DEPARTMENT OF THE ARMY SUPPLY BULLETIN
CRYPTOGRAPHIC EQUIPMENT DESTROYER INCENDIARY, TH1/TH4, M1A1, M1A2 AND M2A1 AMMUNITION SURVEILLANCE PROCEDURES

Headquarters, Department of the Army, Washington, DC
6 April 1988

The proponent agency of this supply bulletin is A.MCC('OV. 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) should be completed and forwarded to Commander, AMCC'OIM, AMSMCQASP, Rock Island, IL 612996000.

1. Purpose and scope. This bulletin when used inconjunction with SB 742-1 provides a method for determining the serviceability of the incendiary cryptographic equipment destroyers

a. The visual inspection and surveillance function testing in this procedure will be accomplished under a centralized control program managed by the U.S. Army Armament Munitions an Chemical Command (AMCCOM), AMSMC-QAS-P, Rock Island, IL 61299-6000. This bulletin is to be used in the serviceability assessment of specified incendiary cryptographic equipment destroyers lots based on the inspection and test of individual destroyers only.

b. 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 stock in basic loads.

c. SB 742-1 contains additional information pertaining to frequency of test, sample selection, defect standards, and reports and records.

2. Item description.

a. This bulletin pertains to the following items-

(1)Cryptographic equipment destroyer incendiary; TH1, TH4, M1 series, DODAC 1375-M598 and DODAC 1375-M606.

(2)Cryptographic equipment destroyer, incendiary; TH1, TH4, M2 series, DODACs 1375-M600, 1375-M608 anti 1375-M609.

b. The incendiary cryptographic equipment destroyer is designed for the sole purpose of destroying specific cryptographic devices stored in CH-76

*This bulletin supersedes SB 742-1375-94-3, 21 March 1974.

safes. It is a sheet metal box, 21 inches long, 15 inches wide, and 1 /4 inches deep. The box is filled with approximately 28 pounds of incendiary mixture.

(1) The destroyer is fitted with two M209 electric floating smoke pot fuses and either an M210 or an M2()1A1 manual ignition fuse.

(2) The M2()1Al fuse is an earlier model of the M210(. It is equipped with a spring loaded striker which is controlled by a safety ring, a safety pin, and a delay element.

(a) The body of the fuse is filled with a primer and an ignition mixture.

(b) A cellulose acetate cup filled with first-fire mixture is imbedded in the incendiary mixture (directly beneath each fuse.

(c) Three metal hangers and 61/1-inch bolts, washers, and nuts are packed with each destroyer to provide the means for installing it.

(d) An instruction card is also packed with each destroyer.

(c) An electric current flowing through the electric fuse (squib) causes the fuse to ignite the first-fire mixture which ignites the incendiary mixture. The incendiary mixture burns at approximately 4000 degrees F and ignites combustible materiel with which it comes in contact. When the safety pin is withdrawn from the ignition fuse, a safety lever is released which allows a striker to hit the primer. This action ignites a delay element that burns for 0.7 to 2.0 seconds. Upon expiration of the delay time, flame from the fuse ignites the first-fire mixture which ignites the incendiary mixture.

3. References.

a. The following publications will provide more information on the surveillance of the incendiary cryptographic equipment destroyer. The list is not to be considered all inclusive; other publications may also provide information, such as DA Pamphlet 310-1 Consolidated Index of Army Publications and Blank Forms).

b. U.S. Army Regulations.

(1) AR 751 (Malfunctions Involving Ammunition and Explosives).

(2) AR 200-1, w/AMC Suppl 1 (Environmental Protection and Enhancement).

(3) AR 385-30 (Safety Color Code Markings & Signs).

(4) AR 385-64 (Ammunition and Explosives Safety Standards).

(5) AR 700-20, w/AMC Suppl 1 (Ammunition Peculiar Equipment (APE)).

c. U.S. Army Materiel Command regulations.

(1) AMC-R 385-1 (Preparation of Standing Operating Procedures (SOP) for Ammunition Operations).

