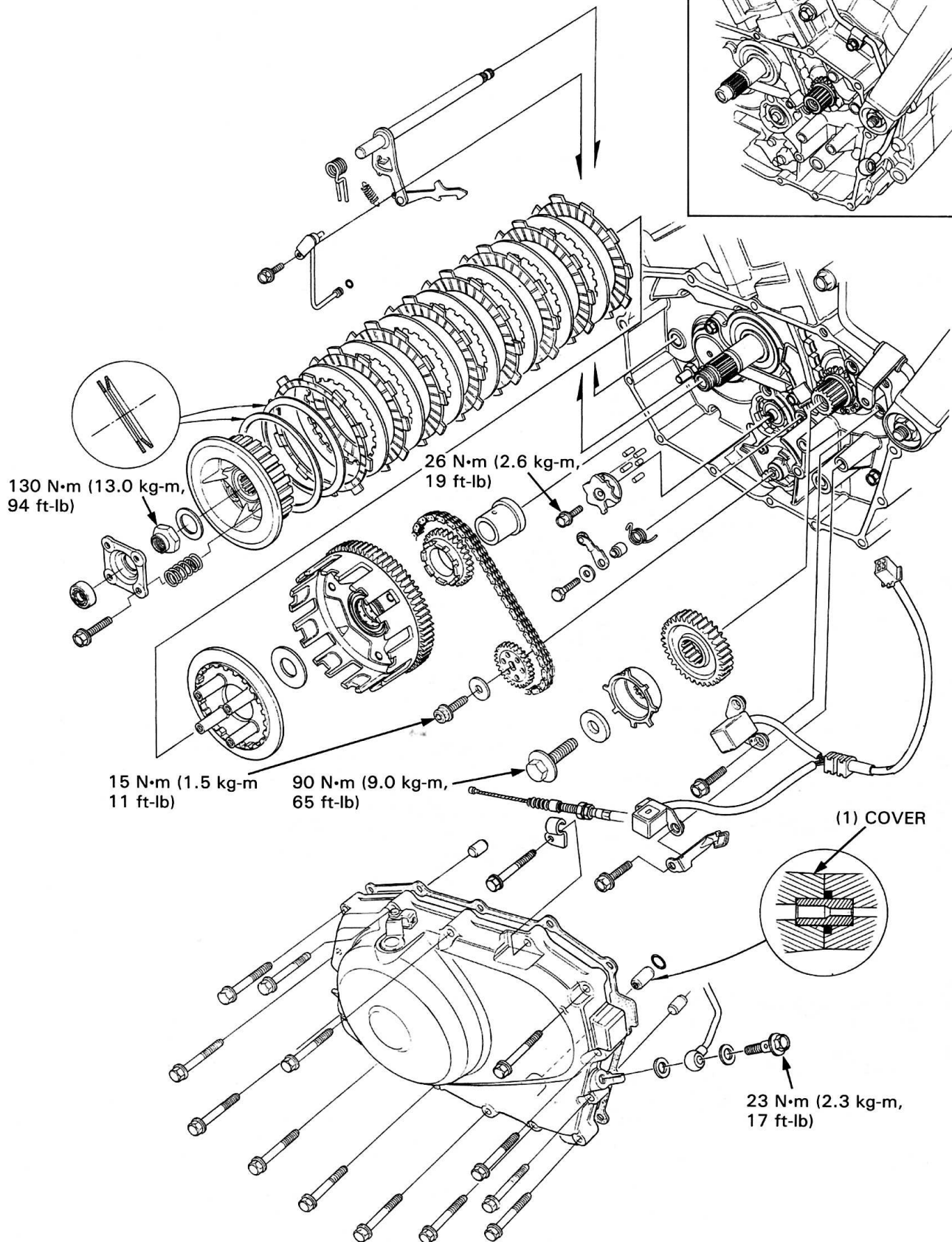


## CLUTCH/GEARSHIFT LINKAGE

'88 Shown:

After '88:



