



Technical Service Bulletin

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Variable Geometry Turbocharger (VGT) Actuator Calibration Code: Fault Code 1894 or 5177

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Warranty Statement

The information in this document has no effect on present warranty coverage or repair practices, nor does it authorize TRP or Campaign actions.

Contents

Product Affected

Engines:

- X12 CM2450 X137B
- X15 CM2450 X142B
- B6.7 CM2450 B155B

Model Year:

- 2024

Issue Summary

Symptom:

- Fault Code 1894
- Fault Code 5177

Root Cause:

- Internal VGT actuator software malfunction

Verification

- Verify the variable geometry turbocharger (VGT) actuator installed is part number 6463632 or 6463633.
- Verify the engine build date is between December 2023 and August 2024.

Resolution

- Download the VGT actuator software with the latest revision even if already equipped with the latest revision using the Service Instructions below.
- See corresponding Service Manual. Reference Procedure 010-150 in Section 10.
- Clear fault codes and exit troubleshooting.
- Do **not** replace the VGT actuator.

Service Instructions

- Open INSITE™ electronic service tool. Verify INSITE™ is version 10.0 or newer.
- Disconnect from the engine control module (ECM) if connected.
- Select Calibration Selection.
- Select ECM/PDD Code Search.

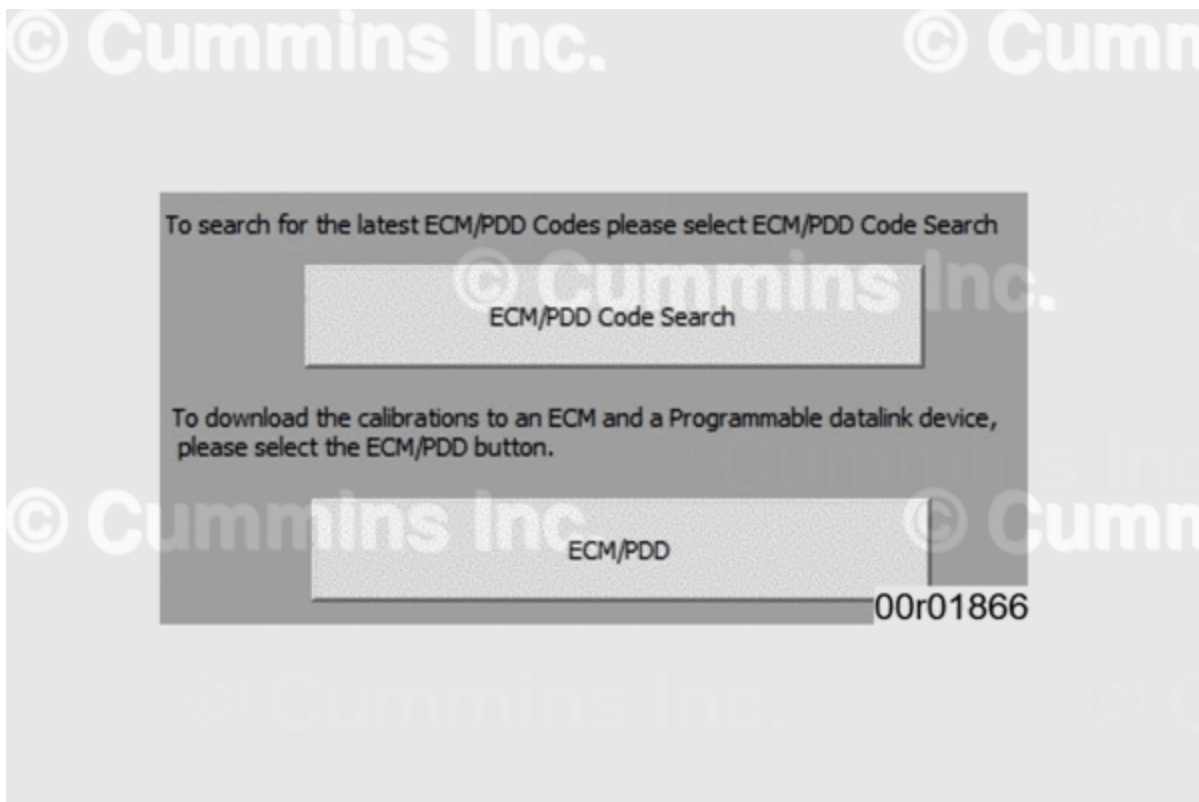


Figure 1, ECM Calibration Selection Menu.

- Enter PDD Code 6463655 and select Search.
- After the tool retrieves the calibration history, select Save then Exit.

