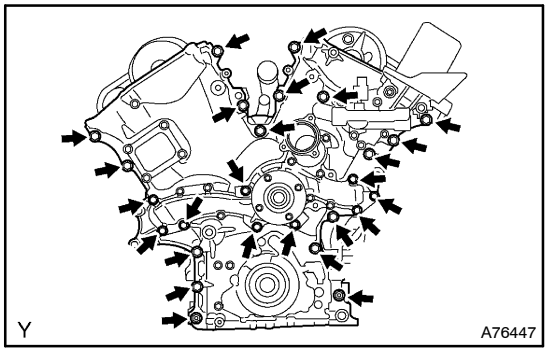
170DP–02

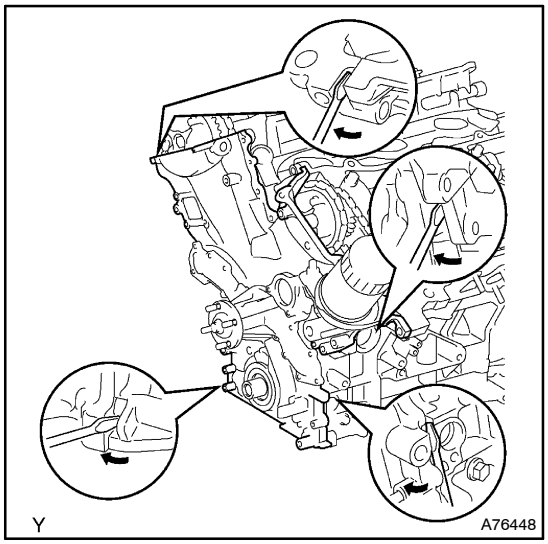
REPLACEMENT

1. REMOVE POWER STEERING LINK ASSY (See Pub. No. RM990E on page 51–42)
2. REMOVE DIFFERENTIAL CARRIER ASSY FRONT (See Pub. No. RM990E on page 29–13)
3. DRAIN ENGINE COOLANT (See page 16–5)
4. DRAIN ENGINE OIL (See page 17–14)
5. REMOVE BATTERY
6. REMOVE V–BANK COVER (See page 10–7)
7. REMOVE RADIATOR SUPPORT SEAL UPPER
(a) Remove the 11 clips and radiator support seal upper.
8. LOOSEN FAN W/ FLUID COUPLING (See page 16–6)
9. REMOVE FAN AND GENERATOR V BELT (See page 14–5)
10. REMOVE FAN W/ FLUID COUPLING (See page 16–6)
11. DISCONNECT VENTILATION HOSE NO.2 (See page 10–7)
12. REMOVE AIR CLEANER ASSY (See page 10–7)
13. REMOVE OIL LEVEL GAUGE GUIDE
(a) Remove the oil level gauge.
(b) Remove the bolt and pull out the oil level gauge guide.
(c) Remove the O–ring from the oil level gauge guide.
14. REMOVE WATER INLET (See page 16–6)
15. SEPARATE VANE PUMP ASSY (See page 14–44)
16. REMOVE GENERATOR ASSY (See page 19–10)
17. SEPARATE COOLER COMPRESSOR ASSY (W/ AIR CONDITIONING) (See page 18–7)
18. REMOVE IDLER PULLEY ASSY (W/O AIR CONDITIONING)
(a) Remove the 3 bolts and idler pulley assy.
19. REMOVE V–RIBBED BELT TENSIONER ASSY (See page 14–44)
20. REMOVE IDLER PULLEY SUB–ASSY NO.2
(a) Remove the 2 bolts and 2 idler pulleys.
21. REMOVE IDLER PULLEY SUB–ASSY NO.1
(a) Remove the bolt and idler pulley.
22. REMOVE CRANKSHAFT PULLEY (See page 14–44)
SST 09213–54015 (91651–60855), 09330–00021, 09950–50013 (09951–05010, 09952–05010, 09953–05020, 09954–05030)
23. REMOVE OIL PAN SUB–ASSY NO.2 (See page 14–44)
SST 09032–00100
24. REMOVE OIL STRAINER SUB–ASSY (See page 14–44)
25. REMOVE ENGINE OIL LEVEL SENSOR (FOR EUROPE)
(a) Remove the 4 bolts, engine oil level sensor and gasket.
26. REMOVE OIL PAN SUB–ASSY (See page 14–44)
27. REMOVE INTAKE AIR SURGE TANK (See page 14–58)
28. REMOVE IGNITION COIL ASSY
29. REMOVE CYLINDER HEAD COVER SUB–ASSY RH (See page 14–58)
30. REMOVE CYLINDER HEAD COVER SUB–ASSY LH (See page 14–58)
31. REMOVE CAMSHAFT TIMING OIL CONTROL VALVE ASSY
(a) Disconnect the 2 oil control valve connectors.
(b) Remove the 2 bolts and 2 camshaft timing oil control valves.
32. REMOVE VVT SENSOR (See page 18–5)
33. REMOVE OIL FILTER BRACKET SUB–ASSY
(a) Remove the 3 bolts, 2 nuts, oil filter bracket and gasket.



