

Technical Service Bulletin

Mazda North American Operations
Irvine, CA 92618-2922



Subject: WIRELESS CHARGER (Qi) CONCERNS	Bulletin No.: 09-048/24
	Last Issued : 12/10/2024

BULLETIN NOTES

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

Previous TSBs:	Date(s) Issued:
09-048/24	11/07/24
09-023/23	12/18/23, 09/28/23 and 05/30/23
09-009/22	03/03/22

APPLICABLE MODEL(S)/VINS

US Spec.:

- 2022 CX-3 vehicles with VINs lower than JM1 DK**** ** 606638 (Produced before Jul. 11, 2022)
- 2022 CX-5 vehicles with VINs lower than JM3 KF**** ** 649504 (Produced before Aug. 1, 2022)
- 2021-2023 CX-9 vehicles with VINs lower than JM3 TC**** ** 645342 (Produced before Nov. 21, 2022)
- 2023-2024 CX-50 with VINS lower than 7MMVA*****244893 (produced before July 24, 2024)

Mexico Spec.:

- 2023 CX-3 vehicles with VINs lower than 3MJ DK**** ** 700228 (Produced before Dec. 1, 2022)

Mexico/PR Spec.:

- 2022-2023 Mazda2 (Mexico built) vehicles with VINs lower than 3MD DJ**** ** 464820 (Produced before Jan. 3, 2023)

DESCRIPTION

Some customers may experience the following symptoms of the wireless charger (Qi), even when the mobile device (smartphone etc.) is placed in the proper position on the wireless charger (Qi).

- It does not start charging.
- It stops charging with the indicator flashing in red after starting.
- It stops charging without any visible sign after starting.

For CX-50, some customers may experience that despite placing the MagSafe®-equipped iPhone® at the center of the wireless charger, charging stops after about ten seconds. MagSafe-equipped iPhones use magnets to align the charger and the device. When charging MagSafe-equipped iPhones with a non-MagSafe compatible charger, improper alignment can cause the magnetic field required for charging to be disrupted by the magnets, significantly reducing charging efficiency.

The wireless charger (Qi) installed in the CX-50 is not MagSafe compatible and has a relatively small charging tray.

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Therefore, for larger devices such as iPhone 13 Pro Max, there may be insufficient space for proper alignment, resulting in decreased charging efficiency.

These symptoms may be caused by improper control software of the wireless charger (Qi). To eliminate these concerns, the specification of the wireless charger (Qi) has been modified.

NOTE: The modifications for the symptoms are different depending on the model.

Symptom	Mazda2	CX-3	CX-5	CX-9	CX-50
Charging does not start	X	X	X	X	*1
Red indicator turns on immediately just after charging starts	X	X	X	X	X

X: Applicable

-: Not applicable (under further study for modification)

*1: Mass production started with the modified part.

NOTE: If the mobile device is not placed at the center of the wireless charger (Qi), charger performance will be less than expected.

The wireless charger (Qi) is not compatible with MagSafe (introduced on iPhone 12 and later phones) and if the mobile device is not placed at the center of the wireless charger (Qi), charger performance will be less than expected.

NOTE: About MagSafe

MagSafe is the charging system using magnetic alignment device introduced on iPhone 12 and later phones.

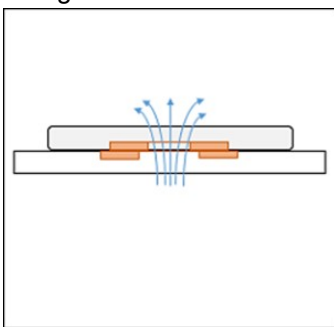
Not only on Mazda vehicles, on wireless chargers not compatible with MagSafe, proper area for the best charger performance is limited depending on user environment, such as a case, position of the mobile device, remaining battery and/or device temperature.

Regarding the wireless charger (Qi) mentioned on this Service Information, charging performance of a MagSafe compatible mobile device is not expected to be improved.

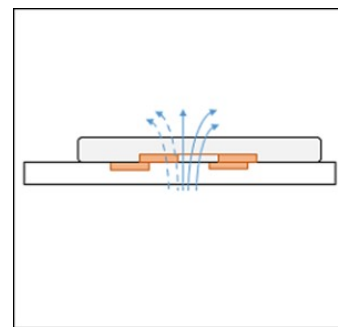
Theory of operation of the wireless charger (Qi)

The wireless charger (Qi) transfers power between coils integrated in the charger and the mobile device.

