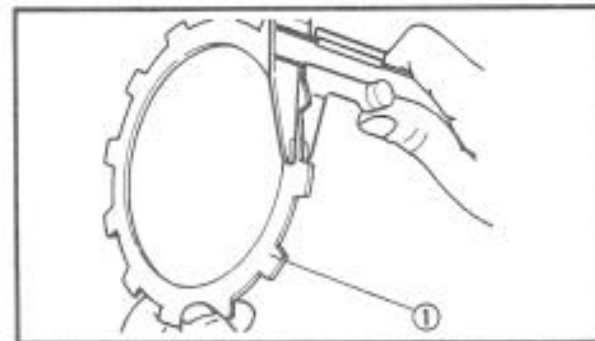
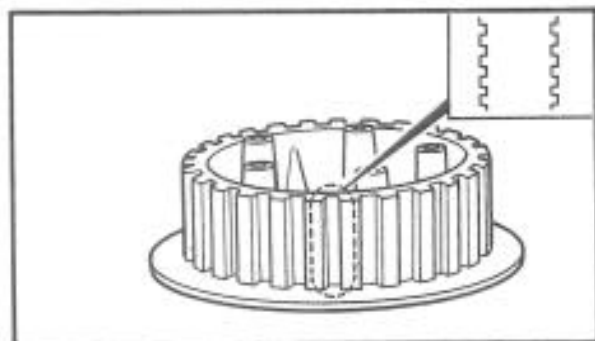
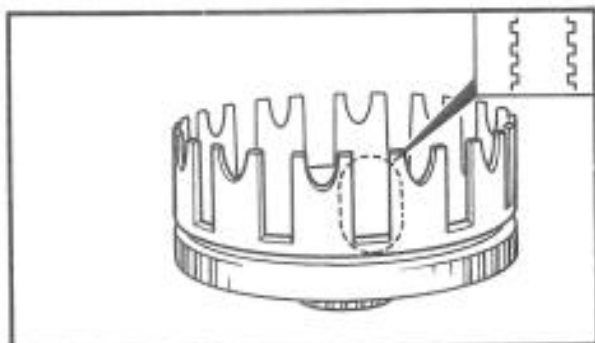




PRIMARY GEARS

1. Inspect:
 - Drive gear
Scratches/Wear/Damage → Replace crankshaft.
 - Driven gear ①
Scratches/Wear/Damage → Replace clutch housing assembly.



CLUTCH

Clutch housing

1. Inspect:
 - Dogs on the housing
Cracks/Wear/Damage → Deburr or replace.
 - Clutch housing bearing
Chafing/Wear/Damage → Replace.


Clutch Boss

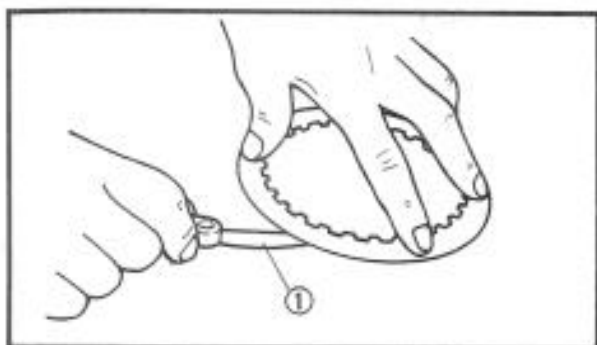
1. Inspect:
 - Clutch boss splines
Scoring/Wear/Damage → Replace clutch boss assembly.

NOTE: _____
Scoring on the clutch plate splines will cause erratic operation.

Friction Plates

1. Inspect:
 - Friction plate ①
Damage/Wear → Replace friction plate as a set.
2. Measure:
 - Friction plate thickness
Measure at all four points.
Out of specification → Replace friction plate as a set.

	Inside Diameter	Wear Limit
Type "A" (2 pcs.)	116 mm (4.57 in)	2.8 mm (0.11 in)
Type "B" (6 pcs.)	113 mm (4.45 in)	2.6 mm (0.10 in)

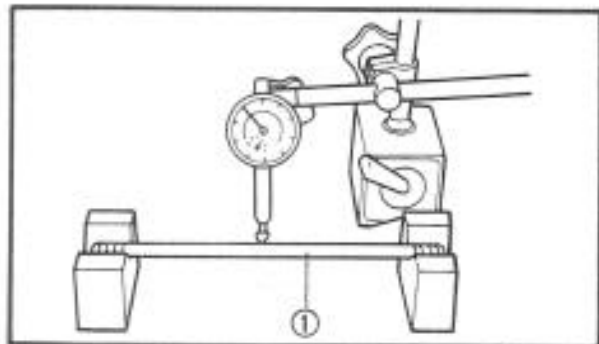
**Clutch Plates**

1. Measure:

- Clutch plate warpage
Use the surface plate and the Feeler Gauge ①.
Out of specification → Replace.



Warp Limit:
0.2 mm (0.008 in)

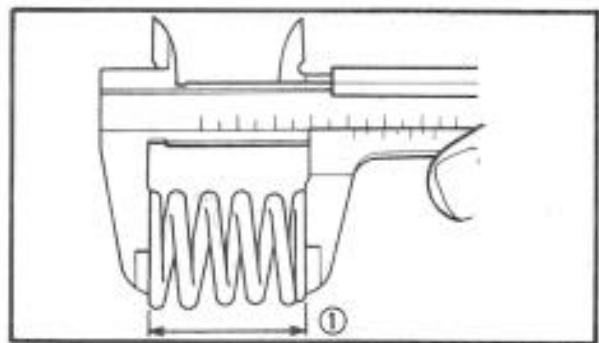
**Push Rod**

1. Measure:

- Push rod runout (Long rod) ①
Use the V-Blocks and Dial Gauge.
Out of specification → Replace.



Bending Limit:
0.5 mm (0.02 in)

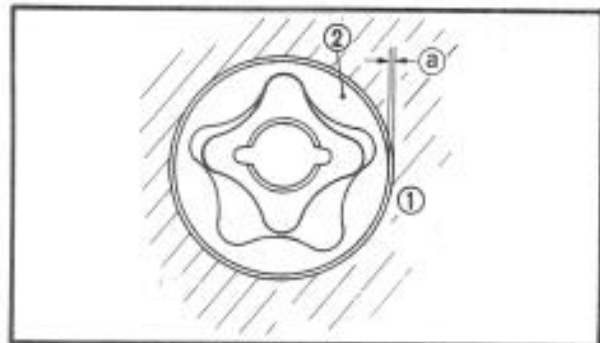
**Clutch Spring**

1. Measure:

- Clutch spring free length ①
Out of specification → Replace as a set.



Clutch Spring Free Length Limit:
40.8 mm (1.61 in)

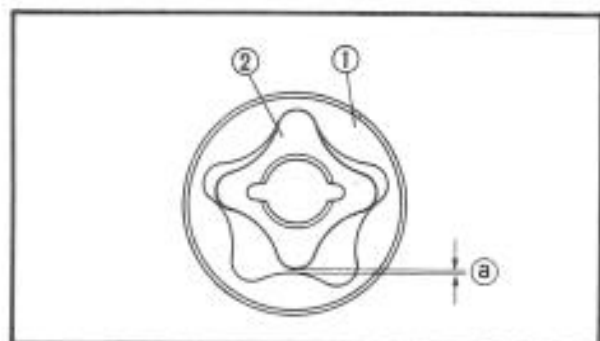
**OIL PUMP**

1. Measure:

- Housing ① / Outer rotor ② clearance ①
Use a Feeler Gauge.
Out of specification → Replace oil pump assembly.



Side Clearance Limit:
0.08 mm (0.003 in)



2. Measure:

- Outer rotor ① / Inner rotor ② clearance ①
Use a Feeler Gauge.
Out of specification → Replace oil pump assembly.



Tip Clearance Limit:
0.17 mm (0.007 in)



CRANKSHAFT

Crankshaft

1. Measure:

- Assembly width "A"

Use the V-Blocks.

Out of specification → Replace.



Assembly Width "A":
74.95 ~ 75.00 mm
(2.951 ~ 2.953 in)

- Runout "B"

Use the V-Blocks and Dial Gauge.

Out of specification → Correct any misalignment.



Runout Limit "B":
0.03 mm (0.001 in)

- Big end radial clearance "C"

Use a Feeler Gauge.

Out of specification → Disassemble the crankshaft and replace worn parts, then reassemble the crankshaft.



Big End Radial Clearance "C":
0.25 ~ 0.75 mm (0.010 ~ 0.030 in)

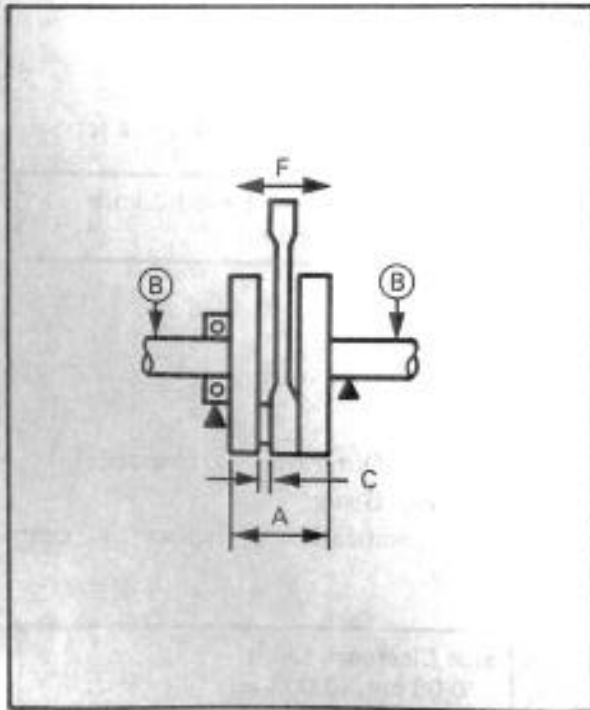
- Small end free play "F"

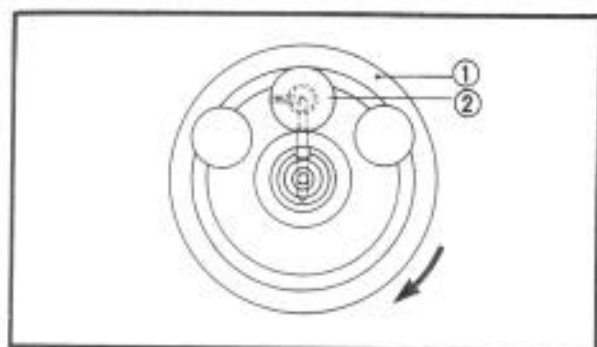
Use the V-Blocks and Dial Gauge.

Out of specification → Disassemble the crankshaft, and replace the defective parts, then reassemble the crankshaft.



Small End Free Play "F":
Standard: 0.8 mm (0.031 in)
Limit: 2 mm (0.08 in)





Crankshaft Reassembling

1. Install:

- Crank pin ②

NOTE:

The crankshaft ① and the crank pin ② oil passages must be properly interconnected with a tolerance of less than 1 mm (0.04 in).

Crankshaft Bearing

1. Inspect:

- Crankshaft bearing
- Pitting/Rust spots → Replace.

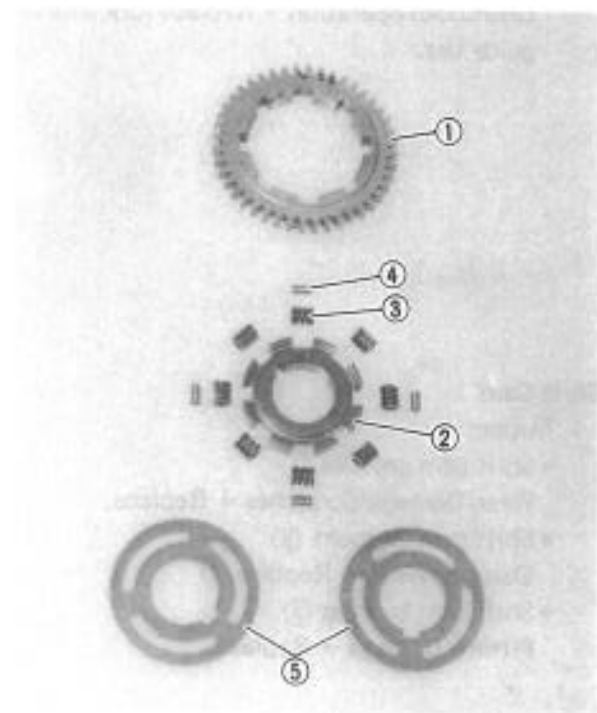
NOTE:

Lubricate the bearings immediately after examining them to prevent rust.

