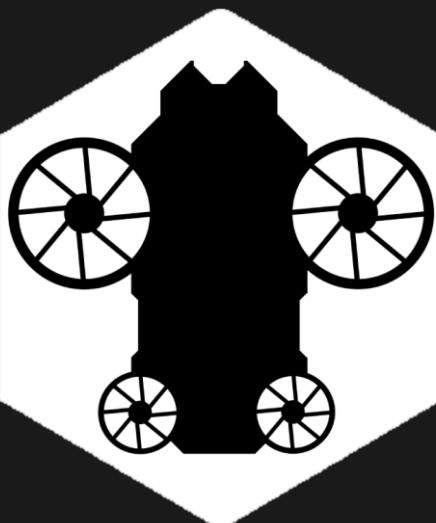




## CORVETTE SABOTAGE MISSION

Kit Broderick



# System Overview

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Corvette Sabotage adds in a new mission to Helldivers 2 that focuses on the player taking data from an aerial automaton warship then destroying its reactor to stop the supplies it's carrying from reaching their destination, then uploading the data to Super Earth via a local relay station.

“Our orbital scans have detected an Automaton Corvette is within this region, extract any intel from their network then scrap the vessel”  
-Mission Brief

The mission is broken into three objectives, with the third being an altered versions of an existing objective which is not uncommon for new Helldivers 2 missions. The first and second are unique to the mission, with no additional objectives being added with an increase in difficulty.



This system introduces a new objective and mechanics, with the main theme being to in-directly restrict the player's arsenal. In the “Into the unjust” update it added underground sections within hive world missions that meant the player could not call down their stratagems whilst in the tunnels, this increased the difficulty for

players as they lacked a core pieces of their loadout while fighting underground. I wanted to create an alternative where instead of blocking the player from calling down powerful stratagems, they would instead be dissuaded from calling them down as their “orbital lasers” and “500kg bombs” could negatively affect the area they were fighting in. This meant that if the player was in a tight situation on the Corvette it may be more advantageous for them to shoot their way out instead of calling in a massive bomb even if that option is still available.

# Mission Overview

Time Limit	Faction	Minimum Difficulty	Maximum Difficulty
40 Minutes 	Automaton Legion 	Hard 	Super Helldive 

## Objective 1

Estimated Time Taken: ≈ 3 mins



Objective 1 has the player infiltrate the corvette and download sensitive data from the automaton network

## Objective 2

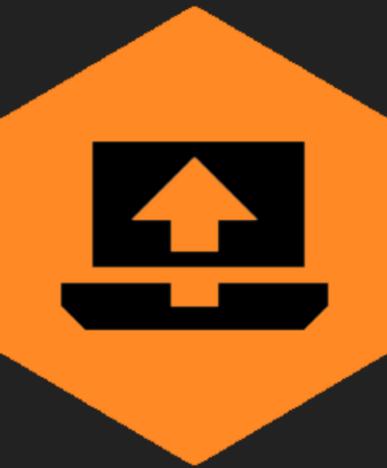
Estimated Time Taken: ≈ 5 mins



When the data has been successfully downloaded the corvette will go critical resulting in power cells to raise from the corvette. Objective 2 has the player destroy these cells which causes the reactor vent to open, this allows for the player to use an explosive to destroy the reactor and cause the corvette to explode after 30 seconds

## Objective 3

Estimated Time Taken: ≈ 6 mins



Objective 3 requires the player to take the data they downloaded to a local relay; the player must realign the satellite dish then defend the site while the data is uploaded

