

DTC P0121 [LF]

B3E010201084W15

DTC P0121	TP sensor stuck closed
DETECTION CONDITION	<ul style="list-style-type: none"> If the PCM detects that the throttle valve opening angle is below 12.5% for 5 s after following conditions are met, the PCM determines that the TP is stuck closed: MONITORING CONDITION <ul style="list-style-type: none"> Engine coolant temperature is above 70 °C {158 °F}. MAF sensor signal is above 32.0 g/s {4.2 lb/min.}. If PCM detects that throttle valve opening angle is above 50% for 5 s after following conditions are met, the PCM determines that TP is stuck open: MONITORING CONDITION <ul style="list-style-type: none"> Engine speed above 500 rpm MAF sensor signal below 5 g/s {0.7 lb/min.} <p>Diagnostic support note</p> <ul style="list-style-type: none"> This is a continuous monitor (CCM). MIL illuminates if PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM. PENDING CODE is available if PCM detects the above malfunction condition. FREEZE FRAME DATA is available. DTC is stored in the PCM memory.
POSSIBLE CAUSE	<ul style="list-style-type: none"> TP sensor malfunction Electrical corrosion in TP signal circuit Voltage drop in constant voltage supply circuit Voltage drop in ground circuit MAF sensor malfunction PCM malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED • Has FREEZE FRAME DATA been recorded?	Yes Go to the next step.
		No Record the FREEZE FRAME DATA on repair order, then go to the next step.
2	VERIFY RELATED PENDING CODE OR STORED DTC • Turn the ignition switch to the ON position (Engine off). • Retrieve the pending or stored DTC using the WDS or equivalent. • Is DTC P0101 also retrieved?	Yes Go to DTC P0101 troubleshooting procedure.
		No Go to the next step.
3	VERIFY RELATED REPAIR INFORMATION AVAILABILITY • Verify related service repair information availability. • Is any related repair information available?	Yes Perform repair or diagnosis according to available repair information. • If vehicle is not repaired, go to the next step.
		No Go to the next step.
	VERIFY CURRENT INPUT SIGNAL STATUS: IS CONCERN INTERMITTENT OR CONSTANT? • Start the engine. • Access ECT, TP and MAF PIDs using the WDS	Yes Go to Step 7.

4	or equivalent. • Warm up the engine until ECT PID is above 70 °C {158 °F} • Drive the vehicle. • Read TP PID while MAF PID is above 32.0 g/s {4.2 lb/min.} • Is TP PID above 12.5% ?	No	Go to the next step.
5	VERIFY TP PID • Start the engine. • Access TP, MAF and RPM PIDs using the WDS or equivalent. • Read TP PID while MAF PID is below 5 g/s {0.7 lb/min.} and RPM PID is above 500 rpm. • Is TP PID above 50% ?	Yes	Go to Step 12.
		No	Go to the next step.
6	VERIFY CURRENT INPUT SIGNAL STATUS: IS CONCERN INTERMITTENT OR CONSTANT? • Drive the vehicle and read MAF PID. • Does MAF PID change according to driving condition?	Yes	Intermittent concern exists. Go to INTERMITTENT CONCERNS troubleshooting procedure.
		No	Inspect the mass airflow sensor, elated circuits and terminals. (See MASS AIR FLOW (MAF) SENSOR INSPECTION [LF] .) Repair or replace if necessary, then go to Step 16.
7	INSPECT TP SENSOR TERMINALS FOR ELECTRICAL CORROSION • Turn the ignition switch off. • Disconnect the TP sensor connector. • Inspect male and female the TP sensor terminals for electrical corrosion. • Is any electrical corrosion found?	Yes	Repair or replace the terminal or TP sensor, then go to Step 11.
		No	Go to the next step.
8	VERIFY TP SENSOR • Does the TP sensor resistance smoothly change while gradually opening throttle valve?	Yes	Go to the next step.
		No	Replace the TP sensor, then go to Step 11.
9	INSPECT PCM TERMINALS FOR ELECTRICAL CORROSION • Disconnect the PCM connector. • Inspect the PCM male and female terminals for electrical corrosion on. • Is any electrical corrosion?	Yes	Repair the terminal, then go to Step 11.
		No	Go to the next step.
10	INSPECT CONSTANT VOLTAGE SUPPLY AND TP SIGNAL CIRCUITS FOR VOLTAGE DROP • Turn the ignition switch to the ON position (Engine off). • Inspect the voltage between following terminals: - TP sensor terminal C (wiring harness-side) and PCM terminal 2W - TP sensor terminal B (wiring harness-side) and PCM terminal 2I • Is the voltage approx. 0 V ?	Yes	Go to the next step.
		No	Inspect the PCM terminals 2I and 2W (wiring harness-side) for rust or corrosion on. • Repair or replace the terminal then go to the next step.
11	VERIFY TROUBLESHOOTING OF DTC P0121 COMPLETED • Make sure to reconnect all disconnected connectors. • Start the engine. • Clear the DTC from the PCM memory using the WDS or equivalent. • Access ECT, TP and MAF PIDs using WDS or	Yes	Replace the PCM, then go to Step 17.

