

Powermaster 820512

Powermaster 820512 Alternator Instruction Manual

Model: 820512

1. INTRODUCTION

Thank you for choosing the Powermaster 820512 Alternator. This manual provides essential information for the proper installation, operation, and maintenance of your new alternator. Please read these instructions carefully before proceeding with installation or use to ensure optimal performance and safety.

2. SAFETY INFORMATION

WARNING: Automotive electrical systems can be dangerous. Improper installation or handling can result in serious injury, electrical shock, fire, or damage to the vehicle. Always follow safety precautions.

- Always disconnect the vehicle's battery before working on the electrical system.
- Wear appropriate personal protective equipment, including safety glasses and gloves.
- Ensure all connections are clean, tight, and properly insulated.
- Consult a qualified automotive technician if you are unsure about any part of the installation process.
- Keep children and pets away from the work area.

3. PACKAGE CONTENTS

Verify that all components are present in the package:

- Powermaster - PowerGEN GM Black Long 90A 12V w/Lam Alternator (Model 820512)

If any items are missing or damaged, please contact your retailer or Powermaster customer support immediately.

4. SETUP AND INSTALLATION

The Powermaster 820512 Alternator is designed for vehicle-specific fitment. Refer to your vehicle's service

manual for detailed instructions on removing the original alternator and installing a replacement.



Image 1: Powermaster 820512 Alternator. This image shows the black finish of the alternator, highlighting its compact design and connection points.

4.1. Pre-Installation Steps

1. **Disconnect Battery:** Always disconnect the negative (-) battery cable first, followed by the positive (+) cable.
2. **Access Alternator:** Locate the alternator in your vehicle. This may require removing other components for access.
3. **Document Connections:** Take photos or make notes of all electrical connections and belt routing before removal.

4.2. Removal of Old Alternator

1. **Remove Belt:** Loosen the tensioner and remove the serpentine or V-belt from the alternator pulley.
2. **Disconnect Wiring:** Carefully disconnect all electrical connectors and battery cables from the old alternator.
3. **Unbolt Alternator:** Remove the mounting bolts securing the alternator to the engine bracket.
4. **Remove Old Unit:** Carefully extract the old alternator from the engine bay.

4.3. Installation of New Alternator

1. **Position New Alternator:** Place the Powermaster 820512 Alternator into the mounting bracket.
2. **Secure Mounting Bolts:** Install and tighten the mounting bolts to the manufacturer's specified torque.
3. **Connect Wiring:** Reconnect all electrical connectors and battery cables. Ensure connections are

secure and free from corrosion.

4. **Install Belt:** Route the serpentine or V-belt correctly around the alternator pulley and other components. Adjust the belt tension according to your vehicle's specifications.
5. **Reconnect Battery:** Reconnect the positive (+) battery cable first, then the negative (-) cable.

5. OPERATING INSTRUCTIONS

The Powermaster 820512 Alternator is designed to automatically regulate the vehicle's charging system. Once properly installed, it will begin to function when the engine is started.

- The alternator generates electrical power to recharge the vehicle's battery and supply power to the electrical accessories while the engine is running.
- This unit features an internal voltage regulator, eliminating the need for an external regulator in many applications.
- Monitor your vehicle's dashboard warning lights. A battery or charging system warning light indicates a potential issue that requires attention.

6. MAINTENANCE

Regular maintenance helps ensure the longevity and reliable operation of your Powermaster 820512 Alternator.

- **Belt Tension:** Periodically check the tension of the serpentine or V-belt. An overly loose belt can slip, reducing charging efficiency, while an overly tight belt can cause premature bearing wear.
- **Wiring Connections:** Inspect all electrical connections to the alternator for tightness and corrosion. Clean any corroded terminals.
- **Cleanliness:** Keep the alternator free from excessive dirt, oil, and debris.
- **Bearings:** This alternator features oil-less bearings, which do not require lubrication.

7. TROUBLESHOOTING

If you experience issues with your vehicle's charging system, consider the following common troubleshooting steps:

Symptom	Possible Cause	Solution
Battery warning light on	Loose or worn belt, faulty wiring, discharged battery, alternator failure	Check belt tension and condition. Inspect all wiring connections. Test battery. Consult a professional for alternator diagnosis.
Dim headlights or accessories	Low charging output, weak battery	Check charging voltage with a multimeter. Test battery condition.
Squealing noise from engine bay	Loose or worn belt	Inspect and adjust belt tension or replace worn belt.

If these steps do not resolve the issue, it is recommended to seek assistance from a certified automotive technician.

8. SPECIFICATIONS

- **Model Name:** 82051-2
- **Brand:** Powermaster
- **Output:** 90 Amps, 12 Volts
- **Color:** Black
- **Material:** Plastic (housing components)
- **Item Weight:** 14.5 Pounds (approx. 6.58 Kilograms)
- **Item Dimensions (LxWxH):** 12 x 12 x 8 inches (approx. 30.5 x 30.5 x 20.3 cm)
- **Fit Type:** Vehicle Specific
- **Country of Origin:** United States

9. WARRANTY AND SUPPORT

The Powermaster 820512 Alternator is covered by a manufacturer's warranty. For specific details regarding warranty coverage, terms, and conditions, please refer to the warranty documentation included with your purchase or visit the official Powermaster website.

For technical support, troubleshooting assistance, or warranty claims, please contact Powermaster customer service directly. Contact information can typically be found on the manufacturer's website or product packaging.