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◆ Service Information

• General

- The service works described in this chapter can be done without dismantling the engine.
- Viscosity and quantity of the engine oil affects the clutch operation. Check the oil first if the clutch does not disengage or the motorcycle creeps with the clutch disengaged.
- Remove all gasket stuck on the mating surface of the case.
- Do not damage the mating surface when disassembling.
- Prevent debris / mud falling into the engine.
- Separate the crankcase to service the transmission, the shift drum and the shift fork.

• Specifications

Item		Standard	Service limit	
Clutch	Clutch lever free play	10 – 20mm	-	
	Clutch spring free length	37.1mm	35.1mm	
	Clutch disc thickness	A	2.92 – 3.08mm	2.60mm
		B, C	2.62 – 2.78mm	2.30mm
	Clutch outer bore	28.000 – 28.021mm	28.05mm	
	Clutch outer guide	I.D.	19.983 – 19.996mm	22.02mm
		O.D.	27.959 – 27.980mm	27.93mm
Clutch plate warpage	-	0.30mm		
Main shaft external diameter (at clutch outer guide)		19.959 – 19.980mm	19.92mm	

• Torque settings

Clutch lifter plate bolt	12N.m (1.2kgf-m)	
Clutch centre lock nut	83N.m (8.5kgf-m)	Apply oil to thread/seat. Stake after tightening.
Shift drum stopper arm bolt	12N.m (1.2kgf-m)	
Change pedal tightening bolt	16N.m (1.6kgf-m)	Alloc bolt
Change pedal pivot bolt	20N.m (2.0kgf-m)	

• Special tools

Clutch centre holder	07GMB-KT70101
Lock nut wrench 20 x 24mm	07716-0020100
Extension bar	07716-0020500
Pin driver 3.0mm	07744-0010200

- **Troubleshooting**

- **Clutch lever too hard**

- Damaged clutch cable
- Damaged clutch lifter system
- Damaged clutch lifter plate bearing
- Clutch cable routing

- **Clutch does not disengage or the motorcycle creeps with clutch disengaged**

- Too big clutch lever free play
- Clutch plate warped / bent
- Loose clutch centre lock nut
- Excessive engine oil

- **Clutch slips when accelerating**

- Sticking lifter system
- Worn clutch disc
- Weak spring
- Too less lever free play

- **Hard to shift into gear**

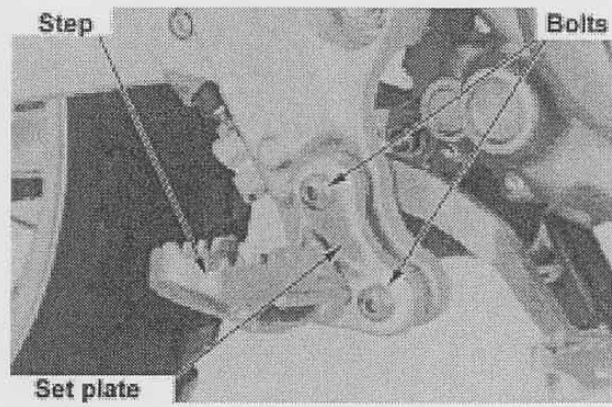
- Improper lever free play
- Shift fork bent / damaged
- Shift fork shaft bent
- Faulty transmission

- **Gear disengages**

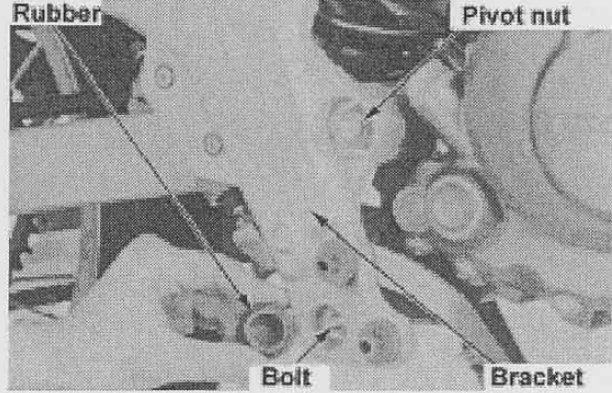
- Shift fork bent / damaged
- Shift fork shaft bent
- Damaged shift drum stopper
- Faulty transmission

- **Right crankcase cover removal**

Remove bolts and set plate to remove a right step.

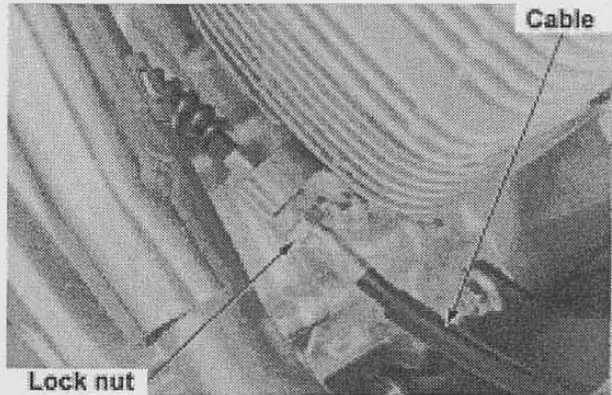


Remove a rubber.
Unscrew the bolt and a swing arm pivot nut to remove a right pivot bracket.

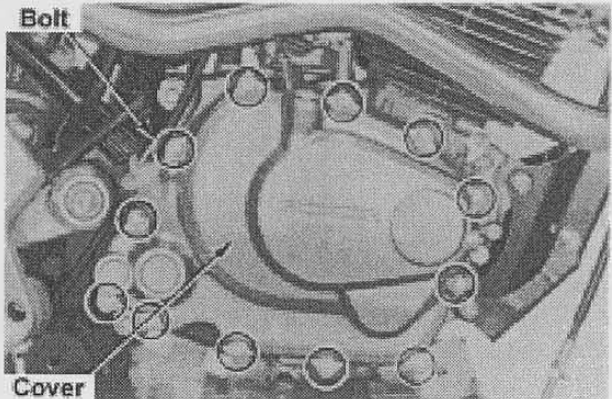


Remove a skid plate (2-5).
Drain engine oil (3-15).

