

1	SEQUENCE NO	T11
2	DATA DESC	Test Procedures, High Impact Shock
3	SUBTITLE	
4	DID NUMBER	T11A dated 8/17/01
5	CONTRACT REF	Purchase Order
6	TECH OFFICE	Follow Shipbuilder
7	DD 250 REQ'D	
8	APPRVL CODE	A Test procedures shall be approved by Buyer prior to test.
9	IAC INPUT	
10	FREQUENCY	
11	AS OF DATE	
12	DATE 1ST SUBM	NLT 180 DPTT
13	DATE SUB SUBM	Lightweight and Mediumweight procedures NLT 14 DARC Heavyweight procedures NLT 21 DARC
14	DISTRIBUTION	FSB 6/0 BIW(LYS) 1/0
15	TOTAL	7/0
16	REMARKS	The Seller shall provide 30 days notification prior to the commencement of any testing.

DATA ITEM DESCRIPTION	2. Identification	
	Agency	Number
1. Title TEST PROCEDURES, HIGH IMPACT SHOCK	BIW/LYS (DDG)	T11A
3. Description or Purpose  Provides procedures for shock testing equipment and systems which are required to resist high impact mechanical shock.	4. Approval Date  8/17/01	
	5. Office of Primary Responsibility  BIW D-40NSV	
	6.	
7. Application or Interrelationships  Applies whenever equipment is to be shock qualified by high impact shock testing in accordance with MIL-S-901.	8.	
	9. References (Mandatory as cited in Block 10)  MIL-S-901 as Modified by Appendix S	
10. Preparation Instructions		
10.1 <u>Content Requirements:</u> The test procedure shall contain the following information.		
10.1.1 <u>Equipment Identification:</u> The request shall include the following identification information.		
<ul style="list-style-type: none"> <li>a. Item <ul style="list-style-type: none"> <li>(1) Name</li> <li>(2) Type</li> <li>(3) Nomenclature</li> <li>(4) Rating</li> <li>(5) Service</li> <li>(6) Military specification and technical manual numbers</li> </ul> </li> <li>b. Manufacturer (name and address).</li> <li>c. Model number and serial number.</li> <li>d. Size or capacity (if applicable).</li> <li>e. Plan numbers (sectional assembly and outline; revision and date).</li> <li>f. Approximate overall size of equipment <ul style="list-style-type: none"> <li>(1) Length</li> <li>(2) Height</li> <li>(3) Width</li> <li>(4) Diameter</li> </ul> </li> <li>g. Weight (wet, dry, and total weight including test fixture, wet and dry)</li> <li>h. Height of center-of-gravity above base of equipment</li> <li>i. Contract or purchase order number</li> <li>j. Requirement of MIL-S-901 <ul style="list-style-type: none"> <li>(1) Test category</li> <li>(2) Grade</li> <li>(3) Equipment class</li> <li>(4) Shock test type</li> <li>(5) Mounting location</li> </ul> </li> <li>k. Mounting aboard ship represented during shock test <ul style="list-style-type: none"> <li>(1) Plane</li> <li>(2) Orientation</li> </ul> </li> <li>l. Hold-down fasteners or locating devices used for attachment of items to their foundation or test fixture during shock tests</li> </ul>		

- (1) Grade
- (2) Size
- (3) Material
- (4) Specifications
- m. Hold down bolt torque
- n. Description of resilient mounts, if used
  - (1) Size
  - (2) Type
  - (3) Location
  - (4) Specification
- o. Major components and attached items in test (name, identification, manufacturer)
- p. Test laboratory and address
- q. Test instrumentation and monitoring equipment, if any

10.1.2 Test Procedures:

- a. Purpose and objective of tests to be conducted
- b. The activity whose representative(s) will witness both the shock test and the post-shock test inspection and functional testing (see 4.4 of MIL-S-901).
- c. Alternative representative(s) (e.g., DCASMA, SUPSHIP, NAVPRO, AFPRO, project engineer) who may witness tests in b. above in the event the specified witness cannot schedule attendance.
- d. Step-by-step test procedures and limits
- e. Test sequence
- f. Simulation of items during shock test
- g. Test item operational requirements
- h. Fixture drawings for the test fixture required for conducting heavyweight shock tests and the justification for the fixture meeting the requirement of MIL-S-901.
- i. Requirement, if any, for on-site evaluation of test instrumentation results. All test instrumentation data evaluations needed to show compliance with acceptance criteria (including criteria, if any, regarding momentary malfunctions) shall be identified for on-site performance to ensure recognition of discrepant conditions before proceeding with additional shock blows or shots.

10.1.3 Detailed Post-Shock Functional Testing Procedures: Include the following in separate sections for each component:

- a. Functional tests to include:
  - (1) Input-output of component or equipment
  - (2) Operating temperatures (bearing and coil winding)
  - (3) Cyclic operations to determine compliance with design specification
- b. Hydrostatic tests to include:
  - (1) Hydraulic, pneumatic, and fluid system equipment
  - (2) Demonstration of strength
  - (3) Leakage
- c. Electrical tests to include:
  - (1) Insulation breakdown (shorts)
  - (2) Electrical continuity

10.1.4 Comparison With Operational Requirements: Define the procedures for reporting the results of the post-shock functional testing.

10.1.5 Detailed Post-Shock Inspection Procedures and Criteria: Include the inspection procedures in separate sections for each component to determine:

- a. Breakage
- b. Deformation
- c. Yielding

- d. Misalignment
  - e. Unbalance
  - f. Cracks (dye penetrant, radiographic, or magnetic particle)
  - g. Separation
  - h. Critical tolerance clearances
  - i. Bolting torques
- 10.1.6 Pre-Shock Test vs. Post-Shock Test Configuration Comparison: Define the procedures for reporting the results of the comparison between pre-shock tested component configuration and post-shock tested component configuration.
- 10.1.7 Shock Test Acceptance Criteria: Include Grade A shock test acceptance criteria if such are not specified by applicable acquisition documents. Including the following:
- a. Minimum acceptable performance parameters.
    - (1) Alignment
    - (2) Dielectric strength
    - (3) Pressure-tight integrity
    - (4) Deformation
    - (5) Clearance
  - b. Extent of momentary malfunction, if permitted
  - c. Degree of permanent functional impairment allowed
- 10.2 Format Requirements: The procedures shall be prepared in the Supplier's format on 8-1/2" x 11" sheets (metric size A4).