IMPORTANT UPDATE

TECHNICAL INSTRUCTIONS

FOR

SAFETY RECALL J0M

OVERSIZED PISTONS

CERTAIN 2018 CAMRY

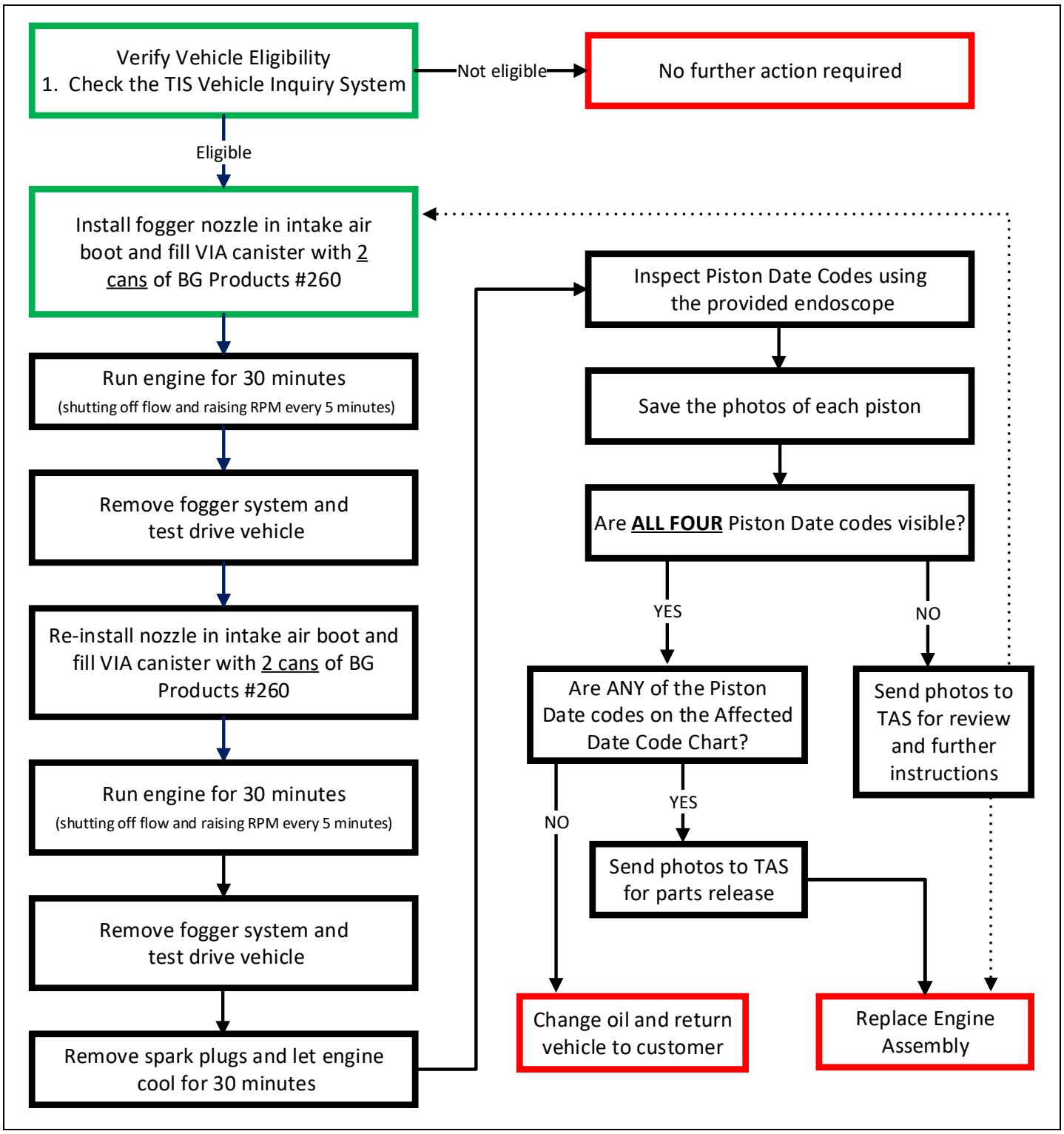
Update May 25, 2018: Reference corrected on p.20

The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this recall are required to successfully complete the most current version of the E-Learning course "Safety Recall and Service Campaign Essentials". To ensure that all vehicles have the repair performed correctly; technicians performing this recall repair are required to currently hold at least one of the following certification levels:

- **Expert Technician (Engine)**
- **Master Technician**
- **Master Diagnostic Technician**

It is the dealership's responsibility to select technicians with the above certification level or greater to perform this recall repair. Carefully review your resources, the technician skill level, and ability before assigning technicians to this repair. It is important to consider technician days off and vacation schedules to ensure there are properly trained technicians available to perform this repair at all times.

I. OPERATION FLOW CHART



II. IDENTIFICATION OF AFFECTED VEHICLES

- Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Safety Recall, and that it has not already been completed prior to dealer shipment or by another dealer.
- TMS warranty will not reimburse dealers for repairs completed on vehicles that are not affected or were completed by another dealer.

III. PREPARATION

A. PARTS

Inspection only parts:

Part Number	Part Description	Quantity
90430-12031	Engine oil drain plug gasket	1
90915-10009	Engine Oil Filter	1

Engine Assembly replacement parts:

Part Number	Part Description	Quantity
04008-01133	Full Engine Assembly	1
04008-19133	Engine Ancillary Repair Kit *	1

*The kit above includes the following parts:

Part Number	Part Description	Quantity
17173-F0010	Exhaust Manifold to Head Gasket	1
90177-08003	Exhaust Manifold to Cylinder Head Nuts	7
90917-A6002	Exhaust Manifold to Exhaust Pipe Gasket	1
90177-10005	Exhaust Manifold to Exhaust Pipe Nuts	2
90069-08007	Cooler Refrigerant Discharge No. 1 Hose O-Rings	1
90069-08009	Cooler Refrigerant Suction O-Ring	1
90468-14016	Transmission Control Cable Clip	1
90105-10585	Exhaust Pipe Bolts	2
90917-A6004	Exhaust Pipe Gasket	1
90080-17238	Axle Shaft Nut	2
95381-03025	Tie Rod End Cotter Pin	2
90430-A0003	Straight screw plug O ring (Transmission oil check and drain plug)	2
90430-12031	Engine oil drain plug gasket	1

B. TOOLS & EQUIPTMENT

- Techstream
- Engine Hoist
- Standard Hand Tools
- Engine Stand
- Torque Wrench

SST – These Special Service Tools required for this repair:

Part Number	Tool Name	Quantity
00002-11100-02	Transmission Fluid Pump	1
Campaign tool	BG Vehicle Injection Apparatus	1
Campaign tool	Depstech 85S Endoscope	1

C. MATERIALS

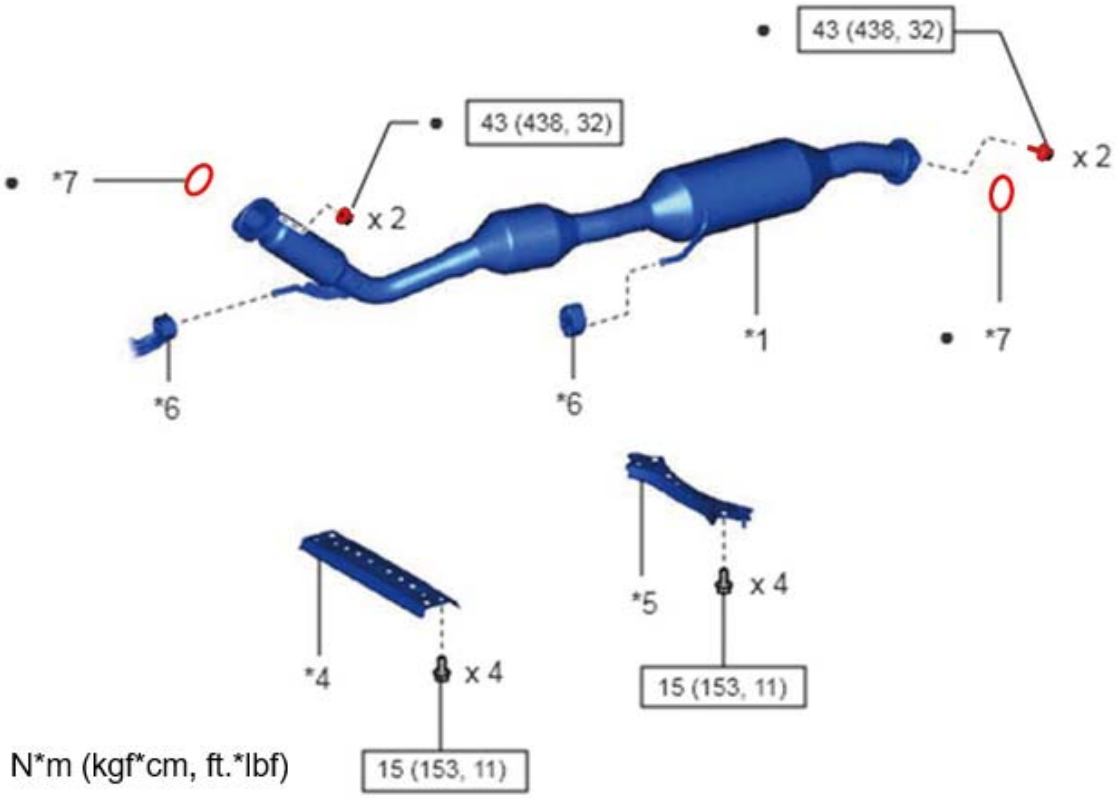
- BG #260 GDI Intake Valve Cleaner** (qty. 4,possibly 8)

** This product is available through your local BG Distributor. To contact your local distributor, call 1-800-961-6228 or visit: https://www.bgprod.com/contact-us/distributors/. Each vehicle will require a minimum of 4 cans of BG #260 GDI Intake Valve Cleaner. An additional 4 cans may be needed if additional cleaning is approved by TAS. This purchase will be reimbursed when submitted with a warranty inspection. Unused product cannot be reimbursed.

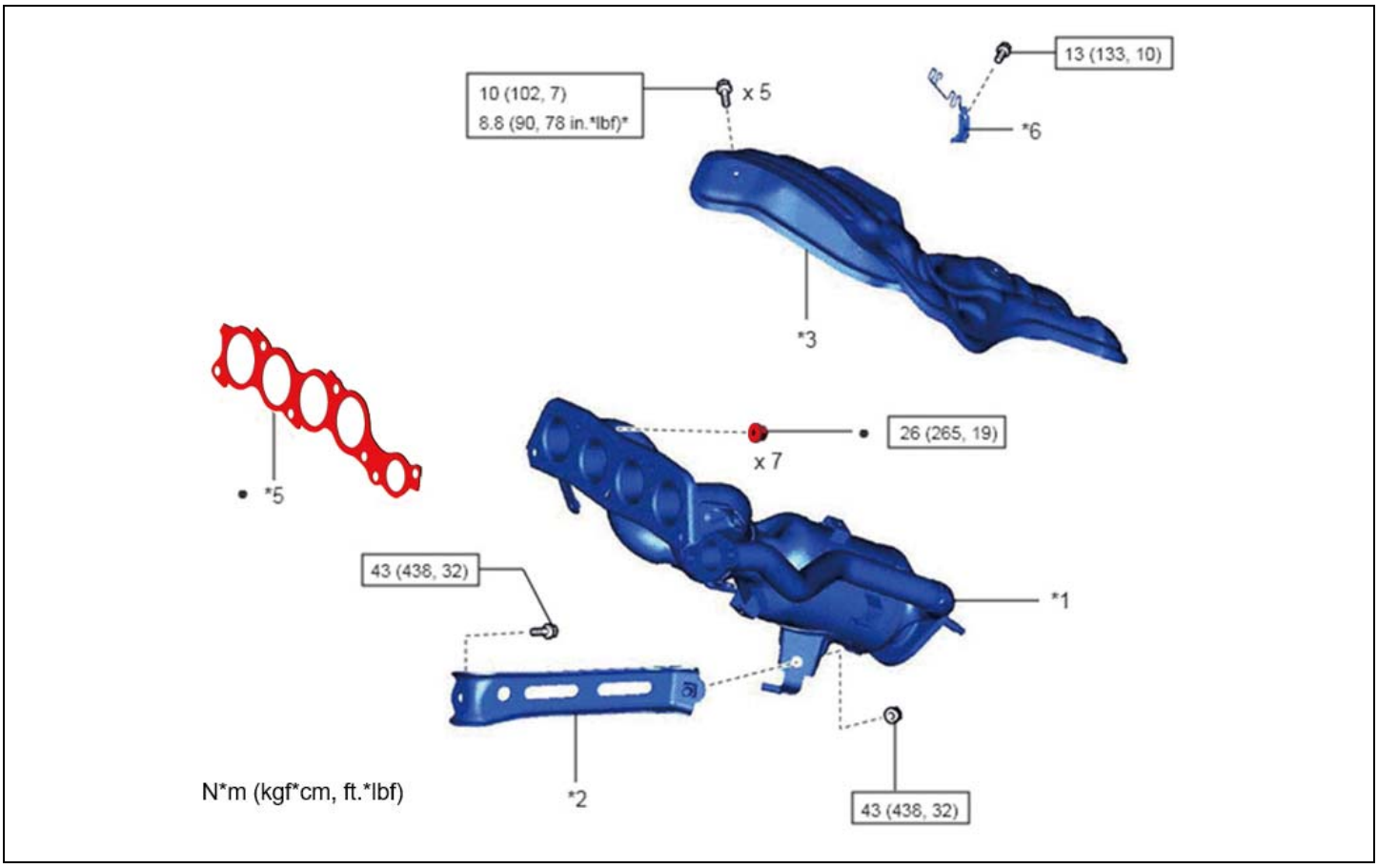
IV. BACKGROUND

The involved vehicle's engine may be equipped with pistons from a particular production period that were produced with a diameter larger than the specification. This may cause the vehicle to run rough, create an abnormal sound, emit smoke from the exhaust, and illuminate warning lights and messages. Also, a reduction of power may occur and the engine could stop running. A vehicle's engine which stops while driving can increase the risk of a crash.

