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ID # CBR-126

Version 5

Title

Engine Control Module (EMS) Software (MSW) Information - November 2019; Improvement List (Change Log) And Explanations For Issues And Diagnostic Trouble Codes (DTC, Fault Codes) US17+OBD2016 And US17+OBD18 Emissions, Model Years 2018 And 2019

Abstract

The purpose of this solution is to give information on Engine Control Module (EMS) Software content. This document lists issues or problems (DTCs, Fault Codes) mitigated or resolved in specific EMS software. The newest EMS Main Software (MSW) part number typically includes improvements from previous EMS software releases, and updating to the latest part number will most often cover items listed for older software releases.

Content

Vehicles equipped with Variable Geometry Turbocharger will be referred to as VGT.

Vehicles equipped with Turbo Compound will be referred to as TC.

Software Release Table (Latest information at top)

Date Available Via PTT	VGT MSW Part #	TC MSW Part #
November 2025 (Current)	11L - 24834744	
October 2024 (Current)	13L - 24834744	24834746
November 2019	23766686	23766691
May 2019	23470183	23470187
June 2018	23398790	23399381
February 2018	23242993	23242996

EMS software improvements with MSW Part Number 24834744/24834746. Available from November 2024. 11L from November 2025.

Reduction in occurrences of the following faults:

P0299-00 - Turbocharger/Supercharger Underboost
P0234-00 - Turbocharger/Supercharger Overboost Condition
P226C-00 - Turbocharger Boost Control "A" Slow Response
P20DC-00 - Exhaust Aftertreatment Fuel Supply Control Stuck Closed
P008A-00 - Low Pressure Fuel System Pressure - Too Low
P051B-64 - Engine High Resolution Crankcase Pressure Circuit Range/Performance
P00C6-00 - Fuel Rail Pressure Too Low - Engine Cranking
P0401-00 - Engine Exhaust Gas Recirculation 1 Valve Position Flow Insufficient Detected
P240F-00 - EGR Slow Response
P026C-00 - Fuel Injection Quantity Lower Than Expected
P026D-00 - Fuel Injection Quantity Higher Than Expected
P225C-00 - NOx Sensor Performance - Signal Stuck High Bank 1 Sensor 1
P2459-00 - Diesel Particulate Filter Regeneration Frequency (Bank 1)
P0191-64 - Fuel Rail Pressure Sensor Circuit Range/Performance Bank 1
P205B-64 - Reductant Tank Temperature Sensor Circuit Range/Performance
P2042-01 - Reductant Temperature Sensor

EMS software improvements with MSW Part Number 23766686/23766691. Available from November 2019.

All Vehicles

- Bug fix to prevent repeated or incomplete evaluations. Reduction in occurrences of the following faults.

- **P0420-00** Catalyst System Efficiency Below Threshold
- **P0422-00** Catalyst 2 Efficiency Below Threshold (Bank 1)

- Exhaust Aftertreatment System analysis tool now active in Tech tool (Health Check). **2589-08-03-18 Exhaust Aftertreatment System Analysis** is added with this EECU SW (TT 2.7.75 is needed with this EECU SW)

- **2103-08-03-02 Cylinder Compression** is unavailable.
- **2589-08-03-18 Exhaust After-treatment System Analysis** will replace **2549-08-03-03 NOx Conversion**.
- **2589-08-03-17 Aftertreatment Particulate Sensor, Diagnostic Monitor** does not work.

EMS software improvements with MSW Part Number 23470183/23470187. Available from May 2019.



- **Smart Revert (DEF draining process) was added to prevent urea doser clogging. Reduces occurrences of clogged urea dosage valve. Smart Revert requires EMS and ACM software for functionality.**

- **P208E-00** - Aftertreatment Reagent Dosing Valve Clogged
- **P103B-00** - Reagent Dosing Valve Inducement

- **Reduction in occurrences of oil temperature plausibility fault.**

- **P0196-64** - Oil Temperature

- **Reduction in the following Exhaust Aftertreatment faults.**

- **P0420-00** - Catalyst System Efficiency Below Threshold
- **P0422-00** - Catalyst 2 Efficiency Below Threshold (Bank 1)
- **P2698-00** - Exhaust Aftertreatment Fuel Injector "A" Performance

- **Improved robustness for EATS Temperature Sensor faults**

- **P2080-64** - Exhaust Gas Temperature Sensor Circuit Range/Performance (Bank 1 Sensor 1)
- **P2084-64** - Exhaust Gas Temperature Sensor Circuit Range/Performance (Bank 1 Sensor 2)
- **P242B-64** - Exhaust Gas Temperature Sensor Circuit Range/Performance (Bank 1 Sensor 3)

TC Only

- **Improved robustness for Fuel Injection fault.**

- **P026C-00** - Fuel Injection Quantity Lower Than Expected

EMS software improvements with MSW Part Number 23398790 / 23399381. Available from June 2018.