The center of both coils should be well aligned for the best performance. Poor alignment between both coils results in poor charging performance. Therefore, place the mobile device so that the center of the coil of the charger and the mobile device are aligned.

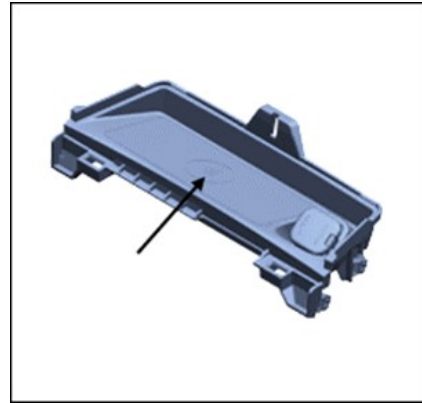
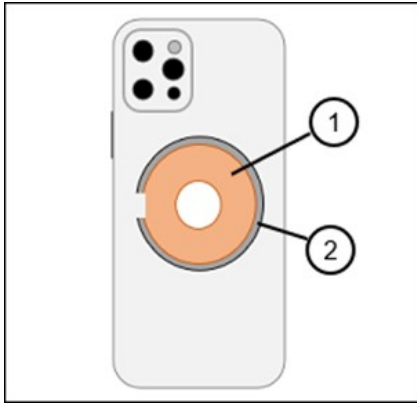


Well aligned coils for best performance



Poor alignment causes reduced power reception

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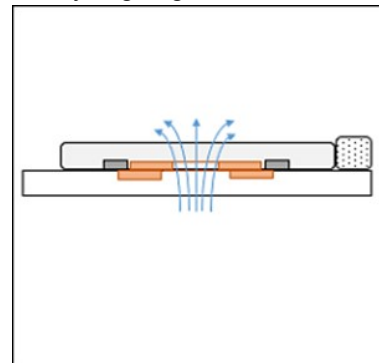
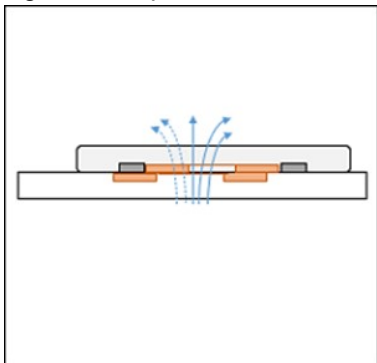


The coil (1) and magnets (2) are located at the center of iPhone. The coil is located at the center of the Qi symbol of the charger.

Effect of MagSafe to the charging performance

MagSafe is a wireless power transfer standard developed by Apple Inc. The MagSafe compatible charger and the mobile device (iPhone 12 and later) are aligned using magnets integrated in both of them for efficient charging performance. If only the mobile device is MagSafe compatible on a charger that is not MagSafe compatible, alignment using magnets is not possible and the magnets and coil may interfere with the charging (see image below/left). In this case, alignment procedure not using the magnet can reduce the negative effect on charging performance (see image below/right).

Even for the MagSafe compatible mobile device, place it on the charger manually aligning the center of the coils.



Interference by the coil and magnets spoils the charging performance. Assist alignment with a rubber block for better power transfer.

Trademarks

- "Qi" and the Qi symbol are trademarks or registered trademarks of the Wireless Power Consortium (WPC).
- iPhone and MagSafe are trademarks of Apple Inc., registered in the U.S. and other countries.

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REPAIR PROCEDURE

1. Verify the customer concern.
2. Check the conditions of the mobile device:
 - The mobile device is compatible with the wireless charger (Qi).
 - The mobile device does not have a case.
 - The mobile device does not have stickers on the back.
 - The NFC function of the mobile device is turned off.
 - Temperature of the mobile device is not too hot.
 - Remaining battery level of the mobile device is 80% or less.
 - Charging side of the mobile device faces the wireless charger (Qi).
 - Location of the mobile device is not far from the center of the wireless charger (Qi).

NOTE: Charging status display (found in the owner's manual):

The charging status of the Wireless Charger (Qi) can be checked with the LED indicator or the icon displayed on the center display.

