

DEPARTMENT OF THE ARMY SUPPLY BULLETIN
SIMULATOR, HAND GRENADE:, M116A1 (1370-L601)
AMMUNITION SURVEILLANCE PROCEDURES

HEADQUARTERS, DEPARTMENT OF THE ARMY, WASHINGTON, DC
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The proponent agency of this supply bulletin is the U.S. Army Armament, Munitions and Chemical Command (AMCCOM). Direct reporting of errors, omissions, and recommendations for improving this bulletin is authorized and encouraged. Comment should pertain to suggested procedural changes, functioning characteristics, defects, cause of failure, remedial action, etc. A DA Form 2028 (Recommended Changes to Publications and Blank Forms) should be completed and forwarded to Commander, AMCCOM, AMSMC-QAS-P, Rock Island, IL 61299-6000

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Section I. INTRODUCTION

1. Purpose and scope. This bulletin, when used in conjunction with SB 742-1, provides a method for determining the serviceability of subject items.

a. The visual inspection and function testing criteria in this procedure will be accomplished under a centralized control program managed by the U.S. Army Armament, Munitions and Chemical Command (AMCCOM), AMSMC-QAS, Rock Island, IL 61299-6000.

b. This procedure is to be used in serviceability assessment of specified lots based on inspection and testing of individual items. Provisions of this bulletin are mandatory for all Department of Army organizations within the continental United

States (CONUS) and outside the continental United States (OCONUS) with an ammunition receipt, storage, and distribution mission. This bulletin is not intended for use by organizations with stocks in basic loads.

c. SB 742-1 contains additional information pertaining to frequency of test, sample selection, defect standards, and records and reports.

2. Item description. a. Items are designed to simulate battle noises and effects during-troop maneuvers on land.

b. The body of the simulator consists of a cylindrical paper tube containing a sealed charge of photoflash powder. An M3A1 fuse igniter is taped

*This bulletin supersedes SB 742-1370-94-419, dated 30 June 1972.

to the outside of the tube and is joined to the photoflash charge by a safety fuse. A safety clip extends through the cap of the fuse igniter and prevents accidental detonation. A label giving firing instructions is attached to the outside of the simulator.

c. The simulator is a hand-thrown device. The pull cord-actuated igniter is of the friction type and ignites safety fuse. The burning of the safety fuse provides a 6- to 10-second delay. The safety fuse ignites the photoflash charge which explodes, producing a flash and a loud report.

3. References. a. The following publications will provide more information on the surveillance of subject items. This list is not to be considered all inclusive.

(1) AR 75-1, Malfunctions Involving Ammunition and Explosives.

(2) SB 742-1, Ammunition Surveillance Procedures.

(3) TM 9-1370-207-10, Pyrotechnic Simulators.

b. Each item of ammunition peculiar equipment (APE) has an operational manual that should be consulted prior to and during use of that item. The manual is titled with APE number and nomenclature of the APE item.

4. Safety. a. Inspection and surveillance function testing must be conducted according to provisions

set forth in appropriate safety regulations and implementing instructions, with special attention given to technical manuals describing the item. A standing operating procedure (SOP) for this operation is required and will delineate specific safety requirements. Absence of a safety requirement in this or any other publication is not to be construed as meaning that precaution is unnecessary.

b. Function testing will be conducted during daylight hours only and only in an area that is clear of flammable material such as grass, weeds, etc. Testing will not be conducted during electrical, rain, or snow storms or during any other conditions that might create a hazardous condition or adversely affect the test results. Testing must be conducted according to any other applicable regulations; i.e., U.S. Environmental Protection Agency (EPA), local regulations, etc.

c. In event of a dud or misfire, personnel must remain inside protective shelter for 15 minutes.

d. Recovery and/or destruction of duds will be accomplished according to all applicable safety regulations and an approved SOP including protective equipment such as heat-resistant gloves, full face-shield, flame-resistant clothing, etc.

5. Personnel. Visual examination and function testing will be conducted under direct control of a Quality Assurance Specialist (Ammunition Surveillance) (QASAS).

Section II. SURVEILLANCE

6. Sample size. Unless otherwise directed, a sample size of 50 items is required to make up a representative sample from a lot for surveillance function test. To satisfy requirements of a periodic inspection prescribed in conjunction with surveillance function test, additional sampling of item, inner and outer packing may be required according to SB 742-1.

7. Sample selection. Sample items will be selected according to the provisions of SB 742-1 except that no more than 10 items may be selected from any one box.

a. If samples are to be function tested at an installation other than one at which parent lot is stored, packing boxes and containers that are not shipped will also be inspected. The appropriate part of DA Form 984 (Munitions Surveillance Report) will be completed prior to shipment.

b. Samples that are shipped must be packed and marked according to SB 742-1. During sample selection, number signals 1-50.

8. Surveillance test equipment. The following

equipment is to be used in testing items according to this procedure.

a. Table, testing, APE 1903.

b. Oven, preconditioning, APE 1916M1.

c. Chamber, low-temperature, APE 1938/1904.

d. Stopwatch, 2 each.

e. Meter, sound level (locally purchased).

