

1987 chevy truck fuel pump relay wiring diagram

1987 chevy truck fuel pump relay wiring diagram is an essential reference for anyone working on the fuel delivery system of these classic vehicles. Understanding the wiring diagram helps diagnose fuel pump issues, perform repairs, and ensure proper operation of the fuel pump relay. This article provides a detailed overview of the wiring diagram for the 1987 Chevy truck fuel pump relay, explaining its components, wiring color codes, and step-by-step guidance for troubleshooting. Additionally, it covers the role of the fuel pump relay in the fuel system and highlights common wiring problems associated with this model year. Whether restoring a 1987 Chevy truck or performing routine maintenance, this comprehensive guide offers valuable insights into the electrical wiring that controls the fuel pump relay. Readers will find clear explanations and practical tips to help maintain fuel system reliability and safety.

- Overview of the 1987 Chevy Truck Fuel Pump Relay
- Understanding the Fuel Pump Relay Wiring Diagram
- Wiring Color Codes and Connections
- Troubleshooting Common Wiring Issues
- Testing and Replacing the Fuel Pump Relay

Overview of the 1987 Chevy Truck Fuel Pump Relay

The fuel pump relay in a 1987 Chevy truck is a critical component that controls the electrical power supplied to the fuel pump. It acts as a switch, receiving signals from the ignition and engine control systems to activate the fuel pump at appropriate times. This relay ensures that the fuel pump operates only when necessary, preventing unnecessary fuel consumption and enhancing safety by cutting off fuel flow when the engine is off. The relay is typically located in the fuse block or relay panel under the hood, and it plays a vital role in maintaining the fuel system's integrity.

Role of the Fuel Pump Relay in the Fuel System

The fuel pump relay serves as an intermediary between the vehicle's ignition system and the fuel pump. When the ignition is turned on, the relay receives a low voltage signal that energizes the internal coil, closing the relay contacts and supplying power to the fuel pump. This mechanism prevents the fuel pump from running continuously, which could lead to premature wear or safety hazards. In the 1987 Chevy truck, the relay's reliable function is essential for proper fuel pressure and engine performance, making an accurate wiring setup crucial.

Location and Identification

In a 1987 Chevy truck, the fuel pump relay is commonly found in the engine compartment's fuse and relay block. It is usually a small, square or rectangular plug-in relay with metal prongs that slot into the relay socket. Identifying the correct relay is the first step before consulting the wiring diagram or performing any electrical work. Vehicle owners should refer to the owner's manual or service documentation for exact relay placement.

Understanding the Fuel Pump Relay Wiring Diagram

The 1987 Chevy truck fuel pump relay wiring diagram provides a visual map of how electrical connections are routed between the fuel pump relay, fuel pump, ignition switch, power source, and ground. This diagram is crucial for technicians and DIY enthusiasts to understand the wiring paths and how the relay controls the fuel pump's operation. By following the wiring diagram, users can verify correct wiring, identify faults, and ensure proper electrical flow for safe and effective fuel delivery.

Basic Components in the Wiring Diagram

The wiring diagram typically includes the following components:

- **Fuel Pump Relay:** The central switching device.
- **Fuel Pump:** The electric pump that delivers fuel to the engine.
- **Ignition Switch:** Supplies the activation signal to the relay.
- **Power Source:** Usually the vehicle's battery or fuse box providing 12 volts.
- **Ground Connection:** Completes the electrical circuit for the relay coil and fuel pump.

These components are interconnected by wiring harnesses, with specific wire colors and terminals designated for each connection in the diagram.

How to Read the Wiring Diagram

Reading the wiring diagram involves understanding the symbols and lines representing wires and electrical components. Solid lines indicate wires, while dotted or dashed lines may show optional connections or internal relay coil circuits. Terminal numbers or labels correspond to physical relay pins, guiding where each wire should be connected. Following the flow from the ignition switch to the relay coil, then to the fuel pump, allows one to trace how the circuit operates during engine start-up and running conditions.

Wiring Color Codes and Connections

The 1987 Chevy truck wiring harness uses specific color codes to identify wires connected to the fuel pump relay. These colors help simplify diagnostics and repairs. Knowing the standard color codes allows technicians to quickly verify or correct wiring connections based on the fuel pump relay wiring diagram.

Common Wire Colors and Their Functions

Typical wire colors found in the 1987 Chevy truck fuel pump relay circuit include:

- **Red:** Constant 12-volt power supply from the battery or fuse block.
- **Pink or Light Green:** Ignition switch signal wire that activates the relay coil.
- **Black or Black with White Stripe:** Ground wire for the relay coil or fuel pump.
- **Dark Green or Dark Blue:** Power output wire from the relay to the fuel pump.

