*SB 742-1365-94-601

DEPARTMENT OF THE ARMY SUPPLY BULLETIN

SMOKE POT, FLOATING, HC, M4A2 AMMUNITION SURVEILLANCE PROCEDURES (1365-K867)

HEADQUARTERS, DEPARTMENT OF THE ARMY, WASHINGTON, DC
21 November 1980

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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 Smoke Pot: M4A2, Floating Type w/HC Smoke Mixture, 10 min. minimum to 15 min. maximum burning time w/live igniting device. The function testing in this procedure will be accomplished under a centralized control program managed by the Armament Materiel Readiness Command (ARRCOM), DRSAR-QAS, Rock Island, IL 61299. The bulletin is to be used in the serviceability assessment of individual lots of smoke pots 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. Additional information pertaining to frequency of test, sample selection, defect standards, and reports and records are contained in SB 742-1.

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

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 de-

*This bulletin supersedes so much of SB 3-30-153, 13 May 1964, as pertaining to Smoke Pot, Floating, HC, M4A2.

voted to technical manuals describing the item.

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

5. Size of sample. Unless otherwise directed, a sample size of 30 smoke pots is required to make up a representative sample from a lot for a surveillance function test.

6. Sample selection. Sample smoke pots will be selected in accordance with the provisions of SB 742-1. Boxes should be selected from different positions in a stack.

7. Surveillance test equipment. The following Ammunition Peculiar Equipment (APE) is to be used in testing M4A2, Floating Smoke Pots, in accordance with this procedure:

a. Ammunition Peculiar Equipment (APE)
APE 1912 Thermometer, Cup-Cased
APE 1914 Anemometer
APE 1915 Wind Speed Indicator
APE 1937 Shelter, Personnel Protection

b. Additional Test Equipment
Container of water, such as 55-gallon drum.
Stopwatches (2 each) accurate to one-tenth of a second.
Tension recording scale.

8. Preparation for test.

a. Number the smoke pots 1 through 30 and identify them as to the box from which they were drawn.

b. Temperature condition all the sample smoke pots at 70° ±10°F (21.1° ±5.6°C) for 24 hours immediately prior to testing. A room in which the above temperature requirements can be met is acceptable. If smoke pots cannot be temperature conditioned, annotate this information on DA Form 984 along with the ambient temperature at time of function test.

9. Test procedure. The test procedure described below is designed to determine the amount of tension required to extract the safety pin, the fuze delay time, the total delay time, and the ability of the smoke mixture to ignite and emit an effective smoke continuously under pressure for not less than 8 or more than 19 minutes while floating in water. Smoke emission timing will begin with the emission of screening smoke under pressure and end when the smoke is no longer emitted under pressure. Function testing will be conducted only during daylight hours. Testing will not be conducted when the wind velocity exceeds 15 miles per hour; during an electrical, rain, or snow storm; or during any other conditions that might adversely affect the test results. Testing should also be in accordance with any other applicable regulations; i.e. EPA, etc.

a. Test each smoke pot as follows within four hours of removal from the temperature conditioning described in paragraph 8 above:

(1) Remove the quick-release clamp and outer cover, exposing the fuze.

(2) Remove adhesive tape from two vent holes in the inner cover and vent each floating smoke pot for at least 5 minutes.

(3) Re-cover the vent holes with new adhesive tape.

(4) Place sample smoke pot in a container of water, such as a 55 gallon drum, sufficiently large to permit lateral and vertical movement and to permit sinking to a depth of one foot.

(5) Hold the fuze safety lever firmly enough to prevent the fuze from functioning; but, do not relieve the lever tension on the safety pin. Pull on the safety pin with a tension recording scale until the safety pin is withdrawn.

(6) Record the tension required to remove the safety pin.

(7) Release the fuze lever.

(8) Record the fuze delay time.

(9) Record the smoke emission lag time.

(10) Record the smoke emission time.

b. Whenever a smoke pot fails to function as a result of the delay mixture failing to ignite, wait for a period of 15 minutes; then, refuze with a fuze conforming to applicable standards and retest.

