

INCH-POUND

MIL-F-14943D (AR)
AMENDMENT 4
27 March 1998
SUPERSEDING
AMENDMENT 3
16 February 1995

MILITARY SPECIFICATION

FUZE, GRENADE: HAND, PRACTICE
M228 PARTS FOR, AND LOADING
ASSEMBLING AND PACKING

This amendment forms a part of MIL-F-14943D (AR), dated 7 December 1982, and is approved for use by the U.S. Army Armament Research, Development and Engineering Center, and is available for use by all Departments and Agencies of the Department of Defense.

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2.1: Delete "9278658 - TRAINING MANUAL FOR RADIOISOTOPIC AUTOMATIC HAND GRENADE FUZE CHECKER".

Add the following immediately preceding 2.2 ("Order of precedence"):

"PUBLICATIONS

U.S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND

AR 385-11	-	Ionizing Radiation protection.
DARCOM R 385-25	-	Radiation Protection.

(Application for copies of these regulations should be addressed to Commander, U.S. Army Materiel Development and Readiness Command, 5001 Eisenhower Ave., ATTN: DRCSF-P, Alexandria, VA 22333.)"

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AMSC N/A

FSC 1330

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3.3.1: Delete "less than three (3.0) seconds" and substitute "less than four (4.0) seconds".

3.3.2: Delete "more than five (5) seconds" and substitute "more than five and one tenth (5.1) seconds".

* 3.3.2: Delete "more than five and one tenth (5.1) seconds" and substitute "more than five and five tenth (5.5) seconds".

3.3.4: Add new paragraph:

"3.3.4 Long delay. Fuzes that function in more than five and one tenth (5.1) seconds but less than 10.0 seconds shall be noted as long delay devices."

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3.10: Add new paragraph:

"3.10 Delay column process inspection. The contractor shall assure adequate process control exists at the delay column assembly be testing samples in accordance with the sampling plan and procedures noted in 4.4.3.11."

3.11: Add new paragraph:

"3.12 Adhesives, sealants and lubricants. If adhesives, sealants or lubricants are required or permitted by the drawings, a process control drawing is required in accordance with MIL-A-48078 and 4.4.3.13."

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TABLE 1, First article inspection. Add to the Fuze Assembly Inspection:

"Adhesives, sealants and lubricants tear down, 10 samples, 3.12, 4.4.3.12".

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4.4.3.1: Delete in its entirety and substitute:

"4.4.3.1 Functioning (see 3.3). The fuze shall be observed for any failure to comply with the requirements as classed in Table II when tested as specified in 4.5.1.

TABLE II. Functional requirements

<u>Defect</u>		<u>Classification</u>
Premature delay failure	(see 3.3.1)	Special Major
Excessive delay failure	(see 3.3.3)	Special Major
"Hung" striker failure	(see 3.3)	Special Major
Normal delay failure	(see 3.3.2)	Major
Dud	(see 3.3)	Major
Long delay failure	(see 3.3.4)	Major

A sample of 800 fuze assemblies shall be taken from each lot and divided into two equally sized group. One group shall be subjected to the static functioning test as specified in 4.5.1.1 and the other group to the dynamic functioning test as specified in 4.5.1.2. The lot shall be rejected if any of the following test results occur:

- a. A Special Major defective is found (see Table II).
- b. If four (4) or more fuzes dud or function low order (see 6.8)
- c. If six (6) or more long delay failures occur in either group, or if the combined number of long delay failures in both groups equals or exceeds ten (10)."

4.4.3.1.2: Delete in its entirety.

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4.4.3.3: Delete in its entirety and substitute the following:

"4.4.3.3 Automatic Inspection of Delay Column - critical defect - automatic radioisotopic inspection of delay column for presence and .7 inch minimum column height shall be performed 100% in accordance with paragraph 4.5.5 using government approved equipment. This inspection may be performed at any assembly level beyond staking of the primer

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assembly to the fuze body. All fuzes classified as defective shall be automatically rendered un-useable and removed from the production lot."

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4.4.3.11: Add new paragraph:

"4.4.3.11 Delay column process inspection. The contractor shall randomly select nine (9) samples from each hour's production quantity that has undergone delay column consolidation. In addition, the contractor shall add to his sample the last unit produced during that hour's production. These ten (10) samples shall be statically fired for determination of that hour's production to comply with the requirements of 3.3. The production quantity shall be classed defective as noted by:

a. If one (1) or more samples fail to comply with the premature delay requirements of 3.3.1 - Special major defect.

b. If two (2) or more samples fail to comply with the long delay requirements of 3.3.4 - Major defect.

c. If one (1) or more samples fail to comply with the excessive delay requirements of 3.3.3 - Special major defect.

