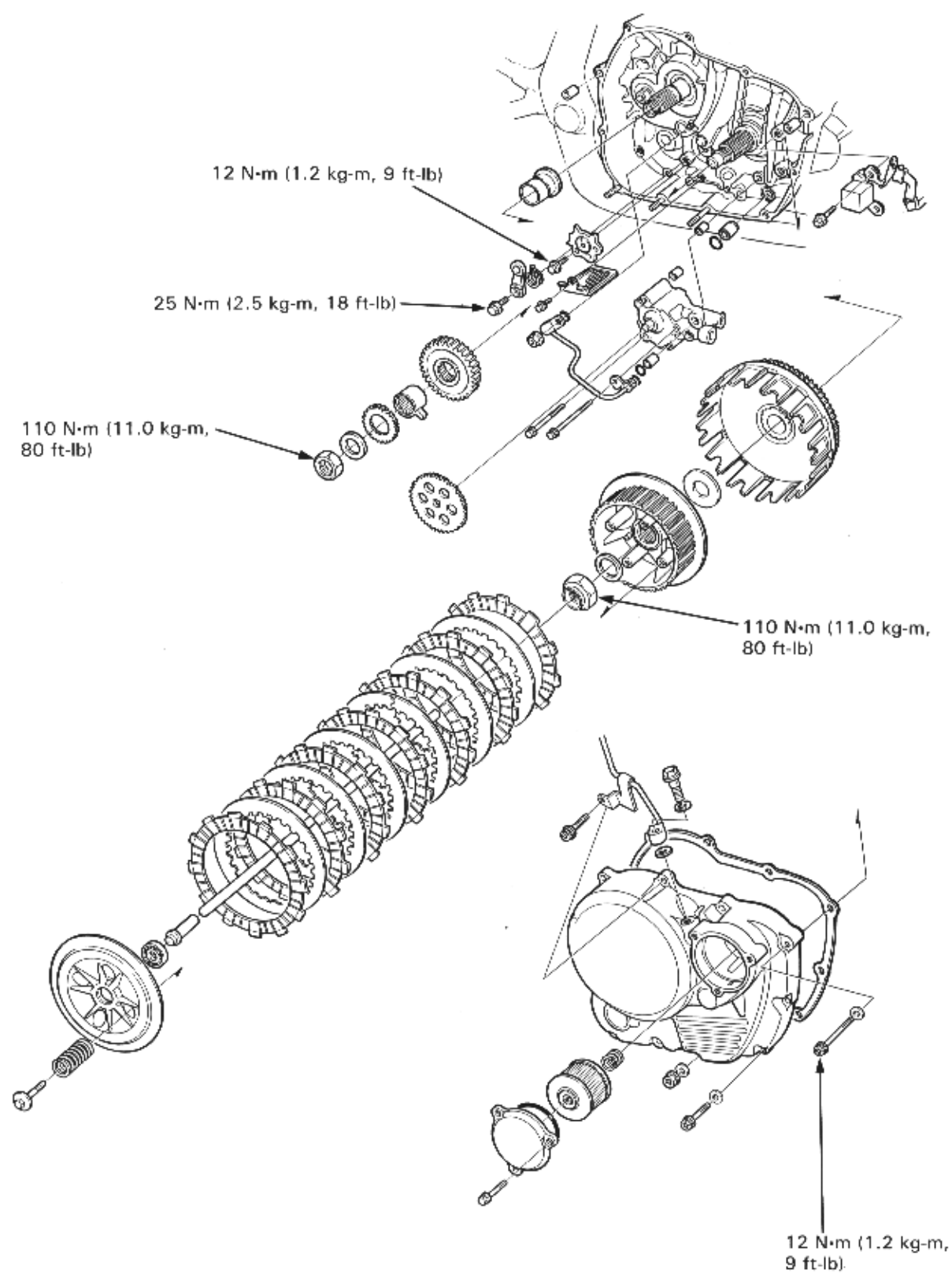




8. CLUTCH

SERVICE INFORMATION	8-1	PRIMARY DRIVE GEAR	8-7
TROUBLESHOOTING	8-1	GEARSHIFT CAM	8-9
RIGHT CRANKCASE COVER REMOVAL	8-2	RIGHT CRANKCASE COVER INSTALLATION	8-9
CLUTCH	8-2		

SERVICE INFORMATION

GENERAL

- This section covers removal and installation of the clutch, gearshift cam and right crankcase cover. All these operations can be performed with the engine in the frame.
- When the 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 (3/8–3/4 in)	—
	Spring free length		44.7 mm (1.76 in)	43.1 mm (1.70 in)
	Spring preload/length		30 ± 1.5 kg/28.5 mm (66.2 ± 3.31 lb/1.12 in)	—
	Disc thickness		2.92–3.08 mm (0.115–0.121 in)	2.6 mm (0.10 in)
	Plate warpage		—	0.15 mm (0.006 in)
	Clutch outer I.D.		27.000–27.021 mm (1.0630–1.0638 in)	27.05 mm (1.065 in)
	Outer guide	O.D.	26.959–26.980 mm (1.0630–1.0622 in)	26.91 mm (1.059 in)
		I.D.	21.990–22.035 mm (0.8657–0.8675 in)	22.05 mm (0.868 in)

