

Subject: WARNING LIGHT WITH P0531 AND/OR A/C DOES NOT WORK	Service Alert No.: SA-003/24
	Last Issued : 07/24/2024

BULLETIN NOTES

This SA supersedes the previously issued SA(s) listed below. The changes are noted in Red.

Previous SA:	Date(s) Issued:
SA-003/24	01/18/24
SA-084/23	12/22/23

APPLICABLE MODEL(S)/VINS

2025 CX-70 PHEV
2024-2025 CX-90 PHEV

DESCRIPTION

Some customers with a PHEV CX-90 may report a warning light or a reported issue of A/C malfunction. Upon inspection, the technician will discover that the vehicle has the P0531 diagnostic trouble code set.

Behavior after P0531:00 is detected

NOTE:

- A minimum of 3 hours after ignition is switched OFF before the next ignition ON is required for one drive cycle. Pre-A/C should not be used during this time.
- To turn off the CHECK ENGINE light without using MDARS (so that customer does not need to come into the dealer), perform 3 drive cycles with a minimum of 3 hours between each one (9 hours total).
- If the outside temperature is below 14°F (-10°C), the fault determination logic is not activated and the normal determination is not counted up, therefore the CHECK ENGINE light remains ON.

1. Operation when DTC is detected

- P0531:00 is stored in the PCM.
- CHECK ENGINE light is ON.
- No A/C operation (as fail-safe).

2. After Ignition is switched OFF/ON

- P0531:00 moves into Past history.
- CHECK ENGINE light stays ON continuously.
- A/C can operate normally (no fail-safe), remote/timer climate control is also available.

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3. After 3 drive cycles to determine normality

- P0531:00-PCM is stored in Past.history.
- CHECK ENGINE light goes OFF.
- A/C operates normally.

Logic to operate pre-A/C system:

- Pre-A/C operation is described in the Connected Vehicle OM.
- The CX-90 PHEV pre-A/C function will not operate when the high voltage battery State of Charge (SOC) is low.
 - Start permission condition: Meter SOC is 3.5% or higher.
 - Stop condition: Stops when meter SOC reaches 0%.
- In case of timer setting, departure time must be at least 30 minutes after the current time (e.g., setting departure time 15:20 at time 15:00 is not acceptable).
- Pre-air conditioner does not work when a door is open.
- When the outside air temperature is low, the PTC water heater will operate alone and the electric A/C compressor will not run.

REPAIR PROCEDURE

1. Verify the customer's concern.
2. Use MDARS to check for DTCs.

Is P0531 the only DTC set?

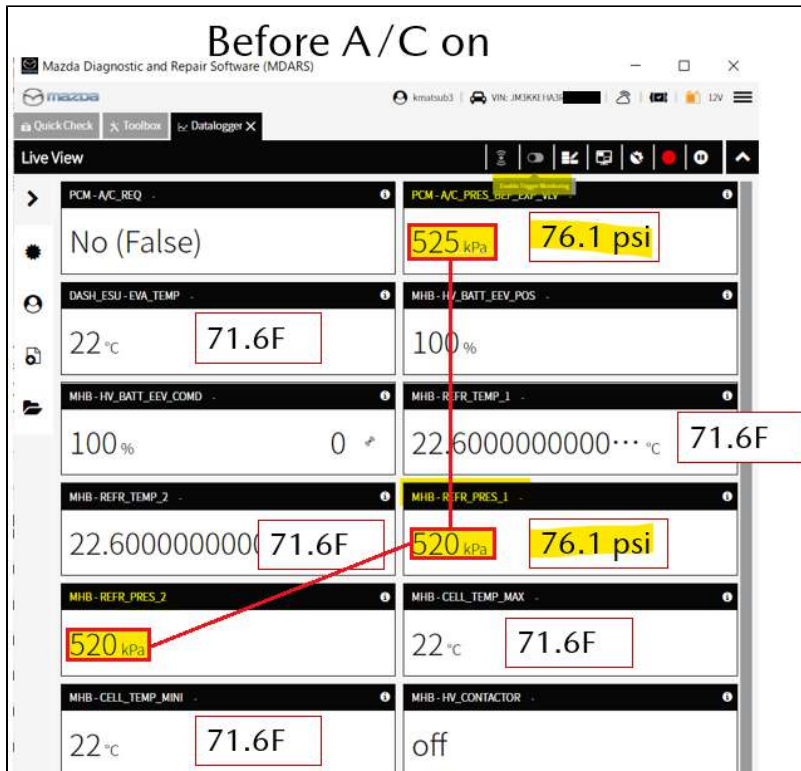
- **YES** - Continue to STEP 3.
- **NO** - Follow the WSM to diagnose and repair the vehicle.

3. Follow the appropriate WSM procedure for P0531 to confirm there isn't an electrical or mechanical fault.

- **P0531:00 [PCM (e-SKYACTIV PHEV)]**

NOTE: After a few hours without using the A/C, the readings from the three A/C pressure sensors should nearly align if the sensors and wiring are OK.

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- If your test results do not find any fault, **do not replace any parts**. The customer's concern may be software related and this is under investigation.
4. Clear all DTC and test drive the vehicle using the A/C or defrost function to confirm no DTC sets again.
- **If no DTC is set, release the vehicle back to the customer and explain to them the following:**
 - a. *This issue is triggered by using the timed and remote heat/cooling functions and is under investigation.*
 - b. *Until a solution is developed, turn off any timed heating/cooling functions in your vehicle and refrain from using the MyMazda app to remotely heat or cool your vehicle.*
5. Verify any repairs.

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