Halo Infinite Vs Halo 4 Controls

Hello, Obi_wang_cannoli here,

Halo Infinite's controls just don't feel right, I've heard this complaint online and elsewhere and have noticed this myself.

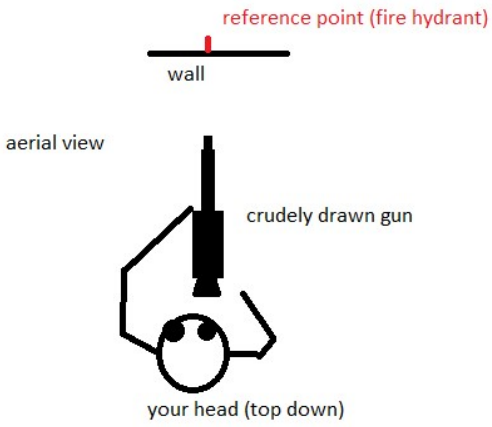
As a fan of the way Halo 4 felt, I decided to measure and compare sensitivities, acceleration, magnifications, deadzones etc between the two games.

Here is the methodology I used for this, followed by my data and findings.

METHODOLOGY

Starting with Halo 4 default settings were:
Sensitivity: 3
Acceleration: 5
Dead zone center: 12%
Dead zone radius: 12%

For halo 4, a reference point on a wall was used (glowing stripe or fire hydrant etc) and a stop watch

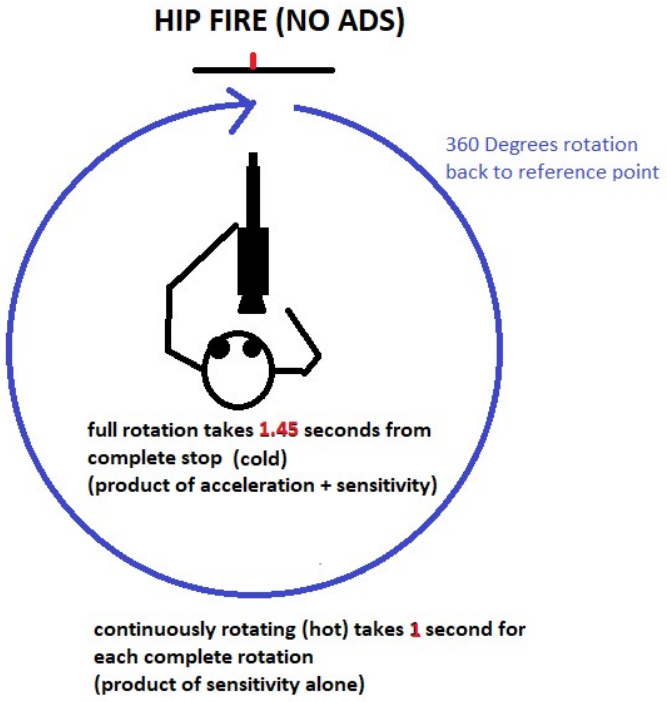


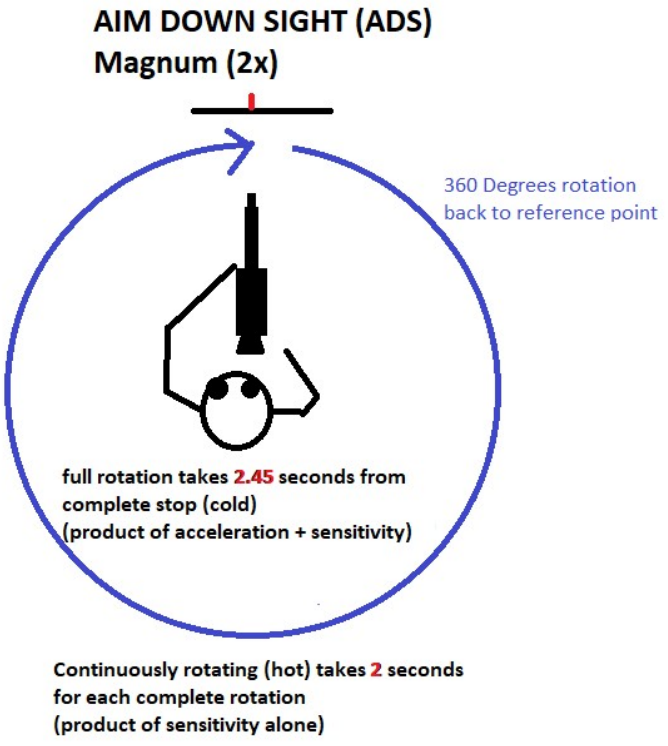
360 degree rotations were recorded in seconds for hip aiming and aiming down the sights (ADS) with different weapons. For these measurements, I started from a complete stop on the reference point, ending back at the reference point (let's call that a **cold rotation** - includes the time it takes to accelerate).

