

ON-VEHICLE INSPECTION

1. CHECK ENGINE OIL LEVEL

(a) Put the engine in inspection mode INFO.

(b) Warm up and stop the engine, then wait for 5 minutes. The oil level should be between the low level and full level marks on the engine oil level dipstick. If the engine oil level is low, check for leakage and add oil up to the full level mark.

NOTICE:

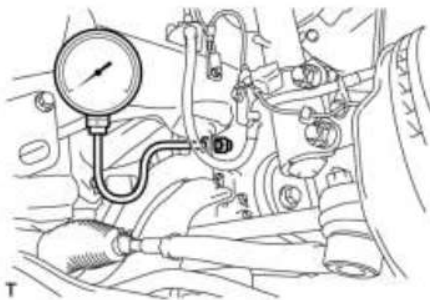
Do not fill with engine oil to above the full level mark.

2. CHECK ENGINE OIL

(a) Check the engine oil for deterioration, water contamination, discoloring or thinning. If the condition is visibly poor, replace the engine oil and oil filter element.

3. INSPECT ENGINE OIL PRESSURE SWITCH ASSEMBLY

(a) Remove the oil pressure switch INFO.



(b) Install the oil pressure gauge with the adapter.

(c) Put the engine in inspection mode INFO.

(d) Warm up the engine.

(e) Check the oil pressure.

Standard Oil Pressure:

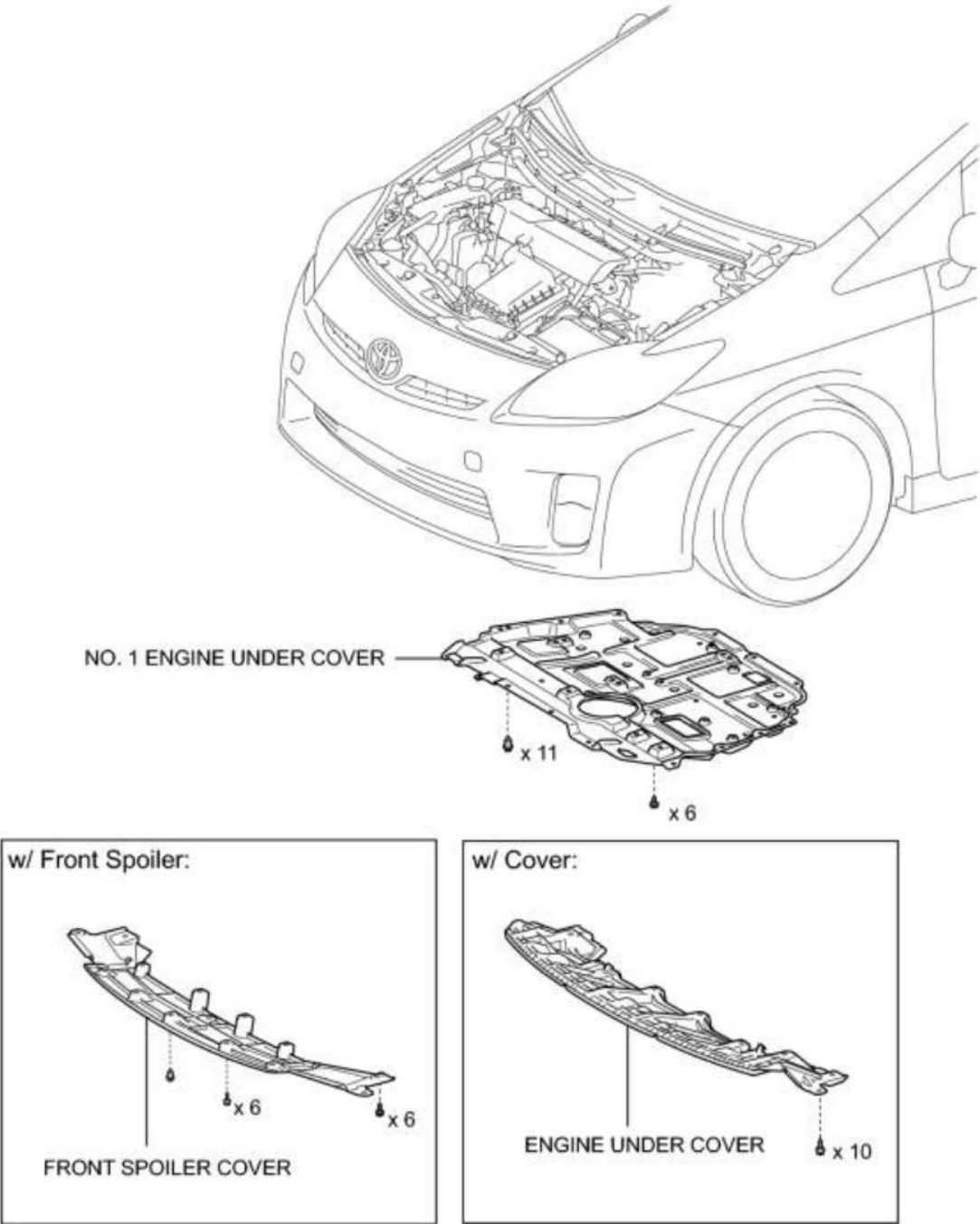
Engine Condition	Oil Pressure
Idle	60 kPa (0.6 kgf/cm ² , 8.7 psi) or more
2500 rpm	142 kPa (1.4 kgf/cm ² , 21 psi) or more

(f) If the oil pressure is not as specified, check the oil pump INFO.

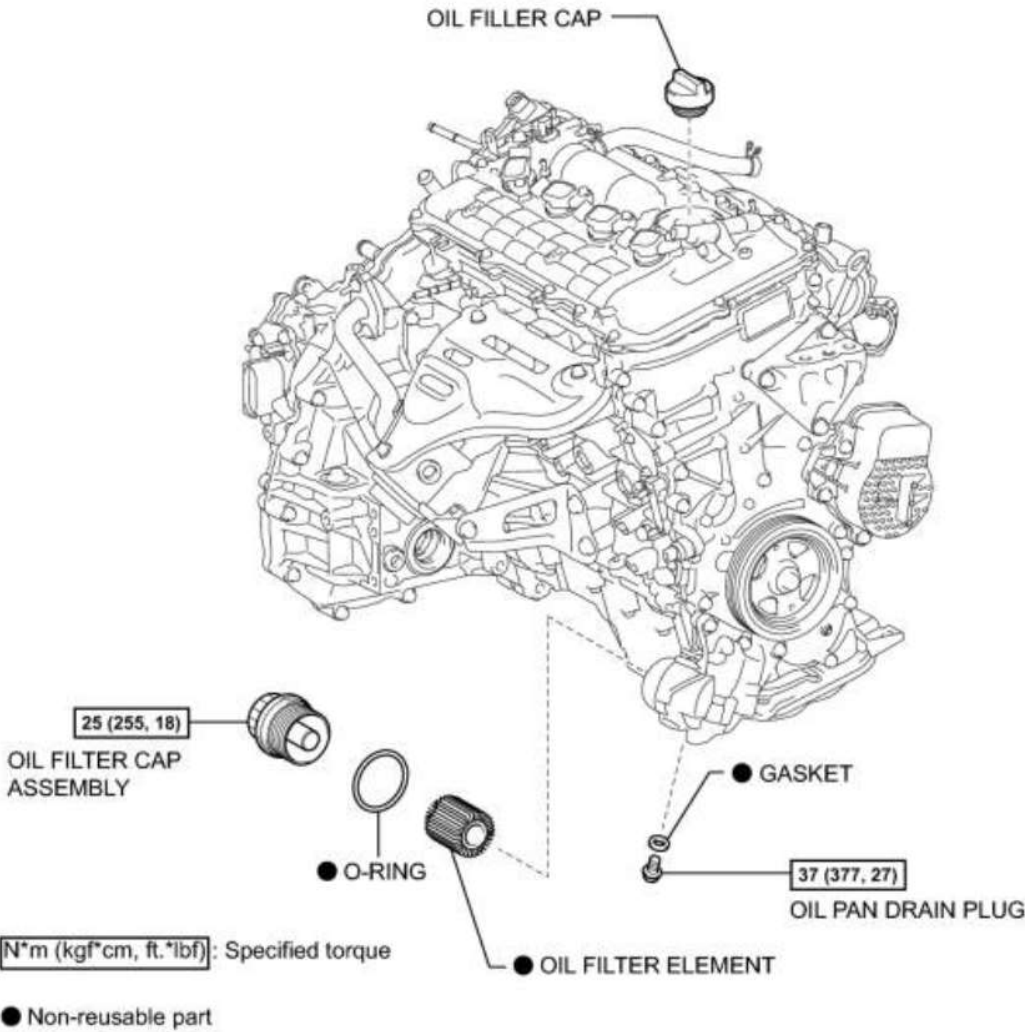
(g) Install the oil pressure switch .

COMPONENTS

ILLUSTRATION



ILLUSTRATION



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REPLACEMENT

CAUTION:

- Prolonged and repeated contact with engine oil will result in the removal of natural oils from the skin, leading to dryness, irritation and dermatitis. In addition, used engine oil contains potentially harmful contaminants which may cause skin cancer.
- Wear protective clothing and gloves. Avoid contact with used oil. If contact occurs, wash your skin thoroughly with soap or waterless hand cleaner. Never use gasoline, thinners, or solvents to wash the skin.
- In order to protect the environment, dispose of used oil and used oil filters at designated disposal sites only.

1. REMOVE FRONT SPOILER COVER (w/ Front Spoiler)

2. REMOVE ENGINE UNDER COVER (w/ Cover)

3. REMOVE NO. 1 ENGINE UNDER COVER

4. DRAIN ENGINE OIL

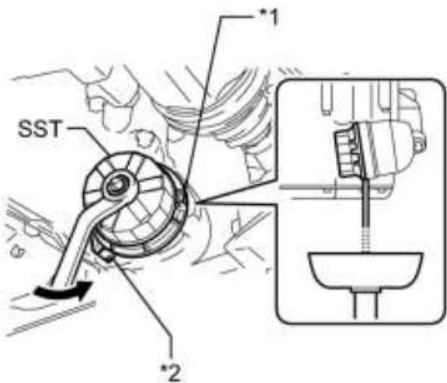
- (a) Remove the oil filler cap.
- (b) Remove the oil pan drain plug and gasket, and drain the oil into a container.
- (c) Clean and install the oil pan drain plug with a new gasket.

Torque: 37 N·m (377 kgf·cm, 27ft·lbf)

5. REMOVE OIL FILTER CAP ASSEMBLY

- (a) Using SST, loosen the oil filter cap 4 revolutions, align the cap ribs vertically, and drain the remaining engine oil in the oil filter cap.

Text in Illustration



*1	Cap Rib
*2	Oil Filter Bracket Clip

SST: 09228-06501

NOTICE:

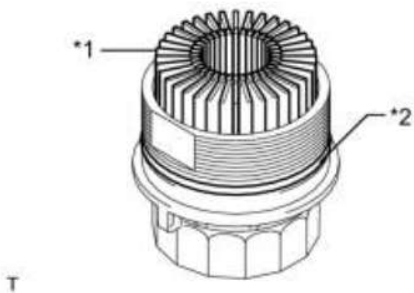
Do not remove the oil filter bracket clip when removing the oil filter cap assembly.

