

## Troubleshooting Sheet for Bi-Phase LPEFI Conversion on Isuzu NPR Cab Chassis

SYMPTOM	CHECK / SOLUTION
<b>ECM Reflash Is Required</b>	This programming is model year unique to the LPEFI system installed on the Isuzu NPR 6.0L engine with gaseous prep package. It is NOT the same as the normal gasoline system ECM program available through Isuzu. If there is a need to re-flash the CNG system ECM, it can be re-flashed at an Isuzu dealer or contact Utilimaster at (800) 237-7806 and select the option for Customer Product Support/Warranty.
<b>Engine Compression</b>	Check engine mechanical condition with a compression gauge, vacuum gauge or an engine analyzer. Compression pressures are considered within specification if the lowest reading cylinder is 75 percent of the highest reading cylinder.
<b>Engine Does Not Crank</b>	Refer to Bi-Phase Diagnostics Manual, October 2012, printed page 26 (PDF p27), "No Crank".
<b>Engine Cranks But Does Not Start</b>	Refer to Bi-Phase Diagnostics Manual, October 2012, printed page 27 (PDF p28), "No start / normal crank".
<b>Engine Starts Hard Cold / long crank</b>	Refer to Bi-Phase Diagnostics Manual, October 2012, printed page 26 (PDF p27), "Hard start cold/long crank".
<b>Engine Starts Hard Hot / long crank</b>	Refer to Bi-Phase Diagnostics Manual, October 2012, printed page 27 (PDF p28), "Hard start hot/long crank".
<b>Engine Does Not Start / Normal Crank</b>	Refer to Bi-Phase Diagnostics Manual, October 2012, printed page 27 (PDF p28), "No start/normal crank".
<b>Engine Low Idle Speed</b>	Refer to Bi-Phase Diagnostics Manual, October 2012, printed page 27 (PDF p28), "Low idle speed".
<b>Engine High Idle Speed</b>	Refer to Bi-Phase Diagnostics Manual, October 2012, printed page 27 (PDF p28), "High idle speed".
<b>Engine Rough Idle</b>	Refer to Bi-Phase Diagnostics Manual, October 2012, printed page 27 (PDF p28), "Rough idle".
<b>Engine Stalls But Restarts (Hot or Cold)</b>	Refer to Bi-Phase Diagnostics Manual, October 2012, printed page 28 (PDF p29), "Stalls but restarts (hot or cold)".
<b>Engine Stalls but does Not Restart</b>	Refer to Bi-Phase Diagnostics Manual, October 2012, printed page 28 (PDF p29), "Stalls but does not restart".
<b>Fuel Gauge Reading on Dash is Not Correct</b>	<ol style="list-style-type: none"> <li>1) Inspect the on-tank fuel gauge/sender per Bi-Phase Diagnostics Manual, October 2012, printed page 56 (PDF p 55) for proper electrical resistance. Resistance should be proportional to tank fuel gauge reading (40-250 ohms):  Full Tank = 250 ohms  <math>\frac{3}{4}</math> Tank = 198 Ohms  <math>\frac{1}{2}</math> Tank = 145 ohms  <math>\frac{1}{4}</math> Tank = 93 ohms  Empty = 40 ohms</li> <li>2) If resistance is out of range, remove two screws to remove the gauge/sender as shown on page 60 (PDF p 59) and replace with new gauge/sender.</li> <li>3) Sometimes a defective fuel sender can cause fuel trim issues. If fuel trim issues are present but intermittent, replace fuel gauge/sender first and trim issues may disappear.</li> </ol>
<b>High Boost Pressure in Fuel Lines (above 50-55 psi over tank pressure)</b>	<ol style="list-style-type: none"> <li>1) Check primary hose for internal line kinks. If hose is known to have been folded or flattened, replace Primary Hose.</li> <li>2) Install primary hose per Bi-Phase Diagnostics Manual, October 2012, pages 13 (PDF p14) and 45 (PDF p46).</li> </ol>

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<b>Low Boost Pressure in Fuel Lines (below 30-35 psi over tank pressure)</b>	<ol style="list-style-type: none"> <li>1) Check installation of Primary Hose. Ensure that both the rail end and the tank end have at least approximately 1.5 inches of inner hose sticking out. Adjust inner hose stick-out length if required, or replace hose.</li> <li>2) Install primary hose per Bi-Phase Diagnostics Manual, October 2012, pages 13 (PDF p14) and 45 (PDF p46).</li> <li>3) Inspect and replace Liquid Propane Delivery Module (LPDM) on back of tank as required.</li> <li>4) Inspect and replace in-tank fuel pump as required.</li> </ol>
<b>Lean Fuel Condition Persists at Injector or at Multiple Injectors</b>	Check Boost Pressure per Bi-Phase Diagnostics Manual, October 2012, printed page 12 (PDF p13).
<b>Missing Cylinder at Isolated Location</b>	Check per Bi-Phase Diagnostics Manual, October 2012, printed pages 14-15 (PDF p 15-16), "Fuel injector Check" and "Ignition Checks". If needed, replace per Bi-Phase Diagnostics Manual, October 2012, printed page 35-36 (PDF p36-37), "R & R Injectors or Injector Rail Complete".
<b>Tank Pressure Range</b>	Tank pressure should read between 0 psi (tank empty) – 312 psi (tank full).
<b>Warranty Service and Parts are Required</b>	Customer or dealer should call <b>Utilimaster Technical Support</b> at <b>(800)237-7806</b> and select option for Customer Product Support/Warranty. Utilimaster will coordinate parts delivery.