# Mission Flowchart

Start/End Mission

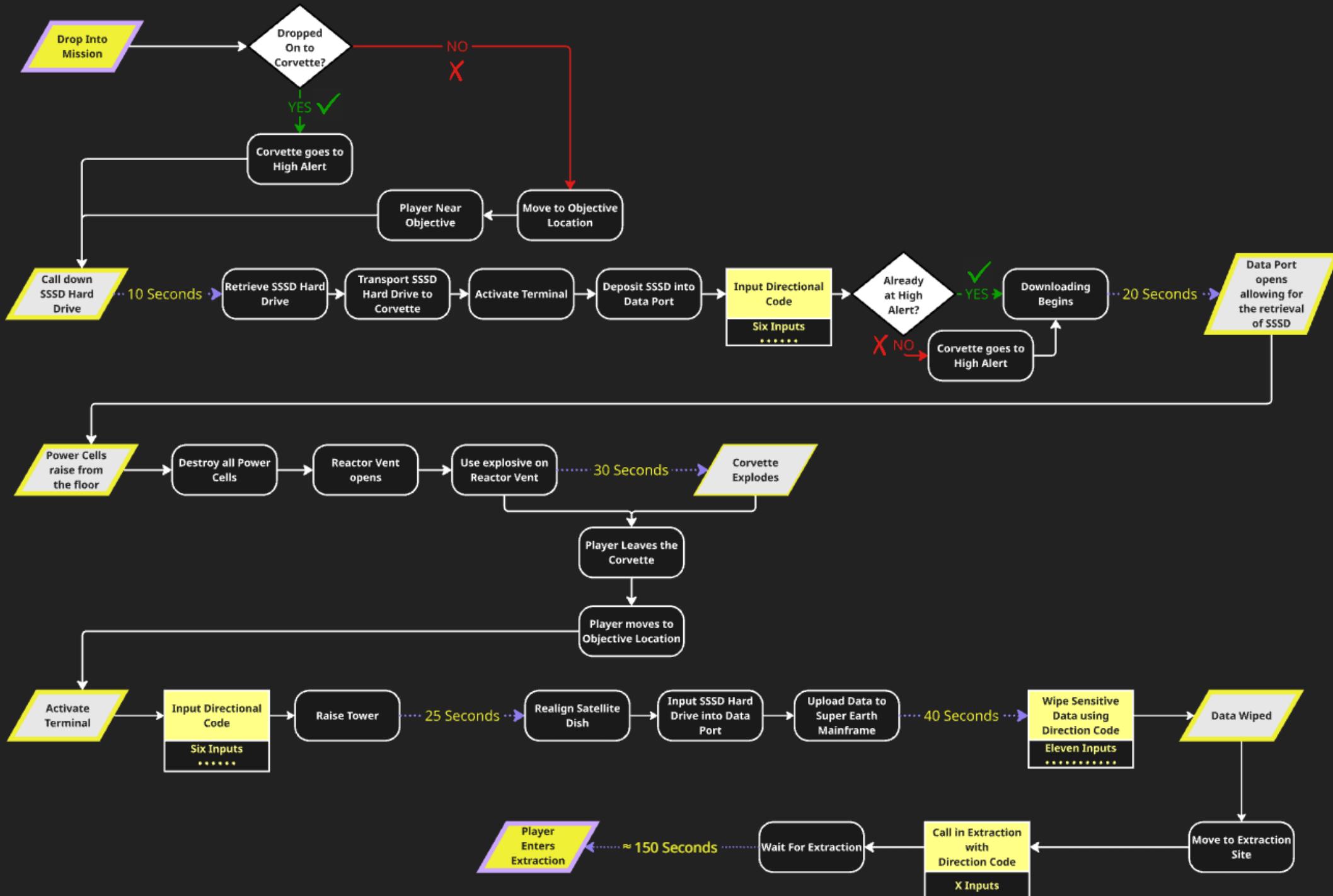
Start/End Objective

Process

Direction Input

Decision

Waiting



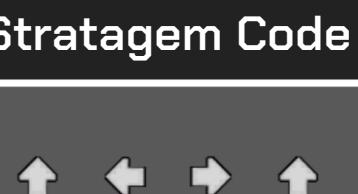
# Mechanic Overview

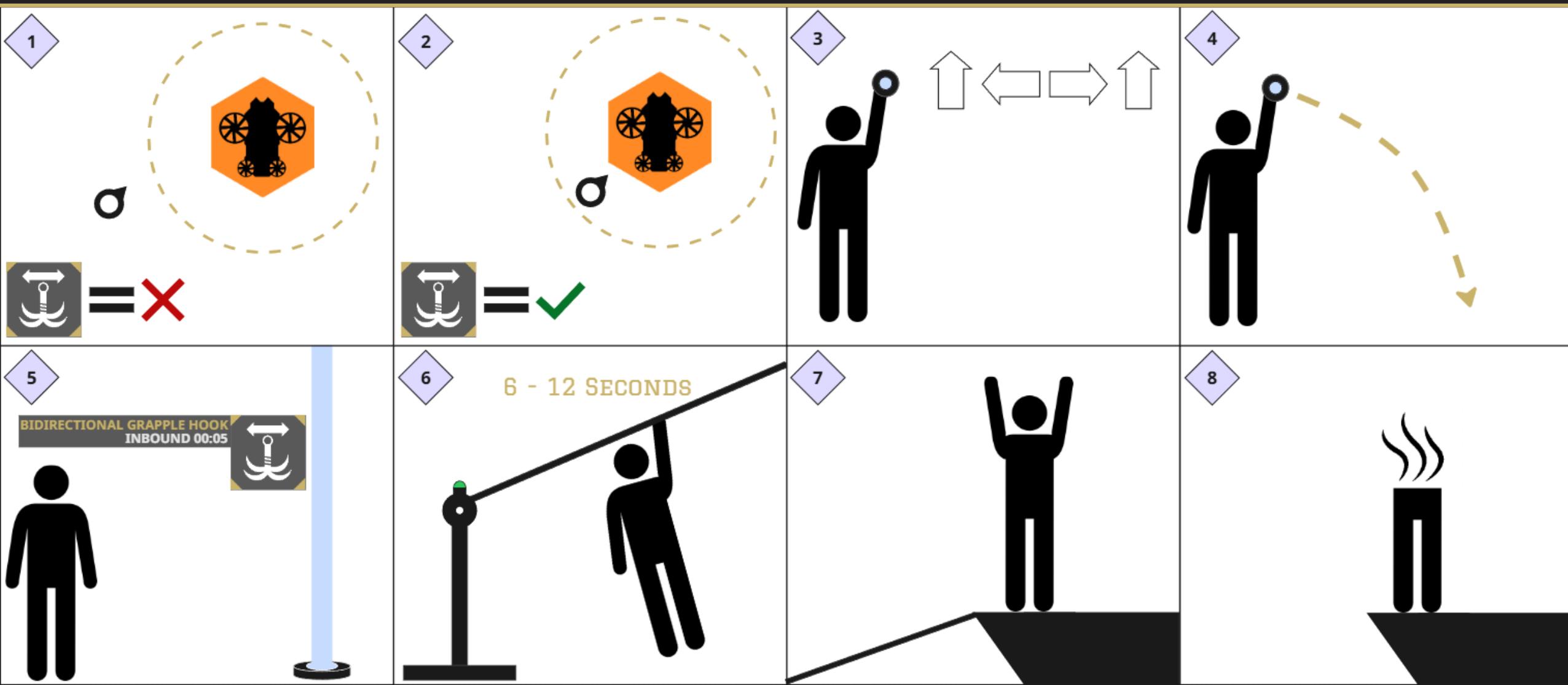
1	Player is far away from Objective, and the Bidirectional Grapple Hook remains unavailable
2	When player is near objective, Bidirectional Grapple Hook is available to call down
3	Player enters Directional Code
4	Player throws down stratagem ball
5	Player waits for stratagem to be called down
6	Bidirectional Grapple Hook self deploys and attaches to Objective
7	Player uses Bidirectional Grapple Hook to get to the Objective
8	Player usually dies



The Bidirectional Grapple Hook was designed to be an alternative way for the player to travel between the ground and the second objective[the corvette], this mission exclusive stratagem provides a safety net for players allowing for everyone to get to the objective without bringing specialised equipment.

When the Hook is called down by the player it will take 10 seconds for it to reach the ground. Afterwards it will self deploy and attach to the nearest grapple point on the corvette which will take around 5 seconds, after which a light on the top of the stand will light up green to convey that the grapple hook is ready to be used. When the Hook is deployed and attached the player can use it to travel back and forth from the ground and corvette, with the travel time being around 6-12 seconds depending on how far away the player called the hook down.

Mechanic Diagram	Stratagem Code	Cooldown	Uses	Call-In-Time	
Bidirectional Grapple Hook			45 Seconds	Unlimited	10 Seconds