34. REMOVE TIMING CHAIN COVER SUB–ASSY

(a) Remove the 24 bolts and 2 nuts.

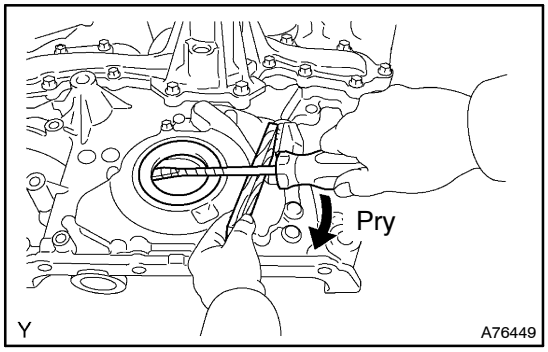


(b) Remove the timing chain cover by prying between the timing chain cover and cylinder head or cylinder block with a screwdriver.

NOTICE:

Be careful not to damage the contact surfaces of the timing chain cover, cylinder block and cylinder head.

(c) Remove the O–ring from the LH cylinder head.

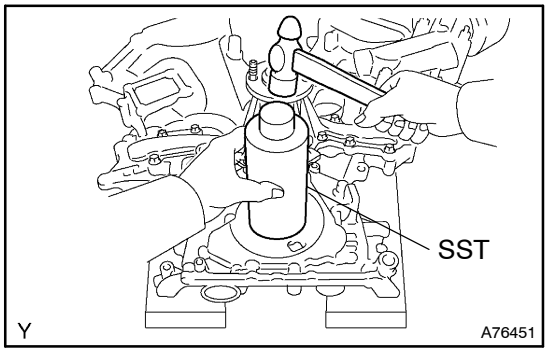


35. REMOVE TIMING CHAIN COVER OIL SEAL

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

NOTICE:

Be careful not to damage the oil pump assembly. Wrap a tip of the screwdriver with tape.



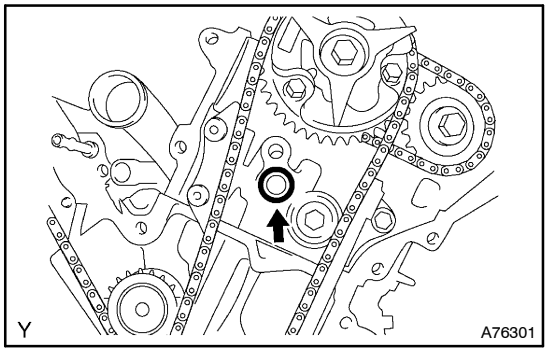
36. INSTALL TIMING CHAIN COVER OIL SEAL

(a) Using SST and a hammer, tap in a new oil seal until its surface is flush with the timing chain cover edge.
SST 09226–10010

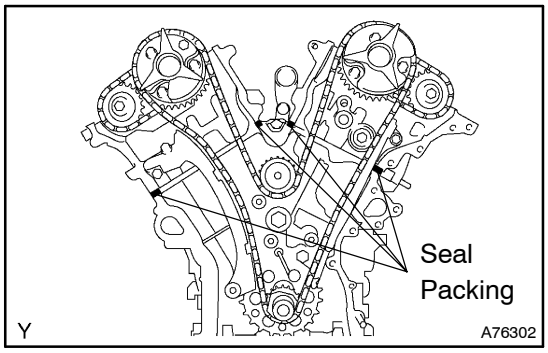
(b) Apply MP grease to the oil seal lip.

