

[Manuals.plus](#) /

› [Standard Motor Products](#) /

› Standard Motor Products NS-520 Neutral/Backup Switch User Manual

Standard Motor Products NS-520

Standard Motor Products NS-520 Neutral/Backup Switch User Manual

Model: NS-520

INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, maintenance, and troubleshooting of the Standard Motor Products NS-520 Neutral/Backup Switch. Please read this manual thoroughly before installation and use to ensure proper function and safety.



Image: The Standard Motor Products NS-520 Neutral/Backup Switch. This image displays the main component, a black electronic switch with a central rotating mechanism and a multi-pin connector at one end, designed for automotive applications.

PRODUCT OVERVIEW

The NS-520 is an electronic switch designed for automotive applications, specifically functioning as a neutral/backup switch. It ensures proper signaling for vehicle systems related to transmission position and reverse light activation.

Key Features:

- **Current Rating:** 20 Amps
- **Operating Voltage:** 5 Volts
- **Contact Type:** Normally Open
- **Circuit Type:** Parallel
- **Contact Material:** Metal
- **International Protection Rating:** IP54
- **Number of Positions:** 2

SETUP AND INSTALLATION

Installation of the NS-520 Neutral/Backup Switch should be performed by a qualified technician. Always disconnect the vehicle's battery before beginning any electrical work.

Required Tools:

- Wrench set
- Socket set
- Multimeter (for testing)
- Vehicle-specific service manual

Installation Steps:

1. Locate the existing neutral/backup switch on your vehicle's transmission. Refer to your vehicle's service manual for the exact location.
2. Carefully disconnect the electrical connector from the old switch.
3. Using the appropriate wrench or socket, remove the old switch from its mounting point.
4. Inspect the mounting surface and ensure it is clean and free of debris.
5. Install the new Standard Motor Products NS-520 switch, ensuring it is properly seated and tightened to the manufacturer's specifications.
6. Reconnect the electrical connector to the new switch, ensuring a secure connection.
7. Reconnect the vehicle's battery.
8. Test the functionality of the neutral safety and backup light systems according to your vehicle's service manual.

OPERATING PRINCIPLES

The NS-520 switch operates by detecting the position of the transmission. In the neutral or park position, it allows the engine to start (neutral safety function). When the transmission is shifted into reverse, the switch activates the backup lights, signaling to others that the vehicle is moving backward.

Its "Normally Open" contact type means that the circuit is open (no current flow) in its default state and closes (allows current flow) when activated by the transmission's position.

MAINTENANCE

The Standard Motor Products NS-520 Neutral/Backup Switch is designed for long-term reliability and typically requires minimal maintenance after proper installation.

General Recommendations:

- **Periodic Inspection:** During routine vehicle maintenance, visually inspect the switch and its electrical connector for any signs of corrosion, damage, or loose connections.
- **Keep Clean:** Ensure the area around the switch is free from excessive dirt, grease, or moisture, which could potentially affect its operation or lead to premature wear.
- **Avoid Harsh Chemicals:** Do not use harsh solvents or abrasive cleaners directly on the switch or its electrical components.

TROUBLESHOOTING

If you experience issues with your neutral safety or backup light system, the NS-520 switch may be a contributing factor. Here are some common symptoms and troubleshooting steps:

Symptom	Possible Cause	Solution
Engine does not crank in Park or Neutral.	Faulty neutral safety switch, wiring issue, or transmission not fully in Park/Neutral.	Verify transmission is fully engaged. Check wiring for continuity. Test the NS-520 switch for proper operation using a multimeter. Replace if faulty.
Backup lights do not illuminate when in Reverse.	Faulty backup light switch (part of NS-520), blown fuse, or faulty bulbs.	Check backup light fuse and bulbs. Test the NS-520 switch for proper operation in Reverse. Replace if faulty.
Engine cranks in gear (not Park/Neutral).	Faulty neutral safety switch (stuck closed).	Immediately cease operation. This is a safety hazard. Replace the NS-520 switch.

Note: For complex electrical issues, it is recommended to consult a certified automotive technician.

SPECIFICATIONS

Model:	NS-520
Brand:	Standard Motor Products
Current Rating:	20 Amps
Operating Voltage:	5 Volts
Contact Type:	Normally Open
Terminal Type:	Screw
Item Dimensions (L x W x H):	4 x 4 x 3 inches
Circuit Type:	Parallel
Contact Material:	Metal
International Protection Rating:	IP54
Number of Positions:	2
Color:	Black
Item Weight:	0.01 ounces
UPC:	025623513508

WARRANTY AND SUPPORT

For information regarding warranty coverage and technical support for your Standard Motor Products NS-520 Neutral/Backup Switch, please refer to the official Standard Motor Products website or contact their customer service directly. Warranty terms may vary based on purchase location and specific product policies.

Standard Motor Products Official Website: www.smpcorp.com

For further assistance, please contact your retailer or a certified automotive service center.

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/B005F9L3OI>

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