For issues you find with the Switch and Console releases, please follow this link and give as much detail as possible. This is the speediest way to get info to Pipeworks and get a hotfix in the works.

[Showcase] Hoiktronic Counter Exclusive Premier & Feedback for Writen Guide

Discussion in '[T-MEC] Terraria Mechanical Engineering Corps' started by ZeroGravitas, Nov 30, 2014.

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Thread Status: Not open for further replies.

ZeroGravitas, Nov 30, 2014

While I catch some much needed ZZzzz's, I thought I'd give you guys here a couple hours headstart on the rest of the community with my lastest, longest and most delayed video to date (hopefully my last big hoik application reveal):

Clearly the video itself is finished, but I'd greatly appreciate any feedback as to what I should touch on when (and if) I write up a guide for the forum's guide section. Are there any obvious engine choices I've missed out, or some unlikely one you'd like testing (include link/screen shot please). And are there any points where I've lost you, dear viewer? 😮 Or is it overly explained?...

Dicemanx and notjustthekey like this.

ZemmySix, Nov 30, 2014

Great detailed video! Is the house engine of your design? And if it is could it be used with upward-facing slopes instead?

-Sprites- -Drawings- -Suggestion-

ZeroGravitas likes this.

Dicemanx, Nov 30, 2014

Excellent video guide as always! The degree of precision enabled by hoiks, and the amazingly clever set-up to count activations makes this a definitive guide to maximizing activations per second. Very well done!

A few things that I wanted to clarify or recommend for inclusion in the write-up:

1) The house engine is a brilliant idea, although you remove the second pressure plate and do a count with only one pressure plate. Will both activate if you were to do it with two? You demonstrated that in one tick (and thus a jump from one tooth to another tooth) will only activate one pressure plate, but the way the two pressure plates are positioned in the house engine (immediately below the teeth) it's not clear to me whether one or both would be activated.

2) In some of these engines you have 1 pressure plate, although in your guide I think it would be good to present your recommended set-up to activate two pressure plates so that all 6 statue activation points can be activated (due to or at 60/sec. I'm assuming that you can only activate three activation points with one pressure plate, right?

3) In the bird engine with 8 plates and 3 birds, you mention that 27 activations/sec is the best case scenario. What would happen if you added more pressure plates? What would happen if the number of birds used increased from 3 to 6 (or maybe even 10) if the statue is dropped further down below the pressure plate track? You also mention the danger of synchronization although there are ways of spawning the birds to avoid that - maybe that might be touched upon (although that's perhaps drifting a bit out of scope).

I'll need to try the house engine in the Horseman's Blade farm, and the ultimate skeleton engine in the Ectoplasm farm. For the ultimate engine, would you suggest having two side-by-side set-ups to have two pressure plates activated 60 times/sec, or is there a better way to add the second pressure plate?

Again, great job on the video - this will be of immense assistance to those wanting to maximize (statue) activations!

Terraria Engineering - Autofarms and Hoiktronics Contraptions: https://www.youtube.com/channel/UCiYBm_FbqWuRQiakzFlPfw
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T-MEC

ZeroGravitas likes this.

Predious, Nov 30, 2014

Very good video! I learned something new about the timers and the mechanics of making a timer in Terraria! Thanks~! Also, new video for the Engineer series will be coming soon!

Yup, I like Purple.

ZeroGravitas, Nov 30, 2014

> **ZemmySix said:** ↑
> Is the house engine of your design? And if it is could it be used with upward-facing slopes instead?

Yes, of course. It took quite a bit of fiddling to nail down a design that works just right. I did have designs with 'top' hoiks, but as you might have seen (briefly) in the video, the NPC house marker (effectively any inactive blocks within the house walls. This tends to spawn the NPC outside of the house, by putting them inside the floor (helpfully), which makes getting the blighters in there a bit of a chore (although they might then stay there indefinitely ok, needs testing!). So you should be able to make an up slope only hoik/house engine, yes. I guess I should publish a version in the guide for all you console pees (who only have the up blocks, right?)

> **Dicemanx said:** ↑
> Will both activate if you were to do it with two?

Yes. If they are positioned as shown in the video before I remove the spare one. Note that a pressure plate in between these 2 plates would be repeatedly activated, since it stays within the collision box of the NPC (skeleton or player) in box hoik positions. The character must move entirely off, and then back onto a plate to (reactivate it (even if only off for 1 tick).

> **Dicemanx said:** ↑
> I think it would be good to present your recommended set-up to activate two pressure plates so that all 6 statue activation points can be activated (due to or at 60/sec.

Absolutely. The house engine was carefully designed so that there were 2 non-adjacent plates being activated, specifically to allow 6 separate wiring outputs from it. More demonstration of this engine planned for a future (smaller!) application video.

> **Dicemanx said:** ↑
> What would happen if you added more pressure plates? What would happen if the number of birds used increased from 3 to 6 (or maybe even 10)

You can see in the measurement results that there is a diminishing return for each extra plate you add to the length of bird engine track. It is approaching (but will never reach) the bird's maximum of ~10 (10.5?) activations/s determined by the birds speed of (approximately) 10.5 tiles/s (please add/correct here if you find a more precise figure). In theory, each extra bird in the track is then a multiplier. So 10 birds in an endless track would achieve 105 activations per second. However, there will then be overlapping activations on the same tick, which are generally useless (outside of carefully choreographed, specific cases). So a natural cap of 1 activation every tick, 60 times/s. But in practice the rate will be worst that that, since there's extremely low odds of some/most of the birds not being synchronise. Add on the turn-around delay and there's a very high probability of multiple ticks without any activations (even with 10 birds and a long track).

