

ENGINE

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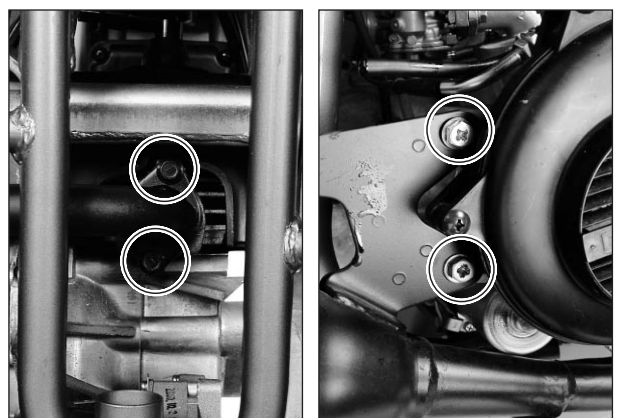
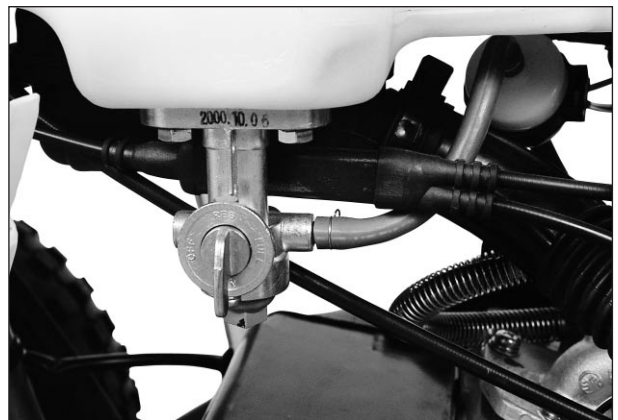
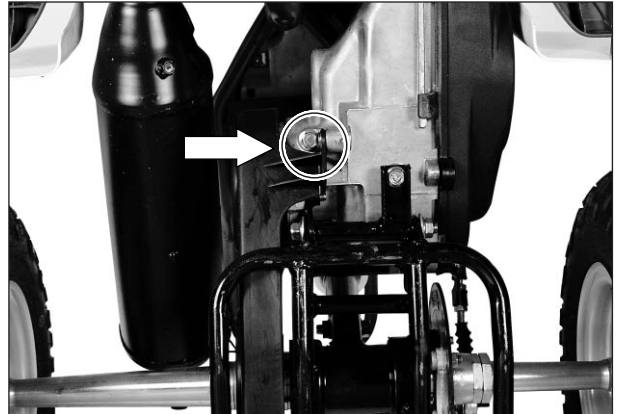
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ENGINE REMOVAL AND REINSTALLATION

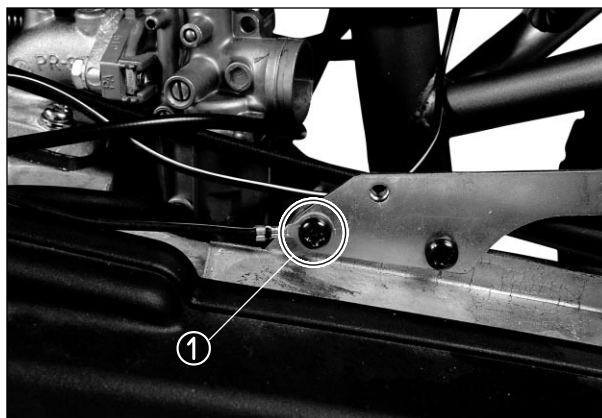
ENGINE REMOVAL

Before taking the engine out of the frame, thoroughly clean the engine with a suitable cleaner and drain transmission oil, etc. The procedure of engine removal is sequentially explained in the following steps, and engine reinstallation is effected by reversing the removal procedure.

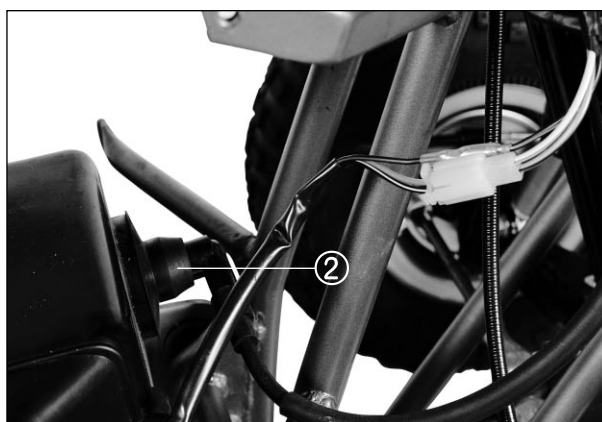
- Place an oil pan under the engine and remove the oil filler cap and the oil drain plug to drain out transmission oil.
- Remove the seat and frame cover.
- Turn the fuel cock to OFF position.
- Remove the fuel hoses from the fuel cock and remove the fuel tank by removing mounting bolts.
- Remove the muffler and exhaust pipe.
- Remove the air cleaner and air cleaner chamber. (Refer to page 2-3)



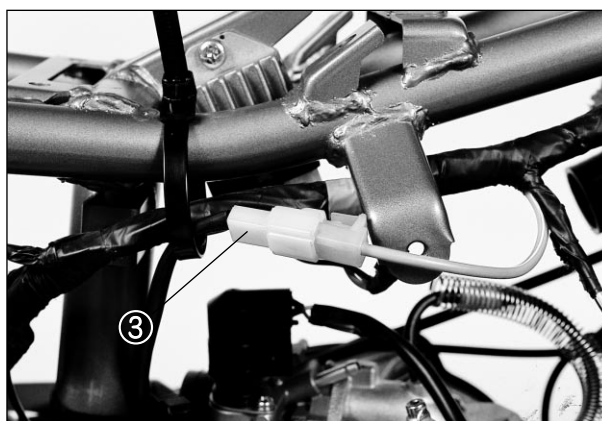
- Remove the engine ground lead wire ①.



- Remove the spark plug cap ②.



- Remove the starter motor lead wire ③.

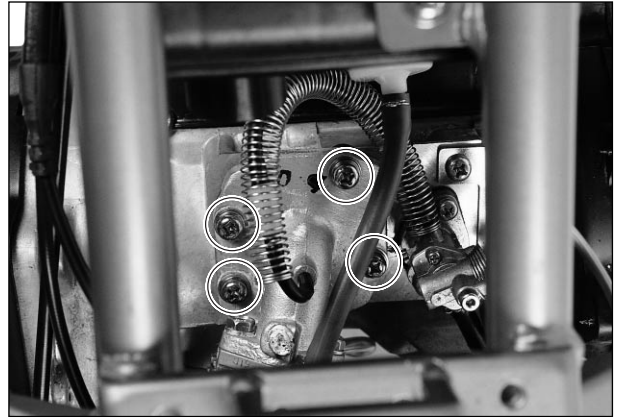


- Disconnect the magneto coil lead wire ④.

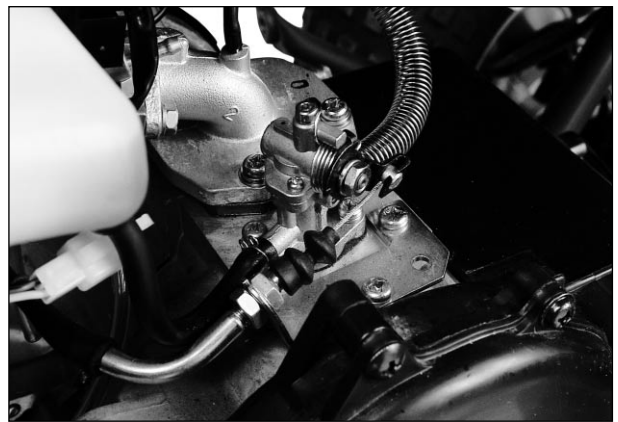


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- Remove the carburetor assembly and intake manifold from the crankcase.



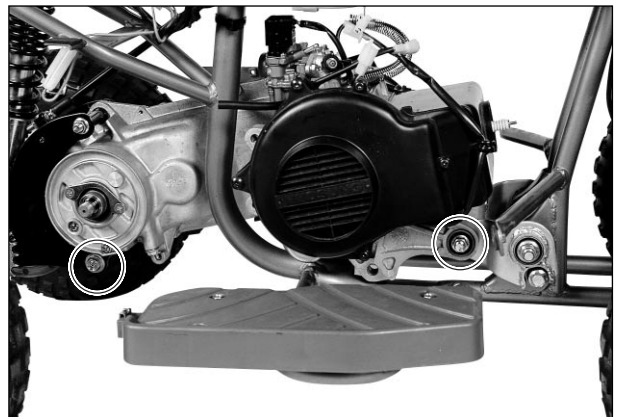
- Disconnect the oil hose from the oil pump.



- Remove the chain case cover.
- Remove the engine sprocket from the drive shaft by using the snap ring pliers.
- Remove the drive chain.



- Remove the six engine mounting bolts.
- Remove the engine assembly from the frame with rear axle housing assembly.






ENGINE REINSTALLATION

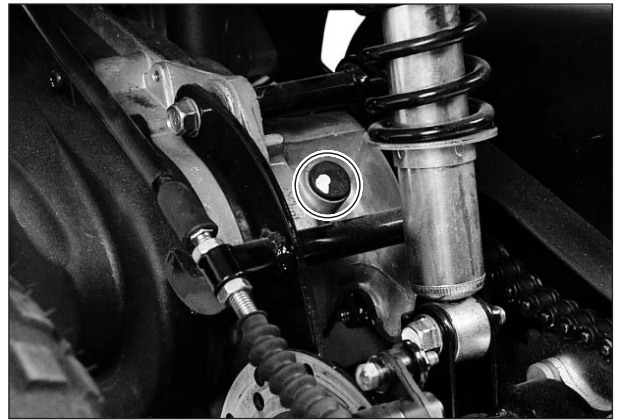
For remounting engine, reverse the order of engine removal and take the following additional steps.

- Install the engine mounting bolts.
(Refer to page 3-3)

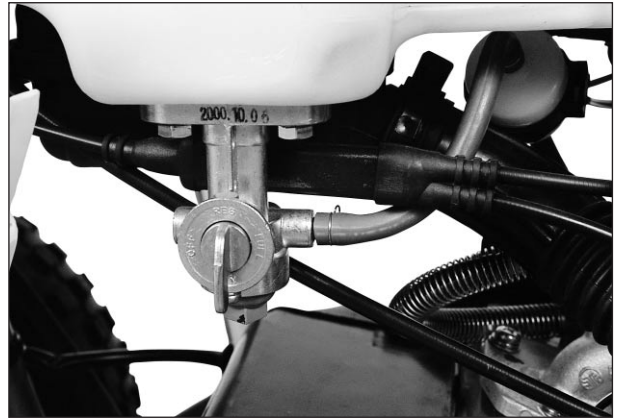
 **Engine mounting bolt**
: 40 ~ 60 N · m (4.0 ~ 6.0kg · m)

- Install 90ml of transmission oil SAE 10W/40 multi-grade motor oil when engine is overhauled. check the oil level.

Transmission oil capacity (when overhauling engine)	90 ml
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- Set the fuel cock to ON position and start the engine.



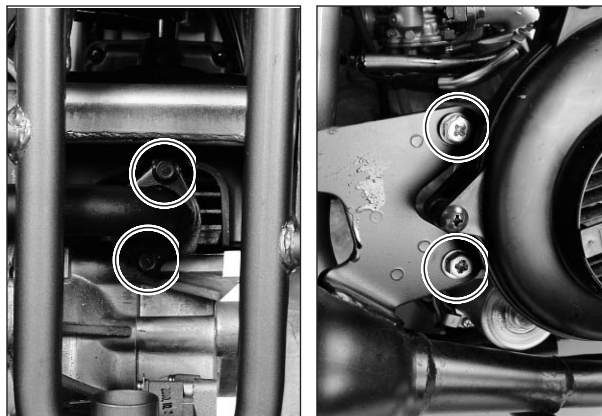
- After remounting the engine, route wiring harness and cables properly by referring to the sections, wire routing and cable routing, and adjust the following items to the specification.

- ❖ Throttle cable Refer to page 2- 6
- ❖ Idling adjustment Refer to page 2- 6
- ❖ Front brake cable Refer to page 2- 7
- ❖ Rear brake cable Refer to page 2- 8
- ❖ Drive chain Refer to page 2-10

ENGINE DISASSEMBLY

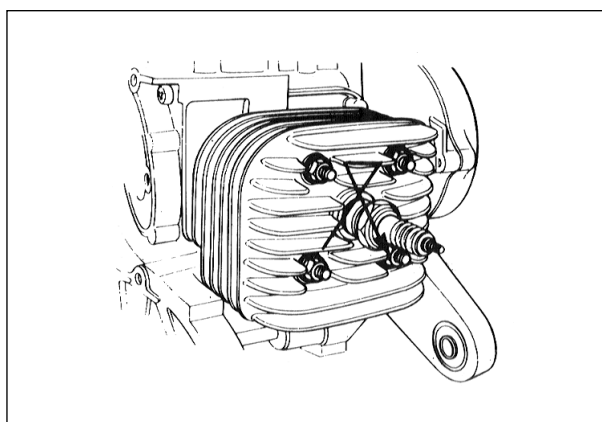
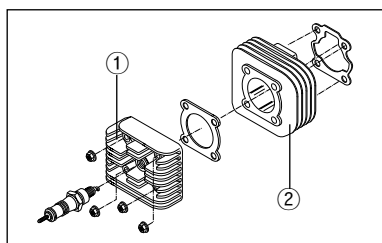
● MUFFLER

- Remove the muffler removing the bolts.



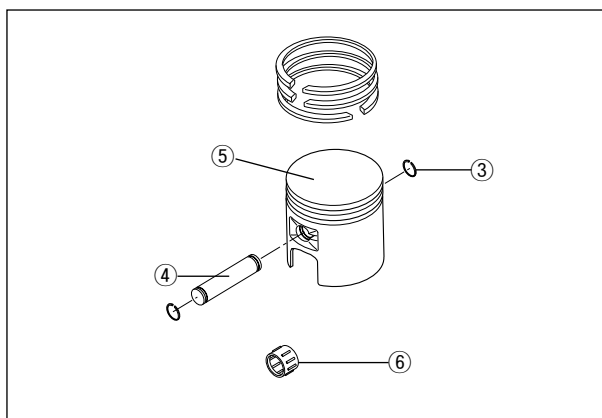
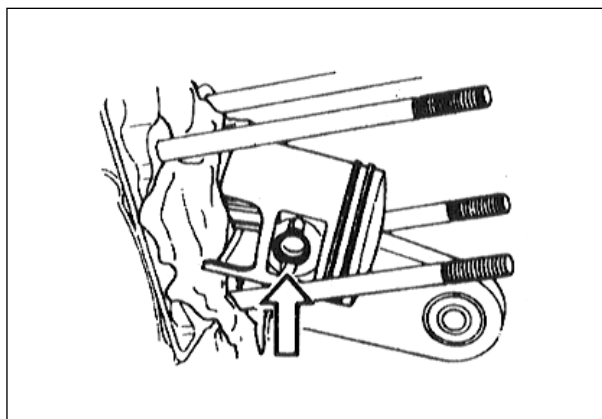
● CYLINDER

- Remove the cylinder cowling.
- Remove the cylinder head ① and cylinder ②.



● PISTON

- Place a cloth beneath the piston and remove the piston pin circlip ③ with a long-nose pliers.
- Remove the piston pin ④ and piston ⑤.
- Remove the piston pin bearing ⑥.



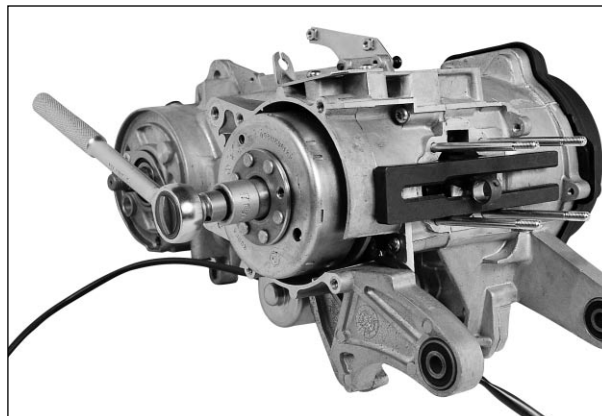
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● MAGNETO

- Remove the cooling fan.
- Remove the magneto rotor nut with the special tool.



Conrod holder : 09910-20115



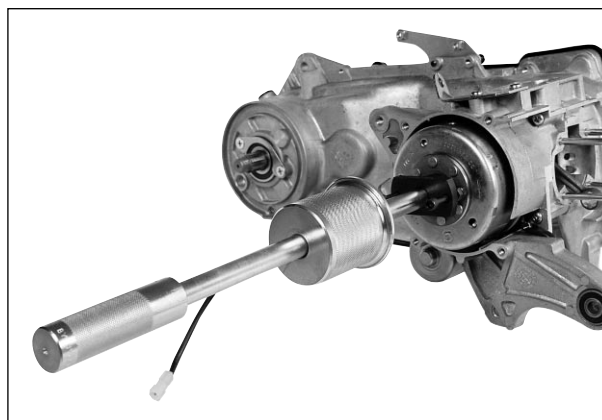
- Remove the magneto rotor with the special tool.



Rotor remover sliding shaft : 09930-30102

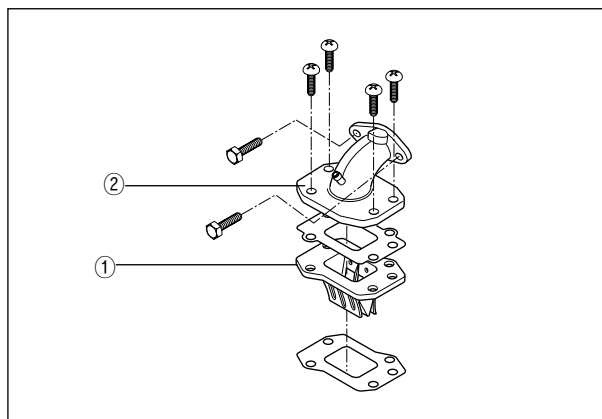
Rotor remover : 09930-30163

- Remove the magneto stator and key.



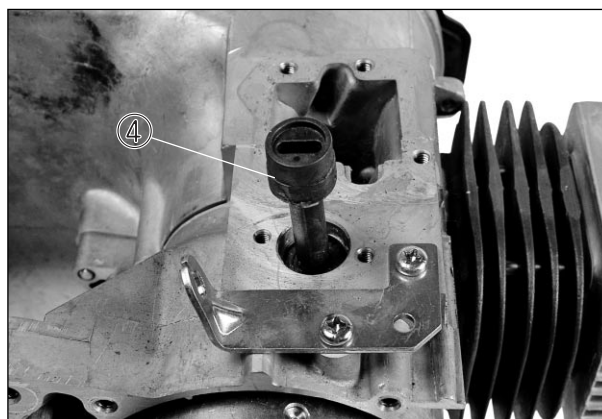
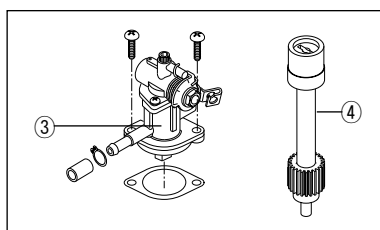
● REED VALVE

- Remove the intake pipe ② and reed valve ①.



● OIL PUMP

- Remove the oil pump ③.
- Remove the oil pump driven gear ④.



