SHIP SYSTEM	SUBSYSTEM	MRC CODE
Propulsion Plant	Intakes and Uptakes	R-

SYSTEM	EQUIPMENT	RATES	M/H
Propulsion Plant	Combustion Air Intakes and Uptakes	GS-11/12	32.0

TOTAL M/H
32.0
ELAPSED TIME

MAINTENANCE REQUIREMENT DESCRIPTION

1. Conduct SEMAT assessment procedure for uptakes. (25911)
2. Conduct SEMAT assessment procedure for combustion air intakes. (25131)

SAFETY PRECAUTIONS

1. Forces afloat comply with NAVOSH Program Manual for Forces Afloat, OPNAVINST 5100.19 series.
2. Exercise caution in vicinity of electrical equipment, operating machinery and open access openings.
3. Station observer at intake and uptake duct opening while inspector is inside duct.

TOOLS, PARTS, MATERIALS, TEST EQUIPMENT

MATERIALS

1. [1609] Magnifier
2. [3187] Ruler, plastic, 6"

TOOLS

1. [0611] Hammer, hand, Scaling, 1 LB
2. [1157] Scraper, bearing, Flat, end cutting, carbide tip
3. [1350] Tape, measuring, 3/8" steel, 100 FT, hand crank
4. [2271] Flashlight, Type 3, style 1, explosive proof

MISCELLANEOUS

1. [1350] NAVSEA S9AA-AB-GOS-010 General Specifications for Overhaul of Surface Ships. Section 259
2. [1350] Ships drawings (as required)

NOTE: Numbers in brackets can be referenced to Standard PMS Materials Identification Guide (SPMIG) for stock number identification.

PROCEDURE

NOTE 1: Accomplish assessment before availability, after availability, and before deployment.

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LOCATION	DATE
	August 1997

PROCEDURE (Contd)

NOTE 2: Number of personnel and man-hours assigned is average for DD-class ships and may require adjustment for larger class of ships.

Preliminary

a. Obtain a copy of ship's Compartment and Access plan to assist assessment.
b. Obtain a copy of ship's Repair Inspection Requirements (RIR) sheets for reference during this assessment.
c. Review JSNs from the ship's CSMP for discrepancies to be assessed under this procedure.

1. **Conduct SEMAT Assessment Procedure for Uptakes. (25911)**

NOTE 3: This procedure describes requirements for conducting an assessment of boiler inner casing uptakes to inner smoke pipe; main propulsion diesel engine exhaust piping and associated equipment from engine connection to atmosphere or smoke pipe; and main propulsion gas turbine exhaust ducting from engine connection below expansion joint to atmosphere.

NOTE 4: When performing assessment, pay particular attention to preservation of wet areas and relatively inaccessible areas subject to weather where heavy deterioration might occur. Assessment to include (as applicable): access plates, exhaust silencer, expansion joints, flapper valves, foundations, gas deflector, grab rods, infrared suppression, insulation, mufflers, outer cone, rain gutters and drains, rain hoods, spark arrestors, and uptake covers. A chipping hammer is useful in evaluating potential areas of deterioration.

WARNING: Exercise caution in vicinity of electrical equipment, operating machinery and open access openings.

WARNING: Station observer at intake and uptake duct opening while assessor is inside duct.

a. Assess for hairline cracks which may appear in plating or welded seams due to metal fatigue or inferior welding. Particular attention should be given to areas where watertight integrity is concerned.
b. Visually assess all boiler inner casing uptakes to inner smoke pipe for cleanliness, rust/corrosion, components installed (includes gages and label plates), damage/deterioration (includes lagging), cracks/warps/distortion and tightness of casing/joints/seals and leakage/piping connections to determine material condition.
c. Visually assess all main propulsion diesel engine exhaust piping and associated equipment from engine connection to atmosphere or smoke pipe for cleanliness, rust/corrosion, components installed (includes gages and label plates), damage/deterioration (includes lagging), cracks/warps/distortion and tightness of casing/joints/seals and leakage/piping connections to determine material condition.

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PROCEDURE (Contd)

d. Visually assess seams and joints for deterioration, cracked welds, and loose rivets/bolts.

e. Visually assess painted surfaces for blisters and apparent increase in paint film thickness which may indicate hidden corrosion.