TORQUE VALUES

Clutch lock nut	110 N·m (11.0 kg-m, 80 ft-lb)
Primary drive gear nut	110 N·m (11.0 kg-m, 80 ft-lb)
Gearshift cam bolt	12 N·m (1.2 kg-m, 9 ft-lb) Apply locking agent to the threads
Stopper arm bolt	25 N·m (2.5 kg-m, 18 ft-lb)
Right crankcase cover bolt/nut	12 N·m (1.2 kg-m, 9 ft-lb)

TOOLS

Common

Clutch center holder	07724–0050001—or equivalent commercially available in U.S.A.
Gear holder	07724–0010100—Not available in U.S.A.

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

- Outer drum slots rough
- Dirty clutch cable

CLUTCH

RIGHT CRANKCASE COVER REMOVAL

Drain oil from engine and oil tank (page 2-3).

Remove the following components:

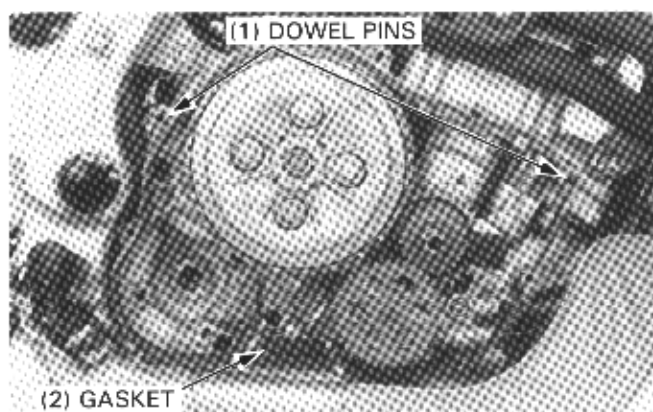
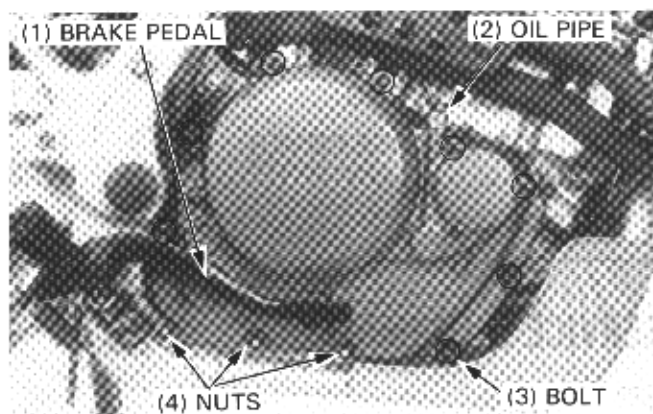
- Brake pedal (page 13-10)
- Oil pipe (page 6-3)

Remove the right crankcase cover bolts, nuts and right crankcase cover.

NOTE

- Loosen the bolts and nuts in a crisscross pattern in two or more steps.

Remove the dowel pins and gasket.



OIL SEAL REPLACEMENT

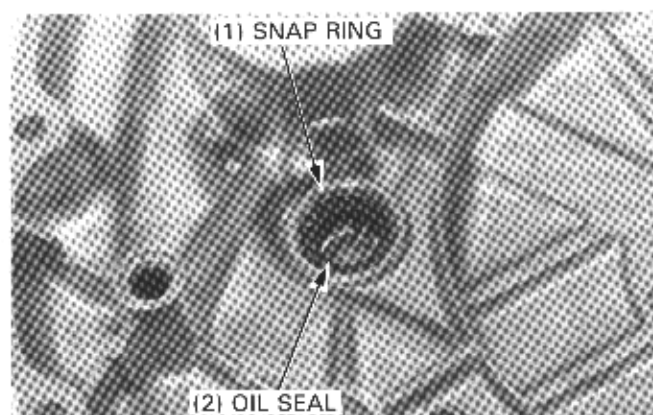
Check for the oil seal for damage or deterioration.

Remove the snap ring and oil seal.

Install the new oil seal and snap ring.

NOTE

- Make sure the snap ring is seated in the groove in the right crankcase cover.



CLUTCH

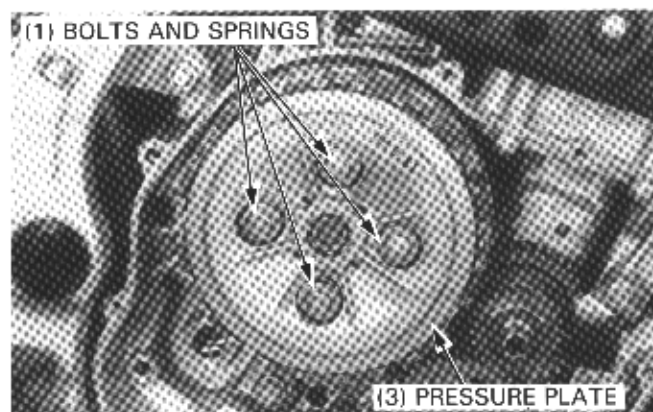
REMOVAL

Remove the right crankcase cover.

