

DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)

ENGINE (DIAGNOSTICS)

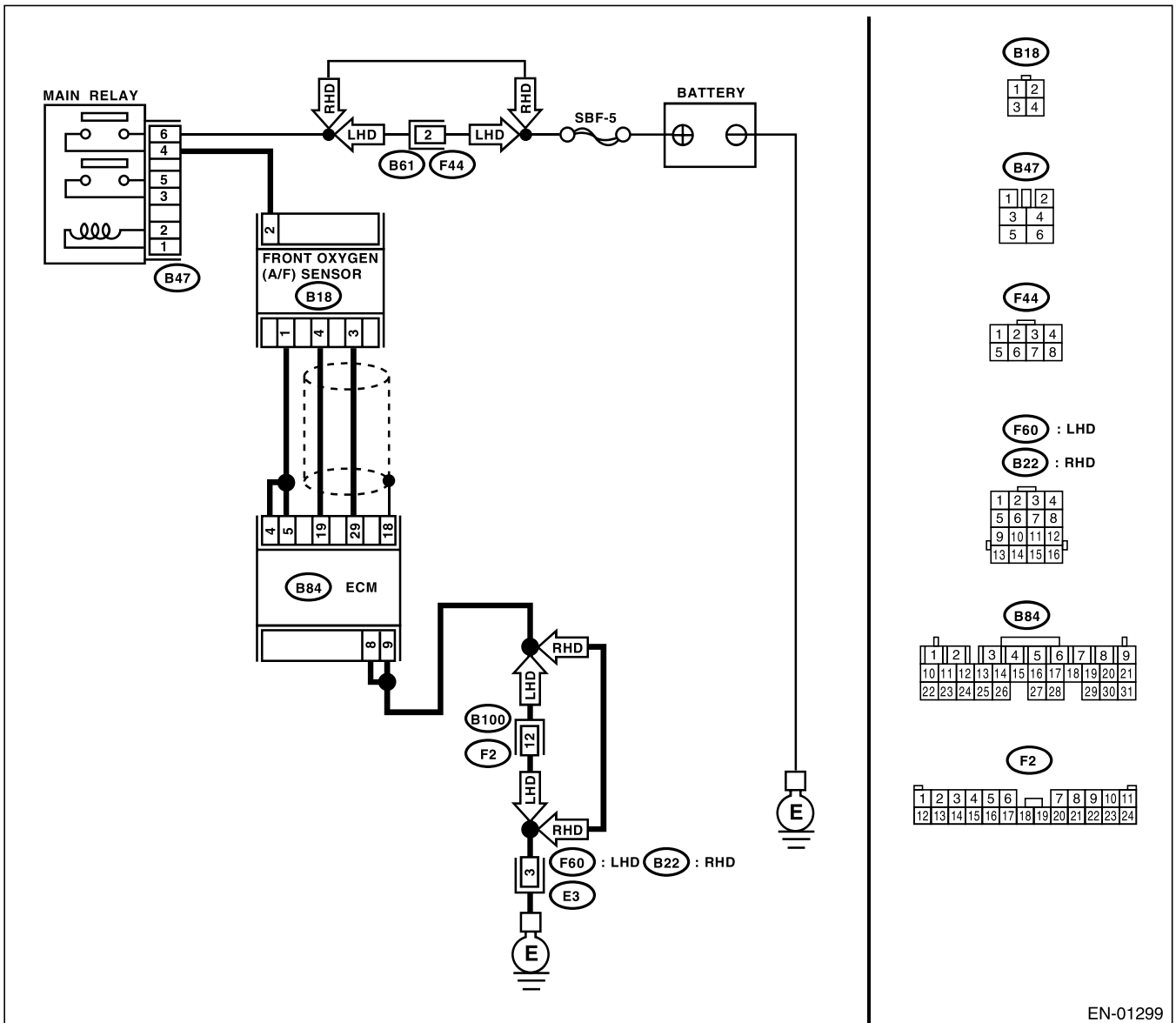
Y: DTC P0133 — O₂ SENSOR CIRCUIT SLOW RESPONSE (BANK 1 SENSOR 1)

- **DTC DETECTING CONDITION:**
 - Two consecutive driving cycles with fault

CAUTION:

After repair or replacement of faulty parts, conduct Clear Memory Mode <Ref. to EN(H4DOTC)-48, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4DOTC)-40, Inspection Mode.>.

