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### ***Your Instructor For This Webinar***

- National Trainer, ASE World Class, Master Auto, Truck, School Bus, L1, L3, CNG
- ATP 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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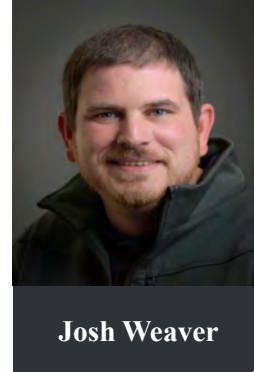


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## Your Instructor For This Webinar

- Associate Degree in Applied Science for Automotive Technology
- College was affiliated with General Motors and Chrysler, and I interned for Ford allowing me to learn all 3 domestic Brands
- Worked for a Kia dealership for 10 years and achieved Kia Master Tech Status
- Lead tech at the dealership allowing me to see the most difficult customer concerns
- Pennsylvania State inspection Emissions tech with waiver license
- Holds ASE L1 Advance Engine Performance
- Holds ASE L3 Light Duty Hybrid Specialist
- EPA 609
- Manager of a 6 bay repair shop which also had a 6 bay body shop, allowing me to see a wide variety of electrical, drivability issues and module programming



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## What Will Be Covered

### Instructions For This Webinar

This seminar will be approx. 1 + hour 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 **OBD II Monitor Status**
- 02 **Using Pending DTCs**
- 03 **Mode 6**
- 04 **Case Studies and more.....**



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## OBID II Diagnostic Strategies Part 2

- **This Lunch & Learn picks up where Part 1 left off**
- **In this part we will focus on Mode 6 and how to use it to determine if the engine is going to illuminate a MIL**
- **Using a diagnostic "Game Plan" will provide the correct path to repair the vehicle correctly**
- **Case Studies and more...**

## OBID II Generic/Global - Use It

- **When it comes to diagnosing engine performance, DTCs or driveability problems use Generic/Global OBID II.**
- **A Generic/Global OBID II scan tool allows us to view information quickly while allowing access to, Pending DTCs, Monitors, Mode 6, Mode 0A/10 and Freeze Frame to name a few. You won't get all that information in the enhanced side of your scan tool.**
- **Also, Generic/Global PIDs are the same on every vehicle, whether it's a GM, Toyota or a BMW.**
- **The data PIDs are all the same and easier to understand.**

# Mode 6

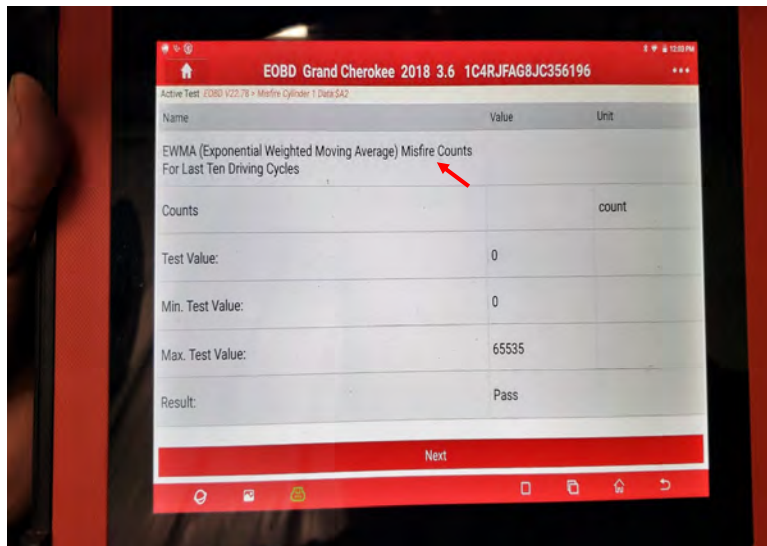
## What is Mode 6?

In a nutshell, Mode 6 allows a scan tool to access the results of the onboard test results for non-continuous monitors. Ideally, Mode 6 will provide us with information about the most recent test data for these monitored systems.

DTC Monitor ID (OBD/MON)	Test ID (TID)	Test Value	Min Limit	Max Limit	Units
021 Front Oxygen Sensor Monitor	041 0131 Sensor Switch Point Voltage	0.450	0.000	1.800	V
021 Front Oxygen Sensor Monitor	040 0131 Voltage Amplitude and Voltage	0.741	0.050	7.900	V
041 O2 Heater Monitor/Front UEGO	041 0131 Heater Current	0.500	0.230	3.000	A
022 Rear Oxygen Sensor Monitor	041 0132 Sensor Switch Point Voltage	0.460	0.000	7.800	V
022 O2 Heater Monitor	041 0132 Heater Current	0.791	0.400	3.000	A
040 Front Oxygen Sensor Monitor	041 0201 Sensor Switch Point Voltage	0.450	0.000	7.900	V
040 Front Oxygen Sensor Monitor	040 0201 Voltage Amplitude and Voltage	0.732	0.050	7.800	V
025 O2 Heater Monitor/Front UEGO	041 0201 Heater Current	0.474	0.230	3.000	A
040 Rear Oxygen Sensor Monitor	041 0202 Sensor Switch Point Voltage	0.460	0.000	7.900	V
040 O2 Heater Monitor	041 0202 Heater Current	0.780	0.400	3.000	A
021 Catalyst Efficiency Monitor	040 Bank 1 Inlet Ratio	0.020	0.000	0.052	Ratio
022 Catalyst Efficiency Monitor	040 Bank 2 Inlet Ratio	0.021	0.000	0.040	Ratio
032 EGR DPF EGR Sys. Monitor	042 Upstream Heat Test and Threshold	-3.311	-32.768	26.126	MPa
032 EGR DPF EGR Sys. Monitor	043 Downstream Heat Test and Threshold	-3.511	-7.302	32.767	MPa
032 EGR DPF EGR Sys. Monitor	044 EGR Valve Open Test and Threshold	-3.174	-32.768	1.305	MPa
032 EGR DPF EGR Sys. Monitor	045 EGR Flow Test and Threshold	0.041	1.484	32.767	MPa
03A EVAP System 0 020 Leak Check	040 Phase 0 Initial Tank Vacuum	0.000	0.000	0.000	Pa
03A EVAP System 0 020 Leak Check	041 Phase 4 Vapor Generation Pressure	0.000	0.000	0.000	Pa
03A EVAP System 0 020 Leak Check	042 Phase 0 Engine Crank Leak	0.000	0.000	0.000	Pa
03B EVAP System 0 020 Leak Check	040 Phase 2 040 Cruise Leak Check	010.750	-1192.000	747.250	Pa
03C EVAP/ EVAP System Monitor	041 Positive Pressure Test	0.000	0.000	0.000	Pa
03C EVAP/ EVAP System Monitor	042 Negative Pressure Test	0.000	0.000	0.000	Pa
041 Misfire Monitor	040 Total Engine Misfire - 1000 Revs	0.000	0.000	29.701	%
041 Misfire Monitor	042 Highest Catalytic Damaging Misfire	0.000	0.000	29.701	%



