Installation and Commissioning Instructions

Mercedes-Benz Intelligent Servo Module (ISM)

OE reference: A 000 270 18 52 | Application: 7G-Tronic / 722.9 transmission

These instructions describe the basic steps for mechanical installation as well as subsequent commissioning and calibration of the ISM. Vehicle- and software-specific instructions provided by the diagnostic system always take precedence.

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

Anti-theft protection, personalization and coding

The ISM is an anti-theft relevant control unit. A new module or a module reset to factory condition is therefore not ready for operation without diagnostic procedures. After installation, the ISM must be commissioned and personalized for the specific vehicle using a suitable diagnostic system, preferably XENTRY. Coding or programming must be carried out if required by the diagnostic system for the vehicle concerned.

Mechanical basic position

Before fitting the ISM, the selector shaft on the transmission and the mounting interface on the ISM must be in the same position. Installation is generally carried out in position P. The component must not be pulled into position by tightening the mounting bolts or forced against mechanical resistance. Incorrect alignment can damage the internal actuator mechanism.

Power supply and working conditions

A stable vehicle electrical system voltage must be ensured during diagnostics, commissioning, coding and calibration. Use a suitable workshop battery support unit and observe the requirements of the diagnostic system being used.

- Secure the vehicle against rolling and apply the parking brake.
- Check electrical connectors for cleanliness, moisture and secure locking.
- Operate the ignition, brake pedal, doors and selector lever only in accordance with the instructions of the diagnostic system.
- Do not disconnect any electrical connectors or interrupt the power supply while programming or calibration is in progress.

2. Installing the ISM

1. Switch off the ignition and secure the vehicle against unintended movement.
2. Remove the old ISM in accordance with the manufacturer's instructions. Check the electrical connector and mechanical mounting interface for damage.
3. Align the selector shaft on the transmission and the mounting interface of the new ISM to the same basic position, generally position P.
4. Fit and secure the ISM without mechanical stress. Do not force the module into the correct position by tightening the bolts.
5. Connect the electrical plug completely and check that it is securely locked.

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3. Commissioning and Calibration

1. Connect a suitable diagnostic system to the OBD interface and ensure a stable vehicle power supply.
2. Identify the vehicle and select the ISM control unit (Intelligent Servo Module).
3. Read out and document any stored fault codes. Clear fault codes caused by removal in accordance with the manufacturer's instructions.
4. Start the guided commissioning procedure for the ISM. Carry out personalization, activation and, where required, coding or programming in accordance with the on-screen instructions.
5. Then perform the ISM calibration or initialization offered by the diagnostic system. Operate the brake pedal and select gears only when instructed to do so by the diagnostic system.
6. After successful completion, check the fault codes in the ISM and transmission control unit again and clear them if necessary.

4. Final Check

- After completing diagnostics, switch off the ignition and allow the control units to complete their shutdown sequence.
- Switch the ignition on again and check that the selected gear position is displayed correctly in the instrument cluster.
- With the service brake applied, check correct selection of the gear positions in accordance with the manufacturer's instructions.
- Perform a final check of the fault memory in the ISM and transmission control unit.
- After a successful static check, carry out a cautious road test and verify correct operation of gear selection.

5. If Commissioning Is Not Successful

If calibration or programming is interrupted, do not attempt to reset the procedure by repeatedly disconnecting the ISM connector. First check the fault memory, vehicle electrical system voltage, electrical connectors and mechanical basic position. Then restart the guided diagnostic procedure and follow the test and retry instructions provided by the system.

Note: A separate learning routine for the transmission range sensor Y3/8s1 is not part of these general ISM installation instructions. Work on the VGS or transmission control unit may require additional vehicle-specific learning procedures.

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