

MIL-S-63348A(AR)
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 SUPERSEDING
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MILITARY SPECIFICATION
 SUBMACHINE GUN, 5.56MM, PORT FIRING, M231

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 Scope. This specification contains requirements, quality assurance provisions, and packaging for the Submachinegun, 5.56MM, Port Firing, M231.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of issue in effect on date of invitation for bids or request for proposals, form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

VV-L-800 Lubricating Oil, General Purpose Preservative, Water-Displacing, Low Temperature.

MILITARY

MIL-P-116 Preservation-Packaging, Methods of
 MIL-C-372 Cleaning Compound, Solvent
 MIL-D-1000 Drawings, Engineering and Associated Lists
 MIL-I-6868 Inspection Process, Magnetic Particle.
 MIL-W-13855 Weapon, Small Arms and Aircraft Armament
 MIL-I-45607 Subsystems, General Specifications for Inspection Equipment Acquisitions
 Maintenance and Disposition of
 MIL-L-46000 Lubricant, Semi-fluid (Automatic Weapons)
 MIL-C-46936 Cartridge, 5.56MM, Test, High Pressure, M197

FSC: 1005

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, US Army Armament Research and Development Command, Attn. DRDAB-QA, Dover, New Jersey 07801 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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MI L-C-60111 - Cartridge, 5.56MM, Tracer M196,
MI L-W-63150 - Weapons and Support Material
Standard Quality Assurance
Provi sions for

STANDARDS

MI LI TARY

MI L-STD-105 - Sampling Procedures and Tables for
Inspection by Attributes
MI L-STD-109 - Quality Assurance Terms and Defi ni ti ons
MI L-STD-1188 - Commerci al Packaging of Suppl ies and
Equi pment

2.2 Other publications.

ANSI Y14.36 Surface Texture Symbols

DRAWI NGS

U. S. ARMAMENT RESEARCH & DEVELOPMENT COMMAND

9327045 Submachinegun 5.56MM, Port Firing, M231
9327045 Packaging Data Sheet, Submachinegun,
5.56MM, Port Firing, M231

I NSPECTI ON EQUI PMENT DRAWI NGS

See specific references to inspection equipment drawings as specified on Supplementary Quality Assurance Provi sions for Submachinegun M231 and applicable Supplementary Quality Assurance Provi sions for Rifle M16A1.

(Copies of speci fi cations, standards, drawings, and publi cations required by suppliers in connection with speci fic procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUI REMENTS

3.1 Materials. Materials shall be in accordance with applicable drawings and speci fi cations.

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3.2 Parts and assemblies. The Submachinegun and its parts shall conform to the dimensions, conditions and construction requirements specified herein and on Drawing 9327045 and all associated drawings, and shall be in accordance with the applicable provisions of MIL-W-13855.

3.2.1 Drawings. Dimensions on Drawing 9327045 and all associated drawings are in the English system of units.

3.2.2. Heat treatment. Hardness shall be as specified on the applicable drawings. Dimensions on drawings shall apply after applicable heat treatment of the part.

3.2.2.1 Surface roughness. Surface roughness (ANSI Y14.36) is stated in micro-inch units

3.2.3 Manufacturing. Unless otherwise specified, manufacturing procedures stated on drawings are for guidance only.

3.3 Design. Submachineguns and parts shall conform to the design specified by drawing 9327045 and drawings applicable thereto and be in accordance with the applicable design provisions of MIL-W-13855.

3.3.1 Upper receiver and lower receiver groups. The upper receiver group shall be attached to the lower receiver group by the pivot pin and shall be held securely in the closed position by the takedown pin. When the takedown pin and pivot pin are withdrawn to the stop position, the upper receiver group shall disassemble from the lower receiver group.

3.3.2 Lower receiver group

3.3.2.1 Trigger, trigger extension and sear. The trigger when pulled shall act on the trigger extension which will release the sear and actuate firing action. After partial or completed trigger pull, the trigger shall return to its normal forward positions (locked and unlocked) under spring action.

3.3.2.2 Trigger guard. The trigger guard shall pivot on the trigger guard pin through its full range of travel. The trigger guard shall be retained in the closed position by the trigger guard spring loaded detent, and when in the open position it shall remain open against the pistol grip without manual assistance.

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3.3.2.3 Fire control selector. The fire control selector shall have two positions; safe automatic and shall rotate manually without binding from one position to another. The selector shall remain in place in each position by perceptible spring detent load until manually reset and shall be retained in the lower receiver by a spring loaded detent. When the selector is placed in the safe position, it shall prevent the trigger from releasing the bolt carrier so that the weapon is incapable of being fired.

3.3.2.4 Pistol grip The pistol grip shall be securely attached to the lower receiver and shall not interfere with operation of the selector lever.

3.3.2.5 Bolt catch. The bolt catch shall be retained on the lower receiver by the spring pin and held in the "down" position by the bolt catch plunger and spring. The bolt catch shall move through its full range of travel without binding and when positioned manually or by action of the magazine follower, it shall remain engaged and hold the bolt in the open (rearward) position. When the bolt catch is depressed bolt shall return to cocked position. When a fully loaded magazine is inserted into the magazine well and the bolt catch is depressed, the bolt shall return to the cocked position. When the trigger is pulled, the bolt carrier shall be released, strip a cartridge from the magazine, insert the cartridge in the barrel chamber and the weapon shall fire.

3.3.2.6 Magazine catch and magazine release button. The magazine catch, under spring action, shall securely retain the magazine in the magazine well. The magazine release button, when depressed, shall disengage the magazine catch from the magazine and permit removal of engagement with magazine. When the bolt is held open (rearward) by the bolt catch, and the magazine release button is depressed, the empty magazine shall be ejected under spring assist from the magazine follower being depressed by the bolt catch. The spring tension of the magazine catch shall be adjustable by depressing the magazine release button and rotating the magazine catch clockwise to tighten; counterclockwise to loosen. The magazine release button shall be assembled to the magazine catch shaft, such that the end of the shaft is within one turn of being flush with the face of the magazine release button.

3.3.2.7 Buttstock assembly and receiver extension. The receiver extension with buttstock assembly shall be fastened securely to the lower receiver. The buttstock shall move manually without binding from the retracted to the extended position. The buttstock shall latch securely in both the retracted and extended position.

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3.3.2.8 Spring retainer assembly The spring retainer assembly shall be held securely when assembled in the receiver extension. It shall be easily assembled to and disassembled from the receiver extension.

3.3.3 Upper receiver and barrel assembly group.

3.3.3.1 Ejection port cover. The ejection port cover shall operate through its full range of travel under spring action without binding. The cover shall be retained in the closed position by the cover detent, and shall open under spring action when the bolt carrier is moved rearward.

3.3.3.2 Charging handle. The charging handle shall move freely through its full range of travel in the upper receiver. When the charging handle is placed in the forward position it shall engage and lock securely in the upper receiver.

3.3.3.3 Barrel assembly. The barrel shall be free of cracks, seams, and other injurious effects and the bore and chamber shall be free of pockets, rings, bulges and other deformations. The chromium plating in the chamber and bore shall be free of nodules, flaking, pits, stripping, anode burns, and evidence of etched base steel. Burrs and sharp edges shall be removed from chamber edges, and bolt locking lugs. Scratches or marks occurring in a chamber which otherwise meets the surface roughness requirements, shall be permitted, provided they do not cause marks on the cartridge case of high-pressure test cartridge fired in the chamber.

* 3.3.3.3.1 Barrel assembly straightness. The barrel assembly shall be straight to the extent that a cylindrical plug with a diameter of $.2173 + .0001$ inches, and six (6) inches in length must drop through the barrel bore of its own weight.

3.3.3.4 Gas tube assembly. The gas tube assembly and gas seal shall be securely retained to the barrel by means of the barrel collar with set screw and tapered pins. The gas tube assembly shall be free of mutilations and positioned for proper alignment with the bolt carrier key. The barrel collar shall be connected to the barrel in accordance with the applicable drawings.

3.3.3.5 Flash suppressor. The flash suppressor shall be fastened secured to the barrel in accordance with applicable drawings.

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3.3.3.6 Handguard. The two-piece handguards shall be held firmly in place by the handguard cap and the spring loaded slip ring in the barrel nut assembly. When the slip ring is depressed rearward the handguards shall be capable of being removed.

3.3.4 Bolt carrier group

3.3.4.1 Key bolt carrier and striker assembly. The bolt carrier key, and striker assembly shall move through its full range of travel without binding in the upper receiver. The carrier key shall engage the gas tube freely when the bolt carrier moves in the forward position. The bolt carrier key screws shall be torqued and pinned in accordance with the applicable drawings.

3.3.4.2 Firing pin. The firing pin shall be retained in the bolt and bolt carrier assembly by the retaining pin. The firing pin shall move freely through its full range of travel in the bolt carrier assembly. The firing pin protrusion shall be a maximum of .036 inches and a minimum .028 inches. The chromium plating of the firing pin shall be free of nodules, flaking, stripping, anode burns, and evidence of etched base steel, except as specified on the applicable drawing.

3.3.4.3 Bolt assembly. The bolt assembly shall be retained in the bolt carrier by the bolt cam pin and shall move through its full range of travel. The cam pin hole shall be swaged in accordance with the applicable drawings to prevent improper assembly of the bolt cam pin in the bolt assembly.

3.3.4.3.1 Extractor. The extractor shall be retained in the bolt by the extractor pin. The extractor shall move through its full range of travel under spring action without binding in the bolt and shall be capable of engaging and extracting cartridge cases from the barrel chamber when the weapon is function fired or manually operated.

3.3.4.3.2 Ejector. The ejector shall be retained in the bolt by the ejector pin and shall be held in the forward position by the ejector spring. The ejector shall move through its full range of travel under spring action without binding in the bolt and shall eject cartridge cases completely out of the weapon when the weapon is function fired or manually operated. When fully depressed, the ejector pin shall be flush with or below the cartridge seat in the bolt.

