Kerbal Space Program - Bug #16087

Asteroids change shape on reload of a save

10/07/2017 11:32 PM - Anonymous

Status:	Closed		**Start date:**	10/07/2017
Severity:	Normal		**% Done:**	100%
Assignee:				
Category:	Buildings			
Target version:	1.4.0			
Version:	1.3.1		**Language:**	English (US)
Platform:	Linux, Windows		**Mod Related:**	No
Expansion:				

Description
Reported https://forum.kerbalspaceprogram.com/index.php?/topic/166223-131-asteroid-procedural-generation-reset/ including its undesired effect on anything connected to the asteroid. To reproduce: Scenario "Asteroid Redirect Mission 2: ready to capture" Screenshot asteroid Quicksave / Reload Note asteroid shape has changed

History

#1 - 10/10/2017 04:05 AM - Anonymous

- Severity changed from Low to Normal

#2 - 10/11/2017 09:59 AM - Squelch

- Status changed from New to Need More Info

I am unable to reproduce. The asteroid is identical in screenshots taken before a quicksave compared to another taken after a load. Do you have mods installed? Could you please attach your logs?

#3 - 10/11/2017 10:07 AM - Squelch

- Status changed from Need More Info to Updated

- % Done changed from 0 to 10

The forum post indicates that this is related to older saves. Asteroids do not change shape following the reproduction steps in 1.3.1.

The workaround is to load the game in 1.3.0, go to the captured asteroid, undock, and save. When this save is loaded in 1.3.1 the asteroid can be captured again without causing problems.

#4 - 10/12/2017 05:10 AM - Anonymous

- File ARM_Asteroid2.sfs added

- File quicksave.sfs added

- File persistent.sfs added

- File screenshot0.jpg added

- File screenshot1.jpg added

- File output_log.txt added

No mods. As you say, it is an issue of importing save-files from older versions.

The file ARM_Asteroid2.sfs in a fresh install happens to be the same file as shipped with 1.2.0, and has a ModuleAsteroid having an 8-digit seed = 34614706, so it was just a convenient way to make a brief bug report. Quicksave produces a quicksave.sfs with the ModuleAsteroid seed = 3.46147E+07, and a peristent.sfs with seed = 8.588609E+07.

Version 1.3.1.1836-prerelease preserved the 8-digit seed. Some save-games have bases built around asteroids, which might be impractical to bring

forward to 1.3.1

#5 - 10/22/2017 04:30 AM - Anonymous

- File AsteroidShapeSaves.zip added

The issue is not restricted to older saves.

Saves and log in the attached AsteroidShapeSaves.zip made by these steps: ====
Version 1.3.1.1891; start new sandbox game.
Tracking station; Track 6 asteroids (first two have same name)
Rename the asteroids Alpha, Beta, etc.
Vehicle Assembly Building, launch stock Ion-powered Probe
Alt-F12/SetOrbit/Rendezvous with each asteroid in turn, screenshot, save, reload, screenshot.
Alt-F12/SetOrbit/Rendezvous back to Alpha, save.
Second visit to 'Alpha' shows a different shape than the first.
--
Load the save "AtDelta"; switch craft to asteroid 'Delta' using '[' ; quicksave.
The resulting quicksave.sfs that shows a different asteroid shape on each F9 reload.

#6 - 10/25/2017 09:11 PM - allista

- Platform Linux added

- Platform deleted (Windows)

I confirm this issue on 1.3.1 on Linux.

Asteroids do change when first loaded from 1.3.0 save.
The reason is the incorrect format in which ModuleAsteroid.seed is saved:
In 1.3.1 there's no *KSPUtil.LocalizeNumber(int value, string format)* method;
so when *BaseListField.Save* calls *KSPUtil.LocalizeNumber((int)obj)*, the variant
with *float* argument gets called with implicit conversion:
*KSPUtil.LocalizeNumber(**(float)** (int) obj, string.Empty)*.
As the result the newly saved .sfs file contains this:

```
MODULE
{
    name = ModuleAsteroid
    isEnabled = True
    seed = 5.788284E+07            <===== incorrect format of the seed = 57882842 present in the original .sfs
    AsteroidName = Ast. N3559095
    prefabBaseURL = Procedural/PA_E
    currentState = 1
    stagingEnabled = True
```

