

# Technical Service Bulletin

Mazda North American Operations  
Irvine, CA 92618-2922



<b>Subject:</b>  WIRELESS CHARGER (Qi) CONCERNS	<b>Bulletin No.:</b> 09-023/23
	<b>Last Issued :</b> 09/28/2023

## BULLETIN NOTES

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

Previous TSBs:	Date(s) Issued:
09-023/23	05/30/23

## APPLICABLE MODEL(S)/VINS

### US Spec.:

- 2022 CX-3 vehicles with VINs lower than JM1 DK\*\*\*\* \*\* 606638 (Produced before Jul. 11, 2022)
- 2021-2023 CX-9 vehicles with VINs lower than JM3 TC\*\*\*\* \*\* 645342 (Produced before Nov. 21, 2022)
- 2023 CX-50 vehicles with VINs lower than 7MM VA\*\*\*\* \*\* 145085 (Produced before Apr. 13, 2023)

### 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)

## NOTE:

This service bulletin supersedes TSB "09-009/22 - WIRELESS CHARGER FOR MOBILE DEVICES DOES NOT START CHARGING OR STOP CHARGING IMMEDIATELY"

## 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.
- Soon after starting, it stops charging with the indicator flashing in red.
- Soon after starting, it stops charging without any visible sign.

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.

**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.

Symptom	MAZDA2	CX-3	CX-9	CX-50
Charging does not start	X	X	X	*1
Red indicator turns on immediately just after charging starts	-	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.

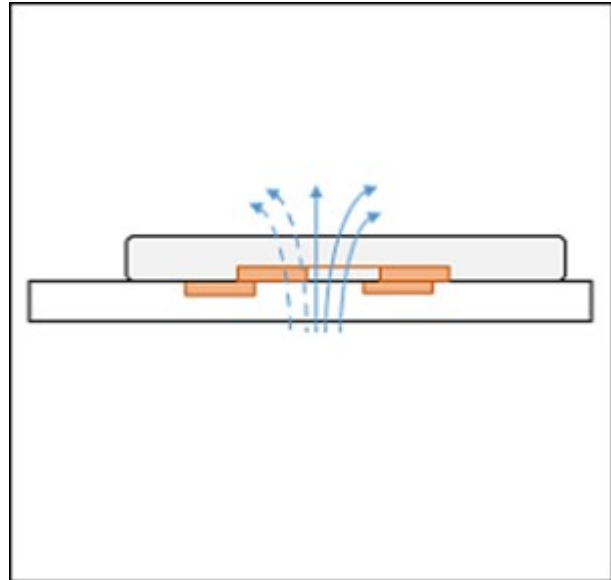
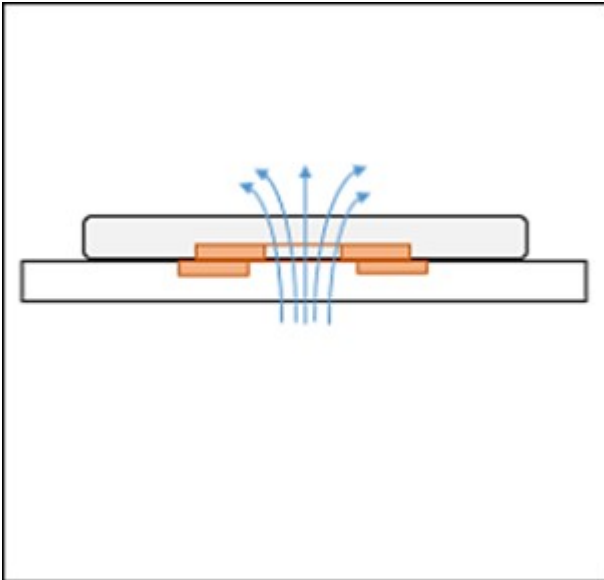
Not only on Mazda vehicles, on wireless chargers not compatible with MagSafe, proper area for the best charger performance is limited depending on user environment, such as a case, position of the mobile device, remaining battery and/or device temperature.

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)**

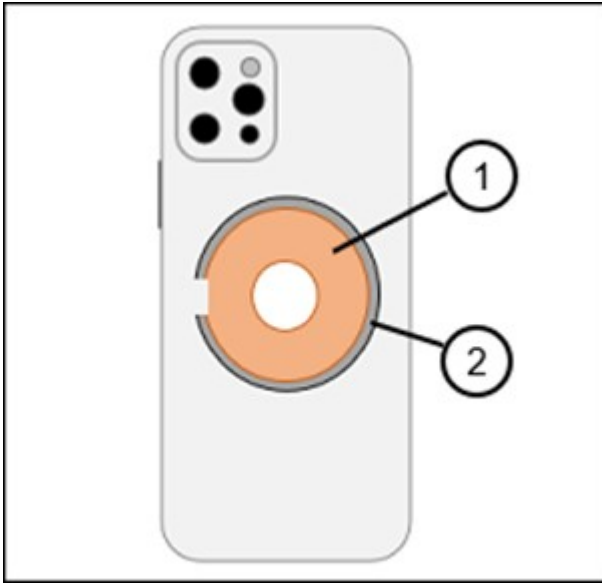
The wireless charger (Qi) transfers power between coils integrated in the charger and the mobile device.

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.

