SMOTIVEPRO ST167501

SMOTIVEPRO 7-Piece Brake Line Flaring Tool Kit Instruction Manual

Model: ST167501

1. Introduction

This manual provides detailed instructions for the proper use and maintenance of your SMOTIVEPRO 7-Piece Brake Line Flaring Tool Kit. This kit is designed to create 45° SAE single, double, and bubble flares on 3/16" and 1/4" tubing made from copper, aluminum, and nickel-copper materials. It is suitable for brake and hydraulic line repairs. Please read this manual thoroughly before operation to ensure safe and effective use.

Important Note: This tool is not recommended for use with stainless steel pipes.

2. Kit Contents

The SMOTIVEPRO 7-Piece Brake Line Flaring Tool Kit includes the following components:

- Dual flaring tool with detachable handle (for 3/16" and 1/4" sizes)
- 2 Alignment bolts (for 3/16" and 1/4" tubing)
- 2 Double-ended OP1 punches (for 3/16" and 1/4" flares)
- 1 Mold lubricant
- 1 Hex wrench (90° Allen wrench)
- 1 Blow-molded storage case

Image 2.1: Overview of the SMOTIVEPRO 7-Piece Brake Line Flaring Tool Kit components, including the flaring tool, punches, alignment bolts, lubricant, hex wrench, and storage case.

Image 2.2: The complete kit neatly organized within its compact, blow-molded storage case, with labels indicating each

component.

3. Safety Information

Always observe the following safety precautions when using the flaring tool kit:

- Wear appropriate personal protective equipment, including safety glasses and gloves, to prevent injury from metal shavings or sharp edges.
- Ensure the work area is clean, well-lit, and free from obstructions.
- Keep hands and fingers clear of moving parts during operation.
- Do not use the tool for purposes other than its intended use (flaring brake and hydraulic lines).
- Inspect the tool and tubing for any damage before use. Do not use damaged equipment.
- Keep children and unauthorized personnel away from the work area.

4. Operating Instructions

This section details the step-by-step process for creating precise flares using your SMOTIVEPRO flaring tool kit. The tool supports 3/16" and 1/4" tubing and can create SAE single, double, and bubble flares.

4.1 Understanding Flare Types

Image 4.1: Visual representation of the three types of flares this tool can create: SAE Double Flare, SAE Bubble Flare, and Single Flare.

4.2 Preparing the Tubing

1. Cut the tubing to the desired length using a proper tubing cutter. Ensure the cut is clean and straight.
2. Deburr the inside and outside edges of the tubing to remove any sharp edges or burrs that could compromise the flare or seal.
3. Clean the tubing thoroughly to remove any debris or contaminants.

4.3 Flaring Procedure (Step-by-Step)

The flaring tool can be used handheld or secured in a bench vise for added stability.

Image 4.2: The flaring tool can be operated handheld for on-vehicle repairs or secured in a bench vise for off-vehicle work.

1. **Step 1: Insert Tubing**
   Loosen the three locking screws on the flaring tool using the provided 90° Allen wrench. Insert the prepared tubing into the correct size opening (3/16" or 1/4") until it is flush against the positioning bolt. Ensure the tubing is straight and fully seated.

Image 4.3: Loosen the locking screws and insert the tubing into the appropriate size slot on the flaring tool.

2. **Step 2: Secure Tubing**
   Secure the tubing by tightening the three locking screws firmly. The tubing must be held securely to prevent slippage during the flaring process.

Image 4.4: Tighten the locking screws to firmly hold the tubing in place.

3. **Step 3: Lubricate Punch**
   Apply a small amount of the provided mold lubricant to the tip of the double-ended OP1 punch that corresponds to the desired flare size (3/16" or 1/4"). Lubrication helps reduce friction and ensures a smooth, clean flare.

Image 4.5: Lubricate the tip of the appropriate OP1 punch before use.

4. **Step 4: First Flare Stage (for Double/Bubble Flares)**
   Insert the first end of the OP1 punch into the flaring tool opening, aligning it with the tubing. Secure it by tightening until it firmly presses against the flaring tool. This step forms the initial shape for double or

bubble flares. For single flares, this step is often sufficient, but refer to specific single flare instructions if provided.

Image 4.6: Insert the first end of the OP1 punch and tighten it against the tool.

5. **Step 5: Second Flare Stage (for Double Flares)**
   Remove the punch, flip it to the other end (if creating a double flare), and re-insert it into the flaring tool. Tighten until it firmly presses against the flaring tool. This completes the double flare formation. For bubble flares, the process might differ slightly depending on the desired bubble size; consult specific bubble flare guides if needed.

Image 4.7: Insert the second end of the OP1 punch and tighten to complete the double flare.

6. **Step 6: Inspect the Flare**
   Once the flare is complete, loosen the locking screws and carefully remove the tubing. Inspect the flare for uniformity, cracks, or imperfections. A properly formed flare should be smooth, concentric, and free of damage.

