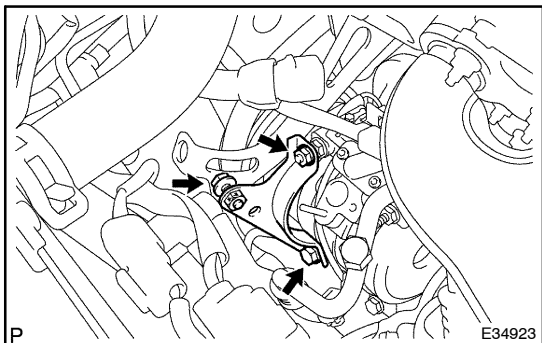


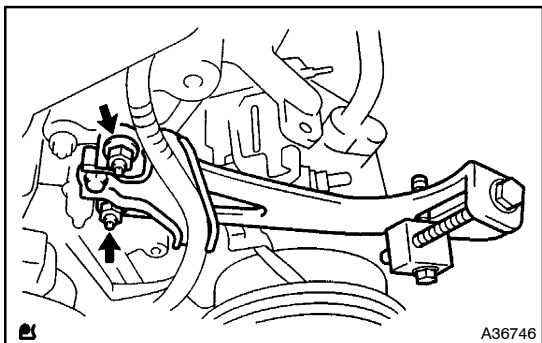
OIL PUMP ASSY (1MZ-FE)

REPLACEMENT

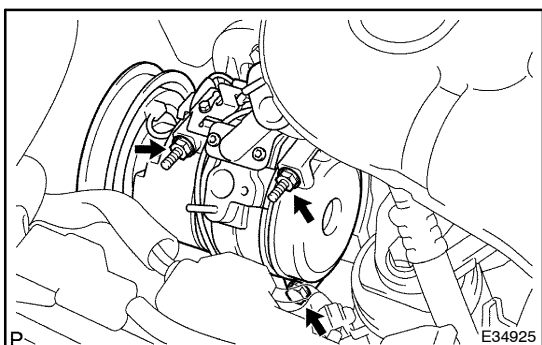
1. REMOVE FRONT WHEEL RH
2. REMOVE FRONT FENDER APRON SEAL RH
3. REMOVE ENGINE UNDER COVER RH
4. DRAIN ENGINE OIL
 - (a) Install a new gasket after draining engine oil.
Torque: 45 N·m (459 kgf·cm, 33 ft·bf)
5. REMOVE FRONT SUSPENSION UPPER BRACE CENTER
(W/ FRONT SUSPENSION BRACE UPPER CENTER)
6. REMOVE V (COOLER COMPRESSOR TO CRANKSHAFT PULLEY) BELT NO.1
(See page 4-141)
7. REMOVE VANE PUMP V BELT
(See page 4-141)
8. REMOVE ENGINE MOVING CONTROL ROD
(See page 4-156)
9. REMOVE ENGINE MOUNTING STAY NO.2 RH
(See page 4-156)
10. REMOVE GENERATOR BRACKET NO.2
11. REMOVE CRANKSHAFT PULLEY
(See page 4-174)
SST 09213-54015 (91651-60855), 09330-00021, 09950-50013 (09951-05010, 09952-05010, 09953-05010, 09954-05030)
12. REMOVE TIMING BELT NO.1 COVER
13. REMOVE TIMING BELT NO.2 COVER
(See page 4-174)
14. REMOVE TRANSVERSE ENGINE ENGINE MOUNTING BRACKET
15. REMOVE TIMING BELT GUIDE NO.2
16. REMOVE TIMING BELT
(See page 4-211)
17. REMOVE EXHAUST PIPE NO.1 SUPPORT BRACKET
18. REMOVE EXHAUST PIPE ASSY FRONT
19. REMOVE EXHAUST PIPE SUPPORT BRACKET NO.1

**20. SEPARATE COMPRESSOR AND MAGNETIC CLUTCH**

(a) Remove the 2 bolts, nut and drive belt adjusting bar bracket.



(b) Remove the 2 nuts, the generator bracket adjusting bar with wire harness clamp bracket.



(c) Disconnect the compressor, magnetic clutch connector and the wire harness clamp.

