

38-42 N·m  
(3.8-4.2 kg-m,  
27-30 ft-lb)



# 6. CLUTCH SYSTEM

SERVICE INFORMATION	6-1	CLUTCH INSTALLATION	6-7
TROUBLESHOOTING	6-2	CLUTCH COVER INSTALLATION	6-10
CLUTCH COVER REMOVAL	6-3	STARTER CLUTCH DISASSEMBLY	6-11
CLUTCH REMOVAL	6-3	STARTER CLUTCH ASSEMBLY	6-13

## SERVICE INFORMATION

### GENERAL

- This section covers removal and installation of the clutch and starter clutch.
- Clutch maintenance can be done with the engine in the frame.

6

### SPECIFICATIONS

		STANDARD	SERVICE LIMIT	
Clutch	Lever free play (at lever end)	10–20 mm (3/8–3/4 in)	—————	
	Spring free length	41.2 mm (1.62 in)	39.6 mm (1.56 in)	
	Spring preload/length	20.7–22.5 kg/27.4 mm (46.00–50.00 lbs/1.08 in)	20 kg/27.4 mm (44.44 lbs/1.08 in)	
	Disc thickness	A	3.72–3.88 mm (0.146–0.153 in)	3.4 mm (0.13 in)
		B	3.72–3.88 mm (0.146–0.153 in)	3.4 mm (0.13 in)
Plate warpage	—————	0.30 mm (0.012 in)		
Starter clutch	Driver gear O.D.	42.275–42.300 mm (1.6644–1.6654 in)	42.255 mm (1.6636 in)	
Ignition timing	Refer to Section 3.			

### TORQUE VALUES

Clutch lock nut	38– 42 N·m (3.8– 4.2 kg·m, 27–30 fr·lb)
Primary drive gear lock bolt	80–100 N·m (8.0–10.0 kg·m, 60–72 ft·lb)
Starter clutch locking bolt	26– 30 N·m (2.6– 3.0 kg·m, 19–22 ft·lb)
Spartk advancer bolt	33– 37 N·m (3.3– 3.7 kg·m, 24–27 ft·lb)

### TOOLS

#### Special

Primary gear holder	07924–4250000 or Commercially available holder in U.S.A.
Clutch center holder	07923–3710000 or 07923–4610000
Hex bit, 10 mm	07917–3710000 or Commercially available in U.S.A.

#### Common

Lock nut wrench, 20 x 24 mm	07716–0020100 or 07916–3710000
Handle	07716–0020500 or Commercially available in U.S.A.



**CLUTCH SYSTEM**

---

**TROUBLESHOOTING**

**Clutch**

Faulty clutch operation can usually be corrected by adjusting the free play.

**Clutch slips**

1. No free play
2. Discs worn
3. Springs weak

**Motorcycle creeps with clutch disengaged**

1. Too much free play
2. Plates warped

**Excessive lever pressure**

1. Clutch cable kinked, damaged or dirty
2. Lifter mechanism damaged

**Clutch will not disengage**

1. Too much free play
2. Plates warped

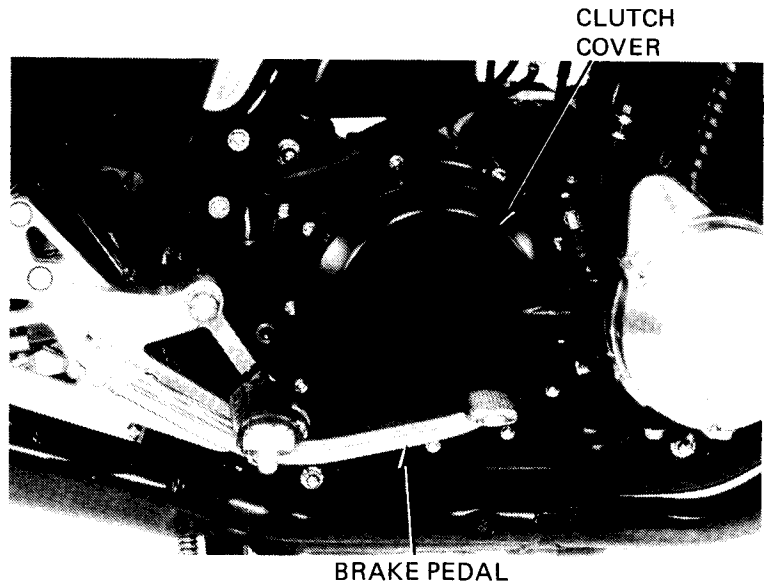
**Clutch operation feels rough**

1. Outer drum slots rough



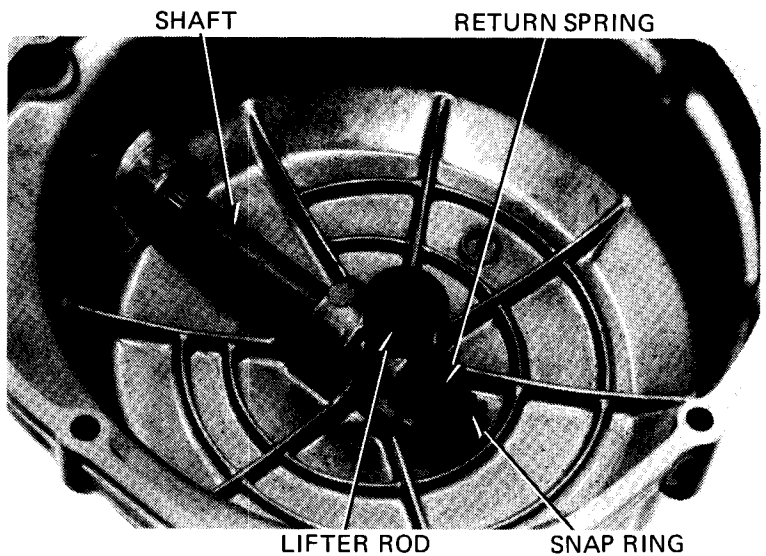
### CLUTCH COVER REMOVAL

Drain the engine oil thoroughly.  
Disconnect the clutch cable at the lower adjuster.  
Remove the rear brake pedal.  
Remove the clutch cover, gasket and dowel pins.



