

Rough Idle

Service Category Engine/Hybrid System

Section Engine Mechanical

Market USA

Scion Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2012 - 2013	iQ	

Introduction

Some 2012 – 2013 model year iQ vehicles may exhibit one or more of the following conditions:

- Rough idle condition.
- Idle speed momentarily drops at idle.
- MIL “ON” with one or more of the following DTCs: P1603, P1604 and/or P1605. These may be caused by excessive carbon build-up on piston head.

Follow the Repair Procedure in this Service Bulletin to address this condition.

Production Change Information

This bulletin applies to vehicles produced **BEFORE** the Production Change Effective VIN shown below.

MODEL	PLANT	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
iQ	Takaoka	CVT	JTNJJXB0#DJ024169

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
EG1628	R & R Engine Valve Cover & De-Carbon Engine Combustion Chamber	5.1	11201-47121	02	43

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.

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Parts Information

PART NUMBER		PART NAME	QTY
PREVIOUS	NEW		
11201-47120	11201-47121	Cover Sub-Assy, Cylinder	1
002790WQTE01		0W20 ILSAC Multigrade Engine Oil	8
04152YZZA7		Oil Filter Element Kit	2
90430-12031		Gasket (For oil pan drain plug)	1
90919-01275		Spark Plug	4
00289-1TE00		Top Engine Cleaner	1
90068-14030		O Ring, Camshaft Timing Oil Control Valve	2

Required Tools & Equipment

REQUIRED TOOLS & MATERIAL	QUANTITY
Torque Wrench	1
Chemical Resistant Measuring Container – 30 ml	1

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
Techstream 2.0*	ADE	TS2UNIT	1
Techstream Lite		TSLITEPDLR01	
Techstream Lite (Green Cable)		TSLP2DLR01	
Video Borescope	JS Steelman	JSP97291	1

* Essential SST.

NOTE

- Only ONE of the Techstream units listed above is required.
- Software version 11.20.019 or later is required.
- Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.
- Additional SSTs may be ordered by calling 1-800-933-8335.

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Repair Procedure

1. Confirm condition as described in the Introduction. If ONLY the above DTCs are set, confirm the presence of carbon build-up on the piston head. The presence of carbon can be determined by using a Video Borescope. Using the Video Borescope, check for the presence of excessive carbon build-up on each of the pistons.

Is carbon present on the piston heads?

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

2. Start and warm the engine bringing the vehicle up to operating temperature (greater than 180°F/83°C ECT).

3. Disassemble the upper intake and remove the intake manifold.

Refer to the Technical Information System (TIS), applicable model and model year Repair Manual:

- 2012 – 2013 iQ:

Engine/Hybrid System – Intake/Exhaust – “1NR-FE Intake/Exhaust: Intake Manifold: [Removal](#)”

Figure 1.

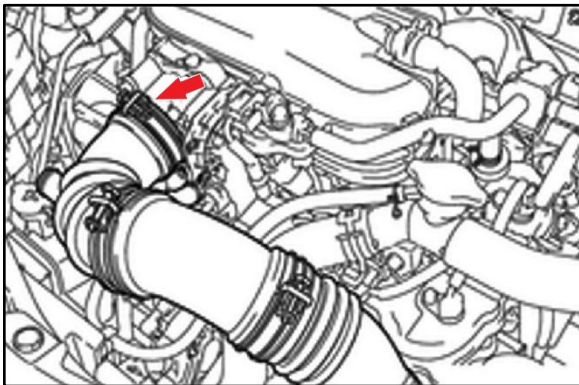
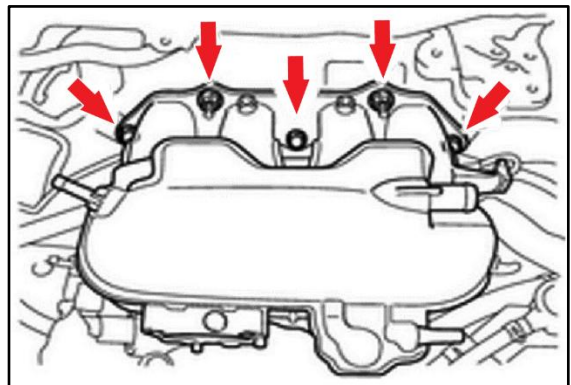


Figure 2.



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Repair Procedure (Continued)

4. Remove the ignition coils and Spark Plugs.

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

- 2012 – 2013 iQ:

Engine/Hybrid System – Engine Control – “1NR-FE Engine Control: Ignition Coil and Spark Plug: [Removal](#)”

Figure 3.

