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All updates will go in there

## Weapon Armor Break

Weapon	Works vs Strength Based Armor	Works vs Health Based Armor	Armor Ignore on Strength Armor Break	Armor Ignore on Health Armor Break
GK2	YES	YES	YES	YES
M1000	YES	YES	YES	YES
Drak-25	PARTIALLY	PARTIALLY	NO	NO
Boomstick Pellets	YES	YES	YES	YES
Blast Wave	NO	NO	N/A	N/A
Zhukov NUK17	YES	YES	YES	YES
Warthog	YES	YES	YES	YES
Stubby	YES	YES	N/A	N/A
Lok-1	YES	YES	YES	YES
Lok-1 ECR	PARTIALLY	PARTIALLY	N/A	N/A
PGL	NO	PARTIALLY	NO	NO
Breach Cutter	YES	YES	N/A	N/A
Shard Diffractor	PARTIALLY	PARTIALLY	N/A	N/A
Endothermic Explosion	Untested	Untested	N/A	N/A
LMG Gun Platform	YES	YES	YES	YES
Turret Whip	Untested	Untested	N/A	N/A
Minigun	YES	YES	YES	YES
Autocannon	PARTIALLY	PARTIALLY	YES	YES
BRT-7	YES	YES	YES	YES
Hurricane	PARTIALLY	PARTIALLY	NO	NO
Reinforced Power Drills	YES	YES	YES	YES
HE Grenades	PARTIALLY	PARTIALLY	N/A	N/A
Satchel Charges	PARTIALLY	PARTIALLY	N/A	N/A
Bosco's Rockets	YES	YES	N/A	N/A

Notes:

1. Fields highlighted in orange are affected by a bug involving the damage falloff of radial damage sources.
2. Hazard 2 scaling does not reduce damage dealt to Acid Spitters and Grunts.

3. Hazard 4 scaling does not reduce damage dealt to Praetorians.
4. Acid Spitter armor strength is 10. It requires 40 armor damage to guarantee that an armor plate breaks.
5. Grunt armor strength is 15 and requires 60 armor damage to guarantee that an armor plate breaks.
6. Praetorian armor health at Hazard 4 is 120. It requires 120 armor damage in total to break a plate.

## Armor Break for AoE Weapons

The direct damage portion of these weapons is working perfectly fine. They break armor exactly as one would expect so long as the only armor plate being looked at is the one that was impacted directly by the projectile. The issue with these weapons is that the AoE portions of their damage are not being handled correctly by the Armor Break formula with regards to their damage falloff.

This issue has been around for at least a year and was even featured in MeatShield's [u34 blog post about armor](#) and its place within the game. To summarize MeatShield's words, the damage value being used when an enemy is more than 0.5 meters away from a radial damage source is always 25% of the base radial damage regardless of the damage falloff. Also the plate that is hit directly by radial damage source only takes 25% of the base radial damage while the plates immediately surrounding the one that was hit take 100% of the base radial damage.

However, a new discovery with this bug is that it does not apply to every plate. For some strange reason the Health Plates on some enemies do still take full radial damage when impacted directly. Those being the tips of the front left feet on Glyphid Grunt Guards and Praetorians.

Against Strength based Armor this bug appears to be outright removing all armor damage beyond 0.5 meters. Many creatures are keeping their armor plates in situations where taking the 25% multiplier into account should still yield a significant break chance.

### Evidence:

**HE Grenades:** These things are absolutely not doing any armor damage to strength plates beyond 0.5 meters.

- [HE Grenade vs Acid Spitter](#): The grenade dealt 54.8 damage to the Acid Spitter's back. Acid Spitters only require 40 damage to guarantee that an armor plate should break, which means that the grenade was not applying even 100% armor damage to the bug. If the grenade were only doing 100% armor damage with the falloff bug in effect then it would have only done 35 armor damage to have a 6.25% chance of the plates not being broken. That said, even if this were the culprit it would have been extremely unlikely that I would have been able to repeat this test multiple times in a row.
- [HE Grenade vs Acid Spitter again](#): Here is another test getting exactly the same results against a new Acid Spitter. If we assume that armor break was 100% then taking the AoE falloff bug into account there was only a 0.39% chance of no armor plates breaking

from the Acid Spitter, and this is so statistically unlikely that I believe the real answer is simply that the HE Grenades do not do any armor damage against strength armor.

- [HE Grenade vs Acid Spitter within 0.5 meters](#): Here we can see that within 0.5 meters of the Acid Spitter the HE Grenade is absolutely shattering its armor. Ignore the head plates surviving for the time being, those have their own section later in the document.