DRIVE GEAR

1. Inspect:

- Drive gear ①
- Buffer boss ②
- Springs ③
- Dowel pins ④
- Holding plates ⑤
- Damage/Wear/Fatigue → Replace.

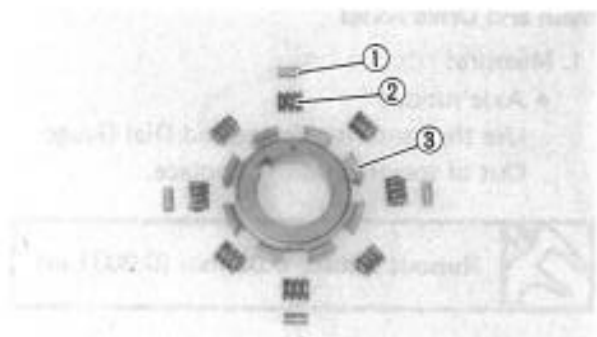


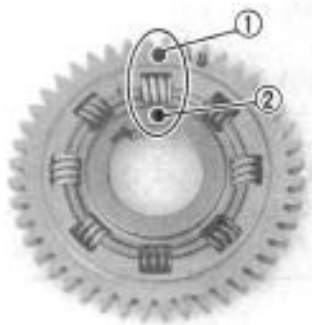
2. Install:

- Dowel pins ①
- Springs ②
- To the buffer boss ③.

NOTE:

Place the pins as illustrated position.



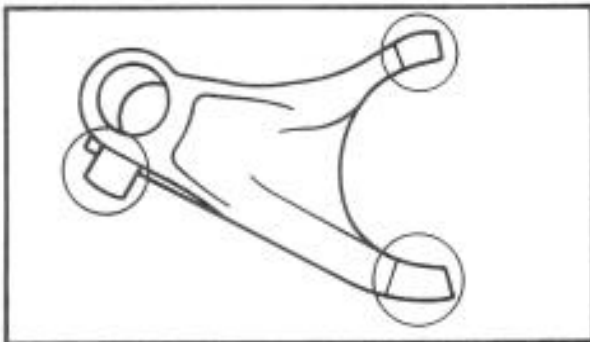


3. Install:

- Buffer boss assembly
To the drive gear.

NOTE:

Align the match mark ① on the drive gear with the match mark ② on the buffer boss.

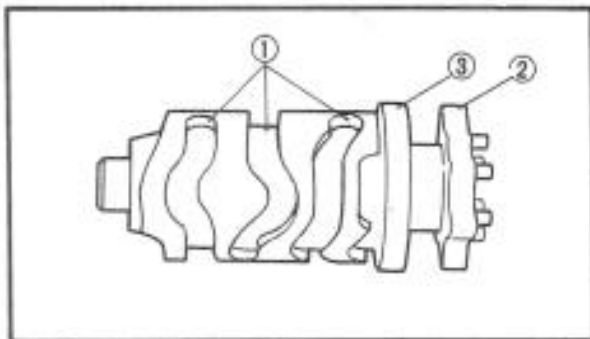
**TRANSMISSION****Shift Fork**

1. Inspect:

- Shift forks
On the gear and shift cam contact surfaces.
Wear/Chafing/Bends/Damage → Replace.

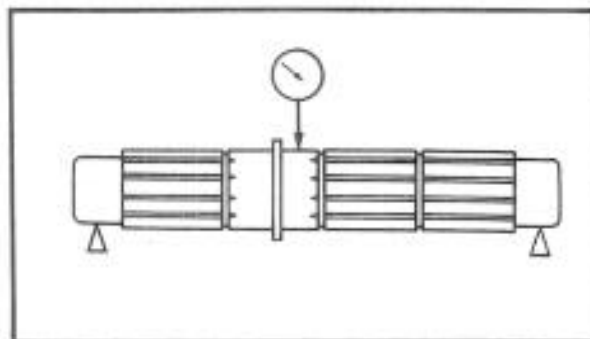
2. Check:

- Shift fork movement
On its guide bar.
Unsmooth operation → Replace fork and/or guide bar.

**Shift Cam**

1. Inspect:

- Shift cam grooves ①
Wear/Damage/Scratches → Replace.
- Shift cam segment ②
Damage/Wear → Replace.
- Shift cam bearing ③
Pitting/Damage → Replace.

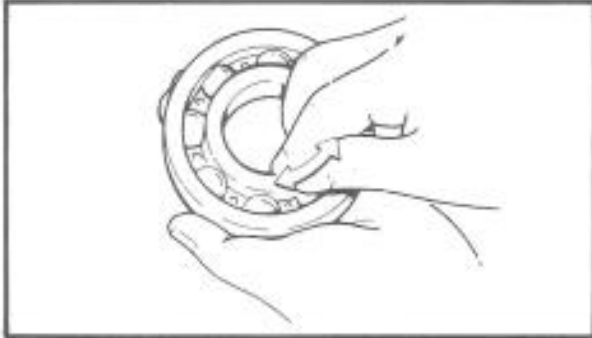
**Main and Drive Axles**

1. Measure:

- Axle runout
Use the centering device and Dial Gauge
Out of specification → Replace.



Runout Limit: 0.08 mm (0.0031 in)

**Gears**

1. Inspect:
 - Gears
Damage/Wear → Replace.
2. Check:
 - Gear movement
Unsmooth operation → Replace.
3. Inspect:
 - Mating dogs
Cracks/Wear/Damage → Replace.

BEARINGS

1. Inspect:
 - Axle bearings
 - Shift cam bearing
Pitting/Damage → Replace.

CIRCLIPS AND WASHERS

1. Inspect:
 - Circlips
 - Washers
Damage/Looseness/Bends → Replace.

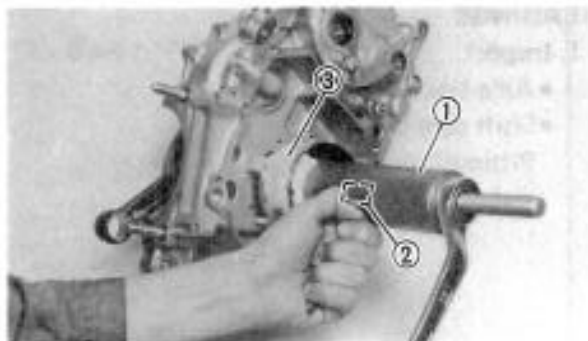


ENGINE ASSMEBLY AND ADJUSTMENT

CRANKSHAFT

CAUTION:

To protect the crankshaft against scratches or to facilitate the operation of the installation. Apply the grease to the oil seal lips, and apply the engine oil to each bearing.



1. Attach:

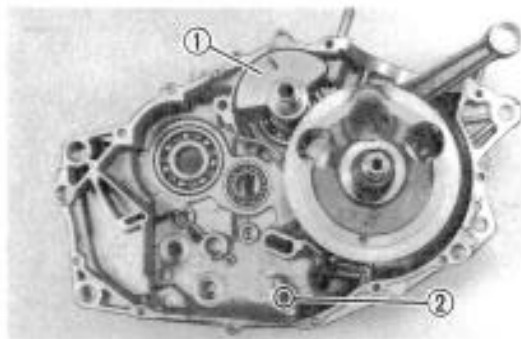
- Crankshaft Installing Set ① (YU-90050)
- Adapter #10 ② (YM-90069)
- Crank Pot Spacer ③ (YM-91044)

2. Install:

- Crankshaft

NOTE:

Hold the connecting rod at top dead center with one hand while turning the nut of the Installing Tool with the other. Operate the Installing Tool until the crankshaft bottoms against the bearing.



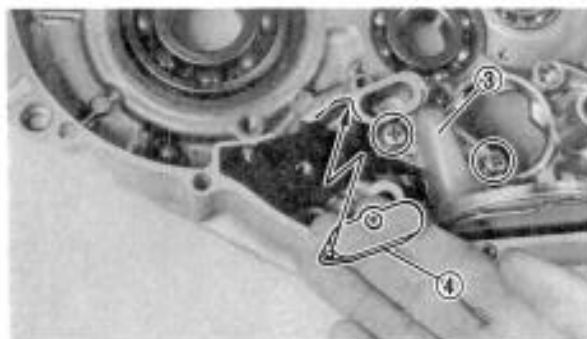
BALANCER AND OIL STRAINER

1. Install:

- Balancer weight ①
- O-ring (Inlet oil passage) ②
- Gasket (New)
- Oil strainer (New) ③
- Oil passage cover ④

NOTE:

Make sure that the oil passage cover is stopped at the stopper of the crankcase.



Oil Strainer:

10 Nm (1.0 m·kg, 7.2 ft·lb)
LOCTITE®

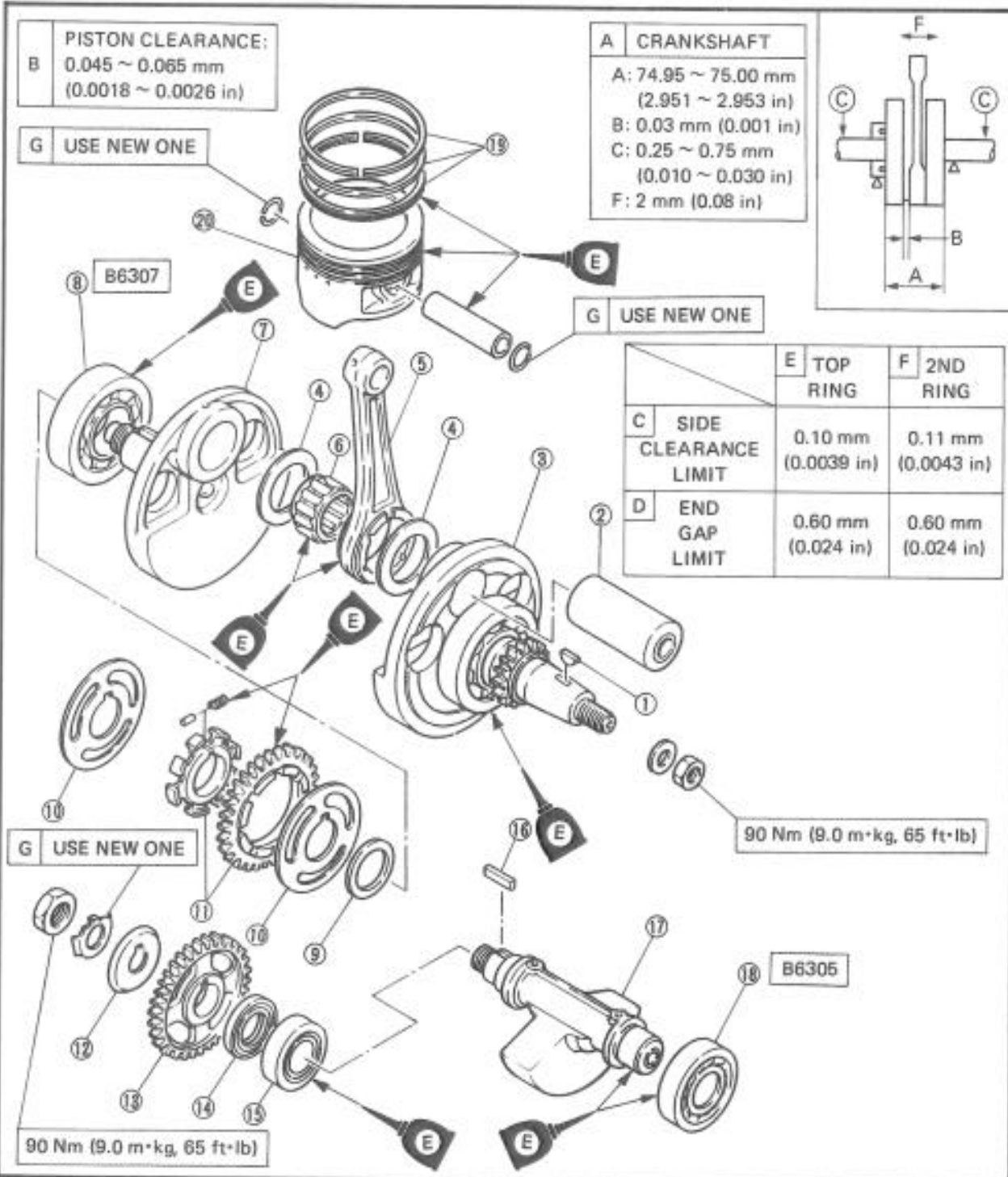
Oil Passage Cover:

