

INCH-POUND

MIL-C-63239B (AR)  
AMENDMENT 6  
30 August 2000  
SUPERSEDING  
AMENDMENT 5  
09 May 1995

MILITARY SPECIFICATION

CARTRIDGE, 40MM, PRACTICE, M781  
METAL PARTS AND  
LOADING, ASSEMBLING AND PACKAGING

MIL-C-63239B was inactivated on 13 February 1996 for new design.

This amendment forms a part of Military Specification MIL-C-63239B, dated 5 November 1984, and is approved for use by the U.S. Army Armaments, Research, Development and Engineering Center, and is available for use by all Departments and Agencies of the Department of Defense.

PAGE 3

3.3, Delete "The primer shall function without evidence of squibbing of hangfire." and substitute "The primer shall function without evidence of squibbing or hangfire."

3.4, Delete in its entirety and substitute the following:

"3.4 Functioning. The cartridge shall be considered to have functioned properly if, when fired, it gives no visual indication of separation or dye emission in flight and upon impact, does emit dye. At ambient temperature, the projectile shall have a mean velocity of 247 plus or minus (+/-) 7 feet per second (fps), when measured at 20 feet from the muzzle in accordance with 4.5.10, and a standard deviation no greater than 4.5 fps."

\* 3.4, last line after "4.5 fps" add "(para 6.7)."

AMSC N/A

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FSC: 1310

DISTRIBUTION STATEMENT A. Approved for public release;  
distribution is unlimited.

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PAGE 4

- \* 3.4.3, Delete in its entirety and substitute the following:

"3.4.3 Cold temperature (-5° +/-5 °F). The cartridge shall function satisfactorily with no more than 2 cartridges exhibiting cracks in the case that extend into the extraction groove. Mean velocity and standard deviation shall be taken for information purposes only."

PAGE 5

- 4.3.1, Delete:

"Body and Band Assembly (when applicable)	9354247	25
Body (when applicable)	9352746	25
Rotating Band (when applicable)"	9352745	25

PAGE 6

- 4.3.3.1b, Delete in its entirety and substitute the following:

"4.3.3.1b Mean velocity or standard deviation fails to meet the applicable requirement (ambient only, informational in hot and cold phase)."

- 4.3.3.1c, Delete in its entirety and substitute the following:

"4.3.3.1c Any primer misfires, squibs, or hangfires in any temperature phase."

- \* 4.3.3.1f, Delete "Any cracked cartridge case wall extending into extraction groove in any temperature phase." and substitute "Any cracked cartridge case wall extending into the extraction groove in ambient or hot temperature phase, or more than 2 cartridges exhibiting cracks in the case that extend into the extraction groove in the cold temperature phase."

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Table I, Delete:

"Rotating Band (Dwg. 9352745) (when applicable			
Examination for defects	25		4.4.2.2
Body (Dwg. 9352746) (when applicable)			
Examination for defects	25		4.4.2.3
Body and Band Assembly (Dwg. 9352747) (when applicable)			
Examination for defects	25		4.4.2.4"

PAGE 9

4.4.1c, Delete in its entirety and substitute the following:

"4.4.1c Primers from one interfix lot number from one manufacturer."

PAGE 10

4.4.2.1, Delete "9354248 or" from next higher assembly block.

4.4.2.1, Add Major 105:

"105. Diameter between lobes	0.40%	3.2	Gage
(when applicable)			
(Dwg. 9322236-2)"			

\* 4.4.2.1:

Under "Critical defects", delete "(see 4.5.1)"

Under "No. of Sample Units" column add "See 4.5.1"

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Major 101, 102, 103, 104 and 105, add "See 4.5.1"

Minor 201:

Add "See 4.5.1"

Delete "concentricity" and substitute "runout"

PAGE 11

4.4.2.2, Delete in its entirety.

PAGE 12

4.4.2.3, Delete in its entirety.

PAGE 13

4.4.2.4, Delete in its entirety.

PAGE 14

4.4.2.5, Delete in its entirety.

