed to permit ready insertion into an apparatus for dispensing the material. Usually associated with adhesives and sealing compounds.

<b>CODE</b>	<b>TERM</b>	<b>DEFINITION</b>
CB	*Carboy	A heavy duty, bottle-like container used for transportation and storage of liquids. Usually designed to be encased in a rigid protective outer container for shipment.
CD	Cubic Yard	A unit of cubic measure.
CE	*Cone	A cone-shaped mass of material wound on itself such as twine or thread, wound on a conical core.
CF	Cubic Foot	A unit of cubic measure.
CK	*Cake	A block of compacted or congealed matter. Applicable to such items as soap, buffing compound.
CL	*Coil	An arrangement of material such as wire, rope and tubing wound in a circular shape.
CN	*Can	A rigid receptacle made of fiber, metal, plastic or a combination thereof. Cans may be cylindrical or any number of irregular shapes. Restricted to items which cannot be issued in less than container quantity. Includes "pail" and "canister". Do not use when the packaged quantity equates to a unit of measure, i. e., pint, quart, gallon, ounce, pound.
CO	*Container	A general term for use only when an item is permitted to be packaged for issue in optional containers, e. g., bottle or tube for a single National Stock Number.
CS	Case	A box or receptacle for holding items. Intra-Navy use only for 9M cognizance items.
CT	Carton	A cardboard box or container. Intra-Navy use only for 9M cognizance items.
CY	*Cylinder	A rigid, cylindrical, metal container designed as a portable container for storage and transportation of compressed gasses, generally equipped with protective valve closure and pressure relief safety device.
CZ	Cubic Meter	A unit of cubic measure expressed in the metric system of measurement. Limited in application to locally assigned stock numbers used in the local procurement of items such as ready-mix concrete and asphalt in oversea areas where the metric system prevails.
<b><u>D</u></b>		
DR	*Drum	A cylindrical container designed as an exterior pack for storing and shipping bulk materials, e. g., fuels, chemicals, powders, etc. Drums may be made of metal, rubber, polyethylene or plywood, or fiber with wooden, metal or fiber ends.
<b><u>E</u></b>		
EA	Each	A numeric quantity of one item of supply. Do not use if a more specific term applies, such as kit, set, assortment, assembly, group, sheet, plate, strip or length.

<b>CODE</b>	<b>TERM</b>	<b>DEFINITION</b>
<b><u>F</u></b>		
FT	Foot	Unit of linear measurement, sometimes expressed as "linear foot".
FV	Five	Five of an item.
FY	Fifty	Fifty of an item
<b><u>G</u></b>		
GL	Gallon	Unit of liquid measurement.
GP	Group	A collection of related items issued as a single item of supply, e. g., test set group. Use only when the term "group" is part of the item name.
GR	Gross	One hundred forty-four (144) of an item.
<b><u>H</u></b>		
HD	Hundred	One hundred (100) of an item.
HK	*Hank	A loop of yarn or roping, containing definite yardage, e. g., cotton, 840 yards; worsted, 560 yards. See "skein" for comparison.
<b><u>I</u></b>		
IN	Inch	Unit of linear measurement, equivalent to 1/12 of a foot and sometimes expressed as "linear inch".
<b><u>J</u></b>		
JR	*Jar	A rigid container having a wide mouth and often no neck, typically made of earthenware or glass. Excludes "bottle".
<b><u>K</u></b>		
KT	Kit	A collection of related items issued as a single item of supply, such as the tools, instruments, repair parts, instruction sheets and often supplies typically carried in a box or bag. Also includes selected collections of equipment components, tools, and/or materials for the repair, overhaul, or modification of equipment. Use only when the term "kit" is a part of the item name.
<b><u>L</u></b>		
LB	Pound	A unit of weight measure equivalent to 16 ounces.
LG	*Length	Term applies to items issued in fixed or specific linear measurement, without deviation. This term no longer applies to random lengths which will be expressed in definitive units of linear measure such as foot or yard. Excludes "strip".
LI	Liter	A unit of liquid measure expressed in the metric system of measurement.
<b><u>M</u></b>		
MC	Thousand Cubic Feet	A unit of cubic measure expressed in one thousand (1,000) increments.