All Vehicles

- Reduces occurrences of **P04DB** Crankcase Ventilation System Disconnected (P04DB00, P04DB-00).

 Live UI Reduces occurrences of Intermittent engine speed signal loss, sudden change in vehicle

speed, for short period of time (Hiccup or Surge).

- Reduces the potential for Intake Throttle Icing in Cold Weather. Any of the fault codes below are possible with this issue:

- **P24A4** Diesel Particulate Filter Restriction - Soot Accumulation Too High (Bank 1) (P24A400, P24A4-00)
- **P10FE** Particulate Filter Restriction - Soot Accumulation Moderately High Bank 1 (P10FE00, P10FE-00)
- **P02EC** Diesel Intake Air Flow Control System - High Air Flow Detected (P02EC00, P02EC-00)
- **P02ED** Diesel Intake Air Flow Control System - Low Air Flow Detected (P02ED00, P02ED-00)

- Improvement in detection of Sweet spot, valid only when performance bonus feature is turned ON.

- Allows operation of DEF Dosing Test, PTT Operation [2589-08-03-05 Aftertreatment selective catalytic reduction \(SCR\) system](#) Part 4, below 32° F (0° C).

Turbo Compound Only

- Reduces occurrences of **P0471** Engine Exhaust Back Pressure Circuit Range/Performance (P047164, P0471-64).

EMS software improvements with MSW Part Number 23242993 / 23242996. Available from February 2018.

All Vehicles

- Reduces occurrences of **P02FA** Diesel Intake Air Flow Position Sensor Minimum/Maximum Stop Performance (P02FA97, P02FA-97).
- Reduces occurrences of **P24DA** Particulate Matter Sensor Exhaust Sample Error Bank 1 (P24DA00, P24DA-00).
- Reduces the potential for Intake Throttle Icing in Cold Weather. Any of the fault codes below are possible with this issue:

- **P24A4** Diesel Particulate Filter Restriction - Soot Accumulation Too High (Bank 1) (P24A400, P24A4-00)
- **P10FE** Particulate Filter Restriction - Soot Accumulation Moderately High Bank 1 (P10FE00, P10FE-00)
- **P02EC** Diesel Intake Air Flow Control System - High Air Flow Detected (P02EC00, P02EC-00)

- **P02ED** Diesel Intake Air Flow Control System - Low Air Flow Detected (P02ED00, P02ED-00)

- Improvements in the aftermarket routine for the PM sensor, PTT Operation [2589-08-03-17 Aftertreatment Particulate Sensor, Diagnostic Monitor](#).

Vehicles With 2-Box Exhaust Aftertreatment System (EATS) Only

- Reduces occurrences of **P0420** Catalyst System Efficiency Below Threshold (P042000, (P0420-00)).

Tags

ems	k22114901	mack	p009e73	p009e-73	p019664
p0196-64	p026c00	p026c-00	p02fa	p042000	p0420-00
p042200	p0422-00	p047164	p0471-64	p04db00	p04db-00
p1031	p103b00	p103b-00	p10fe00	p10fe-00	p208064
p2080-64	p208464	p2084-64	p208e00	p208e-00	p242b64
p242b-64	p24a400	p24a4-00	p24da00	p24da-00	software
volvo					

Categories

Make and Model > Mack Americas > CXU/CHU/PI - Pinnacle

Make and Model > Mack Americas > LR

Make and Model > Volvo > VN


Make and Model > Volvo > VAH

Make and Model > Volvo > VHD

Make and Model > Mack Americas > MRU/TE - TerraPro

Vehicle System > Engine

Vehicle System > Emissions

 Live UI [System > Control Systems](#)

Make and Model > Mack Americas > AN - Anthem

Make and Model > Mack Americas > GU/GR - Granite