Post-Processing Guide

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What is post-processing?

This allows you to use techniques to remove any blemishes or prepare your paint for painting and other finishes

Tools and Use

Hand tools are held in the hand during uses and require some degree of strength and control for use. The material being worked upon must be secured to avoid injury as well as promote proper care of the work piece and tools. This is referred to as *fixturing* and often involves the use of clamps.

Screwdrivers

Safety Required: cut mat, safety goggles

Screwdrivers come in a variety of types and sizes. Its uses include driving screws in or out of a material. Common head types are slotted and Phillips. These variety of styles are intended to give users better control and greater ability to transfer torque. There are a range of sizes, for both head and body length. Choosing the correct size will allow users to get the job done without stripping screws or damaging materials. It is noted that at the moment, the Maker Center does not provide any screws.

Pliers

Safety Required: Cut Mat, safety goggles

Pliers can come in many different shapes and sizes and offer many uses. You can use pliers to grip material for bending, crimping, or holding. The common types are needle-nose, slip-joint, lineman's, crimpers, and vise grips. Take note of the gripping surface of the pliers and make sure it will not damage the material. Longer handles will allow you to exert more force at the gripping surface. If your model has supports, sometimes they may not break cleanly off. Can use to remove more easily. Keep in mind that after removing supports, it may leave behind blemishes on your model's surface.

Clamps

Safety Required: Cut Mat, safety goggles

Clamps are a portable device used to position parts while fixing them together. There are two parallel surfaces to secure the part. The Maker Center has spring and bar clamps.

Spring Clamp

Spring Clamps are used to clamp an item with a single point of pressure.

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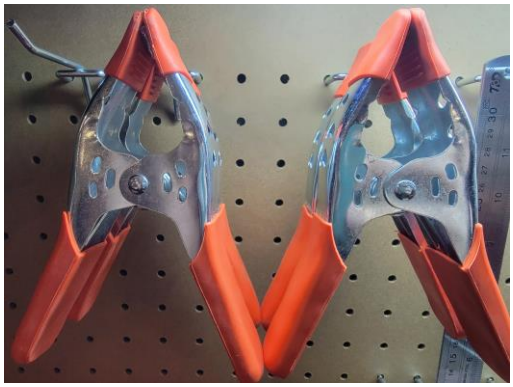


Bar Clamp

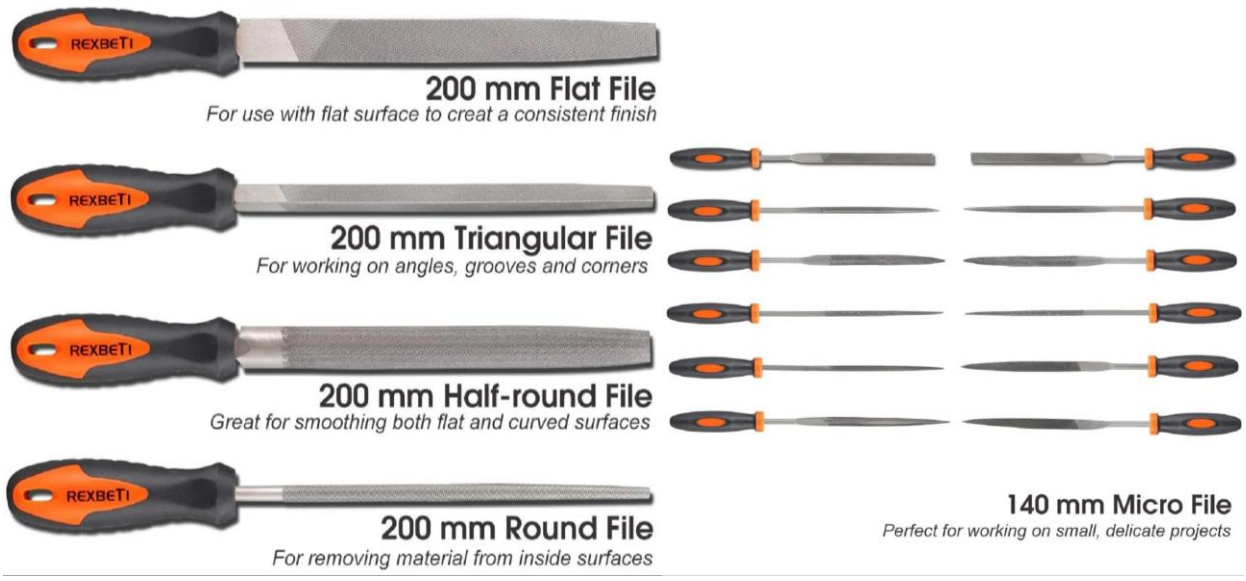
Bar clamps are lighter, easy to use, and have a greater clamping range.

- Use the trigger mechanism to adjust the parallel bars to the width you need to fit the piece you are working with and fasten the clamp back down by using the trigger to adjust the pressure quickly.