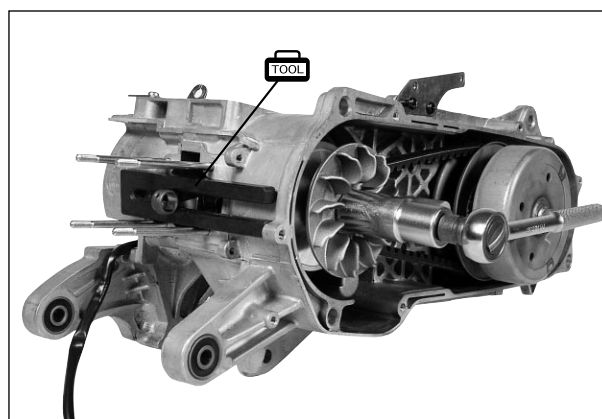
MOVABLE DRIVE FACE

- Remove the fixed drive face nut ① with the special tool.

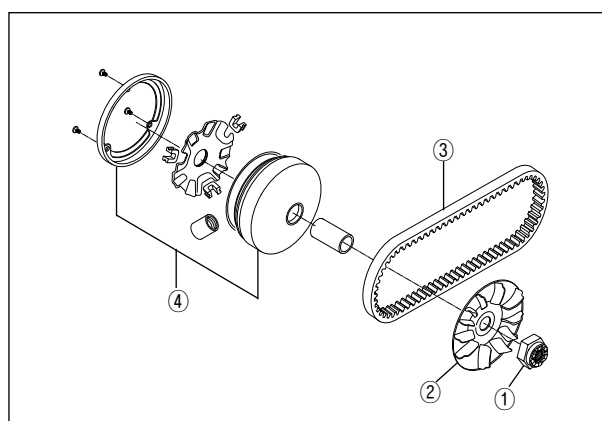
CAUTION

This nut has left-hand thread.

TOOL Conrod holder : 09910-20115



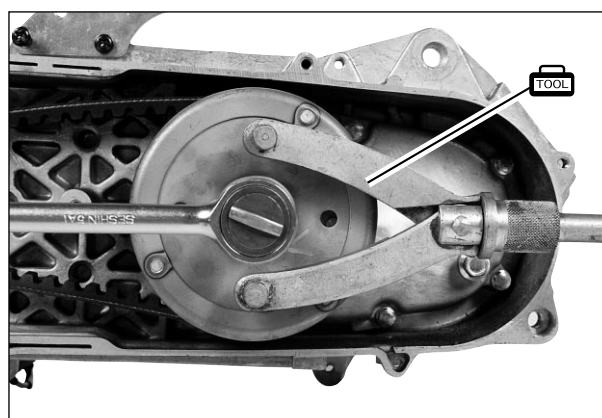
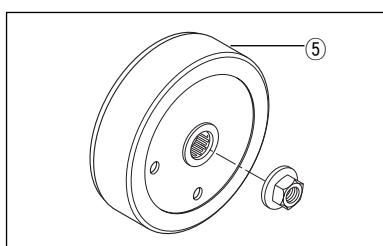
- Remove the fixed drive face ② and V-belt ③.
- Disassemble the movable drive face ④.



MOVABLE DRIVEN FACE

- Remove the clutch housing ⑤ with the special tool.

TOOL Rotor holder : 09930-40113



STARTER DRIVEN GEAR

- Remove the starter driven gear ⑥.



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- Loosen the clutch shoe nut with the special tool.

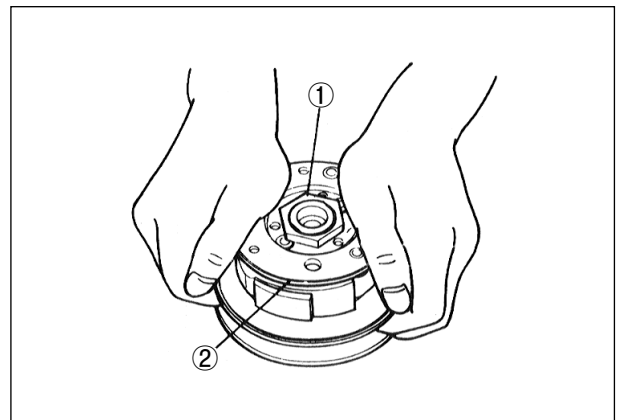
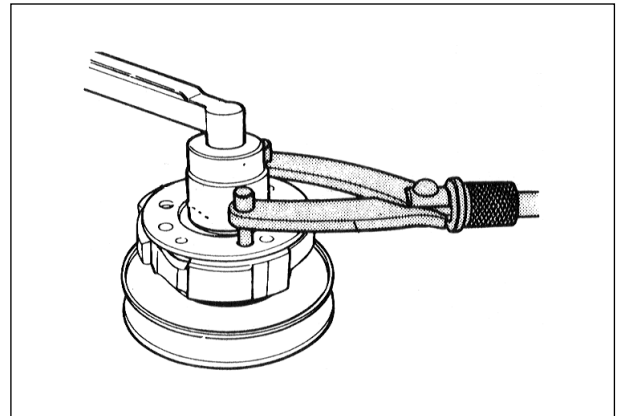
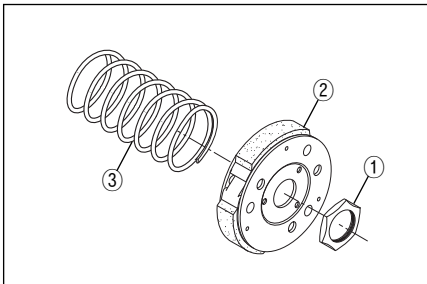
 **Rotor holder : 09930-40113**

- Remove the nut while holding down the clutch shoe assembly by both hands as shown in the illustration.

WARNING

Gradually back off the clutch shoe assembly pressed down by hand to counter the clutch spring load. Releasing the hand suddenly may cause the parts to fly apart.

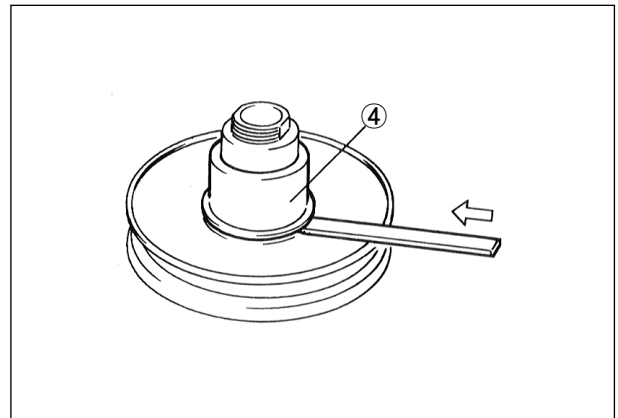
- ① Nut
- ② Clutch shoe assembly
- ③ Spring



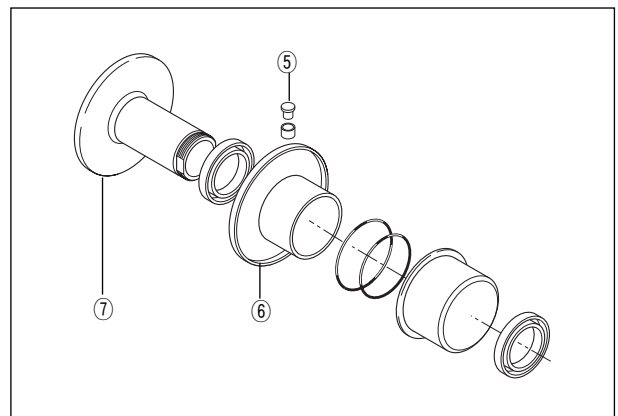
CAUTION

Do not attempt to disassemble the clutch shoe assembly. It is not serviceable.

- Using a thin blade screwdriver or the like, pry up the movable driven face spring guide (4).



- Remove the pins (5), movable driven face (6) and fixed driven face (7).



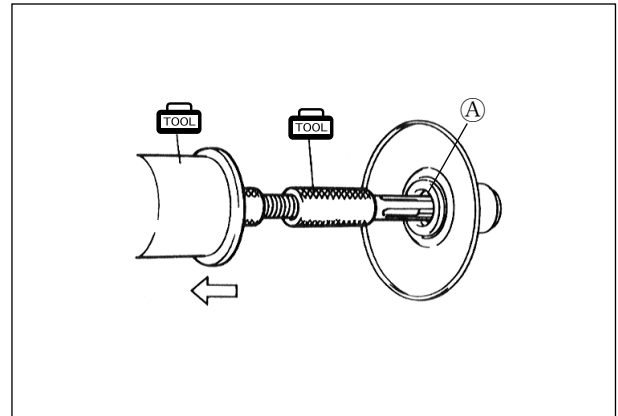
- Remove the roller bearing (A) with the special tools.

TOOL Bearing remover(17mm) : 09923-73210

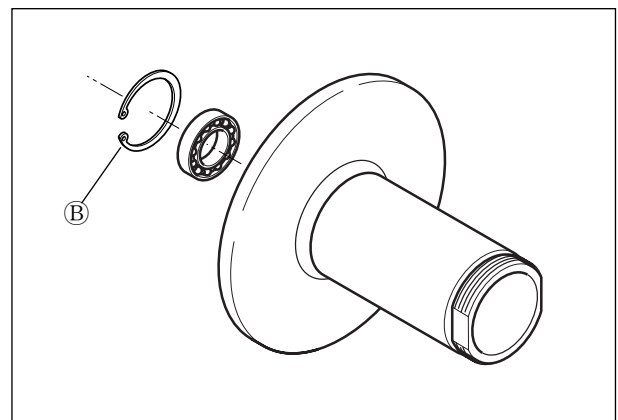
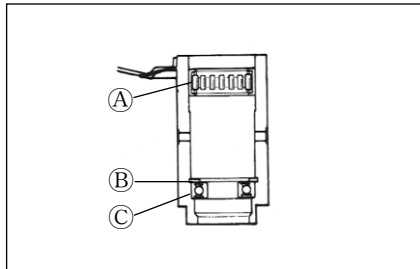
Rotor remover sliding shaft : 09930-30102

CAUTION

The removed bearing should be replaced with a new one.



- Remove the circlip (B).

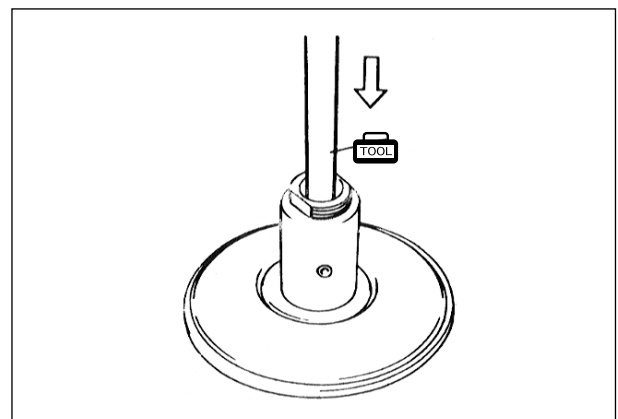


- Remove the bearing (C) with the special tool.

TOOL Wheel bearing remover : 09941-50111

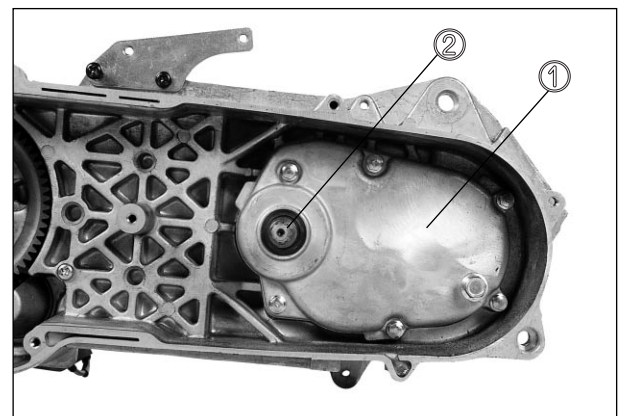
CAUTION

The removed bearing should be replaced with a new one.



⊙ **TRANSMISSION**

- Drain transmission oil.
- Remove the gear box cover (1).
- Remove the drive shaft (2).



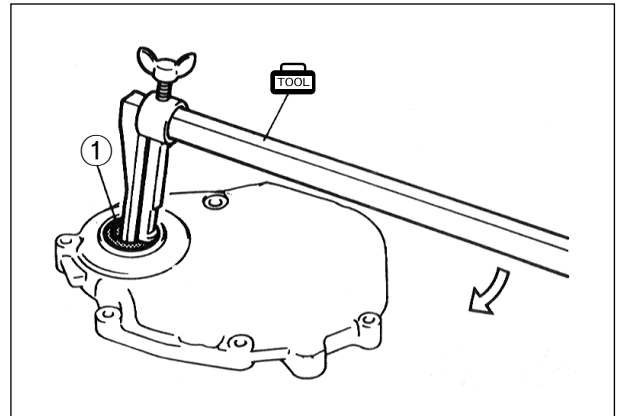
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- Remove the oil seal ① from the gear box cover with the special tool.

 Oil seal remover : 09913-50121

CAUTION

The removed oil seal should be replaced with a new one.

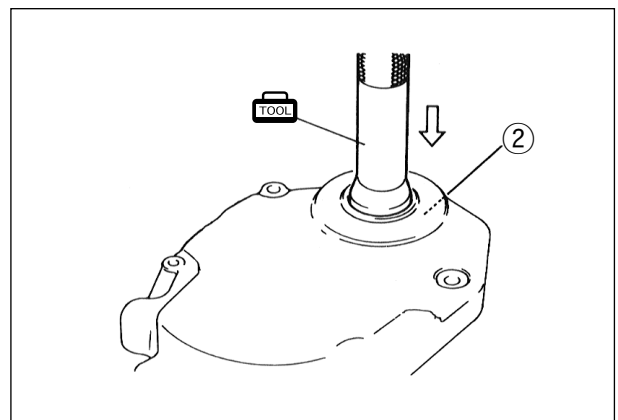


- Remove the bearing ② with the special tool.

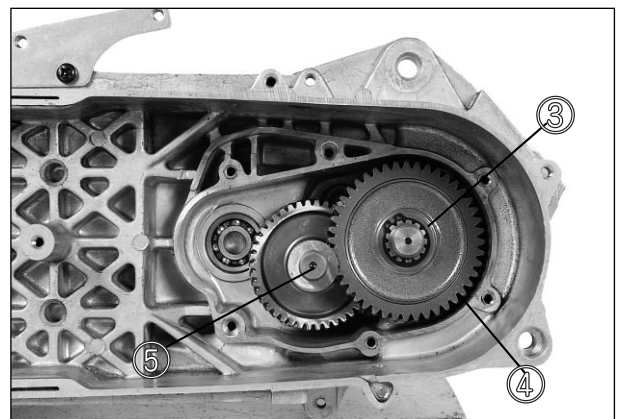
 Bearing installer : 09943-88211

CAUTION


The removed bearing should be replaced with a new one.

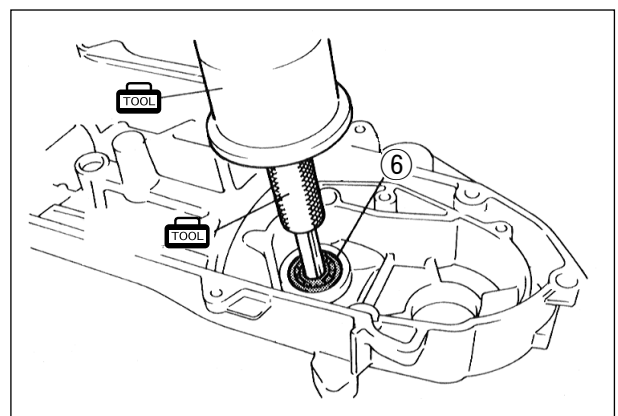


- Remove the circlip ③ and final driven gear ④.
- Remove the shaft ⑤.



- Remove the drive shaft bearing ⑥.

 Rotor remover sliding shaft : 09930-30102
Bearing remover (12mm) : 09921-20210



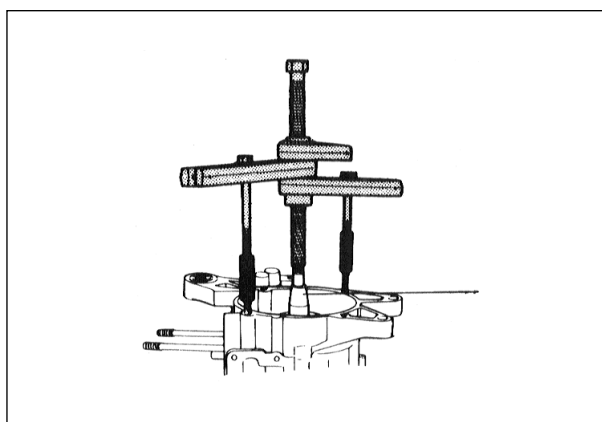
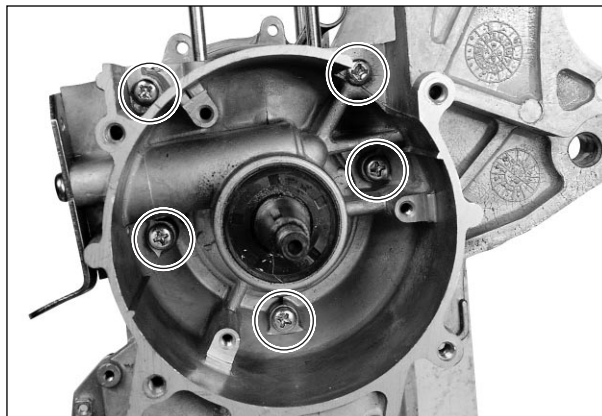
CRANKCASE

- Remove the crankcase securing screws.

 Crankcase separator : 09920-13120

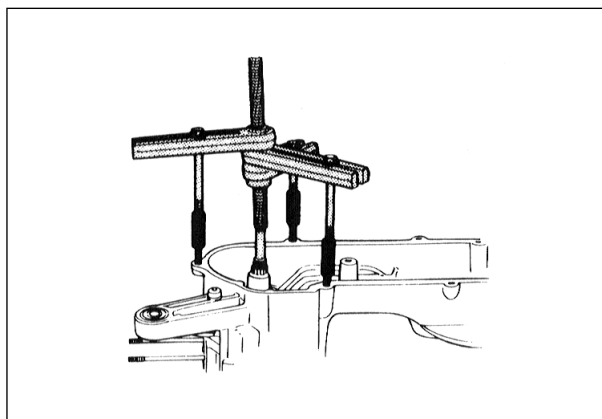
NOTE :

Loosen the crankcase screws diagonally.