	<p>equivalent.</p> <ul style="list-style-type: none"> • Warm up the engine until ECT PID is above 70 °C {158°F}. • Drive the vehicle and read TP and MAF PIDs. • Verify PID readings are within specifications MAF PID: above 32.0 g/s {4.2 lb/min} TP PID: above 12.5% above 5 s • Is the PENDING CODE for this DTC present? 	No	Go to Step 17.
12	<p>INSPECT TP SENSOR TERMINALS FOR ELECTRICAL CORROSION</p> <ul style="list-style-type: none"> • Turn the ignition switch off. • Disconnect TP sensor connector. • Inspect for electrical corrosion on male and female TP sensor terminals. • Is any electrical corrosion found? 	Yes	Repair or replace the terminal or TP sensor, then go to Step 16.
		No	Go to the next step.
13	<p>INSPECT GROUND CIRCUIT FOR VOLTAGE DROP</p> <ul style="list-style-type: none"> • Inspect the resistance between TP sensor terminal A (wiring harness-side) and body ground. • Is the resistance approx. 0 ohm ? 	Yes	Go to the next step.
		No	Inspect the PCM terminal 2AA (wiring harness-side) for rust or corrosion. • Repair or replace the terminal. Go to Step 16.
14	<p>VERIFY TP SENSOR</p> <ul style="list-style-type: none"> • Does resistance smoothly change while gradually opening throttle valve? 	Yes	Go to the next step.
		No	Replace the TP sensor, then go to Step 16.
15	<p>INSPECT PCM TERMINALS FOR ELECTRICAL CORROSION</p> <ul style="list-style-type: none"> • Disconnect the PCM connector. • Inspect the PCM and PCM connector male and female terminals for electrical corrosion. • Is any electrical corrosion found? 	Yes	Repair the terminal, then go to the next step.
		No	Go to the next step.
16	<p>VERIFY TROUBLESHOOTING OF DTC P0121 COMPLETED</p> <ul style="list-style-type: none"> • Make sure to reconnect all disconnected connectors. • Start the engine. • Clear the DTC from the PCM memory using the WDS or equivalent. • Access RPM, TP and MAF PIDs using WDS or equivalent. • Verify TP PID reading is below 50% while MAF PID is below 4.8 g/s {0.6 lb/min} and RPM PID is above 500 rpm. • Is the PENDING CODE for this DTC present? 	Yes	Replace the PCM, then go to the next step. (See PCM REMOVAL/INSTALLATION [LF] .)
		No	Go to the next step.
17	<p>VERIFY AFTER REPAIR PROCEDURE</p> <ul style="list-style-type: none"> • Perform the "After Repair Procedure". (See AFTER REPAIR PROCEDURE [LF].) • Are any DTC present? 	Yes	Go to the applicable DTC troubleshooting. (See DTC TABLE [LF] .)
		No	Troubleshooting completed.