Engine Right Side

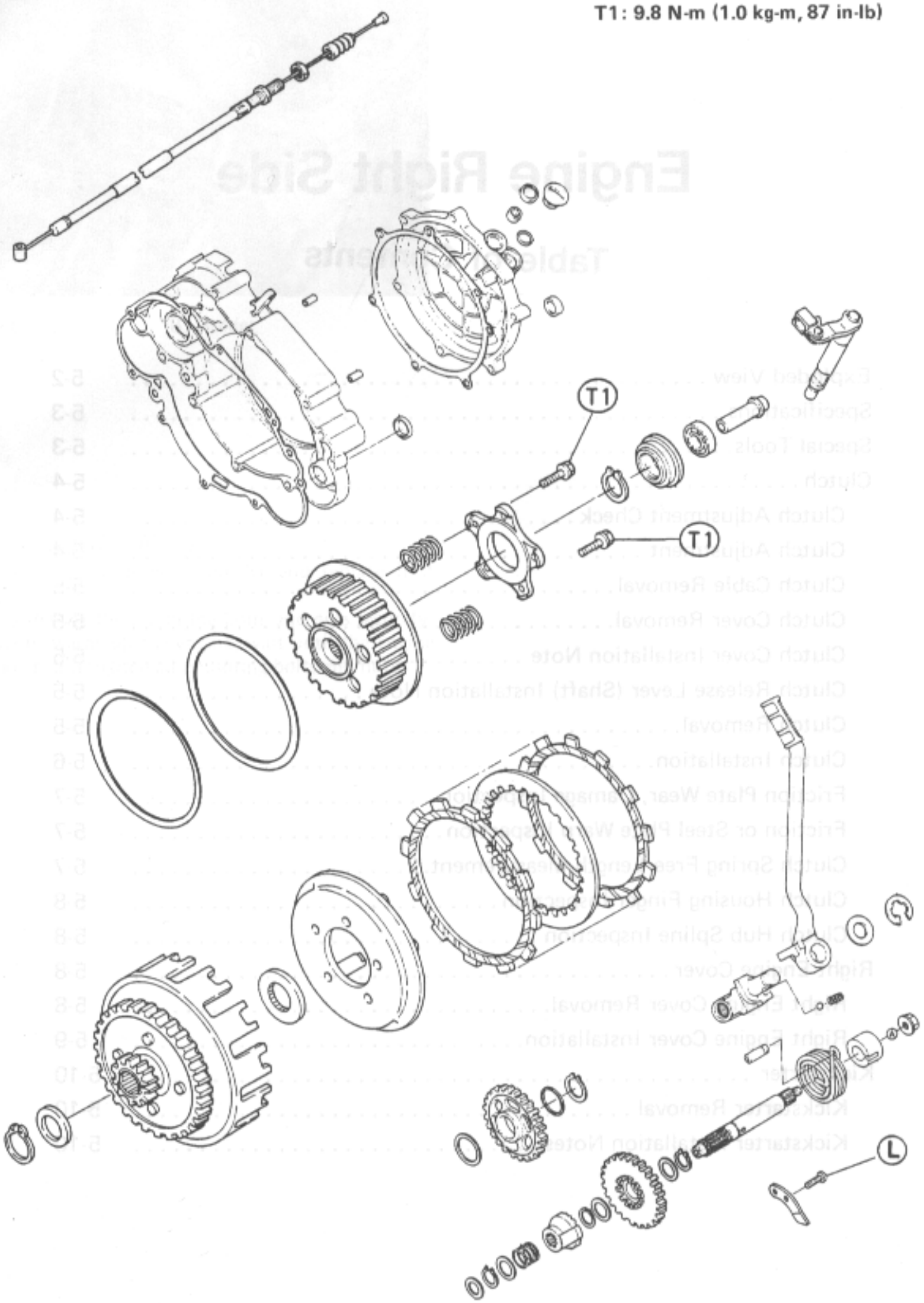
Table of Contents

5

Exploded View 5-2
Specifications 5-3
Special Tools 5-3
Clutch 5-4
  Clutch Adjustment Check 5-4
  Clutch Adjustment 5-4
  Clutch Cable Removal 5-5
  Clutch Cover Removal 5-5
  Clutch Cover Installation Note 5-5
  Clutch Release Lever (Shaft) Installation Note 5-5
  Clutch Removal 5-5
  Clutch Installation 5-6
  Friction Plate Wear, Damage Inspection 5-7
  Friction or Steel Plate Warp Inspection 5-7
  Clutch Spring Free Length Measurement 5-7
  Clutch Housing Finger Inspection 5-8
  Clutch Hub Spline Inspection 5-8
Right Engine Cover 5-8
  Right Engine Cover Removal 5-8
  Right Engine Cover Installation 5-9
Kickstarter 5-10
  Kickstarter Removal 5-10
  Kickstarter Installation Notes 5-10

Exploded View

L : Apply non-permanent locking agent.
T1: 9.8 N-m (1.0 kg-m, 87 in-lb)



Specifications

Item	Standard	Service Limit
Clutch:		
Clutch lever free play	2 – 3 mm	– – –
Clutch spring free length	35.34 mm	34.2 mm
Friction plate thickness	2.9 – 3.1 mm	2.7 mm
Friction and steel plate warp	not more than 0.2 mm	0.3 mm

Special Tools

Circlip Pliers: 57001-144



Clutch

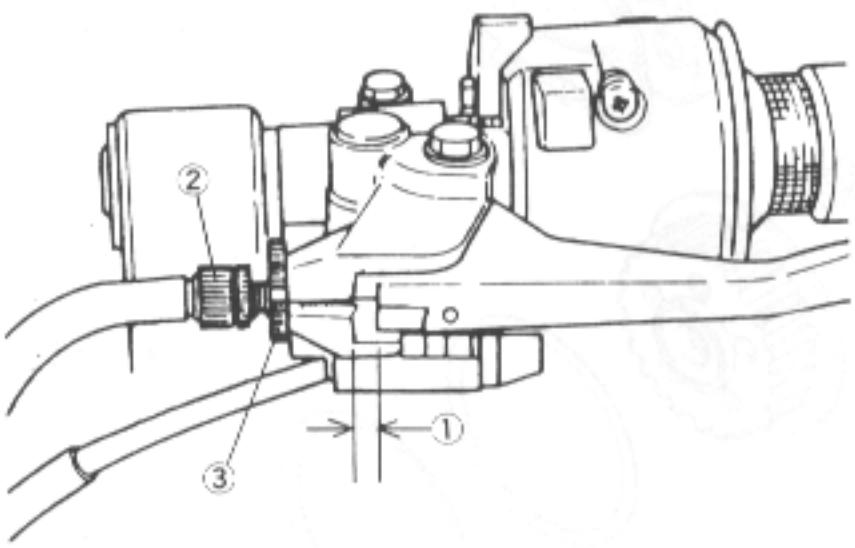
WARNING

○**To avoid serious burn, never touch the engine or exhaust pipe during clutch adjustment.**

Clutch Adjustment Check

- Pull the clutch lever just enough to take up the free play.
- Measure the gap between the lever and the lever bracket.

