

Last Modified: 5-3-2010	6.4 A	From: 200904
Model Year: 2010	Model: Prius	Doc ID: RM000002XA403JX
Title: 2ZR-FXE ENGINE MECHANICAL: CYLINDER HEAD: REASSEMBLY (2010 Prius)		

REASSEMBLY

1. INSTALL SPARK PLUG TUBE

NOTICE:

When using a new cylinder head, the spark plug tubes must be replaced.

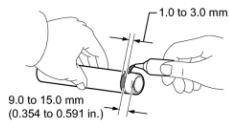
(a) Apply adhesive onto the shaded area of a new spark plug tube.

Adhesive:

Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

Standard application width:

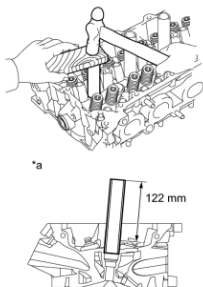
1.0 to 3.0 mm (0.0394 to 0.118 in.)



NOTICE:

- Install the spark plug tube within 3 minutes of applying adhesive.
- Be careful not to deform the spark plug tube.
- Be careful not to expose the seal to coolant for at least 1 hour after installing the tube.

(b) Using a wooden block and hammer, tap in the spark plug tube to the specified protrusion height.



Text in Illustration

*a

Cylinder Head Casting Surface:

Standard protrusion height:

122 mm (4.80 in.)

NOTICE:

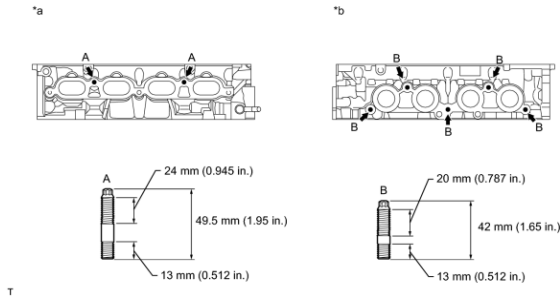
To avoid tapping in the spark plug tube too far, measure the protrusion height while tapping it.

2. INSTALL STUD BOLT

NOTICE:

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

(a) Using an E8 "TORX" socket, install the stud bolts.



Text in Illustration

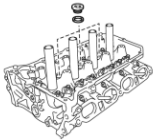
*a	Intake Side:	*b	Exhaust Side:
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Torque: 9.5 N·m (97 kgf·cm, 84in·lbf)

3. INSTALL NO. 2 STRAIGHT SCREW PLUG

NOTICE:

If water leaks from the straight screw plug or the plug is corroded, replace it.



(a) Using a 10 mm straight hexagon wrench, install 3 new gaskets and the 3 straight screw plugs.

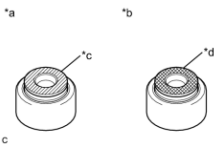
Torque: 44 N·m (449 kgf·cm, 32ft·lbf)

4. INSTALL VALVE SPRING SEAT

(a) Install the valve spring seats to the cylinder head.

5. INSTALL VALVE STEM OIL SEAL

(a) Apply a light coat of engine oil to a new oil seal.



Text in Illustration	
*a	Intake Side:
*b	Exhaust Side:
*c	Gray
*d	Black

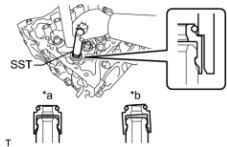
NOTICE:

Pay close attention when installing the intake and exhaust oil seals. For example, installing the intake oil seal to the exhaust side or installing the exhaust oil seal to the intake side can cause installation problems later.

HINT:

The intake valve oil seal is gray and the exhaust valve oil seal is black.

(b) Using SST, push on the oil seal.



Text in Illustration	
*a	CORRECT
*b	INCORRECT

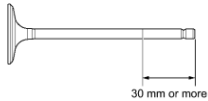
SST: 09201-41020

NOTICE:

Failure to use SST will cause the seal to be damaged or improperly seated.

6. INSTALL INTAKE VALVE

(a) Place the cylinder head on wooden blocks.

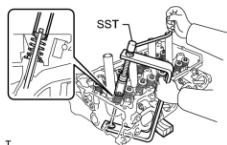


(b) Apply engine oil to each valve over an area 30 mm (1.18 in.) or more from its tip, as shown in the illustration.

(c) Install the valve, compression spring and spring retainer to the cylinder head.

NOTICE:

Install the same parts in the same combination to the original locations.

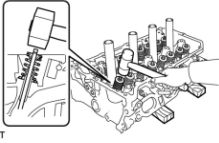


(d) Using SST, compression spring and install the valve retainer locks.

SST: 09202-70020

09202-00010

(e) Using a plastic-faced hammer, lightly tap the valve stem tip to ensure a proper fit.

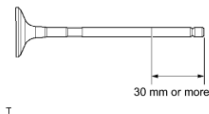


NOTICE:

- Be careful not to damage the valve stem tip.
- Be careful not to damage the retainer.

7. INSTALL EXHAUST VALVE

(a) Place the cylinder head on wooden blocks.

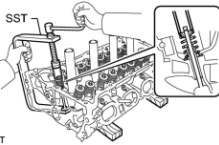


(b) Apply engine oil to each valve over an area 30 mm (1.18 in.) or more from its tip, as shown in the illustration.

(c) Install the valve, compression spring and spring retainer to the cylinder head.

NOTICE:

Install the same parts in the same combination to the original locations.

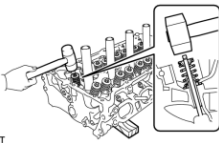


(d) Using SST, compression spring and install the valve retainer locks.

SST: 09202-70020

09202-00010

(e) Using a plastic-faced hammer, lightly tap the valve stem tip to ensure a proper fit.



NOTICE:

- Be careful not to damage the valve stem tip.
- Be careful not to damage the retainer.

