

Kerbal Space Program - Bug #28099

Propellers stop generating thrust

06/28/2021 07:06 PM - Jatwaa

Status:	New	Start date:	06/28/2021
Severity:	Low	% Done:	0%
Assignee:			
Category:	Aerodynamics		
Target version:			
Version:	1.12.0	Language:	English (US)
Platform:	Windows	Mod Related:	No
Expansion:	Breaking Ground		

Description

When travelling at high speeds, ~0.90 Mach and around the mid atmosphere, randomly the propellers will stop generating thrust and generate alot of drag. Captured a clip of it occurring.

<https://gfycat.com/gargantuanjaggedfirecrest-jatwaa-ksp>

This was noted by others during a high speed propeller challenge on our discord. Craft file attached

History

#1 - 07/02/2021 01:33 AM - jclovis3

I don't believe that to be a bug. As with the airbreathing engines, when you reach altitudes that high, the air is too thin to provide lift. You have to have engines that ramp up thrust at higher speeds using air compression because straight up wing and props won't cut it.

#2 - 07/02/2021 02:03 AM - Jatwaa

That would be plausible, except as control is regained, thrust generates again at a higher altitude and the flight continues. The falloff for thrust to drag due to the atmo should be gradual and consistent if it is indeed due to altitude.

#3 - 07/05/2021 12:14 PM - Anonymous

We notice this on forum challenges as well https://forum.kerbal.space/index.php?topic/202462-*/&tab=comments#comment-3976307

With the Breaking Ground airfoils, lift drops all the way to zero near Mach 1, more suddenly than the lifting surfaces in the main game. Also, the stall of the new airfoils is not so soft, with drag increasing more steeply with the angle of the blade moving through the air.

Neither of those effects happen 'randomly' but the stall can appear rather quickly, as it did in the top-post video clip, if the prop rotation speeds and/or plane slows so that the airflow is no longer crossing the blades at a smallish 5°--10° angle.

Motivated players *could* adjust the lift and drag curves in the cfg files (optionally with help of the mod Curve Editor).

#4 - 07/05/2021 12:56 PM - Jatwaa

While, yes I do have a modified version of the fan blades that allows faster, higher, and smoother flight, it's still a cfg hack that isn't perfect. I am terrible with curves, I could reload the curve editor and give it a shot instead of eyeballing. I was looking for smoother drag rather than sudden ramp of drag. It ruins immersion. Then again, the silence of the blades also ruins immersion, but thats neither here nor there. Guess I could also release the propeller sound tweak I did if I find time.

Files

Yowzers.craft	246 KB	06/28/2021	Jatwaa
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