HINT:

Set a container below the oil filter cap assembly before loosening the oil filter cap.

(b) Remove the oil filter cap assembly.

(c) Remove the oil filter element and O-ring from the oil filter cap.



Text in Illustration

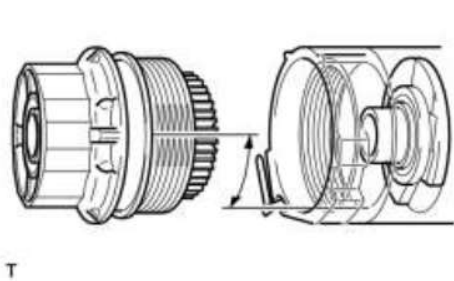
*1	Oil Filter Element
*2	O-ring

NOTICE:

Be sure to remove the O-ring (for the cap) by hand, without using any tools, to prevent damage to the groove for the O-ring on the cap.

6. INSTALL OIL FILTER CAP ASSEMBLY

- (a) Clean the oil filter cap threads and O-ring groove.
- (b) Apply a small amount of engine oil to a new O-ring and install it to the oil filter cap.
- (c) Set a new oil filter element in the oil filter cap.
- (d) Remove any dirt or foreign matter from the installation surface and inside of the engine.



(e) Reapply a small amount of engine oil to the O-ring of the oil filter cap assembly. Align the cutout in the oil filter cap threads 90° to the grooves in the oil filter bracket and temporarily tighten the cap.

NOTICE:

Make sure that the O-ring does not get caught between the parts.

(f) Using SST, tighten the oil filter cap assembly.

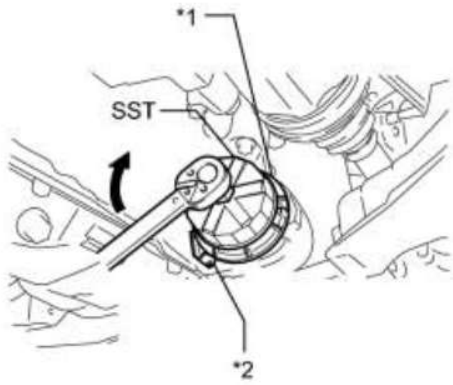
Text in Illustration

*1	No Clearance
*2	Oil Filter Bracket Clip

Torque: 25 N·m (255 kgf·cm, 18ft·lbf)

SST: 09228-06501

- After tightening the oil filter cap assembly, check for gaps between the installation surfaces.



- Do not remove the oil filter bracket clip when installing the oil filter cap assembly.
- Do not cross thread the oil filter cap assembly.

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7. ADD ENGINE OIL

(a) Add new engine oil and install the oil filler cap.

Standard Oil Grade (For USA)

Oil Grade	Oil Viscosity (SAE)
• ILSAC multigrade engine oil	0W-20

Standard Oil Grade (For Canada)

Oil Grade	Oil Viscosity (SAE)
• ILSAC multigrade engine oil	• 0W-20 • 5W-20 (0W-20 is best choice for fuel economy and good starting in cold weather.)

Standard Capacity

Item	Standard Condition
Drain and refill with oil filter change	4.2 liters (4.4 US qts, 3.7 imp. qts)
Drain and refill without oil filter change	3.9 liters (4.1 US qts, 3.4 imp. qts)
Dry fill	4.7 liters (5.0 US qts, 4.1 imp. qts)

8. INSPECT FOR ENGINE OIL LEAK

(a) Put the engine in inspection mode INFO.

(b) Start the engine.

(c) Check for engine oil leaks from the connected parts of the oil filter cap and oil filter drain plug.

9. INSTALL NO. 1 ENGINE UNDER COVER

2010 Toyota Prius

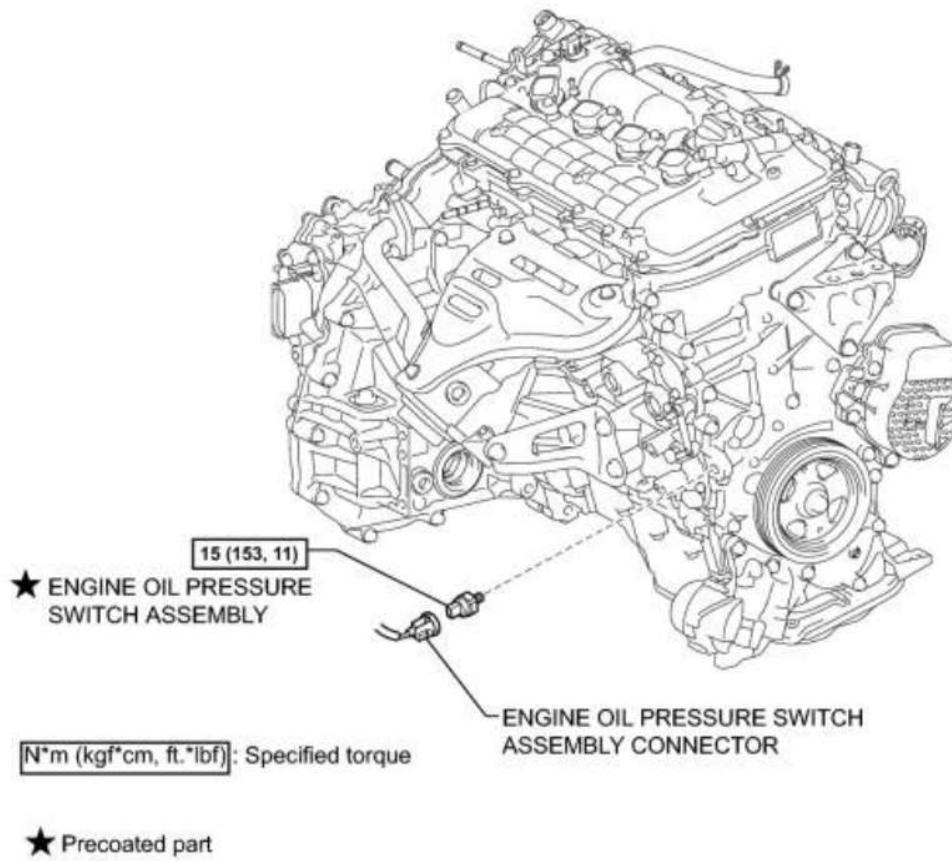
Repair Manual

10. INSTALL ENGINE UNDER COVER (w/ Cover)

11. INSTALL FRONT SPOILER COVER (w/ Front Spoiler)

COMPONENTS

ILLUSTRATION

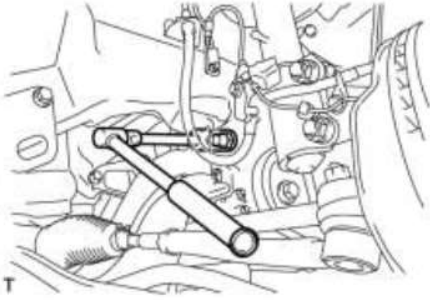


REMOVAL

1. REMOVE FRONT WHEEL RH

2. REMOVE ENGINE OIL PRESSURE SWITCH ASSEMBLY

(a) Disconnect the oil pressure switch connector.



(b) Using a 24 mm deep socket wrench, remove the oil pressure switch.

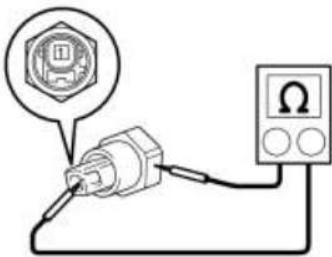
INSPECTION

1. INSPECT ENGINE OIL PRESSURE SWITCH ASSEMBLY

(a) Disconnect the oil pressure switch connector.

(b) Start the engine.

(c) Measure the resistance according to the value(s) in the table below.



Standard Resistance:

Tester Connection	Condition	Specified Condition
1 - Switch body	Idling	10 kΩ or higher
1 - Switch body	Engine stopped	Below 1 Ω

If the result is not as specified, replace the oil pressure switch assembly.

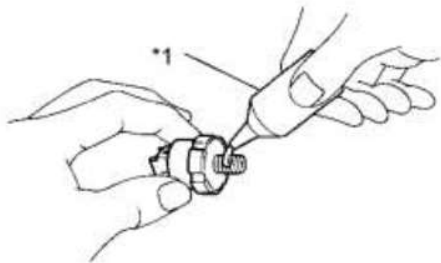
(d) Reconnect the oil pressure switch connector.

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INSTALLATION

1. INSTALL ENGINE OIL PRESSURE SWITCH ASSEMBLY

(a) Apply adhesive to 2 or 3 threads of the oil pressure switch.

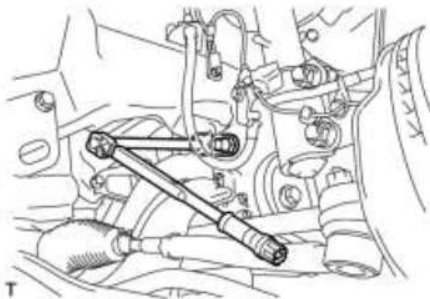


Text in Illustration

*1	Adhesive
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Adhesive:

Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent



(b) Using a 24 mm deep socket wrench, install the oil pressure switch.

Torque: **15 N·m (153 kgf·cm, 11ft·lbf)**

NOTICE:

Do not start the engine for at least 1 hour after installation.

(c) Connect the oil pressure switch connector.

