How to Detect Bullet Hacks

1. Use /spec
2. Use /bstats
3. Observe the player
4. Interpret the bullet stats
5. If unsure yet, repeat step 2-4
6. Depending on the findings, take action

How to interpret Bullet Stats

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UIF - Bullet Statistics
  - Player:                          R.One(117)
  - Weapon:                          Sawn-off Shotgun(26)

  - Bullets Fired:                   191
  - Bullets Hit:                     130
  - Bullet Hit Ratio:                0.68
  - Avg Bullet Sequence:       8
  - Avg Bullet Distance:       8.13
  - Avg Bullet Hit Offset:     2.29
  - Avg Bullet Origin Offset:        1.02
  - Avg Bullet Damage:               24.75

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                    OK
```

Bullets Fired

- Number of bullets fired.
- A low number means the bullet stats are not reliable. Wait until more bullets have been fired.

Bullets Hit

- Number of bullets that hit a player that was moving.
- Bullets that hit stationary players are not counted, because bullet hacks are of no use in such situations.

Bullets Hit Ratio

- The ratio of bullet hits to bullets fired.
- The minimum percentage is 0%, no bullets hit.
- The maximum percentage is 100%, all bullets hit.
- The higher the bullet hit ratio, the higher the chance the player is using bullet hacks.

Avg Bullet Sequence

- The average number of bullets that continuously hit a player that was moving.
- Bullet sequences are bullets that hit a player without interruption, like hitting another entity besides a player.
- The higher this value, the higher the chance the player is using bullet hacks.

Avg Bullet Distance

- The average distance between the bullet origin position and the bullet hit position.
- The higher the value, the larger the distance bullets travel.
- Each weapon has a max bullet range limit. If this value goes above the weapon's range there are high chances the player is using bullet hacks

22 - Colt 45	40.0
23 - Silenced Pistol	40.0
24 - Desert Eagle	40.0
25 - Shotgun	35.0
26 - Sawn-Off Shotgun	20.0
27 - Spaz Shotgun	40.0
28 - UZI	50.0

29 - MP5	75.0
30 - AK47	150.0
31 - M4	150.0
32 - Tec9	50.0
33 - Rifle	150.0
34 - Sniper	300.0
38 - Minigun	100.0

Avg Bullet Hit Offset

- The average distance between the bullet hit position and the target player position.
- On ideal conditions the bullet hit position and the target player position should be the same.
- If these positions are different for whatever reason, like lag or usage of hacks, the value of Hit Offset will increase.
- This value should be < 5.0, however due to lag exceptions are possible.

Avg Bullet Origin Offset

* The average distance between the bullet origin position and the issuer player position.
* On ideal conditions the bullet origin position and the issuer player position should be the same.
* If these positions are different for whatever reason, like lag or usage of hacks, the value of Origin Offset will increase.
* This value should be < 1.0, however due to lag exceptions are possible.

Avg Bullet Damage

- The average amount of damage inflicted by the weapon.
- Useful for Shotguns, as these weapons have dynamic damage. Other weapons have a unique damage value for all bullets.
- The max damage value is 50 for Sawn Off and Combat shotgun and 40 for SPAS-12.
- The closer the value displayed here gets to the max limit of the weapon, the higher are the chances the player is hacking.

Bullet Interval

- The measurement of time (interval) in milliseconds between bullet shots. It shows an average of the last 10 bullets fired
- Useful for detecting the usage of auto-scroll (Sawn-off)
- For high fps (over 100) the value should be 400 >
- For low fps (under 100) the value should be 415 >
- Low fps usage of auto-scroll might need more observation than high fps in some cases
- Maintaining values under the set limit multiple times, is the usage of auto-scroll
- For accurate interpretation of the values, it is required to check /bstats 10-12 times when every 1-2 shots is fired (by sound)
- Can be a useful tool for detecting auto-cbug (Desert Eagle)
- Maintaining values between 250-150 multiple times can be the usage of auto-cbug, however it will need to be confirmed by other methods of detection
- Generally values over 500 are irrelevant

Notes

- Bullet stats are automatically reset when a player joins the server.
- For easy comparison to "normal" values, /bstats shows both your own bullet stats and the bullet stats of the player.
- Each weapon has different "normal" values. That's why bullet stats are saved for each weapon.
- Bullet stats of a player can be reset with /rbstats. This is useful if the player is suspected to have recently activated bullet hacks, but has been in the game for a while.

Values to Detect an Aimbotter

Sawn-Off Shotgun

(Weapon id : 26)

Scenario: Duel
N/A

Scenario: Gwar/Gz/DM
Bullet Hit Ratio: 0.80~0.82%+ (200+ bullets)

0.83 rare cases
Avg Bullet Sequence: 13+

Desert Eagle
(Weapon id : 24)

Scenario: No c-bug | Gwar/Gz/DM/Duel
Bullet Hit Ratio: 60% +
Avg Bullet Sequence: 6+

Scenario: Regular c-bug | Duel
Bullet Hit Ratio: 60% +
Avg Bullet Sequence: 5+

Scenario: Regular c-bug | Gwar/Gz/DM
Bullet Hit Ratio: 53% +
Avg Bullet Sequence: 5+

Scenario: Rapid c-bug | Gwar/Gz/DM/Duel
Bullet Hit Ratio: 45% +
Avg Bullet Sequence: 4+

Sniper and Country Rifle
(Weapon id : 34 and 33)

Scenario: Gz/Gwar | Player weapon set
Bullet Hit Ratio: 60% +
Bullet Hit Sequence: 5+

Scenario: Gz/Gwar/Duel/DM | 'Desert Eagle, Shotgun, Sniper Rifle' weapon set
Bullet Hit Ratio: 67% +
Avg Bullet Sequence: 5+

M4 and AK47

(Weapon id : 31 and 30)

Bullet Hit Ratio : 50% +
Avg Bullet Sequence : 7+

Tec9 and UZI

(Weapon id : 32 and 28)

Bullet Hit Ratio : 40% +
Avg Bullet Sequence : 5+

Combat Shotgun

(Weapon id : 27)

Bullet Hit Ratio : 70% +
Avg Bullet Sequence : 7+

Shotgun
(Weapon id : 25)

Bullet Hit Ratio : 70% +
Avg Bullet Sequence : 8+

Silenced Pistol
(Weapon id : 23)

Bullet Hit Ratio : 45% +
Avg Bullet Sequence : 4+

Important

Actions to be only taken after the player has fired 100 bullets. If the sequence reaches above normal, irrespective of the number of bullets fired action can be taken depending on the situation such as scenario (Outnumbered/long distance/short distance,etc.) and consistency of high sequence value above normal.