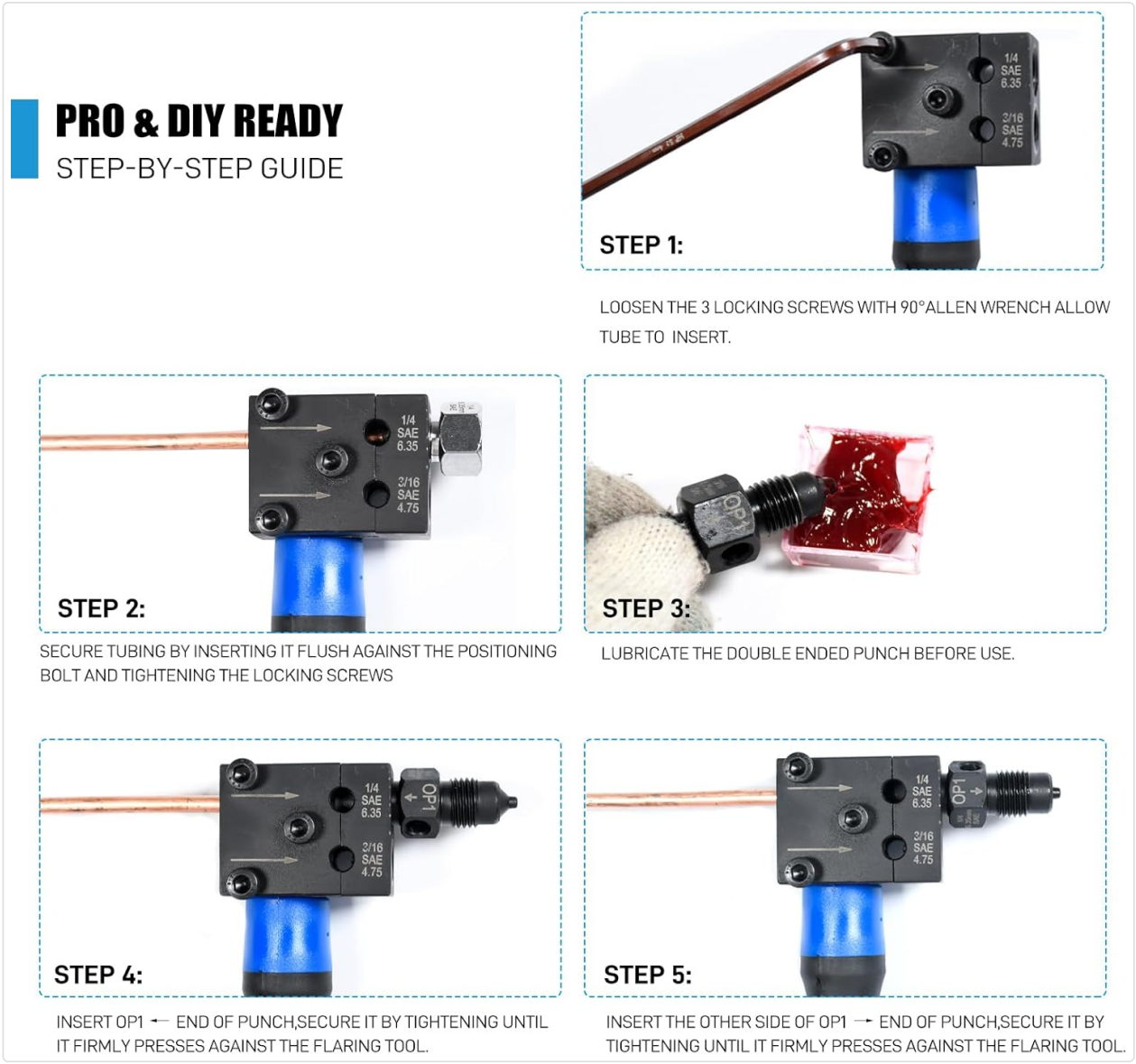

Image 4.8: The flaring tool in operation, demonstrating the precise mechanism for creating a secure flare.

5. Maintenance

Proper maintenance will extend the life and performance of your flaring tool kit:

- After each use, clean all components of the kit, especially the punches and the flaring tool body, to remove any lubricant, metal shavings, or debris.
- Store the kit in its blow-molded case to protect it from dust, moisture, and physical damage.
- Periodically check the locking screws and other fasteners for tightness. Tighten if necessary.
- Keep the mold lubricant readily available and apply as needed to ensure smooth flaring operations.
- If any part becomes worn or damaged, replace it with genuine SMOTIVEPRO parts to maintain tool integrity and safety.

6. Troubleshooting

If you encounter issues while using the flaring tool, consider the following:

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Uneven or cracked flare	Tubing not deburred properly Insufficient lubrication Tubing not secured tightly Incorrect punch alignment	Ensure tubing is thoroughly deburred. Apply sufficient mold lubricant to the punch. Tighten locking screws firmly to prevent tubing movement. Verify punch is centered and aligned with the tubing.
Tubing slips during flaring	Locking screws not tight enough Tubing surface is oily or dirty	Ensure all three locking screws are tightened securely. Clean the tubing surface before clamping.
Difficulty turning the punch	Lack of lubrication Excessive force applied too quickly	Apply more mold lubricant to the punch. Turn the punch slowly and steadily, applying even pressure.
Handle becomes loose or detached	Internal screws loosened Excessive torque applied	Inspect the handle for internal fasteners and tighten if accessible. Avoid over-tightening the punch during flaring. Contact SMOTIVEPRO support if the issue persists.

7. Specifications

- **Brand:** SMOTIVEPRO
- **Model Number:** ST167501
- **Tubing Compatibility:** 3/16" (4.75mm) and 1/4" (6.35mm)
- **Material Compatibility:** Copper, Aluminum, Nickel-Copper (Not recommended for Stainless Steel)
- **Flare Types:** 45° SAE Single, Double, and Bubble Flares
- **Kit Weight:** Approximately 1.65 pounds (0.75 kg)
- **Package Dimensions:** Approximately 8.54 x 4.49 x 1.85 inches (21.7 x 11.4 x 4.7 cm)
- **Manufacturer:** SUNBRIGHT TOOLS CO.,LTD

8. Warranty and Support

For warranty information, technical support, or replacement parts, please contact SMOTIVEPRO directly through their official channels or the retailer where the product was purchased. Keep your purchase receipt as proof of purchase.
Manufacturer: SUNBRIGHT TOOLS CO.,LTD
Brand: SMOTIVEPRO
For further assistance, visit the SMOTIVEPRO Store on Amazon.