

Key:

Normal Anon Comments

GHP Comments

[Issues that have been solved.](#)

Play the most recent update here before leaving a comment:

<https://mega.nz/#!Wd1FXBTY!KWJFIn3rTMUkLhiVYdWiV5SXulh6FCAEai3b9sQxrZQ>

Also, please specify what control scheme you are using. I am using an Xbox One USB controller and, so far, development has gone on with analog gamepads in mind.

CURRENT CONTROL SCHEME:

A - Jump/Homing Attack/Drop Dash

B - Spin Dash

Y - Light Dash

RB - Hold to roll, release to uncurl

A+X - Bounce

Right stick - Camera

Right stick press - Recenter

Sonic's Controls:

[Spindashing at the top of loops leads to planking](#)

[Spindash always orients itself to some standard point if you don't hold a direction](#)

[Turning with no y-axis input will slow you to a stop instantly \(running and rolling\)](#)

[Stopping on even mild slopes "walks" you back down](#)

[Found a bug where Sonic could stay at the apex of a loop even when moving extremely slowly. It's fairly easy to pull off, just move the control stick in a little circle when you're at the apex.](#)

[Video here:](#)

[I also noticed that staying curled after rolling down a slope will carry you farther than if you uncurl on flat ground. Is this intentional? I don't remember it working like that in the classics.](#)

[Video here: <https://files.catbox.moe/ab3mkm.fly>](#)

[Impeccable detail. Thank you so much! That bug is very interesting. So as long as you stay moving you can stay up there, huh? Weird! I'll see what I can do. As for your second note, I'm afraid I don't understand. Your video looks perfectly natural to me. Thoughts, others?](#)

[Actually, if I stop moving the control stick, Sonic will move slowly in the direction he's facing until he's off the loop. Also, I guess I was just misremembering how Sonic moved in the classic games.](#)

[Something that I kind of want to bring up is how it feels to bounce off of stuff. I'm not sure whether this is by design or because the variables involved are difficult to change, but I'm not a](#)

fan of how running into a spring cancels all your Z-axis momentum (i.e. running speed). I have a similar gripe with how bouncing off enemies works. I understand this is accurate to how these things work in Sonic Adventure onwards, but I think whether we want the physics to be closer to “modern” or “classic” should be a topic of discussion in the future.

I'm playing on a mouse and keyboard and turning on Sonic is definitely very awkward, especially considering the fact that I just got back from a weekend GTA V session.

I'm not quite sure how to describe it, but when I press the "A" or "D" keys, Sonic's direction "snaps" 45 degrees left or right, which isn't how I'm used to controlling him on a keyboard.

Instead the degrees his direction changes should depend on how long I'm holding down the key. eg. if I'm holding the "A" key for .5 seconds he rotates 10 degrees, then if I hold it for 2 seconds he rotates 45 degrees.

I could be wrong about how sonic's supposed to control though, maybe I need to go back and play the old games to figure out what's missing about his keyboard turning.

Please try some official PC Sonic game releases and get back to me with your findings on how you think he should handle on keyboard.

If I wanted to try and mess around with the variables myself, what would I need to get in terms of Unity software, and what would I need to know going in (where the movement variables/formulas are stored and what to be cautious of when editing data)?

Great question. The download link in the OP of each thread should get you started. It'll tell you which Unity build you need. Next, once you've got the project open, you're going to want to look at PlayerObjects>Player_Sonic_Modern and then look at his “Player Bysics” component among other things. There are lots of values for you to tinker with. Don't know what something does? Crank it to a million and see what it breaks! It's all part of learning what does what. Just make sure that you copy-paste a backup of the TestStage scene before you start messing around.

Nice! Thanks.

I can't figure out how to edit the Character controller, unfortunately. I can open the directory for the original /sthg/ level editor in Unity, but not the BuiltProgram_data directory.

You cannot edit the build that's available up top. It does not have the source code, only the built program. V4.0 in the OP of every thread is pretty outdated at this point, but would be a good tool to familiarize yourself with how Sonic's character controller works.

