



Serial Wideband Tutorial

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First published
Aug 16, 2008

Revised

Sep 02, 2008

Disclaimer:

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Credits:

Special thanks to: Paul Blackmore and Ross Myers

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Introduction

**Please read the entire contents of this document
before performing any of the steps.**

Before you begin:

1. The contents of this tutorial are based on using EFILive's FlashScan V2, "V2", FW20, Scan Tool Build 66 and Innovative Motorsports Dual Channel LM-2 on a 2000 M6 F-Body.
2. Upgrading to the latest release of the EFILive software will ensure all features are available and appear as documented.

EFILive upgrades may be downloaded, free of charge here:

<http://www.efilive.com/download.aspx>

3. EFILive currently supports the following wideband, "WB", serial communications:
 - Innovative (LC-1, LM-1, & LM-2)
 - PLX
 - AEM UEGO
 - JAW
 - Tech Edge (1.5 & 2.0)
 - FJO
4. Ensure your WB controller and sensors are installed and in proper working order.
5. Ensure you have all components necessary to establish the serial link between your WB controller and V2

More information regarding serial cable construction and point-to-point cables can be found at the EFILive forum:

<http://forum.efilive.com>

FlashScan V2 Setup

1. Connect the serial cable between V2 and your WB controller
2. Locate the OBD2 port on V2
3. Connect the FlashScan V2 OBD2 cable to the vehicles OBD2 port and V2's OBD2 port
4. Select "Options" (**F4**) (**Figure 1**)
5. Select "Setup" (**F1**) (**Figure 2**)
6. Select "Edit Settings" (**F1**) (**Figure 3**)
7. Set "Ser PIDs" to "YES" (**Figure 4**)
8. Set "COM In" to "Wide-O2" (**Figure 5**)
9. Set "COM Out" to "Wide-O2" (**Figure 6**)
10. Set "WO2 Type" to the respective WB controller type (**Figure 7**)

WB controller options:

- Innovative (supports: LC-1, LM-1, & LM-2)
 - PLX
 - AEM UEGO
 - JAW
 - Tech Edge 1.5
 - Tech Edge 2.0
 - FJO
11. Press the "Ok" button to save your settings
 12. Press the "Cancel" button twice to return to the main menu
 13. Select "Scan Tool" (**F2**) (**Figure 8**)
 14. Select "Data Logging" (**F1**) (**Figure 9**)
 15. Select "Display WO2" (**F3**) (**Figure 10**)



Note: FlashScan will display "**Controller Not Found**" until the next step is completed (**Figure 11**)



Hint: Pressing FlashScan's "**Ok**" button will toggle displays thru sensor one, two, and dual sensor

16. Start the vehicle's engine

17. When V2 starts communicating with the WB controller the display will update to represent the current state of the WB controller.



Hint: Serial communications can be verified by witnessing V2's #2 LED (second from left) blinking rapidly and monitoring the data on V2's LCD (**Figure 12**)



Hint: Pressing the "Enter" button will toggle thru AFR, Lambda, and EQ Ratio displays



Hint: For Innovative controllers, pressing the power button will initiate a free air calibration.

Logging Serial WB Data

Black Box Logging

1. Connect V2 to your computer via USB cable
2. Start EFILive Explorer, "EE"
3. From EE, click the **Config Files** tab
4. From EE, drag and drop the Options.ini file from the Windows file system to V2
(Figure 13)

If necessary, click "YES" to confirm overwrite



Note: If V2 was recently upgraded to FW20, it may be necessary to format V2's Config file system. After formatting, all PMM files and the Options.ini file must be copied (dragged dropped) to V2's Config file system.



Hint: Ensure the respective PMM files are present in the V2 Config Files for the PCM/TCM controller you wish to BBL. PMM files are located in the Scan folder



Hint: The Options.ini file allows you to customize the PID selection menu as well as define PIDs for black box logging, "BBL", and alarming

5. Disconnect V2 from the computer
6. Connect V2 to the vehicles OBD2 port
7. Select "Select PIDs" (**F1**) (Figure 14)
8. Choose your PIDs from the list (**Ok**) (Figure 15)
9. Select "Scan Tool" (**F2**) (Figure 16)
10. Select "Data Logging" (**F1**) (Figure 17)
11. Select "Record Data" (**F1**) (Figure 18)

Pass Thru Logging

1. Connect V2 to the vehicles OBD2 port
2. Connect V2 to the PC
3. Start the Scan Tool
4. From the “PIDs (F8)” tab ensure the serial WB PIDs are selected (**Figure 19**)



Note: The serial WB PIDs may appear unsupported until step 5 is completed.

