

## Fuel Charging and Controls - 2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) - Fuel Charging and Controls

Mondeo 2001 (10/2000-02/2007)

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### Diagnosis and Testing

#### Inspection and Verification

1. Verify the customer concern.
2. Visually inspect for obvious signs of mechanical or electrical damage.

#### Visual Inspection Chart

Mechanical	Electrical
<ul style="list-style-type: none"> <li>Fuel leak(s)</li> <li>Gasket(s)/seal(s)</li> <li>Fuel injector(s)</li> <li>Throttle body</li> <li>Fuel injection supply manifold</li> </ul>	<ul style="list-style-type: none"> <li>Wiring harness</li> <li>Electrical connector(s)</li> <li>Fuel injector(s)</li> </ul>

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.
4. If the cause is not visually evident, verify the symptom and refer to the Symptom Chart.

### Symptom Chart

#### Symptom Chart

Symptom	Possible Sources	Action
Engine does not crank	* PATS.	* CHECK the PATS LED extinguishes within 3 seconds when the ignition is turned on. REFER to: Anti-Theft - Passive (419-01B, Diagnosis and Testing).
	* Starting system.	* REFER to: Starting System (303-06 Starting System, Diagnosis and Testing).
	* Ignition switch.	* REFER to the Wiring Diagrams.
	* Powertrain control module (PCM).	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
Engine cranks but does not start	* Inertia fuel shutoff (IFS) switch.	* RESET the IFS switch.
	* Fuel filter blocked.	* INSTALL a new fuel filter. REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi (MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation).
	* Fuel lines damaged or blocked.	* INSPECT the fuel lines. INSTALL new components as necessary. TEST the system for normal operation.
	* Fuel pump module.	* REFER to: Fuel Tank and Lines (310-01 Fuel Tank and Lines, Diagnosis and Testing).
	* Low fuel system pressure.	* Check the fuel system pressure. REFER to WDS.

	* Crankshaft position (CKP) sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Camshaft position (CMP) sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* PCM.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injection supply manifold fuel pressure sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injectors.	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.
	* Incorrect valve timing.	* CHECK the valve timing.
	* Low cylinder compression.	* TEST the cylinder compression.
Poor starting	* Fuel filter blocked.	* INSTALL a new fuel filter. REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi (MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation).
	* Low fuel system pressure.	* Check the fuel system pressure. Check the fuel system pressure. REFER to WDS.
	* Air cleaner element blocked.	* INSTALL a new air cleaner element.
	* Fuel system leak.	* CHECK the system for fuel leak(s). REPAIR the system as necessary.
	* Fuel system restriction.	* INSPECT the fuel system. INSTALL new components as necessary. TEST the system for normal operation.
	* Incorrect engine oil.	* INSTALL a new engine oil filter and engine oil.
	* Incorrect power steering fluid.	* DRAIN and REFILL the power steering system with the correct fluid. REFER to: Power Steering System Flushing - 2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (211-00, General Procedures).
	* CKP sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Engine coolant temperature (ECT) sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injector(s).	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.
	* Fuel injection supply manifold fuel pressure sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Catalytic converter blocked.	* REMOVE and visually INSPECT the catalytic converter for damage. INSTALL a new catalytic converter as

Engine starts but immediately stops		necessary. REFER to: Catalytic Converter - 2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6) (309-00, Removal and Installation) / Catalytic Converter LH - 3.0L Duratec-ST (VE6) (309-00, Removal and Installation) / Catalytic Converter RH - 3.0L Duratec-ST (VE6) (309-00, Removal and Installation).
	* Low cylinder compression.	* TEST the engine cylinder compression.
	* Air cleaner element blocked.	* INSTALL a new air cleaner element.
	* CKP sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* CMP sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* PCM.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
Poor idling	* Low fuel system pressure.	* Check the fuel system pressure. REFER to WDS.
	* Air cleaner element blocked.	* INSTALL a new air cleaner element.
	* Fuel filter blocked.	* INSTALL a new fuel filter. REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi (MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation).
	* Incorrect or contaminated fuel.	* CHECK for signs of contamination such as strange odors from the fuel tank. * If contaminated fuel is found, DRAIN the complete fuel system. FLUSH the fuel system through with clean gasoline. REFER to: Fuel Tank Draining (310-00 Fuel System - General Information, General Procedures). INSTALL a new fuel filter. REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi (MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation). * INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out. * INSTALL a new fuel injection supply manifold. REFER to: Fuel Injection Supply Manifold (303-04B Fuel Charging and Controls - 1.8L Duratec-HE (MI4)/2.0L Duratec-HE (MI4),

