

ENGINEER SS-03

ENGINEER SS-03 Solder Sucker Device User Manual

Professional Grade Desoldering Pump

1. INTRODUCTION

The ENGINEER SS-03 Solder Sucker is a high-quality, professional-grade desoldering pump designed for efficient solder removal. Manufactured in Japan, this device features a durable aluminum body and an innovative flexible, heat-resistant silicone nozzle. This design allows for direct contact with the soldering iron tip (up to 350°C) and creates a superior seal around the solder joint, significantly improving suction power and minimizing solder residue.

Its compact design ensures comfortable one-handed operation, and the built-in self-cleaning shaft helps prevent clogging, maintaining high productivity during continuous use. The SS-03 is an essential tool for electronics repair, circuit board work, and any task requiring precise and effective desoldering.

2. SAFETY INFORMATION

- Always wear appropriate eye protection when desoldering to prevent injury from molten solder or flying debris.
- Ensure adequate ventilation in your workspace to avoid inhaling solder fumes.
- Handle the soldering iron and solder sucker with care, as both can reach high temperatures.
- Keep the device out of reach of children.
- Do not attempt to desolder components while the circuit is powered on.
- The silicone nozzle is heat-resistant up to 350°C. Avoid prolonged contact with temperatures exceeding this limit.

3. PACKAGE CONTENTS

The ENGINEER SS-03 Solder Sucker package includes:

- 1 x ENGINEER SS-03 Solder Sucker Device
- 1 x SS-16 Silicone tube (50mm long, 4mm outer diameter)
- 1 x SS-17 Silicone tube (50mm long, 3mm outer diameter)

These spare silicone tubes can be cut to size to replace worn nozzles, extending the lifespan of your tool.

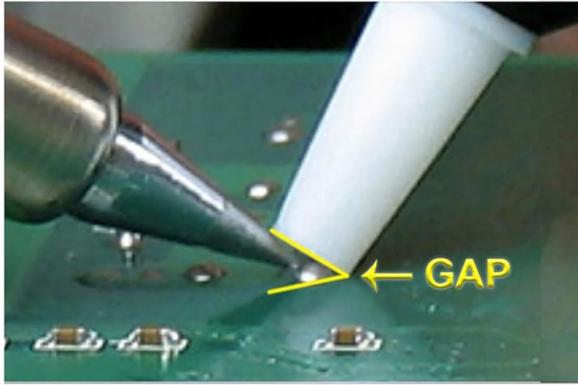
4. PRODUCT OVERVIEW



Figure 4.1: General view of the ENGINEER SS-03 Solder Sucker.

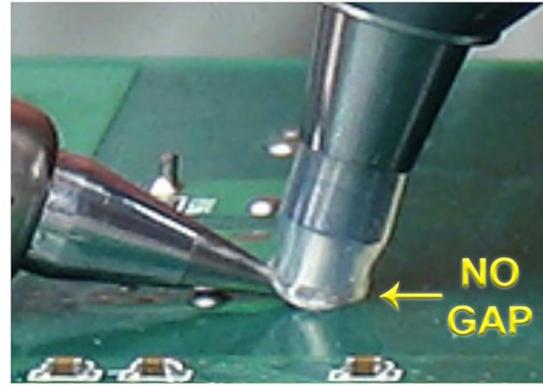
The ENGINEER SS-03 features a sleek aluminum body for durability and a comfortable grip. The key innovation is its flexible silicone nozzle, designed for optimal solder removal.

A typical standard (Teflon) nozzle



A typical solder sucker pump has a teflon nozzle - this is solid & inflexible and to avoid the heat of the soldering iron's tip, there should always be a small gap during use - this gap reduces the tool's effectiveness.

SS-03 (flexible silicone) nozzle



The **SS-03** solder sucker, has a flexible heat-resistant silicone nozzle, which allows it to completely 'envelope' the solder joint & iron's tip (no gap) - this increases the performance of the tool resulting in less solder residue remaining.

Figure 4.2: Comparison illustrating the superior seal of the flexible silicone nozzle (right) compared to a typical rigid Teflon nozzle (left).

