D E P A R T M E N T O F T H E A R M Y S U P P L Y B U L L E T I N

SIMULATOR, PROJECTILE, AIR BURST: M74 SERIES
AMMUNITION SURVEILLANCE PROCEDURES
(1370-L366)

Headquarters, Department of the Army, Washington, DC
30 September 1982

1. Purpose and Scope. This bulletin, when used in conjunction with SB 742-1, provides a method for determining the serviceability of Simulator, Projectile, Air Burst, M74 or M74A1 (1370-L366). The function testing in this procedure will be accomplished under a centralized control program managed by the US Army Armament Materiel Readiness Command (ARRCOM), DRSAR-QAS, Rock Island, IL 61299. This bulletin Is to be used in the serviceability assessment of simulator lots based on an inspection and test of individual simulators only. The provisions of this bulletin are mandatory for use by all Department of the 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 inspection and test, sample selection, defect standards, reports and records.

2. Errors, Omissions, and Recommended Changes. Direct reporting of errors, omissions, and recommendations for Improving this bulletin is authorized and encouraged. DA Form 2028 (Recommended Changes to Publications and Blank Forms) may be completed and forwarded to Commander, HQ, ARRCOM, ATTN: DRSAR-QAS, Rock Island, IL 61299.

3. Safety. This surveillance visual inspection and function test 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. A Standing Operating Procedure (SOP) is required for this operation and will delineate specific safety requirements.

4. Personnel. All inspections and function testing will be conducted under the supervision and control of a Quality Assurance Specialist (Ammunition Sur-.

***This bulletin supersedes SB 742-1370-4, 5 June 1971.**

veillance) hereinafter referred to as a QASAS.

5. Size of Sample. Unless otherwise directed, a sample size of forty (40) simulators is required to make up a representative sample from a lot for a surveillance visual examination and function test. To satisfy the requirements of the periodic inspection prescribed in conjunction with the surveillance function test, additional sampling and inspection of inner and outer packing is required in accordance with SB 742-1.

6. Sample Selection. Sample simulators will be selected in accordance with the provisions of SB 742-1 except that not more than six simulators may be selected from any one box.

7. Surveillance Test Equipment. The following equipment is to be used in testing simulators in accordance with this procedure.

a. Ammunition Peculiar Equipment (APE) will be.
APE 1901, Tank, Immersion,
APE 1902, Device, Holding,
APE 1908, Measuring Device, Altitude and Drift,
APE 1912, Thermometer, Cup Cased;
APE 1915, Indicator, Wind Speed;
APE 1937, Shelter, Personnel Protection

b. Additional Test Equipment will be:
AN-M8 Pyrotechnic Pistol,.
Two stopwatches, each accurate to one-tenth of a second.

8. Preparation for Test.

a. Number the simulators 1 thru 40 and identify them as to the box from which they were drawn. Complete the periodic inspection in accordance with SB 742-1 and record the appropriate observations as instructed in paragraph 10 and 12.

b. Immerse simulators 1 through 20 (without container) In water at 70° ± 10° F (21.1° ± 5.6° C.) for 15 to 20 minutes. Position simulators horizontally 6 to 9 inches (15 to 22 centimeters) below the water surface. The immersion tank, APE 1901, should be used for this purpose. Remove the simulators from the water and wipe them dry. Simulators will be tested as outlined in paragraph 9 within one hour after removal from the water.

c. Simulators 21 through 40 will receive no conditioning prior to testing.

9. Test Procedure. The procedure described below is designed to determine the time from firing to functioning, the horizontal distance from pistol to burst, and the estimated height of burst. No testing will be done when the wind velocity exceeds 15 miles (24 kilometers) per hour, during an electrical, rain, or snow storm; or during any other conditions that might adversely affect the test results.

a. Set up the pyrotechnic pistol holding device, APE 902, in accordance with the APE 1902 operation manual.

b. Install the pyrotechnic pistol, AN-M8, firmly on the holding device, APE 1902, and adjust it to fire at an angle of 45°.

c. Attach a lanyard to the holding device and pistol as directed by the APE 1902 operation manual, and secure the other end in the personnel protection shelter, APE 1937.

d. Set up the altitude and drift measuring device, APE 1908, in accordance with the APE 1908 operation manual.

e. Load a simulator into the AN-M8 pyrotechnic pistol.

f. Pull on the lanyard from inside the shelter to fire the simulator.

g. Record the appropriate observations as instructed in paragraph 10 and 13.