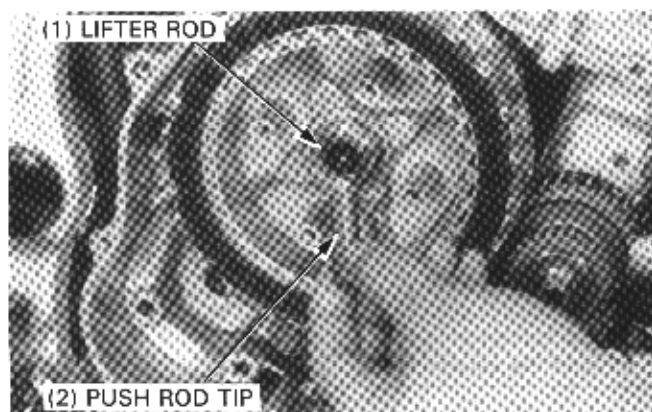
Remove the four clutch bolts and springs.

NOTE

- Loosen the bolts in a crisscross pattern in two or more steps.



Remove the push rod tip and clutch lifter rod.



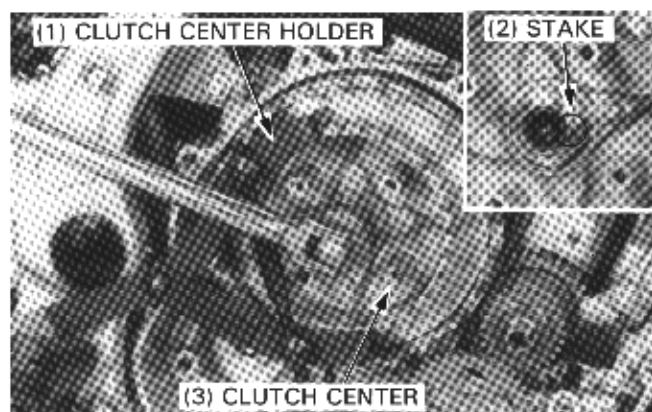
Unstake the clutch lock nut with a drill or grinder.

Remove the clutch lock nut, plain washer and clutch center, holding with the clutch center holder.

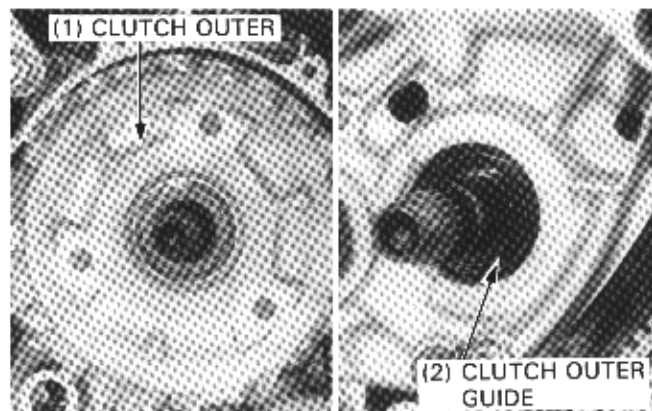
TOOL:

Clutch center holder

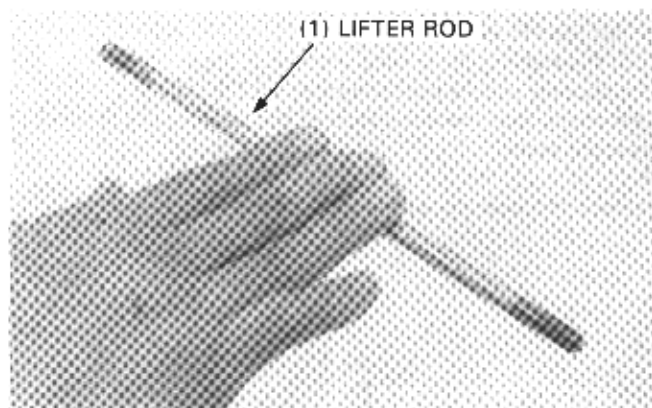
07724-0050001
or equivalent commercially
available in U.S.A.



Remove the clutch outer and clutch outer guide.



Inspect the clutch lifter rod for wear or damage.
Check the lifter rod for straightness by rolling the rod on a flat surface.



CLUTCH

INSPECTION

● CLUTCH SPRING

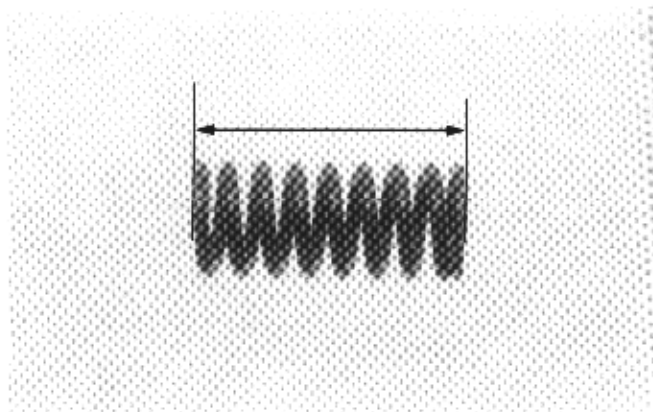
Measure the free length of each spring.

