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KATSU 371215

KATSU 10-Piece Imperial Double Flaring Tool Kit

Model: 371215

Introduction

This manual provides essential information for the safe and effective use of your KATSU 10-Piece Imperial Double Flaring Tool Kit. This comprehensive kit is designed for cutting, single flaring, and double flaring of thin-walled copper, brass, and aluminum tubing, making it ideal for automotive and specialized plumbing applications. Please read this manual thoroughly before operation to ensure proper usage and to prevent damage to the tool or injury.

Product Overview

The KATSU Double Flaring Tool Kit includes all necessary components for precise tube preparation and flaring. The kit is supplied in a durable carrying case for convenient storage and transport.



Image: The complete KATSU 10-Piece Imperial Double Flaring Tool Kit neatly organized within its blue carrying case.

Kit Contents:

- 2 x 45-degree Screw Spreaders (Flaring Tools)
- 1 x Flaring Bar (Clamp)
- 7 x Double Flaring Adapters (Dies) in sizes: 3/16", 1/4", 5/16", 7/16", 3/8", 5/8", 1/2"
- 1 x Tube Cutter (Capacity: 1/8" - 1-1/8" or 3-30 mm)
- 1 x Sturdy Carrying Case



Image: All individual components of the flaring tool kit, including the tube cutter, flaring bar, screw spreader, and various adapters, displayed outside the case.

Safety Instructions

Always prioritize safety when using hand tools. Failure to follow these instructions may result in injury or damage to the tool.

- **Wear Eye Protection:** Always wear safety glasses or goggles to protect your eyes from metal shavings or debris.
- **Wear Gloves:** Protect your hands from sharp edges of tubing and tools.
- **Work in a Well-Lit Area:** Ensure adequate lighting to clearly see your work.
- **Secure Workpiece:** Always secure the tubing firmly in the flaring bar to prevent slippage during operation.
- **Inspect Tools:** Before each use, inspect all components for damage or wear. Do not use damaged tools.
- **Keep Tools Clean:** Clean tools after each use to prevent corrosion and maintain performance.
- **Keep Children Away:** Store tools out of reach of children.
- **Use Correct Tool for the Job:** Only use this kit for flaring and cutting copper, brass, and aluminum tubing within the specified size range.

Setup

Before flaring, the tubing must be cut to the desired length and deburred.

1. Cutting Tubing with the Tube Cutter:



Image: The red tube cutter, used for precise cutting of tubing.

1. Unscrew the handle of the tube cutter to open the jaws.
2. Place the tubing between the cutting wheel and the two rollers.
3. Tighten the handle until the cutting wheel makes light contact with the tubing.
4. Rotate the tube cutter around the tubing, applying slight pressure by tightening the handle after each full rotation.
5. Continue rotating and tightening until the tubing is cleanly cut.

6. 

Image: Close-up view of the tube cutter's rollers, which guide the tubing during cutting.

After cutting, use the reamer (fold-out blade on the tube cutter) to remove any internal burrs from the tubing end.

2. Preparing the Flaring Bar:



Image: The flaring bar, used to hold the tubing securely during the flaring process.

1. Select the correct hole size on the flaring bar that matches your tubing diameter.
2. Loosen the wing nuts on the flaring bar and open it.
3. Insert the prepared tubing into the selected hole, ensuring the end of the tubing extends slightly above the surface of the flaring bar. For double flares, the tubing should extend approximately the thickness of the adapter die.
4. Tighten the wing nuts firmly to secure the tubing in place.



Image: A close-up view of the flaring bar, showing the various sized holes and their imperial markings for different tubing diameters.

Operating Instructions

Performing a Double Flare:

Double flaring is commonly used for brake lines and other high-pressure applications to create a stronger, leak-proof seal.



Image: The screw spreader flaring tool, which applies pressure to form the flare.

1. **Select Adapter:** Choose the correct double flaring adapter (die) that matches the tubing size.
2. **Insert Adapter:** Place the selected adapter into the end of the tubing that is secured in the flaring bar. The adapter should sit flush or slightly below the surface of the flaring bar.
3. **Position Screw Spreader:** Place the screw spreader over the flaring bar, aligning the cone of the spreader with the adapter.
4. **First Stage (Forming the Inverted Cone):** Slowly turn the handle of the screw spreader clockwise. The cone will press the adapter into the tubing, forming an inverted cone inside the tubing. Continue turning until the adapter bottoms out against the

flaring bar. Do not overtighten.

