



Orange Peel Grab



bequ3

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Summary

A fully printable crane grab

[Learning](#) > [Engineering](#)

Tags: [fullyprintable](#) [mechanism](#) [toycrane](#)

Print Instructions

Print the parts as listed down below. All STL files are in their respective print orientation! I used the default 0.20 mm QUALITY preset on an Original Prusa MINI+.

Bucket Segment

Activate 'brim' and consider decreasing print speed. Print all five buckets at once, place them further apart than usual, or tweak the minimum-layer-time -setting to reduce cooling issues at the tips. Increase the perimeter count for the bucket segments to get a more even structure (as compared to grid/gyroid infill).

Bill Of Materials

Quantity	Item
1x	upper-plate.stl

Quantity	Item
1x	upper-plate-rod.stl
2x	lower-plate-rod.stl
10x	upper-arm.stl
5x	upper-plate-pin.stl
1x	lower-plate.stl
5x	lower-plate-pin.stl
5x	connecting-pin.stl
5x	connecting-pin-clip.stl
5x	lower-arm.stl
5x	bucket-segment.stl

Assembly Instructions

1. Slot the L-shaped arms into the buckets. Be careful with this step. The two parts are hard to separate once they get stuck. Use sandpaper to soften the upper edge of the shovel part. If this doesn't help, work the two pieces under lukewarm water.
2. Connect the L-shaped arms (using the hole at the end) with the short pins to the smaller plate.
3. Connect the 'upper-arm' components using the 'upper-plate-pin' to the 'upper-plate'.
4. Press the two 'lower-plate-rods' from top to bottom through the two slots in the centre of the 'lower-plate'. Secure the rods by inserting a length of filament in the gap and use a flush cutter to trim the excess.
5. Repeat step 4 to join the 'upper-plate-rod' and the 'upper-plate'.
6. Put the 'lower-plate-rods' through the slots in the 'upper-plate' and make sure that the corners on both plates align.
7. Connect each pair of straight 'upper-arms' and the respective L-shaped 'lower-arms' using the T-shaped pins and C-clips.

Additional Hardware

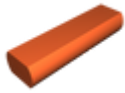
- Ca. 1 m of string, cable or similar to operate the bucket.

Model files



upper-plate.stl

📄 1x



upper-plate-pin.stl

📄 5x (+ extra)



upper-arm.stl

📄 10x



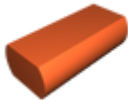
upper-plate-rod.stl

📄 1x



lower-plate.stl

📄 1x



lower-plate-pin.stl

📄 5x (+ extra)



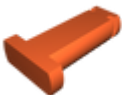
lower-arm.stl

📄 5x



lower-plate-rod.stl

📄 2x



connecting-pin.stl

📄 5x (+ extra)



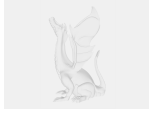
connecting-pin-clip.stl

📄 5x (+ extra)



bucket-segment.stl

📄 5x



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