Removing Odometer Pause Wiring Modifications

TSB-54-375-FTL

Creation Date: 2025-08-20

Engine or Vehicle Affected:

- Business Class M2-Plus
- 108SD Plus/114SD Plus

This is an informational bulletin only. The described condition is a product improvement and is not warrantable.

Described Condition

For vehicles with Common Powertrain Controller (CPC5) software installed prior to January 9, 2024, hardware and software modifications were necessary to allow vehicle speed and mileage sensors to be ignored during split shaft Power Takeoff (PTO) operations. This bulletin applies to Freightliner and Western Star vehicles equipped with Detroit® engines and the CEEA+ architecture.

This bulletin provides instructions on removing the wiring modifications described in the 'Odometer Pause' Service Solution before the CPC5 software update. After removing the obsolete wiring modifications, see **TEM-11-00012:** *Odometer pause for Split Shaft PTO Applications* to implement a parameter solution to pause the odometer.

Determining Which Service Solution Was Applied

The following solutions were available based on vehicle type and odometer pause method:

- Tone Wheel – SS 755 – WST X Series Odometer Reading Incorrect with Split Shaft PTOs
- Tone Wheel – SS 3126 – M2/SD CEEA+ Odometer Reading Incorrect with Split Shaft PTOs
- Relay Option – SS 750 – WST2023 Odometer Disable in Split Shaft PTO Mode
- Relay Option – SS 3127 – M2 and SD CEEA+ Trucks Odometer Disable in Split Shaft PTO Mode

Replacement of SS 755 or SS 3126 – Tone Wheel

The following wiring and parameter changes are to be made to remove the old service solution.

Wiring Changes

> **Important:** The tone ring or vehicle speed sensor does not need to be removed.

1. ☐ Disconnect the harness from the sensor and securely tie back the connector into the harness. The disconnected harness and speed sensor do not affect the vehicle operations after the vehicle speed sensor parameter is changed.

Parameter Changes

Verify that parameters are set to the factory settings.

1. ☐ Turn the keyswitch to the ON position.

2. Connect an RP1210B-compliant vehicle diagnostic adaptor to the diagnostic connector on the vehicle.
3. Connect the other end of the adaptor to the laptop. Ensure the laptop is connected to a power source.

> **Important:** Make sure that DiagnosticLink is updated to the latest version (8.21 SP3 at the time of publication or newer), before programming the vehicle.

4. Open DiagnosticLink®.
5. Use the DTNA Portal credentials to connect DiagnosticLink to the server.
6. Go to the 'Parameters' tab. Select and expand the 'CPC501T - Common Powertrain Controller' parameter folder.
7. Select the '330 - Vehicle Speed Sensor' parameter subfolder.
8. Set the parameter value to 'Vehicle Speed Sensor = OutShaftSpeed CAN.'

Replacement of SS 750 or SS 3127 Allison OSS Relay Solution

This section describes how to rewire the Allison Output Shaft Speed (OSS) sensor to the Original Equipment Manufacturer (OEM) configuration.

Figure 1 shows the modification diagram for the system to be removed.

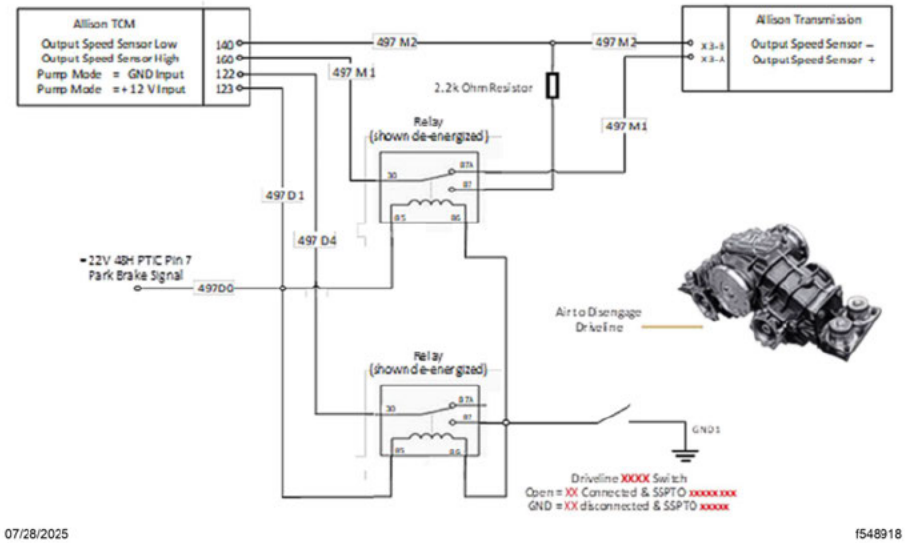

Fig. 1, Allison Split Shaft PTO (SSPTO) Modification Diagram

Wiring Changes

> **Note:** With the relays removed, the control signals, directed to the park brake signal node, and the driveline disconnect switch are to be connected to the Allison Transmission Control Module (TCM) pins 122 and 123. Control signals to TCM 123 and 122 are to be re-established. The two relays no longer sequence signals to the TCM.

1. Remove the 2.2K ohm resistor. Leave the circuit 497M2 intact.

2. Remove both ends of 497M1 from the relay and connect 497M1 again. Leave the TCM pin 160 and the output speed sensor pin X3-4 intact. The final configuration is shown in Fig. 2.

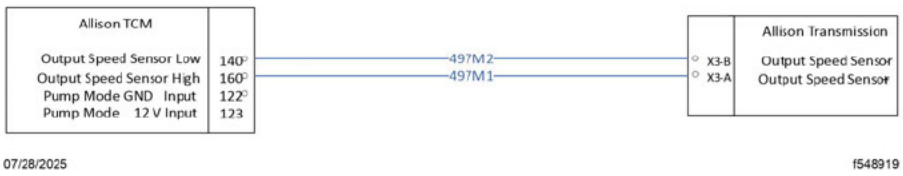

Fig. 2, Allison OSS Sensor Wiring

3. Remove the remaining relay for the driveline status. Keep the wires 497D1 and 497D4 intact. These wires connect to the TCM pins 122 and 123 and are re-used.

4. After the relay circuits are removed, the fourth gear lock-up function needs to be enabled by sending power to TCM 123 and a switch to ground for TCM 122 when the driveline is disengaged, and the SSPTO is engaged.
   - TCM 123 reflects the selection of pump mode by the operator and the application of the park brake.
   - TCM 122 indicates that the split shaft PTO is fully engaged, and the driveline is disengaged.

5. After removing the relay circuits, for instructions to set the Single Signal Detect and Actuation Module (SSAM) and CPC5 parameters for the odometer pause function, see **TEM-54-00012:** *Odometer Pause for SSPTO*.

Parameter Changes

There are no parameters to be changed.

Verification

After following these instructions, the vehicle must operate as stated in the body manufacturer's operation manual. Start the vehicle, engage the SSPTO, and raise the engine rpm as per the Truck Equipment Manufacturer's operating instructions.

If the engine rpm drops below normal idle speed after following the instructions described in **TEM-54-00012**, follow the instructions for delaying activation of PTO mode until direct drive gear has been attained.

Warranty

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Note:

F07
F18
F15
F25
REMOVE
REPLACE
TROUBLESHOOT
027-033-023
025-001-103
045-021-022
034-004-107
053-025-003
025-001-103
034-004-107

Document Number: 0000158035
Topic Publication Date: 2025-08-20