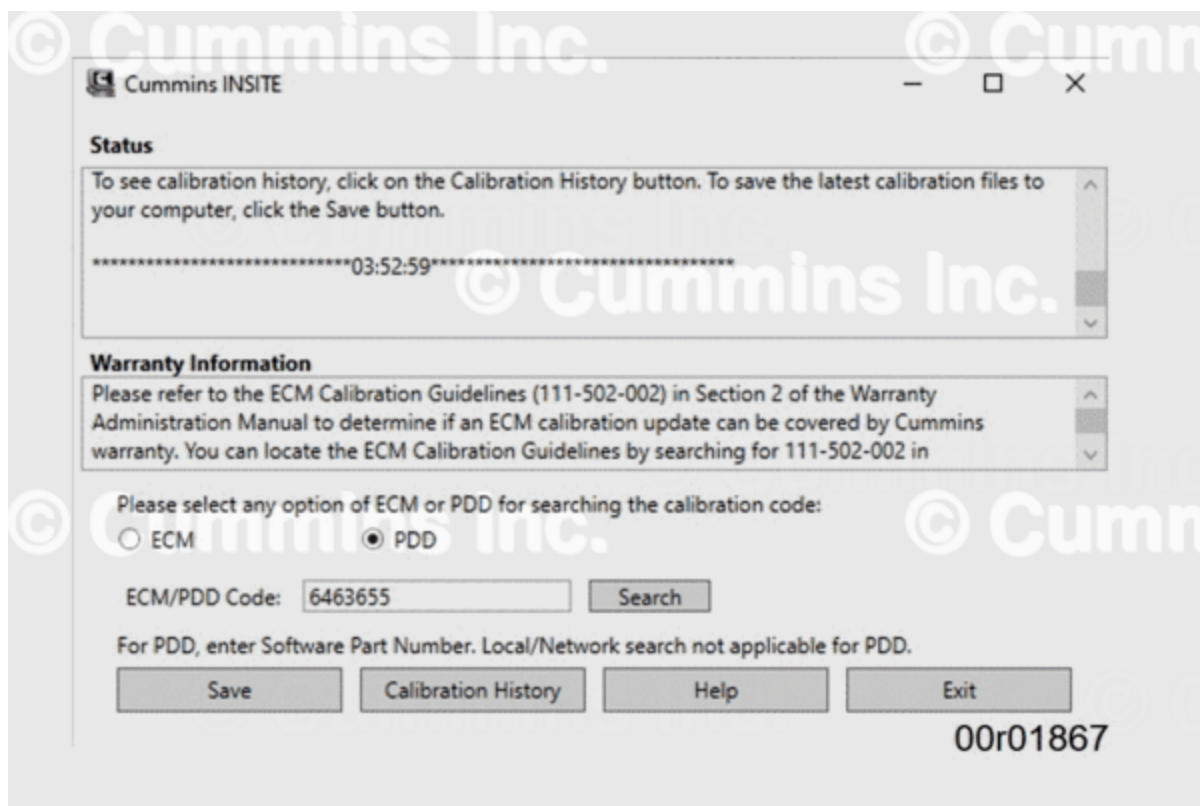


Figure 2, ECM/PDD Code Search.

- Connect the electronic service tool to the J1939 data link, located in the vehicle cab. Turn keyswitch to ON position.
- Select Connect to ECM in INSITE™ electronic service tool.
- Select Calibration Selection.
- Select ECM/PDD.
- Expand the Calibration Workspace until the list of Turbo Actuator Controllers is visible.
- Select the actuator hardware part number on the turbocharger.
- In the list of calibrations to the right choose calibration 6463655. Right click and choose "Transfer to Device" or select on "Send to ECM" button on toolbar.