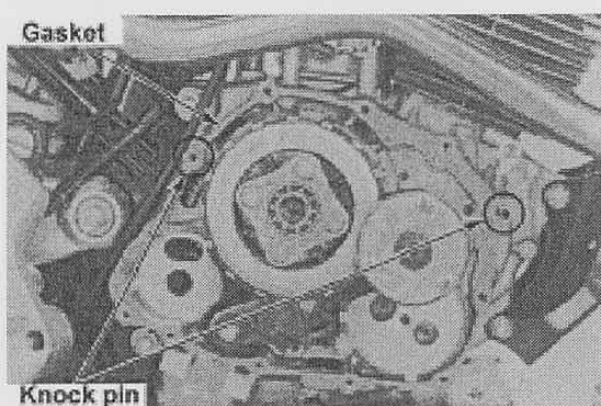
Loosen a lock nut to disconnect a clutch cable from a clutch arm.



Unscrew right crankcase bolts to remove the right crankcase cover.

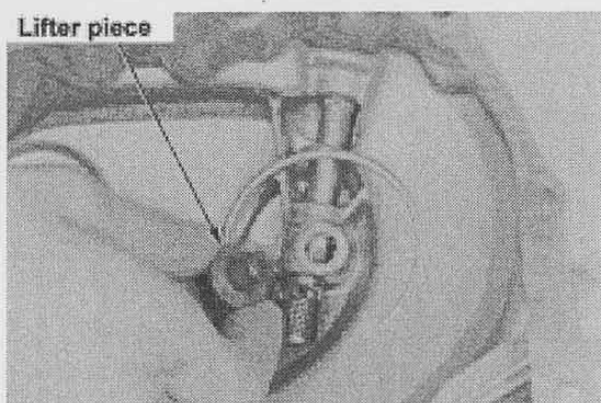


Remove a gasket and a knock pin.

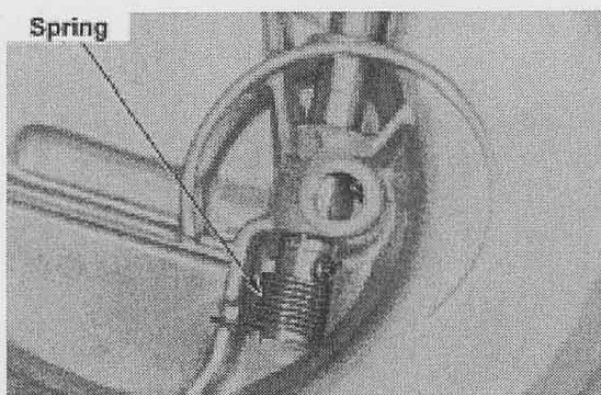


- Right crankcase cover inspection

Remove a clutch lifter piece.



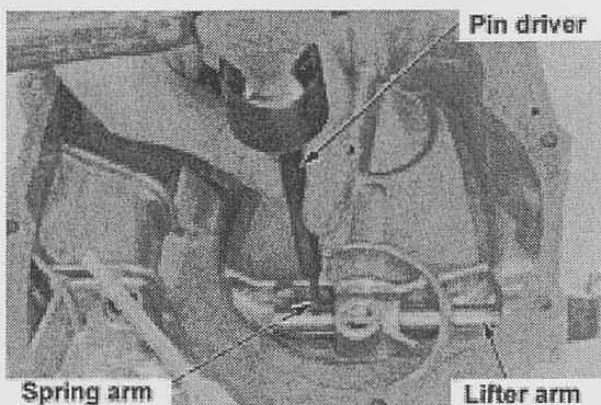
Remove a spring.



DTA.

Press the spring pin into the lifter arm by using the following tool:

Special tool: Pin driver 3.0mm
07744-0010200



Remove a clutch lifter arm

Damaged clutch lifter arm)
Damaged oil seal) replace each item
Damaged needle bearing)

Note:
If the oil seal is replaced, press it into the case end surface.

• Clutch removal

Remove a right crankcase cover (9-3).
Remove an oil filter rotor (4-3).
Unscrew clutch lifter plate bolts to remove a clutch lifter plate, lifter bearing and a clutch spring.

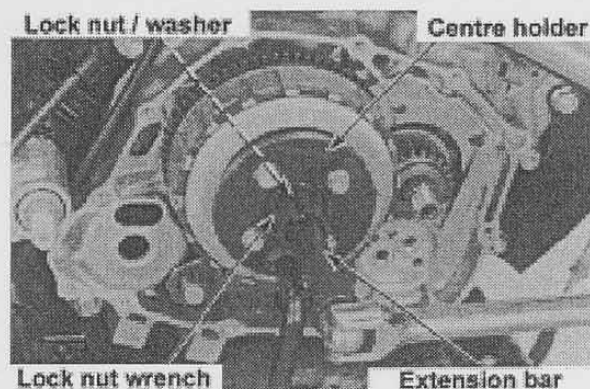
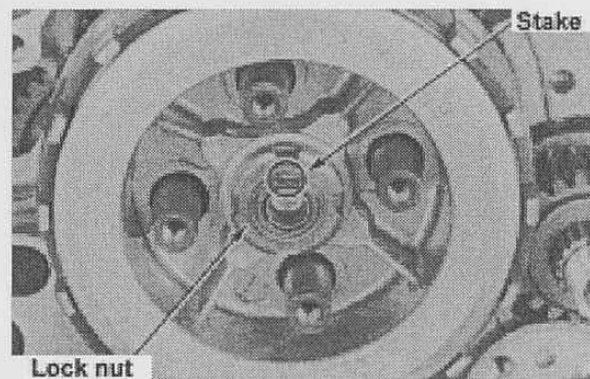
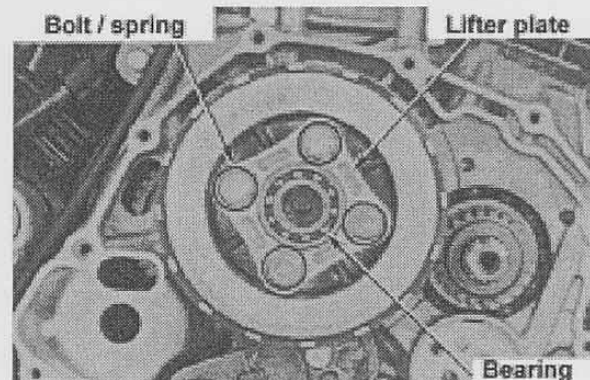
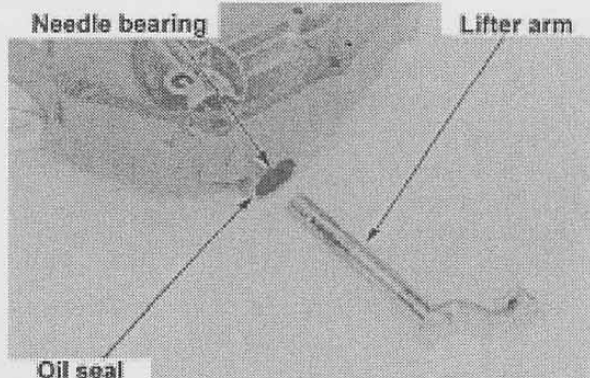
Note:
Loosen the bolts in crisscross pattern in 2 ~ 3 times.

