

DEPARTMENT OF THE ARMY SUPPLY
BULLETIN

GRENADE, HAND: ILLUMINATING, MK 1 MODS 1 AND 2 W/FUZE
SURVEILLANCE FUNCTION TEST

Headquarters, Department of the Army, Washington, D.C.
19 October 1971

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1. Purpose and Scope. This bulletin when used in conjunction with SB 742-1 provides a method for determining the serviceability of the subject item. The bulletin is to be used in the assessment of the serviceability of individual grenades and their containers when the grenades are packed one per container. When more than one grenade is packed per container, this bulletin applies to the individual grenades only. The provisions of this bulletin are mandatory for use by all Department of the Army organizations within CONUS and overseas with a receipt, storage, and distribution mission. This bulletin is not intended for use by

organizations with stocks in basic loads. Additional information pertaining to frequency of test, sample selection, defect standards, reports and records are contained in SB 742-1.

2. Errors, Omissions, and Recommended Changes. Reporting of errors, omissions, and recommendations for improving this bulletin by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publi-

cations) and forwarded direct to Director, US Army Materiel Systems Analysis Agency, A T T N AMXSY-RM-WM, Aberdeen Proving Ground, MD 21005

3. Safety. The surveillance function testing must be conducted in accordance with the provisions set forth in appropriate safety regulations and Implementing instructions, with special attention devoted to technical manuals describing the item

4. Size of Sample. The number of grenades required to make up a representative sample from a lot for a surveillance function test is as follows

- For check investigation..... as directed
- For classification investigation.....50
- For confirmation investigation..... as directed

5. Sample Selection. Sample grenades will be selected in accordance with the provisions of SB 742-1 with the exception that not more than ten grenades may be selected from any one box

6. Preparation for Test.

a Number the grenades, packed in plastic bags and fiber containers with waterproof sealing tape, 1 through 50 and identify them as to the box from which they were drawn

b Temperature condition the grenades to 70° ± 10°F for at least 12 hours APE 1912 and APE 1916 should be used for this conditioning

c Immerse the grenades in water at 70° ± 10° F for 30 minutes Position the grenades horizontally 6 to 9 inches below the water surface APE 1901 should be used for this purpose Test the grenades within two hours after removal from the water

7. Test Procedure.

a Place the grenade in a test fixture designed to prevent the lever from becoming disengaged when the safety pin is withdrawn The fixture should also provide a means for aligning the mating holes in the safety lever with the hole in the fuze body and to retain the lower half of the grenade body when the grenade functions APE 1903 and APE 1917 should be used for this purpose

b Attach a suitable tension recording spring scale to the pull ring of the safety pin c Pull the scale gradually along the axis of the safety pin until either a tension of 5 pounds is reached or the pin is withdrawn, whichever occurs first

d If the safety pin is not withdrawn by a tension of 5 pounds or less, align the holes in the safety lever with the hole in the fuze body by depressing the lever by means provided for that purpose Care must be taken not to depress the lever beyond the point of optimum alignment

e Resume pulling on the safety pin until the pin is

withdrawn and record the tension required.

f Replace the safety pin and spread its ends

g Adjust the fixture to permit disengagement of the safety lever.

h. Attach one end of a lanyard to the pull ring of the safety pin.

i Function the grenade by pulling on the lanyard from behind a barricade

j If the safety pin is withdrawn in step c above, record the tension required to do so and continue with steps f through i

NOTE

The test will not be conducted when the temperature is below 320 F, when the wind velocity exceeds 15 mph, or whenever weather conditions are such that the accuracy of the observations become suspect

8. Observations. All observations of nonstandard conditions and malfunctions, especially those not included in paragraphs 10 and 11, should be described in full detail Pictorial evidence of nonstandard conditions, whenever pertinent and practical should be included The observations to be reported are as follows'

a Tension (to the nearest one half pound) required to withdraw the safety pin

b Fuze delay time (time from safety pin withdrawal to grenade case separation) to the nearest tenth of a second.

c Total burning time of illuminant (time from ignition to extinction) of the grenade illuminant to the nearest tenth of a second)

d Quality of illumination State whether illumination is satisfactory or unsatisfactory If unsatisfactory give an explanation such as low intensity, excessive smoke, etc.

e All instances of any of the following.

(1) In nonstandard marking state whether misleading, incomplete, or unidentifiable

(2) Where rust or corrosion appear give location and extent.

(3) The occurrence of any nonstandard conditions or malfunctions classified as defects in paragraphs 10 and 11.

(4) The occurrence of any nonstandard conditions or malfunctions not classified as defects in paragraphs 10 and 11, but which in the opinion of responsible personnel merits consideration

9. Classification of Defects. Defects observed during inspection and testing will be classified in accordance with paragraphs 10 and 11 and SB 742-1

paragraphs 10 and 11 will be fully described and reported with the ammunition inspector's recommendation as to classification

10. Nonfunctioning Defects.

a Critical

- (1) Safety pin missing
- (2) Safety pin insecurely assembled to an extent that it endangers the user

b Major

- (1) Major damage (extent of damage precludes proper use of the grenade)
- (2) Marking is misleading as to the type of grenade
- (3) Major rust
- (4) Major corrosion

c Minor

- (1) Marking is unidentifiable as to the type of grenade
- (2) Minor rust
- (3) Minor corrosion

11. Functioning Defects.

a Critical Fuze delay time is less than 3 seconds

b Major

- (1) Tension required to withdraw the safety pin is less than 5 pounds
- (2) Striker fails to function
- (3) Primer fails to fire
- (4) Time delay fuze fails to burn
- (5) Grenade case fails to separate
- (6) Illuminant fails to ignite
- (7) Burning time of illuminant is less than 10 seconds
- (8) Poor illumination.

c Minor Tension required to withdraw the safety pin exceeds 35 pounds

12. Evaluation. Functional and nonfunctional codes will be recommended in accordance with the following criteria and the interim condition code will be assigned in accordance with SB 700-1300-1. A lot will be classified Condition Code J and reported if one critical defect is observed

a. Nonfunctional codes

(1) Code A A lot not classified as Code J shall qualify for Code A if it meets the following requirements on inspection of 50 grenades by attributes

- (a) Not more than 2 major defectives
- (b) Not more than 4 minor defectives

(2) Code B A lot not classified as Code J or Code A shall qualify for Code B if it meets the following requirements on inspection of 50 grenades by attributes

- (a) Not more than 7 major defectives
- (b) Not more than 10 minor defectives

(3) Code D A lot not classified as Code J, Code A, or Code B shall be Code D

b Functional codes

(1) Code A A lot not classified as Code J shall qualify for Code A if it meets the following requirements in the test of 50 grenades

- (a) Not more than 2 major defectives
- (b) Not more than 4 minor defectives

(2) Code B A lot not classified as Code J or Code A shall qualify for Code B if it meets the following requirements in the test of 50 grenades

- (a) Not more than 7 major defectives
- (b) Not more than 10 minor defectives

(3) Code D A lot not classified as Code J, Code A, or Code B shall be Code D

13. Records and Reports. Function test results will be recorded and reported as outlined in SB 742-1

By Order of the Secretary of the Army:

W C WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:

VERNE L BOWERS,
Major General, United States Army,
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NG None

USAR None

For explanation of abbreviations used, see AR 310-50.

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