

Stockpile Redesign

Overview

This document is a redesign exercise of the *Stockpile* gamemode in Halo Infinite. As the current gamemode (2023-07-02) seems to be one of the less enjoyable game modes for big team battle, I wanted to exercise my design skills by creating a possible redesign of the gamemode that I believe would be more engaging.

Current

Description



The current gamemode's objective is to gain 3 points before the other team. To get points, players must collect 5 power seeds, and place them to their team's power seed deposit.

Power seeds are spawned in neutral areas around the map, in clusters. In each cluster, more than 5 power seeds are spawned, meaning that there will be leftover power seeds after a point is earned.

The power seeds must be carried by the player in order to be transported. While carrying, the player cannot use their weapons and are unable to use their equipment. There are also a few mechanics the player can use after picking up a power seed.

1. The player can throw the power seed, much like they would throw a grenade or fusion coil. However, the power seed will not travel too far.
2. The player can place the power seed into the back of a razor back. Each razor back can only carry one item in its storage.

Issues

Compared to the other game modes in the big team battle playlist, stockpile seems to be the less enjoyable. From my experience, many players would immediately leave the match at the beginning of the game.

While the mode itself seems like it would be a great team-based gamemode, encouraging cooperation, there could be some changes to the game mode in order to make it more engaging and enjoyable.

Some of the issues I have identified with the current setup are the following.

Carrying the power seed is not fun

As it stands, there is nothing enjoyable about carrying a powerseed. While carrying, the player is not able to use their weapon, or sprint, leaving them very defenceless. While the player is able to melee and throw grenades, in a big team battle map the player is likely to be spotted from afar or out in the open, and are incapable of defending themselves.

Although this mechanic is, and has always been, a mechanic of Halo games (carrying an objective leaves you open), in Halo Infinite's stockpile there are multiple objectives to carry, meaning there is 5 times more work done to score a point.

Additionally, since there are multiple powerseeds available, that means that multiple players should be carrying power seeds at any given time in order to have the optimal strategy. This is asking multiple players to give up the ability to defend themselves.

While there have been multiple techniques to make the powerseed transport much more efficient;

- Players have adapted a juggling technique, where they carry multiple power seeds back by throwing one, and then picking up another one to throw towards the objective
- Players create a 'powerseed train' where they line up and throw powerseeds to one another

These techniques have drawbacks as well, as the power seeds location is given away to the enemy while the player throws them, which also gives away the player's position(s).

Additionally, these techniques are asking that multiple players sync up and work together which, while not impossible, is harder to do when you queue up with random people online.

Depositing a power seed is not as rewarding

As 5 powerseeds are required to score, this makes each objective a fifth of their importance. When a player finally reaches the deposit and places their power seed, their achievement is only a fifth of the goal, as they must travel back to get another 4 powerseeds to score their point.

In other objective carrying modes (ctf, assault) there is only one carried objective per team. This makes delivering the objective much more rewarding as with only one objective, the safety of that carrier and the delivery of that single objective is much more important.

From the objective carrier's perspective, it is also much more engaging to be the carrier. Your entire team works to bring you to the objective or defend you while doing so, while the entire enemy team should be working to defeat you. This makes a lot of action typically occur around the carrier.

There are scenarios where no action occurs around the carrier, however. I have found that these scenarios are when the carrier analyses the battlefield and sneaks over to the objective. While there is generally no action in this scenario, this type of play is still engaging, as the player crouches around enemy lines, hiding in bushes, trees, behind geometry etc. and as they near the objective, their adrenaline starts to increase as they think 'am I really gonna get away with this?' When they finally reach the objective, an alert is sent to both teams. This is typically where the action starts to occur around the carrier.

Retrieving / stealing power seeds is very difficult

Simply put, there are too many objectives to steal. In a game of CTF, a single player can return the flag if they are skilled enough, even if the flag is extremely close to the objective (though this chance decreases with a skilled enemy team). In stockpile, a single player can technically do this as well, but as stated earlier, it requires 5 times the work.

For example, lets say the red team is juggling the 5 powerseed, all in a line, and they are in red territory. There are 2- four players juggling, while the rest of red team is defending the jugglers from a safe spot. A player from blue team races in on a razorback, and is able to splatter 1 red team juggler. The blue player can either

- A. Get out and grab one of the power seeds to throw back towards the neutral zone
- B. Get out and place a power seed in the razor back to bring back to the blue base
- C. Continue to drive around attempting to splatter other jugglers.