# 7. CLUTCH/GEARSHIFT LINKAGE

SERVICE INFORMATION	7-1	PRIMARY DRIVE GEAR	7-10
TROUBLESHOOTING	7-2	CLUTCH INSTALLATION	7-11
RIGHT CRANKCASE COVER REMOVAL	7-3	RIGHT CRANKCASE COVER INSTALLATION	7-14
CLUTCH REMOVAL	7-4		
GEARSHIFT LINKAGE	7-8		

## SERVICE INFORMATION

### GENERAL

- This section covers the removal and installation of the clutch, oil pump drive chain, gearshift linkage and primary drive gear. All these operations can be done with the engine installed in the frame.
- If the shift fork, drum and transmission require servicing, remove the engine and separate the crankcase (section 11).
- Coat the new clutch discs with clean engine oil before reassembly.

### SPECIFICATIONS

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Clutch	Spring free length		44.4 (1.75)	42.8 (1.69)
	Spring preload/length		22.75/26.2 kg/mm (50.15/1.031 lb/in)	—
	Disc thickness	Disc A	2.92—3.08 (0.115—0.121)	2.60 (0.102)
		Disc B	2.62—2.78 (0.103—0.109)	2.30 (0.091)
	Plate warpage		—	0.30 (0.012)
	Outer guide	I.D.	21.991—22.016 (0.8658—0.8668)	22.09 (0.870)
		O.D.	31.959—31.975 (1.2582—1.2589)	31.92 (1.257)
Outer I.D.		32.000—32.025 (1.2598—1.2608)	32.10 (1.264)	
Oil pump drive sprocket I.D.			32.000—32.025 (1.2598—1.2608)	32.10 (1.264)
Mainshaft O.D. at clutch outer guide			21.967—21.980 (0.8648—0.8654)	21.92 (0.863)

### TORQUE VALUES

Shift drum stopper plate bolt	26 N•m (2.6 kg-m, 19 ft-lb) Apply locking agent to the threads
Primary drive gear bolt	90 N•m (9.0 kg-m, 65 ft-lb)
Oil pump driven sprocket bolt	15 N•m (1.5 kg-m, 11 ft-lb) Apply locking agent to the threads
Clutch lock nut	130 N•m (13.0 kg-m, 94 ft-lb) Staked nut
Oil pass pipe bolt (8 mm)	23 N•m (2.3 kg-m, 17 ft-lb)
(7 mm)	10 N•m (1.0 kg-m, 7.2 ft-lb)

### TOOLS

#### Special

Clutch center holder	07923—KE10000 or 07HGB—001000A (U.S.A. only)
Gear holder	07724—0010100 Not available in U.S.A.

#### Common

Lock nut wrench, 17 x 27 mm	07716—0020300 Equivalent commercially available in U.S.A.
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### TROUBLESHOOTING

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

#### **Clutch slips when accelerating**

- No free play
- Discs worn
- Springs weak

#### **Clutch will not disengage**

- Too much free play
- Plates warped

#### **Motorcycle creeps with clutch disengaged**

- Too much free play
- Plates warped

#### **Excessive lever pressure**

- Clutch cable kinked, damaged or dirty
- Lifter mechanism damaged

#### **Clutch operation feels rough**

- Clutch outer slots rough
- Dirty clutch cable

## RIGHT CRANKCASE COVER REMOVAL

Drain the engine oil (page 2-3).

Remove the exhaust pipe.

Remove the clutch cable holder and disconnect the clutch cable from the clutch lifter arm.

Loosen the oil pipe holder and remove the oil pipe bolt and sealing washers from the right crankcase cover.

Remove the right crankcase cover bolts and cover.

