

# Kerbal Space Program - Bug #3919

## Center of lift appears differently in VAB and SPH

01/01/2015 12:29 PM - sdelisle

<b>Status:</b>	Closed	<b>Start date:</b>	01/01/2015
<b>Severity:</b>	Very Low	<b>% Done:</b>	100%
<b>Assignee:</b>			
<b>Category:</b>	Gameplay		
<b>Target version:</b>			
<b>Version:</b>	0.90	<b>Language:</b>	English (US)
<b>Platform:</b>	Any	<b>Mod Related:</b>	No
<b>Expansion:</b>			

### Description

I was building a spaceplane, and had to launch it from the VAB because of the part count limit. I noticed the center of lift appeared really wrong in the VAB.

Even though the vector appears weird, the vessel seems to fly normally.

### Steps to reproduce:

1. Build something that looks like a plane in the SPH
2. Save it
3. Go in the VAB, and select the saved vessel from the "SPH" list
4. Note the orientation of the vessel on import, and the position of the CoL marker.
5. Select the root part to automatically orientate the vessel to the vertical.
6. Note the new CoL marker position.

### Example 1:

In spaceplane hangar:



In VAB:





Rotated in VAB for horizontal launch:



Example 2: <http://imgur.com/a/Yoqka>

## History

#1 - 01/02/2015 04:31 AM - Squelch

- Status changed from New to Need More Info
- Severity changed from Normal to Very Low

I have not been able to reproduce this behaviour on a stock game. I built a couple of craft, including an attempt to copy the one in the images, and the CoL marker appears to be rendered correctly in both the SPH and VAB. I am unable to see any discernable difference in the two construction modes

apart from the expected direction change.

I notice you are using Kerbal Engineer, and possibly other mods which may be affecting the CoL marker. Could you please try to replicate in a clean game to rule out all other variables, and then attach the affected craft file and logs?

**#2 - 01/02/2015 12:47 PM - sdelisle**

- File *Polaris I.craft* added
- File *KSP.log* added
- File *CoL test craft.zip* added

I was able to reproduce it with the same vessel in an unmodded game, in a new sandbox save. Here's the craft and log.

Also included: another simpler craft that has the same issue, with some screenshots.

**#3 - 01/02/2015 01:56 PM - Squelch**

- File *#3919-polaris-sph.png* added
- File *#3919-polaris-vab.png* added
- File *#3919-test-sph.png* added
- File *#3919-test-vab.png* added

Thanks for the files and stock testing.

I loaded up the craft files, and there does seem to be something odd going on.

The test.craft initially looks to be the same. However the Polaris.craft does appear to be offset longitudinally, but without the lateral offset shown in the initial images, nor the same lateral offset shown in the uploaded test craft images.

The direction of lift (major axes) seems to have reversed for no apparent reason in the test.craft. Both were copied to the SPH folder, and both have been tagged as SPH in the file which would indicate where they were originally built (native), the CoL looks about right except for the direction change when loaded (imported) into the VAB.

Attached are screenshots taken for the two craft as seen on this testers machine (Win7 x64 - KSP x86)

Everything looks as expected with this craft in its native SPH  
*#3919-polaris-sph.png*

Imported into the VAB, the CoL is shifted forward  
*#3919-polaris-vab.png*

Everything looks ok for the test craft in its native editor  
*#3919-test-sph.png*

But the CoL major direction makes an unexpected reversal when imported into the VAB. The position appears correct  
*#3919-test-vab.png*

This needs further testing as I am able to observe that something isn't quite right, I do not get the same results as the original reporter.

**#4 - 01/02/2015 03:29 PM - sdelisle**

And did you try bringing the nose of the craft upwards in the VAB? That's when I got the lateral offset.

(Also not sure if that's expected, but just clicking on the cockpit without doing any actual rotation will bring it upwards. Could make sense since we're in the VAB, not sure.)

**#5 - 01/02/2015 06:50 PM - Squelch**

- Description updated
- Status changed from *Need More Info* to *Confirmed*
- % Done changed from 0 to 10

sdelisle wrote:

And did you try bringing the nose of the craft upwards in the VAB? That's when I got the lateral offset.

Until you mentioned it, no. I have taken the liberty of adding some extra steps to the reproduction in the original description to make this clear.

I can now confirm that this operation does cause the CoL marker to both reverse direction (to the expected and correct direction) and offsets the

marker laterally as seen in the original image.

(Also not sure if that's expected, but just clicking on the cockpit without doing any actual rotation will bring it upwards. Could make sense since we're in the VAB, not sure.)

I believe the origin and vectors are different for the VAB and SPH editor modes, and that behaviour is intended. However, the change in vectors and origin may also be at the heart of this issue.

#### #6 - 07/17/2016 09:27 AM - TriggerAu

- Status changed from *Confirmed* to *Needs Clarification*

- % Done changed from 10 to 0

#### #7 - 08/09/2016 11:30 AM - TriggerAu

- Status changed from *Needs Clarification* to *Closed*

- % Done changed from 0 to 100

Closing this report out for now. If you find it is still occurring in the latest version of KSP please open a new report (and this one can be linked to it.) For best results, the wiki contains really useful info for when creating a report <http://bugs.kerbalspaceprogram.com/projects/ksp/wiki>.

You can also ask questions about the bug cleanup in the forum here:

<http://forum.kerbalspaceprogram.com/index.php?/topic/143980-time-to-clean-up-the-bug-tracker/> and tag @TriggerAu to get my attention

#### Files

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SPH.jpg	499 KB	01/01/2015	sdelisle
VAB.jpg	554 KB	01/01/2015	sdelisle
VABrotated.jpg	752 KB	01/01/2015	sdelisle
Polaris I.craft	81.6 KB	01/02/2015	sdelisle
KSP.log	147 KB	01/02/2015	sdelisle
CoL test craft.zip	2.06 MB	01/02/2015	sdelisle
#3919-polaris-sph.png	1.36 MB	01/02/2015	Squelch
#3919-polaris-vab.png	1.23 MB	01/02/2015	Squelch
#3919-test-sph.png	1.6 MB	01/02/2015	Squelch
#3919-test-vab.png	1.47 MB	01/02/2015	Squelch