Unlike traditional rigid Teflon nozzles that leave a gap, the flexible silicone nozzle of the SS-03 'envelopes' the solder joint and soldering iron tip. This eliminates air gaps, significantly increasing suction efficiency and leaving less solder residue.

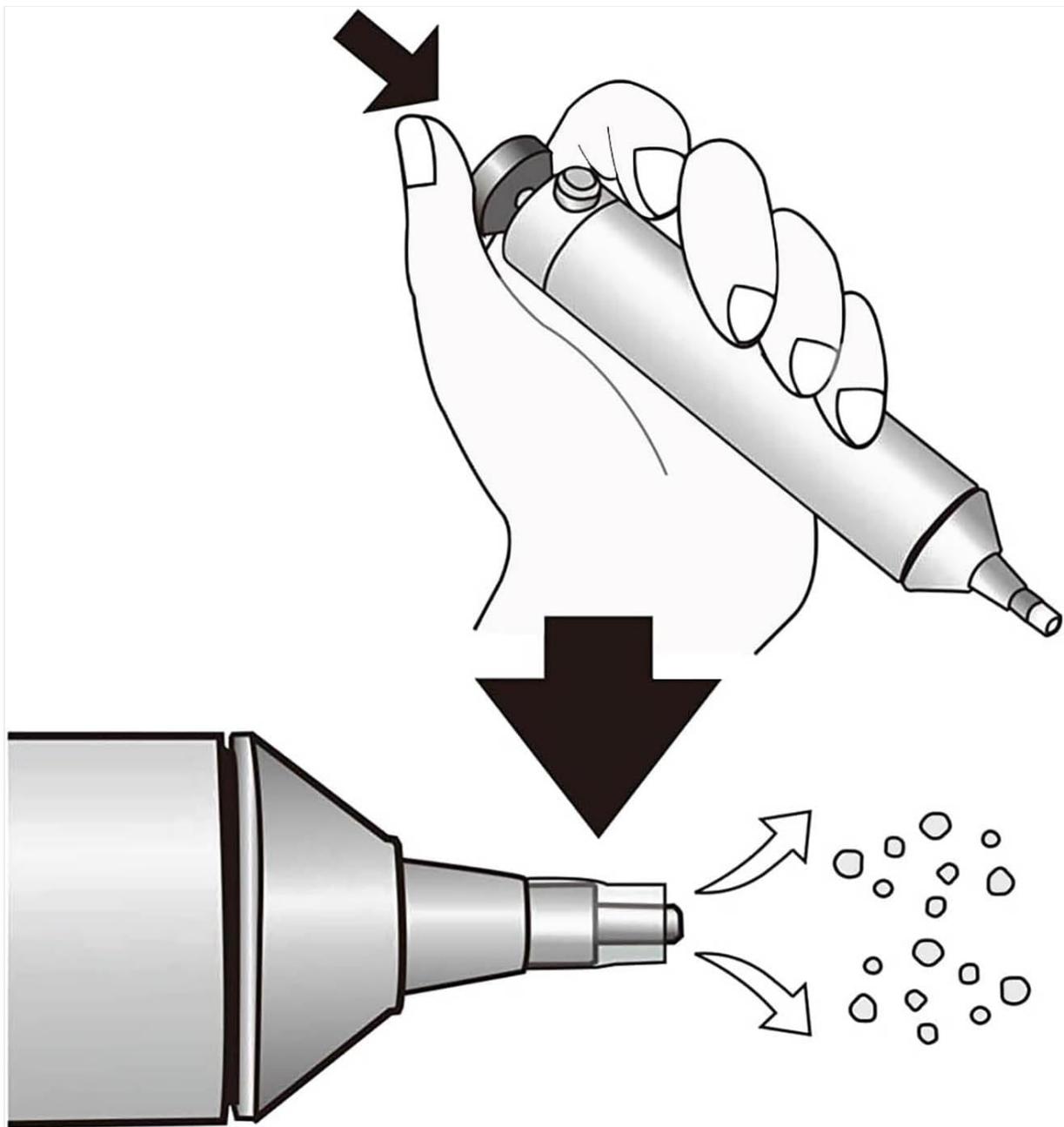


Figure 4.3: Dimensions of the ENGINEER SS-03 Solder Sucker (measurements in millimeters).

