

Kerbal Space Program - Bug #15656

RoveMax XL3 steering issues

07/13/2017 11:08 PM - BloodyRain2k

Status:	Confirmed	Start date:	07/13/2017
Severity:	Normal	% Done:	10%
Assignee:	Robert.Keech		
Category:	Parts		
Target version:			
Version:	1.4.1	Language:	English (US)
Platform:	Windows	Mod Related:	No
Expansion:	Core Game		

Description

I've run into some problems with the XL3 tankwheels. <https://www.youtube.com/watch?v=988B4oXlfbw>

The problem is for one that for turning on the spot it seems that only one side is going forward and the other is NOT going backwards, as it should given these steer like tankthreads.

But the real issue with these wheels is that they go FAR beyond 100% motor power for turning. As shown in the video I can easily get their motor to go to 250+ by pressing accelerate and also turn.

This makes them near impossible to use on the Mun because by the time I configured the traction to work for accelerate/decelerate/brake the vehicle in question will almost immediately flip itself when I try to turn. And likewise, if I configure the wheels so that turning does not flip it acceleration/deceleration/braking have NO traction whatsoever resulting in several kilometers of braking distance.

This issue is limited to the XL3 wheels due to their steering, with all other wheels I'm able to find some middleground between steering stability even at higher speeds and still have enough traction that I can actually notice when I'm pressing the brake.

History

#1 - 03/19/2018 02:40 PM - BloodyRain2k

- Status changed from New to Confirmed
- % Done changed from 0 to 10
- Version changed from 1.3.0 to 1.4.1
- Expansion Core Game added

Sadly I can 1:1 reproduce this behavior in 1.4 : (

I simply need to build a vehicle that uses 4 of these wheels, drive it straight until they reached their max speed of around 12m/s and then also start turning in either direction while still holding down the accelerator and ziiiip it is going over 25m/s.

Edit:

I've looked a little more into the wheels especially because I was trying to find a fix for the issue myself.

No luck on that so far but the issue seems a bit clearer to me now:

While stationary the wheels turn the vehicle on the spot the same way tank threads work, one side goes forward, the other backwards.

While driving however the inside wheels, e.g. left side on a left turn, simply get 0 input and the outside wheels therefore have to compensate for that which is currently done by removing their torque limit which is why it's possible to make them go way above 30m/s by alternating left and right.

What the inside wheels should do instead is ever so slightly brake or decelerate.

Edit 2:

Further investigation shows that the issue seems to originate from the ModuleWheelMotor class.

To be exact from the fact that it does apply the same torque limit for deceleration as it does for acceleration which therefore almost disables motorbraking, and with that the way the XL3 should actually turn in curves.

#2 - 01/13/2019 11:07 AM - BloodyRain2k

BloodyRain2k wrote:

Sadly I can 1:1 reproduce this behavior in 1.4 :(

Just wanted to mention that this is still 1 to 1 reproduceable for me in 1.6.1

<http://youtu.be/zpn52P7niPw> I even made a new video including a how-to-build.

Now someone would just need to look into this and rework the steering so it doesn't "work" by over torquing by almost 300.

#3 - 06/04/2019 06:34 PM - BloodyRain2k

Obligatory update for 1.7.1: surprisingly did 1.7.1 make the issue even worse.

Before I could manage to get to over 70 m/s with the described method. It doesn't simply still work the exact same in 1.7.1, it became even more overdriven.

Now I can do wheelies at +70 m/s...

I have the sneaking suspicion that no one ever is using these wheels which makes this bug get the full "meh" treatment :(

#5 - 10/23/2019 02:52 PM - Robert.Keech

- Assignee set to *Robert.Keech*

#6 - 02/22/2020 12:32 PM - BloodyRain2k

It's me again, I'm back, just like this issue.

<https://steamcommunity.com/sharedfiles/filedetails/?id=2004215300>

Don't know how long steam integration has been a thing but here's my test vehicle. Just re-built it in 1.9 and re-confirmed that the issue is still a problem for these.

#7 - 07/20/2020 10:51 AM - BloodyRain2k

BloodyRain2k wrote:

Just re-built it in 1.9 and re-confirmed that the issue is still a problem for these.

And here I am again, just like this bug, still kicking in 1.10 and guess what, now I can reach even higher speeds with this... Are you guys kidding me?

This bug is now over 3 years old and nothing has changed about this, except that it was difficult before to get to 85m/s and now it's easier to get to even 95m/s...