3.3.4.3.3 Cam pin. The cam pin shall be retained in the bolt assembly by the firing pin. The cam pin shall move through its full range of travel in the bolt carrier without binding. The cam pin shall be capable of being removed from the bolt carrier without

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removal of the bolt carrier key assembly. The cam pin shall be capable of being disassembled from the bolt and bolt carrier assembly and when reassembled 180° about its vertical axis from its original position without causing binding in the assembly.

3.4 Performance characteristics

3.4.1 Headspace. The head space shall not be less than 1.4646 inches nor more than 1.4706 inches when measured to the 0.330 inch datum diameter on the first shoulder of the chamber. Testing shall be as specified in 4.5.3.1 Table III.

* 3.4.2 Trigger pull. The trigger pull shall be free of creep and shall be within the range of 19 - 25 pounds. Creep shall be interpreted to mean any perceptible rough movement between the time the trigger slack is taken up and the bolt is released. After partial or completed trigger pull, the trigger shall return to its normal forward position (cocked and uncocked) under spring action. Testing shall be as specified in 4.5.3.1, Table III.

3.4.3 High pressure resistance. Each barrel assembly and bolt shall withstand the firing of one Government standard M197, 5.56mm high-pressure test cartridge conforming to MIL-C-46936. After proof firing, parts shall be free of cracks, seams, and other injurious defects as evidenced by visual and magnetic particle inspection. Testing shall be as specified in 4.5.3.1, Table III.

* 3.4.4 Functioning. Each submachine gun shall operate without malfunctions or unserviceable parts. The cyclic rate of fire for a 30 round continuous burst using a 30 round magazine shall be within 1000 and 1250 rounds per minute when firing Government standard M196, 5.56 tracer cartridges conforming to MIL-C-60111. Testing shall be as specified in 4.5.3.1, Table III.

* 3.4.5 Targeting and accuracy. Each submachinegun shall be tested for accuracy at a distance of 100 yards, a 10 shot group shall yield an extreme spread not in excess of Twenty (20) inches. M196 5.56 Tracer ammunition shall be used.

* 3.4.6 Endurance. Submachineguns shall be capable of withstanding the firing of 10,200 rounds for endurance with not less than 2000 Mean Rounds Between Stoppages (MRBS) and not less than 4500 Mean Rounds Between Failure (MRBF). In addition, the number of malfunctions and unserviceable parts for both single submachineguns and four submachineguns combined shall not exceed those indicated as permitted in Table I. M196 5.56 Tracer ammunition shall be used. The cyclic rate of fire shall not exceed 1380 rounds per minute (for endurance testing only). Testing shall be as specified in 4.5.3.1, Table IV. For malfunctions and unserviceable parts permitted - see Table I.

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3.4.7 High temperature functioning

for this test shall be conditioned at 155°F + 5°F and shall be capable of withstanding the firing of 1200 rounds each with no less than 125 Mean Rounds Between Stoppages (MRBS) and no less than 1200 Mean Rounds Between Failure. A weapon that continues to fire after the trigger is released shall be considered to have failed the test. M196 5.56 Tracer ammunition shall be used.

3.4.8 Low temperature functioning. Submachineguns submitted

for this test shall be conditioned at -50°F - 5°F and shall be capable of withstanding the firing of 3000 rounds each with no less than 1500 Mean Rounds Between Stoppages (MRBS) and no less than 3000 Mean Rounds Between Failure (MRBF). A weapon that continues to fire after the trigger is released shall be considered to have failed the test. M196 5.56 Tracer ammunition shall be used.

3.4.9 Comparison test. Comparison tests shall be performed by the Government as specified in the contract as to number of submachineguns tested and frequency of the tests. Selection of submachineguns for test shall be made by government representative. Testing shall be as specified in paragraph 4.8.2 and shall be for comparison with earlier production. The High and Low Temperature Functioning Tests shall be for information only. Testing shall be at a facility specified by the Contracting Officer.

3.5 Interchangeability Unless otherwise specified on the 3.5 drawings, all parts shall be interchangeable. Testing shall be as specified in 4.5.3.1, Table IV.

3.6 Marking. Each submachinegun shall be clearly marked in accordance with the applicable drawings and MIL-W-13855.

* 3.7 First article inspection. This specification contains technical provisions for first article inspection. Requirements for the submission of first article samples by the contractor shall be as specified in the contract. Unless otherwise specified the first article shall include the pilot pack.

3.8 Workmanship. Workmanship shall be in accordance with workmanship requirements of MIL-W-13855.

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* TABLE I - Malfunctions and Unserviceable Parts Permitted in 10,200 Rounds

Malfunctions	Single Sub MG6	Two Sub MG6	Four Sub MG6
Failure of Bolt to lock	1	2	3
Failure to Fire	2	3	4
Failure to Feed (from Magazine)	3	4	7
Failure to Eject	2	3	4
Failure to Chamber	3	4	6
Failure to Extract	1	2	2
Bolt Fails/Hold Rear	6	8	12
All other malfunctions	0	0	0
Total - above malfunctions combined	9	13	20

Unserviceable Parts ¹	Minimum Life ⁴ Rounds	Two Sub MG	Four Sub MG ⁵ Combined
Bolt	5,000	2	4
Bolt Rings (3 in a unit)	4,000	1	2
Cam Pin	4,000	4	8
Extractor	4,000	4	8
Ejector Spring	4,000	1	2
Extractor Spring Assembly	4,000	2	4
Other Parts (See note 2)	3,000	1	1
Total Unserviceable parts above combined		8	18

Two each, Cam pin and Extractor, will be allowed Per 4 weapons to fail before 4,000 rds, but not before 2,000 rds. These will be considered in the number of unserviceable parts for the 4 weapons. One each, cam pin and extractor, will be allowed, per 2 weapons to fail before 4,000 rounds, but not before 2,000 rounds.

1. All malfunctions and-unserviceable parts occurring during the test shall be recorded and properly identified regardless of whether they are chargeable to the submachinegun. Malfunctions that are traceable to components determined unserviceable after meeting minimum life round requirements may be replaced and charged against the submachinegun. When Government representatives have verified that previously recorded malfunctions are attributable to the

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TABLE I (CONT)

unservicable part, they shall not be counted against the submachinegun provided they occurred within the previous 200 rounds of firing. Malfunctions determined not to be chargeable to the submachinegun as a result of failure analysis shall be verified by the Government representative witnessing the test and shall not be counted (6.5).

2. One unservicable part other than those specified shall be allowed in the test and shall be subject to the judgement of the Government representative that the failure does not present an unsafe condition or a defective condition which is prevalent throughout the lot of items involved.

3. Other malfunctions includes, but is not limited to: failure to immediately stop firing when the trigger is released (uncontrolled fire).

* 4. Minimum life rounds is defined as the minimum service life of an individual part, whether it is the original part or a replacement part, expressed in the number of weapon rounds fired with the part assembled in the weapon. For example, a bolt failing prior to firing 5,000 rounds on a new submachinegun, has not met the minimum life rounds. The failure shall be recorded and shall be cause for test failure.

5. The allowable number of unservicable parts shown for 4 submachineguns combined applies only to parts failing after the minimum life rounds have been fired on the weapon. For example, extractor spring failing at 4500 rounds on one submachinegun, and at 4100 rounds on a second submachinegun, fall within the allowable limits of 3 unservicable parts on 4 submachineguns combined; however, failure of 17 more parts, whose minimum life rounds are within those specified, exceeds the allowance for total unservicable parts combined, and shall be cause for test failure.

6. Each individual submachinegun tested shall not exceed the allowable number for each malfunction in the list or the test shall have failed. When the submachinegun meets the individual allowable malfunctions and exceeds the cumulative total allowable malfunctions for a submachinegun, the test shall have failed. The combined four submachineguns test shall not exceed the allowable number for each malfunction in the list or the test shall have failed. When the submachineguns met the combined four submachineguns allowable malfunctions in the list and exceed the cumulative total allowable malfunctions for four submachineguns, the test shall have failed. This same principle applies to the two submachinegun list.

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4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the 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 assure supplies and services conform to prescribed requirements. The provisions of MIL-W-63150 shall apply.

4.2 Quality assurance terms and definitions. Quality assurance terms and definitions are in accordance with MIL-STD-109.

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

- a. First article inspection (see 4.4)
- b. Quality conformance inspection (see 4.5)

4.4 First article inspection. The first article shall be selected from submachineguns produced prior to the beginning of quantity production and submitted for testing in accordance with the contract requirements (see 6.1). The first article shall be representative of production processes to be used during quantity production. The first article shall be subjected to all examination tests specified in 4.4.2 and such other inspection as necessary to determine that all the requirements of the contract have been met.

4.4.1 First article submission. The first article shall consist of the following items in sample quantities as indicated:

<u>Part Description</u>	<u>Drawing</u>	<u>Quantity</u>
<u>Submachinegun,</u>		
5.56MM, Port Firing, M231	9327045	7

The seven submachineguns shall be shipped to the Government facility specified in the contract. Testing shall be as specified in 4.4.2.

Submachinegun,		
5.56MM, Port Firing, M231	9327045	5

The five submachineguns shall be held in bonded storage at the contractor's site for the duration of the contract.

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4.4.2 Inspection to be performed. The submachineguns shall be subjected to the following tests, in the quantities as specified.