37. INSTALL TIMING CHAIN COVER SUB–ASSY

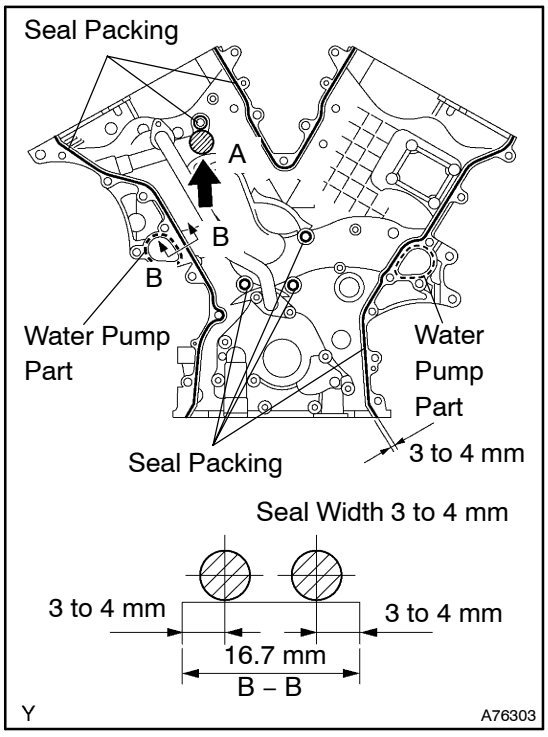
(a) Remove any old packing (FIPG) material and be careful not to drop any oil on the contact surfaces of the timing chain cover, cylinder head and cylinder block.



(b) Install a new O–ring to the LH cylinder head as shown in the illustration.



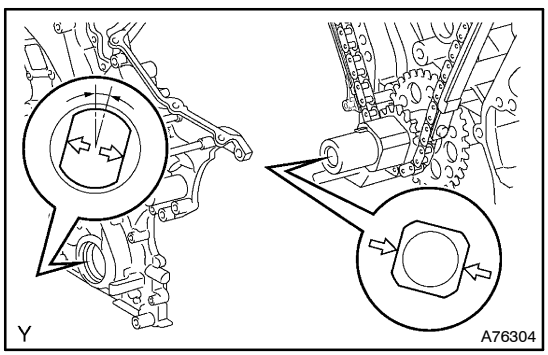
(c) Apply a continuous bead of the seal packing (diameter 3 to 4 mm (0.12 to 0.16 in.)) to 4 locations as shown in the illustration.
Seal packing: Part No. 08826–00080 or equivalent



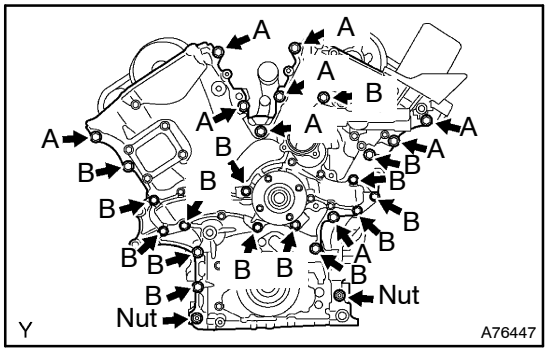
(d) Apply a continuous bead of the seal packing (diameter 3 to 4 mm (0.12 to 0.16 in.)) to the timing chain cover as shown in the illustration.
Seal packing:
Water pump part: Part No. 08826–00100 or equivalent
Other part: Part No. 08826–00080 or equivalent

NOTICE:

- **Install the timing chain cover within 3 minutes after applying seal packing. After installing it, timing chain cover bolts and nuts must be tightened within 15 minutes. Otherwise the seal packing must be removed and reapplied.**
- **Do not apply seal packing to the "A" as shown in the illustration.**



(e) Align the key way of the oil pump drive rotor with the rectangular portion of the crankshaft timing gear, and slide the timing chain cover into place.



