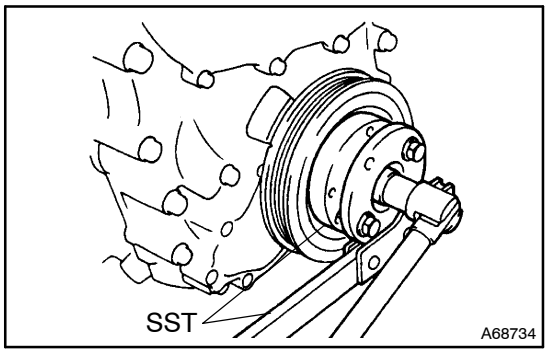
170C5–03

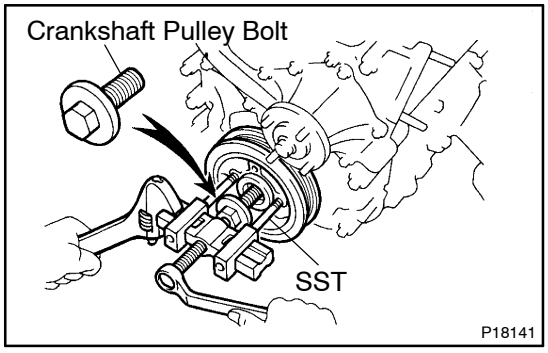
REPLACEMENT

1. WORK FOR PREVENTING GASOLINE FROM SPILLING OUT (See page 11–1)
2. REMOVE ENGINE UNDER COVER SUB–ASSY NO.1
(a) Remove the 4 bolts and engine under cover.
3. REMOVE ENGINE UNDER COVER ASSY REAR
(a) Remove the 4 bolts and engine under cover.
4. DRAIN ENGINE COOLANT (See page 16–7)
5. DRAIN ENGINE OIL (See page 17–15)
6. SEPARATE ACCELERATOR CONTROL CABLE ASSY
7. SEPARATE THROTTLE CABLE ASSY (A/T TRANSAXLE)
8. REMOVE AIR CLEANER CAP SUB–ASSY (See page 10–10)
9. REMOVE INTAKE AIR CONNECTOR SUB–ASSY (See page 10–10)
10. SEPARATE EXHAUST PIPE ASSY FRONT (See page 14–63)
11. REMOVE TRANSMISSION OIL LEVEL GAGE SUB–ASSY (A/T TRANSAXLE)
12. REMOVE TRANSMISSION OIL FILLER TUBE SUB–ASSY (A/T TRANSAXLE) (See page 40–6)
13. REMOVE VANE PUMP V BELT (See page 14–7)
14. REMOVE V (COOLER COMPRESSOR TO CRANKSHAFT PULLEY) BELT NO.1 (W/ AIR CONDITIONING) (See page 14–7)
15. REMOVE FLUID COUPLING ASSY (See page 16–5)
16. REMOVE FAN AND GENERATOR V BELT
17. REMOVE FAN PULLEY
18. REMOVE GENERATOR ASSY (See page 19–8)
19. REMOVE FAN BELT ADJUSTING BAR
(a) Remove the bolt and fan belt adjusting bar.
20. REMOVE GENERATOR BRACKET NO.1 (See page 18–6)
21. REMOVE CRANKSHAFT POSITION SENSOR (See page 18–6)
22. SEPARATE VANE PUMP ASSY (See page 14–63)
23. SEPARATE COMPRESSOR AND MAGNETIC CLUTCH (W/ AIR CONDITIONING)
(a) Disconnect the cooler compressor and magnetic clutch connector.
(b) Remove the 4 bolts installing the compressor and magnetic clutch.
HINT:
Hung up the hoses instead of detaching.
24. REMOVE COMPRESSOR MOUNTING BRACKET NO.1 (W/ AIR CONDITIONING)
(a) Remove the 4 bolts and compressor mounting bracket.
25. DISCONNECT HEATER WATER OUTLET HOSE A(FROM HEATER UNIT) (See page 14–63)
26. REMOVE EGR PIPE SUB–ASSY NO.1 (W/ EGR) (See page 14–63)
27. DISCONNECT VENTILATION HOSE
28. DISCONNECT VENTILATION HOSE NO.2
29. DISCONNECT FUEL VAPOR FEED HOSE ASSY
30. DISCONNECT WATER BY–PASS HOSE
31. DISCONNECT WATER BY–PASS HOSE NO.3
32. REMOVE SURGE TANK STAY NO.1 (See page 14–63)
33. REMOVE INTAKE AIR SURGE TANK (See page 14–63)
34. SEPARATE FUEL PIPE SUB–ASSY NO.1 (See page 14–63)
35. DISCONNECT FUEL HOSE NO.2
36. DISCONNECT RADIATOR HOSE NO.1
37. REMOVE WATER INLET (See page 16–9)
38. REMOVE THERMOSTAT
39. REMOVE IGNITION COIL BRACKET (LEADED GASOLINE) (See page 14–9)

