MIL-S-10058H(AR)
3 February 1982
SUPERSEDING
MIL-S-10058G(AR)
22 November 1974

MILITARY SPECIFICATION

SIMULATOR, PROJECTILE, GROUND BURST, M115A2, PARTS FOR AND LOADING, ASSEMBLING AND PACKAGING

This specification is approved for use by the U.S. Army Armament Research and Development Command, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 This specification covers the parts for and loading, assembling and packing for one type of simulator designated as Simulator, Projectile, Ground Burst, M115A2.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified (see 6.2), the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

SPECIFICATIONS

MILITARY

MIL-P-116	-	Preservation, Packaging, Methods of
MIL-A-2550	-	Ammunition, General Specification for
MIL-A-48078	-	Ammunition, Standard Quality Assurance Provisions, General Specification For
MIL-P-48239	-	Powder, Photoflash

FSC: 1370

STANDARDS

MILITARY

MIL-STD-105	-	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-331	-	Fuze and Fuze Components, Environmental and Performance Tests for
MIL-STD-1168	-	Lot Numbering of Ammunition
MIL-STD-1233	-	Procedure for Determining Particle Size, Particle Size Distribution and Packed Density of Powdered Materials
MIL-STD-1234	-	Pyrotechnics, Sampling, Inspection and Testing

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this specification to the extent specified herein.

DRAWINGS

U.S. ARMY ARMAMENT RESEARCH & DEVELOPMENT COMMAND (ARRADCOM)

9345133	-	Simulator, Projectile, Ground Burst, M115A2, Alternate
7549246	-	Simulator, Projectile, Ground Burst, M115A2 Assembly

PRODUCT AND PACKAGING DRAWINGS

8799710	-	Box, Packing, Ammunition, for Simulator, Projectile, Ground Burst, M115A2
8799711	-	Box, Paperboard, Packing, Ammunition for Simulator, Projectile, Ground Burst, M115A2

INSPECTION EQUIPMENT DRAWINGS

9200454	-	Launcher

(Copies of specifications, standards, handbooks, drawings, and publications required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.1.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Material. Materials and parts shall be in accordance with applicable drawings and specifications.

3.2 Assembly. The assembly shall comply with all requirements specified on Drawing (dwg.) 7549246 and 9345133 with all requirements specified in applicable specifications.

3.3 Moisture content.

3.3.1 Whistle composition. The moisture content of the whistle composition at the loading station at the time of loading shall not exceed 0.10 percent.

3.3.2 Flash charge. The moisture content of the flash charge, or of each ingredient, if increment loading is used, at the loading station at the time of loading shall not exceed 0.10 percent.

3.3.3 Felt, paper and paper products. The moisture content of the felt, paper and paper products components of the simulator assembly at the loading station at the time of loadings shall not exceed 6.0 percent.

3.4 Functioning (Ambient temperature).

3.4.1 Ambient temperature ($70^{\circ} \pm 5^{\circ}F$). The assembly shall function and comply with the following requirements after conditioning for 24 hours at the ambient temperature.

3.4.1.1 Audible whistle. The assembly shall not fail to produce an audible whistle for the required time as specified on Drawing (DWG) 7549246/9345133.

3.4.1.2 Pull cord. The pull cord shall not break or otherwise separate from the igniter wire when used to function the simulator.

3.4.1.3 Sound level intensity. The sound level intensity of the detonation at the minimum distance of 75 feet from the simulator assembly shall not be less than 138 decibels.

3.4.1.4 Time from initiation to detonation. The time from initiation to explosion shall be not less than five seconds.

3.5 Functioning (Cold temperature).

3.5.1 Cold temperature (minus 65° ± 5°F). The assembly shall function and comply with the following requirements after conditioning for 16 hours at the cold temperature.

3.5.1.1 Audible whistle. The assembly shall not fail to produce an audible whistle for the required time as specified on Drawing (DWG) 7549246/9345133.

3.5.1.2 Pull cord. The pull cord shall not break or otherwise separate from the igniter wire when used to function the simulator.

3.5.1.3 Time from initiation to detonation. The time from initiation to explosion shall be not less than five seconds.

3.6 Jumble. The simulator shall comply with the following requirements.

3.6.1 The simulator shall not function during test.

3.6.2 There shall be no loose pyrotechnic powder on the simulator or in the test box after jumbling.

3.6.3 The simulator components shall not separate during test.

3.7 Vibration. The simulator shall comply with the following requirements.

3.7.1 The simulator shall not function during test.

3.7.2 There shall be no powder leakage.

3.7.3 The simulator components shall not separate during test.

3.8 Burning time of safety fuze. Each safety fuze, prepared for assembly to the simulator, shall be cut perpendicular to its axis without fraying or other irregularities. It shall burn within the time limits specified on the applicable drawing following bending to simulate the bend from the blasting fuse igniter to the whistle loading assembly of the simulator.

