

2018 jeep compass relay diagram

The 2018 Jeep Compass relay diagram is a crucial piece of information for any owner or mechanic looking to diagnose and repair electrical issues within this popular compact SUV. Understanding the location and function of various relays is key to troubleshooting problems ranging from a non-starting engine to malfunctioning lights or power accessories. This comprehensive guide will delve deep into the 2018 Jeep Compass electrical system, providing detailed insights into its relay layout, common relay functions, and how to interpret the diagrams. We'll cover everything from identifying the fuse and relay boxes to understanding the specific circuits each relay controls, making this your go-to resource for all things related to your Compass's electrical integrity.

Understanding the 2018 Jeep Compass Relay System

The electrical system of a modern vehicle like the 2018 Jeep Compass is a complex network of wires, fuses, and relays. Relays act as electrically operated switches, allowing a low-current circuit to control a high-current circuit. This is essential for protecting sensitive electronic components and for efficiently managing the power demands of various automotive systems. In the 2018 Jeep Compass, these relays are strategically located in specific fuse and relay boxes throughout the vehicle, making their identification and understanding vital for any diagnostic work.

Locating the Fuse and Relay Boxes in the 2018 Jeep Compass

The first step in understanding the 2018 Jeep Compass relay diagram is knowing where to find the physical relay locations. Jeep typically places these critical components in accessible, yet protected, areas. For the 2018 Compass, you'll generally find two main fuse and relay box locations.

Underhood Fuse and Relay Box

The primary fuse and relay box is usually situated in the engine compartment, often near the battery or on the driver's side strut tower. This box houses relays for major powertrain and underhood systems. It's designed to be weather-resistant and easily accessible for routine maintenance and troubleshooting.

Interior Fuse and Relay Box

A secondary fuse and relay box is typically located within the passenger cabin. Common locations for this box include under the dashboard, on the driver's or passenger's side, or sometimes behind a removable panel. This box manages interior functions, lighting, and accessories.

Key Relays and Their Functions in the 2018 Jeep Compass

Each relay in the 2018 Jeep Compass is designed to control a specific circuit. Understanding the function of each relay is essential for accurate diagnosis. While a complete list can be extensive, here are some of the most common and critical relays you'll encounter, along with their typical functions.

Starter Relay

The starter relay is one of the most important relays in the vehicle. When you turn the ignition key to the "start" position, a low-current signal is sent to the starter relay. This relay then closes a high-current circuit, sending power from the battery to the starter motor, which cranks the engine. A faulty starter relay will prevent the engine from cranking.

Fuel Pump Relay

The fuel pump relay is responsible for powering the electric fuel pump. When the ignition is turned on, the Powertrain Control Module (PCM) activates the fuel pump relay, which in turn supplies power to the fuel pump. This ensures that fuel is delivered to the engine for combustion. Issues with the fuel pump relay can lead to the engine not starting or stalling unexpectedly.

Ignition Relays (Ignition Off Relay, Ignition On Relay)

Modern vehicles often utilize multiple ignition relays to manage the flow of power to various electronic systems when the ignition is on or off. These relays control power to the engine control unit (ECU), fuel injectors, ignition coils, and other vital components. Their proper functioning is critical for the engine to start and run smoothly.

Cooling Fan Relays

The cooling fan relays control the operation of the engine's electric cooling fans. These fans are crucial for maintaining optimal engine operating temperature, especially in stop-and-go traffic or under heavy load. The PCM monitors engine temperature and activates these relays to engage the fans as needed. Overheating issues can sometimes be traced back to faulty cooling fan relays.

Headlight and Lighting Relays

Relays are also used to control high-current lighting circuits, such as headlights, taillights, and fog lights. Using relays for lighting prevents the ignition switch and related wiring from carrying the high amperage required by the bulbs, thus preventing premature wear and potential fire hazards.

Horn Relay

The horn operates on a separate circuit, often utilizing a relay to amplify the signal from the horn button. This ensures that the horn receives sufficient power to produce a loud audible warning.

Accessory Relays

Several relays manage power to various accessories like power windows, power seats, infotainment systems, and windshield wipers. If an accessory isn't functioning, the corresponding relay is a potential culprit.

Interpreting the 2018 Jeep Compass Relay Diagram

Understanding how to read a 2018 Jeep Compass relay diagram is paramount for effective troubleshooting. These diagrams, often found in service manuals or online automotive repair databases, provide a visual representation of the electrical circuits and the components within them.

Key Elements of a Relay Diagram

- **Symbols:** Relay diagrams use specific symbols to represent components like relays, fuses, switches, and loads (e.g., motors, lights).
- **Circuit Paths:** Lines on the diagram indicate the flow of electrical current.
- **Component Identification:** Relays and fuses are typically labeled with a number or letter that corresponds to their physical location in the fuse and relay boxes.
- **Connections:** Diagrams show how components are interconnected, illustrating the flow of power and control signals.

