HKS 71008-AS002

HKS Super SQV4 Instruction Manual

Model: 71008-AS002 | Brand: HKS

Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of the HKS Super SQV4 (Sequential Blow-Off Valve) for Suzuki Cappuccino models EA21R and EA11R with K6A and F6A engines (manufactured between 1991 and 1998). The HKS Super SQV4 is designed to release pressure from the turbocharger system, preventing compressor surge and enhancing turbocharger longevity and response.
Please read this manual thoroughly before attempting installation or operation to ensure proper function and safety. Incorrect installation can lead to vehicle damage or personal injury.

Package Contents

Verify that all components listed below are present and undamaged before beginning installation.

- HKS Super SQV4 Blow-Off Valve Unit
- Vacuum Hose
- Hose Clamps
- Mounting Bracket
- Gaskets and Hardware
- Vacuum Line Tee Connector
- Blind Plug (if applicable for specific applications)

Image: The complete HKS Super SQV4 kit, showing the main silver blow-off valve unit with its mounting bracket, a black vacuum hose, a small black cap, a silver pipe adapter, and a clear plastic tee connector.

Installation Guide

Pre-Installation Checklist

- Ensure the engine is cool before starting work.
- Disconnect the vehicle's battery to prevent electrical shorts.
- Gather all necessary tools (see below).
- Confirm vehicle compatibility: Suzuki Cappuccino EA21R, EA11R with K6A or F6A engines (1991-1998).

Tools Required

- Socket Wrench Set
- Screwdriver Set (Phillips and Flathead)
- Pliers
- Hose Cutters (if modifying vacuum lines)
- Torque Wrench (recommended for specific fasteners)

Installation Steps

1. **Locate Factory Blow-Off Valve (BOV) or Recirculation Valve:** Identify the existing valve on your vehicle's turbocharger system. It is typically located on the intercooler piping or near the turbocharger compressor outlet.
2. **Remove Factory Valve:** Carefully disconnect any vacuum lines and electrical connectors (if present) from the factory valve. Unbolt and remove the valve from its mounting location. Be prepared for potential vacuum leaks if not sealed properly.
3. **Prepare HKS Super SQV4 Unit:** Attach the provided mounting bracket to the HKS Super SQV4 unit using the supplied hardware. Ensure the bracket is oriented correctly for your specific vehicle application.
4. **Mount HKS Super SQV4:** Install the HKS Super SQV4 unit in the location where the factory valve was removed, or in a suitable alternative location if an adapter flange is used. Secure it firmly using the provided bolts and gaskets. Ensure a tight seal to prevent boost leaks.

5. **Connect Vacuum Line:** Identify a reliable vacuum source on the intake manifold. Use the provided vacuum hose and tee connector to tap into an existing vacuum line. Connect one end of the new vacuum hose to the vacuum port on the HKS Super SQV4 unit and the other end to the tee connector. Ensure all connections are secure and free of leaks.
6. **Test for Leaks:** After installation, reconnect the vehicle's battery. Start the engine and listen for any hissing sounds indicating vacuum or boost leaks. A smoke test or boost leak test is recommended for thorough verification.
7. **Functionality Check:** With the engine running, briefly rev the engine and release the throttle. You should hear the distinct "whoosh" sound of the HKS Super SQV4 releasing pressure. If the sound is absent or inconsistent, recheck all connections and vacuum lines.

Operating Principles

The HKS Super SQV4 is a sequential blow-off valve designed to prevent compressor surge. Compressor surge occurs when the throttle closes rapidly on a turbocharged engine, causing the pressurized air from the turbocharger to have nowhere to go. This air then backs up against the compressor wheel, causing it to stall and potentially damaging the turbocharger.
The Super SQV4 utilizes a unique sequential valve structure, which provides optimal response for both low and high boost pressures. When the throttle is closed, the vacuum signal from the intake manifold opens the valve, allowing the excess boost pressure to be vented to the atmosphere. This rapid release of pressure protects the turbocharger and maintains its rotational speed, leading to quicker spool-up when the throttle is reapplied.

Maintenance

The HKS Super SQV4 is designed for durability and requires minimal maintenance. However, periodic inspection is recommended to ensure optimal performance.

- **Visual Inspection:** Regularly check the valve unit, vacuum hose, and all connections for any signs of wear, cracks, or leaks. Ensure all clamps and bolts are secure.
- **Cleaning:** If the valve becomes dirty, gently wipe the exterior with a clean, damp cloth. Avoid using harsh chemicals or abrasive materials that could damage the finish or internal components. Do not attempt to disassemble the valve for cleaning unless specifically instructed by HKS.
- **Vacuum Line Integrity:** Ensure the vacuum line remains pliable and free of kinks or cracks. A compromised vacuum line can affect valve operation.

Troubleshooting

Problem	Possible Cause	Solution
No "whoosh" sound or weak sound	• Vacuum leak in the line to the BOV • Improper vacuum source connection • BOV not sealing correctly	• Check all vacuum hose connections and replace if damaged. • Verify the vacuum source is strong and consistent. • Inspect BOV mounting and gaskets for proper seal.
Engine stalls or idles rough after installation	• Boost leak • Improper vacuum line connection affecting engine sensors	• Perform a boost leak test to identify and seal leaks. • Ensure vacuum lines are connected correctly and not interfering with critical engine sensors (e.g., MAF sensor).

Problem	Possible Cause	Solution
Excessive or constant venting	• Incorrect spring tension (if adjustable, though SQV4 is not typically user-adjustable) • Vacuum line issue	• Verify vacuum line is connected to a manifold vacuum source, not a boost source. • Contact HKS support if the issue persists.

Specifications

Feature	Detail
Brand	HKS
Model Number	71008-AS002
Compatible Vehicles	Suzuki Cappuccino EA21R, EA11R (K6A, F6A engines, 1991-1998)
Material	Aluminium, Metal
Item Weight	926 g
Package Dimensions	18.3 x 17 x 15.1 cm
Assembly Required	Yes

Warranty and Customer Support

HKS products are manufactured to high standards and typically come with a manufacturer's warranty against defects in materials and workmanship. For specific warranty terms and conditions, please refer to the documentation included with your purchase or visit the official HKS website.
If you encounter any issues during installation or operation, or require technical assistance, please contact HKS customer support directly through their official channels. Provide your product model number (71008-AS002) and details of your inquiry for efficient service.
Note: Unauthorized modifications or improper installation may void your warranty.