

INCH-POUND

MIL-S-70538A (AR)
30 November 1994
 SUPERSEDING
 MIL-S-70538
 16 December 1984

MILITARY SPECIFICATION

SAW, M249 AMMUNITION MAGAZINE ASSEMBLY AND FEEDSTRAP

This Specification is approved for use by the US Army Armaments, Research, Development and Engineering Center, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers requirements examinations and tests for the SAW, M249 Ammunition Magazine Assembly and Feedstrap. The assembly consists of a magazine with a cover; the feedstrap is not a part of the assembly. (See 6.1)

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issue of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement there to, cited in the solicitation (See 6.2).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, U.S. Army ARDEC, ATTN: AMSTA-AR-EDE-S, Picatinny Arsenal, New Jersey 07806-5000 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.
--

MIL-S-70538A(AR)

SPECIFICATIONS

FEDERAL

TT-C-490 - Cleaning Methods and Pretreatment of
Ferrous Surfaces for Organic Coatings

MILITARY

MIL-L-3150 - Lubricating Oil, Preservative,
Medium
MIL-w-13855 - Weapons, Small Arms and Aircraft Armament
Subsystems, General Specification for
MIL-C-16173 - Corrosion Preventive Compound,
Solvent Cutback, Cold Application
DOD-P-16232 - Phosphate Coating, Heavy Manganese
or Zinc Base (For Ferrous Base)
MIL-L-23398 - Lubricant, Solid Film, Air-Cured,
Corrosion Inhibiting
MIL-w-63150 - Weapons and Support Materiel Standard
Quality Assurance Provisions for
MIL-L-63460 - Lubricant, Cleaner and Preservative for
Weapons and Weapons Systems

STANDARDS

MILITARY

MIL-STD-109 - Quality Assurance Terms and Definitions -

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from DODSSP-Customer Service, Standardization Documents Order Desk, 700 Robbins Avenue, Bldg. 4D, Philadelphia, PA 19111-5094).

2.1.2 Other Government documents, drawings and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DRAWINGS (see 6.6)

U.S. ARMY ARMAMENT RESEARCH AND DEVELOPMENT CENTER (ARDEC)

9348215 - Support, Feed Box, M249
9349672 - SAW, M249 Ammunition Magazine Assembly
9352576 - Cover
9352577 - Magazine
9352578 - Feedstrap
12944207 - clip
12944208 - Spring, Retention, Magazine

MIL-S-70538A(AR)

(Copies of other Government documents, drawings and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity)

2.2 Non-Government Publications The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- ASTM E 18 - Standard Methods of Test for Rockwell Hardness and Rockwell Superficial Hardness
- ASTM B 117 - Standard Method of Salt Spray (Fog) Testing
- ASTM D 3951 - Packaging, Commercial

(Application for copies of ASTM publications should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.)

2.3 Order of Precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained. (See contract provisions for additional precedence criteria) 1

3. REQUIREMENTS

3.1 Magazine assembly and feedstrap. The magazine assembly and feedstrap shall comply with all requirements of drawing 9349672, 9352578, all associated drawings, and with all requirements specified in applicable specifications and standards.

3.2 Materials. All materials shall be in accordance with the applicable drawings and specifications. Certificates of conformance and certified test reports shall be included with all inspection quantities.

3.3 First Article. When specified in the contract or purchase order (see 6.3), a sample shall be subjected to first article inspection in accordance with 4.3.

MIL-S-70538A(AR)

3.4 Functioning. The magazine shall be capable of being loaded with Government accepted ammunition linked with Government accepted M27 links. The magazine cover and feedstrap shall be attached. The loaded assembly shall be attached to a M249 machine gun and functioned without any malfunctions attributable to the assembly. Prior to firing the last 50 cartridges, the weapon feed cover shall be released and the free length of cartridges allowed, if possible, to fall back into the magazine. Should this occur, it will be considered a malfunction. After functioning, the magazine shall be capable of being detached from the weapon without difficulty.

3.5 Dovetail mount. The magazine assembly (inert loaded) shall remain attached to the weapon mount fixture following the drop of a 5 pound weight, from a height of 18 inches, onto the magazine at a distance of 5 inches from the dovetail.

3.6 Drop test. When an inert loaded magazine assembly is dropped from a height of 12 inches, the assembly shall not deform to the extent that its functional performance is impaired. This includes any separation of the cover from the magazine which results in spillage of the ammunition or cracking of the magazine that would prevent its proper functioning.

