

Standard Motor Products EM3378

Standard Motor Products EM3378 Engine Control Module User Manual

Model: EM3378

1. INTRODUCTION

This user manual provides essential information for the proper installation, operation, and maintenance of the Standard Motor Products EM3378 Engine Control Module (ECU). The EM3378 is a remanufactured electronic control unit designed to manage various engine functions, ensuring optimal performance and emissions control. Please read this manual thoroughly before attempting any installation or service.



Figure 1: Standard Motor Products EM3378 Engine Control Module. This image displays the compact design of the EM3378 ECU, highlighting its connectors and casing.

2. SAFETY INFORMATION

Always prioritize safety when working with automotive electrical components. Failure to follow these safety guidelines may result in personal injury, damage to the vehicle, or damage to the EM3378 module.

- **Disconnect Battery:** Before beginning any work, always disconnect the vehicle's negative battery terminal to prevent electrical shorts and accidental activation of systems.
- **Static Electricity:** Electronic components are sensitive to static discharge. Handle the EM3378 module by its casing, avoiding contact with electrical pins or circuit boards. Consider using anti-static precautions.
- **Professional Installation:** If you are not experienced with automotive electrical systems, it is highly recommended

to seek installation by a qualified automotive technician.

- **Vehicle Compatibility:** Ensure the EM3378 is the correct part for your specific vehicle make, model, and year. Refer to vehicle manufacturer specifications.
- **Environmental Conditions:** Do not expose the module to extreme temperatures, moisture, or corrosive substances.

3. INSTALLATION GUIDE

The installation of the EM3378 Engine Control Module requires careful attention to detail. This guide provides general steps; specific vehicle procedures may vary. Always consult your vehicle's service manual for precise instructions.

1. Preparation:

- Park the vehicle on a level surface and engage the parking brake.
- Disconnect the negative (-) battery terminal. Wait at least 5 minutes for residual power to dissipate.
- Locate the existing ECU. Its location varies by vehicle but is commonly found under the dashboard, in the engine bay, or under a seat.

2. Removal of Old ECU:

- Carefully disconnect all electrical connectors from the old ECU. Note their positions if necessary.
- Unmount the old ECU from its bracket or mounting points.

3. Installation of EM3378:

- Mount the EM3378 module securely in the same location as the old ECU. Ensure it is firmly attached to prevent vibration damage.
- Reconnect all electrical connectors to the EM3378. Ensure each connector clicks into place securely. Do not force connectors.

4. Post-Installation:

- Reconnect the negative (-) battery terminal.
- Perform any necessary programming or relearn procedures as specified by the vehicle manufacturer. Some ECUs require VIN programming or immobilizer relearn. This may require specialized diagnostic tools.
- Start the vehicle and check for any warning lights or abnormal operation.

Not Sure The Part Number?

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Figure 2: EM3378 Engine Control Module showing various connection ports. This image illustrates the multiple electrical connection points on the ECU, which must be correctly attached during installation.

4. OPERATION

The Standard Motor Products EM3378 Engine Control Module operates automatically once correctly installed and programmed. It continuously monitors various sensors throughout the vehicle's engine and drivetrain, processing data to control critical functions such as fuel injection, ignition timing, idle speed, and emissions systems. The ECU adapts to driving conditions and driver input to optimize engine performance and fuel efficiency.

No direct user interaction is required for the operation of the EM3378 module itself. Its function is integrated into the vehicle's overall electronic system.

5. MAINTENANCE

The Standard Motor Products EM3378 Engine Control Module is a sealed, maintenance-free unit. No routine maintenance, cleaning, or lubrication is required for the module itself. To ensure its longevity and proper function, adhere

to the following:

- **Protect from Elements:** Ensure the module remains protected from direct water exposure, extreme heat, and physical impact.
- **Secure Connections:** Periodically check that all electrical connectors remain securely attached and free from corrosion.
- **Vehicle System Health:** Maintain the overall health of your vehicle's electrical system, including battery, alternator, and wiring, as these can impact ECU performance.

6. TROUBLESHOOTING

If you experience issues after installing the EM3378, consider the following common troubleshooting steps. Many issues related to ECU replacement are often due to incorrect installation or programming rather than a faulty module.

Symptom	Possible Cause	Solution
Engine cranks but does not start	Incorrect programming/relearn procedure; Immobilizer issue; Loose electrical connection.	Verify programming/relearn steps with vehicle service manual. Check all ECU connections. Consult a professional technician.
Check Engine Light (CEL) illuminated	Diagnostic Trouble Code (DTC) present; Sensor malfunction; Wiring issue.	Use an OBD-II scanner to retrieve DTCs. Address specific codes. Inspect wiring harness for damage.
Erratic engine performance (rough idle, misfires)	Sensor input issues; Vacuum leaks; Fuel system problems (not directly ECU); Incorrect programming.	Verify all sensor connections. Ensure proper programming. Diagnose other engine systems.
No communication with OBD-II scanner	Blown fuse; Faulty OBD-II port; ECU power supply issue; Incorrect ECU.	Check relevant fuses. Test OBD-II port. Verify power and ground to ECU. Confirm correct ECU model.

Note: For complex issues or persistent problems, it is strongly recommended to consult a certified automotive diagnostic technician. Attempting advanced repairs without proper knowledge and tools can cause further damage.

7. SPECIFICATIONS

Key technical specifications for the Standard Motor Products EM3378 Engine Control Module:

- **Model Number:** EM3378
- **Part Type:** Engine Control Module (ECU) / Remanufactured
- **Brand:** Standard Motor Products
- **Weight:** Approximately 2.1 pounds (0.95 kg)
- **Compatibility:** Vehicle-specific (refer to manufacturer's cross-reference for exact fitment)
- **Function:** Manages engine performance, fuel delivery, ignition, and emissions.

8. WARRANTY AND SUPPORT

Standard Motor Products provides a warranty for the EM3378 Engine Control Module. Specific warranty terms and conditions, including duration and coverage, are typically provided with the product packaging or can be found on the official Standard Motor Products website. Please retain your proof of purchase for warranty claims. For technical support, installation assistance, or warranty inquiries, please contact Standard Motor Products customer service or visit their official website:

Standard Motor Products Official Website:www.smpcorp.com

Customer Service: Refer to the website for contact numbers or support forms.

Disclaimer: This manual is for informational purposes only. Standard Motor Products is not responsible for any damage or injury resulting from improper installation or misuse of the EM3378 module. Always follow professional automotive repair practices.