In scenario A and B, the blue player is immediately identified by the other red jugglers who stop juggling and kill the blue player quickly before the blue player can do much.

In scenario C, the blue player gets killed quickly by the defending reds, since they have no passengers to fight off the reds.

In short, since the objective requires multiple players to work together, its likely that the objective will always have 2-4 players on it, making the stealing of it much more difficult.

Possible Changes

Power seed spawn changes & point system changes

The main change of this design is changing how the power seeds spawn. Instead of spawning multiple seeds in, start with 1 power seed. After 1-2 minutes, spawn in an additional power seed. Repeat until a max limit is reached (9) or the game ends. The game ends when one team finally succeeds in depositing 5 powerseeds.

The idea of this is to not allow an overwhelming victory right off the bat. At the start, there would only be one power seed, which the teams fight over. This brings the entirety of both teams' attention to the powerseed and also to the carrier of the power seed, solving the issue of the carrier being bored as lots of action will happen around them. Since only one powerseed is available at the start of the match, only one player is forced to carry the objective at the moment.

As a second power seed spawns in, the teams must now work around two objectives. If one team already has a power seed deposited, the odds are in their favour, but now they are focused on the new power seed, and may drop their defences on defending the deposited powerseed, giving the other team a chance to steal.

As powerseed 3 and 4, the dynamic of the match also changes, as multiple objectives must now be worked with. However, since 5 power seeds must be deposited in order to score, nothing is locked in, and the losing team still has the chance to steal.

When the 5th power seed spawns in, this is the turning point of the match. If either team is overwhelmingly coordinated, they win and the match is over, leaving a quick victory that is not drawn out. The losing team is forced to be more risky, or the game will end, leading to more risky assaults, also maybe more action.

By this point, if the match hasn't ended yet, both teams have generally had enough time to become invested in the match. And since power seeds aren't locked in, skilled individuals can really turn the tide if they are able to steal even a single power seed.

The additional power seeds are spawned in for matches where the teams are evenly tied in skill level, and bring the match to an eventual end when there are 9 powerseeds available.

Benefits

One benefit of this design is that the intensity of the match will increase as time goes on. The match starts slow, with only one power seed available. This would align with the vehicle drops from pelicans, as lower tier vehicles are dropped in the early parts of a match. As more power seeds spawn, there are more objectives to keep a watch on. One team may have 4 power seeds, and their entire team could be focusing on retrieving that one last power seed, only to have a stealthy player run around back to steal one seed, offsetting their victory until they either retrieve that seed, or until the next seed is spawned in.

Should a match reach a period where both teams have 4 seeds deposited, the intensity is at its highest, as a single stolen seed could result in a loss. With the final seed spawned in, a hectic tug of war game is played as both teams fight each other with late game vehicles and weapons fighting over the last seed.

Another benefit is that an uncoordinated team isn't forced to endure too long of a match should they lose. Theoretically fastest win would occur when the fifth power seed spawns in at roughly 5 minutes. This is enough time where a group of random players might be able to come up with some sort of strategy, but if they are still not able to, and lose, the match did not last too long.