- **WIRING DIAGRAM:**



DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)

ENGINE (DIAGNOSTICS)

Step	Check	Yes	No
1 CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Inspect the relevant DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to EN(H4DOTC)-75, List of Diagnostic Trouble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0133.	Go to step 2.
2 CHECK EXHAUST SYSTEM. NOTE: Check the following items. <ul style="list-style-type: none">•Loose installation of front portion of exhaust pipe onto cylinder heads•Loose connection between front exhaust pipe and front catalytic converter•Damage of exhaust pipe resulting in a hole	Is there a fault in exhaust system?	Repair the exhaust system.	Replace the front oxygen (A/F) sensor. <Ref. to FU(H4DOTC)-44, Front Oxygen (A/F) Sensor.>

Z: DTC P0134 — O₂ SENSOR CIRCUIT NO ACTIVITY DETECTED (BANK 1 SENSOR 1) —

NOTE:

For the diagnostic procedure, refer to DTC P0130. <Ref. to EN(H4DOTC)-135, DTC P0130 — O₂ SENSOR CIRCUIT (BANK 1 SENSOR 1) —, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)

ENGINE (DIAGNOSTICS)

AC:DTC P0139 — O₂ SENSOR CIRCUIT SLOW RESPONSE (BANK 1 SENSOR 2)

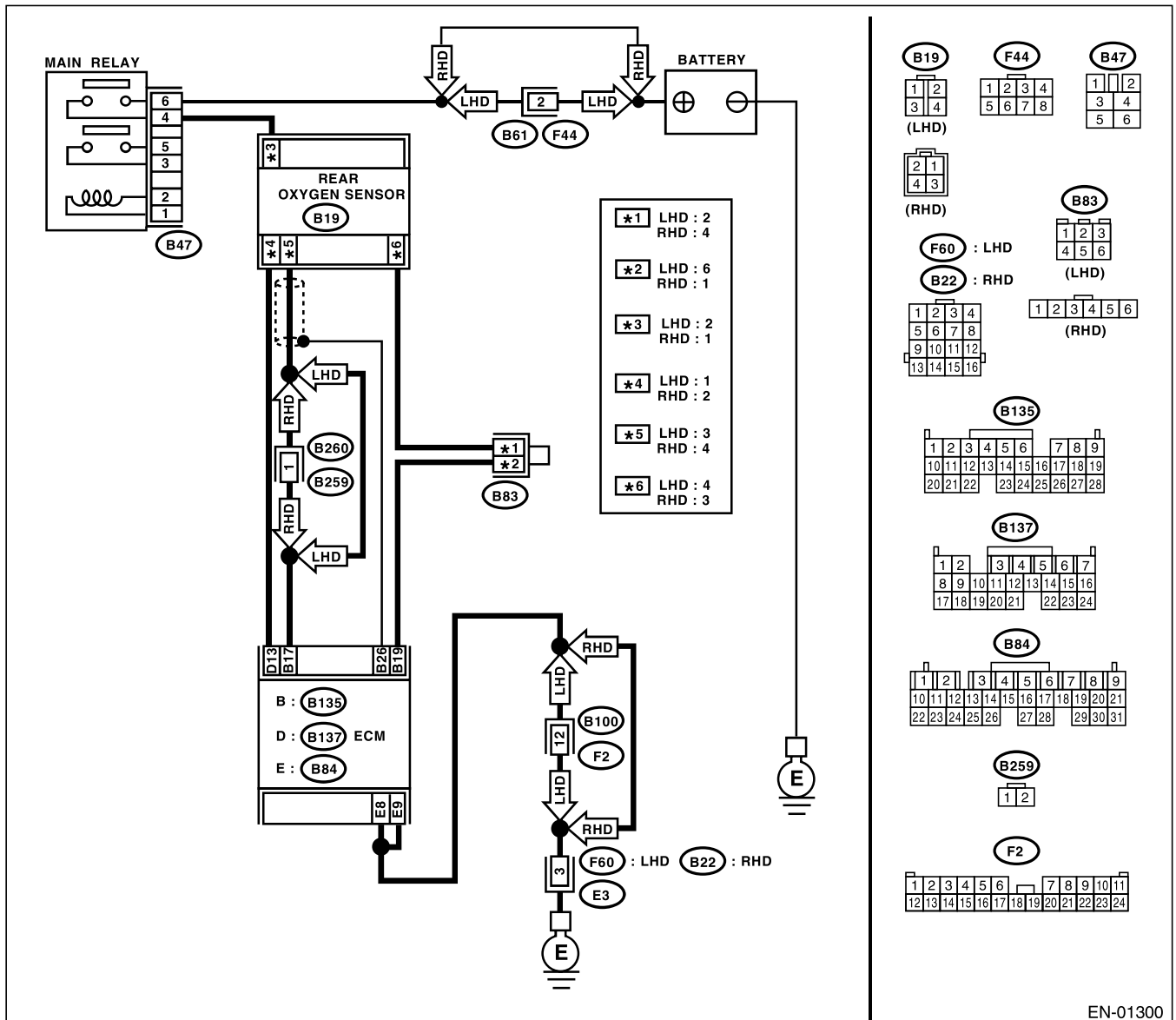
DTC DETECTING CONDITION:

- Two consecutive driving cycles with fault

CAUTION:

After repair or replacement of faulty parts, conduct Clear Memory Mode <Ref. to EN(H4DOTC)-48, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4DOTC)-40, Inspection Mode.>.

WIRING DIAGRAM:



EN-01300

DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)

ENGINE (DIAGNOSTICS)

Step	Check	Yes	No
1 CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Inspect the relevant DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to EN(H4DOTC)-75, List of Diagnostic Trouble Code (DTC).> NOTE: In this case, it is not necessary to inspect DTC P0139.	Replace the rear oxygen sensor. <Ref. to FU(H4DOTC)-46, Rear Oxygen Sensor.>

AD:DTC P0171 — SYSTEM TOO LEAN (BANK 1) —

NOTE:

For the diagnostic procedure, refer to DTC P0172. <Ref. to EN(H4DOTC)-147, DTC P0172 — SYSTEM TOO RICH (BANK 1) —, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)
ENGINE (DIAGNOSTICS)

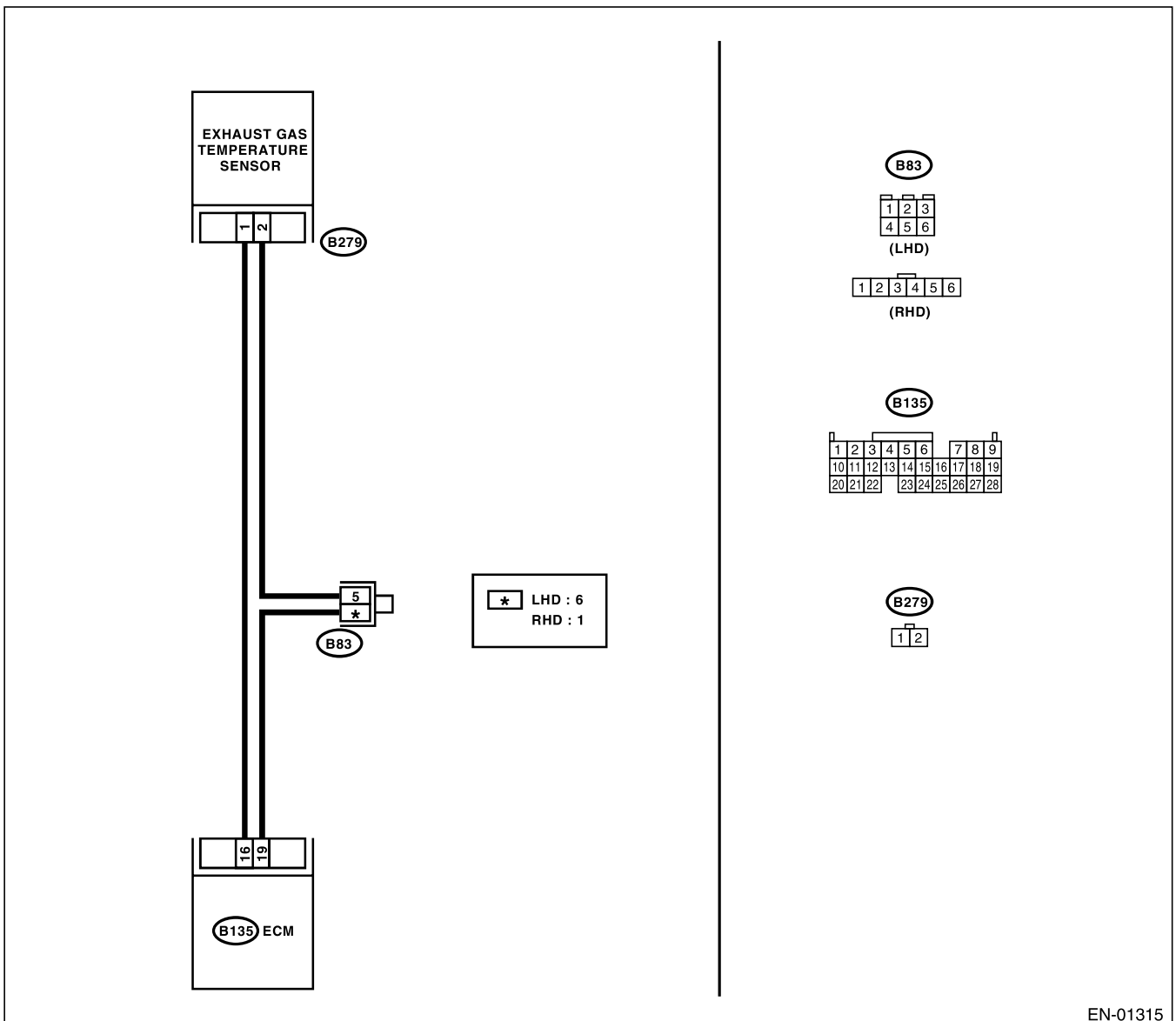
BL:DTC P0545 — EXHAUST GAS TEMPERATURE SENSOR CIRCUIT LOW-BANK 1 —

