Installation and Commissioning Instructions

Mechatronics Conductor Plate / Transmission Control Unit

Article number: at30191 | Application: Mercedes-Benz 7G-Tronic / 722.9 transmission

These instructions describe the basic steps for replacing the conductor plate or VGS unit in the electrohydraulic transmission control system. Individual work steps and electronic commissioning may vary depending on the vehicle, transmission version and VGS version. The vehicle-specific manufacturer specifications and the instructions of the diagnostic system being used are authoritative.

Mandatory Consumables: The installation must include a new genuine transmission filter and fresh Automatic Transmission Fluid (ATF) complying with information from Mercedes.

1. Before Installation

Check vehicle and part compatibility

Before starting work, the vehicle, transmission series and VGS version must be clearly identified. The conductor plate may only be used in a compatible 722.9 application. Cross-reference numbers and the electrical version must match the removed component.

Cleanliness and work safety

Work on the electrohydraulic transmission control system requires a high level of cleanliness. Even small amounts of contamination can impair valves and hydraulic passages. The vehicle must be securely positioned on a suitable lift and protected against unintended movement.

- Allow the transmission to cool to a suitable working temperature before starting work.
- Switch off the ignition and carry out electrical work in accordance with the manufacturer's instructions.
- Use only clean tools and lint-free cloths.
- Protect open electrical connectors and hydraulic areas from dirt and moisture.
- Replace seals and single-use fasteners where specified by the vehicle manufacturer.

2. Removing the Electrohydraulic Control Unit

1. Raise the vehicle and remove any underbody panels as required.
2. Drain the transmission fluid in accordance with the manufacturer's instructions and collect it in a suitable container.
3. Remove the transmission oil pan and transmission filter according to the vehicle version.
4. Unlock the electrical connector of the transmission control system and check it for damage, oil contamination or corrosion.
5. Remove the electrohydraulic control unit or valve body in accordance with the manufacturer's instructions. Place the component down horizontally on a clean surface.
6. Carefully detach the conductor plate / VGS unit from the valve body. Do not damage or contaminate sensor areas, electrical contacts, solenoid valves or hydraulic surfaces.

3. Installing the New Conductor Plate

1. Before installation, check the new component and the removed component again for compatibility.
2. Inspect mating surfaces and contact areas. Install the new conductor plate only when clean and dry; do not use sealants or grease unless expressly specified.
3. Position the conductor plate / VGS unit on the valve body and install it without mechanical stress.
4. Tighten the mounting bolts in the sequence specified by the vehicle manufacturer and to the vehicle-specific tightening torque. Do not use generic torque values.

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3. Installing the New Conductor Plate (continued)

5. Reinstall the electrohydraulic control unit in the transmission and correctly reconnect all electrical and hydraulic connections.
6. Install the transmission filter and oil pan using the specified seals. Fully lock the electrical connector.

4. Filling the Transmission Fluid and Setting the Fluid Level

The 722.9 transmission is sensitive to an incorrect fluid level. Only automatic transmission fluid approved for the respective transmission version may be used.

1. Initially fill the transmission with the specified quantity of fluid.
2. Bring the engine or transmission to the temperature required for checking the fluid level in accordance with the manufacturer's instructions.
3. With the service brake applied, shift through the gear positions as specified by the manufacturer so that the hydraulic circuits are filled.
4. Check and correct the fluid level at the specified transmission fluid temperature.
5. Check the oil pan, drain area and electrical connector for leaks.

5. Electronic Commissioning

After replacement of the VGS / conductor plate unit, vehicle-specific electronic commissioning may be required. Depending on the vehicle, VGS version and delivery condition, programming, personalization, activation, coding and additional guided adaptations may be necessary.

1. Connect a suitable diagnostic system and ensure a stable vehicle electrical system voltage throughout the diagnostic and programming procedure.
2. Clearly identify the vehicle and select the transmission control unit / VGS.
3. Start the guided commissioning procedure and complete all work steps displayed by the diagnostic system.
4. Do not interrupt the power supply or diagnostic connection during programming, coding or data transfer.
5. Carry out learning or adaptation routines only if they are required by the diagnostic system for the specific vehicle.

6. Final Check

- Read out the fault memory of the transmission control unit and other involved control units and evaluate any stored faults.
- Check that all gear positions are correctly recognized and displayed in the instrument cluster.
- Check the transmission for leaks and verify the correct fluid level.
- After a successful static check, carry out a cautious road test and check shift quality and gear-position recognition.
- Check the fault memory again after the road test.

7. If Commissioning Is Not Successful

If commissioning fails, do not repeatedly disconnect electrical connectors or restart programming procedures without first analyzing the cause. First check the power supply, part compatibility, VGS version, electrical connectors, transmission fluid level and stored fault codes. Then run the guided diagnostic procedure provided by the diagnostic system being used.

Note: The exact procedure may vary depending on the vehicle, software version and version of the 722.9 transmission. These installation instructions do not replace the vehicle-specific repair and diagnostic specifications of the vehicle manufacturer.