Clutch Lever Free Play



1. Clutch Lever Free Play 2 – 3 mm
2. Adjuster
3. Locknut

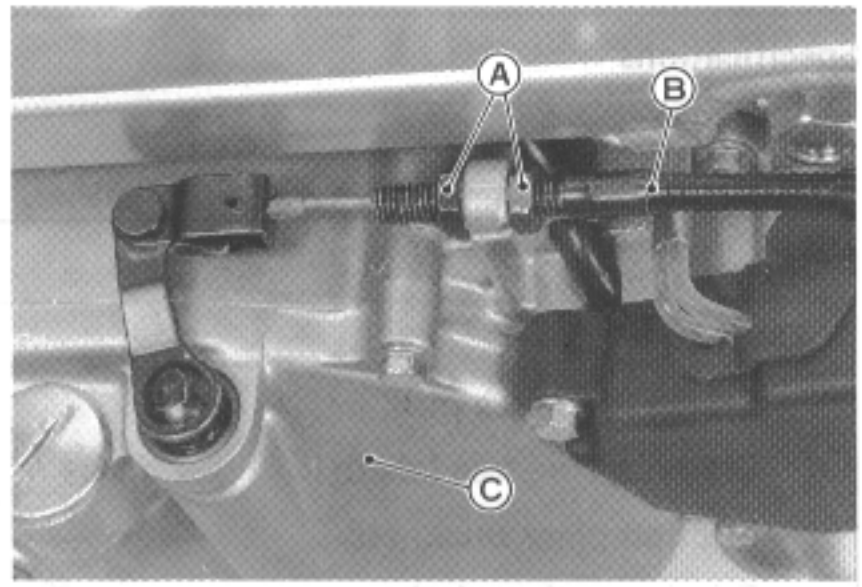
★If the gap is too wide, the clutch may not release fully. If the gap is too narrow, the clutch may not engage fully. In either case, adjust the clutch.

Clutch Adjustment

- Loosen the knurled locknut at the clutch lever.
- Turn the adjuster so that the clutch lever will have 2 – 3 mm of play.
- Tighten the locknut.

★If it cannot be done, use the adjusting nuts at the lower end of the cable.

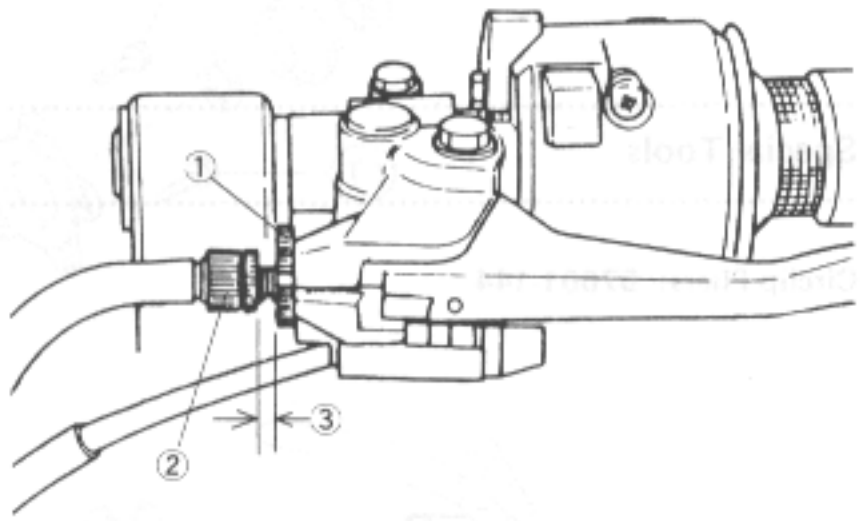
- Loosen the lower cable adjusting nuts at the clutch cover as far as they will go.



A. Adjusting Nut
B. Clutch Cable
C. Clutch Cover

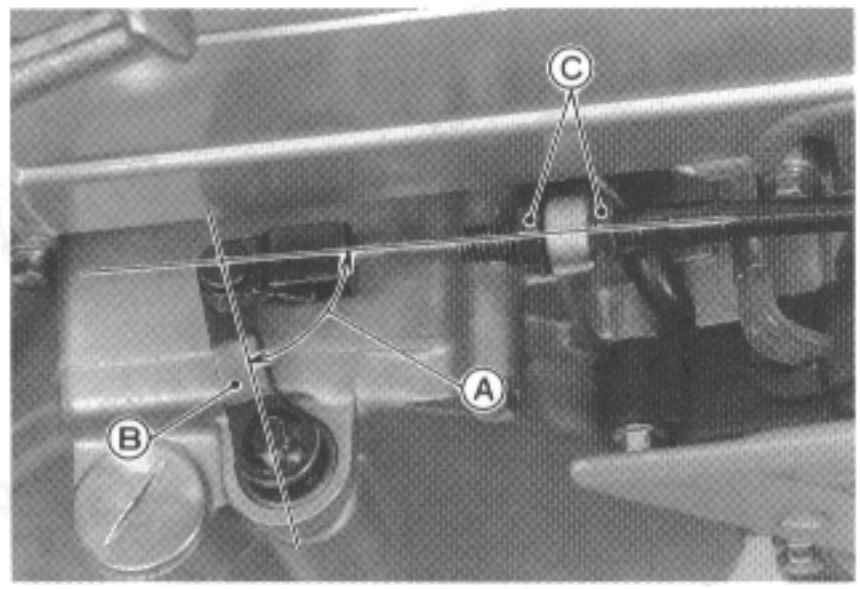
- Loosen the knurled locknut at the clutch lever.
- Turn in the adjuster so that 5 – 6 mm of threads are visible.

Clutch Adjuster Clearance



1. Locknut
2. Adjuster
3. 5 – 6 mm

- Pull the clutch outer cable tight and tighten the lower cable adjusting nuts against the bracket.
- At this time, check that the clutch release lever to clutch cable angle is 80 – 90°.



A. 80 – 90°
B. Release Lever
C. Adjusting Nuts

●Turn the adjuster at the clutch lever until the free play is correct
★If the clutch cannot be adjusted by this method, inspect the clutch parts.
●Tighten the knurled locknut at the clutch lever.

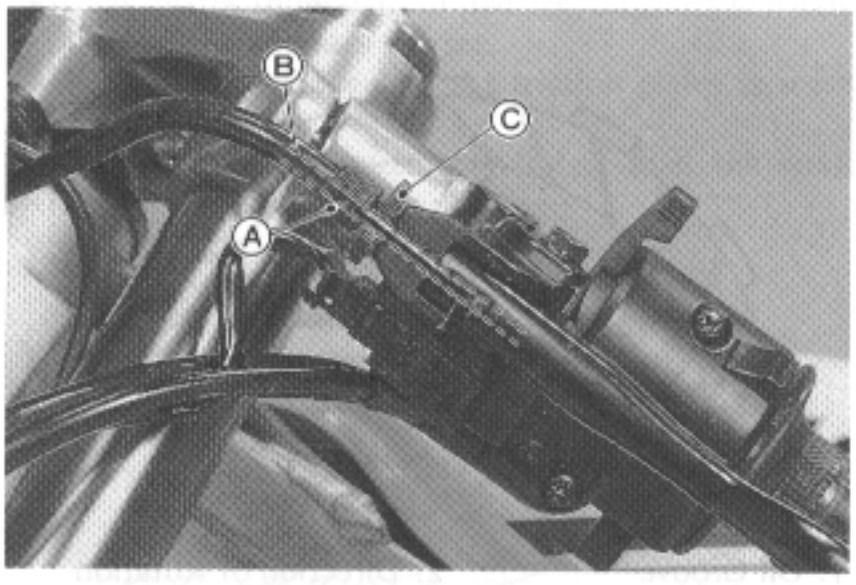
NOTE

○*Be sure that the outer cable end at the clutch lever is fully seated in the adjuster at the clutch lever, or it could slip into place later, creating enough cable play to prevent clutch disengagement.*

●After the adjustment is made, start the engine and check that the clutch does not slip and that it releases properly.

Clutch Cable Removal

●Slide the dust cover at the clutch lower end out of place.
●Loosen the nuts, and slide the lower end of the clutch cable to give the cable plenty of play.
●Loosen the knurled locknut at the clutch lever, and screw in the adjuster.
●Line up the slots in the clutch lever, knurled locknut, and adjuster, and then free the cable from the lever.