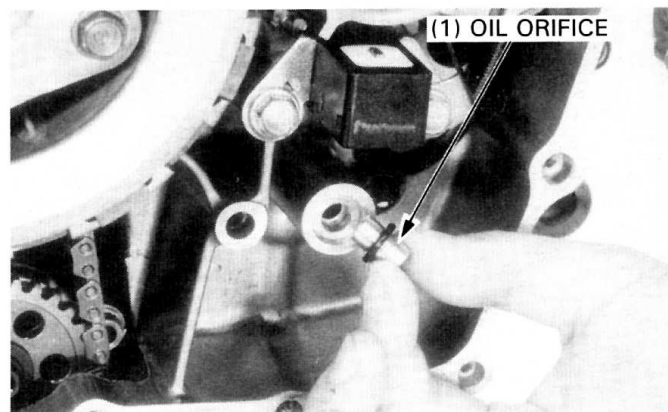
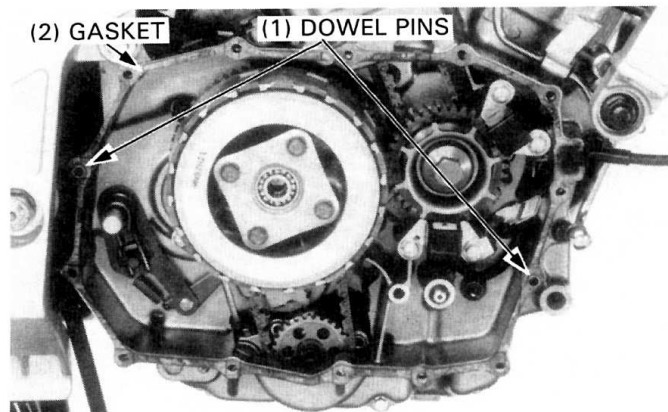
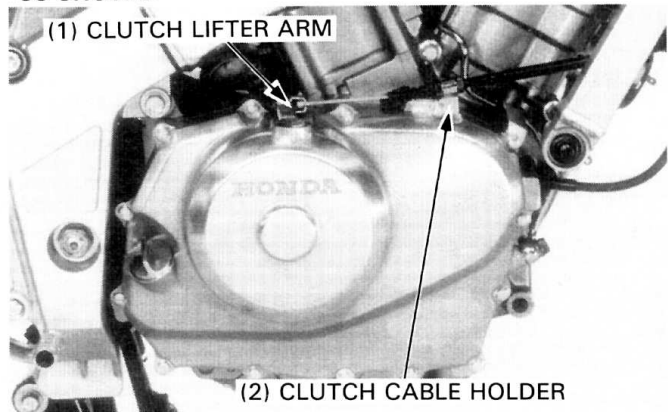
### NOTE

- R. crankcase cover can be serviced with rear exhaust pipe removal only.

Remove the dowel pins and gasket.

Remove the oil orifice.

'88 SHOWN:



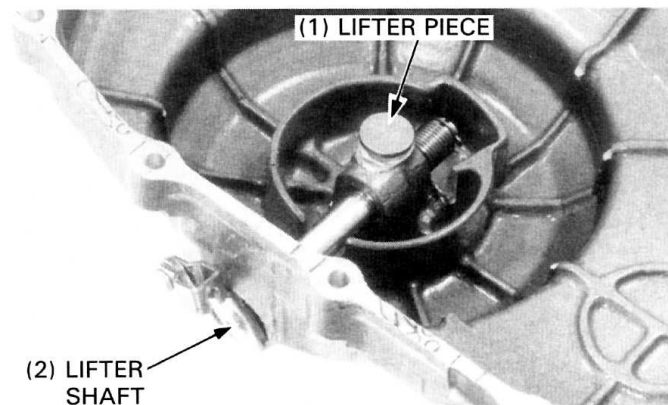
## CLUTCH LIFTER

Remove the clutch lifter piece, and remove the snap ring and return spring from the right crankcase cover.

Remove the clutch lifter shaft.

Check the clutch lifter piece and shaft for damage or excessive scratching.

Check the return spring for fatigue or damage.