<u>Test</u>	<u>Number To Test</u>	<u>Requirement</u>	<u>Test Method</u>
Headspace	7	3.4.1	4.7.1
b. Trigger Pull	7	3.4.2	4.7.3
Firing Pin Protrusion	7	3.3.4.2	4.7.2
d. High Pressure Resistance	7	3.4.3	4.7.4
e. Function/Cyclic Rate of fire	7	3.4.4	4.7.5 - 4.7.5.3.5
f. Targeting and Accuracy	7	3.4.5	4.7.6 - 4.7.6.2.1
g. Interchangeability	7	3.5	4.7.7.1
h. Endurance	4	3.4.6	4.7.8 - 4.7.8.4.5
i. High Temperature	3	3.4.7	4.80
j. Low Temperature	3	3.4.8	4.81

4.4.3 Rejection. If any assembly, component or test specimen fails to comply with any of the applicable requirements, the first article sample shall be rejected. The Government reserves the right to terminate its inspection upon any failure of any assembly, component, or test specimen in the sample to comply with any of the stated requirements.

4.4.3.1 Other criteria. The following criteria also apply.

4.4.3.1.1 High temperature functioning.

malfunctions (see shall not exceed 10 per weapon nor a total of 18 for the three weapons combined. Any Class II or Class III malfunction shall be cause for rejection of the First Article sample.

4.4.3.1.2 Low temperature functioning. Maximum Class I malfunctions (see 6.5.5) shall not exceed 3 per weapon nor a total of 6 for the three weapons combined. Any Class II or Class III malfunction shall be cause for rejection of the First Article sample.

4.5 Quality conformance inspection.

4.5.1 Inspection lot.

4.5.1.1 Submachineguns.

4.5.1.1.1 Formation and presentation. The formation and presentation of inspection lots shall be in accordance with MIL-STD-105. Lot formation shall be established after final inspection of submachineguns by the contractor and prior to conducting tests specified in Table IV.

4.5.1.1.2 Lot size. Unless otherwise specified herein, an inspection lot shall consist of 500 weapons or a month's production, whichever is smaller. These weapons shall be assembled from lots of component parts that have met all inspection requirements.

4.5.1.1.3 Lot identification. Each Inspection lot shall be identified with a lot number. The serial number of each weapon in a lot shall be recorded on the individual weapon record. The reason for rejection of any inspection lot shall be recorded. When a rejected inspection lot is resubmitted after reconditioning, it shall be identified as such.

4.5.1.2 Parts and packaging. The formation, size, and presentation of inspection lots of parts and packaging shall be in accordance with MIL-STD-105. Inspection lots shall be as large as practicable in consideration of quality history, manufacturing conditions, contractor's delivery schedule, and shall be within the limitations of MIL-W-13855.

4.5.2 Examination.

4.5.2.1 Submachineguns. Final examination of weapons shall be performed by the contractor after completion of all testing of Table III. Unless otherwise specified herein, each weapon shall be examined for the classification of defects in 4.5.2.2.3. All non-conforming weapons shall be rejected and the reason for rejection recorded. The place of final examination and acceptance criteria shall be as specified in the contract (see 6.1).

4.5.2.1.1 Rejected submachineguns. Rejected weapons shall be corrected by the contractor and the corrective action taken shall be recorded. The weapons shall be reexamined for all defects listed in the applicable groups in 4.5.2.2.3. When any of the following parts are replaced to correct a non-conforming weapon, the weapon shall be retested as indicated by asterisks:

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	<u>Function Firing Test</u>	<u>Target & Accuracy Test</u>
1. Barrel and Barrel Collar Assembly	*	*
2. Gas Tube Assembly	*	
3. Bolt Carrier Assembly - Carrier & Key	*	
4. Bolt	*	
5. Extractor	*	
6. Extractor Spring	*	
7. Ejector	*	
8. Ejector Spring	*	
9. Firing Pin	*	
10. Bolt Catch	*	
11. Bolt Catch Spring	*	
12. Sear Assembly	*	
13. Drive Spring Assembly	*	
14. Drive Springs	*	
15. Safety Selector	*	
16. Flash Suppressor & Lockwasher		*
17. Upper Receiver Assembly	*	*

4.5.2.2 Process control. The process average for total weapons examined during one (1) shift shall not exceed the following:

- Major defects - 1.0%
- b. Minor defects - 8.0%

If the process average is exceeded for any one of the defect categories, a quantity of weapons submitted for examination during the first half of the succeeding shift shall be reexamined for the applicable defect category as specified in 4.5.2.2.3.

The quantity of weapons (in the sample) to be reexamined shall be in accordance with MIL-STD-105, Level II. The quantity of weapons tested during the prior shift shall be considered the lot size. An AQL value shall be assigned as follows:

- Major defects - 0.15%
- b. Minor defects - 2.5%

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4.5.2.2.1 Rejection of reexamined weapons. If the sample is rejected the contractor shall:

- Record the reason for rejection
- a. Correct the non-conforming weapons.
- c. Evaluate and correct the applicable production and inspection processes and procedures to prevent recurrence of significant or repetitive defects revealed during final examination.
- d. Reexamine all weapons 100% for the remainder of shift for the group of defects failing to meet the assigned process average.

4.5.2.2.2 Acceptance of reexamined weapons. If the sample is accepted, the weapons in the sample and all subsequent weapons during the shift shall revert to-normal examination for the defects listed in 4.5.2.2.3.

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4.5.2.2.3 Classification of defects.

DEFECT NO.	DEFECT	INSPECTION METHOD	REQUIREMENT	MAJOR	MINOR
	<u>Lower receiver, pistol grip, and stock assembly group:</u>				
1	<u>Lower receiver.</u> Failure of upper receiver to hinge without binding on the pivot pin when takedown pin is withdrawn to the stop position.	Manual	3.3.1	x	
2.	<u>Lower receiver.</u> Failure of lower to readily disassemble from upper receiver when pivot pin is withdrawn to the stop position.	Manual	3.3.1	x	
3.	<u>Pivot pin and takedown pin.</u> Failure to move through their full range of travel without binding and be retained in their extreme in-and-out position by the detents.	Manual	3.3.1	x	
4.	<u>Sear group.</u> Burrs, cracks, or mutilation of bolt carrier contact for the sear.	Visual	3.7	x	
5.	<u>Sear group.</u> Mutilation, distortion, or improper assembly of sear spring.	Visual	3.7	x	
6.	<u>Sear group.</u> Failure of sear group to return to rest position under spring action.	Manual	3.3.2	x	

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DEFECT No.	DEFECT	INSPECTION METHOD	REQUIREMENT	MAJOR	MINOR
7.	<u>Trigger group.</u> Burrs, cracks or mutilation of catch surface, and safety contact surface.	Visual	3.7	x	
8.	<u>Trigger group.</u> Mutilation distortion, or improper assembly of trigger spring.	Visual	3.7	x	
9.	<u>Selector group.</u> Failure of spring loaded detect plunger to positively engage selector lever, when lever is in safe, and automatic position.	Manual	3.3.2.3 3.3.2.4	x	
10.	<u>Selector group.</u> Burrs, cracks, or mutilation of selector lever, and sear contact surfaces. Missing lubricant.	Visual	3.7 and drawing		x
11.	<u>Bolt catch group.</u> Failure of catch to pivot upward when lower button is pressed, and failure of catch to return to original position under spring load when pressure of button is released.	Manual	3.3.2.5	x	
12.	<u>Bolt catch group.</u> Burrs, cracks, or mutilation of bolt contact surface.	Visual	3.7	x	
13.	<u>Magazine release button.</u> Improper adjustment of magazine release button.	Visual	3.3.2.6		x

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DEFECT No.	DEFECT	INSPECTION METHOD	REQUIREMENT	MAJOR	MINOR
14.	<u>Trigger guard assembly.</u> Failure of trigger guard to release, pivot to stop position against pistol grip, retain this position without manual assistance, then return to its locked position and lock.	Manual	3.3.2.2		x
15.	<u>Pistol grip.</u> Insecurely attached or interferes with selector lever. <u>REMOVE: Buffer and drive Springs</u>	Visual and Manual	3.3.2.4		
16.	<u>Buffer.</u> Burrs, cracks, or mutilation of buffer.	Visual	3.7		x
17.	<u>Drive spring.</u> Distortion or mutilation of drive springs.	Visual	3.7		x
18.	<u>Pistol grip.</u> Missing lock washer, cracks, or mutilation of pistol grip.	Visual	3.7		x
19.	<u>Buttstock assembly.</u> Failure to hold securely in the extended or stored position.	Visual	3.7		x
20.	<u>Buttstock assembly.</u> Improper assembly of stock. <u>REASSEMBLE: Buffer assembly</u>	Visual	3.3.2.7		x
21.	<u>Drive springs.</u> Failure of springs to function throughout full range without binding.	Manual	3.3.2.8	x	

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DEFECT NO.	DEFECT	INSPECTION METHOD	REQUIREMENT	MAJOR	MINOR
22.	<u>Lower receiver. Burrs.</u> cracks, mutilation of magazine well and trigger mechanism housing area.	Visual	3.7	x	
	<u>Upper receiver group.</u>				
23.	<u>Charging handle assembly.</u> Failure of charging handle assembly to have positive latching action to upper receiver during forward travel without manual assist to latch, and to require manual action to unlatch for rearward travel.	Manual	3.3.3.2		x
24.	<u>Charging handle assembly.</u> Failure of charging handle assembly to disassemble from upper receiver without bending.	Manual	3.3.3.2		x
25.	<u>Charging handle assembly.</u> Burrs, cracks or mutilation of latch contact surfaces, carrier key engagement surface and guide surface.	Visual	3.7		x
	<u>REMOVE: Bolt and bolt carrier group</u>				
	<u>DISASSEMBLE: Firing pin</u>				
26.	<u>Firing pin retaining pin.</u> Burrs, cracks, mutilation.	Visual	3.7		x
27.	<u>Firing pin.</u> Burrs, cracks, or mutilation of striker point.	Visual	3.7	x	