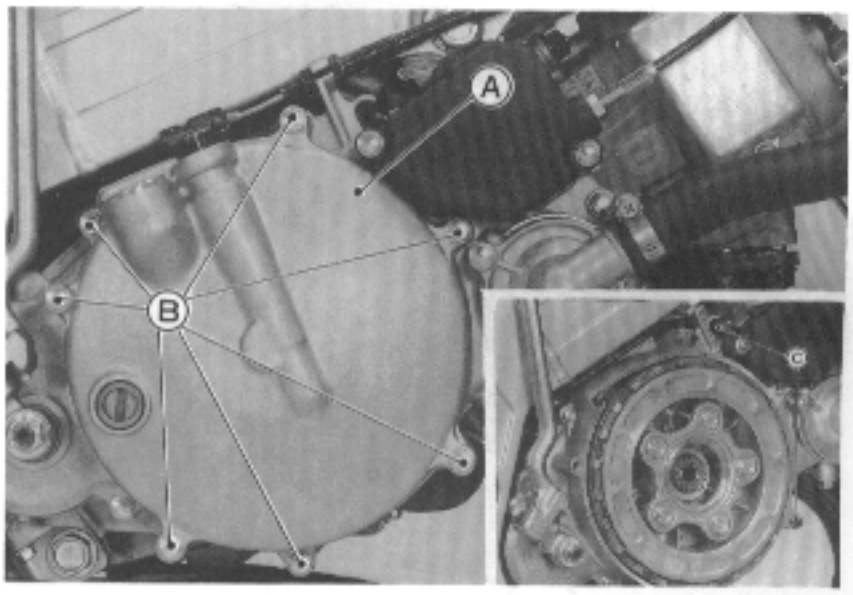


A. Adjuster
B. Slot
C. Knurled Locknut

●Free the clutch inner cable tip from the clutch release lever.

Clutch Cover Removal

●Remove the clutch cable.
●Drain the transmission oil (see Engine Lubrication System chapter).
●Unscrew the clutch cover bolts and take off the cover. Do not loose the knock pins.



A. Clutch Cover
B. Mounting Bolts
C. Knock Pins

CAUTION

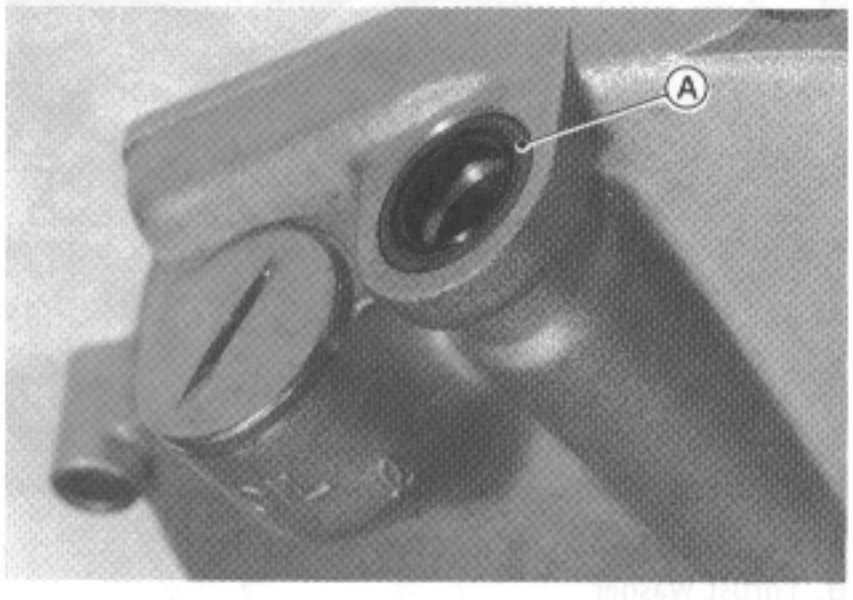
○**Do not remove the clutch release shaft unless it is absolutely necessary. If removed, you must replace the oil seal with a new one.**

Clutch Cover Installation Note

●Replace the clutch cover gasket with a new one.
●Check the clutch adjustment.

Clutch Release Lever (Shaft) Installation Note

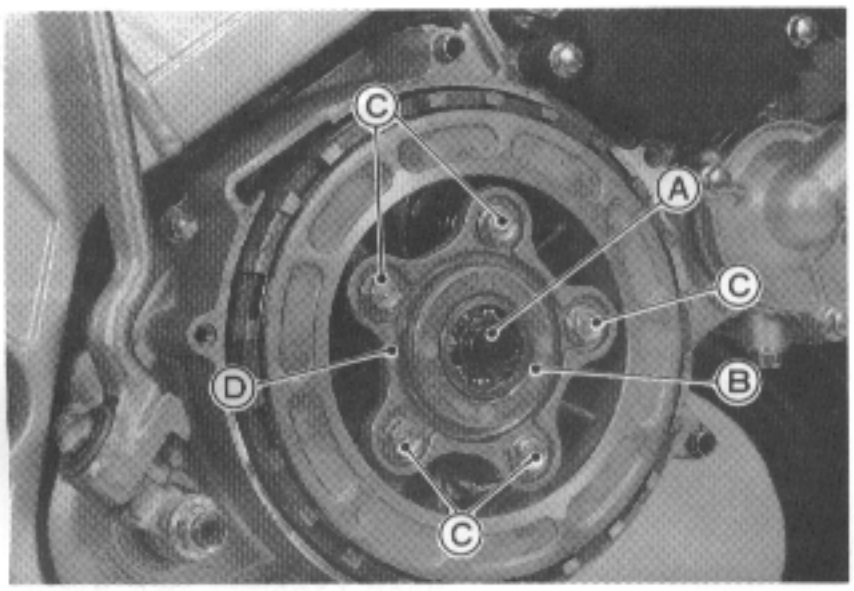
●Inspect the oil seal and replace it if necessary.