3.7 Spring, retention, magazine. The spring shall have sufficient strength and spring action to assure that the magazine will remain attached to the weapon mount fixture following the drop of a 2 pound weight onto the impact device from a height of 12 inches. When detressed, the spring shall completely disengage from the weapon mount so as not to hinder removal of the magazine from the weapon mount.

3.8 Magazine component interface. The following pairs of items shall assemble and disassemble without the use of tools and without damage to either components.

- a. Magazine and cover
- b. Magazine and feedstrap
- c. Magazine and weapon mount

MIL-S-70538A(AR)

3.9 Temperature requirements. All requirements stated for the magazine assembly shall be met under ambient conditions and also after the assembly has been temperature conditioned for at least two hours and tested at:

- a. 125° - 5°F
- b. -65° + 5°F

3.10 Workmanship. Workmanship shall be in accordance with good manufacturing practice and shall in no way impair the functional performance of the magazine. Magazines shall be free of cracks, extraneous material, and irregularities in the surfaces. Metal parts shall not be rusted. The drain holes shall not be obstructed. The cartridge silhouette shall be in the proper location and orientation. The area about the flap and dovetail shall be uniform in structure and free of sink marks greater than .015 inch in depth. The gate shall be flush not to exceed .050 inch in height or below the surface. The raised matted surfaces on the cover shall be uniform in size and surface finish. In addition MIL-W-63150, (Workmanship) shall apply.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless specified in the contract or Purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of inspection requirements specified herein unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements

4.1.1 Responsibility for compliance. All items shall meet all requirements of Sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

MIL-S-70538A(AR)

4.1.2 General Provisions. Unless otherwise specified herein, the provisions of MIL-W-13855 apply and form a part of this specification. Reference shall be made to MIL-STD-109 to define quality assurance terms used herein.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

4.3 First article inspection.

4.3.1 Submission. The contractor shall submit a first article sample for each mold cavity to be used in production as designated by the Contracting Officer for evaluation in accordance with provisions of 4.3.2. In first article sample shall consist of the assemblies, components and test specimens listed below in the quantities indicated.

<u>Name</u>	<u>Drawing</u>	<u>Quantity</u>
Magazine	9352577	50
Cover	9352576	50
Feedstrap	9352578	50

4.3.2 Inspections to be Performed. As determined by the Government, the first article assemblies, components and test specimens may be subjected to any or all of the examinations and tests specified in this detail specification and be inspected for compliance with any or all requirements of the applicable drawings.

4.3.3 Rejection. Failure of any item to meet the drawing requirements, acceptance criteria fo Table I, or the referenced paragraphs shall result in rejection of the first article.

TABLE I. First article inspection
CLASSIFICATION OF CHARACTERISTICS

MIL-S-70538A (AR)

PARAGRAPH	TITLE	SHEET 1 OF 1		DRAWING NUMBER	
	Magazine assembly			9349672	
CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	N/A	
				INSPECTION METHOD REFERENCE	
	Workmanship/Visual examinations	<u>1/</u>	<u>2/</u>	3.10	4.7.7
	Magazine component interface	<u>1/</u>	<u>2/</u>	3.8	4.7.1
	Spring, retention, magazine	<u>1/</u>	<u>2/</u>	3.7	4.7.2 <u>3/</u>
	Dovetail mount	<u>1/</u>	<u>2/</u>	3.2	4.7.3 <u>3/</u>
	Drop test	<u>1/</u>	<u>2-3</u>	3.6	4.7.4 <u>3/</u>
	Functioning	<u>4/</u>	<u>2/</u>	3.4	4.7.5 <u>3/</u>
	Temperature requirements	<u>1/</u>	<u>2/</u>	3.9	4.7.6
	DIMENSIONAL SURVEY				
	Magazine Assembly <u>a/</u>	5	0-1	3.1	9349672
	Feedstrap	5	0-1	3.1	9352578

NOTES:

- 1/ A total of 30 assemblies are tested; 10 at each temperature condition.
2/ No failures are permitted.
3/ Loading of magazines shall be as specified in paragraph 4.7.8.
4/ A total of 15 assemblies are tested; 5 at each temperature condition.
a/ Magazine assembled to a cover

MIL-S-70538A(AR)

4.4 Quality conformance inspection. Quality conformance inspection shall include the examination of 4.4.2 and the tests of 4.7.

4.4.1 Inspection lot formation. Inspection lot formation shall be in accordance with MIL-w-13855. The maximum lot size shall be 10,000 magazines, or one month's production whichever is smaller.