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DEFECT NO.	DEFECT	INSPECTION METHOD	REQUIREMENT	MAJOR	MINOR
28.	<u>Firing pin.</u> Pits or erosion of striker point.	Visual	3.7	x	
29.	<u>Bolt cam pin.</u> Failure to be removed from bolt carrier without binding or without removal of carrier key. When reassembled to the bolt carrier, the cam pin shall be rotated 180° without binding.	Visual	3.3.4.3.3	x	
30.	Bolt cam pin. Burrs, cracks, or mutilations.	Visual	3.7	x	
31.	<u>Extractor.</u> Burrs, cracks, mutilation of extractor lips.	Visual	3.7	x	
32.	Extractor. Not properly retained by pin.	Visual	3.3.4.3.1		x
33.	<u>Extractor assembly.</u> Improper function of extractor spring assembly action.	Manual	3.3.4.3.1	x	
34.	Ejector. Improper function of ejector spring action.	Manual	3.3.4.3.2	x	
35.	<u>Ejector.</u> Burrs, cracks, or mutilation of ejector tip.	Visual	3.7		x
36.	<u>Ejector retaining pin.</u> Improper assembly. ends must be flush with or below bolt surface.	Visual	3.3.4.3.2		x

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DEFECT NO.	DEFECT	INSPECTION METHOD	REQUIREMENT	MAJOR	MINOR
37.	<u>Bolt rings.</u> Mutilated, distorted, or improperly positioned. (Ring gaps shall not be positioned in line.)	Visual	3.7	x	
38.	<u>Bolt.</u> Burrs, cracks, or mutilation of bolt cartridge face, bearing surface, locking lugs, or bolt rings slot.	Visual	3.7	x	
39.	<u>Bolt.</u> Pits or erosion of cartridge seat. Improper chamber on feed lugs.	Visual	3.7	x	
40.	<u>Bolt.</u> Missing proof marks for magnetic particle and proof firing inspection.	Visual	3.6	x	
41.	<u>Bolt.</u> Missing swaged operation or cam pin hole permitting improper assembly of bolt into bolt carrier.	Manual	3.3.4.3	x	
42.	<u>Key.</u> Failure of key to be properly seated on bolt carrier or improper pinning of bolt carrier key screws.	Visual	3.3.4.1	x	
43.	<u>Key.</u> Burrs, cracks, or mutilation.	Visual	3.7		
44.	<u>Bolt carrier.</u> Burrs, cracks or mutilation (Particular attention should be given to bolt cam area).	Visual	3.7		
	<u>REASSEMBLE:</u> <u>Bolt and carrier group.</u>				

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DEFECT NO.	DEFECT	INSPECTION METHOD	REQUIREMENT	MAJOR	MINOR
45.	<u>Firing pin.</u> Failure of firing pin to move freely when assembled to the bolt and bolt carrier.	Manual and Visual	3.3.4.2	x	
46.	<u>Bolt and bolt carrier group.</u> Improper firing pin protrusion. <u>Upper receiver and barrel assembly group.</u>	Gage	3.3.4.2	x	
47.	<u>Handguards.</u> Failure of handguards to disassemble and assemble or failure to be properly retained.	Manual	3.3.3.6		x
48.	<u>Handguards.</u> Cracks or mutilation.	Visual	3.7		x
49.	<u>Flash suppressor.</u> Burrs, cracks, or mutilation.	Visual	3.7		x
50.	<u>Flash suppressor.</u> Insecurely assembled to weapon.	Manual	3.7		x
51.	<u>Gas tube assembly.</u> Failure to securely assemble gas tube assembly and gas seal to the barrel.	Manual	3.3.3.4	x	
52.	<u>Gas tube.</u> Failure to align properly with carrier key.	Manual	3.3.3.4	x	
53.	<u>Gas tube.</u> Mutilation.	Visual	3.3.3.4	x	

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DEFECT NO.	DEFECT	INSPECTION METHOD	REQUIREMENT	MAJOR	MINOR
54.	<u>Barrel assembly.</u> Pockets, rings, bulges or other deformations in bore or chamber. Particular attention shall be given flash suppressor shoulder area of bore for rings or bulges.	Visual	3.3.3.3	x	
55.	<u>Barrel assembly</u> cracks, or mutilations of bolt locking lugs.	Visual	3.7		
56.	<u>Barrel assembly.</u> Missing proof marks, magnetic particle stamp and chrome chamber marking.	Visual	3.6		
* 57.	<u>Barrel assembly straightness.</u> Failure of barrel to meet approved "go" bore plug drop gage	Gage	3.3.3.3.1 and Drawing	x	
58.	<u>Ejection port cover assembly</u> Group. Burrs or deformation	Visual	3.7		
59.	<u>Ejection port cover.</u> Failure to be manually closed.	Manual	3.3.3.1	x	

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DEFECT NO.	DEFECT	INSPECTION METHOD	REQUIREMENT	MAJOR	MINOR
60.	<u>Ejection port cover assembly Group</u> Improperly assembled port cover assembly spring.	Visual	3.7		x
61.	<u>Upper receiver.</u> Burrs cracks, or deformations <u>REASSEMBLE:</u> <u>Submachinegun</u>	Visual	3.7		
62.	<u>Weapon assembly.</u> Failure to meet headspace requirement. <u>Examine for defect numbers 63 through 70 by cyclic hand function of weapon using one dummy round in the magazine.</u>	Gage	3.4.1		
63.	Failure of ejection port cover to open when bolt carrier is moved between rearward and forward position.	Manual	3.3.3.1	x	
64.	Failure of bolt to remain rearward when bolt catch is raised.	Manual	3.3.2.5	x	
65.	Failure of bolt to strip cartridge from magazine and feed cartridge into chamber when bolt returns to battery when magazine is inserted and bolt catch is depressed.	Manual	3.3.2.5	x	
66.	Failure of magazine to be securely retained by weapon.	Manual	3.3.2.6	x	

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DEFECT NO.	DEFECT	INSPECTION METHOD	REQUIREMENT	MAJOR	MINOR
67.	Failure of bolt when charged to extract and eject dummy cartridge and cause follower of magazine to activate bolt catch to retain bolt in rear.	Manual	3.3.2.5 3.3.4.3.1 3.3.4.3.2	x	
68.	Failure of magazine to be ejected without binding, with spring assist from the bolt catch, when magazine release button is depressed.	Manual	3.3.2.6	x	
69.	Failure of bolt to be released, when bolt catch is depressed.	Manual	3.3.2.5	x	
70.	Failure of trigger return after partial or complete trigger pull.	Manual	3.4.2	x	
71.	<u>Lower receiver.</u> Missing or illegible receiver markings (serial number, manufacturer's identification, selector markings, etc.)	Visual	3.6		x
72.	<u>Weapon assembly.</u> Failure to meet trigger pull requirement.	Gage	3.3.2.1	x	
73.	<u>Weapon assembly.</u> Fires with selector lever on SAFE.	Manual	3.4.2	x	

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DEFECT NO.	DEFECT	INSP METHOD	REQUIREMENT	MAJOR	MINOR
74.	Weapon assembly. Failure to cycle with selector lever set at AUTO (with selector lever set on "auto" charge the bolt with charging handle maintaining pressure on the trigger: Bolt shall close when trigger is pulled. Charge bolt with charging handle with trigger released, release bolt. Pulling of trigger shall close bolt.	Manual	3.3.2.1	x	

4.5.2.2.4 Accepted weapons. Weapons which have passed all examinations after successful completion of testing shall be rubber stamped by the contractor with the Department of Defense complete inspection approval stamp on the lower right hand side of the lower receiver, or the forward face of the magazine well. The Government representative will control the stamps used for such stampings required to assure successful completion of all required examinations and tests.

4.5.2.3 Component parts and concurrent repair parts. Examination of component parts and concurrent repair parts shall be performed in accordance with the criteria as specified in the contract (see 6.1). Examination of these parts shall be accomplished prior to their assembly into the end item or submission for acceptance as repair parts.

4.5.2.4 Packaging. Examination of packaging of weapons shall be performed in accordance with the classification of defects and acceptable quality level (AQL) specified in Table II.¹ Sample size for each lot shall be in accordance with Inspection Level I of MIL-STD-105 or a continuous sampling plan of MIL-STD-1235 which will provide equivalent discrimination. A visual inspection shall be performed to assure that the criteria specified in the contract (see 6.1) result in the parts and packages meeting the acceptable quality level. Packages opened for examination shall be repackaged by the contractor at the contractor's expense (see 6.1).

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TABLE II. Classification of Defects for Packaging

<u>Categories</u>	Defect ²	AQL ³
<u>Major</u>	(Interior Packaging)	
101	Illegible or incorrect marking	1.5
102	Improper level of packaging	
103	Missing weapon components "	
104	Improper cleaning and drying	
105	Improper preservative application and drainage	
106	Missing or improper protectors	
107	Improper assembly of unit package	
108	Improper closure of boxes	
109	Improper positioning of upper and lower receiver assemblies	
110	Failure to unit package matching upper and lower receiver assemblies	
<u>Major</u>	(Exterior Container)	
101	Illegible or incorrect marking	1.0
102	improper level of packing	
108	Improper closure of box	
710	Improper closure and strapping of shipping containers	

¹Unless otherwise specified in the contract, the packaging requirements are specified on Packaging Data Sheets 9327045.

²Examination for packaging defects specified above shall apply to each sample of weapons, interior packages, or exterior containers, as applicable.

³The AQL is specified as percent defective and shall be applied to a group of defects, not to an individual defect.

4.5.2.4.1 Repair parts packaging in examination. Examination of packaging of repair parts shall be in accordance with the criteria specified in the contract (see 6.1).

4.5.3 Testing

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4.5.3.1 Weapon testing. Individual weapons shall be subjected to the tests specified in Table III. Inspection lots of weapons shall be subjected to the tests specified in Table IV. Sample size, acceptance criteria and test methods for each test shall be as specified in Table III and Table IV. The Government representative shall randomly select weapons to be subjected to the endurance test and interchangeability test from inspection lots that meet the requirements of 4.5.2. Component parts to be subjected to the concurrent repair parts interchangeability test shall be randomly selected from accepted component inspection lots concurrently being used in the assembly of the weapons.

