

DTC P0121 [ZJ, Z6]

B3E010200100W08

DTC P0121	TP sensor circuit range/performance problem
DETECTION CONDITION	<ul style="list-style-type: none"> If the PCM detects that the throttle valve opening angle is less than 12.5 % for 5 s after the following conditions are met, the PCM determines that there is a TP sensor circuit range/performance problem: MONITORING CONDITION <ul style="list-style-type: none"> Engine coolant temperature is more than 70 °C {158 °F}. MAF sensor signal is more than 59.5 g/s {7.9 lb/min}. If the PCM detects that the throttle valve opening angle is more than 50% for 5 s after the following conditions are met, the PCM determines that there is a TP sensor circuit range/performance problem. MONITORING CONDITION <ul style="list-style-type: none"> MAF sensor signal is less than 3.3 g/s {0.4 lb/min}. <p>Diagnostic support note</p> <ul style="list-style-type: none"> This is a continuous monitor (CCM). The MIL illuminates if the 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 the PCM detects the above malfunction condition during the first drive cycle. FREEZE FRAME DATA is available. The DTC is stored in the PCM memory.
POSSIBLE CAUSE	<ul style="list-style-type: none"> TP sensor malfunction Electrical corrosion in TP signal 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 the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY • Verify related service repair information availability. • Is any related repair information available?	Yes Perform repair or diagnosis according to the available repair information. • If the vehicle is not repaired, go to the next step.
		No Go to the next step.
3	VERIFY RELATED PENDING CODE OR STORED DTC • Turn the ignition switch off, then to the ON position (Engine off). • Verify the related PENDING CODE or stored DTCs. • Are other DTC present?	Yes Go to the appropriate DTC inspection. (See DTC TABLE [ZJ, Z6] .)
		No Go to the next step.
	VERIFY CURRENT INPUT SIGNAL STATUS: IS CONCERN INTERMITTENT OR CONSTANT?	Yes Go to Step 7.

4	<ul style="list-style-type: none"> Start the engine. Access the ECT, TP and MAF PIDs using the WDS or equivalent. Warm up the engine until ECT PID is more than 70 °C {158 °F}. Drive the vehicle. Read the TP PID while MAF PID is more than 59.5 g/s {7.9 lb/min}. Is the TP PID less than 12.5 %? 	No	Go to the next step.
5	VERIFY TP PID <ul style="list-style-type: none"> Start the engine. Access the TP, MAF PIDs using the WDS or equivalent. Read the TP PID while MAF PID is less than 3.3 g/s {0.4 lb/min}. Is the TP PID more than 50 %? 	Yes	Go to Step 11.
		No	Go to the next step.
6	VERIFY CURRENT INPUT SIGNAL STATUS: IS CONCERN INTERMITTENT OR CONSTANT? <ul style="list-style-type: none"> Drive the vehicle and read the MAF PID. Does the MAF PID change in compliance with driving condition? 	Yes	Intermittent concern exists. Perform the "INTERMITTENT CONCERNS TROUBLESHOOTING". (See INTERMITTENT CONCERN TROUBLESHOOTING [ZJ, Z6].)
		No	Inspect the MAF sensor and related circuits and terminals. (See MASS AIR FLOW (MAF) SENSOR INSPECTION [ZJ, Z6].) Repair or replace as necessary, then go to Step 14.
7	INSPECT TP SENSOR TERMINAL FOR ELECTRICAL CORROSION <ul style="list-style-type: none"> Turn the ignition switch off. Disconnect the TP sensor connector. Inspect for electrical corrosion on TP sensor terminals. Is any electrical corrosion found? 	Yes	Repair or replace the terminal, then go to Step 10.
		No	Go to the next step.
8	VERIFY TP SENSOR <ul style="list-style-type: none"> Does TP sensor resistance smoothly change while gradually opening throttle valve? 	Yes	Go to the next step.
		No	Replace TP sensor, then go to Step 10. (See THROTTLE POSITION (TP) SENSOR REMOVAL/INSTALLATION [ZJ, Z6].)
9	INSPECT PCM TERMINAL FOR ELECTRICAL CORROSION <ul style="list-style-type: none"> Disconnect the PCM connector. Inspect for electrical corrosion on PCM terminals. Is any electrical corrosion found? 	Yes	Repair terminal, then go to Step 10.
		No	Go to the next step.
10	VERIFY TROUBLESHOOTING OF DTC P0121 COMPLETED <ul style="list-style-type: none"> Make sure to reconnect all disconnected connectors. Start the engine. Clear DTC from PCM memory using WDS or equivalent. Access ECT, TP and MAF PIDs using WDS or equivalent. Warm up the engine until ECT PID is reading more than 70 °C {158 °F}. Drive the vehicle and read TP and MAF PIDs. Verify PIDs reading are within specifications. <p>- MAF PID: more than 59.5 g/s {7.9 lb/min} - TP PID: 12.5 % or more</p>	Yes	Replace the PCM, then go to Step 15. (See PCM REMOVAL/INSTALLATION [ZJ, Z6].)
		No	Go to Step 15.

	• Is the PENDING CODE for this DTC present?		
11	INSPECT TP SENSOR TERMINAL FOR ELECTRICAL CORROSION <ul style="list-style-type: none"> • Turn the ignition switch off. • Disconnect the TP sensor connector. • Inspect for electrical corrosion on TP sensor terminals. • Is any electrical corrosion found? 	Yes	Repair or replace the terminal, then go to Step 14.
		No	Go to the next step.
12	VERIFY TP SENSOR <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 14. (See THROTTLE POSITION (TP) SENSOR REMOVAL/INSTALLATION [ZJ, Z6].)
13	INSPECT PCM TERMINAL FOR ELECTRICAL CORROSION <ul style="list-style-type: none"> • Disconnect PCM connector. • Inspect for electrical corrosion on PCM and PCM connector male and female terminals. • Is any electrical corrosion found? 	Yes	Repair terminal, then go to the next step.
		No	Go to the next step.
14	VERIFY TROUBLESHOOTING OF DTC P0121 COMPLETED <ul style="list-style-type: none"> • Make sure to reconnect all disconnected connectors. • Start engine. • Clear DTC from PCM memory using the WDS or equivalent. • Access the TP and MAF PIDs using the WDS or equivalent. • Verify the TP PID is 50% or less while MAF PID is less than 3.3 g/s {0.4 lb/min}. • Is the PENDING CODE for this DTC present? 	Yes	Replace the PCM, then go to the next step. (See PCM REMOVAL/INSTALLATION [ZJ, Z6].)
		No	Go to the next step.
15	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [ZJ, Z6].) • Are any DTCs present? 	Yes	Go to the applicable DTC inspection. (See DTC TABLE [ZJ, Z6].)
		No	DTC troubleshooting completed.