

ERRM2003/ERRM2041/ERRM2042/ERRM2043/ERRM2044 Power Steering Control Module Replacement Guideline

THE GM MDI TECH 3 DIAGNOSTIC SOFTWARE IS REQUIRED TO INSTALL THIS UNIT. FAILURE TO USE THE GM MDI TECH 3 DIAGNOSTIC SOFTWARE MAY VOID YOUR WARRANTY.

Note: During the procedures listed below, critical data is retrieved from vehicle components and stored in the scan tool computer's hard drive. This data is needed during the programming and setup sequences. Ensure the same scan tool is used and capable of reading, storing, and writing the vehicle's system data.

1. Connect a scan tool to the vehicle and access the Service Programming System also known as SPS.
2. Perform the SPS function Electronic Power Steering > Prepare Control Module for Removal and follow the on-screen instructions.

Note: Step 2 copies the worm gear wear counter data from the power steering control module PRIOR to the module's removal and stores it on the scan tool computer's hard drive. AFTER completing step 2, the power steering control module can now be removed and replaced.

3. Replace the Power Steering Assist Motor containing the Power Steering Control Module. Note: The next two steps will transfer the Vehicle's Critical Data, including the worm gear wear counter data saved in step 2, back to the vehicle components.
4. With the Power Steering Assist Motor replaced and reconnected, using the same scan tool, perform the SPS function Electronic Power Steering > Programming and follow the on-screen instructions.
5. Perform the SPS function Electronic Power Steering > Setup and follow the on-screen instructions.
6. Perform the Steering Angle Sensor Centering and Software Endstop Learning procedure. Refer to page 2 for the Steering Angle Sensor Centering and Software Endstop Learning procedure.
7. Clear Diagnostic Trouble Codes after completing the programming and setup procedures.

Power Steering Control Module Reprogramming Guideline

Note: This procedure applies to reprogramming of the existing steering gear or the initial programming if the complete steering gear assembly including the assist motor was replaced. If only the power steering control module is replaced, follow the Power Steering Control Module Replacement instructions above. Do not program or reprogram the electronic power steering control module unless directed by a service procedure or a service bulletin.

1. Connect a scan tool to the vehicle and access SPS.
2. Perform the SPS function Electronic Power Steering > Programming and follow the on-screen instructions.
3. Perform the SPS function Electronic Power Steering > Setup and follow the on-screen instructions.
4. Perform the Steering Angle Sensor Centering and Software Endstop Learning procedure. Refer to page 2 f the Steering Angle Sensor Centering and Software Endstop Learning procedure.
5. Clear Diagnostic Trouble Codes after completing the programing and setup procedures.

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Steering Angle Sensor Centring Guideline

Note: It is necessary to perform the Steering Angle sensor centring BEFORE the software endstop learning.

The centring procedure of the internal steering angle sensor (w/o electronic stability program) can be completed with the following steps:

Conditions: Front axle measured and set, engine running, vehicle speed 0 km/h (0 MPH), internal steering angle sensor is activated.

1. Using the steering wheel, align the front wheels in the centre forward position.
2. Using a scan tool, perform the Configuration/Reset Functions, Steering Wheel Angle Sensor Centring procedure.
3. Steer from the centre position slowly 90° to the left.
4. Steer slowly back to the centre position and then slowly 90° to the right.
5. Steer slowly back to the centre position.
6. Perform the steering movements again.
7. Centring procedure is completed.

Software Endstop Learning Procedure Guideline

Conditions: Front axle measured and set, vehicle speed 0 km/h (0 MPH), internal steering angle sensor is calibrated or external steering angle sensor sends a valid CAN signal.

1. Using a scan tool, perform the Configuration/Reset Functions > Power Steering Soft-tops Reset procedure and follow the on-screen instructions.
2. Using a scan tool, perform the Configuration/Reset Functions > Power Steering Soft-tops Learn procedure and follow the on-screen instructions.
3. Software endstop learning procedure is completed.



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