PAGE 18

\* 4.4.2.9, Minor 201, under "No. of Sample Units", Add "4.5.1"

PAGE 20

4.4.2.11, Add Major 107:

"107	Diameter of Windshield Snap Groove (when applicable) (Dwg. 9310344-2)"	0.40%	3.2	Gage
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4.4.2.11, Delete existing Major 107 and substitute:

"107	Maximum Diameter of Windshield Snap Groove (when applicable)"	0.40%	3.2	Gage
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\* 4.4.2.12, Add Minor 202 as follows:

"202. Excessive Gap 0.65% 3.2 Gage"

PAGE 22

\* 4.4.2.13:

Critical defects, Add:

"2. Propellant weight, min 100% 3.2 AIE  
6.9"

Major defects, Delete in their entirety:

"102 Propellant weight" and "102 Propellant weight  
(alternate method)"

Add new Major 102 as follows:

"102. Propellant weight, max. 100% 3.2 AIE 6.9"

PAGE 23

4.4.2.14, Add Note 1 to Majors 101 and 102 and under notes add:

"1. When annular groove design is used (see Note 5 of Dwg  
9322230), outer surface refers to the outer ring."

PAGE 24

\* 4.4.2.15:

Major 102:

Under No. of Sample Units, delete "4.4.3.6,  
4.4.3.7" and substitute "4.4.3.6"

Under Paragraph Reference/Inspection Method, delete  
"4.4.3.6, 4.4.3.7 and 4.5.10" and substitute "4.4.3.6 and  
4.5.10"

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Minor 204, delete:

"Gap            0.65%            3.2            Visual"

and substitute:

"Excessive Gap            0.65%            3.2            Gage"

PAGE 26

- \* 4.4.2.17, Major 101, delete "4.5.4" and substitute "4.5.5"

PAGE 30

Under paragraph block delete "4.4.2.13" and substitute  
"4.4.2.21".

PAGE 32

- \* 4.4.3.2, Delete "Propellant weight of ... alternate method" and substitute "Propellant weight of ... alternate method only for automatic volumetric loading equipment."
- \* 4.4.3.1, Delete in its entirety.
- \* 4.4.3.2, Delete in its entirety.
- \* 4.4.3.5, Add the following:

"If .38 Cal cases are purchased with primers, the supplier must separate the cases by primer machine. The contractor will then select a sample from each primer machine and load them into M212 cartridge cases and fire them; acceptance criteria remains the same.

The sample will be randomly selected based on Normal Inspection, General Inspection Level I and will be a 0.65 AQL, accept on zero failures."

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4.4.3.6 Functioning. Third line: Delete "... select tow-hundred ..." and substitute "... select two hundred ...".

\* 4.4.3.6, Delete in its entirety and substitute the following:

"4.4.3.6 Functioning. The Government inspector shall select two-hundred and sixteen (216) cartridges from each lot for this test. The cartridges shall be fired from a M203 Grenade Launcher using two (2) randomly selected (chosen by Government Inspector) M203 barrels, one-hundred forty-four (144) cartridges on one (1) M203 barrel at ambient temperature and seventy-two (72) on one (1) M203 barrel for both hot/cold temperatures."

4.4.3.6.4, Delete in its entirety and substitute the following:

"4.4.3.6.4 Rejection. Unless otherwise specified, the allowable number of failures are the total of all failures at all temperature phases. The lot shall be rejected if:"

4.4.3.6.4a, Delete in its entirety and substitute the following:

"4.4.3.6.4a Twelve (12) or more fail in flight or fail to function upon impact."

Add to paragraph 4.4.3.6.4c "Velocity measurements on projectile not functioning properly shall be included in the mean velocity and standard deviation calculations."

4.4.3.6.4d, Delete in its entirety and substitute the following:

"4.4.3.6.4d Any primer misfires, squibs, or hangfires in any temperature phase."

4.4.3.6.4f, Delete in its entirety and substitute the following:

"4.4.3.6.4f Any projectile sticks in the gun bore in any temperature phase or fails to attain a minimum velocity of 144 fps. A projectile on which a velocity measurement was not obtained due to low velocity shall be cause for rejection of the lot."

