141US–01

OVERHAUL

1. REMOVE OIL FILLER CAP SUB–ASSY

2. REMOVE CYLINDER HEAD COVER NO. 2

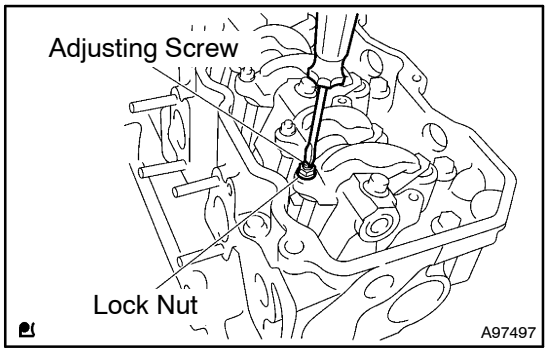
(a) Remove the 2 bolts and cover.

(b) Remove the cylinder head cover cushion rubber and 2 cylinder head cover stays from the cover.

3. REMOVE CYLINDER HEAD COVER SUB–ASSY

(a) Remove the 2 bolts and cover.

(b) Remove the 2 cylinder head cover spacers, 2 cylinder head cover cushions and cylinder head gasket from the cover.

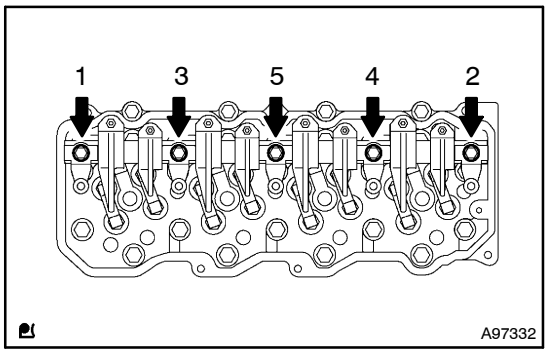


4. REMOVE VALVE ROCKER SHAFT SUB–ASSY NO.1

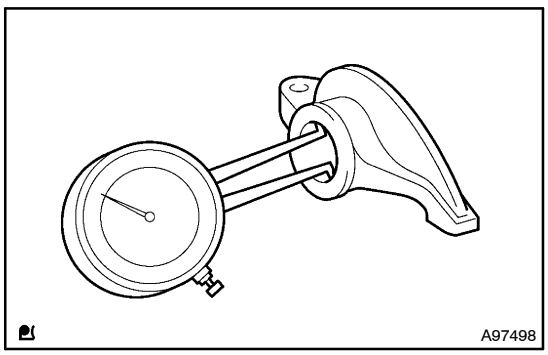
(a) Loosen the locks nut at the top of the rocker arms, then wind up the adjusting screws completely.

NOTICE:

If the adjusting screws are left unwound, the rocker shaft may bend when the rocker arm support bolts are loosened.



(b) Loosen the rocker arm support bolts in the order as shown in the illustration.



5. INSPECT VALVE ROCKER ARM OIL CLEARANCE

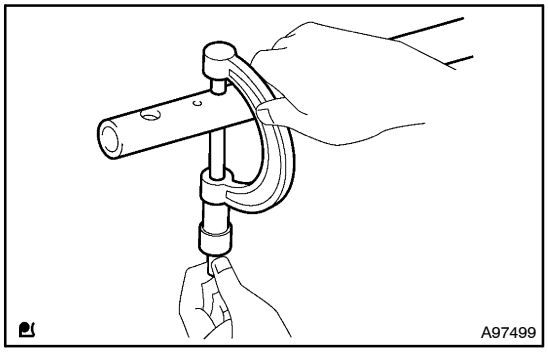
(a) Using a caliper gauge, measure the inside diameter of the rocker arm bush.

Standard bush inside diameter:
22.023 to 22.052 mm (0.8670 to 0.8681 in.)
Maximum bush inside diameter:
22.08 mm (0.8692 in.)

If the inside diameter is greater than the maximum, replace the bush.

HINT:

When installing a bush into the rocker arm, align the bush with the 2 oil holes of the rocker arm.

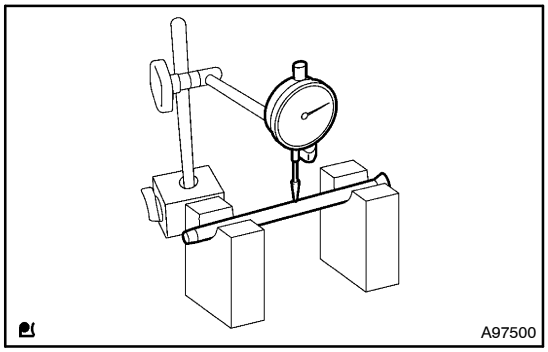


(b) Using a micrometer, measure the outside diameter of the rocker arm shaft.
Standard shaft diameter:
21.959 to 21.980 mm (0.8645 to 0.8653 in.)
Maximum shaft diameter:
21.92 mm (0.8630 in.)
If the outside diameter is less than the minimum, replace the rocker arm shaft and rocker arm.

(c) Subtract the valve rocker arm inside diameter measurement from the valve rocker shaft outside diameter measurement.
Standard oil clearance:
0.043 to 0.093 mm (0.0017 to 0.0036 in.)
Maximum oil clearance: 0.15 mm (0.6059 in.)
If the oil clearance is greater than the maximum, replace the rocker arm shaft and rocker arm bush.

6. REMOVE VALVE PUSH ROD

NOTICE:
Organize the parts so that each parts location can be remembered for reassembly.



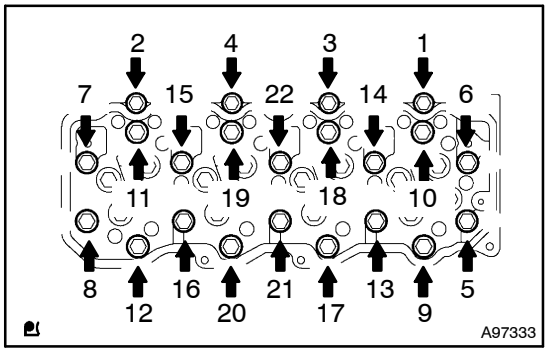
7. INSPECT VALVE PUSH ROD

(a) Place the push rod on V–blocks.

(b) Using a dial indicator, measure the circle runout at the center of the push rod.
Maximum circle runout: 0.30 mm (0.0118 in.)
If the circle runout is greater than the maximum, replace the push rod.

8. REMOVE VALVE BRIDGE

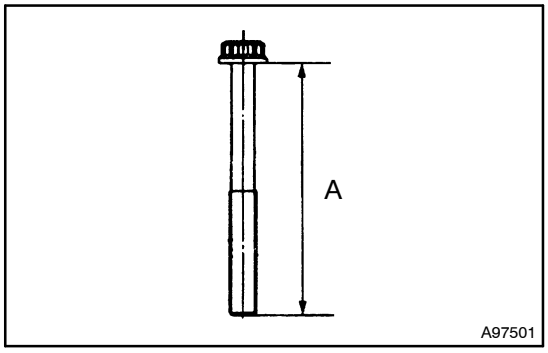
NOTICE:
Organize the parts so that each parts location can be remembered for reassembly.



9. REMOVE CYLINDER HEAD SUB–ASSY

(a) Remove the cylinder head bolts in the order as shown in the illustration.

(b) Lift and remove the cylinder head from the cylinder block.



10. INSPECT CYLINDER HEAD BOLT

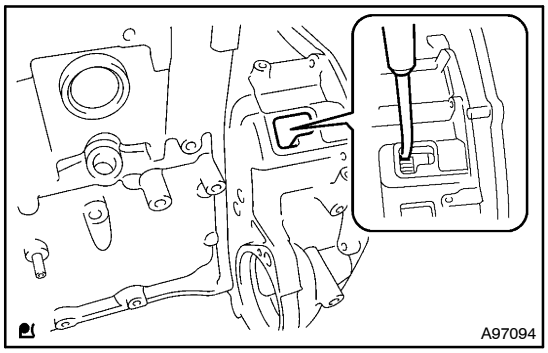
(a) Measure the length of the M12 head bolts No. 1 to No. 18.
Maximum length (A): 129 mm (5.07 in.)

If the length is greater than the maximum, replace the bolts with new bolts.

11. REMOVE VALVE LIFTER

NOTICE:

Organize the parts so that each parts location can be remembered for reassembly.



12. REMOVE CRANKSHAFT PULLEY

(a) Using a 46 mm socket wrench, remove the nut, spacer and pulley.

HINT:

Insert a screwdriver through the inspection hole of the flywheel housing into the ring gear of the flywheel to keep it from turning together with the crankshaft.

13. REMOVE FLYWHEEL HOUSING STAY RH

(a) Remove the 4 bolts and stay.