# Mode 6 Misfire



## Mode 6

### Pass/Fail Standards

Here is how Mode 6 is *supposed* to work:

- Vehicle manufacturers assign **Test IDs (TIDs)** and **Component IDs (CIDs)** for different systems and components used in their vehicles. Test data for many of these components and systems can be found in Mode 6.
- Mode 6 data are all manufacturer-specific — from the components listed — to the test values for each component. Mode 6 data is vehicle specific.



## Mode 6

### Pass/Fail Standards

- Raw test values are numbers that indicate test limits and actual results. These numbers do not always correspond to common measurement values like miles per hour, inches of vacuum, or rpm. They may be “computer speak” that won’t mean a thing to us until they are converted to those common measurement values. Raw test values should be reported only as positive (unsigned) values. (Once again, this has not always been the case, and the use of negative test values has caused some problems.)
- Pass/Fail standards are referred to as test limits. To pass, a component test result must be below a maximum, above a minimum, or fall between a minimum and a maximum level. In cases where a minimum and a maximum test limit are used, two separate tests are run on the same component; one a minimum test, the other a maximum test. Two test results will be given.



# Get Factory Scan Tool Data Including Mode 6



**Mode 6 On-Board Monitoring Test Results, and OBD-II Diagnostic Parameters**  
Identification and scaling of 1979 mode 6 test values and limits data available on GM vehicles, for use with a generic scan tool. This is equipped.

**Generic Scan Tool Information - Mode 6 Data**

- GM GMLAN - GM Powertrain
- GM Class 2 - GM Powertrain
- 2015-2016 City Express
- Cadillac Catera
- Cadillac 2002-2008 CTS, SRX, STS w/V6
- Saturn IUS w/V6
- Saturn IONIC w/V6
- Solstice\_Sky w/2.0L turbo
- ScionxBUS w/3.6L V6
- LACrosse\_Altira w/3.6L V6
- Pontiac G8 w/3.6L V6
- 2008 Equinox-Torrent w/3.6L V6
- Susp\_Wake\_Delta and F85a

**OBD II System Information**

- 1996 - 2003 Metro/Tracker with mode 6 data
- 1996 - 2003 Envoy/Vibe

Courtesy of GM



# Get Factory Scan Tool Data Including Mode 6

**GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link**  
Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For information ONLY Source information is J1979	Resolution For information ONLY Source information is J1979
A8	0C	24 <sup>(1)(2)</sup>	Misfire counts since the last restart after hybrid/electric autostart	0 to 65535 counts	1 count / bit
A8	0C	24 <sup>(1)(2)</sup>	Misfire counts for last/current driving cycles (calculated)	0 to 65535 counts	1 count / bit
A8	A5	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
<b>Misfire Cylinder 8 Data</b>					
A9	0B	24	EWMA (Exponential Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A9	0B	24 <sup>(1)(2)</sup>	EWMA (Exponential Weighted Moving Average) misfire counts since the last restart after hybrid/electric autostop for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A9	0B	24 <sup>(1)(2)</sup>	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles (calculated). Calculation: 0.1 * (current counts) + 0.9 * (previous average). Initial value for previous average = 0	0 to 65535 counts	1 count / bit
A9	0C	24	Misfire counts for the last /current driving cycles	0 to 65535 counts	1 count / bit
A9	0C	24 <sup>(1)(2)</sup>	Misfire counts since the last restart after hybrid/electric autostart	0 to 65535 counts	1 count / bit
A9	0C	24 <sup>(1)(2)</sup>	Misfire counts for last/current driving cycles (calculated)	0 to 65535 counts	1 count / bit
A9	A5	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
AA	0B <sup>(1)(2)</sup>	24	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles (calculated). Calculation: 0.1 * (current counts) + 0.9 * (previous average). Initial value for previous average = 0	0 to 65535 counts	1 count / bit
AA	0C <sup>(1)(2)</sup>	24	Misfire counts for last/current driving cycles (calculated)	0 to 65535 counts	1 count / bit
AB	0B <sup>(1)(2)</sup>	24	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles (calculated). Calculation: 0.1 * (current counts) + 0.9 * (previous average). Initial value for previous average = 0	0 to 65535 counts	1 count / bit
AB	0C <sup>(1)(2)</sup>	24	Misfire counts for last/current driving cycles (calculated)	0 to 65535 counts	1 count / bit
AC	0B <sup>(1)(2)</sup>	24	EWMA (Exponential Weighted Moving Average) misfire counts for last 10 driving cycles (calculated). Calculation: 0.1 * (current counts) + 0.9 * (previous average). Initial value for previous average = 0	0 to 65535 counts	1 count / bit
AC	0C <sup>(1)(2)</sup>	24	Misfire counts for last/current driving cycles (calculated)	0 to 65535 counts	1 count / bit

