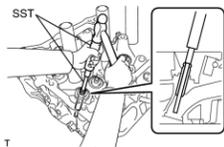


Last Modified: 5-3-2010	6.4 A	From: 200904
Model Year: 2010	Model: Prius	Doc ID: RM000002XAF018X
Title: 2ZR-FXE ENGINE MECHANICAL: CYLINDER HEAD: REPLACEMENT (2010 Prius)		

REPLACEMENT

1. REPLACE INTAKE VALVE GUIDE BUSH

- (a) Heat the cylinder head to 80 to 100°C (176 to 212°F).
 (b) Place the cylinder head on wooden blocks.



- (c) Using SST and a hammer, tap out the guide bush.

SST: 09201-10000

09201-01050

SST: 09950-70010

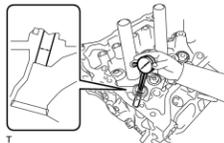
09951-07100

- (d) Using a caliper gauge, measure the bush bore diameter of the cylinder head.

Standard cylinder bore diameter:

10.285 to 10.306 mm (0.405 to 0.406 in.)

Select New Guide Bush:

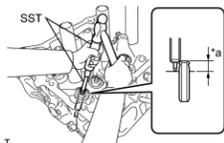


BUSH SIZE	BUSH DIAMETER
STD	10.333 to 10.344 mm (0.4068 to 0.4072 in.)
O/S 0.05	10.383 to 10.394 mm (0.4088 to 0.4092 in.)

If the bush bore diameter of the cylinder head is more than 10.306 mm (0.406 in.), machine the bush bore to a diameter of 10.335 to 10.356 mm (0.407 to 0.408 in.) in order to install an O/S 0.05 valve guide bush. If the bush bore diameter of the cylinder head is more than 10.356 mm (0.408 in.), replace the cylinder head.

- (e) Heat the cylinder head to 80 to 100°C (176 to 212°F).
 (f) Place the cylinder head on wooden blocks.

- (g) Using SST and a hammer, tap in a new guide bush to the specified protrusion height.



Text in Illustration	Height
*a	

SST: 09201-10000

09201-01050

SST: 09950-70010

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Standard protrusion height:
9.9 to 10.3 mm (0.390 to 0.406 in.)



(h) Using a sharp 5.5 mm reamer, ream the guide bush to obtain the standard clearance between the guide bush and valve stem.

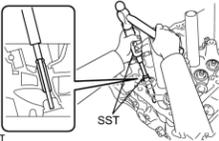
Standard oil clearance:
0.025 to 0.060 mm (0.000984 to 0.00236 in.)

2. REPLACE EXHAUST VALVE GUIDE BUSH

(a) Heat the cylinder head to 80 to 100°C (176 to 212°F).

(b) Place the cylinder head on wooden blocks.

(c) Using SST and a hammer, tap out the guide bush.



SST: 09201-10000

09201-01050

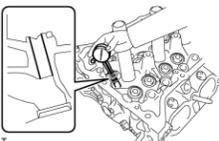
SST: 09950-70010

09951-07100

(d) Using a caliper gauge, measure the bush bore diameter of the cylinder head.

Standard cylinder bore diameter:
10.285 to 10.306 mm (0.405 to 0.406 in.)

Select New Guide Bush:



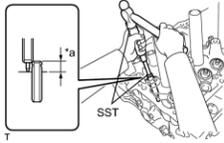
BUSH SIZE	BUSH DIAMETER
STD	10.333 to 10.344 mm (0.4068 to 0.4072 in.)
O/S 0.05	10.383 to 10.394 mm (0.4088 to 0.4092 in.)

If the bush bore diameter of the cylinder head is more than 10.306 mm (0.406 in.), machine the bush bore to a diameter of 10.335 to 10.356 mm (0.407 to 0.408 in.) in order to install an O/S 0.05 valve guide bush. If the bush bore diameter of the cylinder head is more than 10.356 mm (0.408 in.), replace the cylinder head.

(e) Heat the cylinder head to 80 to 100°C (176 to 212°F).

(f) Place the cylinder head on wooden blocks.

(g) Using SST and a hammer, tap in a new guide bush to the specified protrusion height.



Text in Illustration	Height
*a	

SST: 09201-10000

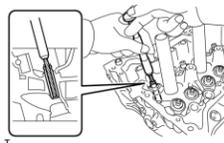
09201-01050

SST: 09950-70010

09951-07100

Standard protrusion height:

11.15 to 11.55 mm (0.439 to 0.455 in.)



(h) Using a sharp 5.5 mm reamer, ream the guide bush to obtain the standard clearance between the guide bush and valve stem.

Standard oil clearance:

0.030 to 0.065 mm (0.00118 to 0.00256 in.)

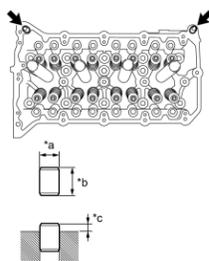
3. REPLACE RING PIN

NOTICE:

It is not necessary to remove a ring pin unless it is being replaced.

(a) Remove the ring pins.

(b) Using a plastic-faced hammer, tap in a new ring pin to the specified protrusion height.



Text in Illustration	Width
*a	
*b	Height
*c	Protrusion Height

Standard Ring Pin:

ITEM	HEIGHT	WIDTH	PROTRUSION
Ring pin	11.7 to 12.3 mm (0.461 to 0.484 in.)	12.0 mm (0.472 in.)	6.5 to 7.5 mm (0.256 to 0.295 in.)

