

## REPLACEMENT

### 1. REPLACE TIMING CHAIN COVER OIL SEAL

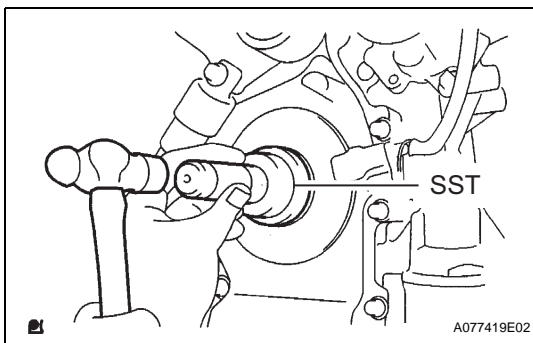
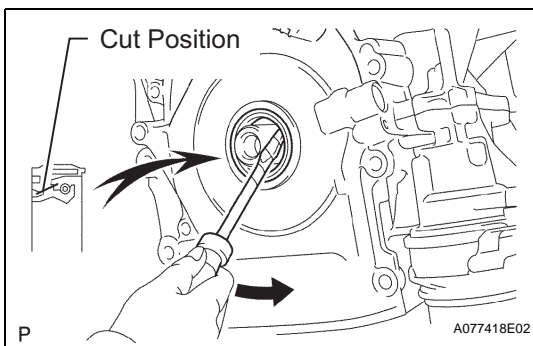
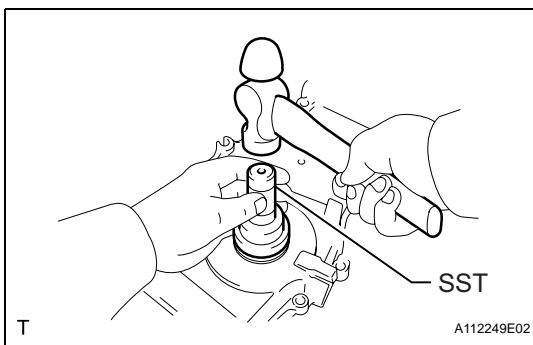
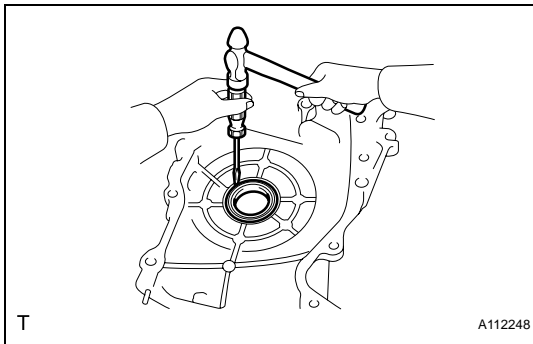
#### HINT:

There are 2 methods to replace the oil seal.

- (a) If the timing chain cover is removed from the cylinder block:
- (1) Using a screwdriver and hammer, tap out the oil seal.
  - (2) Apply multi-purpose grease to the lip of a new oil seal.

#### NOTICE:

**Keep the lip free of foreign objects.**



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

**SST 09223-22010**

#### NOTICE:

**Do not tap the oil seal at an angle.**

- (b) If the timing chain cover oil seal is installed to the cylinder block:
- (1) Remove the fan and generator V belt (see page [EM-6](#)).
  - (2) Remove the crankshaft pulley (see page [EM-25](#)).

- (3) Using a knife, cut off the lip of the oil seal.
- (4) Using a screwdriver with its tip wrapped with tape, pry out the oil seal.

#### NOTICE:

**After removing, check the crankshaft for damage. If damaged, smooth the surface with 400-grit sandpaper.**

- (5) Apply multi-purpose grease to the lip of a new oil seal.

#### NOTICE:

**Keep the lip free of foreign objects.**

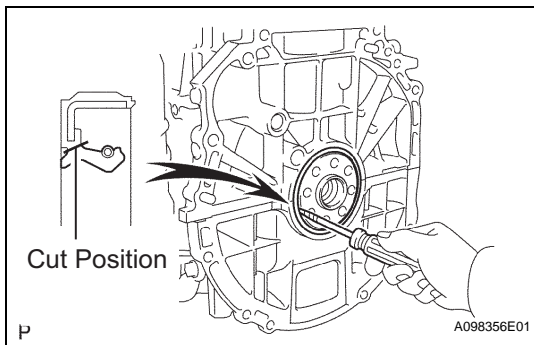
- (6) Using SST and a hammer, tap in the new oil seal until its surface is flush with the timing chain cover edge.