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4.4.3.6.4h, Delete the following paragraph in its entirety: "If the launcher ... shall be rejected."

- \* 4.4.3.6.4h, Delete "Any cracked cartridge case wall extending into extraction groove in any temperature phase" and substitute: "Any cracked cartridge case wall extending into extraction groove in ambient or hot temperature phase, or more than 2 cartridges exhibiting cracks in the case that extend into the extraction groove in the cold temperature phase."

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- \* 4.4.3.7, Delete in its entirety.

4.4.3.7.4, Delete in its entirety and substitute the following:

"4.4.3.7.4 Rejection. Unless otherwise specified, the allowable number of failures are the total of all failures at all temperature phases. The lot shall be rejected if:"

4.4.3.7.4a, Delete in its entirety and substitute the following:

"4.4.3.7.4a Four (4) or more fail in flight or fail to function upon initial impact."

Add to paragraph 4.4.3.7.4c "Velocity measurements on projectiles not functioning properly shall be included in the mean velocity and standard deviation calculations."

4.4.3.7.4d, Delete in its entirety and substitute the following:

"4.4.3.7.4d Any primer misfires, squibs, or hangfires in any temperature phase."

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4.4.3.7.4f, Delete in its entirety and substitute the following:

4.4.3.7.4f Any projectile sticks in the gun bore in any temperature phase or fails to attain a minimum velocity of 144 fps. A projectile on which a velocity measurement was not



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obtained due to low velocity shall be cause for rejection of the lot."

4.4.3.7.4h, Delete the following paragraph in its entirety: "If the launcher ... shall be rejected."

\* 4.4.3.7.4h, Delete "Any cracked cartridge case wall extending into extraction groove in any temperature phase" and substitute: "Any cracked cartridge case wall extending into extraction groove in ambient or hot temperature phase, or more than 2 cartridges exhibiting cracks in the case that extend into the extraction groove in the cold temperature phase."

\* 4.5.1, line 10, delete "4.4.2.2" and substitute "4.4.2.1 or 4.4.2.9"

PAGE 38

4.5.10, second paragraph, (eighth line down): Delete ".0005" and substitute ".005."

\* 4.5.10:

Line 5, Delete "... from the temperature conditioning from an approved M203 launcher placed on an approved mount..." and substitute "... from the temperature conditioning from a M203 Grenade Launcher with a barrel in accordance with Dwg. 12012006 placed on an approved mount..."

Add at the end:

"The barrels that are used for testing shall comply with Dwg. 12012006 except the average readings of the land diameter when measured with a two (2) or three (3) element gage at a distance of 2.56 inches from the chamber end of the barrel and .25 inches from the muzzle end of the barrel shall not exceed 1.611 inches. If the barrel land diameter exceeds 1.611, that barrel shall be retired from service. The Inspection Equipment, Inspection Method and the frequency of inspection shall be submitted for approval to ARDEC, ATTN: AMSTA-AR-QAC-C, Picatinny Arsenal, NJ 07806-5000. Dimensions taken at the beginning and at periodic intervals shall be recorded.

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Routine maintenance, cleaning, and lubrication shall be performed in accordance with TM 9-1010-221-10 every 250 rounds or at the end of each days firing. It is advisable that the propellant charge weight be assessed using the same M203 barrel that will be used for the functioning test."

PAGE 40

6.7, Delete:  $S = \sqrt{\frac{(x-\bar{x})^2}{n-1}}$

and substitute:

$$\sqrt{\sum \frac{(\bar{x}-x)^2}{n-1}}$$

PAGE 41

Delete  $(x-\bar{x})$  in line 4 and substitute: "  $\sum (\bar{x}-x)^2$  = the sum of the squares . . . . individual value."

6.7.1, Delete "eiser" and substitute "easier"

6.8, Delete in its entirety.

PAGE 42

6.11, Delete in its entirety.

The margins of this amendment are marked with an asterisk or vertical line to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment 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 amendment.

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Preparing activity:  
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