3.9 Quick leak test. The packed paperboard box sealed in the barrier bag shall show no evidence of air or water leakage.

3.10 Heat seal of packing bag. The packed paperboard box sealed in the barrier bag shall comply with the requirements specified in MIL-P-116.

3.1.1 Workmanship. All parts and assemblies shall be fabricated and loaded in a thorough workmanlike manner. All parts, assemblies and packing material shall be free from any detectable or visible moisture. They shall be free from cracks, burrs, sharp edges, surface defects, dirt, grease, corrosion products and other foreign material. The cleaning method used shall not be injurious to any of the parts nor shall the parts be contaminated by the cleaning agents. All required markings shall be neat and sharply defined.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection and standard quality assurance provisions. Unless otherwise specified herein or in the contract, the provisions of MIL-A-48078 shall apply and are hereby made a part of this detail specification.

4.2 Classification of inspections. The following types of inspection shall be conducted on this item:

a. First Article Inspection
b. Quality Conformance Inspection

4.3 First article inspection.

4.3.1 Submission. The contractor shall submit a first article sample (see 6.1b) as designated by the Contracting Officer. The first article sample shall consist of 25 complete sets of parts and sub-assemblies (i.e. 25 each of every component and sub-assembly and fifty (50) loaded assemblies completely packaged and sealed as required by the applicable drawings shall be submitted to a Government proving ground designated by the Contracting Officer. The first article sample shall be evaluated in accordance with the provisions of 4.3.2 and 4.3.3. Unless otherwise directed by the contracting Officer, loaded components shall not be submitted to a Proving Ground for any test until the inert components and inert sub-assemblies submitted in accordance with the paragraph have been accepted.

4.3.2 Inspections to be performed. See MIL-A-48078 and Table I specified herein.

4.3.3 Rejection. See MIL-A-48078.

TABLE I. First article inspection

CLASSIFICATION OF DEFECTS & TESTS MIL-S-10058H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 3		DRAWING NUMBER
	Simulator, Projectile, Ground Burst, M115A2				See Below
					NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
	Tube Inner Dwg. 7549234/9345134 Examination for defects	25		3.2	4.4.2.1
	Whistle Loading Assembly Dwg. 7549227/9345141 Examination for defects	25		3.2	4.4.2.2
	Cover Assembly Dwg. 7549233 Examination for defects	25		3.2	4.4.2.3
	Whistle and Cover Assembly Dwg. 7549235/9345140 Examination for defects	25		3.2	4.4.2.4
	Charge Loading Assembly, Prior to Sealing Cup Assembly Dwg. 8865588/9345136 Examination for defects	25		3.2	4.4.2.5
	Charge Loading Assembly Dwg. 8865588/9345136 Examination for defects	25		3.2	4.4.2.6

NOTES:

DRDAR-QA Form 160 Jul 77 Replaces SARPA-QA Form 2567 Feb 74 Which is Obsolete

TABLE I. First article inspection

CLASSIFICATION OF DEFECTS & TESTS

MIL-S-10058H(AR)

PARAGRAPH	TITLE: Simulator, Projectile, Ground Burst, M115A2		SHEET 2 OF 3		DRAWING NUMBER: See Below NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
	Assembly, Prior to Assembly of Disc and Washer Assembly Dwg. 7549246/9345133 Examination for defects	25		3.2	4.4.2.7
	Assembly Dwg. 7549246/9345133 Examination for defects	25		3.2	4.4.2.8
	Paperboard box Prior to Sealing Dwg. 8799711 Examination for defects	25		3.2	4.4.2.10
	Sealed Packed Barrier, Prior to Packing Into Box Dwg. 8799711 Examination for defects	25		3.2	4.4.2.9
	Box, Sealed Wooden Packing Dwg. 8799710 Examination for defects	25		3.2	4.4.2.11

NOTES:

DRDAR-QA Form 160 Jul 77

TABLE I. First article inspection

CLASSIFICATION OF DEFECTS & TESTS

MIL-S-10058H(AR)

PARAGRAPH	TITLE		SHEET 3 OF 3		DRAWING NUMBER
	Simulator, Projectile, Ground Burst, M115A2				See Below
					NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
	Simulators (Complete Assemblies)				
	Dwg. 7549246/9345133				
	Examination for defects	50		3.2	4.4.2.7
	Tests				
	Jumble	10		3.6	4.5.3
	Vibration	10		3.7	4.5.4
	Functioning - Ambient Temp	20(a)		3.4	4.5.5
	Functioning - Cold Temp	10(b)		3.5	4.5.5

NOTES: NOTE: (a) Ten assemblies functioned in Static and non-static phase.
(b) All assemblies functioned in the non-static phase.