Files and Sandpaper

Safety Required: Working Gloves, Mask, Safety Goggles, Cut Mat

Files and Sandpaper are used to shape, smooth, remove blemishes, and finish a piece. Grit Grades refer to how course the grit is on the nail file surface. The higher the number, software the file grit and the lower the number the courser the file grit. A pair of working gloves are included to protect from chafing. The metal wire brush in the middle is used to clean the files teeth. When working with sandpaper, work in small circular motions evenly across the surface the of the model. It is noted that it is not recommended to sand prints with 2 or less shells as it may damage the model. If you plan on painting your model, only go up to 600 grits. Overall, patience is key when sanding PLA.



Deburring Tool

Safety Required: Cut mat, safety goggles

Deburring tool consists of a curved metal blade that swivels relative to its straight handle that will neatly remove nay rough edges. If you added a brim to your model, the deburring tool would help remove this. For the most part you can remove the brim using pliers. Although sometimes it still leaves pieces of the brim on your model. Additionally, your edges may be rough. This is where the deburring tool comes in.

- Drag the curved blade over the edge, slowly, and start with low pressure to be careful not to remove large pieces at once
    - Towards the body
- Be mindful of the sharp edge and where the removed material goes

Glue

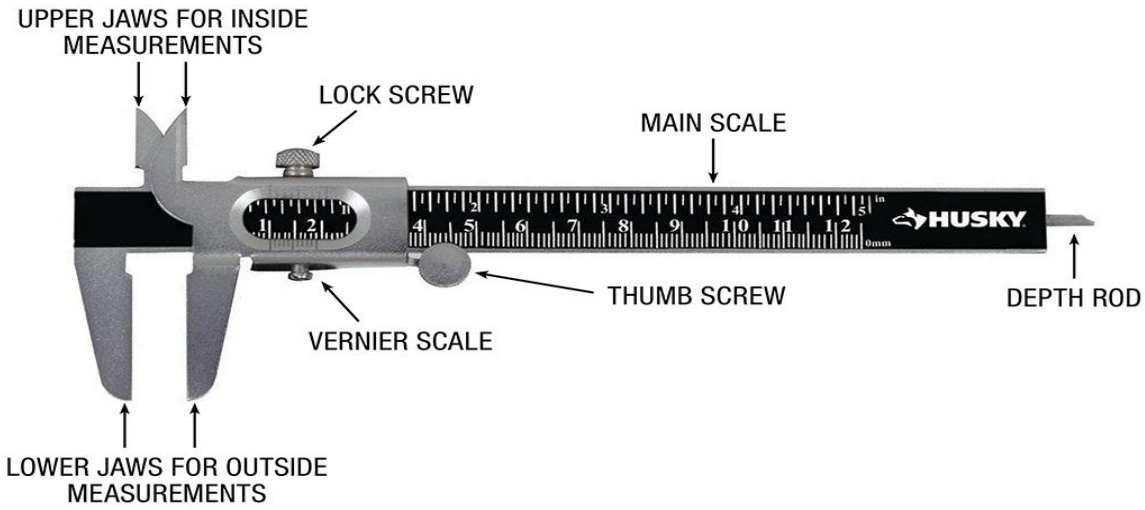
Safety Required: Cut Mat, Safety goggles, mask, latex gloves

Glue is used to bond pieces together. You may need to lightly sand the parts before gluing to prep the surface.

- Unscrew top from nozzle. For finer applications, use the extender tips that can be found on the workbench
- Apply Maxi-cure to one of the parts being joined, then hold tightly together for 10-20 seconds.
    - Clamps can be used to hold the parts together and ensure they dry under pressure
- Spray Insta-Set along the seams to reinforce the strength and cure the glue

Caliper

Used to precisely measure the distance between two opposite sides of an object, thickness, and diameters.



Safety Guidelines for Fixturing Work Piece and Operating Hand Tools

- Always use a cut mat and safety goggles. Masks and gloves are also available for use depending on the project such as gluing and sanding
- Choose a proper tool for the given application
- Set up clamps to hold the piece
- Secure the piece so that it cannot move or be damaged
- Check that the tool is in working condition
    - Look for loose parts
    - Confirm that the points of contact are not dull or damaged
        - If so, please alert a technician
- Operate the tool safely
    - Grip material with pliers rather than by hand
    - Point and move the tool away from any body part
        - Except with using deburring tool
    - Ensure the pieces being removed will fall or move towards a safe place
- Clean any debris off tool and workspace and return tool to workbench

Preparing a Model for Painting

- After sanding the model (up to 600 grit), the print can be primed
- Here at the Maker Center, we do not currently, have the supplies for priming, but we will provide the steps to do so, if you wish to at home.
    - Apply a primer to even out any remaining roughness, promote better adhesion, and function as a base layer
    - Two coats of primer: aerosol primer first to provide a thick, even coverage. After first coat, allow to dry and sand any imperfections and then apply final coat in light quick strokes and be careful to prevent pooling.
    - After priming is complete, painting can begin
        - The most popular paints are acrylics and enamels. You can use spray paint for smooth uniform coats and/or hand painting for details. Optionally, you can apply a clear coat to your print after painting to protect the surface or modify the finish.