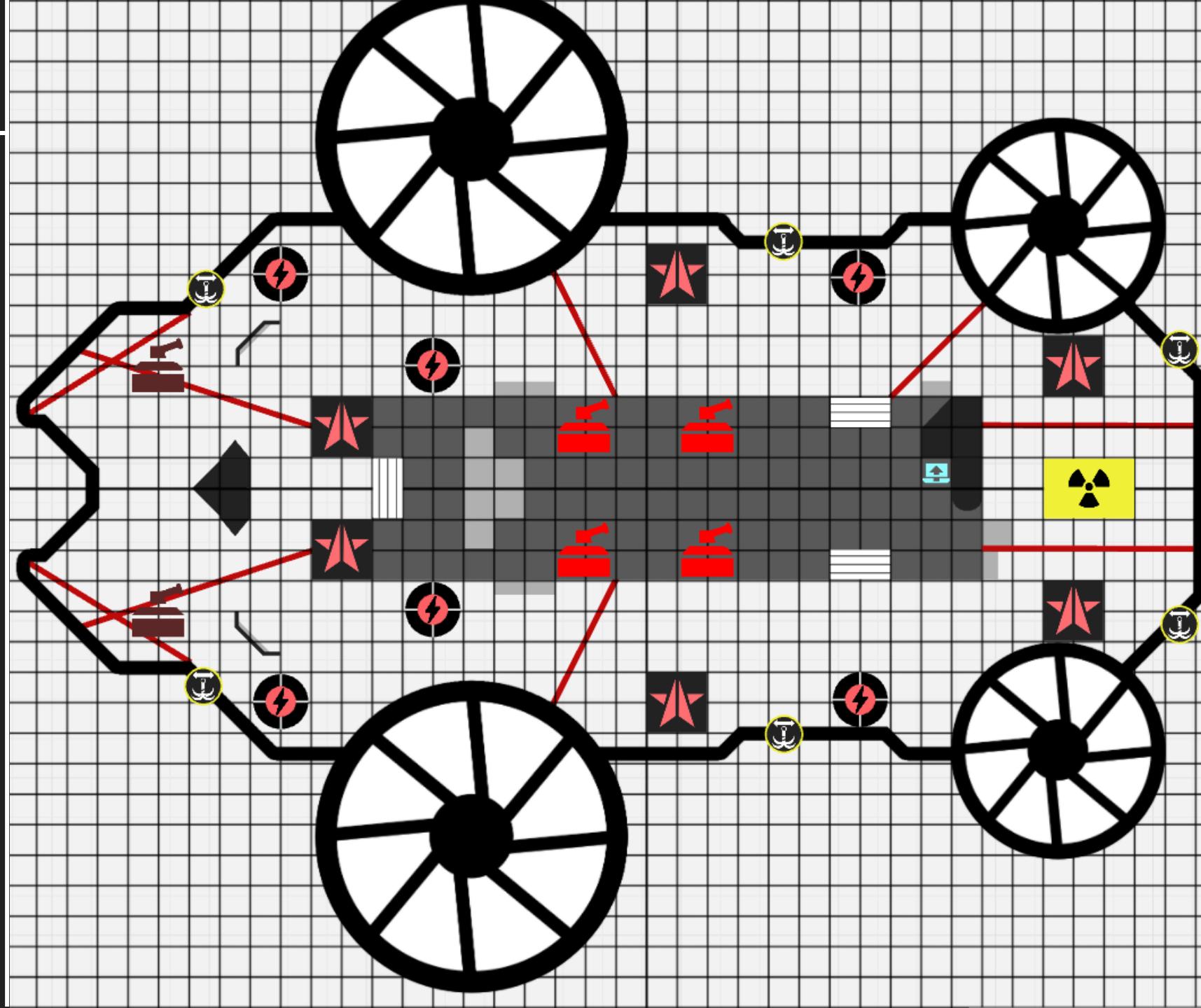


# Objective Overview

Power Cells	Reactor	Corvette Health	Environment	Fuel Lines
The corvette contains six shielded power cells that the player cannot damage until they have completed the first objective, after which the power cells will raise up allowing for their destruction	The second stage of second objective requires the player to destroy the reactor; this can only be done if all power cells are destroyed which will cause the reactor vent to open allowing the player to use an explosive to take it out	The Corvette structure can be damaged, however, instead of dying the environment will change depending on what has been hit. Damaging a fuel line will cause fires and taking out a turbine will cause the corvette to slope on that side.	High cover and Low cover (which shall be referred to as climbable cover as the player can climb on top of it) so implemented into the design as the Bot faction uses ranged weaponry as its main offence, so allowing players some respite to heal was important. Ramps were also implemented as the centre of the corvette has a large platform that could be used for cover but also could not be climbed so it was necessary so that enemies could always reach the player.	To create an engaging environment fuel lines were added that could be damaged and could spread fire across the line. This creates pathway restrictions, forcing the player to manoeuvre differently. However, climbable cover was added in certain areas so that the player could always traverse the environment.
Anti-Air Emplacements	Mortar Emplacements	Bot Fabricators		
 If even a single anti-air emplacement is active, then it prevents the player from calling in any eagle stratagems limiting their arsenal.	 Mortar Emplacements will fire strikes down to the ground at any players, this provides more difficulty when assaulting the corvette from the ground	 Fabricators continuously spawn new “trooper” enemies onto the corvette meaning that that player will have to contend with the garrison stationed as well as new troops		

# Objective Map

	Terrain
	Elevated Terrain
	Climbable Terrain
	Unreachable Terrain
	Power Cell
	Reactor Core
	Ramp/Stairs
	Grapple Point
	Fuel Lines