TABLE III. Individual Submachinegun Tests

TEST	SAMPLE ¹	ITEM	REQUIRE- MENT	METHOD
Headspace ⁴	100%	Submachinegun	3.4.1	4.7.1
Trigger Pull ⁴	100%	Submachinegun	3.4.2	4.7.3
High-Pressure Resistance	100%	Barrel Assy & Bolt	3.4.3	4.7.4
*Function ²	100% ³	Submachinegun	3.4.4	4.7.5
Targeting and Accuracy	100%	Submachinegun	3.4.5	4.7.6

Submachineguns falling to meet the applicable requirement shall be rejected.

* ²Magazines for the Interrupted Burst Function test shall be used no more than once.

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³The cyclic rate of fire shall be taken and recorded on each weapon until 138 consecutive weapons have met the cyclic rate of fire requirement specified in 3.4.4. When 138 consecutive weapons on their initial test have met the cyclic rate of fire requirement, every 10th weapon tested for function firing requirements shall be tested for cyclic rate of fire requirement. If a weapon fails to meet the cyclic rate of fire requirement during sample testing of one of every ten, the contractor shall return to 100% testing of each weapon for cyclic rate of fire until qualification requirements are met prior to returning to testing one in ten weapons. However, if the cyclic rate requirements for the sample of ten weapons are met, the contractor shall continue testing every 10th weapon for cyclic rate.

⁴This test shall be conducted during the final examination specified in paragraph 4.5.2.1.

TABLE IV. Inspection Lot Tests.

TEST	SAMPLE ¹	SAMPLE FOR RESUBMITTED LOTS	REQUIRE- MENT	TEST METHOD
Firing Pin, Protrusion	32	32	3.3.4.2	4.7.2
Interchangeability Implant			3.5	4.7.7
Submachineguns	10	20		
Endurance			3.4.6	4.7.8
Submachineguns	2	2		
Magazines ³	80 (30 round)	80 (30 round)		

Failure of the sample, unless otherwise specified in the applicable test method to meet the requirements shall cause rejection of the represented lot.

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²Failure of one weapon in the sample of thirty-two to meet the requirements shall cause a second sample to be tested from the same lot. The second sample shall consist of thirty-two weapons, exclusive of the first thirty-two (cumulative, sixty-four weapons). Failure of two or more weapons in the first sample or the combined first and second sample shall be cause for rejection of the represented lot.

³Thirty round magazines selected for the endurance test shall be visually and manually inspected by the contractor for workmanship and completeness of assembly and determined to be satisfactory prior to test.

4.5.3.2 Component parts and concurrent repair parts testing
Raw material testing, part testing, and certification shall be in accordance with the criteria specified in the contract (see 6.1). This will include chemical analysis and Physical tests of materials, and tests of protective finish, heat treatment, and function of parts as applicable. The contractor shall accomplish these tests prior to assembly of component parts into the end item and acceptance as concurrent repair parts.

4.5.3.3 Packaging testing.

4.5.3.3.1 Submachinery.

4.5.3.3.1.1 Statement of packaging materials conformance. The contractor shall have available for review by the Government representative a statement of findings that the packaging materials conform to the applicable Packaging Data Sheets and specifications.

4.5.3.3.1.2 Determination of cleanliness testing. - The contractor shall test items from each Inspection lot for determination of cleanliness using the test method specified in 4.7.9.1. Sampling shall be in accordance with MIL-P-116.

4.6 Inspection equipment. - Unless otherwise specified (see 5.1), responsibilities for acquisition, maintenance, and disposition of measuring and testing equipment and for all other inspection equipment required to perform inspection prescribed herein and by other applicable specifications, shall be in accordance with MIL-W-63150.

4.7 Test methods.

4.7.1 Headspace test. This test shall be performed during individual weapon testing in accordance with Table III using Government approved gages.

4.7.1.1 Minimum headspace. The bolt shall be moved rearward to the open position. The minimum headspace gage shall be inserted in the chamber and the bolt shall be returned to the battery position. Only finger pressure shall be applied to close the bolt. To be acceptable the bolt shall fully close.

4.7.1.2 Maximum headspace. The bolt shall then be retracted to the open position, and the minimum headspace gage removed from the chamber. The maximum headspace gage shall be inserted in the chamber and the bolt returned to the battery position. Only finger pressure shall be used to close the bolt. To be acceptable the bolt shall not fully close.

4.7.1.3 Test results. If the above results are in dispute, the weapon shall be disassembled and the $1.6206 + .0030$ barrel dimension and the $.156 - .003$ bolt dimension shall be measured to determine compliance with the drawing requirements.

4.7.2 Firing pin protrusion test. - This test shall be performed during inspection lot testing in accordance with Table IV. Measurements shall be taken with contractor gages approved by the government.

4.7.2.1 Recording of data. - The following data shall be recorded:

- a. Weapon Serial Number
- b. Inspection lot number
- c. Measurement of firing pin protrusion,

4.7.3 Trigger pull test. - This test shall be performed during individual weapon test- accordance with Table III using Government approved inspection equipment.

4.7.3.1 Minimum load. The weapon shall be cocked and the selector lever placed in the AUTO position. The minimum load shall be gradually applied to the center of the trigger and exerted in a line parallel to the axis of the barrel bore. To be acceptable, the bolt carrier shall not release.

4.7.3.2 Maximum load. The weapon shall be cocked and the maximum load shall be gradually applied to the center of the trigger as before. To be acceptable, the bolt carrier shall release.

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4.7.3.3 Creep. The weapon shall also be manually tested to assure that the trigger pull is free of creep (see 3.4.2) and that the trigger returns under spring action to its normal forward position after partial or complete trigger pull.

4.7.4 High-pressure resistance test. This test shall be performed during individual weapon testing in accordance with Table III, using a Government approved fixture for holding the bolt and barrel assembly.

4.7.4.1 Cartridge cases. One (1) high-pressure test cartridge (see 3.4.3) shall be fired in each bolt and barrel assembly. Unless otherwise specified, the bolt and barrel assembly shall be tested concurrently. After proof firing, cartridge cases shall be examined for bulges, splits, rings, and other defects caused by defective chambers of the barrel assembly.

4.7.4.2 Magnetic particle inspection of barrel assembly. The barrel assembly shall be magnetic particle inspected in accordance with MIL-I-6868 utilizing a current of 400 to 500 amperes for circular continuous magnetization. The barrel assembly shall be examined for evidence of cracks, seams, and other injurious defects.

* 4.7.4.3 Magnetic particle inspection of bolt carrier assembly. The bolt, bolt carrier, cam pin, and extractor shall be magnetic particle inspected in accordance with MIL-I-6868. These parts shall be examined for evidence of cracks, seams, and other injurious defects.

4.7.4.4 Marking. Proof marks and magnetic particle inspection marks shall be applied on barrel assemblies and bolts that have passed this test;

4.7.5 Function firing. This test shall be performed during individual weapon testing in accordance with Table III, and shall be accomplished with the weapons held in a Government approved firing stand. The ammunition used on this test shall be as specified in 3.4.4.

4.7.5.1 Lubrication. The weapons shall be prepared for firing using lubricant in accordance with MIL-L-46000. Apply a light coat of oil to all surfaces of the bolt carrier group. Apply one drop of oil in each hole on the right side of the bolt carrier and in the open end of the bolt carrier key. (Do not apply excessive oil in the bolt firing pin recess.)

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4.7.5.2 Pre-firing. The weapon shall be given a pre-firing examination to assure that no safety hazard exists.

4.7.5.3 Firing procedure. The selector level of the weapon shall be set in "SAFE" position and shall be checked to assure that the weapon cannot be fired.

4.7.5.3.1 Cyclic rate of fire. The selector lever shall be set on "AUTO" for automatic firing. The cyclic rate of fire measurement shall be taken by firing a 30-round continuous burst. The cyclic rate of fire shall be measured using a Government approved timing gage and shall be recorded.

4.7.5.3.2 Interrupted burst firing. Not more than three minutes after completion of the above, the weapon shall be fired using a fully loaded 30 round magazine in six (6) bursts of approximately five (5) rounds each. No magazine shall be used more than once. Failure of the weapon to stop firing during the interrupted burst firing upon release of the trigger shall be cause for rejection and recorded as a malfunction.

4.7.5.3.3 Magazine ejection. Manually examine function of magazine catch and visually examine function of bolt catch in assisting magazine ejection. Depressing of magazine catch button shall cause the magazine assembly to be ejected, with spring assist from bolt catch, without binding.

4.7.5.3.4 Malfunctions not attributable to the weapon. Malfunctions that are not attributable to weapons as a result of failure analysis and verified by the Government representative shall not be counted against the weapon; however, such malfunctions shall be recorded.

4.7.5.3.5 Recording of data. The following data shall be recorded:

- a. Number of weapons tested and number of weapons rejected per lot.
- b. Test date.
- c. Ammunition lot number.
- d. For each weapon that fails, record the following data:
 1. Serial number
 2. Type of malfunction or failure (see 6.5).
 3. Class of malfunction (see 6.5.5).
 4. Round number at which failure occurred.
 5. Type of firing (Burst or automatic).
 6. Round number of magazine at which failure occurred.
- e. Ammunition defect.
 1. Weapon in which ammunition defect occurred.
 2. Description of defect.

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4.7.5.4 Rejected weapons.

4.7.5.4.1 Corrections. Weapons rejected because of malfunction or unserviceable part during the test shall be corrected by the contractor and the corrective action shall be recorded. In the event the malfunction cause is classified as class II or class III (see 6.5.5), the contractor shall immediately initiate action in accordance with paragraph 4.7.5.5.2.1.

