

Dorman Training Center Presents:

"GAS NO START"



1

Your Instructor For This Webinar

- National Trainer, ASE World Class, Master Auto, Truck, School Bus, L1, L3, CNG
- ATTP Master Instructor, New York State, CT and New Jersey
- STS (Service Technician Society) 2003 President
- TST (Technicians Service Training) Founder and President
- Author / Co Author/ Technical adviser on 25 plus books including
- OBD II and Mode 6, and Understanding and Diagnosing Hybrid Vehicles
- Published articles for multiple newsletters, and magazines
- Picked as one of the Top Instructors in the country by EPA & SAE
- Numerous Radio, TV, Internet, and SAE Video appearances
- PTEN, Motor Age and TST Webcast Instructor - Dorman Training Director
- Motor Magazine Top 20 award winner
- Provider of OBD II Training for 14 states, Ontario Canada and the US EPA
- Guest speaker at SAE Congress, IM Solutions and Clean Air Conference



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2

What Will Be Covered

Instructions For This Webinar

This webinar will be approx. 1 + hours long

- All slides that are presented are in your handout and are numbered
- Have a pen or pencil and paper for notes
- Questions can be asked at anytime

- 01 What Causes No Starts
- 02 What To Check
- 03 Examples
- 04 Your Mics are Open To Ask Questions - One At A Time Please

No Start Diagnostics



Air



Fuel with propane or a Gas Analyzer



HC 21885

Good enough to start

HC 8885

NOT enough to start



Ignition Spark

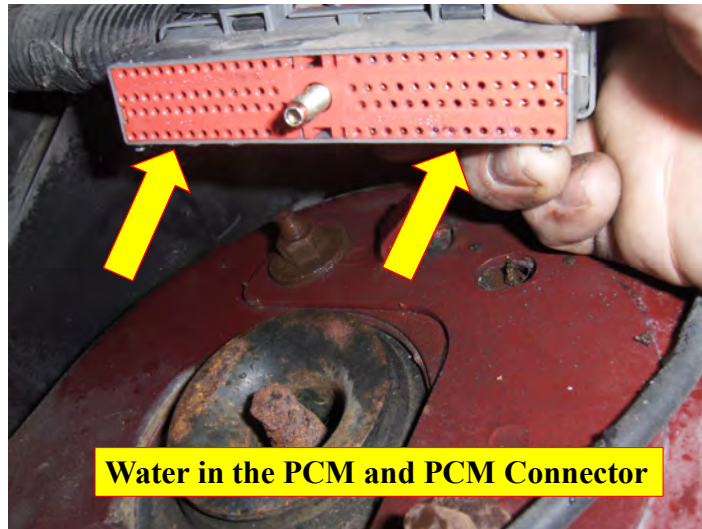
| | | |
|-----------------------|------|------|
| Engine RPM | 0 | rpm |
| TPS Volts | 0.56 | V |
| Engine Coolant Temp V | 4.13 | V |
| Engine Coolant Temp | 52 | degF |
| Intake Air Temp Volts | 4.07 | V |
| Intake Air Temp | 55 | degF |
| Vehicle Speed Sensor | 0 | mph |
| Spark Advance | 4 | deg |
| 1/1 O2S Goal Volts | 0.00 | V |
| 1/1 O2S Level | Low | |
| 1/1 PWM O2 Heater | 0 | % |
| 1/2 PWM O2 Heater | 0 | % |

RPM Check



Backpressure

PCM Connections



Water in the PCM and PCM Connector

Ignition - Acura - GM - BMW



Immobilizer

| Name | Value | Range |
|--------------------------------|------------------------------|------------------------------|
| 276 Serial Number | 3200603771 012201 | |
| 199 Immobilizer | Not active | Not active |
| 196 Start enable | Yes | Yes |
| 197 Drive authorization status | Immobilizer is activated. | Immobilizer is activated. |

Audi No Start



This DTC prevents an engine crank/start condition because it brings down the CAN BUS and shuts down other modules.

Audi No Start

The Authorization Module is integrated with the immobilizer and steering wheel lock mechanism that is mounted to the steering column. Our experience with this issue has shown us that the module is a common problem that causes no response from the ignition key or start button. The module's job is to look for the key or transponder that manages unlocking and locking the steering wheel. It also activates the relay's terminal 15 that supplies power to the other modules in the vehicle. If an issue is detected with any of the module components such as the actuator motor, sensing micro switches, relay, or other electrical connections, the system will throw a DTC and not operate.



