20.Diagnostic Procedure without Diagnostic Trouble Code (DTC)

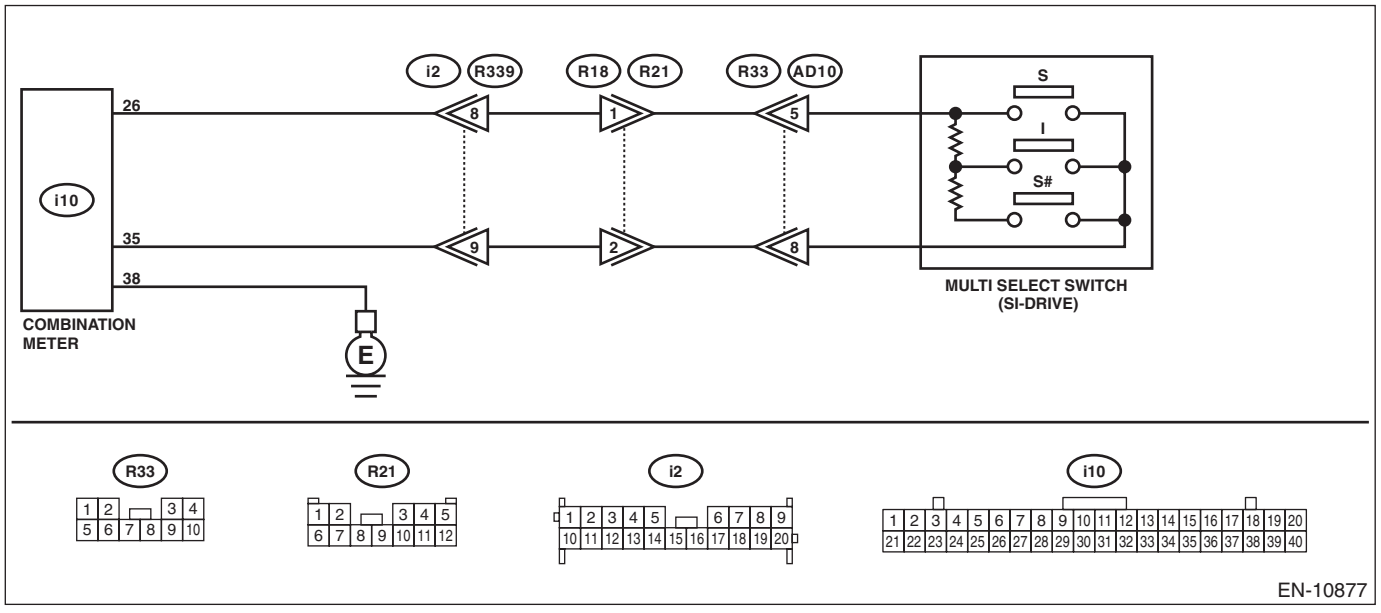
A: CHECK SI-DRIVE (SUBARU INTELLIGENT DRIVE) SYSTEM

DIAGNOSIS:
SI-DRIVE mode does not switch.

CAUTION:
Note that SI-DRIVE system operates the following controls when it switches the modes.
1. Switches to S (Sport) mode when turning the engine OFF in S (Sport) or S# (Sport sharp) mode and then turning the engine ON again.
2. Switches to I (intelligent) mode when turning the engine OFF in I (intelligent) mode and then turning the engine ON again.
3. 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.
4. Cannot switch to S# (Sport Sharp), when engine coolant temperature tells that overheating may occur. 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 EJ (WITHOUT PUSH BUTTON START) <Ref. to WI-198, ENGINE TYPE EJ (WITHOUT PUSH BUTTON START), WIRING DIAGRAM, Engine Electrical System.>
• Engine Electrical System ENGINE TYPE EJ (WITH PUSH BUTTON START) <Ref. to WI-218, ENGINE TYPE EJ (WITH PUSH BUTTON START), WIRING DIAGRAM, Engine Electrical System.>



Step		Check	Yes	No
1	**CHECK SI-DRIVE SELECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the combination meter. 3) Measure the resistance between connectors when the SI-DRIVE selector is operated. ***Connector & terminal*** ***(i10) No. 26 — (i10) No. 35:***	Does the resistance change as below? S#: 3.48 — 3.85 kΩ I: 0.95 — 1.05 kΩ S: less than 1 Ω	Go to step **4**.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK HARNESS BETWEEN COMBINATION METER AND MULTI-SELECT SWITCH CONNECTOR.** 1) Disconnect the connector from multi-select switch. 2) Measure the resistance of harness between combination meter and multi-select switch connector. ***Connector & terminal*** ***(i10) No. 26 — (R33) No. 5:*** ***(i10) No. 35 — (R33) 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 and multi-select switch connector • Poor contact of coupling connector
3	**CHECK HARNESS BETWEEN COMBINATION METER AND MULTI-SELECT SWITCH CONNECTOR.** Measure the resistance between multi-select switch connector and chassis ground. ***Connector & terminal*** ***(R33) No. 5 — Chassis ground:*** ***(R33) No. 8 — Chassis ground:***	Is the resistance 1 MΩ or more?	Repair the poor contact of multi-select switch connector. Replace the multi-select switch if defective. <Ref. to FU(STI)-55, SI-DRIVE (SUBARU Intelligent Drive) Selector.>	Repair the ground short circuit in harness between combination meter and multi-select switch connector.
4	**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 **5**.	Repair the open circuit of harness between combination meter and chassis ground.
5	**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 combination meter 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(STI)-56, Engine Control Module (ECM).> <Ref. to IDI-13, Combination Meter.>

3. “S#”, “I” OR “S” BLINKS ON SI-DRIVE MODE DISPLAY IN THE COMBINATION METER AFTER SWITCHING SI-DRIVE MODES

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(STI)(diag)-86, List of 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 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 “S#”, “I” or “S” of the SI-DRIVE mode blink in combination meter?	Replace the combination meter. <Ref. to IDI-13, Combination Meter.>	Perform test driving to check the malfunction indicator light and engine coolant temperature gauge. Complete the diagnosis if they are normal.