5. **Remove Adapter:** Unscrew the spreader and remove the adapter from the tubing. You should now see an inverted cone shape at the end of the tubing.
6. **Second Stage (Forming the Double Flare):** Reposition the screw spreader over the flaring bar, aligning the cone directly with the inverted cone of the tubing (without the adapter).
7. **Complete Flare:** Slowly turn the handle of the screw spreader clockwise again. The cone will now fold the inverted cone of the tubing back onto itself, creating the double flare. Continue turning until the flare is fully formed and bottoms out. Do not overtighten.
8. **Release:** Unscrew the spreader and remove the tubing from the flaring bar. Inspect the flare for uniformity and smoothness.

Performing a Single Flare:

Single flaring is suitable for low-pressure applications or where a single flare is specified.

1. **Prepare Tubing:** Cut and deburr the tubing as described in the Setup section.
2. **Secure Tubing:** Insert the tubing into the correct hole in the flaring bar. For a single flare, the tubing should extend above the surface of the flaring bar by approximately 1/8 inch (3mm) or slightly more than the thickness of the tubing wall.
3. **Position Screw Spreader:** Place the screw spreader over the flaring bar, aligning the cone directly with the end of the tubing.
4. **Form Flare:** Slowly turn the handle of the screw spreader clockwise. The cone will gradually expand the end of the tubing outwards, forming a 45-degree flare. Continue turning until the flare is fully formed and bottoms out against the flaring bar. Do not overtighten.
5. **Release:** Unscrew the spreader and remove the tubing from the flaring bar. Inspect the flare for uniformity and smoothness.

Maintenance

- **Cleaning:** After each use, wipe down all tools with a clean, dry cloth to remove any metal shavings or debris.
- **Lubrication:** Periodically apply a light coat of machine oil to the screw threads of the spreader and the cutting wheel of the tube cutter to ensure smooth operation and prevent rust.
- **Storage:** Store the kit in its original sturdy carrying case in a dry environment to protect it from dust, moisture, and damage.
- **Inspection:** Regularly inspect the cutting wheel of the tube cutter for sharpness and the flaring cone for any nicks or damage that could affect flare quality.

Troubleshooting

Problem	Possible Cause	Solution
Uneven or Cracked Flare	• Tubing not deburred properly. • Tubing not secured tightly in flaring bar. • Incorrect amount of tubing extended from flaring bar. • Overtightening the screw spreader. • Damaged flaring cone or adapter.	• Ensure tubing is thoroughly deburred. • Tighten wing nuts firmly. • Adjust tubing extension as per instructions (e.g., adapter thickness for double flare, 1/8" for single flare). • Apply steady, even pressure; stop when flare is formed. • Inspect tools for damage; replace if necessary.

Problem	Possible Cause	Solution
Tubing Slips During Flaring	• Flaring bar not tightened enough. • Tubing or flaring bar is oily/greasy.	• Ensure wing nuts are fully tightened. • Clean tubing and flaring bar surfaces.
Tube Cutter Not Cutting Cleanly	• Dull cutting wheel. • Insufficient pressure applied.	• Replace cutting wheel if worn. • Apply slight pressure after each rotation.

Specifications

Model Number	371215
Manufacturer	Merry Tools (KATSU)
Kit Contents	2 x 45-degree Screw Spreaders, 1 x Flaring Bar, 7 x Double Flaring Adapters, 1 x Tube Cutter
Adapter Sizes	3/16", 1/4", 5/16", 7/16", 3/8", 5/8", 1/2"
Tube Cutter Capacity	1/8" - 1-1/8" (3-30 mm)
Compatible Tubing Materials	Copper, Brass, Aluminum (thin-walled)
Package Dimensions	35.29 x 15.4 x 8.4 cm
Package Weight	1.72 kg

Warranty and Support

Specific warranty information for the KATSU 10-Piece Imperial Double Flaring Tool Kit is not provided in the available product data. For details regarding warranty coverage, returns, or technical support, please contact the retailer or the manufacturer directly. Keep your proof of purchase for any warranty claims.

For further assistance or inquiries, please refer to the contact information provided by your point of purchase or visit the official KATSU website.

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