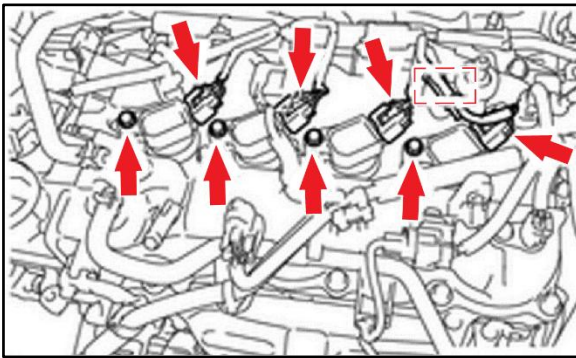
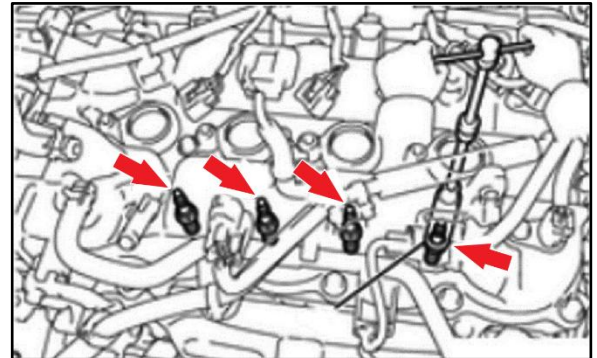


Figure 4.



5. Disable the fuel injection system by removing the EFI Main 20A Fuse from the main fuse block located in the driver's side of the engine compartment.

NOTE

If the EFI Main 20A Fuse is NOT removed, the injector will fire during engine cranking causing contamination of the Toyota Top Engine Cleaner.

6. Inject 30 ml of Toyota Top Engine Cleaner into each of the spark plug tubes, into the combustion chamber. Using the starter, rotate the engine over for 10 – 15 seconds. (Cover the spark plug tubes with a heavy towel to avoid cleaner exiting the cylinder.)
7. Allow the cylinders to soak for 60 minutes.
8. Inject 15 ml of Toyota Top Engine Cleaner into each of the spark plug tubes, into the combustion chamber. Using the starter, rotate the engine over for about 15 seconds. (Cover the spark plug tubes with a heavy towel to avoid cleaner exiting the cylinder.)
9. Allow the cylinders to soak for 60 minutes.
10. Repeat steps 8 – 9 one additional time.
11. Reinstall the original Spark Plugs. Do NOT install new Spark Plugs.

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Repair Procedure (Continued)

12. Install the NEW cylinder head cover.

NOTE

When installing the NEW cylinder head cover, be sure to remove the No.1 and No. 2 Camshaft Position Sensor, along with the Ventilation Valve Sub-Assembly and the Camshaft Timing Oil Control Valve Assembly from the old cylinder head cover. Reinstall them onto the NEW cylinder head cover. Be sure to install NEW O-Rings on the Camshaft Timing Oil Control Valve Assembly BEFORE installation.

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

- 2012 – 2013 iQ:
Engine/Hybrid System – Engine Mechanical – “1NR-FE Engine Mechanical: Engine Unit: [Reassembly](#)”

13. Reinstall the ignition coils.

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

- 2012 – 2013 iQ:
Engine/Hybrid System – Engine Control – “1NR-FE Engine Control: Ignition Coil and Spark Plug: [Installation](#)”

14. Reassemble the intake manifold and upper intake system.

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

- 2012 – 2013 iQ:
Engine/Hybrid System – Intake/Exhaust – “1NR-FE Intake/Exhaust: Intake Manifold: [Installation](#)”

15. Reinstall the original EFI Main 20A Fuse.

16. Start the engine and immediately raise the engine speed to 4,000 RPM and hold this engine speed for a total of 15 minutes.

NOTE

During the initial start-up of the engine it is highly recommended to bring the vehicle to a well-ventilated area or attach an exhaust hose. It is normal for smoke to be emitted from the exhaust during the first few minutes of operation.

17. Change the engine oil and filter.

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

- 2012 – 2013 iQ:
Engine/Hybrid System – Lubrication – “1NR-FE Lubrication: Oil and Oil Filter: [Replacement](#)”

18. Using TIS Techstream, clear ANY DTCs that may have set.

19. Drive the vehicle for a total of 10 miles (16km).

20. Install NEW Spark Plugs.

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Repair Procedure (Continued)

21. Perform second engine oil and filter change.

NOTE

Inspect the Oil Filter Housing and PCV hose for pieces of carbon that may have broken off during the above process, clean as necessary.

22. Confirm repair by clearing ANY codes that may have been present and by taking the vehicle for a test drive. During the test drive, if DTCs were previously present, confirm that no new DTCs related to the repair have come back. If vehicle exhibited rough idle condition, confirm idle is now between 600 – 700 RPM.