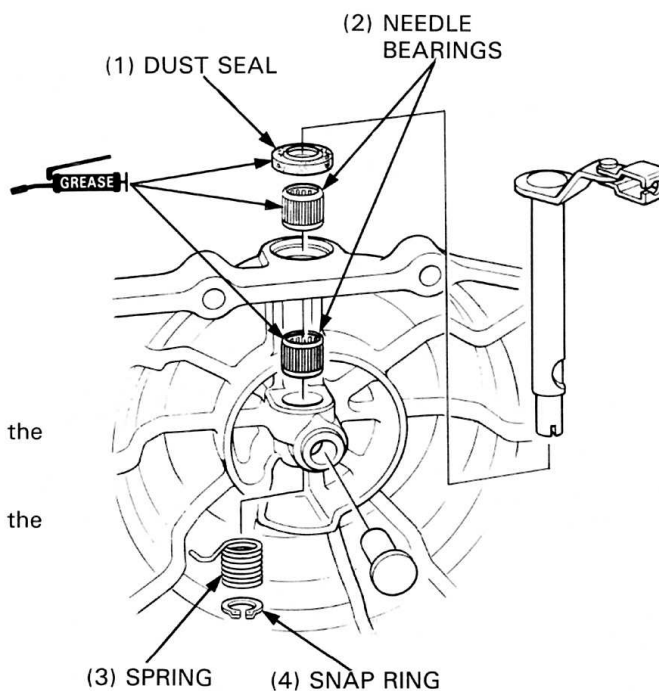


## CLUTCH/GEARSHIFT LINKAGE

Check the needle bearings for wear or damage or a loose fit in the cover.

Check the dust seal for fatigue or damage.

Apply grease to the dust seal and needle bearing.



Install the clutch lifter shaft, snap ring and return spring. Hook the spring end in the cover tab securely, and turn the shaft.

Install the clutch lifter piece, aligning the piece end with the groove in the clutch lifter shaft.

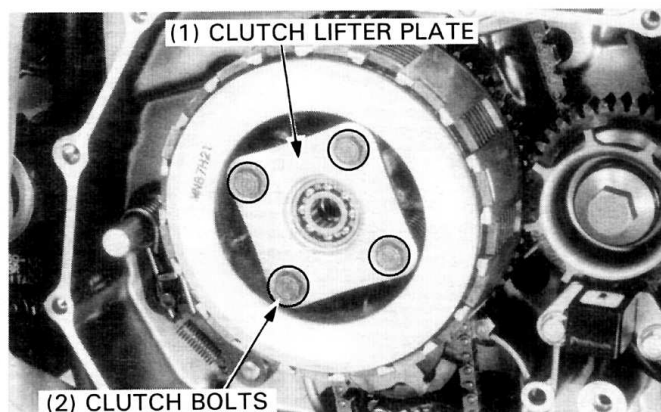
## CLUTCH REMOVAL

Remove the following:

- clutch bolts
- clutch lifter plate
- springs

### NOTE

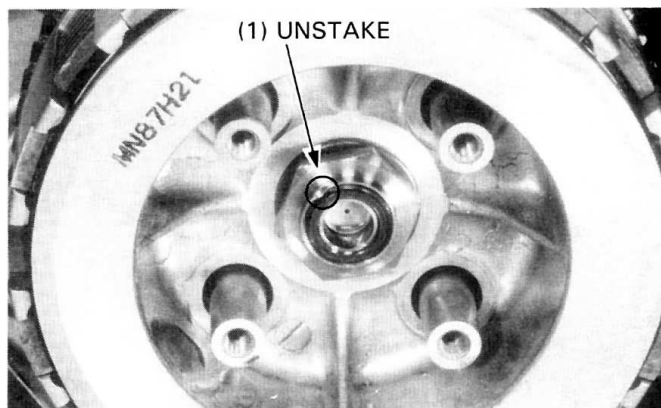
- Remove the bolts in a crisscross pattern in 2 or 3 steps.



Unstake the clutch lock nut with a drill or grinder.

### NOTE

- Be careful not to damage the shaft threads.



