DEPARTMENT OF THE ARMY SUPPLY BULLETIN

CARTRIDGE, 40 MM: WHITE STAR, CLUSTER, M585, M585A1 AMMUNITION SURVEILLANCE PROCEDURE

Headquarters, Department of the Army, Washington, DC
25 April 1977

	Paragraph	Page
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	1
Surveillance test equipment	7	1
Preparation for test	8	2
Test procedure	9	2
Observations	10	2
Classification of defects	11	2
Nonfunctioning defects	12	2
Functioning defects	13	2
Evaluation	14	2
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 the subject item. The bulletin is to be used in the assessment of the serviceability of individual signal cartridges only. The provisions of this bulletin are mandatory for use by all Department of the Army organizations within CONUS and OCONUS with a 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 Director, US Army Material Systems Analysis Activity, ATTN: DRXSY-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. 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 cartridges 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 40
For confirmation investigation ..... as directed

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

7. Surveillance Test Equipment. The following equipment is to be used in testing 40 mm pyrotechnic cartridges in accordance with the procedures described herein.

a. Ammunition Peculiar Equipment (APE).
APE 1902M 1 Device, Holding, Function Test
APE 1908 Measuring Device, Altitude and Drift
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 1938 Chamber, Low Temperature

b. Additional Test Equipment (ATE).NSN 1010-00691-1382 Launcher,, Grenade: 40 mm, M79

8. Preparation for Test. a. Number the cartridges 1 through 40 and identify them as to the box from which they were drawn.

b. Temperature condition cartridges 1 through 5 for 24 hours at 71.10 + 5.6'C. (160' ± 10IF.) immediately prior to firing.

c. Temperature condition cartridges 6 through 35 for 24 hours at 21.1° + 5.6'C. (70' + 10IF.) immediately prior to firing.

d. Temperature condition cartridges 36 through 40 for 24 hours at -53.9' + 5.6' ± C. (-65' ± 10'F.) immediately prior to firing.

9. Test Procedure. After temperature conditioning, fire each cartridge from an M79 Grenade Launcher emplaced on an approved mount at 90' quadrant elevation within 3 minutes from removal from the temperature chamber. All cartridges conditioned at a given temperature will be fired on the same occasion. Cartridges will not be fired when the wind velocity exceeds 15 mph; during electrical, rain, or snow storms; or during any other conditions that might make the observations inaccurate.

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. Altitude of functioning, to the nearest foot. This is the ignition altitude and it is measured from the point of launch to the point (identified by a puff of smoke) where the star cluster assembly ejects from the projectile body.

b. Burning time (time to the nearest tenth of a second) of each star pellet in air. This is the time during which each star pellet is easily visible and its color is easily distinguishable.

c. 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 nonstandard conditions or malfunctions classified as defects in paragraphs 12 and 13.

(4) The occurence of any nonstandard conditions or malfunctions not classified as defects in paragraphs 12 and 13, 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, 13, 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) Incorrect ogive
(2) Marking incorrect as to type or color of signal
(3) Marking unidentifiable

b. Major.

(1) Missing component of the cartridge
(2) Major damage to any component
(3) Major rust
(4) Major corrosion

c. Minor.

(1) Marking is illegible but is not misleading as to type/color of signal
(2) Minor rust
(3) Minor corrosion 13. Functioning Defects.

a. Critical.

13. Functioning Defects

(1) Projectile bursts in the launcher.
(2) Projectile bursts within 50 feet of the launcher.
(3) Signal element is ejected from the projectile within 50 feet of the launcher.*
(4) Projectile assembly sticks in the launcher.

b. Major.

(1) Projectile projects less than 50 feet from the launcher but fails to ignite.
(2) Projectile bursts at a distance of 50 feet or more from the launcher.
(3) Altitude of functioning is less than 350 feet but not less than 50 feet.
(4) Signal element is not expelled.
(5) Less than five star pellets ignite.
(6) Star pellet burning time is less than 6 seconds.

c. Minor.

Cartridge case is not ejected from the launcher.

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 40 cartridges 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

- signal element ejection upon ground impact to fuse failure after normal flight
- will not be considered a critical defect.