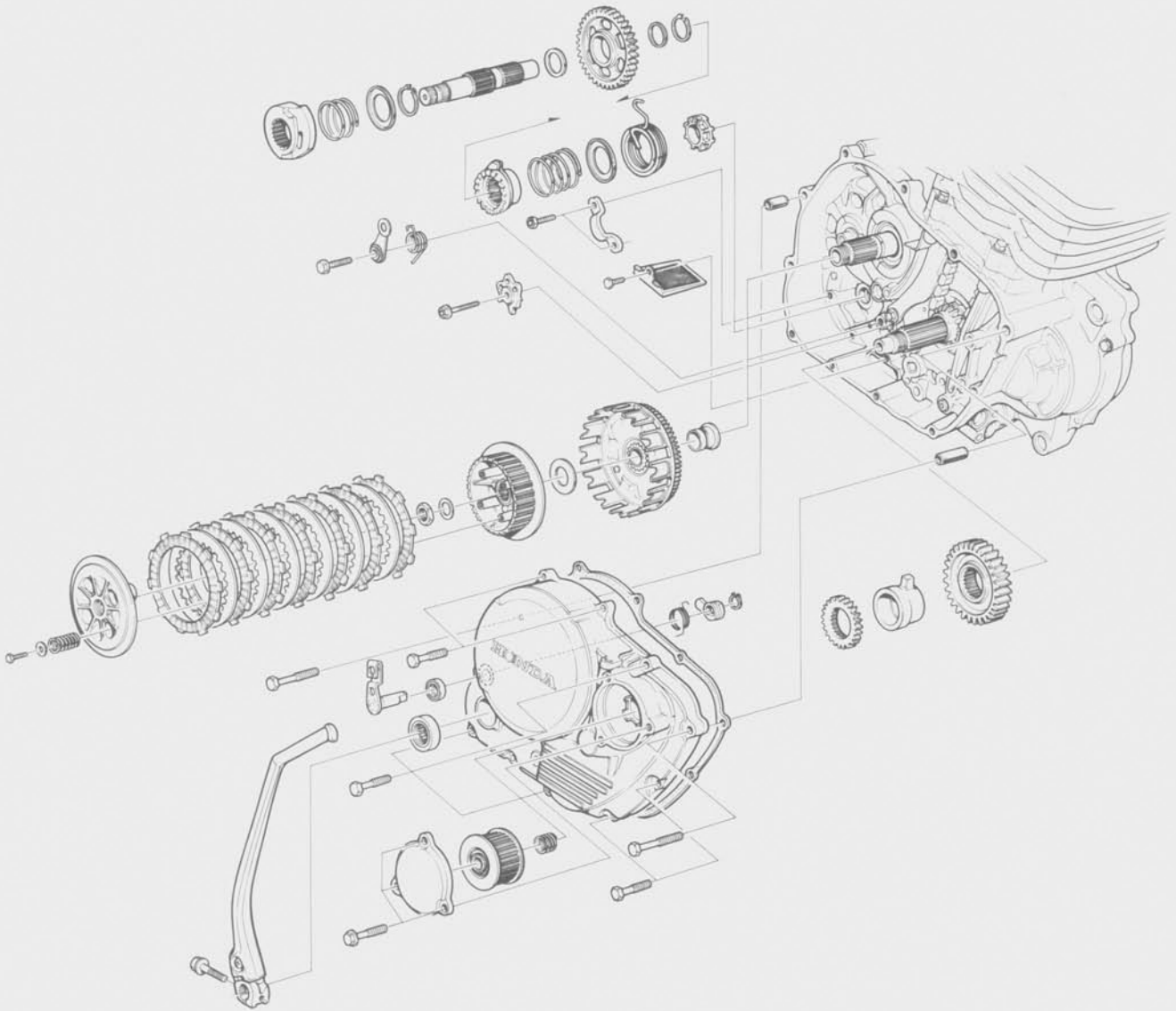




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## SERVICE INFORMATION

### GENERAL INSTRUCTIONS

- This section covers removal and installation of the clutch, oil pump, kick starter and the right crankcase cover. All these operations can be accomplished with the engine installed.
- When the existing clutch discs are replaced, coat new discs with engine oil prior to assembly.

### SPECIFICATIONS

ITEM		STANDARD	SERVICE LIMIT
Clutch	Lever free play (at lever end)	10-20 mm (0.4-0.8 in)	
	Spring free length	44.3 mm (1.744 in)	42.7 mm (1.68 in)
	Sprigg preload/length	25 ± 1.3 kg/28.5 mm	—
	Disc thickness	2.92-3.08 mm (0.115-0.121 in)	2.6 mm (0.10 in)
	Plate warpage	—	0.3 mm (0.01 in)
	Primary drive gear I.D.	56.05-56.10 mm (2.2067-2.2087 in)	56.16 mm (2.211 in)
	Clutch outer I.D.		
	Outer guide O.D. I.D.	26.959-26.98 mm (1.0614-1.0622 in) 21.99-22.035 mm (0.8657-0.8675 in)	26.91 mm (1.059 in) 22.05 mm (0.868 in)
	Length	31.3-31.4 mm (1.2322-1.2362 in)	31.2 mm (1.229 in)
Oil pump	Inner rotor-to-outer rotor clearance	0.15 mm (0.006 in) max.	0.2 mm (0.008 in)
	Outer rotor-to-body clearance	0.15-0.21 mm (0.006-0.008 in)	0.25 mm (0.01 in)
	Rotor-to-cover clearance	0.02-0.08 mm (0.001-0.003 in)	0.12 mm (0.005 in)
Starter idler gear	I.D.	20.00-20.021 mm (0.7874-0.7882 in)	20.11 mm (0.792 in)
Starter idler gear bush	I.D.	16.00-16.018 mm (0.6299-0.6366 in)	16.03 mm (0.631 in)
	O.D.	19.959-19.98 mm (0.7858-0.7866 in)	19.90 mm (0.783 in)
Mainshaft-to-clutch outer guide clearance		0.020-0.068 mm (0.0008-0.0027 in)	0.12 mm (0.005 in)



## CLUTCH/OIL PUMP

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### COMMON TOOL

Clutch center holder	07724-0050000
Driver	07749-0010000
Attachment, 32 x 35 mm	07746-0010100
Pilot, 20 mm	07746-0040500
Lock nut wrench, 17 x 27 mm	07716-0020300 (Commercially available in U.S.A.)
Extension	07716-0020500 (Commercially available in U.S.A.)
Flywheel holder	07725-0040000 ( or band strap wrench commercially available in U.S.A.)

