

ETHOS Certification

- In this course you will learn about basic ETHOS features and functionality. You will learn how to:
 - Power-up the unit
 - Work with controls and navigation
 - Work with menus
 - Configure settings
 - Capture and manage your saved data
 - Work with the Vehicle Communication Software
- Pre-Test
- Scan Tool Overview
 - The ETHOS platform (hands-on, no power)
 - ETHOS navigation and set-up functions (power on)
- ETHOS Menus & Capabilities
 - Software coverage
 - Scanner capabilities
 - Global OBDII
- Post Test

SOLUS PRO Certification Level 1

- In this course you will learn about the basic SOLUS PRO features and functionality. You will learn how to:
 - Power-up the unit
 - Work with controls and navigation
 - Work with menus
 - Configure settings
 - Capture and manage your saved data
 - Work with the vehicle communication software
 - Work with Fast-Track® Troubleshooter
- Pre-test
- Scan Tool Overview
 - The SOLUS PRO platform (hands on, no power)
 - SOLUS PRO navigation and setup functions
- SOLUS PRO Menus and Capabilities
 - Software coverage
 - Scanner capabilities
 - Troubleshooter
 - Global OBD-II

SOLUS PRO Certification Level 2

- In this course, you will learn about SOLUS PRO vehicle system diagnostic capabilities. You will learn how to:
 - Pull codes
 - Capture relative data in Text, PID, and Graphing displays
 - Use Functional Tests in multiple systems
 - Use Troubleshooter to locate information resources, specifications, and other experience-based information
 - Use PID Triggers
- Introduction–Cause and Effect
- Codes and Data
 - Manage Relative Data & Custom Data
 - SOLUS PRO Information Resources
 - Lab Exercises
 - Hands-On Exercises
- Functional Tests
 - Lab Exercises (Guided Tour)
 - Hands-On Exercises
- Advanced Graphing Data
 - PID Trigger Exercise
- Post Test

MODIS Certification Level 1

- This module covers:
 - MODIS Platform Features & Benefits
 - Basic Menu Navigation
 - Component Test Meter Navigation
 - Scanner Software Navigation
 - Basic demo paths, and Latest Test Drives
- When you complete this module, you will:
 - Understand the role that component testing has in a diagnostic routine
 - Understand the role a Scan Tool has in a diagnostic routine

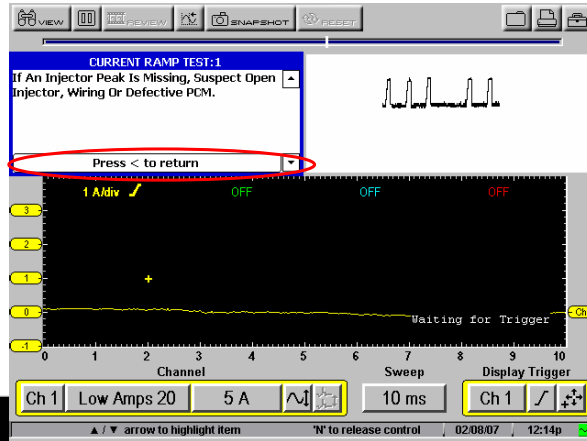
MODIS Certification Level 2

- In this course, you will learn about MODIS features and functionality. You will learn how to:
 - Specify the ID of the vehicle you are testing
 - Select components
 - Locate information resources within CTM
 - Navigate the Ignition Scope options
 - Use, create, and edit presets
 - Configure MODIS to analyze Scope patterns



Component Testing

- Different examples with different possibilities.
- The procedure window lists some possible causes.
- Note: Press < to return to single injector testing.



Presenter's Script

A shorted circuit will show a completely different pattern. (This is another Ohm's Law review opportunity.)