**The Hurricane:** Because of the bug involving radial damage this gun is not breaking armor when it should despite the 200% multiplier working correctly

- [50 direct & 10 area damage Jet Fuel vs Praetorian](#): Because the front left foot is taking full radial damage it is breaking at the appropriate time, however the front right foot has bugged armor plates and just barely survives with 15 armor health ( $50 \times 2 + 10 \times .25 \times 2 = 105$ ). The second rocket on the front right foot does not penetrate the armor to do full damage.
- [20 direct & 20 area damage Hurricane vs Praetorian](#): This video shows that the Hurricane armor damage is certainly not working properly against the Praetorian without Jet Fuel equipped. The build in this video should be doing a total of 80 armor damage per shot, and the plate should be breaking from the direct damage of the second rocket. The second rocket did not break the armor, and the direct damage of the rocket that managed to break the armor plate did not penetrate to damage the Praetorian.
- [20 direct & 20 area damage Hurricane vs Acid Spitter](#): This should be ignoring the armor completely as the direct damage is doing 40 armor damage, but it is not.
- [20 direct & 20 area damage Hurricane vs Grunt](#): This dealt 40 direct armor damage and 40 area armor damage to the Grunt. If we assume the two armor break chances were independent of one another then the Grunt had only a 2.8% chance of keeping the armor plating. I lost count of how many attempts I needed to make before getting a Grunt to keep its armor plates after a shot from the Hurricane, however, so I believe that it is very likely that the armor damage portion of the mod vs strength armor is probably working for at least direct hits.
- [20 AoE damage Minelayer vs Acid Spitter](#): If armor break was working correctly for the AoE then it would have been impossible for the Acid Spitter plates to remain intact.

**The PGL:** This one was more straightforwardly broken. The gun is certainly breaking the health armor of a Praetorian as expected when impacting terrain, but the behavior completely changes when the grenade impacts the creature directly. Against strength armor there is definitely no armor damage being dealt by the AoE.

- [60 direct & 110 area damage PGL vs Guard](#): If the armor damage were working then I would expect the Guard to be completely stripped of most, if not all, of its armor plating. The Guard should have also taken 137 damage from the direct hit.
- [445 direct damage & 110 area damage PGL vs Praetorian](#): I feel like this footage speaks for itself. The thing does almost four times as much direct damage than it needs for the Praetorian's armor to break but still doesn't penetrate the armor with the mod equipped.

I'm not entirely convinced the game is even taking the direct damage into account against armor from how it behaves against most enemies.

- [75 area damage PGL vs Acid Spitter](#): This dealt 39.6 damage to the Acid Spitter's back, just 0.4 damage shy of the 40 needed to 100% guarantee that the armor plate would break without any armor damage bonuses, and yet not a single plate on the Acid Spitter came off. Even if the armor break mod wasn't working and the PGL was doing 100% armor damage to the strength armor plates there would only have been a 0.375% chance for a plate to remain intact, let alone all of them. Maybe it was a miracle, but repeated tests have shown otherwise.

**Drak-25:** There isn't much to say for this one. The armor damage is definitely working as it always appears to break armor in the appropriate number of shots, but it never penetrates armor in the way that it should. This behavior has not changed since the early patches of Season 1.

- [Drak Splash vs Guard front left foot](#): Guards are 25% resistant to the Fire damage dealt by the radial damage, so the total damage is 7.75 and over 8 bullets that makes 62 armor damage to break the plate showing that the front left foot is not bugged.
- [Drak Splash vs Guard front right foot](#): With the radial damage being reduced on the front right foot it now takes 12 bullets to break the armor instead of only 8.
- [Drak vs Praetorian](#): Just as described in the table, the Praetorian is not taking damage on the third shot that breaks the armor. The armor is breaking in the appropriate number of shots though.
- [Drak vs Acid Spitter](#): After numerous tests I have yet to see any statistical anomalies in the Drak's chance of breaking Strength plates, but the lack of armor penetration is still an issue.

**Boomstick Shockwave:** This is supposed to have 200% armor break, but after numerous tests I can definitively say that the armor break of this part of the Boomstick is currently 0%. Armor takes zero damage regardless of how the weapon is built.

- [20 damage Shockwave vs Praetorian](#): 20 damage six times should break the armor plates, let alone 20 damage with 200% armor break.
- [40 damage Shockwave vs the same armor plate of the same Praetorian](#): Considering this is the same Praetorian that just took 120 damage to the front left foot and that it just took another 120 damage to the same foot, I think it is safe to say that the Shockwave armor break is 0% against Armor Health.
- [20 damage Shockwave vs Acid Spitter](#): 20 damage with 200% armor break should guarantee one of the 10 strength Acid Spitter plates is broken by the attack.
- [40 damage Shockwave vs Acid Spitter](#): 40 damage should guarantee one of the 10 strength Acid Spitter plates is broken by the attack.