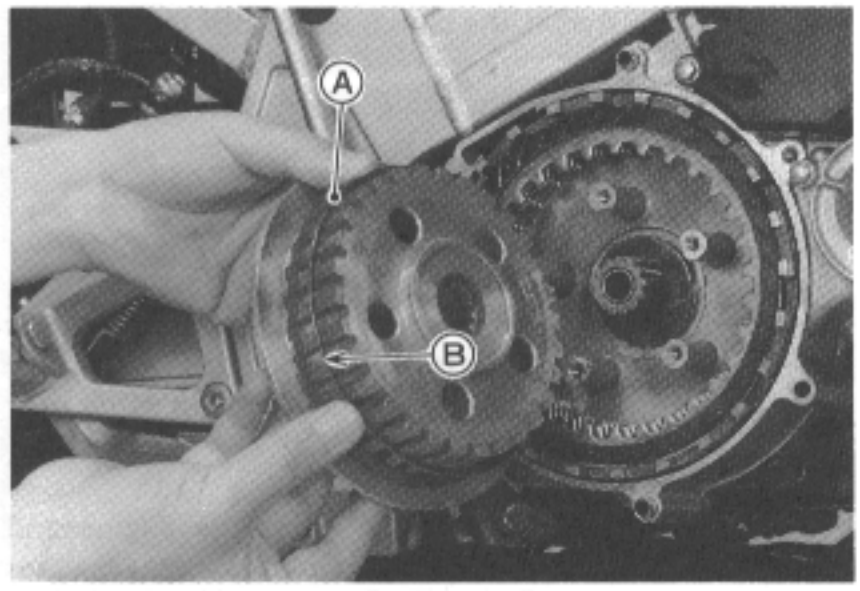
A. Oil Seal

Clutch Removal

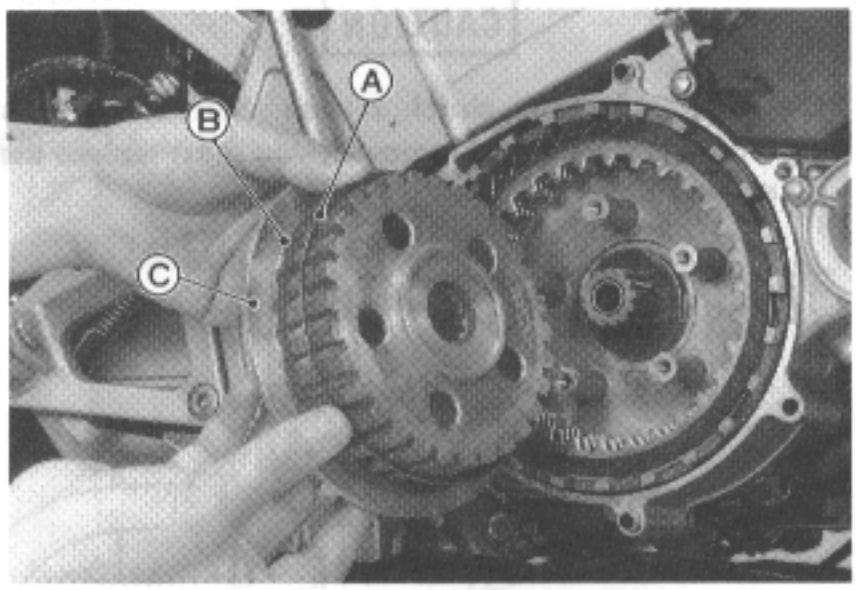
●Remove the clutch cover.
●Remove the following.



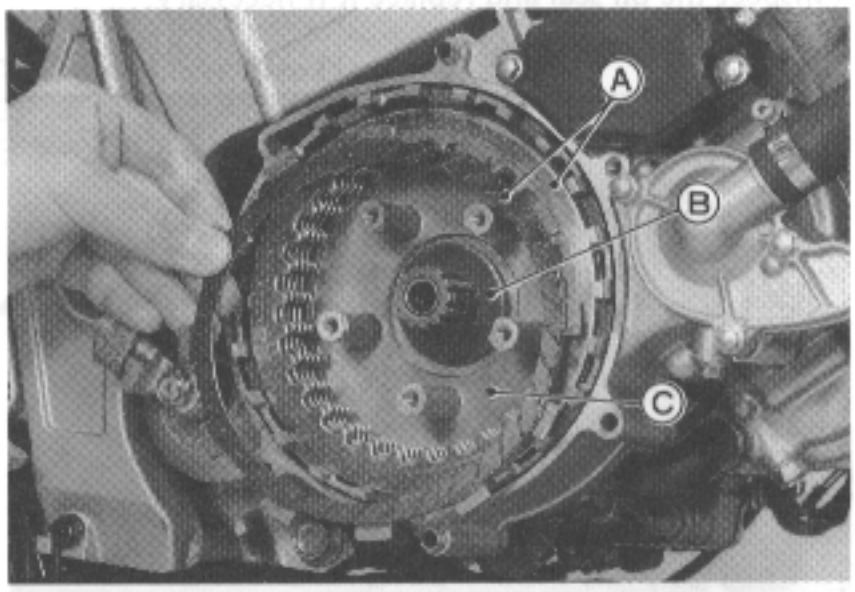
A. Push Rod
B. Bearing Holder
C. Spring Bolts
D. Holder



A. Spring Side
B. Concave Side



A. Springs
B. Spring Seat
C. Clutch Hub

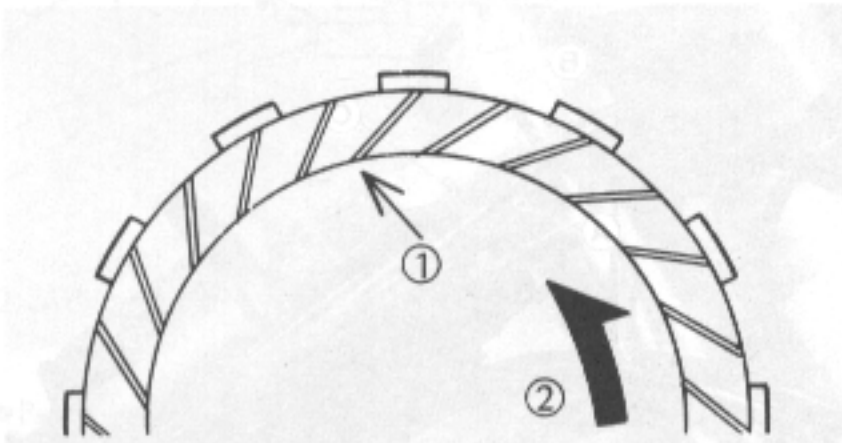


A. Clutch Plates
B. Thrust Washer
C. Clutch Housing

Clutch Installation Notes

- Install the spring plate as shown.
- Install the friction plates and steel plates, starting with a friction plate and alternating them.
- The grooves on the friction plate surfaces are cut tangentially and radially, install the friction plates so that the grooves run toward the center in the direction of clutch housing rotation (counterclockwise viewed form the engine right side).

Friction Plate Installation



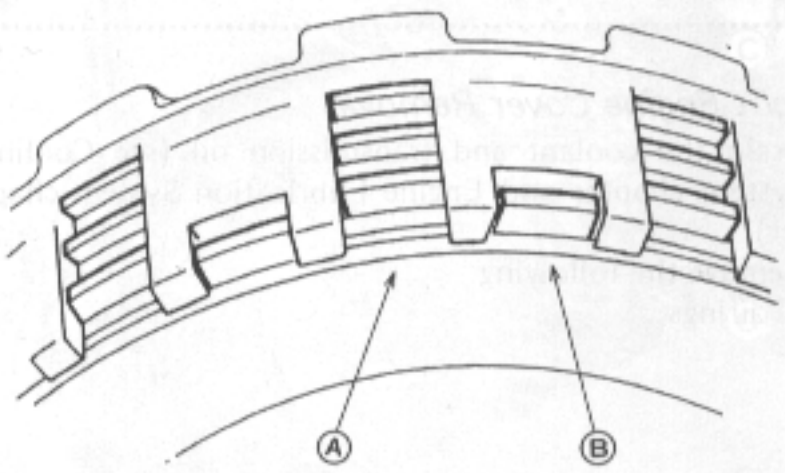
1. Oil Groove
2. Direction of Rotation

CAUTION

- **If new dry steel plates and friction plates are installed, apply engine oil to the surfaces of each plate to avoid clutch plate seizure.**

NOTE

- *First, Install the seven friction plates fitting the tangs of plates in the grooves (A) in the clutch housing. And then, install the last one fitting the tangs in the grooves (B) in the housing.*

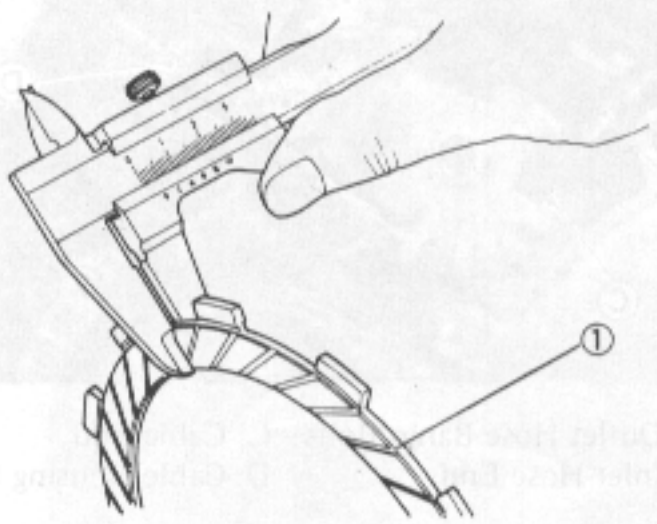


- Then, tighten the clutch spring bolts to the specified torque.
- Discard the used clutch hub circlip, and install a new one.

