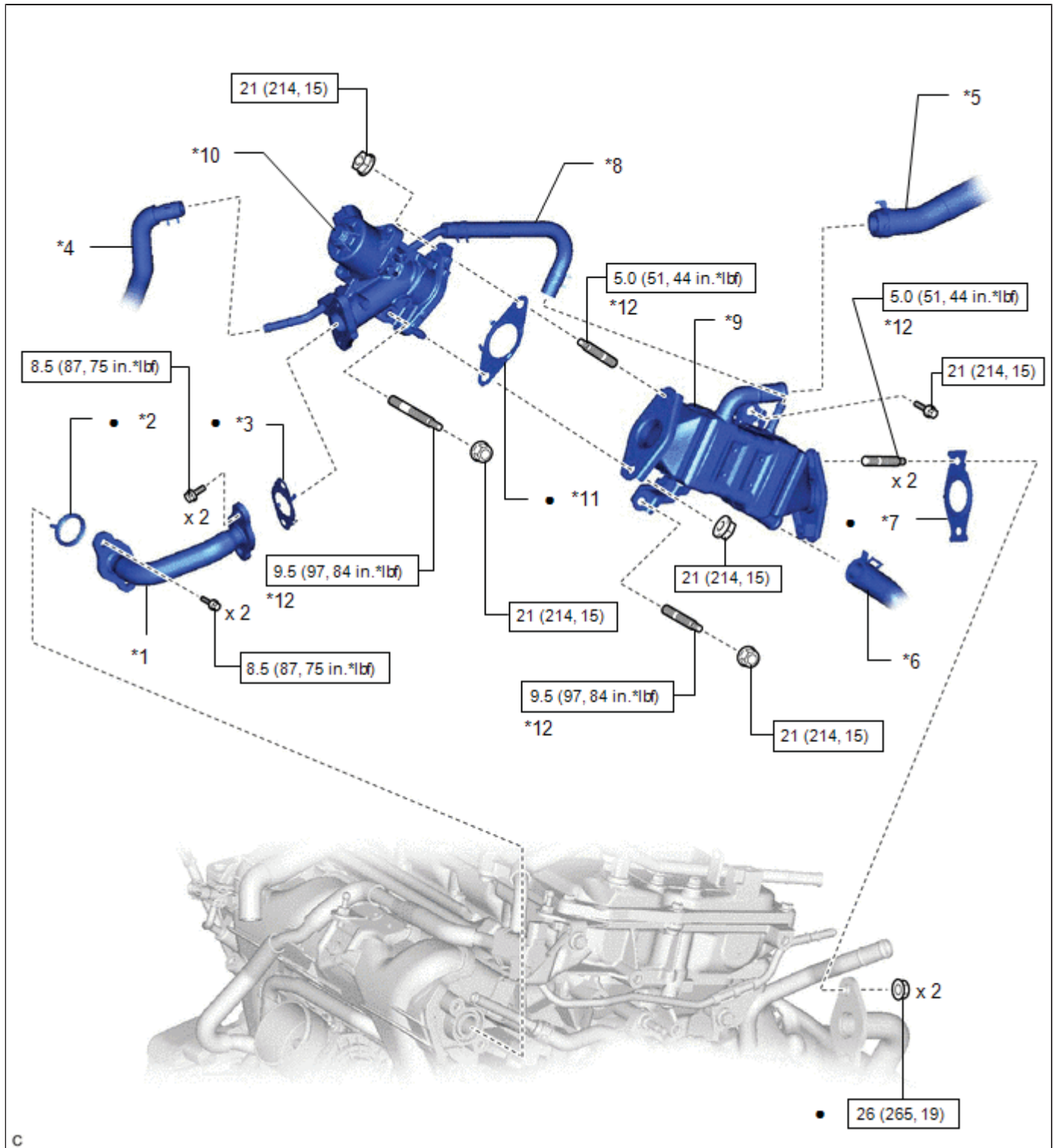


Last Modified: 01-14-2019	6.8:8.0.48	Doc ID: RM100000000THEU
Model Year Start: 2016	Model: Prius	Prod Date Range: [11/2015 -]
Title: 2ZR-FXE (EMISSION CONTROL): EGR COOLER: COMPONENTS; 2016 - 2019 MY Prius [11/2015 -]		