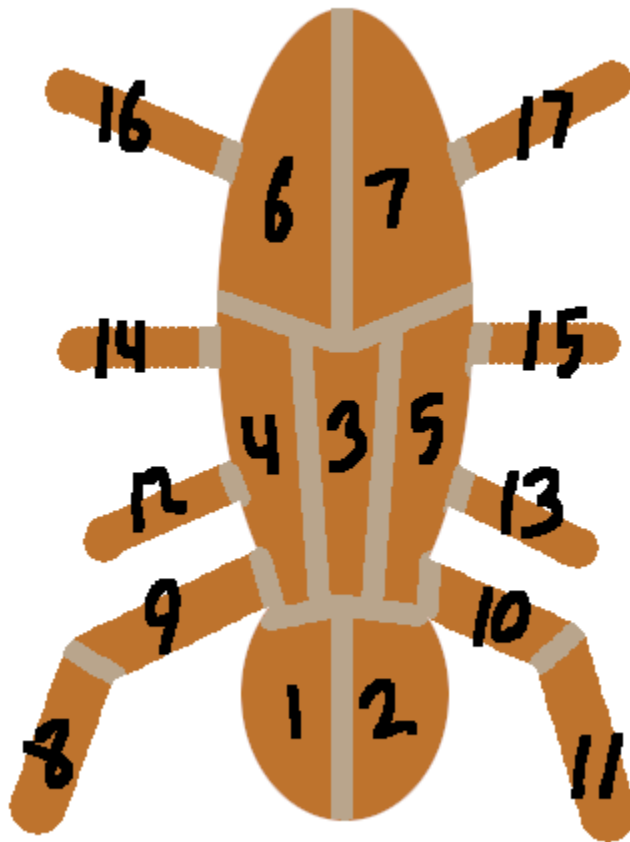
## Strength Based Armor becomes Invulnerable When Broken Out of Sequence

When breaking armor on bugs with Strength based armor plates such as Glyphid Grunts and Glyphid Wardens, certain plates will become 100% impossible to break when attacked in the wrong sequence.

Affected bugs include Glyphid Grunts, Glyphid Slashers, Glyphid Acid Spitters, Glyphid Web Spitters, and Glyphid Wardens.

Whenever one of the bugged armor plates on these enemies is broken there is another “paired” armor plate that becomes impossible to break. The unbreakable armor will provide 20% damage reduction indefinitely and there is no known way to get around this bug outside of respecting the bugs’ break sequence.

Here’s a low effort drawing of a bug and all the spots on this bug where armor can be placed.



Here is a list of plates affected by this bug using the numbered labels from the image above.

[Glyphid Grunt & Glyphid Slasher](#)

Broken Plate	1	4	7	9	9	10	13	15
Unbreakable Plate	8	3	17	6	12	15	16	1

[Acid Spitter & Web Spitter](#)

Broken Plate	4	5	6	10
Unbreakable Plate	5	3	7	4

[Glyphid Warden](#)

Broken Plate	1	9
Unbreakable Plate	11	6

## Armor Scaling With Hazard Level

The value for "SmallEnemyDamageResistance" that is set within the Hazard files is able to affect the resilience of armor plates on Glyphid Guards, Glyphid Praetorians, Q'ronar Shellbacks, and Mactera Brundle Flies. The armor plates of bugs are not intended to scale with Hazard level, but because the plates on these enemies do they all have a damage resistance factor of 1.2 at Hazard 4 and up. This effectively reduces the effectiveness of most armor break mods.

As an example of what this means. A Praetorian's armor plates have 100 armor health, but in hazard 4 they have effectively 120 health because all damage dealt to them is reduced by a factor of 1.2.

This bug has been in the game for so long that even the DRG wiki's own [armor page](#) documents the scaling as though it was supposed to be there and has even been referenced in MeatShield's [u34 blog post about armor](#) along with numerous other armor bugs.

Armor logic for when a gun should ignore the armor does not take hazard scaling into account and as result will ignore armor when the game calculates the armor damage of a single damage instance to be greater than the true health of the creature's armor plate. This causes situations where a gun like the GK2 is able to completely ignore all breakable armor with only 17 damage, but still run into situations where the Praetorian's armor plates will take two shots to actually break in Hazards 4 and above.

## Direct Damage That Will Ignore health armor Without Breaking It On Hazards 4 and 5

Weapon	Guard 60 true armor health	Praetorian & Dreadnought Twins 100 true armor health	Q'ronar Shellback Body & Tail 30 true armor health	Q'ronar Shellback Neck & Head 70 true armor health	Mactera Brundle 80 true armor health
GK2		17			14
Drak			11		
Boomstick	15			20	20
Warthog			8		
Lok-1			21		
LMG Gun Platform			8		
Minigun			10		
Autocannon	14 direct	17 direct	7 direct	14 direct	16 direct
BRT-7	24	40.5		30	33
Hurricane		50 direct	16 direct	40 direct	40 direct

### Notes:

1. Values listed in purple may still break the armor plate because of additional area damage or additional pellets.
2. This list assumes that the armor ignore is working for all weapons.
3. This damage must be done by a single projectile. Meeting these breakpoints with multiple shots or pellets will not work.
4. All damage values listed are the exact values achievable by the weapons via mods and overlocks.

### **Evidence:**

[GK2 vs Praetorian](#)

[BRT-7 vs Praetorian](#)

[BRT-7 vs Guard](#)

[GK2 vs Guard](#)

[Minigun vs Q'ronar Shellback](#)

[Lok-1 vs Q'ronar Shellback](#)

