TECHNICAL SERVICE BULLETIN
Crank No-Start Symptom at Operating Temperature (Low-Pressure FSOV Assembly)

Model:
2023/2024/2025/2026 Landi Technologies 7.3L Dedicated Compressed Natural Gas (CNG) Fleet Vehicles (Ford Base Vehicle)

Summary
This Technical Service Bulletin (TSB) outlines the technical root cause, critical driver starting protocols, and component replacement procedures required to resolve a warm engine "crank, no-start" condition on 7.3L dedicated CNG vehicles.

Issue:
Some affected vehicles may exhibit an intermittent crank, no-start symptom when the engine is at normal operating temperature.

During normal operations, the low-pressure Fuel Shut-Off Valve (FSOV) solenoid coil generates internal heat, raising its electrical resistance. When a hot engine is shut down, the high-pressure side of the system retains full storage pressure (Up to 3,600 psi), while the rail side de-pressurizes toward 0 psi. This immense pressure differential across the valve interface, combined with the heat-induced coil resistance, creates a temporary mechanical lock.

The vehicle is flashed with a built-in 3-to-5 second regulator priming function at key-up to equalize this pressure. However, common fleet operator habits directly disrupt this system:

- **Immediate Cranking:** drivers frequently turn the key and crank the engine immediately, by passing the automated priming cycle.
- **Key Left in Ignition:** Leaving keys in the ignition switch overnight or during long layovers prevents the Alternative Fuel Control Module (AFCM) and Powertrain Control Module (PCM) from properly completing their power-down latching sequences, corrupting the subsequent priming loop.

Without the mandatory priming window, standard battery voltage cannot overcome the pressure differential and thermal resistance, resulting in a fuel-starved engine crank.

Action:
Educate fleet operations on proper key cycle protocols, isolate system power via a manual battery disconnect to force a module power latch reset and replace the low-pressure regulator assembly with the upgraded plunger variant.

Parts Information:

Part Number	Description	Quantity
1004131	Updated Low-Pressure Regulator Assembly	1

Mandatory Operational & Driver Protocols:
Critical Operational Notice: Fleet managers must instruct all drivers on proper ignition habits. Correct key sequencing dramatically reduces strain on the fuel system and helps prevent on-route no-start events.

1. Never leave keys in the ignition: keys must be fully removed from the ignition switch when the vehicle is parked overnight or turned off between shifts. This ensures all onboard modules complete their power-down latch cycle correctly.
2. Mandatory priming pause: when starting the vehicle (especially when hot), drivers must:
    a. Insert the key and turn it to the On / Run position (Do not crank the engine).
    b. Pause and wait 3 to 5 seconds while listening for the electronic solenoids to cycle.
    c. Once the priming cycle finishes and the fuel rail equalizes, turn the key to the START position to crank the engine.

Service Procedure:

Step 1: System Power Isolation & Disassembly

1. Isolate the high-pressure CNG fuel system according to standard fleet safety procedures.
2. Disconnect the primary vehicle battery ground cable.
    a. NOTE: while the vehicle modules will eventually shut down on their own, a physical battery disconnect is required during service to instantly clear the AFCM memory states and force an immediate, clean power-on initial sequence.
3. Remove the existing low-pressure fuel regulator assembly from the vehicle chassis.

Step 2: Installation & Module Initialization

1. Mount the updated low-pressure regulator assembly (or the field-serviced plunger unit) to the chassis bracket. Torque all fasteners to factory specification.
2. Connect all low-pressure fuel lines and secure the electrical harness connector to the FSOV solenoid coil.
3. Reconnect the primary vehicle battery ground cable to force the AFCM and PCM out of any active standby loops.

Step 3: System Verification

1. Insert the key and turn the ignition to the ON position without cranking.
2. Verify that the AFCM successfully commands the FSOV to cycle open for 3 to 5 seconds to complete its automated priming phase.
3. Start the vehicle, bring it up to full operating temperature, and perform consecutive hot-restart tests using the mandatory driver priming pause.