40. REMOVE IGNITION COIL NO.1 (UNLEADED GASOLINE) (See page 14–9)
41. REMOVE CYLINDER HEAD COVER SUB–ASSY (See page 14–9)
42. SET NO. 1 CYLINDER TO TDC/COMPRESSION (See page 14–9)
43. REMOVE CHAIN TENSIONER ASSY NO.1 (See page 14–51)
44. REMOVE SEMICIRCULAR PLUG
45. REMOVE CAMSHAFT TIMING GEAR OR SPROCKET (See page 14–51)
46. REMOVE CAMSHAFT (See page 14–51)
47. REMOVE NO.2 CAMSHAFT (See page 14–51)
48. REMOVE CYLINDER HEAD GASKET (See page 14–63)
49. REMOVE VANE PUMP DRIVE PULLEY
(a) Remove the 4 bolts and vane pump drive pulley.
50. REMOVE VANE PUMP DRIVE PULLEY SPACER (W/O AIR CONDITIONING)
51. CRANKSHAFT PULLEY (W/ AIR CONDITIONING)

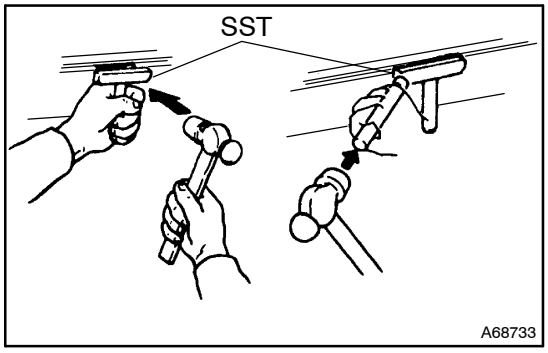


52. REMOVE CRANKSHAFT PULLEY
(a) Hold the crankshaft pulley with SST, loosen the crankshaft pulley bolt.



(b) Using SST, remove the crankshaft pulley.

53. REMOVE DIFFERENTIAL CARRIER ASSY FRONT (See page 29–13)
54. REMOVE STIFFENER PLATE RH (MTM) (M/T TRANSAXLE)
(a) Remove the 4 bolts and stiffener plate.
55. REMOVE STIFFENER PLATE RH (ATM) (A/T TRANSAXLE)
(a) Remove the 4 bolts and stiffener plate.
56. REMOVE STIFFENER PLATE LH (MTM) (M/T TRANSAXLE)
(a) Remove the 4 bolts and stiffener plate.
57. REMOVE STIFFENER PLATE LH (ATM) (A/T TRANSAXLE)
(a) Remove the 4 bolts and stiffener plate.
58. REMOVE FLYWHEEL HOUSING UNDER COVER
59. REMOVE FLYWHEEL HOUSING DUST SEAL

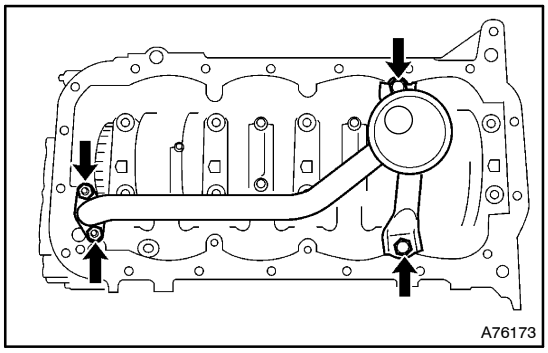


60. REMOVE OIL PAN SUB–ASSY

(a) Remove the 16 bolts and 2 nuts.

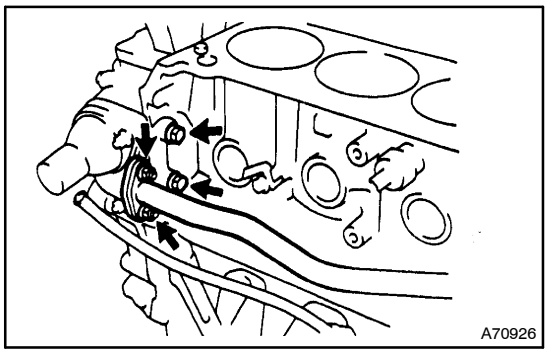
(b) Insert the blade of SST between the cylinder block and oil pan, cat off applied sealer and remove the oil pan.
SST 09032–00100

NOTICE:
Be careful not to damage the oil pan flanges of the oil pan and cylinder block.



