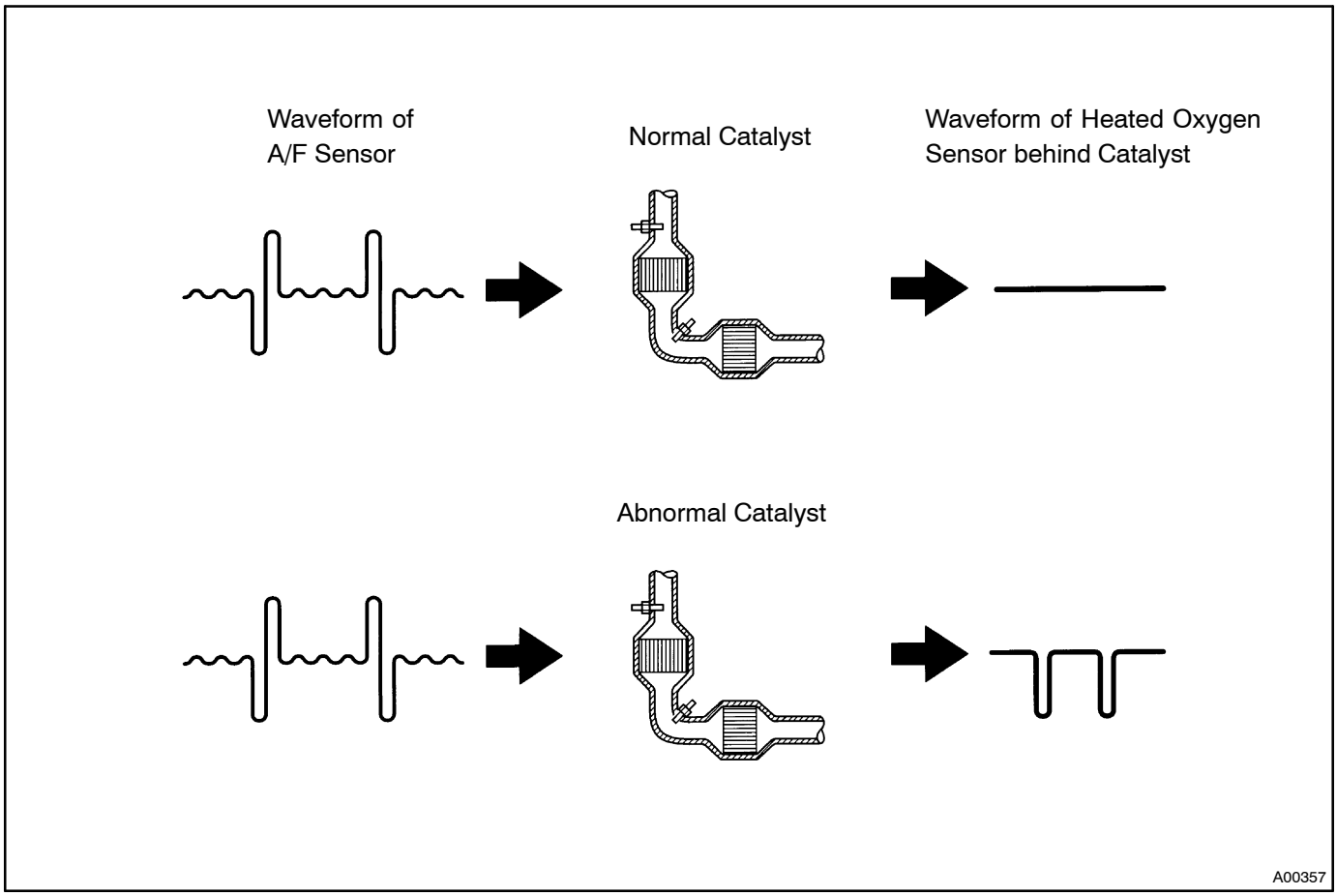
DTC	P0420/94	CATALYST SYSTEM EFFCIENCY BELOW THRESHOLD(BANK1)

CIRCUIT DESCRIPTION

The ECM observes the waveform of the heated oxygen sensor located behind the catalyst to determine whether the catalyst performance has deteriorated.