COMPONENTS

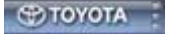
ILLUSTRATION



C

*1	EGR PIPE ASSEMBLY	*2	INLET EGR GASKET
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*3	EGR PIPE GASKET	*4	WATER BY-PASS HOSE
*5	INLET HEATER WATER HOSE A	*6	NO. 4 WATER BY-PASS HOSE
*7	EGR COOLER GASKET	*8	NO. 6 WATER BY-PASS HOSE
*9	EGR PIPE WITH COOLER SUB-ASSEMBLY	*10	EGR VALVE ASSEMBLY
*11	EGR VALVE GASKET	*12	STUD BOLT
	N*m (kgf*cm, ft.*lbf): Specified torque	•	Non-reusable part



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Doc ID: RM100000000THET

Model Year Start: 2016

Model: Prius

Prod Date Range: [11/2015 -]

Title: 2ZR-FXE (EMISSION CONTROL): EGR COOLER: INSTALLATION; 2016 - 2019 MY Prius [11/2015 -]

INSTALLATION

PROCEDURE

1. INSTALL EGR PIPE WITH COOLER SUB-ASSEMBLY

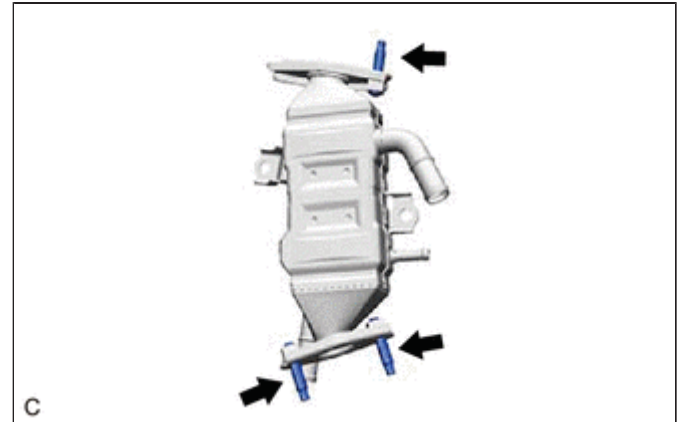
- (a) Using an E8 "TORX" socket wrench, install the 3 stud bolts to the EGR pipe with cooler sub-assembly.

HINT:

If a stud bolt is deformed or the threads are damaged, replace it.

Torque:

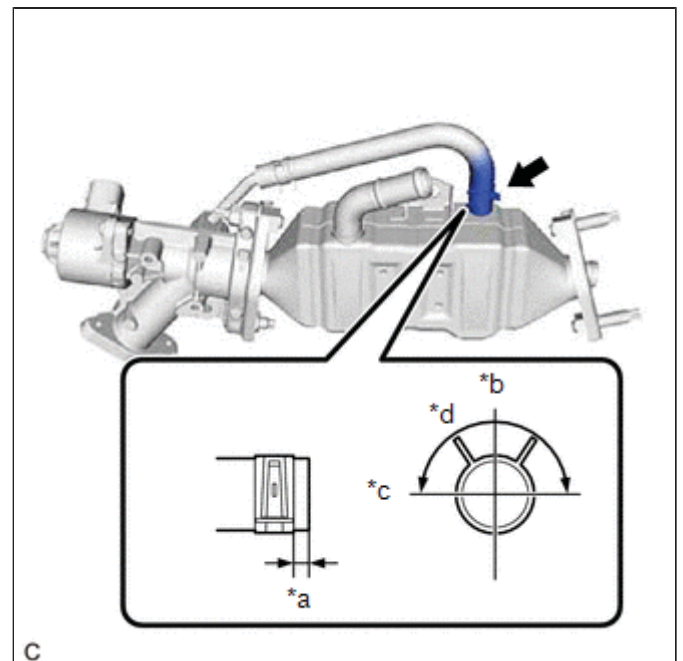
5.0 N·m {51 kgf·cm, 44 in·lbf}



- (b) Install a new EGR valve gasket to the EGR valve assembly.
(c) Install the EGR pipe with cooler sub-assembly to the EGR valve assembly with the 2 nuts.