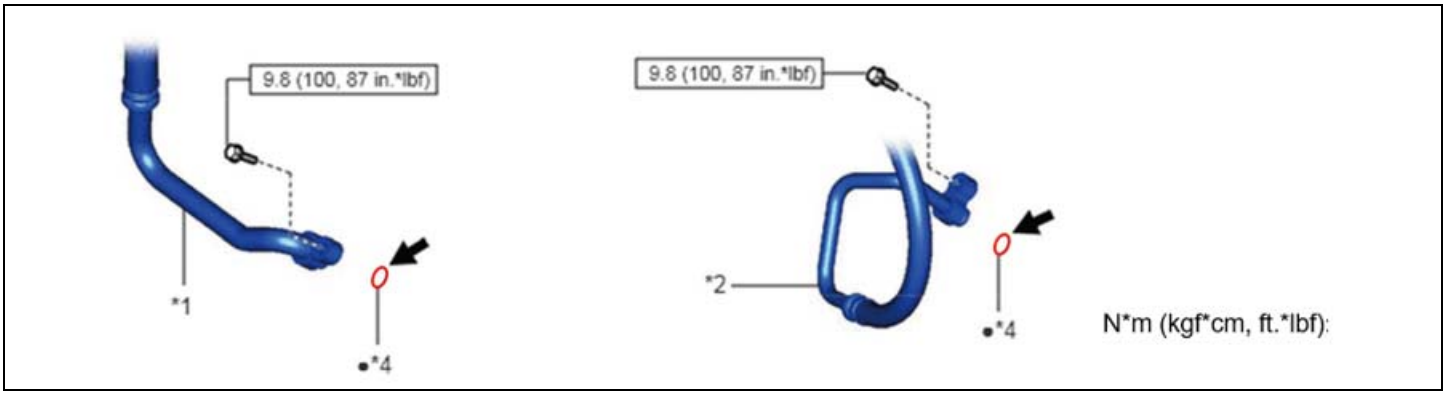
V. COMPONENTS



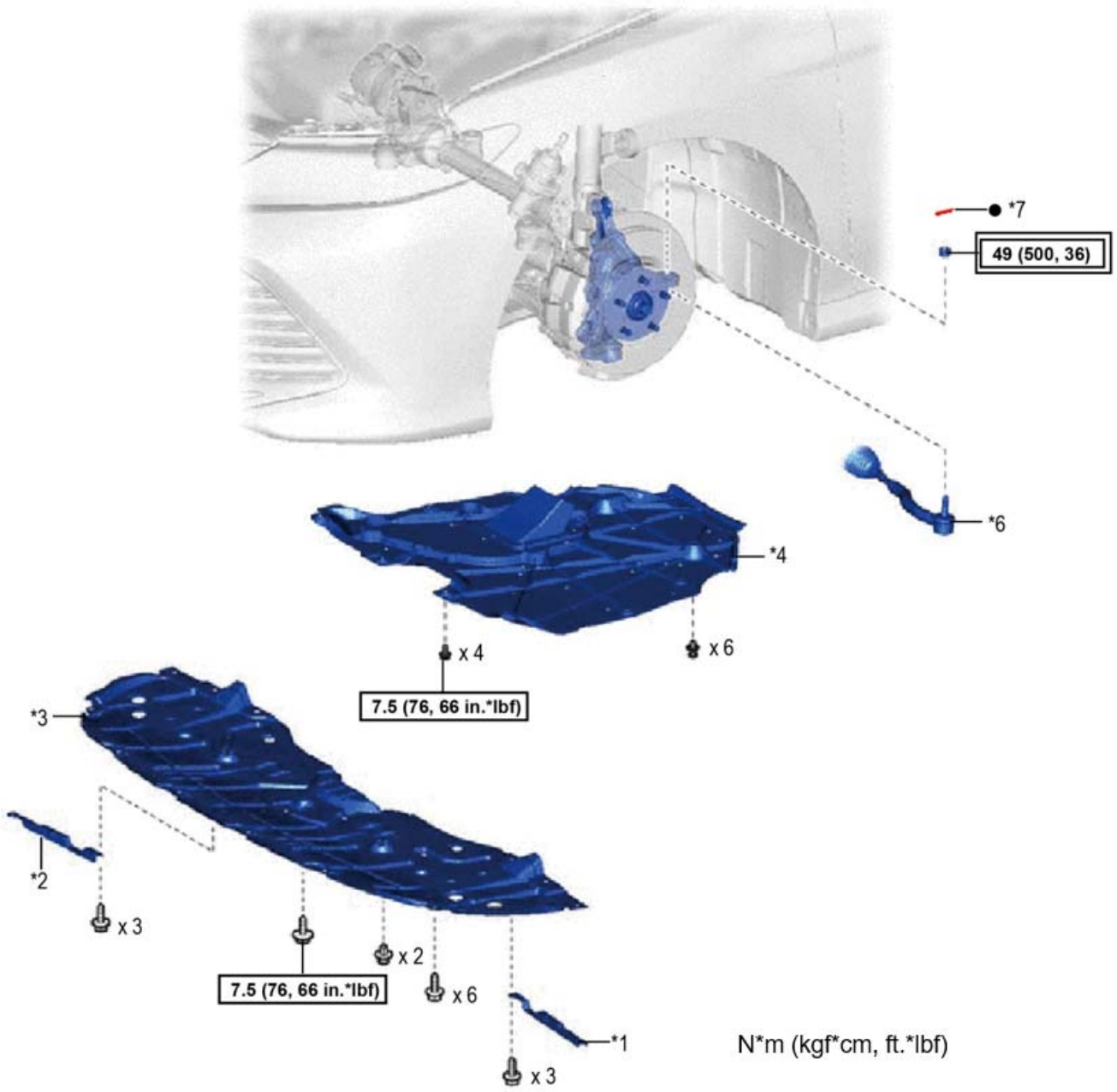
*1	FRONT EXHAUST PIPE ASSEMBLY (TWC: Rear Catalyst)	*2	NO. 1 UPPER FRONT FLOOR HEAT INSULATOR
*3	FRONT LOWER NO. 1 FLOOR HEAT INSULATOR	*4	CENTER FLOOR CROSSMEMBER BRACE
*5	FRONT CENTER FLOOR BRACE	*6	EXHAUST PIPE SUPPORT
*7	GASKET	•	Non-reusable part



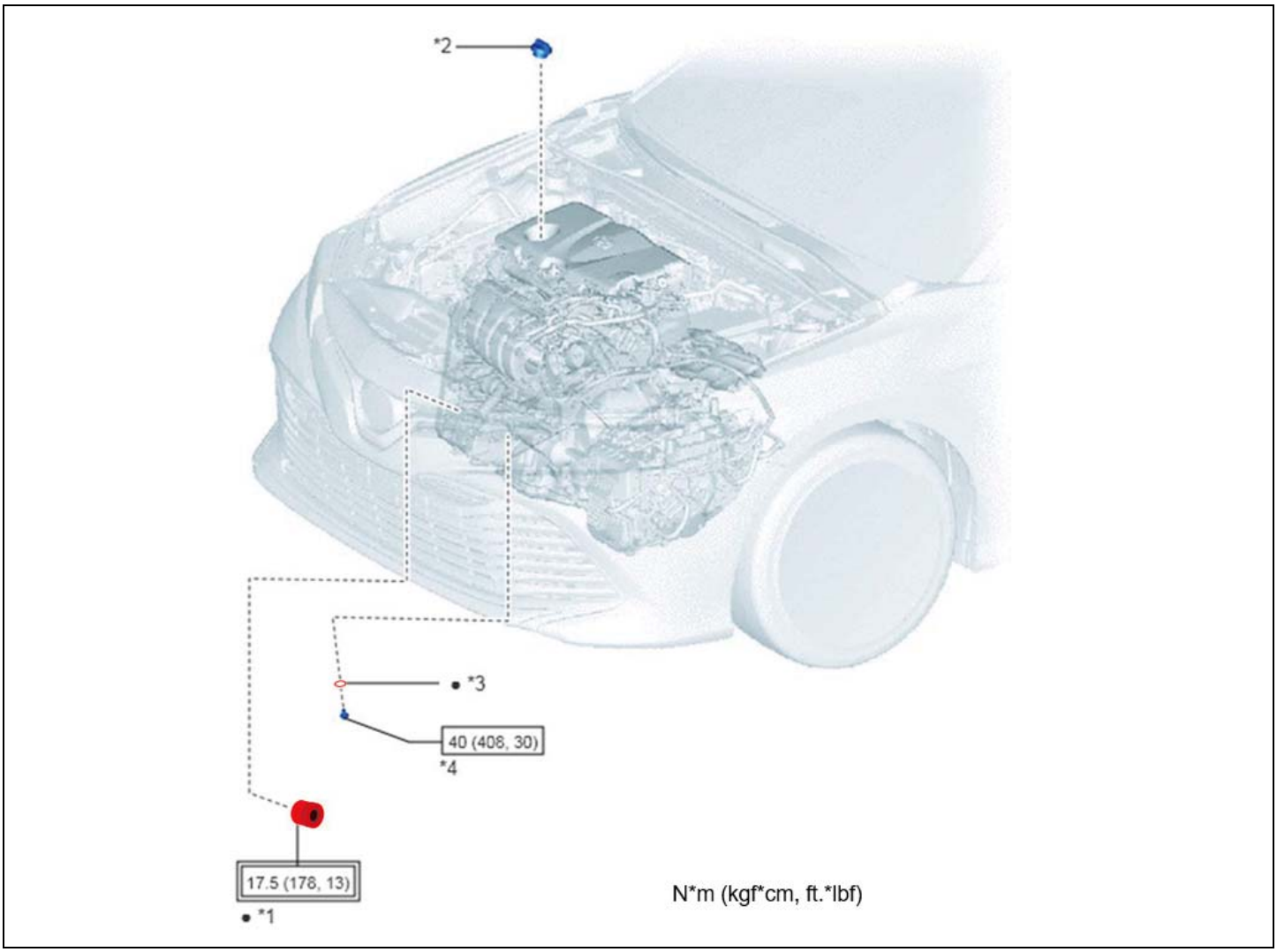
*1	EXHAUST MANIFOLD (TWC: Front Catalyst)	*2	MANIFOLD STAY
*3	NO. 1 EXHAUST MANIFOLD HEAT INSULATOR	*4	NO. 2 EXHAUST MANIFOLD HEAT INSULATOR
*5	EXHAUST MANIFOLD TO HEAD GASKET	*6	WIRE HARNESS CLAMP BRACKET
●	Non-reusable part	-	-



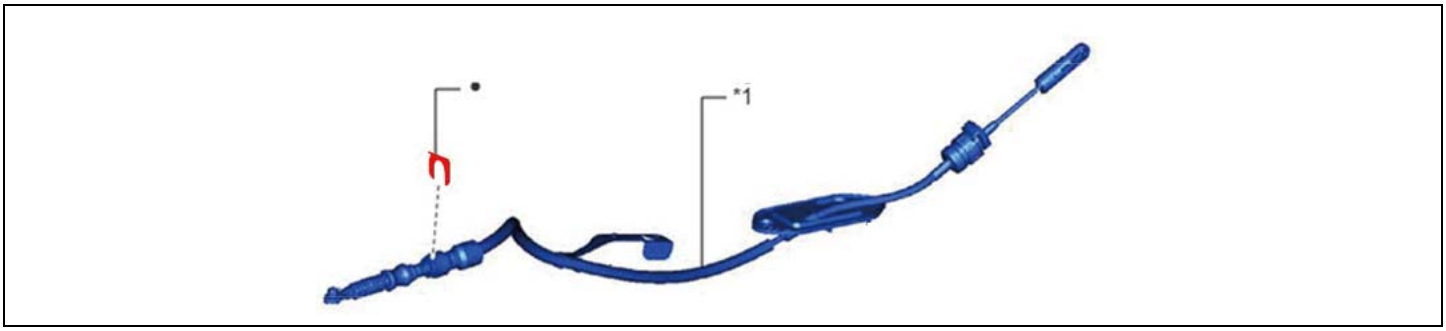
*1	SUCTION HOSE SUB-ASSEMBLY	*2	NO. 1 COOLER REFRIGERANT DISCHARGE HOSE SUB-ASSEMBLY
*4	O-RING	●	Non-reusable part



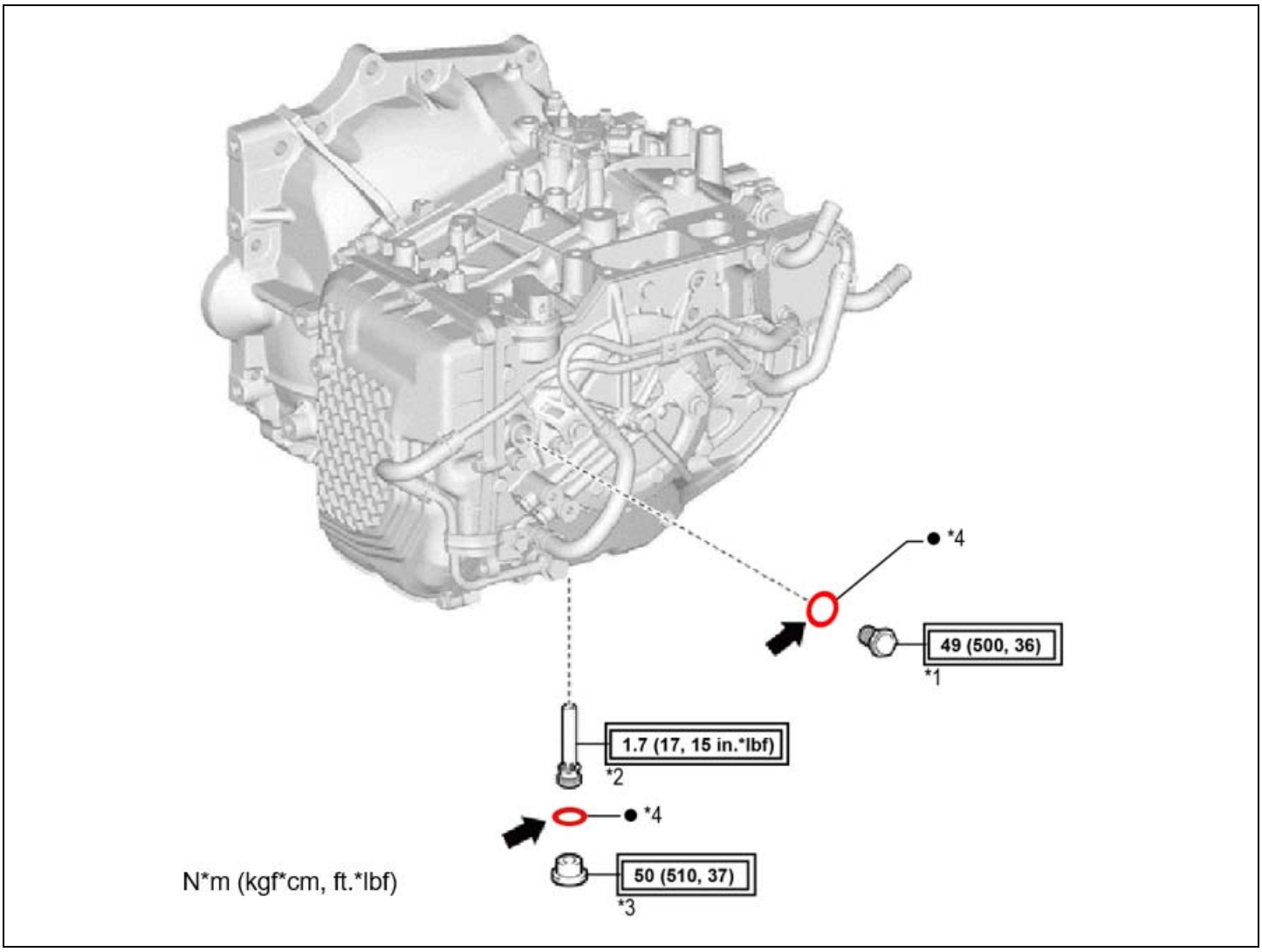
*1	FRONT WHEEL OPENING EXTENSION PAD LH	*2	FRONT WHEEL OPENING EXTENSION PAD RH
*3	NO. 1 ENGINE UNDER COVER	*4	NO. 2 ENGINE UNDER COVER ASSEMBLY
*5	STEERING INTERMEDIATE SHAFT ASSEMBLY	*6	TIE ROD ASSEMBLY LH
*7	COTTER PIN	●	Non-reusable part