After that the BaseField is unable to parse the value back:

```
Invalid integer value! Field seed, value 5.788284E+07 on object of type ModuleAsteroid
UnityEngine.DebugLogHandler:Internal_Log(LogType, String, Object)
UnityEngine.DebugLogHandler:LogFormat(LogType, Object, String, Object[])
UnityEngine.Logger:Log(LogType, Object)
UnityEngine.Debug:LogError(Object)
PDebug:Error(Object)
BaseField:ReadPvt(FieldInfo, String, Object)
BaseField:Read(String, Object)
BaseFieldList:Load(ConfigNode)
PartModule:Load(ConfigNode)
Part:LoadModule(ConfigNode, Int32&)
ProtoPartModuleSnapshot:Load(Part, Int32&)
ProtoPartSnapshot:Load(Vessel, Boolean)
ProtoVessel:LoadObjects()
Vessel:Load()
Vessel:Update()
```

and the seed field stays at its default value, -1, and the asteroid is regenerated with the new seed, which is also saved as float.

#7 - 10/25/2017 09:13 PM - allista

- Platform Windows added

#8 - 10/26/2017 01:37 AM - Anonymous

And reiterating that the shape changes and 'Invalid integer value' errors appear in the logs from a fresh game from version 1.3.1.

#9 - 11/06/2017 11:52 PM - alukyane

Confirming this for a new save in 1.3.1, on Windows 10. Other properties of the asteroid stay the same, but the shape is new every time.

#10 - 11/10/2017 06:32 AM - allista

I have **a temporary fix** JUST for asteroids *(while this bug affects much more)*.
It is built into the common library for my mods, **AT_Utils**:
https://github.com/allista/AT_Utils/releases/tag/v1.5.0
If you use any of my mods you just need to upgrade and the fix will be installed automatically.
If not, you can install just the library; then it won't do anything apart from fixing asteroids.
RequiresModuleManager though.

#11 - 11/10/2017 06:36 AM - allista

Note: if you're loading a game that was already saved in 1.3.1, the fix cannot prevent the first change, but it will prevent all the next.
If, however, you have a 1.3.0 save intact, the fix will work from the first time.

#12 - 11/13/2017 10:28 AM - Squelch

- Status changed from Updated to Being Worked On

- % Done changed from 10 to 30

Thanks for all of the information and suggested workarounds. We have identified the problem and it is being addressed.

#13 - 12/05/2017 06:45 AM - NoShadows

- File persistent.loadmeta added

- File persistent.sfs added

Squelch wrote:

> The forum post indicates that this is related to older saves. Asteroids do not change shape following the reproduction steps in 1.3.1.
>
> The workaround is to load the game in 1.3.0, go to the captured asteroid, undock, and save. When this save is loaded in 1.3.1 the asteroid can be captured again without causing problems.

I have a similar problem with a game I started with 1.3.1
I Use Linux
The versal name is Asteroid it is docket to the asteroid but now the asteroid locks different

#16 - 03/07/2018 12:35 AM - Squelch

- Status changed from Being Worked On to Ready to Test

- Target version set to 1.4.0

- % Done changed from 30 to 80

#17 - 12/08/2018 07:06 AM - Anonymous

- Status changed from Ready to Test to Resolved

- % Done changed from 80 to 100

Starting in 1.4.0 and still in 1.5.1, the save-file has an un-changing 'seed' written as an integer, and asteroids stay the same shape.

#18 - 12/13/2018 12:58 AM - joshua.collins

- Status changed from Resolved to Closed

Files

ARM_Asteroid2.sfs	62 KB	10/12/2017	Anonymous
quicksave.sfs	62.7 KB	10/12/2017	Anonymous
persistent.sfs	62.7 KB	10/12/2017	Anonymous
screenshot0.jpg	51.5 KB	10/12/2017	Anonymous
screenshot1.jpg	51.2 KB	10/12/2017	Anonymous
output_log.txt	550 KB	10/12/2017	Anonymous

AsteroidShapeSaves.zip	193 KB	10/22/2017	Anonymous
persistent.loadmeta	267 Bytes	12/05/2017	NoShadows
persistent.sfs	3.32 MB	12/05/2017	NoShadows