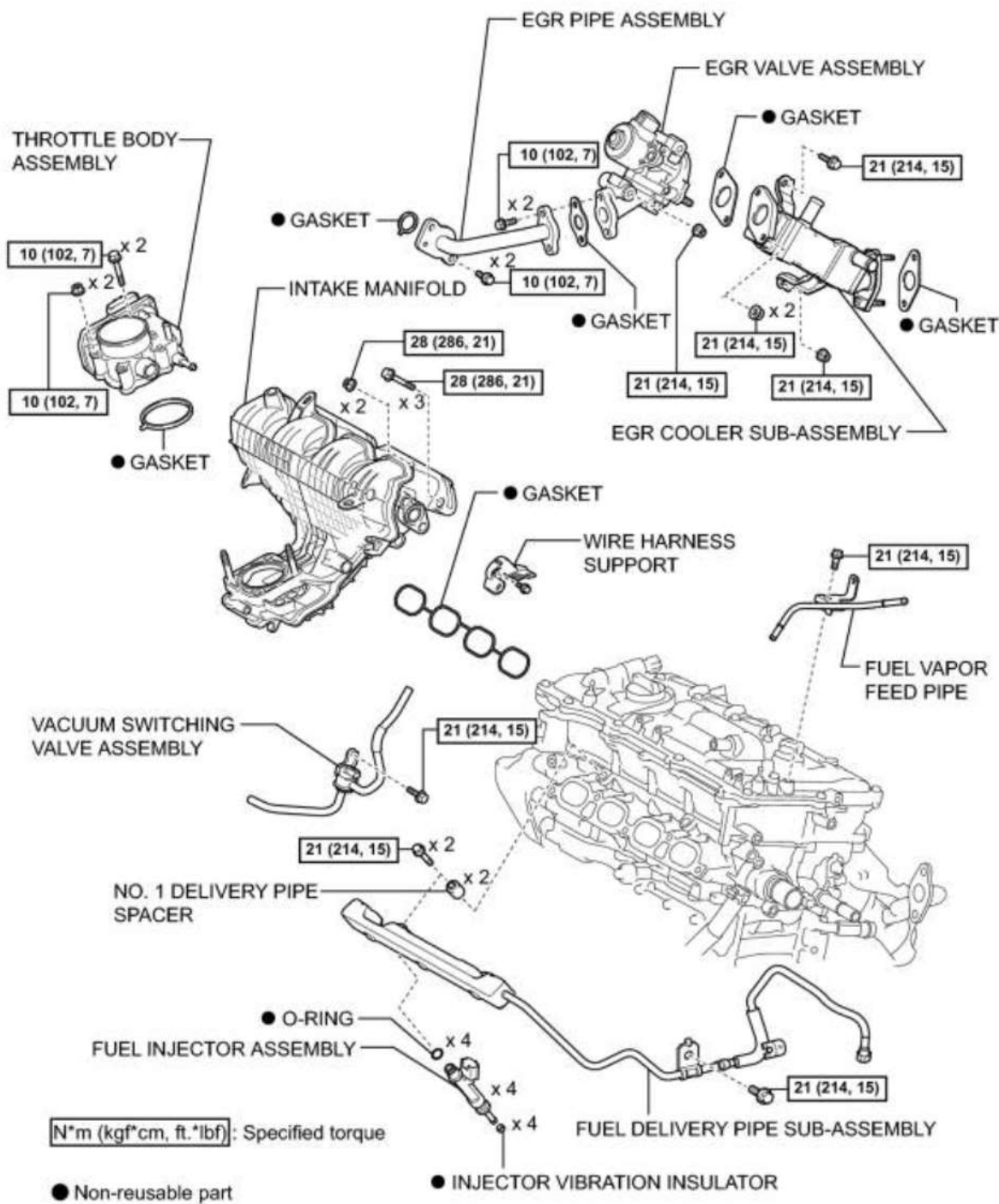
2. INSPECT FOR ENGINE OIL LEAK_ INFO

3. INSTALL FRONT WHEEL RH

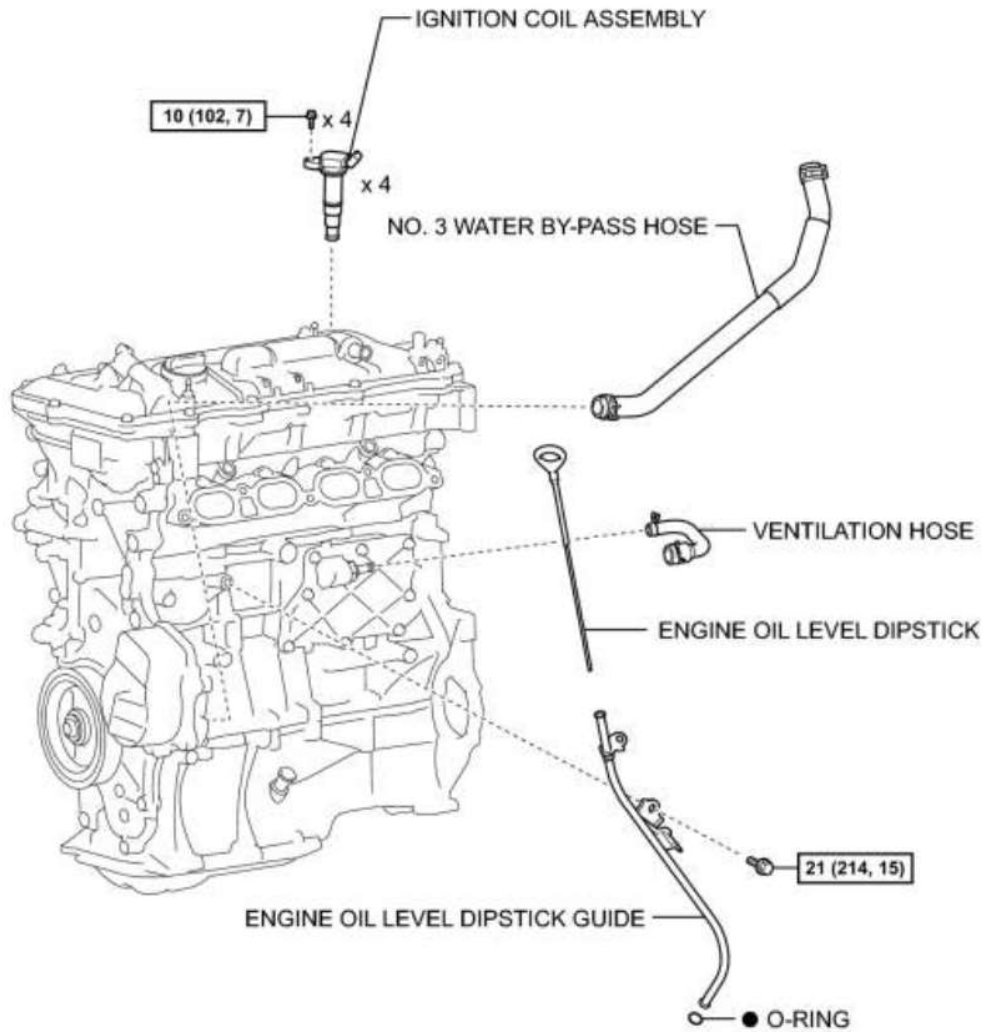
Torque: **103 N·m (1050 kgf·cm, 76ft·lbf)**