Turning into a ball when gracefully descending onto a very steep slope gives sonic so much speed he rockets off the slope instead of gradually increasing his speed along the slope (please excuse the jerky webm I hope the important part is smooth enough)

(https://a.uguu.se/Vlqaliw77HFg_sonic.mp4)Also I personally dislike how sonic loses all his speed when he lightly caresses a wall I think he should only lose a little speed based on his direction of movement relative to the wall.

This issue is actually due to how the mesh is constructed, not Sonic's physics itself. Hard to explain.

Sonic controls fairly well and low speed and overall things feel "right" at low speed. A little tweaking required -- very minor stuff which would actually take a lot of time -- but the core is solid. Jumping is also fine. The platforms could do with being lowered, but the core jump itself feels very solid and gives a lot of room for maneuver in the air. Definitely better than the floaty jump of modern boost. Overall control is good at low speed.

However, at speed, turning radius is WAAAY too tight. Sonic turns far too easily at high speed and it makes control at high speed paradoxically more difficult as things are very unintuitive. Would be interested to see what equations/coding you're using here if you were going to post them in the thread.

Also, for some reason, control "feels" better when Sonic is rolling. No idea why. Maybe because he's losing speed and turning radius feels more natural. Not sure, but maybe look into whatever code you're using there?

Also, Sonic stops a little too easily. Need more stopping distance would add to the sense that he's going fast. Not too much, but enough for a bigger tyre screech that he has current;y.

Is there a way in the current build for Sonic to reach his *absolute* top speed? If not, it would be nice if the means to do so were implemented. Not for any particular reason - it would just be fun to see exactly what Sonic's LIMIT is. Unless, of course, the speed he can get from the big loop and big hills is as good as he can do.

Just ran some tests (literally) and, yes, he can reach it using the large wall-run section. Roll down that, uncurl, go around the loop, roll at the latter end of that and that should take you to "limit??"

I think Sonic gets a little too much vertical height when bouncing off the flying enemies in succession without using the homing attack (jumping on them a la Classic). Managing to bounce on all 3 of the flying robots in succession allows Sonic to clear the walls of the testing area and then some. It's a little disorientating in regards to precision platforming.

Found two engine quirks in this new build. First, it's possible to have the drop dash's particle effect "stick" to classic Sonic if the jump button is hit a certain way before landing, meaning that he'll have the effect on him even when he's uncurled or standing still. I was able to trigger it by

mashing the jump button. Second, I found that walking on the guard rails of the giant loop at the far end of the field allows the character to complete the loop even if they aren't going fast enough. I've tested it with Mania Sonic and Shadow (I wasn't able to complete the loop, but I got farther than I should have for the speed that I was at) but I haven't tested it with any other loops. Video Here: <https://files.catbox.moe/jdnecx.flv>

Fantastic notes! I'll look into these issues. Looks like I'll have to modify everyone's loop sticking thresholds to make sure that they can't "Sonic 4" all over them eh?

Otherwise, great job on this new build! I love the new characters and effects.

There is still minor issues regarding the aiming of the spindash. In certain instances while attempting to aim the spin dash it snaps to a random direction, as if it has a mind of its own. I thought it may be a slope issue but it happens on the flat surface at times as well.

Upon further "experimentation" I was able to "bug" my spindash while playing as Shadow as well so it's not a specific character issue.

However, what's even stranger is that it's not an issue when the game launches. I'm not particularly what but after doing performing a certain action the spindash bugs.

Unfortunately I am not entirely sure what triggers it.

However, I have a hunch it has something to do with how Sonic interacts with slopes/walls as it doesn't happen until after I've fiddled around on the various loops, corkscrews, and the wall.

Not sure if this is just due to me using a DS4 with DS4Windows, but the character select menu doesn't play very nice with diagonal inputs on the analogue stick. Diagonals are fine in-game, but in the menu they're always interpreted as either a vertical or horizontal movement, not both. Also, would it be out of the question to implement d-pad support for the menu?

See if tinkering with the Input settings helps?

