

[>= 1.4] TweakScale - Under Lisias' Management - 2.4.3.3 - 2019-0814

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By Lisias, October 16, 2018 in [Add-on Releases](#)

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Lisias

Boldly crashing what no Kerbal has crashed before!



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Posted October 16, 2018 (edited)

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As from 2018-1016 and under [@pellinor](#) agreement, I'm the New Management for [TweakScale](#). From now on, it's all **officially** my fault! 🤖

In a Hurry:

- [Help Wanted!](#)
 - See this [post](#).
- **IMPORTANT**
 - read [this post](#) before updating!
 - [Addendum 1](#)
 - [Addendum 2](#)
 - TweakScale **strongly** advises you to use [S.A.V.E.](#).
- **RELEVANT**
 - A new and nasty *Kraken Food* (unholy interactions between Add'Ons) is now being detected on startup, and a proper (and scary) Warning is being shown. Pay attention to that message, and reach me here for help!

- Overrules and HotFixes can be issued to workaround the problems if needed. See [this post](#).
- A PhD thesis about the current problems can be found on [this post](#).
- For users of Infernal Robotics:
 - The [Classic Infernal Robotics](#) has a showstopper bug. See this [post](#) for details.
 - TweakScale strongly advise using [Infernal Robotics/Next](#) where these issues were solved.
- **Current Release:** [2.4.3.3](#) for KSP >= 1.4.1 (2019-0814)
 - [Yes, it works with KSP 1.7.3 \(with Making History and Breaking Ground\)](#) 🤖
 - on [GitHub](#) (and KSP-AVC users)
 - on [CurseForge](#)
 - on [SpaceDock](#) (and [CKAN](#) users)
- Old thread: on [Forum](#).
- Project:
 - Source: on [GitHub](#)
 - License: [WTFPL](#)
 - This project makes use of [KSPe.Light for TweakScale](#),
 - SKL1.0 License
 - and GPLv2 too 🤖
 - [Current Roadmap](#).
 - [Change Log](#).
 - [Known Issues](#) **Mandatory Reading**
 - [Issue Tracking](#) (You can check what I'm doing [here!](#))

Description:

TweakScale lets you change the size of a part. Not just that, but it will figure out how much fuel is in the resized part. And if it's an engine, it will become more powerful by scaling it bigger, or weaker by scaling it smaller.

(Pictures are eternal work in progress! 🤖)

Credits:

Contributions From:

- Goodspeed and Biotronic. [\[original release thread\]](#)
- Pellinor [\[previous release thread\]](#)

And future new features/bugs/mishaps from yours truly.

Support:

I need help in order to properly help you. 🙄 So I ask that on asking for support:

- A concise, textual description of the problem
 - Mentioning the KSP version and the TweakScale version involved
- A screenshot of the problem
- When applicable, the .craft file with a vessel that has the problem
- When asked, the KSP.log and output.txt log from Unity.
 - See this [article](#) for instructions.

Using the Issue Tracker is highly encouraged, as GitHub provides services that make everything above easier. You can open an issue there, and call me here pinpointing there to be sure to get my attention.

Thank you.

Edited Saturday at 11:45 PM by Lisias

Release 2.4.3.3 on the wild! - all Official Distribution Sites updated.



[Quote](#) [Edit](#)

JadeOfMaar, WeirdCulture, Sandstorm and 13 others like this

Unholy interactions between modules is what Krakens feed on... – Lisias

Lisias

Boldly crashing what no Kerbal has crashed before!



Posted October 16, 2018

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First Post! (ok, it's unfair) 🙄

In the next few days, a **proper** TweakScale release will be issued. The current "unofficial" of mine, by being... unofficial... , it's full of crazy ideas that still need to be proven. Eventually some of them will be merged into the



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'mainstream', but until there, I'll keep the official releases the more orthodoxically as possible.

Welcome aboard. Fasten your seat belts and sit tight. 🤖



Quote Edit

arius32 and PmThay like this

Unholy interactions between modules is what Krakens feed on... – Lisias

JedTech

AirTech



Members

+ 267

548 posts

Posted October 16, 2018

Report post

Congrats and good luck! Don't go too crazy...Tweakscale is awesome because "it just works".