COMPONENTS

ILLUSTRATION



ILLUSTRATION

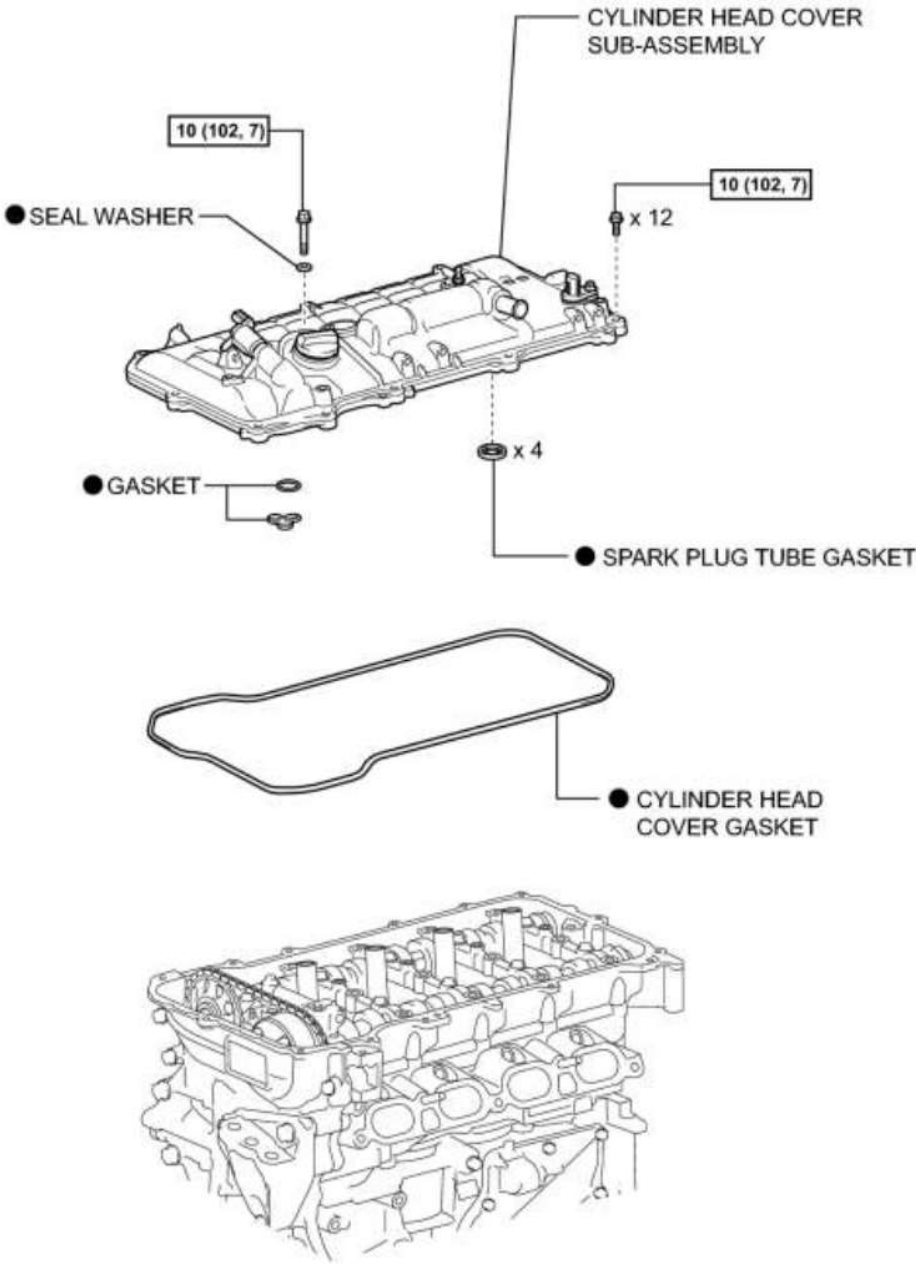


N*m (kgf*cm, ft.*lbf): Specified torque

● Non-reusable part

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ILLUSTRATION

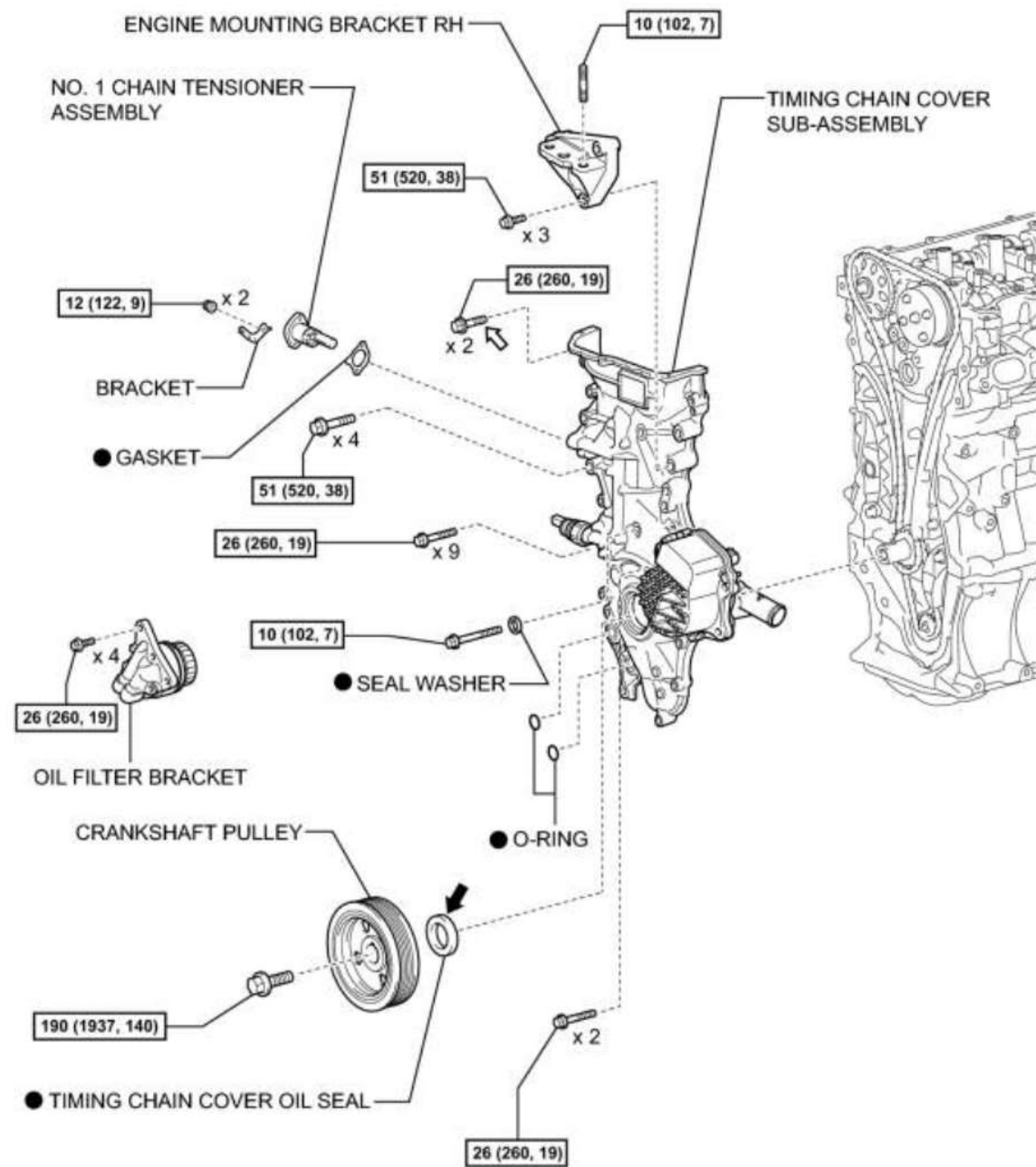


N*m (kgf*cm, ft.*lbf): Specified torque

● Non-reusable part

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ILLUSTRATION



N*m (kgf*cm, ft.*lbf): Specified torque

● Non-reusable part

➡ MP grease

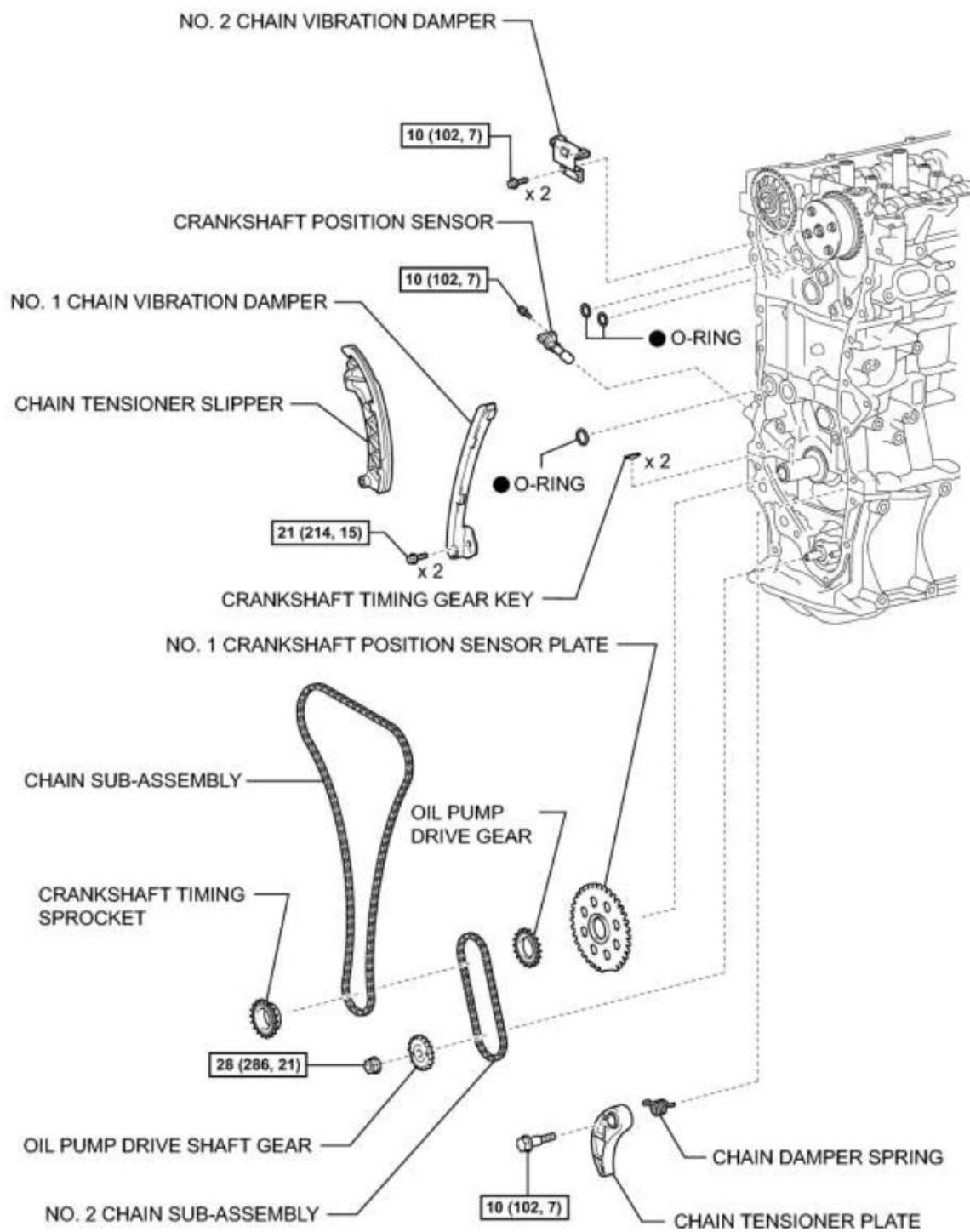
⇨ Adhesive 1324

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ILLUSTRATION

2010 Toyota Prius

Repair Manual



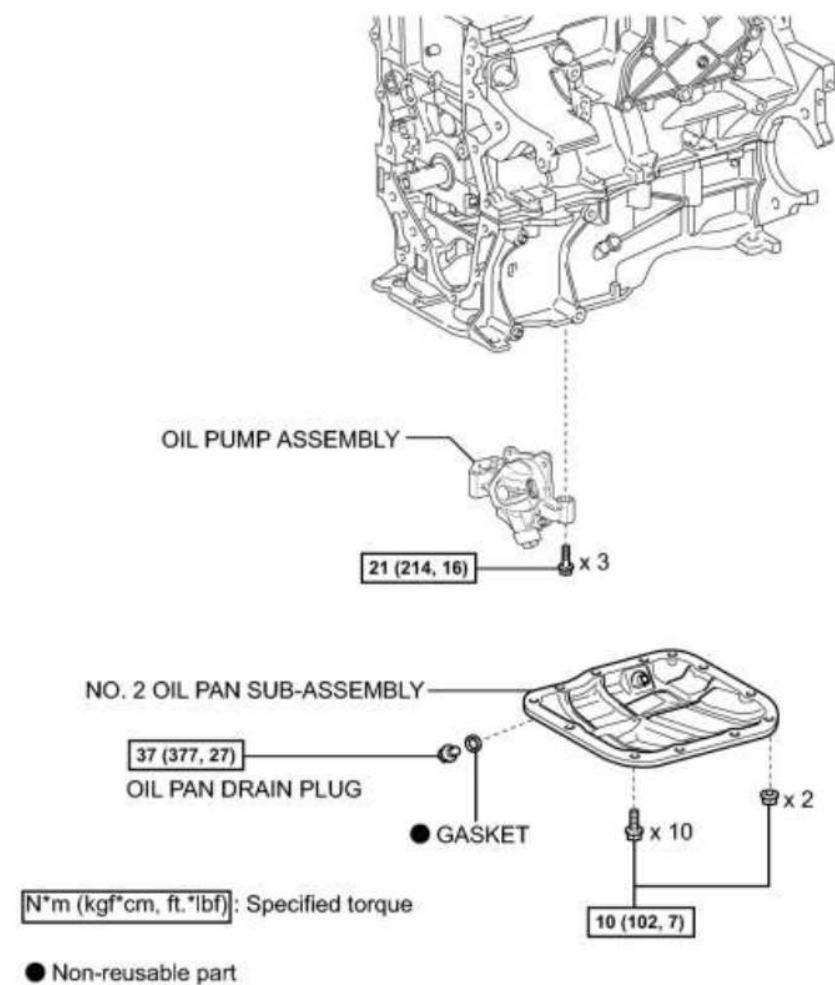
N*m (kgf*cm, ft.*lbf) : Specified torque

● Non-reusable part

ILLUSTRATION

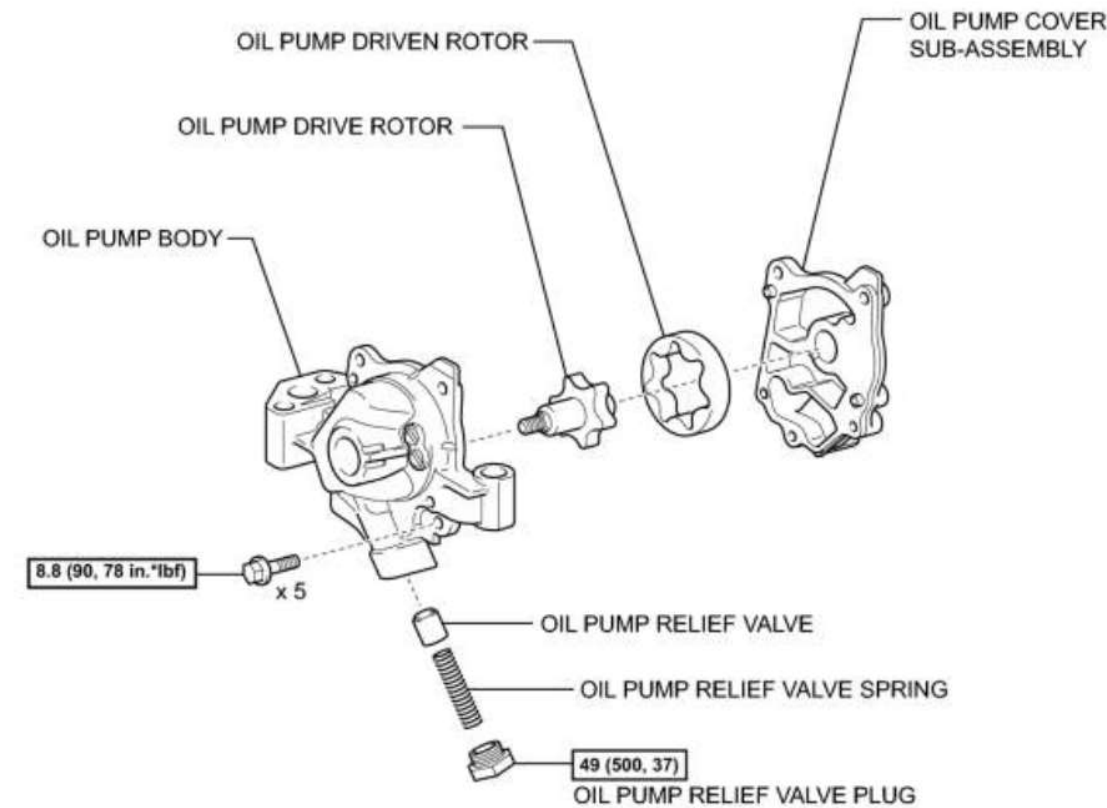
2010 Toyota Prius

Repair Manual



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ILLUSTRATION



[N*m (kgf*cm, ft.*lbf)]: Specified torque

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REMOVAL

1. REMOVE ENGINE ASSEMBLY WITH TRANSAXLE

HINT: [INFO](#)

