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QUALITY DRIVEN® SERVICE

SERVICE INFORMATION BULLETIN

APPLICABILITY: 2014-16MY Crosstrek Hybrid (HEV)

NUMBER: 07-147-19

SUBJECT: DTCs P1C06 and P1C07- Diagnostic Procedure Change

DATE: 01/25/19

INTRODUCTION:

This Service Information bulletin announces a revised diagnostic procedure to follow for DTCs P1C06 and P1C07. The existing Service Manual procedures on STIS will be updated in the future.

OVERVIEW:

In the Service Manual for the CROSSTREK hybrid model, the diagnostic procedures for P1C06 and P1C07, which are DTCs for checking the relay, have no steps for specifically checking the relay. Therefore, if trouble occurs in the 12 V battery relay, the Hybrid Power Control Module (HPCM) ends up being replaced even though nothing may be wrong with it. This service bulletin provides corrections to the Service Manual diagnostics to determine the correct failed part and eliminate unnecessary HPCM replacements.

The following have been added:

- Added a relay check to the diagnostic procedures for DTCs P1C06 and P1C07.
- Added points to check between relay terminals and changed the reference values.

DTC P1C06: (12V Battery Relay Close Circuit Performance): Detects an open circuit, short-circuit to ground, and short-circuit to power in the harness of 12V battery relay close circuit.

DTC P1C07: (12V Battery Relay Open Circuit Performance): Detects an open circuit, short-circuit to ground, and short-circuit to power in the harness of 12V battery relay open circuit.

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SERVICE PROCEDURE / INFORMATION:

Correction in diagnostic procedure for DTC P1C06: DTC 12 V Battery Relay Close Circuit Performance (The revisions from the existing Service Manual are in red.)

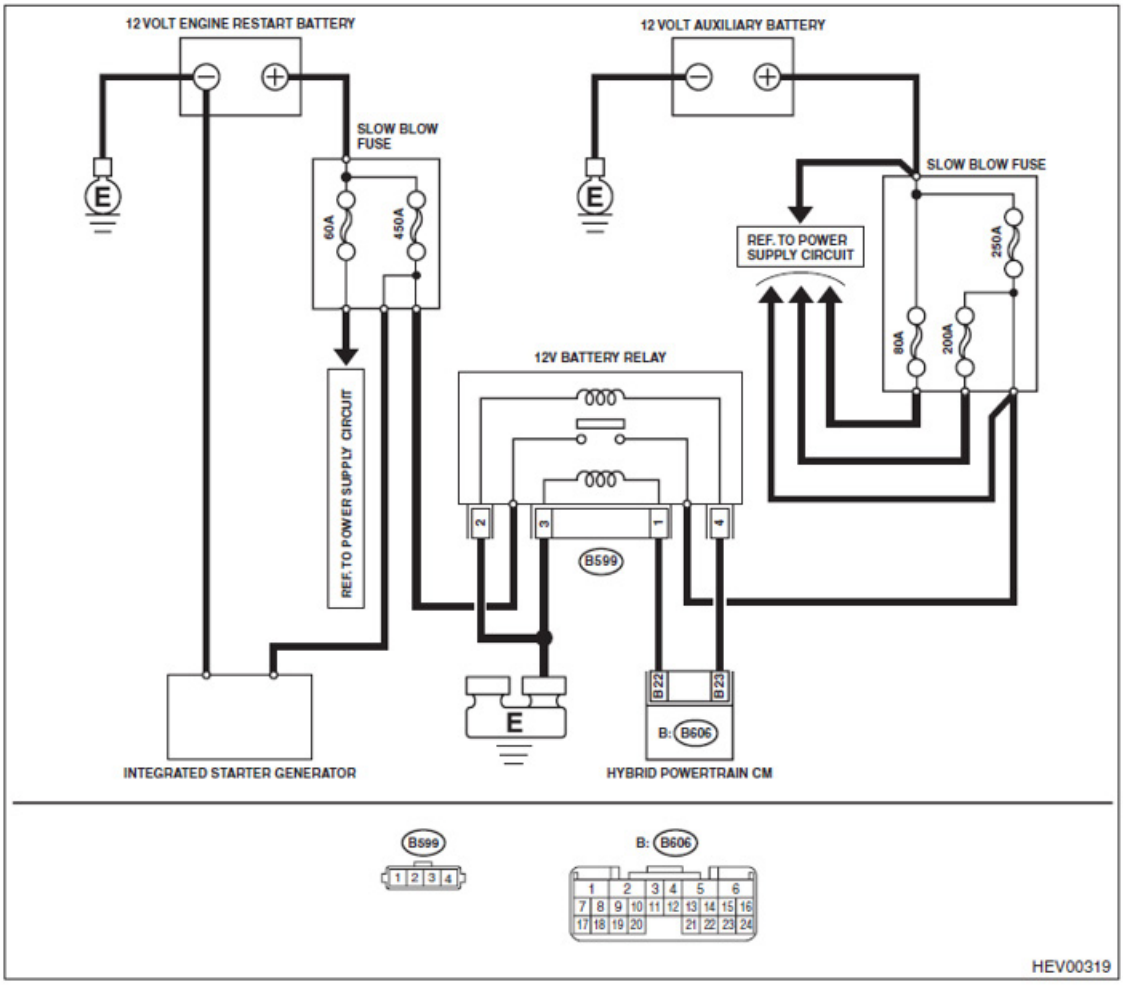
Diagnosis:

