

| DATA ITEM DESCRIPTION | | | Form Approved OMB No. 0704-0188 | |
|--|---|---|------------------------------------|--------------------------|
| 2. TITLE SHOCK TEST REPORT | | 1. IDENTIFICATION NUMBER DI-ENVR-80708 | | |
| 3. DESCRIPTION/PURPOSE 3.1 The Shock Test Report provides the results of equipment shock tests, post-shock test inspections and functional tests. The report is used to determine if tested items meet the requirements of MIL-S-901 (NAVY). | | | | |
| 4. APPROVAL DATE (YYMMDD) 881121 | 5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) SH | 6a. DTIC APPLICABLE | 6b. GIDEP APPLICABLE | |
| 7. APPLICATION/INTERRELATIONSHIP 7.1 This data item description (DID) contained the format and content preparation instructions for the Shock Test Report resulting from the work task described by 3.1.8.6, 3.1.12, and 4.4 MIL-S-901 (NAVY). 7.2 This report applies whenever shock testing equipment in accordance with MIL-S-901 (NAVY). 7.3 This data item description supersedes UDI-T-23753 and UDI-T-23754. (Continued on Page 2) | | | | |
| 8. APPROVAL LIMITATION | | 9a. APPLICABLE FORMS | | 9b. ANSC NUMBER N4574 |
| 10. PREPARATION INSTRUCTIONS 10.1 <u>Reference documents.</u> The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as specified in the contract. 10.2 <u>Content Requirements.</u> 10.2.1 <u>General.</u> Shock test reports shall contain the following three sections: a. <u>Section 1. Test installation and conduct.</u> This section describes the test installation, conduct, and results of the test, including the applicable information of 10.3. This section shall also include: (1) Description of material, size, and type of hold-down bolts (and of any other hold-down or locating devices) used to secure or locate the tested items to their foundations or test fixtures during shock tests. (2) Clear photographs of each equipment mounting configuration used during the shock test. (3) A drawing of the fixture. Modifications to standard fixtures may be submitted as marked-up drawings. (4) If shock test instrumentation is employed, a description of such instrumentation and a clear copy of data recorded during the test shall be submitted with the report. (5) Reference to the applicable equipment military specifications or acquisition document including the applicable revision and date of issue shall be submitted with the report. b. <u>Section 2. Post-test inspection.</u> This section describes the conduct and results of the post-test inspection including the applicable information of 10.3. (Continued on Page 2) | | | | |
| 11. DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited. | | | | |

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Block 7, Application/Interrelationship (Continued)

7.4 Sections 1 and 2 of the report will include input provided by the shock test facility and the activity performing post-shock test inspection. If the shock test facility and post-test inspection facility are other than the contractor, arrangements to assure that this input is obtained are required.

Block 10, Preparation Instructions (Continued)

- c. Section 3. Acquisition requirements. This section states the applicable ordering data specified in acquisition documents. This may be accomplished by extracting pertinent pages or sections of the purchase specifications or acquisition document and including this material as an appendix to the report. This section shall include the contractor's recommendations for shock test acceptance of the item tested. For each item of damage (or malfunction) which occurred as a result of shock testing, the contractor shall either recommend and rationalize design modifications which the contractor believes are required to correct any deficiencies found during the test or the post-test inspection in order to achieve acceptable shock resistance, or shall illustrate that the damage or malfunction in question does not violate applicable shock test acceptance criteria. Where matters involving shock test failures were resolved with the acceptance authority prior to submission of the test report (see 3.1.11 of MIL-S-901), a record of these agreements shall include detailed descriptions of any damage incurred during each blow or shot and, where practicable, clear photographs of each instance of damage. This section shall also describe in detail any design modifications, repairs, or adjustments made to the item during shock tests or prior to post-test functional testing, and shall provide the equipment identification information delineated in 10.3.5.

