

Standard Motor Products EM4556

Standard Motor Products EM4556 Engine Control Module User Manual

Model: EM4556

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the Standard Motor Products EM4556 Engine Control Module (ECM). The EM4556 is a remanufactured electronic control unit designed to manage various engine functions, ensuring optimal performance and emissions control. Please read this manual thoroughly before installation and use.



Image: Standard Motor Products EM4556 Engine Control Module. This image displays the compact, rectangular form factor of the EM4556 module, typically featuring a metallic casing with electrical connectors.

2. SAFETY INFORMATION

Always observe the following safety precautions when working with automotive electrical components:

- Disconnect the vehicle's battery before beginning any installation or removal procedures to prevent electrical shock or damage to components.
- Wear appropriate personal protective equipment, including safety glasses and gloves.
- Ensure the vehicle is on a stable, level surface and properly secured before working underneath it.
- Consult a qualified automotive technician if you are unsure about any step of the installation process.
- Avoid touching electrical terminals with bare hands.

3. INSTALLATION

The installation of an Engine Control Module requires careful attention to detail. It is recommended that this procedure be performed by a certified automotive technician.

3.1 Pre-Installation Steps

1. **Verify Compatibility:** Confirm that the EM4556 module is the correct part number for your vehicle's make, model, and year. Refer to your vehicle's service manual or a reputable parts catalog.
2. **Disconnect Battery:** Disconnect the negative terminal of the vehicle's battery. Wait at least 10-15 minutes to allow the vehicle's electrical system to fully discharge.
3. **Locate Existing ECM:** Identify the location of the existing ECM in your vehicle. Common locations include the engine bay, under the dashboard, or in the passenger footwell.

3.2 Removal of Old ECM

1. **Disconnect Wiring Harnesses:** Carefully unclip and disconnect all electrical wiring harnesses connected to the old ECM. Note the orientation and position of each connector if not unique.
2. **Remove Mounting Hardware:** Unscrew or unbolt any mounting hardware securing the ECM to its bracket or vehicle frame.
3. **Extract ECM:** Gently remove the old ECM from its mounting location.

3.3 Installation of EM4556

1. **Position New ECM:** Place the EM4556 module into the designated mounting location.
2. **Secure Mounting Hardware:** Reinstall all mounting screws or bolts, ensuring the ECM is securely fastened. Do not overtighten.
3. **Connect Wiring Harnesses:** Reconnect all electrical wiring harnesses to the EM4556 module. Ensure each connector clicks firmly into place. Double-check all connections.
4. **Reconnect Battery:** Reconnect the negative terminal of the vehicle's battery.

3.4 Post-Installation Procedures

After installation, the vehicle's computer system may need to relearn certain parameters. This often involves a drive cycle or specific programming steps. Consult your vehicle's service manual or a professional diagnostic tool for specific relearn procedures for your vehicle model.

4. OPERATION

The Standard Motor Products EM4556 Engine Control Module operates automatically once installed and properly programmed (if required). It continuously monitors various sensors throughout the engine and vehicle, processing data to control critical engine functions such as fuel injection, ignition timing, idle speed, and emissions. The ECM ensures the engine runs efficiently and within specified parameters.

No direct user interaction is typically required for the operation of the ECM itself, as it is an integral part of the vehicle's onboard computer system.

5. MAINTENANCE

The Standard Motor Products EM4556 Engine Control Module is a sealed electronic component and generally requires no routine maintenance. To ensure its longevity and proper function:

- Keep the area around the ECM clean and free from excessive dirt, moisture, or corrosive substances.
- Ensure all electrical connections to the ECM remain secure and free of corrosion.
- Avoid exposing the ECM to extreme temperatures or physical shock.

- If the vehicle's electrical system experiences issues (e.g., voltage spikes, short circuits), have them addressed promptly by a qualified technician to prevent potential damage to the ECM.

6. TROUBLESHOOTING

If you experience issues after installing the EM4556, consider the following common troubleshooting steps. For complex issues, professional diagnostic assistance is recommended.

Symptom	Possible Cause	Solution
Check Engine Light (CEL) remains on	Incorrect installation, faulty sensor, programming issue, or other vehicle system fault.	Verify all connections are secure. Scan for diagnostic trouble codes (DTCs) using an OBD-II scanner. Address any related sensor or wiring issues. Perform relearn procedures if necessary.
Engine Cranks but Does Not Start	Improper programming/relearn, security system incompatibility, or fuel/ignition system issues.	Ensure proper programming/relearn procedure was followed. Check for fuel pressure and spark. Verify security system (immobilizer) is not preventing start.
Rough Idling or Poor Performance	Sensor input issues, vacuum leaks, or other engine mechanical problems.	Check for vacuum leaks. Inspect sensor connections and functionality. Scan for pending or active DTCs.
No Communication with OBD-II Scanner	ECM power supply issue, faulty OBD-II port, or damaged ECM.	Check ECM fuses and power/ground connections. Test OBD-II port with another scanner. If all else fails, the ECM may be faulty.

7. SPECIFICATIONS

Key specifications for the Standard Motor Products EM4556 Engine Control Module:

- **Model Number:** EM4556
- **Brand:** Standard Motor Products
- **Type:** Engine Control Module (ECM) / Electronic Control Unit (ECU) - Remanufactured
- **Item Weight:** 2.1 pounds
- **Package Dimensions:** 9.8 x 6.9 x 2 inches
- **Manufacturer Part Number:** EM4556
- **ASIN:** B000C7UWP4
- **UPC:** 091769349769
- **First Available:** January 1, 2006

8. WARRANTY AND SUPPORT

For specific warranty information regarding the Standard Motor Products EM4556 Engine Control Module, please refer to the warranty documentation provided with your purchase or visit the official Standard Motor Products website. Warranty terms typically cover defects in materials and workmanship for a specified period.

For technical support, installation assistance, or warranty claims, please contact Standard Motor Products customer service directly. Contact information can usually be found on their official website or on the product packaging.

Note: Unauthorized modifications or improper installation may void the product warranty.



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This manual is for informational purposes only. Always consult a qualified professional for automotive repairs.