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No Start - Before



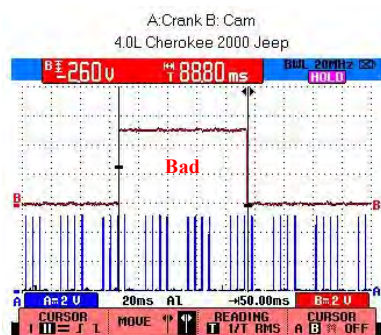
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Start - After

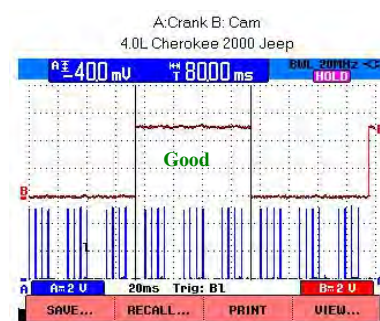


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No Start Before - Start After Crank / Cam Sync



Test Point: PCM
Test Cond: At Idle BAD sync
Symptom: Running BAD
Test Leads: No Data



Test Point: PCM
Test Cond: At Idle to set up sync
Symptom: now running
Test Leads: No Data

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Exhaust Backpressure



**Good Exhaust
Backpressure
at idle should be 0 psi**



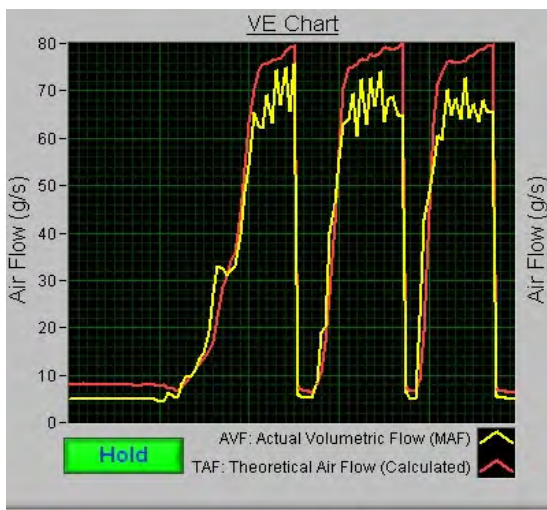
**More than ½
psi at idle =
BAD**



**More than 1½
psi at 2500 =
BAD**

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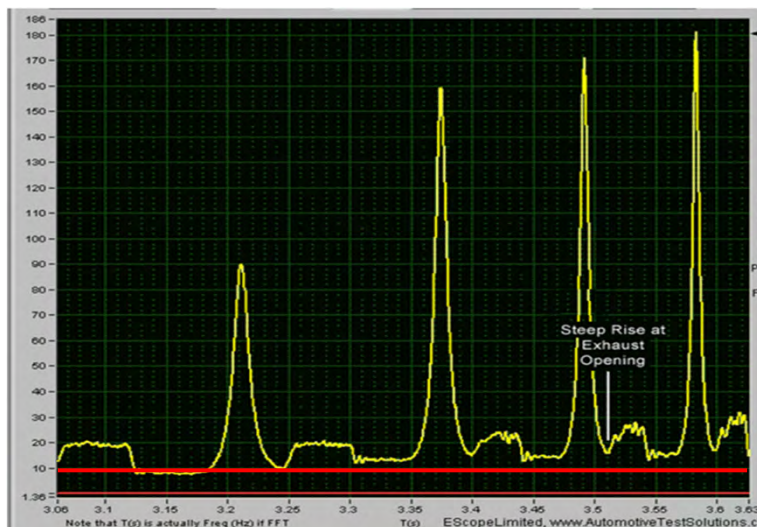
Back Pressure - 5 PSI



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Confirming Exhaust Backpressure

Take a look at the step rise in the exhaust valve opening that confirms a backpressure problem. This is all done without removing an O2, AF sensor or EGR valve.



No Start - Sucking - Blowing

It is always best to begin with the tools God gave you: the brain, eyes, ears, nose, and hands. Always check DTCs and TSBs before doing anything.

Do not forget to check the basics. Here we are making sure that the engine is turning the right way by observing that the exhaust is blowing instead of sucking. Some starters may spin the wrong way and cause major confusion in your shop. **The tail pipe will be sucking rather than blowing.** Always check the rotation of the engine.



Things That Can Cause No Starts



Prius DTCs No Start

ALLDATA
Data View Database Trouble Help

Computer and Control Systems Diagnostic Trouble Code Yarn and Associated Procedures

DTC P3101 ENGINE SYSTEM MALFUNCTION

CIRCUIT DESCRIPTION
The HV ECU performs the fail safe control, when the ECM detects an error which will affect this control.

HINT:
- When using an OBD II scan tool other than TOYOTA hand-held tester, check all the steps.
- When using TOYOTA hand-held tester, confirm the information code and check it.

Image Detecting Condition
DTC P3101 - Information code 204, 205

INSPECTION PROCEDURE
If any of the above information codes is output, after confirming the DTC of the ECM, check and repair the applicable DTC. Prior to repairing it, record the DTC of the HV ECU, freeze frame data and history of operation. Then, clear the DTC and check it one more time after starting the system again ("READY" light ON).

CIRCUIT DESCRIPTION
The HV ECU detects the seizure of the engine or transaxle gear and performs the fail safe control.

