

<b>Last Modified:</b> 01-14-2019	6.8:8.0.48	<b>Doc ID:</b> RM100000000TJ54
<b>Model Year Start:</b> 2016	<b>Model:</b> Prius	<b>Prod Date Range:</b> [11/2015 - ]
<b>Title:</b> 2ZR-FXE (COOLING): TEMPERATURE SWITCH: REMOVAL; 2016 - 2019 MY Prius [11/2015 - ]		

## **REMOVAL**

### **PROCEDURE**

#### **1. REMOVE REAR MOTOR UNDER COVER LH**

Click here [INFO](#)

#### **2. DRAIN ENGINE COOLANT (for Engine)**

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

#### **3. REMOVE WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY**

Click here [INFO](#)

#### **4. REMOVE NO. 1 HEATER AIR DUCT SPLASH SHIELD SEAL**

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

#### **5. REMOVE WATER GUARD PLATE LH**

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

#### **6. REMOVE COWL BODY MOUNTING REINFORCEMENT LH**

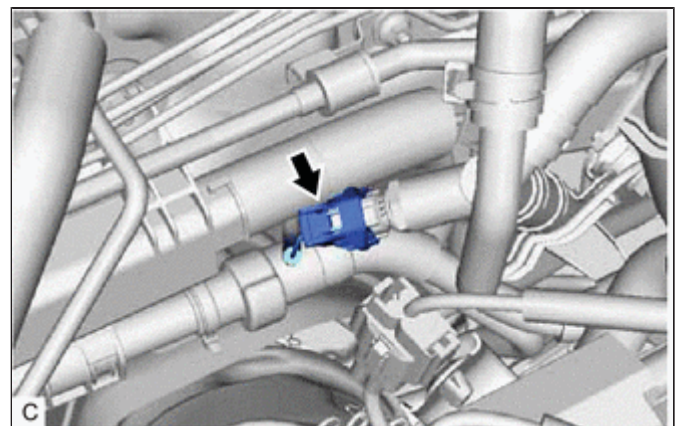
Click here [INFO](#) [INFO](#)

#### **7. REMOVE OUTER COWL TOP PANEL SUB-ASSEMBLY**

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

#### **8. REMOVE ENGINE COOLANT TEMPERATURE SENSOR**

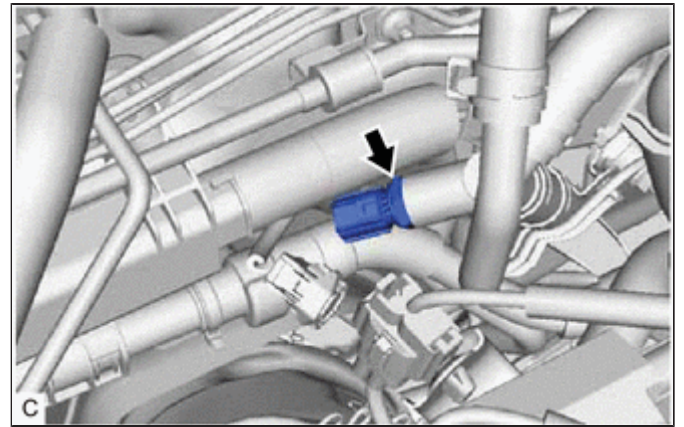
(a) Disconnect the engine coolant temperature sensor connector.



(b) Using a 19 mm union nut wrench, remove the engine coolant temperature sensor from the No. 2 water joint.

**NOTICE:**

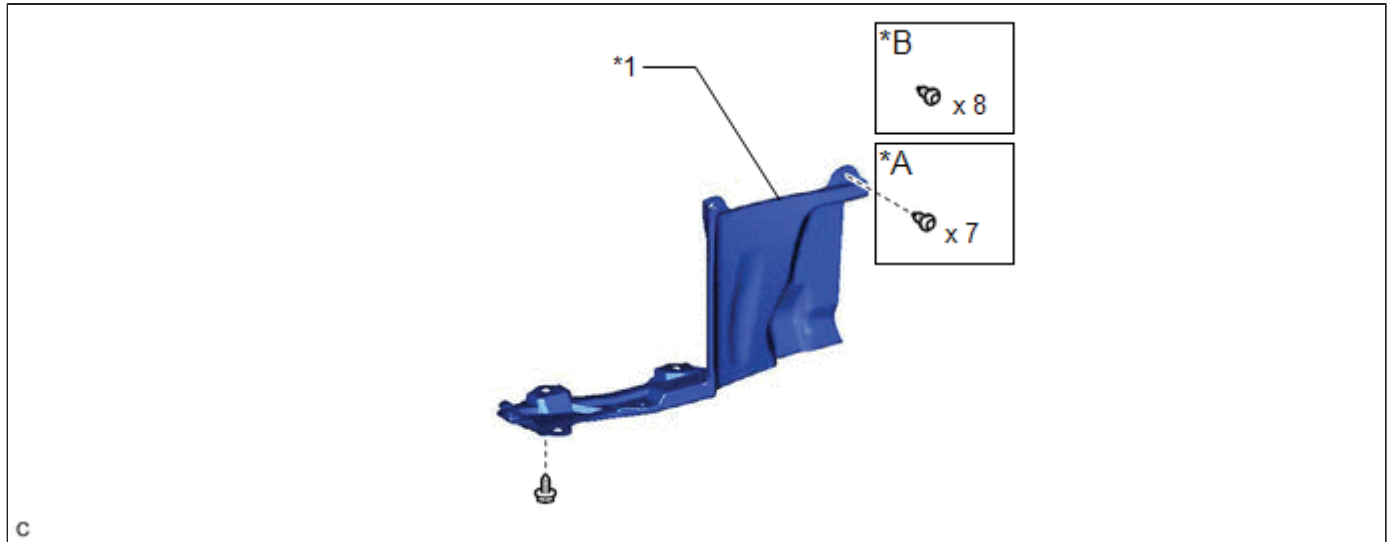
Do not apply any excessive force to the heater pipe when removing the engine coolant temperature sensor.