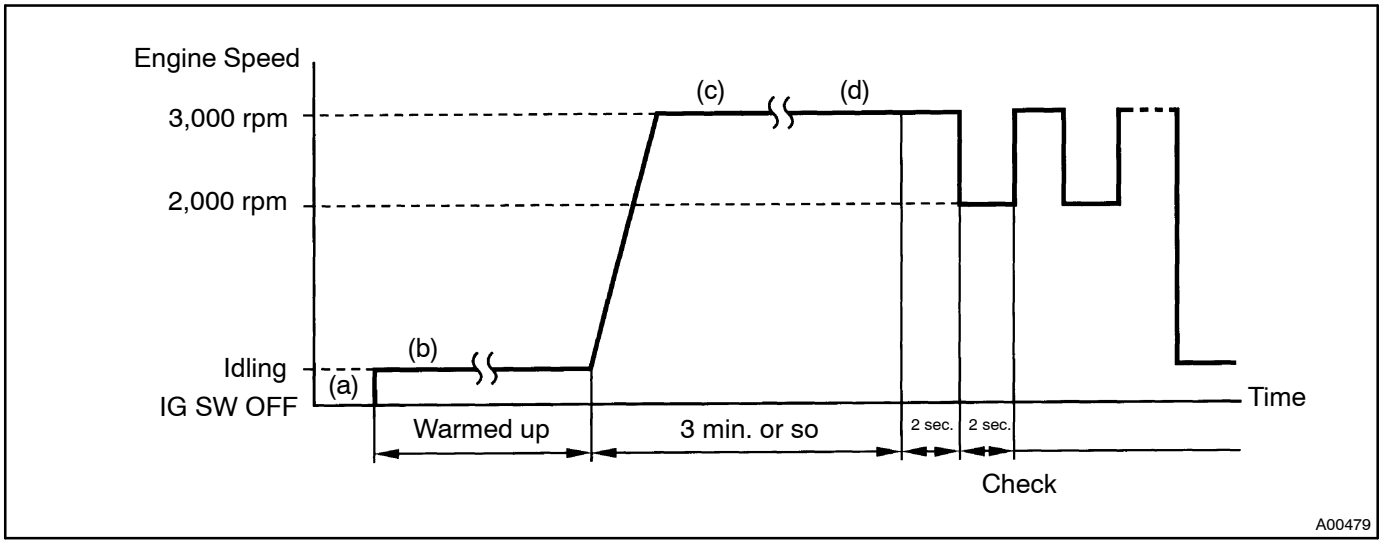
If the catalyst functions normally, the waveform of the heated oxygen sensor located behind the catalyst switches back and forth between rich and lean much more slowly.

When the waveform of the heated oxygen sensor located behind the catalyst alternates flutteringly between rich and lean, it indicates the catalyst performance has deteriorated.



DTC No.	DTC Detection Condition	Trouble Area
P0420	After engine and catalyst are warmed up, and while vehicle is driven within set vehicle and engine speed range, waveform of heated oxygen sensor (bank 1 sensor 2) alternates flutteringly between rich and lean (2 trip detection logic)	• Gas leak on exhaust system • A/F sensor (bank 1 sensor 1) • Oxygen sensor (bank 1 sensor 2) • Exhaust manifold converter

CONFIRMATION ENGINE RACING PATTERN



(a) Connect the OBD II scan tool or hand–held tester to the DLC3.
(b) Start the engine and warm it up with all the accessories switched OFF until the water temperature is stable.
(c) Race the engine at 2,500 – 3,000 rpm for about 3 minutes.
(d) When racing the engine at 3,000 rpm for 2 seconds and 2,000 rpm for 2 seconds alternately, check the waveform of the heated oxygen sensor.

INSPECTION PROCEDURE

HINT:
Read freeze frame data using the hand–held tester, as freeze frame data records the engine conditions when the malfunction is detected. When troubleshooting, it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air–fuel ratio was lean or rich, etc. at the time of the malfunction.

1	READ OUTPUT DTC

(a) Read the DTCs with the hand–held tester.
Result:

	A	B
RESULT	P0420/94 is output	P0420/94 and other codes are output

B → GO TO RELEVANT DTC CHART

A

2	CHECK EXHAUST GAS LEAK

NG → REPAIR OR REPLACE

OK

3	CHECK AIR FUEL RATIO SENSOR (See page 10–8)

NG → REPAIR OR REPLACE AIR FUEL RATIO SENSOR

OK

4	CHECK OXYGEN SENSOR (See page 10–8)

NG → REPAIR OR REPLACE OXYGEN SENSOR

OK

REPLACE EXHAUST MANIFOLD CONVERTER SUB–ASSY