

Quality Control - Additional Information

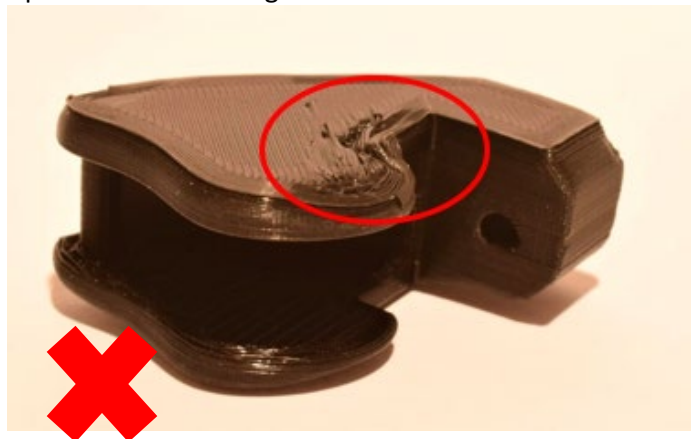
Before Assembly

3D Printing Quality: Check that the 3D printed parts are printed properly and do not have any defects that would affect the function or strength of the hand. If any of the following are present, throw the part out and print a new one:

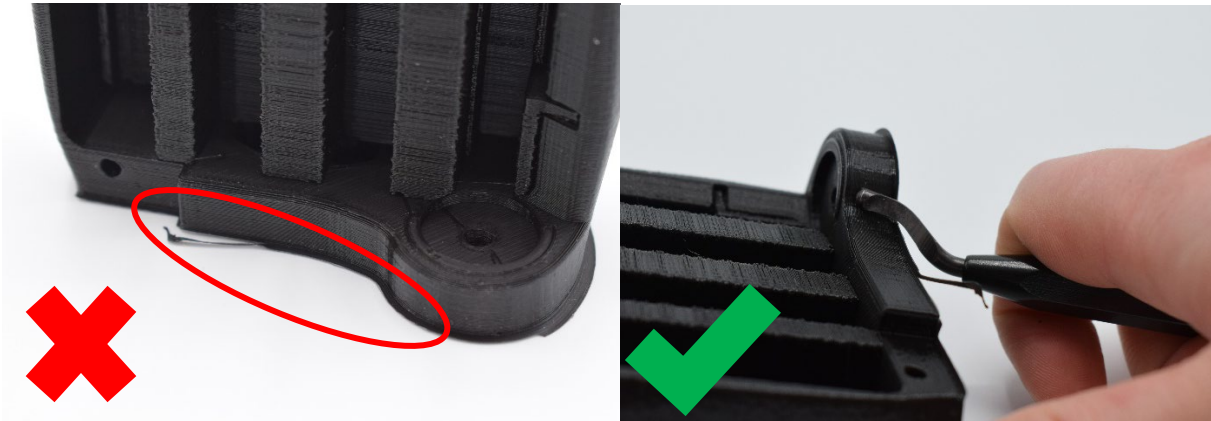
- Print has substantial warping.
- Print layers are separating and will impact function or strength.



- Print has unacceptable aesthetic irregularities.

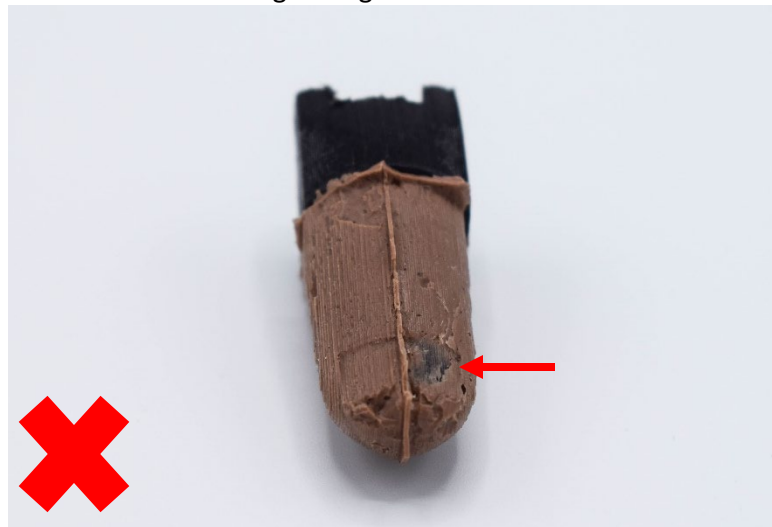


Brim and Supports: Check to ensure that the brim and supports are removed. If they are not, remove them with pliers or a deburring tool and file to smooth.