Friction Plate Wear, Damage Inspection

- Visually inspect the friction plates to see if they show any signs of seizure, overheating, or uneven wear.
- ★If any plates show signs of damage, replace the friction plates and steel plates as a set.
- Measure the thickness of the friction plates at several points.
- ★If any of the measurements is less than the service limit, replace the friction plate.

Friction Plate Thickness Measurement



1. Friction Plate

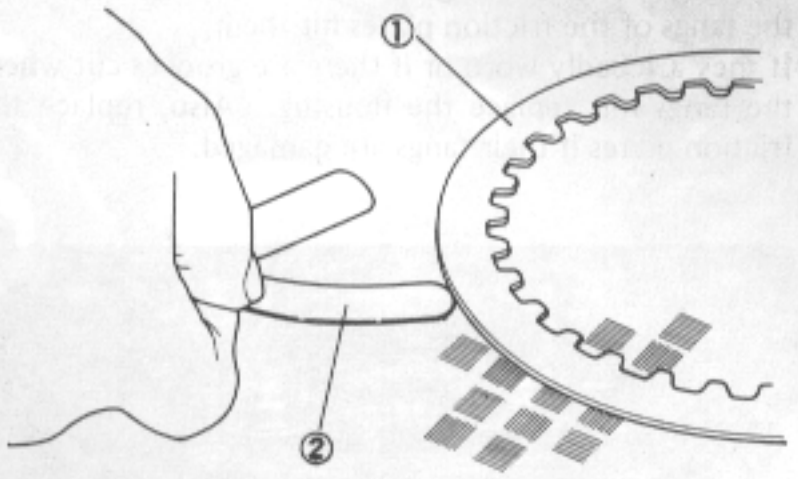
Friction Plate Thickness

Standard:	**2.9 – 3.1 mm**
Service Limit:	**2.7 mm**

Friction or Steel Plate Warp Inspection

- Place each friction plate or steel plate on a surface plate, and measure the gap between the surface plate and each friction plate or steel plate. The gap is the amount of friction or steel plate warp.
- ★If any plate is warped over the service limit, replace it with a new one.

Friction or Steel Plate Warp Inspection



1. Friction or Steel Plate 2. Thickness Gauge

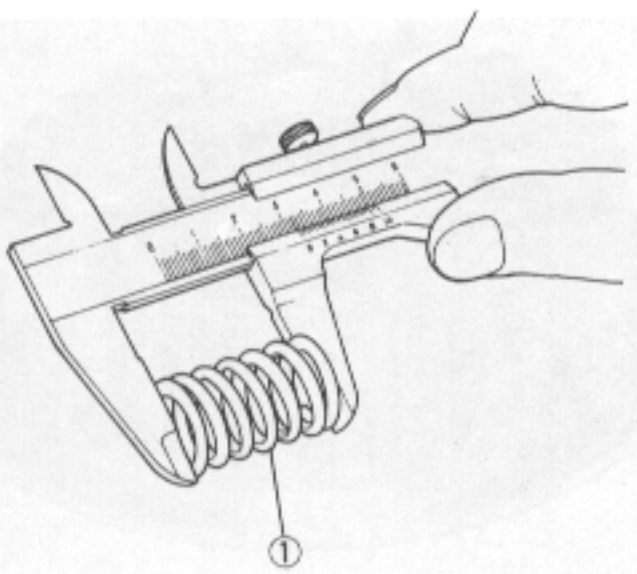
Friction and Steel Plate Warp

Standard:	**less than 0.2 mm**
Service Limit:	**0.3 mm**

Clutch Spring Free Length Measurement

- Since the spring becomes shorter as it weakens, check its free length to determine its condition.
- ★If any of the springs is shorter than the service limit, it must be replaced.

Clutch Spring Free Length Measurement



1. Clutch Spring

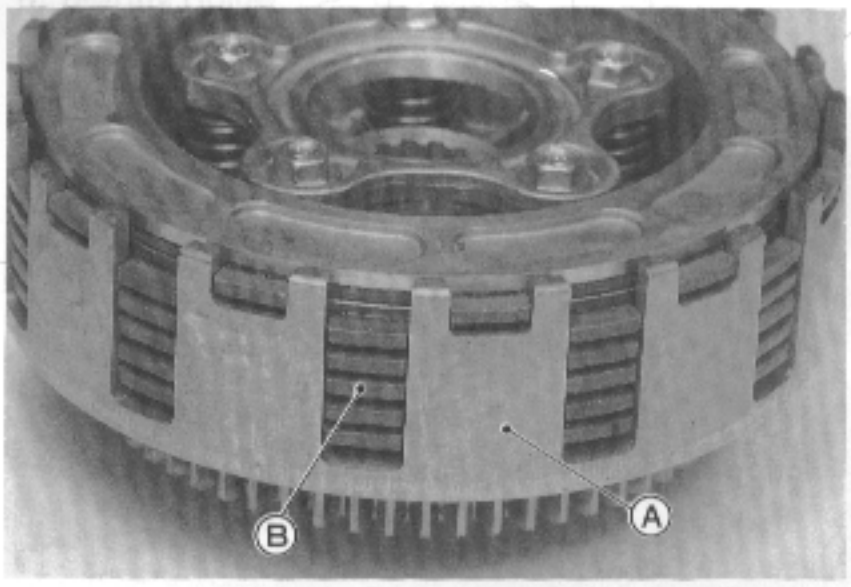
Clutch Spring Free Length

Standard:	**35.34 mm**
Service Limit:	**34.2 mm**

Clutch Housing Finger Inspection

- Visually inspect the fingers of the clutch housing where the tangs of the friction plates hit them.

★If they are badly worn or if there are grooves cut where the tangs hit, replace the housing. Also, replace the friction plates if their tangs are damaged.

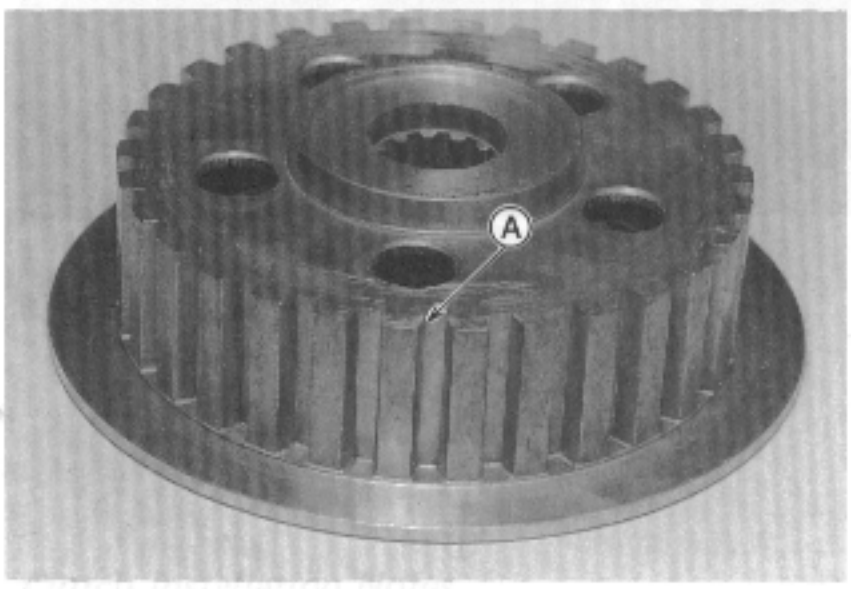


A. Clutch Housing Finger B. Friction Plate Tang

Clutch Hub Spline Inspection

- Visually inspect where the teeth on the steel plates wear against the splines of the clutch hub.