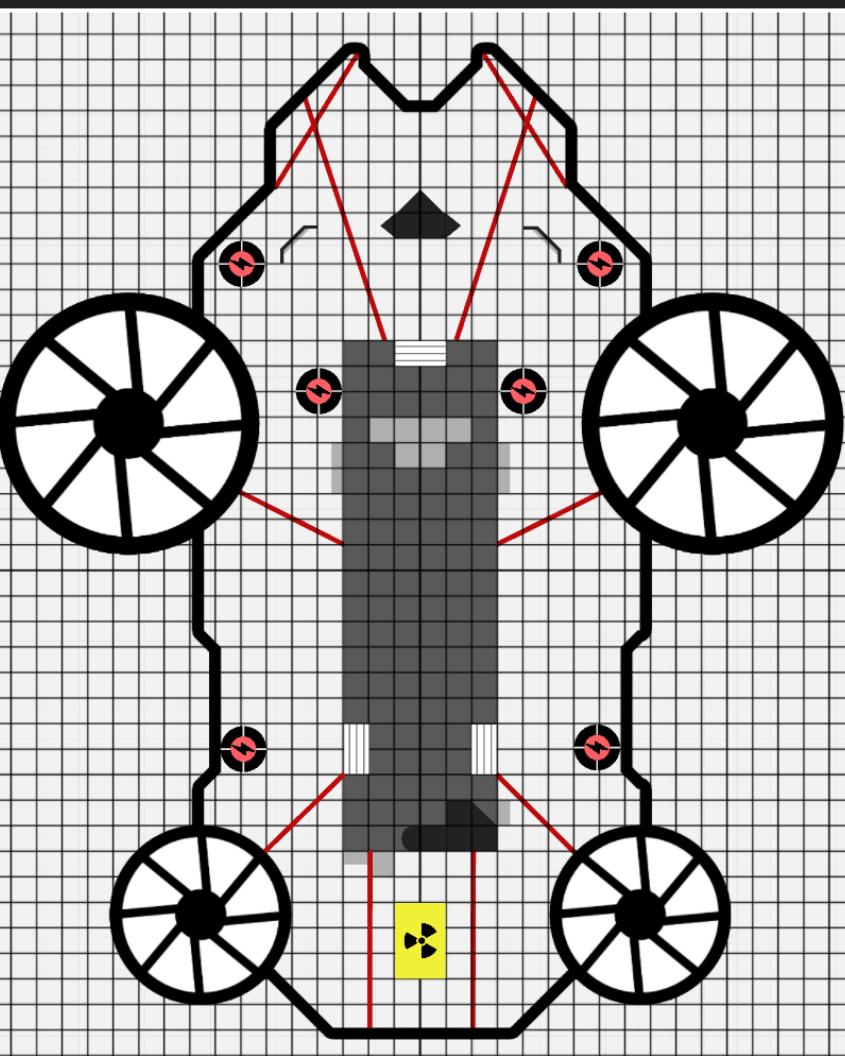


# Corvette Anatomy

Armour Values based on weapon analysis to reduce player's accidentally blowing themselves up  
 [SEE APPENDIX ITEM 4]

Name	Armour	Health	Inner Radius	Outer Radius	Demo Force	Stagger Force	Push Force	Shockwave
Body		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Turbines		6000	 5m 300	 15m 100	25	25	35	 20m
Fuel Pipes		600	 1m 50	 3m 20	5	15	20	 5m
Power Cell		2500	 2m 100	 8m 35	20	20	30	 10m
Reactor	N/A	N/A	 20m 9999	 50m 5000	95	70	175	 70m

Corvette Diagram



## Fuel Pipes

Fuel Pipes are dark red pipes that stretch across certain parts of the map and can be destroyed causing fire to spread across that area to block pathways for both players and enemies, they use a red colouration to provide affordance to the player as red is commonly associated with explosive objects within games.

Fire was used as the deterrent because fire damage is deadly with a player who has been set on fire dying in a matter of seconds if they do not use a stim, this is why it makes a perfect tool for denying access.

The pipes have a sizable amount of health with an armour rating of 4 (Heavy) which is primarily seen in support weapons such as laser cannons and rocket launchers, which was done so that the player does not accidentally damage the pipe with their standard equipment such as their primary, secondary, and most grenades.

The pipes can also be used to the player's advantage as the fire will also damage enemies, and climbable cover is used around the area so that the player does not accidentally block themselves in with no where to go.

[\[View Appendix Item 1\]](#)

## Turbines

Four Turbines are positioned around the corvette with two on each side. If they take enough damage, then they will turn into their damaged state where they still keep the corvette afloat in the air but depending on that turbine was hit then the corvette will slightly tilt to that side.

This was done to for the similar reason as the fuel pipes as a soft restriction, making anti-armour stratagems more dangerous to use, however, this feature also pairs well with Helldiver's knockback/ragdoll mechanic. This is because when a player is hit with an explosive directly or indirectly, they will be knock backed which can cause them to fall over. It is similar to when a player falls on sloped terrain on the ground, except with the added danger off them possibly falling off.