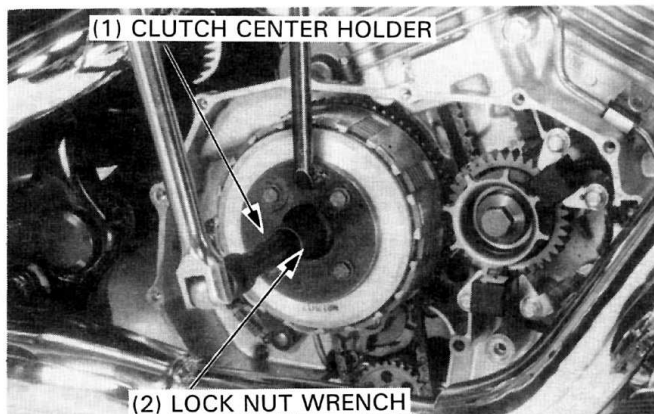
Hold the clutch center with the special tool and loosen the clutch lock nut. Remove the tools and the lock nut.

### TOOLS:

Clutch center holder	07923—KE10000 or 07HGB—001000A (U.S.A. only)
Lock nut wrench, 17 x 27 mm	07716—0020300 Equivalent commercially available in U.S.A.

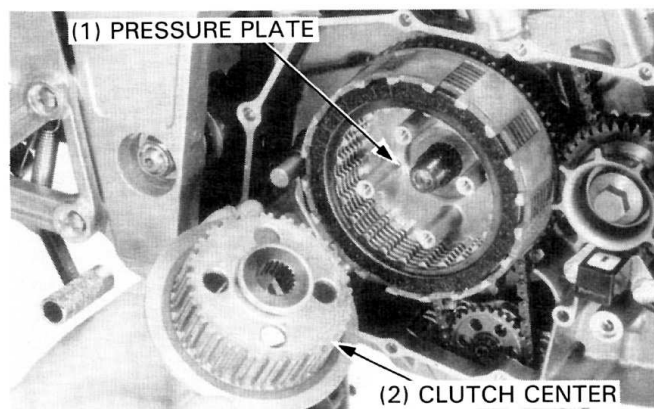
### NOTE

- If you will remove the oil pump driven sprocket, loosen the driven sprocket mounting bolt at this time.

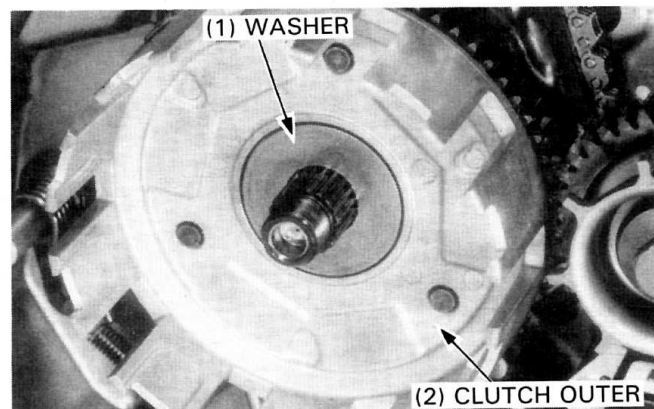


Remove the following:

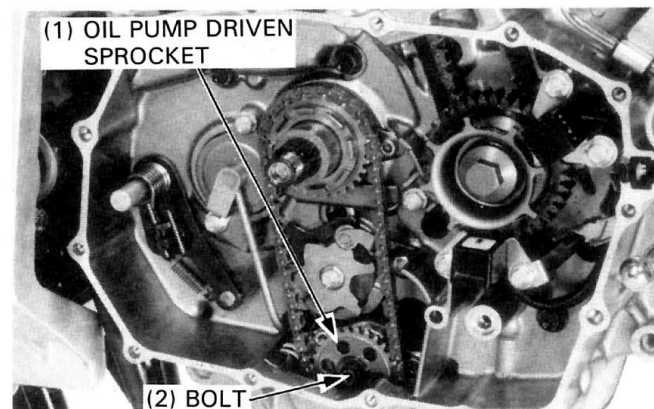
- washer
- clutch center, judder spring and spring seat
- discs and plates
- pressure plate



Remove the thrust washer and clutch outer.



