

ENGINE (DIAGNOSTICS)(STI) > Diagnostic Procedure with Diagnostic Trouble Code (DTC)

DTC P0420 CATALYST SYSTEM EFFICIENCY BELOW THRESHOLD (BANK 1)

DTC DETECTING CONDITION:

Detected when two consecutive driving cycles with fault occur.

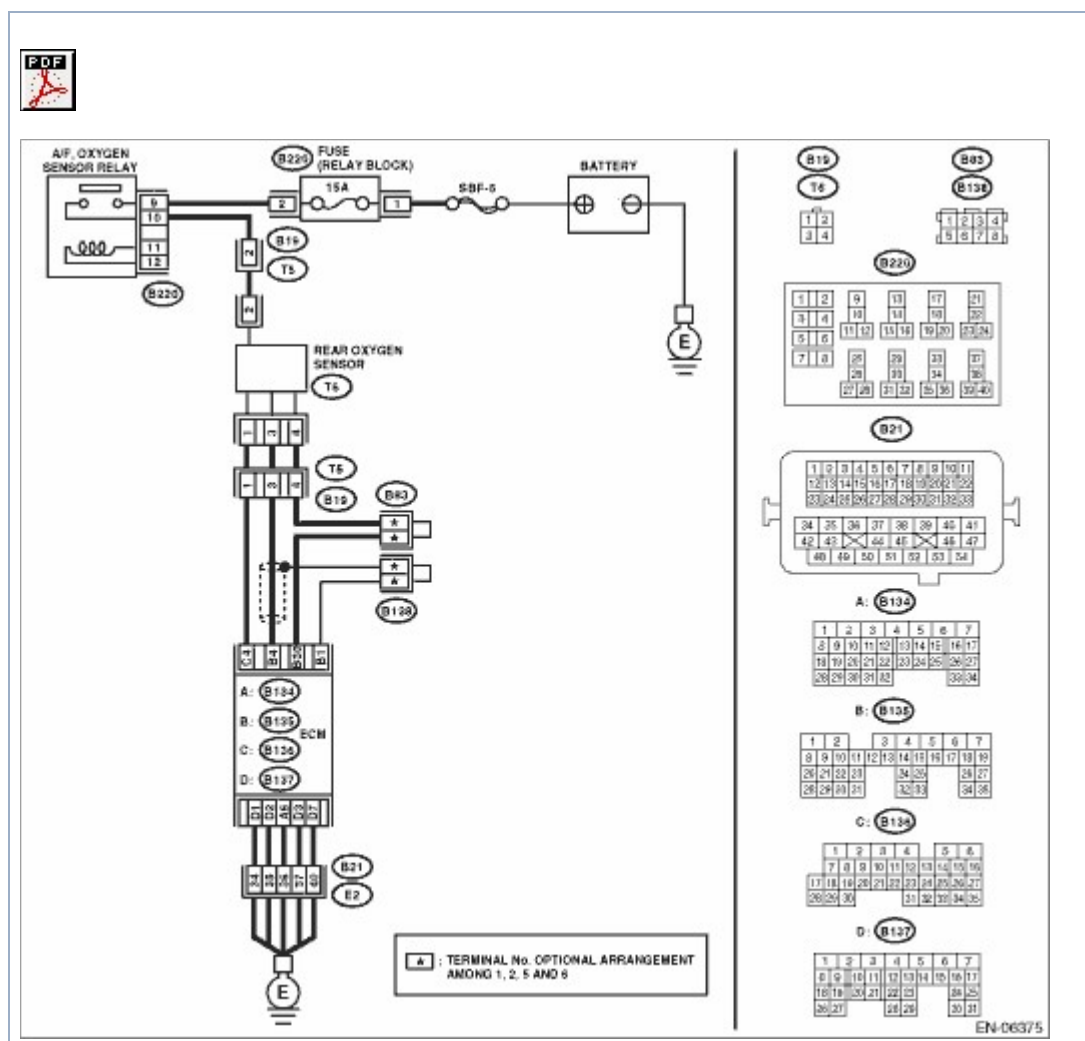
TROUBLE SYMPTOM:



- Engine stalls.
- Idle mixture is out of specifications.

