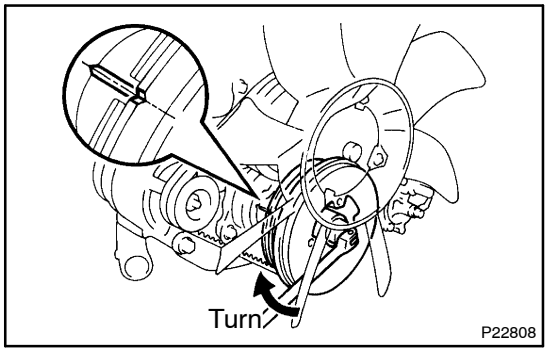


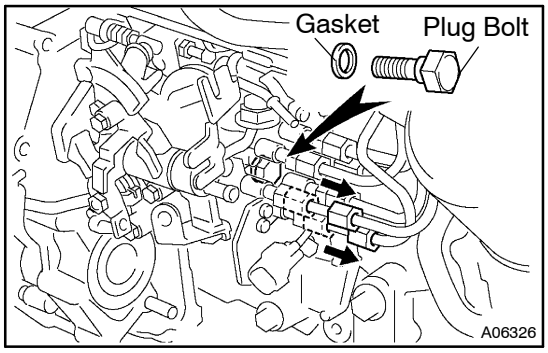
INJECTION TIMING (1HZ, 1HD–T)

EM0W2–01

INSPECTION

1. SET NO.1 OR NO.6 CYLINDER TO TDC/COMPRESSION

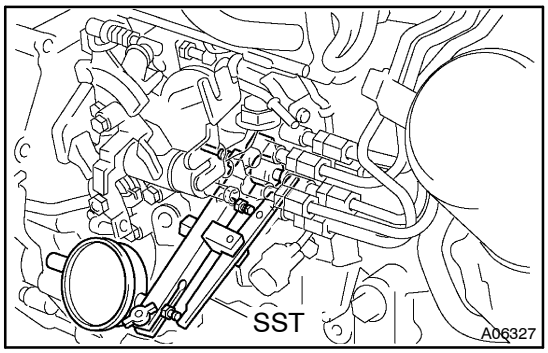
Turn the crankshaft pulley clockwise, and align its groove with the groove of the timing gear cover.



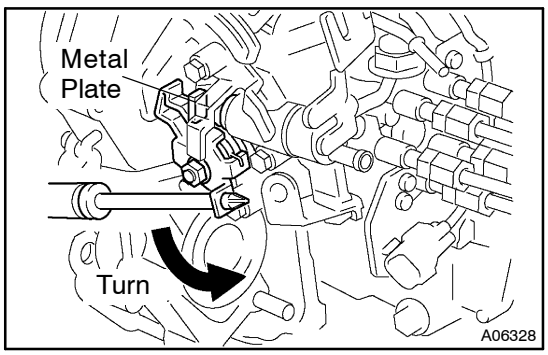
2. INSTALL SST AND DIAL INDICATOR

(a) Remove the plug bolt and gasket from the distributive head plug of the injection pump.

(b) Loosen the 2 union nuts holding the injection pump to the 2 injection pipes, and slide the union nut rearward.



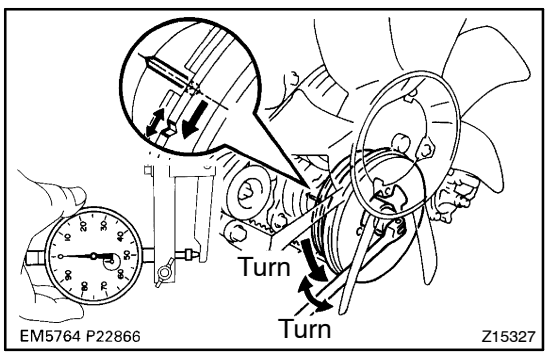
(c) Install SST (plunger stroke measuring tool) and a dial indicator to the plug bolt hole of distributive head plug.
SST 09275–54011



3. RELEASE ACSD ADVANCE

(a) Using a screwdriver, turn the cold starting lever counterclockwise approx. 20°.

(b) Put a metal plate (thickness of 9.0 – 10.0 mm (0.354 – 0.394 in.) between the cold starting lever and thermo wax plunger.