Last Modified: 01-14-2019	6.8:8.0.48	Doc ID: RM100000000TC4N
Model Year Start: 2016	Model: Prius	Prod Date Range: [11/2015 - ]
Title: 2ZR-FXE (COOLING): THERMOSTAT: COMPONENTS; 2016 - 2019 MY Prius [11/2015 - ]		

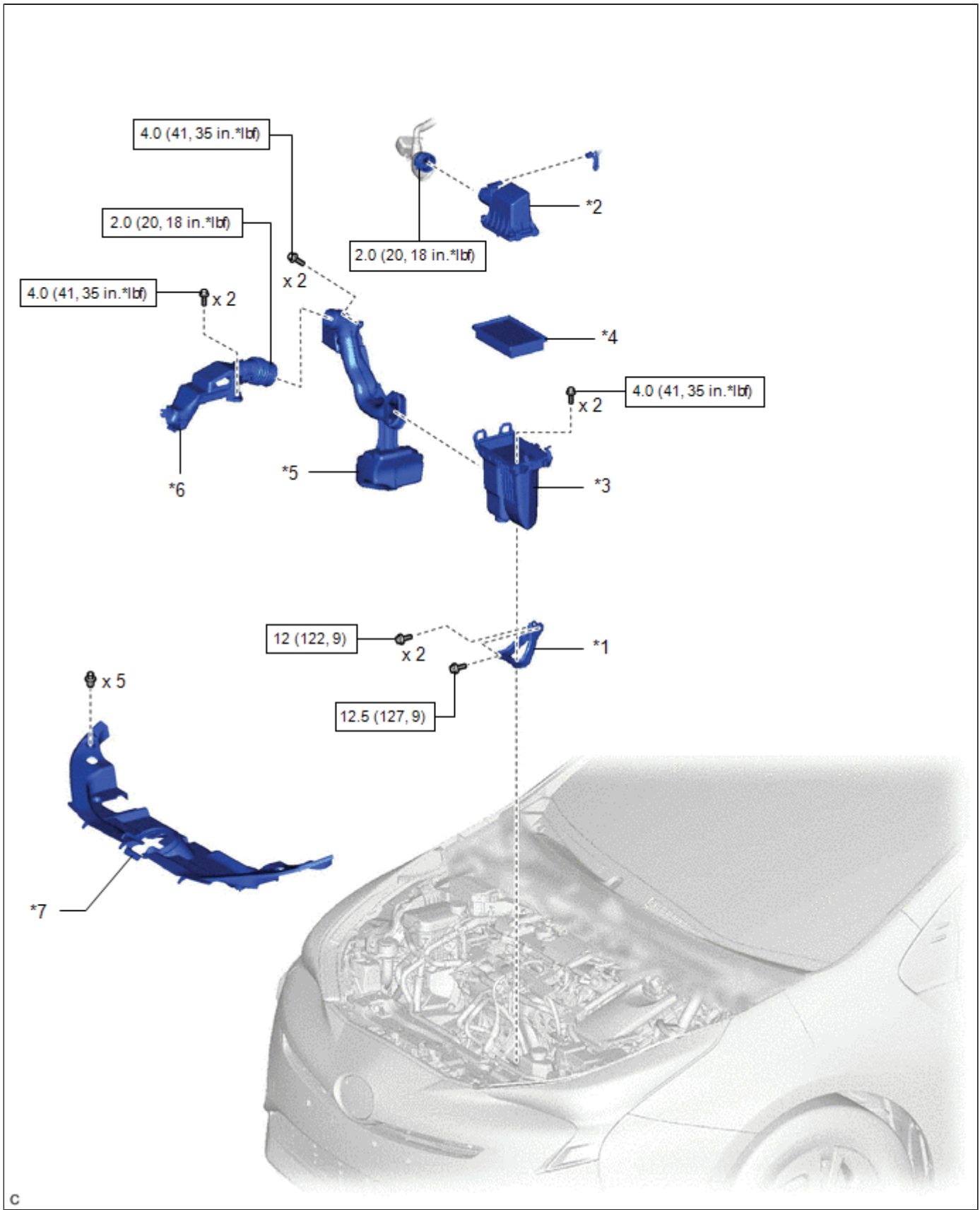
## COMPONENTS

## ILLUSTRATION




*A	except Rough Road Area Specification Vehicles	*B	for Rough Road Area Specification Vehicles
*1	REAR MOTOR UNDER COVER LH	-	-