**SST 09223-22010**

#### NOTICE:

**Do not tap the oil seal at an angle.**

- (7) Install the crankshaft pulley (see page [EM-38](#)).
- (8) Install the fan and generator V belt (see page [EM-7](#)).



## 2. REPLACE ENGINE REAR OIL SEAL

- (a) Using a knife, cut off the lip of the oil seal.
- (b) Using a screwdriver with its tip wrapped with tape, pry out the oil seal.

### NOTICE:

**After removing, check the crankshaft for damage. If damaged, smooth the surface with 400-grit sandpaper.**

- (c) Apply multi-purpose grease to the lip of a new oil seal.

### NOTICE:

**Keep the lip free of foreign objects.**

- (d) Using SST and a hammer, tap in the new oil seal until its surface is flush with the rear oil seal retainer edge.

**SST 09223-15030, 09950-70010 (09951-07100)**

### NOTICE:

- Wipe any extra grease off the crankshaft.
- Do not tap the oil seal at an angle.

## 3. REPLACE STUD BOLT (for Cylinder Block)

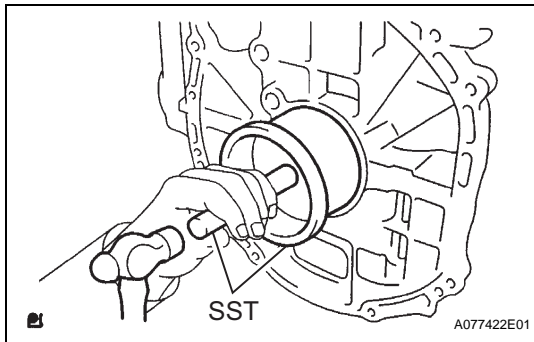
### NOTICE:

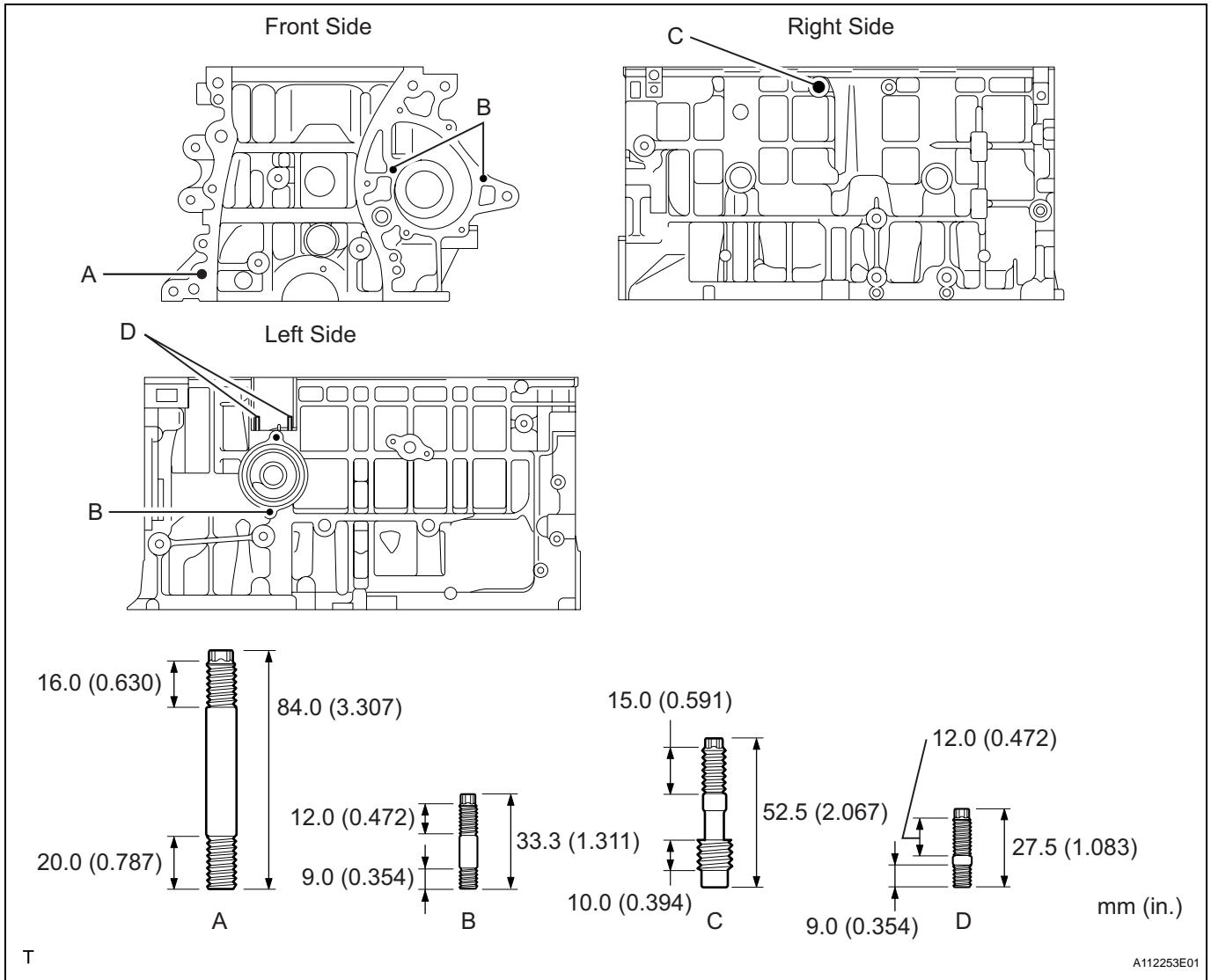
**If the stud bolt is deformed or the threads are damaged, replace it.**