(2) AMC-R 385-100 (AMC Safety Manual).

d. Technical manuals.

(1) TM 9-1300-200 (Ammunition, General).

(2) TM 9-1300-206 (Ammunition and Explosive Standards).

(3) TM 43-001-47 (Army Equipment Data Sheets for Ammunition Peculiar Equipment).

e. Technical Bulletins. Cryptographic Equipment Destroyers, Incendiary, TH4, M1A2; TH1, M1A2; and TH1, MlA1, TB CML 109.

f. Supply Bulletins (1) SB 742-1 (Ammunition Surveillance Procedures).

(2) SB 742-1300-94-3 (Ammunition Surveillance Procedures for Fuse, Igniting, Handle Grenade, M201A1, M201A1E1: Fuse, Floating, Smoke Pot, M207A1, and M208; Fuse, Floating, Smoke Pot, Electric, M209; and Fuse, Cryptographic Equipment Destroyer, Incendiary, M210).

h. Each item of ammunition peculiar equipment (APE) has an operation manual that should be consulted prior to and (luring the use of the item.

4. Safety. The visual inspection and(surveillance function test must be conducted in accordance with the provisions set forth in appropriate safety regulations and implementing instructions, with special attention given to technical manuals describing the item. A Standing Operating Procedure (SOP) is also required for this operation and will delineate specific safety requirements. Under no circumstances should unprotected personnel stare at or watch the burning thermite reaction. The cryptographic equipment destroyer burns at approximately 4000 degrees F (2200 C') and can cause severe injury to personnel and/or ignite any combustible material in the vicinity.

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

6. Size of sample. Unless otherwise directed, a sample size of 12 destroyers is required to make up a representative sample from a lot for a surveillance function test. To satisfy the requirements of a periodic inspection prescribed in conjunction with the surveillance function test, additional sampling of the items and of the inner and outer packing is also required in accordance with SB 742-1.

7. Sample selection. Sample destroyers will be selected in accordance with the provisions of SB 7421 except that (if packed more than one to a box) not more than one destroyer to be function tested may be selected from any one box. If the samples are to be function tested at an installation other than the one at which the parent lot is stored, the packing boxes and

containers which are not shipped will be inspected and the appropriate part of DA Form 984 (Munitions Surveillance Report) completed prior to shipment. The visual inspection must be completed according to SB 742-1 and the appropriate observations of paragraphs 12 and 14 below must be recorded. Samples to be shipped must be packed and marked according to SB 742-1.

8. Surveillance test equipment. The following equipment is to be used in testing cryptographic equipment destroyers in accordance with this procedure.

a. Ammunition peculiar equipment (APE) required in the shelter, personnel protection, APE 1937.

b. Additional test equipment required

(1) An electrical source capable of furnishing a maximum current of 1 ampere at a voltage ranging from 2 to 6 volts.

(2) Firing wire.

(3) Asbestos gloves.

(4) Shade 7.8 to 9.4 welding filters (for each observer of the test).

(5) Two stopwatches, each accurate to a tenth of a second.

9. Preparation for test.

a. Number of sample destroyers 1 through 12, and identify each one as to the box from which it was drawn.

b. Temperature condition the destroyers at 70 degrees + 10 degrees F (21.1 degrees + 5.6 degrees C) for at least 12 hours.

c. Divide the samples for test into two equal parts. One half of the destroyers will be functioned by mechanical ignition (M201A1 or M210 fuse) and the other half by electrical ignition (squibs or M209 fuse).

d. Destroyers will be tested as soon as possible after temperature conditioning.

10. Test procedure. This test is to determine the ability of the destroyer to ignite and burn continuously, without exploding, until it is completely consumed. Function testing will be conducted during daylight hours only and in an open air site that is clear of explosive material, combustible fumes, or flammable material such as wood, grass, etc. Testing will not be conducted during an electrical, rain, or snowstorm, or during any other conditions that might adversely affect the test results. Testing should also be according to any other applicable regulations; i.e., U.S. Environmental Protection Agency (EPA), etc. Adequate fire fighting equipment must be readily available during testing.