DRDAR-QA Form 160 Jul 77 Replaces SARPA-QA Form 2567 Feb 74 Which is Obsolete

4.4 Quality conformance inspection.

4.4.1 Inspection lot formation. Inspection lots shall comply with the lot formation provisions of MIL-A-48078. Lot numbering as required shall be in accordance with MIL-STD-1168. In addition, inspection lots of simulator assemblies shall contain:

a. Parts of one kind from one manufacturer.
b. Safety fuze from not more than one lot from one manufacturer.
c. Fuze powder from not more than one lot.
d. Blasting fuze igniters from not more than one lot interfix number from one manufacturer.
e. Composition ingredients from not more than one lot or batch (applicable only when not manufactured by the loading contractor).
f. Whistle composition, flash charge composition of one lot interfix number from one manufacturer (applicable only when not manufactured by loading contractor).

4.4.2 Examination. See MIL-A-48078 (AR). Unless otherwise specified in the Classification of Defects and Test Tables sampling plans for Major and Minor defects shall be in accordance with MIL-STD-105, Inspection Level II. Equipment necessary for the performance of the inspections listed shall be in accordance with 4.4.4.

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

MIL-S-10058H(AR)

PARAGRAPH	TITLE	SHEET 1 OF 1	DRAWING NUMBER
4.4.2.1	Tube, Inner		7549234/9345137
			NEXT HIGHER ASSEMBLY 7549246/9345133

CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major	None defined				
Minor					
201	Length, (min)		0.65%	3.2	Gage
202	Inside diameter, (min)		0.65%	3.2	Gage
203	Evidence of poor workmanship		1.0%	3.11	Visual

NOTES:

DRDAR-QA Form 160 Jul 77 Replaces SARPA-QA Form 2567 Feb 74 Which is Obsolete

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

MIL-S-10058H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER 7549227/9345141
4.4.2.2	Whistle Loading Assembly				NEXT HIGHER ASSEMBLY 7549246/9345133
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Charge missing		0.40%	3.2	Visual
Minor					
201	Evidence of poor workmanship		1.0%	3.11	Visual

NOTES:

DRDAR-QA Form 160 Jul 77 Replaces SARPA-QA Form 2567 Feb 74 Which is Obsolete

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

MIL-S-10058H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.3	Cover Assembly				7549233
					NEXT HIGHER ASSEMBLY 7549246/9345133
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Any component missing		0.40%	3.2	Visual
102	Contact surfaces and joints not sealed securely		0.40%	3.2	Visual/Manual
Minor					
201	Total length, (max)		0.65%	3.2	Gage
202	Distance to disc no. 2, (max)		0.65%	3.2	Gage
203	Crimp not full 360 degrees		0.65%	3.2	Gage
204	Evidence of poor workmanship		1.0%	3.11	Visual

NOTES:

DRDAR-QA Form 160 Jul 77 Replaces SARPA-QA Form 2567 Feb 74 Which is Obsolete

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

MIL-S-10058H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.4	Whistle and Cover Assembly				7549235/9345140
					NEXT HIGHER ASSEMBLY 7549246/9345133
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Insufficient adhesive between tubes (Does not apply to alternate)		0.40%	3.2	Visual
102	Any component missing		0.40%	3.2	Visual
103	Whistle assembly insecure		0.40%	3.2	Manual
104	Crimp incomplete or improper (alternate)		0.40%	3.2	Visual
105	Epoxy missing or forming insufficient seal (alternate)		0.40%	3.2	Visual
Minor					
201	Evidence of poor workmanship		1.0%	3.11	Visual

NOTES:

DRDAR-QA Form 160 Jul 77 Replaces SARPA-QA Form 2567 Feb 74 Which is Obsolete

CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.5	Charge Loading Assembly, prior to Sealing Cup Assembly				8865588/9345136
					NEXT HIGHER ASSEMBLY 7549246/9345133
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Weight of charge (Verification)	50		3.2	(1) Balance
	(1) A sample of fifty (50) charge loading assemblies, prior to sealing the cup assembly shall be selected from each four (4) hours of production and subjected to a weight of charge verification as follows: Using a tared whistle and cover assembly (7549235/9345140), the weight difference due to the addition of the photoflash charge is determine. If the weight of the charge fails to meet the applicable requirements, those assemblies loaded since the last acceptable verification test shall be classed defective and removed from the lot. (Non-destructive test).				
Minor					
201	Evidence of poor workmanship		1.0%	3.11	Visual

NOTES:

CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER 8865588/9345136
4.4.2.6	Charge Loading Assembly				NEXT HIGHER ASSEMBLY 7549246/9345133
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical					
1	Evidence of loose powder on exterior surface of assembly		100%	3.2	Visual
Major					
101	Assembly damaged to extent that powder may leak		0.40%	3.2	Visual
102	Assembly loose at any joint or contact		0.40%	3.2	Visual/Manual
103	Crimping incomplete or improper (alternate)		0.40%	3.2	Visual
104	Epoxy missing or forming incomplete seal (alternate)		0.40%	3.2	Visual
Minor					
201	Evidence of poor workmanship		0.40%	3.11	Visual

NOTES:

CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.7	Assembly, Prior to Assembly of Disc and Washer Assembly				7549246/9345133
					NEXT HIGHER ASSEMBLY 7549246/9345133
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Quickmatch insecure or incorrectly loaded		0.40%	3.2	Visual/Manual
Minor					
201	Evidence of poor workmanship		1.0%	3.11	Visual

NOTES:

DRDAR-QA Form 160 Jul 77 Replaces SARPA-QA Form 2567 Feb 74 Which is Obsolete

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

MIL-S-10058H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.8	Assembly				7549246/9345133
					NEXT HIGHER ASSEMBLY 7549246/9345133
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical					
1	Leakage of explosive from assembly, or detonation (powder) on exterior of assembly		100%	3.2	Visual
2	Safety clip missing, insecurely engaged or incorrectly positioned		100%	3.2	Visual
Major					
101	Fuze tape or sealing tape missing, peeling or incorrectly applied		0.40%	3.2	Visual
102	Vent hole missing in fuze tape		0.40%	3.2	Visual
103	Cement missing or inadequate at safety fuze or disc contacting surface (as applicable)		0.40%	3.2	Visual
104	Paint on igniter blasting fuze will interfere with removal of cap and pull cord		0.40%	3.2	Visual
105	Assembly cut, punctured, dented or deformed		0.40%	3.2	Visual
106	Total length, (max)		0.40%	3.2	Gage
107	Label missing or insecurely attached		0.40%	3.2	Visual/Manual
Minor					
201	Evidence of poor workmanship		1.0%	3.11	Visual

NOTES:

DRDAR-QA Form 160 Jul 77

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE		SHEET 1 OF 2		DRAWING NUMBER
4.4.2.9	Simulator, Projectile Destructive Lot Acceptance Test				7549246/9345133
					NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical					
1	Jumble (functions during test)	(a)		3.6.1 3.6.2	4.4.3.3, 4.5.3
2	Vibration	(b)		3.7.1 3.7.2	4.4.3.4, 4.5.4
3	Functioning (Time from initiation to detonation less than 5 seconds)	(c)		3.4.1.4 3.5.1.3	4.4.3.5, 4.5.5
Major					
101	Jumble (parts separation)	(a)		3.6.3	4.4.3.3
102	Vibration (parts separation)	(b)		3.7.3	4.4.3.4
103	Functioning (safety fuze delay less than six (6) seconds - See DWG 7549246/9345133)	(c)		3.8	4.5.6
104	Functioning (safety fuze delay over maximum - See DWG 7549246/9345133	(c)		3.8	4.5.6
105	Functioning (No audibile whistle)	(c)		3.4.1.1 3.5.1.1	4.4.3.6
106	Functioning (Sound level intensity less than minimum)	(c)		3.4.1.3	4.5.5.1.1
107	Functioning (assembly does not function - "dud")	(c)		3.4.1.2 3.5.1.2	4.5.5.1.1
108	Functioning (pull cord breaks or separates)	(c)		3.4.1.2 4.5.1.2	4.5.5.1.1

NOTES:
(a) Sample size shall be selected in accordance with 4.4.3.3.1 and 4.4.3.3.2.
(b) Sample size shall be selected with 4.4.3.4.1 and 4.4.3.4.2.
(c) Sample size shall be selected in accordance with 4.4.3.5.1.1 and 4.4.3.5.1.2.

DRDAR-QA Form 160 Jul 77

CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE		SHEET 2 OF 2		DRAWING NUMBER
4.4.2.9	Simulator, Projectile Destructive Lot Acceptance Test				7549246/9345133
					NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Minor 201	Functioning (whistle duration incorrect)	(c)		3.4.1.1 3.5.1.1	4.5.1.1

NOTES: (a) Sample size shall be selected in accordance with 4.4.3.3.1 and 4.4.3.3.2.
(b) Sample size shall be selected with 4.4.3.4.1 and 4.4.3.4.2.
(c) Sample size shall be selected in accordance with 4.4.3.5.1.1 and 4.4.3.5.1.2.