4.4.2 Examinations and test.

a. Classification of characteristics. Quality conformance examinations and tests are specified in the following Classification of Characteristics paragraphs. The contractor's quality program or detailed inspection system shall provide assurance of compliance of all characteristics with the applicable drawing and specification requirements utilizing as a minimum the conformance criteria specified. When cited herein, attributes sampling inspection shall be conducted in accordance with Table II below, using the inspection levels stated in the Classification of Characteristics paragraphs.

MIL-S-70538A(AR)

TABLE II. ~~Attributes sampling inspection~~

Lot Size	Inspection levels		
	I	II	III
2 to 8	*	*	5
9 to 15	*	8	5
16 to 25	20	8	5
26 to 50	20	8	5
51 to 90	20	8	7
91 to 150	20	12	11
150 to 280	20	19	13
281 to 500	47	21	16
501 to 1200	47	27	19
1201 to 3200	53	35	23
3201 to 10000	68	38	29
10001 to 35000	77	46	35
35001 to 150000	96	56	40
150001 to 500000	119	64	40
500000 and over	143	64	40

Numbers under inspection levels indicate sample size; asterisks (*) indicate one hundred percent inspection. If sample size exceeds lot size, perform one hundred percent inspection. Accept on zero and reject on one or more for all-inspection levels.

b. Alternative Quality Conformance Provisions. Unless otherwise specified herein or provided for in the contract, alternative quality conformance procedures, methods or equipment, such as statistical process control, tool control, other types of sampling plans, etc., may be used by the contractor when they provide, as a minimum, the level of quality assurance required by

MIL-S-70538A (AR)

the provisions herein. Prior to applying such alternative procedures, methods or equipment the contractor shall describe them in a written proposal submitted to the Government for evaluation (see 6.4). When required, the contractor shall demonstrate that the effectiveness of each proposed alternative is equal to or better than the specified quality conformance provision(s) herein. In case of dispute as to whether the contractor's proposed alternative(s) Provides equivalent assurance, the provisions of this specification shall apply. All approved alternative provisions shall be specifically incorporated into the contractor's quality program or inspection system, as applicable.

QUALITY CONFORMANCE INSPECTION
CLASSIFICATION OF CHARACTERISTICS

PARAGRAPH	TITLE	SHEET 1 OF 1		DRAWING NUMBER	
4.4.2.1	Magazine assembly			9349672	
CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	NEXT HIGHER ASSEMBLY	
				INSPECTION METHOD REFERENCE	
<u>Critical</u>	None defined.			N/A	
Major					
101	Functioning <u>1/ 2/</u>	10	0-1	3.4	4.7.5
102	Dovetail mount <u>1/ 4/</u>	20	0-1	3.5	4.7.3
103	Drop test <u>1/ 2/ 3/ 4/</u>	5	0-1	3.6	4.7.4
104	Spring, retention, magazine <u>1/ 4/</u>	20	0-1	3.7	4.7.2
105	Magazine component interface <u>1/ 4/</u>	20	0-1	3.8	4.7.1
106	Certification			3.2	4.5
107	DIMENSIONAL SURVEY				
	Magazine assembly	3	0-1	3.1	9349672
	Feedstrap	3	0-1	3.1	9352578
<u>Minor</u>					
201	Workmanship	Level III		3.10	4.7.7

NOTES:

- 1/ Acceptance is based on meeting the requirement in 3.2.
- 2/ The magazines for the function test shall not be used for any other test.
- 3/ These will be tested first lot and every third lot thereafter.
- 4/ The same magazines shall be used for these tests. If applicable, the drop test shall be done last.

QUALITY CONFORMANCE INSPECTION
CLASSIFICATION OF CHARACTERISTICS

MIL-S-70538A (AR)

PARAGRAPH	TITLE	SHEET 1 OF 1		DRAWING NUMBER
4.4.2.2	Spring, Retention, Magazine			12944208
CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	NEXT HIGHER ASSEMBLY
				9349672
				INSPECTION METHOD REFERENCE
<u>CRITICAL</u>	None defined.			
<u>MAJOR</u>				
101.	32.51 dimension (Zone C-2)	Level I	3.1	SMTE
102.	15.1 dimension (Zone B-2)	Level I	3.1	SMTE
103.	4.86 dimension (Zone B-3)	Level I	3.1	SMTE
104.	1.27 dimension (Zone C-3)	Level I	3.1	SMTE
106.	Coating weight	3 0-1	3.1	4.7.10
107.	Salt spray test	<u>1/</u>	3.1	<u>1/</u>
<u>MINOR</u>				
201.	2.16 dimension (Zone B-2)	Level II	3.1	SMTE

NOTES:

1/ Test requirement and test method shall be as specified in MIL-L-23398.