SERVICE LIMIT: 43.1 mm (1.70 in)

Replace if shorter than the service limit.

NOTE

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



● CLUTCH DISC

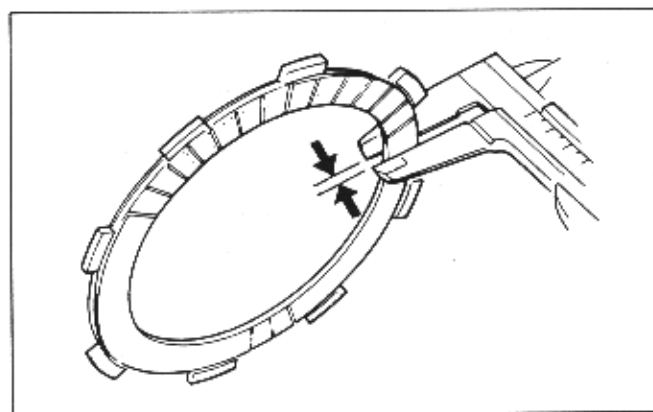
Replace the discs if they show signs of scoring or discoloration.

Measure the disc thickness.

SERVICE LIMIT: 2.6 mm (0.10 in)

NOTE

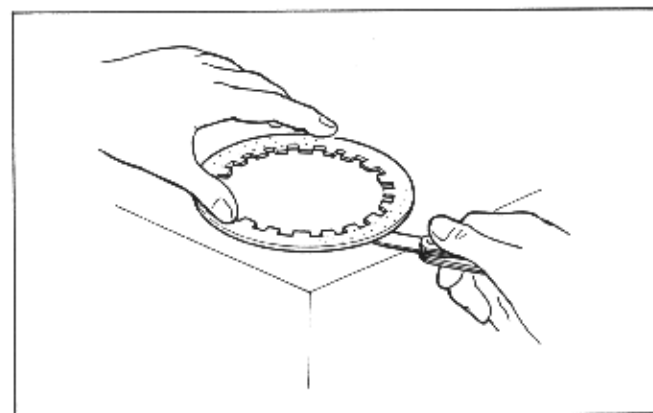
- Clutch discs and plates should be replaced as a set if any one is beyond the service limit.



● CLUTCH PLATE

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

SERVICE LIMIT: 0.3 mm (0.01 in)



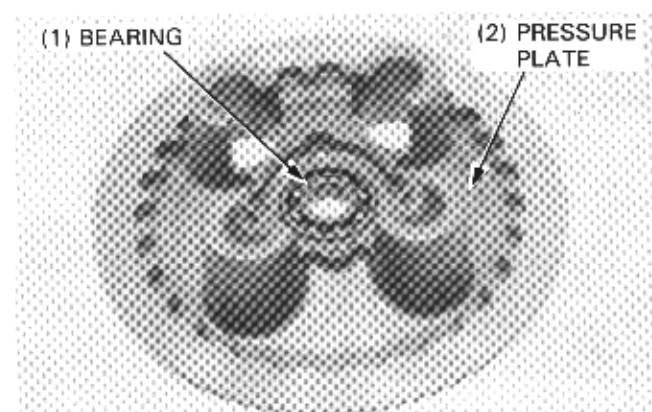
● PRESSURE PLATE BEARING

Turn the bearing inner race with your finger.

The bearing should turn smoothly and quietly.

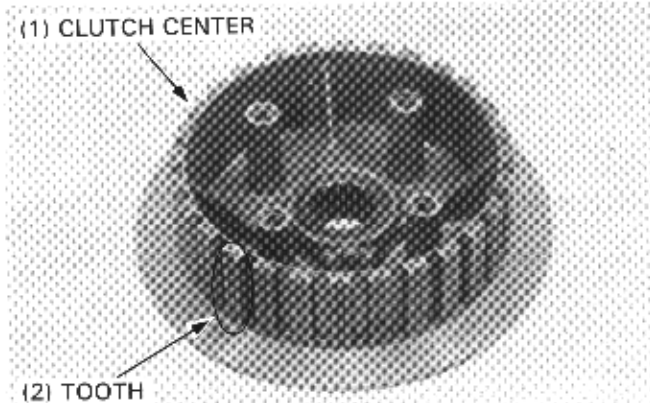
Also check that the outer race of the bearing fits tightly in the pressure plate.

Replace the bearing with a new one, if necessary.



● CLUTCH CENTER

Check the teeth of the clutch center for wear, damage or cracks.



