

Technical Journal

TITLE:

WPC (Wireless Phone Charger) charging information

REF NO: TJ 36125.3.0	ISSUING DEPARTMENT: Technical Service	CAR MARKET: United States and Canada	
PARTNER: 3 US 7510 Volvo Car USA		ISSUE DATE: 2023-02-24	STATUS DATE: 2023-01-11
FUNC GROUP: 3942	FUNC DESC: Mobile telephone	Page 1 of 4	

“Right first time in Time”

Attachment

File Name	File Size
Reference Magnet array TJ 36125.jpg	0.0837 MB

Rows beginning with * are modified

Note! If using a printed copy of this Technical Journal, first check for the latest online version.

DESCRIPTION:

* Text partially reworked.

If the cell phone seems to charge intermittently or shuts off charging when placed on the WPC, read general information under Service.

WPC = Wireless phone charger

APMS = Airborne Particulate Matter Sensor

CEM = Central electronic module

CSC Customer Symptom Codes

Code	Description
35	Power outlet/Wireless phone charger does not work
7S	Cellular phone/Other cellular phone problems

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DTC Diagnostic Trouble Codes

Vehicle Type

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
224							2021-9999		-	202020-999952
225							2021-9999		-	202020-999952
227							2021-9999		-	202020-999952
235							2021-9999		-	202020-999952
236							2021-9999		-	202020-999952
238							2021-9999		-	202020-999952
246							2021-9999		-	202020-999952
256							2021-9999		-	202020-999952
536							2018-9999		-	201746-999952
539							2022-9999		-	202139-999952

SERVICE:

The phone may temporary stop charging.

- * The charging power to be delivered by the WPC is always decided by the phone. As the phone gets warmer it will request less power from the WPC. If the phone gets too hot, it will not request any power from the WPC and the charging will temporarily turn off. This typically happens around 43-55 degrees Celsius.
- If the sun is shining on the black charger plate when the car is parked, it can then quickly transfer the heat to the phone.
- If several apps are active at the same time when the phone is charging, it will get warm quicker. It may also slow down the charging time.
- * Once the battery is full, some phones (mostly Androids) communicate to the WPC that the battery is full, resulting in that the phone will not be charged for 20 min. This time was changed from the previously used 5 min, via SW release 21w50.
- * The phone may stop charging if it slides a little (when braking or turning, etc.) but starts charging again within seconds. This is because the WPC has multiple coils and when the phone changes position, the WPC checks which of these coils can provide the best charging for the new position.

* Key search:

- CEM module checks that the key remote control is in the car every 14.5 minutes (on the same frequency that WPC uses). When this happens, charging is interrupted 1 second.
- Opening of doors. WPC is turned off a few seconds due to Key search.
- Only XC40 BEV and C40; If you enter the car, hold your foot on the brake pedal and stand still in Park mode, Key search is in progress, which shuts down the WPC as long as you press the brake pedal. If you go to Drive mode, this will not happen anymore. (If you then stop the car and go back to Park mode, WPC will not be shut down again.)
- * If the hatch in front or the back of the charging plate is open (SPA), the phone can slide and come in an intermediate position with no charging and no reminder that charging is off.

- Some phone cases has a built in metal plate or magnetic plate. In that case the charging will not work at all.
- The general advice is to not use any phone case at all when charging.
- * For some phone brands, if a USB cable is connected to the phone it will not charge wirelessly.
- *The symptom that iPhone 12/13/14 sometimes does not charge, has to do with the construction of the iPhone, not the WPC. The iPhone 12/13/14 has a built in magnet array that are supposed to align Apple's own WPC table charger with the phone for best charging (see attachment). Since iPhone 12/13/14 is not Qi certified, we cannot ensure the full compatibility and functionality with our WPC. The WPC in the listed car models has a foreign object detection (FOD) function which detects the magnet array in the iPhone 12/13/14 models as a foreign object and therefore shuts off the charging (as a safety precaution). The WPC software released 21w27 has improved this issue. If not already done, perform a software upgrade as per TJ 31543 (this does not apply for XC40 with fuel engine, those has another type of WPC). The WPC software is included in Total Upgrade, Service 2.0 and PDS Upgrade packages.
However, the phone can still get too warm during charging. The phone itself will regulate this and stop charging until it has cooled down.
- The APMS (Airborne Particulate Matter Sensor) generation 2 can cause charging interruptions, where WPC charging stops and starts very frequently. This is because APMS and WPC is on the same LIN-bus. SW update from 21w50 (APMS is standard in China, on other markets optional.)

No Warranty claims will be accepted for this TJ.

VEHICLE REPORT:

Yes, please submit a Vehicle Report if the service solution described in this TJ has no effect. Use concern area "Vehicle Report" and sub concern area "Support not needed", use function group 3942.

To view TJ attachment continue to next page. This TJ has one attachment.

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