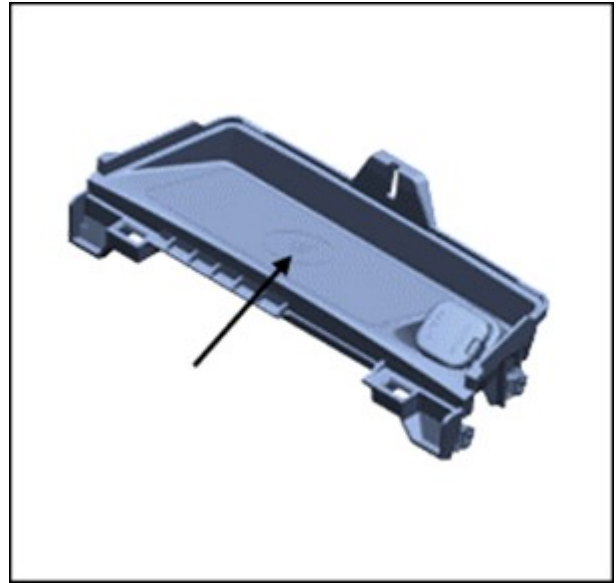


**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/ equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." 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.

Well aligned coils for best performance



Poor alignment causes reduced power reception



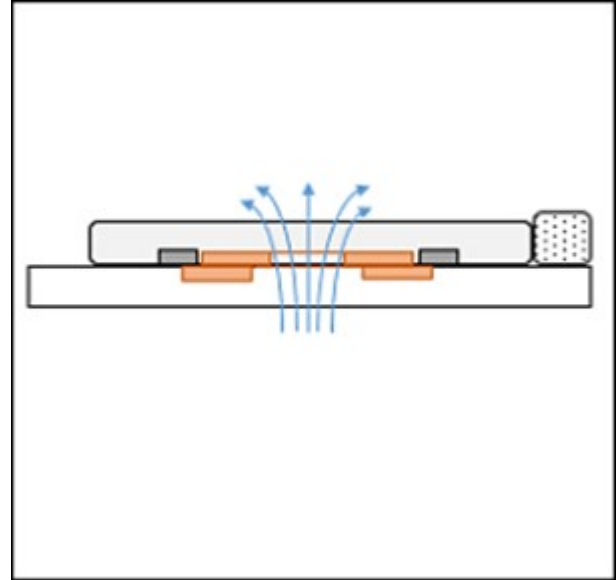
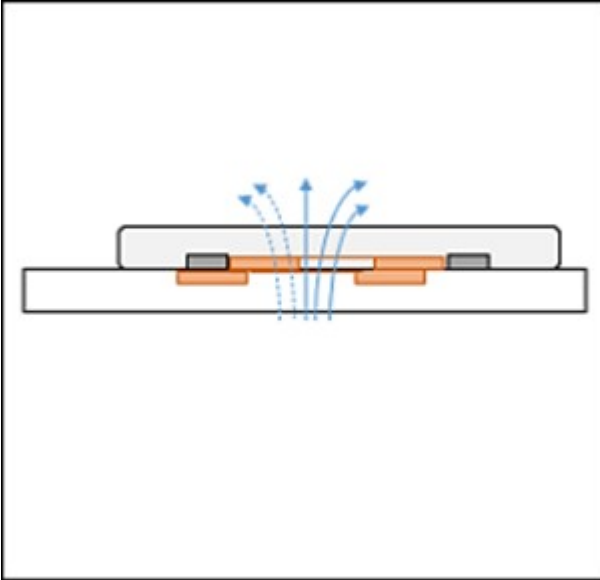
The coil (1) and magnets (2) are located at the center of iPhone. The coil is located at the center of the Qi symbol of the charger.

#### 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.

**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.



Interference by the coil and magnets spoil 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.

**REPAIR PROCEDURE**

1. 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.

**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.

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.

## 2. 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.

## 3. Diagnosis:

3-1. Are all conditions of the mobile device and the vehicle in steps 1 and 2 met?

Yes - go to step 3-2.

No - this Service Information is not applicable.

3-2. Does the indicator on the wireless charger (Qi) turn on in white (charging is possible)?

Yes - go to step 3-3.

No - go to step 4 for charger replacement.

3-3. 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 3-4.

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 Service Information 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)

**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.

3-4. Does charging continue for 10 minutes or longer?

Yes - this Service Information is not applicable.

No - go to step 3-5.

3-5. 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 4 to replace the wireless charger (Qi) .

No - this Service Information is not applicable.

**NOTE:** The overheating protection is possibly activated.

4. 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-9: (WIRELESS CHARGER (Qi) REMOVAL/INSTALLATION)
- **CX-50:** (WIRELESS CHARGER (Qi) REMOVAL/INSTALLATION)

## PARTS INFORMATION

Parts Number	Description	Qty.	Notes
D50E-66-CHXE	CHARGER, BATTERY-WIRELESS	1	MAZDA2
DHDM-66-CHXD	CHARGER, BATTERY-WIRELESS	1	CX-3
TC3M-66-CHXH	CHARGER, BATTERY-WIRELESS	1	CX-9
<b>VA40-66-CHXB</b>	<b>CHARGER, BATTERY-WIRELESS</b>	<b>1</b>	<b>CX-50</b>

## 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 Code:	A
Symptom Code	64
Damage Code	9W
Causal Part No.	****-66-CHX*

**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.

Quantity	1	
Operation No. and Labor Hours	CX-3, Mazda2	XXWCRARX / 0.3 Hrs.
	CX-9, CX-50	XXWCRBRX / 0.2 Hrs.

**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.