### TORQUE VALUES

Clutch lock nut	50-60 N·m (5.9-6.0 kg-m, 36-43 ft-lb)
Drive gear	50-60 N·m (5.0-6.0 kg-m, 36-43 ft-lb)
Right crankcase cover	8-12 N·m (0.8-1.2 kg-m, 6-9 ft-lb)

## TROUBLESHOOTING

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

### Clutch Slips When Accelerating

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

### Clutch Will Not Disengage

1. Too much free play
2. Plates warped

### 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 Operation Feels Rough

1. Outer drum slots rough
2. Dirty clutch cable

### Low Oil Pressure

1. Faulty oil pump
2. Oil pump drive gear broken



## RIGHT CRANKCASE COVER REMOVAL

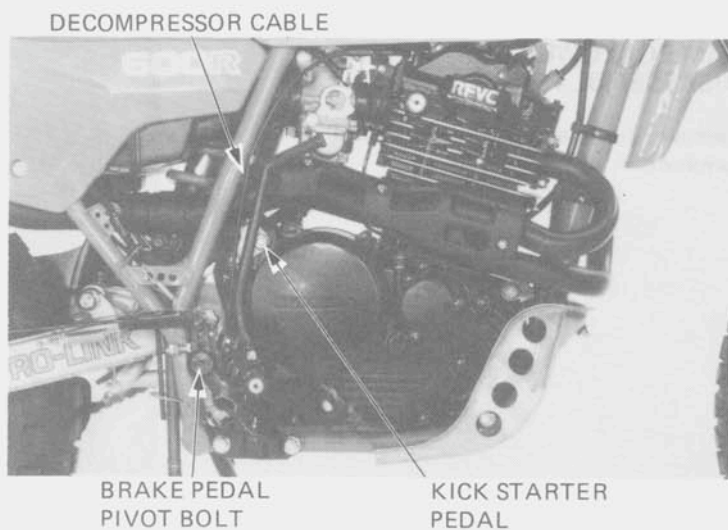
Remove the skid plate and drain the engine oil (page 2-2).

Remove the kick starter pedal.

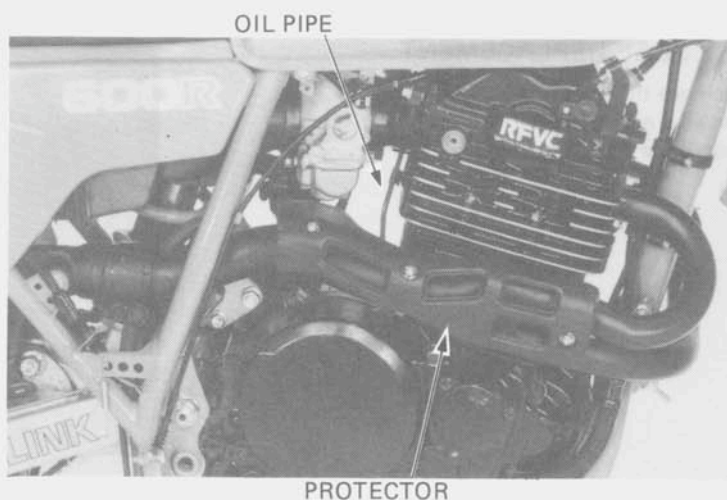
Remove the right foot peg.

Remove the rear brake pedal pivot bolt and rear brake pedal.

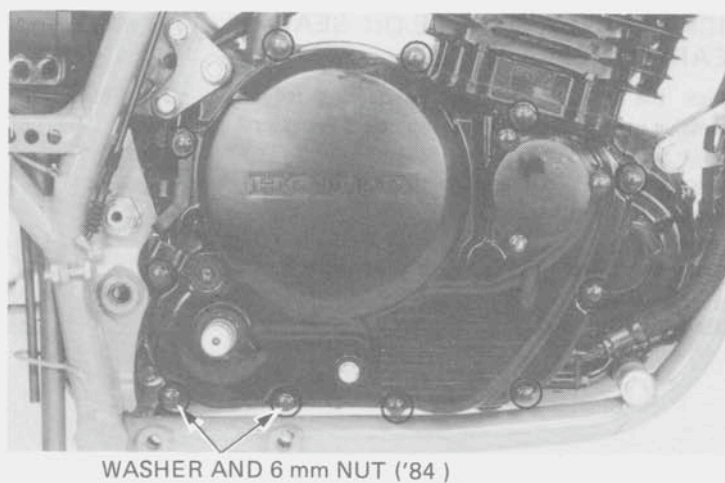
Disconnect the kick starter decompressor cable, at the kick starter end.



Remove the exhaust pipe.  
Remove the oil pipe.



Remove the bolts and nuts ('84) holding the right crankcase cover, and remove the cover.  
Remove the dowel pins and gasket.