- Detects open circuit, short circuit to ground, and short circuit to power in the harness of 12V battery relay close circuit.
- Judge as NG when the detection result is out of specification.
- Immediately at fault recognition

Trouble symptom:

- EV traveling/Auto Start Stop does not operate. (Engine does not restart under EV traveling/ Auto Start Stop condition.)
- Charge warning light illuminates.

Wiring diagram:
Power Supply Circuit



Caution: Before performing diagnosis, refer to CAUTIONS in General description.
NOTE: If these troubles occur, the 12V auxiliary battery may run out.

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1. Check harness (open circuit).

1. Turn the ignition switch to OFF.
2. Remove 12V engine restart battery.
3. Disconnect the 12V battery relay connector.
4. Disconnect the HPCM connector.
5. Using a tester, measure the resistance between the 12 V battery relay connector and the HPCM connector and the resistance between 12 V battery relay connector and chassis ground.

Connector & terminal
(B599) No. 1 — (B606) No. 22:
(B599) No. 3 — Chassis ground:

Is the resistance less than 1 Ω ?

Yes: Go to 2.
No: Repair open circuit in harness between the 12V battery relay connector and the HPCM connector and the harness between 12V battery relay connector and chassis ground.

2. Check harness (Short to ground).

Using a tester, measure the resistance between 12V battery relay connector and chassis ground.

Connector & terminal
(B599) No. 1 — Chassis ground:

Is the resistance 1 MΩ or more ?

Yes: Go to 3.
No: Repair the short circuit to ground in the harness between the 12V battery relay connector and the HPCM connector.

3. Check harness (Short to power).

1.Turn the ignition switch to ON.
2.Using a tester, measure the voltage between 12V battery relay connector and chassis ground.

Connector & terminal
(B606) No. 22 — Chassis ground:

Is the voltage less than 1 V ?

Yes: Go to 4.
No: Repair the short circuit to power in the harness between the 12V battery relay connector and the HPCM connector.

4. Check relay.*

Check the 12 V battery relay. Ref. to Engine ➔ STARTING/CHARGING SYSTEMS(H4DO)(H4DO(HEV)) ➔ 12V Battery Relay ➔ INSPECTION

Is the relay OK ?

Yes: Replace the HPCM.
No: Replace the 12V battery relay.

*See page 6 for Check relay instructions.

Continued...

Correction in Diagnostic Procedure for DTC P1C07: DTC 12V Battery Relay Open Circuit Performance (The revisions from the existing Service Manual are in red.)

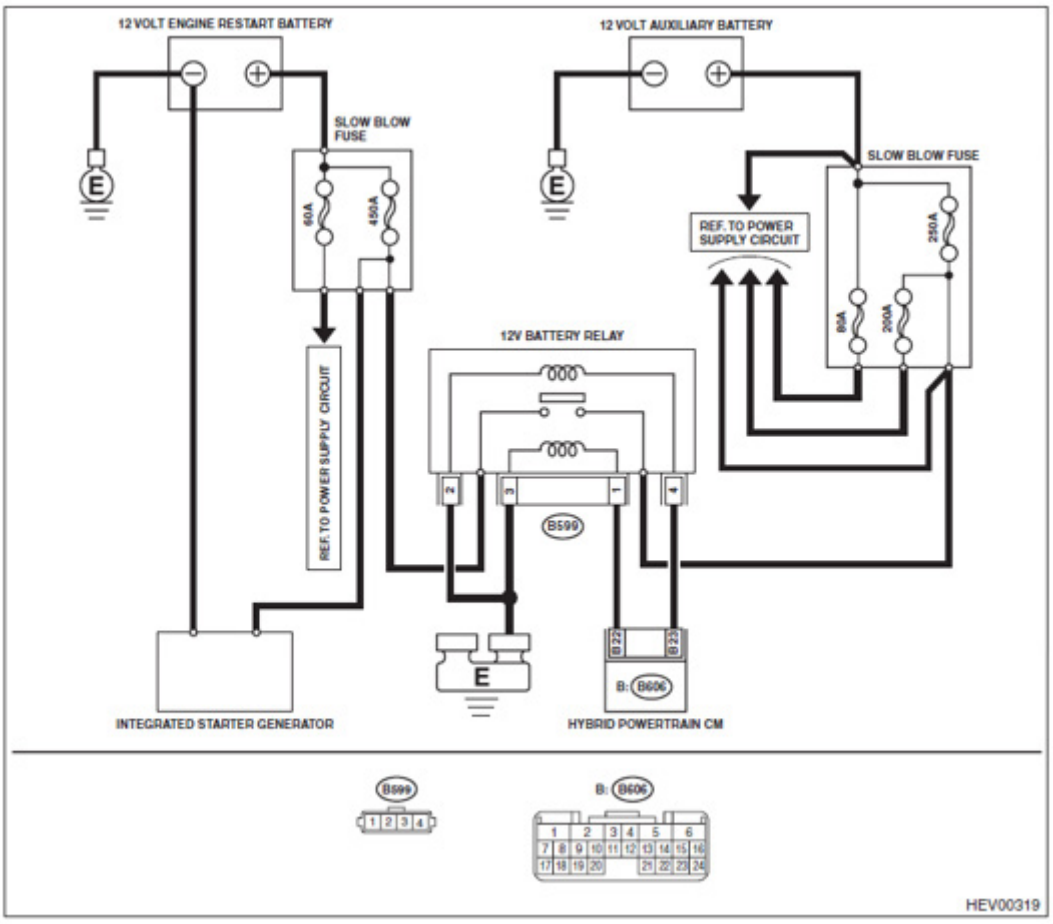
Diagnosis:

- Detects open circuit, short circuit to ground, and short circuit to power in the harness of 12V battery relay close circuit.
- Judge as NG when the detection result is out of specification.
- Immediately at fault recognition

Trouble symptom:

- EV traveling/Auto Start Stop does not operate. Engine does not restart under EV traveling/ Auto Start Stop condition.)
- Charge warning light illuminates.

Wiring diagram:
Power Supply Circuit



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1. CHECK HARNESS (OPEN CIRCUIT).

1. Turn the ignition switch to OFF.
2. Remove 12V engine restart battery.
3. Disconnect the 12V battery relay connector.
4. Disconnect the HPCM connector.
5. Using a tester, measure the resistance between the 12V battery relay connector and the HPCM connector and the resistance between 12V battery relay connector and chassis ground.

Connector & terminal
(B599) No. 4 — (B606) No. 23:
(B599) No. 2 — Chassis ground:

Is the resistance less than 1 Ω ?

Yes: Go to 2.
No: Repair open circuit in harness between the 12V battery relay connector and the HPCM connector and the harness between 12V battery relay connector and chassis ground.

2. CHECK HARNESS (SHORT TO GROUND).

Using a tester, measure the resistance between 12V battery relay connector and chassis ground.

Connector & terminal
(B599) No. 4 — Chassis ground:

Is the resistance 1 MΩ or more ?

Yes: Go to 3.
No: Repair the short circuit to ground in the harness between the 12V battery relay connector and the HPCM connector.

3. CHECK HARNESS (SHORT TO POWER).

1.Turn the ignition switch to ON.
2.Using a tester, measure the voltage between 12V battery relay connector and chassis ground.

Connector & terminal
(B606) No. 23 — Chassis ground:

Is the voltage less than 1 V ?

Yes: Go to 4.
No: Repair the short circuit to power in the harness between the 12V battery relay connector and the HPCM connector.

4. Check relay. *

Check the 12 V battery relay. Ref. to Engine ➔ STARTING/CHARGING SYSTEMS(H4DO)(H4DO(HEV)) ➔ 12V Battery Relay ➔ INSPECTION

Is the relay OK ?
Yes: Replace the HPCM.
No: Replace the 12V battery relay.

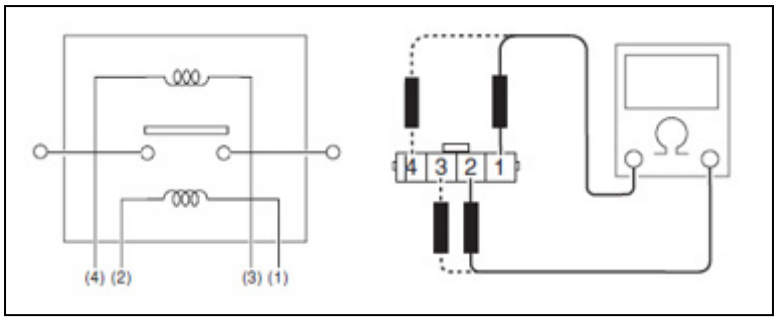
*See page 6 for Check relay instructions.

Continued...

Adding the Parts of the 12V Battery Relay to Be Checked and Change In Reference Values
(The revisions from the existing Service Manual are in red.)

INSPECTION:

1. Check that the 12V battery relay has no deformation, cracks or other damage.
2. Measure the resistance between the 12V battery relay terminals.



Terminal Number	Inspection Conditions	Standard
1 and 2	Always	Approx. 3.87-4.73 Ω (when 20°C (68°F))
3 and 4	Always	Approx. 3.87-4.73 Ω (when 20°C (68°F))
1 and 3	Always	1 MΩ or more
2 and 4	Always	1 MΩ or more

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.