

Outriders Demo - Damage Formulas

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Notes Before We Start

The damage formulas in this game are still being tested. Anything listed here is from early testing. Take it with a grain of salt. We may not fully understand it.

All Damage in this game is subject to a resistance value. I will list where this value places and give an indication of what it usually is. However as of writing there is unexplained variation in resistances. As such, know that getting an exact calculation value is still hard. The relation of damage modifiers is however consistent regardless of the resistance values.

Damage with Guns

The damage shown on the card is a rounded value. It is imprecise, however can be used if you are wanting an estimate with small values or testing hypotheticals where you want to normalize base damage. I'll list both variations of the damage formula, both work. I will list these 2 methods, use the method you choose then slot it into the formula in place of "Weapon." The firepower variant however is subject to less rounding error, but requires a different number for each gun type.

Firepower Method:

$$\text{Weapon} = \frac{((\text{Character Firepower} \times \% \text{Firepower Boosts}) + \text{Conditional Firepower})}{\text{Gun Scaling Value}}$$

Base Damage Method

$$\text{Weapon} = \text{Gun Card Damage} \times \frac{((\text{Character Firepower} \times \% \text{Firepower Boosts}) + \text{Conditional Firepower})}{\text{Weapon Firepower}}$$

- Character Firepower can be found by opening your menu and taking the weapon firepower number in the top left hand corner.
- Conditional Firepower is accessed through skills like Twisted rounds, that are not passive boosts but you would enable for combat.
- % Firepower Boosts are acquired through skills and mods. A demo example of this is "Strong Twist."
- Gun Card Damage is the damage listed on the weapon card and Weapon Firepower is also the firepower listed on the card of the weapon you are using.
- Gun Scaling Value is determined by weapon type, the values for each type of weapon are:

SMG	26
Assault Rifle	21.5
Pump Shotgun	2.3
Semi Auto Sniper	2.9
DMR(?) [Usually has 250% Crit Mult]	5.3
etc...	Thank you Chrome for Testing

Rest of the Damage Formula:

Weapon × Close/Long Range Damage × Weapon Type × Crit Damage × Vulnerability × 1/Resistance

- Vulnerability is a 25% damage bonus.
- Weapon type damage is damage that only applies to specific weapon types like Shotgun damage or assault damage.

Resistances, Armour Piercing and Anomaly Bullets

Enemies have 2 types of resistance, Physical Resistance and Anomaly Resistance.

Normal bullets deal physical damage. The exact value of an enemies physical resistance however appears to change by gun type, further testing is still needed to confirm if this is a false positive. The resistance value however fluctuates between 3.4% and 15% on grunts. Elites however have about 150% physical resistance. The practical translation is that the damage you deal with your gun will be divided by anything from 1.034 upto 2.5.

Anomaly resistance so far appears to be a constant 15%. Grunts to Elites all have 15% anomaly resistance across all tests I've seen (ergo damage divided by 1.15). The relation that armour piercing and resistance piercing has is still being looked at and at time of writing is unknown.

Anomaly bullets we currently have access to through Twisted Rounds and Blighted Rounds. This converts your guns damage to anomaly damage. This has the effect of swapping the resistance your bullet is countered by. Vs grunts the difference in resistances is negligible, however vs an elite you no longer face the 150% physical resistance and instead only deal with 15% anomaly resistance. This is a massive damage boost.

Further Notes on Anomaly Rounds

This includes: Twisted Rounds, Blighted Rounds and Volcanic Rounds.

- %Weapon Damage Increases from Skill Tree Nodes and Mods do not apply.
- Firepower from gear does apply.
- Firepower from gear is reflected in the stats page as a %Weapon Damage Increase, and vice-versa, but ****only**** the Skills/Nodes/Mods that say %Weapon Damage will not work on Anomaly Rounds, while ****only**** direct Firepower increases will apply.
- Firepower from gear and the %Weapon Damage increases are pretty much the same thing in a damage formula sense, but the above exceptions apply to them when talking Anomaly Rounds.

- Other damage multipliers like Close Range, Long Range, Sniper/Shotgun/Assault etc. apply correctly.
 - The damage type of the bullets is changed to Anomaly. This is why it "bypasses" Armor, as in it just gets affected by Resistance instead of Armor.
 - Twisted Rounds' added Firepower is 1/2 of your Anomaly Power. Blighted Rounds only benefits from Anomaly Power increases on its Toxic DoT, Impact Damage is unaffected. Volcanic Rounds seem to benefit from the 10% innate Pyro Anomaly Power boost on impact, but further Anomaly Power only increases the burn DoT damage. Everything above is valid for all of them.
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Reflected Bullets

$$[(\text{Reflected Bullet Base Damage} \times \text{The Strongest First}) + \text{Bullet Acceleration}] \times \text{Vulnerable} / \text{Resistance}$$

- Resistance Appears to be 1.15, however testing has only been performed on a limited number of enemies. As has been said before, take this with a grain of salt.
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Damage From Elites

Damage from elites is active vs attacks by an Elite but not vs their skills. Gauss's shock attacks are not affected. Melee attacks and bullets without special effects are easy examples of enemy based damage that is affected. Damage is calculated as:

$$\text{Damage Taken} = \text{Original Damage} \times (1 - \text{Damage from Elites}) \times (1 - \text{Physical Damage Reduction}) \times (1 - \text{Resistance})$$