

MIL ON With Air-Fuel Ratio Imbalance and/or Cylinder Misfire DTCs

Service
Category Engine/Hybrid System

Section

Engine Mechanical

Market USA

 Toyota Supports
 ASE Certification 
Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2016 - 2017	GS200T, IS200T, RC200T	VDS(s): BA1BL, BA1D2, HA5BC
2018 - 2019	GS300	VDS(s): BA1BL
2018 - 2024	IS300, RC300	VDS(s): AA1D2, AA5BC, BA1D2, CA1D2, DA1D2, DA5BC, GA1D2, GA5BC, HA5BC
2015 - 2017	NX200T	VDS(s): BARBZ, YARBZ
2018 - 2021	NX300	VDS(s): AARBZ, AARDZ, BARBZ, DARBZ, DARDZ, GARBZ, HARBZ, JARDZ, SARBZ, SARDZ, YARBZ

REVISION NOTICE

April 17, 2024 Rev1:

- Applicability has been updated to include 2021 – 2024 model year IS 300 and RC 300, and 2021 NX 300 vehicles.
 - The Introduction, Parts Information, and Repair Procedure sections have been updated.
- Any previous printed versions of this bulletin should be discarded.

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Introduction

Some 2015 – 2017 model year NX 200t, 2016 – 2017 model year GS 200t, IS 200t, and RC 200t, 2018 – 2019 model year GS 300, and 2018 – 2021 model year NX 300, and 2018 – 2024 model year IS 300 and RC 300 vehicles equipped with an 8AR-FTS engine may exhibit a MIL ON condition with one or more of the following Diagnostic Trouble Codes (DTCs):

- Cylinder Misfire – P030000, P030027, P030085, P030100, P030200, P030300, P030400.
- Air-Fuel Ratio Imbalance – P11EA00, P11EC00, P11ED00, P11EE00, P11EF00, P219A00, P219C00, P219D00, P219E00, P219F00.

Some vehicles may also enter limp mode, and the Multi-Informational Display (MID) will display the following message: “reduced engine power – take vehicle to nearest dealer.” This may be caused by cylinder compression pressure drop due to improper exhaust valve sealing from worn valve guides. Follow the Repair Procedure in this bulletin to address this condition.

Production Change Information

This bulletin applies to engines produced **BEFORE** the Engine Serial Numbers shown below.

MODEL	PLANT	DRIVETRAIN	EFFECTIVE ENGINE SERIAL NUMBER
NX 200t, NX 300	TMK	All	4286682
NX 200t, NX 300	Yamaha		Z343433
IS 200t, IS 300, GS 200t, GS 300, RC 200t, RC 300			

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Warranty Information

OP CODE	DESCRIPTION	MODEL	VDS	TIME	OFF	T1	T2
EG2402	R & R Cylinder Head and Valves	GS 200t	BA1BL	22.9	11101-##### *	8A	43
		GS 300					
		IS 200t	BA1D2	22.5			
		IS 300	AA1D2 BA1D2 DA1D2 GA1D2				
		RC 200t	HA5BC				
		RC 300	AA5BC DA5BC GA5BC HA5BC				
		NX 200t	BARBZ				
		NX 300	AARDZ BARBZ DARDZ JARDZ SARDZ				
		NX 200t	YARBZ	22			
		NX 300	AARBZ DARBZ GARBZ HARBZ SARBZ YARBZ				

*Warranty claim MUST be submitted with the correct 10-digit OFF. Choose the correct OFF for the vehicle being repaired by searching for the parts in the Electronic Parts Catalog using the VIN filter.

APPLICABLE WARRANTY

- This repair is covered under the Lexus Powertrain Warranty. This warranty is in effect for 72 months or 70,000 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.

