

ATTACHMENT 2 TO APPENDIX 4 TO ANNEX B

C22 MODULAR PISTOL PROJECT

SYSTEMS ACCEPTANCE TEST (SAT)

TECHNICAL EVALUATION PROCEDURES



Reference Number W8476-216392

Date: 1 February 2022

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NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods. Disclosure notices and handling instructions originally received with the document shall continue to apply.

1. PURPOSE

- 1.1. This document describes the System Acceptance Testing (SAT) that must be conducted by the Contractor to verify that the initial contracted quantities of C22 Modular Pistol Project (MPP) Full Frame (FF) Pistols and Holster Systems meet the requirements of the contract.
- 1.2. Canada must select ten x C22 FF pistols from the initial contract quantity of ~~twenty five~~ fifty for SAT.
- 1.3. Canada must select five x C22 FF Holster Systems Configuration 1 and five x C22 FF Holster Systems Configuration 2 from the initial contract quantities of twenty five of each configuration for SAT.

2. SAT PROCEDURES

2.1. Test 1: Inspection of Unique Canadian Requirements

2.1.1. Aim

- a. The SPTD and the C22 FF pistols must be subjected to review/visual inspections by Canada to confirm that they are compliant to the below requirements. The Contractor must have available a complete drawing package to assist in this test.

1) Annex B SOW Requirements:

- i) 5.2. Pistol Serial Number;
- ii) 5.2. Pistol Designation;
- iii) 5.2. Pistol Frame Size;
- iv) 5.2. Pistol Caliber;
- v) 5.2. Pistol Identity/Logo;
- vi) 5.2. Pistol Proof Markings;
- vii) 5.2. All Contractor Unique Markings; and
- viii) 8.4.1. Zeroing; and
- ix) 8.4.2. Precision.

2) Annex C Pistol Technical and Performance Specification Requirements:

- i) 3.3. Pistol Physical Characteristics;
- ii) 3.4. Sights;
- iii) 3.5.2. Serial Number;
- iv) 3.10. Magazine;
- v) 3.13. Exterior Finish; and
- vi) 3.18. High Pressure Test.

3) Annex D Holster Technical and Performance Specification Requirement:

- i) 3.1. Performance Requirement; and
- ii) 3.2. Holster Retention.

2.1.2. Setup

- a. All C22 FF pistols not selected at paragraph 1.2 must be used to confirm compliance.
- b. Canada must have all necessary SPTD made available as well as copies of approved CDRL 006 and DID SE-001.

2.1.3. Procedure

- a. Canada must visually inspect the SPTD and the C22 FF pistols to ensure that they meet the requirements of the contract and the specific requirements listed under paragraph 2.1.1.

2.1.4. Sentencing Criteria

- a. The SPTD and the C22 FF pistols must be compliant to the contract and the specific requirements listed under paragraph 2.1.1.

3. PHASE 2 PART II – LABORATORY AND RANGE TESTING

3.1. Test 2: Ammunition Compatibility/Safety Inspection

3.1.1. Aim

- a. Canada must complete a safety inspection of all C22 FF pistols selected at paragraph 1.2 to confirm compliance to Requirement 3.1.1 to 3.1.3 of Annex C, and verify that the pistols fire safely.

3.1.2. Procedure

- a. All C22 FF pistols must be inspected and gauged to verify that they are safe to fire using maintenance gauges provided by the Contractor.
- b. Following the safety inspection, the Contractor must provide a shooter who must fire 5 rounds of **Canadian Mk 1 Ball 9 x 19 mm Cartridge 9mm Ball Cdn Mk 1, NSN 1305-20-000-6943** ammunition with each C22 FF pistol to confirm safe operation.
- c. If any C22 FF pistol is found to be unsafe to fire, the Contractor must resolve all issues within 12 hours at no cost to Canada.

3.1.3. Sentencing Criteria

- a. For any C22 FF pistol that is deemed unsafe to fire, and the Contractor is not able to correct the deficiencies within the allotted time, the reasons must be recorded and the Contractor must be deemed non-compliant and the Production Contract must be terminated.

3.2. Test 3: Safety Mechanism Operation

3.2.1. Aim

- a. Verify compliance to requirements 3.9.1 and 3.9.2 of Annex C.