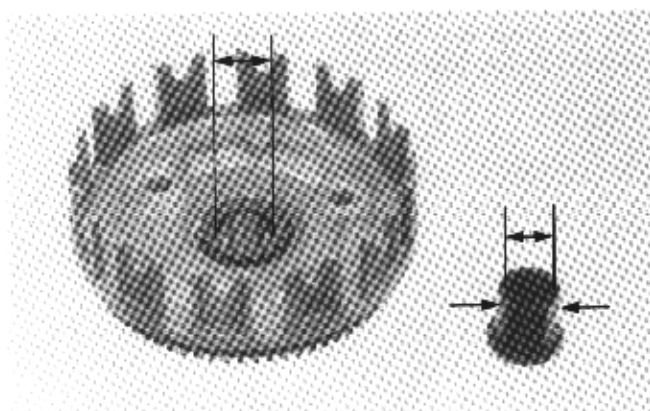
● CLUTCH OUTER AND OUTER GUIDE

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 LIMITS:

Clutch outer I.D.: 27.05 mm (1.065 in)
 Clutch outer guide O.D: 26.91 mm (1.059 in)
 I.D.: 22.05 mm (0.868 in)

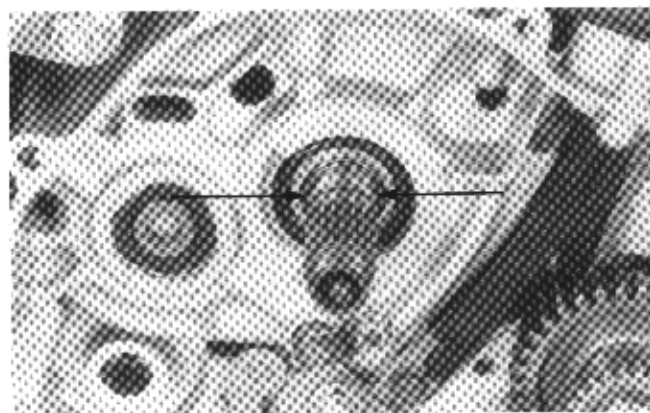


Measure the mainshaft O.D. at the clutch outer guide area.

SERVICE LIMIT: 21.91 mm (0.863 in)

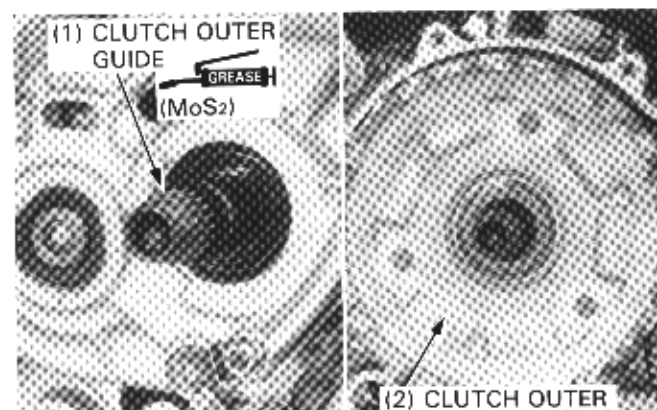
Calculate the mainshaft-to-clutch outer guide clearance.

SERVICE LIMIT: 0.14 mm (0.006 in)



INSTALLATION

Apply MoS₂ paste (page 2-14) to the clutch outer guide sliding surfaces, and install the outer guide over the mainshaft. Install the clutch outer over the outer guide.



CLUTCH

Install the clutch lock nut and tighten it, holding with clutch center holder.

TORQUE: 110 N·m (11.0 kg-m, 80 ft-lb)

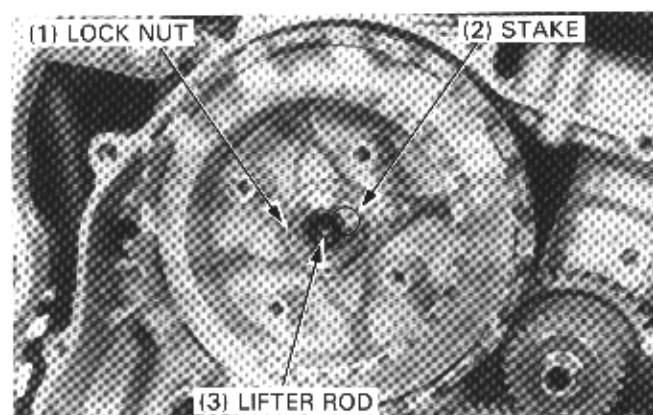
TOOL:

Clutch center holder

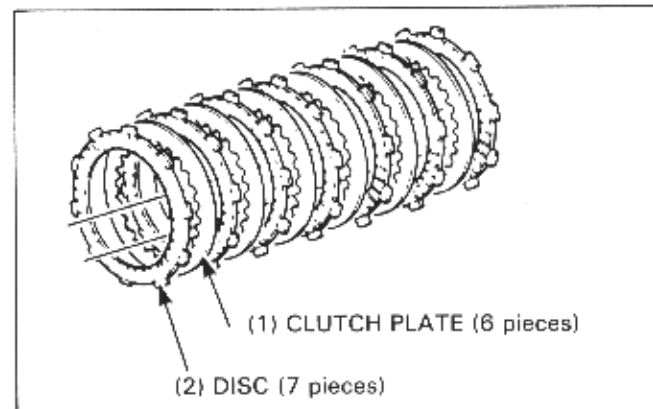
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or equivalent commercially
available in U.S.A.



