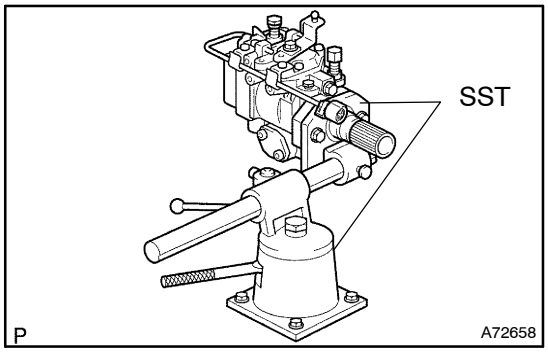
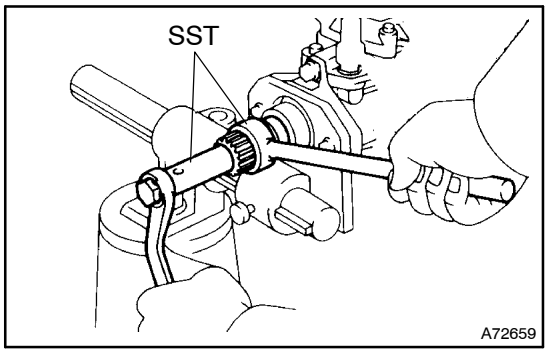
110PV–01

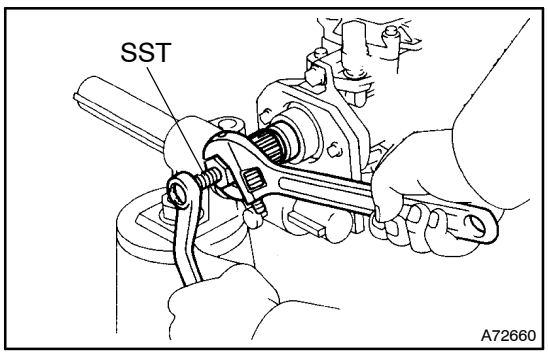
OVERHAUL



1. SUPPORT INJECTION PUMP ASSY TO SST (STAND)
SST 09241–76022, 09245–54010

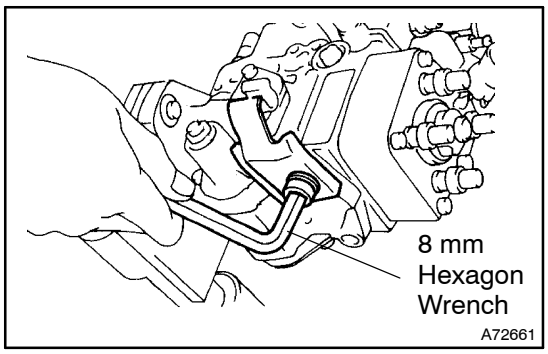


2. REMOVE SPLINE SHAFT
(a) Using SST, remove the round nut.
SST 09260–58010 (09266–76011, 09278–46020)

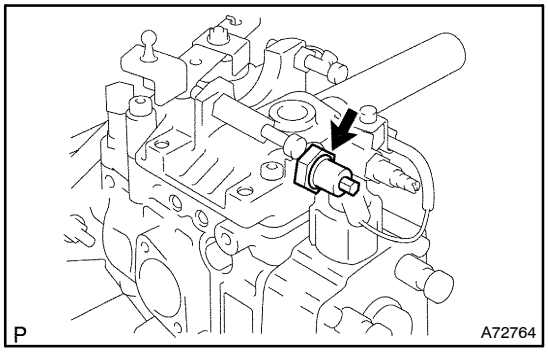


(b) Using SST, remove the spline shaft.
SST 09260–58010 (09267–76011)

3. REMOVE DRIVE SHAFT KEY FOR SPLINE SHAFT

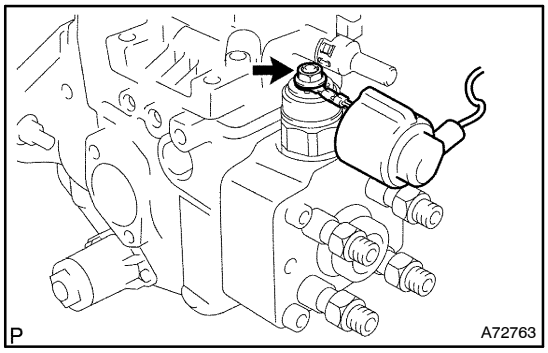


4. REMOVE FUEL PIPE CLAMP
(a) Using an 8 mm hexagon wrench, remove the bolt, plate washer and clamp.



5. REMOVE DASH POT

(a) Remove the dash pot and gasket.



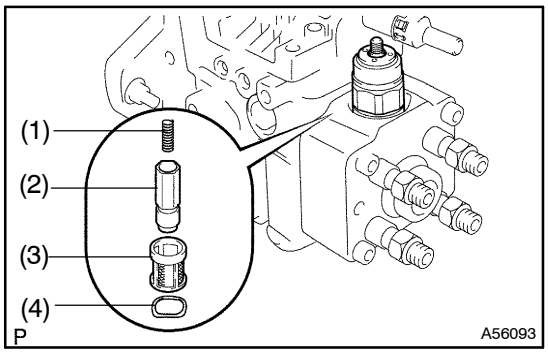
6. REMOVE FUEL CUT SOLENOID ASSY

(a) Disconnect the lead wires from the 2 wire clamps on the governor cover.

(b) Disconnect the lead wire of the engine speed sensor from the connector.

(c) Disconnect the dust cover from the fuel cut solenoid.

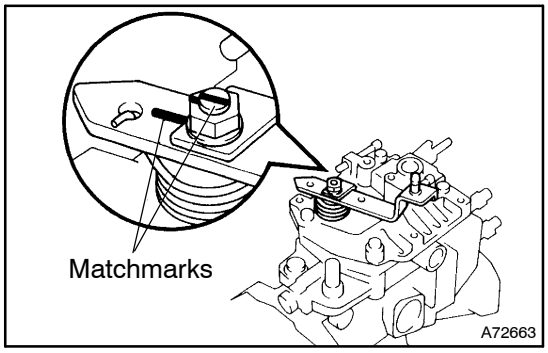
(d) Remove the nut and lead wire.



(e) Remove the fuel cut solenoid, O–ring, spring (1), valve (2), strainer (3) and wave washer (4).

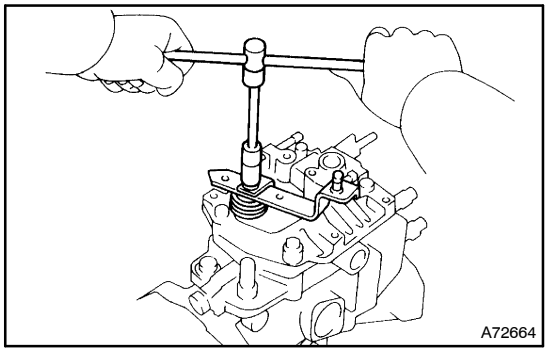
7. REMOVE ENGINE SPEED SENSOR

(a) Remove the engine speed sensor and O–ring.

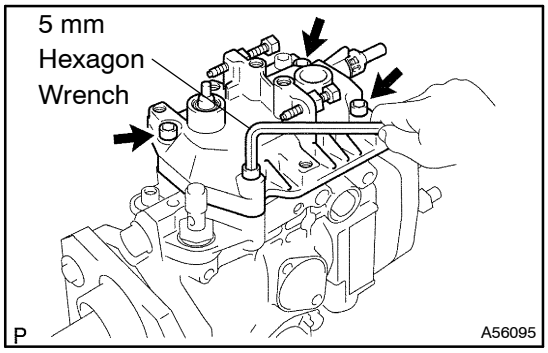


8. REMOVE ADJUSTING LEVER SUB–ASSY

(a) Place the matchmarks on the adjusting lever and shaft.



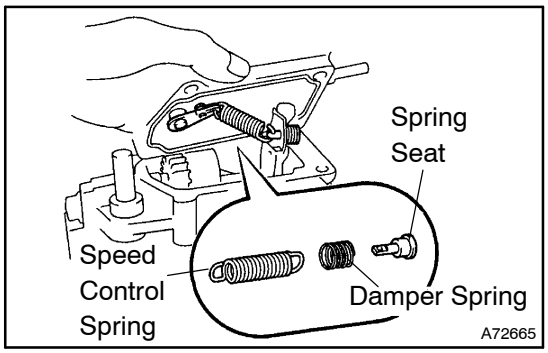
(b) Remove the nut, spring guide, adjusting lever and return spring.



9. REMOVE GOVERNOR COVER SUB–ASSY

(a) w/ HAC:
Remove the idle speed adjusting screw.

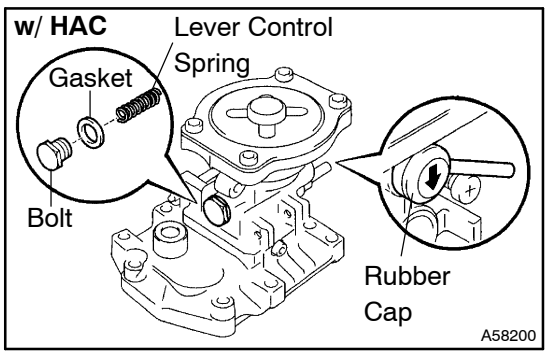
(b) Using a 5 mm hexagon wrench, remove the 4 bolts.



(c) Disconnect the adjusting lever shaft from the governor cover, and remove the governor cover and gasket.

(d) Remove the adjusting lever shaft, speed control spring, spring seat and damper spring from the governor link.

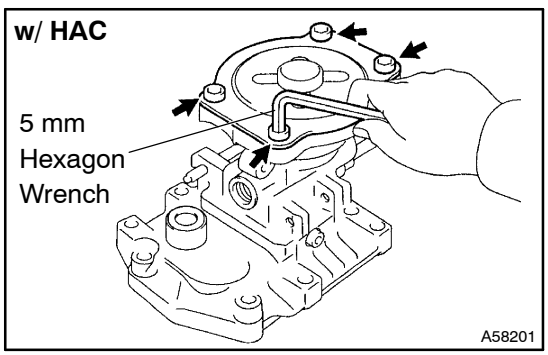
(e) Remove the O–ring and plate washer from the adjusting lever shaft.



10. w/ HAC:
DISASSEMBLE HIGH ALTITUDE COMPENSATOR

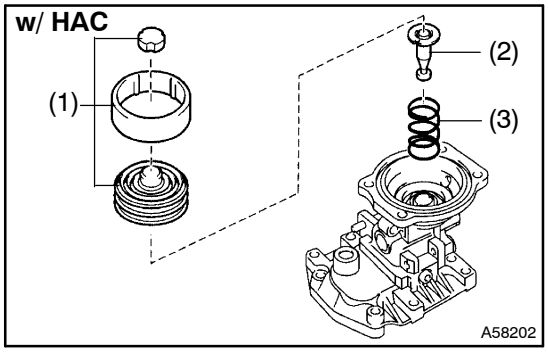
(a) Remove the bolt, gasket and lever control spring.

(b) Remove the rubber cap.

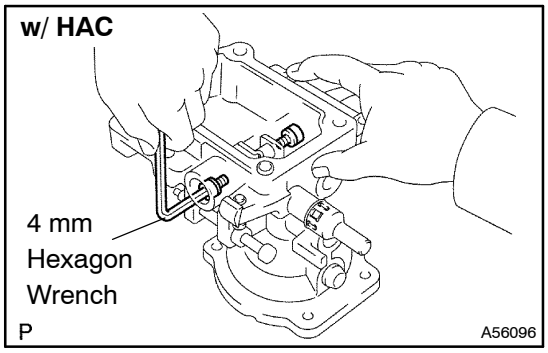


(c) Remove the pneumatic bellows.

