

Subject

Engine Assembly Removal / Installation Precaution

Market

USA

Service Category

Engine/Hybrid System

Section

Engine Mechanical

Applicability

22-23 Tundra

APPLICABLE VEHICLES

2022-2023

Tundra

CONDITION

Some vehicles in the market may require a short block repair, and in certain circumstances, Toyota may request a dealer to repair such vehicles with an Engine Assembly instead. Please follow the recommendations below in addition to the steps for Partial Engine replacement in the repair manual when performing engine replacement with Part Number 04004-23370.

RECOMMENDATIONS

During repair, the following recommendations must be followed, or damage may occur.

- Engine Crate Disassembly (Page 1)
- Engine Assembly Part Number Confirmation (Page 2)
- Engine Hanger Precaution (Page 3)
- Torque Converter Precaution (Page 5)
- Engine Scrapping Process (Page 6) **IF ENGINE/TURBOS ARE BEING RECOVERED BY TOYOTA, SKIP THIS SECTION**
- Engine Seizures (Page 8) **IF ENGINE IS NOT SEIZED, SKIP THIS SECTION**

1. Engine Crate disassembly: Using a Torx T25 bit/socket, remove all screws with arrows pointing to them to disassemble crate. To disassemble the crate, you will not need to remove any nails.

Please see below for example of arrows pointed to T25 screws that will need to be removed.



Subject

Engine Assembly Removal / Installation Precaution

Market

USA

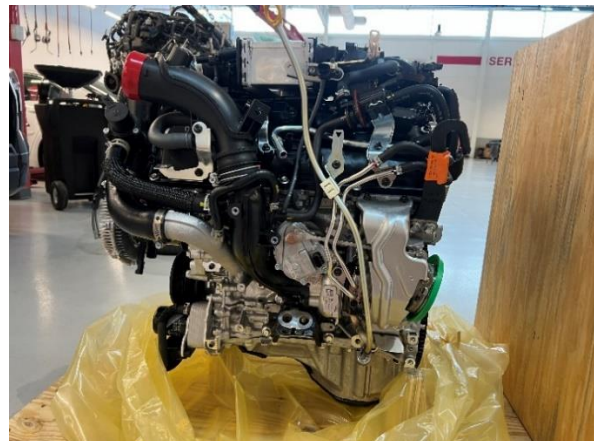
Applicability

RECOMMENDATIONS

2. Confirm engine assembly is part number 04004-23370, which includes intercooler, turbos, and fuel system. While the new engine assembly contains most components, some components will need to be transferred from the existing engine to the replacement engine such as:

- Starter
- Engine Wire Harness
- Alternator
- A/C Compressor
- Drive belt tensioner
- Drive belts

See pictures below for reference of engine assembly.



NOTE: Drain all fluids from engine in vehicle prior to removal.

Subject

Engine Assembly Removal / Installation Precaution

Market

USA

Applicability

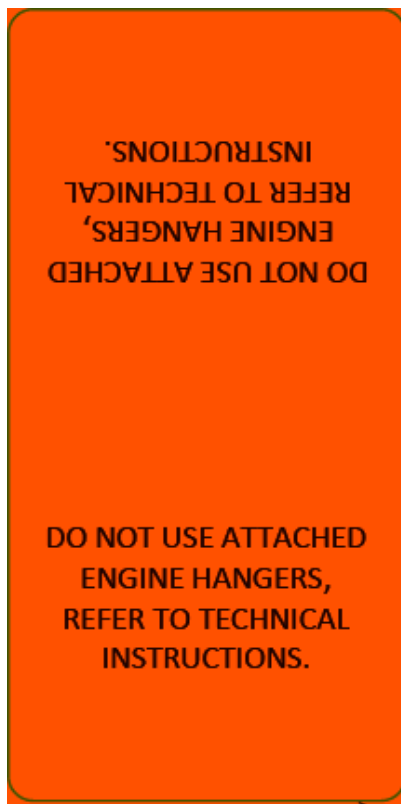
RECOMMENDATIONS

3. DO NOT USE ENGINE HOOKS OR ENGINE HOOK BOLTS THAT ARE INCLUDED WITH ENGINE ASSEMBLY WHEN HOISTING ENGINE.

- Hooks attached to the engine are NOT meant to be used in dealers
 - They will come with white or orange labels as shown below
- Correct hooks will be provided separately
 - These hooks will have thicker bases and require the use longer bolts which will also be provided

SEE CHART BELOW to ensure the correct hooks are being used.