9. Preparation for test. a. Temperature condition simulators 1-25 for at least 24 hours at 70 +/- 10 degrees F (21 +/- 5 degrees C). Test within 15 minutes.

b. Temperature condition simulators 26-50 for 16 hours at -65 +/-10 degrees F (-54 +/-5 degrees C). Test within 15 minutes.

c. Set-up a sound level meter 75 feet from test table.

Note

Assure test is performed in flat, open terrain away from reflecting surfaces such as walls, buildings, or smooth hard- surface floors. Meter should be set-up ac-

ording to the manufacturer's instructions.

10. Test procedure. a. Mount simulators on APE 903 test table and function them by means of a short (approximately 20 feet) lanyard attached to use lighter.

b. The burning time of fuse will be obtained by means of at least two stopwatches.

11. Observations. All observations of nonstandard conditions and malfunctions, especially those lot included among defects listed in paragraphs 14 and 15 (below), or in SB 742-1, should be included whenever pertinent and practical. The following Observations, as a minimum, must be reported:

a. Report any markings that are incorrect, misleading, incomplete, or unidentifiable.

b. Give the location and extent of any rust, corrosion, damage, or deterioration.

c. Give the burning time of fuse to nearest tenth of a second.

d. Give the sound level intensity to one decibel f within capability of meter. Otherwise, record whether sound level is above 104 decibels.

12. Definitions. None specified.

13. Classification of defects. Defects observed luring inspection and testing will be classified and reported according to paragraphs 14 and 15 below and with SB 742-1. Any defects or nonstandard conditions observed, that are not listed below or in 3B 742-1, will be described fully and reported with recommendations of QASAS as to classification.

14. Non-functioning defects. a. *Critical-*

(1) Safety clip missing, insecurely engaged, or incorrectly positioned.

(2) Loose powder or exterior of assembly.

(3) Safety fuse loose at juncture with top disc :can be removed by light finger pressure).

b. *Major-*

(1) Major damage to simulator which will preclude proper functioning.

(2) Instruction label missing or illegible.

(3) Excessive protective coating on fuse lighter to extent that removal of safety clip or fuse lighter cap is difficult.

(4) Major rust or corrosion.

c. *Minor-*

(1) Protective coating missing or inadequate (base spots larger than thumbnail size).

(2) Minor rust or corrosion.

(3) Foreign matter such as dirt, oil, or grease.

(4) Simulator not properly sealed.

15. Functioning defects. a. *Critical-fuse* burning time is less than 4 seconds (FV001).

b. *Major-*

c. (1) Pull cord breaks or comes loose from fuse lighter (FV020).

(2) Friction wire to which pull cord is attached breaks (state whether it was possible to function simulator by other means whenever pull cord or wire breaks or comes loose) (FV021).

(3) Fuse lighter fails to burn (FV022).

(4) Fuse lighter burns but fails to light fuse (FV023).

(5) Fuse burns but simulator fails to explode (FW020).

(6) Low-order sound level of explosion (FV027).

(7) Fuse burning time exceeds 20 seconds (FV028).

c. *Minor-*

(1) Fuse burning time is less, than 6 seconds but not less than 4 seconds (FV050).

(2) Fuse burning time exceeds 10 seconds but does not exceed 20 seconds (FV051).

(3) Sound level is below 104 decibels but not enough to be considered low-order (FV055).

Note

The code following each functioning defect is for use by testing facility personnel only.

16. Evaluation. Using the following criteria, and considering nonfunctional and functional characteristics separately, an interim condition code will be assigned according to SB 742-1. A lot will be classified condition code J and reported according to SB 742-1 if any critical defect is observed.

a. *Nonfunctional characteristics.*

(1) Serviceable for unrestricted issue and use. A lot not classified as condition J will qualify as serviceable for unrestricted issue and use if the following requirements are met on inspection of 50 items:

(a) Not more than 3 major defectives.

(b) Not more than 7 minor defectives.

(2) Priority of issue. A lot not classified as condition code J or as serviceable for unrestricted issue and use will qualify as serviceable for priority of issue if the following requirements are met on inspection of 50 items:

(a) Not more than 7 major defectives.

(b) Not more than 12 minor defectives.

(3) Unserviceable. A lot not classified as condition code J or as serviceable for unrestricted issue and use or for priority of issue will be classified as unserviceable.

b. *Functional codes.*

(1) *Code A.* A lot not classified as condition code J will qualify for functional code A if the following requirements are met in the test of 50 items:

- (a) Not more than 3 major defectives.
 - (b) Not more than 7 minor defectives.
- (2) *Code B*. A lot not classified as condition code J or functional code A will qualify for functional code B if the following requirements are met in the test of 50 items:
- (a) Not more than 7 major defectives.
 - (b) Not more than 12 minor defectives.

(3) *Code D*. A lot not classified as condition code J, functional code A, or functional code B will be classified functional code D.

17. Records and reports. Inspection and function test results will be recorded and reported on DA Form 984 and other appropriate forms as outlined in SB 742-1.

By order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Official: *Chief of Staff*

Official:

WILLIAM J. MEEHAN II
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:

To be distributed in accordance with DA Form 12-34, requirements for Ammunition Surveillance Procedure Simulators, Hand Grenade.