(d) Remove the 3 bolts, the compressor and magnetic clutch.

HINT:

Hung up the hoses instead of detaching.

21. REMOVE TIMING BELT IDLER SUB-ASSY NO.2

(See page 6-32)

22. REMOVE CAMSHAFT TIMING PULLEY

(See page 4-180)

SST 09960-10010 (09962-01000, 09963-01000), 09249-63010

23. REMOVE TIMING BELT IDLER SUB-ASSY NO.1

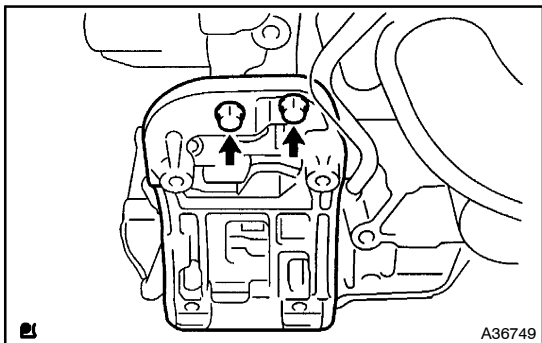
(a) Using a 10mm socket hexagon wrench, remove the timing belt idler sub-assembly No. 1 and the plate washer.

24. REMOVE CRANKSHAFT TIMING PULLEY

(See page 4-211)

SST 09950-50013 (09951-05010, 09952-05010, 09953-05020, 09954-05010)

25. REMOVE TIMING BELT NO.3 COVER

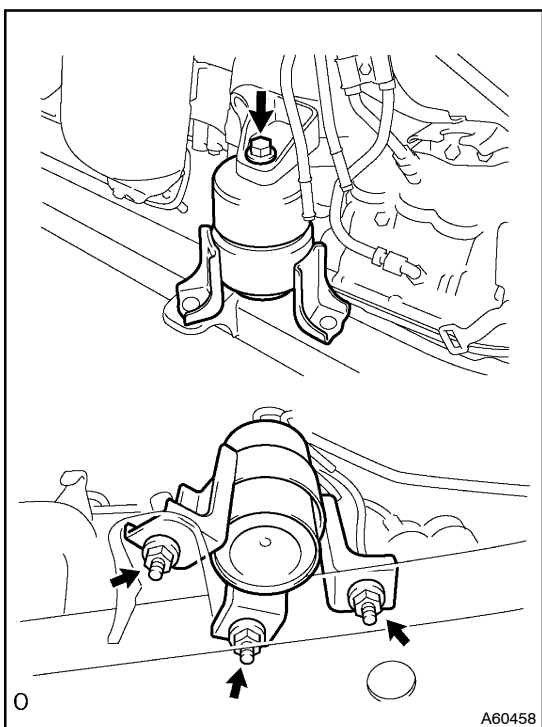


26. REMOVE COMPRESSOR MOUNTING BRACKET NO.1

- (a) Remove the 2 bolts and compressor mounting bracket No. 1.

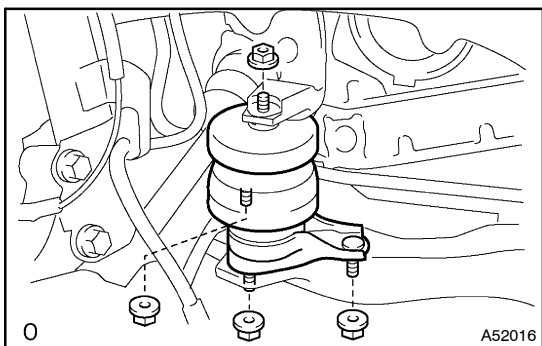
27. REMOVE OIL LEVEL GAGE GUIDE

- (a) Remove the bolt and oil level gage guide.



28. SEPARATE TRANSVERSE ENGINE ENGINE MOUNTING INSULATOR

- (a) Remove the 3 nuts and a bolt, and separate the engine mounting insulator front.

