

DEPARTMENT OF THE ARMY SUPPLY BULLETIN

FUZE, HAND GRENADE:  
M204 SERIES (1330-G873), M206  
(1330-G872), AND M213 (1330-G877)  
AMMUNITION SURVEILLANCE PROCEDURES

HEADQUARTERS, DEPARTMENT OF THE ARMY, WASHINGTON, D.C.  
20 APRIL 1989

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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 serviceability of subject fuzes. Visual inspection and function testing criteria in this procedure will be accomplished under a centralized control program managed by U.S. Army Armament, Munitions and Chemical Command (AMCCOM), AMSMC-QAS, Rock Island, IL 61299-6000. This procedure is to be used in serviceability assessment of specified fuze lots based on inspection and testing of individual items. Provisions of this bulletin are mandatory for all Department of

Army organizations within CONUS and OCONUS with an ammunition receipt, storage, and distribution mission. This bulletin is not intended for use by organizations with stocks in basic loads. SB 742-1 contains additional information pertaining to frequency of test, sample selection, defect standards, records, and reports.

**2. Item description.** M204A2, M206A1, M206A2, and M213 are pyrotechnic delay detonation fuzes whose bodies contain a primer and a pyrotechnic delay column. Assembled to the body are a striker, striker spring, safety lever, safety pin with pull

\*This bulletin supercedes SB 742-1330-51, dated 19 October, 1971.

ring, and a detonator assembly. The detonator is composed of lead azide, lead styphnate, and RDX. Fuzes differ in body construction and size.

**3. References.** a. The following publications will provide more information of 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 43-0001-29, Army Ammunition Data Sheets for Grenades.

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 an APE number and nomenclature of APE item.

**4. Safety.** a. Inspection and surveillance function testing must be conducted according to pro-

**6. Sample size.** Unless otherwise directed, a representative sample size of 30 fuzes is required for a surveillance function test. To satisfy requirements of a periodic inspection prescribed in conjunction with a surveillance function test, additional sampling of an item, inner and outer packing, may be required according to SB 742-1.

**7. Sample selection.** Sample fuzes will be selected per provisions of SB 742-1, except that no more than six fuzes may be selected from any one box. If samples are to be function-tested at an installation other than one at that parent lot is stored, packing boxes and containers which are not shipped will be inspected. The appropriate part of DA Form 984 (Munitions Surveillance Report) will be completed prior to shipment. Samples that are shipped must be packed and marked in accordance with SB 742-1. During selection, samples must be numbered 1 through 30.

**8. Surveillance test equipment.** The following equipment is to be used in testing items according to this procedure.

- a. Tank, Immersion, APE 1901.
- b. Thermometer.
- c. Table, testing, APE 1903.
- d. Kit, function-testing, APE 1903-E002.
- e. Tester, grenade fuze, APE 1955.
- f Device, grenade fuze-holding, APE 1903-8M1.
- g. Gage, push-pull, APE 1917 or equivalent.

**9. Preparation for test.** a. Assure fuzes have been numbered 1 through 30 and identified as to box from which they were drawn.

b. Immerse fuzes in water at 70 +/- 10 degrees F (21 +/- 5 degrees C) for 30 minutes. Position

visions set forth in appropriate safety regulations and implementing instructions, with special attention given to technical manuals describing items. 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. Dud fuzes will be recovered and destroyed 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. A waiting time of 15 minutes minimum will be observed before approaching dud fuzes.

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

## SECTION II. SURVEILLANCE

fuzes upright, with top of fuze 6 to 8 inches below surface of water. Test fuzes within 30 minutes after removal from water.

**10. Test procedures.** Function-test is divided into four separate tests-

a. Safety clip and pin pull test without aligning holes. This test will be performed on all 30 fuzes. Secure each fuze into APE 1903-8M1 holding fixture so that safety lever will not disengage if safety pin is withdrawn. Attach a tension recording scale to safety clip and pull until clip disengages, i.e. moves to a position that will allow lever to function when fuze safety pin is removed. Record the tension scale reading. Next, attach tension scale to pull ring of safety pin. Without aligning mating holes, gradually apply a pull along axis of safety pin until either a tension of 5 lb is reached or safety pin is withdrawn. If safety pin has been withdrawn, record actual tension required to withdraw it. Reinsert safety pin and respread its ends.

