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27 October 1976

MILITARY STANDARD

SHIPYARD INSPECTION AND CLEANING PROCEDURES FOR SUBMARINES

PART 3

MISSILE COMPARTMENT

SSBN 598 CLASS

FSC 1905

DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND

WASHINGTON, D.C. 20362

Shipyard Inspection and Cleaning
Procedures for Submarines, Missile Compartment
SSBN 598 Class

MIL-STD-1682/3(SH)

1. This Military Standard is approved for use by Naval shipyards during overhaul and conversion periods for submarines.

2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Ship Engineering Center, Center Building, SEC 6124, Prince George's Center, Hyattsville, Maryland 20782 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FOREWORD

This part provides inspection and cleaning procedures for the Missile Compartment aboard SSBN 598 Class submarines.

CONTENTS

1. SCOPE

1.1 This part provides inspection and cleaning procedures for the Missile Compartment (MC) aboard SSBN 598 Class submarines. The basic standard and this part are to be considered as an integral single document.

2. REFERENCED DOCUMENTS

2.1 This paragraph is not applicable to this standard.

3. DEFINITIONS

3.1 Clean. Clean is being free of all loose scale, rust, grit, filings, and other foreign substances; and free of oil, grease, and other organic materials.

3.2 Dewpoint. The temperature at which condensation first occurs when a vapor is cooled.

3.3 Landing or landed. Physical placement of equipment in specified location.

4. REQUIREMENTS

4.1 Safety and precautions.

Note: Listed below are warnings appearing in this procedure. All personnel involved in operating and maintaining this equipment must fully understand the warnings.

4.1.1 Supplemental filter material used in this standard is a restricted use item and should be used only during construction and availability periods such as upkeep, conversion, and overhaul. Cyanide gas is generated when filter material burns; therefore, its use is prohibited at all other times.

4.1.2 Do not use flammable cleaning solvents or solvents in spray form.

4.1.3 Wear safety goggles while working with compressed air. Particles of dust, dirt, or other foreign material may be expelled at high velocity resulting in eye injury.

4.1.4 Observe safety precautions when spray painting, deck grinding, or heavy welding is in progress. Inhalation of toxic fumes or dust is hazardous to health.

4.2 Materials.

4.2.1 Materials required to perform normal inspection and cleaning are as follows:

(a) Supplemental filter material (NSN 1G-9330-00-965-0481 or equivalent)
(b) Coated cloth: fire retardant curtains (NSN 8305-00-082-5586/5587 or equivalent)
(c) Portable vacuum cleaner (nonmetallic hose)
(d) Assortment of wiping cloths
(e) Thermometer
(f) Cheesecloth

5. INSPECTION AND CLEANING PROCEDURES

5.1 FBM MC inspection and cleaning.

5.1.1 Where practicable, protective covers are required on but are not limited to the following equipment from installation until turnover to Ship's Force or prior to dock trials:

Missile junction boxes (MJBs)

Guidance power supplies (GPSs)

Christy rectifiers

Guidance capsule junction box (JB)

Gimbal assembly (GA) test stand

Electronic assembly (EA) test stand

Fire control (FC) switchboard

Polaris target card computer system (PTCCS)

18-KW rectifiers

Bulkhead 58 and aft target bar tooling scales

1.2-KW rectifiers

Missile power transfer panels (MPTP)

Photoelectric auto collimator (PEAC) table and associated equipment

Alignment control console

Alignment station selector panels

Alignment drive motors

Alignment trolley and associated cables

Breather valves

MT access door gasket and seats

Launch control panel (LCP)	ABT
Alarm monitoring panel	Muzzle hatch gasket and seats
Jettison panel	MT/LT upper seal

5.1.2 Prior to landing any equipment, ensure that immediate vicinity and/or enclosure is vacuumed and wiped clean.

5.1.3 Maintain contamination seal for mount tube/launch tube upper seal in place at all times except when test fixture, Sabot ring, or closure is in use.

5.1.4 After landing first piece of support equipment and before equipment turn-on, daily perform the following as indicated in 5.1.4.1 through 5.1.4.5.

5.1.4.1 Inspect MC and if cleaning is required, as determined by ITRO Test No. 3-360-19 Test Director, remove any accumulations of dust, dirt, chips, etc., from work surfaces, machined surfaces, exposed equipment, wireways, overheads, bulkheads, bilges, frame bays, and decks, etc., using vacuum cleaner and soft cloth. Vacuum at least once each week.

5.1.4.2 Empty refuse containers.

5.1.4.3 Check that equipments exposed to possibility of damage, water leaks, hydraulic leaks, etc., are protected by suitable covers or padding.