14. REMOVE FLYWHEEL HOUSING STAY LH

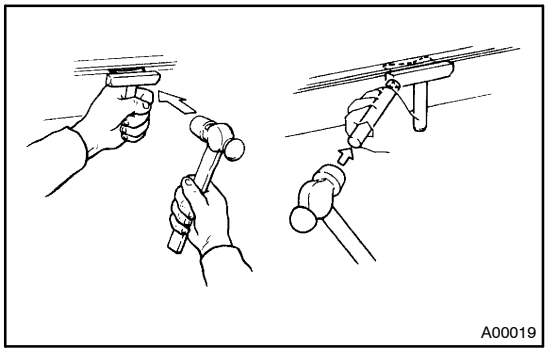
(a) Remove the 4 bolts and stay.

15. REMOVE ENGINE MOUNTING BRACKET FR NO. 1 RH

(a) Remove the 4 bolts and bracket.

16. REMOVE ENGINE MOUNTING BRACKET FR NO. 1 LH

(a) Remove the 4 bolts and bracket.



17. REMOVE OIL PAN SUB–ASSY

(a) Remove the 26 bolts from the oil pan.

(b) Insert the blade of SST between the crankcase and oil pan. Cut through the applied sealer and remove the oil pan.
SST 09032–00100

NOTICE:

Do not damage the contact surface of the cylinder block and oil pan.

18. REMOVE OIL STRAINER SUB–ASSY

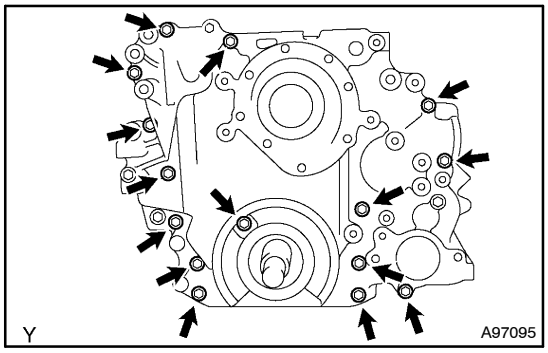
(a) Remove the 3 bolts and strainer.

(b) Remove the O–ring.

19. REMOVE WATER OUTLET PIPE NO. 1

(a) Remove the 4 bolts and outlet pipe from the timing chain or belt cover.

(b) Remove the 2 O–rings.



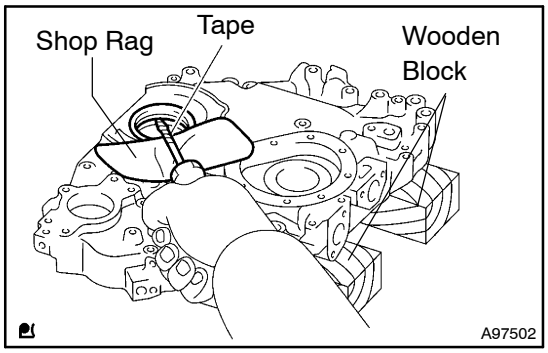
20. REMOVE TIMING CHAIN OR BELT COVER SUB–ASSY

(a) Remove the 15 bolts.

(b) Using a screwdriver, pry out the cover.

NOTICE:

Do not damage the contact surfaces of the timing chain or belt cover, cylinder block and cylinder head.

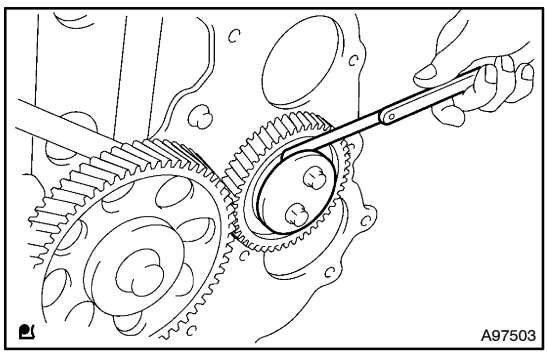


21. REMOVE OIL SEAL

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

HINT:

- Tape the screwdriver tip before use.
- Use wooden blocks and shop rag to prevent the timing chain or belt cover sub–assy.



22. INSPECT IDLE GEAR NO. 2 THRUST CLEARANCE

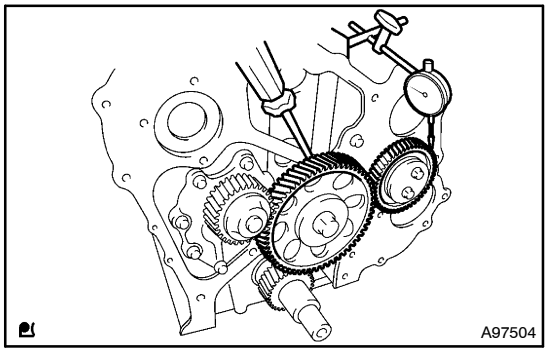
(a) Using a feeler gauge, measure the thrust clearance between the idle gear thrust plate No. 2 and idle gear No. 2.

Standard thrust clearance:

0.103 to 0.164 mm (0.0040 to 0.0064 in.)

Maximum thrust clearance: 0.30 mm (0.0118 in.)

If the thrust clearance is greater than the maximum, replace the idle gear thrust plate No. 2 and idle gear No. 2.



23. INSPECT IDLE GEAR NO. 2 BACKLASH

(a) Using a dial indicator, measure the backlash between the idle gear No. 1 and No. 2.

Standard backlash:

0.036 to 0.227 mm (0.0014 to 0.0089 in.)

Maximum backlash: 0.30 mm (0.0118 in.)

If the backlash is greater than the maximum, replace the idle gear No. 1 and No. 2.

24. REMOVE IDLE GEAR THRUST PLATE NO. 2

(a) Remove the 2 bolts and thrust plate.

25. REMOVE IDLE GEAR NO. 2

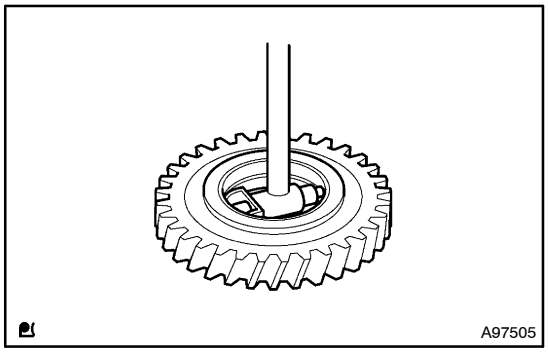
26. REMOVE IDLE GEAR SHAFT NO. 2

(a) Remove the 3 bolts and shaft.

(b) Remove the O–ring.

27. REMOVE LOCK PLATE

(a) Remove the 3 bolts and plate from the end plate.

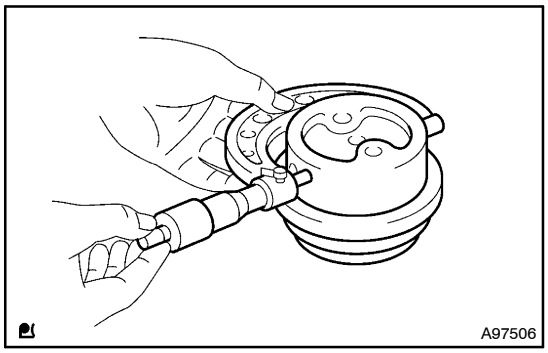


28. INSPECT IDLE GEAR NO. 2 OIL CLEARANCE

(a) Using a cylinder gauge, measure the inside diameter of the idle gear.

Standard idle gear inside diameter:
50.000 to 50.025 mm (1.9685 to 1.9695 in.)
Maximum idle gear inside diameter:
50.05 mm (1.9704 in.)

If the diameter is greater than the maximum, replace the idle gear No. 2.



(b) Using a micrometer, measure the diameter of the idle gear shaft.

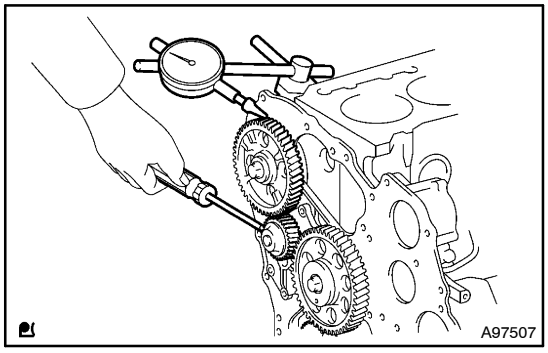
Standard shaft diameter:
49.950 to 49.975 mm (1.9665 to 1.9675 in.)
Minimum idle gear shaft diameter:
49.95 mm (1.9665 in.)

If the diameter is less than the minimum, replace the idle gear No. 2 shaft.

(c) Subtract the idle gear No. 2 inside diameter measurement from the idle gear shaft No. 2 diameter measurement.

Standard oil clearance:
0.0125 to 0.0375 mm (0.0005 to 0.0014 in.)
Maximum oil clearance: 0.10 mm (0.0039 in.)