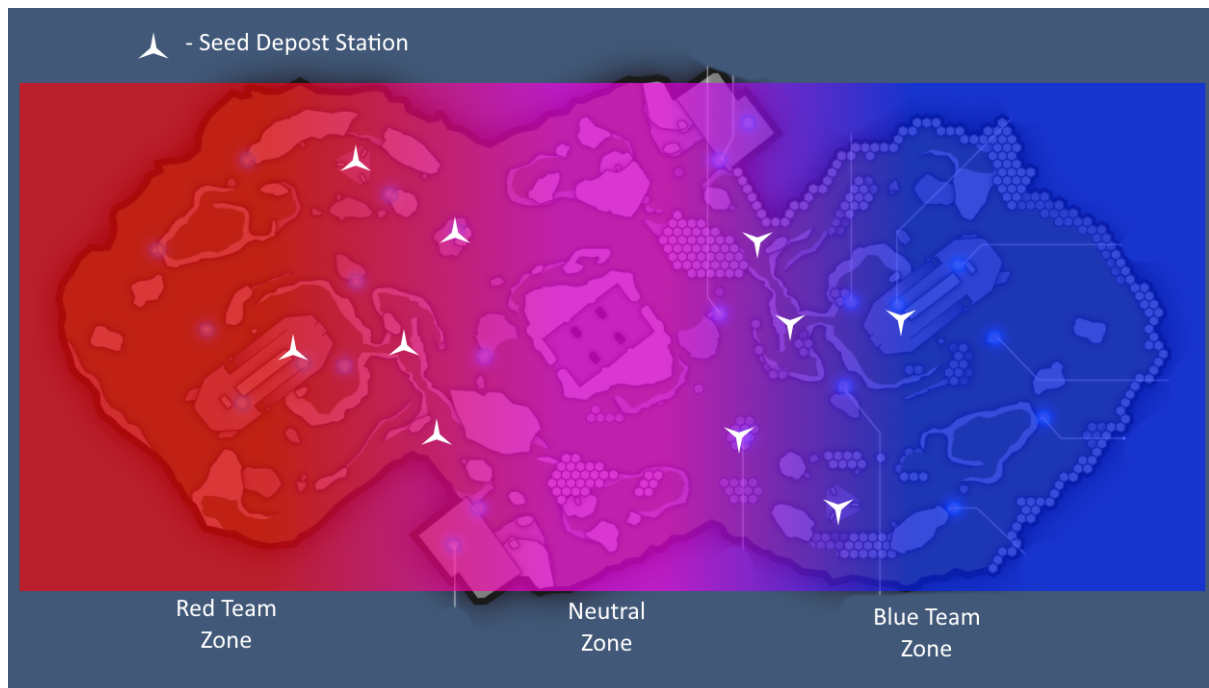
Possible Issues

There still persists the issue that carrying the seeds are not enjoyable and that stealing powerseeds is very difficult. Again, since 5 power seeds are required to win, that would mean that the losing team would need to steal, and juggle, 5 seeds back to their base after successfully stealing them from the enemy team. This would be akin to stealing 5 flags in CTF. Unlike CTF, however, the winning team's focus would be split on multiple objectives. The 4 seeds that were stolen, and the one power seed that was just spawned in. If they spend all their focus on the 4 seeds that were stolen, the other team might be able to take that newly spawned powerseed. If they only focus on the new power seed, then they risk sacrificing the four stolen seeds.

Spreading out the deposit stations

Right now, stealing power seeds from the enemy base is quite difficult, and not as rewarding as it should be. Typically, a team juggling power seeds does not take the minimum amount needed to reach the next point, they take all the seeds available. If a single player were able to get to the enemy base and steal a single power seed, its impact is marginalised, as the incoming juggled seeds will quickly cover that loss. If the player were skilled and were able to juggle two seeds, this has a larger impact, but with lowered benefits as the juggled seeds give away the player's location. Since they start on the enemy team's side, they are quickly eliminated and the power seeds are brought back.

One way to tackle this would be to spread out the deposit locations around the enemy team's side of the map. 1 deposit would be where the existing seed deposit is. 2 would stray away from the base a little bit, and the final 2 would be close to the neutral zone of the map.



IE. New seed deposit locations on Fragmentation

Benefits

The benefit of this layout is that the deposits closer to the neutral zone will be easier to steal from, and harder to defend. If a team decides to fill those deposits first, for a quick and easy deposit, they risk losing those seeds. If a team waits to fill those slots last, their captured seeds are safer, but now they have to fight the other team for the last seed. If they succeed in stealing the seed, the carrier does not have to travel the entirety of the map to deposit the seed, only about two-thirds of the map, making the trek not too difficult, but still achievable.

Another benefit is that the path of bringing the seeds back to the base is not always the same. With stockpile's current design, the path to the base is always the same, depending on where the seeds spawn. This makes the paths predictable, and not as exciting, while also easily defendable. By spreading the deposits around the map, the amount of players actively defending a single power seed carrier decreases drastically as the carriers head off in different directions, making the seeds easier to steal.

Possible Issues

This has the potential of drawing out matches even longer. Since the neutral zone deposits are easier to steal, this has similar issues to gametypes like Strongholds and territories, where the flow is back and forth.

