

MIL "ON" DTC P3101, P3190 and/or P3191

Service Category Engine/Hybrid System

Section Hybrid/Battery Control System

Market USA

Toyota Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2001 – 2003	Prius	

TSB REVISION NOTICE

- **August 27, 2009 Rev1:**
 - The Warranty Information section has been updated.
 - Repair Procedure 3 has been removed from the bulletin.

Any previous printed versions of this service bulletin should be discarded.

TSB SUPERSESSION NOTICE

The information contained in this TSB supersedes TSB No. EG011-03.

- The following sections have been updated: Production Change Information, Warranty Information, Required Tools & Equipment, Diagnostic Procedure.
- Parts Information has been removed.
- Overview and Repair Procedure sections have been added.

TSB No. EG011-03 is Obsolete and any printed versions should be discarded. Be sure to review the entire content of this service bulletin before proceeding.

Introduction

Some 2001 – 2003 model year Prius vehicles may exhibit a MIL "ON" condition if an abnormally low engine power output or failure to start has been detected during a particular THS drive cycle. The following DTCs may be recorded:

1. After turning the ignition key to "START", the engine cranks and the "Ready" light will turn ON: P3191 & P3101 with Information Code 205 may set in the engine ECM and HV ECU.
2. After Ready "ON" has occurred and after transitioning from an electric drive mode to one where the engine power is required: P3190 & P3101 with Information Code 204 may set in the engine ECM and HV ECU.

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Production Change Information

This TSB applies to vehicles produced **BEFORE** the Production Change Effective VIN shown below.

MODEL	PRODUCTION CHANGE EFFECTIVE VIN
Prius	JT2BK12U#30087717

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
EG9016	Throttle Body Cleaning	0.5	22030-21020	01	99
Combo A*	R & R Fuel Tank Sub-Assembly	2.1			

* Only as needed

APPLICABLE WARRANTY

- This repair is covered under the Toyota Federal Emission Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in-service date.
- For California specification vehicles sold, registered, and operated in California, Massachusetts, or Vermont, this repair is covered under the California Emission Warranty for 84 months or 70,000 miles, whichever occurs first, from the vehicle's in-service date.
- For vehicles outside the Toyota Federal Emission Warranty or California Emission Warranty, refer to Warranty Policy Bulletin [POL09-02](#), "Customer Support Program – Warranty Enhancement for Specific Malfunction Indicator Light (MIL) "ON" Diagnostic Code on Certain 2001 through 2003 Model Year Prius Vehicles".
- Warranty application is limited to occurrence of the specified condition described in this bulletin.

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Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
TIS Techstream* NOTE: Software version 4.20.018 or later is required.	ADE	TSPKG1	1

* Essential SST.

NOTE

Additional TIS Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.

SPECIAL SERVICE TOOLS (SST'S)	PART NUMBER	QTY
EFI Fuel Pressure Kit*	09268-45015-01	1
Injection Measuring Tool Set*	09268-41047	1
Plastic Pry Tool Set*	00002-06000-01	1

* Essential SST.

NOTE

Additional SSTs may be ordered by calling 1-800-933-8335.

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Overview

The internal combustion engine in the THS system has the same fundamental operation requirements as a conventional powertrain vehicle. Issues relating to lack of maintenance, fuel quality or delivery, ignition system, or mechanical issues such as low compression can all be possible causes of No Start or Poor Power DTC(s). Eliminate other possible causes prior to performing the detailed diagnostic procedure that follows the general trouble areas.

HINT

- The hybrid system normally cranks the engine at 800+ rpm during starting. As a result, the engine may sound like it is running for 5 – 10 seconds then shutting off. If this occurs, DTC P3191 may set after cranking indicating that the engine did not start.
- If the engine is NOT starting, verify as many causes at one time. Repeated cranking of the engine can deplete the HV battery.

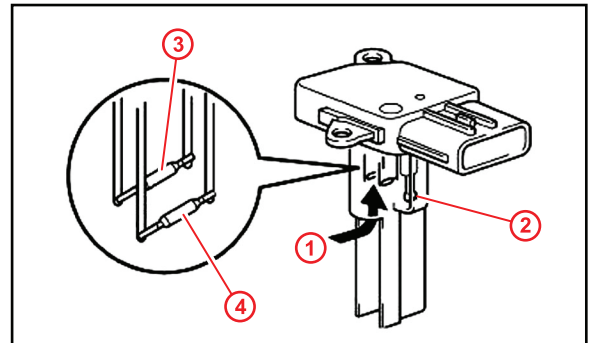
General Trouble Areas

- Air induction system (example: restricted air intake system/dirty air filter)

HINT

Check for debris lodged in the Mass Air Flow (MAF) meter. To diagnose this condition, you **MUST REMOVE** the MAF and inspect the 2 sensing elements inside the cavity. Clean with compressed air even if nothing is visibly contaminating the sensor. Debris may be trapped in the cavity even though it cannot be seen (Figure 1).