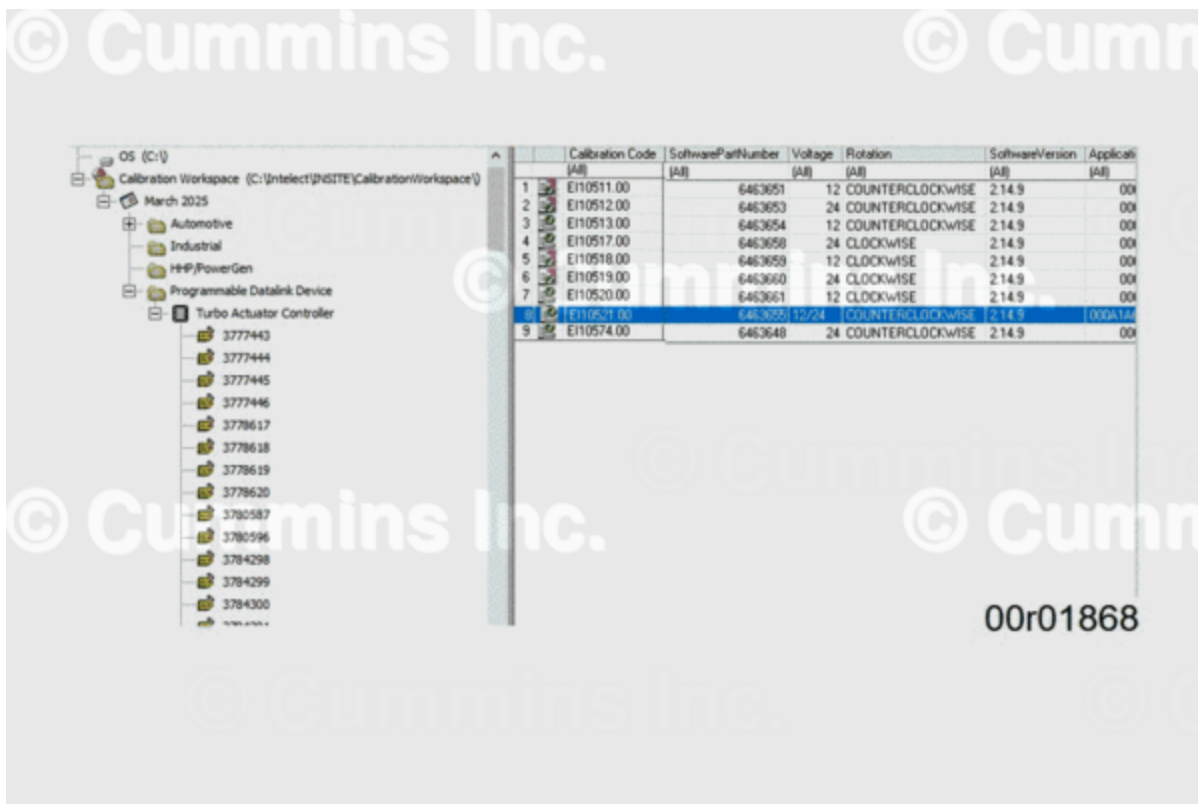


Figure 3, ECM Calibration Workspace.

- Allow INSITE™ electronic service tool to query the CAN bus for programmable hardware that matches the software.
- Check the box next to the actuator part number. Address 0x02.
- Select Send.

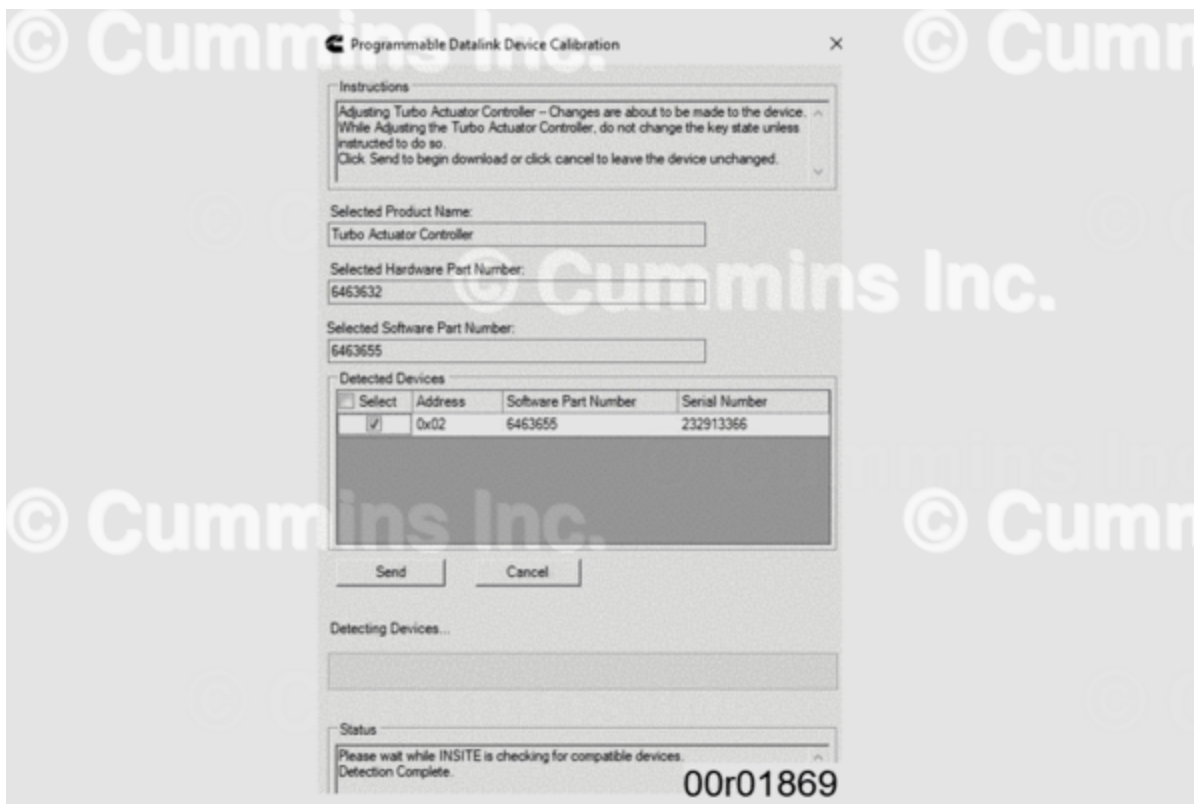


Figure 4, Programmable Device ECM Calibration Download Wizard.

- When Reflash Status shows complete close the Programmable Datalink Device Calibration window.
- Clear Fault Codes and move vehicle keyswitch to the OFF position for 100 seconds then back to ON.
- Confirm Fault Code 1894 or 5177 do **not** return and exit troubleshooting.

Document History

Date	Details
2024-8-28	Module Created
2024-12-13	Updated Product Affected list to remove X124B and X134B, symptom section and removed additional statement in verification section that was deemed unnecessary.
2025-3-7	Non-Product Problem Solving (PPS)
2026-5-29	Updated Service Instructions

