How to Weapon QA Review in Arma 3

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This is a semi-structured guide on "How to review a weapon for QA purposes within Arma 3" for testers of mods and can be universally used.

This Weapon Review comes in combination with the Asset Test Mission on Malden available at [insert Link]. This mission currently contains two different Fire Ranges with Targets at set distances and hence is usable with every mod.

In general, the findings of such checks should be properly reported in a ticket and supplemented with screenshots or short clips. Where exactly the feedback can be given is depending on the developer. It might be on GitHub, GitLab, a custom ticket function or else.
Make sure that the ticket has an appropriate title which is containing the weapon name and/or the classname of said weapon, ammunition and/or attachment in question as well as the found issue/s.
Some developers also prefer one ticket per asset, in which all found issues are posted.
Please make sure to check beforehand how tickets are usually set up and if necessary, provide additional information like date, build-number, active mods, RPTs or else.

1. Test preparation.

Make sure you have the mod/s you would like to test (as well as possible dependencies) properly loaded.
After that start the test mission.

The player unit in the mission has multiple scroll wheel options.

The option "Activate test parameters" sets the following settings to have reproduceable settings and ensures that you can see what you should see.
This needs to be executed once at the start of every test and can be re-applied to clear the bullet tracers.

```
player allowDamage false; //disables damage for the player
[player, 50] spawn BIS_fnc_traceBullets; //enables tracing of 50 bullets
setViewDistance 2250; //sets viewDistance to 1750m
setObjectViewDistance [2250, 200]; //sets ObjectViewDistance to 2250m and shadows to 200m
```

The option "Open Arsenal" opens the full arsenal so you are able to switch weapons and gear on the fly. It executes the following command:

```
["Open", [true]] call BIS_fnc_arsenal
```

The next three options simply execute the skipTime command for 1, 4 and 8 hours to easily be able to change the time of day.

The "Teleport to …" options automatically teleport you to the currently available locations:
- Small Arms Range for usually testing weapons and statics
- Heavy Arms Range for usually testing statics and vehicles

The mission also contains a gamemaster module (Zeus) which can be used to spawn statics, targets or else.
The standard key for the interface usually is either "Y" or "Z", based on your keyboard layout.

Make sure you know which key you have bound to that.
The key can be found and set at ESC --> Options --> Controls --> Show: Zeus (dropdown) --> Action: Zeus.

2. Visual inspection

Go into the camera and observe the weapon from all sides. Do that in different stances and directions. Standing, crouching, leaning to sides, laying down, laying sideways.
Example things to observe:
- magazine not centered
- fingers clipping through the weapon
- texture errors

3. Shadow inspection

Being in 1st and 3rd observe the shadow of the weapon, the magazines and attachments. Use the command to skip time and do that at different angles of incidence of the sun to cover all directions. Do that in different stances and directions. Standing, crouching, leaning to sides, laying down, laying sideways.
Example things to observe:
- magazine or other parts have no shadow
- bipod shadow is not moving when bipod is set up

4. Ground holder inspection

Check ground holder items. Take the weapon and the different mags out of your inventory and put them on the ground. Observe if it is the correct item, that the shadows are correct.
Do that assembled as well as stripped into separate parts.
Also here observe textures, shadows and the fact that the correct item is placed.

5. Ranging check

Check of the ranging of the weapon is correct. Do that with iron sights as well as scopes. For this use the appropriate ranges. The targets are set at the following distances:

Small Arms Range:
25m, 50m, 75m, 100m, 125m, 150m, 175m, 200m, 250m, 300m, 350m, 400m, 450m, 500m.
Every 100m the distance is indicated by a concrete curb.

Heavy Arms Range:
100m, 200m, 300m, 400m, 500m, 600m, 700m, 800m, 900m, 1000m, 1200m, 1400m, 1600m.
100m-500m are placed left, 600m-1000m are placed right. 1200m-1400m are placed in the middle.

More or less comprehensible list of points to consider and check for a proper weapon QA:

General
- Availability of weapon, ammo and attachments (Zeus, Editor, units, vehicles, ammoboxes)
- Correct mod icon in editor and arsenal

Localisation
- Correct asset names and classnames (weapons, magazines, attachments)
- Correct name of fire modes
- Correct name of ammunitions
- Correct short description (mouseover in inventory)

Visuals
- Correct texture
- Correct surface specularities
- Correct animations of parts (movement, speed and placement) on firing, reload and belts if applicable
- Correct reload animations in all stances
- Correct holding/hand animations
- Correct cartridge ejection
- Correct shadows
- Correct particle effects
- Correct muzzle (depending on muzzle breaks)
- Correct tracers
- Correct heat signature (none before firing, impacted parts after firing)
- Correct optic reticle

Sounds
- Correct firing sound in different fire modes
- Correct firing sound with & without suppressor
- Correct firing sound in different environments
- Correct dry firing sound

Gameplay
- Fire mode selector working as intended
- Realistic and correct magazine sizes
- Weight of weapons, magazines, attachments
- Weapon resting and/or bipod functionality
- Correct iron sight and optics zoom and FOV
- Position of memory points
- Correct zeroing of iron sights and optics