If the clearance is greater than the maximum, replace the idle gear No. 2 and idle gear No. 2 shaft.



29. INSPECT CAMSHAFT TIMING GEAR BACKLASH

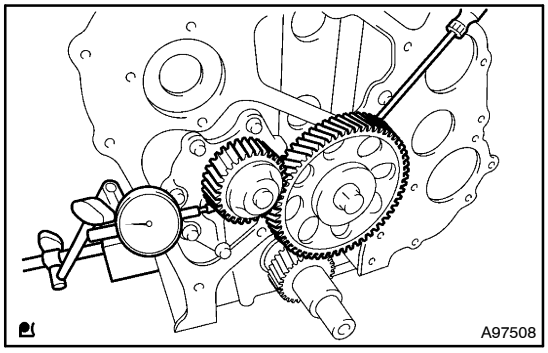
(a) Using a dial indicator, measure the backlash between the camshaft timing gear and idle gear No. 1.

Standard backlash:
0.069 to 0.203 mm (0.0027 to 0.0079 in.)
Maximum backlash: 0.30 mm (0.0118 in.)

If the backlash is greater than the maximum, replace the camshaft timing gear and idle gear No. 1.

30. REMOVE CAMSHAFT

(a) Remove the 2 bolts, thrust plate and camshaft.

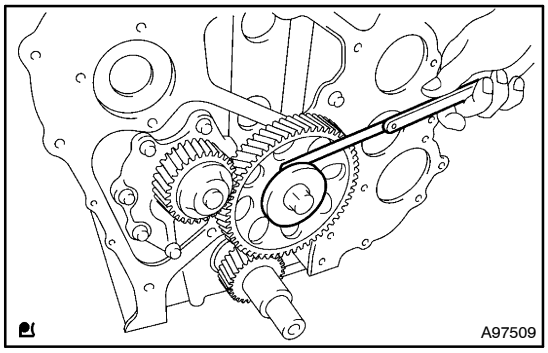


31. INSPECT OIL PUMP GEAR BACKLASH

(a) Using a dial indicator, measure the backlash between the oil pump gear and idle gear No. 1.

Standard backlash:
0.065 to 0.215 mm (0.0025 to 0.0084 in.)
Maximum backlash: 0.30 mm (0.0118 in.)

If the backlash is greater than the maximum, replace the oil pump assy and idle gear No. 1.

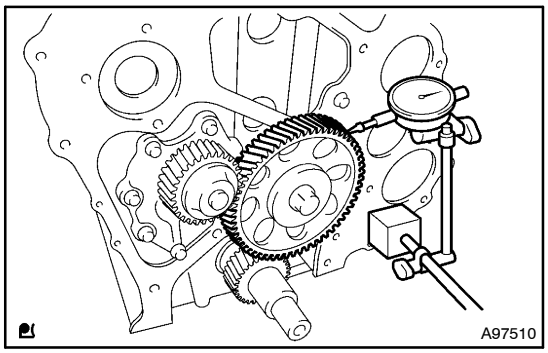


32. INSPECT IDLE GEAR NO. 1 THRUST CLEARANCE

(a) Using a feeler gauge, measure the thrust clearance between the idle gear thrust plate No. 1 and idle gear No. 1.

Standard thrust clearance:
0.103 to 0.164 mm (0.0040 to 0.0064 in.)
Maximum thrust clearance: 0.30 mm (0.0118 in.)

If the thrust clearance is greater than the maximum, replace the idle gear thrust plate No. 1 and idle gear No. 1.

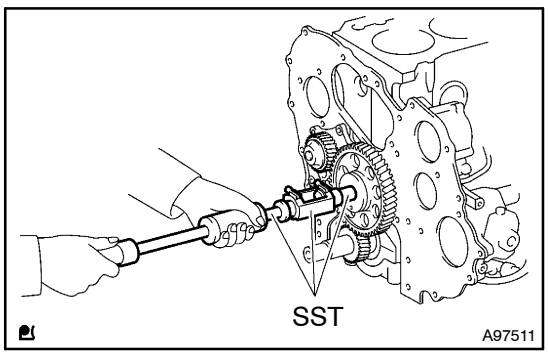


33. INSPECT IDLE GEAR NO. 1 BACKLASH

(a) Using a dial indicator, measure the backlash between the crankshaft timing gear and idle gear No. 1.

Standard backlash:
0.035 to 0.193 mm (0.0014 to 0.0075 in.)
Maximum backlash: 0.30 mm (0.0118 in.)

If the backlash is greater than the maximum, replace the crankshaft timing gear and idle gear No. 1.



34. REMOVE IDLE GEAR NO.1

(a) Remove the bolt.

(b) Using SST, remove the idle gear shaft.

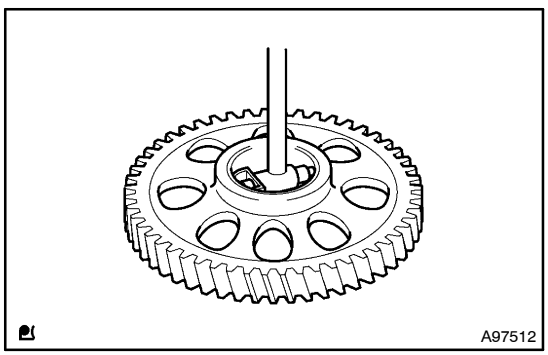
SST 09910–00015 (09911–00011, 09912–00010, 09913–00010)

NOTICE:

When removing the gear shaft, hold the gear by a hand to prevent the gear and thrust plate from being fallen.

(c) Remove the idle gear.

(d) Remove the idle gear thrust plate.

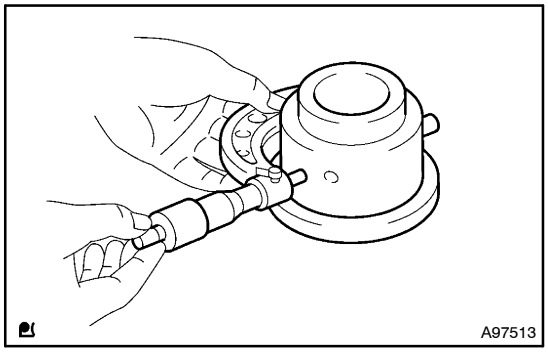


35. INSPECT IDLE GEAR NO. 1 OIL CLEARANCE

(a) Using a cylinder gauge, measure the inside diameter of the idle gear.

Standard idle gear inside diameter:
50.000 to 50.025 mm (1.9685 to 1.9695 in.)
Maximum idle gear inside diameter:
50.05 mm (1.9704 in.)

If the diameter is greater than the maximum, replace the idle gear No. 1.

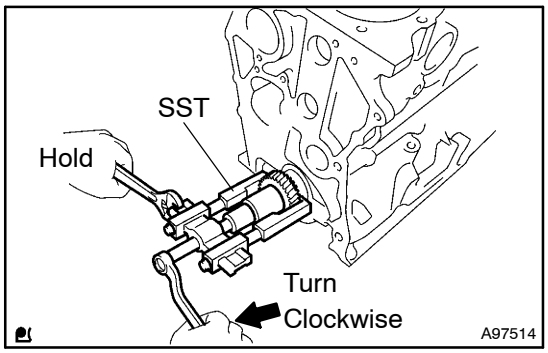


(b) Using a micrometer, measure the diameter of the idle gear shaft.
Standard idle gear shaft diameter:
49.950 to 49.975 mm (1.9665 to 1.9675 in.)
Minimum idle gear shaft diameter:
49.95 mm (1.9665 in.)

If the diameter is less than the minimum, replace the idle gear shaft No. 1.

(c) Subtract the idle gear No. 1 inside diameter measurement from the idle gear shaft No. 1 outside diameter measurement.
Standard oil clearance:
0.0125 to 0.0370 mm (0.0005 to 0.0014 in.)
Maximum oil clearance: 0.10 mm (0.0039 in.)

If the clearance is greater than the maximum, replace the idle gear No. 1 and idle gear shaft No. 1.