★If there are notches worn into the splines, replace the clutch hub. Also, replace the steel plates if their teeth are damaged.

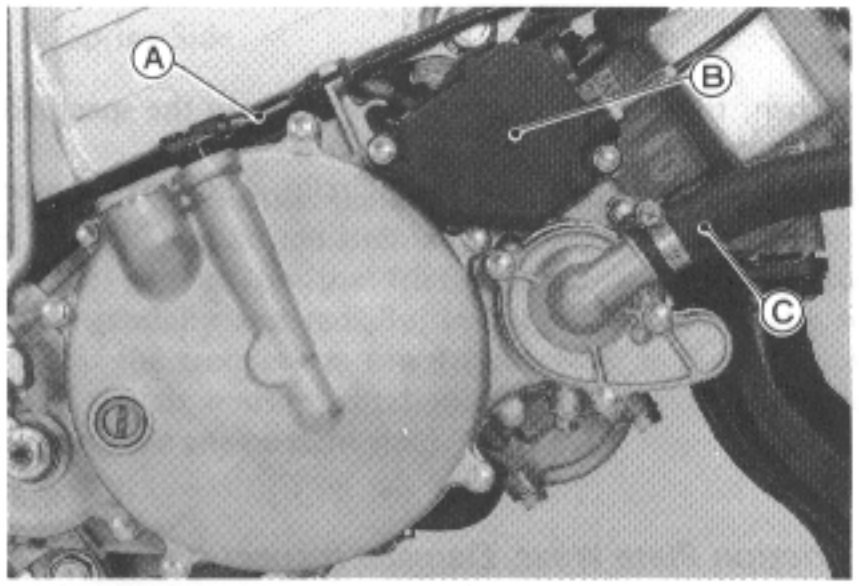


A. Clutch Hub Spline

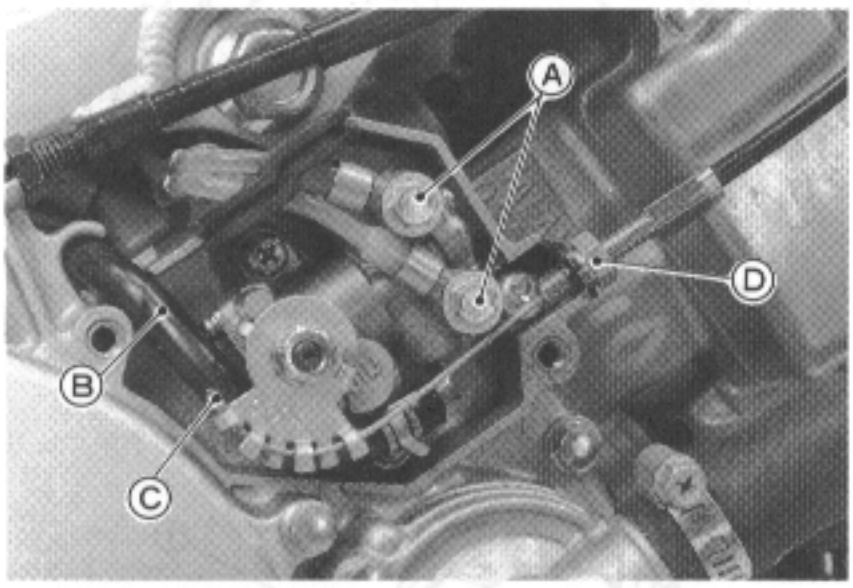
Right Engine Cover

Right Engine Cover Removal

- Drain the coolant and transmission oil (see Cooling System chapter and Engine Lubrication System chapter).
- Remove the following.
  Fairings



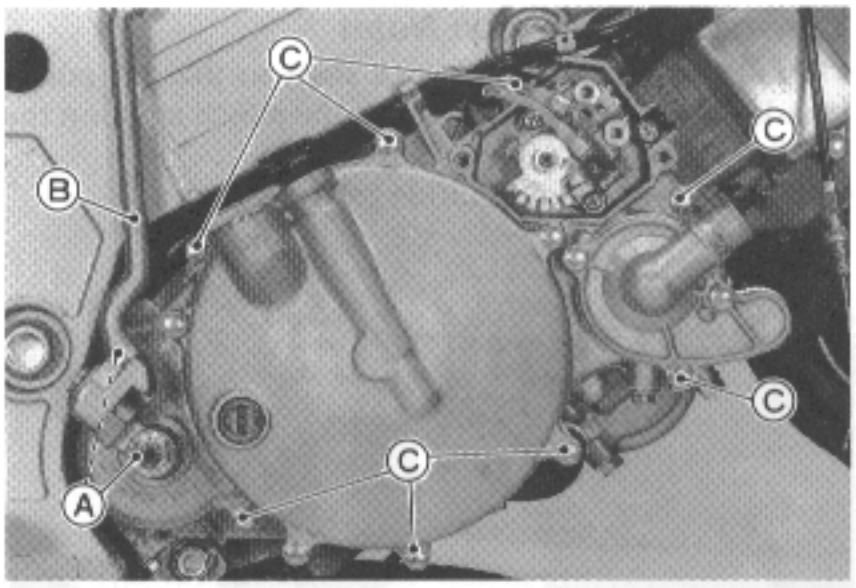
A. Clutch Cable
B. Oil Pump Cover
C. Radiator Hose Lower End



A. Oil Outlet Hose Banjo Bolts C. Cable End
B. Oil Inlet Hose End D. Cable Housing End

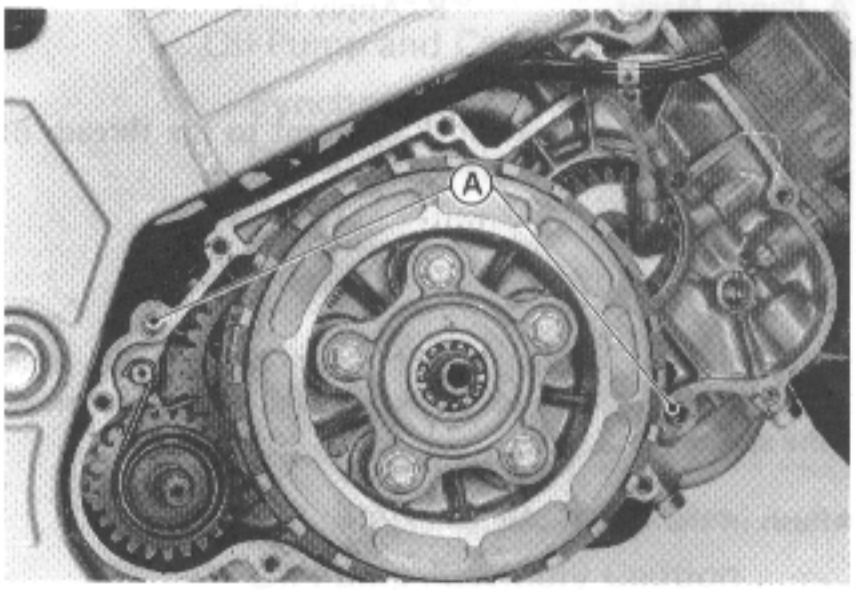
NOTE

○*When disconnecting the oil inlet hose end, screw a suitable bolt into the hose to keep the oil from flowing out.*



