

Basic Diagnostic Procedure

HYBRID ELECTRIC VEHICLE (DIAGNOSTICS)

1. Basic Diagnostic Procedure

A: PROCEDURE

	Step	Check	Yes	No
1	CHECK PRE-INSPECTION. Ask the customer when and how the trouble occurred using the interview check list. <Ref. to HEV(diag)-5, Check List for Interview.>	Was the customer interview performed?	Go to step 2.	Perform customer interview.
2	CHECK HYBRID FAIL LAMP. Check the hybrid fail lamp.	Does the hybrid fail lamp illuminate after starting the engine?	Go to step 3.	Perform appropriate inspection using Diagnostics with Phenomenon. <Ref. to HEV(diag)-341, Diagnostics with Phenomenon.>
3	CHECK COMBINATION METER. Using the Subaru Select Monitor, read DTC of combination meter.	Is either DTC U0073, U0293, or U0594 detected? (current malfunction)	Perform the inspection according to the diagnosis for LAN system. <Ref. to LAN(HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Go to step 4.
4	CHECK DTC. Using the Subaru Select Monitor, read DTC of the hybrid powertrain control module. NOTE: • Refer to “Read Diagnostic Trouble Code (DTC)” for detailed operation procedure. <Ref. to HEV(diag)-24, OPERATION, Read Diagnostic Trouble Code (DTC).> • If the communication function of the Subaru Select Monitor does not operate properly, check the communication circuit. <Ref. to HEV(diag)-18, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.>	Is DTC detected? (current malfunction)	Record DTC, time stamp, and freeze frame data, then perform inspection using “Diagnostic Procedure with Diagnostic Trouble Code (DTC)”. <Ref. to HEV(diag)-74, List of Diagnostic Trouble Code (DTC).> After repair, Go to step 10. NOTE: • For the time stamp, refer to LAN section. <Ref. to LAN(HEV)(diag)-6, TIME STAMP, CAUTION, General Description.> • Depending on DTCs, time stamp may not be stored.	Go to step 5.
5	CHECK CURRENT DATA. Confirm the current data of hybrid powertrain control system, the value of «Hybrid Fail Lamp Signal (DMCU)» using the Subaru Select Monitor. <Ref. to HEV(diag)-40, HYBRID POWERTRAIN CONTROL SYSTEM, OPERATION, Read Current Data.>	Does the value show «ON»?	Go to step 6.	Go to step 7.

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	Step	Check	Yes	No
6	<p>CHECK DTC. Read the DTC of the drive motor control system using the Subaru Select Monitor.</p> <p>NOTE:</p> <ul style="list-style-type: none"> Refer to “Read Diagnostic Trouble Code (DTC)” for detailed operation procedure. <Ref. to HEV(diag)-24, OPERATION, Read Diagnostic Trouble Code (DTC).> If the communication function of the Subaru Select Monitor does not operate properly, check the communication circuit. <Ref. to HEV(diag)-18, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.> 	Is DTC detected? (current malfunction)	<p>Record DTC, time stamp, and freeze frame data, then perform inspection using “Diagnostic Procedure with Diagnostic Trouble Code (DTC)”. <Ref. to HEV(diag)-74, List of Diagnostic Trouble Code (DTC).></p> <p>After repair, Go to step 10.</p> <p>NOTE:</p> <ul style="list-style-type: none"> For the time stamp, refer to LAN section. <Ref. to LAN(HEV)(diag)-6, TIME STAMP, CAUTION, General Description.> Depending on DTCs, time stamp may not be stored. 	Replace DMCM. <Ref. to CVT(TH58A)-157, Drive Motor Control Module.>
7	<p>CHECK CURRENT DATA. Confirm the current data of hybrid powertrain control system, the value of «Hybrid Fail Lamp Signal (BECU)» using the Subaru Select Monitor. <Ref. to HEV(diag)-40, HYBRID POWERTRAIN CONTROL SYSTEM, OPERATION, Read Current Data.></p>	Does the value show «ON»?	Go to step 8 .	Go to step 9 .
8	<p>CHECK DTC. Read DTC of the battery energy control system using the Subaru Select Monitor.</p> <p>NOTE:</p> <ul style="list-style-type: none"> Refer to “Read Diagnostic Trouble Code (DTC)” for detailed operation procedure. <Ref. to HEV(diag)-24, OPERATION, Read Diagnostic Trouble Code (DTC).> If the communication function of the Subaru Select Monitor does not operate properly, check the communication circuit. <Ref. to HEV(diag)-18, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.> 	Is DTC detected? (current malfunction)	<p>Record DTC, time stamp, and freeze frame data, then perform inspection using “Diagnostic Procedure with Diagnostic Trouble Code (DTC)”. <Ref. to HEV(diag)-74, List of Diagnostic Trouble Code (DTC).></p> <p>After repair, Go to step 10.</p> <p>NOTE:</p> <ul style="list-style-type: none"> For the time stamp, refer to LAN section. <Ref. to LAN(HEV)(diag)-6, TIME STAMP, CAUTION, General Description.> Depending on DTCs, time stamp may not be stored. 	Replace the high voltage battery. <Ref. to HEV-17, High Voltage Battery.>

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Step	Check	Yes	No
9 CHECK HYBRID FAIL LAMP. 1) Turn the ignition switch to OFF. 2) Wait at least 30 seconds. 3) Turn the ignition switch to ON.	Does the hybrid fail lamp illuminate?	Replace the HPCM. <Ref. to HEV-37, Hybrid Powertrain Control Module.>	It is possible that temporary poor communication occurs.
10 PERFORM DIAGNOSIS. 1) Perform the Clear Memory Mode. <Ref. to HEV(diag)-25, Clear Memory Mode.> 2) Perform the Inspection Mode or Drive Cycle. <Ref. to HEV(diag)-27, Inspection Mode.> <Ref. to HEV(diag)-32, Drive Cycle.>	Is DTC displayed on Subaru Select Monitor?	Inspect using "Diagnostic Procedure with Diagnostic Trouble Code (DTC)". <Ref. to HEV(diag)-74, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.