



HEADQUARTERS
PHILIPPINE ARMY
PA TECHNICAL WORKING GROUP FOR ORDNANCE – FIREPOWER
Fort Andres Bonifacio, Metro Manila

ENDURANCE TEST PROCEDURES
for Assault Rifle, 5.56mm M4/AR15

1. GENERAL

1.1. **Scope:** The Endurance Test Procedures shall apply to Assault Rifle, 5.56mm M4/AR-15 during Post Qualification for the Procurement of 861 ea Assault Rifle 5.56mm M4/AR-15 with reference number ORD PABAC 042-20 and Procurement of 11,551 units Assault Rifle, 5.56mm M4/AR-15 Platform under ORD PABAC 045-19.

1.2. **Objectives:**

1.2.1. To ascertain compliance to standards and specifications in consonance with the need of the end user.

1.2.2. To determine if the weapon can withstand firing of 6,000 rounds with not more than the allowable number of malfunctions and unserviceable parts allowed for a single weapon.

1.3. **Reference:** Technical Specifications for Assault Rifle, 5.56mm, M4/AR-15 with PA SPECS NR FAM – 32(AR) – 04 – 20 dated 10 July 2020.

2. SAMPLE ALLOCATION

Test samples shall consist of at least Two (2) unit based on the technical specifications on the submitted product offered by the proponent during the bidding.

3. PROCEDURES

3.1. **ENDURANCE TEST:**

3.1.1 **Purpose:** To determine if the weapon can withstand firing of 6,000 rounds with not more than the allowable number of malfunctions and unserviceable parts allowed for a single weapon.

3.1.2 **Procedures:**

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3.1.2.1 A 200 round increment shall be fired using 10 magazines filled with 20 rounds each within ten (10) minutes.

3.1.2.2 The first 20 round increment shall be fired in semi-automatic followed by 20 rounds in full-automatic mode until the 200 rounds have been fired. A 10-minute cooling time is allowed after 200 rounds was completed.

3.1.2.3 The weapon shall be cleaned, lubricated and visually inspected for any damage after every 1,000 rounds for ten (10) minutes duration only.

3.1.2.4 All malfunctions and unserviceable parts observed during the test shall be recorded and properly identified. Malfunction shall not be counted against the weapon if it is caused by parts listed below that became unserviceable after firing the minimum life rounds.

3.1.2.5 Parts that became unserviceable may be replaced.

3.1.2.6 The tests shall be repeated until 6,000 rounds have been fired. Firer shall not exceed the allotted time for firing, cooling, and cleaning/lubricating.

3.1.2.7 Subject the barrel assembly and bolt to Magnetic Particle Test to determine integrity of the said parts.

3.1.2.8 Record observations.

3.1.3 Standard: Performance of the weapon shall be according to specification.

Table 2. Maximum Malfunctions Permitted in 6,000 rounds

	Malfunctions	Per Rifle
1	Failure of bolt to lock	2
2	Failure to fire	2
3	Failure to feed (from magazine)	5
4	Failure to eject	3
5	Failure to chamber	3
6	Failure to extract	1
7	Bolts fail/hold rear	2
8	All other malfunctions	1
Allowed cumulative number of malfunctions per weapon		9

Note 1: Other malfunctions include, but are not limited to: occurrence of doubling (two shots fired with a single trigger pull) during semi-automatic firings; failure to immediately stop firing when the trigger is released (uncontrolled fire) during automatic

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firing; and failure of bolt assist assembly to remain engaged with the bolt carrier assembly during the manual attempt to lock the bolt.

Table 3. Unserviceable Parts Permitted in 6,000 rounds

Parts that may need replacement after the minimum life rounds	Minimum Life Rounds
Ejector Spring Trigger Spring, Disconnect Springs Hammer spring Extractor pin Extractor	3,000
Extractor spring	3,600
Bolt Ring	1,200

Note: Be prepared for the availability of parts that may need replacement after the minimum life rounds.

4. RESULT

The submitted sample assault rifle must not exceed the number of malfunctions and unserviceable parts allowed after being fired with a total of 6,000 rounds.

The barrel assembly and bolt shall be free from injurious defects as evidence by visual and magnetic particle inspection.

5. CRITERIA

The result of the inspection and tests conducted based on the above test parameters shall be the basis for the evaluation of the Technical Working Group in coming up with the Post Qualification Report and subsequent recommendation to the Chairman of the Bids and Awards Committee.

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