- (a) Remove the 8 stud bolts.
- (b) Install the 8 stud bolts into the cylinder block.

### Torque

Item	Specified Condition
A	5.0 N*m (51 kgf*cm, 44 in.*lbf)
B	21.5 N*m (219 kgf*cm, 16 ft.*lbf)
C	5.0 N*m (51 kgf*cm, 44 in.*lbf)
D	5.0 N*m (51 kgf*cm, 44 in.*lbf)





**4. REPLACE TIGHT PLUG (for Cylinder Block)**

**NOTICE:**

**If water leaks from the tight plug or the plug corrodes, replace it.**

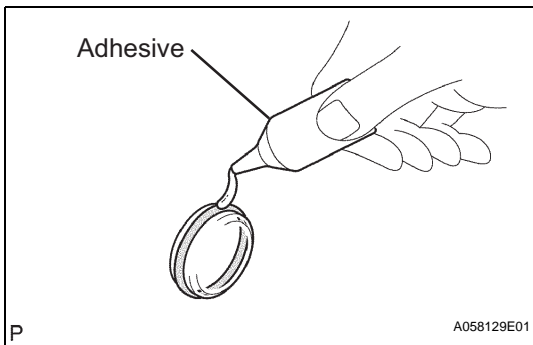
- (a) Remove the 2 tight plugs from the engine front and rear side.
- (b) Apply adhesive around new tight plugs.

**Adhesive:**

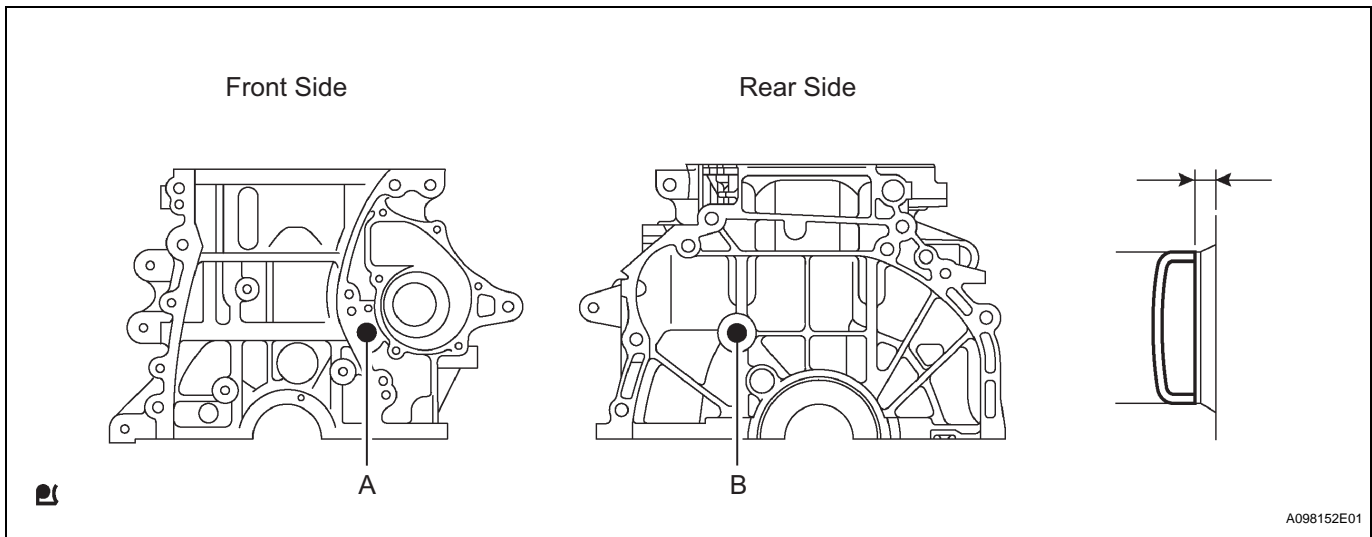
**Toyota Genuine Adhesive 1342, Three Bond 1342 or Equivalent**