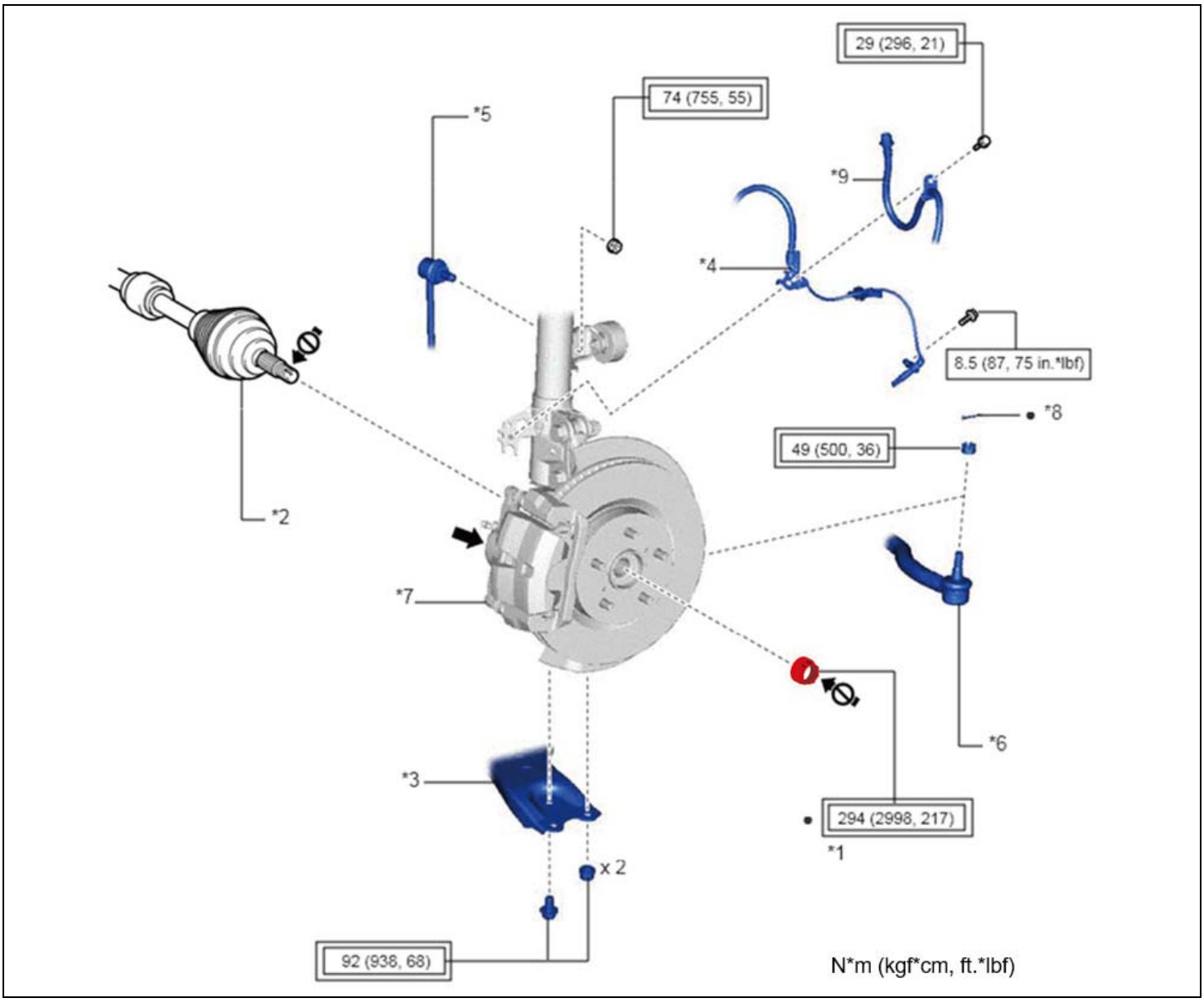
*1	OIL FILTER SUB-ASSEMBLY	*2	OIL FILLER CAP SUB-ASSEMBLY
*3	GASKET	*4	OIL PAN DRAIN PLUG
•	Non-reusable part	-	-



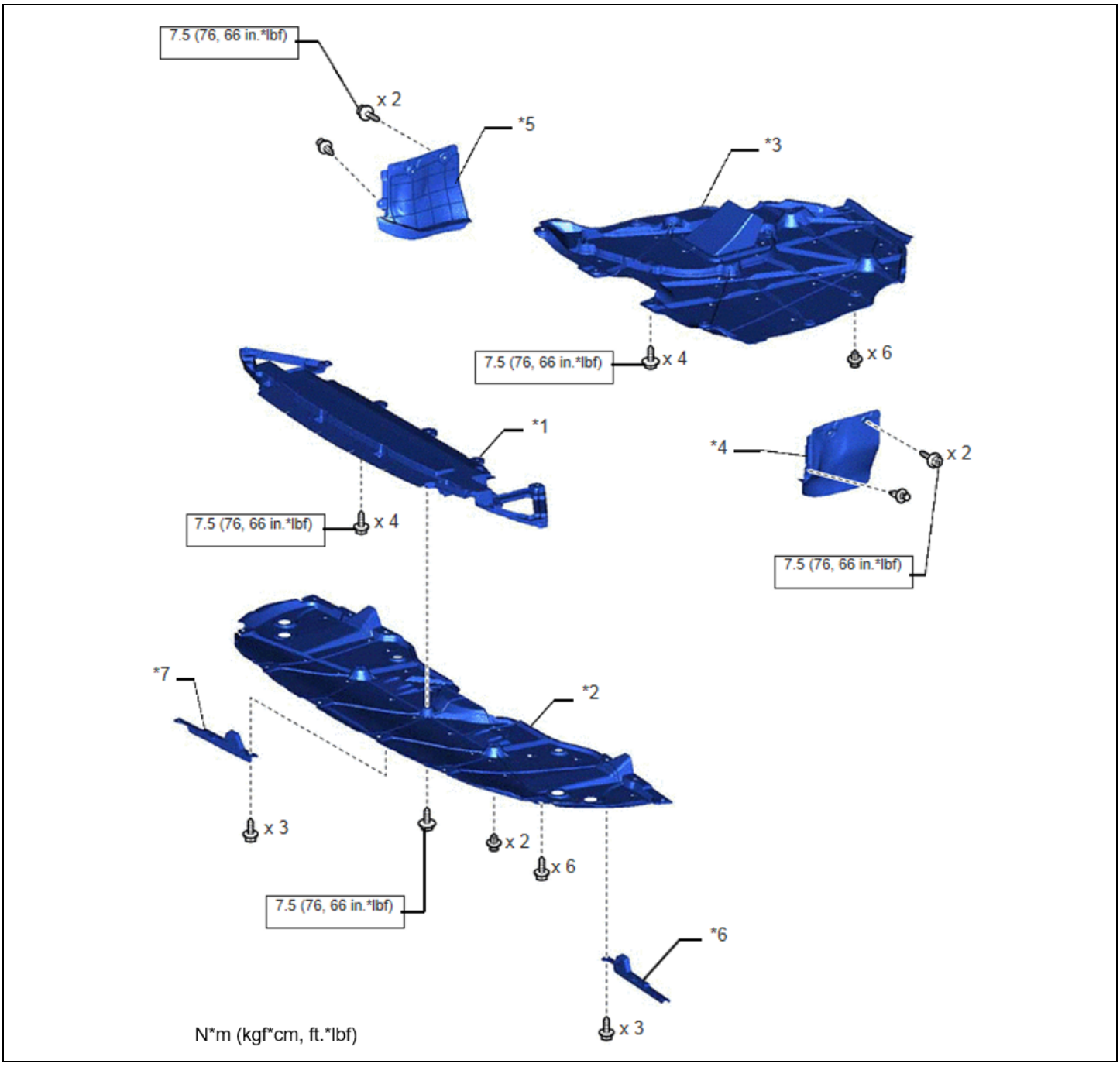
*1	TRANSMISSION CONTROL CABLE ASSEMBLY	•	Non-reusable part



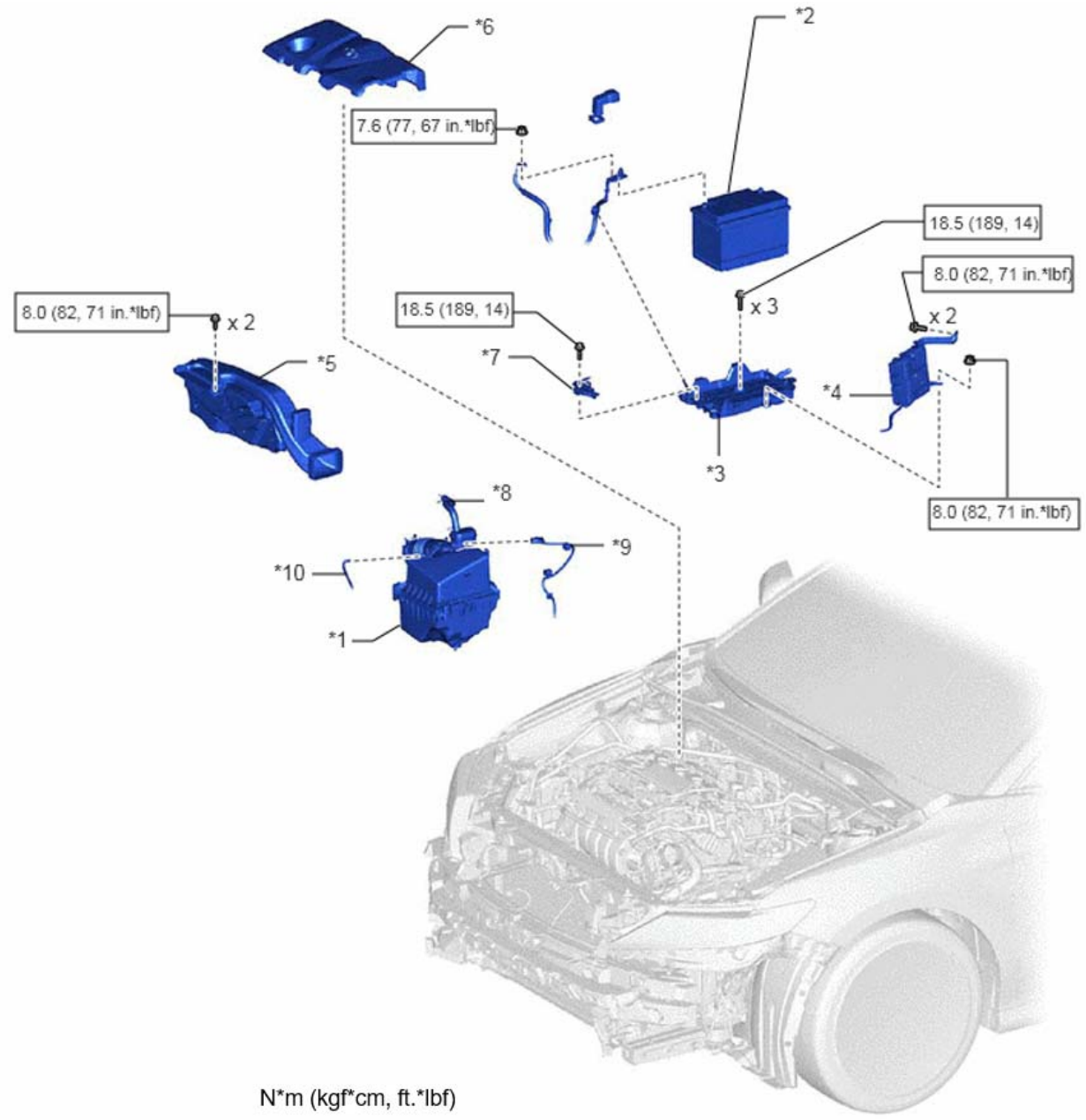
*1	REFILL PLUG	*2	NO. 1 TRANSMISSION OIL FILLER TUBE
*3	OVERFLOW PLUG	*4	GASKET
▭	Tightening torque for "Major areas involving basic vehicle performance such as moving/turning/stopping": N*m (kgf*cm, ft.*lbf)	•	Non-reusable part
➡	Toyota Genuine ATF WS	-	-



