

MIL ON With Misfire DTC(s) in Cold Temperatures

Service
Category Vehicle Interior

Section Meter/Gauge/Display

Market USA

Toyota Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2021 - 2022	Avalon	
2018 - 2024	Camry	
2022 - 2025	Corolla Cross	
2019 - 2025	Corolla	
2019 - 2025	RAV4	

REVISION NOTICE

December 17, 2024 Rev1:

- Applicability has been updated to include 2019 – 2025 model year Corolla, 2022 – 2025 model year Corolla Cross, and 2025 model year RAV4 vehicles.
- The Introduction, Warranty Information, Parts Information, Required Tools & Equipment, and Repair Procedure sections have been updated.

Any previous printed versions of this bulletin should be discarded.

MIL ON With Misfire DTC(s) in Cold Temperatures

Introduction

Some 2021 – 2022 model year Avalon, 2018 – 2024 Camry, 2019 – 2025 model year Corolla, 2022 – 2025 model year Corolla Cross, and 2019 – 2025 model year RAV4 vehicles with A25A-FKS and M20A-FKS engines may have a MIL ON condition with one or more of the following Diagnostic Trouble Codes (DTCs) upon cold soak start up with engine coolant temperatures between 14°F – 41°F:

- P030027 – Random/Multiple Cylinder Misfire Detected (Emission) Signal Rate of Change Above Threshold
- P030000 – Random/Multiple Cylinder Misfire Detected
- P030100 – Cylinder 1 Misfire Detected
- P030200 – Cylinder 2 Misfire Detected
- P030300 – Cylinder 3 Misfire Detected
- P030400 – Cylinder 4 Misfire Detected

Follow the Repair Procedure in this bulletin to address these conditions.

Warranty Information

OP CODE	DESCRIPTION	MODEL	TIME	OFP	T1	T2
EG2401	Replace Valve Lash Adjuster Assembly (Exhaust Side ONLY)	Avalon	3.0	13750-F0010	8A	99
		Camry				
		Corolla	2.8			
		Corolla Cross				
		RAV4				

APPLICABLE WARRANTY

- This repair is covered under the Toyota Powertrain Warranty. This warranty is in effect for 60 months or 60,000 miles, whichever occurs first, from the vehicle's in-service date.
- Warranty application is limited to occurrence of the specified condition described in this bulletin.

MIL ON With Misfire DTC(s) in Cold Temperatures

Parts Information

PART NUMBER		PART NAME	QTY
PREVIOUS	NEW		
13750-F0010	13750-70020	Adjuster Assy, Valve Lash	8
90301-####		Ring, O	1
90301-####		Ring, O (for Cam Timing Control Motor)	1
90301-####		Ring, O (for Cam Timing Oil Control Solenoid)	1
29343-####		Ring, O Vacuum Pump, No. 1	1
23224-####		Gasket, Fuel Pump Spacer	1
11213-####		Gasket, Cylinder Head Cover	1
11213-####		Gasket, Cylinder Head Cover, No. 2	6
11159-####		Gasket, Camshaft Bearing Cap Oil Hole	1

NOTE

ONLY use the NEW part numbers listed and NOT ANY superseding part numbers.

Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
Techstream ADVi*	ADE	TSADVUNIT	1
Techstream 2.0		TS2UNIT	
Techstream Lite		TSLITEPDLR01	
Techstream Lite (Green Cable)		TSLP2DLR01	

*Essential SST.

NOTE

- Only ONE of the Techstream units listed above is required.
- GTS+ Software version 2024.03.004.02 or later is required.
- Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787 or by visiting *TIS – Diagnostics – Tools & Equipment – Techstream Order Portal*.

MIL ON With Misfire DTC(s) in Cold Temperatures

Repair Procedure

1. Confirm the condition exists.

Does the vehicle exhibit a MIL ON condition one or more of the following DTCs present?

- P030027 – Random/Multiple Cylinder Misfire Detected (Emission) Signal Rate of Change Above Threshold
- P030000 – Random/Multiple Cylinder Misfire Detected
- P030100 – Cylinder 1 Misfire Detected
- P030200 – Cylinder 2 Misfire Detected
- P030300 – Cylinder 3 Misfire Detected
- P030400 – Cylinder 4 Misfire Detected
- **YES** — Continue to step 2.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

2. Refer to the freeze frame data. Did the vehicle exhibit the MIL ON with engine coolant temperatures between 14°F – 41°F?

- **YES** — Continue to step 3.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

MIL ON With Misfire DTC(s) in Cold Temperatures

Repair Procedure (continued)

3. Confirm the compression is within specification.

Refer to TIS, applicable model and model year Repair Manual:

NOTE

Perform ONLY step 11.