- (c) Using SST, install the 2 tight plugs.  
**SST 09950-60010 (09951-00200), 09950-70010 (09951-07100)**

**Standard depth**



Item	Specified Condition
A	1.7 to 2.7 mm (0.067 to 0.106 in.)
B	2.2 to 3.2 mm (0.087 to 0.126 in.)



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**5. REPLACE RING PIN (for Cylinder Block)**

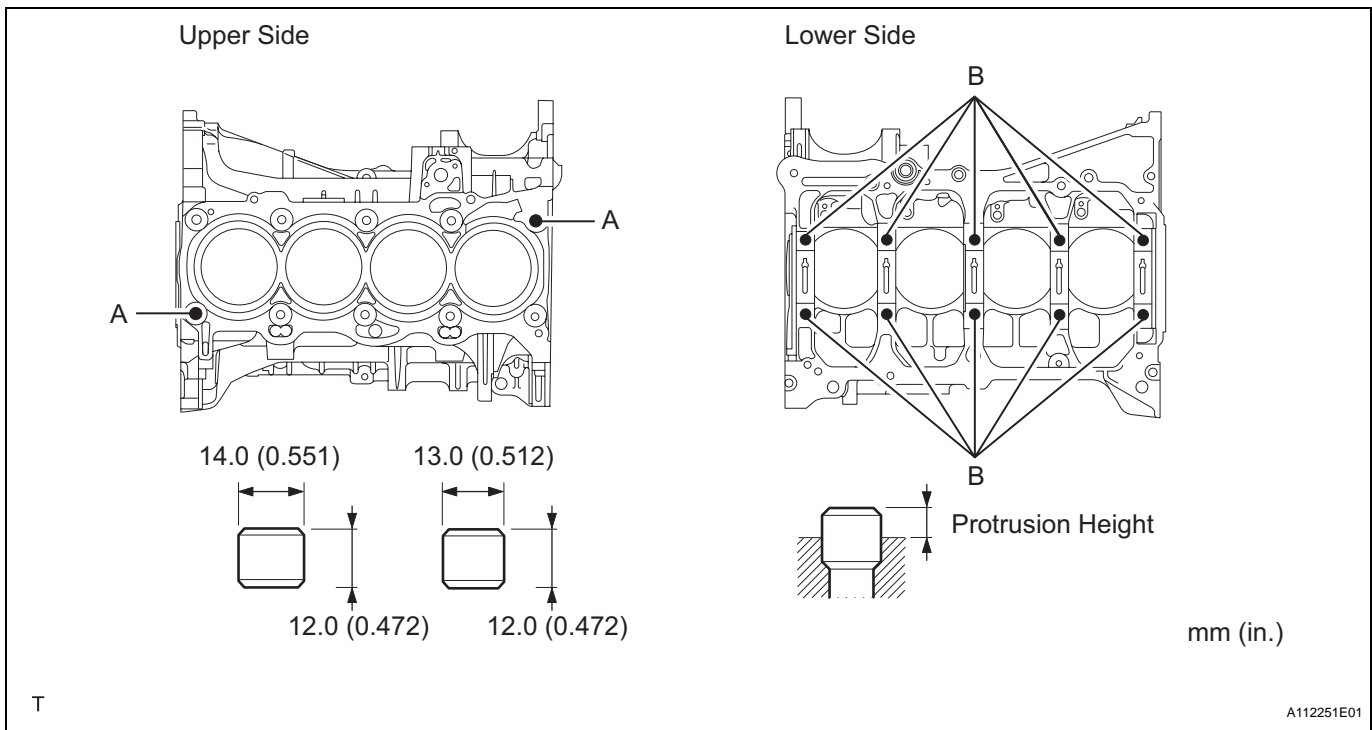
**NOTICE:**

**It is not necessary to remove with head pin unless it is being replaced.**

- (a) Remove the 12 ring pins.
- (b) Using a plastic-faced hammer, install 12 new ring pins.