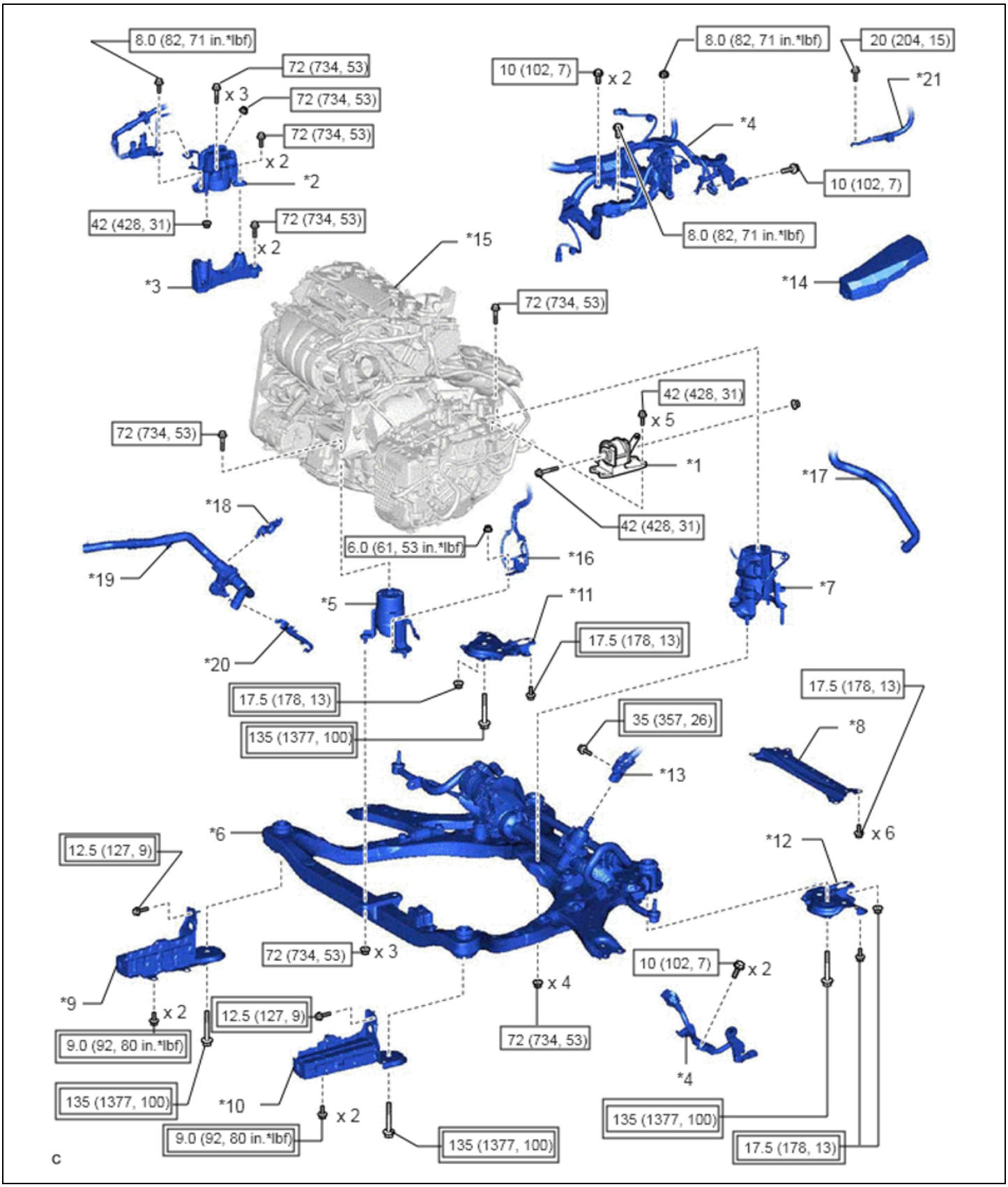
*1	FRONT AXLE SHAFT NUT	*2	FRONT DRIVE SHAFT ASSEMBLY
*3	FRONT LOWER NO. 1 SUSPENSION ARM SUB-ASSEMBLY	*4	FRONT SPEED SENSOR
*5	FRONT STABILIZER LINK ASSEMBLY	*6	TIE ROD ASSEMBLY
*7	FRONT AXLE ASSEMBLY	*8	COTTER PIN
*9	FRONT FLEXIBLE HOSE	-	-
▭	Tightening torque for "Major areas involving basic vehicle performance such as moving/turning/stopping": N*m (kgf*cm, ft.*lbf)	▭	N*m (kgf*cm, ft.*lbf): Specified torque
•	Non-reusable part	➡	Toyota Genuine ATF WS
⊘	Do not apply lubricants to the threaded parts	-	-



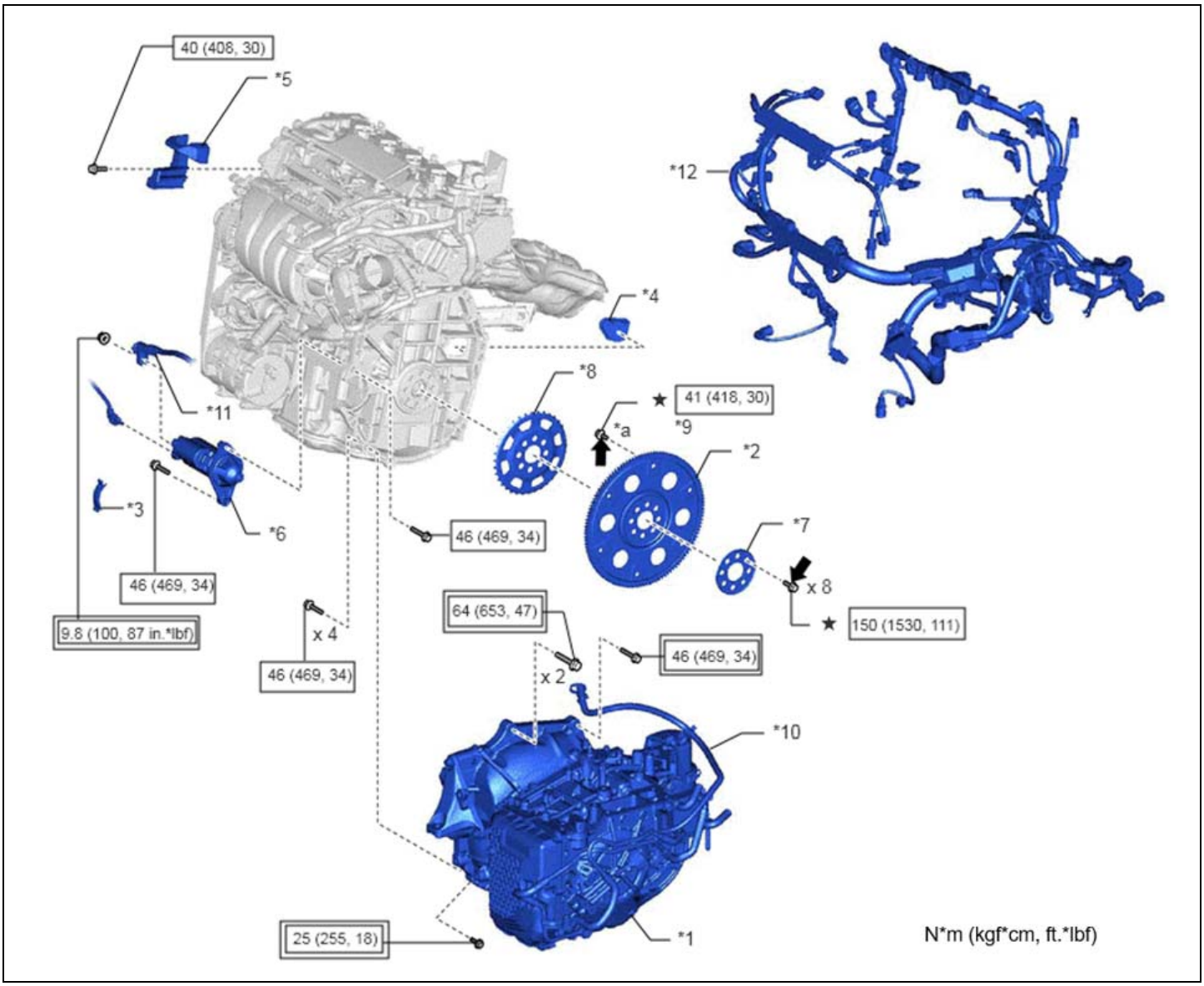
*1	FRONT LOWER BUMPER ABSORBER	*2	NO. 1 ENGINE UNDER COVER
*3	NO. 2 ENGINE UNDER COVER ASSEMBLY	*4	FRONT FENDER APRON SEAL LH
*5	FRONT FENDER APRON SEAL RH	*6	FRONT WHEEL OPENING EXTENSION PAD LH
*7	FRONT WHEEL OPENING EXTENSION PAD RH	▭	N*m (kgf*cm, ft.*lbf): Specified torque



*1	AIR CLEANER ASSEMBLY WITH AIR CLEANER HOSE	*2	BATTERY
*3	BATTERY CLAMP SUB-ASSEMBLY	*4	ECM
*5	INLET AIR CLEANER ASSEMBLY	*6	NO. 1 ENGINE COVER SUB-ASSEMBLY
*7	NO. 2 BATTERY CLAMP	*8	NO. 2 VENTILATION HOSE
*9	MASS AIR FLOW METER SUB-ASSEMBLY CONNECTOR	*10	VACUUM HOSE
▭	N*m (kgf*cm, ft.*lbf): Specified torque	-	-

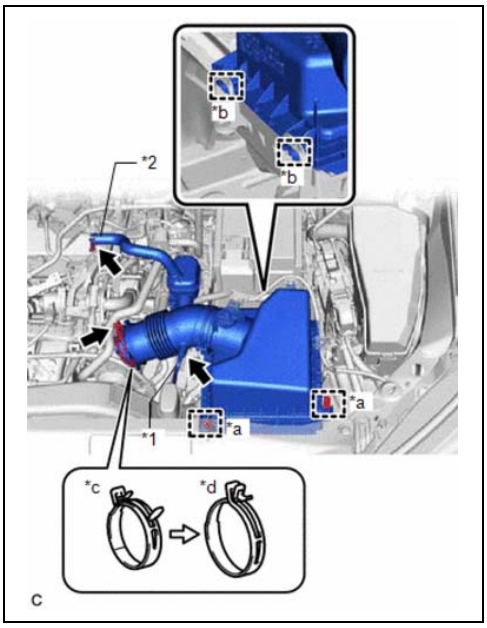

8.0 (82, 71 in.*lbf)
72 (734, 53)
x 3
72 (734, 53)
72 (734, 53)
x 2
*2
42 (428, 31)
72 (734, 53)
x 2
*3
*15
72 (734, 53)
72 (734, 53)
10 (102, 7)
x 2
8.0 (82, 71 in.*lbf)
20 (204, 15)
*21
*4
10 (102, 7)
8.0 (82, 71 in.*lbf)
*14
42 (428, 31)
x 5
*1
42 (428, 31)
*17
*18
*19
6.0 (61, 53 in.*lbf)
*16
*5
*11
*7
*20
17.5 (178, 13)
17.5 (178, 13)
135 (1377, 100)
35 (357, 26)
*13
17.5 (178, 13)
*8
x 6
*6
12.5 (127, 9)
*12
72 (734, 53)
x 3
x 4
72 (734, 53)
10 (102, 7)
x 2
*4
*9
x 2
9.0 (92, 80 in.*lbf)
12.5 (127, 9)
135 (1377, 100)
*10
x 2
9.0 (92, 80 in.*lbf)
135 (1377, 100)
135 (1377, 100)
17.5 (178, 13)
c

*1	REAR NO. 2 ENGINE MOUNTING INSULATOR	*2	ENGINE MOUNTING INSULATOR SUB-ASSEMBLY RH
*3	ENGINE MOUNTING SPACER	*4	WIRE HARNESS
*5	FRONT ENGINE MOUNTING INSULATOR	*6	FRONT FRAME ASSEMBLY
*7	REAR ENGINE MOUNTING INSULATOR	*8	BODY MOUNTING PLATE
*9	FRONT BUMPER EXTENSION SUB-ASSEMBLY RH	*10	FRONT BUMPER EXTENSION SUB-ASSEMBLY LH
*11	FRONT SUSPENSION MEMBER BRACKET SUB-ASSEMBLY RH	*12	FRONT SUSPENSION MEMBER BRACKET SUB-ASSEMBLY LH
*13	STEERING INTERMEDIATE SHAFT ASSEMBLY	*14	NO. 2 RELAY BLOCK COVER
*15	ENGINE ASSEMBLY WITH TRANSAXLE	*16	VACUUM HOSE
*17	WATER BY-PASS HOSE ASSEMBLY	*18	HOSE CLAMP
*19	FLOW SHUTTING VALVE (NO. 1 WATER BY-PASS HOSE)	*20	TRANSMISSION BREATHER CLAMP
*21	EARTH WIRE	-	-
	Tightening torque for "Major areas involving basic vehicle performance such as moving/turning/stopping": N*m (kgf*cm, ft.*lbf)		N*m (kgf*cm, ft.*lbf): Specified torque



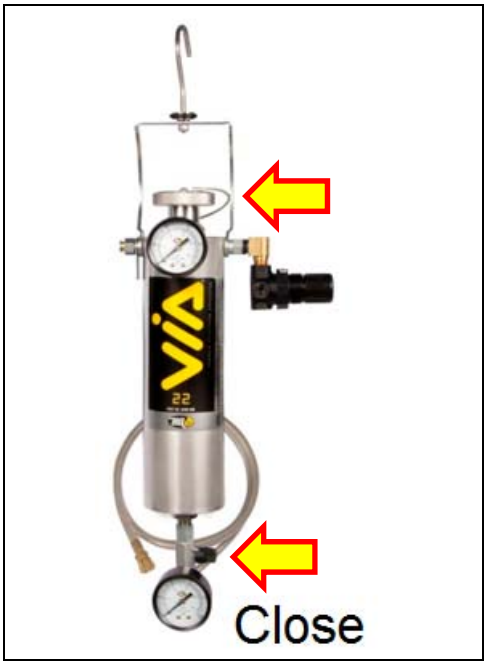
*1	AUTOMATIC TRANSAXLE ASSEMBLY	*2	DRIVE PLATE AND RING GEAR SUB-ASSEMBLY
*3	FLYWHEEL HOUSING SIDE COVER	*4	FLYWHEEL HOUSING UNDER COVER
*5	FUEL DELIVERY GUARD	*6	STARTER ASSEMBLY
*7	REAR DRIVE PLATE SPACER	*8	NO. 1 CRANKSHAFT POSITION SENSOR PLATE
*9	DRIVE PLATE AND TORQUE CONVERTER ASSEMBLY SETTING BOLT	*10	BREATHER PLUG HOSE
*11	NO. 2 ENGINE WIRE	*12	ENGINE WIRE
*a	• BLACK COLOR: x 1 • SILVER COLOR: x 5	-	-
➡	Adhesive 1324	★	Precoated part

VI. VEHICLE INJECTION APPARATUS SETUP



1. REMOVE AIR CLEANER CAP WITH HOSE

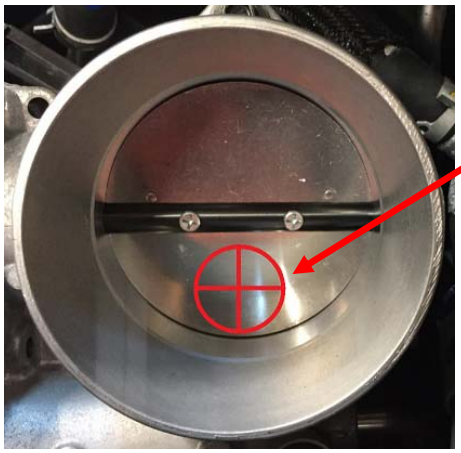
a. Unplug the mass air flow meter and disengage the two wire harness clamps from the air cleaner cap.
b. Disengage the 2 lid clamps (*a).
c. Disconnect the vacuum hose (*1) from the air cleaner hose.
d. Disconnect the ventilation hose (*2) from the cylinder head cover sub-assembly.
e. Loosen the clamp (*c) and remove the hose from the throttle body assembly.



