SS 3147 - FTL M2+ Split Shaft PTO Configuration with DD13 engines

Applicable Vehicles

M2+, SD108+, SD114+ chassis with DD13 engines and a split-shaft PTO.

Note: this Solution contains information *similar to* Service Solution 758 for 49X and 47X vehicles. Where applicable, screen shots have been updated to reflect *parameter name changes* that have occurred with newer versions of vehicle software.

Symptoms

Engine RPM oscillation during operation of the split-shaft PTO with the engine operating in PTO mode.

Issue

Vehicle and engine parameters may be set to values that do not allow the engine to respond appropriately to load changes that can occur.

Solution

There are a number of parameter changes that can be implemented that can reduce engine RPM oscillation.

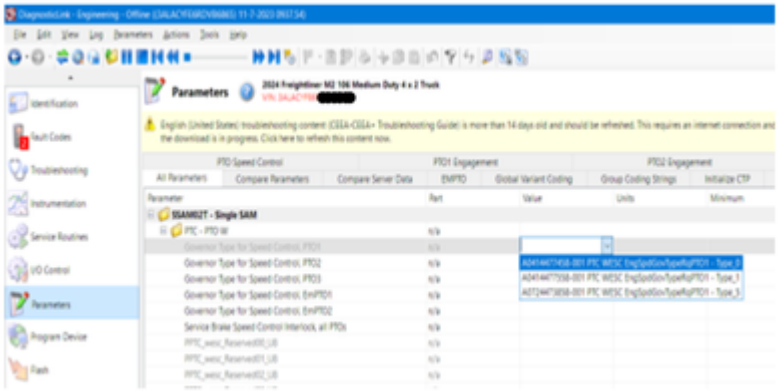
1. Enable the engine fan in PTO mode on the CPC501T engine controller using DiagnosticLink:

Parameter PID_074thm_p_ThmConf2 should be set to 1 (Enabled).

Feature and Parameter Specification for CPC PTO Parameters		
CPC Domain::Parameter	**Description**	**Module**
[P6] 74 – Fan::Enable Fan Activation on PTO	Select 1 for PTO FAN. PTO Fan means always on in PTO mode. (Default disabled)	79R
[P7] 74 – Fan::PTO Fan On Delay Time	Fan on delay time after PTO engagement. To provide powertrain time to settle after engaging PTO. (Default 2s)	
[P8] 74 – Fan::Fan On Percent	Fan on active % of how much fan speed we have with a variable speed fan control. (Default 100%)	

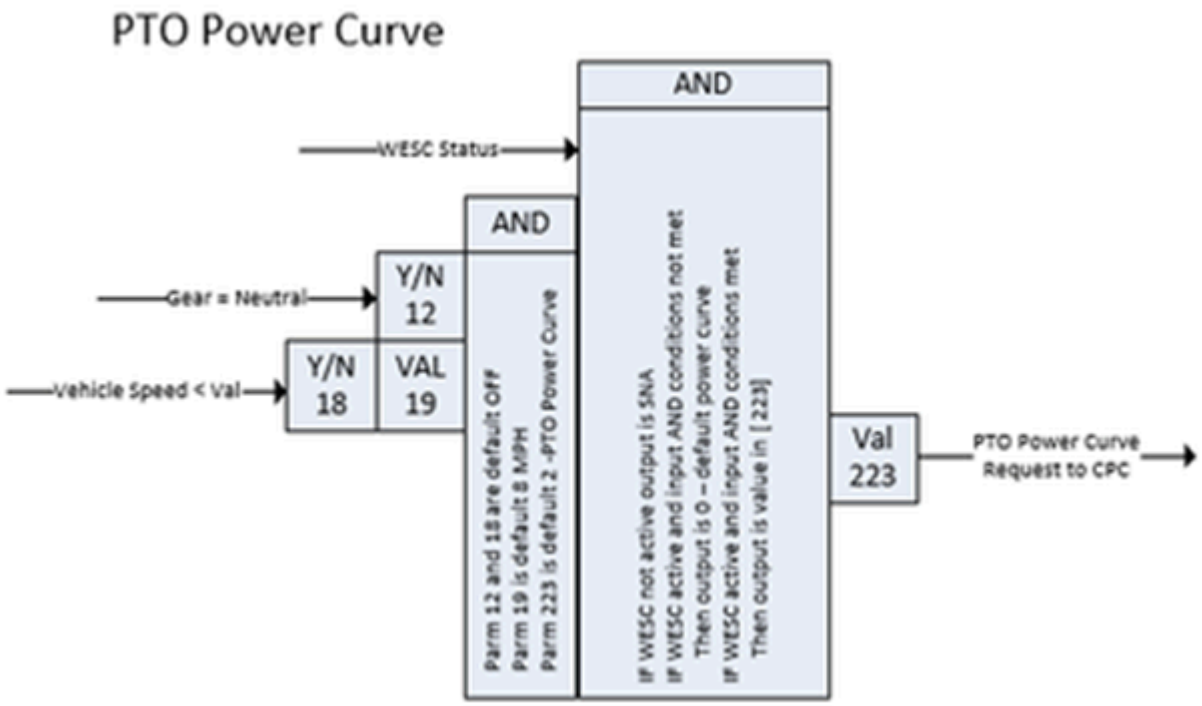
2. Enable Governor 5 in the SSAM02T controller for the PTO Governor:

In group PTC - PTO W, look for parameters labeled "Governor Type for Speed Control" and change all settings to the Type_5 setting.



3. Set the PTO Mode Power Curve in the SSAM02T:

NOTE: The power curve is included in 2023 MCM software (19.2.1.4) fuel mapping but it can only be accessed if the SSAM is properly configured for it as well.



Feature and Parameter Specification for PTO Power Mode Parameters		
Parameter	**Description**	**Module**
[12]PPTC_IF_Neutral_Position_Enabl	Set to FA to enable PTO Power Mode when transmission in gear	79W
[18] PPTC_IF_Vehicle_Speed_Enabl	Set to FA to enable PTO Power Mode when vehicle speed is less than value [19]	
[19] PPTC_IF_Vehicle_Speed_Value	Set to the max vehicle speed for PTO power mode	
[223] PPTC_IF_EnginePowerModeValue	Only current choice is 2: PTO Power Curve	

Table 49, Feature and Parameter Specification for PTO Power Mode Parameters

PTO Power curve is requested when the Speed Control is active and at least one of the following conditions is true:

1. With Parameter [12] set to FA, Parameter [18] set to FNA and the transmission in neutral;
2. With Parameter [12] set to FNA, Parameter [18] set to FA and vehicle speed less than Parameter [19] MPH;
3. With Parameter [12] set to FA, Parameter [18] set to FA and the transmission in neutral and the vehicle speed less than Parameter [19] MPH.

Choice 1 above aligns with Stationary mode, choice 2 with driving slowly with Speed Control in use and choice 3 with rolling in neutral PTO operation. PTO power mode is automatically disabled when driving without Speed Control. See Table 49 below for parameter details.

Parameter [223] selects which curve is to be used. Currently there is only one curve, curve 2. If not in PTO Power curve mode the signal transmitted will be SNA and the engine will be using the, now normal, down sped power curve.

Labels :

108SD 114SD M2

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