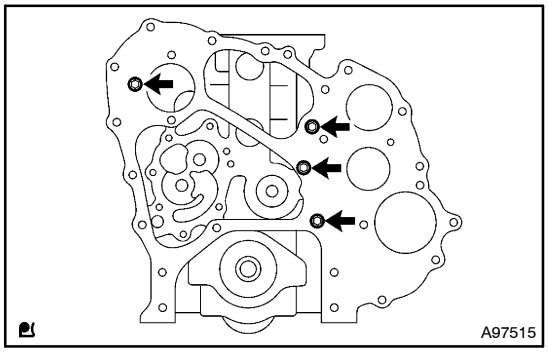


36. REMOVE CRANKSHAFT TIMING GEAR OR SPROCKET

(a) Using SST, remove the timing gear.
SST 09950–40011 (09951–04010, 09952–04010, 09953–04020, 09954–04010, 09955–04051)

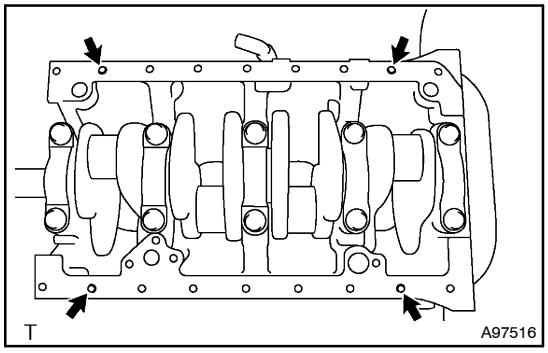
37. REMOVE OIL PUMP ASSY

(a) Remove the 7 bolts and pump.
(b) Remove the gasket from the pump.



38. REMOVE FRONT END PLATE

(a) Remove the 4 bolts and end plate.
(b) Remove the gasket from the end plate.



39. REMOVE FLYWHEEL SUB–ASSY

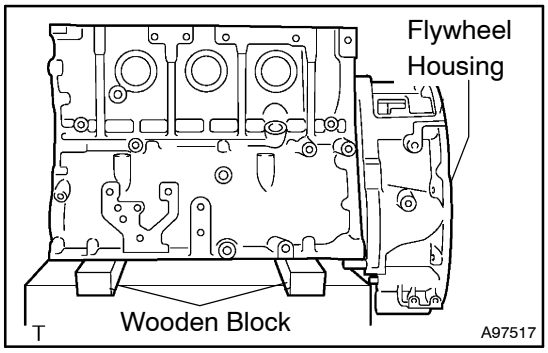
(a) Temporarily install the 4 bolts to the portions of the cylinder block in the illustration to prevent the wires from being misaligned.

(b) Hook the 2 wires on the cylinder block.

HINT:

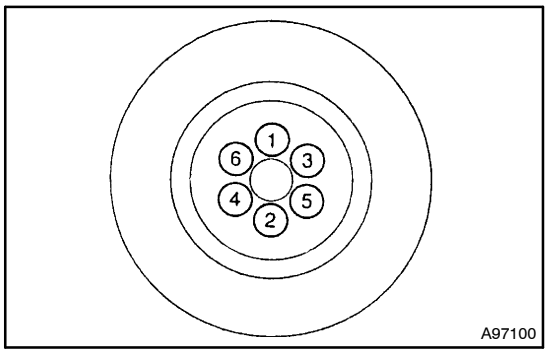
The wires must be hooked outside the installed bolts.

(c) Using a chain block and an engine sliding device, hang the cylinder block from the engine stand.



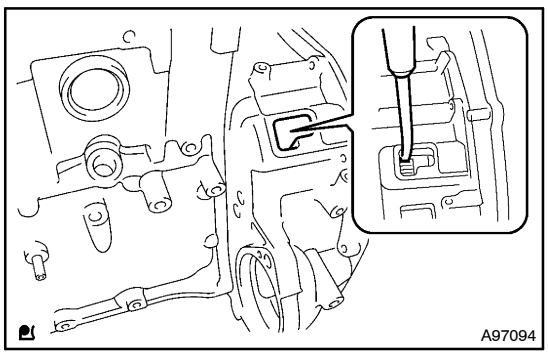
(d) Place the cylinder block on wooden blocks on a table.

(e) Remove the 4 bolts from the cylinder block.



(f) Uniformly loosen and remove the 6 bolts in the order shown in the illustration.

(g) Remove the flywheel.

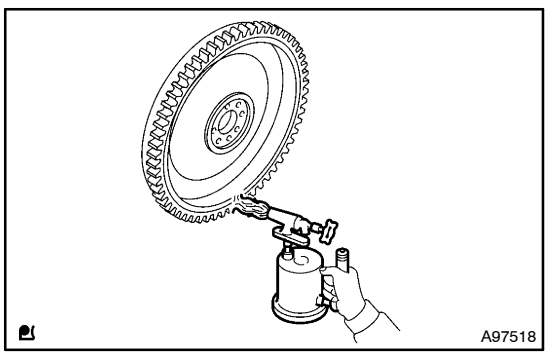


HINT:

Insert a screwdriver through the inspection hole of the flywheel housing into the ring gear of the flywheel to keep it from turning together with the crankshaft.

NOTICE:

The flywheel is heavy. When removing, be careful not to drop it on your feet.

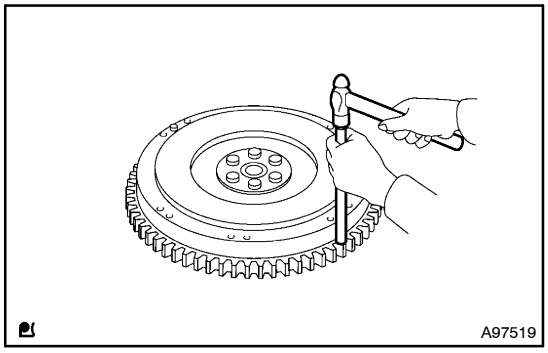


40. REMOVE FLYWHEEL RING GEAR

(a) Using a torch, heat the ring gear evenly to approximately 200°C (392°F).

NOTICE:

Be careful not to overheat the ring gear.



(b) Using a brass bar and hammer, uniformly strike all around the ring gear and remove the gear.

CAUTION:

After removing, allow the ring gear to become cold to prevent your hands from burning.

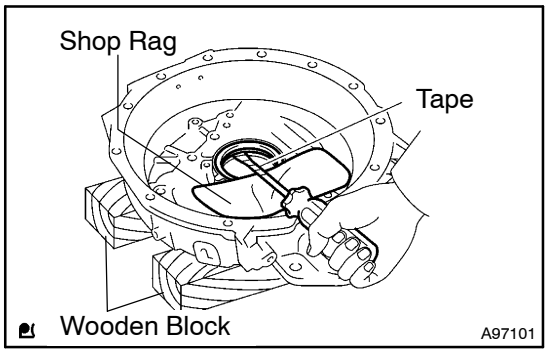
41. REMOVE FLYWHEEL HOUSING

(a) Remove the 14 bolts from the cylinder block.

(b) Using a screwdriver, pry out the housing.

HINT:

Tape the screwdriver tip before use.

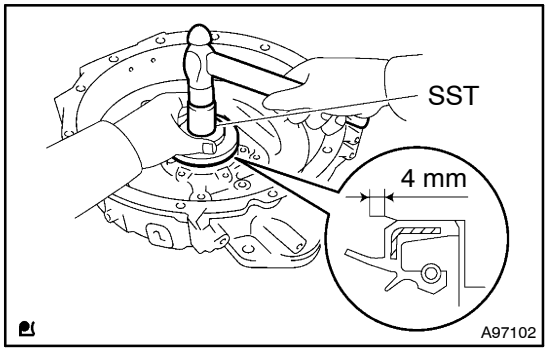


42. REMOVE ENGINE REAR OIL SEAL RETAINER

(a) Using a screwdriver, pry out the retainer.

HINT:

- Tape the screwdriver tip before use.
- Use wooden blocks and shop rag to prevent the timing chain or belt cover sub–assy.



43. INSTALL ENGINE REAR OIL SEAL RETAINER

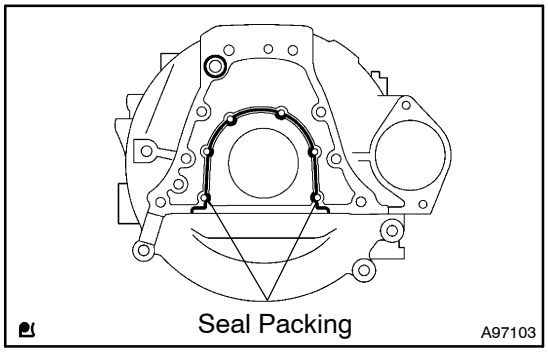
(a) Using SST and a hammer, tap in a new retainer until it lower by 4 mm (0.16 in.) from the upper edge of the flywheel housing.

SST 09223–78010

NOTICE:

- **Be careful not to tap the oil seal retainer at an angle.**
- **Keep the gap between the rear oil seal retainer edge and the oil seal free of foreign matter.**

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



44. INSTALL FLYWHEEL HOUSING

(a) Remove any oil packing material from the contact surface.

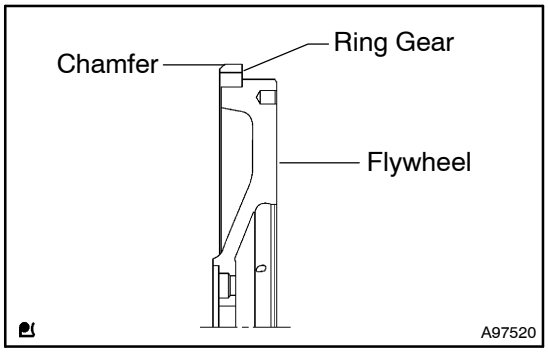
(b) Apply a continuous bead of seal packing (diameter: 1.5 to 2.5 mm (0.06 to 0.10 in.)) as shown in the illustration.