Fingertip Casting: Check to see if any of the fingertips contain unacceptable defects. If any of the following are present, throw out the part and use a different one:

- A large amount of black PLA is showing through the silicone.



- There is a large hole in the silicone.



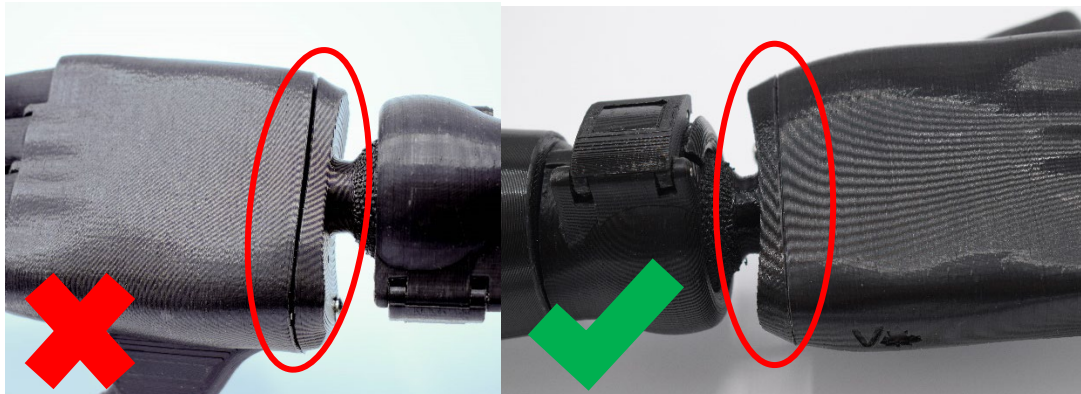
- There are unacceptable aesthetic defects.



An example of a fingertip with acceptable aesthetic defects is shown below. This finger would be okay to use.



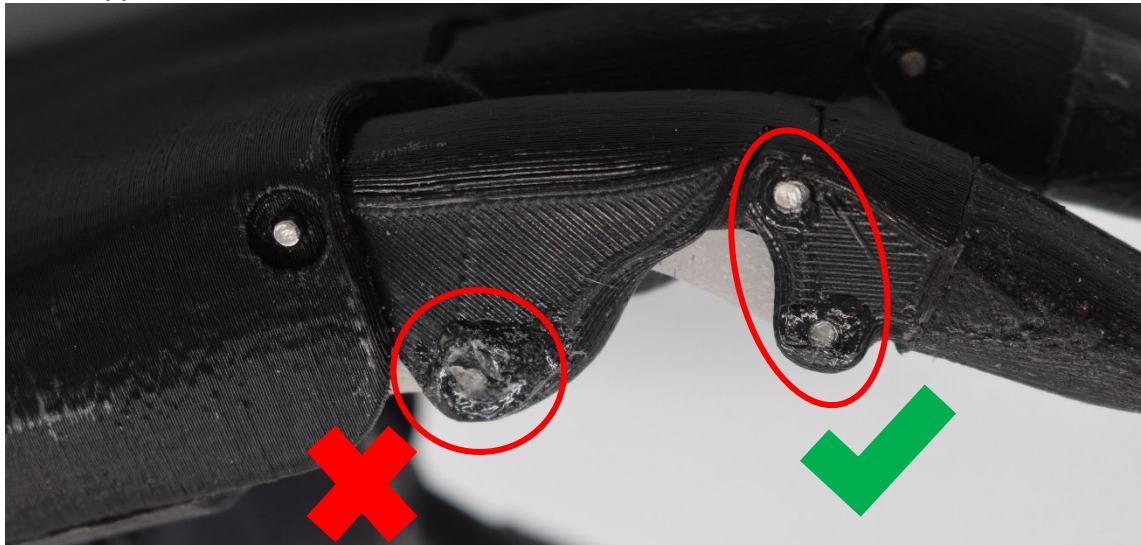
Palm and Wrist Alignment: Ensure that the Palm and Wrist parts align well. If they do not or if either part is warped, reject the part and use a new one.