5. Press the “Connect to Vehicle” button (**Figure 20**)

Figures

Figure: 1

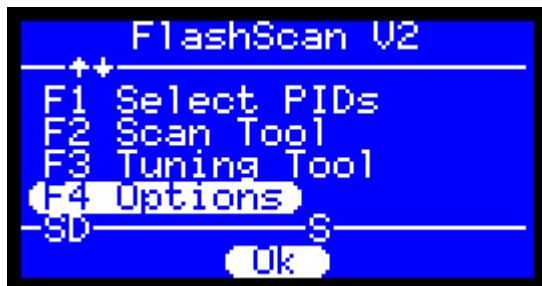


Figure: 2

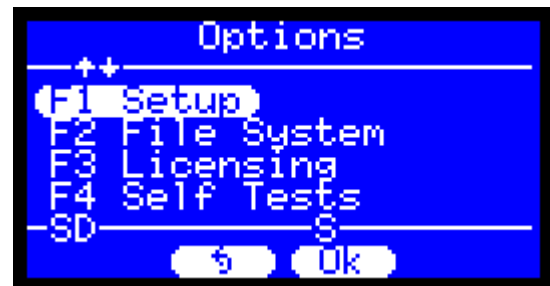


Figure: 3



Figure: 4

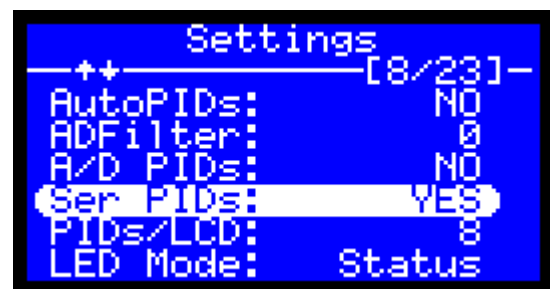


Figure: 5

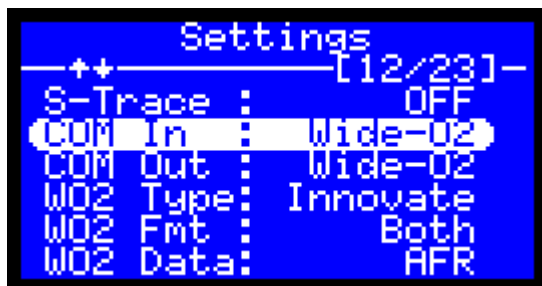


Figure: 6

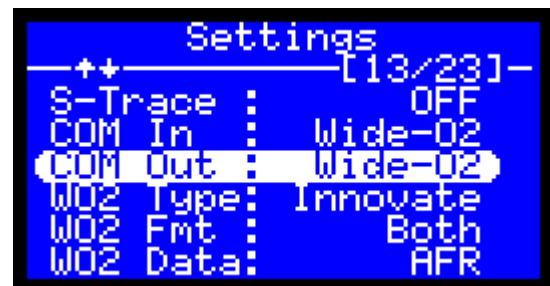


Figure: 7

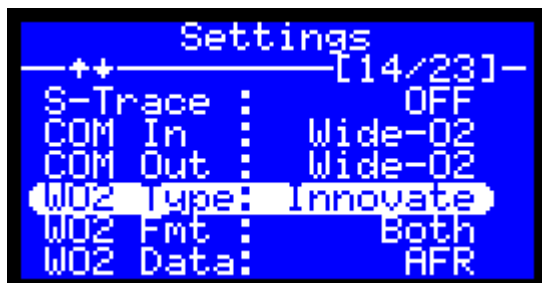


Figure: 8

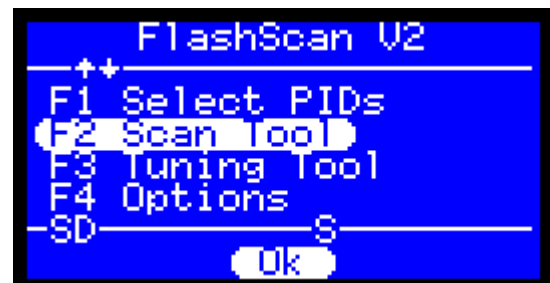


Figure: 9

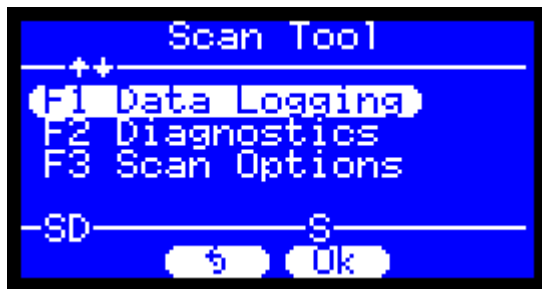


Figure: 10



Figure: 11



Figure: 12

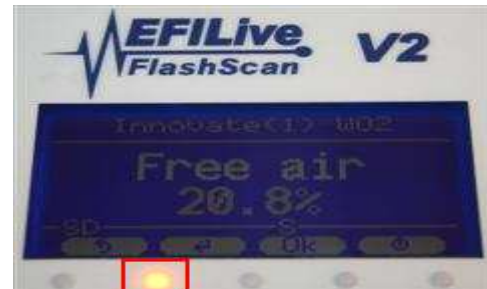


Figure: 13