[\[View Appendix Item 2\]](#)

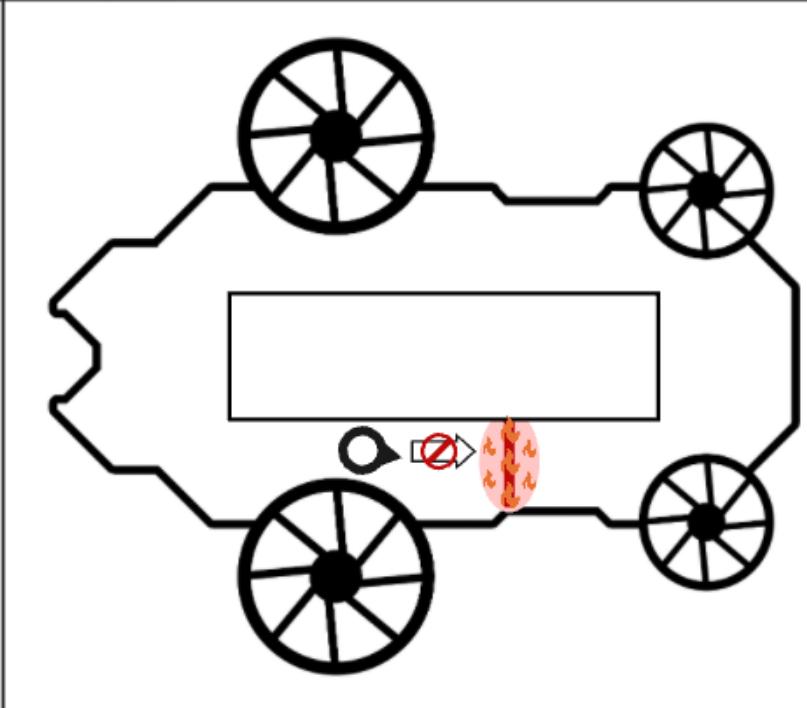
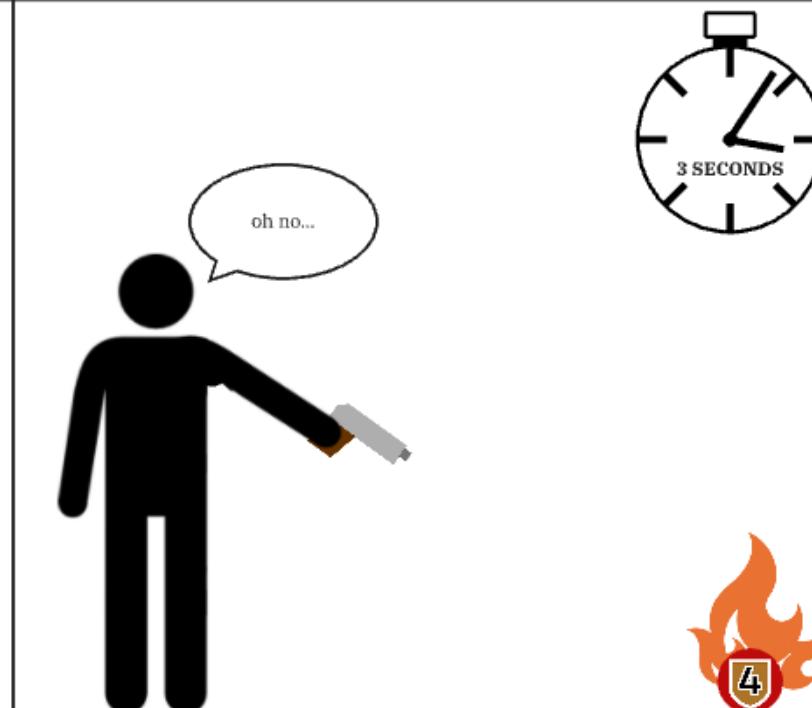
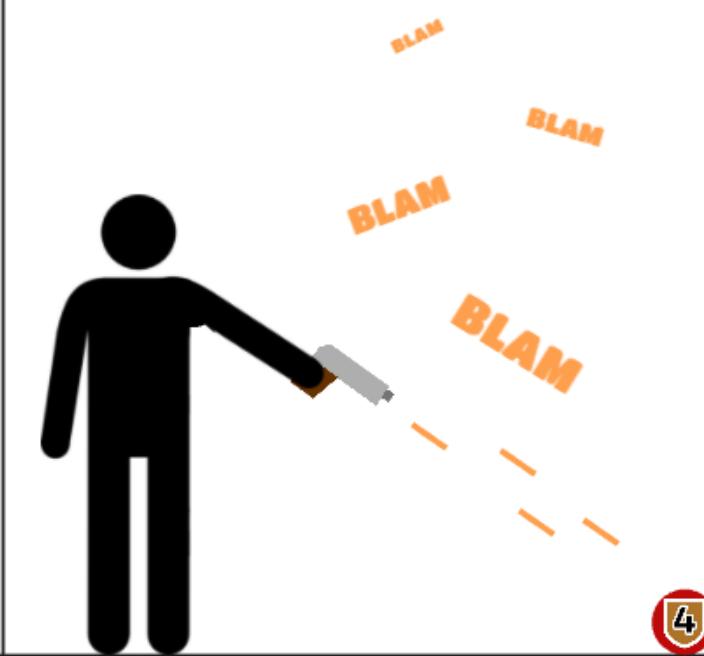
Both features were implemented into the system to take advantage of the limited area of the corvette, the fuel pipes restrict the player's path, and a damaged turbine can make combat more deadly. This was all done to create a dynamic play area that changes due to the fighting that happens on the corvette, and effects player decisions on whether a stronger stratagem would help them out in this situation or if it would cause more danger to me.