Steps to Interpret a Diagram

When faced with an electrical issue, follow these general steps to interpret the relevant portion of the 2018 Jeep Compass relay diagram:

1. **Identify the Symptom:** Determine exactly which system or component is not functioning correctly.
2. **Locate the Relevant Circuit:** Using the symptom, find the associated circuit on the diagram. For example, if the headlights are out, you'll look for the headlight circuit.
3. **Identify the Relay:** Within that circuit, locate the relay responsible for controlling it. The diagram will show which fuse and relay box contains this relay and its specific identification number or label.
4. **Check the Fuse:** Always start by checking the fuse associated with the circuit. A blown fuse is a common cause of electrical failures.
5. **Test the Relay:** If the fuse is good, the relay itself may be faulty. Diagrams can help understand how to test the relay, often by checking for voltage at its terminals or by bypassing it temporarily (with caution and proper knowledge).

Troubleshooting Common Relay-Related Issues

When a particular electrical component or system in your 2018 Jeep Compass isn't working as expected, a faulty relay is often a primary suspect. Here are some common symptoms and how they might relate to relays.

No Crank, No Start

If your Jeep Compass won't even attempt to crank the engine when you turn the key, the starter relay is a strong possibility. However, other issues like a dead battery, faulty ignition switch, or neutral safety switch could also cause this. The relay diagram will help trace the power flow to the starter.

Engine Starts but Stalls

An intermittent stalling issue could point to the fuel pump relay or an ignition relay. If the fuel pump isn't consistently receiving power due to a faulty relay, the engine will starve for fuel and stall. Similarly, if an ignition relay fails to provide consistent power to the ignition system, the engine can misfire or stall.

Lights Not Working

If your headlights, taillights, or interior lights aren't functioning, the corresponding lighting relay is a likely cause. The diagram will indicate which relay controls which lighting circuit.

Accessories Not Functioning

For non-functioning power windows, power locks, or other accessories, consult the 2018 Jeep Compass relay diagram to identify the specific relay for that accessory. A failing accessory relay will prevent power from reaching the component.

Tips for Replacing a Relay

Replacing a relay in your 2018 Jeep Compass is generally a straightforward process, but it requires caution and attention to detail. Always consult your

vehicle's owner's manual or a service manual for specific instructions related to your model year.

Safety First

- Always disconnect the negative battery terminal before attempting to remove or replace any electrical component.
- Ensure the ignition is turned off.
- If you are unsure about any step, it is best to consult a qualified mechanic.

Identifying the Correct Replacement Relay

When purchasing a replacement relay, ensure it matches the specifications of the original relay. This includes voltage, amperage rating, and pin configuration. The part number found on the original relay is the best reference.

The Replacement Process

Once you've located the faulty relay and have the correct replacement, the process typically involves the following:

1. **Open the Fuse/Relay Box:** Carefully open the cover of the relevant fuse and relay box.
2. **Identify the Relay:** Using the diagram and labels, identify the specific relay to be replaced.
3. **Remove the Old Relay:** Relays are usually held in place by clips or a snug fit. Use a fuse puller or a small, flat-head screwdriver to gently pry the relay out. Avoid forcing it, as you could damage the socket.
4. **Install the New Relay:** Align the pins of the new relay with the socket and push it firmly into place until it clicks or sits securely.
5. **Close the Box and Reconnect Battery:** Replace the fuse box cover and reconnect the negative battery terminal.

6. Test the System: Turn the ignition on and test the system that was not working to confirm the repair.

The Importance of Accurate Diagrams

Having access to an accurate 2018 Jeep Compass relay diagram is not just for convenience; it's essential for the proper maintenance and repair of your vehicle. Incorrectly identified or interpreted diagrams can lead to further damage to the electrical system, costly mistakes, and frustration. Auto repair databases and specialized service manuals are invaluable resources for obtaining these precise diagrams.

These diagrams are developed by automotive engineers and provide the most reliable information for understanding how each electrical circuit is designed and how the relays function within those circuits. They serve as the definitive guide for electricians and mechanics alike when diagnosing complex electrical issues.

By thoroughly understanding the 2018 Jeep Compass relay diagram, owners can gain a deeper appreciation for the intricate workings of their vehicle's electrical system. This knowledge empowers them to either perform basic troubleshooting themselves or to communicate more effectively with a professional mechanic, leading to faster and more accurate repairs.

Frequently Asked Questions

Where can I find the relay diagram for a 2018 Jeep Compass?

The most reliable place to find a relay diagram for a 2018 Jeep Compass is in the vehicle's official owner's manual or a service manual specific to that model year. Online automotive repair forums and subscription-based vehicle data services may also offer these diagrams.

What are the most common relays I might need to identify for a 2018 Jeep Compass?

Common relays you might need to identify include those for the fuel pump, horn, headlights, cooling fan, starter, and various other essential electrical systems. The exact locations and functions will be detailed in the relay diagram.

How can I tell if a relay in my 2018 Jeep Compass is faulty?

Symptoms of a faulty relay can include a component not working at all (e.g., no headlights), intermittent operation, clicking sounds from the relay housing when it shouldn't be active, or a fuse blowing repeatedly when a specific circuit is engaged.

