



GROUP
Engine

MODEL
All GDI equipped
models

NUMBER
PS315

DATE
May 2014



TECHNICAL OPERATIONS

SUBJECT:

GDI INJECTOR SPRAY TIP DEPOSITS

A design feature of vehicles equipped with a Gasoline Direct Injection (GDI) system is the placement of each fuel injector directly into the engine cylinder head assembly. Therefore, it is completely normal for the combustion process to create deposits on the injector spray tip surfaces. Although spray tip deposits may appear to be heavy enough to affect injector performance, there is actually no change in the fuel delivery or spray pattern. GDI injectors operate at high pressure and deliver fuel through small spray orifices near the center of the injector tip, at a high velocity. As a result, combustion deposits that form near the injector spray orifices are washed away as fuel is delivered. In addition, the injector ball and seat are engineered to reduce any potential effects of carbon coking.

NOTE: Ultra-sonic or mechanical cleaning of GDI fuel injectors should never be done in an attempt to improve vehicle drivability or injector performance. Attempting to remove spray tip deposits through mechanical means, such as wire brush cleaning or scraping, will damage the spray orifices and degrade injector performance.



The internals of the Injector are designed to minimize the formation of deposits



New injector showing location of Spray Orifices



Normal injector appearance while in service