Figure 1. Mass Air Flow Meter



1	Air Flow
2	Intake Air Temperature Sensor
3	Platinum Hot-Wire Element
4	Temperature Sensing Element

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Overview

General Trouble Areas (Continued)

- Fuel quality and level (refer to the Owner's Manual for recommendations)

NOTICE

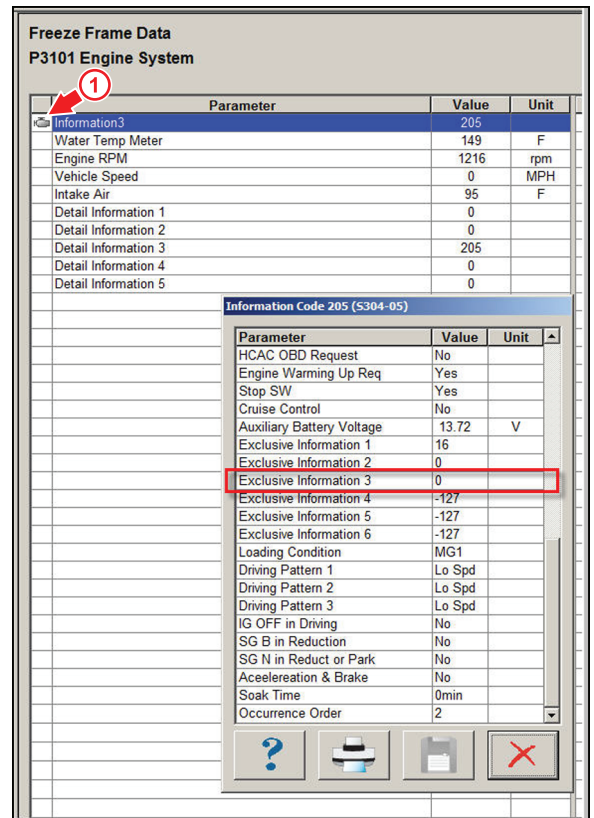
If incorrect fuel or contamination is found, drain and flush the fuel system – including the fuel rail – BEFORE attempting to start the engine.

HINT

Problems with fuel can be difficult to identify. Follow these basic fuel tips:

- Verify if the DTC condition occurred immediately after a refuel.
- Diesel in the fuel can leave an oily residue after evaporation.
- High concentrations of alcohol such as E85 fuel will have a very clear color and may leave an alcohol odor after evaporation.
- If fuel contamination is suspected and no other problems are found, it may be helpful to drain the fuel system and add known good fuel.
- To verify if a vehicle ran out of fuel, check the HV-ECU FFD for P3101 information code 204 or 205 "Exclusive Information 3" Data. If Exclusive Information 3 value is 1, then the system detected an "out of fuel" condition. (See Figure 2.)

Figure 2.



Parameter	Value	Unit
Information3	205	
Water Temp Meter	149	F
Engine RPM	1216	rpm
Vehicle Speed	0	MPH
Intake Air	95	F
Detail Information 1	0	
Detail Information 2	0	
Detail Information 3	205	
Detail Information 4	0	
Detail Information 5	0	

Parameter	Value	Unit
HCAC OBD Request	No	
Engine Warming Up Req	Yes	
Stop SW	Yes	
Cruise Control	No	
Auxiliary Battery Voltage	13.72	V
Exclusive Information 1	16	
Exclusive Information 2	0	
Exclusive Information 3	0	
Exclusive Information 4	-127	
Exclusive Information 5	-127	
Exclusive Information 6	-127	
Loading Condition	MG1	
Driving Pattern 1	Lo Spd	
Driving Pattern 2	Lo Spd	
Driving Pattern 3	Lo Spd	
IG OFF in Driving	No	
SG B in Reduction	No	
SG N in Reduct or Park	No	
Acceleration & Brake	No	
Soak Time	0min	
Occurrence Order	2	