It is important to consult the specific wiring diagram for exact color codes as variations can exist depending on the trim or engine type.

Relay Pin Connections Explained

The fuel pump relay usually has four or five pins, each serving a specific purpose in the circuit:

1. **Pin 85:** Connected to ground to complete the relay coil circuit.
2. **Pin 86:** Connected to the ignition switch or control module to energize the relay coil.
3. **Pin 30:** Receives constant battery voltage through a fuse.
4. **Pin 87:** Outputs power to the fuel pump when the relay is activated.
5. **Pin 87a (if present):** Normally closed contact, typically unused in fuel pump applications.

Correct wiring of these pins according to the 1987 Chevy truck fuel pump relay wiring diagram is essential for proper relay function.

Troubleshooting Common Wiring Issues

Electrical problems involving the fuel pump relay wiring are common causes of fuel delivery failures in 1987 Chevy trucks. Diagnosing these issues requires knowledge of the wiring diagram and systematic testing of the relay circuit and related components.

Symptoms of Fuel Pump Relay Wiring Problems

Some common signs that indicate wiring issues include:

- Fuel pump not activating when the ignition is turned on.
- Intermittent fuel pump operation resulting in engine stalling.
- Blown fuses related to the fuel pump circuit.
- Burnt or melted wiring near the relay or fuel pump connector.
- Corrosion or loose connections causing poor electrical contact.

Diagnostic Steps Using the Wiring Diagram

To troubleshoot wiring problems effectively:

1. Locate the fuel pump relay and confirm its identification.
2. Inspect relay socket and wiring harness for visible damage or corrosion.
3. Use a multimeter to check for power at the relay's input terminal (Pin 30).
4. Verify ground continuity at Pin 85 and control voltage at Pin 86 during ignition ON.
5. Check for voltage output at Pin 87 when the relay is energized.
6. Test the fuel pump wiring from the relay to ensure no breaks or shorts.

Following these steps with the aid of the 1987 Chevy truck fuel pump relay wiring diagram enables precise identification of faults and avoids unnecessary replacement of parts.

Testing and Replacing the Fuel Pump Relay

Testing the fuel pump relay and replacing it if faulty is a straightforward process that can restore proper fuel pump operation. The wiring diagram helps confirm correct wiring before and after relay replacement to ensure the system functions correctly.

How to Test the Fuel Pump Relay

Testing involves verifying that the relay switches power correctly when activated. Steps include:

- Remove the relay from its socket.

- Use a 12-volt power source to energize the relay coil terminals (Pins 85 and 86).
- Check for continuity between the power input terminal (Pin 30) and the output terminal (Pin 87) when the coil is energized.
- Listen for a clicking sound indicating relay activation.

If the relay does not click or fails the continuity test, it should be replaced with an OEM or compatible relay designed for the 1987 Chevy truck.

Replacing the Fuel Pump Relay and Wiring Verification

When replacing the relay, ensure that the socket and wiring harness are clean and free of damage. Insert the new relay firmly into the socket, matching pin orientation as indicated in the wiring diagram. After replacement, turn the ignition on and verify fuel pump operation by listening for the pump activation or using a fuel pressure gauge. Confirm that wiring connections conform to the 1987 Chevy truck fuel pump relay wiring diagram specifications to prevent future issues.

Frequently Asked Questions

Where can I find a wiring diagram for the fuel pump relay on a 1987 Chevy truck?

You can find the wiring diagram for the 1987 Chevy truck fuel pump relay in the vehicle's service manual or through online automotive forums and websites specializing in classic Chevy trucks.

What is the color code for the fuel pump relay wires on a 1987 Chevy truck?

Typically, the fuel pump relay wiring involves a pink wire for the fuel pump positive feed, a black wire for ground, and a purple or tan wire for the relay control, but color codes may vary; consult the specific wiring diagram for your model.

How do I test the fuel pump relay on a 1987 Chevy truck using the wiring diagram?

Using the wiring diagram, identify the relay terminals: apply 12V power to the coil side and check for continuity on the switched terminals. If there is no continuity or the relay clicks, it may be faulty.

Can I bypass the fuel pump relay wiring on a 1987 Chevy truck for testing purposes?

While it is possible to bypass the relay by directly supplying power to the fuel pump, it is not recommended for extended use as it removes safety features; always refer to the wiring diagram and

use proper testing procedures.