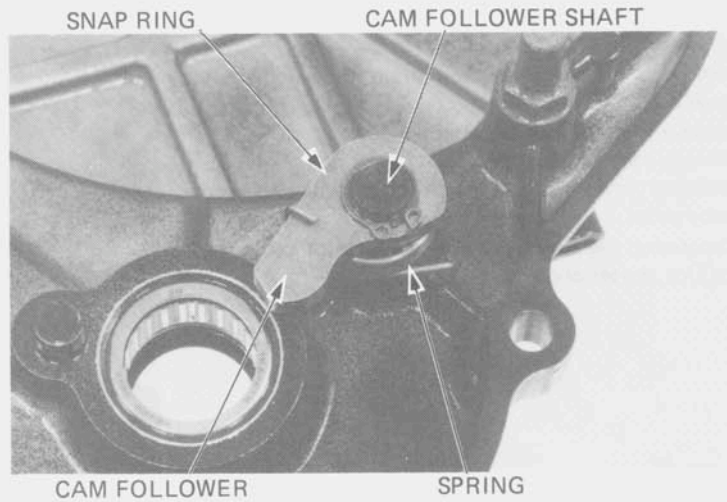




**CLUTCH/OIL PUMP**

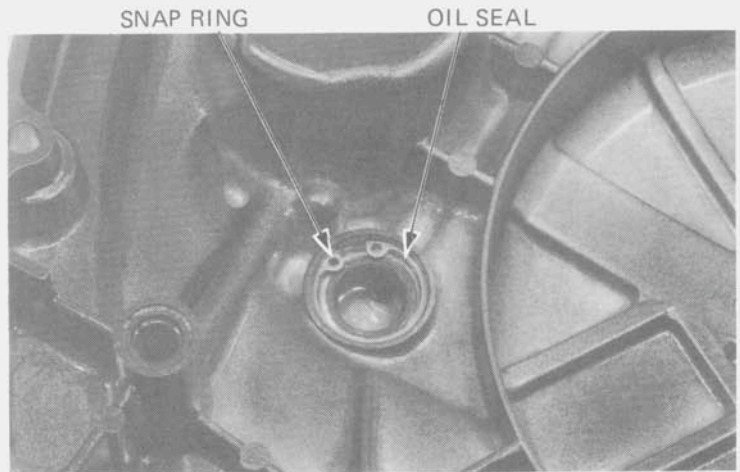
**CAM FOLLOWER SHAFT  
DISASSEMBLY**

Remove the snap ring, cam, return spring and camshaft.



**OIL SEAL REPLACEMENT**

Remove the snap ring and oil seal.  
Install a new oil seal.  
Install the snap ring.



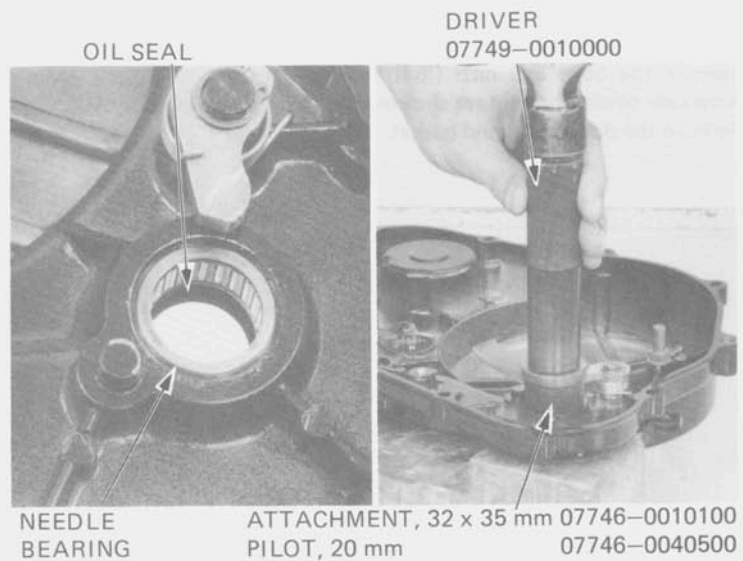
**KICK STARTER SPINDLE OIL SEAL/  
BEARING REPLACEMENT**

Check the oil seal and needle bearing for wear, excessive play or damage and replace if necessary.

Remove the oil seal and needle bearing from the right crankcase cover.

Drive a new needle bearing with the special tools.

Install a new oil seal.





## CLUTCH

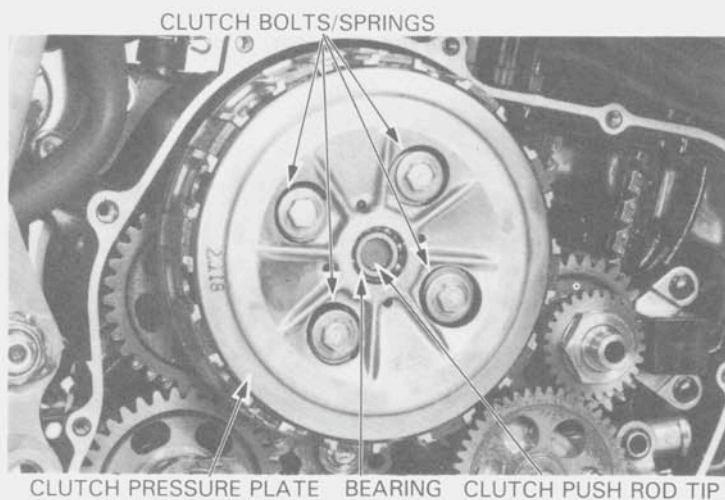
### REMOVAL

Remove the four clutch bolts and springs.

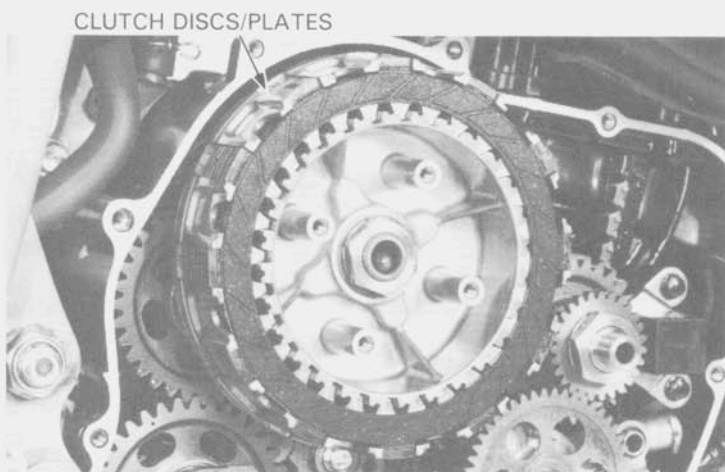
#### NOTE

Loosen the bolts in a criss cross pattern in 2-3 steps.