Seal packing: Part No. 08826–00080 or equivalent

NOTICE:

- **Remove any oil from the contact surface.**
- **Install the belt cover within 3 minutes after applying seal packing.**
- **Do not expose the seal packing engine oil for at least 2 hours after installing.**

(c) Install the flywheel housing with the 14 bolts.
Torque:
132 N·m (1,346 kgf·cm, 97 ft·lbf) for bolt (M14)
28.5 N·m (291 kgf·cm, 21 ft·lbf) for bolt (M8)



45. INSTALL FLYWHEEL RING GEAR

(a) Using a torch, heat the ring gear evenly to approximately 200°C (392°F).

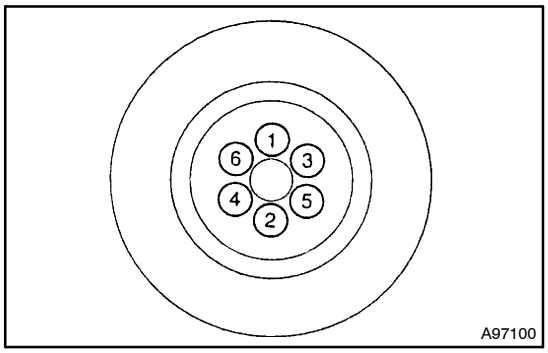
NOTICE:

Be careful not to overheat the ring gear.

(b) Using a brass bar, strike the ring gear onto the flywheel with its chamfered gear teeth facing the block.

CAUTION:

After installing, allow the ring gear to become cold to prevent your hands from burning.



46. INSTALL FLYWHEEL SUB–ASSY

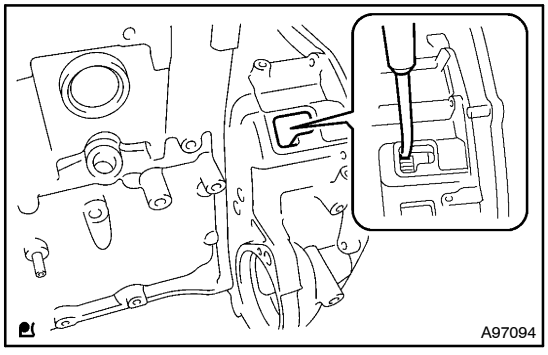
(a) Insert the flywheel slowly until it contacts the collar knock in order to prevent impact on the guide bar. Adjust the position, then insert it completely.

NOTICE:

The flywheel is heavy. When removing, be careful not to drop it on your feet.

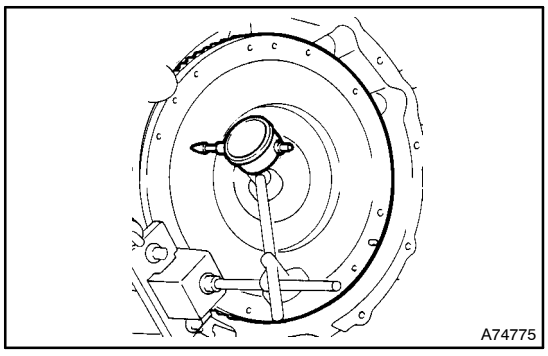
(b) Apply clean engine oil to the threads of the flywheel bolt and the flywheel bolt seat.

(c) Tighten the flywheel bolts in the order shown in the illustration.
Torque: 190 N·m (1,938 kgf·cm, 140 ft·lbf)



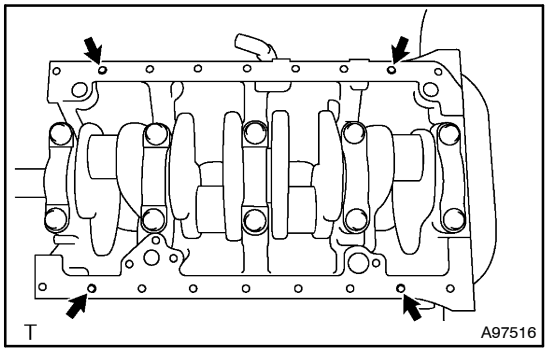
HINT:

Insert a screwdriver through the inspection hole of the flywheel housing into the ring gear of the flywheel to keep it from turning together with the crankshaft.



(d) Using a dial indicator, measure the runout of the flywheel.
Maximum runout: 0.15 mm (0.0059 in.)

If the runout is greater than the maximum, resurface the sliding surface.

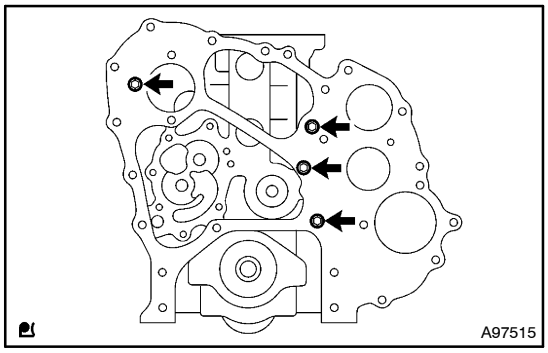


(e) Temporarily install the 4 bolts to the portions of the cylinder block in the illustration to prevent the wires from being misaligned.
(f) Hook the 2 wires on the cylinder block.

HINT:

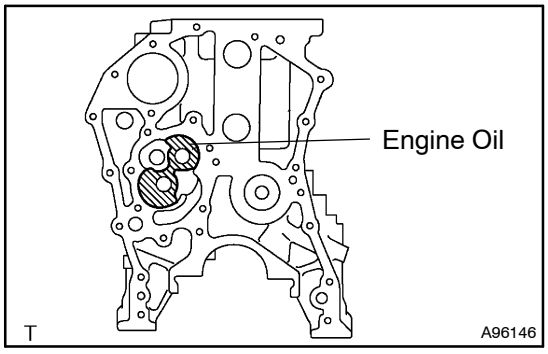
The wires must be hooked outside the installed bolts.

(g) Using a chain block and an engine sliding device, install the cylinder block to the engine stand.
(h) Remove the 4 bolts from the cylinder block.



47. INSTALL FRONT END PLATE

(a) Install the end plate with a new gasket and 4 bolts.
Torque: 28.5 N·m (291 kgf·cm, 21 ft·lbf)
(b) Using a cutter, cut the gasket so that it is flush with the lower surface of the cylinder block.



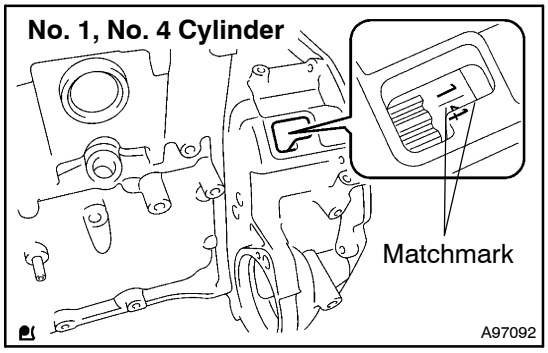
48. INSTALL OIL PUMP ASSY

(a) Apply engine oil to the pump case of the cylinder block and bearing.

NOTICE:

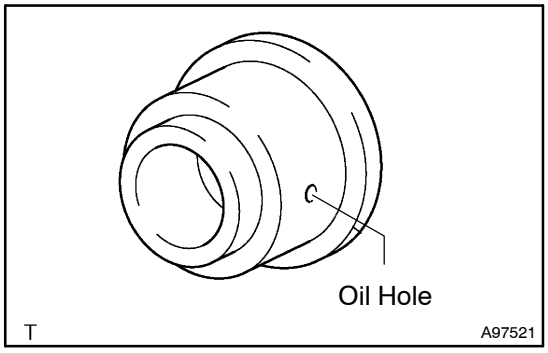
If engine oil is not applied, an oil suction malfunction will occur when starting the engine. The malfunction causes seizure and abnormal wear to the engine.

(b) Install a new gasket and pump with the 7 bolts.
Torque: 28.5 N·m (291 kgf·cm, 21 ft·lbf)
(c) Check that the oil pump rotates smoothly by hand after the installation.