DRDAR-QA Form 160 Jul 77 Replaces SARPA-QA Form 2567 Feb 74 Which is Obsolete

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.10	Paperboard box, prior to Sealing				8799711
					NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Component missing		0.40%	3.2	Visual
102	Paperboard box, filler or simulator obviously damp or wet		0.40%	3.2	Visual/Manual
Minor					
201	Label missing		0.65%	3.2	Visual
202	Marking misleading or unidentifiable		0.65%	3.2	Visual
203	Evidence of poor workmanship		1.0%	3.11	Visual

NOTES:

DRDAR-QA Form 160 Jul 77

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

MIL-S-10058H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.11	Sealed Packed Barrier Bag, prior to Packing into Box, Wood or Box, Wire-bound (ALT)				8799711
					NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Waterproofness of bag destroyed by rupture, puncture or separation of heat seal		0.40%	3.2	Visual
Minor					
201	Heat seal of bag located so that two or more subsequent seals cannot be applied		0.65%	3.2	Visual
202	Marking on bag misleading or unidentifiable		0.65%	3.2	Visual
203	Evidence of poor workmanship		1.0%	3.2	Visual

NOTES:

DRDAR-QA Form 160 Jul 77

CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER 8799710
4.4.2.12	Packing Box Wirebound (ALT) or wooden box, Prior to Sealing (Alternative)				NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Barrier bag missing or damaged		0.40%	3.2	Visual
102	Packing component (mandatory filler) missing or improperly positioned		0.40%	3.2	Visual
103	Wire binding missing, broken or loose				
Minor					
201	Wirebinding mislocated		0.65%	3.2	Visual
202	Evidence of poor workmanship		1.0%	3.11	Visual

NOTES:

DRDAR-QA Form 160 Jul 77

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

MIL-S-10058H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.13	Box, Sealed Wooden Packing				8799710
					NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Strapping missing, broken or loose		0.40%	3.2	Visual/Manual
102	Box damaged to extent that contents are exposed or liable to become exposed		0.40%	3.2	Visual
Minor					
201	Hardware improperly engaged		0.65%	3.2	Visual
202	Strapping improperly assembled		0.65%	3.2	Visual
203	Metalic seal missing, unsealed or improperly positioned		0.65%	3.2	Visual
204	Contents loose		0.65%	3.2	Manual
205	Marking misleading or unidentifiable		0.65%	3.2	Visual
206	Evidence of poor workmanship		1.0%	3.11	Visual

NOTES:

DRDAR-QA Form 160 Jul 77

CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH 4.4.2.14	TITLE Packing Box Wirebound (ALT) or wooden box, Prior to Sealing		SHEET 1 OF 1		DRAWING NUMBER 8799710 / NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Box damaged to the extent that contents are exposed or liable to become exposed		0.40%	3.2	Visual
Minor					
201	Wirebinding or nails, or improperly engaged		0.65%	3.2	Visual
202	Contents loose		0.65%	3.2	Manual
203	Marking misleading or unidentifiable		0.65%	3.2	Visual
204	Metallic seal missing, unsealed or incorrectly positioned		0.65%	3.2	Visual
205	Evidence of poor workmanship		1.0%	3.11	Visual

NOTES:

DRDAR-QA Form 160 Jul 77

4.4.3 Testing.

4.4.3.1 Moisture Content (see Table II) - Major Defects

TABLE II

Materials		
Whistle	(See 3.3.1)	
Flash charge or ingredients	(See 3.3.2)	(Note 1)
Felt, paper products and packing material	(See 3.3.3)	

The Contractor shall provide adequate controls to insure that the materials comply with the requirements. For verification, the contractor shall select and subject to test, one sample of each materials from each eight (8) hours production. A composite sample shall not be used. If the moisture content of the sample exceeds the requirement, that quantity or sub-lot material represented by the sample shall not be used in production. If the quantity of material or sub-lot with excessive moisture has been used in loading and packing, the remaining unloaded and unpacked material shall not be used in production, and the loaded and packed simulators shall be rejected. Test shall be performed as specified in 4.5.1

NOTE 1. When blending of the pyrotechnic powder is accomplished within the simulators, the contractor shall select a sample of sufficient size from each ingredient at the time of inserting the ingredient into the simulator for determination of moisture content. The contractor shall provide controls so that the moisture content is maintained under constant temperature and humidity by a graphic recorder up to and at the time of sealing and blending the charge in the simulators. Records of the graphic recorder shall be submitted with each lot of simulators for analyzing by the Government representative. If the sample fails to meet the requirements, those assemblies loaded since the last acceptable test shall be classed defective and removed from the lot. The test shall be performed as specified in 4.5.1.

