G2 Injector Diesel Diagnostic Suite Quick Reference Guide

For International and Ford PowerStroke Diesel Engines

IMPORTANT! Please make sure to carefully read these instructions and the G2 Diagnostic Manual before you begin to use the tester.
The G2 Diagnostic Manual is located on the software CD or can be downloaded from our website at www.hickok-inc.com.

G2 Injector Test Procedure
### *for International and Ford Engines*

With the PC Application

1. Connect G2 to the vehicle.

2. Connect G2 to your computer.

3. Start the vehicle and when prompted on the G2, select the vehicle's engine .

4. Open the G2 Injector Diesel Diagnostic Suite on your computer.

5. When prompted on your computer, select the vehicle's manufacturer, engine type, and available adapter.

6. At the Main menu, select **G2 Injector Tester**.

7. At the G2 Injector Test screen, select **Acquire Data** to begin displaying the results on the computer in real time.

Without the PC Application

1. Connect G2 to the vehicle.

2. Start the vehicle.

3. When prompted, select the vehicle's engine.

4. Select the type of sampling (both display numbers in actual time):

   Single Capture—Takes one sampling

   Continuous Capture—Continues to take/display samples until you stop the test.

5. Review the results for each cylinder by pressing **SCROLL**.

Using the G2 Controls
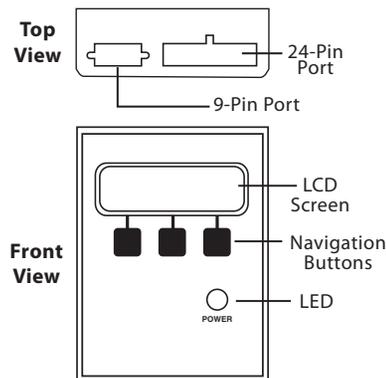
LCD Screen—displays instructions and test results

Navigation Buttons—the function of the buttons are displayed on the screen such as selecting a function (SEL) or a vehicle's engine scrolling through results, or moving to the next step of the test (GO).
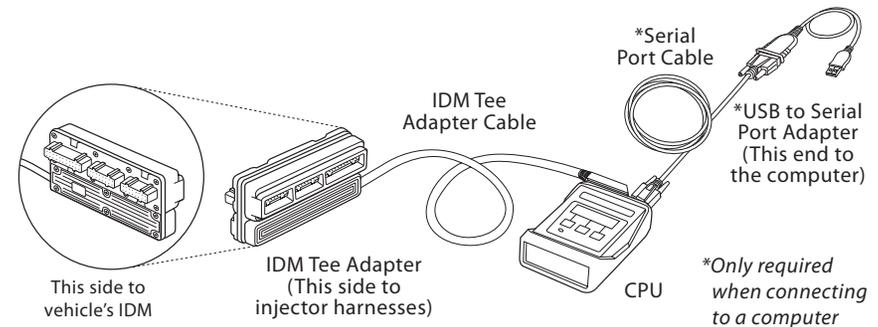
LED —lights when the tester is powered on.

9-Pin Port—connect the Serial Port Cable to this port

24-Pin Port—connect the IDM Tee Adapter Cable to this port.

G2 Injector Test Hookup Procedure
for International and Ford Engines

Note: for MaxxForce Engines, please refer to the hookup procedures included with the optional MaxxForce Adapter Cable

To connect to the vehicle:

In the engine compartment:

1. Disconnect the vehicle harness (X1, X2, and X3) from the IDM/PCM or FICM depending on vehicle.

2. Connect the Tee Adapter to the IDM/PCM or FICM depending on vehicle and secure it using a tie wrap or other device.

⚠ **WARNING**

Failure to properly connect and secure the Tee Adapter can result in connector damage, injector misfire, stalling, etc.

3. Re-connect X1, X2, and X3 to the Tee Adapter.

4. Plug the Tee Adapter cable connector in to the CPU.

5. Securely attach the CPU to an engine compartment component for engine running conditions.

To connect to the computer:

1. Connect to the vehicle as described in the steps above.

2. If you are connecting to a USB port on your computer, attach the USB to Serial Port Adapter to the serial cable.

3. Connect the Serial Cable to the CPU.

See other pages for information on the Oil Pressure Monitor, Cylinder Kill and Fuel System DTC Monitor Procedures.

