

9. CLUTCH/GEARSHIFT LINKAGE

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SERVICE INFORMATION

GENERAL

- This section covers removal and installation of the clutch, primary drive gear, oil pump drive gear and gearshift linkage. These services can be performed with the engine installed in the frame.

SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Clutch lever free play		10 – 20 (3/8 – 3/4)	
Clutch spring free length		37.8 (1.49)	36.0 (1.42)
Clutch disc thickness		2.92 – 3.08 (0.115 – 0.121)	2.6 (0.10)
Clutch plate warpage			0.20 (0.008)
Clutch outer I.D.		26.000 – 26.021 (1.0236 – 1.0244)	26.04 (1.025)
Clutch outer guide	I.D.	20.000 – 20.021 (0.7874 – 0.7882)	20.05 (0.789)
	O.D.	25.959 – 25.980 (1.0220 – 1.0228)	25.90 (1.020)

TORQUE VALUES

Clutch lifter bolt	12 N·m (1.2 kgf·m, 9 lbf·ft)
Clutch center lock nut	74 N·m (7.5 kgf·m, 54 lbf·ft)
Shift drum stopper arm bolt	12 N·m (1.2 kgf·m, 9 lbf·ft)
Gearshift return spring pin	25 N·m (2.5 kgf·m, 18 lbf·ft) Apply a locking agent to the threads
Primary drive gear lock nut	53 N·m (5.4 kgf·m, 39 lbf·ft)

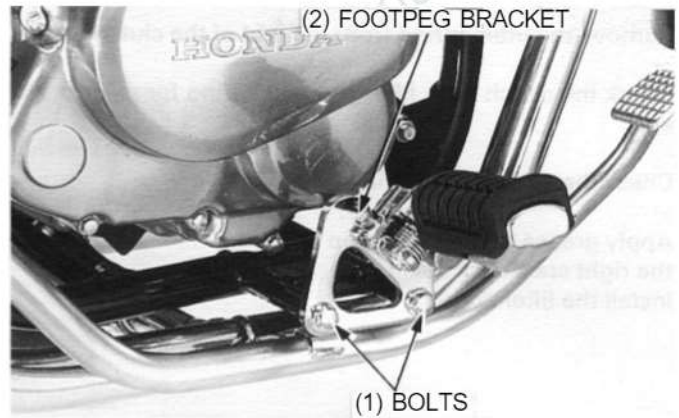
TOOLS

Clutch center holder	07GMB – KT70101
Gear holder	07724 – 0010200
Lock nut wrench, 20 x 24 mm	07716 – 0020100
Extension bar	07716 – 0020500 or equivalent commercially available in U.S.A.

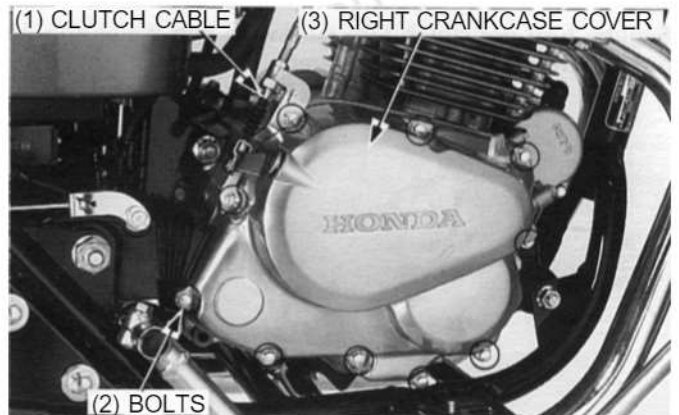
RIGHT CRANKCASE COVER REMOVAL

Drain the engine oil ([page 3-10](#)).

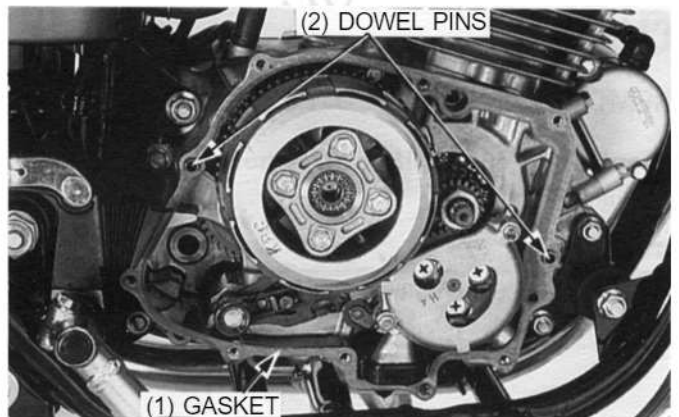
Remove the bolts and right footpeg bracket.



