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Better Science Labs

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By Cychotha, September 17, 2014 in Add-on Releases

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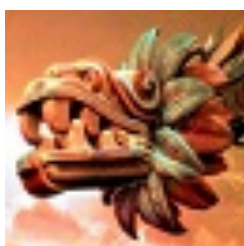
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Cychotha

Bottle Rocketeer

●●

Members

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21 posts

Posted September 17, 2014 (edited)

Report post ⌘

Tired of designing that beautiful and functional spaceplane only to find that adding a science lab turns it into a beached Whale?

Ughhh! Not again...

Better Science Labs is here to help!

BSL features up to six new labs fully integrated into the tech tree and balanced against the Stock Lab with tech tree

placement and build costs.

Labs include functioning IVA and together offer far greater design flexibility than the stock lab could ever hope for.

Whether your mission is a simple Munar Landing or a Grand Tour of the Kerbol system Better Science Labs will help you make it a success - For Science!

Features:

-
  - **mk2 Spaceplane Fuselage, mk1-2, 2m, and 2m short Lab configurations included in base download, with 2 additional lab configurations that require HGR and Firespitter mods installed to function.**
  - **S.N.A.C.K. science experiment available in all labs. This is a very "Kerbalised" version of the NASA "Microgravity effects on human physiology" experiments. S.N.A.C.K. offers over 2 dozen new and unique science results, but you have to return to Kerbin to collect the science.**
  - **S.N.A.C.K. retrieval probe core. This allows the return of S.N.A.C.K.ing "results" to Kerbin if you are leaving your science research vessel in space. It is also capable of snack resupply missions if you have KAS installed.**

Lab Features and Screenshots:

Optional Lab Features and Screenshots:

Download: Curse

Requirements:

2m, 2m short, mk1-2, and mk2 Labs only require the base game and BSL to function.

mk2 Fuselage Lab model and textures: http://forum.kerbalspaceprogram.com/threads/92630-0-24-2-B9-Aerospace-Release-5 CC by bac9 et.al.

1m Fuselage Lab requires the Firespitter mod (not just the plugin) to function. Found here: http://forum.kerbalspaceprogram.com/threads/24551-Firespitter-propeller-plane-and-helicopter-parts-v6-3-4

1m "Onion" Lab requires the Home Grown Rocket parts (HGR) mod to function. Found here: http://forum.kerbalspaceprogram.com/threads/60974-24-HGR-Command-Pods-and-1-875m-parts%28v1-0-July-20%29

Installation:

Installs just like any other mod, copy the

BSL mod folder to your gamedata directory; however, if you don't have one of the mods required for the specialized labs, I recommend deleting the associated subfolder in the BSL mod directory for cleanliness.

SP+ reliant parts have been deprecated, if you have vessels in flight that use that model, please copy the SPP folder from the parts.old folder to the main BSL folder.

License: **MIT***

***Some parts may have their own license**

Changelog:

25.0.1.1

Fixed Snack Retrieval Probe for KSP.25

25.0.1

- **New mk2 Fuselage Science Lab (working Lights and IVA, matches the new KSP.25 mk2 part profile)**
- **updated modulemanager to v.25.1**
- **Deprecated b9 mk2 Fuselage due to incompatibility with KSP.25 (still available in parts.old folder)**
- **Due to new version of mk2 parts and new KSP.25 part directory**

structure, this version is incompatible with KSP.24.2, and will break ships from BSL.24.2.3.1.
- For the same reasons, BSL.24.2.3.1 is incompatible with KSP.25.

24.2.3.1

Corrected directory structure problem introduced in 24.2.3 (Sorry about that - if you downloaded 24.2.3, you can just create a folder inside Gamedata called [better Science Labs] and copy the parts, spaces and resources folders into it, you don't have to download it again)

24.2.3

- Update to mk2 Fuselage Lab, now has working cabin lights and flag
- Added S.N.A.C.K. science experiment
- Added S.N.A.C.K. retrieval probe core

24.2.2.1

- License clarifications

24.2.2

- New mk2 part, model from b9 Aerospace http://forum.kerbalspaceprogram.com/threads/92630-0-24-2-B9-Aerospace-Release-5 CC by

bac9 et.al.