### CLUTCH LIFTER REMOVAL

Remove the clutch lifter rod.  
Remove the snap ring, return spring and clutch lifter shaft.



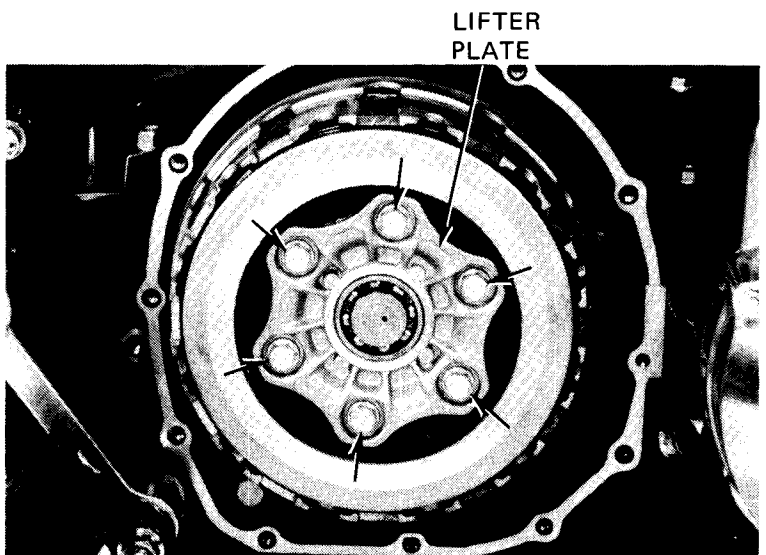
### CLUTCH REMOVAL

Remove the bolts and lifter plate with the clutch lifter guide and release bearing.

**NOTE**

Loosen the bolts in a crisscross pattern in 2-3 steps.

Remove the clutch springs.





**CLUTCH SYSTEM**

Straighten the lock washer tab.

Install the clutch holder on the clutch center with three, 6 mm bolts.

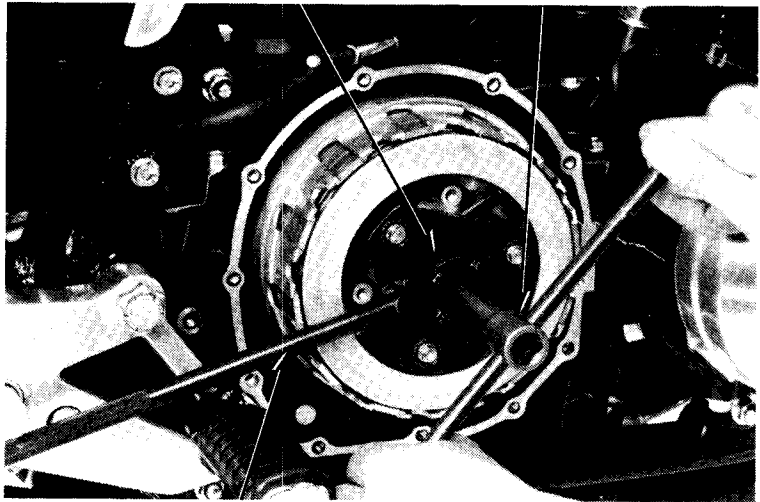
Remove the lock nut, lock washer and washer.

Remove the pressure plate, discs, plates and clutch center as a unit.

LOCK NUT WRENCH, 20 x 24 mm

07716-0020100 or 07916-3710000

EXTENSION

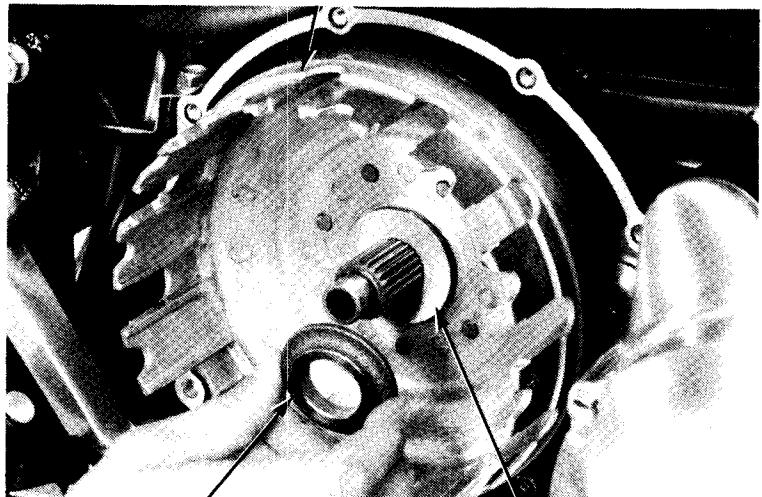


CLUTCH CENTER HOLDER

07923-3710000 or 07923-4610000

CLUTCH OUTER

Remove the collar, splined washer and clutch outer.

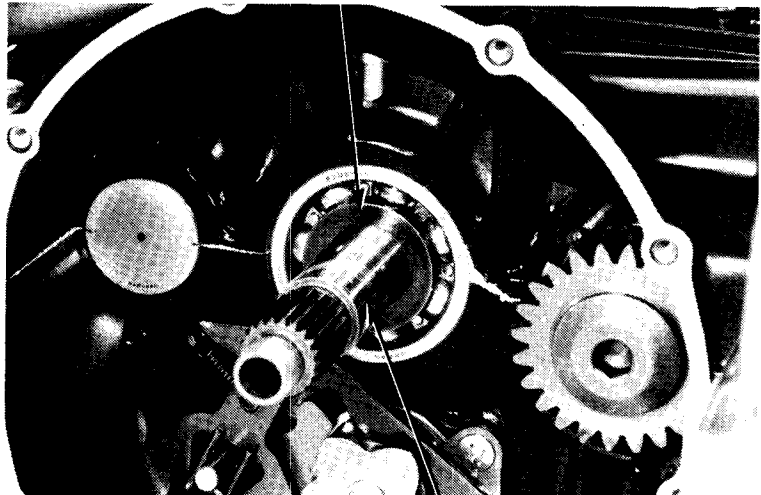


COLLAR

SPLINED WASHER

THRUST WASHER

Remove the thrust washer from the mainshaft.



