

Technical Service Bulletin

Mazda North American Operations
Irvine, CA 92618-2922



Subject: CHECK ENGINE LIGHT ON WITH DTC P0531	Bulletin No.: 07-001/25
	Last Issued : 04/04/2025

BULLETIN NOTES

This TSB supersedes the previously issued TSBs and SA(s) listed below.

Previous TSB / SA:	Date(s) Issued:
07-001/25	03/25/25, 01/10/25 and 01/07/25
07-004/24	12/23/24 and 08/06/24
SA-003/24	07/24/24 and 01/18/24
SA-084/23	12/22/23

APPLICABLE MODEL(S)/VINS

2024-2025 CX-90 PHEV with VINS lower than JM3KK*****234945 (produced before March 1, 2025)
2025 CX-70 PHEV with VINS lower than JM3KJ*****127963 (produced before March 1, 2025)

DESCRIPTION

Some vehicles may exhibit check engine light turned on at engine startup, with DTC P0531:00 stored in memory.

- DTC P0531:00 [PCM] - Refrigerant pressure sensor No.1 system: Function malfunction

This is caused by improper control logic of the PCM and the dash-electrical supply unit (Dash-ESU). To eliminate this concern, the control logic of the PCM and the Dash-ESU has been modified.

Customers having this concern should have their vehicle repaired using the following repair procedure.

REPAIR PROCEDURE

1. Verify the customer concern.

2. Check for open recalls.

Are there any open recalls?

- **YES:** Perform the recalls first and claim the recall campaigns using the warranty information provided for the recalls, then go to the next step.
- **NO:** Continue to the next step.

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3. Check the current software level of the DASH-ESU.

Is the current calibration file name the same (or a later suffix) as shown in the Calibration Files Information of this TSB?

- **YES:** This TSB does not apply; diagnose the issue using MGSS.
- **NO:** Continue to the next step.

4. Reprogram the PCM and DASH-ESU with the Mazda Modular Diagnostic System (M-MDS), using Mazda Diagnostic And Repair Software (MDARS). Refer to MDARS ECU Reprogramming Procedure.

NOTE:

- **Be sure to submit Diagnostic Information (ODR) data as it is a required item and will be checked during warranty claim submission. Instructions can be found under M-MDS -> MDARS (Uploading Diagnostic Information (ODR) Data).**
- When PCM has been selected, then MDARS will reprogram PCM, ECM and TCM together as one software package. Some vehicles do not need TCM reprogramming as TCM already has modified software at the factory or by reprogramming for other concerns.
- Reprogramming is not necessary if the current calibration file name in the ECU FILENAME screen is the same as shown in Calibration Files Information, or with a later suffix.
- During reprogramming, after turning the ignition OFF/ON, reprogramming may not progress and instructions to turn the ignition OFF/ON may appear multiple times. This is not a failure of the system.
- The parameter "Battery State of Charge (SOC)" is reset during PCM reprogramming procedure.
- Since the SOC value is necessary when performing "Battery condition initialization setting" after PCM reprogramming to decide whether battery charging is necessary or not, measure and record the PID "BATT_SOC" first by using M-MDS Data logger function before reprogramming the PC.
- After the reprogramming, pending DTC P2610:00 [PCM] may be stored without the CHECK ENGINE light ON. Since this DTC may turn to a current DTC, depending on operations after the reprogramming, clear the DTC after all repair work is done.

5. Clear any other DTCs.

6. Verify the repair by starting the engine and confirming there is no CHECK ENGINE light ON or abnormal warning lights present.

NOTE:

- DO NOT start the engine with connected 12V battery charger because the power supply from the DCDC converter and the power supply from the 12V battery charger may interfere and cause warning lights to come on and DTCs to be stored.
- If any DTCs should remain after deleting them, diagnose the DTCs according to the appropriate Troubleshooting section in MGSS.

7. If the TCM was reprogrammed, perform TCM Initial Learning according to the instructions on MGSS (INITIAL LEARNING OF AT).

- If MDARS screen shows "Failed", perform the learning again.

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8. If the TCM was reprogrammed, perform the Learning Cycle for Shift Ranges.

a. Start the engine.

b. While idling, depress the brake pedal and perform the following steps:

1) Move the shift lever in "D".

2) Move the shift lever from "D" to "R" and wait 10 seconds.*

3) Move the shift lever from "R" to "D" and wait 10 seconds.*

* DO NOT stop in N range while moving the shift lever.

4) Repeat steps (1) through (3) 4 more times (5 cycles total).

NOTE: After TCM reprogramming, the customer may notice a shift feeling change temporarily because the hydraulic pressure setting for clutch engagement is not optimized and actual hydraulic pressure may not be stable depending on situations. During driving, the learning process optimizes the hydraulic pressure setting for clutch engagement to stabilize the actual hydraulic pressure. Therefore, in the beginning of driving, light shift shocks and shift feeling change may be felt temporarily.

CALIBRATION

CX-90:

ECU	File Name (Old)	File Name (New)	Note
PCM	MS05-186K2-W	MS65-186K2-A or later	Without 1500W AC power outlet
	MS06-186K2-W	MS66-186K2-A or later	With 1500W AC power outlet
ECM	PXRC-188K2-T	PXRC-188K2-U or later	---
TCM	PXPN-21PS1-H	PXPN-21PS1-J or later	---
DASH-ECU	KMV6-66S11-H	KMV6-66S11-J or later	---

CX-70:

ECU	File Name (Old)	File Name (New)	Note
PCM	MS18-186K2-H	MS18-186K2-J or later	Without 1500W AC power outlet
	MS19-186K2-H	MS19-186K2-J or later	With 1500W AC power outlet
ECM	PW64-188K2-F	PW64-188K2-G or later	---
TCM	PW64-21PS1-F	PW64-21PS1-G or later	---
DASH-ECU	KMV6-66S11-H	KMV6-66S11-J or later	---

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WARRANTY INFORMATION**NOTE:**

- This warranty information applies only to verified customer complaints on vehicles eligible for warranty repair.
- This repair will be covered under Mazda's Powertrain Warranty, California Emission Warranty (long term), TZEV Emission Warranty or Federal Emission Warranty (long term).
- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	6X
Damage Code	9W
Part Number Main Cause	5555-18-6B1
Quantity	0
Operation Number / Labor Hours:	XXWSNCFX / 0.3 Hrs. (without TCM reprogramming) XXWSNDFX / 0.8 Hrs. (with TCM reprogramming)

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