10. Observations. All observations of nonstandard conditions and malfunctions, especially those not included among the defects listed in paragraphs 12 and 13, should be described in full detail. Pictorial evidence of nonstandard conditions, whenever pertinent and practical, should be included. The observations to be reported follow:

a. Time, to the nearest tenth of a second, from firing to functioning (use at least two stopwatches).

b. Horizontal distance, to the nearest five feet (1.5 meter), from pistol to burst (use the altitude and drift measuring device, APE 1908).

c. Estimated height of burst to the nearest five feet (1.5 meter) for information purposes.

d. All instances of any of the following.

(1) Marking misleading, incomplete, or unidentifiable,.

(2) Rust or corrosion (give exact location and extent).

(3) The occurrence of any nonstandard conditions or malfunctions classified as defects in paragraphs 12 and 13 or in SB 742-1.

(4) The occurrence of any nonstandard condition or malfunction not classified as a defect in paragraphs 12 and 13 or in SB 742-1 but which, in the opinion of responsible personnel, merits consideration.

11. Classification of Defects. Defects observed during inspection and testing will be classified in accordance with paragraphs 12 and 13 and with SB 742-1. Any defects observed which are not listed in paragraphs 12 and 13 or in SB 742-1 will be described fully and reported with the recommendations of the QASAS as to classification.

12. Nonfunctioning Defects.

a. Critical. None.

b. Major

(1) Case bulged, split, or otherwise damaged;

(2) Evidence of gas formation;

(3) Primer above flush;

(4) Major rust or corrosion.

c. Minor.

(1) Marking misleading or illegible;

(2) Simulator not properly sealed;

(3) Minor rust or corrosion.

13. Functioning Defects.

a. Critical.

(1) Charge bursts less than 100 feet (30 meters) horizontal distance from the pistol or less than 50 feet (15 meters) altitude from the ground.

(2) Charge bursts in less than 1.7 seconds or more than 3.5 seconds.

b. Major.

(1) Primer falls to function.

(2) Charge case assembly expels, but fails to burst (as evidenced by absence of a ball of smoke, a brilliant flash, or a loud report) or bursts low order.

(3) Charge case assembly fails to expel immediately after firing

(4) Charge bursts in less than 1.9 seconds or more than 3.3 seconds (but not less than 1.7 or more than 3.5 seconds).

c. Minor

(1) Simulator case splits on firing.

(2) Simulator ruptures on firing.

(3) Simulator case "freezes" in pistol due to bulging or distortion on firing.

(4) Charge bursts in less than 2.1 seconds or more than 3.1 seconds (but not less than 1.9 or more than 3.3 seconds).

14. Evaluation. Using the following criteria and considering functional codes and nonfunctioning characteristics separately, an interim condition code will be assigned in accordance with SB 742-1. A lot will be classified Condition Code J and reported in accordance with SB 742-1 if any critical defects are observed.

a. Nonfunctional Characteristics.

(1) *Serviceable.* A lot not classified as Condition Code J shall qualify as serviceable for unrestricted issue and use if it meets the following requirements on inspection of 40 simulators by attribute.

(a) Not more than 2 major defectives,

(b) Not more than 3 minor defectives.

(2) *Priority of issue*. A lot not classified as Condition Code J or serviceable for unrestricted issue and use shall qualify as serviceable for priority of issue if it meets the following requirements on inspection of 40 simulators by attribute.

(a) Not more than 5 major defectives,

(b) Not more than 8 minor defectives.

(3) *Unserviceable.* A lot not classified as serviceable for unrestricted Issue and use or for priority of issue shall be classified unserviceable.

b. Functional Codes.

(1) *Code A.* A lot not classified as Condition Code J shall qualify for Functional Code A if it meets the following requirements in the test of 40 simulators.

(a) Not more than 2 major defectives.

(b) Not more than 3 minor defectives.

(2) *Code B.* A lot not classified as Condition Code J or Functional Code A shall qualify for Functional Code B if it meets the following requirements in the test of 40 simulators.

(a) Not more than 5 major defectives,

(b) Not more than 8 minor defectives.

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

15. Records and Reports. The visual 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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