- **Old mk2 part deprecated due to lack of IVA and SPP mod dependency. If appropriate SPP part gets into KSP .25 I will probably add it back in.**
- **update to MM v. 2.3.5**

24.2.1

- **initial release**

Edited October 14, 2014 by Cychotha
New Version

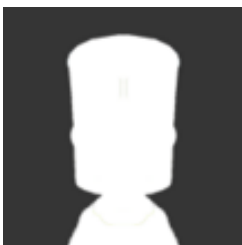| + | Quote |

Niemand303 likes this

My Mods - <u>Better Science Labs</u>

---

willow

Spacecraft Engineer

● ● ●

Members

➕ 16

237 posts

Posted September 17, 2014

Report post

I do agree with your general sentiment, but it seems you've only tweaked some config files. And if you decide to do that I believe module manager is your friend, you don't need to copy everyone's models. (You did ask permission didn't you?)

This mod could potentially become interesting to me if you'd add your own models. Or at the very least retexture.

Woodstar

Junior Rocket Scientist

●●●●

Members

➕ 40

525 posts

Report post ⤳

> **willow said:**
>
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>
> This mod could potentially become interesting to me if you'd add your own models. Or at the very least retexture.

And drop the dependencies.

+ Quote   👍

```
◎ SPEEDTEST                                  7/15/2014
@Speedtest by Ookla                         1:52 PM GMT

⑤ PING          ⊕ DOWNLOAD          ⊕ UPLOAD
17 ms           126.85 Mbps         38.73 Mbps

RATING          Faster than 97% of US
ISP             Cox
HOST            Iola, KS , < 50 mi
```

Rockstar04

Report post ⤳

Rocketry Enthusiast

Members

➕ 15

96 posts

I would also say that just increasing the cost of a part doesn't really balance it, reducing the amount of science gained or making them use more power for their analysis would be much better as far as balancing goes.

➕   Quote

---

apemanzilla

Bottle Rocketeer

Members

⬤ 0

11 posts

Posted September 17, 2014 (edited)   Report post

Good idea, bad implementation. Making something more expensive and unlocked later doesn't balance it. Try making it use more power, run slower, etc. and use your own models. Additionally, you used B9 models, which are licensed under a Creative Commons Share-alike license, so you have to also distribute this mod under the same license or a compatible one. (which the MIT license is not)

TL;DR: Either use your own models for parts and IVAs or change the license to match that of B9 Aerospace.

Edited September 17, 2014 by apemanzilla
Fixing an error

➕   Quote

Eleven

Solid As The Sun

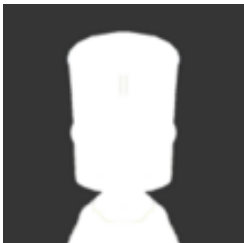●●●●

Members

➕ 36

575 posts

Report post ⩭

Interesting!

➕ | Quote 👍

---

dzikakulka

Spacecraft Engineer

●●●

Members

➕ 13

170 posts

Report post ⩭

> **apemanzilla said:**
>
> Finally, you claim it is licensed under the MIT license, which is (usually) considered an open-source license, yet I see no source download.

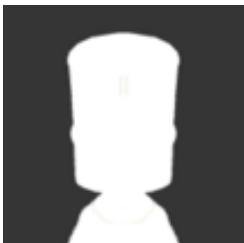I do agree with your points, but isn't the mod itself a source file if there is no plugin, only parts?

➕ | Quote 👍

---

apemanzilla

Bottle Rocketeer

●●

Report post ⩭

Yes, sorry, correcting that. I haven't been able to check the contained files because I'm on my tablet so I assumed there was a plugin. My bad.
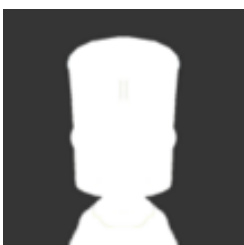
+ Quote

---

undercoveryankee

Senior Rocket Scientist

● ● ● ●

Members

⊕ 222

1,050 posts

Posted September 17, 2014   Report post ⌁

With respect to config files, what you're distributing is the source.

Art assets (models and textures) are a more interesting question. The forum rules' requirement for source is specific to plugins, so distributing art assets only in the in-game format is fine for forum purposes if the models are obtained under a license that allows it.

The GPL contains a definition of "source code" as "the preferred form for making modifications", which would require redistribution of editable

versions of assets (e.g. Blender files or layered .psd textures) if the person who GPLed the assets provided them.