61. REMOVE OIL STRAINER SUB–ASSY

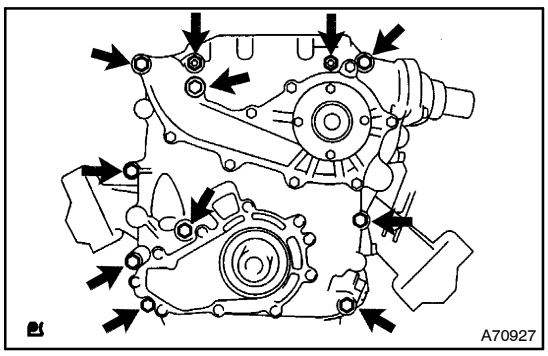
(a) Remove the bolt, 2 nuts, oil strainer and gasket.



62. REMOVE TIMING GEAR CASE SUB–ASSY

(a) Remove the 2 water by–pass pipe nuts.

(b) Remove the 2 timing gear case rear bolts.

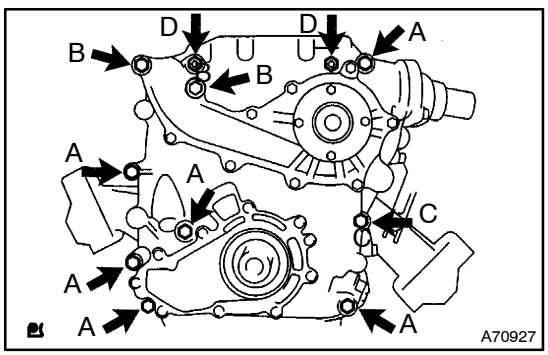


(c) Remove the 8 bolts and 2 nuts.

(d) Using a plastic–faced hammer, loosen the timing gear case and remove the timing gear case and 3 gaskets.

63. REMOVE CHAIN SUB–ASSY

64. INSTALL CHAIN SUB–ASSY (See page 14–41)



65. INSTALL TIMING GEAR CASE SUB–ASSY

(a) Install 3 gaskets to the cylinder block.

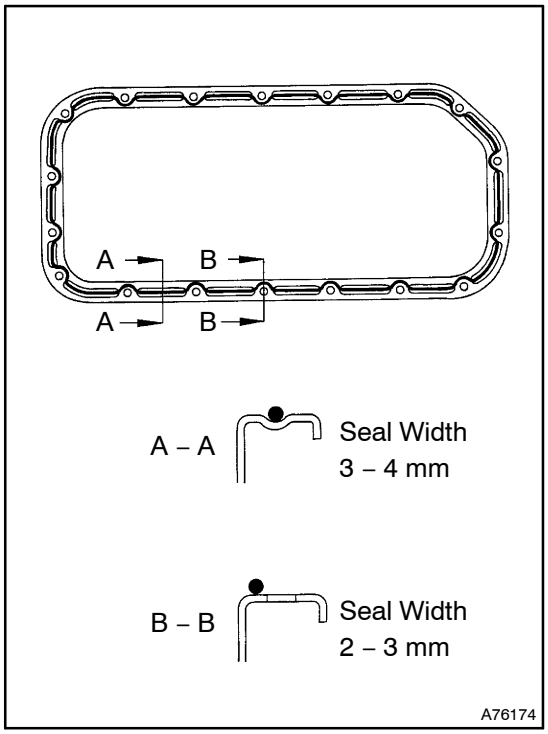
(b) Install the timing gear case with the 8 bolts and 2 nuts.
Torque:
20 N·m (200 kgf·cm, 14 ft·lbf) for bolt A
25 N·m (250 kgf·cm, 18 ft·lbf) for bolt B
44 N·m (440 kgf·cm, 32 ft·lbf) for bolt C
20 N·m (200 kgf·cm, 14 ft·lbf) for nut D

(c) Install the 2 timing gear case rear bolts.
Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)

(d) Install the 2 water by–pass pipe nuts.
Torque: 20 N·m (200 kgf·cm, 14 ft·lbf)

66. INSTALL TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL (See page 14–68)
SST 09223–50010

67. INSTALL OIL STRAINER SUB–ASSY
(a) Install a new gasket and the oil strainer with the 2 bolts and 2 nuts.
Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)