## ILLUSTRATION

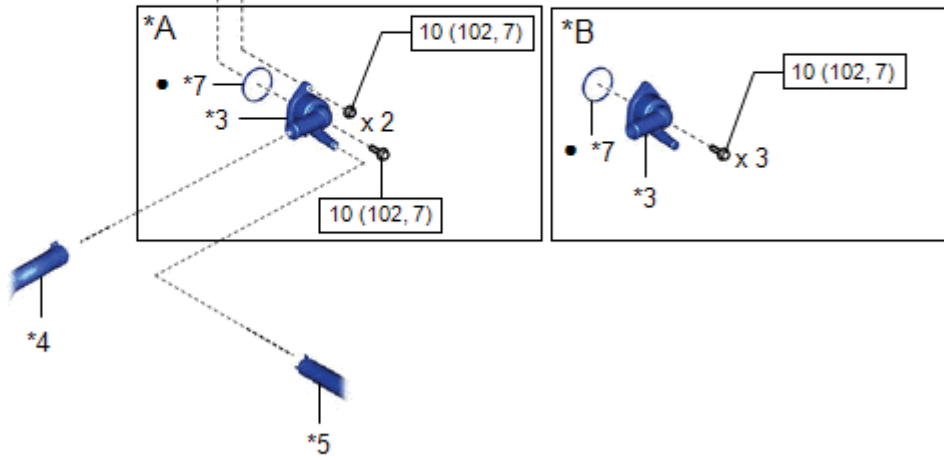
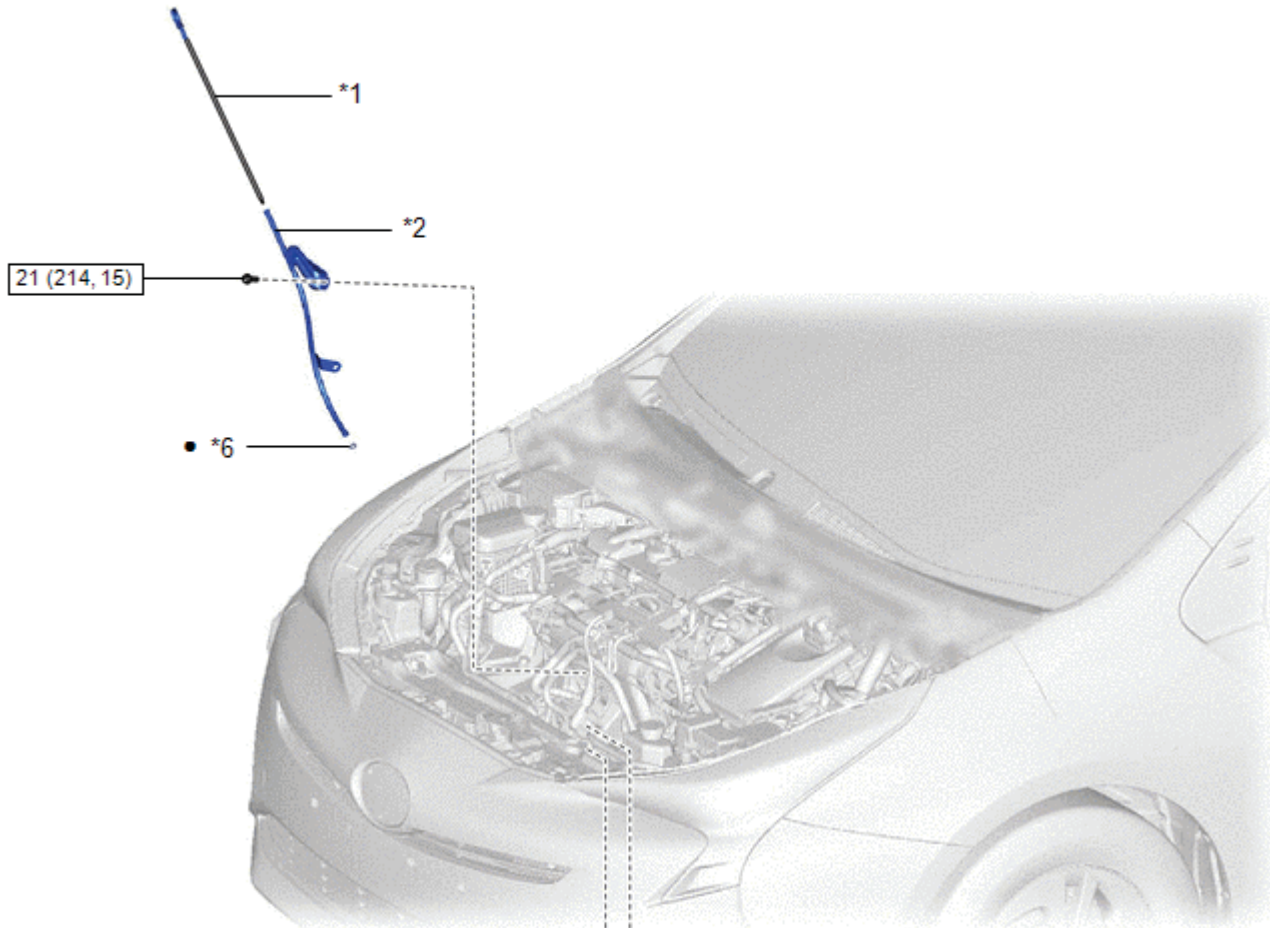


c

*1	AIR CLEANER BRACKET	*2	AIR CLEANER CAP SUB-ASSEMBLY
*3	AIR CLEANER CASE SUB-ASSEMBLY	*4	AIR CLEANER FILTER ELEMENT SUB-ASSEMBLY


*5	INLET NO. 1 AIR CLEANER	*6	INLET NO. 2 AIR CLEANER
*7	RADIATOR SUPPORT OPENING COVER	-	-
	N*m (kgf*cm, ft.*lbf): Specified torque	-	-

