

Kerbal Space Program - Bug #13609

Things can be mounted to the nozzle node of an engine, and the engine still used while the aerodynamic drag is eliminated

01/18/2017 11:16 AM - blakemw

Status:	New	Start date:	01/18/2017
Severity:	Normal	% Done:	0%
Assignee:			
Category:	Physics		
Target version:			
Version:	1.2.2	Language:	English (US)
Platform:	Linux	Mod Related:	No
Expansion:			

Description

This is essentially an exploit of the game engine:

- Mount something to the nozzle (bottom node) of an engine.
- Use the offset tool to slide the part inside the engine or to the side of the engine so the thrust is not blocked.
- The engine can now be used, also the drag from the bottom of the engine and the top of whatever is attached to the node is eliminated.

As far as I can see there is no good reason to **allow** this construction technique to be used without severely negative consequences.

Possible Solution:

One solution would be to have engines quickly overheat and explode if an engine is fired up while something is attached to the nozzle node. This wouldn't prohibit attaching inappropriate things to the bottom node and would still allow "explosive decoupling" in a pinch.

Another possible solution would be to have the engine just generate no actual thrust if something is attached to the nozzle node, the same as if something is blocking the exhaust stream further down the rocket/plane. It could still apply heating effects to things attached it, just provide no impulse.

History

#1 - 01/18/2017 11:31 AM - blakemw

As an example of how this can be taken to extremes in chaining many boosters together <http://imgur.com/a/MfTRF>

#2 - 01/22/2017 10:34 AM - Daveroski

I'm all for fixing this. IF drag on rear facing nodes is also fixed.

I use this method as a 'workaround' for the excessive drag caused by engines when building space planes.

I don't see it as an 'exploit.' (ie. getting something for free) more of a 'workaround' fixing a real and game-breaking bug.

#3 - 01/23/2017 12:51 PM - blakemw

I'd like to see it that any surface-attached face doesn't participate in drag. Because when you do something like place a radial mount parachute horizontally, the underside of the parachute is generating a lot of the drag. The implementation could be pretty simple because while it might leave open some loopholes for people who want to exploit the drag model, it would make things easier for players who just want to use parts in a natural manner.

Files

rapier nozzle cone.jpg	40.9 KB	01/18/2017	blakemw
clip anything.jpg	28.1 KB	01/18/2017	blakemw