- Click on Engine Symbol to Retrieve Information Code Data List

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Overview

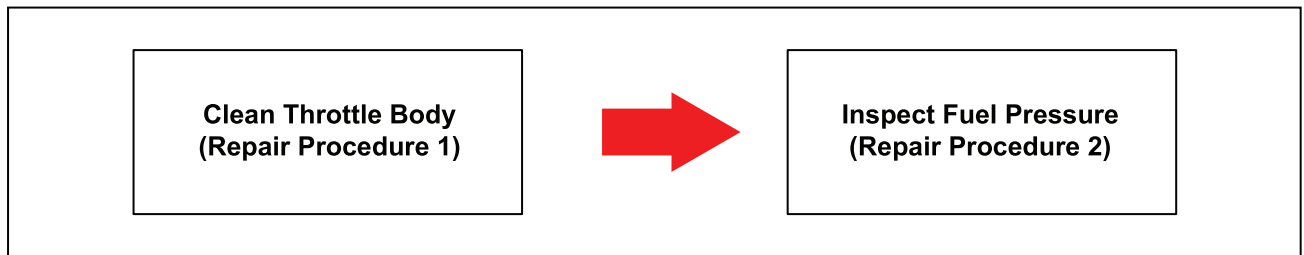
General Trouble Areas (Continued)

- Fuel injection system
- Ignition system (example: worn or dirty spark plugs)
- Poor engine compression
- Correct engine oil viscosity and level (refer to the Owner's Manual for recommendations).
If overfilled, check intake manifold for contamination.

If NO trouble is found in the general trouble areas, follow the procedures below to isolate other potential causes.

Diagnostic Procedure

Save all Freeze Frame Data (FFD) and follow the chart below.

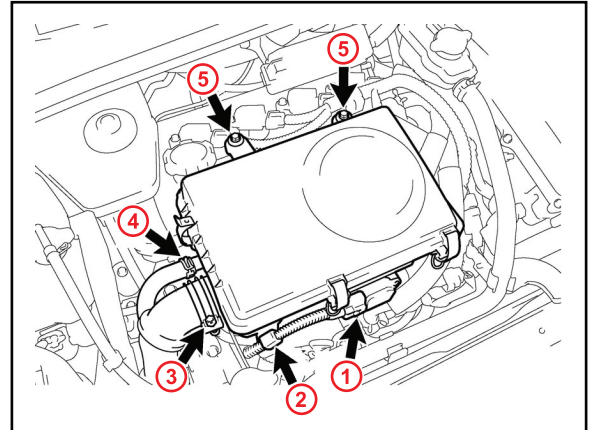


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Repair Procedure 1: Clean Throttle Body

1. Remove the air cleaner assembly.
 - A. Disconnect the connector and clamp.
 - B. Disconnect the No. 1 air cleaner inlet and ventilation hose from the air cleaner assembly.
 - C. Remove the 2 bolts.

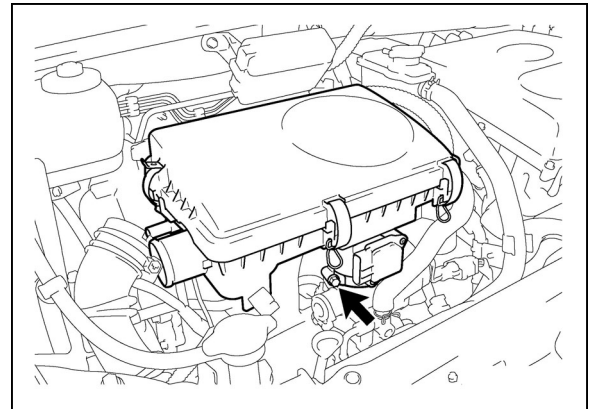
Figure 3.



1	Connector
2	Clamp
3	No. 1 Air Cleaner Inlet
4	Ventilation Hose
5	Bolt

- D. Loosen the clamp and remove the air cleaner assembly.

Figure 4.

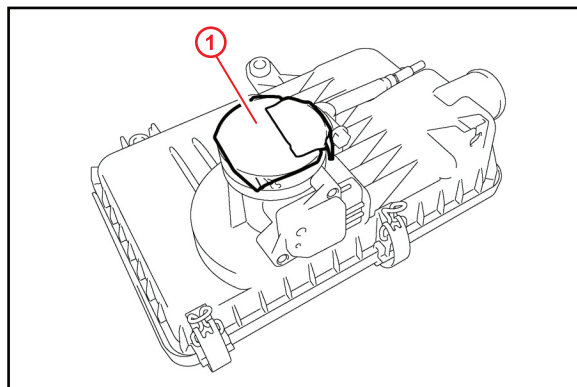


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Repair Procedure 1: Clean Throttle Body (Continued)

- E. Place protective tape over the air cleaner assembly's opening to protect the MAF sensor from foreign objects.

Figure 5.