4.4.3.2 Determination of granulation and composition of photoflash charge (see Table III) - Major Defects.

TABLE III

Granulation	(see dwg. 8865588/9345136)	(Note 2)
Composition	(see dwg. 8865588/9345136)	(Note 2)

The contractor shall provide adequate controls to assure that the pyrotechnic composition complies with the requirements. The contractor shall test, for verification, at least one sample of the composition of sufficient size as representative of each eight hours of production of simulators. A composite sample shall not be used. If the sample fails to meet the requirements for granulation or composition, or if the simulators have been loaded and packed with non-conforming composition, the remaining unloaded composition shall not be used in production, and the lot of loaded simulators shall be rejected. Test shall be performed as specified in 4.5.2.

NOTE 2: When blending of the ingredients of the pyrotechnic powder is accomplished in the simulator by use of a shaking device, sample of sufficient size of each ingredient shall be selected for the granulation test at the time of loading the ingredient. A sample of sufficient size shall be taken from a "dummy" body used in conjunction with the loading of the simulators for determination of composition. Test shall be performed as specified in 4.5.2.

4.4.3.3 Jumble (Proving Ground test). The simulator assemblies shall be observed for any evidence of failure to comply with the requirements, when tested as specified in 4.5.3. (Destructive test)

4.4.3.3.1 Beginning with the first lot produced and continuing until three consecutive lots have complied with the applicable requirements specified, eighty (80) simulator assemblies shall be selected from each lot for this test. The lot shall be rejected if during the test, a critical defect occurs or any assembly exhibits the major defect listed in the classification of inspection.

4.4.3.3.2 After three consecutive lots have met the acceptance criteria of 4.4.3.3.1, thirty-two (32) simulator assemblies shall be selected from each lot for this test. The lot shall be rejected if during the test, a critical defect occurs or any assembly exhibits the major defect listed in the classification of inspection.

4.4.3.4 Vibration (Proving Ground test). The simulator assemblies shall be observed for any evidence of failure to comply with the requirements as, when tested as specified in 4.5.4. (Destructive-test)

4.4.3.4.1 Beginning with the first lot produced and continuing until three consecutive lots have complied with the applicable requirements specified, eighty (80) simulator assemblies shall be selected from each lot for this test. The lot shall be rejected if during the test, a critical defect occurs or any assembly exhibits the major defect listed in the classification of inspection.

4.4.3.4.2 After three consecutive lots have met the acceptance criteria of 4.4.3.4.1, thirty-two (32) simulator assemblies shall be selected from each lot for this test. The lot shall be rejected if during the test, a critical defect occurs or any assembly exhibits the major defect listed in the classification of inspection.

4.4.3.5 Functioning (Proving Ground test). The simulator assemblies shall be observed for any evidence of failure to comply with the requirements when tested as specified in 4.5.5. (Destructive test)

4.4.3.5.1 Ambient temperature (see 3.4)

4.4.3.5.1.1 Beginning with the first lot produced and continuing until three consecutive lots have complied with the acceptance criteria, one hundred twenty-five (125) simulator assemblies shall be selected from each lot for this test. Seventy-five (75) simulator assemblies shall be functioned in the static phase and fifty (50) simulator assemblies shall be functioned in the non-static phase. The lot shall be rejected if, during the test, any of the following are exhibited in the combined two phases when tested as specified in 4.5.5.1:

a. One or more critical defects.
b. Six or more assemblies having Major defects.
c. Eight or more assemblies having Minor defects.
d. The combined number of Major and Minor defects exceeds nine.

4.4.3.5.1.2 After three consecutive lots have met the acceptance criteria specified in 4.4.3.5.1.1, fifty (50) simulator assemblies shall be selected from each lot for this test. Twenty-five (25) simulator assemblies shall be functioned in the static phase and twenty-five (25) simulator assemblies shall be functioned in the static phase and twenty-five (25) in the non-static phase. The lot shall be rejected, if, during the test, any of the following are exhibited in the combined two phases when tested as specified in 4.5.5.1:

a. One or more critical defects.
b. Three or more assemblies having Major defects.
c. Four or more assemblies having Minor defects.
d. The combined number of Major and Minor defects exceeds five.

4.4.3.5.2 Cold temperature

4.4.3.5.2.1 Beginning with the first lot produced and continuing until three consecutive lots have complied with the acceptance criteria, eighty (80) simulator assemblies shall be selected from each lot for test. All assemblies shall be functioned in the non-static phase. The lot shall be rejected, if, during the test, any of the following are exhibited when tested as specified in 4.5.5.2:

a. One or more critical defects.
b. Four or more assemblies having Major defects.
c. Six or more assemblies having Minor defects.
d. The combined number of Major and Minor defects exceeds seven.

