19.Diagnostic Procedure without Diagnostic Trouble Code (DTC)

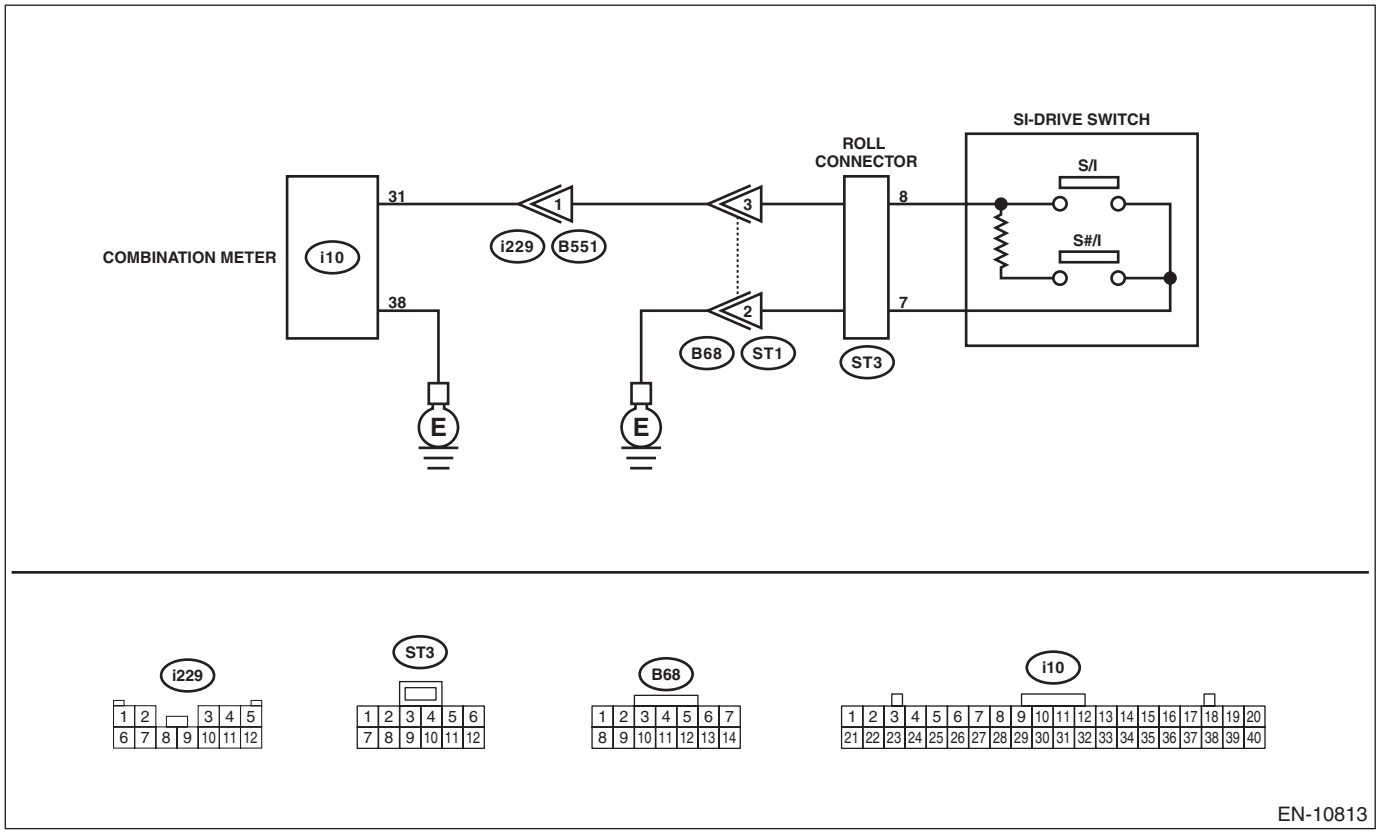
A: CHECK SI-DRIVE (SUBARU INTELLIGENT DRIVE) SYSTEM

DIAGNOSIS:
SI-DRIVE mode does not switch.

CAUTION:
Note that SI-DRIVE system operates the following controls when it switches the modes.
1. Cannot switch to S# (Sport Sharp) mode when the engine is cold, and S# (Sport Sharp) switch prohibition buzzer sounds.
2. Switches to S (Sport) when turning the engine ON after turning the engine OFF in S# (Sport sharp) mode.
3. Returns to the mode last selected when turning the engine ON after turning the engine OFF in S (Sport) or I (Intelligent) mode.
4. Switches to S (Sport) when the malfunction indicator light illuminates while the engine is running. In this case, Cannot switch to S# (Sport Sharp) or I (Intelligent) mode.
5. If there is a possible engine coolant or engine oil temperature overheat condition, it will not be possible to switch to the S# (Sport Sharp) mode. Switches to S (Sport) while driving in S# (Sport sharp) mode.

1. SI-DRIVE MODE INDICATION DOES NOT CHANGE AND MODES DO NOT SWITCH AFTER SWITCHING SI-DRIVE MODES

WIRING DIAGRAM:
• Engine Electrical System ENGINE TYPE FA (WITHOUT PUSH BUTTON START) <Ref. to WI-162, ENGINE TYPE FA (WITHOUT PUSH BUTTON START), WIRING DIAGRAM, Engine Electrical System.>
• Engine Electrical System ENGINE TYPE FA (WITH PUSH BUTTON START) <Ref. to WI-180, ENGINE TYPE FA (WITH PUSH BUTTON START), WIRING DIAGRAM, Engine Electrical System.>



