

DEPARTMENT OF THE ARMY SUPPLY BULLETIN

SIGNAL KIT, PERSONNEL, DISTRESS: M185 AND
 SIGNAL KIT, PERSONNEL, DISTRESS: M186
 AMMUNITION SURVEILLANCE PROCEDURES

Headquarters, Department of the Army, Washington, DC
 27 October 1980

	<i>Paragraph</i>	<i>Page</i>
Purpose and scope	1	1
Errors, omissions, and recommended changes	2	1
Safety	3	1
Personnel	4	1
Size of sample.....	5	1
Sample selection	6	2
Surveillance test equipment	7	2
Preparation for test.....	8	2
Test procedure	9	2
Observations	10	2
Classification of defects.....	11	2
Nonfunctioning defects.....	12	3
Functioning defects	13	3
Evaluation.....	14	3
Records and reports.....	15	3

1. Purpose and scope. This bulletin when used in conjunction with SB 742-1 provides a method for determining the serviceability of subject items. The function testing in this procedure will be accomplished under a centralized control program managed by the Armament Materiel Reading Command (ARRCOM), DRSAR-QAS, Rock Island IL 61299. The bulletin is to be used in the assessment of the serviceability of the individual signals and the hand-held projector in the signals kits. The provisions of this bulletin are a mandate for use by all Department of the Army organizations within CONUS and OCONUS with 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, 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. 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 devoted to technical manuals describing the item.

4. Personnel. Function testing will be conducted under the supervision of a Quality Assurance Specialist (Ammunition Surveillance) herein after referred to as QASAS.

5. Size of sample. The number of samples required

to make up a representative sample from a lot for surveillance function test is as follows:

- For check investigationas directed
- For classification investigation48 (6 kits)
- For confirmation investigationas directed

6. Sample selection. Sample size kits will selected in accordance with the provisions of S 742-1 with the exception that not more than two kits may be selected from any one box.

7. Surveillance test equipment. The following Ammunition Peculiar Equipment (APE) is to be use in testing signal kits and projectors in accordance with the procedures described herein.

APE 1901	Tank, Immersion
APE 1903	Table, Testing, Function
APE 1908	Measuring Device, Altitude and Drive
APE 1912	Thermometer, Cup-Cased
APE 1914	Anemometer
APE 1915	Wind Speed Indicator
APE 1916	Oven, Preconditioning
APE 1920	Shield, Operational
APE 1937	Shelter, Personnel Protection
APE 1967	Function Test Equipment, Signals M185 through M190

8. Preparation for test.

a. Number the kits from one through six. TI signals in kit number one will be numbered from one through seven, the signals in kit number two will be numbered from eight through 14, etc., with the signals in kit number six being numbered from 36 through 42. In addition, identify the projector by using the kit numbers and identify the kits at projectors further as to the box from which the were selected.

b. Temperature condition all the kits at 21.1° ± 5.6°C (70° ± 100F) for 24 hours immediately prior firing. c. After temperature conditioning, immerse kit numbered one through three in water to a depth 12 inches (plus or minus 1 inch) at a temperature 21.1° ± 5.60C (70° ± 100F) for one hour. Remove t kits from the tank and wipe them dry. Kits numbered four through six will be tested without immersion in water.

9. Test procedure. The procedure described here is designed to determine the serviceability of t] kits. Testing will not be conducted when the will velocity exceeds 10 miles per hour, during electrical, rain, or snow storm, or during al weather conditions that might adversely affect t] test results.

a. Test each kit within three minutes of remove from the treatment preparation described paragraph 8 above. Fire the signals from each 1

from the projector contained in the kit. The projector should be held in APE 1967 Function Test Equipment which has been suitably mounted in accordance with APE Operational Manual to vertically project the signals. If a signal fails to fire, another attempt should be made to fire the signal. If a signal fails to fire on the second attempt, remove the signal from the projector, and determine the cause of failure. If the failure was not due to the projector, cut the misfired signal from the bandoleer, note the cause of the failure, and continue to test the remaining signals.

b. If a signal fails to fire due to a projector failure, correct the condition causing the failure, note the cause of the failure and the corrective action, and attempt to fire the signal again. If the signal is not now projected after two attempts due to failure of the projector remove the signal and projector from the fixture and continue the testing of the remaining signals with a projector of known good quality.

10. Observations. All observations of nonstandard conditions and malfunctions, especially those not included among the defects listed in paragraph 12 and 13 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. Altitude of the display to the nearest foot. This is measured as the vertical height from the projector to the apogee of the display.

b. Burning time (to the nearest tenth of a second) of the display in air. This is the time during which the display of the illuminant is of good volume, is easily visible, and its color is easily distinguishable.

c. All instances of any of the following:

(1) Nonstandard markings; state whether unidentifiable, incomplete, or misleading.

(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.

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

12. Nonfunctioning defects.

- a. Critical.
 - (1) Marking incorrect as to type or color of signal.*
 - (2) Marking unidentifiable.
 - (3) Projector missing from the kit.
 - (4) All signals missing from the kit.
- b. Major.
 - (1) One or more but not all signals missing the kit.
 - (2) Major damage to any component of the
 - (3) Major rust.
 - (4) Major corrosion.
- c. Minor.
 - (1) Marking is illegible but is not misleading to type or color of signal.
 - (2) Instruction sheet missing.
 - (3) Minor damage to any component of the
 - (4) Minor rust.
 - (5) Minor corrosion.

13. Functioning defects.

- a. Critical.
 - (1) Projector holds signal captive while burning occurs in the test fixture.
 - (2) Signal or any signal component separates ejects, explodes, deflagrates or burns (state w within 15 feet of the test fixture.*
 - (3) Signal vents and snuffs out propellant system.
- b. Major.
 - (1) Projector fails.
 - (2) Signal fails to fire on second attempt
 - (3) Signal or any signal component separate ejects, explodes, deflagrates or burns (state w at 15 feet or more from the test fixture.
 - (4) Signal projects less than 15 feet from test fixture but remains intact and does not ignite
 - (5) Illuminant candle fails to ignite.
 - (6) Altitude of the display is less than 250 but is not less than 15 feet.
 - (7) Altitude of the display is greater than feet.
 - (8) Burning time of the display in air is than four seconds.
- c. Minor.
 - (1) Altitude of the display is less than 300 but is not less than 250 feet.
 - (2) Altitude of the display is greater than feet but is not greater than 500 feet.
 - (3) Burning time of the display in air is

than five seconds but is not less than four seconds.

(4) Display hits the ground while the illuminant candle is still burning.

14. Evaluation. Functional and nonfunctional codes will be recommended in accordance with the following criteria and the interim condition code will be assigned. 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 48 samples (42 signals and six projectors) by attributes.

(a) Not more than two signals and no projector major defectives.

(b) Not more than three signals and no projector 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 samples (42 signals and six projectors) by attributes.

(a) Not more than six signals and one projector major defectives.

(b) Not more than nine signals and one projector 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 48 samples (42 signals and six projectors) by attributes.

(a) Not more than two signals and no projector major defectives.

(b) Not more than three signals and no projector 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 samples (42 signals and six projectors) by attributes.

(a) Not more than six signals and one projector major defectives.

(b) Not more than nine signals and one projector minor defectives.

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

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

*This defect shall pertain to the color of the signal only. example, the defect relates to whether or not the sign painted red when a red (display) signal is specified and n the color shade of the signal.

*Signal element ejection upon ground impact following ignition failure and normal flight will not be consider critical defect.

By Order of the Secretary of the Army:

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