

DTC P0101 [LF]

B3E010201084W05

DTC P0101	MAF sensor circuit range/performance problem
DETECTION CONDITION	<ul style="list-style-type: none"> The PCM compares actual MAF amount with expected MAF amount when the engine is running. - If the mass intake air flow amount is below 5.0 g/s {0.66 lb/min} for 5 s and throttle opening angle is above 50% with engine running, the PCM determines that detected mass intake air flow amount is too low. - If the mass intake air flow amount is above 96.0 g/s {12.7 lb/min} for 5 s and the engine speed is below 2,000 rpm with the engine running, the PCM determines that detected mass intake air flow amount is too high. <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 first drive cycle. FREEZE FRAME DATA is available. DTC is stored in the PCM memory.
POSSIBLE CAUSE	<ul style="list-style-type: none"> MAF sensor malfunction TP sensor malfunction Electrical corrosion in MAF signal circuit Electrical corrosion in MAF RETURN circuit Voltage drop in MAF signal circuit Voltage drop in ground circuit

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 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 vehicle is not repaired, go to the next step.
		No Go to the next step.
3	VERIFY CURRENT INPUT SIGNAL STATUS: IS CONCERN INTERMITTENT OR CONSTANT? • Connect the WDS or equivalent to DLC-2. • Start the engine. • Access ECT, TP and MAF PIDs. • Warm up the engine until ECT PID is above 80 °C {176 °F} . • Drive the vehicle. • Read MAF PID when the TP PID is above 50% . • Is MAF PID below 5.0 g/s {0.66 lb/min} ?	Yes Make sure that the throttle position sensor resistance changes smoothly while gradually opening the throttle valve. • If not, replace the throttle position sensor and go to Step 7. • For others, go to the next step.
		No Go to the next step.

4	VERIFY CURRENT INPUT SIGNAL STATUS: IS CONCERN INTERMITTENT OR CONSTANT? <ul style="list-style-type: none"> • Connect the WDS or equivalent to DLC-2. • Start the engine. • Access ECT, MAF and RPM PIDs. • Warm up the engine until ECT PID is above 80°C {176 °F}. • Read MAF PID when the RPM PID is below 2,000 rpm. • Is MAF PID above 96.0 g/s {12.7 lb/min}? 	Yes	Go to Step 8.
		No	Intermittent concern exists. Go to INTERMITTENT CONCERNS TROUBLESHOOTING procedure. (See INTERMITTENT CONCERN TROUBLESHOOTING [LF] .)
5	INSPECT POOR CONNECTION OF MAF SENSOR CONNECTOR <ul style="list-style-type: none"> • Turn the ignition switch off. • Disconnect MAF/IAT sensor connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion.) • Is there any malfunction? 	Yes	Repair or replace the terminal or the MAF/IAT sensor, then go to Step 7.
		No	Go to the next step.
6	INSPECT POOR CONNECTION OF PCM CONNECTOR <ul style="list-style-type: none"> • Disconnect the PCM connector. • Inspect for poor connection (damaged/pulled-out pins, corrosion, etc.). • Is there any malfunction? 	Yes	Repair the terminal, then go to the next step.
		No	Replace MAF/IAT sensor, then go to the next step.
7	VERIFY TROUBLESHOOTING OF DTC P0101 COMPLETED <ul style="list-style-type: none"> • Make sure to reconnect all disconnected connectors. • Turn the ignition switch to the ON position (Engine off). • Clear the DTC from memory using the WDS or equivalent. • Start the engine. • Access ECT, TP and RPM PIDs. • Warm up the engine until ECT PID is reading above 80°C {176°F}. • Drive the vehicle while TP PID above 50% for 50 s. • Is the PENDING CODE for this DTC present? 	Yes	Replace the PCM, then go to Step 11.
		No	Go to Step 11.
8	INSPECT MAF SENSOR TERMINALS FOR ELECTRICAL CORROSION <ul style="list-style-type: none"> • Turn the ignition switch off. • Disconnect the MAF/IAT sensor connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion.) • Is There corrosion? 	Yes	Repair or replace the terminal or the MAF/IAT sensor, then go to Step 10.
		No	Go to the next step.
9	INSPECT POOR CONNECTION OF PCM CONNECTOR <ul style="list-style-type: none"> • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion.) • Is there any malfunction? 	Yes	Repair the terminal, then go to the next step.
		No	Go to the next step.
	VERIFY TROUBLESHOOTING OF DTC P0101 COMPLETED <ul style="list-style-type: none"> • Make sure to reconnect all disconnected connectors. • Turn the ignition switch to the ON position (Engine off). 	Yes	Replace the PCM, then go to the next step. (See PCM REMOVAL/INSTALLATION [LF] .)

10	<ul style="list-style-type: none"> • Clear the DTC from the memory using the WDS or equivalent. • Start the engine. • Warm up the engine until ECT PID is above 80 °C {176 °F}. • Drive the vehicle while RPM PID 2,000 rpm for 50 s. • Is the PENDING CODE for this DTC present? 	No	Go to the next step.
11	VERIFY AFTER REPAIR PROCEDURE <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.