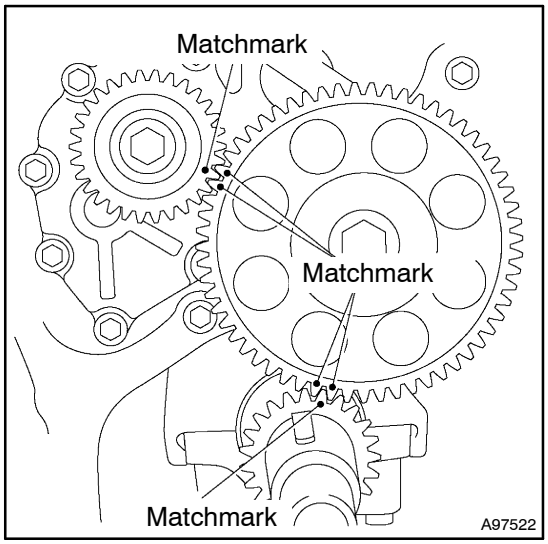
49. INSTALL CRANKSHAFT TIMING GEAR OR SPROCKET

(a) Turn the crankshaft clockwise, and align the matchmarks of the flywheel and flywheel housing to set the No. 1 cylinder to TDC.
(b) Align the set key on the crankshaft with the key groove of the crankshaft timing gear.
(c) Using a hammer, tap in the timing gear.



50. INSTALL IDLE GEAR NO.1

(a) Install the idle gear and idle gear thrust plate to the idle gear shaft.



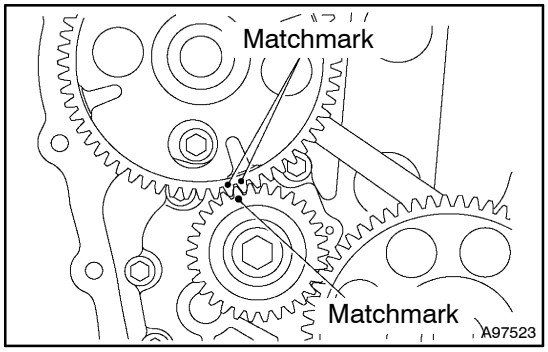
(b) With the idle gear shaft oil hole facing down, match the matchmarks for each gear, and insert the shaft positively into the cylinder block.

NOTICE:

If the oil hole is not facing down, it causes burnt or abnormal wear.

(c) Install the bolt.

Torque: 137 N·m (1,397 kgf·cm, 101 ft·lbf)



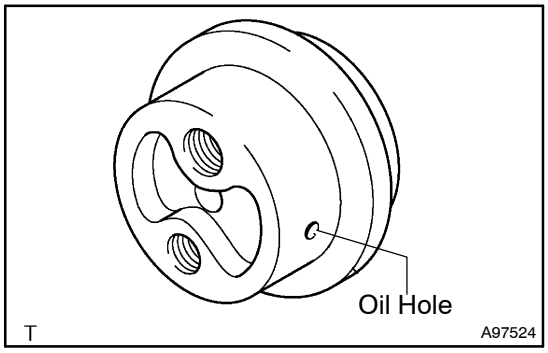
51. INSTALL CAMSHAFT

(a) Apply engine oil to the camshaft journal and bearing.

(b) Match the matchmarks of the camshaft timing gear and oil pump gear and install the camshaft.

(c) Install the thrust plate with the 2 bolts.

Torque: 28.5 N·m (291 kgf·cm, 21 ft·lbf)



52. INSTALL IDLE GEAR SHAFT NO. 2

(a) Install the lock plate to the end plate with the 3 bolts.

Torque: 55 N·m (561 kgf·cm, 41 ft·lbf)

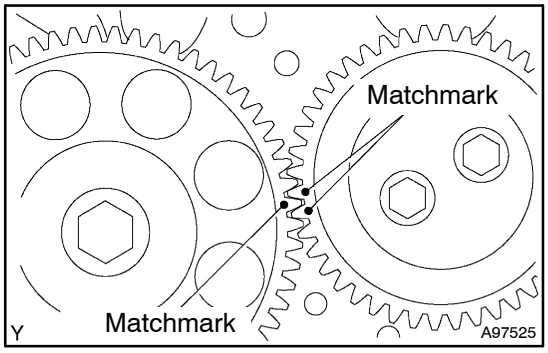
(b) Install a new O–ring to the idle gear shaft.

(c) With the idle gear shaft oil hole facing down, install the gear shaft to the lock plate with the 2 bolts.

Torque: 55 N·m (561 kgf·cm, 41 ft·lbf)

NOTICE:

If the oil hole is not facing down, it causes burnt or abnormal wear.

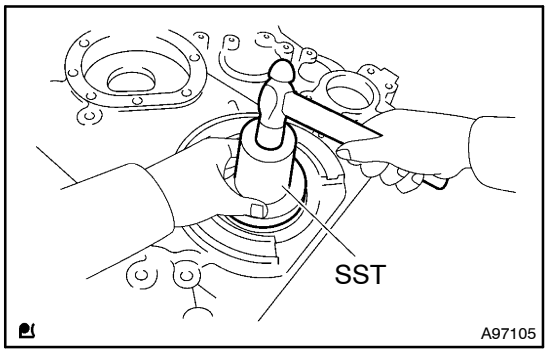


53. INSTALL IDLE GEAR NO. 2

(a) Match the matchmarks of the idle gears No. 1 and No. 2 and install the idle gear No. 2.
Torque: 55 N·m (561 kgf·cm, 41 ft·lbf)

54. INSTALL IDLE GEAR THRUST PLATE NO. 2

(a) Install the thrust plate with the 2 bolts.
Torque: 55 N·m (560 kgf·cm, 40 ft·lbf)



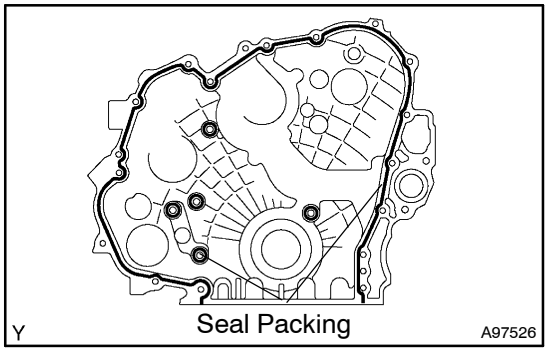
55. INSTALL OIL SEAL

(a) Using SST and a hammer, tap in the oil seal to the timing gear case so that oil seal is flush with the timing gear edge.
SST 09223–78010

NOTICE:

- **Be careful not to tap the oil seal at an angle.**
- **Keep the gap between the gear case edge and the oil seal free of foreign matter.**

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



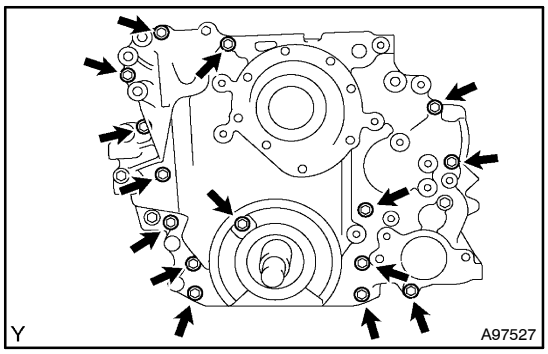
56. INSTALL TIMING CHAIN OR BELT COVER SUB–ASSY

(a) Remove any oil packing material from the contact surface.

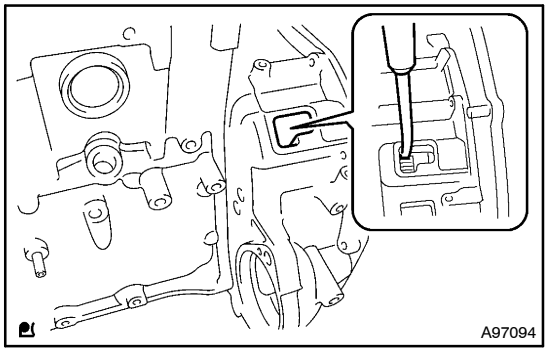
(b) Apply a continuous bead of seal packing (diameter: 3 to 4 mm (0.11 to 0.15 in.)) as shown in the illustration.
Seal packing: Part No. 08826–00080 or equivalent

NOTICE:

- **Remove any oil from the contact surface.**
- **Install the belt cover within 3 minutes after applying seal packing.**
- **Do not expose the seal packing engine oil for at least 2 hours after installing.**



(c) Install the timing gear case with the 15 bolts.
Torque: 28.5 N·m (291 kgf·cm, 21 ft·lbf)



57. INSTALL CRANKSHAFT PULLEY

(a) Install the pulley and spacer to the crankshaft.

HINT:

Align the pulley set key with the key groove of the pulley.

(b) Using a 46 mm socket wrench, tighten the nut.

Torque: 519 N·m (5,294 kgf·cm, 383 ft·lbf)

HINT:

Insert a screwdriver through the inspection hole of the flywheel housing into the ring gear of the flywheel to keep it from turning together with the crankshaft.

58. INSTALL WATER OUTLET PIPE NO. 1

(a) Install 2 new O–rings to the timing chain or belt cover.

(b) Install the outlet pipe with the 4 bolts.

