E500 DIE CARE

DIE CLEANING

Clean dies are paramount to successful dough pressing. The use of heat and the fats from dough can result in a fat "varnish" on your die. This coating can build up to a point where dough release is compromised and sticking can occur. Additionally, fats can travel up into the head, and if not cleaned can build up internally and cause shorting of the heater.

To combat this situation, we recommend wiping your dies periodically during overly messy / high heat production runs in addition to deep cleaning between pressing cycles.

To deep clean the die heads, you must remove them from the E500 and disassemble them. The dies CANNOT be submersed in water with the electronic components still in place and will need to be disassembled.

Dies are to be cleaned with SOAP AND HOT WATER only. Avoid harsh chemicals not rated for aluminum which can result in harm to your die. Always confirm that your cleaning agent is safe for 6061 Aluminum.

DISASSEMBLY

We recommend taking pictures of your die pre-disassembly for reference as you get familiar with the process.

Process

1. Loosen and remove the 3 screws that attach the retainer to the punch.
2. Loosen and remove the 6 screws that insert into the springs and connect the ring.
3. Loosen and remove the screws that hold the flat springs. Remove flat springs and stripper pins.
4. Remove the ring.
5. Gently lift-up the retainer part way. Your electrical wires go through the retainer and attach to a heater inside and you will need to disconnect them to fully remove the retainer.
6. Un-screw the wires that are attached to the heater.
7. The heater is held down with clips (or brackets). These can be removed or loosened.
8. Remove the air disk from punch bottom and make sure the holes have not become plugged with fat. This can block your air release.
9. There is also an item called "seal punch" that is found inside a groove on the outside circumference of the punch. This is high temperature Telfon tubing. This serves as a wiper to stop fats from traveling up between the ring and punch. Remove this for cleaning. Replace when damaged or if clogged.
10. If you need to fully immerse your retainer in water, then you will need to REMOVE ALL ELECTRICAL COMPONENTS such as the bi-metallic switch, heater, electrical wires and electrical plug.
11. If necessary to remove fat varnish, we recommend Scotch-Brite (red) pads to buff the punch. NOT for use on Teflon coated dies. Please refer to the Teflon Die care instructions for specific care.

RE-ASSEMBLY

1. Put all electrical components back in place on the punch and retainer. When you re-attach wires to your heater -- and bi-metallic switch, always ensure that the screws are tight and the metal spade connector cannot move and touch the roof of the retainer, or the sidewall of the electrical pocket. This will result in arcing and cause an electrical short in your die and can damage the electrical components.

2. If you removed your electrical wiring completely, you need to re-seal the entrance into the main cavity again with high temp RTV sealant (red/FDA compliant). Only dies with a "Starship Enterprise" style retainer need this. This serves to seal the cavity for the best air pressure, and to stop fat traveling into electrical area.

3. We have 2 options for putting the ring on.
   RING FIRST
   -Cut Teflon seal to size
   -Place Teflon seal in groove. While holding the seal with one hand, place ring on punch, coming from the top-down direction. The ring will experience a little resistance as you go over the seal punch. You will need to carefully press downward, making sure that you don't crimp the seal.
   -Place retainer on top of punch to determine final position by hole alignment.
   -Now twist the ring so that spring holes visually match up. When you get close, put the springs in position, and then loosely connect retainer and add spring screws. Finalize ring position and tighten spring and retainer attachment screws.

   RETAINER FIRST
   -Build punch with components and retainer. Screw Retainer in place.
   -Flip upside down. Position springs and screws.
   -Cut Teflon seal to size.
   -Place Teflon Seal in groove. While holding the seal tightly in position with one hand, place ring on punch and line up spring pocket. The ring should drop into place but will experience a little resistance as you go over the seal punch. You will need to carefully press downward, making sure that you don't crimp the seal.
   -Now flip die and tighten all spring and retainer attachment screws.

4. Once all screws are tightened, and the stripper pins have been added, ensure they slide smoothly. Next put all flat springs back on the retainer and tighten all in place.

   REPLACING STRIPPER PINS. Always ensure your stripper pins slide smoothly and are not bent. Bent pins will continue to jam and enlarge the hole they are in, which is a vicious cycle and will ruin your die. Trim pins so they are the correct length and round the bottoms on a belt sander. They should measure just inside the outer edge of the ring.

5. Visually confirm that all spring screws are just less than flush with the bottom of the ring. This ensures that the ring is the item that contacts with the lower, not a screw tip, which can allow dough to escape as well as cause lopsided pressing. In addition to making sure the screw does not extend past the ring, you will want to make sure you have the best ring to punch distance. This ideal proportion between the bottom of the punch and the bottom of the ring is typically crust thickness + approximately 1/4" - 3/8". Avoid having too distance for the ring to travel and maximize screw thread to avoid rings becoming loose.

6. Replace air disk back on punch and tighten.

7. When die is complete, use a continuity meter set to tone. Check the plug by putting a connector on the long post (ground) and the post opposite. This circuit should be quiet. Then check the other two parallel posts. This circuit should beep. Then check a combination of each post and the die. Here there should only be beeping when you touch the ground post and the die. Confirmation of these tests will tell you that nothing has come loose in the re-assembly process and that you do not have unwanted connections or shorts.

8. You are now good to go! If you have any questions on your die -- assembly, care, or use, do not hesitate to reach out to us. Care, cleanliness, and regular maintenance with extend the life of your die and ensure the best press for your product.