QUALITY CONFORMANCE INSPECTION
CLASSIFICATION OF CHARACTERISTICS

MIL-S-70538A (AR)

PARAGRAPH	TITLE	SHEET 1 OF 1		DRAWING NUMBER
4.4.2.3	Clip			12944207
CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	NEXT HIGHER ASSEMBLY
				9349672
				INSPECTION METHOD REFERENCE
<u>CRITICAL</u>	None defined.			
<u>MAJOR</u>				
101.	Salt Spray Test	5 0-1	3.1	4.7.9
102.	Coating weight	5 0-1	3.1	4.7.10
103.	Supplemental Oil Treatment	3 0-1	3.1	4.7.11
104.	31, 2 x 45° dimension	Level I	3.1	SMTE
105.	2 x 45°	Level I	3.1	SMTE
<u>MINOR</u>	None defined.			
NOTES:				

MIL-S-70538A(AR)

4.5 Certification.

4.5.1 Certificates of Conformance (CoC). The certification provisions of MIL-W-63150 shall apply for COC'S. CoC's are required for the following:

- a. Material, Polyethylene, High Density
- b. Spring, Retention, Magazine
- c. Clip

4.5.2 ~~Certified test reports to drawing requirements.~~ The certification provisions of MIL-W-63150 shall apply for CTR's. CTR'S are required for the following:

Characteristic	Test Data to Comply with
a. Hardness (see 4.7.12)	Dwg. 12944208 note 3,
b. Heat Treatment	Dwg. 12944208 note 3,
c. Protective Finish	Dwg. 12944208 note 4, Dwg. 12944207 note 3,

4.6 Dimensional settlement of plastic. Dimensional settlement of plastic is required before inspection. All inspections for Government acceptance shall be performed at least 48 hours after manufacture of the item.

4.7 Method of inspection.

4.7.1 Magazine component interface. As stated in the requirement of Section 3, the sample magazines shall be assembled to and disassembled from the cover, feedstrap and weapon mount without the use of tools and without damage. The weapon mount used shall be a fixture representing the maximum material (tightest) condition of drawing 9348215 Feed Box Support. Conformance to the requirement shall also be examined for during spring, retention, magazine and dovetail mount testing.

4.7.2 Spring, retention magazine. A linked belt of 200 M857 or M232 inert cartridges shall be loaded into the magazine. The assembly shall be attached to the test texture (see figure 2) and the spring shall be examined for proper assembleability. The magazine shall be disassembled from the test texture and while doing so, the spring shall be forced downward to the maximum extent of this travel. The dovetail and spring shall then be lubricated generously with "Break Free CLP" lubricant, MIL-L-

MIL-S-70538A (AR)

63460, and attached to the test fixture again. The impact device shall be seated against the dovetail. A two pound weight shall be dropped onto the impact device from a height of 12 inches. The magazine must remain attached to the test fixture, the spring shall remain functional (assembleable and disassembleable) and shall not be cracked in order for the test result to be acceptable. The test fixture (see Figure 2 and Figure 4) shall use a weapon mount representing the minimum material (loosest) condition of drawing 9348215 feed box support (see Figure 3).

4.7.3 Dovetail mount. A linked belt of 200 M857 or M232 inert cartridges shall be loaded into a magazine and the cover attached. The dovetail shall be lubricated generously with "Break Free CLP" lubricant, MIL-L-63460, and the magazine attached to the test fixture. The dovetail shall be examined for proper fit (interface requirement). A five pound weight shall be dropped from a height of 18 inches onto the magazine five inches away from the dovetail (directly opposite from the dovetail). The magazine must remain attached to the fixture for the test result to be acceptable. The test fixture (see Figure 1) shall use a weapon mount representing the minimum material (loosest) condition of drawing 9348215 feed box support. "(see figure 3)

MIL-S-70538A(AR)