Unstake the clutch centre nut.
Do not damage the main shaft.

Support the clutch centre with a clutch centre holder and unscrew the clutch centre lock nut and remove the washer.

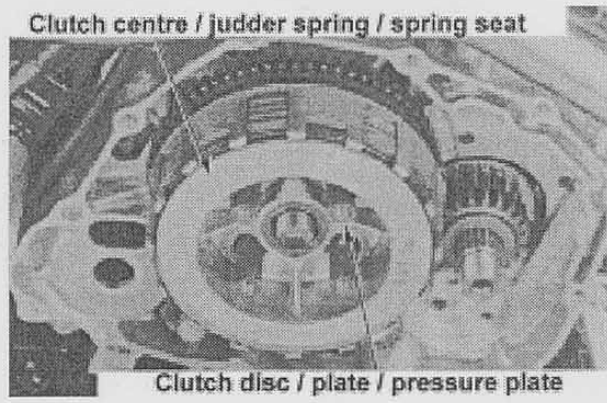
Special tools:

Clutch centre holder: 07GMB-KT70101
Lock nut wrench: 07716-0020100
Extension bar: 07716-0020500

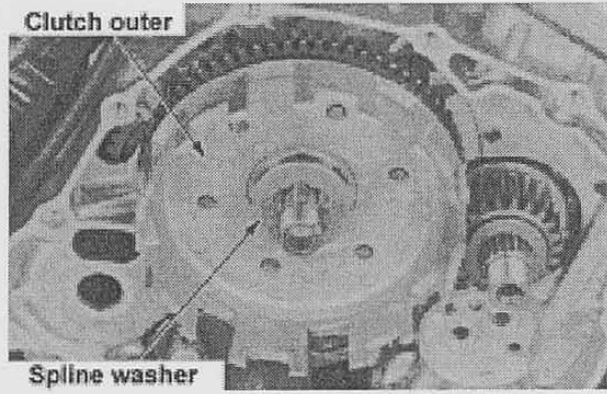


Remove the following parts:

- clutch centre
- judder spring
- spring seat
- clutch disc A
- clutch disc B (3 discs)
- clutch disc C
- clutch plate (4 plates)
- pressure plate



Remove a spline washer and a clutch outer.

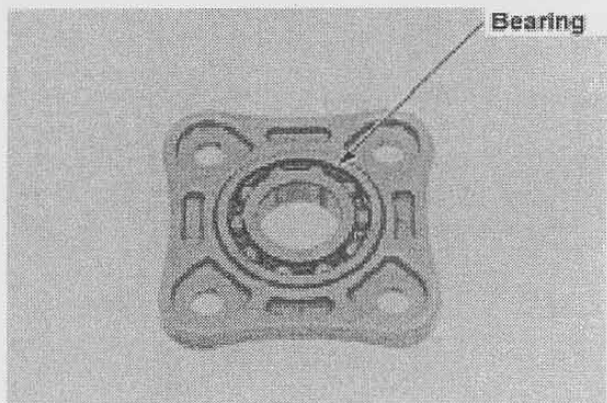


Remove a clutch outer guide.



- Clutch inspection
- Lifter plate bearing inspection

Rotate the bearing and check for smooth movement.
Replace the bearing if necessary.



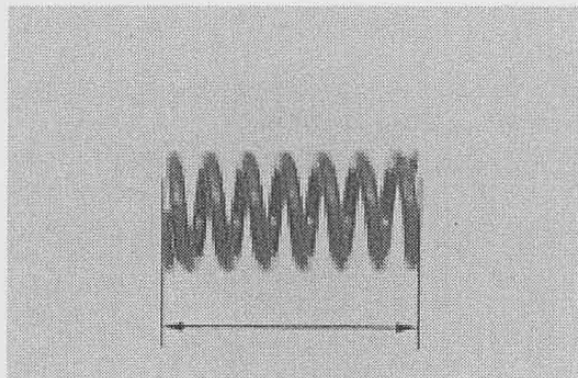
- **Clutch spring inspection**

Measure the spring free length.

Service limit: 35.1mm or less → replace

Note:

Replace two springs at the same time.



- **Clutch disc inspection**

Replace the disc if there is any scratch or deformation.

Measure the disc thickness.

Service limit:

A: 2.60mm or less → replace

B,C: 2.30mm or less → replace

Note:

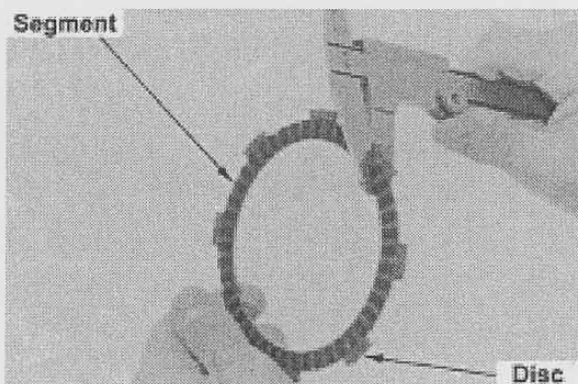
- Disc A has the biggest internal diameter.

- Discs B and C have different numbers of segments:

- Disc B : 45 segments

- Disc C : 48 segments

- Replace the clutch disc and the plate at the same time.