2. PREPARE THE VEHICLE INJECTION APPARATUS (VIA)

a. Close the valve (horizontal) on the bottom of the cannister.
b. Unscrew the cap on the top of the cannister.
c. Fill the cannister with <u>2 cans</u> of BG #260 GDI Intake Valve Cleaner.
d. Properly tighten the cannister cap.
e. Hang the VIA from the hood latch.

DO NOT pour this chemical near the vehicle, as it can damage the paint and other surfaces if spilled.



3. INSTALL FOGGER NOZZLE

a. Position the fogger nozzle so that it will spray just in front of the throttle body.
b. Reinstall the air cleaner cap with hose assembly as removed is Step #1. There is no need to install the clamp on the air cleaner hose while the fogger nozzle is installed.

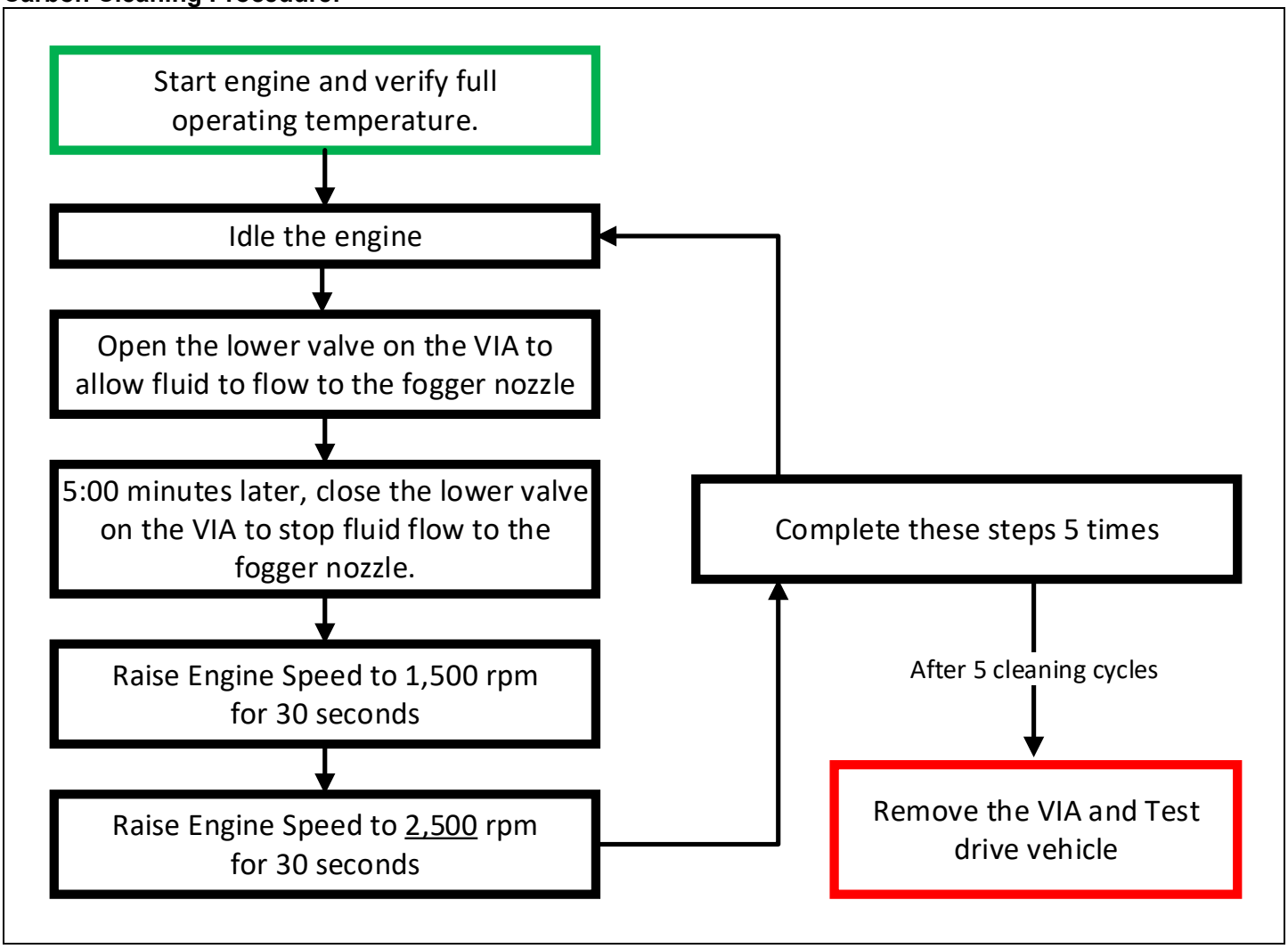
Note: The fogger nozzle tube can be gently bent to align the nozzle with the throttle plate properly.

Only install the fogger nozzle between the intake hose and the throttle body. DO NOT install the fogger nozzle between the air filter cap and the intake air hose.

c. Connect a shop air hose to the VIA pressure regulator.
d. Set the regulator so that the upper pressure gauge reads 80 psi.
e. Connect the vehicle's tailpipe to a shop exhaust hose.

VII. CARBON CLEANING PROCEDURE – Round #1

Carbon Cleaning Procedure:



1. **PREPARE VEHICLE**
   a. Start the engine and verify that it is at operating temperature.

2. **PERFORM CLEANING PROCEDURE**
   a. Allow the engine to idle.
   b. Open (vertical) the valve at the bottom of the VIA cannister to allow fluid to flow to the fogger nozzle.

Note: Once the valve is opened, the lower pressure gauge should read 80 psi. The engine will run rougher when fluid is flowing to the fogger nozzle, but should not stall.

Wait 5:00 MINUTES

   c. Start a timer to record engine run time while the VIA valve is opened.

   d. After 5:00 minutes have elapsed with fluid flowing, close (horizontal) the lower valve on the VIA to stop the flow of fluid to the fogger nozzle.

1,500 rpm for 30 seconds

   e. Raise the engine speed to 1,500 rpm and hold it there for 30 seconds.

2,500 rpm for 30 seconds

   f. Raise the engine speed to 2,500 rpm and hold it there for 30 seconds.

Repeat 4 more times

   g. Complete steps 2a to 2f a total of five times.

Note: After completing the 5thcycle, the VIA cannister should be empty.

DO NOT OPEN THE VIA CANNISTER UNTIL THE INTERNAL PRESSURE HAS BEEN RELIEVED by first disconnecting the shop air hose and then holding in on the pressure relief valve. The upper pressure gauge must read 0psi before opening the cannister.

3. REMOVE VIA CANNISTER

a. Shut off the engine.
b. Verify that the valve on the VIA cannister is closed (horizontal).
c. Disconnect the shop air hose from the VIA regulator.
d. Using a rag, press in on the pressure relief valve until all pressure has been released from the VIA cannister. Verify that the upper pressure gauge reads 0 psi.

Pressure Relief Valve

e. Remove the fogger nozzle and VIA cannister from the vehicle.
f. Replace the air cleaner cap and hose.
g. Clear all DTC's.

4. COMPLETE TEST DRIVE

a. Drive the vehicle for 15-20 minutes, using as much high rpm and high load as safely and legally possible.

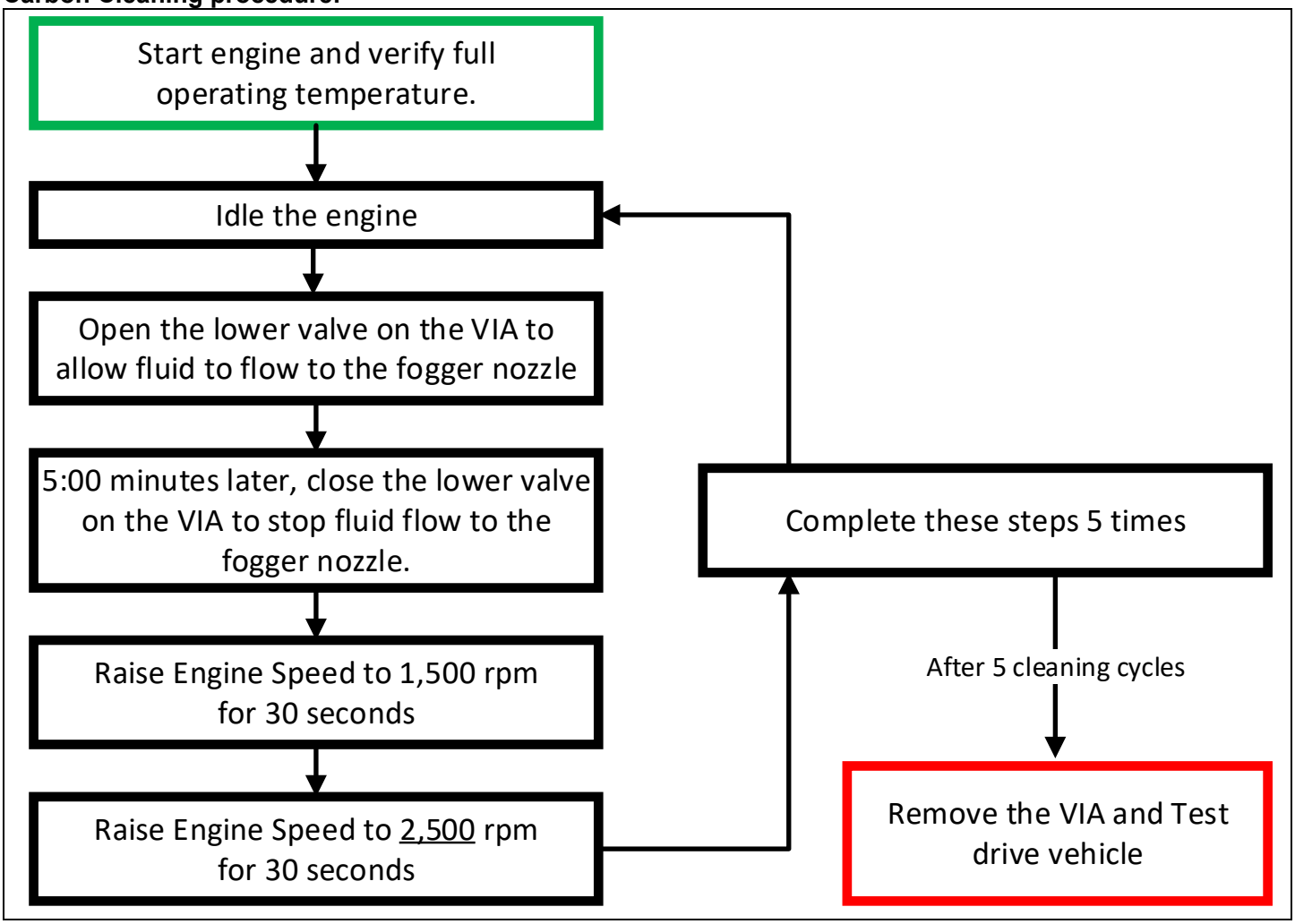
This test drive is a critical step to remove the carbon from the top of the pistons that was loosened by the BG GDI Intake Valve Cleaner. DO NOT skip this critical step.

Note: It will be necessary to run an additional 2 cans (4 in total) of BG #260 cleaner through the engine to remove the carbon enough to read the piston date codes. After completing the test drive, proceed to Section VIII. Carbon Cleaning Procedure – Round #2 on p. 20.

VIII. CARBON CLEANING PROCEDURE – Round #2

IT WILL BE NECESSARY TO RUN AN *ADDITIONAL 2 CANS* (4 in total) OF CLEANER THROUGH THE ENGINE TO CLEAN THE CARBON ENOUGH TO READ THE PISTON DATE CODES. THIS WILL BE THE SAME PROCEDURE AS COMPLETED PREVIOUSLY IN CARBON CLEANING PROCEDURE - ROUND #1.

