

# SS 3108 - FTL 2022 MS01T Maintenance System Fault Code Diagnosis

## **Applicable Vehicles**

All New Cascadia built after January 2018

Maintenance System (MS01T) is a virtual ECU that is included with all software versions of the Central Gateway (CGW04T) module. This virtual ECU broadcasts from Source Address 152 on the vehicle.

Maintenance System is used to *predict* when maintenance will be required and can be configured to monitor Detroit engines, Detroit transmissions, and Detroit axles. Maintenance System *is not* used with non-proprietary powertrain components.

Maintenance System has no *physical* connections to components on the vehicle. Instead, the software monitors messages from other controllers. Engine data is obtained from the CPC; transmission oil temperature is obtained from the TCM; and axle temperatures are obtained from the SAM. *The messages monitored depend upon the parameter settings for the Maintenance System.*

## **Symptoms**

Fault codes visible in DiagnosticLink for device MS01T - Maintenance System *or* fault codes visible in the instrument cluster diagnostic menu.

## **Issue**

Fault codes from Maintenance System do not have troubleshooting information in Troubleshooting manual, leading to excessive diagnostic time or replacement of the CGW.

## **Solution**

Replacing or reflashing the CGW is not recommended. Maintenance System fault codes *will return* when the Maintenance System looks for messages, which may not occur for hours to days after service is completed.

Fault code 389640 - 31 indicates that Maintenance System is disabled *and* set to provide a warning that the system is disabled. This fault code is a nuisance code and does not require further diagnosis. (Currently, there is no consistent fix that will disable this fault code.)

Fault codes that indicate a CAN signal is missing from the engine require diagnosis of the CPC and Chassis-CAN network. This includes the following codes:

- 206846 - 31
- 403454 - 31
- 468990 - 31
- 10494 - 31
- 76030 - 31
- 141566 - 31

Other "CAN signal missing" fault codes require *diagnosis of the controller that is sending the data*, as well as its associated sensor and wiring. This includes the following codes:

- 272894 - 31, CAN signal not available, rear axle gear oil temperature
  - This code *maybe* set if the message is available *and* the temperature is outside a plausible range (example: temperature that is broadcast is 471 degrees F)
  - Diagnose the oil temperature sensor and wiring to the *SAM*
- 404734 - 31, CAN signal not available, rear axle 2 gear oil temperature
  - This code *maybe* set if the message is available *and* the temperature is outside a plausible range (example: temperature that is broadcast is 471 degrees F)
  - Diagnose the oil temperature sensor and wiring to the *SAM*
- 10750 - 31, CAN signal not available transmission oil temperature
  - Diagnose the oil temperature sensor and wiring to the *TCM*

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