10 Nm (1.0 m·kg, 7.2 ft·lb)
LOCTITE®



CRANKSHAFT AND BALANCER

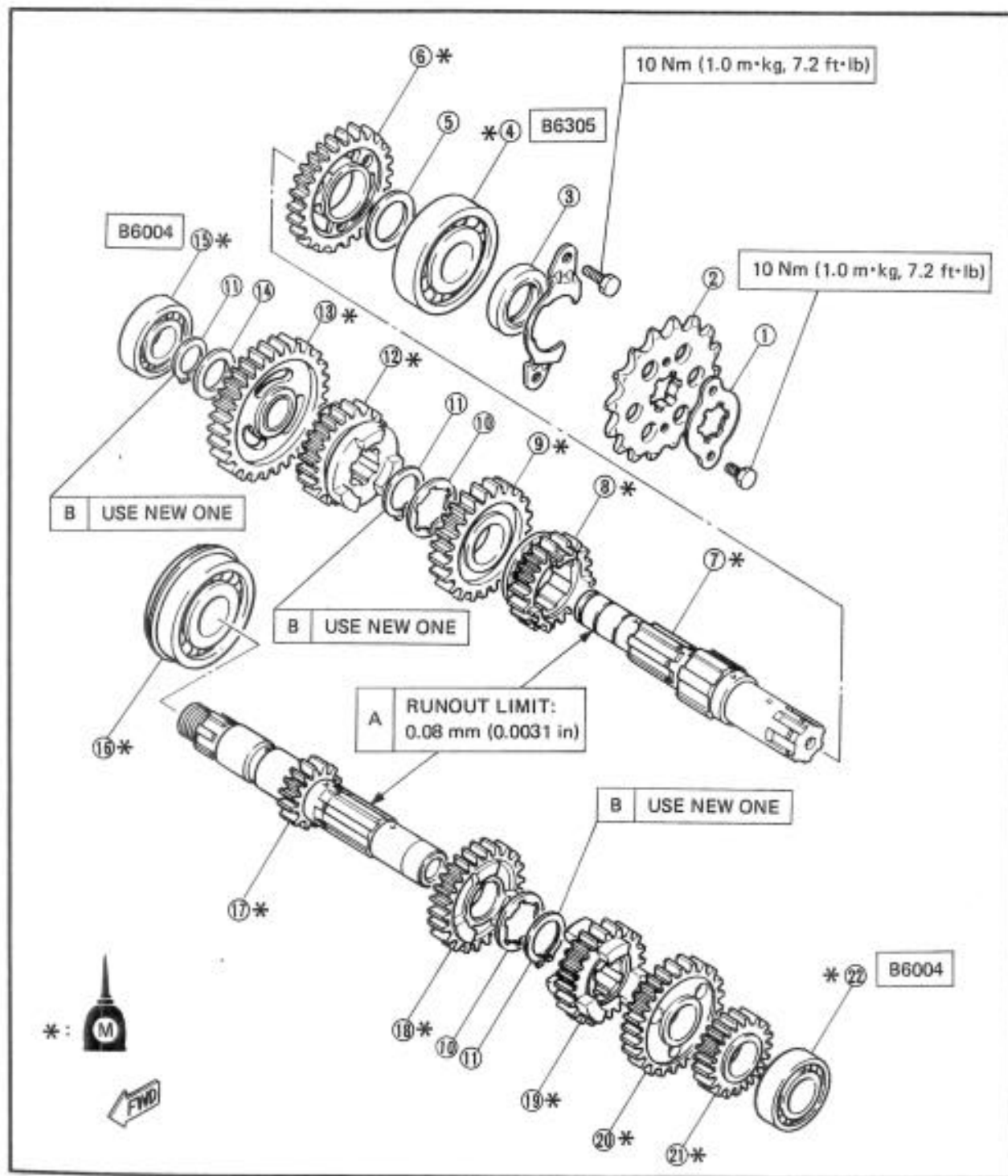
- ① Woodruff key
- ② Crank pin
- ③ Crank (Left)
- ④ Washer
- ⑤ Connecting rod
- ⑥ Cylindrical bearing
- ⑦ Crank (Right)
- ⑧ Bearing
- ⑨ Plain washer
- ⑩ Holding plate
- ⑪ Drive gear assembly (44T)
- ⑫ Holding plate
- ⑬ Balancer gear (44T)
- ⑭ Oil seal
- ⑮ Bearing
- ⑯ Straight key
- ⑰ Balancer weight
- ⑱ Bearing
- ⑲ Piston ring set
- ⑳ Piston

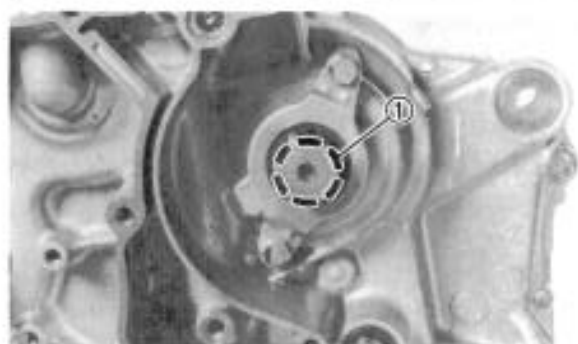




TRANSMISSION

- | | | |
|------------------------|-------------------------|-------------------------|
| ① Holding plate | ⑩ Special washer | ⑲ 3rd pinion gear (20T) |
| ② Drive sprocket (14T) | ⑪ Circlip | ⑳ 5th pinion gear (27T) |
| ③ Cover plate | ⑫ 4th wheel gear (21T) | ㉑ 2nd pinion gear (17T) |
| ④ Oil seal | ⑬ 1st wheel gear (30T) | ㉒ Bearing |
| ⑤ Shim | ⑭ Plain washer | |
| ⑥ 2nd wheel gear (27T) | ⑮ Bearing | |
| ⑦ Drive axle | ⑯ Bearing | |
| ⑧ 5th wheel gear (21T) | ⑰ Main axle (13T) | |
| ⑨ 3rd wheel gear (24T) | ⑱ 4th pinion gear (22T) | |



**SHIFTER AND TRANSMISSION****1. Install:**

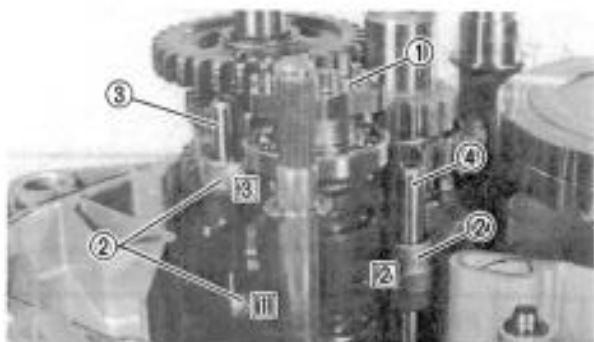
- Transmission assembly

NOTE:

- Before installing the transmission assembly, do not forget to fit the shim.
- While installing the drive axle into the crankcase, pay careful attention to the oil seal lip. A recommended practice is to fit the O-ring (1) and apply grease over the fitted area.

**2. Check:**

- Transmission operation
Unsmooth operation → Repair.

**3. Install:**

- Shift cam (1)
- Shift forks (2)
- Guide bar (Longer) (3)
- Guide bar (Shorter) (4)

NOTE:

Each shift forks is identified by a number cast on its side. All the numbers should face the left side.

**4. Check:**

- Shifter operation
Unsmooth operation → Repair.

NOTE:

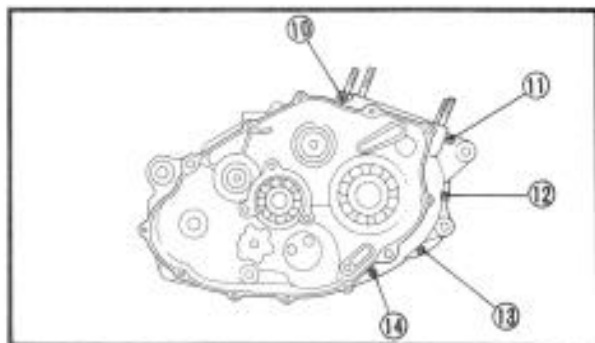
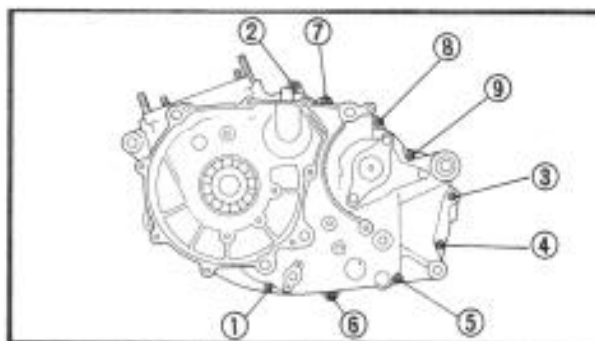
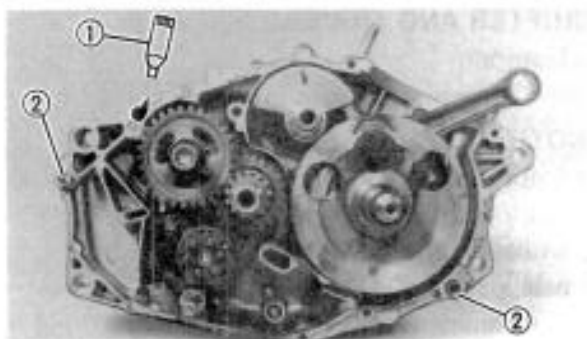
Oil each gear and bearing thoroughly.

**5. Install:**

- Change shaft (1)
- Shift shaft (2)

NOTE:

Align the punch mark on the change shaft with the punch mark on the shift shaft.

**CRANKCASE**

1. Apply:
 - Sealant (Quick Gasket®) ① (ACC-11001-05-01)
To the mating surfaces of both case halves.
2. Install:
 - Dowel pins ②
3. Fit the left crankcase onto the right case.
Tap lightly on the case with a soft hammer.

NOTE:

Turn the shift cam to the position shown in the figure so that it does not contact the crankcase when installing the crankcase.

CAUTION:

Before installing and torquing the crankcase holding screws, be sure to check whether the transmission is functioning properly by manually rotating the shift cam either way.

4. Tighten:
 - Bolts (Crankcase) ① ~ ⑭

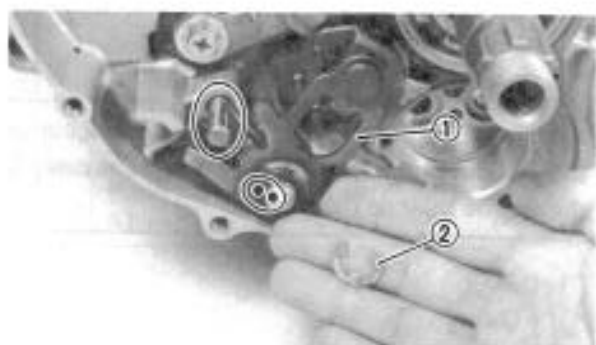
NOTE:

Tighten the bolts starting with the lowest numbered one.



Bolts (Crankcase):
10 Nm (1.0 m·kg, 7.2 ft·lb)

5. Apply:
 - 4-stroke engine oil
To the crank pin, bearing and oil delivery hole.
6. Check:
 - Crankshaft and transmission operation
Unsmooth operation → Repair.

**SHIFT SHAFT**

1. Install:
 - Spring ①
 - Stopper lever ②
 - Nut (Stopper lever) ③
2. Set the stopper lever and torsion spring as properly position.
3. Tighten:
 - Nut (Stopper lever)



Nut (Stopper lever):
10 Nm (1.0 m·kg, 7.2 ft·lb)
LOCTITE®

4. Install:
 - Shift lever ①
 - Circlip ②

NOTE:

When installing the shift lever, align the punched mark on the shift lever with the punched mark on the shift shaft.

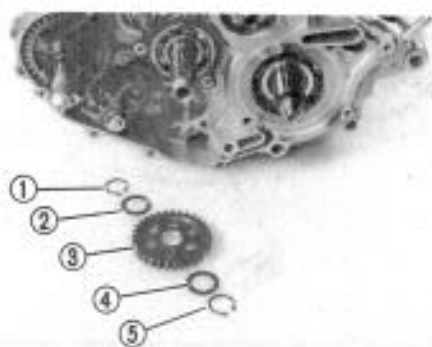
5. Check:
 - Change operation
 - Unsmooth operation → Repair.

**KICK AXLE**

1. Install:
 - Kick axle assembly ①
 - Rotate the shaft clockwise.

NOTE:

- Before installing the kick axle assembly, do not forget to fit the plain washer.
- Make sure that the ratchet wheel guide is stopped at the stopper of the crankcase.