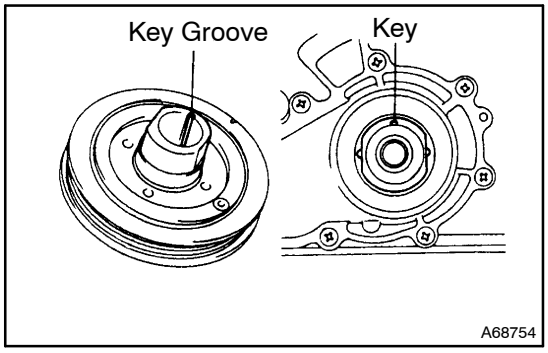


68. INSTALL OIL PAN SUB–ASSY
(a) Apply seal packing in the shape of bend (diameter 2 – 3 mm (0.08 – 0.12 in.) or 3 – 4 (0.12 – 0.16 in.)) the places as shown in the illustration.
Seal packing: Part No. 08826–00080 or equivalent

NOTICE:
- **Remove any oil from the contact surface**
- **Install the oil pan within 3 minutes after applying seal packing.**
- **Do not put into engine oil within 4 hours after installing.**

(b) Remove any old packing (FIPG) material and be careful not to drop any oil on the contact surfaces of the oil pan and cylinder block.
(c) Install the oil pan with the 16 bolts and 2 nuts.
Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)

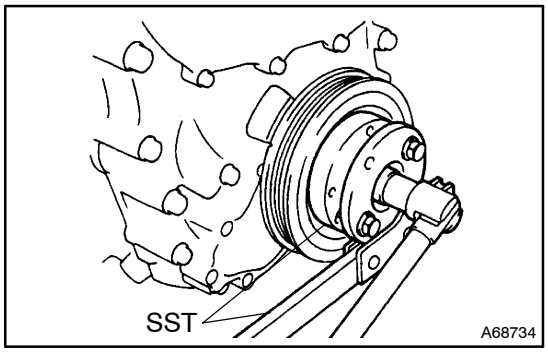
69. INSTALL FLYWHEEL HOUSING DUST SEAL
70. INSTALL FLYWHEEL HOUSING UNDER COVER
71. INSTALL STIFFENER PLATE LH (MTM) (M/T TRANSAXLE)
(a) Install the stiffener plate with the 4 bolts.
Torque: 37 N·m (377 kgf·cm, 27 ft·lbf)
72. INSTALL STIFFENER PLATE LH (ATM) (A/T TRANSAXLE)
(a) Install the stiffener plate with the 4 bolts.
Torque: 37 N·m (377 kgf·cm, 27 ft·lbf)
73. INSTALL STIFFENER PLATE RH (MTM) (M/T TRANSAXLE)
(a) Install the stiffener plate with the 4 bolts.
Torque: 37 N·m (377 kgf·cm, 27 ft·lbf)
74. INSTALL STIFFENER PLATE RH (ATM) (A/T TRANSAXLE)
(a) Install the stiffener plate with the 4 bolts.
Torque: 37 N·m (377 kgf·cm, 27 ft·lbf)
75. INSTALL DIFFERENTIAL CARRIER ASSY FRONT (See page 29–13)



76. INSTALL CRANKSHAFT PULLEY

(a) Install the crankshaft pulley key.

(b) Align the pulley set key with the key groove of the crankshaft pulley, and slide on the crankshaft pulley.



(c) Using SST, install and torque the crankshaft pulley bolt.
SST 09213–54015 (91651–60855), 09330–00021
Torque: 260 N·m (2,650 kgf·cm, 193 ft·lbf)

77. INSTALL VANE PUMP DRIVE PULLEY SPACER (W/O AIR CONDITIONING)
78. INSTALL CRANKSHAFT PULLEY (W/ AIR CONDITIONING)
79. INSTALL VANE PUMP DRIVE PULLEY

(a) Install the vane pump drive pulley with the 4 bolts.
Torque: 19 N·m (194 kgf·cm, 14 ft·lbf)

