

# Plastics - Plastic Shredder

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# Manual(s)

*Manuals and other reference materials from the manufacturer or other sources.*

- Model: Precious Plastic V1 Plastic Grinder
- Manufacturer: Precious Plastic
- Manual: Grinder Operations Guide

# Member Notes

# Resources

*Where to obtain materials, consumables, and tooling.*

The reason we love the global Precious Plastic community is because they provide a wealth of open source community resources! Here are some resources you may find helpful:

[Safety and plastic fumes](#)

[Oshcut: An Online Metal Laser Cutting Service](#)

[Going nerdy on plastic](#)

[Good design with recycled plastic](#)

# Tool Tutorial

This machine allows you to shred plastic into small flakes.

Always use the plunger to guide plastic into the blades—no hands!

Power off the machine before clearing a jam.

Always wear safety goggles while operating the grinder.

See the Safety section for more information.

## Tool Anatomy

1. E-Stop Switch - This button cuts power to the machine.
2. Power Switch - The lever turns the machine on and off. It can move the blades forward or in reverse to help clear build up.
3. Hopper - Funnels new material into the blades to be shredded
4. Plunger - Used to gently and safely guide material into blades
5. Blades - Grind the material
6. Receptacle - Removable bin that captures the freshly shredded material
7. Maintenance Tag - Manually tracks the usability status with Green/Yellow/Red cards

## Tool Safety

- Always cut power the the Plastic Grinder when servicing or putting you hands inside of the hopper.
- Always use the plunger when grinding plastic to prevent plastic from shooting out of the hopper.
- Only grind known plastics and never grind parts thicker than 1/8“.

## Personal Protective Equipment

When using the Plastic Grinder, Hearing Protection, Closed-toed Shoes, and Safety Goggles are required. A face mask is recommended to prevent the inhalation of small plastic particles and irritants.

Long sleeves must be rolled up and long hair and scarves must be tied back. Avoid any dangling drawstrings or other articles of clothing that may come in contact with the motor and blades.

## Common Hazards

The most common hazard is flying debris that causes injury to the eye

- Always ensure safety goggles are on before use
- Be aware of others in your space at all times
- Use the plunger to block escaping plastic particles

The most significant hazard is getting caught in the rotation of the motor or blades and being drawn into the grinder.

- Always use the Plunger as a guide while the grinder is operating—never hands!
- Power off the machine before clearing out a jam
- Ensure clothes are well-fitted, long sleeves are rolled up to the elbows
- Verify hair, scarves, drawstrings or hanging articles are tied back and secure

## Setup

1. Gather the sorted plastic you want to shred
2. Ensure all plastic is thoroughly clean
3. Separate by plastic number and color
4. Check that the mesh is clear

## Operation

1. Plug in the machine and power on the grinder
2. Load the plastic just a few pieces at a time and guide them using the plunger
3. Occasionally, run the blades backwards to clear any clogged plastic
4. If running the machine with the mesh filter installed, be sure to clear the plastic from the filter if it starts to build-up inside the grinder. This build-up can heat-up and melt if left circulating in the grinder for too long.

5. Check the blades periodically

## Cleanup

1. Power off and unplug the grinder
2. Use pressurized air to blast extra plastic out of the grinder blades. Use the provided wooden filter to prevent plastic from aerating
3. Remove the mesh filter (if using), clean, and replace
4. Sweep debris from surrounding area

## Troubleshooting

Common Issues	Possible Causes	Resolutions
The motor makes a gnarly sound when powering on	There is melted plastic trapped between blades	Power off immediately. Allow blades to cool, and clear out any trapped plastic
The blades are not grabbing the plastic	Sometimes weight or shape lends itself to needing a helping guide.	Use the push tool to move the plastic towards the blade. Never attempt to do this with your hands.
	The blades may be operating in reverse	Flip the ignition switch in the opposite direction.
Machine stops mid shred	There is likely too much plastic. The resistance exceeds the maximum torque of the motor, causing it to stall out	

## Special Setups

When using plastics other than #5 (Polypropylene), please be extra careful to properly clean up and avoid cross contamination.

We generally recommend first grinding your plastic with the mesh filter removed, then replacing the mesh filter for a second, finer, grind. The Pelletizer can also be used for this second step.

We've set up our machines to focus on diverting Plastic #5 (Polypropylene) from the landfill, which doesn't currently have an easy municipal solution! Of course, you are welcome to bring in different

Plastic materials to use on our machines.