3.2.2. Procedure

- a. All C22 FF pistols selected at paragraph 1.2 must be used to confirm compliance.
- b. Insert a fully loaded magazine into the C22 FF pistol.
- c. Load a cartridge into the chamber by cocking the C22 FF pistol.
- d. Fire 2 cartridge of ~~Canadian Mk 1 Ball 9 x 19 mm~~ 9mm Ball Cdn Mk 1, NSN 1305-20-000-6943 ammunition from the weapon then cease-fire.
- e. Remove the loaded magazine from the C22 FF pistol.
- f. Remove the live cartridge from the chamber by racking the slide rearward and return the slide to the forward position.
- g. Fully disassemble the C22 FF pistol following the manufacturer's procedures for cleaning without pulling the trigger to fire the C22 FF pistol.

3.2.3. Sentencing Criteria

- a. Confirm that the shooter can both see and feel the loaded chamber indicator ~~on the top of the slide~~ when the C22 FF pistol is first loaded and following each shot.
- b. Confirm that the C22 FF pistol can be fully disassembled without having to pull the trigger to fire the C22.

3.3. Test 4: Precision And Accuracy Testing

3.3.1. Aim

- a. Verify compliance to requirement of 3.16.1 of Annex C.

3.3.2. Setup

- a. All C22 FF pistols selected at paragraph 1.2 must be used to confirm precision and accuracy requirements.
- b. All precision and accuracy shooting must be conducted ~~on an indoor~~ at a distance of 25 m ~~range~~.
- c. All precision and accuracy shooting must be from a ransom rest where the C22 FF pistol has been secured using grip inserts for the medium grip size provided by the Contractor or an alternate method of shooting that the Contractor recommends for approval by the Technical Authority.
- d. Paper or electronic targets or both must be used to allow evaluators to measure precision.

3.3.3. Procedure

- a. Fire ~~20~~ 40 cartridges (~~Canadian Mk 1 Ball 9 x 19 mm ammunition cartouches à balles ordinaires de 9 mm canadiennes de type Mk 1, NNO 1305-20-000-6943~~) to confirm that the C22 FF pistol is properly secured in the ransom rest, that all ransom rest hardware remains tight and the laser aiming devices are functional and allow the shooter to maintain a consistent point of aim. If an alternative method of shooting has been approved by the Technical Authority fire 10 cartridges (~~Canadian Mk 1 Ball 9 x 19 mm ammunition Cartridge 9mm Ball Cdn Mk 1, NSN 1305-20-000-6943~~) using this method.
- b. Conduct a precision test by firing 5 x 5 cartridge groupings using ~~Canadian Mk 1 Ball 9 x 19 mm Cartridge 9mm Ball Cdn Mk 1, NSN 1305-20-000-6943~~ ammunition;
 - i. The Contractor may reshoot up to 1 of the 5 groupings, if there was an anomaly (flyer) in the groupings compared to the other groupings by that weapon provide approval to do so is provided by the Technical Authority.

3.3.4. Results

- a. Canada must calculate the precision and the MPI for each group, and record all measurements on the record sheet at Attachment 3 to Appendix 4 to Annex B. Targets used for precision shooting must be labeled and retained for record purposes.

3.3.5. Sentencing Criteria

- a. The Maximum Extreme Spread for each of the 5 round groupings must be less than or equal to 12 cm.
- b. All the rows in the table of Attachment 3 of Appendix 4 must be Compliant, where applicable.

3.4. Test 5: Trigger Pull Force

3.4.1. Aim

- a. Verify compliance to requirements ~~3.7.6, 3.7.7 and 3.7.9~~ 3.7.6 and 3.7.9 of Annex C.

3.4.2. Procedure

- a. All C22 FF pistols selected at paragraph 1.2 must be used to confirm that the trigger pull force are within specification.
- b. The trigger pull force must be measured using a system of measurement similar to an NRA Official Universal Trigger Weight System (NRA Weights).
- c. The C22 FF pistol must be mounted in a fixture with the barrel vertical and the muzzle up.