2. INSTALL ENGINE ON ENGINE STAND_ [INFO](#)

3. REMOVE ENGINE HANGERS_ [INFO](#)

4. REMOVE THROTTLE BODY ASSEMBLY_ [INFO](#)

5. REMOVE ENGINE OIL LEVEL DIPSTICK GUIDE_ [INFO](#)

6. REMOVE EGR PIPE ASSEMBLY_ [INFO](#)

7. REMOVE EGR VALVE ASSEMBLY_ [INFO](#)

8. REMOVE EGR COOLER SUB-ASSEMBLY_ [INFO](#)

9. REMOVE INTAKE MANIFOLD_ [INFO](#)

10. REMOVE FUEL VAPOR FEED PIPE_ [INFO](#)

11. REMOVE FUEL DELIVERY PIPE SUB-ASSEMBLY_ [INFO](#)

12. REMOVE NO. 1 DELIVERY PIPE SPACER_ [INFO](#)

13. REMOVE FUEL INJECTOR ASSEMBLY_ [INFO](#)

14. REMOVE WATER INLET WITH THERMOSTAT SUB-ASSEMBLY_ [INFO](#)

15. REMOVE IGNITION COIL ASSEMBLY_ [INFO](#)

16. REMOVE CYLINDER HEAD COVER SUB-ASSEMBLY_ [INFO](#)

17. REMOVE CYLINDER HEAD COVER GASKET_ [INFO](#)

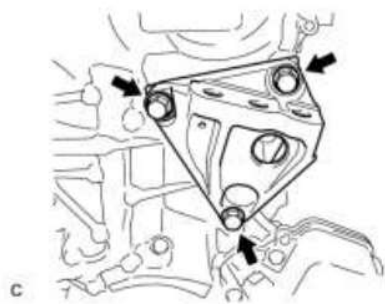
18. REMOVE SPARK PLUG TUBE GASKET_ [INFO](#)

19. SET NO. 1 CYLINDER TO TDC / COMPRESSION_ [INFO](#)

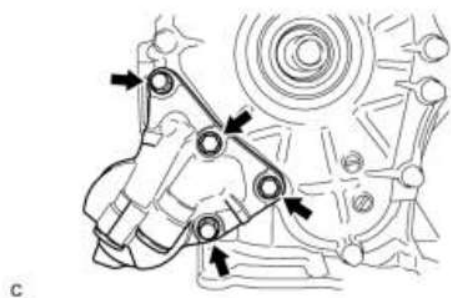
20. REMOVE CRANKSHAFT PULLEY_ [INFO](#)

21. REMOVE NO. 1 CHAIN TENSIONER ASSEMBLY_ INFO

22. REMOVE TIMING CHAIN COVER SUB-ASSEMBLY



(a) Remove the 3 bolts and engine mounting bracket RH.



(b) Remove the 4 bolts and oil filter bracket.

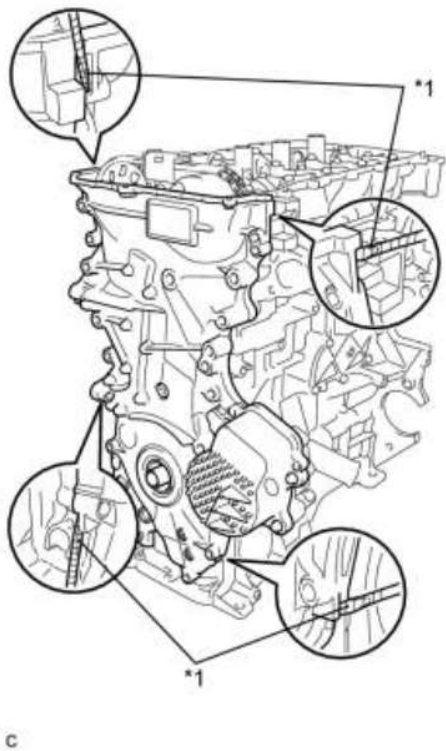
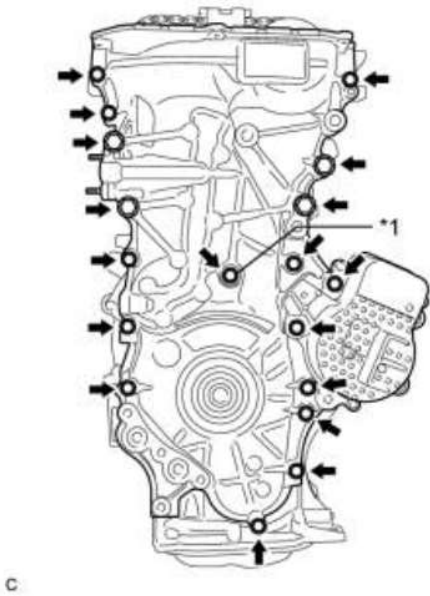


(c) Remove the 2 O-rings.

(d) Remove the 18 bolts and seal washer.

Text in Illustration

*1	Seal Washer
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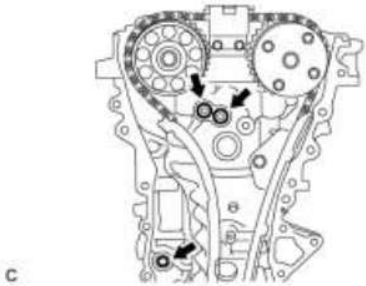
(e) Remove the timing chain cover by prying between the timing chain cover and cylinder head or cylinder block with a screwdriver.

Text in Illustration

*1	Protective Tape
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- Be careful not to damage the contact surfaces of the timing chain cover, cylinder block, and cylinder head.
- Pry the timing chain cover out evenly in order to prevent damaging the knock pins.

HINT:
Tape the screwdriver tip before use.

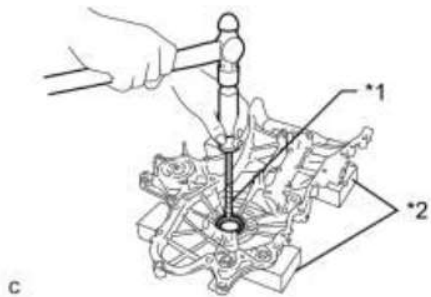


(f) Remove the 3 O-rings.

23. REMOVE TIMING CHAIN COVER OIL SEAL

- (a) Place the timing chain cover on wooden blocks.
- (b) Using a screwdriver, pry out the oil seal.

Text in Illustration



*1	Protective Tape
*2	Wooden Block

HINT:
Tape the screwdriver tip before use.

NOTICE:
Do not damage the surface of the oil seal press fit hole.

24. REMOVE CHAIN TENSIONER SLIPPER

INFO

25. REMOVE NO. 1 CHAIN VIBRATION DAMPER

INFO

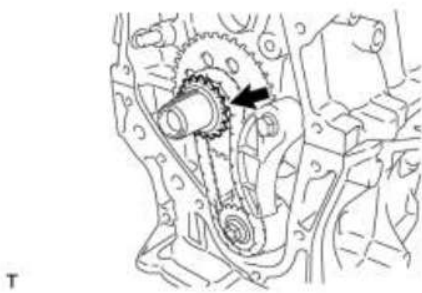
26. REMOVE NO. 2 CHAIN VIBRATION DAMPER

INFO

27. REMOVE CHAIN SUB-ASSEMBLY

INFO

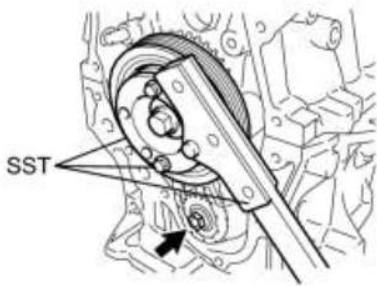
28. REMOVE CRANKSHAFT TIMING SPROCKET



- (a) Remove the crankshaft timing sprocket.

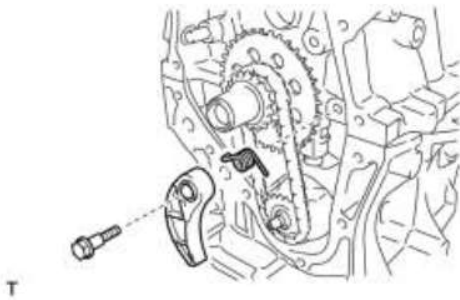
29. REMOVE NO. 2 CHAIN SUB-ASSEMBLY

- (a) Temporarily tighten the crankshaft pulley and crankshaft pulley bolt.
- (b) Using SST, remove the oil pump drive shaft sprocket nut while holding the crankshaft pulley.

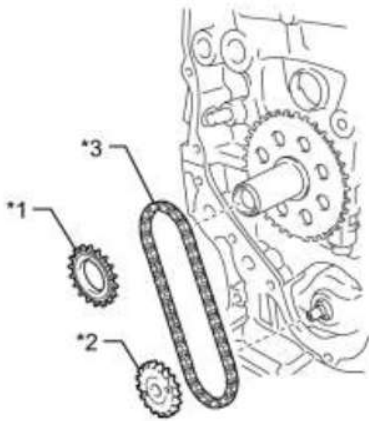


SST: 09213-58014
91551-80840
SST: 09330-00021

(c) Remove the SST, crankshaft pulley, and crankshaft pulley bolt.



(d) Remove the bolt, chain tensioner plate, and spring.



(e) Remove the oil pump drive gear, oil pump drive shaft gear, and No. 2 chain sub-assembly.