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G2 Injector Tester Application Overview

SPOOL DELAY VALUES
Range of Spool Delay Values for the current test.

ELAPSED TIME
Displayed in real time, shows the elapsed time since the test began.

TOOL BAR
*Note: The button is grayed out if the function is not available.*

ACQUIRE DATA—Select to begin the test.

STOP—Select to stop test.

CLEAR DATA—Select to clear the current values. Available after stopping a test.

PRINT SCREEN—Select to printout and save a picture of the current window. If a printer is not available, a .jpg file is still saved on the computer's hard drive.

EXIT—Select to exit and close the program. Available after stopping the test.
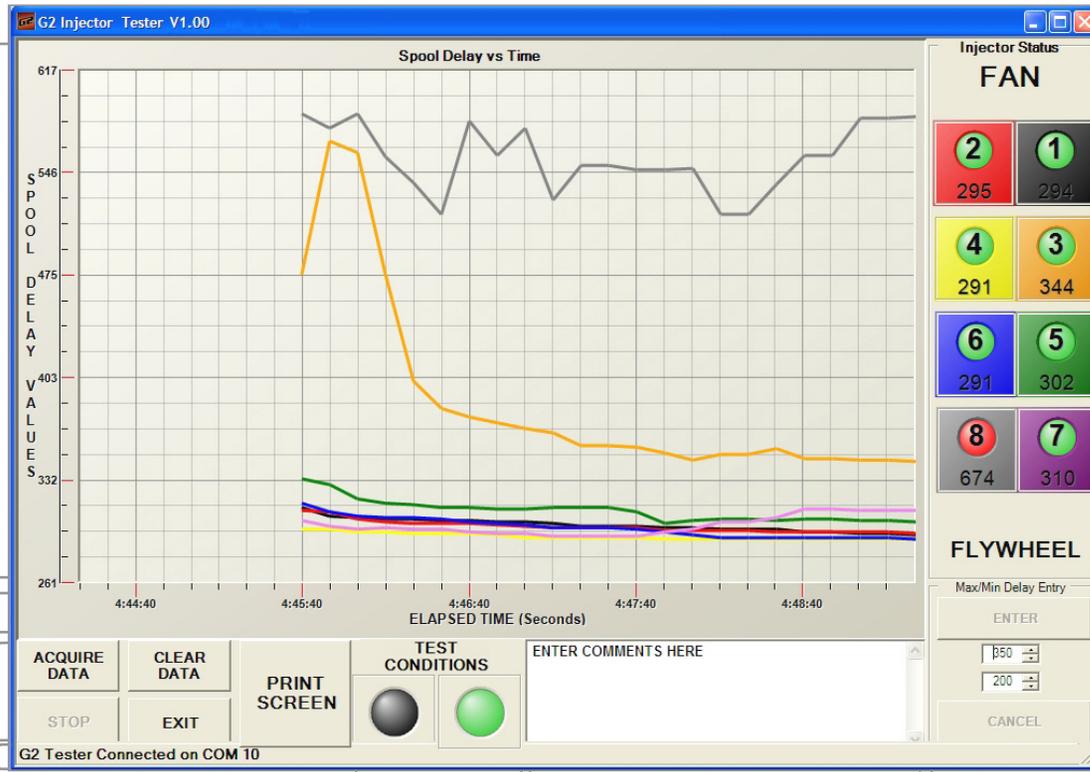
STATUS BAR
Displays the COM port the tester is connected to.

TEST CONDITIONS

Green—The engine is operating within acceptable conditions.

Red—The engine operating conditions will not allow the tester to take measurements. Manually adjust the vehicle's RPM until the circle turns black and the right circle turns green.
Note: Acceptable test conditions can also be achieved by unplugging the ECT and EOT sensors.

