

# 1981 Fuel Systems

## DIESEL FUEL INJECTION TROUBLE SHOOTING

CONDITION & POSSIBLE CAUSE	CONDITION & POSSIBLE CAUSE
<p><b>Engine Cranks But Will Not Start</b></p> <ul style="list-style-type: none"> <li>● Incorrect starting procedure.</li> <li>● No voltage to fuel solenoid.</li> <li>● Faulty glow plugs or glow plug control system.</li> <li>● Plugged fuel return system.</li> <li>● No fuel to nozzles.</li> <li>● No fuel to injection pump.</li> <li>● Clogged fuel tank filter.</li> <li>● Incorrect or contaminated fuel.</li> <li>● Incorrect pump timing.</li> </ul> <p><b>Engine Starts But Stalls at Idle</b></p> <ul style="list-style-type: none"> <li>● Incorrect slow idle adjustment.</li> <li>● Faulty fast idle solenoid.</li> <li>● Plugged fuel return system.</li> <li>● Glow plugs turn off too soon.</li> <li>● Incorrect pump timing.</li> <li>● Limited fuel to injection pump.</li> <li>● Air in injection lines to nozzles.</li> <li>● Incorrect or contaminated fuel.</li> <li>● Faulty injection pump.</li> <li>● Fuel solenoid closes in "RUN" position.</li> </ul> <p><b>Engine Starts, Idles Rough Without Unusual Noise Or Smoke</b></p> <ul style="list-style-type: none"> <li>● Incorrect slow idle adjustment.</li> <li>● Leaking injection line.</li> <li>● Plugged fuel return line.</li> <li>● Air in lines to nozzles.</li> <li>● Internal fuel leak at nozzles.</li> <li>● Faulty nozzle.</li> <li>● Improper or contaminated fuel.</li> <li>● Uneven fuel distribution.</li> </ul> <p><b>Engine Starts and Idles Rough With Excessive Noise and/or Smoke</b></p> <ul style="list-style-type: none"> <li>● Incorrect pump timing.</li> <li>● Air in injection lines to nozzles.</li> <li>● Faulty nozzles.</li> <li>● Improperly installed high pressure lines.</li> </ul>	<p><b>Engine Idles Correctly, But Misfires Above Idle</b></p> <ul style="list-style-type: none"> <li>● Plugged fuel filter.</li> <li>● Incorrect pump timing.</li> <li>● Incorrect or contaminated fuel.</li> </ul> <p><b>Engine Will Not Return To Idle</b></p> <ul style="list-style-type: none"> <li>● Linkage binding or maladjusted.</li> <li>● Defective injection pump.</li> </ul> <p><b>Fuel Leaks on Ground, No Other Engine Malfunction</b></p> <ul style="list-style-type: none"> <li>● Loose or broken fuel line or connection.</li> <li>● Internal seal leak at injection pump.</li> </ul> <p><b>Low Engine Power</b></p> <ul style="list-style-type: none"> <li>● Restricted air intake.</li> <li>● Plugged fuel filter.</li> <li>● Restricted fuel return system.</li> <li>● Restricted fuel supply from tank to pump.</li> <li>● Incorrect or contaminated fuel.</li> <li>● Restricted fuel tank filter.</li> <li>● Compression leaks at nozzles or glow plugs.</li> <li>● Plugged nozzle(s).</li> </ul> <p><b>"Rapping" Noise From One or More Cylinders</b></p> <ul style="list-style-type: none"> <li>● Air in fuel system.</li> <li>● Air in high pressure lines.</li> <li>● Nozzle sticking in open position; low nozzle opening pressure.</li> </ul> <p><b>Excessive Combustion Noise With Black Smoke</b></p> <ul style="list-style-type: none"> <li>● Incorrect pump timing.</li> <li>● Incorrect pump housing pressure.</li> <li>● Defective injection pump.</li> </ul> <p><b>Engine Will Not Shut Off With Key</b></p> <ul style="list-style-type: none"> <li>● Injection pump fuel solenoid does not return to "OFF" position.</li> </ul>