Text in Illustration

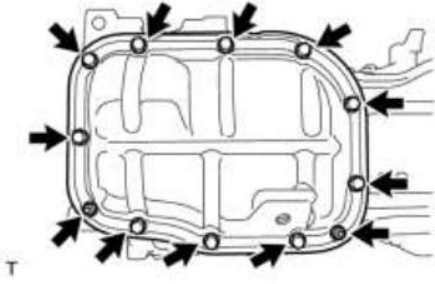
*1	Oil Pump Drive Gear
*2	Oil Pump Drive Shaft Gear
*3	No. 2 Chain Sub-assembly

30. REMOVE NO. 1 CRANKSHAFT POSITION SENSOR PLATE_ [INFO](#)

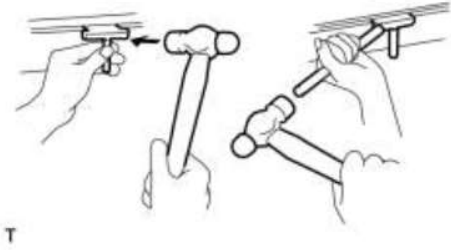
31. REMOVE OIL PAN DRAIN PLUG_ [INFO](#)

32. REMOVE NO. 2 OIL PAN SUB-ASSEMBLY

(a) Remove the 10 bolts and 2 nuts.



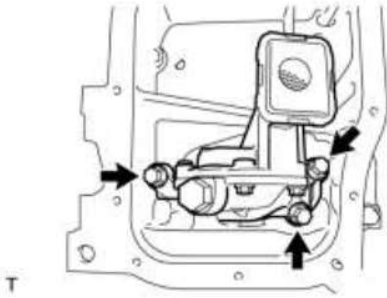
(b) Insert the blade of oil pan seal cutter between the crankcase and oil pan. Cut through the sealer and remove the oil pan.



NOTICE:

Be careful not to damage the contact surfaces of the crankcase, chain cover, and oil pan.

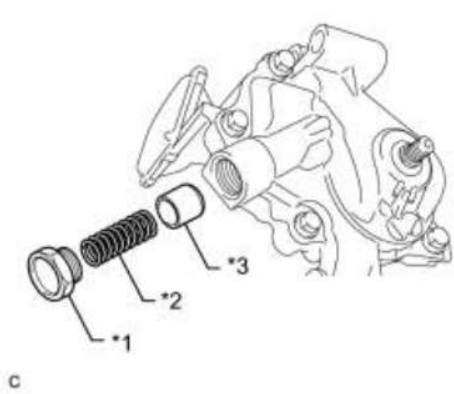
33. REMOVE OIL PUMP ASSEMBLY



(a) Remove the 3 bolts and oil pump.

DISASSEMBLY

1. REMOVE OIL PUMP RELIEF VALVE



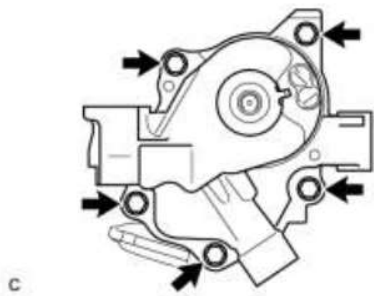
(a) Using a 27 mm socket wrench, remove the plug.

Text in Illustration

*1	Plug
*2	Spring
*3	Valve

(b) Remove the valve spring and relief valve.

2. REMOVE OIL PUMP COVER SUB-ASSEMBLY

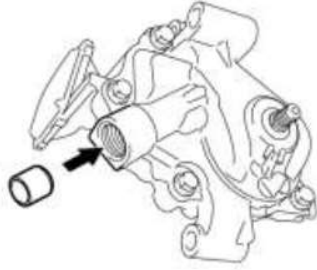


(a) Remove the 5 bolts and oil pump cover.

(b) Remove the oil pump drive and driven rotors from the oil pump.

INSPECTION

1. INSPECT OIL PUMP RELIEF VALVE

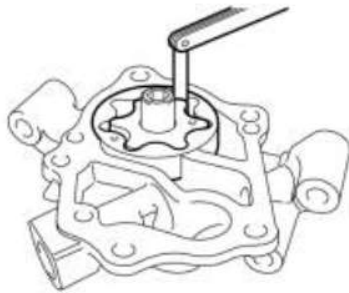


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(a) Coat the oil pump relief valve with engine oil, then check that it falls smoothly into the valve hole by its own weight.

If this does not occur, repair or replace the oil pump assembly.

2. INSPECT OIL PUMP ROTOR



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(a) Using a feeler gauge, measure the clearance between the drive and driven rotor tips.

Standard tip clearance:

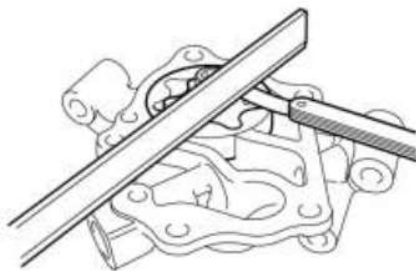
0.08 to 0.16 mm (0.00315 to 0.00631 in.)

Maximum tip clearance:

0.35 mm (0.0138 in.)

If the tip clearance is greater than the maximum, replace the oil pump assembly.

(b) Using a feeler gauge and precision straightedge, measure the clearance between the 2 rotors and precision straight edge.



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Standard side clearance:

0.085 to 0.135 mm (0.00335 to 0.00532 in.)

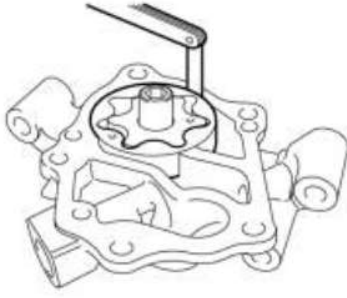
Maximum side clearance:

0.16 mm (0.00631 in.)

If the side clearance is greater than the maximum, replace the oil pump assembly.

(c) Using a feeler gauge, measure the clearance between the driven rotor and oil pump body.

Standard body clearance:



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0.12 to 0.19 mm (0.00472 to 0.00750 in.)

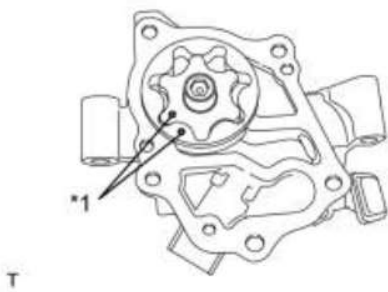
Maximum body clearance:

0.325 mm (0.0128 in.)

If the body clearance is greater than the maximum, replace the oil pump assembly.

REASSEMBLY

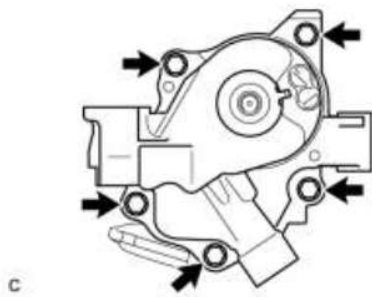
1. INSTALL OIL PUMP COVER SUB-ASSEMBLY



(a) Coat the oil pump drive and driven rotors with engine oil, and place them into the oil pump with the marks facing the oil pump cover side.

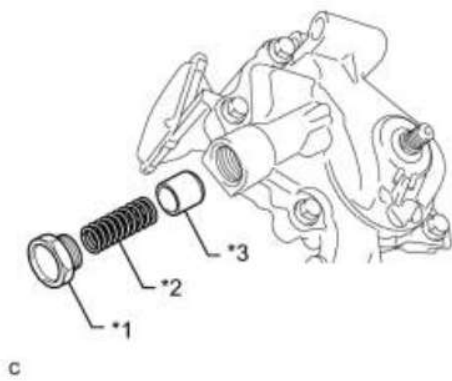
Text in Illustration

*1	Mark
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(b) Install the oil pump cover with the 5 bolts.
Torque: 8.8 N·m (90 kgf·cm, 78in·lbf)

2. INSTALL OIL PUMP RELIEF VALVE



(a) Coat the relief valve with engine oil.

Text in Illustration

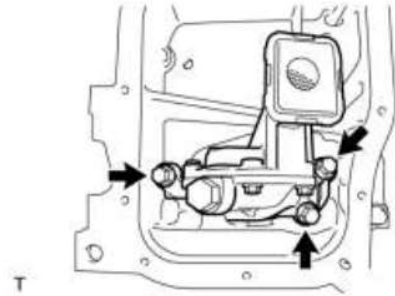
*1	Plug
*2	Spring
*3	Valve

(b) Insert the relief valve and spring into the pump body hole.
(c) Using a 27 mm socket wrench, install the plug.

Torque: 49 N·m (500 kgf·cm, 37ft·lbf)

INSTALLATION

1. INSTALL OIL PUMP ASSEMBLY

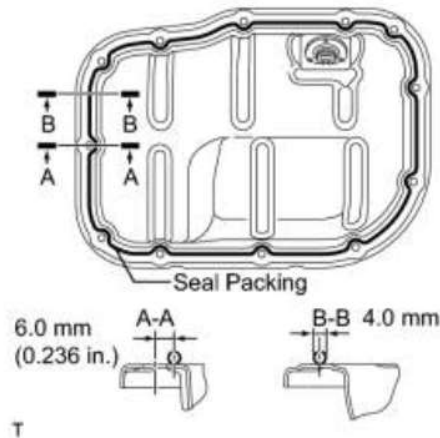


(a) Install the oil pump with the 3 bolts.

Torque: **21 N·m (214 kgf·cm, 16ft·lbf)**

2. INSTALL NO. 2 OIL PAN SUB-ASSEMBLY

(a) Remove any old packing material and be careful not to drop any oil on the contact surfaces of the cylinder block and oil pan.

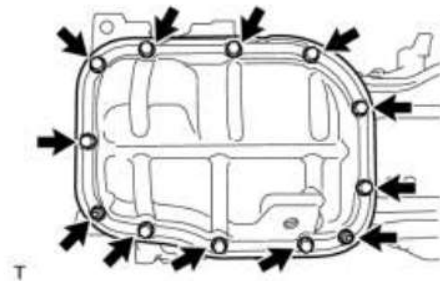


(b) Apply a continuous bead of seal packing (Diameter 4.0 mm (0.157 in.)) as shown in the illustration.

Seal packing:

Toyota Genuine Seal Packing Black, Three Bond 1207B or equivalent

- Remove any oil from the contact surfaces.
- Install the oil pan within 3 minutes after applying seal packing.
- Do not start the engine for at least 2 hours after installing the oil pan.



(c) Install the No. 2 oil pan with the 10 bolts and 2 nuts.