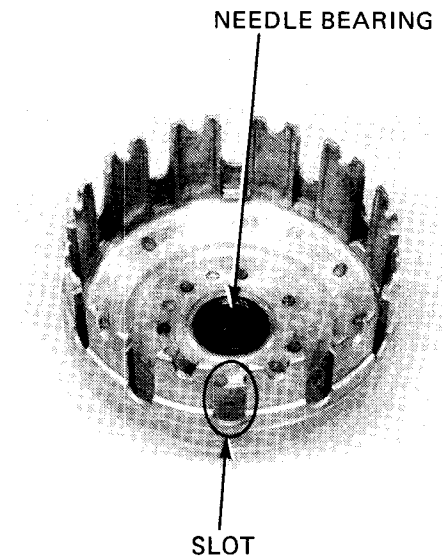
MAIN SHAFT



### CLUTCH OUTER INSPECTION

Check the slots in the clutch outer for nicks, cuts or indentations made by the friction discs.

Check the needle bearing for excessive play or damage.

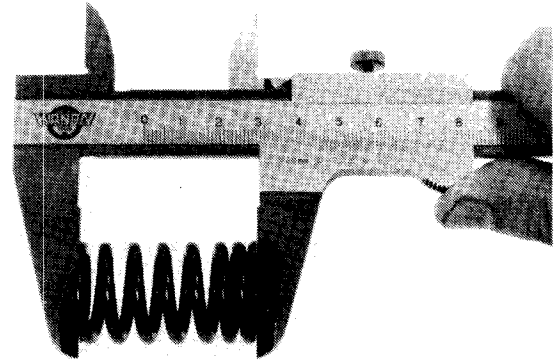


### CLUTCH SPRING INSPECTION

Measure the clutch spring free length.

**SERVICE LIMIT: 39.6 mm (1.56 in)**

Replace the spring if it is shorter than the service limit.

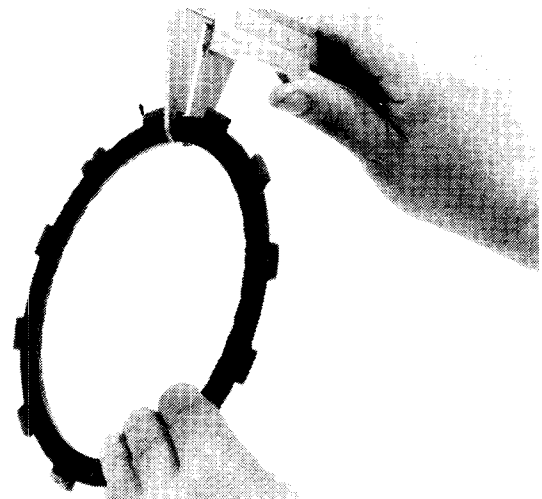


### CLUTCH DISC INSPECTION

Replace the clutch discs if they show signs of scoring or discoloration.

Measure disc thickness and replace any that are thinner than the service limit.

**SERVICE LIMIT: 3.4 mm (0.13 in)**



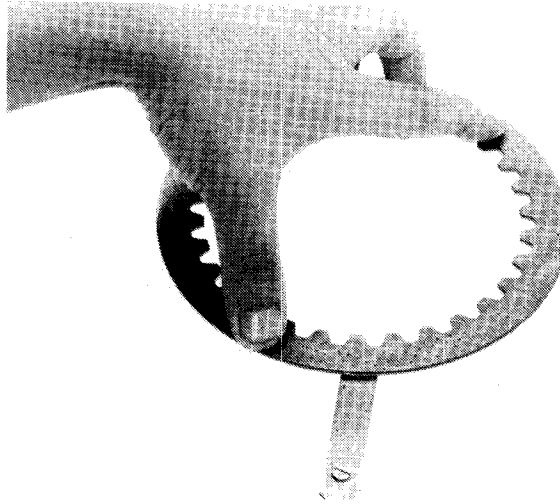


**CLUTCH SYSTEM**

**PLATE INSPECTION**

Check for plate warpage on a surface plate, using a feeler gauge.

**SERVICE LIMIT: 0.30 mm (0.012 in)**

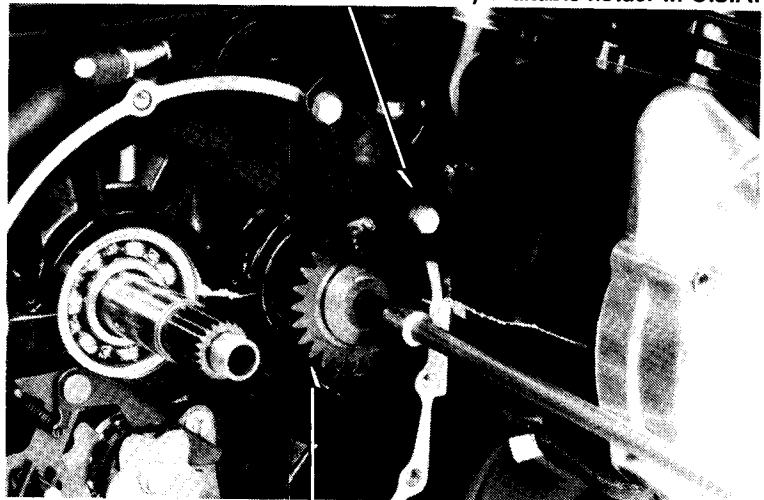


**PRIMARY GEAR HOLDER**  
07924-425000 or Commercially available holder in U.S.A.

**PRIMARY DRIVE GEAR REMOVAL**

Hold the primary drive gear with the primary gear holder as shown and loosen the lock bolt.

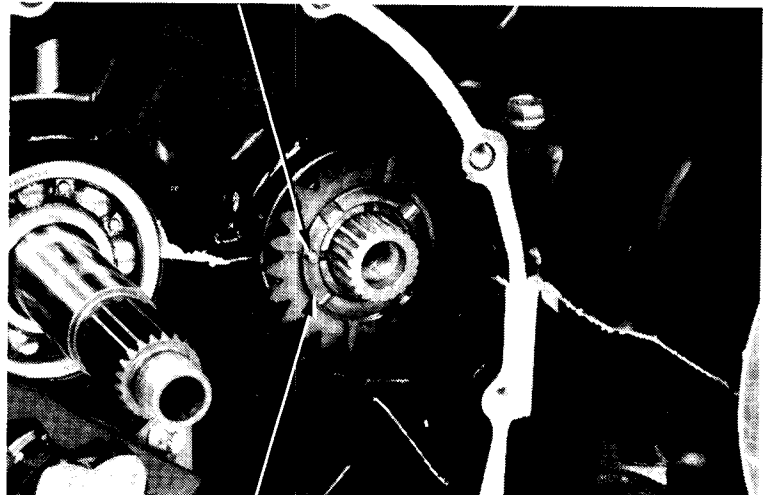
Remove the primary drive gear.