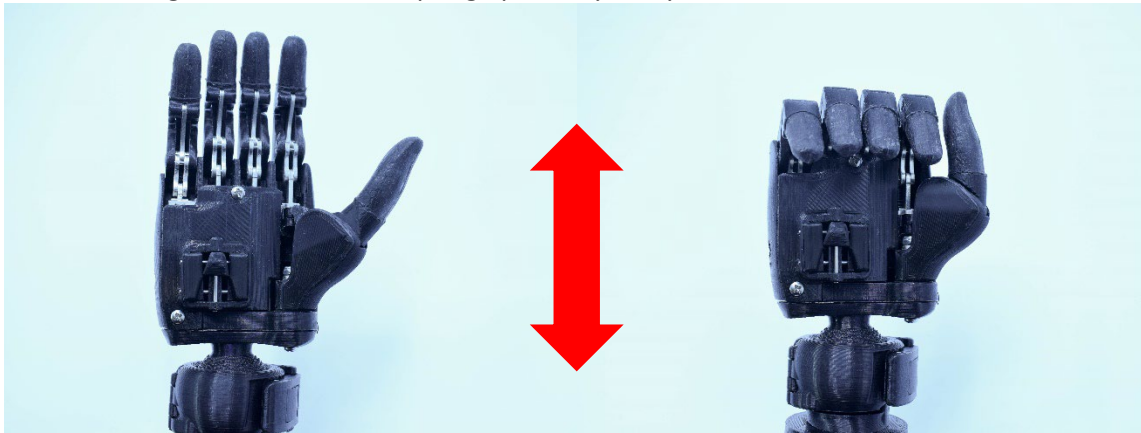
Socket Thickness: Make sure there are no holes in the side of the socket (after Boolean Difference). If any holes are found, reposition the limb impression in the pre-socket to increase the wall thickness.

After Assembly

Pin Gluing: Check to ensure that all pins are glued to prevent them falling out. If the glue impedes function or appearance, file it down.

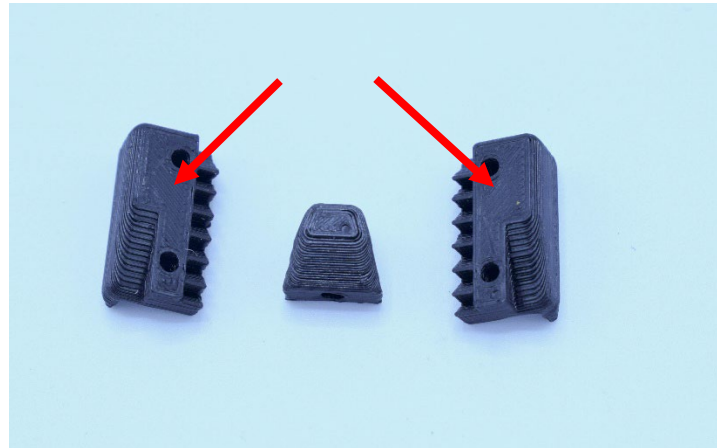


Smooth Opening and Closing: Open and close the hand and observe to ensure that the hand opens and closes fully. This can also be tested by pulling on the cable on the harness. Look for any friction while the hand is moving. The hand should spring open very easily.



Backlock: Test the hand with the backlock button in both the “locked” and “unlocked” positions. Ensure the following:

- While in the “locked” position, the hand remains closed when actuated.
- When in the “unlocked” position, the hand should open and close freely.
- The backlock button can change positions easily. If it is too difficult to move the button, take the backlock mechanism apart and sand.



Thumb Rotation: Ensure that the thumb moves when pushed. If it is too difficult to move, loosen the screw. If it is falling without any force, tighten the screw.

Wrist Motion: Ensure that when the wrist latch is opened, the wrist rotates freely. When it is closed, the wrist is locked and does not slip if a little bit of pressure is applied.

Socket Smoothness: Make sure the inside of the socket and the tricep brace are smooth and will not irritate the skin. Test this by rubbing it against the back of your hand. If there are any rough areas, use fine sandpaper to smooth them.



Socket Slots: Ensure that the slots for the ½” nylon strapping are not deformed.



Sharp Edges: Feel all of the parts of the hand system for any sharp edges. If any are found, use a deburring tool, file, or sandpaper to smooth the edge.