4.7.5.4.2 Retest. The weapons shall be retested by firing two thirty round sequences, the first similar to that specified in 4.7.5.3.1, the second to that specified in 4.7.5.3.2. The weapons shall operate without malfunction or unserviceable parts and shall meet the cyclic rate of fire requirements.

4.7.5.4.3 Retest failure. In the event the weapons fail in the retest, the procedure in 4.7.5.4.1 shall be followed. The weapons shall be retested, by firing two (2) thirty round sequences in 30 round continuous bursts and one (1) thirty round sequence in six (6) bursts of approximately five (5) rounds each. Weapons shall operate without malfunction or unserviceable parts and shall meet the cyclic rate of fire requirements. The cyclic rate shall be recorded.

4.7.5.5 Process control criteria

4.7.5.5.1 Process average. The process average for total weapon tested for function firing during one shift shall not exceed 2.0% defective. This process average for each shift shall be maintained and be available for government review.

4.7.5.5.2 Unacceptable average. When the process average exceeds 2.0% defective during one shift, the contractor shall review the failure causes for determination of seriousness, class I, II, or III malfunction (see 6.5.5.). The contractor, in addition, shall provide the government representative with objective evidence of his determination.

4.7.5.5.2.1 Class II and III malfunctions. When the malfunction cause is classified as class II or III, the contractor shall institute corrective action in the manufacturing processes and associated quality control procedures to preclude recurrence of the cause and to assure that all weapons and components containing similar defects are purged from the prime and vendor or prime or vendor facilities. When authorized by the government representative, this corrective action need not include the screening of weapons previously tested for function firing. Upon completion of the preceding, the contractor shall recondition the rejected weapons and retest the weapons as specified in 4.7.5.4.2.

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4.7.5.5.2.2 Class I and unknown cause malfunctions. When the malfunction cause is classified as class I or the malfunction cause cannot be determined, the contractor shall correct the rejected weapons and shall test the first eighty weapons on the following shift by firing two thirty round sequences in accordance with paragraph 4.7.5.4.2. When the number of malfunctions occurring during the test of eighty weapons exceeds one, the contractor shall continue function firing acceptance testing in accordance with paragraph 4.7.5.4.2 until corrective action has been accomplished to the applicable manufacturing process or quality assurance procedures or both, as evidenced by the testing of eighty connective weapons with one or less malfunctions. In the event the malfunction number is one or less during this test, normal function firing testing shall be resumed for all subsequent weapons submitted during this shift.

* 4.7.6 Targeting and accuracy test. This test shall be performed in accordance with individual weapons test of Table III, A Government approved firing stand and target shall be used, The ammunition used in this test shall be as specified in 3.4.5.

4.7.6.1 Warm-up. Except for rounds fired during function testing, firing of not more than ten (10) warm-up shots off the test target shall be allowed before the weapons are tested for targeting and accuracy.

4.7.6.2 Firing procedure. Ten rounds shall be fired. The target shall then be checked to determine that the targeting and accuracy requirements have been met (see 3.4.5). Targets with evidence of a flyer (see 6.5.2) or keyholing (see 6.5.3) shall be cause for the contractor to repeat the test by firing a ten round complement.

4.7.6.2.1 Recording data. The following data shall be recorded:

- a. Number of weapons tested and number of weapons rejected per lot.
- b. Test date.
Ammunition lot number.
- d. Extreme spread of shot group.
- e. Reason for retest (flyer and keyholing).
- f. For each weapon that fails, record the following:
 1. Serial number.
 2. Type of malfunction or failure (see 6.5).

4.7.6.3 Rejected weapons. Weapons rejected for failure to meet the targeting and accuracy requirements shall be corrected by the contractor, and the corrective action shall be recorded.

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4.7.6.3.1 Retest. Corrected weapons shall be retested by firing a ten round complement at each of two targets. The targets shall be checked to determine that both targets meet the targeting and accuracy requirements. The rate of fire will be at the contractor's option.

4.7.6.3.2 Retest failure. If the retested weapon fails to meet the requirements for both targets, the weapon shall be rejected. If the weapon fails to meet only the accuracy requirements for one of the two targets, a ten round complement shall be fired at a third target. The targets shall be checked to determine that the average of the extreme spreads for the three targets meets the accuracy requirements.

4.7.6.3.3 Second retest. Weapons failing the retest shall again be corrected by the contractor and the corrective action recorded. The weapons shall then be retested by firing a ten round complement at each of three targets. The targets shall be checked to determine that the average of the extreme spreads for three targets meets the accuracy requirements. If the retested weapon fails to meet the requirements for third target, the weapon shall be rejected.

4.7.7 Interchangeability test

4.7.7.1 Inplant

4.7.7.1.1 Submachineguns. The interchangeability test shall be performed during inspection lot testing in accordance with Table IV. Weapons shall be tested for interchange of parts by disassembly and reassembly of parts using parts from a prearranged system specified below. Interchange of parts shall be accomplished by dividing the parts of each weapon into 10 groups of nonmating parts as shown below and distributing the groups into 10 different trays until each tray contains a complete weapon. 1 Groups of parts from weapon number 1 shall be taken in order and placed in tray 1 through 10; groups of parts from weapon number 2 shall be taken in order and placed in trays 2 through 10 to 1; groups of parts from weapon number 3 shall be taken in order and placed in trays 3 through 10 to 2, etc. The weapons shall be reassembled using only those parts which are in the same tray. The reassembled weapons shall be tested for headspace, firing pin protrusion, trigger pull, function firing (including cyclic rate of fire), and accuracy tests specified in test methods 4.7.1, 4.7.2, 4.7.3, 4.7.5, and 4.7.6 respectively. Disposition of interchangeability weapons shall be as specified in the contract (see 6.1).

* 1. When 7 weapons are interchanged for First Article, the following groups shall be combined so that there is a total of 7 trays: VI and VII, VIII and IX, IV and X.

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GROUPS OF NONMATING PARTS

* GROUP I

Upper Receiver & Barrel Assy (9327227)
 minus: Charging Handle Assy (8448517)
 Handguard Assy (9327076)
 Flash Suppressor (8448576)
 Lock Washer (8448577)
 Magazine Catch Spring (8448637)
 Trigger (8448592)
 Take down Pin Detent (8448585) (2)
 Spring, Inside Drive (9326123)
 Buttstock (9327049)
 Firing Selector Plate (9327074)

* GROUP II

Lower Receiver (9327037)
 Extractor Pin (8448513)
 Ejection Port Cover Assy (8448525)
 **Lock Washer (MS35335-61)

GROUP III

Bolt (8448510) w/Bolt Rings (8448511) (3)
 Ejection Port Cover Pin (8448533) and Snap Ring (8448664)
 **Trigger Guard Pivot Pin (MS9047-102)
 Trigger Spring (8448593)
 Take Down Pin (8448584)
 Magazine Catch Button (8448636)
 Receiver Extension (9327062)

* GROUP IV

Key and Bolt Carrier Assembly (9327071)
 Take Down Pin Detent Spring (8448586) (2)
 Buffer (9327058)
 3-Pin, Receiver (9327044)
 Latch, Buttstock (9327050)

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* GROUP V

Ejection Port Cover Spring (8448532)
Spring Weld Assy. (8448555)
**Ejector Pin (MS-9047-005)
Magazine Catch (8448638)
Spring, Outer Drive (9326121)
Sear (9327051)

* GROUP VI

Bolt Cam Pin (8448502)
Bolt Catch (9327059)
Pistol Grip (8448632)
Spring, Middle Drive (9326122)
Spring, Sear (9327052)
**Pin, Spring (MS9047-067)

* GROUP VII

Flash Suppressor (8448576)
Firing Pin Retaining Pin (8448504)
Bolt Catch Plunger (8448634)
Bracket, Buttstock (9327048)
Striker (9327043)

GROUP VIII

Receiver Pivot Pin (8448621)
Firing Pin (8448503)
Hand Guard Assy (9327076) (1)
Flash Suppressor, Lock Washer (8448577)
Bolt Catch Spring (8448633)
Extension, Trigger (9327055)

GROUP IX

Charging Handle Assembly (8448517)
**Bolt Catch Pin (MS9047-069)
Safety (8448630)
Masher, Buffer (9327060)
Ejector (8448515)
Ring, Retainer (8448665)
Setscrew (MS51976-62)

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* GROUP X

Spring Pin (Buttstock Retaining Pin MS-16562-117)
 Extractor (8448512) w/spring assy (11828591)
 Hand Guard Assy (9327076) (1)
 Trigger Guard Assembly (8448587)
 Safety Detent (8448631)
 Spring Guide Assy (9327063)
 Screw (MS 35276-284)
 Springs (3 total) Buttstock Latch, Safety Detent, and Ejector
 (8448516)

NOTE: All items preceded by a double asterisk (**) shall be replaced during interchangeability test. Parts inadvertently damaged during interchange may be replaced without penalty when authorized and verified by the Government representative witnessing the test.

4.7.7.2 Failure of interchangeability test.4.7.7.2.1 Submachi negun

4.7.7.2.1.1 Second sample. Failure of parts to reassemble during parts interchange or subsequent failure of any weapon to meet the headspace, firing pin protrusion, trigger pull, functioning, and accuracy requirements shall be cause for selection of an additional sample of weapons for the represented inspection lot to determine the prevalence of a similar defect. The sample shall consist of 10 weapons when the lot size is 500 and 20 weapons when the five lot (or-larger) group is represented.

4.7.7.2.1.1.1 Retest acceptance. If a similar defect is not found, the non-conforming weapons shall be corrected and the lot shall be accepted.

4.7.7.2.1.1.2 Retest failure. If a similar defect is found, the inspection lot shall be rejected and the contractor shall examine and correct all weapons-in the represented lot to ensure that material containing the defects or similar defects revealed during testing are purged from the represented lot and are not presented to the Government for acceptance. The contractor shall also correct the applicable production and inspection processes and procedures to prevent the recurrence of defects revealed during the test.