		Removal and Installation).
	* Knock sensor (KS).	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injectors.	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.
	* CKP sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injection supply manifold fuel pressure sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Low fuel system pressure.	* Check the fuel system pressure. REFER to WDS.
Engine stumbling	* Engine ignition.	* REFER to: Engine Ignition (303-07C, Diagnosis and Testing).
	* Fuel injectors.	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.
	* Fuel injection supply manifold fuel pressure sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Low fuel system pressure.	* Check the fuel system pressure. REFER to WDS.
Engine lacks power	* Engine ignition.	* REFER to: Engine Ignition (303-07C, Diagnosis and Testing).
	* Brakes binding.	* CHECK the braking system. REFER to: Brake System (206-00, Diagnosis and Testing).
	* Vehicle overloaded, or excessive wind resistance (roof racks, towing etc).	* ADVISE the customer about the effects of overloading the vehicle and wind resistance on the fuel consumption.
	* Air cleaner element blocked.	* INSTALL a new air cleaner element as necessary.
	* Fuel filter blocked.	* INSTALL a new fuel filter. REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi (MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation).
	* Low fuel system pressure.	* Check the fuel system pressure. REFER to WDS.
	* Kinked or restricted fuel lines.	* INSPECT the fuel lines. INSTALL new components as necessary. TEST the system for normal operation.
	* Incorrect or contaminated fuel.	* CHECK for signs of contamination such as strange odors from the fuel tank. * If contaminated fuel is found, DRAIN the complete fuel system. FLUSH the fuel system through with clean gasoline. REFER to: Fuel Tank Draining (310-00 Fuel System - General Information, General Procedures). INSTALL a new fuel filter. REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi

		<p>(MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation).</p> <p>* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.</p> <p>* INSTALL a new fuel injection supply manifold. REFER to: Fuel Injection Supply Manifold - 2.5L Duratec-VE (VE6) (303-04C, Removal and Installation) / Fuel Injection Supply Manifold - 3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (303-04C, Removal and Installation).</p>
	* Vehicle speed sensor (VSS).	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* ECT sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injectors.	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.
	* Fuel injection supply manifold fuel pressure sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Incorrect valve timing.	* CHECK the valve timing.
	* Low cylinder compression.	* CHECK the cylinder compression.
	* Catalytic converter blocked.	<p>* REMOVE and visually INSPECT the catalytic converter for damage. INSTALL a new catalytic converter as necessary. REFER to: Catalytic Converter - 2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6) (309-00, Removal and Installation) / Catalytic Converter LH - 3.0L Duratec-ST (VE6) (309-00, Removal and Installation) / Catalytic Converter RH - 3.0L Duratec-ST (VE6) (309-00, Removal and Installation).</p>
Black smoke at idle	* Air cleaner element blocked.	* INSTALL a new air cleaner element as necessary.
	* Fuel injectors.	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.
	* ECT sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injection supply manifold fuel pressure sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.

Excessive black smoke during acceleration	* Catalytic converter blocked.	* REMOVE and visually INSPECT the catalytic converter for damage. INSTALL a new catalytic converter as necessary. REFER to: Catalytic Converter - 2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6) (309-00, Removal and Installation) / Catalytic Converter LH - 3.0L Duratec-ST (VE6) (309-00, Removal and Installation) / Catalytic Converter RH - 3.0L Duratec-ST (VE6) (309-00, Removal and Installation).
	* Incorrect valve timing.	* CHECK the valve timing.
	* Air cleaner element blocked.	* INSTALL a new air cleaner element as necessary.
	* Incorrect or contaminated fuel.	* CHECK for signs of contamination such as strange odors from the fuel tank. * If contaminated fuel is found, DRAIN the complete fuel system. FLUSH the fuel system through with clean gasoline. REFER to: Fuel Tank Draining (310-00 Fuel System - General Information, General Procedures). INSTALL a new fuel filter. REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi (MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation). * INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out. * INSTALL a new fuel injection supply manifold. REFER to: Fuel Injection Supply Manifold (303-04B Fuel Charging and Controls - 1.8L Duratec-HE (MI4)/2.0L Duratec-HE (MI4), Removal and Installation).
	* Knock sensor (KS).	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* CKP sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injectors.	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.
	* Fuel injection supply manifold fuel pressure sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Catalytic converter blocked.	* REMOVE and visually INSPECT the catalytic converter for damage. INSTALL a new catalytic converter as necessary.