b. Safety pin pull test with holes aligned. This test will be performed on fuzes which passed test in paragraph 10a above. Using holding fixture, apply tension to fuze lever until holes in safety lever align with holes in fuze body. Attach a tension recording scale to pull ring of safety pin. With mating holes aligned, gradually apply a pull along axis of safety pin until pin is withdrawn. Record tension reading. Reinsert safety pin and respread its ends.

c. Static functioning of grenade fuze. This test will be performed on fuze samples 1 through 15. Secure each fuze into APE 1955 grenade fuze

tester. Assure toggle valve is set to "HOLD." Actuate start button to remove safety pin and function fuze. Record time delay from APE electronic timer.

d. Dynamic functioning of grenade fuzes. This test will be performed on fuze samples 16-30. Secure each fuze into APE 1955 grenade fuze tester so that functioned fuze drops onto a horizontal steel plate within tester's drop tube. Assure toggle valve is set to "DROP." Actuate start button to remove safety pin and function fuze. Record time delay from APE electronic timer.

**11. Observations.** All observations of nonstandard conditions and malfunctions, especially those not included among defects listed in paragraphs 14 and 15 below or in SB 742-1, should be included whenever pertinent and practical. Following observations, as a minimum, must be reported.

- a. Report any markings that are incorrect, misleading, incomplete, or unidentifiable.
- b. Give location and extent of any rust, corrosion, damage, or deterioration.
- c. Report tension to nearest half-pound required to withdraw safety pin.
- d. Report fuze delay time to nearest tenth of a second.
- e. Report whether safety pins are diamond-shaped or V-shaped.
- f. Report tension to nearest half-pound required to withdraw safety clip.

**12. Definitions.** a. Delay time. Time between withdrawal of safety pin and functioning of fuze.

b. Dud. Fuze fails to function.

c. High-order functioning. A complete and instantaneous explosion accompanied by a loud, sharp report.

d. Low-order functioning. An incomplete explosion usually resulting in presence of relatively large unfragmented portions of detonator cup and characterized by an abnormally low level of explosion sound.

**13. Classification of defects.** Defects observed during inspection and testing will be classified and reported according to paragraphs 14 and 15 and with SB 742-1. Any defects or nonstandard conditions observed, which are not listed below or in SB 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 or insecurely assembled to an extent that user is endangered (where applicable).
- (2) Safety pin missing or insecurely assembled to an extent that user is endangered.
- (3) Detonator case cracked to extent that explosive charge is exposed, free to escape, or to be

pinched between broken surfaces.

(4) Both fuze lever hinge ears not properly assembled (see fig 1A, 1B, 1C, and 1D).

(5) Either or both hinge ears missing or broken (see fig 1A, 1B, 1C, and 1D).

b. Major-

(1) Any of following items missing or damaged to extent that precludes proper functioning:

(a) Pull ring.

(b) Fuze threads.

(c) Any other item that precludes use of fuze in a hand grenade.

(2) Fuze marking incomplete, inaccurate, or illegible to extent it is misleading as to type of fuze.

(3) Major rust or corrosion.

(4) One fuze lever hinge ear not properly assembled (fig 1A, 1B, 1C, and 1D).

c. Minor-

(1) Fuze marking incomplete, inaccurate, or illegible but not misleading as to type of fuze.

(2) Minor rust or corrosion.

**15. Functioning defects.** NOTE: Code following each functioning defect is for use by testing facility personnel only.

a. Critical-

(1) Less than 5 lb tension on pull ring when safety pin is withdrawn (without holes aligned-paragraph 11a). (AA001)

(2) Fuze delay time less than 3 seconds. (CA001)

b. Major--

(1) Less than 10 lb tension on pull ring when safety pin is withdrawn (without holes aligned-paragraph 11b). (AA020)

(2) Fuze delay time is greater than 6.5 seconds. (CA023)

(3) Dud. (AA024)

(4) Low-order detonation. (AA028)

Note: Whenever frequency of low-order functioning is such that it would cause lot to be assigned functional code D for this defect alone, lot must be retested in known good grenades. Report lot to AMCCOM in functional code D and annotate remarks block of DA Form 984 that retest is required.