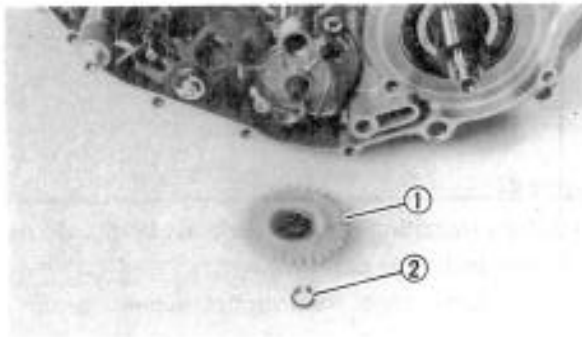
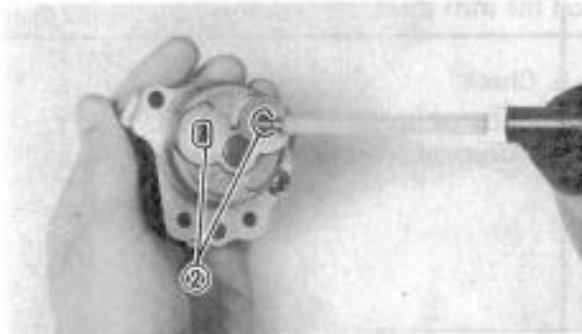
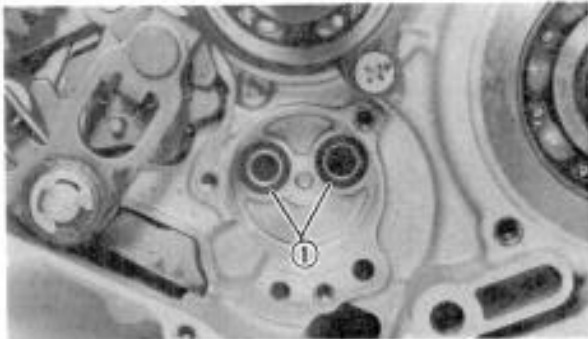


2. Set the kick spring to the spring hook.
3. Install:
 - Circlip ①
 - Plain washer ②
 - Kick idle gear ③
 - Plain washer ④
 - Circlip ⑤



4. Check:

- Kick axle operation
Unsmooth operation → Repair.



OIL PUMP

CAUTION:

Apply a liberal amount of 4-stroke engine oil to the oil pump passages in the crankcase, or the engine may be damaged.

1. Install:

- O-ring ①

2. Apply:

- 4-stroke engine oil
To the oil passages ②.

3. Install:

- Oil pump



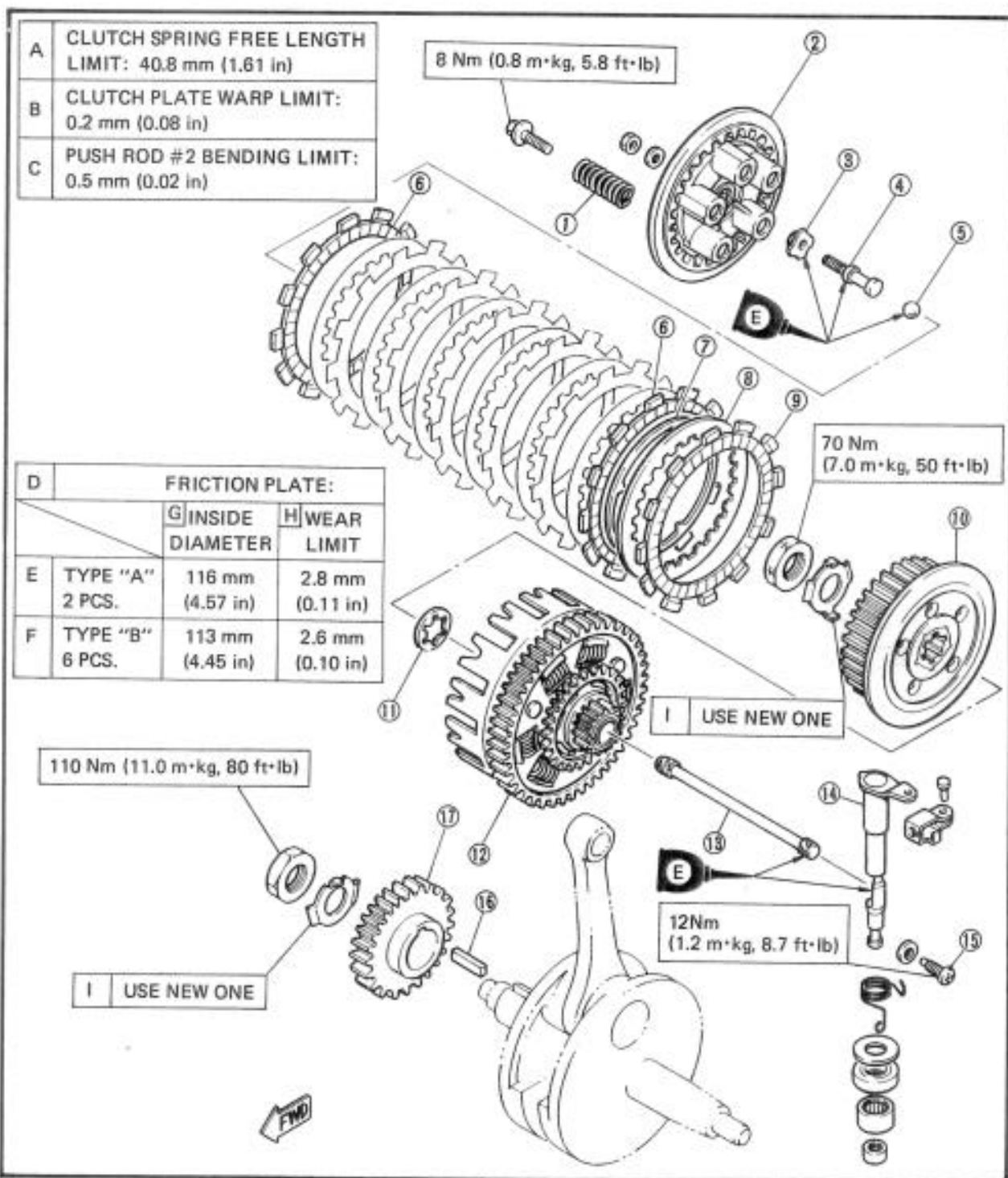
Oil Pump:
10 Nm (1.0 m·kg, 7.2 ft·lb)

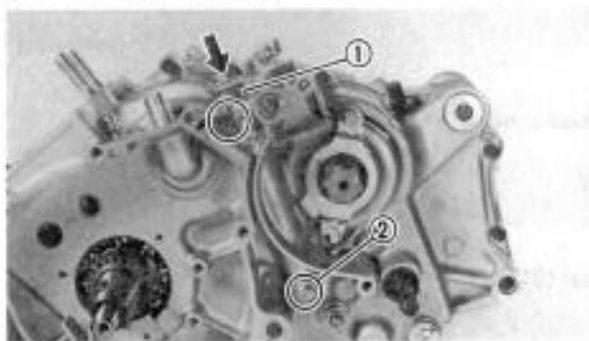
- Oil pump driven gear ①
- Circlip ②



CLUTCH

- ① Clutch spring
- ② Pressure plate
- ③ Push plate
- ④ Push rod #1
- ⑤ Ball
- ⑥ Friction plate (Type "A")
- ⑦ Wave plate
- ⑧ Clutch plate
- ⑨ Friction plate (Type "B")
- ⑩ Clutch boss
- ⑪ Holding plate
- ⑫ Primary driven gear comp. (74T)
- ⑬ Push rod #2
- ⑭ Push lever comp.
- ⑮ Set screw
- ⑯ Straight key
- ⑰ Primary drive gear (31T)



**CLUTCH**

1. Install:

- Clutch push lever axle assembly ①
- Set screw ②

**Set Screw:**

12 Nm (1.2 m·kg, 8.7 ft·lb)

2. Set the push lever axle spring to its position.



3. Install:

- Key (Drive gear)
- Plain washer
- Holding plates
- Balancer gear ①
- Key (Balancer gear)
- Drive gear ②

NOTE:

When installing the drive gear, align the punched mark on the drive gear with the punched mark on the balancer gear.

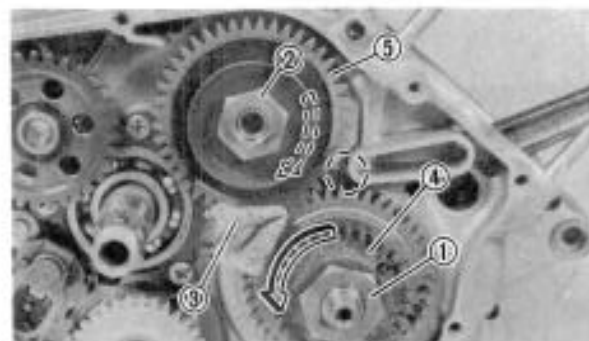
4. Install:

- Holding plate (Balancer gear)
- Lock washer (New)
- Nut (Balancer gear)
- Primary drive gear
- Lock washer (New)
- Nut (Primary drive gear)

5. Tighten:

- Nut (Primary drive gear) ①
- Nut (Balancer gear) ②

Place a folded rag ③ between the teeth of the drive gear ④ and balancer gear ⑤ to lock them.

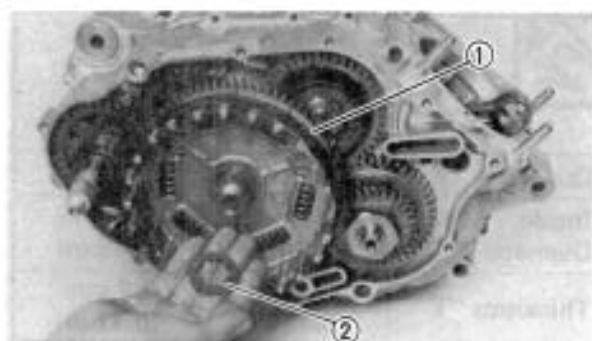
**Nut (Primary Drive Gear):**

110 Nm (11.0 m·kg, 80 ft·lb)

Nut (Balancer Gear):

90 Nm (9.0 m·kg, 65 ft·lb)

6. Bend the lock washer tab along the nut flats.

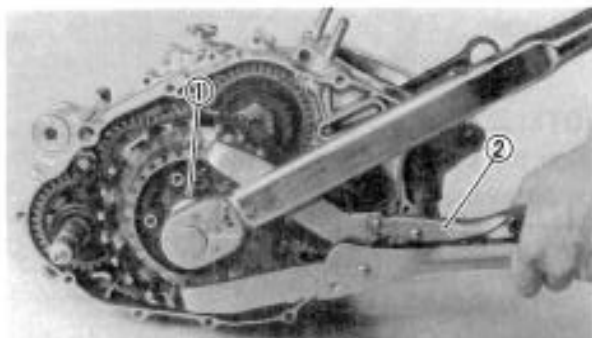


7. Install:

- Primary driven gear ①
- Holding plate ②

NOTE:

Install the primary driven gear while turning the kick idle gear, primary drive gear and balancer gear.



8. Install:

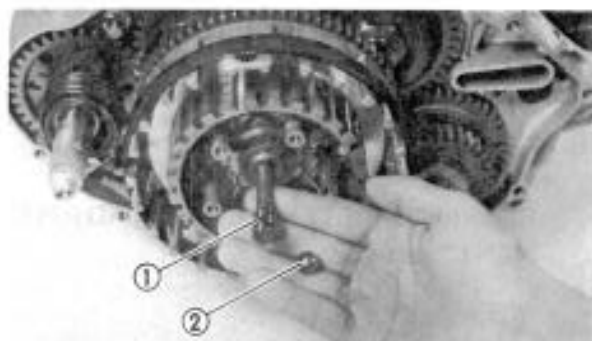
- Clutch boss
- Lock washer (New)
- Locknut (Clutch boss)

9. Tighten:

- Locknut (Clutch boss) ①
- Use the Universal Clutch Holder ② (YM-91042) to hold the clutch boss.



