

Deep Rock Galactic: a designer's look at weapon balance

What the published stats can and can't tell you about which weapons are fairly matched, and what I would do about the one that isn't.

Puneet Pandit · Game & Systems Designer · punitp59@gmail.com ·
linkedin.com/in/puneet-pandit-gamedesigner

SELF-DIRECTED DESIGN EXERCISE

1. The question worth asking

Players of the co-op shooter Deep Rock Galactic argue endlessly about which guns are the strongest. I wanted to find out what the game's own published numbers can actually say about that, and, just as usefully, where those numbers quietly mislead. Nobody asked me to do this. I picked it because "is this weapon too strong?" is one of the most common questions a systems designer gets handed, and I wanted to show how I work the problem when all I have is a spec sheet.

The short version of what I found: most of these weapons are better matched than the raw numbers first suggest, the handful that look overpowered mostly aren't, and exactly one of them points to a real balance problem worth fixing.

2. Scoping it to what the data can answer

First, how the game is built. There are four character classes. Each one carries two guns: a Primary (the main weapon) and a Secondary (a sidearm). Before every mission, the player picks one of three options for each of those two slots. So the choice a player actually makes is never "which of all 24 guns is best?" It is "which of these three?", made twice.

That detail decides which question I am allowed to answer. "Is the whole game balanced?" is the exciting question, but I cannot answer it from a spec sheet. Proving a game is balanced needs play data: how often each weapon gets picked, how it performs in real missions, whether beginners and veterans agree. I do not have that. What I do have is the published stats, and they can answer a smaller, honest question: within each set of three options a player chooses between, do the numbers suggest the three are competitive, or does one of them run away with the slot?

Choosing the question my data can actually support, instead of the flashier one it cannot, is the first real design decision in this piece, and the one I would defend hardest.

3. How I approached it

I made three deliberate choices about how to read the data.

- **Compare like with like.** Each weapon is measured only against the other two options in its own class and slot, because that is the real either/or choice. Lining a Gunner's minigun up against a Scout's sidearm compares two things a player never picks between.

- **Use one consistent yardstick.** To line every weapon up fairly I needed a single number, so I used shots-per-second damage, which is fire rate multiplied by damage per hit, worked out the same way for all 24 weapons. Wherever I say "on paper" below, this is the number I mean.
- **Keep damage and crowd control separate.** This is the important one. Some weapons are not built to kill quickly. Their job is to freeze, stun, or slow enemies so teammates can finish them off. If I fold that freezing and stunning into a single "power" score, those weapons look terrible when really they are just doing a different job. So I tracked status effects in their own column and never added them to the damage number. A weapon that scores low on damage may be fully earning its place through control.

One honest caveat about the yardstick: a few weapons deal damage over time, like burn or acid, rather than all at once, and a single shots-per-second figure does not capture that slow tick of extra damage. Rather than pretend the number is complete for those weapons, I flag them, and I come back to it in the limitations.

4. What the numbers show

Most weapons land in a similar shots-per-second range. Only three sit far above the rest. The chart below shows every weapon, grouped by class, with the three outliers pushed off to the right of the broken axis.

