1411C–01

REPLACEMENT

1. REMOVE ENGINE UNDER COVER SUB–ASSY NO.1
2. DRAIN ENGINE COOLANT (See page 16–18)
3. REMOVE AIR CLEANER ASSY (See page 14–91)
4. REMOVE RADIATOR SUPPORT SEAL UPPER
5. REMOVE RADIATOR HOSE NO.1
6. REMOVE VANE PUMP V BELT (See page 14–77)
7. REMOVE V (COOLER COMPRESSOR TO CRANKSHAFT PULLEY) BELT NO.1 (W/ AIR CONDITIONING) (See page 14–77)
8. REMOVE FAN AND GENERATOR V BELT (W/O AIR CONDITIONING) (See page 14–77)

HINT:

Loosen the 4 fan pulley nuts.

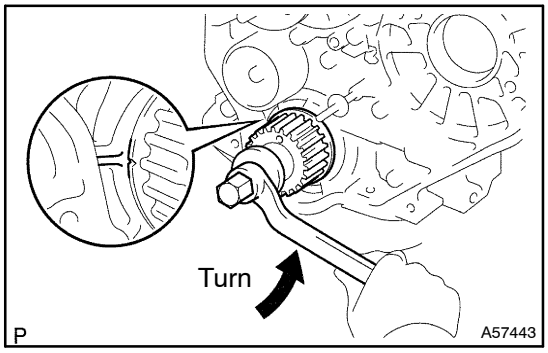
9. REMOVE FAN AND GENERATOR V BELT (W/ AIR CONDITIONING) (See page 14–77)

HINT:

Loosen the 4 fan pulley nuts.

10. REMOVE FLUID COUPLING ASSY (See page 14–99)
11. REMOVE FAN SHROUD
12. REMOVE IDLE PULLEY BRACKET (W/ AIR CONDITIONING)
13. SEPARATE COMPRESSOR AND MAGNETIC CLUTCH (W/ AIR CONDITIONING) (See page 14–91)
14. REMOVE COMPRESSOR MOUNTING BRACKET NO.1 (W/ AIR CONDITIONING)
15. REMOVE VANE PUMP DRIVE PULLEY (W/O AIR CONDITIONING) (See page 14–99)
16. REMOVE VANE PUMP DRIVE PULLEY (W/ AIR CONDITIONING) (See page 14–99)
17. REMOVE CRANKSHAFT PULLEY (See page 14–99)

    SST 09213–54015 (91651–60855), 09330–00021, 09950–50013 (09951–05010, 09952–05010, 09953–05010, 09953–05020, 09954–05030)
18. REMOVE RADIATOR HOSE HOSE CLAMP
19. REMOVE TIMING CHAIN OR BELT COVER SUB–ASSY (See page 14–99)
20. REMOVE TIMING BELT GUIDE
21. SET NO.1 CYLINDER TO TDC/COMPRESSION (See page 14–99)
22. REMOVE TIMING BELT (See page 14–99)
23. REMOVE INTAKE PIPE
24. REMOVE CYLINDER HEAD COVER SUB–ASSY (See page 14–79)



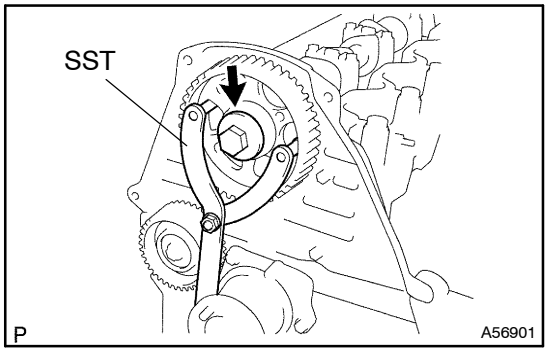
25. REMOVE CAMSHAFT TIMING PULLEY

(a) Set the No. 1 cylinder to approx. 90° BTDC/compression.