- d. With the C22 FF pistol unloaded and an empty magazine, apply loads to trigger so that the load is parallel to the barrel to within 5°.
- e. The trigger pull force must be measured in the following manner:
 - i. Ready the C22 FF pistol;
 - ii. Apply a 5.5 lb load to the trigger;
 - iii. Increase the load in 1/16 lb increments until 7.0 lbs has been applied or until the C22 FF pistol fires on the empty chamber;
 - iv. When adding a new increment of weight, cycle the C22 FF pistol to reset all components and mechanisms;
 - v. Record the load that causes the striker to release; and
 - vi. To expedite the measurement, coarse measurement may be done using an electronic measurement device to determine the trigger pull force, then confirm the measurement with the NRA weights. If this approach is used, begin with a load at least 1/2 lb less than the electronically determined trigger pull weight and continue the measurement in accordance with 3.4.2.e.iii through 3.4.2.e.v.
- f. Conduct this measurement 10 times to determine compliance to requirements at Annex C paragraphs 3.7.6, ~~3.7.7~~ and 3.7.9.
- g. The Contractor must request and receive approval from the Technical Authority to use an alternative procedure than that described above to measuring trigger pull force.

3.4.3. Sentencing Criteria

- a. The trigger pull measurement for each trigger pull must meet the range specified in Requirement 3.7.6 of Annex C.
- b. The trigger pull weight for each C22 FF pistol must be consistent with a maximum deviation of ~~+/-~~ 0.2 kgs across the 10 trigger pull measurements.
- ~~c. The trigger must reset to its normal forward most position upon release after partial or complete trigger pull.~~

3.5. Test 6: Interchangeability Test

3.5.1. Aim

- a. Verify compliance to requirement 3.19.1 of Annex C for (1) New C22 FF pistols only.

3.5.2. Procedure

- a. Perform this test on all C22 FF pistols selected at paragraph 1.2.

- b. The C22 FF pistols must be disassembled into the major subassembly groups and labeled or bagged and labeled in the case of smaller components that cannot be labeled for identification purposes (eg FFA G1, FFA G2...FFB G1, FFB G2...ending with FFJ G10):

Subassembly Groups:

Group 1: Magazine Housing;

Group 2: Magazine spring, follower and magazine floor plate;

Group 3: Trigger Group;

Group 4: Barrel;

Group 5: Recoil Assembly (incl Guide and Spring);

Group 6: Grip Frame/Module;

Group 7: Striker Assembly;

Group 8: Slide;

Group 9: Magazine Catch (inc Spring, catch and stop) Assembly;
and

Group 10: Takedown Lever.

- c. The C22 FF pistols must be reassembled according to the weapon interchangeability chart at Table 1:

Component/Assembly	Interchanged Weapon Letter									
	A	B	C	D	E	F	G	H	I	J
Group 1	1	10	9	8	7	6	5	4	3	2
Group 2	2	1	10	9	8	7	6	5	4	3
Group 3	3	2	1	10	9	8	7	6	5	4
Group 4	4	3	2	1	10	9	8	7	6	5
Group 5	5	4	3	2	1	10	9	8	7	6
Group 6	6	5	4	3	2	1	10	9	8	7
Group 7	7	6	5	4	3	2	1	10	9	8
Group 8	8	7	6	5	4	3	2	1	10	9
Group 9	9	8	7	6	5	4	3	2	1	10
Group 10	10	9	8	7	6	5	4	3	2	1

Table 1: Interchangeability Chart

- d. Load a full magazine and fire 5 x cartridges of ~~Canadian Mk 1 Ball 9 x 19 mm ammunition~~ 9mm Ball Cdn Mk 1, NSN 1305-20-000-6943 from each interchanged C22 FF pistols to confirm operation.
- e. The Interchanged C22 FF pistols must be returned to the original state.

3.5.3. Sentencing Criteria

- a. All major subassembly groups must be found to be interchangeable between the C22 FF pistols.
- b. The interchanged C22 FF pistols must be serviceable and fire safely.

3.6. Test 7: Packaging and Labeling Inspection

3.6.1. Aim

- a. To inspect and verify that all items to be delivered to Canada under an NSN are complete and, properly packaging and accurately labelled IAW the contract.

3.6.2. Setup

- a. Select five of every deliverable end item for inspection.

3.6.3. Procedure

- a. Inspect each item selected for inspection to the drawing package and the contract to confirm that the item is complete, appropriately packaged to protect the item IAW the contract and that the item label is complete and contains accurate information.

3.6.4. Sentencing Criteria

- a. Any item that is found to be incomplete, improperly packaged or inaccurately labelled is to be corrected to the satisfaction of the Technical Authority.
- b. Items that were not inspected but are of the same type must be corrected by the Contractor prior to shipment to Canada.