4.4.3.5.2.2 After three consecutive lots have met the acceptance criteria specified in 4.4.3.5.2.1, fifty (50) simulator assemblies shall be selected from each lot for test. The lot shall be rejected, if, during the test, any of the following are exhibited when tested as specified in 4.5.5.2:

a. One or more critical defects.
b. Three or more assemblies having Major defects.
c. Four or more assemblies having Minor defects.
d. The combined number of Major and Minor defects exceeds five.

4.4.3.6 Burning time of safety fuze (see 3.8). Major defect - The Government inspector shall select thirteen (13) samples of safety fuzes which had been prepared for assembly to the simulator for each eight hours of production. The lot shall be rejected if three or more sample fuzes fail to comply withthe applicable requirements. If only two defectives are found, a second sample of 13 fuzes shall be selected from the production lot for retest. If the combined number of defectives in both the first and second samples are two or more, the lot shall be rejected. The test shall be as specified in 4.5.6. (Destructive test)

4.4.3.7 Quick leak test (see 3.9). Major defect - Ten (10) paperboard box in sealed barrier bags shall be selected from each lot for this test. If two (2) or more packages show evidence of air leakage during test or water leakage when the package is opened the lot shall be rejected. The test shall be performed as specified in 4.5.7. (Destructive test).

4.4.3.8 Heat seal of packing bag (see 3.10). Major Defect - Ten (10) sealed packages shall be selected from each lot for test. If any heat seal fails to comply with the requirements, the lot shall be rejected. The test shall be as specified in 4.5.8. (Non-destructive test)

4.4.4 Inspection equipment. The inspection equipment required to perform the inspections and tests prescribed in this specification is identified in the "Paragraph Reference/ Inspection Method" column in the tables starting with paragraph 4.4.2.1, and the test method paragraphs (see 4.5). The contractor shall submit for approval, inspection equipment designs in accordance with the terms of the contract. (See Section 6 of MIL-A-48078 and section 6.2 herein.

4.5 Test methods and procedures.

4.5.1 Moisture content.

4.5.1.1 Whistle composition. The method of determining the percentage of moisture in the whistle composition shall be in accordance with MIL-P-48239, except that the drying time shall be for one hour in lieu of three hours.

4.5.1.2 Flash charge (photoflash powder). The method of determining the percentage of moisture in the pyrotechnic powder or of each ingredient shall be in accordance with MIL-P-48239.

4.5.1.3 Felt, paper products and carton packing material. The moisture content shall be determined in accordance with Method 102.1 of MIL-STD-1234 except that a ten (10) gram sample shall be used and the drying time shall be for two (2) hours.

4.5.2 Granulation and composition.

4.5.2.1 Granulation of pyrotechnic powder. The particle size shall be determined in accordance with Method 100 of MIL-STD-1233 and with the requirements specified in MIL-P-48239.

4.5.2.2 Composition of pyrotechnic powder. The composition shall be determined in accordance with MIL-P-48239.

NOTE 3: When blending of the ingredients is performed within the simulators by increment loading, this test may be performed, for verification, by selecting a sample of sufficient size from a "dummy" body used in conjunction with the loading of the simulators. Test shall be performed in accordance with specification on dwg. 8865588/9345136.

4.5.3 Jumble. The simulator assemblies shall be tested in accordance with procedures specified in MIL-STD-331, except that the duration of the test shall be limited to a minimum of 20 minutes. The assemblies and equipment shall be observed and inspected for compliance with 3.6.

4.5.4 Vibration. The simulator assemblies shall be tested for a minimum of four (4) hours on a vibration producing machine capable of operating at 550 cycles per minute with a single amplitude of 0.250 plus or minus 0.010 inch. The assemblies shall be observed and inspected for compliance with 3.7.

4.5.5 Functioning (see Aberdeen Proving Ground Test Procedure SIM-GB-1Y).

4.5.5.1 Ambient temperatures (70 + 5°F). The simulator assemblies shall be conditioned for 24 hours at the specified ambient temperatures. At the end of the conditioning period, the assemblies shall be tested in the following manner within 30 minutes after removal from the conditioning chamber.

4.5.5.1.1 Static. The assemblies, conditioned at ambient temperature, shall be mounted on a rigid horizontal support and fired by means of a lanyard attached to the fuze igniter cord. The assembly shall not be shaken or agitated in any manner prior to test. The functioning shall be observed for compliance with the requirement.

4.5.5.1.2 Non-static. The assemblies, conditioned at ambient temperature, shall be fired by placing the assembly in a ejection machine (See dwg. 9200454). The fuze igniter cord shall be held in a fixed position. There shall be no slack evident in the igniter cord prior to initiation. Upon ejection of the assembly, the simulator shall be initiated. The throwing range of the ejection machine shall be not less than 45 feet and the ground shall be free of large rocks. The assembly shall be observed for compliance with the requirements specified. Sound level intensity need not be measured during this test.