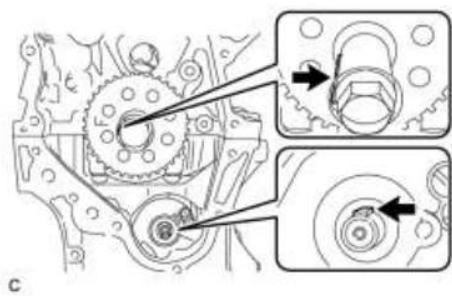
Torque: **10 N·m (102 kgf·cm, 7ft·lbf)**

3. INSTALL OIL PAN DRAIN PLUG

INFO

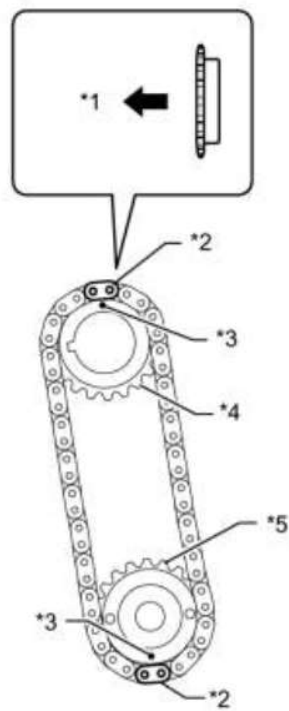
4. INSTALL CRANKSHAFT TIMING GEAR KEY_
5. INSTALL NO. 1 CRANKSHAFT POSITION SENSOR PLATE_
6. INSTALL NO. 2 CHAIN SUB-ASSEMBLY

(a) Temporarily install the crankshaft pulley bolt.



(b) Turn the crankshaft counterclockwise to position the timing gear key to the 9 o'clock position.

(c) Turn the drive shaft so that the cutout faces the 12 o'clock position.



(d) Align the yellow mark links with the timing marks of each gear as shown in the illustration.

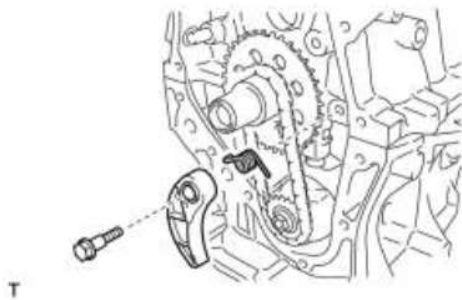
Text in Illustration

*1	Front
*2	Mark Plate (Yellow)
*3	Timing Mark
*4	Oil Pump Drive Gear
*5	Oil Pump Drive Shaft Gear

HINT:

Be sure to position the mark plate at the front of the engine.

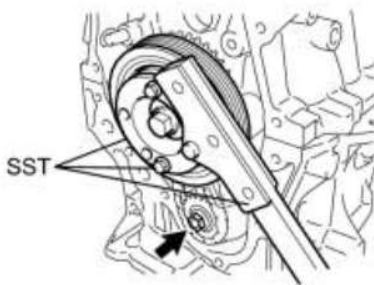
- (e) Install the sprockets onto the crankshaft and oil pump shaft with the chain on the gears.
- (f) Temporarily tighten the oil pump drive shaft gear with the nut.



(g) Insert the damper spring into the adjusting hole, and then install the chain tensioner plate with the bolt.

Torque: **10 N·m (102 kgf·cm, 7ft·lbf)**

(h) Temporarily tighten the crankshaft pulley with the bolt.



(i) Using SST, install the oil pump drive shaft gear nut while holding the crankshaft pulley.

SST: 09213-58014

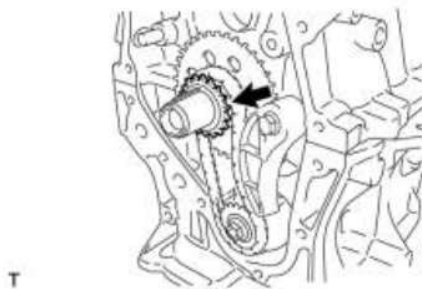
91551-80840

SST: 09330-00021

Torque: **28 N·m (286 kgf·cm, 21ft·lbf)**

(j) Remove the crankshaft pulley and bolt.

7. INSTALL CRANKSHAFT TIMING SPROCKET



(a) Install the crankshaft timing sprocket.

8. INSTALL NO. 1 CHAIN VIBRATION DAMPER_ [INFO](#)

9. SET NO. 1 CYLINDER TO TDC / COMPRESSION_ [INFO](#)

10. INSTALL CHAIN SUB-ASSEMBLY_ [INFO](#)

11. CHECK NO. 1 CYLINDER TO TDC / COMPRESSION_ [INFO](#)

12. INSTALL CHAIN TENSIONER SLIPPER_ [INFO](#)

2010 Toyota Prius

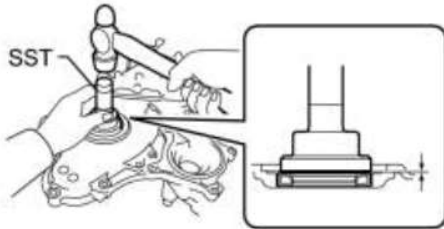
Repair Manual

13. INSTALL NO. 2 CHAIN VIBRATION DAMPER_ INFO

14. INSTALL TIMING CHAIN COVER OIL SEAL

(a) Using SST, tap in a new oil seal until its surface is flush with the timing chain cover edge.

SST: 09223-22010



- Keep the lip free from foreign matter.
- Do not tap on the oil seal at an angle.
- Make sure that the oil seal edge does not stick out of the timing chain case.

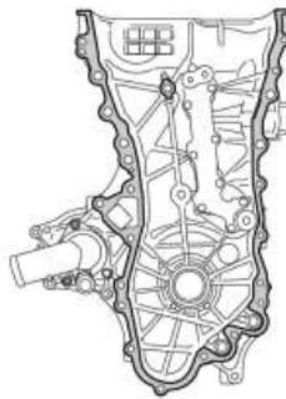
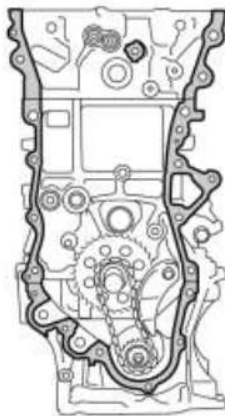
HINT:

Tap in the oil seal so that it is positioned within 1.0 mm from the edge of the timing chain case.

(b) Apply MP grease to the lip of the oil seal.

15. INSTALL TIMING CHAIN COVER SUB-ASSEMBLY

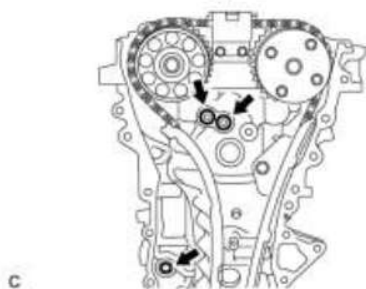
(a) Remove any old packing (FIPG) material and be careful not to drop any oil on the contact surfaces of the timing chain cover, cylinder head, and cylinder block.



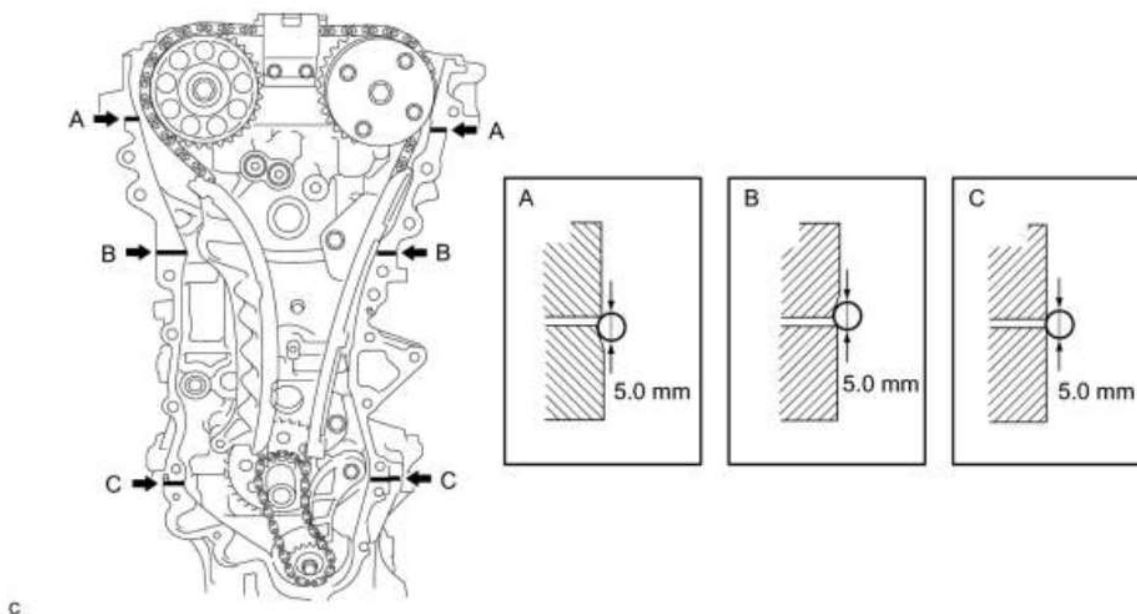
: Clean and degrease

c

(b) Install 3 new O-rings.



(c) Apply seal packing as shown in the illustration.



Seal packing:

Toyota Genuine Seal Packing Black, Three Bond 1207B or equivalent

Seal diameter:

5.0 mm (0.197 in.)

NOTICE:

- Remove any oil from the contact surfaces.
- Install the chain cover within 3 minutes after applying seal packing.
- Do not start the engine for at least 2 hours after installing the timing chain cover sub-assembly.

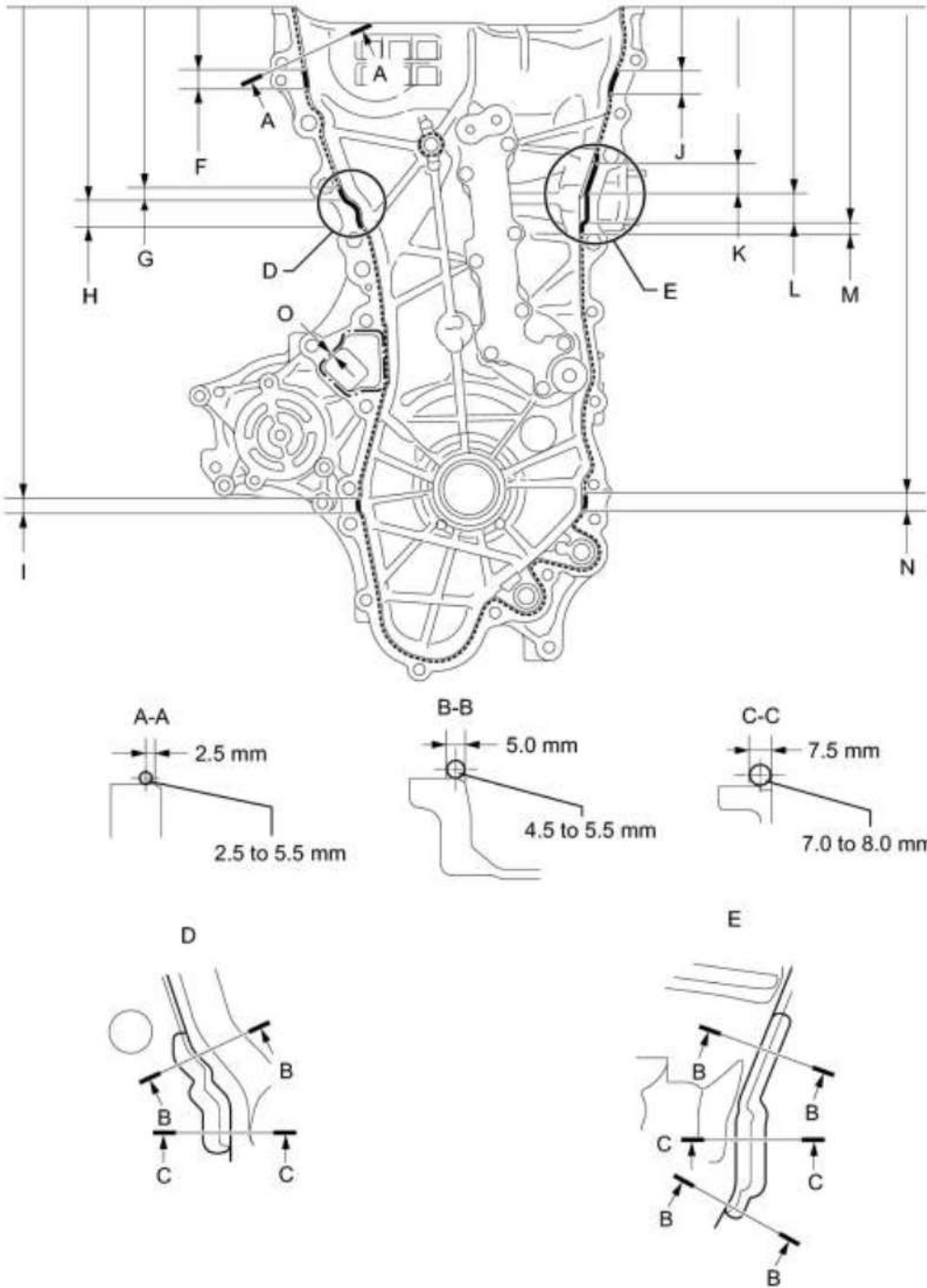
(d) Apply seal packing to the timing chain cover in a line as shown in the following illustration.

