

# Picking Box Handle Replacement



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[VIEW IN BROWSER](#)

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## Summary

Replacements for broken handle of fruit picking box (Pflückkiste)

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Replacement for cracked handles of my brothers' apple picking boxes ([Heijmul picking box 22cm with elastic](#) or similar).

First prototype shown in pictures. Field tests are in progress (will update model here if issues are discovered).

## Print Instruction

I used PETG for the prototype. First impressions seem fine.

Layer height 0.2 mm, first layer 0.25

For mounting parts: 6 top/bottom layers, 30% infill, 3 walls

For pipe inserts: 4 top/bottom layers, 15% infill, 4 walls - added solid infill for a few layers in the middle via modifier

## None Printed Parts Required (per box)

8 M5x16 screws with low head. e.g.: ISO7380-2 (Sourcing example: [Schraubenking](#))

16 M5 washers (required size depends on damage to the box to repair)  
- I chose DIN9021 (5.3x15) washers (Sourcing example: [Schraubenking](#))  
- but also needed a few 5.3x20 for the more damaged boxes, (Sourcing example: [Schraubenking](#))

8 M5 Nuts

- I used 8 caped nuts DIN1587 for outward facing nuts (Sourcing example: [Schraubenking](#))  
- And 2 DIN934 nuts for the screws holding on the mounting bracket (Sourcing example: [Schraubenking](#))

2 pieces of aluminum pipe, 18mm inside, 20mm outside diameter (length depends a bit on the condition of the box. For me, they were around 294mm)

4 M3x25 screws e.g.: ISO7380 (Sourcing example: [Schraubenking](#))

4 Heat set inserts M3x5.7 (Sourcing example: [CNCKitchen](#))

Some epoxy or similar glue (I used [UHU flüssigmetal](#) which I bought at a local home improvement store)


## Instruction


1. Drill out the rivets holding the old handle (5mm drill did the trick for me).
  - Take note on which side the mounting bracket (aluminum angle piece) is located and salvage it
2. Mount the handle holders (long printed parts) via the original rivet holes (washer on both sides, nut pointing outwards to have the low profile rounded screw head facing towards the produce).
  - Make sure you mount the ones with the mounting bracket on the same side as the bracket was on the original handle
  - Use the mounting screws to also add the salvaged mounting bracket to the handle holders that have the respective cutout.
3. Cut the pipes to length (use the mounted holders to mark the exact length).
4. Remove one of the pieces on each side again (for gluing access).
5. Mount the inserts to the 4 handle brackets (round printed pieces)
  1. Add heat set inserts to the insert parts
  2. Use M3x25 screw to mount the parts to the bracket, heat set inset facing away from bracket
6. Cover inserts with glue and press the pipes onto them
7. Remount the bracket you removed for gluing access
8. Double-check your work and then leave the glue to harden for the recommended time before use.


## Changelog


- v3: Flattened one side handle insert registration to prevent rotation (and therefore potential unscrewing) of handle against the handle holders.
- v4: Moved bracket position to coincide with mounting screw. This reduces the load on the printed part. (v2 and v3 are not strong enough)


## Model files

 **v4** 4 files

**erntekiste\_griff\_parts\_v4.fcstd**  
☐ Designed with Freecad 0.21

**erntekiste\_griff\_parts\_v4.3mf**

**erntekiste\_griff\_parts\_v4.step**

**erntekiste\_griff\_parts\_v4\_\_orca.3mf**  
☐ Note: orca slicer 2.7.0 project with modifier (can not be read by prusa slicer 2.6.1)

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