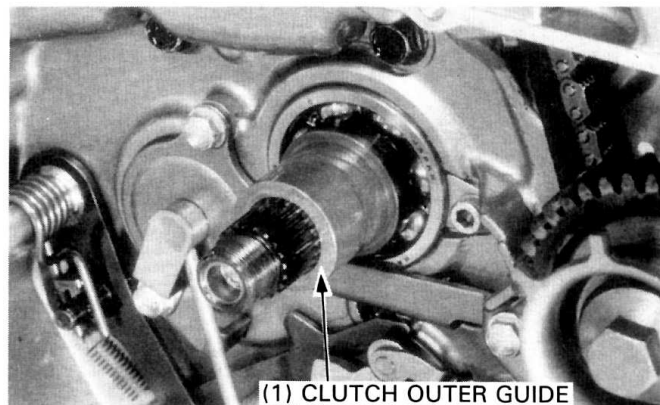
Remove the oil pump driven sprocket mounting bolt, driven sprocket and oil pump drive chain.





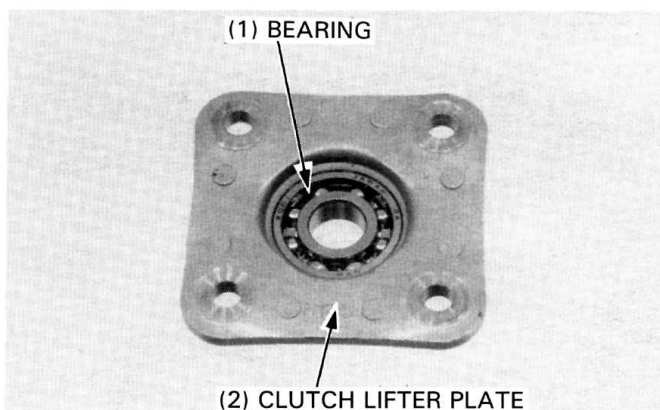
## CLUTCH/GEARSHIFT LINKAGE

Remove the drive sprocket and clutch outer guide from the mainshaft.



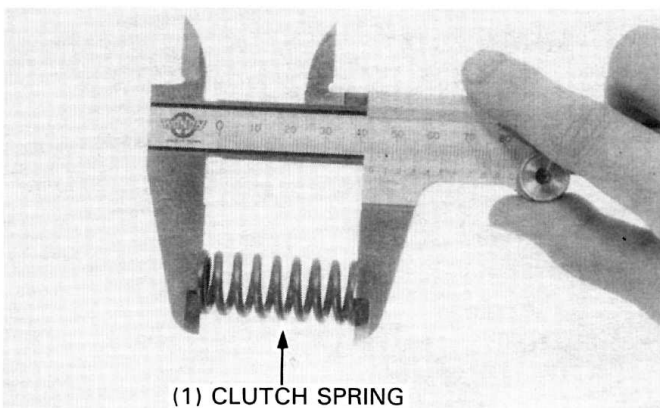
### INSPECTION

Check the lifter plate bearing for damage.  
Turn the bearing inner race with your finger.  
The bearing should turn smoothly and quietly.  
Also check that the bearing outer race fits tightly in the clutch lifter plate.  
Replace the bearing if necessary.



Measure the spring free length.

**SERVICE LIMIT: 42.8 mm (1.69 in)**



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

Measure the thickness of discs A and B.

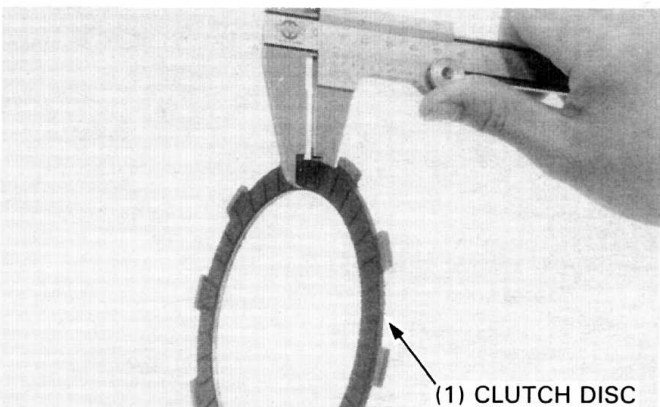
#### SERVICE LIMITS:

Disc A: 2.60 mm (0.102 in)

Disc B: 2.30 mm (0.091 in)

#### NOTE

- Replace the discs and plates as a set if any one is beyond the service limit.