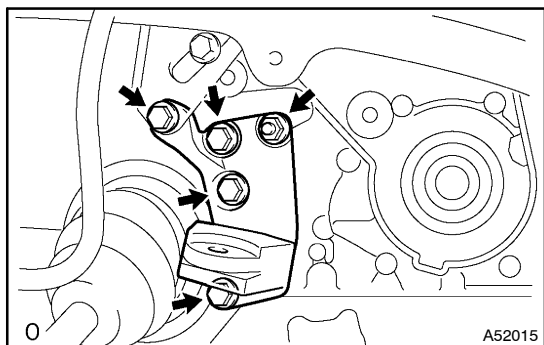


29. REMOVE TRANSVERSE ENGINE ENGINE MOUNTING INSULATOR

- (a) Remove the bolt and disconnect the power steering return hose clamp from the frame.
- (b) Remove the 4 nuts.
- (c) Place a wooden block between the jack and engine, and set the jack, then remove the engine mounting insulator.
- (d) Handle a jack up to remove the engine mounting insulator RH.

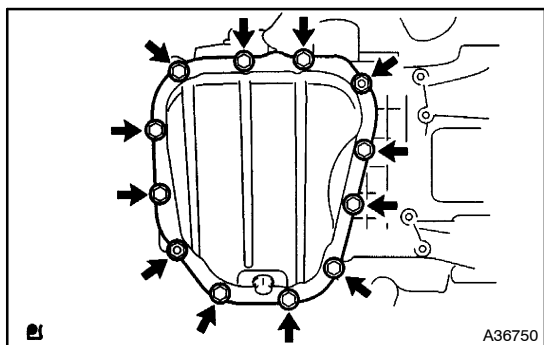
NOTICE:

Be careful not to damage the contact surfaces of the oil pan.



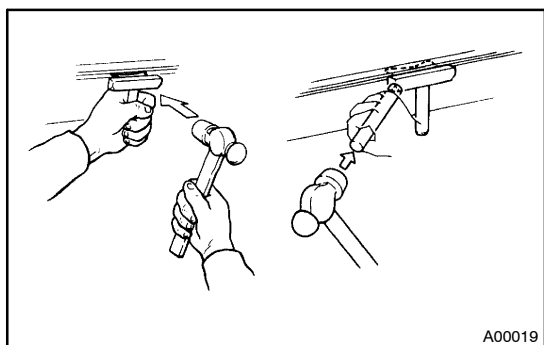
30. REMOVE TRANSVERSE ENGINE ENGINE MOUNTING BRACKET

- (a) Remove the 4 bolts, nut and bracket.



31. REMOVE OIL PAN SUB-ASSY NO.2

- (a) Remove the 10 bolts and 2 nuts.



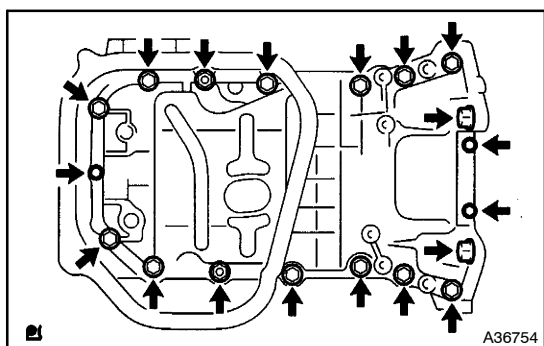
- (b) Using SST, remove the oil pan No. 2.
SST 09032-00100

NOTICE:

Be careful not to damage the oil pan No. 2 flange.

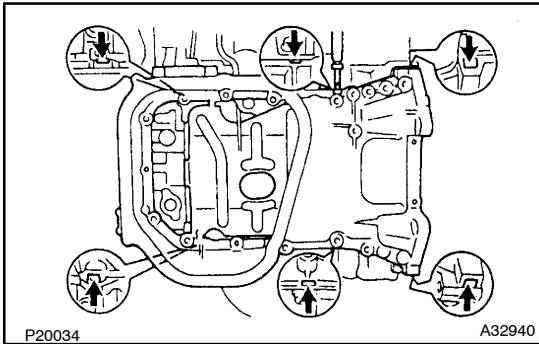
32. REMOVE OIL STRAINER SUB-ASSY

- (a) Remove the bolt, 2 nuts and oil strainer sub-assembly.



33. REMOVE OIL PAN SUB-ASSY

- (a) Remove the 17 bolts and 2 nuts.



