

Procedure for Threaded Inserts for Thermoplastics

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Threaded thermoplastic inserts need to be "melted" into the plastic using a soldering iron. Generally, the laser cut acrylic pieces will have a face with sharper edges - the DOWN FACE - which was lying down, facing away from the laser during cutting, and a face with more rounded edges - the UP FACE - which faced toward the laser during cutting. Unless otherwise specified, you should insert all threaded inserts into the UP FACE with more rounded edges. This will make insertion cleaner (less melted plastic will accumulate around the insert) and easier (the insert will fit partially into the hole from the UP FACE, but not so from the DOWN FACE).

1. Orientation - The threaded brass inserts have a slightly tapered shape (right) to guide it into the hole. The direction of insertion for the insert on the right of the photo would be toward the bottom of the image (the receiving hole would be below the insert).
2. Place in hole - The inserts should fit slightly into the appropriate holes.
3. Position the part and soldering iron - Hold or clamp the part such that the hole for the insert is overhanging the edge of your workbench, and insert the tip of a *hot* soldering iron into the insert.
4. Insertion - Use *gentle* pressure from the soldering iron to push the insert *straight downward* into the acrylic part.
5. Steering - Use the soldering iron to steer the insert to keep it straight in the hole as you insert it.
6. Depth (front) - Continue pushing the insert until it is just flush with the upward facing surface of the acrylic. There will be a small ridge of melted acrylic which rises slightly above the insert.
7. Depth (rear) - Ensure that the insert does not protrude beyond the back side of the acrylic - the back surface must remain flat to align correctly against other parts.
8. Check Angle - Use a screw of the proper size to see how well your threaded insert is positioned. If crooked (like the one shown), take the screw out and use the soldering iron to adjust the insert (alternatively, the insert may still be hot enough that you can use the screw to push it into the proper position).