(1) Using a 5 mm hexagon wrench, remove the 4 bolts, pneumatic bellows cover and gasket.

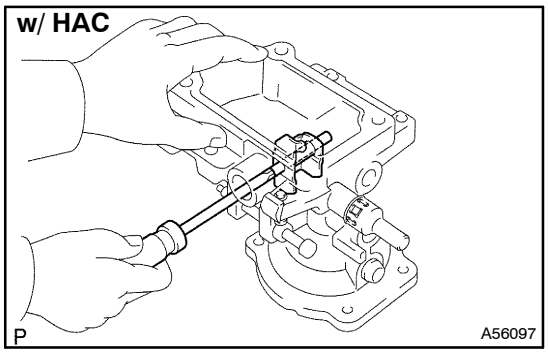


(2) Remove the pneumatic bellows and 2 rubber caps (1), push rod (2) and pneumatic bellows spring (3).

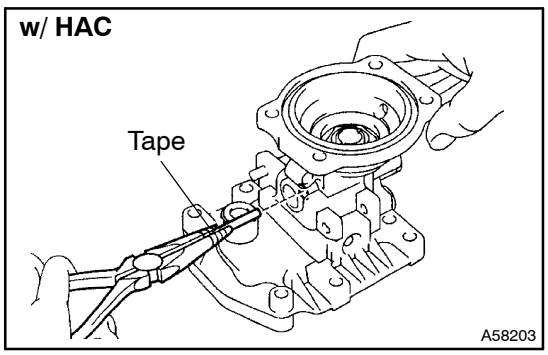


(d) Remove the control lever.

(1) Using a 4 mm hexagon wrench, remove the 2 bolts and gaskets.



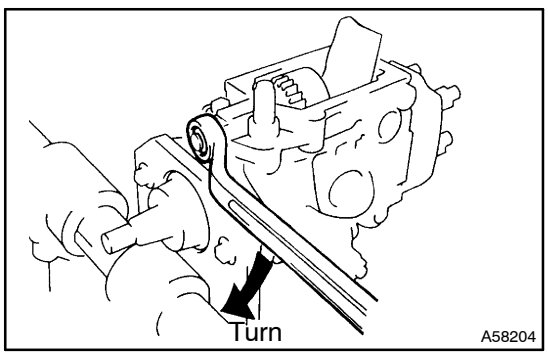
(2) Using a small screwdriver, push out the support pin and remove the control lever.



(3) Using needle nose pliers, remove the connecting pin.

NOTICE:

Be careful not to damage the connecting pin. Tape the tip of the pliers.



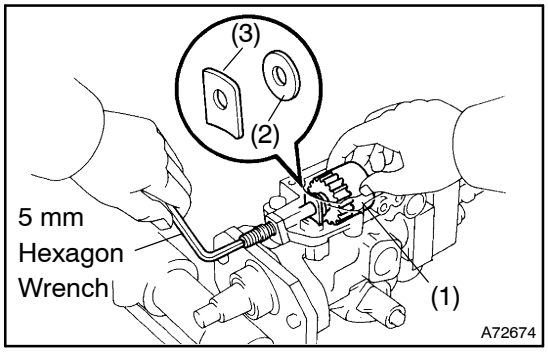
11. REMOVE GOVERNOR SHAFT AND FLYWEIGHT HOLDER

(a) Check the flyweight holder thrust clearance (See step 47).

(b) Remove the governor shaft lock nut by turning it clockwise.

NOTICE:

The governor shaft and lock nut have LH threads.

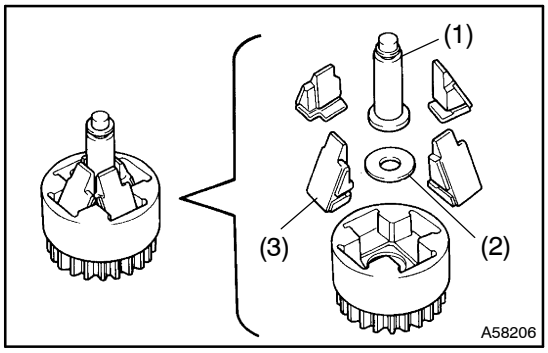


(c) Using a 5 mm hexagon wrench, remove the governor shaft by turning it clockwise, and remove the flyweight holder assembly (1), No. 1 flyweight washer (2) and governor gear adjusting washer (3).

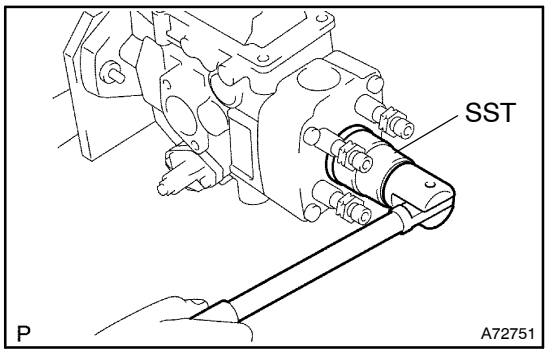
NOTICE:

Be careful not to drop the 2 washers into the pump housing.

(d) Remove the O–ring from the governor shaft.

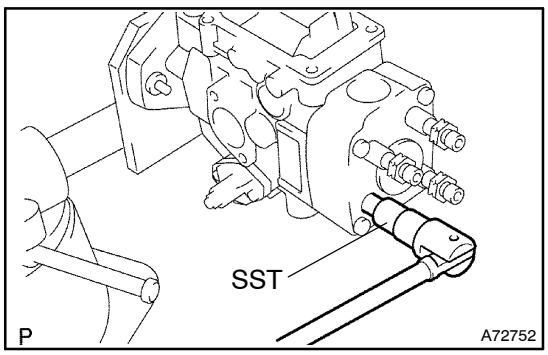


(e) Remove the governor sleeve (1), No. 2 flyweight washer (2) and 4 flyweights (3) from the flyweight holder.



12. REMOVE DISTRIBUTIVE HEAD PLUG

(a) Using SST, remove the distributive head plug and O–ring.
SST 09260–54012 (09262–54010)



13. REMOVE INJECTION PUMP DELIVERY VALVE SUB–ASSY

(a) Using SST, remove the 4 delivery valve holders, springs and spring seats.
SST 09260–54012 (09269–54020)

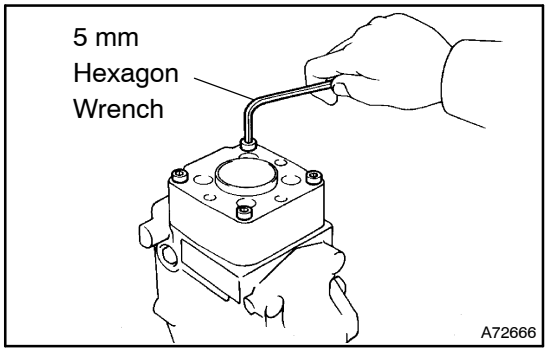
(b) Remove the 4 delivery valves and gaskets.

NOTICE:

Do not touch the sliding surfaces of the delivery valve by hand.

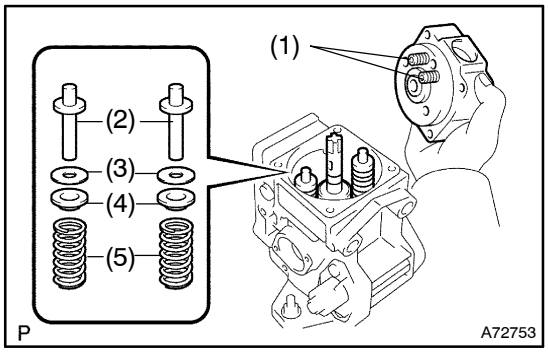
HINT:

Arrange the delivery valves, springs, spring seats and holders in order.



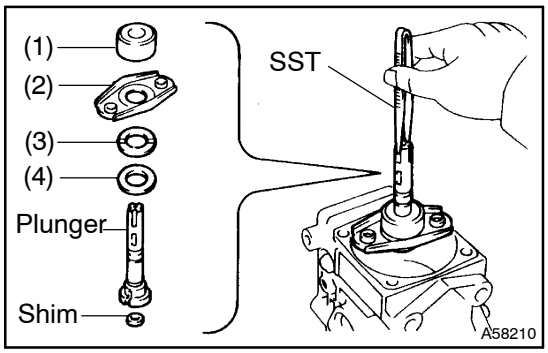
14. REMOVE DISTRIBUTIVE PUMP HEAD SUB–ASSY

(a) Using a 5 mm hexagon wrench, remove the 4 bolts.



(b) Remove the distributive head and 2 lever support springs (1), 2 plunger spring guides (2), 2 plunger spring shims (3), 2 upper spring seats (4) and 2 plunger springs (5).

(c) Remove the O–ring from the distributive head.

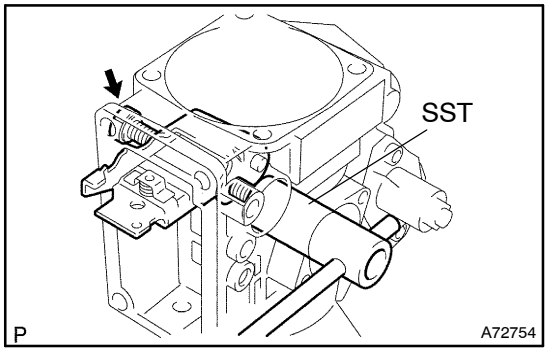


15. REMOVE PUMP PLUNGER

(a) Using SST, remove the pump plunger, plunger adjusting shim together with the spill ring (1), lower spring seat (2), upper plunger plate (3) and lower plunger plate (4).
SST 09260–54012 (09269–54030)

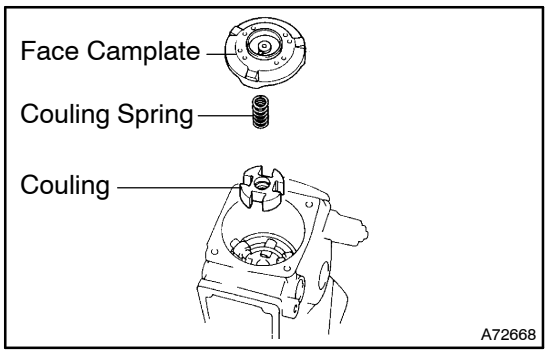
NOTICE:

Do not touch the sliding surfaces of the pump plunger by hand.



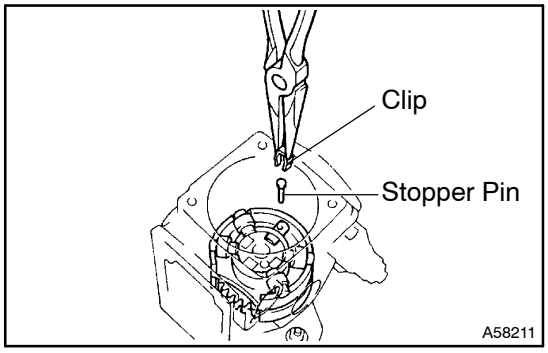
16. REMOVE GOVERNOR LINK

(a) Using SST, remove the 2 support bolts, 2 gaskets and governor link.
SST 09260–54012 (09269–54040)



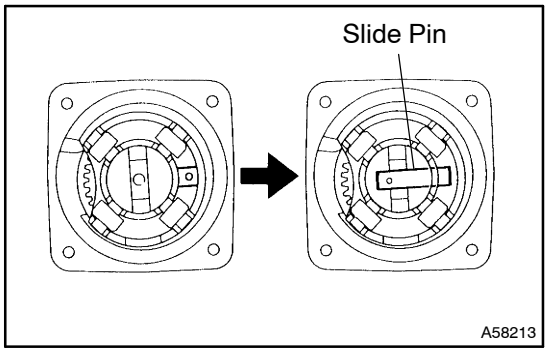
17. REMOVE FACE CAMPLATE SUB–ASSY

(a) Remove the face camplate, coupling spring and coupling.