A. Kick Pedal Mounting Nut
B. Kick Pedal
C. Right Engine Cover Mounting Bolts

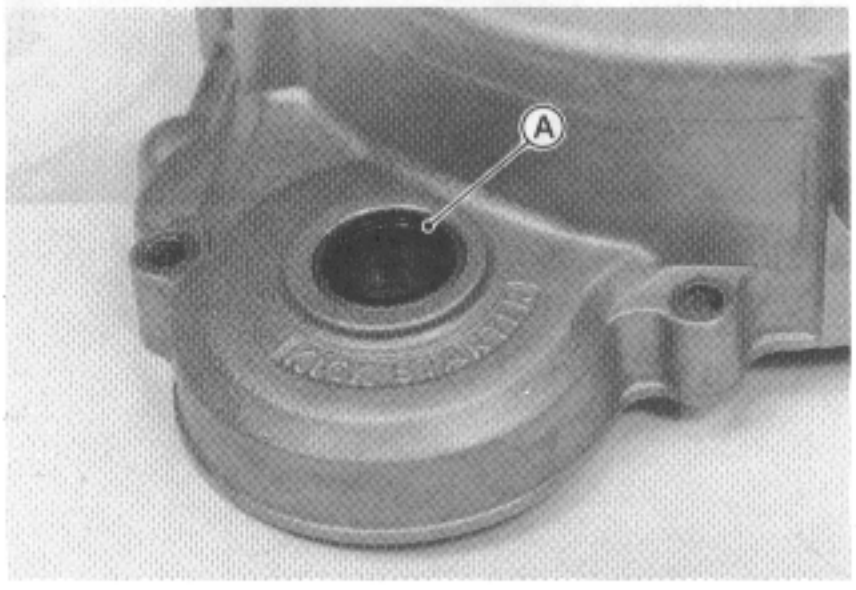
- Remove the right engine cover and gasket. Do not loose the knock pins.



A. Knock Pins

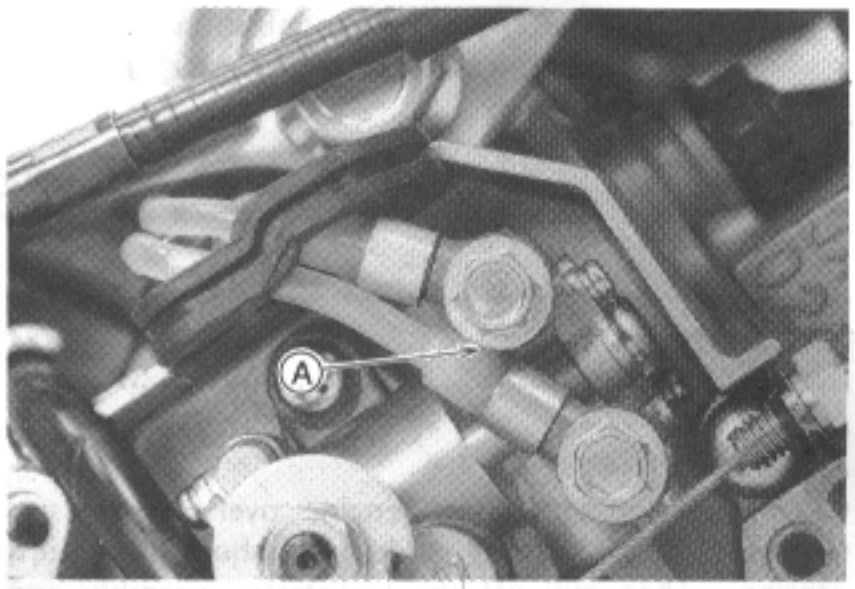
Right Engine Cover Installation

- Replace the gasket if necessary.
- Replace the oil seal if it is damaged.



A. Oil Seal

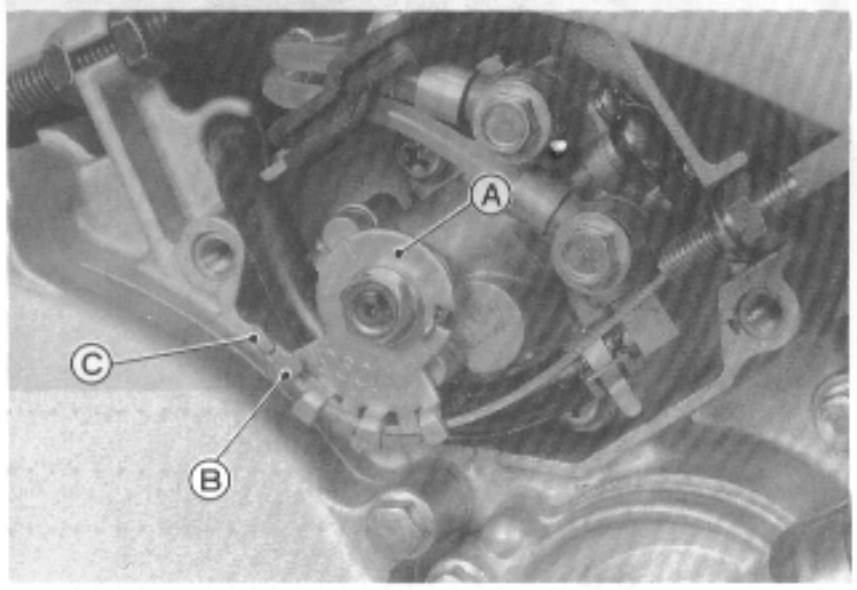
- Replace the flat washers on each side of the outlet hoses.
- Install the oil outlet hoses as shown.



A. Contact

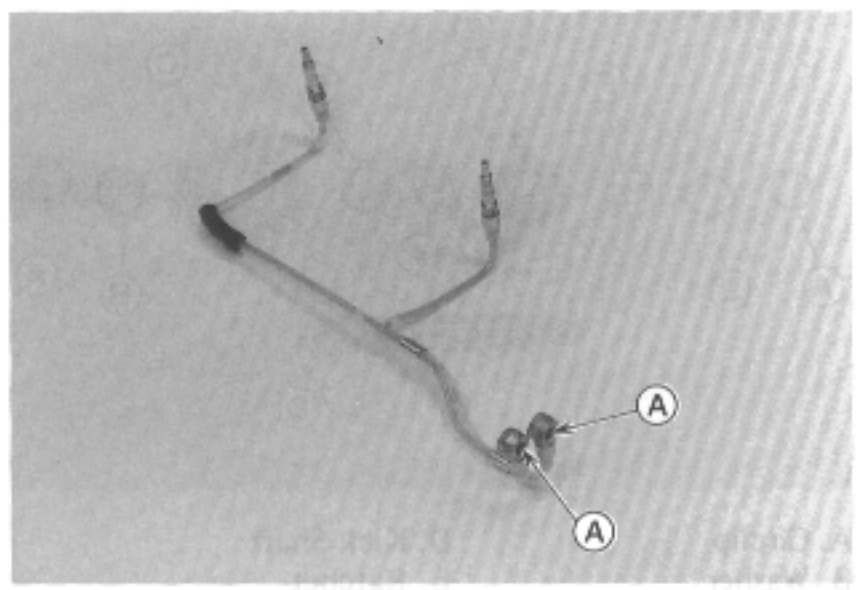
CAUTION

○Make sure the tab on the oil pump lever is bent to hold the cable nipple securely. If loose, the cable may slip out, resulting in piston seizure.



A. Pump Lever
B. Tab
C. Cable Nipple

- Fill the outlet hoses with 2-stroke oil. This shortens air bleeding time.