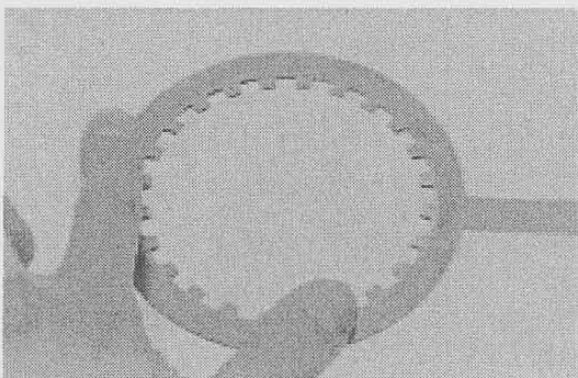


- **Clutch plate inspection**

Replace the clutch plates with scratch or deformation.

Measure the warpage of the plate by using a thickness gauge.

Service limit: 0.30mm or above → replace



- **Clutch centre inspection**

Inspect for step wear, damage or crack.

- **Clutch outer and outer guide inspection**

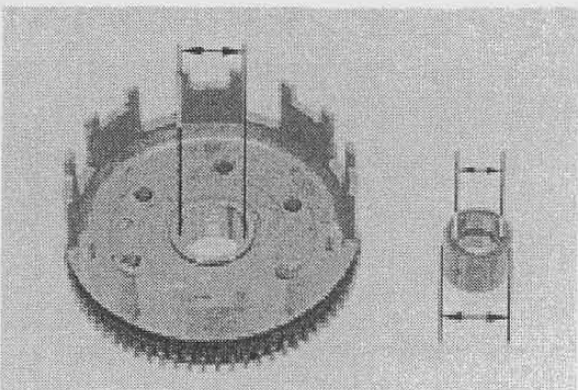
Inspect the slots for nicks, cuts and indentations made by the friction discs.

Measure the inner diameter of the clutch outer.

Service limit: 28.05mm or above → replace.

Measure the external diameter of the outer guide.

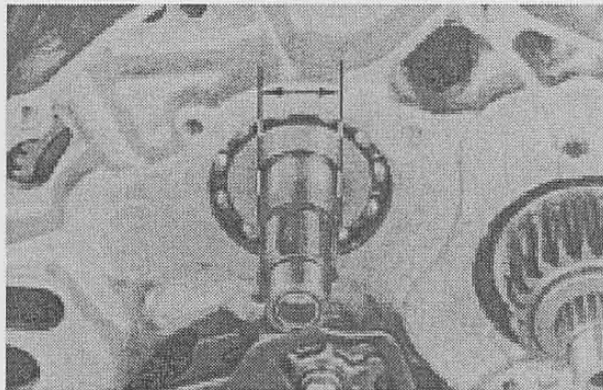
Service limit: 27.93mm or less → replace.



Measure the internal diameter of the clutch outer guide.
Service limit: 22.02mm or above → replace.

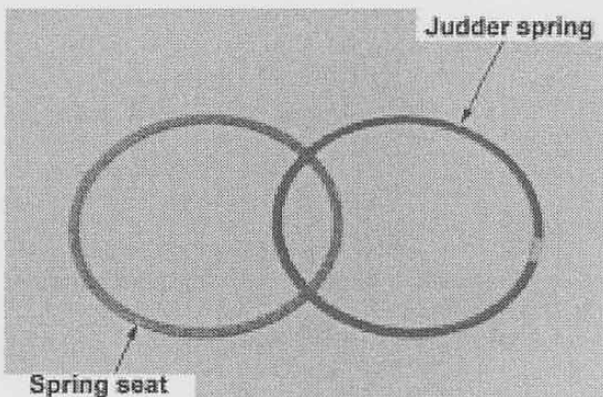
- **Main shaft inspection**

Measure the external diameter of the main shaft at the clutch outer guide.
Service limit: 19.92mm or less → replace.



- **Judder spring and spring seat inspection**

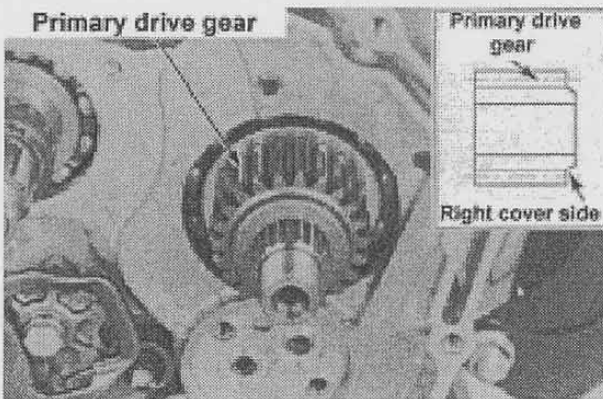
Inspect the judder spring and the spring seat for damage and deformation.



- **Primary drive gear removal / installation**

Remove a right crankcase cover (9-3).
Remove an oil filter rotor (4-3).
Remove a clutch outer (9-5).
Remove a primary drive gear from a crankshaft.

Follow the above procedure in reverse order to install.

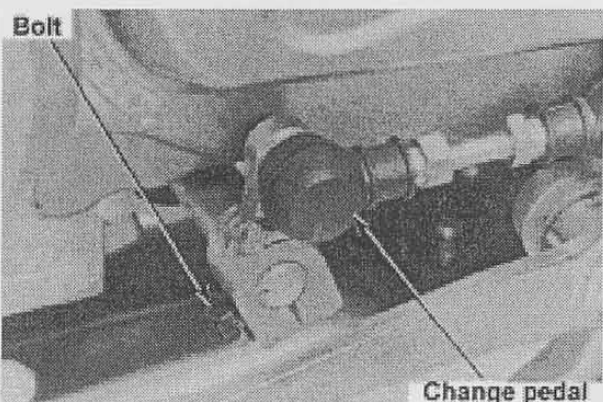


Note:
Install in the correct direction by referring to the figure.

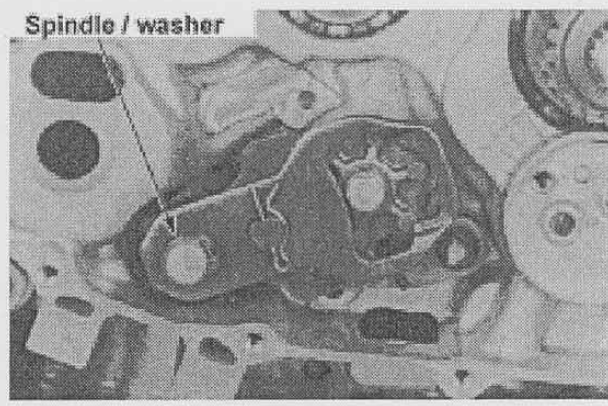
- **Gear shift linkage removal**

Remove the clutch (9-5).
Remove an oil pump (4-4).