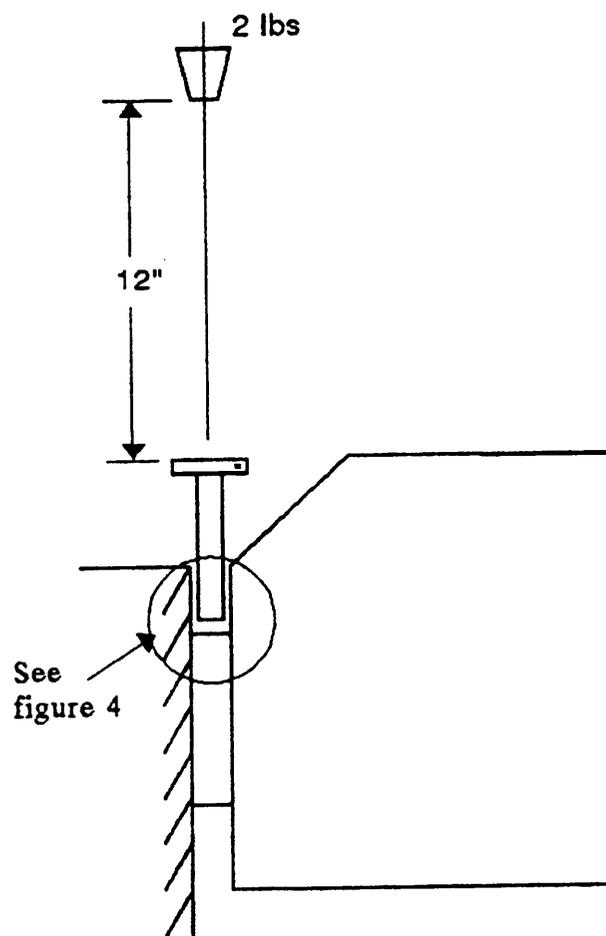
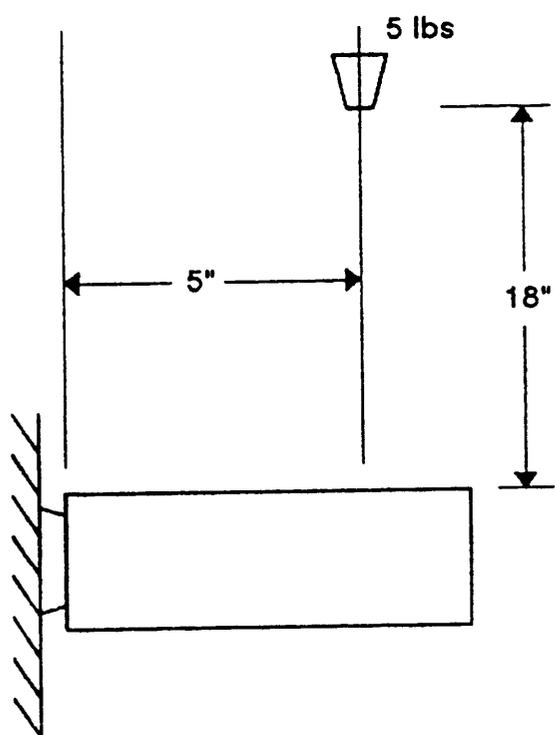
