KATSU Tools 450340

KATSU Tools 10-Piece 5-in-1 Portable Valve Spring Compressor Tool Kit

Model: 450340

Brand: KATSU Tools

Introduction

This instruction manual provides essential information for the safe and effective use of your KATSU Tools 10-Piece 5-in-1 Portable Valve Spring Compressor Tool Kit, Model 450340. This universal tool is designed to facilitate the removal and installation of valve springs on most automotive engines, including those found in cars, vans, and small trucks. Please read this manual thoroughly before operation to ensure proper usage and to prevent damage to the tool or engine components.

Safety Information

Always observe the following safety precautions when using this tool:

- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure the engine is cool and disconnected from its power source before beginning any work.
- Always follow the vehicle manufacturer's service manual for specific procedures and torque specifications.
- Keep hands and fingers clear of moving parts during operation.
- Do not use the tool if it appears damaged or modified.
- Store the tool in its case when not in use to prevent damage and loss of components.
- Use the correct adapter size for the valve spring being compressed.

Package Contents

Your KATSU Tools Valve Spring Compressor Kit includes the following components:

- 1 x C-frame compressor body
- 3 x Threaded pressure screws (various lengths)
- 5 x Valve spring adapters (16mm, 19mm, 23mm, 25mm, 30mm)

- 1 x Extension bar
- 1 x Storage case



Image: All components of the KATSU Tools Valve Spring Compressor Kit neatly organized within its blue storage case.



Image: The complete set of valve spring compressor tools, including the C-frame, threaded shafts, and various adapters, displayed on a workbench.

Setup

Before using the valve spring compressor, ensure all components are clean and free from damage. Follow these steps to prepare the tool:

1. **Identify Valve Spring Size:** Determine the diameter of the valve spring you intend to compress.
2. **Select Correct Adapter:** Choose the appropriate adapter from the five available sizes (16mm, 19mm, 23mm, 25mm, 30mm) that best fits the valve spring retainer. The adapter should sit securely on the retainer without slipping.
3. **Assemble Compressor:** Insert the selected adapter into the lower jaw of the C-frame compressor.
4. **Choose Pressure Screw:** Select a threaded pressure screw of suitable length to reach the valve stem end while allowing sufficient compression travel. Thread it into the upper part of the C-frame.
5. **Attach Extension Bar (if needed):** If additional leverage is required, attach the extension bar to the pressure screw

handle.



Image: A close-up view of the five different sized valve spring adapters, clearly showing their respective diameters for proper selection.

Operating Instructions

This tool is designed for compressing valve springs to remove or install valve keepers (collets). Always ensure the cylinder is at Top Dead Center (TDC) or use compressed air to hold the valve in place to prevent it from falling into the cylinder.

1. **Position the Tool:** Place the C-frame compressor over the valve spring assembly. The lower adapter should rest firmly on the valve spring retainer, and the upper pressure screw should align with the top of the valve stem.
2. **Compress the Spring:** Slowly turn the handle of the pressure screw clockwise to compress the valve spring. Apply steady, even pressure. Observe the valve keepers as the spring compresses.
3. **Remove Valve Keepers:** Once the valve spring is sufficiently compressed, the valve keepers will become loose. Use a small magnet or a pick tool to carefully remove the keepers.
4. **Release Spring Pressure:** Slowly and carefully turn the handle of the pressure screw counter-clockwise to release the spring tension. Remove the valve spring and retainer.
5. **Installation:** To install a valve spring, reverse the process. Place the valve spring and retainer onto the valve stem. Compress the spring using the tool, insert the valve keepers, and then slowly release the spring tension, ensuring

the keepers are properly seated.



Image: The KATSU Tools valve spring compressor assembled with a threaded shaft and adapter, demonstrating its operational configuration.

Maintenance

Proper maintenance ensures the longevity and reliable performance of your tool:

- **Cleaning:** After each use, wipe down all components with a clean cloth to remove oil, grease, and debris.
- **Lubrication:** Periodically apply a light coat of machine oil to the threaded pressure screws to ensure smooth operation and prevent rust.
- **Inspection:** Regularly inspect the C-frame, adapters, and threaded screws for any signs of wear, bending, cracks, or damage. Replace any damaged components immediately.
- **Storage:** Store the tool and all its components in the provided plastic carrying case in a dry, clean environment to protect it from moisture and physical damage.

Troubleshooting

If you encounter issues while using the valve spring compressor, consider the following:

Problem	Possible Cause	Solution
Tool slips off valve spring.	Incorrect adapter size or improper positioning.	Ensure the correct adapter size is used and that it is seated firmly and squarely on the valve spring retainer.
Difficulty compressing spring.	Threaded screw is dry or damaged; spring is exceptionally stiff.	Lubricate the threaded screw. Ensure the tool is aligned correctly. For very stiff springs, ensure proper leverage.
Valve falls into cylinder.	Cylinder not at TDC or no compressed air applied.	Always ensure the piston is at TDC for the cylinder being worked on, or apply compressed air through the spark plug hole to hold the valve up.
Tool appears bent or damaged.	Excessive force applied or improper use.	Discontinue use immediately. Do not attempt to repair bent components. Contact KATSU Tools for replacement parts or support.

Specifications

- **Model:** 450340
- **Brand:** KATSU Tools
- **Number of Pieces:** 10
- **Adapter Sizes:** 16mm, 19mm, 23mm, 25mm, 30mm
- **Material:** Molded sand and oxide coated for rust resistance
- **Jaw Opening (Pliers Length):** Approximately 44.45mm (1.75 inches)
- **Maximum Jaw Opening:** Approximately 241.3mm (9.5 inches)
- **Compatibility:** Universal fit for most cars, vans, and small trucks
- **Package Dimensions:** 33.5 x 20.7 x 5.3 cm (13.19 x 8.15 x 2.09 inches)
- **Item Weight:** 1.25 kg (2.76 lbs)

Warranty and Support

For warranty information, technical support, or to inquire about replacement parts, please contact KATSU Tools directly through their official website or authorized distributors. Keep your purchase receipt as proof of purchase.
For more information, visit: www.katsutools.com (Example link, actual link may vary)

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