

how to rebuild a dodge 47re transmission

how to rebuild a dodge 47re transmission is a task that can seem daunting to many automotive enthusiasts, but with the right knowledge and tools, it can be a rewarding project. The Dodge 47RE transmission, a popular choice in various Dodge trucks and SUVs, is known for its durability but can require rebuilding after years of heavy use. This comprehensive guide will walk you through the entire rebuilding process, covering essential tools, disassembly, inspection, replacement parts, and reassembly. By following the outlined steps, you can ensure your transmission operates smoothly and efficiently, extending the life of your vehicle.

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Understanding the Dodge 47RE Transmission

The Dodge 47RE transmission is a 4-speed automatic transmission that features electronic control. It was primarily used in Dodge Ram trucks equipped with the 5.9L Cummins diesel engine and is known for its ability to handle substantial torque loads. The 47RE is an evolution of the earlier 46RE transmission, incorporating various enhancements to improve performance and reliability.

One of the key features of the 47RE is its hydraulic system, which relies on a series of valves and solenoids to manage shifting and fluid pressure. Understanding the operation of this system is crucial for anyone looking to rebuild the transmission, as many issues stem from hydraulic failures.

Additionally, the 47RE has a reputation for certain common failure points, including the governor pressure control solenoid and the torque converter. Recognizing these potential problems will aid in your inspection and rebuilding process.

Essential Tools for Rebuilding

Before beginning the rebuilding process, it is vital to gather all necessary tools and equipment. The right tools will make the job more manageable and ensure quality work. Here is a list of essential tools for rebuilding a Dodge 47RE transmission:

- Torque wrench
- Socket set (metric and standard)
- Screwdrivers (flat and Phillips)
- Pliers and wire cutters
- Transmission jack
- Shop press (optional but useful)
- Magnetic tray for small parts
- Fluid transfer pump
- Cleaning solvents and rags
- Service manual for reference

Having these tools on hand will facilitate the disassembly and reassembly processes, making your rebuild more efficient and effective.

Disassembly of the Transmission

The disassembly of the Dodge 47RE transmission is a critical phase in the rebuilding process. It is essential to work methodically and keep track of all components to avoid confusion during reassembly.

First, ensure the transmission is safely removed from the vehicle. This involves disconnecting the battery, draining the transmission fluid, and removing any attached components such as the driveshaft and the transmission cooler lines.

Once the transmission is on a workbench, follow these steps for disassembly:

1. Remove the transmission pan by loosening the bolts and allowing any remaining fluid to drain.
2. Take out the filter and any valve body components.
3. Carefully remove the valve body, noting the locations of springs and check balls.
4. Disassemble the pump assembly and torque converter.
5. Gradually take apart the clutch packs and planetary gears, ensuring to document the order of components.

Throughout this process, label parts and take photographs if necessary, as this will help during reassembly.

Inspection of Components

After disassembly, the next step is to inspect all components for wear and damage. This phase is crucial to determine which parts need to be replaced or refurbished. Key components to inspect include:

- Clutch packs: Check for excessive wear or glazing.
- Planetary gears: Look for pitting or scoring on the gear surfaces.
- Valve body: Inspect for wear on the valves and passages.
- Pump assembly: Ensure the pump gears are intact and not damaged.
- Seals and gaskets: Replace any that show signs of wear or damage.
- Torque converter: Inspect for any signs of leakage or internal damage.

Using a micrometer or caliper for measuring critical dimensions can help ascertain whether any components are out of specification and require replacement.

Replacement Parts and Upgrades

Based on your inspection, it will be necessary to source replacement parts or consider upgrades to enhance performance and longevity. Many aftermarket suppliers offer kits specifically designed for the Dodge 47RE transmission, which can include:

- Clutch pack kits: Upgraded materials can provide better durability.
- Rebuild kits: These often include seals, gaskets, and filters.
- Shift kits: Designed to improve responsiveness and shifting performance.
- Torque converters: High-performance converters can increase torque capacity.
- Transmission cooler: An upgraded cooler can help maintain optimal fluid temperatures.

When selecting parts, ensure they are compatible with the 47RE transmission and consider consulting a professional or referring to trusted sources.

Reassembly Process

Reassembly of the Dodge 47RE transmission should be approached with care and patience. Begin by

cleaning all components thoroughly to remove any debris or old fluid.

