

## LOW OR NEGATIVE FUEL PRESSURE

Internal injector damage can be caused by lack of fuel system supply pressure. Restricted fuel filters and/or fuel line(s), or an inoperative fuel pump can create a low or negative fuel supply pressure. Low or negative pressures may allow the injector intensifier plunger to over shoot and impact the lower assembly, leading to internal injector damage.

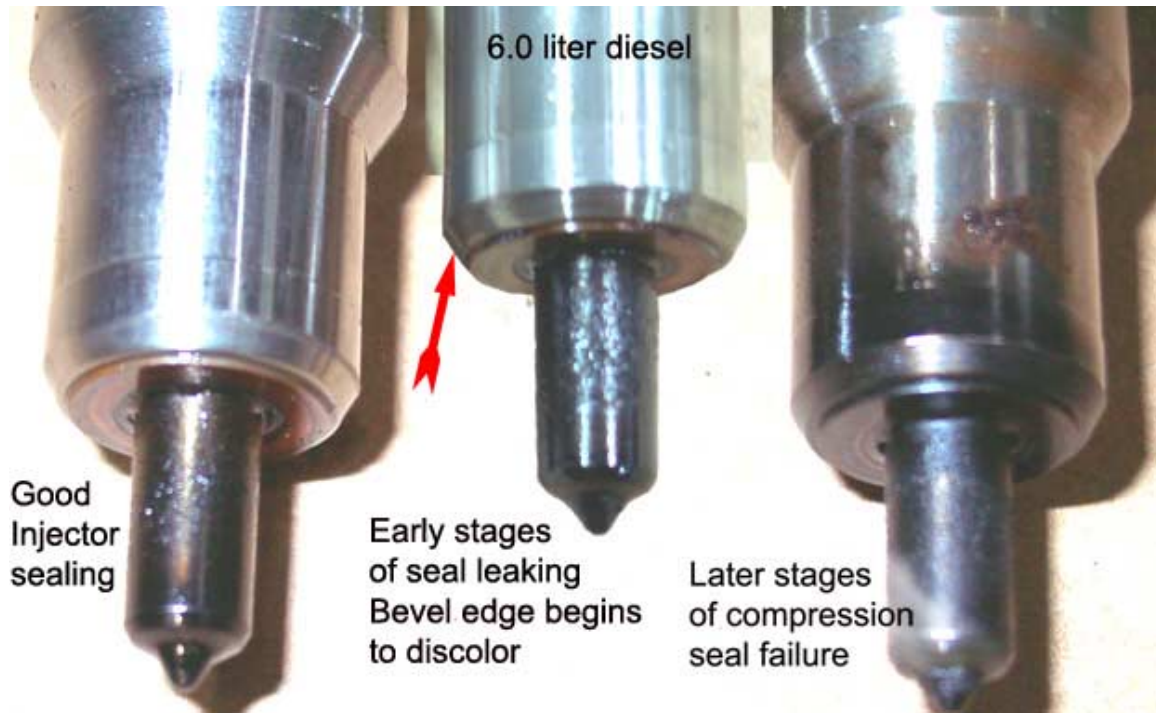
***\*\*Before replacing any injectors, Perform standard diagnostic procedures including verification of supply fuel pressure while the symptom is evident, Minimum Fuel Pressure Spec "UNDER LOAD" (45 PSI)***

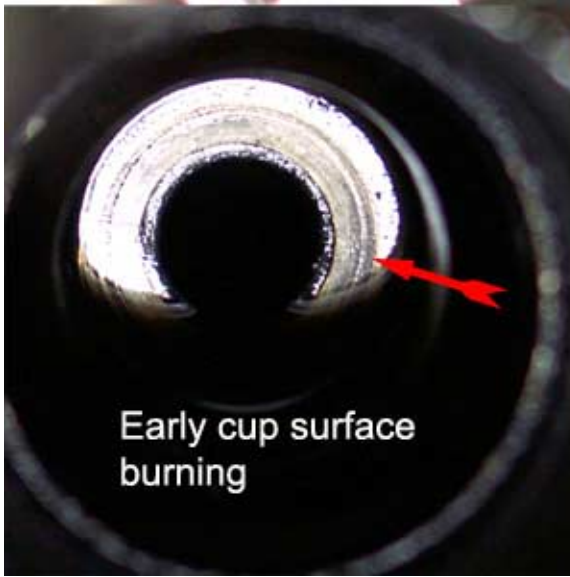
Utilizing WDS power balance may indicate low contributing cylinders. Internally broken injectors will consistently show no contribution. Injector(s) affected (inconsistent contribution) by other injector(s) leaking combustion to the fuel rail, will not need replacement and will only indicate erratic contribution on WDS power balance.

Following the procedures in TSB 04-23-03 will identify combustion leaking injectors. Replace non-contributing injectors and combustion leaking injectors only. Keep in mind high oil pressure system faults, wiring shorts, and FICM malfunctions, may also cause non-contributing injectors.

NOTE: Both fuel filters should be changed every 15,000 miles (24,000 km) or earlier depending on fuel quality.

**Below are pictures of good and failed injectors and injector cups. It is important to inspect the injector cups for damage in order to prevent repeat injector failures. If there is damage to the injector cup, the cooper washer will not seal.**





Early cup surface  
burning



Good clean sealing  
surface