**PRIMARY  
DRIVE GEAR**

**PIN**

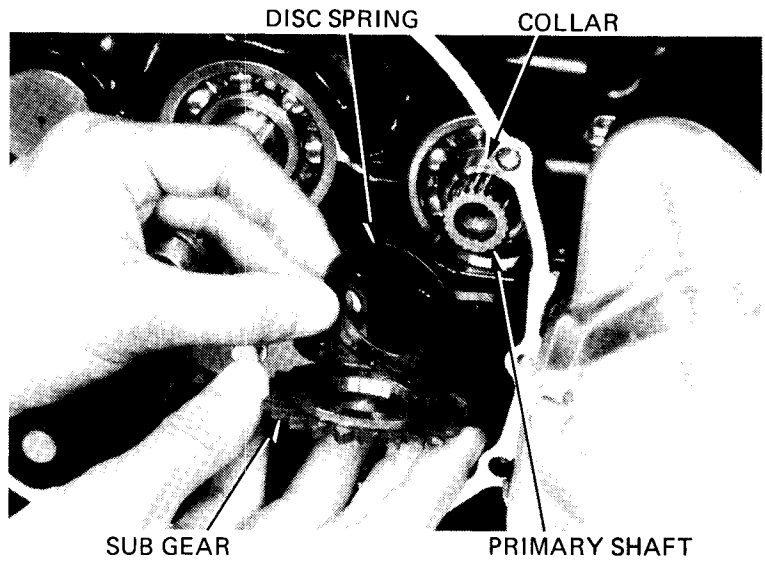
Remove the pin and thrust washer.



**THRUST WASHER**



Remove the sub gear, disc spring and collar from the primary shaft.



### CLUTCH INSTALLATION

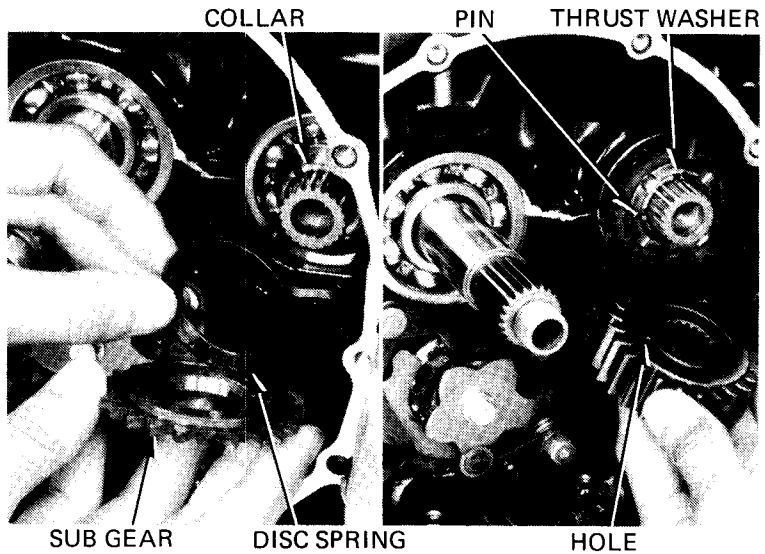
Install the collar, disc spring and sub gear over the primary shaft.

**NOTE**

Install the disc spring with the dished side facing out.

Install the thrust washer and pin.

Align the hole in the primary gear with the pin on the thrust washer and install the primary gear.

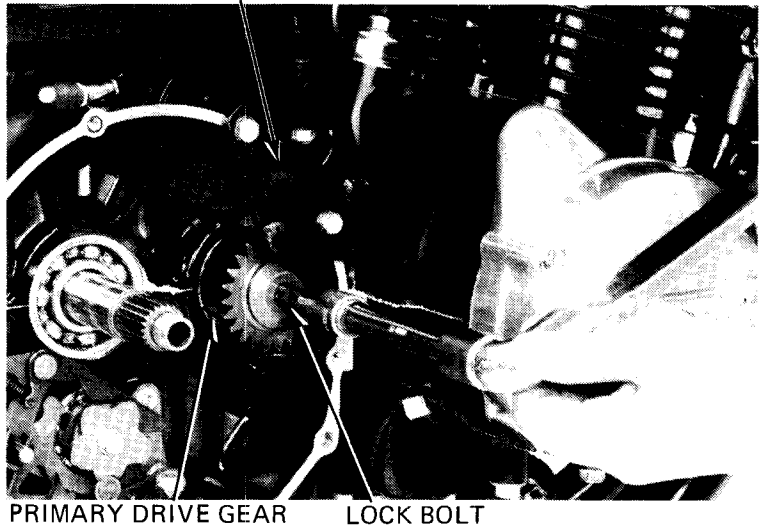


**PRIMARY GEAR HOLDER**

**07924-4250000 or Commercially available holder in U.S.A.**

Tighten the lock bolt.