Disconnect the clutch cable from the clutch arm.
Remove the bolts and right crankcase cover.

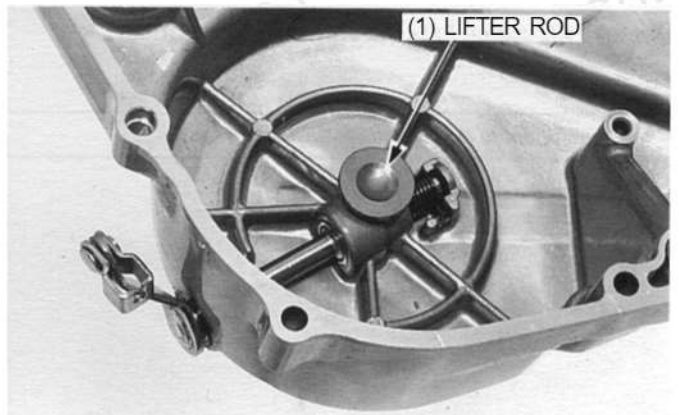


Remove the gasket and dowel pins.



CLUTCH LIFTER REMOVAL/INSTALLATION

Remove the clutch lifter rod.



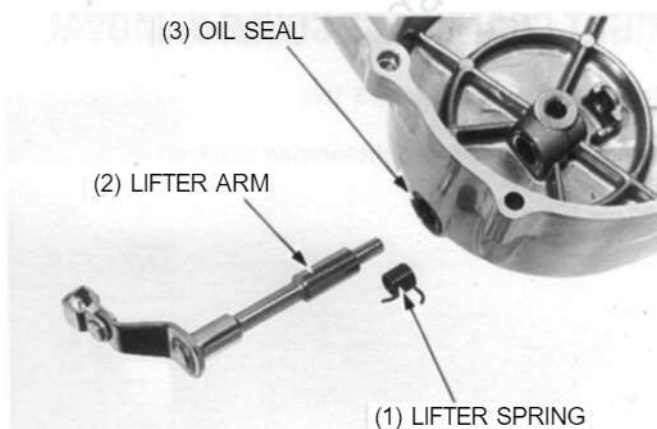
CLUTCH/GEARSHIFT LINKAGE

Remove the lifter spring from the end of the clutch arm.

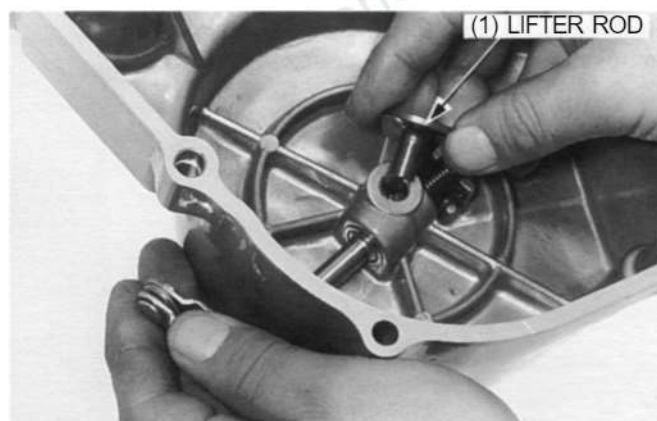
Check the clutch arm, lifter rod and spring for wear or damage.

Check the oil seal for damage.

Apply grease to the oil seal lip and insert the clutch arm into the right crankcase cover.
Install the lifter spring.



Slightly turn the clutch arm clockwise and install the lifter rod into the right crankcase cover.

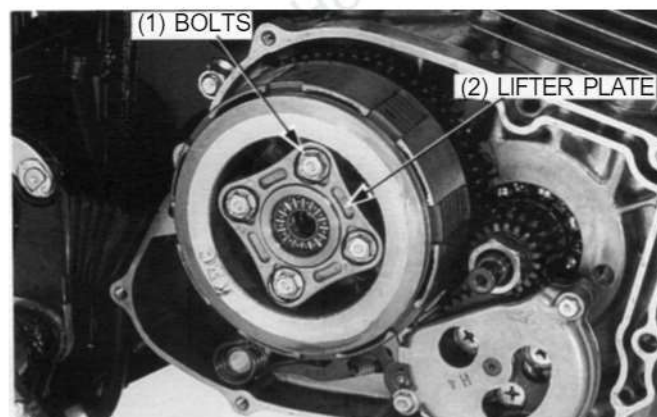


CLUTCH REMOVAL

Remove the clutch lifter plate bolts, plate and clutch springs.