# APPENDIX

Oh boy I can't wait to shoot  
this fuel line with my  
**HEAVY PENETRATION GUN**

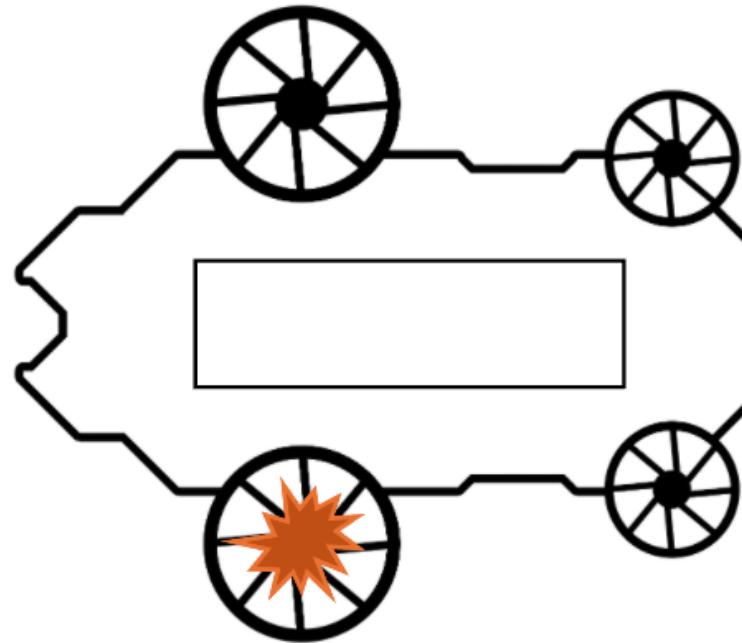
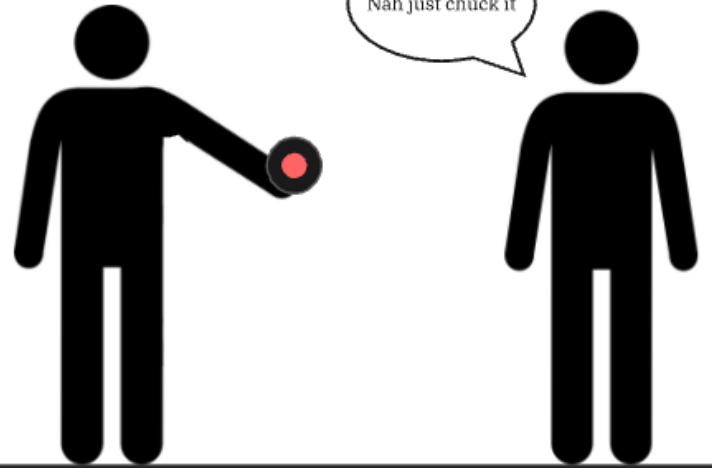


# **HEAVY PENETRATION GUN**

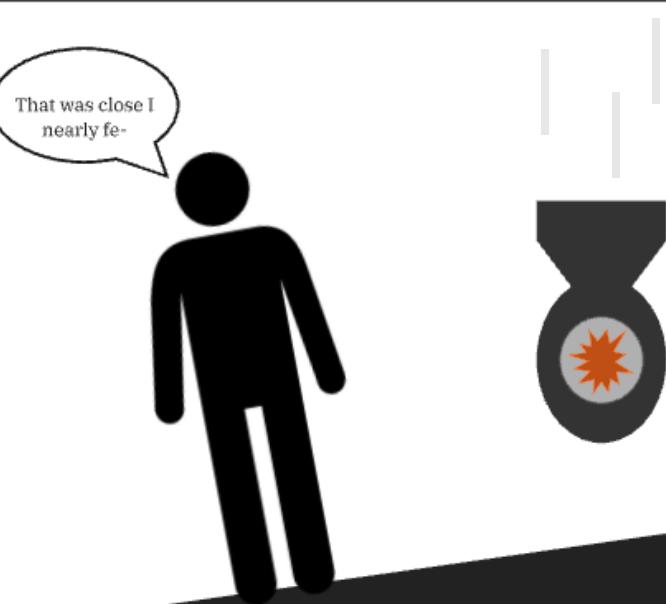
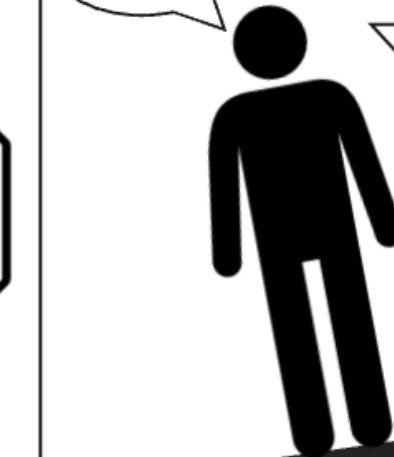


Do you want this 500kg Bomb?