NOTICE:

2010 Toyota Prius

Repair Manual

- When the contact surfaces are wet, wipe them with oil-free cloth before applying seal packing.
- Install the chain cover within 3 minutes and tighten the bolts within 15 minutes after applying seal packing.
- Do not start the engine for at least 2 hours after installation.



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Seal Packing:

Item	Seal Packing
2010 Toyota Prius	Repair Manual

Item	Seal Packing
Dashed line	Toyota Genuine Seal Packing Black, Three Bond 1207B or equivalent
Continuous line	
Alternate long and short dashed line	Toyota Genuine Seal Packing 1282B, Three Bond 1282B or equivalent

Application Specification:

Area	Seal Packing Diameter	Distance from Edge of Cover to:	Seal Packing Application Length	Distance from Top of Cover to Top of Seal Packing
Dashed line	2.5 to 3.0 mm (0.0984 to 0.118 in.)	Center of seal packing 2.5 mm (0.0984 in.)	-	-
Continuous line	4.5 to 5.5 mm (0.177 to 0.217 in.) or 7.0 to 8.0 mm (0.276 to 0.315 in.)	-	-	-
Alternate long and short dashed line	4.0 mm (0.157 in.)	Center of seal packing 3.0 mm (0.118 in.)	-	-
A - A	2.5 to 3.0 mm (0.0984 to 0.118 in.)	Center of seal packing 2.5 mm (0.0984 in.)	-	-
B - B	4.5 to 5.5 mm (0.177 to 0.217 in.)	Opposite edge of seal packing 5.0 mm (0.197 in.)	-	-
C - C	7.0 to 8.0 mm (0.276 to 0.315 in.)	Opposite edge of seal packing 7.5 mm (0.295 in.)	-	-
F	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	15.5 mm (0.610 in.)	50.4 mm (1.98 in.)
G	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	10.3 mm (0.406 in.)	143.1 mm (5.63 in.)
H	7.0 to 8.0 mm (0.276 to 0.315 in.)	-	19.5 mm (0.768 in.)	153.4 mm (6.04 in.)
I	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	16.0 mm (0.630 in.)	385.8 mm (1.27 ft.)

Area	Seal Packing Diameter	Distance from Edge of Cover to:	Seal Packing Application Length	Distance from Top of Cover to Top of Seal Packing
J	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	18.6 mm (0.732 in.)	51.4 mm (2.02 in.)
K	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	25.3 mm (0.996 in.)	121.9 mm (4.80 in.)
L	7.0 to 8.0 mm (0.276 to 0.315 in.)	-	25.8 mm (1.02 in.)	147.2 mm (5.80 in.)
M	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	5.1 mm (0.201 in.)	173.0 mm (6.81 in.)
N	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	14.6 mm (0.575 in.)	385.8 mm (1.27 ft.)
O	4.0 mm (0.157 in.)	Center of seal packing 3.0 mm (0.118 in.)	-	-

NOTICE:

- When the contact surfaces are wet, wipe them with oil-free cloth before applying seal packing.
- Install the timing chain cover within 3 minutes and tighten the bolts within 10 minutes after applying seal packing.
- After applying seal packing to the timing chain cover, install the engine mounting bracket and oil filter bracket within 10 minutes.
- Do not add engine oil for at least 2 hours after installation.

(e) Clean the bolt and fitting hole.

(f) Install the timing chain cover.

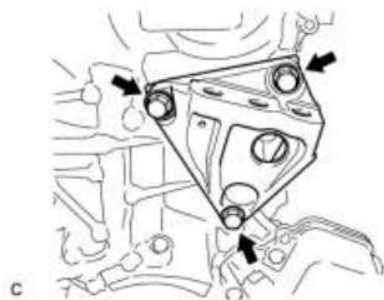
(g) Temporarily tighten the engine mounting bracket RH with the 3 bolts.

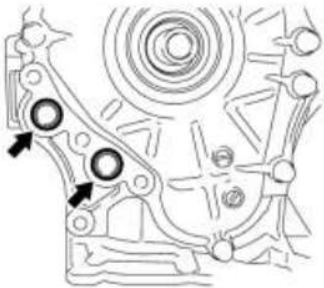
- Install the mounting bracket within 10 minutes after installing the chain cover.
- Do not start the engine for at least 2 hours after installation.

Bolt Length:

Item	Length
Bolt	80 mm (3.15 in.)

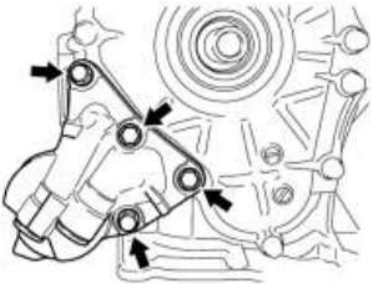
(h) Install 2 new O-rings.





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(i) Temporarily tighten the oil filter bracket with the 4 bolts.



c

- Install the oil filter bracket within 10 minutes after installing the chain cover.
- Do not start the engine for at least 2 hours after installation.

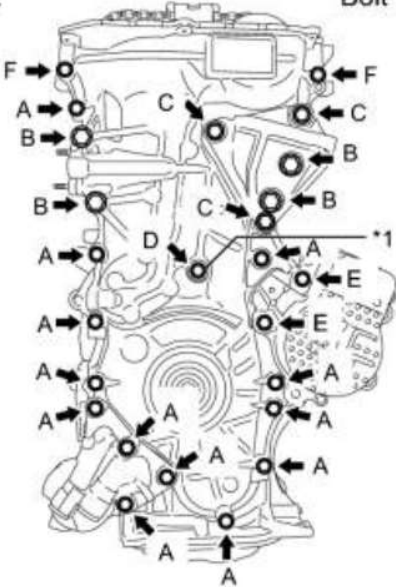
Bolt Length:

Item	Length
Bolt	35 mm (1.38 in.)

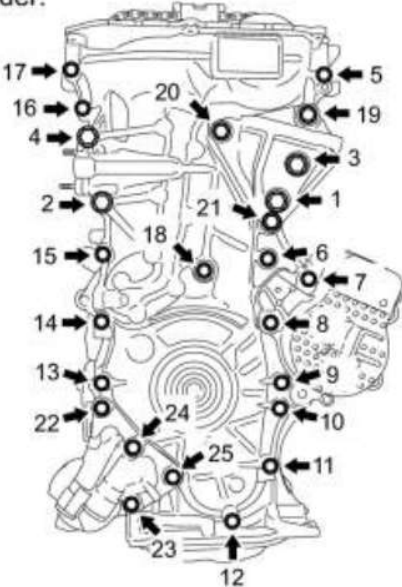
(j) Install the timing chain cover with the 25 bolts and seal washer as shown in the illustration.

Torque:

Bolt Torque Order:



c



Text in Illustration

*1	Seal Washer	-	-
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Bolt A, E, F - Torque: 26 N·m (260 kgf·cm, 19ft·lbf)

Bolt B, C - Torque: 51 N·m (520 kgf·cm, 38ft·lbf)

Bolt D - Torque: **10 N·m (102 kgf·cm, 7ft·lbf)**

NOTICE:

- Apply adhesive 1324 to screw part of the bolt F.
- When the contact surfaces are wet, wipe them with oil-free cloth before applying seal packing.
- Install the chain cover within 3 minutes and tighten the bolts within 15 minutes after applying the seal packing.
- Do not add engine oil for at least 2 hours after installing the chain cover.
- Do not start the engine for at least 2 hours after installing the chain cover.

Bolt Length:

Item	Length
Bolt A, F	35 mm (1.38 in.)
Bolt B	55 mm (2.16 in.)
Bolt C	80 mm (3.15 in.)
Bolt D	40 mm (1.57 in.)
Bolt E	55 mm (2.16 in.)

16. INSTALL CRANKSHAFT PULLEY_ [INFO](#)

17. INSTALL NO. 1 CHAIN TENSIONER ASSEMBLY_ [INFO](#)

18. INSTALL SPARK PLUG TUBE GASKET_ [INFO](#)

19. INSTALL CYLINDER HEAD COVER GASKET_ [INFO](#)

20. INSTALL CYLINDER HEAD COVER SUB-ASSEMBLY_ [INFO](#)

21. INSTALL WATER INLET WITH THERMOSTAT SUB-ASSEMBLY_ [INFO](#)

22. INSTALL FUEL INJECTOR ASSEMBLY_ [INFO](#)

23. INSTALL NO. 1 DELIVERY PIPE SPACER_ [INFO](#)

24. INSTALL FUEL DELIVERY PIPE SUB-ASSEMBLY_ [INFO](#)

25. INSTALL FUEL VAPOR FEED PIPE_ [INFO](#)

26. INSTALL INTAKE MANIFOLD_ [INFO](#)

27. INSTALL EGR COOLER SUB-ASSEMBLY_ [INFO](#)

28. INSTALL EGR VALVE ASSEMBLY_ [INFO](#)

29. INSTALL EGR PIPE ASSEMBLY_ 

30. INSTALL ENGINE OIL LEVEL DIPSTICK GUIDE_ 

31. INSTALL THROTTLE BODY ASSEMBLY_ 

32. INSTALL ENGINE HANGERS_ 

33. REMOVE ENGINE ON ENGINE STAND_ 

34. INSTALL ENGINE ASSEMBLY WITH TRANSAXLE

