

CASE STUDY: MIL glowing while driving the vehicle (DTC P010F)

MODEL:	S-CROSS 1.6	MILEAGE	31235	SYSTEM:	ENGINE
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PROBLEM	ROOT CAUSE	ACTION FOR RESOLUTION
MIL glowing while driving the vehicle (DTC P010F)	Calculated ratio measured MAF value and standard MAF value is out of specified range for specified time	Timing Belt Removal and Installation

OBSERVATION:

- Running time MIL on and DTC P010F shown in current status.
- Engine sound different compare to ok vehicle.




INVESTIGATION CHECKS:

Check Point	Observation/ Condition	Conclusion
Vehicle was connected to SDT-II and DTC was checked	Found P010F DTC in Current	As per DTC Confirmation Procedure we check trouble area.
Check "Barometric Pressure" displayed on SUZUKI Scan tool.	Displayed value Shown in 100 kPa	Check that MAF sensor is working properly?
MAF sensor	Check "MAF" parameter displayed on SUZUKI scan Tool Result is 0.0 g/sec	Check Ideal condition




MAF sensor	With engine at idle speed, check that "MAF" parameter displayed on SUZUKI scan tool is approx. 5 g/sec	ok
With all electrical loads turned off, depress accelerator pedal several times and check that "MAF" parameter displayed on SUZUKI scan tool	"MAF" parameter is changed in a short Time.	ok
With engine speed at 3,500 rpm, check that "MAF" parameter displayed on SUZUKI scan tool	"MAF" Parameter is 50.0 g/sec or more.	"MAF" Parameter is <50.0 g/sec
MAF sensor power supply circuit and ground circuit check	Check that voltage between "A1" and "A3" circuits is Battery voltage.	battery voltage found
MAF sensor ground circuit check	Check that voltage between "A1" circuit and ground is battery voltage	battery voltage found

Photographs:

Before:-

VIN : MA3FNJJ1S00155491 Model/Year :						
System Selection 						
Sort by Selection  						
System	Parameter	Value	Unit	Min	Max	
✓ Engine	MAF	24.30	g/sec	6.44	31.72	
✓ Engine	Engine Speed	3017	rpm	796	3280	
✓ Engine	Vehicle Speed	0	km/h	0	0	

After:-

VIN : MA3FNJJ1S00155491 Model/Year :						
System Selection 						
Sort by Selection  						
System	Parameter	Value	Unit	Min	Max	
✓ Engine	MAF	69.44	g/sec	6.52	69.44	
✓ Engine	Engine Speed	2373	rpm	805	2373	
✓ Engine	Vehicle Speed	60	km/h	7	68	

DTC Image:

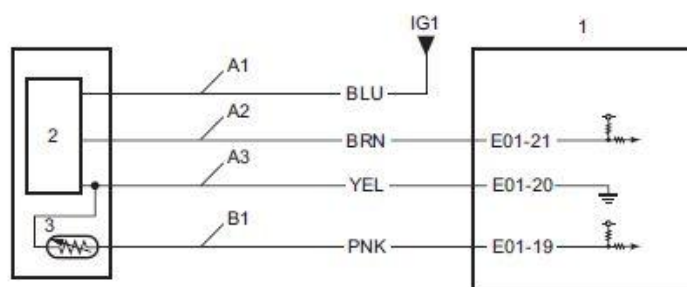
VIN : MA3FNJJ1S00155491 Model/Year :					
FF		System	DTC	DTC Name	Status
	0	Engine	P010F	Mass or Volume Air Flow Sensor A/B Correlation	Current
	1	Engine	P010F	Mass or Volume Air Flow Sensor A/B Correlation	Current

Circuit Diagram:-

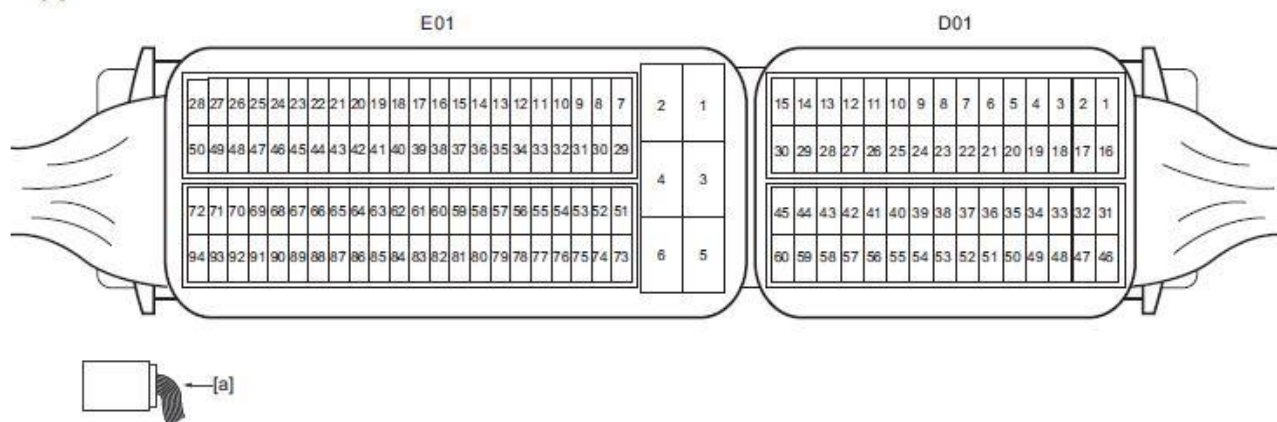
MAF Sensor Check

AENEAD0A1124111

Circuit Diagram



[A]



IDAA0A112012-02

[A]: ECM connector (View: [a])	A3: MAF sensor ground circuit	2. MAF sensor
A1: MAF sensor power supply circuit	B1: IAT sensor-1 signal circuit	3. IAT sensor-1
A2: MAF sensor signal circuit	1. ECM	

Analysis:

- after we check another vehicle and check "MAF" parameter found different value in 3000RPM
- we check all engine wiring connector and re fix as per manual
- we check intake manifold and EGR unit no any abnormality found both part

Action Taken:

- After all above point check we suspected in engine timing. Timing Belt Removal and Installation.

Special tool used:

Multi Meter
SDT-2

Abbreviations used:

SDT II: Smart Diagnostic Tester II

DTC: Diagnostic trouble code

MIL: Malfunction Indication Lamp

Created by: PIYUSH DARJI (Dealer Technical Leader)

MSPIN: 581315

Atul Motors Ahmadabad Pvt. Ltd.