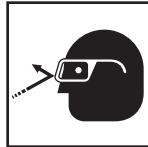


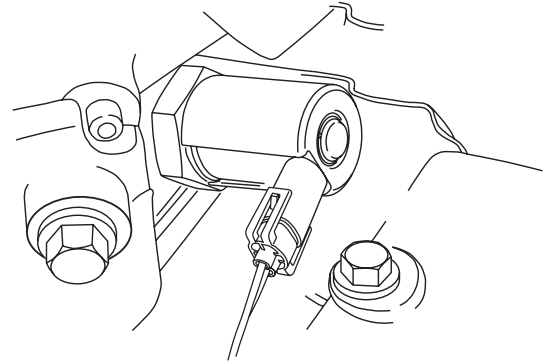
## IPR Controller

*Application: Diagnosing Hard Start / No Start on Ford 6.0L Diesel Engines*



**CAUTION: To prevent personal injury, wear eye protection that meets ANSI Z87.1 and OSHA standards.**

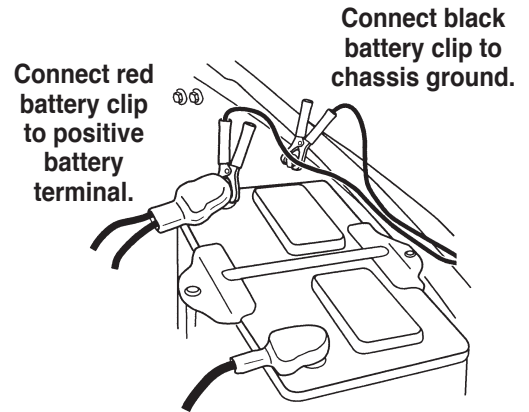
1. Verify base engine oil pressure. The low pressure oil system must be working correctly in order for the high pressure oil system to build pressure. This includes adequate baseline oil pressure and good quality, correctly maintained oil.
2. Connect a diagnostic tool (OTC Pegisys, Genisys, Nemisys, or equivalent) to the vehicle's OBD II connector.
3. Check ICP (injector control pressure) voltage with Key ON Engine OFF. If voltage is not between 0.15V and 0.35V, do not continue with this test procedure. Refer to the vehicle service manual to diagnose why the ICP voltage is not in normal operating range.
4. Verify the vehicle batteries are fully charged.
5. Select and monitor the following parameters from the scan tool parameter list :
  - a. ICP—injector control pressure
  - b. ICP Voltage—injector control pressure voltage
  - c. IPR—injection pressure regulator duty cycle
  - d. RPM—engine speed
6. Disconnect the IPR (injection pressure regulator) harness. Connect OTC No. 6764 IPR Controller directly to the IPR. Find the best access point for the connection, depending on the model year of the vehicle. Rotate the IPR valve body if necessary. See Figure 1.



**Figure 1**

Model Year	Recommended IPR Controller Access Points
2003	Top of engine
2004	Top or bottom of engine
2005 through 2007	Bottom of engine <i>Note: These models have a shield that blocks IPR access from the top of the engine. Remove the shield if an IPR access point is needed at the top of the engine.</i>

7. Connect the battery clamps from the tool to a known good, 12-volt source; the vehicle battery is recommended. See Figure 2.
8. Turn the power switch on the tool to the ON position.
9. Crank the engine and monitor ICP pressure.
  - If ICP pressure is not within specifications, proceed with OTC No. 6763 Air Pressure Test (ICP) test procedures.
  - If ICP pressure is within specifications, continue with normal diagnosis.



**Figure 2**

**Normal Start Response Specifications**

<b>ICP Pressure</b>	500 psi (3.5 MPa) minimum ICP should reach 500 psi (3.5 MPa) within five (5) seconds of cranking engine. Normal crank time is 3–5 seconds.
<b>ICP Voltage</b>	0.80 volts minimum
<b>IPR Duty Cycle</b>	45%—85%
<b>Engine Speed</b>	150 RPM