Quote

You, iGGnitE, guesswho2778 and 1 other like this



GDJ

Canadian Aircraft aficionado



Members

+ 1,900

1,913 posts

Location: Edmonton, CANADA

Posted October 16, 2018

Report post



On 10/16/2018 at 8:36 PM, Lisias said:



From now on, it's all **officially** my fault! 🤖

Oh you poor bugger! I wish you well.....



Quote

You and PmThay like this



Lisias

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has crashed before!

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Posted October 16, 2018

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On 10/16/2018 at 9:44 PM, GDJ said:



Oh you poor bugger! I wish you well.....

You also have the feeling that pellinor is **way** too happy?



Quote Edit

*Unholy interactions between modules is what Krakens
feed on... – Lisias*

GDJ

Canadian Aircraft aficionado

●●●●●



Members

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1,913 posts

Location: Edmonton, CANADA

Posted October 16, 2018

Report post



On 10/16/2018 at 9:48 PM, Lisias said:



You also have the feeling that pellinor is **way** too
happy? 🤖

Oh maybe. Maybe not. Depends on how much
maintenance Tweakscale needs. I'm guessing not a huge
amount.



Quote



Posted October 16, 2018

Report post



Lisias

Boldly crashing what no Kerbal
has crashed before!



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On 10/16/2018 at 9:49 PM, GDJ said:



Oh maybe. Maybe not. Depends on how much maintenance Tweakscale needs. I'm guessing not a huge amount.

There're new attributes on KSP 1.5 (on the gears, for example) that will need to be handled or stuff will be blown into orbit against your will.

I think (but I still need to correctly study the problem) that some issues on 1.4 are due the same. The first step, probably, is to read cautiously every KSP's Change Log from 1.3.1 to 1.5.



Quote Edit

GDJ likes this

Unholy interactions between modules is what Krakens feed on... – Lisias

GDJ

Canadian Aircraft aficionado



Members

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1,913 posts

Location: Edmonton, CANADA

Posted October 16, 2018

Report post



On 10/16/2018 at 9:54 PM, Lisias said:



There're new attributes on KSP 1.5 (on the gears, for example) that will need to be handled or stuff will be blown into orbit against your will.

I think (but I still need to correctly study the problem) that some issues on 1.4 are due the same. The first step, probably, is to read cautiously every KSP's Change Log from 1.3.1 to 1.5.

The only think I can add to the fix pile (sorry about this) is the strength of the parts when they are "blown up" to around 180% of original size or more. The mass increases predictably, but I find that certain parts can get destroyed easily or they peel off the craft under their own mass (ie wings). It gets worse if there is fuel in the mix (even more mass).



Quote

You like this



Say Hello to the

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On 10/16/2018 at 8:50 PM, JedTech said:



Congrats and good luck! Don't go too
crazy...Tweakscale is awesome because "it just
works".

"What could possible go wrong?" 🤖



Quote

Edit

JadeOfMaar likes this

*Unholy interactions between modules is what Krakens
feed on... — Lisias*

kcs123

Junior Rocket Scientist



Members

+ 745

2,244 posts

Posted October 17, 2018

Report post



On 10/17/2018 at 2:39 AM, Lisias said:



"What could possible go wrong?" 🤖

When comes to coding ? Answer is simple - "everything"
can go wrong. It is just a metter of timing, when it will go
wrong at some point 😊



Quote



[Official FAR Craft Repository](#) - show off your designs there ✕ ▾
or ask how to build one.
Craft examples - efficient crafts for FAR: [KCS Space Planes](#)
[Craft Repository](#) - redefining term of light and heavy
payload.
[How to use FAR graph when you design craft ?](#) - click to

FreeThinker

Interstellar Engineer



Members

+ 3,053

7,732 posts

Posted October 17, 2018 (edited)

Report post ✕

On 10/16/2018 at 8:47 PM, Lisias said:

First Post! (ok, it's unfair) 🤪

In the next few days, a **proper** TweakScale release will be issued. The current "unofficial" of mine, by being... unofficial... , it's full of crazy ideas that still need to be proven. Eventually some of them will be merged into the 'mainstream', but until there, I'll keep the official releases the more orthodoxically as possible.