NOTE

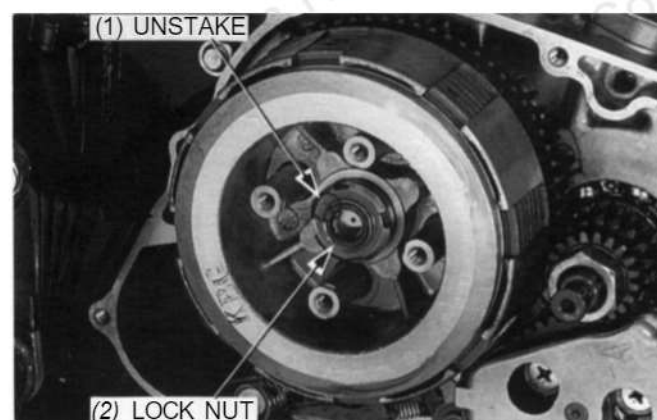
- Loosen the clutch lifter plate bolts in a crisscross pattern in 2 – 3 steps.



Unstake the clutch lock nut with a drill or grinder.

CAUTION

- Be careful not to damage the mainshaft threads.



Remove the clutch center lock nut using the special tools.

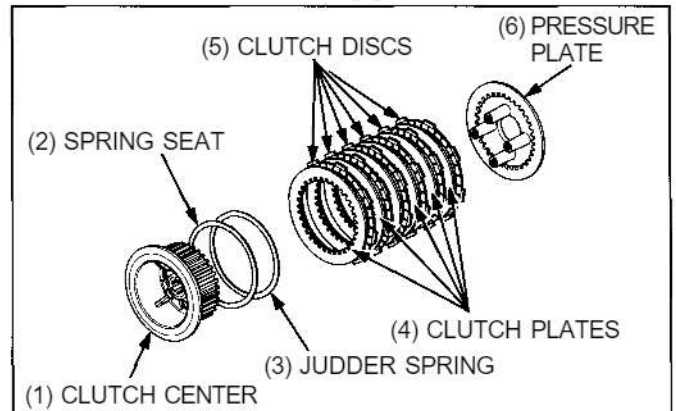
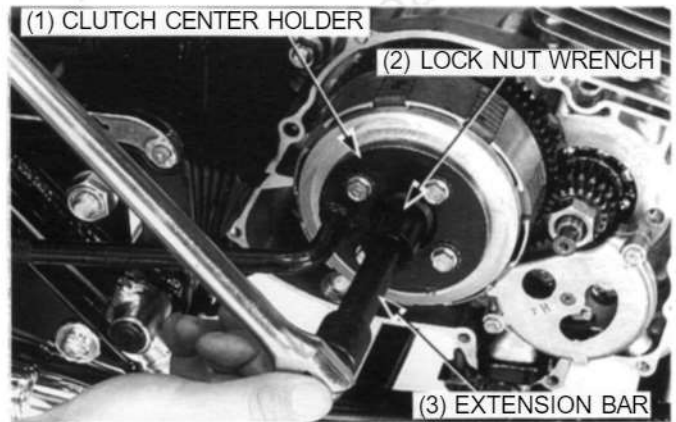
TOOLS:

Clutch center holder
Lock nut wrench, 20 x 24 mm
Extension bar

07GMB - KT70101
07716 - 0020100
07716 - 0020500 or
equivalent commercially
available in U.S.A.