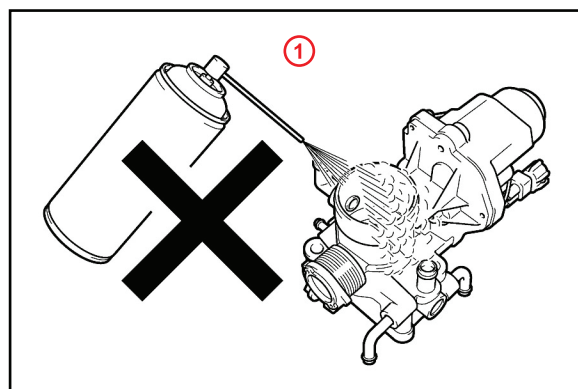


1 Protective Tape

NOTICE

- DO NOT remove the throttle body.
- DO NOT spray Throttle Plate Cleaner (P/N 00289-1TP00) directly into the throttle body. The solution can carry contamination through the throttle shaft causing damage to the throttle motor assembly or throttle position sensor.
- To prevent tearing, use a heavy duty paper towel or cloth to clean the throttle body assembly.

Figure 6.



1 Do NOT Spray Directly into Throttle Body

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Repair Procedure 1: Clean Throttle Body (Continued)

2. Clean carbon from the throttle body assembly.
 - A. Using your hand, rotate the link and completely open the throttle valve.
 - B. While holding the throttle valve open, clean carbon deposits on the throttle valve and bore using a towel covered in Throttle Plate Cleaner.

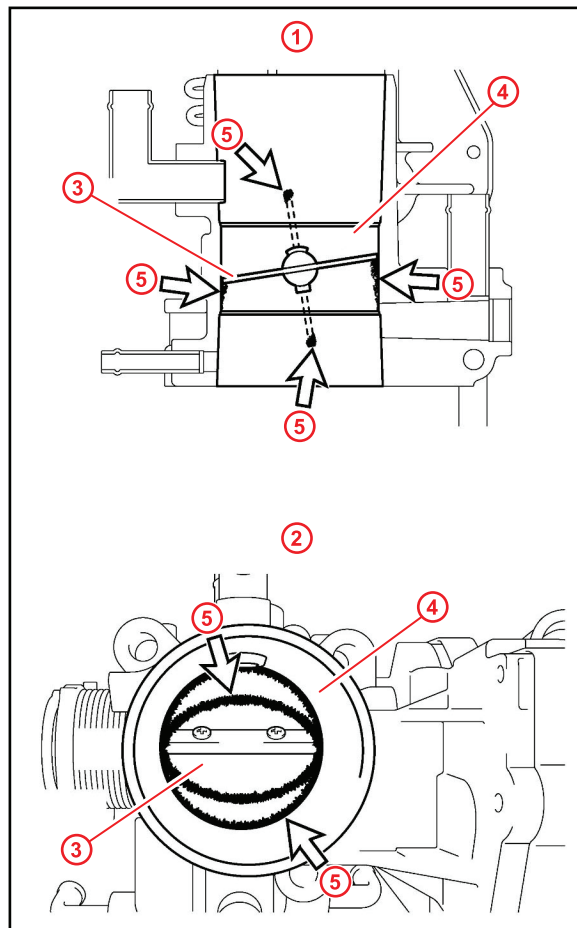
CAUTION

Be careful NOT to catch your fingers or towel on the throttle valve.

NOTICE

DO NOT allow foreign objects to fall into the intake manifold.

Figure 7.



1	Cleaning Area Cross-Section
2	Cleaning Area Overview (Valve Completely Open)
3	Throttle Valve
4	Bore
5	Carbon Deposit

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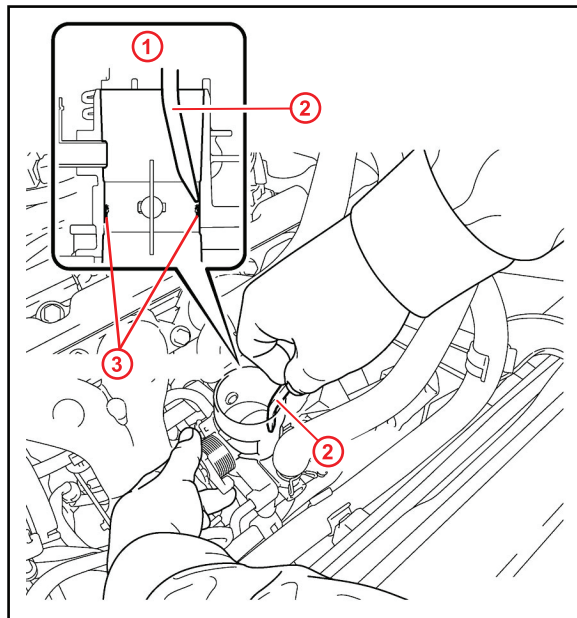
Repair Procedure 1: Clean Throttle Body (Continued)

- C. If necessary, use a plastic panel removal tool to remove any carbon deposits that could not be removed by wiping.