Locknut (Clutch Boss):
70 Nm (7.0 m·kg, 50 ft·lb)



10. Bend the lock washer tab along the nut flats.

11. Install:

- Push rod #2 ①
- Ball ②

12. Install:

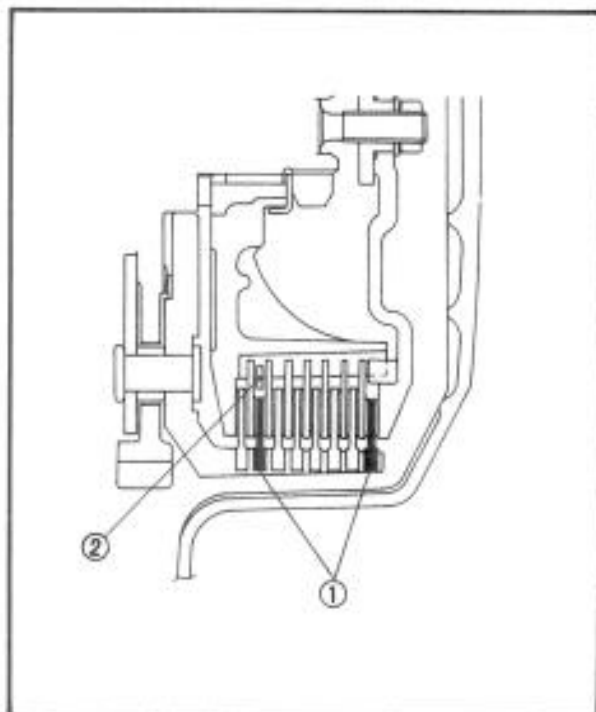
- Friction plates (Type "A" and "B")
- Wave plate
- Clutch plates

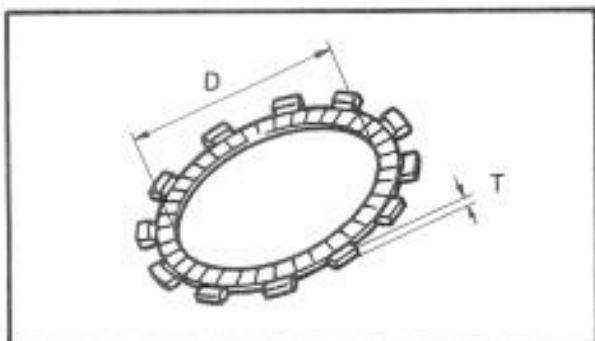
NOTE:

Install the clutch plates and friction plate alternately on the clutch boss, starting with a friction plate and ending with a friction plate.

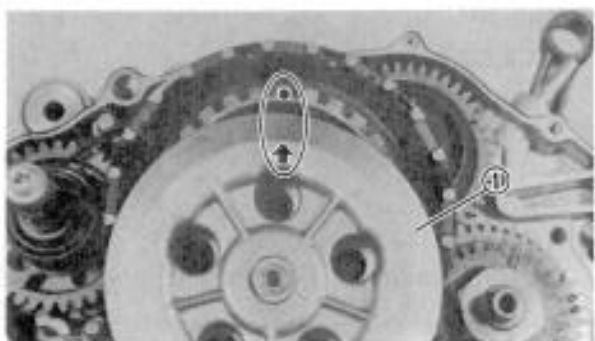
CAUTION:

- The friction plates (Type A) ① with the larger of the inside diameter must be installed in the second and last places.
- The wave plate ② must be placed on the inside of the second friction plate.





	Friction Plate	
	Type "A"	Type "B"
Quantity	2 pcs.	6 pcs.
Inside Diameter "D"	116 mm (4.57 in)	113 mm (4.45 in)
Thickness "T"	3.0 mm (0.12 in)	2.8 mm (0.11 in)



13. Install:

- Pressure plate ①

NOTE:

Align the punched mark on the clutch boss with the arrow mark on the clutch pressure plate.



14. Install:

- Clutch springs
- Screws (Clutch spring)



Screws (Clutch Spring):
8 Nm (0.8 m·kg, 5.8 ft·lb)

15. Adjust:

- Clutch mechanism free play
Refer to "CHAPTER 2. CLUTCH ADJUSTMENT" section.

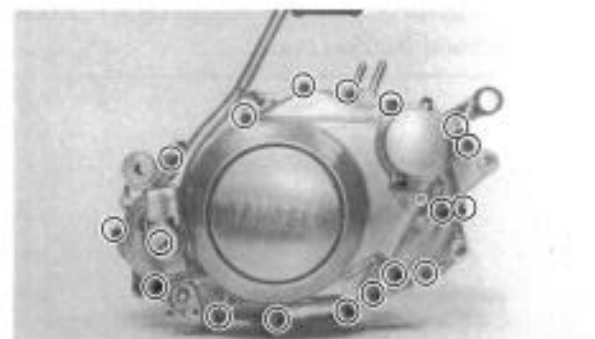


16. Install:

- Dowel pins
- Gasket (New)
- Crankcase cover (Right)

NOTE:

Before installing the crankcase cover, place the decompression lever as shown.



17. Tighten:

- Bolts (Crankcase cover)
- Nut (Kick crank)

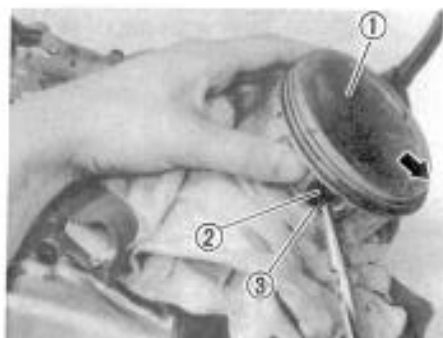
NOTE:

- Check to see the decompression lever assembly moves freely prior to tightening the bolts.
- Tighten the bolts in stage, using a crisscross pattern.



Bolts (Crankcase Cover):
10 Nm (1.0 m·kg, 7.2 ft·lb)

Nut (Kick Crank):
50 Nm (5.0 m·kg, 36 ft·lb)



PISTON

1. Install:

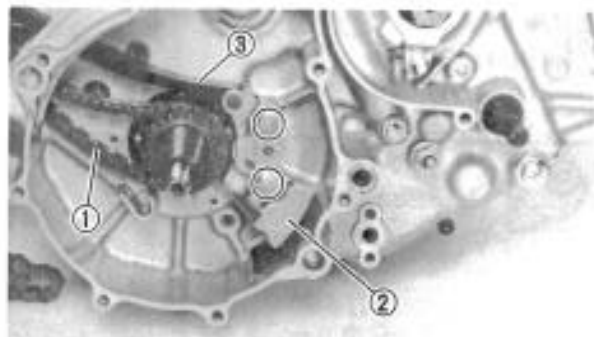
- Piston ①
- Piston pin ②
- Piston pin clip ③

NOTE:

- The arrow on the piston must point to the front of the engine.
- Before installing the piston pin clip, cover the crankcase with a clean towel or rag so you will not accidentally drop the pin clip and material into the crankcase.
- Always use a new piston pin clip.

2. Apply:

- 4-stroke engine oil
To the piston pin, bearing, piston ring grooves and piston skirt areas.



CYLINDER

1. Install:

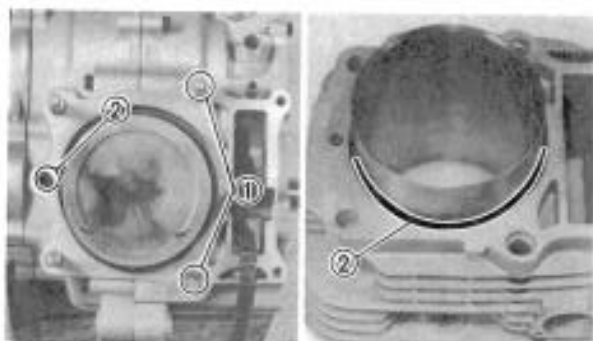
- Cam chain ①
- Oil baffle plate ②
- Cam chain damper (Rear) ③

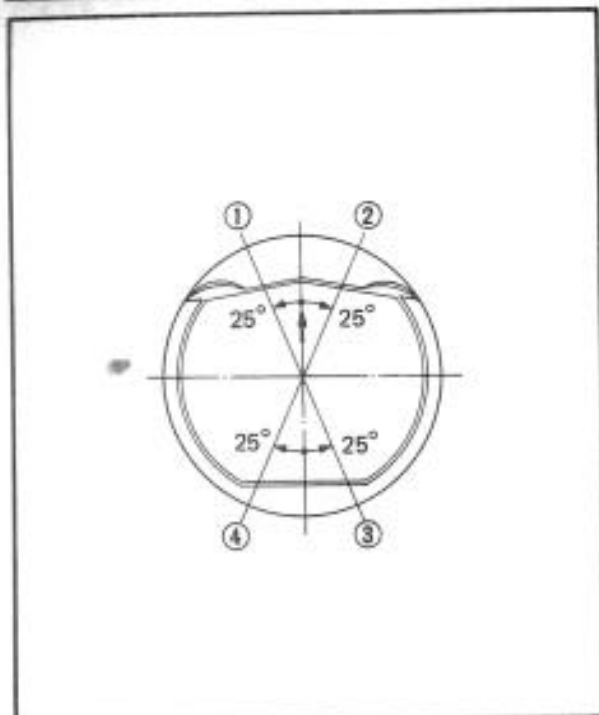


Cam Chain Damper (Rear):
8 Nm (0.8 m·kg, 5.8 ft·lb)

2. Install:

- Gasket (New)
- Dowel pins ①
- O-rings ②





3. Offset the piston ring end gaps as shown.

NOTE:

- Be sure to check the manufacturer's marks or numbers stamped on the rings are on the top side of the rings.
- Before installing the cylinder, apply a liberal coating of 4-stroke engine oil to the piston rings.

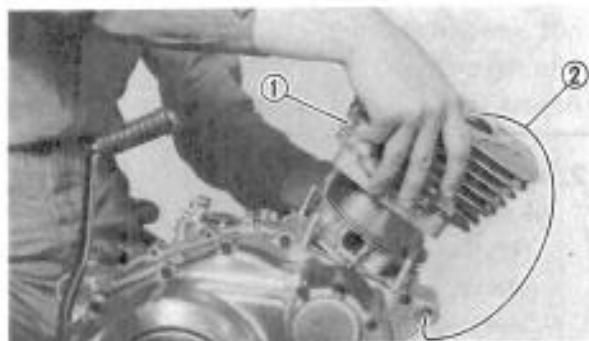
- ① Top ring
- ② Oil ring (Lower rail)
- ③ 2nd ring
- ④ Oil ring (Upper rail)

4. Install:

- Cylinder ①

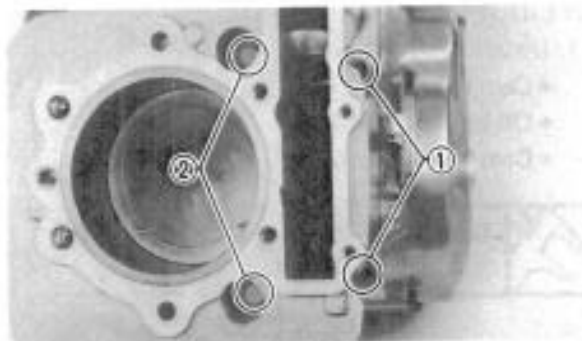
NOTE:

- Install the cylinder with one hand while compressing the piston rings with the other hand.
- Tie the cam chain with a piece of mechanics wire ②, and feed it through the chain opening.