Torque:

21 N·m {214 kgf·cm, 15 ft·lbf}



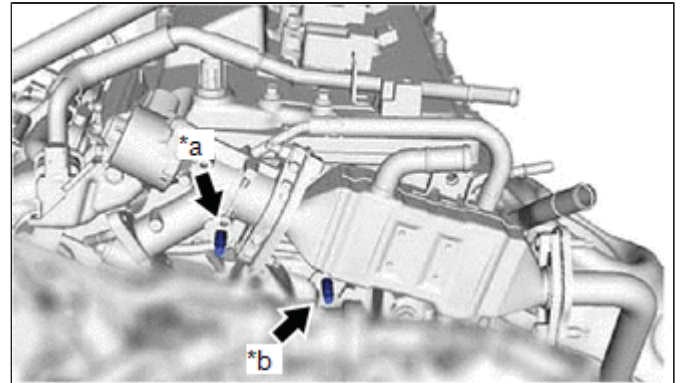
- (d) Connect the No. 6 water by-pass hose to the EGR pipe with cooler sub-assembly and slide the clip to secure it.

*a	7 to 11 mm (0.276 to 0.433 in.)
----	---------------------------------

*b	LH
*c	Front of the vehicle
*d	180°

(e) Install a new EGR cooler gasket to the EGR pipe with cooler sub-assembly.

(f) Set the EGR pipe with cooler sub-assembly with the EGR valve assembly to the engine assembly.



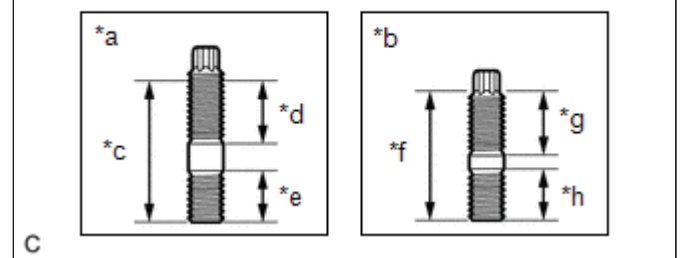
(g) Using an E8 "TORX" socket wrench, install the stud bolt (A) and stud bolt (B) to the cylinder head sub-assembly and camshaft housing sub-assembly.

HINT:

If a stud bolt is deformed or the threads are damaged, replace it.

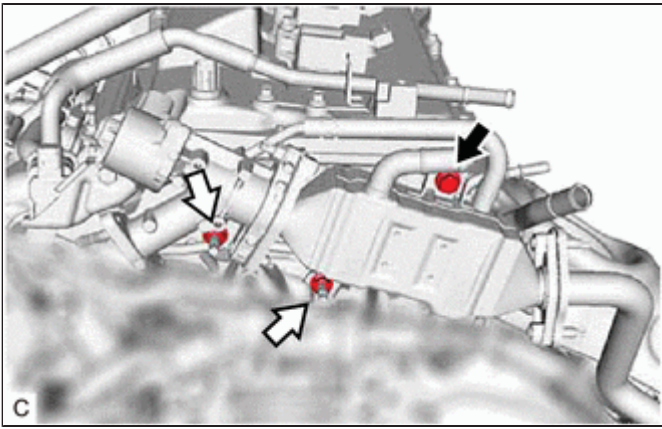
Torque:



9.5 N·m { 97 kgf·cm, 84 in·lbf }



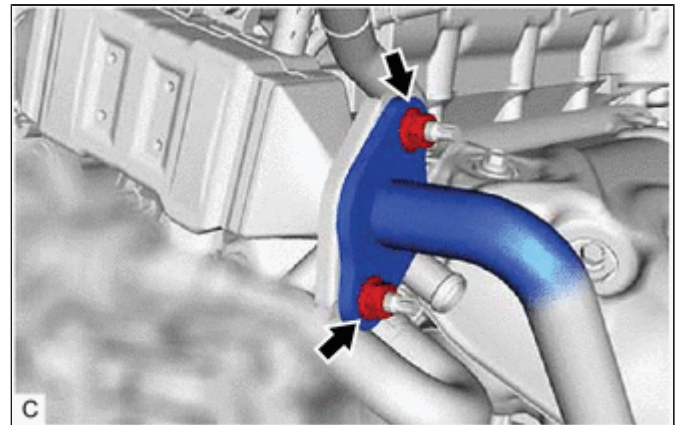
*a	Stud Bolt (A)
*b	Stud Bolt (B)
*c	48 mm (1.890 in.)
*d	26 mm (1.024 in.)
*e	13 mm (0.512 in.)
*f	29 mm (1.142 in.)
*g	14 mm (0.551 in.)
*h	13 mm (0.512 in.)

(h) Temporarily install the EGR pipe with cooler sub-assembly with the EGR valve assembly to the cylinder head sub-assembly and camshaft housing sub-assembly with the bolt and 2 nuts.



	Bolt
	Nut

(i) Temporarily install the EGR pipe with cooler sub-assembly to the exhaust manifold (TWC: Front Catalyst) with 2 new nuts.