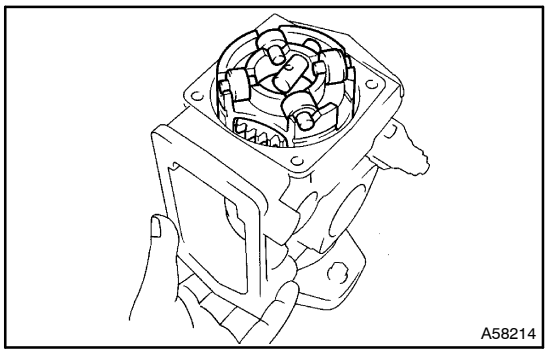


18. REMOVE ROLLER RING AND DRIVE SHAFT

(a) Remove the clip and stopper pin.



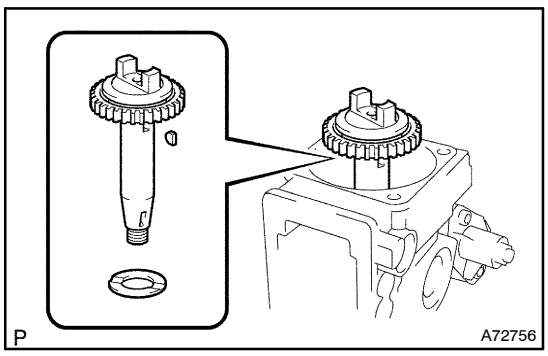
(b) Push the slide pin toward inside.



(c) Push the drive shaft, and remove the roller ring, 4 rollers and washers assembly.

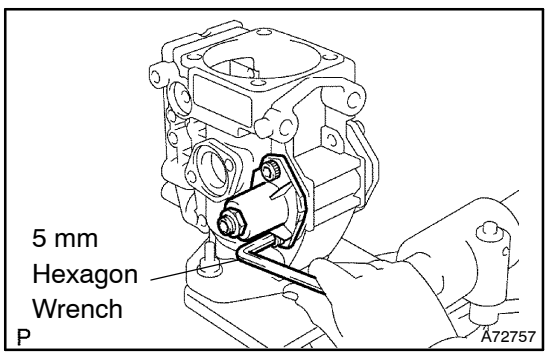
NOTICE:

- **Be careful not to drop the rollers.**
- **Do not alter the positions or assembly of the rollers.**



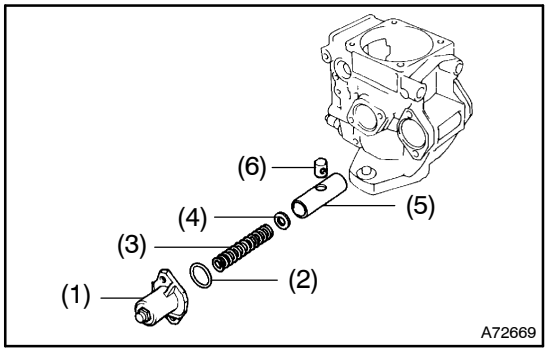
(d) Remove the drive shaft, governor drive gear, 2 joint rubbers assembly, set key and drive shaft washer.

(e) Remove the drive gear and 2 joint rubbers from the drive shaft.

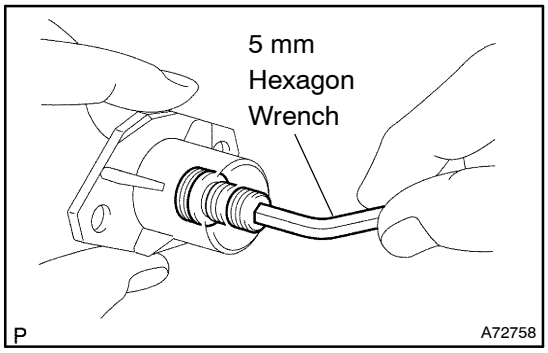


19. REMOVE TIMER PISTON ASSY

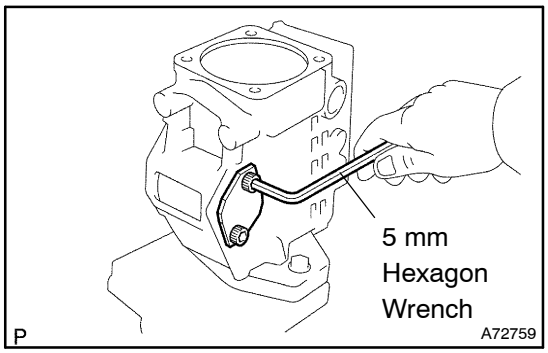
(a) Using a 5 mm hexagon wrench, remove the 2 LH timer cover bolts.



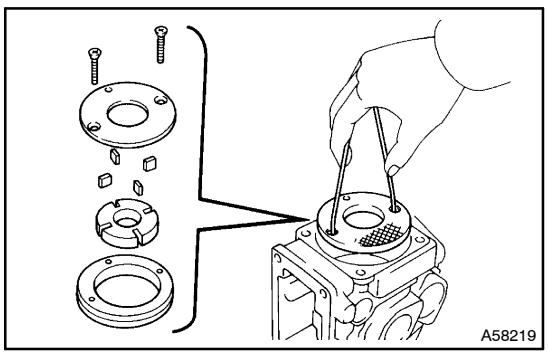
(b) Remove the LH timer cover, timer adjusting screw, nut assembly (1), gasket (2), timer spring (3), spring washer (4), timer piston (5) and timer sub–piston (6).



(c) Remove the nut from the LH timer cover.
(d) Using a 5 mm hexagon wrench, remove the timer adjusting screw.
(e) Remove the O–ring from the timer adjusting ring.



(f) Using a 5 mm hexagon wrench, remove the 2 bolts, RH timer cover and gasket.

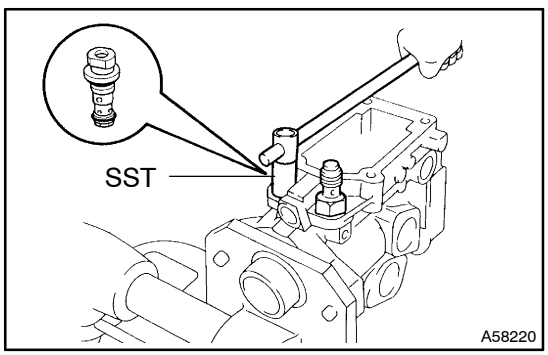


20. REMOVE FUEL FEED PUMP SUB–ASSY

(a) Remove the 2 screws.
(b) Using a piece of wire, remove the feed pump cover.
(c) Remove the feed pump rotor, 4 blades and liner.

NOTICE:

- **Be careful not to interchange the blade positions.**
- **Be careful not to damage the pump body.**

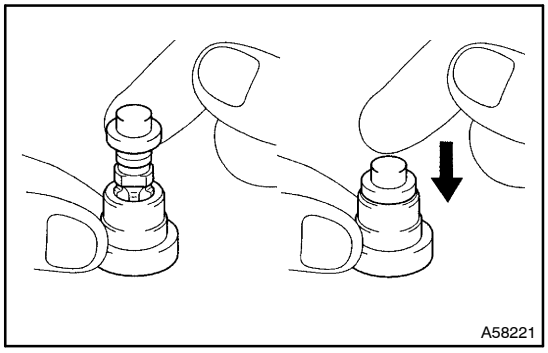


21. REMOVE REGULATOR VALVE SUB–ASSY

(a) Using SST, remove the regulator valve and 2 O–rings.
SST 09260–54012 (09262–54020)

22. REMOVE FUEL INLET HOLLOW SCREW

(a) Remove the hollow screw and gasket.



23. INSPECT INJECTION PUMP DELIVERY VALVE SUB–ASSY

NOTICE:

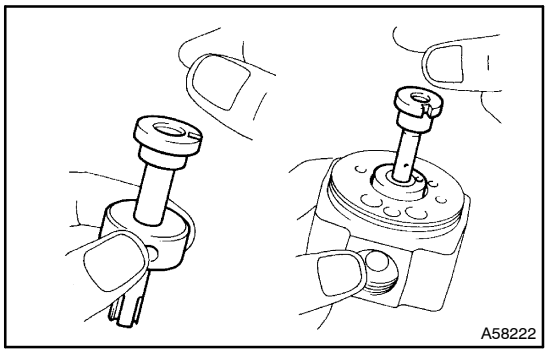
Do not touch the sliding surfaces of the pump plunger and delivery valves.

(a) Pull up the valve and release it. Check that the valve smoothly falls into the valve seat.

If operation is not as specified, replace the valve as a set.

HINT:

Before using a new valve set, wash off the rust prevention compound with light oil or gasoline. Then wash the new valve set again with diesel fuel and perform the above check.



24. INSPECT PUMP PLUNGER AND SPILL RING

(a) Tilt the spill ring (distributive head) slightly, and pull out the plunger.

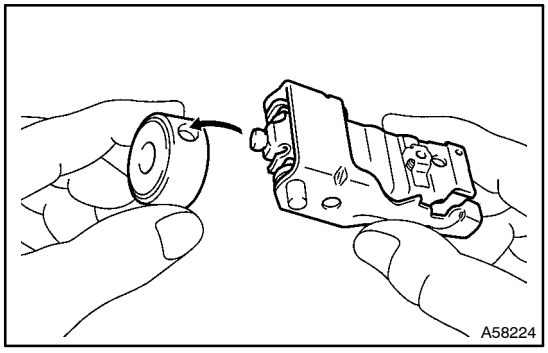
(b) Check that the plunger smoothly falls into the spill ring (distributive head) by its own weight when released.

(c) Rotate the plunger, and repeat the test at various positions.

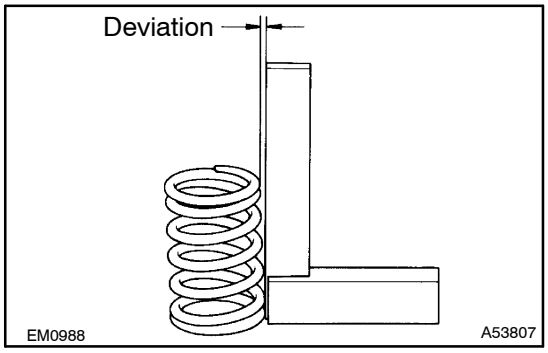
If the plunger is stuck at any position, replace the parts as a set.

NOTICE:

Do not touch the sliding surface of the pump plunger.



(d) Insert the governor link ball pin into the spill ring, and check that it moves smoothly without any play.

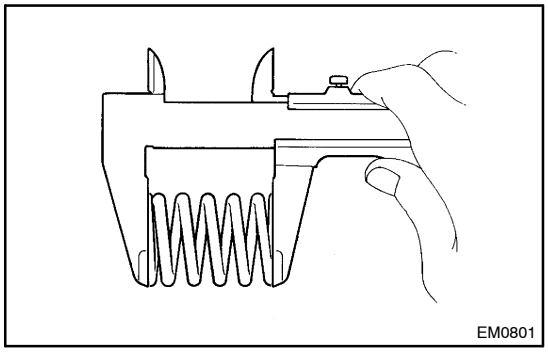


25. INSPECT SPRING

(a) Using a steel square, check the deviation of the plunger springs.

