

DEPARTMENT OF THE ARMY SUPPLY BULLETIN

SIGNAL, SMOKE, GROUND: RED, M62;
 YELLOW, M64; GREEN, M65
 SURVEILLANCE FUNCTION TEST

Headquarters, Department of the Army, Washington, D. C.
 31 August 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 signals and their containers when the signals are packed one per container. When more than one signal is packed per container, this bulletin applies to the individual signals only. The provisions of this bulletin are mandatory for use by all Department of the Army organizations with CONUS and overseas with a receipt, storage, and issue 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, report and records are contained in SB 742-1.

2. Errors, Omissions, and Recommended Changes. Direct reporting of errors, emissions, and recom-

mendations for improving this bulletin is authorized and encouraged. DA Form 2028 (Recommended Changes to Publications) will be completed and forwarded direct to Commanding Officer, U. S. Army Aberdeen Research and Development Center. ATTN: AMXRD-ARW. 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 signals 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.....	48 °
For confirmation investigation	as directed

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

6. Preparation for Test. a. Number the signals 1 through 48 and identify them as to the box from which they were drawn.

b. Immerse signals 1 through 24 (without cartridges and without fiber containers) in water at 70° ± 10°F for 15 to 20 minutes. Position signals horizontally 6 to 9 inches below the water surface. APE 1901 should be used for this purpose. Signals will be wiped dry and tested as outlined in paragraph 7 below within two hours after removal from the water.

c. Signals 25 through 48 will receive no treatment prior to testing.

7. Test Procedure. a. The signals will be projected from a rifle grenade launcher of the M7 series attached to the muzzle of a service rifle using caliber .30 grenade cartridge M3. The rifle will be fired in a vertical position mounted on Holding Device APE 1902. Signals will not be fired when the wind velocity exceeds 15 mph. Signals with cracked, bent, or otherwise distorted bodies or stabilizer assemblies will not be fired but will be reported by type of defect as outlined in paragraph 10 below.

b. Cartridges packed with corresponding signals will be used in these tests unless their use is precluded because they are not standard for the rifle being used. In which case, other rifle grenade cartridges that are standard for the rifle being used may be substituted. If substitute cartridges are used, the code for the lot will not apply to the cartridges packed with the signals.

8. Observations. All observations of nonstandard conditions and malfunctions, especially those not included among the defects listed in paragraphs 10 and 11 below, 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. Time (to the nearest tenth of a second) from firing to expulsion of the pellets from their case (for information purposes).

b. Persistency of smoke density-good, fair, poor).

c. Color of smoke (visually-correctness and distinguishability).

d. Functioning altitude to the nearest foot. APE 1908 should be used for this purpose.

e. Number of pellets which fail to emit smoke.

f. Time (to the nearest tenth of a second) from ignition of the first pellet to the extinction of the last pellet. (Total burning time.)

g. Total time at least three pellets burn together.

h. All instances of any of the following:

(1) *Nonstandard marking.* State whether misleading, incomplete or unidentifiable.

(2) *Rust or corrosion.* Give location and extent.

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

(4) The occurrence of any nonstandard conditions or malfunctions not classified as defects in paragraphs 10 and 11 below. 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 below, and SB 742-1. Any defects observed which are not listed in 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) Tape disk and onion skin disk missing.

(2) Tape disk and onion skin disk damaged to the extent that the propelling charge can escape.

b. *Major.*

(1) Major damage to components such as:

(a) Container bulges, indicating serious gas formation.

(b) Identification top disassembled to the extent that the waterproof seal is broken.

(c) Identification top damaged to the extent that the waterproof seal is broken.

(d) Either of the following cracked to an extent which precludes use of the signal:

1 Case

2 Stabilizer

(2) Major rust.

(3) Major corrosion.

c. *Minor.*

(1) Plug pulled out of assembly.

(2) Identification top not fully sealed.

(3) Identification top inadequately lacquered.

(4) Cork plug not removable by hand.

(5) Minor rust.

(6) Minor corrosion.

11. Functioning defects. a. *Critical.*

(1) Signal bursts on launcher or less than 50 feet from launcher.

(2) One or more smoke pellets wrong color.

b. *Major*

(1) Misfire.

(2) Hangfire.

(3) Signal functions at less than 150 feet but not less than 50 feet from launcher.

(4) Stabilizer assembly bursts.

(5) Stabilizer assembly ruptures.

(6) Stabilizer assembly separates from body.

(7) Three or more pellets fail to emit colored.

smoke.

(8) Color of one or more pellets is not clearly distinguishable.

(9) Time at least three pellets burn together is less than two seconds.

(10) Total burning time minus the time at least three pellets burn together is more than eight seconds.

(11) Three or more pellets are not expelled.

c. Minor.

(1) One or more two pellets fail to emit colored smoke.

(2) One or two pellets are not expelled.

(3) Altitude of functioning is less than 500 feet but not less than 150 feet.

(4) Time at least three pellets burn together is less than four seconds but not less than two seconds.

(5) Total burning time minus the time three pellets burn together is more than six seconds but not more than eight seconds.

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 of 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 48 signals 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 48 signals by attributes:

(a) Not more than 6 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.

(a) *Code A.* A lot not classified as Code J shall qualify for Code A if it meets the following requirements in the test of 48 signals.

(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 48 signals.

(a) Not more than 6 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:

Official:

VERNE L. BOWERS,
*Major General, United States Army,
The Adjutant General.*

W. C. WESTMORELAND,
*General, United States Army,
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ARNG: None.

USAR: None.

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

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