[+] Quote [👍]

Cychotha
Bottle Rocketeer
● ●

Members
⊕ 5
21 posts

Posted September 17, 2014 (edited)   Report post 🔗

Thank you all for your interest in my mod 😳

Squad and the KSP modding community have created some amazing art assets, both models and textures. All this mod does is allow the use of those assets in a new and, I think, interesting way within the game. Much like FAR/NEAR doesn't add all new cockpits and wings and engines, but instead allows you to use the ones you already have in new and interesting ways, I feel that BSL performs a similar function, albeit with science instead of aerodynamics.

Orionkermin with HGR and Snjo with Firespitter have provided the community with some fantastic

models and textures, and have decided to reserve rights on them. I love these mods and want everyone to download them, which is why they are only accessed through in game mechanics if you have already downloaded them through the author's approved channels, and why they are not included in the BSL download.

bac9 and the B9 team graciously decided to allow their models and textures to be used by the KSP community by licensing them under an open creative commons license, which explicitly gives permission for their use if you provide proper attribution, which I have done. Additionally, I do not claim any copyright on the b9 model or textures, I have made no changes to them, so I am somewhat confident that BSL does not qualify under the sharealike aspect of the Creative Commons license.

On the question of making my own models, I feel that if I wanted a science lab that looked completely out of place on an HGR rocket or a firespitter airplane or a b9 spaceplane or even a stock KSP ship (have you seen how ugly the stock lab is?), I could just stick the stock lab on it somewhere. The best person to make a model that matches the style of an HGR rocket is Orionkermin, not me, and he already has! He should get full credit for his work, and the best way to do that is for

people who want his art to download his mod, not just mine. On that note:

Ã¢â,¬â€¹Better Science Labs has no mod dependencies. All four of the base Labs work without any other mods installed. All of the tech level upgrades and construction types (1-2m, 2m, and spaceplane) are covered. The "Onion" Lab and the mk1-2 Lab are functionally identical, the only differences are cosmetic. Only if you want the two optional parts do you need to download any other mods.

TL/DR: I have copied no-one's models or textures without express permission, and feel that BSL can help people have fun in KSP even without it's own models.

Edited September 17, 2014 by Cychotha
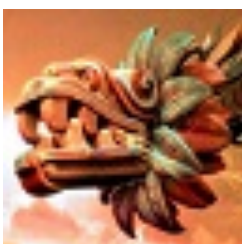clarification of models and dependencies

+   Quote   👍

My Mods - [Better Science Labs](#)   ✕ ▾

Cychotha
Bottle Rocketeer
●●

Posted September 17, 2014   Report post   ⤴

A quick note on balance, since there has been some criticism of my balance choices.

I know it's always shaky using the real

world to talk about balance within a game, but here are my thoughts on it. An Alienware 18 notebook provides an awesome gaming experience and costs $5300, while a $1500 homebuilt PC tower also offers an awesome gaming experience. Both can play the newest games in the highest resolutions with the most mods. So the only real differences are that the Alienware is 75% smaller, 75% lighter, uses half the electricity, and uses more advanced technology (in my mind equivalent to a higher tech unlock) to fit all that performance into a smaller, lighter package. Plus it's almost 4 times the cost. This is similar to though more extreme than the balancing choices in BSL.

I also realize that in KSP .24 funds aren't really a bottleneck, like they are in the real world. However, my reading of the dev blogs and other sources about .25, .26, and beyond, is that funds are likely to become a bottleneck in the future. That is why I chose higher unlocks and construction costs as my balancing factors. Plus, in mid to late game, electricity becomes an essentially free resource, with only the effects of increasing part counts and making ships uglier, the 2 main things I made this mod to help avoid, so increased resource use wouldn't really be within the scope of this mod, as I see it.
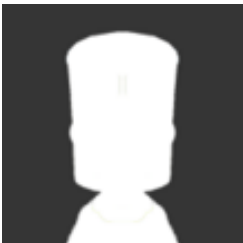
+   Quote   👍

Jimmy G

Curious George

●

Members

● 0

2 posts

Posted September 18, 2014   Report post   ⤴

> ⌄ **apemanzilla said:**
>
> Good idea, bad implementation. Making something more expensive and unlocked later doesn't balance it. Try making it use more power, run slower, etc. and use your own models. Additionally, you used B9 models, which are licensed under a Creative Commons Share-alike.