**TORQUE: 80-100 N·m**  
**(8.0-10.0 kg-m, 60-72 ft-lb)**



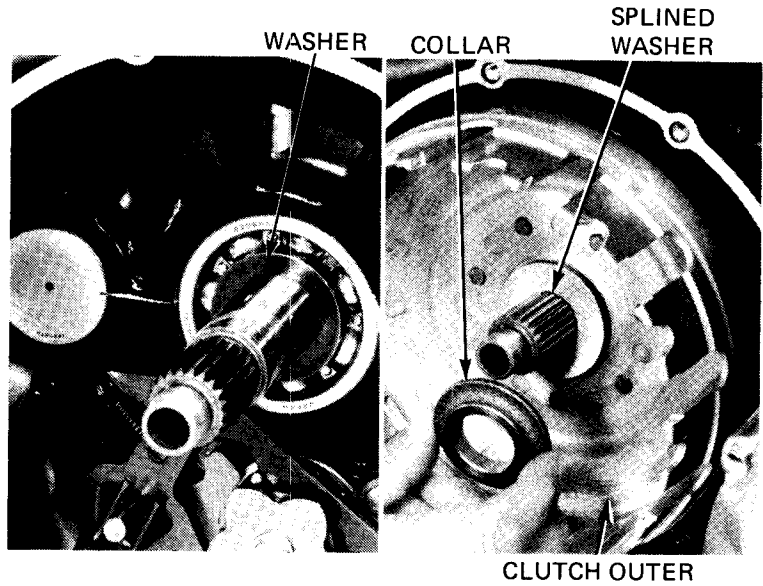




**CLUTCH SYSTEM**

Install the washer and clutch outer.

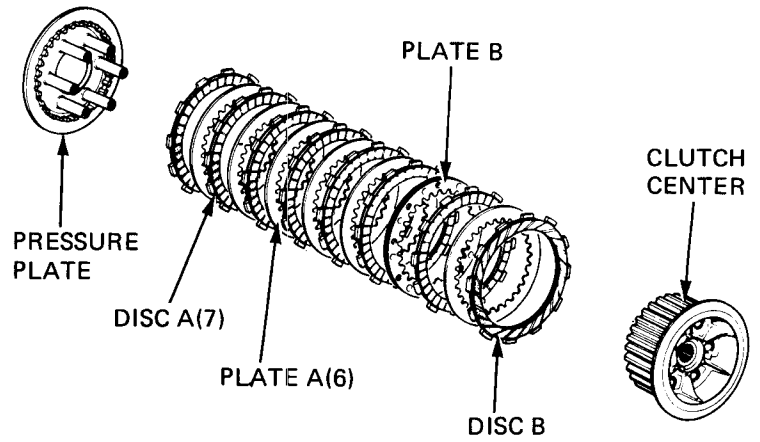
Install the splined washer and collar.



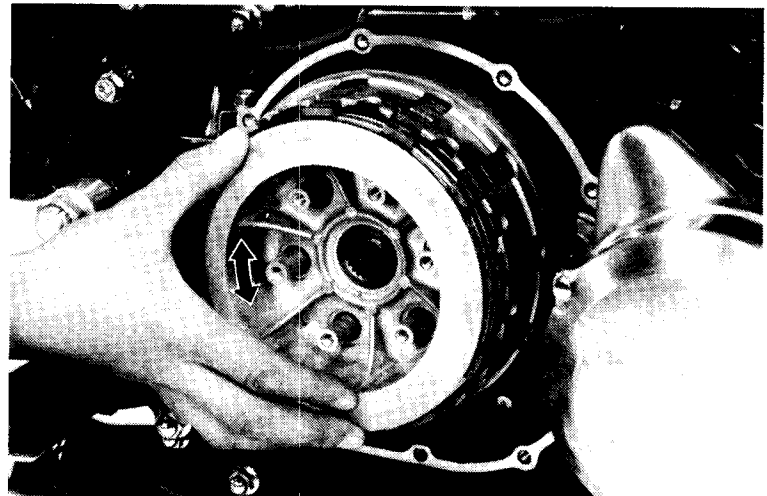
Assemble clutch discs A and B, plate A and B, clutch pressure plate, and clutch center.

**NOTE**

- Before installing the clutch, coat the discs and plates with engine oil.
- Install disc B with the grooves facing in the direction shown.

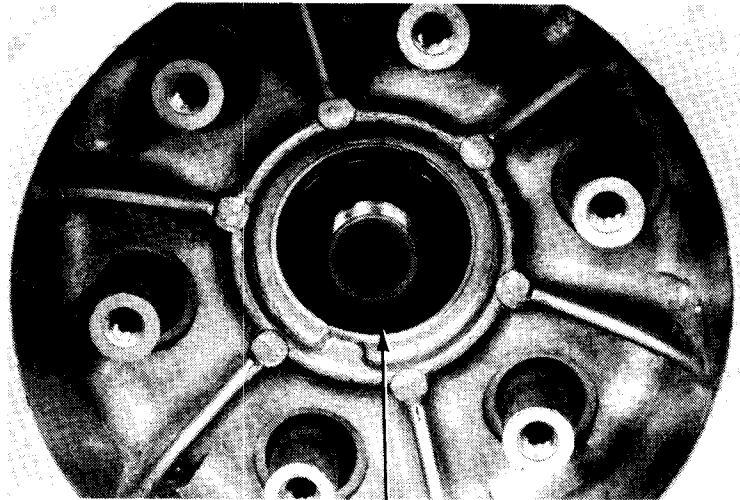


Install the above assembly, by rotating the clutch center.



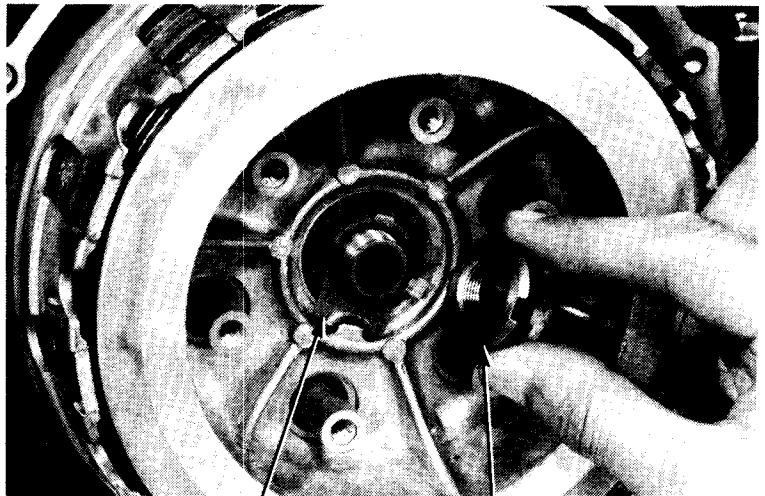


Install the washer with the "OUTSIDE" mark facing out.



WASHER

Position the lock washer as shown.  
Install the lock nut with the chamfer facing in.