Example of engine hook label:



Subject

Engine Assembly Removal / Installation Precaution

Market

USA

Applicability

RECOMMENDATIONS

Part Description	Part Number	Notes
Service Engine Hook No. 1	12281-70080	OK TO USE
Service Engine Hook No. 2	12282-70050	OK TO USE
Service Engine Hook Bolts	90105-A0354	OK TO USE

NOTE: Spray paint service engine hooks (thicker base) a color that is easily visible such as yellow, orange, red, white, etc., before using.

Correct Hooks for Use



Do Not Use



Subject

Engine Assembly Removal / Installation Precaution

Market

USA

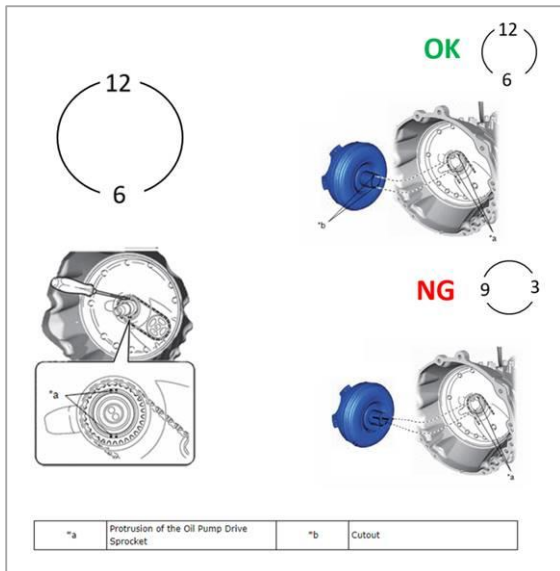
Applicability

RECOMMENDATIONS

4. Torque Converter Precaution: See Tech Tip T-TT-0748-24

Prior to installing the new engine, ensure the torque converter is properly seated and mated to the oil pump as shown in the image below. Referring to the appropriate Repair Manual Installation instructions, pay close attention to step #2 for Torque Converter Assembly Installation. It is critical to align the oil pump drive sprocket at the "12-6" o'clock position as indicated in the diagram below **before** installing the Torque Converter cutout to the protrusion on the oil pump.

NOTE: Ensure torque converter snout is flush using a straight edge as shown below to ensure it is fully seated. A properly seated torque converter snout will not contact the straight edge or prevent straight edge from contacting both sides of bell housing.