Carbon Cleaning procedure:

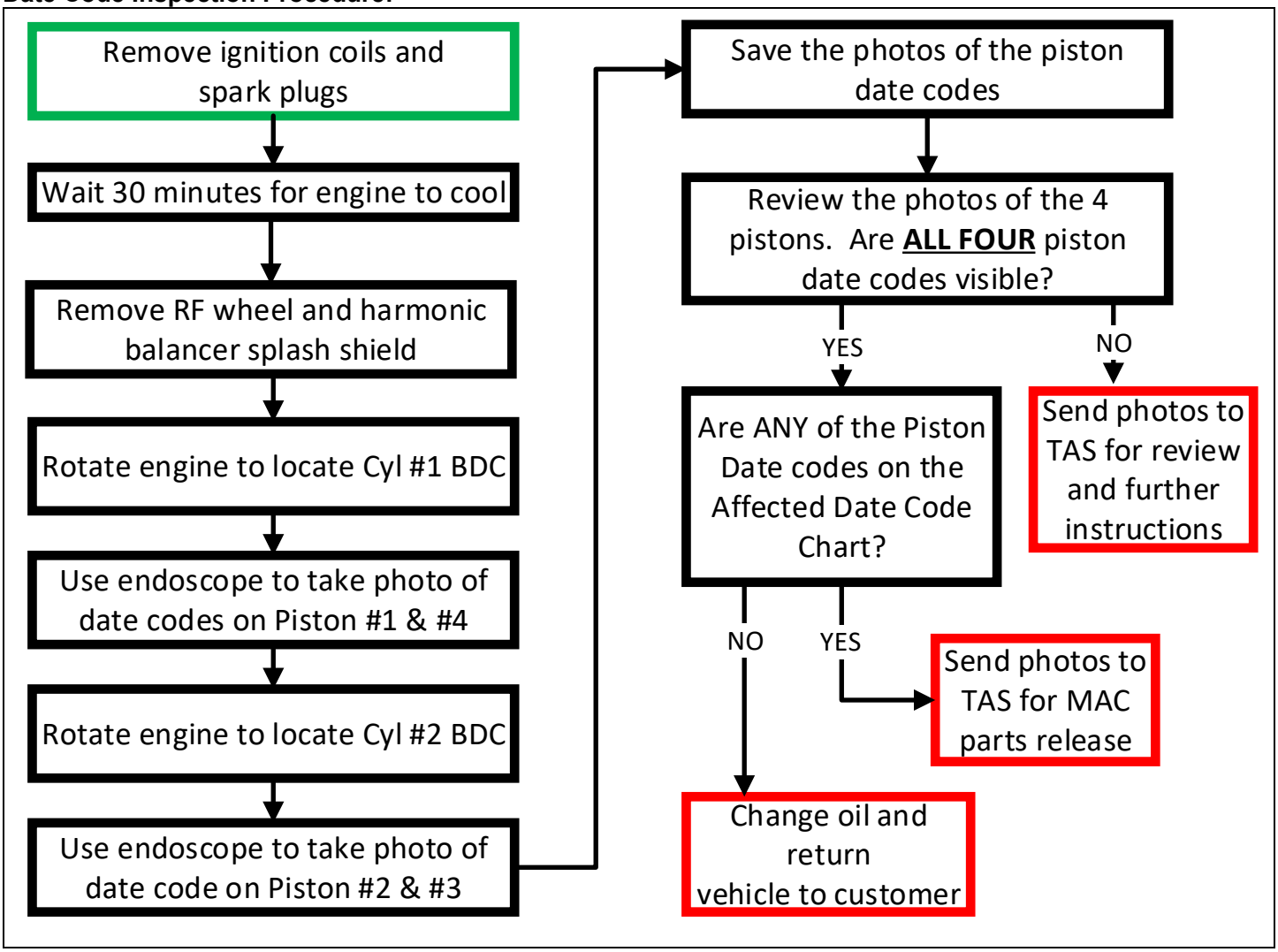


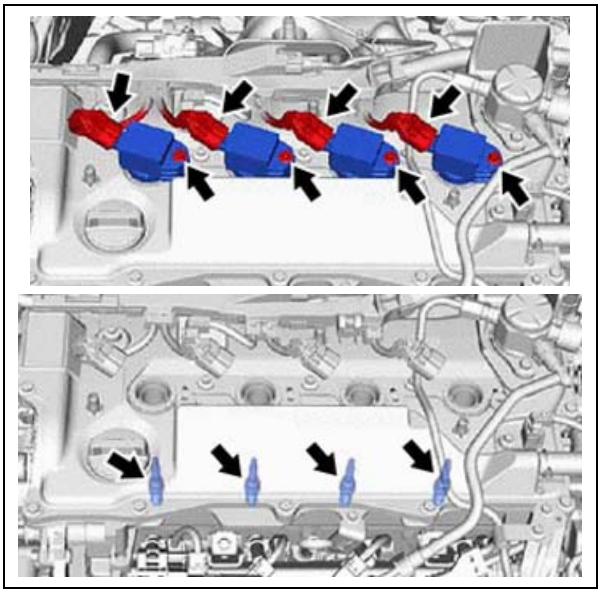
1. **REINSTALL THE VIA CANNISTER**
   a. Repeat the steps in Section VI. VEHICLE INJECTION APARATUS SETUP on p.15.
2. **REPEAT ROUND #1 OF CARBON CLEANING PROCEDURE**
   a. Repeat the steps in Section VII. CARBON CLEANING PROCEDURE – Round #1 on p.17.

***FOUR cans of BG #260 GDI Intake Valve Cleaner* will have been used after Round #1 and Round #2 have been completed. Be sure to complete all steps as detailed to insure complete removal of the carbon deposits.**

IX. DATE CODE INSPECTION

Date Code Inspection Procedure:





1. PREPARE THE VEHICLE

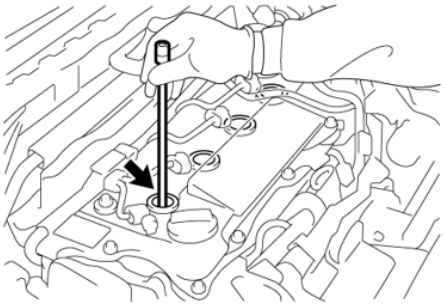
a. Park the vehicle on a lift.
b. Remove the engine cover.
c. Remove the ignition coils and spark plugs.
d. Record the time that the spark plugs were removed to begin cooling of the combustion chambers.
e. Raise the vehicle.
f. Remove the RF wheel.
g. Remove the inner splash guard covering the harmonic balancer.

Wait 30 minutes

2. COOL DOWN PERIOD

a. Be sure that at least 30 minutes have passed since the spark plugs were removed.

STOP **The cool down period is necessary to prevent damage to the endoscope.**



3. FIND CYL #1 BDC

a. Insert a ¼" extension that is at least 12" long, through the spark plug hole so that it rests on the top of the piston of cylinder #1 (closest to the engine front cover).

b. Use a 22mm wrench on the crankshaft nut, rotate the engine clockwise while watching the height of the ¼" extension.

c. Stop rotating the engine when the piston is at the BOTTOM of its stroke (BDC).

STOP **To prevent damage to the endoscope, it is necessary to allow the engine to cool down for 30 minutes with the plugs removed before reading the date codes printed on the piston tops.**

4. SET UP ENDOSCOPE

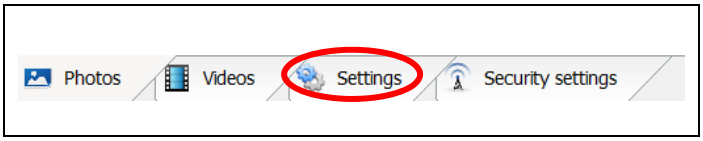
Your dealership was provided with a Depstech 85S Endoscope for this Safety Recall. It was included in the same box as the Vehicle Injection Apparatus (VIA).

a. Plug the Depstech 85S Endoscope into a USB port of the Techstream.

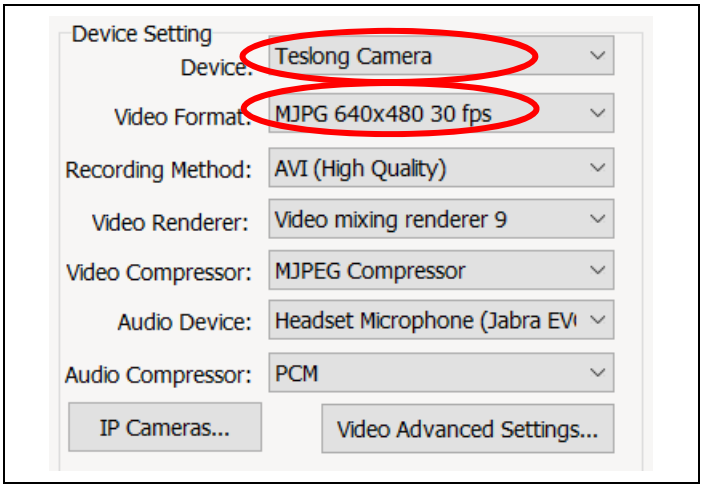
b. Select the following link to download the Smart Camera software for the Depstech NTC 85S:

Smart Camera 2.2.1 download

Note: The software for this Depstech NTC 85S can also be downloaded at the Depstech website: **http://www.depstech.com/support/**

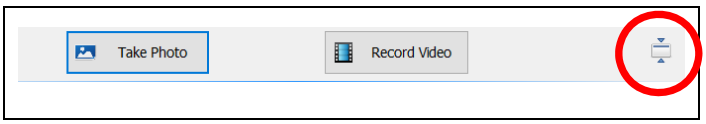


c. Select the Settings tab at the <u>bottom</u> of the Smart Camera screen.



d. Verify that the following settings:
- **Device: Teslong Camera**
- **Video Format: MJPG 640x480**

The default values on the remainder of the settings will be acceptable.



e. Maximize the photo display area by selecting the Full Screen icon.

Note: <u>**If the picture starts to turn pink**</u>, the camera is getting too hot. Remove the camera and allow more time for the engine to cool down. The image quality of the camera should return to normal as the camera cools down.

5. Inspect Piston for CYL #1

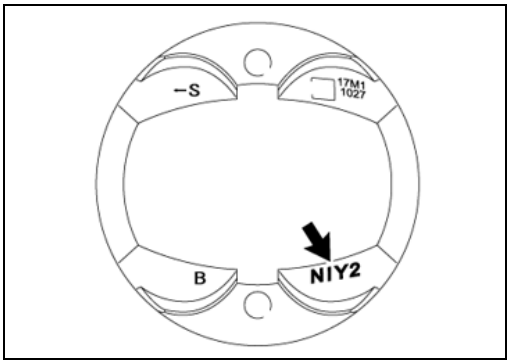
a. Turn the light on the endoscope to full bright by adjusting the thumbwheel on the cord, close to the USB plug.

b. Guide the endoscope through the spark plug hole and position the camera to read the date code. The optimum distance from the camera to the piston is 2”-3”.

c. Select the TAKE PHOTO icon to save the image.

d. <u>**Remove the endoscope from the cylinder as quickly as possible to prevent damage from excessive heat.**</u>

Note: The date code will be in the lower right corner of the piston as you face the engine. The date code is printed in the valve relief.



Intake Manifold Side

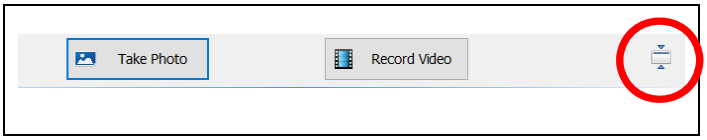
6. **INSPECT PISTON FOR CYL #4**
   a. Repeat Step #5 for cylinder #4, which is also at BDC.

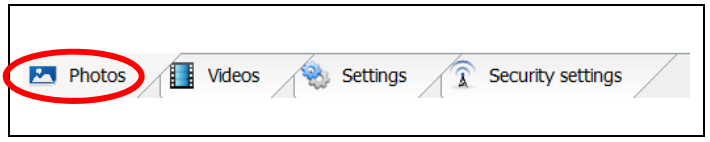
7. **ROTATE ENGINE**
   a. Rotate engine 180 degrees (1/2 turn) clockwise using a 22mm wrench on the crankshaft bolt. This will position pistons #2 & #3 at BDC.

8. **INSPECT PISTON FOR CYL #2**
   a. Repeat Step #5 for Cylinder # 2

9. **INSPECT PISTON FOR CYL #3**
   a. Repeat Step #5 for Cylinder # 3

X. REVIEW DATE CODES





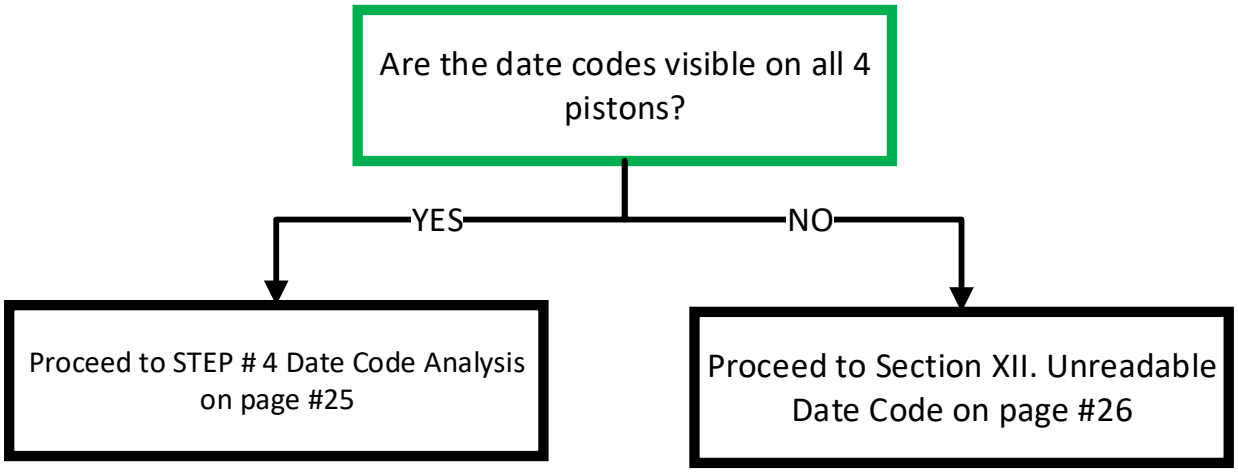
1. **LOCATE PHOTOS**
   a. Select the FULL SCREEN icon at the bottom of the screen

   b. Select the PHOTOS tab at the bottom of the Smart Camera screen.

2. Save each of the photos onto the Techstream so they can be accessed later.

Note: Photos of the pistons will be necessary to submit as an attachment to a TAS case for approval if an additional process is required.

3. **REVIEW PHOTOS**
   a. Review each photo of the 4 pistons to determine if the date codes are visible through the carbon buildup.



4. DATE CODE ANAYSIS

a. Compare the date codes on **ALL 4 PISTONS** to the Affected Date Code Chart below:

AFFECTED DATE CODE CHART

N	I	T	2
N	I	U	2
N	I	V	2
N	I	W	2
N	I	X	2
N	I	Y	2
N	J	Z	2
N	J	A	2
N	J	B	2
N	J	C	2
N	J	D	2
N	J	E	2
N	J	F	2
N	J	G	2
N	J	H	2
N	J	I	2

Do the date codes on **ANY** the 4 pistons match the date codes on the Affected Date Code Chart?

YES → Proceed to Section XIII. Engine Assembly & Parts Release on page 27

NO → Proceed to Section XI. Change Engine Oil on page 26

Help: In the example above, the piston date code shown is H4P1, which does not match any of the date codes listed on the Affected Date Code Chart. Therefore, this piston is ok. Continue to check the other 3 pistons in the engine against the chart and follow the flowchart for the next step.

XI. CHANGE ENGINE OIL

If the dates codes from the all 4 pistons are different than the codes listed on the Affected Date Code Chart, this vehicle will NOT need to have the engine replaced. Change the engine oil and return the vehicle to the customer.