Footnotes are explained on the last pages of this document. 28 of 29 GMLAN rev4

Courtesy of GM



## Mode 6

On the ATS EScan:

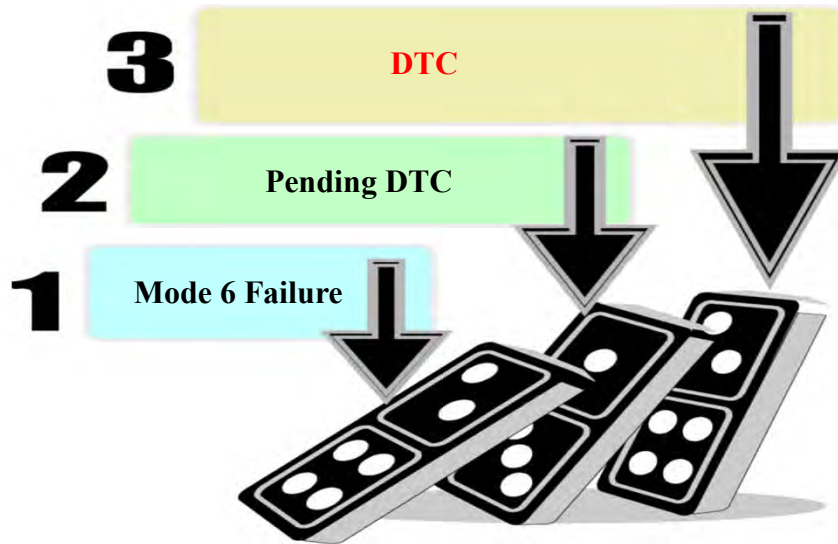
- **Red** indicates a component Fail
- **Yellow** indicates a component that is close to a limit
- **White** indicates a component Pass

- The **Red Test Value** above 1.264 is over the Max test limit that will Prevent a Monitor from Running or a Pending DTC to Be Set

Test ID (TID)	Component ID (CID)	Test Value	Min Limit	Max Limit	Units
\$01: Catalyst System Monitor	\$01: Bank 1 Catalyst Deterioration	1.264	0.998		
\$01: Catalyst System Monitor	\$02: Bank 2 Catalyst Deterioration	0.874	0.390		
\$02: EVAP LEV1 Vacuum Monitor	\$01: EVAP YSV Stuck Closed Value	46.665	13.908		mmHg
\$02: EVAP LEV1 Vacuum Monitor	\$02: EVAP YSV Stuck Open Value	16.702	4.192		sec
\$02: EVAP LEV1 Vacuum Monitor	\$03: CCV Canister Closed Test Value	0.000	16.702		mmHg
\$02: EVAP LEV1 Vacuum Monitor	\$04: S40 Leak Test	0.000	11.579		mmHg
\$02: EVAP LEV1 Vacuum Monitor	\$05: I201 Leak Test	11.579	2.931		mmHg
\$04: Heated Oxygen Sensor Monitor	\$01: B1S1 Max. Heater Current	0.518	0.249		amps
\$04: Heated Oxygen Sensor Monitor	\$02: B1S2 Max. Heater Current	0.642	0.249		amps
\$04: Heated Oxygen Sensor Monitor	\$10: B2S1 Max. Heater Current	0.395	0.249		amps
\$04: Heated Oxygen Sensor Monitor	\$20: B2S2 Max. Heater Current	0.527	0.249		amps
\$08: Thermostat Monitor	\$01: ECT Sensor Output Test Result	119.375	75.000		Deg C

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## DTCs And The Domino Effect



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# TIME OUT - CASE STUDY

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## 2002 Chevy Silverado DTCs P0300 & Pending DTCs

**2002 Chevy Silverado with a 5.3L V8 came in with one DTC, P0300 Random/Multiple Cylinder Misfire along with three Pending DTCs, P0106 Manifold Absolute Pressure, P0171 System Too Lean Bank 1 and P0174 System Too Lean Bank 2.**

*Now where do you start to diagnosis and repair this vehicle?*

**Many would say you don't have to worry about Pending DTCs, so start with the P0300 because it's a hard DTC. Well, that would be absolutely wrong because the Pending DTCs provides great insight on why the P0300 was set. Your "Game Plan" should always be to look at all PID data, Monitor status, Freeze Frame, Mode 6, Mode 0A / 10 (2010 and up), Mode 9 and Pending DTCs. In this case the Pending DTCs are leading us to the source of the problem, the MAP sensor and the two lean DTCs P0171 and P0174.**

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## 2002 Chevy Silverado DTCs P0300 & Pending DTCs

**Freeze Frame is KEY**

Code	Description
P0300	Random/Multiple Cylinder Misfire Detected
P0100	Manifold Absolute Pressure/Barometric Pressure Circuit Range/Performance
P0171	System Too Lean Bank 1
P0174	System Too Lean Bank 2