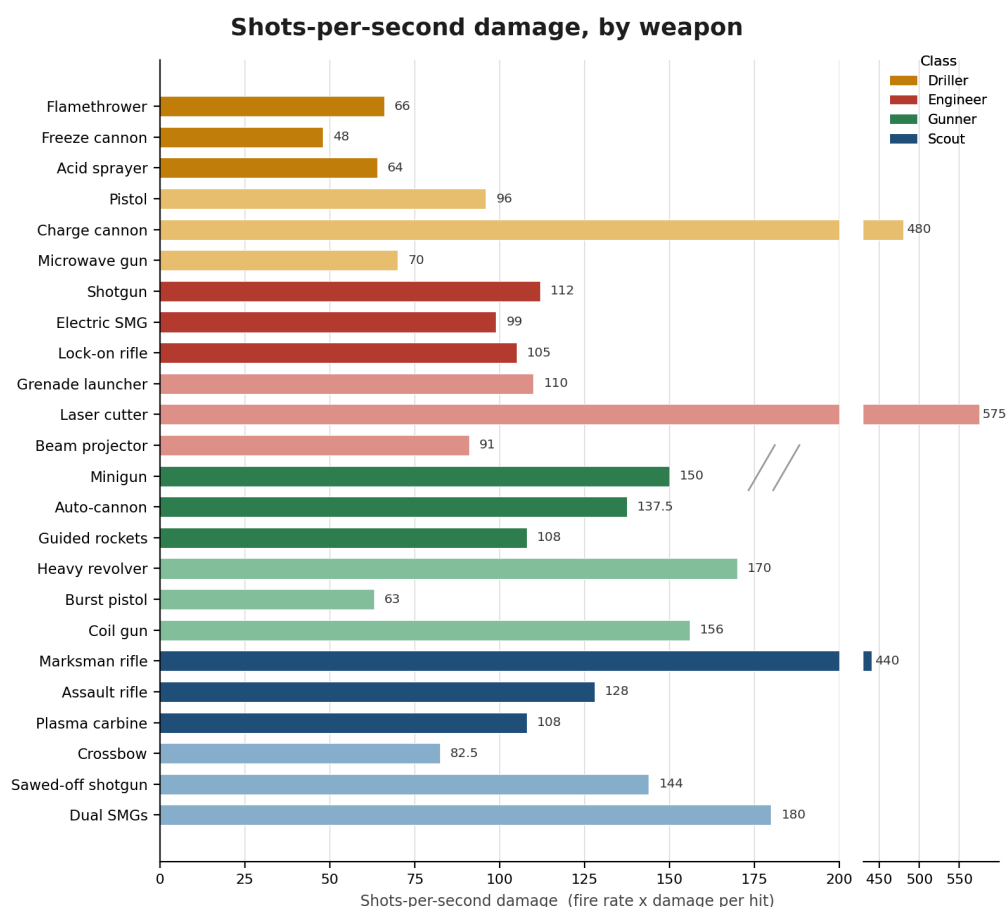


Figure 1. Shots-per-second damage for all 24 base weapons. Darker bars are Primary weapons, lighter bars are Secondaries. The axis breaks between roughly 200 and 435 because nothing falls in that gap; only three weapons reach the high end.

Sorting the eight slots by what the numbers do, they fall into three clear groups.

Group	Which slots	What is going on
A. Looks balanced	Driller, Engineer and Gunner primaries; Gunner and Scout secondaries	Three genuine choices. The difference between options is about role, range, ammo or crowd control, not raw power.
B. One looks dominant, but the number lies	Driller secondary (charge cannon); Engineer secondary (laser cutter)	Charge and burst weapons the formula overrates. Correct for how they really fire and the gap mostly disappears.
C. One genuinely leads	Scout primary (marksman rifle)	Still ahead even after correcting for the same effect. This slot has a default pick, not a real choice.

Reading the three groups

Group A, the options look comparable. This covers most slots. On paper they are balanced: the three options sit in a tight band, and what separates them is the job they do, not how hard they hit. These slots are working as designed.

Group B, one option looks dominant, but the number is lying. Two slots have a runaway leader that turns out to be a measurement artifact. The Driller's charge cannon reads 480 against 70 and 96 for its slot-mates, and the Engineer's laser cutter reads 575 against 91 and 110. Both are charge or burst weapons, and my yardstick assumes they fire continuously at full power, which they physically cannot: the charge cannon has to power up before each shot, and the laser cutter fires one big sweep at a time on only 12 shots of ammo. Strip out that false assumption and the gap mostly disappears. These slots are fine; the number simply flatters the wrong weapon.

Group C, one option genuinely leads. One slot stands apart, and it is the real finding. The Scout's marksman rifle reads 440 against 128 and 108 for its two alternatives. Like the Group B weapons it is a precision gun that cannot truly fire four times a second, so part of that 440 is inflated too. But here is the difference: even after I discount the inflation, the marksman rifle still comes out ahead of its slot-mates on the things that matter, namely damage per shot, reach and reliability, and the other two offer no clear reason to pick them instead. That is not a measurement quirk. That is a slot with a default choice instead of a real one, which is exactly what balance is meant to prevent.

5. What I would do about it

If I owned the balance pass, here is where I would start, and in what order.

1. Fix the Scout primary slot first. This is the only slot where the data points to a genuine problem rather than an artifact. My instinct is to lift the two alternatives, the assault rifle and the plasma carbine, closer to the marksman rifle's effective output by improving their ammo economy or fire rate, rather than nerfing the marksman rifle. Its high-skill, one-shot precision identity is worth keeping; the fix is to give the other two a reason to exist, not to punish the popular pick. I would not ship this blind. I would pull pick-rate and kill data first to confirm the rifle actually dominates in play and is not just a paper leader, then tune and re-measure.