Illumination/ flash pattern	Status
Does not turn on	Indicates that charging is turned off.
Turns on in white	Indicates that charging is possible.
Turns on in amber	Indicates normal charging.
Turns on in green	Indicates fast charging*1.
Flashes in amber	Indicates normal charging when charging efficiency is low.
Flashes in green	Indicates fast charging*1 when charging efficiency is low.
Flashes in white	Indicates that the charging conditions are not met.
Flashes in red	Indicates that charging is not possible because high temperature is detected.
	Indicates that charging is not possible because foreign matter is detected.
Turns on in red	Indicates that there is a problem with Wireless Charger (Qi) and it needs to be repaired. Consult an expert repairer (we recommend an Authorized Mazda Repairer).

*1 Some mobile devices can switch between normal charging and fast charging.

3. Check the conditions of the vehicle:

- The engine is running or the vehicle power position is ON.
- The hood, liftgate and doors are all closed.
- The wireless charger (Qi) is turned on. If the indicator is off, enable the Wireless Charging under the Connectivity Settings screen in the center display.
- Temperature of the wireless charger (Qi) is not too hot.
- The vehicle is not close to the source of strong radio wave or electro-magnetic noise such as a television tower, a power plant or airport.

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4. Diagnosis:

4-1. **Are all conditions of the mobile device and the vehicle in steps 1 and 2 met?**

- **Yes:** Go to step 4-2.
- **No:** This TSB is not applicable.

4-2. **Does the indicator on the wireless charger (Qi) turn on in white (charging is possible)?**

- **Yes:** Go to step 4-3.
- **No:** Go to step 5 for charger replacement.

4-3. **When the mobile device is placed at the center of the wireless charger (Qi), does the indicator on the wireless charger (Qi) turn on in green or amber (charging)?**

- **Yes:** Go to step 4-4.
- **No:** If the indicator flashes in red, place another mobile device (with NFC function turned off) at the center of the wireless charger (Qi).
 - If the indicator still flashes in red, go to step 4 to replace the wireless charger (Qi) .
 - If the indicator turned to green or amber, this TSB is not applicable.

NOTE: The following causes may result in the indicator flashing in red:

- Foreign object is detected.
- NFC card is detected.
- Temperature of the wireless charger (Qi) is 122 °F (50 °C) or higher (overheat protection)

4-4. **Does charging continue for 10 minutes or longer?**

- **Yes:** This TSB is not applicable.
- **No:** Go to step 4-5.

4-5. **Does the indicator on the wireless charger (Qi) turn on in white within 3 seconds (or immediately) after the mobile device is removed from the wireless charger (Qi)?**

- **Yes:** Go to step 5 to replace the wireless charger (Qi) .
- **No:** This TSB is not applicable.

NOTE: The overheating protection is possibly activated.

5. Replace the wireless charger (Qi) with a modified part according to the instructions on MGSS online:

- Mazda2: (WIRELESS CHARGER (Qi) REMOVAL/INSTALLATION)
- CX-3: (WIRELESS CHARGER (Qi) REMOVAL/INSTALLATION)
- CX-5: (WIRELESS CHARGER (Qi) REMOVAL/INSTALLATION)
- CX-9: (WIRELESS CHARGER (Qi) REMOVAL/INSTALLATION)
- CX-50: (WIRELESS CHARGER (Qi) REMOVAL/INSTALLATION)

6. Verify the repair.

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PARTS INFORMATION

Parts Number	Description	Qty.	Notes
D50E-66-CHXE	Charger, Battery-Wireless	1	Mazda2
DHDM-66-CHXD	Charger, Battery-Wireless	1	CX-3
KSD4-66-CHXB	Charger, Battery-Wireless	1	CX-5
TC3M-66-CHXH	Charger, Battery-Wireless	1	CX-9
VAY0-66-CHX	Charger, Battery-Wireless	1	CX-50

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 New Vehicle Limited Warranty term.
- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	64
Damage Code	9W
Part Number Main Cause	****-66-CHX*
Quantity	1
Operation Number / Labor Hours:	XXWCRARX / 0.3 Hrs.(Mazda2, CX-3, CX-5) XXWCRBRX / 0.2 Hrs (CX-9) XXWXDARX / 0.2 Hrs. (CX-50 without i-stop) XXWXDBRX / 0.3 Hrs. (CX-50 with i-stop).

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