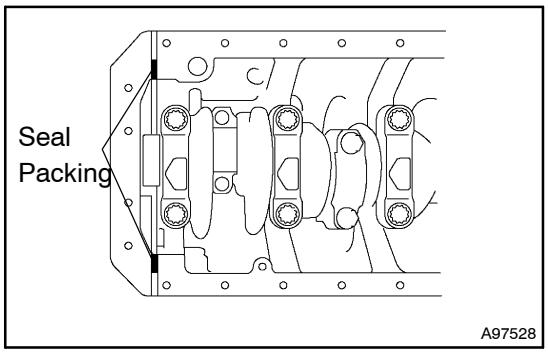
Torque: 55 N·m (561 kgf·cm, 41 ft·lbf)

59. INSTALL OIL STRAINER SUB–ASSY

(a) Install a new O–ring to the cylinder block.

(b) Install the strainer with the 3 bolts.

Torque: 28.5 N·m (291 kgf·cm, 21 ft·lbf)



60. INSTALL OIL PAN SUB–ASSY

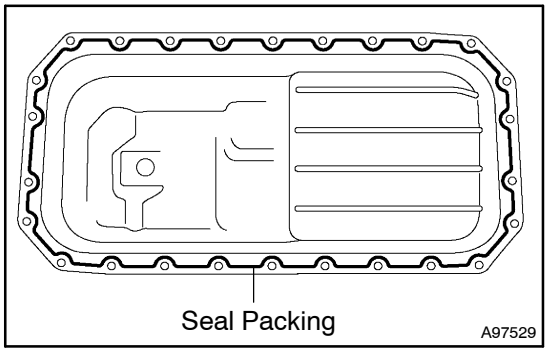
(a) Remove any oil packing material from the contact surface.

(b) Apply a continuous bead of seal packing (diameter: 3 to 4 mm (0.11 to 0.15 in.)) as shown in the illustration.

Seal packing: Part No. 08826–00080 or equivalent

NOTICE:

- **Remove any oil from the contact surface.**
- **Install the belt cover within 3 minutes after applying seal packing.**
- **Do not expose the seal packing engine oil for at least 2 hours after installing.**



(c) Install the oil pan with the 26 bolts.

Torque: 28.5 N·m (291 kgf·cm, 21 ft·lbf)

61. INSTALL FLYWHEEL HOUSING STAY RH

(a) Install the stay with the 4 bolts.

Torque:

132 N·m (1,346 kgf·cm, 97 ft·lbf) for bolt (M14)

97 N·m (989 kgf·cm, 72 ft·lbf) for bolt (M12)

62. INSTALL FLYWHEEL HOUSING STAY LH

(a) Install the stay with the 4 bolts.

Torque:
132 N·m (1,346 kgf·cm, 97 ft·lbf) for bolt (M14)
97 N·m (989 kgf·cm, 72 ft·lbf) for bolt (M12)

63. INSTALL ENGINE MOUNTING BRACKET FR NO. 1 RH

(a) Install the bracket with the 4 bolts.

Torque: 69 N·m (704 kgf·cm, 51 ft·lbf)

64. INSTALL ENGINE MOUNTING BRACKET FR NO. 1 LH

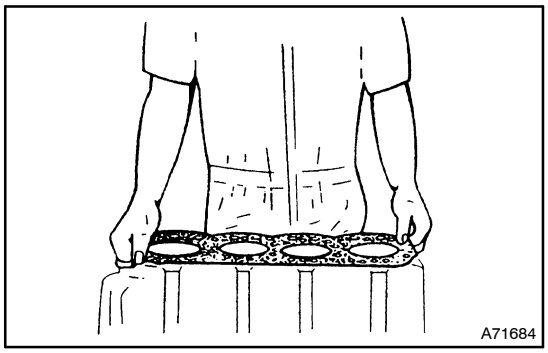
(a) Install the bracket with the 4 bolts.

Torque: 69 N·m (704 kgf·cm, 51 ft·lbf)

65. INSTALL VALVE LIFTER

NOTICE:

Be sure to install the push rod to its original position.



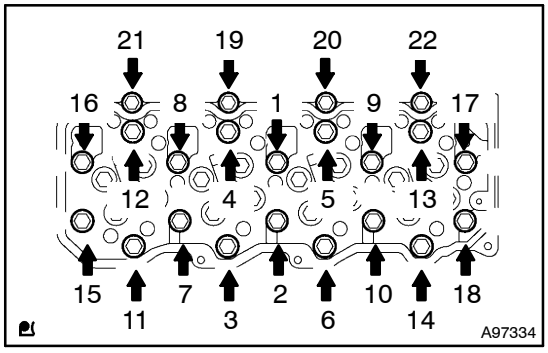
66. INSTALL CYLINDER HEAD SUB–ASSY

(a) Install a new cylinder head gasket.

NOTICE:

Always use a new cylinder head gasket after cleaning the surface of the cylinder head, cylinder block and head gasket and keep them free of all dirt, water and grease.

(b) Install the cylinder head over the dowels on the cylinder block.

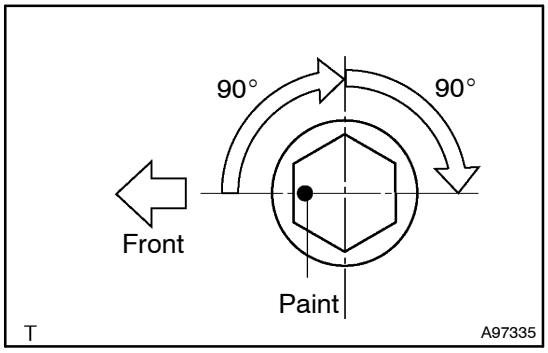


HINT:

Since the cylinder head bolts are unique to this engine, do not substitute them with ordinary bolts for them.

(c) Uniformly install and tighten the 1 to 18 cylinder head bolts in the order shown in the illustration.

Torque: 60 N·m (612 kgf·cm, 44 ft·lbf)

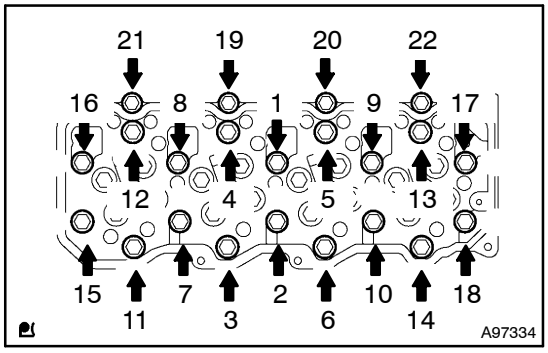


(d) Mark the front side of each cylinder head bolt head with paint as shown in the illustration.

(e) Retighten the cylinder head bolts by 90° in the same order as step (c).

(f) Perform step (e) again.

(g) Check that each painted mark is now at a 180° angle to the front.



(h) Uniformly install and tighten the 19 to 22 cylinder head bolts in the order shown in the illustration.
Torque: 55 N·m (561 kgf·cm, 41 ft·lbf)

67. INSTALL VALVE BRIDGE

NOTICE:

Be sure to install the bridge to its original location.

68. INSTALL VALVE PUSH ROD

NOTICE:

Be sure to install the push rod to its original location.

69. INSTALL VALVE ROCKER SHAFT SUB–ASSY NO.1

(a) Lubricate the rocker arm shaft and bush.