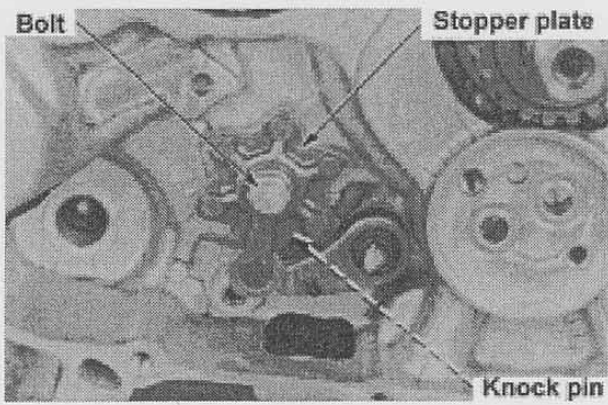
Unscrew a bolt to remove a change pedal.



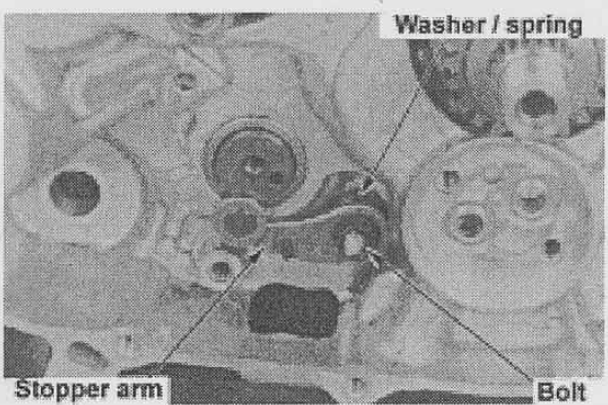
Remove a gear shift spindle / washer.



Unscrew a bolt to remove a shift drum stopper plate and a knock pin.



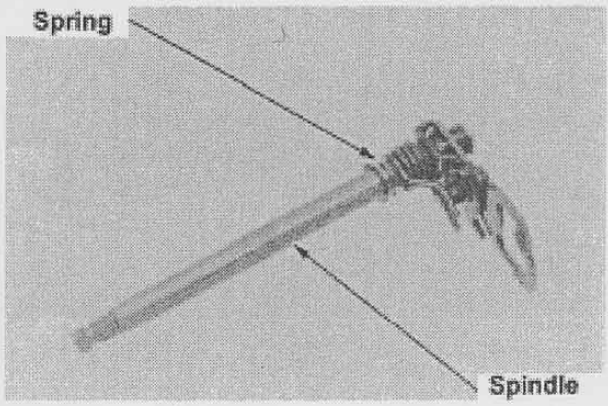
Unscrew a bolt to remove a stopper arm, washer and a return spring.



• Inspection

Gear shift spindle bent / damaged → replace.

Return spring deformed → replace.

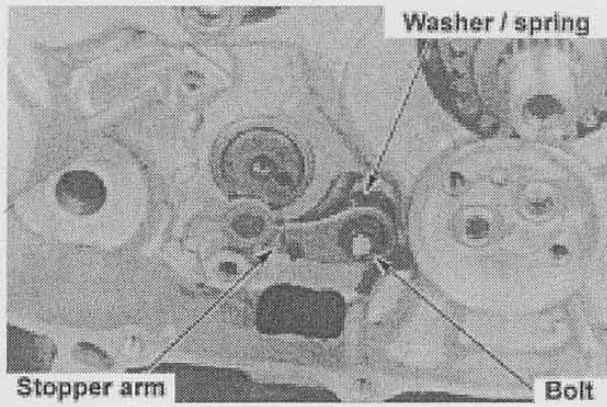


• **Gear shift linkage installation**

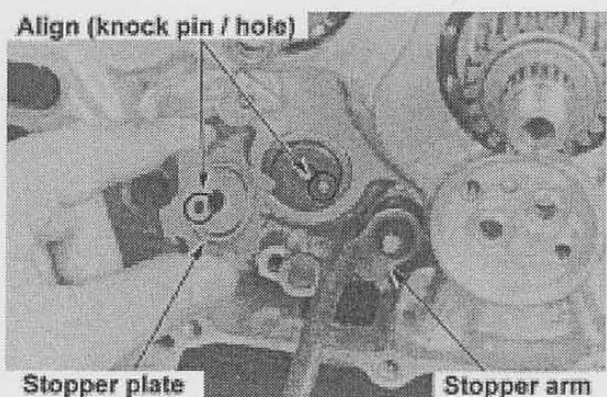
Install a shift drum stopper arm with a washer and a return spring.

Tighten the shift drum stopper arm bolt.

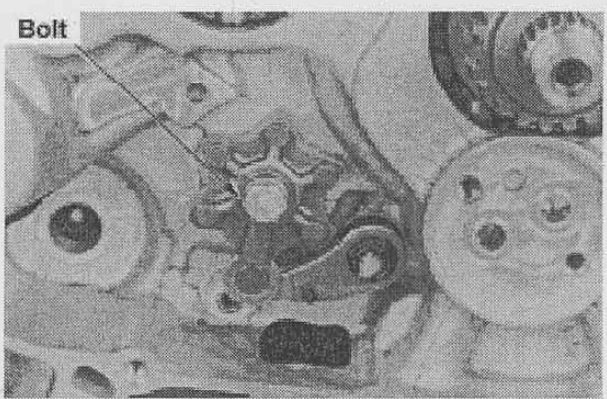
Torque: 12N.m (1.2kgf-m)



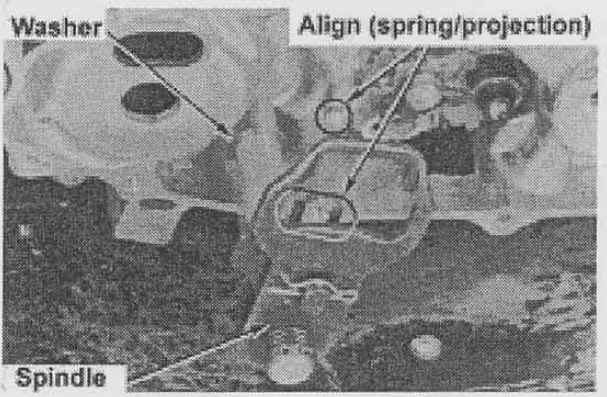
Install knock pins by aligning them to shift drum holes.
Fix the stopper arm with a screwdriver and install a shift drum stopper plate by aligning its hole to a knock pin.