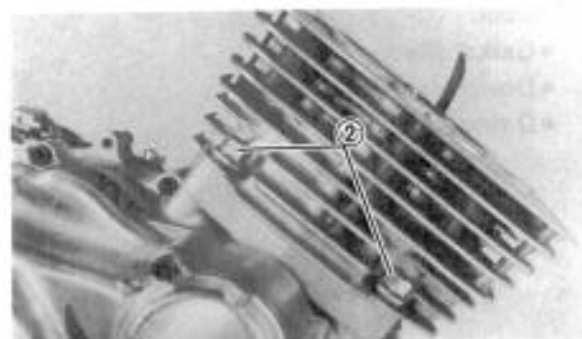


5. Tighten:

- Bolts (Cylinder) ①
- Nuts (Cylinder) ②



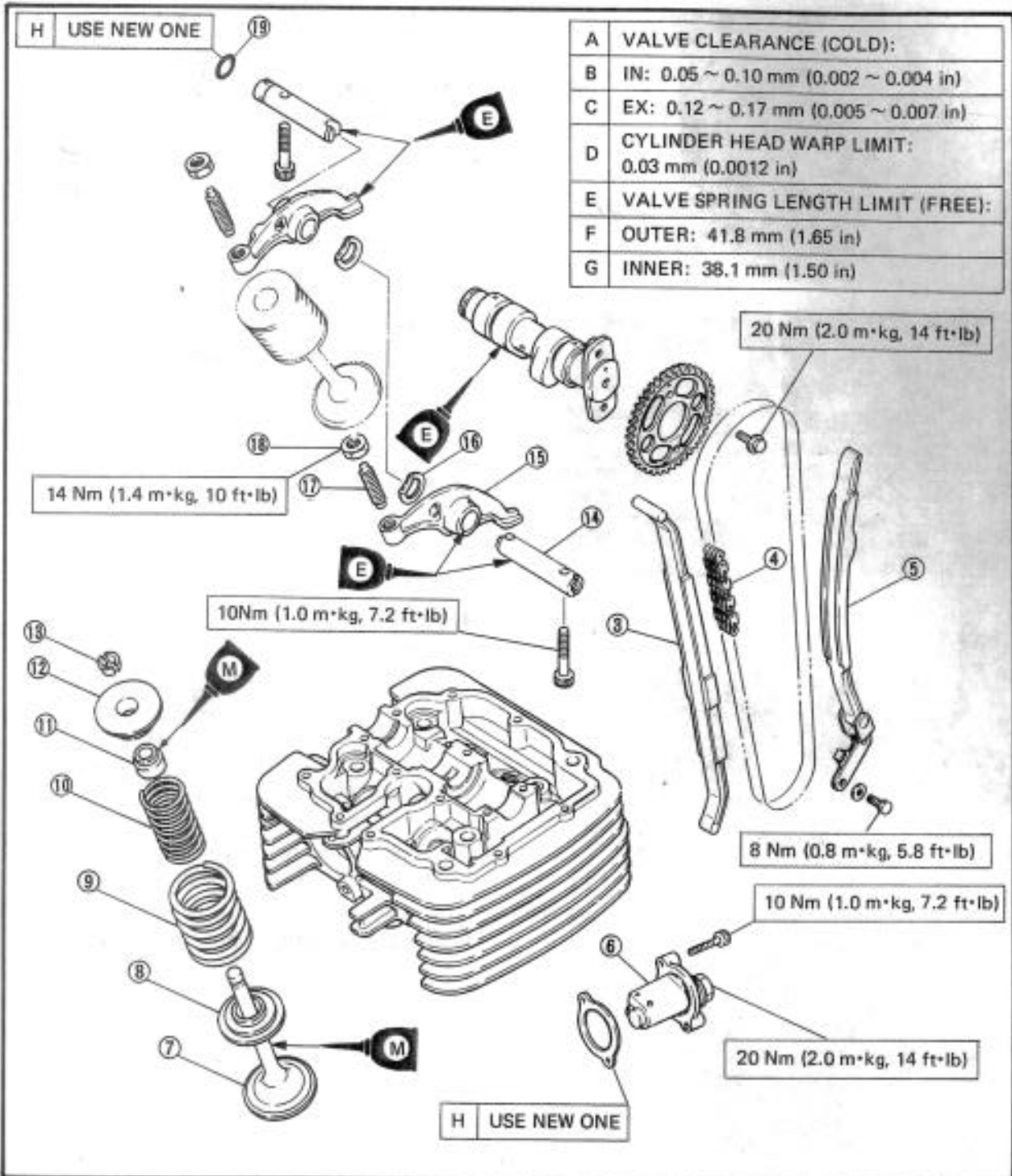
- Bolts (Cylinder):**
10 Nm (1.0 m·kg, 7.2 ft·lb)
- Cap Nut (M8):**
22 Nm (2.2 m·kg, 16 ft·lb)
- Nut (M10):**
38 Nm (3.8 m·kg, 27 ft·lb)

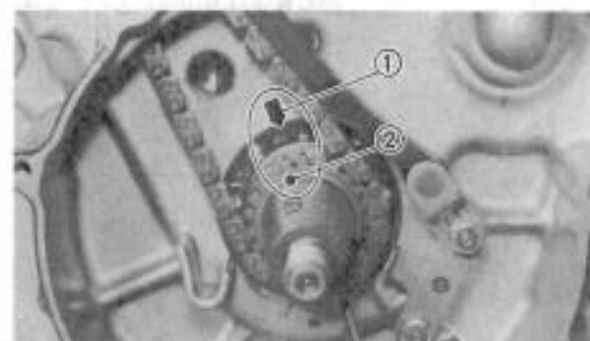
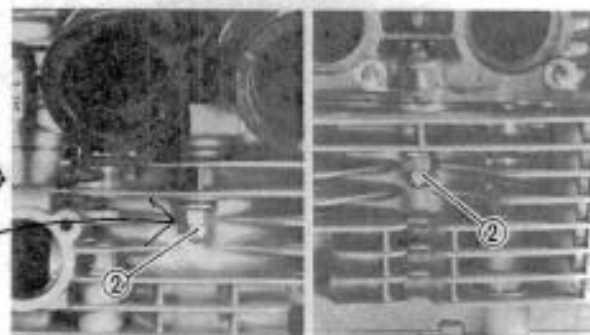
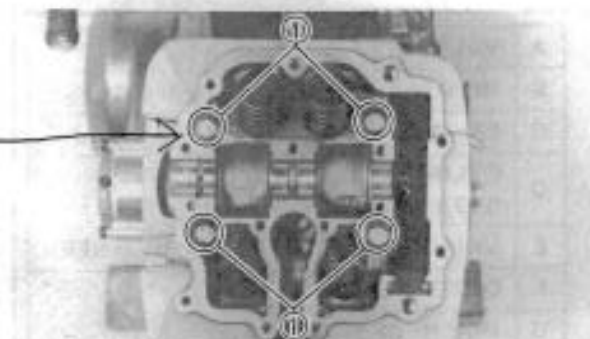
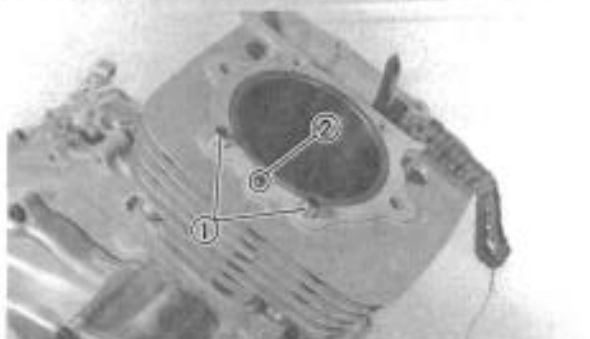




CYLINDER HEAD

- ① Camshaft
- ② Cam sprocket
- ③ Cam chain damper (Front)
- ④ Cam chain
- ⑤ Cam chain damper (Rear)
- ⑥ Cam chain tensioner
- ⑦ Valve
- ⑧ Valve spring seat
- ⑨ Valve spring (Outer)
- ⑩ Valve spring (Inner)
- ⑪ Oil seal
- ⑫ Valve spring seat
- ⑬ Valve retainers
- ⑭ Rocker shaft
- ⑮ Rocker arm
- ⑯ Wave washer
- ⑰ Valve adjuster
- ⑱ Locknut
- ⑲ O-ring





CYLINDER HEAD

1. Install:
 - Dowel pins ①
 - O-ring ②
 - Gasket (New)
2. Install:
 - Cylinder head

NOTE:

Tie the cam chain so that it does not fall into the crankcase.

3. Tighten:
 - Bolts (Cylinder head) ①
 - Nuts (Cylinder head) ②

NOTE:

Tighten the bolts in stage, using a crisscross pattern.



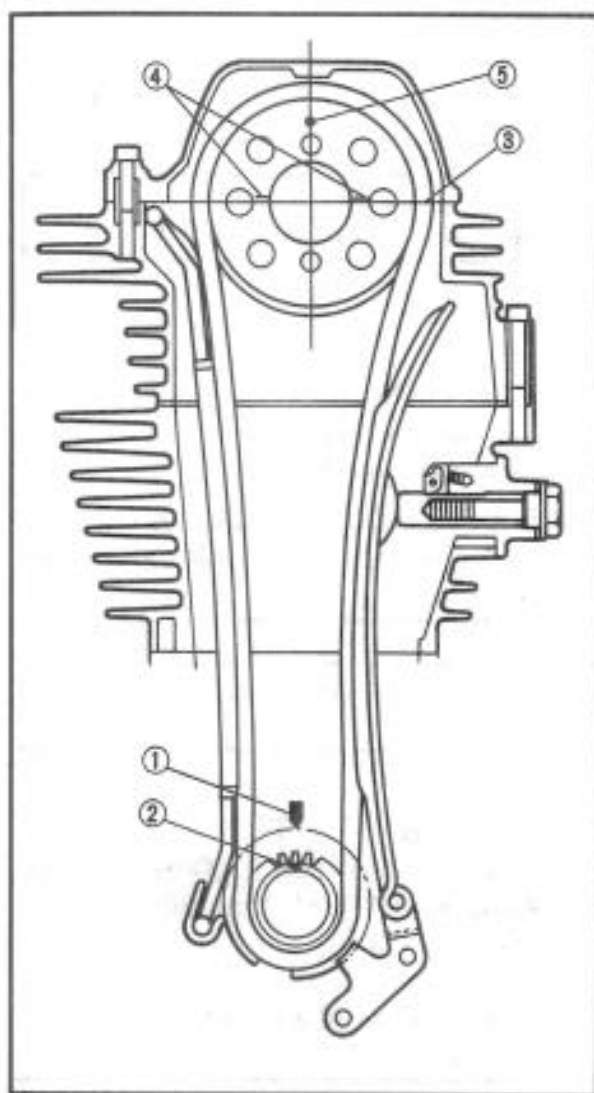
Bolts (Cylinder Head):
25 Nm (2.5 m·kg, 18 ft·lb)

Nuts (Cylinder Head):
20 Nm (2.0 m·kg, 14 ft·lb)

4. Install:
 - Camshaft
 - Cam sprocket

Cam shaft and cam sprocket installing steps:

- Install the camshaft onto the cylinder head as shown (Compression stroke).
- Rotate the crankshaft counterclockwise direction until the crankcase pointer ① and a dot ② on the cam chain drive sprocket are aligned.
- Place the cam chain onto the cam sprocket.



- Install the sprocket with timing marks are shown, and finger tighten the sprocket bolts.

- ③ Cylinder head upper surface
- ④ Timing marks
- ⑤ Upper position mark

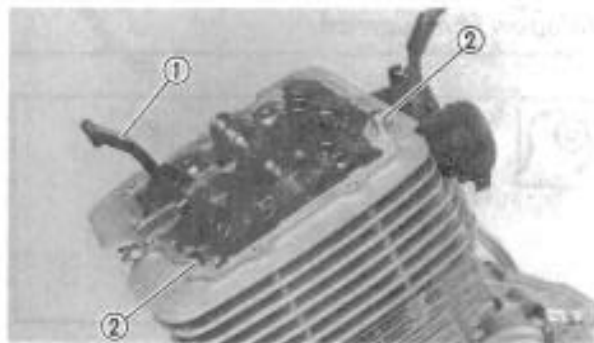
- Force the camshaft clockwise and counter-clockwise to remove the cam chain slack.
- Insert your finger into the cam chain tensioner hole, and push the cam chain damper inward.
- While pushing the cam chain damper, be sure cam sprocket timing marks align with the cylinder head upper surface.
- If marks is aligned, tighten the cam sprocket bolts.



Cam Sprocket:
20 Nm (2.0 m·kg, 14 ft·lb)

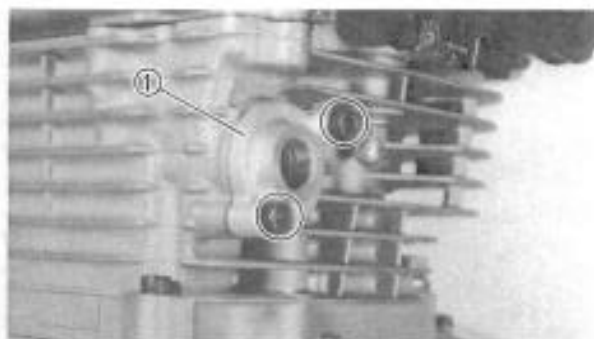
- If marks do not align, change the meshing piston of sprocket and cam chain.

CAM CHAIN LIFE EST 75,000 MI



5. Install:

- Cam chain damper (Front) ①
- Dowel pins ②

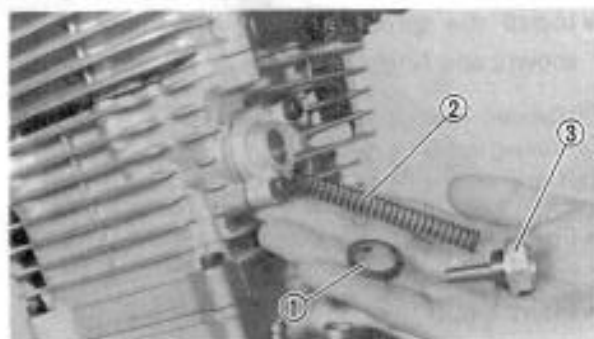


6. Install:

- Gasket (New)
- Cam chain tensioner body ①



Cam Chain Tensioner:
10 Nm (1.0 m·kg, 7.2 ft·lb)

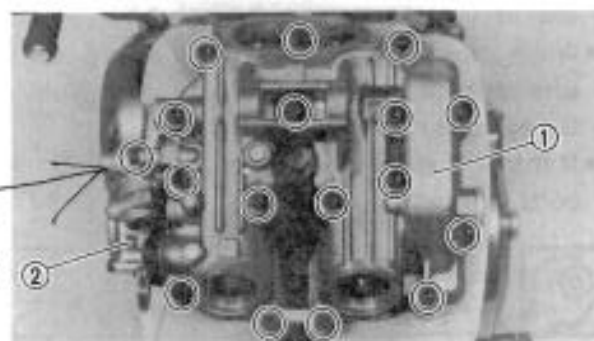


7. Install:

- Gasket (New) ①
- Spring ②
- End plug ③



Tensioner End Plug:
20 Nm (2.0 m·kg, 14 ft·lb)



8. Install:

- Cylinder head cover ①
- Tachometer gear housing ②

NOTE:

Tighten the bolts in stage, using a crisscross pattern.