(j) Tighten the bolt and 2 nuts.

Torque:

21 N·m {214 kgf·cm, 15 ft·lbf}

(k) Tighten the 2 nuts.

Torque:

26 N·m {265 kgf·cm, 19 ft·lbf}

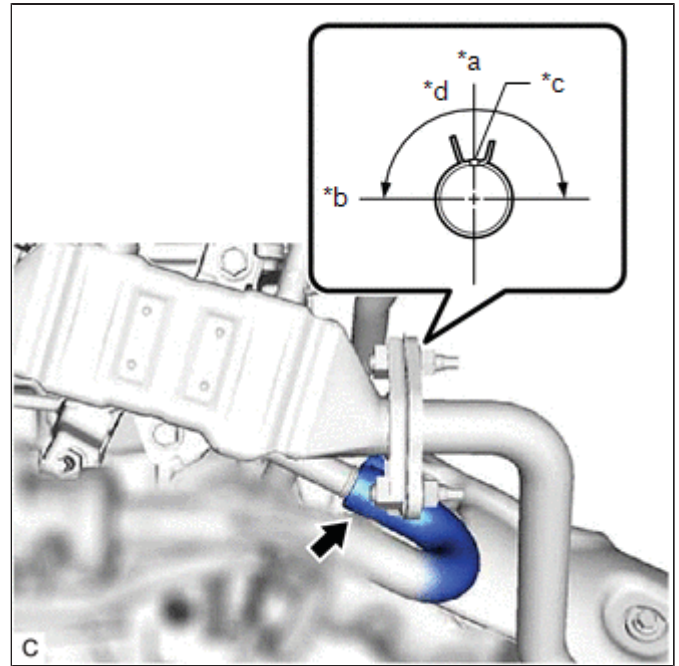
(l) Connect the EGR valve assembly connector.

2. CONNECT NO. 4 WATER BY-PASS HOSE

(a) Connect the No. 4 water by-pass hose to the EGR pipe with cooler sub-assembly and slide the clip to secure it.

HINT:

Engage the clip within the area shown in the illustration.



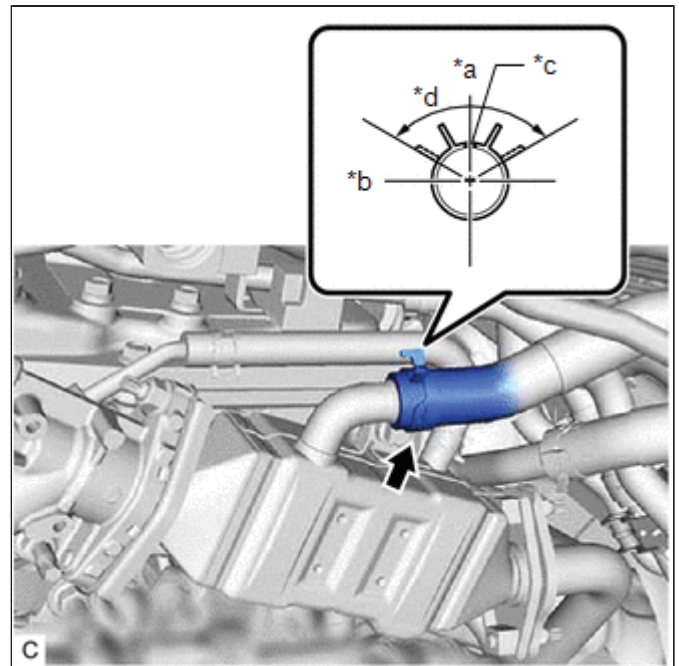
*a	Up
*b	LH
*c	Paint Mark
*d	180°

3. CONNECT INLET HEATER WATER HOSE A

(a) Connect the inlet heater water hose A to the EGR pipe with cooler sub-assembly and slide the clip to secure it.

HINT:

Engage the clip within the area shown in the illustration.