(5) Safety clip disengages at less than 1.5 lb tension. (CL023)

(6) More than 5 lb tension required to disengage safety clip. (CL024)

c. Minor. More than 35 lb required to withdraw safety pin (with holes aligned-paragraph 11b). (AA054)

**16. Evaluation.** Using 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

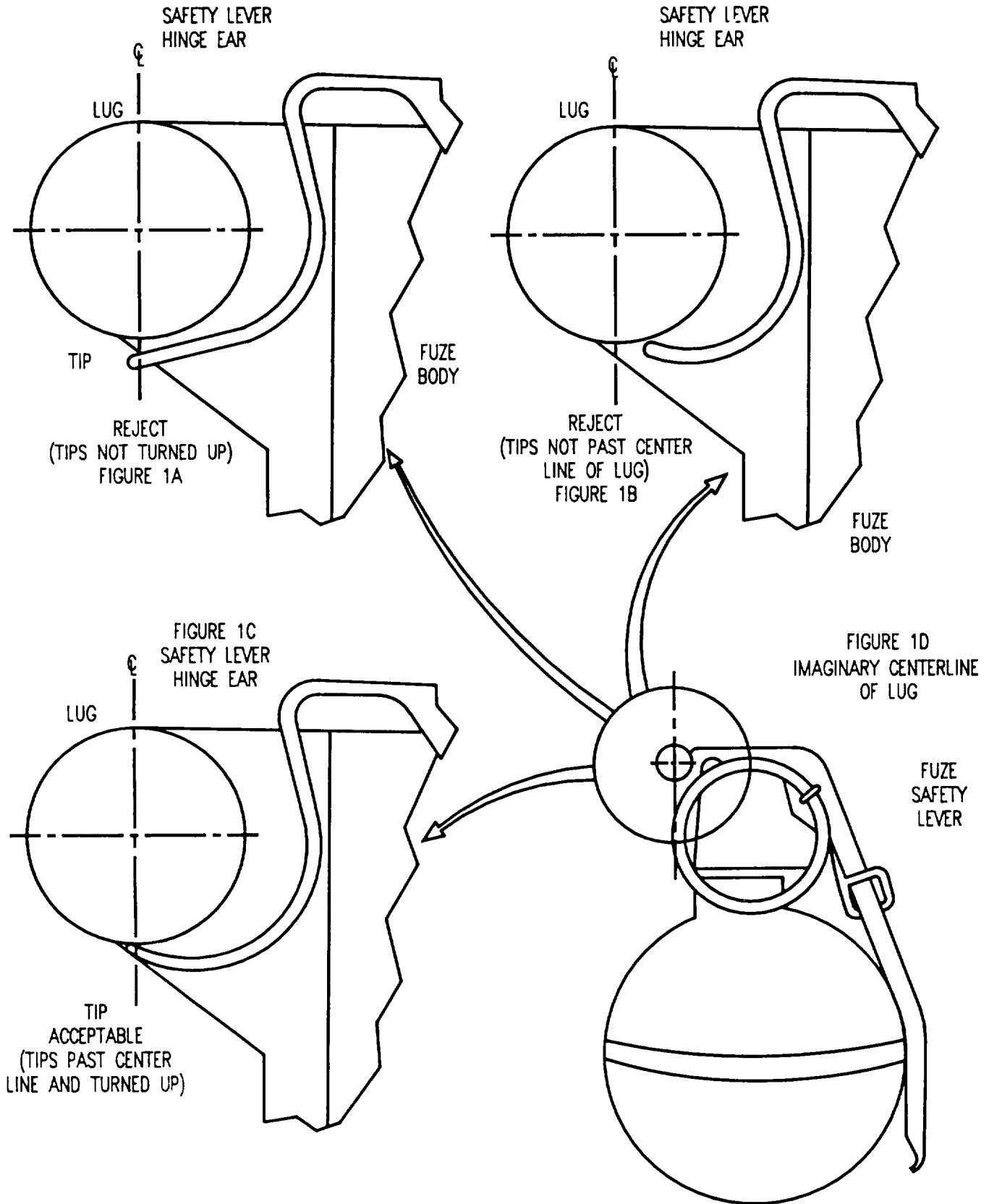


Figure 1. Safety Lever Hinge

classified condition code J and reported per 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 code J will qualify as serviceable for unrestricted issue and use if following requirements are met on inspection of 30 items:

(a) Not more than 1 major defective.

(b) Not more than 2 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 issue if following requirements are met on inspection of 30 items-

(a) Not more than 4 major defectives.

(b) Not more than 6 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 following requirements are met in test of 30 items:

(a) Not more than 1 major defective.

(b) Not more than 2 minor defectives.

(2) Code B. A lot not classified as condition code J or functional code A will qualify for functional code B if following requirements are met in test of 30 items:

(a) Not more than 4 major defectives.

(b) Not more than 6 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:

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\*U.S. GOVERNMENT PRINTING OFFICE : 1993 - 342-421 (61845)

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