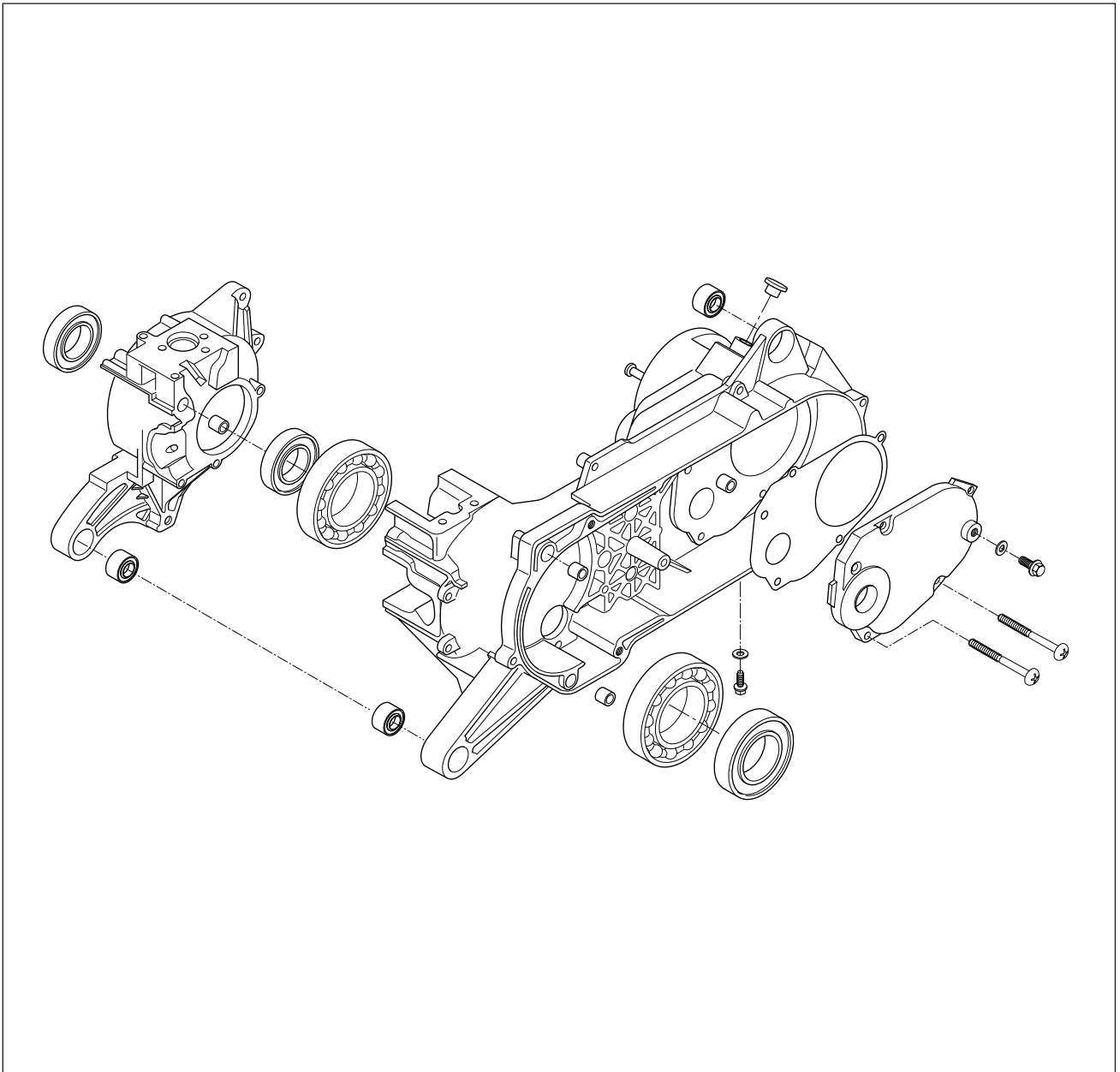
- Remove the crankshaft with the special tool.

 Crankcase separator : 09920-13120

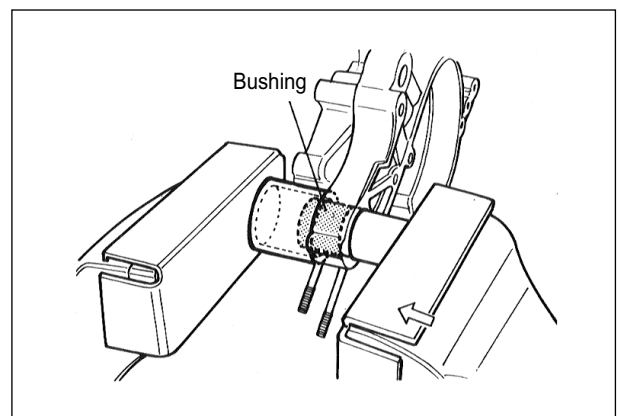


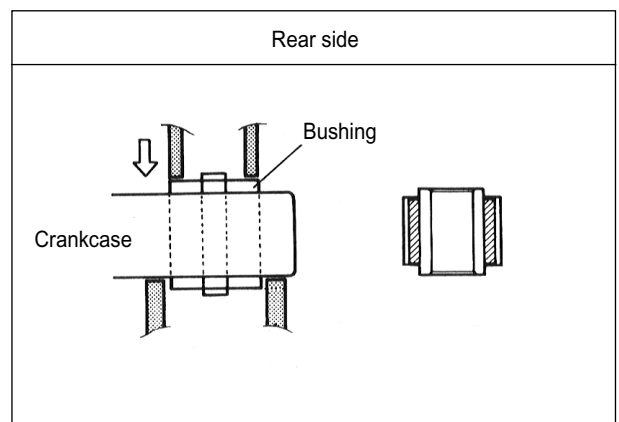
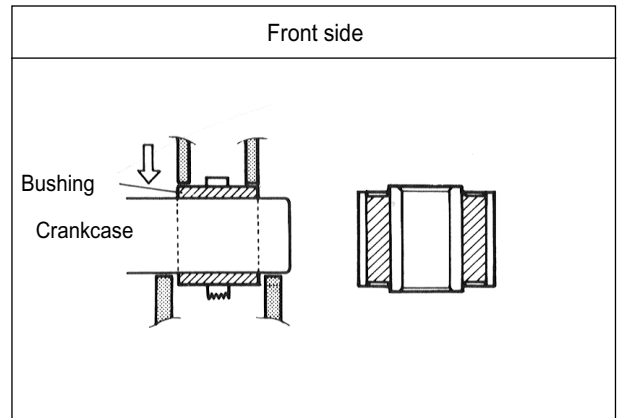
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- Remove the bearings, oil seals and bushing.



- Using two steel tubes of appropriate size, press out the engine mounting bushings on a vise as shown in the illustration.



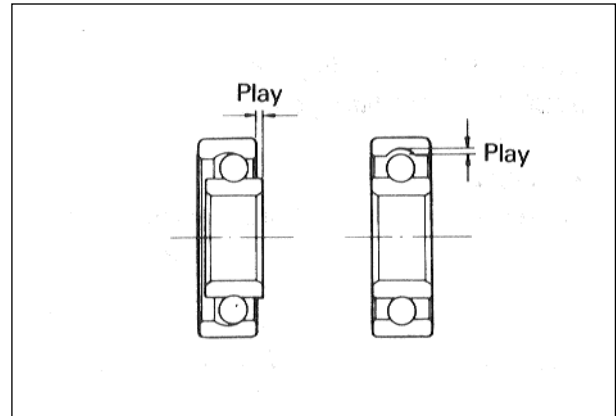


ENGINE COMPONENTS INSPECTION AND SERVICING

BEARINGS

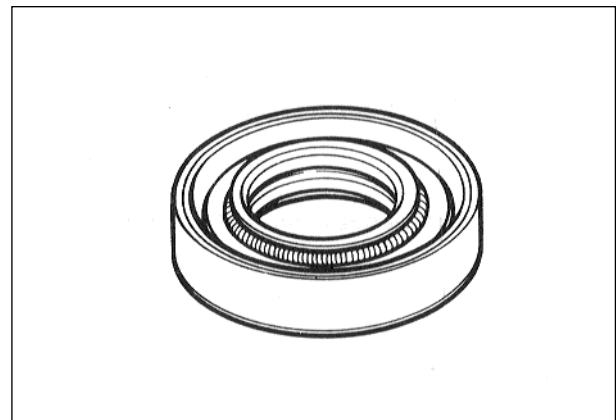
Wash the bearing with cleaning solvent and lubricate with motor oil before inspecting.

Turn the inner ring and check to see that the inner ring turns smoothly. If it does not turn lightly, quietly and smoothly, or if noise is heard, the bearing is defective and must be replaced with a new one.



OIL SEALS

Damage to the lip of the oil seal may result in leakage of the fuel-air mixture or oil. Inspect for damage and be sure to replace the damaged seal if found.



CRANKSHAFT

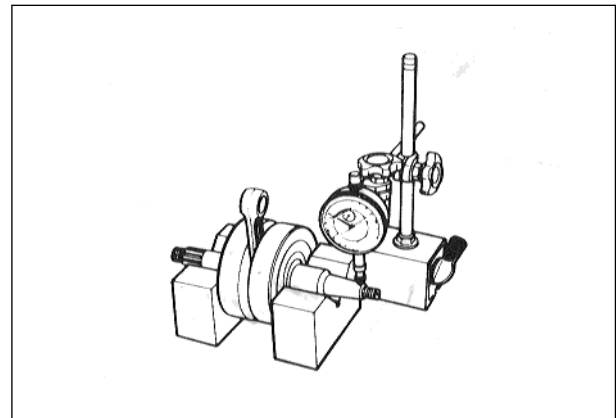
■ CRANKSHAFT RUNOUT

Support the crankshaft by the V blocks, with the dial gauge rigged to read the runout as shown.

Crankshaft runout	Service limit
	0.08 mm (0.003 in)

Excessive the crankshaft runout is often responsible for abnormal engine vibration. Such vibration shortens engine life.

-  **V-block : 09943-21304**
- Magnetic stand : 09900-20701**
- Dial gauge : 09900-20606**

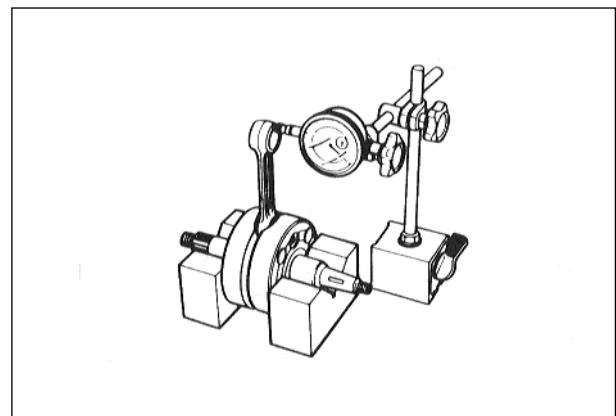


■ WEAR AND CLEARANCE OF CONROD BIG END

Turn the crankshaft with the conrod to feel the smoothness of rotary motion in the big end. Move the rod up and down while holding the crankshaft rigidly to be sure that there is no rattle in the big end.

Wear on the big end of the conrod can be estimated by checking the movement of the small end of the rod. This method can also check the extent of wear on the parts of the conrod s big end.

If wear exceeds the limit, conrod, crank pin and crank pin bearing should all be replaced.



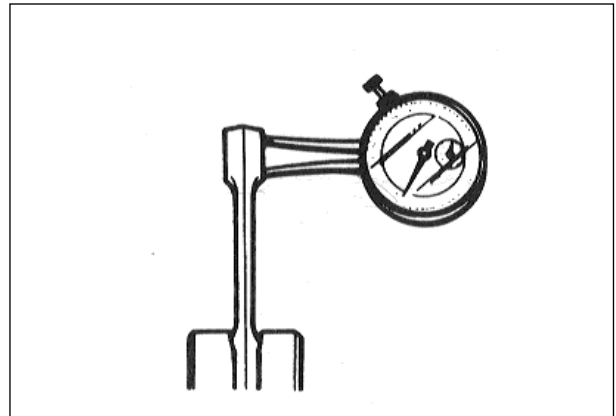
Conrod big end runout	Service limit
	3.0mm (0.12 in)

■ CONROD SMALL END BORE I.D.

Measure the conrod small end diameter with a caliper gauge.

Conrod small end bore I.D.	Service limit
	14.047mm (0.553 in)

 **Dial calipers : 09900-20605**



AUTOMATIC CLUTCH INSPECTION

This vehicle is equipped with an automatic clutch and variable ratio belt drive transmission. The engagement of the clutch is governed by engine RPMs and centrifugal mechanism located in the clutch.

To insure proper performance and longevity of the clutch assembly it is essential that the clutch engages smoothly and gradually. Two inspection checks must be performed to thoroughly check the operation of the drivetrain. Follow the procedures listed.



1. CLUTCH-IN INSPECTION

Warm the engine to normal operating temperature. Connect an engine tachometer to the engine.

Seated on the vehicle with the vehicle on level ground, increase the engine RPMs slowly and note the RPM at which the vehicle begins to move forward.

Clutch-in RPM	Standard	3,600 rpm
	Tolerance	± 200 rpm

 **Engine tachometer : 09900-26006**



2. CLUTCH TIGHT INSPECTION

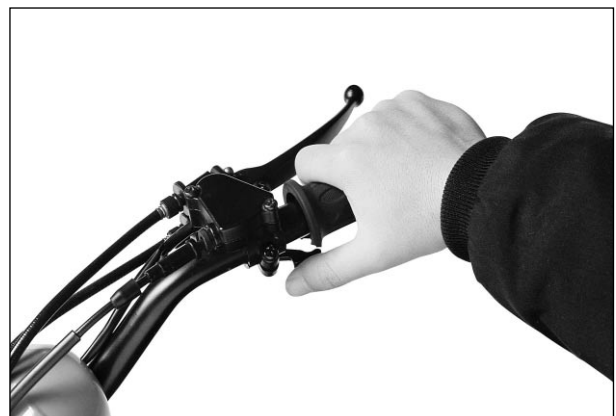
Grip the front and rear lever fully, and measure the engine RPM when open the throttle.

Warm the engine to normal operating temperatures.

Connect an engine tachometer to the engine.

Apply the rear brake as firm as possible.

Briefly open the throttle fully and note the maximum engine RPMs sustained during the test cycle.



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⚠ CAUTION

Do not apply full power for more than 3 seconds or damage to the clutch or engine may occur.

Clutch tight RPM	Standard	4,500 rpm
	Tolerance	±200 rpm

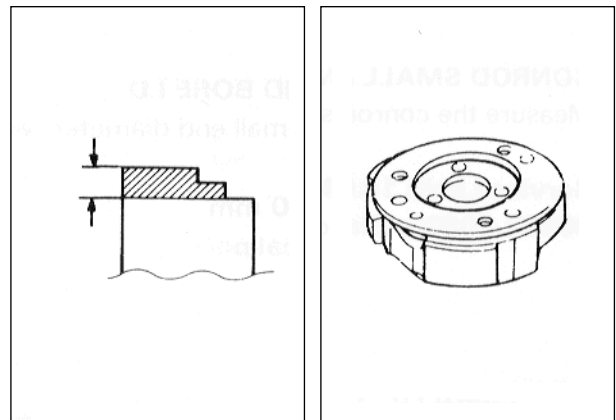
 **Engine tachometer : 09900-26006**

If the engine RPM does not coincide with the specified RPM range, then disassemble the clutch.

Clutch shoe - inspect the shoes visually for chips, cracking, uneven wear and burning, and check the thickness of the shoes with vernier calipers. If the thickness is less than the following service limit, replace them as a set.

Clutch springs - visually inspect the clutch springs for stretched coils or broken coils.

Clutch shoe thickness	Service limit
	2.0 mm (0.079 in)

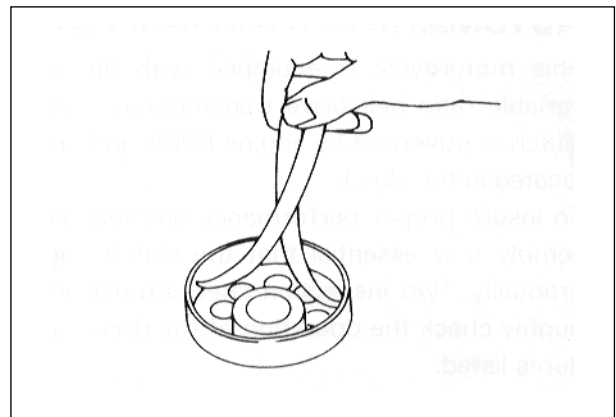


⚠ CAUTION

Clutch shoes or springs must be changed as a set and never individually.

Clutch housing - inspect visually the condition of the inner clutch housing surface for scrolling, cracks, or uneven wear. Measure inside diameter at several points to check for an out-of-round condition as well as wear.

Clutch housing I.D.	Service limit
	110.35 mm (4.344 in)



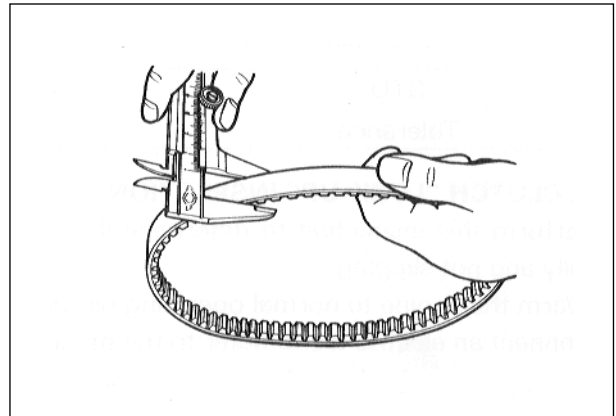
■ DRIVE V-BELT

Remove the drive V-belt and check for cracks, wear and separation. Measure the belt width with a vernier calipers. Replace it if the belt width is less than the service limit or any defect has been found.

Drive V-belt width	Service limit
	15.3 mm (0.602 in)

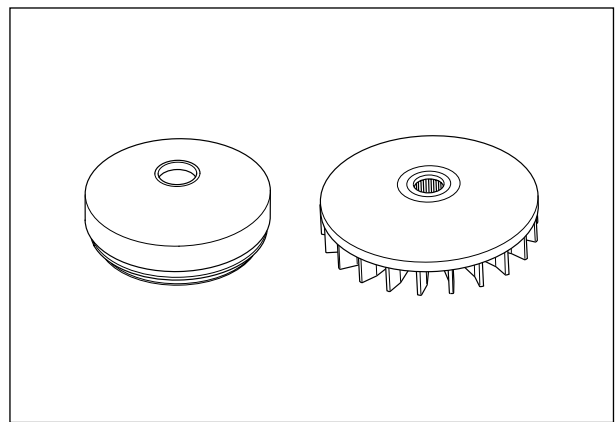
▲ CAUTION

Always keep the belt away from any greasy mater.



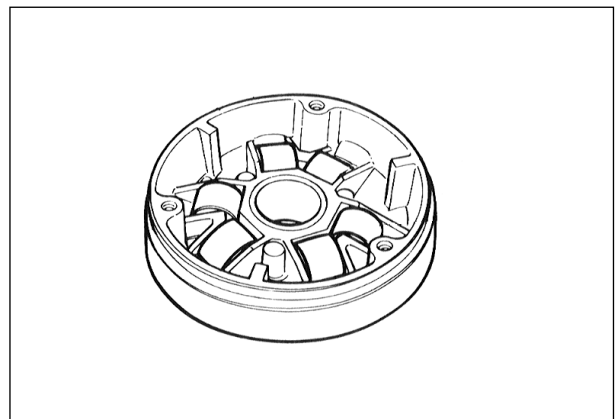
■ DRIVE FACE

Inspect the belt contact surface of the drive faces for wear, scratches or any abnormality. If there is something unusual, replace the drive face with a new one.



■ ROLLER AND MOVABLE DRIVE FACE

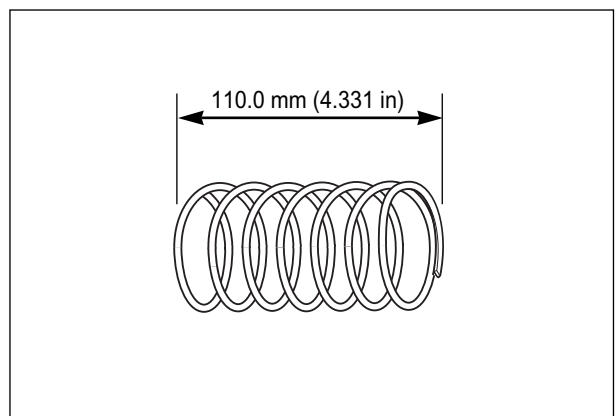
Inspect each roller and movable drive face for wear or damage.