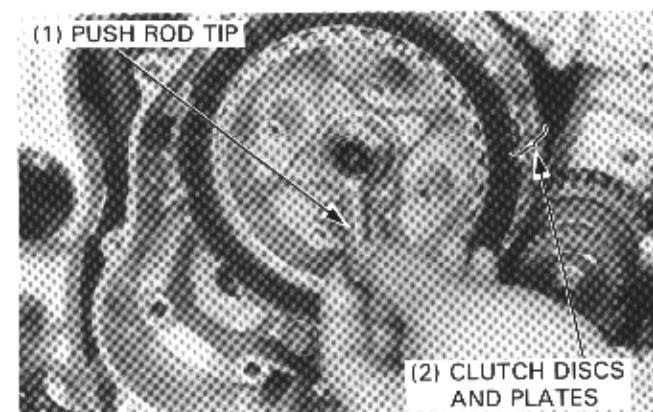
Stake the clutch lock nut with a punch.
Insert the clutch lifter rod through the mainshaft.



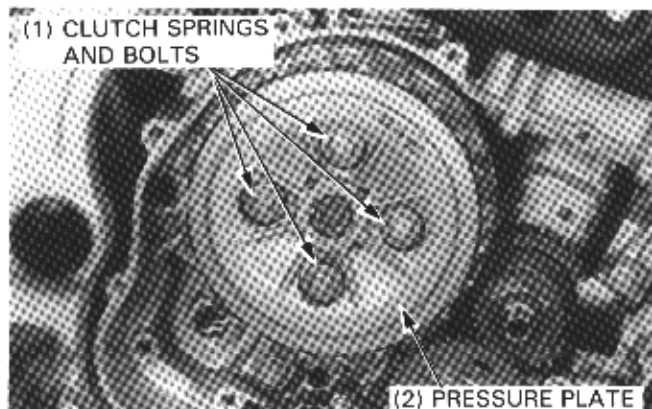
Coat the 7 discs and 6 plates with clean engine oil and install them as shown.



Install the clutch push rod tip into the mainshaft.



Install the pressure plate, clutch springs and clutch bolts, and tighten the bolts in a crisscross pattern in two or more steps.



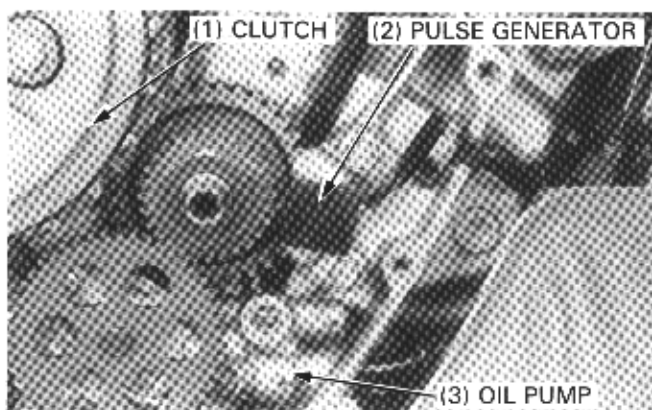
PRIMARY DRIVE GEAR

REMOVAL

Remove the pulse generator by removing the bolts and gromet.

Remove the following components:

- Clutch (page 8-2)
- Oil pump (page 2-5)



Temporarily install the clutch outer, then install the gear holder between the primary drive gear and driven gear as shown.

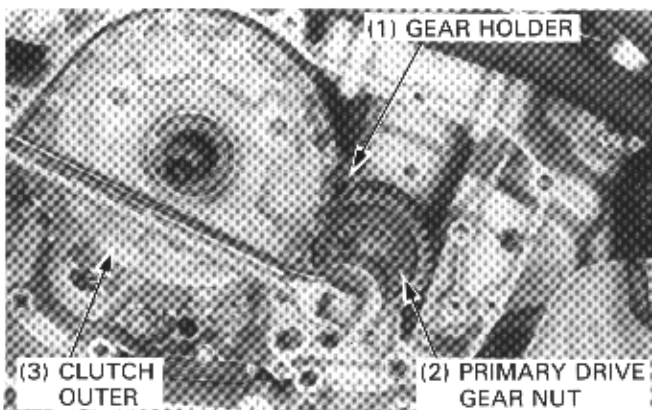
TOOL:

Gear holder

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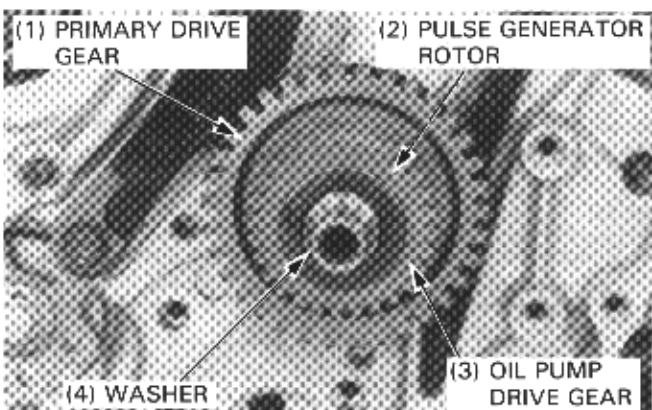
Not available in U.S.A.

