Saved from manuals.plus.
Open the live page for links to other documents and user manuals.

MAHLE MS195

MAHLE MS195 Starter Motor Instruction Manual

Model: MS195

1. Introduction

This manual provides essential information for the proper installation, operation, maintenance, and troubleshooting of your MAHLE MS195 Starter Motor. Please read this manual thoroughly before attempting any procedures to ensure safe and effective use. The MAHLE MS195 is designed to provide reliable engine starting performance for compatible vehicles.



Figure 1: MAHLE MS195 Starter Motor, showing the main body, solenoid, and drive gear.

2. Safety Information

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

- **Disconnect Battery:** Before beginning any work, always disconnect the vehicle's battery, starting with the negative (-) terminal, to prevent electrical shock or short circuits.
- **Wear Protective Gear:** Use appropriate personal protective equipment, including safety glasses and gloves.
- **Professional Installation Recommended:** Installation of a starter motor can be complex and may require specialized tools and knowledge. If you are not confident in your abilities, seek assistance from a qualified automotive technician.
- **Avoid Hot Surfaces:** Engine components can be extremely hot. Allow the engine to cool before working on it.
- **Secure Vehicle:** Ensure the vehicle is on a level surface and properly supported with jack stands if lifting is required. Engage the parking brake.
- **Handle with Care:** The starter motor is a heavy component. Handle it carefully to avoid injury or damage.

3. Setup and Installation

The following steps provide a general overview of starter motor installation. Specific procedures may vary depending on the vehicle make and model. Refer to your vehicle's service manual for detailed instructions.

3.1 Pre-Installation Checks

- Verify that the MAHLE MS195 is the correct starter motor for your vehicle application.
- Inspect the new starter for any visible damage.
- Ensure all necessary mounting hardware and electrical connectors are available and in good condition.

3.2 Installation Steps (General)

1. **Disconnect Battery:** Disconnect the negative (-) battery cable, then the positive (+) cable.
2. **Locate and Remove Old Starter:** Identify the old starter motor. Disconnect all electrical connections (battery cable, solenoid wire) and remove the mounting bolts. Carefully remove the old starter.
3. **Clean Mounting Surface:** Clean any corrosion or debris from the starter mounting surface on the engine block or transmission housing.
4. **Install New Starter:** Position the MAHLE MS195 starter motor into place. Secure it with the mounting bolts, tightening them to the vehicle manufacturer's specified torque.
5. **Connect Electrical Wires:** Reconnect the electrical wires to the starter solenoid. Ensure connections are clean and tight. The main battery cable connects to the large terminal, and the ignition switch wire connects to the smaller terminal.
6. **Reconnect Battery:** Reconnect the positive (+) battery cable, then the negative (-) battery cable.
7. **Test Operation:** Attempt to start the vehicle. Listen for proper starter engagement and engine cranking.

If the starter does not operate correctly, refer to the Troubleshooting section.

4. Operating Instructions

The MAHLE MS195 Starter Motor is designed for automatic operation in conjunction with your vehicle's ignition system. Its primary function is to crank the engine to initiate combustion.

- **Normal Operation:** When the ignition key is turned to the 'START' position, the starter solenoid engages the starter motor. The starter motor then rotates the engine's flywheel, causing the engine to crank.
- **Release Key:** Once the engine starts, immediately release the ignition key. Prolonged cranking after the engine has started can damage the starter motor and flywheel.
- **Avoid Excessive Cranking:** Do not crank the engine for more than 10-15 seconds at a time. If the engine does not start, wait at least 30 seconds to allow the starter to cool before attempting to crank again. Excessive cranking can overheat and damage the starter motor.

5. Maintenance

The MAHLE MS195 Starter Motor is a robust component designed for long service life with minimal maintenance. However, periodic inspection of related components can help ensure optimal performance.

5.1 Inspection

- **Electrical Connections:** Periodically inspect all electrical connections to the starter motor and solenoid for corrosion, looseness, or damage. Ensure they are clean and tight.
- **Battery Condition:** A weak battery can mimic starter problems. Ensure your vehicle's battery is fully charged and in good condition.
- **Mounting Bolts:** Check that the starter mounting bolts are secure and properly torqued.

5.2 Cleaning

Keep the exterior of the starter motor free from excessive dirt, oil, and grease. Use a clean cloth to wipe down the unit if necessary.



Figure 2: Exploded diagram illustrating the internal components of a typical starter motor, useful for understanding its construction.

6. Troubleshooting

If your vehicle experiences starting issues, consider the following common problems and solutions before replacing the starter motor.

Symptom	Possible Cause	Solution
Starter does not crank, no sound.	Dead battery, loose/corroded battery terminals, faulty ignition switch, open circuit in starter wiring.	Check battery charge and terminals. Test ignition switch. Inspect wiring for breaks or loose connections.
Starter clicks but does not crank.	Low battery voltage, faulty starter solenoid, poor electrical connection, seized engine.	Charge/test battery. Check battery cables and connections. Test solenoid. Manually try to turn engine (if safe).
Starter cranks slowly.	Weak battery, corroded battery cables, high resistance in starter circuit, worn starter motor.	Test battery and charging system. Clean/replace battery cables. Inspect starter motor for wear.
Grinding noise during cranking.	Damaged starter drive gear, damaged flywheel teeth, improper starter alignment.	Inspect starter drive gear and flywheel. Verify proper starter mounting. Professional inspection recommended.
Starter continues to run after engine starts.	Faulty starter solenoid, sticky ignition switch.	Immediately disconnect battery. Test/replace solenoid. Inspect ignition switch.

If troubleshooting steps do not resolve the issue, professional diagnosis and repair are recommended.

7. Specifications

The following specifications are for the MAHLE MS195 Starter Motor. These are general specifications; always confirm compatibility with your specific vehicle application.

- **Model:** MS195
- **Item Weight:** 6.36 pounds (2.89 Kilograms)
- **Product Dimensions (L x W x H):** 9.12 x 5.57 x 3.4 inches
- **Exterior:** Machined
- **Manufacturer Part Number:** MS195
- **Global Trade Identification Number (GTIN):** 03838922052251
- **UPC:** 027067264435

7.1 Dimensional Drawings



Figure 3: Dimensional drawing of the MAHLE MS195 Starter Motor, illustrating key measurements.



Figure 4: Additional dimensional drawing providing further measurement details for the MAHLE MS195 Starter Motor.

8. Warranty Information

For specific warranty terms and conditions pertaining to your MAHLE MS195 Starter Motor, please refer to the warranty documentation provided at the time of purchase or contact MAHLE directly through their official website or customer service channels. Warranty coverage typically addresses manufacturing defects under normal operating conditions.

9. Support and Contact

If you require further assistance, technical support, or have questions regarding your MAHLE MS195 Starter Motor, please contact MAHLE customer service or visit their official website:

- **MAHLE Official Website:** www.mahle.com
- Refer to the contact section on the MAHLE website for regional customer service numbers or email support.
- For installation or repair, it is recommended to consult with a certified automotive technician.

© 2024 MAHLE. All rights reserved. Information subject to change without notice.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

https://manuals.plus/asin/B077FZKYCD

More documents and user manuals: **https://manuals.plus/**