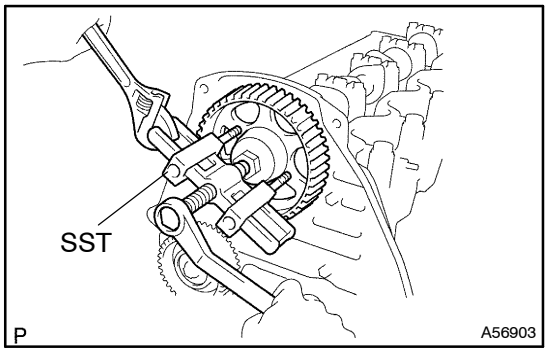
HINT:

Set the No.1 cylinder to 90° BTDC/compression to avoid interference with the piston top and valve head.

(1) Using the crankshaft pulley bolt, turn the crankshaft 90° counterclockwise, and put the timing mark of the crankshaft timing pulley with the protrusion of the timing gear case.



(b) Using SST, loosen the pulley bolt.
SST 09960–10010 (09962–01000, 09963–01000)



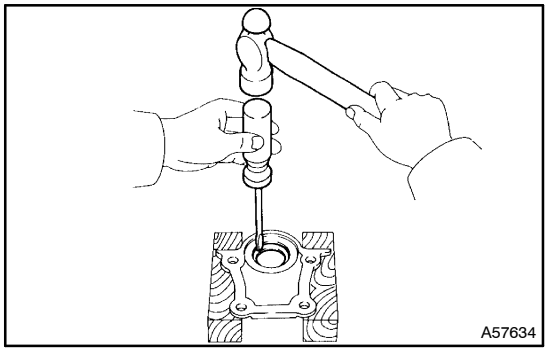
(c) Using SST, separate the timing pulley from the camshaft.
SST 09950–50013 (09951–05010, 09952–05010, 09953–05010, 09954–05021)
(d) Remove the pulley bolt and timing pulley.
(e) Remove the timing gear woodruff key.

26. REMOVE TIMING BELT NO.2 COVER

(a) Remove the 4 bolts and timing belt cover.

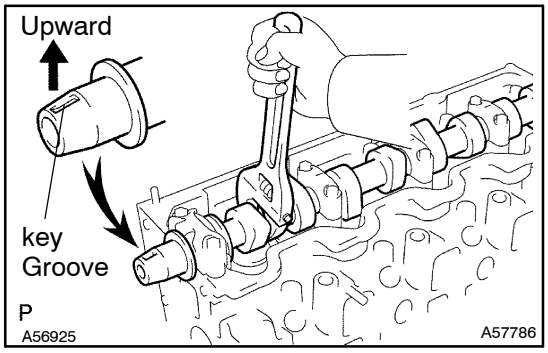
27. REMOVE CAMSHAFT OIL SEAL RETAINER

(a) Remove the 4 bolts, retainer and gasket.



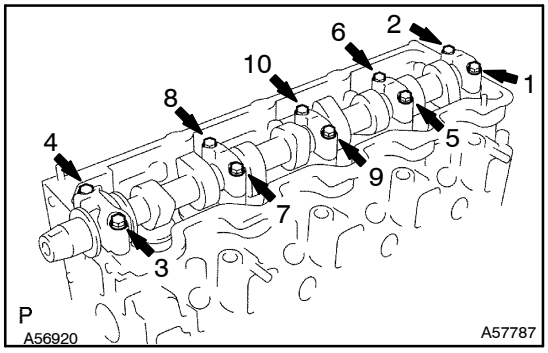
28. REMOVE OIL SEAL RETAINER, NO.2 OIL SEAL

(1) Using a screwdriver and hammer, tap out the oil seal.



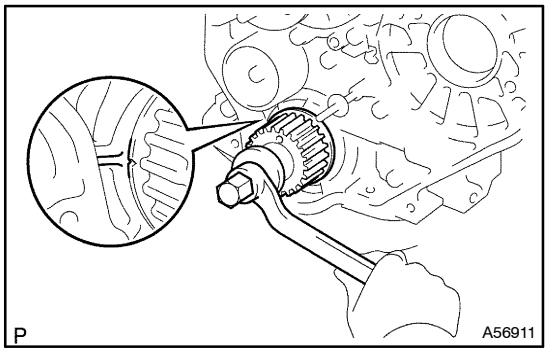
29. REMOVE CAMSHAFT

(a) Set the key groove of the camshaft, facing upward by turning the camshaft with a wrench.