Why would something more advanced, per say, use more power or run more slowly? IMO the current format makes perfect sense. You "research" hard to find a better way to do science and it finally pays off, in the form of a lighter and more efficient lab but at a much higher cost to the "tax payers".
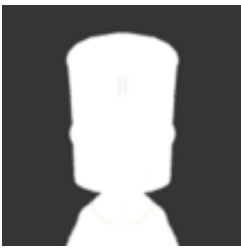
+   Quote   👍

BigD145

Rocket Scientist

●●●●

Posted September 18, 2014   Report post   ⤴

Computers in general have gone from needing 80 Watt PSU's to 500 to 1000 Watt PSU's over the past 20 years. Miniaturization hasn't changed this a whole lot as the better processors still require more power and other parts have not changed their power requirements much. CPU's may be more efficient per clock cycle, but they still have so many more clock cycles per second. Some things in a science lab haven't changed at all and really can't because of limits in physical properties. A 100mL beaker cannot change its size. Kerbals in the lab can't pour any faster into a beaker and any automation still takes up space. That just an example. You have to think about all the physical limits, not just dollar price and size.

The Alienware notebook has a bunch of other differences. It won't last as long and doesn't have quite the same parts. If any one part breaks and you're out of warranty you have to buy a new machine. You're paying more for portability, but sacrificing run time on a battery for that portability. Alienware laptops are intended to be run tethered to a wall socket. You're still getting an inferior machine. The laptop power cable can't push as much Wattage as a tower cable.

Beachernaut

Spacecraft Engineer

● ● ●

> ⌄ **Cychotha said:**
>
> Requirements:
>
> **2m, 2m short, mk1-2, and mk2 Labs only require the base game and BSL to function.**
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>
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😵 I'm confused. I was under the impression that "no dependencies" meant that you could drop it into a vanilla game with no problem.

Edited September 18, 2014 by **Beachernaut**

+	Quote

Cychotha
Bottle Rocketeer
● ●

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21 posts

> **Beachernaut said:**
>
> 😵 I'm confused. I was under the impression that "no dependencies" meant that you could drop it into a vanilla game with no problem.

You can 😵

The two optional Labs have dependencies, but the mod itself which includes the 2m, 2m short, mk1-2, and

mk2 Labs will work just fine if "dropped" into a vanilla game.

+ Quote

Cychotha

Bottle Rocketeer

● ●

Members

⊕ 5

21 posts

Posted September 19, 2014 (edited)

Report post

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Some good points, as I said it can be tricky to use real world examples when talking about game balance. Let me give it another try, this time using a real science project to be more applicable...

The human genome project involved thousands of scientists from dozens of labs, cost 3 billion dollars, and took over a decade to sequence 4 individuals. Today you can have your genome sequenced for a couple thousand bucks in a couple of weeks on a machine that fits in a closet.

My main point is that things have to be balanced in the game somehow, I can't change the stock KSP science module so I don't break compatibility with other great mods like FinePrint, so the options I have left are build costs and

tech upgrades. If anyone has any great, constructive ideas on getting better game balance without sacrificing any compatibility, I am happy to listen, but I am not going to make any changes that could cause any compatibility problems with any other mods.

Edited September 19, 2014 by Cychotha
link to FinePrint mod

[+] Quote   👍

My Mods - <u>Better Science Labs</u>   ✖ ▾

Woodstar

Junior Rocket Scientist

●●●●

Members
➕ 40
525 posts

Posted September 19, 2014   Report post   ⤳

> **Cychotha said:**
>
> You can 🧟
>
> The two optional Labs have dependencies, but the mod itself which includes the 2m, 2m short, mk1-2, and mk2 Labs will work just fine if "dropped" into a vanilla game.

Nice then downloading now , it will be nice to have a MKII SL.

[+] Quote   👍

apemanzilla

Bottle Rocketeer

● ●

Members

● 0

11 posts

Posted September 19,   Report post
2014 (edited)

@OP, let me explain a bit. B9 Aerospace is licensed under the **Creative Commons Non-Commercial Share-Alike license**. This means you are free to use and modify the models, under three conditions:

- You give proper credit to the orginal creator
- You do not use the content for commercial reasons (i.e. selling it to people for money)
- You distribute the content under **the same license or a compatible one**

The MIT license is not a compatible license. Since you distribute B9 models with this mod, you are breaking the license. So, my original point stands: **You need to either use your own models as opposed to B9's, or you need to use the same license as B9 uses**. If you prefer to keep everything the way it is, you would need to acquire permission from the creators of B9 Aerospace to distribute their models

without the same license.