Maximum deviation: 2.0 mm (0.079 in.)

If the deviation is greater than the maximum, replace both springs.

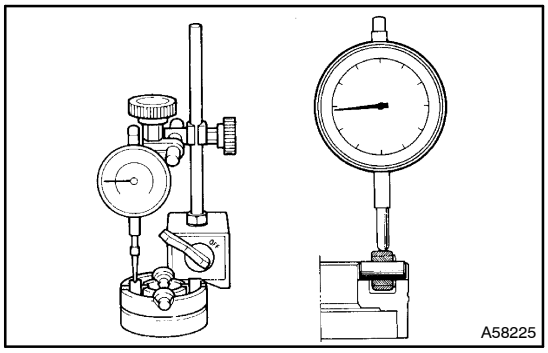


(b) Using vernier calipers, measure the free length of each spring.

Spring free length:

Delivery valve spring	19.4 mm (0.764 in.)
Plunger spring	32.4 mm (1.276 in.)
Coupling spring	15.4 mm (0.606 in.)
Pneumatic bellows spring (w/ HAC)	30.0 mm (1.181 in.)

If the free length is not as specified, replace the spring.

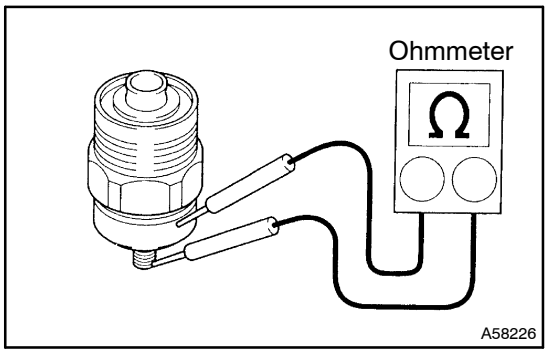


26. INSPECT ROLLER RING AND ROLLER

(a) Using a dial indicator, measure the roller height.

Maximum roller height variation: 0.02 mm (0.0008 in.)

If the variation is greater than the maximum, replace the roller ring and roller as a set.

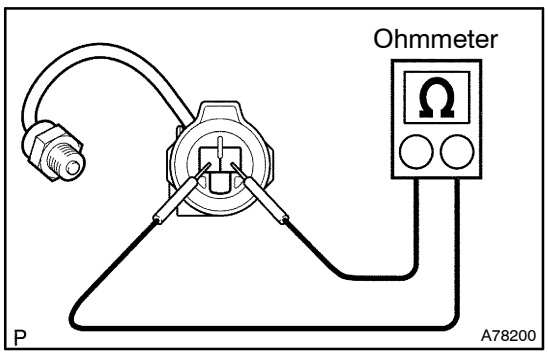


27. INSPECT FUEL CUT SOLENOID ASSY

(a) Using an ohmmeter, measure the resistance between the terminal and solenoid body.

Resistance: 9.5 – 11.9 Ω at 20°C (68°F)

If the resistance is not as specified, replace the solenoid.

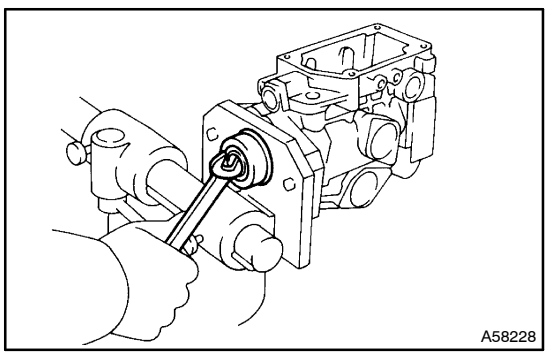


28. INSPECT ENGINE SPEED SENSOR

(a) Using an ohmmeter, measure the resistance between the terminals.

Resistance: 650 – 970 Ω at 20°C (68°F)

If the resistance is not as specified, replace the sensor.

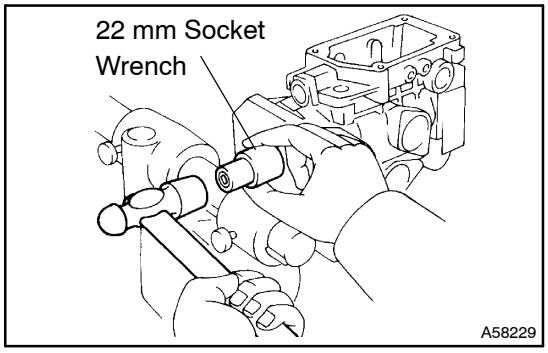


29. REMOVE OIL SEAL

(a) Using a wrench, pry out the oil seal.

NOTICE:

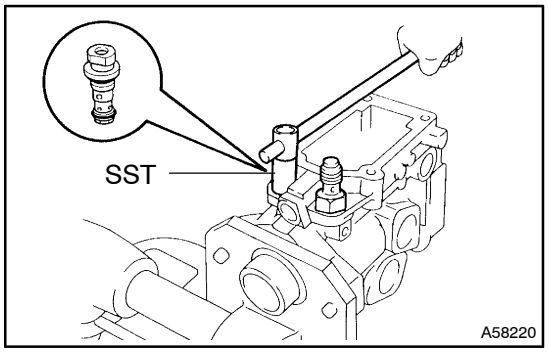
Be careful not to damage the pump body.



30. INSTALL OIL SEAL

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

(b) Using a 22 mm socket wrench, tap in the oil seal until its surface is flush with the pump body.



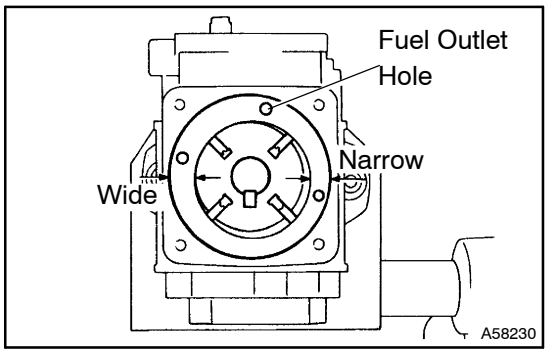
31. INSTALL FUEL INLET HOLLOW SCREW

(a) Install a new gasket and the hollow screw.
Torque: 36.8 N·m (375 kgf·cm, 27 ft·lbf)

32. INSTALL REGULATOR VALVE SUB–ASSY

(a) Install the 2 O–rings to the regulator valve.

(b) Using SST, install the regulator valve.
SST 09260–54012 (09262–54020)
Torque: 8.85 N·m (90 kgf·cm, 78 in.·lbf)

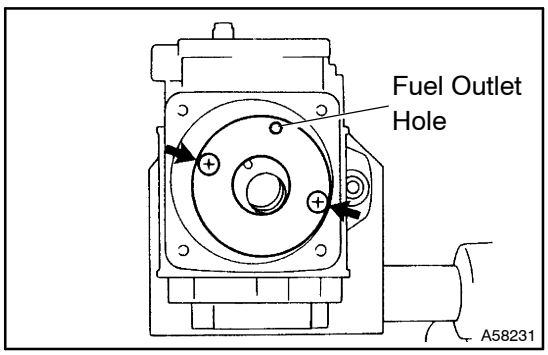


33. INSTALL FUEL FEED PUMP SUB–ASSY

(a) Install the liner, rotor and 4 blades.

(b) Check that the liner and blades are facing to the correct direction, as shown in the illustration.

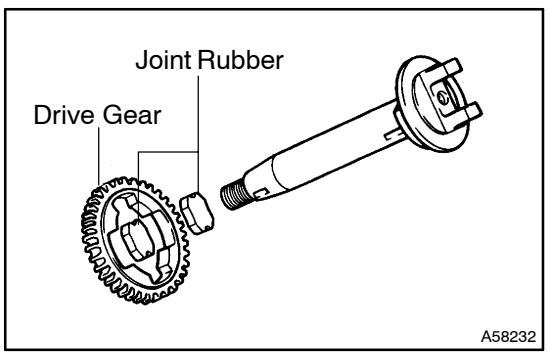
(c) Check that the blades move smoothly.



(d) Align the fuel outlet holes of the cover and liner.

(e) Install the pump cover with the 2 screws.
Torque: 2.95 N·m (30 kgf·cm, 26 in.·lbf)

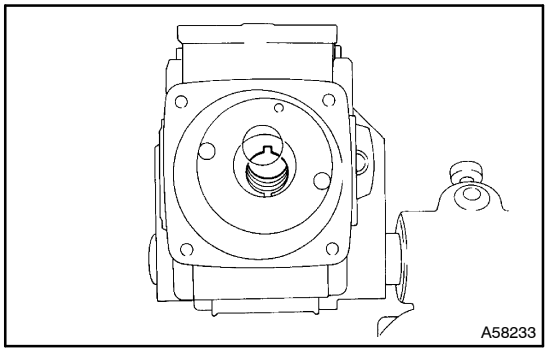
(f) Check that the rotor moves smoothly.



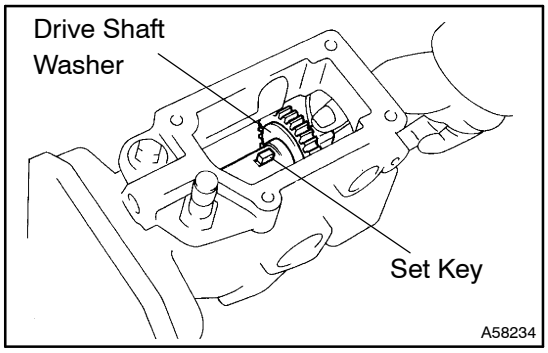
34. INSTALL DRIVE SHAFT SUB–ASSY

(a) Install the drive gear on the drive shaft assembly, as shown in the illustration.

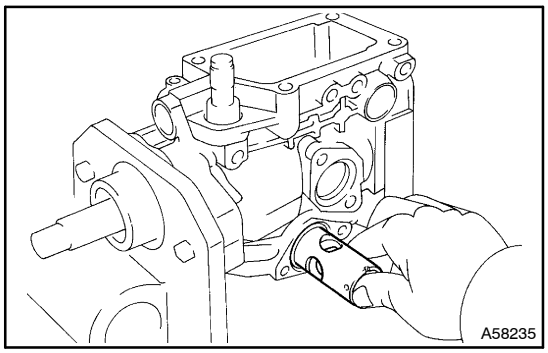
(b) Install 2 new joint rubbers into the drive gear.



(c) Position the key groove of the feed pump rotor upward.

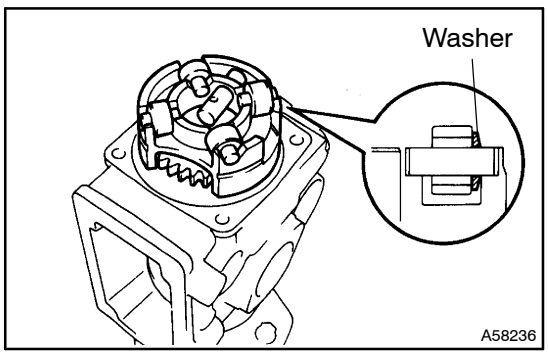


(d) Install the set key and drive shaft washer on the drive shaft and insert the drive shaft.
(e) Check that the drive shaft turns without caught.