WARNING

The cryptographic equipment destroyer burns with intense heat. Personnel conducting or observing the test must wear neutral eye protection which affords comfortable viewing for the wearer. Shade 7.8 to 9.4 welding filters will fulfill this requirement. Personnel examining the burned residue should wear asbestos gloves.

Do not withdraw the safety pin or separate the ends of fuse or squib wires until the destroyer is to be ignited. Do not lift or handle any destroyer by the fuse pull ring.

Do not attempt to extinguish the incendiary destroyer with water or liquid fire extinguisher. In an emergency, cover with sand to confine the heat.

a. Mechanical ig1iitiotI (M201AI oil 210.lft,ze).

(1) Set up a bar or pulley in the function test area.

(2) Place the destroyer on its broadest flat side. Position the destroyer so that the fuse safety pin is directly under the bar or pulley. Stake the destroyer in place so as to resist the upward pull of the lanyard.

(3) Run the lanyard over the bar or pulley and connect it to the fuse safety pin pull ring. The other end of the lanyard will be secured in the personnel protection shelter (APE 1937).

(4) Take care to minimize fiction of the lanyard as it passes over the bar or pulley and into the shelter.

(5) Function the destroyer from within the shelter by pulling on the lanyard until the safety pin is withdrawn. Using the stopwatches, measure and record the time from the safety pin withdrawal until the fuse functions; then observe for ignition an(d burning.

(6) When burning is completed, examine the burned residue for completeness of burning.

(7) Record the appropriate observations as instructed in paragraphs 12 and 15 below.

b. Electrical ignition (MO209 fuse or electric .squib).

(1) Place the cryptographic equipment destroyer on its broadest flat side.

(2) Separate the ends of the M209 electric fuse wires or squib wires, as applicable.

(3) Connect firing wire of sufficient length to reach from the destroyer to the personnel protection shelter (APE 1937).

(4) From within the shelter, connect the firing wires to the electrical source. For firing wire lengths up to 10 feet (3 meters), a maximum of 2 volts is required; for firing wire lengths from 10 to 100 feet (3 to 30 meters), 6 volts are required

(5) Function the destroyer from within the shelter and observe for ignition and burning.

(6) When burning is complete, examine the burned residue for completeness of burning.

(7) Record the appropriate observations as instructed in paragraphs 12 and 15 below.

c. Retest of fuse failure. In the event of a dud, a minimum waiting period for 30 minutes will be observed before recovery. If the destroyer fails to ignite because of a fuse failure, the destroyer shall be defused, refused, and retested. This operation will be accomplished according to applicable safety regulations and standing operating procedures.

(1) Refusing will be with fuses known to be serviceable. Record all information pertinent to the cause of the malfunction and the lot number of both the fuse that failed initially and the fuse used in the retest.

(2) The procedure for retest will be as specified in paragraph 11a or b above, as applicable. Record and report the retest results.

(3) Refusing and retesting will be accomplished to determine the feasibility of reworking the lot; not for determining serviceability.

11. Observations. All observations of nonstandard conditions and malfunctions, especially those not included among the defects listed in paragraphs 14 and 15 below or in SB 742-1, should be described in full detail. Pictorial evidence of nonstandard conditions should be included whenever pertinent and practical. Some observations to be reported follow:

a. The cryptographic equipment destroyer must be completely consumed. Assure that no unburned incendiary filling is present in the ash after burning ceases, and at least 50 percent of the body and cover is consumed or burned. Report any destroyer which fails to burn completely.

b. Report any instances of marking which is misleading, incomplete, or unidentifiable.

c. Give the location and extent of rust or corrosion.

d. Report the fuse delay time, to the nearest tenth of a second, for those destroyers tested with the mechanical fuse (M201A or M210). The fuse delay is the time between safety pin withdrawal and fuse functioning.

e. Record and report the occurrence of any of the nonstandard conditions or malfunctions listed as defects in paragraphs 14 and 15 below or in SB 742-1.