5.1.4.4 Ensure that welding and grinding activities are isolated from MC sensitive areas by suitable containment.

5.1.4.5 Verify that all protective covers listed in 5.1.1 are in place on their respective equipment (except where such equipment is uncovered for testing or operation). If no testing is being performed on that equipment, reinstall protective covers.

5.1.5 After TI equipment is installed, perform the following.

5.1.5.1 Isolate Instrumentation Operations Area (IOA) IOA-1 by arranging coated cloth (fire retardant curtains) at the following locations:

(a) In port passageway from outboard of tube 10 to the bulkhead at frame M44. Arrange curtains in such a way so as not to interfere with ventilation supplying cooling air to TI equipment.

(b) At overhead from 21'6" ABL deck and into frame bays to keep debris from falling into IOA-1.

5.1.5.2 Isolate IOA-2 in crews' berthing area by arranging coated cloth (fire retardant curtains) in a convenient manner. Arrange curtains in such a way so as not to interfere with ventilation supplying cooling air to equipment.

5.1.5.3 Vacuum to remove dust, dirt, or other foreign matter from accessible overhead areas, cable runs, and bulkhead.

WARNING

Wear safety goggles while working with compressed air. Particles of dust, dirt, or other foreign material may be expelled at high velocity resulting in eye injury.

5.1.5.4 Clean inaccessible areas by using low-pressure air.

CAUTION

Use extreme care when damp wiping any equipment. Do not damp-wipe switches, indicators, and lights. Moisture may cause equipment damage.

5.1.5.5 Dry wipe (damp if necessary) areas where vacuum cleaner cannot clean adequately.

5.1.5.6 Daily vacuum deck and passageways.

WARNING

Supplemental filter material used in this standard is a restricted use item and should be used only during construction and availability periods such as upkeep, conversion, and overhaul. Cyanide gas is generated when filter material burns; therefore, its use is prohibited at all other times.

5.1.5.7 Check that Test Instrumentation (TI) equipment internal filters are installed. Place supplemental filter material, cheesecloth, etc., over ventilation fan intakes and outlets on TI equipment. Replace supplemental filter if it becomes dirty.

Note: Supplemental filter material is to be used only when TI equipment is not operating. Excessive heating will occur if this material is installed when equipment is operating.

5.1.6 After Launcher Support System, PTCCS MK 148, or Test Instrumentation equipment is energized to support Phase 3 testing, proceed as indicated in 5.1.6.1.

5.1.6.1 Clean MC as follows on an as required basis, but at least as often as indicated below:

(a) Daily vacuum deck and any protective covering over equipment to remove accumulation of dust, dirt, and other foreign material.

(b) Daily remove dust from work surfaces and equipment by using wiping cloths and/or vacuum cleaner.

(c) Weekly vacuum to remove dust, dirt, or other foreign matter from accessible overhead areas, cable runs, and bulkheads.

WARNING

Wear safety goggles while working with compressed air. Particles of dust, dirt, or other foreign material may be expelled at high velocity resulting in eye injury.

(d) Weekly clean inaccessible areas by using low-pressure air.

(e) Damp mop deck and passageways where vacuum cleaner cannot clean adequately.

(f) Twice weekly remove and ultrasonically clean the TI internal filters. Two complete sets of filters are required to accomplish this preventive maintenance. (Refer to Note following 5.1.5.7.)

(g) Weekly, clean removable air filters in PTCCS MK 148 (one per computer, two in power area).

5.1.7 The shipyard shall maintain the IOA area environment and crews' berthing area where the TI equipment is located within the following conditions when TI stacks are operating:

Temperature: maximum 85° F/29.4° C
optimum 75° F/23.9° C
minimum 59° F/15° C

Relative Humidity: maximum 90%

5.1.8 If the above temperature and humidity environmental requirements of 5.1.7 cannot be maintained, the TI System shall be deenergized until these environmental requirements are restored and maintained.

5.1.9 Take temperature and humidity readings at the discretion of the Senior TI Contractor Representative. Take the temperature and humidity readings between TI stacks 7, 8, and 9 approximately 5 feet above the deck.

5.1.10 The ambient air temperature in the MK 148 PTCCS area shall be 85°F (29.4°C) or less if the computer is to be operated. Ensure there are no obstructions to the computer air inlets or exhaust vents.

WARNING

Observe safety precautions when spray painting, deck grinding, or heavy welding is in progress. Inhalation of toxic fumes or dust is hazardous to health.

5.1.11 TI equipment will be secured when, in the opinion of the Senior TI Representative, spray painting, deck grinding, or heavy welding in the immediate vicinity would be detrimental to equipment operation. Spray paint or dust may clog the air filters and cause overheating resulting in damage to equipment. Equipment must be covered and protected from spray paint that may obliterate control and display markings.

Preparing activity:
Navy - SH
(Project 1905-N006-3)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

OMB Approval
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