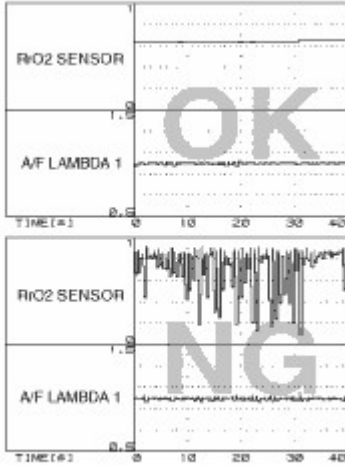



CAUTION:

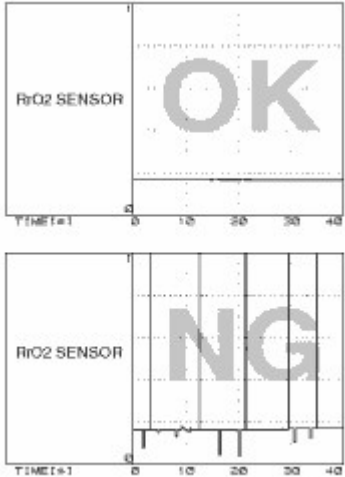





After repair or replacement of faulty parts, perform Clear Memory Mode  and Inspection Mode .


WIRING DIAGRAM:



STEP	CHECK	YES	NO
1.CHECK EXHAUST SYSTEM. Check for gas leaks or air suction caused by loose or dislocated nuts and bolts, and open hole at exhaust pipes. NOTE: Check the following positions. • Between cylinder head and front exhaust pipe	Is there any fault in exhaust system?	Repair or replace the exhaust system. 	

STEP	CHECK	YES	NO
<ul style="list-style-type: none"> • Between front exhaust pipe and front catalytic converter • Between front catalytic converter and rear catalytic converter • Loose or improperly attached front oxygen (A/F) sensor or rear oxygen sensor 			
<p>2.CHECK WAVEFORM DATA ON THE SUBARU SELECT MONITOR (WHILE DRIVING).</p> <p>1) Drive at a constant speed between 80 — 112 km/h (50 — 70 MPH).</p> <p>2) After 5 minutes have elapsed in the condition of step 1), use the Subaru Select Monitor while still driving to read the waveform data.</p>  <p>EN-04895</p>	Is a normal waveform displayed?	<p>Even if the malfunction indicator light illuminates, the circuit has returned to a normal condition at this time. Reproduce the failure, and then perform the diagnosis again.</p> <p>NOTE: In this case, temporary poor contact of connector may be the cause.</p>	
<p>3.CHECK WAVEFORM DATA ON THE SUBARU SELECT MONITOR (WHILE IDLING).</p> <p>1) Run the engine at idle.</p> <p>2) In the condition of step 1), use the Subaru Select Monitor to read the waveform data.</p>	Is a normal waveform displayed?		

STEP	CHECK	YES	NO
 <p>EN-04886</p>			
4.CHECK CATALYTIC CONVERTER.	Is the catalytic converter damaged?	Replace the catalytic converter. 	
5.CHECK REAR OXYGEN SENSOR CONNECTOR AND COUPLING CONNECTOR.	Has water entered the connector?	Completely remove any water inside.	
6.CHECK HARNESS BETWEEN ECM AND REAR OXYGEN SENSOR CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and rear oxygen sensor. 3) Measure the resistance of harness between ECM and rear oxygen sensor connector. Connector & terminal (B135) No. 4 — (T6) No. 3: (B135) No. 30 — (T6) No. 4:	Is the resistance less than 1 Ω ?		Repair the harness and connector. NOTE: In this case, repair the following items. <ul style="list-style-type: none"> • Open circuit in harness between ECM and rear oxygen sensor connector • Poor contact of coupling connector
7.CHECK HARNESS BETWEEN ECM AND REAR OXYGEN SENSOR CONNECTOR. 1) Turn the ignition switch to ON. 2) Measure the voltage between rear oxygen sensor connector and chassis ground. Connector & terminal (T6) No. 3 (+) — Chassis ground (-):	Is the voltage 0.2 — 0.5 V?		Repair the harness and connector. NOTE: Repair the following locations. <ul style="list-style-type: none"> • Open circuit of harness between the ECM and rear oxygen sensor • Poor contact in

STEP	CHECK	YES	NO
			ECM connector
8.CHECK REAR OXYGEN SENSOR SHIELD. 1) Turn the ignition switch to OFF. 2) Expose the body side harness sensor shield of rear oxygen sensor connector . 3) Measure the resistance between the sensor shield and chassis ground.	Is the resistance less than 1 Ω ?	Replace the rear oxygen sensor. 	Repair the open circuit in the rear oxygen sensor harness.