The compact size and ergonomic design ensure ease of handling and precise control during desoldering tasks.

5. SETUP

1. **Inspect the Nozzle:** Ensure the silicone nozzle is securely attached and free from damage. If a new nozzle is needed, cut one of the included spare silicone tubes (SS-16 or SS-17) to the desired length and attach it firmly.
2. **Prime the Pump:** Push the plunger down until it locks into place. This cocks the spring mechanism, preparing the pump for suction.

6. OPERATING INSTRUCTIONS

Follow these steps for effective solder removal:

1. **Prepare the Solder Joint:** Heat the solder joint with your soldering iron until the solder melts and becomes liquid.
2. **Position the Solder Sucker:** While the solder is still molten, quickly place the silicone nozzle of the SS-03

directly over the molten solder joint, ensuring the nozzle 'envelopes' the joint and the soldering iron tip for maximum contact and seal.

3. **Activate Suction:** Press the release button on the solder sucker. The spring-loaded plunger will retract rapidly, creating a strong vacuum that sucks the molten solder into the device.
4. **Remove and Inspect:** Remove the solder sucker and soldering iron from the joint. Inspect the joint to ensure all unwanted solder has been removed. Repeat steps 1-3 if necessary.
5. **Reset the Plunger:** Push the plunger down again to reset the mechanism for the next use.



Figure 6.1: Proper technique for using the ENGINEER SS-03 Solder Sucker, showing one-handed operation.