~~Found a glitch where bouncing on the ledge of the first "pillar" of the four near the spikes and badniks and sending yourself flying into the spikes with no rings will put you in a weird state where the death sound plays and the character is stuck in their knockback animation, but the player can still move the character around and interact with boost pads (and I assume other objects, but I got stuck on the boost pads because the character can't jump or spindash in this state). I'll try to see if I can recreate this with any characters besides Espio tomorrow. Edit: this happens whenever you die after activating the checkpoint, regardless of character. Also: you exit the falling animation and return to "normal" after hitting a spring, but are still invincible.~~

Excellent catch!! It was due to a missing reference to the falling ring objects when taking damage. Should be fixed in the following build.

Sonic's Camera:

I think the X-sensitivity should be made just a notch higher by default. Also, I think that it's worth considering the possibility of using the left analog stick for precise movement and the right analog stick for wide turns, sometimes both sticks in conjunction.

That's an intriguing proposal. So tighten up the camera's follow factor to Sonic's horizontal movement? Can do!

The camera is a little janky overall, mostly related to going through loops or being close to walls/obstacles. Tends to jerk around a lot going through certain segments. Maybe could do with zooming out a little.

Zoom out the camera! Got it!

Core controls are fine on the flat(maybe a little sensitive), but especially going through loops and the like I feel the camera is lagging behind too much. Sonic is at centre, but it's not looking at where Sonic is going as much as it could. Maybe run some prediction about where the player appears to be going and average that when deciding camera position?

The camera should be positioned higher so that the player is positioned more towards the bottom (not all the way at the bottom, just a little bit below the center of the screen, enough room to let the player see what's ahead of them) rather slightly above center, it's pretty uncomfortable and doesn't give you much space to see what's ahead of you without adjusting it. The camera also seems way too intrusive when it decides to take control (e.g. when Sonic is falling down). Having the player keep their camera position for some time before turning the camera automatic could improve it.

The camera doesn't pan down when charging a drop dash.

Semi-related, but the camera begins to pan down a bit too soon: when doing a full jump the camera "snaps" a bit just as you start to land. It's slightly jarring.

Sonic's Moveset:

I really appreciate that you put in the roll. Regarding the spin dash, there's a risk here of a Sonic adventure style spam potential. Maybe the spin dash could be linked to a Boost style drop. When Sonic is crouched and perfectly stationary, rev with the roll button? Just a thought.

I figured the inability to use the Spin Dash while moving mitigated the spamability of the Spin Dash. Thoughts?

Agreed, but you should make it more forgiving with slopes.

Not sure if intentional or a side effect but when holding down the jump button while bouncing the bounce height increases dramatically. A bounce at max height while holding down the jump button allows Sonic to clear the walls of the testing area without issue. Fun, but possibly unreasonable in regards to balanced gameplay.

Great find! I'll look into it!

Might be related to the fact that Sonic keeps jumping when you hold the jump button down.

Found a bug: Sonic can stomp/bounce into the little gaps in the big blocks outside and get "stuck" in there. I use the term "stuck" loosely since he can walk out of the gaps but still.
<https://imgur.com/a/gQOYU>

Good eye! That's just a simple matter of moving them closer together.

When Spindashing on top of the giant block, sonic ends up tilted sideways and spindashing "Into" The giant block. Kinda weird. <http://prntscr.com/hcna3i>

Have you considered making bumpers homing attack targets like they were in Sonic Heroes?

No, but I can make that a secondary option for them! It'll be an option, just not the default. Good suggestion!

Seeing as Shadow's Homing attack has

Sonic's Aesthetics:

Again, this is just a small nitpick, but I feel like the jumpball effect could do with being a little wider and not as oval-shaped.

Especially since it clips with some of the other characters.

Some pieces of the 'explosion' model from enemies and item boxes lingers too long after the animation has completed.

I personally think Sonic's idle animations trigger a little too quickly. He's impatient, but not THAT impatient.