Tighten the bolt.



Install a washer to the gear shift spindle.
Align a return spring to the crankcase projection to install a gear shift spindle.



Align punched marks to set the change pedal.

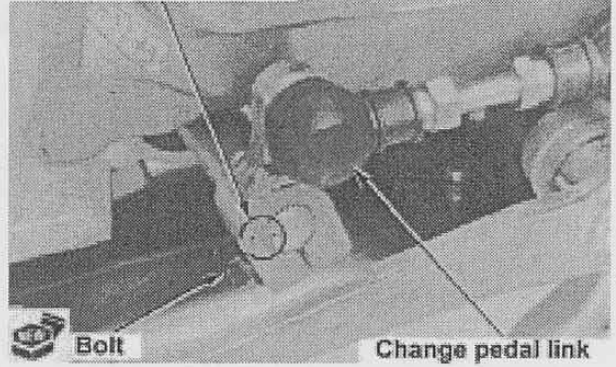
Install and tighten a new bolt.

Torque: 16N.m (1.6kgf-m)

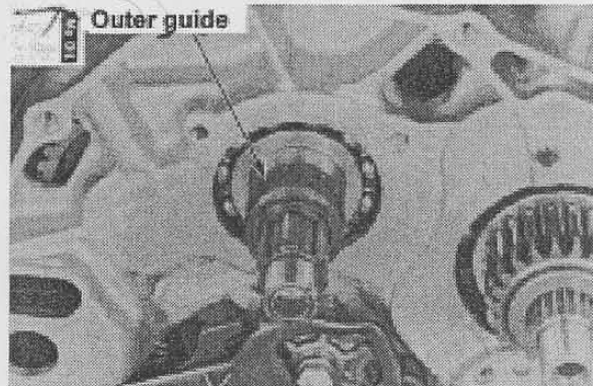
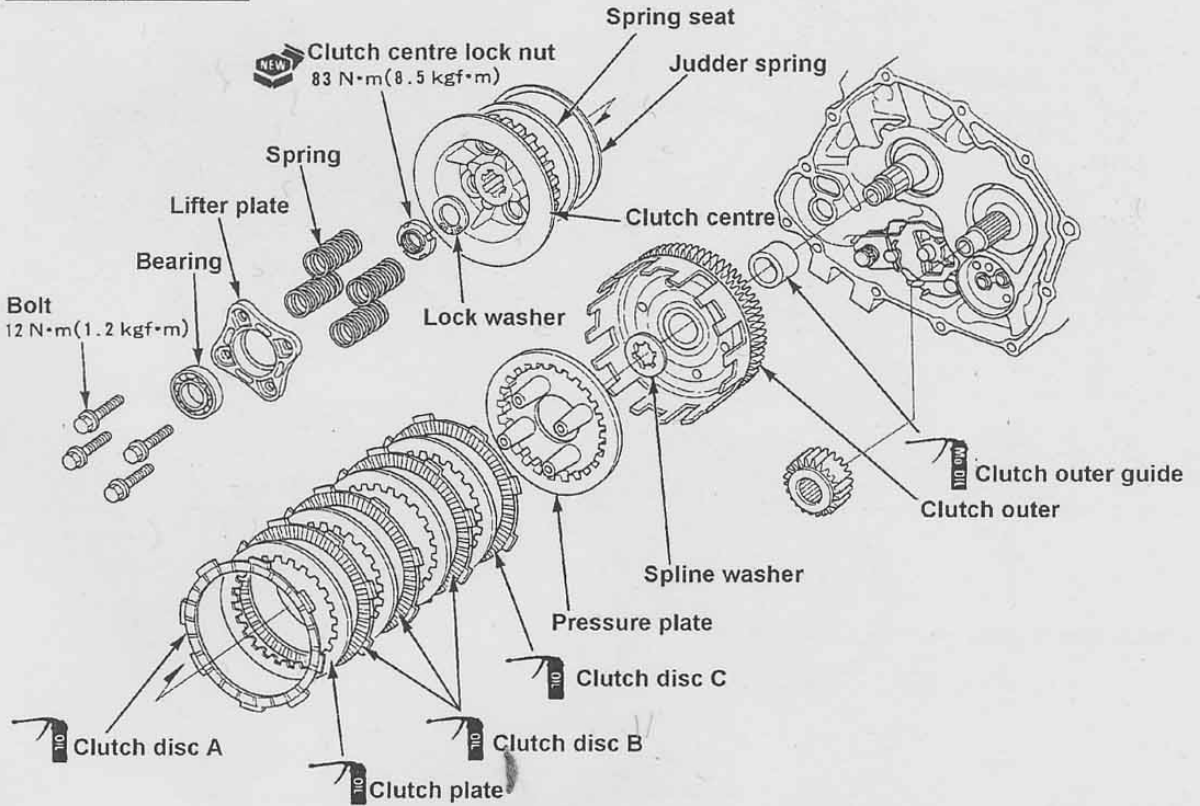
Install the oil pump (4-7).

Install a clutch.