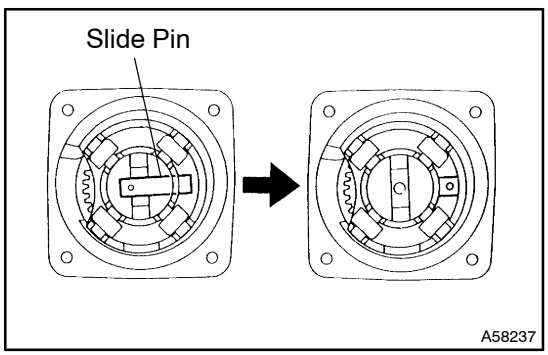
35. INSTALL TIMER PISTON ASSY

(a) Apply grease to the timer piston.
(b) Install the sub–piston into the timer piston.
(c) Insert the timer piston into the pump housing.

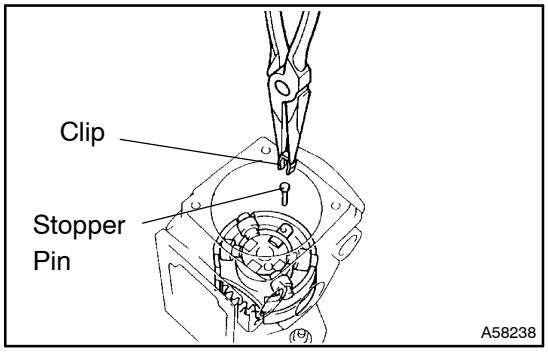


36. INSTALL ROLLER RING SUB–ASSY

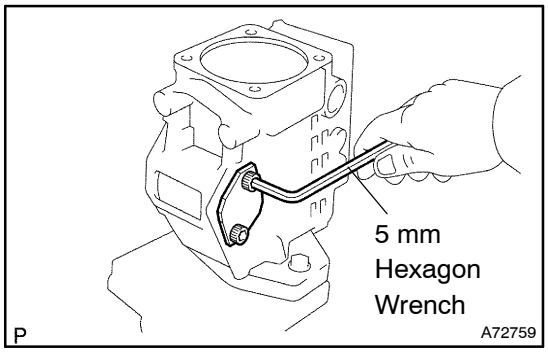
(a) Turn the drive shaft by approx. 90° clockwise or counter-clockwise.
(b) Install the slide pin, 4 rollers and washers on the roller ring.
(c) Check that the roller is facing the flat surface of the washer.
(d) Install the roller ring into the pump housing.



(e) Carefully install the slide pin into the sub–piston.

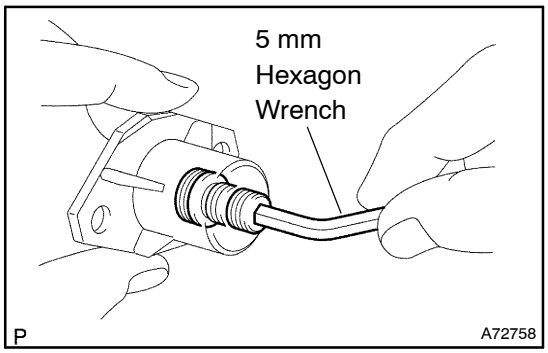


(f) Install the stopper pin and clip.

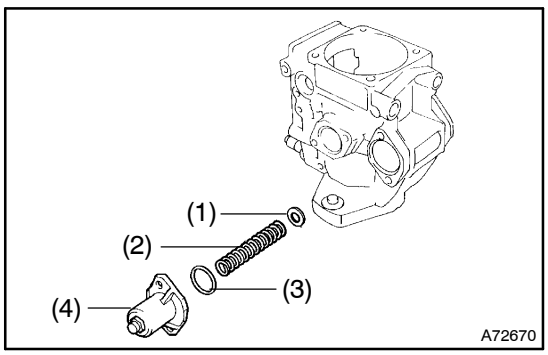


37. INSTALL TIMER SPRING

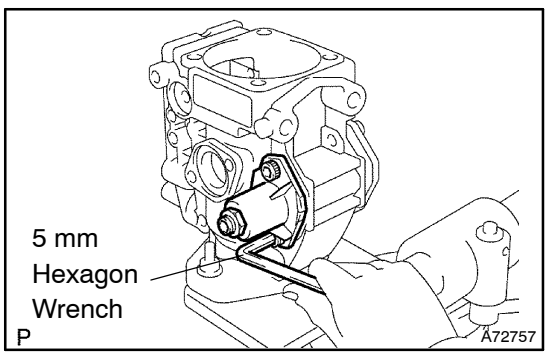
(a) Using a 5 mm hexagon wrench, install a new O–ring and the RH timer cover with the 2 bolts.
Torque: 8.35 N·m (85 kgf·cm, 74 in.·lbf)



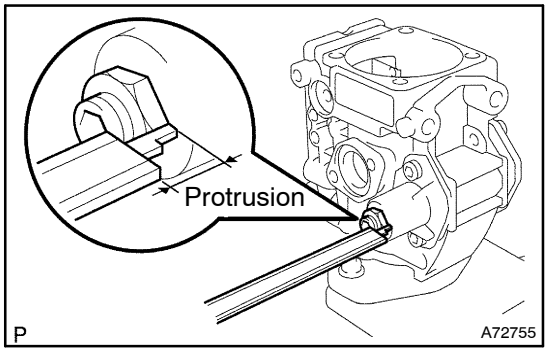
(b) Install a new O–ring to the timer adjusting screw.
(c) Using a 5 mm hexagon wrench, install the timer adjusting screw to the LH timer cover and temporarily install the nut.



(d) Install the spring washer (1), timer spring (2), a new gasket (3), the LH timer cover, timer adjusting screw and nut assy.

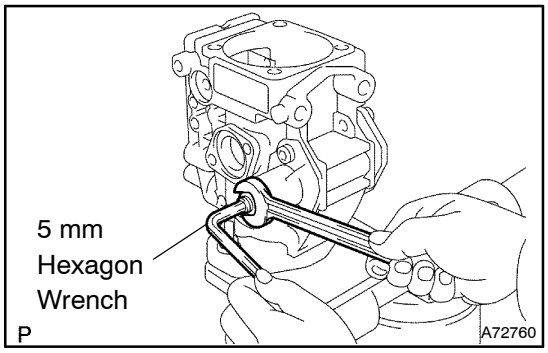


(e) Using a 5 mm hexagon wrench, install the 2 LH timer cover bolts.
Torque: 8.35 N·m (85 kgf·cm, 74 in.·lbf)

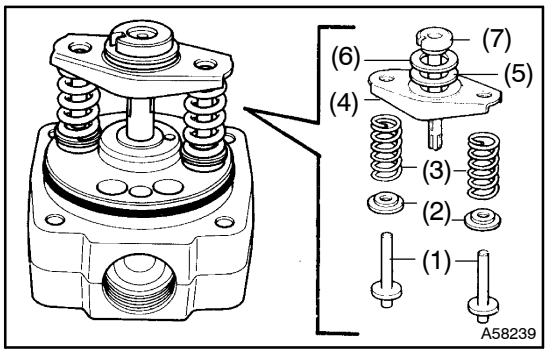


38. ADJUST TIMER ADJUSTING SCREW

(a) Using vernier calipers, measure the protrusion of the adjusting screw from the timer cover.
Protrusion: 7.5 – 8.0 mm (0.295 – 0.315 in.)



(b) Using a 5 mm hexagon wrench, adjust the protrusion of the adjusting screw from the timer cover.
Torque: 14.2 N·m (145 kgf·cm, 10 ft·lbf)

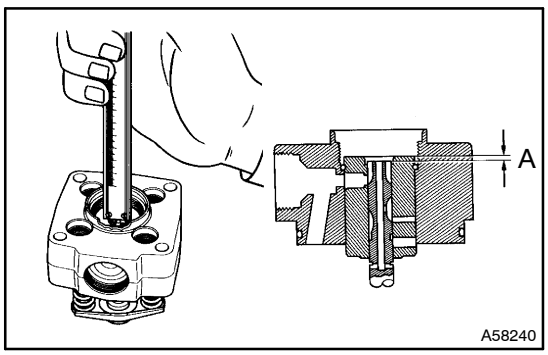


39. ADJUST PLUNGER SPRING SHIM

(a) Install the 2 plunger spring guides (1), 2 upper spring seats (2), 2 plunger springs (3), lower spring seat (4), upper plunger plate (5), lower plunger plate (6) and pump plunger to the distributive head.

HINT:

Do not assemble the plunger spring shims at this time.



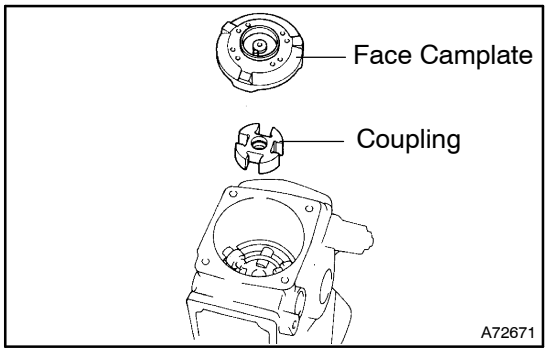
(b) Using vernier calipers, measure clearance A indicated in the illustration.

(c) Determine the plunger spring shim size by using these formula and chart.
New plunger spring shim thickness = 5.9 – A
A ..... Measured plunger position
Plunger spring shim selection chart:

Measured clearance	Shim thickness
More than 5.4 mm (0.213 in.)	0.5 mm (0.020 in.)
5.1 – 5.3 mm (0.201 – 0.209 in.)	0.8 mm (0.031 in.)
4.9 – 5.0 mm (0.193 – 0.197 in.)	1.0 mm (0.039 in.)
4.7 – 4.8 mm (0.185 – 0.189 in.)	1.2 mm (0.047 in.)
4.4 – 4.6 mm (0.173 – 0.181 in.)	1.5 mm (0.059 in.)
4.1 – 4.3 mm (0.161 – 0.169 in.)	1.8 mm (0.071 in.)
Less than 4.0 mm (0.157 in.)	2.0 mm (0.079 in.)

HINT:

- For an intermediate measurement between the sizes listed, apply the next larger size. For example, if the thickness is 1.6 mm (0.063 in.) by calculation, use a 1.8 mm (0.071 in.) shim.
- Select 2 shims which have the same thickness.

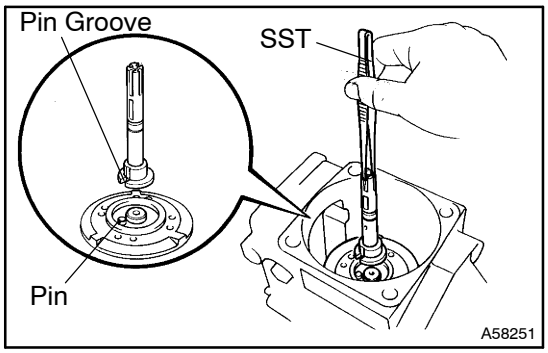


40. ADJUST PLUNGER SHIM

(a) Install the coupling and face camplate.

NOTICE:

Do not assemble the coupling spring.



(b) Clean the plunger adjusting shim and contacting surface area.

(c) Align the pin groove of the pump plunger with the face camplate pin.

(d) Using SST, install the used plunger adjusting shim and pump plunger.

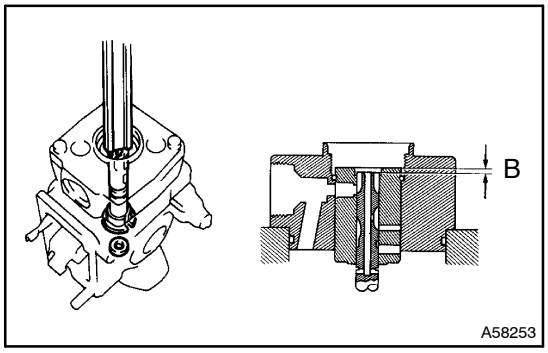
SST 09260–54012 (09269–54030)

(e) Install the distributive head with the 4 bolts.

