Kerbal Space Program - Bug #25751

RFP flags at an angle introduce body lift onto the vehicle.

07/09/2020 03:46 PM - dok_377

Status:	Confirmed		**Start date:**	07/09/2020
Severity:	Low		**% Done:**	10%
Assignee:				
Category:	Aerodynamics			
Target version:				
Version:	1.10.0		**Language:**	English (US)
Platform:	Windows		**Mod Related:**	No
Expansion:	Core Game			

Description

If you take a flag and place it on your craft at an angle, it will introduce body lift onto the parent part.

This is not supposed to be a thing, since flags are essentially just some paint on your craft.

Steps to reproduce:

1. Make a simple rocket.
2. Put a single flag on its side.
3. Rotate this flag 45 degrees and offset it slightly.
4. Launch your rocket upwards, enable the aero overlay and just wait.

The flag starts to introduce insane amounts of body lift onto its parent part once craft is moving relatively fast, essentially making the craft uncontrollable if you have a bunch of flags at an angle.

I made a video showing how it's all happening: https://youtu.be/fp5IvtRtC-E

History

#1 - 07/17/2020 03:16 AM - Anonymous

- Status changed from New to Confirmed

- % Done changed from 0 to 10

We get an aerodynamic force when air approaches what is usually the outer face of the flag, but not the inner face. Strange physics, but consistent with the numbers in partDatabase.cfg that show the +Z face having some area, –Z face zero area.

If anyone wants to remove the effect right now, we can with a Module-Manager Patch

```
@PART[flag*] {
    %DRAG_CUBE {
     cube = default, 0,0,0, 0,0,0, 0,0,0, 0,0,0, 0,0,0, 0,0,0, 0,0,0, 0,0,0
}}
```

Or, maybe exploit it for this challenge   https://forum.kerbalspaceprogram.com/index.php?/topic/195104-the-esa-exploit-challenge/

Files

Flag Test.craft	16.3 KB	07/09/2020	dok_377