


TOYOTA

EG-00037T-TME

Version: 2

Technical Service Bulletin

Subject:

1NR Engine: Hard to start

Models - Model Codes:

Auris - NRE180; Corolla - NRE180; Yaris - NSP130; Verso-S - NSP120

Component & Model features:

1NR-FE

ENGINE

REVISION CONTENT

New Calibration ID (ECU Software) was added.

INTRODUCTION

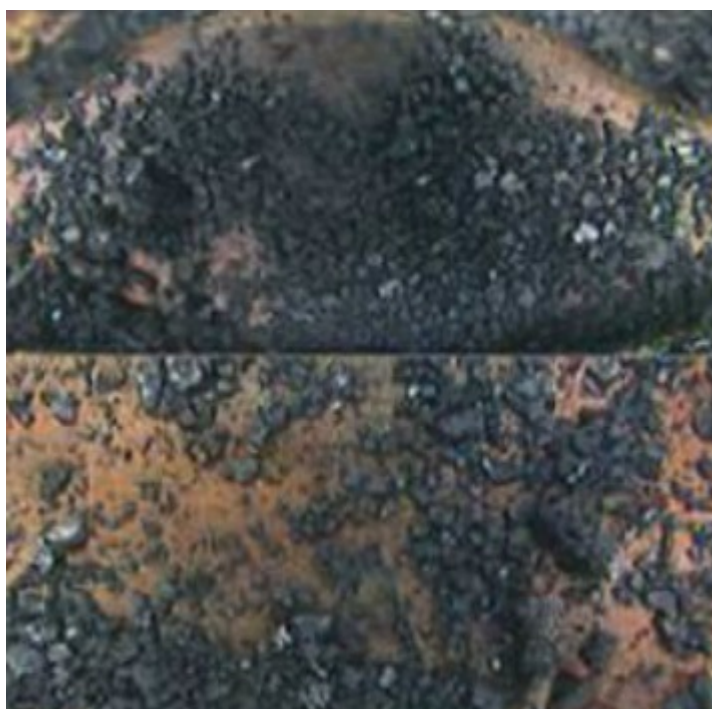
This Technical Service Bulletin is to inform you about repair method for the subject phenomenon.

DESCRIPTION OF THE PHENOMENON

Some customers may experience and report difficulties to start the engine after parking. Engine may take longer than 3 seconds to start and DTC P1604 will be stored.

Many different factors can affect engine start-ability, but the scope of this bulletin is exclusively for cases where root cause is high concentration of carbon deposits.

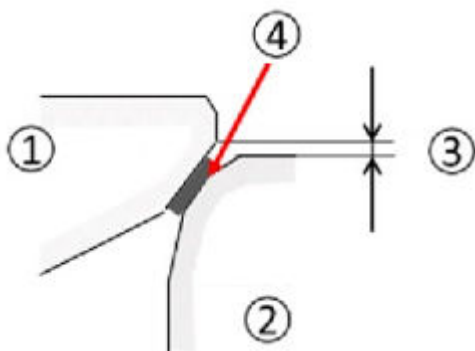
Example of carbon deposits on piston surface.



Carbon deposits are not abnormal inside combustion chamber, but some of the existing fuel additives in the market can affect deposits concentration in terms of amount and size. Once those deposits flow through the exhaust valves, the biggest ones could remain between the valve and the valve seat creating a gap. This gap causes lack of compression and consequently, difficulties to start the engine.

Example of how deposits could cause lack of compression.

(1=Valve; 2=Valve seat; 3=Gap caused by deposit; 4=Carbon deposit)



This bulletin informs about applicable parts that must be changed to start the engine within the standard cranking time.

PRODUCTION CHANGE

No production change.

PRODUCTION CHANGE INFORMATION

No production change.

PARTS INFORMATION

In order to know if a vehicle requires parts replacement or not, please compare actual part number installed in the vehicle with "Previous part number" on the table below. If both part numbers are the same, part replacement is applicable for affected vehicle.

NOTE

- 1) Vehicles equipped with Start & Stop package does not apply for parts replacement.
- 2) Vehicles without cold package does not apply for parts replacement except Yaris, which can apply for battery if included in the table below.