Supported PIDs	Abbrev	Data	Units
P0300 DTC caused Freeze Frame Storage #0			
Calculated Load	LOAD_C/CT	2.7451	%
Engine Coolant Temperature	ECT	50.0000	Deg F
Short Term Fuel Trim Bank 1	SHORTFT1	35.1562	%
Long Term Fuel Trim Bank 1	LONGFT1	25.0000	%
Short Term Fuel Trim Bank 2	SHORTFT2	25.9275	%
Long Term Fuel Trim Bank 2	LONGFT2	25.0000	%
Stroke Manifold Absolute Pressure	MAP	11.7144	inHg
Engine RPM	RPM	315.7500	RPM
Vehicle Speed Sensor	VSS	0.0000	mph
Air Flow Rate from Mass Air Flow Sensor	MAF_gf	7.4400	g/s
Air Flow Rate from Mass Air Flow Sensor	MAF_b/min	0.9821	lb/min
Absolute Throttle Position	TP	0.2922	%

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## 2002 Chevy Silverado Fuel Trim No Load

*Take a look at the fuel trim numbers, what do you think is the problem?*

**Bank 1 (Fuel Trim 1)**

**Bank 2 (Fuel Trim 2)**

Notes:  
When "Start Test" is enabled the following PIDs will be included only - RPM, TP, FT1, FT2 (if available). Don't change selected PIDs!  
Cells will fill according to RPM and TP and the following color code (Cells will not fill during deceleration):  
Green: FT less than +10  
Yellow: FT between +10 and +15  
Orange: FT between +15 and +20  
Red: FT greater than +20

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## 2002 Chevy Silverado DTCs P0300 & Pending DTCs

Supported PIDs	Abbrev	Data	Units
P0300 DTC caused Freeze Frame Storage #0:			
Calculated Load	LOAD_PCT	2.7451	%
Engine Coolant Temperature	ECT	50.0000	Deg F
Short Term Fuel Trim Bank 1	SHRTFT1	35.1562	%
Long Term Fuel Trim Bank 1	LONGFT1	25.0000	%
Short Term Fuel Trim Bank 2	SHRTFT2	35.9375	%
Long Term Fuel Trim Bank 2	LONGFT2	25.0000	%
Intake Manifold Absolute Pressure	MAP	14.1744	HG
Engine RPM	RPM	815.7500	RPM
Vehicle Speed Sensor	VSS	0.0000	mph
Air Flow Rate from Mass Air Flow Sensor	MAF_g/s	7.4400	g/s
Air Flow Rate from Mass Air Flow Sensor	MAF_lb/m	0.9821	lb/m
Absolute Throttle Position	TP	0.3922	%

**BARO - MAP**  
**29 - 14 (approx.) = 15 in of vacuum**

*So, what's the problem?*

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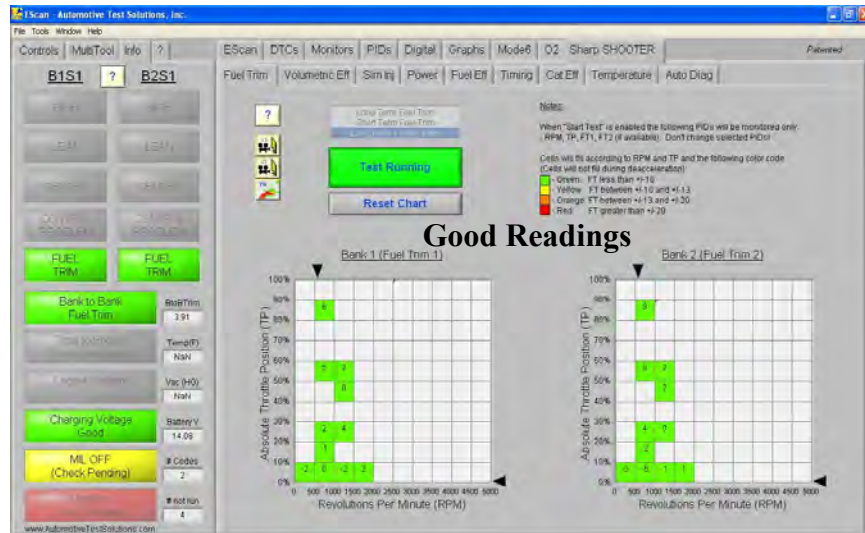
## 2002 Chevy Silverado DTCs P0300 & Pending DTCs

**Looking at the scan data the PCM is doing its job and commanding a large amount of fuel delivery to compensate for a lean condition. With the Freeze Frame data providing us with the temperature information of 50 F it's a good idea to smoke the engine when it's cold to locate the source of the problem. On this vehicle the intake manifold gaskets needed to be replaced in order to get this engine back in fuel control.**

**Note: Many times, smoke will not be visible due to hydrocarbons that are in the intake manifold. In chemistry two likes will attract and the one with more volume will consume the other. In other words, the smoke is a HC base that will be absorbed in the manifold by the fuel vapors making it difficult to find the leaking area. A good suggestion is to use CO2 along with CO2 leak detector and the special ATS form. The tool is called BULLSEYE, that can be used for EVAP, A/C systems, crankcase leaks, tires or anything that holds something.**

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## 2002 Chevy Silverado FT After Repair



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## 2002 Chevy Silverado 5.3L V8 DTCs