Welcome aboard. Fasten your seat belts and sit tight.



Good to hear Tweakscale is in good hands. For a time I considered taking over myself as I had several ideas to improve it. but my hands are already more than full

But about ideas, I have several:

A: One thing that always annoyed in Tweakscale me is the tech unlocking. You can unlock a specific tweakscale size only by a single tech. Instead, I propose it will also be the combination of the part unlocking tech and the specific size unlocking. That way I can unlock fuel tank with a fuel tech but only allow a bigger tweakscale sizes after unlocking colossalRocketry.

B: Another big limitation of tweakscale is that is by default only always only one method of define is scaling growth which is a single exponent. Although this works reasonably well for scaling up, when scaling down it often resulted in ridiculous numbers. Therefore instead, I would like the ability to use float curves that allow we to define exactly how parameters should grow or shrink.



Quote

You like this



Developer of [KSP Interstellar Extended](#) [Interstellar Fuel Switch](#) and [Photon Sailor](#)



pellinor

Miniature Builder



Members

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940 posts

Posted October 17, 2018

Report post



On 10/17/2018 at 12:11 PM, FreeThinker said:



A: One thing that always annoyed in Tweakscale me is the tech unlocking. You can unlock a specific tweakscale size only by a single tech. Instead, I propose it will also be the combination of the part unlocking tech and the specific size unlocking. That way I can unlock fuel tank with a fuel tech but only allow a bigger tweakscale sizes after unlocking colossalRocketry.

This is possible today by putting the "TechRequired" field in the part-specific config, which overrides the one on the scaletype. Yes, doing this for hundreds of parts is probably not the most elegant solution. And there is currently no transparency in-game when things will unlock.



Quote



FreeThinker

Interstellar Engineer



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7,732 posts

Posted October 17, 2018

Report post



On 10/17/2018 at 2:04 PM, pellinor said:



This is possible today by putting the "TechRequired" field in the part-specific config, which overrides the one on the scaletype. Yes, doing this for hundreds of parts is probably not the most elegant solution. And there is currently no transparency in-game when things will unlock.

I don't think I was clear enough. I mend that a part cannot be tweakscaled to a specific after both the Tweakscale TechRequired and part TechRequired are BOTH unlocked. Currently the Tweakscale TechRequired overrides the part TechRequired

 Quote



Developer of [KSP Interstellar Extended](#) [Interstellar Fuel Switch](#) and [Photon Sailor](#)



Lisias

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Posted October 17, 2018 (edited)

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Just to clarify some things:

There're **TWO** development branches on the repository: the **orthodox** and the **heterodox**. All bug fixes and "safe" development are done on the orthodox, and this branch is the **only one** that can be promoted to master now and then.

The heterodox branch is where we can play with nitroglycerine without killing the neighbours. We can discuss and even implement some ideas on there just to see what happens - the worst it can happens is to ditch the code. This branch will be **never** merged back to the orthodox one. If the event an idea proves valid and worths the potential migraine of becoming mainstream, the changes will be cherry-picked and eyeballed prior being committed into the production safe branch.

On the other hand, every change on the orthodox is merged to heterodox, so it keeps synchronized with the *status quo*. This broke something on heterodox? Too bad: fix it or ditch it. I didn't mentioned Dante's Inferno just because. 🤪

So... Yeah. We can go wild on new ideas and even try an implementation on the heterodox branch without opening the gates of hell into us.

Note to myself: Implement a very scary warning to be issued **every time you enter Space Center** on the heterodox branch.

Edited October 17, 2018 by Lisias

tyops, as usulla.



Quote Edit

docthaspok, linuxgurugamer, JH4C and 1 other like this

Unholy interactions between modules is what Krakens feed on... – Lisias

pellinor

Miniature Builder



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Posted October 17, 2018

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On 10/17/2018 at 2:20 PM, FreeThinker said:



I don't think I was clear enough. I mend that a part cannot be tweakscaled to a specific after both the Tweakscale TechRequired and part TechRequired are BOTH unlocked. Currently the Tweakscale TechRequired overrides the part TechRequired

Ok then I was not clear enough. Most TweakScale config values can appear in two places: the scaletype or the part module. The code will first look in the config of the part module, any values found there will win over those in the scaletype (I'm talking about [this part](#) of the code). So if you put something like "techRequired = tech1,tech2,tech3" in the TweakScale module of a specific part, the requirements should only apply to the scaleFactors of that specific part. So my statement is that the current interface allows to specify a separate tech for any scale of any part, which is the finest granularity possible.