■ MOVABLE DRIVEN SPRING

Measure the free length of the movable driven spring. If the length is shorter than the service limit, replace the spring with a new one.

Movable driven spring free length	Standard
	110.0 mm (4.331 in)

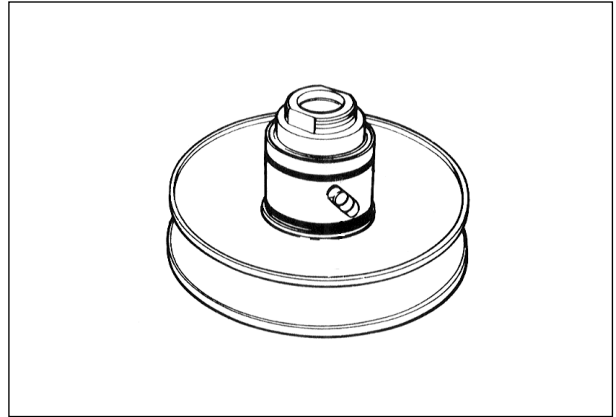


3-19 ENGINE

■ DRIVEN FACE PIN AND OIL SEAL

Turn the driven faces and check to see that the driven faces turn smoothly.

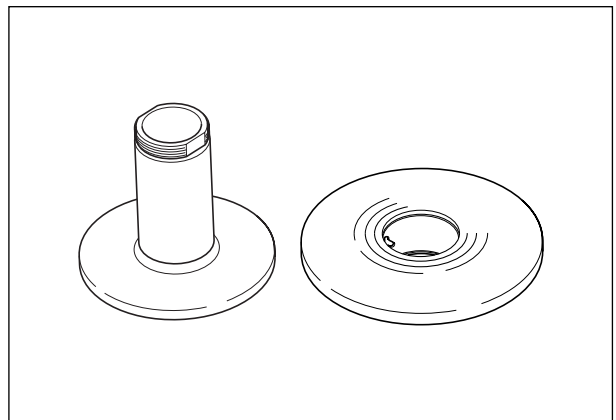
If any stickiness or hitches are found, visually inspect the lip of seal, driven face sliding surface and sliding pins for wear or damage.



■ DRIVEN FACE

Inspect the belt contacting surface of both driven faces for any scratches, wear and damage.

Replace driven face with new one if there are any abnormality.



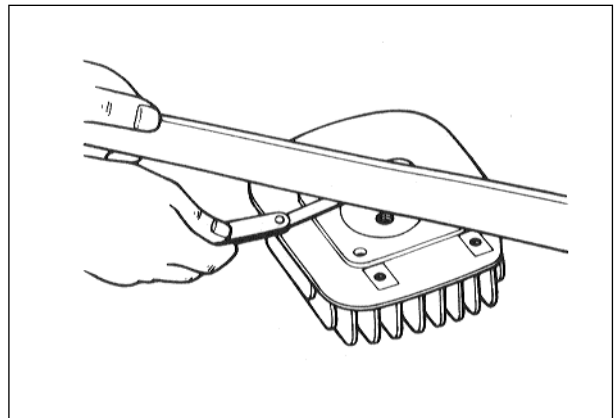
CYLINDER HEAD

Decarbon the combustion chamber.

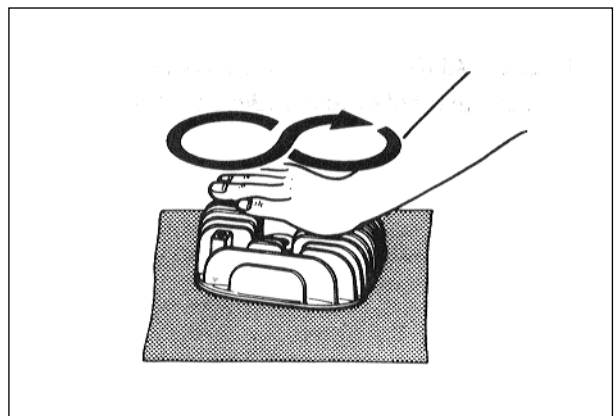
Check the gasketed surface of the cylinder head for distortion with a straightedge and thickness gauge, taking a clearance reading at several places.

 **Thickness gauge : 09900-20806**

Cylinder head distortion	Service limit
	0.1 mm (0.004 in)



If the largest reading at any portion of the straight-edge exceeds the limit, rework the surface by rubbing it against emery paper (of about #400) laid flat on the surface plate in a lapping manner. The gasketed surface must be smooth and perfectly flat in order to secure a tight joint : a leaky joint can be the cause of reduced power output and increased fuel consumption.



CYLINDER

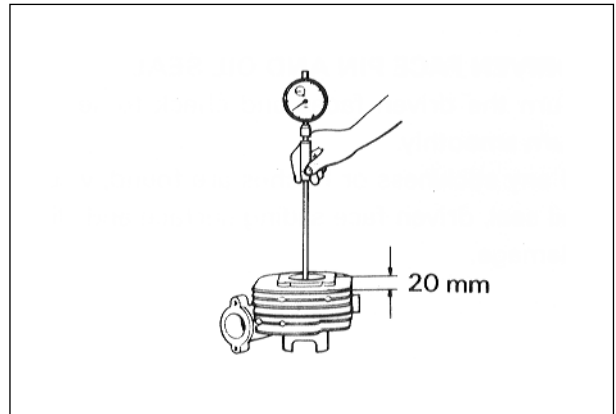
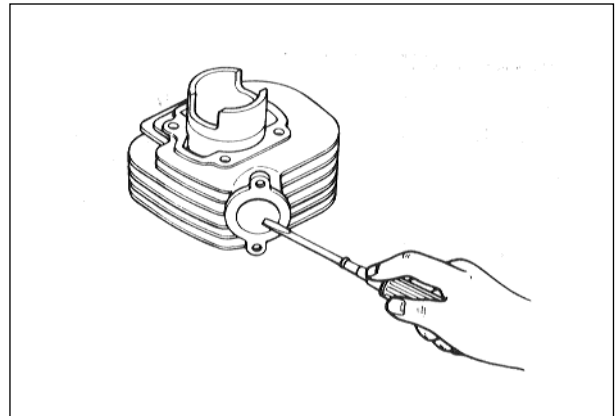
Decarbon exhaust port and upper part of the cylinder, taking care not to damage the cylinder wall surface.

The wear of the cylinder wall is determined from diameter reading taken at 20mm from the top of the cylinder with a cylinder gauge. If the wear thus determined exceeds the limit indicated below, rework the bore to the next oversize by using a boring machine or replace the cylinder with a new one.

Cylinder bore	Service limit
	41.070 mm (1.617 in)

 **Cylinder gauge set : 09900-20508**


After reworking the bore to an oversize, be sure to chamfer the edges of ports and smooth the chamfered edges with emery paper. To chamfer, use a scraper, taking care not to nick the wall surface.



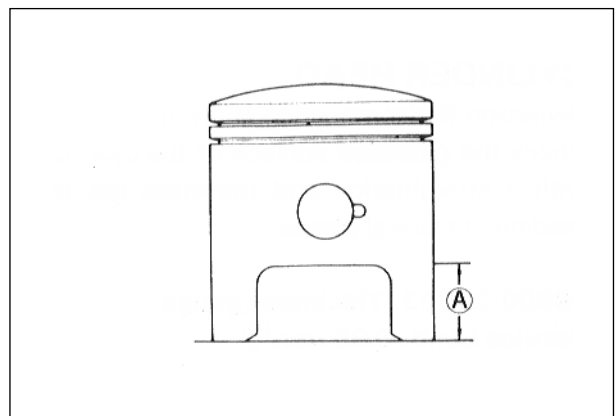
PISTON

■ CYLINDER TO PISTON CLEARANCE

Cylinder-to-piston clearance is the difference between piston diameter and cylinder bore diameter. Be sure to take the maked diameter at right angles to the piston pin. The value of elevation \textcircled{A} is prescribed to be 15mm from the skirt end.

 **Micrometer(20 ~ 50mm) : 09900-20202**

Piston diameter	Service limit
	40.885 mm (1.610 in)



3-21 ENGINE

As a result of the above measurement, if the piston-to-cylinder clearance exceeds the following limit, overhaul the cylinder and use an oversize piston, or replace both cylinder and piston. The measurement for the bore diameter should be taken in the intake-to-exhaust port direction and at 20mm from cylinder top surface.

	Standard	Service limit
Cylinder bore	41.005~41.020mm (1.6144~1.6150 in)	41.070mm (1.6169 in)
Piston diameter	40.935~40.950mm (1.6116~1.6122 in)	40.885mm (1.6097 in)
Cylinder to piston clearance	0.065 ~ 0.075mm (0.0026~0.0030 in)	0.120mm (0.0047 in)

■ DE-CARBONING

De-carbon the piston and piston ring grooves, as illustrated. After cleaning the grooves, fit the rings and rotate them in their respective grooves to be sure that they move smoothly.

Carbon in groove is liable to cause the piston ring to get stuck in the groove, and this condition will lead to reduced engine power output.

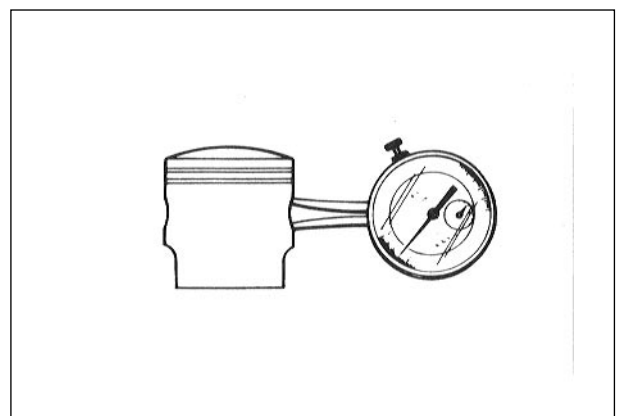
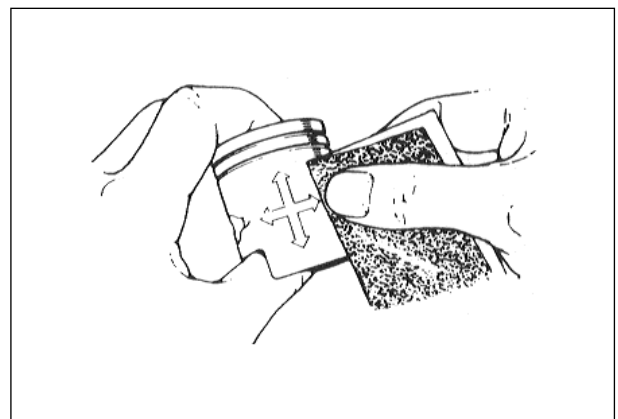
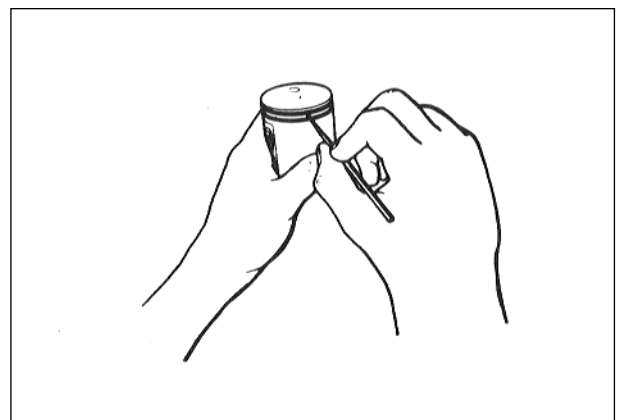
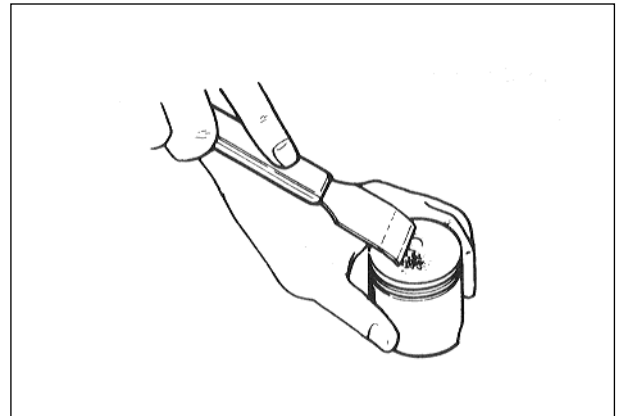
A piston whose sliding surface is badly grooved or scuffed due to overheating must be replaced. Shallow grooves or minor scuff can be removed by grinding with emery paper of about #400.

■ PISTON PIN BORE I.D.

Using a caliper gauge, measure the piston pin bore inside diameter. If reading exceeds the following service limit, replace it with a new one.

 **Dial calipers : 09900-20605**

Piston pin bore I.D.	Service limit
	10.030 mm (0.395 in)

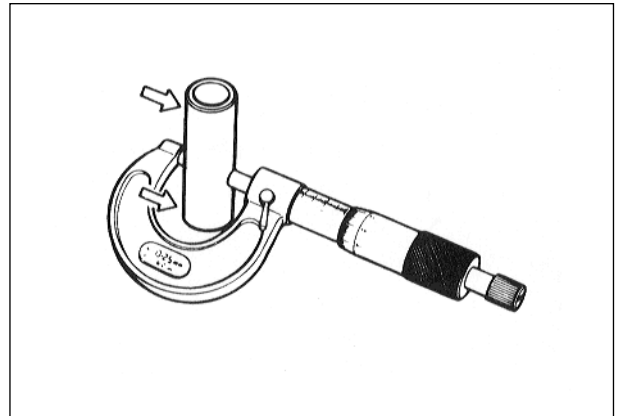


■ PISTON PIN O.D.

Using a micrometer, measure the piston pin outside diameter at three positions.

 **Micrometer(0~25mm) : 09900 - 20201**

Piston pin O.D.	Service limit
	9.980 mm (0.393 in)



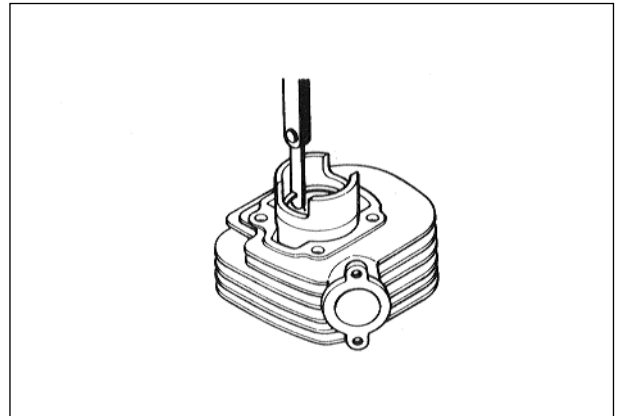
■ PISTON RINGS

Check each ring for the clearance, reading the clearance with a thickness gauge shown in the illustration. If the clearance is found to exceed the limit, indicated below, replace it with a new one.

The clearance of each ring is to be measured with the ring fitted squarely into the cylinder bore and held at the least worn part near the cylinder bottom, as shown in the illustration.

 **Thickness gauge : 09900 - 20806**

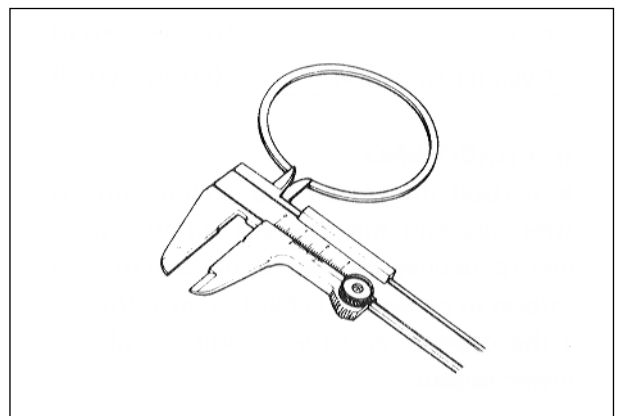
Piston ring clearance (Assembly condition)	Service limit
	0.75 mm (0.030 in)



As the piston ring wears, its clearance increases reducing engine power output because of the resultant blow by through the enlarged clearance. Here lies the importance of using piston rings with the clearance within the limit.

Measure the piston ring free clearance to check the spring tension.

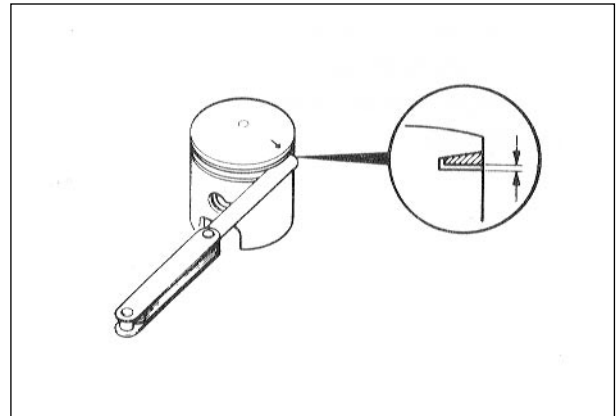
Piston ring clearance (Free condition)	Service limit
1st	3.2 mm (0.126 in)
2nd	3.1 mm (0.122 in)



3-23 ENGINE

Fix the piston ring in the piston ring groove, measure the ring side clearance with the thickness gauge while matching the sliding surfaces of piston and ring.

Piston ring - groove clearance	Standard
1st	0.02~0.06 mm (0.0008 ~ 0.0024 in)
2nd	0.02~0.06 mm (0.0008 ~ 0.0024 in)



REED VALVE

When reinstalling the reed valve and stopper plate to the body, align the both cut on the reed valve and stopper plate.

Apply **THREAD LOCK 1324** to the stopper plate securing screws.

 **Thread Lock : 1324**



ENGINE REASSEMBLY

Reassembly is generally performed in the reverse order of disassembly, but there are a number of reassembling steps that demand or deserve detailed explanation or emphasis.

These steps will be taken up for respective parts and components.

OIL SEALS

Fit the oil seals to the crankcase following the procedure below.

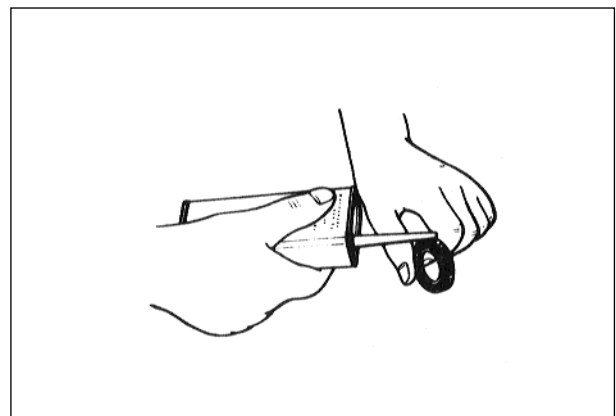
Replace removed oil seals with new ones.

- Coat **SUPER GREASE A** to the lip of the oil seals.

 **Super Grease A**

- Be sure to apply **THREAD LOCK 1324** to outer surfaces of right and left crankshaft oil seals to prevent them from moving.