Remove the following:

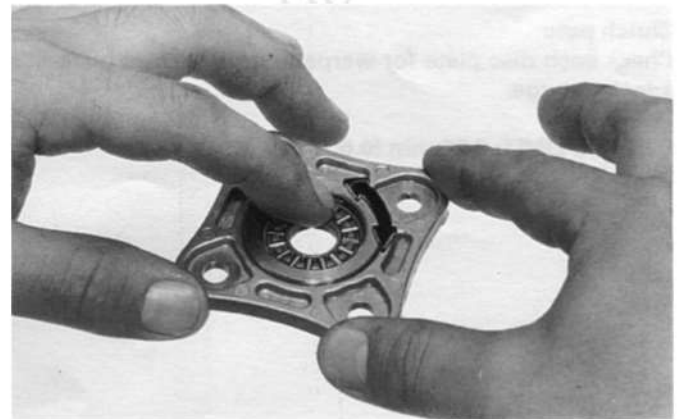
- Clutch center
- Spring seat
- Judder spring
- Clutch discs and plates
- Pressure plate
- Spline washer
- Clutch outer
- Outer guide
- Thrust washer



INSPECTION

Clutch lifter bearing

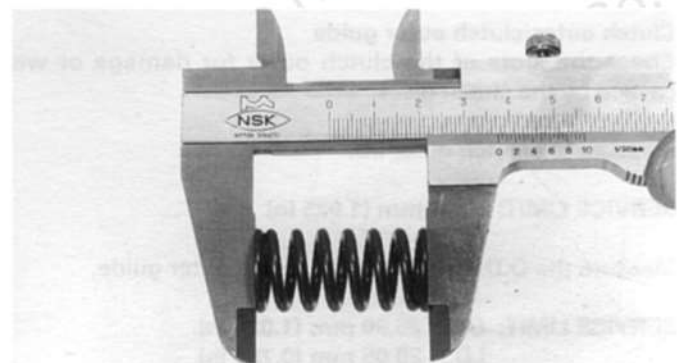
Turn the lifter bearing rollers with your finger. The bearing should turn smoothly and freely without excessive play. If necessary replace the bearing.



Clutch spring

Measure the clutch spring free length.

SERVICE LIMIT: 36.0 mm (1.42 in)



CLUTCH/GEARSHIFT LINKAGE

Clutch center

Check the grooves of the clutch center for damage or wear caused by the clutch plates.
Replace if necessary.

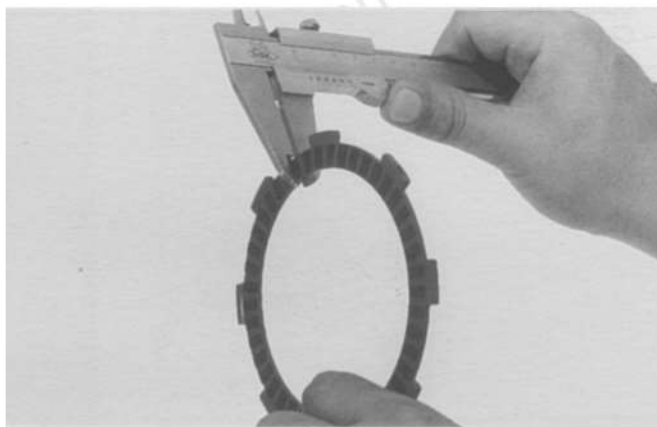


Clutch disc

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

Measure the disc thickness of each disc.

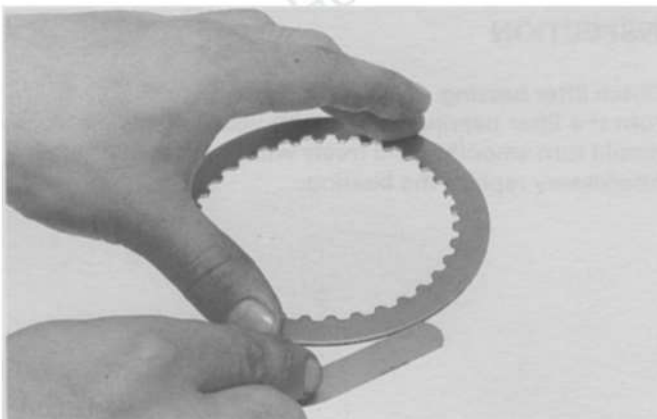
SERVICE LIMIT: 2.6 mm (0.10 in)



Clutch plate

Check each disc plate for warpage on a surface plate using a feeler gauge.