Remove the clutch pressure plate.  
Remove the clutch push rod tip and release bearing.

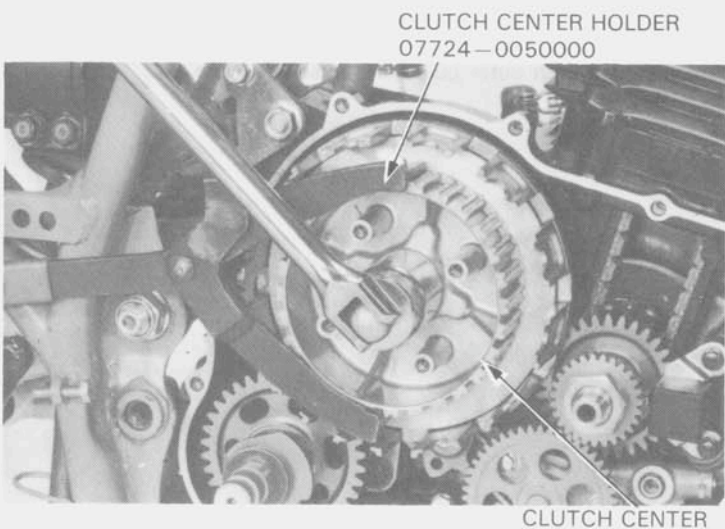


Remove the clutch discs and plates.

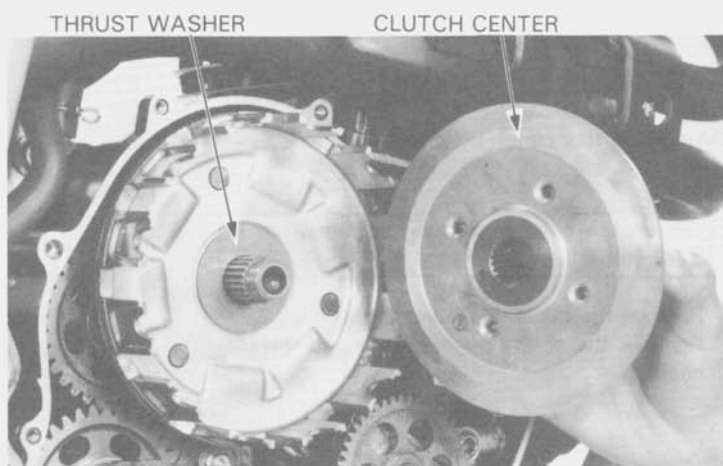


Attach the clutch center holder to the clutch center.

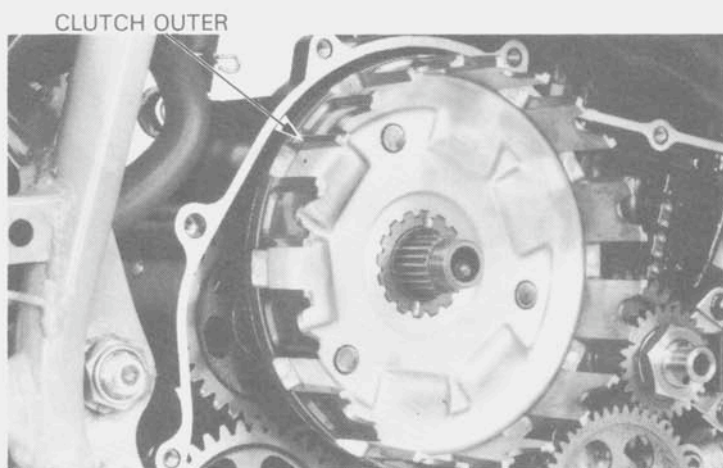
Remove the clutch lock nut and lock washer.  
Remove the clutch holder.



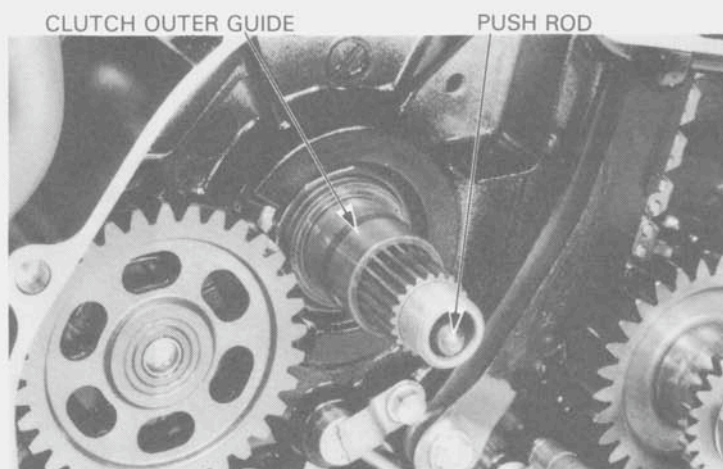
Remove the clutch center and thrust washer.



Remove the clutch outer from the mainshaft.



Remove the clutch outer guide and push rod from the mainshaft.





**INSPECTION**

**SPRINGS**

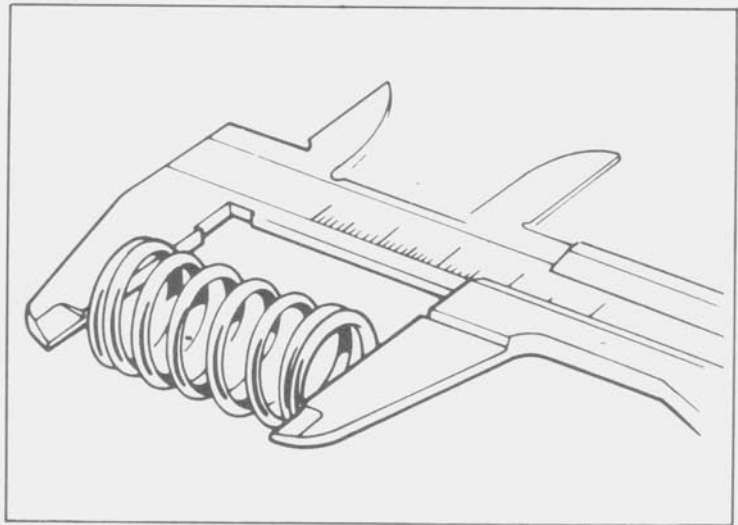
Measure the free length of each spring.