- **DTC DETECTING CONDITION:**
 - Immediately at fault recognition
- **TROUBLE SYMPTOM:**
 - Hard to start
 - Erroneous idling
 - Poor driving performance

CAUTION:

After repair or replacement of faulty parts, conduct Clear Memory Mode <Ref. to EN(H4DOTC)-48, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4DOTC)-40, Inspection Mode.>.

• **WIRING DIAGRAM:**



EN-01315

DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)

ENGINE (DIAGNOSTICS)

Step	Check	Yes	No
<p>1</p> <p>CHECK CURRENT DATA. 1)Start the engine. 2)Read the data of exhaust gas temperature sensor signal using Subaru Select Monitor or OBD-II general scan tool.</p> <p>NOTE: •Subaru Select Monitor For detailed operation procedure, refer to the "READ CURRENT DATA FOR ENGINE". <Ref. to EN(H4DOTC)-32, Subaru Select Monitor.> •OBD-II general scan tool For detailed operation procedures, refer to the OBD-II General Scan Tool Instruction Manual.</p>	<p>Is the temperature more than 1200°C (2192°F)?</p>	<p>Go to step 2.</p>	<p>Repair the poor contact.</p> <p>NOTE: In this case, repair the following:</p> <ul style="list-style-type: none"> • Poor contact in exhaust gas temperature sensor • Poor contact in ECM • Poor contact in joint connector
<p>2</p> <p>CHECK HARNESS BETWEEN EXHAUST GAS TEMPERATURE SENSOR AND ECM CONNECTOR. 1)Turn the ignition switch to OFF. 2)Disconnect the connector from exhaust gas temperature sensor. 3)Turn the ignition switch to ON. 4)Read the data of exhaust gas temperature sensor signal using Subaru Select Monitor or OBD-II general scan tool.</p> <p>NOTE: •Subaru Select Monitor For detailed operation procedure, refer to the "READ CURRENT DATA FOR ENGINE". <Ref. to EN(H4DOTC)-32, Subaru Select Monitor.> •OBD-II general scan tool For detailed operation procedures, refer to the OBD-II General Scan Tool Instruction Manual.</p>	<p>Is the temperature less than 372°C (702°F)?</p>	<p>Replace the exhaust gas temperature sensor. <Ref. to FU(H4DOTC)-48, Exhaust Temperature Sensor.></p>	<p>Repair the ground short circuit in harness between exhaust gas temperature sensor and ECM connector.</p>

DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)
 ENGINE (DIAGNOSTICS)

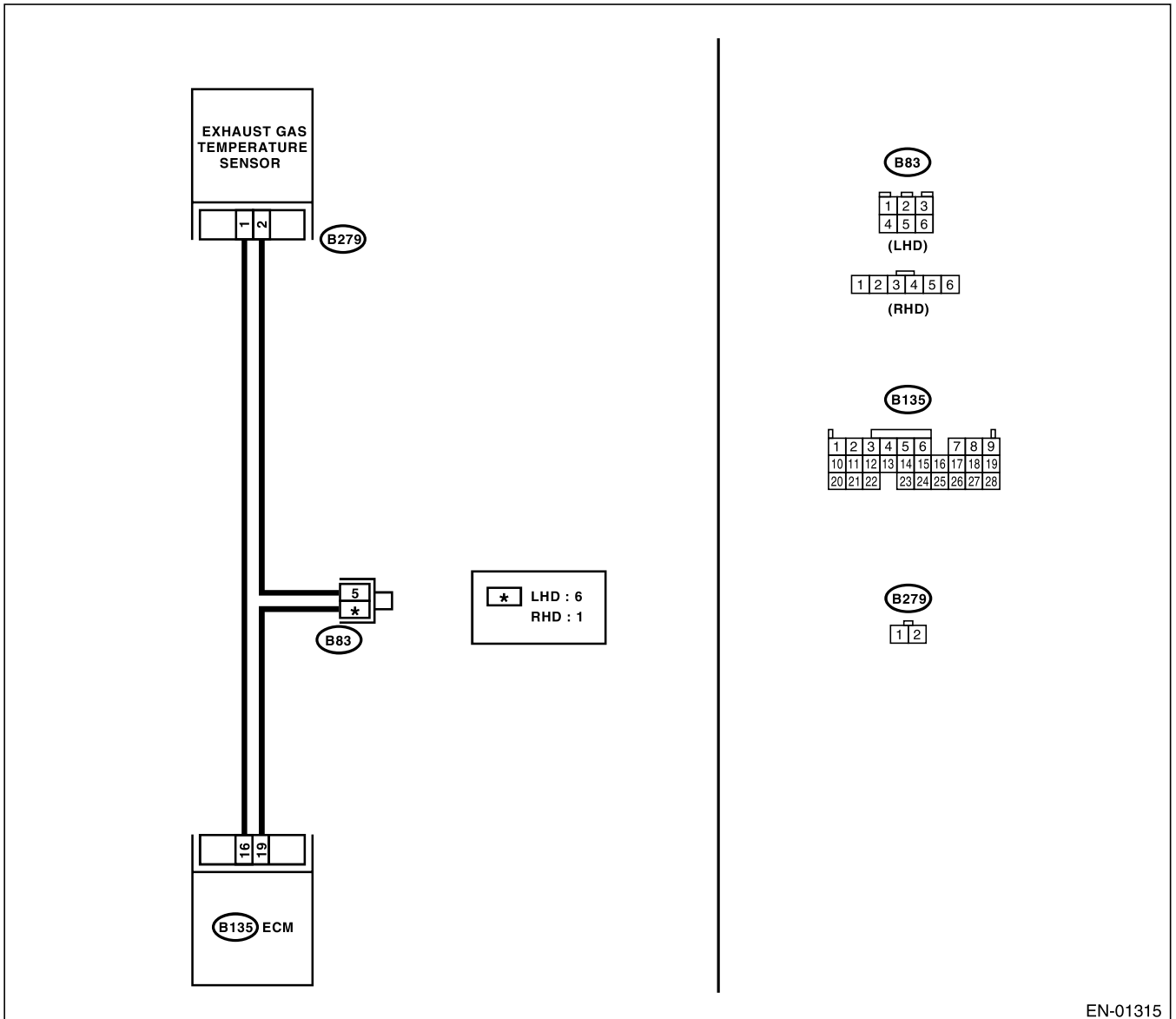
BM:DTC P0546 — EXHAUST GAS TEMPERATURE SENSOR CIRCUIT HIGH-BANK 1 —

- **DTC DETECTING CONDITION:**
 - Immediately at fault recognition
- **TROUBLE SYMPTOM:**
 - Hard to start
 - Erroneous idling
 - Poor driving performance

CAUTION:

After repair or replacement of faulty parts, conduct Clear Memory Mode <Ref. to EN(H4DOTC)-48, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4DOTC)-40, Inspection Mode.>.