4.7.7.2.1.2 Accuracy. Weapons failing to meet the accuracy requirements shall be rejected by the contractor to meet the requirements before they are returned to the represented lot for final acceptance.

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4.7.7.2.1.3 Recording of data. The following data shall be recorded:

- a. Inspection lot number.
- b. Weapon serial numbers.
- c. All measurements required for headspace, firing pin protrusion, trigger pull, functioning and accuracy requirements before and after interchange of parts.
- d. Cyclic rate of fire before and after interchange of parts.
- e. Failure of any part to interchange.
- f. Any damaged part that was replaced.

4.7.8 Endurance test. The endurance test shall be performed during inspection lot testing in accordance with Table IV. Weapons shall be held in a Government approved firing stand using a Government approved timing gage for measurement of cyclic rate of fire. The ammunition used for this test shall be as specified in 3.4.6.

4.7.8.1 Cleaning and lubrication. Weapons shall have been lubricated as specified below at the beginning of the test and cleaned and lubricated at the end of every cycle (600 rounds) thereafter. No other cleaning and lubrication shall be performed during this test. At the close of each day's firing, the weapon shall be-protected against corrosion.

* 4.7.8.1.1 Lubrication. Weapons shall have been lubricated using lubricant MIL-L-46000. Apply a light coat of oil to all surfaces of the bolt carrier group. Apply one drop of oil in each hole on the right side of the bolt carrier and the operating springs and in the open end of the bolt carrier key. (Do not apply excessive oil in the bolt firing pin recess.)

4.7.8.1.2 Cleaning. Weapons shall be cleaned with a cleaning solvent in accordance with MIL-C-372 and the following procedure

- a. Barrel . Brush bore thoroughly with a brush soaked in cleaning solvent. Brush the bore from the chamber to the muzzle using straight through strokes. Do not reverse direction of brush until it extends beyond the muzzle. Continue brushing until the bore is covered with solvent. Dry the bore by pushing clean dry swabs through the bore. Continue until the swab comes out clean and dry. Clean dry compressed air may be used for preliminary drying.

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- b. Barrel chamber. Insert the cleaning rod section and chamber brush that has been dipped in cleaning solvent into the chamber and use reciprocating plunge strokes and rotational, 360° motions. Dry chamber with cleaning swabs.
- c. Barrel extension. Using a small bristle brush that has been dipped in cleaning solvent, clean the locking lugs in the barrel extension. Remove-excess cleaning solvent.
- d. Bolt carrier group. With the exception of the Bolt Carrier Key, Bolt Rings, Extractor Spring, and the Ejector, disassemble all parts, wash these parts in cleaning solvent and remove all carbon deposits. Particular attention should be given to the areas under the face of the extractor and behind the three rings on the bolt. Clean the gas key hole with a worn bore brush that has been dipped in cleaning solvent by rotating the brush clockwise (repeat several times until clean). Remove excess solvent from lower receiver cavity and dry.
- e. Upper receiver. Clean with cleaning solvent and remove all powder fouling. Clean the protruding gas tube using a bore brush attached to a section of the cleaning rod. Saturate the brush with cleaning solvent. (Do not use any type of abrasive material to clean the gas tube. Remove excess cleaning solvent).
- f. Lower receiver. Remove all carbon residue from lower receiver group assembly using cleaning solvent. Drain excess solvent from lower receiver cavity and dry,

* 4.7.8.2 Magazines. Ten new 30-round magazines used in each weapon shall be numbered and used during this test. Magazines shall be fully loaded for each use.

4.7.8.3 Measurements. The following measurements shall be made during this test.

- a. Headspace. Headspace for weapons being fired with 30 round magazines shall be measured and recorded at the beginning of the test and at the completion of the 17th cycle. After the 17th cycle, the headspace shall not be more than .0028 inch greater than the initial measurement and shall not exceed .0024 inch over maximum.

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- b. Cyclic rate of fire The cyclic rate of fire (in automatic 30-round burst firing) shall be measured and recorded for each weapon during the first, ninth and last cycle fired.

4.7.8.4 Firing procedure Firing shall be accomplished in 17 cycles using 30 round magazines. One firing cycle (600 rounds) shall be as specified in Table V. Cooling of the barrel shall be to the point that it is capable of being held by the bare hand. Supplemental cooling is permissible in the hand guard area.

TABLE V

No. 30 Round Magazines	Rounds	Remarks
* 70	300	Automatic - bursts of approximately 7 - 10 rounds cool
* 10	300	Automatic - bursts of approximately 7 - 10 rounds
--	--	Clean
TOTAL 20	600	

* Note: The average rate of fire shall not exceed 60 rounds per minute.

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4.7.8.4.1 Uncontrolled fire. During the interrupted burst firing, weapon shall be checked to assure that firing stops immediately when the trigger is released (uncontrolled fire shall be recorded as a malfunction).

4.7.8.4.2 Parts. No parts shall be altered during the test. Broken parts that effect function and those parts that are worn to the extent they are unserviceable (see 6.5) shall be replaced. The contractor shall provide replacement parts as required to complete the test at no additional to the Government.

* 4.7.8.4.3 Magnetic particle inspection. Upon completion of the 10,200 round endurance test, the bolt, bolt carrier, cam pin, and extractor from each weapon shall be magnetic particle inspected in accordance with 4.7.4.3.

4.7.8.4.4 Analysis. When either a malfunction occurs or a weapon fails to meet a test requirement, a failure analysis shall be performed to determine the causes. The failure analysis shall include dimensional and physical tests. Components shall not be disassembled from the weapon for inspection and test unless determined necessary.

4.7.8.4.5 Recording of data. The following data shall be recorded:

- a. Inspection lot number.
- b. Weapon serial numbers
- c. Each malfunction and unserviceable part (see 6.5).
 1. Weapon round at which it occurred.
 2. Weapon serial numbers.
 3. Type of firing (automatic or burst)
 4. Class of malfunction.
- d. Ammunition lot number.
- e. Headspace measurement.
- f. Each rate of fire measurement with identification of which cycle.
- g. Each ammunition defect.
- h. The cause of each weapon failure.
- i. If applicable, cause of test failure.

4.7.8.5 Failure of endurance test. Failure of weapons to meet the endurance test requirements shall be cause for deferring further submission of product until the following have been accomplished and the subsequent resubmittal for endurance testing, as specified in Table IV, has been successfully completed.

4.7.8.5.1 Examination. The contractor shall examine the non-conforming weapons by performing a dimensional, physical, and visual examination, as required, of the weapon and magazine component that are suspected to be the cause of the test failure.

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4.7.8.5.2 Unknown cause malfunctions. When the cause of the malfunction cannot be determined, the contractor shall provide the Government representative with objective evidence of the results of this analysis. Upon concurrence of the Government representative, the contractor shall retest an additional sample of two weapons for the endurance test requirements. Failure of the additional two weapons to pass endurance test requirements shall be reason for the contractor to determine failure cause. If cause of retest failure cannot be determined, technical assistance shall be requested through normal contractual channels.

4.7.8.5.3 Known cause malfunctions. When the cause of the malfunction can be determined, the contractor shall make a determination as to the seriousness of the cause. The contractor, in addition, shall provide the Government representative with objective evidence of his determination.

4.7.8.5.3.1 When the malfunction cause is classified as class I (see 6.5.5), as verified by the Government representative, the Government representative shall select, from the represented lot, an additional sample in accordance with MIL-STD-105, General Inspection Level II, Table IIA, at an Acceptable Quality Level of 0.65. This sample shall be inspected by the contractor for the weapon non-conformance determined to be the cause.

- a. If the additional sample is rejected, the contractor shall examine and correct all weapons in the represented lot and institute corrective action in the manufacturing processes and associated quality control procedures to preclude recurrence of the cause and to assure that materiel containing similar defects is purged from the prime and vendor facilities. The contractor, upon completion of the preceding, shall resubmit the *reconditioned lot for endurance test as specified in Table IV. Weapons reconditioned by parts replacement shall be retested in accordance with Table III prior to resubmittal for endurance testing.
- b. If the additional sample is accepted, the Government representative shall select a second sample of two weapons for the endurance test as specified in Table IV.

4.7.8.5.3.2 Class II and III malfunctions. When malfunction cause is classified in class II or III (see 6.5.5), the contractor shall examine and correct all weapons in the lot and institute corrective action in the manufacturing processes and associated quality control procedures to preclude recurrence of the cause and to assure that materiel containing similar defects is purged from both the prime and vendor

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or vendor facilities. The contractor, upon completion of the preceding, shall resubmit the reconditioned Jot for the endurance test specified in Table IV. Weapons reconditioned by parts replacement shall be retested in accordance with 4.5.2.1.1.1 prior to resubmittal for endurance testing.

4.7.8.5.3.3 Acceptable parts. Upon identification of the cause of failure, acceptance of product may be resumed on those components (repair parts) which have been determined to meet contract requirements and did not contribute to the failure.

4.7.8.6 Disposition of endurance tested weapons. Disposition of endurance tested weapons shall be as specified in the contract (see 6.1).

4.7.9 Packaging test.

4.7.9.1 Determination of cleanliness. The applicable surfaces of each sample unit (except for barrel bores and chambers) shall be subjected to the determination of cleanliness test specified in MIL-P-116, except that the wipe test shall not be applicable to parts with black oxide or anodized protective coating. Barrel bores and chambers shall be wipe tested for cleanliness using clean white bore cleaning swabs and the degree of cleanliness shall be verified by comparison of test swabs with standard swab samples provided by the contracting officer.

* 4.8.0 High temperature test. This test shall be performed in First Article testing after completion of tests a through g. The weapons and ammunition shall be conditioned at 155°F + 5°F for a minimum of four hours prior to firing. Each weapon shall be fired from inside the conditioning chamber in 100 round groups with two hour minimum intervals between groups. Each 100 round group shall consist of 30 rounds fired in bursts of 5 to 7 rounds, 30 rounds fully automatic, 30 rounds in bursts and 10 rounds automatic. A total of 12 groups or 1200 rounds shall be fired per weapon. After every 600 rounds fired, clean and lubricate the weapon. Failure to meet the requirements of paragraph 3.4.7 shall constitute rejection of the First Article sample.