SERVICE LIMIT: 0.20 mm (0.008 in)



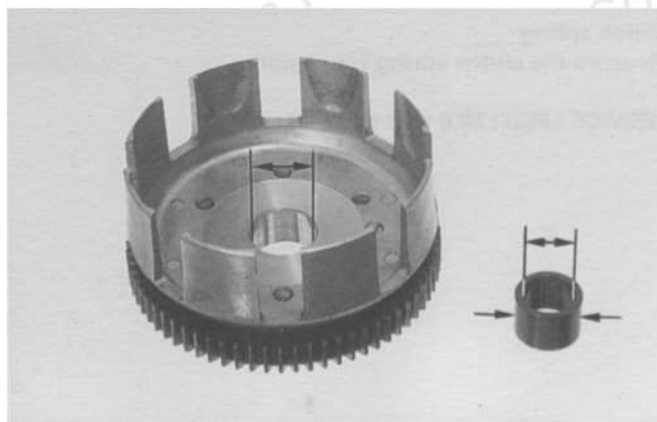
Clutch outer/clutch outer guide

Check the slots of the clutch outer for damage or wear caused by the clutch discs.
Replace if necessary.
Measure the clutch outer I.D.

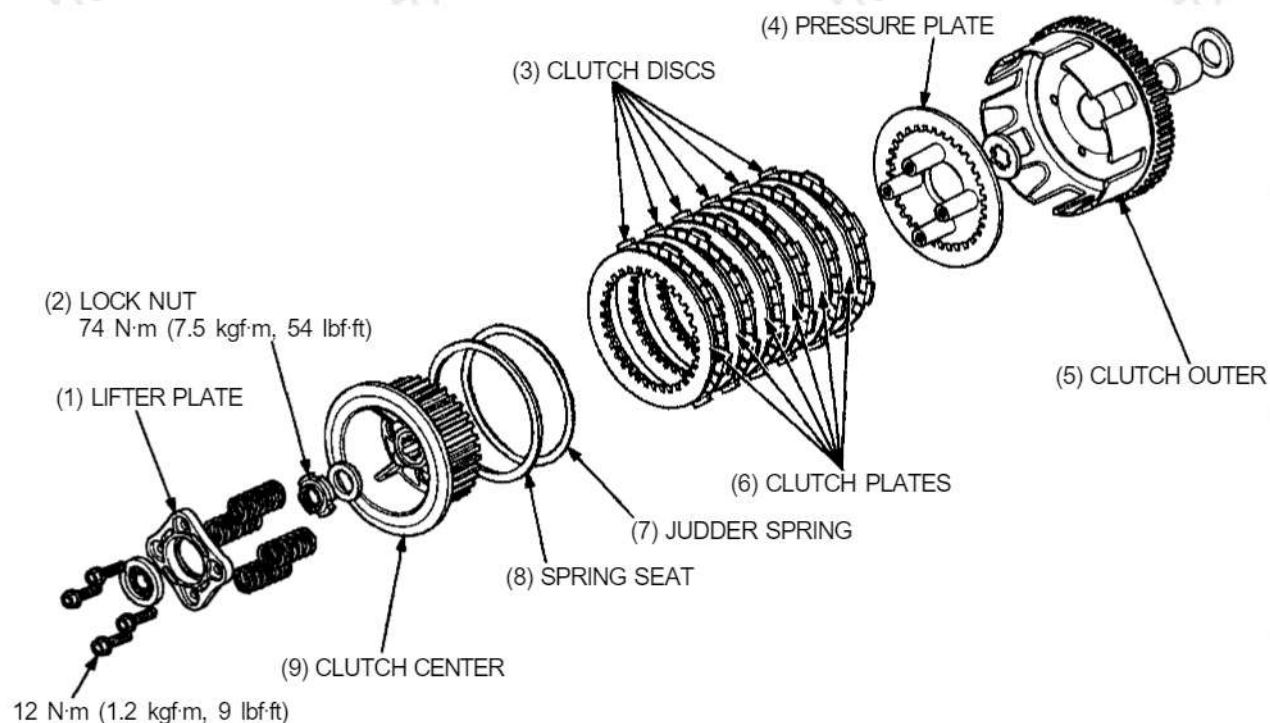
SERVICE LIMIT: 26.04 mm (1.025 in)