**SERVICE LIMIT : 42.7 mm (1.68 in)**

Replace if shorter than the service limit.

**NOTE**

Clutch springs should be replaced as a set if one or more is beyond the service limit.



**CLUTCH DISC**

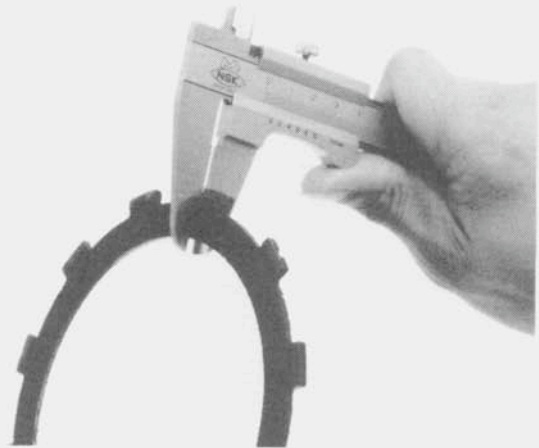
Replace the discs if they show signs of scoring or discoloration.

Measure the disc thickness.

**SERVICE LIMIT : 2.6 mm (0.10 in)**

**NOTE**

Clutch discs and plates should be replaced as a set if any one is beyond the service limit.



**CLUTCH PLATE**

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

**SERVICE LIMIT : 0.3 mm (0.01 in)**







## CLUTCH/OIL PUMP

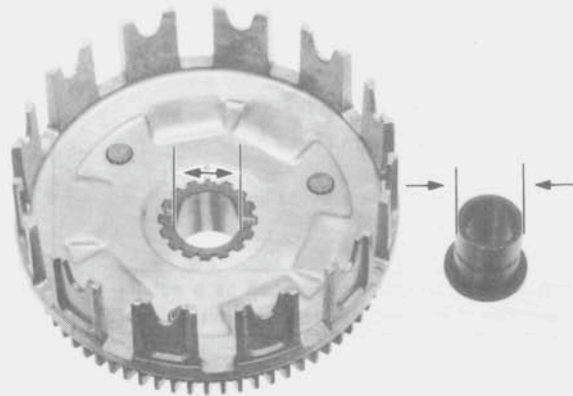
### CLUTCH OUTER AND OUTER GUIDE

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

Measure the I.D. of the clutch outer and the O.D. of the outer guide.

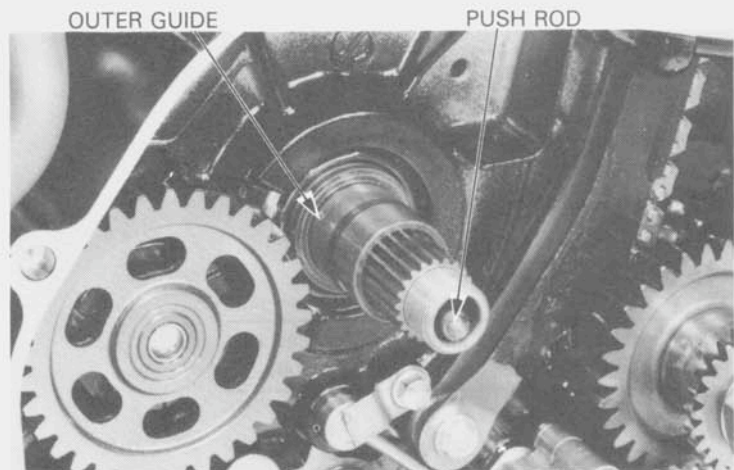
#### SERVICE LIMIT

CLUTCH OUTER I.D.	27.05 mm (1,065 in)
OUTER GUIDE O.D.	26.91 mm (1,059 in)

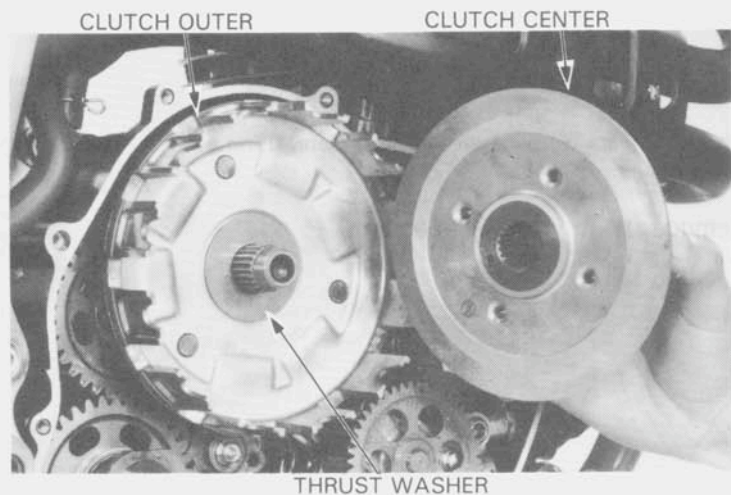


### INSTALLATION

Install the clutch push rod and outer guide.



Install the clutch outer over the outer guide.  
Install the thrust washer and clutch center.





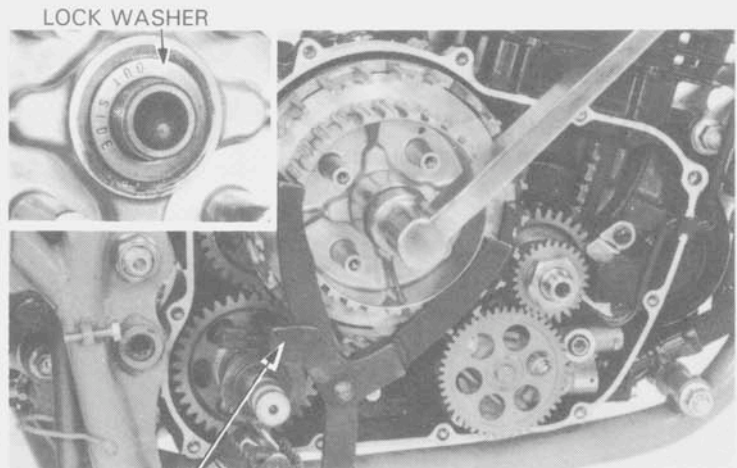
Install the clutch lock washer with "OUTSIDE" facing out.