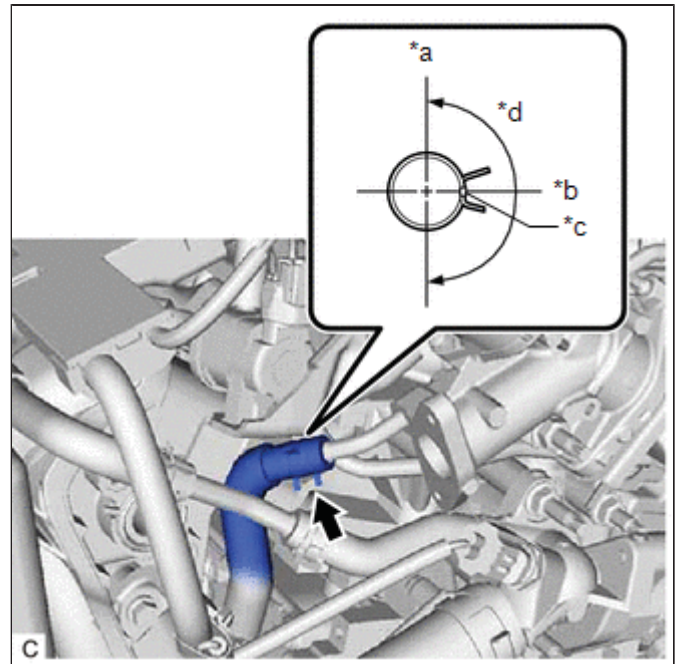
*a	Up
*b	LH
*c	Paint Mark
*d	120°

4. CONNECT WATER BY-PASS HOSE

(a) Connect the water by-pass hose to the EGR valve assembly and slide the clip to secure it.

HINT:

Engage the clip within the area shown in the illustration.



*a	Up
*b	LH
*c	Paint Mark
*d	180°

5. INSTALL EGR PIPE ASSEMBLY

Click here [INFO](#)

6. INSTALL INVERTER WITH CONVERTER ASSEMBLY

Click here [INFO](#)

7. ADD ENGINE COOLANT (for Engine)

Click here [INFO](#) [INFO](#)

8. INSPECT FOR COOLANT LEAK (for Engine)

Click here [INFO](#) [INFO](#)

9. INSPECT FOR EXHAUST GAS LEAK

Click here [INFO](#) [INFO](#)



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Model Year Start: 2016	Model: Prius	Prod Date Range: [11/2015 - 12/2018]
Title: 2ZR-FXE (EMISSION CONTROL): EGR COOLER: REMOVAL; 2016 - 2018 MY Prius [11/2015 - 12/2018]		

REMOVAL

CAUTION / NOTICE / HINT

The necessary procedures (adjustment, calibration, initialization or registration) that must be performed after parts are removed and installed, or replaced during EGR pipe with cooler sub-assembly removal/installation are shown below.

Necessary Procedures After Parts Removed/Installed/Replaced

REPLACED PART OR PERFORMED PROCEDURE	NECESSARY PROCEDURE	EFFECT/INOPERATIVE FUNCTION WHEN NECESSARY PROCEDURE NOT PERFORMED	LINK
Auxiliary battery terminal is disconnected/reconnected	Memorize steering angle neutral point	Lane departure alert system (w/ Steering Control System)	INFO
		Pre-collision system	
		Intelligent clearance sonar system*1	
		Simple advanced parking guidance system*1	
	Initialize back door lock	Power door lock control system	INFO
Replacement of inverter with converter assembly	Resolver learning	<ul style="list-style-type: none"> • DTCs are stored • Slight vibration at a vehicle speed of 5 km/h (3 mph) or less • Shock or vibration during acceleration 	INFO for Nickel Metal Hydride Battery INFO for Lithium-ion Battery
Replacement of ECM	Perform Vehicle Identification Number (VIN) registration	MIL comes on	INFO
<ul style="list-style-type: none"> • Replacement of EGR valve assembly • Gas leak from exhaust system is repaired 	Inspection After Repair	<ul style="list-style-type: none"> • Poor idle, etc. • Engine start function, etc. 	INFO

*1: When performing learning using the Techstream.

Click here [INFO](#)

PROCEDURE

1. REMOVE INVERTER WITH CONVERTER ASSEMBLY

Click here [INFO](#)

2. DRAIN ENGINE COOLANT (for Engine)

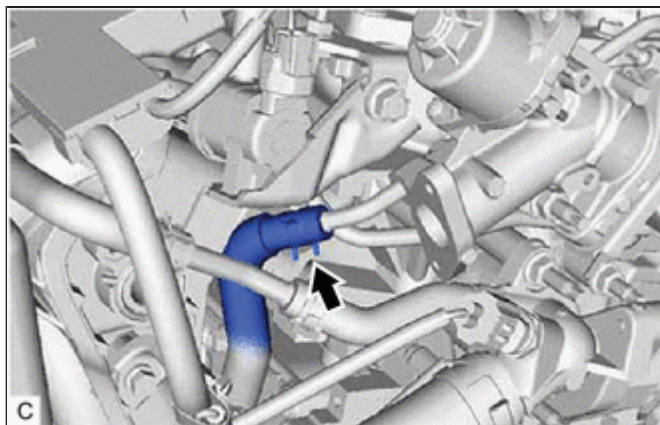
Click here [INFO](#) [INFO](#)