- [2021 – 2022](#) Avalon:
Engine / Hybrid System – A25A-FKS (Engine Mechanical) – Engine – On-Vehicle Inspection
- [2018 – 2019](#) / [2020 – 2024](#) Camry:
Engine / Hybrid System – A25A-FKS (Engine Mechanical) – Engine – On-Vehicle Inspection
- [2019](#) / [2020 – 2022](#) / [2023 – 2025](#) Corolla:
Engine / Hybrid System – M20A-FKS (Engine Mechanical) – Engine – On-Vehicle Inspection
- [2022 – 2023](#) / [2024 – 2025](#) Corolla Cross:
Engine / Hybrid System – M20A-FKS (Engine Mechanical) – Engine – On-Vehicle Inspection
- [2019 – 2020](#) / [2021 – 2025](#) RAV4:
Engine / Hybrid System – A25A-FKS (Engine Mechanical) – Engine – On-Vehicle Inspection

Is the compression within specifications?

- **YES** — Continue to step 4.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

MIL ON With Misfire DTC(s) in Cold Temperatures

Repair Procedure (continued)

4. Confirm the spark plugs and ignition coils are functioning properly.

Refer to TIS, applicable model and model year Repair Manual:

- [2021 – 2022](#) Avalon:
Engine / Hybrid System – A25A-FKS (Engine Control) – Ignition System – On-Vehicle Inspection
- [2018 – 2024](#) Camry:
Engine / Hybrid System – A25A-FKS (Engine Control) – Ignition System – On-Vehicle Inspection
- [2019 – 2025](#) Corolla:
Engine / Hybrid System – M20A-FKS (Engine Control) – Ignition System – On-Vehicle Inspection
- [2022 – 2025](#) Corolla Cross:
Engine / Hybrid System – M20A-FKS (Engine Control) – Ignition System – On-Vehicle Inspection
- [2019 – 2020](#) / [2021 – 2025](#) RAV4:
Engine / Hybrid System – A25A-FKS (Engine Control) – Ignition System – On-Vehicle Inspection

Is the vehicle exhibiting proper ignition?

- **YES** — Continue to step 5.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

MIL ON With Misfire DTC(s) in Cold Temperatures

Repair Procedure (continued)

5. Confirm the resistance on the direct and port injectors are within specifications.

Refer to TIS, applicable model and model year Repair Manual:

- [2021 – 2022](#) Avalon:
Engine / Hybrid System – A25A-FKS (Fuel) – Fuel Injector (for Direct Injection) – Inspection
- [2021 – 2022](#) Avalon:
Engine / Hybrid System – A25A-FKS (Fuel) – Fuel Injector (for Port Injection) – Inspection
- [2018 – 2024](#) Camry:
Engine / Hybrid System – A25A-FKS (Fuel) – Fuel Injector (for Direct Injection) – Inspection
- [2018 – 2024](#) Camry:
Engine / Hybrid System – A25A-FKS (Fuel) – Fuel Injector (for Port Injection) – Inspection
- [2019 – 2025](#) Corolla:
Engine / Hybrid System – M20A-FKS (Fuel) – Fuel Injector (for Direct Injection) – Inspection
- [2019 – 2025](#) Corolla:
Engine / Hybrid System – M20A-FKS (Fuel) – Fuel Injector (for Port Injection) – Inspection
- [2022 – 2025](#) Corolla Cross:
Engine / Hybrid System – M20A-FKS (Fuel) – Fuel Injector (for Direct Injection) – Inspection
- [2022 – 2025](#) Corolla Cross:
Engine / Hybrid System – M20A-FKS (Fuel) – Fuel Injector (for Port Injection) – Inspection
- [2019 – 2025](#) RAV4:
Engine / Hybrid System – A25A-FKS (Fuel) – Fuel Injector (for Direct Injection) – Inspection
- [2019 – 2025](#) RAV4:
Engine / Hybrid System – A25A-FKS (Fuel) – Fuel Injector (for Port Injection) – Inspection

Are the resistance values for the direct and port injectors within specifications?

- **YES** — Continue to step 6.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

MIL ON With Misfire DTC(s) in Cold Temperatures

Repair Procedure (continued)

6. Inspect the fuel system.

Refer to TIS, applicable model and model year Repair Manual:

- [2021 – 2022](#) Avalon:
Engine / Hybrid System – A25A-FKS (Fuel) – Fuel System – On-Vehicle Inspection
- [2018 – 2024](#) Camry:
Engine / Hybrid System – A25A-FKS (Fuel) – Fuel System – On-Vehicle Inspection
- [2019 – 2022](#) / [2023 – 2025](#) Corolla:
Engine / Hybrid System – M20A-FKS (Fuel) – Fuel System – On-Vehicle Inspection
- [2022](#) / [2023 – 2025](#) Corolla Cross:
Engine / Hybrid System – M20A-FKS (Fuel) – Fuel System – On-Vehicle Inspection
- [2019 – 2025](#) RAV4:
Engine / Hybrid System – A25A-FKS (Fuel) – Fuel System – On-Vehicle Inspection

Is the fuel system within specification?

