

# P0102 Mass Air Flow Circuit Low Input

## Wiring Diagram

Refer to "DTC P0101: Mass Air Flow Circuit Range / Performance".

## DTC Detecting Condition and Trouble Area

DTC detecting condition	Trouble area
Voltage of MAF sensor output is less than specified value for specified time with engine running. (1 driving cycle detection logic)	<ul style="list-style-type: none"> <li>• Open or short in MAF sensor circuit</li> <li>• MAF sensor</li> <li>• ECM</li> </ul>

## DTC Confirmation Procedure

- 1) With ignition switch turned OFF, connect scan tool.
- 2) Turn ON ignition switch and clear DTC using scan tool.
- 3) Start engine and run it for 10 sec.
- 4) Check DTC and pending DTC.

## DTC Troubleshooting

Step	Action	Yes	No
1	Was "Engine and Emission Control System Check" performed?	Go to Step 2.	Go to "Engine and Emission Control System Check".
2	MAF sensor and its circuit check 1) Connect scan tool to DLC with ignition switch turned OFF. 2) Start engine and check MAF value displayed on scan tool. (Refer to "Scan Tool Data" for normal value.) Is normal value indicated?	Intermittent trouble. Check for intermittent referring to "Intermittent and Poor Connection Inspection in Section 00".	Go to Step 3.

Step	Action	Yes	No
3	<p>MAF sensor power supply voltage check</p> <p>1) Disconnect connector from MAF and IAT sensor with ignition switch turned OFF.</p> <p>2) Turn ON ignition switch, measure voltage between engine ground and "BLK/RED" wire terminal of MAF and IAT sensor connector.</p> <p>Is voltage 10 – 14 V?</p>	Go to Step 4.	"BLK/RED" wire is open circuit.
4	<p>MAF sensor ground circuit check</p> <p>1) Turn OFF ignition switch, measure resistance between "GRY" wire terminal of MAF and IAT sensor connector and engine ground.</p> <p>Is resistance below 5 <math>\Omega</math>?</p>	Go to Step 6.	Go to Step 5.
5	<p>Ground circuit check</p> <p>1) Remove ECM from its bracket with ECM connectors connected.</p> <p>2) Measure resistance between "C01-27" terminal of ECM connector and engine ground.</p> <p>Is resistance below 5 <math>\Omega</math>?</p>	"GRY" wire is open or high resistance circuit.	ECM grounds "C01-58", "C01-15", "C01-30" and/or "E01-31" circuit is open or high resistance. If wires are OK, substitute a known-good ECM and recheck.
6	<p>MAF sensor signal circuit check</p> <p>1) Disconnect connectors from ECM with ignition switch turned OFF.</p> <p>2) Measure voltage between "GRN/BLK" wire terminal of MAF and IAT sensor connector and engine ground with ignition switch turned ON.</p> <p>Is voltage 0 V?</p>	Go to Step 7.	"GRN/BLK" wire is shorted to other circuit.

Step	Action	Yes	No
7	MAF sensor signal circuit check 1) Measure resistance between "GRN/BLK" wire terminal of MAF and IAT sensor connector and engine ground with ignition switch turned OFF. Is resistance infinity?	Go to Step 8.	"GRN/BLK" wire is shorted to ground circuit.
8	MAF sensor signal circuit check 1) Measure resistance between "GRN/BLK" wire terminal of MAF and IAT sensor connector and "C01-26" terminal of ECM connector. Is resistance below 3 $\Omega$ ?	Go to Step 9.	"GRN/BLK" wire is open or high resistance circuit.
9	MAF sensor output signal check 1) Connect connectors to MAF and IAT sensor and ECM with ignition switch turned OFF. 2) Measure voltage between "C01-26" and "C01-27" terminals of ECM connector referring to "Mass Air Flow (MAF) and Intake Air Temperature (IAT) Sensor On-Vehicle Inspection in Section 1C". Is each value within specified range?	Substitute a known-good ECM and recheck.	Faulty MAF and IAT sensor.