Which jump sound won the poll? I remember Adventure winning but the jump sound here sounds like Heroes'. Here's a video where you can hear the Adventure 1 jump sound more clearly: https://www.youtube.com/watch?v=LA3_x7ePpSo.

Adventure 2/Heroes' jump sound won the poll. <http://www.strawpoll.me/14247480/r>

Just a little nitpick, but Sonic's feet don't make any sound at top speed. I personally find the sound satisfying and was disappointed to learn this. Or fix pls **i want to hear the pitter-patter of sonic's feet**

Interesting! I figured pitter-pattering at such a high speed would get annoying, but if that's what folks wanna see then I'd be happy to add it. Should only take a minute.

This is solely a visual thing, but I think it would be nice if the homing attack/jump dash left a trail even when not locked onto an enemy, in a similar fashion to how it left one in the Adventure games.

I'll look into it!

The muzzles for Shadow and Silver are glitched slightly.

Silver's disappears when standing still and Shadow's disappears for a split second when starting to run or when stopping.

Oh, and Silver's spindash ball is red for some reason.

These are just a couple nitpicks regarding sound (or lack thereof).

The fact that Shadow's feet make no sound at all is slightly jarring. I would personally appreciate the addition of the "swoosh" sound effect that his airshoes make in the main games.

Also, on that note, the fact that Metal Sonic is dead silent while moving at top speed is a bit odd as well. Even if the low humming noise he makes in Sonic Adventure DX would help aesthetically.

(I'd say the same for Espio but I'm assuming he lacks sound effects because he's a ninja. Still, some subtle, silent footsteps would help, I feel.)at it the same could be said of Silver and his full-speed animation.

Sonic's shadow

In a 3D platformer the character's shadow is useful to tell where you're going to land. At the moment, the graphics seem to follow a more realistic approach.

An excellent point. Consider it done.

Spindash and momentum.

Great work so far! I've got a couple things to ask about. When decelerating from top speed down to a jog, you can't spindash. Is that intentional? It only seems to be functional when you're starting your run rather than ending it even though you're traveling at the same speed. Also, if your intention is to stop Spindash spam, you can still do it by canceling your run by mashing backwards on the control stick and instantly go into a spindash that way. This works at pretty much any speed.

Also, a personal suggestion, PLEASE let homing attack retain your momentum like it does when you strike a balloon in Unleashed. The full stop bounce up is a huge momentum killer and it makes homing attack chains more of an automated chore than entertaining action. If Sonic was able to retain most of his momentum through a homing attack, then that would add an extra bit of depth to his movement and level design as you can then plan homing chains based on how fast Sonic is going when he approaches them. It makes a somewhat passive ability much more active!

Spin Dash problem is fixed! That was easy. Just had to change how it checked for your current speed. Used the wrong variable. As for the Homing Attack issue, while on paper the additive Homing Attack seems like it would be a lot of fun, I find that actually chaining together attacks to be rather difficult when, after the first one, you end up flying over the other ones. To compromise, I greatly decreased the ending lag on attacks, allowing you to attack enemies as quickly as you like. I'll toy around with it again, though. Maybe there's something here...

Please do! Like I said, even just adding the Spagonia balloon physics would be enough to keep that feeling of speed consistent. Thanks for the quick response!

An option to go back to the character select menu rather than resetting the whole game?

There is a bug where after exiting without hitting the goal ring the next character keeps everything previously collected.

This is the seemingly the only HedgePhysics-derived engine that's updated for Unity 2017, but the available source is way behind. I'm very interested in doing something with it, but I don't want to needlessly redo all the work that's been done since. Are you planning on releasing updated source code any time soon? Even just a beta preview version would be vastly preferable to working in an old version of Unity.

There's a big update being worked on right now! It's going to have tons of bug fixes, new features and an in-engine tutorial. Look forward to it!

Sonic doesn't actually die after getting hit if he has lost rings previously. Also, the loading screen only plays for the first time it's shown.

Adding to this, ring collection is bugged. After getting hurt while holding rings your ring count locks at zero. Any ring you collect instantly reverts to zero, and Sonic dies in one hit after this occurs.