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 are as follows:

a. Tension required to remove fuze safety pin.

b. Fuze delay time in seconds, to the nearest tenth of a second. This is the time measured from the release of the fuze safety lever to the time the ignition powder is ejected into the delay mixture as evidenced by a distinct "spitting" sound.

c. Smoke emission lag time to the nearest tenth of a second. This is the time measured from the release of the fuze safety lever to the emission of screening smoke under pressure and accompanied by a "hissing" sound.

d. Smoke emission time in minutes to the nearest 1/4 minute. This is the time measured from the beginning of smoke emission under pressure to when the smoke is no longer emitted under pressure.

e. Intermittent smoke time to the nearest tenth of a second. A smoke pot exhibiting intermittent screening smoke characteristics is indicated by lack of smoke emitted under pressure. A smoke pot is considered an intermittent smoke failure if the

total time of intermittency is greater than 90 seconds.

f. All instances of any of the following:

(1) Marking misleading, incomplete, or unidentifiable.

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

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

(4) The occurrence of any nonstandard conditions or malfunctions not classified as defects in paragraphs 12 and 13 below, or 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 SB 742-1. Any defects observed which are not listed in paragraphs 12 and 13 or SB 742-1 will be fully described and reported with the recommendations of the QASAS as to classification.

12. Nonfunctioning defects.

a. Critical.

(1) Fuze type incorrect (only E14 or M207A1 fuze authorized).

b. Major.

(1) Advanced rust or corrosion (rust scale or pitting) of exterior surfaces.

(2) Body with dents on crimped edges exposing filler.

(3) Body with dents on surface exposing filler.

(4) Tape covering smoke emission hole missing, loose, or damaged.

(5) Fuze with major damage.

(6) Fuze with major corrosion.

(7) Marking incorrect.

c. Minor.

(1) Protective coating inadequate (25 percent or more of total surface coating blistered, peeled, or missing).

(2) Marking illegible or missing.

(3) Light corrosion not affecting serviceability (no pitting or rust scale permitted).

(4) Outer cover ring clamp damaged.

(5) Outer cover handle inoperative.

(6) Inner cover handle inoperative.

(7) Fuze chain and pull ring damaged or missing.

(8) Body with dents on crimped edges but not exposing filler.

(9) Body with dents on surface deeper than 1/4 inch but not exposing filler.

13. Functioning defects.

a. Critical.

(1) Smoke pot explodes.

(2) Smoke emission lag time is less than 3 seconds.

(3) Fuze delay time is less than 0.7 seconds.

b. Major.

(1) Tension required to remove the safety pin is less than 5 pounds.

(2) Fuze fails to ignite delay mixture.

(3) Starter mixture is not ignited.

(4) Smoke mixture is not ignited.

(5) Emission time that the smoke is emitted under pressure is less than 8 minutes.

(6) Smoke intermittency is greater than 90 seconds.

c. Minor.

(1) Tension required to remove the safety pin is greater than 35 pounds.

(2) Smoke emisson lag time is less than 12 seconds but is not less than 3 seconds.

(3) Smoke emission lag time is greater than 22 seconds.

(4) Emission time that the smoke is emitted under pressure is more than 19 minutes.

(5) Fuze delay time is more than 3.5 seconds.

14. Evaluation. Using the following criteria, and considering functional codes and nonfunctional 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 one or more critical defects are observed.

a. Nonfunctional characteristics.

(1) Serviceable. A lot not classified as Condition Code J shall qualify as serviceable if it meets the following requirements on inspection of 30 smoke pots by attribute:

(a) Not more than 2 major defectives.

(b) Not more than 4 minor defectives.

(2) Priority of issue. A lot not classified as Condition Code J or serviceable shall qualify for priority of issue if it meets the following requirements on inspection of 30 smoke pots by attribute:

(a) Not more than 4 major defectives.

(b) Not more than 7 minor defectives.

(3) Unserviceable. A lot not classified serviceable or 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 30 smoke pots:

(a) Not more than 2 major defectives.

(b) Not more than 4 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 30 smoke pots:

(a) Not more than 4 major defectives.

(b) Not more than 7 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. Function test results will be recorded and reported on DA Form 984 as outlined in SB 742-1.

By Order of the Secretary of the Army:

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Distribution:
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☆ U.S. GOVERNMENT PRINTING OFFICE: 2002 491-602/70258