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Vehicles and/or Powertrains Affected:			
► Western Star 47X and 49X	► Detroit Engines	►	►
► Freightliner M2 Plus and SD Plus	►	►	►

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SYMPTOMS

After engaging a Power Take-Off (PTO) and with Working Engine Speed Control (WESC) enabled, a transmission gear shift may result in a momentary decrease in engine rpm, resulting in engine hesitation or stalling.

ISSUE

After any PTO is engaged, the CPC/SSAM enables WESC and broadcasts the working engine speed governor value to the motor control module (MCM) during gear shifts which results in engine rpm decreasing.

SOLUTION

Use the TEM Interlock for Speed Control XMC input pin to delay WESC activation (PTO mode) until the transmission is in gear. After the transmission is confirmed to be in gear, apply a ground signal to this pin to activate WESC.

For information about PTO mode delay when using a split shaft PTO, see TEM-11-00012 Odometer Pause for SSPTO Applications.

INSTRUCTIONS

Vehicles ordered with sales codes 148-070 to 148-074 are equipped with a TEM Interlock for Speed Control XMC input pin through the Powertrain TEM Interface Connector (PTIC).

Step 1. Inspect the PTIC connector to verify that the Engine Speed Control Interlock wire is present. See Table 1.

End Point	Sales Code	Cavity	Wire	Description	ECU	ECU Connector	Active / Inactive
PTIC	148-070 through 148-074	20	565A	Engine Speed Control Interlock	XMC1	X2-45	GND/ OPEN

Table 1, Engine Speed Control Interlock Wiring

Step 2. Connect a Transmission In-Gear signal.
If wire 565A is present in PTIC cavity 20, connect it to a switched ground source that becomes active when the transmission is in gear. See Fig. 1.

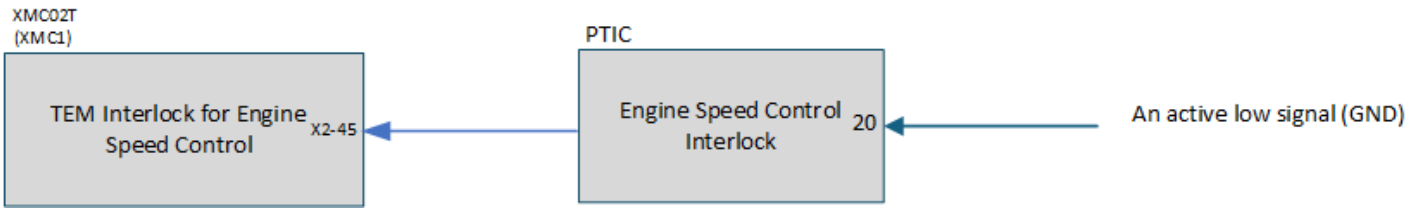

Figure 1, Engine Speed Control Wire is Present in Cavity 20

Step 3. Alternative Connection Point.
If wire 565A is not present in PTIC cavity 20, access the TEM Interlock for Engine Speed Control input at XMC1 connector X2, pin 45. Install a wire from a switched ground source that becomes active when the transmission is in gear. See Fig. 1.

Step 4. Apply the parameter changes listed in Table 2.

ECU	Domain	Parameter	Description	Value
SSAM	PTC- PTO W	TEM Interlock for Speed Control, XMC Input Pin	Engine speed control will not activate unless a ground signal is applied to this pin.	Function Available
SSAM	PTC Nominal Engine Speed Specifications	TEM Interlock for Fixed Speed Control, XMC Input Pin	Engine speed control will not activate unless a ground signal is applied to this pin.	Function Available

Table 2, Parameter Changes for Driving PTO

CONTROLLING THE TEM INTERLOCK FOR ENGINE SPEED CONTROL XMC INPUT PIN USING XMC3

As an alternative to hardwired inputs, the active ground signal required for the TEM Interlock for Engine Speed Control XMC input pin can be generated by an XMC3 using customer-defined CHEC logic.

For information about CHEC and writing CHEC features, refer to the CHEC Help & Documentation page located on the DTNA portal.

WARRANTY

This document is informational only. Warranty does not apply.

REFERENCES

PTIC-Powertrain TEM Interface Connector RevC X-Series(47X,49X)

PTIC-Powertrain TEM Interface Connector, 48H-001Thru-004,-011,-012 - 108sd-plus, 114sd plus, M2-106 plus, M2 112 plus