2. Investigate the Engineer's electric SMG, do not yet touch it. On damage it is level with its slot-mates (99 against 105 and 112), yet it is widely felt to be the weakest of the three. When the damage is fine but the weapon still feels weak, the cause is usually somewhere other than damage. I would look at its electric effect and its ammo economy before I changed a single damage value.

3. Leave the other six slots alone. They are either balanced or only look skewed because of the measurement quirk above. Changing them would fix a problem that is not there. Knowing when not to act is part of the job.

6. What I can't see, and what I'd test next

This whole analysis runs on listed stats, and listed stats leave a lot out. It ignores accuracy, the wind-up time charge weapons need, hitting enemy weak points, the bonus damage frozen enemies take, how long ammo lasts across a full mission, and how players actually handle each gun in the field. So nothing here is a verdict. Everything is a hypothesis with a number attached.

The point of the exercise was never to declare the game balanced or broken from a spreadsheet. It was to show how far a careful reading of the available data can take you, where it stops, and exactly what evidence I would go and get next. Given the studio's telemetry, the first three things I would pull are weapon pick-rates by slot, average damage and kills per weapon per mission, and how those split between new and experienced players. That data would confirm or kill every hypothesis above, and it would not take long to find out.

Appendix: weapon key and core stats

This report uses plain weapon names for readability. The table maps them to their in-game names and lists the single shots-per-second figure used throughout, plus each weapon's main role. The full parameter table and every calculation live in the accompanying spreadsheet.

Class	Slot	This report	In-game name	Shots/sec	Main role
Driller	Primary	Flamethrower	CRSPR Flamethrower	66	Damage over time (burn)
Driller	Primary	Freeze cannon	Cryo Cannon	48	Crowd control (freeze, stun)
Driller	Primary	Acid sprayer	Corrosive Sludge Pump	64	Damage over time + slow
Driller	Secondary	Pistol	Subata 120	96	Direct damage
Driller	Secondary	Charge cannon	Experimental Plasma Charger	480	Charge nuke (overrated on paper)
Driller	Secondary	Microwave gun	Colette Wave Cooker	70	Damage over time
Engineer	Primary	Shotgun	"Warthog" Auto 210	112	Direct damage + stun
Engineer	Primary	Electric SMG	"Stubby" Voltaic SMG	99	Crowd control (electric)
Engineer	Primary	Lock-on rifle	LOK-1 Smart Rifle	105	Crowd control (electric)

Class	Slot	This report	In-game name	Shots/sec	Main role
Engineer	Secondary	Grenade launcher	Deepcore 40mm PGL	110	Direct area damage
Engineer	Secondary	Laser cutter	Breach Cutter	575	Burst sweep (overrated on paper)
Engineer	Secondary	Beam projector	Shard Diffractor	91	Sustained beam (underrated on paper)
Gunner	Primary	Minigun	"Lead Storm" Minigun	150	Direct damage
Gunner	Primary	Auto-cannon	"Thunderhead" Autocannon	137.5	Direct area damage
Gunner	Primary	Guided rockets	"Hurricane" Rocket System	108	Homing area damage
Gunner	Secondary	Heavy revolver	"Bulldog" Revolver	170	Direct damage, low ammo
Gunner	Secondary	Burst pistol	BRT7 Burst Fire Gun	63	Burst quick-draw
Gunner	Secondary	Coil gun	ArmsKore Coil Gun	156	Charge plus quick-fire
Scout	Primary	Marksman rifle	M1000 Classic	440	Precision (genuine slot leader)
Scout	Primary	Assault rifle	Deepcore GK2	128	Direct damage + stun
Scout	Primary	Plasma carbine	DRAK-25 Plasma Carbine	108	Damage over time
Scout	Secondary	Crossbow	Nishanka Boltshark X-80	82.5	Single-shot control
Scout	Secondary	Sawed-off shotgun	Jury-Rigged Boomstick	144	Burst control
Scout	Secondary	Dual SMGs	Zhukov NUK17	180	Direct damage

Data source: in-game values and the Deep Rock Galactic community wiki. Shots-per-second damage = fire rate x damage per hit, computed identically for every weapon.