I don't know of a way to spawn guaranteed non-synchronised birds. It might be possible, but may be fiddle to luck to whether or not a simple setup exists for this. One would basically need to iterate through various auto-reactivation setups, checking signal output frame by frame until you meet success.

> **Dicemanx said:** ↑
> For the ultimate engine, would you suggest having two side-by-side set-ups to have two pressure plates activated 60 times/sec

I'm struggling to think of a context where that might be useful. With the 3 mob proximity spawn cap on statues, even if you killed the first 3 within 1 tick, the second 3 could not be spawned on the same tick (it'd be blocked, and waste the next 30 ticks on input cooldown), so may as well use an engine with 2 separate plates going at 30act/s each (or far slower!)

Oh, and I've posted a link to the video on Reddit, if anyone here fancies showing their appreciation, I'd be grateful.

T-MEC

Tutorial Threads and Info

Dicemanx likes this.

ZeroGravitas, Nov 30, 2014

> **ZeroGravitas said:** ↑
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I had in mind bunny and goldfish statues during a blood moon, or perhaps even a goldfish statue in the rain (not sure if it's possible to spawn 6 walking goldfish in one tick). For the Horseman's Blade Frost Moon farm I have yet to test whether I can push the limits with goldfish statues in the rain.

Too bad the Frost Moon and Blood Moons don't overlap, but there might be some use in creating a Horseman's Blade boss killer during a Blood Moon.

Terraria Engineering - Autofarms and Hoiktronics Contraptions: https://www.youtube.com/channel/UCiYBm_FbqWuRQiakzFlPfw
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ZeroGravitas, Nov 30, 2014

> **Dicemanx said:** ↑
> Too bad the Frost Moon and Blood Moons don't overlap, but there might be some use in creating a Horseman's Blade boss killer during a Blood Moon.

Ah, ofc, yes. Corrupt bunnies! I'd been thinking about the possibilities of using them as a 'power' source for hoik computing (since they can be very numerous). But their hit box is a tile shorter than regular bunnies, making them more awkward (still mean to try).

You could try employing an assistant to continually shower your statues with vile powder... Other than that, yeah, blood moon boss crusher could be pretty damn potent. Certainly a very promising route to explore in trying to achieve what the other thread set out to do. I'd be interested to see whether a bunny statue can, in fact, spawn 6 (corrupt) mobs on the same tick, or whether it's a slightly more convoluted process, like a regular bunny being spawned and then them being converted into a corrupt version next tick. Or same tick, before being rendered, but after all wiring events...

T-MEC

Tutorial Threads and Info

Dicemanx, Nov 30, 2014

Nuts, the corrupt bunnies are limited to just 3 per tick even if all 6 activation points are activated:

Used this set-up to have 2 different skeletons hit pressure plates simultaneously to spawn corrupt bunnies (blood moon in effect). The spawned bunnies move together so I determined how many spawned by hitting them with the Scythe and counting the number of damage indicators that pop up. Only three popped up.

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ZeroGravitas likes this.

Pipeworks, Nov 30, 2014

> **Dicemanx said:** ↑
> Only three popped up.

Yeah, oh well. But I presume you do get 6 if you stagger the second plate by 1 tick? And I presume you then have to wait the 0.5s to reactivate the same statue inputs? (e.g. a second plate on the next hoik step (same run) won't work and produce 6 corrupt bunnies) Nice little experimental setup btw!

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Tutorial Threads and Info

ZeroGravitas, Nov 30, 2014

> **ZeroGravitas said:** ↑
> Yeah, oh well. But I presume you do get 6 if you stagger the second 3 by 1 tick? And I presume you then have to wait the 0.5s to reactivate the same statue inputs? (e.g. a second plate on the next hoik step (same run) won't work and produce 6 corrupt bunnies) Nice little experimental setup btw!

I shifted the pressure plate 1 tooth forward, so that the two pressure plates were staggered by 1 tick. All 6 corrupt bunnies spawned! However, in the staggered set-up, when I connected one wire from one pressure plate and another wire from the other pressure plate to the same activation point, only one bunny spawned. The cooldown was in effect.

I'll have to check this with goldfish statues in the rain too.

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ZeroGravitas likes this.

Dicemanx, Nov 30, 2014

Did another test. I disabled one of the skeleton hoiks, and used the other to activate the bunny statue. I put a ghost wall by the bunny statue and counted how many times I could activate the statue until bunnies stopped spawning (the pressure plate still activated three activation points). I activated the statue 58 times - on the 59th try, there were no longer any more bunny spawns.

This means that, assuming the other mobs don't affect the number of corrupt bunnies in the world, the limit to the number of corrupt bunnies that can exist on screen/in the world is 57x3 =(1 to 3) = 172 to 174. Still need to repeat that but at least it gives a ballpark figure. So for an engine that maximizes spawns at 6 spawns every 0.5 seconds it would take between 14-15 seconds to maximize corrupt bunny spawns from one statue.

EDIT: I tested fish statues in the rain and saw the exact same results I saw for the corrupt bunny statues. 3 walking fish spawned per tick when two pressure plates were activated and connected to 3 activation points each, and all 6 walking fish spawned when the pressure plates were positioned 1 tick apart.

This is pretty huge as far as the Moon arena goes - that means it might be worthwhile to try lots of fish statues in the mob box and run Frost Moon in the rain.

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