

46re transmission parts diagram

46RE transmission parts diagram is an essential tool for anyone involved in the maintenance, repair, or modification of Chrysler's 46RE automatic transmission. This transmission was prominently used in various Dodge and Chrysler models from the early 1990s to the early 2000s, particularly in trucks and vans. Understanding the components and their functions as depicted in the parts diagram can facilitate effective troubleshooting and repairs, ultimately extending the lifespan of the vehicle.

In this article, we will explore the 46RE transmission parts diagram in detail, breaking down its components, their functions, common issues associated with them, and tips for maintenance and repairs.

Overview of the 46RE Transmission

The 46RE transmission is an electronically controlled automatic transmission that is part of the Chrysler A518 family. It is designed to handle a wide range of torque outputs, making it suitable for both light-duty and heavy-duty applications. The 'E' in 46RE denotes that it is electronically controlled, which allows for more precise shifting and improved fuel economy compared to earlier models.

Key Components of the 46RE Transmission

To fully understand the 46RE transmission parts diagram, it is crucial to familiarize yourself with its key components. Below are the major parts typically represented in the diagram:

- Transmission Case
- Torque Converter
- Valve Body
- Planetary Gearset
- Clutches and Bands
- Sensors and Solenoids
- Oil Pump
- Filter
- Input and Output Shafts

1. Transmission Case

The transmission case houses all internal components and serves as a protective shell. It is typically made from aluminum or cast iron to provide strength and reduce weight.

2. Torque Converter

The torque converter transfers engine power to the transmission and allows the vehicle to come to a stop without stalling. It uses fluid coupling to provide smooth acceleration and efficient power transfer.

3. Valve Body

The valve body is a complex hydraulic control unit that directs transmission fluid to various components based on input from the vehicle's computer. It plays a vital role in determining when and how the transmission shifts gears.

4. Planetary Gearset

The planetary gearset is responsible for the different gear ratios in the transmission. It consists of a sun gear, planet gears, and a ring gear, allowing for multiple gear combinations that enable smooth acceleration and deceleration.

5. Clutches and Bands

Clutches and bands are used to engage and disengage gears in the transmission. They ensure that power is efficiently transferred between the engine and the drivetrain.

6. Sensors and Solenoids

Sensors monitor various parameters, such as speed and temperature, while solenoids control the flow of transmission fluid. Together, they allow for precise shifting and optimal performance.

7. Oil Pump

The oil pump circulates transmission fluid throughout the system, providing lubrication and hydraulic pressure necessary for operation.

8. Filter

The filter removes contaminants from the transmission fluid, helping to prolong the life of internal components and maintain performance.

9. Input and Output Shafts

The input shaft connects the transmission to the engine, while the output shaft connects it to the drivetrain. These shafts transmit power generated by the engine to the wheels.

Understanding the Parts Diagram

A 46RE transmission parts diagram visually represents the components mentioned above. It typically includes labels and part numbers that help identify each component. Understanding how to read and interpret the diagram is crucial for anyone working on the transmission.

Reading the Diagram

1. Identify Components: Look for labeled components on the diagram. Most diagrams will have a legend or key that corresponds to part numbers.
2. Locate Relationships: Observe how components connect and interact with one another. This can help in understanding the flow of transmission fluid and the sequence of operations.
3. Refer to Manuals: Use service manuals or repair guides alongside the diagram for detailed descriptions and specific repair procedures related to each component.

Common Issues with the 46RE Transmission

Despite its robust design, the 46RE transmission is not without its flaws. Some common issues include:

- Fluid Leaks: Often caused by worn seals or gaskets.
- Slipping Gears: This can result from low fluid levels or worn clutches.
- Delayed Shifting: Typically indicates issues with the valve body or solenoids.
- Overheating: Often due to insufficient fluid flow or a failing oil pump.
- Check Engine Light: Can be triggered by various sensor failures.

Maintenance Tips for the 46RE Transmission

Regular maintenance is key to ensuring the longevity and reliability of the 46RE transmission. Here are some helpful tips:

1. **Regular Fluid Changes:** Change the transmission fluid according to the manufacturer's recommendations. Dirty or low fluid can lead to overheating and premature wear.
2. **Inspect for Leaks:** Regularly check for signs of fluid leaks under the vehicle and around the transmission components.
3. **Monitor Performance:** Pay attention to how the transmission shifts. Any unusual behavior should be investigated promptly.
4. **Check Filters:** Replace the transmission filter during fluid changes to ensure clean fluid circulation and prevent contamination.
5. **Use Quality Parts:** When replacing any components, opt for OEM or high-quality aftermarket parts to ensure compatibility and reliability.

Conclusion

Understanding the **46RE transmission parts diagram** is crucial for anyone involved in the care and repair of Chrysler's automatic transmission. Familiarity with its components, common issues, and maintenance practices can help vehicle owners and technicians effectively manage any problems that arise. By utilizing the parts diagram and following best practices for maintenance, you can ensure that the 46RE transmission operates smoothly and reliably for years to come.

Frequently Asked Questions

What is a 46RE transmission and what vehicles commonly use it?

The 46RE transmission is a 4-speed automatic transmission used primarily in Dodge trucks and vans, particularly those equipped with the 5.2L and 5.9L engines from the late 1990s.

Where can I find a detailed parts diagram for the 46RE transmission?

You can find a detailed parts diagram for the 46RE transmission in service manuals, online automotive forums, or websites dedicated to transmission parts, such as transmission repair shops or parts retailers.

What are the main components included in the 46RE transmission parts diagram?

The main components typically shown in a 46RE transmission parts diagram include the valve body, gear sets, clutches, solenoids, pump, and the torque converter.

How can I interpret the 46RE transmission parts diagram effectively?

To interpret the 46RE transmission parts diagram effectively, familiarize yourself with the symbols and notations used, and refer to the accompanying legend or key that explains each part and its function.

What are some common issues related to the 46RE transmission that might require a parts diagram?

Common issues include slipping, overheating, and shifting problems, which may require inspection or replacement of components like the valve body or solenoids, making a parts diagram essential for troubleshooting.

Are there aftermarket parts available for the 46RE transmission, and how can a parts diagram help?

Yes, there are many aftermarket parts available for the 46RE transmission. A parts diagram can help you identify the specific components you need to replace or upgrade.

Can I rebuild my 46RE transmission using a parts diagram?

Yes, you can rebuild your 46RE transmission using a parts diagram as a reference. It provides a visual aid to ensure you correctly install and align all components during the rebuild process.

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