4.5.5.2 Cold temperature (minus 65 + 5°F). The simulator assemblies shall be conditioned for 16 hours at the required cold temperature and fired within 5 minutes after removal from the conditioning chamber by the same method specified in 4.5.5.1.2 (Non-static). The functioning shall be observed for compliance with the requirements.

4.5.6 Burning time of safety fuze. Each length of fuze shall be prepared for test by bending it to simulate its assembly in the simulator (not less than 90 degree bend). Each fuze shall then be ignited at one open end. Observation shall be made for compliance with the requirements.

4.5.7 Quick leak test (vacuum differential method). The filled and sealed packages, after conditioning at ambient temperature (70 + 5°F) for at least four (4) hours, shall be tested for leakage by submerging in water contained in a vacuum vessel. A vacuum differential of 216mm (8 1/2 inches) of mercury from ambient conditions shall be drawn and held for 30 seconds (minimum) while observing for leakage of air. Repeat the test after inverting the sample. A steady stream or recurring succession of bubbles from any surface or seam shall be cause for rejection. Where there is no emission of bubbles observed, the package shall be dried, opened and inspected. Evidence of water within the barrier, or on the paperboard box shall also be cause for rejection.

4.5.8 Heat seal of packing bag. The test shall be performed in accordance with the procedure specified in MIL-P-116. After test the seal shall be examined for compliance with the requirements.

5. PACKAGING

5.1 Preservation and packaging.

5.1.1 Level A. The simulator assemblies shall be preserved and packaged in accordance with dwg. 8799711.

5.1.2 Level B. Same as Level A.

5.2 Packing

5.2.1 Level A. The simulator assemblies shall be packed in accordance with dwg. 8799710.

5.2.2 Level B. Same as Level A.

5.3 Marking. Marking shall be as specified on drawings 8799710 and 8799711.

6. NOTES

6.1 Ordering data. Procurement documents shall specify the following:

a. Title, number and date of this specification.
b. Provisions for submission of first article samples.
c. Provisions of MIL-A-48078.

6.2 Submission of inspection equipment designs for approval. (See MIL-A-48078). Submit equipment designs, as required, to Commander, U.S. Army Armament Research & Development Command, ATTN: DRDAR-QAT-I, Dover, New Jersey 07801.

6.3 Distribution of ammunition data cards. Distribution of data cards shall include the following: Commander, U.S. Army Armament Research & Development Command, ATTN: DRDAR-QAT-M, Dover, New Jersey 07801.

6.4 Functioning test summary.

Test	First Article Sample	Production Lots		Requirements
		First three consecutive acceptable Sample	Reduced Sampling	
Jumble	10	80	32	3.6
Vibration	10	80	32	3.7
Ambient Temperature - functioning	20	125	50	3.4
Cold Temperature functioning	10	80	50	3.5

Custodian:
Army-AR

Preparing activity:
Army-AR

Project 1370-A143

FOLD

DEPARTMENT OF THE ARMY

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 12062 WASHINGTON D. C.

POSTAGE WILL BE PAID BY THE DEPARTMENT OF THE ARMY

COMMANDER
US ARMY ARMAMENT RESEARCH & DEVELOPMENT COMMAND
ATTN: DRDAR-OAT
DOVER, NEW JERSEY 07801

FOLD

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS: This form is provided to solicit beneficial comments which may improve this document and enhance its use. DoD contractors, government activities, manufacturers, vendors, or other prospective users of the document are invited to submit comments to the government. Fold on lines on reverse side, staple in corner, and send to preparing activity. Attach any pertinent data which may be of use in improving this document. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity. A response will be provided to the submitter, when name and address is provided, within 30 days indicating that the 1426 was received and when any appropriate action on it will be completed.
NOTE: This form shall not be used to submit requests for waivers, deviations or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

DOCUMENT IDENTIFIER (Number) AND TITLE

MIL-S-10058H SIMULATOR, PROJECTILE, GROUND BURST, M115A2, PARTS FOR AND LAP

NAME OF ORGANIZATION AND ADDRESS OF SUBMITTER

☐ VENDOR ☐ USER ☐ MANUFACTURER

1. ☐ HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE? ☐ IS ANY PART OF IT TOO RIGID, RESTRICTIVE, LOOSE OR AMBIGUOUS? PLEASE EXPLAIN BELOW.

A. GIVE PARAGRAPH NUMBER AND WORDING

B. RECOMMENDED WORDING CHANGE

C. REASON FOR RECOMMENDED CHANGE(S)

2. REMARKS

SUBMITTED BY (Printed or typed name and address — Optional)

TELEPHONE NO.

DATE

DD FORM 1 OCT 76 1426

EDITION OF 1 JAN 72 WILL BE USED UNTIL EXHAUSTED.