What role does the fuel pump relay play in the 1987 Chevy truck's fuel system?

The fuel pump relay controls the power supply to the fuel pump, ensuring it only runs when the engine is on or during startup, preventing fuel pump operation when not needed for safety.

How can I identify the fuel pump relay location using the wiring diagram for a 1987 Chevy truck?

The wiring diagram shows the relay box layout, usually located under the dash or in the engine compartment fuse box; the fuel pump relay is often labeled and connected to the fuel pump circuit.

Are the fuel pump relay wiring diagrams for 1987 Chevy trucks different between models?

Yes, wiring diagrams can vary between different 1987 Chevy truck models and engine types; always reference the specific diagram for your truck's make, model, and engine.

What are common issues shown in the fuel pump relay wiring diagram for a 1987 Chevy truck?

Common issues include corroded connections, broken wires, or faulty relay contacts, all of which can be diagnosed by tracing the wiring diagram and inspecting the relay circuit.

Can I use a universal fuel pump relay wiring diagram for my 1987 Chevy truck?

While universal diagrams can provide a general idea, it is best to use the exact wiring diagram for your 1987 Chevy truck for accurate wire colors and relay pinouts.

How does the wiring diagram help in replacing the fuel pump relay on a 1987 Chevy truck?

The wiring diagram shows the relay pin configuration and wiring connections, allowing you to correctly identify and replace the relay without causing wiring errors.

Additional Resources

1. Chevy Truck Electrical Systems Guide: Wiring Diagrams and Troubleshooting

This comprehensive guide covers the electrical systems found in Chevy trucks, including detailed wiring diagrams for fuel pump relays. It is ideal for both beginners and experienced mechanics looking to understand or repair their truck's electrical components. The book offers step-by-step troubleshooting techniques to identify and fix common wiring issues.

2. 1987 Chevy Truck Repair Manual: Electrical and Fuel Systems

Focused specifically on the 1987 Chevy truck models, this manual provides detailed instructions on the fuel pump relay wiring and other key electrical systems. It includes original factory wiring diagrams and practical tips for maintenance and repair. The manual is a valuable resource for restoring or maintaining classic Chevy trucks.

3. Automotive Wiring and Electrical Systems

This book explains the fundamentals of automotive wiring with examples from various vehicle models, including Chevy trucks. It covers relay operation, wiring harnesses, and fuel pump circuits in depth. Readers will learn how to read wiring diagrams and perform accurate repairs on fuel pump relays.

4. How to Restore Your Chevy Truck: Electrical and Mechanical Systems

A restoration-focused book that guides enthusiasts through repairing and upgrading their Chevy trucks, including detailed sections on electrical wiring and fuel pump relay circuits. It contains photographs, diagrams, and tips tailored to 1980s Chevy trucks. The book is perfect for DIY restorers aiming to keep their trucks running smoothly.

5. Fuel Pump Relay Wiring and Diagnostics for Classic Chevy Trucks

This specialized book zeroes in on fuel pump relay wiring diagrams and diagnostic procedures for classic Chevy trucks, emphasizing models from the 1980s. It helps readers understand relay function and common failure points through clear illustrations and troubleshooting charts. Ideal for mechanics and hobbyists dealing with fuel delivery problems.

6. GM Truck Electrical Systems: A Technician's Guide

A professional-level resource that dives deep into the electrical systems of GM trucks, including the 1987 Chevy models. The book includes detailed wiring diagrams for fuel pump relays and other critical components, along with diagnostic flowcharts. It is an essential reference for technicians working on GM truck electrical repairs.

7. The Complete Chevy Truck Wiring Manual

This manual offers a full collection of wiring diagrams and explanations for Chevy trucks across multiple years, with a focus on fuel pump relay wiring for the 1987 models. It provides clear instructions for wiring repairs, modifications, and upgrades. The book is designed to help users avoid common wiring mistakes and ensure reliable electrical performance.

8. Classic Chevy Trucks: Electrical Repairs and Upgrades

Targeted at classic Chevy truck owners, this book covers essential electrical repairs, including fuel pump relay wiring and replacement. It discusses how to improve wiring reliability and upgrade electrical components for better performance. The guide includes practical tips and photos to assist in the repair process.

9. Understanding Automotive Relays: Wiring and Function

This book focuses on the theory and practical application of automotive relays, using examples such as the fuel pump relay in Chevy trucks. Readers will gain a solid understanding of relay wiring diagrams, operation, and common issues. The book is a great educational tool for anyone looking to master automotive electrical systems.

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