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

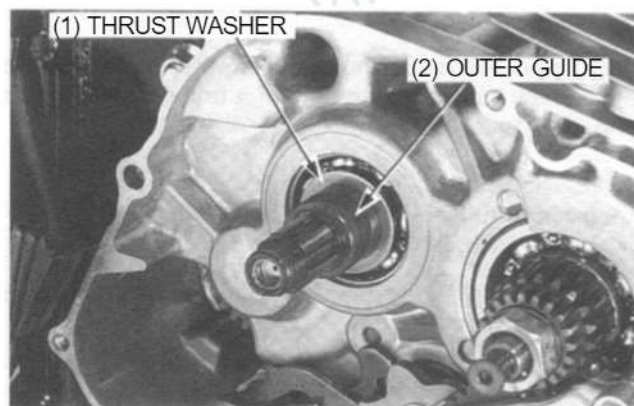
SERVICE LIMIT: O.D.: 25.90 mm (1.020 in)
I.D.: 20.05 mm (0.789 in)



INSTALLATION



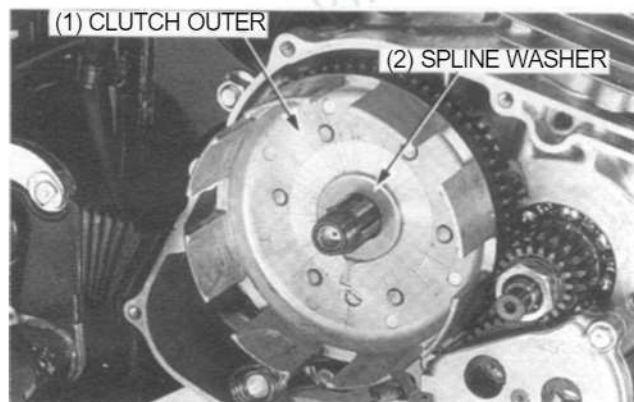
Install the thrust washer and clutch outer guide onto the mainshaft.



Install the clutch outer and spline washer.

NOTE

- Note the direction of the spline washer.



CLUTCH/GEARSHIFT LINKAGE

Install the spring seat and judder spring onto the clutch center as shown.

Assemble the clutch pressure plate, discs, plates and clutch center, and install them in the clutch outer.

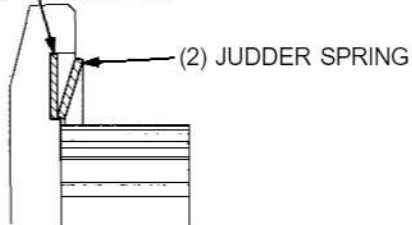
Coat new clutch discs with clean engine oil.

Stack the discs and plates alternately.

NOTE

- Note the direction of the judder spring.

(1) SPRING SEAT



- Stack the discs and plates alternately.

Install the lock washer with its "OUT SIDE" mark facing out.

Attach the clutch center holder using the clutch lifter bolts. Install a new lock nut, then tighten it to the specified torque using the special tools.

TOOLS:

Clutch center holder

07GMB - KT70101

Lock nut wrench, 20 x 24 mm

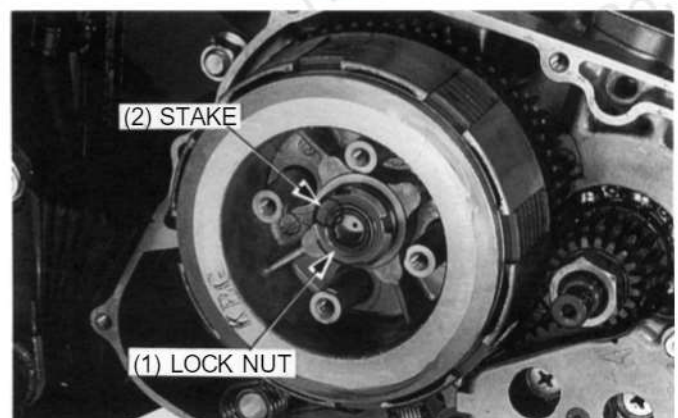
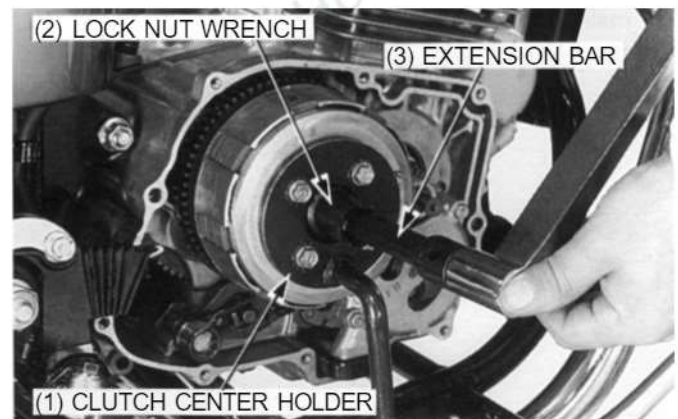
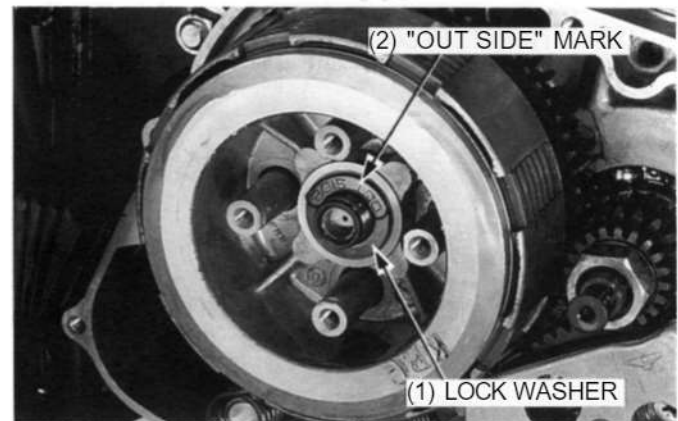
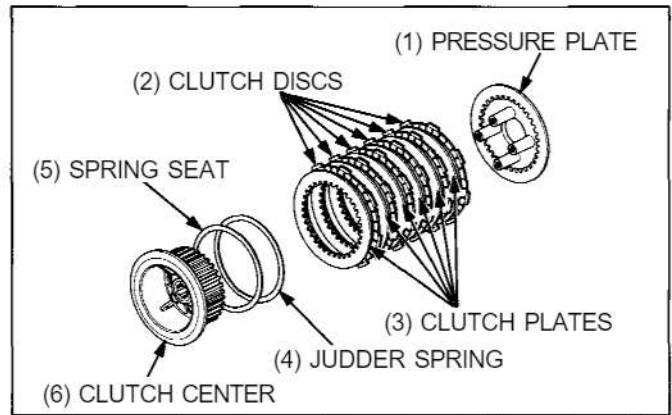
07716 - 0020100

Extension bar

07716 - 0020500 or
equivalent commercially
available in U.S.A.

TORQUE: 74 N·m (7.5 kgf·m, 54 lbf·ft)

Stake the end of the lock nut into the groove of the main-shaft with a punch.



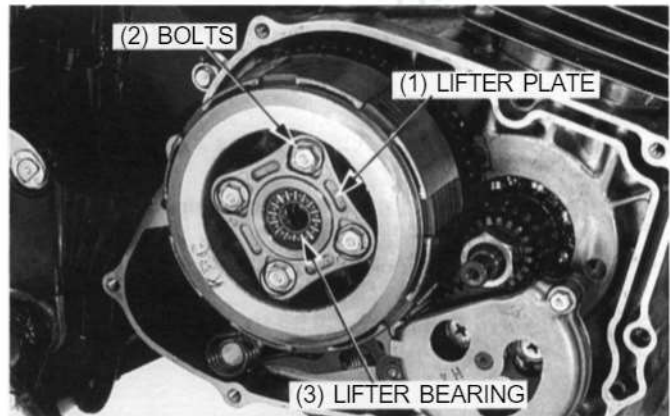
Install the clutch springs and lifter plate.
Install and tighten the lifter plate bolts to the specified torque.

NOTE

- Tighten the lifter plate bolts in a crisscross pattern in 2 – 3 steps.

TORQUE: 10 N·m (1.0 kgf·m, 7 lbf·ft)

Install the lifter plate bearing if it was removed.
Install the right crankcase cover (page 9-12).



PRIMARY AND OIL PUMP DRIVE GEARS

REMOVAL

Remove the right crankcase cover (page 9-3).
Remove the oil pump (page 4-2).

Remove the oil through and spring from the crankshaft.



