

DEPARTMENT OF THE ARMY SUPPLY BULLETIN

SIGNAL, ILLUMINATION, AIRCRAFT:
YELLOW TRACER, RED-YELLOW STAR, AN-M53 SERIES;
GREEN TRACER, RED-RED STAR, AN-M54 SERIES;
GREEN TRACER, GREEN-RED STAR, AN-M55 SERIES;
RED TRACER, GREEN-GREEN STAR, AN-M56 SERIES;
RED TRACER, RED-RED STAR, AN-M57 SERIES;
RED TRACER, GREEN-RED STAR, AN-M58 SERIES
SURVEILLANCE FUNCTION TEST

Headquarters, Department of the Army, Washington, D.C.
8 December 1971

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

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 within 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,

*This bulletin supersedes SB 742-1370-12, 7 August 1971.

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) will be completed and forwarded to Director, U.S. Army Materiel Systems Analysis Agency, ATTN: AMXSY-RW, 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 investigationas directed
- For classification investigation.....40
- For confirmation investigationas 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 ten signals may be selected from any one box.

6. Preparation for test. a. Number the signals 1 through 40 and identify them as to the box from which they were drawn.

b. Immerse signals 1 through 20 with their lead foil bags, if present, in water at 700° 10°F for two hours. 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 21 through 40 will receive no treatment prior to testing.

7. Test procedure. The signals will be fired from a pyrotechnic pistol AN-M8 mounted in a vertical position on Holding Device APE 1902. Signals will not be fired when the wind velocity exceeds 15 mph. Signals with bulged, split, or otherwise damaged cases will not be fired but will be reported by type of defect as outlined in paragraph 10 below.

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 recorded are as follows:

a. Burning time (to the nearest tenth of a second) of tracer from ignition until extinction (estimate burning time on the ground, if any).

b. Burning time (to the nearest tenth of a second) of each star in air.*

c. Time interval (-) or overlap (+) between the extinction of the tracer and the ignition of the first star.

d. Light intensity of star (good, fair, or poor).

*e. Maximum altitude to the nearest foot reached by the lowest component of the signal, i.e., tracer or either star. (In any instance in which the case is projected, the altitude reached by either the signal case or component, whichever is lower should be recorded). APE 1908 should be used for this purpose.

f. 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. *Major.*

(1) Major damage to components, such as:

(a) Case bulged.

(b) Case split.

(c) Case otherwise damaged.

(2) Closing cap loose to the extent that it can be removed by applying light finger pressure.

(3) Major rust.

(4) Major corrosion.

b. *Minor.*

(1) Improper marking.

(2) Illegible marking.

(3) Load foil bag (if so packed) or signal not properly sealed (punctured, cracked foil bag, loose closing cap, etc.).

(4) Minor rust.

(5) Minor corrosion.

*These may be used from aircraft or by ground forces, hence time above ground only is considered. Stars which hit the ground burning should be noted for "information only."

- 11. Functioning defects.** *a. Critical
- (1) Signal fires and remains in pistol.
 - (2) Incorrect color of tracer and/or stars.
 - (3) Maximum altitude reached by stars or case (if projected) in less than 25 feet.
- b. *Major.*
- (1) Primer fails.
 - (2) Hangfire.
 - (3) Tracer to ignite.
 - (4) Tracer burning time is greater than 6 seconds or less than 1.5 seconds (total burning time from ignition to extinction).
 - (5) Interval or overlap is greater than 1 second.
 - (6) Star cannot be distinguished up to 5 miles at night and/or 2 miles in daylight.
 - (7) Tracer ignites but one or both stars fail to ignite.
 - * (8) One or both stars burn less than 1.5 seconds in air (from time of ignition until stars make contact with the ground).
 - (9) Maximum altitude reached by stars or case (if projected) is less than 50 feet but not less than 25 feet.
- c. *Minor.*
- (1) Signal case splits or ruptures upon firing.
 - (2) Maximum altitude reached by stars or case (if projected) is less than 100 feet but not less than 50 feet.
 - (3) Stars burn with abnormal quantities of burning composition becoming detached.*
 - (4) Signal case "freezes" in pistol due to defective signal.
- 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 40 signals by attributes:

- (a) Not more than 2 major defectives.
- (b) Not more than 3 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 40 signals by attributes:

- (a) Not more than 5 major defectives.
- (b) Not more than 8 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 40 signals.

- (a) Not more than 2 major defectives.
- (b) Not more than 3 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 40 signals.

- (a) Not more than 5 major defectives.
- (b) Not more than 8 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 tests results will be recorded and reported as outlined in SB 742-1.

*Abnormal quantities of burning composition becoming detached is defined as pieces dropping from the star or stars which burn longer than 3 seconds.

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,
Chief of Staff.

Distribution:

Active Army:

ACSFOR (2)
DCSLOG (2)
TSG (1)
USAMC (25)
ARADCOM (5)
USAMUCOM (25)
USAMICOM (25)
USACDCEC (2)
CONARC (5)
OS Maj Comd (10)

LOGCOMD (2)
Armies (10)
Br Svc Sch (5)
USAAPSA (25)
PG (5)
Gen Dep (10)
Army Dep (10)
Dep (10)
Arsenals (5)

ARNG & USAR: None.

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

*U.S. GOVERNMENT PRINTING OFFICE: 1995 - 388-421/43039

PIN: 011832-000

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



THEN... JOT DOWN THE DOPE ABOUT IT ON THIS FORM, CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER

TM 11-5825-270-10

PUBLICATION DATE

23 Jul 81

PUBLICATION TITLE

Radio Frequency R-2176/FRN

BE EXACT... PIN-POINT WHERE IT IS

PAGE NO.

PARA-GRAPH

FIGURE NO.

TABLE NO.

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

TEAR ALONG PERFORATED LINE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SIGN HERE:

DA FORM 2028-2 JUL 79

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.—IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

