

**ATTENTION:**

- GENERAL MANAGER
- PARTS MANAGER
- CLAIMS PERSONNEL
- SERVICE MANAGER

IMPORTANT - All Service Personnel Should Read and Initial in the boxes provided, right.


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QUALITY DRIVEN® SERVICE

**SERVICE INFORMATION BULLETIN**

**APPLICABILITY:** 2014-16MY Crosstrek Hybrid **NUMBER:** 07-180-20  
**SUBJECT:** Auto Start-Stop Inoperative / DTC P1C45 to P1C5A **DATE:** 9/8/2020

**INTRODUCTION:**

This Service Information Bulletin provides revised diagnostics and additional reference information to use when diagnosing DTCs P1C45, 46, 47, 48, 49 and P1C5A, all relating to a Hybrid battery block voltage imbalance. When an imbalance between blocks of the hybrid battery exceeds .7v, the Auto Start-Stop feature becomes inoperative, the battery protection function activates which restricts battery performance and the operator is no longer able to select the EV Traveling Mode.

**SERVICE PROCEDURE / INFORMATION:**

**REMINDER:** Customer satisfaction and retention starts with performing quality repairs.

The diagnostic procedures for the HEV Battery -related DTCs listed above have been revised and are provided below. The applicable Service Manuals will be updated with this new information in the near future. Service Manual procedures contain information critical to performing effective repairs the first time, every time. This includes but is not limited to important SAFETY precautions, proper inspection criteria, necessary special tools and required processes needed for a complete and lasting repair.

**DIAGNOSTIC > HYBRID ELECTRIC VEHICLE(DIAGNOSTICS) > Diagnostics with phenomenon > INSPECTION**

Symptoms	Maintenance parts	Note
Unable to switch to EV traveling	Check EV traveling conditions.	The difference between maximum voltage and minimum voltage of the 11 battery blocks of the high voltage battery should be less than 0.7V.

**CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.**

Subaru Service Bulletins are intended for use by professional technicians ONLY. They are written to inform those technicians of conditions that may occur in some vehicles, or to provide information that could assist in the proper servicing of the vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do the job correctly and safely. If a condition is described, DO NOT assume that this Service Bulletin applies to your vehicle, or that your vehicle will have that condition.

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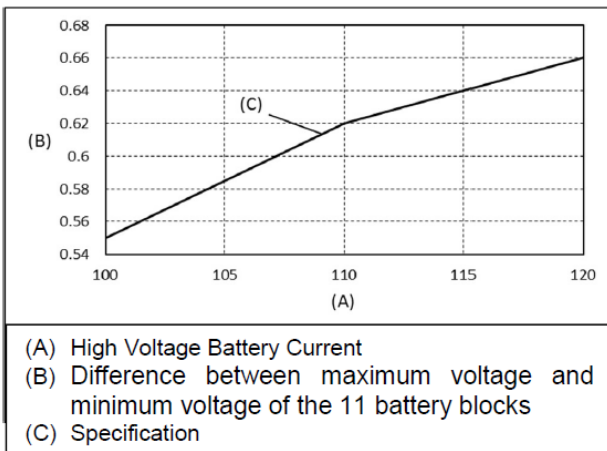
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**DIAGNOSTIC > HYBRID ELECTRIC VEHICLE(DIAGNOSTICS) > Read Current Data > HYBRID POWER TRAIN CONTROL SYSTEM (Auto Start Stop and EV TRAVELING CONDITIONS)**

Display	Auto Start Stop		EV Traveling		Note
	Condition for permission	Condition for cancel	Condition for permission	Condition for cancel	
Difference between maximum voltage and minimum voltage of the 11 battery blocks	< 0.7V	≥ 0.7V	< 0.7V	≥ 0.7V	

**DIAGNOSTIC > HYBRID ELECTRIC VEHICLE(DIAGNOSTICS) > Diagnostics with phenomenon**

Step	Check	Yes	No
<b>1. PERFORM THE NEW DRIVE CYCLE.</b> See below 3-4 for more details about the new drive cycle. Monitor the data in the SSM-4 during the drive cycle.	Are all EV Traveling Conditions (except the difference between maximum voltage and minimum voltage of the 11 battery blocks) OK?	Go to step 2.	Perform appropriate inspection using Diagnostics with Phenomenon.
<b>2. CHECK THE HIGH VOLTAGE BATTERY CURRENT.</b> Depress the gas pedal to 35% open throttle and keep. Then read the high voltage battery Current.	Is high voltage battery current 100A or higher for more than 0.4 second?	Go to step 3.	Go to step 1.
<b>3. CHECK THE BATTERY BLOCK VOLTAGE.</b> Check the maximum voltage and minimum voltage of the 11 battery blocks of the high voltage battery while driving at high voltage battery current is 100A or higher for more than 0.4 second.	Is the difference between maximum voltage and minimum voltage of the 11 battery blocks of the high voltage battery 0.7V and higher?	Replace the Battery Pack.	Perform appropriate inspection using Diagnostics with Phenomenon.



Specification for the battery current and maximum/minimum battery block voltage

High Voltage Battery Current	The difference between maximum voltage and minimum voltage of the 11 battery blocks
100A	0.55V
110A	0.62V
120A	0.66V

*Continued...*

**New Drive Cycle (Drive Cycle J) NOTE: Always follow local traffic regulations while performing the drive cycle test procedure below.**

1. Prepare vehicle for Drive Cycle. (See applicable Service Manual PREPARATION FOR DRIVE CYCLE.)
2. Set the shift lever to “P” range, air conditioner to OFF, and blower fan to OFF.
3. Change the Multi-Function Display (MFD) screen to the Energy Flow mode and drive the car in order to adjust the high voltage battery charge level to the middle range. (This will keep the battery voltage from becoming too high during the EV assist mode.)
4. Change the MFD screen to the Throttle Opening display.
5. Depress the accelerator and drive at a speed of 15 km/h (9 MPH) to induce EV Traveling mode.
6. Depress the accelerator to 35% within 2 seconds.
7. Keep the throttle opening at 35% until the vehicle speed reaches 30km/h (19 MPH).
8. Repeat steps 5-7 10 times. (No need to repeat steps 5-7 continuously, perform them 10 times when safe driving conditions allow.)
9. Check for any DTCs. If any DTCs are displayed, diagnose by following the applicable Service Manual.

**IMPORTANT REMINDERS:**

- SOA strongly discourages the printing and/or local storage of service information as previously released information and electronic publications may be updated at any time.
- Always check for any open recalls or campaigns anytime a vehicle is in for servicing.
- Always refer to STIS for the latest service information before performing any repairs.