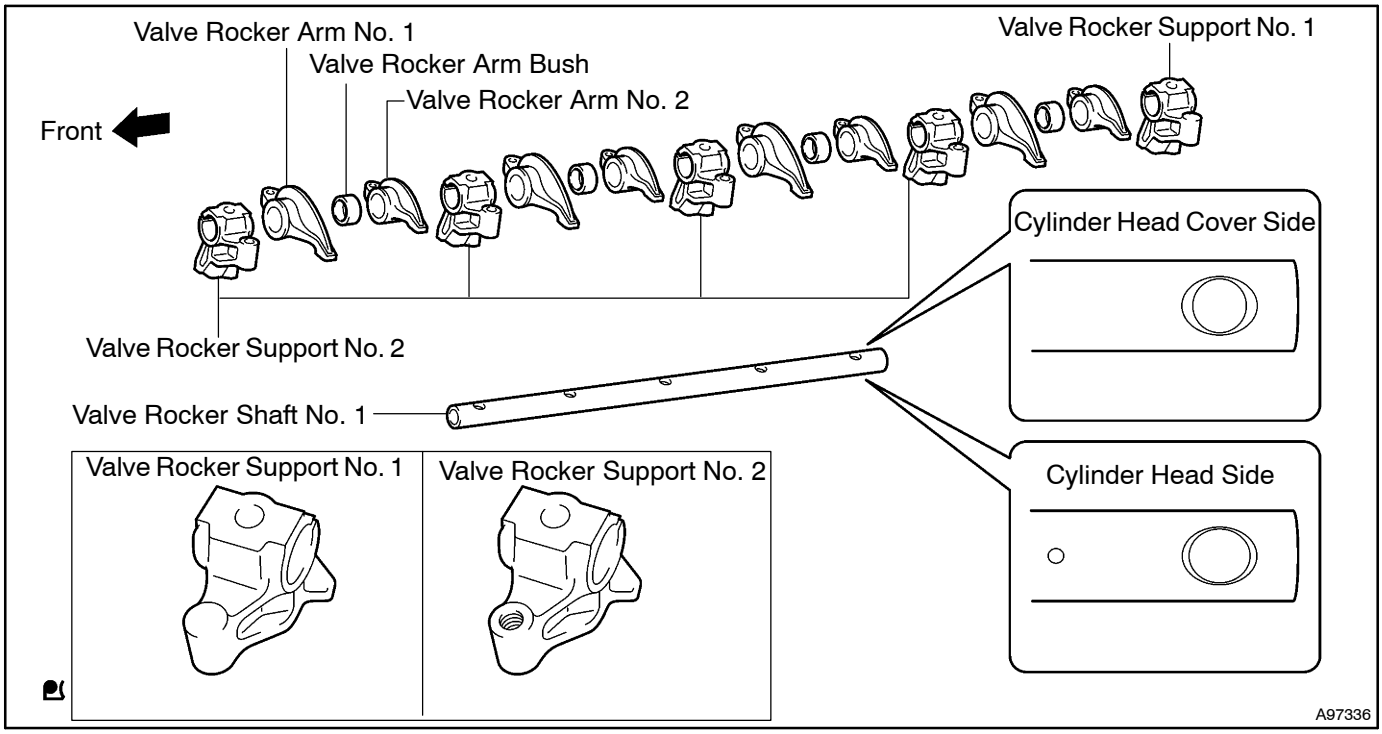
NOTICE:

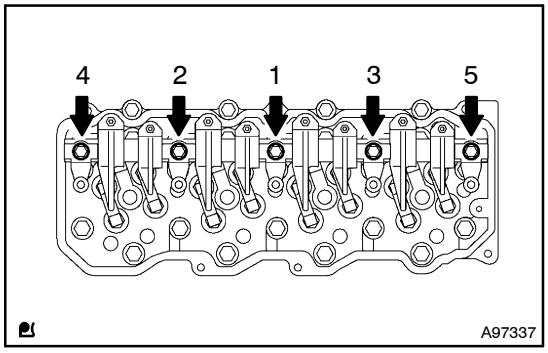
Confirm that oil hole of the rocker arm No. 1 support aligns with the shaft oil hole. Improper installation will result in burning of the entire valve.

(b) Install the rocker arm No. 1 and No. 2, the rocker support No.1 and No. 2 and the rocker arm bush to the rocker shaft No. 1.

NOTICE:

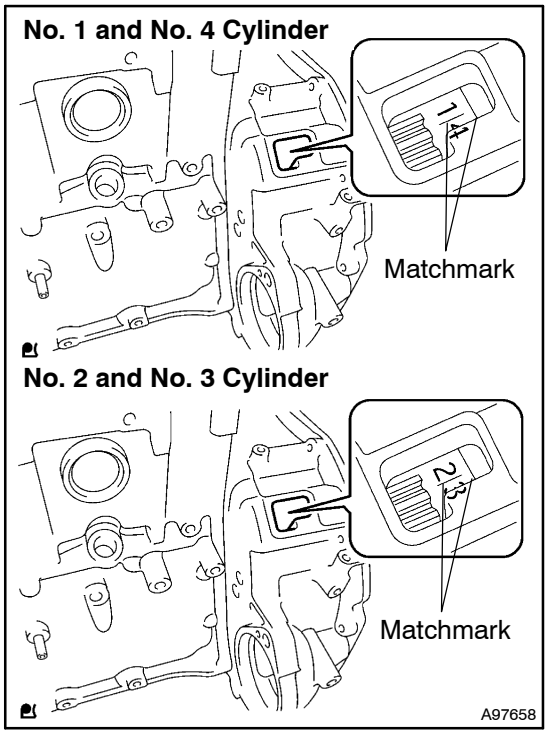
When the installing, face the hole on the cylinder head side of the rocker shaft No. 1 as shown in the illustration.





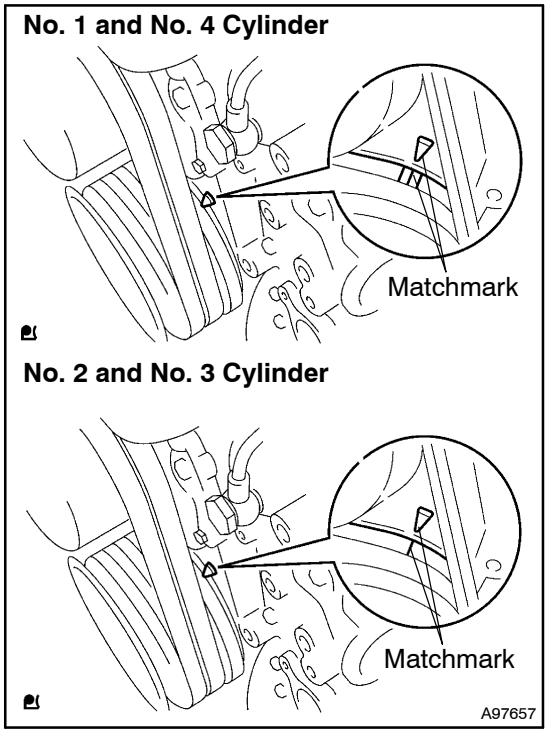
(c) Install the rocker shaft to the cylinder head.
(d) Apply engine oil to the rocker arm and push rod.
(e) Install the bolts in the order shown in the illustration.
Torque: 69 N·m (704 kgf·cm, 51 ft·lbf)

NOTICE:
Be careful not to interfere the push rod with the adjusting screw.



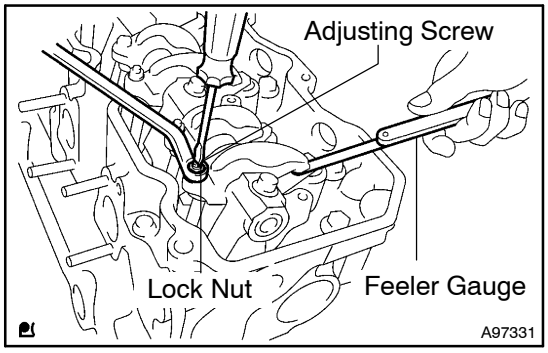
70. ADJUST VALVE CLEARANCE

(a) Flywheel housing side:
Turn the crankshaft clockwise to align the matchmark on the flywheel the line between the 2 numbers with the edge on the flywheel housing.



(b) Crankshaft pulley side:
Turn the crankshaft clockwise to align the matchmark on the crankshaft pulley with the pointer on the Timing chain or belt cover.

HINT:
If not, turn the crankshaft 1 revolution (360°) to align the matchmark.



(c) With the No. 1 piston positioned at TDC on the compression stroke, using a feeler gauge, adjust the each valve clearance.

Valve clearance (Cold):

Intake	0.30 mm (0.0118 in.)
Exhaust	0.45 mm (0.0177 in.)

HINT:

The feeler gauge should move with a very slight pull.

(d) Loosen the lock nut on the valve rocker arm and loosen the adjusting screw.

(e) Insert a 0.30 mm (0.012 in.) feeler gauge for the intake or a 0.45 mm (0.018 in.) feeler gauge for the exhaust between the adjusting screw on the valve rocker arm and the valve bridge.

(f) Turn the adjusting screw on the valve rocker arm until the feeler gauge slides with a very slight drag, and lock the adjusting screw with the lock nut.

Torque: 29.5 N·m (300 kgf·cm, 22 ft·lbf)

(g) Recheck the clearance.

(h) Adjust the other valves.

(1) Turn the crankshaft 1 revolution (360°) clockwise.

(2) Adjust the valve clearance for each cylinder in the firing order.

Firing order: 1 – 3 – 4 – 2

(A number of a cylinder is counted from the timing gear side)

71. INSTALL CYLINDER HEAD COVER SUB–ASSY

(a) Install a new cylinder head cover gasket to the head cover.

(b) Install the 2 cylinder head cover spacers and 2 cylinder head cover cushions to the cover.

(c) Install the cover with the 2 bolts.

Torque: 28.5 N·m (291 kgf·cm, 21 ft·lbf)

72. INSTALL CYLINDER HEAD COVER NO. 2

(a) Install the 2 cylinder head cover stays and cylinder head cover cushion rubber to the cover.

(b) Install the cover with the 2 bolts.

Torque: 28.5 N·m (291 kgf·cm, 21 ft·lbf)

73. INSTALL OIL FILLER CAP SUB–ASSY