## Powermaster 9603

# Powermaster 9603 Mastertorque Starter Instruction Manual

Model: 9603 | Brand: Powermaster

## 1. Introduction

This manual provides essential information for the proper installation, operation, and maintenance of your Powermaster 9603 Mastertorque Starter. Designed for performance, this 12-volt starter is built to deliver reliable engine cranking power. Please read this manual thoroughly before installation and operation to ensure safety and optimal performance.


Figure 1: Powermaster 9603 Mastertorque Starter. This image displays the compact black starter unit with its mounting flange and electrical connections clearly visible. The Powermaster logo is on the side.

## 2. Safety Information

Always prioritize safety when working with automotive electrical systems. Failure to follow these safety guidelines may result in personal injury or damage to your vehicle.

- **Disconnect Battery:** Before beginning any installation or maintenance, always disconnect the vehicle's battery to prevent accidental starting or electrical shorts.
- **Wear Protective Gear:** Use appropriate personal protective equipment, including safety glasses and gloves.
- **Proper Tools:** Use only the correct tools for the job. Ensure all connections are secure but do not overtighten electrical connections to avoid damage.
- **Ventilation:** Work in a well-ventilated area.
- **Professional Installation:** If you are unsure about any step, consult a qualified automotive technician.
- **Proposition 65 Warning:** This product may expose you to chemicals known to the State of California to

cause cancer and birth defects or other reproductive harm. Wash hands after handling.

## 3. Installation

The Powermaster 9603 Mastertorque Starter is designed for vehicle-specific fitment, particularly for Ford Small Block V8 engines with various transmission and flywheel configurations. Proper installation is crucial for optimal performance and longevity.

### 3.1. Included Components

Your package includes:

- Powermaster Mastertorque Starter (Model 9603)
- Necessary mounting hardware and shims (e.g., for 157T/164T flywheels, 3/4" depth)

### 3.2. Pre-Installation Checks

1. Verify the starter is the correct model for your vehicle's engine and transmission combination.
2. Inspect the starter for any shipping damage.
3. Ensure the vehicle's battery is disconnected.

### 3.3. Mounting and Clocking

The Mastertorque starter features an "Infi-Clock" design, allowing the starter to be rotated or "clocked" to various positions. This is particularly useful for clearance with headers or specific oil pan configurations.

1. Remove the old starter according to your vehicle's service manual.
2. Position the new Powermaster 9603 starter. If necessary, adjust its clocking position to ensure adequate clearance from other engine components, such as exhaust headers.
3. Secure the starter with the provided mounting hardware. Ensure bolts are tightened to the manufacturer's specifications.
4. **Shimming:** Proper gear mesh between the starter pinion and the flywheel/flexplate is critical. If your application requires it (e.g., with certain Ford Galaxies or specific flywheel sizes), use the included shims to achieve the correct alignment. Refer to online resources or a service manual for detailed shimming procedures if unsure.


Figure 2: Electrical connections on the Powermaster 9603 Starter. This image highlights the terminals for battery and ignition connections, along with a caution label regarding overtightening.

## 3.4. Electrical Connections

The Powermaster 9603 features an internal relay, simplifying wiring. Connect the main battery cable to the large terminal and the ignition switch wire to the smaller terminal labeled "IGN".

- Connect the main positive battery cable to the large terminal on the starter.
- Connect the ignition switch wire (solenoid activation wire) to the smaller terminal labeled "IGN".
- Ensure all connections are clean, tight, and free from corrosion. **CAUTION: Do Not Overtighten Electrical Connections.**
- Reconnect the vehicle's battery.

## 4. Operating Instructions

Once installed, the Powermaster 9603 Mastertorque Starter operates like a standard automotive starter. It is designed to provide strong, consistent cranking power.

1. Ensure the vehicle is in park (P) or neutral (N) and the parking brake is engaged.
2. Turn the ignition key to the "START" position. The starter will engage the flywheel and crank the engine.
3. Once the engine starts, release the ignition key immediately. Do not hold the key in the "START" position once the engine is running, as this can damage the starter.
4. If the engine does not start after a few seconds, release the key, wait for a short period (e.g., 30 seconds), and try again. Avoid prolonged cranking to prevent overheating the starter.

## 5. Maintenance

The Powermaster 9603 Mastertorque Starter is designed for durability and requires minimal maintenance. Regular checks can help ensure its long-term performance.

- **Inspect Connections:** Periodically check all electrical connections to the starter for tightness and corrosion. Clean any corrosion with a wire brush and battery terminal cleaner.
- **Mounting Security:** Ensure the starter remains securely mounted to the engine block. Loose mounting can lead to premature wear or damage.
- **Battery Condition:** A healthy battery is essential for proper starter operation. Ensure your vehicle's battery is fully charged and in good condition.
- **Avoid Over-Cranking:** Do not continuously crank the engine for extended periods. This can cause the starter to overheat and reduce its lifespan.

## 6. Troubleshooting

If you experience issues with your Powermaster 9603 Mastertorque Starter, consider the following common troubleshooting steps:

- **Starter Does Not Engage or Clicks:**
  - Check battery charge and connections. A weak battery is a common cause.
  - Inspect all electrical connections at the starter and battery for looseness or corrosion.
  - Ensure the ignition switch wire is properly connected to the "IGN" terminal.
- **Starter Cranks Slowly:**
  - Verify battery health and charge.
  - Check for excessive resistance in battery cables or connections.
  - Ensure the engine is not seized or experiencing other mechanical issues.
- **Grinding Noise During Cranking:**
  - This often indicates improper gear mesh. Re-check shimming and mounting alignment.
  - Inspect the flywheel/flexplate teeth for damage.
- **Starter Continues to Run After Engine Starts:**
  - This could indicate a faulty ignition switch or a problem with the starter's internal relay.
  - Immediately disconnect the battery to prevent damage.

If these steps do not resolve the issue, it is recommended to consult a professional automotive technician.

## 7. Specifications

Key technical specifications for the Powermaster 9603 Mastertorque Starter:

| Feature | Specification |
|---|---|
| Model Name | 9603 |
| Brand | Powermaster |
| Voltage | 12 Volts |
| Amperage | 120 Amps |
| Phase Type | Three Phase |
| Item Weight | 10.5 Pounds (4.76 kg) |
| Item Dimensions (LxWxH) | 12.5 x 5.5 x 7.5 inches (31.75 x 13.97 x 19.05 cm) |
| Color | Black |
| Material | Plastic (housing, internal components may vary) |
| Included Components | Powermaster - Str Master Infi-Clock™ Ford [SB] V8 |
| UPC | 692209004271 |

## 8. Warranty and Support

The Powermaster 9603 Mastertorque Starter comes with a manufacturer's warranty. For specific details regarding warranty coverage, duration, and claims, please refer to the documentation included with your product or contact Powermaster directly.
For technical support, installation assistance, or warranty inquiries, please contact Powermaster customer service. Contact information can typically be found on the manufacturer's official website or product packaging.
**Manufacturer:** Powermaster