(b) Uniformly loosen and remove the 10 bearing cap bolts, in several passes, in the sequence shown.

(c) Remove the 5 bearing caps and camshaft.



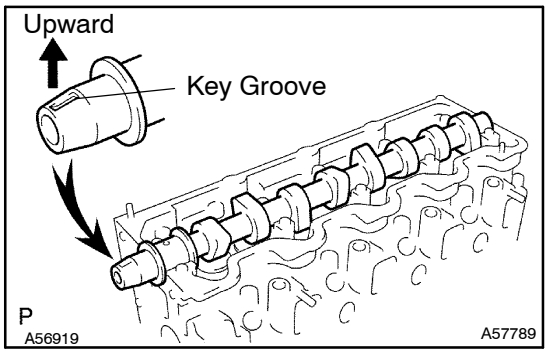
30. INSTALL CAMSHAFT

(a) Set the No. 1 cylinder to 90° BTDC/compression.

HINT:

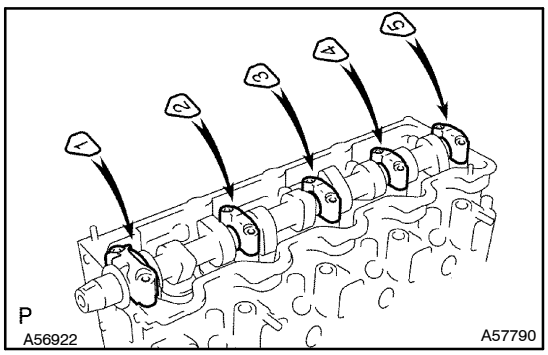
Set the No. 1 cylinder to 90° BTDC/compression to avoid interference with the piston top and valve head.

(1) Using the crankshaft pulley bolt, turn the crankshaft, and put the timing mark of the crankshaft timing pulley with the protrusion of the timing gear case.

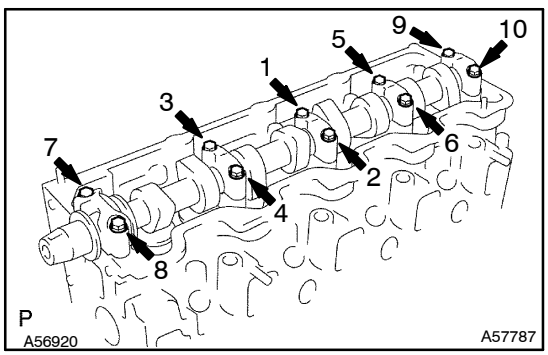


(b) Install the camshaft.

(1) Place the camshaft on the cylinder head, facing the key groove upward.



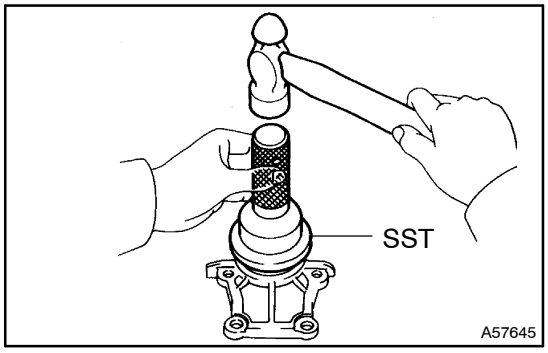
(2) Install the 5 bearing caps in their proper locations.



(3) Apply a light coat of engine oil on the threads and under the heads of the bearing cap bolts.

(4) Install and uniformly tighten the 10 bearing cap bolts, in several passes, in the sequence shown.

