CASHINE CASHINE

CASHINE 0.4mm Hotend Nozzle Kit for FLSUN S1 PRO 3D Printer - Instruction Manual

1. Introduction

This manual provides instructions for the installation, operation, and maintenance of the CASHINE 5-piece hotend nozzle kit for the FLSUN S1 PRO 3D printer. This kit includes both hardened steel and brass nozzles with a 0.4mm diameter, designed for use with 1.75mm filament.

2. Package Contents

The package contains the following items:

- 5 x 0.4mm Hotend Nozzles (mix of hardened steel and brass)

Image 1: Contents of the CASHINE 0.4mm Hotend Nozzle Kit. This image displays five individual 0.4mm nozzles, each featuring a threaded body and a hexagonal base with "0.4" clearly marked. The nozzles appear to be made of metal, likely a mix of hardened steel and brass as described.

3. Compatibility

This nozzle kit is specifically designed for the FLSUN S1 PRO 3D Printer. The nozzles have a 0.4mm diameter and are compatible with 1.75mm diameter filament.

4. Safety Information

- Always ensure the 3D printer is powered off and unplugged before performing any maintenance or installation, unless specifically instructed otherwise (e.g., for hotend heating).
- The hotend can reach very high temperatures. Exercise extreme caution to avoid burns. Use appropriate heat-resistant gloves or tools when handling hot components.
- Allow the hotend to cool down sufficiently before touching it directly.
- Keep small parts away from children.

5. Setup and Installation

Follow these steps to replace or install a new hotend nozzle:

1. **Prepare the Printer:** Turn on your 3D printer and heat the hotend to the typical printing temperature for the filament you usually use (e.g., 200-220°C for PLA). This helps soften any residual filament and makes nozzle removal easier.
2. **Power Off and Secure:** Once heated, turn off the printer and unplug it from the power source. Carefully secure the hotend assembly to prevent it from moving during the process.
3. **Remove Old Nozzle:** Using a wrench or appropriate tool, carefully unscrew the old nozzle while the hotend is still warm (but not scalding hot). Be cautious as residual filament may ooze out. Place the old nozzle aside.
4. **Clean Hotend (Optional but Recommended):** If there's any filament residue on the hotend block threads, gently clean it with a brass brush or cotton swab.
5. **Install New Nozzle:** Carefully screw in the new 0.4mm nozzle by hand until it is finger-tight. Ensure it threads smoothly without resistance.
6. **Tighten Nozzle:** Re-heat the hotend to printing temperature. Once heated, use a wrench to gently tighten the nozzle. Do not overtighten, as this can damage the hotend block or the nozzle threads. A snug fit is sufficient to prevent leaks.
7. **Verify:** Allow the hotend to cool down. Visually inspect the nozzle for proper seating and ensure there are no gaps between the nozzle and the heat block.

Image 2: Angled view of a single 0.4mm nozzle. This image highlights the precision-machined tip and the threaded section, crucial for proper installation into the hotend block.

Image 3: Front view of a single 0.4mm nozzle. This perspective clearly shows the small extrusion orifice at the tip and the hexagonal base for wrench application during installation.

6. Operating Instructions

These 0.4mm nozzles are standard for most 3D printing applications using 1.75mm filament. The kit includes both brass and hardened steel nozzles, offering versatility:

- **Brass Nozzles:** Ideal for common, non-abrasive filaments like PLA, ABS, PETG, and TPU. Brass offers excellent thermal conductivity for consistent melting.
- **Hardened Steel Nozzles:** Recommended for abrasive filaments such as carbon fiber reinforced, glass fiber reinforced, metal-filled, or glow-in-the-dark materials. Hardened steel provides superior wear resistance, extending nozzle lifespan when printing with these materials.

Always ensure your slicer settings (nozzle diameter, print temperature, retraction settings) are correctly configured for the specific nozzle and filament you are using.

7. Maintenance

- **Regular Cleaning:** Periodically clean the exterior of the nozzle with a brass brush while the hotend is warm to remove any accumulated filament residue.
- **Cold Pulls:** If you experience partial clogs, perform a "cold pull" (also known as an atomic pull) to clear the nozzle interior. Refer to your 3D printer's manual or online resources for detailed

instructions on performing a cold pull.

- **Nozzle Inspection:** Regularly inspect the nozzle tip for signs of wear, such as a widened orifice or flattened tip, especially when using abrasive filaments. Worn nozzles can lead to poor print quality and should be replaced.
- **Storage:** Store unused nozzles in a dry, clean environment to prevent corrosion or damage.

8. Troubleshooting

- **Clogging:**
  - Ensure filament is free of dust and debris.
  - Verify print temperature is appropriate for the filament.
  - Perform a cold pull to clear internal blockages.
  - Check for heat creep issues in your hotend.
- **Poor Extrusion/Under-extrusion:**
  - Check for partial clogs (see above).
  - Ensure the nozzle is not worn out, especially if using abrasive filaments.
  - Verify correct filament diameter and flow rate settings in your slicer.
  - Check for issues with the extruder gear or tension.
- **Filament Leaking Around Nozzle:**
  - The nozzle may not be properly tightened against the heat break. Re-tighten the nozzle while the hotend is at printing temperature (see Installation section).
  - Ensure the heat break is fully seated.

9. Specifications

Quantity:	5 pieces
Nozzle Diameter:	0.4mm
Filament Diameter:	1.75mm
Materials:	Brass, Hardened Steel
Compatibility:	FLSUN S1 PRO 3D Printer
Item Weight:	1.76 ounces (approx. 50 grams for the kit)
Package Dimensions:	0.39 x 0.39 x 0.39 inches

10. Warranty and Support

Specific warranty details for this product are not provided in the available information. For warranty claims, technical support, or further assistance, please contact the seller or manufacturer directly through your purchase platform.
For general 3D printing resources and community support related to the FLSUN S1 PRO, you may visit the official FLSUN website or relevant 3D printing forums.