

## **White Smoke Service Tips For GM 6.6L LB7 Duramax Engines**



A common issue with the GM 6.6L LB7 Duramax engine is white smoke at idle. Worn and damaged injectors are often the cause however there are other causes and considerations that should be looked at prior to injector replacement.

### **Injectors Stuck Open or With Excessively Leaking Nozzles Diagnosis**

1. Remove IGN 1 relay.
2. Remove the glow plug from the suspect cylinder(s).
3. Crank the engine and check for fuel spray coming out of the glow plug hole. **Caution:** Make sure you are not in front of the glow plug hole during this process.
4. Replace any injectors on the cylinders that spray fuel. During this step make sure it was fuel and not coolant that was discharged.
5. Change the engine oil and filter.

### **Coolant Leaking Into Cylinder Diagnosis**

1. Coolant may enter the cylinder from a damaged seal between the fuel injector sleeve and the cylinder head. The injector sleeve is often dislodged during an injector removal.
2. Remove the glow plugs and the IGN 1 relay and pressurize the cooling system to 15-17 PSI.
3. Crank the engine and check for coolant spray coming out of the glow plug hole. **Caution:** Make sure you are not in front of the glow plug hole during this process.
4. If no coolant is present and the vehicle has a history of low coolant level, check the rest of the cooling system, head gaskets and the EGR cooler for leaks.

### **Glow Plug + Intake Air Heater Check**

The Glow Plug System continues to operate for a time after a cold start to reduce white smoke and improve idle quality. Perform a glow plug system and intake air heater check even if there is no complaint of a cold start problem.

### **Other Items To Check**

1. Engine compression.
2. Dilution of the oil with fuel.
3. Engine coolant temperature sensor.
4. Rail pressure sensor.
5. Proper fuel supply to the high-pressure pump
6. Fuel Rail Pressure Regulator (FRPR) operation.

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