360 degree rotations were recorded while hip aiming and for each weapon while aiming down the sights (ADS) by recording "laps" while already rotating at 100% speed (no acceleration included then, we'll call this a **hot rotation**)

A 360 degree rotation was also recorded (cold) with the stick halfway to the right, this was to measure the middle of the sensitivity curve to make sure everything in between the recorded values makes sense. Keeping the controller completely still, I measured this value in halo 4 and then quick resumed halo infinite which was setup the same way and then continued my measurement in halo infinite to compare recordings. We'll focus on this later, for now just worry about cold and hot full speed rotations.

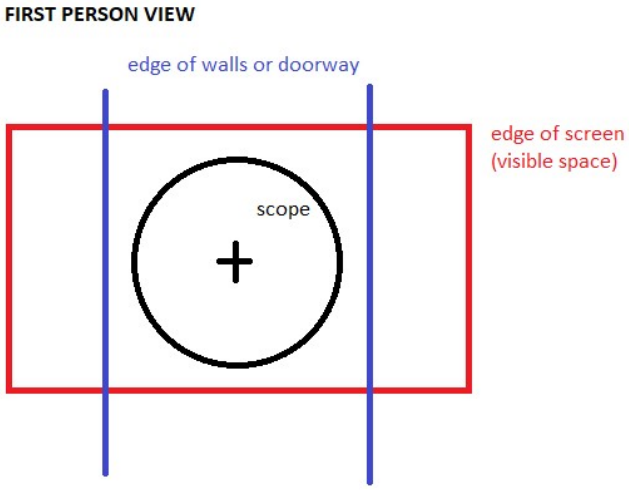
As you can see from these figures, a rotation at sensitivity 3 while hip aiming measures at 1.45 seconds for 360 degrees from a dead stop (cold). Hip aiming then

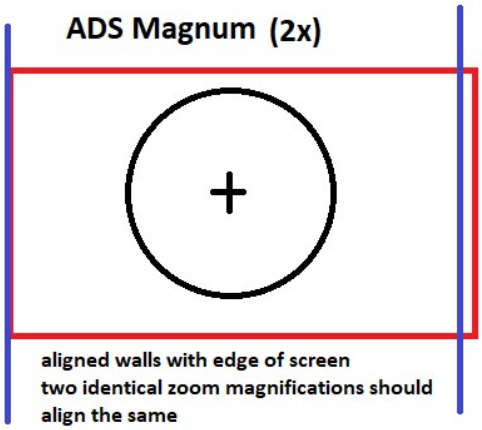




measures at 1 second for 360 degree rotation (hot) with no acceleration included. For the magnum (2x magnification) it measures at 2.45 seconds for cold rotation and 2 seconds for hot rotation. This makes for easy math and now it appears that my acceleration adds approximately .45 seconds to the total rotation time at halo 4's acceleration setting at "5" (this is later confirmed by my data, just something to note)

This data means nothing if I'm not sure about the zoom levels between weapons, some wiki pages claim light rifle is 4x and dmr is 2x etc, but my measurements didn't add up with the previous math of 1 second for 1x and 2 seconds for 2x.



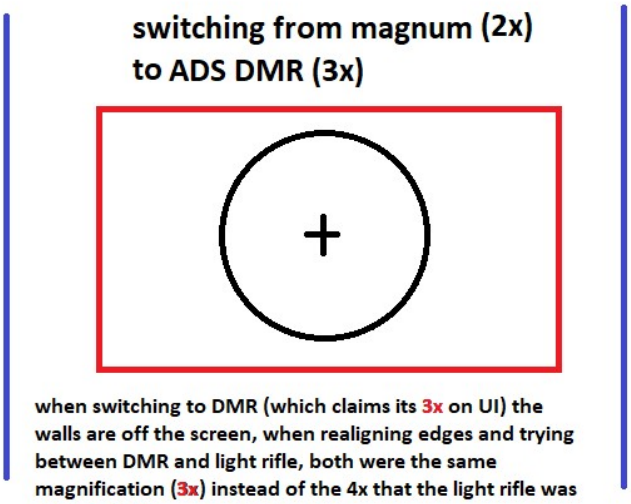


As you can see in these figures, in first person a wall may align with the edge of your screen at certain zoom magnification but not at others, based on this I compared the individual guns that were able to zoom with each other ie: DMR, Magnum, light rifle etc. Theoretically, based on my initial measurements between 1x and 2x, guns that measure as 2x should have the same measurements and guns that are 3x should have a 3 second hot rotation and a 3.45 second cold rotation.