Torque: 25 N·m (255 kgf·cm, 18 ft·lbf)



31. INSTALL OIL SEAL RETAINER, NO.2 OIL SEAL

(a) Using SST and a hammer, tap in a new oil seal until its surface is flush with the oil seal retainer edge.
SST 09223–46011

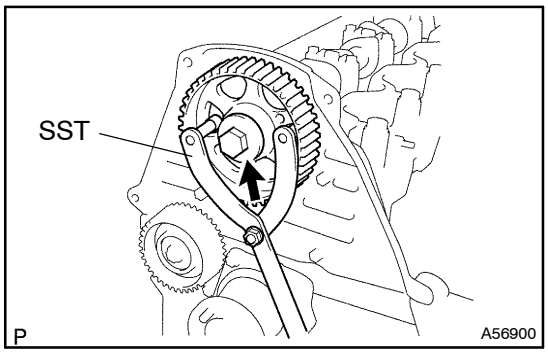
(b) Apply MP grease to the oil seal lip.

32. INSTALL CAMSHAFT OIL SEAL RETAINER

(a) Install a new gasket and the retainer with the 4 bolts.
Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)

33. INSTALL TIMING BELT NO.2 COVER

(a) Install the timing belt cover with the 4 bolts.
Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)



34. INSTALL CAMSHAFT TIMING PULLEY

(a) Install the woodruff key to the key groove of the camshaft.

(b) Align the pulley set key with the timing mark outward.

(c) Using SST, install the pulley with the bolt.
SST 09960–10010 (09962–01000, 09963–01000)
Torque: 98 N·m (1,000 kgf·cm, 72 ft·lbf)

35. INSPECT VALVE CLEARANCE (See page 14–79)

36. ADJUST VALVE CLEARANCE (See page 14–79)
SST 09248–64011

37. INSTALL CYLINDER HEAD COVER SUB–ASSY (See page 14–79)

38. INSTALL INTAKE PIPE (See page 10–19)

39. INSPECT TIMING BELT (See page 14–99)

40. INSPECT TIMING BELT IDLER SUB–ASSY NO.1 (See page 14–99)

41. INSPECT IDLER TENSION SPRING (See page 14–99)

42. INSPECT WATER PUMP ASSY (See page 14–99)

43. SET NO.1 CYLINDER TO TDC/COMPRESSION (See page 14–99)

44. INSTALL TIMING BELT (See page 14–99)
SST 09960–10010 (09962–01000, 09963–01000)

45. CHECK VALVE TIMING (See page 14–99)

46. INSTALL TIMING BELT GUIDE (See page 14–99)

47. INSTALL TIMING CHAIN OR BELT COVER SUB–ASSY (See page 14–99)

48. INSTALL RADIATOR HOSE HOSE CLAMP (See page 14–99)

49. INSTALL CRANKSHAFT PULLEY (See page 14–99)
SST 09213–54015 (91651–60855), 09330–00021

50. INSTALL VANE PUMP DRIVE PULLEY (W/O AIR CONDITIONING) (See page 14–99)

51. INSTALL VANE PUMP DRIVE PULLEY (W/ AIR CONDITIONING) (See page 14–99)

52. INSTALL COMPRESSOR MOUNTING BRACKET NO.1 (W/ AIR CONDITIONING) (See page 14–91)
53. INSTALL COMPRESSOR AND MAGNETIC CLUTCH (W/ AIR CONDITIONING) (See page 14–91)
54. INSTALL IDLE PULLEY BRACKET (W/ AIR CONDITIONING) (See page 14–91)
55. INSTALL FAN SHROUD (See page 16–20)
56. TEMPORARILY TIGHTEN FLUID COUPLING ASSY (See page 14–99)
57. INSTALL FAN AND GENERATOR V BELT (W/O AIR CONDITIONING) (See page 14–77)
58. INSTALL FAN AND GENERATOR V BELT (W/ AIR CONDITIONING) (See page 14–77)
59. TIGHTEN FLUID COUPLING ASSY (See page 14–99)
60. INSTALL V (COOLER COMPRESSOR TO CRANKSHAFT PULLEY) BELT NO.1 (W/ AIR CONDITIONING) (See page 14–91)
61. INSTALL VANE PUMP V BELT (See page 14–91)
62. INSTALL AIR CLEANER ASSY (See page 14–91)
63. ADD ENGINE COOLANT (See page 16–18)
64. CHECK FOR ENGINE COOLANT LEAKS (See page 16–18)
65. INSTALL ENGINE UNDER COVER SUB–ASSY NO.1 (See page 14–91)