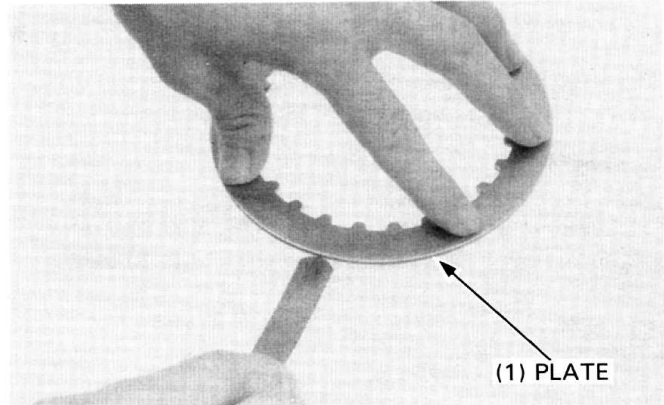


Check the plate warpage on a surface plate using a thickness gauge.

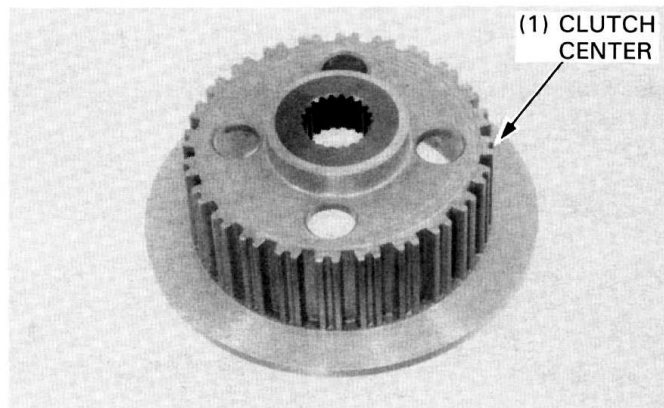
**SERVICE LIMIT: 0.30 mm (0.012 in)**

**NOTE**

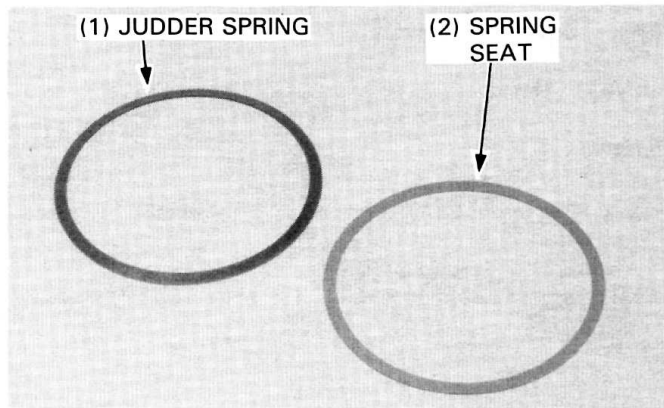
- Replace the discs and plates as a set if any one is beyond the service limit.



Check the clutch center for nicks or indentations made by the clutch plates.



Check the spring seat and judder spring for distortion, wear or damage.  
Replace them if necessary.

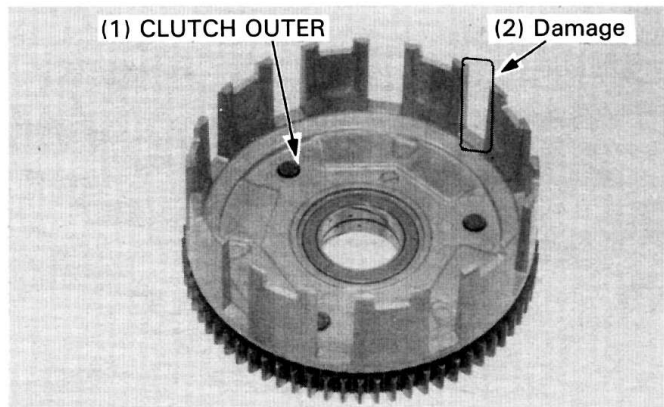


Check the slots in the clutch outer for nicks or indentations made by the clutch discs.