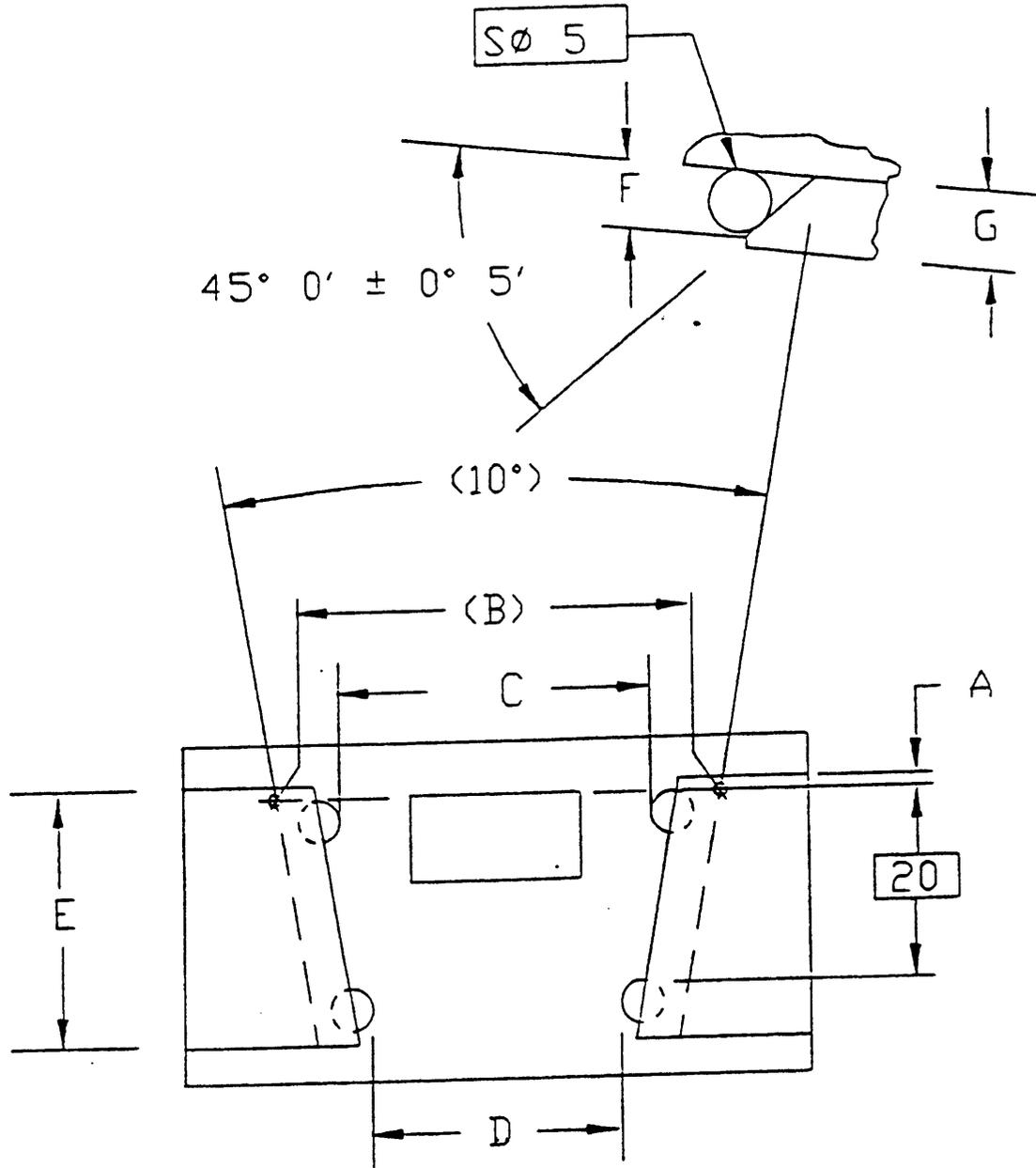