One team is about to score all 5, when their neutral zone power seed is stolen. That team focuses on retrieving their stolen power seed, and succeeds, but in the process their other neutral seed deposit is stolen from.

Another issue that could occur, though not as large, is that uncoordinated players may take multiple seeds back to one deposit. This could lead to one of those players needing to back track to a different deposit.

Creating a New Game Mode

Creating a new game mode based off of the core of Stockpile may result in a better outcome as well. The major benefit of this is that it allows the objective to somewhat change, while also keeping some of the core features of stockpile, reducing the need for new assets. Additionally, a new game mode would allow the mode to start off fresh, without any of the possible negativity from stockpile in the community.

The New Game Mode

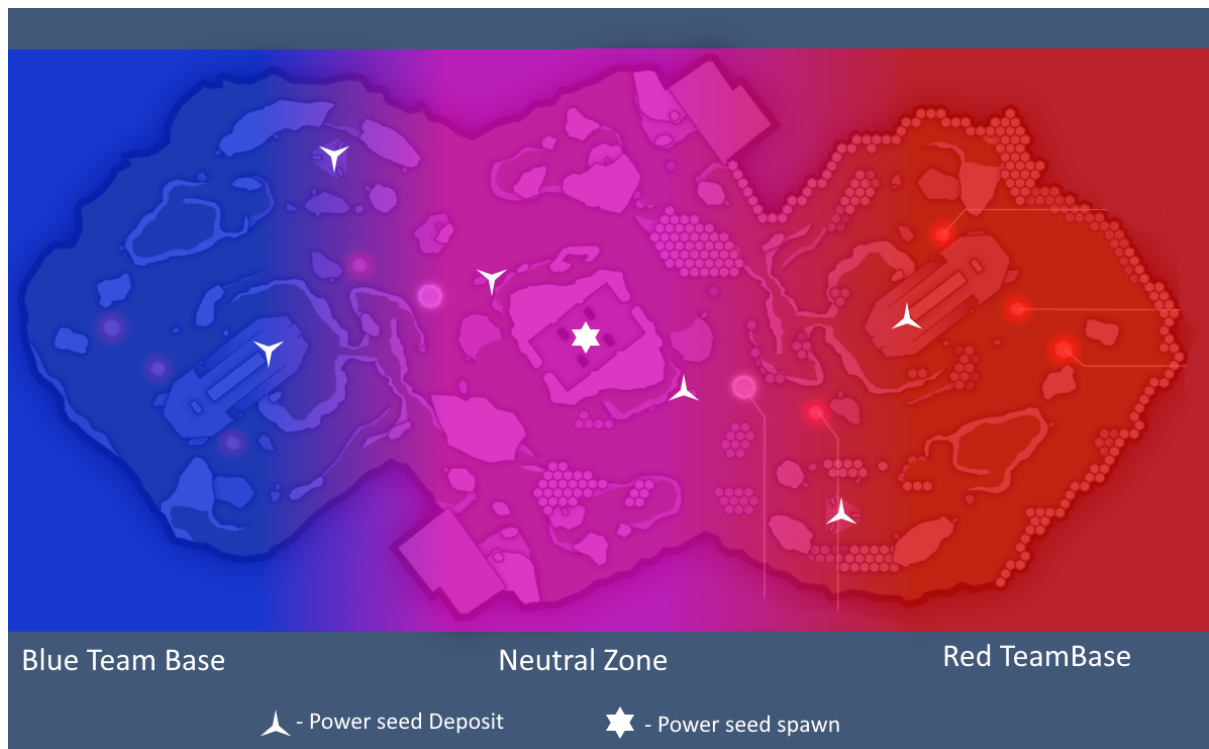
The game mode I am suggesting is called "Power Charge". Like stockpile, it features the use of power seeds, and seed deposits. However, in this mode, the objective has changed. Instead of points being scored after all the deposits are filled, the objective for Power Charge is to reach 100% charge before the other team.

First, the amount of power seeds has been reduced to 3. In total, 5 power seeds will be available at all times. Each powerseed starts with 100% charge, but will start to decay at 1% per second. Should the batteries charge be reduced to 0%, they will explode, and despawn. Afterwards a new power seed will spawn in the neutral spawn location, all players will be notified of the newly spawned battery.