I hope this clears it up.

Edited September 19, 2014 by apemanzilla

[+] Quote 👍

Cychotha
Bottle Rocketeer

●●

Members
➕ 5
21 posts

Posted September 19, 2014

↰

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>
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>
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> **need to either use your own models as opposed to B9's, or you need to use the same license as B9 uses**. If you prefer to keep everything the way it is, you would need to acquire permission from the creators of B9 Aerospace to distribute their models without the same license.
>
> I hope this clears it up.

I have followed the terms of the CC license to the letter.

1. my work is licensed under MIT.

2. bac9's models and textures are **distributed** under **his** creative commons license.(i.e. **the exact same license**)

3. I couldn't license his work even if I wanted to, because according to CC, I would have to make a transformative change. Specifically I would have to remix, transform or build upon his models or textures, which I have not done.

If you have any other questions, please read the license you so helpfully linked.

I hope this clears it up.

+ Quote

Cychotha

Bottle Rocketeer

●●

Members

● 5

21 posts

Report post

> **Woodstar said:**
>
> Nice then downloading now , it will be nice to have a MKII SL.

Awesome 🐸

I hope you enjoy it as much as I have in my live game!

+   Quote

Mokmo

Junior Rocket Scientist

●●●●

Members

● 49
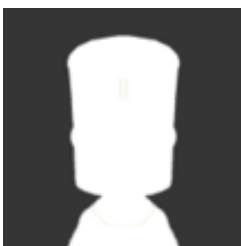
642 posts

Report post

The version i got on Curse (24.2.3) had a file structure that put the parts, resources and spaces folders directly in Gamedata...

I don,t think that's the right way...

+   Quote

In 23.5 (Yeah it needs updating)

Cychotha
Bottle Rocketeer

● ●

Members
⊕ 5
21 posts

Report post ⤳

> **Mokmo said:**
>
> The version i got on Curse (24.2.3) had a file structure that put the parts, resources and spaces folders directly in Gamedata...
>
> I don,t think that's the right way...

Oops, you are right, my bad, will fix it immediately. Thanks for letting me know 😵

Edited September 28, 2014 by Cychotha

+   Quote   👍

My Mods - <u>Better Science Labs</u>   ✖ ▾

FrancoisH
Rocketry Enthusiast

● ● ●
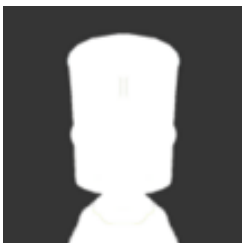
Members
⊕ 21
155 posts

Report post ⤳

Hello there,

Just a question, do I need to install the Part.Old directory in the root of my KSP install directory? Or is it just an error in the zip file from curse?

+   Quote   👍

Boamere

100% Tired

● ● ● ●

Members

➕ 41

897 posts

Location: England

Posted October 14, 2014   Report post   ⇗

Yes the download link does not seem to be working 🔲❓

➕   Quote   👍

Cychotha

Bottle Rocketeer

● ●
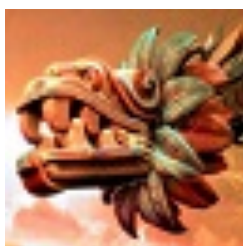
Members

➕ 5

21 posts

Posted October 14, 2014
(edited)   Report post   ⇗

> ⌄ **FrancoisH said:**
>
> Just a question, do I need to install the Part.Old directory in the root of my KSP install directory? Or is it just an error in the zip file from curse?

The parts.old folder just contains old, deprecated parts from earlier versions of BSL. It is only for use if you still have ships in flight that have parts from earlier versions of BSL, otherwise only copy the contents of the Gamedata

folder to your KSP Gamedata directory.

> **Boamere said:**
>
> Yes the download link does not seem to be working 🔷

Thanks for letting me know, should be fixed now 🐸

Edited October 14, 2014 by Cychotha
add quotes.

+   Quote   👍

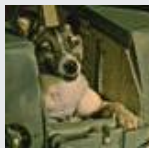My Mods - **Better Science Labs**   ✕ ▾

---

1   2   NEXT   »   Page 1 of 2 ▾

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