3. REMOVE EGR PIPE ASSEMBLY

Click here [INFO](#)

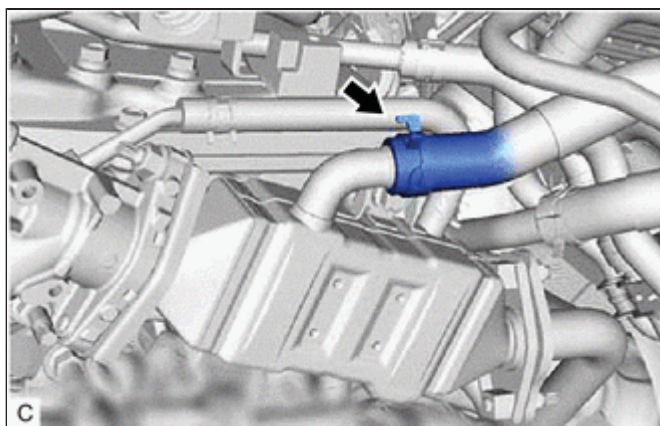
4. DISCONNECT WATER BY-PASS HOSE

- (a) Slide the clip and disconnect the water by-pass hose from the EGR valve assembly.



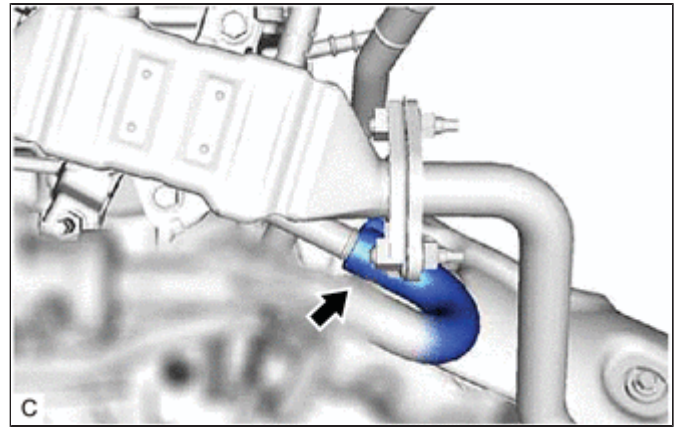
5. DISCONNECT INLET HEATER WATER HOSE A

- (a) Slide the clip and disconnect the inlet heater water hose A from the EGR pipe with cooler sub-assembly.



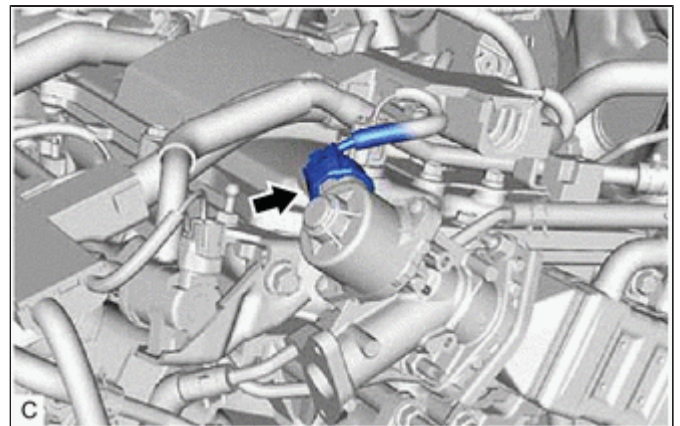
6. DISCONNECT NO. 4 WATER BY-PASS HOSE

- (a) Slide the clip and disconnect the No. 4 water by-pass hose from the EGR pipe with cooler sub-assembly.