 **Thread Lock : 1324**



- When fitting the oil seal in the crankcase, insert it slowly with the special tools.



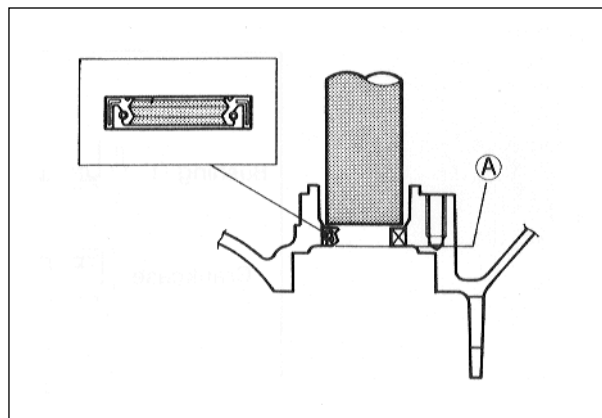
Oil seal installer : 09913-75830

Bearing installer attachment : 09924-74510

Bearing installer pilot : 09924-74540

NOTE :

Align the oil seal with edge **A** of the crankcase as shown in the illustration.



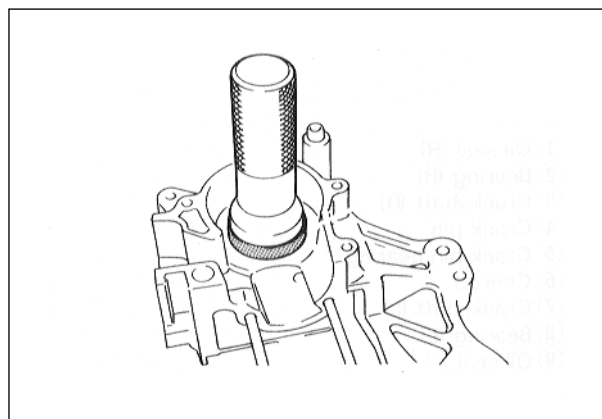
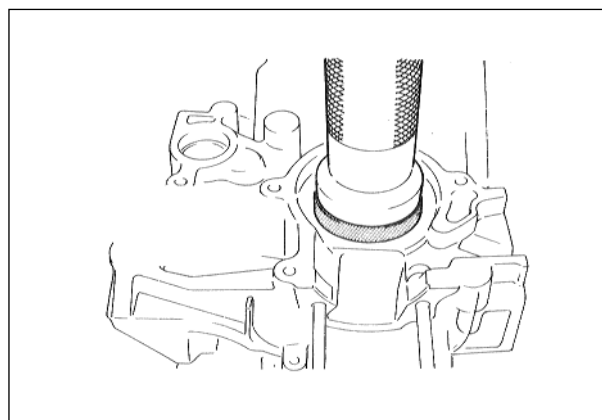
BEARINGS

Install new bearings with the special tool.



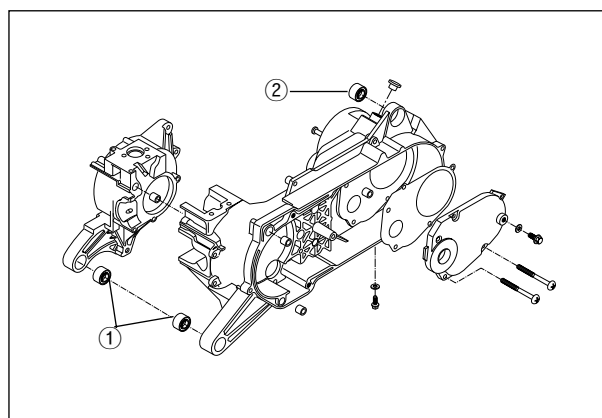
Bearing installer : 09913-75810

Bearing installer : 09913-76010



BUSHINGS

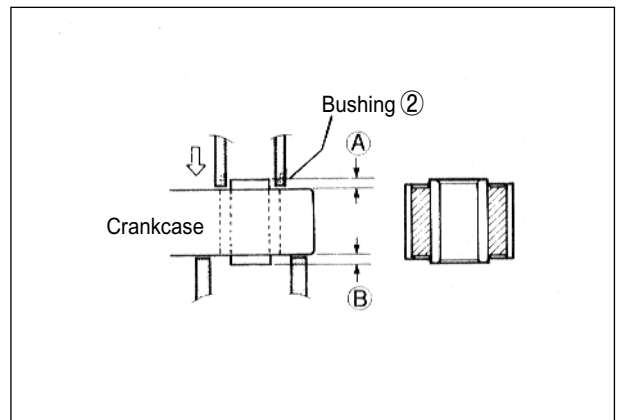
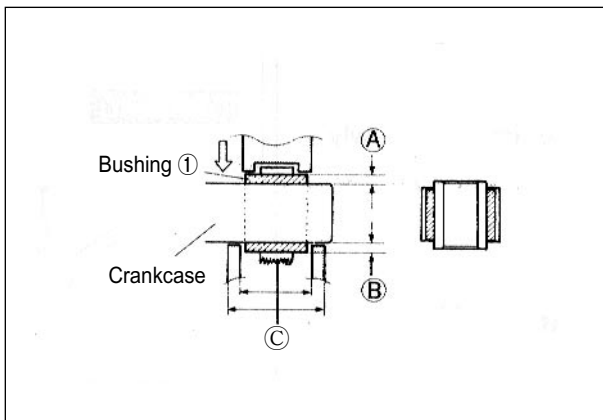
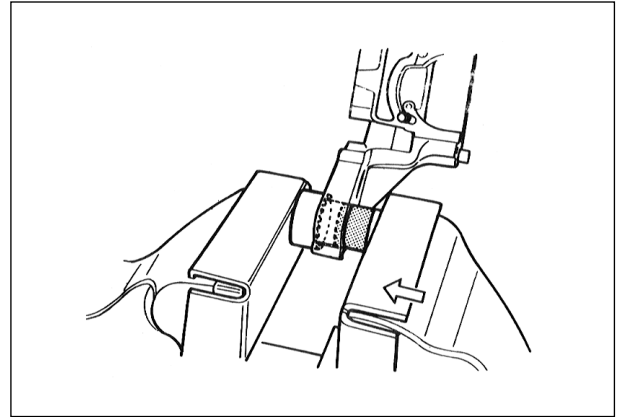
Using two steel tubes of appropriate size and a vise, press the mounting bushings ① and ② into the crankcase holes as shown in the illustration.



3-25 ENGINE

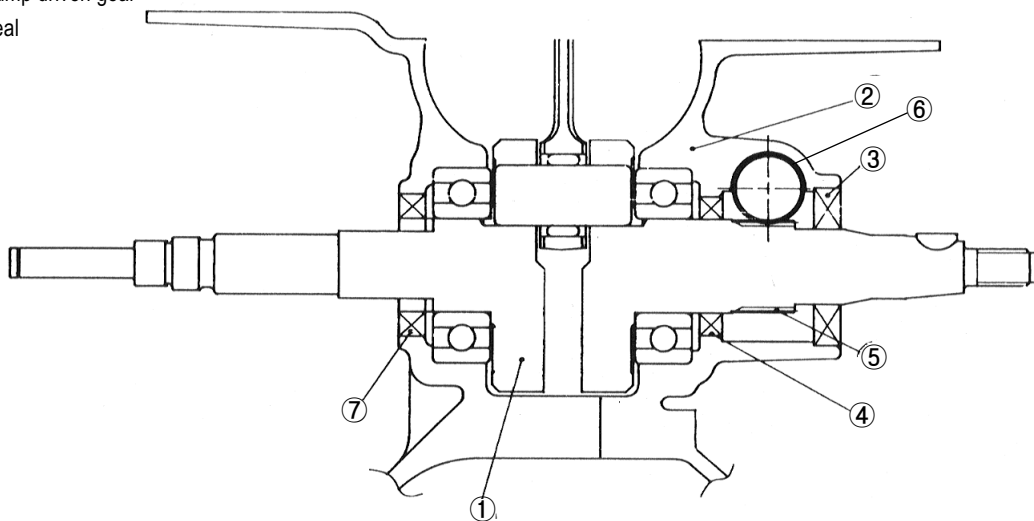
NOTE :

Knurled end ③ should face inside. Protrusive ④ and ⑤ should be in the same dimension.



CRANKSHAFT


- ① Crankshaft
- ② Crankcase(R)
- ③ Oil seal
- ④ Oil seal
- ⑤ Oil pump drive gear
- ⑥ Oil pump driven gear
- ⑦ Oil seal



- Measure the length between the webs referring to the figure at right when rebuilding the crankshaft.

	Standard
Crank web to web width	35.0 ± 0.1 mm (1.378 ± 0.004 in)

- When mounting the crankshaft into the crankcase, it is necessary to pull its left end into the crankcase with the special tool.

 **Crankshaft installer : 09900-32812**
Conrod holder : 09910-20116

CAUTION

Never fit the crankshaft into the crankcase by driving it with a plastic hammer. Always use the special tool, otherwise crankshaft alignment accuracy will be affected.

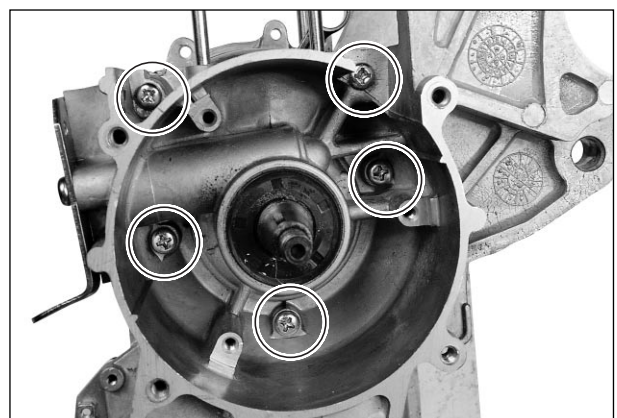
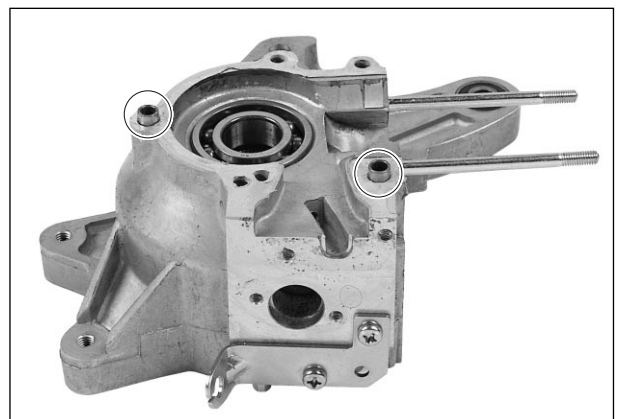
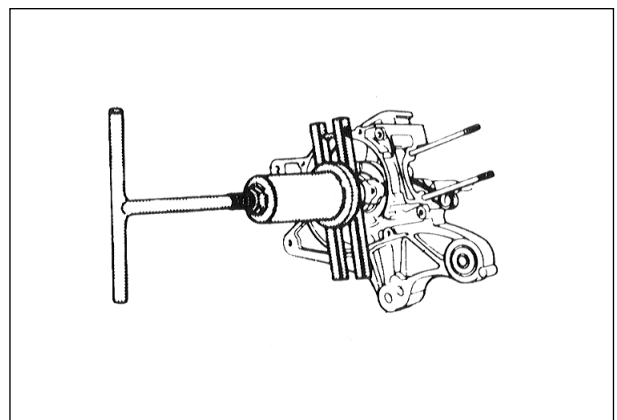
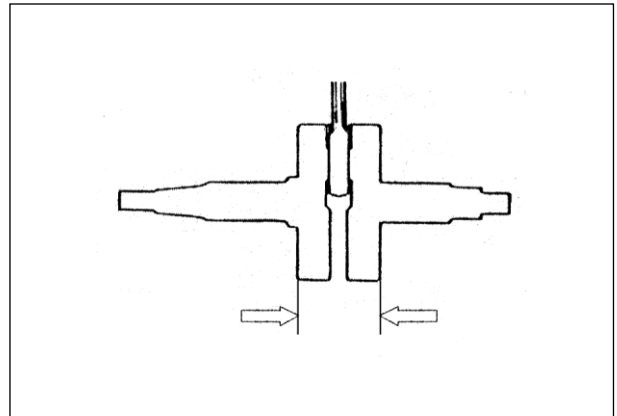
CRANKCASE

- Wipe the crankcase mating surfaces (both surfaces) with cleaning solvent.
- Apply **BOND 1215** uniformly to the mating surface of the left half of the crankcase, and install the dowel pins.

 **BOND 1215**

- Install the two dowel pins.

- Tighten the crankcase screws securely.
- Check if crankshaft rotates smoothly.



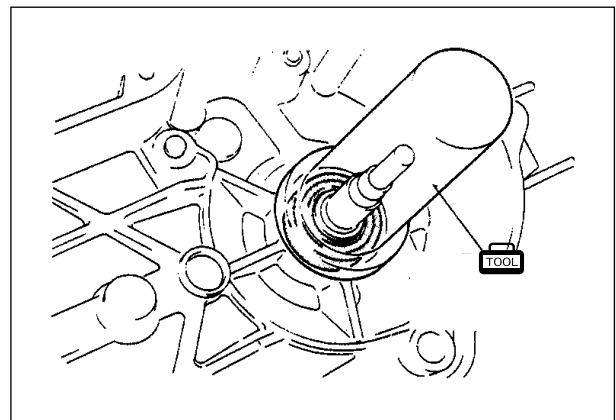
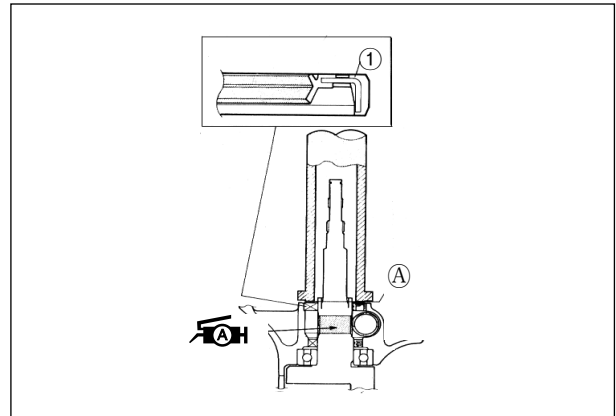
3-27 ENGINE

- Install the new oil seal ① to the crankcase with the special tool.

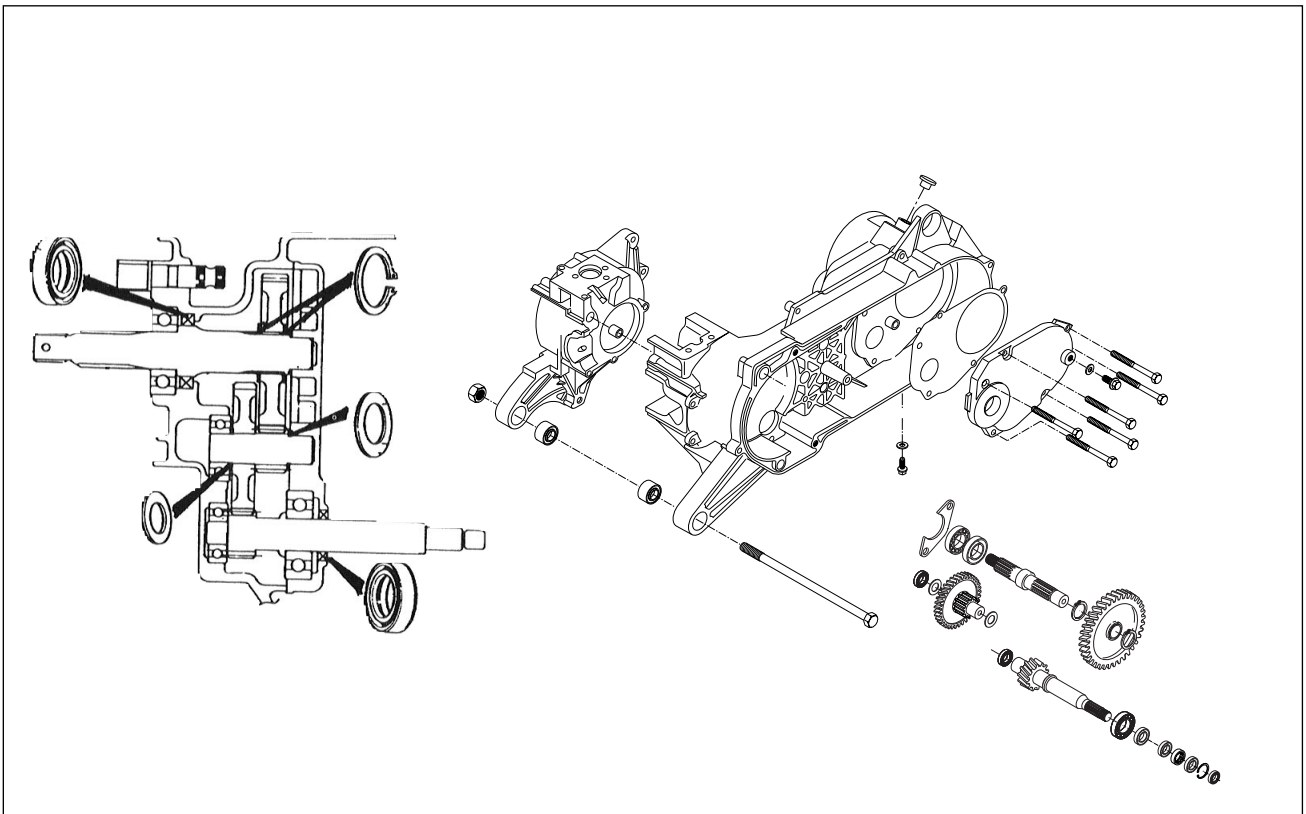
NOTE :

Align the oil seal with edge ① of the crankcase as shown in the illustration.

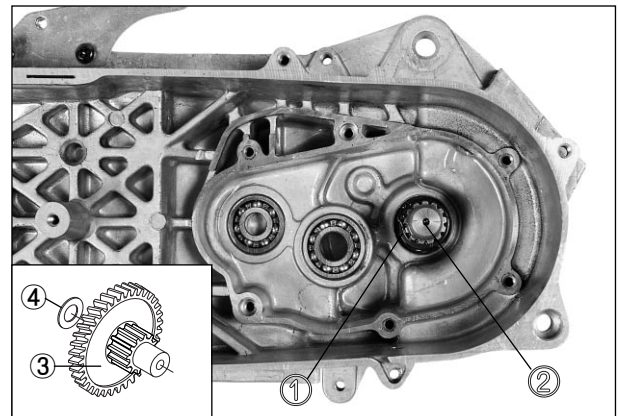
 Bearing installer : 09913-85210



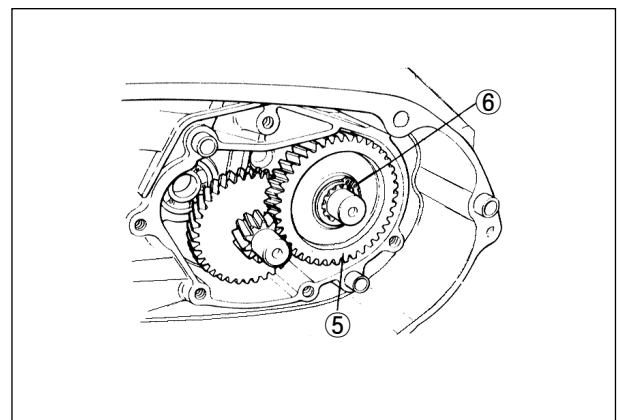
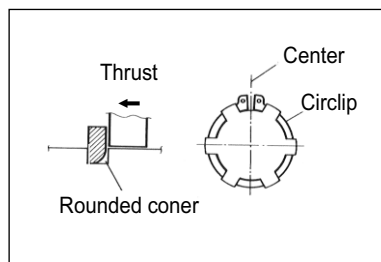
TRANSMISSION



- Install the circlip ① on to the rear axle shaft ② .
- Assemble the idle shaft subassembly using the idle shaft ③ and thrust washer ④, then install the sub-assembly on the gear box.