Testing shall be in accordance with 4.5.9."

4.4.3.12: Add new paragraph:

"4.4.3.12 Critical or special major defect material handling (see 3.11). The contractor shall maintain controls for all critical or special major defects as specified in paragraph 3.2, Amendment 4 to MIL-A-48078."

4.4.3.13: Add new paragraph:

"4.4.3.13 Adhesives, sealants and lubricants (see 3.12). The contractor shall maintain documents and controls as specified in paragraph 3.3, Amendment 4 of MIL-A-48078."

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4.4.4.1 and 4.4.4.2: The following paragraphs shall be added to follow 4.4.4:

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"4.4.4.1 Automatic inspection equipment. All automatic test and inspection equipment, when utilized by the Contractor, shall be subjected to periodic verification and calibration check during production. Calibration and verification standards are required and shall initially be supplied by the equipment manufacturer as part of the equipment. Replacement standards will be fabricated and certified using designs and procedures provided by the equipment manufacturer and approved by the government. All standards or test samples required for such calibration/verification shall be furnished by the equipment manufacturer as part of the equipment. Procedures for verification shall include, as a minimum: frequency, method of verification and the method of retrieval of item produced between verification/calibration. These procedures shall be included in the operation/calibration procedures as required by the above paragraph. In addition, the equipment shall be subjected to periodic maintenance by the manufacturer or other qualified personnel in accordance with approved maintenance procedures.

4.4.4.1.1 Radiation-emitting equipment. Inspection equipment employing x-rays or containing radioisotopic material, when utilized by the contractor, shall comply with all safety regulations as specified in AR 385-11 and DARCOM R 385-25 and display the required safety tag. The equipment shall be tamperproof, completely self-contained, with all controls locked to production personnel and accessible only to supervisory personnel. Unless otherwise specified, preventive maintenance and verification shall be performed not less than once every six (6) months. Maintenance and verification shall be performed only by the equipment manufacturer or other qualified personnel. Records shall be kept of all maintenance performed. In addition, maintenance information shall be affixed to the inspection equipment. (label or tag)."

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4.5.4: Delete in its entirety and substitute new paragraph:

"The automatic inspection of the delay column shall be accomplished with an inspection system designed and maintained in accordance with para 4.4.4.1 and 4.4.4.1.1. A radioisotopic penetrating beam shall be used to verify the minimum column length. The equipment shall automatically accept or reject the fuze without requiring operator analysis

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or intervention. The system detection capability and reliability shall be provide for intervention. The system detection capability and reliability shall provide for less than one in a million chance for acceptance of a fuze delay column less than .7 inches. The fuze contractor has the option to re-inspect those fuzes rejected after their initial inspection. If this option is exercised, those fuzes accepted upon re-inspection shall be classified as acceptable. The automatic destruct mechanism which renders rejected fuzes un-useable may be disabled if the fuze contractor wishes to re-inspect initial rejects, but this system must be operating upon fuze re-inspection. In addition, if this option is chosen, fuzes rejected on the initial inspection shall be collected in a locked box controlled by the quality department. Fuzes shall be re-inspected within or at the end of the shift where they were initially rejected. As a minimum the inspection equipment shall be checked at each inspection station with specially designed accept and reject standards, for each hours production. If at any time the inspection system is found to be inoperative, the testing device shall be declared inoperative until repair and all assemblies tested since the last satisfactory verification shall be re-inspected. Fuze assemblies subject to re-test shall be maintained in a humidity controlled area in order to assure compliance to 3.7.4. Designs of the proposed inspection equipment and associated procedures are required and shall be in accordance with para 6.3."

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4.5.9: Add new paragraph:

"4.5.9 Delay column process inspection static firing. The delay column assembly after consolidation shall be placed in a fixture and tested for delay time as specified in 3.3. The firing times shall be recorded for review by the Government and inclusion into the contractor's process control."

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6.3: Change address to "Commander, US Army AMCCOM, ATTN: AMSMC-QAT-I (D), NJ 07806-5000".

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The margins of this amendment are marked with an asterisk or vertical line to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment.

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