- **YES** — Continue to step 7.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

7. Follow the applicable Repair Manuals to replace ALL the exhaust side hydraulic lash adjusters with the applicable service part number listed on page 3.

A. Remove the exhaust side hydraulic lash adjusters.

(1) Remove the camshaft.

Refer to TIS, applicable model and model year Repair Manual:

- [2021 – 2022](#) Avalon:
Engine / Hybrid System – A25A-FKS (Engine Mechanical) – Camshaft – Removal
- [2018](#) / [2019 – 2020](#) / [2021 – 2024](#) Camry:
Engine / Hybrid System – A25A-FKS (Engine Mechanical) – Camshaft – Removal
- [2019](#) / [2020 – 2022](#) / [2023 – 2025](#) Corolla:
Engine / Hybrid System – M20A-FKS (Engine Mechanical) – Camshaft – Removal
- [2022](#) / [2023](#) / [2024 – 2025](#) Corolla Cross:
Engine / Hybrid System – M20A-FKS (Engine Mechanical) – Camshaft – Removal
- [2019](#) / [2020](#) / [2021 – 2025](#) RAV4:
Engine / Hybrid System – A25A-FKS (Engine Mechanical) – Camshaft – Removal

MIL ON With Misfire DTC(s) in Cold Temperatures

Repair Procedure (continued)

- (2) Remove the hydraulic lash adjusters.

Refer to TIS, applicable model and model year Repair Manual:

- [2021 – 2022](#) Avalon:
*Engine / Hybrid System – A25A-FKS (Engine Mechanical) –
Engine Unit – Disassembly*

NOTE

Perform ONLY steps 45 and 46.

- [2018 – 2019](#) / [2020 – 2024](#) Camry:
*Engine / Hybrid System – A25A-FKS (Engine Mechanical) –
Engine Unit – Disassembly*

NOTE

Perform ONLY steps 45 and 46.

- [2019 – 2023 \(06/2018 – 03/2023\)](#) Corolla:
*Engine / Hybrid System – M20A-FKS (Engine Mechanical) –
Engine Unit – Disassembly*

NOTE

Perform ONLY steps 41 and 42.

- [2023 – 2025 \(03/2023 – 09/2024\)](#) Corolla:
*Engine / Hybrid System – M20A-FKS (Engine Mechanical) –
Engine Unit – Disassembly*

NOTE

Perform ONLY steps 41 and 42.

- [2022 – 2023](#) / [2024 – 2025](#) Corolla Cross:
*Engine / Hybrid System – M20A-FKS (Engine Mechanical) –
Engine Unit – Disassembly*

NOTE

Perform ONLY steps 45 and 46.

MIL ON With Misfire DTC(s) in Cold Temperatures

Repair Procedure (continued)

- [2020 – 2024 \(06/2020 – \)](#) RAV4:
*Engine / Hybrid System – A25A-FKS (Engine Mechanical) –
Engine Unit – Disassembly*

NOTE

Perform ONLY steps 47 and 48.

- [2025](#) RAV4:
*Engine / Hybrid System – A25A-FKS (Engine Mechanical) –
Engine Unit – Disassembly*

NOTE

Perform ONLY steps 47 and 48.

B. Install the NEW exhaust side hydraulic lash adjusters.

(1) Install the NEW exhaust side hydraulic lash adjusters.

Refer to TIS, applicable model and model year Repair Manual:

- [2021 – 2022](#) Avalon:
*Engine / Hybrid System – A25A-FKS (Engine Mechanical) –
Engine Unit – Reassembly*

NOTE

Perform ONLY steps 26 and 27.

- [2018 – 2019](#) Camry:
*Engine / Hybrid System – A25A-FKS (Engine Mechanical) –
Engine Unit – Reassembly*

NOTE

Perform ONLY steps 26 and 27.

- [2020](#) / [2021 – 2024](#) Camry:
*Engine / Hybrid System – A25A-FKS (Engine Mechanical) –
Engine Unit – Reassembly*

NOTE

Perform ONLY steps 27 and 28.

