

3D Printer Safety

Best Practices for Removing Prints from Build Plates



While good adhesion to the build plate is essential for a successful 3D print, removing those printed parts from a build plate safely and without damage can be challenging. This fact sheet is intended to increase awareness of this potential hazard and provide guidance for avoiding injury.

Key Points

- Do not point the tool toward your body, your hands are part of your body.
- Never try to hold the material with one hand while using a tool with the other.
- Clamp or make a fixture for the build plate if needed.

A common factor for injuries is the movement towards the body, a hand or arm usually, with a scraper or other hand tool sharp enough to cut. As an example, see Image 1, the person loosening the print would be tempted to hold the build plate at the opposite end of the scraper, making their hand or arm vulnerable if the scraper slipped past the print.

Image 1: Person loosening the print from building plate with a scraper.

Hand Tool Safety—Best Practices

- Follow established procedures—use appropriate tool, clean and store after use.
- Face tool edges away from you and direct the force away from you (including hands).
- Work on a clean, stable surface.
- Don't apply excessive force.
- Don't work with oily or greasy hands.
- Wear safety glasses.

Ensuring that everyone follows the above best practices will decrease the risk of accidents. Users should also be aware that the best method for removing prints may differ based on the build plate material and the flexibility of the material. For additional guidance on how to safely remove your prints review Printer Specific Guidance.



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If you're finding difficulty with print removal after following manufacturer recommendations, you may consider obtaining a flexible build plate compatible with your printer. Alternatively, clamps or a shop made fixture to hold the build plate may be useful. Talk to shop supervisors and other experienced users to learn what has worked for them. A fixture to hold a build plate is shown on the right (Image 2). The video showing the removal process can be accessed [here](#).



Image 2: Build plate affixed to fixture to safely remove print from build plate.

Printer Specific Guidance

Several of the common 3D printer manufacturers offer information specific to their equipment for safe print removal.

- Marked Forge—[Safely Remove Printed Parts](#)
- Ultimaker—[Remove the print from the glass build plate](#)
- Ultimaker—[Removing the print from the flexible build plate](#)
- BCN3D--[How to safely remove prints](#)
- Prusa—[MK4 manual](#) (example, see pg. 27)
- FormLabs—[Removing parts from the build platform](#)
- MakerBot (now part of Ultimaker)—[How to remove your print from the build plate](#)

If your manufacturer is not linked, be sure to read your user manual and look for any additional guidance on the manufacturer's website for your model.