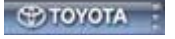
## ILLUSTRATION



c

*A	Type A	*B	Type B
*1	ENGINE OIL LEVEL DIPSTICK	*2	ENGINE OIL LEVEL DIPSTICK GUIDE
*3	WATER INLET WITH THERMOSTAT	*4	NO. 2 RADIATOR HOSE

	SUB-ASSEMBLY		
*5	NO. 3 WATER BY-PASS HOSE	*6	ENGINE OIL LEVEL DIPSTICK GUIDE O-RING
*7	GASKET	-	-
	N*m (kgf*cm, ft.*lbf): Specified torque	•	Non-reusable part



Last Modified: 01-14-2019	6.8:8.0.48	Doc ID: RM100000000TC4M
Model Year Start: 2016	Model: Prius	Prod Date Range: [11/2015 - ]
Title: 2ZR-FXE (COOLING): THERMOSTAT: INSPECTION; 2016 - 2019 MY Prius [11/2015 - ]		

## INSPECTION

### PROCEDURE

#### 1. INSPECT WATER INLET WITH THERMOSTAT SUB-ASSEMBLY

- Immerse the water inlet with thermostat sub-assembly in water and then gradually heat the water.
- Check that the valve of the water inlet with thermostat sub-assembly opens at the specified temperature.

Standard Valve Opening Temperature:

SPECIFIED CONDITION
80 to 84 °C
176 to 183 °F

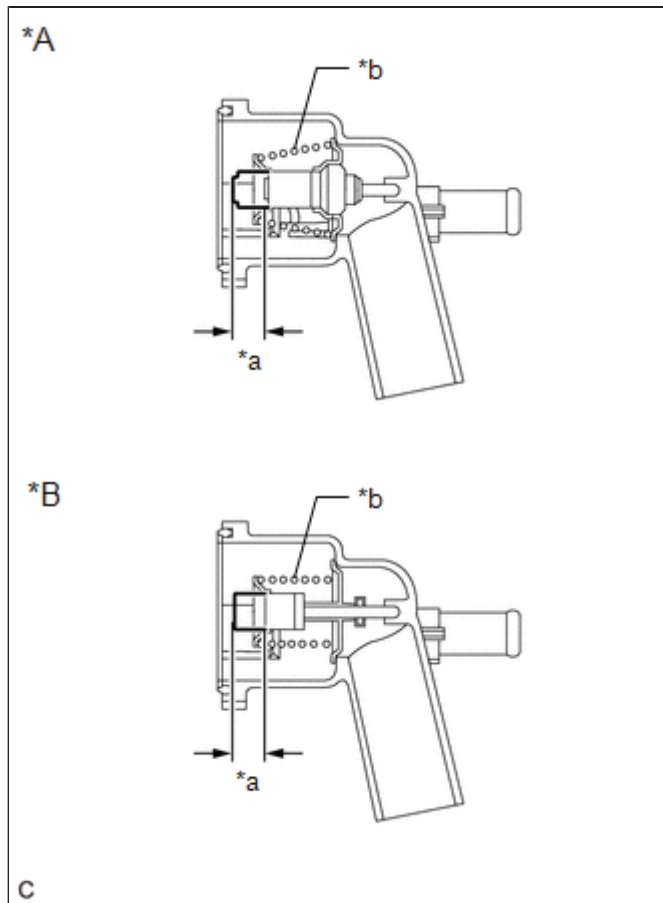
If the result is not as specified, replace the water inlet with thermostat sub-assembly.

- Check the valve lift.

Standard Valve Lift:

COMPRESSION SPRING SHAPE	CONDITION	SPECIFIED CONDITION
Tapered	95°C (203°F)	10 to 14 mm
Tapered	95°C (203°F)	0.394 to 0.551 in.
Straight	95°C (203°F)	8 mm or higher
Straight	95°C (203°F)	0.315 in. or higher

If the result is not as specified, replace the water inlet with thermostat sub-assembly.



*A	Compression Spring Shape: Tapered
*B	Compression Spring Shape: Straight
*a	Valve Lift



(d) Check that the valve is fully closed when the water inlet with thermostat sub-assembly is at low temperatures (below 77°C (171°F)).

If it is not fully closed, replace the water inlet with thermostat sub-assembly.



<b>Last Modified:</b> 01-14-2019	6.8:8.0.48	<b>Doc ID:</b> RM100000000TC4L
<b>Model Year Start:</b> 2016	<b>Model:</b> Prius	<b>Prod Date Range:</b> [11/2015 - ]
<b>Title:</b> 2ZR-FXE (COOLING): THERMOSTAT: INSTALLATION; 2016 - 2019 MY Prius [11/2015 - ]		

## INSTALLATION

### PROCEDURE

#### **1. INSTALL WATER INLET WITH THERMOSTAT SUB-ASSEMBLY**

(a) Type A:

- (1) Install a new gasket to the water inlet with thermostat sub-assembly.
- (2) Install the water inlet with thermostat sub-assembly with the 2 nuts and bolt.

**Torque:**

**10 N·m { 102 kgf·cm, 7 ft·lbf }**

(b) Type B:

- (1) Install a new gasket to the water inlet with thermostat sub-assembly.
- (2) Install the water inlet with thermostat sub-assembly with the 3 bolts.

**Torque:**

**10 N·m { 102 kgf·cm, 7 ft·lbf }**

- (c) Connect the No. 2 radiator hose and No. 3 water by-pass hose to the water inlet with thermostat sub-assembly and slide the 2 clips to secure them.