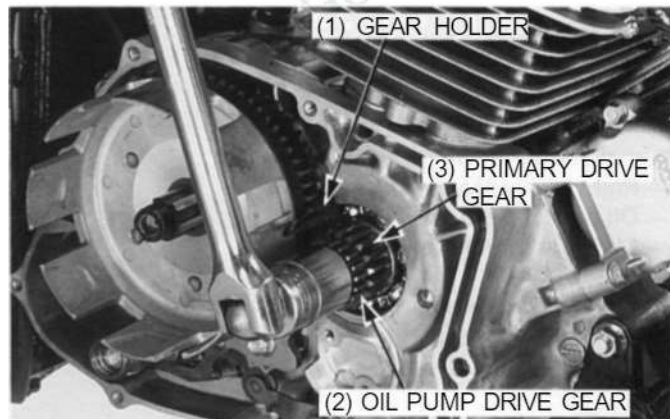
Attach the gear holder between the primary drive and driven gear as shown.

TOOL:

Gear holder 07724 – 0010200

Remove the lock nut and washer.

Remove the clutch assembly (page 9-4).
Remove the oil pump drive gear and primary drive gear.

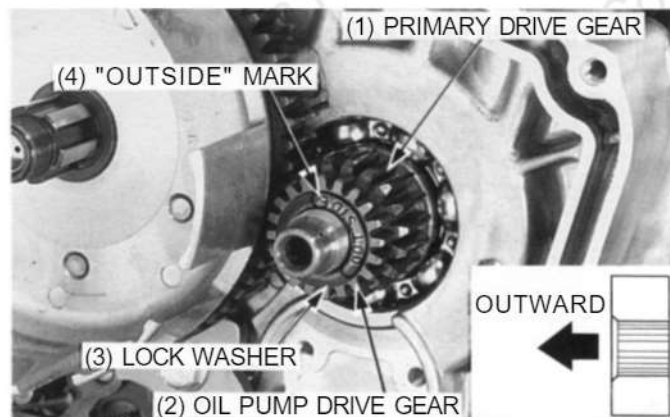
**INSTALLATION**

Install the primary drive gear and oil pump driven gear on the crankshaft.

NOTE

- Note the direction of the primary drive gear.

Install the clutch assembly (page 9-7).
Install the lock washer with its "OUTSIDE" mark facing out.



CLUTCH/GEARSHIFT LINKAGE

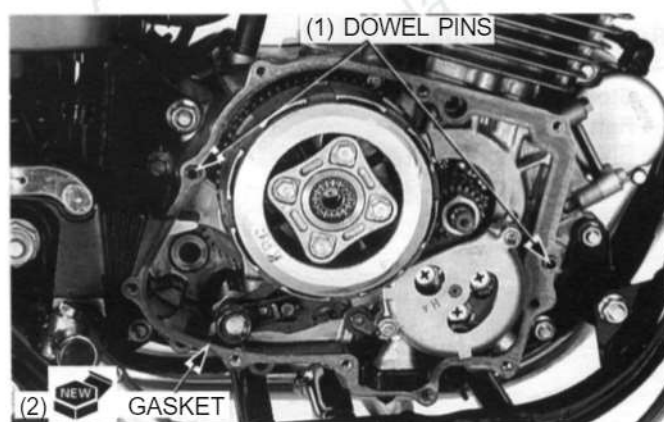
RIGHT CRANKCASE COVER INSTALLATION

Clean off any gasket material.

Install the dowel pins and new gasket.

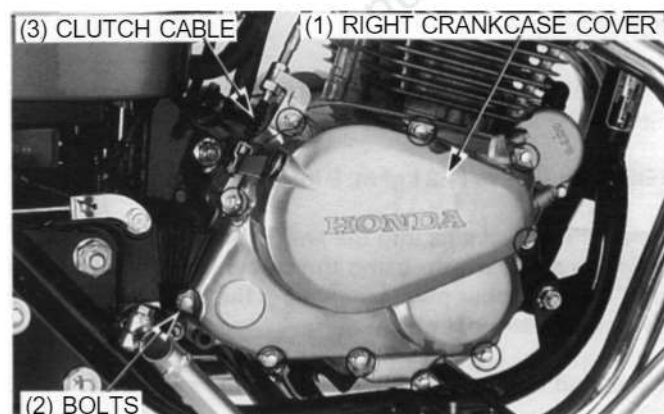
NOTE

- Be careful not to damage the gasket mating surface.



Install the right crankcase cover and connect the clutch cable to the clutch arm.

Set the clutch cable guide and tighten the right crankcase cover bolts.



Install the right footpeg bracket and tighten the bolts.

Adjust the clutch ([page 3-18](#)).

Fill the crankcase with the recommended engine oil ([page 3-9](#)).

Start the engine and check the clutch for smooth operation.
Be sure there are no oil leaks.