What's the typical location of the fuse and relay boxes in a 2018 Jeep Compass?

The 2018 Jeep Compass typically has two main fuse and relay boxes: one located in the engine compartment, often near the battery, and another inside the passenger cabin, usually under the dashboard or on the side of the driver's side footwell.

Can I interchange relays in my 2018 Jeep Compass if they have the same part number?

It is generally advisable to only use the specified relay for each circuit. While some relays may appear identical and share a part number, they can have different internal configurations or current ratings that could lead to malfunctions or damage if interchanged incorrectly.

What tools are needed to test or replace a relay in a 2018 Jeep Compass?

Basic tools for relay replacement usually include a fuse puller (often found in the fuse box lid), needle-nose pliers, and potentially a multimeter if you plan to test the relay's functionality before replacement.

Are there any specific relays that are prone to failure in the 2018 Jeep Compass?

While specific failure rates vary, common culprits in many vehicles, including SUVs like the Compass, can be relays for high-draw components like the cooling fan or fuel pump, due to their frequent operation.

If I replace a relay in my 2018 Jeep Compass, do I need to do anything else, like reset a computer?

In most cases, simply replacing a faulty relay with a new one of the correct specification is sufficient. However, for certain critical systems, disconnecting the battery for a few minutes after replacement might help the vehicle's computer re-initialize and recognize the new component.

What does the numbering or lettering on a 2018 Jeep Compass relay typically represent?

The numbering or lettering on the relay's casing usually corresponds to specific pins or terminals within the relay socket, helping to orient it correctly during installation and for diagnostic purposes according to the relay diagram.

Additional Resources

Here are 9 book titles related to a 2018 Jeep Compass relay diagram, each starting with *and followed by a short description:*

1. *Interpreting Electrical Schematics for Jeeps*

This book provides a comprehensive guide to understanding automotive electrical systems, with a specific focus on Jeep vehicles. It delves into the fundamental principles of reading wiring diagrams, deciphering symbols, and tracing electrical paths. Readers will gain the confidence to locate and understand components like relays, fuses, and their associated circuits in their 2018 Jeep Compass.

2. *The Jeep Compass Owner's Manual: Electrical Systems Edition*

While a general owner's manual covers many aspects, this specialized edition focuses exclusively on the electrical components and their layout within the 2018 Jeep Compass. It includes detailed explanations of various electrical systems, from the ignition to the lighting, and provides specific diagrams for component identification and troubleshooting. Understanding this manual is crucial for anyone looking to work on their Compass's electrical system.

3. *Automotive Relay Identification and Functionality*

This practical guide serves as a universal resource for understanding automotive relays, with dedicated sections on common relay types and their applications. It explains how relays work, how to test them, and how to identify their specific roles within a vehicle's circuitry. The book's clear explanations and illustrative examples make it invaluable for pinpointing the correct relay in a 2018 Jeep Compass.

4. *Wiring Diagrams Demystified: A Jeep Compass Perspective*

This book aims to make the often-intimidating world of automotive wiring diagrams accessible to the average car owner, using the 2018 Jeep Compass as a primary example. It breaks down complex diagrams into understandable sections, explaining the meaning of lines, connectors, and component labels. With this guide, users can confidently navigate and utilize the relay diagram for their Jeep.

5. *Troubleshooting the 2018 Jeep Compass Electrical Grid*

Designed for hands-on diagnosis, this book offers systematic approaches to identifying and resolving electrical issues in a 2018 Jeep Compass. It walks through common problems and guides the reader in using diagnostic tools,

including relay diagrams, to pinpoint faulty components. The focus is on practical application, empowering owners to tackle electrical challenges effectively.

6. The Art of Automotive Circuit Tracing

This book teaches the essential skill of tracing electrical circuits within a vehicle, essential for understanding how components like relays interact. It covers techniques for following wires, identifying power sources and grounds, and interpreting circuit logic. Applying these methods to a 2018 Jeep Compass's relay diagram will significantly improve diagnostic accuracy.

7. Jeep Compass Maintenance and Repair: Electrical Focus

This comprehensive repair manual for the 2018 Jeep Compass includes a dedicated section on its electrical system. It provides detailed explanations of how various electrical systems function, including the role of relays in controlling power to different modules. The book includes diagrams and procedures for accessing and replacing electrical components, making it a vital resource.

8. Understanding Your Jeep Compass's Power Distribution System

This book specifically examines how power is distributed throughout the 2018 Jeep Compass, highlighting the critical role of the fuse box and relay centers. It explains how relays switch and direct electrical current to various systems, aiding in the understanding of circuit functionality. Readers will gain insight into how the vehicle's electrical architecture is organized.

9. DIY Auto Electrics: A 2018 Jeep Compass Guide

Geared towards the do-it-yourself enthusiast, this guide offers practical advice and step-by-step instructions for common electrical repairs on a 2018 Jeep Compass. It emphasizes the importance of using factory diagrams, such as relay diagrams, for accurate work. The book empowers owners to confidently perform basic electrical maintenance and upgrades.

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