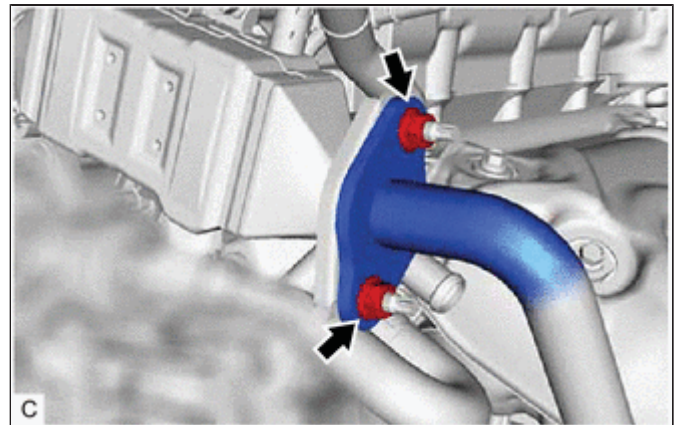


7. REMOVE EGR PIPE WITH COOLER SUB-ASSEMBLY

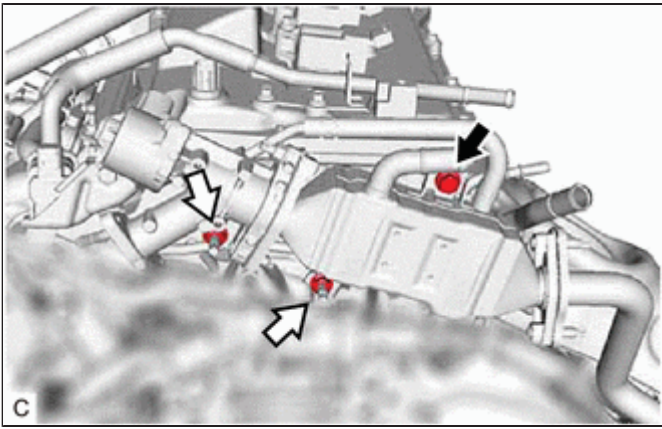
(a) Disconnect the EGR valve assembly connector.





(b) Remove the 2 nuts and disconnect the EGR pipe with cooler sub-assembly from the exhaust manifold (TWC: Front Catalyst).



(c) Remove the bolt and 2 nuts and disconnect the EGR pipe with cooler sub-assembly with the EGR valve assembly from the cylinder head sub-assembly and camshaft housing sub-assembly.

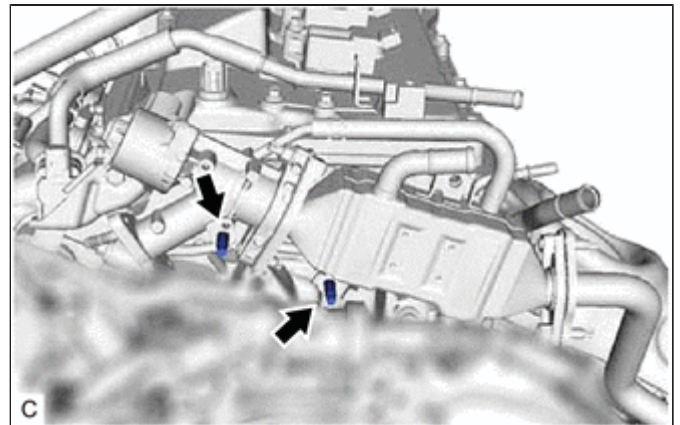


	Bolt
	Nut

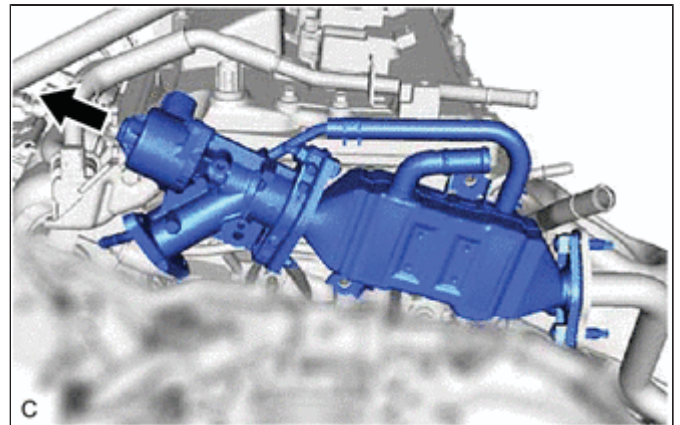
(d) Using an E8 "TORX" socket wrench, remove the 2 stud bolts from the cylinder head sub-assembly and camshaft housing sub-assembly.