10.3 Specific requirements. Each piece of equipment to be tested shall be identified with the information delineated in 10.3.5. Tests shall be numbered and dated.

10.3.1 Lightweight shock machine test. The following information shall be included for all lightweight shock machine tests as defined by MIL-S-901 (NAVY):

- a. Type of test fixture as defined by MIL-S-901 (NAVY).
 - (1) If using type 4C indicate the mounting platform
 - (2) If using type 6E indicate panel number
 - (3) If nonstandard provide photographs
- b. Total weight on anvil plate.
- c. Instrumentation.
 - (1) Gauge type
 - (2) Location
 - (3) Orientation
 - (4) Results
- d. Monitored performance. See Table I for a sample tabulation format for required information.
 - (1) Blow number
 - (2) Drop feet
 - (3) Axis
 - (4) Operating mode
 - (5) Reference measurements
 - (6) Post-test measurements or corrections
- e. Survey findings noting any damage and providing damage photographs.
- f. Modifications, if any, accomplished prior to or during test with applicable rationale, description, etc.
- g. If witnessed by a designated Government representative, the report shall include signature of witness and certification of test report.
- h. Certification of report by the test laboratory.
- i. Remarks.

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Lock 10, Preparation Instructions (Continued)

| Blow No | Drop Feet | Operating mode (on, off, open Axis closed, etc.) | Reference ¹ measurements | Post-test measurements ¹ or conditions ² |
|---------|-----------|--|--|--|
| 1 | 1 | | | |
| 2 | 3 | | | |
| 3 | 5 | | | |
| 4 | 1 | | | |
| 5 | 3 | | | |
| 6 | 5 | | | |
| 7 | 1 | | | |
| 8 | 3 | | | |
| 9 | 5 | | | |

1/ Volts, amperes, revolutions per minute, pounds per square inch, alignment, clearances, bolting torques, etc.

2/ Yielding, cracking, short-circuiting, separating, unlatching, unbalanced, etc.

10.3.2 Medium weight shock machine test. The following information shall be included for all medium weight shock machine tests as defined by MIL-S-901 (NAVY):

- a. Type of test fixture. If nonstandard, include description and photographs.
- b. Total weight of anvil table (for vertical and inclined tests).
- c. Instrumentation
 - (1) Gauge type
 - (2) Location
 - (3) Orientation
 - (4) Results
- d. Monitored Performance. See Table II for a sample tabulation format for required information.
 - (1) Blow number
 - (2) Group number
 - (3) Drop feet
 - (4) Operating mode
 - (5) Reference measurements
 - (6) Post-test measurements or conditions
- e. Survey findings, noting any damage and providing damage photographs.
- f. Modifications, if any, accomplished prior to or during test with applicable rationale, description, sketches, etc.
- g. Remarks.
- h. If witnessed by a designated Government representative, the report shall include witness' signature and certification of test report.
- i. Certification of report by test laboratory.

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Block 10, Preparation Instructions (Continued)

| TABLE II. MEDIUM WEIGHT SHOCK MACHINE TEST MONITORED PERFORMANCE. | | | | | |
|---|-----------------------|-----------|---|-------------------------------------|--|
| Blow No | Group No | Drop Feet | Operating mode (on, off, open closed, etc.) | Reference ¹ measurements | Post-test measurements ¹ or conditions ² |
| 1 | Vertical | | | | |
| | II | | | | |
| 2 | Vertical | | | | |
| | III | | | | |
| 3 | Vertical | | | | |
| | I | | | | |
| 4 | Inclined ³ | | | | |
| | II | | | | |
| 5 | Inclined ³ | | | | |
| | III | | | | |
| 6 | Inclined ³ | | | | |

1/ Volts, amperes, revolutions per minute, pounds per square inch, alignment, clearances, bolting torques, etc.
 2/ Yielding, cracking, short-circuiting, separating, unlatching, unbalanced, etc.
 3/ Provide angle of inclination