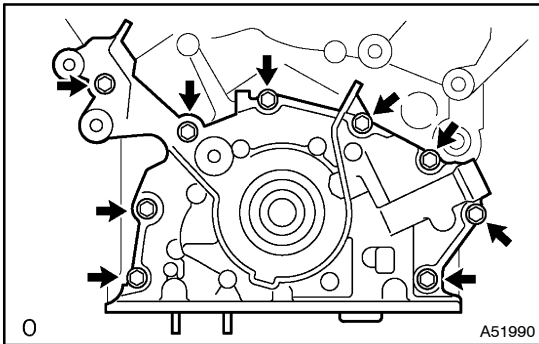
- (b) Using a screwdriver, remove the oil pan by prying the portions between the cylinder block and oil pan.

NOTICE:

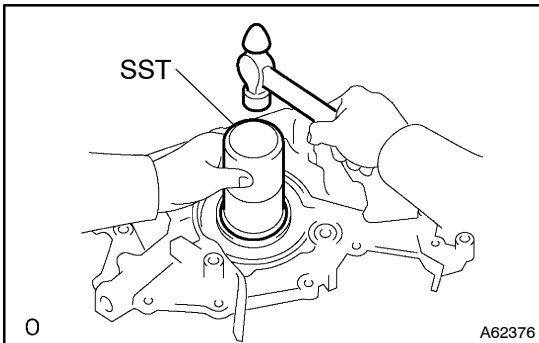
Be careful not to damage the contact surfaces of the cylinder block and oil pan.

34. REMOVE CRANK POSITION SENSOR

- (a) Disconnect the crank position sensor connector.
 (b) Remove the bolt and crank position sensor.

**35. REMOVE OIL PUMP ASSY**

- (a) Remove the 9 bolts, O-ring and oil pump.

**36. INSTALL OIL PUMP ASSY**

- (a) Using SST and a hammer, tap in a new oil seal until its surface is flush with the oil pump body edge.

SST 09223-00010

NOTICE:

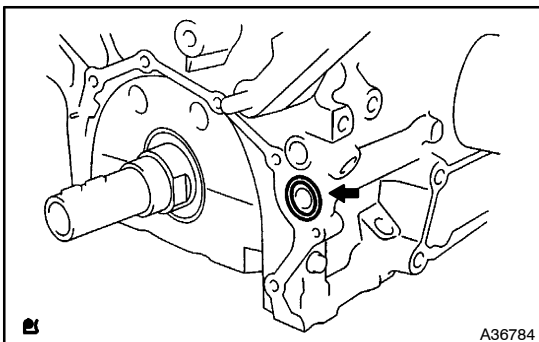
Be careful not to tap the oil seal slantingly.

- (b) Apply a small amount of MP grease to the oil seal lip.

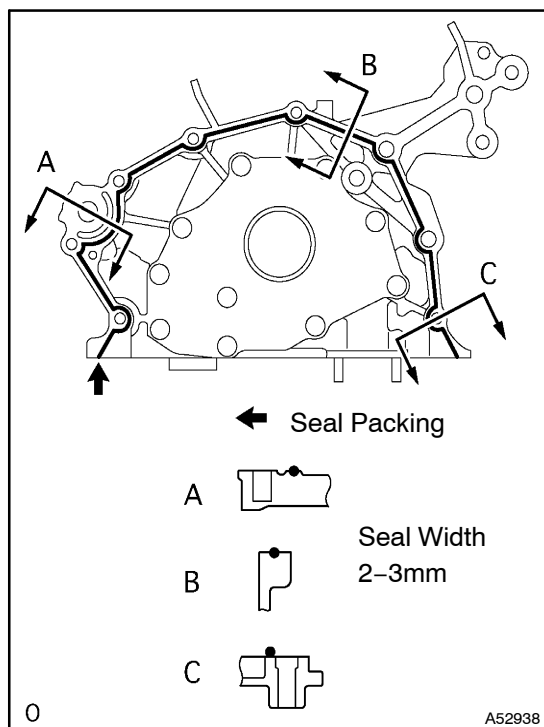
NOTICE:

Keep the lip off foreign materials.