(f) Install the timing chain cover with the 24 bolts and 2 nuts. Tighten the bolts and nuts uniformly in several steps.
Torque: 23 N·m (235 kgf·cm, 17 ft·lbf)

NOTICE:
Pay attention not to wrap the chain and slipper over the timing chain cover seal line.

HINT:
Each bolt length as follows:
A 25 mm (0.98 in.)
B 55 mm (2.17 in.)

38. INSTALL OIL FILTER BRACKET SUB–ASSY
(a) Install a new gasket and oil filter bracket with the 3 bolts and 2 nuts.
Torque: 19 N·m (194 kgf·cm, 14 ft·lbf)
39. INSTALL VVT SENSOR (See page 18–5)
40. INSTALL CAMSHAFT TIMING OIL CONTROL VALVE ASSY
(a) Insert the camshaft timing oil control valves to each cylinder head, and tighten the 2 bolts.
Torque: 9.0 N·m (92 kgf·cm, 80 in.·lbf)
41. INSTALL CYLINDER HEAD COVER SUB–ASSY LH (See page 14–58)
42. INSTALL CYLINDER HEAD COVER SUB–ASSY RH (See page 14–58)
43. INSTALL IGNITION COIL ASSY
Torque: 9.0 N·m (92 kgf·cm, 80 in.·lbf)
44. INSTALL INTAKE AIR SURGE TANK (See page 14–58)
45. INSTALL OIL PAN SUB–ASSY (See page 14–44)
46. INSTALL ENGINE OIL LEVEL SENSOR (FOR EUROPE)
(a) Install a new gasket and engine oil level sensor with the 4 bolts.
Torque: 7.0 N·m (71 kgf·cm, 62 in.·lbf)
47. INSTALL OIL STRAINER SUB–ASSY (See page 14–44)
48. INSTALL OIL PAN SUB–ASSY NO.2 (See page 14–44)
49. INSTALL CRANKSHAFT PULLEY (See page 14–44)
SST 09213–54015 (91651–60855), 09330–00021
50. INSTALL IDLER PULLEY SUB–ASSY NO.1 (See page 14–44)
51. INSTALL IDLER PULLEY SUB–ASSY NO.2 (See page 14–44)
52. INSTALL V–RIBBED BELT TENSIONER ASSY (See page 14–44)
53. INSTALL IDLER PULLEY ASSY (W/O AIR CONDITIONING)
(a) Install the idler pulley with the 3 bolts.
Torque: 25 N·m (255 kgf·cm, 18 ft·lbf)
54. INSTALL COOLER COMPRESSOR ASSY (W/ AIR CONDITIONING) (See page 18–7)
55. INSTALL GENERATOR ASSY (See page 19–10)
56. INSTALL VANE PUMP ASSY (See page 14–44)
57. INSTALL WATER INLET (See page 16–6)
58. INSTALL OIL LEVEL GAUGE GUIDE (See page 14–44)
59. INSTALL AIR CLEANER ASSY (See page 10–7)
60. CONNECT VENTILATION HOSE NO.2
61. INSTALL FAN W/ FLUID COUPLING (See page 16–6)
62. INSTALL FAN AND GENERATOR V BELT (See page 14–5)
63. FULLY TIGHTEN FAN W/ FLUID COUPLING (See page 16–6)
64. INSTALL RADIATOR SUPPORT SEAL UPPER
65. INSTALL BATTERY
66. INSTALL DIFFERENTIAL CARRIER ASSY FRONT (See Pub. No. RM990E on page 29–13)
67. INSTALL POWER STEERING LINK ASSY (See Pub. No. RM990E on page 51–42)

68. ADD ENGINE OIL (See page 17–14)

69. ADD ENGINE COOLANT (See page 16–5)

70. CHECK FOR ENGINE OIL LEAKS

71. CHECK FOR ENGINE COOLANT LEAKS (See page 16–1)

72. INSTALL V–BANK COVER

(a) Install the V–bank cover with the 2 nuts.
Torque: 7.5 N·m (76 kgf·cm, 66 in.·lbf)