Report the occurrence of any nonstandard condition or malfunction not specifically classified as a defect, but which, in the opinion of responsible personnel, merits consideration.

12. Classification of defects. Defects observed during inspection and testing will be classified according to paragraphs 14 and 15 below and with SB 742-1. Any defects observed which are not listed in para' graphs 14 and 15 or in SB 742-1 will be described fully and reported with the recommendations of the QASAS as to classification.

13. Nonfunctioning defects.

a. Critical

(1) Unauthorized fuse is installed (other than the M201A1 or M210 fuzz and the M209 fuse or appropriate electric squib).

(2) Safety pin is missing (M201A1 or M210 fuse).

(3) Safety pin is broken, not spread, or insecurely assembled to the extent that it endangers the user (M201A1 or M210 fuse).

b. Major(1) Fuse (or electric squib) is missing or damaged.

(2) Body of destroyer is corroded or damaged to the extent that mounting or functioning would be adversely affected.

(3) Pressure sensitive tape is loose, missing, deteriorated, or does not completely cover vent holes (specify which).

(4) Electric fuse or squib lead wires are disconnected, broken, missing, or not shunted (specify which).

c. Minor-

(1) Hanger is missing.

(2) Hanger hardware is missing.

(3) Marking is incorrect, illegible, or missing.

14. Functioning defects.

a. Critical-The equipment destroyer explodes (HSOO1).

b. Major

(1) Premature fuse function (mechanical fuse M201A1 or M210) less than 0.7 seconds (HS020).

(2) Long delay fuse function (mechanical fuse M201 or M210) greater than 15 sec (HS021).

(3) Fuse fails to function (AA024).

(4) Electric squib fails to function (HS022).

(5) Fuse or electric squib functions but the incendiary mixture fails to ignite for any reason (HS023).

(6) Incendiary mixture burns incompletely (see paragraph 10a) (HS024).

c. Minor-Long delay fuse function (mechanical fuse M201A1 or M210) greater than 2 seconds but less than 15 seconds (HS050).

Note: The five digit functioning defect code listed after each defect is for use at testing facilities only.

15. Evaluation. Using the following criteria and considering functional codes and nonfunctional characteristics separately, an interim condition code will be assigned according to SB 742-1. A lot will be classified as condition code J and reported according to SB 742-1 if any critical defect is observed.

a. Nonfunctioning characteristics.

(1) Serviceable for unrestricted issue and use. A lot not classified as condition J will qualify as serviceable for unrestricted issue and use if it meets the following requirements upon inspection by attributes of 12 destroyers.

(a) Not more than 0 major defectives.

(b) Not more than 1 minor defective.

(2) Serviceable for Priority of Issue. A lot not classified as condition code J or serviceable for unrestricted issue and use shall qualify as serviceable for priority of issue if it meets the following requirements on inspection of 12 destroyers by attributes:

(a) Not more than 1 major defective.

(b) Not more than 2 minor defectives.

(3) Unserviceable. A lot not classified as serviceable for unrestricted issue and use or for priority of issue will be classified as unserviceable.

b. Functional codes.

(1) Code A. A lot not classified as condition J will qualify for functional code A if it meets the following requirements in the test of 12 destroyers:

(a) Not more than 0 major defectives.

(b) Not more than 1 minor defective.

(2) Code B. A lot not classified as condition code J or functional code A will qualify for functional code B if it meets the following requirements in the test of 12 destroyers:

(a) Not more than 1 major defective.

(b) Not more than 2 minor defectives.

(3) Code D. A lot not classified as condition code J or functional code A, or functional code B, will be functional code D.

16. Records and reports. Inspection and function test results will be recorded and reported on DA Form 984, and other appropriate forms as outlined in SB 7421.

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:
To be distributed in accordance with DA Form 12-34, requirements for ammunition Surveillance Procedure Crypto Equipment/Document/File Destroyers and Incendiary Devices.

TEAR ALONG PERFORATED LINE

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE

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:

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER	SIGN HERE:

DA FORM 1 JUL 79 2028-2

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.

PIN : 063620-0000