HINT:

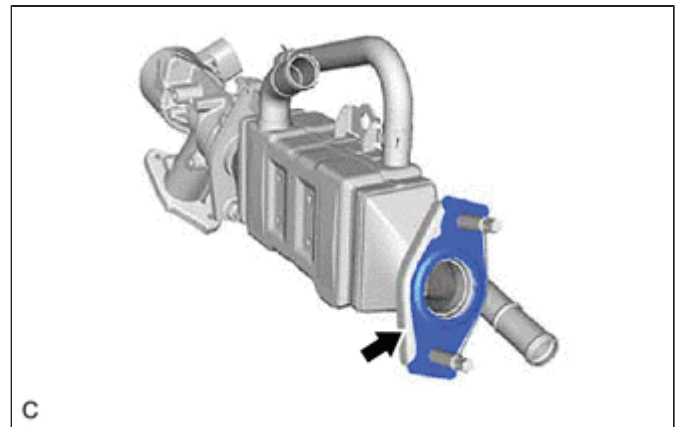
If a stud bolt is deformed or the threads are damaged, replace it.



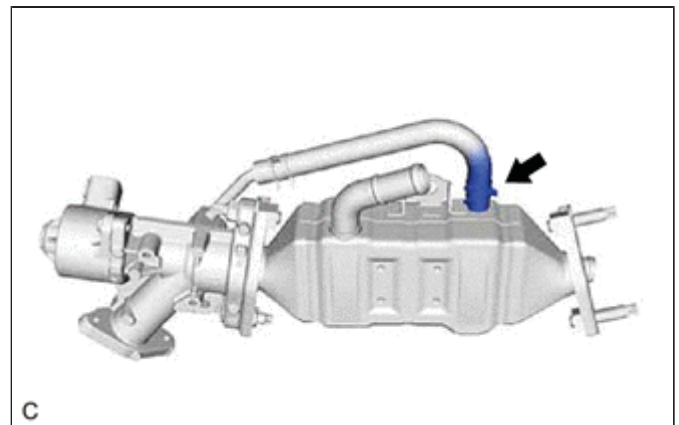
(e) Remove the EGR pipe with cooler sub-assembly with the EGR valve assembly.



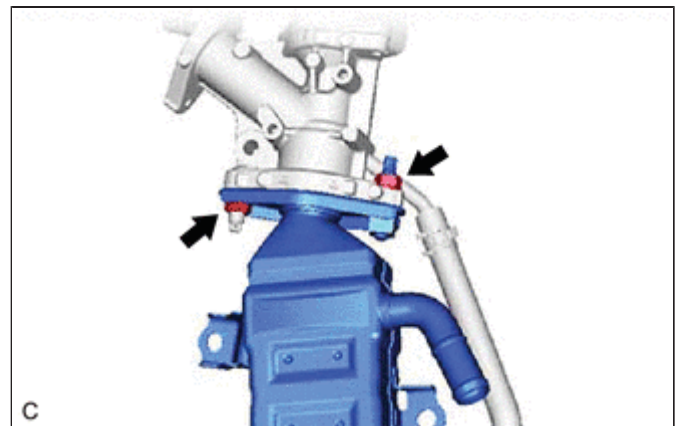
(f) Remove the EGR cooler gasket from the EGR pipe with cooler sub-assembly.



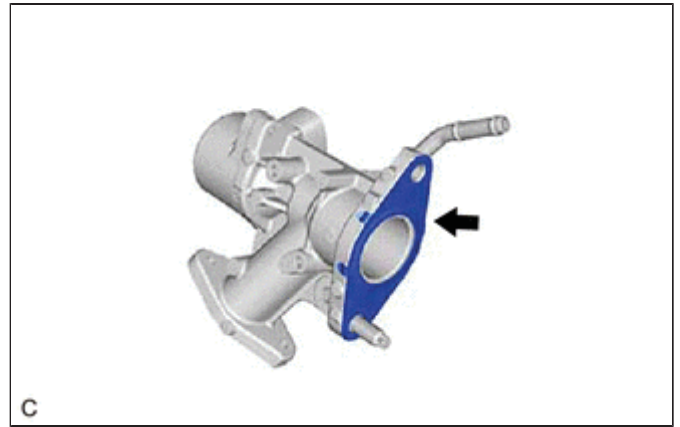
(g) Slide the clip and disconnect the No. 6 water by-pass hose from the EGR pipe with cooler sub-assembly.



(h) Remove the 2 nuts and EGR pipe with cooler sub-assembly from the EGR valve assembly.



(i) Remove the EGR valve gasket from the EGR valve assembly.



(j) Using an E8 "TORX" socket wrench, remove the 3 stud bolts from the EGR pipe with cooler sub-assembly.

HINT:

If a stud bolt is deformed or the threads are damaged, replace it.

