

Deadlock's Stacking Beltbox & Deadlock's Crating Machine

DSB is an inline belt stacker that provides 5x belt compression for basic resources and some intermediate products. DCM packs items into crates and is more expensive. If you are a Factorio modder, you can get DSB and DCM to automatically generate stacked and/or crated versions of items from your own mods. It's easy to do. You don't have to support both mods, you can support either one, or neither, your choice.

Remember: Both these mods are about reducing big multi-lane belt buses. I don't recommend you make every item in your mod stackable. If people usually run an 4+ lane blue bus half a mile through their base just for that item, they might benefit, but probably not otherwise.

• Step 1

Add `"?DeadlockStacking"` and/or `"?DeadlockCrating"` as optional dependencies in your mod's **info.json**. For example:

```
{
  "name": "DeadlockTweaks",
  "version": "0.1.0",
  "title": "Deadlock's Tweaks",
  "author": "Deadlock989",
  "contact": "",
  "homepage": "",
  "dependencies": ["base >= 0.16.0", "?DeadlockStacking", "?DeadlockCrating"],
  "description": "Some small quality of life adjustments.",
  "factorio_version": "0.16"
}
```

• Step 2

Both mods expose a function which does everything needed. You must call these functions from your mod's **data-final-fixes.lua**. That's all there is to it:

```
-- [data-final-fixes.lua]
-- this mod makes diamonds. don't dig straight down
-- we already created our item and inserted it into data.raw
-- ...

-- get DSB to stack my itamz
if deadlock_stacking then
  -- repeat this for every item you want stacked
  deadlock_stacking.create("deadlock-uber-diamond", nil, "deadlock-stacking-1")
end

-- get DCM to crate my itamz
if deadlock_crating then
  -- repeat this for every item you want crated
  deadlock_crating.create("deadlock-uber-diamond", "deadlock-crating-1")
end
```

• The create() function

For DSB, the item creation function has three parameters:

deadlock_stacking.create(item_name, graphic_path, target_tech)

Parameter	Optional / Mandatory?	Explanation
item_name	Mandatory	The item name of the base item you want stacked, e.g. "iron-plate" or "mymod-uber-reactor". This must be something that already exists, e.g. a vanilla item or an item from your mod that you have already inserted into data.raw.
graphic_path	Optional	This can be the full path to a 32x32 icon that represents the stacked product, e.g. "__MyMod__/graphics/stacked-uber-reactor.png". If it is left out or specified as nil, then DSB will try and make its own layered icon out of the base item's one (this might not look great and it is worse for FPS – see below).
target_tech	Optional	If you specify a technology name (e.g. "deadlock-stacking-1"), then the mod will insert the required recipe unlock effects (stacking/unstacking or crating/uncrating) into that technology. This must be a tech that is already set up. See below for more info. If omitted or nil, the mod won't update any technologies, and you'll have to handle gaining access to the recipes yourself.

For DCM, **deadlock_crating.create(item_name, target_tech)** is the same as above except without the graphic_path parameter (all crate icons are dynamically generated).

Note that if stacking/crating recipes already exist for the item name specified (within that same technology), they are replaced by the new one. This is useful if you want to update an icon or stack size that another mod altered.

• The remove() and reset() functions

There are two more functions in each mod, useful in heavily modded settings where you want to change the technology scheme in more depth. Note that with both of these functions, recipes are not deleted, they are only removed from.

- **deadlock_stacking.remove(recipe)** and **deadlock_crating.remove(recipe)** will search through all of the respective mod's native technologies for a recipe name, removing any and all stacking and unstacking recipes it finds which match. It uses a substring search, so specifying "iron" will remove all recipes with names that contain the substring "iron" – be careful.
- **deadlock_stacking.reset()** and **deadlock_crating.reset()** (no parameters) remove **all** of the stacking/crating recipes from the mod's native technologies, leaving only the machine-unlocking effects.

• More details

Tech/migration. DSB and DCM use tiers of technology to unlock stacking/crating recipes and also the tiered machines themselves. You can specify these as the required tech to unlock your own stacked things if you like (see table below for names). However be aware that **DSB and DCM only run technology migrations when they need to**. If you add your items to DSB or DCM technologies and then change the scheme later, or suddenly remove things that they natively provide, **you are responsible for your own migrations**. See my mods' migrations folders for an example of how they handle it. You might find it easier to gate your stacks/crates behind your own tech.

Icons/sprites in DSB. If you don't provide an icon/sprite for the stacked item, DSB will automatically make one out of layers of the base icon. There's no guarantee that this will actually look good (though it's usually OK). It is also worse for FPS than a custom icon, potentially massively worse, because it's essentially multiple sprites for every single stacked item on every belt on the screen. **I recommend you make icons for stacked items if you expect players to mass produce them**. DSB will leave warnings in the game log when it generates icons like this.

Fuel. In DSB, if your items have fuel values then the stacked item will inherit those fuel values. If you don't want that to happen, don't stack them. In DCM, crates can't be burned.

Errors. If you specify any item/recipe/tech ID references that doesn't exist at the time DSB generates your stuff, the items will be skipped and errors will be printed in the game log. If you specify a graphic path that doesn't exist, Factorio won't load and will suggest disabling your mod.

Item/recipe names. If you want to use stack/crate items in recipes, they have conventionalised prefixes (see table below). For example, if your item was "uber-diamond", the generated stacked version will be "deadlock-stack-uber-diamond".

"Helper" or "bridge" mods. If your favourite modder doesn't want to / have time to provide support for stacking/crating, you could make your own mini "helper" mod which simply bridges the gap. In this case you would require both their mod and DSB/DCM as compulsory dependencies, not optional, and then all your mini-mod does is loop through some items in its data-final-fixes.lua and maybe provides a few icons. Simple.

If you run into problems or want another feature, use the [Factorio forums thread](#) to contact me.

- Deadlock989

	DeadlockStacking	DeadlockCrating
Stack/crate items	deadlock-stack-...	deadlock-crate-...
Recipes	deadlock-stacks-stack-... deadlock-stacks-unstack-...	deadlock-crates-pack-... deadlock-crates-unpack-...
Technologies	deadlock-stacking-1 deadlock-stacking-2 deadlock-stacking-3 Tiers 4 and 5 are also made available if Bob's Logistics or FactorioExtended are active (tier 5 can also depend on user settings).	deadlock-crating-1 deadlock-crating-2 deadlock-crating-3 No support for higher tiers.