

Service Alert

Mazda North American Operations
Irvine, CA 92618-2922

**Subject:**

ALTHOUGH BATTERY STATE OF CHARGE (SOC) IS FULL,
MAXIMUM DRIVING DISTANCE DISPLAY SHOWS 1 MILE (1 KM)
OR VEHICLE CANNOT DRIVE USING EV MODE

Service Alert No.: SA-051/26

Last Issued : 08/14/2026

BULLETIN NOTES

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

Previous TSBs:	Date(s) Issued:
SA-076/24	10/22/24
SA-083/23	12/20/23

APPLICABLE MODEL(S)/VINS

2024-~~2027~~ CX-90 PHEV

2025-~~2026~~ CX-70 PHEV

DESCRIPTION

This Service Alert provides the mechanism for causing the following symptoms at low outside temperatures:

- Although the SOC shown in the instrument cluster looks to be enough, the vehicle cannot drive using EV mode.
- The maximum EV driving distance is lower than expected, compared to the performance at higher outside temperatures.

Maximum EV driving distance shown in instrument cluster will show 1 mile (1 km) at low ambient temperature and low battery temperature. EV mode is suspended until the battery warms up to protect it from degradation and the gas engine will power the vehicle. This is normal operation. If the battery pack is able to warm up, EV mode will start and the display will change to show the correct Maximum Driving Distance Display for EV mode.



NOTE (EV mode): Driving using electric motor only.

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MECHANISM

1. The power output of a Lithium-ion Battery (LiB) is reduced as its temperature goes down because of its characteristics. Thus, when LiB temperature is low, even if the SOC is enough, the LiB may not be capable to provide power enough to drive using EV mode. Instead, the vehicle will drive in CS mode.

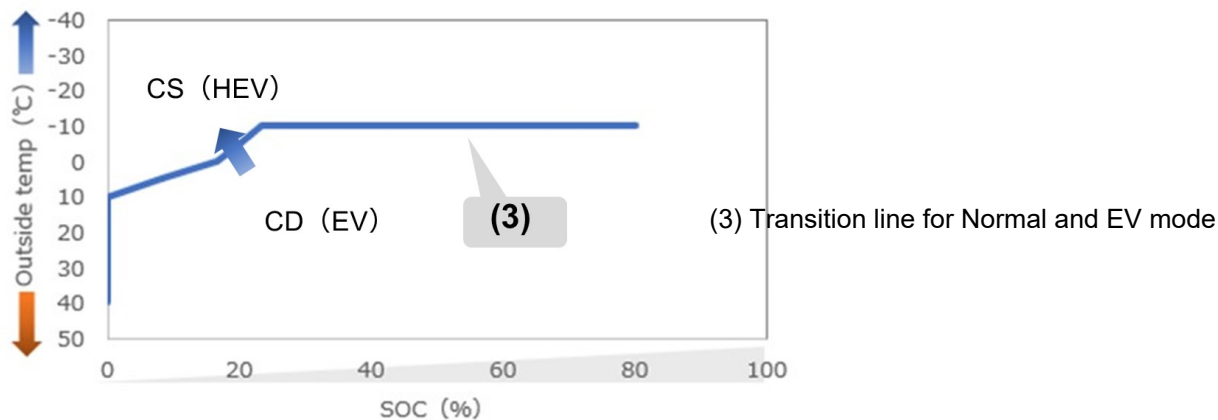
Also, when the outer temperature is less than 14 degrees Fahrenheit (-10 degrees Celsius), the vehicle will always drive in CS mode to give priority to cabin heating performance. When cabin heater is switched on, the engine will start to heat the engine coolant to deliver heat into the cabin.

See the graphs below for details.

CS mode: Charge-sustaining mode (the vehicle uses both electric motor and internal combustion engine as power sources to drive during this mode).

CD mode: Charge-depleting mode (the vehicle uses only the electric motor as power source to drive).

Transition line from CD to CS mode based on SOC in instrument cluster and outside temperature



NOTE: Some models may have different timing to switch from CD mode to the CS mode, depending on what driving mode was chosen by the driver (normal mode or EV mode). The normal mode gives priority to the driving power.

2. The maximum EV driving distance shown in the instrument cluster is calculated based on:

- SOC available before reaching transition line from CD to CS mode.
- Accumulated electricity consumption record.

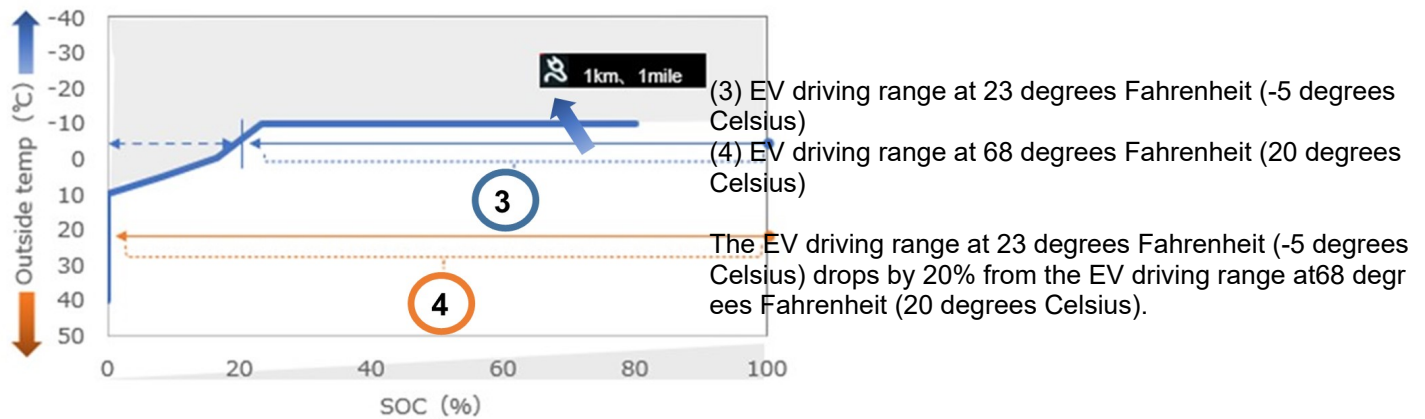
Thus, the maximum EV driving distance is highly affected by LiB temperature besides how the driver has been driving and it may be lower than what the customer expects depending on the temperature.

See the graphs below for detail.

NOTE: Minimum value of the maximum EV driving distance shown in the instrument cluster is "1 km" or "1 mile", not "0 km" or "0 mile" according to C-BCM (Center Body Control Module) specification.

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Driving range by temperature



NOTE: The maximum EV driving distance is also shown during the normal mode. The accumulated electricity consumption used to calculate maximum EV driving distance is different from the average battery consumption shown in the instrument cluster and will reset once the 12V battery terminal is removed.

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