#### **2. INSTALL ENGINE OIL LEVEL DIPSTICK GUIDE**

- (a) Install a new engine oil level dipstick guide O-ring to the engine oil level dipstick guide.
- (b) Apply a light coat of engine oil to the engine oil level dipstick guide O-ring.
- (c) Insert the engine oil level dipstick guide end into the oil pan sub-assembly.
- (d) Install the engine oil level dipstick guide to the cylinder block sub-assembly with the bolt.

**Torque:**

**21 N·m { 214 kgf·cm, 15 ft·lbf }**

- (e) Engage the clamp to connect the engine wire to the engine oil level dipstick guide.

#### **3. INSTALL ENGINE OIL LEVEL DIPSTICK**

- (a) Install the engine oil level dipstick to the engine oil level dipstick guide.

#### **4. INSTALL INLET NO. 1 AIR CLEANER**

Click here [INFO](#)

#### **5. INSTALL AIR CLEANER BRACKET**

Click here [INFO](#)

#### **6. INSTALL AIR CLEANER CASE SUB-ASSEMBLY**

Click here [INFO](#)

#### **7. INSTALL AIR CLEANER FILTER ELEMENT SUB-ASSEMBLY**

Click here [INFO](#)

## 8. INSTALL AIR CLEANER CAP SUB-ASSEMBLY

Click here [INFO](#)

## 9. INSTALL INLET NO. 2 AIR CLEANER

Click here [INFO](#)

## 10. INSTALL RADIATOR SUPPORT OPENING COVER

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

## 11. ADD ENGINE COOLANT (for Engine)

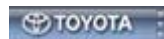
Click here [INFO](#) [INFO](#)

## 12. INSPECT FOR COOLANT LEAK (for Engine)

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

## 13. INSTALL REAR MOTOR UNDER COVER LH

Click here [INFO](#)



<b>Last Modified:</b> 01-14-2019	6.8:8.0.48	<b>Doc ID:</b> RM100000000TC40
<b>Model Year Start:</b> 2016	<b>Model:</b> Prius	<b>Prod Date Range:</b> [11/2015 - ]
<b>Title:</b> 2ZR-FXE (COOLING): THERMOSTAT: REMOVAL; 2016 - 2019 MY Prius [11/2015 - ]		

## **REMOVAL**

### **PROCEDURE**

#### **1. REMOVE REAR MOTOR UNDER COVER LH**

Click here [INFO](#)

#### **2. DRAIN ENGINE COOLANT (for Engine)**

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

#### **3. REMOVE RADIATOR SUPPORT OPENING COVER**

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

#### **4. REMOVE INLET NO. 2 AIR CLEANER**

Click here [INFO](#)

#### **5. REMOVE AIR CLEANER CAP SUB-ASSEMBLY**

Click here [INFO](#)

#### **6. REMOVE AIR CLEANER FILTER ELEMENT SUB-ASSEMBLY**

Click here [INFO](#)

#### **7. REMOVE AIR CLEANER CASE SUB-ASSEMBLY**

Click here [INFO](#)

#### **8. REMOVE AIR CLEANER BRACKET**

Click here [INFO](#)

#### **9. REMOVE INLET NO. 1 AIR CLEANER**

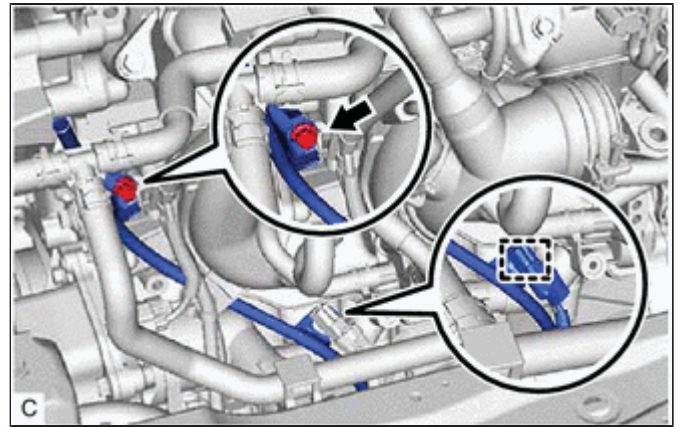
Click here [INFO](#)

#### **10. REMOVE ENGINE OIL LEVEL DIPSTICK**

(a) Remove the engine oil level dipstick from the engine oil level dipstick guide.

#### **11. REMOVE ENGINE OIL LEVEL DIPSTICK GUIDE**

(a) Disengage the clamp to disconnect the engine wire from the engine oil level dipstick guide.



(b) Remove the bolt and engine oil level dipstick guide from the cylinder block sub-assembly and oil pan sub-assembly.

(c) Remove the engine oil level dipstick guide O-ring from the engine oil level dipstick guide.

## 12. REMOVE WATER INLET WITH THERMOSTAT SUB-ASSEMBLY

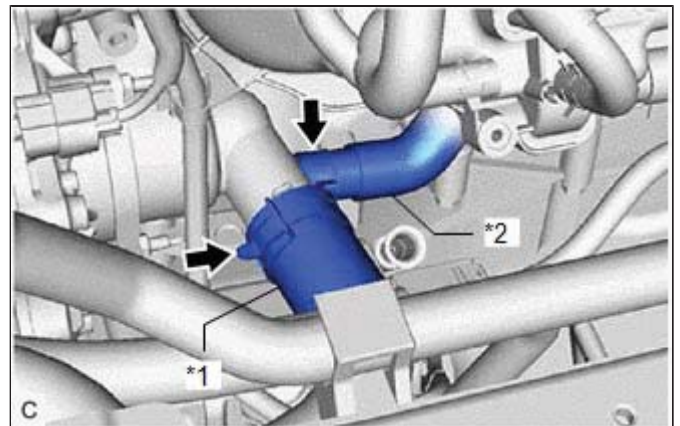
(a) Slide the 2 clips and disconnect the No. 2 radiator hose and No. 3 water by-pass hose from the water inlet with thermostat sub-assembly.