FIGURE 1. Dovetail mount, fixture

FIGURE 2. Spring, retention, fixture

MIL-S-70538A (AR)



DOVETAIL INTERFACE REQUIREMENTS (mm)		
DIM	ASSEMBLEABILITY GAGE (TIGHTEST FIT)	IMPACT TEST FIXTURE (LOOSEST FIT)
A	2.05 + 0.015	1.75 - 0.015
B	53.803 REF	54.087 REF
C	36.248 - 0.015	36.532 + 0.015
D	32.748 - 0.015	33.032 + 0.015
E	28.9 MIN	27.9 MAX
F	6.28 MIN	5.19 MAX
G	7.56 MIN	6.38 MAX

FIGURE 3. Dovetail interface

MIL-S-705387A (AR)

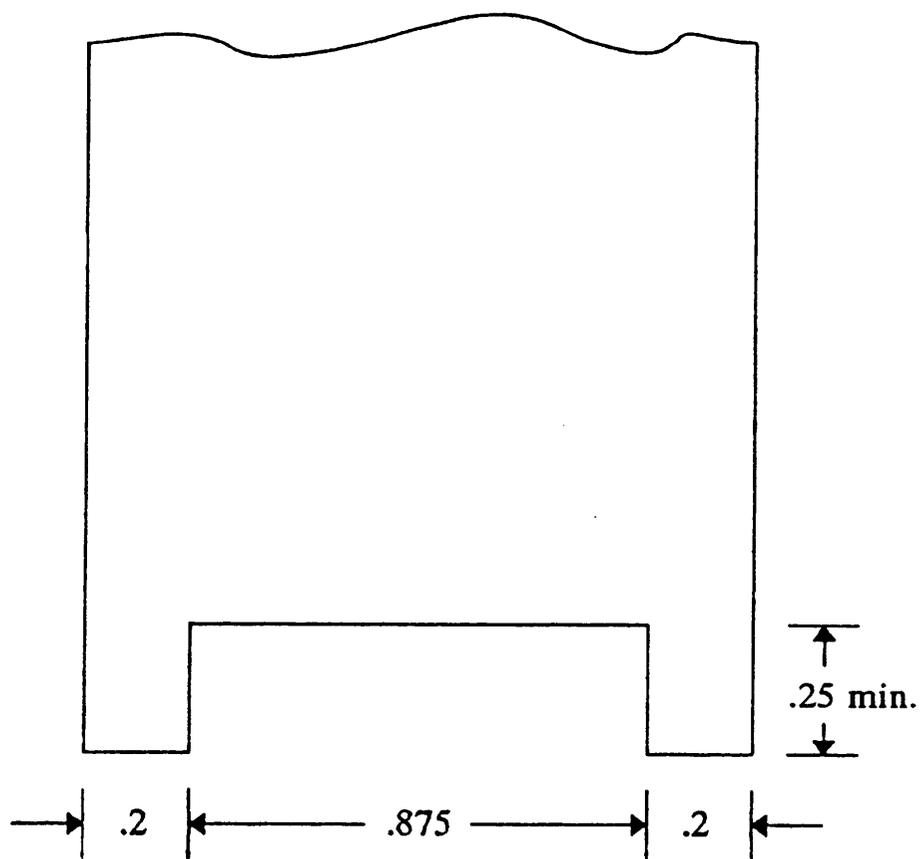


FIGURE 4. Detailed view of pedestal for spring, retention, fixture.

MIL-S-70538A (AR)

4.7.4 Drop test. A linked belt of 200 M857 or M232 inert cartridges with feedstrap attached shall be loaded into a magazine and the cover attached. The assembly shall be dropped onto solid concrete three times in the following orientations: once on the cover edge designated as 3-4, once on the cover corner designated as 2, and once on the corner opposite the cover designated as 7. See drawing 9349672 for designation of these drop locations. Drop height shall be 12 inches in all cases. The assembly must comply with the stated requirement for the test results to be acceptable.

4.7.5 Function firing. Each magazine shall be loaded with a linked belt of 200 Government approved M855 ball and M856 tracer cartridges with Government approved M27 links and a feedstrap attached. The cover shall be assembled to the magazine and the assembly shall be temperature conditioned as required in Section 3. Each magazine shall be fired using a M249 machine gun in bursts of 5-7 rounds at a rate of 85 shots per minute. Prior to firing the last 50 cartridges, the weapon feed cover shall be released and the free length of cartridges allowed, if possible, to fall back into the magazine. After functioning, the magazine shall be detached from the weapon. The weapon barrel shall be cooled to ambient following the firing of each 200 round group. The assembly must comply with the stated requirement for the test results to be acceptable.

4.7.6 Temperature extremes. Tests and examinations shall be performed in the same manner as for ambient conditions with all of the following modifications.

a. All magazines, covers, feedstraps and linked cartridges shall be temperature conditioned as an assembly at the specified temperature for a minimum of two hours before the start of testing.

b. Testing shall be performed immediately upon removal of the conditioned items from the conditioning box. A delay of more than two minutes is unacceptable and shall require reconditioning for 30 minutes. Immediately after each test or examination. The item shall be returned to the conditioning box so that it will remain temperature conditioned for the next test to be performed on it.

MIL-S-70538A(AR)

c. After the initial two hours of temperature conditioning, items need only be reconditioned for 30 minutes between each test provided the conditioned item is not exposed to ambient temperatures for more than five minutes during the test. Otherwise two hours of conditioning is required.

4.7.7 Workmanship. The magazine assemblies and components shall be carefully examined for any defects that could affect the serviceability of the item.

4.7.8 Loading of magazines. With the open end of the magazine facing up, the single-loop end of the linked belt is placed inside near the image at the bottom of the magazine, with the cartridge tips facing the same direction as indicated by the image. The linked belt is then loaded into the magazine in a zig zag fashion taking care that all rows are level to the bottom surface. Do not leave any voids at the end of each row. When the entire belt is loaded into the magazine, the end of the belt is brought to the flap opening so that it can be attached to the feedstrap. The feedstrap is inserted into the magazine through the flap opening so that the double loops of the link match to the partial cylinder of the feedstrap. The double loops of the link are then slipped onto the partial cylinder and rotated to snap into place. The cover is then snapped onto the magazine.

4.7.9 Salt spray test. For each item to be tested, five (5) parts shall be selected from each lot. The test shall be performed as specified in DOD-P-16232 and ASTM B 117 without the supplemental oil. Test procedures and equipment shall have the prior approval of the Government. If any part shows evidence of corrosion, it shall be classified as defective and the entire lot shall be rejected.

4.7.10 Coating weight. For each item to be tested, five (5) samples of five test panels shall be selected from each lot. The test shall be performed as specified in DOD-P-16232 for the clip and TT-C-490 for the spring, retention, magazine. Test procedures and equipment shall have the prior approval of the Government. If any sample does not meet the requirement of DOD-P-16232, for the clip and TT-C-490 for the spring, retention, magazine it shall be classified as defective and the lot shall be rejected.