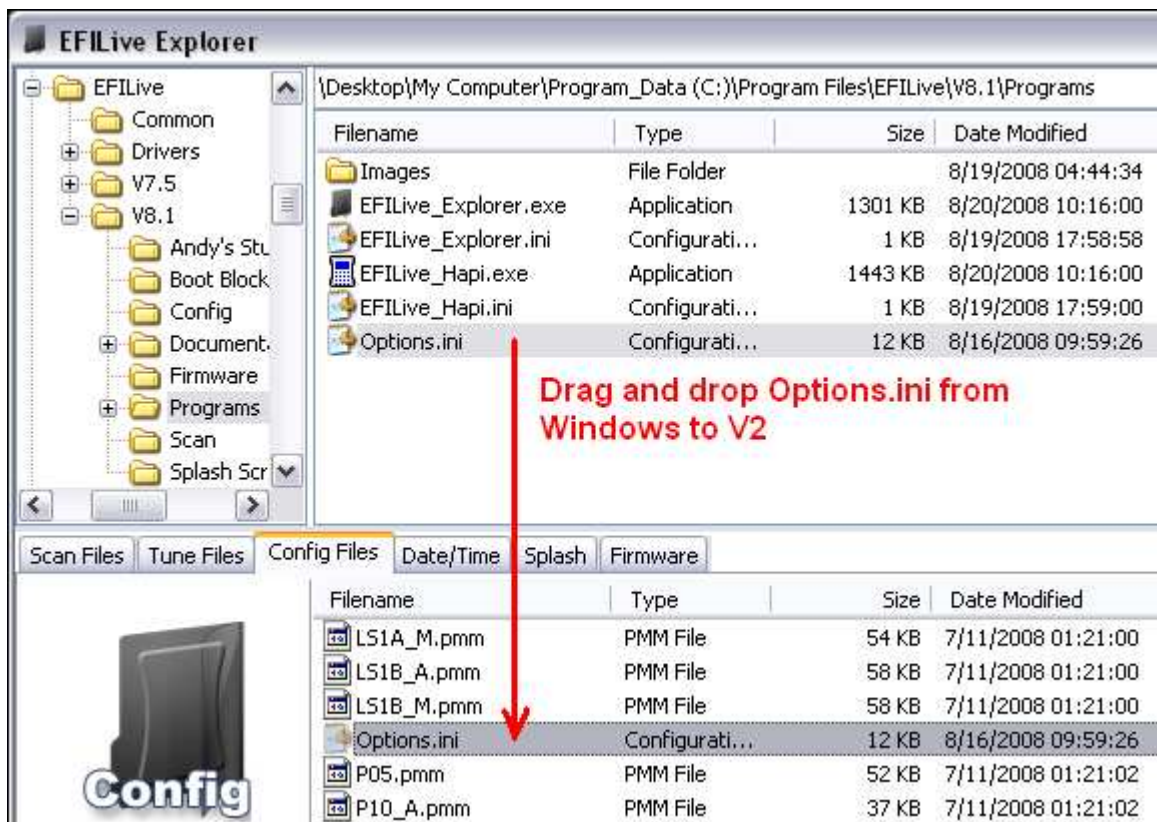


Figure: 14

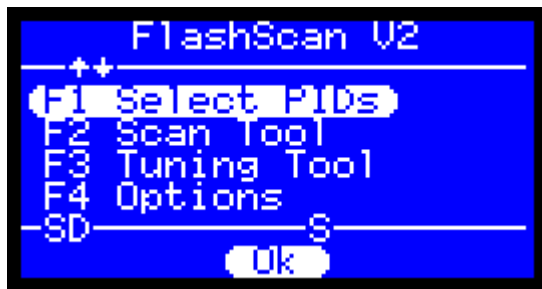


Figure: 15

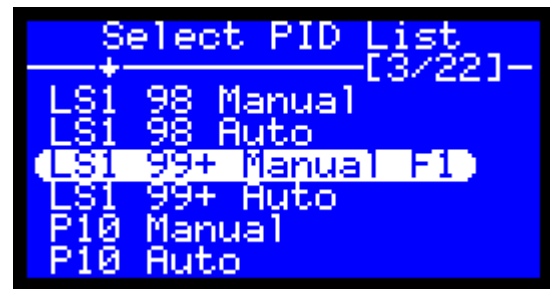


Figure: 16

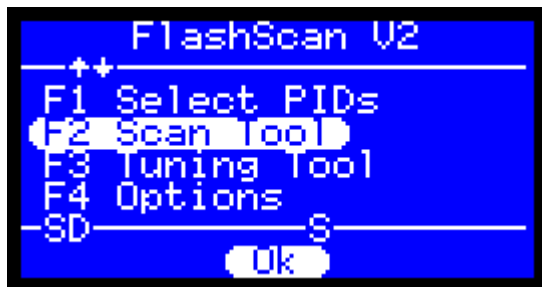


Figure: 17



Figure: 18



Figure: 19

External Wideband AFR	W02AFR1	AFR	-	External	0	EXT.W02AFR1
External Wideband AFR	W02AFR2	AFR	-	External	0	EXT.W02AFR2
External Wideband Lambda	W02LAM1	Lambda	-	External	0	EXT.W02LAM1
External Wideband Lambda	W02LAM2	Lambda	-	External	0	EXT.W02LAM2
External Wideband Sensor State	W02ST1		-	External	0	EXT.W02ST1
External Wideband Sensor State	W02ST2		-	External	0	EXT.W02ST2

Figure: 20