Install the clutch lock nut.

Install the clutch center holder to the clutch center. Tighten the lock nut to the specified torque.

**TORQUE: 50–60 N·m (5.0–6.0 kg-m, 36–43 ft-lb)**

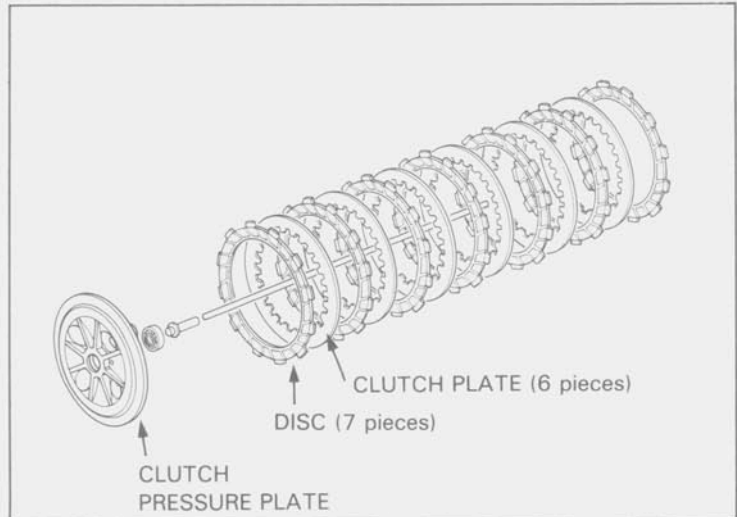
Remove the clutch center holder.



LOCK WASHER

CLUTCH CENTER HOLDER  
07724-0050000

Coat the discs and plates with clean engine oil. Install the clutch discs and plates as shown.



CLUTCH  
PRESSURE PLATE

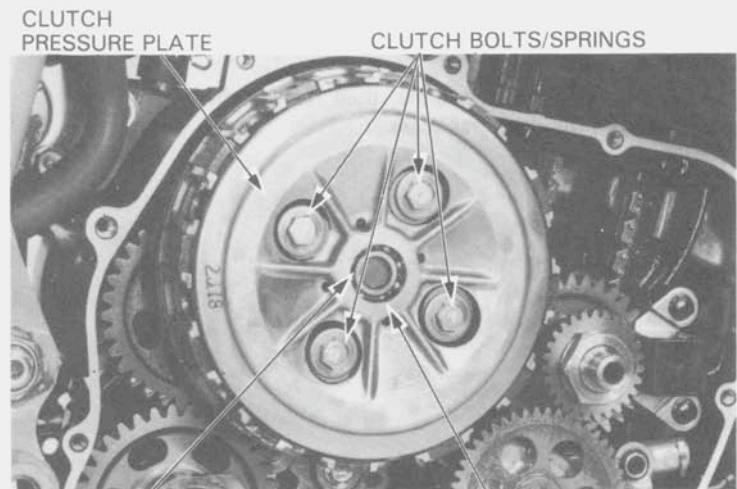
CLUTCH PLATE (6 pieces)  
DISC (7 pieces)

Install the clutch release bearing and push rod tip in to the pressure plate.

Install the clutch pressure plate.

Install the clutch bolts in crisscross pattern in 2–3 steps.

**TORQUE: 8–12 N·m (0.8–1.2 kg-m, 6–9 ft-lb)**



CLUTCH  
PRESSURE PLATE

CLUTCH BOLTS/SPRINGS

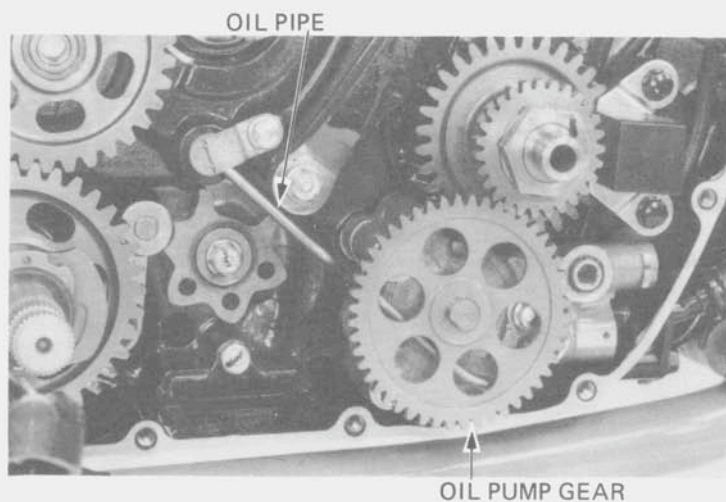
PUSH ROD TIP

RELEASE BEARING

## OIL PUMP

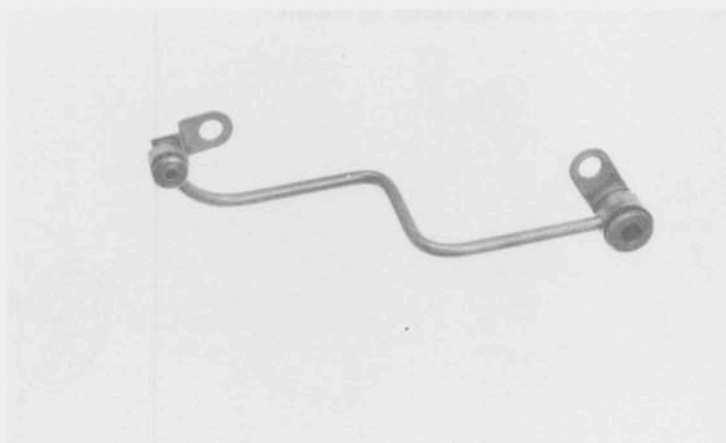
### OIL PUMP REMOVAL

Remove the clutch (Page 8-5).  
Remove the oil pump gear and oil pipe.