Or maybe the missing piece is that techRequired is not a single value but a list, mapping a tech to every scaleFactor?



Quote



FreeThinker

Interstellar Engineer



Posted October 17, 2018

Report post



On 10/17/2018 at 5:05 PM, pellinor said:





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. So if you put something like "techRequired = tech1,tech2,tech3" in the TweakScale module of a specific part, the requirements should only apply to the scaleFactors of that specific part. So my statement is that the current interface allows to specify a separate tech for any scale of any part, which is the finest granularity possible.

Yes I know, but its not a lack of granularity , but a lack ability to combine. Let me illustrate with a little example

```
PART
{
    name = AdvancedFuelTank
    module = Part

    TechRequired =
specializedFuelStorage

    MODULE
    {
        name = TweakScale
        type = stack
        defaultScale = 2.5
        scaleFactors = 0.625
1.25, 2.5

        techRequired =
heavyRocketry, heavierRocketry
```

Now currently the AdvancedFuelTank will get unlocked with heavyRocketry, what I want is that you require BOTH at least specializedFuelStorage and heavyRocketry to use this fuel tank.



Quote



Developer of [KSP Interstellar Extended](#) [Interstellar Fuel Switch](#) and [Photon Sailor](#)



pellinor

Miniature Builder



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Posted October 17, 2018

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On 10/17/2018 at 5:24 PM, FreeThinker said:



Now currently the AdvancedFuelTank will get unlocked with heavyRocketry, what I want is that you require BOTH at least specializedFuelStorage and heavyRocketry to use this fuel tank.

Now I understand. So if no scale is allowed the current behavior is probably to allow the defaultScale. This looks like a workaround because once the partModule comes to life it is too late to hide the part. Instead, some global object could check this condition whenever an editor is opened, and hide all parts that do not have at least one unlocked scale. Yes, I agree that would be useful.



Quote

FreeThinker likes this



FreeThinker

Interstellar Engineer



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Posted October 17, 2018 (edited)

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On 10/17/2018 at 6:45 PM, pellinor said:



Now I understand. So if no scale is allowed the current behavior is probably to allow the defaultScale. This looks like a workaround because once the partModule comes to life it is too late to hide the part. Instead, some global object could check this condition whenever an editor is opened, and hide all parts that do not have at least one unlocked scale. Yes, I agree that would be useful.

Yes, that would be even better. It would allow use to balance tweakscale much better. Tweakscale is often shunned because it gives access to higher sizes too fast, well with the discussed improvement we can balance it better by using the higher technodes like veryHeavyRocketry, giganticRocketry and colossalRocketry, which is now not used

Edited October 17, 2018 by FreeThinker



Quote

You like this



Developer of [KSP Interstellar Extended](#) [Interstellar Fuel Switch](#) and [Photon Sailor](#)



Trollsama

Rocketeer



Members

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45 posts

Posted October 17, 2018

Report post

So Random question, The mod is posted on [CKAN](#) as well. Im curious if it will continue to be maintained on [CKAN](#) under new ownership or if [CKAN](#) support will be dropped.. I ask because I tend to check for updates out of [CKAN](#) and not the forums themselves. (i found out about new management out of fluke TBH lol) unless the mod in question isnt listed on [CKAN](#) in the first place.



Quote



viperwolf

Destroyologist



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699 posts

Posted October 18, 2018

Report post

Looking forward to it, thanks for taking this up.



Quote



FreeThinker

Interstellar Engineer



Members

Posted October 18, 2018 (edited)

Report post



On 10/17/2018 at 11:11 PM, Trollsama said:



So Random question, The mod is posted on [CKAN](#) as well. Im curious if it will continue to be maintained on [CKAN](#) under new ownership or if [CKAN](#) support will be dropped..

I ask because I tend to check for updates out of

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7,732 posts

CKAN and not the forums themselves. (i found out about new management out of fluke TBH lol) unless the mod in question isnt listed on CKAN in the first place.