	Step	Check	Yes	No
1	**CHECK SI-DRIVE SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the combination meter. 3) Measure the resistance when the SI-DRIVE switch is operated. ***Connector & terminal*** ***(i10) No. 31 — Chassis ground:***	Does the resistance change as below? S#/I: 1.71 — 1.89 kΩ S/I: less than 1 Ω	Go to step **5**.	Go to step **2**.
2	**CHECK HARNESS BETWEEN COMBINATION METER AND SI-DRIVE SWITCH CONNECTOR.** Measure the resistance of harness between combination meter connector and SI-DRIVE switch connector. ***Connector & terminal*** ***(i10) No. 31 — (ST3) No. 8:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair the harness and connector. NOTE: In this case, repair the following item: • Open circuit in harness between combination meter connector and SI-DRIVE switch connector • Poor contact of coupling connector • Poor contact of roll connector • Roll connector is faulty
3	**CHECK HARNESS BETWEEN SI-DRIVE SWITCH CONNECTOR AND CHASSIS GROUND.** Measure the resistance of harness between SI-DRIVE switch connector and chassis ground. ***Connector & terminal*** ***(ST3) No. 7 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair the harness and connector. NOTE: In this case, repair the following item: • Open circuit in harness between SI-DRIVE switch connector and chassis ground • Poor contact of joint connector • Poor contact of roll connector • Roll connector is faulty
4	**CHECK HARNESS BETWEEN COMBINATION METER AND SI-DRIVE SWITCH CONNECTOR.** Measure the resistance between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 31 — Chassis ground:***	Is the resistance 1 MΩ or more?	Repair the poor contact of SI-DRIVE switch connector. Replace the SI-DRIVE switch if defective. <Ref. to FU(w/o STI)-131, SI-DRIVE (SUBARU Intelligent Drive) Selector.>	Repair the short circuit to ground in harness between combination meter and SI-DRIVE switch connector.
5	**CHECK HARNESS BETWEEN COMBINATION METER AND CHASSIS GROUND.** Measure the resistance of harness between combination meter and chassis ground. ***Connector & terminal*** ***(i10) No. 38 — Chassis ground:***	Is the resistance less than 5 Ω?	Go to step **6**.	Repair the open circuit of harness between combination meter and chassis ground.

	Step	Check	Yes	No
6	**RECHECK FAULT.** 1) Connect all connectors. 2) Switch SI-DRIVE modes.	Is there any fault?	Repair the poor contact of combination meter connector. Replace the meter case assembly if defective. <Ref. to IDI-13, Combination Meter.>	The circuit has returned to a normal condition at this time. Reproduce the failure, and then perform the diagnosis again. NOTE: In this case, temporary poor contact of connector, temporary open or short circuit of harness may be the cause.

2. WHEN THE SI-DRIVE MODE IS CHANGED, “S”, “I” OR “S#” FLASHES IN COMBINATION METER SI-DRIVE MODE DISPLAY IN APPROX. 5 SECONDS

	Step	Check	Yes	No
1	**CHECK DTC.**	Is DTC displayed?	Check the appropriate DTC using the “List of Diagnostic Trouble Code (DTC)” concerning the respective units.	Go to step **2**.
2	**CHECK COMBINATION METER AND CLOCK DISPLAY.** Check for abnormal display other than “S”, “I” or “S#” flashing. Examples: Malfunction indicator light illuminates.	Is there an abnormal display other than “S”, “I” or “S#” flashing?	For the diagnostic procedure, refer to LAN section. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Go to step **3**.
3	**CHECK ECM AND COMBINATION METER.**	Is the part number of ECM and combination meter correct?	Replace the meter case assembly. <Ref. to IDI-13, Combination Meter.>	Replace ECM or meter case assembly with the one with the correct part number. <Ref. to FU(w/o STI)-132, Engine Control Module (ECM).> <Ref. to IDI-13, Combination Meter.>

3. WHEN THE SI-DRIVE MODE IS CHANGED, “S”, “I” OR “S#” FLASHES IN COMBINATION METER SI-DRIVE MODE DISPLAY

NOTE:
In this case, there is a fault other than in SI-DRIVE system.

	Step	Check	Yes	No
1	**CHECK MALFUNCTION INDICATOR LIGHT.** 1) Start the engine. 2) Check if malfunction indicator light illuminates.	Does the malfunction indicator light illuminate?	Read the DTC using Subaru Select Monitor and check the indicated DTC. <Ref. to EN(w/o STI)(diag)-46, Read Diagnostic Trouble Code (DTC).>	Go to step **2**.
2	**CHECK ENGINE COOLANT TEMPERATURE GAUGE.** 1) Turn the ignition switch to ON. 2) Check the engine coolant temperature gauge.	Does it indicate overheating?	Inspect for the cause of overheating and repair.	Go to step **3**.
3	**CHECK ENGINE OIL TEMPERATURE.** 1) Turn the ignition switch to ON. 2) Check the value of «Oil Temperature» using Subaru Select Monitor. NOTE: For detailed operation procedures, refer to “Current Data Display For Engine”. <Ref. to EN(w/o STI)(diag)-37, Subaru Select Monitor.>	Is the value of «Oil Temperature» 117°C (243°F) or more?	Inspect and repair the cause of engine oil temperature rise. NOTE: Ask the customer whether the vehicle has experienced a long drive in low gear or towing of heavy load. If not, drive the vehicle again after the engine oil temperature lowers, and check if the engine oil temperature rises.	Go to step **4**.
4	**CHECK COMBINATION METER INDICATION.** 1) Turn the ignition switch to ON. 2) Switch SI-DRIVE modes. 3) Check the SI-DRIVE mode display in the combination meter.	Does the SI-DRIVE mode “S”, “I” or “S#” in combination meter flash?	Replace the meter case assembly. <Ref. to IDI-13, Combination Meter.>	Perform test operation and check the malfunction indicator light, engine coolant temperature warning light, and engine oil temperature. If they are normal, finish the diagnosis.