1. **CHANGE ENGINE OIL**
   a. Reinstall the 4 ignition coils and spark plugs.
   b. Reinstall the engine cover, splash guard, and wheel.
   c. Change the engine oil using the correct 0W/16 oil, with a ***NEW*** drain plug gasket and ***NEW*** oil filter.
2. **COMPLETE RECALL**
   a. Skip to Verify Repair Quality on page #34 and complete quality checks.
   b. Campaign is now completed. Return the vehicle to the customer.

XII. UNREADABLE DATE CODE

AFTER 4 CANS OF BG #260 cleaner:

If a piston date code (any of the 4 pistons) is not readable after 4 cans of BG #260 has been run through the engine following the procedure detailed in these instructions, it will be necessary to run another 4 cans of BG #260 through the engine. You must receive **approval from TAS** before continuing with the additional 4 cans. Failure to have TAS approval for the additional 4 cans will result in denial of the Warranty claim. To receive TAS approval for the additional 4 cans of BG #260 cleaner, complete the following steps:

1. Create a new TAS case with the following information:
   - Condition Description: "**J0M additional cleaning request**".
   - Service Category: Engine/Hybrid System
   - Section: Engine Mechanical
   - Sub-Component: Unknown
   - Symptom Code: Gap/Poor Fit/Loose/Tolerance
2. Select **Add Attachments**
   - **Attach pictures** of the date code area from all 4 pistons.
3. After 1 to 2 hours, check your TAS homepage as you should have a response.
   - Review the Condition Log for instructions from TAS.
   - Do not submit a case closure until the repair is completed.

AFTER 8 CANS OF BG #260 cleaner:

If a piston date code (any of the 4 pistons) is not readable after 8 cans of BG #260 has been run through the engine, it will be necessary to contact TAS for further instructions.

1. Update the previous TAS case with the following:
   - Select the previous TAS case from the Technician Inbox.
   - Select **Update TAS Case**.
   - Condition Description: **"J0M 8 cans completed. Request next step".**
   - Select **Add Attachments**
   - **Attach pictures** of the date code area from all 4 pistons.
2. After 1 to 2 hours, check your TAS homepage as you should have a response.
   - Review the Condition Log for instructions from TAS.
   - Do not submit a case closure until the repair is completed.
   - If the date codes are visible and not affected, submit case closure indicating that the pistons are not affected.

XIII. ENGINE ASSEMEBLY & PARTS RELEASE

If the date code on **any** of the 4 pistons matches a date code listed on the Affected Date Code Chart (p.25), the engine assembly will need to be replaced. Only one piston with a matching date is required to replace the engine assembly. If ***none*** of the date codes on the pistons match those listed on the Affected Date Code Chart (p.25), the engine does not need to be replaced (follow directions in Section XI. Change Engine Oil p.26).

The engine assembly for this repair is on Manual Allocation Control. To have the parts released to your dealership, it will be necessary to send the correct documentation to TAS.

1. **ORDER ENGINE ASSEMBLY & PARTS**
   a. Order the necessary Engine Assembly Replacement Parts detailed in the PARTS section on page # 3.

      Note: These parts will need to be released by TAS, once they have been ordered. Be sure to collect the **Order Reference Number** from the parts department when the parts are ordered.

2. **UPDATE EXISTING TAS CASE (if you have an existing TAS case)**
   a. Select the previous TAS case from the Technician Inbox.
   b. Select **Update TAS Case**.
   c. Update the TAS case with the following information:
      - Condition Description: "**J0M Engine Assembly request**".
      - Condition Description: Include the parts **Order Reference Number.**
      - Condition Description: Include the **Part Numbers.**
      - **Select Add Attachments**
      - **Attach a picture(s)** of the affected piston date code that matches a code on the Affected Date Code Chart on p.25.

3. **CREATE A NEW TAS CASE (if you do not have an existing open case)**
   a. Create a new TAS case with the following information:
      - Condition Description: **"J0M Engine Assembly request".**
      - Condition Description: Include the **Order Reference Number**
      - Condition Description: Include the **Part Numbers.**
      - Service Category: Engine/Hybrid System
      - Section: Engine Mechanical
      - Sub-Component: Unknown
      - Symptom Code: Gap/Poor Fit/Loose/Tolerance
      - Select **Add Attachments**
      - **Attach a picture(s)** of the affected piston date code that matches a code on the Affected Date Code Chart on p.25.

4. When the parts have arrived, proceed to Section XIV. ENGINE REPLACEMENT on p.28.

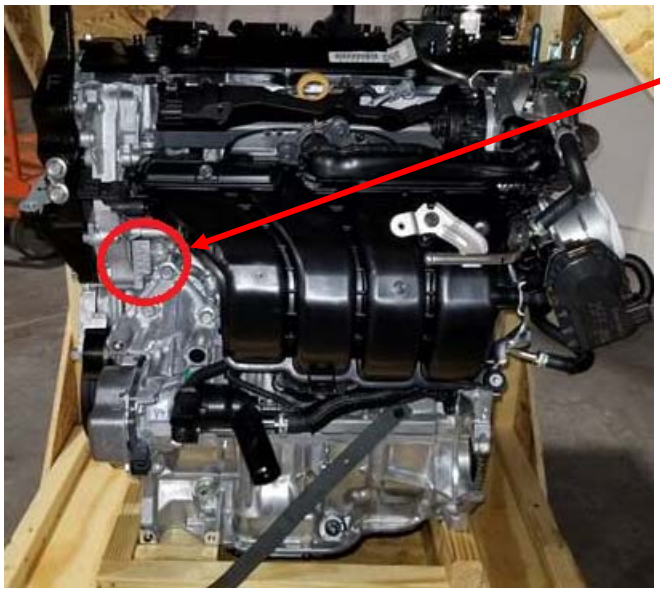
XIV. ENGINE REPLACEMENT

Authorization from TAS is required to complete Engine Replacement. DO NOT proceed with these instructions until TAS has authorized this repair. Failure to follow this process will result in denial of the warranty claim.

1. UPDATE ENGINE SERIAL NUMBER

a. Send an email to quality_compliance@toyota.com with the following information:

- Subject: J0M Engine Serial Number Update
- Vehicle Identification Number (VIN)
- Serial Number from the ORIGINAL engine
- Serial Number from the ***NEW*** engine



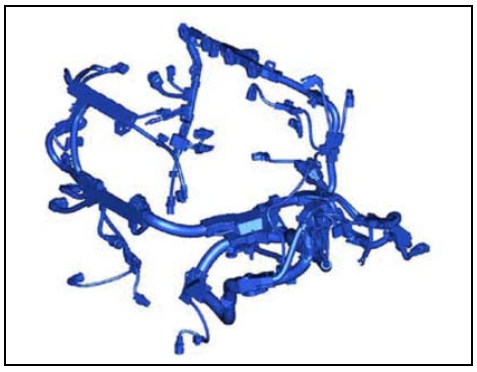
Engine Serial Number location

Example:
G052976A25A

2. REMOVE ENGINE & TRANSMISSION FROM VEHICLE

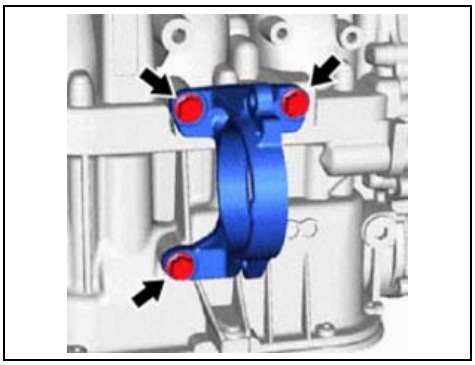
a. Follow the Repair Manual Process to remove the engine from the vehicle.

A25A-FKS ENGINE MECHANICAL: ENGINE ASSEMBLY: REMOVAL; 2018 MY Camry [06/2017 -]



5. REMOVE ENGINE MAIN HARNESS

a. Remove the engine main harness from the original engine.

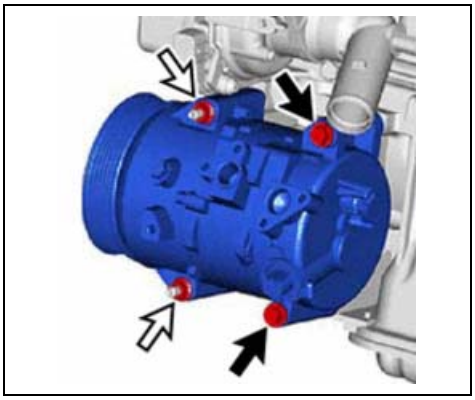


6. TRANSFER DRIVE SHAFT BEARING BRACKET

b. Remove the 3 bolts and drive shaft bearing bracket from the original engine.

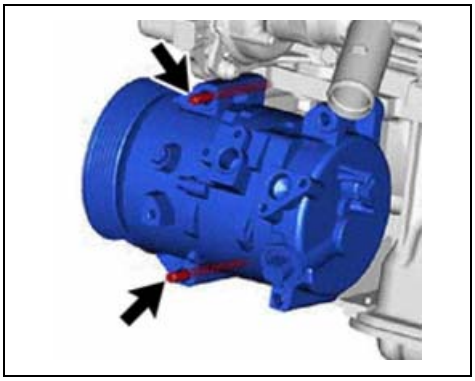
c. Install the drive shaft bearing bracket and 3 bolts onto the ***NEW*** engine.

Torque: 47 lbf.ft {63.7 N·m, 650 kgf·cm}



7. TRANSFER COMPRESSOR ASSEMBLY (type A)

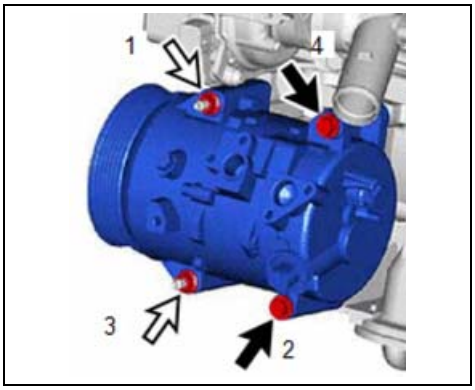
a. Remove the 2 bolts and 2 nuts from the original engine.



b. Using a E8 “TORX” wrench, remove the 2 stud bolts and compressor assembly.

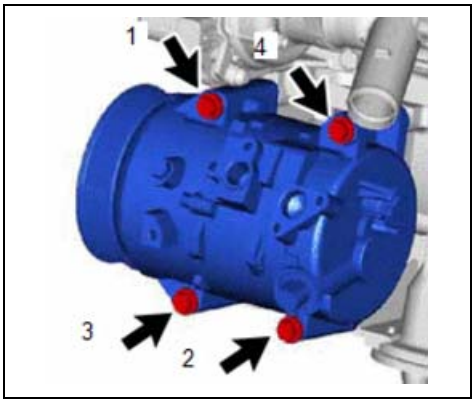
c. Install the 2 stud bolts onto the ***NEW*** engine.

Torque: 7 lbf.ft {10 N·m, 102 kgf·cm}



d. Install the compressor assembly onto the NEW engine with the 2 bolts and 2 nuts. Torque in the sequence shown.

Torque: 18 lbf.ft {24.5 N·m, 250 kgf·cm}

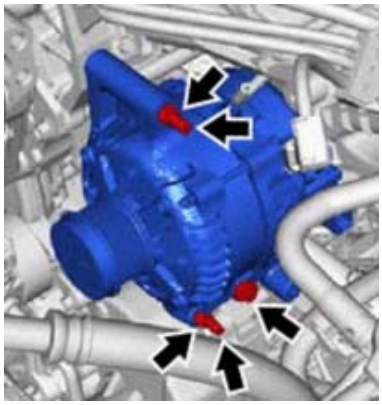


8. TRANSFER COMPRESSOR ASSEMBLY (type B)

a. Remove the 4 bolts and compressor assembly from the original engine.

b. Install the compressor assembly and 4 bolts onto the ***NEW*** engine. Torque in the sequence shown.

Torque: 18 lbf.ft {24.5 N·m, 250 kgf·cm}



9. TRANSFER GENERATOR ASSEMBLY

a. Remove the 2 nuts and bolt from the original engine.

b. Using a E8 “TORX” wrench, remove the 2 studs.

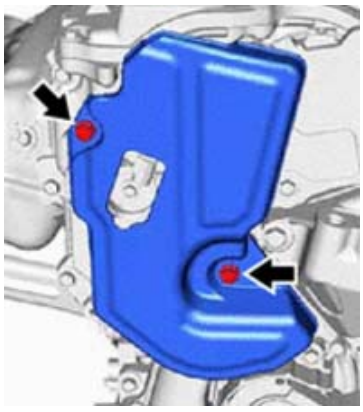
c. Install the 2 studs onto the ***NEW*** engine.

Torque: 87 lbf.in {9.8 N·m, 100 kgf·cm}

d. Install the original generator onto the ***NEW*** engine.

e. Install the 2 nuts and bolt.

Torque: 18 lbf.ft {25 N·m, 255 kgf·cm}

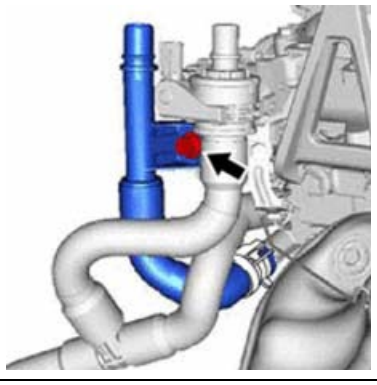


10. TRANSFER NO. 2 ENGINE COVER

a. Remove the 2 bolts and cover

b. Install the cover and 2 bolts onto the ***NEW*** engine.

Torque: 7 lbf.ft {10 N·m, 102 kgf·cm}



11. TRANSFER NO. 2 WATER BY-PASS PIPE

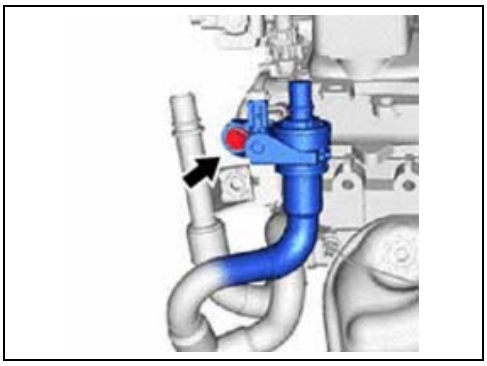
a. Remove the bracket bolt from the original engine.

b. Slide the clamp and remove the hose.

c. Install the hose and clamp onto the ***NEW*** engine.