MIL ON With Misfire DTC(s) in Cold Temperatures

Repair Procedure (continued)

- [2019 – 2023 \(06/2018 – 03/2023\)](#) Corolla:
*Engine / Hybrid System – M20A-FKS (Engine Mechanical) –
Engine Unit – Reassembly*

NOTE

Perform ONLY steps 21 and 22.

- [2023 – 2025 \(03/2023 – 09/2024\)](#) Corolla:
*Engine / Hybrid System – M20A-FKS (Engine Mechanical) –
Engine Unit – Reassembly*

NOTE

Perform ONLY steps 22 and 23.

- [2022 – 2023](#) / [2024 – 2025](#) Corolla Cross:
*Engine / Hybrid System – M20A-FKS (Engine Mechanical) –
Engine Unit – Reassembly*

NOTE

Perform ONLY steps 20 and 21.

- [2019 – 2020](#) / [2021 – 2024](#) / [2025](#) RAV4:
*Engine / Hybrid System – A25A-FKS (Engine Mechanical) –
Engine Unit – Reassembly*

NOTE

Perform ONLY steps 26 and 27.

MIL ON With Misfire DTC(s) in Cold Temperatures

Repair Procedure (continued)

- (2) Reinstall the camshaft.

Refer to TIS, applicable model and model year Repair Manual:

- [2021 – 2022](#) Avalon:
Engine / Hybrid System – A25A-FKS (Engine Mechanical) – Camshaft – Installation
- [2018 – 2024](#) Camry:
Engine / Hybrid System – A25A-FKS (Engine Mechanical) – Camshaft – Installation
- [2019 – 2025](#) Corolla:
Engine / Hybrid System – M20A-FKS (Engine Mechanical) – Camshaft – Installation
- [2022 – 2023](#) / [2024 – 2025](#) Corolla Cross:
Engine / Hybrid System – M20A-FKS (Engine Mechanical) – Camshaft – Installation
- [2019 – 2020](#) / [2021 – 2025](#) RAV4:
Engine / Hybrid System – A25A-FKS (Engine Mechanical) – Camshaft – Installation

8. Using GTS+, clear ANY DTCs and then at coolant temperatures of 14°F – 41°F, confirm the condition is no longer present.

Refer to TIS, applicable model and model year Repair Manual:

NOTE

Perform ONLY the Confirmation Driving Pattern steps.

- [2021 – 2022](#) Avalon:
Engine / Hybrid System – A25A-FKS (Engine Control) – SFI System – P030000, P030027, P030085-P030400; Random/Multiple Cylinder Misfire Detected

MIL ON With Misfire DTC(s) in Cold Temperatures

Repair Procedure (continued)

- [2018](#) Camry:
Engine / Hybrid System – A25A-FKS (Engine Control) – SFI System – P030000,P030027,P030085-P030400; Random/Multiple Cylinder Misfire Detected
- [2019 – 2020 \(08/2018 – 03/2020\)](#) Camry:
Engine / Hybrid System – A25A-FKS (Engine Control) – SFI System – P030000,P030027,P030085-P030400; Random/Multiple Cylinder Misfire Detected
- [2020 – 2024 \(03/2020 – \)](#) Camry:
Engine / Hybrid System – A25A-FKS (Engine Control) – SFI System – P030000,P030027,P030085-P030400; Random/Multiple Cylinder Misfire Detected
- [2019 – 2020](#) / [2020 – 2021](#) / [2022](#) Corolla:
Engine / Hybrid System – M20A-FKS (Engine Control) – SFI System:– P030000,P030027,P030085-P030400; Random/Multiple Cylinder Misfire Detected
- [2023 \(11/2022 – 03/2023\)](#) Corolla:
Engine / Hybrid System – M20A-FKS (Engine Control) – SFI System:– P030000,P030027,P030085-P030400; Random/Multiple Cylinder Misfire Detected
- [2023 – 2025 \(03/2023 – 09/2024\)](#) Corolla:
Engine / Hybrid System – M20A-FKS (Engine Control) – SFI System:– P030000,P030027,P030085-P030400; Random/Multiple Cylinder Misfire Detected
- [2022 – 2023](#) Corolla Cross:
Engine / Hybrid System – M20A-FKS (Engine Control) – SFI System – (for K120) P030000,P030027,P030085-P030400; Random/Multiple Cylinder Misfire Detected
- [2024 – 2025](#) Corolla Cross:
Engine / Hybrid System – M20A-FKS (Engine Control) – SFI System – (for K121) P030000,P030027,P030085-P030400; Random/Multiple Cylinder Misfire Detected
- [2019 – 2020](#) / [2021 – 2025](#) RAV4:
Engine / Hybrid System – A25A-FKS (Engine Control) – SFI System – P030000,P030027,P030085-P030400; Random/Multiple Cylinder Misfire Detected