MIL-C-11927D
25 March 1970
SUPERSEDING
MIL-C-11927C
12 July 1962
Amendment 2
10 April 1964

MILITARY SPECIFICATION

CANNON, 90MM GUN: M41

1. SCOPE

1.1 This specification covers one type of cannon intended for use as primary armament for medium tanks.

2. APPLICABLE DOCUMENTS

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

SPECIFICATIONS

Military
MIL-C-13931 - Cannons, General Specification for

PUBLICATIONS

U. S. Army Weapons Command
EPL 7309243 - Engineering Parts List for Cannon, 90MM Gun: M41
GL 7309243 - Gage List for Cannon, 90MM Gun: M41
LSQAP 7309243 - List of Supplementary Quality Assurance Provisions for Cannon, 90MM Gun: M41

(Copies of specifications, standards, drawings and publications requested by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 Materials and construction. The cannon shall conform to this specification, to MIL-C-13931, and to the drawings listed in Engineering Parts List 7309243.

3.2 Functioning. All parts shall function without interference, erratic movement or malfunction.

3.3 Headspace. Headspace, the distance from the front face of the closed and locked breechblock to the rear face of the tube, shall be not less than 0.360 inch nor more than 0.374 inch.

3.4 Firing pin protrusion and retraction. When fired, the protrusion of the firing pin beyond the breechblock face shall be not less than 0.094 inch and not more than 0.155 inch. The firing pin shall then retract behind the face of the breechblock.

3.5 Firing pin guide. Overtravel of the firing pin guide in cocking shall be not less than 0.055 inch.

3.6 Performance. The cannons shall be capable of withstanding the stresses of firing and functional operation under service conditions.

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 utilize 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 that supplies and services conform to prescribed requirements.

4.2 Inspection provisions and methods. Inspection provisions and methods shall be in accordance with MIL-C-13931.

4.2.1 Materials. Materials for use in parts shall be inspected in accordance with MIL-C-13931 and the applicable material specifications referenced on the part drawings.

4.2.2 Parts. Parts, subassemblies, assemblies and cannons shall be inspected in accordance with MIL-C-13931 and the applicable Supplementary Quality Assurance Provisions (SQAPs) listed in LSQAP 7309243.

4.2.3 Inspection equipment. Gage Lists (GLs) containing drawing numbers of Government designed inspection equipment used in the inspection of parts, subassemblies, and assemblies are listed in GL 7309243.

4.3 Examination.

4.3.1 Firing pin protrusion. Each breechblock assembly shall be checked for proper firing pin protrusion using gage 7248885 or an approved equivalent. The procedure shall be as follows: Remove the firing spring retainer and insert the gage (cap plug, shaft). Rotate the cap plug to lock the gage in place. The knurled knob of the gage shall be screwed slowly causing the shaft to bear against the rear of the firing pin until the firing pin has seated completely. The firing pin should protrude from the front face of the breechblock. Check the firing pin protrusion with the gage (template.)

4.3.2 Firing pin retraction. Each breechblock assembly shall be visually examined to determine whether the firing pin is in the retracted position behind the front face of the breechblock. The procedure shall be as follows: Cock the firing pin by moving the cocking lever rearward. Fire the firing pin by pushing the trigger lever rearward. The firing pin should momentarily protrude and then assume a retracted position.

4.3.3 Firing pin guide overtravel. The overtravel of the firing pin guide shall be gaged on each breech mechanism. Indicator gage 8772597 or an approved equivalent shall be used and the procedure shall be as follows: Remove the firing spring retainer, insert the gage, and lock it in place. Lower the breechblock slowly to the point where the sear engages the firing pin guide, as indicated by an audible click. At this point, adjust and set the dial indicator of the gage to zero. Continue lowering the breechblock until the maximum reading of the gage is obtained. This reading is the measurement of the overtravel.

4.3.4 Headspace and firing pin centrality. Minimum headspace and firing pin centrality shall be checked on each cannon, using gage 7247208 or an approved equivalent. Maximum headspace shall be checked on each cannon, using gage 7247247 or an approved equivalent.

