

Technical Service Bulletin Number
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TSB110181



Technical Service Bulletin

Subject

Engine Speed Instability Related to Truck Vacuum Blower or Pump Engagement

Issue

Some units have exhibited engine speed instability when the vacuum blower or pump is engaged. This instability typically causes the operator to shut down the system. Some units **only** exhibit this instability when the transmission is in an overdrive gear. New software added a feature called Transmission Driven Power Take-Off (PTO) for ISX15 and ISX12 CM2250/CM2350 engines. This new software/feature can address most of these issues.

Verification

In order to properly test for instability; the unit **must** be operated with the transmission in an upper gear, the transfer case engaged, and a load placed on the vacuum system.

1. If the unit displays vehicle speed on the dash during operation, most likely the Transmission Driven PTO feature is **not** properly set up.
2. The truck body builder may have disabled the vehicle speed sensor (VSS) signal to the engine control module (ECM).
3. The truck original equipment manufacturer (OEM) may have installed an additional PTO switch that may be labeled "PTO Control". This switch will disable the VSS signal to the ECM.
4. Check that the ECM has the latest available calibration. Engines built prior to April 2011 were shipped with older calibrations.
5. Check for fault codes, including intermittent ones.
6. If the vehicle has a Parking Brake Switch input that is either wired directly to the ECM or is multiplexed within, INSITE™ electronic service tool Parking Brake Switch **must** be ENABLED.

Resolution

1. Proper settings for Transmission Driven PTO:
 - PTO - Maximum Vehicle Speed - 25 mph
 - PTO - Alternate Operation - Enable
 - PTO - Ignore Vehicle Speed Source in PTO - Disable
 - PTO - Transmission Driven PTO - Enable
 - PTO - Transmission Driven PTO - Transmission Driven PTO Type - Transmission Driven - Irregular Load.
2. Proper settings for PTO:
 - PTO - Maximum Engine Load - Backward calculate, using the manufacturer's torque rating for the PTO device and the gear ratio between the device and the engine. Maximum Engine Load = Rated Torque/Gear Ratio.
3. Restore the VSS signal back to original factory condition. The VSS circuit should **not** be interrupted. The ECM **must** read vehicle speed for the feature to work
4. Update the calibration if it is **not** up-to-date
5. Repair all fault codes.

If none of the above resolves the issue, dealers should contact Dealer Technical Support (DTS) and distributors should contact the distributor technical support hotline or their distributor Division Field Service Engineer (DFSE).

Warranty Statement

The information in this document has no effect on present warranty coverage or repair practices, nor does it authorize TRP or Campaign actions.

Document History

Date	Details
2011-6-14	Module Created
2011-12-21	Information update
2012-2-27	Updated Information
2014-9-29	Adding additional engines which TSB is applicable to

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