- (c) Apply engine oil to the O-ring.



- (d) Install a new O-ring on the cylinder block.

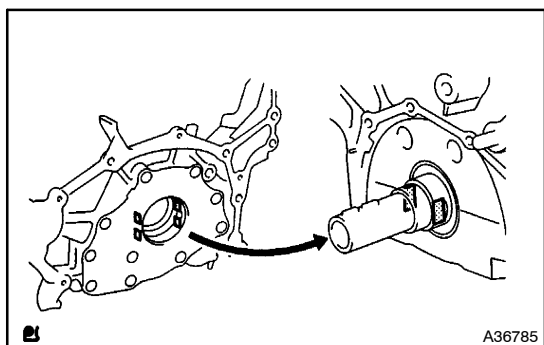


- (e) Apply seal packing to the oil pump assembly as shown in the illustration.

Seal packing: Part No. 08226-00080 or equivalent.

NOTICE:

- Install the oil pump assembly within 3 minutes after applying seal packing.
- Do not put into engine oil within 2 hours after installing.



- (f) Engage the spline teeth of the oil pump drive gear with the large teeth of the crankshaft, and slide the oil pump on the crankshaft.
- (g) Install the oil pump with the 9 bolts. Uniformly tighten the bolts in several passes.

Torque:

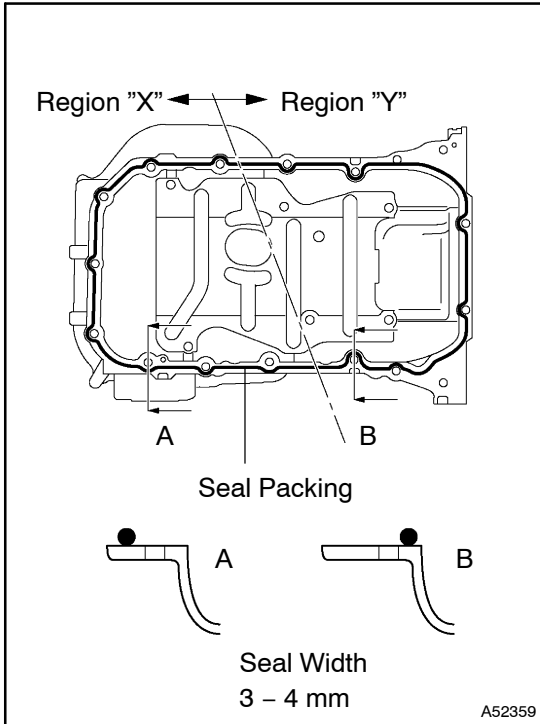
10 mm head 8 N·m (82 kgf·cm, 71 in·lbf)

12 mm head 20 N·m (199 kgf·cm, 14 ft·lbf)

14 mm head 43 N·m (439 kgf·cm, 32 ft·lbf)

37. INSTALL CRANK POSITION SENSOR

Torque: 8 N·m (82 kgf·cm, 71 in·lbf)



38. INSTALL OIL PAN SUB-ASSY

- (a) Apply seal packing to the oil pan as shown in the illustration.

Seal packing: Part No. 08226-00080 or equivalent.

NOTICE:

- Remove any oil from the contact surface.
- Apply seal packing to the outer side of the bolt hole in the region "X".
- Apply seal packing to the inner side of the bolt hole in the region "Y".
- Install the oil pan within 3 minutes after applying seal packing.
- Do not put into engine oil within 2 hours after installing.

- (b) Install the oil pan with the 17 bolts and 2 nuts.

Torque:

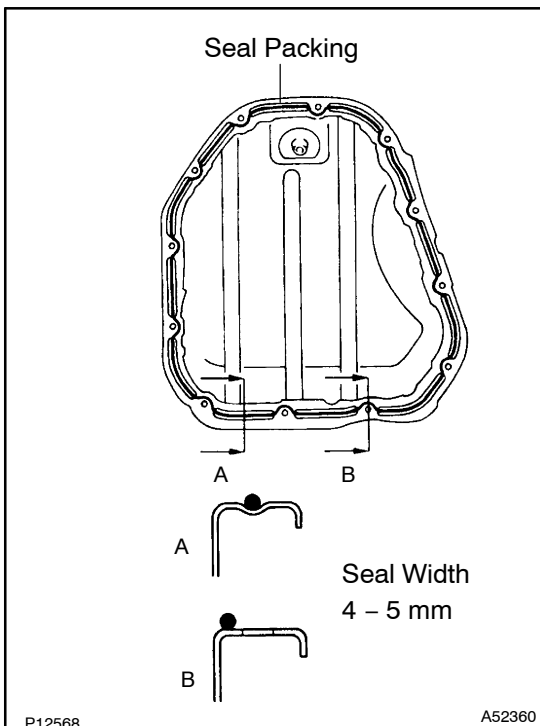
10 mm head 8 N·m (82 kgf·cm, 71 in.·lbf)

12 mm head 20 N·m (199 kgf·cm, 14 ft·lbf)

39. INSTALL OIL STRAINER SUB-ASSY

- (a) Install a new gasket and the oil strainer with the bolt and 2 nuts.

Torque: 8 N·m (82 kgf·cm, 71 in.·lbf)



40. INSTALL OIL PAN SUB-ASSY NO.2

- (a) Apply seal packing to the oil pan as shown in the illustration.

Seal packing: Part No. 08226-00080 or equivalent.

NOTICE:

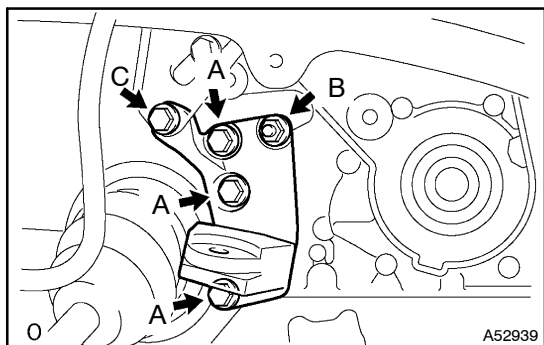
Apply seal packing to the inner side of the bolt hole.

- (b) Install oil pan No. 2.

Torque: 8 N·m (82 kgf·cm, 71 in.·lbf)

NOTICE:

- Remove any oil from the contact surface.
- Do not put into engine oil within 2 hours after installing.



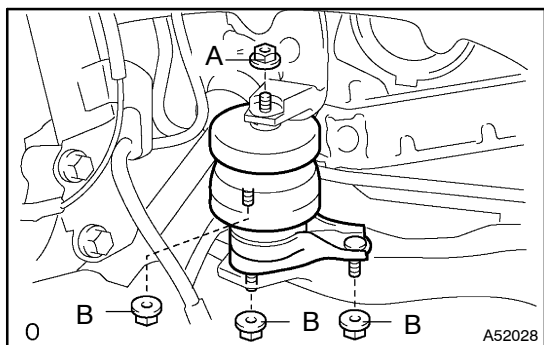
41. INSTALL TRANSVERSE ENGINE MOUNTING BRACKET

Torque:

Bolt A 54 N·m (550 kgf·cm, 40 ft·lbf)

Nut B 54 N·m (550 kgf·cm, 40 ft·lbf)

Bolt C 43 N·m (439 kgf·cm, 32 ft·lbf)

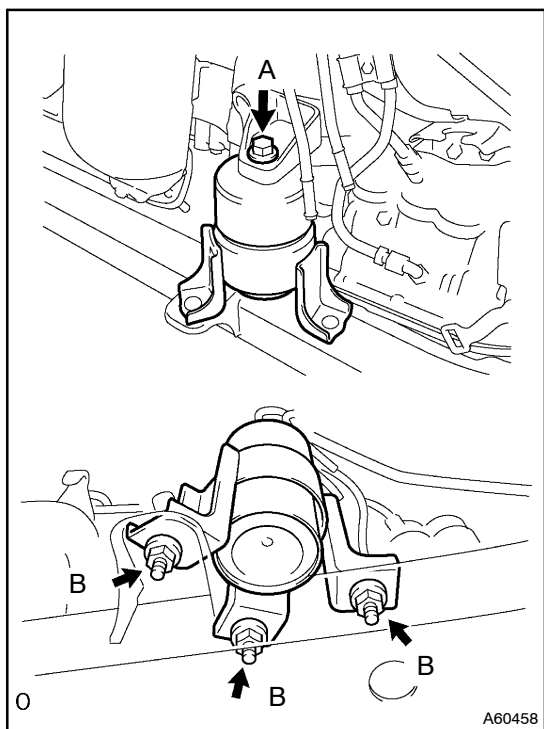


42. INSTALL TRANSVERSE ENGINE MOUNTING INSULATOR

Torque:

Nut A 95 N·m (969 kgf·cm, 70 ft·lbf)

Nut B 87 N·m (887 kgf·cm, 64 ft·lbf)



43. INSTALL TRANSVERSE ENGINE MOUNTING INSULATOR

Torque:

Bolt A 87 N·m (887 kgf·cm, 64 ft·lbf)

Nut B 52 N·m (531 kgf·cm, 38 ft·lbf)

44. INSTALL OIL LEVEL GAGE GUIDE

(a) Install a new O-ring, bolt and oil level gage guide.

Torque: 8 N·m (82 kgf·cm, 71 in·lbf)

45. INSTALL COMPRESSOR MOUNTING BRACKET NO.1

Torque: 25 N·m (250 kgf·cm, 18 ft·lbf)

46. INSTALL TIMING BELT NO.3 COVER

(See page 14-180)

47. INSTALL TIMING BELT IDLER SUB-ASSY NO.1

- (a) Using a 10mm hexagon wrench, install the plate washer and idler pulley with the pivot bolt.
Torque: 34 N·m (347 kgf·cm, 25 ft·lbf)

48. INSTALL TIMING BELT IDLER SUB-ASSY NO.2

(See page 4-32)

49. INSTALL CAMSHAFT TIMING PULLEY

(See page 4-180)

SST 09960-10010 (09962-01000, 09963-01000)

50. INSTALL COMPRESSOR AND MAGNETIC CLUTCH

Torque: 25 N·m (250 kgf·cm, 18 ft·lbf)

51. INSTALL EXHAUST PIPE SUPPORT BRACKET NO.1

(See page 4-156)

52. INSTALL EXHAUST PIPE ASSY FRONT

(See page 5-8)

53. INSTALL EXHAUST PIPE NO.1 SUPPORT BRACKET

(See page 5-8)

54. INSPECT TIMING BELT

(See page 4-174)

55. INSTALL TIMING BELT

(See page 4-211)

SST 09960-10010 (09962-01000, 09963-01000)

56. INSTALL CHAIN TENSIONER ASSY NO.1

(See page 4-174)

57. INSTALL TIMING BELT GUIDE NO.2**58. INSTALL TRANSVERSE ENGINE ENGINE MOUNTING BRACKET****59. INSTALL TIMING BELT NO.2 COVER**

(See page 4-174)

60. INSTALL TIMING BELT NO.1 COVER**61. INSTALL CRANKSHAFT PULLEY**

(See page 4-174)

SST 09213-54015 (91651-60855), 09330-00021

62. INSTALL GENERATOR BRACKET NO.2

Torque: 28 N·m (286 kgf·cm, 21 in·lbf)

63. INSTALL ENGINE MOUNTING STAY NO.2 RH

(See page 4-156)

64. INSTALL ENGINE MOVING CONTROL ROD

(See page 4-156)

65. INSTALL VANE PUMP V BELT

(See page 4-141)

66. INSTALL V (COOLER COMPRESSOR TO CRANKSHAFT PULLEY) BELT NO.1

(See page 4-141)

67. INSPECT DRIVE BELT DEFLECTION AND TENSION (REFERENCE) (See page 4-137)

**68. INSTALL FRONT SUSPENSION UPPER BRACE CENTER
(W/ FRONT SUSPENSION BRACE UPPER CENTER)**

Torque: 80 N·m (816 kgf·cm, 59 ft·lbf)

69. ADD ENGINE OIL

70. INSPECT OIL LEAK

71. INSTALL FRONT WHEEL RH

Torque: 103 N·m (1,051 kgf·cm, 76 ft·lbf)

72. CHECK EXHAUST GAS LEAK