

## Kerbal Space Program - Bug #20997

### MK2 Cargo Bays less draggy while open.

01/18/2019 08:59 PM - Shaun

<b>Status:</b>	Not Fixed	<b>Start date:</b>	01/18/2019
<b>Severity:</b>	Low	<b>% Done:</b>	50%
<b>Assignee:</b>			
<b>Category:</b>	Parts		
<b>Target version:</b>	1.10.0		
<b>Version:</b>	1.6.1	<b>Language:</b>	English (US)
<b>Platform:</b>	Windows	<b>Mod Related:</b>	No
<b>Expansion:</b>	Core Game, Making History		

#### Description

What happens: When opening the MK2 Cargo Bay CRG-8 in flight, there seems to be less drag than when closed, and the aircraft accelerates. This may hold true for the MK2 CRG-4.

How to reproduce:

- Create an atmospheric aircraft with a MK2 Cargo Bay CRG-8.
- Fly at a fixed pitch until speed and altitude level.
- Open the MK2 Cargo Bay
- Aircraft will begin to accelerate, assumed due to broken drag model.

Notes:

- Created discussion on KSP forums, other players have confirmed issue. Link: <https://forum.kerbalspaceprogram.com/index.php?/topic/181500-mk2-cargo-bay-less-draggy-when-open/&tab=comments#comment-3524682>
- Tried with parts inside the Cargo Bay, still accelerates.

Versions Affected:

Have only noticed on 1.6.1, but I don't use the MK2 parts very much.

#### History

##### #1 - 01/19/2019 03:54 PM - bewing

- Status changed from New to Confirmed

- % Done changed from 0 to 10

This has been a bug since at least version 1.2.2.

<https://forum.kerbalspaceprogram.com/index.php?/topic/159048-way-to-see-drag-vales>

##### #2 - 01/20/2019 03:25 AM - Anonymous

- File *mk2.craft* added

- File *tinyDrag.jpg* added

This really needs an example craft. When I open the bay, the aircraft usually slows down.

With an empty bay, at high speed, the cargo bay does get slightly less draggy when open.

The cargo bays already have custom drag\_cube entries, and they do have larger exposed surface area when open. The coefficient of drag Cd, however, is slightly lower when open. Starting in version 1.2 KSP raises Cd to a power at high speed, so at mach 5 the drag depends on Cd<sup>3</sup>, so small reduction in Cd can overcome the greater area.

For this problem, we could fix by making the Cd of the open doors bigger when open (currently it is smaller).

A Module-Manager patch that changes just this one number, but copying the unchanged one for context:

```
@PART[mk2CargoBayL] {
@DRAG_CUBE {
cube,0 = A, 5.66,0.42,1.32, 5.66,0.42,1.32, 2.49,0.96,0.15, 2.49,0.96,0.15, 9.39,0.94,0.70, 9.39,0.93,0.70, 0,0,0, 2.5,3.75,1.5
cube,1 = B, 7.09,0.56,2.07, 7.09,0.57,2.07, 2.49,0.96,0.15, 2.49,0.96,0.15, 14.95,0.93,1.93, 14.95,1.00,2.10, 0,0,-0.28, 4.00,3.75,2.06 // 0.93 and 1.0
were 0.82
}}
@PART[mk2CargoBayS] {
@DRAG_CUBE {
cube,0 = A, 2.81,0.42,1.32, 2.81,0.42,1.32, 2.49,0.96,0.15, 2.49,0.96,0.15, 4.69,0.93,1.39, 4.69,0.93,1.54, 0,0,0, 2.5,1.87,1.5
cube,1 = B, 3.51,0.57,2.02, 3.52,0.57,2.09, 2.49,0.96,0.15, 2.49,0.96,0.15, 7.51,0.93,1.93, 7.51,1.00,2.10, 0,0,-0.28, 4.0,1.87,2.1 // 0.93 and 1.0 was
0.82
}}
```

**#6 - 02/15/2020 05:44 PM - victorr**

- Status changed from *Confirmed* to *Ready to Test*
- Target version set to *1.9.0*
- % Done changed from *10* to *80*

We have made changes in this last release and would like your feedback please.

**#7 - 02/19/2020 03:36 AM - Anonymous**

- Status changed from *Ready to Test* to *Not Fixed*
- % Done changed from *80* to *50*

I cannot find any relevant change, and the behaviour remains the same on the example craft.

**#8 - 07/06/2020 03:26 PM - victorr**

- Status changed from *Not Fixed* to *Ready to Test*
- Target version changed from *1.9.0* to *1.10.0*
- % Done changed from *50* to *80*

We've made some more changes in this 1.10.0 version and would like some feedback on this issue. Thanks.

**#9 - 07/06/2020 05:54 PM - Anonymous**

- Status changed from *Ready to Test* to *Not Fixed*
- % Done changed from *80* to *50*

**Files**

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mk2.craft	29.4 KB	01/20/2019	Anonymous
tinyDrag.jpg	276 KB	01/20/2019	Anonymous