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Turbosmart TS-0204-2204

Turbosmart BOV Bubba 21 inHg Spring Instruction Manual

Model: TS-0204-2204

Overview Safety Information Installation Specifications Support

1. Product Overview

This manual provides instructions and information for the Turbosmart BOV Bubba 21 inHg Spring (Model: TS-0204-2204). This spring is designed as a replacement or tuning component for compatible Turbosmart Blow-Off Valves (BOVs), specifically the Bubba series. It is an automotive-grade component intended for performance applications.



Image 1.1: The Turbosmart BOV Bubba 21 inHg Spring. This image shows the coiled metal spring with a red-painted top coil, indicating its specific rating.

2. Safety Information

WARNING:



Image 2.1: California Proposition 65 Warning label. This warning indicates that the product may expose you to chemicals known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65warnings.ca.gov.

Always exercise caution when working with automotive components. Ensure the engine is off and cooled down before attempting any installation or maintenance. Wear appropriate personal protective equipment (PPE) such as gloves and eye protection. If you are unsure about any installation steps, consult a qualified automotive technician.

3. Installation and Setup

This spring is an internal component of a Turbosmart Bubba series Blow-Off Valve. Installation involves disassembling the BOV to replace the existing spring with this 21 inHg spring.

1. **Preparation:** Ensure the vehicle's engine is off and cool. Disconnect the battery if necessary, especially if working near electrical components.
2. **Access the BOV:** Locate and carefully remove the Turbosmart Bubba BOV from its mounting location on the vehicle.
3. **Disassembly:** Refer to your specific Turbosmart Bubba BOV manual for detailed disassembly instructions. Typically, this involves unscrewing the top cap or housing to access the internal spring mechanism.
4. **Spring Replacement:** Carefully remove the old spring. Insert the new Turbosmart BOV Bubba 21 inHg Spring into its designated position. Ensure it seats correctly.
5. **Reassembly:** Reassemble the BOV, ensuring all seals and O-rings are correctly seated and not damaged. Tighten fasteners to the manufacturer's recommended torque specifications.
6. **Reinstallation:** Mount the BOV back onto the vehicle, reconnecting any vacuum lines or electrical connections.
7. **Testing:** After installation, start the engine and perform a functional check to ensure the BOV operates correctly and there are no leaks.

Note: *The 21 inHg rating indicates the spring's stiffness, which affects the BOV's response to vacuum pressure. Selecting the correct spring for your application is crucial for optimal performance and preventing compressor surge or boost leaks. Consult Turbosmart's tuning guides or a professional for specific application advice.*

4. Operation and Function

The 21 inHg spring within the Turbosmart Bubba BOV plays a critical role in its operation. Blow-Off Valves are designed to vent excess boost pressure when the throttle closes, protecting the turbocharger from compressor surge. The spring's tension dictates the vacuum level required to open the valve.

- When the throttle is open, boost pressure holds the valve closed against the spring tension.

- When the throttle closes, engine vacuum increases, pulling the valve open against the spring tension, allowing excess boost to be vented.
- A 21 inHg spring is a specific rating chosen for particular engine setups and boost levels to ensure precise and efficient operation of the BOV.

5. Maintenance

The Turbosmart BOV Bubba 21 inHg Spring itself requires minimal maintenance. However, it is part of a larger assembly that benefits from periodic inspection:

- **Regular Inspection:** Periodically inspect the BOV for any signs of wear, damage, or corrosion, especially around the spring housing.
- **Cleanliness:** Ensure the BOV and its surrounding area are free from dirt and debris that could impede its operation.
- **Seal Integrity:** Check the BOV's O-rings and seals for cracks or hardening. Damaged seals can lead to boost leaks.
- **Spring Condition:** While rare, a spring can weaken or break over time. If you notice changes in BOV performance (e.g., slow response, boost leaks, or compressor surge), the spring may need inspection or replacement.

6. Troubleshooting

Issues related to the BOV spring typically manifest as incorrect BOV operation. If you suspect the spring is causing problems, consider the following:

- **Boost Leaks:** If the BOV is not sealing properly, it could be due to an incorrect spring tension for your application, or a damaged spring.
- **Compressor Surge:** If the BOV is not opening quickly enough when the throttle closes, the spring might be too stiff for the vacuum signal, or it could be binding.
- **Premature Venting:** If the BOV opens under boost, the spring might be too soft, or there could be an issue with the vacuum signal.

Always verify that the correct spring rating (21 inHg in this case) is installed for your specific vehicle and BOV setup. Consult Turbosmart's technical resources or a professional for diagnosis and resolution.

7. Product Specifications

Attribute	Detail
Brand	Turbosmart
Model Number	TS-0204-2204
Product Type	BOV Bubba Spring
Spring Rating	21 inHg
Application	Automotive, Universal (for compatible Turbosmart Bubba BOVs)
Manufacturer	Turbosmart

8. Warranty and Support

For warranty information, technical support, or further assistance with your Turbosmart product, please refer to the official Turbosmart website or contact their customer service directly. Keep your purchase receipt as proof of purchase.

Turbosmart Official Website: www.turbosmart.com

Always ensure you are using genuine Turbosmart parts for optimal performance and reliability.

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