Torque: 11.75 N·m (120 kgf·cm, 9 ft·lbf)

NOTICE:

Be careful not to damage the pump plunger.



(f) Using vernier calipers, measure dimension B indicated in the illustration.

(g) Determine the plunger adjusting shim size by using these formula and chart:

New adjusting shim thickness = T + (B – 3.3)

T ... Thickness of used shim

B ... Measured plunger position

Plunger adjusting shim selection chart:

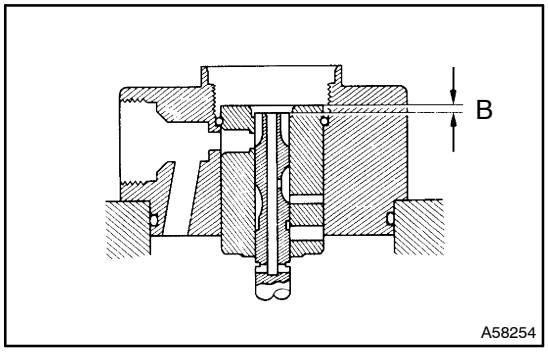
		Measured clearance mm																			
		2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.1	3.2	3.2 – 3.4	3.5	3.6	**3.7**	3.8	3.9	4.0	4.1	4.2	4.3	4.4
Installed shim mm	1.9											2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	2.9
	2.0									1.9		2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	2.9	
	2.1								1.9	1.9		2.3	2.4	2.5	2.6	2.7	2.8	2.9	2.9		
	2.2							1.9	1.9	2.0		2.4	2.5	2.6	2.7	2.8	2.9	2.9			
	2.3						1.9	1.9	2.0	2.1		2.5	2.6	2.7	2.8	2.9	2.9				
	2.4					1.9	1.9	2.0	2.1	2.2		2.6	2.7	**2.8**	2.9	2.9					
	2.5				1.9	1.9	2.0	2.1	2.2	2.3		2.7	2.8	2.9	2.9						
	2.6			1.9	1.9	2.0	2.1	2.2	2.3	2.4		2.8	2.9	2.9							
	2.7		1.9	1.9	2.0	2.1	2.2	2.3	2.4	2.5		2.9	2.9								
	2.8	1.9	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6		2.9									
	2.9	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7											

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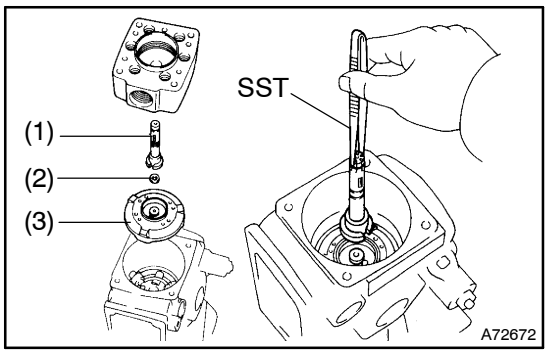
Plunger adjusting shim thickness:

1.9 mm (0.075 in.)	2.5 mm (0.098 in.)
2.0 mm (0.079 in.)	2.6 mm (0.102 in.)
2.1 mm (0.083 in.)	2.7 mm (0.106 in.)
2.2 mm (0.087 in.)	2.8 mm (0.110 in.)
2.3 mm (0.091 in.)	2.9 mm (0.114 in.)
2.4 mm (0.094 in.)	–

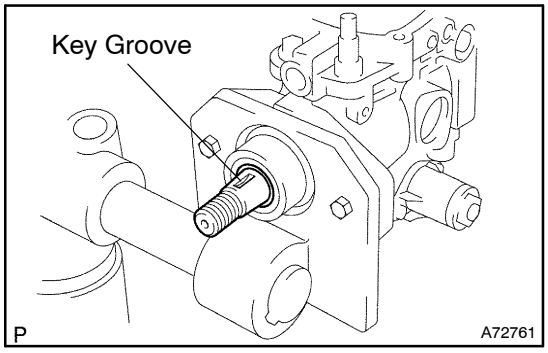
EXAMPLE:
The 2.4 mm (0.094 in.) shim is installed and measured clearance is 3.7 mm (0.146 in.). Replace the 2.4 mm (0.094 in.) shim with a 2.8 mm (0.110 in.) shim.



(h) Install a new plunger adjusting shim, and recheck dimension B.
Dimension B: 3.2 – 3.4 mm (0.126 – 0.134 in.)

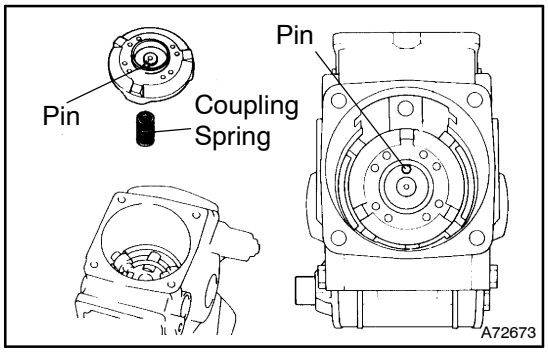


(i) Remove the distributive head.
(j) Using SST, remove the pump plunger (1), plunger adjusting shim (2) and face camplate (3).
SST 09260–54012 (09269–54030)

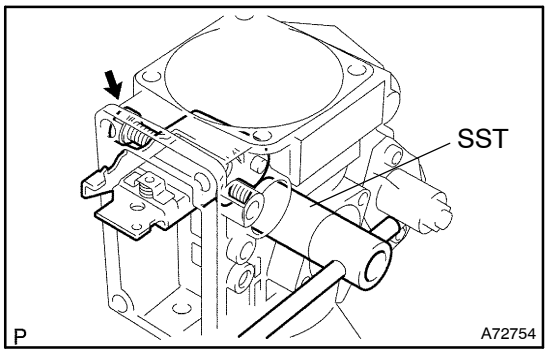


41. INSTALL FACE CAMPLATE SUB–ASSY

(a) Turn the drive shaft, and face the key groove upward.



(b) Install the coupling spring and camplate with the camplate pin facing the governor cover side.



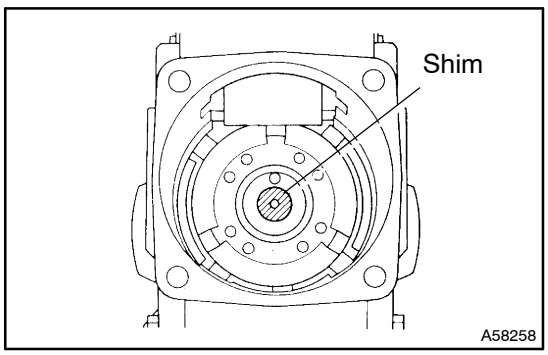
42. INSTALL GOVERNOR LINK

(a) Using SST, install the governor link with 2 new gaskets and the 2 support bolts.

Torque: 13.75 N·m (140 kgf·cm, 10 ft·lbf)

SST 09260–54012 (09269–54040)

(b) Check that the governor link smoothly moves.

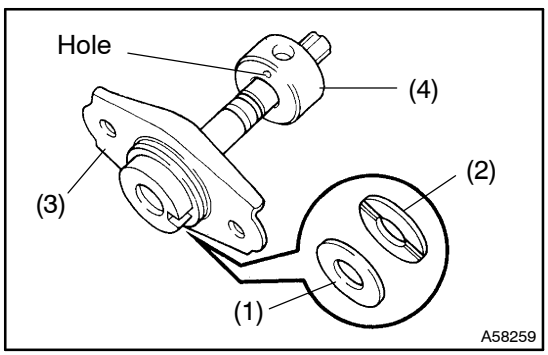


43. INSTALL PUMP PLUNGER

(a) Place the selected new plunger adjusting shim on the center of the camplate.

NOTICE:

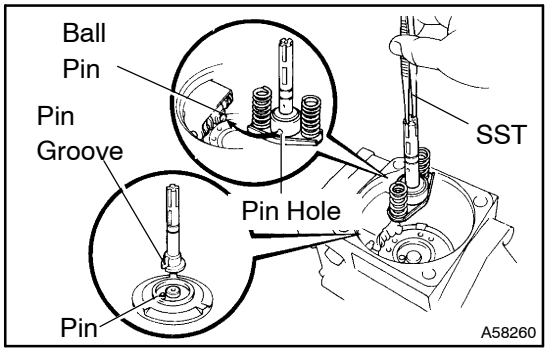
Do not apply grease to the shim.



(b) Install the lower plunger plate (1), upper plunger plate (2), lower spring seat (3) and spill ring (4) to the pump plunger.

HINT:

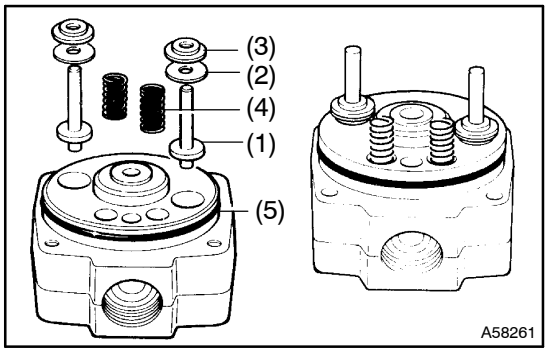
The hole of the spill ring should face the lower spring seat.



(c) Align the pin groove of the plunger with the pin of the face camplate.

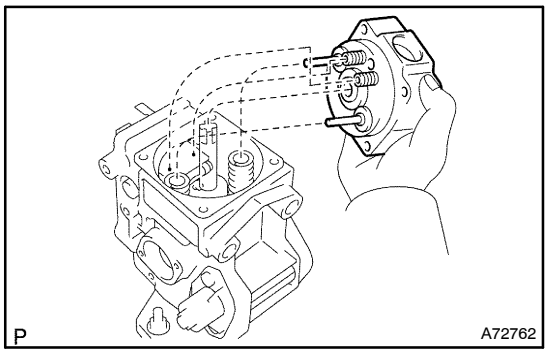
(d) Align the ball pin of the governor link with the pin hole of the spill ring.

(e) Using SST, install the pump plunger and 2 plunger springs.
SST 09260–54012 (09269–54030)



44. INSTALL DISTRIBUTIVE PUMP HEAD SUB–ASSY

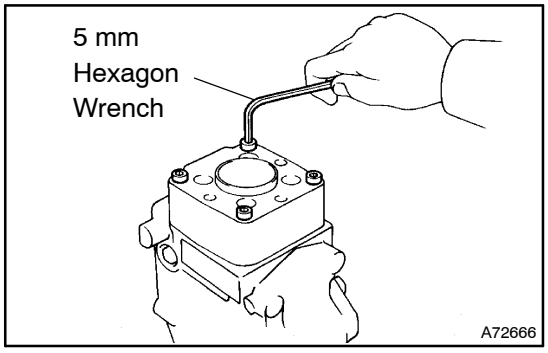
(a) Apply grease to the 2 plunger spring guides (1), 2 new selected plunger spring shims (2), 2 upper spring seats (3), 2 lever support springs (4) and a new O–ring (5), and install them to the distributive head.



(b) Install the distributive head.

NOTICE:

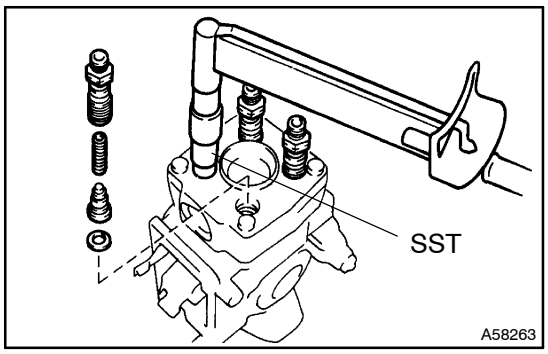
Be careful not to damage the pump plunger.