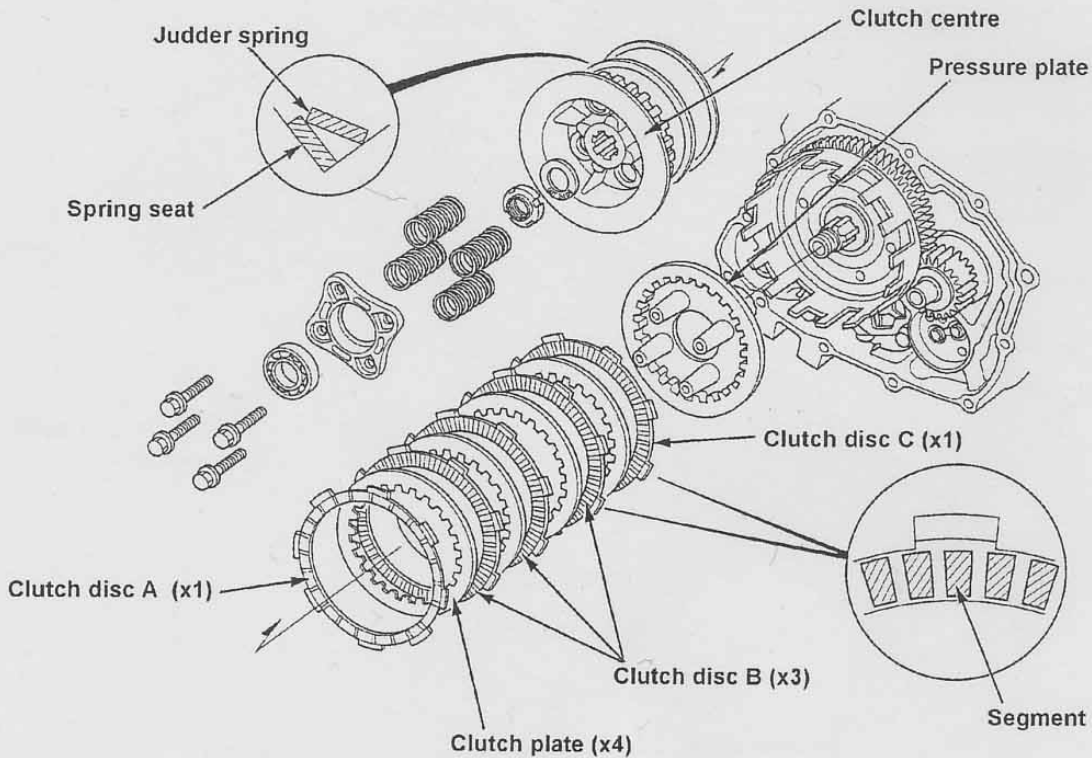
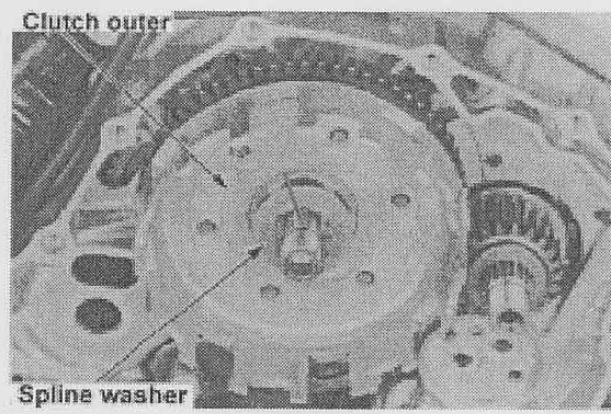
Punched marks (align)



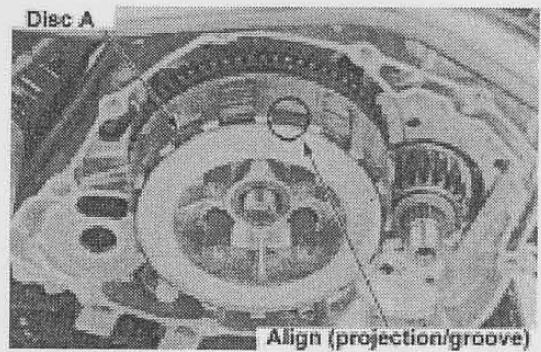
Clutch Installation



Install the clutch outer.
 Install the spline washer.
 Apply engine oil to the clutch discs/plates.
 Install a spring seat and a judder spring to the clutch centre.
 Install the clutch disc A to the clutch centre.
 Install clutch plates and discs B as shown below.
 (place clutch plates between clutch discs).
 Install the clutch disc C.
 Install a pressure plate to the clutch centre.
 Install the pressure plate/clutch disc/clutch plate/clutch centre Assy to the clutch outer.



- Note:
- Align the projection on the clutch disc A to the groove on the clutch outer.
- Clutch discs B and C have different numbers of segments:
 - Clutch disc B: 45 segments
 - Clutch disc C: 48 segments



Force the "OUTSIDE" mark outwards and install a lock washer.

Apply oil to the thread and seat of the new clutch centre lock nut, and install the nut.

Hold the clutch centre with a clutch centre holder to tighten the lock nut.

Special tools:

Clutch centre holder: 07GMB-KT70100

Lock nut wrench 20 x 24mm

07716-0020100

Extension bar:

07716-0020500

Torque: 83N.m (8.5kgf-m)

Remove the clutch centre holder and stake the lock nut.

Note:

Do not damage the main shaft when staking the lock nut.

Install the following parts:

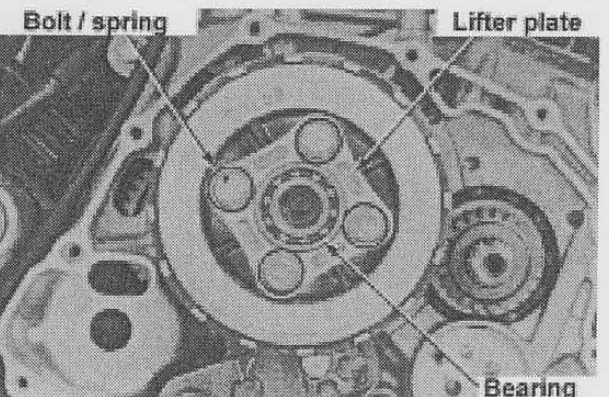
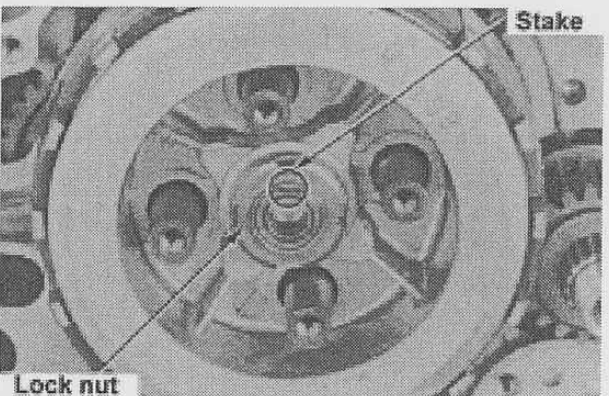
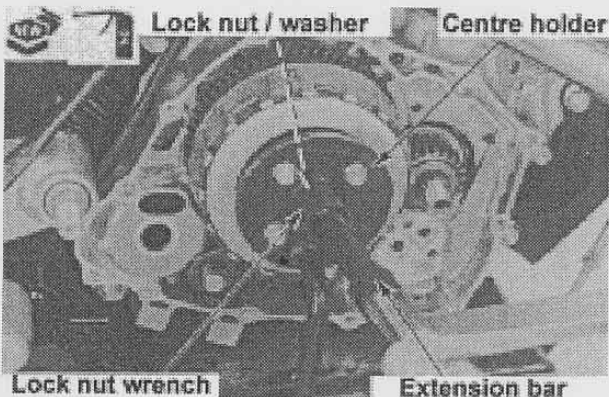
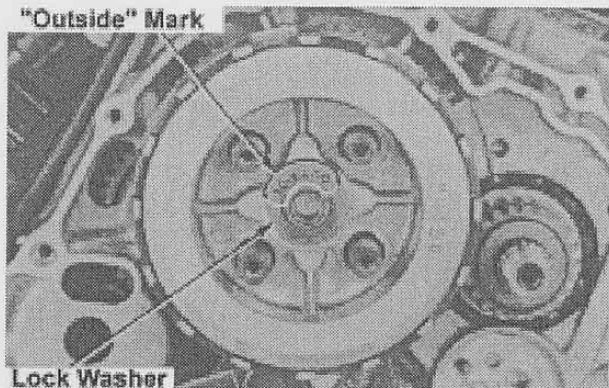
- clutch spring
- clutch lifter plate
- clutch lifter plate bolts

Torque: 12N.m (1.2kgf-m)

Note:

Tighten the clutch lifter plate bolts in crisscross pattern in 2 ~ 3 times.

Install a right crankcase cover (9-14).



- **Right crankcase cover installation**

Apply grease to the clutch lifter arm shaft and dust seal.

Install the clutch lifter arm to the right crankcase cover.

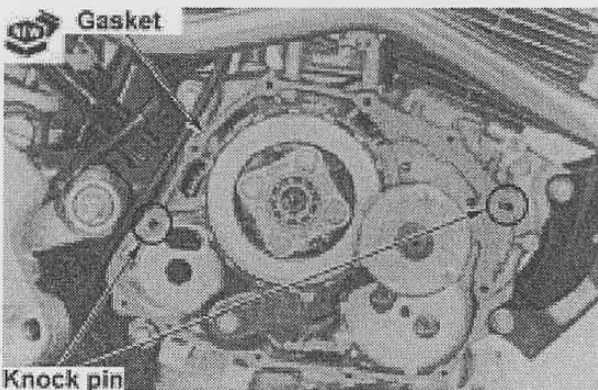
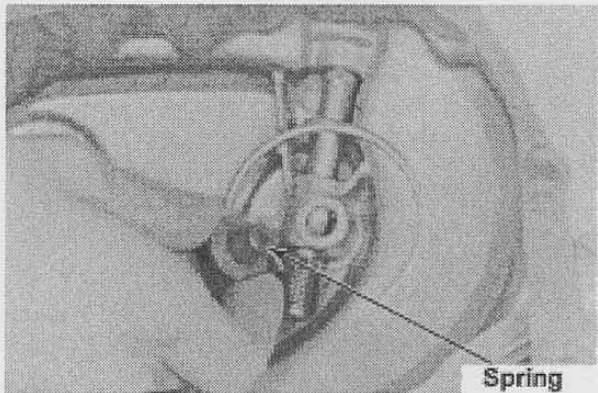
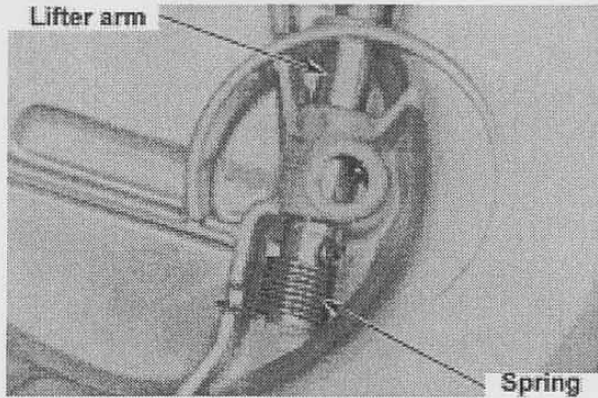
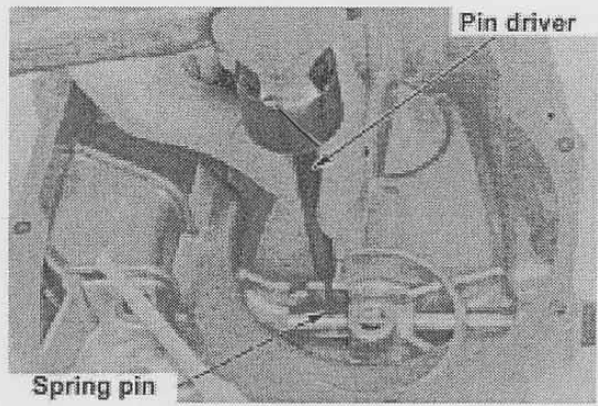
By using the following tool, install a new spring pin to the position where it does not block the lifter arm rotation.

Special tool: Pin driver 3.0mm
07744-0010200

Set the return spring.

Install the clutch lifter piece.

Install a new gasket and knock pins.



Install a right crankcase cover.
Tighten the crankcase cover bolts.

Note:
Tighten the bolts in crisscross pattern in
2 ~ 3 times.

Connect the clutch cable to the clutch arm
and install the clutch cable holder.

Fill engine oil (3-16).

After installation, inspect and adjust the
clutch lever free play (3-9).

Install the right pivot bracket and tighten the
bolt.

Tighten the swing arm pivot nut.

Torque: 68N.m (6.9kgf-m)

Install a rubber.

Install a right step and a set plate.
Tighten the bolts.