### NOTICE:

- Do not apply force to the water inlet with thermostat sub-assembly when disconnecting the No. 3 water by-pass hose.
- Do not damage the water inlet with thermostat sub-assembly.

### HINT:

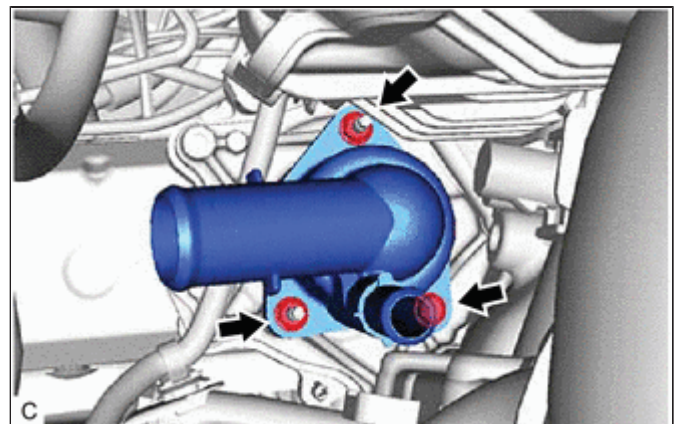
When disconnecting the No. 3 water by-pass hose, slide the clip, rotate the hose and pull it straight off the pipe.



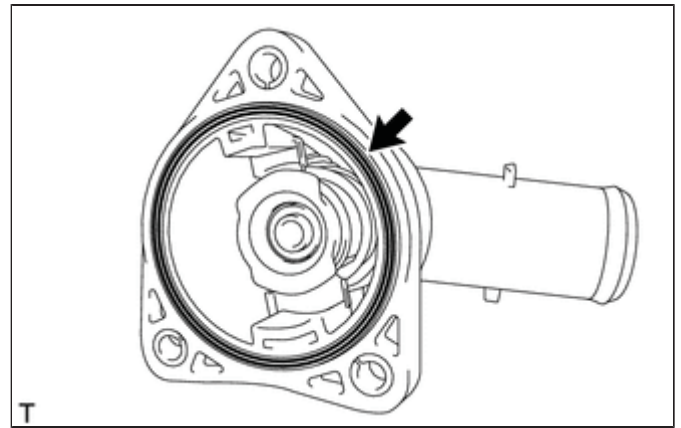
*1	No. 2 Radiator Hose
*2	No. 3 Water By-pass Hose

(b) Type A:

(1) Remove the 2 nuts, bolt and water inlet with thermostat sub-assembly.

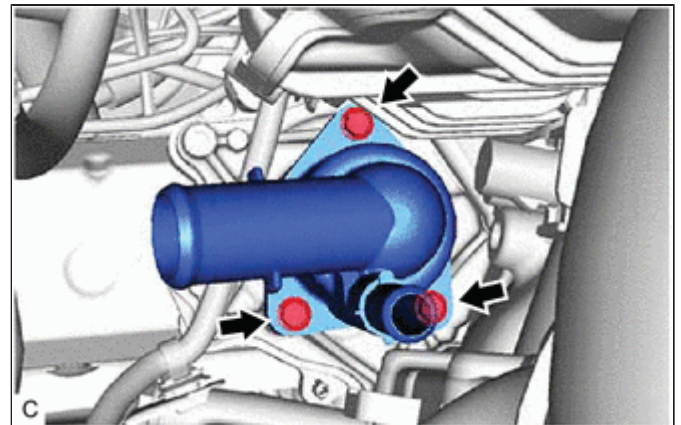


(2) Remove the gasket from the water inlet with thermostat sub-assembly.

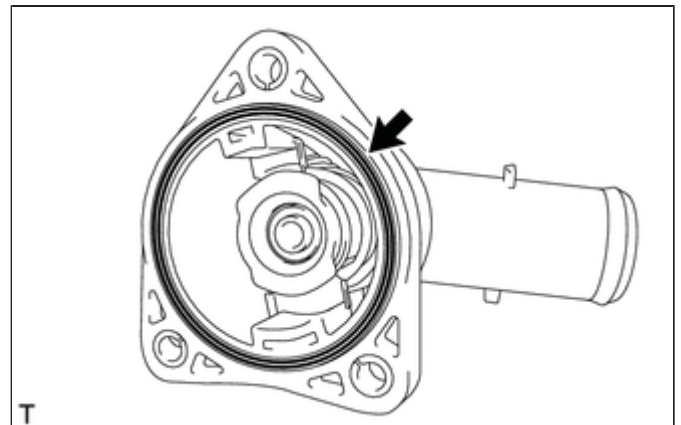


(c) Type B:

(1) Remove the 3 bolts and water inlet with thermostat sub-assembly.