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Parts Information

MODEL	PART NUMBER		PART NAME	QTY
	PREVIOUS	NEW		
NX 200t, NX 300	11101-39845	11101-80020	Head Sub-assy, Cylinder	1
	11101-39846			
	11101-39847			
	11101-39848			
	11115-36061		Gasket, Cylinder Head	1
IS 200t, IS 300, GS 200t, GS 300, RC 200t, RC 300	11101-39885	11101-80019	Head Sub-assy, Cylinder	1
	11101-39886			
	11101-39887			
	11115-36070		Gasket, Cylinder Head	1
All	13715-36041		Valve, Exhaust	8
	90913-02131		Seal, Valve Stem Oil Exhaust	8
	90913-02126		Seal, Valve Stem Oil Intake	8
	11213-36050		Gasket, Cylinder Head Cover	1

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 2024.01.002.02 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*.

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Repair Procedure

1. Using GTS+, check if ANY of the following DTCs are present:

- Cylinder Misfire – P030000, P030027, P030085, P030100, P030200, P030300, P030400.
- Air-Fuel Ratio Imbalance – P11EA00, P11EC00, P11ED00, P11EE00, P11EF00, P219A00, P219C00, P219D00, P219E00, P219F00.

Are ANY of the DTCs listed above present?

- **YES** — Continue to step 2.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

2. Perform a cylinder leakage test.

Was ANY leakage found to be coming from the exhaust valves?

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

3. Inspect the exhaust valve guides for wear.

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

- [2015 – 2017](#) NX 200t:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head – Inspection
- [2018 – 2021](#) NX 300:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head – Inspection
- [2016 – 2017](#) IS 200t:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head – Inspection
- [2018 – 2024](#) IS 300:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head – Inspection
- [2016 – 2017](#) GS 200t:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head – Inspection
- [2018 – 2019](#) GS 300:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head – Inspection
- [2016 – 2017](#) RC 200t:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head – Inspection
- [2018 – 2024](#) RC 300:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head – Inspection

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Repair Procedure (continued)

Is the valve guide wear within specified condition?

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

4. Replace the parts specified in the Parts Information table.

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

- 2015 – 2017 NX 200t and 2018 – 2021 NX 300:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head Gasket – [Removal](#) / [Installation](#)
- 2016 – 2017 IS 200t and 2018 – 2024 IS 300:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head Gasket – [Removal](#) / [Installation](#)
- 2016 – 2017 GS 200t and 2018 – 2019 GS 300:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head Gasket – [Removal](#) / [Installation](#)
- 2016 – 2017 RC 200t and 2018 – 2024 RC 300:
Engine/Hybrid System – 8AR-FTS (Engine Mechanical) – Cylinder Head Gasket – [Removal](#) / [Installation](#)

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Repair Procedure (continued)

5. Using GTS+, clear ANY DTCs and complete the confirmation driving pattern based on the original DTC(s) that was(were) set, to confirm the DTC(s) does(do) not reset.

NOTE

If BOTH Air-Fuel Ratio Imbalance and Cylinder Misfire DTCs were present, perform confirmation driving patterns in BOTH substeps A and B. Otherwise, continue to substep A for Cylinder Misfire DTCs and go to substep B for Air-Fuel Ratio Imbalance DTCs.

- A. Refer to TIS, applicable model and model year Repair Manual:

- [2015](#) NX 200t:
Engine/Hybrid System – 8AR-FTS (Engine Control) – SFI System – P030000,P030027,P030085-P030400; Random/Multiple Cylinder Misfire Detected

NOTE

This drive pattern is for 2015 model year NX 200t vehicles but also applies to ALL applicable model year NX 200t, NX 300, GS 200t, GS 300, RC 200t, RC 300, IS 200t, and IS 300 model vehicles.

- B. Refer to TIS, applicable model and model year Repair Manual:

- [2015](#) NX 200t:
Engine/Hybrid System – 8AR-FTS (Engine Control) – SFI System – P11EA00,P11EC00-P11EF00,P219A00,P219C00-P219F00; Bank 1 Air-Fuel Ratio Imbalance (Port)

NOTE

This drive pattern is for 2015 model year NX 200t vehicles but also applies to ALL applicable model year NX 200t, NX 300, GS 200t, GS 300, RC 200t, RC 300, IS 200t, and IS 300 model vehicles.