Subject

Engine Assembly Removal / Installation Precaution

Market

USA

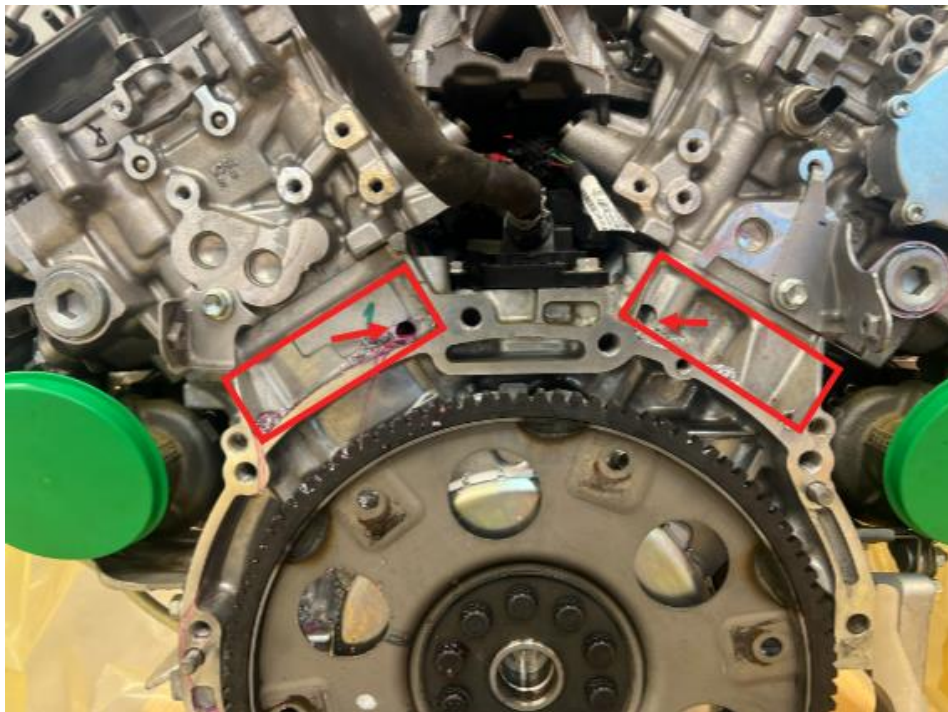
Applicability

RECOMMENDATIONS

IF ENGINE/TURBOS ARE BEING RECOVERED, SKIP THIS SECTION

5. Render old engine assembly and turbos unusable after repair is complete (if not being recovered) and record the serial number of the new engine using the following methods. Send 4 pictures of the following with the Repair Order to quality_compliance@toyota.com.
 1. Drill 2 holes (1 in each rectangle) in back of block while using drill bit larger than 3/8" in locations shown in image below.
 2. Drill 1 hole in left turbo housing near turbo serial number while using 3/8" drill bit in at least 1 location per turbo as shown in images below.
 3. Drill 1 hole in right turbo housing near turbo serial number while using 3/8" drill bit in at least 1 location per turbo as shown in images below.
 4. Serial Number of new engine outside of wood crate, top of intercooler or on engine block

Example of locations to drill holes in block:



Subject

Engine Assembly Removal / Installation Precaution

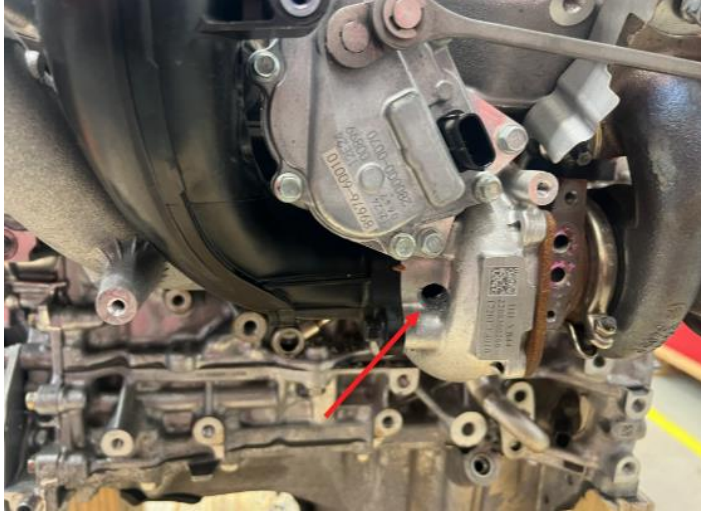
Market

USA

Applicability

RECOMMENDATIONS

Example of locations to drill holes in turbos:



Example of serial number on outside of wood crate:



Example of serial number on block:



Subject

Engine Assembly Removal / Installation Precaution

Market

USA

Applicability

RECOMMENDATIONS

PROCEDURE FOR SEIZED ENGINES ONLY

- 6. If engine is seized (cannot be turned over by hand), follow these steps:
 - a. Using pole jack, stabilize rear of the engine to prevent twisting/shifting of the engine mounts due to the weight of the torque converter when removing the transmission.



Use pole jack to support engine here.

- b. Remove transmission while leaving torque converter attached to engine. Avoid excessive movement while removing transmission to avoid damage to the front pump.



Subject

Engine Assembly Removal / Installation Precaution

Market

USA

Applicability

RECOMMENDATIONS

c. Remove torque converter bolts using open ended wrench.



d. Confirm starter is functional by ensuring it will spin freely. If starter does not spin freely by hand, the starter will need to be replaced.

Subject

Engine Assembly Removal / Installation Precaution

Market

USA

Applicability

LINK REFERENCES

5. [V35A-FTS \(ENGINE MECHANICAL\): ENGINE ASSEMBLY \(for Gasoline Model\): REMOVAL; 2022 - 2024 MY Tundra \[11/2021 - 08/2024\]](#)
6. [V35A-FTS \(ENGINE MECHANICAL\): ENGINE ASSEMBLY \(for Gasoline Model\): INSTALLATION; 2022 - 2025 MY Tundra \[11/2021 - ???????\]](#)
7. [AJA0E \(AUTOMATIC TRANSMISSION / TRANSAXLE\): AUTOMATIC TRANSMISSION ASSEMBLY: INSTALLATION; 2022 - 2025 MY Tundra \[11/2021 - ???????\]](#)
8. [AJA0F \(AUTOMATIC TRANSMISSION / TRANSAXLE\): AUTOMATIC TRANSMISSION ASSEMBLY: INSTALLATION; 2022 - 2025 MY Tundra \[11/2021 - ???????\]](#)