Cylinder Head Cover:
10 Nm (1.0 m·kg, 7.2 ft·lb)

9. Adjust:

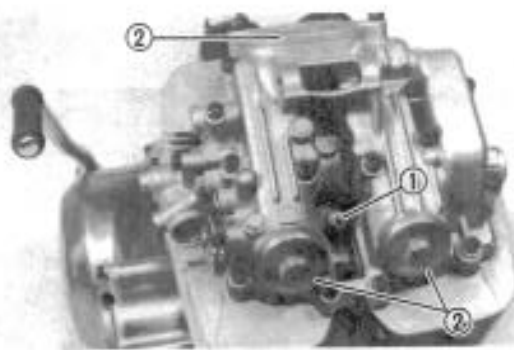
- Valve clearance
Refer to "CHAPTER 2. VALVE CLEAR-
ANCE ADJUSTMENT" section.

10. Install:

- Spark plug ①
- Tappet covers (Intake and exhaust) ②

NOTE:

The intake tappet cover should be installed with the arrow mark upward.



Spark Plug:
17.5 Nm (1.75 m·kg, 12.5 ft·lb)
Tappet Cover (Exhaust):
10 Nm (1.0 m·kg, 7.2 ft·lb)
Tappet Cover (Intake):
10 Nm (1.0 m·kg, 7.2 ft·lb)



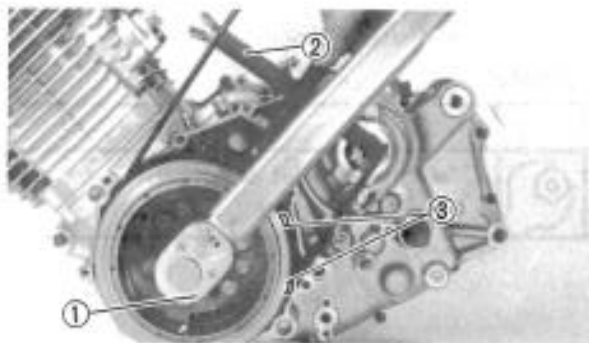
CDI MAGNETO

1. Install:

- Woodruff key
- Rotor
- Plain washer
- Nut (Rotor)

NOTE:

When installing the CDI rotor, make sure the woodruff key is properly seated in the key way of the crankshaft. Apply a light coating of lighium soap base grease to the tapered portion of the crankshaft end.



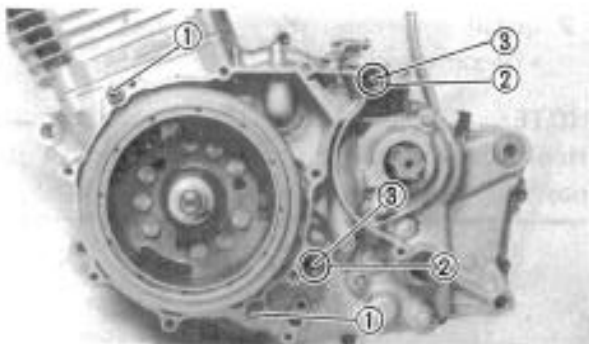
2. Tighten:

- Nut (Rotor) ①

Use the Sheave Holder ② (YS-01880) to lock the rotor.

NOTE:

Do not allow the special tool to touch the projections ③ on the rotor.



Nut (CDI Rotor):
90 Nm (9.0 m·kg, 65 ft·lb)

3. Install:

- Dowel pins ①
- O-rings ②
- Gasket (New)

4. Apply:

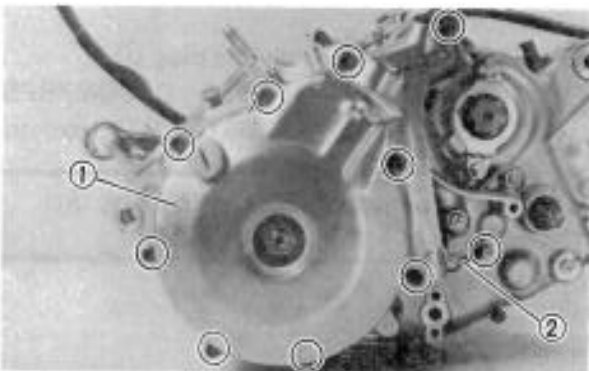
- 4-stroke engine oil
- To the oil passages ③.

5. Install:

- Crankcase cover (Left) ①

NOTE:

Tighten the bolts in stage, using the crisscross pattern.

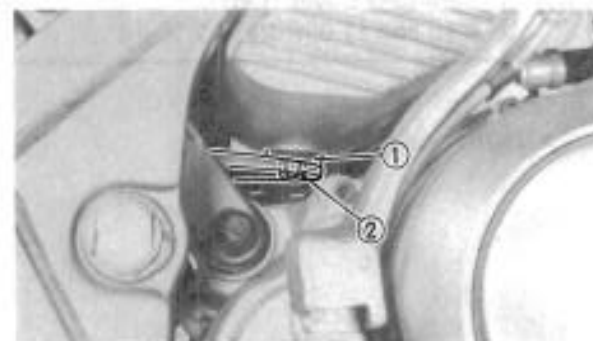
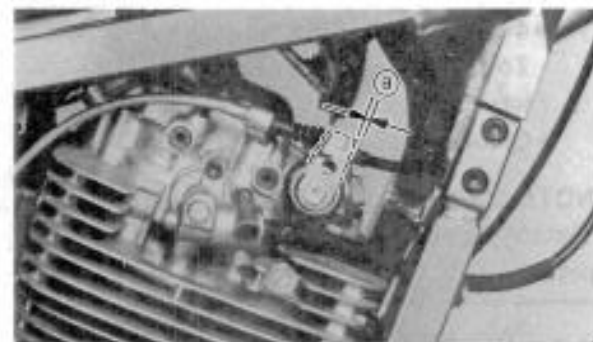
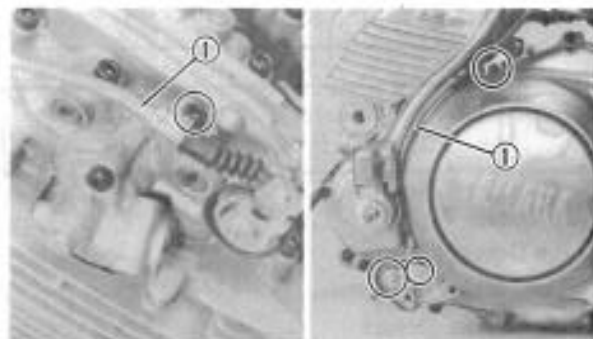
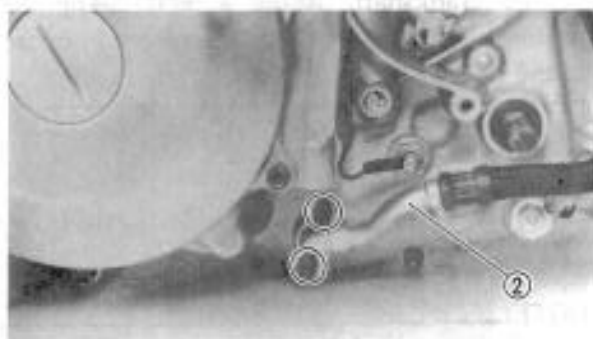


Crankcase Cover (Left):
10 Nm (1.0 m·kg, 7.2 ft·lb)

6. Connect:

- Neutral switch lead ②

page 6-9 + 10



REMountING ENGINE

When remounting the engine, reverse the removal procedure. Note the following points.

1. Install:

- Oil tank
- Oil hose (Outlet) ①
- Oil hose (Inlet) ②

NOTE:

- Inspect the O-rings, and replace them if damaged.
- Apply the 4-stroke engine oil to the inlet oil passage.



Oil Hoses (Outlet and Inlet):
10 Nm (1.0 m·kg, 7.2 ft·lb)

2. Install:

- Decompression cable ①

NOTE:

Hook the decompression shaft spring to its position.

3. Adjust:

- Decompression cable free play ①
Refer to "CHAPTER 2. DECOMPRESSION CABLE ADJUSTMENT" section.



Decompression Cable Free Play ① :
3 ~ 5 mm (0.12 ~ 0.20 in)

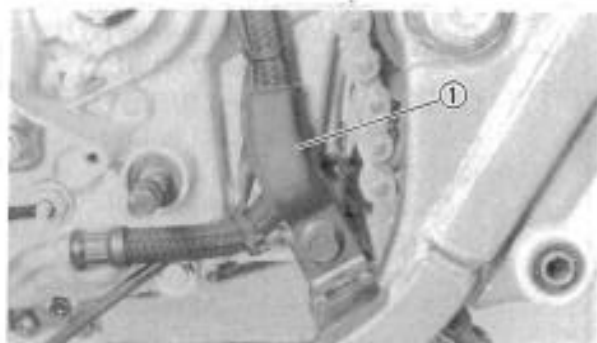
4. Install:

- Engine
From the right.

NOTE:

Insert the lobe ① on the oil tank into the hole ② on the frame.

5. Place a suitable stand under the engine.

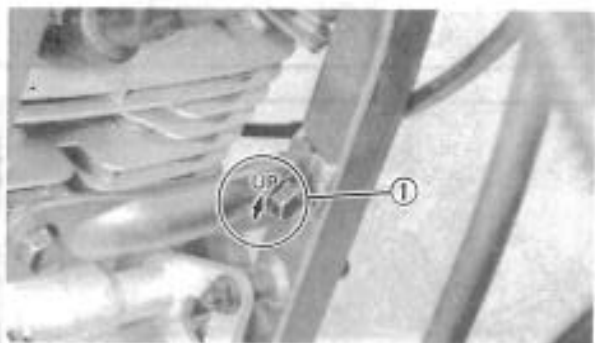


6. Install:

- Bolts (Engine mounting – Rear)
- Down tubes (Left and right)
- Kick crank stopper

NOTE:

- Before tightening the rear engine mounting bolt, pass the inlet oil hose behind the oil hose protector ①.
- Temporarily tighten the bolts in this stage.



7. Install:

- Stay (Engine mounting – Top)
- Stays (Engine mounting – Front)
- Bolt (Engine mounting – Front)

NOTE:

- The front stay (Upper) should be installed with the "UP" mark ① upward.
- Temporarily tighten the bolts in this stage.

8. Tighten:

- All bolts and nut
(Components in the above steps 6 and 7)
Refer to illustration.