LOCK WASHER

LOCK NUT

CLUTCH CENTER HOLDER  
07923-3710000 or 07923-4610000

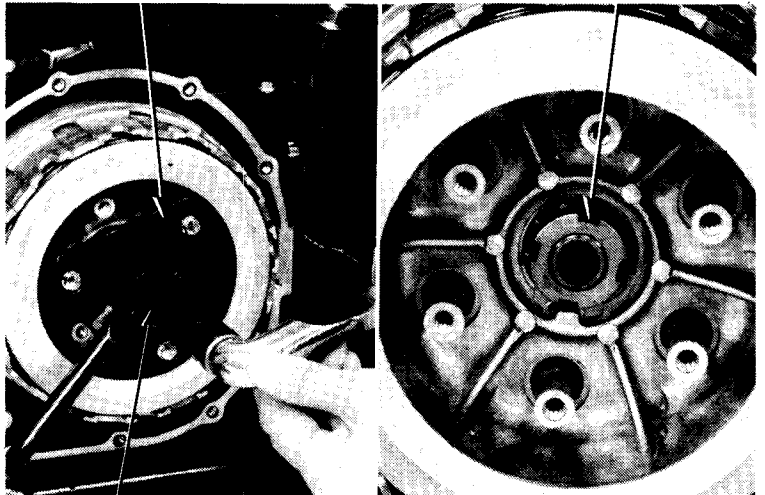
LOCK WASHER  
TAB

Install the clutch holder on the clutch center with three 6 mm bolts.

Tighten the lock nut.

**TORQUE: 38-42 N·m**  
**(3.8-4.2 kg-m, 27-30 ft-lb)**

Bend the lock washer tab as shown.



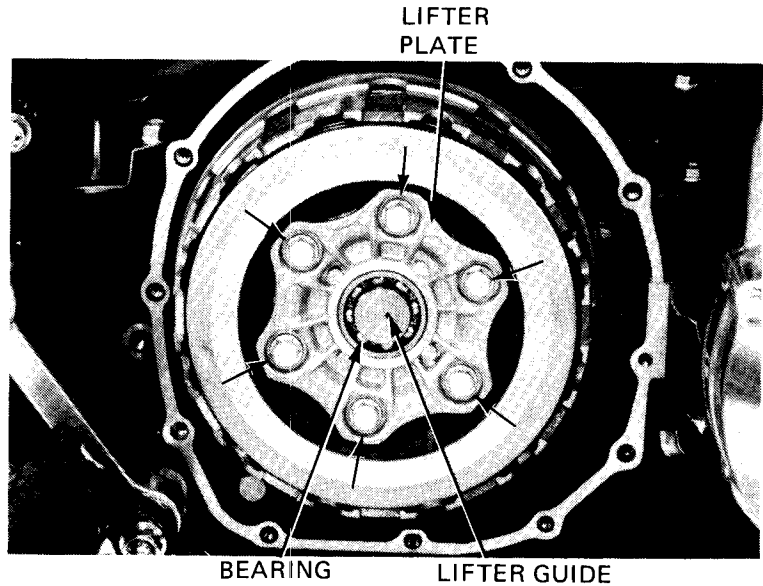
LOCK NUT WRENCH, 20 x 24 mm  
07716-0020100 or 07916-3710000



## CLUTCH SYSTEM

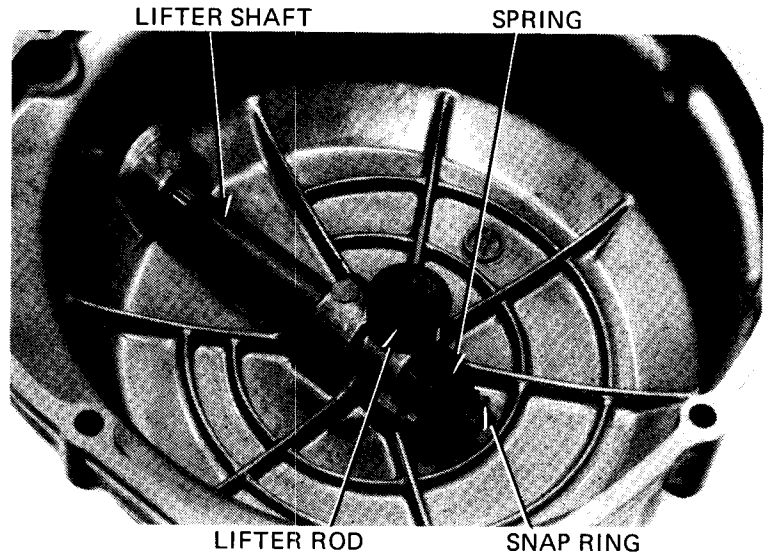
Install the clutch springs, lifter plate, bearing and lifter guide.

Tighten the bolts.



## CLUTCH COVER INSTALLATION

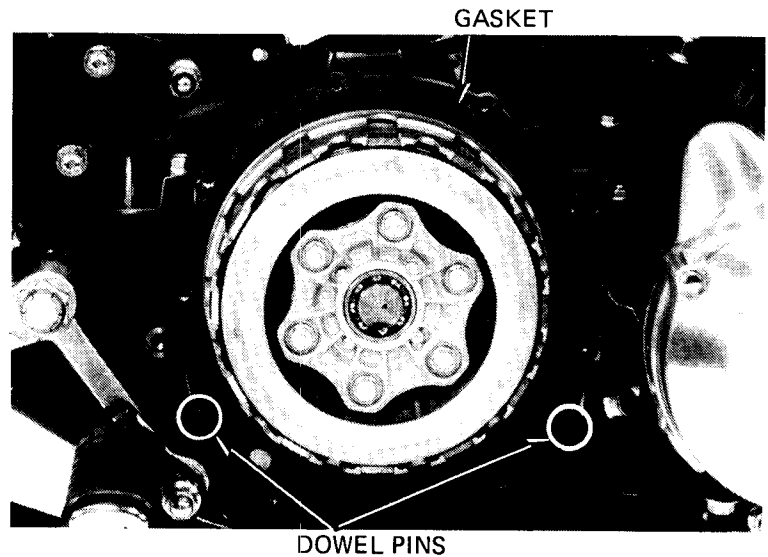
Install the clutch lifter shaft, spring and snap ring.  
Install the clutch lifter rod.