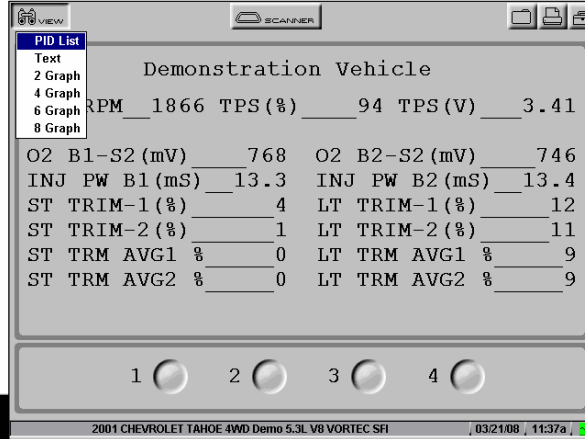
When displaying a series of injectors, an open circuit in an injector is detectable by the missing current signature.

Notes



Menu Options

1. Scroll left to the View button.
2. Press Y.
3. This displays options for viewing the data.



Presenter's Script

Notes

The MODIS scan tool does all the work of recording data. Now you just have to tell it how you want it displayed!

- There are several options for displaying data:
- PID List—Displays all parameters in a table format.
- Text—Displays parameters as plain text format.
- Graph—Displays data in line graph format. You can view 2, 4, 6 or 8 graphs at a time, depending on the option you have selected





Case Study 1

- MODIS two-channel connection
 - Ch 1 Injector Volts (sync pulse, cyl. 1)
 - Ch 2 Low Amps Probe



55

Presenter's Script

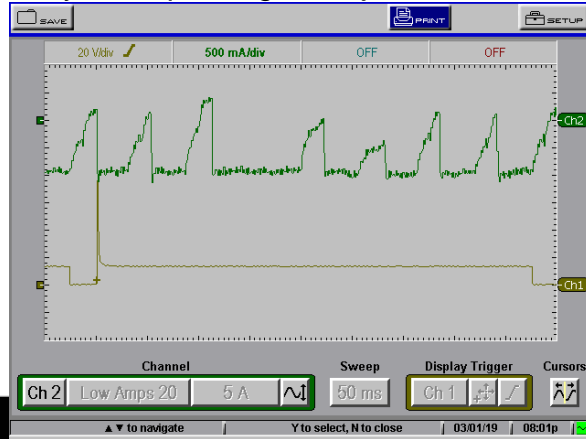
With this particular complaint we might choose to test the injectors. We'll use low amp probe to perform the test and reference injector voltage from cylinder #1 to identify the firing order.

Notes



Case Study 1

- The green trace, Channel 2, represents ALL eight fuel injectors
- The yellow trace, Channel 1, is a volts waveform obtained by back-probing the injector connector.



Presenter's Script

Notes

Would you have made a 4.5 hour labor rate misquote or mistake?

The vehicle is a 1992 Infiniti Q45 V8 with hydraulic ride control.

The green trace, Channel 2, represents all eight fuel injectors. This was a simple connection.

There is a large fuse for the injection circuit in the under-hood power distribution center. We simply removed the fuse, replaced it with a fused jumper wire and connected the Low Amp Probe around the wire.

Adjust scope sweep rate to show all eight fuel injectors. Cylinder 1 starts to repeat at the right edge of screen.

It's obvious that we have an issue with one or more of the injectors by the waveform signature, but which one(s)?



Analyzing Scope Patterns

- Scroll left until you see the point the key turned on.
- Scroll up to watch the entire event unfold in slow motion.



Presenter's Script

Notes

NOTE:

Tell the story of what is happening here.

We see the key turn on, then while holding the **Thumb Pad** up we see the engine start to crank. While continuing to hold the **Thumb Pad**, notice the engine starts cranking faster and faster. You can also see the amplitude of the (green) crank signal grow as RPM increases.

At a certain point, we see the Ignition Control switch on signaling the Module to start firing cylinders. Shortly after that, we see the RPM increase as the engine starts and flares up as you would expect a fuel-injected engine to do. It then settles down to a normal idle.

This is amazing technology. Imagine if the scenario was reversed, and you were looking for the cause of why an engine died. What dropped out first? Crank? Cam? Ignition? Any one component can start a domino effect to an engine shut-down. Knowing which domino fell first is what will diagnose a situation most accurately.