ENTER COMMENTS HERE
Using the computer's keyboard, enter desired comments, such as the customer's name, vehicle information, etc. before printing and/or saving a screen shot.
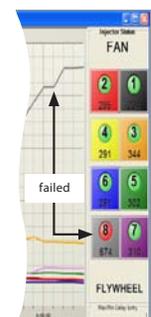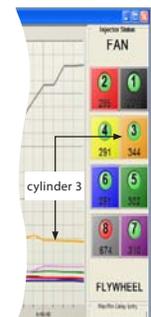
MAX/MIN DELAY ENTRY
Displays the delay values for the engine selected. To manually set Max/Min Delay, use the up/down arrows to change the values and then select ENTER.

INJECTOR STATUS
Displays the engine cylinder layout and the individual test results for *each* injector including the spool delay values. Green indicates a PASS, red indicates a FAIL, for that particular injector.

The cylinder is identified on the graph with the same color as the square surrounding the cylinder number.

Application window

G2 Injector Tester V1.00

Spool Delay vs Time

Y-axis: SPOOL DELAY VALUES — 617, 546, 475, 403, 332, 261

X-axis: ELAPSED TIME (Seconds) — 4:44:40, 4:45:40, 4:46:40, 4:47:40, 4:48:40

Injector Status — **FAN**

2	1
295	294
4	3
291	344
6	5
291	302
8	7
674	310

FLYWHEEL

Max/Min Delay Entry — ENTER — 850 — 200 — CANCEL

ACQUIRE DATA | CLEAR DATA | PRINT SCREEN | TEST CONDITIONS | ENTER COMMENTS HERE
STOP | EXIT

G2 Tester Connected on COM 10

cylinder 3

failed

Oil Pressure Monitor, Cylinder Kill, and Fuel System DTC Monitor Procedures
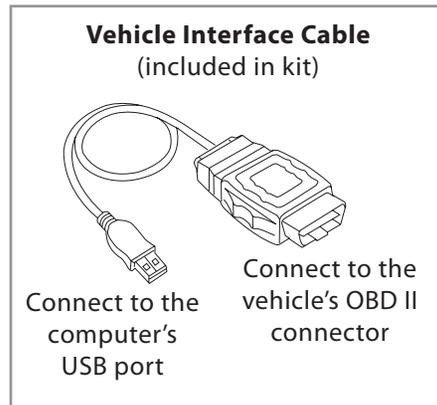
Hookup Procedure *for Ford Engines*

To connect to the vehicle:
1. Remove the cover from the vehicle's OBD II connector (if applicable).
2. Connect the Vehicle Interface Cable to the vehicle's OBD II connector.

To connect to the computer:
1. Connect to the vehicle as described in the steps above.
2. Plug the USB connector into the computer's USB port.

Vehicle Interface Cable
(included in kit)

Connect to the computer's USB port

Connect to the vehicle's OBD II connector

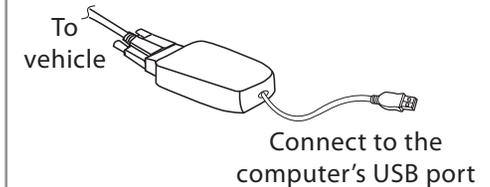## Hookup Procedure *for International Engines*

To connect to the vehicle:
1. Connect the vehicle interface cable (VDA) to the vehicle per normal procedures.

To connect to the computer:
1. Connect to the vehicle as described in the steps above.
2. Plug the USB connector into the computer's USB port.

RP-1210 Compliant Data Link Adapter
(user supplied)

To vehicle

Connect to the computer's USB port

G2 is compatible with the these adapters:

• *Dearborn Group*   • *IC4*   • *NAVCoM*   • *NAV-Link*   • *NEXIQ*

Test Procedures
for International and Ford Engines

1. Connect your computer to the vehicle per the hookup procedure.
2. Start the vehicle.
3. Open the G2 Injector Diesel Diagnostic Suite on your computer.
4. When prompted, select the vehicle's manufacturer, engine type, and available adapter.
5. At the Main menu, select the desired test.
6. At the G2 Injector Test screen, select **Acquire** or **Begin Test** (depending on test selected) to begin displaying the results on the computer in real time.