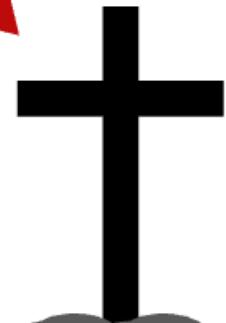
Nah just chuck it



WOAH WOAH



THEY DIED



## **Secondary Resources used to gather Helldivers 2 Mission data**

“Intense Combat | Helldivers 2 Gameplay | No Commentary” - <https://www.youtube.com/watch?v=lzUZeU23Sb4>

“Helldivers 2: 4K Gameplay No Commentary ULTRA Settings | RTX 4080 P686” - <https://www.youtube.com/watch?v=59ToXR2kkpc>

“Helldivers 2 PS5 Gameplay [4K 60FPS]” - <https://www.youtube.com/watch?v=OKJh9qoiJOQ>

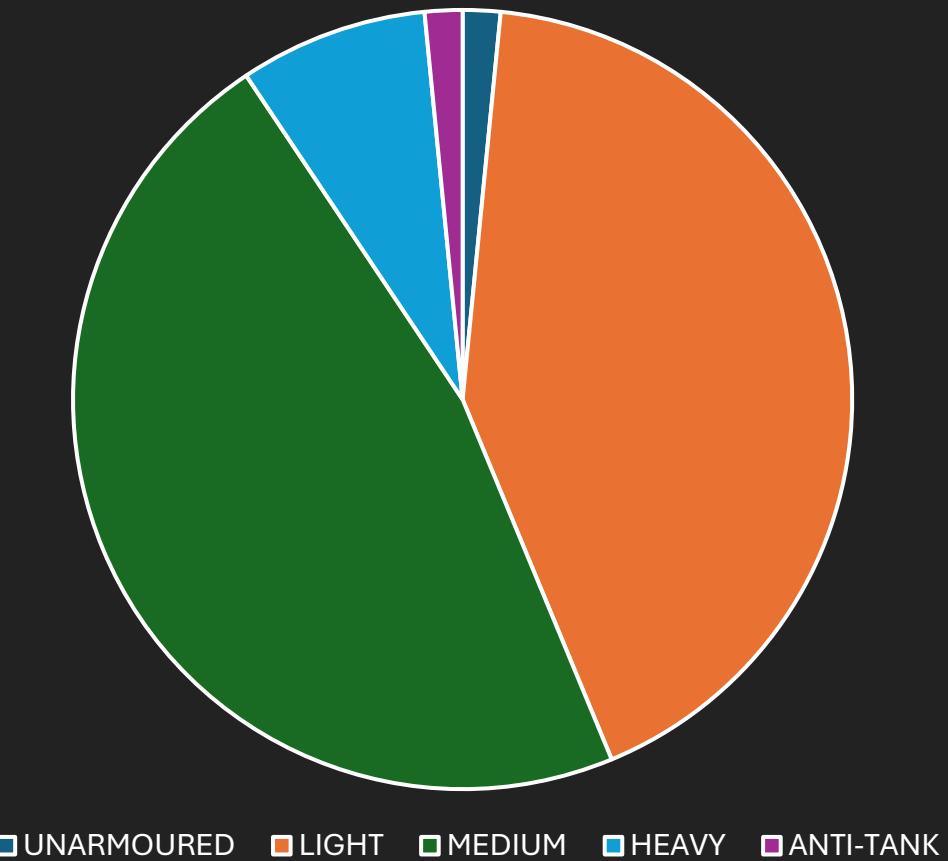
“Helldivers 2: 4K Gameplay No Commentary ULTRA Settings | RTX 4080 P866”(entry 4 is a different video to entry 2 just named the exact same title) - <https://www.youtube.com/watch?v=v2Fp7iFM9Z0>

Helldivers 2 WIKI - <https://helldivers.wiki.gg/wiki/Missions>

# Armour Penetration of Loadout Weapons

 8	ANTI-TANK	1
 4	HEAVY	5
 3	MEDIUM	30
 2	LIGHT	27
 0	UNARMOURED	1

Armour Penetration Ratings of Loadout Weapons



Helldivers 2 WIKI - <https://helldivers.wiki.gg/wiki/Damage>

Weapon Stat Charts - <https://steamcommunity.com/sharedfiles/filedetails/?id=3226524514>