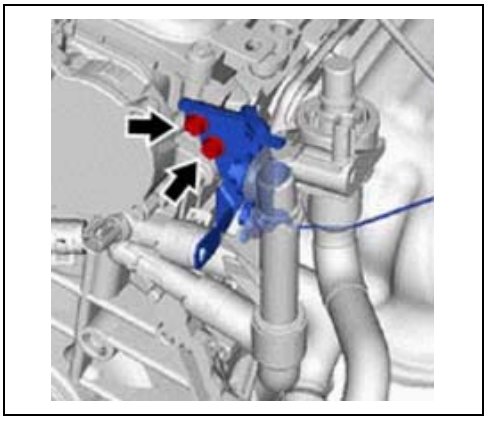
d. Install the bracket bolt.

Torque: 14 lbf.ft {19 N·m, 194 kgf·cm}



12. TRANSFER FLOW SHUTTING VALVE

a. Remove the bolt from the original engine.

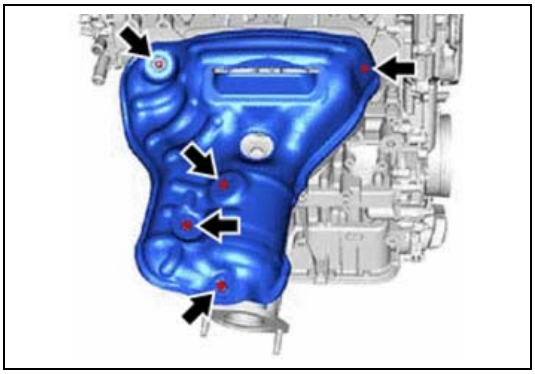


b. Remove the 2 bolts and the water hose bracket.
c. Remove the clamp and hose from the original engine.
d. Install the hose onto the water outlet of the ***NEW*** engine.
e. Install the bracket onto the ***NEW*** engine with the 2 bolts.

Torque: 10 lbf.ft {13 N·m, 133 kgf·cm}

f. Install the valve to the bracket.

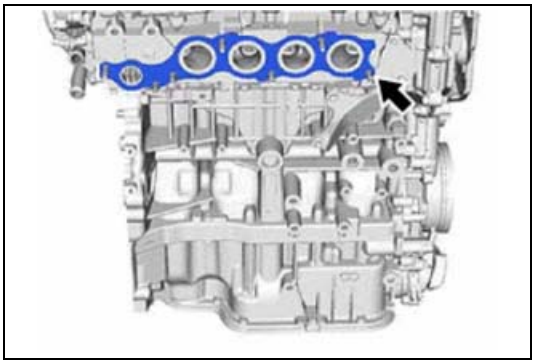
Torque: 14 lbf.ft {19 N·m, 194 kgf·cm}



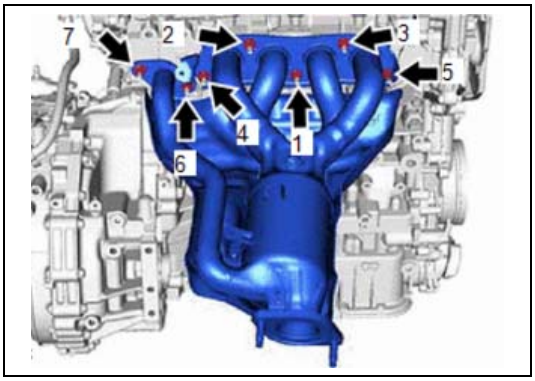
13. TRANSFER EXHAUST MANIFOLD

a. Remove the 5 bolts from the heat insulator.
b. Remove the manifold stay on the bottom.
c. Using a 12mm deep socket, remove the 7 nuts and separate the exhaust manifold.

Note: Discard the 7-exhaust manifold nut's as they will not be reused.

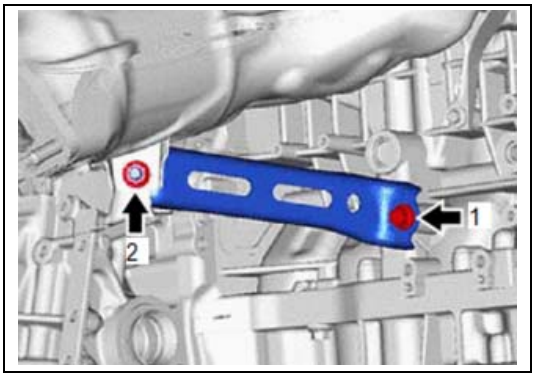


d. Install a ***NEW*** exhaust manifold gasket onto the ***NEW*** engine.



e. Install the exhaust manifold onto the ***NEW*** engine.
f. Temporarily install the 7 ***NEW*** nuts onto the studs.
g. Using a 12mm deep socket, torque the 7 nuts in the sequence shown.

Torque: 19 lbf.ft {26 N·m, 265 kgf·cm}

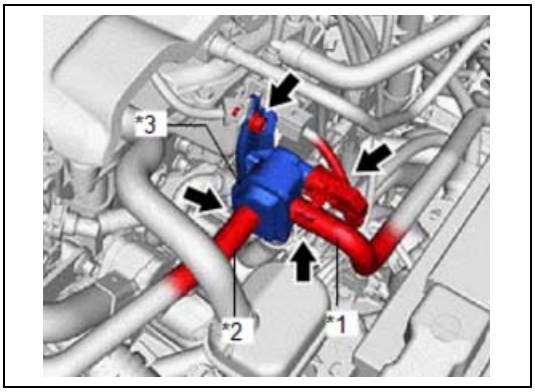


h. Install the manifold stay and the nut and bolt.
i. Torque the nut and bolt in the sequence shown

Torque: 32 lbf.ft {43 N·m, 438 kgf·cm}

j. Install the heat insulator with the 5 bolts.

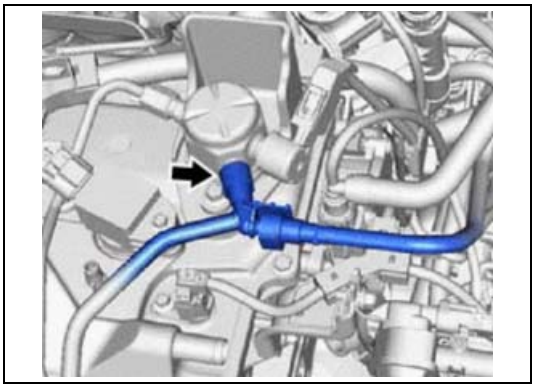
Torque: 7 lbf.ft {10 N·m, 102 kgf·cm}



14. TRANSFER PURGE VALVE

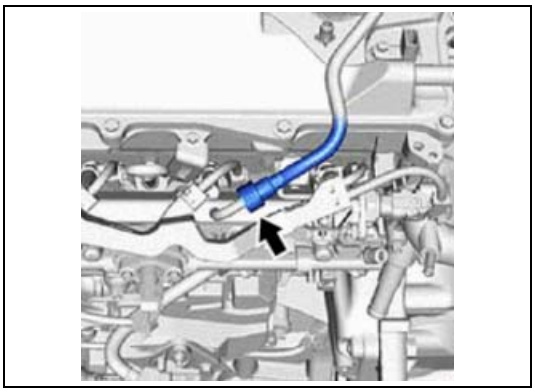
a. Unbolt the purge valve from the mounting bracket on the original engine.
b. Disconnect the hoses at the other end (opposite the purge valve)
c. Install the purge valve on the ***NEW*** engine, attaching the hoses properly. Install the bolt to the mounting bracket.

Torque: 7 lbf.ft {10 N·m, 102 kgf·cm}

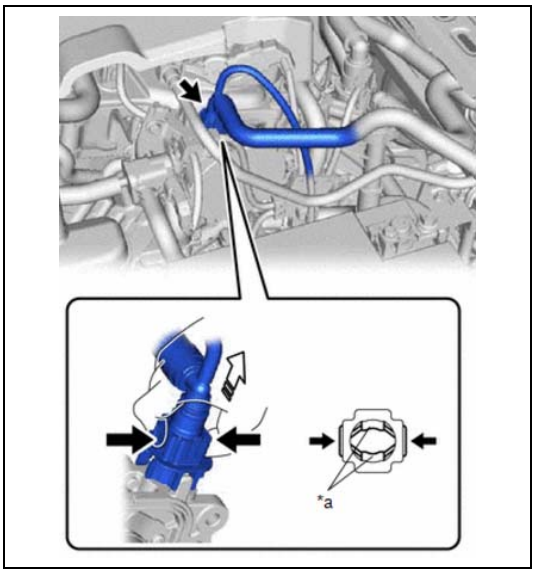


15. TRANSFER FUEL TUBE

a. Disconnect the fuel tube at the high-pressure fuel pump of the original engine.

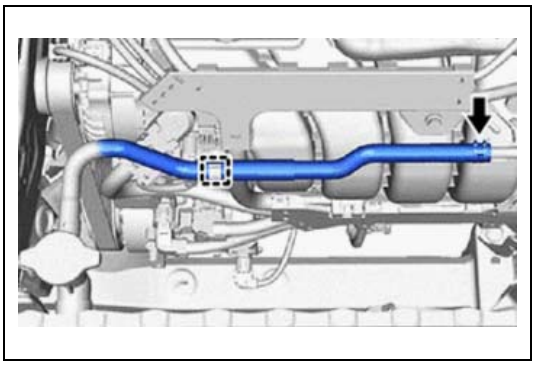


b. Disconnect the fuel tube at the low-pressure fuel rail of the original engine.
c. Install the fuel tube to both the low-pressure fuel rail and the high-pressure pump of the ***NEW*** engine.



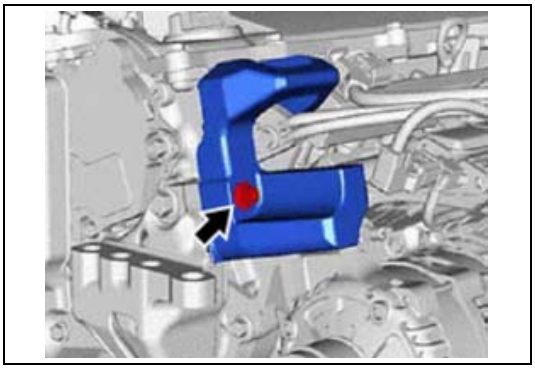
16. TRANSFER No. 1 VACUUM PUMP HOSE

a. Pinch the retainer of the No. 1 vacuum hose connector, then pull the connector off the vacuum pump assembly.
b. Install the No. 1 vacuum pump hose onto the ***NEW*** engine.



17. TRANSFER No. 5 WATER BYPASS HOSE

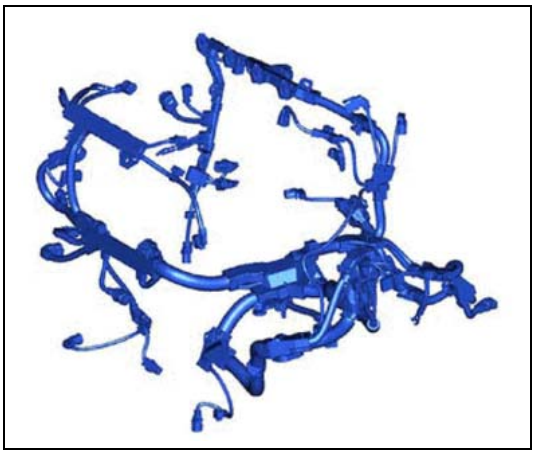
a. Remove the No. 5 water bypass hose from the original engine.
b. Install the No. 5 water bypass hose onto the ***NEW*** engine.



18. TRANSFER FUEL DELIVERY GUARD

a. Remove the bolt and fuel delivery guard from the original engine.
b. Install the fuel delivery guard and bolt onto the ***NEW*** engine.

Torque: 30 lbf.ft {40 N·m, 408 kgf·cm}



19. INSTALL ENGINE MAIN HARNESS

a. Install the engine main harness onto the ***NEW*** engine.

20. REMOVE AUTOMATIC TRANSMISSION ASSEMBLY FROM ORIGINAL ENGINE

a. Follow the Repair Manual Process to separate the engine and transmission.

UB80E AUTOMATIC TRANSMISSION / TRANSAXLE: AUTOMATIC TRANSAXLE ASSEMBLY: REMOVAL; 2018 MY Camry [06/2017 -]

21. INSTALL AUTOMATIC TRANSMISSION ASSEMBLY TO *NEW* ENGINE

a. Follow the Repair Manual Process to join the engine and transmission together

UB80E AUTOMATIC TRANSMISSION / TRANSAXLE: AUTOMATIC TRANSAXLE ASSEMBLY: INSTALLATION; 2018 MY Camry [06/2017 -]

22. INSTALL *NEW* ENGINE & TRANSMISSION INTO VEHICLE

a. Follow the Repair Manual Process to install the engine into the vehicle.

A25A-FKS ENGINE MECHANICAL: ENGINE ASSEMBLY: INSTALLATION; 2018 MY Camry [06/2017 -]

◄ VERIFY REPAIR QUALITY ►

- **Verify all DTC's have been cleared.**
- **Verify the air cleaner cap and hose are properly installed.**
- **Verify there are no oil or coolant leaks.**

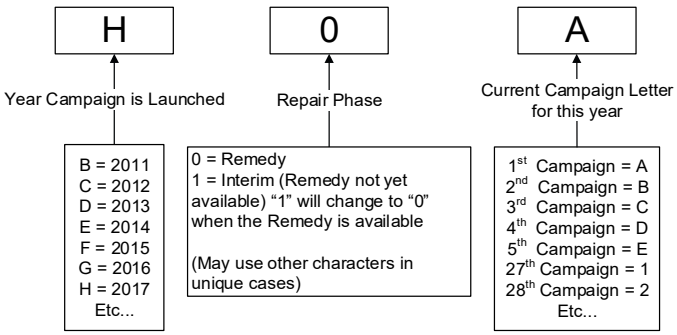
If you have any questions regarding this update, please contact your regional representative.

XV. APPENDIX

A. PARTS DISPOSAL

As required by Federal Regulations, please make sure all recalled parts (original parts) removed from the vehicle are disposed of in a manner in which they will not be reused, ***unless requested for parts recovery return***.

B. CAMPAIGN DESIGNATION DECORDER



Examples:

C1B = Launched in 2012, Interim Phase, 2nd Campaign Launched in 2012

E0A = Launched in 2014, Remedy Phase, 1st Campaign Launched in 2014

H0A = Launched in 2017, Remedy Phase, 1st Campaign Launched in 2017.