Well that sound be to hard. Its just a matter of changing the download reference to the new spacedock location where the new releases are hosted

Edited October 18, 2018 by FreeThinker

+ Quote



Developer of [KSP Interstellar Extended](#) [Interstellar Fuel Switch](#) and [Photon Sailor](#)



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SãoPaulo ! Capital ! Home !
LivingRoom ! MyChair

Posted October 18, 2018 (edited)

Report post

On 10/17/2018 at 11:11 PM, Trollsama said:



Im curious if it will continue to be maintained on CKAN under new ownership or if CKAN support will be dropped..

I'm not an enthusiastic user of CKAN, mainly because the Mono defaults are a mess on Linux and Mac, and I'm a heavy user of these OS'es. I was also bitten heavily when a bunch of mods were automatically updated, but one of them caused undesired behaviour and it took me an awful amount of time to figure out what happened. Doing things by hand revealed to be a better solution for me, with me relying on KSP-AVC to keep me informed about updates.

That said, I will not drop CKAN support on Releases, but pre-releases (the present state) and experimental will not be CKAN'd (neither published on SpaceDock and Curseforge) for obvious reasons.

Edited October 18, 2018 by Lisias

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Unholy interactions between modules is what Krakens feed on... – Lisias

Lisias

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Posted October 18, 2018

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[▼](#) On 10/17/2018 at 6:45 PM, pellinor said: [↩](#)

Instead, some global object could check this condition whenever an editor is opened, and hide all parts that do not have at least one unlocked scale. Yes, I agree that would be useful.

Meddling with Module Manager and Hide Empty Tech Nodes, I understand how they handle customized Tech Trees. On the fly, in the case of HETN.

The same technique appears to be applicable on parts list - obviously, this info is to be confirmed.

However... There're risks on such endeavor. I found that it's currently common practice to "hijack" the TechTree unconditionally, what ends up in a race condition where the TechTree currently in use is determined by the not necessarily deterministic order in which such "hijacks" happen. I'm foreseeing the same happening here.

I think we will need an Arbitrator for customs Parts List. I think we already need one for TechTrees...

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pellinor

Miniature Builder



Posted October 18, 2018 (edited)

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[▼](#) On 10/18/2018 at 7:10 AM, Lisias said: [↩](#)



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On 10/18/2018 at 12:43 AM, mattinoz said:

Is there a more advanced version of TweakScale that allows scaling independently in one direction?

Almost a purely aesthetic thing that parts that transition between to sizes often feels to short blend nicely with the next part.

Curiously, I thought on something like that recently. But I consider this to be "tricky" to implement as it would break an (programming) interface that are in use for years. OK, there're techniques to make things coexist, but we need to balance cost and benefits of such a feature.

The "easier" changes on the programming interface would render the user interface less intuitive, and vice versa.

(quoting this from the old TweakScale thread)

The scaling part is quite simple and has been done before (for example the DIY Kits in GC). Some other questions are

* Many parts in TweakScale assume the scaling has one degree of freedom, for example the config interface (scaleFactors, exponents, techRequired), the API for other mods. Is it clear how they should behave once a part can be scaled with two or three degrees of freedom? What additional config possibilities does this need?

* Will the resulting config interface still be usable for the average modder?

* How many parts benefit from non-isotropic scaling? This is the main point why I haven't done this yet. Most models just look bad when stretched.

Edit: for simple cases like visually stretching an adapter, it could also be a separate part module that lacks all the interaction with other part modules.

Edited October 18, 2018 by pellinor

[Quote](#)

pellinor

Miniature Builder



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Posted October 18, 2018

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On 10/18/2018 at 7:29 AM, Lisias said:



That said, I will not drop CKAN support on Releases, but pre-releases (the present state) and experimental will not be CKAN'd (neither published on SpaceDock and Curseforge) for obvious reasons.

My experience is that CKAN hasn't caused trouble for TweakScale yet. It targets inexperienced users and should only see the stable releases.

I found it quite useful for the initial installation, but also prefer to update things manually and selectively.

[Quote](#)

Enceos likes this



1

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4

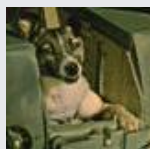
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