



# Achieve Optimal 6.0L Power Stroke® Diesel Injector Performance

The 6.0L Power Stroke Diesel Engine utilizes a hydraulic injection system where high pressure engine oil is used to compress diesel fuel. The fuel injector is used to precisely control the delivery of the fuel into the combustion chamber. Following appropriate maintenance intervals and using the proper Motorcraft Original Equipment parts will ensure optimal injector durability.

## Normal and Special Operating Conditions:

Customers use Power Stroke Diesel engines for a variety of applications, creating a need for two distinct maintenance interval schedules. The first schedule, called "Normal Operating Conditions", applies to most personal use vehicles. The second schedule, called "Special Operating Conditions", applies to many commercial use applications, including:

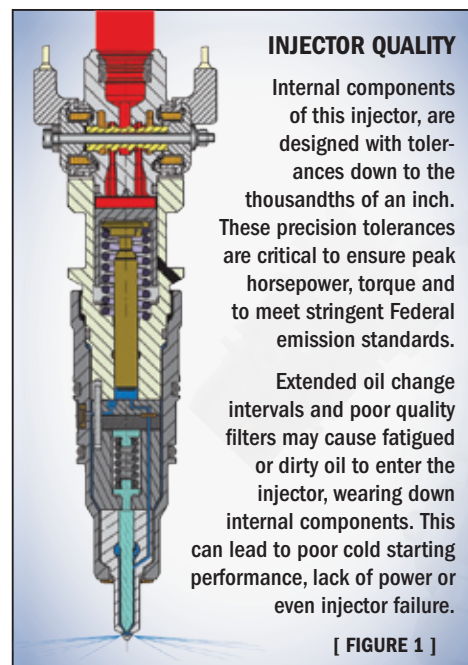
- Frequent or extended idling
  - Over 10 minutes per hour of normal driving
  - Frequent low speed operation
  - Sustained heavy traffic less than 25 MPH (40 KMH)
    - One hour of idle time, is equal to approximately 25 miles (40 km) of driving
- If vehicle is operated in sustained ambient temperatures below -10°F (-23°C) or above 100°F (38°C)
- Operating in severe dust or off-road conditions
- Towing a trailer over 1,000 miles (1,600 km)
- Sustained, high speed driving at Gross Vehicle Weight Rating (maximum loaded weight for vehicle operation)
- Use of any Biodiesel
  - B5 is the maximum allowable blend to be used in any Power Stroke® Diesel

## Oil Change Intervals:

Under Normal Operating Conditions, oil and filter changes are specified every 7,500 miles (12,000 km). If the Special Operating Conditions schedule applies to your vehicle, oil and oil filter changes should be performed every 5,000 miles (8,000 km), three months or 200 hours of operation (whichever occurs first). For engines that experience high idle times, maintenance intervals should be based on engine hours as opposed to mileage (F-Series trucks built after 2004 are all equipped with hour meters).

## Fuel System Maintenance Intervals:

Fuel filters are specified to be replaced at every other oil change. Under Special Operating Conditions, both fuel filters should be replaced every 10,000 miles (16,000 km), six months or 400 engine hours (whichever occurs first). Following the appropriate maintenance intervals will help ensure adequate fuel pressure. Figure 1 shows that diesel fuel acts not only as a lubricant for the injector, but also as a cushion, preventing metal on metal contact of the internal components. If adequate fuel pressure is not attained, the internal components can wear down, and lead to injector misfires or injector failure.



## Bottom Line:

Proper maintenance of the 6.0L oil and fuel systems will ensure optimal injector durability. Clean oil is necessary to protect the precise internal components, while adequate base fuel pressure lubricates and cushions the injectors. Based on your driving habits, maintenance should be performed according to the Normal or Special Operating Conditions schedule. High idle times should be monitored and maintenance should be performed every 200 engine hours. Following the recommended maintenance intervals and using Genuine Motorcraft filters will allow the fuel injectors to provide the power and performance that Power Stroke Diesel owners demand.