<b>CODE</b>	<b>TERM</b>	<b>DEFINITION</b>
MR	Meter	A unit of linear measure expressed in the metric system of measurement, equivalent to 39.37 inches. Limited in application to locally assigned stock numbers used in the local procurement of items such as pipe, lumber, tubing and hose in oversea areas where the metric system prevails.
MX	Thousand	One thousand (1,000) of an item.
<b><u>O</u></b>		
OT	Outfit	A collection of related items issued as a single item of supply, such as the tools, instruments, materials, equipment, and/or instruction manual(s) for the practice of a trade or profession or for carrying out a particular project or function. Use only when the term "outfit" is a part of the item name.
OZ	Ounce	A unit of liquid or avoirdupois weight.
<b><u>P</u></b>		
PD	*Pad	Multiple sheets of paper that are stacked together and fastened at one end by sealing.
PG	*Package	A form of protective wrapping for two or more of an item of supply. To be used only when a unit of measure or container type term is not applicable. Includes "envelope".
PK	Pack	A group or pile of related items. Intra-Navy use only for 9M cognizance items.
PR	Pair	Two similar corresponding items, e. g., gloves, shoes, bearings; or items integrally fabricated of two corresponding parts, e. g., trousers, shears, goggles.
PT	Pint	A unit of liquid or dry measure.
PZ	*Packet	A container used for subsistence items. Use only when "food packet" is part of the item name (Federal Supply Group [FSG] 89).
<b><u>Q</u></b>		
QT	Quart	A unit of liquid or dry measure.
<b><u>R</u></b>		
RA	Ration	The food allowance of one person for one day. Use only when "ration" (FSC 8970) is part of the item name.
RL	*Reel	A cylindrical core on which a flexible material, such as wire or cable, is wound. Usually has flanged ends.
RM	Ream	A quantity of paper varying from 480 to 516 sheets, depending on grade.
RO	*Roll	A cylindrical configuration of flexible material which has been rolled on itself such as textiles, tape, abrasive paper, photosensitive paper and film, and may utilize a core with or without flanges.
<b><u>S</u></b>		
SD	*Skid	A pallet-like Platform consisting of a load-bearing area fastened to

<b>CODE</b>	<b>TERM</b>	<b>DEFINITION</b>
		and resting on runner type supports.
SE	Set	A collection of matched or related items issued as a single item of supply, i. e., tool sets, instrument sets, and matched sets. Use Only when the term "set" is a part of the item name.
SH	Sheet	A flat piece of rectangular-shaped material of uniform thickness that is very thin in relation to its length and width, such as metal, plastic, paper, and plywood. Use of this term is not limited to any group of items or FSCs. However, it will always be applied when "sheet" is used in the item name to denote shape, e. g., aluminum alloy sheet, except items in FSC 7210.
SK	Skein	A loop of yarn 120 yards in length, usually wound on a 54-inch circular core. See "hank" for comparison.
SL	*Spool	A cylindrical form with an edge or rim at each end and an axial hole for a pin or spindle on which a flexible material such as thread or wire is wound.
SO	Shot	A unit of linear measurement, usually applied to anchor chain; equivalent to 15 fathoms (90 ft).
SP	*Strip	A relatively narrow, flat length of material, uniform in width, such as paper, wood, and metal. Use only when the term "strip" is part of the item name.
SX	*Stick	Material in a relatively long and slender, often cylindrical form for ease of application or use, e. g., abrasives.
SY	Square Yard	A unit of square measure (area).
<b><u>T</u></b>		
TI	Tin	A box, can, pan, vessel, or sheet made of tinplate.
TN	Ton	The equivalent of 2,000 lbs. Includes short ton and net ton.
TO	Troy Ounce	A unit of troy weight measure, based on 12 ounce pound, generally applied to weights of precious metals.
TU	*Tube	Normally a squeeze-type container, most commonly manufactured from a flexible type material and used in packaging toothpaste, shaving cream and pharmaceutical products. Also applicable as form around which items are wound, such as thread. It is not applicable to mailing tube, pneumatic tube, or cylindrical containers of a similar type.
<b><u>V</u></b>		
VI	*Vial	A small glass container, generally less than an inch in diameter. Vials are flat-bottomed and tubular in shape and have a variety of neck finishes.
<b><u>Y</u></b>		
YD	Yard	A unit of linear measure, equivalent to 3 feet and sometimes expressed as "linear yard".