Follow these steps for reassembly:

1. Install new seals and gaskets on all mating surfaces.
2. Reassemble the clutch packs in the order they were removed.
3. Reinstall the planetary gear set and ensure proper alignment.
4. Carefully place the valve body back, ensuring all check balls and springs are in their correct positions.
5. Reassemble the pump assembly and torque converter, ensuring all bolts are torqued to specifications.
6. Replace the transmission pan with a new gasket to prevent leaks.

It is essential to refer to the service manual throughout this process to ensure all components are installed correctly and torqued to the manufacturer's specifications.

Testing the Rebuilt Transmission

After successfully reassembling the transmission, it is time to test it. Proper testing is crucial to ensure that the rebuild was successful and that the transmission functions correctly.

1. Reinstall the transmission into the vehicle, connecting all necessary components.
2. Fill the transmission with the appropriate type of fluid, checking for leaks.
3. Start the engine and allow it to reach normal operating temperature.
4. Cycle through the gears while monitoring for any unusual noises or shifting issues.
5. Test drive the vehicle, paying attention to the transmission's performance and responsiveness.

If any issues arise during testing, it may be necessary to revisit certain steps to diagnose and correct the problem.

Closing Thoughts

Rebuilding a Dodge 47RE transmission is an intricate process that requires attention to detail and a solid understanding of automotive mechanics. By following the outlined steps, utilizing the right tools, and being thorough in your inspections, you can restore your transmission to optimal functioning condition. This not only enhances the performance of your vehicle but can also save you significant costs compared to purchasing a new or remanufactured transmission.

With patience and diligence, you can successfully navigate the rebuilding process and enjoy the satisfaction of knowing you have revitalized a crucial component of your Dodge vehicle.

Q: What common issues indicate a Dodge 47RE transmission needs rebuilding?

A: Common issues that may indicate the need for rebuilding include slipping gears, delayed engagement, harsh shifting, and fluid leaks. Additionally, unusual noises during operation can also signal internal problems.

Q: How long does it typically take to rebuild a Dodge 47RE transmission?

A: The time required to rebuild a Dodge 47RE transmission varies based on experience and available tools, but it typically takes between 10 to 20 hours of labor, depending on the complexity of the issues and the thoroughness of the rebuild.

Q: Can I rebuild my Dodge 47RE transmission without prior experience?

A: While it is possible for someone without prior experience to rebuild a Dodge 47RE transmission, it is highly recommended to have a basic understanding of automotive mechanics. Consulting a service manual and seeking guidance from experienced individuals can significantly increase your chances of success.

Q: What are the costs associated with rebuilding a Dodge 47RE transmission?

A: The costs can vary widely based on whether you perform the rebuild yourself or hire a professional. DIY costs may range from \$500 to \$1,500 for parts, while professional rebuilds can cost between \$1,500 to \$3,500 or more, depending on the extent of repairs and labor.

Q: Are there performance upgrades available for the Dodge 47RE transmission?

A: Yes, there are several performance upgrades available, including shift kits, high-performance torque converters, and upgraded clutch packs. These modifications can enhance the transmission's performance and reliability, especially in high-torque applications.

Q: What fluid should be used for a Dodge 47RE transmission after a rebuild?

A: After a rebuild, it is recommended to use a high-quality automatic transmission fluid (ATF) that meets the specifications outlined in the service manual. Many recommend using ATF+4 fluid for optimal performance.

Q: How can I ensure the longevity of my rebuilt Dodge 47RE transmission?

A: To ensure longevity, regularly check and change the transmission fluid, monitor for any signs of leaks, and address any performance issues promptly. Additionally, consider installing an external transmission cooler for better temperature management.

Q: Is it necessary to use OEM parts when rebuilding the Dodge 47RE transmission?

A: While using OEM parts can ensure compatibility and reliability, many aftermarket parts are available that meet or exceed OEM specifications. Researching reputable brands and reading reviews can help in selecting quality parts.

Q: What are the signs of a failing torque converter in a Dodge 47RE transmission?

A: Signs of a failing torque converter can include shuddering during acceleration, slipping, overheating, and unusual noises. If these symptoms are present, it may be necessary to inspect or replace the torque converter during the rebuild.

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