

Kerbal Space Program - Feedback #17985

Air intakes should use a curve w/ cutoff speed for intake air quantity.

03/11/2018 04:38 PM - Ruedii

Status:	New		
Severity:	Low		
Assignee:			
Category:	Physics		
Target version:			
Version:	1.4.0	Language:	English (US)
Platform:	Linux, OSX, PS4, Windows, XboxOne	Mod Related:	No
Expansion:	Core Game		

Description

In actual jet engines, the intakes behave differently at different speeds.

The since we aren't bothering to consider intake air compression due to simplification, we should at least scale the quantity based on airspeed.

The early tech tree intakes should have a cap either at or slightly above the sound barrier, while the better intakes should have a higher one.

The better intakes should also be able to tolerate more heat and create less drag than their low-tech counterparts.

Intakes should also check for obstruction/occlusion (in percent). We don't need anything too fancy here. The models should have a mask of the portion of the intake that should be exposed to forward moving air, a basic occlusion percentage can be done. I know this is quick and dirty, but we don't need ultra-realism, just practical simulation.

History

#1 - 03/11/2018 05:29 PM - Nebbie

I think asking for occlusion is a bit much. Quite a lot of things in KSP do not account at all for being occluded, like parachutes or solar panels. It'd be inconsistent for only air intakes to do it. I do agree that the intakes could use a little more interesting/realistic behavior.

#2 - 03/20/2018 12:02 PM - Tomator

- *Expansion Core Game added*

Solar panels can be occluded. Being in shadow of another part may stop generating power. It's true, however, that occlusion is binary. Proportional occlusion would need to take air direction - like lower intake on slide... That would really be too much ;)

The airspeed is influencing engines, however. I.e. panther in dry mode won't work much above 700 m/s while wet mode will still work. Maybe this can be tuned-up but for me it's fine. Not fine is that placing a tail fins in engine's jet will nullify all the thrust. But this is another thing.