My findings during this stage determined the DMR is actually 3x in halo 4 (not 2x) and that the light rifle is also 3x (not 4x) this is important when I begin collecting data as they both measure 3 seconds which would have done away with the easy linear scaling if they were other magnifications.

In order for my comparisons to matter between games I had to also make sure that my base sensitivities and accelerations match. Halo infinite could register the same cold rotation as my base halo 4 readings at a setting of 5 acceleration with a lower sensitivity, but that does not mean it's the same setting, remember the sum of the acceleration and the sensitivity contributes toa cold rotation's time, I need both of those numbers to be identical so I measured the **hot** rotations (which excludes acceleration) in both games with hip aiming against each other and found that halo infinite's default sensitivity is perfect at 5, but with **cold** rotations (includes acceleration from a stop) I get a different value, therefore acceleration must be off in infinite. Adjusting this to a setting of 1 in halo infinite gave me a much closer reading to halo 4's 1.45 seconds at 3 sensitivity and 5 acceleration.

But wait there's more, both games include dead zones for both the center of the stick and the edge, I had to be sure that this setting didn't squash the sensitivity curve or cut it off prematurely.



There's also a setting in halo infinite for "max input threshold" which claims to be the distance from the edge of the stick's movement that it has to be before it maxes out the top of the curve.

So, assuming 343 means 12% deadzone when they say 12% deadzone, I left it at 12% for both center and radial because that's what I had in halo 4. moving the stick slightly from maximum towards the center until it shifts into a lower speed, I confirmed that both seem to occur at the same degree of tilt in the stick regardless of max input threshold, so deadzone seems to be correct. Maybe more testing is needed there.

Moving max input threshold around didn't seem to have any effect on my cold rotations (???) so I assume it only affects the steepness of the curve in between maximum and zero on the stick. Testing between halo 4 and halo infinite while the hip aiming measured the same exact time, it appeared to be that halo 4 felt slower, more controlled when moving the stick near halfway. Keeping max input threshold at 10 (default) in infinite and setting the controller up to be stable and still, I moved the stick halfway to the right and measured a 360 degree rotation in both games without disturbing the stick, switching between them via quick resume and measured that halo infinite was much faster. Halo 4 measured 34 seconds for a 360 degree rotation (cold) at that degree of tilt, and halo infinite measured somewhere around 19 seconds or so. Adjusting infinite to have a max input threshold of zero, felt closer to halo 4 and sure enough, it then measured exactly 34 seconds at that same setting, both are identical when halfway pressed at 0 max input threshold.

So now that I have both games setup I could compare the ADS zoom magnifications vs the sensitivity scaling (spoiler, it's all over the place, **you're not imagining things if you were one of the people thinking something was off….. a lot was off**). More on all that later, here's a summary of the data:

DATA

Rough numbers, acquired by finding mean between multiple measurements.
To match the base settings:

HALO 4 settings (easy math)
Sensitivity vertical: 3
Sensitivity horizontal: 3
Acceleration: 5
Deadzone center(axial): 12%
Deadzone edge (radial): 12%

Cold rotation (1x) hip aim: 1.43 seconds
Hot rotation (1x) hip aim: 1.01 seconds
50% tilt cold rotation (1x): 34 seconds

Halo 4 (non-customizable magnification sensitivities)

Weapon/zoom	**Cold rotation**	**Hot rotation**	Expected cold	Expected hot
Hip Aim 1x	1.43	1.01	1.45	1.00
Magnum 2x (halo 4specific)	2.45	1.99	2.45	2
DMR 3x	3.45	3.00	3.45	3.00
Light rifle 3x	3.40	3.02	3.45	3.00
Sniper 5x	4.42	3.9	5.45	5.00
Sniper 10x	9.4	9	10.45	10.00

HALO INFINITE settings (corrected to halo 4 values)
Sensitivity vertical: 5
Sensitivity horizontal: 5
Acceleration: 1
Deadzone center(axial): 12%
Deadzone edge (radial): 12%
Max input threshold: 0

Cold rotation (1x) hip aim: 1.45 seconds
Hot rotation (1x) hip aim: 1.01 seconds
50% tilt cold rotation (1x): 34 seconds