4.3.4.1 Minimum headspace and firing pin centrality. The inspection procedure for gage 7247208 shall be as follows: Fill the center cavity of the plug portion of the gage with putty or other suitable material. Lower the breechblock to the latched position by means of the breechblock operating lever. Then, using the handle of the gage, insert the plug portion into the chamber of the cannon tube, being careful not to trip the extractors. Adjust the cross-arm of the gage so that it rests on top of the breech ring and the plug is secure in the chamber. Now, holding the breechblock operating lever down to prevent the breechblock from rising, and observing the caution noted below, trip the extractors with a long block of wood. Slowly raise the breechblock to the firing position. A clearance should exist between the front face of the breechblock and the rear face of the plug portion of the gage. Fire the cannon by pushing the trigger lever to the rear. Open the breech and remove the gage. An indentation caused by the firing pin should be at the center of the cavity containing the putty or putty-like material, as indicated by visual observation.

CAUTION: Keep both hands clear of the opened breechblock to prevent injury in case of accidental tripping of the extractor.

4.3.4.2 Maximum headspace. The inspection procedure for gage 7247247 shall be as follows: Open the breech. Then, using the handle of the gage, insert the plug portion into the chamber of the cannon tube, being careful not to trip the extractors. Adjust the cross-arm of the gage so that it rests on top of the breech ring and the plug is secure in the chamber. Now, holding the breechblock operating lever down to prevent the breechblock from rising, and observing the caution noted below, trip the extractors

with a long block of wood. Slowly raise the breechblock as high as it will go without forcing. No clearance should exist between the front face of the breechblock and the rear face of the gage.

CAUTION: Keep both hands clear of the opened breechblock to prevent injury in case of accidental tripping of the extractors.

4.4 Tests.

4.4.1 Functioning tests. Cannons failing to meet the functioning requirements shall be rejected.

4.4.1.1 Breech mechanism. The breech of each cannon shall be manually opened and closed for two (2) cycles, to determine the smoothness of operation. Latching and unlatching of the operating lever, and breechblock action shall be checked visually.

4.4.1.2 Firing pin group. The firing pin, the retractor, the retractor driver, the sear, the trigger and the cocking lever shall be manually operated to determine smoothness of operation.

4.4.1.3 Extraction. With the cannon in a horizontal position, extraction shall be tested with an empty service cartridge case.

4.4.2 Performance. The cannons shall be subject to performance testing, to assure compliance with 3.6, by a Government activity in accordance with procedures specified by the engineering and quality assurance elements of the procuring activity.

4.5 Inspection of preparation for delivery.

4.5.1 Examination. The classification of defects and the related Acceptable Quality Levels (AQLs) for examination of the packaging, packing and marking processes are as follows:

Category	Defect	AQL
Major		
101	Illegible or incorrect marking	1.0
102	Improper level of packaging or packing	1.0
103	Inadequate cleaning or drying	1.5
104	Improper preservative application	1.5
105	Improper or inadequate blocking or bracing	1.5
106	Improper closure or strapping of containers	1.5
Minor		
201	Workmanship	4.0

5. PREPARATION FOR DELIVERY

5.1 Procedure. Preparation for delivery shall be in accordance with the applicable packaging data sheet for the level of protection specified in the procurement documents.

6. NOTES

6.1 Ordering data. Procurement documents shall specify the following:

a. Title, number and date of this specification

b. The applicable packaging data sheet and levels of packaging and packing

c. Serial numbers for the cannons, tubes and blast deflectors

d. Availability of inspection equipment from Government stocks

e. Extent of supplier's responsibility for Government-furnished and for supplier-acquired final inspection equipment

6.2 When warranted, the following paragraph should be included in the contract to cover the type of quality assurance system that is desirable for this item.

Contractor's quality assurance system. The contractor shall provide and maintain a quality assurance system in accordance with MIL-I-45208.

Custodian:
Army--WC

User activity:
Navy--MC

Preparing activity:
Army--WC (Wvt. Ars.)

Project No. 1015-0236

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SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 22-R255

INSTRUCTIONS: This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.

SPECIFICATION

ORGANIZATION

CITY AND STATE

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

[ ] DIRECT GOVERNMENT CONTRACT [ ] SUBCONTRACT

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A. GIVE PARAGRAPH NUMBER AND WORDING.

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE?

[ ] YES [ ] NO *(If "yes", in what way?)*

4. REMARKS *(Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)*

SUBMITTED BY *(Printed or typed name and activity - Optional)*

DATE

DD FORM 1 JAN 66 1426 REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED.

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