

## Stackable 50L Plastic Tub Lid Repair/ Reinforcement

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### Summary

Glue this to your lid and it will allow it to support more weight

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We bought many of these 50L “All Set” brand storage tubs from Bunnings in 2020. The lids break when there is too much weight stacked on top, particularly if the box is not full. The contact points for the lids are little ribs spread about 15cm apart. The corner section only has a single 2mm rib, and is the weakest point.

I don't know how many people will have the same dimension lids, but If they are a similar design, you can take my idea and adapt it.

My design reinforces the corner by 8cm each direction.

### Adhesives

1. Silicone sealant - This is probably the best, but takes 24 hours to fully cure, and is heavier
2. Hot glue - I like this the best, but you have to be quick

3. Superglue - I think this is too rigid & brittle, the lid is made of flexible soft plastic
4. Thin CA glue (superglue) + Baking Soda - Works OK, but a little messy, hard to get the glue to all of the baking soda, looks horrible, and I used a lot of superglue.
5. PVA Wood glue, Seems to hold well.... but it's been 48 hours and there are pockets that are still not dry.
6. Double-sided tape - I haven't tried this yet, but it could work, but it would be hard to get it on the walls.

## **Printing**

You can print without top & bottom layers and expose the infill. This gives a nice mesh for the glue to stick to. I use 10% rectilinear, and remove the top layer. With fully exposed infill you can add adhesive from the bottom.

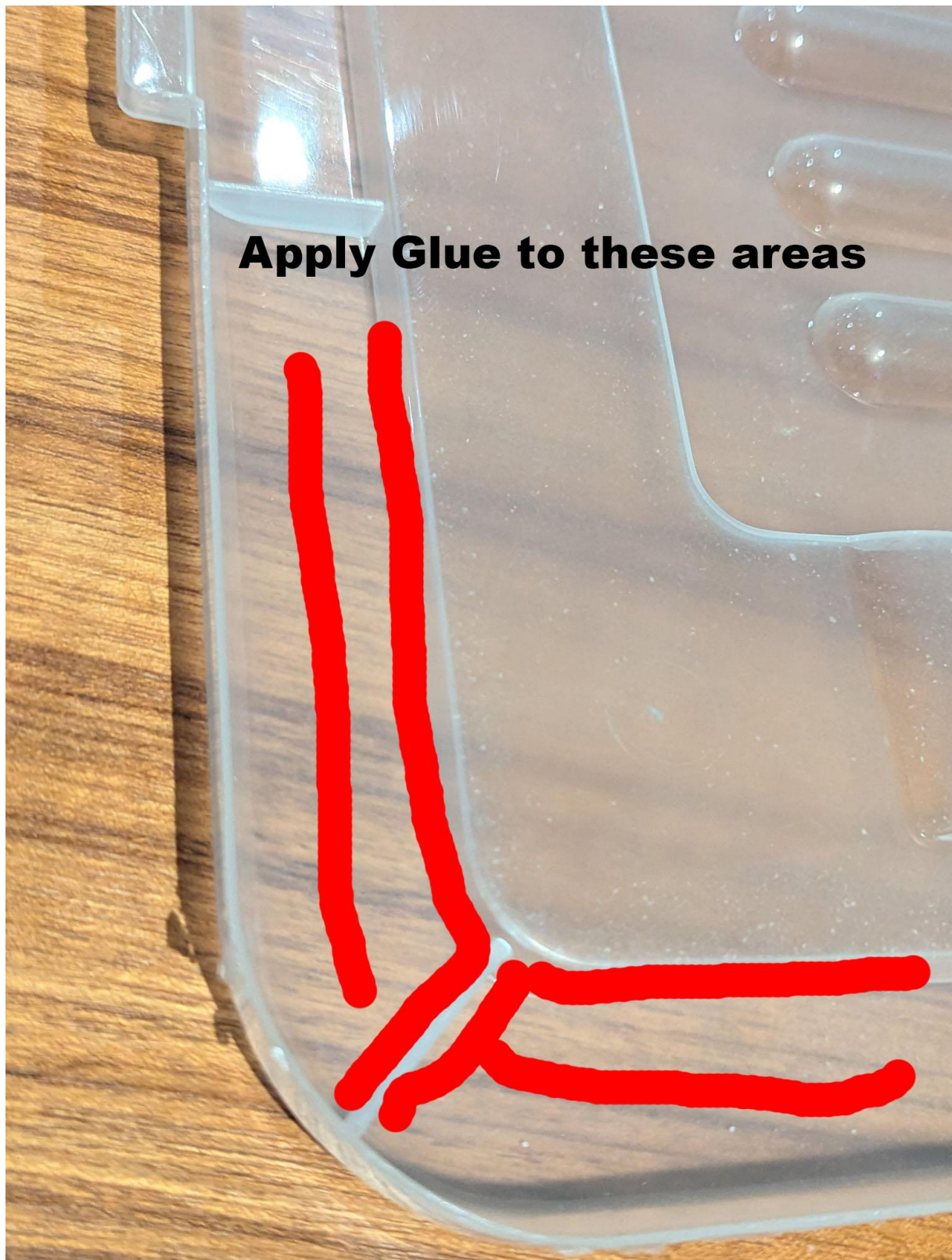
## **Recommended Repair Process**

If there is a large crack I use a soldering iron to 'weld' the crack together, the photo below shows the dotted points where I used the soldering iron. The adhesive used for this one was baking soda mixed with thin CA glue (super glue)



Always clean surfaces you are about to glue, You may want to scuff the surface to help the glue stick better. I recommend using hot glue, it doesn't need a rough surface to stick well. The most important area is the inner wall, as this area is the most stressed. The curved outer wall is the most flexible, and can peel away depending on the type of glue used.





**Apply Glue to these areas**

When using hot glue, you don't have a lot of time, so apply glue to one half at a time. You can bend up the other half.



Here is what it looks like with hot glue





### **Safety Warnings**

Make sure you are in a well ventilated or large space. Adhesives & melting plastics give off fumes.

Don't stack your boxes too high, especially if you have children or pets in the area.

Designed in [OnShape](#) if you want to remix it

## Model files



50l-tub-lid-reinforcement.stl

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