Magnification sensitivities:
1.4x : 1.5
2.5x: 1.5
3x: 1.5
5x: 1.5
6x: 1.5
7x: 1.5
10x: 1.5

magnification sensitivities for halo infinite (ie: 1.4x 2.5x 3.0x…) should be set to 1.5 (default was 1.0) for all magnifications to have the same rotational values as halo 4 scaling. I noticed 1.0 left the 1.4x zoom weapons at 2 seconds hot rotations and 2.45 cold rotations which is what halo 4 had for 1.4x weapons. The same trend continued for all weapons with that same linear scaling like halo 4 had. (**even though this matches up with my numbers it still feels too sensitive, I will revisit magnification comparisons in infinite just as I did in halo 4**)

Halo infinite (1.0 sensitivities for all magnifications)

Weapon/zoom	**Cold rotation**	**Hot rotation**	Expected cold	Expected hot
Hip Aim 1x	1.45	1.01	1.45	1.00
Magnum 1.4x (halo infinite specific) Includes Assault rifle and most guns	2.45	1.98	1.85	1.40
Commando 2x	-	-	2.45	2.00
Br75 2.5x	-	-	2.95	2.5
Sniper 5x	-	-	5.45	5.00
Sniper 10x	-	-	10.45	10.00

At 1.0 sensitivities for **each magnification (not to be confused with the base sensitivity of 5)**, I didn't bother recording the rest as 1.4x was already different from halo 4, and two guns that were responding to changes to the 2.5x magnification sensitivity when I made changes, were supposedly different magnifications. Commando says 2.0x, and br75 claims its 3x. Both responded to the 2.5x settings…..what…
So after testing the magnifications all against each other I determined that the pistol is in fact 1.4x, the commando is in fact 2.0x and the br75 is in fact 2.5x, even though the commando and the br75 both respond to 2.5x settings in the menu, they have different rotational measurements that match their actual magnifications so idk what to say about this other than there should be a menu setting for 2.0x weapons like the commando but for some reason its lumped in with 2.5x and the br75's UI is wrong to say 3x on the scope. After changing each magnification ADS sensitivity to 1.5 which appears to match what I calculated the pistol should be at based of halo 4 scaling (**1.4x should be 1.4 seconds hot rotation, then add .45 seconds acceleration for cold rotation according to how halo 4 did it**). These are the measurements I got:

Halo infinite (1.5 sensitivities for all magnifications)

Weapon/zoom	**Cold rotation**	**Hot rotation**	Expected cold	Expected hot
Hip Aim 1x	1.45	1.01	1.45	1.00
Magnum 1.4x (halo infinite specific) Includes Assault rifle and most guns	1.85	1.4	1.85	1.40
Commando 2x	2.41	1.98	2.45	2.00
Br75 2.5x	3.00	2.5	2.95	2.5
Sniper 5x	5.46	5.05	5.45	5.00
Sniper 10x	10.43	9.96	10.45	10.00

So this is encouraging, at least the scaling is working in the same linear fashion, and changing magnification sensitivities from 1.0 to 1.5 affects each gun the same way across the board. But as I said before, **ADS still doesn't feel right**. There's something wrong with the curve in between half and maximum or something, maybe someone else can further test this.

I found that 1.5 for each weapon was too fast in ADS even though all my number matched up so far with halo 4, so **I checked the FOV, both games are set to 78 degrees** so it's not just a feeling (higher FOV makes the edges of the screen look like they're moving really fast, can make you feel like it's faster).

COD ADS SENSITIVITY???

It's worth noting that I explored the idea of maybe configuring this game to feel like cod as they seem to be moving it towards this type of scaling: while exploring the idea Iheard of cod using 0.7 as a modifier in ADS sensitivity **(I don't know if that's right or what im doing here but weeeeee)**, so I tried using that to calculate what it would be if I 1x zoomed with iron sights in halo (assuming you could) and then 1.4x and then 2x and then 3x. Wouldn't you know it, what's 70% of 2 seconds? 1.4 seconds **(just like in my 1.0 test in infinite),** so it's possible that the approach to the scaling in this game staring at 2 seconds for 1.4x, as well as keeping the sensitivity the same but increasing acceleration and squashing the curve to be more cod like or something IDK, I need to test this against the latest COD games and see why those feel so natural to me and see if infinite compares because **I just can't quite make halo 4 ADS settings work for this game**. I found though that setting it to 0.7 for all guns felt really good with the rest of my infinite settings…. LIKE REALLY GOOD.

Anyway hope this helps some of you who are frustrated with the controls. If you have more to add, please do your own experiments and report, I'd really love to get it right.

Feel free to PM me on reddit with questions or whatever (obi_wang_cannoli)