Previous part number	New part number	Part name	Model	Quantity
28100-0Y101	28100-0Y091	STARTER ASSY , 12V 1.0KW	Yaris/Auris/Corolla	1
28800-0Q060	28800-0Y060	BATTERY , LN2	Yaris	1
74431-0D160	74431-0D110	TRAY, BATTERY	Yaris	1
28100-0Y130	28100-0Y091	STARTER ASSY , 12V 1.0KW	Yaris	1
28100-47181	28100-0Y091	STARTER ASSY , 12V 1.0KW	VersoS	1
28100-47240	28100-0Y091	STARTER ASSY , 12V 1.0KW	VersoS	1

REPAIR PROCEDURE

This bulletin is exclusively applicable for hard to start cases caused by carbon deposits. If that is not the case, please follow the procedure on the repair manual.

**WARNING**

Please keep a copy of GTS file with health check and pictures of carbon deposits on piston surface as evidences.

1) REPLACE STARTER AND BATTERY AS INDICATED BELOW:

1. **DISCONNECT AND REMOVE THE BATTERY (ONLY FOR APPLICABLE YARIS).**
2. **REMOVE THE STARTER AS INDICATED IN THE REPAIR MANUAL.**
3. **INSTALL THE NEW STARTER AS INDICATED IN THE REPAIR MANUAL.**
4. **WHEN APPLICABLE, REPLACE BATTERY TRAY (ONLY FOR APPLICABLE YARIS).**
5. **INSTALL THE BATTERY (ONLY FOR APPLICABLE YARIS).**
6. **CONTINUE TO REPROGRAMMING PROCEDURE.**

2) REPROGRAMMING:**NOTE**

Reprogram the "Computer, Engine Control" to the latest available calibration ID (minimum to the new CID as shown in below table) and apply a new ECU label sticker (part number: 89685-20010) with the correct ECU part number.

NOTE

Calibration ID is not applicable for vehicles equipped with Start & Stop package or equipped with CVT Transmission since changing point is already included.

Model	Part Name	Part Number	Previous Calibration ID	Minimum Calibration ID
Yaris	Computer engine control	89661-0DP61	30DM2100	30DM2200
		89661-0DF50	30DM2000	
		89661-52S00	352S0100 352S0000	
		89661-0DQ90	30DL0000	30DL0100
		89661-0DK91 89661-0DK90	30DE6100 30DE6000	30DE6200
Auris / Corolla	Computer engine control	89661-0Z811	30Z18200	30Z18300
		89661-0Z810	30Z18100	
		89661-0ZM40	30Z77000	30Z77100
		89661-0ZM50	30Z78000	30Z78100

Model	Part Name	Part Number	Previous Calibration ID	Minimum Calibration ID
Verso-S	Computer engine control	89661-52N61 89661-52N60	352N6400 352N6300 352N6200 352N6100 352N6000	352N6500
		89661-52Z01 89661-52Z00	352Z2100 352Z2000	352Z2200

Reprogram the ECU with the latest available software (Calibration ID).

End of repair procedure.



CAUTION

If vehicle is not equipped with the latest ECU Part Number, **please do not replace** ECU to the latest Part Number, just reprogram it to the latest available software (they are compatible).

NOTE

After reprogramming the engine ECU, a DTC might be set. If the DTC can not be erased by using GTS, disconnect the battery for 5 minutes.

NOTE

For detailed description of the reprogram procedure, please refer to Technical Service Bulletin:
For Toyota: G-0002 - REPROGRAMMING METHOD OF ECU

WARRANTY INFORMATION

For the warranty application, please refer to the applicable warranty policy and procedures manual.

Model code	OP code	Operation	Time	OFP	T1	T2
NRE180	280011	STARTER ASSEMBLY R&R	0.4	28100-0Y101	07	61
NSP130	190011	BATTERY R&R	0.3	28800-0Q060	07	61
NSP130	280011	STARTER ASSEMBLY R&R	0.7	28100-0Y130	07	61
NSP120	280011	STARTER ASSEMBLY R&R	0.5	28100-47181 Or 28100-47240	07	61
All	801013	HAND-HELD TESTER OR INTELLIGENT TESTER II (HEALTH CHECK WITH GTS, SAVE & KEEP THE FILE).	0.2			
All	895909	Reprogramming & Sticker application	0.7	ECU Parts Number	07	61

NOTE

The implementation of this TSB for rectification of the phenomenon reported requires the mandatory CCR (Condition, Cause, Remedy) comments in the warranty claim for further detailed technical analysis. It is required to mention this TSB number in the Remedy field. Failure to comply with this requirement could lead to claim rejection.