2. **Conduct SEMAT Assessment Procedure for Combustion Air Intakes. (25131)**

a. Conduct a visual and hammer assessment of interior and exterior areas of combustion air intakes aboard ship. Examples of items to be assessed but not limited to are:

WARNING: Exercise caution in vicinity of electrical equipment, operating machinery and open access openings.

WARNING: Station observer at intake and uptake duct opening while assessor is inside duct.

(1) Module expansion joints for cracks, tears, deterioration and signs of excessive stress.

(2) Cracked or broken welds; bent or deteriorated brackets, rungs and grab rods.

(3) Scuppers, waterways, and drains for debris, corrosion, cracked and broken welds.

(4) Demister coalescer pads (moisture separators) for damage, tears, debris, and foreign matter. Ensure new pads are made of Dynel material. Assess wire mesh grids for deterioration.

(5) Blow-in doors for broken and inoperative hinges and linkages; latching mechanism for proper alignment; broken and deteriorated springs; gaskets for cuts and tears; missing or damaged inlet screens.

(6) Interior surfaces from weather intake plenum to silencers and from silencers to gas turbine inlet plenum for the following:

(a) Salt deposits.

(b) Cracks, broken welds, missing fasteners, and deterioration.

(c) Aggressive corrosion and exfoliation of aluminum and/or steel duct.

(d) Flaking, chipping, peeling, or spalling of epoxy coating on steel section of duct.

(7) Main engine removal guide rails for cracks, buckling, cracked welds, broken lockwire and missing bolts and nuts.

(8) Damaged or deteriorated anti-icing electric heaters for blow-in doors and for intake louvers.

(9) Silencers for tears or damaged perforated stainless steel. Sound deadening material for looseness or damage. Ensure silencers are properly connected to ducting.

(10) Main gas turbine inlet screen for tears, damage and deterioration.

(11) Bolts are wired together in pairs.

(12) Assess system component electrical wiring for cracked and frayed insulation, broken wires, and secure connections.

(13) Assess for properly inscribed and installed label, instruction, and warning plates.

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PROCEDURE (Contd)

(14) Assess air intake system exterior for the following:
- (a) Expansion joint surfaces for cracks and blisters.
- (b) Loose, missing. and deteriorated nuts and bolts for flanges and access hatches.
- (c) Cracked welds, loose and deteriorated nuts and bolts of anchor supports and sway braces.
- (d) Aggressive corrosion and exfoliation of aluminum portion of ducting.
- (e) Chipping, peeling, and flaking of anti-sweat treatment and paint.
- (f) Weather intake louvers (screen for GTRB GENs) missing, damaged, or deteriorated.
- (g) Cracked, broken welds, and deteriorated lashing ring of stack cover tie down.
- (h) Portable stack covers for damage and deterioration.

(15) Assess module air cooling system for the following:
- (a) Expansion joints for cracks, tears, deterioration, and evidence of excessive stress.
- (b) Silencer (MN GTRB only) for proper installation, tightness, damage to perforated material and sound deadening material (not included in pre-LOE).

(16) Assess cleanliness of intake interior surfaces from weather intake plenum to silencers and from silencers to gas turbine inlet plenum. Assess for:
- (a) Dust, dirt, and foreign matter.
- (b) Loose sealer, welding slag, and metal chips.

b. When performing assessment of combustion air intakes, items to look for but not limited to are:

(1) Material condition of stiffeners. Assess for:
- (a) Deterioration, fractures, distortion, buckling, and cracked welds.
- (b) Brackets, chocks, and collar plates.
- (c) Drain holes.
- (d) Butt alignment.
- (e) Obvious liquid traps, especially in horizontal stiffening.

(2) Material condition of bulkheads and decks. Assess for:
- (a) Buckling and cracked welds.
- (b) Holes and pitting.
- (c) Rust, scale, and peeling paint.

(3) Assess rivets and bulk bolts for deterioration, loose, missing, or cracked components, and signs of leakage.

(4) Assess paint condition for blisters, peeling, and apparent increase in paint film thickness which may indicate hidden corrosion.

3. **All discrepancies identified shall be indicated on the appropriate SEMAT discrepancy reporting form (2-K or Material Aassessment Form).**

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