

3. Repair

3.1. Easy Disassembling (non-destructive)

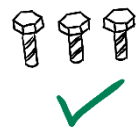
Keeping the repair of a product easy and quick means saving time and money. First of all that can be done by a product design which is made for easy non-destructive dismantling.

There are some points which you should take into account:

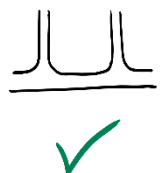
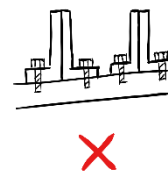
- Detachable connections

For example: use screws to joint the parts of a product and remember:

- Few screws
fewer screws = less time/effort to repair -> repair is worth it -> lesser scrap
- Only one species / one tool
no danger of confusion during dismantling, everything can be unscrewed by a single tool
- Use sturdy heads that are usable multiple times like hex or Allen geometry or even Torx
- detachable/resolvable joints (Bild: Kleber)
replacement of parts without damaging the whole object

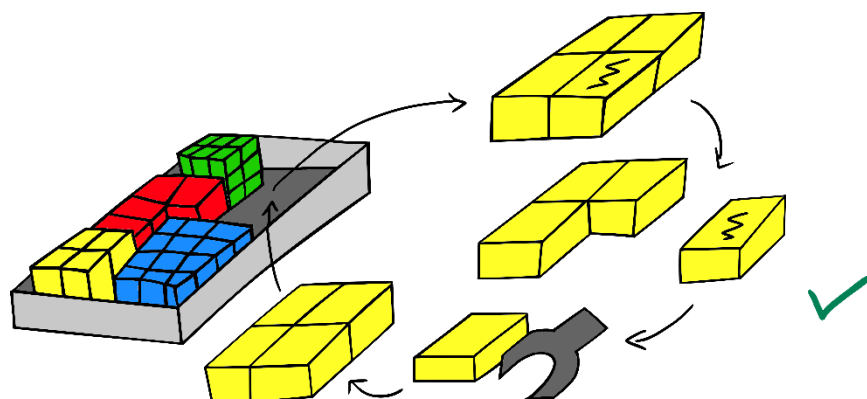


- Accessibility/ clear/reachable direction
accessibility of critical parts
- Markings on the product for easy disassembling
- Keep number of elements low
fewer elements with a long lifespan, reduce amount of wear parts
- Preferring clearance fit



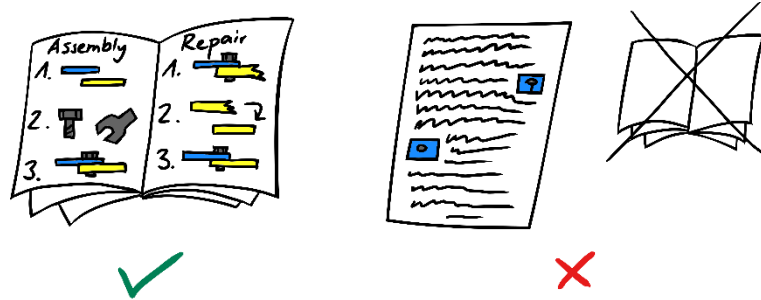
3.2. Modular construction

The difference between the modular structure for reuse and for repair lays in the detail. Within the Design for Reuse we talked about the modular design for things, which the user should exchange easily. If you want to design a product for repair it is important, how long the companies' service team needs to restore the function and shape of the failed product. The modular structure for a Design for repair includes components of all assemblies which should be easily repaired or replaced.



3.3. Documentation (available and easy to understand)

It should be easy for the service men or the customers themselves, how to repair the product. The documentation should be understandable for every user, something like signs on the product itself, user manuals easy enough that even amateurs can repair the object without damaging it.



3.4. Wear indication / Predict remaining life time (only for moving parts)

The lifespan of the different parts should be recognizable, obvious (warning) signs or indicators for wear are ideal.