• **WIRING DIAGRAM:**



EN-01315

DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)

ENGINE (DIAGNOSTICS)

Step	Check	Yes	No
1 CHECK CURRENT DATA. 1)Start the engine. 2)Read the data of exhaust gas temperature sensor signal using Subaru Select Monitor or OBD-II general scan tool. NOTE: •Subaru Select Monitor For detailed operation procedure, refer to the "READ CURRENT DATA FOR ENGINE". <Ref. to EN(H4DOTC)-32, Subaru Select Monitor.> •OBD-II general scan tool For detailed operation procedures, refer to the OBD-II General Scan Tool Instruction Manual.	Is the temperature less than 372°C (702°F)?	Go to step 2.	Repair the poor contact. NOTE: In this case, repair the following: • Poor contact in exhaust gas temperature sensor • Poor contact in ECM • Poor contact in joint connector
2 CHECK HARNESS BETWEEN EXHAUST GAS TEMPERATURE SENSOR AND ECM CONNECTOR. 1)Turn the ignition switch to OFF. 2)Disconnect the connector from exhaust gas temperature sensor. 3)Measure the voltage between exhaust gas temperature sensor connector and engine ground. <i>Connector & terminal</i> <i>(B279) No. 1 (+) — Engine ground (-):</i>	Is the voltage more than 10 V?	Repair the battery short circuit in harness between ECM and exhaust gas temperature sensor connector.	Go to step 3.
3 CHECK HARNESS BETWEEN EXHAUST GAS TEMPERATURE SENSOR AND ECM CONNECTOR. 1)Turn the ignition switch to ON. 2)Measure the voltage between exhaust gas temperature sensor connector and engine ground. <i>Connector & terminal</i> <i>(B279) No. 1 (+) — Engine ground (-):</i>	Is the voltage more than 10 V?	Repair the battery short circuit in harness between ECM and exhaust gas temperature sensor connector.	Go to step 4.
4 CHECK HARNESS BETWEEN EXHAUST GAS TEMPERATURE SENSOR AND ECM CONNECTOR. Measure the voltage between exhaust gas temperature sensor connector and engine ground. <i>Connector & terminal</i> <i>(B279) No. 1 (+) — Engine ground (-):</i>	Is the voltage more than 4 V?	Go to step 5.	Repair the harness and connector. NOTE: In this case, repair the following: • Open circuit in harness between ECM and exhaust gas temperature sensor connector • Poor contact in exhaust gas temperature sensor connector • Poor contact in ECM connector • Poor contact in joint connector

DIAGNOSTIC PROCEDURE WITH DIAGNOSTIC TROUBLE CODE (DTC)

ENGINE (DIAGNOSTICS)

Step	Check	Yes	No
<p>5</p> <p>CHECK HARNESS BETWEEN EXHAUST GAS TEMPERATURE SENSOR AND ECM CONNECTOR.</p> <p>1) Turn the ignition switch to OFF.</p> <p>2) Measure the resistance of harness between exhaust gas temperature sensor connector and engine ground.</p> <p>Connector & terminal (B279) No. 2 — Engine ground:</p>	<p>Is the resistance less than 5 Ω?</p>	<p>Replace the exhaust gas temperature sensor. <Ref. to FU(H4DOTC)-48, Exhaust Temperature Sensor.></p>	<p>Repair the harness and connector.</p> <p>NOTE: In this case, repair the following:</p> <ul style="list-style-type: none"> • Open circuit in harness between ECM and exhaust gas temperature sensor connector • Poor contact in exhaust gas temperature sensor connector • Poor contact in ECM connector • Poor contact in joint connector

BN:DTC P0558 — GENERATOR CIRCUIT LOW INPUT —

CAUTION:

For diagnostic procedure, refer to DTC P0559. <Ref. to EN(H4DOTC)-223, DTC P0559 — GENERATOR CIRCUIT HIGH INPUT —, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>.