**If you would have chased the P0300 you would have gone in circles. Do you now understand why you need to use a Generic scan tool for an illuminated MIL and driveability issues? In Enhanced mode (GM, Toyota, VW etc...) you would have overlooked the Freeze Frame data and Pending DTCs. Always use a systematic approach when diagnosing a problem vehicle. The "Game Plan" we mention in the first part of this case study should be followed for a successful diagnosis.**

**The moral of this case study is not to just jump on the DTC but to take advantage of what OBD II information has to offer and use that information to solve the problem. If this vehicle had a CAN (controller area network) system I would have suggested looking at Mode 6 data for test results on cylinder misfires.**

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# MODE 0A/10

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## OBD II Mode 0A /10

The screenshot displays a diagnostic tool interface for OBD II Mode 0A/10. The main window is titled "Sharp SHOOTER" and shows the following components:

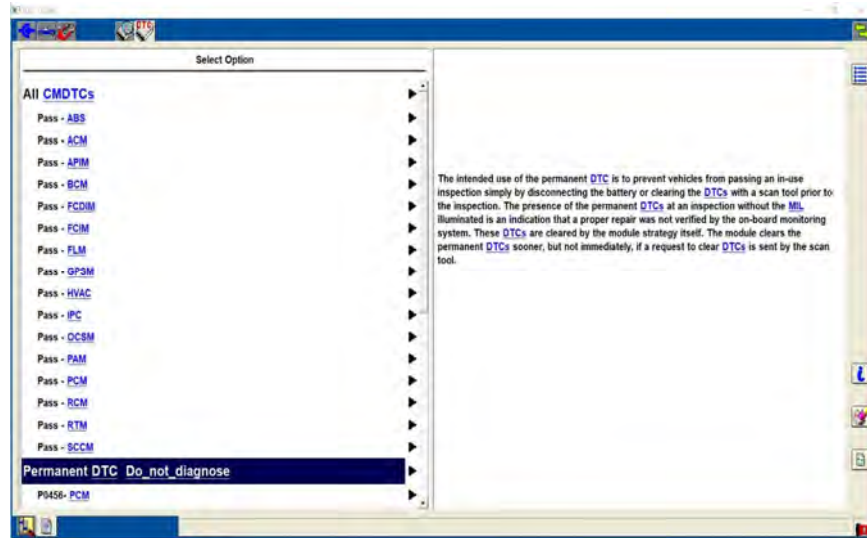
- Menu Bar:** Controls, MultiTool, Info, EScan, DTCs, Monitors, PIDs, Digital, Graphs, Mode06, O2, Sharp SHOOTER.
- Left Sidebar:**
  - Bank 1 and Bank 2 selection buttons.
  - Buttons for WASH, WCH, LEAN, LEM, CENTER, and COORD.
  - Buttons for FUEL TRIM and TOTAL FUEL TRIM.
  - Buttons for Bank 1 Fuel, Time In Engine, and Engine Voltage.
  - Buttons for Battery Voltage, MIL ON (Check DTCs), and Monitor Complete.
  - Buttons for Boost, Temp, Vac, and Battery V.
  - Buttons for #Codes and #not run.
- Central Control Panel:**
  - Select Make: Ford
  - Buttons: Read DTC & Pending Codes, Read Continuously (DTC will stop a SCOPE ELITE Record), Clear DTCs, Read Permanent Codes, Read Freeze Frame Data.
  - Text: DTC that Caused Freeze Frame Storage #0: P0301
  - Text: VIN: 1FMCU0D7AK007750
- Main Display Area:**
  - DTC List:**

Code	Description
P0301	Cylinder 1 - misfire detected *Probable Cause: Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
  - Supported PIDs Table:**

SupportID	PIDs	Abbrev	Data	Units
P0301 DTC caused Freeze Frame Storage #0				
Calculated Load	LOAD_PCT	39.8079	%	
Engine Coolant Temperature	ECT	172.4000	Deg F	
Short Term Fuel Trim Bank 1	SHORTFT1	3.1250	%	
Long Term Fuel Trim Bank 1	LONGFT1	3.9062	%	
Intake Manifold Absolute Pressure	MAP	15.0603	inHg	
Engine RPM	RPM	727.7500	RPM	
Vehicle Speed Sensor	VSS	1.8530	mph	
Ignition Timing Advance for #1 Cylinder	SPARKADV	7.0000	deg	
Intake Air Temperature	IAT	46.4000	Deg F	
Air Flow Rate from Mass Air Flow Sensor	MAF_idm	0.6611	lbm	
Air Flow Rate from Mass Air Flow Sensor	MAF_idm		lbm	
Absolute Throttle Position	TP	13.7255	%	
O2 Bank 1 - Sensor 2	FTB1S2	99.2187	%	
O2 Bank 1 - Sensor 2	FTB1S2		%	
Time Since Engine Start	RUNTIME	327.0000	s	
Commanded EGR	EGR_PCT	0.0000	%	
Commanded Evaporative Purge	EVAP_PCT	0.0000	%	
Fuel Level Input	FLI	87.4510	%	
Number of Warm-ups Since DTCs Cleared	WARM_UPS	2.0000		
Relative Steer Command	STEER_PCT	46.3355	mlcr	