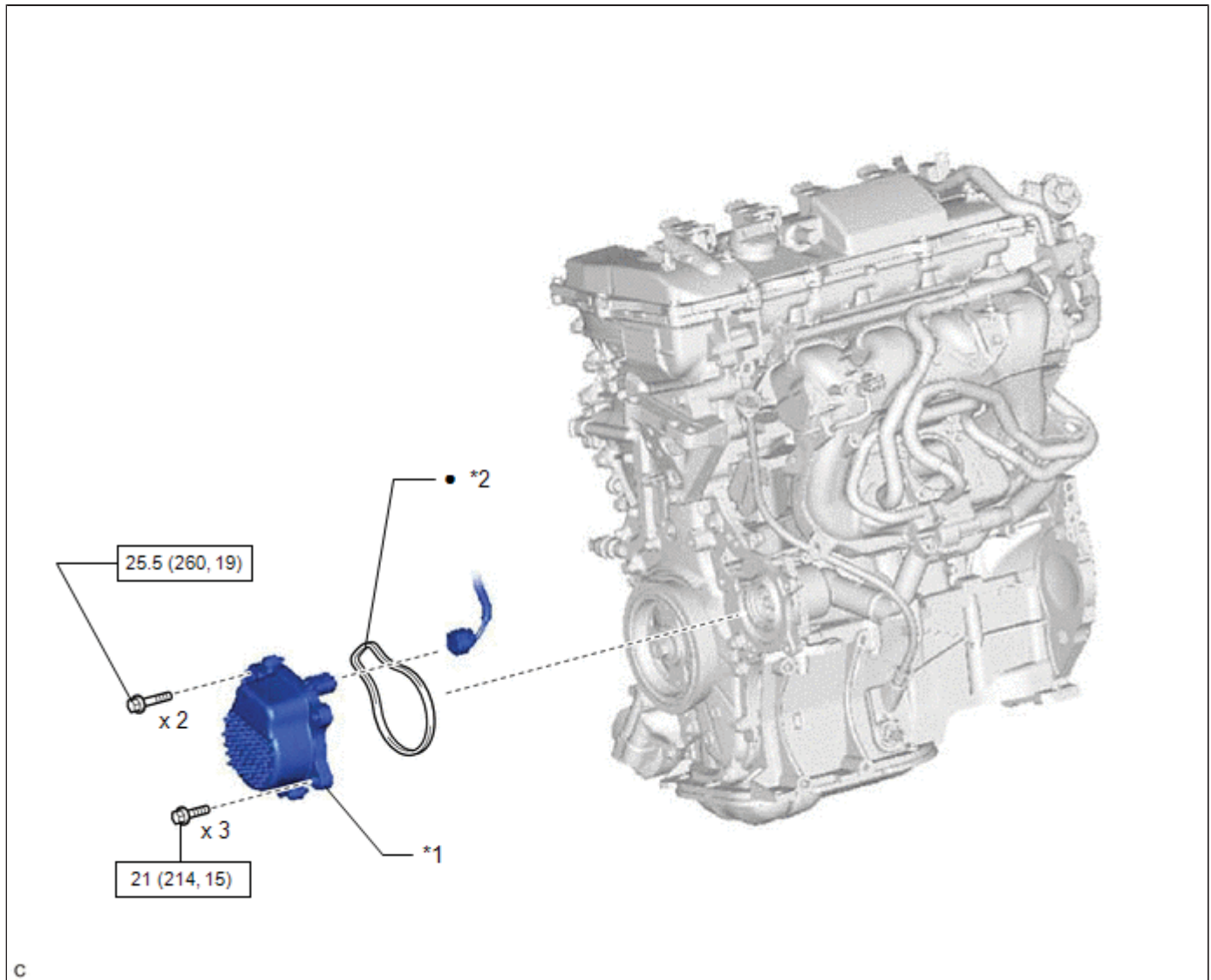
(2) Remove the gasket from the water inlet with thermostat sub-assembly.



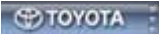
Last Modified: 01-14-2019	6.8:8.0.48	Doc ID: RM100000000TC4J
Model Year Start: 2016	Model: Prius	Prod Date Range: [11/2015 - ]
Title: 2ZR-FXE (COOLING): WATER PUMP: COMPONENTS; 2016 - 2019 MY Prius [11/2015 - ]		

## COMPONENTS

## ILLUSTRATION



*1	ENGINE WATER PUMP ASSEMBLY	*2	GASKET
	N*m (kgf*cm, ft.*lbf): Specified torque	•	Non-reusable part





<b>Last Modified:</b> 01-14-2019	6.8:8.0.48	<b>Doc ID:</b> RM100000000TC4I
<b>Model Year Start:</b> 2016	<b>Model:</b> Prius	<b>Prod Date Range:</b> [11/2015 - ]
<b>Title:</b> 2ZR-FXE (COOLING): WATER PUMP: INSTALLATION; 2016 - 2019 MY Prius [11/2015 - ]		

## INSTALLATION

### PROCEDURE

#### 1. INSTALL ENGINE WATER PUMP ASSEMBLY

(a) Install a new gasket to the engine water pump assembly.

#### HINT:

Be sure to clean the contact surfaces.

(b) Install the engine water pump assembly to the timing chain cover sub-assembly with the 5 bolts.