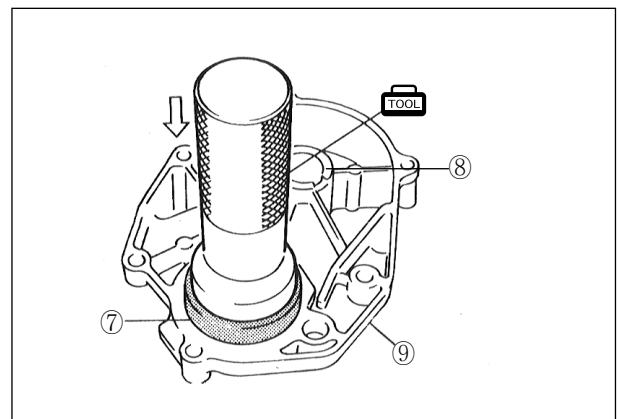


- Install the final driven gear ⑤ on the rear axle shaft using the circlip ⑥.



- Install the new bearing ⑦, ⑧ to the gear box cover ⑨ with the special tool.

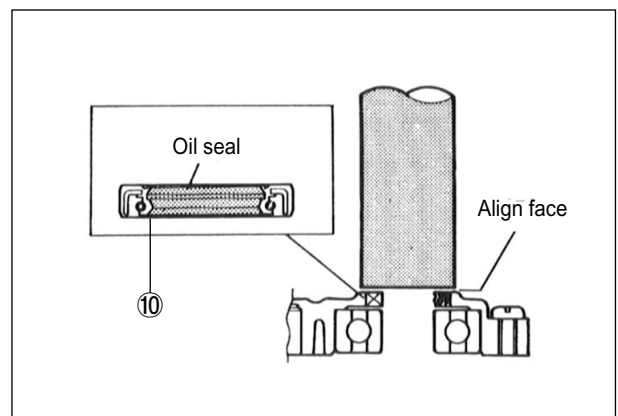
TOOL Bearing installer : 09913-76010

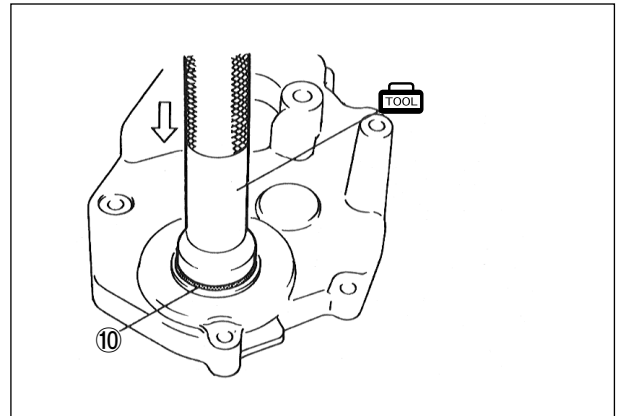


- Apply **SUPER GREASE A** to the lip of the oil seal ⑩ and install it to the gear box cover with the special tool.

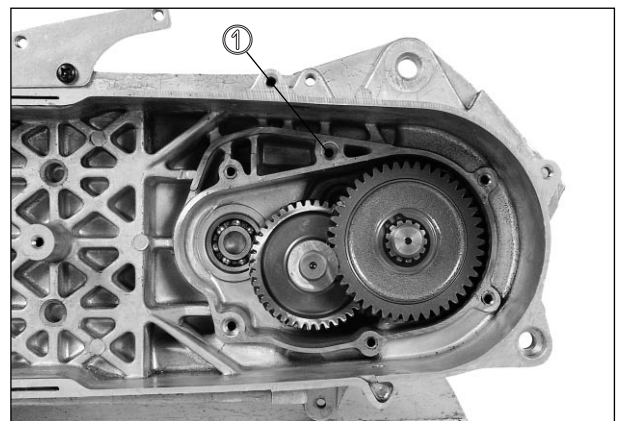
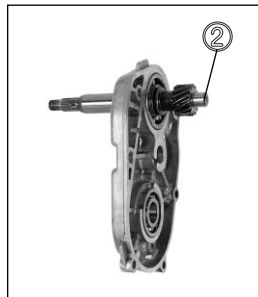
Super Grease A

TOOL Bearing installer : 09913-70122





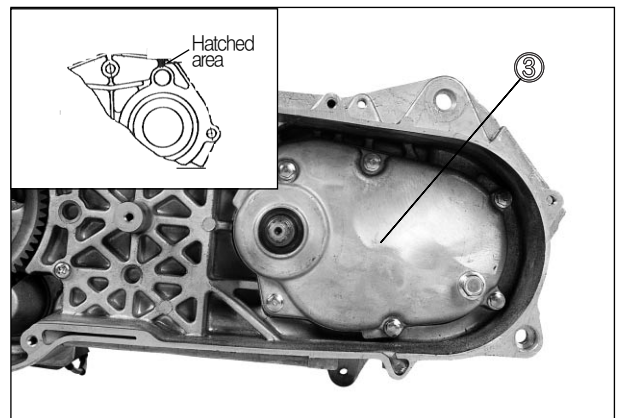
- Install the washer, new gasket and dowel pin ① .
- Install the driveshaft ② to the gear box cover.

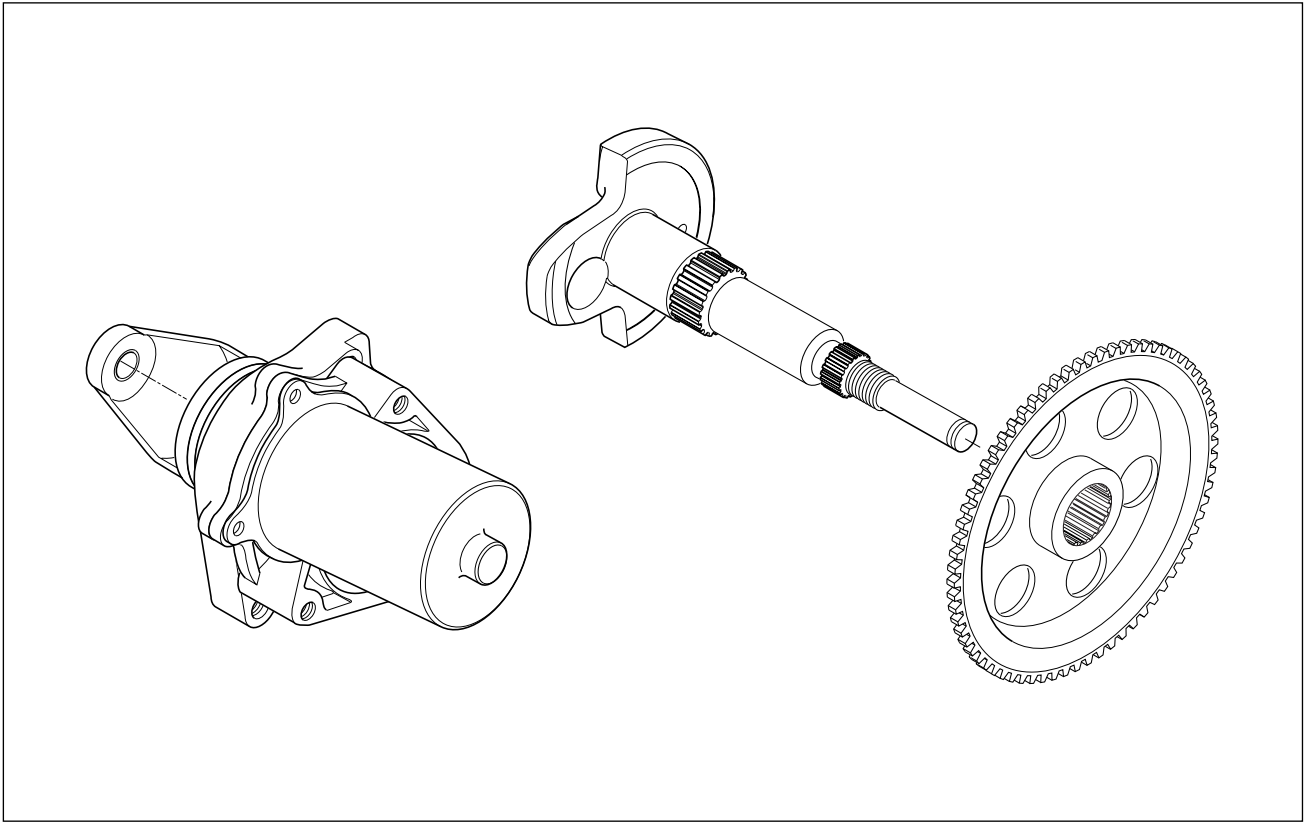


- Apply **BOND 1215** at the hatched area shown in the illustration and install the gear box cover ③ on the crankcase.

 **BOND 1215**

- Tighten all the screws evenly one by one in a diagonal fashion.

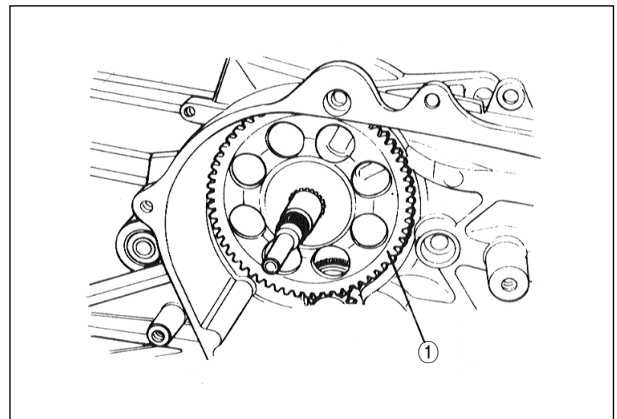


STARTER DRIVEN GEAR AND STARTER MOTOR

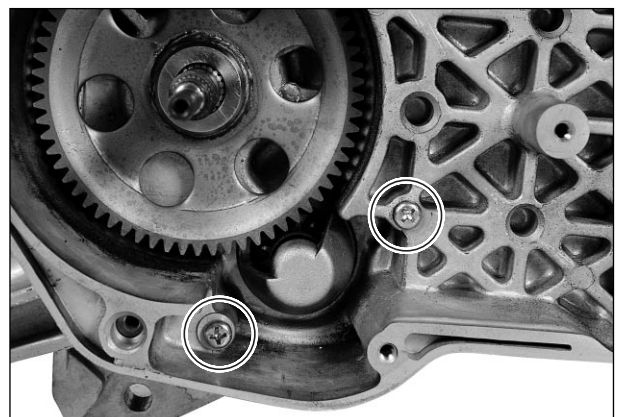
- Install the starter driven gear ① over the left crankshaft end.

NOTE :

The convex side of hub should face outside when installed in proper position.



- Install the starter motor ②.

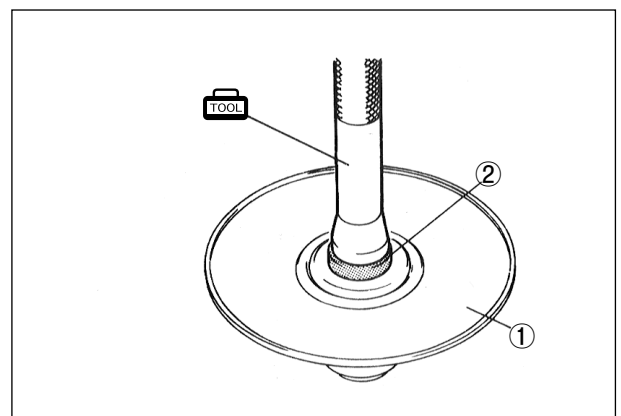


MOVABLE DRIVEN AND CLUTCH



● Install the bearing ② in the fixed driven face ① with the special tool.

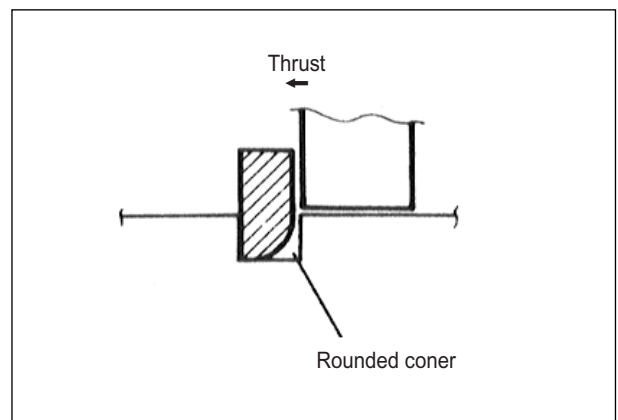
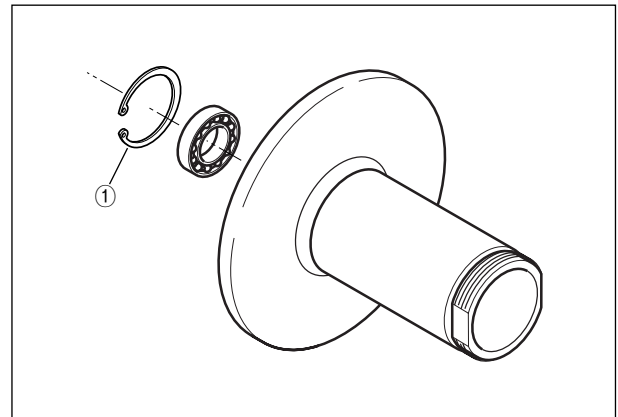
 **Bearing installer : 09943-88211**



- Install the circlip ①.

CAUTION

Insert surely in the circlip groove.

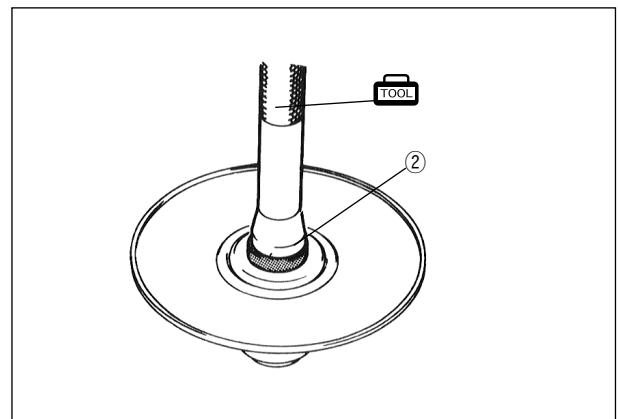


- Install the bearing ② with the special tool.

TOOL Bearing installer : 09943-88211

CAUTION

A mark part of the bearing is pointed to the outside.

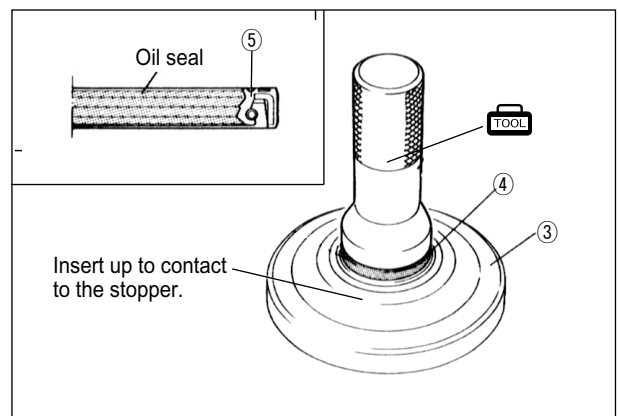


- Install the new oil seals (④, ⑤) to the movable driven face ③ with the special tool.

TOOL Bearing installer : 09913-76010

- Apply **SUPER GREASE A** to the lip of oil seals and groove of movable driven face s inside.

TAH Super Grease A

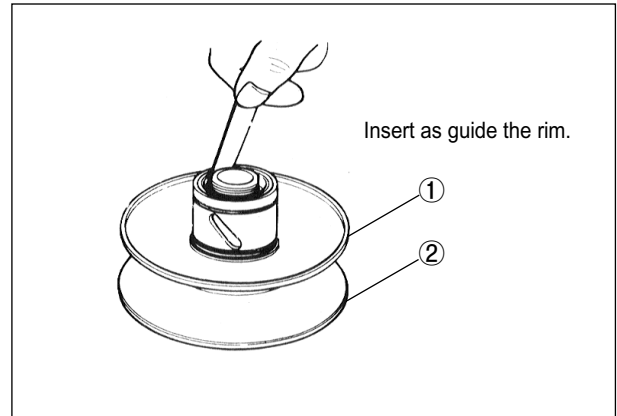


3-33 ENGINE

- Install the movable driven face ① to the fixed driven face ②.

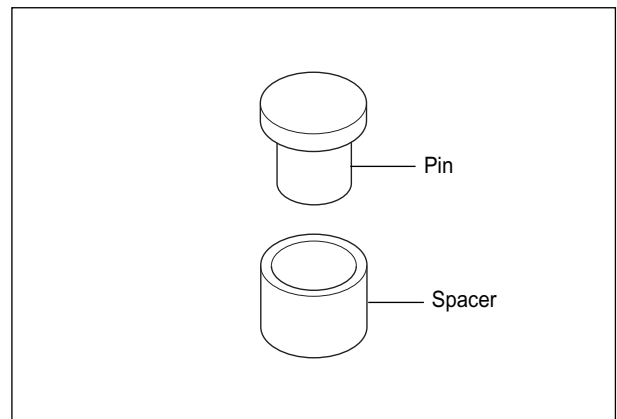
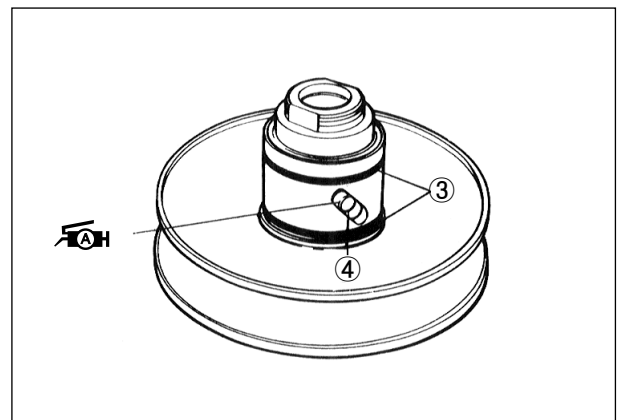
CAUTION

When reinstalling the movable driven face to the fixed driven face, make sure that the oil seal is positioned properly.



- Position the two O-rings ③.
- Install the pin ④ at three places on the driven face hub.
- Apply **SUPER GREASE A** lightly to the cam part where the pins are placed.