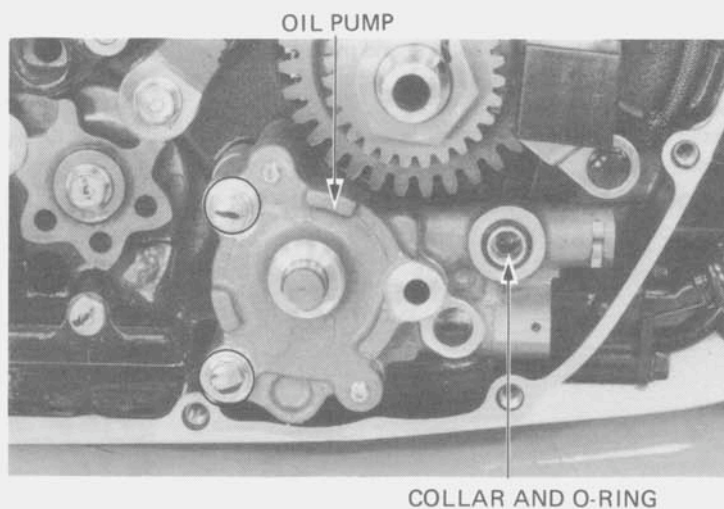


### OIL PIPE INSPECTION

Check that the oil pipe is clear.

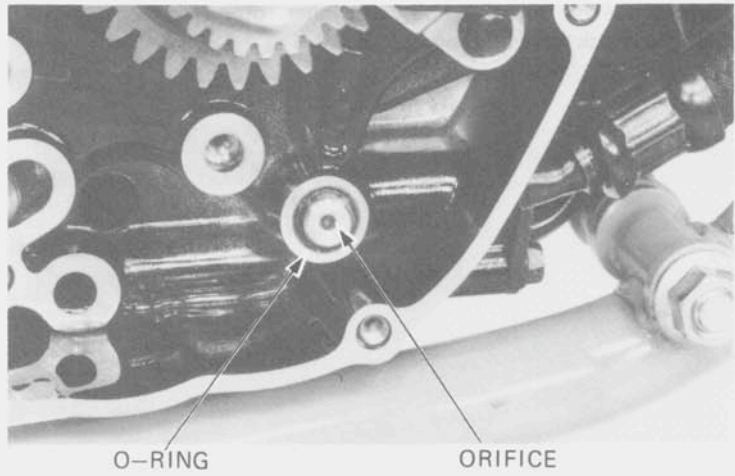


Remove the collar and O-ring.  
Remove the two oil pump bolts, then remove the  
oil pump from the right crankcase.

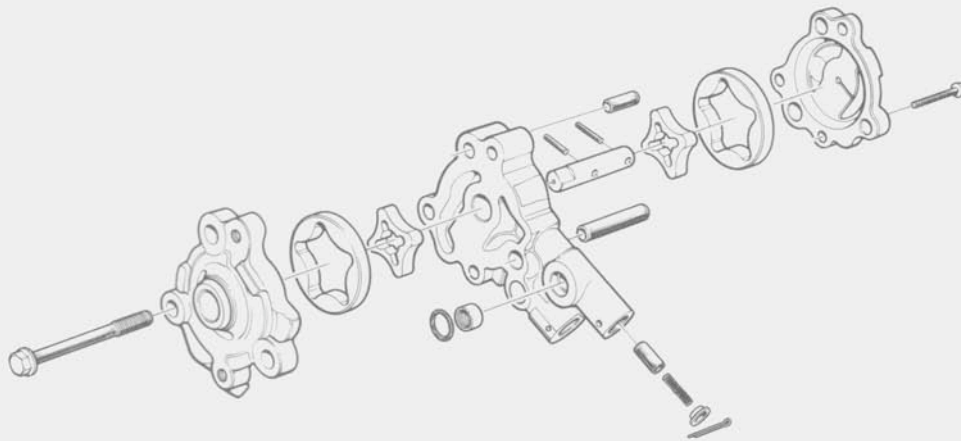




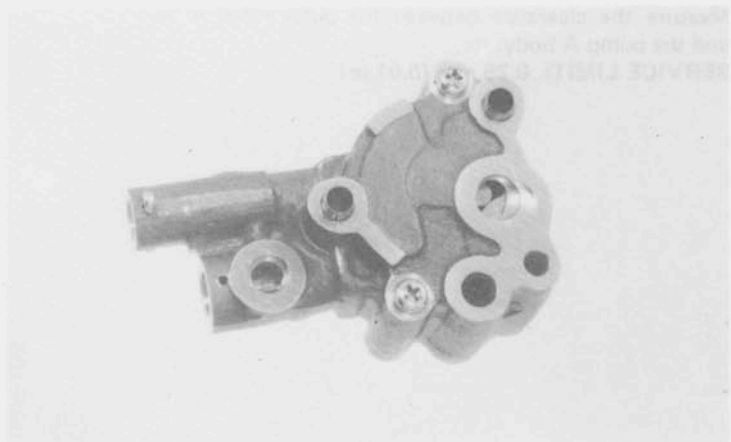
Remove the orifice and O-ring from the right crankcase. Check that the oil orifice in the crankcase is clean by blowing through with compressed air.