Install the dowel pins and gasket, and then install the cover.

Install the brake pedal.  
Fill the crankcase with the recommended oil (page 2-1).

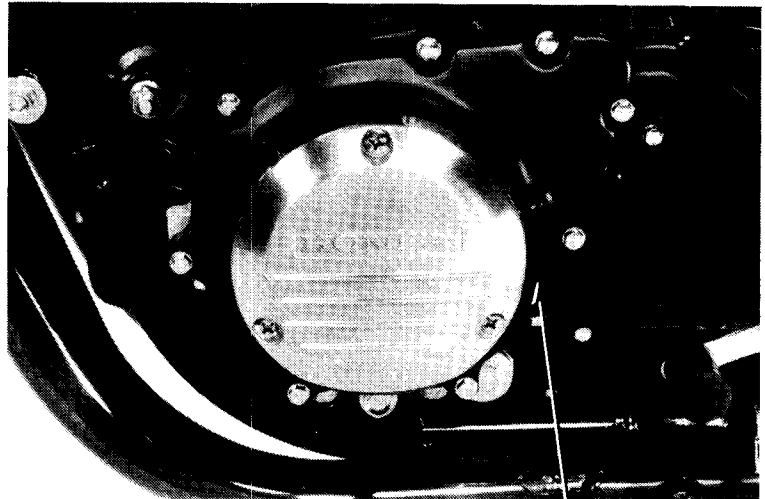
Adjust the clutch (page 3-20).





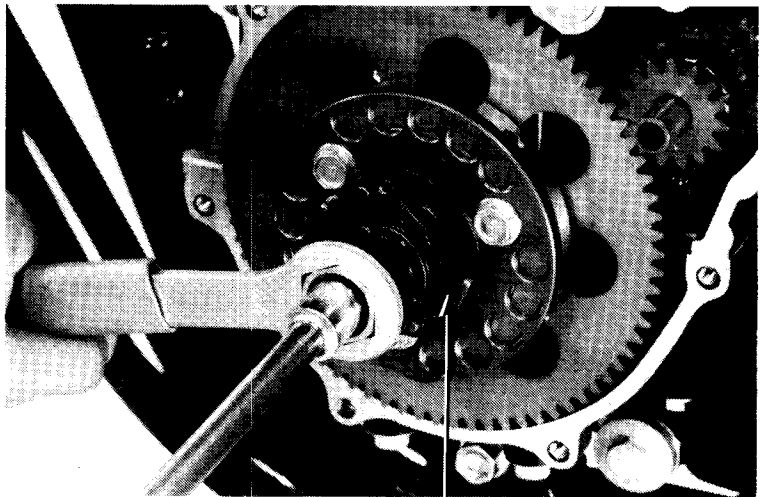
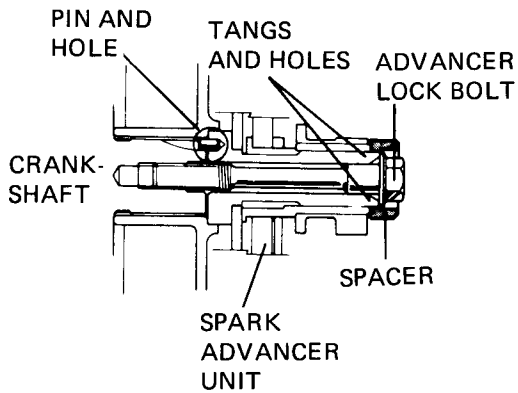
### STARTER CLUTCH DISASSEMBLY

Remove the left crankcase cover with the pulse generator assembly.



LEFT CRANKCASE COVER

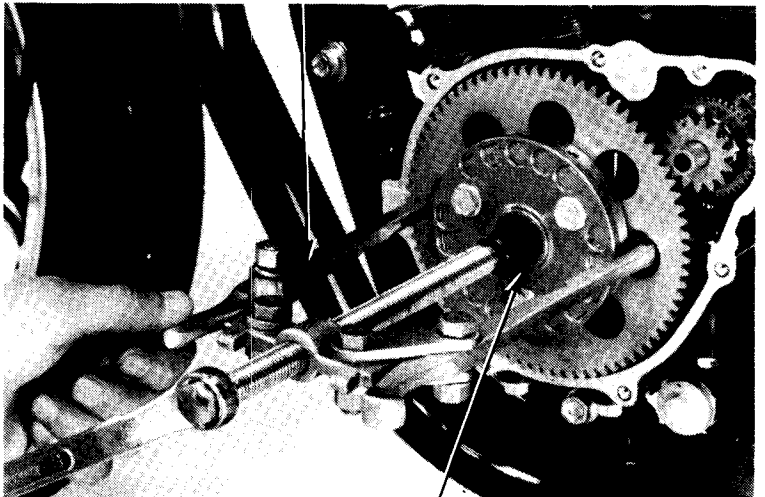
Remove the spark advancer unit.



SPARK ADVANCER

BEARING PULLER

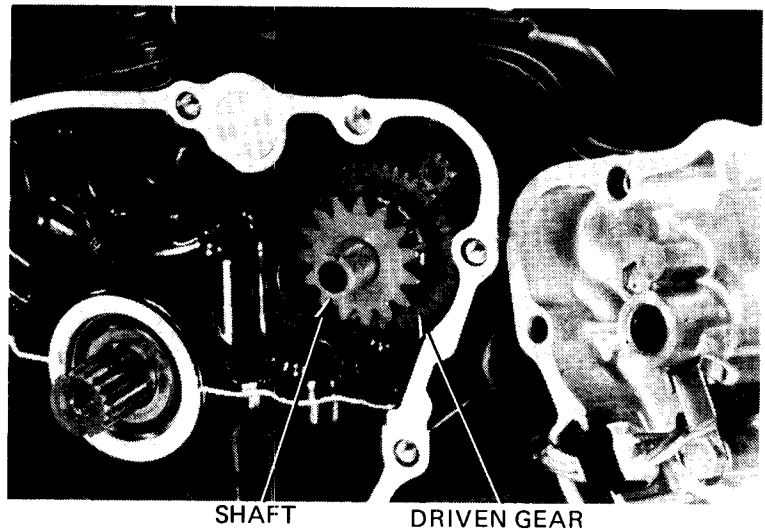
Use a bearing puller to remove the starter clutch assembly.