80. INSPECT CYLINDER HEAD SET BOLT (See page 14–63)
81. REMOVE CYLINDER HEAD GASKET (See page 14–63)
82. INSTALL NO.2 CAMSHAFT (See page 14–51)
83. INSTALL CAMSHAFT (See page 14–51)
84. SET NO. 1 CYLINDER TO TDC/COMPRESSION (See page 14–9)
85. INSTALL CAMSHAFT TIMING GEAR OR SPROCKET (See page 14–51)
86. INSTALL SEMICIRCULAR PLUG (See page 14–51)
87. INSTALL CHAIN TENSIONER ASSY NO.1 (See page 14–51)
88. INSTALL CYLINDER HEAD COVER SUB–ASSY (See page 14–9)
89. INSTALL IGNITION COIL BRACKET (LEADED GASOLINE) (See page 14–9)
90. INSTALL IGNITION COIL NO.1 (UNLEADED GASOLINE) (See page 14–9)
91. INSTALL THERMOSTAT (See page 16–9)
92. INSTALL WATER INLET (See page 16–9)
93. CONNECT RADIATOR HOSE NO.1
94. CONNECT FUEL HOSE NO.2
95. INSTALL FUEL PIPE SUB–ASSY NO.1 (See page 14–63)
96. INSTALL INTAKE AIR SURGE TANK (See page 14–63)
97. INSTALL SURGE TANK STAY NO.1 (See page 14–63)
98. CONNECT WATER BY–PASS HOSE NO.3
99. CONNECT WATER BY–PASS HOSE
100. CONNECT FUEL VAPOR FEED HOSE ASSY
101. CONNECT VENTILATION HOSE NO.2
102. CONNECT VENTILATION HOSE
103. INSTALL EGR PIPE SUB–ASSY NO.1 (W/ EGR) (See page 14–63)
104. CONNECT HEATER WATER OUTLET HOSE A(FROM HEATER UNIT)

105. INSTALL COMPRESSOR MOUNTING BRACKET NO.1 (W/ AIR CONDITIONING)

(a) Install the compressor mounting bracket with the 4 bolts.
Torque: 47 N·m (475 kgf·cm, 34 ft·lbf)

106. INSTALL COMPRESSOR AND MAGNETIC CLUTCH (W/ AIR CONDITIONING)

(a) Install the cooler compressor and magnetic clutch with the 4 bolts.
Torque: 25 N·m (250 kgf·cm, 18 ft·lbf)

(b) Connect the cooler compressor and magnetic clutch connector.

107. INSTALL VANE PUMP ASSY (See page 14–63)

108. INSTALL CRANKSHAFT POSITION SENSOR (See page 18–6)

109. INSTALL GENERATOR BRACKET NO.1 (See page 18–6)

110. INSTALL FAN BELT ADJUSTING BAR

(a) Temporary install the fan belt adjusting bar with the bolt.

111. INSTALL GENERATOR ASSY

(a) Temporary install the generator with the 2 bolts.

(b) Check that the generator moves smoothly.

(c) Install the engine wire with the nut.
Torque: 9.8 N·m (100 kgf·cm, 7 ft·lbf)

(d) Install the terminal cap.

(e) Connect the generator connector.

(f) TIghten the fan belt adjusting bar bolt.
Torque: 64 N·m (650 kgf·cm, 47 ft·lbf)

112. INSTALL FAN PULLEY

113. INSTALL FAN AND GENERATOR V BELT

114. INSTALL FLUID COUPLING ASSY (See page 16–5)

115. INSTALL V (COOLER COMPRESSOR TO CRANKSHAFT PULLEY) BELT NO.1 (W/ AIR CONDITIONING) (See page 14–7)

116. INSTALL VANE PUMP V BELT (See page 14–7)

117. INSPECT DRIVE BELT (See page 14–1)

118. INSTALL TRANSMISSION OIL FILLER TUBE SUB–ASSY (A/T TRANSAXLE) (See page 40–6)

119. INSTALL TRANSMISSION OIL LEVEL GAGE SUB–ASSY (A/T TRANSAXLE)

120. INSTALL EXHAUST PIPE ASSY FRONT (See page 14–63)

121. INSTALL INTAKE AIR CONNECTOR SUB–ASSY (See page 10–10)

122. INSTALL AIR CLEANER CAP SUB–ASSY

123. INSTALL THROTTLE CABLE ASSY (A/T TRANSAXLE)

124. INSTALL ACCELERATOR CONTROL CABLE ASSY

125. ADD ENGINE OIL (See page 17–15)

126. ADD ENGINE COOLANT (See page 16–7)

127. CHECK FOR ENGINE OIL LEAKS

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

129. CHECK FOR FUEL LEAKS (See page 11–4)

130. CHECK IDLE SPEED AND IGNITION TIMING (See page 14–1)

SST 09843–18030

131. INSPECT COMPRESSION (See page 14–1)

132. INSPECT CO/HC (See page 14–1)

133. INSTALL ENGINE UNDER COVER ASSY REAR

(a) Install the engine under cover with the 4 bolts.
Torque: 29 N·m (296 kgf·cm, 21 ft·lbf)

134. INSTALL ENGINE UNDER COVER SUB–ASSY NO.1

(a) Install the engine under cover with the 4 bolts.
Torque: 29 N·m (296 kgf·cm, 21 ft·lbf)