Remove the primary drive gear nut, then remove the gear holder and clutch outer.



Remove the following:

- washer
- oil pump drive gear
- pulse generator rotor
- primary drive gear



CLUTCH

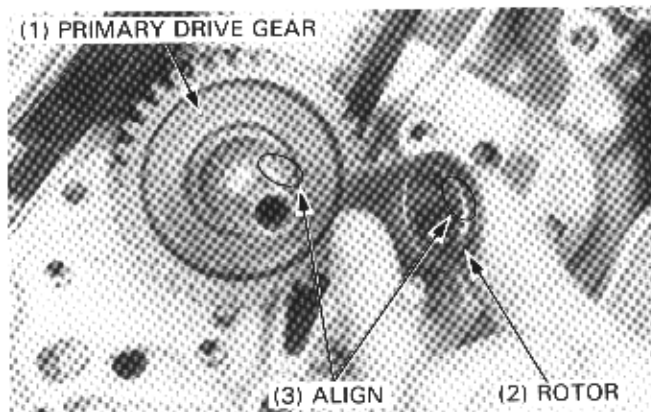
INSTALLATION

Install the primary drive gear over the crankshaft.

NOTE

- the pulse generator rotor and oil pump drive gear will only go on in one position because of the extra wide aligning spline.

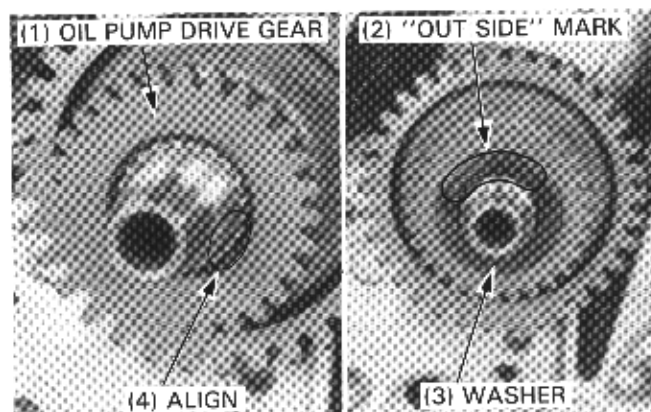
Install the pulse generator rotor onto the crankshaft.



Install the oil pump drive gear and washer onto the crankshaft.

NOTE

- Install the washer with the "OUT SIDE" mark facing out.



Temporarily install the clutch outer, and set the gear holder between the primary drive gear and driven gear as shown. Install and tighten the primary drive gear nut.

TORQUE: 110 N·m (11.0 kg-m, 80 ft-lb)

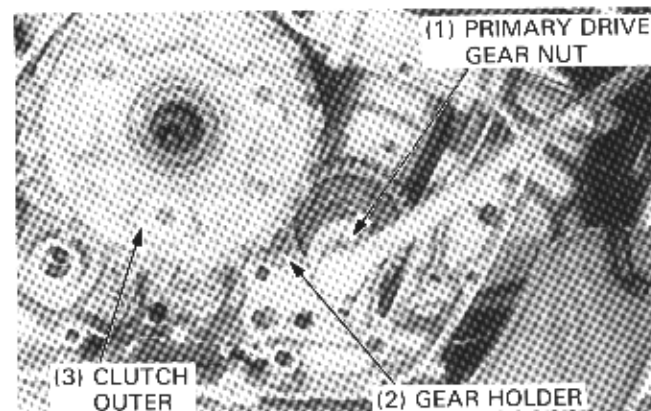
TOOL:

Gear holder

07724-0010100

Not available in U.S.A.

Remove the gear holder and clutch outer.



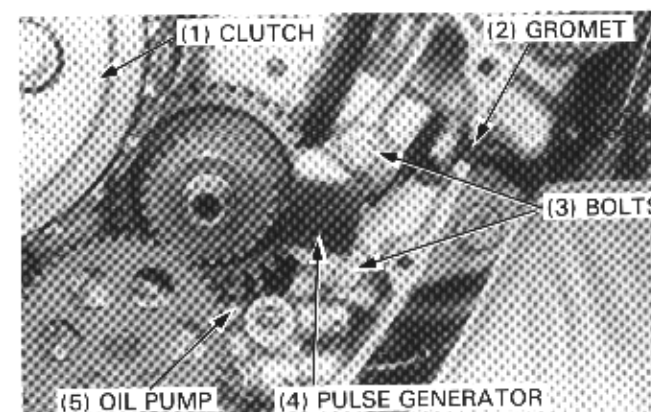
Install the following:

- oil pump (page 2-11)
- clutch (page 8-5)

Install the pulse generator and secure it with two bolts, and put the gromet into the groove in the right crankcase.

