

Eberspächer 221000332200

Eberspächer Airtronic and Hydronic Heater High Altitude Kit (Model 221000332200) Instruction Manual

Brand: Eberspächer

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the Eberspächer High Altitude Kit (HAK) 221000332200. This kit is designed to ensure optimal performance of Eberspächer Airtronic and Hydronic heaters in environments with reduced air pressure, typically found at higher altitudes. Adhering to these instructions will help maintain heater efficiency and longevity.

2. KEY FEATURES

- **Automatic Altitude Compensation:** Continuously measures atmospheric pressure and adjusts the fuel-to-air ratio for efficient combustion.
- **Operating Altitude:** Effective at altitudes up to approximately 3,500 meters (11,500 feet).
- **Voltage Compatibility:** Suitable for both 12V and 24V Airtronic and Hydronic heaters.
- **Enhanced Heater Longevity:** Prevents soot accumulation and reduces maintenance needs by ensuring correct fuel-to-air mixture.

3. COMPATIBILITY

The High Altitude Kit is compatible with Airtronic and Hydronic heaters that feature the "H-Kit" label. For heaters without this specific label, an Electronic Control Unit (ECU) replacement may be required to ensure full compatibility and functionality of the High Altitude Kit.

4. KIT CONTENTS

The Eberspächer High Altitude Kit 221000332200 typically includes the following components:

- Air pressure sensor unit
- Self-tapping screws

- Electrical plugs and connections
- Wiring harness



Figure 1: Components of the Eberspächer High Altitude Kit 221000332200. This image displays the air pressure sensor unit, various electrical connectors, a wiring harness, and the accompanying instruction manual.

5. SETUP

5.1. Identifying "H-Kit" Heaters

Before installation, verify that your Eberspächer heater is an "H-Kit" compatible model. Look for the "H-Kit" label on the heater unit, typically near the product information or serial number. This label confirms the heater's readiness for high-altitude operation with the kit.



Figure 2: Detail of an Eberspächer Airtronic heater label, highlighting the "H-Kit" symbol which indicates compatibility with the High Altitude Kit.

5.2. Installation Overview

Installation of the High Altitude Kit involves integrating the air pressure sensor unit with your existing heater system. This typically includes mounting the sensor, connecting the wiring harness to the heater's control unit, and securing all connections. Refer to the detailed manufacturer's guidelines provided with your kit for specific step-by-step instructions and wiring diagrams. Proper installation is crucial for optimal functionality and safety.

6. OPERATING INSTRUCTIONS

6.1. Control Unit Overview

The Eberspächer EasyStart Pro Controller is a digital display unit used to manage your heater. It features a central power button/dial and a display screen for settings and diagnostics.

6.2. Basic Operation

- **Turning On:** Press and hold the power button for approximately 3 seconds to initiate a heating cycle. The red

ring around the power button will illuminate, indicating heat mode.

- **Turning Off:** Press and hold the power button to turn off the heater.
- **Adjusting Temperature:** Briefly press the power button to enter the menu. Navigate to the heat signal (three wavy lines) and press the button. Use the dial to scroll left or right to set your desired temperature.
- **Setting Run Time:** After setting the temperature, press the button again. Use the dial to adjust the desired run time, from 10 minutes up to continuous operation (infinity symbol).

6.3. Fan Mode

The control unit also offers a fan-only mode. Navigate to the fan icon in the menu. In this mode, the heater will circulate air from outside into the vehicle without heating, useful for ventilation in warmer conditions.

6.4. Settings Menu

Access the settings menu (gear icon) to configure various options:

- **Time Display:** Switch between 12-hour and 24-hour formats.
- **Power Settings:** Adjust heater output between low and high power modes.
- **Timer Settings:** Program specific run cycles for different days of the week.

6.5. Diagnostics

The control unit includes a diagnostics feature. If any issues arise, such as a fuel supply error, the display will show an error code. A common error is related to low fuel in the vehicle's gas tank, as the heater typically requires a quarter tank or more to operate. Consult the manual for specific error code interpretations.

7. MAINTENANCE

Regular maintenance is essential for the reliable operation of your Eberspächer heater and High Altitude Kit. Follow the maintenance schedule outlined in the main heater's instruction manual. Key maintenance tasks may include:

- Regular inspection of all connections and wiring.
- Cleaning of air intake and exhaust components.
- Checking for any signs of wear or damage to the kit components.

For detailed maintenance procedures, always refer to the official Eberspächer service manual for your specific heater model.

8. TROUBLESHOOTING

If your heater or High Altitude Kit is not functioning as expected, consider the following common troubleshooting steps:

- **No Heat/Error Code:** Check the fuel level in your vehicle's tank. Eberspächer heaters often require a minimum fuel level (e.g., 1/4 tank) to operate.
- **Error Codes:** Use the diagnostic function on the control unit to identify specific error codes. Refer to the main heater manual for a comprehensive list of codes and their solutions.
- **Reduced Performance at Altitude:** Ensure the High Altitude Kit is correctly installed and all connections are secure. If issues persist, consult a qualified technician.
- **No Power:** Verify all electrical connections and check the vehicle's battery voltage.

For persistent issues, contact an authorized Eberspächer service center.

9. SPECIFICATIONS

Feature	Specification
Brand	Eberspächer
Model Number	221000332200
Special Feature	Automatic Altitude Compensation
Maximum Operating Altitude	Approximately 3,500 meters (11,500 feet)
Measuring Range	600 hPa to 1150 hPa
Operating Voltage	8V to 32V (compatible with 12V and 24V systems)
Operating Temperature Range	-40°C to +85°C
Item Weight	4.9 ounces
Package Dimensions	8.86 x 6.77 x 1.38 inches

10. ADDITIONAL RESOURCES

10.1. Espar Air Burner with Gasket Overview

Video 1: This video provides a visual overview of an Espar Air Burner with its accompanying gasket. While not directly detailing the High Altitude Kit, it showcases a key component found within compatible Eberspächer heaters. This can be useful for understanding the internal parts of the heater that the kit integrates with.

11. WARRANTY AND SUPPORT

For information regarding product warranty, technical support, or service, please refer to the official Eberspächer documentation included with your heater or visit the official Eberspächer website. Keep your purchase receipt and product serial number readily available when contacting support.