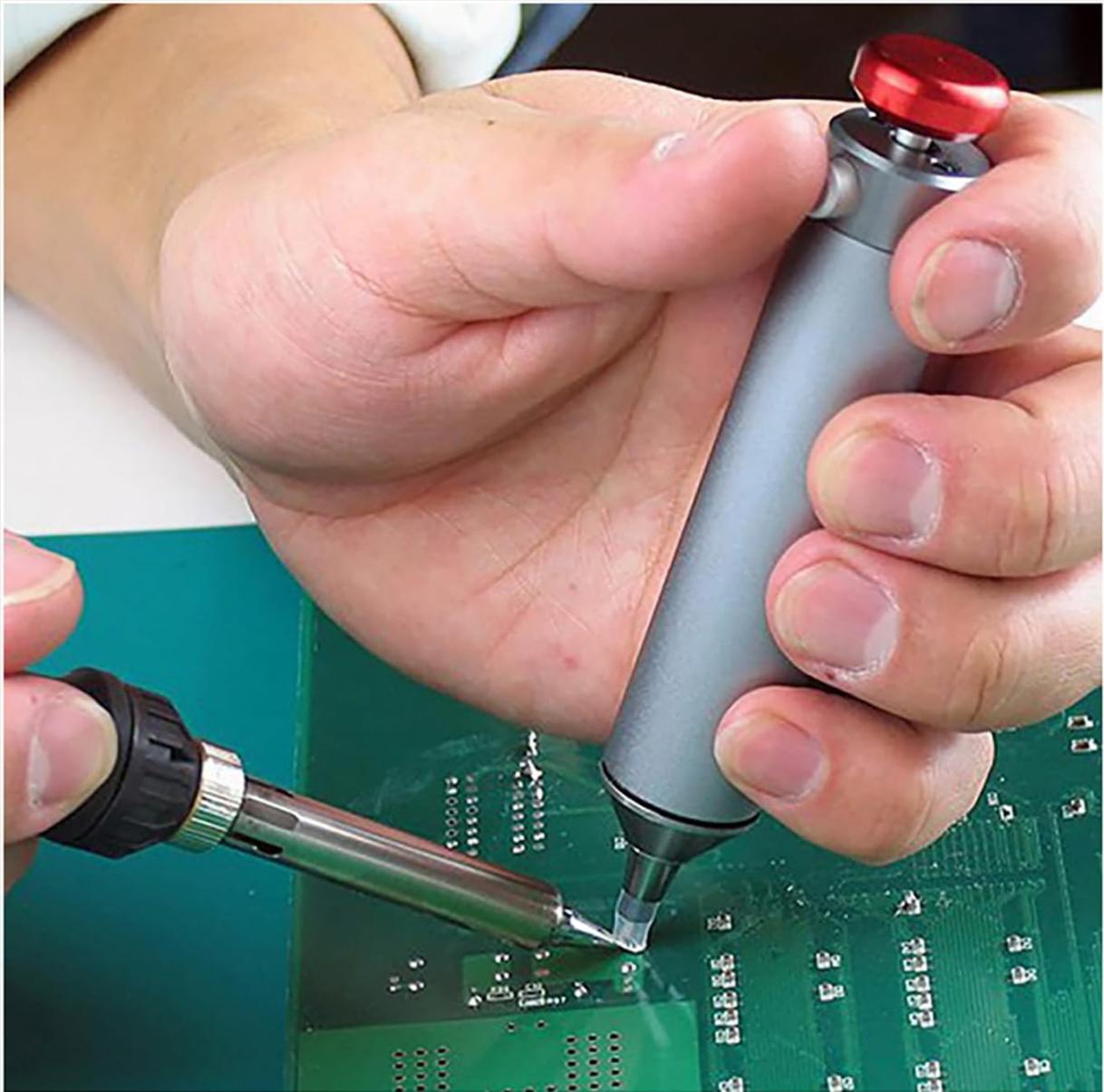


Figure 6.2: Diagram illustrating the internal mechanism and suction action of the solder sucker.

7. MAINTENANCE AND CLEANING

Regular cleaning ensures optimal performance and extends the lifespan of your SS-03 Solder Sucker.

1. **Disassembly:** Unscrew the front nozzle assembly from the main body. The plunger and spring mechanism can then be carefully pulled out from the rear.
2. **Clean Solder Residue:** Remove any accumulated solder from inside the nozzle, the main body, and around the plunger. A small brush or pick can be used for this. The built-in self-cleaning shaft helps minimize clogging during operation, but periodic manual cleaning is still recommended.
3. **Inspect Silicone Nozzle:** Check the silicone nozzle for wear, tears, or excessive burning. Replace it with a fresh section from the spare tubes if necessary.
4. **Reassembly:** Carefully reinsert the plunger and spring into the main body, ensuring proper alignment. Screw the nozzle assembly back onto the body until secure.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Poor suction	Clogged nozzle or internal mechanism; worn or damaged silicone tip; improper seal over solder joint.	Clean the device thoroughly (Section 7); replace the silicone nozzle; ensure the nozzle fully covers the molten solder and iron tip.
Solder not fully removed	Solder not fully molten; insufficient suction; too slow activation.	Ensure solder is fully liquid before activating; check for clogs/worn tip; activate the plunger quickly and decisively.
Silicone nozzle wears quickly	Excessive heat or prolonged contact with soldering iron.	Minimize direct, prolonged contact with the hot iron; replace with spare silicone tubes as needed.

9. SPECIFICATIONS

Brand: ENGINEER

Model: SS-03 (New Version)

Material: Aluminum Body, Silicone Tip

Item Length: 6 Inches (approx. 153mm)

Item Weight: 48 Grams (1.69 ounces)

Special Feature: High Power Suction, Heat-resistant (max. 350°C) silicone nozzle, Built-in self-cleaning shaft

Included Components: SS-16 Silicone tube x 1, SS-17 Silicone tube x 1

Power Source: Manual (No batteries required)

Manufacturer: ENGINEER

Country of Origin: Japan

10. WARRANTY AND SUPPORT

For warranty information, technical support, or to purchase replacement parts (such as ENGINEER SS-16 & ENGINEER SS-17 replacement silicone tubes), please refer to the official ENGINEER website or contact your authorized retailer. Keep your purchase receipt as proof of purchase for any warranty claims.