Before Painting

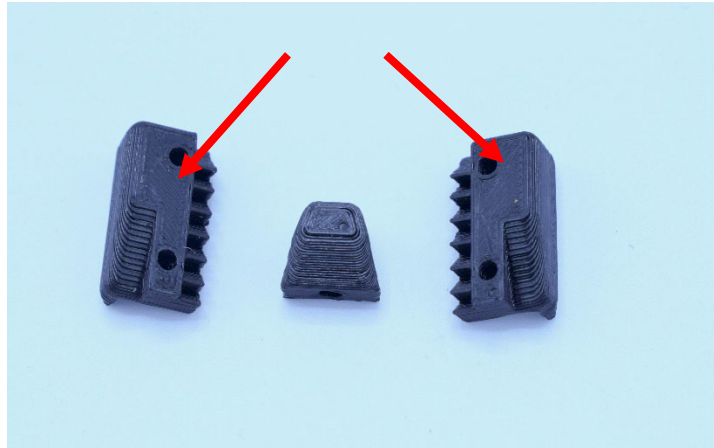
Clean the Hand: Wash the hand in warm soapy water and let it dry completely before proceeding. Ensure that the water is not hot.

After Painting and Before Fitting

Smooth Opening and Closing: Ensure that the hand still opens and closes properly with the paint. If it is sticky, remove the pins that attach the fingers to the Palm and sand the paint from the inside of the Palm. Important: Only sand off the paint, not any of the hand material. Then, put the pins back in and test to ensure the hand “springs” open.

Backlock: Test the hand with the backlock button in both the “locked” and “unlocked” positions after painting. Ensure the following:

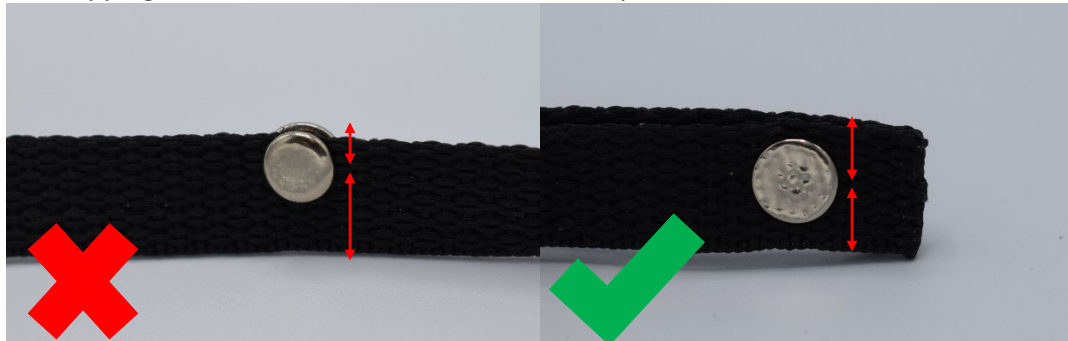
- While in the “locked” position, the hand remains closed when actuated.
- When in the “unlocked” position, the hand should open and close freely.
- The backlock button can change positions easily. If it is too difficult to move the button, take the backlock mechanism apart and sand.



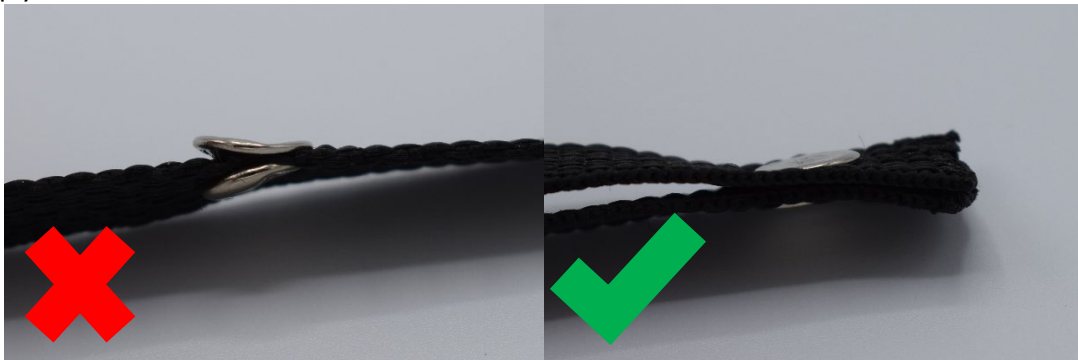
During Fitting

Rivets: Verify that all rivets are attached properly. Check for the following:

- The rivet should be centered on the strap. Ensure that the edge of the rivet does not extend off of the strapping. If it does, redo the rivet in a centered position.



- Ensure that both halves of the rivet are fully flattened together. If it is not, use large pliers and apply more force.



Ends of Strapping: Ensure to melt the ends of the strapping with a lighter to prevent fraying. If it does not appear melted or fraying is present, melt it more with a lighter or match.