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## OB2 II Mode 0A /10

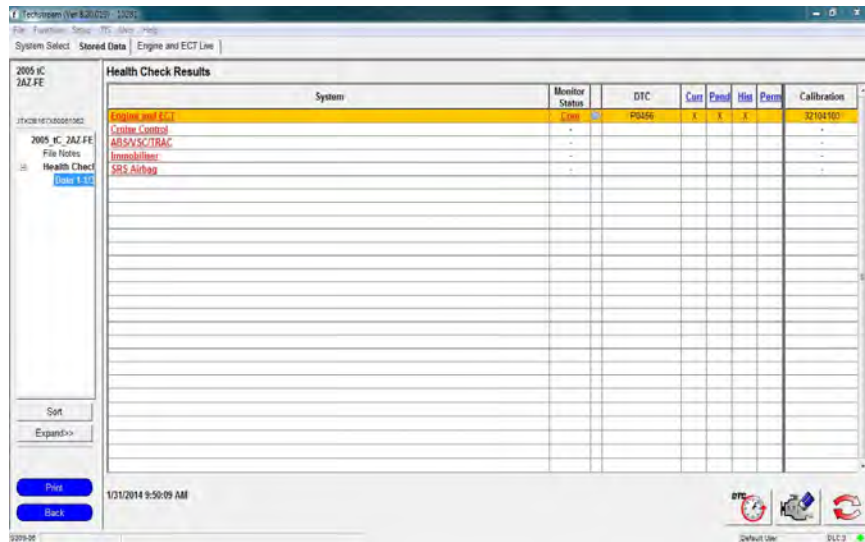


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## TIME OUT - CASE STUDY

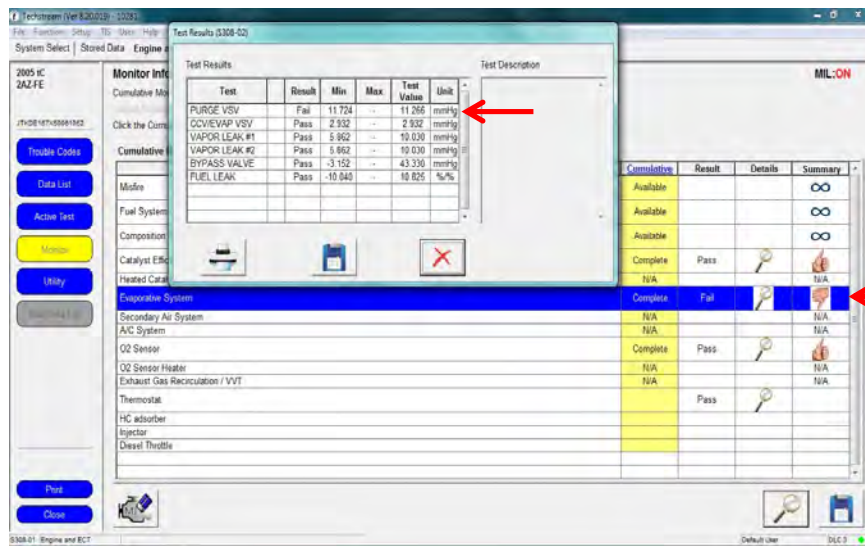
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## 2005 Scion TC P0456 DTC Small Leak



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## 2005 Scion TC Mode 6 & EVAP



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## 2005 Scion TC Mode 6 & EVAP

Test Results (3308-02)

Test	Result	Min	Max	Test Value	Unit
PURGE VSV	Pass	11.724	-	11.724	mmHg
CCVE/VAP VSV	Pass	2.932	-	3.749	mmHg
VAPOR LEAK #1	Pass	5.962	-	11.679	mmHg
VAPOR LEAK #2	Pass	5.962	-	11.679	mmHg
BYPASS VALVE	Pass	-3.152	-	-43.330	mmHg
FUEL LEAK	Pass	-10.040	-	14.725	%/%

Category	Result	Details	Summary
Evaporative Systems	Complete	Pass	N/A
Secondary Air System	N/A		N/A
A/C System	N/A		N/A
O2 Sensor	Complete	Pass	
O2 Sensor Heater	N/A		N/A
Exhaust Gas Recirculation / WVT	N/A		N/A
Thermostat		Pass	
HC adsorber			
Injector			
Direct Throttle			

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## Mode 6 & EVAP

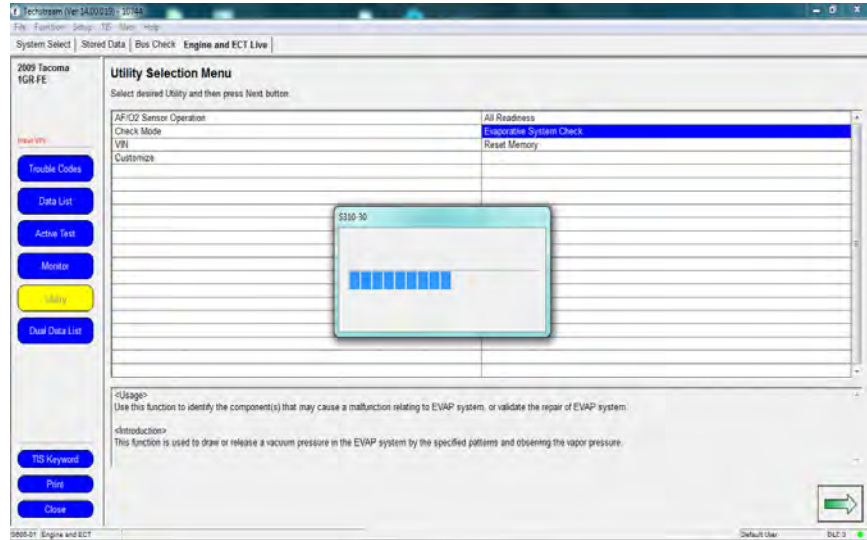
DTC Monitors are **Incomplete**. View Monitors

Diagnostic Code:

Code	Description	Current	Pending	History	Permanent	Summary
P0441	Evaporative Emission Control System Intermittent Purge Flow	X	X	X		
P0455	Evaporative Emission Control System Leak Detected (Gross Leak)	X	X	X		

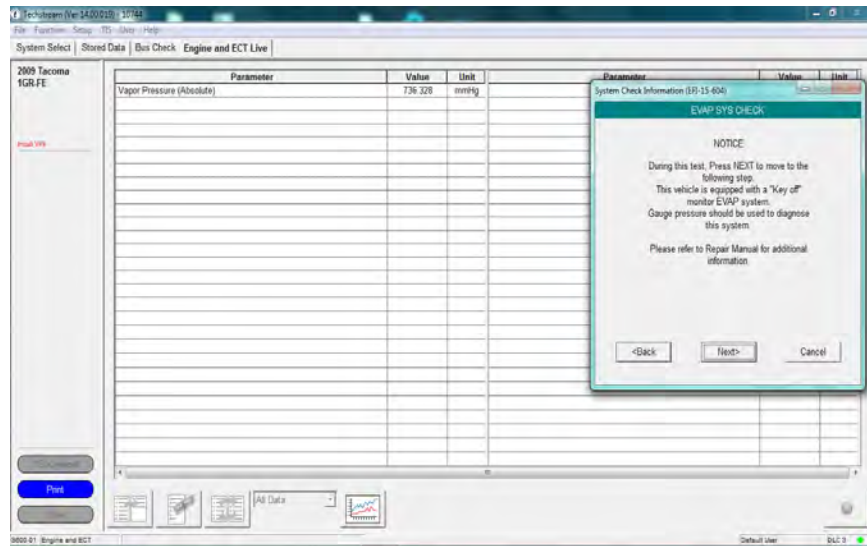
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## Mode 6 & EVAP



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## Mode 6 & EVAP



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## Mode 6 & EVAP

System Check Information (07-15-402)

**EVAP SYS CHECK**

DESCRIPTION

This test activates the PURGE VSV, VENT VALVE and VACUUM PUMP to draw and release vacuum in the system. System operation can be confirmed by observing the Vapor Pressure during each step.

<Back   Next>   Cancel

Parameter	Value	Unit
Vapor Pressure (Absolute)	736.328	mmHg

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## Mode 6 & EVAP

System Check Information (07-15-406)

**EVAP SYS CHECK**

Select the desired function below, then press Next to proceed

- 1 Automatic Mode  
This mode will simulate the system monitor. If a malfunction is present, a DTC will be set.
- 2 Manual Mode  
This mode allows you to active test several components at one time.

Check this box, if you want to automatically record each active test.

<Back   Next>   Cancel

Parameter	Value	Unit
Vapor Pressure (Absolute)	736.328	mmHg

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## Mode 6 & EVAP

The screenshot shows the Techstream interface for a 2009 Tacoma 1GR-FE. A dialog box titled "EVAP SYS CHECK - AUTOMATIC" is displayed. The dialog contains the following text:

System Check Information (BT-15-407)  
**EVAP SYS CHECK - AUTOMATIC**  
 Note: The AUTOMATIC EVAP SYS CHECK can not be aborted once the test begins.  
 This test can take 8 to 15 minutes to complete.  
 Press Next to begin the Automatic EVAP SYS CHECK.

Buttons: <Back, Next>, Cancel

Background table data:

Parameter	Value	Unit
Vapor Pressure (Absolute)	736.528	mmHg

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## Mode 6 & EVAP

The screenshot shows the Techstream interface for a 2009 Tacoma 1GR-FE. A dialog box titled "EVAP SYS CHECK - AUTOMATIC" is displayed. The dialog contains the following text:

System Check Information (BT-15-410)  
**EVAP SYS CHECK - AUTOMATIC**

Item	Status	Value
Purge VSV	CLOSE	OFF
Vent Valve	OPEN	OFF
Vacuum Pump		ON

Time: 70 sec

Background table data:

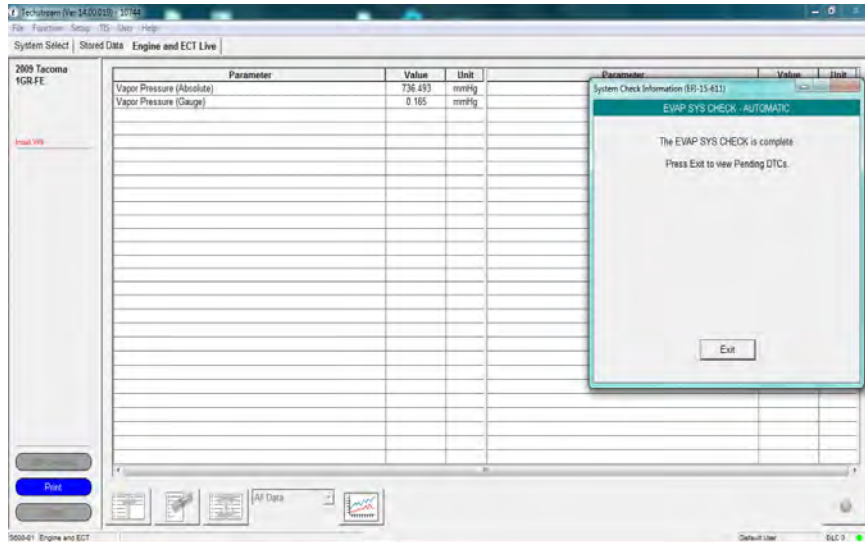
Parameter	Value	Unit
Vapor Pressure (Absolute)	716.361	mmHg
Vapor Pressure (Gauge)	-19.968	mmHg

