



Subject: WARNING LIGHT WITH P0531 AND/OR A/C DOES NOT WORK	Service Alert No.: SA-003/24
	Last Issued : 01/18/2024

BULLETIN NOTES

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

Previous SA:	Date(s) Issued:
SA-084/23	12/22/23

APPLICABLE MODEL(S)/VINS

2024 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.

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical--including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.

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?

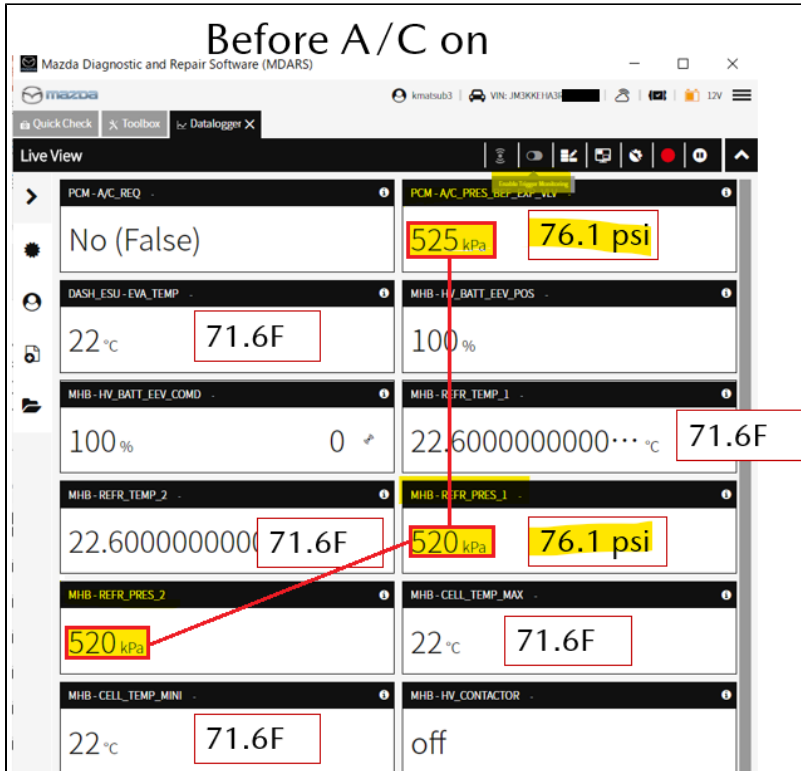
- **YES** - Continue to STEP 3.
- **NO** - Follow the WSM to diagnose and repair the vehicle.

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.

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical---including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.



- 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.

CONSUMER NOTICE: The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical--including photocopying and recording and the use of any kind of information storage and retrieval system ---without permission in writing.