NOTICE

Be careful NOT to damage the inside of the throttle bore or valve.

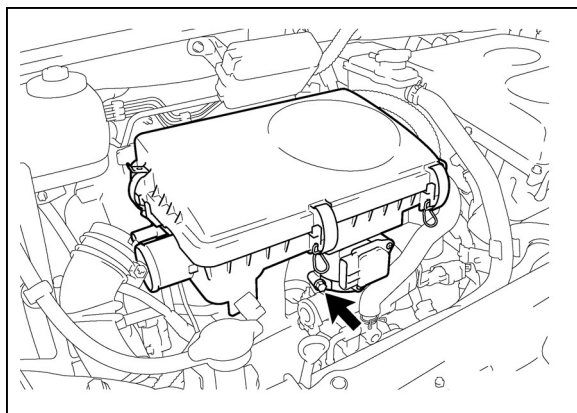
Figure 8.



1	Cross-Section
2	Plastic Panel Removal Tool
3	Carbon Deposit

3. Install the air cleaner assembly.
 - A. Remove the protective tape.
 - B. Insert the air cleaner assembly onto the throttle body assembly and tighten the clamp.

Figure 9.



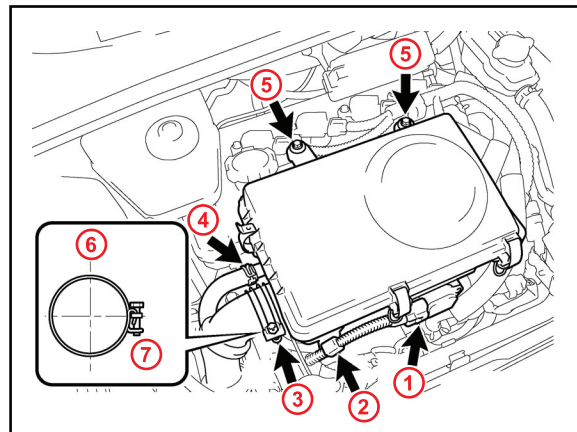
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Repair Procedure 1: Clean Throttle Body (Continued)

- C. Install the air cleaner assembly with the 2 bolts.

Torque: 7.0 N*m (71 kgf*cm, 62 in*lb)

Figure 10.



1	Connector
2	Clamp
3	No. 1 Air Cleaner Inlet
4	Ventilation Hose
5	Bolt
6	Top
7	Front

- D. Connect the No. 1 air cleaner inlet and ventilation hose to the air cleaner assembly.

- E. Connect the connector and clamp.

NOTE

Make sure NO debris falls into the throttle body side of the air cleaner or MAF sensor, or DTC P3191 (Engine Does Not Start) may occur.

4. Clear the DTC(s). Ready "ON" the vehicle and verify if the DTC(s) reset.

NOTE

Make sure FFD has been saved before clearing codes.

Do the DTC(s) return?

- **YES** — If any DTC(s) other than P3101, P3190 & P3191 are present, follow the applicable Diagnostic Chart for each stored DTC in the applicable Repair Manual.

After correcting other DTC(s), re-evaluate the "No Start" condition. If only "No Start" DTC(s) reoccur, proceed to Repair Procedure 2.

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Repair Procedure 1: Clean Throttle Body (Continued)

- **NO** — Repair is complete.

Repair Procedure 2: Inspect Fuel Pressure

Check fuel pump operation.

Refer to TIS, applicable model year Prius Repair Manual:

[2001](#) / [2002](#) / [2003](#) Prius, *Engine/Hybrid System – Fuel System – “Fuel Pump: On-Vehicle Inspection”*

Connect a fuel pressure gauge to confirm the following:

- Fuel pressure is more than 43 psi (294 KPa) at idle (1000 rpm).
- Fuel pressure does not decrease to 0 psi (0 KPa), 5 minutes after the engine is shut OFF.
- There is NO abnormal fuel pressure needle fluctuation while idling or driving.

Does the fuel pressure pass the above specifications?

- **YES** — Refer to the General Trouble Areas in this TSB for alternative causes.
- **NO** — Refer to the Repair Manual for additional fuel system diagnostics.

NOTE

If fuel pressure is found to be within specifications, DO NOT replace the fuel tank assembly.