To increase a team's charge score, power seeds must be placed into the seed deposits. Each power seed adds 0.1% charge to the score per second, with a max of 0.3% charge with all 3 deposits filled.

The power seeds, after being deposited, have a decay rate of 2% per second. After the charge is spent, the battery will explode, despawn, and a new battery will spawn in a neutral location on the map.

The power seed deposits will be spread out on the map on each team's bases. 1 deposit will be located at the team's base, 1 will be located at a spot a little further out from the base, and the final one will be more towards the neutral area of the map.



IE. New seed deposit locations on Fragmentation

New Mechanics

While this game mode wouldn't require any new mechanics, there is room to explore with the seed carriers.

One of the issues with stockpiling was that carrying the seeds wasn't as fun as it could have been. Because of this, many players would generally resort to one of 2 strategies every time. Either juggle the seed back to the base, or create a train of players to throw the seed closer to the base. As a result, there wasn't much variety to the game play.

A possible solution to this is to empower the power seed carrier.

Overcharged Shields

-Pressing the equipment button while holding the power seed temporarily overcharges the player's shields, but 10% of the battery's charge is lost when doing so.

This gives the carrier a way to better protect themselves while carrying the seed. By giving the player the choice of having overshields, while sacrificing some of the seed's charge, the player can strategically choose when to activate the shields. By adding the battery drain, a drawback is added in, making the choice a little more difficult to make as there are consequences.

Overcharged Allies

-Pressing the equipment button while holding the power seed temporarily overcharges the shields of any allies in range, but 20% of the battery's charge is lost when doing so.

Similar to the above design, this gives the carrier a better way of defending themselves. However, this ability also gives an incentive to be escorting the carrier, as any players within a small range would be given temporary overshields.

Match Duration

The ideal match time for most big team battle matches should be roughly 10-15 minutes. If a team is particularly skilled, this time should be lower at around 6-8 minutes, so the match does not seem like too much of a 'slog' for the losing team.

For this mode there are several factors that would affect how long a perfect game takes.

- How long it takes to get the power seed to a seed deposit
- Idle decay rate of the seeds (when not in a deposit)
- Charging decay rate of the seeds (when in the deposit)

This perfect game is assuming that one team dominates the other team, and that the dominating team is perfect in getting the power seeds to the deposits.

A rough equation to calculate this time is

- C - charge rate per seed
- B - time to travel to the base
- Id - idle decay rate per second (not in deposit)
- Cd - charge decay rate per second (in deposit)
- Sa - Max amount of seed deposits

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timeInDeposit = ( B * Id ) / ( Cd );  
seedValue = ( timeInDeposit * C );  
maxChargeVal = seedValue * Sa;
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By using this formula, we can understand that roughly each seed will generally increase the team's score by 3.5% for every 35 seconds the battery is deposited. With all seed deposits filled, the team will have a 10.5% charge for every 35 seconds the deposits are maxed.

By dividing the max charge rate by the estimated time in the deposit, we can determine that the deposits need to be fully stocked for roughly 5 ½ minutes, which is roughly how long a one sided match should be.

This equation doesn't take into account the enemy team variable, as they can hinder progress. It also doesn't take into account the 'seed overcharge' ability that was described above, as this would drastically reduce how much charge a seed would give to the total score.

Gamemode Design Goal

The design goal of Power Charge is to make this version of stockpile more exciting / engaging by addressing some of the issues within stockpile.

The issue of stealing being a little too difficult has been addressed by separating and re-locating the power seed deposits. While there is still the easily defended deposit in the centre of each team's base, there are also 2 deposits that are closer to the neutral zone of the map, and a little more hard to defend. The remaining 2 deposits are in-between the red zone and neutral zone deposits and as such aren't too difficult to defend, but are also not too difficult to steal from.

While the issue of 'carrying a power seed not being fun' hasn't been fully addressed, as the method of carrying the seed hasn't changed, reducing the amount of seeds does aid in reducing the amount of players needed to load up a team's deposits. This helps make each seed carrier have a little more weight in the success of the team, as their contribution is now one-third of a stocked up deposit, rather than stockpile's one-fifth. Additionally, the new power seed mechanics might be able to give more incentive into picking up the powerseeds, and also more incentive to protect / escort the seed carrier.