(c) Using a 5 mm hexagon wrench, install the 4 bolts. Uniformly tighten the bolts in several passes.
Torque: 11.75 N·m (120 kgf·cm, 9 ft·lbf)

HINT:

Use the bolt which length is 45 mm (1.77 in.).

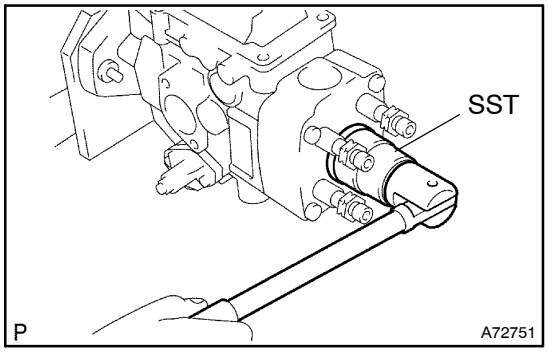


45. INSTALL INJECTION PUMP DELIVERY VALVE SUB–ASSY

(a) Install 4 new gaskets and the 4 valves into the distributive head.

(b) Install the spring seat and spring into the delivery valve holder.

(c) Using SST, install the 4 delivery valve holders.
SST 09260–54012 (09269–54020)
Torque: 58.85 N·m (600 kgf·cm, 43 ft·lbf)



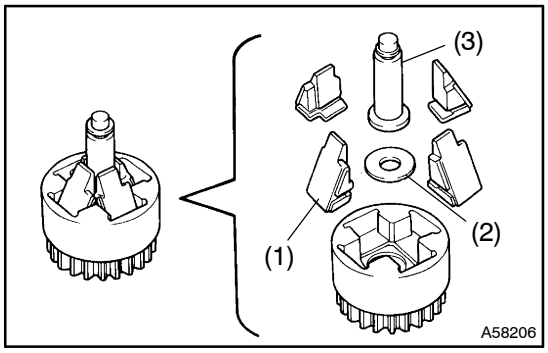
46. INSTALL DISTRIBUTIVE HEAD PLUG

(a) Install a new O–ring to the head plug.

(b) Using SST, install the head plug.

SST 09260–54012 (09262–54010)

Torque: 88.3 N·m (900 kgf·cm, 65 ft·lbf)

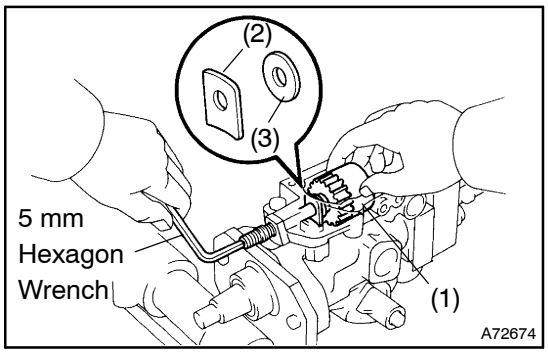


47. INSTALL GOVERNOR SHAFT AND FLYWEIGHT HOLDER

(a) Install the 4 flyweights (1), No. 2 flyweight washer (2) and governor sleeve (3) to the flyweight holder.

HINT:

Replace the 4 flyweights as a set.



(b) Install a new O–ring to the governor shaft.

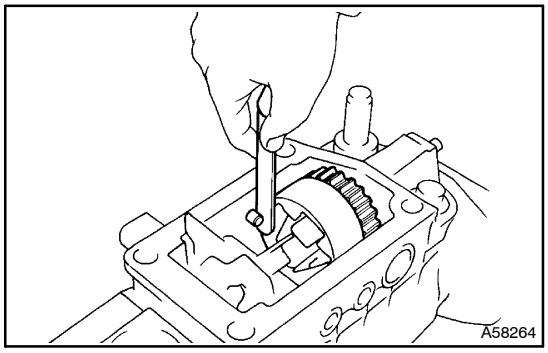
(c) Place the flyweight holder assembly (1) in position, and install the governor gear adjusting washer (2) and No.1 flyweight washer (3) between the flyweight holder and pump housing.

(d) Install the governor shaft through the governor gear adjusting washer, No.1 flyweight washer and flyweight holder assembly.

(e) Using a 5 mm hexagon wrench, turn the governor shaft counterclockwise.

HINT:

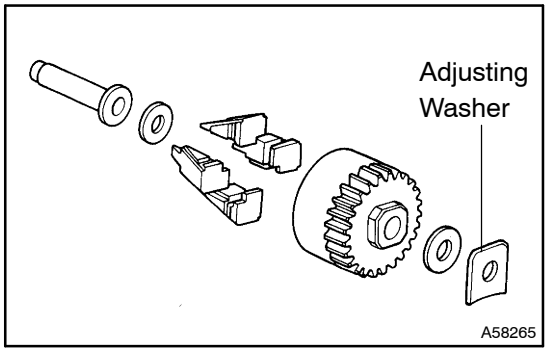
The governor shaft has LH threads.



(f) Check the flyweight holder thrust clearance.

(1) Using a feeler gauge, measure the thrust clearance between the housing pin and flyweight holder.

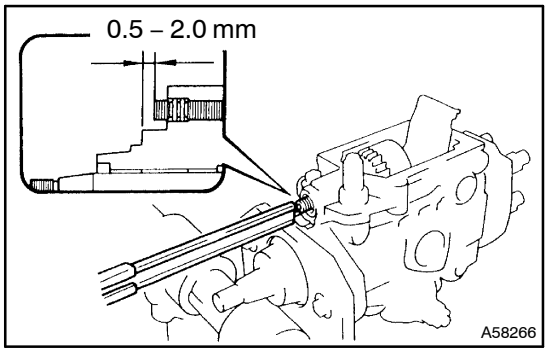
Thrust clearance: 0.15 – 0.35 mm (0.0059 – 0.0138 in.)



If the thrust clearance is not as specified, adjust it with a governor gear adjusting washer.

Governor gear adjusting washer thickness:

1.05 mm (0.0413 in.)	1.65 mm (0.0650 in.)
1.25 mm (0.0492 in.)	1.85 mm (0.0728 in.)
1.45 mm (0.0571 in.)	–



48. ADJUST PROTRUSION OF GOVERNOR SHAFT

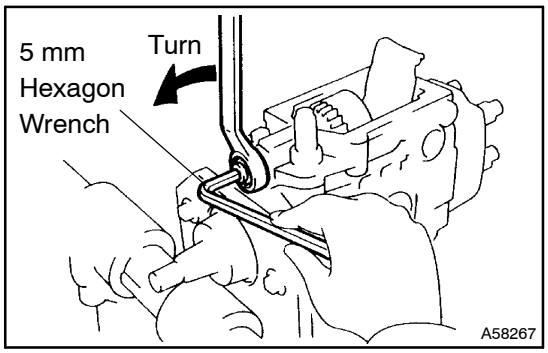
(a) Using vernier calipers, measure the protrusion of the governor shaft.

Protrusion: 0.5 – 2.0 mm (0.020 – 0.079 in.)

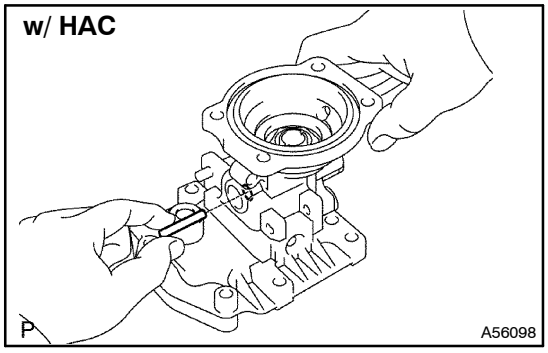
If the protrusion is not as specified, adjust it by turning the governor shaft.

HINT:

The governor cover shaft has LH threads.



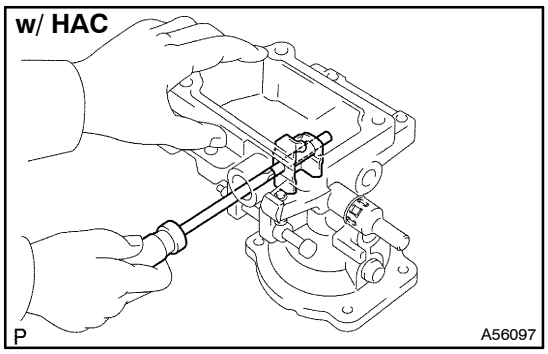
(b) Using a 5 mm hexagon wrench, install and tighten the nut while holding the governor shaft.



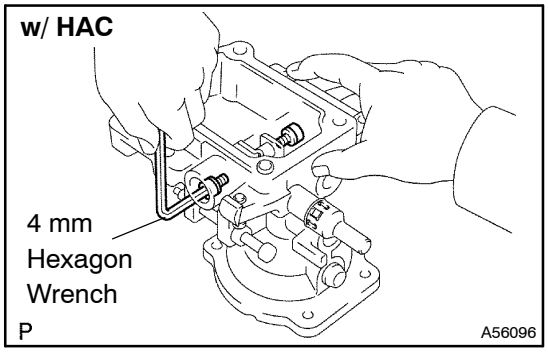
49. w/ HAC:
ASSEMBLE HIGH ALTITUDE COMPENSATOR

(a) Install the control lever.

(1) Insert the connecting pin into the governor cover.

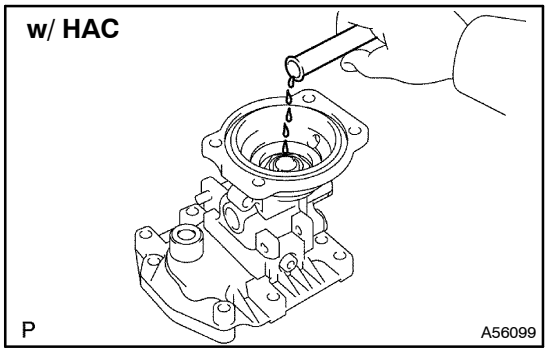


(2) Using a small screwdriver, install the control lever with the support pin.



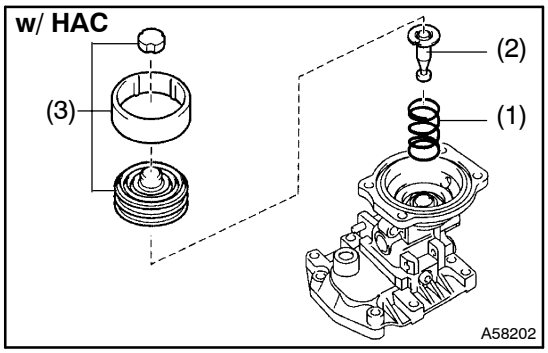
(3) Using a 4 mm hexagon wrench, install 2 new gaskets and the 2 bolts.

Torque: 6.85 N·m (70 kgf·cm, 61 in.·lbf)

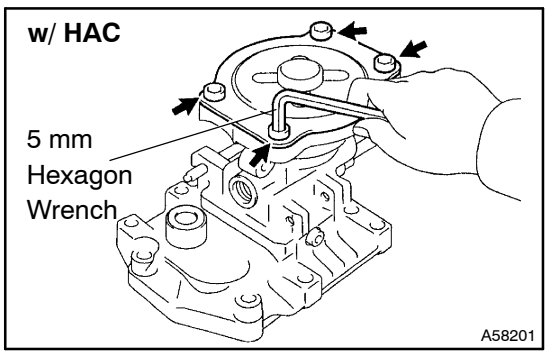


(b) Install the pneumatic bellows.