Nut (Engine Mounting – Rear) ① :

42 Nm (4.2 m·kg, 30 ft·lb)

Down Tubes (Left and Right) ② :

25 Nm (2.5 m·kg, 18 ft·lb)

Kick Crank Stopper ③ :

25 Nm (2.5 m·kg, 18 ft·lb)

Stay (Engine Mounting – Top
and Frame) ④ :

33 Nm (3.3 m·kg, 24 ft·lb)

Stay (Engine Mounting – Top
and Engine) ⑤ :

42 Nm (4.2 m·kg, 30 ft·lb)

Stay (Engine Mounting –
Front Upper) ⑥ :

35 Nm (3.5 m·kg, 25 ft·lb)

Bolt (Engine Mounting – Front) ⑦ :

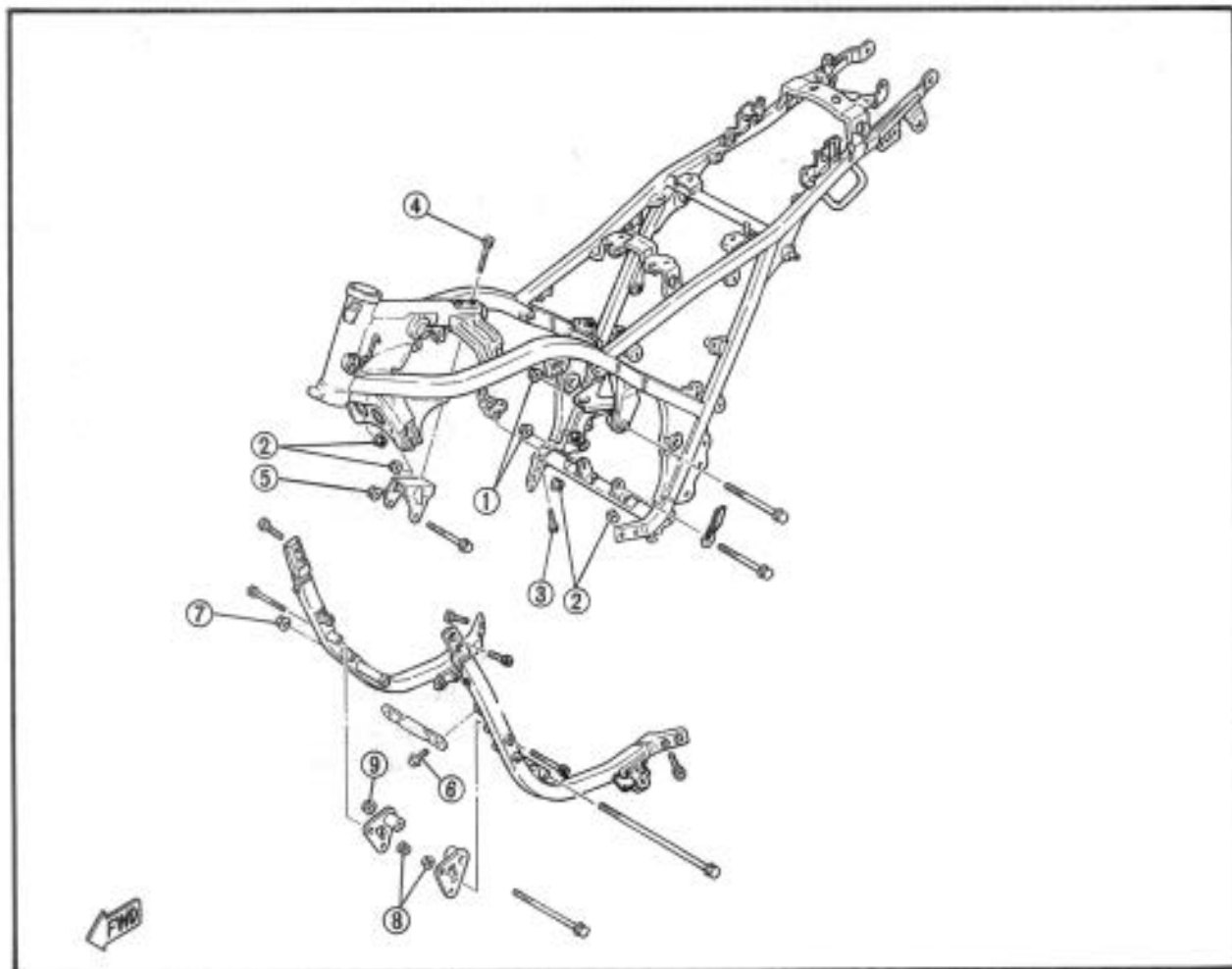
42 Nm (4.2 m·kg, 30 ft·lb)

Stay (Engine Mounting – Front Lower
and Frame) ⑧ :

33 Nm (3.3 m·kg, 24 ft·lb)

Stay (Engine Mounting –
Front Lower) and Engine ⑨ :

42 Nm (4.2 m·kg, 30 ft·lb)





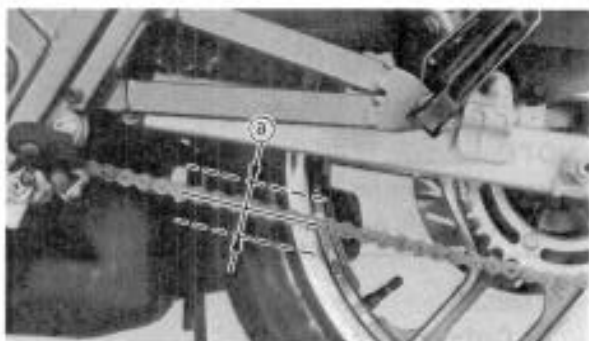
9. Install:

- Drive chain ①
- Drive sprocket ②
- Holding plate ③
- Bolt (Drive sprocket) ④

Apply the rear brake.



Bolts (Drive Sprocket):
10 Nm (1.0 m·kg, 7.2 ft·lb)

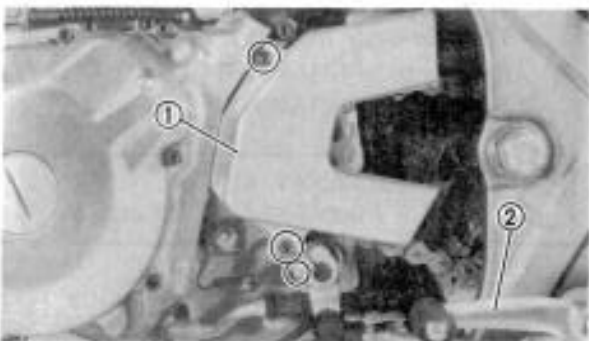


10. Adjust:

- Drive chain slack
- Refer to "CHAPTER 2. DRIVE CHAIN SLACK ADJUSTMENT" section.



Drive Chain Slack ⑧:
15 ~ 20 mm (0.6 ~ 0.8 in)



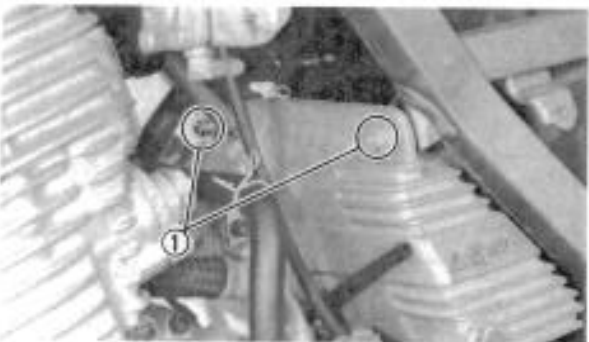
11. Install:

- Sprocket cover ①
- Change pedal ②



Sprocket Cover:
7 Nm (0.7 m·kg, 5.1 ft·lb)

Change Pedal:
8 Nm (0.8 m·kg, 5.8 ft·lb)

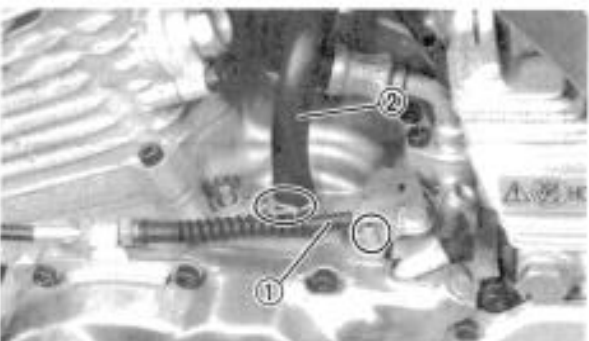


12. Install:

- Bolts (Oil tank) ①



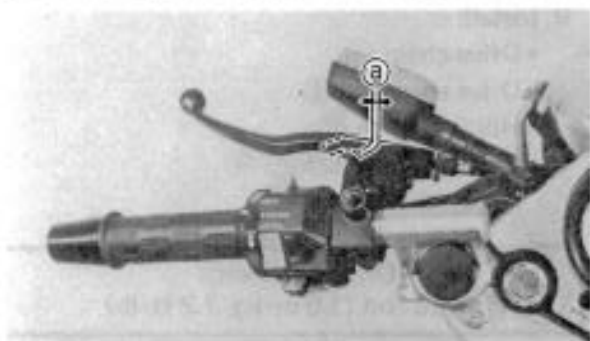
Bolt (Oil Tank):
10 Nm (1.0 m·kg, 7.2 ft·lb)



13. Connect:

- Clutch cable ①
- Ventilation hose ②

Refer to "WIRING DIAGRAM" section.



14. Adjust:

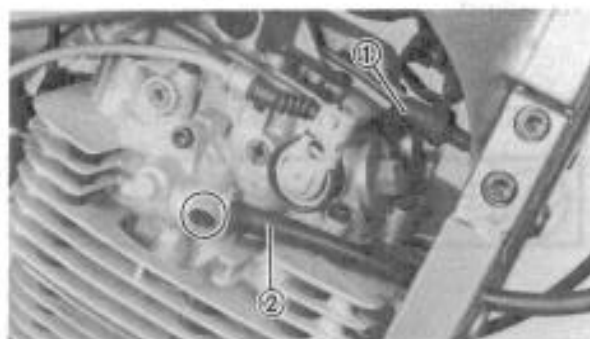
- Clutch cable free play

Refer to "CHAPTER 2. CLUTCH ADJUSTMENT" section.



Free Play (a) :

2 ~ 3 mm (0.08 ~ 0.12 in)



15. Install:

- Spark plug cap ①
- Tachometer cable ②

NOTE:

After remounting the engine, check the tachometer cable operation.



16. Install:

- Carburetor

17. Adjust:

- Throttle cable free play

Refer to "CHAPTER 2. THROTTLE CABLE ADJUSTMENT" section.



Throttle Cable Free Play (a) :

3 ~ 7 mm (0.12 ~ 0.28 in)

18. Install:

- Exhaust pipes
- Muffler
- Footrest (Right)



Exhaust Pipe Flange ③ :

10 Nm (1.0 m·kg, 7.2 ft·lb)

Muffler Clamp ④ :

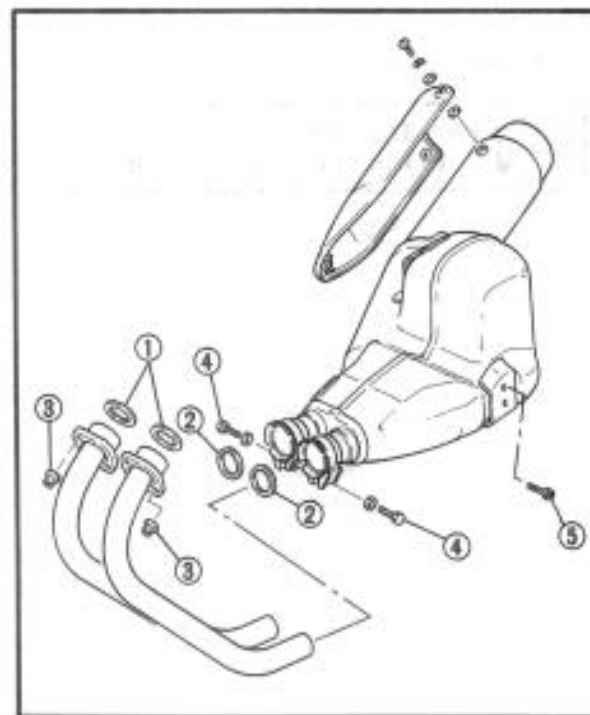
20 Nm (2.0 m·kg, 14 ft·lb)

Muffler Bracket ⑤ :

27 Nm (2.7 m·kg, 19 ft·lb)

Footrest (Right):

26 Nm (2.6 m·kg, 19 ft·lb)



NOTE:

Inspect the gaskets ①, ②, and replace them if damaged.



19. Connect:

- Battery positive lead ①
- Battery negative lead ②

NOTE:

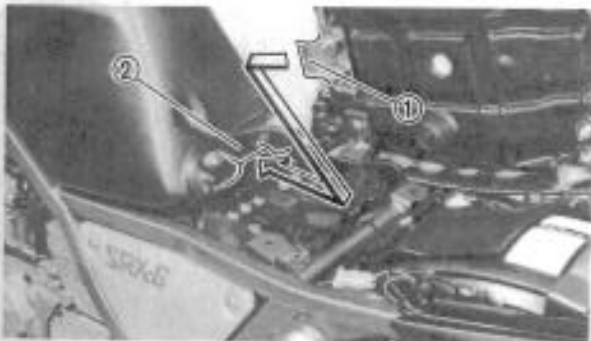
Connect the positive lead ① first.

20. Connect:

- Breather hose (Fuel tank – Rear)
- Breather hose (Fuel tank – Front)
(For California)

NOTE:

- When installing the fuel tank, be sure the breather hose is routed correctly.
Refer to "FUEL TANK BREATHER HOSE INSPECTION" section.
- Turn the sub fuel cock lever ① to "ON".



21. Install:

- Seat

NOTE:

Insert the lobe ① on the seat front into the receptacle ② on the frame, then push down the seat at the rear.

22. Apply:

- Engine oil



Recommended Oil:

Yamalube 4-cycle oil or
SAE 20W40 type SE motor oil

Total Amount:

2.4 L (2.1 Imp qt, 2.5 US qt)



23. Inspect:

- Oil leakage
- Oil level
- Oil pressure

Refer to "CHAPTER 2. ENGINE OIL LEVEL INSPECTION" and "OIL PRESSURE INSPECTION" section.

24. Install:

- Canister

Refer to "CABLE ROUTING" section.