Fuel Injector Return Flow and Fuel Pressures

The fuel return from the fuel injectors to the tank will vary based on the API value of the fuel. Measure the Fuel API with the Diesel Fuel Quality Tester. For this reason the Fuel System Diagnosis - High Pressure Side values will vary for identifying a fuel injector or fuel pump concern. Use the following tables when referred to by the diagnostic. The first table is to be used during the initial diagnosis to identify the worst fuel injectors. After the fuel injectors that fail the first part of the test are replaced, the return flow from each passing fuel injector must be measured again. This is because the fuel system is returning less fuel to the tank, and thus the fuel pressure is higher during the retest. Failure to use the correct table may result in the replacement of good fuel injectors.

<table>
<thead>
<tr>
<th>API Rating</th>
<th>Maximum Single Fuel Injector Return Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>39-34</td>
<td>3 ml</td>
</tr>
<tr>
<td>35-39</td>
<td>4 ml</td>
</tr>
<tr>
<td>40-44</td>
<td>5 ml</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>API Rating</th>
<th>Maximum Single Fuel Injector Return Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>39-34</td>
<td>4 ml</td>
</tr>
<tr>
<td>35-39</td>
<td>5 ml</td>
</tr>
<tr>
<td>40-44</td>
<td>5 ml</td>
</tr>
</tbody>
</table>

Water in Fuel

Sometimes, water can be pumped into the fuel tank along with diesel fuel. This can happen if the service station does not regularly inspect and clean their fuel tanks, or the fuel gets contaminated for the service stations suppliers.

If water is pumped into the fuel tank, a water in fuel light will illuminate. If the water in fuel light illuminates, the excess water must be drained from the fuel system on the vehicle.