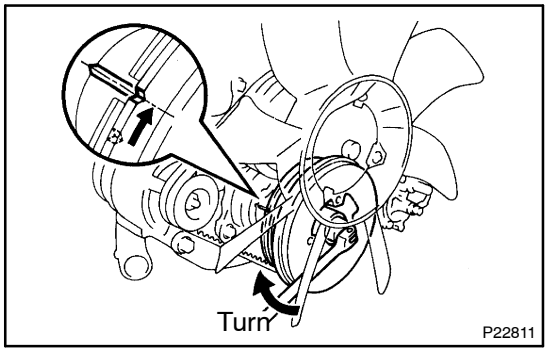
4. INSPECT AND ADJUST INJECTION TIMING

(a) Slowly rotate the crankshaft pulley counterclockwise and set the dial indicator at 0 mm (0 in.) when the dial indicator reaches the minimum value.

(b) Turn the crankshaft to the left and right and check that the dial indicator shows the minimum value.

NOTICE:

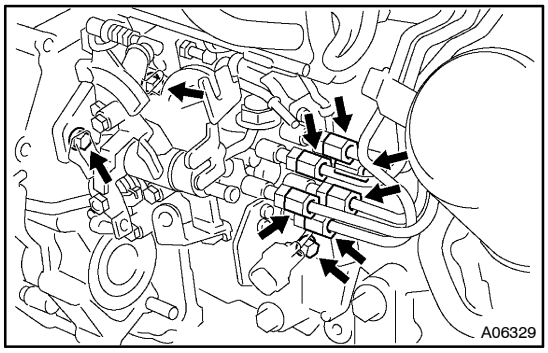
Check that the minimum value is set at 0 mm (0 in.)



(c) Slowly rotate the crankshaft pulley clockwise until its groove is aligned with the groove of the timing gear cover.

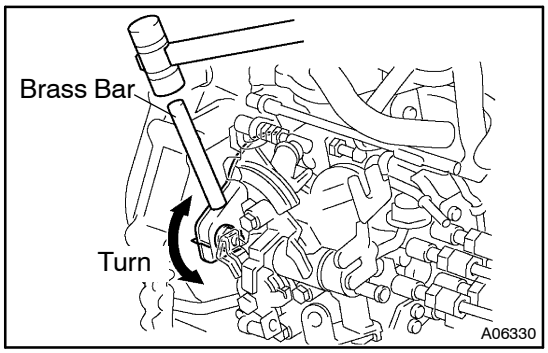
(d) Measure the plunger stroke.

Plunger stroke:
1HZ:
w/ ACSD: 0.65 – 0.71 mm (0.0256 – 0.0280 in.)
w/o ACSD: 0.85 – 0.91 mm (0.0335 – 0.0358 in.)
1HD–T:
1.18 – 1.24 mm (0.0465 – 0.0488 in.)



(e) Loosen these nuts and bolts:
(1) 6 remaining union nuts holding injection pipes to injection pump
(2) Bolt holding injection pump to injection pump stay
(3) 2 nuts holding injection pump to timing gear case

NOTICE:
Do not turn the nuts more than 90°.



(f) Adjust plunger stroke by slightly tilting the injection pump body.
If the stroke is less than specification, tilt the pump toward the engine.
If the stroke is greater than specification, tilt the pump away from the engine.

HINT:
- If the stroke is less than specification, move the injection pump toward the engine.
- Using a brass bar and plastic–faced hammer, gradually tap the pump flange away from the engine.

(g) Tighten these nuts and bolts:
- 2 nuts holding injection pump to timing gear case

Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)
- Bolts holding injection pump to injection pump stay

Torque: 69 N·m (700 kgf·cm, 51 ft·lbf)

(h) Recheck the plunger stroke.

5. REMOVE METAL PLATE

6. REMOVE SST AND DIAL INDICATOR

(a) Remove the SST and dial indicator.
SST 09275–54011

(b) Install a new gasket and the plug bolt of the distributive head plug.
Torque:
1HZ: 16.7 N·m (170 kgf·cm, 12 ft·lbf)
1HD–T: 25.5 N·m (260 kgf·cm, 19 ft·lbf)

7. TIGHTEN INJECTION PIPE UNION NUTS
Torque:
1HZ: 14.7 N·m (150 kgf·cm, 11 ft·lbf)
1HD–T: 24.5 N·m (250 kgf·cm, 18 ft·lbf)

8. START ENGINE AND CHECK FOR FUEL LEAKS