**OIL PUMP DISASSEMBLY**

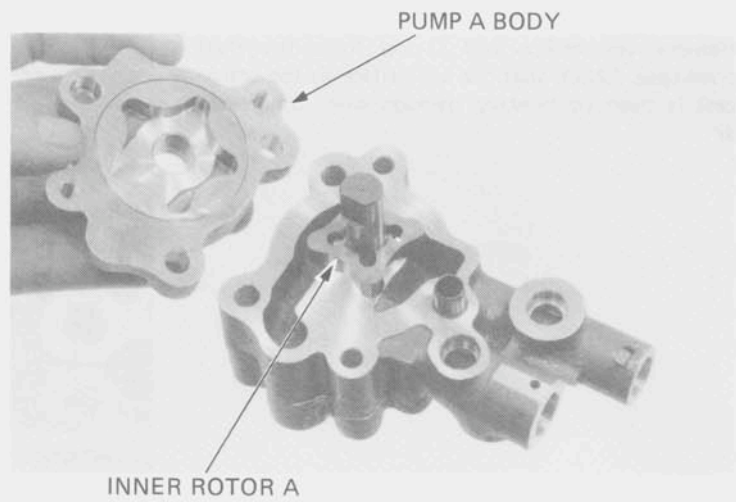


Remove the oil pump body screws.





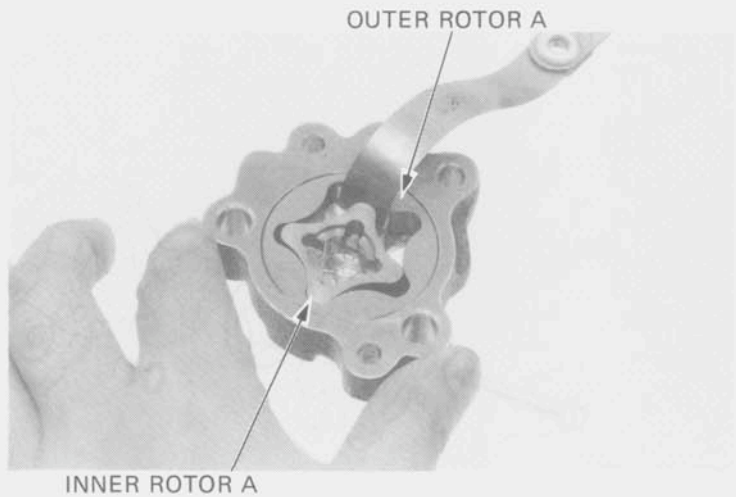
Remove the oil pump A body and inner rotor A from the check valve housing.



**OIL PUMP INSPECTION**

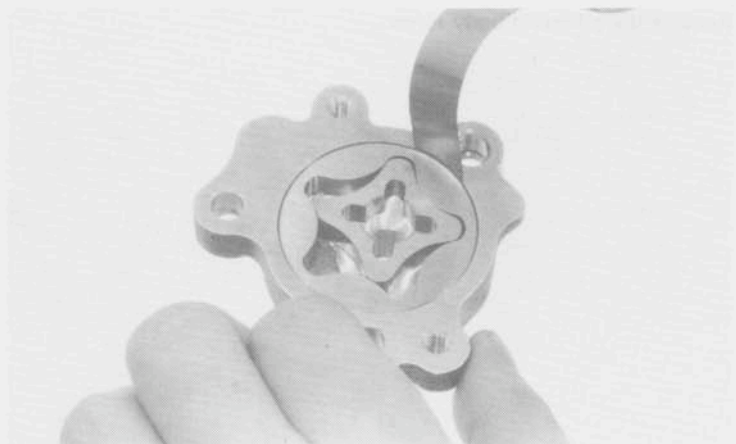
Measure the tip clearance between the inner and outer A rotors.

**SERVICE LIMIT: 0.2 mm (0.008 in)**



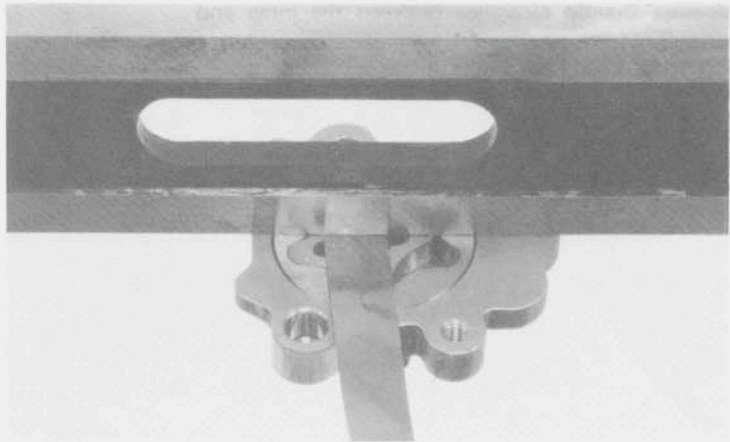
Measure the clearance between the outer rotor A and the pump A body.

**SERVICE LIMIT: 0.25 mm (0.01 in)**





Measure the end clearance of pump A.  
**SERVICE LIMIT: 0.12 mm (0.005 in)**

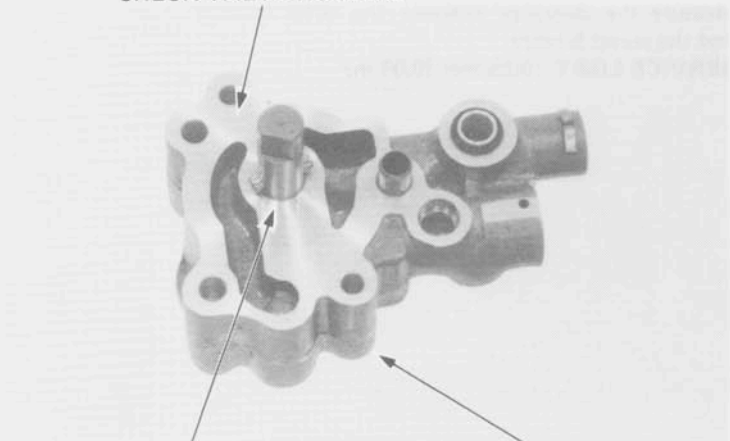


Remove the lock pin from the oil pump shaft.

CHECK VALVE HOUSING

LOCK PIN

OIL PUMP B BODY



Separate the check valve housing from oil pump B body.  
Remove the dowel pins, pump shaft, inner and outer rotor B from the pump B body.

OUTER ROTOR B

PUMP SHAFT

INNER ROTOR B

DOWEL PINS

PUMP B BODY