		<p>REFER to: Catalytic Converter - 2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6) (309-00, Removal and Installation) /</p> <p>Catalytic Converter LH - 3.0L Duratec-ST (VE6) (309-00, Removal and Installation) /</p> <p>Catalytic Converter RH - 3.0L Duratec-ST (VE6) (309-00, Removal and Installation).</p>
Black smoke at cruising speeds	* Air cleaner element blocked.	* INSTALL a new air cleaner element.
	* ECT sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injectors.	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.
	* Fuel injection supply manifold fuel pressure sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Catalytic converter blocked.	<p>* REMOVE and visually INSPECT the catalytic converter for damage. INSTALL a new catalytic converter as necessary.</p> <p>REFER to: Catalytic Converter - 2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6) (309-00, Removal and Installation) /</p> <p>Catalytic Converter LH - 3.0L Duratec-ST (VE6) (309-00, Removal and Installation) /</p> <p>Catalytic Converter RH - 3.0L Duratec-ST (VE6) (309-00, Removal and Installation).</p>
Blue smoke	* Engine burning oil.	* CARRY OUT a controlled oil consumption test over 1000 km (600 miles). CONFIRM that the oil consumption is less than 0.1 litre per 1000 km (600 miles).
	* Incorrect or contaminated fuel.	<p>* CHECK for signs of contamination such as strange odors from the fuel tank.</p> <p>* If contaminated fuel is found, DRAIN the complete fuel system. FLUSH the fuel system through with clean gasoline.</p> <p>REFER to: Fuel Tank Draining (310-00 Fuel System - General Information, General Procedures).</p> <p>INSTALL a new fuel filter.</p> <p>REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi (MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation).</p> <p>* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.</p> <p>* INSTALL a new fuel injection supply</p>



		<p>manifold. REFER to: Fuel Injection Supply Manifold - 2.5L Duratec-VE (VE6) (303-04C, Removal and Installation) / Fuel Injection Supply Manifold - 3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (303-04C, Removal and Installation).</p>
	* Positive crankcase ventilation (PCV) system.	* INSPECT for visible signs of damage or blockage. CLEAN, REPAIR or INSTALL new parts as necessary.
	* Worn or damaged valve guide(s), piston ring(s), cylinder bore(s), cylinder head or gasket.	* REMOVE the cylinder head. INSPECT the cylinder head, pistons and cylinder bores for signs of wear or damage. REFER to: Cylinder Head (303-01C, ).
White smoke	* Incorrect or contaminated fuel.	<p>* CHECK for signs of contamination such as strange odors from the fuel tank.</p> <p>* If contaminated fuel is found, DRAIN the complete fuel system. FLUSH the fuel system through with clean gasoline. REFER to: Fuel Tank Draining (310-00 Fuel System - General Information, General Procedures). INSTALL a new fuel filter. REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi (MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation).</p> <p>* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.</p> <p>* INSTALL a new fuel injection supply manifold. REFER to: Fuel Injection Supply Manifold - 2.5L Duratec-VE (VE6) (303-04C, Removal and Installation) / Fuel Injection Supply Manifold - 3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (303-04C, Removal and Installation).</p>
	* Coolant in the combustion chamber.	* CARRY OUT a cooling system pressure test. REFER to: Engine Cooling (303-03, Diagnosis and Testing). REMOVE the cylinder head. INSPECT the cylinder head, cylinder head gasket and cylinder bores for wear or damage. REFER to: Cylinder Head (303-01C, ).
Engine misfire	* Engine ignition.	* REFER to: Engine Ignition (303-07C, Diagnosis and Testing).
	* Incorrect or contaminated fuel.	<p>* CHECK for signs of contamination such as strange odors from the fuel tank.</p> <p>* If contaminated fuel is found, DRAIN</p>