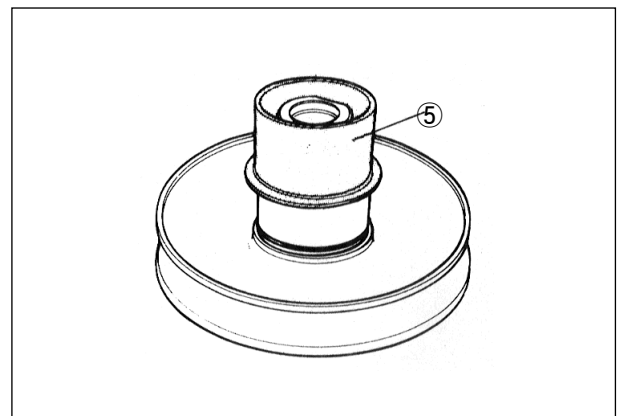
 **Super Grease A**



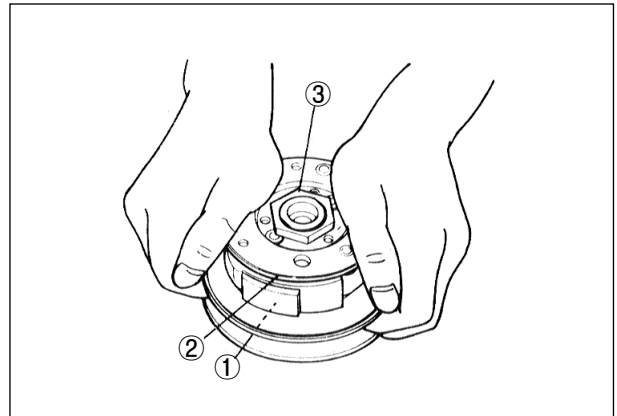
- Install the movable driven face seat ⑤.

CAUTION

The seat is installed rotatable naturally.
The O-ring get damaged, in case of installed by force.



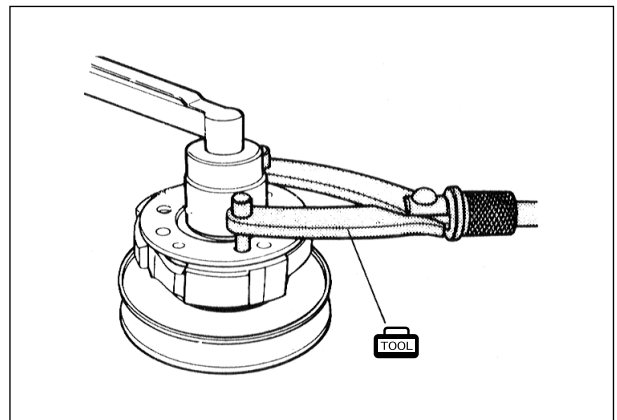
- Install the spring ①.
- Install the clutch shoe assembly ② and nut ③.



- Tighten the nut to the specified torque with the special tool.

TOOL Rotor holder : 09930-40113

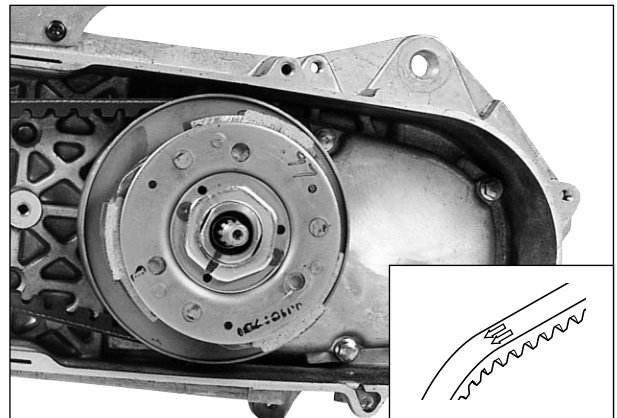
TOOL Clutch shoe nut : 40~60 N·m (4.0~6.0 kg·m)



- Insert the V-belt between the driven faces as deep inside as possible while pulling the movable driven face all the way outside to provide the maximum belt clearance.

CAUTION

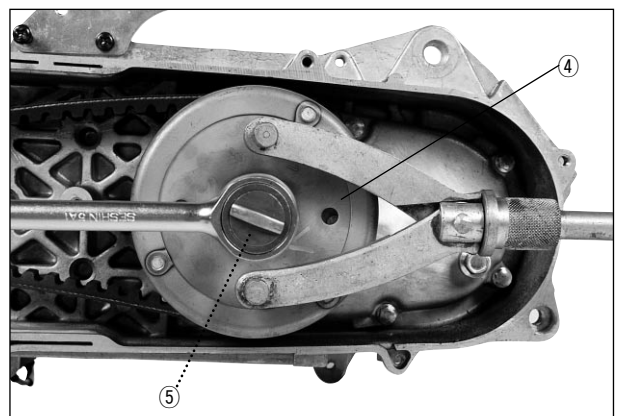
The V-belt should be positioned so that the arrows on the belt periphery point the normal turning direction. The V-belt contact face on the driven faces should be thoroughly cleaned to be free from oil.



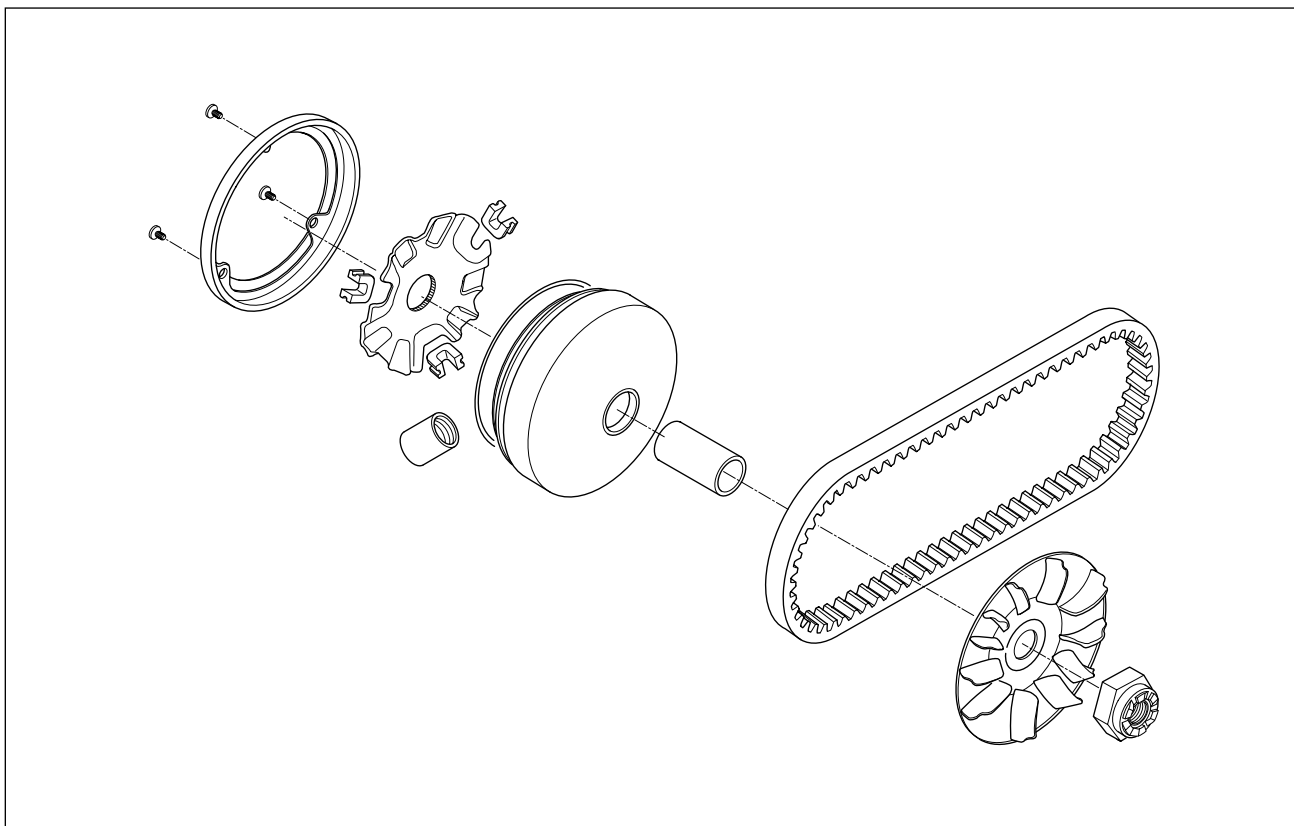
- Thoroughly clean the clutch housing ④ to be free from oil and position it over the clutch shoe assembly.
- Tighten the clutch housing nut ⑤ to the specified torque with the special tool.

TOOL Rotor holder : 09930-40113

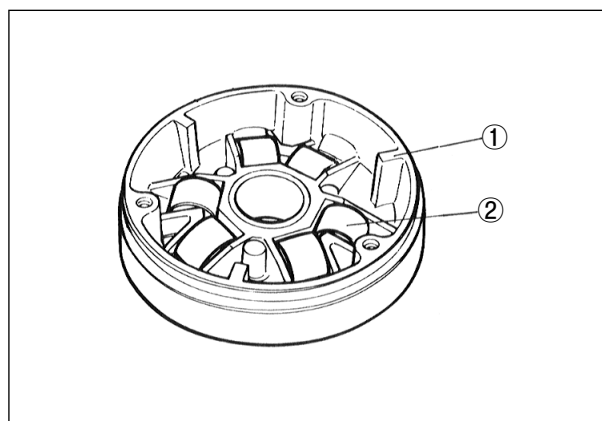
TOOL Clutch housing nut : 40~60 N·m (4.0~6.0 kg·m)



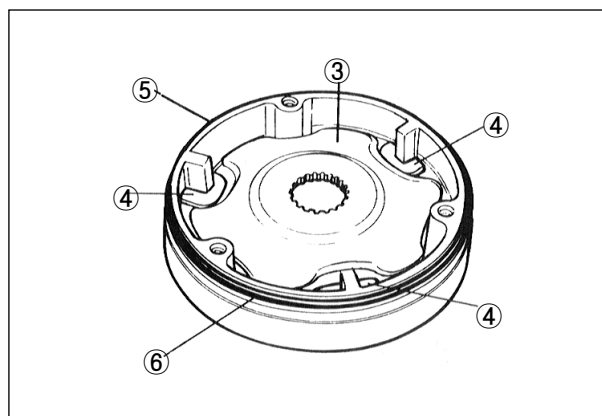
MOVABLE DRIVE



- Install the roller ② to the movable drive face ①.



- Mount the three dampers ④ on the movable drive plate ③ and install it on the movable drive face ⑤ .
- Position the O-ring ⑥ on the movable drive face.

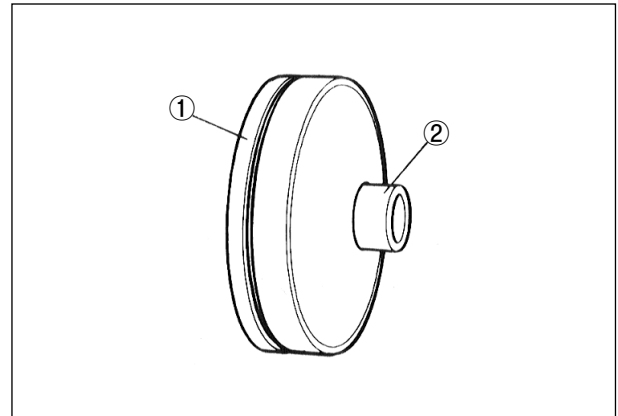


- Install the movable drive face cover ①.

CAUTION

Make sure that the movable drive plate is fully positioned inside, or the weight roller may come off.

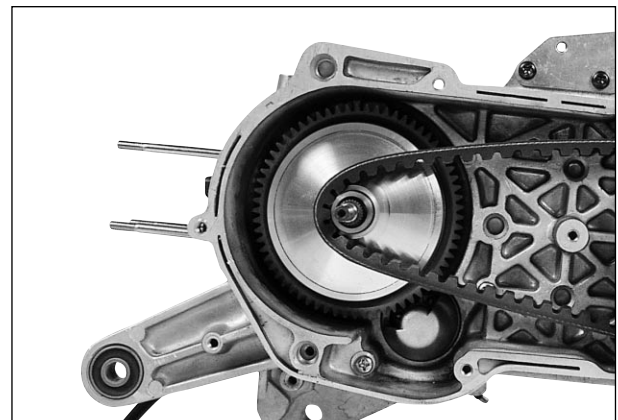
- Insert the spacer ②.



- Position the movable drive face subassembly on the crankshaft as shown in the photo.

CAUTION

Thoroughly clean the V-belt contact face to be from oil.



- Install the fixed drive face ③ .
- Tighten the fixed drive face nut ④ to the specified torque with the special tool.

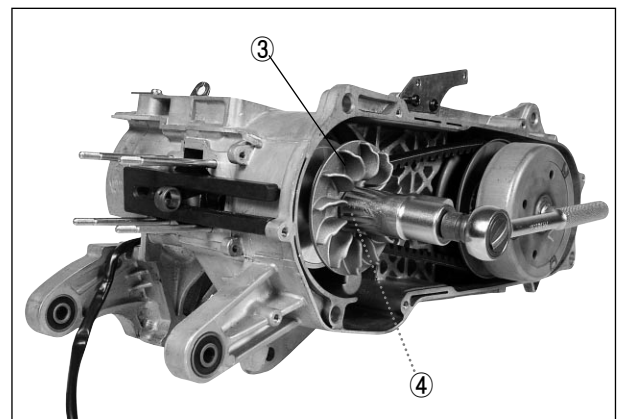


Conrld holder : 09910-20115



Fixed drive face nut

: 40~60 N·m (4.0~6.0 kg·m)



- Continue turning the fixed drive face ⑤ by hand until the V-belt is seated in and both the drive and driven faces ⑥ will move together smoothly without slip.
- Fill the final gear box with transmission oil up to the level hole.

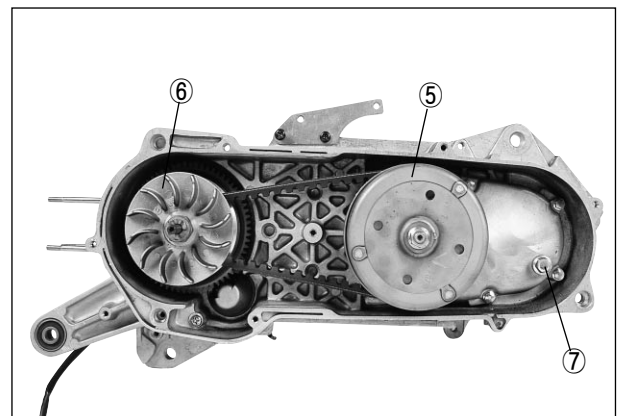
Transmission oil capacity	Replace	80 ml
	Overhaul	90 ml

- Tighten the oil level bolt ⑦ to the specified torque.

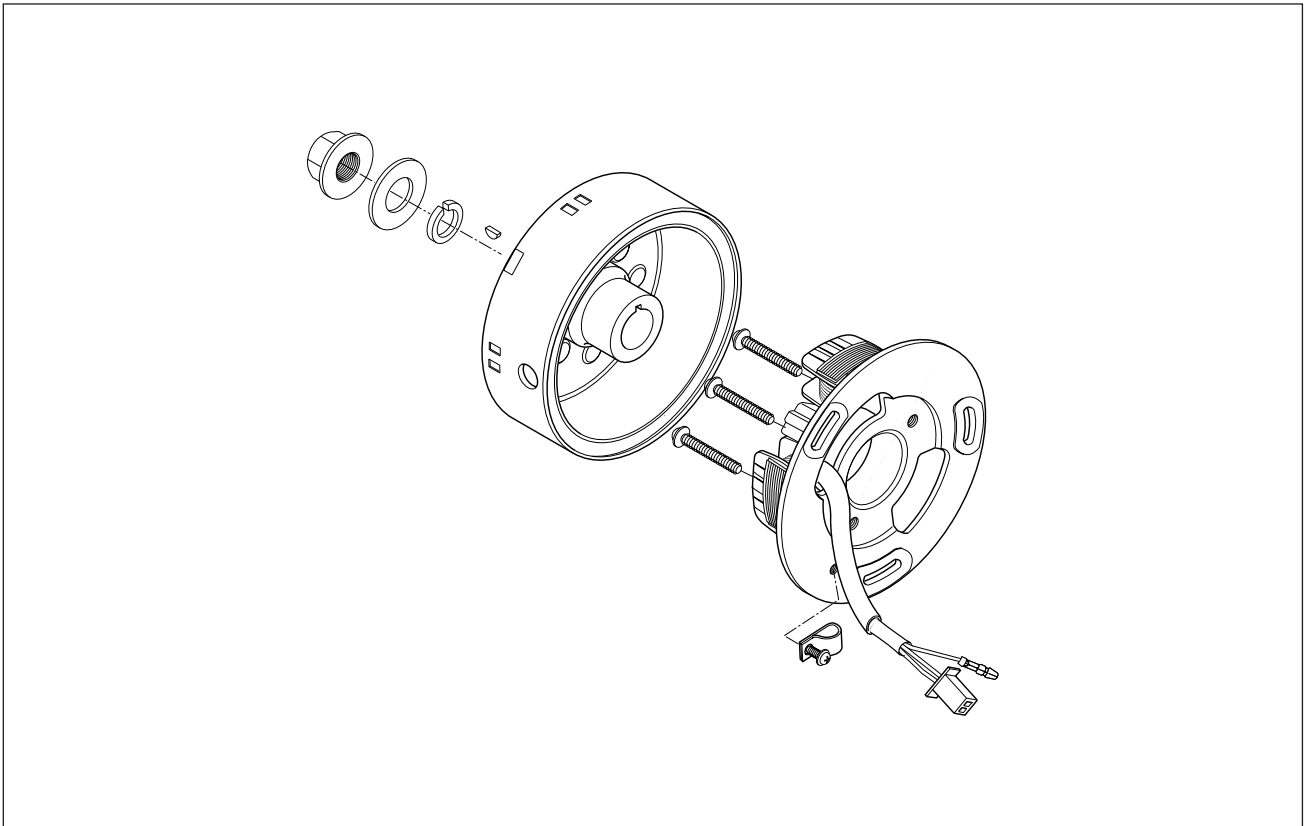


Transmission oil level bolt

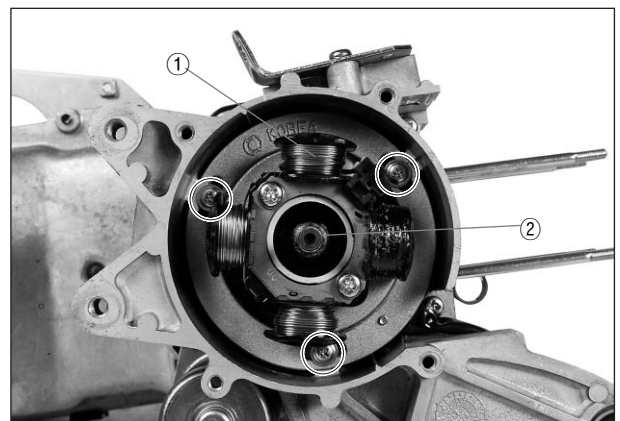
: 9~15 N·m (0.9~1.5 kg·m)



MAGNETO




- Degrease the tapered portion of the crankshaft and also the magneto rotor.
- Install the stator ①.
- Install the key ②.

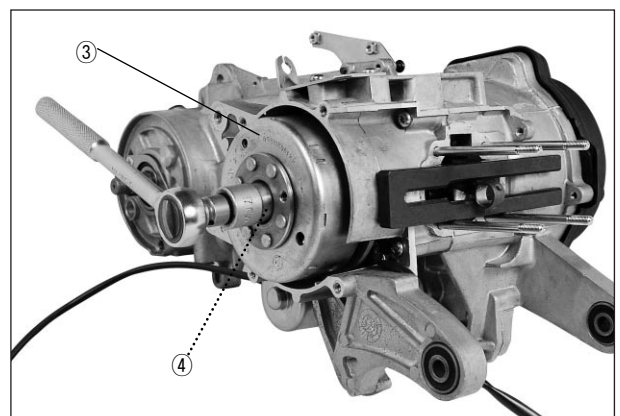


- Install the rotor ③ .
- Apply **THREAD LOCK "1324"** to the rotor nut ④ and tighten it to the specified torque with the special tool.

