

Deadlock's Stacking Beltbox & 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.

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 4 lanes or more half a mile through their base just for that item, they will 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 earlier on, and we 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 four parameters, with only the first mandatory: `deadlock_stacking.create(item_name, graphic_path, target_tech, icon_size)`

Parameter	Optional / Mandatory?	Explanation
<code>item_name</code>	Mandatory	The name of the item you want stacked, e.g. "iron-plate" or "mymod-uber-reactor".
<code>graphic_path</code>	Optional	The full path to an icon that represents the stacked product, e.g. "__MyMod__/graphics/stacked-uber-reactor.png". If nil, then DSB will 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).
<code>target_tech</code>	Optional	The technology name (e.g. "deadlock-stacking-1") that the recipe unlock effects (stacking/unstacking, crating/uncrating) will be inserted into. 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.
<code>icon_size</code>	Optional	The icon size of your base item. Must be 32, 64 or 128. If you specify a custom graphic then its size must match the base item. If omitted or nil, this defaults to 32 (vanilla icon size).

For DCM, `deadlock_crating.create(item_name, target_tech, icon_size)` is the same as above except without the `graphic_path` parameter (crate icons are always 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.

• 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 DSB and DCM technology unlocks.

- `deadlock_stacking.remove(substring)` and `deadlock_crating.remove(substring)` will search through all of the respective mod's native technologies, removing any and all stacking and unstacking recipes it finds which contain a match. For example, specifying "iron" will remove all recipe unlocks with names that contain the substring "iron".
- `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 unlocks.

• **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). If you add your items to DSB or DCM technologies and then change them later, or remove anything that they provide, **you are responsible for your migrations.** See my mods' migrations folders for an example.

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, because it's essentially multiple sprites for every single stacked item 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 so will the stacked version, but burning for longer. If you don't want that to happen, don't stack them. In DCM, crates can't be used as fuel.

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).

"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.

	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 may also made available.	deadlock-crating-1 deadlock-crating-2 deadlock-crating-3 No support for higher tiers.

- Deadlock989