Image Detecting Condition
DTC P3101 - Information code 238

INSPECTION PROCEDURE
If the above information code is output, investigate what has caused the revolution resistance of the transaxle and engine to become greater.
- Check the engine lubrication system and transaxle lubrication system.
- Check the engine coolant and transaxle coolant.
- Check for any breakdown in engine itself and transaxle itself.

| INF. Code | Detecting Condition | Trouble Area |
|-----------|--|--------------|
| 204 | Input of abnormal signal from the ECM (abnormal engine output) | • Engine |
| 205 | Input of abnormal signal from the ECM (engine unable to start) | |

| INF. Code | Detecting Condition | Trouble Area |
|-----------|---|----------------------------|
| 238 | When engine does not start even though cranking it. | • Engine • HV transaxle |

P3101... This DTC can be caused by too much oil.

Import #9 1982-2008 Q1-10 02 Toyota Prius 3.4-1.5L (1NZ-FXE) (Hybrid)

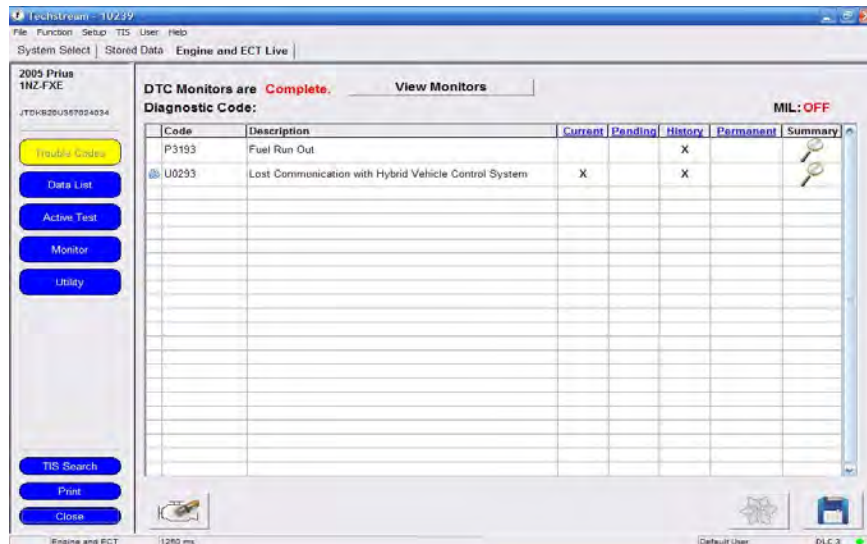
No Start - 5 volts



Fuel Sample - Volume / Pressure - Module



Prius Out Of Fuel Problem

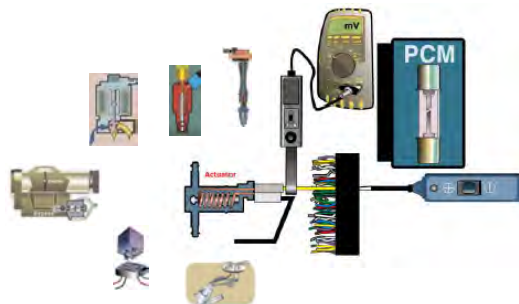


The Big Guy

Use **CAUTION** when replacing PCMs, they just don't happen to burn out. **The sensitive circuits inside the PCM are easily damaged by actuators that have shorted out.** Use proper diagnostic procedures to test all solenoids before replacing a PCM.

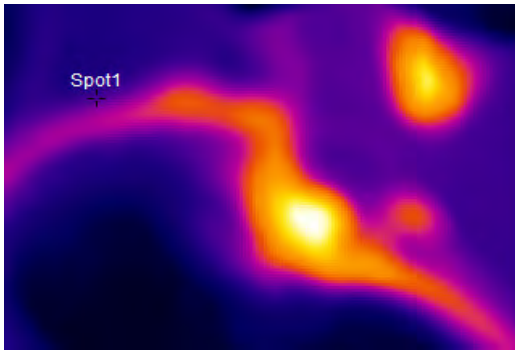
Damage to PCMs are commonly caused by shorted solenoids.

Low Resistance = High Amperage



Most Expensive Fuse

Converter

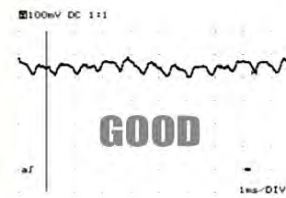


Front Engine



Rear Tailpipe

Fuel Pump - Relay





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Happy Hanukkah

Happy Festivus

Merry Christmas

Happy Kwanzaa

Happy Holidays

Healthy Happy New Year

Questions?



Thank You !

Please click or scan the **QR codes** to fill out a quick **survey** about this webinar, join our **Facebook group** or sign up for our **newsletters**.



Webinar Survey



Facebook Group



Newsletters



28