	<p>the complete fuel system. FLUSH the fuel system through with clean gasoline.</p> <p>REFER to: Fuel Tank Draining (310-00 Fuel System - General Information, General Procedures).</p> <p>INSTALL a new fuel filter.</p> <p>REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi (MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation).</p> <p>* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.</p> <p>* INSTALL a new fuel injection supply manifold.</p> <p>REFER to: Fuel Injection Supply Manifold - 2.5L Duratec-VE (VE6) (303-04C, Removal and Installation) /</p> <p>Fuel Injection Supply Manifold - 3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (303-04C, Removal and Installation).</p>
* Engine operating temperature too high.	* REFER to: Engine Cooling (303-03 Engine Cooling, Diagnosis and Testing).
* Knock sensor (KS).	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
* ECT sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
* CKP sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
* CMP sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
* Fuel injectors.	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.
* Fuel injection supply manifold fuel pressure sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
* Low cylinder compression.	* CHECK the engine compression.
* Worn or damaged valve(s), tappet(s) or camshaft(s).	* REMOVE the cylinder head. INSPECT the cylinder head, valves, tappets and camshafts for signs of wear or damage. REFER to: Cylinder Head (303-01C, ).
* Damaged cylinder head gasket.	* REMOVE the cylinder head. INSPECT the cylinder head gasket and cylinder bores for wear or damage. REFER to: Cylinder Head (303-01C, ).
* Low fuel system pressure.	* Check the fuel system pressure. REFER to WDS.

Engine knock at idle	* Low engine oil level.	* CHECK the engine oil level. REFILL as necessary.
	* Incorrect or contaminated fuel.	<p>* CHECK for signs of contamination such as strange odors from the fuel tank.</p> <p>* If contaminated fuel is found, DRAIN the complete fuel system. FLUSH the fuel system through with clean gasoline. REFER to: Fuel Tank Draining (310-00 Fuel System - General Information, General Procedures). INSTALL a new fuel filter. REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi (MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation).</p> <p>* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.</p> <p>* INSTALL a new fuel injection supply manifold. REFER to: Fuel Injection Supply Manifold - 2.5L Duratec-VE (VE6) (303-04C, Removal and Installation) / Fuel Injection Supply Manifold - 3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (303-04C, Removal and Installation).</p>
	* Knock sensor (KS).	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* CKP sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injector(s).	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.
	* Incorrect valve timing.	* CHECK the valve timing.
	* Excessive carbon build up.	* REMOVE the cylinder head. INSPECT the cylinder head and pistons for signs carbon build up. REFER to: Cylinder Head (303-01C, ).
Engine knock during acceleration	* Worn or damaged oil pump. * Worn or damaged timing chain or sprocket. * Major mechanical engine failure.	* INSPECT the engine components.
	* KS.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injectors.	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.

<p>NOTE: Before proceeding with any of the actions in relation to the possible sources for excessive fuel consumption, a fuel consumption test located in the toolbox menu of WDS must be performed.</p> <p>Excessive fuel consumption</p>	* Major mechanical engine failure.	* REFER to: Engine (303-01C, Diagnosis and Testing).
	* Brakes binding.	* CHECK the braking system. REFER to: Brake System (206-00, Diagnosis and Testing).
	* Vehicle overloaded, or excessive wind resistance (roof racks, towing etc).	* ADVISE the customer about the effects of overloading the vehicle and wind resistance on the fuel consumption.
	* Air cleaner element blocked.	* INSTALL a new air cleaner element.
	* Fuel filter blocked.	* INSTALL a new fuel filter. REFER to: Fuel Filter - 1.8L Duratec-HE (MI4)/1.8L Duratec-SCi (MI4)/2.0L Duratec-HE (MI4)/2.5L Duratec-VE (VE6)/3.0L Duratec-SE (VE6)/3.0L Duratec-ST (VE6) (310-01 Fuel Tank and Lines, Removal and Installation).
	* Fuel system leak(s).	* CHECK the system for fuel leak(s). REPAIR or INSTALL new parts as necessary.
	* Incorrect engine oil.	* INSTALL a new oil filter and engine oil.
	* Generator.	* REFER to WDS.
	* Slipping clutch.	* REFER to: Manual Transaxle and Clutch (308-00, Diagnosis and Testing).
	* ECT sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injectors.	* INSPECT the fuel injectors. CLEAN the fuel injectors or INSTALL a new set of injectors as required only after the checks have been carried out.
	* PCM calibration.	* Using WDS, CHECK for the availability of a calibration update.
	* Incorrect valve timing.	* CHECK the valve timing.
	* Low cylinder compression.	* CHECK the engine compression.
Engine cuts out during hard acceleration	* CMP sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* CKP sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Fuel injection supply manifold fuel pressure sensor.	* Carry out a full engine diagnosis using the guided diagnostic menu in WDS.
	* Low fuel system pressure.	* Check the fuel system pressure. REFER to WDS.