(1) Pour 3.0 – 4.0 cc (0.18 – 0.24 cu in.) of engine oil into the bushing hole.

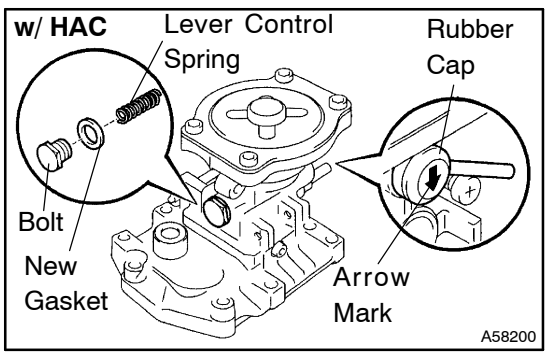


(2) Install the pneumatic bellows spring (1), push rod (2), the pneumatic bellows and 2 rubber caps (3).



(3) Using a 5 mm hexagon wrench, install a new gasket and the pneumatic bellows cover with the 4 bolts.

Torque: 7.35 N·m (75 kgf·cm, 65 in.·lbf)



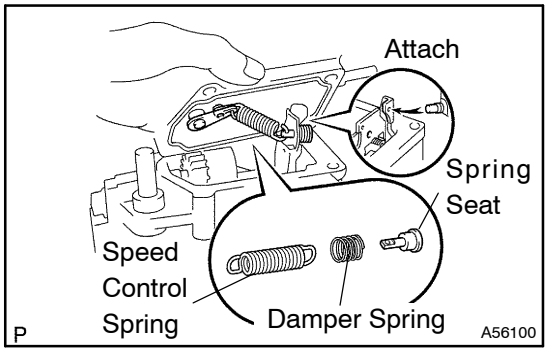
(c) Install the rubber cap.

(1) Install the rubber cap with the arrow mark facing downward.

(d) Install the lever control spring.

(1) Install the lever control spring with a new gasket and the bolt.

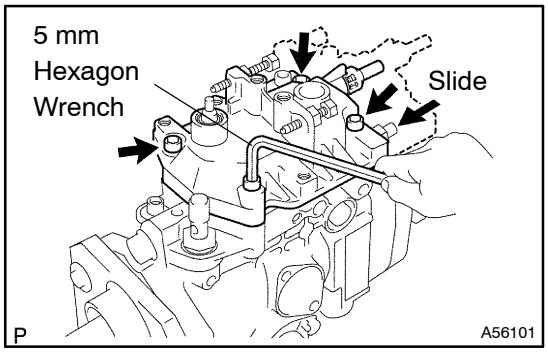
Torque: 12.75 N·m (125 kgf·cm, 9 ft·lbf)



50. INSTALL GOVERNOR COVER SUB–ASSY

(a) Install the plate washer and a new O–ring to the adjusting lever shaft.

(b) Install the damper spring, spring seat, speed control spring and adjusting lever shaft to the governor link.



(c) Slide the governor cover forward.

(d) Using a 5 mm hexagon wrench, install the governor cover with the 4 bolts. Uniformly tighten the bolts in several passes.

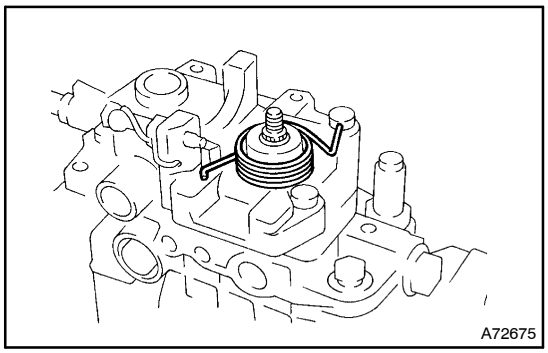
Torque: 8.35 N·m (85 kgf·cm, 74 in.·lbf)

HINT:

Use the bolt which length is 35 mm (1.38 in.).

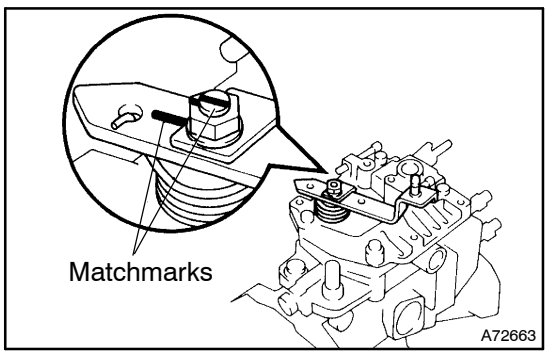
(e) w/ HAC:

Install the idle speed adjusting screw.



51. INSTALL ADJUSTING LEVER SUB–ASSY

(a) Place the return spring on the governor cover, as shown in the illustration.



(b) Hook the return springs to the adjusting lever, and turn and place the adjusting lever on the governor shaft, as shown in the illustration.

(c) Align the matchmarks of the adjusting lever shaft and adjusting lever.

(d) Install the adjusting lever and spring guide with the nut.

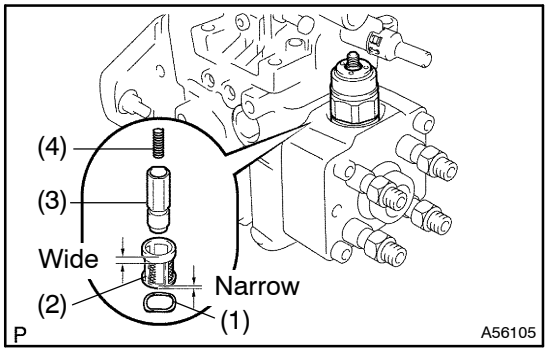
Torque: 8.35 N·m (85 kgf·cm, 74 in.·lbf)

52. INSTALL ENGINE SPEED SENSOR

(a) Install a new O–ring to the engine speed sensor.

(b) Install the engine speed sensor.

Torque: 20.6 N·m (210 kgf·cm, 15 ft·lbf)



53. INSTALL FUEL CUT SOLENOID ASSY

(a) Install the wave washer (1), strainer (2), valve (3) and spring.

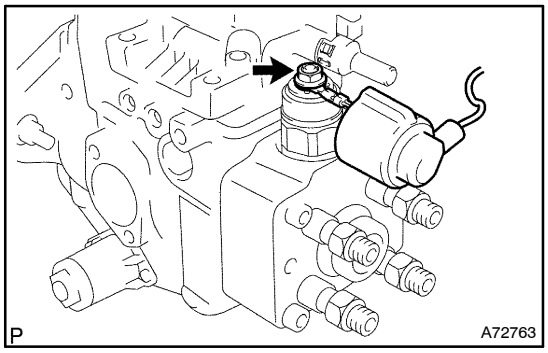
NOTICE:

Be careful of the strainer (2) installation direction.

(b) Install a new O–ring to the fuel cut solenoid.

(c) Install the fuel cut solenoid.

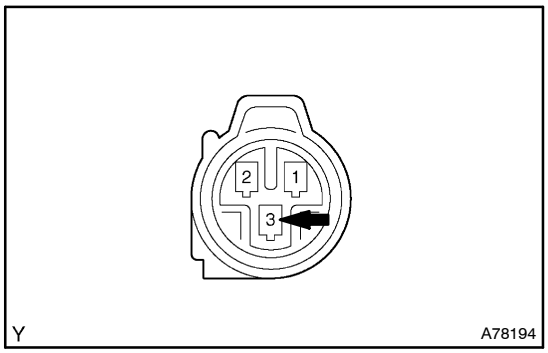
Torque: 22.1 N·m (225 kgf·cm, 16 ft·lbf)



(d) Install the lead wire to the fuel cut solenoid with the nut.

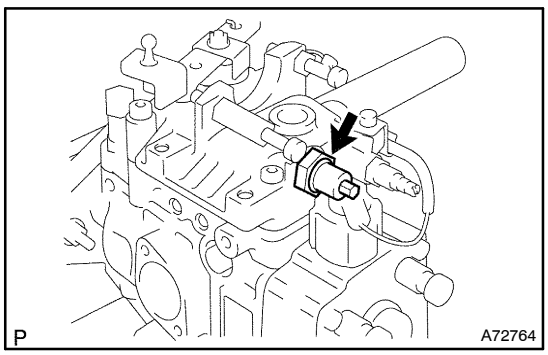
Torque: 1.7 N·m (17.5 kgf·cm, 15 in.·lbf)

(e) Install the dust cover to the fuel cut solenoid.



(f) Connect the lead wire of the engine speed sensor to terminal 3 of the connector.

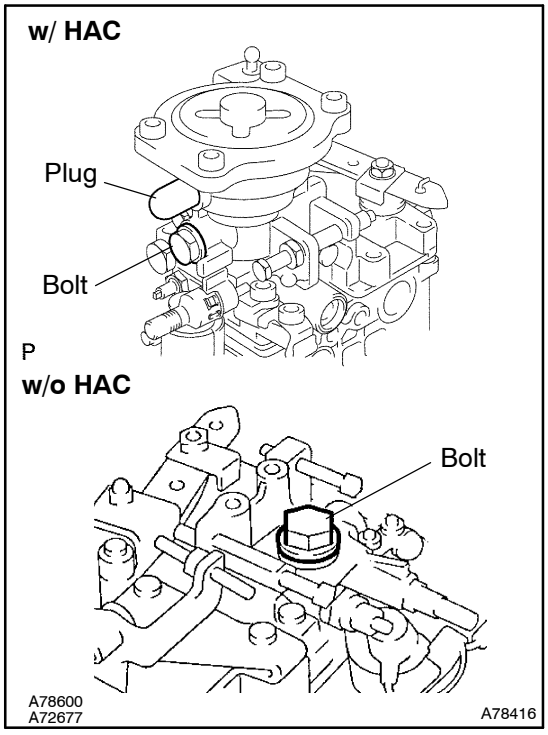
(g) Install the lead wires to the 2 wire clamps on the governor cover.



54. INSTALL DASH POT

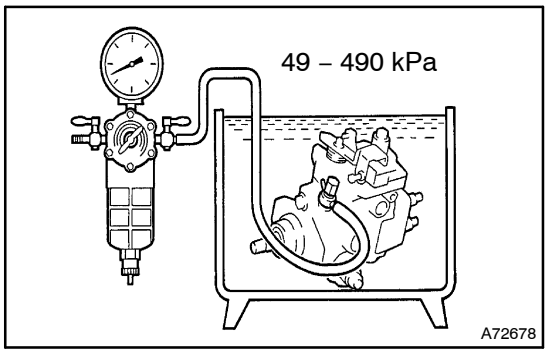
(a) Install a new gasket and the dash pot.

Torque: 11 N·m (115 kgf·cm, 8 ft·lbf)



55. INSPECT AIRTIGHTNESS

(a) Plug each port with a bolt and plug.



(b) Connect an air hose to the fuel inlet pipe and immerse the injection pump in diesel fuel.

(c) Apply 49 kPa (0.5 kgf/cm^2, 7 psi) of pressure and confirm that there are no leaks.

(d) Check that there is no leak with 490 kPa (5.0 kgf/cm^2, 71 psi) of pressure applied.

(e) Remove the bolt and plug from the overflow port and idle–up actuator.

56. REMOVE INJECTION PUMP ASSY FROM SST (STAND)

SST 09241–76022, 09245–54010

57. INSTALL DRIVE SHAFT KEY FOR SPLINE SHAFT