



Engine Control Module (EMS) Software Information - Improvement List, August 2021 - US17+OBD2019 Emissions ONLY



> Internal Content

Vehicles equipped with Variable Geometry Turbocharger will be referred as VGT. Vehicles equipped with Turbo Compound will be referred as TC.

Software Release Table (Latest information at top)

Date Available Via PTT	VGT MSW Part #	TC MSW Part #
September 2021 (Current)	23969369	23985827
November 2019	23793571	23793606
February 2019	23494739	23494752
Start of Production (January 2019)	23400825	23400874

EMS software improvements with MSW Part Number 23969369/23985827.

Available from August 2021.

All Vehicles

VGT and TC EMS Software

The diagnostic for small fuel system leak (P009400) will not cause Malfunction Indicator lamp (MIL) after this update.

- [P009400 – Fuel System Leak Detected – Small Leak](#)

Reduction of false faults on the following NOx Sensor faults:

- [P225C00 - NOx Sensor Performance - Signal Stuck High Bank 1 Sensor 1](#)
- [P225E00 - NOx Sensor Performance - Signal Stuck High Bank 1 Sensor 2](#)



Improved diagnostic function routines for EGR System Checks

- Test, 2939-08-03-01 – Exhaust Gas Recirculation Function has been replaced with 2939-08-03-03 – Exhaust Gas Recirculation System Analysis.
- New test, 2939-08-03-03 is more capable in detecting issues with EGR system.
- Use PTT 2.8.51 or newer and update product information to run this operation with new engine ECU software.

Reduction of intake throttle ice formation in extreme cold weather (less than 20 degrees Celsius Ambient) and extended idling.

Improved Idle operation to avoid stumble.

Improvement to urea reversion process. Reduction of false faults.

- P208E00 - Aftertreatment Reagent Dosing Valve Clogged

Reduction of faults

- P040100 - Engine Exhaust Gas Recirculation 1 Valve Position Flow Insufficient Detected

New fault code has been added to detect EGR temperature pin fretting.

- P040B00 – Exhaust Gas Recirculation Temperature Sensor “A” Circuit Range/Performance

Reduction of faults

- P22FF00 - SCR NOx Catalyst Inlet Temperature Too Low

Reduction of false faults

- P026B00 - Injection Timing Performance
- P042000 - Catalyst System Efficiency Below Threshold
- P260900 - Intake Air Heater System Performance

Reduction of faults in cold ambient temperatures



- P050C00 - Cold Start Engine Coolant Temperature Performance

13L VGT Only

EGR Valve and Intake Throttle Valve Tuning. Resolves protentional high idle engine stumble after cold starts

13L TC Only

Reduction of false faults

- P040200 - Engine Exhaust Gas Recirculation 1 Valve Position Flow Excessive Detected

EMS software improvements with MSW Part Number 23938516/23940482.

Available from August 2020.

All Vehicles

Performance Bonus Broadcasting Fix

- Driver gets a road speed limit increase upon meeting idle speed and fuel efficiency targets. Function corrected so that trophy indicator, fuel efficiency, and sweet spot are properly displayed on the instrument cluster. Requires cluster software to complete corrections.

EMS software improvements with MSW Part Number 23494739/23494752.

Available from February 2019.

VGT and TC EMS Software

Preheater relay robustness improvement. Any of the fault codes below are possible with this issue:

- P054300 - Intake Air Heater A Circuit Open
- P260513 - Intake Air Heater "B" Control
- P2CE113 - Intake Air Heater "C" Circuit/Open
- P2CE412 - Intake Air Heater "C" Circuit High
- P054100 - Intake Air Heater A Circuit Low

 Live UI E311 - Intake Air Heater "C" Circuit Low

- P26047F - Intake Air Heater "A" Circuit Range/Performance
- P26067F - Intake Air Heater B Circuit Range/Performance
- P05407E - Intake Air Heater "A" Control
- P260800 - Intake Air Heater "B" Circuit High

Reduction in the following Exhaust Aftertreatment faults.

- P042000 - Catalyst System Efficiency Below Threshold
- P042200 - Catalyst 2 Efficiency Below Threshold (Bank 1)
- P269800 - Exhaust Aftertreatment Fuel Injector "A" Performance

Smart Revert was added to prevent urea doser clogging. Reduces occurrences of clogged urea dosage valve. Smart Revert requires EMS and ACM software for functionality.

- P208E00 - Aftertreatment Reagent Dosing Valve Clogged

Reduces occurrences of oil temperature plausibility fault.

- P019664 - Oil Temperature

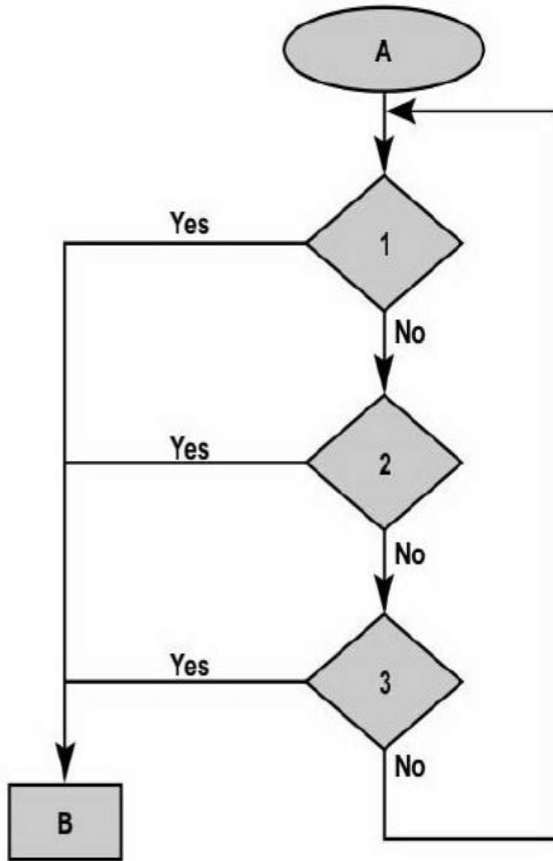
Reduces occurrences of Exhaust Aftertreatment Temperature Sensor 4 faults.

- P246F64 - Exhaust Gas Temperature Sensor Circuit Range/Performance Bank 1 Sensor 4

Reduce derate amount to 25% and increase rail pressure limitation to lessen impact to customer when experiencing a fretted rail pressure sensor.

- P019400 - Fuel Rail Pressure Sensor Circuit Intermittent/Erratic Bank 1

Smart Revert High Level Summary



DEF Delayed Draining Function	
A	Engine Shutdown/Key Off
1	DEF is at risk of freezing
2	Battery voltage is below 12.2v
3	DEF system waiting state exceeds 17 hours (the maximum time delay)
B	Initiate DEF draining process

p2ce4-12	p0541-00	p2604-7f	p2606-7f
p0540-7e	p2608-00	p246f-64	p0196-64
k46475568	ems	software	p0194-00
p0420-00	p0422-00	p208e-00	p2698-00
p019400	p0054300	p260513	p2ce113
p2ce412	p2ce311	p054100	p26047f
p26067f	p05407e	p260800	p042000
p042200	p269800	p208e00	p019664
p246f64	p0094-00	p225c-00	p225e-00
p0401-00	p040b-64	p2609-00	p22ff00
p026b00	p050c00	volvo	mack

Related links and attachments

No links or attachments available



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