#### Torque:

**Bolt (A) :**

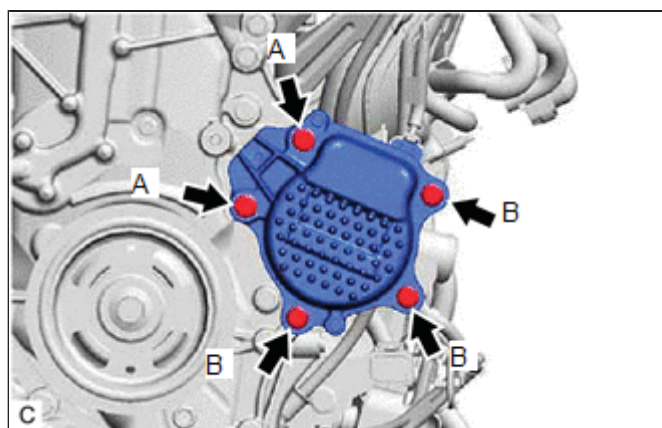
**25.5 N·m { 260 kgf·cm, 19 ft·lbf }**

**Bolt (B) :**

**21 N·m { 214 kgf·cm, 15 ft·lbf }**

Bolt Length:

ITEM	LENGTH
Bolt (A)	55 mm (2.17 in.)
Bolt (B)	30 mm (1.18 in.)



(c) Connect the engine water pump assembly connector.

#### 2. INSTALL ENGINE ASSEMBLY WITH TRANSAXLE

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





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<b>Model Year Start:</b> 2016	<b>Model:</b> Prius	<b>Prod Date Range:</b> [11/2015 - ]
<b>Title:</b> 2ZR-FXE (COOLING): WATER PUMP: REMOVAL; 2016 - 2019 MY Prius [11/2015 - ]		

## 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 engine water pump assembly removal/installation are shown below.

### Necessary Procedure 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)	<a href="#">INFO</a>
		Intelligent clearance sonar system*1	
Simple advanced parking guidance system*1			
Pre-collision system			
	Initialize back door lock	Power door lock control system	<a href="#">INFO</a>
Replacement of inverter with converter assembly	Resolver learning	<ul style="list-style-type: none"> <li>• DTCs are stored</li> <li>• Slight vibration at a vehicle speed of 5 km/h (3 mph) or less</li> <li>• Shock or vibration during acceleration</li> </ul>	<a href="#">INFO</a> for Nickel Metal Hydride Battery <a href="#">INFO</a> for Lithium-ion Battery
Replacement of ECM	Perform Vehicle Identification Number (VIN) registration	MIL comes on	<a href="#">INFO</a>
<ul style="list-style-type: none"> <li>• Replacement of throttle body assembly</li> <li>• Replacement of engine assembly</li> <li>• Gas leak from exhaust system is repaired</li> </ul>	Inspection After Repair	<ul style="list-style-type: none"> <li>• Poor idle, etc.</li> <li>• Engine start function, etc.</li> </ul>	<a href="#">INFO</a>
Suspension, tires, etc. (The vehicle height changes because of suspension or tire replacement)	<ul style="list-style-type: none"> <li>• Ultrasonic sensor detection angle</li> <li>• Ultrasonic sensor detection angle registration</li> </ul>	<ul style="list-style-type: none"> <li>• Intelligent clearance sonar system</li> <li>• Simple advanced parking guidance system</li> </ul>	<a href="#">INFO</a> <a href="#">INFO</a>

Front wheel alignment adjustment	<ol style="list-style-type: none"> <li>1. Clear zero point calibration data.</li> <li>2. Perform yaw rate and acceleration sensor zero point calibration.</li> </ol>	<p>DTCs are stored</p> <ul style="list-style-type: none"> <li>• ABS warning light illuminates</li> <li>• Brake warning light/yellow (minor malfunction) illuminates</li> <li>• Slip indicator light illuminates</li> <li>• VSC disabled or malfunctions</li> </ul>	<p><a href="#">INFO</a> <a href="#">INFO</a></p>
Replacement of hybrid vehicle transaxle assembly	<ul style="list-style-type: none"> <li>• Resolver learning</li> <li>• Initialize resolver</li> </ul>	<ul style="list-style-type: none"> <li>• DTCs are stored</li> <li>• Slight vibration at a vehicle speed of 5 km/h (3 mph) or less</li> <li>• Shock or vibration during acceleration</li> </ul>	<p><a href="#">INFO</a> for Nickel Metal Hydride Battery</p> <p><a href="#">INFO</a> for Lithium-ion Battery</p>

\*1: When performing learning using the Techstream.

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

## PROCEDURE

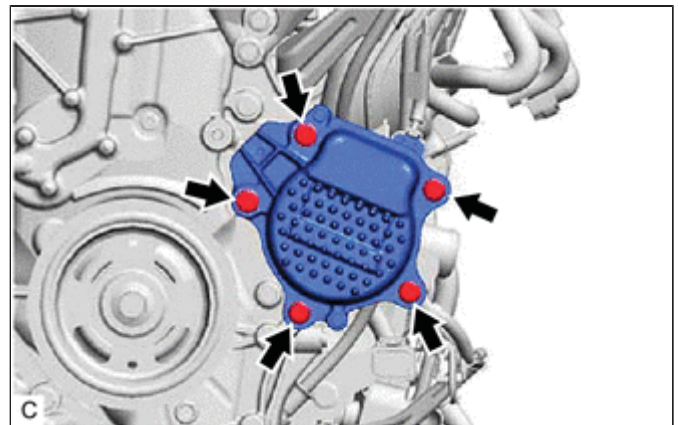
### 1. REMOVE ENGINE ASSEMBLY WITH TRANSAXLE

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

### 2. REMOVE ENGINE WATER PUMP ASSEMBLY

(a) Disconnect the engine water pump assembly connector..

(b) Remove the 5 bolts and engine water pump assembly from the timing chain cover sub-assembly.



(c) Remove the gasket from the engine water pump assembly.