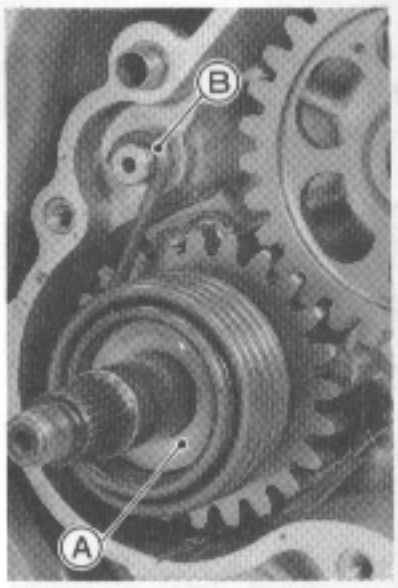
A. Apply a 2-stroke oil.

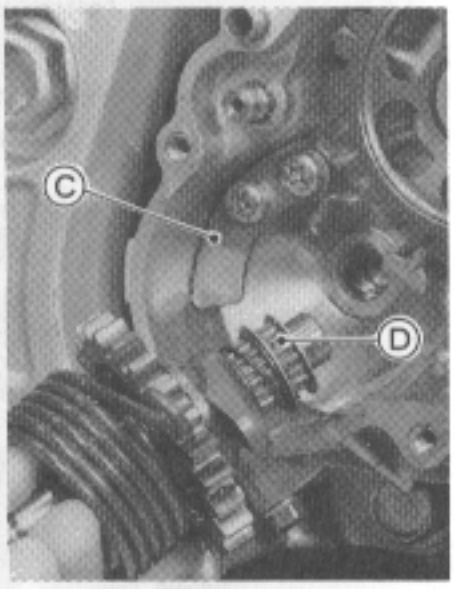
- Bleed the oil pump (see Engine Lubrication System chapter).
- After installation adjust the following.
  Clutch Cable
  Oil Pump and Carburetor Synchronization
  (see Engine Lubrication System chapter)

Kickstarter

Kickstarter Removal

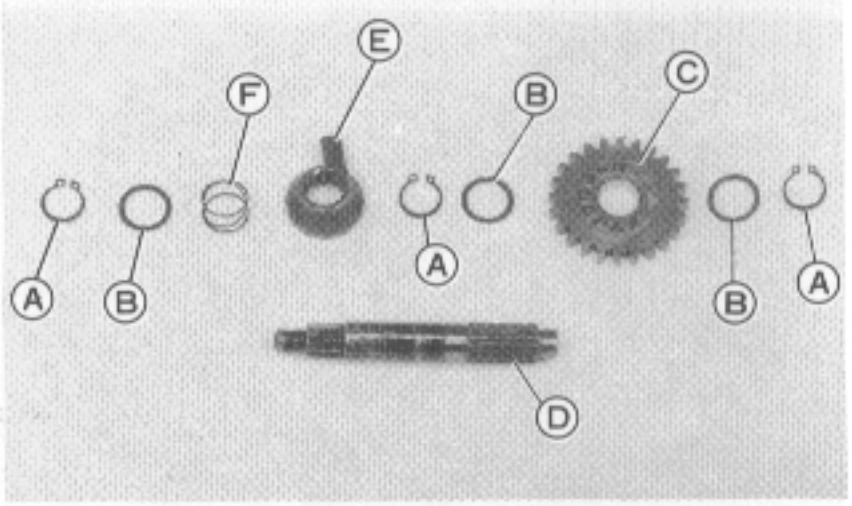
- Remove the clutch and right engine cover.
- Pull off the kick spring guide and unhook the return spring. Then pull off the kickstarter assembly and washer.





A. Kick Spring Guide
B. Return Spring
C. Kick Guide
D. Washer

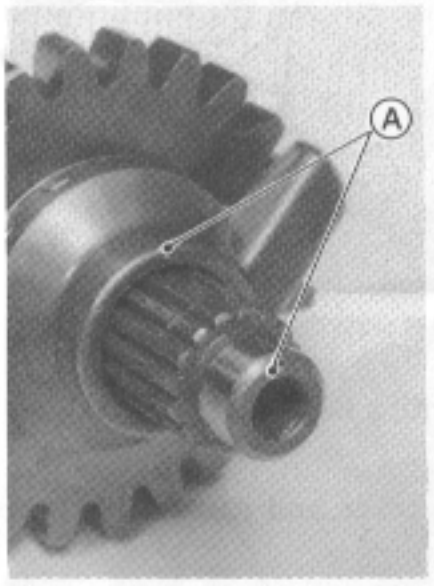
- Remove the circlips and disassemble the kickstarter assembly.

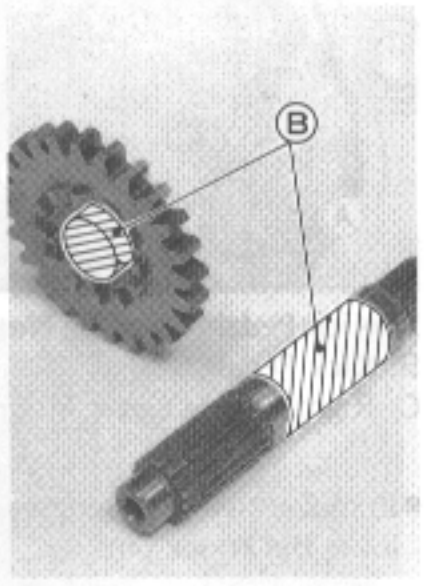


A. Circlip
B. Washer
C. Kick Gear
D. Kick Shaft
E. Ratchet
F. Spring

Kickstarter Installation Notes

- Install the ratchet on the kick shaft so that the punch mark on the ratchet aligns with the punch mark on the kick shaft.
- Apply molybdenum disulfide grease as shown.





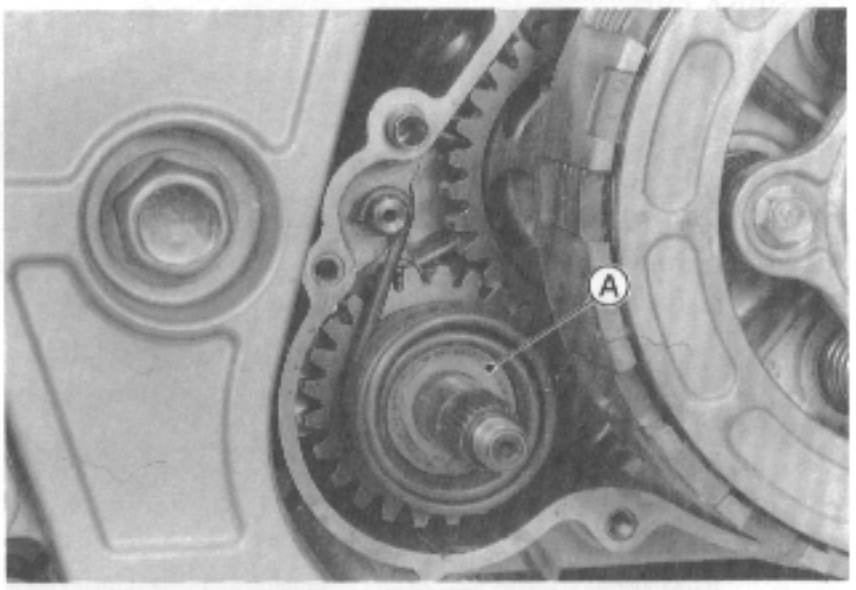
A. Punch Marks B. Apply here.

- Apply non-permanent locking agent to the threads of the kick guide mounting screws.

CAUTION

○Misalignment of the ratchet gear changes the kick spring preload. Light preload could weaken or break the spring.

- Push in the kick spring guide completely.



A. Kick Spring Guide