Information Selection Screen

This screen is displayed when you start the G2 Injector Diesel Diagnostic Suite.

Select the information for the vehicle you are testing and then select **SUBMIT** to proceed to the Main menu.

To clear the information and reselect the vehicle information, select **RESET**.

Main Menu

1. Connect your computer to the vehicle per the hookup procedure.
2. Start the vehicle.
3. Open the G2 Injector Diesel Diagnostic Suite on your computer.
4. When prompted, select the vehicle's manufacturer, engine type, and available adapter.

Cylinder Kill Test

This test automatically kills each cylinder to determine if there are any changes in the fuel rate and engine load to detect a weak cylinder.

FUEL RATE / ENGINE TORQUE RATE
Navistar vehicles—Displays the fuel rate deviation for each cylinder.

Ford vehicles—Displays the engine torque rate for each cylinder.

BEGIN TEST / ABORT TEST
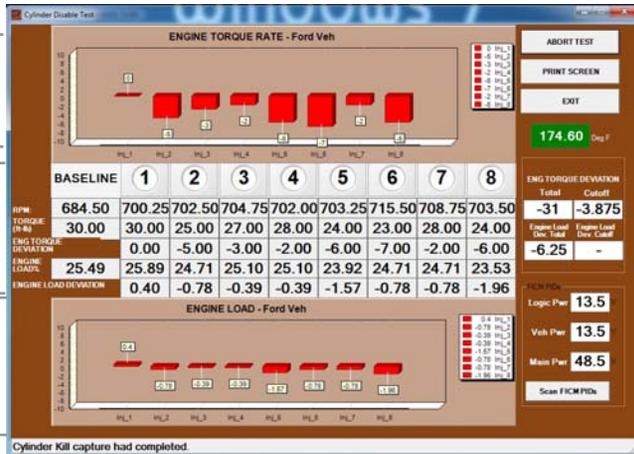Begin Test—Select to start the test.

Abort Test—Select to stop the test once it begins.

PRINT SCREEN
Select to printout and save a picture of the current window. If a printer is not available, a .jpg file is still saved on the computer's hard drive.

EXIT
Select to exit and close the program.

ENGINE LOAD
Displays the engine load deviation for each cylinder.

ENG TORQUE DEVIATION
Displays the calculations of all cylinder deviations

FICM PIDs
Displays Ford FICM voltage information. Select Scan FICM PIDs to display the current snapshot.

ENGINE OIL TEMPERATURE
Displays current engine oil temperature

RED —Not at optimum temperature for accurate test results.

GREEN—Optimum temperature for accurate test results reached.

NUMERICAL DATA
Displays the various results for each cylinder

Oil Pressure Monitor

INJECTOR CONTROL PRESSURE
Range of PSI Values for the current test.
Note: The numerical value is displayed below the graph

ICP PSI
Displays the numerical value for the current high pressure oil system.

IPR VALUE
Displays the current duty cycle percentage of the IPR.
Note: This is not available for MaxxForce vehicles.

ELAPSED TIME
Displayed in real time, shows the elapsed time since the test began.

TOOL BAR
Note: The button is grayed out if the function is not available.

ACQUIRE DATA—Select to begin the test.

STOP—Select to stop test.

CLEAR—Select to clear the current values. Available after stopping a test.

PRINT SCREEN—Select to printout and save a picture of the current window. If a printer is not available, a .jpg file is still saved on the computer's hard drive.

EXIT—Select to exit and close the program. Available after stopping the test.

Fuel System DTC Monitor

DTC MONITOR WINDOW
Displays information regarding the found system related DTCs

SCAN FOR DTCs
Select to check for and display any fuel system related DTCs.

PRINT SCREEN
Select to printout and save a picture of the current window. If a printer is not available, a .jpg file is still saved on the computer's hard drive.

EXIT
Select to exit and close the program.

For Technical Support: 1-800-342-5080