Recording settings at the bottom:

- Recording: 00504
- Time: 01:13:000
- Flag Count: 001
- Trigger Type: Manual
- Duration: 25 min
- Trigger Point: 10%

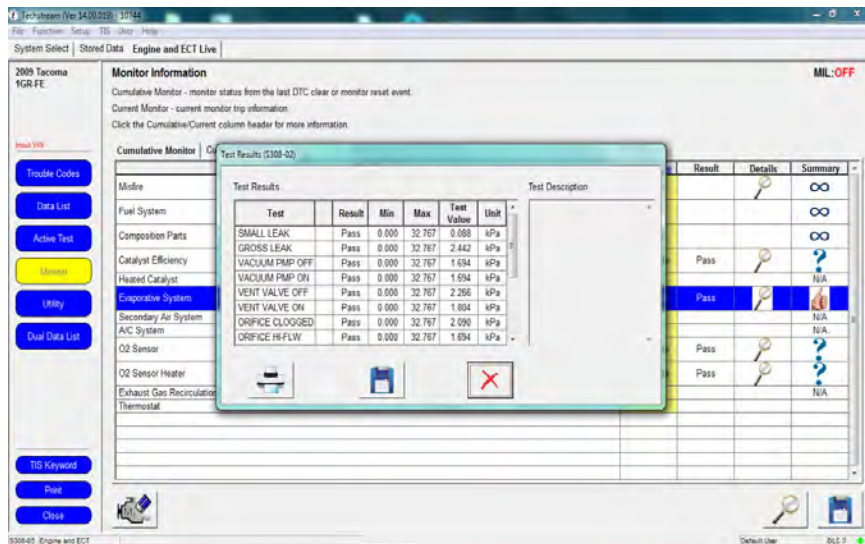
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# Mode 6 & EVAP



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# Mode 6 & EVAP



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## Mode 6 & EVAP

2009 Tacoma  
1GR-FE

System Select | Stored Data | Engine and ECT Live | MIL:OFF

**Monitor Information**  
Cumulative Monitor - monitor status from the last DTC clear or monitor reset event.  
Current Monitor - current monitor trip information.  
Click the Cumulative/Current column header for more information.

**Cumulative Monitor**

**Test Results (S104-02)**

Test	Result	Min	Max	Test Value	Unit
VENT VALVE OFF	Pass	0.000	32.767	2.265	kPa
VENT VALVE ON	Pass	0.000	32.767	1.604	kPa
ORFICE CLOGGED	Pass	0.000	32.767	2.090	kPa
ORFICE H-FLW	Pass	0.000	32.767	1.694	kPa
PURGE VSV CLOSED	Pass	0.000	32.767	2.486	kPa
PURGE VSV OPENED	Pass	0.000	32.767	2.442	kPa
PURGE FLOW	Pass	0.000	0.000	0.000	kPa

Test Description

Result	Details	Summary
Pass		∞
Pass		∞
Pass		?
Pass		N/A
Pass		N/A
Pass		N/A
Pass		N/A
Pass		N/A

Screenshot Added  
A screenshot was added to your Desktop.

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*Questions?*

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Thursday December 19th, 2024

Heavy Duty Lunch & Learn 12:00pm to 1:00pm ET

**"End Of Year Diagnostic Grab Bag and CanDo Scan Tool Review"**

The following will be covered:

- Brief Industry Perspective
- Variety of simple diagnostic case examples
- Review of the CanDo HD Pro scantool

Instructor: Swede Oun



**"Dorman Training"**



Thursday, December 19, 2024

Live Webinar: 7:00 p.m.—9:00 p.m. EST

In this course, technicians will learn to diagnose and address the needs of internal combustion engines like mechanical, ignition and air fuel systems. Common no-start causes like anti-theft and bus communication faults will also be covered.

[View Event](#)



**Automotive Electronics for Today's Vehicles**

Tue, Jan 7, 2025, – Thu, Jan 9, 2025, Homewood Suites by Hilton Allentown (map)

5:30 p.m.—10:00 p.m. EST | Bethlehem, PA | In-Person

In this course, build useful electronic skills for diagnosing and repairing late-model vehicles. Technicians will learn about circuits and circuit testing, opens, shorts, voltage drops, relay testing, DVDM usage, lab scope/graphing meter usage, sensors and actuators.

Note: This is a three-day class

[View Event](#)



**Utilizing the Autel Diagnostic Tool Part 1**

Tuesday, January 7, 2025 Fort Myers Technical College (map)

5:30 p.m.—10:00 p.m. EST | Fort Myers, FL | Hands-On

In the first part of this series, learn how to maximize the effectiveness of your Autel scan tool. Technicians will learn button functions, diagnostic aids, pre- and post-scan reports, graphing techniques, interpretation and use cases for Modes 6, 9 and DARTS, plus an overview of generic and enhanced modes for the tool.

[View Event](#)



**Automotive Electronics for Today's Vehicles**

Tue, Jan 7, 2025, – Thu, Jan 9, 2025, ATTS Training Center (map)

5:30 p.m.—10:00 p.m. EST | Mahopac, NY | Hands-On

In this course, build useful electronic skills for diagnosing and repairing late-model vehicles. Technicians will learn about circuits and circuit testing, opens, shorts, voltage drops, relay testing, DVDM usage, lab scope/graphing meter usage, sensors and actuators.

Note: This is a three-day class

[View Event](#)



# Thank You !

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