10.3.3 Heavyweight shock test on a floating shock platform (FSP) or large floating shock platform (LFSP). The following information shall be included for all FSP and LFSP tests as defined by MIL-S-901 (NAVY):

- a. Test platform as defined by MIL-S-901 (NAVY).
 - (1) FSP
 - (2) LFSP
- b. Test fixture description including details of the installations. Photographs or sketches of the foundation and installation.
- c. Total weight on the platform.
- d. Instrumentation.
 - (1) Gauge type
 - (2) Location
 - (3) Orientation
 - (4) Results
- e. Monitored performance. See Table III for a sample tabulation format for required information.
 - (1) Shot number
 - (2) Range
 - (3) Operating mode
 - (4) Reference measurements
 - (5) Post-test measurements or conditions
- f. Survey findings, noting any damage and include damage photos.
- g. Modifications, if any, accomplished prior to or during test with applicable rationale, description, sketches, etc.
- h. Remarks.
- i. Certification signature by test laboratory and witness and certification signature by Government activity as to correctness of report.

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Block 10, Preparation Instructions (Continued)

TABLE III. HEAVYWEIGHT SHOCK MACHINE TEST MONITORED PERFORMANCE.

| Shot no. | Range | | Operating mode (on, off, open closed, etc.) | Reference ¹ measurements | Post-test measurements ² or conditions |
|----------|-------|------|---|-------------------------------------|---|
| | FSP | LFSP | | | |
| 1 | 40 | 110 | | | |
| 2 | 30 | 80 | | | |
| 3 | 25 | 65 | | | |
| 4 | 20 | 50 | | | |

1/ Volts, amperes, revolutions per minute, pounds per square inch, alignment, clearances, bolting torques, etc.
2/ Yielding, cracking, short-circuiting, separating, unlatching, unbalanced, etc.

10.3.4 Post-shock test - testing and inspection. The following information shall be included for all tests:

- a. Identification of item being inspected through the use of such information as component name, manufacturer, and drawing number.
- b. Type of shock test performed.
 - (1) Machine
 - (2) Platform
- c. Inspection and functional tests. Type of test accomplished and approval by the appropriate inspectors.
- d. Repairs which were necessary during tests.
- e. Condition of item being tested/inspected.
 - (1) Breakage
 - (2) Deformation
 - (3) Misalignment
 - (4) Unbalance
 - (5) Yielding
 - (6) Cracks
 - (7) Momentary malfunction
- f. Disposition of unit.
- g. Signatures certifying the report as correct.
 - (1) Test laboratory
 - (2) Contractor
 - (3) Government representative

10.3.5 Equipment identification and test installation requirements. The following information shall be included for all tests:

- a. Item.
 - (1) Name
 - (2) Type
 - (3) Nomenclature
 - (4) Rating
 - (5) Service
 - (6) Military specification and technical manual number
- b. Manufacturer (name and address).
- c. Model number and serial number.
- d. Size or capacity (if applicable).
- e. Plan number (sectional assembly and outline; revision and date).

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Block 10, Preparation Instructions (Continued)

- f. Approximate overall size of equipment.
 - (1) Length
 - (2) Height
 - (3) Width
 - (4) Diameter
- g. Weight (wet, dry and total weight including test fixture, wet and dry).
- h. Height of center-of-gravity above base of equipment.
- i. Contract or purchase order number.
- j. Requirements of MIL-S-901 (NAVY).
 - (1) Test category
 - (2) Grade
 - (3) Equipment class
 - (4) Shock test type
 - (5) Mounting location
- k. Mounting aboard ship represented during shock test.
 - (1) Plane
 - (2) Orientation
- l. Hold-down fasteners or locating devices used for attachment of items to their foundation or test fixture during shock tests.
 - (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.
- p. Test laboratory and address.

10.4 Format requirements. The shock test report shall be typed in the contractor's format on 8 1/2" x 11" sheets (metric size A4).