STARTER CLUTCH



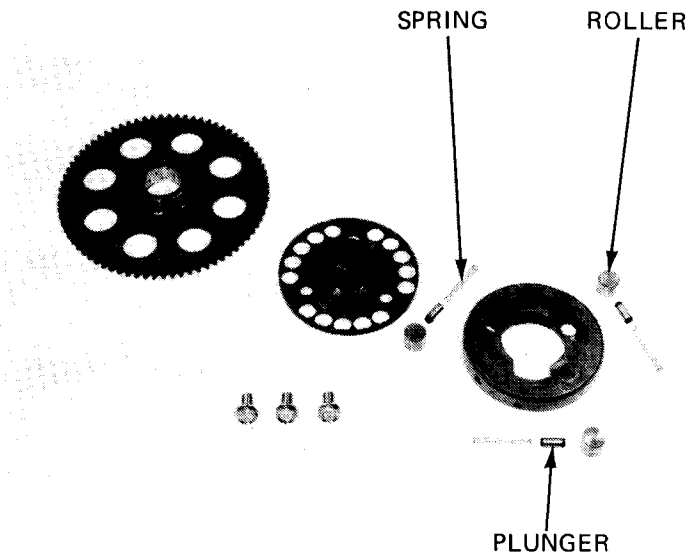
Remove the starter driven gear and shaft.



Inspect the rollers for smooth operation.

Remove the rollers and check for excessive wear.

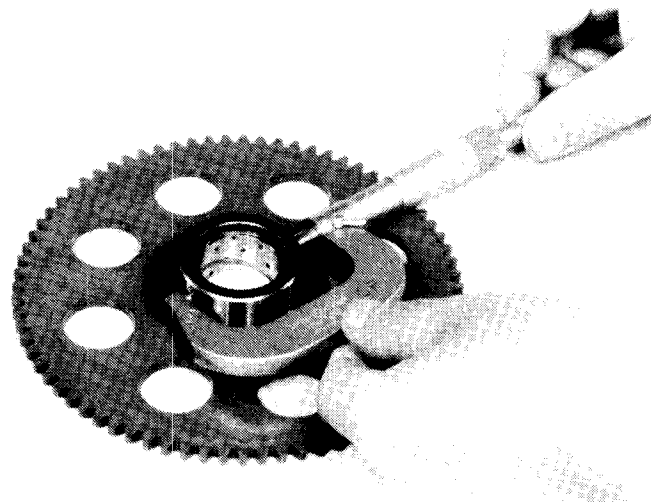
Clean all parts with non-flammable or high flash point solvent.



**STARTER DRIVER GEAR  
INSPECTION**

Inspect the drive gear for damage or excessive wear. Measure the O.D., replace the gear if the O.D. is smaller than the service limit.

**SERVICE LIMIT: 42.255 mm (1.6636 in)**





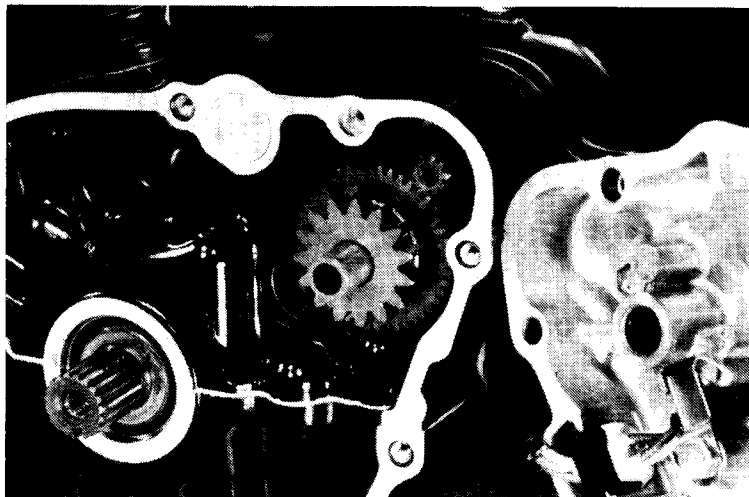
### STARTER CLUTCH ASSEMBLY

Install the springs, plungers and rollers.  
Tighten the locking bolts to the specified torque.

**TORQUE: 26–30 N·m**  
(2.6–3.0 kg·m, 19–22 ft·lb)

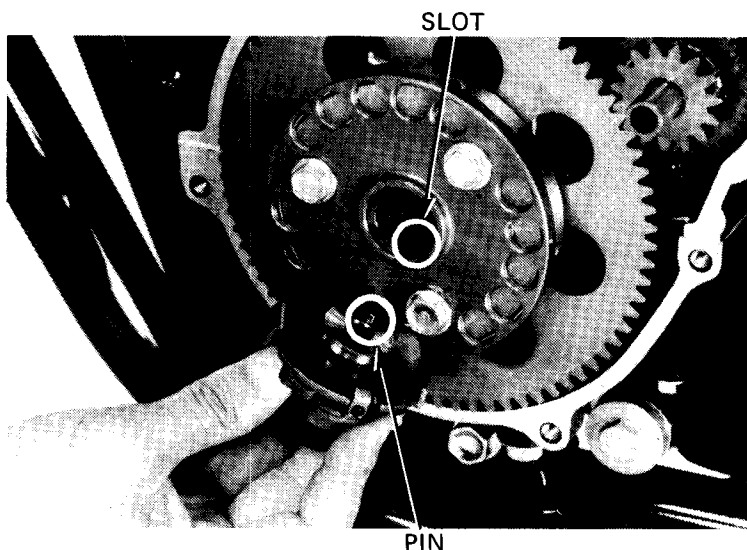
#### NOTE

Apply a locking agent to the locking bolt threads.



Install the advancer assembly.

Align the pin on the spark advancer unit with the slot on the crankshaft.



Install the spacer aligning the tangs with the holes, and tighten the advancer lock bolt to the specified torque.

**TORQUE: 33–37 N·m**  
(3.3–3.7 kg·m, 24–27 ft·lb)

Install the left crankcase cover.

