

MIL-T-63222(AR)  
AMENDMENT 1  
7 NOVEMBER 1980

## MILITARY SPECIFICATION

Trainer, Field Artillery, 14.5mm: M31

This amendment forms a part of Military Specification MIL-T-63222(AR), dated 20 July 1977.

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2.1, Drawings - Add: "F11578634 Cannon Assembly, 14.5mm - General Drawing"

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3.8: Change number to "3.9" and add new paragraph:

"3.8 Interchangeability. Assemblies and parts shall be subjected to the tests of 4.5.3.3, 4.5.3.4 and 4.5.3.5".

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Add: "4.5.3.3 Cannon Assembly. The contractor shall subject a sample of ten cannon assemblies selected by the Government representative from each inspection lot for interchangeability testing using the Interchangeability Pattern of Table I. The ten cannon assemblies shall be tested for and shall comply with the requirements for firing pin protrusion, headspace and safety operation before and after interchangeability of parts, using the test methods specified in 4.5.2.6, 4.5.2.7 and 4.5.2.8 respectively. In addition, the rifles shall be tested for functioning requirements after interchange of parts using the test methods specified in 4.5.3. No malfunctions shall be allowed in the function firing test and failure of not more than two cannon assemblies shall be allowed in the targeting and accuracy firing test. However, cannon assemblies failing in the targeting and accuracy test within the limitations above, shall be corrected by the contractor to meet the targeting and accuracy requirements (see 4.5.3.2) before they are returned to the represented lot for final acceptance. Failure of the interchangeability test shall cause retest or rejection of the represented lot. At the discretion of the Government representative, an interchangeability retest may be allowed without reconditioning the lot of cannon assemblies.

TABLE I  
INTERCHANGEABILITY PATTERN  
FOR  
CANNON ASSEMBLY (11578634)

<u>PART NAME</u>	<u>PART NUMBER</u>	<u>RELATIONSHIP OF PARTS FOR REASSEMBLY</u>
Lock Knob	11578617	5 6 7 8 9 10 1 2 3 4
Bushing	11578623	6 7 8 9 10 1 2 3 4 5
Plunger	11578624	7 8 9 10 1 2 3 4 5 6
Trigger	11578603	8 9 10 1 2 3 4 5 6 7
Safety	11578607	9 10 1 2 3 4 5 6 7 8
Guide Bolt	11578604	10 1 2 3 4 5 6 7 8 9
Barrel Assembly	11578625	1 2 3 4 5 6 7 8 9 10
Bolt	11578600	10 1 2 3 4 5 6 7 8 9
Extractor	11578608	9 10 1 2 3 4 5 6 7 8
Pin, Firing	11578606	8 9 10 1 2 3 4 5 6 7
Spring, Firing Pin	11578613	7 8 9 10 1 2 3 4 5 6
Spring Guide	11578610	6 7 8 9 10 1 2 3 4 5
Lever, Bolt	11578601	5 6 7 8 9 10 1 2 3 4
Spacer Detent	11578598	4 5 6 7 8 9 10 1 2 3
Bolt Screw	11578612	3 4 5 6 7 8 9 10 1 2

4.5.3.3.1 Interchange of parts. Cannon shall be tested for interchange of parts by disassembling and then reassembling parts using the parts and prearranged system specified in Table I. Interchange of parts shall be accomplished by dividing the parts of each cannon into 10 groups of non-mating parts and distributing the groups into 10 different trays until each tray contains parts for a complete cannon. Groups of parts from the first cannon shall be taken in order and placed in trays 1 through 10; groups of parts from the second cannon shall be taken in order and placed in trays 2 through 10 to 1; groups of parts from the third cannon shall be taken in order and placed in trays 3 through 10 to 2; etc. Commercial parts, with the exception of those listed on the interchange list, such as screws, spring pins, etc., shall be placed in the same tray as their mating or associate part. Any part rendered unserviceable by disassembly shall be replaced without penalty to interchangeability test. The cannon shall be reassembled using only parts which are in the same tray.

4.5.3.3.1.1 Parts shall be capable of assembly as shown without fitting or selective assembly.

4.5.3.3.1.2 If a part fails to fit, the part and mating parts shall be inspected for conformance to requirements and determination of cause. The parts shall then be screened 100%.

4.5.3.3.1.3 After assembly, check headspace, firing pin protrusion, safety and hand function for smoothness of operation and freedom from binding.

4.5.3.3.1.4 The interchangeability test may be waived at the discretion of the Procuring Contracting Officer after successful demonstration of conformance to the interchangeability requirement.

4.5.3.4 Interchangeability for the Carriage/Tripod Assemblies. Individual tripod assemblies shall be tested for interchangeability of parts by disassembling and then reassembling parts using the parts and pre-arranged system as follows. Interchangeability of parts shall be accomplished by dividing the parts of each assembly into 8 groups of nonmating parts as shown in Table II and distributing the groups onto 8 different pallets until each pallet contains parts for a complete assembly. Groups of parts from the first assembly shall be taken in order and placed on pallets 1 through 8; groups of parts from the second assembly shall be taken in order and placed on pallets 2 through 8 to 1; groups of parts from the third assembly shall be taken in order and placed on pallets 3 through 8 to 2; etc. Commercial parts such as screws, spring pins, etc., shall be placed on the same pallet as their mating or associated part. Any commercial part rendered unserviceable by disassembly shall be replaced without penalty to the interchangeability test. The assemblies shall be reassembled using only those parts that are on the same pallet.

## TALBE II

### GROUPS OF NON-MATING PARTS

<u>GROUP I</u>		<u>GROUP II</u>	
Cannon, gear assy	11578675	Mount, base fixed assy	11578756
Screw, nut locking	11578682	Base, sub-assy	11578718
Sicket	11578699	Screw, locking	11578705
<u>GROUP III</u>		<u>GROUP IV</u>	
Shaft (elevating bracket)	11578655	Elevating bracket assy	11578754
Leg, lower (1)	11578685	Leg, lower (2)	11578685
Screw	11578698	Screw	11578698
<u>GROUP V</u>		<u>GROUP VI</u>	
Plunger assy	11578757	Upper carriage assy	11578748
Leg, lower rear	11578690	Sleeve assy (1)	11578692
Retainer	11578701	Spring	11578703

GROUP VII

Plunger (1)	11578649
Sleeve assy (2)	11578692
Handlelock	11578702

GROUP VIII

Plunger (2)	11578649
Sleeve assy (3)	11578692
Lock, telescope	11578697

4.5.3.5 Interchangeability for the trainer assemblies. Interchangeability for trainer assemblies shown in Table III shall be tested by disassembling and then reassembling assemblies using the following system:

1. Take four (4) trainers consisting of the Cannon gear Assembly - B11578675, Carriage Assembly-F11578686, Tripod Assembly-F11578687 and Socket Assembly-C11578700.
2. Disassemble the trainers so that the individual assemblies are dispersed to comply with the interchangeability pattern specified in Table III.
3. The trainers shall be reassembled using the assemblies in each group.

TABLE III

INTERCHANGEABILITY PATTERN  
FOR  
TRAINER, ARTILLERY, 14.5MM: M31

Assemblies	Drawing Number	Relationship of Assemblies for Reassembly
Cannon, Gear	B11578675	1 2 3 4
Carriage	F11578686	4 1 2 3
Tripod	F11578687	3 4 1 2
Socket	C11578700	2 3 4 1

Custodian;

Army-AR

Preparing activity:

Army-AR

Project No. 6920-A094