* 4.8.1 Low temperature test. This test shall be performed in First Article testing after the completion of tests a through g. Lubrication of the weapon shall be as specified in TM9-1005-309-10. The weapons and ammunition shall be conditioned at minus 50°F - 5°F for a minimum of 6 hours prior to firing. The weapons shall be conditioned in the open bolt position. Each weapon shall be fired from inside the chamber in 100 round groups with two hour minimum intervals between groups. Each 100 round group shall consist of 30 rounds fired in bursts of 5 to 7 rounds, 30 rounds

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fully automatic, 30 rounds in bursts and 10 rounds fully automatic. A total of 30 groups or 3000 rounds shall be fired per weapon. Immediately prior to the firing of each 100 round group, each weapon shall be dry fired twice i.e. charging and firing the weapon without ammunition. After every 600 rounds, clean and lubricate the weapon. Failure to meet the requirements of paragraph 3.4.8 shall constitute rejection of the First Article sample.

4.8.2 Comparison test. The submachineguns selected for comparison testing shall undergo the tests as specified in paragraph 4.4.2. If the Comparison Test samples fail to pass the requirements of 4.4.2, the Contractor shall take corrective action, as specified in the contract, on parts, sub-assemblies and finished submachineguns, in process and final assembly, but not yet accepted by the Government. The Contractor shall also take corrective action to prevent recurrence of similar defects in future production.

5. PREPARATION FOR DELIVERY

5.1 Pilot pack. A pilot pack shall consist of a complete and packed intermediate package in accordance with Packaging Data Sheet 9327045 for the level of protection specified in the contract (see 6.1) and forwarded in accordance with 3.1.

5.2 Preservation, packaging, packing and marking. Weapons with equipment shall be unit packaged, packed and marked in accordance with the requirements of Packaging Data Sheet 9327045 for the level of protection specified (see 6.1).

5.3 Repair parts. Repair parts shall be unit packaged, packed, and marked in accordance with the requirements of the applicable Packaging Data Sheets specified in the contract (see 6.1).

6. NOTES

6.1 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification.
- b. Lists of drawings and specifications pertinent to the weapon showing applicable revision dates.
- c. Examination and testing criteria for components (see 4.5.2.1, 4.5.2.3, 4.5.2.4, 4.5.3.2, 4.5.3.3.2).
- d. That packages opened for examination shall be repackaged by the contractor at the contractor's expense (see 4.5.2.4).
- e. Disposition of interchangeability and endurance tested weapons (see 4.7.7 and 4.7.8).

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- f. Selection of applicable levels of preservation, packaging, and packing (see 5.1 and 5.2).
- g. Shipping instructions for first article sample (see 3.1 and 4.4) and pilot pack, if different (see 3.1 and 5.1).
- h. Packaging instructions for repairs parts (see 5.3).
Place of final inspection and acceptance (see 4.5.2.1).
- j. Lists of acceptance inspection equipment to be furnished the contractor (see 4.6) and responsibilities for other Government property to be furnished the contractor.
- k. Responsibility for furnishing ammunition (see 4.7.4, 4.7.5, 4.7.6, 4.7.8, and 6.4).
- l. Procedures and methods for demilitarizing and disposing of rejected material.
- m. Disposition of Government furnished property.
- n. Responsibility for test firing facilities and operating procedures.

6.2 Test firing facilities. Test firing facilities and operating procedures shall be designed by the contractor in conformance with local, state, and Federal regulations and suitable for carrying out prescribed firing tests with safety of operating and visiting personnel. Copies of these contractor designs shall be forwarded to the contracting officer. Government facilities may be viewed upon application to the contracting officer.

6.3 Testing agency. When action by a testing agency is required, work programming will be affected with the testing agency at the earliest practicable date.

6.4 Ammunition for test firing. To avoid delay in test firing, the contractor should maintain a minimum of two month's supply of ammunition as determined by anticipated firing requirements.

6.5 Definitions.

6.5.1 Mal functions.

- a. Failure of bolt to lock. Failure of the bolt to fully close and rotate to the locked position in the barrel extension.
- b. Failure to fire. Failure of the weapon to fire the cartridge, when the cartridge has been fully chambered; bolt has been locked in the battery position, and the trigger has been pulled.

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- c. Failure to feed from magazine. Failure of the bolt to completely strip the next round from the magazine.
- d. Failure to eject. Failure of the weapon to eject a round from the weapon when the cartridge has been fired and the cartridge case has been completely extracted from the magazine.
- e. Failure to chamber. Failure of the weapon to chamber a cartridge that has been completely stripped from the magazine.
- f. Failure to extract. Failure of the weapon to remove a cartridge case or unfired cartridge from the chamber.
- g. Bolt fails to hold to the rear. Failure of the bolt to remain in the rearward position after the last round in the magazine has been fired.

6.5.2 Flyer. A flyer is defined as shot hole which is a greater distance from the nearest shot hole than the extreme spread of the other nine holes (including the shot hole nearest the flyer).

6.5.3 Keyholing. Keyholing is defined as any shot hole on the target that is not circular.

6.5.4 Unserviceable part. An unserviceable part is one that causes malfunction of the weapon or impairs the safety of the user. Parts which are worn, broken, deformed, cracked or contain defects to the extent that they may affect function or safety in operation of the weapon shall also be considered unserviceable.

6.5.5 Class of malfunction.

Class I. Immediately clearable (clearable by gunner through operation of charging handle, removal of magazine or manually removing round without aid of tools or equipment).

Class II. Clearable by gunner with available equipment. (Basic Issue Items).

Class III. Not clearable by gunner.

6.5.6 Defective weapon. A defective weapon is a unit of product which contains one or more defects (end item assembly or component).

6.6 MIL-Q-9858, MIL-I-45208. When warranted, the contract should specify the application of MIL-Q-9858 or MIL-I-45208, as appropriate, on the Management Control Systems Summary List, DD Form 1660.

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6.7 MIL-I-45607, MIL-C-45662. Unless otherwise specified (see 6.1 k), the contract should specify the application of MIL-I-45607 and MIL-C-45662 on the Management Control Summary List, DD Form 1660.

6.8 Inspection equipment designs. Inspection equipment designs are of two types - Government Special Inspection Equipment (SIE) designs and contractor designs. SIE designs are designated by drawing numbers under the "Method of Inspection" heading in Section 4, or in the Supplementary Quality Assurance Provisions, Design responsibility for all other inspection equipment is assigned to the contractor. However, the contractor need not furnish any design when a complete Government SIE is part of the Technical Data Package (TOP). Unless otherwise specified, the contractor may submit alternate or modified contractor designs of SIE in accordance with 6.8.2 and 6.8.3 should he elect to do so.

6.8.1 SIE designs. SIE designs may consist of any of the following:

- a. Detailed drawings which completely depict all information necessary for the fabrication and use of the item of inspection equipment.
- b. A source control drawing or a specification control drawing as defined in MIL-STD-100.
- c. An envelope drawing, as defined in MIL-STD-100, which established the criteria which a detailed design shall meet. When envelope drawings are specified, the contractor shall prepare designs which comply with the criteria therein.

6.8.2 Contractor designs. Contractor designs are required for all inspection equipment for which SIE designs are not specified and may include commercial equipment which the contractor proposes to use. (Commercial equipment is defined as unmodified equipment which is cataloged and available for purchase by the general public). Contractor designs shall include appropriate operating instructions, calibration procedures and maintenance procedures. Commercial equipment shall be fully described by catalog listings or other means which provide sufficient information to permit identification and evaluation by the Government and may include illustrations and engineering data. Designs shall be prepared for any special fixture(s) required to be used with commercial equipment, or with SIE designs if not otherwise covered thereby. Designs shall be of the category and form (per MIL-D-1000) specified in the Contract Data Requirements Lists (DD Form 1423).

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The specification number, paragraph number, and defect number from Section 4 shall be referenced on each contractor design together with the component or assembly drawing number, revision letter and date to which the specific design applies.

6.8.3 Submission of designs for approval. Contractor designs shall be approved by the Government prior to fabricating or procuring the equipment. Designs shall be submitted for approval in accordance with the stipulation, time frame and distribution specified in the Contract Data Requirements List (DD Form 1423) or in the contract. Partial submission of inspection equipment designs is permissible and encouraged. However, the completion date for design review will be based on the date of the final submission of designs and the required delivery schedule as stipulated in the contract. The specific segment of ARRADCOM to which the Contractor designs shall be sent will be DRDAR-QAA-I.

When the contractor submits inspection equipment designs to the Government for approval he shall give the following information in his letter of transmittal;

- a. The contract number.
- b. The contract item (name, model number, etc.)
- c. The designs remaining to be submitted and the expected date of submittal.

The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous *issue* were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodian:
Army-AR

Preparing Activity:
Army-AR
Project Number: 1005-A612

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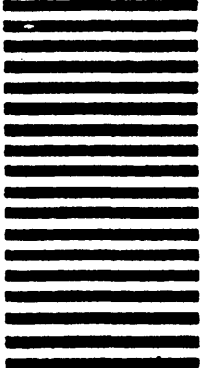
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NOTICE
OF VALIDATION

MIL-S-63348A(AR)
NOTICE 1
24 OCTOBER 1988

MILITARY SPECIFICATION

SUBMACHINE GUN 5.56MM PORT FIRING
M231

MIL-S-63348A(AR), dated 20 August 1981 with Amendment 3, dated 3 August 1981, has been reviewed and determined to be valid for use in acquisition.

Preparing activity
Army-AR

AMSC N/A

FSC 1005

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