**Standard protrusion height**

Item	Specified Condition
A	6.0 mm (0.236 in.)
B	5.0 mm (0.197 in.)



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**6. REPLACE STRAIGHT PIN (for Cylinder Block)**

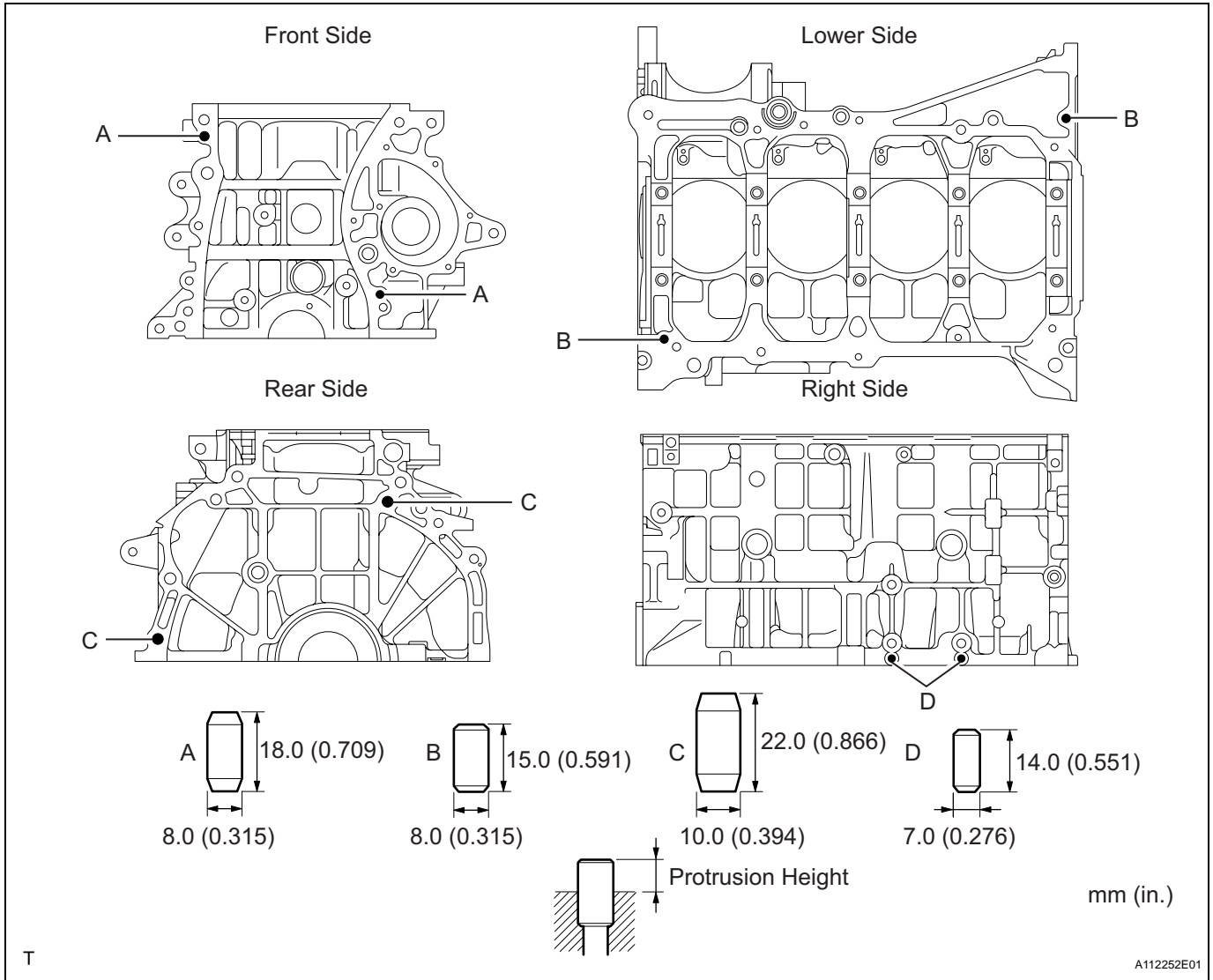
**NOTICE:**

**It is not necessary to remove with straight pin unless it is being replaced.**

- (a) Remove the 8 straight pins.
- (b) Using a plastic-faced hammer, install 8 new straight pins.

**Standard protrusion height**

Item	Specified Condition
A	8.0 mm (0.315 in.)
B	7.5 mm (0.295 in.)
C	12.0 mm (0.472 in.)
D	5.0 mm (0.197 in.)



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