NOTE

- Remove any metal chips that may be stuck to the pulse generator magnet.

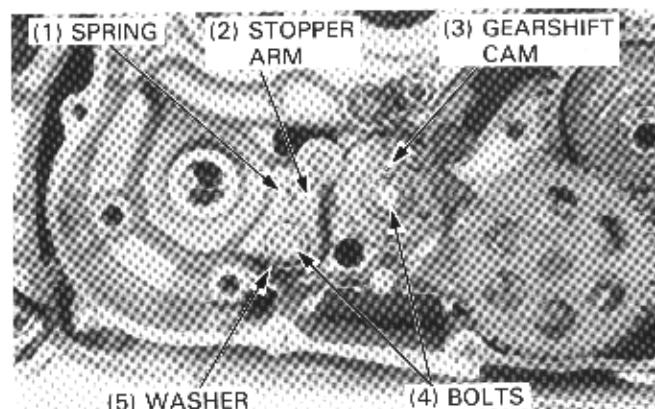


GEARSHIFT CAM

REMOVAL

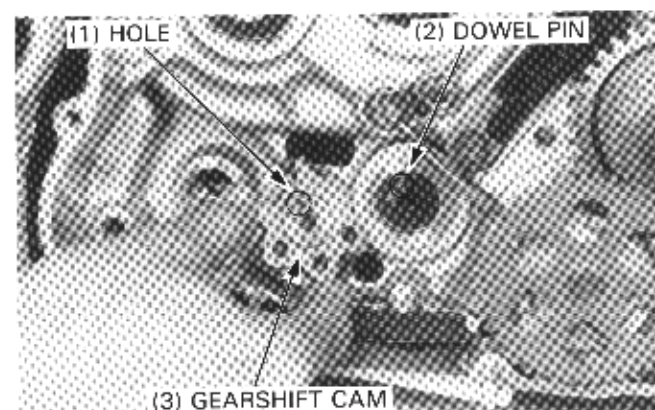
Remove the following:

- clutch (page 8-2)
- bolt, washer, stopper arm and spring
- bolt and gearshift cam



INSTALLATION

Install the gearshift cam on the shift drum, aligning the hole in the cam with the dowel pin.

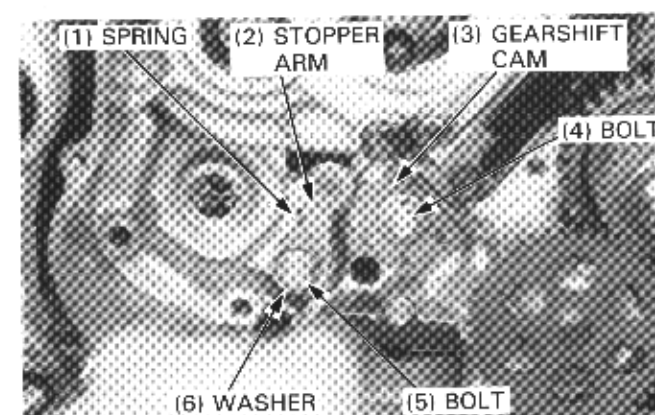


Apply a locking agent to the threads of the gearshift cam bolt, and tighten it to the specified torque.

TORQUE: 12 N·m (1.2 kg-m, 9 ft-lb)

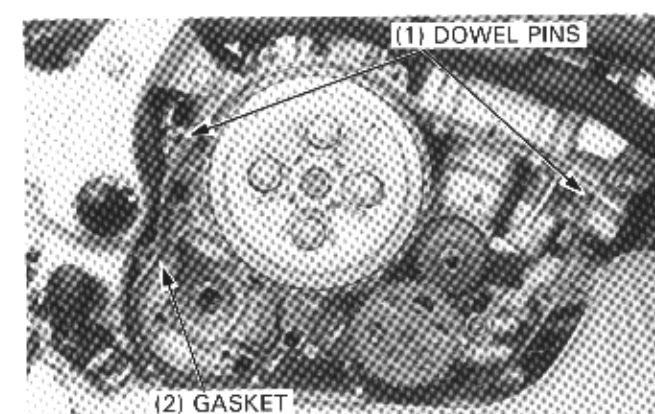
Install the spring, stopper arm, washer and bolt, holding the stopper arm with a screw driver. Tighten the stopper arm bolt.

Install the clutch (page 8-5)



RIGHT CRANKCASE COVER INSTALLATION

Install the dowel pins and a new gasket.



CLUTCH

Install the right crankcase cover, and install and tighten the bolts and nuts in a crisscross pattern in two or more steps.

TORQUE: 12 N·m (1.2 kg-m, 9 ft-lb)

Install the following components:

- Oil pipe (page 6-20)
- Brake pedal (page 13-11)

Fill the engine and oil tank with recommended oil (page 2-2).

Adjust the followings:

- Clutch lever free play (page 3-12)
- Brake pedal free play (page 3-11)