4.7.11 Supplemental oil treatment salt spray. The test shall be performed at the time of first article and at least semi-monthly during production. Three parts for first article and three parts per processing tank or dispenser used during production shall be prepared and tested. Testing shall be in accordance with MIL-L-3150 or MIL-C-16173 as applicable and ASTM

MIL-S-70538A (AR)

B 117 using a 5% salt solution. The test duration and accept/reject criteria shall be as specified in the applicable specification. If any part fails to meet the applicable requirement, the first article or production quantity processed since the last acceptable test shall be rejected.

4.7.12 Hardness. Five samples shall be selected from each heat treatment batch. The test shall be performed as specified in ASTM E 18. Each heat treatment batch shall remain segregated until completion of all required tests. If any sample fails to comply with the specified hardness requirement, the sample shall be classified defective and the lot shall be rejected. A heat treatment batch shall be defined as parts that have been heat treated at the same time in the same furnace and quench bath for all phases of the heat treatment process.

4.8 Inspection equipment. The inspection equipment required to perform the inspections specified herein is identified in the "Inspection Method Reference" column of the Classification of Characteristics listings starting with 4.4.2.1. Contractor inspection equipment designs shall be submitted for Government approval as specified in the contract. Designs which provide variable measurements instead of attributes data are preferred in order to facilitate the use of statistical process control. See MIL-W-63150 and 6.5 herein.

5. PACKAGING.

5.1 Preparation for delivery. Packaging and packing shall be commercial as specified in Standard Practice for Commercial Packaging ASTM D 3951.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Assemblies and components covered by this document are intended for use with the M249, 5.56mm machine gun and associated 5.56mm ammunitions.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number and date of this specification.
- b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.1.1).

MIL-s-70538A (AR)

c. Requirements for submission of first article sample.

6.3 First article. When first article inspection is required, the contracting officer should provide specific guidance to offerors whether the item(s) should be a preproduction sample, a first article sample, a first production item, a sample selected from the first production items and the number of items to be tested as specified in 4.3. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results, and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

6.3.1 Provisions for additional first article sample. In addition to the contract provision for submission of additional first article samples, a first article is required when either of the following occurs:

a. A new or reworked mold is to be used for the first time.

b. The batch of material (plastic) is changed to a batch that has not been used previously.

6.4 Submission of alternative quality conformance provisions. Unless otherwise specified in the contract, proposed alternative quality conformance provisions will be submitted by the contractor for evaluation by the technical activity responsible for the preparation of this specification.

6.5 Submission of contractor inspection equipment desires for approval. Submit copies of designs as required to: Commander, U.S. Army ARDEC, ATTN: AMSTA-AR-QAC-C, Picatinny Arsenal, NJ 07806-5000. This address will be specified on the Contract Data Requirements List, DD Form 1423 in the contract.

MIL-S-70538A (AR)

6.6 Drawings. Drawings listed in Section 2 of this specification under the heading U.S. Army Armament, Research, Development and Engineering Center (ARDEC) may also include drawings prepared by, and identified as U.S. Army Armament, Research and Development Command (ARRADCOM), Frankford Arsenal, Rock Island Arsenal or Picatinny Arsenal drawings. Technical data originally prepared by these activities is now under cognizance of ARDEC.

6.7 Subject term (key word) listing.

Assault Pack
Dovetail
Pouch
Spring
Clip

6.8 Changes from Previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodian:
Army-AR

Preparing activity:
Army-AR

(project 1005-A823)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete (k y y y)
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of 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.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER

MIL-S-70538 (AR)

2. DOCUMENT DATE (YYMMDD)

941130

3. DOCUMENT TITLE

SAW, M249 AMMUNITION MAGAZINE ASSEMBLY AND FEEDSTRAP

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets if needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)

(1) Commercial

(2) AUTOVON

e. DATE SUBMITTED

(YYMMDD)

8. PREPARING ACTIVITY

a. NAME

U.S. ARMY ARDEC
STANDARDIZATION OFFICE

b. TELEPHONE (Include Area Code)

(1) Commercial
201-724-6676

(2) AUTOVON

DSN-880-6676

c. ADDRESS (Include Zip Code)

ATTN: AMSTA-AR-EDE-S
PICATINNY ARSENAL, NJ 07806-5000

IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:

Defense Quality and Standardization Office
6203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466
Telephone (703) 756-2340 AUTOVON 289-2340