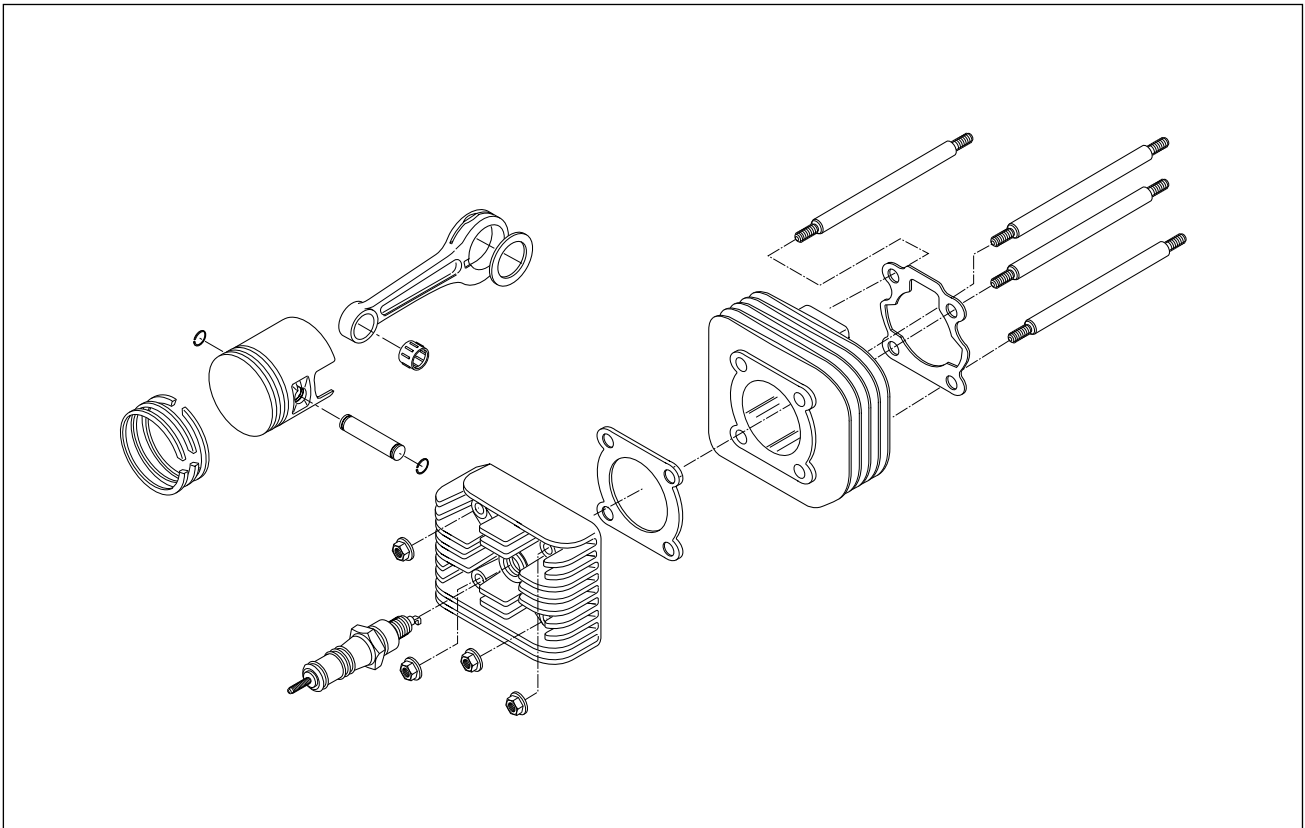
 **THREAD LOCK "1324"**

 **Conrod holder : 09910-20115**

 **Magneto rotor nut**
: 35~45 N · m (3.5~4.5 kg · m)



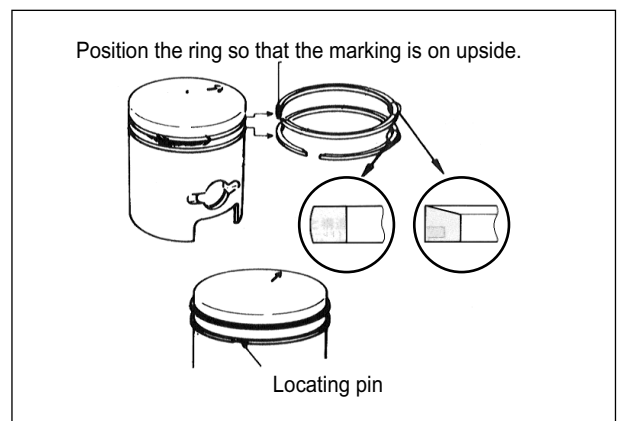
PISTON



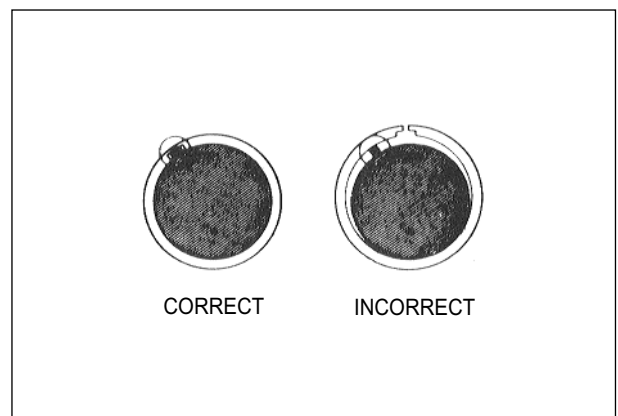
- Install the piston ring on the piston.
 - 1st - Keystone ring
 - 2nd - Barrel face ring
 - ↳ Expander ring

CAUTION

Position the ring so that the marking is on upside.



- It is extremely important that, when the piston is fed into the cylinder, each ring in place should be so positioned as to hug the locating pin as shown in the illustration.



3-39 ENGINE


- Apply engine oil on the piston pin and install the piston to the conrod.

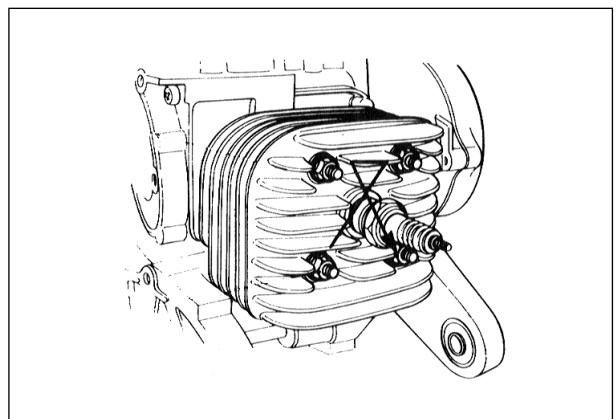
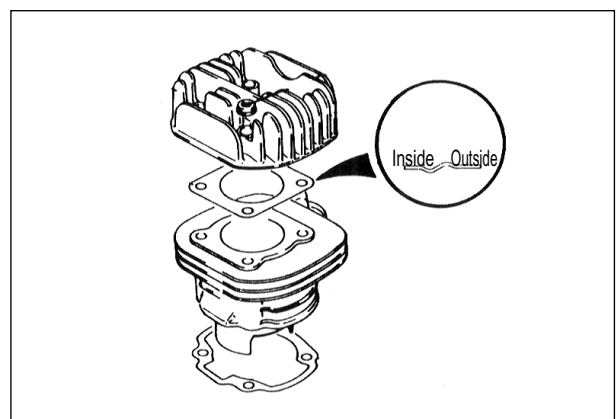
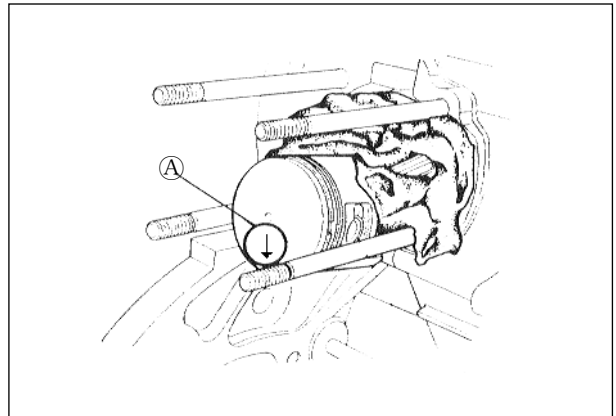
⚠ CAUTION

The arrow mark **(A)** on the piston head should point the exhaust side.

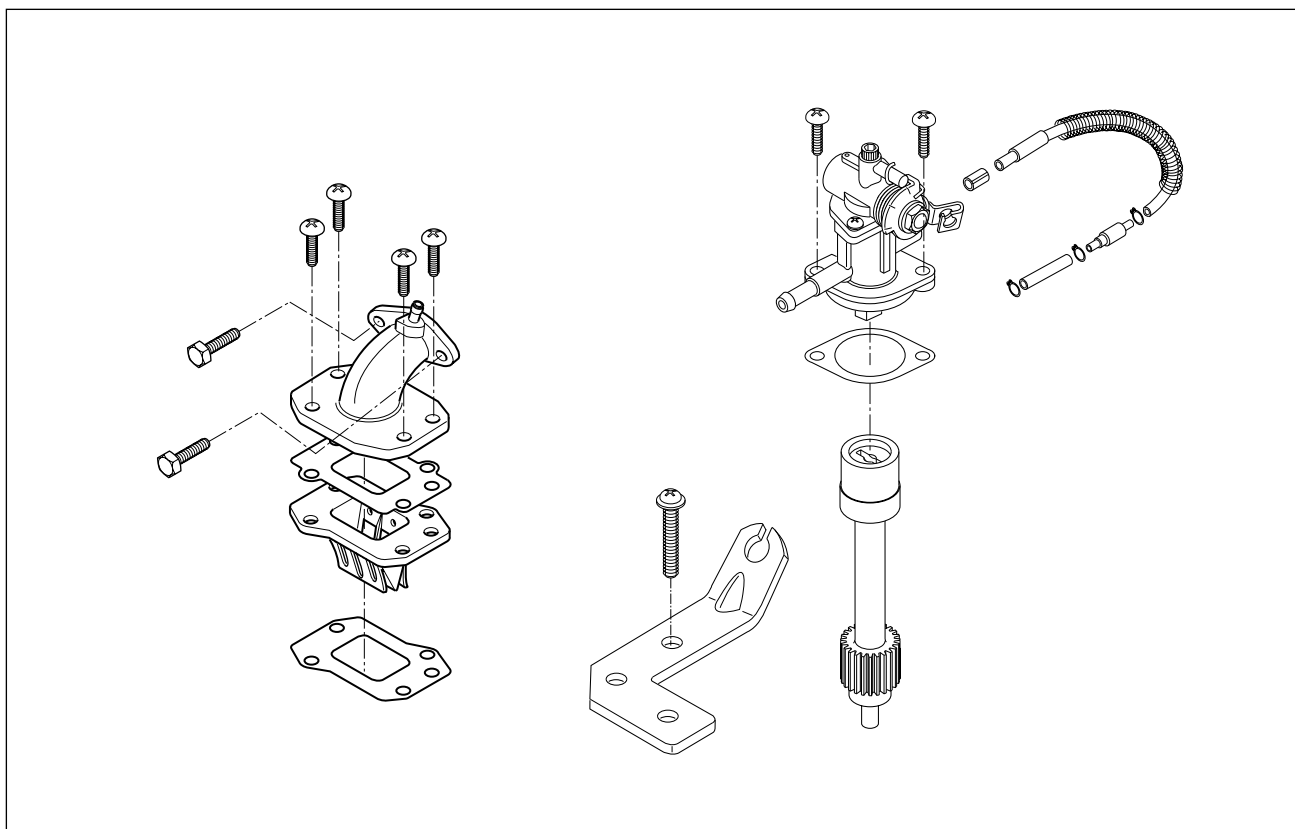
- The circlip should be mounted in such a position that the mating ends of the circlip do not coincide with the groove portion of the piston.
- Position the cylinder base gasket.
- Apply engine oil on the piston and cylinder wall surfaces and install the cylinder over the piston carefully.
- Install the cylinder head gasket and cylinder head.

- Tighten the cylinder head nut to the specification, and tighten it diagonally several times as shown in the illustration.

 **Cylinder head nut**
: 8~12 N·m (0.8~1.2 kg·m)

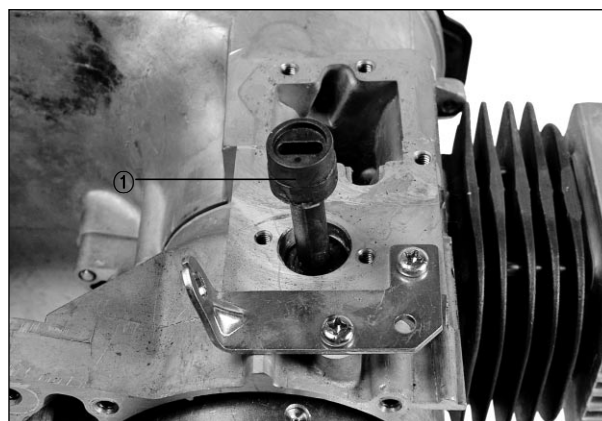


OIL PUMP AND INTAKE PIPE




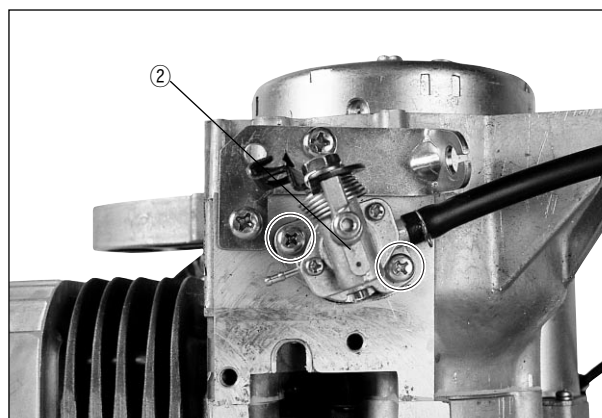
- Apply **SUPER GREASE "A"** to the oil pump driven gear ① and install it to the crankcase.

 **SUPER GREASE "A"**



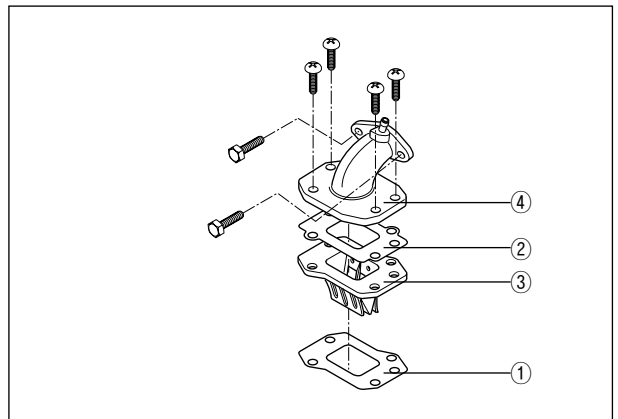
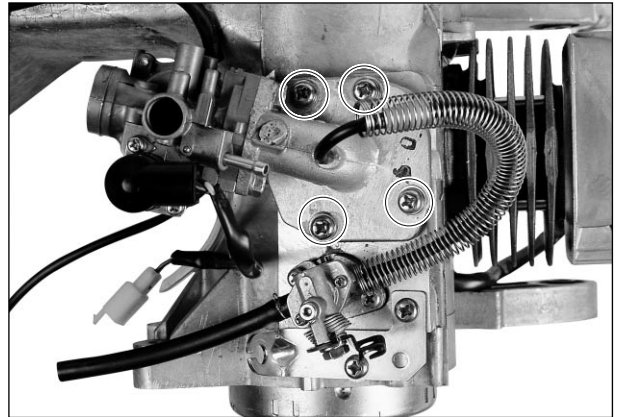
- Install the oil pump ② and tighten it to the specified torque.

 Oil pump bolt : 3~5 N · m (0.3~0.5 kg · m)



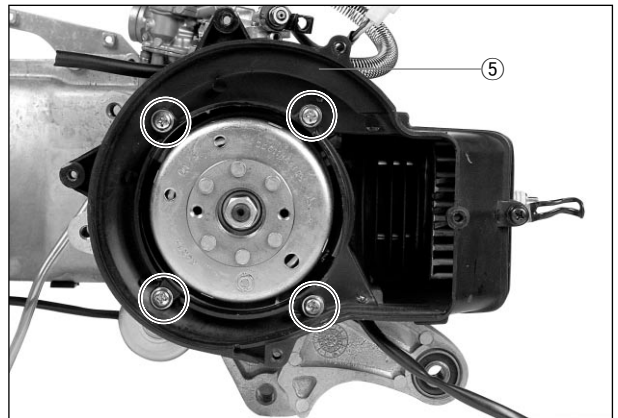
3-41 ENGINE

- Install the reed valve gasket ①, intake pipe gasket ② and intake pipe ④ with reed valve ③ to the crankcase.

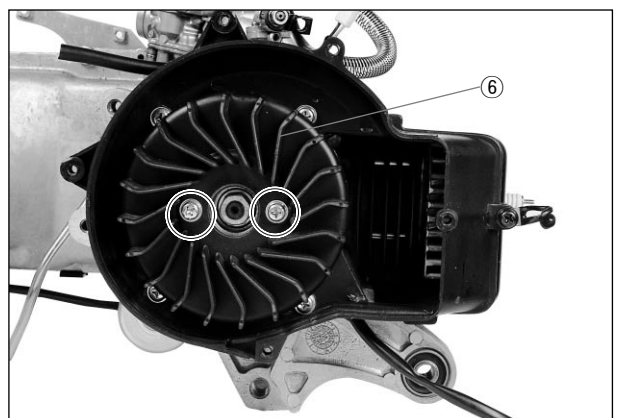


COOLING FAN

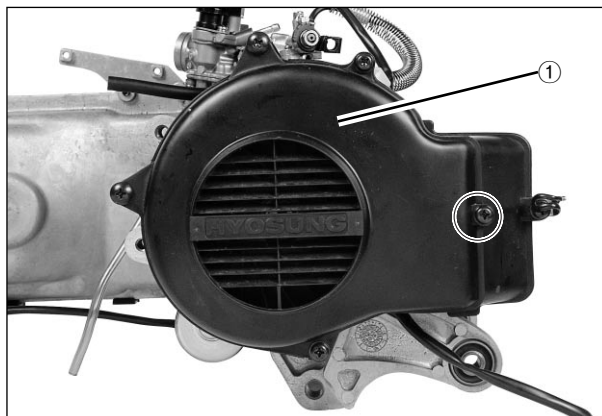
- Install the fan case ⑤.
- Install the magneto lead wire and starter motor lead wire.



- Install the cooling fan ⑥.



- Install the cooling fan cover ① .



MUFFLER

- Tighten the exhaust pipe bolts ② and muffler mounting bolts ③ to the specified torque.

- 🔧 **Exhaust pipe bolt**
: 8~12 N · m (0.8~1.2 kg · m)
- Muffler mounting bolt**
: 18~28 N · m (1.8~2.8 kg · m)