Measure the I.D. of the clutch outer.

**SERVICE LIMIT:**

Clutch outer I.D. 32.10 mm (1.264 in)





## CLUTCH/GEARSHIFT LINKAGE

Check the oil pump drive sprocket for damage.

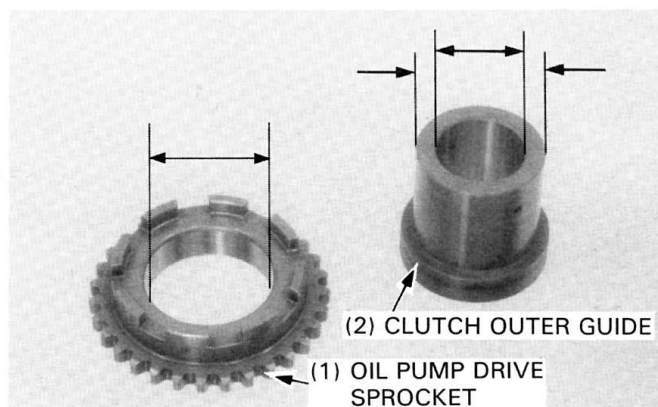
Measure I.D. of the drive sprocket and the O.D. and I.D. of the outer guide.

### SERVICE LIMITS:

Oil pump drive sprocket I.D. 32.10 mm (1.264 in)

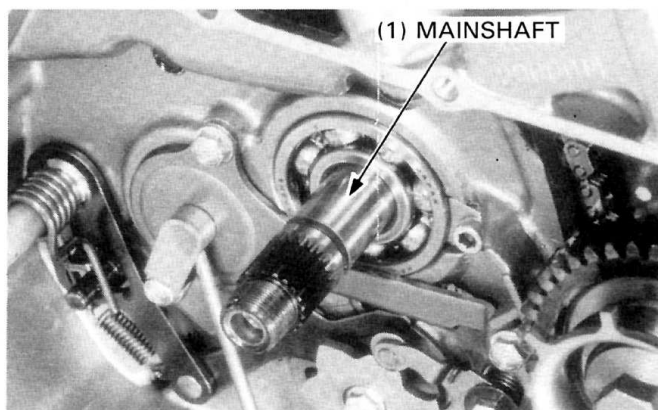
Clutch outer guide O.D. 31.92 mm (1.257 in)

I.D. 22.09 mm (0.870 in)



Measure the mainshaft O.D. at the clutch outer guide.

**SERVICE LIMIT: 21.92 mm (0.863 in)**

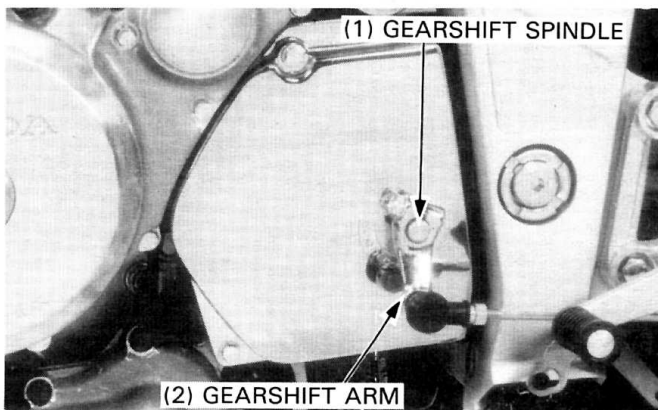


## GEARSHIFT LINKAGE

### REMOVAL

Remove the following:

- drive sprocket cover (page 8-2)
- gearshift pedal arm from the gearshift spindle
- right crankcase cover (page 7-3)
- clutch assembly (page 7-4)
- oil pump drive chain (page 7-5)



Loosen the two oil pipe stay mounting bolts and remove the oil pipe mounting bolt.

Pull the oil pipe out of the stay and oil pump.

